

*EXHIBIT 4*

*Test Report*

*Test Report*

ACS-F98042

APPLICATION FOR CERTIFICATION

On Behalf of  
GES Singapore Pte Ltd.  
LAVA LCD Monitor

Model : P615U

Prepared for : GES Singapore Pte Ltd.  
28 Marsiling Lane, Singapore 739152

Prepared By : Audix Technology (Shenzhen) Co., Ltd.  
No. 6 Ke Feng Rd., 52 Block,  
Shenzhen Science & Industrial Park,  
Nantou, Shenzhen, Guangdong, China

Tel: (0755)663-9496

Report Number : ACS-F98042  
Date of Test : Nov. 23 / 24, 1998  
Date of Report : Nov. 30, 1998

## TABLE OF CONTENTS

Description	Page
Test Report Certification	
<b>1. GENERAL INFORMATION.....</b>	<b>1.-1</b>
1.1. Description of Device (EUT).....	1.-1
1.2. Tested System Details.....	1.-2
1.3. Measurement Uncertainty.....	1.-3
1.4. Description of Test Facility.....	1.-4
<b>2. POWER LINE CONDUCTED MEASUREMENT.....</b>	<b>2.-1</b>
2.1. Test Equipment.....	2.-1
2.2. Block Diagram of Test Setup.....	2.-1
2.3. Conducted Power Line Emission Limit.....	2.-1
2.4. EUT Configuration on Measurement.....	2.-2
2.5. Operating Condition of EUT.....	2.-2
2.6. Test Procedure.....	2.-2
2.7. Line Conducted RF Voltage Measurement Results.....	2.-3
<b>3. RADIATED EMISSION MEASUREMENT.....</b>	<b>3.-1</b>
3.1. Test Equipment.....	3.-1
3.2. Block Diagram of Test Setup.....	3.-1
3.3. Radiation Limit.....	3.-2
3.4. EUT Configuration on Measurement.....	3.-2
3.5. Operating Condition of EUT.....	3.-2
3.6. Test Procedure.....	3.-3
3.7. Radiated Emission Noise Measurement Results.....	3.-4
<b>4. PHOTOGRAPH.....</b>	<b>4.-1</b>
4.1. Photos of Power Line Conducted Measurement.....	4.-1
4.2. Photos of Radiated Measurement.....	4.-2
 APPENDIX I	 (4 Pages)
APPENDIX II	(7 Pages)

TOK98-F067

## TEST REPORT CERTIFICATION

Applicant : GES Singapore Pte Ltd.  
 Manufacturer : GES Singapore Pte Ltd.  
 EUT Description : LAVA LCD Monitor  
 (A) MODEL NO. : P615U  
 (B) SERIAL NO. : N/A  
 (C) POWER SUPPLY : 120V / 60Hz

## Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B Class B October 1997 & FCC / ANSI C63.4-1992

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart Class B limits both radiated and conducted emissions.

The measurement results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test : Nov. 23 / 24, 1998

Prepared by : Katherine Ge / Dec. 02  
 (ASSISTANT: KATHERINE GE)

Reviewer : Martin Lu 2/12  
 (SUPERVISOR: MARTIN LU)

For and on behalf of  
 AUDIX TECHNOLOGY (SHENZHEN) CO.,LTD.

Approve & Authorized Signer : Alan Liao 3/20/98 substitute  
 \*\* (MANAGER: LEON LIU) \*\*  
 Authorized Signature(s)

# 1. GENERAL INFORMATION

70298-F067

## 1.1. Description of Device (EUT)

Description	:	LAVA LCD Monitor
Model Number	:	P615U
Applicant	:	GES Singapore Pte Ltd. 28 Marsiling Lane, Singapore 739152
Manufacturer	:	GES Singapore Pte Ltd. 28 Marsiling Lane, Singapore 739152
Video Cable	:	Shielded, Detachable, 1.8m (with <sup>2</sup> ferrite cores)
USB Cable	:	Shielded, Detachable, 1.8m
Audio Cable	:	Unshielded, Detachable, 1.2m
AC/DC Adaptor	:	M/N: SPN-460-12 S/N: 83646012A01154 AC Input: 100 ~ 240V 50 ~ 60Hz 1.6A DC Output: 12V 4.3A AC Input Line: Unshielded, Detachable, 1.8m DC Output Line: Unshielded, Nondetachable, 1.2m (with core)
Date of Test	:	Nov. 23 / 24, 1998

## 1.2. Tested System Details

### 1.2.1. PERSONAL COMPUTER

Model Number	:	P2L97
Serial Number	:	No. 1
Manufacturer	:	Asus Computer International Co.
Switching Power Supply	:	Model FSP300-60GT Sparkle Power Int'l Ltd.
Floppy Driver	:	Teac Corp. Model FC-235HF
Hard Disk Driver	:	Quantum, Model 7218A2C
Disk Ctrl Card	:	Within Mother Board
Serial/Parallel Card	:	Within Mother Board
Power Cord	:	Unshielded, Detachable, 1.8m
FCC Certification	:	DOC

## 1.2.2. KEYBOARD

Model Number : DFK171M  
 Serial Number : 43902222  
 Manufacturer : Team Technology, Inc.  
 Data Cable : Shielded, Detachable, 1.5m  
 Power Adaptor : Team, Model DV-1215A  
 Unshielded, Nondetachable, 1.8m  
 FCC ID : EF56A5 1200AT

## 1.2.3. PRINTER

Model Number : 2225C+  
 Serial Number : 2937S56660  
 FCC ID : DS16XU2225  
 Manufacturer : Hewlett Packard  
 Power Adapter : Hewlett Packard, Model 82241A  
 Power Cord : Unshielded, Nondetachable, 1.8m  
 Data Cable : Shielded, Detachable, 1.5m

## 1.2.4. MODEM # 1

Model Number : 1200AT  
 Serial Number : AT 112153  
 FCC ID : EF56A5 1200AT  
 Manufacturer : Team Technology, Inc.  
 Data Cable : Shielded, Detachable, 1.5m  
 Power Adapter : Team, Model DV-1215A  
 Nonshielded, Undetachable, 1.8m

## 1.2.5. MODEM # 2

Model Number : 1200AT  
 Serial Number : AT 122257  
 FCC ID : EF56A5 1200AT  
 Manufacturer : Team Technology, Inc.  
 Data Cable : Shielded, Detachable, 1.5m  
 Power Adapter : Kaming, Model AD-09  
 Unshielded, Nondetachable, 1.8m

## 1.2.6. MOUSE

Model Number : M-S34  
 Serial Number : LZA81403347  
 FCC ID : DZL211029  
 Manufacturer : LOGITECH  
 Data Cable : Unshielded, Nondetachable, 2.5m

## 1.2.7. VGA CARD

Model Number : DSV3365  
 Serial Number : E601604161  
 FCC ID : LUT-DSV3365

## 1.2.8. SOUND BLASTER CARD

Model Number : CT4170  
 Serial Number : T4170740782356  
 Manufacturer : Creative Labs Inc.  
 FCC Certification : DOC

## 1.2.9. GAMEPAD

Model Number : CTM1050  
 Serial Number : S1050830000437  
 Manufacturer : Creative Labs Inc.  
 Data Cable : Shielded, Nondetachable, 2.5m

## 1.3. Measurement Uncertainty

Radiation Uncertainty :  $U_r = \pm 4.26$  dB  
 Conduction Uncertainty :  $U_c = \pm 2.66$  dB

## 1.4. Description of Test Facility

Site Description :

3m Anechoic Chamber : Certificated by FCC, U.S.A,  
 Aug. 18, 1997

3m & 10m Open Site : Certificated by FCC, U.S.A,  
 Feb. 13, 1998

EMC Lab. : Certificated by TUV Rheinland Taiwan  
 Dec. 05, 1995

Certificated by COMMERCE, New Zealand  
 May 19, 1997

Certificated by NEMKO, Norway  
 Feb. 28, 1998

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.

Site Location : No. 6 Ke Feng Rd., 52 Block,  
 Shenzhen Science & Industrial Park,  
 Nantou, Shenzhen, Guangdong, China

## 2. POWER LINE CONDUCTED MEASUREMENT

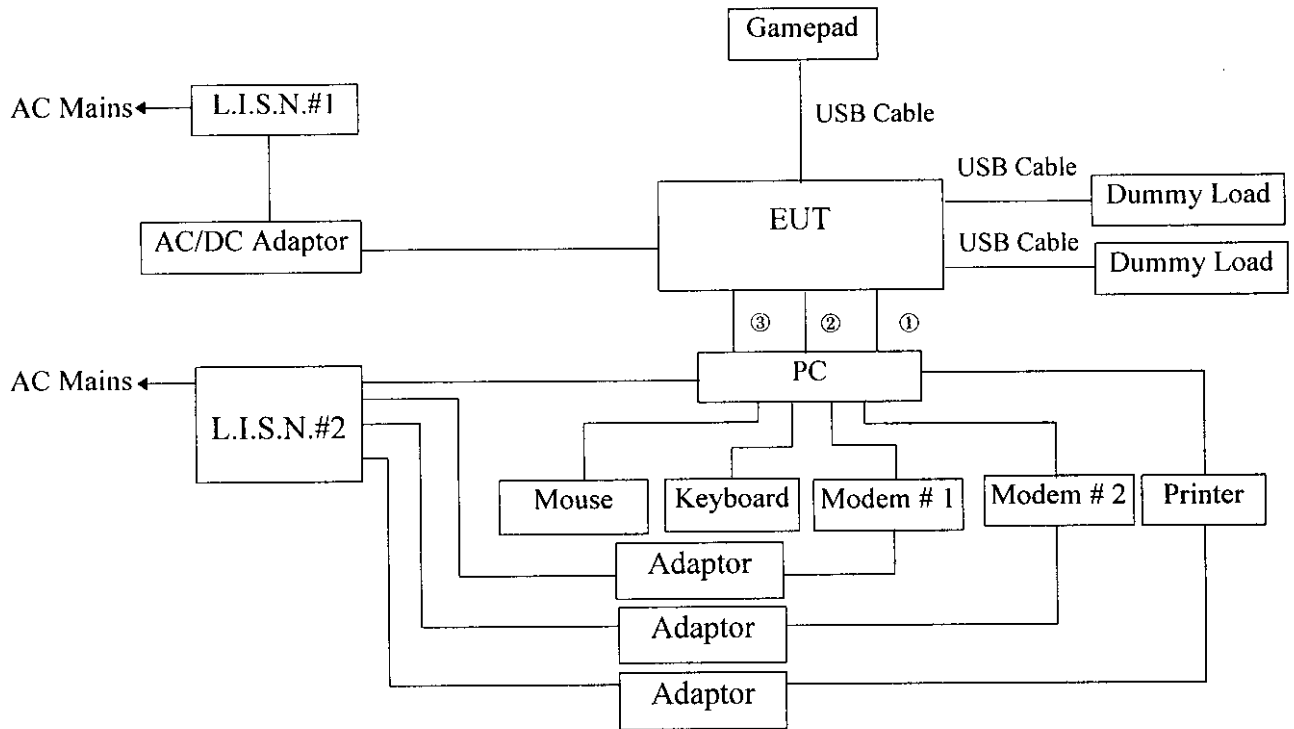
### 2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS20	836600/006	Jun. 07, 98	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-541-4	Jun. 07, 98	1 Year
3.	L.I.S.N. # 2	EMCO	3825/2	9006-1660	Jun. 07, 98	1 Year

### 2.2. Block Diagram of Test Setup

#### 2.2.1. Block diagram of connection between the EUT and simulators



Remark: ① is Audio Cable.

② is USB Cable.

③ is Video Cable.

(EUT: LAVA LCD Monitor)

### 2.3. Conducted Power Line Emission Limit

Frequency MHz	Maximum RF Line Voltage	
	μV	dB(μV)
0.45 ~ 30.00	250	48

Remarks: RF LINE VOLTAGE (dB(μV)) = 20 log RF LINE VOLTAGE (μV)



## 2.4. EUT Configuration on Measurement

The following equipments are installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

### 2.4.1. LAVA LCD Monitor (EUT)

Model Number	:	P615U
Serial Number	:	N/A
Manufacturer	:	GES Singapore Pte Ltd.

### 2.4.2. Support Equipments

As in Section 1.2. Test System Details

## 2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on Section 2.2.

2.5.2. Turn on the power of all equipments.

2.5.3. Personal Computer reads data from hard disk.

2.5.4. Personal Computer sends "H" character to Keyboard (EUT) and the screen will display and full with "H" pattern.

2.5.5. Personal Computer reads "H" character to printer, the printer will print "H" pattern on paper.

2.5.6. Personal Computer reads data from floppy disk and then writes data into floppy disk.

2.5.7. Personal Computer reads data from modem.

## 2.6. Test Procedure

The EUT is put on table which is 0.8m above the ground and away from other metallic surface at least 0.4m. The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the testing equipments. Please reference the block diagram of the test setup and photographs. Both sides of AC line(VA & VB) are checked for maximum conducted interference. In order to find the maximum emission levels, the relative positions of equipments and all of the interface cables must be changed according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of the test receiver (R & S ESHS20) is set at 10KHz. The frequency range from 450KHz to 30MHz is checked.

