



FCC TEST REPORT

According to

47 CFR, Part 2, Part 15 and CISPR PUB. 22

Applicant	: LG Electronics USA
Address	: 1000 Sylvan Avenue Englewood Cliffs New Jersey United States
Manufacturer	: LG Electronics Nanjing Display Co., Ltd.
Address	: No.346, Yaoxin Road Economic & Technical Development Zone Nanjing China
Equipment	: LCD Monitor
Model No.	: W1943TV
FCC ID	: BEJW1943TV
Trade Name	: LG

Laboratory accreditation



Testing Laboratory
1332

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of **CerpPASS Technology Corp.** the test report shall not be reproduced except in full.
- The test report must not be used by the clients to claim product certification approval by **CNLA, NVLAP, NIST** or any agency of the Government.



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FCC ID	: BEJW1943TV

I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2003** and the energy emitted by this equipment was **passed CISPR PUB. 22 and FCC Part 15** in both radiated and conducted emission class B limits. Testing was carried out on Dec. 20, 2008 at **CerpPASS Technology Corp.**

Signature

Hudson Chen /Manager



1. Summary of Test Procedure and Test Result

Test Item	Normative References	Test Result
Conducted Emission	ANSI C63.4-2003 FCC Part 15 Subpart B	Pass
Radiated Emission	ANSI C63.4-2003 FCC Part 15 Subpart B	Pass



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

LCD Monitor	Model No:	W1943TV
	Serial No:	N/A
	Input Rating:	12V 2.0A
DVI Cable	Shielded, 1.5m, with two ferrite cores bonded	
DVI Cable	Shielded, 1.5m	
VGA Cable	Shielded, 1.5m, with two ferrite cores bonded	
VGA Cable	Shielded, 1.8m	
Adapter 1#	Manufacturer:	LIEN CHANG SPS ADAPTOR
	Model No:	LCAP07F
	Input Rating:	AC 100-240V ~ 50-60Hz,1.0 A Max
	Output Rating:	12V 3A
Power Supply	Non-shielded, 1.8m with one ferrite cores bonded	
Adapter 2#	Manufacturer:	HONOR
	Model No:	ADS-24S-12 1224GPCN
	Input Rating:	AC 100-240V ~ 50/60Hz,0.7A Max
	Output Rating:	12V 2A
Power Supply	Non-shielded, 1.8m with one ferrite cores bonded	
Note: The VGA and DVI wire are alternative on selling.		

2.2. Test Manner

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The complete test system included the PC, Printer, USB Keyboard, USB Mouse and EUT for EMI test.
- c. During the test, Setup up the EUT and all system, turn on the power of all Equipment, run the test software "H", make the EUT in the Mode 1,2,3,4,5,6, and it is normal operation, and then test.
- d. The following test with two kinds of adapter includes six test modes:
 - Test Mode 1: Full system VGA (640*480@60Hz) by adapter 1#
 - Test Mode 2: Full system DVI (640*480@60Hz) by adapter 2#
 - Test Mode 3: Full system VGA (1024*768@75Hz) by adapter 2#
 - Test Mode 4: Full system DVI (1024*768@75Hz) by adapter 1#
 - Test Mode 5: Full system VGA (1360*768@60Hz) by adapter 2#
 - Test Mode 6: Full system DVI (1360*768@60Hz) by adapter 1#
- e. The final test mode:
 - Test Mode 1: Full system VGA (640*480@60Hz) by adapter 1#



