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TEST REPORT

of

FCC CFR 47 part1, 1.1307(b), 1.1310

FCC ID: V2R-PLATFORMDUO

Equipment Under Test	:	Super Fast Dual Wireless Charging Pad
Model Name	:	PLATFORM DUO
Variant Model Name(s)	:	-
Applicant	:	Cresyn Co., Ltd.
Manufacturer	:	Cresyn Co., Ltd.
Date of Receipt	:	2022.12.28
Date of Test(s)	:	2022.12.30 ~ 2023.02.01
Date of Issue	:	2023.02.02

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer.

Tested by: Taek Kim

Technical Manager: Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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1.2. Details of Applicant

Applicant : Cresyn Co., Ltd.
Address : 5 Gangnam-daero 107-gil, Seocho-gu, Seoul, South Korea, 06524
Contact Person : Lee, Ji-hyeon
Phone No. : +82 2 2041 2843

1.3. Details of Manufacturer

Company : Same as applicant
Address : Same as applicant

1.4. Description of EUT

Kind of Product	Super Fast Dual Wireless Charging Pad	
Model Name	PLATFORM DUO	
Serial Number	001	
Power Supply	DC 9 V	
Operation Mode	5 W, 7.5 W, 10 W, 15 W	
Frequency Range	5 W	Ant. 1 : 124.7 ~ 130.7 ㎑ Ant. 2 : 137.0 ~ 143.0 ㎑
	7.5 W	Ant. 1 : 124.7 ~ 130.7 ㎑
	10 W	Ant. 1 : 124.7 ~ 130.7 ㎑
	15 W	Ant. 1 : 124.7 ~ 130.7 ㎑
Antenna Type	Loop Coil Antenna	
Antenna Serial Number	C-001	
H/W Version	DP_Rev. 0.1	
S/W Version	TX IC : CDP_PV1_TEST_0110 MCU : DP_02_20230104_B682	
FVIN	N/A	

1.5. Declaration of Manufacturer

- The EUT can Support simultaneous charging of Two devices, But 15 W charging mode does not operate simultaneously.

1.6. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Electric and Magnetic field Probe analyzer	NARDA	EHP 200AC	170WX91017	Dec. 19, 2022	Annual	Dec. 19, 2023
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.

▶ Support Equipment

Description	Manufacturer	Model	FCC ID
C to C Cable	Shenzhen Hongyu Electronics Co., Ltd	CJG-0300ZDL-XA	-
SAMSUNG Mobile Phone	Samsung Electronics Co., Ltd.	SM-G930US	A3LSMG930US
Apple Mobile Phone	Apple Inc.	Iphone Xs Max	BCG-E3175A
SAMSUNG Mobile Phone	Samsung Electronics Co., Ltd.	SM-N960U	A3LSMN960U
SAMSUNG Mobile Phone	Samsung Electronics Co., Ltd.	SM-G986U	A3LSMG986U
TRAVEL ADAPTER	Samsung Electronics Co., Ltd.	EP-TA800	-

1.7. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 1 Subpart I		
Section	**Test Item(s)**	**Result**
1.1307(b) 1.1310(e)(1)	Electronic Field, Magnetic Field	Complied

1.8. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL003768	2023.02.02	Initial

1.9. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Electric Field	19.78 %
Magnetic Field	13.66 %

All measurement uncertainty values are shown with a coverage factor of *k*=2 to indicate a 95 % level of confidence.

1.10. Worst Case of Test Configurations

In order to check all kinds of possible configurations, EUT was evaluated with appropriate client and under each charging condition as below table.

