

TEST REPORT



CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu,
Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Report No.:
CTK-2024-01082-1
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1. Applicant

- Name : Samsung Electronics Co., Ltd
- Address : 19 Chapin Rd, Building D. Pine Brook, New Jersey, United States
- Date of Receipt : 2024-02-28

2. Manufacturer

- Name : Samsung Electronics Co., Ltd.
- Address : Yen Phong 1 Industrial Park, Yen Phong District Bac Ninh Province VIETNAM

3. Use of Report : For FCC Certification

4. Test Sample / Model : WIRELESS CHARGER / EP-OL300

5. Date of Test : 2024-04-04



6. Test Standard(method) used : FCC 47 CFR part 1 subpart I 1.1310

7. Testing Environment: Temp.: (24 ± 1) °C, Humidity: (38 ± 3) % R.H

8. Test Results : Compliance

9. Location of Test : Permanent Testing Lab On Site Testing (Address : 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea)

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This report cannot be reproduced or copied without the written consent of CTK.

Approval	Tested by	Technical Manager
	Gwanyong Kim: (Signature) 	Young-taek Lee: (Signature) 

2024-05-16

CTK Co., Ltd.



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REPORT REVISION HISTORY

Date	Revision	Page No
2024-04-12	Issued (CTK-2024-01082)	all
2024-05-16	Issued (CTK-2024-01082-1) Applicant's address correction, Removal of test setup photos	1

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1. General Description

1.1 Client Information

Company	Samsung Electronics Co., Ltd.
Contact Point	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea
Contact Person	Name : Hyungkoo Chung E-mail : h9.chung@samsung.com

1.2 Manufacturer Information

Manufacturer	Samsung Electronics Co., Ltd.
Address	Yen Phong 1 Industrial Park, Yen Phong District Bac Ninh Province VIETNAM
Factory #1	RFTECH THAI NGUYEN CO., LTD
Factory #1 Address	Line 1-2, Diem Thuy Industry Zone, Diem Thuy Commune, Phu Binh District, 230000 Thai Nguyen Province, VIETNAM
Factory #2	LUXSHARE-ICT (NGHE AN) LIMITED
Factory #2 Address	NO. 18, NO. 3 ROAD, NGHE AN VSIP INDUSTRY PARK, HUNG TAY COMMUNE, HUNG NGUYEN DISTRICT, NGHE AN PROVINCE, VIETNAM
Factory #3	HAEM VINA CO., LTD.
Factory #3 Address	PLOT B4M SONG KHE INDUSTRIAL ZONE NOI HOANG, BAC GIANG PROVINCE 21000, VIETNAM
Factory #4	CHITWING PRECISION TECH VIET NAM+H103 CO., LTD
Factory #4 Address	LOT CN2-2 AND LOT CN9-4 YEN PHONG INDUSTRIAL PARK, YEN TRUNG COMMUNE, YEN PHONG DISTRICT, BAC NINH PROVINCE, VIETNAM

1.3 Product Information

FCC ID	A3LEPOL300
Product Description	WIRELESS CHARGER
Model name	EP-OL300
Variant Model name	-
Charging Frequency	143.5 kHz ~ 146.5 kHz
Power Transfer Method	Magnetic induction and only single primary coil coupling secondary coil
Output power from each primary coil	3 W
That may have multiple primary coils	No
Antenna Type	Loop Coil
Charging Method	Directly contact
Power Source	DC 5 V

2. Accreditations

2.1 Laboratory Accreditations and Listings

Country	Agency	Registration Number
USA	FCC	805871
CANADA	ISED	CN : 8737A CAB ID : KR0025
KOREA	NRRA	KR0025

2.2 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

3. RF Exposure Assessment

3.1 Maximum Permissible Exposure

Limit

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
Note 1 : f = frequency in MHz; *Plane-wave equivalent power density Note 2 : For the applicable limit, see FCC 1.1310				

Test method

- a) Performed aggregate both leakage E-field and H-field at surrounding the device from all simultaneous transmitting coils.
- b) During testing, the EUT was placed on a non-conductive table top and the ancillary equipment (e.g., WPT Load) was placed on the EUT for charging. Maximum E-field and H-field measurement were tested 15cm from each side of the EUT. Along the side of the EUT to side of E-field probe and H-field probe were positioned at the location to search maximum field strength.

