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<http://www.digitalemc.com>

FCC Test Report

FCC ID : BEJE730

Applicant : LG Electronics Inc.

Model Number : LG-E730

Additional Model(s) : E730, LGE730

Manufacturer : LG Electronics Inc.

ANSI C 63.4:2003

Test Standard : FCC Part 15 Subpart B

(Type of Device : Class B Computing Device Peripheral (JBP))

Date of Tests : June 03, 2011

Date of Issue : June 10, 2011

Tested by : H.S.KO/Manager

Reviewed by : M.J.SONG/Manager

A handwritten signature in blue ink, appearing to be "H.S.KO", written over a horizontal line.

A handwritten signature in blue ink, appearing to be "M.J.SONG", written over a horizontal line.

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1. General Remarks

This Report describes the emission characteristics of the tested product.

If the product will be used with additional equipment other than those mentioned in this report or if the tested product will be used against the manufacture's specifications, the compliance with the relevant standards for the system has to be ensured.

2. Test Laboratory

Digital EMC Co., Ltd. has been accredited / filed / authorized by the agencies listed in the following table;

Certificate	Nation	Agency	Code	Mark
Accreditation	Korea	KOLAS	393	ISO/IEC 17025
Site Filing	USA	FCC	101842	Test Facility list & NSA Data
	Japan	VCCI	C-1427 R-1364, R-3385 T-1442, G-338	Test Facility list & NSA Data
Certification	Korea	KCC	KR0034	Test Facility list & NSA Data
	Germany	TUV	ROK1028C	ISO/IEC 17025

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".

DIGITAL EMC CO., LTD.

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3. General Information of EUT

3.1 Product Description

Equipment Under Test (E.U.T) is Cellular/PCS GSM/GPRS/EDGE Phone with Bluetooth and WLAN

Model: LG-E730 manufactured by LG Electronics Inc. Its basic purpose is used for communications.

3.2 Product Information

Model No.	LG-E730
Add Model No.	E730, LGE730
EUT Type	Cellular/PCS GSM/GPRS/EDGE Phone with Bluetooth and WLAN
Serial No	NONE
FCC ID	BEJE730
Type of Sample Tested	Pre-Production
High Frequency	1GHz
Supplied Power for Test	AC120V, 60Hz
Applicant	LG Electronics Inc. 60-39, Gasan-dong, Gumchon-gu, Seoul, 153-023, Korea
TX Frequency	824.20 MHz to 848.80 MHz (GSM850) 1850.20 MHz to 1909.80 MHz (GSM1900)
RX Frequency	869.20 MHz to 893.80 MHz (GSM850) 1930.20 MHz to 1989.80 MHz (GSM1900)
Date of Receipt of Sample	2011-06-02

Related Submittal(s) / Grant(s)

Original submittal only.

4. Test Summary

4.1 Summary of tests

The applied standards to evaluate the compliance of requirements is 47CFR Part 15, Subpart B and the measurement procedures specified in ANSI C63.4 are performed.

Test Items	Applied Standards	Status
Emission		
Conducted Emission	FCC Part 15 Subpart B	C
Radiated Emission	FCC Part 15 Subpart B	C
Note 1: C=Conform NC=Not Conform NT=Not Tested NA=Not Applicable		

