

FCC TEST REPORT

Reference No. : G-45-2010-01892

Applicant : LG Electronics Inc.

Equipment Under Test (EUT) :

Product Name : Cellular/PCS GSM Phone with Bluetooth

Model Name : LG-C310

Alt. Model Name : C310

Applied Standards : FCC Part 15 : 2009, Subpart B, Class B

ANSI C63.4 : 2003

CISPR 22 : 2006

Date of Receipt : July 01, 2010

Date of Test : July 14, 2010

Date of Issue : July 16, 2010

Test Results : Complied

Tested by

:



Paul Kang

Reviewed by

:



Forest Lee

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or Testing done by SGS International Electrical Approvals in connection with distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Contents

1. General Information.....	3
1.1 Client Information.....	3
1.2 Test Laboratory.....	3
1.3 General Information of E.U.T.	3
1.4 Operating Modes and Conditions.....	3
1.5 Peripheral Equipments.....	3
1.6 Cable List.....	4
1.7 System Configurations.....	4
1.8 Test System Layout	5
1.9 Applicable Standards for Testing	5
1.10 Summary of Test Results.....	5
2. Emission Test.....	6
2.1 Test Results.....	6
2.2 Test Equipments	6
2.3 Test Site.....	6
2.4 Conducted Emission Test Data.....	6
2.5 Radiated Emission Test Data.....	7
2.6 Modifications	8
2.7 Photograph of Conducted Emission.....	9
2.8 Photographs of Radiated Emission (Below 1GHz).....	10
2.9 Photographs of Radiated Emission (Above 1GHz)	11
3. Photographs of EUT	12
Appendix A : Conducted Emission	18

1. General Information

1.1 Client Information

Applicant : LG Electronics Inc.
Address of Applicant : 60-39, Gasan-dong, Gumchon-gu, Seoul, 153-023, Korea
Manufacturer : LG Electronics Inc.
Address of Manufacturer : 60-39, Gasan-dong, Gumchon-gu, Seoul, 153-023, Korea

1.2 Test Laboratory

Name and Address : SGS Testing Korea Co., Ltd.
18-34, Sanbon-dong, Gunpo, Gyeonggi-do, Korea
435-041

1.3 General Information of E.U.T.

Product Name : Cellular/PCS GSM Phone with Bluetooth
Model Name : LG-C310
Alt. Model Name : C310
Model Difference : Only model name is different.
Serial No. : 004KPCA0755067
Highest Internal Frequency : Max. 208 MHz
Test Voltage : AC 120V, 60Hz(Notebook Computer)

1.4 Operating Modes and Conditions

Operating mode	Operating condition
USB Mode	USB Data Communication

Note: EUT was exercised through Software(Dell Program) during testing.

1.5 Peripheral Equipments

Description	Model	Serial No.	Manufacturer
Notebook Computer	PCG-3AHP	28272287 7000053	Sony Corporation
LCD Monitor	CR22KS	N843H1KP902165L	Samsung Electronics
USB Keyboard	KU-0459	7691402003981	Microsoft
USB MOUSE	M-BJ58	N/A	SUZHOU LOGITECH ELECTRONICS CO., LTD.
Micro SD Card	Mobile Ultra 2GB	N/A	SanDisk

Note: Peripherals are DoC.

