HomeTek Technology Inc.

ADDRESS: No.85-5, Shir Men Road, Tu Cheng City,
Taipei Hsien, TAIWAN, R. O. C.
PHONE : 886-2-22608375 FAX : 886-2-22748013
E - mail : hometek@ms15.hinet.net

CERTIFICATE OF COMPLIANCE

EUT : Display Panel
MODEL NO. : AMB-2215AT, AMB-255AT
Final Test Date : 12/10/99 REPORT #: EA8K049
APPLICANT : ASTECH TECHNOLOGY CO., LTD.
ADDRESS : 6F-4, No. 351, Chung-Shan Rd.,
Sec. 2, Chung-Ho City, Taipei,
Taiwan, R. O. C.

MEASUREMENT PROCEDURE USED :

☑ EN50081-1 (1992)	☑ EN50082-1 (1997)		
☐ EN50081-2 (1992)	☐ EN50082-2 (1992)		
☐ EN55011 (1994)	☑ EN 61000-4-2	☑ EN 61000-4-5	
☑ EN55022 (1994)	☑ EN 61000-4-3	☑ EN 61000-4-6	
☐ EN61000-3-2	☑ EN 61000-4-4	☑ EN 61000-4-8	
☐ EN61000-3-3		☑ EN 61000-4-11	

WE HEREBY SHOW THAT :

THE MEASUREMENT SHOWN IN THE ATTACHMENT WERE MADE IN ACCORDANCE WITH THE PROCEDURES INDICATED, AND THE ENERGY EMITTED BY THE EQUIPMENT WAS FOUND TO BE WITHIN THE LIMITS APPLICABLE.

THIS TEST RESULTS OF THIS REPORT APPLIES TO ABOVE TESTED SAMPLE ONLY.

THIS TEST REPORT SHALL NOT BE REPRODUCE IN PART WITHOUT WRITTEN APPROVAL OF HOMETEK TECHNOLOGY INC.

PREPARED BY : Joan YANG DATE : 12/14/'99

CHECK BY : SUSAN HUANG DATE : 12/14/'99

APPROVED BY : Grant Huang GRANT HUANG/Manager DATE : 12/15/99

Declaration of Conformity

We(Manufacturer/Importer)

(company name)

(address)

declares under our sole responsibility that the product

Product name : Display Panel

Model No. : AMB-2215AT , AMB-255AT

to which this declaration relates is in conformity with the following standard(s) or other normative document(s)

- ☑ EN50081-1 (1992)
- ☐ EN50081-2 (1992)
  - ☐ EN55011 (1994)
  - ☑ EN55022 (1994)
  - ☐ EN61000-3-2
  - ☐ EN61000-3-3

- ☑ EN50082-1 (1997)
- ☐ EN50082-2 (1992)
  - ☑ EN 61000-4-2
  - ☑ EN 61000-4-3
  - ☑ EN 61000-4-4
  - ☑ EN 61000-4-5
  - ☑ EN 61000-4-6
  - ☑ EN 61000-4-8
  - ☑ EN 61000-4-11

following the provisions of 89/336/EEC Directive

Place: _____ Signature: _____

Date : _____ Full name: _____

CE Title: _____

EA8K049

Declaration of Conformity

We(Manufacturer/Importer)

_____

(company name)

_____

(address)

declares under our sole responsibility that the product

Product name : Display Panel

Model No. : AMB-2215AT , AMB-255AT

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- ☑ EN50081-1 (1992)
- ☐ EN50081-2 (1992)
  - ☐ EN55011 (1994)
  - ☑ EN55022 (1994)
  - ☐ EN61000-3-2
  - ☐ EN61000-3-3
- ☑ EN50082-1 (1997)
- ☐ EN50082-2 (1992)
  - ☑ EN 61000-4-2
  - ☑ EN 61000-4-3
  - ☑ EN 61000-4-4
  - ☑ EN 61000-4-5
  - ☑ EN 61000-4-6
  - ☑ EN 61000-4-8
  - ☑ EN 61000-4-11

following the provisions of 89/336/EEC Directive

Place: _____ Signature: _____

Date : _____ Full name: _____

CE Title: _____

EA8K049

TABLE OF CONTENTS

GENERAL INFORMATION

1	APPLICANT	:	ASTECH TECHNOLOGY CO., LTD.
2	ADDRESS	:	6F-4, No. 351, Chung-Shan Rd., Sec. 2, Chung-Ho City, Taipei, Taiwan, R. O. C.
3	MANUFACTURER	:	ASTECH TECHNOLOGY CO., LTD.
4	ADDRESS	:	6F-4, No. 351, Chung-Shan Rd., Sec. 2, Chung-Ho City, Taipei, Taiwan, R. O. C.

5 DESCRIPTION OF EUT :

EUT	:	Display Panel
Model	:	AMB-2215AT, AMB-255AT
Serial #	:	N/A
Data Cable	:	SHIELDED
Power Cord	:	UN-SHIELDED
Power Supply Type	:	ADAPTOR

5.1 AMB-255AT for OEM Model.

6 FEATURES OF EUT :

6.1 Heavy-duty steel chassis & NEMA 4/12 aluminum alloy front panel

6.2 AMB-255A

- 15" XGA color TFT LCD display
- Resolution: 1024 x 768
- Display Modes: Full Screen in 640 x 80, 800 x 600, 1024 x768 mode
- Horizontal Frequency: 15~60KHz
- Vertical Frequency: 55~89Hz
- On-Working: 36Watts (Max.)
- On-Standby: 4Watts
- Input Voltage: AC 90~264V, 50~60Hz
- Output: DC 12V /3A
- Analog RGB signals directly input with A/D board interface offering multi-scan function
- RS-232, Adapter, Audio, S Video (for PAL and NTSC), RCA Video (for PAL and NTSC), RGB and USB terminals

6.3 Hi-brightness 200cd/m^2

6.4 Panel mount

MODIFICATION LIST

THE FOLLOWING ACCESSORIES WERE ADDED TO THE EUT DURING TESTING :

NO MODIFICATION BY HOMETEK TECHNOLOGY INC.

CONDUCTED POWER LINE TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the conducted test :

Item	Instruments/ Facilities	Specification	Manufacturer	Model #	Date Of Cal.
1	EMI Receiver	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESHS 30	MAR/99
2	LISN	50Ω/50uH/100A 9KHz ~ 30MHz	SCHWARZ BECK	NNLK 8121	MAR/99
3	LISN	9KHz ~ 30MHz	ROHDE & SCHWARZ	ESH3-Z5	MAR/99
4	Cables	10KHz ~ 30MHz		NO: 10	JUL/99

2 TEST PROCEDURE

2.1 The EUT was tested according to **EN55022 Class A**.

2.2 The EUT was placed 0.4 meter from the conducting wall of shielding room and kept at least 0.8 meter from any other grounded conducting surface.

2.3 The frequency range form 0.15 MHz to 30 MHz was investigated.

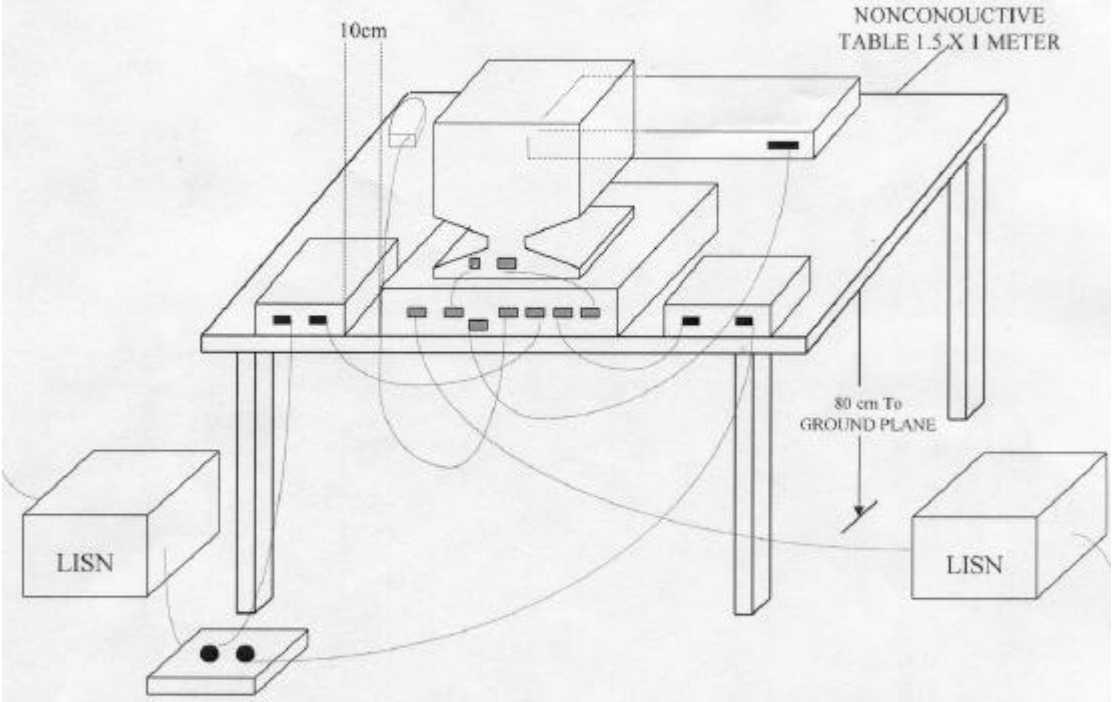
2.4 The LISN used was 50 Ohm / 50 uHenry as specified by **EN55022 Class A**.