The disturbance voltage from the EUT are investigated and the data is reported in Section 2.7.. Please reference to Appendix I.

## 2.7. Line Conducted RF Voltage Measurement Results

**PASS.**

The frequency range from 450KHz to 30 MHz is investigated.

All emissions not reported below are too low against the prescribed limits.

Date of Test :	Nov. 24, 1998	Temperature :	27 °C
EUT :	LAVA LCD Monitor	Humidity :	42 %
Model No. :	P615U	Working Condition :	640*480 31.5KHz
Test Engineer :	Bright Xie		

Frequency MHz	Reading		Limit dB( $\mu$ V)
	Phase VA dB( $\mu$ V)	Phase VB dB( $\mu$ V)	
0.495	41.1	40.7	48
0.558	40.4	40.2	48
0.681	41.0	40.9	48
0.805	39.8	40.3	48
1.547	*	34.4	48
1.858	33.8	*	48
21.972	25.8	*	48
22.193	*	26.5	48

- Remark :
1. All readings are Quasi-Peak values.
  2. The worst emission is detected at 0.495MHz with corrected signal level of 41.1 dB( $\mu$ V) (limit is 48 dB( $\mu$ V)) when the VA side of the EUT is connected to L.I.S.N.

Reviewer : *Martin Lu 2/12*

Date of Test : Nov. 24, 1998 Temperature : 27 °C  
 EUT : LAVA LCD Monitor Humidity : 42 %  
 Model No. : P615U Working Condition : 800\*600 37.5KHz  
 Test Engineer : Bright Xie

Frequency MHz	Reading		Limit dB(μV)
	Phase VA dB(μV)	Phase VB dB(μV)	
<b>0.495</b>	<b>41.0</b>	<b>40.1</b>	<b>48</b>
0.553	37.6	38.9	48
0.681	40.9	40.0	48
0.798	30.5	36.8	48
0.805	40.0	*	48
1.730	33.2	*	48
1.786	*	32.3	48
22.326	*	23.2	48
22.732	23.3	*	48

Remark : 1. All readings are Quasi-Peak values.  
 2. The worst emission is detected at 0.495MHz with corrected signal level of 41.0 dB(μV) (limit is 48 dB(μV)) when the VA side of the EUT is connected to L.I.S.N.

Reviewer : Martin ln 2/12

Date of Test : Nov. 24, 1998 Temperature : 27 °C  
 EUT : LAVA LCD Monitor Humidity : 42 %  
 Model No. : P615U Working Condition : 1024\*768 60KHz  
 Test Engineer : Bright Xie

Frequency MHz	Reading		Limit dB(μV)
	Phase VA dB(μV)	Phase VB dB(μV)	
0.487	38.7	36.3	48
0.549	38.7	36.6	48
0.670	37.7	*	48
<b>0.675</b>	*	<b>39.5</b>	<b>48</b>
0.792	36.9	*	48
0.798	*	39.3	48
1.228	*	36.0	48
2.858	12.6	*	48
22.505	*	22.7	48
22.686	25.6	*	48

Remark : 1. All readings are Quasi-Peak values.  
 2. The worst emission is detected at 0.675MHz with corrected signal level of 39.5dB(μV) (limit is 48 dB(μV)) when the VB side of the EUT is connected to L.I.S.N.

Reviewer : Martin ln 2/12

70298-7067

### 3. RADIATED EMISSION MEASUREMENT

#### 3.1. Test Equipment

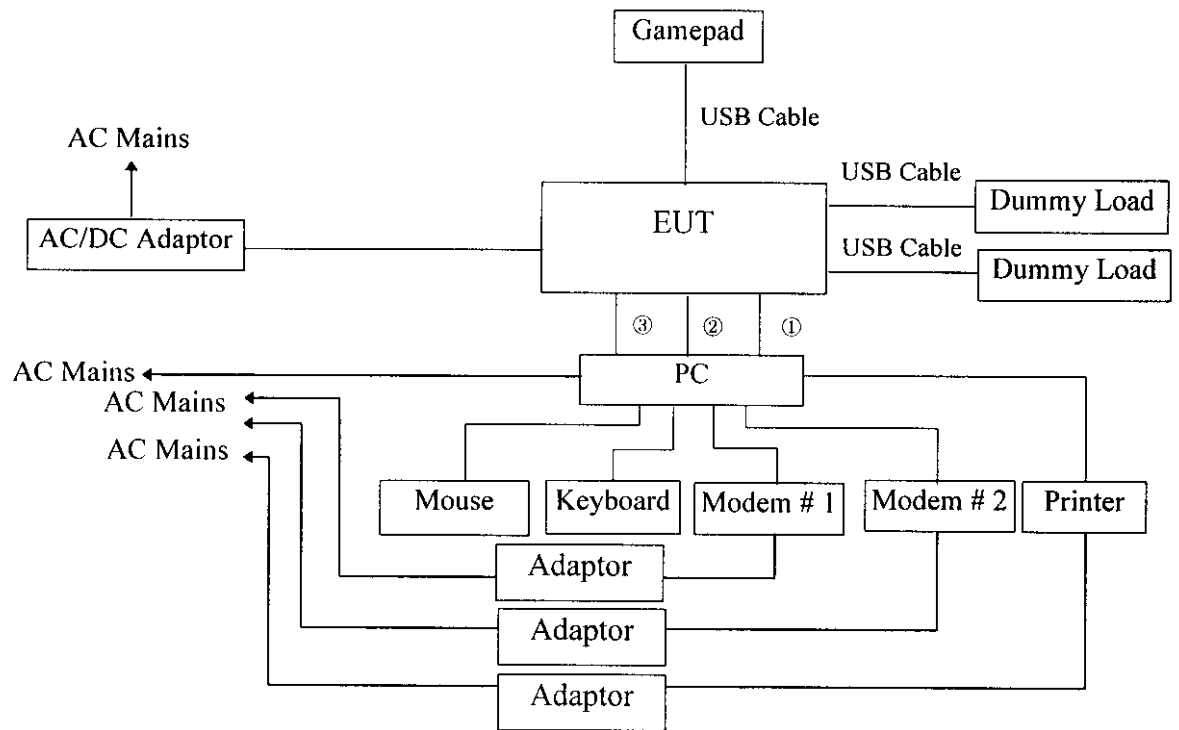
The following test equipments are used during the radiated emission measurement:

##### 3.1.1. In Chamber # 3

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	HP	85422E	3625A00181	Jun. 07, 98	1 Year
2.	Amplifier	HP	8447D	2944A07794	Jun. 07, 98	1/2 Year
3.	Bilog Antenna	Chase	CBL6112A	2176	Sep. 27, 98	1 Year
4.	Computer	N/A	N/A	N/A	N/A	N/A
5.	Printer	NEC	P3800	568101448	N/A	N/A

#### 3.2. Block Diagram of Test Setup

##### 3.2.1. Block diagram of connection between the EUT and simulators

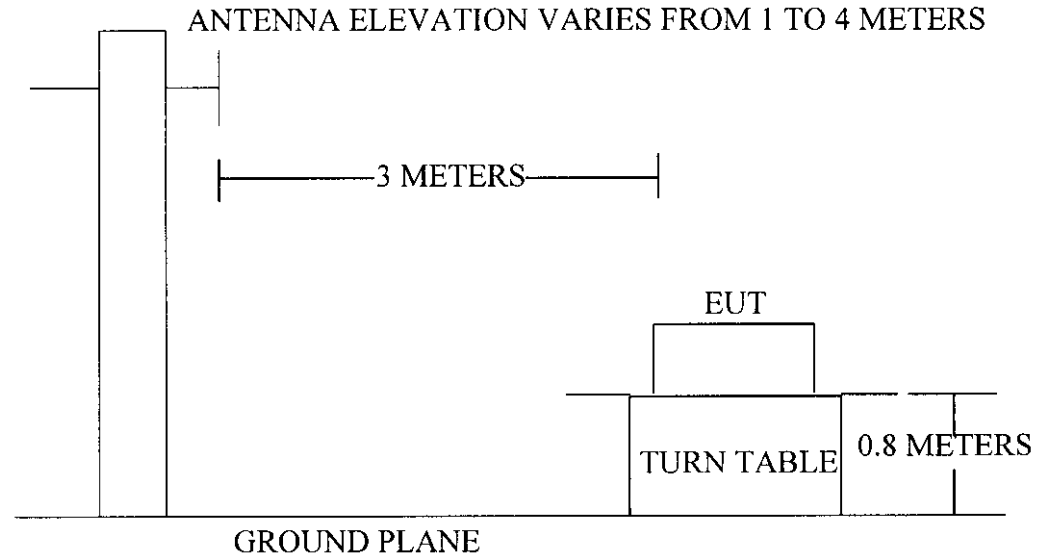


Remark: ① is Audio Cable.  
 ② is USB Cable.  
 ③ is Video Cable.

(EUT: LAVA LCD Monitor)

### 3.2.2. Chamber # 3 Test Setup Diagram

#### ANTENNA TOWER



### 3.3. Radiation Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS dB( $\mu$ V)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

- Remark :
- (1) Emission level (dB( $\mu$ V)/m) = 20 log Emission level ( $\mu$ V/m)
  - (2) The smaller limit shall apply at the cross point between two frequency bands.
  - (3) Distance refers to the distance in meters between the measuring instrument, antenna and the closed point of any part of the device or system.

### 3.4. EUT Configuration on Measurement

The configuration of EUT and its simulators are same as those used in conducted measurement. Please refer to Section 2.4.

### 3.5. Operating Condition of EUT

Same as conducted measurement which is listed in Section 2.5.

### 3.6. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on an antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna are used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-1992 on radiated emission measurement.

The bandwidth of the test receiver (R & S ESVS 20) is set at 120KHz.

The frequency range from 30MHz to 1000MHz is checked.

The EUT are measured in the Chamber #3. All the test results are listed in Section 4.7. and all the scanning waveform are attached in Appendix II.

### 3.7. Radiated Emission Noise Measurement Results.

**PASS.**

The frequency range from 30MHz to 1000MHz is investigated. All the emission levels not reported below are too low against the Limit.

Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 640*480 31.5KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Horizontal dB	Emission Level Horizontal dB $\mu$ V/m	Limits dB $\mu$ V/m	Limits Over dB $\mu$ V/m
48.020	8.35	1.36	16.90	26.61	40.00	-13.39
72.011	6.45	1.69	23.50	31.65	40.00	-8.35
110.006	12.77	2.10	21.90	36.76	43.50	-6.74
136.013	12.14	2.35	22.70	37.19	43.50	-6.31
144.021	11.66	2.46	24.40	38.53	43.50	-4.97
149.996	11.19	2.48	25.40	39.07	43.50	-4.43
189.957	9.62	2.84	26.70	39.16	43.50	-4.34
292.550	13.49	3.57	18.20	35.26	46.00	-10.74
310.001	13.84	3.72	19.00	36.56	46.00	-9.44
384.150	16.17	4.21	9.80	30.18	46.00	-15.82
480.080	17.32	4.77	14.90	36.99	46.00	-9.01

Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer : *Martin Lu 2/12*

Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 640*480 31.5KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Vertical dB	Emission Level Vertical dBμV/m	Limits dBμV/m	Limits Over dBμV/m
50.026	4.65	1.39	53.54	32.64	40.00	-7.36
70.010	7.58	1.66	52.88	35.24	40.00	-4.76
110.005	12.22	2.10	51.07	38.62	43.50	-4.88
130.003	11.97	2.31	50.27	37.78	43.50	-5.72
144.975	10.01	2.49	49.52	35.30	43.50	-8.20
152.018	9.40	2.49	52.86	38.09	43.50	-5.41
168.028	9.24	2.63	53.73	38.97	43.50	-4.53
176.028	9.93	2.73	50.83	36.86	43.50	-6.64
192.031	7.88	2.85	52.95	37.13	43.50	-6.37
409.856	16.26	4.35	45.87	39.41	46.00	-6.59
480.050	17.70	4.77	42.33	37.37	46.00	-8.63

Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer: *Martin Lu 2/12*

Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 800*600 37.5KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Horizontal dB	Emission Level Horizontal dBμV/m	Limits dBμV/m	Limits Over dBμV/m
50.002	7.65	1.39	22.30	31.34	40.00	-0.866
70.002	6.08	1.66	24.70	32.45	40.00	-7.55
109.988	12.77	2.10	23.80	38.66	43.50	-4.84
129.996	12.50	2.31	24.20	39.01	43.50	-4.49
144.013	11.66	2.46	24.50	38.63	43.50	-4.87
150.003	11.19	2.48	24.80	38.47	43.50	-5.03
160.008	10.90	2.59	25.40	38.89	43.50	-4.61
184.028	9.73	2.78	22.20	34.71	43.50	-8.79
209.963	9.84	2.99	18.60	31.43	43.50	-12.07
260.100	13.12	3.36	11.60	28.08	46.00	-17.92
336.077	14.51	3.90	15.60	34.01	46.00	-11.99
384.050	16.17	4.21	19.40	39.78	46.00	-6.22
480.038	17.32	4.77	16.20	38.29	46.00	-7.71

Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer: *Martin Lu 2/12*



Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 800*600 37.5KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Vertical dB	Emission Level Vertical dBμV/m	Limits dBμV/m	Limits Over dBμV/m
50.007	4.65	1.39	29.30	35.34	40.00	-4.66
70.014	7.58	1.66	25.70	34.94	40.00	-5.06
110.020	12.22	2.10	24.20	38.52	43.50	-4.98
129.985	11.97	2.31	24.80	39.08	43.50	-4.42
136.015	11.01	2.35	25.40	38.76	43.50	-4.74
149.966	9.66	2.48	26.30	38.44	43.50	-5.06
168.031	9.24	2.63	26.50	38.37	43.50	-5.13
176.021	9.93	2.73	26.20	38.86	43.50	-4.64
192.029	7.88	2.85	25.80	36.53	43.50	-6.97
216.020	8.73	3.03	18.60	30.37	46.00	-15.63
309.979	14.00	3.70	19.80	37.50	46.00	-8.50
487.620	17.80	4.79	12.80	35.39	46.00	-10.61
587.150	16.97	5.41	12.20	34.58	46.00	-11.42

Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer: *Martin W 2/12*

Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 1024*768 60KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Horizontal dB	Emission Level Horizontal dBμV/m	Limits dBμV/m	Limits Over dBμV/m
48.817	7.96	1.37	17.70	27.03	40.00	-12.97
72.002	6.45	1.69	19.20	27.35	40.00	-12.65
100.017	12.05	2.02	16.70	30.77	43.50	-12.73
144.028	11.66	2.46	23.80	37.93	43.50	-5.57
146.377	11.28	2.50	24.70	38.47	43.50	-5.03
162.668	10.87	2.61	24.70	38.18	43.50	-5.32
178.756	10.08	2.76	24.10	36.94	43.50	-6.56
216.268	9.67	3.05	20.40	33.12	46.00	-12.88
227.570	10.63	3.11	24.50	38.24	46.00	-7.76
381.956	16.12	4.20	18.90	39.22	46.00	-6.78
432.081	16.87	4.51	13.20	34.58	46.00	-11.42
503.856	17.33	4.89	15.40	37.62	46.00	-8.38
601.490	18.61	5.39	11.10	35.10	46.00	-10.90

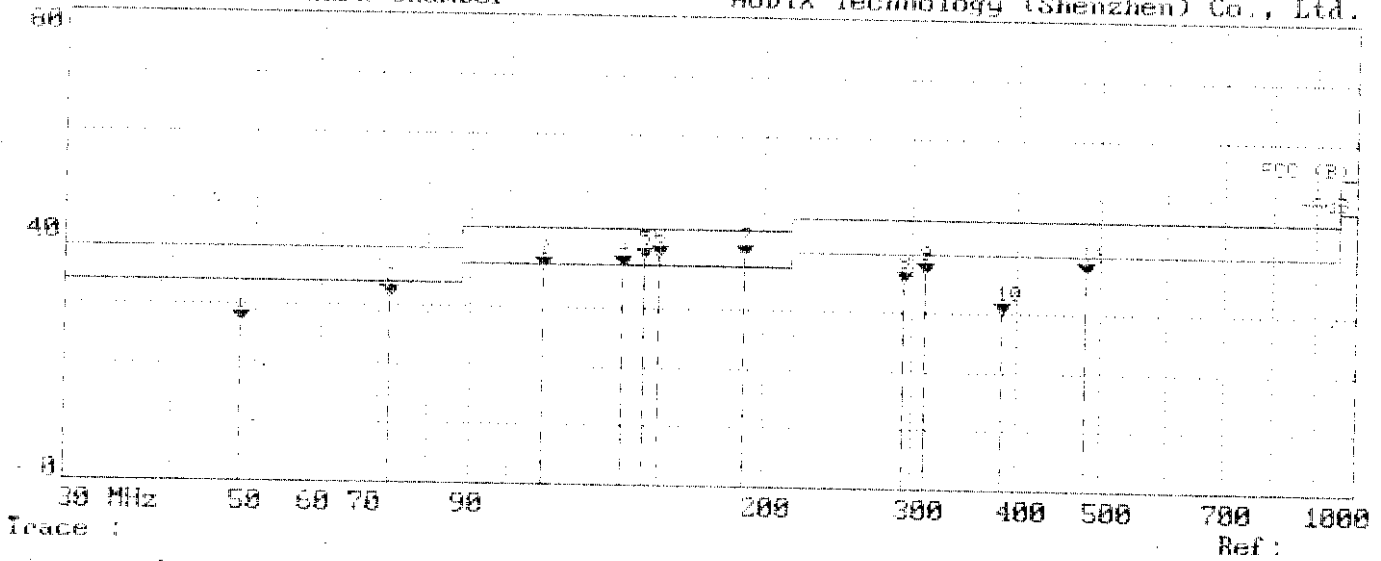
Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Date of Test	: Nov. 24, 1998	Temperature	: 27 °C
EUT	: LAVA LCD Monitor	Humidity	: 52%
Model No.	: P615U	Working Condition	: 1024*768 60KHz
Test Engineer	: Bright Xie		

Frequency MHz	Antenna Factor dB	Cable Loss dB	Meter Reading Vertical dB	Emission Level Vertical dB $\mu$ V/m	Limits dB $\mu$ V/m	Limits Over dB $\mu$ V/m
48.813	5.11	1.37	28.80	35.29	40.00	-4.71
72.008	7.58	1.69	26.20	35.47	40.00	-4.53
100.020	12.24	2.02	24.60	38.86	43.50	-4.64
130.120	11.97	2.31	23.10	37.38	43.50	-6.12
144.020	10.09	2.46	26.40	38.96	43.50	-4.54
152.015	9.40	2.49	27.20	39.09	43.50	-4.41
162.670	8.62	2.61	27.30	38.53	43.50	-4.97
168.025	9.24	2.63	26.90	38.77	43.50	-4.73
192.020	7.88	2.85	28.20	38.93	43.50	-4.57
216.025	8.81	3.05	20.40	32.26	46.00	-13.74
309.087	14.00	3.70	22.10	39.80	46.00	-6.20
398.208	15.97	4.30	18.50	38.77	46.00	-7.23
503.833	17.86	4.89	18.80	41.55	46.00	-4.45
601.420	17.06	5.38	16.60	39.03	46.00	-6.97

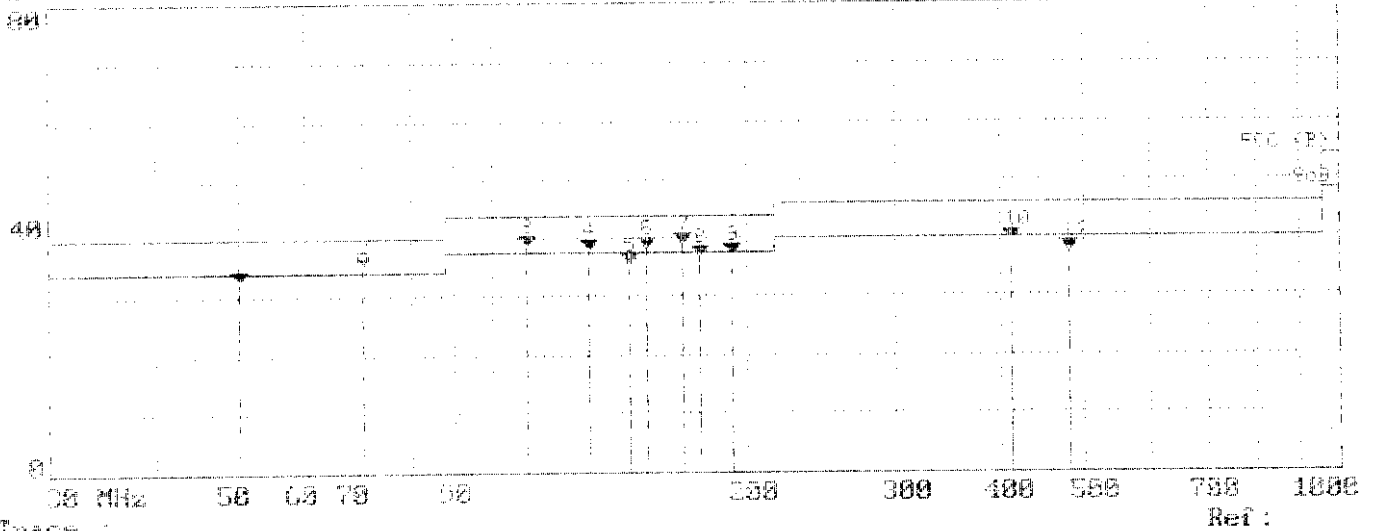
Calculation: Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer : Martini on 2/12



Trace :  
 Limit : EMI\_V1\_01  
 Title : EMI Test Result  
 Weight : 1.0  
 EMI : IAVA LCN Method: Y/N:0/150  
 Power : 1000.00Hz  
 Y-axis : 0.01dBV/1.02Hz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	48.020	26.61	-13.39	40.00	16.96	9.65	1.36	0.00	OP
2	72.011	31.85	-8.15	40.00	21.50	8.45	1.69	0.00	OP
3	110.006	36.78	-3.22	40.00	21.90	12.77	2.10	0.00	OP
4	110.011	37.19	-2.81	40.00	21.70	12.14	2.35	0.00	OP
5	140.021	38.57	-1.43	40.00	24.40	11.66	2.46	0.00	OP
6	140.006	38.07	-1.93	40.00	25.40	11.19	2.46	0.00	OP
7	169.957	38.16	-1.84	40.00	26.70	9.60	2.84	0.00	OP
8	180.350	37.06	-2.94	40.00	18.20	19.40	3.37	0.00	OP
9	310.001	36.85	-3.15	40.00	18.00	18.84	3.71	0.00	OP
10	304.150	30.18	-9.82	40.00	19.00	16.17	4.21	0.00	OP
11	400.000	36.89	-3.11	40.00	17.90	17.30	4.77	0.00	OP

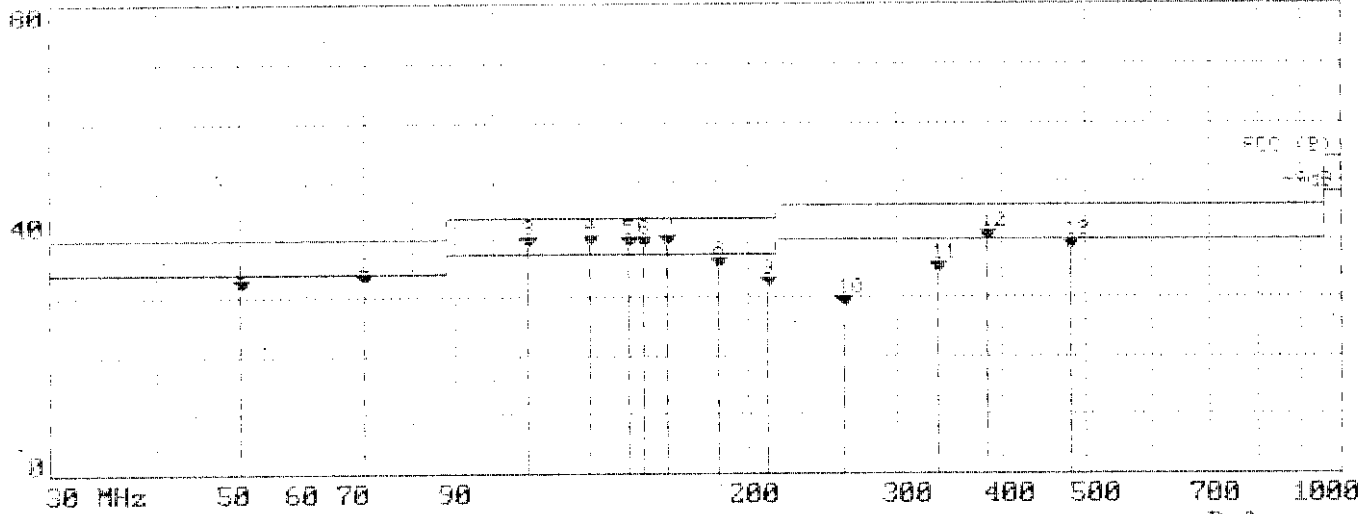


Trace 1

Ref:

Unit: 100 (dB) / 1  
 Probe: 2176 VERT-A  
 Type: SDR  
 Part: LAVA LED Mod. for M. N: 9614  
 Power: 100W/60Hz  
 Mod: 1400AOP 11.5 Hz