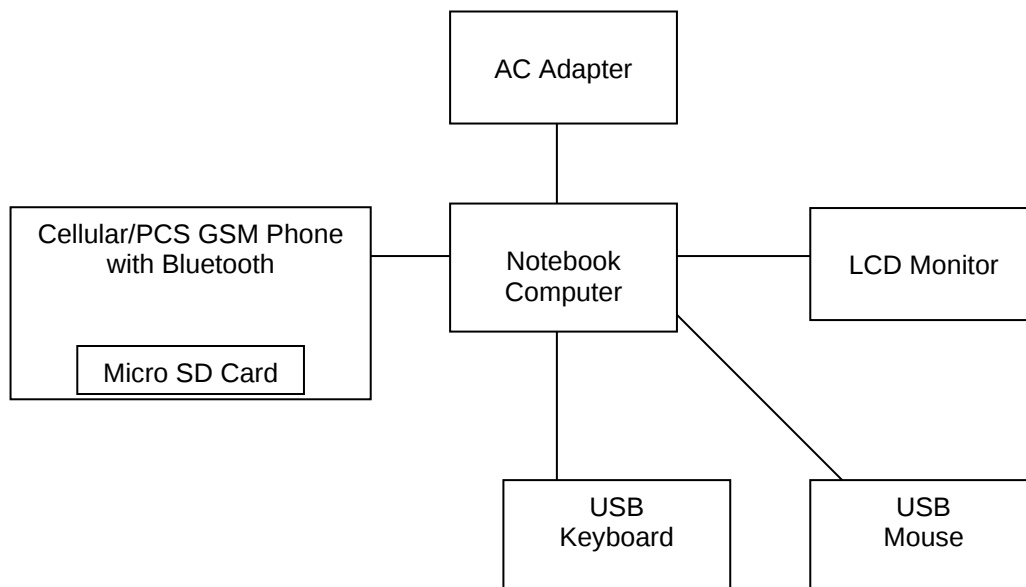
1.6 Cable List

Start		END		Cable Spec.	
Name	I/O Port	Name	I/O Port	Length	Shield
Cellular/PCS GSM Phone with Bluetooth	USB	Notebook Computer	USB	0.8	Shielded
	MicroSD	Micro SD Card	-	-	-
Notebook Computer	DC IN	AC Adapter	DC OUT	1.8	Unshielded
	RGB	LCD Monitor	RGB	1.8	Shielded
	USB	USB Keyboard	-	2.0	Shielded
	USB	USB Mouse	-	1.8	Shielded
AC Adapter	AC IN	AC Source	-	1.0	Unshielded

1.7 System Configurations

Description	Model	Serial No.	Manufacturer
Battery	LGIP-401N	DC100318	LG
Ear-MIC Phone	N/A	N/A	N/A
LCD Panel	N/A	012H013980 Q	N/A
Main Board	LGC310_MAIN_D	SPFY0232801(1)	N/A

1.8 Test System Layout



1.9 Applicable Standards for Testing

Standards	Status	Deviation
FCC Part 15 : 2009, Subpart B ANSI C63.4 : 2003 CISPR 22 : 2006	Applicable	No Deviation

1.10 Summary of Test Results

Test Item	Standards	Results
Conducted Emission	FCC Part 15 : 2009, Subpart B ANSI C63.4 : 2003 CISPR 22 : 2006	Complied
Radiated Emission	FCC Part 15 : 2009, Subpart B ANSI C63.4 : 2003 CISPR 22 : 2006	Complied

EMISSION

2.1 Test Results

Test Items	Standards	Test Results
Conducted Emission	FCC Part 15 : 2009, Subpart B ANSI C63.4 : 2003 CISPR 22 : 2006	Complied
Radiated Emission	FCC Part 15 : 2009, Subpart B ANSI C63.4 : 2003 CISPR 22 : 2006	Complied

2.2 Test Equipments

Equipment	Model	Manufacturer	Last Cal. Date
Two-Line V-Network	ENV216	R&S	2010.01.06
Test Receiver	ESHS10	R&S	2010.07.12
LISN	L3-25	PMM	2010.07.09
Test Receiver	ESU26	R&S	2010.04.08
Amplifier	8447F	HP	2010.07.05
Bi-Log Antenna	VULB9163	SCHWARZBECK MESS-ELEKTRONIK	2009.07.22
Preamplifier	8449B	Agilent	2010.03.31
Horn Antenna	HF906	R&S	2009.10.08

Note : Only the calibration period of Antennas is 2 years but the period of every equipment is 1 year.

2.3 Test Site

Conducted Emission: Shield Room in Gunpo Laboratory

Radiated Emission: 3m Semi-Anechoic chamber in Gunpo Laboratory

2.4 Conducted Emission Test Data

The initial preliminary exploratory scans were performed using a max hold mode incorporating a Peak detector. The final test data was measured using a Quasi-Peak detector and Average detector.

Temperature : 23.1 ~ 23.4

Humidity : 46.0 % RH

Atmospheric Pressure : 100.5 kPa

FREQ. (MHz)	LINE	LEVEL(dB μ V)		LIMIT(dB μ V)		MARGIN(dB)	
		Q-Peak	Average	Q-Peak	Average	Q-Peak	Average
2.19	H	33.60	23.30	56.00	46.00	22.40	22.70
2.32	N	32.40	21.00	56.00	46.00	23.60	25.00
16.97	H	39.60	33.00	60.00	50.00	20.40	17.00
17.02	N	38.60	30.40	60.00	50.00	21.40	19.60
17.30	H	39.80	31.50	60.00	50.00	20.20	18.50
19.18	H	37.70	29.90	60.00	50.00	22.30	20.10

Note : • Line (H) : Hot
• Line (N) : Neutral
• Margin = Limit - Level

See Appendix A (Conducted Emission)

2.5 Radiated Emission Test Data

The initial preliminary exploratory scans were performed using a max hold mode incorporating a Peak detector. The final test data was measured using a Quasi-Peak detector below 1GHz and a Average detector above 1GHz.

