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EMC

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TEST REPORT

REPORT NO. : F88012506
MODEL NO. : MDX-56KRE
DATE OF TEST : Jan. 30, 1999

PREPARED FOR : NETRONICS INC.

ADDRESS : 11F NO. 1 SEC. 4, NANKING E. ROAD,
TAIPEI, 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.

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1.

CERTIFICATION

Issue Date: Feb. 05, 1999

Product : MODEM
Trade Name : NETRONICS
Model No. : MDX-56KRE
Applicant : NETRONICS INC.
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 Jan. 30, 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 : Chris Yang, DATE: 02/05/99
(Chris Yang)

CHECKED BY : Yemmy, DATE: 02/05/99
(Yemmy Soong)

APPROVED BY: Mike Su, DATE: 2/15/99
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

NVLAP
Accredited Laboratory



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	MODEM
Model No.	:	MDX-56KRE
Power Supply Type	:	Linear (from power adapter)
Power Cord	:	Nonshielded (1.8m)
Data Cable	:	Shielded (1.5m)

Note: The EUT is a modem with baud rate of 56 Kbps.

It was tested with a Netronics power adapter, model: MW48-0901000, which is a 2-pin direct plug-in type. Its rating: Input: AC 110V, 60 Hz; Output: 9 Vac, 1A.

There is a ferrite core on the interface cable of EUT which will be sold together with the EUT.

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	NTI	PII-233T	FCC DoC Approved	Nonshielded Power (1.8m)
2.	COLOR MONITOR	HP	D2846	FCC DoC Approved	Shielded Signal (1.5m) Nonshielded Power (1.8m)
3.	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.1m) Nonshielded Power (2.2m)
4.	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4m)
5.	TELEPHONE	DAISHO	DS-03	N/A	Shielded Signal (3.0m)
6.	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded Signal (1.5m)
7.	MICROPHONE	CAROL	MUD-329	N/A	Shielded Signal (2.8m)
8.	EARPHONE	KOKA	ST-8	N/A	Shielded Signal (3.2m)
9.	SOUND CARD	YA HSIN	AUDIO 1869	7C05000527	N/A
10.	PERSONAL COMPUTER	HP	VL Series 4 5/100	B94VECTRA500T	Nonshielded Power (1.8m)
11.	COLOR MONITOR	HITACHI	CPM1404	FCC DoC Approved	Shielded Signal (1.5m) Nonshielded Power (1.8m)
12.	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4m)
13.	MOUSE	DEXIN	A2P800A	NIYA2P800A	Shielded Signal (1.5m)
14.	MODEM	NETRONICS	MDX-56KRE	NRYMDX-56KRE	Nonshielded Power (1.8m)

Note: Support units 1-9 were set up as the SERVER PC system and communicated with units 10-14 which acted as WORKSTATION and partners of communication system via a telephone cable (10m).

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	8590L	3544A01042	April 29, 1999
HP Preamplifier	8447D	2944A08313	March 21, 1999
ROHDE & SCHWARZ TEST RECEIVER	ESVS 30	841977/008	Oct. 1, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 25, 1999
CHASE BiLOG Antenna	CBL6111A	1647	July 3, 1999
EMCO Turn Table	1016	1722	N/A
EMCO Tower	1051	1825	N/A
Open Field Test Site	Site 4	ADT-R04	June 19, 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	ESHS30	828765/002	July 29, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH2-Z5	828075/003	July 27, 1999
EMCO-L.I.S.N.	3825/2	90031627	July 27, 1999
Shielded Room	Site 5	ADT-C05	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)	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 (at 3m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	1000	60	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 : 22 °C
 Humidity : 75 %
 Atmospheric Pressure : 1019 mbar

TEST RESULT	Remarks
	Minimum passing margin of conducted emission: -27.9 dB at 14.072 MHz Minimum passing margin of radiated emission: -2.5 dB at 169.36, 197.58 & 846.73 MHz

Note: The EUT was pre-tested under the following modes:

- EUT connected to the fax machine
- EUT connected to modem

The worst emission level was found when the EUT was connected to modem at highest transmitting speed, and therefore the data of only this mode is recorded in this report.

4.2 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. Server PC and WORKSTATION run a test program to enable all functions.
3. Server PC transmits messages to and receives messages from the WORKSTATION via the telephone cable connected to EUT.
4. Server PC sends "H" messages to monitor and monitor displays "H" patterns on screen.
5. Server PC sends "H" messages to printer, and then the printer prints them on paper.
6. Repeat steps 3-6.



