FCC ID: ATI9R3CL-1770

EMC

TEST REPORT

REPORT NO. : F88022201
MODEL NO. : CL-1770, CH-1770
DATE OF TEST : Feb. 27, 1999

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: March 02, 1999

Product	:	COLOR MONITOR
Trade Name	:	AXION
Model No.	:	CL-1770, CH-1770
Applicant	:	ACTION ELECTRONICS CO., LTD.
Standard	:	FCC Part 15, Subpart B, Class B ANSI C63.4-1992 CISPR 22:1993+A1:1995+A2:1996

We hereby certify that one sample of the designation has been tested in our facility on Feb. 27, 1999. 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 : Ken Liu , DATE: 03/02/99
(Ken Liu)

CHECKED BY : Yemmy Soong , DATE: 03/02/99
(Yemmy Soong)

APPROVED BY : Mike Su , DATE: 3/2/99.
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

NVLAP®
Accredited Laboratory

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	COLOR MONITOR
Model No.	:	CL-1770, CH-1770
Power Supply Type	:	Switching
Power Cord	:	Nonshielded (1.8m)
Data Cable	:	Shielded (1.5m)

Note: The EUT is a 17" color monitor with resolution up to 1280 x 1024.

The EUT has two model names which are identical to each other in all aspects except for the shape of their ON/OFF switch.

* Model: CL-1770, Oval shape ON/OFF switch
* Model: CH-1770, Round shape ON/OFF switch

From the above models, model: CL-1770 was chosen as representative model for the test.

There is one ferrite core on the video cable outside the 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	D4572A	FCC Doc Approved	Nonshielded Power (1.8m)
2	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Nonshielded Signal (1.4m)
3	MOUSE	LOGITECH	M-S34	DZL210472	Nonshielded Signal (1.5m)
4	PRINTER	HP	2225C+	DSI6XU2225	Nonshielded Signal (1.4m) Nonshielded Power (1.2m)
5	MODEM	ACEEX	1414	IFAXDM1414	Nonshielded signal (1.2m) Nonshielded Power (1.2m)
6	VGA CARD	GORDIA	DSV3365	LUT-DSV3365	N/A

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 / 3 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)

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.

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594A	3144A00308	Sept. 3, 1999
HP Preamplifier	8447D	2944A08119	July 20, 1999
HP Preamplifier	8347A	3307A01088	Sept. 9, 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.

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

* Detector Function: Quasi-Peak

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.

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	:	18 ℃
Humidity	:	71 %
Atmospheric Pressure	:	1004 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -5.5 dB at 0.256 MHz
	Minimum passing margin of radiated emission: -2.2 dB at 54.08 MHz

Note: The EUT was pretested under the following resolution & horizontal synchronization speed mode:

* 1240 x 1024 mode (64 kHz),
* 1024 x 768 mode (69 kHz),
* 640 x 480 mode (31.5 kHz)

The worst emission levels were found under 1240 x 1024 (64 kHz) 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. PC sends "H" messages to monitor (EUT) and monitor displays "H" patterns on screen.
5. PC sends "H" messages to modem.
6. PC sends "H" messages to printer, and the printer prints them on paper.
7. Repeat steps 3-7.

