FCC ID: ATI9R3LA-1560

EMC

TEST REPORT

REPORT NO. : F87120801
MODEL NO. : LA-1560U, LA-1560
DATE OF TEST : Dec. 09, 1998

PREPARED FOR : ACTION ELECTRONICS CO., LTD.

ADDRESS : 198, CHUNG YUAN RD., CHUNG LI IND. ZONE,
CHUNG LI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION

NVLAP®
Accredited Laboratory

11F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

TABLE OF CONTENTS

1. CERTIFICATION

Issue date: Dec. 12, 1998

Product	:	LCD MONITOR
Trade Name	:	AXION
Model No.	:	LA-1560U, LA-1560
Applicant	:	ACTION ELECTRONICS CO., LTD.
Standard	:	FCC Part 15, Subpart B, Class B ANSI C63.4-1992 CISPR 22:1993+A1:1995+A2:1997

We hereby certify that one sample of the designation has been tested in our facility on Dec. 09, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of applicable standards.

TESTED BY: Joey Chen , DATE: 12/12/98
(Joey Chen)

CHECKED BY: Yemmy Soong , DATE: 12/12/98
(Yemmy Soong)

APPROVED BY: Mike Su , DATE: 12/12/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

Accredited Laboratory

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	LCD MONITOR
Model No.	:	LA-1560U, LA-1560
Power Supply Type	:	Switching
Power Cord	:	Nonshielded AC (1.8m)
Data Cable	:	Shielded (1.8m)

Note: The EUT is a 15" LCD monitor with resolution up to 1024x768 (60 kHz)

The EUT has two model names which are identical to each other except for the following:

- Model : LA-1560U - with USB function
- Model : LA-1560 - without USB function

From the above model names, Model : LA-1560U was selected as the representative for this test and its data is recorded in this report.

The EUT was tested using the following modes:
Mode 1 : using HOSIDEN 15.1" TFT LCD Panel
PHIHONG Adapter, Model: PSS45U-120
Input: 100-240V, 1.2A, 50-60Hz
Output: 12Vdc, 3.5A

Mode 2 : using HOSIDEN 15.1" TFT LCD Panel
ACBEL adapter, Model: API-8799,
Input: 100-240V, 1.5A, 50-60 Hz
Output: 12Vdc, 3.6A

The EUT was tested using both Modes and the data of the tests are recorded in this report. There is a ferrite core on the cable of PHIHONG power adapter.

There is a ferrite core on the video cable outside the LCD monitor.

For more detailed features description, please refer to Manufacturer's Specification or User's Manual.

2.2 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 are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID.	I/O Cable
1.	PERSONAL COMPUTER	HP	D4579A	FCC Doc Approved	Nonshielded Power (1.8m)
2.	USB KEYBOARD	BTC	7932	E5XKBUCP10410	Shielded Signal (1.8m)
3.	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (2.0m) Nonshielded Power (1.8m)
4.	MODEM	ACEEX	1414	IFAXDM1414	Shielded signal (1.5m) Nonshielded Power (1.8m)
5.	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded signal (1.5m)
6.	CCD CAMERA	COMPAQ	YC72-CPQ	EDUYC72-CPQ	Shielded signal (2.1m)
7.	VGA CARD	GORDIA	DSV3365	LUT-DSV3365	N/A

Note: 1. Support unit 2 & 6 were connected to the USB port of EUT.
2. Two USB cables (each 2.0 m) were connected to the USB ports of EUT to form two open loop cables.

2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4:1992. Radiated testing was performed at an antenna to EUT distance of 10 m on an open area test site.

Please refer to the photos of test configuration in Item 5.

3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594A	3144A00308	Sept. 3, 1999
HP Preamplifier	8447D	2944A08119	Jan. 20, 1999
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 15, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 25, 1999
CHASE Bilog Antenna	CBL6112A	2329	Sept. 19, 1999
EMCO Turn Table	1060	1195	N/A
EMCO Tower	1051	1163	N/A
Open Field Test Site	Site 2	ADT-R02	Sept. 18, 1999

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's 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.

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESH3	893495/006	July 15, 1999
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 16, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 14, 1999
EMCO-L.I.S.N.	3825/2	9204-1964	July 14, 1999
Shielded Room	Site 2	ADT-C02	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's 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.

3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (at 10m) dBuV/m	Class B (at 10m) 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 (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	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.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

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

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

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

(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. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range	:	0.15 - 30 MHz (Conducted Emission) 30 - 1000 MHz (Radiated Emission)
Input Voltage	:	120 Vac, 60 Hz
Temperature	:	21 ℃
Humidity	:	62 %
Atmospheric Pressure	:	1010 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -14.1 dB at 0.550 MHz Minimum passing margin of radiated emission: -2.9 dB at 144.0 & 228.0 MHz

Note: The EUT was pre-tested under the following resolution & horizontal synchronization speed mode:

* 1024 x 768 mode (60 kHz),
* 800 x 600 mode (48 kHz),
* 640 x 480 mode (31.5 kHz)

The worst emission levels were found under 1024 x 768 (60 kHz) with D-Sub video cable and therefore the test data of only this mode is recorded.

4.2 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions.
3. PC reads and writes messages from FDD and HDD.
4. CCD camera captures an image and sends it to PC.
5. PC sends "H" messages & picture messages to LCD monitor (EUT) and the LCD monitor displays them on its screen.
6. PC sends "H" messages to modem.
7. PC sends "H" messages to printer, and the printer prints them on paper.
8. Repeat steps 3-8.