4.3 TEST DATA OF CONDUCTED EMISSION

EUT: **MODEM**MODEL: **MDX-56KRE**6 dB Bandwidth: 10 kHz

Freq. [MHz]	L Level		N Level		Limit		Margin [dB (μ V)]			
	[dB (μ V)]		[dB (μ V)]		[dB (μ V)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.156	20.1	-	19.8	-	65.7	55.7	-45.6	-	-45.9	-
2.205	18.1	-	20.1	-	56.0	46.0	-37.9	-	-35.9	-
3.420	15.3	-	12.3	-	56.0	46.0	-40.7	-	-43.7	-
6.083	23.8	-	24.3	-	60.0	50.0	-36.2	-	-35.7	-
14.072	32.1	-	31.8	-	60.0	50.0	-27.9	-	-28.2	-
29.168	27.6	-	25.7	-	60.0	50.0	-32.4	-	-34.3	-

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

Report No. F8801-506

Page

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Tested by

Chris Yancy

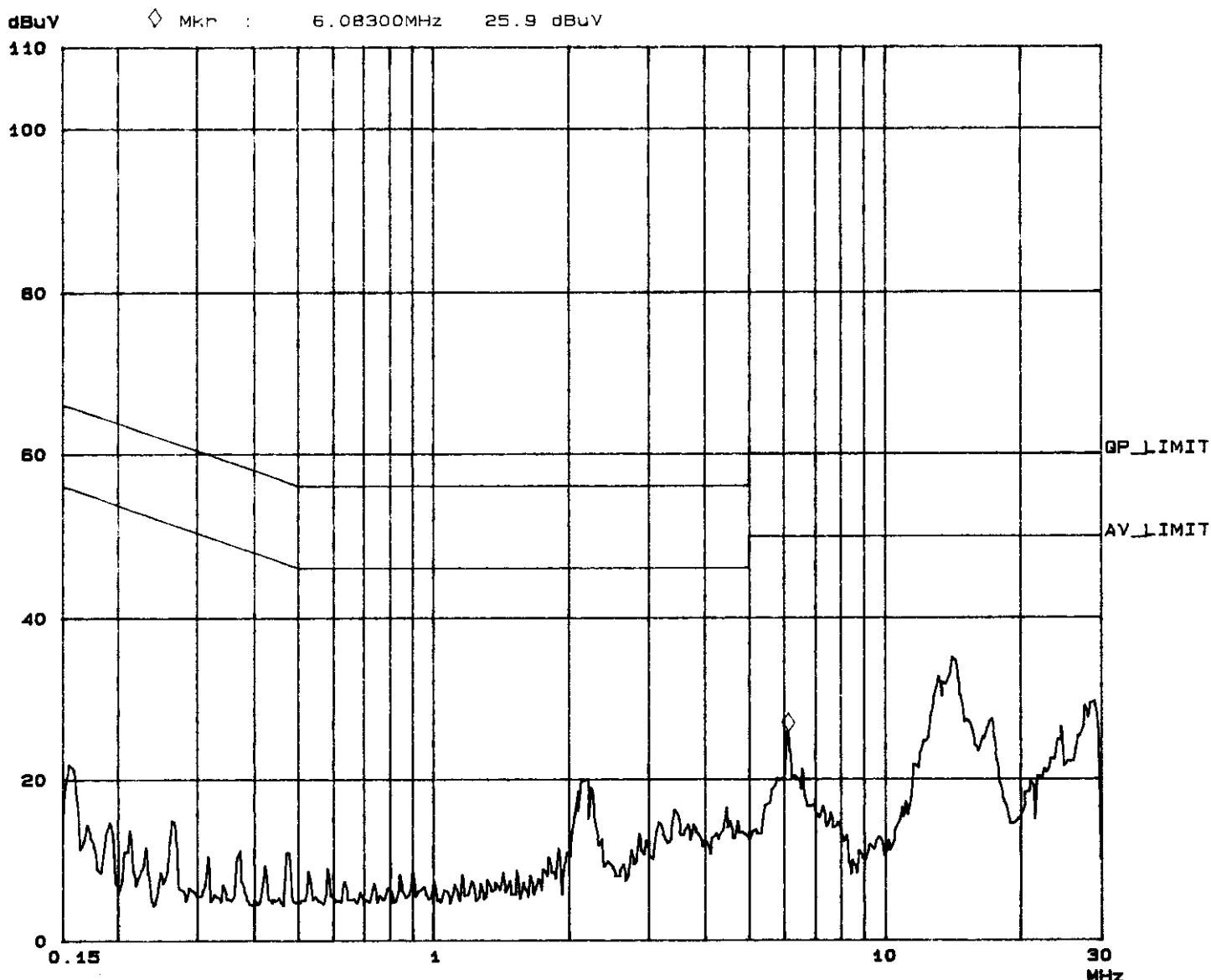
30. Jan 99 15:21

ADT CO. Shielded Room 5
CISPR 22 CLASS B

EUT: MDX-56KRE
Test Spec: LISN : L
FULL SYSTEM

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150K	450K	3K	10K	PK	1ms	10dBBLN	OFF	80dB
450K	5M	3K	10K	PK	1ms	10dBBLN	OFF	60dB
5M	30M	3K	10K	PK	1ms	10dBBLN	OFF	60dB





4.4 TEST DATA OF RADIATED EMISSION

EUT: MODEMMODEL: MDX-56KREANT. POLARITY: HorizontalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
141.13	14.2	7.3	21.5	30.0	-8.5
169.35	11.8	14.9	26.7	30.0	-3.3
197.58	11.6	14.6	26.2	30.0	-3.8
225.80	13.3	8.1	21.4	30.0	-8.6
254.02	15.4	11.9	27.3	37.0	-9.7
366.91	18.6	12.9	31.5	37.0	-5.5
451.58	20.1	10.6	30.7	37.0	-6.3
479.80	21.3	11.6	32.9	37.0	-4.1
508.03	22.4	9.2	31.6	37.0	-5.4
536.25	23.7	7.8	31.5	37.0	-5.5
677.37	25.0	8.6	33.6	37.0	-3.4
846.73	29.7	4.8	34.5	37.0	-2.5

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

EUT: **MODEM**MODEL: **MDX-56KRE**ANT. POLARITY: VerticalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 M

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
57.32	8.1	15.1	23.2	30.0	-6.8
84.68	8.4	13.1	21.5	30.0	-8.5
112.89	12.1	13.2	25.3	30.0	-4.7