	Freq	Level	Over	Limit	Read	Perf	Cable	Pre-amp	
	MHz	dB	Limit	dB	Level	Factor	Loss	Factor	Result
			dB	dB	dB	dB	dB	dB	
1	50.000	32.64	7.36	40.00	53.54	4.65	1.39	26.94	QP
2	70.010	35.24	-4.76	40.00	51.50	3.58	1.60	26.58	QP
3	100.005	38.97	-1.03	43.50	51.07	12.20	0.10	26.77	GF
4	130.021	37.77	3.72	43.50	50.27	11.07	0.31	26.77	QP
5	174.075	35.30	8.19	43.50	49.52	10.01	0.49	26.72	QP
6	224.010	38.09	5.41	43.50	50.40	9.40	0.49	26.66	QP
7	290.020	38.97	4.53	43.50	53.73	8.24	0.63	26.63	QP
8	370.038	36.36	-6.64	43.50	50.83	9.93	0.73	26.63	GF
9	480.030	37.13	-6.37	43.50	50.95	7.66	0.85	26.55	QP
10	620.050	39.71	-3.59	40.00	49.97	10.25	4.35	27.07	QP
11	800.050	37.87	8.93	40.00	42.32	17.70	4.77	27.43	QP



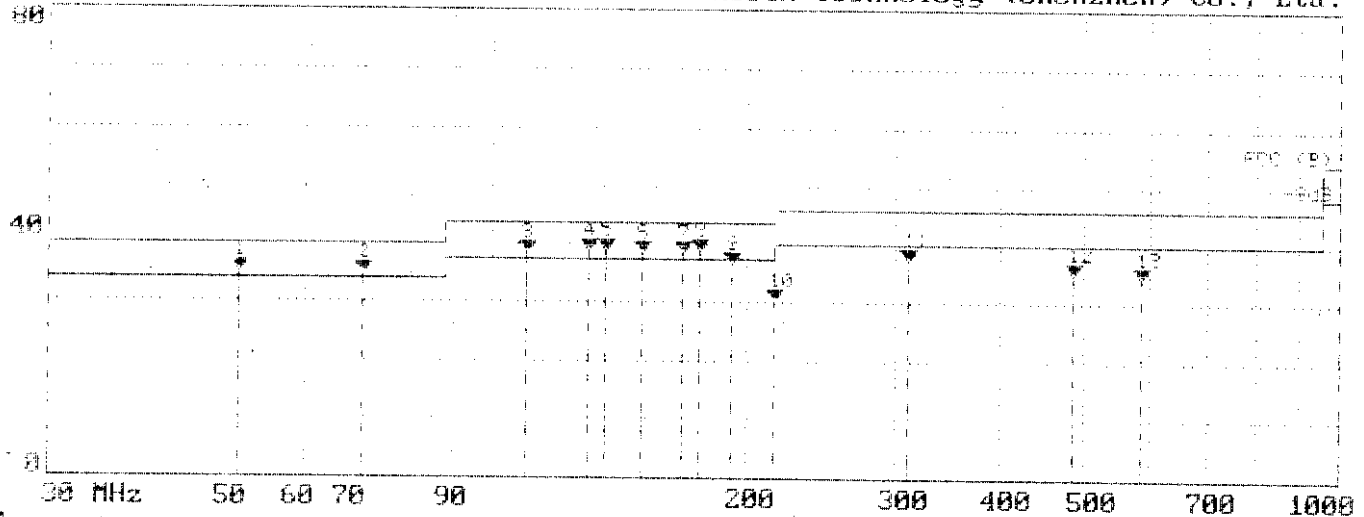
Trace 1

Ref:

Limit : FCC (B) (A)  
 Scale : 11.76 HORIZONTAL  
 Marginal : -0.01  
 Filter : 14VA 120V 50 Hz Noise 150  
 Power : 100W/100Hz  
 Mod : 100% ON 10.7 Hz

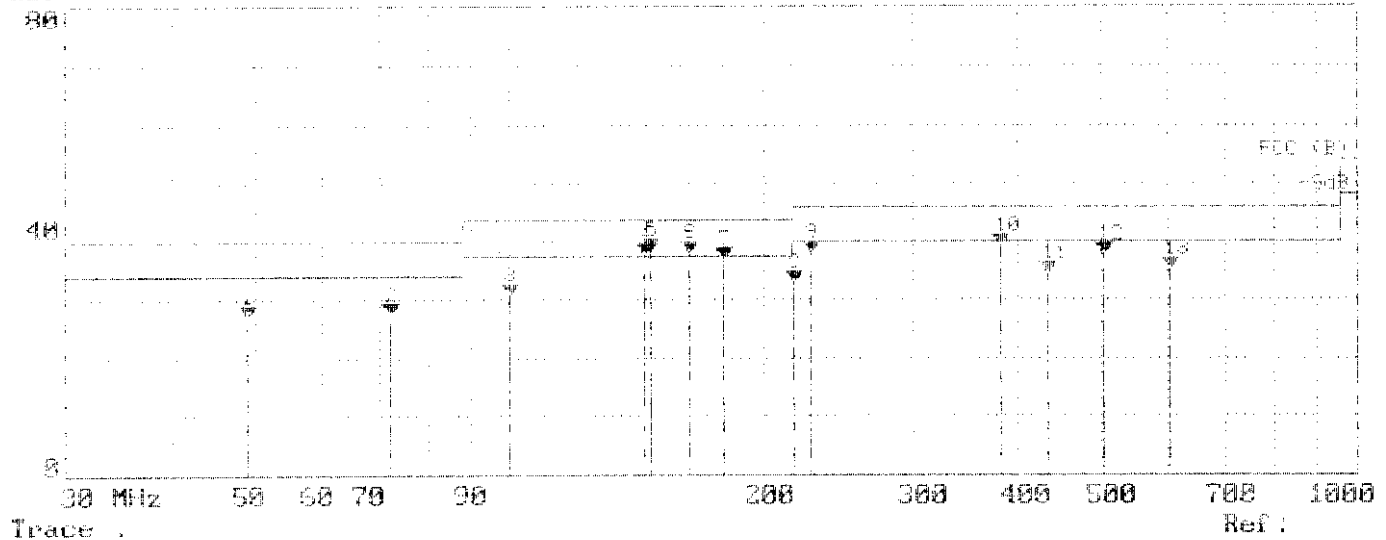
Page: 1

	Freq	Level	Over	Limit	Lead	Probe	Cable	Preamp	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	50.000	31.24	-6.66	47.00	2.30	7.65	1.39	0.00	OP
2	70.000	32.41	-7.59	48.00	14.70	6.38	1.66	0.00	OP
3	100.000	38.96	-4.04	48.50	25.80	12.77	2.10	0.00	OP
4	115.000	39.01	-3.49	43.50	24.20	12.50	2.21	0.00	OP
5	144.015	38.63	-4.87	43.50	24.50	11.66	2.46	0.00	OP
6	150.000	36.27	-5.03	43.50	24.30	11.19	2.48	0.00	OP
7	160.000	36.89	-4.61	43.50	25.40	10.90	2.59	0.00	OP
8	184.018	34.71	-3.79	43.50	22.20	9.73	2.74	0.00	OP
9	200.967	31.44	-12.07	43.50	18.60	9.84	2.99	0.00	OP
10	240.100	27.06	-17.44	44.00	11.50	11.10	3.26	0.00	OP
11	336.077	34.01	-11.99	46.00	15.60	14.51	3.90	0.00	OP
12	360.000	29.73	-8.77	46.00	17.40	16.17	4.21	0.00	OP
13	480.000	38.29	-7.71	46.00	16.20	17.30	4.77	0.00	OP



Trace :  
 Limit : 1.00 (0.00)  
 Probe : 1176 VERTICAL  
 Margin : -0.01  
 ZF : LAVA 115 Monitor X.N:R615U  
 Power : 100V/60Hz  
 Yaws : 300/500 37.5KHz

	freq	Level	Over Limit	Limit	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	40.007	35.34	-4.66	40.00	39.30	4.01	1.39	0.00	OP
2	70.014	34.94	-5.06	40.00	33.70	3.56	1.66	0.00	OP
3	100.020	38.11	-1.89	40.00	34.20	12.22	0.10	0.00	OP
4	120.005	39.00	-1.00	40.00	34.30	11.97	0.31	0.00	OP
5	140.015	38.74	-1.26	40.00	35.40	11.01	0.35	0.00	OP
6	160.066	38.41	-1.59	40.00	26.30	9.66	1.45	0.00	OP
7	180.031	38.37	-1.63	40.00	26.50	9.24	0.65	0.00	OP
8	190.021	38.86	-1.14	40.00	26.20	9.93	0.73	0.00	OP
9	200.029	38.17	-1.83	40.00	25.80	7.00	0.35	0.00	OP
10	210.030	38.37	-1.63	40.00	19.60	8.73	3.03	0.00	OP
11	300.000	37.50	-2.50	40.00	19.80	14.00	1.70	0.00	OP
12	400.000	35.00	-5.00	40.00	12.30	17.00	4.70	0.00	OP
13	500.000	34.56	-5.44	40.00	11.00	16.97	5.41	0.00	OP

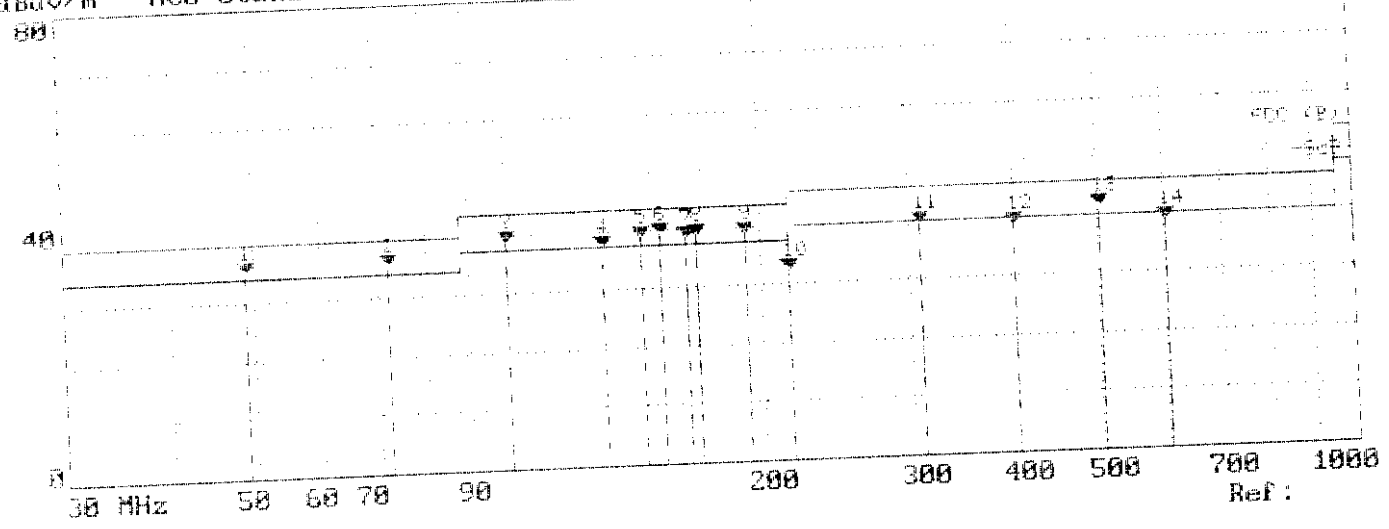


Trace 1  
 Limit : 500 uB/Hz  
 Scale : 2176 HORIZONTAL  
 Margin : 4dB  
 SSI : LAVA LCD Mod. for MORN/DINK  
 Powr : 100V/50Hz  
 Y-axis : 101.476G 60KHz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	40.017	27.03	-11.97	40.00	17.70	7.96	1.37	0.00	QP
2	72.000	27.05	-10.65	40.00	19.00	6.45	1.60	0.00	QP
3	100.017	30.77	-10.73	40.50	16.70	12.05	2.02	0.00	QP
4	144.020	37.03	-5.57	40.50	23.80	11.66	2.46	0.00	QP
5	144.377	35.47	-5.03	40.50	24.70	11.06	2.50	0.00	QP
6	160.660	38.10	-2.39	40.50	24.70	10.07	2.61	0.00	QP
7	178.756	36.04	-4.56	40.50	24.10	10.08	2.76	0.00	QP
8	216.200	34.10	-6.60	40.00	20.10	9.67	3.05	0.00	QP
9	297.570	38.04	-2.76	40.00	24.50	10.63	3.11	0.00	QP
10	381.956	39.00	-1.78	40.00	18.90	16.12	4.20	0.00	QP
11	432.000	34.50	-5.48	40.00	13.00	16.87	4.51	0.00	QP
12	503.050	37.00	-2.78	40.00	15.40	17.32	4.89	0.00	QP
13	604.400	35.10	-4.90	40.00	11.10	18.61	5.39	0.00	QP