Test Condition

Ancillary Equipment	Condition
WPT Load	Charging Mode

Test Frequency

Charging Frequencies
145 kHz

Test mode according to chip type

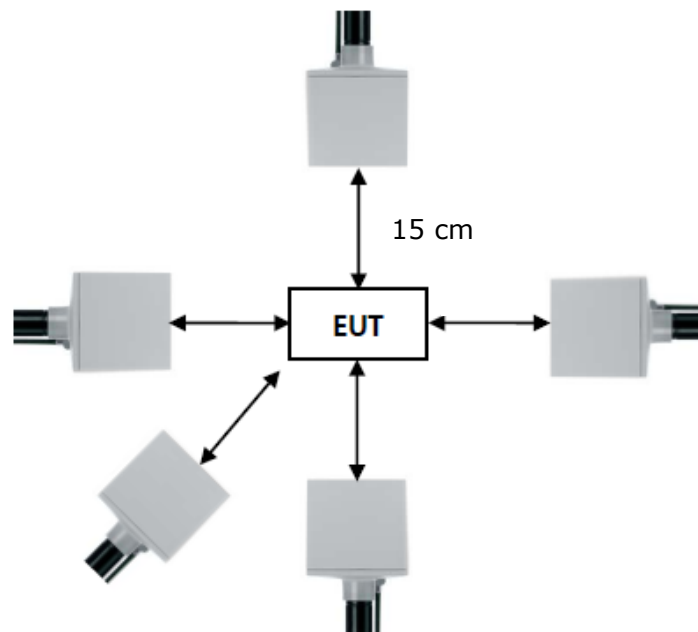
Chip Type	
Type 1	NuVolta IC, Clock frequency : 92 MHz)
Type 2	MAXIC IC, Clock frequency : 48 MHz)


Peripheral Devices

No.	Device	Manufacturer	Model No.	Serial No.
1	AC/DC Adaptor	RFTECH	EP-T2510	-
2	WPT Load	-	-	-

Note : WPT load was provided by manufacturer.

Test Setup



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Equipment approval considerations item 5.b) of KDB 680106 D01 v03r01

※ Equipment approval considerations

- (1) Power transfer frequency is less than 1 MHz.
 - Meet the requirements.

- (2) Output power from each primary coil is less than or equal to 15 watts.
 - Meet the requirements.

- (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.
 - Meet the requirements.

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

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

- (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.
 - Meet the requirements.



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Test results

[Chip Type 1]

Maximum Permissible Exposure		
Probe from EUT Side	E-field (V/m)	H-field (A/m)
right	1.345	0.199
bottom	1.076	0.201
left	1.511	0.201
top	1.676	0.199
Y-axis above EUT	2.407	0.204
Limit	614	1.63

[Chip Type 2]

Maximum Permissible Exposure		
Probe from EUT Side	E-field (V/m)	H-field (A/m)
right	1.015	0.201
bottom	0.648	0.218
left	1.201	0.209
top	0.710	0.209
Y-axis above EUT	2.355	0.201
Limit	614	1.63

Maximum Measurement Uncertainty

The value of the measurement uncertainty for the measurement of each parameter.
 Coverage factor $k = 2$, Confidence levels of 95 %

item	Uncertainty
H-field	15 % (C.L. : Approx. 95 %, $k = 2$)
E-field	15 % (C.L. : Approx. 95 %, $k = 2$)



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APPENDIX A – Test Equipment Used For Tests

No.	Name of Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date
1	Electric and Magnetic Field Analyzer	Narda	EHP-200AC	170WX91010	2023-10-25	2024-10-25
2	EHP200-TS Software	Narda	EHP200-TS	650.000.207	-	-
3	Note Computer	HP	15-bs563TU	CND7253QRM	-	-

-END-