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EMI CERTIFICATION REPORT

LG Electronics Inc.

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Date of Issue: December 29, 2009

Test Report No.: HCTE0912FE40

Test Site: HCT CO., LTD.

HCT FRN: 0005-8664-21

FCC ID:

BEJLG620G

Rule Part(s) / Standard(s) : FCC PART 15 Subpart B / CISPR 22 Class B
Equipment (EUT) Type : Cellular/PCS GSM/ EDGE Phone with Bluetooth
Trade Name / Model(s) : LG Electronics Inc. / LG620G
Port / Connector(s) : USB Data Port / Headset Port
Application Type : Class II Permissive Change

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003. (See Test Report if any modifications were made for compliance)

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.

HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862.

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TABLE OF CONTENTS

	PAGE
1. GENERAL INFORMATION	3
1.1 Product description.....	3
1.2 Related submittal(s)/Grant(s).....	3
1.3 Tested system details.....	4
1.4 Cable description.....	4
1.5 Noise suppression parts on cable. (I/O cable)	4
1.6 Test methodology.....	5
1.7 Test facility.....	5
2. SYSTEM TEST CONFIGURATION.....	6
2.1 Configuration of tested system.....	6
3. PRELIMINARY TEST.....	7
3.1 Conducted Emission test.....	7
3.2 Radiated Emission test.....	7
4. CONDUCTED AND RADIATED EMISSION TESTS SUMMARY.....	8
4.1 Conducted Emission test.....	8
4.2 Radiated Emission test.....	13
5. FIELD STRENGTH CALCULATION.....	14
6. TEST EQUIPMENT.....	15
7. CONCLUSION.....	16

ATTACHMENT : TEST SETUP PHOTOGRAPHS

1. GENERAL INFORMATION

1.1 Product Description

The **LG Electronics Inc. Model: LG620G, Cellular/PCS GSM/ EDGE Phone with Bluetooth.**

It's basic purpose is used for communications. It transmits from GSM 850 (824.20 MHz to 848.80 MHz), GSM 1 900 (1 850.20 MHz to 1 909.80 MHz) and receives from GSM 850 (869.20 MHz to 893.80 MHz), GSM 1 900 (1 930.20 MHz to 1 989.80 MHz).

Model	LG620G
FCC ID	BEJLG620G
E.U.T Type	Cellular/PCS GSM/ EDGE Phone with Bluetooth
TX Frequency	824.20 MHz to 848.80 MHz (GSM 850) 1 850.20 MHz to 1 909.80 MHz (GSM 1 900)
RX Frequency	869.20 MHz to 893.80 MHz (GSM 850) 1 930.20 MHz to 1 989.80 MHz (GSM 1 900)

1.2 Related Submittal(s) / Grant(s)

Original submittal only.

1.3 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Manufacturer	Model Number/ Part Number	FCC ID / DoC	Connected To
Cellular/PCS GSM/ EDGE Phone with Bluetooth	LG	LG620G	BEJLG620G	Notebook PC
Notebook PC	Sam-Sung	NT-R519	DoC	E.U.T
Notebook PC adaptor	DELTA	ADP-60ZH D AD-6019R	-	Notebook PC
Mouse	Microsoft	Intellimouse optical USB and PS/2 compatible	DoC	Notebook PC
USB cable	-	-	-	E.U.T Notebook PC
Headset	-	-	-	-

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
Cellular/PCS GSM/ EDGE Phone with Bluetooth	Headset jack	-	N	(D)1.4
	USB data	Y	Y	(P,D)1.2
Notebook PC	USB (Mouse)	-	Y	(D)1.8

* The marked "(D)" means the data cable and "(P)" means the power cable.

1.5 Noise Suppression Parts on Cable. (I/O cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
Cellular/PCS GSM/ EDGE Phone with Bluetooth	Headset jack	N	-	Y	E.U.T End
	USB data	N	-	Y	Both End
Notebook PC	USB (Mouse)	Y	Notebook PC End	Y	Notebook PC End

1.6 Test Methodology

Both Conducted and Radiated testing was performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to E.U.T distance of 3 m

1.7 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-ri, Hobup-myun, Ichon-si, Kyoungki-do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated June 10, 2009. (Registration Number: 90661)