141.12	15.4	9.4	24.8	30.0	-5.2
169.36	12.2	15.3	27.5	30.0	-2.5
197.58	12.0	15.5	27.5	30.0	-2.5
225.80	13.1	8.5	21.6	30.0	-8.4
254.02	14.6	16.4	31.0	37.0	-6.0
338.69	19.4	9.6	29.0	37.0	-8.0
366.91	20.3	11.7	32.0	37.0	-5.0
677.40	26.1	8.2	34.3	37.0	-2.7
733.81	26.1	6.9	33.0	37.0	-4.0

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. ATTACHMENT I -TECHNICAL DESCRIPTION OF EUT

SPECIFICATIONS:

- Data modem
 - ITU-T V.90 and K56flex
 - V.34 (33.6 kbps), V.32 bis, V.32, V.22 bis, V22, V.23, and V.21; Bell 212A and 103
 - V.42 LAPM, MNP 2-4, and MNP 10 error correction
 - V.42 bis and MNP 5 data compression
 - MNP 10EC™ enhanced cellular performance
- Fax modem send and receive rates up to 14400 bps
 - V.17, V.29, V.27 ter, and V.21 channel 2
 - V.80 synchronous access mode supports host-based communication protocols
- Voice/TAM mode
- AudioSpan (simultaneous audio/voice and data)
 - ITU-T V.61 modulation (4.8 kbps data plus audio)
 - Headset, or half-duplex speakerphone
- Full-duplex speakerphone (FDSP) mode
 - Acoustic and line echo cancellation
 - Microphone gain and muting
 - Speaker volume control and muting
- Communication software compatible AT command sets
 - Data, fax class 1, fax class 2, voice / TAM
 - Speakerphone
- NVRAM directory and stored profiles
- Flash memory support
- Serial ITU-T V.24 (EIA/TIA-232-E)
- Supports Serial PnP interface per Plug and Play External COM Device Specification, Rev 1.00
- Caller ID support
- Standalone digital answering machine and receive only fac machine
 - Enhanced ADPCM compression/decompression
 - Fax receive rate up to 14400bps
 - Fax class 2 compatible
 - Use 16M-bit flash to storage voice/fax message - don't use battery
 - 30 seconds greeting
 - 9 minutes incoming message/60 calls (30 seconds per call)
 - 99 incoming facsimiles (A4 size), 100 pages maximum per call.