2.5 All the support peripherals are connect to the other LISN.

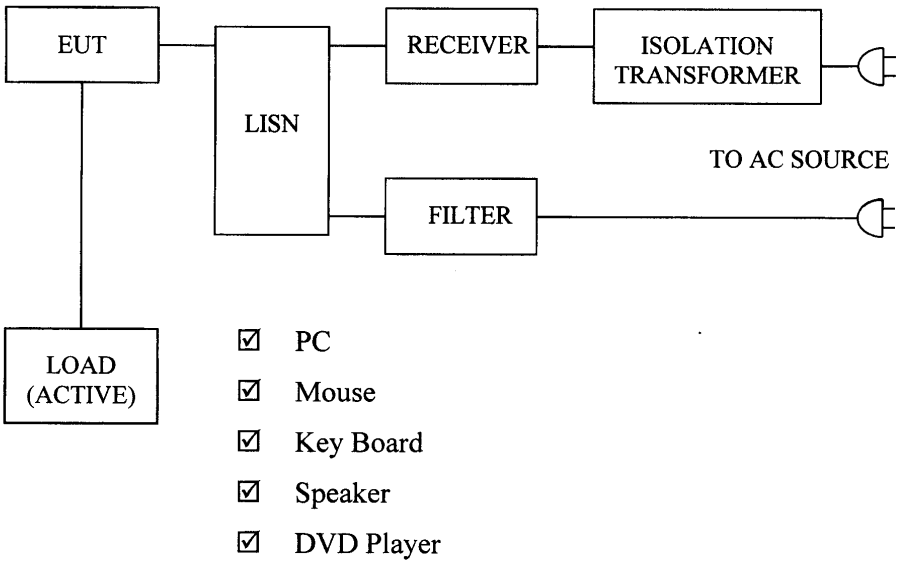
2.6 Cables and peripherals were moved to find the maximum emission levels for each frequency.

3 TEST SETUP

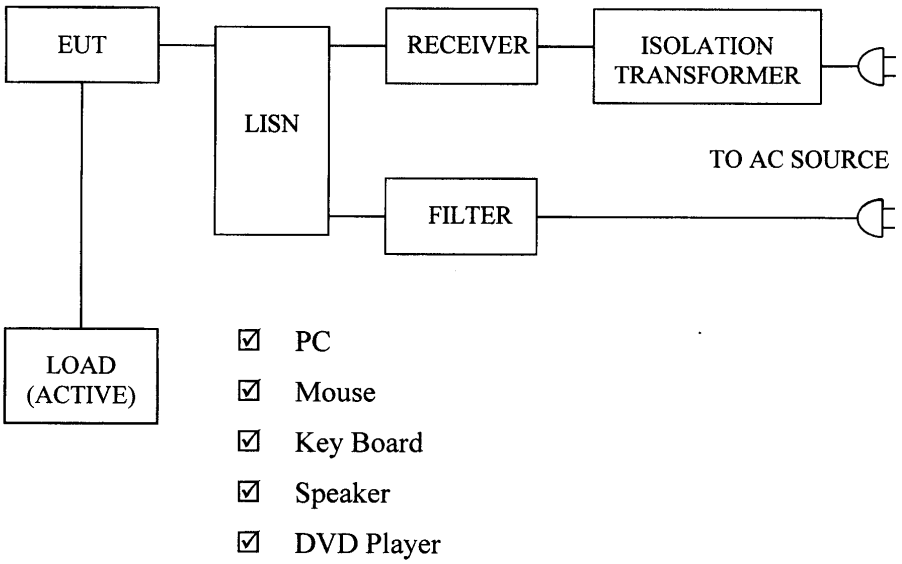
3.1 Typical : Setup Of Conducted Test



3.2 Block Diagram Of Conducted Test



3.2 Block Diagram Of Conducted Test



☑ Mouse (PSII)

Manufacturer	:	HP
Model Number	:	M-S34
Serial Number	:	LZA72270727
FCC ID	:	DZL211029
Data Cable	:	Shielded, 1.8 m, Connected to the PSII port
Power Cord	:	N/A

☑ KeyBoard (PSII)

Manufacturer	:	AST
Model Number	:	SK-2000REW
Serial Number	:	C9612097280
FCC ID	:	GYUR34SK
Data Cable	:	Shielded, 1.5 m, Connected to the PSII port
Power Cord	:	N/A

☑ Speaker

Manufacturer	:	ARA
Model Number	:	AP-317
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Shielded
Power Cord	:	Un-Shielded, 1.3 m

☑ DVD Player

Manufacturer	:	ESONSIC
Model Number	:	DV-3306
Serial Number	:	N/A
FCC ID	:	N/A
Data Cable	:	Un-Shielded, 1.8 m,
Power Cord	:	N/A

4.3 REMARK :

5 EUT OPERATING CONDITION

5.1 Operating condition is according to **EN55022 Class A**.

5.2 The oscillator frequency of the EUT were 15KHz~60KHz .

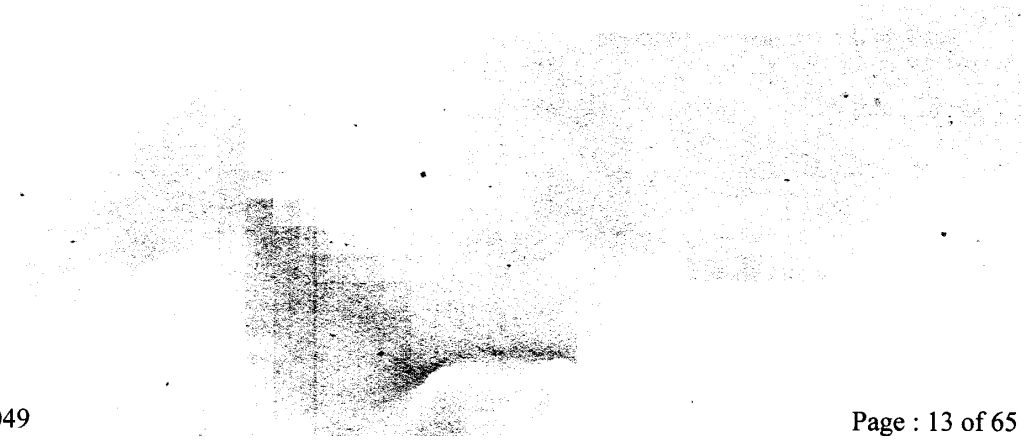
5.3 Turn on the power of all equipments.

5.4 Test program sent "H" pattern to peripherals as following :

5.4.1 Monitor

6 LIMIT OF CONDUCTED POWER LINE EMISSION CLASS A :

Frequency Range	Quasi Peak	Average
0.15 ~ 0.5 MHz	79 dBuV	66 dBuV
0.5 ~ 5 MHz	73 dBuV	60 dBuV
5 ~ 30 MHz	73 dBuV	60 dBuV



7 RESULT OF CONDUCTED POWER LINE TEST (1)

7.1 The frequency range from 0.15 MHz to 30 MHz was investigated. All readings are quasi-peak values and average.

7.2 IF bandwidth : 9 kHz, Meas Time : 1 sec.

7.3 Temperature : 27 ℃, Humidity : 75 % RH.

7.4 Deviations from the specifications : None

7.5 Quasi-Peak :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.150	56.79	57.05	79
0.274	44.09	44.32	79
1.515	24.69	23.19	73
4.805	27.44	28.27	73
11.420	28.86	25.77	73
28.240	22.58	21.58	73

7.6 Average :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.150	41.66	39.63	66
0.304	33.48	33.12	66
1.515	23.87	22.24	60
4.840	23.22	21.10	60
11.420	23.97	21.70	60
28.240	17.38	16.22	60

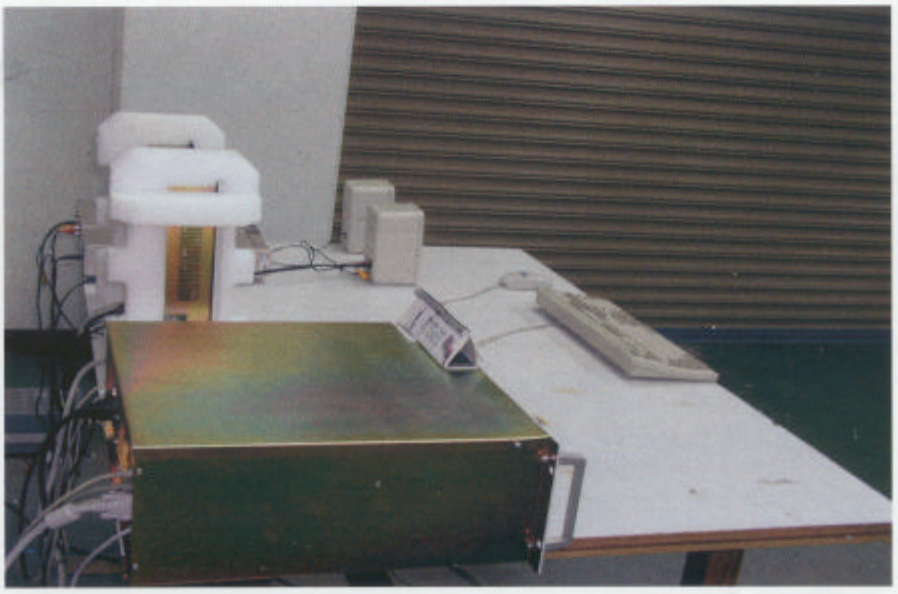
REMARK :

1. Model : AMB-2215AT
2. Measuring mode : 1024 x 768(60KHz, 75Hz)
3. Uncertainty in conduction emission measured : $< \pm 2.0$dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

8 PHOTO OF CONDUCTED POWER LINE TEST

Model : AMB-2215AT, Test Mode : 1024 x 768

Front View



Rear View

9 RESULT OF CONDUCTED POWER LINE TEST (2)

9.1 The frequency range from 0.15 MHz to 30 MHz was investigated. All readings are quasi-peak values and average.

9.2 IF bandwidth : 9 kHz, Meas Time : 1 sec.

9.3 Temperature : 27 ℃, Humidity : 75 % RH.

9.4 Deviations from the specifications : None

9.5 Quasi-Peak :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.152	56.18	56.34	79
0.303	50.25	42.96	79
1.095	19.25	19.93	73
4.210	26.60	34.01	73
11.480	28.23	25.33	73
22.990	20.81	21.60	73