1.8 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

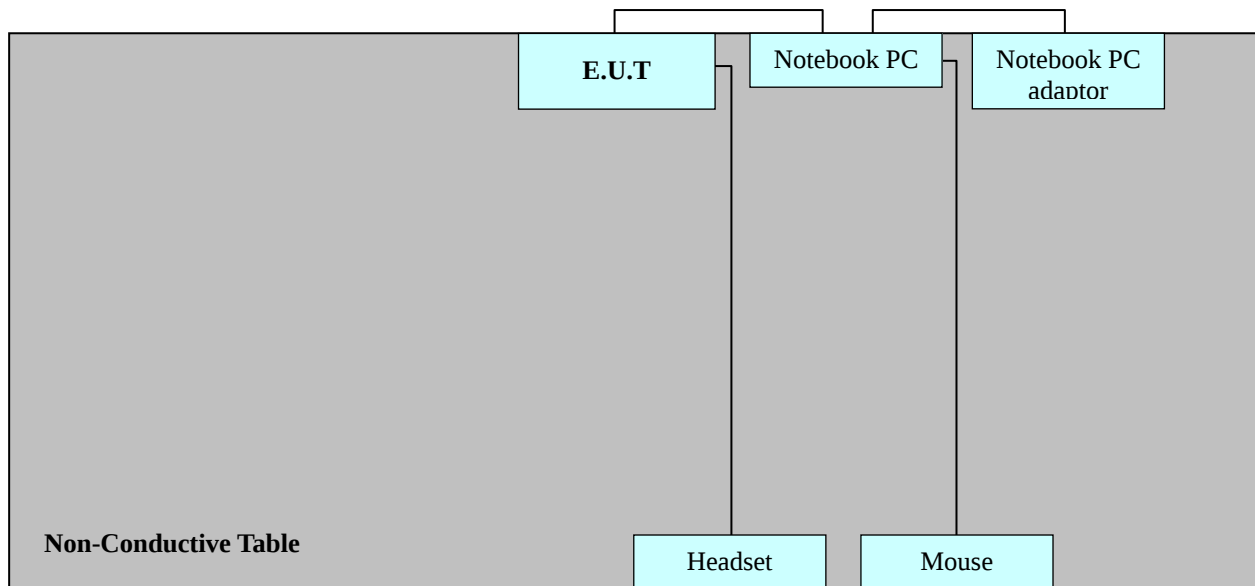
2. SYSTEM TEST CONFIGURATION

2.1 Configuration of Test System

Power Line Conducted test : E.U.T was connected to LISN, all other peripheral equipment were connected to another LISN. Preliminary Power Line Conducted Emission tests were performed by using the procedure in ANSI C63.4/2003 7.2.3 to determine the worst operating conditions.

Radiated Emission test : Preliminary Radiated Emission tests were performed by using the procedure in ANSI C63.4/2003 8.3.1.1 to determine the worst operating condition. Final Radiated Emission tests were performed at 3 m open area test site.

[Configuration of Tested System]



Power Line: 110 VAC

3. PRELIMINARY TEST

3.1 Conducted Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode	The Worst Operating Condition
Data Communication	○

3. 2 Radiated Emission Test

During preliminary tests, the following operating mode was investigated:

Operation Mode	The Worst Operating Condition
Data Communication	○

4. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

4.1 Conducted Emission Test

The following table shows the highest levels of conducted emissions on both polarization of hot and neutral line.

Limit apply to	: CISPR 22 Class B
Result	: Passed by 11.5 dB
Operating condition	: Data Communication mode
Detector	: Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Temperature	: 23.2 °C
Humidity level	: 41.3 %
Test date	: December 28, 2009

Power Line Conducted Emissions			CISPR 22 Class B		
Frequency (MHz)	Amplitude (dB μ V)	Conductor	Result	Limit (dB μ V)	Margin (dB)
2.6200	44.5	HOT	Quasi-Peak	56.0	11.5
2.9720	32.7	NEUTRAL	Average	46.0	13.3
3.0080	43.7	NEUTRAL	Quasi-Peak	56.0	12.3
3.0800	32.4	HOT	Average	46.0	13.6

※ **NOTE:** Refer to page 9 to page 12 for details.

