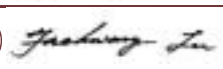


Compliance Test Report for FCC

Report Number		ESTF150310-001			
Applicant	Company name	LG Electronics USA			
	Address	2000 Millbrook Dr Lincolnshire, IL 60069 United states			
	Telephone	847-941-8373			
Product	Product name	Plasma Monitor			
	Model No.	MU-50PZ90MQ	Manufacturer	LG Electronics Inc.	
	Serial No.	NONE	Country of origin	KOREA	
Test date	2003-10-13 ~ 2003-10-13		Date of issue	2003-10-13	
Test location	ESTECH. Co., Ltd. 97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea				
Standard	FCC PART 15 2002 , ANSI C 63.4 2001				
Test item	☒ Conducted Emission	☐ Class A	☒ Class B	Test result	OK
	☒ Radiated Emission	☐ Class A	☒ Class B	Test result	OK
Measurement facility registration number		94696			
Tested by	Senior Engineer J.M. Yang		(Signature) 		
Reviewed by	Director T.K. Lee		(Signature) 		
Abbreviation	OK, Pass = Passed, Fail = Failed, N/A = not applicable				
* Note - This is certified that the above mentioned products have been tested for the sample provided by client - No part of this document may be duplicated or reproduced by any means without the express written permission of the Estech Co., Ltd.					

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Appendix 1. Spectral diagram

Appendix 2. Photographs of EUT in side PCB

Appendix 3. Block diagram of EUT

Appendix 4. Circuit Diagram

1. Laboratory Information

1.1 General

This EUT (Equipment Under Test) has been shown to be capable of compliance with the applicable technical standards and is tested in accordance with the measurement procedures as indicated in this report.

ESTECH attests to accuracy of test data. All measurement reported herein were performed by ESTECH Co., Ltd.

ESTECH assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

1.2 Test Lab.

Corporation Name : ESTECH Co. Ltd

Head Office : 3 rd Fl., Chungdam Bldg., 119-1 Chungdam-dong Kangnam-gu , Seoul, Korea
(Safety & Telecom. Test Lab)

EMC Test Lab : 58-1 Osan-Ri, GaNam-Myon, YeoJoo-Gun, KyungKi-Do, Korea
97-1 Hoiuk-Ri Majang-Myon, Icheon-city, KyungKi-Do, Korea

1.3 Official Qualification(s)

FCC : Filed Laboratory at Federal Communications Commission

2. Description of EUT

2.1 Summary of Equipment Under Test

Product : Plasma Monitor

Model Number : MU-50PZ90MQ

Serial Number : NONE

Manufacturer : LG Electronics Inc.

Country of origin : KOREA

Rating : 120V, 60Hz

Receipt Date : 2003-10-11

2.2 General descriptions of EUT

The PDP (Plasma Display Panel) which is the display device of this product is composed of 0.9 to 2.2 million cells. A few cell defects normally occur in the PDP manufacturing process. Several minute colored dots visible on the screen should be acceptable. This also occurs in other PDP manufacturers' products and the dots appearing does not mean that this PDP is defective. Thus a few cell defects are not sufficient cause for the PDP to be exchanged or returned. Our production technology is designed to minimize cell defects during the manufacture and operation of this product.

- Width(inches / mm) : 48.2 / 1223
- Height(inches / mm) : 28.9 / 734
- Depth(inches / mm) : 4.1 / 105
- Weight(pounds / kg) : 95.2 / 43.2
- Power requirement : AC120V, 60Hz
- Resolution : 1366 × 768 (Dot)

3. Test Standards

Test Standard : FCC PART 15 (2002)

This Standard sets out the regulations under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of Part 15 devices.

