EMC TEST REPORT

Test item	: Cellular/PCS GSM/GPRS Phone with Bluetooth and WLAN
Model No.	: LG-T375, T375, LGT375, LG-T385, T385, LGT385, LG-T395, LGT395, T395
Order No.	: 1201-00080
Date of receipt	: 2012-01-20
Test duration	: 2012-01-30
Use of report	: FCC CoC Marking
Date of Issue	: 2012-03-02

Applicant : LG Electronics MobileComm U.S.A., Inc.
10101 Old Grove Road., San Diego, CA 92131

Test laboratory : Digital EMC Co., Ltd.
683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

Test specification	: ANSI C 63.4:2003 FCC Part 15 Subpart B (Class B personal computers and peripherals)
Test environment	: Temperature : (20 ~ 24) °C, Humidity : (38 ~ 45) % R.H.
Test result	: ☒ Comply ☐ Not Comply

Tested by:

Engineer
S.W.LEE

Reviewed by:

General Manager
C.H.LEE

The above test report is the accredited test results by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

PRESIDENT OF DIGITAL EMC CO., LTD.

CONTENTS

1. General Remarks

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

Address : 683-3, Yubang-Dong, Cheoin-Gu, Yongin-Si, Gyeonggi-Do, 449-080, Korea

http://www.digitalemc.com

Tel: +82-31-321-2664 Fax: +82-31-321-1664

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 678747	Test Facility list & NSA Data
	Canada	IC	5740A-1 5740A-2	Test Facility list & NSA Data
	Japan	VCCI	C-1427 R-1364, R-3385 T-1442, G-338	Test Facility list & NSA Data
Certification	Korea	KC	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 competent of calibration and testing laboratory”.

3. General Information of EUT

Model No.	LG-T375
Add Model No.	T375, LGT375, LG-T385, T385, LGT385, LG-T395, LGT395, T395
EUT Type	Cellular/PCS GSM/GPRS Phone with Bluetooth and WLAN
Serial No	NONE
FCC ID	ZNFT375
Type of Sample Tested	Pre-Production
High Frequency	CPU : 208 MHz
Supplied Power for Test	AC120 V, 60 Hz
Applicant	LG Electronics MobileComm U.S.A., Inc. 10101 Old Grove Road., San Diego, CA 92131
RX Frequency	869.20 MHz to 893.80 MHz (GSM850) 1930.20 MHz to 1989.80 MHz (GSM1900)

4. Test Summary

4.1 Applied standards and test results

Test Items	Applied Standards	Results
Conducted Disturbance	ANSI C63.4:2003	**C**
Radiated Disturbance	ANSI C63.4:2003	**C**
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

The data in this test report are traceable to the national or international standards.

4.2 Test environment and conditions

Test Items	Test date (MM-DD)	Temp (℃)	Humidity (% R.H.)	Pressure (hPa)
Conducted Disturbance	01-30	24	38	-
Radiated Disturbance	01-30	20	45	

4.3 Test result Summary

(1) Conducted Emission

Frequency [MHz]	Phase	Result [dBμV]	Detector	Limit [dBμV]	Margin [dB]
0.333	**L1**	**46.6**	Quasi-Peak	**59.4**	**12.6**
0.335	**N**	**49.0**	Quasi-Peak	**59.3**	**10.2**

(2) Radiated Emission

Frequency [MHz]	Pol.	Result [dB(μV/m)]	Detector	Limit [dB(μV/m)]	Margin [dB]
485.899	**V**	**45.9**	Quasi-Peak	**46.0**	**4.0**