2.3. Description of Test System

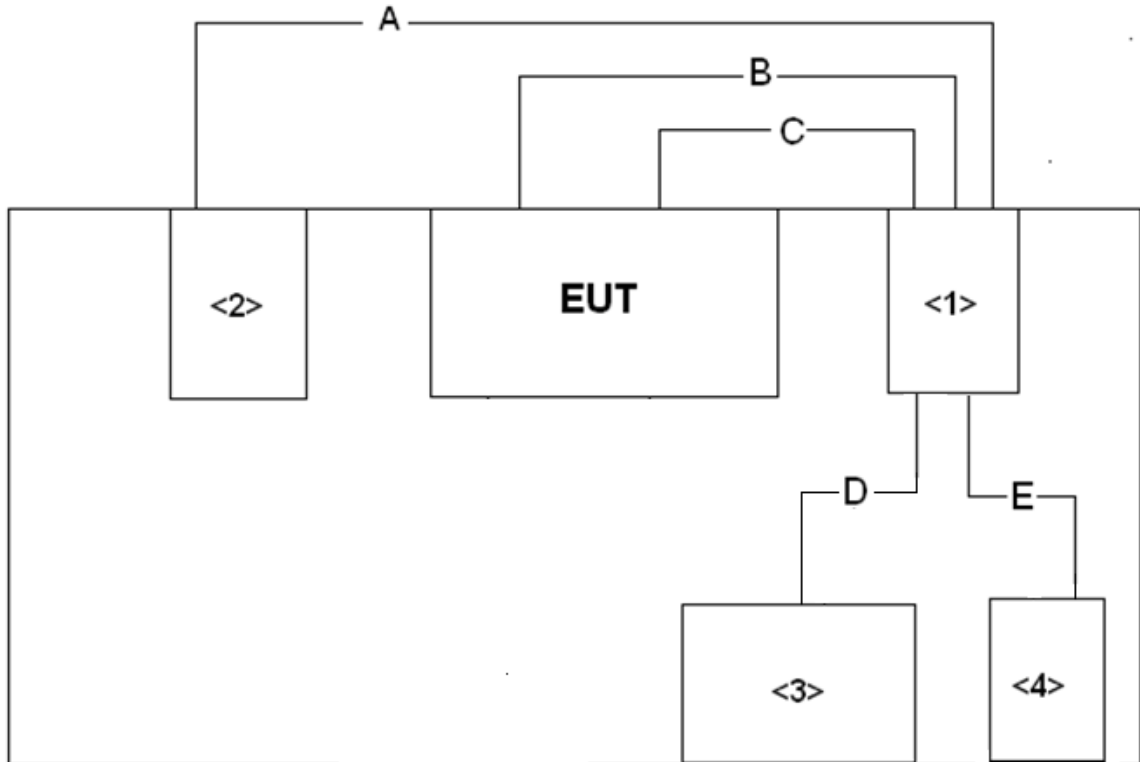
EMI

Device	Manufacturer	Model No.	Description
PC	DELL	OPTIPLEX320	N/A
Printer	Brother	MFL-7240	N/A
USB Keyboard	DELL	SK-8115	N/A
USB Mouse	DELL	G0K02XZQ	0CJ339

EMI use cable		
Cable	Quantity	Description
Parallel Cable	1	Shielded, 0.8m
VGA Cable	1	Shielded, 1.8m
DVI Cable	1	Shielded, 1.5m
USB Cable	1	Shielded, 2.1m with one ferrite cores bonded
USB Cable	1	Shielded, 1.85m with one ferrite cores bonded



2.4. Connection Diagram of Test System



- A. The Parallel port is connected from PC to the Print.
- B. The VGA Cable is connected from PC to EUT.
- C. The DVI Cable is connected from PC to EUT.
- D. The USB Cable is connected from PC to the USB Keyboard.
- E. The USB Cable is connected from PC to the USB Mouse.



2.5. General Information of Test

Test Site :	Cerpass Technology Corp. No.66, Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China
Test Site Location (OATS1-SD):	No.68-1, Shihbachongsi, shihding Township, Taipei City 223, Taiwan
FCC Registration Number :	632249 (Taipei) 916572 (SuZhou)
IC Registration Number :	6597A-1 (Taipei) 7290A-1 (SuZhou)
VCCI Registration Number :	T-338 for Telecommunication Test (Taipei) C-2188 for Conducted emission test (Taipei) R-2670 for Radiated emission test (Taipei)
	T-343 for Telecommunication Test (Suzhou) C-2919 for Conducted emission test (Suzhou) R-1902 for Radiated emission test (Suzhou)
Test Voltage:	AC 120V/ 60Hz
Test in Compliance with:	Normative References : CISPR22:2006 Class B ANSI C63.4-2003 FCC Part 15 Subpart B
Frequency Range Investigated :	Conducted: from 150kHz to 30 MHz Radiated: from 30 MHz to 1,000 MHz Radiated: from 1G to 18G
Test Distance :	The test distance of radiated emission below 1GHz from antenna to EUT is 10 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.

2.6. Measurement Uncertainty

Conducted Emission	
The measurement uncertainty is evaluated as ± 2.24 dB.	
Radiated Emission	
(30MHz -1000MHz)	The measurement uncertainty is evaluated as ± 2.98 dB.
(1G-18GHz)	The measurement uncertainty is evaluated as ± 2.15 dB.



