

TEST REPORT



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu,
Yongin-si, Gyeonggi-do, Korea
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Report No.:
CTK-2023-02329
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1. Applicant

- Name : Aptiv Connection Systems Korea LLC
- Address : 38, Gongdan-ro 140beon-gil, Gunpo-si, Gyeonggi-do, Republic of Korea
- Date of Receipt : 2023-09-11

2. Manufacturer

- Name : Aptiv Connection Systems Korea LLC
- Address : 17 Yangdeungnonggong-gil Sangbuk-myeon Ulju-gun, Ulsan 44908, Republic of Korea

3. Use of Report : For FCC Certification

4. Test Sample / Model : Single Coil WPC Type 2 NFC / 35703750

5. Date of Test : 2023-09-19

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

7. Testing Environment: Temp.: (29 ± 1) °C, Humidity: (51 ± 3) % R.H

8. Test Results : Compliance

9. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

(Address : (Unhak-Dong) 5, Dongbu-ro 221beon-gil, Cheoin-gu, Yong-in-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
	Ji-Hye, Kim: (Signature)	Young-taek Lee: (Signature)

Remark. This report is not related to KOLAS accreditation and relevant regulation.

2023-10-27

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REPORT REVISION HISTORY

Date	Revision	Page No
2023-10-27	Issued (CTK-2023-02329)	all

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1. General Product Description

1.1 Applicant Information

Company	Aptiv Connection Systems Korea LLC
Contact Point	38, Gongdan-ro 140beon-gil, Gunpo-si, Gyeonggi-do, Republic of Korea
Contact Person	Name : Maeng, MinKyung E-mail : min-kyung.maeng@aptiv.com Tel : +82-52-255-0351

1.2 Product Information

FCC ID	2A29I-35703750
Product Description	Single Coil WPC Type 2 NFC
Model name	35703750
Variant Model name	-
Charging Frequency	127.7 kHz
Power Transfer Method	Magnetic induction and only single primary coil coupling secondary coil
Output power from each primary coil	10 W
That may have multiple primary coils	No
Antenna Type	Coil
Charging Method	Directly contact
Power Source	DC 12 V
Hardware Rev	1.00
Software Rev	1.00

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

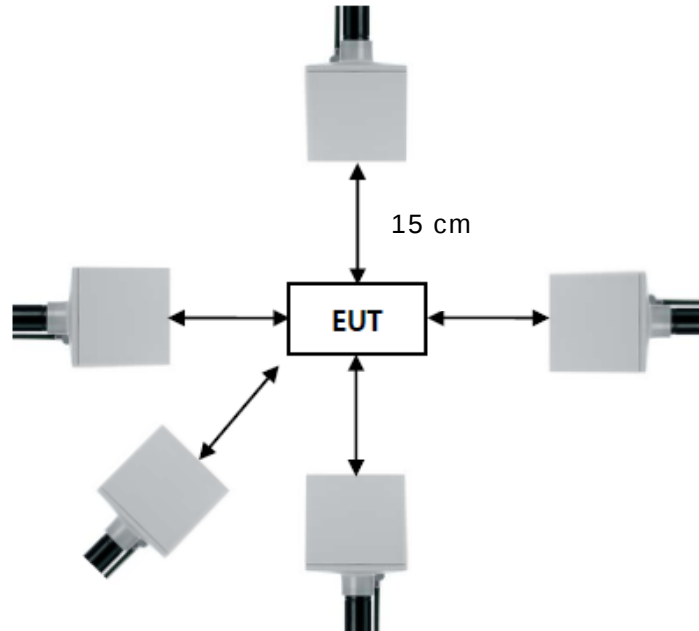
Test method

- Performed aggregate both leakage E-field and H-field at surrounding the device from all simultaneous transmitting coils.
- During testing, the EUT was placed on a non-conductive table top and the ancillary equipment (e.g., mobile phone) 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.

The Worst Condition

Ancillary Equipment	Charging Condition
WPT Load(10 W)	Charging Mode

Test Setup



Test results

Maximum Permissible Exposure				
Charging Condition	Separation	Probe from EUT Side	E-field (V / m)	H-field (A / m)
Operating	15 cm	right	3.19	0.56
Operating	15 cm	bottom	3.21	0.51
Operating	15 cm	left	3.16	0.33
Operating	15 cm	top	3.11	0.50
Operating	15 cm	Y-axis above EUT	8.20	1.56
Limit			614	1.63
Margin Limit(Measurement value / Limit * 100)(%)			1.34	95.7

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 %, $k = 2$)

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	2022-10-14	2023-10-14
2	EHP200-TS Software	Narda	EHP200-TS	650.000.207	-	-
3	Note Computer	HP	15-bs563TU	CND7253QRM	-	-

APPENDIX B – Test Photos



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