- Ant. 1 (124.7 ㎑ ~ 130.7 ㎑)

Charging mode With client device		Mode		Description
Model	FCC ID			
SM-G930US	A3LSMG930US	5 W	Ant. 1: 127.7 ㎑	1 % of battery 50 % of battery 99 % of battery
Iphone Xs Max	BCG-E3175A	7.5 W	Ant. 1: 127.7 ㎑	
SM-N960U	A3LSMN960U	10 W	Ant. 1: 127.7 ㎑	
SM-G986U	A3LSMG986U	15 W	Ant. 1: 127.7 ㎑	

Mode	Battery	Frequency (㎑)	E-field Strength (V/m)	H-field Strength (A/m)
5 W	1 %	127.7	**0.477**	**0.033**
	50 %		0.441	0.033
	99 %		0.400	0.032

Mode	Battery	Frequency (㎑)	E-field Strength (V/m)	H-field Strength (A/m)
7.5 W	1 %	127.7	**0.392**	**0.056**
	50 %		0.385	0.050
	99 %		0.353	0.048

Mode	Battery	Frequency (㎑)	E-field Strength (V/m)	H-field Strength (A/m)
10 W	1 %	127.7	**0.451**	**0.060**
	50 %		0.421	0.046
	99 %		0.409	0.043
Mode	**Battery**	**Frequency (㎑)**	**E-field Strength (V/m)**	**H-field Strength (A/m)**
15 W	1 %	127.7	**0.842**	**0.174**
	50 %		0.677	0.171
	99 %		0.574	0.079

- Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Charging mode With client device		Mode		Description
Model	FCC ID			
SM-G930US	A3LSMG930US	5 W	Ant. 2: 140 ㎑	1 % of battery 50 % of battery 99 % of battery

Mode	Battery	Frequency (㎑)	E-field Strength (V/m)	H-field Strength (A/m)
5 W	1 %	140	**0.434**	**0.029**
	50 %		0.386	0.028
	99 %		0.386	0.027

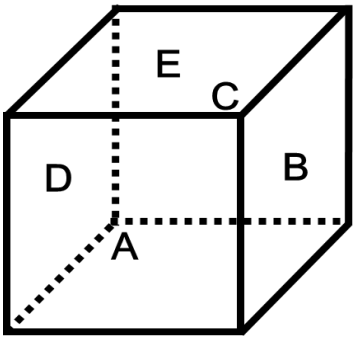
Note;

- EUT was investigated with client device under normal charging condition as above then worst value was only reported.

2. Test Result

2.1. Isotropic Probe Test Setup

The measurement probe (EHP-200AC) is a regular hexahedron and supports 3-axis isotropic probe.



A: Front of measurement probe
B: Right of measurement probe
C: Rear of measurement probe
D: Left of measurement probe
E: Top of measurement probe
***Bottom of measurement probe is not used to measure RF exposure condition owing to connection with a stick.

- Measurement isotropic probe was investigated by rotating the probe through various angles for one of the EUT's sides as below.

Measurement Point	**A**	**B**	**C**	**D**	**E**
Direction	Front	Right	Rear	Left	Top
Measurement Point	**A to B**	**B to C**	**C to D**	**D to A**	**N/A**
Direction	Front to Right	Right to Rear	Rear to Left	Left to Front	-
Measurement Point	**A to E**	**B to E**	**C to E**	**D to E**	**N/A**
Direction	Front to Top	Right to Top	Rear to Top	Left to Top	-

Remark;

- When the worst angle among all angles was found, RF exposure measurement should be adjusted from worst angle.

- Worst side of the probe

- Ant. 1 (124.7 ㎑ ~ 130.7 ㎑)

Antenna	Test Condition	Frequency (㎑)	E - field	H - field
1	5 W	124.7 ~ 130.7	D to E side	D - side
1	7.5 W	124.7 ~ 130.7	D - side	A - side
1	10 W	124.7 ~ 130.7	D - side	B - side
1	15 W	124.7 ~ 130.7	D - side	B - side
1	Idle mode	124.7 ~ 130.7	D - side	E - side

