HYUNDAI CALIBRATION & CERTIFICATION TECH. CO., LTD.

HCT Hyundai Calibration & Certification Technologies Co., Ltd.

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EMI REPORT (Certification)

LG Electronics, Inc.

60-39, Kasan-Dong, Kumchon-Gu, Seoul 153-801, Korea.

Date of Issue: May. 18. 2007
Test Report No.: HCT-F07-0505

Test Site: HYUNDAI CALIBRATION & CERTIFICATION TECHNOLOGIES CO., LTD.

FCC ID:	**BEJKG290**
MODEL:	**KG290**
Classification/ Standard(s):	FCC PART 15 Subpart B / CISPR 22 CLASS B
Equipment (EUT) Type:	Single-Band Mobile Handset (PCS1900)
Trade Name/Model(s):	LG Electronics, Inc. / KG290
Application Type:	Certification
Port/ Connector(s):	DC Input Port / Ear Phone Port

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.

HYUNDAI C-Tech. certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse of 1988,21 U.S.C.853(a).

Report prepared by
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Test engineer of EMC Tech.Part

Approved by
: Sang Jun Lee
Manager of EMC Tech.Part

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1. GENERAL INFORMATION

1.1 Product Description

The LG Electronics, Inc. KG290 Single-Band Mobile Handset(PCS1900). Its basic purpose is used for communications. It transmits from GSM1900 (1850.20 – 1909.80) MHz and receives from GSM1900 (1930.20 – 1989.80) MHz.

MODEL	KG290
FCC ID	BEJKG290
EUT Type	Single-Band Mobile Handset (PCS1900)
TX Frequency	1850.20MHz – 1909.80MHz (GSM1900)
RX Frequency	1930.20MHz – 1989.80MHz (GSM1900)
FCC Classification	Licensed Portable Transmitter Held to Ear (PCE)
Modulation	GSM1900

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

1.3 Tested System Details

The Model names for all equipment, plus descriptions used in the tested system (including inserted cards) are:

DEVICE TYPE	MANUFACTURER	MODEL NUMBER/ PART NUMBER	FCC ID / DoC	CONNECTED TO
Single-Band Mobile Handset (PCS1900)	LG Electronics, Inc.	KG290	BEJKG290	PC
Adaptor	MAS-BH 0008-A 001	-	-	Phone
PC	DELL	OPTIPLEXGX620	DoC	-
Mouse	DELL	MO56U0	DoC	-
Keyboard	DELL	SK-8115	DoC	-
Printer	H.P	C4569A	DoC	-

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
Single-Band Mobile Handset (PCS1900) (EUT)	**USB**	**N**	**N**	**(P.D)0.9**
	DC In	**N**	**N/A**	**(P)1.8**
PC	**Ear-jack**	**N/A**	**N**	**(D)1.1**
	USB(Mouse)	**N/A**	**Y**	**(D)1.8**
	USB(Keyboard)	**N/A**	**Y**	**(D)1.8**
	D-Sub(Monitor)	**N/A**	**Y**	**(D)1.6**
	Parallel(Printer)	**N/A**	**Y**	**(D)1.8**
	AC In	**N**	**N/A**	**(P)1.8**
Monitor	**AC In**	**N**	**N/A**	**(P)1.8**
Printer	**AC In**	**N**	**N/A**	**(P)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
PC	D-Sub	Y	Both end	Y	Both end
	USB(Keyboard)	N	Both end	Y	PC end
	USB(Mouse)	N	Both end	Y	PC end
	Parallel(Printer)	N	Both end	Y	Both end
Single-Band Mobile Handset (PCS1900) (EUT)	Ear-jack	N	Both end	Y	EUT end
	USB	N	Both end	Y	PC end

