

FCC TEST REPORT

REPORT NO.: F910111A14

MODEL NO.: NL1502

RECEIVED: Jan. 11, 2002

TESTED: Jan. 14~15, 2002

APPLICANT: NPG Display LTD., Taiwan Branch

ADDRESS: 2FL-1, No. 8, Tunhua N. Rd., Taipei,
Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei,
Taiwan, R.O.C.

This test report consists of 25 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, NVLAP or any government agencies. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.



0528
ILAC MRA



Lab Code: 200102-0

Table of Contents

1	CERTIFICATION.....	3
2	SUMMARY OF TEST RESULTS	4
3	GENERAL INFORMATION	5
3.1	GENERAL DESCRIPTION OF EUT	5
3.2	DESCRIPTION OF SUPPORT UNITS	6
4	EMISSION TEST	7
4.1	CONDUCTED EMISSION MEASUREMENT.....	7
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	7
4.1.2	TEST INSTRUMENTS.....	7
4.1.3	TEST PROCEDURE.....	8
4.1.4	DEVIATION FROM TEST STANDARD.....	8
4.1.5	TEST SETUP.....	8
4.1.6	EUT OPERATING CONDITIONS	9
4.1.7	TEST RESULTS (A).....	10
4.1.8	TEST RESULTS (B).....	12
4.2	RADIATED EMISSION MEASUREMENT.....	14
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	14
4.2.2	TEST INSTRUMENTS.....	15
4.2.3	TEST PROCEDURE.....	15
4.2.4	DEVIATION FROM TEST STANDARD.....	16
4.2.5	TEST SETUP.....	16
4.2.6	EUT OPERATING CONDITIONS	16
4.2.7	TEST RESULTS (A).....	17
4.2.8	TEST RESULTS (B).....	19
5	PHOTOGRAPHS OF THE TEST CONFIGURATION	21
6	APPENDIX - INFORMATION ON THE TESTING LABORATORIES	25



1 CERTIFICATION

PRODUCT: LCD MONITOR
BRAND NAME: NEC
MODEL NO: NL1502
TEST ITEM: ENGINEERING SAMPLE
APPLICANT: NPG Display LTD., Taiwan Branch
STANDARDS: FCC Part 15, Subpart B, Class B
CISPR 22: 1997, Class B
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility on Jan. 14 ~ 15, 2002. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

TESTED BY: Jone Lin, **DATE:** Jan. 17. 2002
(Jone Lin)

CHECKED BY: Kathy Tseng, **DATE:** Jan. 17. 2002
(Kathy Tseng)

APPROVED BY: Mike Su, **DATE:** Jan. 17. 2002
(Mike Su, Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Remarks
FCC Part 15, Subpart B, Class B / CISPR 22: 1997, Class B	Conducted Test	PASS	Meets Class B Limit Minimum passing margin is -12.17 dB at 0.199 MHz
	Radiated Test	PASS	Meets Class B Limit Minimum passing margin is - 2.20 dB at 153.99, 210.00 MHz

NOTE: For conducted emission test, the test limit used is according to FCC Part 15.107. In this part, conducted emission test for telecom port is not mentioned and therefore this item is not tested.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	LCD MONITOR
MODEL NO.	NL1502
POWER SUPPLY	Switching Input:100-240V, 1.0A, 50/60Hz Power Cord: Non-shielded, 3 pin, AC (1.8m)
DATA CABLE	D-SUB cable: shielded (1.5m) with two cores DVI cable: shielded (2.0m) with two cores

NOTE: The EUT is a LCD MONITOR with resolution up to 1024x768.

The EUT has 2 types of input signals: DVI & D-Sub connector.

Both DVI and D-sub video functions were pre-tested with horizontal and vertical synchronization speed modes as the following:

DVI video function resolution	D-sub video function resolution
1024x768 (75Hz/60kHz)	1024x768 (75Hz/60kHz)
800x600 (75Hz/48kHz)	800x600 (75Hz/48kHz)
640 x 480 (60Hz/31kHz)	640 x 480 (60Hz/31kHz)

For the final test, the EUT was tested under the following modes and their data are recorded separately in this report:

MODE	VIDEO FUNCTION	HORIZONTAL & VERTICAL RESOLUTION
1	D-Sub connector	1024x768 (75Hz/60kHz)
2	DVI connector	1024x768 (75Hz/60kHz)

