FCC Part 1 Subpart I
FCC Part 2 Subpart J

RF EXPOSURE REPORT

FOR

WIRELESS CHARGER

MODEL NUMBER: WCP-400

FCC ID: BEJWCP400

KDB 680106
FCC INQUIRY TRACKING NUMBER 440245

REPORT NUMBER: 12U14682-2, Revision B

ISSUE DATE: November 09, 2012

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	10/22/12	Initial Issue	T. Chan
A	10/29/12	Corrected Typo	T. Chan
B	11/09/12	Revised worst case configuration section	F. Ibrahim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
1000 SYLVAN AVENUE
ENGLEWOOD CLIFFS, NJ 07632

EUT DESCRIPTION: WIRELESS CHARGER

MODEL: WCP-400

SERIAL NUMBER: NA

DATE TESTED: OCTOBER 17-19, 2012

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 1 SUBPART I & PART 2 SUBPART J	Pass

UL CCS calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

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Calculated By:

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2. TEST METHODOLOGY

All calculations were made in accordance with FCC OET Bulletin 65 Edition 97-01.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Magnetic Field, 2 to 400 kHz	+/- 21 %

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Wireless charger intended for mobile device. The wireless charger is operated at 110 to 205 kHz transmit frequencies.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an internal loop antenna (Circular Coil).

5.3. WORST-CASE CONFIGURATION AND MODE

EUT was placed on a turntable, and the measurement probe was placed at a distance of 10 cm from the EUT, the probe was moved from 0 to 90 degrees angle as the diagram below shows, and the turn table was rotated 360 degrees to capture the highest signal.

The highest signal was found when the probe is perpendicular to the surface of the EUT.

EUT Configuration	Description
Charging Mode at Worst case Configuration	EUT (WCP-400) with DONG DO AC Adapter @300/600/1000mA Load
	EUT (WCP-400) and LG-E960 @ <1% and 50% battery status, since charging is not operation when 100% fully charged status.
	EUT (WCP-400) with Ten Pao AC Adapter @1000mA Load

6. TEST AND MEASUREMENT EQUIPMENT

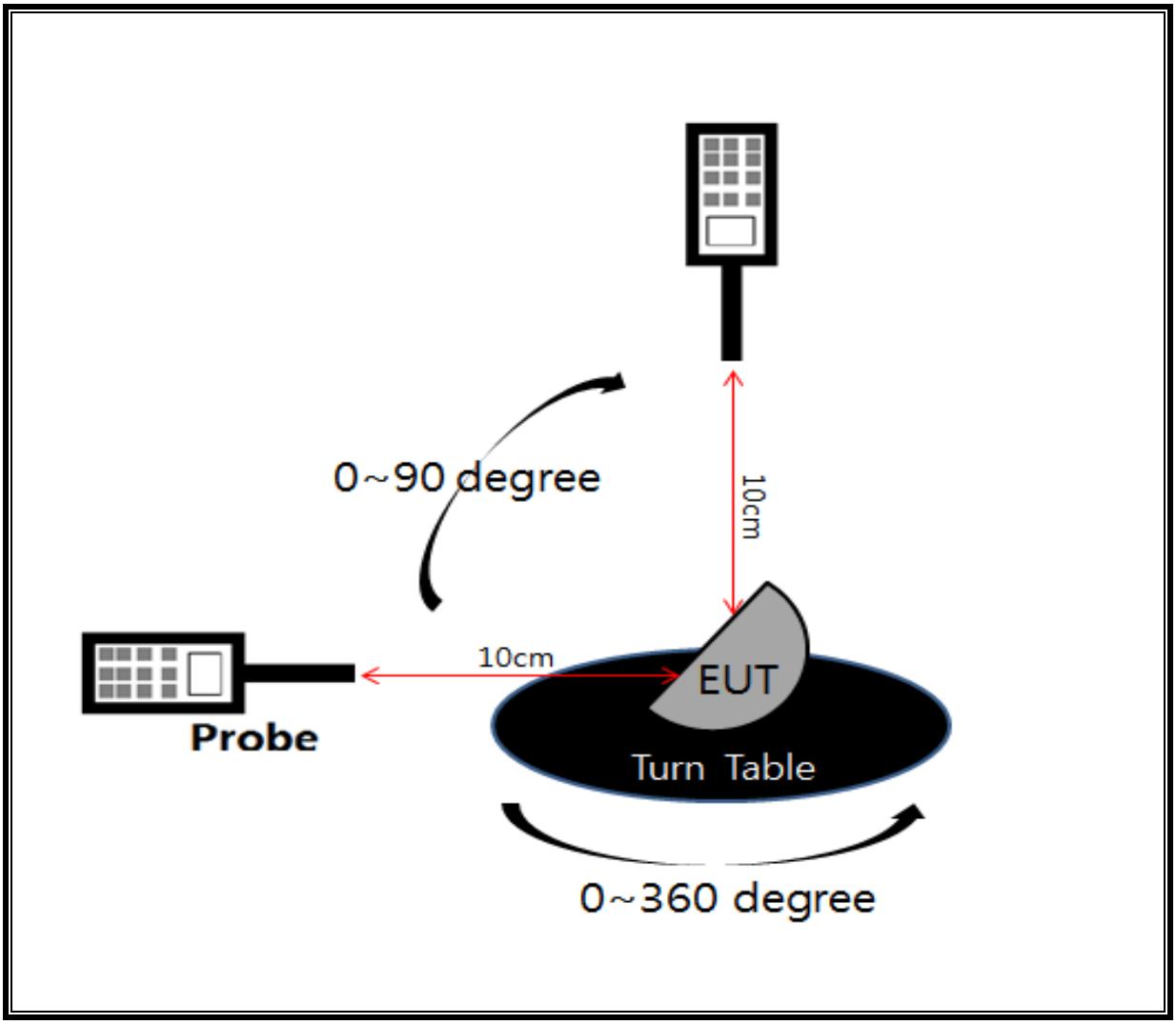
The following test and measurement equipment was utilized for the tests documented in this report:

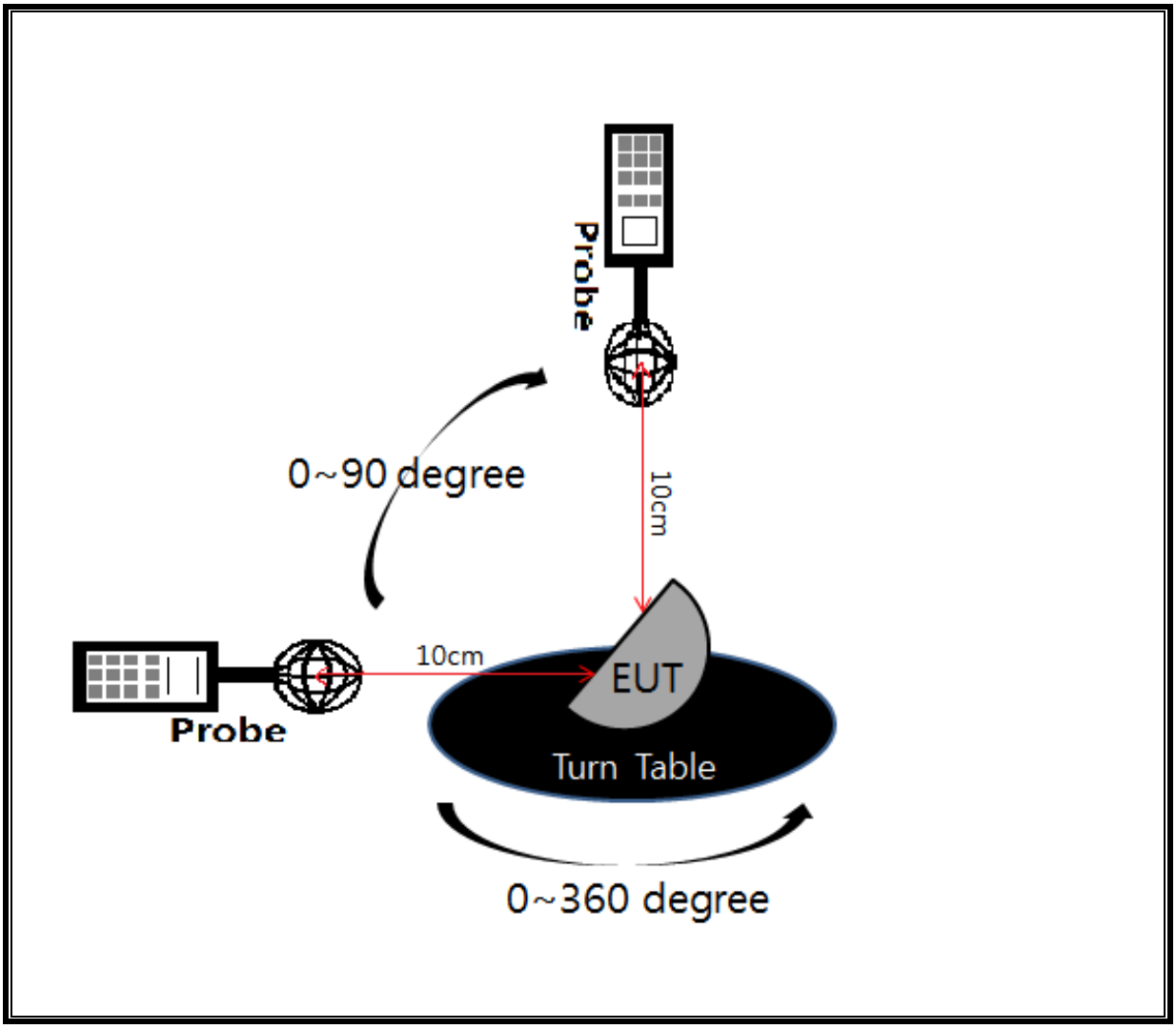
Test Equipment List				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Closed Field Probe, 9K-30MHz	Agilent / HP	11941A	NA	07/13/13
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/18/13
3-AXIS VLF Magnetic Field Probe	Holaday	HI-3637	C01010	01/12/13
3-AXIS Magnetic Field Meter	Holaday	HI-3637	NA	01/12/13