4.3 TEST DATA OF CONDUCTED EMISSION (A)

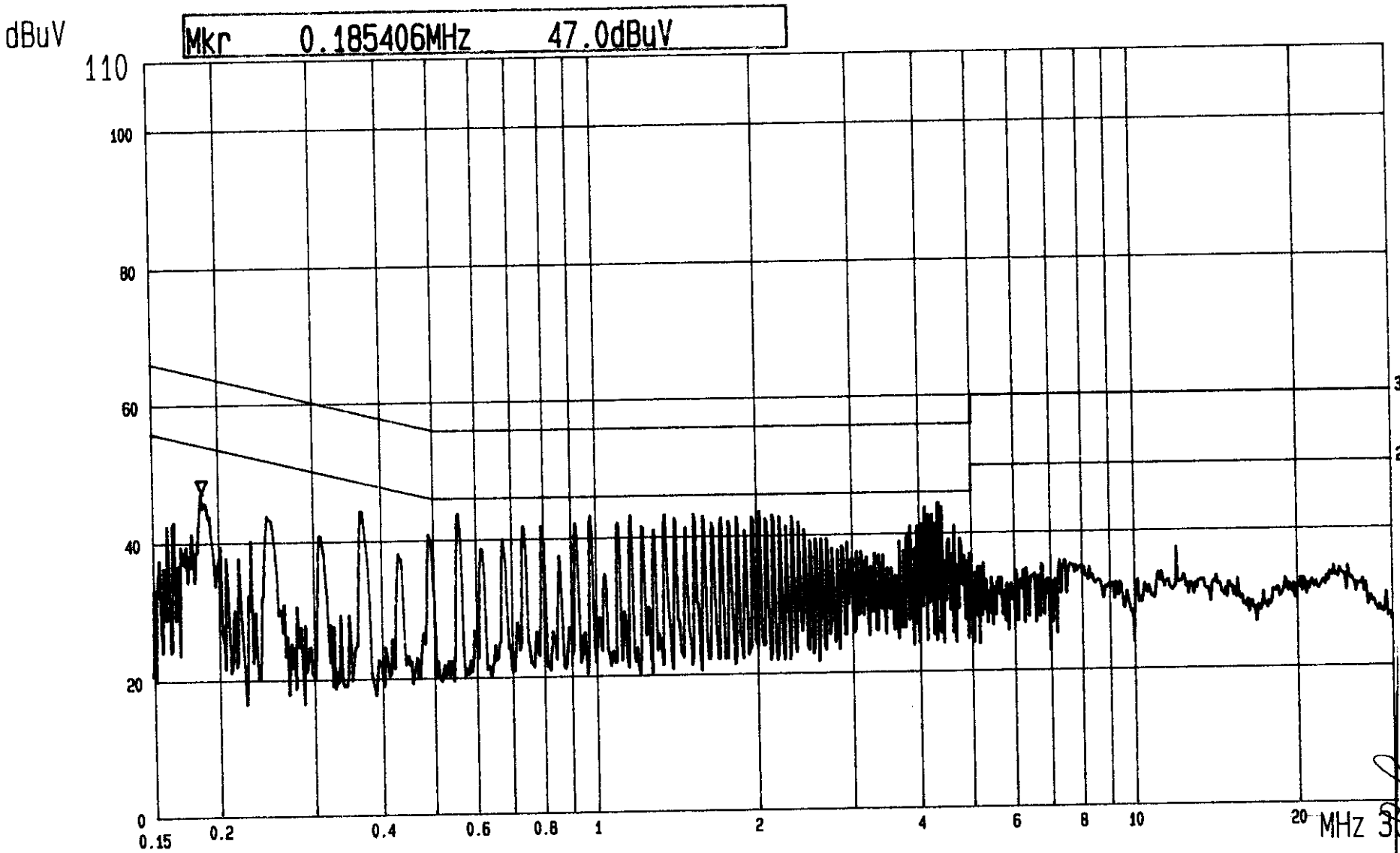
EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE : 1

