EMC

TEST REPORT

REPORT NO. : CE86121201A
MODEL NO. : IPC-6606XX-25XY
DATE OF TEST : Oct. 13 ~ 20, 1999

PREPARED FOR : ADVANTECH CO., LTD.

ADDRESS : FL. 4, NO. 108-3, MING-CHUAN ROAD,
SHING-TIEN CITY TAIPEI HSIEN, TAIWAN

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION

Accredited Laboratory

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TAIPEI, TAIWAN, R.O.C.

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1. CERTIFICATION

Issue date: Oct. 27, 1999

Product	:	INDUSTRIAL COMPUTER	
Trade Name	:	ADVANTECH	
Model No.	:	IPC-6606XX-25XY	
Applicant	:	ADVANTECH CO., LTD.	
Standard	:	EN 55022:1994+A1: 1995+A2: 1997, Class A	**EN 50082-2: 1995**
		EN 61000-3-2: 1995, Class A	EN 61000-4-2: 1995
		EN 61000-3-3: 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 Oct. 13 to 20, 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 : _____ , DATE: _____
(Emission) (John Liao)

TESTED BY : _____ , DATE: _____
(Immunity) (Win Ching Lin)

CHECKED BY : _____ , DATE: _____
(Yemmy Soong)

APPROVED BY : _____ , DATE: _____
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	INDUSTRIAL COMPUTER
Model No.	:	IPC-6606XX-25XY
Power Supply Type	:	Switching
Power Cord	:	Nonshielded 3-pin (1.8 m)

Note: This report is a supplementary report of the original one (ADT report no. CE86121201) issued on Jan. 6, 1998 to verify test result for some electronic and mechanical changes. The main changes would be as the following:

- Changed switching power supply.
- Additional CD-ROM

The "XX" in model: IPC-6606XX-25XY represents different back planes. The "X" and "Y" in the model name could be defined as A ~ Z, 0 ~ 9 or blank according to different customer's requirement.

The EUT was tested under the following configurations:

- CPU BOARD, ADVANTECH, model: PCA-6175
- CPU: Intel Pentium II 333MHz
- HDD: QUANTUM, model: EX 3200AT, 3.2GB
- FDD: TEAC, model: FD-235HF
- CD-ROM: BTC, model: BCD-48 SB, 48x
- POWER SUPPLY: DELTA, model: DPS-200PB-103
- VGA CARD: APAC, model: S3-375

The video resolution of 1024x768 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 61000-3-2: 1995, Class A
EN 61000-3-3: 1995

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 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.

FOR EMISSION TEST

No	Product	Brand	Model No.	Serial No.	I/O Cable
1.	COLOR MONITOR	ADI	PD-959	730020U00100292	Shielded Signal (1.5m) Nonshielded Power (1.8m)
2.	KEYBOARD	FORWARD	FDA-104GA	FDKB8110115	Shielded Signal (1.4m)
3.	MOUSE	LOGITECH	M-M30	LTR53500790	Shielded Signal (1.8m)
4.	MODEM	ACEEX	1414	980020507	Shielded Signal (1.2m) Nonshielded Power (1.2m)
5.	PRINTER	HP	2225C+	2936S56294	Shielded Signal (1.2m) Nonshielded Power (1.2m)
6.	EARPHONE	GAMMA	LH115	H201004	Shielded Signal (1.3m)
7.	VGA	S3 VIRGE-DX	SS-375/775	NA	NA

FOR IMMUNITY TEST

No	Product	Brand	Model No.	Serial No.	I/O Cable
1.	COLOR MONITOR	ACER	7254e	NA	Shielded Signal (1.5m) Nonshielded Power (1.8m)
2.	KEYBOARD	HP	C3758A	C3758-60223	Shielded Signal (1.5m)
3.	MOUSE	DEXIN	A2R800A	80110026	Shielded Signal (1.5m)
4.	MODEM	GVC	F-1128V1R6	96-191-113004	Shielded Signal (1.25m) Nonshielded Power (1.5m)
5.	PRINTER	HP	C2145A	SG5N1601K	Shielded Signal (1.5m) Nonshielded Power (1.8m)
6.	EARPHONE	HP	LT-100	H201022	Shielded Signal (3.0m)