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	TEN PAO	MCS-04WT	TA270000185	DoC
AC Adapter	DONG DO	MCS-04WD	DA26000074	DoC
Mobile Phone	LG-E960	LG-E960	0013CAE4DA0D1956	ZNFE960
Client Device, 300mA,600mA,1000mA Load	TI Instruments	bq51013EVM-725	HPA725 Rev A	NA

RF EXPOSURE SETUP





7. MAXIMUM PERMISSIBLE RF EXPOSURE

7.1. FCC RULES

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental 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 §2.1093 of this chapter.

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

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
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.

7.1.1. CLOSED FIELD PROBE, 9 kHz – 30 MHz (MODEL: 11941A)

WCP-400 AND DONG DO AC ADAPTER WITH 1000mA LOAD

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	50.83	69.88	407.85	614

WCP-400 AND DONG DO AC ADAPTER WITH 600mA LOAD

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	48.04	69.88	295.80	614

WCP-400 AND DONG DO AC ADAPTER WITH 300mA LOAD

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	48.25	69.88	303.04	614

WCP-400 AND TEN PAO AC ADAPTER WITH 1000mA LOAD

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	51.17	69.88	424.13	614

WCP-400 AND DONG DO AC ADAPTER WITH LG-E960 at <1% BATTERY STATUS

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	38.45	69.88	98.06	614

WCP-400 AND DONG DO AC ADAPTER WITH LG-E960 at 50% BATTERY STATUS

Frequency Range (KHz)	Separation Distance (m)	Measured Voltage (dBuV)	Antenna Factor (dBuA/m/uV)	E-field (V/m)	E-field Limit (V/m)
160.00	0.10	37.77	69.88	90.68	614

7.1.2. 3-AXIS VLF MAGNETIC FIELD PROBE (MODEL: HI-3637)

WCP-400 WITH DONG DO AC ADAPTER @1000mA LOAD

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.95	1.63

WCP-400 WITH DONG DO AC ADAPTER @600MA LOAD

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.71	1.63

WCP-400 WITH DONG DO AC ADAPTER @300mA LOAD

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.64	1.63

WCP-400 WITH TEN PAO AC ADAPTER @1000mA LOAD

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.87	1.63

WCP-400 DONG DO AC ADAPTER WITH LG-E960 AT <1% BATTERY STATUS

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.24	1.63

WCP-400 DONG DO AC ADAPTER WITH LG-E960 @ 50% BATTERY STATUS

Separation Distance (m)	H-Field (A/m)	H-Field Limit (A/m)
0.10	0.22	1.63