9.6 Average :

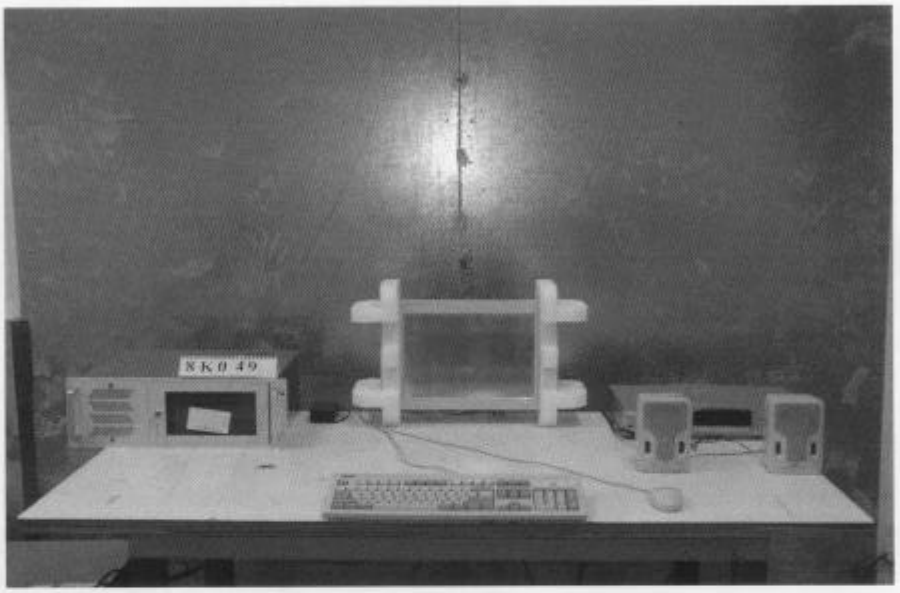
Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.168	51.07	38.93	66
0.303	49.90	36.50	66
1.480	16.95	23.90	60
4.210	23.81	20.93	60
11.000	24.21	20.48	60
22.850	15.76	16.94	60

REMARK :

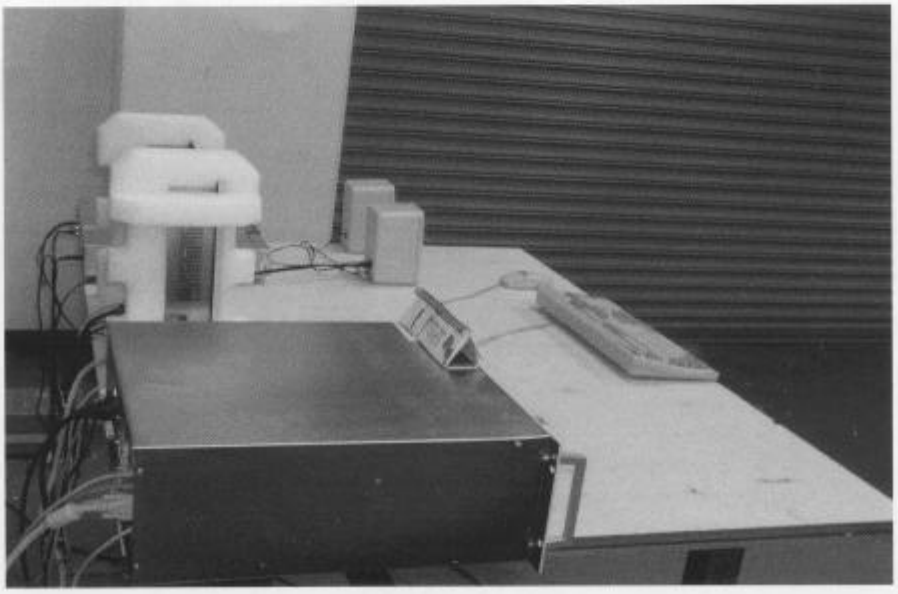
1. Model : AMB-2215AT
2. Measuring mode : 800 x 600(48KHz, 60Hz)
3. Uncertainty in conduction emission measured : < ± 2.0dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

10 PHOTO OF CONDUCTED POWER LINE TEST

Model : AMB-2215AT, Test Mode : 800 x 600



Front View



Rear View

11 RESULT OF CONDUCTED POWER LINE TEST (3)

11.1 The frequency range from 0.15 MHz to 30 MHz was investigated. All readings are quasi-peak values and average.

11.2 IF bandwidth : 9 kHz, Meas Time : 1 sec.

11.3 Temperature : 27 ℃, Humidity : 75 % RH.

11.4 Deviations from the specifications : None

11.5 Quasi-Peak :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.150	57.64	57.48	79
0.274	44.99	44.03	79
1.550	25.10	23.17	73
4.910	25.11	27.72	73
10.220	24.75	25.11	73
27.750	21.21	21.98	73

11.6 Average :

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Limit (dBuV)
0.168	44.49	40.98	66
0.370	36.41	37.57	66
1.550	24.39	22.25	60
4.910	22.00	19.96	60
10.520	21.70	21.23	60
23.620	15.48	16.98	60

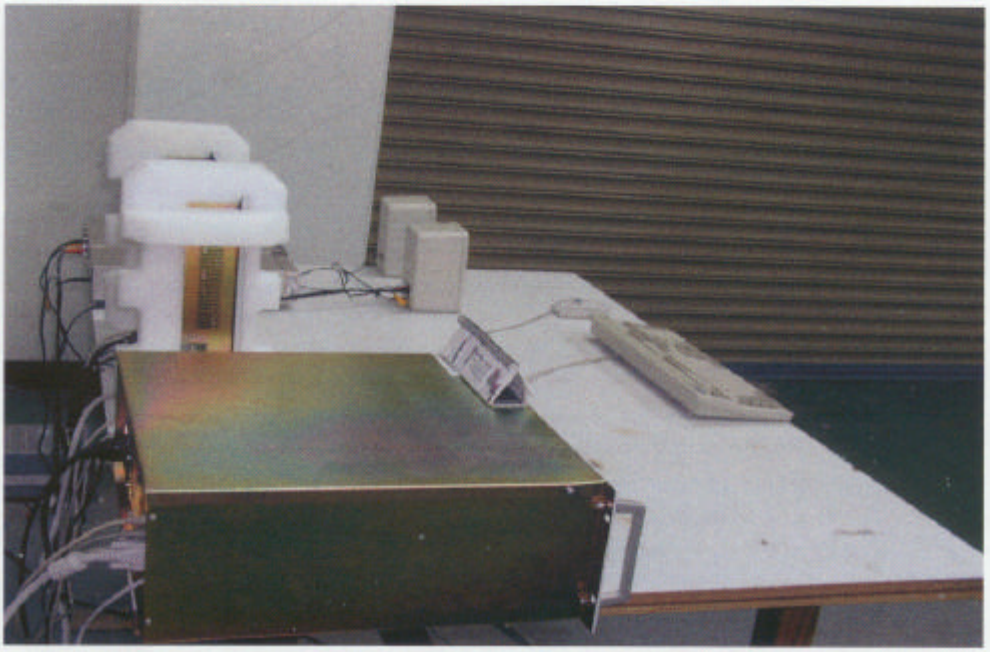
REMARK :

1. Model : AMB-2215AT
2. Measuring mode : 640 x 480(31.5KHz, 70Hz)
3. Uncertainty in conduction emission measured : < ± 2.0dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

12 PHOTO OF CONDUCTED POWER LINE TEST

Model : AMB-2215AT, Test Mode : 640 x 480

Front View



Rear View

RADIATED EMISSION TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the radiated emission test :

Item	Instruments /facilities	Specification	Manufacturer	Model # / S/N#	Location	Date of Cal.
1	OPEN AREA TEST SITE	☐ OATS 1 ☑ OATS 2				NOV/99 JUN/99
2	EMI TEST RECEIVER	20MHz ~ 5GHz	ROHDE & SCHWARZ	ESBI 845636/007	Open Site I	SEP/99
3	PRE-AMPLIFIER	0.1MHz ~ 1.3 GHz	HP	8447D 1937A02095	Open Site II	MAY/99
4	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	ESMI 845442/006	Open Site II	APR/99
5	PRE-AMPLIFIER	20MHz ~ 7GHz	ROHDE & SCHWARZ	ESMI-Z7 664126/008	Open Site I	SEP/99
6	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2614	Open Site II	JUN/99
7	ANTENNA (BI-LOG)	25MHz ~ 2GHz	SCHAFFNER	CBL6112B S/N : 2611	Open Site I	JUN/99
8	CABLES	30MHz ~ 1GHz		No. 2, No. 4 No. 1, No. 3	OATS 1 OATS 2	NOV/99 JUN/99
9	ANTENNA (DIPOLE)	30 ~ 300MHz	ROHDE & SCHWARZ	HZ-12 842899/08		JUL/99
10	ANTENNA (DIPOLE)	300 ~ 1000MHz	ROHDE & SCHWARZ	HZ-13 842007/0004		JUL/99
11	EMIVM	30 ~ 1000MHz	AUDIX	A582445 A582443	OATS 1 OATS 2	N/A

Note : 1. Items 1 ~ 8 upon which need to calibrated are with period of 1 year, except item 9-10.

