



EXHIBIT B

Test Report

Report No.	C0915765
Specifications	FCC Part 15.109(g), CISPR 22, Class B
Test Method	ANSI C63.4 1992
Applicant Address	16F, No. 75 Hsin Tai Wu RD., Sec. 1 Bldg #A Hsi-Chih, Taipei Hsien, Taiwan
Applicant Items Tested	CIS TECHNOLOGY INC. ADSL Modem
Model No.	WS-AD80PST (Sample # C09765)
Results	Compliance (As detailed within this report)
Sample Received Date	05/17/2000 (month / day / year)
Prepared by	 Project Engineer
Authorized by	 General Manager (Frank Tsai)
Issue Date	MAY. 23, 2000 (month / day / year)
Modifications	None
Tested by	Training Research Co., Ltd.
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- (2) This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.**

★ **FCC ID: L4OWSAD80PST**

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Chapter 1 Introduction

Description of EUT:

This ADSL interface card is a data communication device. It is designed to install in the personal computer and makes data transmission available via the public telephone network.

Connections of EUT:

- (1) Install the EUT into a personal computer's PCI bus and screw it.
- (2) Line jack of EUT is connected with a line cable to the PABX located remotely.

Test method:

The applicant provides the test program

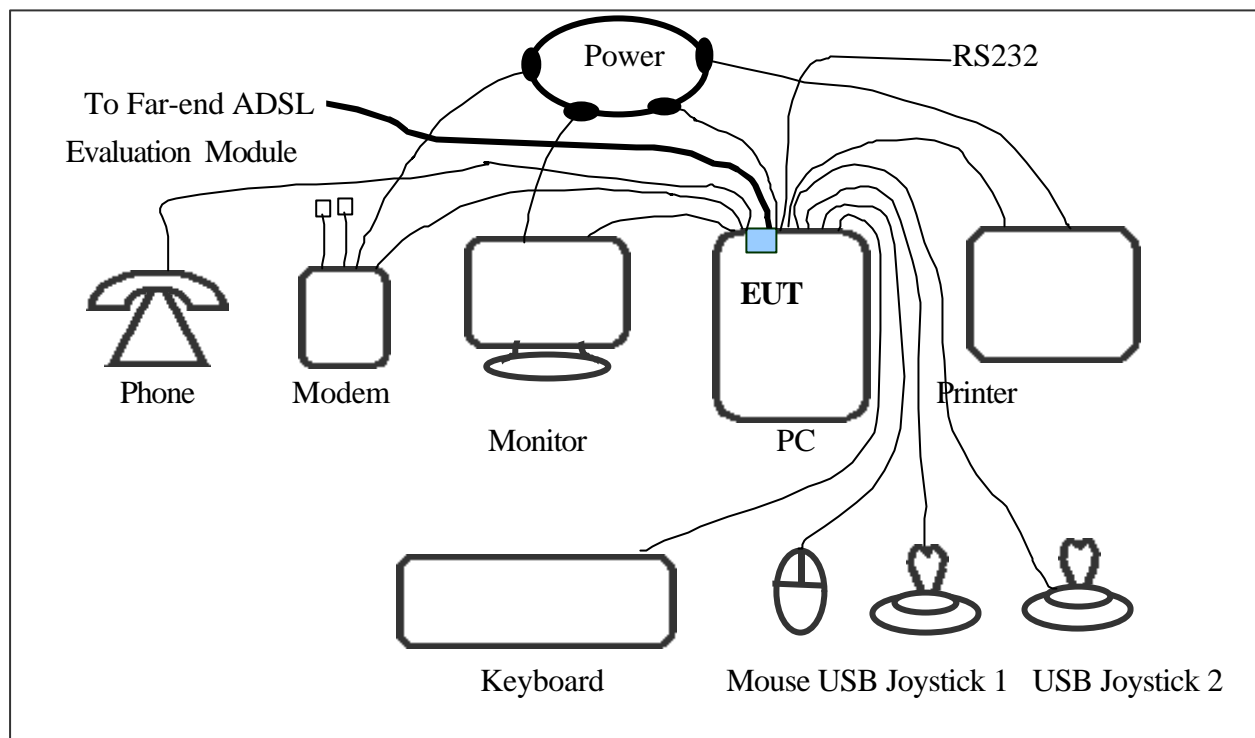
Pretest was found that the emission of operating mode is worse than standby mode. So, The final test is made at the operating mode.