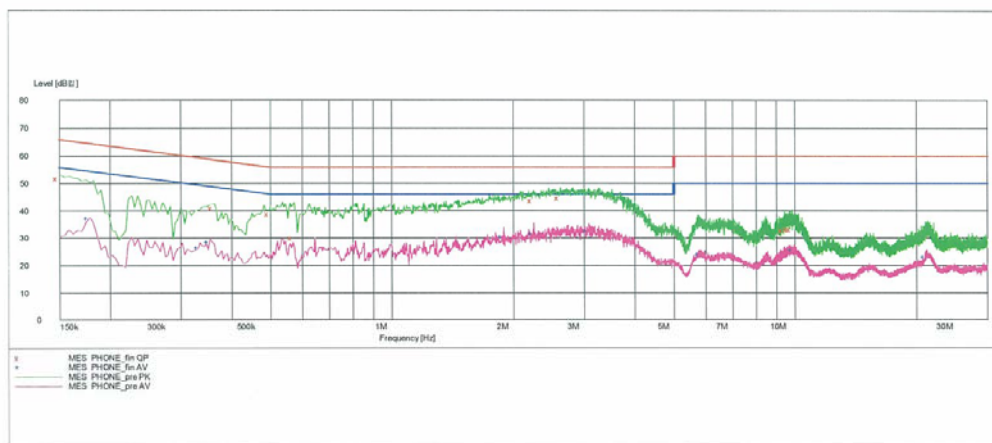
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EUT : LG620G
Manufacturer : LG
Operating Condition : DATA MODE
Test Site : SHIELD ROOM
Operator : GS KIM
Test Specification : CISPR22 CLASS B
Comment : H

SCAN TABLE: "EN 55022 Voltage"

Short Description:		EN 55022 Voltage					
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer	
Frequency	Frequency	Width					
150.1 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	ESH3-Z5-2009.9.16	
Average							
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	ESH3-Z5-2009.9.16	
Average							
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	ESH3-Z5-2009.9.16	



MEASUREMENT RESULT: "PHONE_fin QP"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.150100	51.80	10.0	66	14.2	1	---
0.362100	40.90	10.0	59	17.8	1	---
0.500000	38.80	10.0	56	17.2	1	---
0.572000	30.10	10.0	56	25.9	1	---
2.252000	43.70	10.2	56	12.3	1	---
2.620000	44.50	10.2	56	11.5	1	---
9.428000	32.70	10.7	60	27.3	1	---
9.696000	33.00	10.7	60	27.0	1	---
9.848000	33.10	10.7	60	26.9	1	---

12/28/2009 9:40AM HCT Lab.

MEASUREMENT RESULT: "PHONE_fin AV"

12/28/2009 9:40AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.178100	37.10	10.0	55	17.5	1	---
0.334100	26.40	10.1	49	23.0	1	---
0.354100	28.30	10.0	49	20.6	1	---
1.896000	30.40	10.2	46	15.6	1	---
2.252000	31.50	10.2	46	14.5	1	---
3.080000	32.40	10.2	46	13.6	1	---
5.812000	24.00	10.4	50	26.0	1	---
9.948000	25.40	10.7	50	24.6	1	---
21.168000	23.10	11.5	50	26.9	1	---

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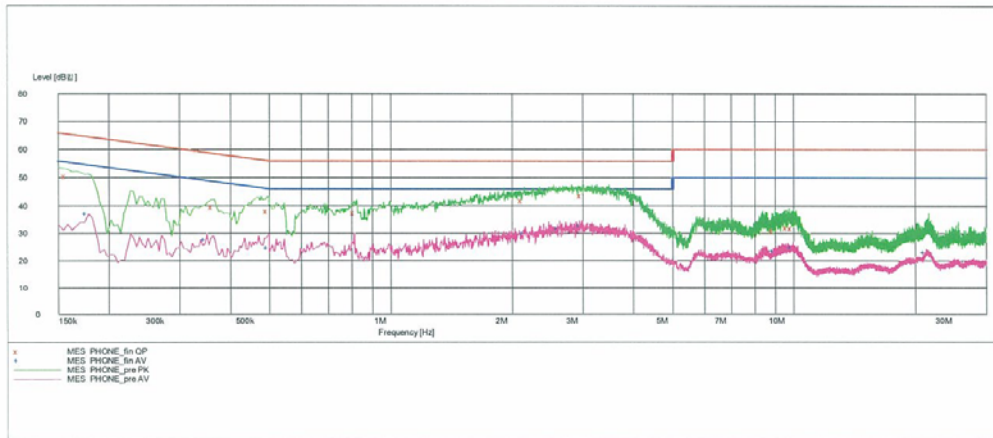
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EMC

EUT : LG620G
Manufacturer : LG
Operating Condition : DATA MODE
Test Site : SHIELD ROOM
Operator : GS KIM
Test Specification : CISPR22 CLASS B
Comment : N

SCAN TABLE: "EN 55022 Voltage"