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



3.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Personal Computer	COMPAQ	EXM/P733/15C/9 /64V TAI	7045FRAZ0026	FCC DOC APPROVED
2	PRINTER	HP	2225C	2929S52398	DSI6XU2225
3	MODEM	ACEEX	1414	980020533	IFAXDM1414
4	PS/2 KEYBOARD	BTC	5121W	A00801378	E5XKB5121WTH0110
5	PS2/MOUSE	LOGITECH	M-S61	HCA12001857	JNZ211403
6	VGA CARD	ATI	RADEON VE	1612102262	FCC DOC APPROVED

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	1.6 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
5	1.8 mNon shielded wire, terminated with PS/2 connector via drain wire, w/o core.
6	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTES: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 4, 2002
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 3, 2002
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 2, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Dec. 2, 2002
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 3, 2002
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	July 5, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 20, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 20, 2002
Shielded Room	Site 2	ADT-C02	NA
VCCI Site Registration No.	Site 2	C-240	NA

NOTE: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.

2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

3. “*”: These equipment are used for conducted telecom port test only (if tested).

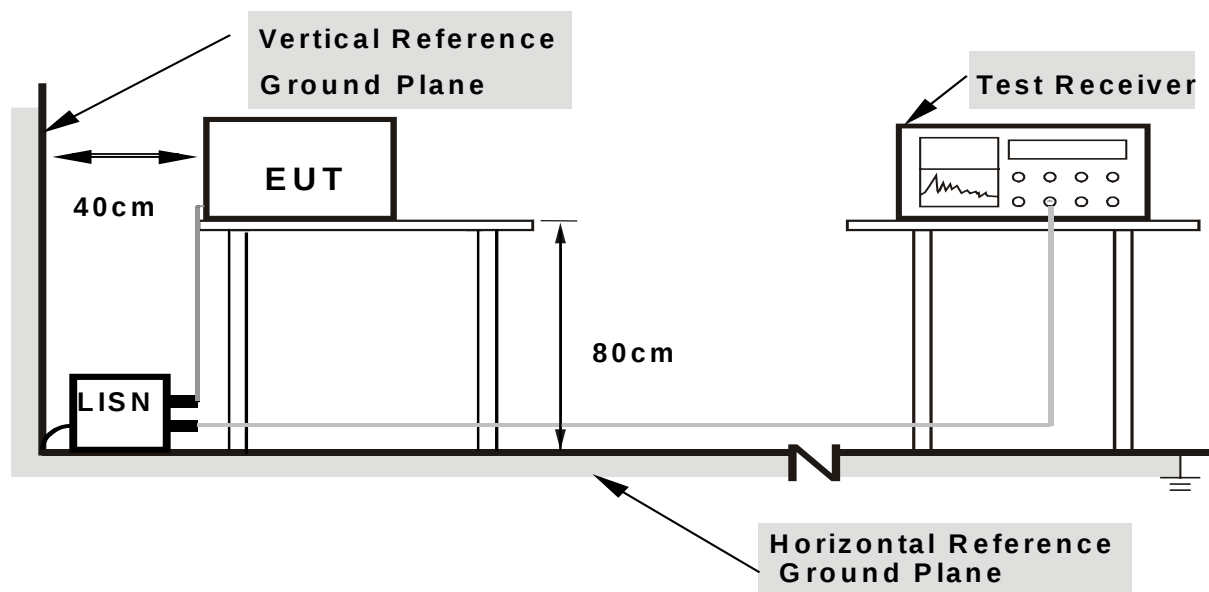
4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.