2.4TEST 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	ESH3	893495/006	July 7, 2000
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 8, 2000
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 7, 2000
EMCO-L.I.S.N.	3825/2	9204-1964	July 7, 2000
Shielded Room	Site 2	ADT-C02	NA

Note: 1. The measurement uncertainty is less than +/- 2.6dB, 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	8594A	3144A00308	Aug. 19, 2000
HP Preamplifier	8447D	2944A08119	Jan. 12, 2000
HP Preamplifier	8347A	3307A01088	Aug. 30, 2000
ROHDE & SCHWARZ TEST RECEIVER	ESVP	893496/030	July 13, 2000
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 25, 1999
CHASE Bilog Antenna	CBL6112A	2329	Sept. 19, 2000
EMCO Double Ridged Guide Antenna	3115	9312-4192	April 5, 2000
EMCO Turn Table	1060	1195	NA
EMCO Tower	1051	1163	NA
Open Field Test Site	Site 2	ADT-R02	Sept. 10, 2000

Note: 1. The measurement uncertainty is less than +/- 3dB, 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.

CURRENT HARMONICS, VOLTAGE FLUCTUATION AND FLICKER MEASUREMENT

Description & Manufacturer	Model no.	Serial No.	Calibrated Until
KeyTek, Power Arb Waveform Generator	EP72HF	9508346	Mar. 27, 2000
KIKUSUI AC SWITCHING POWER SUPPLY	PCR 4000L	9508355	Mar. 27, 2000

Note: 1. 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	July 26, 2000
KeyTek, EFT Generator	CE-40	9508257	Sept. 5, 2000
KeyTek, Capacitive Clamp	CE-40-CCL	9508259	Sept. 5, 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	Oct. 27, 1999
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	Dec. 17, 1999
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. 28, 1999

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 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.

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.

4. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Product Family Standard	:	EN 55022+A1: 1995+A2: 1997, Class A
Frequency Range	:	0.15 - 30 MHz (Conducted Emission)
		30 - 1000 MHz (Radiated Emission)
Power System Voltage	:	230 Vac, 50 Hz
Temperature	:	25 degree C
Humidity	:	75 %
Atmospheric Pressure	:	997 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -28.7 dB at 0.201 MHz Minimum passing margin of radiated emission: -2.1 dB at 200.44 MHz

4.1.1 EUT OPERATION CONDITION

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

4.1.2 TEST DATA OF CONDUCTED EMISSION

EUT: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

Bandwidth: 10 kHz PHASE: LINE (L)

Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.201	0.2	48.7	-	48.9	-	79.0	66.0	-30.1	-
0.303	0.2	40.3	-	40.5	-	79.0	66.0	-38.5	-
0.416	0.2	33.3	-	33.5	-	79.0	66.0	-45.5	-
2.131	0.2	32.2	-	32.4	-	73.0	60.0	-40.6	-
16.181	1.0	38.4	-	39.4	-	73.0	60.0	-33.6	-
24.148	1.3	31.0	-	32.3	-	73.0	60.0	-40.7	-

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

TEST DATA OF CONDUCTED EMISSION

EUT: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

Bandwidth: 10 kHz PHASE: NEUTRAL (N)

Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
0.201	0.2	50.1	-	50.3	-	79.0	66.0	-28.7	-
0.303	0.2	42.4	-	42.6	-	79.0	66.0	-36.4	-
0.416	0.2	34.2	-	34.4	-	79.0	66.0	-44.6	-
2.131	0.2	31.4	-	31.6	-	73.0	60.0	-41.4	-
16.181	0.8	35.9	-	36.7	-	73.0	60.0	-36.3	-
24.148	1.2	30.4	-	31.6	-	73.0	60.0	-41.4	-

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.

