

## **EXHIBIT 3**

### **MODIFICATION LIST LETTER OF EUT**

# 中智科技股份有限公司

## APAC MULTIMEDIA CORP.

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Federal Communications Commission  
Authorization and Evaluation Division  
7435 Oakland Mills Rd.  
Columbia, MD. 21046

Attention: Authorization and Evaluation Division

Subject: RFI related modifications incorporated  
into unit with - FCC ID: NPCPM200A

Date: May 16, 1998

Dear Sirs:

This letter serves as our declaration that no modifications were implemented in the sample submitted for testing. We further declare that the same will be implemented into all production units to enhance compliance of the units to FCC limits.

If you have any further questions or comments regarding the above, please don't hesitate to contact Mr. Johnson Ho of Spectrum Research and Testing Laboratory at (301) 855-2262.

Sincerely yours,



Kerry Yu, Vice President  
Apac Multimedia Corp.

cc. Mr. Johnson Ho - Spectrum Research and Testing Laboratory  
Mr. Mike Su - Advance Data Technology Corporation

## **EXHIBIT 4**

### **RFI/EMI TEST REPORT**



# EMC

## TEST REPORT

REPORT NO. : F87011408

MODEL NO. : PM200A

DATE OF TEST : May 5, 1998

PREPARED FOR: APAC MULTIMEDIA CORP.

ADDRESS : NO. 31, 8F-1, LANE 169 KANG-NING ST.,  
HIS-CHIH TAIPEI, TAIWAN, R.O.C.

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

12F, NO.1, SEC.4, NAN-KING EAST RD.,  
TAIPEI, TAIWAN, R.O.C.

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**1. CERTIFICATION**

Issue Date: May 15, 1998

Product : VGA CARD  
Trade Name : APAC  
Model No. : PM200A  
Applicant : APAC MULTIMEDIA CORP.  
Standard : FCC Part 15, Subpart B, Class B  
ANSI C63.4-1992  
CISPR 22: 1993 +A1+A2

We hereby certify that one sample of the designation has been tested in our facility on May 5, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of applicable standards

PREPARED BY: Sharon Hsiung, DATE: 5/15/98  
( Sharon Hsiung )

TESTED BY: Chris Yang, DATE: 5/18/98  
( Chris Yang )

APPROVED BY: Mike Su, DATE: 5/15/98  
( Mike Su )

**ADVANCE DATA TECHNOLOGY CORPORATION****NVLAP<sup>®</sup>**

Accredited Laboratory



## **2. GENERAL INFORMATION**

### **2.1 GENERAL DESCRIPTION OF EUT**

Product	:	VGA CARD
Model No.	:	PM200A
Power Supply	:	DC (from PC)
Data Cable	:	N/A

Note: The EUT is a high-performance graphics card that plugs into a AGP expansion slot. It has high-performance 64-bit 2D/3D graphics engine. It has integral true-color 230MHz RAMDAC and supports 4MB/8MB frame buffer, using SGRAM.

The highest video resolution of EUT is 1600x1200 (93.7 kHz)

For more detailed features, please refer to ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT and User's Manual.



## 2.2 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories are used to form representative test configuration during the tests.

No	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	NTI	PII-233	FCC DoC	Nonshielded Power (1.8m)
2	MONITOR	HP	D2846	FCC Doc	Shielded Signal (1.6m) Nonshielded Power (1.8m)
3	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.2m) Nonshielded Power (1.8m)
4	MODEM	DATATRONICS	1200C+	E2O5OV1200CK	Shielded Signal (1.2m) Nonshielded Power (1.8m)
5	MOUSE	PACKARD BELL	FDM-411	F4Z4K3FDM-211	Shielded Signal (1.8m)
6	KEYBOARD	FORWARD	FDA-104G	F4ZDA-104G	Shielded Signal (1.2m)

## 2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4:1992. Radiated testing was performed at an antenna to EUT distance of 3/10 m on an open area test site. Please refer to the photos of test configuration in Item 5.