4.3 TEST DATA OF CONDUCTED EMISSION

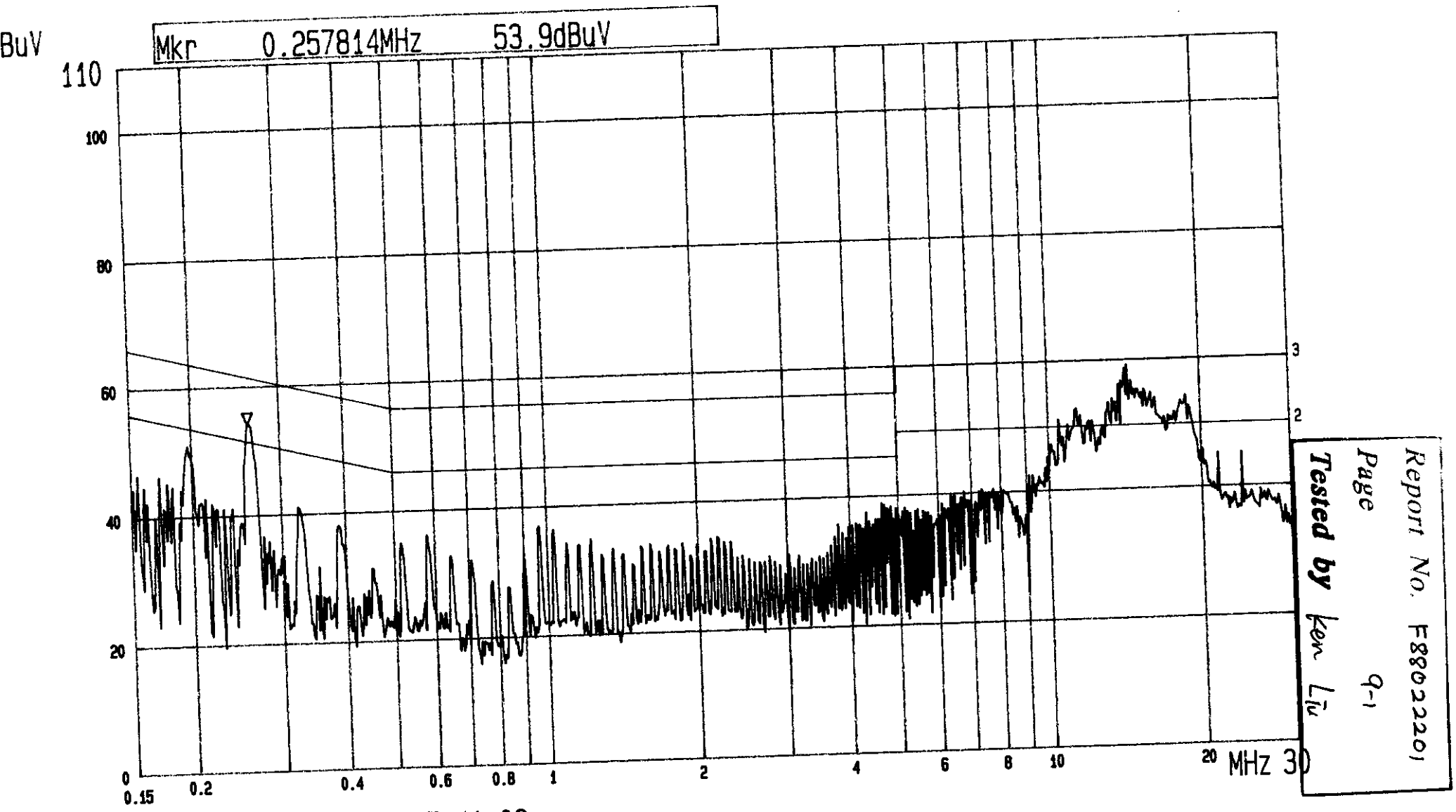
EUT: **COLOR MONITOR** MODEL: **CL-1770**