4.1.6 EUT OPERATING CONDITIONS

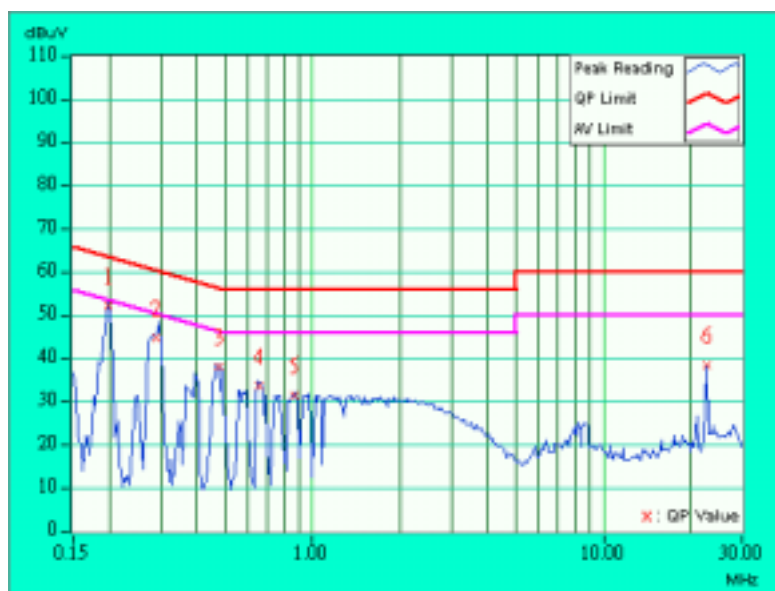
- a. Turned on the power of all equipment.
- b. PC ran a test program to enable all functions.
- c. PC read and wrote messages from FDD and HDD.
- d. PC sent "H" messages to LCD monitor (EUT) and LCD monitor displayed "H" patterns on screen.
- e. PC sent "H" messages to modem.
- f. PC sent "H" messages to printer, and the printer printed them on paper.
- g. Steps c-g were repeated.

4.1.7 TEST RESULTS (A)

EUT	LCD MONITOR	MODEL	NL1502
MODE	1	6dB BANDWIDTH	10 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.199	0.10	51.26	-	51.36	-	63.67	53.67	-12.31	-
2	0.292	0.10	43.85	-	43.95	-	60.47	50.47	-16.52	-
3	0.474	0.10	37.04	-	37.14	-	56.44	46.44	-19.30	-
4	0.655	0.10	32.50	-	32.60	-	56.00	46.00	-23.40	-
5	0.867	0.10	30.45	-	30.55	-	56.00	46.00	-25.45	-
6	22.570	1.05	37.37	-	38.42	-	60.00	50.00	-21.58	-

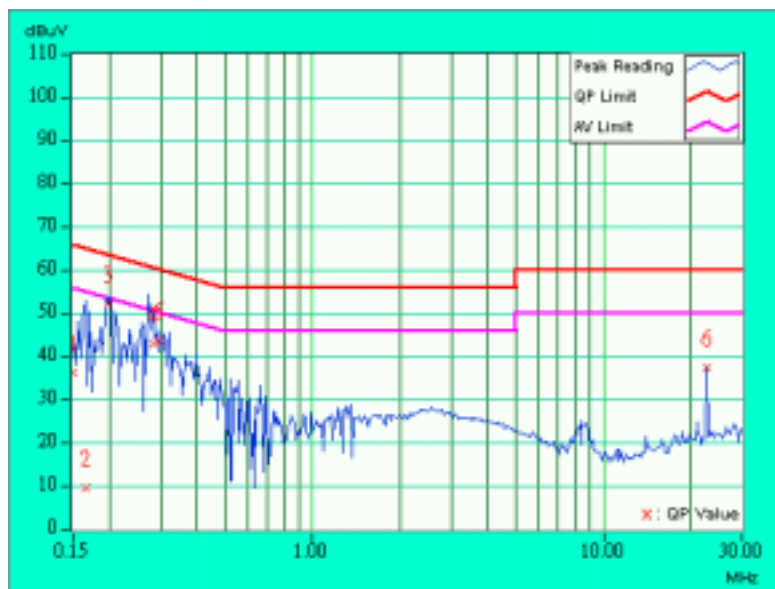
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	LCD MONITOR	MODEL	NL1502
MODE	1	6dB BANDWIDTH	10 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	35.57	-	35.67	-	66.00	56.00	-30.33	-
2	0.165	0.10	8.79	-5.88	8.89	-5.78	65.21	55.21	-56.32	-60.99
3	0.199	0.10	51.34	-	51.44	-	63.67	53.67	-12.23	-
4	0.282	0.10	42.08	-	42.18	-	60.76	50.76	-18.58	-
5	0.298	0.10	42.76	-	42.86	-	60.29	50.29	-17.43	-
6	22.570	0.85	36.43	-	37.28	-	60.00	50.00	-22.72	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.