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/Read 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		
Notebook	LGX14	004QTYS024338	LG	DSUB DC IN USB	1.8 1.8 1.5	Shield Non-shield Shield	Plastic	DOC
Mouse	M-UAE96	LZ751AP01KD	MONITEREY INTERNATIONAL CORP.	USB	1.5	Shield	Plastic	DOC
Keyboard	SK-8115	N/A	YET FOUNDATE Ltd	USB	1.6	Shield	Plastic	DOC
LCD Monitor	MC19WS	NC72HVGSC00912Z	SAMSUNG	Power DSUB	1.8 1.8	Non-shield Shield	Plastic	DOC
Headset	COV903	N/A	COSY	Stereo	2.0	Non-shield	Plastic	DOC
DC Adapter	ADP-65JH AB	DT6100A1001006	DELTA ELECTRONICS	Power DC OUT	1.8 1.8	Non-shield Non-shield	Plastic	VER

NOTE

- See “APPENDIX 2 Photographs” for actual system test setup

6. Test Results : Emission

6.1 Conducted Disturbance

6.1.1 Measurement Procedure

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

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 conducted emission test software, the emissions were scanned 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.

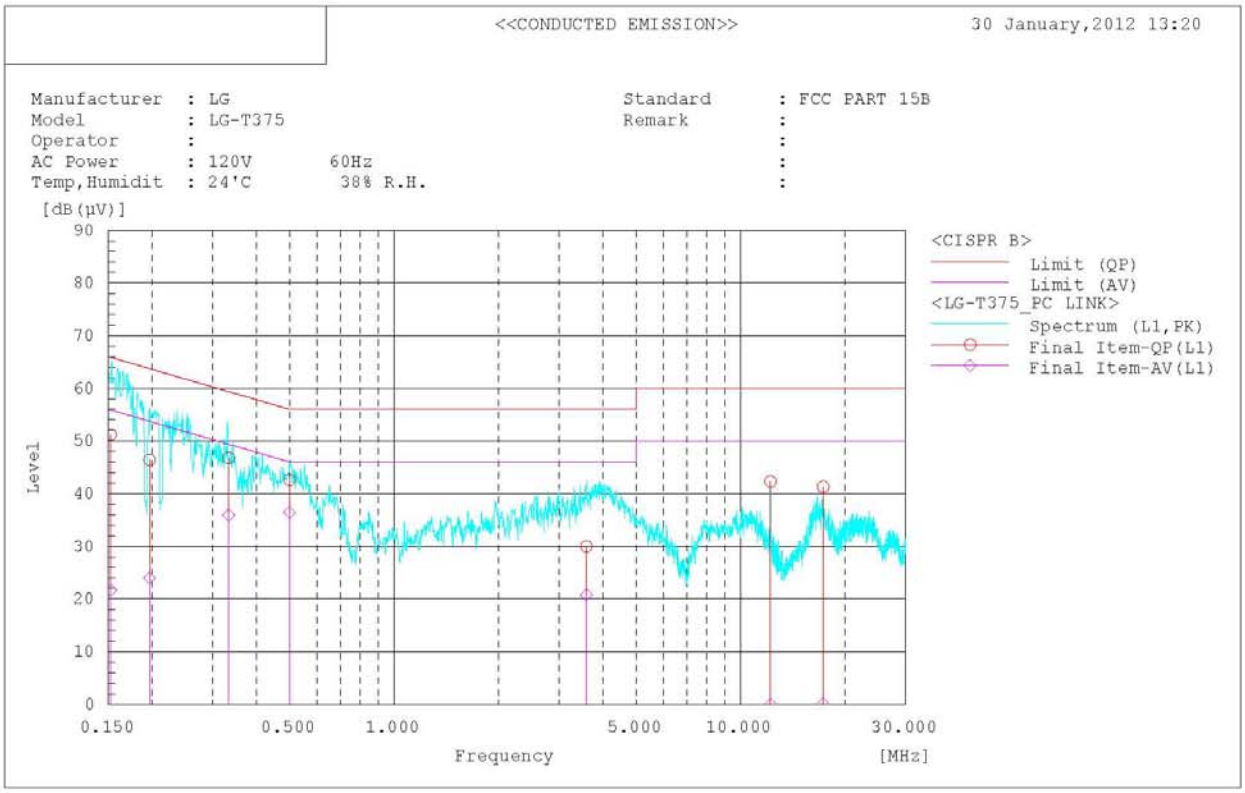
6.1.2 Limit for Conducted Disturbance

(1) Conducted disturbance at mains ports.