6 dB Bandwidth: 10 kHz

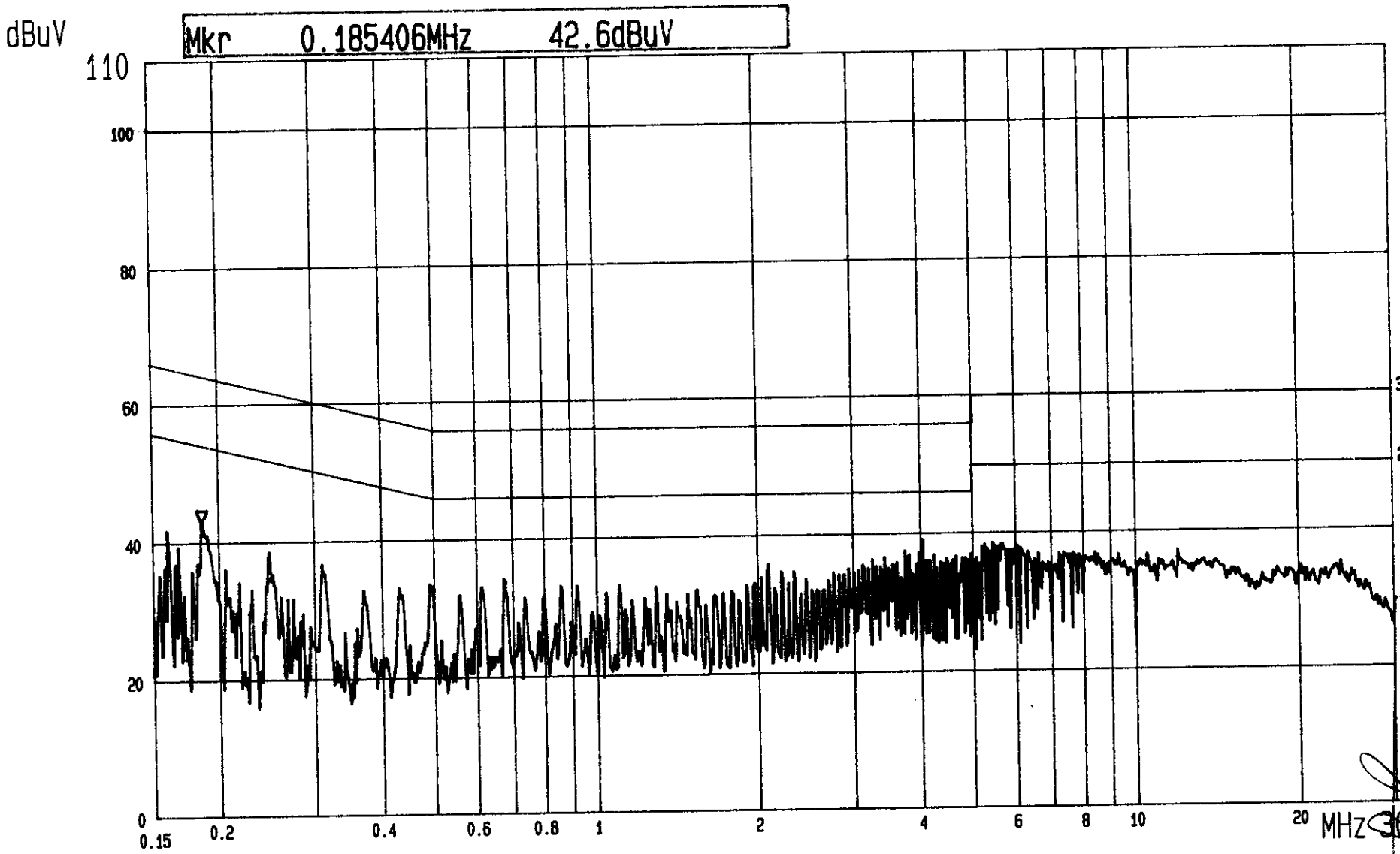
Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.182	44.8	-	39.7	-	64.4	54.4	-19.6	-	-24.7	-
0.366	42.3	-	30.7	-	58.6	48.6	-16.3	-	-27.9	-
0.550	41.9	-	29.2	-	56.0	46.0	-14.1	-	-26.8	-
2.081	40.5	-	32.3	-	56.0	46.0	-15.5	-	-23.7	-
4.347	40.1	-	31.5	-	56.0	46.0	-15.9	-	-24.5	-
7.289	29.7	-	31.7	-	60.0	50.0	-30.3	-	-28.3	-

Remarks:
1. "*": Undetectable
2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value



--- Date 09.DEC.'98 Time 22:13:08
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP.
MODEL: LA-1560U 1024X768 60KHz (ADAPTOR: PHIHONG WITH CORE) LISN: L

Report No. F871208-01
Page 9-1
Tested by



|--- Date 09.DEC.'98 Time 22:19:50
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP.
MODEL: LA-1560U 1024X768 60KHz (ADAPTOR: PHIHONG WITH CORE) LISN: N

Report No. F8712080I
Page 9-2
Tested by

4.4 TEST DATA OF CONDUCTED EMISSION (B)

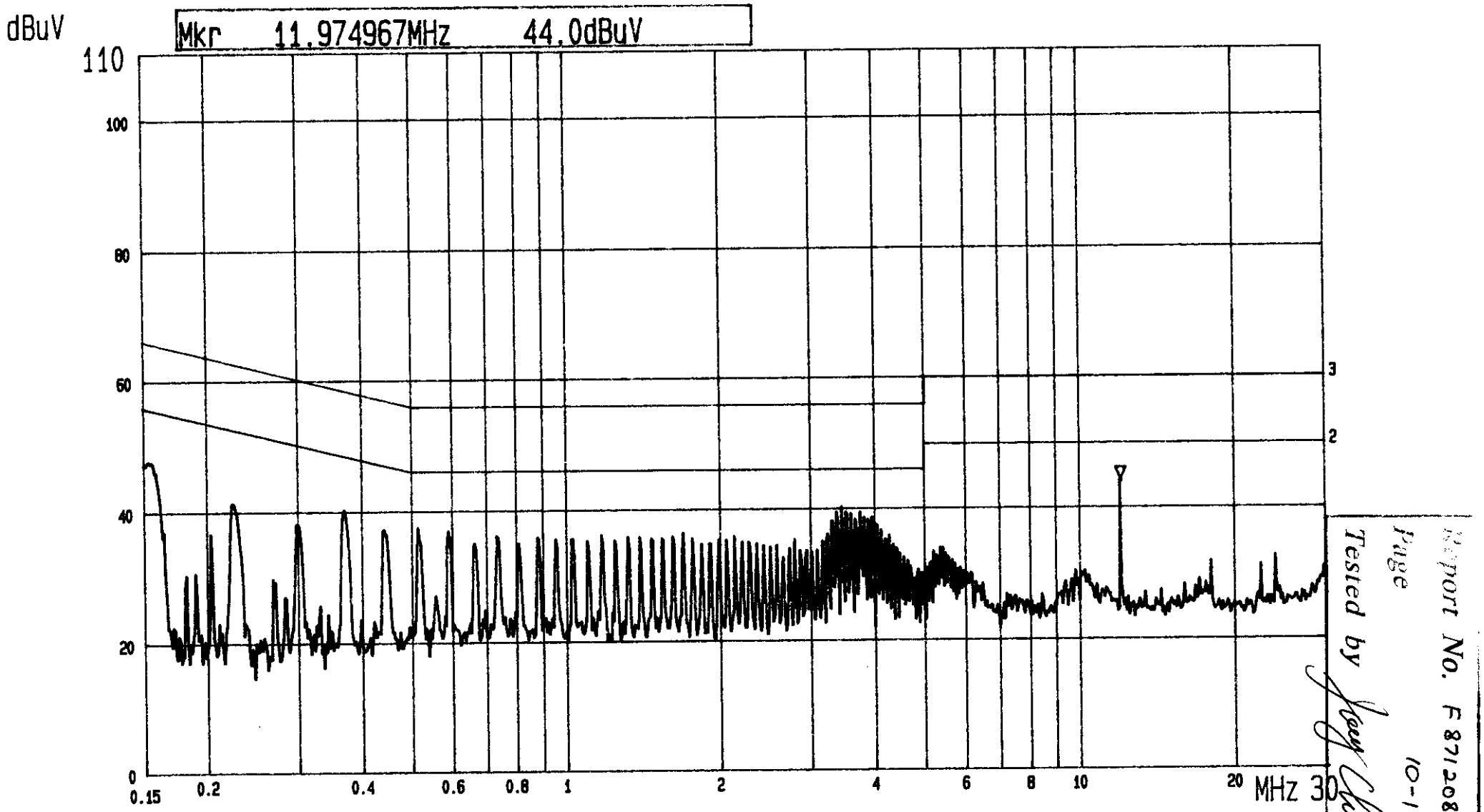
EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE : **2**