3. Test of Conducted Emission

3.1. Test Limit

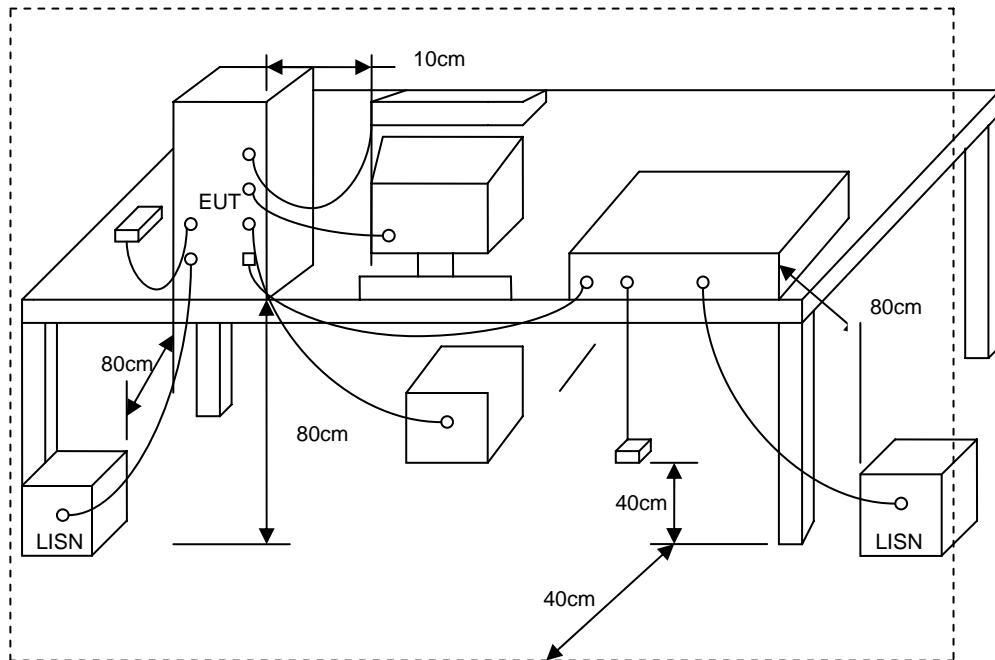
Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2003 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

3.2. Test Procedures

- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- c. All the support units are connecting to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

3.3. Typical test Setup



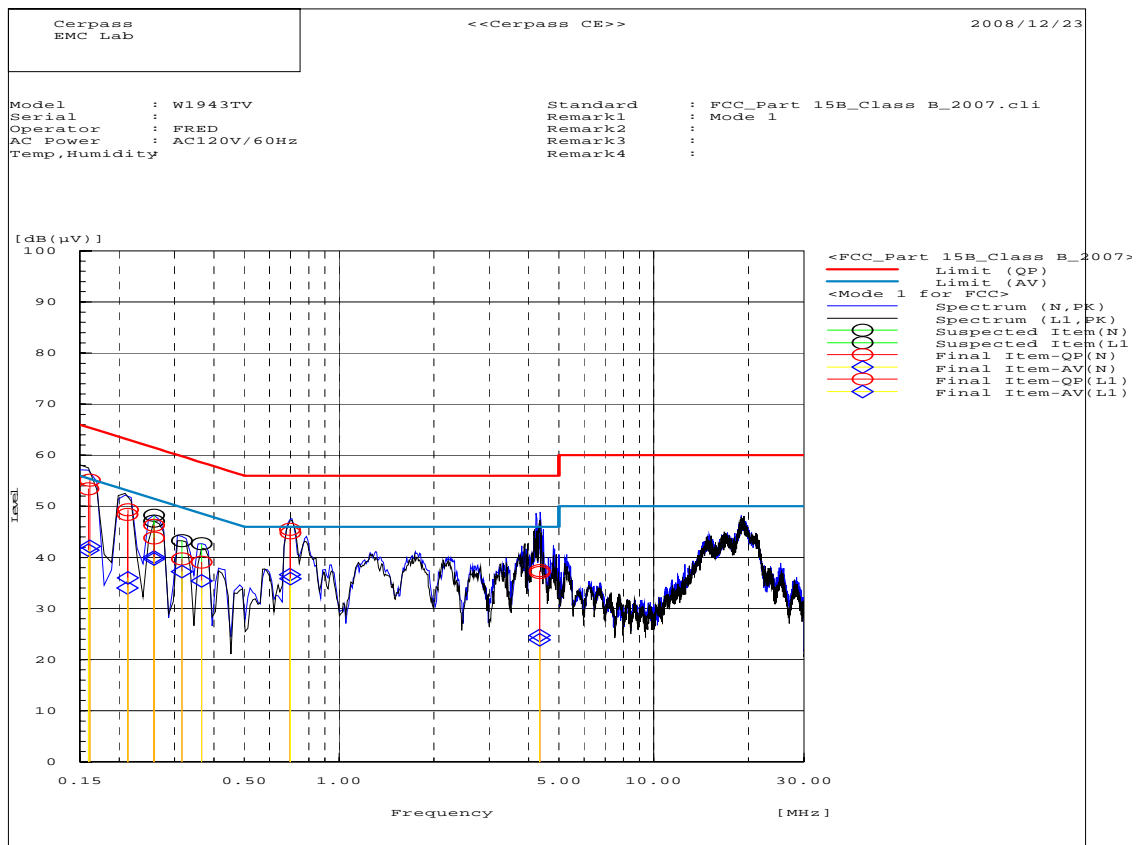
3.4. Measurement equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Data
EMC Emission Tester	EMCPARTNER	Harmonics-1000	159	2008.06.30
Test Receiver	R&S	ESCI	100565	2008.06.30
AMN	R&S	ESH2-Z5	100182	2008.06.30
Two-Line V-Network	R&S	ENV216	100325	2008.06.30
ISN	FCC	FCC-TLISN-T2-02	20379	2008.06.30
ISN	FCC	FCC-TLISN-T4-02	20380	2008.06.30
ISN	FCC	FCC-TLISN-T8-02	20381	2008.06.30
Current Probe	R&S	EZ-17	100303	2008.06.30
Passive Voltage Probe	R&S	ESH2-Z3	100026	2008.06.30
Decoupling Clamp	LUTHI	FTC 40 X 15 E	5685	2008.11.01
Absorbing Clamp	Schwarzbeck	MDS21	3753	2008.11.01
Minimum Loss Pad	Agilent	11852B	61650	2008.06.30
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2008.09.24