MODE: **1280 x 1024 (64 kHz)**

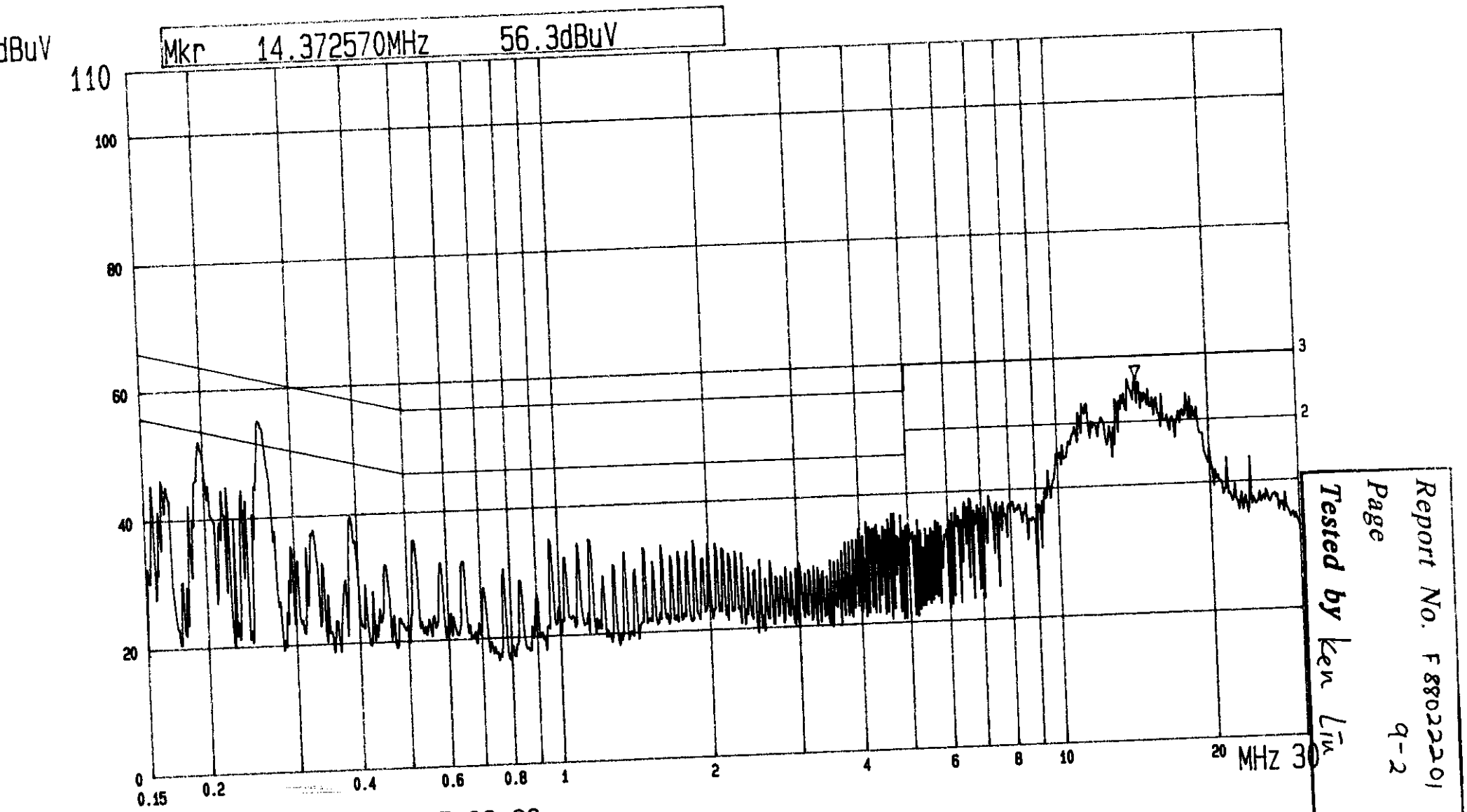
6 dB Bandwidth: 10 kHz

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
0.195	45.8	-	46.9	-	63.8	53.8	-18.0	-	-16.9	-
0.256	51.5	-	51.7	46.1	61.6	51.6	-10.1	-	-9.9	-5.5
0.958	31.3	-	29.9	-	56.0	46.0	-24.7	-	-26.1	-
4.614	33.7	-	31.8	-	56.0	46.0	-22.3	-	-24.2	-
11.486	45.8	-	45.5	-	60.0	50.0	-14.2	-	-14.5	-
14.371	51.6	43.8	50.5	42.3	60.0	50.0	-8.4	-6.2	-9.5	-7.7

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 27.FEB '99 Time 15:41:03
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP
MODEL: CL-1770 1280X1024 64KHz/60Hz LISN: L



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Tested by Ken Liu

|--- Date 27.FEB '99 Time 15:26:29
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP
MODEL: CL-1770 1280X1024 64KHz/60Hz LISN: N

