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ADT CORP.

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ADT CORP.

致產品行銷歐洲之客戶 (CE Marking)

自 1996 年 1 月 1 日起，銷歐產品必需符合歐聯 EMC 指令之後才能上市。自 1997 年 1 月 1 日起，銷歐產品必須同時符合 EMC 指令和低電壓指令 (LVD－Safety) 之後才能上市。

技術檔案在行銷前必須準備齊全，以備歐聯國家機構隨時抽查，其內容至少包含：

1. Declaration of Conformity (DoC) Form － 必須由歐洲分公司或進口商簽名負責 (見附件樣本)。
2. EMC 測試報告和 SAFETY 測試報告 － 可由實驗室核發或透過認證機構。
3. 原始之設計圖稿及規格書 (如:線路圖、方塊圖、PCB Layout 圖、User's Manual 和 Service Manual 等)。
4. 敘述製造時之生產檢查程序，以確保 EMC 和 SAFETY 特性之維持。
5. 任何會影響到 EMC 和 SAFETY 的變更敘述和必要之測試記錄。

附註：* 產品上要貼上歐聯指令要求之 Label 標示，如右。
* DoC 簽名負責之廠商，有責任確保銷售之產品在 EMC 方面仍符合規定。
* 以上文件必需一份置於 DoC 簽名負責人手中備查。

CE

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ADT CORP.

CE Declaration of Conformity

For the following equipment:

_____
(Product Name)

_____
(Model Designation)
is herewith ccnfirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC). For the evaluation regarding the Directives, the following standards were applied:

_____
_____
_____
_____

The following importer/manufacturer is responsible for this declaration:

_____
(Company Name, Importer)

_____
(Company Address, Importer)

Person responsible for this declaration:

_____
(Name, Surname, Importer)

_____
(Position/Title)

_____
(Legal Signature)

_____ _____
(Place) (Date)

_____
(Company Name, Manufacturer)

_____
(Company Address, Manufacturer)

Person responsible for this declaration:

_____
(Name, Surname, Manufacturer)

_____
(Position/Title)

_____
(Legal Signature)

_____ _____
(Place) (Date)

Certificate of Compliance

We, **ADVANCE DATA TECHNOLOGY CORP.**, hereby certify that:

The product : Industrial Panel Computer

Trade Name : AAEON

Model No. : P3-15AX-00, P3-12AX-00, P3-10AX-00
(The "X" could be R or M depending on EUT's keyboard function)

Applicant : AAEON TECHNOLOGY INC.

Three samples (model: P3-15AX-00, P3-12AX-00, P3-10AX-00) of the designation have been tested in our facility from April 12 to 25, 2001. The test record, data evaluation and Equipment Under Test (EUT) configuration represented in our report No.: **CE90040206**, are in compliance with the following standards:

EN 55022: 1998, Class A
EN 61000-3-2: 1995+A1: 1998+A2: 1998, 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

Mike Su / Manager

Issue Date: April 27, 2001

ADVANCE DATA TECHNOLOGY CORP.
ADT CORP.
Head office:11F,NO.1,SEC.4,NAN-KING EAST RD.,TAIPEI,TAIWAN,R.O.C.
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CE EMC TEST REPORT

REPORT NO.: CE90040206

MODEL NO.: P3-15AX-00, P3-12AX-00, P3-10AX-00

RECEIVED: April 02, 2001

TESTED: April 12 ~ 25, 2001

APPLICANT: AAEON TECHNOLOGY INC.

ADDRESS: 1F, NO. 6, ALLEY 6, LANE 45, PAO-HSIN RD., HSIN-TIEN CITY, TAIPEI , TAIWAN, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan, R.O.C.

0528

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT:	Industrial Panel Computer	
BRAND NAME:	AAEON	
MODEL NO:	P3-15AX-00, P3-12AX-00, P3-10AX-00	
TEST ITEM:	ENGINEERING SAMPLE	
APPLICANT:	AAEON TECHNOLOGY INC.	
STANDARDS:	**EN 55022:1998, Class A**	**EN 50082-2: 1995**
	EN 61000-3-2:1995+A1:1998	EN 61000-4-2:1995
	+A2:1998, Class A	EN 61000-4-3:1996
	EN 61000-3-3:1995	EN 61000-4-4:1995
		EN 61000-4-6:1996
		EN 61000-4-8:1993
		ENV 50204:1995

We, **Advance Data Technology Corporation**, hereby certify that three samples (model: P3-15AX-00, P3-12AX-00, P3-10AX-00) of the designation has been tested in our facility from April 12 to 25, 2001. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

CHECKED BY: Kathy Tseng , **DATE:** 4/27/2001
(Kathy Tseng)

APPROVED BY: Mike Su , **DATE:** 4/27/2001.
(Mike Su, Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

EMISSION			
Standard	**Test Type**	**Result**	**Remarks**
EN 55022:1998	Conducted Test	PASS	Meets Class A Limit Minimum passing margin is –25.75 dB at 0.939 MHz
	Telecom Port Test	PASS	Meets Class A Limit Minimum passing margin is –2.02 dB at 9.998 MHz
	Radiated Test	PASS	Meets Class A Limit Minimum passing margin is –3.0 dB at 167.03 MHz
EN61000-3-2:1995 +A1:1998+A2:1998, Class A	Harmonic current emissions	PASS	Meets Class A Limit
EN61000-3-3:1995	Voltage fluctuations & flicker	PASS	Meets the requirements.

IMMUNITY (EN 50082-2:1995)			
Standard	**Test Type**	**Result**	**Remarks**
EN 61000-4-2: 1995	Electrostatic discharge immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-3: 1996	Radiated, radio-frequency, electromagnetic field immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-4: 1995	Electrical fast transient / burst immunity test.	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-6: 1996	Immunity to conducted disturbances, induced by radio-frequency fields	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-8: 1993	Power frequency magnetic field immunity test.	PASS	Meets the requirements of Performance Criterion A
ENV 50204: 1995	Radio-Frequency Electromagnetic Field test.	PASS	Meets the requirements of Performance Criterion A

3 GENERAL INFORMATION

PRODUCT	Industrial Panel Computer
MODEL NO.	P3-15AX-00, P3-12AX-00, P3-10AX-00
POWER SUPPLY	Switching Power Cord: Nonshielded, 3 pin, AC (1.8m)
DATA CABLE	NA

NOTE: The EUT has three model names, which are identical to each other Except for their LCD panel and keyboard functions as the following:

- ✧ Model: P3-15AX-00: PRO-3000 PC BOX + 15.1" LCD panel
- ✧ Model: P3-12AX-00: PRO-3000 PC BOX + 12.1" LCD panel
- ✧ Model: P3-10AX-00: PRO-3000 PC BOX + 10.4" LCD panel

The "X" in model names could be defined as "M" or "R" depending on the EUT's keyboard functions. The "M" is defined as Membrane K/B Type, the "R" is defined as Touch Screen Type.

The EUT was configured with **PRO-3000 PC Box**, which consists of the following components:

Components	Model & Brand Name
MOTHER BOARD	AAEON, model: MB-668
CPU	Intel Celeron
RAM	PC100 SDRAM, 64MB
FDD	NEC, model: FD1238T
CD-ROM	NEC, model CD2800D, 24x
HDD	FUJITSU 3.2GB

For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

3.3 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 were used to form a representative test configuration during the tests.

3.3.1 FOR EMISSION TEST

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	19"COLOR MONITOR	HP	D2842A	KR93473116	BEJCB910
2	PRINTER	HP	2225C+	3030S79138	DSI6XU2225
3	MODEM	ACEEX	1414	980020504	IFAXDM1414
4	MODEM	ACEEX	1414	980020508	IFAXDM1414
5	MODEM	ACEEX	1414	980020506	IFAXDM1414
6	PS/2 KEYBOARD	FORWARD	FDA-104GA	FDKB8110123	F4ZDA-104G
7	MOUSE	LOGITECH	M-S43	LZE000703165	DZL211106
8	USB KEYBOARD	SiliconGraphis	SK-2502U	S990800271	GYUR58SK
9	USB MOUSE	LOGITECH	M-BB48	LZE93051096	DOC
10	Industrial Panel Computer	AAEON	G3-15AX-00	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
6	1.5 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
7	1.5 m foil shielded wire, terminated with PS2 connector via drain wire, w/o core.
8	2.5 m braid shielded wire, terminated with USB connector via drain wire, w/o core.
9	1.8 m foil shielded wire, terminated with USB connector via drain wire, w/o core.
10	N/A

Note: 1. All power cords of the above support units are non shielded (1.8m).
2. The EUT acted as SERVER PC and communicated with support units 10 which acted as WORKSTATION and partners of communication system via a Lan cable (10m)

3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a kind of ITE equipment and, according to the specifications of the manufacturers, must comply with the requirements of the following standards:

EN 55022:1998, Class A	**EN 50082-2: 1995**
EN 61000-3-2:1995+	EN 61000-4-2:1995
A1:1998+A2:1998, Class A	EN 61000-4-3:1996
EN 61000-3-3:1995	EN 61000-4-4:1995
	EN 61000-4-6:1996
	EN 61000-4-8:1993
	ENV 50204:1995

All tests have been performed and recorded as per the above standards.

3.3 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 were used to form a representative test configuration during the tests.

3.3.1 FOR EMISSION TEST

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	19"COLOR MONITOR	HP	D2842A	KR93473116	BEJCB910
2	PRINTER	HP	2225C+	3030S79138	DSI6XU2225
3	MODEM	ACEEX	1414	980020504	IFAXDM1414
4	MODEM	ACEEX	1414	980020508	IFAXDM1414
5	MODEM	ACEEX	1414	980020506	IFAXDM1414
6	PS/2 KEYBOARD	FORWARD	FDA-104GA	FDKB8110123	F4ZDA-104G
7	MOUSE	LOGITECH	M-S43	LZE000703165	DZL211106
8	USB KEYBOARD	SiliconGraphis	SK-2502U	S990800271	GYUR58SK
9	USB MOUSE	LOGITECH	M-BB48	LZE93051096	DOC
10	Industrial Panel Computer	AAEON	G3-15AX-00	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
6	1.5 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
7	1.5 m foil shielded wire, terminated with PS2 connector via drain wire, w/o core.
8	2.5 m braid shielded wire, terminated with USB connector via drain wire, w/o core.
9	1.8 m foil shielded wire, terminated with USB connector via drain wire, w/o core.
10	N/A

Note: 1. All power cords of the above support units are non shielded (1.8m).
2. The EUT acted as SERVER PC and communicated with support units 10 which acted as WORKSTATION and partners of communication system via a Lan cable (10m)

3.3.2 FOR HARMONICS / FLICKER / IMMUNITY TEST

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	COLOR MONITOR	ACER	7254e	9171602008	JVP7254E
2	PRINTER	HP	C2145A	SG59N16035	B94C2145X
3	MODEM	GVC	F-1114V/R6	853E100	DK4F1114VR6
4	MODEM	GVC	F-1128V1R6	96-191-113004	DK4F1128VR6
5	MODEM	GVC	F-1128V1R6	96-191-113003	DK4F1128VR6
6	PS/2 KEYBOARD	HP	C3758A	C3758-60223	CIGE03633
7	USB KEYBOARD	SiliconGraphis	SK-2502U	M990207208	GYUR58SK
8	MOUSE	LOGITECH	M-S43	LZE00703084	DZL211106
9	USB MOUSE	LOGITECH	M-BB48	LZE93051142	DOC
10	Personal Computer	IBM	2187-12W	1S218714ABNA000V	
11	MONITOR	ADI	937G	649015T00102094A	BR8937G
12	PS/2 KEYBOARD	HP	C3753A	C3753-60223	C1GE 03614
13	USB MOUSE	DEXIN	A2U800A	71001839	NIYA2U800A
14	LAN CARD	HP	EN1270D-TX-4A-18	ACC000214435	DOC

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
4	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
6	1.5 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
7	2.5 m braid shielded wire, terminated with USB connector via drain wire, w/o core.
8	1.8 m foil shielded wire, terminated with PS2 connector via drain wire, w/o core.
9	1.8 m foil shielded wire, terminated with USB connector via drain wire, w/o core.
10	
11	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
12	1.3 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
13	1.8 m foil shielded wire, terminated with USB connector via drain wire, w/o core.
14	N/A

Note: 1. All power cords of the above support units are non shielded (1.8m).
2. The EUT acted as SERVER PC and communicated with support units 10 –14 which acted as WORKSTATION and partners of communication system via a Lan cable (10m)

4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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 in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

(3) All emanations 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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 6, 2001
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 9, 2001
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 28, 2001
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Dec. 3, 2001
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 9, 2001
Software	Cond-V2e	NA	NA
RF cable (JYEBAO)	RG-58A/U	Cable-C02.01	July 9, 2001
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 20, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 20, 2002
Shielded Room	Site 2	ADT-C02	NA
VCCI Site Registration No.	Site 2	C-240	NA

NOTE: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the 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.

4.1.3 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

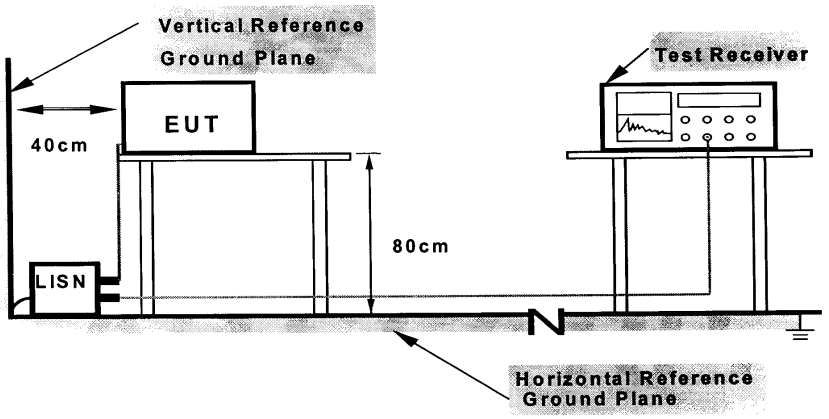
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

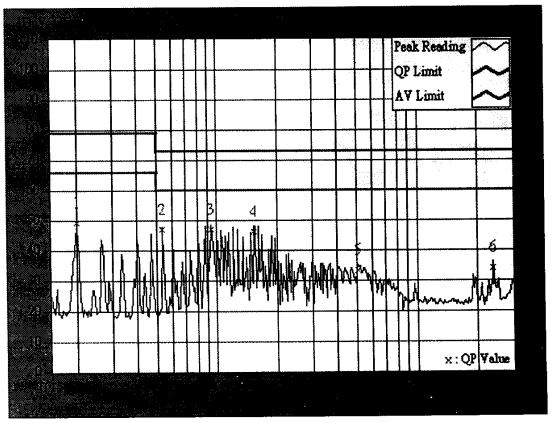
a. Turn on the power of all equipment.
b. EUT runs a test program to enable all functions of EUT.
c. EUT reads and writes messages from HDD and FDD.
d. EUT sends and receives messages from WORKSTATION PC via a Lan cable.
e. EUT sends "H" messages to monitor and then monitor displays them on its screen.
f. EUT sends messages to printer, and then printer prints them on paper.
g. EUT sends messages to modem.
h. Repeat steps c-h.

4.1.7 TEST RESULTS (A)

EUT	Industrial Panel Computer	MODEL	P3-15AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	TESTED BY:	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	49.11	-	49.31	-	79.00	66.00	-29.69	-
2	0.537	0.20	46.88	-	47.08	-	73.00	60.00	-25.92	-
3	0.939	0.20	47.05	-	47.25	-	73.00	60.00	-25.75	-
4	1.542	0.20	46.28	-	46.48	-	73.00	60.00	-26.52	-
5	5.039	0.45	33.42	-	33.87	-	73.00	60.00	-39.13	-
6	23.996	1.34	34.02	-	35.36	-	73.00	60.00	-37.64	-

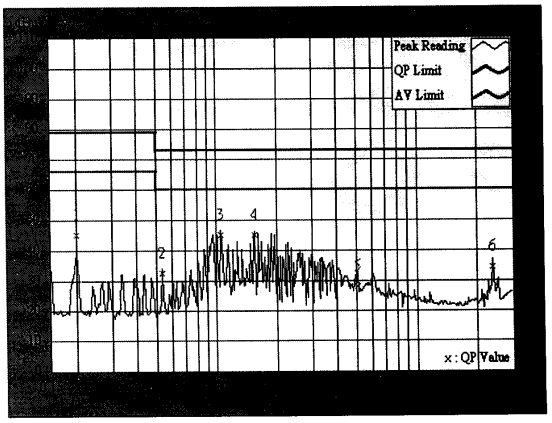
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	45.09	-	45.29	-	79.00	66.00	-33.71	-
2	0.534	0.20	32.75	-	32.95	-	73.00	60.00	-40.05	-
3	1.053	0.20	45.08	-	45.28	-	73.00	60.00	-27.72	-
4	1.545	0.20	45.28	-	45.48	-	73.00	60.00	-27.52	-
5	5.076	0.44	28.00	-	28.44	-	73.00	60.00	-44.56	-
6	23.996	1.24	34.32	-	35.56	-	73.00	60.00	-37.44	-

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

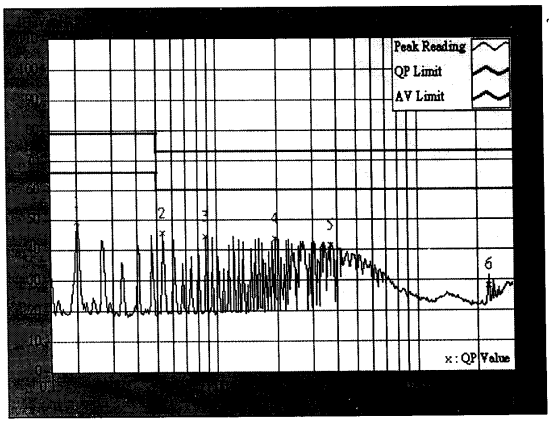


4.1.8 TEST RESULTS (B)

EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	49.17	-	49.37	-	79.00	66.00	-29.63	-
2	0.537	0.20	45.44	-	45.64	-	73.00	60.00	-27.36	-
3	0.876	0.20	44.36	-	44.56	-	73.00	60.00	-28.44	-
4	1.953	0.20	43.54	-	43.74	-	73.00	60.00	-29.26	-
5	3.705	0.37	41.32	-	41.69	-	73.00	60.00	-31.31	-
6	22.568	1.25	28.24	-	29.49	-	73.00	60.00	-43.51	-

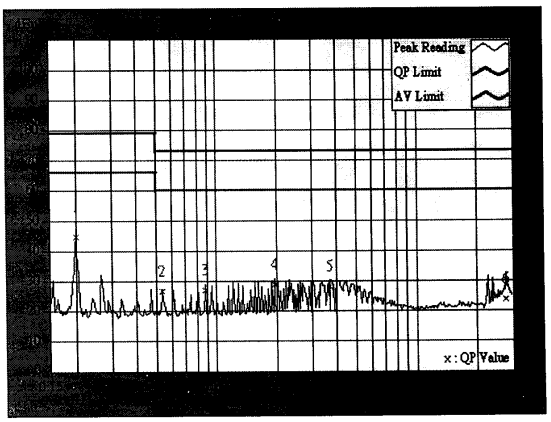
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	44.72	-	44.92	-	79.00	66.00	-34.08	-
2	0.537	0.20	26.68	-	26.88	-	73.00	60.00	-46.12	-
3	0.876	0.20	27.01	-	27.21	-	73.00	60.00	-45.79	-
4	1.956	0.20	28.85	-	29.05	-	73.00	60.00	-43.95	-
5	3.708	0.37	28.27	-	28.64	-	73.00	60.00	-44.36	-
6	27.719	1.35	23.76	-	25.11	-	73.00	60.00	-47.89	-

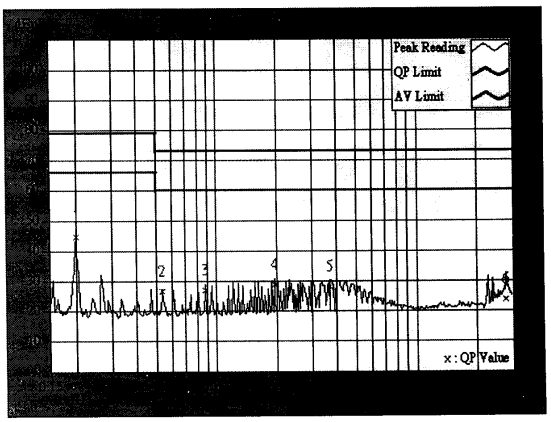
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	44.72	-	44.92	-	79.00	66.00	-34.08	-
2	0.537	0.20	26.68	-	26.88	-	73.00	60.00	-46.12	-
3	0.876	0.20	27.01	-	27.21	-	73.00	60.00	-45.79	-
4	1.956	0.20	28.85	-	29.05	-	73.00	60.00	-43.95	-
5	3.708	0.37	28.27	-	28.64	-	73.00	60.00	-44.36	-
6	27.719	1.35	23.76	-	25.11	-	73.00	60.00	-47.89	-

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

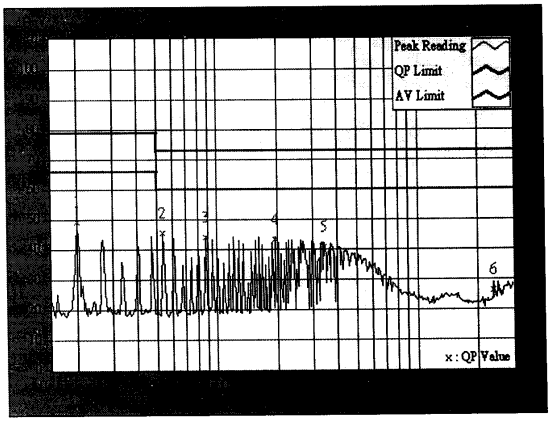


4.1.9 TEST RESULTS (C)

EUT	Industrial Panel Computer	**MODEL**	P3-10AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	49.13	-	49.33	-	79.00	66.00	-29.67	-
2	0.537	0.20	45.42	-	45.62	-	73.00	60.00	-27.38	-
3	0.876	0.20	44.10	-	44.30	-	73.00	60.00	-28.70	-
4	1.953	0.20	43.40	-	43.60	-	73.00	60.00	-29.40	-
5	3.435	0.34	40.66	-	41.00	-	73.00	60.00	-32.00	-
6	23.996	1.34	26.34	-	27.68	-	73.00	60.00	-45.32	-

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



4.2 CONDUCTED EMISSION MEASUREMENT AT TELECOMMUNICATION PORTS

4.2.1 LIMIT OF CONDUCTED COMMON MODE DISTURBANCE AT TELECOMMUNICATION PORTS

FOR CLASS A EQUIPMENT

FREQUENCY	Voltage Limit (dBuV)		Current Limit (dBuA)	
(MHz)	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	97 – 87	84 - 74	53 – 43	40 – 30
0.5 - 30.0	87	74	43	30

FOR CLASS B EQUIPMENT

FREQUENCY	Voltage Limit (dBuV)		Current Limit (dBuA)	
(MHz)	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	84 - 74	74 - 64	40 – 30	30 – 20
0.5 - 30.0	74	64	30	20

NOTE: (1) The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 6, 2001
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 9, 2001
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 28, 2001
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Dec. 3, 2001
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 9, 2001
Software	Cond-V2e	NA	NA
RF cable (JYEBAO)	RG-58A/U	Cable-C02.01	July 9, 2001
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 20, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 20, 2002
Shielded Room	Site 2	ADT-C02	NA
VCCI Site Registration No.	Site 2	C-240	NA

NOTE: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the 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.

4.2.3 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room and connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.

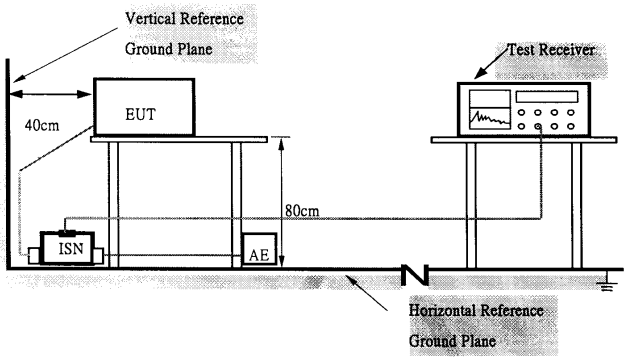
b. Voltage at the measurement port of the ISN was detected, the reading was corrected by adding the voltage division factor of the ISN, and was compared to the voltage limits.

c. The disturbance levels and the frequencies of at least six highest disturbances were recorded from each telecommunication port which comprises the EUT.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMN) and ISN are 80 cm from EUT and at least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

1. The methods of conformance testing were selected according to the Alternative 1 (EN 55022: 1998, section: 9.5.1.1) or Alternative 2 (EN 55022: 1998, section: 9.5.1.2) of measurement method using an ISN with a longitudinal conversion loss (LCL) as defined in rule.
2. When measurements were performed on a single unscreened balanced pair, an adequate ISN for two wires were used; when performed on unscreened cables containing two balanced pairs, an adequate ISN for four wires were used.
3. The communication function of EUT was executed and ISN was connected between EUT and associated equipment and the ISN was connected directly to reference ground plane.