6 dB Bandwidth: 10 kHz

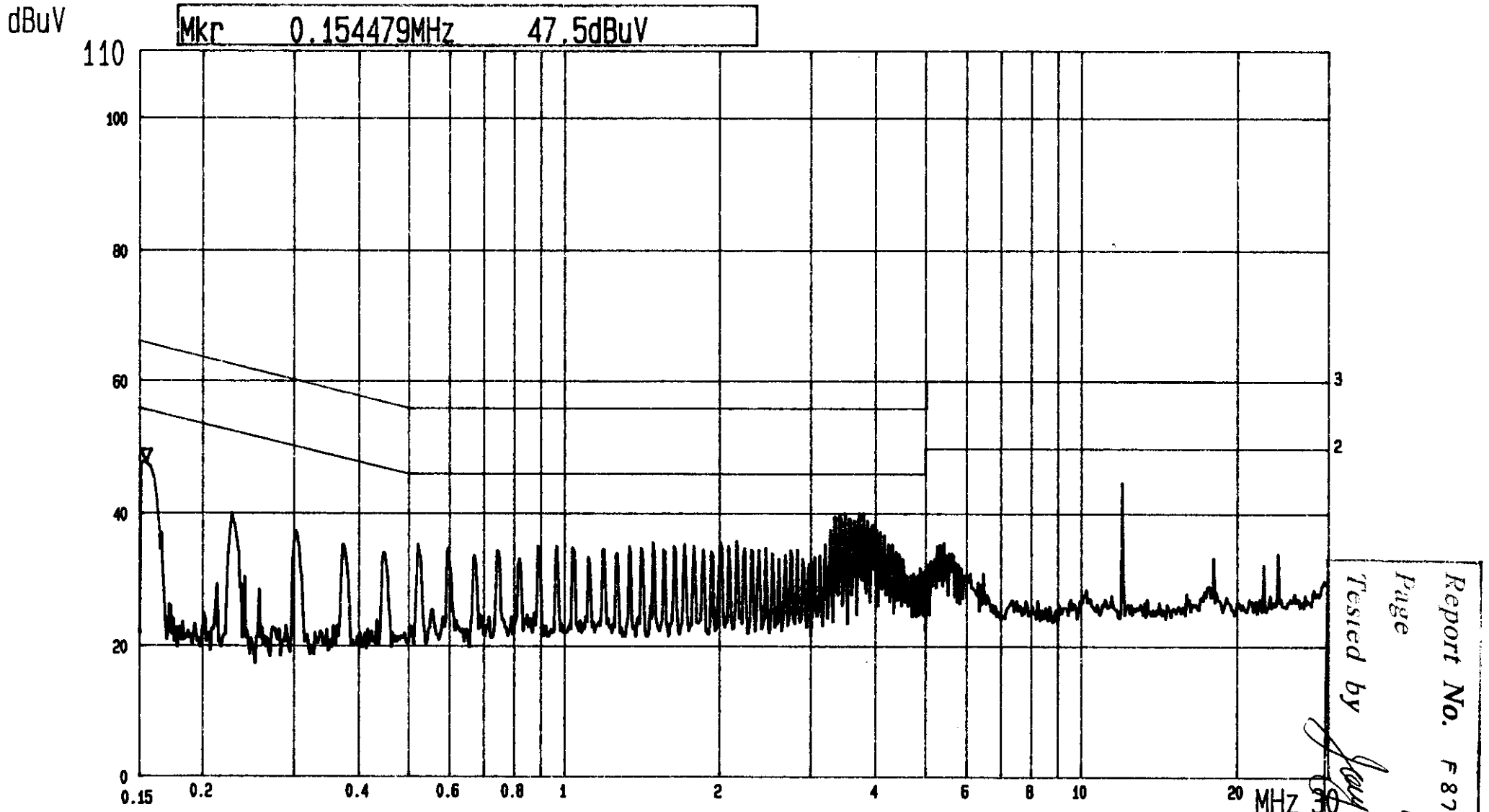
Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.150	40.7	-	44.6	-	66.0	56.0	-25.3	-	-21.4	-
0.219	40.1	-	38.0	-	62.9	52.9	-22.8	-	-24.9	-
0.515	34.2	-	32.3	-	56.0	46.0	-21.8	-	-23.7	-
1.689	33.1	-	32.0	-	56.0	46.0	-22.9	-	-24.0	-
3.456	37.3	-	36.9	-	56.0	46.0	-18.7	-	-19.1	-
12.030	41.3	-	41.5	-	60.0	50.0	-18.7	-	-18.5	-