4.4 TEST DATA OF RADIATED EMISSION

EUT: **COLOR MONITOR**

MODEL: **CL-1770**

MODE: **1280 x 1024 (64 kHz)**

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)
46.28	13.6	8.2	21.8	30.0	-8.2
66.41	7.5	10.7	18.2	30.0	-11.8
108.32	12.9	8.2	21.1	30.0	-8.9
120.02	14.4	9.4	23.8	30.0	-6.2
129.99	14.0	9.3	23.3	30.0	-6.7
140.83	13.6	8.2	21.8	30.0	-8.2
162.47	11.3	10.4	21.7	30.0	-8.3
194.96	11.8	9.0	20.8	30.0	-9.2
216.64	13.1	13.3	26.4	30.0	-3.6
270.84	16.5	12.6	29.1	37.0	-7.9

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

EUT: **COLOR MONITOR** MODEL: **CL-1770**

MODE: **1280 x 1024 (64 kHz)** 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)
32.50	17.3	10.1	27.4	30.0	-2.6
42.50	13.3	9.4	22.7	30.0	-7.3
54.08	6.8	21.0	27.8	30.0	-2.2
64.08	6.6	18.5	25.1	30.0	-4.9
129.98	14.2	12.8	27.0	30.0	-3.0
162.49	11.6	11.0	22.6	30.0	-7.4
176.80	11.4	7.2	18.6	30.0	-11.4
180.00	11.4	9.8	21.2	30.0	-8.8
194.95	12.3	9.1	21.4	30.0	-8.6
270.82	15.8	12.2	28.0	37.0	-9.0

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 according to ISO/IEC Guide 25 or EN 45001:

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

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-219)
Facsimile: 301-344-3080

October 21, 1996

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-219)
Facsimile: 301-344-3080

September 15, 1996

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-219)
Facsimile: 301-344-3080

April 17, 1996

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-219)
Facsimile: 301-344-3080

October 21, 1996

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 (ext-214)
Facsimile: 301-344-3000

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 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 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

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-214)
Facsimile: 301-344-3000

July 16, 1998

IN REPLY REFER TO
31040/SIT
1300F2

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

Attention: Harris W. Lai

Re: Measurement facility located at Hsin Chu (3 & 10 meter site)

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 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
Equipment Authorization Division
7435 Oakland Mills Road
Columbia, MD. 21046

December 23, 1998

Reference Number: 92753

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

Attention: Harris Lai

Re: Measurement facility located at Hsin-Chu, Site 8
3 & 10 meter site

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 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.

If requested, the above mentioned facility has been added to our list of those who perform these measurement services for the public on a fee basis. An up-to-date list of such public test facilities is available on the Internet on the FCC Website at WWW.FCC.GOV, Electronic Filing, OET Equipment Authorization Electronic Filing.

Sincerely,

Thomas W Phillips
Electronics Engineer

TÜV Rheinland

Technischer Überwachungs-Verein Rheinland

Certificate

of Appointment

No. I-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 61 000-4-6:1993, 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. Lübben
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.

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: No.3 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-269
Date of Registration : January 1, 1999
This Certificate is valid until March 31, 2002

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

CERTIFICATE

Facility: Advance Data Technology Corp Site A
(Radiation 3 and 10 meter site)
Company : Advance Data Technology Corp.
Address : NO. 81-1, LU LIAO KENG, 9 LING, WU LUNG TSUEN,
CHUNG LIN HSIANG, HSIN CHU 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-782
Date of Registration : September 29, 1998
This Certificate is valid until September 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

CERTIFICATE

Facility: Advance Data Technology Corp Shielded Room A
(Conducted Interference Measurement)
Company : Advance Data Technology Corp.
Address : NO. 81-1, LU LIAO KENG, 9 LING, WU LUNG TSUEN,
CHUNG LIN HSIANG, HSIN CHU 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-817
Date of Registration : September 29, 1998
This Certificate is valid until September 30, 2001