4.2.6 EUT OPERATING CONDITIONS

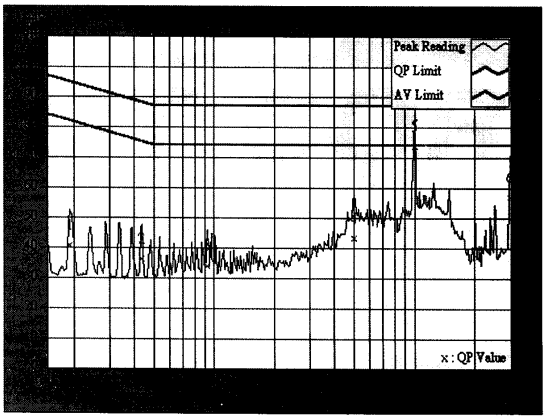
Same as 4.1.6

4.2.7 TEST RESULTS (A)

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	RJ45 TELECOM PORT (10Mbps)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.192	10.54	40.70	-	51.24	-	94.95	81.95	-43.71	-
2	0.435	10.55	36.22	-	46.77	-	88.16	75.16	-41.39	-
3	0.918	10.52	34.10	-	44.62	-	87.00	74.00	-42.38	-
4	4.998	10.57	43.30	-	53.87	-	87.00	74.00	-33.13	-
5	9.998	10.65	73.54	55.54	84.19	66.19	87.00	74.00	-2.81	-7.81
6	29.996	10.95	57.12	-	68.07	-	87.00	74.00	-18.93	-

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

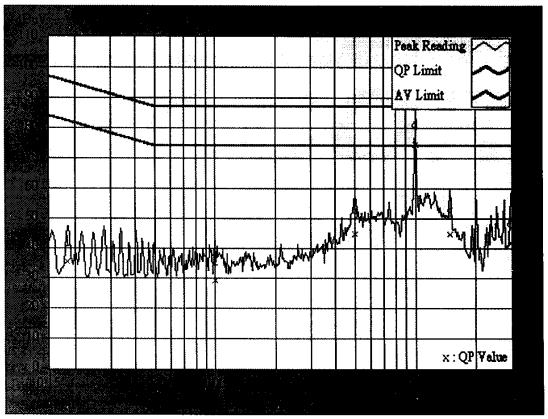


4.2.8 TEST RESULTS (B)

EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	RJ45 TELECOM PORT (10Mbps)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.183	10.53	35.43	-	45.96	-	95.35	82.35	-49.39	-
2	0.990	10.51	29.26	-	39.77	-	87.00	74.00	-47.23	-
3	4.995	10.57	44.66	-	55.23	-	87.00	74.00	-31.77	-
4	9.998	10.65	74.33	56.27	84.98	66.92	87.00	74.00	-2.02	-7.08
5	15.002	10.76	44.74	-	55.50	-	87.00	74.00	-31.50	-
6	29.990	10.95	41.86	-	52.81	-	87.00	74.00	-34.19	-

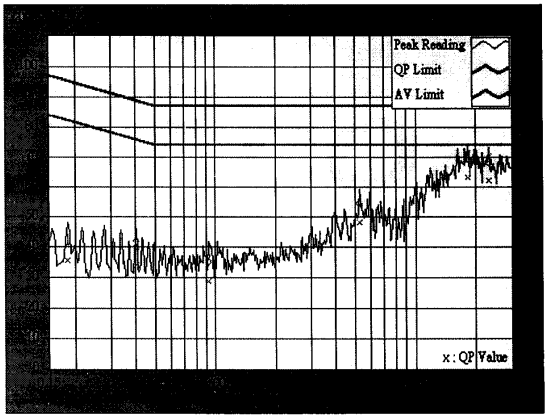
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	RJ45 TELECOM PORT (100Mbps)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.183	10.53	35.47	-	46.00	-	95.35	82.35	-49.35	-
2	0.402	10.55	34.20	-	44.75	-	88.81	75.81	-44.06	-
3	0.927	10.52	29.07	-	39.59	-	87.00	74.00	-47.41	-
4	5.234	10.57	48.13	-	58.70	-	87.00	74.00	-28.30	-
5	18.242	10.77	63.18	-	73.95	-	87.00	74.00	-13.05	-
6	23.129	10.85	62.34	-	73.19	-	87.00	74.00	-13.81	-

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

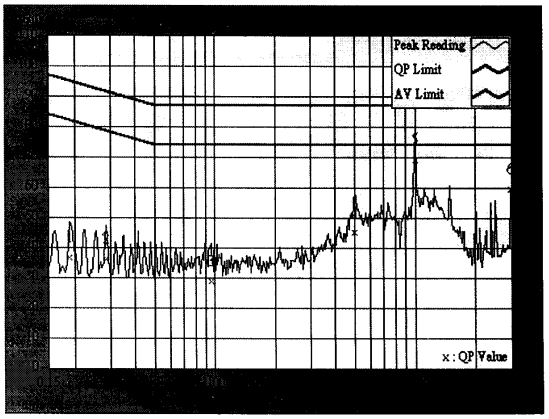


4.2.9 TEST RESULTS (C)

EUT	Industrial Panel Computer	**MODEL**	P3-10AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	RJ45 TELECOM PORT (10 Mbps)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.189	10.54	36.65	-	47.19	-	95.08	82.08	-47.89	-
2	0.265	10.55	36.24	-	46.79	-	91.67	78.67	-44.88	-
3	0.957	10.51	29.01	-	39.52	-	87.00	74.00	-47.48	-
4	4.998	10.57	45.17	-	55.74	-	87.00	74.00	-31.26	-
5	10.004	10.65	69.27	56.41	79.92	67.06	87.00	74.00	-7.08	-6.94
6	29.999	10.95	59.61	-	70.56	-	87.00	74.00	-16.44	-

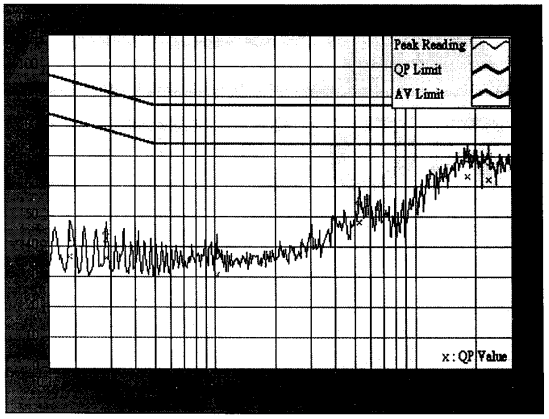
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Industrial Panel Computer	**MODEL**	P3-10AX-00
		6dB BANDWIDTH	10 kHz
INPUT POWER	230Vac, 50 Hz	**PHASE**	RJ45 TELECOM PORT (100 Mbps)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.189	10.54	36.55	-	47.09	-	95.08	82.08	-47.99	-
2	0.285	10.55	36.48	-	47.03	-	91.67	78.67	-44.64	-
3	1.020	10.51	30.80	-	41.31	-	87.00	74.00	-45.69	-
4	5.234	10.57	48.19	-	58.76	-	87.00	74.00	-28.24	-
5	18.242	10.77	63.26	58.99	74.03	69.76	87.00	74.00	-12.97	-4.24
6	23.126	10.85	62.30	-	73.15	-	87.00	74.00	-13.85	-

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



4.3 RADIATED EMISSION MEASUREMENT

4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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 emanations 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.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8594A	3144A00308	Aug. 16, 2001
HP Preamplifier	8447D	2944A08119	Jan 11, 2001
* HP Preamplifier	8449B	3008A01201	Dec. 13, 2001
* ROHDE & SCHWARZ TEST RECEIVER	ESI7	838496/016	Feb. 20, 2002
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2001
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 25, 2002
* CHASE Bilog Antenna	CBL6112A	2329	Sept. 19, 2001
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 9, 2001
* EMCO Turn Table	1060	1195	NA
* EMCO Tower	1051	1163	NA
* Software	AS61D	NA	NA
* ANRITSU RF Switches	MP59B	E10124	Sept. 19, 2001
* TIMES RF cable	LMR-600	CABLE-ST2-01	Sept. 19, 2001
Open Field Test Site	Site 2	ADT-R02	Sept. 8, 2001
VCCI Site Registration No.	Site 2	R-237	NA
VCCI Site Registration No.	Site 1	R-236	NA

NOTE: 1.The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the 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. "*" = These equipments are used for the final measurement.

4.3.3 TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10-meter open field site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

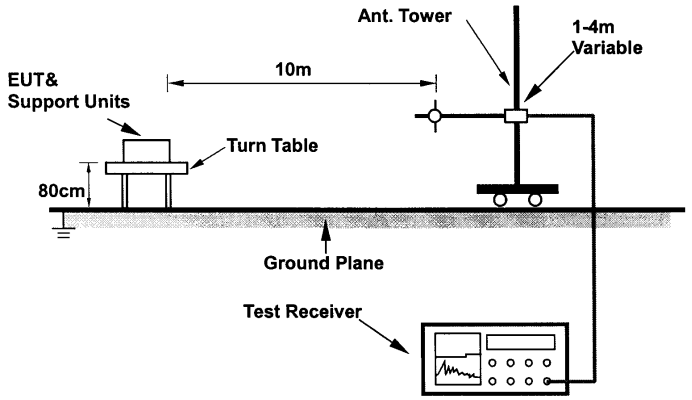
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi- peak method or average method as specified and then reported In Data sheet peak mode and QP mode.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.3.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.3.7 TEST RESULTS (A)

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00
		FREQUENCY RANGE	30-1000 MHz
INPUT POWER	230Vac, 50 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chan

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	66.81	28.0 QP	40.00	-12.00	4.00H	357	22.05	4.97	0.97	0.00	-5.93
2	80.17	32.1 QP	40.00	-7.90	4.00H	330	24.78	6.33	0.97	0.00	-7.30
3	167.03	33.8 QP	40.00	-6.20	4.00H	104	23.78	8.69	1.28	0.00	-9.97
4	200.44	31.1 QP	40.00	-8.90	4.00H	272	21.08	8.62	1.35	0.00	-9.97
5	227.46	30.4 QP	40.00	-9.60	4.00H	314	18.54	10.41	1.44	0.00	-11.85
6	233.86	39.0 QP	47.00	-8.00	4.00H	179	26.64	10.90	1.46	0.00	-12.37
7	334.07	43.5 QP	47.00	-3.50	2.55H	317	27.90	13.79	1.77	0.00	-15.56
8	434.30	36.8 QP	47.00	-10.20	1.64H	216	18.63	16.20	2.01	0.00	-18.21
9	467.70	35.9 QP	47.00	-11.10	2.27H	317	17.06	16.71	2.12	0.00	-18.84
10	501.12	35.8 QP	47.00	-11.20	1.41H	93	16.25	17.36	2.23	0.00	-19.59
11	567.96	41.2 QP	47.00	-5.80	1.37H	290	20.34	18.56	2.33	0.00	-20.89
12	601.38	43.9 QP	47.00	-3.10	1.46H	164	22.80	18.68	2.45	0.00	-21.13
13	734.99	35.5 QP	47.00	-11.50	1.48H	183	13.04	19.72	2.69	0.00	-22.41

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	66.82	27.3 QP	40.00	-12.70	3.11V	118	21.37	4.97	0.97	0.00	-5.93
2	133.59	24.1 QP	40.00	-15.90	1.00V	193	11.77	11.18	1.20	0.00	-12.38
3	167.04	35.2 QP	40.00	-4.80	1.00V	165	25.23	8.69	1.28	0.00	-9.97.
4	200.45	35.2 QP	40.00	-4.80	1.00V	113	25.27	8.62	1.35	0.00	-9.97.
5	233.85	38.9 QP	47.00	-8.10	1.00V	359	26.50	10.90	1.46	0.00	-12.38
6	567.96	39.7 QP	47.00	-7.30	3.04V	167	18.82	18.56	2.33	0.00	-20.90
7	601.37	43.2 QP	47.00	-3.80	2.54V	175	22.07	18.68	2.45	0.00	-21.14
8	735.02	38.6 QP	47.00	-8.40	2.31V	193	16.19	19.72	2.69	0.00	-22.42

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB/m) = Pre-Amplifier Factor (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level – Limit value.

4.3.8 TEST RESULTS (B)

EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
		FREQUENCY RANGE	30-1000 MHz
INPUT POWER	230Vac, 50 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	66.81	31.8 QP	40.00	-8.20	4.00H	344	25.89	4.97	0.97	0.00	-5.93
2	95.88	35.0 QP	40.00	-5.00	4.00H	299	25.70	8.25	1.00	0.00	-9.26
3	133.64	30.4 QP	40.00	-9.60	4.00H	223	18.03	11.18	1.20	0.00	-12.38
4	200.44	35.4 QP	40.00	-4.60	4.00H	28	25.46	8.62	1.35	0.00	-9.97.
5	233.84	35.0 QP	47.00	-12.00	4.00H	249	22.67	10.90	1.46	0.00	-12.37
6	334.08	41.4 QP	47.00	-5.60	1.88H	122	25.85	13.79	1.77	0.00	-15.57
7	567.97	39.0 QP	47.00	-8.00	1.20H	313	18.09	18.56	2.33	0.00	-20.90
8	601.36	43.3 QP	47.00	-3.70	1.79H	156	22.19	18.68	2.45	0.00	-21.14
9	868.65	38.6 QP	47.00	-8.40	1.00H	68	15.67	20.12	2.85	0.00	-22.97

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	66.82	33.5 QP	40.00	-6.50	1.62V	360	27.54	4.97	0.97	0.00	-5.93
2	95.88	35.2 QP	40.00	-4.80	1.06V	80	25.97	8.25	1.00	0.00	-9.26
3	167.05	36.4 QP	40.00	-3.60	1.00V	359	26.45	8.69	1.28	0.00	-9.97
4	200.44	34.2 QP	40.00	-5.80	1.00V	88	24.20	8.62	1.35	0.00	-9.98
5	239.02	43.0 QP	47.00	-4.00	1.00V	105	30.32	11.23	1.48	0.00	-12.71
6	303.50	36.4 QP	47.00	-10.60	1.00V	321	21.67	13.01	1.71	0.00	-14.72
7	567.95	36.0 QP	47.00	-11.00	2.68V	27	15.12	18.56	2.33	0.00	-20.89
8	601.37	43.0 QP	47.00	-4.00	2.68V	165	21.91	18.68	2.45	0.00	-21.13
9	868.65	34.0 QP	47.00	-13.00	2.03V	274	11.01	20.12	2.85	0.00	-22.97

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB/m) = Pre-Amplifier Factor (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level – Limit value.

4.3.9 TEST RESULTS (C)

EUT	Industrial Panel Computer	**MODEL**	P3-10AX-00
		FREQUENCY RANGE	30-1000 MHz
INPUT POWER	230Vac, 50 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	20 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	JN Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	100.29	32.4 QP	40.00	-7.60	4.00H	248	21.46	9.82	1.08	0.00	-10.90
2	133.64	29.4 QP	40.00	-10.60	4.00H	260	17.07	11.18	1.20	0.00	-12.38
3	167.03	35.1 QP	40.00	-4.90	4.00H	82	25.15	8.69	1.28	0.00	-9.97
4	200.45	32.5 QP	40.00	-7.50	4.00H	328	22.55	8.62	1.35	0.00	-9.97.
5	233.86	35.2 QP	47.00	-11.80	3.70H	3	22.85	10.90	1.46	0.00	-12.37
6	334.09	38.4 QP	47.00	-8.60	2.12H	137	22.84	13.79	1.77	0.00	-15.57
7	601.37	43.4 QP	47.00	-3.60	1.30H	155	22.23	18.68	2.45	0.00	-21.14
8	735.00	35.4 QP	47.00	-11.60	1.64H	348	13.00	19.72	2.69	0.00	-22.41
9	868.66	39.5 QP	47.00	-7.50	1.00H	172	16.56	20.12	2.85	0.00	-22.97

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	66.81	25.7 QP	40.00	-14.30	1.00H	358	46.79	4.97	0.97	27.00	21.07
2	167.03	37.0 QP	40.00	-3.00	1.00V	187	26.99	8.69	1.28	0.00	-9.98
3	200.44	30.2 QP	40.00	-9.80	1.00V	272	20.23	8.62	1.35	0.00	-9.98
4	233.85	39.6 QP	47.00	-7.40	1.00V	353	27.27	10.90	1.46	0.00	-12.37
5	334.10	41.3 QP	47.00	-5.70	1.00V	47	25.71	13.79	1.77	0.00	-15.57
6	487.52	37.3 QP	47.00	-9.70	3.99V	192	18.01	17.13	2.19	0.00	-19.32
7	601.38	41.8 QP	47.00	-5.20	3.98V	206	20.64	18.68	2.45	0.00	-21.13
8	735.01	36.1 QP	47.00	-10.90	2.46V	182	13.69	19.72	2.69	0.00	-22.41

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB/m) = Pre-Amplifier Factor (dB) - Antenna Factor (dB/m) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level – Limit value.

4.4 HARMONICS CURRENT MEASUREMENT

4.4.1 LIMITS OF HARMONICS CURRENT MEASUREMENT

Limits for Class A equipment	
Harmonics Order n	Max. permissible harmonics current A
Odd harmonics	
3	2.30
5	1.14
7	0.77
9	0.40
11	0.33
13	0.21
15<=n<=39	0.15x15/n
Even harmonics	
2	1.08
4	0.43
6	0.30
8<=n<=40	0.23x8/n

Limits for Class D equipment		
Harmonics Order n	Max. permissible harmonics current per watt mA/W	Max. permissible harmonics current A
Odd Harmonics only		
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
13	0.30	0.21
15<=n<=39	3.85/n	0.15x15/n

NOTE: 1. Class A and Class D are judged by test equipment automatically as per Section 5 of EN 61000-3-2:1995.

2. The above limits for Class D equipment are for all applications having an active input power > 75 W. No limits apply for equipment with an active input power up to and including 75 W.

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
KeyTek, Power Arb Waveform Generator	EP72HF	9508346	April 20, 2002
KIKUSUI AC SWITCHING POWER SUPPLY	PCR 4000L	9508355	April 20, 2002

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions for each successive harmonic component in turn.

b. The classification of EUT is according to section 5 of EN 61000-3-2:1995.

The EUT is classified as follows:

Class A: Balanced three-phase equipment and all other equipment, except that stated in one of the following classes.

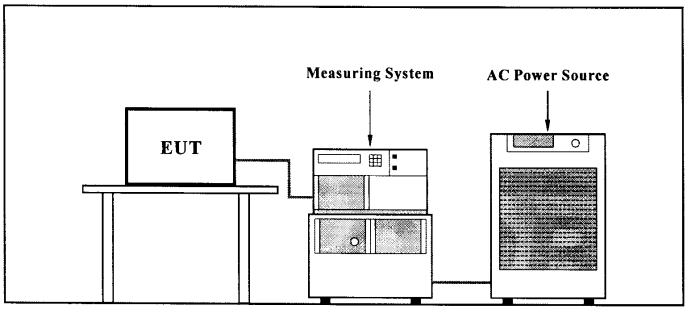
Class B: Portable tools.

Class C: Lighting equipment, including dimming devices.

Class D: Equipment having an input current with "special wave shape" and an active input power, P <= 600 W

c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

4.4.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.4.5 EUT OPERATING CONDITIONS

Same as 4.1.6

4.4.6 TEST RESULTS (A)

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00
FUNDAMENTAL VOLTAGE/AMPERE	229.479 Vrms/ 0.612 Arms	**POWER FREQUENCY**	50.001 Hz
POWER CONSUMPTION	65.918 W	**POWER FACTOR**	0.469
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	**TESTED BY:**	S.S. Wang

Harm. Order	Reading Data (A)	Limit (A)	Harm. Order	Reading Data (A)	Limit (A)
1	-	-	2	0.00	1.08
3	0.27	2.30	4	0.00	0.43
5	0.25	1.14	6	0.00	0.30
7	0.23	0.77	8	0.00	0.23
9	0.20	0.40	10	0.00	0.18
11	0.16	0.33	12	0.00	0.15
13	0.13	0.21	14	0.00	0.13
15	0.09	0.15	16	0.00	0.11
17	0.06	0.13	18	0.00	0.10
19	0.04	0.12	20	0.00	0.09
21	0.02	0.11	22	0.00	0.08
23	0.01	0.10	24	0.00	0.08
25	0.02	0.09	26	0.00	0.07
27	0.02	0.08	28	0.00	0.07
29	0.02	0.08	30	0.00	0.06
31	0.02	0.07	32	0.00	0.06
33	0.02	0.07	34	0.00	0.05
35	0.01	0.06	36	0.00	0.05
37	0.01	0.06	38	0.00	0.05
39	0.01	0.06	40	0.00	0.05

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

4.4.7 TEST RESULTS (B)

EUT	Industrial Panel Computer	MODEL	P3-12AX-00
FUNDAMENTAL VOLTAGE/AMPERE	229.496 Vrms/ 0.563 Arms	POWER FREQUENCY	50.001 Hz
POWER CONSUMPTION	60.103 W	POWER FACTOR	0.465
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	TESTED BY:	S.S. Wang

Harm. Order	Reading Data (A)	Limit (A)	Harm. Order	Reading Data (A)	Limit (A)
1	-	-	2	0.00	1.08
3	0.25	2.30	4	0.00	0.43
5	0.24	1.14	6	0.01	0.30
7	0.21	0.77	8	0.00	0.23
9	0.18	0.40	10	0.00	0.18
11	0.15	0.33	12	0.00	0.15
13	0.12	0.21	14	0.00	0.13
15	0.09	0.15	16	0.00	0.11
17	0.06	0.13	18	0.00	0.10
19	0.04	0.12	20	0.00	0.09
21	0.02	0.11	22	0.00	0.08
23	0.01	0.10	24	0.00	0.08
25	0.02	0.09	26	0.00	0.07
27	0.02	0.08	28	0.00	0.07
29	0.02	0.08	30	0.00	0.06
31	0.02	0.07	32	0.00	0.06
33	0.02	0.07	34	0.00	0.05
35	0.01	0.06	36	0.00	0.05
37	0.01	0.06	38	0.00	0.05
39	0.00	0.06	40	0.00	0.05

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

4.4.8 TEST RESULTS (C)

EUT	Industrial Panel Computer	MODEL	P3-10AX-00
FUNDAMENTAL VOLTAGE/AMPERE	229.607 Vrms/ 0.564 Arms	POWER FREQUENCY	50.001 Hz
POWER CONSUMPTION	60.667 W	POWER FACTOR	0.469
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	TESTED BY:	S. S. Jang

Harm. Order	Reading Data (A)	Limit (A)	Harm. Order	Reading Data (A)	Limit (A)
1	-	-	2	0.00	1.08
3	0.25	2.30	4	0.00	0.43
5	0.23	1.14	6	0.00	0.30
7	0.21	0.77	8	0.00	0.23
9	0.18	0.40	10	0.00	0.18
11	0.15	0.33	12	0.00	0.15
13	0.12	0.21	14	0.02	0.13
15	0.09	0.15	16	0.00	0.11
17	0.06	0.13	18	0.00	0.10
19	0.03	0.12	20	0.00	0.09
21	0.02	0.11	22	0.00	0.08
23	0.01	0.10	24	0.00	0.08
25	0.02	0.09	26	0.00	0.07
27	0.02	0.08	28	0.01	0.07
29	0.02	0.08	30	0.00	0.06
31	0.02	0.07	32	0.00	0.06
33	0.02	0.07	34	0.00	0.05
35	0.01	0.06	36	0.00	0.05
37	0.01	0.06	38	0.00	0.05
39	0.00	0.06	40	0.00	0.05

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

4.5 VOLTAGE FLUCTUATION AND FLICKS MEASUREMENT

4.6 LIMITS OF VOLTAGE FLUCTUATION AND FLICKS MEASUREMENT

TEST ITEM	LIMIT	NOTE
P_{st}	1.0	P_{st} means short-term flicker indicator.
P_{lt}	0.65	P_{lt} means long-term flicker indicator.
T_{dt} (ms)	200	T_{dt} means maximum time that dt exceeds 3 %.
d_{max} (%)	4%	d_{max} means maximum relative voltage change.
dc (%)	3%	dc means relative steady-state voltage change

4.6.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
KeyTek, Power Arb Waveform Generator	EP72HF	9508346	April 20, 2002
KIKUSUI AC SWITCHING POWER SUPPLY	PCR 4000L	9508355	April 20, 2002

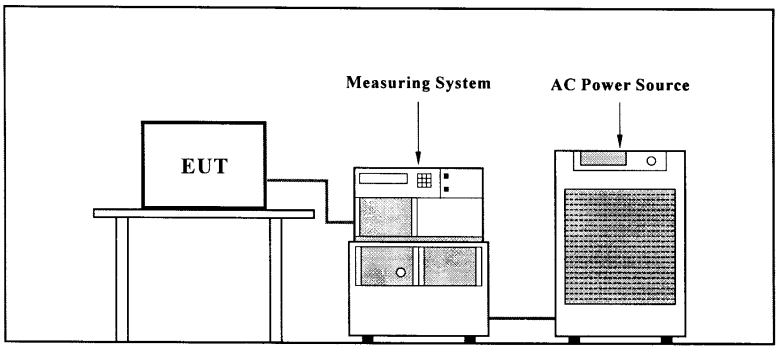
NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA..

4.6.2 TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.

b. During the flick measurement, the measure time shall include that part of whole operation cycle in which the EUT produce the most unfavorable sequence of voltage changes. The observation period for short-term flicker indicator is 10 minutes and the observation period for long-term flicker indicator is 2 hours.

4.6.3 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.6.4 EUT OPERATING CONDITIONS

Same as 4.1.6

4.6.5 TEST RESULTS (A)

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00
INPUT VOLTAGE/AMPERE	229.479 Vrms / 0.612 Arms	**POWER FREQUENCY**	50.001 Hz
OBSERVATION PERIOD (Tp)	2 hours	**POWER FACTOR**	0.469
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	**TESTED BY:**	S.S. Wang

TEST PARAMETER	MEASUREMENT VALUE	LIMIT	REMARKS
P_{st}	0.102	1.0	Pass
P_{lt}	0.045	0.65	Pass
T_{dt} (ms)	0	200	Pass
d_{max} (%)	0	4%	Pass
dc (%)	0	3%	Pass

NOTE: (1) P_{st} means short-term flicker indicator.
(2) P_{lt} means long-term flicker indicator.
(3) T_{dt} means maximum time that dt exceeds 3 %.
(4) d_{max} means maximum relative voltage change.
(5) dc means relative steady-state voltage change.

4.6.6 TEST RESULTS (B)

EUT	Industrial Panel Computer	**MODEL**	P3-12AX-00
INPUT VOLTAGE/AMPERE	229.496 Vrms / 0.563 Arms	**POWER FREQUENCY**	50.001 Hz
OBSERVATION PERIOD (Tp)	2 hours	**POWER FACTOR**	0.465
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	**TESTED BY:**	S.S. Wang

TEST PARAMETER	MEASUREMENT VALUE	LIMIT	REMARKS
P_{st}	0.087	1.0	Pass
P_{lt}	0.038	0.65	Pass
T_{dt} (ms)	0	200	Pass
d_{max} (%)	0	4%	Pass
dc (%)	0	3%	Pass

NOTE: (1) P_{st} means short-term flicker indicator.
(2) P_{lt} means long-term flicker indicator.
(3) T_{dt} means maximum time that dt exceeds 3 %.
(4) d_{max} means maximum relative voltage change.
(5) dc means relative steady-state voltage change.

4.6.7 TEST RESULTS (C)

EUT	Industrial Panel Computer	**MODEL**	P3-10AX-00
INPUT VOLTAGE/AMPERE	229.607 Vrms / 0.564 Arms	**POWER FREQUENCY**	50.001 Hz
OBSERVATION PERIOD (Tp)	2 hours	**POWER FACTOR**	0.469
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 1050 hPa	**TESTED BY:**	S. S. Wang

TEST PARAMETER	MEASUREMENT VALUE	LIMIT	REMARKS
P_{st}	0.102	1.0	Pass
P_{lt}	0.044	0.65	Pass
T_{dt} (ms)	0	200	Pass
d_{max} (%)	0	4%	Pass
dc (%)	0	3%	Pass

NOTE: (1) P_{st} means short-term flicker indicator.
(2) P_{lt} means long-term flicker indicator.
(3) T_{dt} means maximum time that dt exceeds 3 %.
(4) d_{max} means maximum relative voltage change.
(5) dc means relative steady-state voltage change.

5 IMMUNITY TEST

Product 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, 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 Test, Pulse modulated, 900+/-5 MHz,10V/m, 50 % duty cycle, Rep. Frequency 200 Hz, Performance Criterion A

5.1 GENERAL 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.

5.2 PARTICULAR PERFORMANCE CRITERIA DESCRIPTION

5.2.1 PARTICULAR PERFORMANCE CRITERIA DESCRIPTION FOR DATA PROCESSING FUNCTION OF EUT

CRITERION A	Failures which do not influence the specified operation within the product specification, and which do not prevent automatic recovery are permissible.
CRITERION B	Failures which are recovered automatically but cause temporary delay in processing are permissible.
CRITERION C	Failures resulting in a delay in processing after the external disturbance is removed, but which can be recovered to normal operation by reset or reboot are permissible. Failures resulting in a system abort, which can be recovered to normal operation by reset or reboot are permissible. Failures which are followed by alarms and can be recovered to normal operation by the operator's intervention are permissible.

5.3 EUT OPERATING CONDITION

Same as item 4.1.6.

5.4 ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

5.4.1 TEST SPECIFICATION

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

5.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
KeyTek, ESD Test System	2000	9105240/41	Aug. 10, 2001
KeyTek, ESD Simulator	MZ-15/EC	9902287	Feb. 26, 2002

NOTE: The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.

5.4.3 TEST PROCEDURE

The discharges shall be applied in two ways:

a. Contact discharges to the conductive surfaces and coupling planes:

The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges. If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.

b. Air discharges at slots and apertures and insulating surfaces:

On those parts of the EUT where it is not possible to perform contact discharge testing, the equipment should be investigated to identify user accessible points where breakdown may occur. Such points are tested using the air discharge method. This investigation should be restricted to those area normally handled by the user. A minimum of 10 single air discharges shall be applied to the selected test point for each such area.

The basic test procedure was in accordance with IEC 61000-4-2:

a. Electrostatic discharges were applied only to those points and surfaces of the EUT that are accessible to users during normal operation.

b. The test was performed with at least ten single discharges on the pre-selected points in the most sensitive polarity.

c. The time interval between two successive single discharges was at least 1 second.

d. The ESD generator was held perpendicularly to the surface to which the discharge was applied and the return cable was at least 0.2 meters from the EUT.