4.1.3 TEST DATA OF RADIATED EMISSION

EUT: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

ANT. POLARITY: Horizontal

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

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

Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
167.01	10.8	14.0	24.8	40.0	-15.2	400	75
183.71	10.5	12.1	22.6	40.0	-17.4	367	272
186.10	10.4	11.8	22.2	40.0	-17.8	400	302
200.44	10.2	27.7	37.9	40.0	-2.1	400	301
273.91	14.8	20.4	35.2	47.0	-11.8	325	214
312.00	14.9	17.4	32.3	47.0	-14.7	256	210
668.06	21.5	20.8	42.3	47.0	-4.7	357	307
734.86	22.1	11.1	33.2	47.0	-13.8	100	321

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: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

ANT. POLARITY: Vertical

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

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

Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)
133.60	12.1	16.2	28.3	40.0	-11.7	100	275
167.00	10.8	15.1	25.9	40.0	-14.1	100	5
183.70	10.5	20.0	30.5	40.0	-9.5	100	342
192.04	10.3	14.4	24.7	40.0	-15.3	100	360
200.41	10.2	21.1	31.3	40.0	-8.7	100	217
233.83	12.7	10.5	23.2	47.0	-23.8	100	359
273.91	14.8	18.0	32.8	47.0	-14.2	100	108
312.00	14.9	14.7	29.6	47.0	-17.4	103	2
668.07	21.5	13.4	34.9	47.0	-12.1	270	51
868.49	22.9	6.9	29.8	47.0	-17.2	193	287

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

4.2 DISTURBANCE IN SUPPLY SYSTEM

Product Family Standard	:	EN 61000-3-2: 1995, Class A
Input Voltage	:	230Vac, 50Hz
Temperature	:	26 degree C
Humidity	:	55 %
Atmospheric Pressure	:	1000 mbar

TEST RESULT	Remarks
PASS	Meets the requirement of Class A limit.

Note: Class A or Class D is classified by test instruments automatically.

4.2.1 EUT OPERATION CONDITION

Same as **4.1.1**

4.2.2 MEASUREMENT DATA OF HARMONICS TEST

EUT: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

Fundamental Voltage : 229.830 Vrms Power consumption : 55.589 W
Amperes : 0.475 Arms
Frequency : 50 Hz

Harm. Order	Reading Data (A)	Limit (A)
1	-	-
3	0.24	2.30
5	0.22	1.14
7	0.19	0.77
9	0.16	0.40
11	0.12	0.33
13	0.09	0.21
15	0.06	0.15
17	0.03	0.13
19	0.02	0.12
21	0.01	0.11
23	0.01	0.10
25	0.02	0.09
27	0.01	0.08
29	0.01	0.08
31	0.01	0.07
33	0.00	0.07
35	0.00	0.06
37	0.00	0.06
39	0.01	0.06

Harm. Order	Reading Data (A)	Limit (A)
2	0.00	1.08
4	0.00	0.43
6	0.00	0.30
8	0.00	0.23
10	0.00	0.18
12	0.00	0.15
14	0.00	0.13
16	0.00	0.11
18	0.00	0.10
20	0.00	0.09
22	0.00	0.08
24	0.00	0.08
26	0.00	0.07
28	0.00	0.07
30	0.00	0.06
32	0.00	0.06
34	0.00	0.05
36	0.00	0.05
38	0.00	0.05
40	0.00	0.05

Note: Steady state values on AC mains are recorded in the table.

4.3 VOLTAGE FLUCTUATIONS AND FLICKER

Basic Standard	:	EN 61000-3-3
Input Voltage	:	230Vac, 50Hz
Temperature	:	26 degree C
Humidity	:	55 %
Atmospheric Pressure	:	1000 mbar

TEST RESULT	Remarks
PASS	The measured reading is too low against the limit

4.3.1 EUT OPERATION CONDITION

Same as **4.1.1**

4.3.2 TEST DATA OF VOLTAGE FLUCTUATIONS AND FLICKER

EUT: **INDUSTRIAL COMPUTER** MODEL: **IPC-6606XX-25XY**

Input Voltage : 229.830 Vrms Input Amperes : 0.475 Arms

Power Factor : 0.509 Power Frequency: 50 Hz

Observation period (Tp): 2 hour

Test Parameter	Measurement Value	Limitation	Remark
Pst	0.087	1.0	pass
Plt	0.038	0.65	pass
Tdt (ms)	0	200	pass
dmax (%)	0	4%	pass
dc (%)	0	3%	pass