When the measurement was taken, the EUT was operated at "transmitting" and "receiving" mode simultaneously.

While testing, the transmitting rate was set to "AUTO" which means it transmitted the test file depending on the telephone line condition, normally the operating rate is the highest speed. The test placement as the photographs showed is the worst case emission placed. (If the emission is close to the ambient, the resolution BW and view resolution will be reduced and the data will be recorded by detection of maximum hold peak mode.)

The testing configuration of test setup is showing in the next page.

Configuration of test setup



Connections:

PC:

- Serial A port --- a external modem with 76cm shielded RS-232 cable
 - Serial B port--- a shielded RS232 cable with 76cm long, no ferrite bead
 - Printer port --- a Printer with 1.2m length data cable
 - Keyboard port --- a Keyboard with 1m length data cable
 - Mouse port --- a Mouse with 0.7m long of data cable
 - USB port --- two Joysticks with 1.5m long, shielded and no ferrite bead data cable
 - Monitor port --- a monitor with 1m length data cable
- (Each port on PC is connected with suitable device)

EUT:

- *Line jack --- via 15m long, non-shielded, no ferrite bead, RJ-11 cable to the ADSL evaluation module located remotely
- *Phone Jack --- via a 7 feet long, non-shielded, no ferrite bead, RJ11C cable to a telephone set

List of support equipment

Conducted (Radiated) test:

PC : **ACER Power 8000**
Model No. : M11E/H71-X30-99X
Serial No. : TM01356
FCC ID : N/A, Doc Approved
檢磁 : 3872A827
Power type : AC 100~120V, 50 ~60Hz, 5A / 200~240 VAC, 50 ~60Hz,3A, Switching
Power cord : Non-shielded, 1.8m long, Plastic, no ferrite core

Monitor : **HP 15' Color Monitor**
Model No. : D2827A (D2832A)
Serial No. : KR91161716 (MY90615892)
FCC ID : C5F7NFCMC1518X (N/A, Doc Approved)
檢磁 : 3872B039 (4872A167)
Power type : 110 ~ 240 VAC / 50 ~ 60 Hz, Switching
Power cord : Shielded, 1.80m long, No ferrite core
Data cable : Shielded, 1.50m long, with two ferrite cores

Keyboard : **HP**
Model No. : SK-2501K
Serial No. : M990308795 (M981216213)
FCC ID : GYUR38SK
檢磁 : 3862A621
Power type : By PC
Data cable : Shielded, 1.70m long, with ferrite core

Mouse : **HP**
Model No. : M-S34
Serial No. : LZC84446151 (LZB90910462)
FCC ID : DZL211029
檢磁 : 4862A011
Power type : By PC
Power cord : Non-shielded, 1.80m long, No ferrite core

Modem : ACEEX
Model No. : XDM-9624
FCC ID : IFAXDM-9624
Power type : 110VAC, 60Hz / 9VAC, 1A
Power cord : Non-shielded, 1.9m long, No ferrite cord
Data cable : RS232, Shielded, 1.2m long, No ferrite core
RJ11C x 2, 7' long, Non-shielded, No ferrite core

ADSL Evaluation Module : Texas Instruments

Part No. : 99-7443-01
Serial No. : B078584
Power type : 12VDC, 2Amps
Power cord : Non-shielded