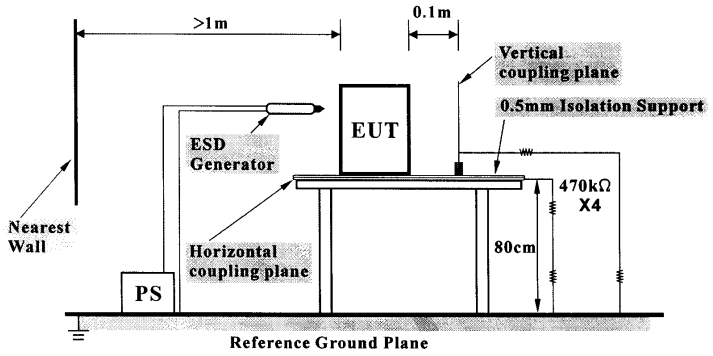
e. Contact discharges were applied to the non-insulating coating, with the pointed tip of the generator penetrating the coating and contacting the conducting substrate.

f. Air discharges were applied with the round discharge tip of the discharge electrode approaching the EUT as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator was removed from the EUT and re-triggered for a new single discharge. The test was repeated until all discharges were complete.

g. At least ten single discharges (in the most sensitive polarity) were applied to the **H**orizontal **C**oupling **P**lane at points on each side of the EUT. The ESD generator was positioned vertically at a distance of 0.1 meters from the EUT with the discharge electrode touching the **HCP.**

h. At least ten single discharges (in the most sensitive polarity) were applied to the center of one vertical edge of the **V**ertical **C**oupling **P**lane in sufficiently different positions that the four faces of the EUT were completely illuminated. The **VCP** (dimensions 0.5m x 0.5m) was placed vertically to and 0.1 meters from the EUT.

5.4.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

TABLE-TOP EQUIPMENT
The configuration consisted of a wooden table 0.8 meters high standing on the **G**round **R**eference **P**lane. The **GRP** consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A **H**orizontal **C**oupling **P**lane (1.6m x 0.8m) was placed on the table and attached to the **GRP** by means of a cable with 940kΩ total impedance. The equipment under test, was installed in a representative system as described in section 7 of EN 61000-4-2:1995, and its cables were placed on the **HCP** and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

FLOOR-STANDING EQUIPMENT
The equipment under test was installed in a representative system as described in section 7 of EN 61000-4-2:1995, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

5.4.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 58 % RH, 1050 hPa	**TESTED BY:**	S. S. Wang

TEST RESULTS OF DIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Contact Discharge	Air Discharge	Performance Criterion
8	+/-	1 ~ 9	NA	Note (1)	A

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

1. Junction between LCD and case
2. Push buttons
3. LEDs
4. I/O ports
5. FDD
6. CD-Rom
7. Power switch
8. Metal
9. Screws

TEST RESULTS OF INDIRECT APPLICATION					
Discharge Level (kV)	Polarity (+/-)	Test Point	Horizontal Coupling Plane	Vertical Coupling Plane	Performance Criterion
4	+/-	4, 8, 9	Note (1)	Note (1)	A

Description of test point:

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

NOTES:(1) There was no change compared with initial operation during the test.

5.5 RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST (RS)

5.5.1 TEST SPECIFICATION

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
Antenna Height: 1.5m
Dwell Time: at least 3 seconds

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Signal Generator	SMY01	840490/009	Aug. 13, 2001
KALMUS Power Amplifier	LA1000V	091995-1	NA
KALMUS Power Amplifier	757LC	091995-2	NA
HOLADAY Field Probe	HI-4422	89915	Aug. 14, 2001
EMCO BiconiLog Antenna	3141	1001	NA
COMTEST Compact Full Anechoic Chamber (7x3x3 m)	CFAC	ADT-S01	Aug. 14, 2001

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.5.3 TEST PROCEDURE

The test procedure was in accordance with IEC 61000-4-3

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

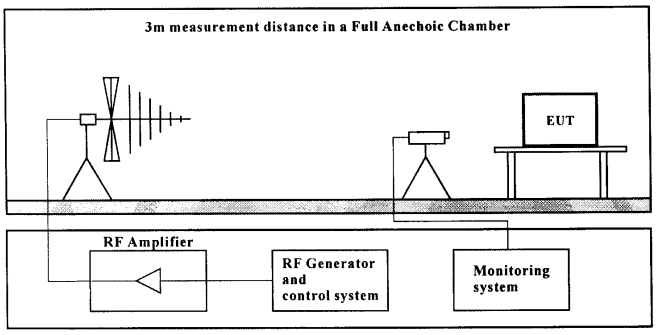
b. The frequency range is swept from 80 MHz to 1000 MHz, with the signal 80% amplitude modulated with a 1kHz sinewave. The rate of sweep did not exceed 1.5 x 10 -3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.

c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

d. The field strength level was 10V/m.

e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

5.5.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

TABLETOP EQUIPMENT
The EUT installed in a representative system as described in section 7 of EN 61000-4-3:1996 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

FLOOR STANDING EQUIPMENT
The EUT installed in a representative system as described in section 7 of EN 61000-4-3:1996 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

5.5.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY:**	S. S. Jang

Frequency (MHz)	Result	Polarity	Azimuth	Field Strength (V/m)	Obser-vation	Performance Criterion
80 -1000 MHz	PASS	V&H	0	10	Note	A
80 -1000 MHz	PASS	V&H	90	10		
80 -1000 MHz	PASS	V&H	180	10		
80 -1000 MHz	PASS	V&H	270	10		

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

5.6 ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT)

5.6.1 TEST SPECIFICATION

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

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
KeyTek, EFT Generator	CE-40	9508257	Sept. 4, 2001
KeyTek, Capacitive Clamp	CE-40-CCL	9508259	Sept. 4, 2001

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.6.3 TEST PROCEDURE

a. The EUT was tested with 1000 volt discharges to the AC power input leads and 500 volt discharges to the interconnect cables.

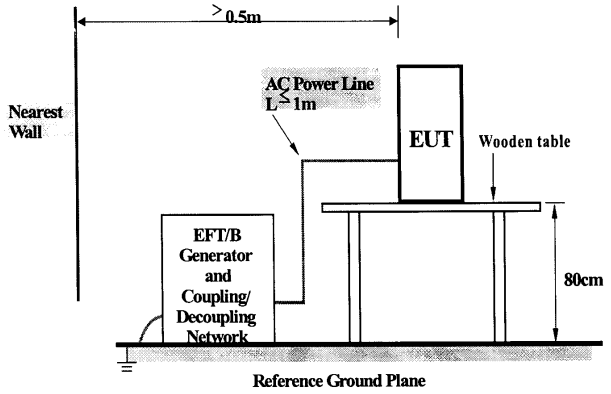
b. Both positive and negative polarity discharges were applied.

c. The length of the "hot wire" from the coaxial output of the EFT generator to the terminals on the EUT should not exceed 1 meter.

d. The duration time of each test sequential was 1 minute.

e. The transient/burst waveform was in accordance with IEC 61000-4-4, 5/50ns.

5.6.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

TABLETOP EQUIPMENT
The configuration consisted of a wooden table (0.8m high) standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system. A minimum distance of 0.5m was provided between the EUT and the walls of the laboratory or any other metallic structure.

FLOOR STANDING EQUIPMENT
The EUT installed in a representative system as described in section 7 of EN 61000-4-4:1995 and its cables, were isolated from the Ground Reference Plane by an insulating support that is 0.1-meter thick. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system.

5.6.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 65 % RH, 1050 hPa	**TESTED BY:**	S.S. Wang

Test Point	Polarity	Test Level (kV)	Observation	Performance Criterion
L1	+/-	2	Note	A
L2	+/-	2	Note	A
GND	+/-	2	Note	A
Signal/Control Line	+/-	1	Note	A

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

5.7 IMMUNITY TO CONDUCTED DISTURBANCES INDUCED BY RF FIELDS (CS)

5.7.1 TEST SPECIFICATION

Basic Standard: EN 61000-4-6
Frequency Range: 0.15 MHz - 80 MHz
Field Strength: 10 V
Modulation: 1kHz Sine Wave, 80%, AM Modulation
Frequency Step: 1 % of fundamental
Coupled Cable: Power Mains, Unshielded
Coupling Device: CDN-M3 (3 wires)/ Clamp

5.7.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Signal Generator	SMY01	840490/009	Aug. 13, 2001
KALMUS Power Amplifier	LA1000V	091995-1	NA
KALMUS Power Amplifier	757LC	091995-2	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. 13, 2001

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.7.3 TEST PROCEDURE

a. The EUT shall be tested within its intended operating and climatic conditions.

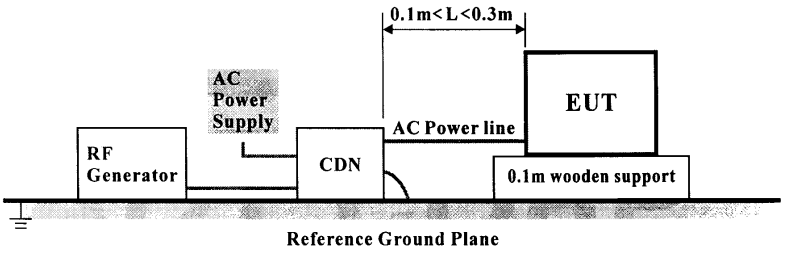
b. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn, while the other non-excited RF input ports of the coupling devices are terminated by a 50-ohm load resistor.

c. The frequency range is swept from 150 kHz to 80 MHz, using the signal level established during the setting process and with a disturbance signal of 80 % amplitude. The signal is modulated with a 1 kHz sine wave, pausing to adjust the RF signal level or the switch coupling devices as necessary. The sweep rate shall not exceed 1.5 x 10^{-3} decades/s. The step size shall not exceed 1 % of the start and thereafter 1 % of the preceding frequency value where the frequency is swept incrementally.

d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies such as clock frequency(ies) and harmonics or frequencies of dominant interest, shall be analyzed separately.

e. Attempts should be made to fully exercise the EUT during testing, and to fully interrogate all exercise modes selected for susceptibility.

5.7.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

NOTE:

FLOOR-STANDING EQUIPMENT
The equipment to be tested is placed on an insulating support of 0.1 meters height above a ground reference plane. All relevant cables shall be provided with the appropriate coupling and decoupling devices at a distance between 0.1 meters and 0.3 meters from the projected geometry of the EUT on the ground reference plane.

5.7.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 68 % RH, 1050 hPa	**TESTED BY:**	S. S. Wang

FREQUENCY (MHz)	RESULTS	FIELD STRENGTH (V)	OBSERVATION	PERFORMANCE CRITERION
0.15 –80 MHz	PASS	10	Note	A

NOTE: There is no change compared with the initial operation during the test.

5.8 POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

5.8.1 TEST SPECIFICATION

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

5.8.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HAEFELY Magnetic Field Tester	MAG 100.1	083794-06	NA
COMBINOVA Magnetic Field Meter	MFM10	224	Oct. 30, 2001

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.8.3 TEST PROCEDURE

a. The equipment is configured and connected to satisfy its functional requirements. It shall be placed on the GRP with the interposition of a 0.1m-thick insulating support.

b. The equipment cabinets shall be connected to the safety earth directly on the GRP via the earth terminal of the EUT.

c. The power supply, input and output circuits shall be connected to the sources of power supply, control and signal.

d. The cables supplied or recommended by the equipment manufacturer shall be used. 1 meter of all cables used shall be exposed to the magnetic field.

5.8.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 65 % RH, 1050 hPa	**TESTED BY:**	S. S. Wang

DIRECTION	RESULTS	OBSERVATION	PERFORMANCE CRITERION
X	PASS	Note	A
Y	PASS	Note	A
Z	PASS	Note	A

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

5.8.5 TEST RESULTS

EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 65 % RH, 1050 hPa	**TESTED BY:**	S. S. Wang

DIRECTION	RESULTS	OBSERVATION	PERFORMANCE CRITERION
X	PASS	Note	A
Y	PASS	Note	A
Z	PASS	Note	A

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

5.9 RADIATED ELECTROMAGNETIC FIELD FROM DIGITAL RADIO TELEPHONE - IMMUNITY TEST

5.9.1 TEST SPECIFICATION

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

5.9.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Signal Generator	SMY01	840490/009	Aug. 13, 2001
KALMUS Power Amplifier	LA1000V	091995-1	NA
KALMUS Power Amplifier	757LC	091995-2	NA
HOLADAY Field Probe	HI-4422	89915	Aug. 14, 2001
EMCO BiconiLog Antenna	3141	1001	NA
COMTEST Compact Full Anechoic Chamber (7x3x3 m)	CFAC	ADT-S01	Aug. 14, 2001

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

5.9.3 TEST PROCEDURE

The test procedure was in accordance with ENV 50204:

a. The testing was performed in a fully-anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.

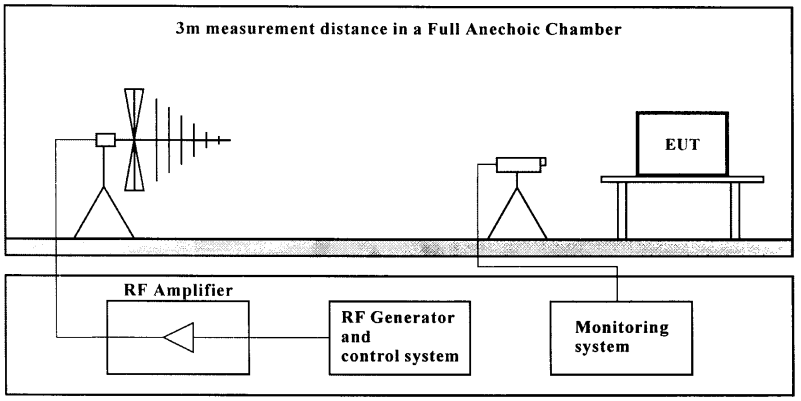
b. The frequency range was from 895 MHz to 905 MHz. The sweep rate did not exceed 30s. The test spot frequencies with keying capability were at 200 Hz, 50 % duty cycle.

c. The field strength level was 3 V/m.

d. The test was performed with the EUT exposed to both vertically and horizontally

polarized fields on each of the four sides.

5.9.4 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

5.9.5 TEST RESULTS

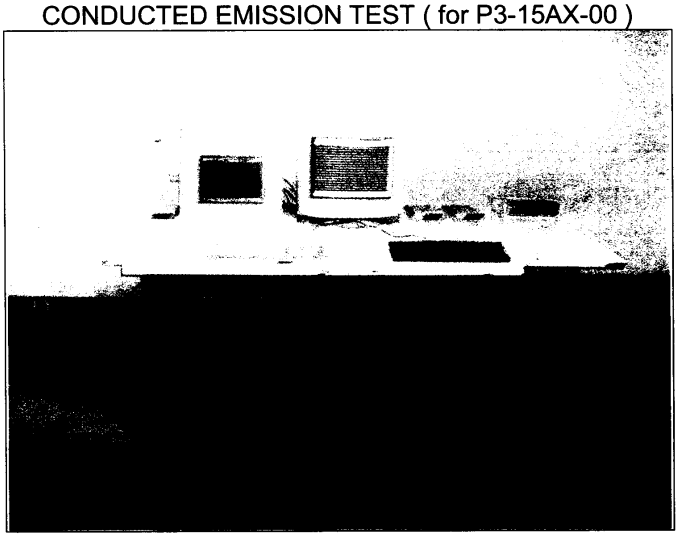
EUT	Industrial Panel Computer	**MODEL**	P3-15AX-00 P3-12AX-00 P3-10AX-00
		INPUT POWER	230Vac, 50 Hz
ENVIRONMENTAL CONDITIONS	25 deg. C, 65 % RH, 1050 hPa	**TESTED BY:**	S.S.Wang

FREQUENCY (MHZ)	RESULTS	POLARITY	AZIMUTH	FIELD STRENGTH (V/M)	OBSER-VATION	PERFORMANCE CRITERION
900	PASS	V&H	0	10	Note	A
900	PASS	V&H	90	10		
900	PASS	V&H	180	10		
900	PASS	V&H	270	10		

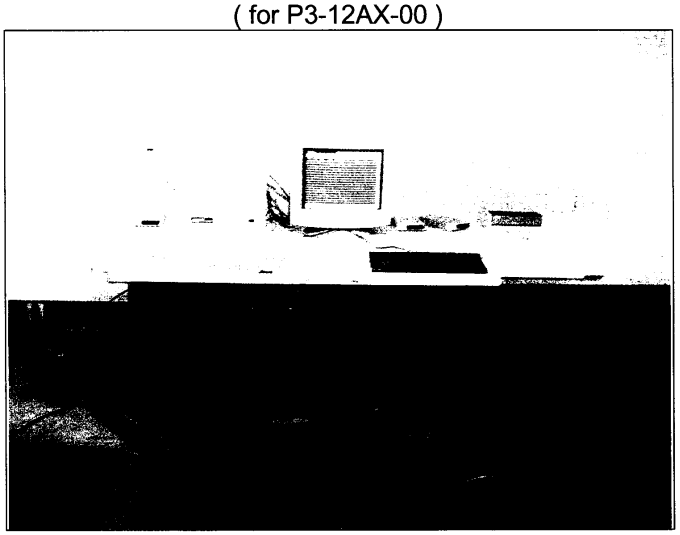
NOTE: There is no change compared with the initial operation during the test.

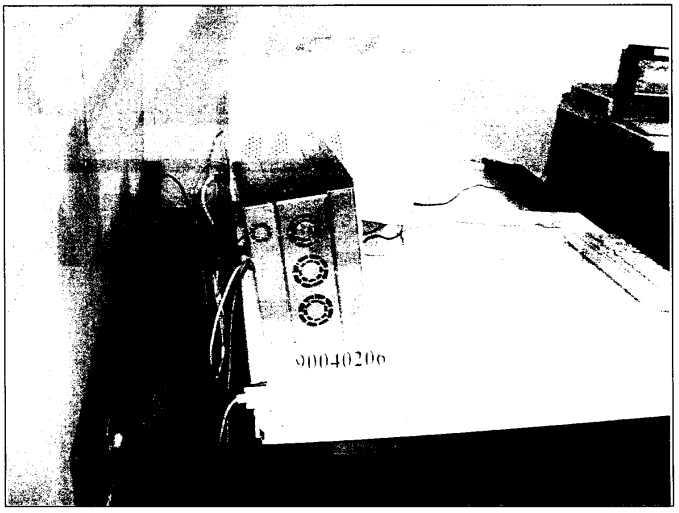
6 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST (for P3-15AX-00)

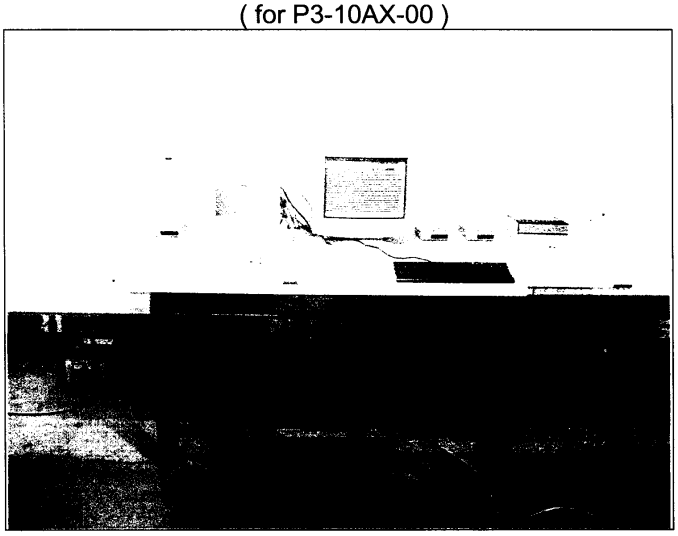


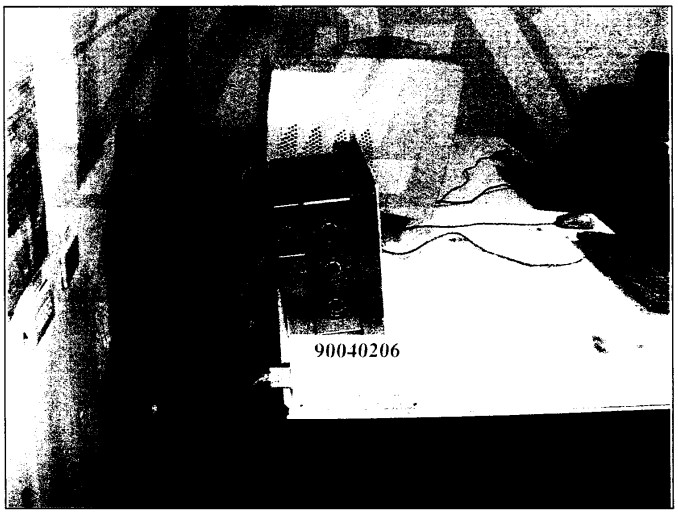
(for P3-12AX-00)



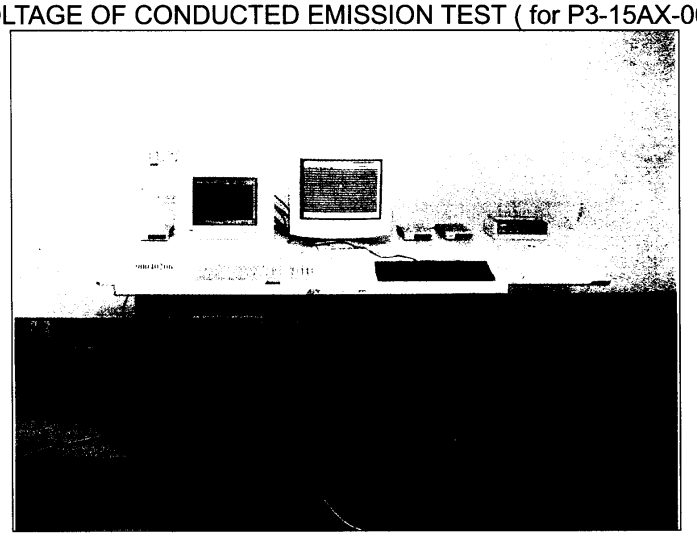


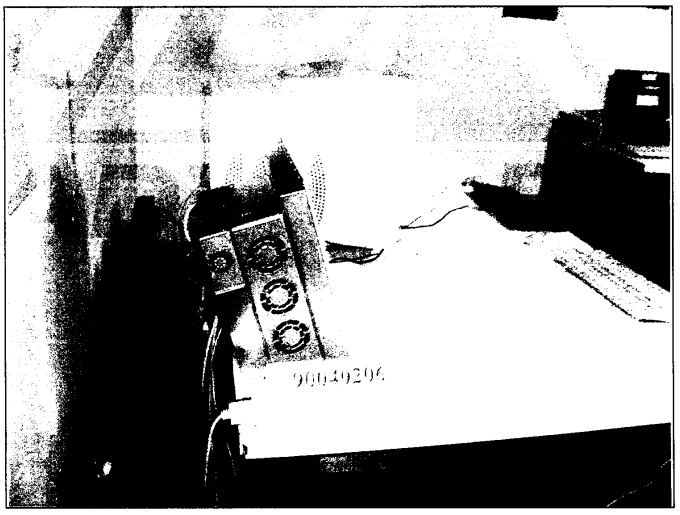
(for P3-10AX-00)





TELECOMMUNICATION PORT - RJ45
VOLTAGE OF CONDUCTED EMISSION TEST (for P3-15AX-00)





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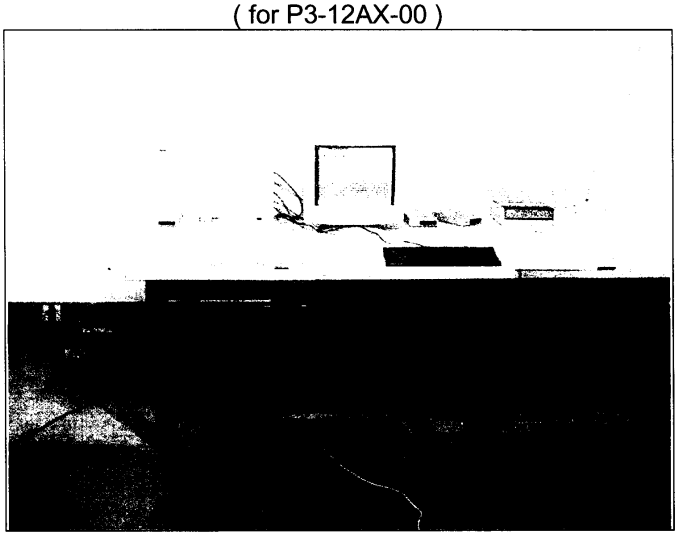

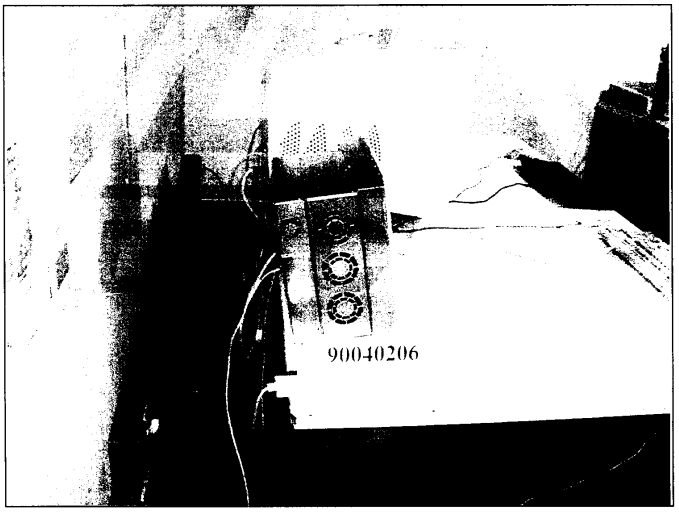

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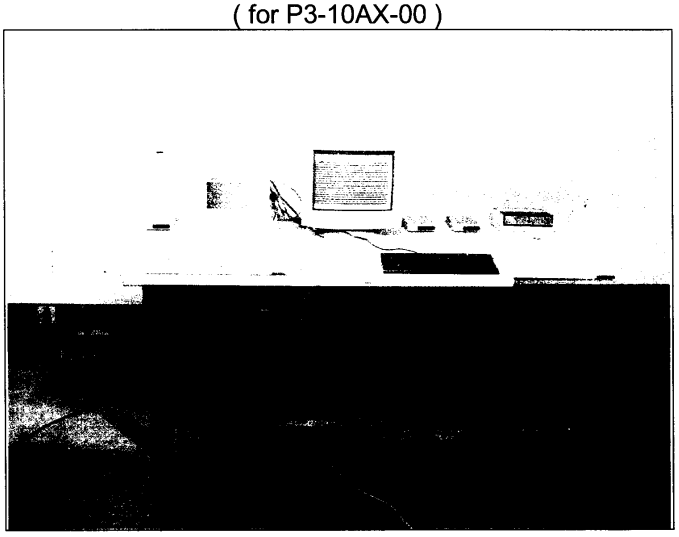