Frequency range (MHz)	Limits dB(μV)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	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.

Test Result



<<CONDUCTED EMISSION>>

30 January, 2012 13:20

Standard : FCC PART 15B
Manufacturer : LG
Model : LG-T375
Operator :
AC Power : 120V 60Hz
Temp,Humidit : 24'C 38% R.H.
Remark :

Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]	Remark
1	0.156	50.9	20.9	0.1	51.0	21.0	65.7	55.7	14.7	34.7	
2	0.252	44.1	31.9	0.1	44.2	32.0	61.7	51.7	17.5	19.7	
3	0.335	49.0	36.2	0.1	49.1	36.3	59.3	49.3	10.2	13.0	
4	0.393	44.6	35.4	0.1	44.7	35.5	58.0	48.0	13.3	12.5	
5	0.504	43.0	34.0	0.1	43.1	34.1	56.0	46.0	12.9	11.9	
6	2.945	41.6	0.0	0.2	41.8	0.0	56.0	46.0	14.2	0.0	
7	12.200	40.2	0.0	0.7	40.9	0.0	60.0	50.0	19.1	0.0	

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c.f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]	Remark
1	0.152	51.0	21.5	0.2	51.2	21.7	65.9	55.9	14.7	34.2	
2	0.197	46.2	23.8	0.2	46.4	24.0	63.7	53.7	17.3	29.7	
3	0.333	46.6	35.7	0.2	46.8	35.9	59.4	49.4	12.6	13.5	
4	0.499	42.4	36.2	0.2	42.6	36.4	56.0	46.0	13.4	9.6	
5	3.589	29.6	20.4	0.4	30.0	20.8	56.0	46.0	26.0	25.2	
6	12.200	41.5	0.0	0.8	42.3	0.0	60.0	50.0	17.7	0.0	
7	17.315	40.3	0.0	1.0	41.3	0.0	60.0	50.0	18.7	0.0	

6.2 Radiated Disturbance

6.2.1 Measurement Procedure

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

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 or 10m 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 Limit for Radiated Disturbance

- The test frequency range of Radiated Disturbance 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	5th 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 (dBμV/m)	Quasi-peak (dBμV/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.		
Frequency range (MHz)	**Class A Equipment (10m distance)**	**Class B Equipment (10m distance)**
	Quasi-peak (dBμV/m)	**Quasi-peak (dBμV/m)**
30 to 230	40	30
230 to 1000	47	37