1.6 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.7 Test Facility

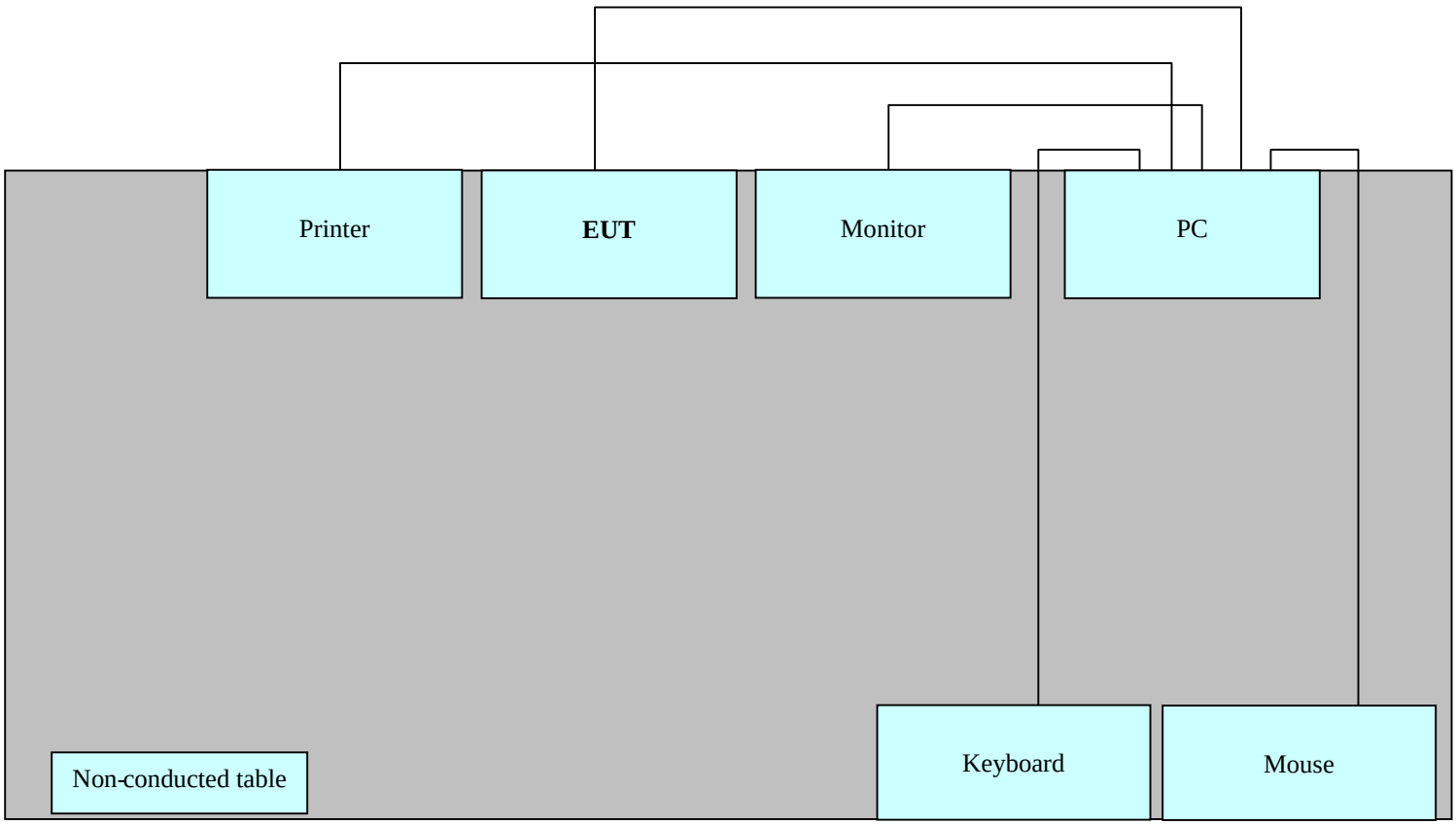
The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1,Maekok-Ri, Hobup-Myun, Ichon-Si, Kyoungki-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

2.SYSTEM TEST CONFIGURATION

2.1 Configuration of Test system

Line Conducted Test : EUT was connected to LISN, all other supporting 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 meter open area test site.



Power Line: 110V AC

[Configuration of Tested System]

3. PRELIMINARY TEST

3.1 Conducted Emission Test

During Preliminary Tests, the following operating mode was investigated

Operation Mode	The worst operating condition
Idle (1900) Mode	
Camera Mode	X
MP3 Mode	
Bluetooth	
Data Communication Mode	

3. 2 Radiated Emission Test

During Preliminary Test, the Following operation mode was investigated

Operation Mode	The worst operating condition
Idle (1900) Mode	
Camera Mode	
MP3 Mode	
Bluetooth	
Data Communication Mode	X

4. CONDUCETD 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 – 5.7 dB
Operating Condition : Camera mode
Detector : Quasi-Peak, Average (6 dB Bandwidth: 9 kHz)
Temperature : 18.0 °C
Humidity Level : 39.0 %
Test Date : May. 03. 2007

Power Line Conducted Emissions				FCC Class B	
Frequency (MHz)	Amplitude (dBuV)	Conductor	Result	Limit (dBuv)	Margin (dB)
0.4176	49.8	HOT	Quasi-Peak	58.0	-7.7
0.4176	41.8	HOT	Average	48.0	-5.7
0.585	43.2	NEUTRAL	Quasi-Peak	56.0	-12.8
0.74	35.3	NEUTRAL	Average	46.0	-10.7