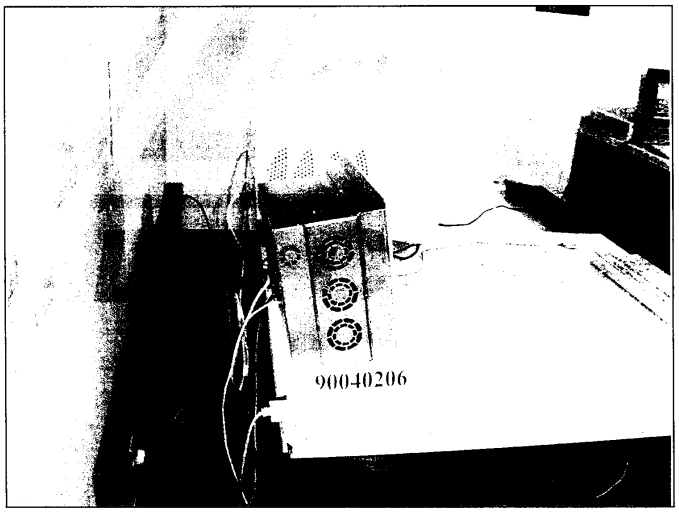

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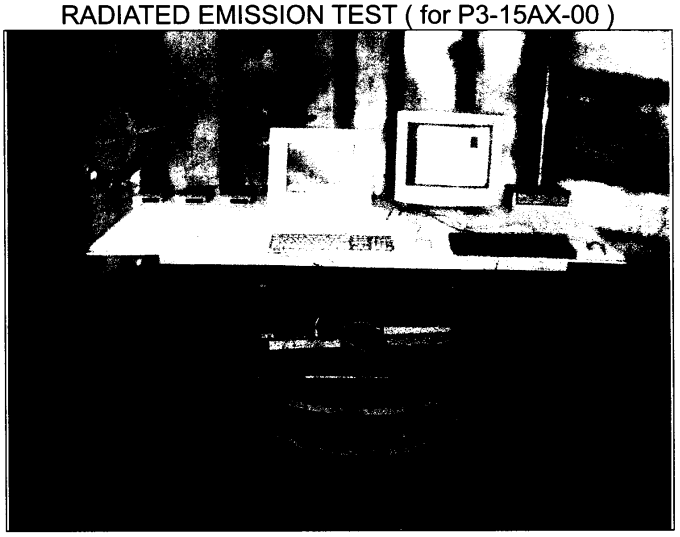

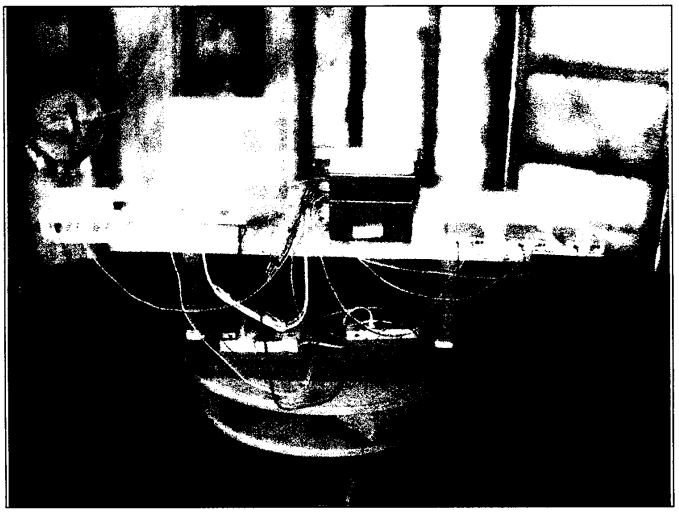

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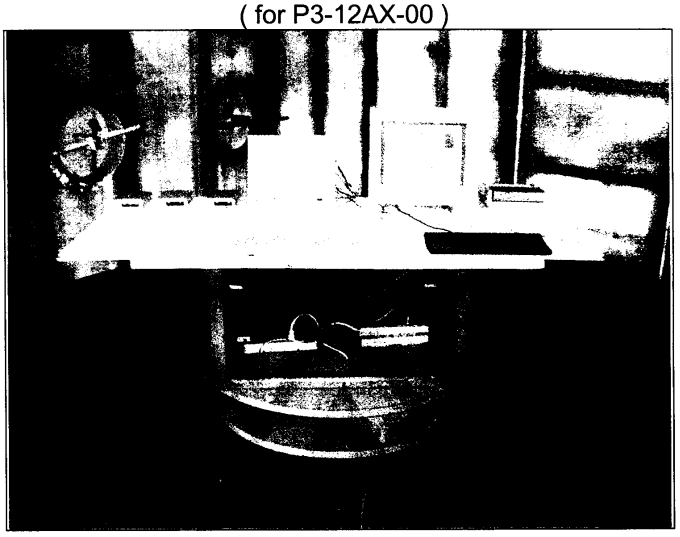

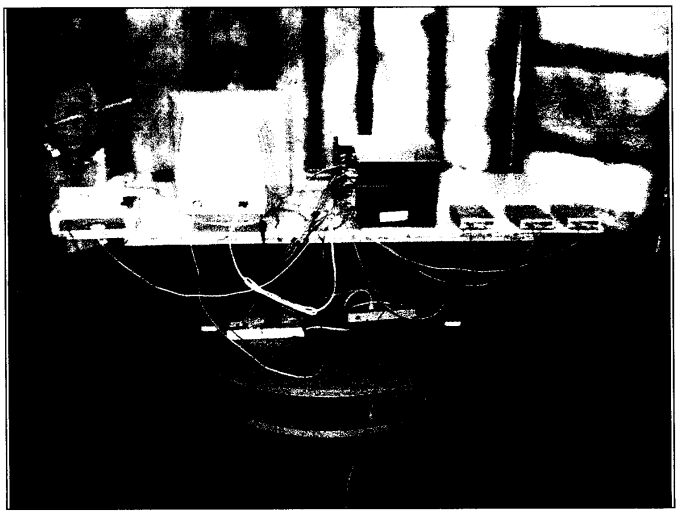

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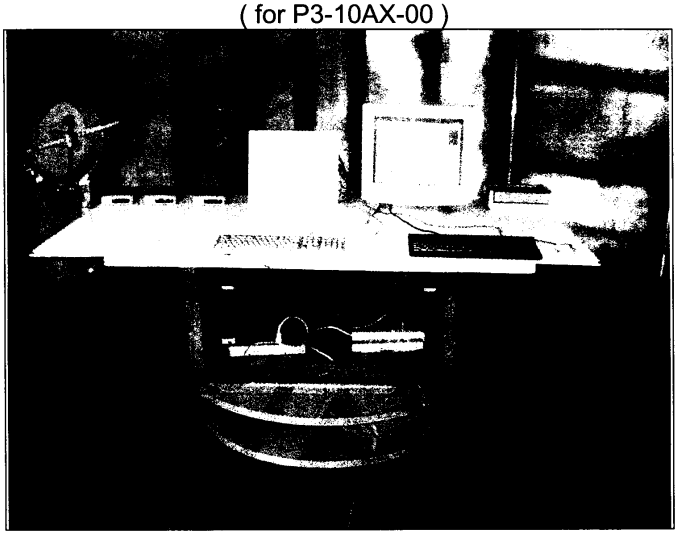
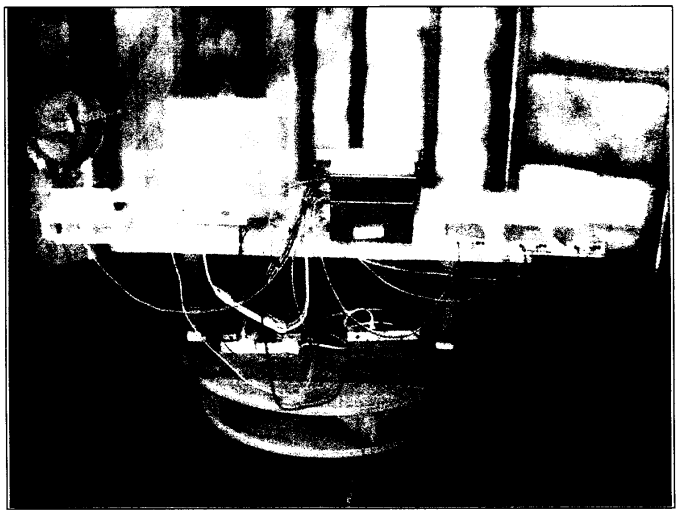
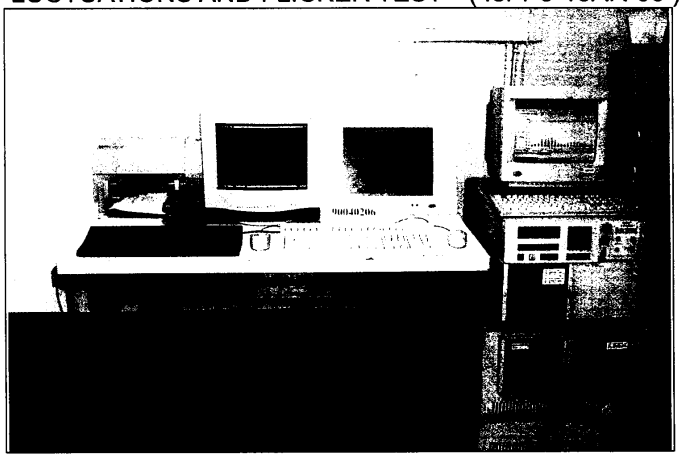




HARMONICS EMISSION TEST & VOLTAGE FLUCTUATIONS AND FLICKER TEST (for P3-15AR-00)



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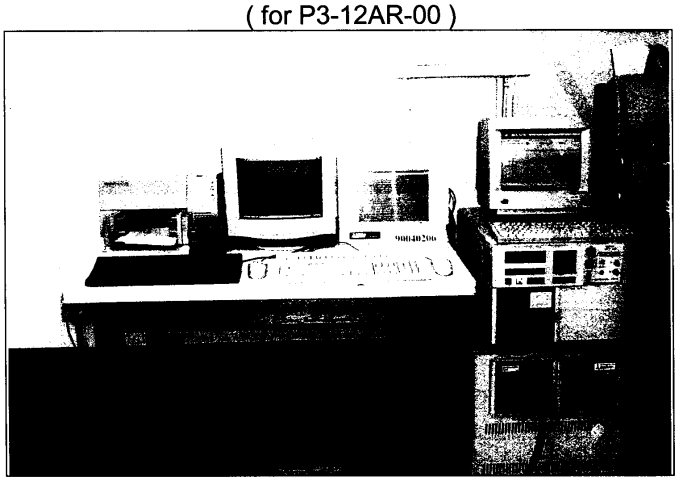

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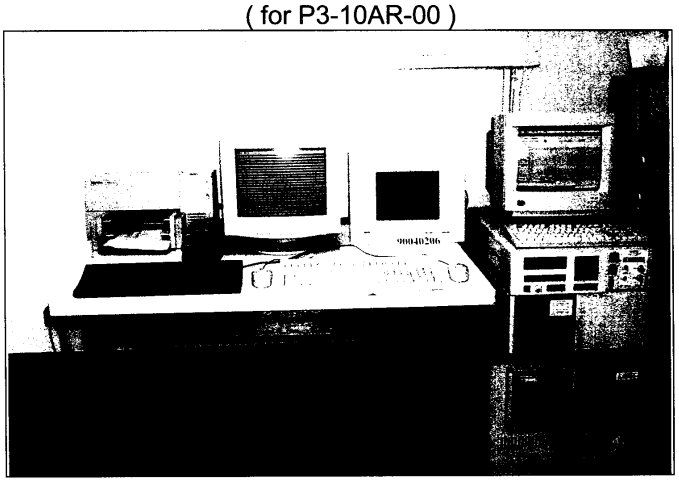

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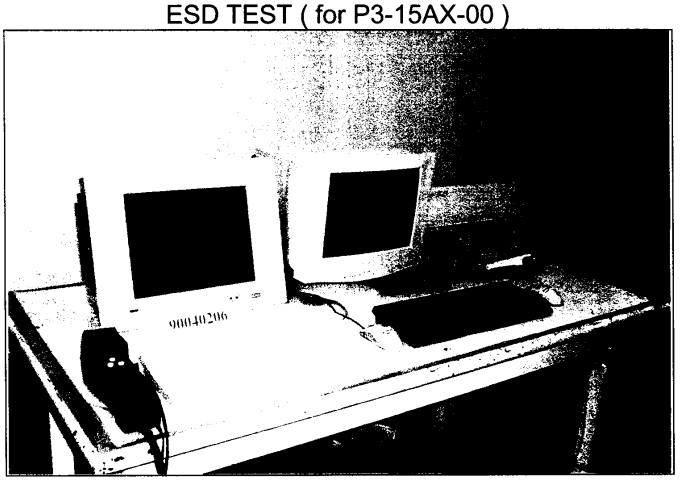

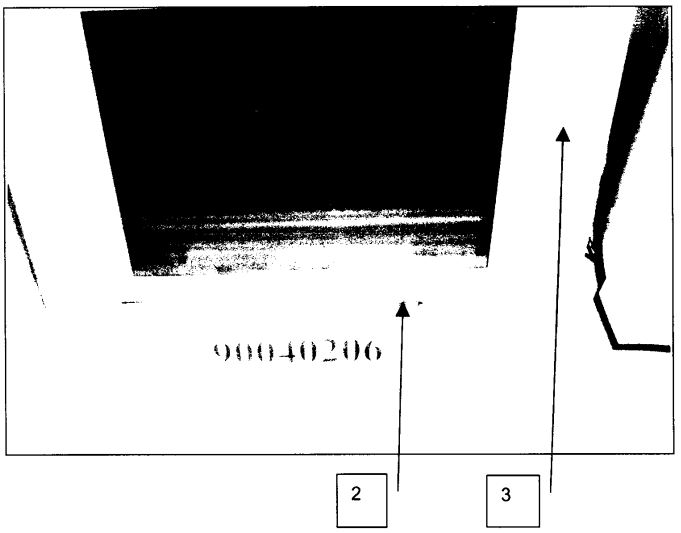

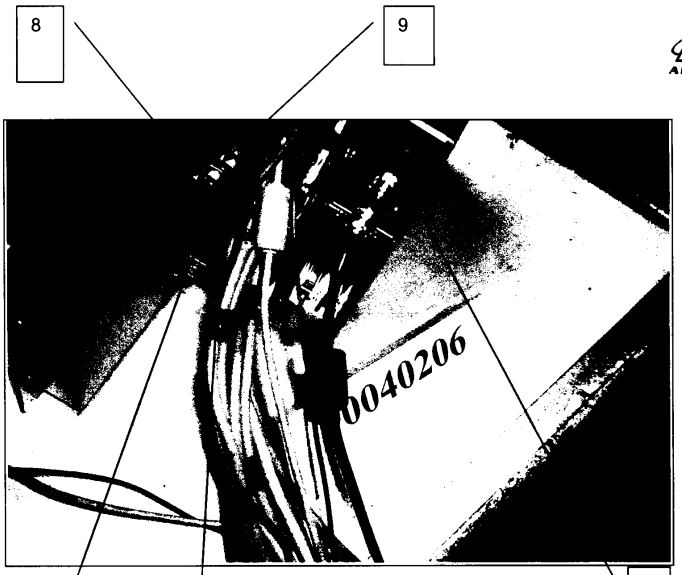

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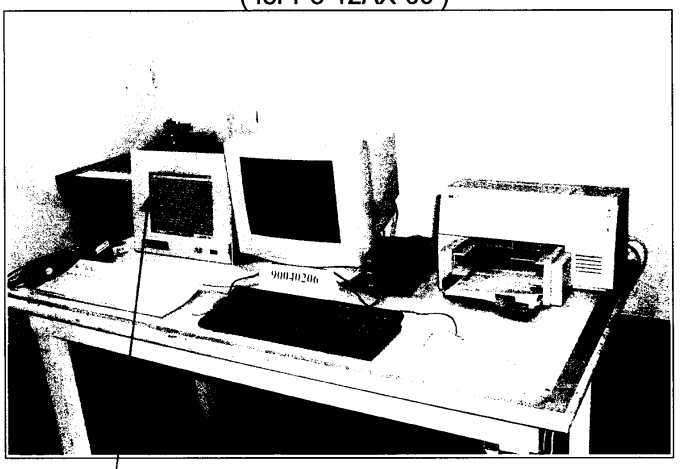

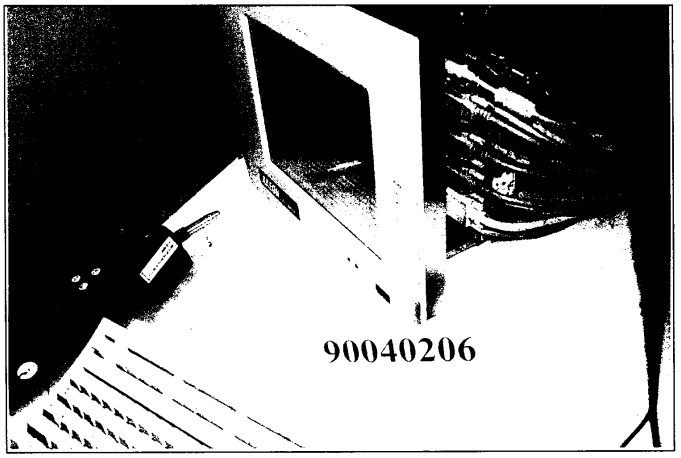
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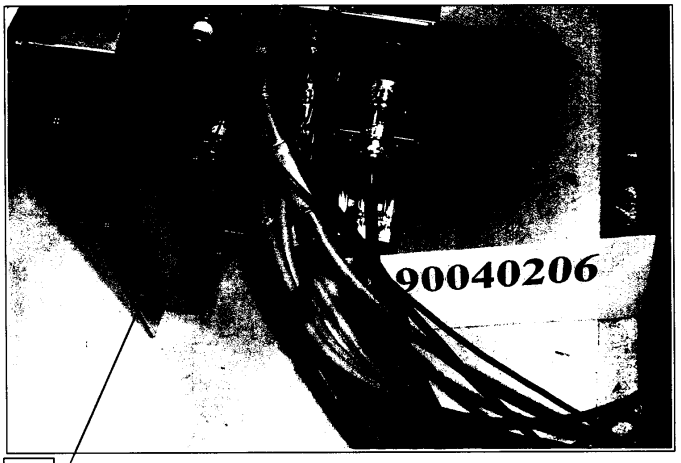

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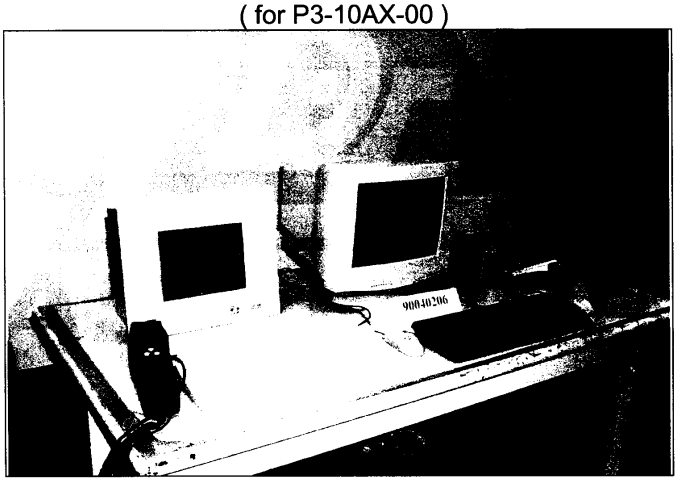

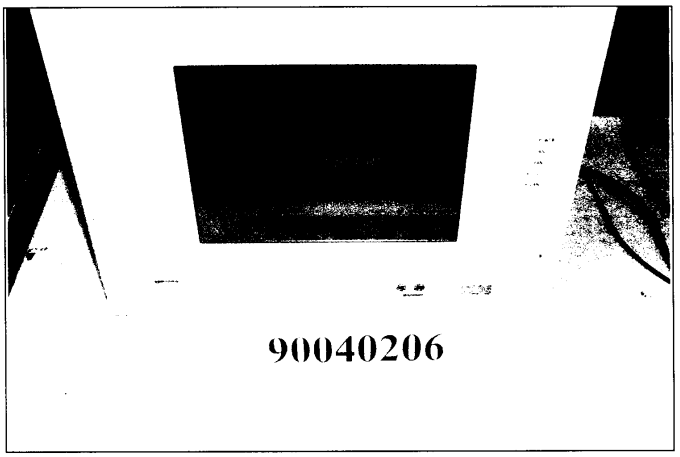
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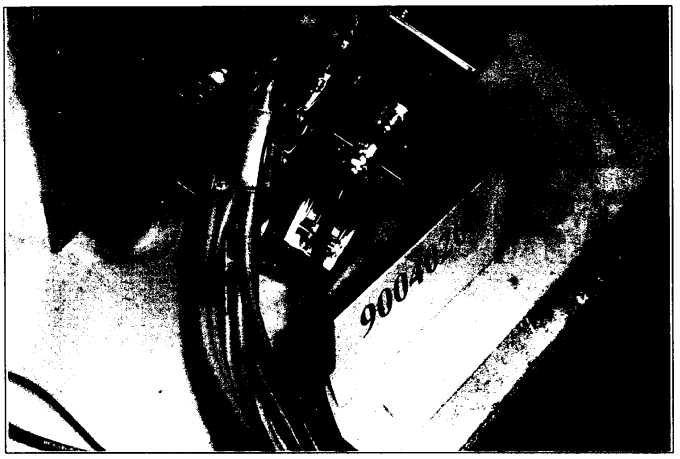

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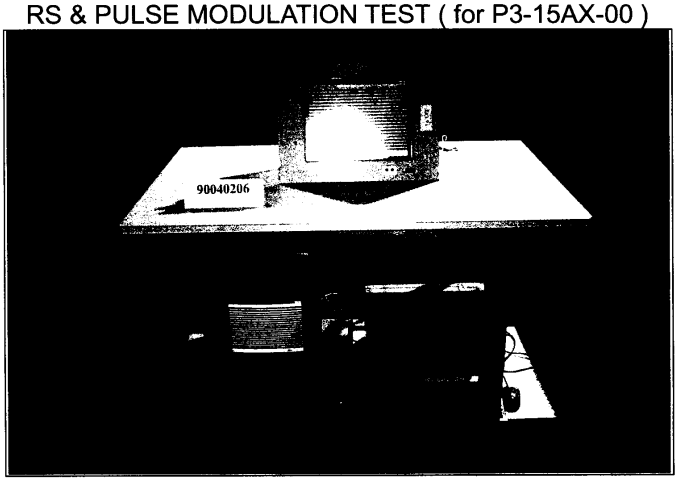

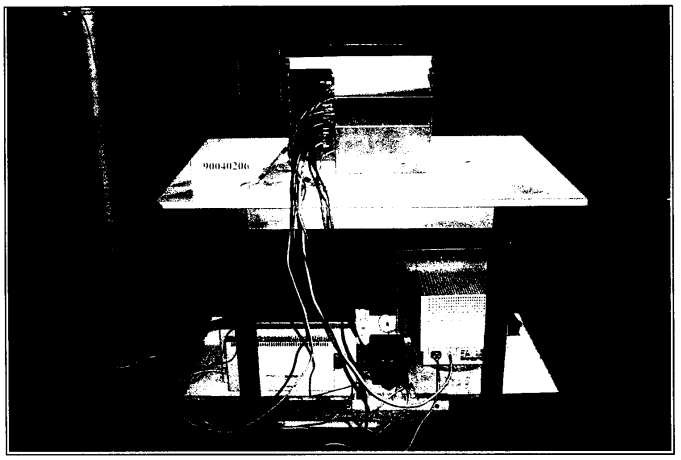

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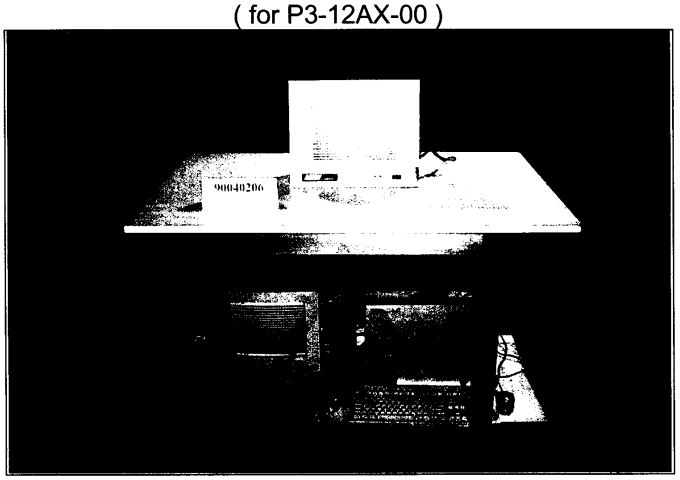

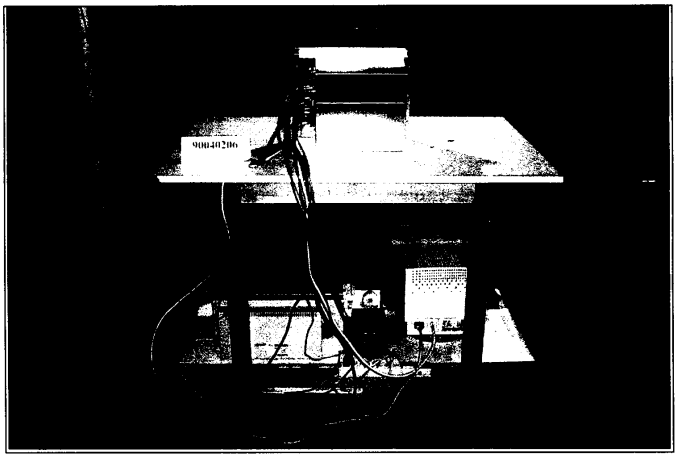

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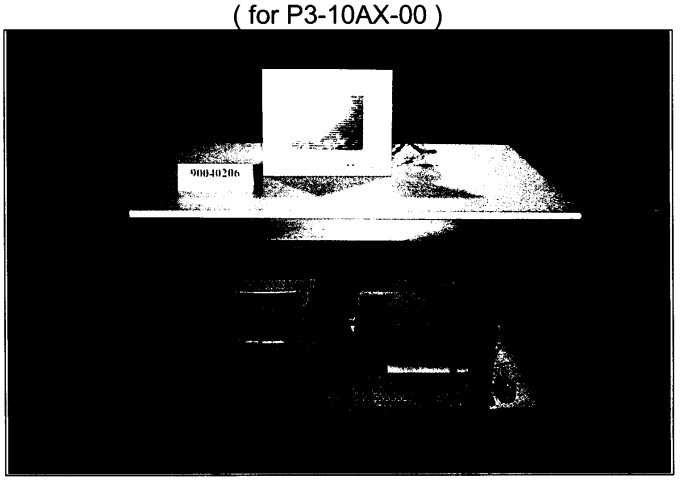

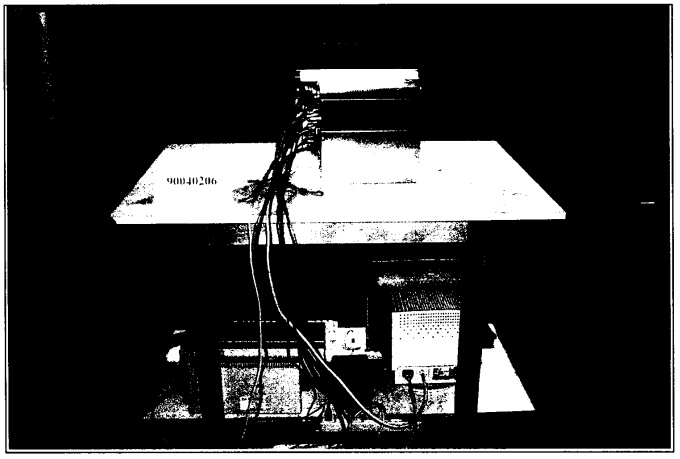

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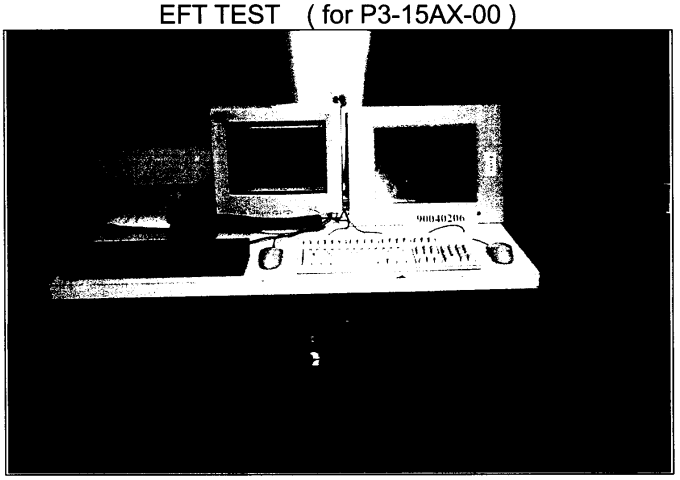