3.5. Test Result and Data

Standard	: FCC_Part 15B_Class B_2007.cli	Date/Time	: 2008/12/23
Model	: W1943TV	Serial	: N/A
Operator	: BEN	AC Power	: AC120V/60Hz
Remark	: Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#		





Final Data List

Frequency MHz	Line Phase	Reading		Factor dB	Level		Limit		Margin		Pass/Fail
		dB(uV) QP	dB(uV) AV		dB(uV) QP	dB(uV) AV	dB(uV) QP	dB(uV) AV	dB QP	dB AV	
0.69795	N	35.8	26.9	9.7	45.5	36.6	56.0	46.0	10.5	9.4	Pass
0.21247	N	38.5	24.1	9.9	48.4	34.0	63.1	53.1	14.7	19.1	Pass
0.1596	N	44.1	32.1	9.3	53.4	41.4	65.5	55.5	12.1	14.1	Pass
4.34428	N	27.7	15.0	9.7	37.4	24.7	56.0	46.0	18.6	21.3	Pass
0.25777	N	36.4	30.2	9.9	46.3	40.1	61.5	51.5	15.2	11.4	Pass
0.36553	N	29.3	25.6	9.8	39.1	35.4	58.6	48.6	19.5	13.2	Pass
0.70009	L1	35.1	26.1	9.7	44.8	35.8	56.0	46.0	11.2	10.2	Pass
0.16135	L1	45.7	32.8	9.4	55.1	42.2	65.4	55.4	10.3	13.2	Pass
0.21305	L1	39.7	26.4	9.6	49.3	36.0	63.1	53.1	13.8	17.1	Pass
4.3339	L1	27.4	14.2	9.7	37.1	23.9	56.0	46.0	18.9	22.1	Pass
0.25777	L1	34.2	30.1	9.6	43.8	39.7	61.5	51.5	17.7	11.8	Pass
0.31655	L1	30.1	27.6	9.6	39.7	37.2	59.8	49.8	20.1	12.6	Pass

Test engineer: Ben Zhang



4. Test of Radiated Emission

4.1. Test Limit

Radiated emissions from 30 MHz to 1,000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in ANSI C63.4-2003. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 3.2. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (m)	Level (dBuV/m)	Level (dBuV/m)
30 - 88	3	40(QP)	N/A
88 - 216	3	43(QP)	N/A
216-960	3	46(QP)	N/A
960-1000	3	54(QP)	N/A
1000-18000	3	74(PK)	54(AV)
18000-40000	1	84(PK)	64(AV)