Remarks:
1. "*": Undetectable
2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value



Report No. F871208-01
Page 10-1
Tested by Jeffrey Chen

|--- Date 09.DEC.'98 Time 23:22:17
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP.
MODEL: LA-1560U 1024X768 60KHz (ADAPTOR: API-8799) LISN: L



Report No. F871208O1
Page 10-2
Tested by Gary Chen

| --- Date 09.DEC.'98 Time 23:28:09
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP.
MODEL: LA-1560U 1024X768 60KHz (ADAPTOR: API-8799) LISN: N

4.5 TEST DATA OF RADIATED EMISSION (A)

EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE: 1 ANT. POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
82.93	8.9	8.7	17.6	30.0	-12.4
131.99	13.9	10.5	24.4	30.0	-5.6
144.00	13.2	13.9	27.1	30.0	-2.9
168.00	11.4	14.7	26.1	30.0	-3.9
172.48	11.5	5.1	16.6	30.0	-13.4
180.00	11.6	12.7	24.3	30.0	-5.7
216.00	13.0	12.6	25.6	30.0	-4.4
222.71	13.5	12.0	25.5	30.0	-4.5
228.00	13.9	13.2	27.1	30.0	-2.9

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

TEST DATA OF RADIATED EMISSION (A)

EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE: 1 ANT. POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
83.15	8.2	13.4	21.6	30.0	-8.4
120.00	14.4	7.4	21.8	30.0	-8.2
128.00	14.3	9.3	23.6	30.0	-6.4
132.00	14.2	11.0	25.2	30.0	-4.8
140.48	14.0	9.8	23.8	30.0	-6.2
144.02	13.6	11.6	25.2	30.0	-4.8
146.47	13.3	9.1	22.4	30.0	-7.6
159.86	11.7	11.4	23.1	30.0	-6.9

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

4.6 TEST DATA OF RADIATED EMISSION (B)

EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE: **2** ANT. POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
83.18	9.0	10.5	19.5	30.0	-10.5
132.00	13.9	11.3	25.2	30.0	-4.8
144.00	13.2	13.2	26.4	30.0	-3.6
168.00	11.4	13.1	24.5	30.0	-5.5
180.01	11.6	14.2	25.8	30.0	-4.2
190.92	11.7	12.3	24.0	30.0	-6.0
216.00	13.0	10.7	23.7	30.0	-6.3
222.69	13.5	12.5	26.0	30.0	-4.0
228.00	13.9	9.6	23.5	30.0	-6.5

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

TEST DATA OF RADIATED EMISSION (B)

EUT: **LCD MONITOR** MODEL: **LA-1560U**

MODE: **2** ANT. POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
63.88	6.6	16.5	23.1	30.0	-6.9
76.54	7.2	14.3	21.5	30.0	-8.5
83.31	8.2	15.1	23.3	30.0	-6.7
128.04	14.3	10.2	24.5	30.0	-5.5
132.00	14.2	12.0	26.2	30.0	-3.8
140.40	14.0	9.9	23.9	30.0	-6.1
144.01	13.6	11.2	24.8	30.0	-5.2
191.44	12.1	12.4	24.5	30.0	-5.5
203.12	12.8	11.1	23.9	30.0	-6.1
223.27	13.7	9.2	22.9	30.0	-7.1

REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) +Meter Reading (dBuV).
2. Correction Factor (dB/m) = Ant. Factor (dB/m)+Cable loss (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level - Limit value

6. APPENDIX - INFORMATION OF THE TESTING LABORATORY

Information of the testing laboratory

We, ADT Corp., is founded in 1988, to provide our best service in EMC and Safety consultation. Our laboratory is accredited by the following approval agencies:

• USA	FCC, UL, NVLAP
• Germany	TUV Rheinland
	TUV Product Service
• Japan	VCCI
• New Zealand	RFS
• Norway	NEMKO
• U.K.	INCHCAPE, SGS
• R.O.C.	BCIQ

Enclosed please find some certificates of our laboratory obtained from approval agencies. If you have any comments, please feel free to contact us with the following:

Lin Kou EMC Lab.:
Tel: 886-2-26032180
Fax: 886-2-26022943

Hsin Chu EMC Lab:
Tel: 886-35-935343
Fax: 886-35-935342

Lin Kou Safety Lab.:
Tel: 886-2-26093195
Fax: 886-2-26093184

Design Center:
Tel: 886-2-26093195
Fax: 886-2-26093184

E-mail: **service@mail.adt.com.tw**
http://www.adt.com.tw

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

October 21, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Advance Data Technology Corporation
12F, No. 1, Sec. 4
Nan-King East Rd.
Taipei, Taiwan, R.O.C.

Attention: Harris W. Lai

Re: Measurement facility located at above address, Site No. 1
(3 and 10 meters)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is published periodically and is also available on the Laboratory's Public Access Link as described in the enclosed Public Notice.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

September 15, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Advance Data Technology Corporation
12F, No. 1, Sec. 4
Nan-King E. Rd.
Taipei, Taiwan, R.O.C.

Attention: Harris Lai

Re: Measurement facility located at Lin Kou, Sites 2 & 3
(3 & 10 meters)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has also been added to our list of those who perform these measurement services for the public on a fee basis. An up-to-date list is available on the Internet at the FCC Website www.fcc.gov under Electronic Filing.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

April 17, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Advance Data Technology Corporation
12F., No. 1, Sec. 4
Nan-King E. Rd.
Taipei, Taiwan, R.O.C.