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

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 40	80	60	74	54

Test Result

- 30 MHz ~ 1 GHz

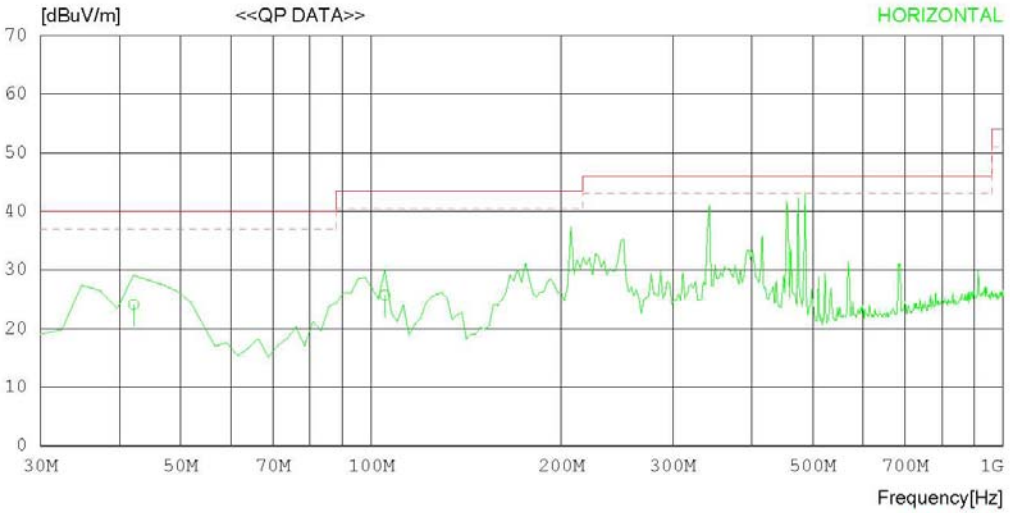
RADIATED EMISSION

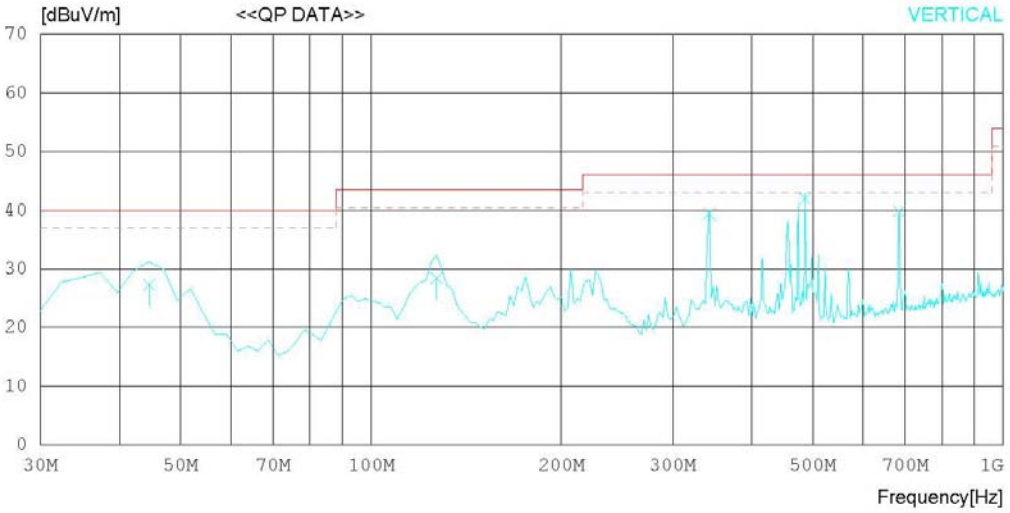
Date : 2012-01-30

Model Name	:	LG-T375	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 45% R.H.
Test Condition	:		Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2012-01-30

Model Name	:	LG-T375	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 45% R.H.
Test Condition	:		Operator	:	

Memo :

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

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	42.125	32.0	14.0	1.0	22.9	24.1	40.0	15.9	300	241
2	105.175	36.0	11.0	1.5	22.8	25.7	43.5	17.8	300	257
----- Vertical ------										
3	44.550	35.0	14.2	1.0	22.9	27.3	40.0	12.7	100	293
4	127.000	38.0	11.7	1.6	22.9	28.4	43.5	15.1	100	268
5	342.825	46.0	14.8	2.7	24.1	39.4	46.0	6.6	199	332
6	485.899	45.9	17.4	3.4	24.7	42.0	46.0	4.0	100	188
7	684.748	41.0	18.9	4.2	24.3	39.8	46.0	6.2	100	1