For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

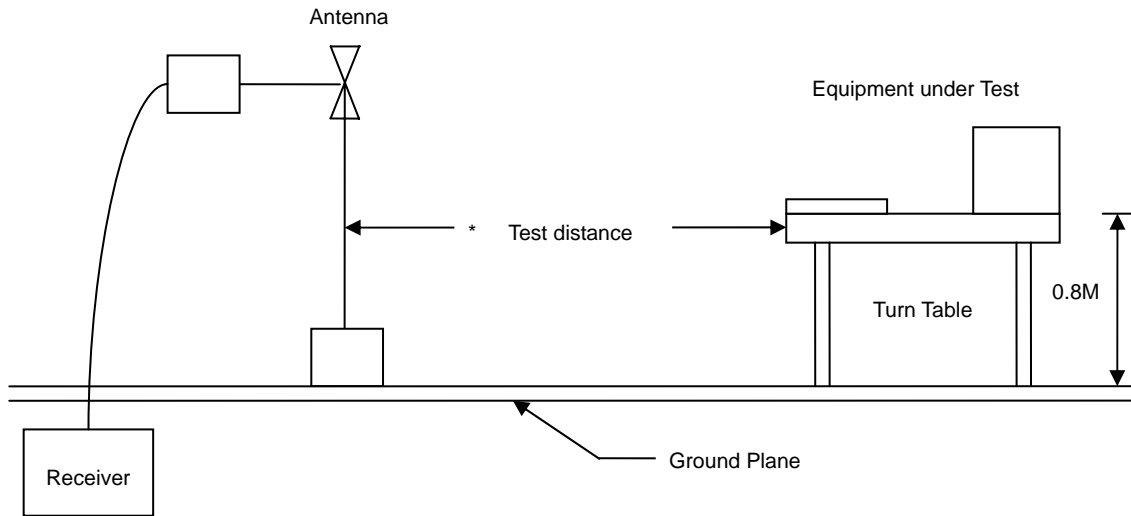
Frequency (MHz)	Distance Meters	Radiated (dB μ V/ M)
30-230	10	30
230-1000	10	37



4.2. Test Procedures

- a. The EUT was placed on a Rota table top 0.8 meter above ground.
- b. The EUT and its simulators are placed on the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters or 1 meter.
- c. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
- d. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.
- e. Radiated emissions were investigated over the frequency range from 30MHz to 1GHz using a receiver bandwidth of 120KHz and the frequency range from 1GHz to 18GHz using a receiver bandwidth of 1MHz. Radiated was performed at an antenna to EUT distance of 3 meters .

4.3. Typical test Setup



4.4. Measurement equipment

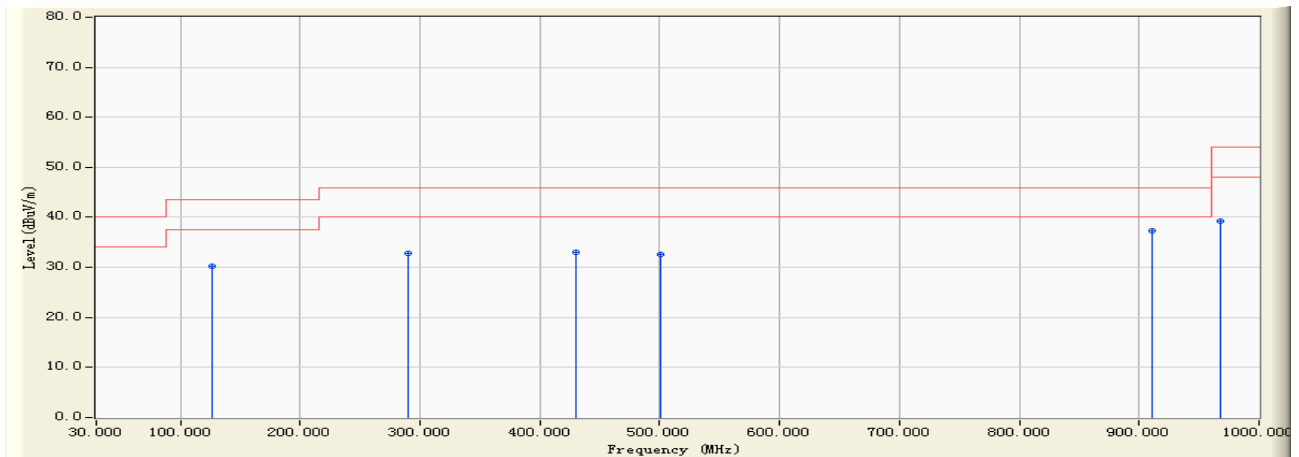
Instrument	Model No.	Manufacturer	Serial No.	Calibration Date
EMI Test Receiver	R&S	ESCI	100564	2008.06.30
Preamplifier	Agilent	87405B	My39500554	2008.11.04
Preamplifier	R&S	PR-AMP26	1248791	2008.06.30
Ultra Broadband Antenna	R&S	HL562	100362	2008.11.04
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2008.09.26
Spectrum Analyzer	R&S	FSP40	100324	2008.09.28
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-001	2008.09.24