Printer : HP
Model No. : C2642A
Serial No. : SG69A196GV
FCC ID : B94C2642X
Power type : 110 VAC, 60Hz
Power cord : Non-shielded, 2m long, no ferrite core
Data cable : Shielded, 1.84m long, no ferrite core (1.7m)

USB Joysticks : Padix
Model No. : QF-305U, QF-606U
Serial No. : N/A
FCC ID : Doc Approved
檢磁 : N/A
Power type : Powered by PC
Power Cable : Shielded. 1.8M (1.5M) long, Plastic hoods, No ferrite bead

Telephone : HUSTON
Model No. : 4782
Serial No. : N/A
Power type : Powered by PSTN
Data Cable : Non-shielded, 1.8m long, No ferrite bead

Chapter 2 Conducted emission test

Test condition and setup:

All the equipment is placed and setup according to the ANSI C63.4-1992.

The EUT is assembled on a wooden table that is 80 cm high, is placed 40 cm from the back-wall that is a vertical conducting plane. One LISN is for EUT, the other LISN is for support equipment. They are all placed on the conductive ground. The EUT's LISN connect a line switch box for selecting L1 or L2, then connect to a preamplifier and spectrum.

The spectrum scans from 150KHz to 30MHz. Conducted emission levels are detected at max. peak mode. But if the max. peak mode failed or over average limit, it will be measured by average detection mode.

While testing, there is the worst-emission plot printed at peak detection mode, and there are more than 6 highest emissions relative to limit recorded. The plot is kept as the original data, not included in test report.

List of test Instrument:

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Calibration Date</u>	
				<u>Last time</u>	<u>Next time</u>
Spectrum analyzer	8594EM	H P	3710A00198	01/12/00	01/12/01
LISN (EUT)	3825/2	EMCO	9411-2284	05/15/00	05/15/01
LISN (Support E.)	AC3-001	TRC	- - - - -	05/15/00	05/15/01
Preamplifier	AC3-002	TRC	- - - - -	05/15/00	05/15/01
Line switch box	AC3-003	TRC	- - - - -	05/15/00	05/15/01

The level of confidence of 95% , the uncertainty of measurement of conducted emission is ± 2.4 dB.

Test Result: Pass (Appendix A)

Conducted Test Placement: (Photographs)



Chapter 3 Radiated emission test

Test condition and setup:

Pretest : Prior to the final test (OATS test), the EUT is placed in a shielded enclosure, and scan from 30MHz to 1GHz. This is done to ensure the radiation exactly emits form the EUT.

Final test: Final radiation measurement is made on a **10 - meter**, open-field test site. The EUT is placed on a nonconductive table that is 0.8m height, the top surface is 1.0 x 1.5 meter. The placement is according to ANSI C63.4-1992.

The spectrum is examined from 30 MHz to 1000 MHz measured by HP spectrum.

The range Antenna is used to measure frequency from 30 MHz to 1GHz. The final test is used the spectrum analyzer.

Measure more than six top marked frequencies generated form pretest by computer step by step at each frequency. The EUT is rotated 360 degrees, and antenna is raised and lowered from 1 to 4 meters to find the maximum emission levels. The antenna is used with both horizontal and vertical polarization.

Appropriated preamplifier that is made by TRC is used for improving sensitivity and precaution is taken to avoid overloading. The spectrum analyzer's 6dB bandwidth is set to 120 KHz, and the EUT is measured at quasi-peak mode.

If the emission is close to the frequency band of ambient, the data will be rechecked by the tester and the corrected data will be written in the test data sheet. If the emission is just within the ambient, the data from shield room will be taken as the final data.

