



# EMC

## TEST REPORT

REPORT NO. : CE88121402

MODEL NO. : PCA-6276E, PCA-6276

DATE OF TEST : Dec. 21 ~ 24, 1999

PREPARED FOR : ADVANTECH CO., LTD.

ADDRESS : FL. 4, NO. 108-3, MING-CHUAN ROAD,  
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PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

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1.

## CERTIFICATION

Issue Date: Dec. 27, 1999

Product : CPU BOARD  
Trade Name : ADVANTECH  
Model No. : PCA-6276E, PCA-6276  
Applicant : ADVANTECH CO., LTD.  
Standard : EN 55022: 1994+A1: 1995+A2: 1997, **EN 50082-2: 1995**  
Class A EN 61000-4-2: 1995  
EN 61000-4-3: 1996  
EN 61000-4-4: 1995  
EN 61000-4-6: 1996  
EN 61000-4-8: 1993  
ENV 50204: 1995

We hereby certify that one sample of the designation has been tested in our facility from Dec. 21 to 24, 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.

TESTED BY : Kent Chen , DATE: 12/27/99  
( Emission ) ( Kent Chen )

TESTED BY : S.S. Wang , DATE: 12/27/99  
( Immunity ) ( S.S. Wang )

CHECKED BY : Yemmy Soong , DATE: 12/27/99  
( Yemmy Soong )

APPROVED BY : Mike Su , DATE: 12/27/99  
( Mike Su )

**ADVANCE DATA TECHNOLOGY CORPORATION**

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## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Product : CPU BOARD  
Model No. : PCA-6276E, PCA-6276  
Power Supply Type : Switching (from PC)  
Power Cord : Non-shielded (1.8 m, 3-pin)

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

- ◆ Model: PCA-6276E with LAN function
- ◆ Model: PCA-6276 without LAN function

From the above models, model: PCA-6276E was selected as the representative for the test. Therefore, its data is recorded in this report.

The EUT was tested under the following configuration:

<b>CPU</b>	INTEL CELERON 300 MHz x 2 (Speed: 66 MHz x 4.5)
<b>CHASSIS</b>	ADVANTECH, IPC-610
<b>BACKPLANE</b>	ADVANTECH, PCA-6114P4 Version: B102-1
<b>VGA CARD</b>	ATI RAGE 128 PRO (Resolution: 1600x1200)
<b>SPS</b>	DELTA, DPS-300BB-103A Version: 0.0
<b>FDD</b>	NEC, FD1231H
<b>HDD</b>	MAXTOR, K845U2
<b>CD-ROM</b>	BTC, BCD-40XH, 40x

The video resolution of 1600 x 1200 was used during the test.

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



## 2.2 GENERAL DESCRIPTION OF APPLIED STANDARD

According to the manufacturer's request, the EUT was tested with the requirements of the following standards:

EN 55022: 1994+A1: 1995+A2: 1997, Class A

**EN 50082-2: 1995**

EN 61000-4-2: 1995

EN 61000-4-3: 1996

EN 61000-4-4: 1995

EN 61000-4-6: 1996

EN 61000-4-8: 1993

ENV 50204: 1995

All tests are performed and recorded as per above standards.

## 2.3 DESCRIPTION OF SUPPORT UNITS

The EUT was installed into a system and tested together with necessary accessories or support units. The following support units or accessories are used to form representative test configuration during the tests.

### FOR EMISSION TEST

No	Product	Brand	Model No.	Serial No.	I/O Cable
1	COLOR MONITOR	ADI	937G	649015T00102096A	Shielded Signal (1.8m) Nonshielded Power (1.8m)
2	MODEM	ACEEX	1414	980020538	Shielded Signal (1.2m) Nonshielded Power (2.0m)
3	PRINTER	HP	2225C+	2939S56294	Shielded Signal (1.2m) Nonshielded Power (2.0m)
4	USB KEYBOARD	BTC	7932	D7A140018	Shielded Signal (1.4m)
5	USB MOUSE	DEXIN	A2U800A	71001826	Shielded Signal (1.5m)
6	MOUSE	COMSYS	MOUSE 1300	507009752	Shielded Signal (1.5m)
7	KEYBOARD 2x	FORWARD	FDA-104GA	FDKB8110116 FDKB8110162	Shielded Signal (1.4m)
8	NOTEBOOK	USI	UNI-812	97207-0112-02 9850	Nonshielded Power (1.8m)
9	LAN CARD	3COM	3CCFE575BT	6TW15D5530	NA

Note: 1. Support units 4 & 5 were connected to the USB ports of PC system.