4.5. Test Result and Data

Under 1G:

Site : EMC Lab AC 102	Time : 2008/12/24 - 15:03
Limit : FCC_CLASS_B_03M_QP	Margin : 6
EUT : LCD Monitor	Probe : HL562(30-1000MHz) - HORIZONTAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



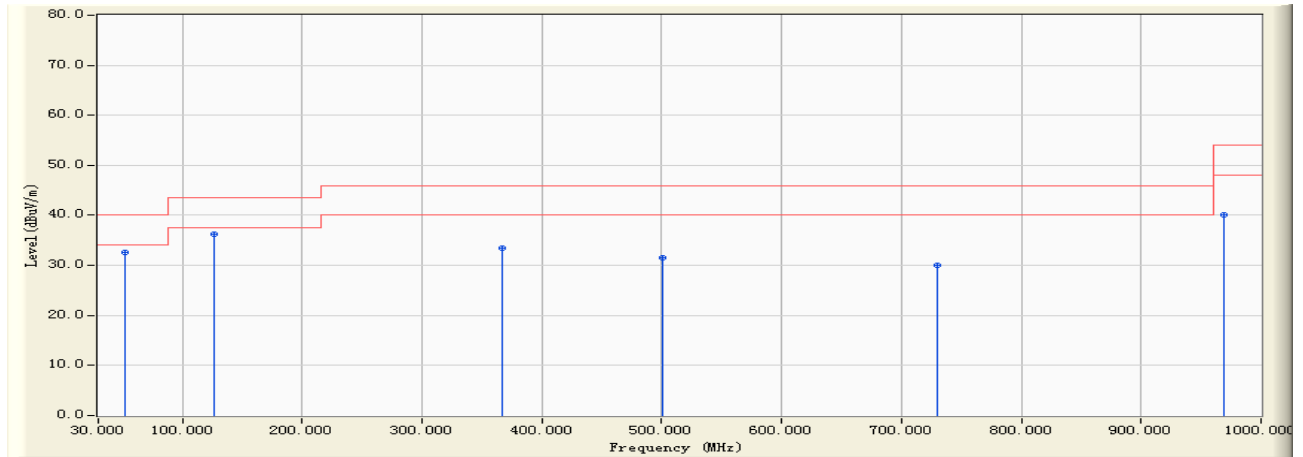
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		126.300	-13.903	44.200	30.296	-13.204	43.500	QUASISPEAK
2		290.300	-11.243	44.100	32.858	-13.142	46.000	QUASISPEAK
3		430.240	-6.764	39.800	33.036	-12.964	46.000	QUASISPEAK
4		500.300	-4.808	37.400	32.592	-13.408	46.000	QUASISPEAK
5	*	910.400	3.288	34.100	37.388	-8.612	46.000	QUASISPEAK
6		968.300	3.754	35.400	39.154	-14.846	54.000	QUASISPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2008/12/24 - 15:03
Limit : FCC_CLASS_B_03M_QP	Margin : 6
EUT : LCD Monitor	Probe : HL562(30-1000MHz) - VERTICAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		52.000	-17.845	50.400	32.555	-7.445	40.000	QUASIPeAK
2	*	126.300	-13.903	50.100	36.196	-7.304	43.500	QUASIPeAK
3		366.840	-8.672	42.100	33.427	-12.573	46.000	QUASIPeAK
4		500.200	-4.810	36.400	31.590	-14.410	46.000	QUASIPeAK
5		729.450	-0.119	30.100	29.981	-16.019	46.000	QUASIPeAK
6		969.300	3.789	36.400	40.189	-13.811	54.000	QUASIPeAK

