Application for FCC Certificate
On Behalf of
LG Electronics U.S.A Inc.

LCD Monitor

Model No.: L1919SS
Serial No.: E07010604

FCC ID : BEJL1953SS

Prepared For : LG Electronics U.S.A Inc.
2000 Millbrook Dr.Lincolnshire,
IL 60069 United States

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F07004
Date of Test : Jan 17, 2007
Date of Report : Jan 23, 2007

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TEST REPORT FOR FCC CERTIFICATE

Applicant	:	LG Electronics U.S.A Inc.
Manufacturer	:	LG Electronics Nanjing Display Co., Ltd.
EUT Description	:	LCD Monitor
		(A) Model No. : L1919SS
		(B) Serial No. : E07010604
		(C) Power Supply : 120V/60Hz

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B 2006.10 AND ANSI C63.4-2003

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B (Class B) and ICES-003, Issue 4 February 2004 (CISPR 22:2002) limits both radiated and conducted emissions.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: L1919SS; S/N: E07010604) which was tested in 10m anechoic chamber on Jan 17, 2007 is technically compliance with the FCC official limits also.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report contains data that are not covered by the NVLAP accreditation.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Jan 17, 2007

Prepared By: Kathy Wang 2007.1.30
KATHY WANG / Assistant

Reviewer: Sammy Chen 2007.01.30
SAMMY CHEN / Deputy Assistant Manager

AUDIX®
For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Approved Signatory: Byron Kwo 30 Jan 2007
Authorized Signature(s) BYRON KWO / Manager

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description / Test Item	Test Standard	Results	Meets Limit
EMISSION			
Conducted Disturbance At main terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B 2006.10 AND ANSI C63.4-2003	Pass	15.107(a) Class B
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B 2006.10 AND ANSI C63.4-2003	Pass	15.109(a) Class B

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	LCD Monitor
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model No.	:	L1919SS
Serial No.	:	E07010604
Applicant	:	LG Electronics U.S.A Inc. 2000 Millbrook Dr.Lincolnshire, IL 60069 United States
Manufacturer	:	LG Electronics Nanjing Display Co., Ltd. No.346, YaoXin Road, Economic&Technical Development Zone, Nanjing, China
LCD Panel	:	Manufacturer: LG PHILIPS LCD M/N : 1906CP9727437 G31
D-Sub Cable	:	Shielded, Detachable, 1.8m, with two cores

Remark:

The EUT is a LCD Monitor which input/output ports as follows:

Back View:

(1) One D-Sub Input Port — Connected with PC

(2) One Power Port — Connected with Power

2.2 Supported Simulators

2.2.1 PC

Manufacturer	:	DELL
Model Number	:	DCSM
CPU	:	2KZB22X
Power Cable	:	Unshielded, detachable ,1.8m
Certificate	:	FCC DoC, VCCI, CE/EMC, C-Tick, CCC, NOM, CSA, UL

2.2.2 Keyboard

Manufacturer	:	DELL
Model Number	:	SK-8115
Data Cable	:	Unshielded, detachable ,1.9m
Certificate	:	VCCI, FCC DoC, CE/EMC, GS, C-Tick

2.2.3 Mouse

Manufacturer	:	DELL
Model Number	:	MO55UOA
Serial Number	:	F1800IVY
Data Cable	:	Unshielded ,Undetachable, 1.85m.
Certificate	:	FCC DoC, VCCI, CE/EMC, GS, UL, C-Tick

2.2.4 Printer

Manufacturer	:	HP
Model Number	:	C4245A
Serial Number	:	CN2Q213574
Data Cable	:	Unshielded, detachable, 1.85m
Certificate	:	FCC DoC

2.2.5 Modem

Manufacturer	:	Aceex
Model Number	:	1414
Serial Number	:	980013576
Data Cable	:	Unshielded, Detachable, 1.8m
Certificate	:	FCC ID : IFAXDM1414

2.2.6 VGA Card #1

Manufacturer	:	ASUS
Model Number	:	EN6200TC256/T/64M/TWWOW
Serial Number	:	68COAG111886
Certificate	:	FCC DoC, CE/EMC