Date# 84 File# GES.EMI  
 dBu/m ACS Standard Chamber

Date: 11-24-1998 Time: 15:51:33  
 AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
 Limit : 46 (dB) LP  
 Probe : 2176 VERTICAL  
 Margin: -6dB  
 Ref : LAZA L12 M2 - Freq M: N1P6150  
 Power : 100V/60Hz  
 Mod : 1024/168 eOKHz

	Freq	Level	Over	Limit	Read	Probe	Cable	Preamb	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	48.413	35.29	-4.71	40.00	28.80	5.11	1.37	0.00	OP
2	72.000	37.47	-4.53	42.00	26.23	7.50	1.09	0.00	OP
3	100.000	38.06	-4.64	43.50	24.60	12.24	2.00	0.00	OP
4	120.120	37.33	-6.12	43.50	23.10	11.97	1.31	0.00	OP
5	144.000	36.96	-4.54	42.50	26.40	10.09	1.46	0.00	OP
6	180.015	39.09	-4.41	43.50	27.20	9.40	2.49	0.00	OP
7	162.671	38.53	-4.97	43.50	27.30	8.62	2.61	0.00	OP
8	180.025	38.77	-4.73	43.50	26.90	9.24	2.63	0.00	OP
9	192.000	38.91	-4.57	43.50	28.10	7.88	2.85	0.00	OP
10	216.015	38.26	-13.74	46.00	20.00	8.01	1.05	0.00	OP
11	239.007	39.80	-6.80	46.00	21.10	14.00	3.70	0.00	OP
12	208.201	38.77	-7.23	46.00	18.50	15.97	4.30	0.00	OP
13	270.631	41.55	-4.45	46.00	18.80	17.86	4.39	0.00	OP
14	301.439	41.02	-6.97	46.00	16.60	17.06	5.30	0.00	OP



FCC/MELLOW

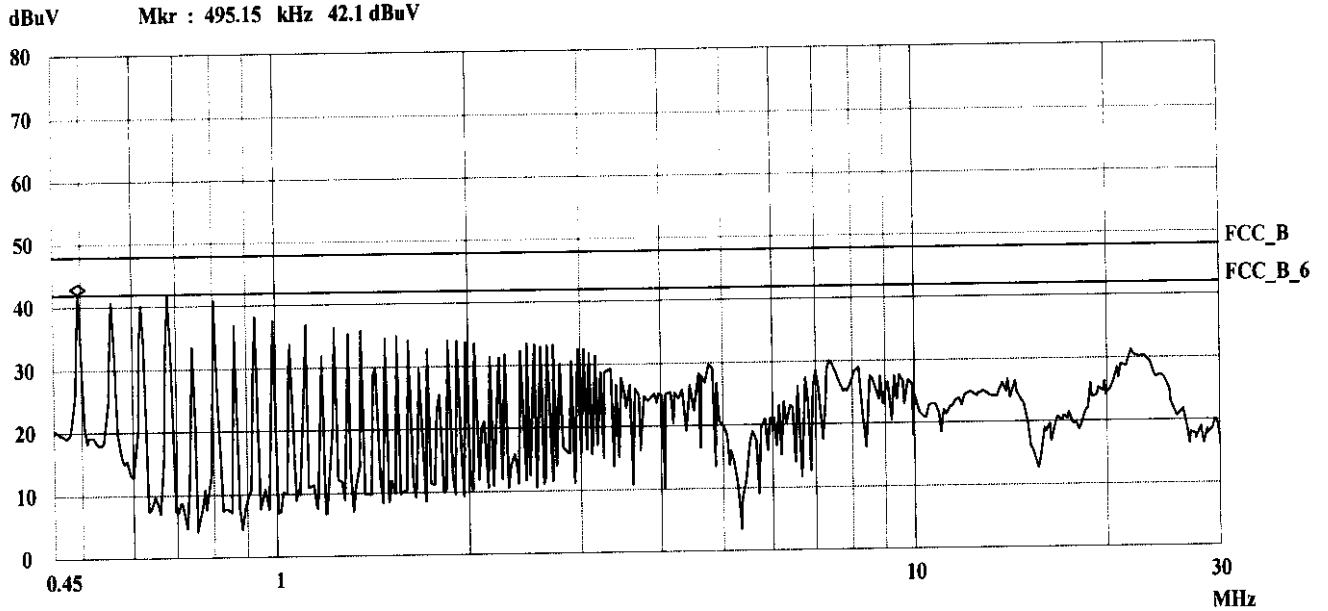
DEC 28 1998

# APPENDIX I

# Conduction Test FCC B

24. Nov 98 21:36

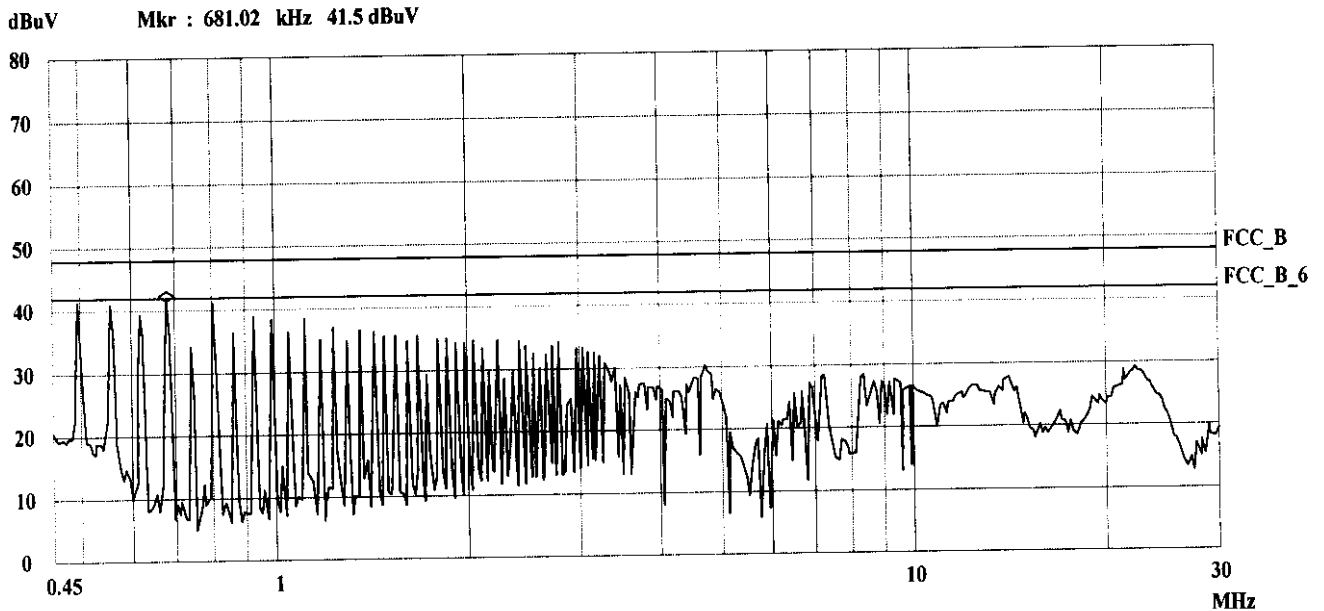
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 640\*480 31.5KHz  
Operator: Cherry  
Test Spec: VA 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# Conduction Test FCC B

24. Nov 98 21:39

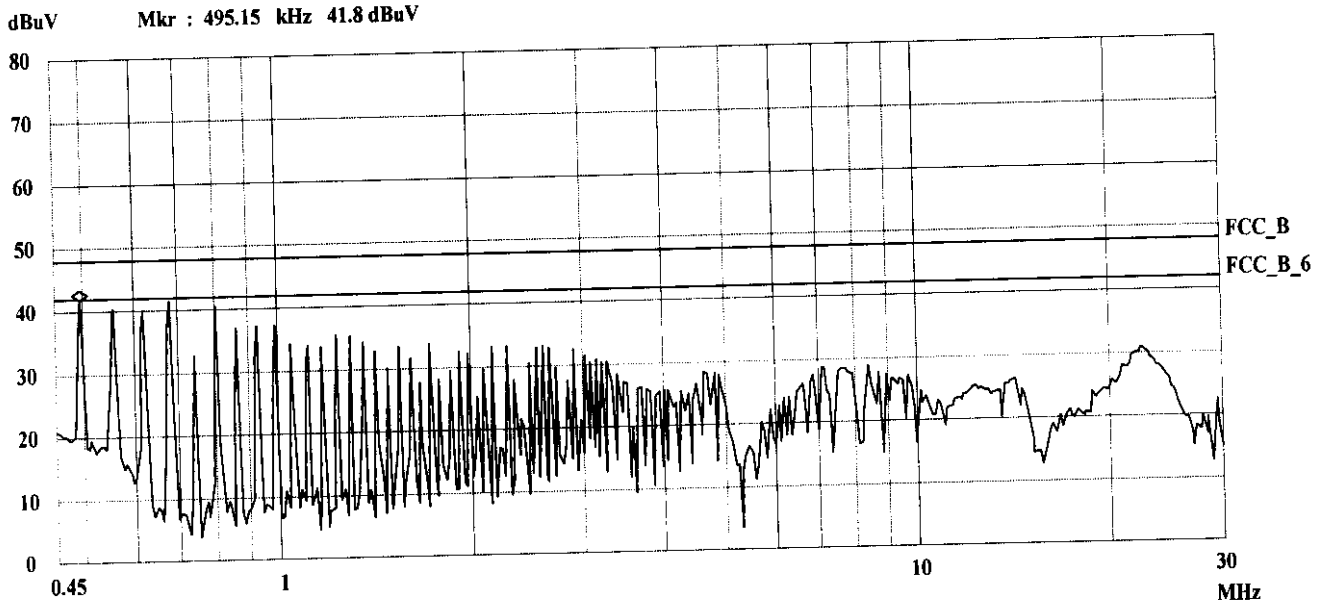
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 640\*480 31.5KHz  
Operator: Cherry  
Test Spec: VB 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# Conduction Test FCC B

24. Nov 98 21:33

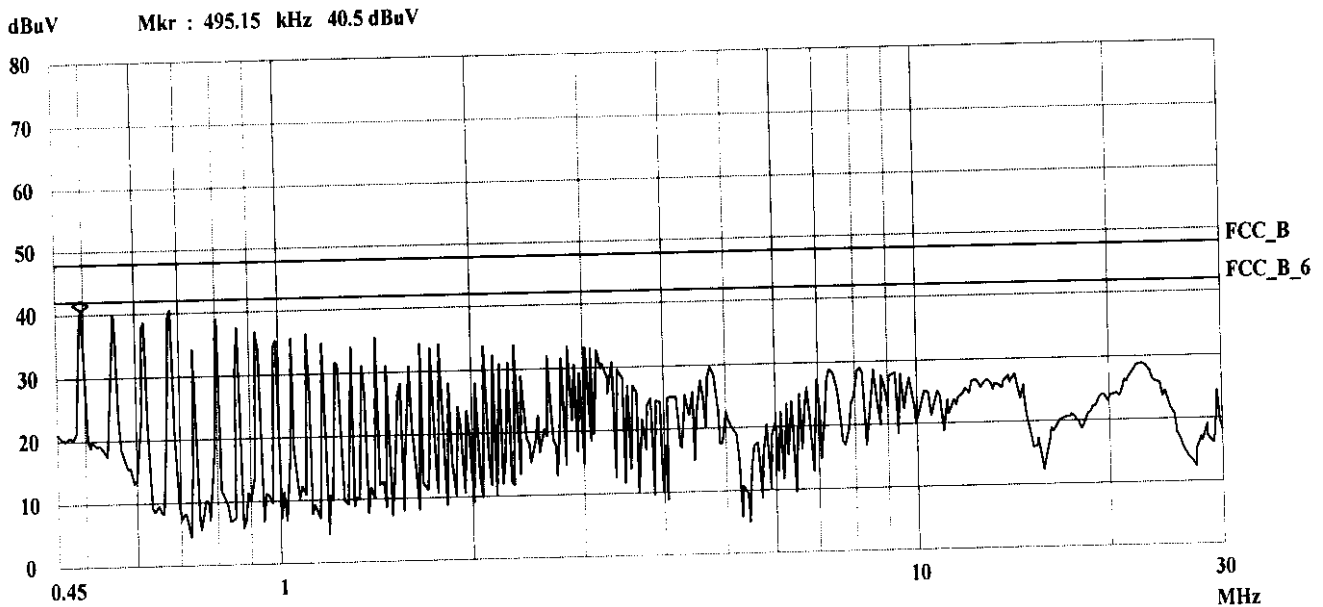
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 800\*600 37.5KHz  
Operator: Cherry  
Test Spec: VA 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# Conduction Test FCC B