Test Method : ANSI C 63.4 (2001)

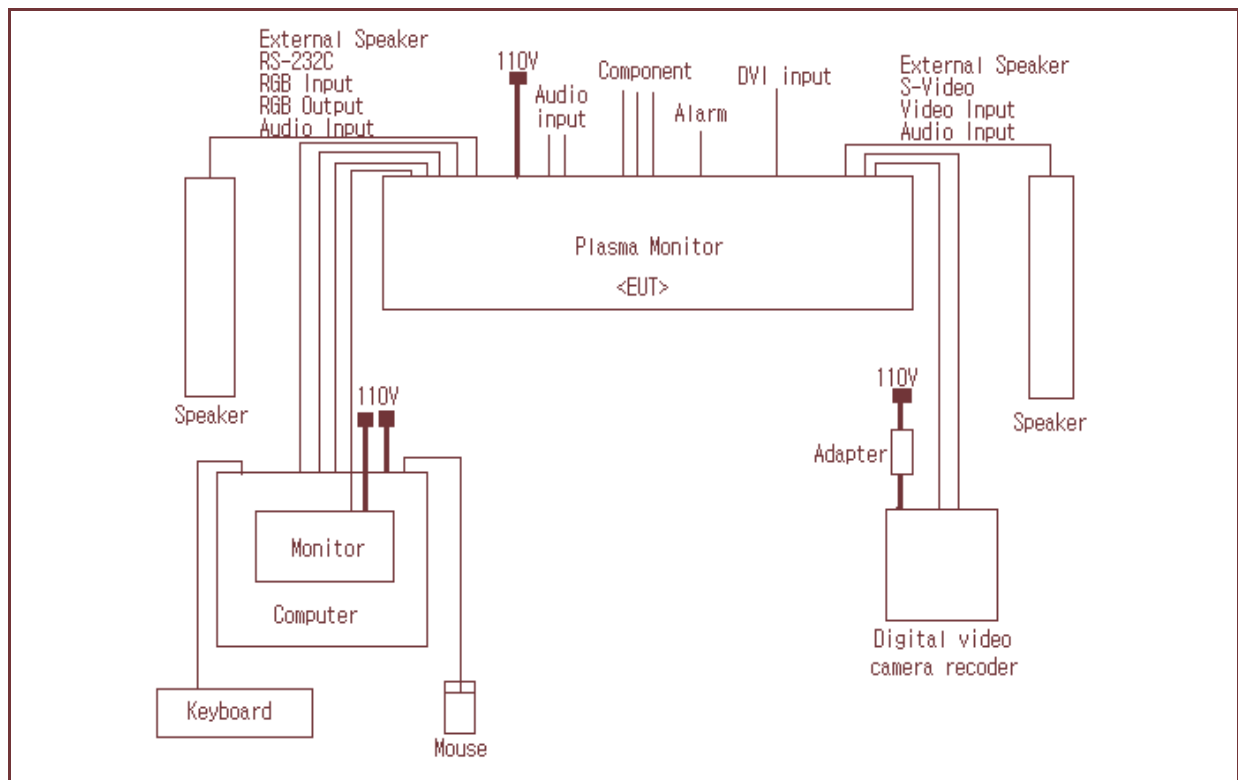
This standard sets forth uniform methods of measurement of radio-frequency (RF) signals and noise emitted from both unintentional and intentional emitters of RF energy in the frequency range 9 kHz to 40 GHz. Methods for the measurement of radiated and AC power-line conducted radio noise are covered and may be applied to any such equipment unless otherwise specified by individual equipment requirements. These methods cover measurement of certain devices that deliberately radiate energy, such as intentional emitters, but does not cover licensed transmitters. This standard is not intended for certification/approval of avionic equipment or for industrial, scientific, and medical (ISM) equipment. These methods apply to the measurement of individual units or systems comprised of multiple units.