2. Support units 1-7 were set up as the SERVER PC system and communicated with support units 8-9 which acted as WORKSTATION and partners of communication system via a UTP cable (10m).

## FOR IMMUNITY TEST

No	Product	Brand	Model No.	Serial No.	I/O Cable
1	COLOR MONITOR	ACER	7324e	9174302003	Shielded Signal (1.5m) Nonshielded Power (1.8m)
2	MODEM	GVC	F-1128V1R6	96-191-113003	Shielded Signal (1.25m) Nonshielded Power (1.5m)
3	PRINTER	HP	C2145A	SG59N16035	Shielded Signal (1.5m) Nonshielded Power (1.8m)
4	MOUSE	COMSYS	MOUSE 1300	507009752	Shielded Signal (1.5m)
5	KEYBOARD	HP	C3758A	C3758-60223	Shielded Signal (1.8m)
6	USB KEYBOARD	ACER	6512BU	NA	Shielded Signal (2.9m)
7	USB MOUSE	FORWARD	FDM-F50	90801059	Shielded Signal (1.5m)
8	NOTEBOOK	USI	UNI-812	97207-0112-02 9850	Nonshielded Power (1.8m)
9	LAN CARD	3COM	3CCFE575BT	6TW15D5530	NA

Note: 1. Support units 6 & 7 were connected to the USB ports of PC system.  
 2. Support units 1-7 were set up as the SERVER PC system and communicated with support units 8-9 which acted as WORKSTATION and partners of communication system via a UTP cable (10m).

## 2.4 TEST SETUP

Please refer to the photos of test configuration in Item 6.



### 3. TEST INSTRUMENTS

#### 3.1 TEST INSTRUMENTS (EMISSION)

##### CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 13, 2000
ROHDE & SCHWARZ Artificial Mains Network	ESH2-Z5	892107/003	July 13, 2000
EMCO L.I.S.N.	3825/2	9504-2359	July 13, 2000
Shielded Room	Site 3	ADT-C03	NA

Note: 1. The measurement uncertainty is less than  $\pm 2.6\text{dB}$ , which is calculated as per NAMAS document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.

##### RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	8594E	3520A01861	Feb. 08, 2000
HP Preamplifier	8447D	2944A08118	Dec. 28, 1999
HP Preamplifier	8347A	3307A01088	Aug. 30, 2000
HP Preamplifier	8449B	3008A01201	Dec. 14, 2000
ROHDE & SCHWARZ TEST RECEIVER	ESVS 10	840241/010	Sept. 9, 2000
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2000
ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Aug. 30, 2000
CHASE BILOG Antenna	CBL6111A	1079	July 17, 2000
EMCO Double Ridged Guide Antenna	3115	9312-4192	April 5, 2000
CHANCE Turn Table	U200	9701	NA
CHANCE Tower	AT-100	CM-A003	NA
Open Field Test Site	Site 3	ADT-R03	July 16, 2000

Note: 1. The measurement uncertainty is less than  $\pm 3\text{dB}$ , which is calculated as per NAMAS document NIS81.