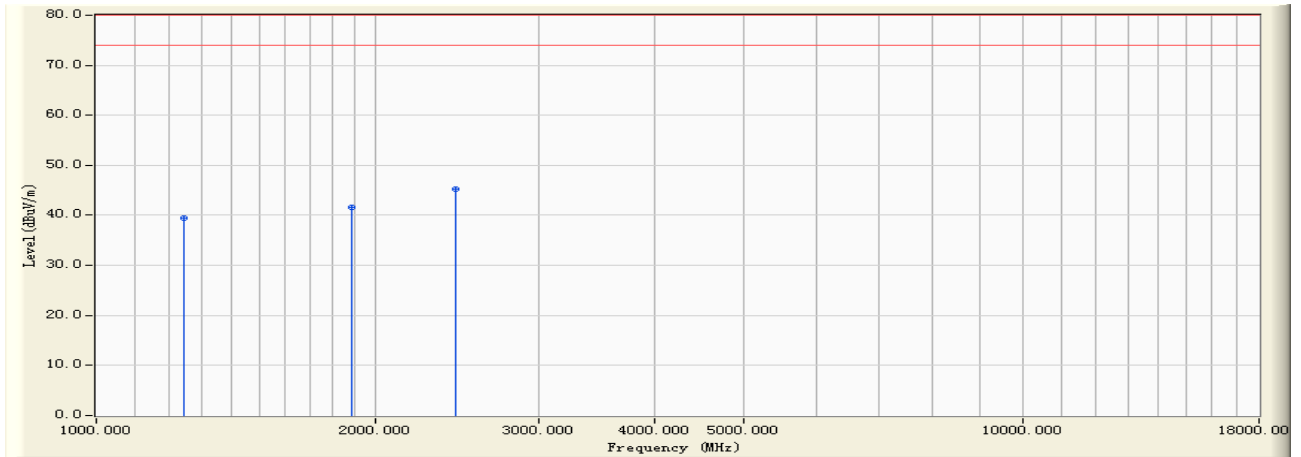
Note:

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2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Above 1G:

Site : EMC Lab AC 102	Time : 2008/12/24 - 15:17
Limit : FCC_A_(Above_1G)_03M_PK	Margin : 6
EUT : LCD Monitor	Probe : BBHA9120D(1-18GHz) - VERTICAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



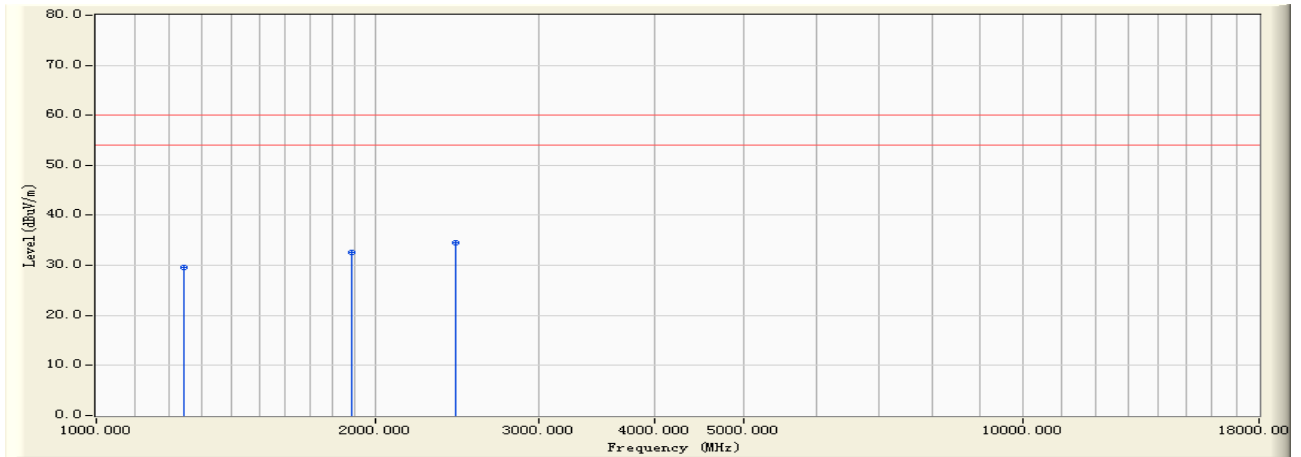
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1245.360	-11.835	51.210	39.375	-40.625	80.000	PEAK
2		1885.240	-8.818	50.410	41.592	-38.408	80.000	PEAK
3	*	2445.780	-7.071	52.400	45.328	-34.672	80.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2008/12/24 - 15:17
Limit : FCC_A_(Above_1G)_03M_AV	Margin : 6
EUT : LCD Monitor	Probe : BBHA9120D(1-18GHz) - VERTICAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



