

**EXHIBIT 4**  
**RFI/EMI TEST REPORT**



FCC/NTL/0...

JAN 06 1999

# EMC TEST REPORT

REPORT NO. : F87090201  
MODEL NO. : S3U800A, A3U800A,  
S2U800A, A2U800A  
DATE OF TEST : Dec. 4, 1998

PREPARED FOR : DEXIN CORP.

ADDRESS : 20F, 37, SEC. 2, SAN-MING RD.,  
PAN-CHIAO CITY, TAIPEI HSIEN, TAIWAN

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

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

This test report consists of 14 pages in total. It may be duplicated completely for legal use with the allowance of the applicant. It shall not be reproduced except in full, without the written approval of our laboratory. It should not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. government. The test result in the report only applies to the tested sample.



**TABLE OF CONTENTS**

1. CERTIFICATION .....3

2. GENERAL INFORMATION .....4

    2.1 GENERAL DESCRIPTION OF EUT .....4

    2.2 DESCRIPTION OF SUPPORT UNITS .....5

    2.3 TEST METHODOLOGY AND CONFIGURATION .....5

3. TEST INSTRUMENTS .....6

    3.1 TEST INSTRUMENTS (EMISSION) .....6

    3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION .....7

4. TEST RESULTS (EMISSION) .....8

    4.1 RADIO DISTURBANCE .....8

    4.2 EUT OPERATION CONDITION .....8

    4.3 TEST DATA OF CONDUCTED EMISSION .....9

    4.4 TEST DATA OF RADIATED EMISSION .....10

5. PHOTOGRAPHS OF THE TEST CONFIGURATION WITH MINIMUM MARGIN ....12

6. APPENDIX - INFORMATION OF THE TESTING LABORATORY .....14



# 1. CERTIFICATION

Issue Date: Dec. 8, 1998

Product : USB MOUSE  
 Trade Name : DEXIN  
 Model No. : S3U800A, A3U800A,  
 S2U800A, A2U800A  
 Applicant : DEXIN CORP.  
 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. 4, 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: Ken Liu , DATE: 98. 12. 8  
 ( Ken Liu )

CHECKED BY: Ariel Hsieh , DATE: 12/8/98  
 ( Ariel Hsieh )

APPROVED BY: Mike Su , DATE: 12/8/98  
 ( Mike Su )

**ADVANCE DATA TECHNOLOGY CORPORATION**

**NVLAP<sup>®</sup>**

Accredited Laboratory



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

|                   |   |                                       |
|-------------------|---|---------------------------------------|
| Product           | : | USB MOUSE                             |
| Model No.         | : | S3U800A, A3U800A,<br>S2U800A, A2U800A |
| Power Supply Type | : | DC 5V (from PC)                       |
| Data Cable        | : | Shielded (1.5m)                       |

Note: The EUT has four models, which are identical to each other in all aspects except for the following:

- Model: S3U800A, 3 key, Micro switch is in the left side.
- Model: A3U800A, 3 key, Micro switch is on the upper side.
- Model: S2U800A, 2 key, Micro switch is in the left side.
- Model: A2U800A, 2 key, Micro switch is on the upper side.

From the above models, model S3U800A was selected as the representative during the test and only its data is recorded in this report.

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   | MONITOR           | ADI     | 937G                            | BR8937G          | Shielded Signal (1.5m)<br>Nonshielded Power (1.8m) |
| 3   | KEYBOARD          | FORWARD | FDA-104GA                       | F4ZDA-104G       | Shielded signal (1.4m)                             |
| 4   | PRINTER           | HP      | 2225C+                          | DSI6XU2225       | Shielded Signal (1.2m)<br>Nonshielded Power (1.9m) |
| 5   | MODEM             | ACEEX   | 1414                            | IFAXDM1414       | Shielded signal (1.5m)<br>Nonshielded Power (1.9m) |
| 6   | VGA CARD          | DIAMOND | STEALTH 64<br>VIDEO<br>VRAM PCI | FTUPCI968524     | 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 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<br>TEST RECEIVER      | ESVS 30              | 841977/008         | Oct. 1, 1999     |
| SCHWARZBECK Tunable<br>Dipole Antenna | VHA 9103<br>UHA 9105 | E101051<br>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<br>Receiver            | ESH3      | 893495/006 | July 15, 1999    |
| ROHDE & SCHWARZ<br>Spectrum Monitor         | EZM       | 893787/013 | July 16, 1999    |
| ROHDE & SCHWARZ<br>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<br>(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<br>(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<br>(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.







