1. Test Report Certification

Applicant: Maxiland Enterprise Inc.

EUT Description: Personal Computer

(A) Power Supply: 115 / 230V AC

(B) Model: 6IL

(C) FCC ID: MZD-MLPT6XX

Final Tested Date: April 3, 1998

Measurement Procedure Used:
Part 15 Subpart B of FCC rules and regulations (47 CFR Part 15) FCC / ANSI C63.4-1992.

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.

Departure form documented policies, procedures, or specifications:
Were there any departures from documented policies, procedures, or specifications?
No **X** Yes _____. If yes, please explain.

Test Statement
The certificate or report shall not be reproduced except in full, without the written approval of **SRT** Lab., This report must not be used by the client to claim product endorsement by **NVLAP** or any agency of the US Government.

Testing Engineer: Francis Chau **Date:** April 7, 98

Francis Chau

Manager: Francis Chau **Date:** April 7, 98

Francis Chau

2. EUT Modification List

The following accessories were added to the EUT during testing:

1. Added one spring finger from USB ports connect to chassis ground.

4.0 Conducted Power Line Test

4.1 Test Equipment

The following test equipment was used during the conducted power line test:

Equipment	Specification	Manufacturer	Model # / Serial #	Cal. Center /Last Cal. Date	Next Cal. Date
Receiver System	100Hz to 1500MHz	Hewlett Packard	8574A 3001A04931	by Simco June, 97	June, 1998
Receiver System	9KHz to 30MHz	Rohde & Schwartz	ESH3 893517/013	by Simco June, 97	June, 1998
LISN	50uH / 50 Ohms	Solar Corp.	8012-50-R-24-BNC / 924839	by Simco June, 97	June, 1998
LISN	50uH / 50 Ohms	Rohde & Schwartz	ESH3-25 89491/016	by Simco June, 97	June, 1998
Signal Generator	100 KHz to 1024 MHz	Hewlett Packard	8648A 3636a02776	by HP January, 98	January, 1999
Isolation Transformer	N/A	Solar Corp.	7032-1 N/A	N/A	N/A
Anechoic Chamber	N/A	TEC	SRT002 N/A	by SRT Lab. June, 96	June, 1997
Spectrum Analyzer	100 KHz to 2500 MHz	IFR Corp.	A-8000 1456	by simco June, 97	June, 1998
Spectrum Analyzer	400 KHz to 26.5 GHz	HP	8593E 3710A03220	by HP January, 98	January, 1999
Power Analyzer	16 Amps 650 Volts	AEMC	3930 57204	N/A	N/A
Power Source	0-260VAC 47-500Hz	Interpower	85510510 39310	N/A	N/A
Cable	RG214U	Intercomp	Cable #8	by SRT Lab. January, 98	Jan. 1999
Cable	RG214U	Intercomp	Cable #9	by SRT Lab. January, 98	Jan .1999