7. 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.	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

7405 Old Georgetown Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-2118)
Facsimile: 301-344-2090

October 21, 1996

REPLY RATES TO
31040/SIT
1300F2

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

Attention: Hsiao 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

7405 Old Georgetown Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-2118)
Facsimile: 301-344-2090

September 15, 1996

REPLY RATES TO
31040/SIT
1300F2

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

Attention: Hsiao W. Lai

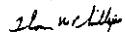
Re: Measurement facility located at Lin Kou, Sites 2 & 3
(3 & 10 meters)

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

7405 Old Georgetown Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-2118)
Facsimile: 301-344-2090

April 17, 1996

REPLY RATES TO
31040/SIT
1300F2

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

Attention: Hsiao W. Lai

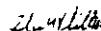
Re: Measurement facility located at above address
Site No. 4 (3 and 10 meters)

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.

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Sincerely,



Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN

FEDERAL COMMUNICATIONS COMMISSION

7405 Old Georgetown Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-2118)
Facsimile: 301-344-2090

October 21, 1996

REPLY RATES TO
31040/SIT
1300F2

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

Attention: Hsiao 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.

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Sincerely,



Thomas W. Phillips
Electronics Engineer
Customer Service Branch

Enclosure:
PAL PN

FEDERAL COMMUNICATIONS COMMISSION

7450 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1588 (ext-218)
Facsimile: 301-344-2000

February 25, 1998

REPLY REFER TO
31040SIT
1300FZ

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

Attention: Hsina 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/ordb/estestlist.html.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

FEDERAL COMMUNICATIONS COMMISSION

7450 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1588 (ext-218)
Facsimile: 301-344-2000

July 16, 1998

REPLY REFER TO
31040SIT
1300FZ

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

Attention: Hsina 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
7450 Oakland Mills Road
Columbia, MD 21046

December 31, 1998

Registration Number: 92733

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

Attention: Hsina Lai

Re: Measurement facility located at Hsin-Chu, Site B
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 Certificates 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

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

CISPR 16, 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 61 000-3-3:1993,
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,
EN 50 140:1993, EN 50 141:1993, IEC 1 000-4-3:1994, 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

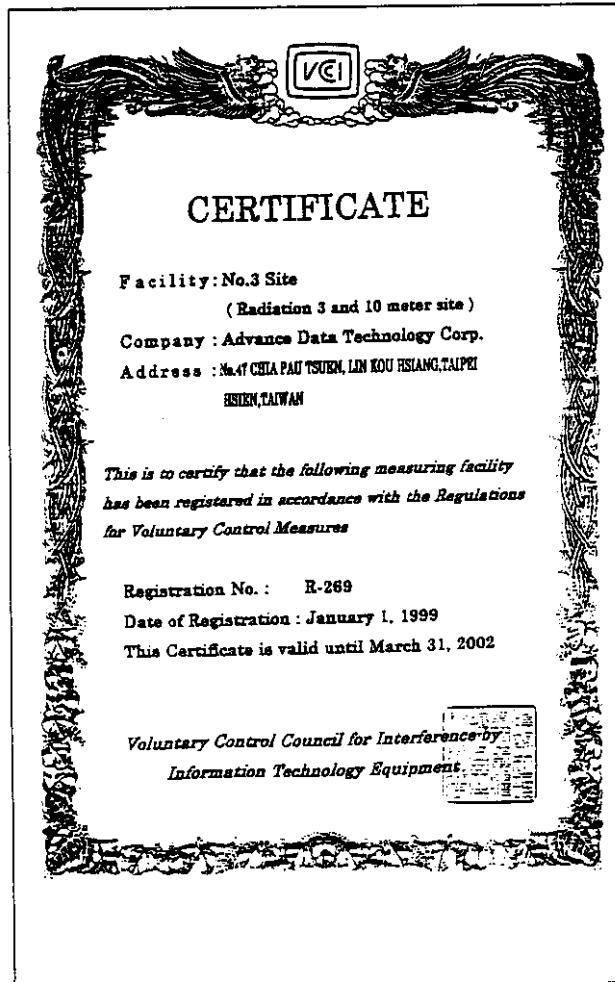
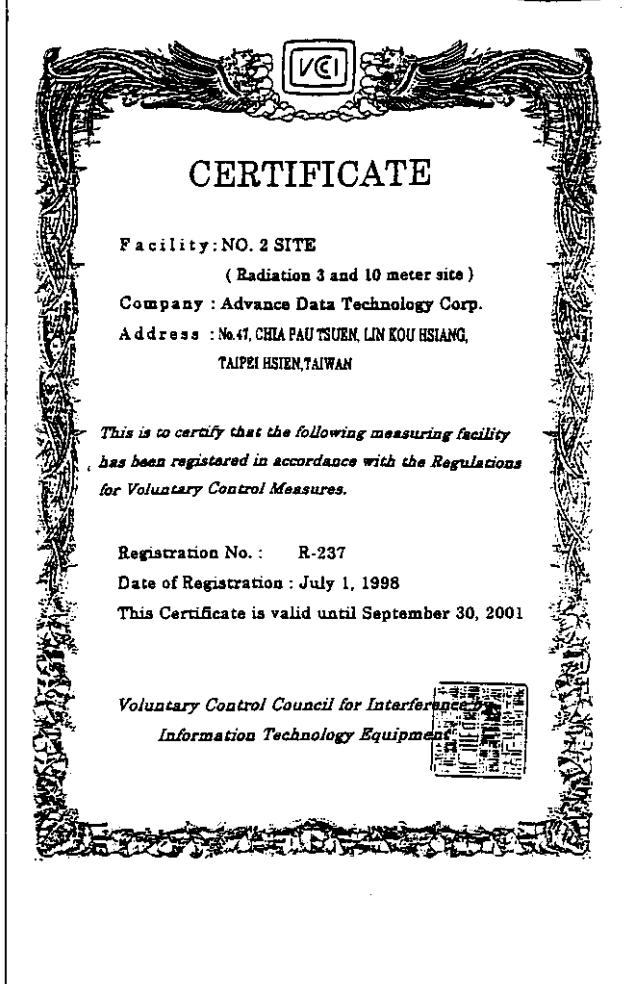
An inspection of the facility was conducted according to the Document
"Approval of Test Site" with reference to EN 45 001 by a TÜV Rheinland inspector.