### 3. TEST INSTRUMENTS

#### 3.1 TEST INSTRUMENTS (EMISSION)

##### RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
HP Spectrum Analyzer	E4411A	US37360834	Sept. 28, 1998
CHASE Preamplifier	CPA9231A/4	3215	Oct. 31, 1998
HP Preamplifier	8347A	3307A01088	Sept. 4, 1998
ROHDE & SCHWARZ TEST RECEIVER	ESVS 30	841977/002	Jan. 08, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BiLOG Antenna	CBL6112	2074	Dec. 25, 1998
EMCO Double Ridged Guide Antenna	3115	9312-4192	April 3, 1999
CHANCE Turn Table & Tower Controller	ACS-I	N/A	N/A
Open Field Test Site	Site 6	ADT-R06	Dec. 23, 1998

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's document NIS81.

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

##### CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	Aug. 4, 1998
ROHDE & SCHWARZ Artificial Mains Network	ESH2-Z5	892107/003	July 22, 1998
EMCO L.I.S.N.	3825/2	9504-2359	Aug. 1, 1998
Shielded Room	Site 3	ADT-C03	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's document NIS81.

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



### 3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

#### LIMIT OF RADIATED EMISSION OF CISPR 22

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

#### LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	54.0

Note: (1) The lower limit shall apply at the transition frequencies.

(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



## 4. TEST RESULTS (EMISSION)

### 4.1 RADIO DISTURBANCE

Frequency Range : 0.15 - 30 MHz (Conducted Emission)  
30 - 2000 MHz (Radiated Emission)  
Input Voltage : 120 Vac, 60 Hz  
Temperature : 28 °C  
Humidity : 60 %  
Atmospheric Pressure : 1060 mbar

TEST RESULT	Remarks
<b>PASS</b>	Minimum passing margin of conducted emission: -10.5 dB at 0.291 MHz Minimum passing margin of radiated emission: -3.0 dB at 167.05 & 935.47 MHz

Note: The EUT was pretested under the following resolution & horizontal synchronization speed mode:

- \* 1600x1200 mode (93.7kHz)
- \* 1280x1024 mode (80kHz)
- \* 640x480 mode (31.5kHz)

The worst emission levels were found in 1600x1200 mode (93.7kHz) and the data of only this mode is recorded in this report.

#### 4.1.1 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
2. PC runs a test program to enable all functions of EUT.
3. PC reads and writes from HDD and FDD.
4. PC sends "H" messages to monitor and monitor displays them on screen.
5. PC sends messages to printer, then printer prints them on paper.
6. PC sends messages to modem.
7. Repeat steps 3-7.



#### 4.1.2 TEST DATA OF CONDUCTED EMISSION

EUT: VGA CARDMODEL: PM200AMODE: 1600x1200 (93.7kHz)

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: *Chris Yang*

Freq. [MHz]	L Level [dB (μV)]		N Level [dB (μV)]		Limit [dB (μV)]		Margin [dB (μV)]			
	QP	AV	QP	AV	QP	AV	L		N	
0.291	50.00	-	48.50	-	60.50	50.50	-10.5	-	-12.0	-
0.374	43.60	-	41.90	-	58.40	48.40	-14.8	-	-16.5	-
0.460	42.00	-	42.30	-	56.69	46.69	-14.7	-	-14.4	-
0.625	40.80	-	40.50	-	56.00	46.00	-15.2	-	-15.5	-
0.723	40.00	-	40.60	-	56.00	46.00	-16.0	-	-15.4	-
21.742	28.30	-	28.90	-	60.00	50.00	-31.7	-	-31.1	-