4. Measurement Condition

4.1 EUT Operation.

- * The EUT was in the following operation mode during all testing
- * The operational conditions of the EUT was determined by the manufacturer according to the typical use of the EUT with respect to the expected highest level of emission
- * After setting as test arrangment diagram, we test EUT under continuous displaying "H" character

4.2 Configuration and Peripherals



4.3 EUT and Support equipment

Equipment Name	Model Name	S/N	Manufacturer	Remark (FCC ID)
Plasma Monitor	MU-50PZ90MQ	NONE	LG Electronics Inc.	EUT
Speaker	-	-	LG Electronics Inc.	-
Speaker	-	-	LG Electronics Inc.	-
Computer	OptiPlex GX50	-	Dell	-
Monitor	D8897	ARSCM350S	HEWLETT PACKARD	-
Digital video camera recoder	DCR-TRV18	18658	SONY	-
Adapter	AC-L10A	36738179	SONY	-
Keyboard	SEM-DT35	32006555	Samsung Electro-Mechanics Ltd.	-
Mouse	X05-51692	6444127-10000	Micorsoft	-

4.4 Cable Connecting

Start Equipment		End Equipment		Cable Standard		Remark
Name	I/O port	Name	I/O port	Length	Shielded	
Plasma Monitor	RGB Input	Computer	Video Output	4.0	Y	-
Plasma Monitor	Audio Input	Computer	Audio Output	2.0	N	-
Plasma Monitor	RS-232C	Computer	Serial	2.0	Y	-
Plasma Monitor	RGB Output	Monitor	RGB Input	2.0	Y	-
Plasma Monitor	Audio Input	Digital Video Camera Recoder	Audio Output	2.0	N	-
Plasma Monitor	Video Input	Digital Video Camera Recoder	Video Output	2.0	N	-
Plasma Monitor	S-Video	Digital Video Camera Recoder	S-Video	2.0	N	-
Plasma Monitor	Audio Input	-	-	2.0	N	-
Plasma Monitor	Component	-	-	2.0	N	-
Plasma Monitor	DVI Input	-	-	2.0	N	-
Plasma Monitor	External Speaker	Speaker	-	3.0	N	-
Plasma Monitor	External Speaker	Speaker	-	3.0	N	-
Plasma Monitor	Alarm	-	-	2.0	N	-
Computer	PS/2 Keyboard	Keyboard	PS/2 Keyboard	2.0	N	-
Computer	PS/2 Mouse	Mouse	PS/2 Mouse	2.0	N	-
Digital Video Camera Recoder	DC Power	Adapter	DC Power	2.0	N	-

5. Measurement of radiated disturbance

Above 30 MHz Electric Field strength was measured in accordance with FCC Part 15 (2002) & ANSI C 63.4 (2001). The test setup was made according to FCC Part 15 (2002) & ANSI C 63.4 (2001) on an open test site, which allows a 3m distance measurement. The EUT was placed in the center of wooden turntable. The height of this table was 0.8m. The measurement was conducted with both horizontal and vertical antenna polarization. The turntable has fully rotated. For further description of the configuration refer to the picture of the test set-up.

5.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
Receiver	ESPC	Rohde & Schwarz	845296/021	2004.6.17
Spectrum Analyzer	R3261B	ADVANTEST	1720302	2004.2.7
LogBicon Antenna	VULB 9160	S/B	3107	2004.6.13
Turn Table	2087	EMCO	2129	–
Amplifier	8447F	HP	1145A00349	2004.4.10
Antenna Mast	2070-01	EMCO	9702-203	–
ANT Mast Controller	2090	EMCO	1535	–
Turn Table Controller	2090	EMCO	1535	–

