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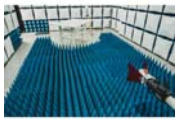

RF EXPOSURE EVALUATION
Maximal Permissible Exposure [MPE]

Applicant Name:
LG Electronics Inc.
10, Magokjungang 10-ro, Gangseo-gu,
Seoul, Korea 07796

Date of Testing:
3/23/2018-4/11/2018
Test Site/Location:
PCTEST Lab. Columbia, MD, USA
Test Report Serial No.:
1M1803230054-01.BEJ

FCC ID:	**BEJWC501M**
APPLICANT:	**LG Electronics Inc.**

Application Type:	Certification
Model:	WC501M
Operating Frequency:	111kHz
EUT Type:	Vehicle Installed Wireless Charging System
FCC Classification:	Part 15 Low Power Transmitter Below 1705 kHz (DCD)
FCC Rule Part:	FCC Part 1 (§1.1310) and Part 2 (§2.1091)
Test Procedure(s):	KDB 680106 D01 v02

The device bearing the FCC Identifier specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and has been tested in accordance with the measurement procedures specified in KDB 680106 D01 v02. These measurements were performed with no deviation from the standards. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez
President

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1.0 RF EXPOSURE EVALUATION – MAXIMUM PERMISSIBLE EXPOSURE (MPE)

1.1 Introduction

This document is prepared to show compliance with the RF Exposure requirements as required in §1.1310 of the FCC Rules and Regulations and RSS-102 of Industry Canada.

The limit for Maximum Permissible Exposure (MPE), specified in FCC §1.1310, is listed in Table 1-1. According to FCC §1.1310 and RSS-102: the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b).

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 (f = frequency)				
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
300-1500	…	…	f/300	6
1500-100,000	…	…	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
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
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

Table 1-1. Limits for Maximum Permissible Exposure Per FCC (MPE)

Per the guidance of KDB 680106, the E-field and H-field limits shown in the table above are extended down to 100kHz.

1.2 EUT Description

The **EUT FCC ID: BEJWC501M** is a wireless charging system (source) that transfers power to a client device via inductive coupling using the WPC wireless charging protocol. Wireless power transfer is initiated when the dummy load is placed on the charger system.

Output power of the charging pad is fixed to 15W in WPC mode.

1.3 Test Equipment

Test equipment calibration is traceable to the National Institute of Standards and Technology (NIST).

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Narda	EHP-200AC	Electric & Magnetic Field Probe	4/18/2017	Annual	4/18/2018	170WX70211

Table 1-2. Test Equipment List

1.4 Test Setup

Maximum E-field and H-field measurements were made on each of five sides of the EUT that could come in contact with a user. The five sides are defined as follows: Bottom (A), Right (B), Top (C), Left (D), and Front (E). Refer to the test position diagram below.

Mobile Condition

Probe	Condition	Test Distance (cm)
E-field	Mobile	Variable
H-field	Mobile	Variable

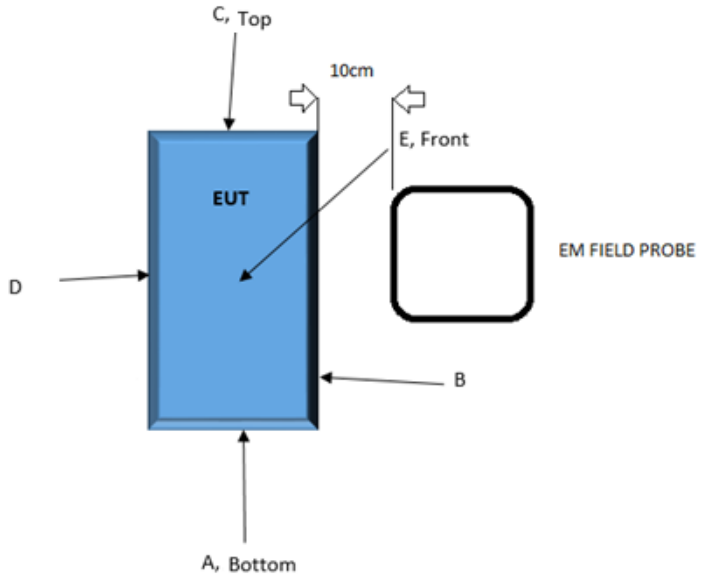

Figure 1. Test Positions and Probe Distance

1.5 Summary of Results

The procedure used to determine the RF power density for the mobile condition was based upon E-field and H-field measurements recorded using a calibrated probe. All measurements were recorded with the EUT (the charging system) transferring power to the Rx dummy loads that support the WPC charging protocols. The pad itself was running off of a 12VDC power supply.

The field strength of the E field and H-field was measured at an EUT-to-probe-measurement-axis distance as shown in Tables 1-3 and 1-4 below using equipment listed in Section 1.3.

Care was exercised to ensure that the charging system was transferring power to the dummy loads throughout the duration of the field strength measurements.

During testing, the charging system with WPC dummy load was placed on a non-conductive (composite plastic) table top. The probe was positioned at the location where there is maximum field strength on each side of the EUT. The maximum E-field and H-field is reported below.

Distance (cm)	EUT SIDES					Limit (V/m)
	A (V/m)	B (V/m)	C (V/m)	D (V/m)	E (V/m)	
10	2.263	2.270	1.063	2.948	1.043	614.00
8	2.746	3.296	1.395	4.822	1.291	614.00
6	3.310	3.662	1.852	5.573	1.332	614.00
4	4.346	4.450	2.729	7.965	2.497	614.00
2	4.979	8.524	3.806	12.946	14.603	614.00
0	6.636	26.160	9.811	44.263	48.540	614.00

Table 1-3. E-field Measurements for Decremental Test Distances (15W WPC)

Distance (cm)	EUT SIDES					Limit (A/m)
	A (A/m)	B (A/m)	C (A/m)	D (A/m)	E (A/m)	
10	0.122	0.113	0.196	0.223	0.387	1.63
8	0.123	0.207	0.235	0.424	0.510	1.63
6	0.185	0.383	0.292	0.558	1.111	1.63
4	0.259	0.416	0.464	0.985	1.593	1.63
2	0.394	1.115	0.529	4.229	2.556	1.63
0	0.723	4.860	0.722	9.425	6.964	1.63

Table 1-4. H-field Measurements for Decremental Test Distances (15W WPC)

2.0 CONCLUSION

The E-field and H-field data shown in this report show that the Vehicle Installed Wireless Charger System is compliant with the MPE limits for the WPC charging dummy load at a distance of 4cm.