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

ADT CO. SITE 5  
CISPR 22 CLASS B

05. May 98 21:25

EUT: PM200A  
Test Spec: LISN : L  
Comment: 1500X1200 75Hz 93.7KHz

Report No. F87-11408

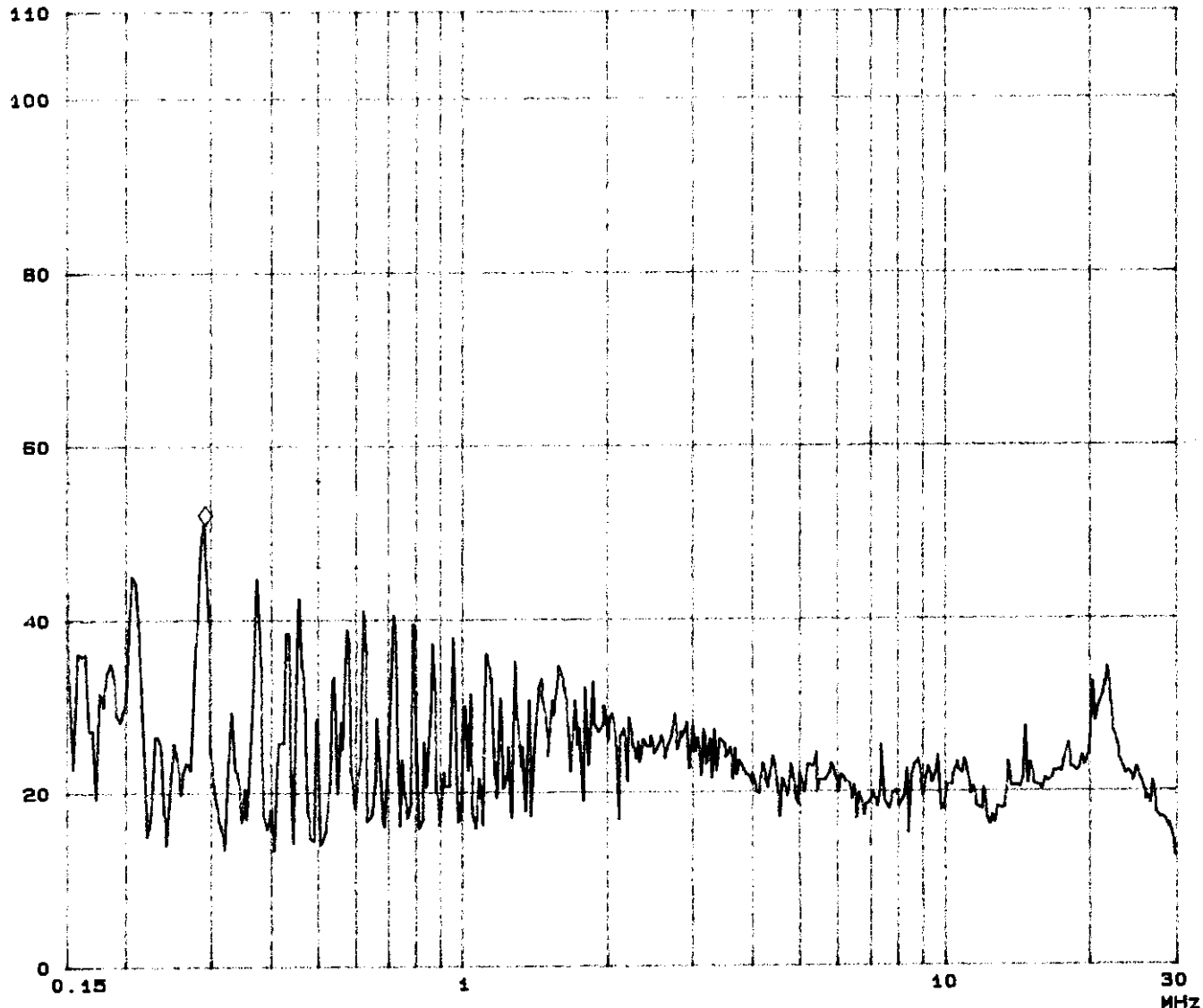
Page 9-1

Tested by Chris Jay

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpAmp
150k	450k	3k	10K	PK	1ms	10dB	LN OFF	60dB
450k	5M	3k	10K	PK	1ms	10dB	LN OFF	60dB
5M	30M	3k	10K	PK	1ms	10dB	LN OFF	60dB