Attention: Harris W. Lai

Re: Measurement facility located at above address
Site No. 4 (3 and 10 meters)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is published periodically and is also available on the Laboratory's Public Access Link as described in the enclosed Public Notice.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

October 21, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Advance Data Technology Corporation
12F, No. 1, Sec. 4
Nan-King East Rd.
Taipei, Taiwan, R.O.C.

Attention: Harris W. Lai

Re: Measurement facility located at above address, Site No. 5
(3 and 10 meters)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is published periodically and is also available on the Laboratory's Public Access Link as described in the enclosed Public Notice.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (toll-free)
Facsimile: 301-344-2050

February 25, 1998

IN REPLY REFER TO
31040/SIT
1300F2

Advance Data Technology Corporation
12F, No. 1, Sec. 4, Nan-King E. Rd.
Taipei, Taiwan

Attention: Harris W. Lai

Re: Measurement facility located at above address. Site No. 6
(3 and 10 meters)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that this facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is updated monthly and is available on the Laboratory's Public Access Link (PAL) at 301-725-1072, and also on the Internet at the FCC Website www.fcc.gov/oet/info/database/testsite/.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

TÜV Rheinland

Technischer Überwachungs-Verein Rheinland

Certificate

of Appointment

No. 1-9763928-9707

The applicant :

Advance Data Technology (ADT) Corporation
No. 47, 14 Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien, Taiwan, R.O.C.

has been authorized to carry out EMC tests by order and under supervision of TÜV Rheinland according to

CISPR16, EN 55 011:1991, EN 55 014:1993, EN 55 015:1993, EN 55 022:1994/A1, EN 55 104:1995, EN 60 555-2:1987, EN 61 000-3-2:1995, EN 61 000-3-3:1995, EN 50 081-1:1992, EN 50 082-1:1992, EN 50 081-2:1993, EN 50 082-2:1995, IEC 801-2:1991, IEC 801-3:1984, IEC 801-4:1988, IEC 801-5:1990, EN 61 000-4-2:1995, ENV 50 140:1993, ENV 50 141:1993, IEC 1 000-4-3:1995, EN 61 000-4-4:1995, EN 61 000-4-5:1995, EN 61 000-4-8:1993, EN 61 000-4-11:1994, EN 60 601-1-2:1993

An inspection of the facility was conducted according to the Document "Approval of Test Site" with reference to EN 45 001 by a TÜV Rheinland inspector.

Audit Report No. P 9763928E01, Rev. A
This certificate is valid until the next scheduled inspection or up to 15 month, at the discretion of TÜV Rheinland.

TÜV Rheinland Taiwan Ltd.
Taipei, 16.07.1997

Dipl.-Ing. G. Lübken
Vice General Manager
Product Safety Department

Dipl.-Ing. U. Meyer
Auditor

The conditions of the Testing and Certification Regulations are an integral part of this certificate.

Nemko Worldwide Testing and Certification

ELA 4

EMC Laboratory Authorization

Aut. No. : ELA 112

EMC Laboratory: **ADT Advance Data Technology Corporation**
No. 47, 14 Ling, Chia Pau Tsuen,
Lin Kou Hsiang, Taipei Hsien,
Taiwan R.O.C.

Scope of Authorization: **All CENELEC standards (ENs) for EMC that are listed on the accompanying page, and, all of the corresponding CISPR, IEC, and ISO EMC standards that are listed on the accompanying page.**

This Authorization Document confirms that the above mentioned EMC Laboratory has been validated against EN 45001 and found to be compliant. The laboratory also fulfils the conditions described in Nemko Document ELA 10. During Nemko's visit to the laboratory on 9. October 1996, an assessment was made of the relevant parts of your organization - i.e. facilities, personnel qualifications, test equipment, and testing practices. It was found that the EMC Laboratory is capable of performing tests within the Scope of Authorization given on the accompanying page. Accordingly, Nemko will accept your test reports as a basis for attesting conformity to those EMC Standards for the products in question under either the European Union EMC Directive or the European Union Automotive EMC Directive (as applicable).

In case of applications for Product Certification(s) to be issued by Nemko, your EMC Laboratory's test report(s) will be accepted by Nemko if they are enclosed with the Application Form submitted by the manufacturer.

In order to maintain the Authorization, the information given in the enclosed ELA-INFOs (if any) must be carefully followed. Nemko is to be promptly notified about any changes in the situation at your EMC Laboratory which may affect the basis for this Authorization. The Authorization may at any time be withdrawn if the conditions are no longer considered to be fulfilled.

The Authorization is valid through February 28. 1999.

Oslo, 13 March 1998

For Nemko AS:

Kjell Bergh, Head of EMC Section

Nemko Worldwide Testing and Certification

ELA 4

EMC Laboratory Authorisation

Aut. No. : ELA 112

(Page 2 of 2)

SCOPE OF AUTHORIZATION

GENERIC & PRODUCT-FAMILY STANDARDS

EN 50081-1, EN 50081-2	EN 50082-1, EN 50082-2	EN 55011, Gr. 1, CISPR 11
EN 55013, CISPR 13	EN 55014-1, CISPR 14-1	EN 55015, CISPR 15
EN 55022	EN 60555-2, IEC 555-2, EN 61000-3-2, IEC 61000-3-2	EN 60555-3, IEC 555-3, EN 61000-3-3, IEC 61000-3-3