2. Items 4 (for Site 2) is used for the final measurement.

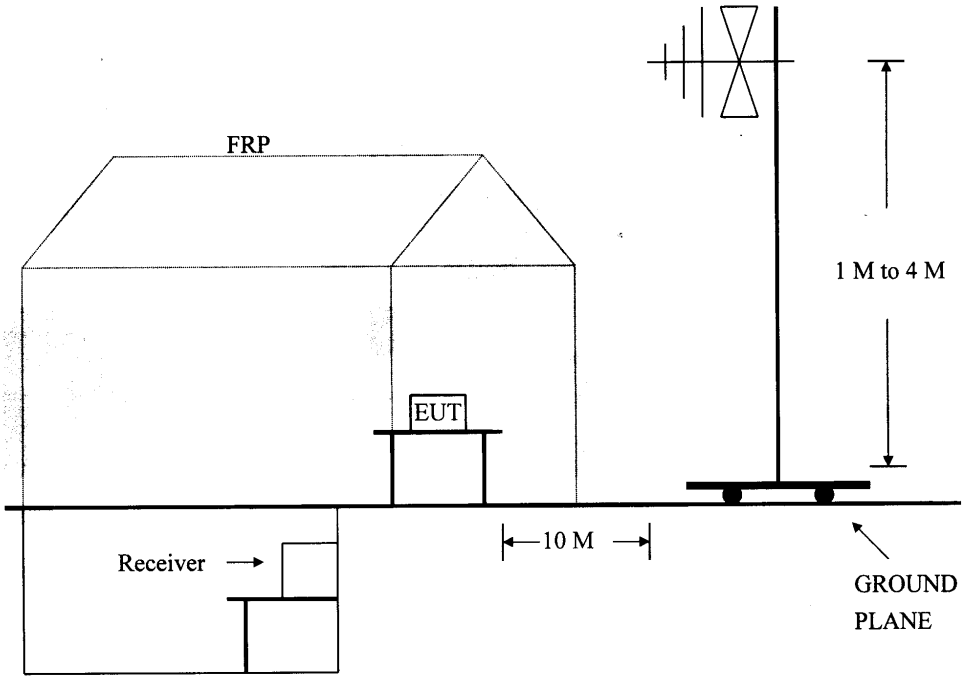
2 TEST PROCEDURE

2.1 The EUT was test according to **EN55022 Class A.**

2.2 The radiated test was performed at HomeTek Lab's Open Site II.

2.3 The frequency range from 30 MHz to 1 GHz, the measurement were made at 10 meters, with a BI-log antenna.

3 TEST SETUP



4 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

5 EUT OPERATING CONDITION

5.1 Same as "Conducted Power Line test", section 5

5.2 The radiated emission in the frequency range from 30 MHz - 1000 MHz was test in a horizontal and vertical polarization at HomeTek Lab's open site II.

6 LIMIT OF RADIATED EMISSION CLASSA :

Frequency (MHz)	Measurement Distance	Limit (dBuV/m)
30 - 230	10 (M)	40
230 - 1000	10 (M)	47

7 RESULT OF RADIATED EMISSION TEST (1)

7.1 The frequency range from 30 MHz to 1 GHz was investigated. All readings are quasi-peak values with resolution bandwidth of 120 kHz.

7.2 The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at 10 meters.

7.3 The measurements were made at 10 meters of HomeTek Lab's open site II.

7.4 Temperature : 27 ℃, Humidity : 75 % RH.

7.5 Radiated Emission data : **Horizontal**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
43.35	20.53	10.20	0.81	31.54	40
75.82	24.77	5.90	0.94	31.61	40
120.02	22.52	11.60	1.27	35.39	40
135.42	24.30	10.90	1.35	36.55	40
173.32	26.29	8.80	1.55	36.64	40
205.80	26.96	8.40	1.60	36.96	40
243.74	26.42	11.15	1.78	39.35	47
335.76	19.95	13.82	2.08	35.85	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 335.76 MHz .
- Corrected Reading : (19.95) + (13.82) + (2.08) = 35.85 . (Emission Level)

7.6 Radiated Emission data : **Vertical**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
48.74	25.00	8.30	0.84	34.14	40
128.86	18.37	11.47	1.35	31.19	40
151.62	23.28	9.70	1.40	34.38	40
243.74	28.56	11.15	1.78	41.49	47
276.26	25.51	12.40	1.90	39.81	47
334.08	26.22	13.78	2.13	42.13	47
401.18	22.18	16.00	2.31	40.49	47
510.00	24.67	17.22	2.56	44.45	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 510.00 MHz .
- Corrected Reading : (24.67) + (17.22) + (2.56) = 44.45 . (Emission Level)

REMARK :

1. Model : AMB-2215AT
2. Measuring mode : 1024 x 768(60KHz, 75Hz)
3. Uncertainty in radiated emission measured : $< \pm 4.0$dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

8 PHOTO OF RADIATED EMISSION TEST

Model : AMB-2215AT, Test Mode : 1024 x 768

Front View

Rear View

9 RESULT OF RADIATED EMISSION TEST (2)

9.1 The frequency range from 30 MHz to 1 GHz was investigated. All readings are quasi-peak values with resolution bandwidth of 120 kHz.

9.2 The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at 10 meters.

9.3 The measurements were made at 10 meters of HomeTek Lab's open site II.

9.4 Temperature : 27 ℃, Humidity : 75 % RH.

9.5 Radiated Emission data : **Horizontal**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
66.00	27.49	4.90	1.04	33.43	40
135.00	21.83	10.90	1.35	34.08	40
155.28	19.67	9.40	1.40	30.47	40
215.99	24.29	8.10	1.68	34.07	40
227.49	24.41	9.13	1.73	35.27	40
264.00	21.85	12.60	1.83	36.28	47
296.99	22.18	12.90	1.98	37.06	47
377.99	18.68	14.76	2.18	35.62	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 377.99 MHz .
- Corrected Reading : (18.68) + (14.76) + (2.18) = 35.62 . (Emission Level)

9.6 Radiated Emission data : **Vertical**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
66.00	28.50	4.90	1.04	34.44	40
134.99	16.70	10.90	1.35	28.95	40
168.76	24.97	9.20	1.55	35.72	40
215.99	27.12	8.10	1.68	36.90	40
227.48	17.96	9.13	1.73	28.82	40
243.00	22.82	11.15	1.78	35.75	47
297.01	23.05	12.90	1.98	37.93	47
330.00	21.83	13.70	2.08	37.61	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 330.00 MHz .
- Corrected Reading : (21.83) + (13.7) + (2.08) = 37.61 . (Emission Level)

REMARK :

1. Model : AMB-2215AT
2. Measuring mode : 800 x 600(48KHz, 60Hz)
3. Uncertainty in radiated emission measured : $< \pm 4.0$dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

10 PHOTO OF RADIATED EMISSION TEST

Model : AMB-2215AT, Test Mode : 800 x 600

Front View

Rear View

11 RESULT OF RADIATED EMISSION TEST (3)

11.1 The frequency range from 30 MHz to 1 GHz was investigated. All readings are quasi-peak values with resolution bandwidth of 120 kHz.

11.2 The measurements above 1 GHz with a resolution bandwidth of 1 MHz are peak reading at 10 meters.

11.3 The measurements were made at 10 meters of HomeTek Lab's open site II.

11.4 Temperature : 27 ℃, Humidity : 75 % RH.

11.5 Radiated Emission data : **Horizontal**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
59.98	21.07	5.00	0.91	26.98	40
140.15	23.51	10.70	1.43	35.64	40
152.36	17.61	9.70	1.40	28.71	40
172.65	25.23	9.00	1.50	35.73	40
242.73	20.71	11.15	1.78	33.64	47
344.10	14.18	14.02	2.16	30.36	47
455.02	11.52	16.52	2.46	30.50	47
509.98	18.12	17.22	2.56	37.90	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 509.98 MHz .
- Corrected Reading : (18.12) + (17.22) + (2.56) = 37.90 . (Emission Level)

11.6 Radiated Emission data : **Vertical**

Frequency (MHz)	Reading Level (dBuV)	ANT factor (dB/m)	Cable Loss (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)
60.00	26.40	5.00	0.91	32.31	40
130.02	15.65	11.40	1.32	28.37	40
135.07	20.05	10.90	1.35	32.30	40
172.67	22.56	9.00	1.50	33.06	40
233.88	29.55	9.60	1.75	40.90	47
337.78	17.29	13.86	2.08	33.23	47
455.00	16.57	16.52	2.46	35.55	47
509.99	20.16	17.22	2.56	39.94	47

- Emission Level = Reading Level + ANT Factor + Cable Loss.
- Sample Calculation for 509.99 MHz .
- Corrected Reading : (20.16) + (17.22) + (2.56) = 39.94 . (Emission Level)

REMARK :

1. Model : AMB-2215AT
2. Measuring mode : 640 x 480(31.5KHz, 70Hz)
3. Uncertainty in radiated emission measured : < ± 4.0dB.
4. " * ", means this data is worse case emission level.
5. Result : **PASSED**

12 PHOTO OF RADIATED EMISSION TEST

Model : AMB-2215AT, Test Mode : 640 x 480

Front View

Rear View

ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)

1 TEST INSTRUMENTS & FACILITIES

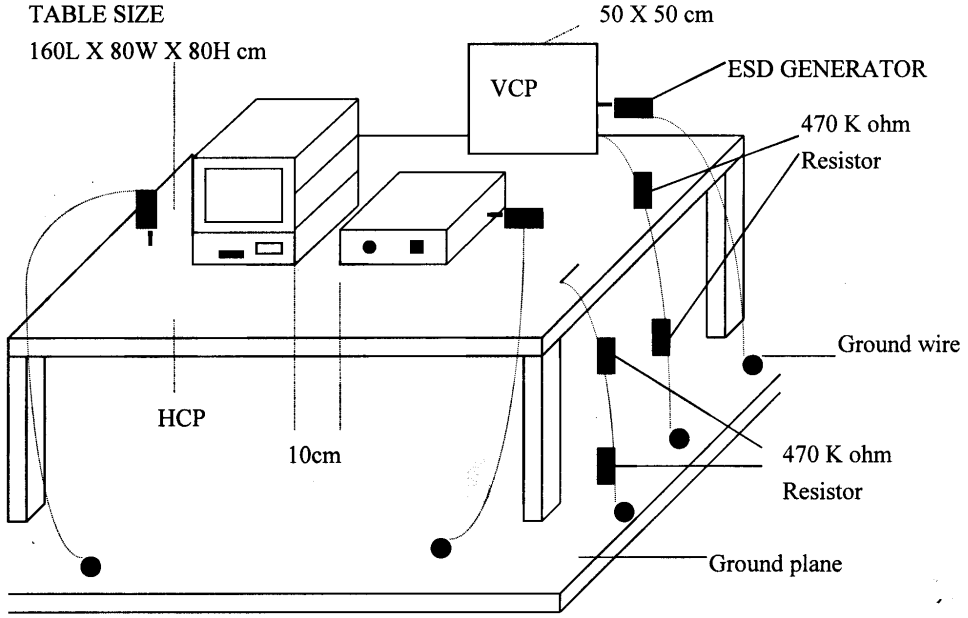
Instruments/ Facilities	Manufacturer	Model # · Serial #	Data Of Cal.
ESD TESTER	NOISEKEN	ESS-100L	SEP/99
VCP	HOMETEK	--	--

2 TEST PROCEDURE

According to **EN 61000-4-2**

According to **EN 50082-1 (1997)**

3 TEST SETUP



4 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

5 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

6 TEST CONDITION

6.1 Test Level :

(A) ± 8KV for air discharge.