Note: (1) Plt means long-term flicker indicator
(2) Pst means short-term flicker indicator
(3) dc means relative steady-state voltage change
(4) dmax means maximum relative voltage change
(5) Tdt means maximum time that dt exceeds 3 %

5. TEST RESULTS (IMMUNITY)

5.1 GENERAL DESCRIPTION

Generic Standard	:	EN 50082-2: 1995	
Basic Standard Specification and Performance Criteria	:	EN 61000-4-2	(Electrostatic Discharge, ESD, 8kV air discharge, 4kV Contact discharge, Performance Criterion B)
		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)

Power System Voltage	:	230 Vac, 50 Hz
Temperature	:	26 degree C
Humidity	:	55 %
Atmospheric Pressure	:	1000 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 **4.1.1**

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: IPC-6606XX-25XY

OBSERVATION DESCRIPTION

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

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

1. Junction of case
2. Switches
3. All I/O ports
4. Earphone port

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

Description of test point:

1. Left side
2. Right side
3. Front 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: IPC-6606XX-25XY

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/1kV
		Signal/Control Line - NA
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: IPC-6606XX-25XY

OBSERVATION DESCRIPTION

Test Point	Polarity	Test Level (kV)	Result
L1	+/-	2	Note 1
L2	+/-	2	Note 1
GND	+/-	2	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: IPC-6606XX-25XY

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: IPC-6606XX-25XY

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: IPC-6606XX-25XY

Note: Four sides of EUT are verified separately.