- 1 GHz ~ 6 GHz_Peak

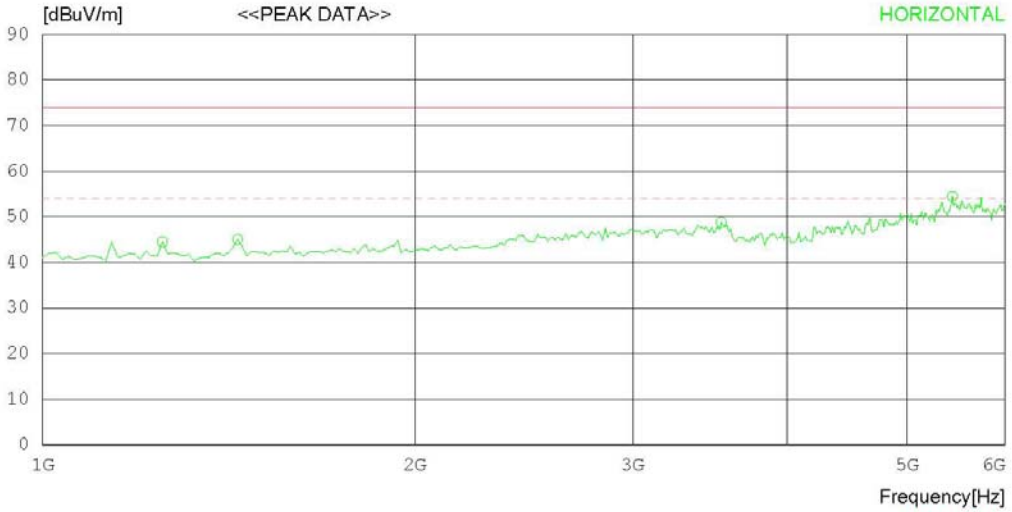
RADIATED EMISSION

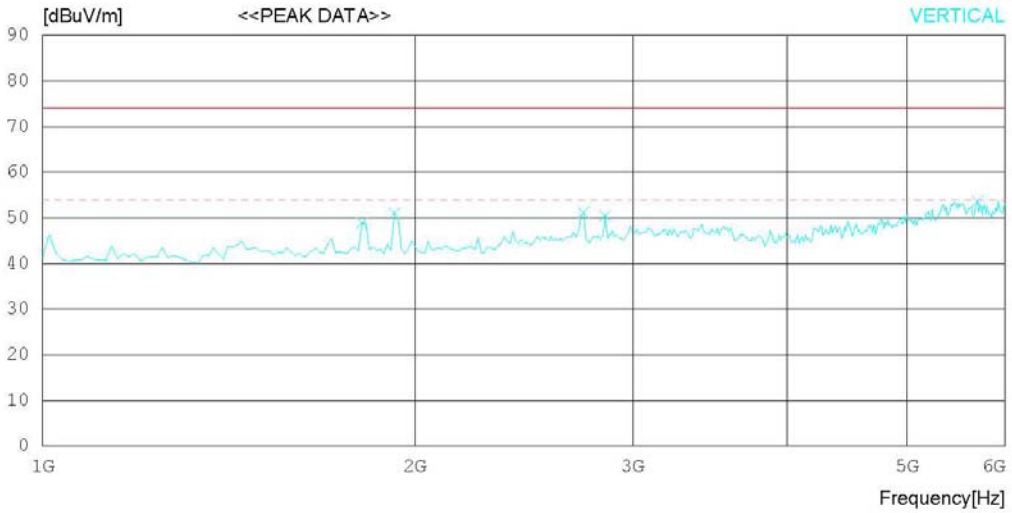
Date : 2012-01-30

Model Name	:	LG-T375	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 45% R.H.
Test Condition	:		Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2012-01-30

Model Name	: LG-T375		Reference No.	:	
Model No.	:		Power Supply	: 120V 60Hz	
Serial No.	:		Temp/Humi	: 20'C 45% R.H.	
Test Condition	:		Operator	:	

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	1250.000	56.6	24.4	5.4	41.9	44.5	74.0	29.5	100	1
2	1437.500	56.1	25.0	5.8	41.9	45.0	74.0	29	100	1
3	3537.500	52.0	29.2	9.5	41.9	48.8	74.0	25.2	100	1
4	5437.500	48.4	34.8	11.8	40.5	54.5	74.0	19.5	100	242
----- Vertical ------										
5	1812.500	59.1	25.2	6.6	42.0	48.9	74.0	25.1	100	358
6	1925.000	60.9	25.2	6.9	42.0	51.0	74.0	23	100	201
7	2737.500	57.1	28.0	8.2	42.1	51.2	74.0	22.8	100	5
8	2850.000	55.7	28.4	8.5	42.1	50.5	74.0	23.5	100	5
9	5700.000	47.7	33.9	12.1	40.1	53.6	74.0	20.4	100	358