(B) ± 4KV for contact discharge.

6.2 Number of test : 10 Discharge / Level

6.3 Time between test : 1 sec.

6.4 Temperature : 27 ℃

6.5 Humidity : 58 % RH.

7 PERFORMANCE CRITERIA

A. Normal performance within the specification.

B. Temporary degradation or loss function or performance which is self-recoverable.

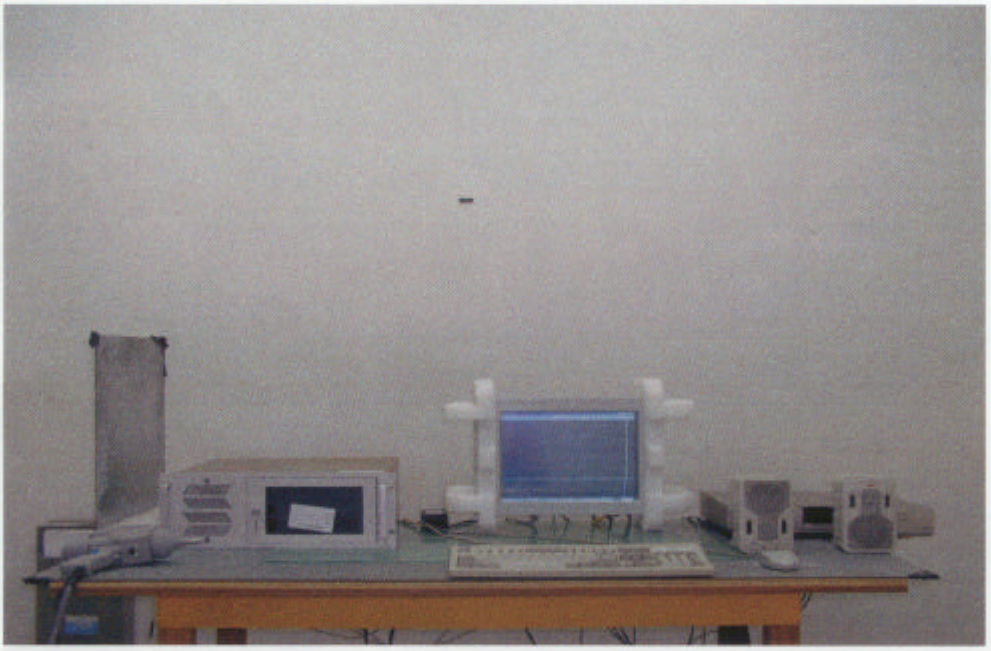
C. Temporary degradation or loss function or performance which requires operator intervention system reset.

D. Degradation or loss function which is not recoverable due to damage of EUT or software, or loss of data.

8 TEST RESULT

Test Point	Air Discharge	Contact Discharge	Performance Criteria	Result
HCP	± 8KV	± 4KV	B	PASSED
VCP	± 8KV	± 4KV	B	PASSED
CASE	± 8KV	± 4KV	B	PASSED
I/O PORTS	± 8KV	± 4KV	B	PASSED
LED	± 8KV	± 4KV	B	PASSED
SCREWS	± 8KV	± 4KV	B	PASSED
BUTTON	± 8KV	± 4KV	B	PASSED
Power Switch	± 8KV	± 4KV	B	PASSED
AC SOCKET	± 8KV	± 4KV	B	PASSED

9 PHOTO OF ELECTROSTATIC DISCHARGE IMMUNITY TEST (ESD)
Model : AMB-2215AT, Test Mode : 1024 x 768



RADIO FREQUENCY ELECTROMAGNETIC FILE IMMUNITY TEST

(RS)

1 TEST INSTRUMENTS & FACILITIES

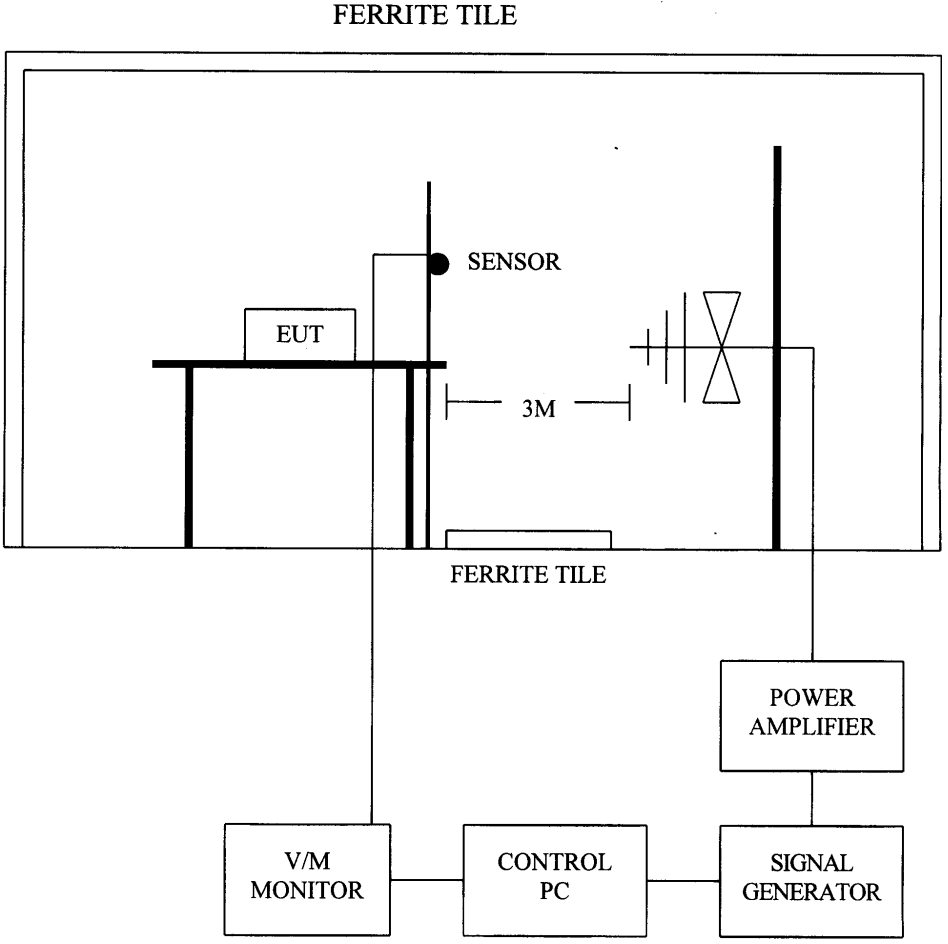
Instruments Facilities	Manufacturer	Model # Serial #	Data Of Cal.
SIGNAL GENERATOR	ROHDE & SCHWARZ	SMY02	FEB/99
AMPLIFIER	AMPLIFIER RESEACH	100W1000M1A	MAR/99
FIELD SENSOR	AMPLIFIER RESEACH	FP2000	MAR/99
FIELD MONITOR	AMPLIFIER RESEACH	FM2000	MAR/99
ANTENNA (BI-LOG)	ARA	LPB2520	MAR/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According to **EN 61000-4-3**

According to **EN 50082-1 (1997)**

3 TEST SETUP



3.1 Chamber Size :

8M x 4M x 3M

4 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

5 OPERATION CONDITION OF EUT

Same as "Conducted Power Line test", section 5

6 TEST CONDITION

6.1 Frequency Range : 80 MHz ~ 1000 MHz

6.2 Filed Strength : 3 V / M

6.3 Frequency Step : 1 %

6.4 Antenna Polarity : HORIZONTAL & VERTICAL

6.5 The four sides of EUT are tested
(FRONT, REAR, RIGHT, LEFT)

6.6 Temperature : 27 ℃

6.7 Humidity : 75 % RH

7 PERFORMANCE CRITERIA

A. Normal performance within the specification.

B. Temporary degradation or loss function or performance which is self-recoverable.

C. Temporary degradation or loss function or performance which requires operator intervention system reset.

D. Degradation or loss function which is not recoverable due to damage of EUT or software, or loss of data.

8 TEST RESULT

ANT / SIDE	HORIZONTAL	VERTICAL	RESULT
FRONT	A	A	PASSED
REAR	A	A	PASSED
RIGHT	A	A	PASSED
LEFT	A	A	PASSED

9 PHOTO OF RADIO FREQUENCY ELECTROMAGNETIC FILE IMMUNITY TEST (RS)

Model : AMB-2215AT, Test Mode : 1024 x 768

Front View

Rear View

ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT)