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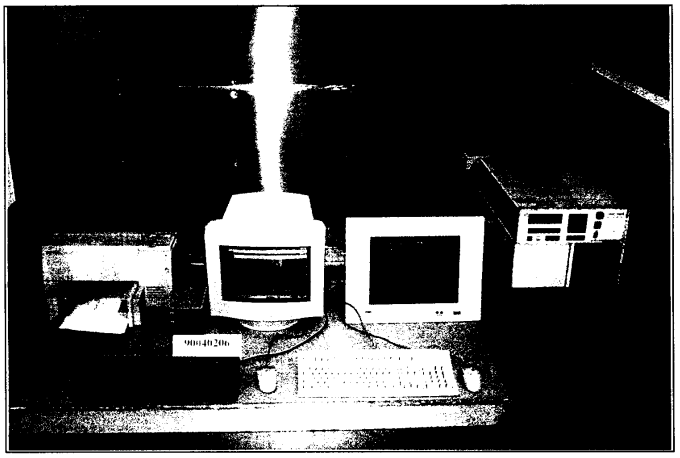

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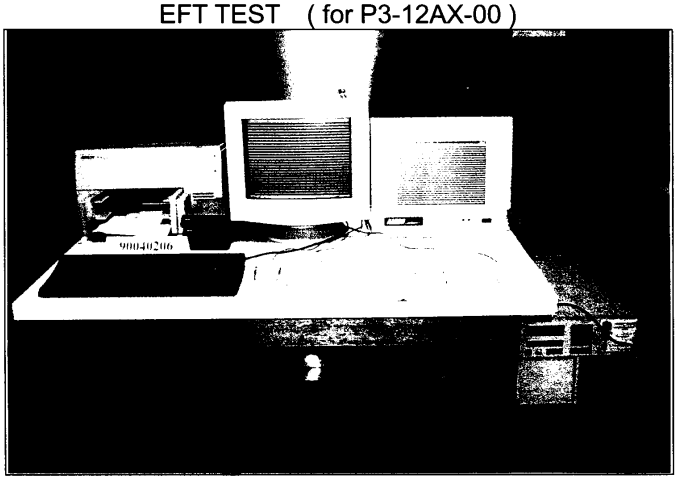

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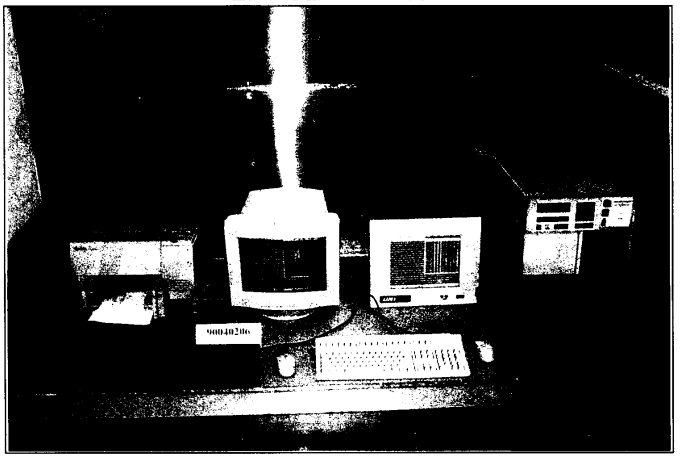

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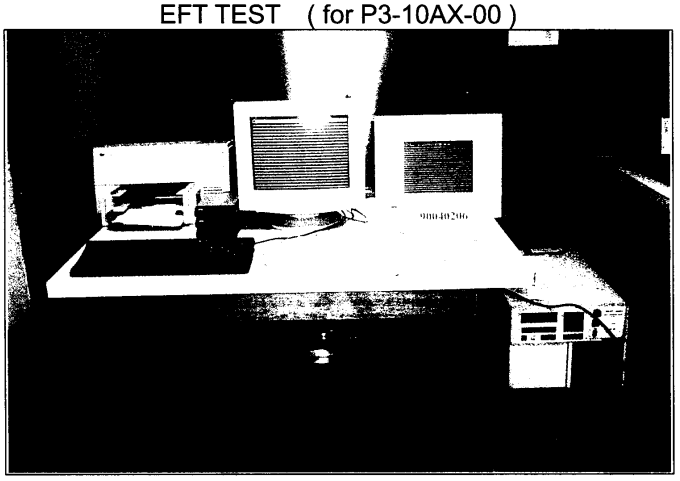

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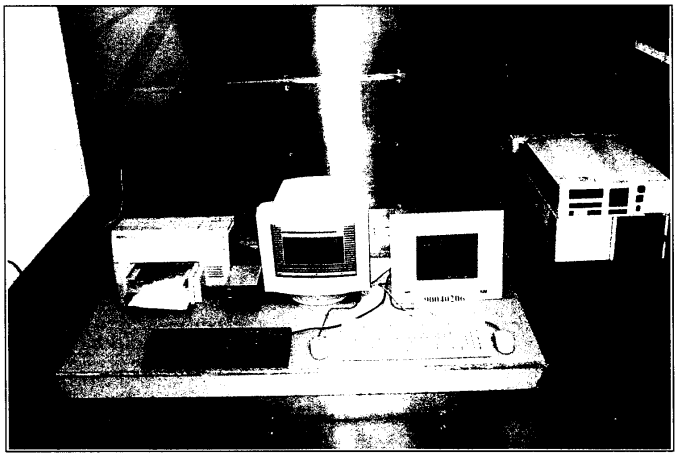

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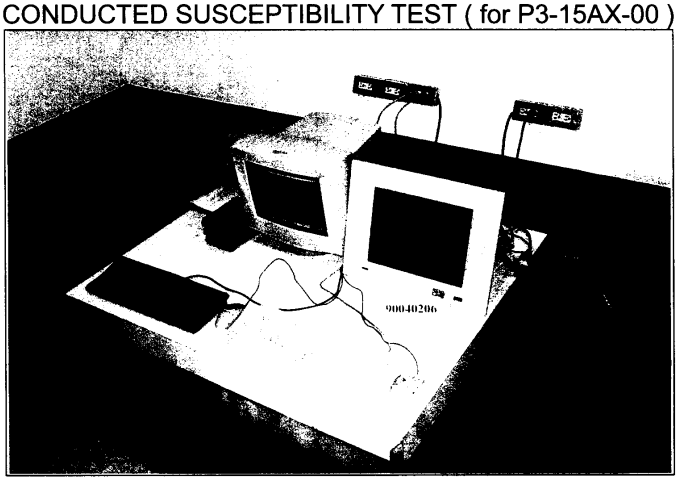

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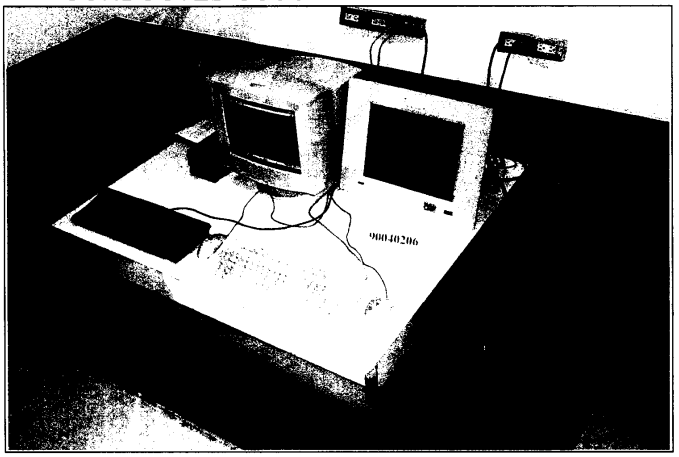

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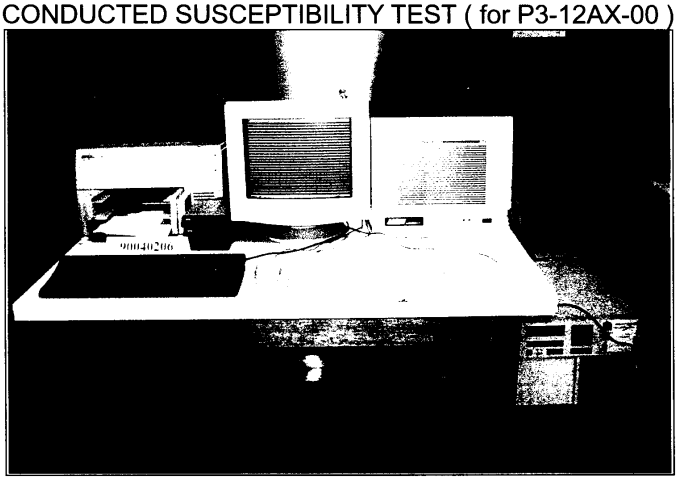

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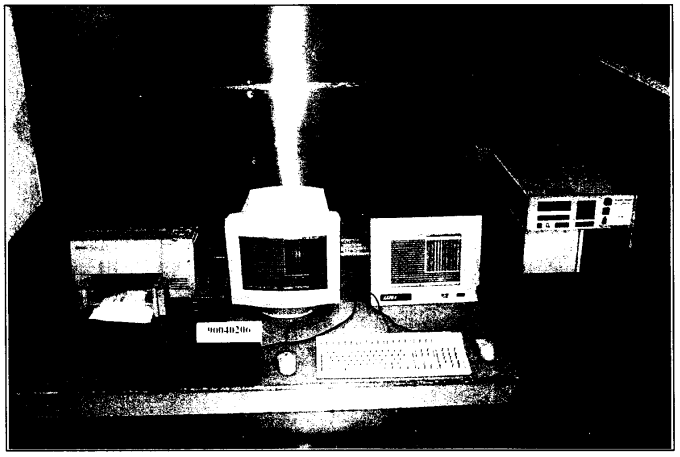

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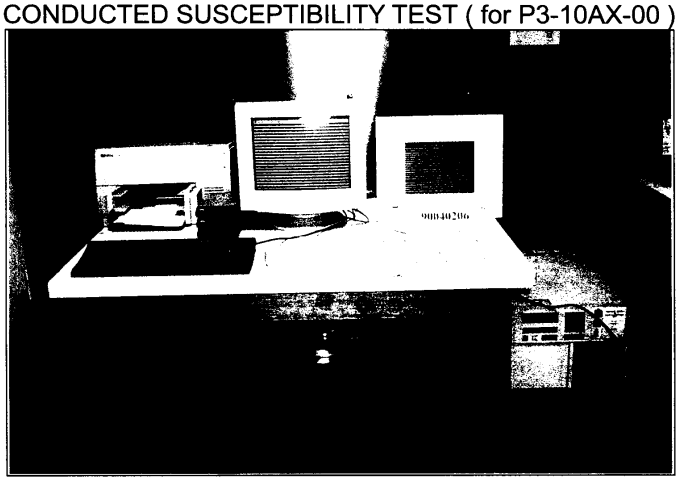

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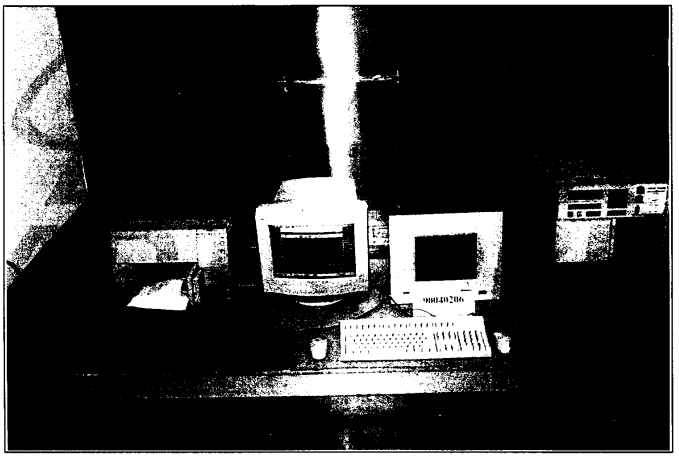
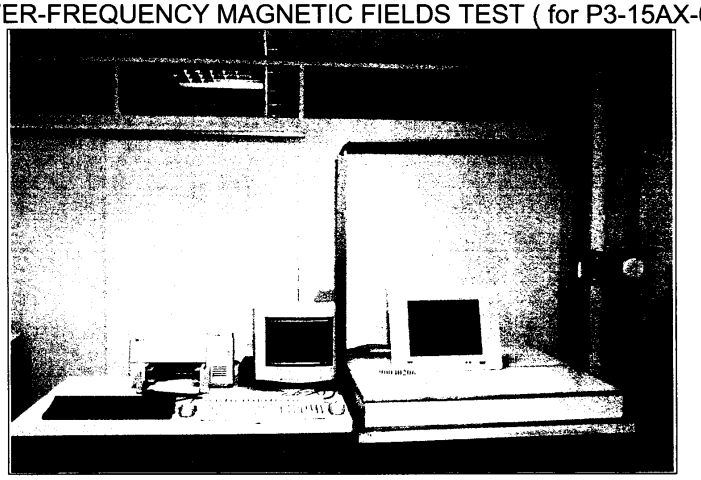


POWER-FREQUENCY MAGNETIC FIELDS TEST (for P3-15AX-00)



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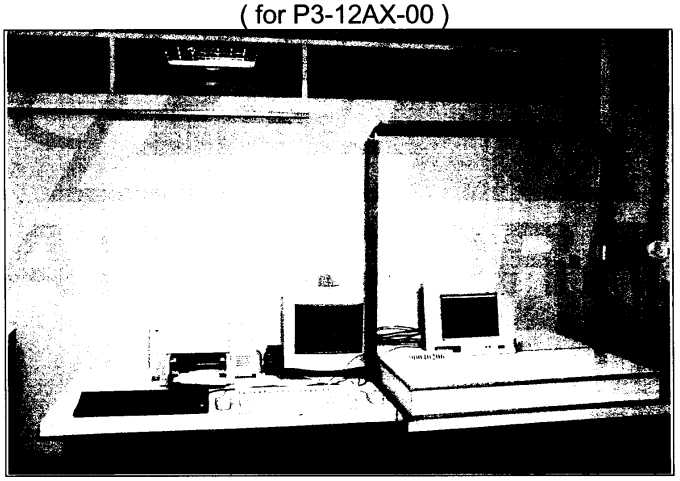

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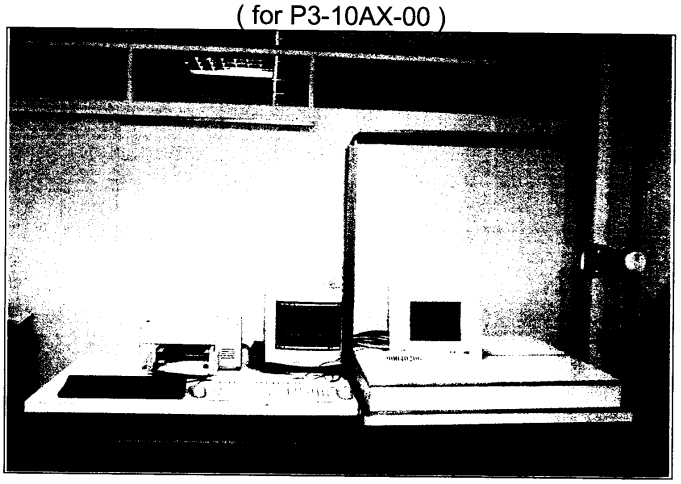


7 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO, DNV
U.K.	INCHCAPE
R.O.C.	BSMI

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC Lab:
Tel: 886-35-935343
Fax: 886-35-935342

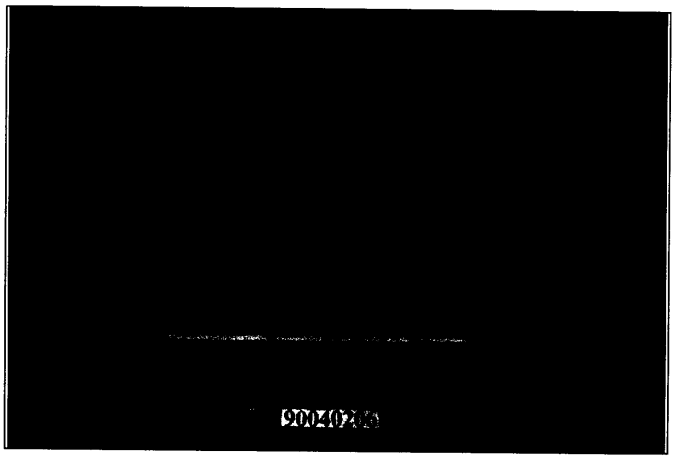
Lin Kou Safety Lab:
Tel: 886-2-26093195
Fax: 886-2-26093184

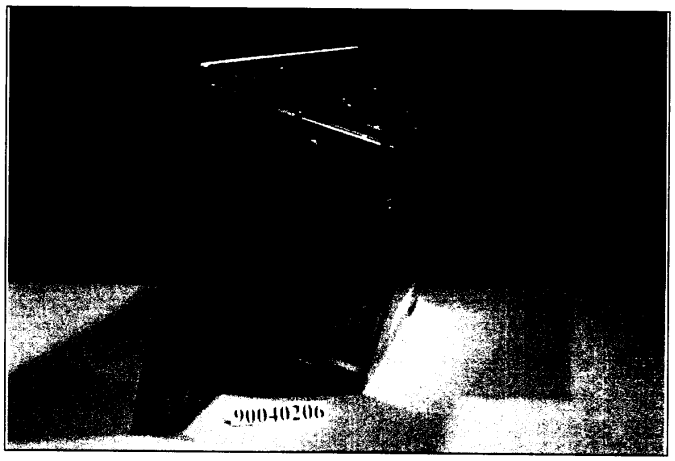
Design Center:
Tel: 886-2-26093195
Fax: 886-2-26093184

Email: service@mail.adt.com.tw
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

CONSTRUCTION PHOTOS OF EUT





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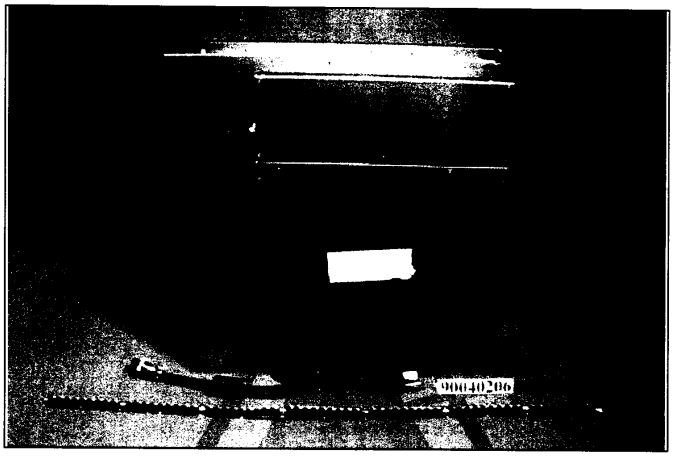

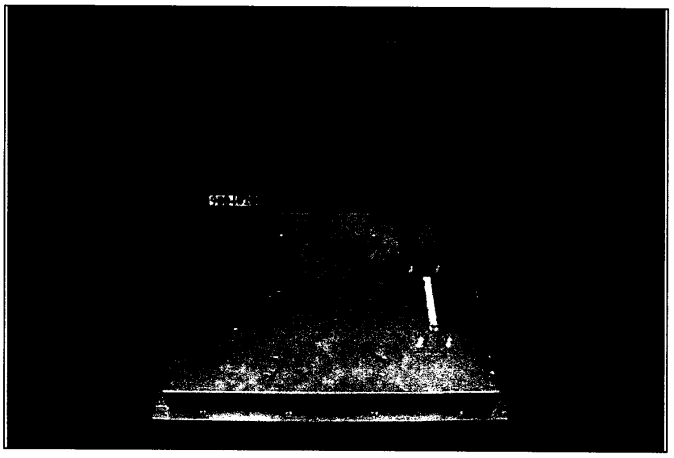

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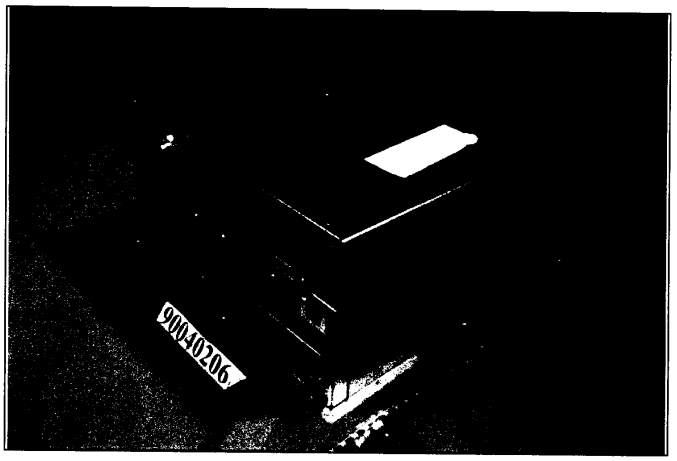

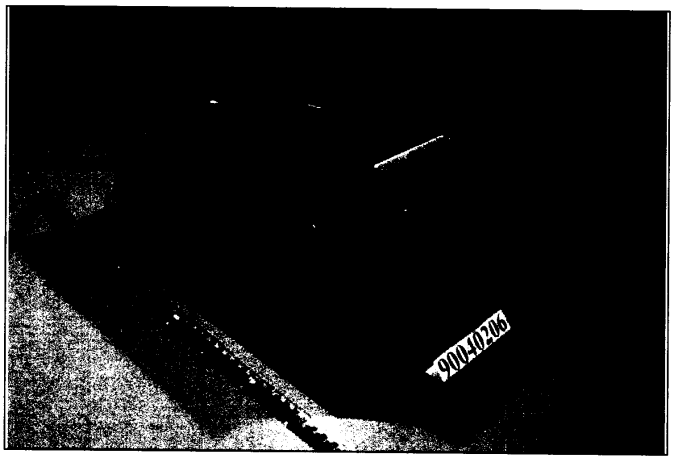

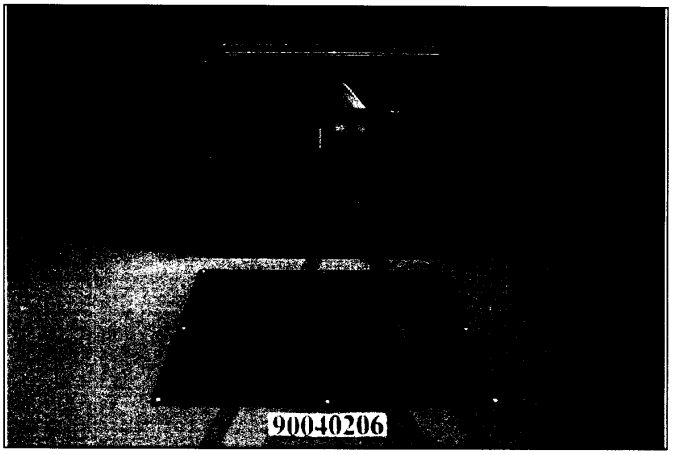
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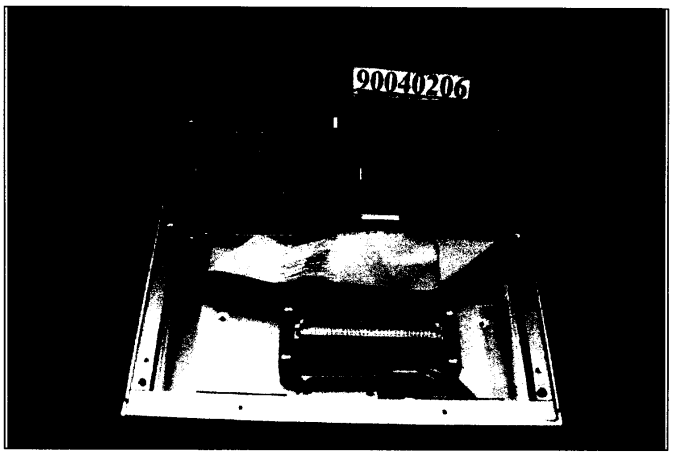
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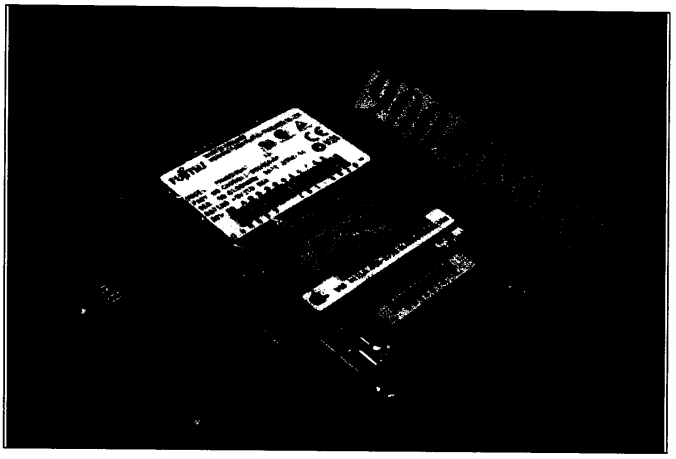


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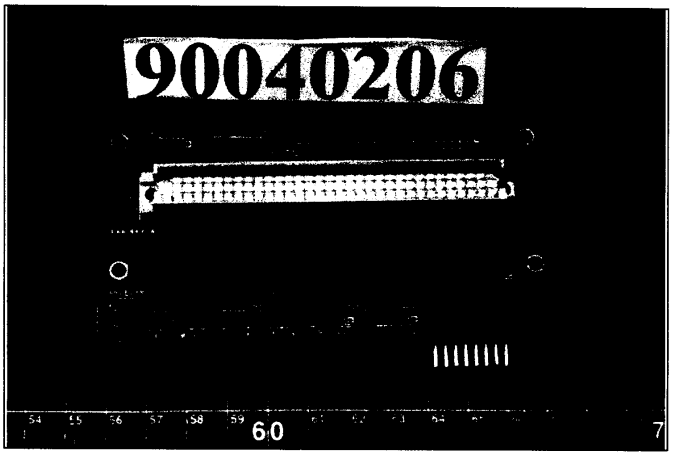
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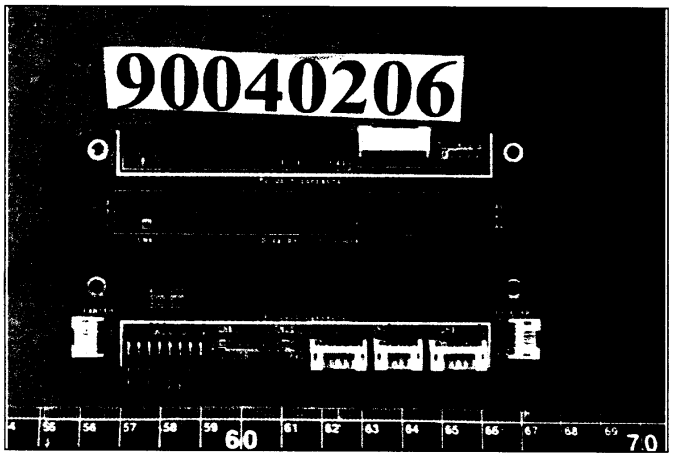
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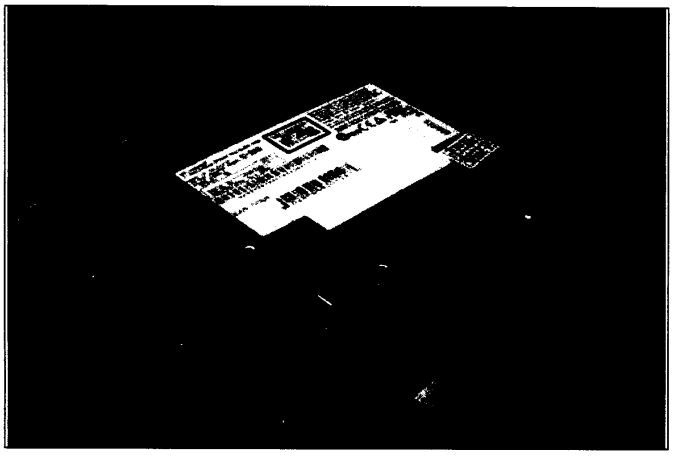