5. Test Set-up and operation mode

5.1 Principle of Configuration Selection

Emission : The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

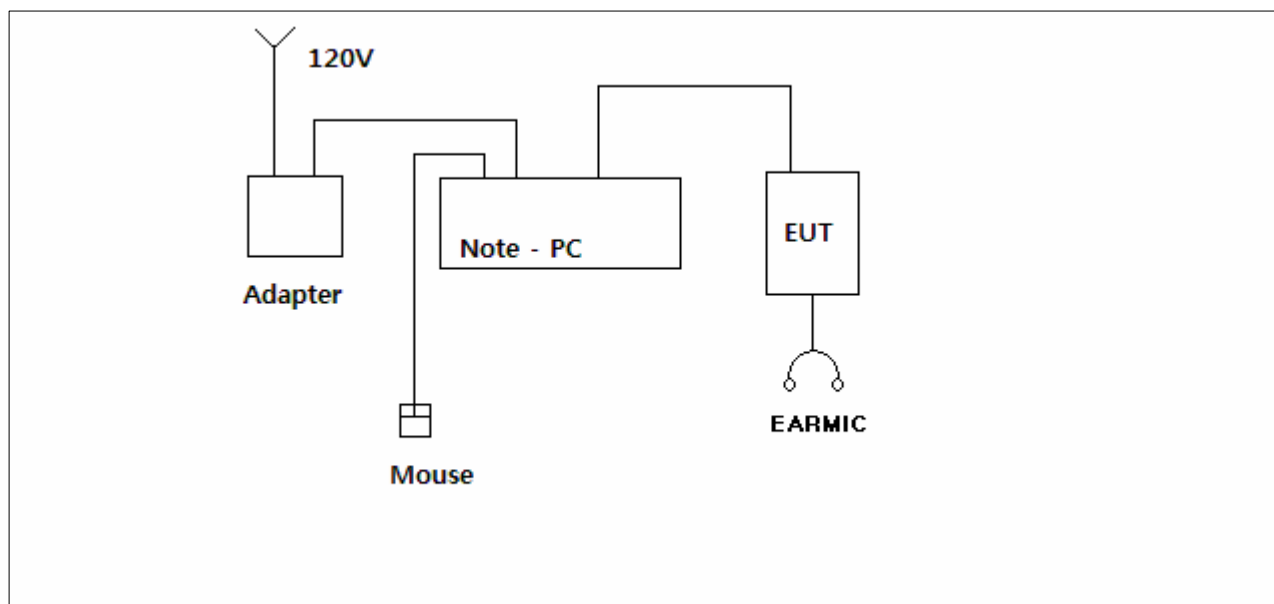
5.2 Test Operation Mode

- PC link mode(The measurement was made of the maximized by: Write/Delete the “H” pattern mode; data exchange speed; moving the cable)

5.3 Support Equipment Used

Unit	Model No.	Serial No.	Manufacturer	CABLE			Backshell	FCC ID
				Connect type	Length (m)	shield		
NOTE PC	LGX14	009QTAF0221 36	LG	USB POWER	1.1 1.6	Non-Shield Non-Shield	Plastic Plastic	DOC
AC/DC ADAPTER	ADP-40PH AD	6T1094	DELTA ELECTRONICS,INC.	POWER	1.2	Non-Shield	Plastic	VER
MOUSE	F8E204-USB	020006605	BELKIN	USB	1.7	Non-Shield	Plastic	DOC
HEADSET	N/A	N/A	LG	HEADSET	1.1	Non-Shield	Plastic	DOC

(Configuration of Tested System)



6. Test Results : Emission

6.1 Conducted Emission

RESULT : COMPLY

6.1.1 Measurement Procedure

In the range of 0.15MHz to 30MHz, the conducted emission was measured and set-up was made accordance with **ANSI C63.4:2003**.

If the EUT is table top equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 0.4m from the conducting wall of the shielded room.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.

Connect the EUT's power source lines to the appropriate power mains / peripherals through the LISN. All the other peripherals are connected to the 2nd LISN, if any.

Unused measuring port of the LISN was resistively terminated by 50 ohm terminator.

The measuring port of the LISN for EUT was connected to spectrum analyzer.

Using TSJ conducted emission test software, the emissions were scanned from 150KHz to 30MHz with peak detector mode.

After scanning over the frequency range, suspected emissions were selected to perform final measurement. When performing final measurement, the receiver was used which has Quasi-Peak detector and Average detector.

By varying the configuration of the test sample and the cable routing it was attempted to maximize the emission.

For further description of the configuration refer to the picture of the test set-up.