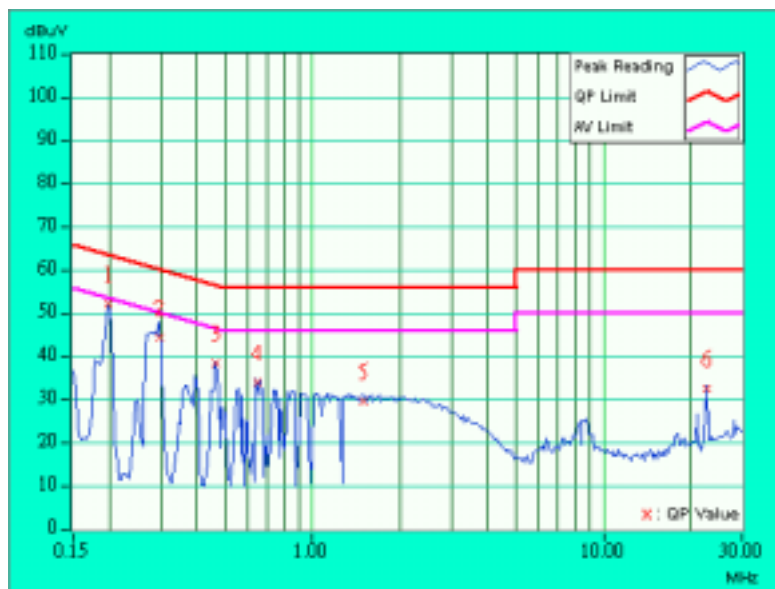


4.1.8 TEST RESULTS (B)

EUT	LCD MONITOR	MODEL	NL1502
MODE	2	6dB BANDWIDTH	10 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.199	0.10	51.30	-	51.40	-	63.65	53.65	-12.25	-
2	0.297	0.10	43.57	-	43.67	-	60.33	50.33	-16.66	-
3	0.465	0.10	37.53	-	37.63	-	56.60	46.60	-18.97	-
4	0.646	0.10	33.14	-	33.24	-	56.00	46.00	-22.76	-
5	1.500	0.10	28.75	-	28.85	-	56.00	46.00	-27.15	-
6	22.570	1.05	31.57	-	32.62	-	60.00	50.00	-27.38	-

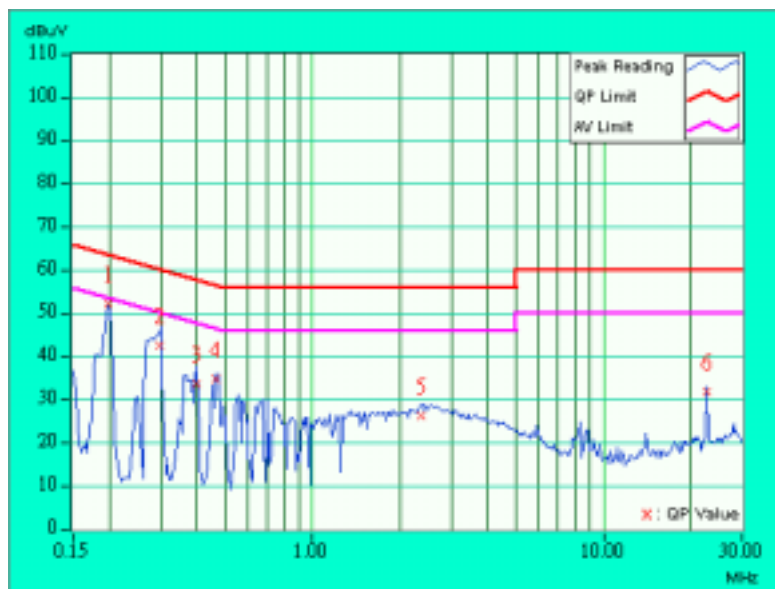
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	LCD MONITOR	MODEL	NL1502
MODE	2	6dB BANDWIDTH	10 kHz
INPUT POWER	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.199	0.10	51.38	-	51.48	-	63.65	53.65	-12.17	-
2	0.298	0.10	41.74	-	41.84	-	60.29	50.29	-18.45	-
3	0.399	0.10	32.67	-	32.77	-	57.87	47.87	-25.10	-
4	0.465	0.10	34.01	-	34.11	-	56.60	46.60	-22.49	-
5	2.361	0.14	25.57	-	25.71	-	56.00	46.00	-30.29	-
6	22.570	0.85	31.17	-	32.02	-	60.00	50.00	-27.98	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.