### 4.3 TEST DATA OF CONDUCTED EMISSION

EUT: USB MOUSEMODEL: S3U800A6 dB Bandwidth: 10 kHz

| Freq.<br>[MHz] | L Level<br>[dB (μV)] |    | N Level<br>[dB (μV)] |    | Limit<br>[dB (μV)] |       | Margin [dB (μV)] |    |       |    |
|----------------|----------------------|----|----------------------|----|--------------------|-------|------------------|----|-------|----|
|                | QP                   | AV | QP                   | AV | QP                 | AV    | L                |    | N     |    |
|                | QP                   | AV | QP                   | AV | QP                 | AV    | QP               | AV | QP    | AV |
| 0.165          | 46.00                | -  | 42.10                | -  | 65.21              | 55.21 | -19.2            | -  | -23.1 | -  |
| 0.228          | 46.10                | -  | 43.80                | -  | 62.52              | 52.52 | -16.4            | -  | -18.7 | -  |
| 1.933          | 24.10                | -  | 19.60                | -  | 56.00              | 46.00 | -31.9            | -  | -36.4 | -  |
| 2.390          | 27.60                | -  | 26.00                | -  | 56.00              | 46.00 | -28.4            | -  | -30.0 | -  |
| 9.675          | 26.40                | -  | 27.50                | -  | 60.00              | 50.00 | -33.6            | -  | -32.5 | -  |
| 11.937         | 32.20                | -  | 36.50                | -  | 60.00              | 50.00 | -27.8            | -  | -23.5 | -  |

- 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.



#### 4.4 TEST DATA OF RADIATED EMISSION

EUT: USB MOUSEMODEL: S3U800AANT. POLARITY: HorizontalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 M

| Frequency<br>(MHz) | Correction<br>Factor<br>(dB/m) | Reading<br>Data<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|--------------------|--------------------------------|---------------------------|-------------------------------|-------------------|----------------|
| 74.79              | 9.0                            | 9.6                       | 18.6                          | 30.0              | -11.4          |
| 147.07             | 13.6                           | 3.0                       | 16.6                          | 30.0              | -13.4          |
| 171.86             | 11.8                           | 7.4                       | 19.2                          | 30.0              | -10.8          |
| 192.05             | 11.6                           | 11.3                      | 22.9                          | 30.0              | -7.1           |
| 220.05             | 12.9                           | 4.9                       | 17.8                          | 30.0              | -12.2          |
| 224.38             | 13.2                           | 6.1                       | 19.3                          | 30.0              | -10.7          |
| 249.34             | 14.9                           | 5.9                       | 20.8                          | 37.0              | -16.2          |

- 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: USB MOUSEMODEL: S3U800AANT. POLARITY: VerticalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 M

| Frequency<br>(MHz) | Correction<br>Factor<br>(dB/m) | Reading<br>Data<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|--------------------|--------------------------------|---------------------------|-------------------------------|-------------------|----------------|
| 74.32              | 7.6                            | 10.2                      | 17.8                          | 30.0              | -12.2          |
| 147.08             | 14.5                           | 7.3                       | 21.8                          | 30.0              | -8.2           |
| 171.81             | 12.0                           | 9.0                       | 21.0                          | 30.0              | -9.0           |
| 192.05             | 11.8                           | 11.7                      | 23.5                          | 30.0              | -6.5           |
| 220.05             | 12.9                           | 9.1                       | 22.0                          | 30.0              | -8.0           |
| 224.38             | 13.1                           | 10.6                      | 23.7                          | 30.0              | -6.3           |
| 248.32             | 14.0                           | 5.1                       | 19.1                          | 37.0              | -17.9          |

- 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



FEDERAL COMMUNICATIONS COMMISSION

7438 Oakland Mills Road  
Columbia, MD 21048  
Telephone: 301-725-1588 (toll-free) 301-725-1589  
Facsimile: 301-344-2030

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

7438 Oakland Mills Road  
Columbia, MD 21048  
Telephone: 301-725-1588 (toll-free) 301-725-1589  
Facsimile: 301-344-2030

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 been also 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](http://www.fcc.gov) under Electronic Filing.

Sincerely,

Thomas W. Phillips  
Electronics Engineer  
Customer Service Branch

FEDERAL COMMUNICATIONS COMMISSION

7438 Oakland Mills Road  
Columbia, MD 21048  
Telephone: 301-725-1588 (toll-free) 301-725-1589  
Facsimile: 301-344-2030

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

7438 Oakland Mills Road  
Columbia, MD 21048  
Telephone: 301-725-1588 (toll-free) 301-725-1589  
Facsimile: 301-344-2030

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

7303 Columbia Plaza Road  
 Columbia, MD 21046  
 Telephone: 301-726-1888 (Ext-210)  
 Facsimile: 301-344-3200

February 25, 1998

IN REPLY REFER TO  
 31040/SIT  
 1300F2

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

Attention: Hsiao W. Lai

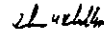
Re: Measurement facility located at above address, Site No. 8  
 (3 and 10 meters)

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 1.946 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 connection 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 radio 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/ost/information/website](http://www.fcc.gov/ost/information/website).