6.1.2 List of Test and Measurement Instruments

Name of Instrument	Model No.	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
EMI TEST RECEIVER	ESCI	100364	R&S	2011.03.08	2012.03.08
DC BLOCK	KFL-007	7-1581-5	Hyuplip	-	-
LISN	LISN1600	197204	TTI	2010.07.02	2011.07.02
LISN(EUT)	ESH2-Z5	828739/006	R&S	2010.10.01	2011.10.01
50 ohm Terminator	CT-01	N/A	TME	2011.01.11	2012.01.11

6.1.3 Limit for Conducted Emission

(1) Conducted Emission at mains ports of class A

Frequency range (MHz)	Limits dB(μ V)	
	Quasi-peak	Average
0.15 to 0.50	79	66
0.50 to 30	73	60
Note The lower limit shall apply at the transition frequencies.		

(2) Conducted Emission at mains ports of class B

Frequency range (MHz)	Limits dB(μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1 The lower limit shall apply at the transition frequencies.		
Note 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.		

6.1.4 Test Result

Test date	June 03, 2011
Ambient Temperature	26
Relative Humidity	39 % R.H.

Result : For the measurement data, see next page.

- Note) 1. Emission Level = Reading Value + Correction Factor.
 2. Correction Factor = Cable Loss + Insertion Loss of LISN
 3. Margin = Limit - Emission level
 4. Passed by 9.5 dB

Power Line Conducted Emissions			FCC PART 15b Class B		
Frequency (MHz)	Amplitude (dB μ V)	Conductor	Detector	Limit (dB μ V)	Margin (dB)
0.15283	56.3	L1	Quasi-Peak	65.8	9.5
0.15368	56.1	N	Quasi-Peak	65.8	9.7

Test Result



Results of Conducted Emission

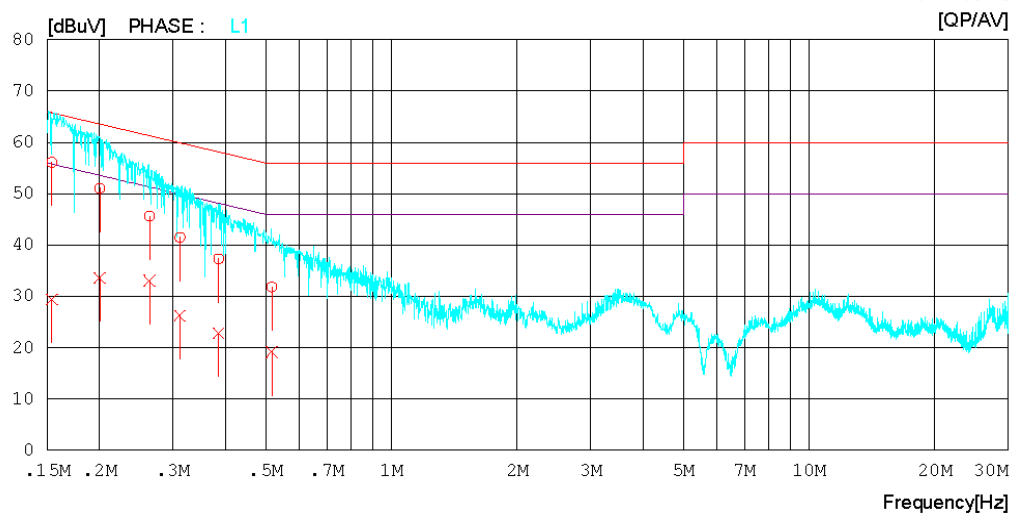
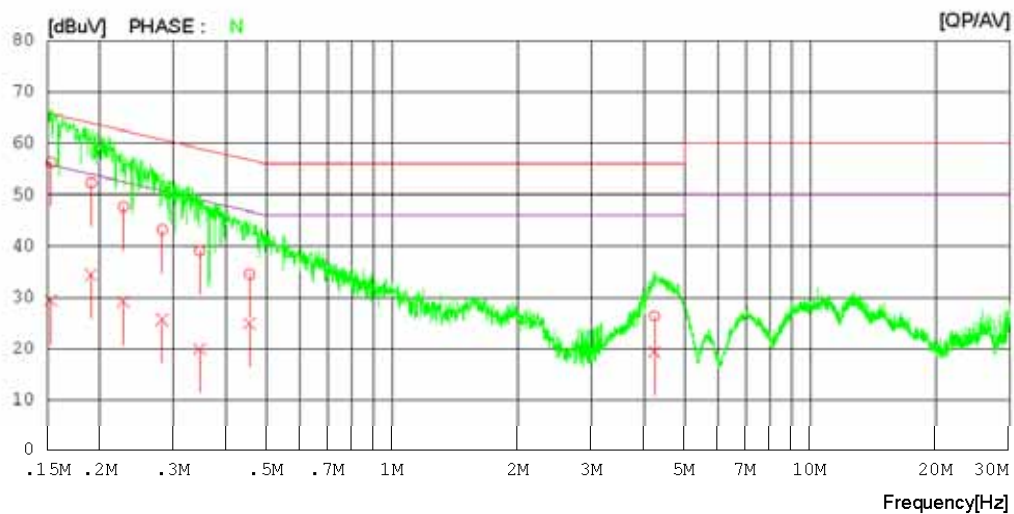
Digital EMC
Date : 2011/06/03