4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 – 230	40	30
230 - 1000	47	37

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8590L	3544A00941	Dec.10, 2002
HP Pre-Amplifier	8447D	2944A08312	Feb. 28, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* R&S Receiver	ESI7	100033	May 30, 2002
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 25, 2002
* CHASE BILOG Antenna	CBL6111A	1500	Aug. 30, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 15, 2002
* EMCO Turn Table	1060-04	1196	NA
* EMCO Tower	1051	1264	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M06089	Aug. 30, 2002
* TIMES RF cable	LMR-600	CABLE-ST1-01	Aug. 30, 2002
Open Field Test Site	Site 1	ADT-R01	June 15, 2002
VCCI Site Registration No.	Site 1	R-236	NA

NOTE: 1. The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS document NIS81.

2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

3. "*" = These equipment are used for the final measurement.

4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4.2.3 TEST PROCEDURE

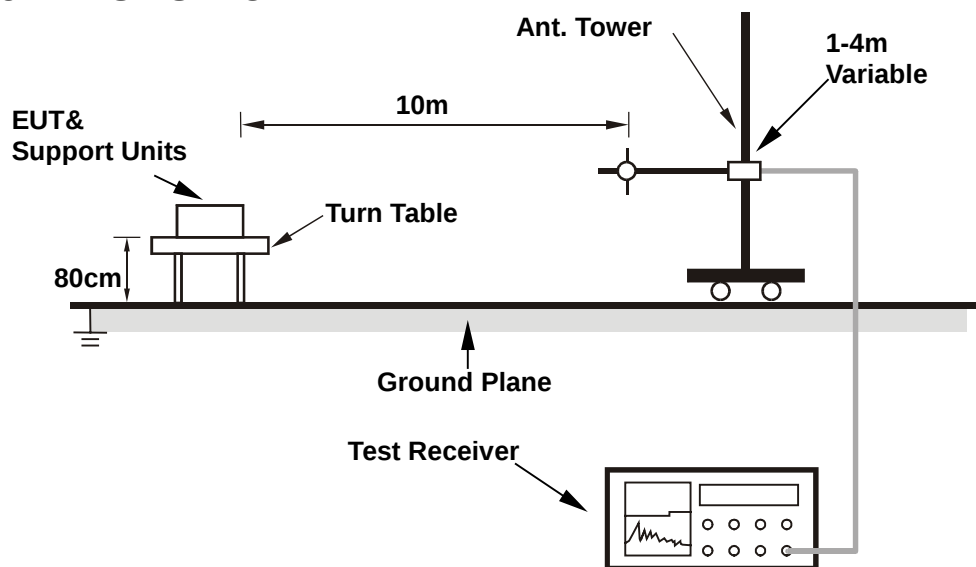
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10-meter open field site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotating table was turned from 0 degrees to 360 degrees to find the maximum reading.

- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi- peak method or average method as specified and then reported In Data sheet peak mode and QP mode.
- g. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the interference antenna and the detect function was set to Peak or Average.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

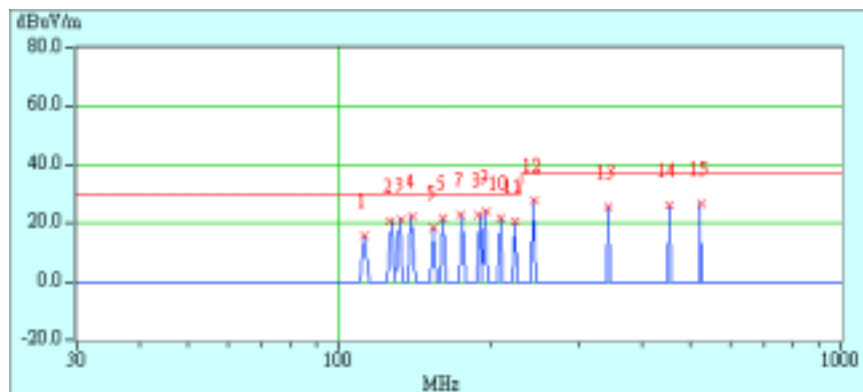
4.2.7 TEST RESULTS (A)