5.2 Environmental Condition

Test Place : Open site(3m)
 Temperature (°C) : 30 °C
 Humidity (%) : 39 %

5.3 Test data

Measurement Distance : 3 m

Frequency (MHz)	Reading (dB μ V)	Position (V/H)	Height (m)	Correction Factor		Result Value		
				Ant Factor (dB)	Cable (dB)	Limit (dB μ V/m)	Result (dB μ V/m)	Margin (dB μ V/m)
64.35	22.20	V	1.0	12.71	1.2	40.0	36.08	-3.92
76.14	15.10	V	1.0	9.89	1.3	40.0	26.28	-13.72
108.92	13.90	V	1.0	10.40	1.5	43.5	25.81	-17.69
133.66	15.10	H	2.8	12.67	1.7	43.5	29.49	-14.01
138.64	19.60	H	2.4	12.73	1.7	43.5	34.07	-9.43
163.40	16.30	V	1.0	13.91	2.0	43.5	32.20	-11.30
183.19	24.50	H	2.0	12.49	2.1	43.5	39.05	-4.45
212.80	20.60	H	1.8	10.64	2.3	43.5	33.50	-10.00
232.71	23.10	H	1.6	11.30	2.4	46.0	36.76	-9.24
257.45	18.10	H	1.5	12.09	2.4	46.0	32.59	-13.41
287.16	22.30	V	1.0	12.96	2.6	46.0	37.86	-8.14
336.68	23.70	H	1.2	14.01	2.8	46.0	40.53	-5.47
361.40	18.80	H	1.2	14.42	3.0	46.0	36.23	-9.77
432.07	11.10	H	1.1	16.01	3.2	46.0	30.35	-15.65
500.00	9.10	H	1.1	17.06	3.6	46.0	29.71	-16.29
543.25	15.60	V	1.0	17.76	3.7	46.0	37.03	-8.97
800.00	14.10	H	1.0	21.76	4.7	46.0	40.56	-5.44
Remark	H : Horizontal, V : Vertical							

6. Measurement of conducted disturbance

The continuous disturbance voltage of AC Mains in the frequency from 0.15 to 30 MHz was measured in accordance to FCC Part 15 (2002) & ANSI C 63.4 (2001). The test setup was made according to FCC Part 15 (2002) & ANSI C 63.4 (2001) in a shielded. The EUT was placed on a non-conductive table at least 80 above the ground plan. A grounded vertical reference plane was positioned in a distance of 40cm from the EUT. The distance from the EUT to other metal surfaces was at least 0.8m. The EUT was only earthen by its power cord through the line impedance stabilizing network. The power cord has been bundled to a length of 1.0m.. The test receiver with Quasi Peak detector complies with CISPR 16.

6.1 Measurement equipments

Equipment Name	Type	Manufacturer	Serial No.	Next Calibration date
LISN	ESH3-Z5	Rohde & Schwarz	838979/010	2004. 2. 7
LISN	NNLA8120A	Schwarzbeck	NONE	2004. 2. 7
TEST Receiver	ESPC	Rohde & Schwarz	845296/021	2004. 6. 17
Pulse Limiter	ESH3Z2	Rohde & Schwarz	NONE	2004. 6. 17

6.2 Environmental Condition

Test Place : Shield Room
 Temperature (°C) : 22 °C
 Humidity (%) : 51 %

6.3 Test data

Frequency (MHz)	Correction Factor		Line (H/N)	Quasi-peak Value			Average Value		
	Lisn (dB)	Cable (dB)		Limit (dB μ V)	Reading (dB μ V)	Result (dB μ V)	Limit (dB μ V)	Reading (dB μ V)	Result (dB μ V)
0.152	0.07	0.0	H	65.87	35.87	35.94	55.87		0.07
0.208	0.07	0.0	H	63.29	46.99	47.10	53.29		0.11
0.242	0.07	0.1	H	62.03	31.65	31.78	52.03		0.13
0.260	0.07	0.1	N	61.43	33.52	33.66	51.43		0.14
0.416	0.07	0.2	N	57.53	35.68	35.91	47.53		0.23
0.454	0.07	0.2	H	56.80	30.42	30.67	46.80		0.25
0.624	0.08	0.2	N	56.00	43.02	43.30	46.00	30.15	30.43
1.040	0.09	0.2	N	56.00	50.73	51.02	46.00	37.02	37.31
1.453	0.10	0.2	N	56.00	47.32	47.66	46.00	32.80	33.14
1.875	0.11	0.3	N	56.00	47.66	48.06	46.00	29.94	30.34
2.289	0.12	0.3	N	56.00	47.74	48.16	46.00	28.84	29.26
3.123	0.14	0.3	N	56.00	42.27	42.71	46.00		0.44
5.284	0.21	0.3	N	60.00	34.45	34.98	50.00		0.53
8.255	0.31	0.5	N	60.00	32.76	33.56	50.00		0.80
10.075	0.36	0.6	N	60.00	38.77	39.74	50.00		0.97
11.537	0.44	0.7	N	60.00	40.12	41.22	50.00		1.10
13.316	0.53	0.7	N	60.00	38.10	39.36	50.00		1.26
16.644	0.64	0.8	N	60.00	31.69	33.13	50.00		1.44
Remark	H : Hot Line, N : Neutral Line								