Model No. : LG-E730
Type :
Serial No. :
Test Condition : PC LINK MODE

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi. : 28°C 39% R.H.
Operator : H.S KO

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV



Results of Conducted Emission

Digital EMC
Date : 2011/06/03

Model No. : LG-E730
Type :
Serial No. :
Test Condition : PC LINK MODE

Reference No. :
Power Supply : 120V 60Hz
Temp/Humi. : 26°C 39% R.H.
Operator : H.S KO

Memo :

LIMIT : CISPR22_B QP
CISPR22_B AV

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	
1	0.15283	56.2	29.3	0.1	56.3	29.4	65.8	55.8	9.5	26.4	N
2	0.19073	52.2	34.3	0.1	52.3	34.4	64.0	54.0	11.7	19.6	N
3	0.22779	47.5	29.1	0.1	47.6	29.2	62.5	52.5	14.9	23.3	N
4	0.28173	43.0	25.6	0.1	43.1	25.7	60.8	50.8	17.7	25.1	N
5	0.34631	39.0	19.8	0.1	39.1	19.9	59.1	49.1	20.0	29.2	N
6	0.45644	34.4	24.8	0.1	34.5	24.9	56.8	46.8	22.3	21.9	N
7	4.23650	26.1	19.1	0.3	26.4	19.4	56.0	46.0	29.6	26.6	N
8	0.15368	56.0	29.3	0.1	56.1	29.4	65.8	55.8	9.7	26.4	L1
9	0.20023	51.0	33.5	0.1	51.1	33.6	63.6	53.6	12.5	20.0	L1
10	0.26350	45.5	32.9	0.1	45.6	33.0	61.3	51.3	15.7	18.3	L1
11	0.31139	41.4	26.1	0.1	41.5	26.2	59.9	49.9	18.4	23.7	L1
12	0.38550	37.2	22.8	0.1	37.3	22.9	58.2	48.2	20.9	25.3	L1
13	0.51691	31.7	19.1	0.1	31.8	19.2	56.0	46.0	24.2	26.8	L1

6.2 Radiated Emission

RESULT : COMPLY

6.2.1 Measurement Procedure

The radiated emission was measured and set-up was made accordance with **ANSI C63.4:2003**.

If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8m above the reference ground plane and 3m away from the interference receiving antenna in the **10m semi-anechoic chamber**.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15m above the reference ground plane.

Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4m above the reference ground plane continuously to determine associated with higher emission levels and record them.

The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

For below 1GHz frequency range, Quasi-Peak detector with 120kHz RBW was used.

Also Peak and Average detector with 1MHz RBW were used for above 1GHz frequency range.

For further description of the configuration refer to the picture of the test set-up.