EUT	LCD MONITOR	MODEL	NL1502
MODE	1	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)
1	111.97	15.9 QP	30.00	-14.10	3.99H	289	3.55	10.75	1.60	0.00	-12.35
2	126.01	20.5 QP	30.00	-9.50	3.99H	248	7.64	11.22	1.64	0.00	-12.87
3	133.01	21.4 QP	30.00	-8.60	3.99H	15	8.53	11.20	1.66	0.00	-12.88
4	140.02	22.4 QP	30.00	-7.60	3.99H	151	9.53	11.18	1.69	0.00	-12.88
5	154.00	18.7 QP	30.00	-11.30	3.99H	112	6.64	10.31	1.75	0.00	-12.06
6	161.01	21.8 QP	30.00	-8.20	3.99H	291	10.18	9.85	1.78	0.00	-11.63
7	175.01	22.9 QP	30.00	-7.10	3.99H	277	12.30	8.86	1.73	0.00	-10.61
8	189.00	23.1 QP	30.00	-6.90	3.99H	114	12.61	8.66	1.83	0.00	-10.50
9	196.00	24.2 QP	30.00	-5.80	3.99H	97	13.61	8.70	1.88	0.00	-10.60
10	210.00	21.8 QP	30.00	-8.20	3.99H	285	10.53	9.28	1.99	0.00	-11.28
11	224.00	20.6 QP	30.00	-9.40	3.99H	132	8.43	10.09	2.06	0.00	-12.16
12	244.50	27.7 QP	37.00	-9.30	3.99H	135	14.36	11.18	2.16	0.00	-13.34
13	343.50	25.7 QP	37.00	-11.30	3.99H	239	9.66	13.46	2.58	0.00	-16.04
14	455.00	26.4 QP	37.00	-10.60	1.31H	359	7.30	15.96	3.14	0.00	-19.10
15	525.01	26.8 QP	37.00	-10.20	1.64H	264	4.62	18.83	3.35	0.00	-22.18

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
 2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
 3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
 4. The other emission levels were very low against the limit.
 5. Margin value = Emission level – Limit value.

