

TEST REPORT

of

FCC CFR 47 part1, 1.1307(b), 1.1310

FCC ID: A3LEPP1300

Equipment Under Test : WIRELESS CHARGER
Model Name : EP-P1300
Variant Model Name(s) : -
Applicant : Samsung Electronics Co., Ltd.
Manufacturer : Samsung Electronics Co., Ltd.
Date of Receipt : 2020.11.04
Date of Test(s) : 2020.11.17 ~ 2020.12.03
Date of Issue : 2020.12.16

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

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- 2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
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Tested by:



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Report Number: F690501-RF-RTL001436-2

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

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1.2. Details of Applicant

Applicant : Samsung Electronics Co., Ltd.
 Address : 19 Chapin Rd., Building D, Pine Brook, New Jersey, United States, 07058
 Contact Person : Chun, Jenni
 Phone No. : +1 973 808 6375

1.3. Details of Manufacturer

Company : Samsung Electronics Co., Ltd.
 Address : Yen Phong 1 Industrial park, Yen Phong District Bac Ninh Province, VIETNAM

1.4. Description of EUT

Kind of Product	WIRELESS CHARGER
Model Name	EP-P1300
Power Supply	DC 9.0 V
Operation Mode	2 W, 4.5 W, 7.5 W, 9W
Frequency Range	126.2 kHz ~ 129.2 kHz
Antenna Type	Loop Coil Antenna
H/W Version	rev.03
S/W Version_MCU	EP-P1300_20201111_8F5C
S/W Version_Tx IC	P13_PRA_OFFI_1208

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Electric and Magnetic field Probe analyzer	NARDA	EHP 200AC	170WX91017	Nov. 16, 2020	Annual	Nov. 16, 2021
Anechoic Chamber	SY Corporation	L x W x H (9.6 m x 6.4 m x 6.6 m)	N/A	N.C.R.	N/A	N.C.R.

► Support Equipment

Description	Manufacturer	Model	FCC ID
Samsung Mobile Phone	Samsung Electronics Co., Ltd.	SM-G970	A3LSMG970U
		SM-G973U	A3LSMG973U
Bluetooth Headset	Samsung Electronics Co., Ltd.	SM-R170	A3LSMR170L, A3LSMR170R
C type USB Cable	Samsung Electronics Co., Ltd.	EP-DW720	-
TRAVEL ADAPTER	DONGYANG E&P	EP-TA200	-

1.6. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL001436	2020.12.09	Initial
1	F690501-RF-RTL001436-1	2020.12.14	Added the information of H/W Version and S/W Version.
2	F690501-RF-RTL001436-2	2020.12.16	Added the test mode to indicate what kind of client device is used.

1.7. 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 %

Uncertainty figures are valid to a confidence level of 95 %.

1.8. 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.

Charging mode with client device	Mode				Description
Model: SM-G970U FCC ID: A3LSMG970U	2 W	4.5 W	7.5 W	9 W	
Model: SM-G973U FCC ID: A3LSMG973U	126.2 kHz ~ 129.2 kHz	126.2 kHz ~ 129.2 kHz	126.2 kHz ~ 129.2 kHz	126.2 kHz ~ 129.2 kHz	1 % of battery 50 % of battery 99 % of battery
Model: SM-R170 FCC ID: A3LSMR170L, A3LSMR170R	SM-R170	SM-G970U (Normal)	SM-G970U (Fast)	SM-G973U	