BASIC STANDARDS

EN 61000-4-2, IEC 61000-4-2, IEC 801-2	EN 61000-4-3, ENV 50140, ENV 50204, IEC 61000-4-3, IEC 801-3	EN 61000-4-4, IEC 61000-4-4, IEC 801-4
EN 61000-4-5, IEC 61000-4-5	EN 61000-4-6, ENV 50141, IEC 61000-4-6	EN 61000-4-8, IEC 61000-4-8
EN 61000-4-11, IEC 61000-4-11		

Oslo, 13 March 1998

Kjell Bergh, Nemko EMC Services

National Institute of Standards and Technology — NVLAP — National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation

Page: 1 of 1

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200102-0

ADVANCE DATA TECHNOLOGY CORPORATION
No. 47, 14 Ling, Chia Pao Tsuen,
Lin Kou Hsiang
Taipei Hsien
TAIWAN
Mr. Harris W. Lai
Phone: 886-2-6032180 Fax: 886-2-6022943

NVLAP Code	*Designation / Description*
International Special Committee on Radio Interference (CISPR) Methods	
12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
Federal Communications Commission (FCC) Methods	
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions
Australian Standards referred to by clauses in AUSTEL Technical Standards	
12/T51	AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

December 31, 1998
Effective through

For the National Institute of Standards and Technology

NVLAP-01S (11-98)

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation

ADVANCE DATA TECHNOLOGY CORPORATION
TAIPEI HSIEN
TAIWAN

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS
FCC

December 31, 1998
Effective through

For the National Institute of Standards and Technology
NVLAP Lab Code: 200102-0

COMMERCE
MINISTRY OF COMMERCE
Te Manatū Tauhokohoko

ENG 3/9
AJD

20 February 1998

Advance Data Technology Corporation
12F
No 1
Sec 4
Nan King E Rd
Taipei
TAIWAN ROC

Attention: Mr Harris W Lai

Dear Sir

LABORATORY APPROVAL

Thank you for your letter of 19 February 1997 regarding the re-certification of your testing laboratory to the Ministry of Commerce's laboratory approval criteria.

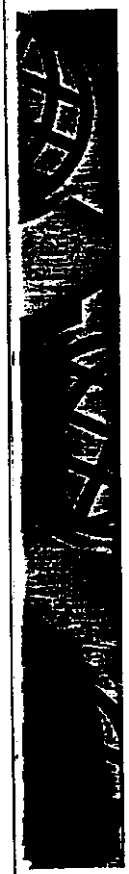
I am pleased to advise that your approval has been extended until 31 December 1998. At this time, the Approved Laboratory scheme will cease operation with the implementation of the new radiocommunications regulations. Test reports from your laboratory will be accepted under the new framework. Please find enclosed a copy of the Ministry's discussion paper, DP10, outlining the proposed compliance process from 1 January 1999.

If you have any further questions on this matter please do not hesitate to contact me.

Yours faithfully

Andrew Dyke
Senior Technical Officer(Regulatory)

Operations and Risk Management Branch, University of Commerce Building, 33 Bowen Street, Wellington, New Zealand
PO Box 2[illegible] Telephone (04) [illegible] Fax (04) [illegible]



SGS

Certificate of Assessment

This is to Certify

That ADVANCE DATA TECHNOLOGY CORP.

Has been approved as a supplier of

"EMC TESTING SERVICES"

and in particular for specifications implemented by

The EC DIRECTIVE on EMC

at

SGS EMC SERVICES

in accordance with

SGS Laboratory Approval Scheme

The scope of approval is detailed in the

Schedule of Assessment

SGS EMC Services
South Ind Est
Bewburn
Co Durham
DH6 1AD
UNITED KINGDOM

Issued
For and on Behalf of
SGS EMC Services
J.E. WHALEY
General Manager
Date: 07/03/96

CERTIFICATE

Facility: NO. 1 SITE
(Radiation 3 and 10 meter site)
Company : Advance Data Technology Corp.
Address : No.47, CHIA PAU TSUEN, LIN KOU HSIANG, TAIPEI HSIEN, TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures.

Registration No. : R-236
Date of Registration : July 1, 1998
This Certificate is valid until September 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: NO. 2 SITE
(Radiation 3 and 10 meter site)
Company : Advance Data Technology Corp.
Address : No.47, CHIA PAU TSUEN, LIN KOU HSIANG, TAIPEI HSIEN, TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures.

Registration No. : R-237
Date of Registration : July 1, 1998
This Certificate is valid until September 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: NO. 2 SITE
(Conducted Interference Measurement)
Company : Advance Data Technology Corp.
Address : No.47, CHIA PAU TSUEN, LIN KOU HSIANG, TAIPEI HSIEN, TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures.

Registration No. : C-240
Date of Registration : July 1, 1998
This Certificate is valid until September 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: ADVANCE DATA TECHNOLOGY CORP. No. 3 Site
(Radiation 3m, 10 meter site, and Conducted Interference Measurement)
Company : ADVANCE DATA TECHNOLOGY CORP.
Address : No. 47, CHIA PAU TSUEN, LIN KOU HSIANG, TAIPEI HSIEN, TAIWAN, R.O.C.

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : R-269 and C-274
Date of Registration : November 2, 1995
This Certificate is valid until December 31, 1998

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: No.4 Site
(Radiation 3 and 10 meter site)
Company : ADVANCE DATA TECHNOLOGY CORP.
Address : No.47, CHIA PAU TSUEN,LIN KOU HSIANG,TAIPEI HSIEN,TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : R-489
Date of Registration : December 20,1996
This Certificate is valid until December 31,1999

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: No.5 Site
(Radiation 3 and 10 meter site)
Company : ADVANCE DATA TECHNOLOGY CORP.
Address : No.47, CHIA PAU TSUEN,LIN KOU HSIANG,TAIPEI HSIEN,TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : R-490
Date of Registration : December 20,1996
This Certificate is valid until December 31,1999

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: ADVANCE DATA TECHNOLOGY CORPORATION
(Conducted Interference Measurement)
Company : ADVANCE DATA TECHNOLOGY CORPORATION
Address : No.47, CHIA PAU TSUEN,LIN KOU HSIANG,TAIPEI HSIEN,TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures, Article 8.