24. Nov 98 21:30

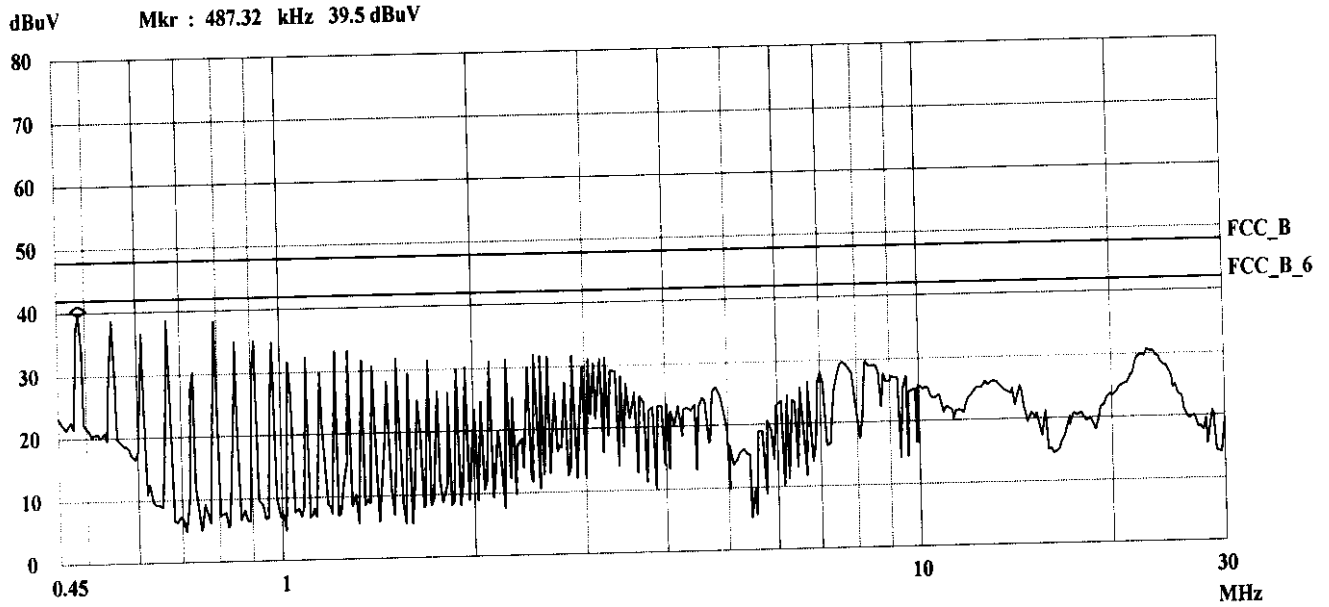
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 800\*600 37.5KHz  
Operator: Cherry  
Test Spec: VB 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# Conduction Test FCC B

24. Nov 98 21:15

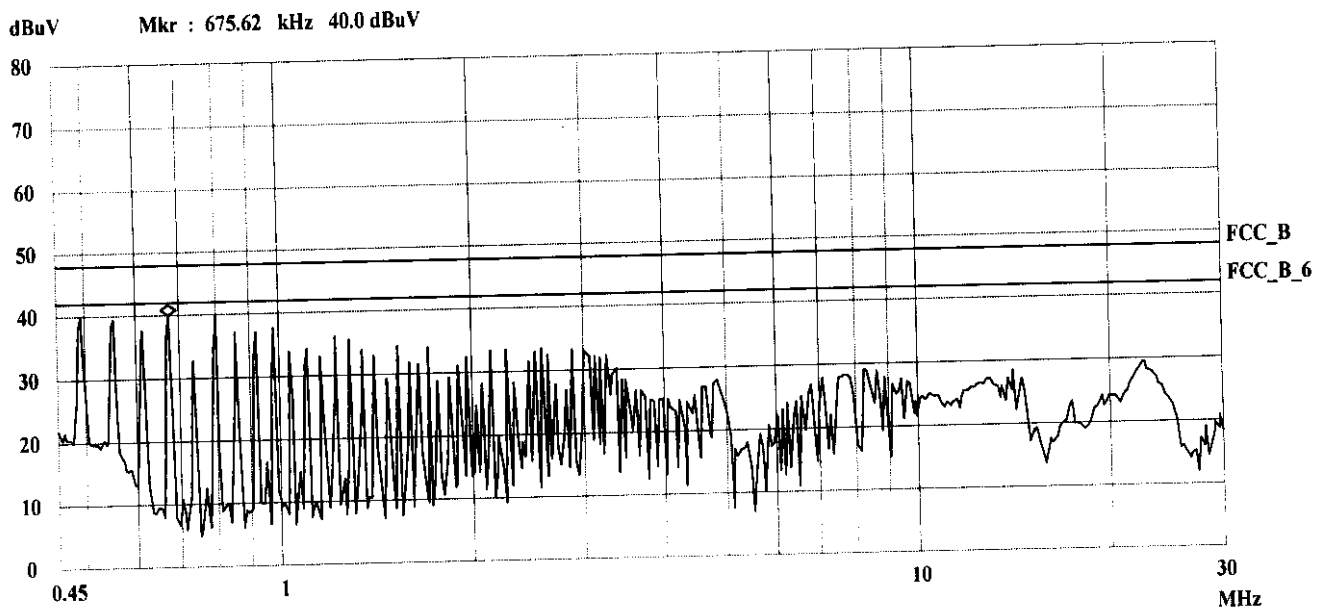
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 1024\*768 60KHz  
Operator: Cherry  
Test Spec: VA 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# Conduction Test FCC B

24. Nov 98 21:22

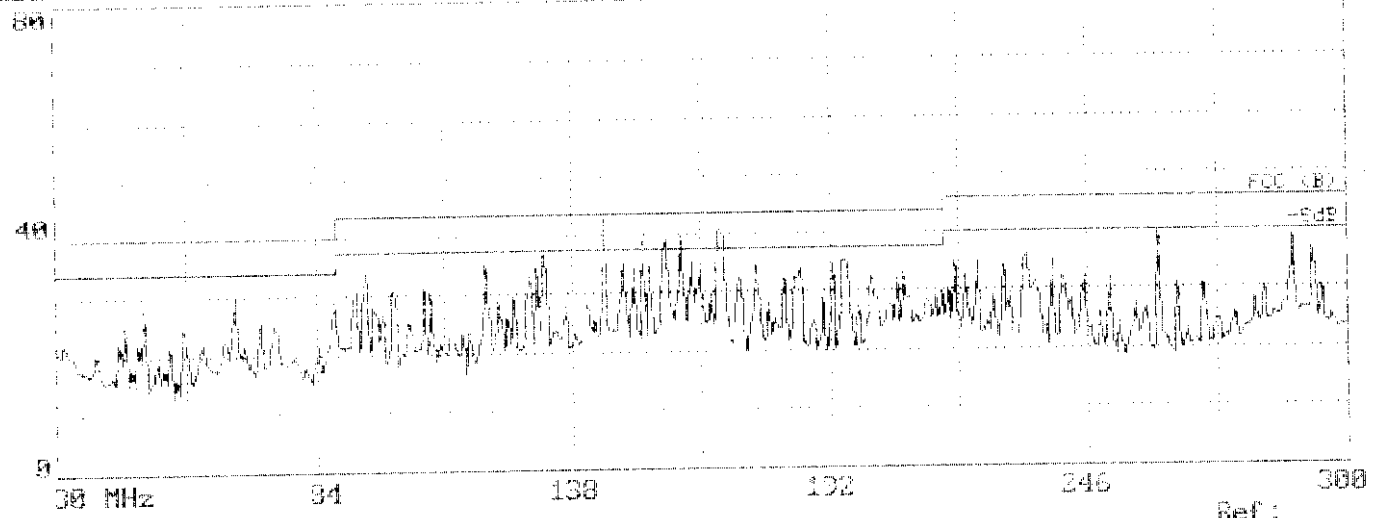
EUT: LAVA LCD Monitor M/N:P615U  
Manuf: GES  
Op Cond: 1024\*768 60KHz  
Operator: Cherry  
Test Spec: VB 120V/60Hz  
Comment: Temp:27°C  
Humi:42%



# APPENDIX II

Data#: 00 File#: GES.EMI  
dBuV/m ACS Standard Chamber

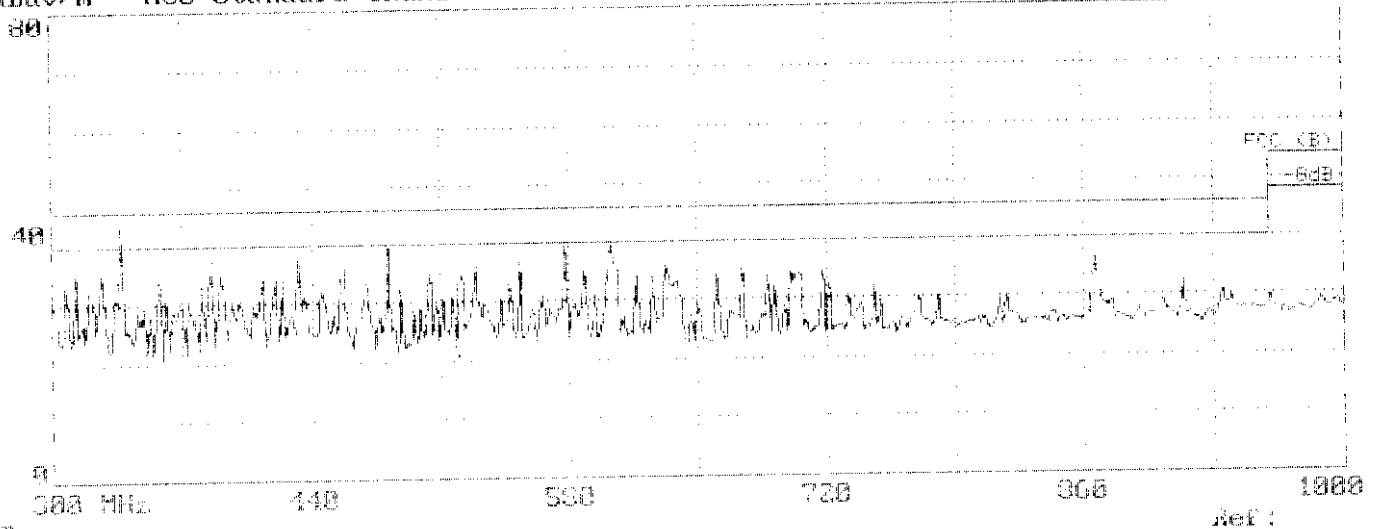
Date: 11-23-1998 Time: 11:44:00  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Limit : F00 (dB)  
Tol : 10% HORIZONTAL  
Mod : 10dB  
EUT : DAVA 100 Mhz to M NIPALTD  
Power : 100V/50Hz  
Modu : 0.40M50 01.5KHz

Data#: 01 File#: GES.EMI  
dBuV/m ACS Standard Chamber

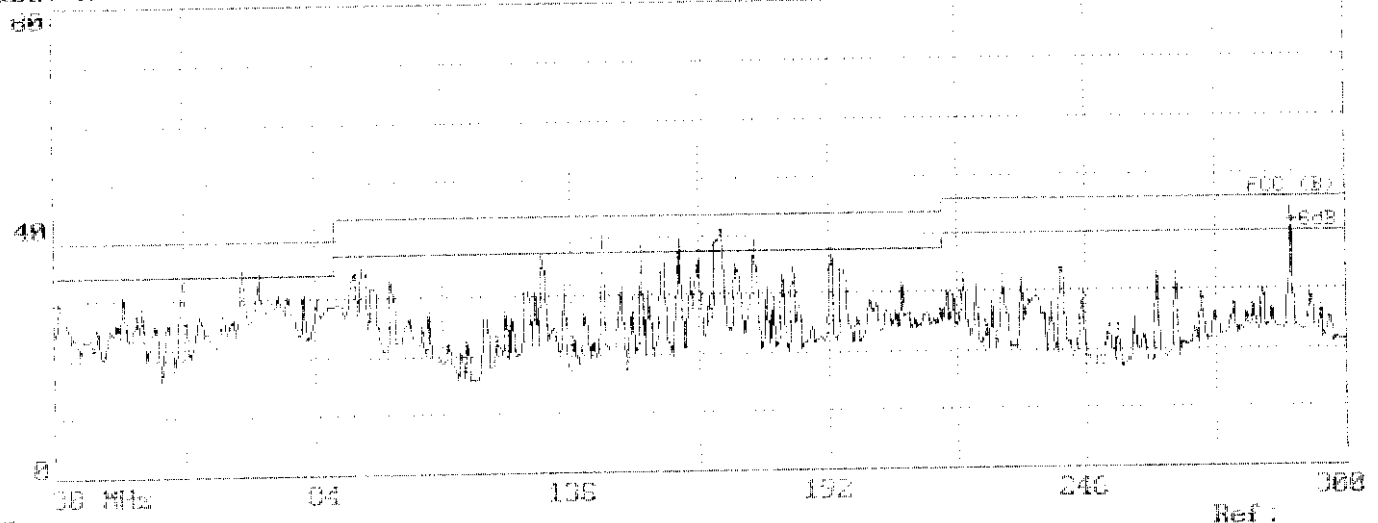
Date: 11-23-1998 Time: 11:45:33  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Limit : F00 (dB)  
Tol : 10% HORIZONTAL  
Mod : 10dB  
EUT : DAVA 100 Mhz to M NIPALTD  
Power : 100V/50Hz  
Modu : 0.40M50 01.5KHz