dBuV     ◇ Mkr : 291.00 kHz 50.9 dBuV



ADT CO. SITE 5  
CISPR 22 CLASS B

05. May 98 21:39

EUT: PM200A  
Test Spec: LIEN : N  
Comment: 1800X1200 75Hz 93.7KHz

**Report No.** F87011408

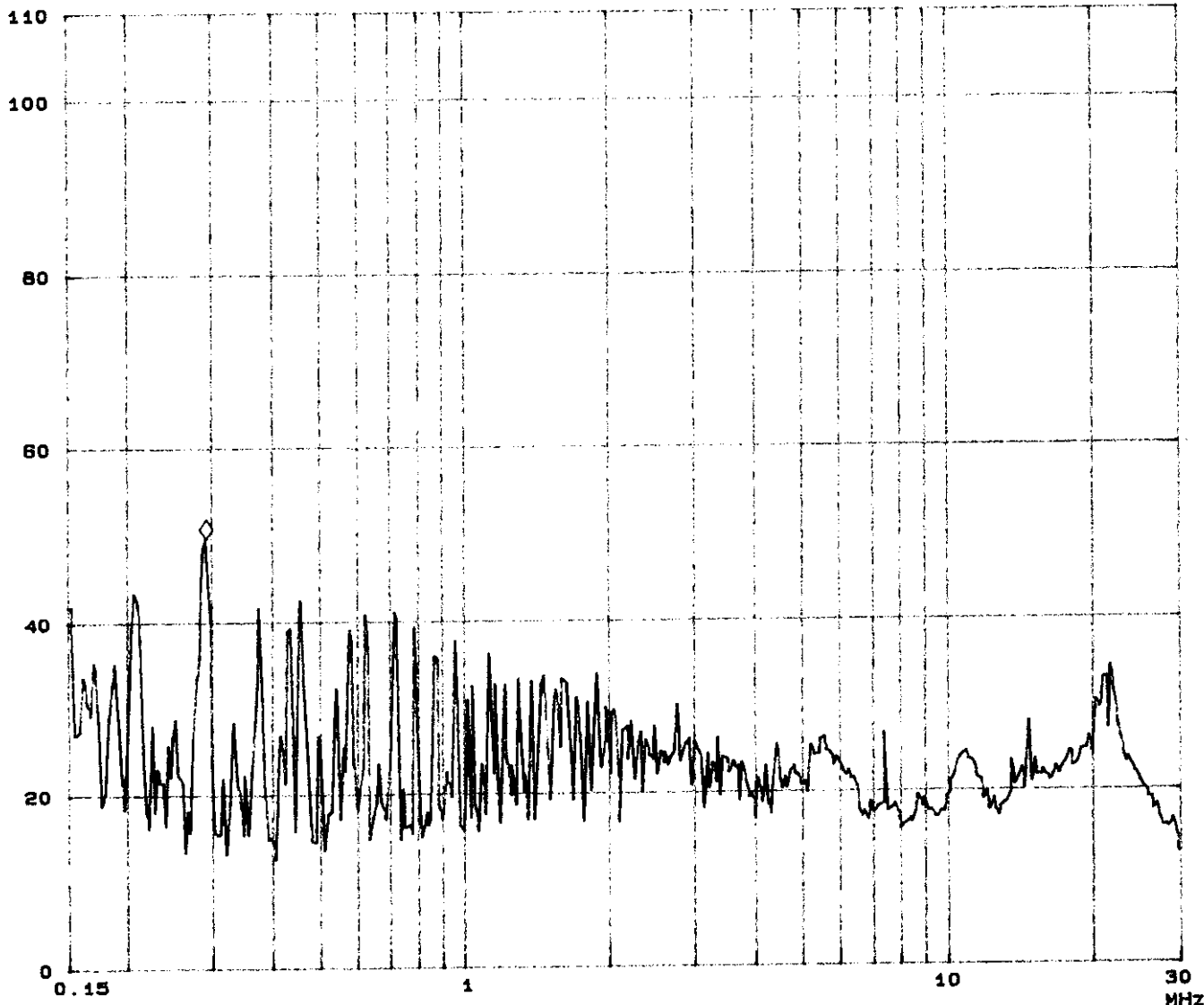
**Page** 9-2

**Tested by** Chris Jay

Fast Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150k	450k	3k	10K	PK	1ms	10dBLN	OFF	60dB
450k	5M	3k	10K	PK	1ms	10dBLN	OFF	60dB
5M	30M	3k	10K	PK	1ms	10dBLN	OFF	60dB

dBuV    ◇ Mkr : 291.00    kHz    49.7 dBuV





### 4.1.3 TEST DATA OF RADIATED EMISSION

EUT: VGA CARD      MODEL: PM200A      MODE: 1600x1200 (93.7 kHz)

ANTENNA: CHASE BILOG CBL 6112/EMCO Horn 3115      POLARITY: Horizontal

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

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

FREQUENCY RANGE: 1000-2000 MHz      MEASURED DISTANCE: 3 M

TEST PERSONNEL: *Chris Yang*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
162.28	11.0	3.0	14.0	30.0	-16.0
167.05	10.9	12.4	23.3	30.0	-6.7
210.52	11.4	6.5	17.9	30.0	-12.1
233.84	13.6	15.9	29.5	37.0	-7.5
365.20	18.0	10.2	28.2	37.0	-8.8
561.43	22.4	10.6	33.0	37.0	-4.0
912.26	24.8	-0.4	24.4	37.0	-12.6

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



## TEST DATA OF RADIATED EMISSION

EUT: VGA CARD      MODEL: PM200A      MODE: 1600x1200 (93.7 kHz)

ANTENNA: CHASE BILOG CBL 6112/EMCO Horn 3115      POLARITY: Vertical