4.2. Test Procedure

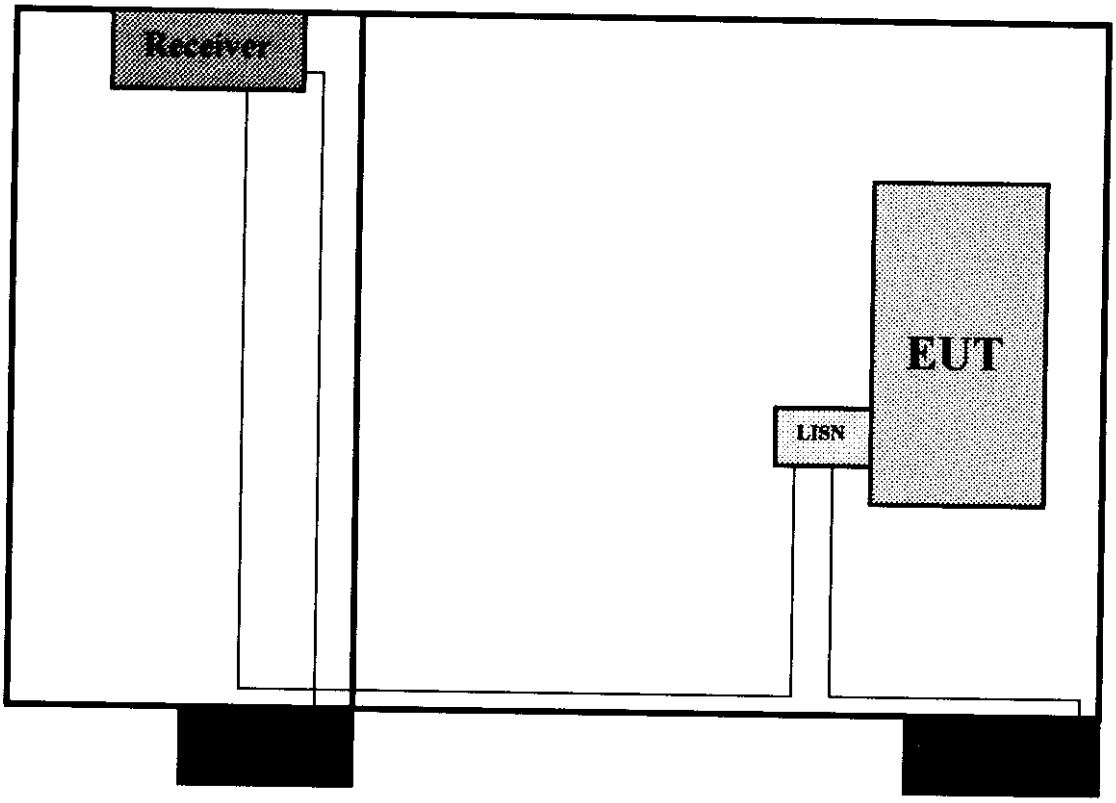
The **EUT** was test according to ANSI C63.4 - 1992. The conducted test was performed in an anechoic chamber. The frequency spectrum from 0.45 MHz to 30 MHz was investigated. The LISN used was 50 Ohms/50μHenry as specified by section 5.1 of ANSI C63.4 - 1992.Cables and peripherals were moved to find the maximum emission levels for each frequency.

4.3 Conducted Power Line Emission Limit

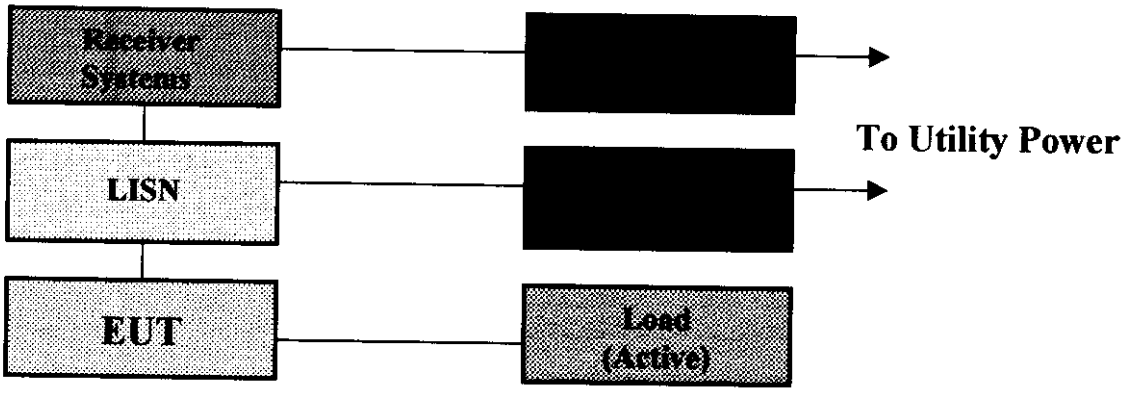
Frequency Range (MHz)	Class A Limits	Class B Limits
0.450 - 1.705	1000 μV	250 μV
1.705 - 30.00	3000 μV	250 μV

Note: In the above table, the tighter limits applies at the band edges.