Data#: 82 File#: GES.EMI  
dBuV/m ACS Standard Chamber

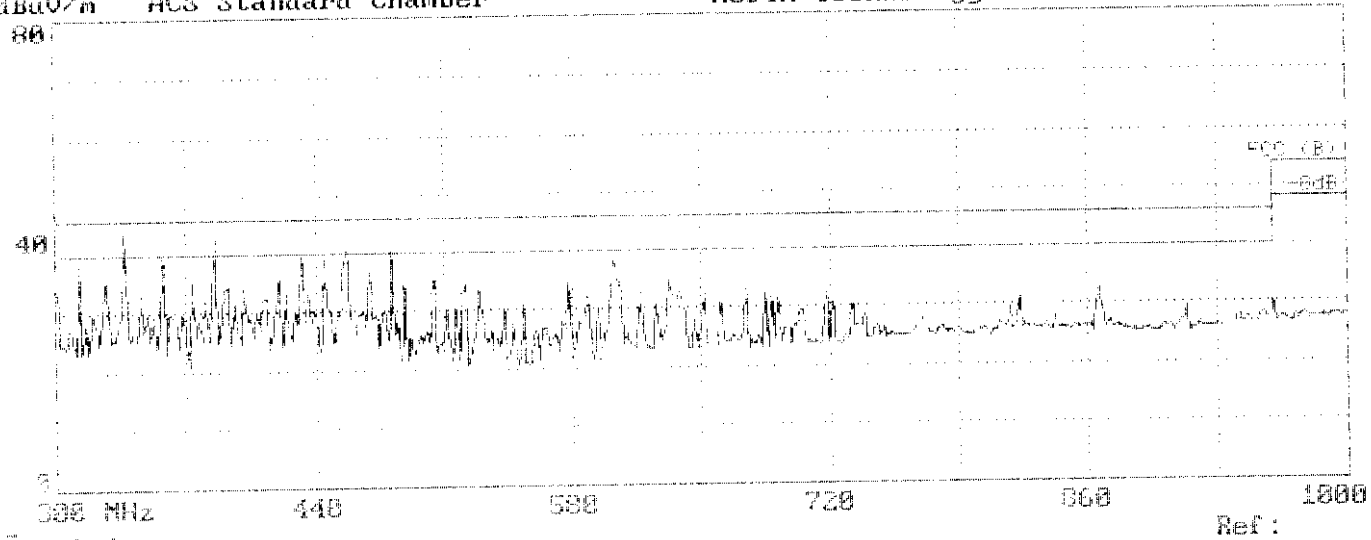
Date: 11-23-1998 Time: 11:45:48  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Unit : dB (B) 30  
Probe : 0176 VERTICAL  
Margin : 6dB  
EUT : LAVA LCD Monitor MAN:PG15U  
Power : 100V/60Hz  
Noise : 640/480 31.5KHz  
:  
:  
:

Data#: 83 File#: GES.EMI  
dBuV/m ACS Standard Chamber

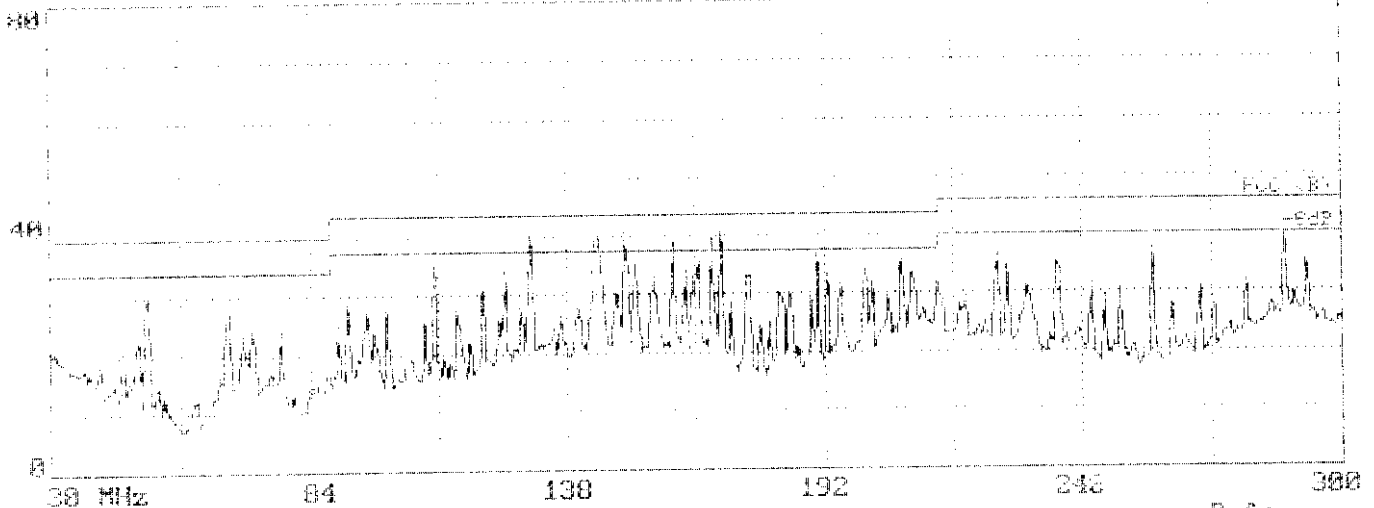
Date: 11-23-1998 Time: 11:47:49  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Unit : dB (B) 30  
Probe : 0176 VERTICAL  
Margin : 6dB  
EUT : LAVA LCD Monitor MAN:PG15U  
Power : 100V/60Hz  
Noise : 640/480 31.5KHz  
:  
:  
:

Date# 79 File# GES.EMI  
dBuV/m ACS Standard Chamber

Date: 11-23-1998 Time: 11:37:43  
AUDIX Technology (Shenzhen) Co., Ltd.



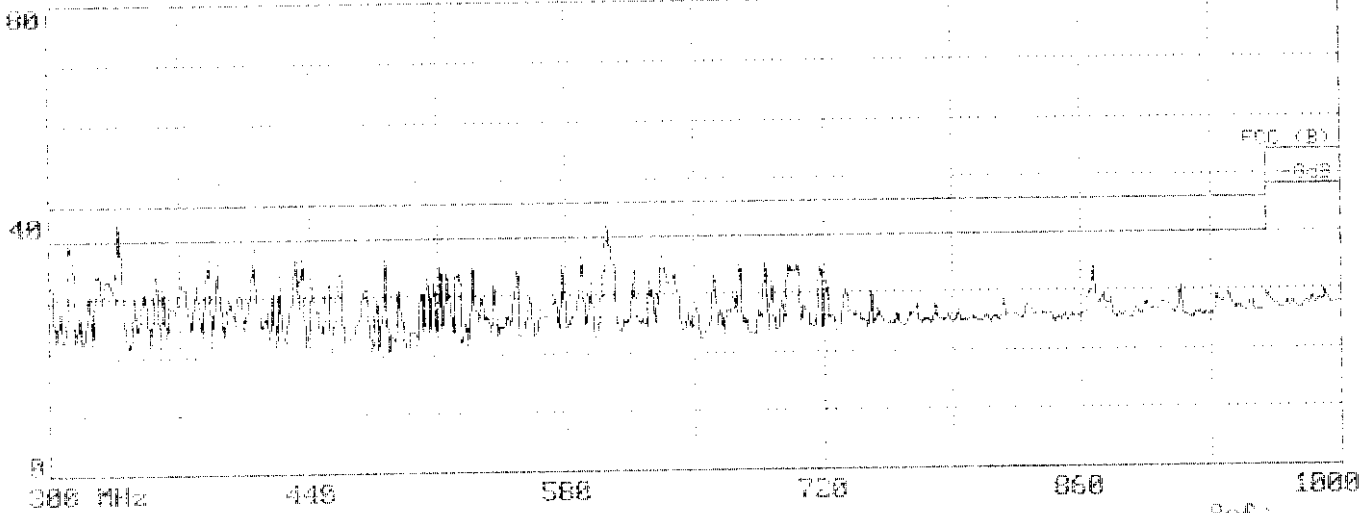
Trace :

Unit : dB (A) 10  
Scale : 1170 HORIZONTAL  
Margin : 0dB  
SFT : LAVA 10 Y-axis MIN:PO150  
Power : 100V/60Hz  
Max : 0004.00 AT 100Hz

Ref :

Date# 79 File# GES.EMI  
dBuV/m ACS Standard Chamber

Date: 11-23-1998 Time: 11:39:38  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :

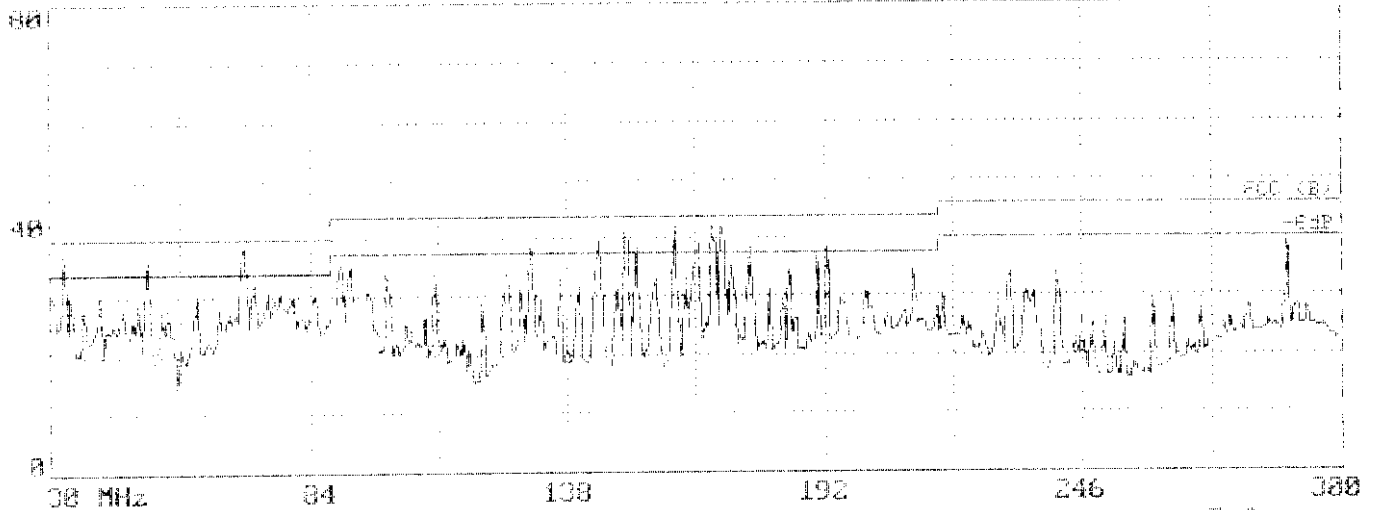
Unit : dB (B) 10  
Scale : 1170 HORIZONTAL  
Margin : 0dB  
SFT : LAVA 10 Y-axis MIN:PO150  
Power : 100V/60Hz  
Max : 0004.00 AT 100Hz

Ref :



Data#: 76 Filed: CES.EMI  
dBu/m ACS Standard Chamber

Date: 11-23-1998 Time: 11:35:13  
AUDIX Technology (Shenzhen) Co., Ltd.