- 1 GHz ~ 6 GHz_Average

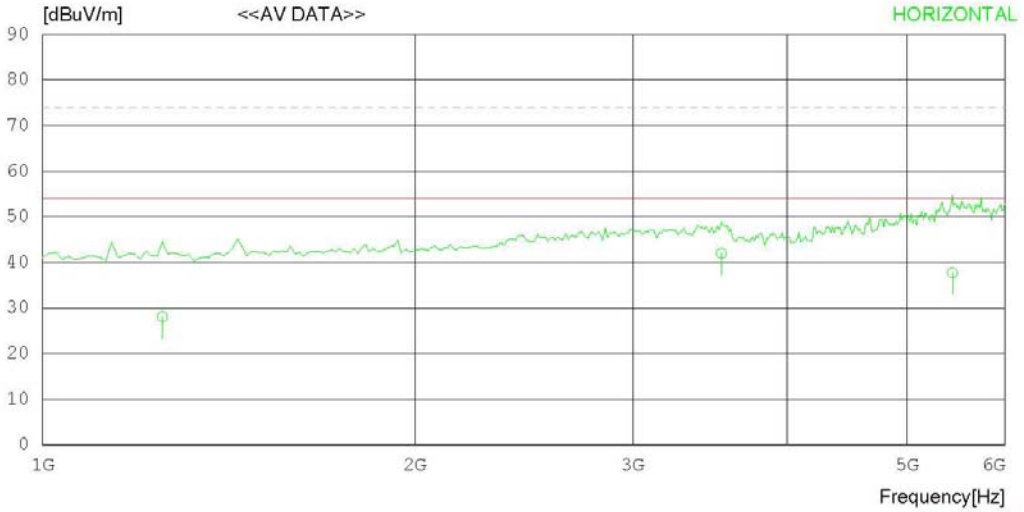
RADIATED EMISSION

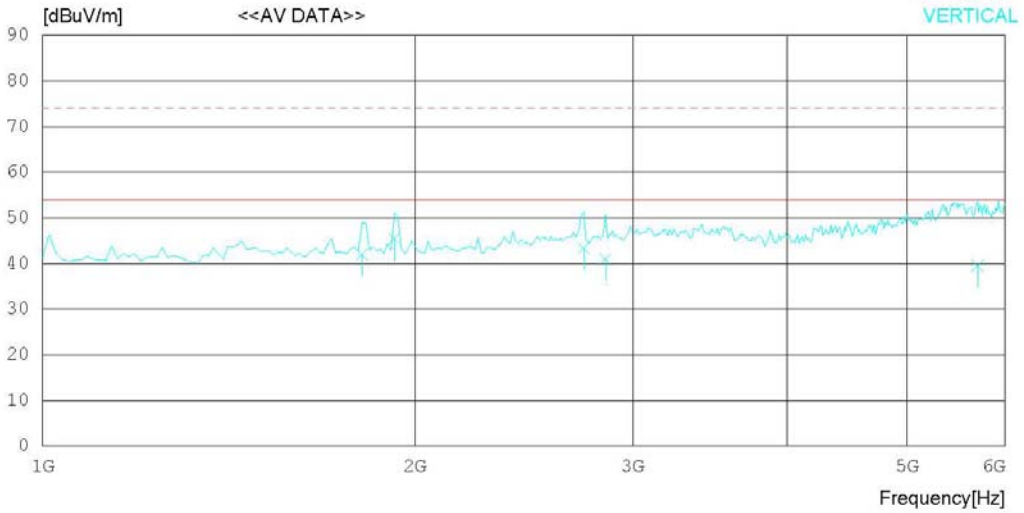
Date : 2012-01-30

Model Name	:	LG-T375	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 45% R.H.
Test Condition	:		Operator	:	