6.2.2 List of Test and Measurement Instruments

Radiated Emission (10m Chamber)					
Name of Instrument	Model No.	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
EMI Test Receiver	ESU	100014	R&S	2011.01.20	2012.01.20
Bilog Antenna	CBL6112B	2737	SCHAFFNER	2010.07.14	2012.07.14
Horn Antenna	BBHA9120A	322	SCHWARZBECK	2010.04.13	2012.04.13
Amplifier(22dB)	8447E	2945A02865	H/P	2011.01.11	2012.01.11
Low Noise Preamplifier	MLA-00108-B02-36	1518831	TSJ	2011.01.11	2012.01.11
Controller	5905A	N/A	TOKIN	-	-
ANT.master	N/A	N/A	TOKIN	-	-

6.2.3 Limit of Radiated Emission

- The test frequency range of Radiated Emission measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

(1) Limit for Radiated Emission below 1000MHz

Frequency range (MHz)	Class A Equipment (10m distance)	Class B Equipment (3m distance)
	Quasi-peak limits (dB μ V/m)	Quasi-peak limits (dB μ V/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1000	49.5	54
Note 1 The lower limit shall apply at the transition frequency. Note 2 Additional provisions may be required for cases where interference occurs. Note 3 According to 15.109(g), as an alternative to the radiated emission limit shown above, digital devices may be shown to comply with the standards(CISPR), Pub. 22 shown as below.		