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

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

FREQUENCY RANGE: 1000-2000 MHz      MEASURED DISTANCE: 3 M

TEST PERSONNEL: *Chris Jay*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data dBuV	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
66.83	7.4	12.6	20.0	30.0	-10.0
120.00	14.3	7.1	21.4	30.0	-8.6
162.29	12.0	5.0	17.0	30.0	-13.0
167.05	11.4	15.6	27.0	30.0	-3.0
561.39	21.8	11.3	33.1	37.0	-3.9
631.57	21.7	3.3	25.0	37.0	-12.0
935.47	26.5	7.5	34.0	37.0	-3.0

REMARKS :

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



## 6. ATTACHMENT 1 - TECHNICAL DESCRIPTION OF EUT

### Specifications:

- \* Full support for 66 MHz Accelerated Graphics port (AGP)
- \* High-performance 64-bit 2D/3D graphics engine
- \* Integral True-color 230 MHz RAMDAC
- \* Supports 4MB/8MB frame buffer, using SGRAM
- \* 3D feature set:
  - high quality texture mapping; smoothing shading and blending; optional 15 or 16 bit Z buffer; and fog and depth cueing
- \* 3D Geometry pipeline set-up processor
  - Integral 100M Flop setup unit, reduces load on CPU and Bus
  - OpenGL and Direct3D compatible
  - 100% hardware texture mapping
- \* Driver Support
  - Windows NT and Windows 95
  - OpenGL and Direct3D
  - QuickDraw and QuickDraw 3D
- \* 2D Windows acceleration, video playback acceleration
- \* MPEG2 compatible Video playback acceleration