

RF EXPOSURE REPORT

Test item : Wireless Charging
Model No. : WCP-300
Order No. : DEMC1301-00055
Date of receipt : 2013-01-07
Test date : 2013-01-20 ~ 2013-02-13
2013-02-13 ~ 2013-02-14
2013-02-25, 2013-03-11
Date of issue : 2013-04-12
Use of report : FCC Original Grant

Applicant : LG Electronics USA.
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Test laboratory : Digital EMC Co., Ltd.
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FCC Rule Part : FCC Part 1 Subpart I & FCC Part 2 Subpart J
Test environment : See appended test report

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DIGITAL EMC CO., LTD.

Tested by:



Engineer
JaeJin, Lee

Witnessed by:

N/A

Reviewed by:



Deputy General Manager
WonJung, Lee

Test Report Version

Test Report No.	Date	Description
DRTFCC1301-0058	Jan. 24, 2013	Initial issue
DRTFCC1301-0058(1)	Jan. 30, 2013	Updated FCCID
DRTFCC1301-0058(2)	Feb. 15, 2013	Updated results of test mode
DRTFCC1301-0058(3)	Feb. 26, 2013	Updated results of additional test
DRTFCC1301-0058(4)	Mar. 29, 2013	Changed results and update results of additional test
DRTFCC1301-0058(5)	Apr. 12, 2013	Described additional test condition

CONTENTS

1. Equipment information4

 1.1 Equipment description4

 1.2 Support equipment.....4

2. Information about test items5

 2.1 Test mode5

 2.2 Tested environment.....5

3. E and H field strength6

1. Equipment information

1.1 Equipment description

FCC Equipment Class	Part 15 Low Power Transmitter Below 1705 kHz (DCD)
Equipment type	Wireless Charging
Equipment model name	WCP-300
Equipment add model name	N/A
Equipment serial no.	Identical prototype
Frequency range	110 ~ 205kHz
Charging power range	0 ~5 W
Protocol ^{Note 1}	WPC protocol(A1 type)
Power	AC 120V 60Hz
Antenna type	Internal Loop Antenna(Circular coil)

Note 1: This device can charge only one client device on the specific location at a time.
So this device is a A1 device of the WPC protocol

1.2 Support equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
AC Adapter	MCS-04WT	TA2Y0000045	TEN PAO	-
Client Device	bq51013EVM-725	HPA725 Rev. A	TI Instruments	-
Mobile Phone	LG-E960	N/A	LG	FCC ID : ZNFE960

Note: The support equipments were supported by manufacturer.

2. Information about test items

2.1 Test mode

This device has been tested in the worst-case mode of charging mode as below conditions:

Test Mode	Support Equipment	Charging Current Condition
TM1	Client Device (M/N: bq51013EVM-725)	300mA
TM2	Client Device (M/N: bq51013EVM-725)	600mA
TM3	Client Device (M/N: bq51013EVM-725)	1000mA
TM4	Client Device (M/N: bq51013EVM-725)	100mA
TM5	Mobile Phone (M/N: LG-E960)	< 1% battery status & Charging & All of the TXs OFF condition using Airplane Mode of the Mobile Phone
TM6	Mobile Phone (M/N: LG-E960)	50% battery status & Charging & All of the TXs OFF condition using Airplane Mode of the Mobile Phone
TM7	Mobile Phone (M/N: LG-E960)	< 1% battery status & Charging & GPRS Class12 4TX condition using Call-Box

Note 1: The Charging is not operation when 100% fully charged status.

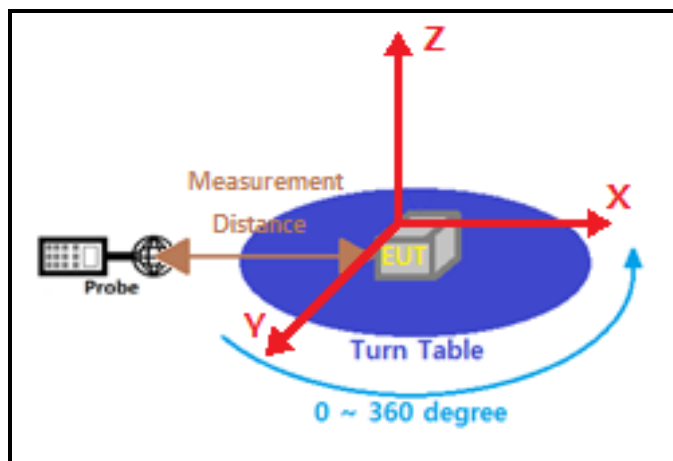
2.2 Tested environment

Temperature	: 21 ~ 23°C
Relative humidity content	: 36 ~ 52 % R.H.
Details of power supply	: AC 120V 60Hz

3. E and H field strength

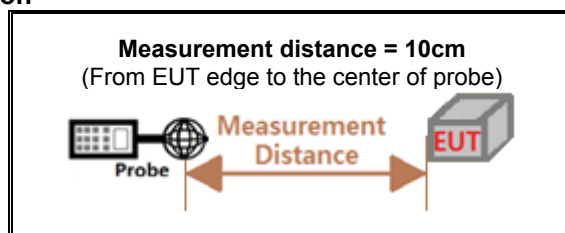
For RF exposure purposes, the E and H field strengths are measured separately with E and H probes and meters at different locations surrounding the test setup.

•Test setup diagram



Note: Z-axis is not tested since top and bottom side of the desktop charger shall be located far from human body in actual usage condition.

• Measurement distance information



•Measurement procedure

These testing were performed at test configuration as above diagram.

EUT was placed on a turntable, and the measurement probe was placed at a measurement distance of 10cm from the EUT, the turn table was rotated 360 degrees to capture the highest signal. Please refer to setup photo for more details.

•Test equipment list

	Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next. Cal.Date (yy/mm/dd)	S/N
☒	Exposure level meter	NARDA	ELT-400	12/01/30 13/02/06	14/02/06 J-0015	
☒	Magnetic Field Meter	Holaday Industries	HI-3627	11/02/14 13/02/18	15/02/18 00023776	
☒	Call-Box Agilent		E5515C	12/03/05 13/02/28	14/02/28 GB43461	134

•Measurement data:

1. Test configuration 1

Test Mode	Freq. [MHz]	Result		Limit	
		E-field(V/m)	H-field(A/m)	E-field(V/m)	H-field(A/m)
TM1	0.148 2.32		0.40	614	1.63
TM2	0.147 2.24		0.39	614	1.63
TM3	0.145 2.32		0.37	614	1.63
TM4	0.159 2.08		0.37	614	1.63
TM5	0.124	2.42	0.17	614	1.63
TM6	0.131 1.95		0.08	614	1.63
TM7	0.128 6.77		0.18	614	1.63

•Limit

The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency radiation as specified FCC part 1.1037 (b), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093.

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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled 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
300-1500			f/300	6
1500-100,000			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
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note 1 to Table 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.