Line Conducted Emissions Tabulated Data

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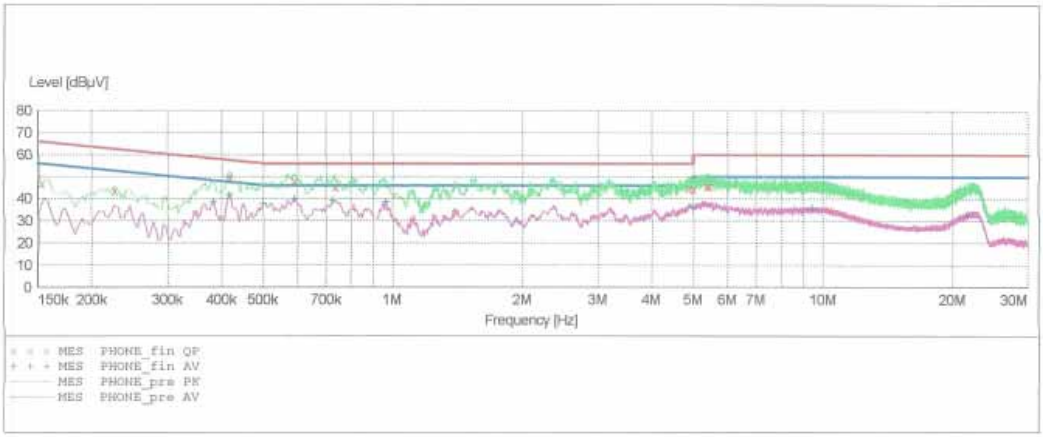
EUT: KG290
Manufacturer: LG
Operating Condition: CAMERA MODE
Test Site: SHIELD ROOM
Operator: DH.RYU
Test Specification: CISPR 22 CLASS B
Comment: H

SCAN TABLE: "CISPR 22 Voltage"

Short Description: CISPR 22 Voltage

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak Average	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.152600	46.70	10.0	66	19.1	---	---
0.225100	43.50	10.0	63	19.1	---	---
0.417600	49.80	10.0	58	7.7	---	---
0.590000	48.20	10.1	56	7.8	---	---
0.735000	45.40	10.1	56	10.6	---	---
4.870000	44.90	10.6	56	11.1	---	---
5.000000	44.20	10.6	56	11.8	---	---
5.365000	45.60	10.7	60	14.4	---	---
5.430000	45.60	10.7	60	14.4	---	---

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MEASUREMENT RESULT: "PHONE_fin AV"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.382600	38.90	10.0	48	9.3	---	---
0.417600	41.80	10.0	48	5.7	---	---
0.500000	38.00	10.1	46	8.0	---	---
0.590000	40.20	10.1	46	5.8	---	---
0.725000	39.40	10.1	46	6.6	---	---
0.965000	38.70	10.1	46	7.3	---	---
5.000000	36.10	10.6	46	9.9	---	---
9.445000	35.70	11.1	50	14.3	---	---
21.725000	32.90	12.4	50	17.1	---	---

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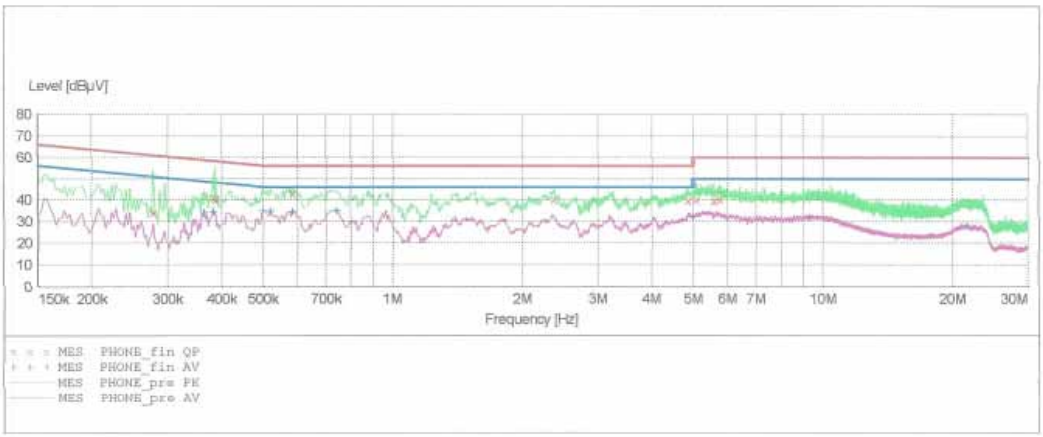
EMC TEST LAB.