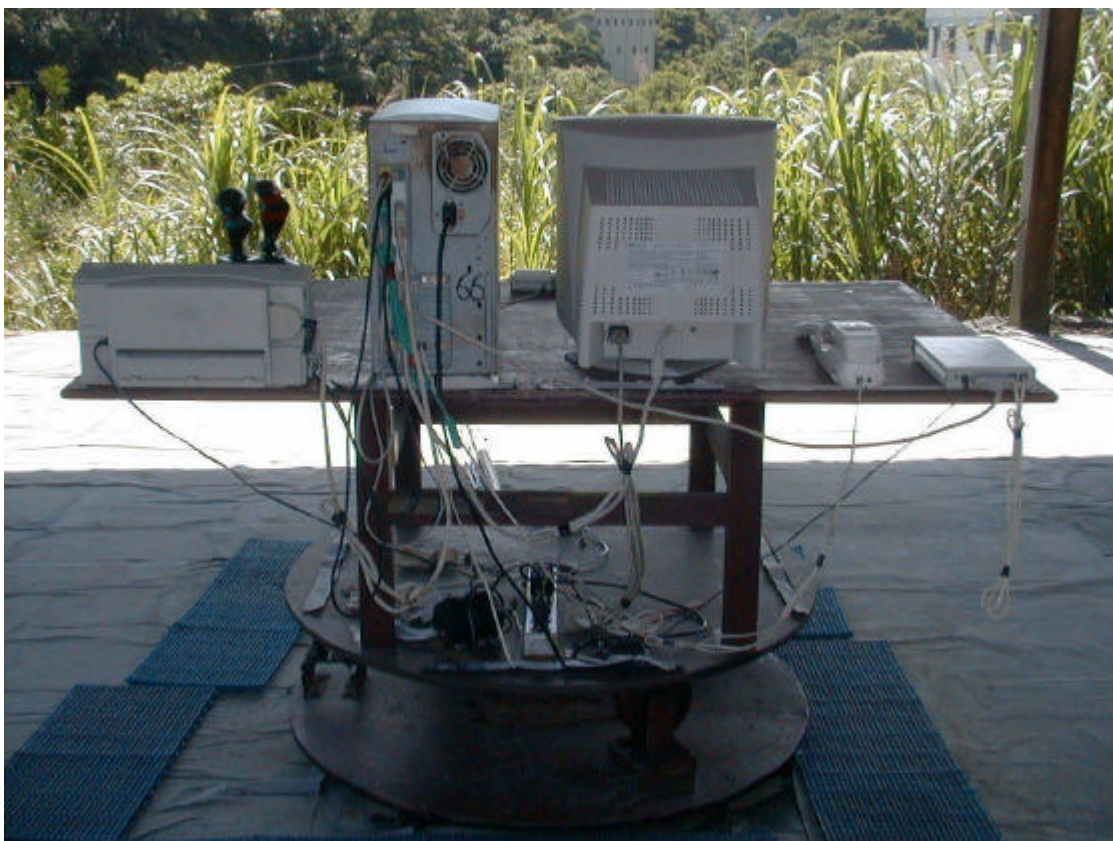
List of test Instrument:

Instrument Name	Model No.	Brand	Serial No.	<u>Calibration Date</u>	
				Last time	Next time
Spectrum analyzer	8594EM	H P	3710A00279	06/22/99	06/22/00
Spectrum analyzer	8594EM	H P	3710A00198	01/12/00	01/12/01
Antenna (30M-1.5G Hz)	VULB 9160	M.E.	3063	01/18/00	01/18/01
Antenna (30M-2G Hz)	3141	EMCO	9711-1076	05/15/00	05/15/01
RF Pre-selector	AC4-001	TRC	- - - - -	05/15/00	05/15/01
Open test side (Antenna, Amplify, cable calibrated together)				05/15/00	05/15/01

The level of confidence of 95%, the uncertainty of measurement of radiated emission is ± 4.96 dB.