Below 1GHz

Temperature : 24.1

Humidity : 46 % RH

Atmospheric Pressure : 100.4 kPa

FREQ. (MHz)	LEVEL (dB μ V)	POL (H/V)	AF (dB)	CL (dB)	Amp (dB)	F/S (dB μ V/m)	LIMIT (dB μ V/m)	MARGIN (dB)
32.59	51.70	V	11.06	0.58	28.31	35.03	40.00	4.97
106.31	54.70	V	11.34	1.02	28.04	39.02	43.50	4.48
172.15	52.10	H	8.61	1.29	27.76	34.24	43.50	9.26
241.86	51.90	H	11.94	1.53	27.41	37.96	46.00	8.04
417.84	42.60	H	16.03	2.05	28.31	32.37	46.00	13.63
595.15	39.50	H	19.13	2.39	28.86	32.16	46.00	13.84

Note: • AF = Antenna Factor
• POL H = Horizontal
• Margin = Limit – F/S
• CL = Cable Loss
• POL V = Vertical
• F/S = Level + AF + CL – Amp
• F/S = Field Strength
• Amp = Amplifier Gain



Above 1GHz

Temperature : 23.8

Humidity : 45.0 % RH

Atmospheric Pressure : 100.5 kPa

FREQ. (MHz)	LEVEL (dB μ V)	POL (H/V)	AF (dB)	CL (dB)	Amp (dB)	F/S (dB μ V/m)	LIMIT (dB μ V/m)	MARGIN (dB)
Average Detector								
1045.21	34.20	V	24.61	3.11	33.14	28.77	54.00	25.23
1097.08	33.90	V	24.70	3.19	33.31	28.48	54.00	25.52
1466.46	34.50	V	25.29	3.71	35.72	27.79	54.00	26.21
1656.25	33.80	V	25.88	3.89	35.04	28.52	54.00	25.48

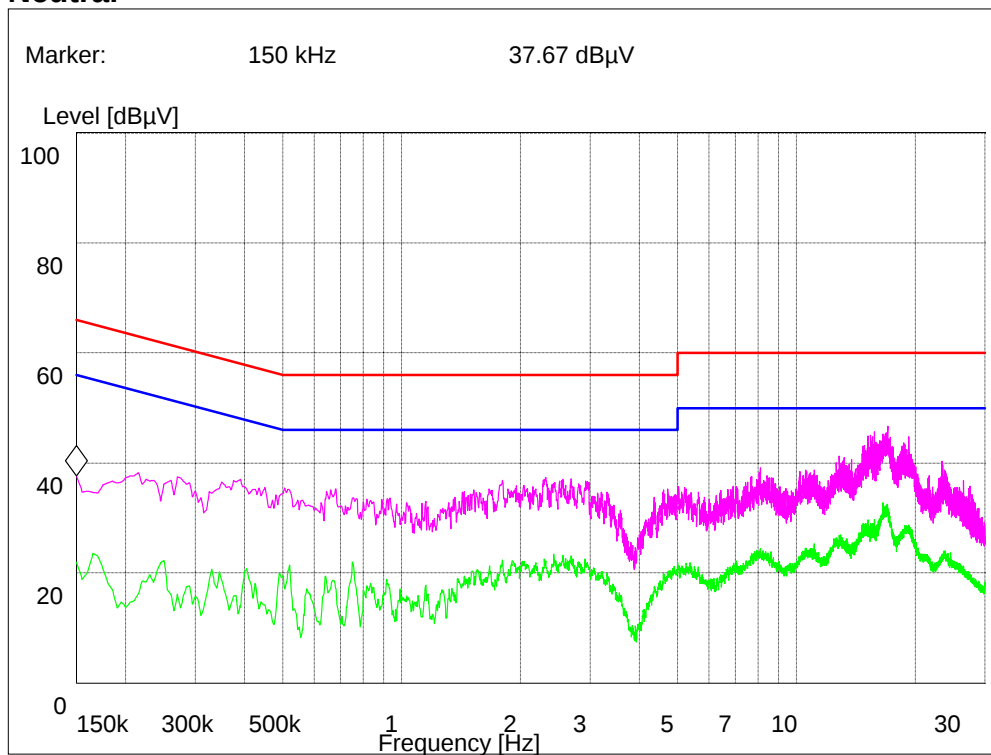
Note : • AF = Antenna Factor • CL = Cable Loss • F/S = Field Strength
• POL H = Horizontal • POL V = Vertical • Amp = Amplifier Gain
• Margin = Limit – F/S • F/S = Level + AF + CL - Amp

2.6 Modifications

There was no modified item during the test.

Appendix A : Conducted Emission

Neutral



Hot