2.2.7 VGA Card #2

Manufacturer	:	ASUS
Model Number	:	EN6600SILEMCER/TD/128M/A
Serial Number	:	67COAIC65478
Certificate	:	FCC DoC, CE/EMC

2.3 Description of Test Facility

Site Description (10m Semi-Anechoic Chamber)	:	Sep 13, 2006 file on Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, USA
Name of Firm	:	Audix Technology (Wujiang) Co., Ltd.
Site Location	:	No.1289, Jiangxing East Rd., The EasternPart of Wujiang Economic Development Zone, JiangSu, China 215200
FCC registration Number	:	252588

Audix Technology(Shanghai)Co., Ltd

Accredited by NVLAP, Lab Code : 200371-0

2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 1.84dB
Radiated Emission Expanded Uncertainty : U = 2.96dB

3 CONDUCTED EMISSION TEST

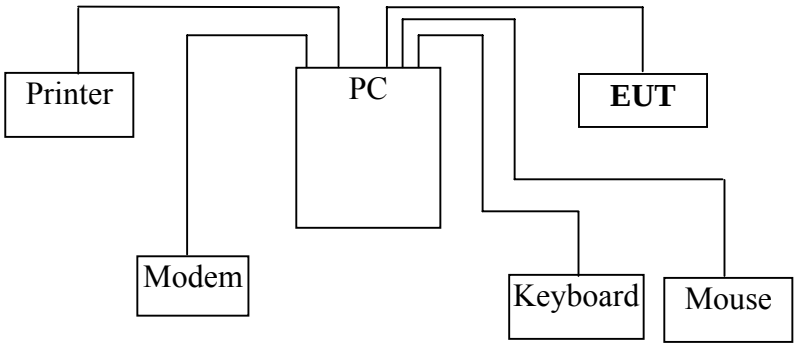
3.1 Test Equipment

The following test equipment are used during the conducted emission test in a shielded room:

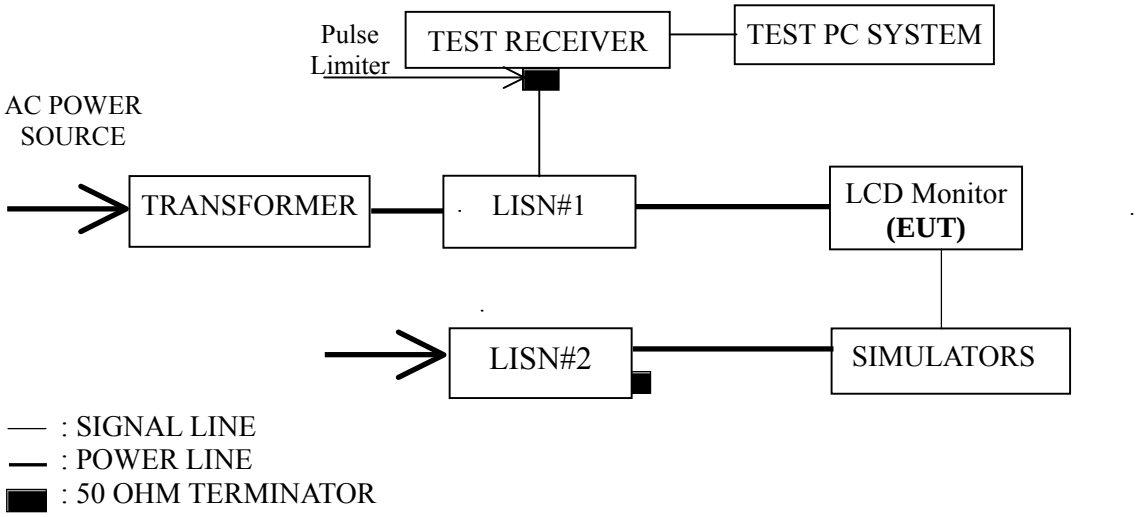
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100352	Mar 29, 2006	Mar 29, 2007
2.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1793-4	Oct 26, 2006	Oct 26, 2007
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1793-3	Oct 26, 2006	Oct 26, 2007
4.	50Ω Coaxial Switch	ANRITSU	MP59B	6200547934	Aug 20, 2006	Feb 20, 2007
5.	Pulse Limiter	R&S	ESH3-Z2	100605	Aug 20, 2006	Feb 20, 2007
6.	Software	Audix	E3	RK-000323	--	--

3.2 Block Diagram of Test Setup

3.2.1 EUT & Supported Simulators



3.2.2 Conducted Disturbance Test Setup



3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]

Frequency Range (MHz)	Limits dB (μV)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 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 0.15 MHz~0.50 MHz
NOTE 3 – If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

3.4 Test Configuration

The EUT (listed in Sec.2.1) and the simulators (listed in Sec 2.2) were installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Sec. 3.2.