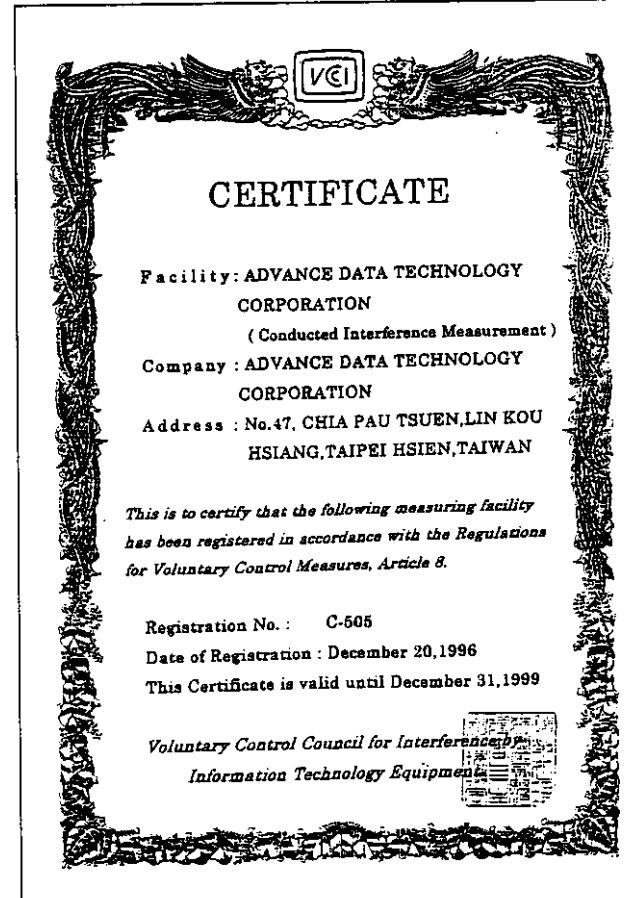
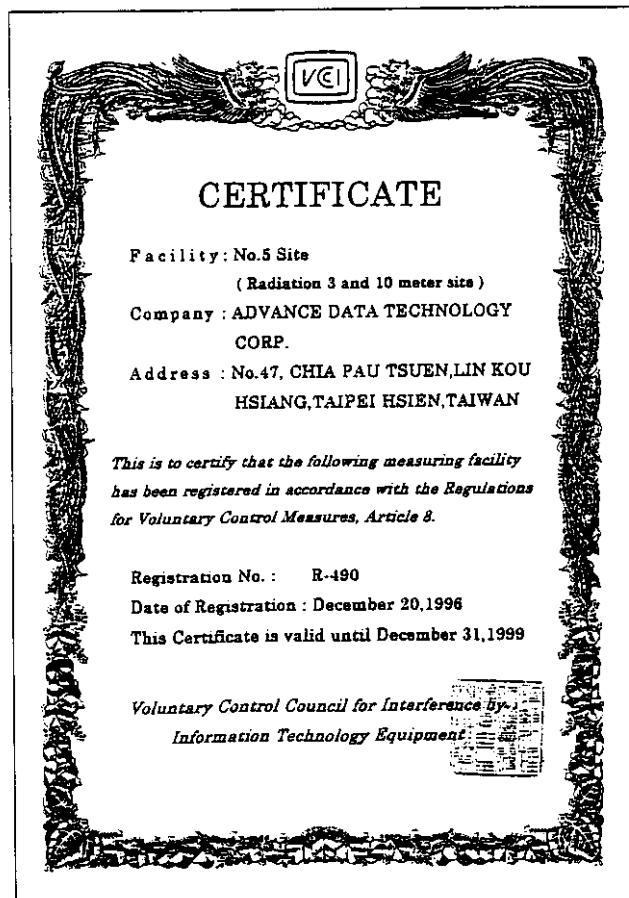
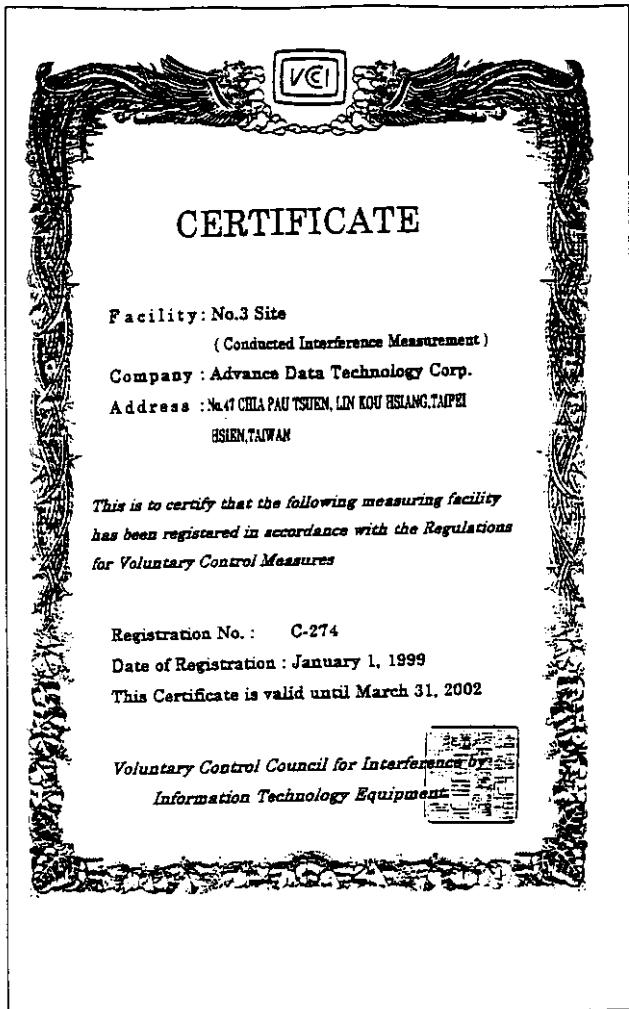
Audit Report No. P 9763928E01, Rev. A
This certificate is valid until the next scheduled inspection or up to 15 month,
at the discretion of TÜV Rheinland.