Registration No. : C-505
Date of Registration : December 20,1996
This Certificate is valid until December 31,1999

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: Advance Data Technology Corp Site 6
(Radiation 3 and 10 meter site)
Company : Advance Data Technology Corp.
Address : No.47, CHIA PAU TSUEN, LIN KOU HSIANG, TAIPEI HSIEN,TAIWAN

This is to certify that the following measuring facility has been registered in accordance with the Regulations for Voluntary Control Measures.

Registration No. : R-728
Date of Registration : May 19, 1998
This Certificate is valid until June 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

附件如文

發文字號：經濟部商品檢驗局（函）　中華民國 [illegible] 年 [illegible] 月 [illegible] 日
發文者：誠信科技股份有限公司　檢台(八十五)字第 20823 號
行文單位：正本：誠信科技股份有限公司
副本：本局第二組（二份）、第三組、貨流室（檢四科）、檢驗處、各分局（均含附件）
主旨：有關 貴公司電磁相容檢測實驗室申請本局電磁相容檢測領域認可案，實施實地評鑑結果，同意認可登錄，請 查照。
說明：
一、復 貴公司八五年十月四日未列字號函。
二、認可登錄範圍如下：
實驗室名稱：誠信科技股份有限公司電磁相容檢測實驗室
實驗室地址：台北縣林口鄉長實村[illegible]號
認可領域代號	認可產品類別	報告簽署人
S12-I1-E2-03	(III) 資訊設備	賴輝煌
S12-I1-E3-03	(IV) 家用電器產品	賴輝煌
S12-I1-E4-03	(V) 類具產品	賴輝煌
評鑑標準：ISO Guide 25（1990年版）		
三、本案評鑑認可期限三年，自八五年十月二十二日起至八八年十月二十一日止，評鑑追查頻率每年乙次，得視需要增加檢查次數，惟首次追查作業將六個月內執行。
四、上開已認可領域如有變更事項，請於變更日起二週內函送相關資料至本局辦理。
五、貴中心應依規定履行相關之責任與義務。
副本：貴中心應依規定履行相關之責任與義務。
六、檢送「商品電磁相容試驗室評鑑認可管理作業要點」乙份。
七、檢送「商品電磁相容型式試驗報告」格式乙份，請自行印製使用。

局長許鵬翔

依照分層負責規定授權單位主管決行

附件如文

發文字號：經濟部商品檢驗局（函）　中華民國 [illegible] 年 [illegible] 月 [illegible] 日
發文者：誠信科技股份有限公司　檢台(八十六)字第 1295 號
行文單位：正本：誠信科技股份有限公司
副本：本局第二組（二份）、第三組、貨流室（檢四科檢驗組）、檢驗處、各分局（含附件）
主旨：有關 貴公司電磁相容檢測實驗室申請本局電磁相容檢測領域增列認可案，實施實地評鑑結果，同意認可登錄，請 查照。
說明：
一、復 貴公司八十六年二月二十一日未列字號函。
二、認可登錄範圍如下：
實驗室名稱：誠信科技股份有限公司電磁相容檢測實驗室
實驗室地址：台北縣林口鄉長實村[illegible]號
認可產品類別	報告簽署人
(III) 資訊設備（電視、錄放影機）	賴輝煌
(III) 資訊設備與相關產品（收音機）	賴輝煌
評鑑標準：ISO Guide 25（1990年版）
三、本案評鑑認可期限自八六年七月七日起至八八年十月二十一日止，評鑑追查頻率每年乙次，得視需要增加檢查次數，惟首次追查作業將六個月內執行。
四、上開已認可領域如有變更事項，請於變更日起二週內函送相關資料至本局辦理。
五、貴公司執行本局指定之檢驗業務，依「商品檢驗法」第二十六條規定以執行公務論。
副本：貴公司應依規定履行相關之責任與義務。
六、檢送「商品電磁相容型式試驗報告」格式乙份，請自行印製使用。

局長陳佳鎮

依照分層負責規定授權單位主管決行

ADT CORP.

TEL:(02)2603-2180-3 FAX:(02)2602-2943

TEST REPORT & CERTIFICATION SERVICES QUESTIONNAIRE

We, ADT Corp., would like to provide you a high quality report and certification in a timely manner. To achieve this goal, we would like you to response to the brief questions listed below in this questionnaire. Therefore your feed back is vital to us in order to determine how good our services are, and what areas could be improved.

Please indicate beside each question what you feel is the rating. Also, feel free to make comments and suggestions directly on this questionnaire, or by attaching separate sheet. The completed form should then be returned by mail or FAX to ***Harris W. Lai***, *Director. Your cooperation and effort are truly appreciated.*

TEST REPORT NUMBER : _____

	YES	NO
1. Was the information presented clearly	[ ]	[ ]
2. Was the report complete ?	[ ]	[ ]
3. Was the report timely ?	[ ]	[ ]
4. Did the report satisfy your requirement ?	[ ]	[ ]
5. Was the Certification (if any) completed in the scheduled time ?	[ ]	[ ]

Your working field ? [ ] Engineering [ ] Manufacturing
[ ] Marketing [ ] Other

YOUR CONTACT INFORMATION (OPTIONAL) : _____

_____

OPTIONAL COMMENTS : _____

_____

_____

_____