4.4 Test Setup



Anechoic Chamber Configuration



Personal Computer

Monitor
Printer
Modem x 2
Keyboard
Mouse x 1

USB Mouse x 2

4.5 Configuration of the EUT

The **EUT** was configured according to **ANSI C63.4 - 1992**. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

EUT:

Device	Manufacturer	Model #	FCC ID
Personal Computer	Maxiland Enterprise Inc.	6IL	MZD-MLPT6XX

Peripherals:

Device	Manufacturer	Model # / Serial #	FCC ID
Printer	HP	2225C	DSI6XU2225
Modem	Datatronics	1200CK	E2O5OV1200CK
Monitor	Capetronic	ASTSVGA-LR14	GWG-XXX449XC
Keyboard	Compaq	RT101	AQ6-MTN4XZ15
Modem	Datatronics	1200CK	E2O5OV1200CK
Mouse	Logitech	CE9-6MD	DZL6QBCM
USB Mouse	Anchor C & Center Co.	97000662	M5497M32U
USB Mouse	Anchor C & Center Co.	97000678	M5497M32U

Remark:

4.5 Configuration of the EUT (Continued)

Cable:	All one meter or greater in length – bundled according to **ANSI C63.4 - 1992**	
Monitor:	Power	- shielded
	Data	- shielded with plastic hoods
Printer:	Power	- unshielded supplied with printer
	Data	- shielded with plastic hoods
Modem:	Power	- unshielded supplied with modem
	Data	- shielded with metal hoods
Modem:	Power	- unshielded supplied with modem
	Data	- shielded with plastic hoods
Mouse	Data	- shielded
USB Mouse	Data	- shielded

Internal Device:

Device	Manufacturer	Model #	FCC ID
Power Supply	Power Man	HP-235ATXAD	DoC
AGP VGA Card	ATI	419	DoC

4.6 EUT Operating Condition:

Operating condition is according to **ANSI C63.4 - 1992**. The operating speed of the computer was 300 MHz.

1. **EUT power on.**
2. **"H" pattern sent to the following peripherals:**

   Monitor
   Printer
   Modem x 2

CPU Type: Pentium II-300
Clock Chip: 66 MHz

4.7 Conducted Power Line Test Result

The frequency spectrum from 0.45 MHz to 30 MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9KHz.

Temperature: 25 °C

Humidity: 65 %RH

Frequency (MHz)	Line 1 (dBuV)	Line 2 (dBuV)	Line 1 (uV)	Line 2 (uV)	Limits (uV)
0.5861	43.20	44.10	144.54	160.32	250
0.7230	42.50	*	133.35	*	250
0.7290	*	43.00	*	141.25	250
0.7895	42.20	43.40	128.82	147.91	250
0.9260	43.00	42.90	141.25	139.64	250
1.0590	*	41.70	*	121.62	250
1.0640	42.10	*	127.35	*	250
1.2740	41.90	41.10	124.45	113.50	250

Remarks: * Measurement does not apply for this frequency.
Uncertainty in conducted emission measured is < ±2dB

CPU Type: Pentium II-300
Clock Chip: 66MHz

Pass: ■
Fail: □

Signed by Testing Engineer: _____

5.0 Radiated Emission Test

5.1 Test Equipment List

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

Equipment	Specification	Manufacturer	Model # / Serial #	Cal. Center / Last Cal. Date	Next Cal. Date
Receiver Systems	100 Hz to 1500 MHz	Hewlett Packard	8574A 3001A04931	By Simco June, 97	June, 1998
Spectrum Analyzer	100 Hz to 2500 MHz	IFR Corp.	A-8000 1456	By Simco June, 97	June, 1998
Dipole Antenna	28 MHz to 1000 MHz	EMCO	3121C 9505-1136	By EMCO June, 97	June, 1998
Biconical Antenna	20 MHz to 200 MHz	EMCO	3104C 9111-4455	By SRT Lab. May, 1996	May, 1997
Biconical Antenna	30 MHz to 300 MHz	EMCO	3108 2380	By SRT Lab. May, 1996	May, 1997
Log-periodic Antenna	200 MHz to 1000 MHz	EMCO	3146 9002-2687	By SRT Lab. May, 1996	May, 1997
Signal Generator	100 KHz to 1024 MHz	Hewlett Packard	8648A 2923A30924	By HP Jan. 98	Jan, 1999
Preamplifier	100 KHz to 1300 MHz	Hewlett Packard	8447D 2944A06746	By Simco June, 97	June, 1998
Horn Antenna	1000 MHz to 18 GHz	EMCO	3115 3619	By Simco July, 1997	July, 1998
Cable	RG214U	Intercorp	Cable #1	By SRT Lab. Jan. 1998	Jan, 1999
Turntable	0 - 360 Degree	SRT Lab	SRT001	By SRT Lab. June, 1997	June, 1998
Antenna Mast	5 Meters Height	SRT Lab.	SRT001	By SRT Lab. May, 1997	May, 1998
Spectrum Analyzer	400 KHz to 26.5 GHz	HP	8593E 3710A03220	By HP Jan, 98	Jan. 1999