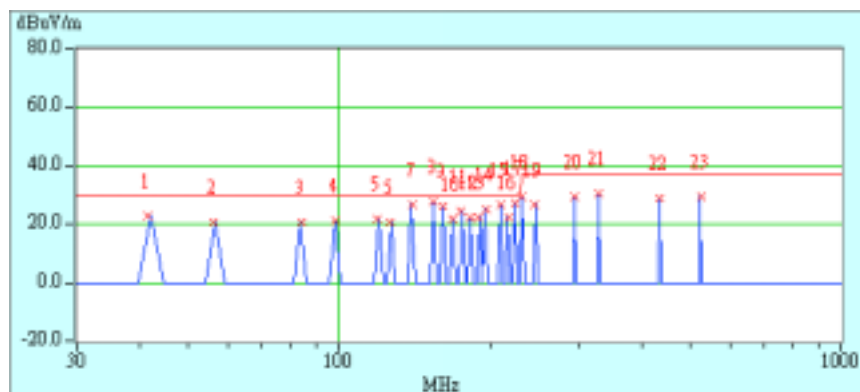


EUT	LCD MONITOR	MODEL	NL1502
MODE	1	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)
1	41.64	23.0 QP	30.00	-7.00	1.05V	136	9.70	11.11	2.18	0.00	-13.29
2	55.99	20.5 QP	30.00	-9.50	1.29V	262	12.40	6.32	1.77	0.00	-8.11
3	83.98	20.8 QP	30.00	-9.20	1.38V	268	11.98	7.28	1.54	0.00	-8.83
4	97.99	21.4 QP	30.00	-8.60	1.24V	232	10.30	9.54	1.56	0.00	-11.10
5	119.00	21.7 QP	30.00	-8.30	1.00V	332	8.86	11.22	1.62	0.00	-12.84
6	126.00	20.9 QP	30.00	-9.10	1.00V	113	8.04	11.22	1.64	0.00	-12.86
7	140.00	26.5 QP	30.00	-3.50	1.00V	5	13.63	11.18	1.69	0.00	-12.87
8	153.99	27.8 QP	30.00	-2.20	1.00V	5	15.70	10.31	1.75	0.00	-12.06
9	161.00	26.4 QP	30.00	-3.60	1.00V	297	14.80	9.85	1.78	0.00	-11.63
10	168.00	22.0 QP	30.00	-8.00	1.00V	232	10.88	9.35	1.76	0.00	-11.12
11	174.99	24.6 QP	30.00	-5.40	1.00V	101	13.95	8.86	1.73	0.00	-10.61
12	182.00	22.2 QP	30.00	-7.80	1.00V	128	11.86	8.59	1.75	0.00	-10.35
13	189.00	22.2 QP	30.00	-7.80	1.00V	266	11.71	8.66	1.83	0.00	-10.50
14	196.00	25.1 QP	30.00	-4.90	1.00V	359	14.50	8.70	1.88	0.00	-10.60
15	210.00	26.6 QP	30.00	-3.40	1.00V	356	15.30	9.28	1.99	0.00	-11.28
16	217.01	22.1 QP	30.00	-7.90	1.00V	77	10.39	9.69	2.02	0.00	-11.72
17	224.00	27.3 QP	30.00	-2.70	1.00V	359	15.10	10.09	2.06	0.00	-12.16
18	230.99	29.2 QP	37.00	-7.80	1.00V	292	16.58	10.50	2.10	0.00	-12.60
19	244.99	26.5 QP	37.00	-10.50	1.00V	60	13.01	11.32	2.17	0.00	-13.49
20	293.99	29.2 QP	37.00	-7.80	1.00V	211	14.37	12.53	2.30	0.00	-14.83
21	328.99	30.6 QP	37.00	-6.40	1.00V	359	14.84	13.22	2.49	0.00	-15.71
22	434.00	28.8 QP	37.00	-8.20	3.45V	357	10.12	15.62	3.06	0.00	-18.68
23	525.00	29.7 QP	37.00	-7.30	2.76V	171	7.52	18.83	3.35	0.00	-22.19

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
 2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
 3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
 4. The other emission levels were very low against the limit.
 5. Margin value = Emission level – Limit value.

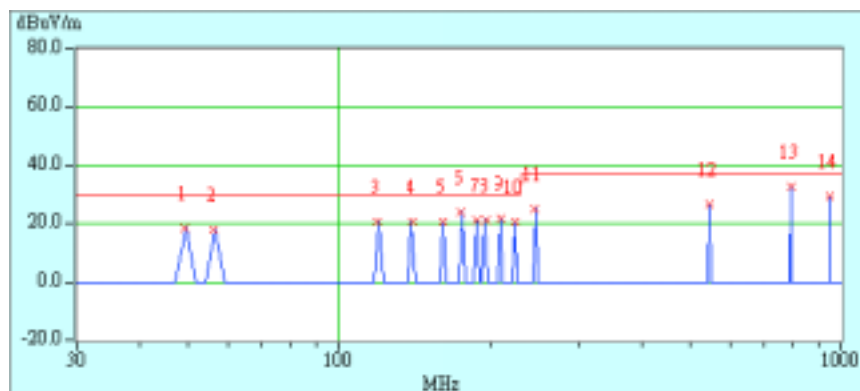


4.2.8 TEST RESULTS (B)

EUT	LCD MONITOR	MODEL	NL1502
MODE	2	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M											
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)
1	49.02	18.4 QP	30.00	-11.60	3.99H	229	7.97	8.48	1.95	0.00	-10.43
2	56.01	17.8 QP	30.00	-12.20	3.99H	50	9.70	6.32	1.77	0.00	-8.10
3	119.01	20.4 QP	30.00	-9.60	3.99H	301	7.56	11.22	1.62	0.00	-12.84
4	140.00	20.8 QP	30.00	-9.20	3.99H	182	7.93	11.18	1.69	0.00	-12.87
5	160.99	20.7 QP	30.00	-9.30	3.99H	253	9.08	9.85	1.78	0.00	-11.63
6	174.99	23.7 QP	30.00	-6.30	3.99H	169	13.10	8.86	1.73	0.00	-10.60
7	187.90	21.4 QP	30.00	-8.60	3.99H	165	10.96	8.63	1.80	0.00	-10.44
8	196.02	21.3 QP	30.00	-8.70	3.99H	85	10.71	8.70	1.88	0.00	-10.59
9	209.99	21.5 QP	30.00	-8.50	3.99H	46	10.23	9.28	1.99	0.00	-11.27
10	223.98	20.4 QP	30.00	-9.60	3.99H	298	8.25	10.09	2.06	0.00	-12.15
11	244.90	25.1 QP	37.00	-11.90	3.99H	279	11.61	11.32	2.17	0.00	-13.49
12	546.90	26.9 QP	37.00	-10.10	2.61H	235	3.49	20.06	3.35	0.00	-23.42
13	793.09	32.9 QP	37.00	-4.10	2.51H	135	5.76	22.52	4.62	0.00	-27.14
14	948.60	29.4 QP	37.00	-7.60	1.00H	317	0.15	24.63	4.62	0.00	-29.25