30 to 230	40	30
230 to 1000	47	37

(2) Limits for Radiated Emission in the frequency range 1000 - 2000MHz at a measuring distance of 10m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	peak (dB μ V/m)	peak (dB μ V/m)	peak (dB μ V/m)	Average (dB μ V/m)
1 to 2	69.5	49.5	63.5	43.5

(3) Limits for Radiated Emission above 1000MHz at a measuring distance of 3m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	peak (dB μ V/m)	peak (dB μ V/m)	peak (dB μ V/m)	Average (dB μ V/m)
1 to 40	80	60	74	54

6.2.4 Test Result

Test date	June 03, 2011
Ambient Temperature	24
Relative Humidity	40 % R.H.

Result : For the measurement data, see next page

Note) 1. Emission Level = Reading Value + Correction Factor.

2. Correction Factor = Cable loss - Amp gain + Antenna Factor

3. Margin = Limit - Emission level

Frequency [MHz]	Pol.	Reading [dB μ V]	C.F. [dB μ V]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]
240.000	H	50.2	-9.3	40.9	46.0	5.1

Radiated emission Test Data

Test Result

- 30MHz-1GHz**RADIATED EMISSION**

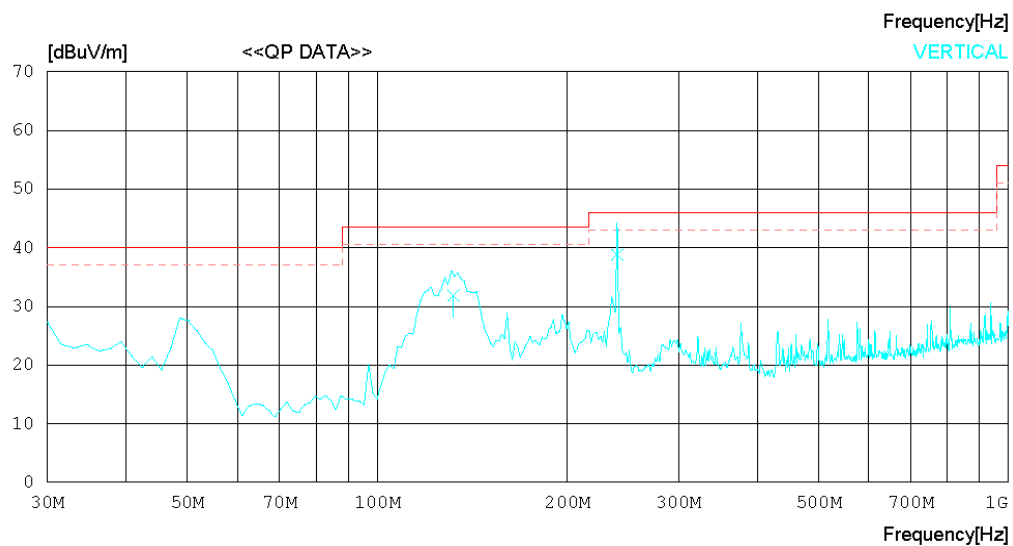
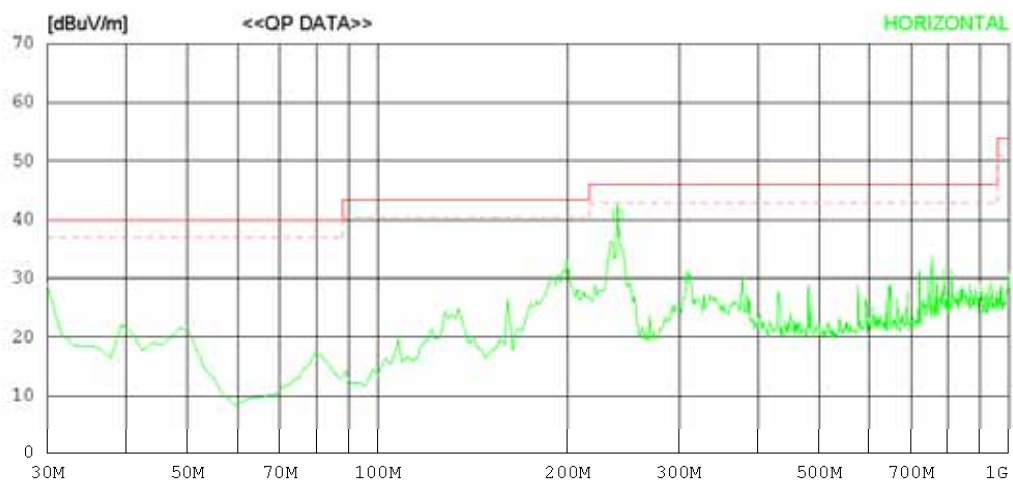
Date : 2011-06-03