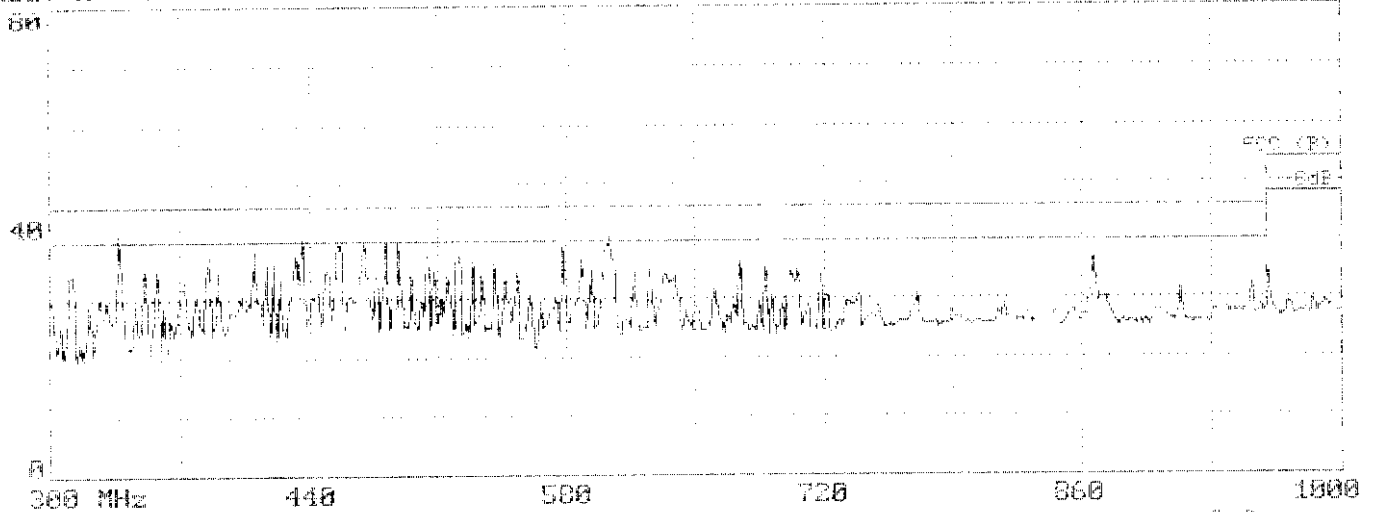
Trace :

Ref :

Amplitude : F00 (dB) 10  
Probe : 2176 VERTICAL  
Margin : 0dB  
TUT : LAVA 100 MHz (LL) M-NIC0150  
Power : 100V 60Hz  
Year : 2001000 37.71%

Data#: 77 Filed: CES.EMI  
dBu/m ACS Standard Chamber

Date: 11-23-1998 Time: 11:36:26  
AUDIX Technology (Shenzhen) Co., Ltd.



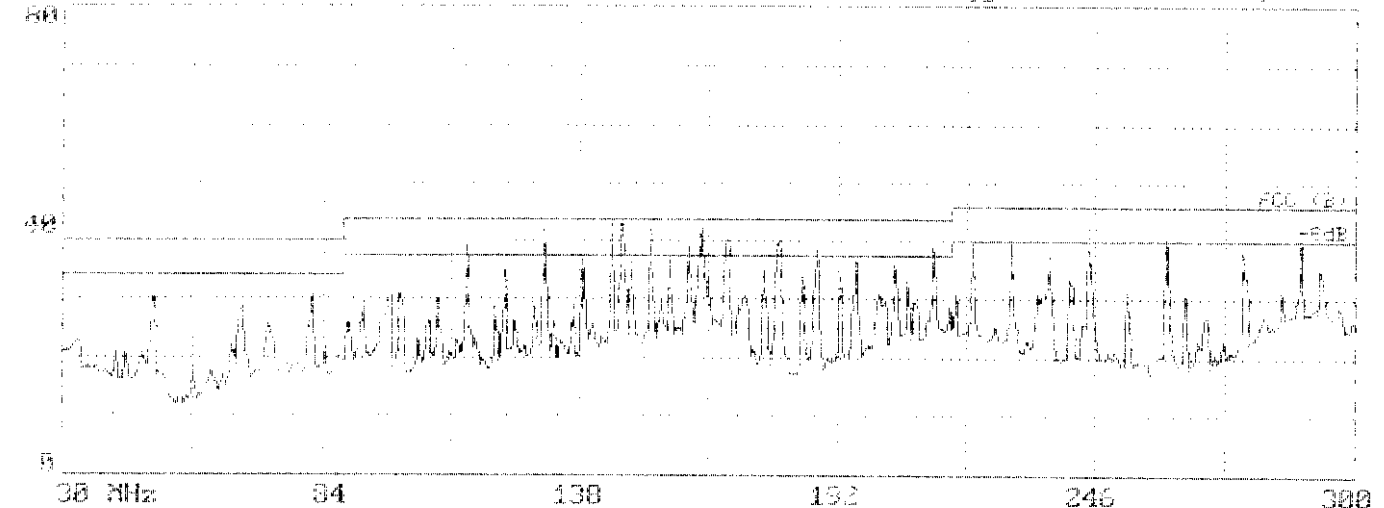
Trace :

Ref :

Amplitude : F00 (dB) 10  
Probe : 2176 VERTICAL  
Margin : 0dB  
TUT : LAVA 100 MHz (LL) M-NIC0150  
Power : 100V 60Hz  
Year : 2001000 37.71%

Data#: 72 File#: GES.EMI

Date: 11-23-1996 Time: 11:29:11  
AUDIX Technology (Shenzhen) Co., Ltd.

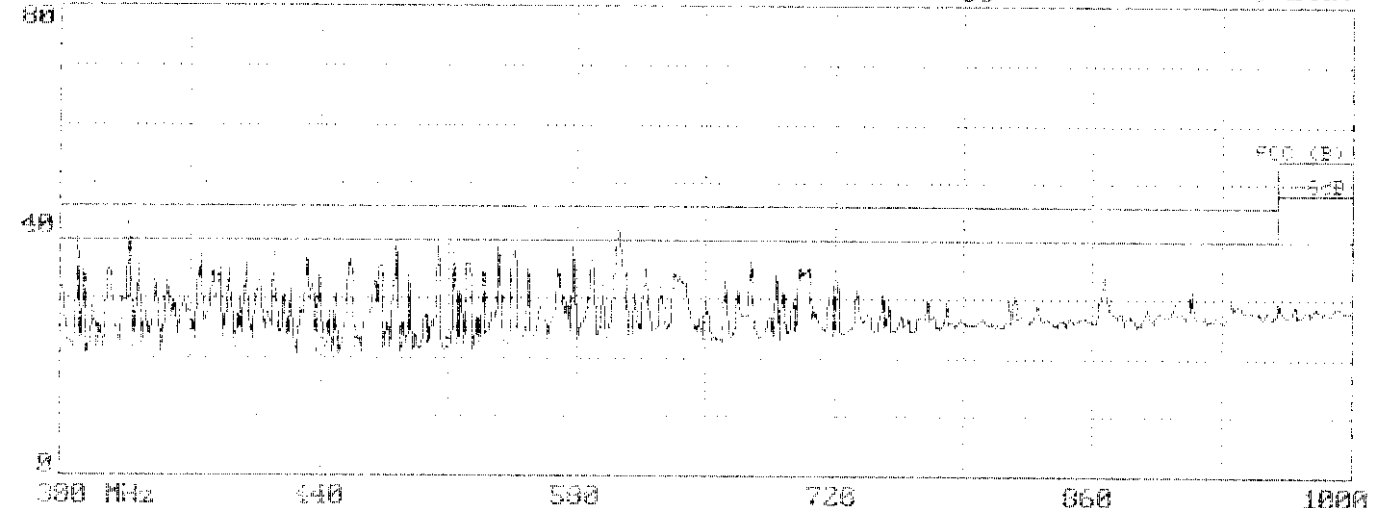


Trace : Ref :

Limit : FCC (B) 30  
 Preset : 0170 HORIZONTAL  
 Margin : 3dB  
 EUT : LAVA 100 Mod 10 M/N: P.150  
 Power : 100V/60Hz  
 Mode : 1004 1700 60KHz  
 :  
 :

Data#: 73 File#: GES.EMI

Date: 11-23-1996 Time: 11:38:57  
AUDIX Technology (Shenzhen) Co., Ltd.

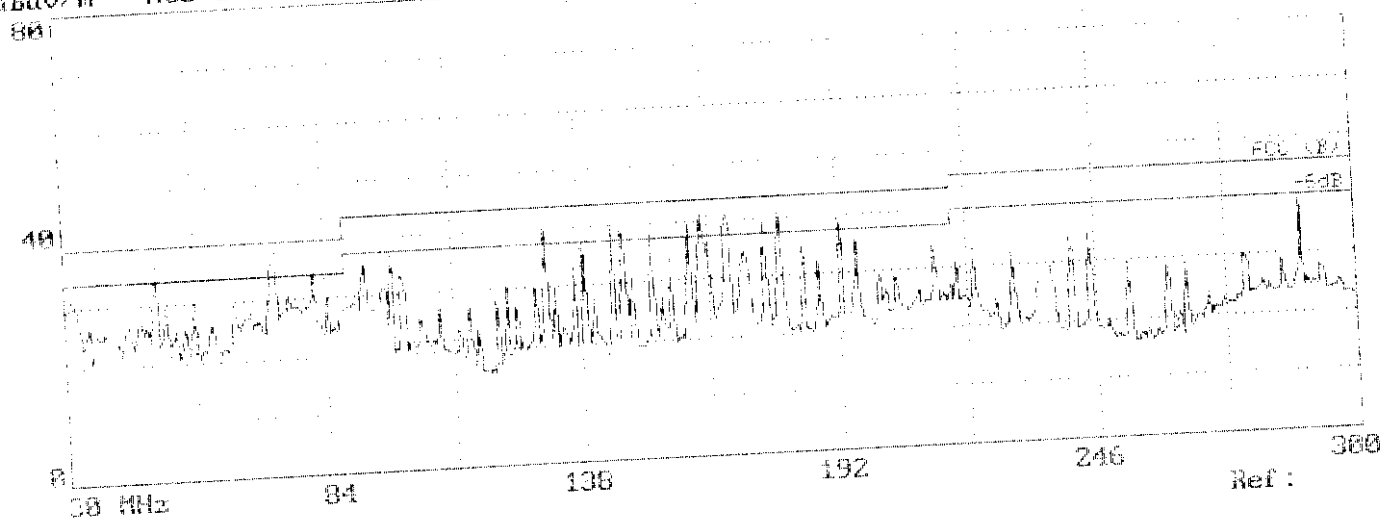


Trace : Ref :

Limit : FCC (B) 30  
 Preset : 0170 HORIZONTAL  
 Margin : 3dB  
 EUT : LAVA 100 Mod 10 M/N: P.150  
 Power : 100V/60Hz  
 Mode : 1004 1700 60KHz  
 :  
 :

Date: 11-23-1998 Time 11:31:55  
Data#: 74 File#: GES.EMI  
dBuV/m ACS Standard Chamber

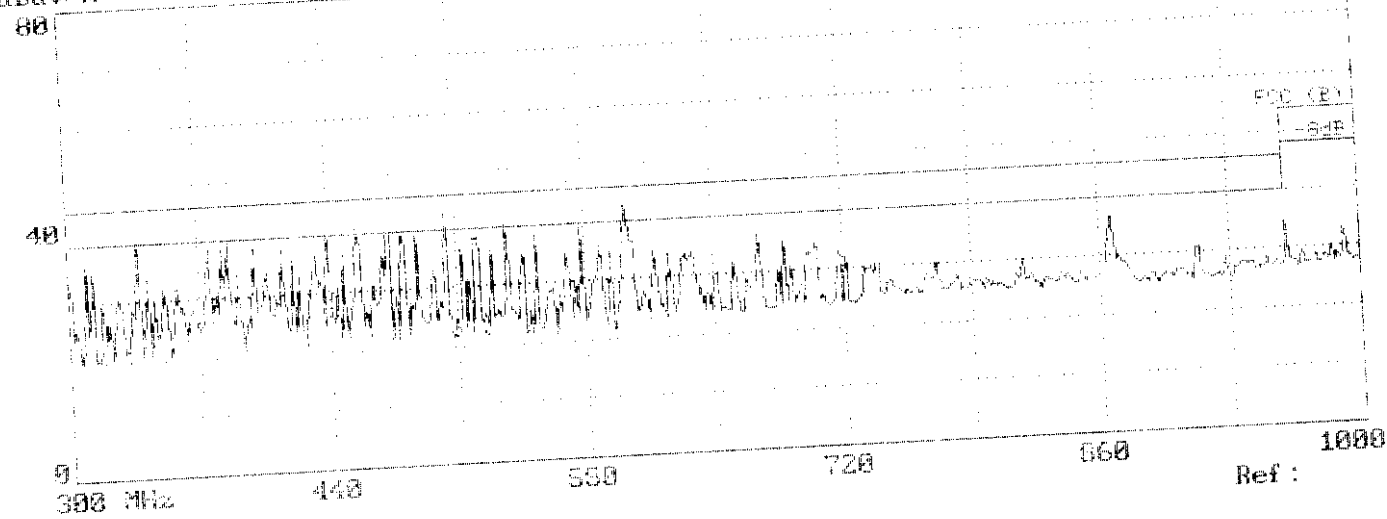
Date: 11-23-1998 Time 11:31:55  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Limit : F00 (dB) 30  
Type : 0.176 VERTICAL  
Margin : 0dB  
EUT : LAVA LCD Monitor M/N:96150  
Power : 120V/60Hz  
Mode : 1024\*768 60KHz

Date: 11-23-1998 Time: 11:33:10  
Data#: 75 File#: GES.EMI  
dBuV/m ACS Standard Chamber

Date: 11-23-1998 Time: 11:33:10  
AUDIX Technology (Shenzhen) Co., Ltd.



Trace :  
Limit : F00 (dB) 30  
Type : 0.176 VERTICAL  
Margin : 0dB  
EUT : LAVA LCD Monitor M/N:16150  
Power : 120V/60Hz  
Mode : 1024\*768 60KHz