7. Photographs of test setup

7.1 Setup for Radiated Test : 30 ~ 1000 MHz

[Front]



[Rear]



7.2 Setup for Conducted Test : 0.15 ~ 30 MHz

[Front]



[Rear]



8. Photographs of EUT

[Front]

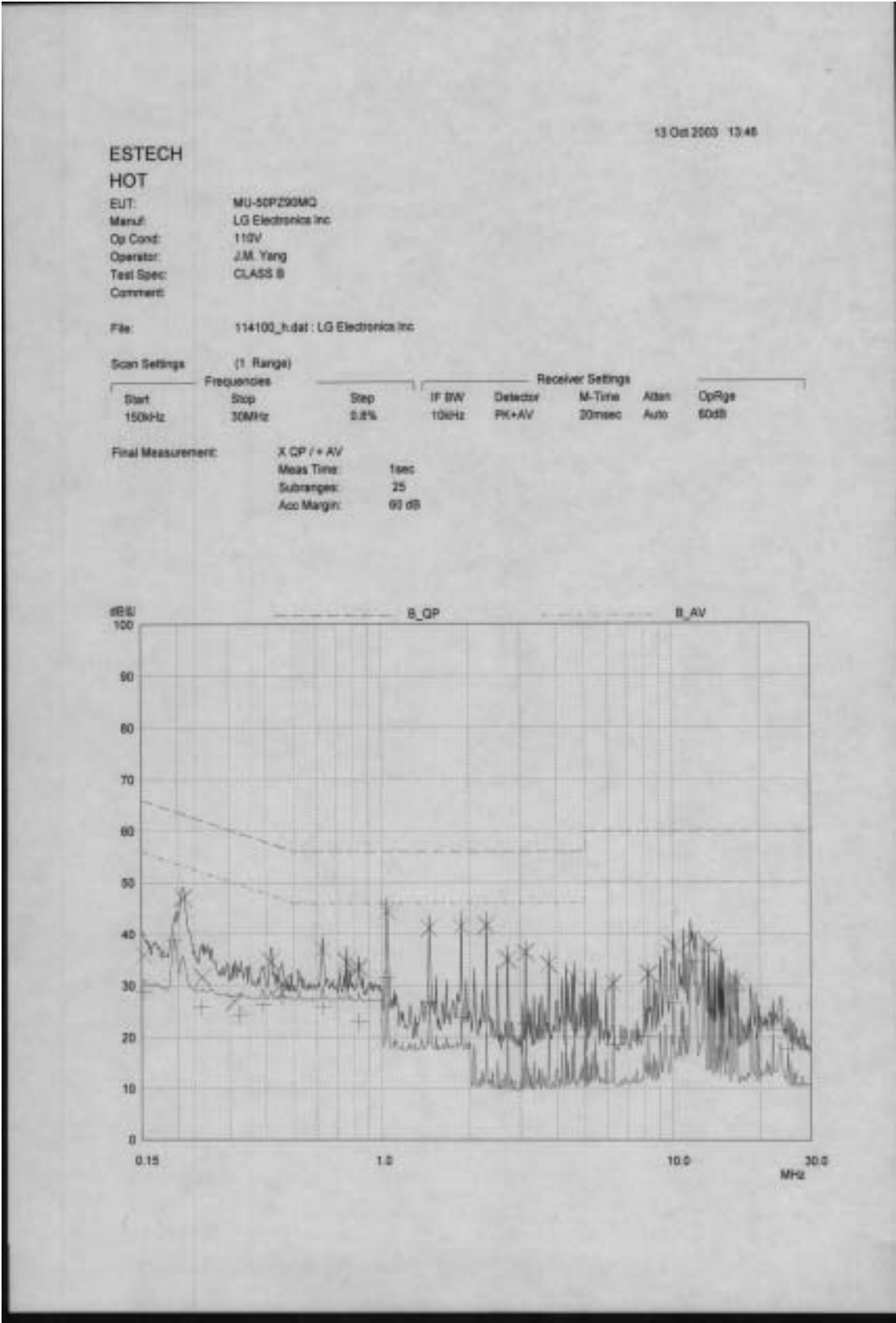


[Rear]



Appendix 1. Spectral diagram

*HOT



*NETRUL

ESTECH
NEUTRAL

13 Oct 2003 13:37

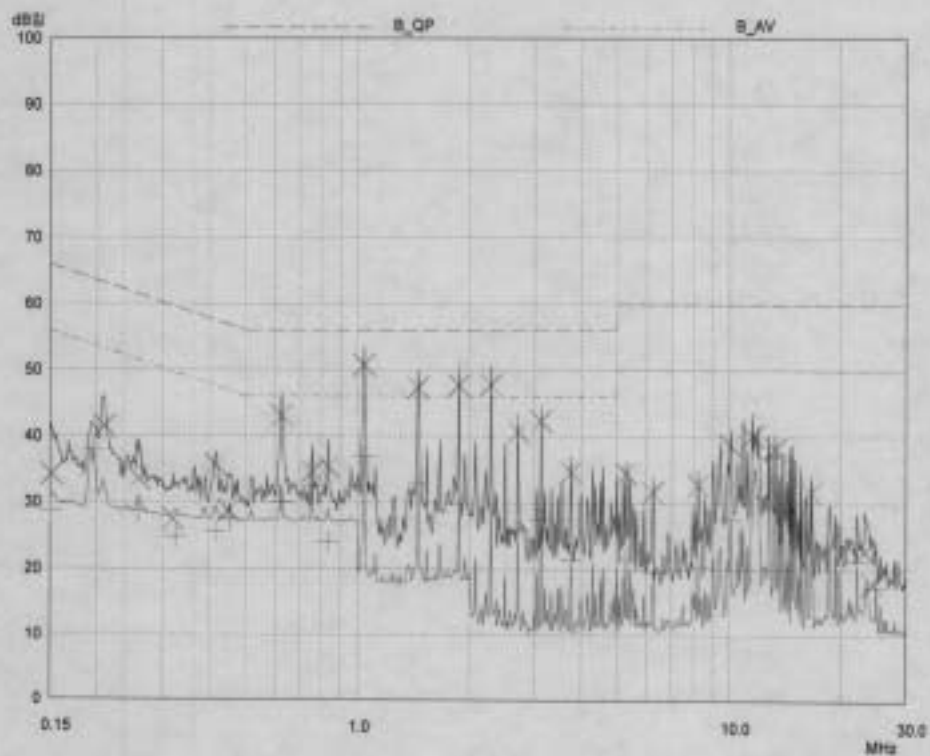
EUT: MU-50P293MG
Manuf: LG Electronics Inc
Op Cond: 110V
Operator: J.M. Yang
Test Spec: CLASS B
Comment:

File: 114100_n.dat : LG Electronics Inc

Scan Settings (1 Range)

Frequencies			Receiver Settings			
Start	Stop	Step	IF BW	Detector	M-Time	Apden
150kHz	30MHz	0.5%	10kHz	PK+AV	20msec	Auto
						OpRge
						60dB

Final Measurement: X QP / + AV
Meas Time: 1sec
Subranges: 25
Aoc Margin: 60 dB



Appendix 2. Photographs of EUT in side PCB



#:the number of the circuit schematic

Appendix 4. Circuit Diagram