Model Name : LG-E730
Model No. :
Serial No. :
Test Condition : PC LINK MODE

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 24 °C 40 % R.H.
Operator : H.S KO

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m)
MARGIN: 3 dB



RADIATED EMISSION

Date : 2011-06-03

Model Name	:	LG-E730	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	24 °C 40 % R.H.
Test Condition	:	PC LINK MODE	Operator	:	H.S KO
Memo	:				

LIMIT : FCC Part15 Subpart B Class B (3m)
MARGIN: 3 dB

No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	240.000	50.2	12.4	1.8	23.5	40.9	46.0	5.1	109	354
----- Vertical -----										
2	132.058	42.1	11.4	1.3	22.9	31.9	43.5	11.6	100	322
3	240.010	48.1	12.4	1.8	23.5	38.8	46.0	7.2	104	142

- 1GHz - 6GHz_PEAK



RADIATED EMISSION

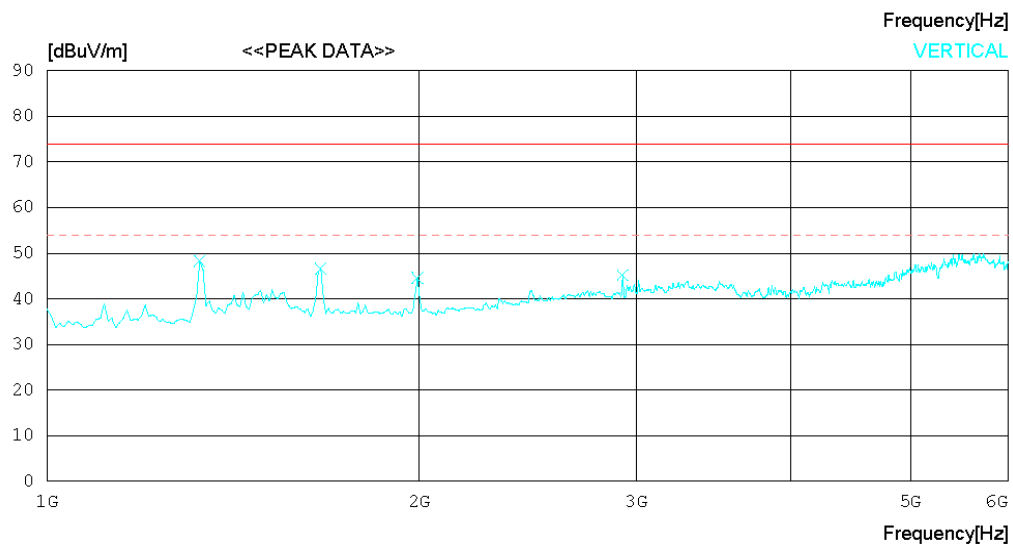
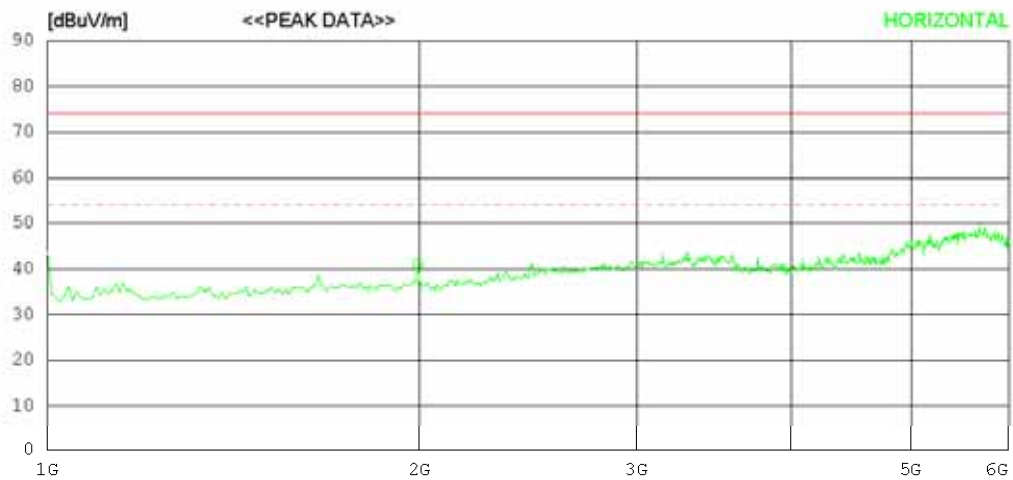
Date : 2011-06-03

Model Name : LG-E730
Model No. :
Serial No. :
Test Condition :

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 18°C 40 % R.H.
Operator : H.S KO

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Peak)
FCC Part15 Subpart.B Class B (3m) - 18G(Avg)



RADIATED EMISSION

Date : 2011-06-03

Model Name	:	LG-E730	Reference No.	:	
Model No.	:		Power Supply	:	120 V 60 Hz
Serial No.	:		Temp/Humi	:	18°C 40 % R.H.
Test Condition	:		Operator	:	H.S KO
Memo	:				

LIMIT : FCC Part15 Subpart B Class B (3m) - 18G(Peak)
 FCC Part15 Subpart B Class B (3m) - 18G(Avg)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	1993.589	50.8	25.2	7.0	42.0	41.0	74.0	33	100	285
----- Vertical -----										
2	1328.526	60.0	24.6	5.6	41.9	48.3	74.0	25.7	100	358
3	1665.064	57.0	25.2	6.3	41.9	46.6	74.0	27.4	100	358
4	1993.589	54.4	25.2	7.0	42.0	44.6	74.0	29.4	100	358
5	2923.090	50.1	28.6	8.6	42.1	45.2	74.0	28.8	201	1