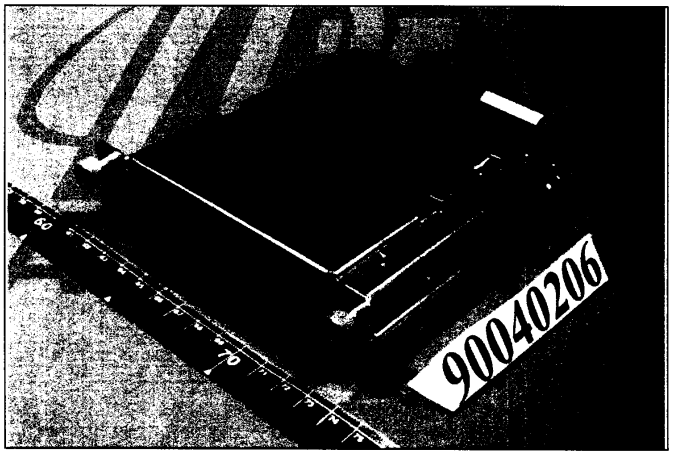
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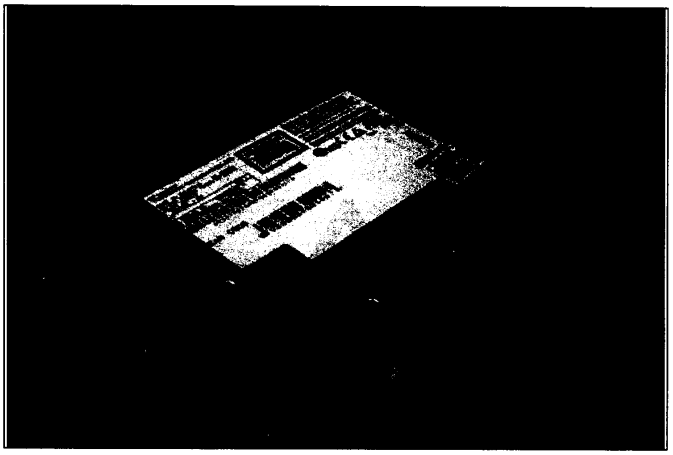


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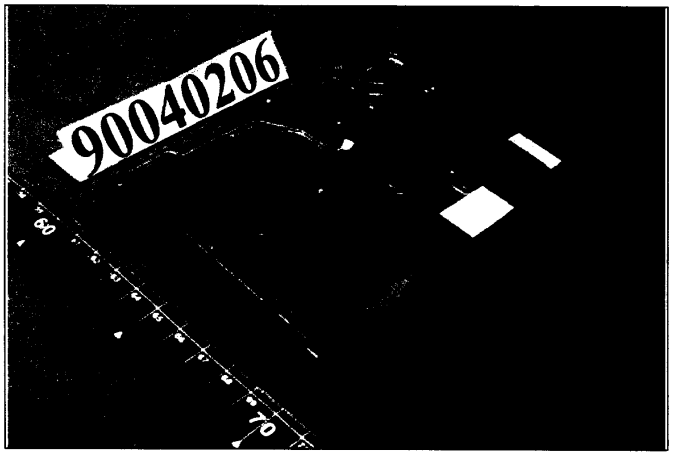
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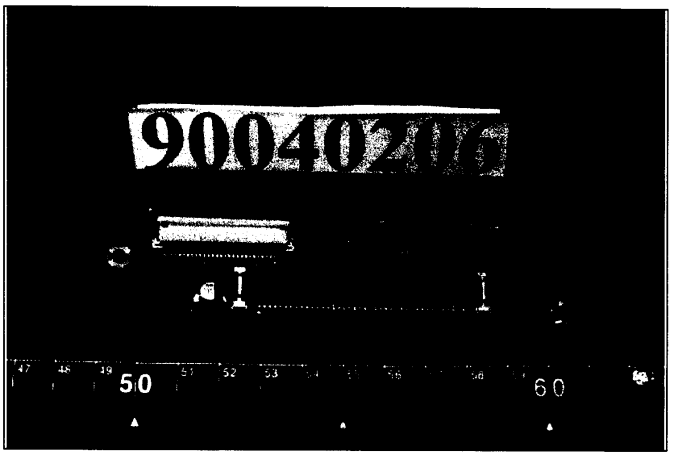
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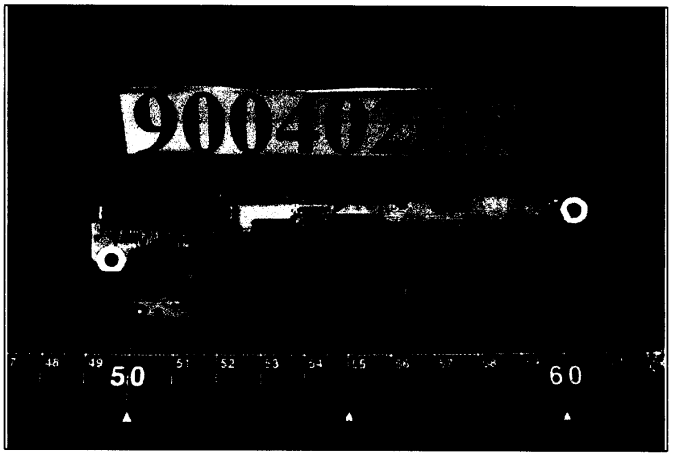
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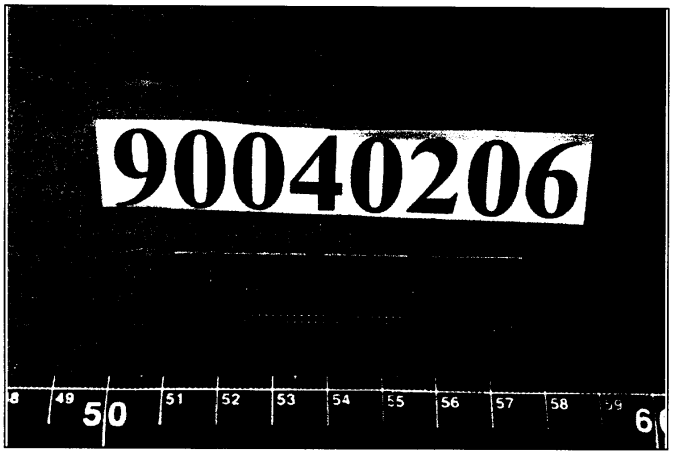
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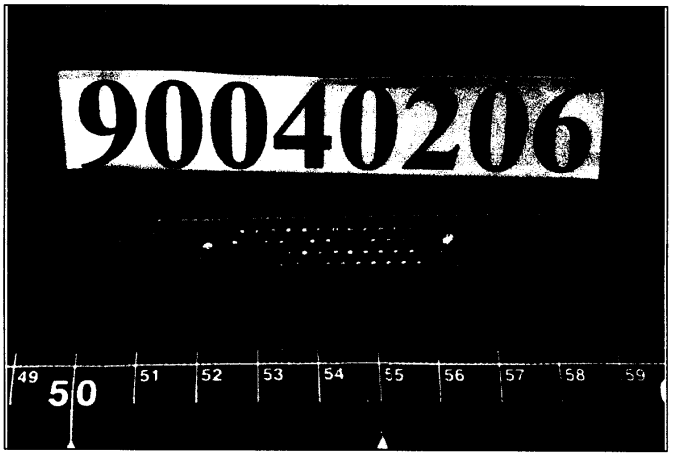
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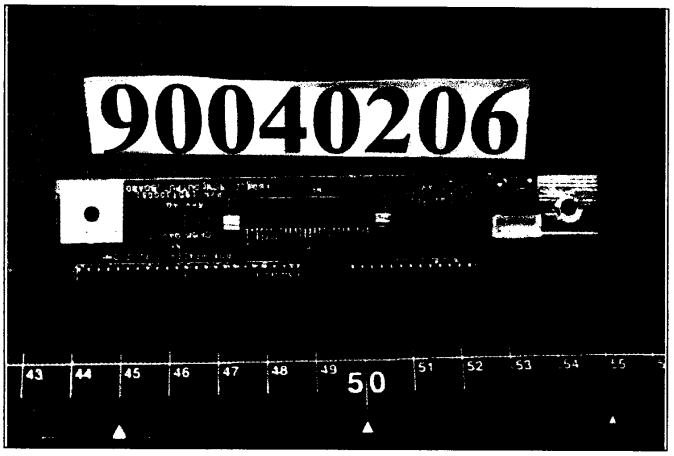
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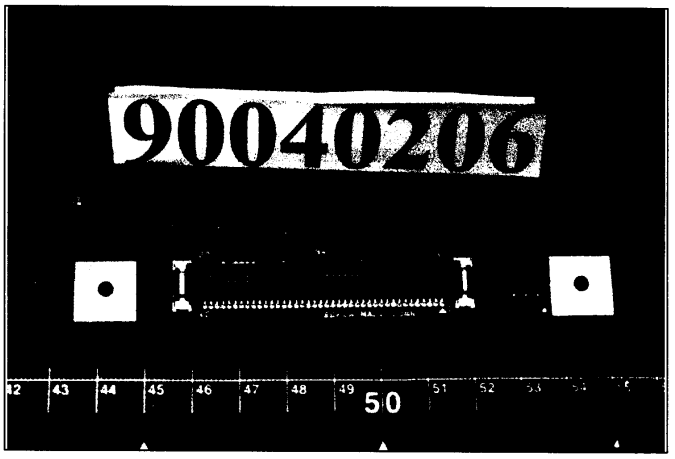
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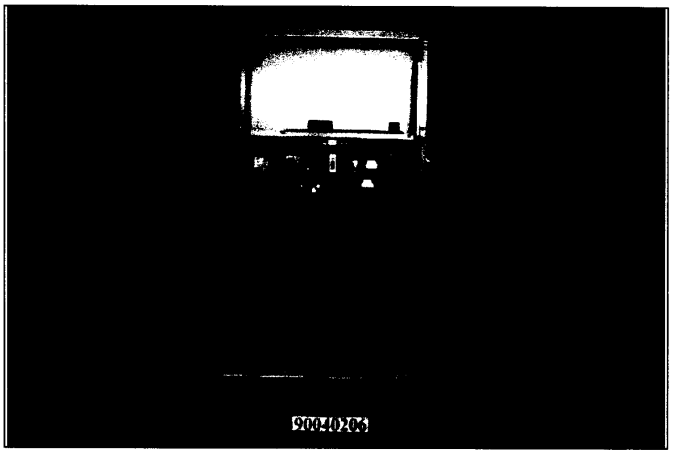


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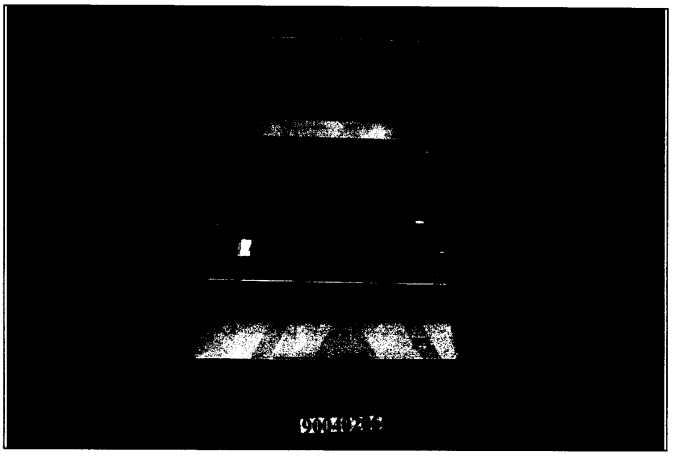

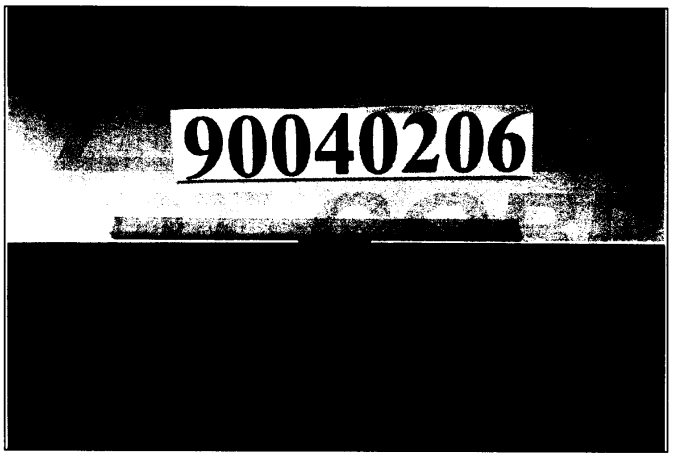
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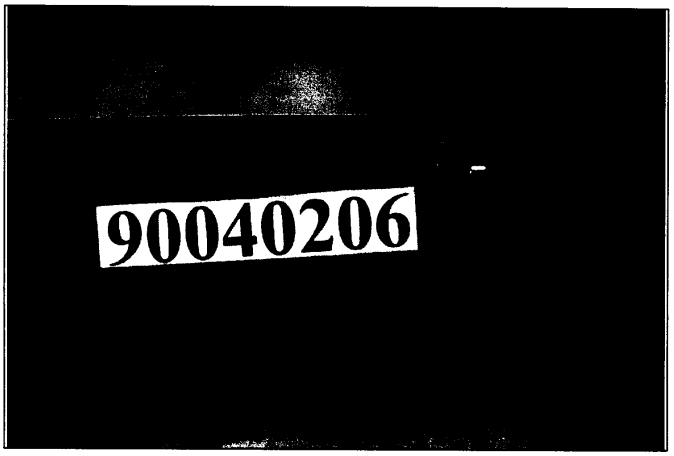
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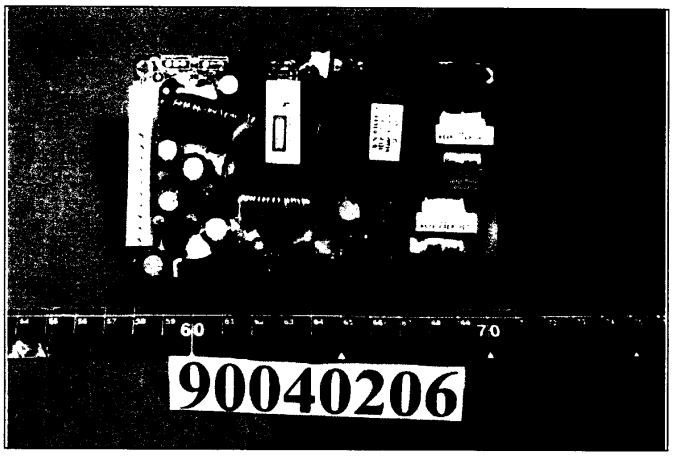
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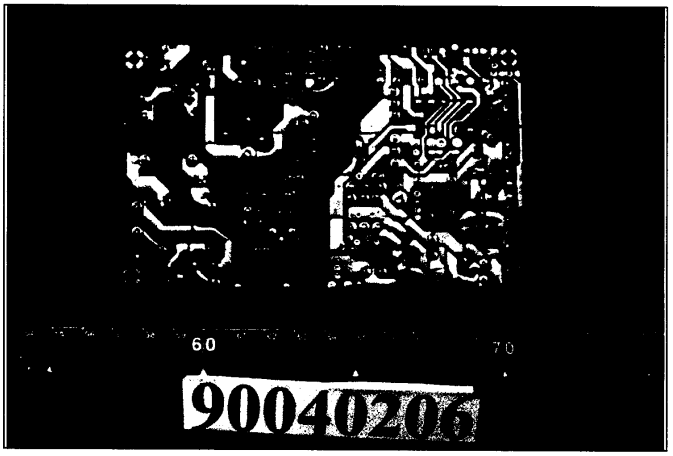
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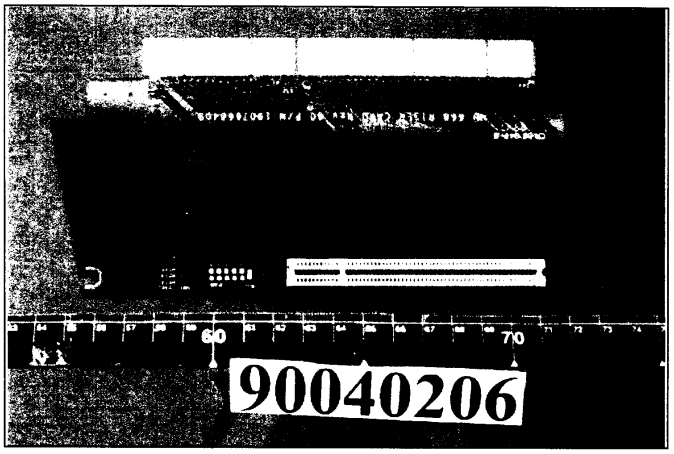
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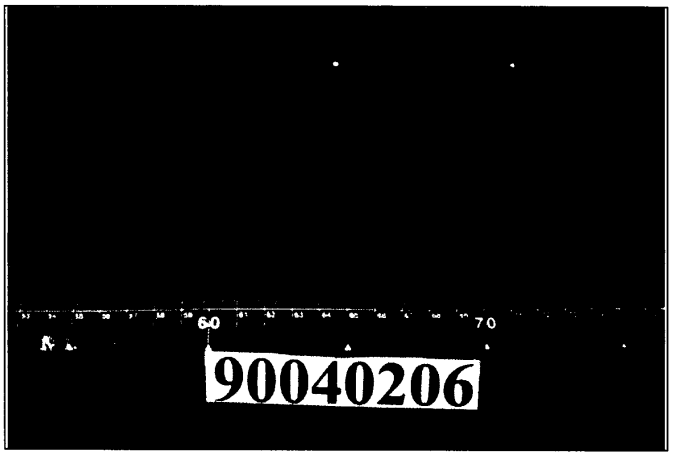
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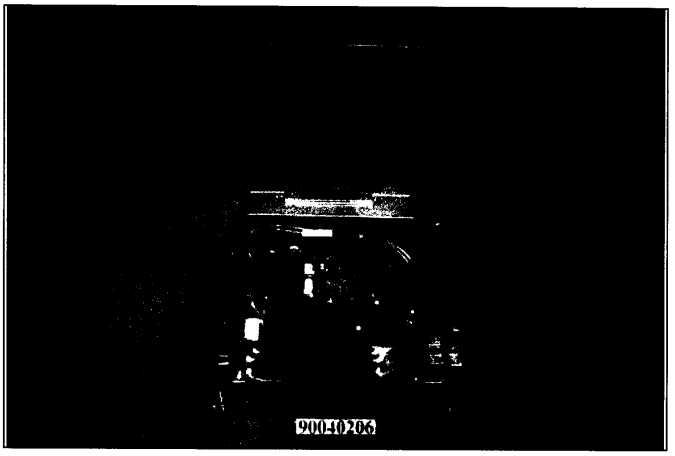
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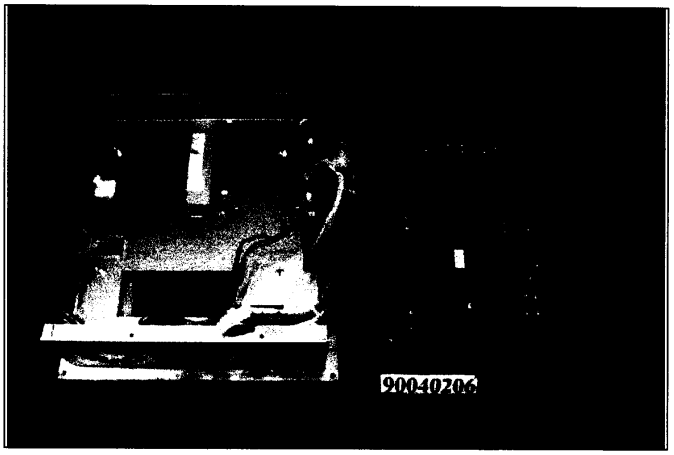
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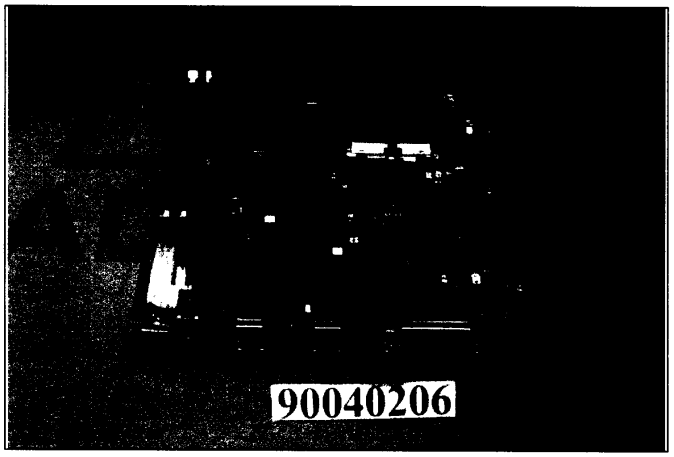
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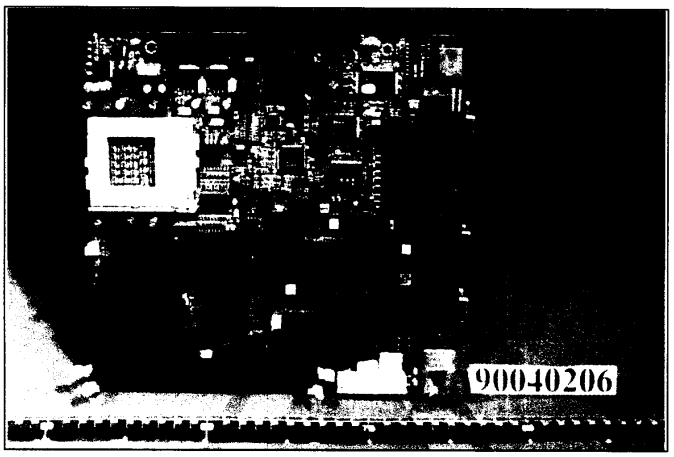
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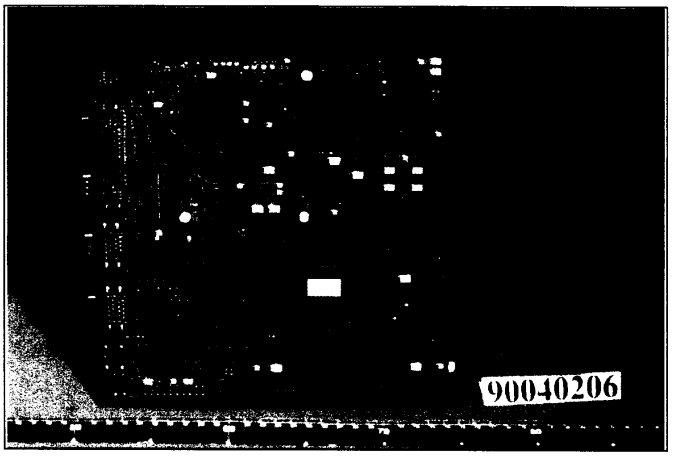
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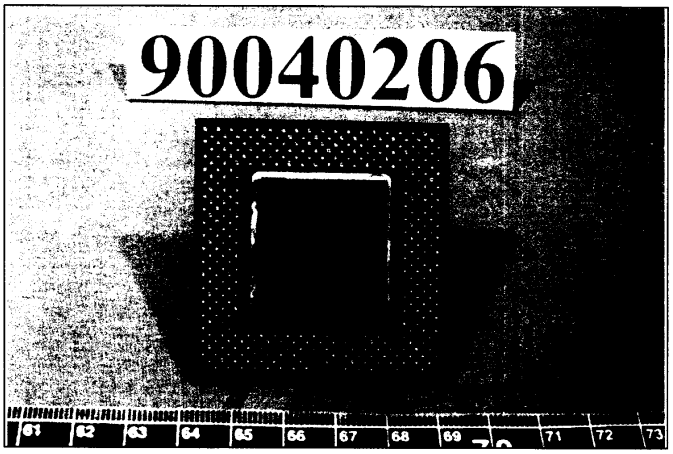
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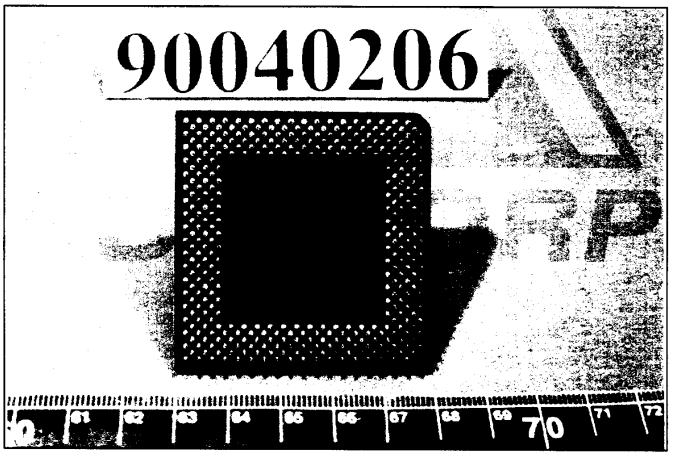
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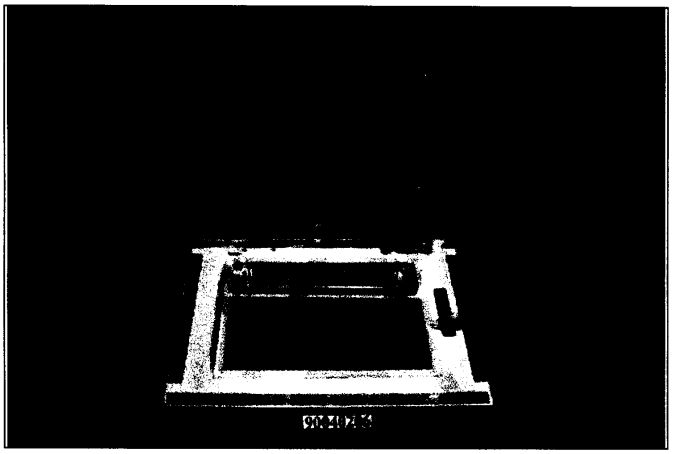


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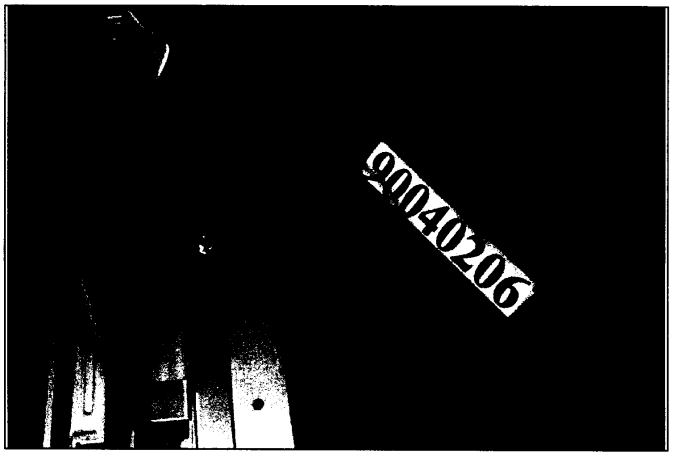
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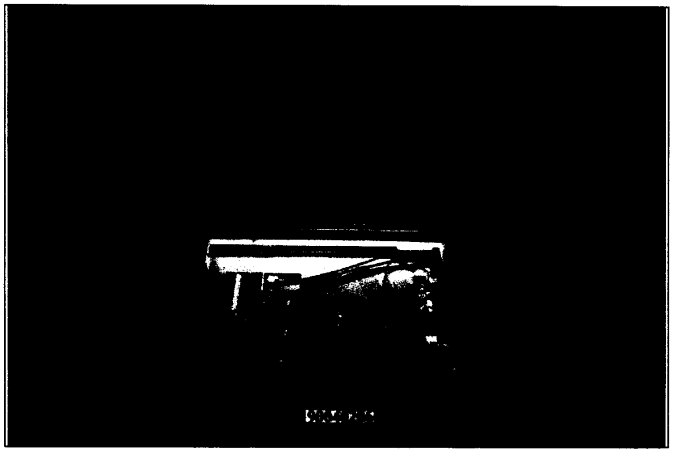