5.2 Configuration of the EUT

Same as section 4.5 of this report.

5.3 EUT Operating Condition

Same as section 4.6 of this report.

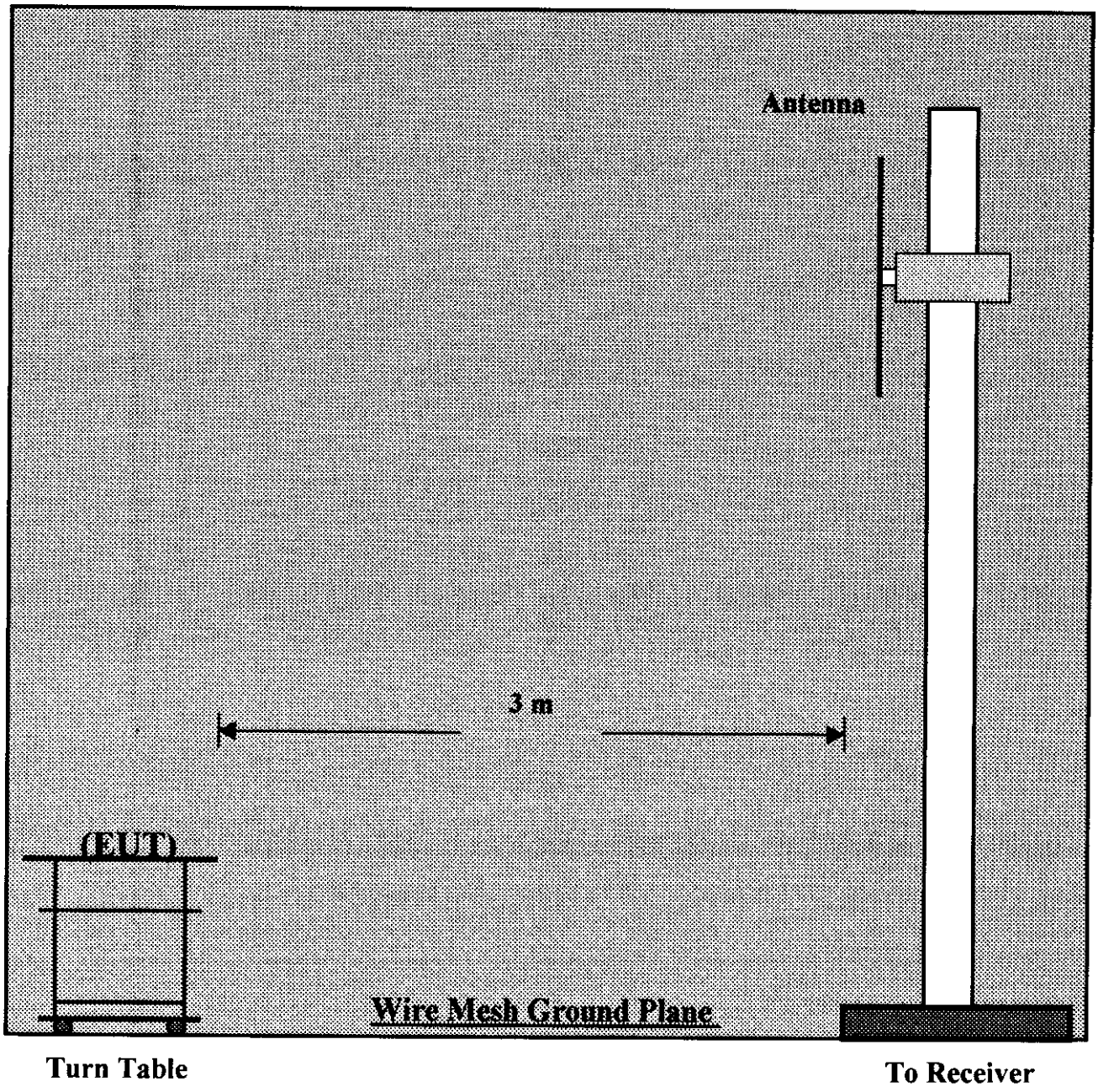
5.4 Test Procedure

The EUT was tested according to **ANSI C63.4 - 1992**. The radiated test was performed at SRT lab's open site. This site is on file with the FCC laboratory division, reference 31040/sit.