TÜV Rheinland Taiwan Ltd.
Taipei, 16.07.1997

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

Dipl.-Ing. U. Meyer
Auditor





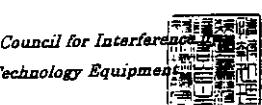
CERTIFICATE

Facility : Advance Data Technology Corp Site 6
(Radiation 3 and 10 meter site)
Company : Advance Data Technology Corp.
Address : No.47, CHIA PAUTURN, 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, LIU 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, LIU 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





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 Pao Tseu,
Lia Kao 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 Authorisation Document confirms that the above mentioned EMC Laboratory has been validated against EN 45001 and found to be compliant. The laboratory also fulfills 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 assessing 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 reports 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

Postal address: P.O. Box 72, Borås
Telephone: +46 33 54 00 00
Fax: +46 33 54 00 01

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. 81-1, Li Liao Kang, 9 Ling,
Wu Lang Tseu, Chung 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 Authorisation Document confirms that the above mentioned EMC Laboratory has been validated against EN 45001 and found to be compliant. The laboratory also fulfills the conditions described in Nemko Document ELA 10. Based on submitted material, 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 assessing 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 reports 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

Postal address: P.O. Box 72, Borås
Telephone: +46 33 54 00 00
Fax: +46 33 54 00 01



Worldwide Testing and Certification

ELA 4

EMC Laboratory Authorization

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. I, 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 301-2	EN 61000-4-3, ENV 50140, ENV 50204, IEC 61000-4-3, IEC 301-3	EN 61000-4-4, IEC 61000-4-4, IEC 301-4
EN 61000-4-5, IEC 61000-4-5	EN 61000-4-5, ENV 50141, IEC 61000-4-5	EN 61000-4-6, IEC 61000-4-6
EN 61000-4-11, IEC 61000-4-11		

Oslo, 13 March 1998

Kjell Bergh
Kjell Bergh, Nemko EMC Services

Postal address: P.O. Box 72, Borås
Telephone: +46 33 54 00 00
Fax: +46 33 54 00 01

World-wide Testing and Certification

ELA 4

EMC Laboratory Authorization

Aut. No. : ELA 112-b

Hsin Chu EMC Laboratory

(Page 2 of 2)

SCOPE OF AUTHORIZATION

GENERIC & PRODUCT-FAMILY STANDARDS

EN 10081-1, EN 10081-2	EN 50082-1, EN 50082-2	EN 55011, Gr. I, 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