EUT: KG290
Manufacturer: LG
Operating Condition: CAMERA MODE
Test Site: SHIELD ROOM
Operator: DH.RYU
Test Specification: CISPR 22 CLASS B
Comment: N

SCAN TABLE: "CISPR 22 Voltage"

Short Description: CISPR 22 Voltage

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.1 kHz	500.0 kHz	2.5 kHz	MaxPeak Average	10.0 ms	9 kHz	None
500.0 kHz	5.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None
5.0 MHz	30.0 MHz	5.0 kHz	MaxPeak Average	10.0 ms	9 kHz	None



MEASUREMENT RESULT: "PHONE_fin QP"

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Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.277600	34.40	10.0	61	26.4	---	---
0.382600	41.10	10.0	58	17.1	---	---
0.387600	40.40	10.0	58	17.8	---	---
0.585000	43.20	10.1	56	12.8	---	---
2.360000	40.30	10.3	56	15.7	---	---
4.855000	39.90	10.6	56	16.1	---	---
5.075000	40.40	10.6	60	19.6	---	---
5.585000	39.70	10.7	60	20.3	---	---
5.745000	40.50	10.7	60	19.5	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

5/3/2007 9:36PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.365100	34.30	10.0	49	14.4	---	---
0.382600	34.70	10.0	48	13.5	---	---
0.500000	35.20	10.1	46	10.8	---	---
0.520000	35.00	10.1	46	11.0	---	---
0.585000	34.80	10.1	46	11.2	---	---
0.740000	35.30	10.1	46	10.7	---	---
5.000000	32.10	10.6	46	13.9	---	---
9.300000	31.80	11.1	50	18.2	---	---
21.715000	27.90	12.4	50	22.1	---	---

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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 – 3.4 dB
Operating Condition	: Data communication mode
Detector	: Quasi-Peak (6 dB Bandwidth: 120 kHz)
Temperature	: 20.0 °C
Humidity Level	: 39.0 %
Test Date	: May. 15. 2007

Frequency MHz	Reading dBuV	Ant. Factor dB	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
108.0	25.0	9.8	2.5	H	37.3	43.5	-6.2
156.0	24.1	13.0	3.0	H	40.1	43.5	-3.4
168.0	21.6	12.3	3.1	H	37.0	43.5	-6.5
180.0	22.9	10.6	3.2	H	36.7	43.5	-6.8
40.8	18.7	13.0	1.5	H	33.2	40.0	-6.8
427.0	13.1	15.7	4.9	V	33.7	46.0	-12.3

*** For measurement over 1 GHz, noise level is more than 10 dB below the limit.

4.3 Test Setup Photos

4.3.1 Conducted Emission

4.3.2 Radiated Emission

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 dBuV/m is obtained. The Antenna Factor of 7.4 dB and a Cable Factor of 1.1 dB is added. The 30 dBuV/m value is mathematically converted to its corresponding level in uV/m.

FS = 21.5 + 7.4 + 1.1 = 30 dBuV/m

Radiated emission limits

Frequency of emission	Field strength	
	μV / m	dB μV / m
30 ~ 88	100	40.0
88 ~ 216	150	43.5
216 ~ 960	200	46.0
Above 960	500	54.0

6. Test Equipment

Type	Manufacture	Model Number	Next CAL Date
EMI Test Receiver	Rohde & Schwarz	ESI40	2007.11.06
EMI Test Receiver	Rohde & Schwarz	ESCI	2007.08.24
LISN	Rohde & Schwarz	ESH2-Z5	2008.04.20
LISN	EMCO	3816/2SH	2007.06.15
LISN	Rohde & Schwarz	ESH3-Z6	2007.06.15
Attenuator	Rohde & Schwarz	ESH3-Z2	2007.10.30
TRILOG Antenna	Schwarzbeck	VULB9168	2008.03.19
Communication Antenna	TDK	LPDA-0802	N/A
Antenna Position Tower	HD	MA240	N/A
Turn Table	EMCO	1060	N/A
AC Power Source	PACIFIC	Magnetic Module	N/A
Base Station	Rohde & Schwarz	CMU 200	2008.02.27
Base Station	Hewlett-Packard	8922M	2007.08.12
Band Reject Filter	Microwave Circuits	NO408981	2007.08.12
Band Reject Filter	Wainwright Instrument	WRCG1750/1780-1715/1817-70/8SS	2007.07.10
Horn Antenna	Schwarzbeck	BBHA 9120D	2008.03.31
RF-Amplifier	MITEQ	AMF-6D-00101800-35.20P.PS	2008.01.24
Bluetooth Base Station	TESCOM	TC-3000A	2008.01.19

7. Conclusion

The data collected shows that the LG Electronics, Inc. Single-Band Mobile Handset (PCS1900). FCC ID: BEJKG290 Complies with §15.107 and §15.109 of the FCC Rules.