Sincerely,



Thomas W. Phillips  
 Electronics Engineer  
 Customer Service Branch



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, Lia Koa 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

CISPR14, EN 55 011:1991, EN 55 014:1993, EN 55 015:1993, EN 55 022:1994(A1),  
 EN 55 104:1995, EN 68 225-2:1987, EN 61 000-3-2:1995, EN 61 000-3-3:1995,  
 EN 50 061-1:1992, EN 50 062-1:1992, EN 50 061-2:1993, EN 50 062-2:1995,  
 IEC 301-2:1991, IEC 301-3:1984, IEC 301-4:1988, IEC 301-5:1990, EN 61 006-4-2:1995,  
 ENV 50 140:1993, ENV 50 141:1993, IEC 1 000-4-3:1995, EN 61 006-4-4:1995,  
 EN 61 000-4-5:1995, EN 61 006-4-8:1993, EN 61 000-4-11:1994, EN 60 681-1-2:1993

An inspection of the facility was conducted according to the Document  
 "Approval of Test Sites" 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 months,  
 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 contents of the Testing and Certification Appointment are an integral part of this certificate.



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,  
 Lia Koa 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 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, personal 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 those EMC Standards for the products in question under either the  
 European Union EMC Directive or the European Union Automotive EMC Directive (as  
 applicable).

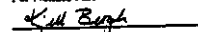
In case of applications for Product Certification(s) to be issued by Nemko, your EMC  
 Laboratory's test report(s) will be accepted by Nemko if they are enclosed with the  
 Application Forms submitted by the manufacturer.

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

Postal address: Oslo, Norway  
 Telephone: +47 22 44 44 00  
 Fax: +47 22 44 44 01



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 30081-1, EN 30081-2 | EN 30082-1, EN 30082-2      | EN 55011, Gr. 1, CISPR 11   |
| EN 55011, CISPR 13     | EN 55014-1, CISPR 14-1      | EN 55015, CISPR 15          |
| EN 55022               | EN 60555-2, IEC 555-2       | EN 60555-3, IEC 555-3       |
|                        | EN 61000-3-2, IEC 61000-3-2 | EN 61000-3-3, IEC 61000-3-3 |

#### BASIC STANDARDS


|                                           |                                                                    |                                           |
|-------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| EN 61000-4-2, IEC 61000-4-2,<br>IEC 301-2 | EN 61000-4-3, ENV 50148,<br>ENV 50204, IEC 61000-4-3,<br>IEC 301-3 | EN 61000-4-4, IEC 61000-4-4,<br>IEC 301-4 |
| EN 61000-4-5, IEC 61000-4-5               | EN 61000-4-4, ENV 50141,<br>IEC 61000-4-4                          | EN 61000-4-4, IEC 61000-4-4               |
| EN 61000-4-11, IEC 61000-4-11             |                                                                    |                                           |

Oslo, 13 March 1998



Kjell Bergh, Nemko EMC Services

Postal address: Oslo, Norway  
 Telephone: +47 22 44 44 00  
 Fax: +47 22 44 44 01


  
 National Institute of Standards and Technology
 National Voluntary Laboratory Accreditation Program

---

ISO/IEC GUIDE 25:1990  
 ISO 9002:1987
 **Scope of Accreditation**

Page 1 of 1

NVLAP LAB CODE 280102-0

**ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS**

**ADVANCE DATA TECHNOLOGY CORPORATION**  
 No. 47, 14 Ling, Chin Pao Tzuen,  
 Lia Kow Hsiang  
 Taipei Hsien  
 TAIWAN  
 Mr. Harris W. Lai  
 Phone: 886-2-4032180 Fax: 886-2-4022943

*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 classes in AUSTEL Technical Standards**

12/T31 AS/NZS 1548: 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-015 (11-88)

United States Department of Commerce  
 National Institute of Standards and Technology



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: 280102-0


  
 MINISTRY OF COMMERCE  
 To Manage Technology

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

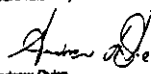
**LABORATORY APPROVAL**

Thank you for your letter of 18 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

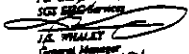
  
 Andrew Dyle  
 Senior Technical Officer (Regulatory)

Operations and Risk Management Branch, Ministry of Commerce Building, 15 Broad Street, Wellington, New Zealand  
 PO Box 264, Wellington 6141 +73 0926 Fax 641 +73 2109



**Certificate of Assessment**  
 This is to Certify  
 The **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"**  
**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 End Rd  
 Boreham  
 Co Durham  
 DL8 5AD  
 UNITED KINGDOM

Approved  
 For and on behalf of  
 SGS EMC Services  
  
 J.A. WHALLEY  
 General Manager  
 Date: 02/10/98





# 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  
 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  
 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  
 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  
 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