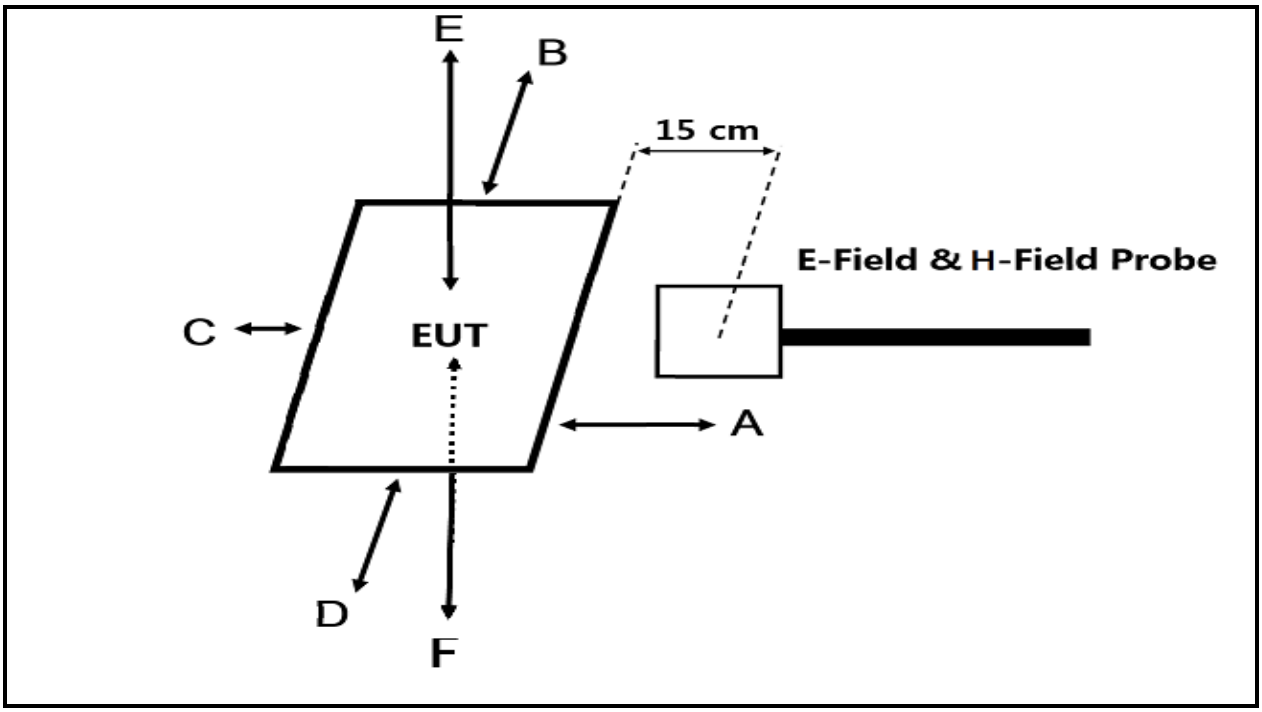
- Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Antenna	Test Condition	Frequency (㎑)	E - field	H - field
2	5 W	137.0 ~ 143.0	A - side	A to D side
2	Idle mode	137.0 ~ 143.0	D - side	A - side

- Simultaneous operation of Ant. 1 (124.7 ㎑ ~ 130.7 ㎑) and Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Antenna	Test Condition	Frequency (㎑)	E - field	H - field
1	Ant. 1 (5 W) + Ant.2 (5 W)	124.7 ~ 130.7	A to B side	B to E side
2	Ant. 1 (5 W) + Ant.2 (5 W)	137.0 ~ 143.0	A - side	A - side
1	Ant. 1 (7.5 W) + Ant.2 (5 W)	124.7 ~ 130.7	D - side	A to B side
2	Ant. 1 (7.5 W) + Ant.2 (5 W)	137.0 ~ 143.0	A - side	C - side
1	Ant. 1 (10 W) + Ant.2 (5 W)	124.7 ~ 130.7	D - side	A - side
2	Ant. 1 (10 W) + Ant.2 (5 W)	137.0 ~ 143.0	A - side	A to E side

2.2. EUT Test Setup



2.3. Measurement procedure

a) The RF exposure test was performed in anechoic chamber.
b) The measurement probe was placed at test distance (15 ㎝) which is between the edge of the charger and the geometric center of probe.
c) Measurement was performed on each side of the EUT as described above picture (A, B, C, D, E, F).
d) The EUT was measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging Apps v03.

2.4. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310.

§1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of this chapter.