3.5.2 Turn on the power of all equipment and the EUT.

3.5.3 Set the contrast control to maximum.

3.5.4 Set the brightness control to maximum or at raster extinction if raster extinction occurs at less than maximum brightness.

3.5.5 For color monitors, use white letters on a black background to represent all color.

3.5.6 Select the worse case of positive or negative video if both alternatives are available.

3.5.7 Set character size and number of characters per line so that typically the greatest number of characters per screen is displayed.

3.5.8 For monitors with graphics capabilities, a pattern consisting of all scrolling Hs should be displayed. For monitors with text only capability, a pattern consisting of random text shall be displayed. If neither of the above is applied, use a typical display.

3.5.9 Set the EUT on the test modes in turn, and then test it.

3.5.10 The test modes are as follows:

VGA 800*600@75Hz	VGA 1024*768@75Hz	VGA 1280*1024@60Hz

3.6 Test Procedures

The EUT was connected to the power mains through a Line Impedance Stabilization Network (LISN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (VA & VB) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

The bandwidth of Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

3.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

Test Mode	Page
VGA 800*600@75Hz	P12
VGA 1024*768@75Hz	P13
VGA 1280*1024@60Hz	P14

NOTE 1 – Factor = Cable Loss + LISN Factor.
Cable Loss includes pulse limiter attenuator.
NOTE 2 – Emission Level = Meter Reading + Factor.
NOTE 3 – All readings are QP Values. “QP” means “Quasi-Peak” values.
NOTE 4 – If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.
NOTE 5 – The worst case is for VGA 1280*1024@60Hz mode. The worst emission is detected at 0.15 MHz with corrected signal level of 53.425 (μV) (limit is 65.824 dB (μV)), when the VA of the EUT is connected to LISN.

EUT	:	LCD Monitor	Temperature	:	20℃
Model No.	:	L1919SS	Humidity	:	39%
Serial No.	:	E07010604	Date of Test	:	Jan 17, 2007
Test Mode	:	VGA 800*600@75Hz			

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	**0.29**	**37.197**	**10.395**	**47.592**	**60.411**	**12.819**
	0.37	33.057	10.415	43.472	58.475	15.003
	0.59	28.638	10.386	39.024	56.000	16.976
	1.04	25.698	10.213	35.911	56.000	20.089
	2.24	25.438	9.991	35.429	56.000	20.571
	23.64	27.552	10.505	38.057	60.000	21.943
VB	0.29	37.027	10.387	47.414	60.411	12.997
	0.37	31.690	10.405	42.095	58.475	16.380
	0.52	26.190	10.421	36.611	56.000	19.389
	0.59	25.203	10.357	35.560	56.000	20.440
	1.41	24.236	10.111	34.347	56.000	21.653
	2.01	23.895	9.992	33.887	56.000	22.113

TEST ENGINEER: Dio Yang
(DIO YANG)

EUT	:	LCD Monitor	Temperature	:	20℃
Model No.	:	L1919SS	Humidity	:	39%
Serial No.	:	E07010604	Date of Test	:	Jan 17, 2007
Test Mode	:	VGA 1024*768@75Hz			

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	0.29	36.110	10.395	46.505	60.411	13.906
	0.37	32.077	10.416	42.493	58.431	15.938
	0.60	28.818	10.380	39.198	56.000	16.802
	0.67	26.895	10.338	37.233	56.000	18.767
	1.12	26.413	10.186	36.599	56.000	19.401
	2.33	26.818	10.004	36.822	56.000	19.178
VB	**0.29**	**36.133**	**10.387**	**46.520**	**60.411**	**13.891**
	0.37	31.072	10.405	41.477	58.475	16.998
	0.59	25.281	10.351	35.632	56.000	20.368
	1.41	24.697	10.111	34.808	56.000	21.192
	2.76	25.061	10.082	35.143	56.000	20.857
	16.75	25.142	10.384	35.526	60.000	24.474

TEST ENGINEER: Dio Yang
(DIO YANG)

EUT	:	LCD Monitor	Temperature	:	20℃
Model No.	:	L1919SS	Humidity	:	39%
Serial No.	:	E07010604	Date of Test	:	Jan 17, 2007
Test Mode	:	VGA 1280*1024@60Hz			

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)
VA	**0.15**	**43.046**	**10.379**	**53.425**	**65.824**	**12.399**
	0.23	33.744	10.416	44.160	62.303	18.143
	0.39	35.133	10.420	45.553	58.123	12.570
	0.62	27.799	10.366	38.165	56.000	17.835
	0.92	27.046	10.251	37.297	56.000	18.703
	2.71	26.499	10.045	36.544	56.000	19.456
VB	0.23	32.804	10.417	43.221	62.567	19.346
	0.30	33.731	10.385	44.116	60.367	16.251
	0.38	31.912	10.407	42.319	58.299	15.980
	0.53	24.960	10.410	35.370	56.000	20.630
	2.65	24.535	10.069	34.604	56.000	21.396
	3.42	22.340	10.101	32.441	56.000	23.559

TEST ENGINEER: Dio Yang
(DIO YANG)

4 RADIATED EMISSION TEST

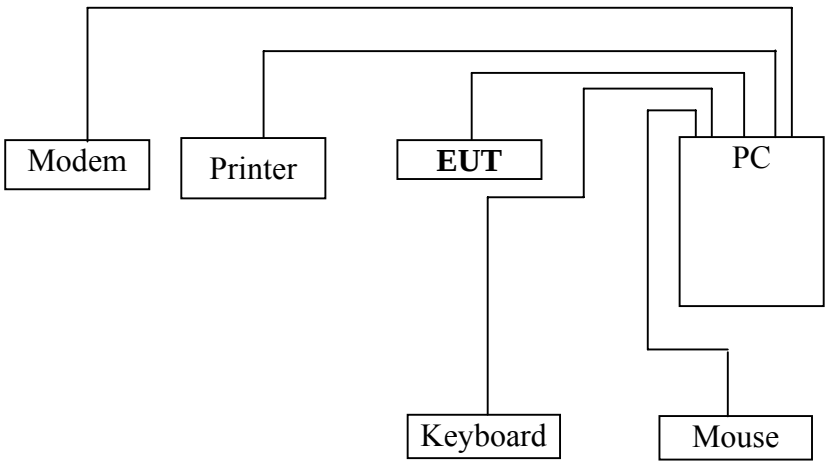
4.1 Test Equipment

The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

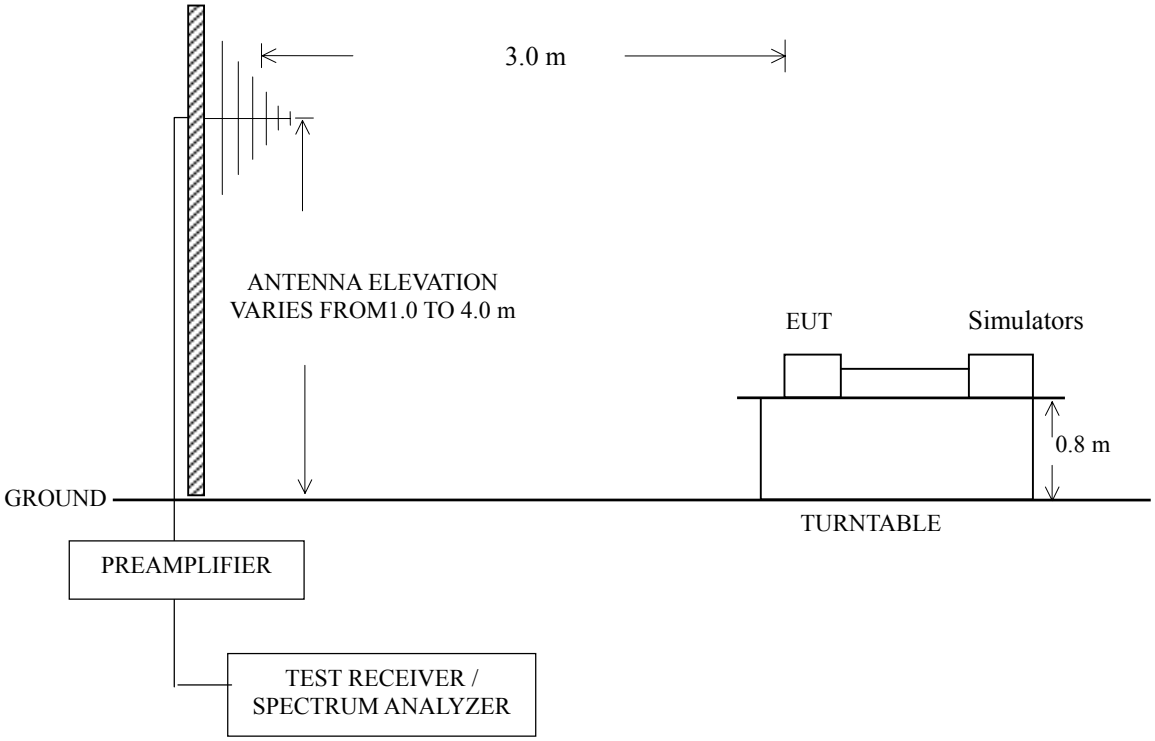
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100351	Mar 29, 2006	Mar 29, 2007
2.	Preamplifier	Agilent	8447D	2944A10922	Sep 11, 2006	Mar 11, 2007
3.	Preamplifier	Agilent	8449B	3008A02234	Apr 18, 2006	Apr 18, 2007
4.	Bi-log Antenna	Schaffner	CBL6112D	22252	Apr 09, 2006	Apr 09, 2007
5.	Horn Antenna	EMCO	3115	62959	May 08, 2006	May 08, 2007
6.	Spectrum	Agilent	E7405A	MY45107030	Apr 27, 2006	Apr 27, 2007
7.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

4.2.1 EUT and simulators



4.2.2 Radiated emission test setup



4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]

Frequency (MHz)	Distance (m)	Field strength limits	
		(μV/m)	dB (μV/m)
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level dB (μV/m) = 20 log Emission Level (μV/m)
NOTE 2 - The tighter limit applies at the band edges.
NOTE 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.

4.4 Test Configuration

The configuration of the EUT and simulators are same as those used in conducted emission test.

Please refer to Sec.3.4.