Voluntary Control Council for Interference by Information Technology Equipment

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 Town,
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 organisation - 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 these 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

Kjell Bergh, Head of EMC Section

[illegible]

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

Kjell Bergh, Nemko EMC Services

[illegible]

Nemko World-wide Testing and Certification

ELA 4

EMC Laboratory Authorization

Aut. No. : ELA 112-b

Hsin Chu EMC Laboratory

EMC Laboratory: **ADT Advance Data Technology Corporation**
Hsin Chu EMC Laboratory
No. 31-1, Lu Liao Keng, 9 Ling,
Wu Lung Tsuen, Chiung Lin Hsiang,
Hsin Chu 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. Based on submitted material, an assessment has been 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 these EMC Standards for the products in question under the European Union EMC Directive.

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, 15 December 1998

For Nemko AS:

Kjell Bergh

Kjell Bergh, Head of EMC Section

[illegible]

Nemko World-wide Testing and Certification

ELA 4

EMC Laboratory Authorisation

Aut. No. : ELA 112-b

Hsin Chu EMC Laboratory

(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 55014-1, CISPR 14-1 (except discontinuous noise)	EN 55014-2, CISPR 14-2	EN 55022, CISPR 22
EN 55024, CISPR 24	EN 60555-2, IEC 60555-2, EN 61000-3-2, IEC 61000-3-2	EN 60555-3, IEC 60555-3, EN 61000-3-3, IEC 61000-3-3

BASIC STANDARDS

EN 61000-4-2, IEC 61000-4-2,	EN 61000-4-3, IEC 61000-4-3, ENV 50204,	EN 61000-4-4, IEC 61000-4-4
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, 15 December 1998

Kjell Bergh

Kjell Bergh, Nemko EMC Services

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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 Pau 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, 1999
Effective through

For the National Institute of Standards and Technology

NVLAP-01S (11-96)

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, 1999
Effective through

For the National Institute of Standards and Technology

NVLAP Lab Code: 200102-0

NVLAP-01C (11-96)

COMMERCE
MINISTRY OF COMMERCE
Te Manatū Tauhokohoko

ENG 3/9
AJD

6th January 1999

Advance Data Technology Corporation
No. 47
14 Ling
Chia Pau Tsuen
Lin Kou Hsiang
Taiwan
R.O.C

Attention: Ms Sharon Hsiung

Dear Ms Hsiung

LABORATORY APPROVAL

Thank you for your submission of 5th January regarding the re-certification of your testing laboratory to the Ministry of Commerce's laboratory approval criteria.

I am pleased to advise that your submission has been successful and your approval has been extended until 30th June 1999. 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

Brian Emmett

Technical Officer (Regulatory)
e-mail brian.emmett@moc.govt.nz

RADIO SPECTRUM MANAGEMENT GROUP
Operations and Risk Management Branch, Unit B, 52 Mandeville Street, Riccarton, Christchurch, New Zealand
P.O. Box 8362. Telephone (03) 343 1240, Fax (03) 343 1219

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

to

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
Bowburn
Co Durham
DH6 5AD
UNITED KINGDOM

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

最速件

經濟部商品檢驗局（函）

中華民國捌拾伍年拾月貳拾日
檢台(八十五)二字第 20823 號

附件如文

受文者：誠信科技股份有限公司

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、秘書室（秘四科）、檢驗處、各分局（均無附件）

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，業經實地評鑑結果，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：台北縣林口鄉嘉寶村14鄰47號

認可領域代號	認可產品類別	報告簽署人
SL2-IN-E-03	(II) 資訊設備	楊輝煌
SL2-AI-E-03	(IV) 家庭用電器產品	楊輝煌
SL2-LI-E-03	(V) 燈具產品	楊輝煌

評鑑標準：ISO Guide 25（1990年版）

三、本案評核認可期限三年，自八五年十月二十二日起至八八年十月二十一日止，評核追蹤頻率每年乙次，得視需要增加稽查次數，惟首次追蹤作業於六個月內執行。

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，且 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