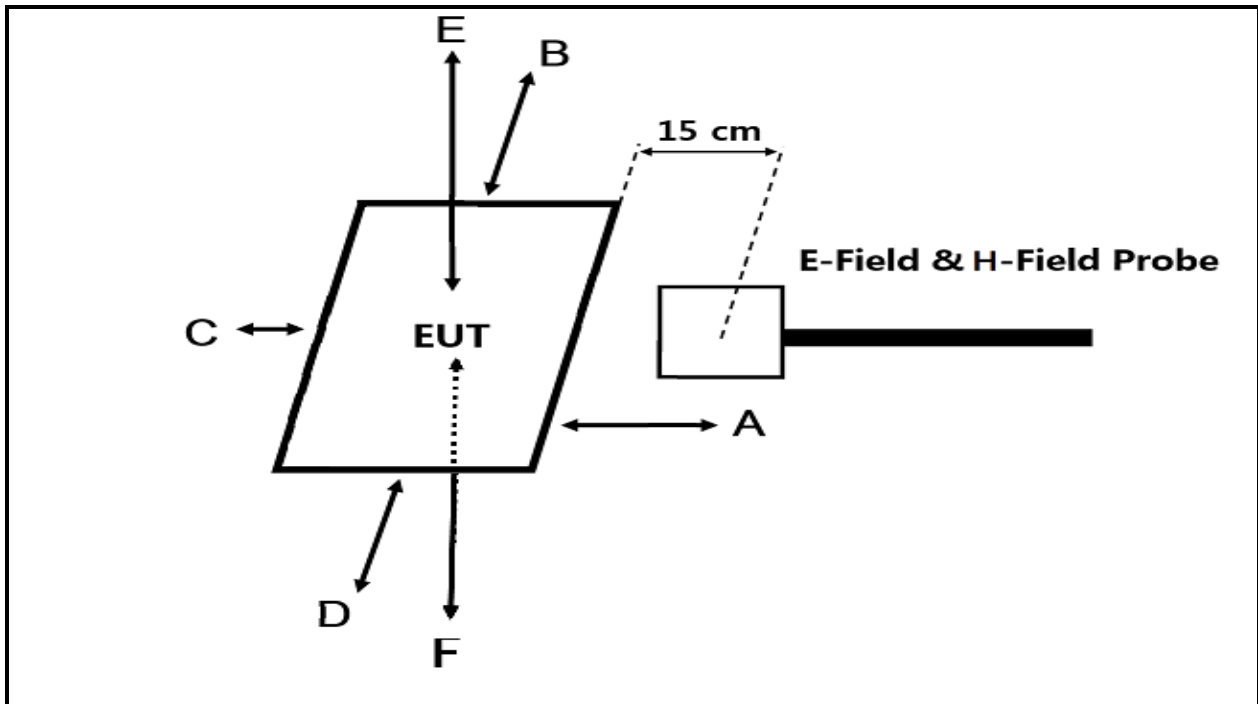
Note;

The 4.5 W and 7.5 W modes are controlled by the software on the client device.

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

2. Test Result

2.1. Test Setup



2.2. Measurement procedure

- a) The RF exposure test was performed in anechoic chamber.
- b) The measurement probe was placed at test distance (15 cm) which is between the edge of the charger and the geometric center of probe.
- c) The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E, F) were completed.
- d) The EUT was measured according to the dictates of KDB 680106 D01 RF Exposure Wireless Charging Apps v03.

2.3. 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 - LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A) 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
(B) Limits for General Population / Uncontrol Exposures				
<u>0.3-1.34</u>	<u>614</u>	<u>1.63</u>	*(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 MHz

* = Plane wave equivalent power density

2.4. E and H field strength

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

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

Test Condition: 2 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Probe Position F (V/m)	Limits (V/m)
126.2 ~ 129.2	0.401	0.492	0.482	0.452	0.607	0.885	614

Test Condition: 4.5 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Probe Position F (V/m)	Limits (V/m)
126.2 ~ 129.2	0.587	0.715	0.556	0.716	0.688	0.801	614

Test Condition: 7.5 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Probe Position F (V/m)	Limits (V/m)
126.2 ~ 129.2	0.848	0.700	0.504	0.799	0.683	0.764	614

Test Condition: 9 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Probe Position F (V/m)	Limits (V/m)
126.2 ~ 129.2	0.749	1.110	0.700	0.916	1.021	0.915	614

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

Test Condition: 2 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Probe Position F (A/m)	Limits (A/m)
126.2 ~ 129.2	0.171	0.166	0.156	0.156	0.643	0.501	1.63

Test Condition: 4.5 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Probe Position F (A/m)	Limits (A/m)
126.2 ~ 129.2	0.166	0.166	0.159	0.171	0.171	0.243	1.63

Test Condition: 7.5 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Probe Position F (A/m)	Limits (A/m)
126.2 ~ 129.2	0.237	0.156	0.168	0.156	0.163	0.189	1.63

Test Condition: 9 W Operating mode with client device (1 % battery status of client device)

Frequency Range (kHz)	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Probe Position F (A/m)	Limits (A/m)
126.2 ~ 129.2	0.156	0.161	0.156	0.156	0.151	0.156	1.63

- End of the Test Report -