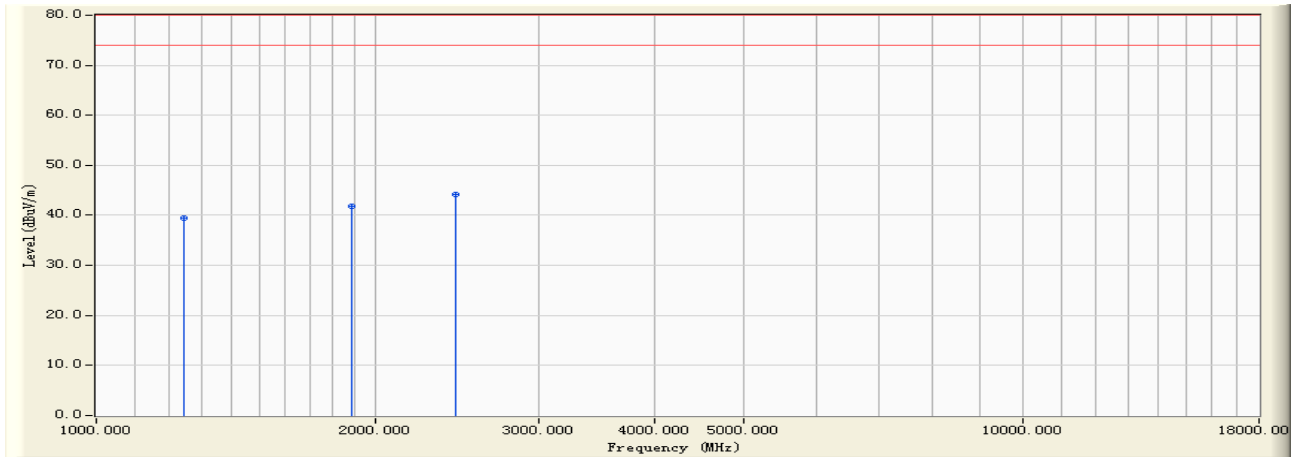
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1245.360	-11.835	41.540	29.705	-30.295	60.000	AVERAGE
2		1885.240	-8.818	41.500	32.682	-27.318	60.000	AVERAGE
3	*	2445.780	-7.071	41.540	34.468	-25.532	60.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2008/12/24 - 15:17
Limit : FCC_A_(Above_1G)_03M_PK	Margin : 6
EUT : LCD Monitor	Probe : BBHA9120D(1-18GHz) - HORIZONTAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



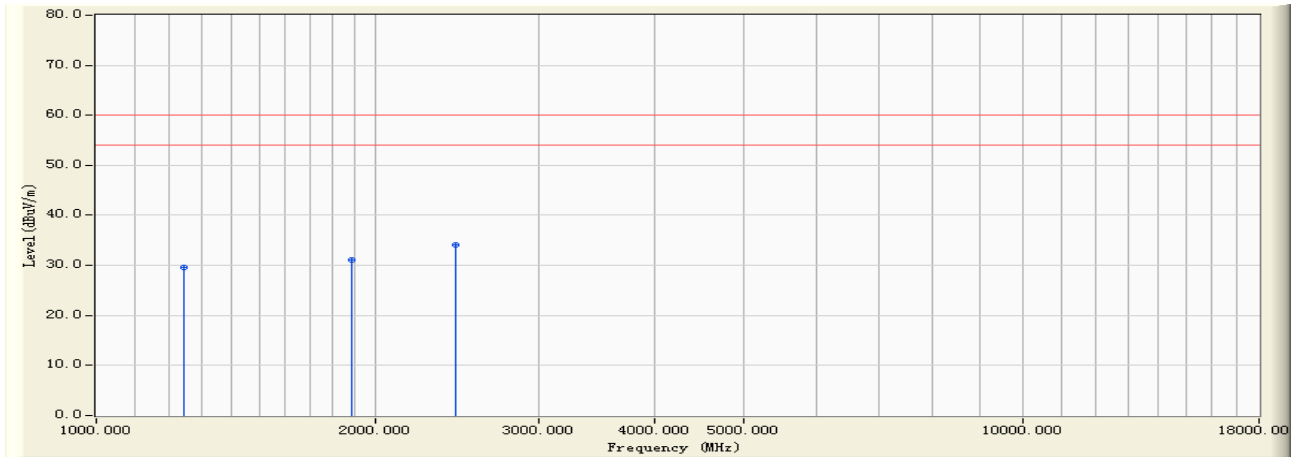
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1245.300	-11.836	51.360	39.525	-40.475	80.000	PEAK
2		1885.400	-8.821	50.600	41.779	-38.221	80.000	PEAK
3	*	2445.130	-7.072	51.220	44.148	-35.852	80.000	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor



Site : EMC Lab AC 102	Time : 2008/12/24 - 15:17
Limit : FCC_A_(Above_1G)_03M_AV	Margin : 6
EUT : LCD Monitor	Probe : BBHA9120D(1-18GHz) - HORIZONTAL
Power : AC120V/60	Note : Mode 1 : Full system VGA(640*480@60Hz) by adapter 1#



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		1245.300	-11.836	41.440	29.605	-30.395	60.000	AVERAGE
2		1885.400	-8.821	39.870	31.049	-28.951	60.000	AVERAGE
3	*	2445.130	-7.072	41.230	34.158	-25.842	60.000	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Fred Guo

Test engineer: _____