1 TEST INSTRUMENTS & FACILITIES

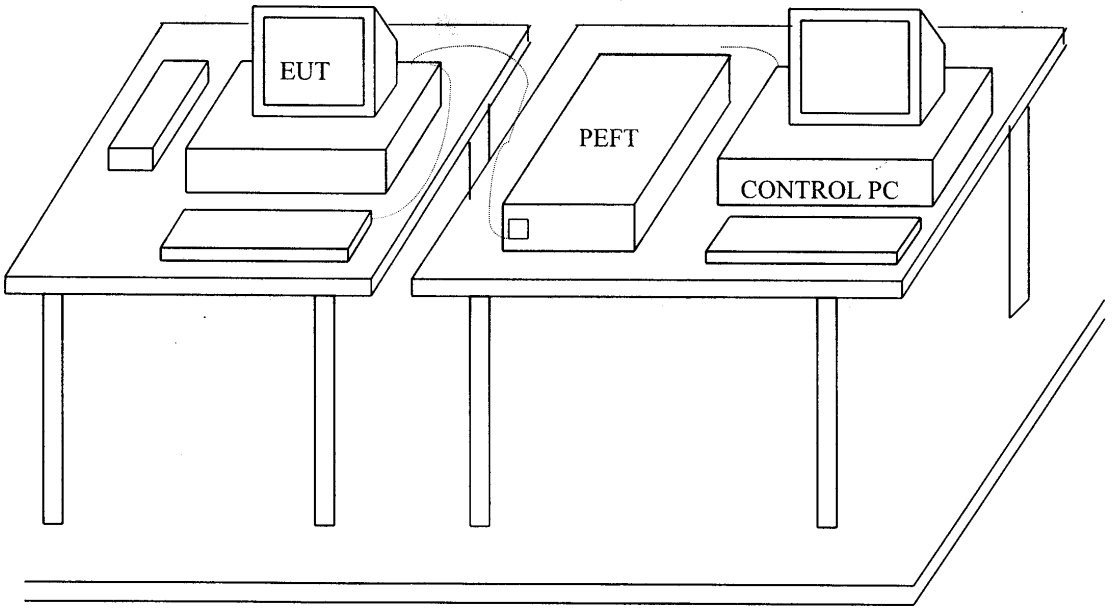
Instruments/ Facilities	Manufacturer	Model # . Serial #	Data Of Cal.
BURST-TESTER	HAEFELY	PEFT/JUNIOR	MAR/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According to **EN 61000-4-4**

According to **EN 50082-1 (1997)**

3 TEST SETUP



GROUND PLANE

4 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

5 OPERATION CONDITION OF EUT

Same as "Conducted Power Line test", section 5

6 TEST CONDITION

6.1 Pulse Rise time & Duration : 5 nS / 50 nS

6.2 Pulse Repetition : 5 kHz

6.3 Polarity : POSITIVE / NEGATIVE

6.4 Test Voltage : ± 0.5KV, ± 1KV

6.5 Coupling of power line :
L, N, PE, L+N, L+PE, N+PE, L+N+PE

6.6 Temperature : 27 ℃

6.7 Humidity : 75 % RH

7 PERFORMANCE CRITERIA

A. Normal performance within the specification.

B. Temporary degradation or loss function or performance which is self-recoverable.

C. Temporary degradation or loss function or performance which requires operator intervention system reset.

D. Degradation or loss function which is not recoverable due to damage of EUT or software, or loss of data.

8 TEST RESULT

TEST VOLTAGE	L	N	PE	L+N	L+PE	N+PE	L+N+PE
± 0.5KV	B	B	B	B	B	B	B
± 1KV	B	B	B	B	B	B	B

8.1 Model : AMB-2215AT

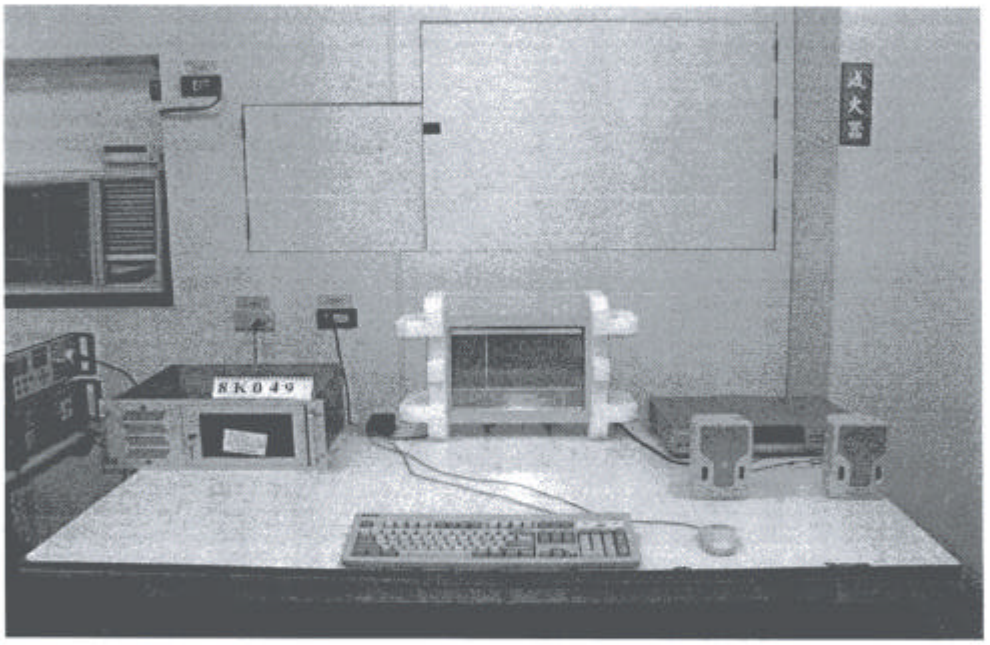
8.2 Test Mode : 1024 x 768

8.3 Final Result : PASSED

8.4 Remark :

9 PHOTO OF ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST (EFT)

Model : AMB-2215AT, Test Mode : 1024 x 768



SURGE IMMUNITY TEST

1 TEST INSTRUMENTS & FACILITIES

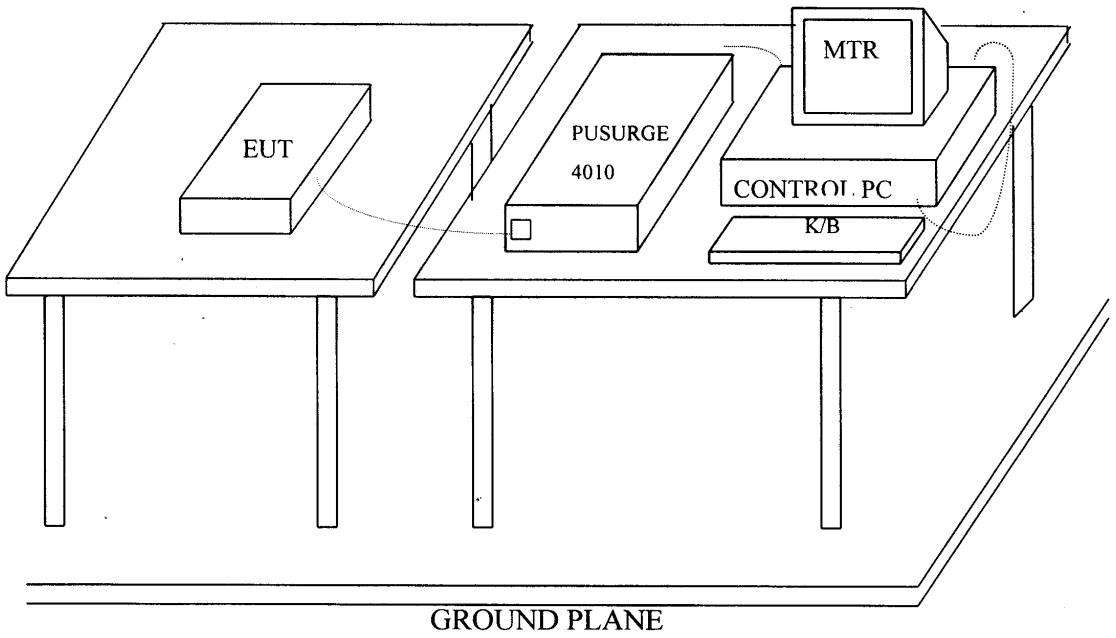
Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
SURGER-TESTER	HAEFELY	PUSURGE 4010 58333438	FEB/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **EN 61000-4-5**

According To **EN 50082-1 (1997)**

3 TEST SETUP



4 TEST LEVELS

☑ Input and Output AC Power Ports.
☐ DC Input and DC Output Power Ports.

Environmental Phenomena	Test Specification		Units	Performance Criteria
	AC	DC		
Surges	1.2 / 50 (8/20)		Tr /Th us	
Line to Line	± 1	± 0.5	KV (Charge Voltage)	B
Line to Earth	± 2	± 0.5	KV (Charge Voltage)	B

5 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

6 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

7 CONDITIONS DURING TESTING

7.1 Coupling of power line :

(A) Line to Line ± 1KV (AC) or ± 0.5KV (DC)

(B) Line to Earth ± 2KV (AC) or ± 0.5KV (DC)

7.2 Polarity : POSITIVE / NEGATIVE

7.3 Phase shifting in a range between 0° to 360°

7.4 Repetion rate at least 1 per min

7.5 Temperature : 22 ℃ (15℃ ~ 35℃)

Humidity : 70 % RH.(10 % ~ 75%)

8 PERFORMANCE CRITERIA

A. Normal performance within the specification limits.

B. Temporary degradation or loss of function or performance which is self-recoverable.

C. Temporary degradation or loss of function or performance which requires operator intervention or system reset.

D. Degradation or loss of function which is not recoverable due to damage of equipment (components).

9 TEST RESULT

Environmental Phenomena	Test Specification	Units	Performance
Line to Line	± 1	KV (Charge Voltage)	B
Line to Earth	± 2	KV (Charge Voltage)	B