2. The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.





### 3.2 TEST INSTRUMENTS (IMMUNITY)

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
KeyTek, ESD Test System	2000	9105240/41	Aug. 10, 2000
KeyTek, ESD Simulator	MZ-15/EC	92022232	April 14, 2000
KeyTek, EFT Generator	CE-40	9508257	Sept. 5, 2000
KeyTek, Capacitive Clamp	CE-40-CCL	9508259	Sept. 5, 2000
KeyTek, Control Center	E103	9508347	NA
KeyTek, Surge Combination Wave	E501A	9508349	Aug. 30, 2000
KeyTek, Surge Coupler/Decoupler	E551	9508350	Aug. 30, 2000
ROHDE & SCHWARZ Signal Generator	SMY01	840490/009	Aug. 19, 2000
KALMUS Power Amplifier	LA1000V	091995-1	NA
KALMUS Power Amplifier	757LC	091995-2	NA
HOLADAY Field Probe	HI-4422	89915	Aug. 12, 2000
EMCO BiconiLog Antenna	3141	1001	NA
FCC Coupling Decoupling Network	FCC-801-M3-25	48	NA
FCC Coupling Decoupling Network	FCC-801-M2-25	20	NA
FISCHER CUSTOM COMMUNICATIONS EM Injection Clamp	FCC-203I	50	NA
FCC Coupling Decoupling Network	FCC-801-M1-25	17	NA
BOONTON RF Voltage Meter	9200B	331801AE	Aug. 19, 2000
COMTEST Compact Full Anechoic Chamber (7x3x3 m)	CFAC	ADT-S01	Aug. 24, 2000
HAEFELY Magnetic Field Tester	MAG 100.1	083794-06	NA
COMBINOVA Magnetic Field Meter	MFM10	224	Oct. 29, 2000
HAEFELY Mains Interference Simulator	PLINE 1610	083690-17	June 7, 2000

Note: The calibration interval of the above test instruments is 12 months.

And the calibrations are traceable to NML/ROC and NIST/USA.

### 3.3 LIMITS OF CONDUCTED AND RADIATED EMISSION

#### LIMIT OF RADIATED EMISSION OF EN 55022

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

- 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 EN 55022

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

Product Family Standard : EN 55022: 1994+A1: 1995+A2: 1997, Class A  
Frequency Range : 0.15 - 30 MHz (Conducted Emission)  
30 - 1000 MHz (Radiated Emission)  
Input Voltage : 230 Vac, 50 Hz (from PC)  
Temperature : 15 degree C  
Humidity : 60 %  
Atmospheric Pressure : 1020 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -29.7 dB at 0.205 MHz Minimum passing margin of radiated emission: -2.1 dB at 187.05 MHz

### 4.2 EUT OPERATION CONDITION

1. Turn on the power of all equipment.
2. Industrial PC reads a test program to enable all functions.
3. Industrial PC reads and writes messages from HDD and FDD.
4. Industrial PC sends and receives messages from Workstation PC via a UTP cable.
5. Industrial PC sends "H" messages to monitor and monitor displays "H" patterns on screen.
6. Industrial PC sends "H" messages to modem.
7. Industrial PC sends "H" messages to printer and the printer prints them on paper.
8. Repeat steps 2-8.



### 4.3 TEST DATA OF CONDUCTED EMISSION

EUT: CPU BOARD

MODEL: PCA-6276E

6 dB Band Width: 10 kHz

PHASE: LINE (L)

Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.205	0.2	47.4	-	47.6	-	79.0	66.0	-31.4	-
0.306	0.2	38.9	-	39.1	-	79.0	66.0	-39.9	-
1.024	0.3	34.0	-	34.3	-	73.0	60.0	-38.7	-
3.075	0.4	31.7	-	32.1	-	73.0	60.0	-40.9	-
9.535	0.9	31.8	-	32.7	-	73.0	60.0	-40.3	-
24.356	1.4	33.6	-	35.0	-	73.0	60.0	-38.0	-

- 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
  6. Emission Level = Correction Factor + Reading Value.



## TEST DATA OF CONDUCTED EMISSION

EUT: CPU BOARD

MODEL: PCA-6276E

6 dB Band Width: 10 kHz

PHASE: NEUTRAL (N)

Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.205	0.2	49.1	-	49.3	-	79.0	66.0	-29.7	-
0.306	0.2	40.5	-	40.7	-	79.0	66.0	-38.3	-
1.024	0.3	31.6	-	31.9	-	73.0	60.0	-41.1	-
3.075	0.3	23.0	-	23.3	-	73.0	60.0	-49.7	-
9.535	0.6	30.1	-	30.7	-	73.0	60.0	-42.3	-
24.356	1.1	33.1	-	34.2	-	73.0	60.0	-38.8	-

- 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
  6. Emission Level = Correction Factor + Reading Value.



#### 4.4 TEST DATA OF RADIATED EMISSION

EUT: **CPU BOARD**

MODEL: **PCA-6276E**

ANT. POLARITY: Horizontal

DETECTOR FUNCTION AND BANDWIDTH: Quasi peak, 120 kHz (30-1000 MHz)  
Peak, 1 MHz (1000 MHz-2000 MHz)

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

FREQUENCY RANGE: 1000-2000 MHz

MEASURED DISTANCE: 3 M

Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
75.18	7.6	21.6	29.2	40.0	-10.8	400	155
116.95	12.4	18.8	31.2	40.0	-8.8	400	263
167.07	11.7	23.4	35.1	40.0	-4.9	400	351
187.04	11.3	24.8	36.1	40.0	-3.9	400	9
202.79	11.8	24.6	36.4	40.0	-3.6	400	234
233.91	13.4	21.5	34.9	47.0	-12.1	400	207
300.72	15.4	21.4	36.8	47.0	-10.2	400	29
312.09	15.7	19.5	35.2	47.0	-11.8	252	251
343.71	16.8	18.1	34.9	47.0	-12.1	279	149
358.41	17.3	19.6	36.9	47.0	-10.1	301	187

- REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB)  
+ Reading value (dBuV).
  2. Correction Factor (dB) = Ant. Factor (dB)+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: **CPU BOARD**

MODEL: **PCA-6276E**

ANT. POLARITY: Vertical

DETECTOR FUNCTION AND BANDWIDTH: Quasi peak, 120 kHz (30-1000 MHz)  
Peak, 1 MHz (1000 MHz-2000 MHz)

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

FREQUENCY RANGE: 1000-2000 MHz

MEASURED DISTANCE: 3 M

Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
124.79	12.8	17.8	30.6	40.0	-9.4	100	265
133.66	13.2	18.6	31.8	40.0	-8.2	100	277
135.20	13.2	16.5	29.7	40.0	-10.3	100	133
167.07	11.7	17.2	28.9	40.0	-11.1	100	11
171.89	11.5	14.6	26.1	40.0	-13.9	100	39
183.78	11.2	18.7	29.9	40.0	-10.1	100	133
187.05	11.3	26.6	37.9	40.0	-2.1	100	169
192.12	11.4	19.1	30.5	40.0	-9.5	100	164
200.48	11.7	23.8	35.5	40.0	-4.5	100	341
202.63	11.8	24.7	36.5	40.0	-3.5	100	160
208.82	12.1	15.9	28.0	40.0	-12.0	100	149
214.80	12.4	19.6	32.0	40.0	-8.0	100	163
233.87	13.4	22.6	36.0	47.0	-11.0	100	170
300.69	15.4	18.4	33.8	47.0	-13.2	100	302
420.98	19.1	13.2	32.3	47.0	-14.7	142	332

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



## 5. TEST RESULTS (IMMUNITY)

### 5.1 GENERAL DESCRIPTION

Generic Standard	:	EN 50082-2: 1995
Basic Standard	:	EN 61000-4-2 (Electrostatic Discharge, ESD, 8kV air discharge, 4kV Contact discharge, Performance Criterion B)
Specification and Performance Criteria	:	EN 61000-4-3 (Radio-Frequency Electromagnetic Field Susceptibility Test, RS, 80-1000 MHz, 10V/m, 80% AM (1kHz), Performance Criterion A)
	:	EN 61000-4-4 (Electrical Fast Transient/Burst, EFT, Power line: 2kV, Signal line: 1kV, Performance Criterion B)
	:	EN 61000-4-6 (Conducted Radio Frequency Disturbances Test, CS, 0.15-80 MHz, 10V/m, 80% AM, 1kHz, Performance Criterion A)
	:	EN 61000-4-8 (Power Frequency Magnetic Field Test, 50 Hz, 30A/m, Performance Criterion A)
	:	ENV 50204 (Radio-Frequency Electromagnetic Field, Pulse modulated, 900+/-5 MHz, 10V/m, 50 % duty cycle, Rep. Frequency 200 Hz, Performance Criterion A)
Input Voltage	:	230 Vac, 50 Hz (from PC)
Temperature	:	27 degree C
Humidity	:	58 %
Atmospheric Pressure	:	1010 mbar

### 5.2 PERFORMANCE CRITERIA DESCRIPTION

- Criterion A - The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- Criterion B - The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.
- Criterion C - Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

### 5.3 EUT OPERATION CONDITION

Same as item 4.2





## 5.4 TEST RESULT OF ELECTROSTATIC DISCHARGE (ESD)

Basic Standard : EN 61000-4-2  
Discharge Impedance : 330 ohm / 150 pF  
Discharge Voltage : Air Discharge - 8 kV (Direct)  
Contact Discharge - 4 kV (Direct/Indirect)  
Polarity : Positive/Negative  
Number of Discharge : Minimum 20 times at each test point  
Discharge Mode : Single Discharge  
Discharge Period : 1-second minimum

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

### OBSERVATION DESCRIPTION

Direct Application			Test Result	
Discharge Level (kV)	Polarity (+/-)	Test Point	Contact Discharge	Air Discharge
8	+/-	1 ~ 6	NA	Note 1
4	+/-	1 ~ 2	Note 1	NA

#### Description of test point: (Please refer to ESD test photo)

1. Metal case
2. I/O ports
3. Floppy
4. CD-ROM
5. Power switch
6. Push button

Indirect Application			Test Result	
Discharge Level (kV)	Polarity (+/-)	Test Point	Horizontal Coupling	Vertical Coupling
4	+/-	1 ~ 4	Note 1	Note 1

#### Description of test point:

1. Front side
2. Left side
3. Right side
4. Rear side

#### Description of test result:

Note 1: There was no change compared with initial operation during the test.



## 5.5 TEST RESULT OF RADIATED ELECTROMAGNETIC FIELDS (RS)

Basic Standard : EN 61000-4-3  
Frequency range : 80 MHz - 1000 MHz  
Field strength : 10 V/m  
Modulation : 1kHz Sine Wave, 80%, AM Modulation  
Frequency step : 1 % of fundamental  
Polarity of Antenna : Horizontal and Vertical  
Test distance : 3 m

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

Note: Four sides of EUT are verified separately.

### Description of test result:

There was no change compared with initial operation during the test.



## 5.6 TEST RESULT OF ELECTRICAL FAST TRANSIENT (EFT)

Basic Standard : EN 61000-4-4  
Test Voltage : Power Line - 2 kV  
Signal/Control Line - 1 kV  
Polarity : Positive/Negative  
Impulse Frequency : 5 kHz  
Tr / Tn : 5/50 ns  
Burst Duration : 15 ms  
Burst Period : 300 ms  
Test Duration : Not less than 1 min.

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

### OBSERVATION DESCRIPTION

Test Point	Polarity	Test Level (kV)	Result
L1	+/-	2	Note 1
L2	+/-	2	Note 1
GND	+/-	2	Note 1
Signal/Control Line	+/-	1	Note 1

### Description of test result:

Note 1: There was no change compared with initial operation during the test.



## 5.7 TEST RESULT OF CONDUCTED RADIO FREQUENCY

### DISTURBANCES (CS)

Basic Standard : EN 61000-4-6  
Frequency range : 0.15 MHz - 80 MHz  
Field strength : 10 V/m  
Modulation : 1kHz Sine Wave, 80%, AM Modulation  
Frequency step : 1 % of fundamental  
Coupled cable : Power Mains, Unshielded  
Coupling device : CDN-M3 (3 wires)

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

### OBSERVATION DESCRIPTION

There was no change compared with initial operation during the test.



## 5.8 TEST RESULT OF POWER FREQUENCY MAGNETIC FIELD

Basic Standard : EN 61000-4-8  
Frequency range : 50Hz  
Field strength : 30 A/m  
Observation Time : 1 minute  
Inductance coil : Rectangular type, 1mx1m

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

### OBSERVATION DESCRIPTION

There was no change compared with initial operation during the test.



## 5.9 TEST RESULT OF RADIO-FREQUENCY ELECTROMAGNETIC FIELD, PULSE MODULATED

Basic Standard : ENV 50204  
Frequency range : 900 +/- 5 MHz  
Field strength : 10 V/m  
Modulation : 200Hz, Square Wave, 50% Duty Cycle  
Dwell Time : 30 second  
Polarity of Antenna : Horizontal and Vertical  
Test distance : 3 m

Test Result		Remarks
Criterion A	PASS	Model: PCA-6276E

Note: Four sides of EUT are verified separately.

### OBSERVATION DESCRIPTION

There was no change compared with initial operation during the test.

## 6. PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST

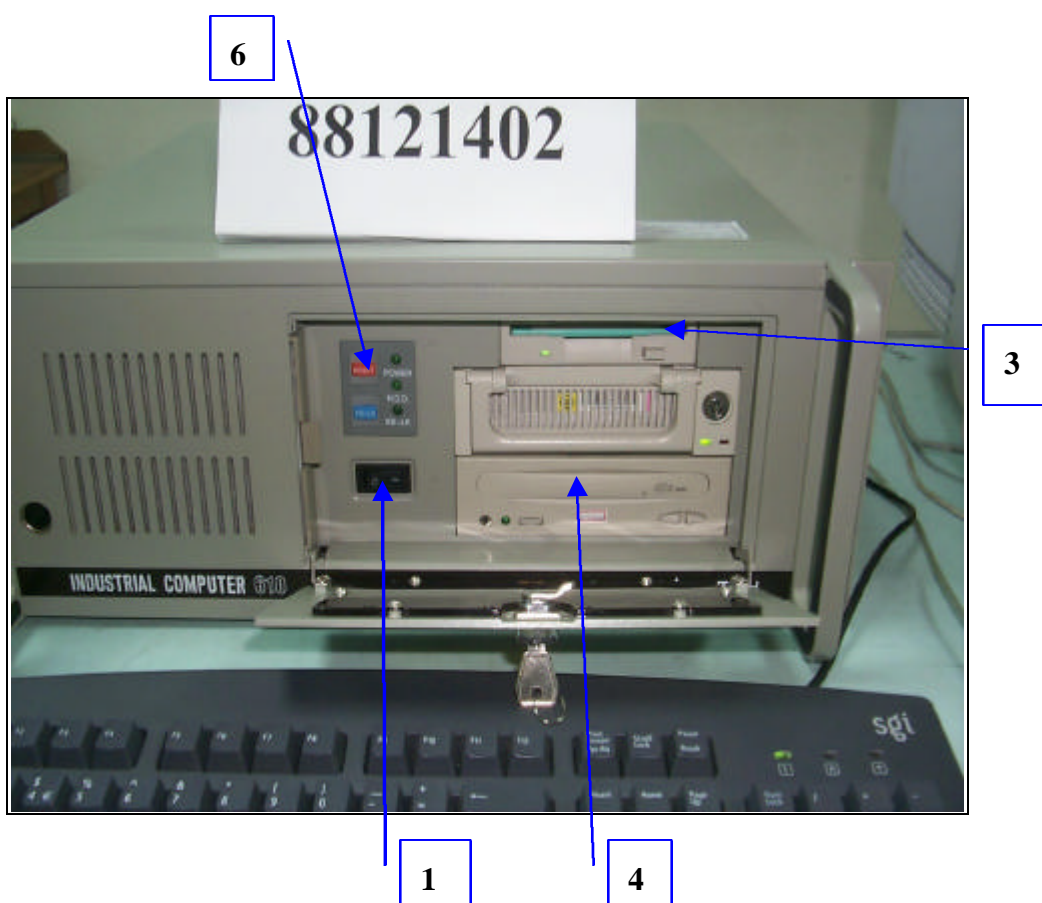


## RADIATED EMISSION TEST





## ESD TEST





1

2

## RS TEST & PULSE MODULATION TEST





## EFT TEST



## EFT CLAMP TEST



## CONDUCTED SUSCEPTIBILITY TEST



## CS CLAMP TEST



## MAGNETIC TEST





## 7. APPENDIX - INFORMATION OF THE TESTING LABORATORY

### Information of the testing laboratory

We, ADT Corp., are 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<br>TUV Product Service |
| ● Japan       | VCCI                                 |
| ● New Zealand | RFS                                  |
| ● Norway      | NEMKO, DNV                           |
| ● U.K.        | INCHCAPE                             |
| ● 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:

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