Test Result: Pass (Appendix B)

Radiated Test Placement: (Photographs)



Appendix A

Conducted Emission Test Result:

Testing room : Temperature : 20 ° C

Humidity : 53 % RH

Line 1

Frequency (KHz)	READING AMPLITUDE			LIMIT		Margin (dB)
	Peak (dBmV/m)	Quasi- Peak (dBmV/m)	Average (dBmV/m)	Quasi- Peak (dBmV/m)	Average (dBmV/m)	
150.00	48.73	***.***	***.***	66.00	56.00	-7.27
157.00	49.93	***.***	***.***	65.80	55.80	-5.87
163.00	50.88	***.***	***.***	65.63	55.63	-4.75
202.00	44.19	***.***	***.***	64.51	54.51	-10.32
293.00	40.81	***.***	***.***	61.91	51.91	-11.10
302.00	39.81	***.***	***.***	61.66	51.66	-11.85
505.00	37.46	***.***	***.***	56.00	46.00	-8.54
1113.00	38.34	***.***	***.***	56.00	46.00	-7.66
1825.00	34.15	***.***	***.***	56.00	46.00	-11.85
18080.00	38.80	***.***	***.***	60.00	50.00	-11.20

Line 2

Frequency (KHz)	READING AMPLITUDE			LIMIT		Margin (dB)
	Peak (dBmV/m)	Quasi- Peak (dBmV/m)	Average (dBmV/m)	Quasi- Peak (dBmV/m)	Average (dBmV/m)	
152.00	48.99	***.***	***.***	65.94	55.94	-6.95
161.00	50.17	***.***	***.***	65.69	55.69	-5.52
203.00	44.25	***.***	***.***	64.49	54.49	-10.24
295.00	41.81	***.***	***.***	61.86	51.86	-10.05
422.00	37.56	***.***	***.***	58.23	48.23	-10.67
505.00	38.56	***.***	***.***	56.00	46.00	-7.44
1009.00	35.26	***.***	***.***	56.00	46.00	-10.74
1113.00	35.41	***.***	***.***	56.00	46.00	-10.59
1142.00	34.87	***.***	***.***	56.00	46.00	-11.13
18080.00	38.91	***.***	***.***	60.00	50.00	-11.09

***The reading amplitudes are all under average limit.**

Appendix B

Radiated Emission Test Result: (Horizontal)

Test Conditions:

Testing room : Temperature : 23 ° C Humidity : 36 % RH

Testing site : Temperature : 27 ° C Humidity : 56 % RH

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B Limit	Margin
MHz	dBμV	m	degree	dB/m	dBμV/m	dBμV/m	dB

36.150	37.49	2.50	3	-23.04	14.45	30.00	-15.55
37.935	37.76	2.50	14	-22.64	15.12	30.00	-14.88
39.715	38.39	2.51	10	-22.24	16.15	30.00	-13.85
43.310	37.36	4.02	217	-22.17	15.19	30.00	-14.81
45.058	37.25	4.02	155	-22.16	15.41	30.00	-14.59
336.096	47.38	4.02	130	-19.91	27.47	37.00	-9.53
339.913	47.00	2.47	130	-19.79	27.21	37.00	-9.79

Note:

1.Margin = Amplitude - limit, *if margin is minus means under limit.*

2.Corrected Amplitude = Reading Amplitude + Correction Factors

3.Correction factor = Antenna factor + (Cable Loss - Amplitude gain)

(For example: 30MHz correction factor = 15.5 + (-15.26) = 0.24 dB/m)

Radiated Emission Test Result: (Vertical)

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBμV	m	degree	dB/m	dBμV/m	dBμV/m	dB

32.530	38.31	1.05	52	-23.38	14.93	30.00	-15.07
50.010	45.55	1.05	126	-21.79	23.76	30.00	-6.24
168.050	43.15	1.07	193	-21.87	21.28	30.00	-8.72
229.370	36.70	2.59	2	-23.71	12.99	30.00	-17.01
247.300	41.33	1.03	290	-22.80	18.53	37.00	-18.47
336.100	42.91	1.05	213	-19.91	23.00	37.00	-14.00
340.050	45.07	1.03	339	-19.79	25.28	37.00	-11.72

Final statement:

This test report, measurements made by TRC are traceable to the NIST.