Memo :

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





RADIATED EMISSION

Date : 2012-01-30

Model Name	:	LG-T375	Reference No.	:	
Model No.	:		Power Supply	:	120V 60Hz
Serial No.	:		Temp/Humi	:	20'C 45% R.H.
Test Condition	:		Operator	:	

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	1250.000	40.2	24.4	5.4	41.9	28.1	54.0	25.9	100	1
2	3537.500	45.2	29.2	9.5	41.9	42.0	54.0	12.0	100	1
3	5437.500	31.6	34.8	11.8	40.5	37.7	54.0	16.3	100	242
----- Vertical ------										
4	1812.500	52.2	25.2	6.6	42.0	42.0	54.0	12.0	100	358
5	1925.000	55.3	25.2	6.9	42.0	45.4	54.0	8.6	100	201
6	2737.500	49.2	28.0	8.2	42.1	43.3	54.0	10.7	100	5
7	2850.000	46.2	28.4	8.5	42.1	41.0	54.0	13.0	100	5
8	5700.000	33.6	33.9	12.1	40.1	39.5	54.0	14.5	100	358

Appendix 1

List of Test and Measurement Instruments

1. Conducted Disturbance

Name of Instrument		Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒	SPECTRUM ANALYZER	8591E	H/P	3649A05889	2011.03.07	2012.03.07
☒	RFI/FIELD INTENSITY METER	KNM-2402	KYORITSU	4N-170-3	2011.07.02	2012.07.02
☒	LISN	KNW-407	KYORITSU	8-317-8	2012.01.09	2013.01.09
☒	LISN	KNW-242	KYORITSU	8-654-15	2011.07.01	2012.07.01
☒	50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09
☐	EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2011.03.08	2012.03.08
☐	LISN	ESH2-Z5	ROHDE & SCHWARZ	828739/006	2011.09.30	2012.09.30
☐	LISN	LISN1600	TTI	197204	2012.07.02	2012.07.02
☐	50 OHM TERMINATOR	CT-01	TME	N/A	2012.01.09	2013.01.09

2. Radiated Disturbance

Name of Instrument		Model No.	Manufacturer	Serial No.	Cal. Date	Next Cal. Date
☒	EMI TEST RECEIVER	ESU	ROHDE & SCHWARZ	100014	2012.01.09	2013.01.09
☒	BILOG ANTENNA	CBL6112B	SCHAFFNER	2737	2010.07.14	2012.07.14
☒	HORN ANTENNA	BBHA9120A	SCHWARZBECK	322	2010.04.13	2012.04.13
☒	AMPLIFIER	8447E	H/P	2945A02865	2012.01.09	2013.01.09
☒	AMPLIFIER	MLA-00108-B02-36	TSJ	1518831	2012.01.09	2013.01.09
☐	SPECTRUM ANALYZER	E4411B	AGILENT	US41062735	2011.07.01	2012.07.01
☐	AMPLIFIER	8447D	AGILENT	2443A03690	2011.07.01	2012.07.01
☐	BILOG ANTENNA	VULB9160	SCHAFFNER	3151	2010.08.25	2012.08.25
☐	EMI TEST RECEIVER	ESCI	ROHDE & SCHWARZ	100364	2011.03.08	2012.03.08
☐	BICONICAL ANT.	VHA 9103	SCHWARZBECK	91032789	2010.11.29	2012.11.29
☐	LOG-PERIODIC ANT.	UHALP 9108A	SCHWARZBECK	590	2010.07.07	2012.07.07
☐	BICONICAL ANT.	VHA 9103	SCHWARZBECK	91031946	2010.12.21	2012.12.21
☐	LOG-PERIODIC ANT.	UHALP 9108-A1	SCHWARZBECK	1098	2010.11.29	2012.11.29
☐	AMPLIFIER	MLA-100K01-B01-26	TSJ	1252741	2011.03.07	2012.03.07