Short Description: EN 55022 Voltage
Start Stop Step Detector Meas. IF Transducer
Frequency Frequency Width Time Bandw.
150.1 kHz 500.0 kHz 4.0 kHz MaxPeak 10.0 ms 9 kHz ESH3-Z5-2009.9.16
Average
500.0 kHz 5.0 MHz 4.0 kHz MaxPeak 10.0 ms 9 kHz ESH3-Z5-2009.9.16
Average
5.0 MHz 30.0 MHz 4.0 kHz MaxPeak 10.0 ms 9 kHz ESH3-Z5-2009.9.16



MEASUREMENT RESULT: "PHONE_fin OP"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.158100	50.50	10.0	66	15.1	1	---
0.366100	39.60	10.0	59	19.0	1	---
0.500000	38.10	10.0	56	17.9	1	---
0.824000	37.40	10.1	56	18.6	1	---
2.140000	42.00	10.2	56	14.0	1	---
3.008000	43.70	10.2	56	12.3	1	---
8.992000	31.00	10.7	60	29.0	1	---
9.748000	32.10	10.7	60	27.9	1	---
9.984000	32.00	10.7	60	28.0	1	---

12/28/2009 9:36AM HCT Lab.

MEASUREMENT RESULT: "PHONE_fin AV"

12/28/2009 9:36AM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.178100	37.20	10.0	55	17.4	1	---
0.350100	27.60	10.0	49	21.3	1	---
0.500000	24.60	10.0	46	21.4	1	---
2.152000	30.10	10.2	46	15.9	1	---
2.624000	31.80	10.2	46	14.2	1	---
2.972000	32.70	10.2	46	13.3	1	---
9.012000	23.50	10.7	50	26.5	1	---
9.956000	24.60	10.7	50	25.4	1	---
21.316000	23.10	11.5	50	26.9	1	---

12/28/2009 9:36AM HCT Lab.

4.2 Radiated Emission Test

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

Limit apply to	: FCC PART 15 Subpart B
Result	: Passed by 11.9 dB
Operating condition	: Data Communication mode
Detector	: Quasi-Peak (6 dB Bandwidth: 120 kHz)
Temperature	: 11.0 °C
Humidity level	: 40.3 %
Test date	: December 28, 2009

Frequency	Reading	Ant. Factor	Cable Loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB/m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
35.8	9.9	11.5	0.7	V	22.1	40.0	17.9
65.4	16.2	11.1	0.8	H	28.1	40.0	11.9
141.5	10.3	12.4	1.3	H	24.0	43.5	19.5
214.0	8.1	10.3	1.6	H	20.0	43.5	23.5
233.0	12.0	10.9	1.6	H	24.5	46.0	21.5
400.0	10.6	15.4	2.2	H	28.2	46.0	17.8

5. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the antenna factor and cable factor.
The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

Where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dB μ V is obtained. The antenna factor of 7.4 dB/m and a cable factor of 1.1 dB are added. The 30 dB μ V/m value is mathematically converted to its corresponding level in μ V/m.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dB}\mu\text{V/m}$$

[Radiated Emission Limits]

Frequency of Emission (MHz)	Field Strength	
	μ V/m	dB μ V/m
30 to 88	100	40.0
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

6. TEST EQUIPMENT

<u>Type</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Next CAL Date</u>
<u>Conducted Emission</u>			
☒ EMI Test Receiver	Rohde & Schwarz	ESCI	2010.06.02
☒ LISN	Rohde & Schwarz	ESH3-Z5	2010.02.06
☐ LISN	Rohde & Schwarz	ENV216	2010.04.01
☒ Attenuator	Rohde & Schwarz	ESH3-Z2	2010.10.30
<u>Radiated Emission</u>			
☒ EMI Test Receiver	Rohde & Schwarz	ESI40	2010.10.30
☒ Trilog Antenna	Schwarzbeck	VULB9160	2010.12.18
☒ Antenna Master	HD	MA240	-
☒ Turn Table	EMCO	1060	-
☐ Communication Antenna	TDK	LPDA-0802	-
☐ Antenna Position Tower	HD	240/520/00	-
☐ Base Station	Rohde & Schwarz	CMU 200	2010.02.17
☒ Horn Antenna	Schwarzbeck	BBHA 9120D	2010.03.26
☒ RF-Amplifier	MITEQ	AMF-6D-00101800-35.20P.PS	2010.04.25
☐ Bluetooth Base Station	TESCOM	TC-3000A	2010.01.09

7. CONCLUSION

The data collected shows that the **LG Electronics Inc. Model: LG620G, Cellular/PCS GSM/ /EDGE Phone with Bluetooth. FCC ID: BEJLG620G** complies with §15.107 and §15.109 of the FCC rules.