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TEST REPORT

of

FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: PPXAVADIN-1

1. Equipment Under Test	:	WIRELESS CHARGER
2. Model Name	:	AVAdin-1
3. Variant Model Name(s)	:	-
4. Applicant	:	RFTECH Co., Ltd.
5. Manufacturer	:	RFTECH Co., Ltd.
6. Date of Receipt	:	2020.02.21
7. Date of Test(s)	:	2020.02.25 ~ 2020.03.12
8. Date of Issue	:	2020.03.16

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.

Tested by: **Jinhyoung Cho**

Technical Manager: **Jungmin Yang**

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

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.

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1.2. Details of Applicant

Applicant : RFTECH Co., Ltd.
Address : 60, Jugyangdaero 1763beon-gil, Wonsam-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, South Korea
Contact Person : Hwang, Dong-hyuk
Phone No. : +82 31 327 0346

1.3. Details of Manufacturer

Company : Same as applicant
Address : Same as applicant

1.4. Description of EUT

Kind of Product	WIRELESS CHARGER
Model Name	AVAdin-1
Power Supply	DC 5.0 V, DC 9.0 V
Frequency Range	110.1 ㎑ ~ 205 ㎑
Antenna Type	Loop coil antenna

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
E-Field Probe	D.A.R.E!! Instruments	RadiSense 4	13I00444SNO04	Jun. 24, 2019	Annual	Jun. 24, 2020
100 cm^2 Magnetic Field Sensor	HIOKI	3471	0850-B1	Oct. 02, 2019	Annual	Oct. 02, 2020
Magnetic Field Hitester	HIOKI	FT3470-50	140430999	Oct. 02, 2019	Annual	Oct. 02, 2020
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
Samsung Mobile Phone	Samsung Electronics Co., Ltd.	SM-G950F	A3LSMG950F
C type USB Cable	RFTECH	EP-DR140AWE	-
TRAVEL ADAPTER	SOLUM VINA COMPANY LIMITED	EP-TA200	-

1.6. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL000399	2020.03.16	Initial

1.7. Worst Case of Test Configurations

EUT was evaluated with appropriate under each charging condition as below table.

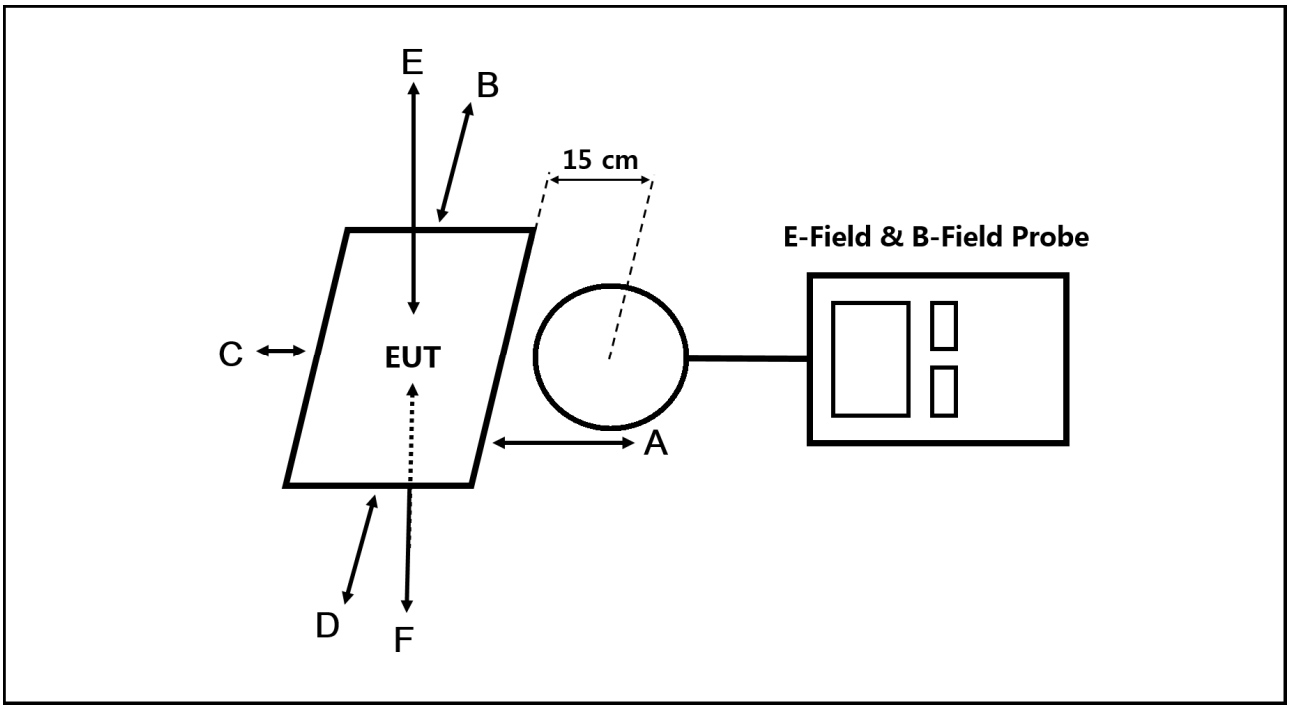
Charging Mode With Client Device	Description
Model: SM-G950F FCC ID: A3LSMG950F	1 % of battery 50 % of battery 99 % of battery

Note;

- 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 ㎝) 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 v03.

2.3. Equipment Approval Considerations Item 5 b) of KDB 680106 D01 v03.

(1) Power transfer frequency is less that 1 ㎒.
- The device operates at a frequency 110.1 ㎑ to 205 ㎑.

(2) Output power from each primary coil is less than or equal to 15 watts.
- Output power from primary coil: 9 watts.

(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.
- The transfer system including a charging system with one primary coils is to detect and allow only between individual pairs of coils.

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

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

(6) The aggregate H-field strengths at 15 ㎝ surrounding the device and 20 ㎝ above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50 % of the MPE limit.
- Refer to following test results.

The EUT H-Field Strength levels at 15 ㎝ < 50 % of the MPE H-Field Strength limit 1.63 A/m
0.090 A/m (Max. at 15 ㎝) < 0.815 A/m

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 - LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (㎒)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (㎽/㎠)	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				
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

Test Condition: 5 W Operating mode with client device (1 % Battery Status of Client Device)

Frequency Range (㎑)	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)
110.1 ~ 205	5.82	5.64	6.81	6.01	7.34	6.19	614

Test Condition: 9 W Operating mode with client device (1 % Battery Status of Client Device)

Frequency Range (㎑)	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)
110.1 ~ 205	7.87	5.92	7.52	6.06	7.06	6.12	614

2.5.2. H-Field Strength at from The Edges Surrounding The EUT

Test Condition: 5 W Operating mode with client device (1 % Battery Status of Client Device)

Frequency Range (㎑)	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)
110.1 ~ 205	0.050	0.042	0.060	0.051	0.070	0.041	1.63

Test Condition: 9 W Operating mode with client device (1 % Battery Status of Client Device)

Frequency Range (㎑)	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)
110.1 ~ 205	0.066	0.060	0.090	0.064	0.079	0.052	1.63

Remark;

- H-field strength (A/m) = B-field (μT) / 1.25

- End of the Test Report -