最速件

經濟部商品檢驗局（函）

中華民國捌拾陸年捌月玖日
檢台(八十六)二字第 12954 號

受文者：誠信科技股份有限公司 附件如文

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、資訊室（請列登於國際網路）、秘書室（秘四科請列登於檢驗雜誌）、檢驗處、各分局（無附件）

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，業經實地評鑑結果，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：台北縣林口鄉嘉寶村14鄰47號

認可代號	認可產品類別	報告簽署人
SL2-R1-E-03	(III) 廣播接收機與相關產品（電視、錄放影機）	楊輝煌
SL2-R2-E-03	(III) 廣播接收機與相關產品（收音機）	楊輝煌

評鑑標準：ISO Guide 25（1990年版）

三、本案評核認可期限自八六年七月七日起至八八年十月二十一日止，評核追蹤頻率每年乙次，得視需要增加稽查次數，惟首次追蹤作業於六個月內執行。

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，且 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[illegible]鎮

依照分層負責規定授權單位主管決行

DET NORSKE VERITAS

STATEMENT OF RECOGNITION

STATEMENT No. 413 - 99 - LAB12
The statement consists of 3 pages

This is to confirm that the

EMC AND SAFETY LABORATORIES

within

ADT

The main office with legal identity

ADT Corporation, No. 47, 14 Ling, Chinpan Tsuen, Lin Kou Hsiang, Taipei Hsien, Taiwan, R.O.C.

has been found to comply with the requirements of DNV regarding subcontractors of EMC and Safety testing services in conjunction with the EMC and Low Voltage Directives and in the voluntary field.

The acceptance is based on a formal Quality Audit and follow-ups according to relevant parts of EN 45001 and ISO/IEC Guide 25, in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors.

Place and date
Høvik, 23 February, 1999
for Det Norske Veritas AS
(Notified Body no. 575/434)

This Statement is valid until
23 February, 2000

Arnund Weslin
Arnund Weslin
Head of Section

Are Larsen Ottestad
Are Larsen Ottestad
Lead Auditor

Audit information

Initial audit:
- Date of Audit: 1998-11-18 and 1998-11-19
- Initial Audit Report: 1998-11-22
- Closing of Non-conformities: 99-02-12

Sites Audited

Lin Kou EMC Laboratory:
No. 47, 14 Ling, Chinpan Tsuen, Lin Kou Hsiang, Taipei Hsien, Taiwan, R.O.C.

Hsin Chu EMC Laboratory:
No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan, R.O.C.

Lin Kou Safety Laboratory:
No. 4&, Lane 504, Chung Hsiao Road, Lin Kou Hsiang, Taipei, Taiwan, R.O.C.

Scope of recognition

EMC testing according to the following standards:
- EN 50081-1 / -2
- EN 50082-1 / -2
- EN 55011 / CISPR 11
- EN 55013 / CISPR 13
- EN 55014-1/-2 / CISPR 14-1/-2
- EN 55015 / CISPR 15
- EN 55022 / CISPR 22
- EN 61000-3-2 / IEC 1000-3-2 / EN 60555-2 / IEC 555-2
- EN 61000-3-3 / IEC 1000-3-3 / EN 60555-3 / IEC 555-3
- EN 61000-4-2 / IEC 1000-4-2 / IEC 801-2
- EN 61000-4-3 / IEC 1000-4-3 / ENV 50140 / IEC 801-3
- EN 61000-4-4 / IEC 1000-4-4 / IEC 801-4
- EN 61000-4-5 / IEC 1000-4-5 / ENV 50142
- EN 61000-4-6 / IEC 1000-4-6 / ENV 50141
- EN 61000-4-8 / IEC 1000-4-8
- EN 61000-4-11 / IEC 1000-4-11

Safety testing according to the following standards:
- EN 60065 / IEC 65
- EN 60950 / IEC 950

Applications/Limitations

Testing of single- and three phase systems

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 : _____