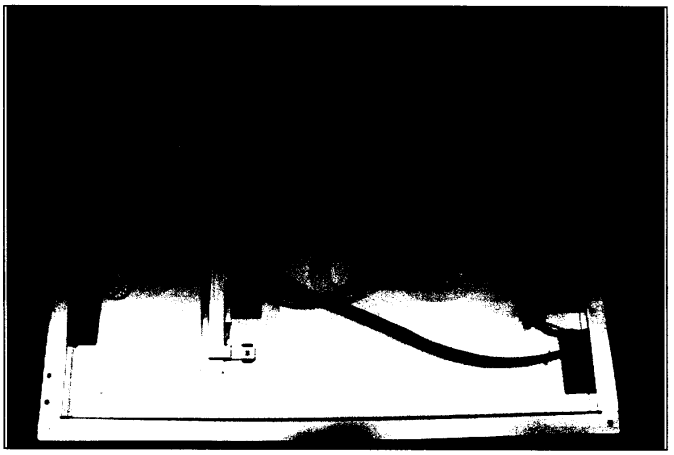

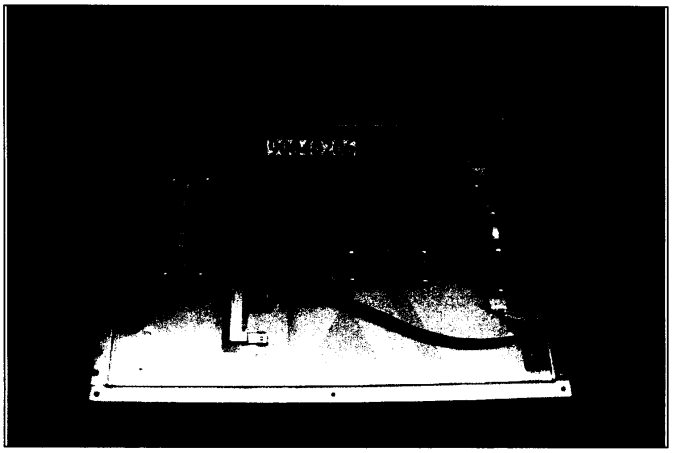


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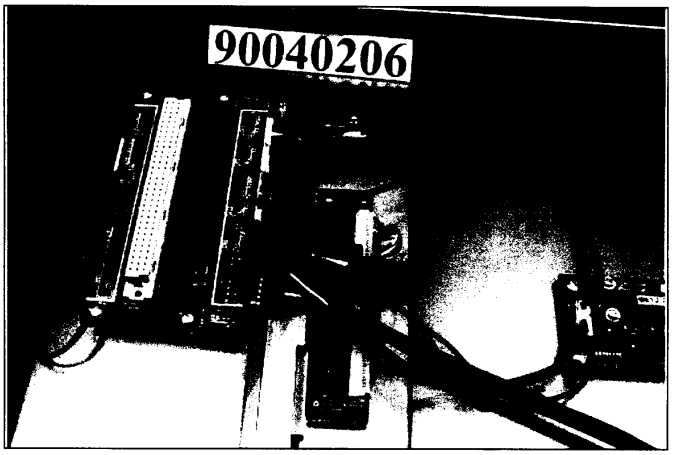
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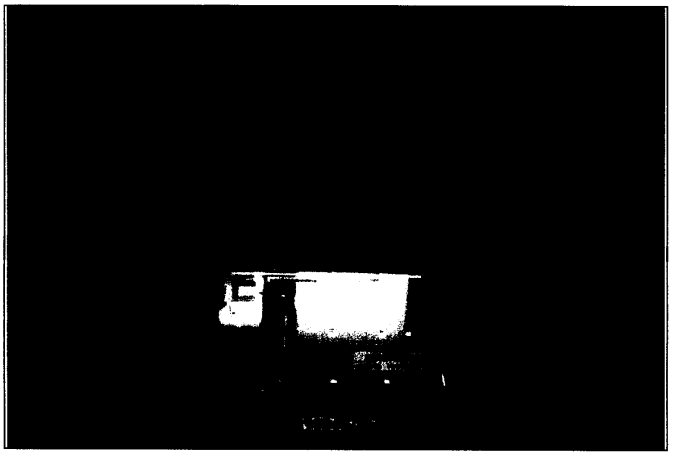

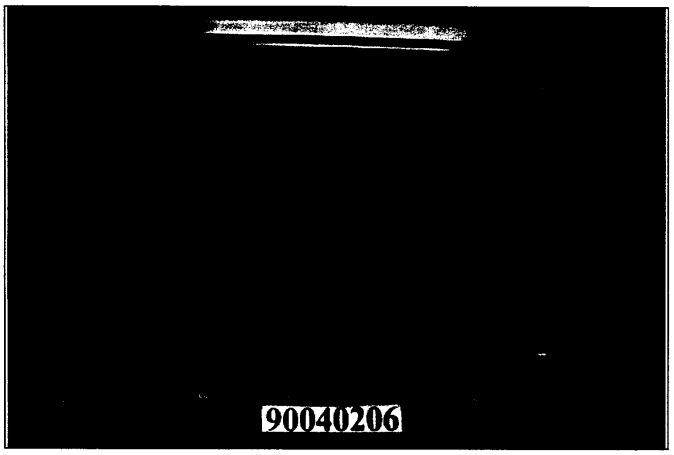
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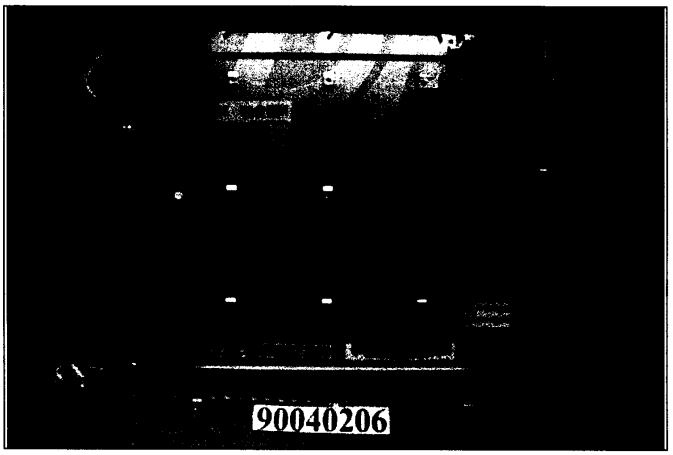
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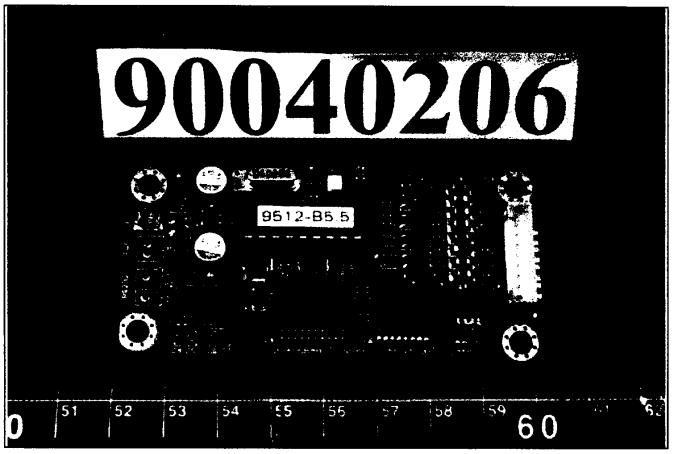
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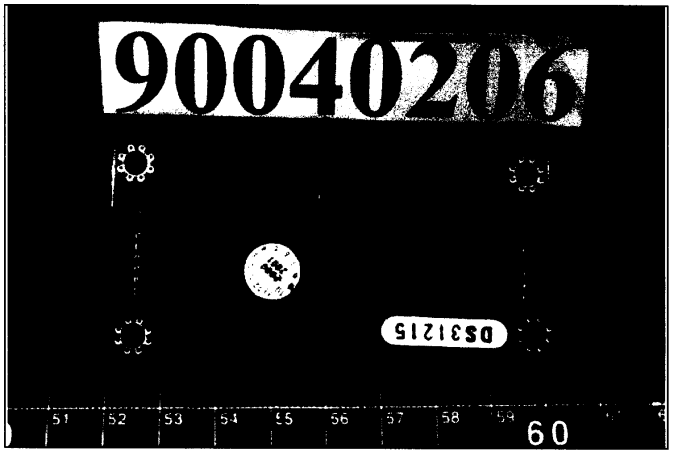
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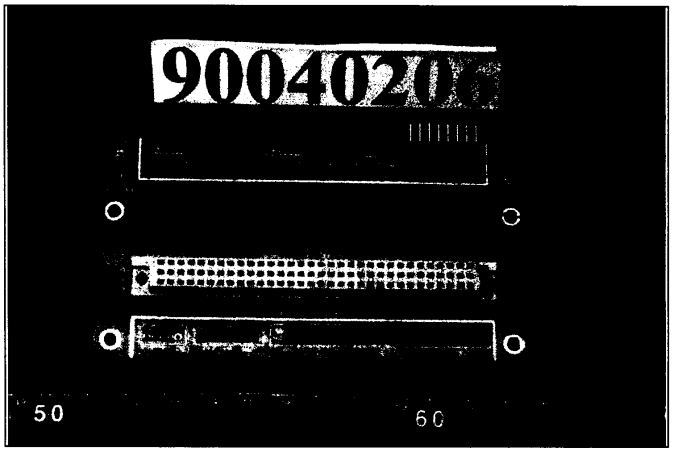
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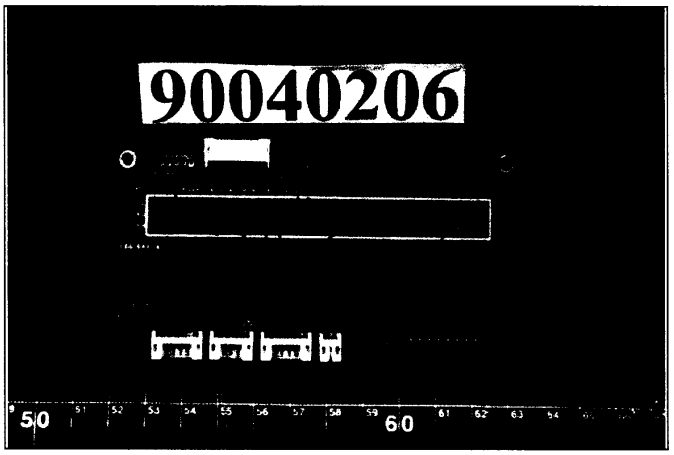
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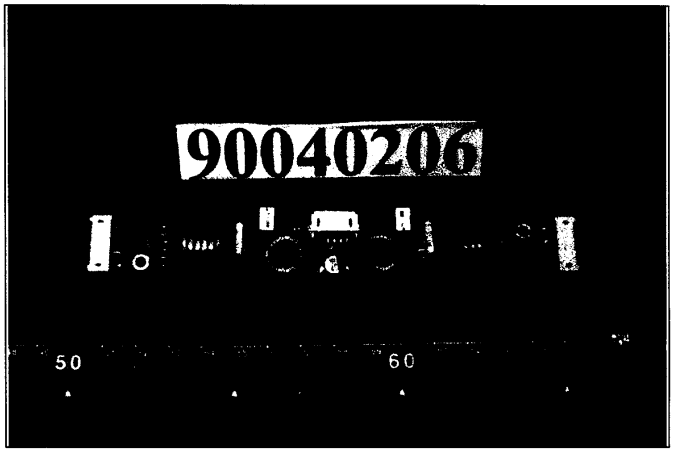
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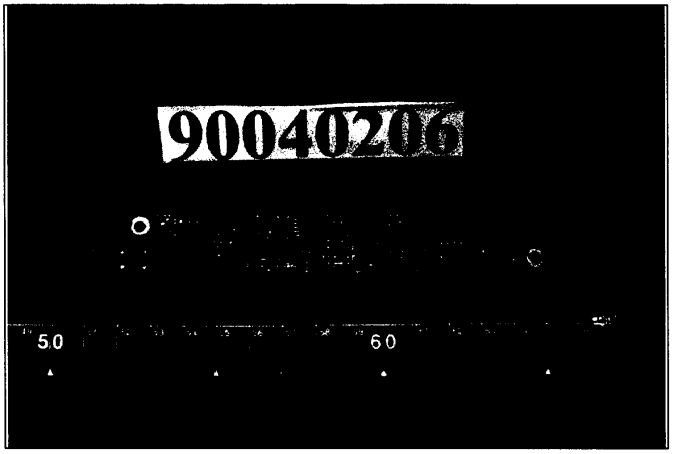
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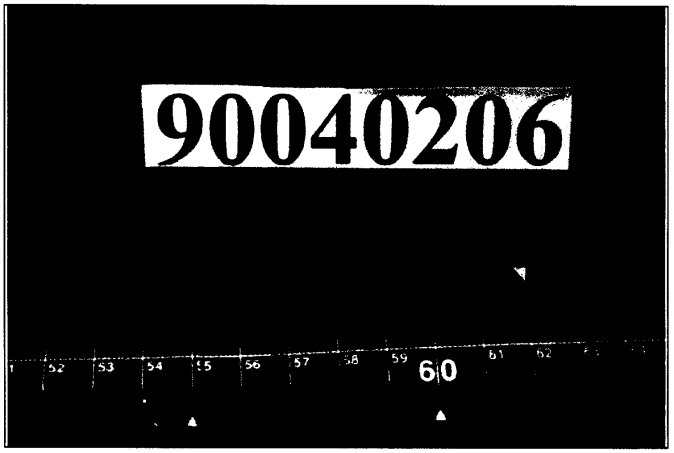
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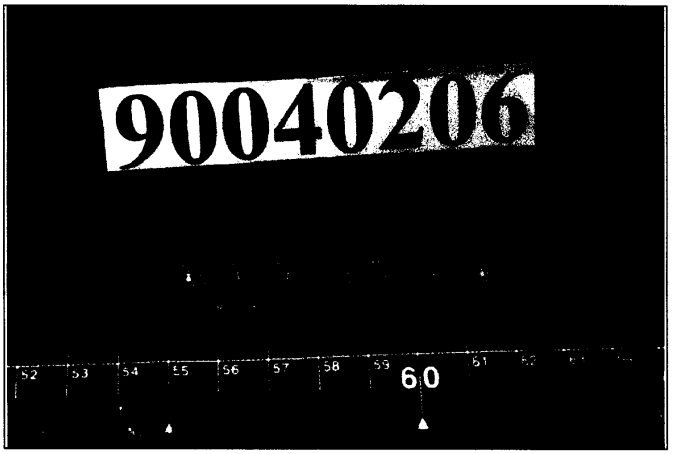
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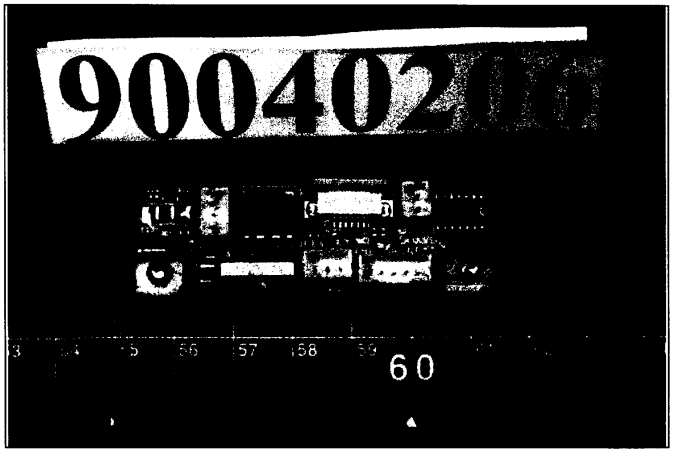
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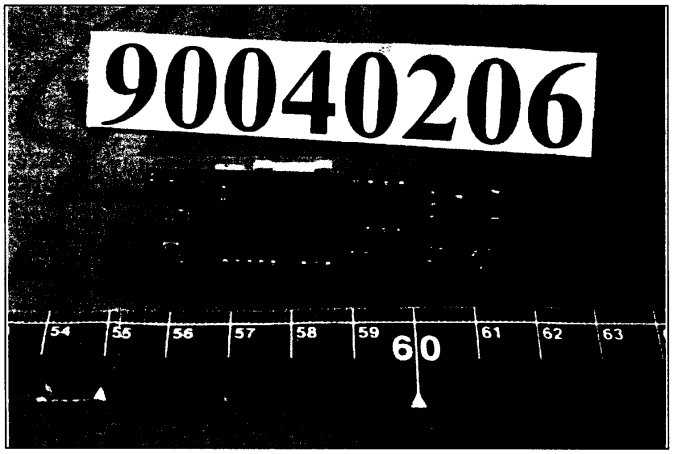
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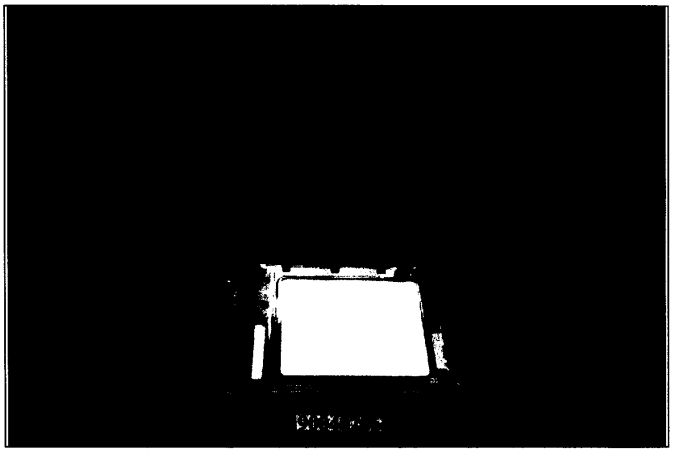

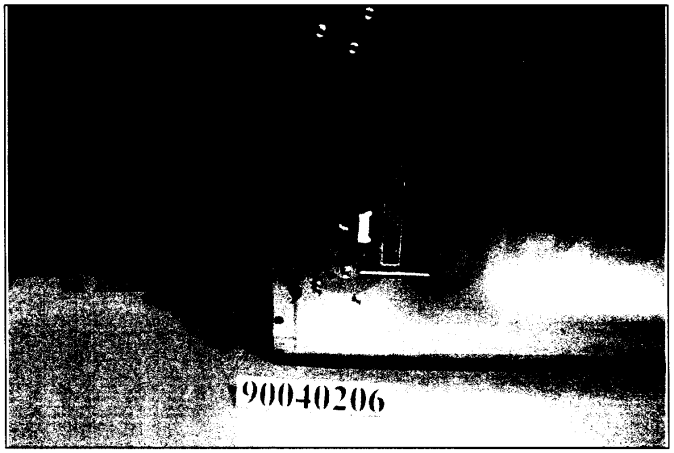
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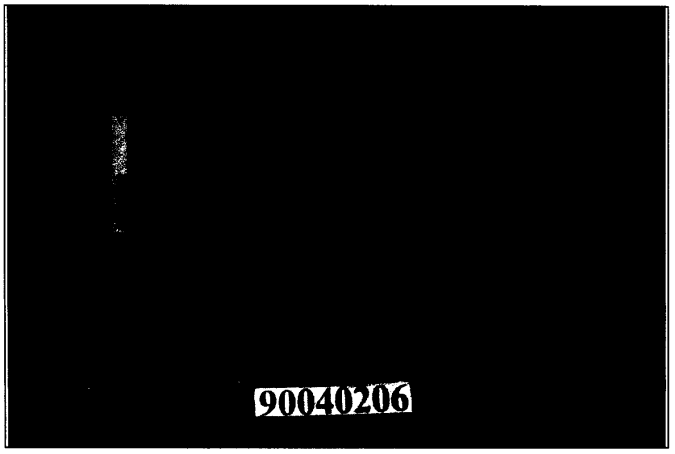
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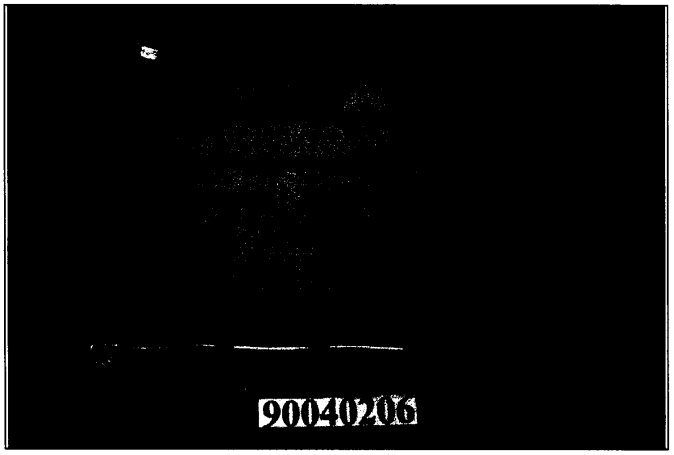
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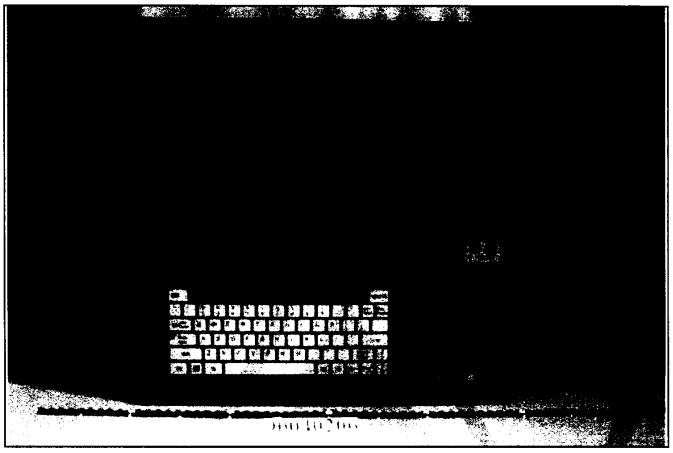

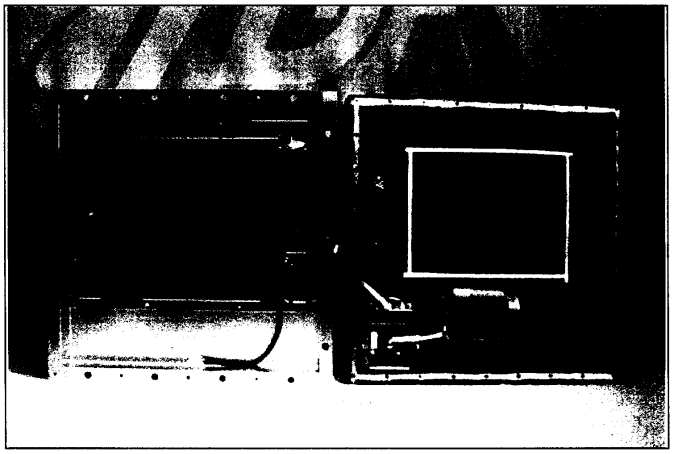

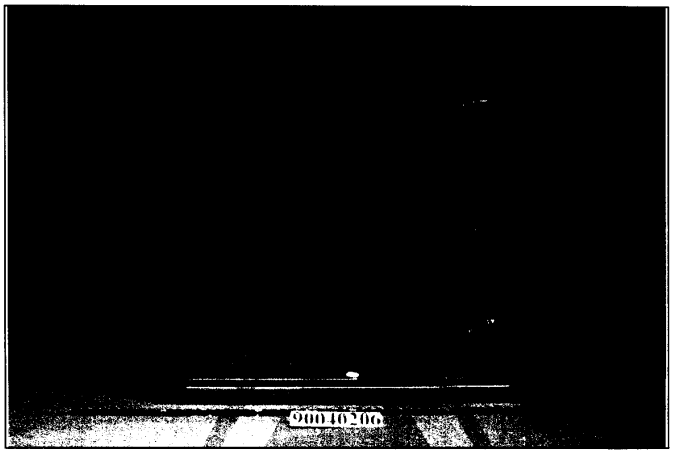
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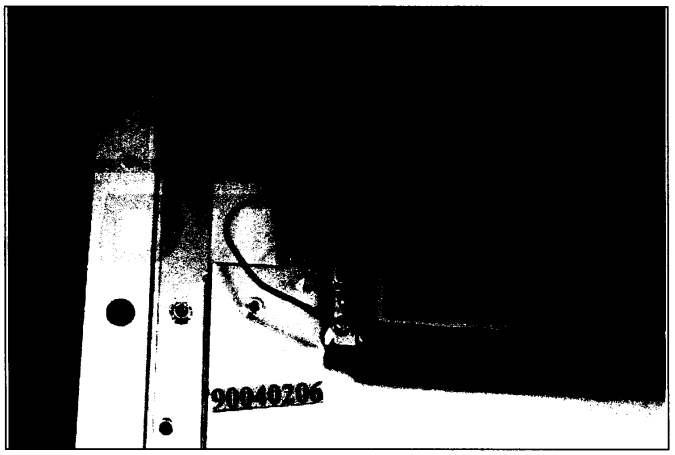
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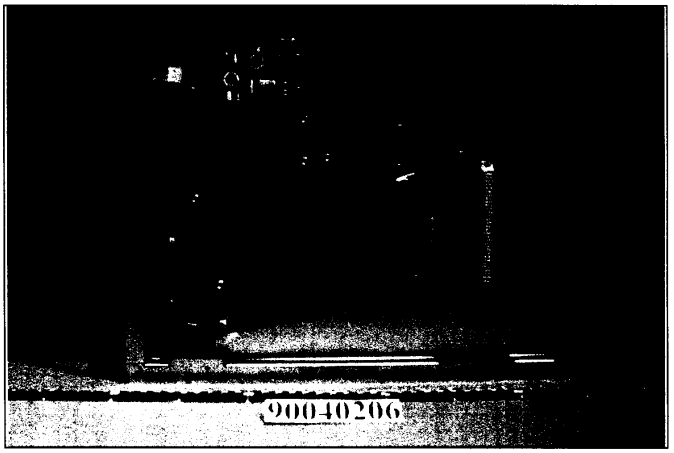
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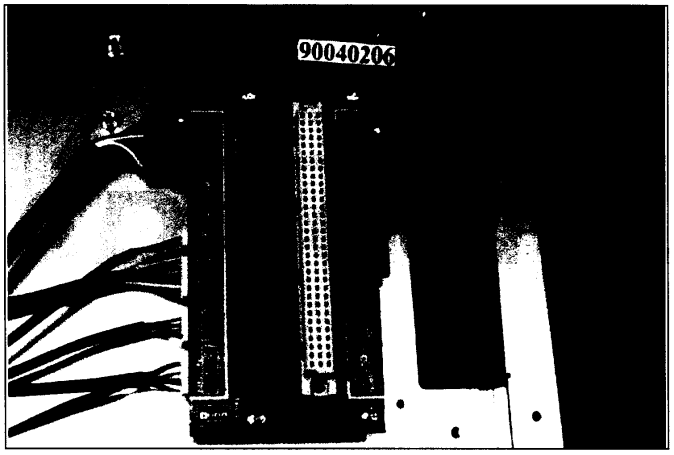
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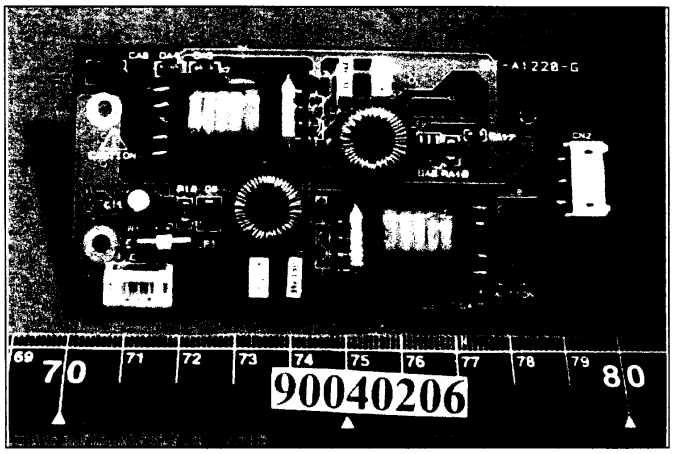
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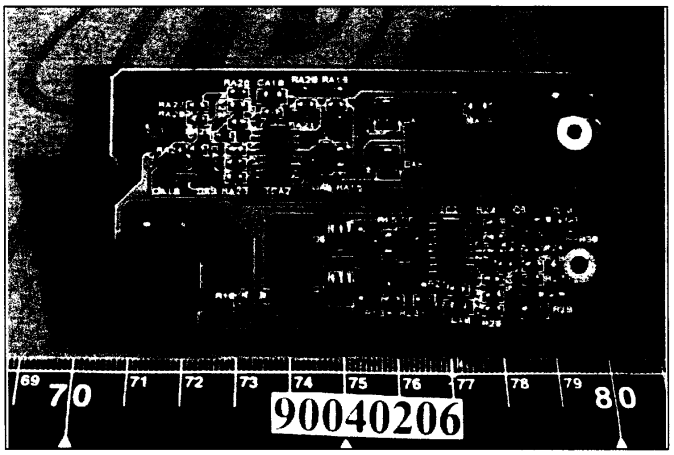
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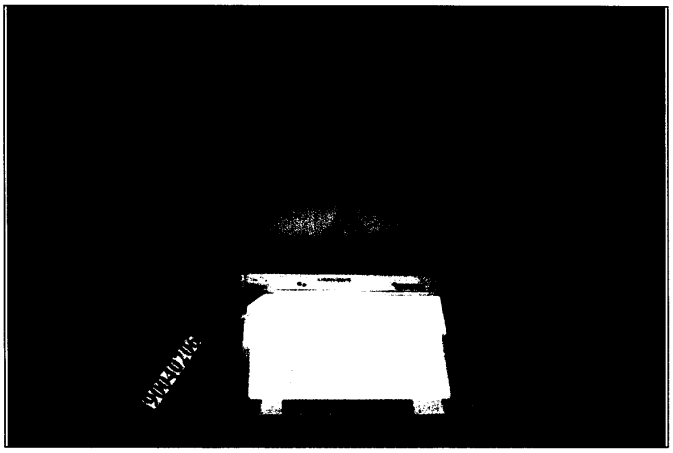