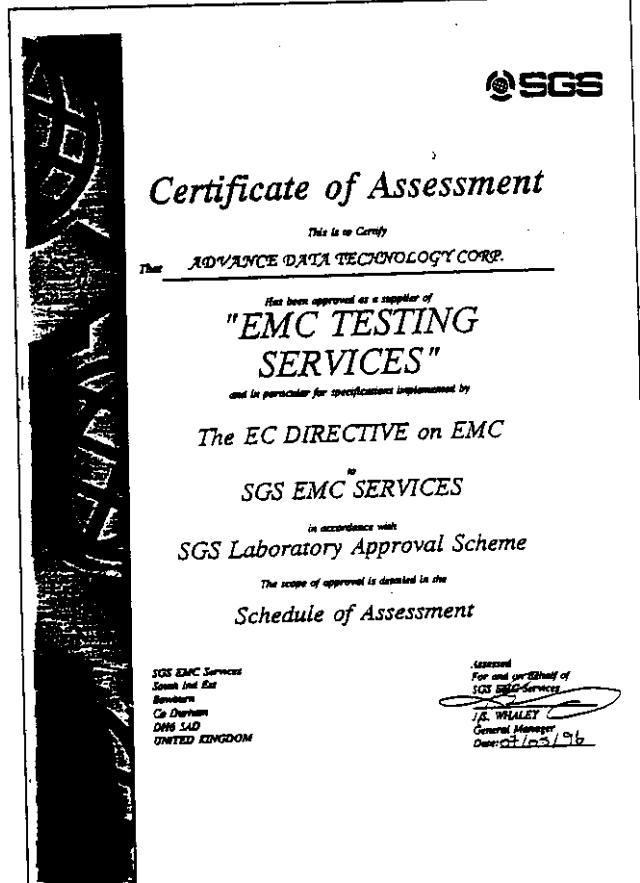
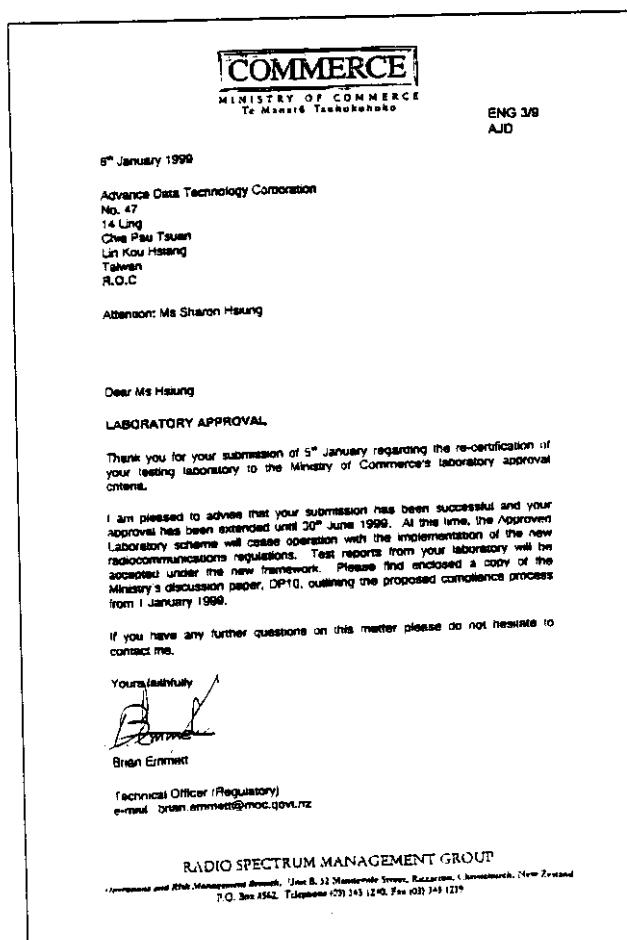
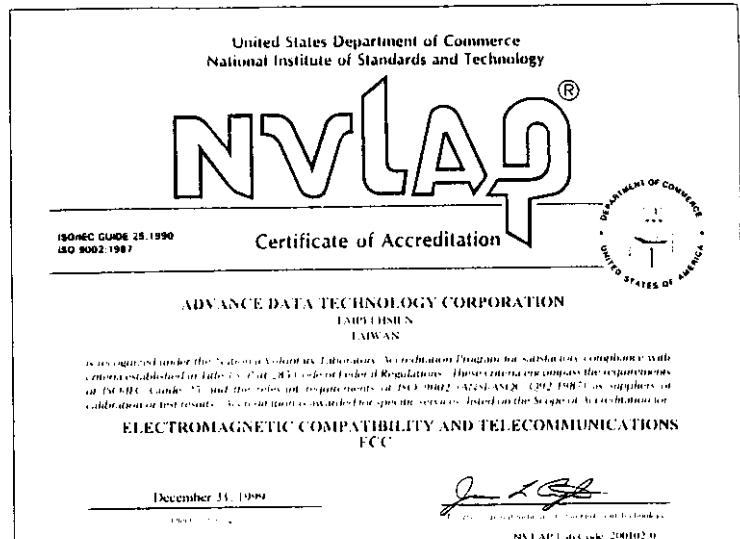
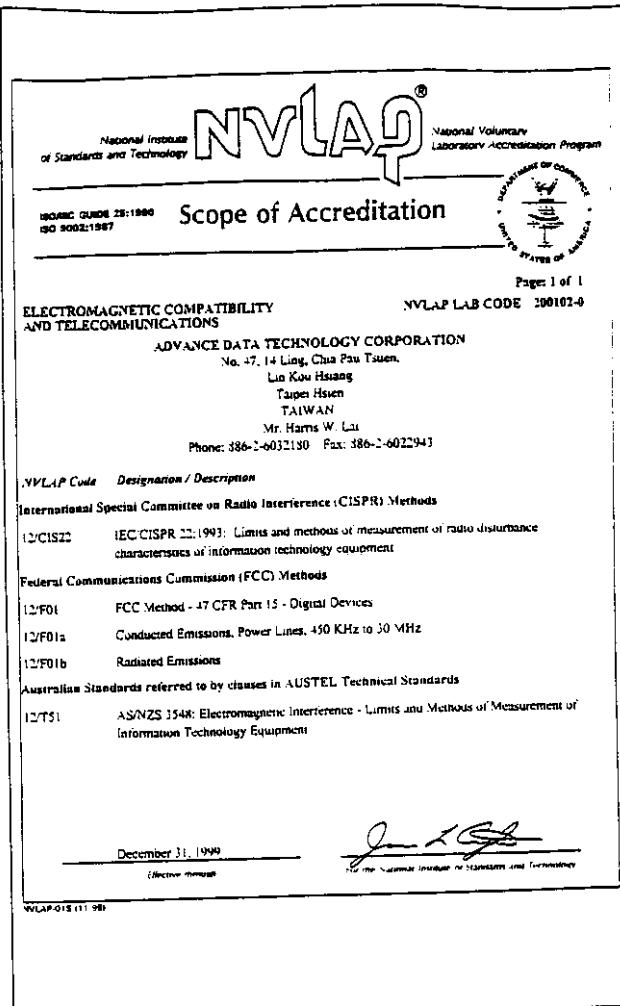
BASIC STANDARDS

EN 61000-4-2, IEC 61000-4-2, IEC 301-2	EN 61000-4-3, ENV 50140, 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

Postal address: P.O. Box 72, Borås
Telephone: +46 33 54 00 00
Fax: +46 33 54 00 01





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 : _____