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
 2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
 3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
 4. The other emission levels were very low against the limit.
 5. Margin value = Emission level – Limit value.



EUT	LCD MONITOR	MODEL	NL1502
MODE	2	FREQUENCY RANGE	30-1000 MHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 75 % RH, 1005 hPa	TESTED BY: JONE LIN	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M												
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Gain (dB)	Correction Factor (dB/m)	
1	56.00	23.8 QP	30.00	-6.20	1.32V	193	15.70	6.32	1.77	0.00	-8.10	
2	63.45	20.5 QP	30.00	-9.50	1.61V	295	13.16	5.61	1.73	0.00	-7.34	
3	69.98	24.4 QP	30.00	-5.60	1.49V	12	16.61	6.02	1.77	0.00	-7.79	
4	119.00	21.6 QP	30.00	-8.40	1.00V	116	8.76	11.22	1.62	0.00	-12.84	
5	140.01	25.1 QP	30.00	-4.90	1.00V	295	12.23	11.18	1.69	0.00	-12.87	
6	155.00	22.0 QP	30.00	-8.00	1.00V	0	10.08	10.16	1.76	0.00	-11.93	
7	161.00	21.8 QP	30.00	-8.20	1.00V	211	10.18	9.85	1.78	0.00	-11.63	
8	175.01	26.3 QP	30.00	-3.70	1.00V	301	15.70	8.86	1.73	0.00	-10.61	
9	189.00	23.4 QP	30.00	-6.60	1.00V	186	12.91	8.66	1.83	0.00	-10.50	
10	196.00	25.8 QP	30.00	-4.20	1.00V	327	15.21	8.70	1.88	0.00	-10.60	
11	203.00	24.6 QP	30.00	-5.40	1.00V	192	13.78	8.87	1.95	0.00	-10.83	
12	210.00	27.8 QP	30.00	-2.20	1.00V	0	16.50	9.28	1.99	0.00	-11.28	
13	224.00	21.9 QP	30.00	-8.10	1.00V	171	9.75	10.09	2.06	0.00	-12.16	
14	244.99	26.8 QP	37.00	-10.20	1.00V	137	13.31	11.32	2.17	0.00	-13.49	
15	279.99	26.4 QP	37.00	-10.60	1.00V	88	12.22	11.91	2.27	0.00	-14.19	
16	343.80	25.7 QP	37.00	-11.30	1.00V	317	9.66	13.46	2.58	0.00	-16.05	
17	401.50	27.9 QP	37.00	-9.10	1.00V	206	9.80	15.18	2.91	0.00	-18.10	
18	793.10	34.3 QP	37.00	-2.70	1.73V	19	7.20	22.52	4.62	0.00	-27.14	
19	816.09	34.1 QP	37.00	-2.90	1.74V	4	6.60	22.86	4.64	0.00	-27.50	

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
 2. Correction Factor(dB/m) = Pre-Amplifier Gain (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
 3. Pre-Amplifier Gain (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
 4. The other emission levels were very low against the limit.
 5. Margin value = Emission level – Limit value.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST (for Mode 1)



(for Mode 2)



RADIATED EMISSION TEST (for Mode 1)



(for Mode 2)





6 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO, DNV
Canada	INDUSTRY CANADA
R.O.C.	CNLA, BSMI

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC Lab:

Tel: 886-35-935343

Fax: 886-35-935342

Lin Kou Safety Lab:

Tel: 886-2-26093195

Fax: 886-2-26093184

Lin Kou RF & Telecom Lab.

Tel: 886-3-3270910

Fax: 886-3-3270892

Email: service@mail.adt.com.tw

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.