Table 1 to § 1.1310(e)(1) - Limits for Maximum Permissible Exposure (MPE)

Frequency Range (㎒)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (㎽/㎠)	Average Time (minutes)
(i) Limits for Occupational /Control 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
300-1 500	-	-	f/300	<6
1 500-100 000	-	-	5	<6
(ii) Limits for General Population/Uncontrolled Exposures				
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/1 500	<30
1 500-100 000	-	-	1.0	<30

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

2.5. E and H field strength

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

2.5.1. E-Field Strength at from the edges surrounding the EUT

- Ant. 1 (124.7 ㎑ ~ 130.7 ㎑)

Test Condition: 5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	0.369	0.088	0.211	0.226	0.386	**0.477**	614

Test Condition: 7.5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	0.252	0.110	0.155	0.195	0.336	**0.392**	614

Test Condition: 10 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	**0.451**	0.076	0.183	0.291	0.334	0.302	614

Test Condition: 15 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	0.207	0.078	0.141	0.366	0.224	**0.842**	614

Test Condition: Idle mode

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	0.078	0.078	0.076	**0.181**	0.083	0.076	614

- Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Test Condition: 5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
137.0 ~ 143.0	0.210	0.313	0.243	0.076	**0.434**	0.376	614

Test Condition: Idle mode

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
137.0 ~ 143.0	**0.181**	0.076	0.076	0.076	0.078	0.086	614

- Simultaneous operation of Ant. 1 (124.7 ㎑ ~ 130.7 ㎑) and Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Test Condition: Ant.1 (5 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	0.345	0.076	0.175	0.329	**0.357**	0.317	614
137.0 ~ 143.0	0.111	0.174	0.120	0.076	**0.187**	0.185	614

Test Condition: Ant.1 (7.5 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	**0.267**	0.076	0.187	0.154	0.190	0.210	614
137.0 ~ 143.0	0.122	0.144	0.143	0.078	**0.190**	0.164	614

Test Condition: Ant.1 (10 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	F (V/m)	
124.7 ~ 130.7	**0.423**	0.100	0.307	0.257	0.248	0.274	614
137.0 ~ 143.0	0.104	0.186	0.150	0.076	**0.189**	0.184	614

2.5.2. H-Field Strength at from the edges surrounding the EUT

- Ant. 1 (124.7 ㎑ ~ 130.7 ㎑)

Test Condition: 5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	**0.033**	0.032	0.032	0.032	0.032	0.032	1.63

Test Condition: 7.5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	0.030	0.040	0.032	0.035	0.044	**0.056**	1.63

Test Condition: 10 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	0.033	0.028	0.029	0.037	**0.060**	0.045	1.63

Test Condition: 15 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	0.055	0.028	0.056	0.061	**0.174**	0.070	1.63

Test Condition: Idle mode

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	**0.033**	0.033	0.033	0.033	0.033	0.033	1.63

- Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Test Condition: 5 W Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
137.0 ~ 143.0	0.027	0.028	0.028	**0.029**	0.028	0.028	1.63

Test Condition: Idle mode

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
137.0 ~ 143.0	**0.033**	0.032	0.032	0.033	0.033	0.033	1.63

- Simultaneous operation of Ant. 1 (124.7 ㎑ ~ 130.7 ㎑) and Ant. 2 (137.0 ㎑ ~ 143.0 ㎑)

Test Condition: Ant.1 (5 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	0.032	0.033	0.032	0.032	0.034	**0.039**	1.63
137.0 ~ 143.0	**0.033**	0.032	0.033	0.032	0.032	0.032	1.63

Test Condition: Ant.1 (7.5 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	0.032	0.032	0.032	**0.033**	0.033	0.033	1.63
137.0 ~ 143.0	0.032	**0.033**	0.033	0.032	0.032	0.032	1.63

Test Condition: Ant.1 (10 W) + Ant.2 (5 W) Operating mode with client device

Frequency Range (㎑)	EUT sides						Limits (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	F (A/m)	
124.7 ~ 130.7	**0.034**	0.032	0.032	0.032	0.034	0.033	1.63
137.0 ~ 143.0	0.032	**0.033**	0.032	0.033	0.032	0.032	1.63

- End of the Test Report -