4.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except the test setup replaced by Sec.4.2.

4.6 Test Procedures

The EUT and simulators were placed on a turntable that is 0.8 meter above ground. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The broadband antenna (Calibrated antenna) was used as receiving antenna below 1000MHz. The horn antenna was used as receiving antenna above 1000MHz. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. The broadband antenna (Calibrated Bilog Antenna) or the horn antenna was used as receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESCI was set at 120 kHz below 1GHz and The Spectrum E7405A was set at 1MHz above 1GHz.

The frequency range from 30 MHz to 2000 MHz was checked.

The frequency range from 1 GHz to 2 GHz was checked for VGA 1280*1024@60Hz mode.

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

The test modes are as follows:

VGA 800*600@75Hz	VGA 1024*768@75Hz	VGA 1280*1024@60Hz

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Test Mode	Page
VGA 800*600@75Hz	P19
VGA 1024*768@75Hz	P20
VGA 1280*1024@60Hz	P21

NOTE 1 – Emission Level = Meter Reading + Factor.
NOTE 2 – Factor = Antenna Factor + Cable Loss.
NOTE 3 – The emission levels that are 20dB below the official limit are not reported.
NOTE 4 – All reading are Quasi-Peak values below 1GHz and Average values equal or above 1GHz.
NOTE 5 – All the emissions (>1GHz) not reported are too low to be measured. Please refer to section Appendix I – 2 for the photos of testing setup.
NOTE 6 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
NOTE 7 – The worst case is for VGA 800*600@75Hz mode. The worst emission at horizontal polarization was detected at 630.43 MHz with corrected signal level of 41.525dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.26 m height and the turntable was at 312°. The worst emission at vertical polarization was detected at 800.18 MHz with corrected signal level of 41.613 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.24 m height and the turntable was at 140°.