The frequency spectrum from 30MHz to 2GHz was investigated. The measurements **under 1000 MHz** with resolution bandwidth of 120KHz are quasi-peak reading made at three using an adjustable dipole antenna. Peripherals, cables, .EUT orientation, and antenna height were varied to find the maximum emission for each frequency.

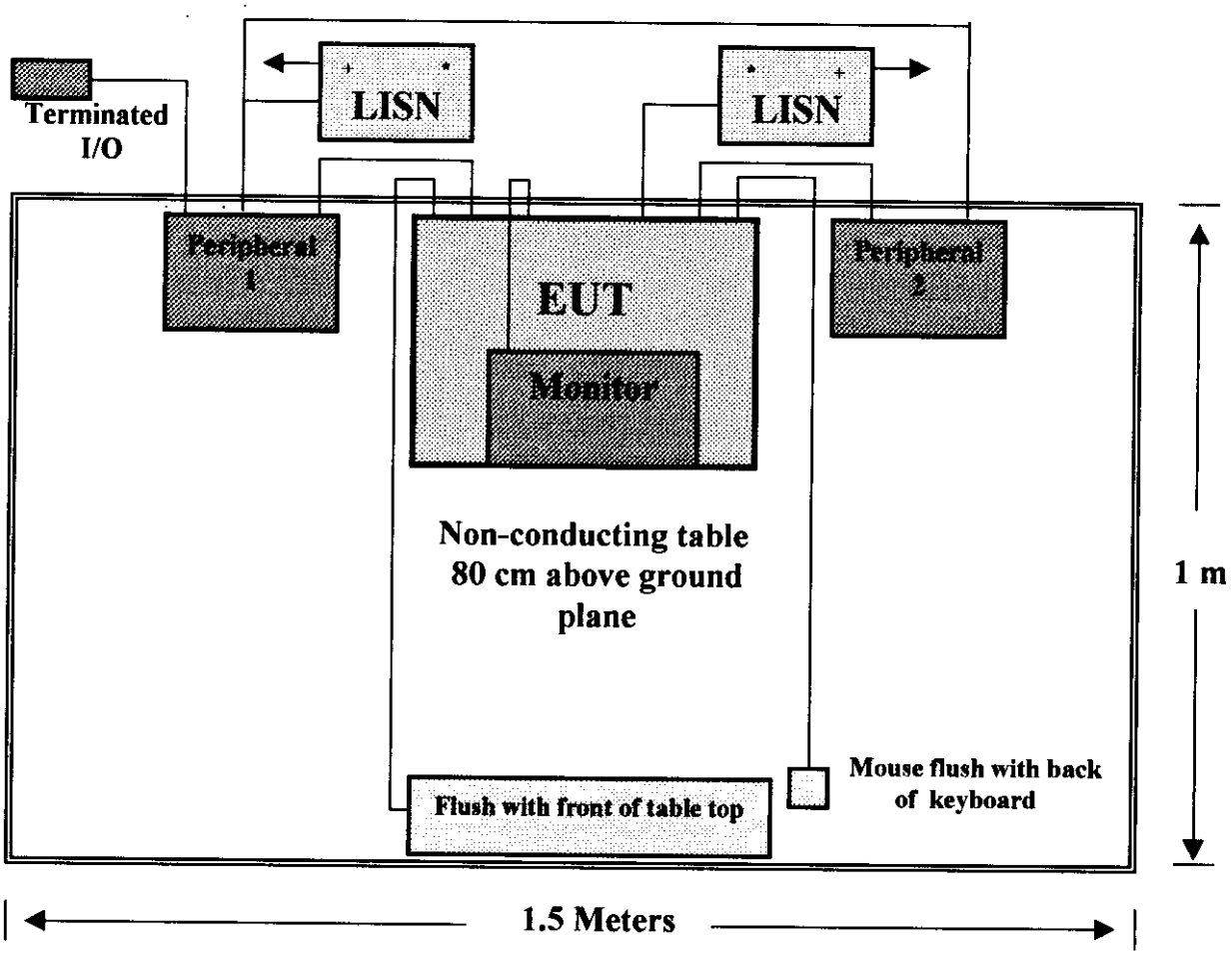
The measurements **above 1000MHz** with a resolution bandwidth of 1MHz are peak reading at a distance of three meters with a horn antenna.