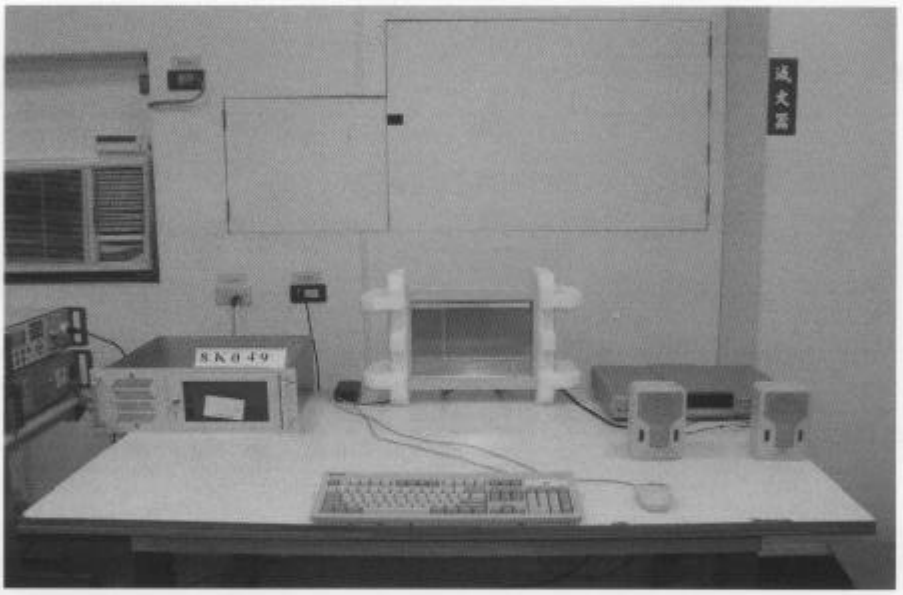
9.1 Model : AMB-2215AT

9.2 Test Mode : 1024 x 768

9.3 Final Result : PASSED

9.4 Remark :

10 PHOTO OF SURGE IMMUNITY TEST
Model : AMB-2215AT, Test Mode : 1024 x 768



Front View

IMMUNITY TEST TO CS CONDUCTED DISTURBANCE

1 TEST INSTRUMENTS & FACILITIES

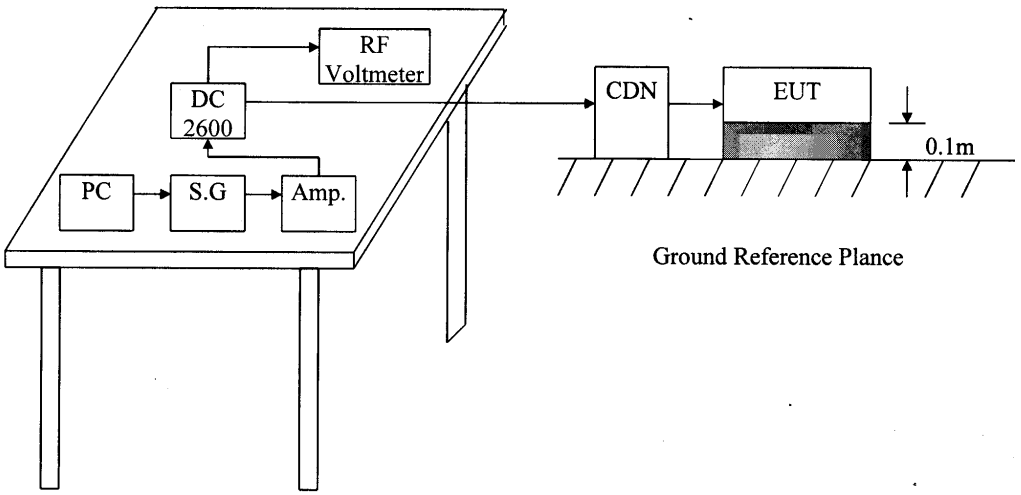
Instruments/ Facilities	Manufacturer	Model # Serial #	Date Of Cal.
SIGNAL GENERATOR	ROHDE & SCHWARZ	SMY02 845096/018	MAR/99
AMPLIFIER	AMPLIFIER RESEACH	75A250	MAR/99
RF VOLTMETER	BOONTON	9200C 361701AA	FEB/99
DIRECTION COUPLER	AMPLIFIER RESEACH	DC2600	MAR/99
COUPLING DECOUPLING NETWORK	FCC	M3	MAR/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **EN 61000-4-6**

According To **EN 50082-1 (1997)**

3 TEST SETUP


RF
Voltmeter
DC
2600
PC
S.G
Amp.
CDN
EUT
0.1m
Ground Reference Plance

4 TEST LEVELS

☐ Ports for signal lines and control lines.
☐ DC input and DC output power ports.
☑ Input and Output AC Power Ports.
☐ Functional earth Ports.

Environmental	Test Specification	Units	Perfermance
Radio-frequency	0.15 - 80	MHz	
Common mode	3	V	A
	80	% AM (1KHz)	

5 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

6 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

7 CONDITIONS DURING TESTING

7.1 The size of the EUT :

(A) Wdith : 420 mm
(B) Height : 178 mm
(C) Depth : 426 mm

7.2 The EUT tested type :

☑ Single unit
☐ Multiple unit

7.3 Dwell time : < 1%

7.4 Temperature : 24 ℃ (15℃ ~ 35℃)
Humidity : 72 % RH.(10 % ~ 75%)

8 PERFORMANCE CRITERIA

A. Normal performance within the specification limits.

B. Temporary degradation or loss of function or performance which is self-recoverable.

C. Temporary degradation or loss of function or performance which requires operator intervention or system reset.

D. Degradation or loss of function which is not recoverable due to damage of equipment (components).

9 TEST RESULT

TEST Specification	Unit	Perfermance Criteria
0.15 - 80	MHz	
3	V	A
80	% AM (1KHz)	

9.1 Model : AMB-2215AT

9.2 Test Mode : 1024 x 768

9.3 Final Result : PASSED

9.4 Remark :

10 PHOTO OF CS CONDUCTED DISTURBANCE IMMUNITY TEST

Model : AMB-2215AT, Test Mode : 1024 x 768

Front View

Rear View

POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

1 TEST INSTRUMENTS & FACILITIES

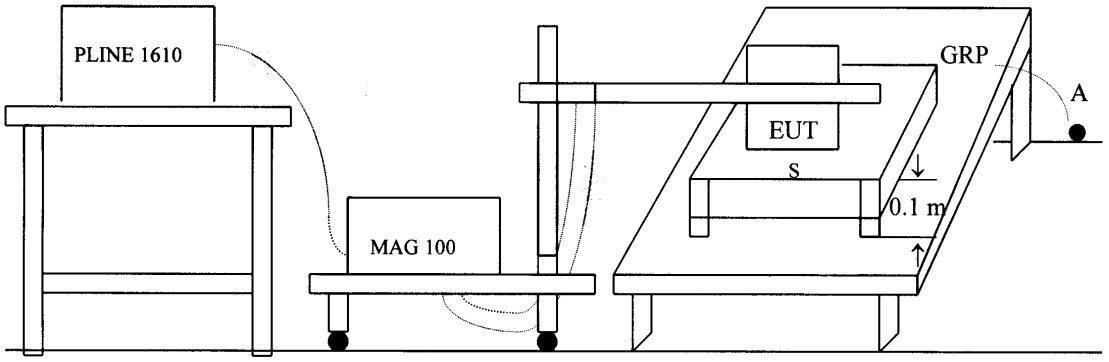
Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
LINE INTERFERENCE TESTER	HAEFELY	PLINE 1610 080166-10	MAR/99
MAGNETIC FIELD TESTER	HAEFELY	MAG 100 080206-01	FEB/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST STANDARD

According To **EN 61000-4-8**

According To **EN 50082-1 (1997)**

3 TEST SETUP



S: Insulating support
A: Safety earth
GRP: Ground plane

4 TEST LEVELS

Environmental Phenomena	Test Specification	Units	Performance Criteria
Power Frequency	50	HZ	
Magnetic Field	1	A/m	A
Magnetic Field	3	A/m	A

5 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

6 OPERATION CONDITION OF EUT

Same as "Conducted Power Line test", section 5

7 CONDITIONS DURING TESTING

7.1 Temperature : 21 ℃ (15℃ ~ 35℃)
Humidity : 72 % RH.(25 % ~ 75%)

7.2 The induction coil shall be rotated by 90°

8 PERFORMANCE CRITERIA

A. Normal performance within the specification limits.

B. Temporary degradation or loss of function or performance which is self-recoverable.

C. Temporary degradation or loss of function or performance which requires operator intervention or system reset.

D. Degradation or loss of function which is not recoverable due to damage of equipment (components).

9 TEST RESULTS

Environmental Phenomena	Test Specification	Units	Performance Criteria
Magnetic Field	1	A/m	A
Magnetic Field	3	A/m	A