- 1GHz - 6GHz_AV



RADIATED EMISSION

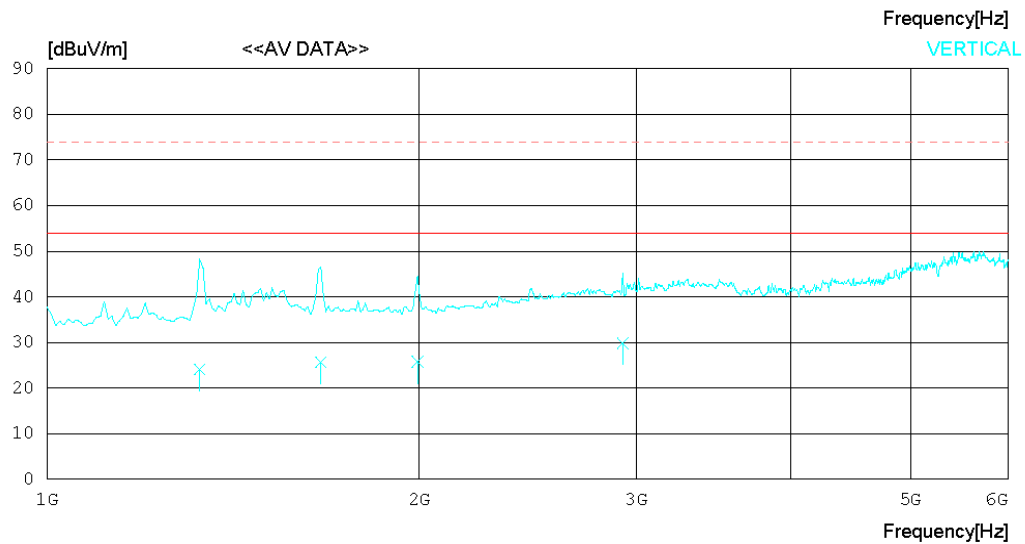
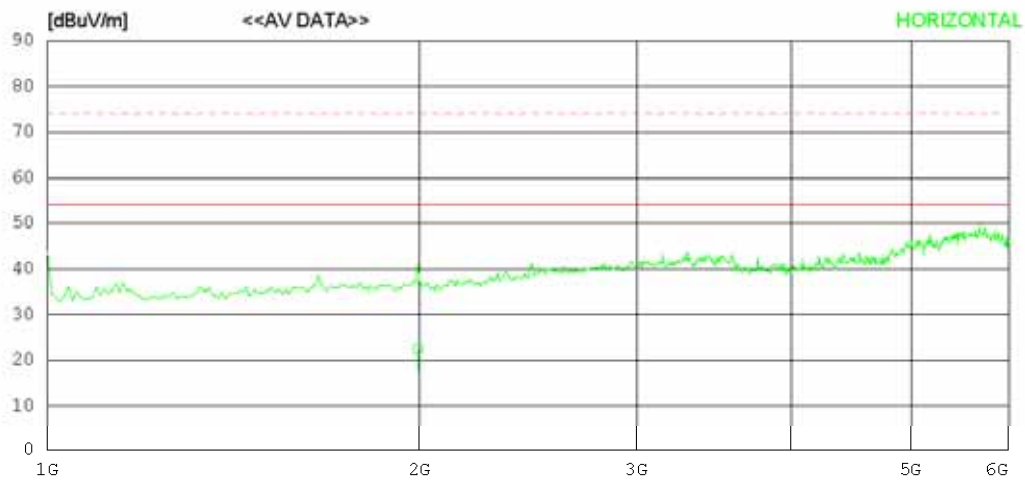
Date : 2011-06-03

Model Name : LG-E730
Model No. :
Serial No. :
Test Condition :

Reference No. :
Power Supply : 120 V 60 Hz
Temp/Humi : 18°C 40 % R.H.
Operator : H.S KO

Memo :

LIMIT : FCC Part15 Subpart.B Class B (3m) - 18G(Avg)
FCC Part15 Subpart.B Class B (3m) - 18G(Peak)



RADIATED EMISSION

Date : 2011-06-03

Model Name : LG-E730
 Model No. :
 Serial No. :
 Test Condition :

Reference No. :
 Power Supply : 120 V 60 Hz
 Temp/Humi : 18°C 40 % R.H.
 Operator : H.S KO

Memo :

LIMIT : FCC Part15 Subpart B Class B (3m) - 18G(Avg)
 FCC Part15 Subpart B Class B (3m) - 18G(Peak)

No.	FREQ [MHz]	READING AV [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	1993.589	32.2	25.2	7.0	42.0	22.4	54.0	31.6	100	285
----- Vertical -----										
2	1328.526	35.8	24.6	5.6	41.9	24.1	54.0	29.9	100	157
3	1665.064	36.1	25.2	6.3	41.9	25.7	54.0	28.3	100	322
4	1993.589	35.6	25.2	7.0	42.0	25.8	54.0	28.2	100	31
5	2925.464	34.8	28.6	8.6	42.1	29.9	54.0	24.1	157	1