5.5 Radiated Test Setup



5.5 Emission Test Setup (ANSI C63.4 - 1992)

*** Optional For Radiated Tests**



- LISNs may have to be positioned the side of the table to meet the criterion that the LISN receptacle must be 80 cm away from the rear of the EUT.

Test configuration for tabletop equipment
(Top View)

- EUT, peripherals, between peripherals the distance is fixed at 10 cm on edge of the turn table.

5.6 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength spectrum below.

Class B

Frequency (MHz)	Distance (m)	Field Strength (μV/m)
30 - 88	3	100
88 - 216	3	150
216 - 960	3	200
Above 960	3	500

Class A

Frequency (MHz)	Distance (m)	Field Strength (μV/m)
30 - 88	3	300
88 - 216	3	500
216 - 960	3	700
Above 960	3	1000

Note:

1. In the emission tables above, the tighter limit applies at the band edges.

2. Distance refers to the distance between measuring instrument, antenna and the closest point of any part of the device or system.

5.7 Radiated Emission Test Result

The frequency spectrum from **30MHz to 2GHz** was investigated. The values **under 1GHz** with a resolution bandwidth of 120KHz are quasi-peak reading made at **3** meters.
The measurements **above 1GHz** with a resolution bandwidth of 1MHz are peak reading at a distance of **3** meters.

Temperature: 22 °C
Humidity: 40 %RH

Frequency (MHz)	Cable Loss (dB)	Antenna Factor(dB)	Reading (dBuV)		Emission (uV)		Limits (uV)
			Horizontal	Vertical	Horizontal	Vertical	
48.28	0.50	2.10	28.30	31.10	35.08	48.42	100
120.02	1.00	10.70	21.70	18.50	46.77	32.36	150
167.05	1.20	12.90	19.80	18.00	49.55	40.27	150
233.06	1.90	16.20	17.00	14.50	56.89	42.66	200
267.05	2.10	17.70	17.40	14.60	72.44	52.48	200
300.69	2.60	18.00	19.20	17.70	97.72	82.22	200
367.52	3.50	19.20	11.50	9.20	51.29	39.36	200
568.23	3.90	24.80	8.10	7.40	69.18	63.83	200
801.87	4.00	28.20	6.90	6.00	90.16	81.28	200
1052.46	4.60	26.00	10.30	9.10	110.92	96.61	500
1202.79	4.90	26.30	11.80	10.30	141.25	118.85	500
1536.87	5.50	27.10	8.00	7.50	107.15	101.16	500

Remarks: * Measurement does not apply for this frequency.
Uncertainty in radiated emission measured is < ±4dB

CPU Type: Pentium II-300
Clock Chip: 66.0MHz

Sample calculation:
20 Log (Emission)μV = Cable Loss(dB) + Factor(dB) + Reading(dBμV)

Pass: ■
Fail: □

Signed by Testing Engineer: Francis Chan