EUT	:	LCD Monitor	Temperature :	20℃
Model No.	:	L1919SS	Humidity :	43%
Serial No.	:	E07010604	Date of Test :	Jan 17, 2007
Test Mode	:	VGA 800*600@75Hz		

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	121.18	18.272	12.144	1.185	31.601	43.500	11.899
	182.29	27.159	8.780	1.467	37.406	43.500	6.094
	565.44	15.353	18.850	2.683	36.886	46.000	9.114
	630.43	**19.264**	**19.430**	**2.831**	**41.525**	**46.000**	**4.475**
	795.33	11.422	20.250	3.237	34.909	46.000	11.091
	802.12	12.405	20.250	3.256	35.911	46.000	10.089
Vertical	31.94	16.362	16.950	0.582	33.894	40.000	6.106
	121.18	24.277	12.144	1.185	37.606	43.500	5.894
	182.29	24.160	8.780	1.467	34.407	43.500	9.093
	303.54	24.194	13.461	1.938	39.593	46.000	6.407
	397.63	16.141	16.133	2.236	34.510	46.000	11.490
	800.18	**18.107**	**20.250**	**3.256**	**41.613**	**46.000**	**4.387**

TEST ENGINEER: Dio Yang
(DIO YANG)

EUT	:	LCD Monitor	Temperature :	20℃
Model No.	:	L1919SS	Humidity :	43%
Serial No.	:	E07010604	Date of Test :	Jan 17, 2007
Test Mode	:	VGA 1024*768@75Hz		

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	145.43	19.587	10.630	1.303	31.520	43.500	11.980
	158.04	24.696	9.917	1.352	35.965	43.500	7.535
	182.29	28.179	8.780	1.467	38.426	43.500	5.074
	565.44	13.610	18.850	2.683	35.143	46.000	10.857
	630.43	**19.019**	**19.430**	**2.831**	**41.280**	**46.000**	**4.720**
	800.18	17.044	20.250	3.256	40.550	46.000	5.450
Vertical	**36.79**	**20.371**	**14.106**	**0.630**	**35.107**	**40.000**	**4.893**
	121.18	21.899	12.144	1.185	35.228	43.500	8.272
	145.43	23.388	10.630	1.303	35.321	43.500	8.179
	158.04	25.523	9.917	1.352	36.792	43.500	6.708
	315.18	21.709	13.840	1.987	37.536	46.000	8.464
	334.58	20.444	14.324	2.051	36.819	46.000	9.181

TEST ENGINEER: Dio Yang
(DIO YANG)

EUT	:	LCD Monitor	Temperature :	20℃
Model No.	:	L1919SS	Humidity :	43%
Serial No.	:	E07010604	Date of Test :	Jan 17, 2007
Test Mode	:	VGA 1280*1024@60Hz		

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	145.43	19.582	10.630	1.303	31.515	43.500	11.985
	565.44	14.578	18.850	2.683	36.111	46.000	9.889
	633.34	**17.799**	**19.450**	**2.853**	**40.102**	**46.000**	**5.898**
	801.15	15.129	20.250	3.256	38.635	46.000	7.365
	890.39	11.447	20.630	3.423	35.500	46.000	10.500
	945.68	11.972	21.010	3.531	36.513	46.000	9.487
Vertical	**38.73**	**20.630**	**13.126**	**0.647**	**34.403**	**40.000**	**5.597**
	145.43	20.566	10.630	1.303	32.499	43.500	11.001
	405.39	16.381	16.515	2.253	35.149	46.000	10.851
	593.36	17.320	18.950	2.746	39.016	46.000	6.984
	800.18	13.998	20.250	3.256	37.504	46.000	8.496
	945.68	13.198	21.010	3.531	37.739	46.000	8.261

TEST ENGINEER: Dio Yang
(DIO YANG)

5 DEVIATION TO TEST SPECIFICATIONS

None

6 DEBUG DESCRIPTION

Name	M/N:	Specifications (mm)	Manufacturer	Location
Aluminum foil	T-308	50*30	DAEHUNG SUBSIDIARY MATERIALS.	Reference to Internal photos Figure 2, 9, 12, 13, 17