9.1 Model : AMB-2215AT

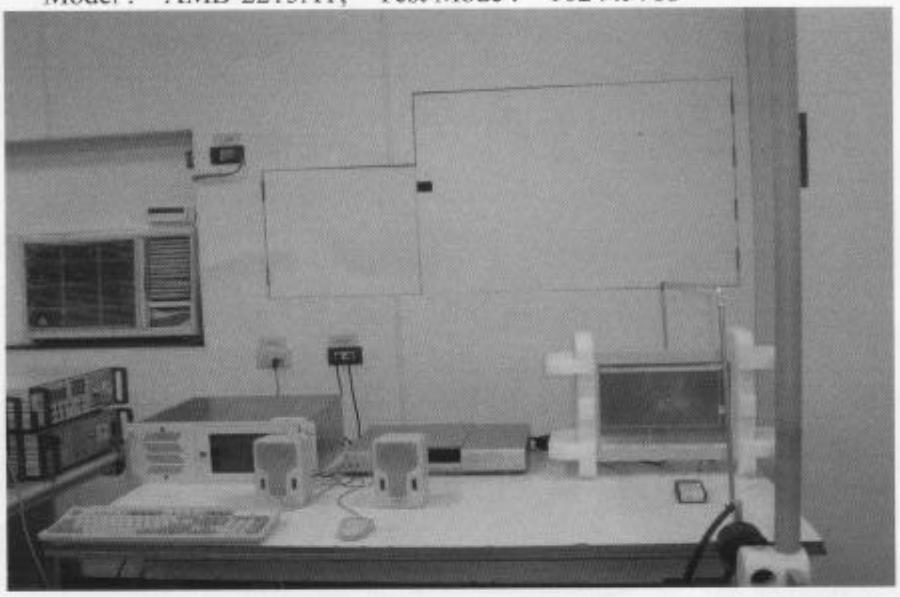
9.2 Test Mode : 1024 x 768

9.3 Final Results : PASSED

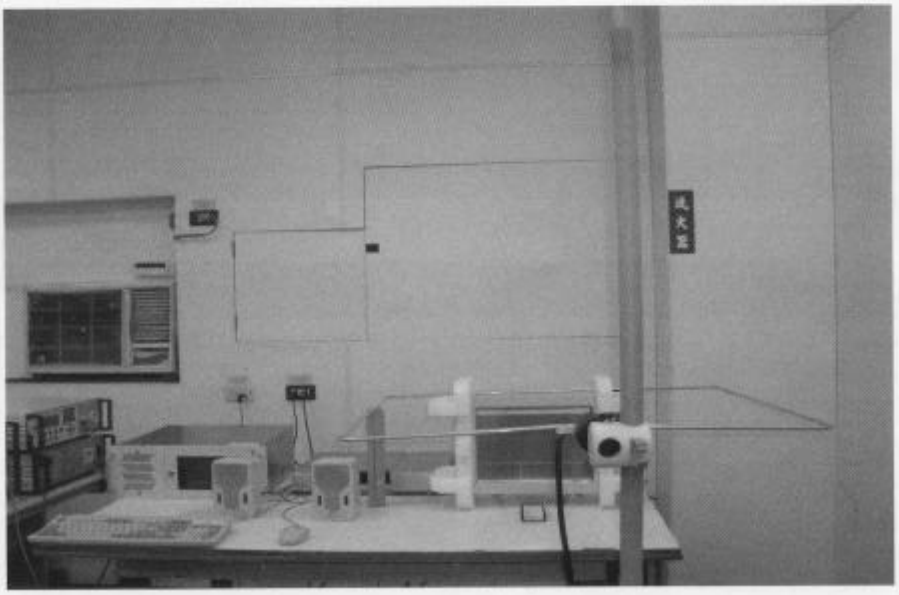
9.4 Remark :

10 PHOTO OF POWER FREQUENCY MAGNETIC FIELD IMMUNITY TEST

Model : AMB-2215AT, Test Mode : 1024 x 768



Horizontal



Vertical

VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TEST

1 TEST INSTRUMENTS & FACILITIES

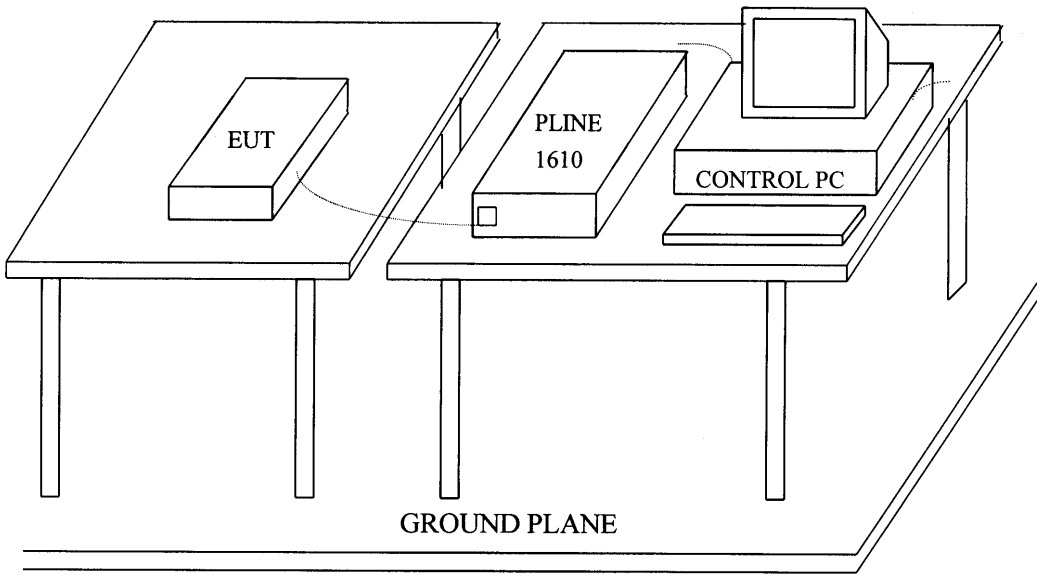
Instruments/ Facilities	Manufacturer	Model # Serial #	Data Of Cal.
LINE INTERFERENCE -TESTER	HAEFELY	PLINE 1610 080166-10	FEB/99
CONTROL PC	KB TECH	KB P586/133	--

2 TEST PROCEDURE

According To **EN 61000-4-11**

According To **EN 50082-1 (1997)**

3 TEST SETUP



4 TEST LEVELS

Input and Output AC Power Ports.

☑ Voltage Dips.

☑ Voltage Interruptions.

Environmental Phenomena	Test Specification	Units	Perform Criteria
Voltage Dips	30 10	% Reduction ms	B
	60 100	% Reduction ms	C
Voltage Interruptions	> 95 % 5000	% Reduction ms	C

5 CONFIGURATION OF THE EUT

Same as "Conducted Power Line test", section 4

6 EUT OPERATION CONDITION

Same as "Conducted Power Line test", section 5

7 CONDITIONS DURING TESTING

7.1 Temperature : 24 ℃ (15℃ ~ 35℃)

Humidity : 72 % RH.(25 % ~ 75%)

8 PERFORMANCE CRITERIA

A. Normal performance within the specification limits.

B. Temporary degradation or loss of function or performance which is self-recoverable.

C. Temporary degradation or loss of function or performance which requires operator intervention or system reset.

D. Degradation or loss of function which is not recoverable due to damage of equipment (components).

9 TEST RESULT

Environmental Phenomena	Test Specification	Units	Perform Criteria
Voltage Dips	30 10	% Reduction ms	B
	60 100	% Reduction ms	C
Voltage Interruptions	> 95 % 5000	% Reduction ms	C

9.1 Model : AMB-2215AT

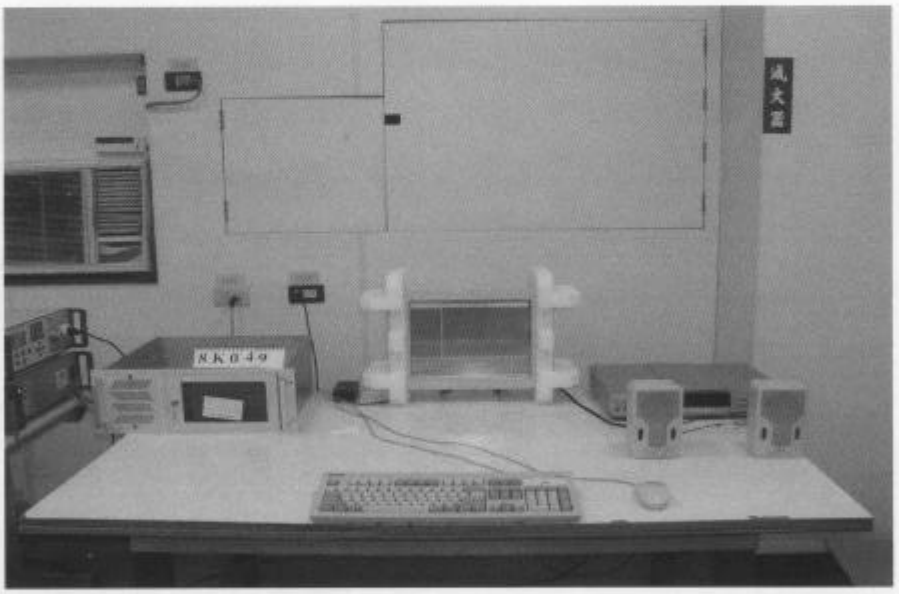
9.2 Test Mode : 1024 x 768

9.3 Final Results : PASSED

9.4 Remark :

10 PHOTO OF VOLTAGE DIPS, SHORT INTERRUPTIONS IMMUNITY TEST

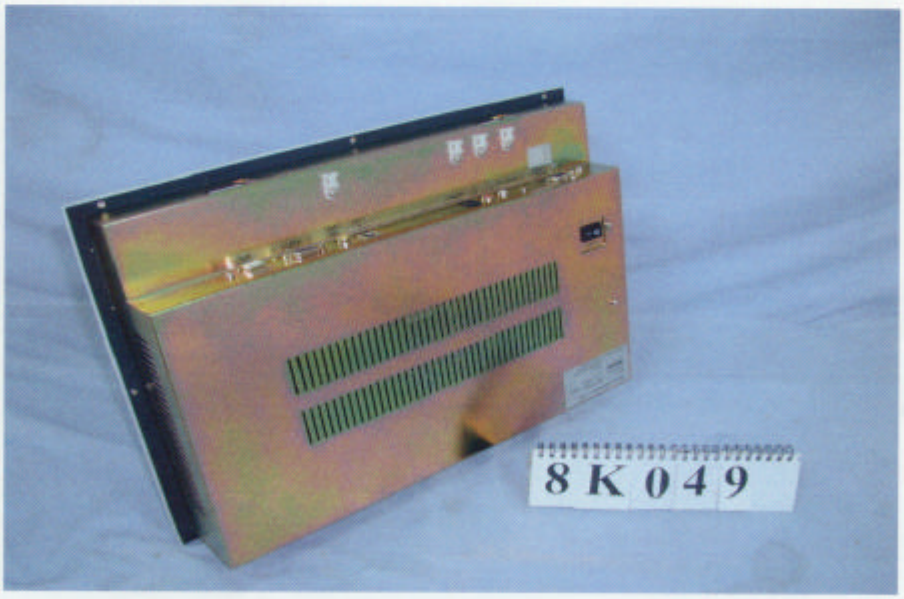
Model : AMB-2215AT, Test Mode : 1024 x 768



Front View

PHOTOS OF EUT

EUT Front View



EUT Rear View

PHOTOS OF EUT

EUT Inside View

PHOTOS OF EUT

EUT Data Cable Full View

PHOTOS OF EUT

Adaptor Front View

Adaptor Rear View