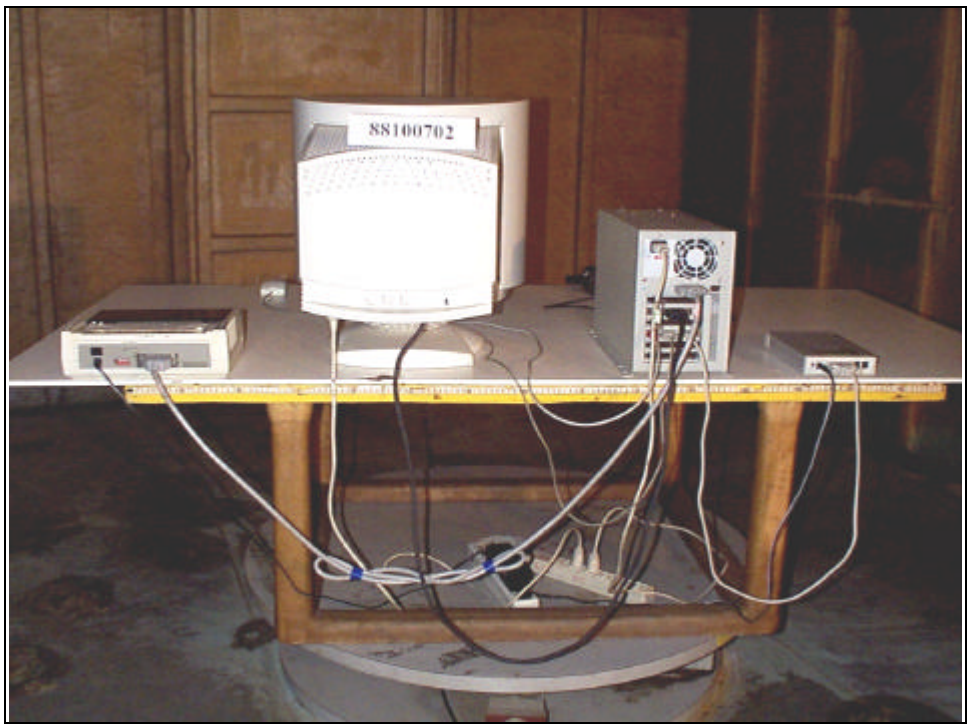
OBSERVATION DESCRIPTION

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

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

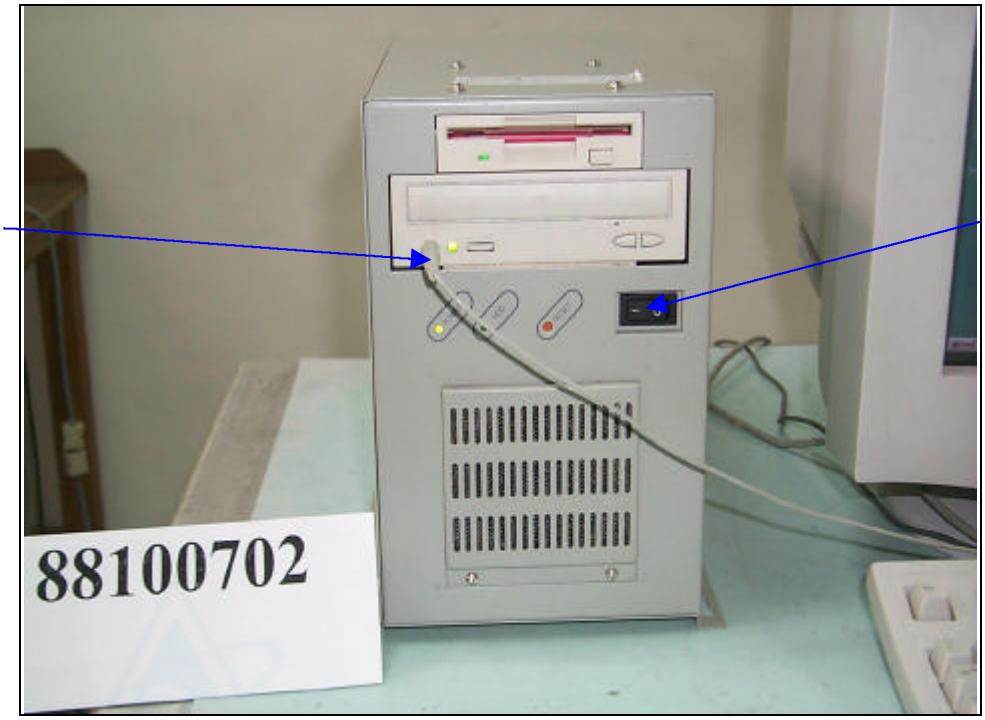
CONDUCTED EMISSION TEST

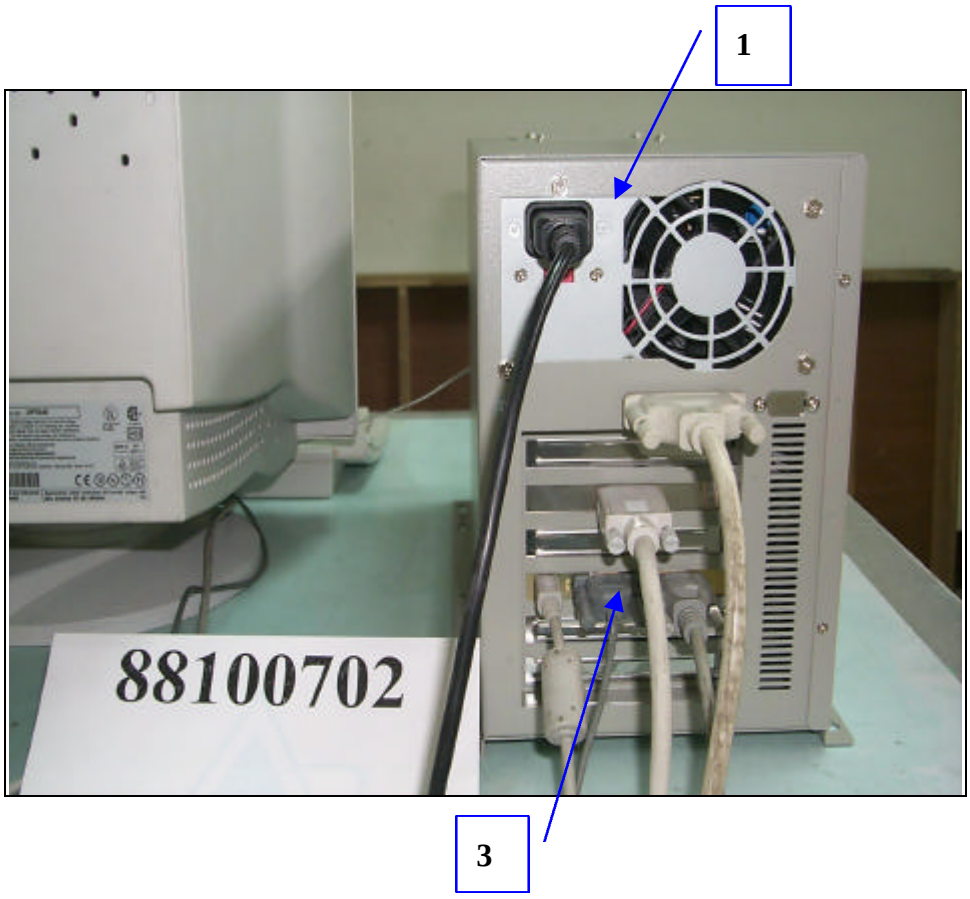
RADIATED EMISSION TEST



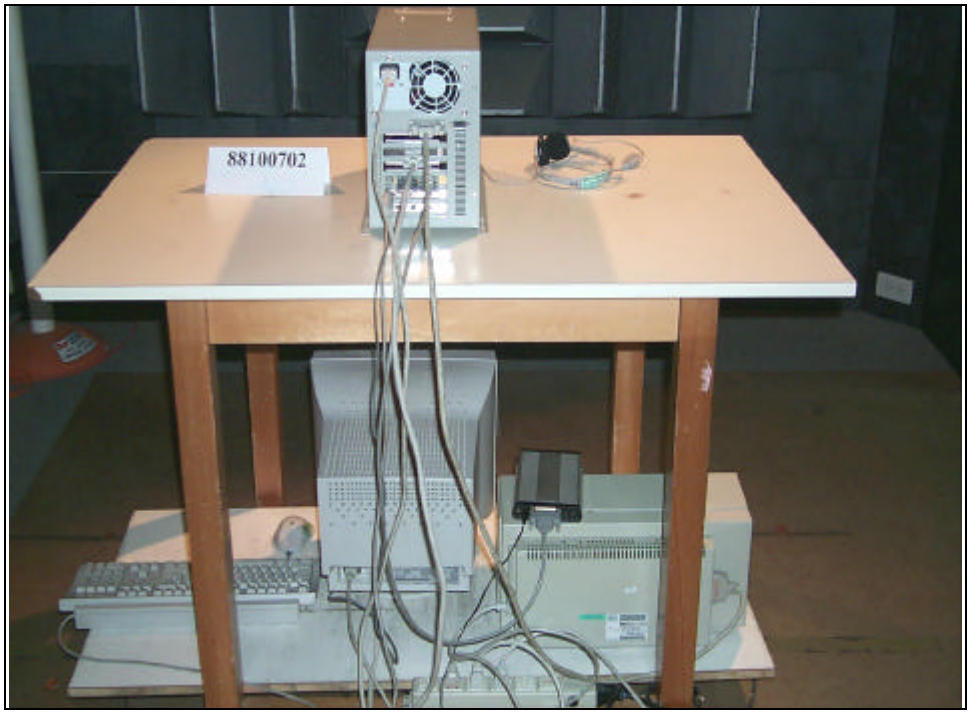
HARMONICS EMISSION TEST &
VOLTAGE FLUCTUATIONS AND FLICKER TEST

ESD TEST


4
2
88100702


1
88100702
3

RS TEST & PULSE MODULATION TEST



EFT TEST

CONDUCTED SUSCEPTIBILITY 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
	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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