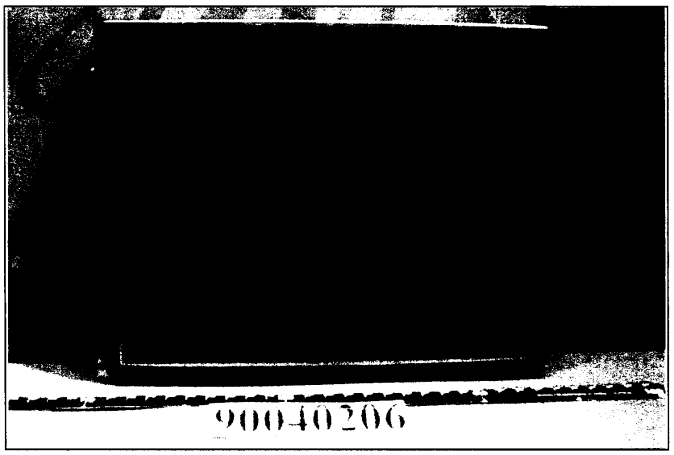
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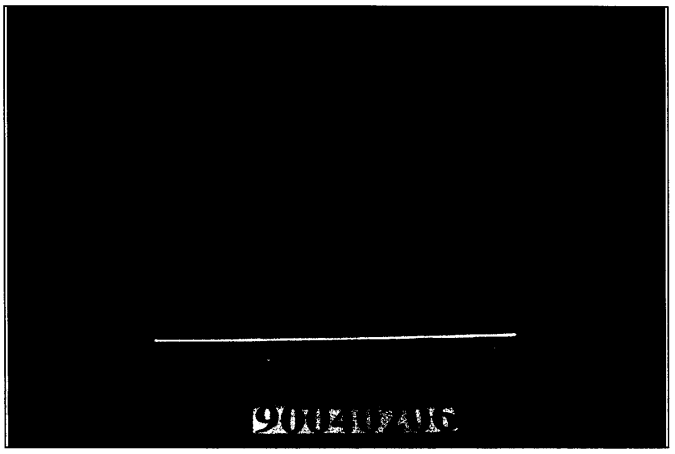

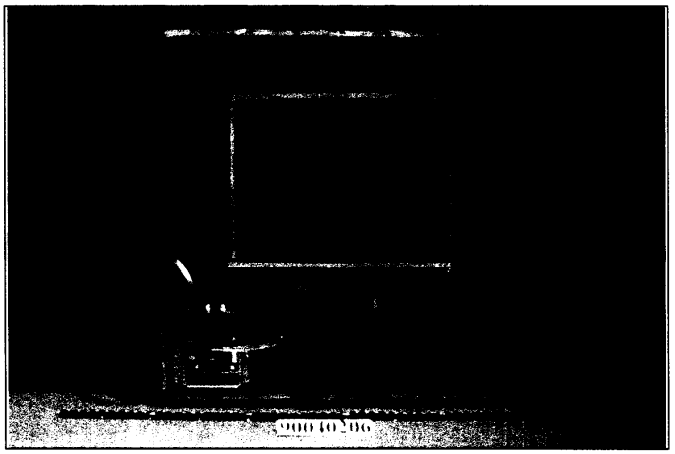


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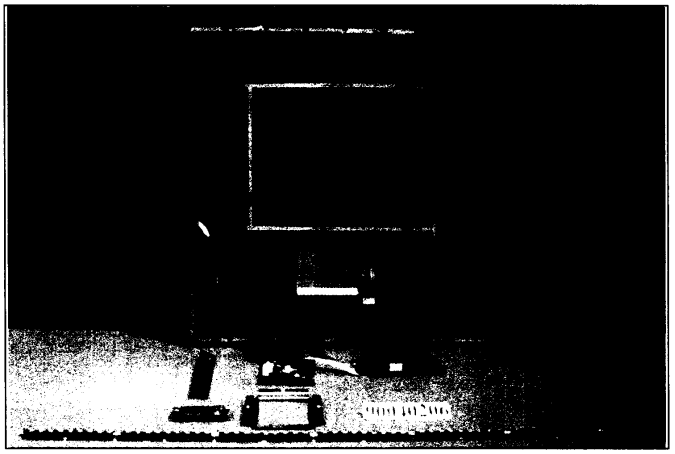

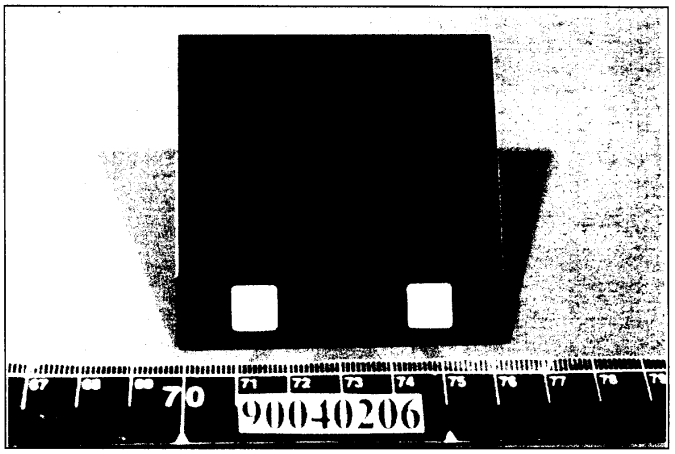
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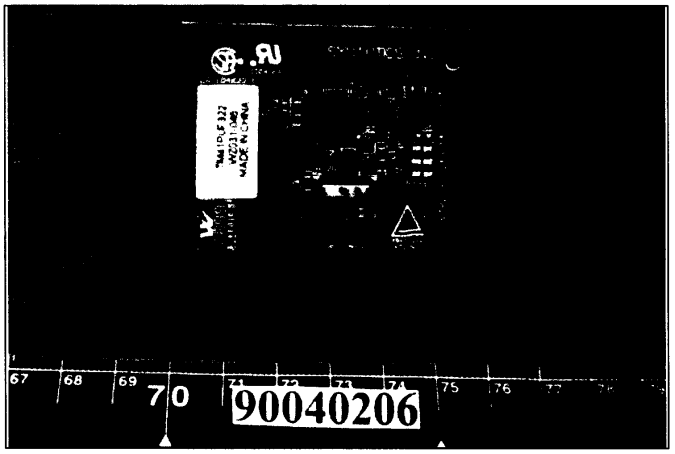
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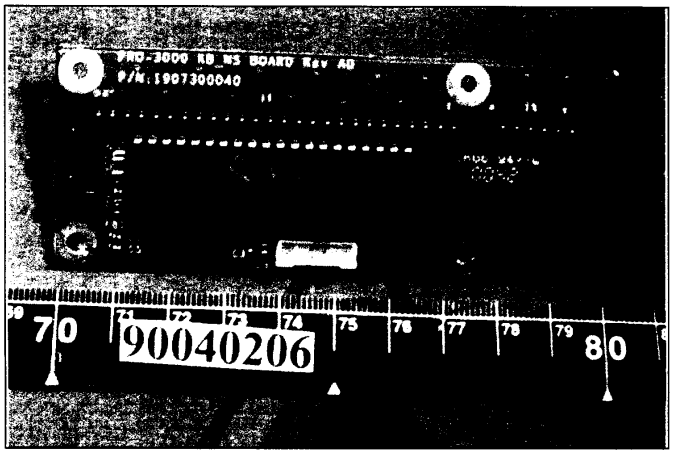
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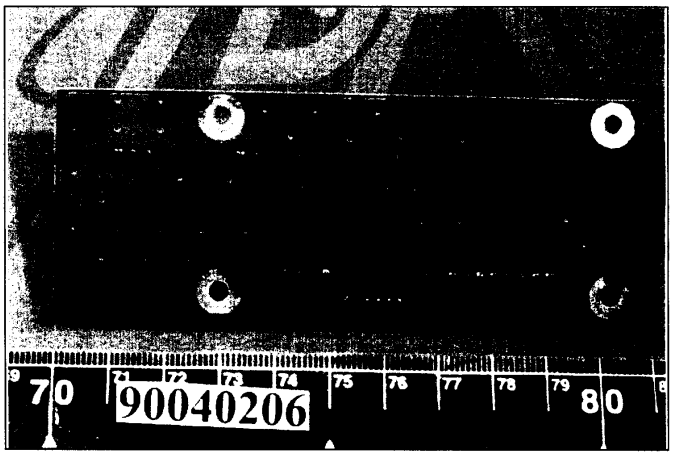
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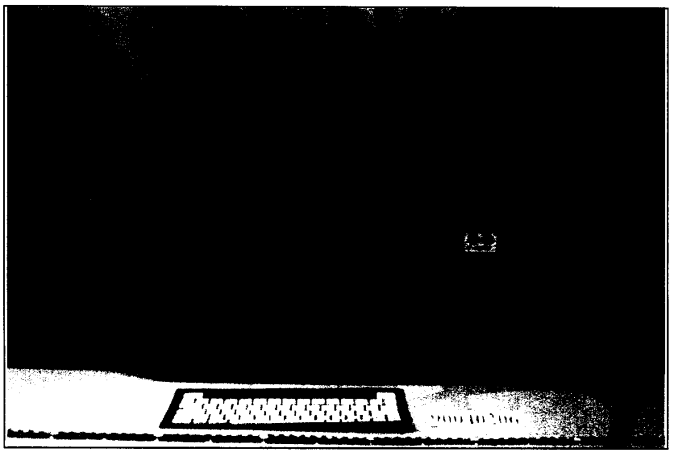
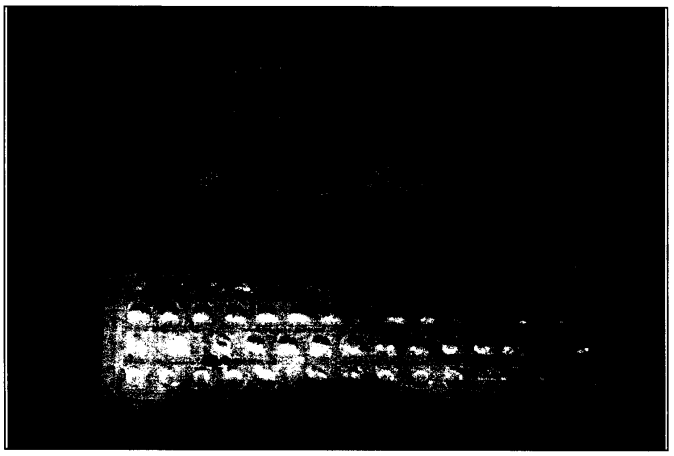
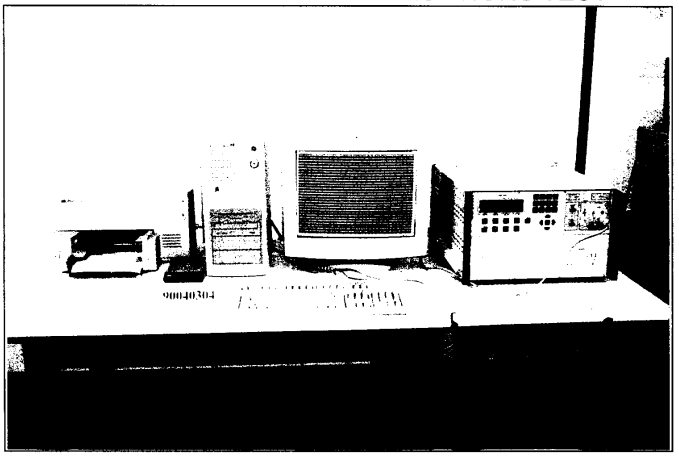


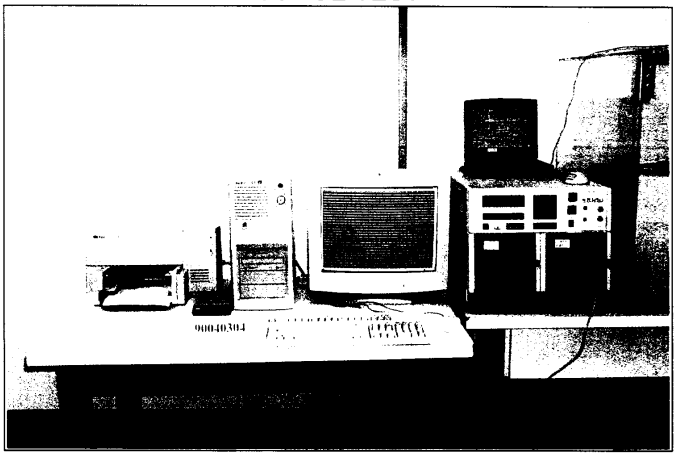


ADT CORP.

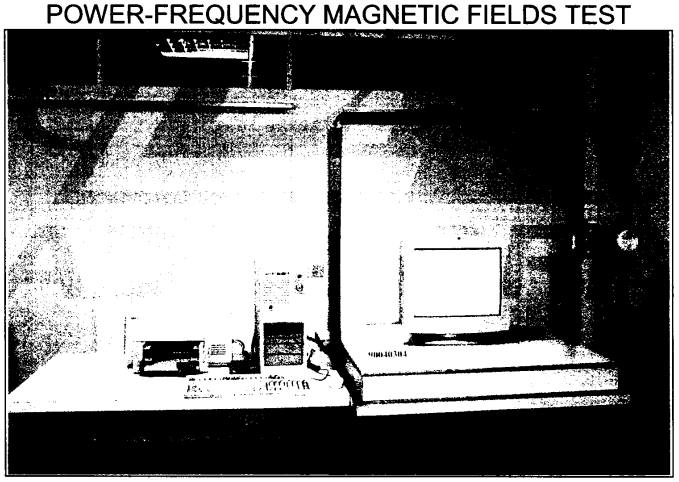
VOLTAGE DIPS AND INTERRUPTIONS TEST



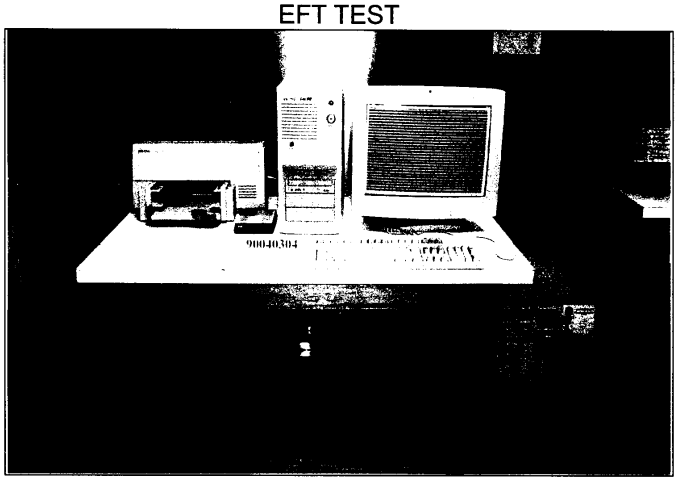
SURGE TEST



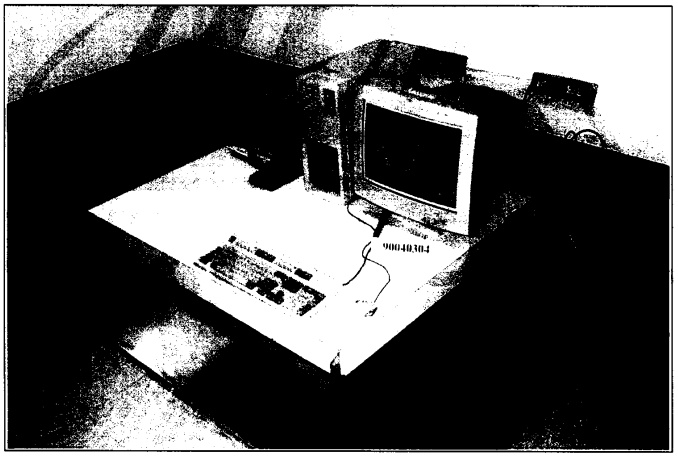
POWER-FREQUENCY MAGNETIC FIELDS TEST



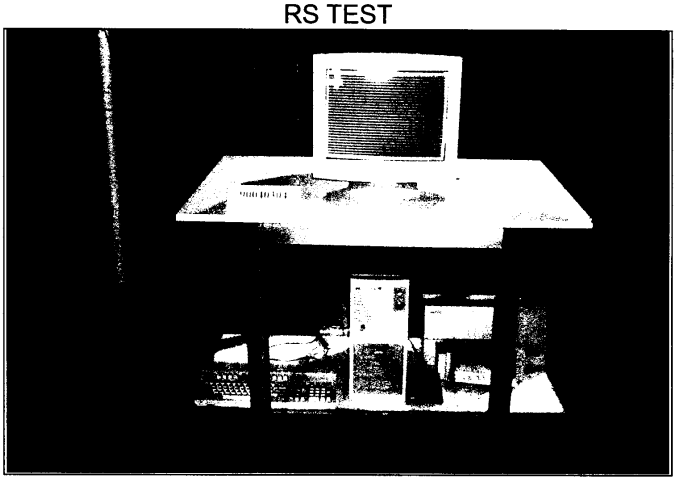
EFT TEST

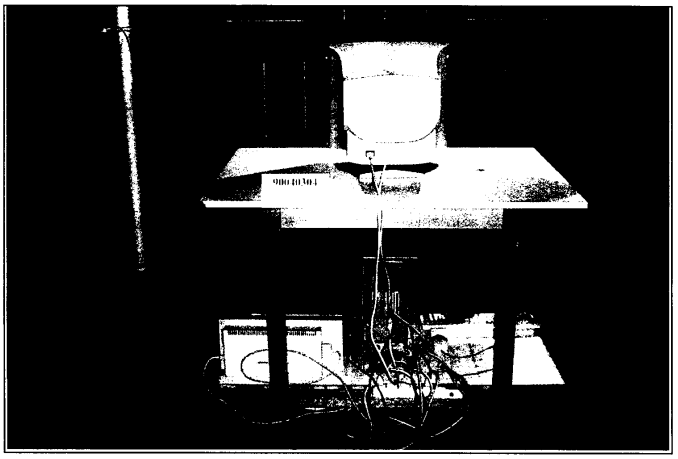


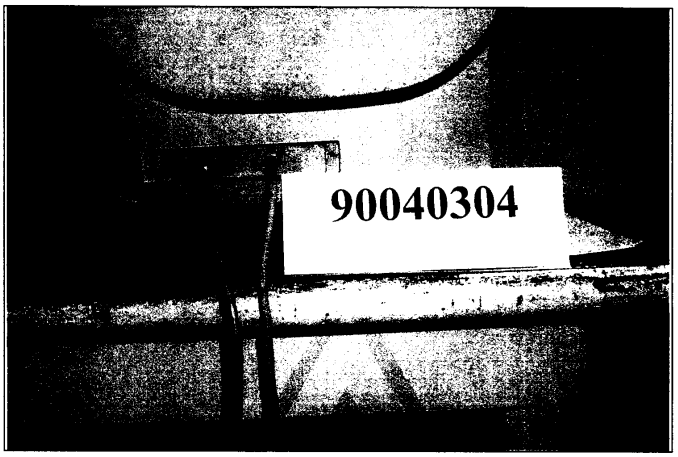
CONDUCTED SUSCEPTIBILITY TEST



RS TEST



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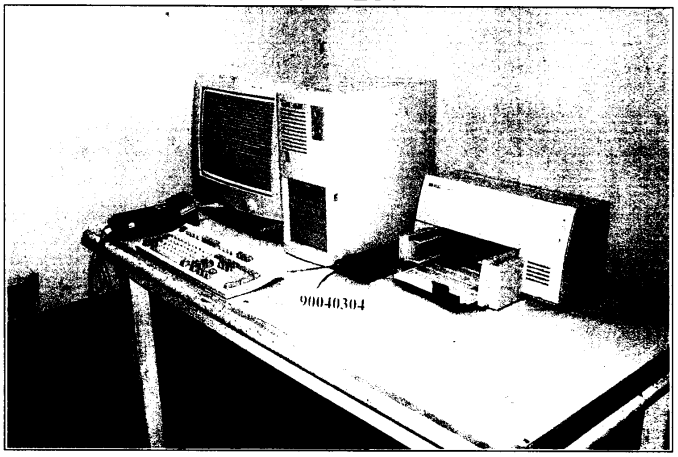
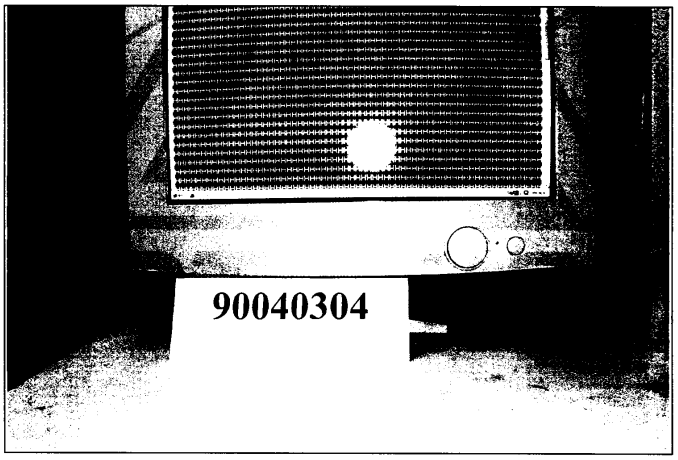
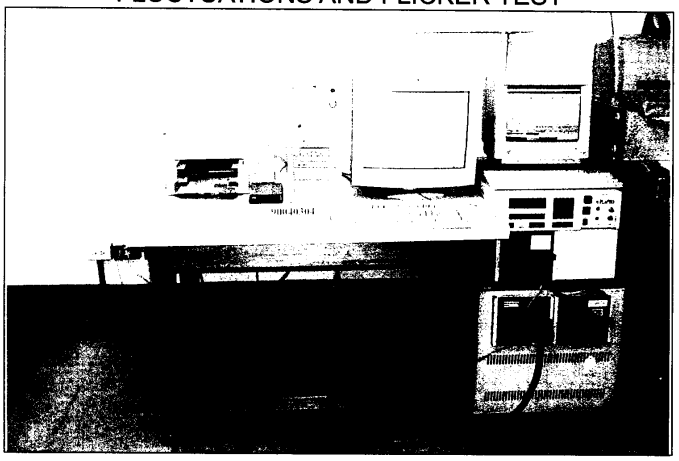
ESD TEST



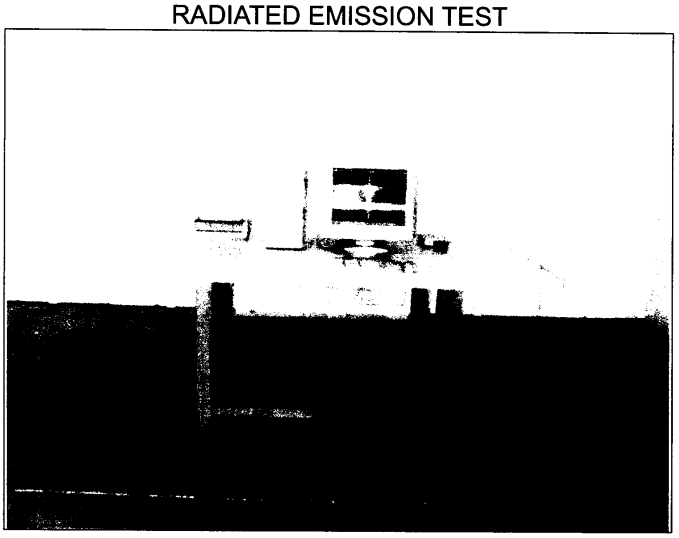


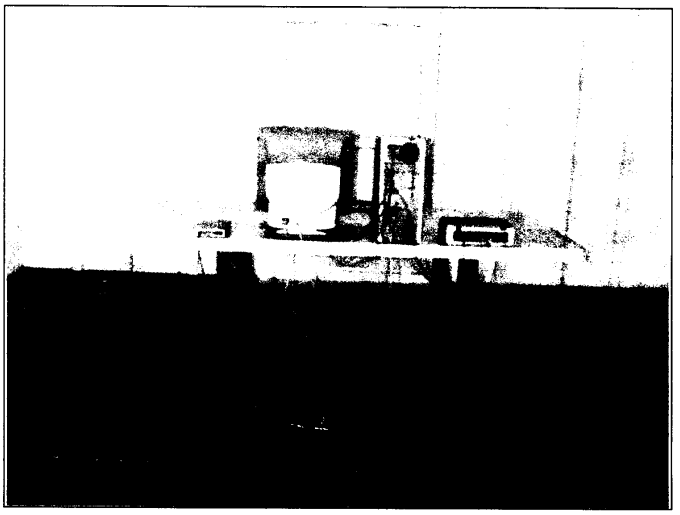
ADT CORP.

HARMONICS EMISSION TEST & VOLTAGE FLUCTUATIONS AND FLICKER TEST



RADIATED EMISSION TEST





6 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST