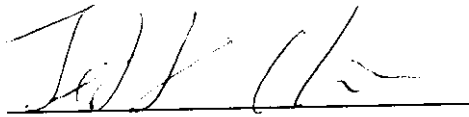
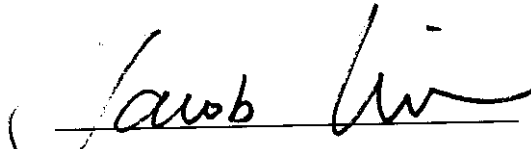



***EXHIBIT B***

***Test Report***

Report No.	C0915636
Specifications	FCC Part 15.109(g), 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. 10/100 PCI Ethernet Adapter
Model No.	WS-R430 ( Sample # C09636 )
Results	<b>Compliance</b> (As detailed within this report)
Sample received date	11/17/1998 (month / day / year)
Prepared by	 project engineer
Authorized by	 Vice General Manager (Jacob Lin )
Issue date	 Dec. 1, 1998 (month / day / year)
Modifications	None
Tested by	Training Research Co., Ltd.
Office and Open site at	No. 15, Lane 530, Pa-Lian RD., Sec. 1, Hsi-Chih Town, Taipei Hsien, Taiwan, R.O.C.

**Conditions of issue:**

- (1) This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.
- (2) This report must not be used by the client to claim product endorsement by NVLAP or any agency of U.S. Government.
- (3) This report is also against AS / NZS 3548.

★ FCC ID: L4OR430

# Contents

## Chapter 1 Introduction

Description of EUT.....	3
Configuration of Test Setup.....	4
List of Support Equipment.....	5

## Chapter 2 Conducted Emission Test

Test Condition and Setup.....	7
Conducted Test Placement.....	8

## Chapter 3 Radiated Emission Test

Test Condition and Setup.....	9
Radiated Test Placement.....	10

## Appendix A :

Conducted test result .....	11
-----------------------------	----

## Appendix B :

Radiated test result .....	12
----------------------------	----

## ***Chapter 1 Introduction***

### ***Description of EUT:***

The Lan Card is a data transmission / receiver facility. It is designed to be installed in the PC or compatible computer and makes your data equipment available to transmit / receive data via the EUT. During testing the EUT was operated at Tx or Rx mode for each emission measured. This was done in order to insure that maximum emission levels were attained.

### ***Connections of EUT:***

- (1) Put the EUT into a personal computer's bus and screw it.
- (2) The UTP port of EUT connects with another Lan card installed in another PC via a Hub located remotely.

### ***Test method:***

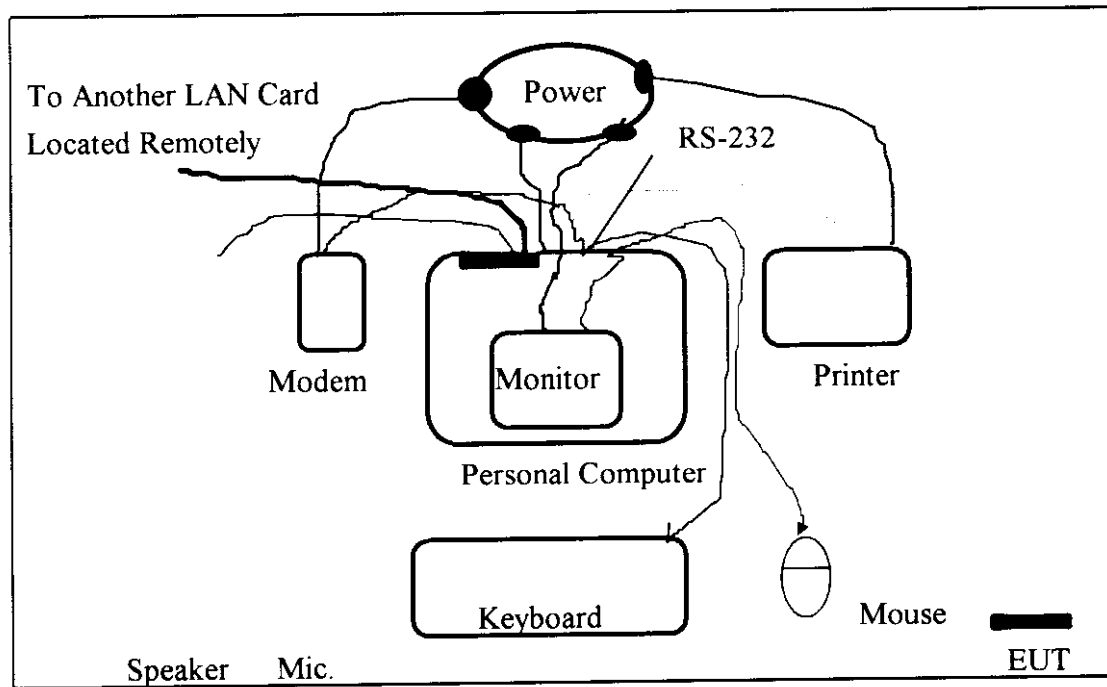
Pretest was found that the emission of operating mode is worse than standby mode. So, The final test is made at the operating mode.

During testing, two speeds were tested: 10Mbps and 100Mbps. According the testing result of the pretest, the 100Mbps was the worst case.

During testing, the EUT was operated at "transmitting" and "receiving" mode simultaneously.

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
  - \*Serial B port --- a 76 cm shielded RS232 cable
  - \*Printer port --- a Printer
  - \*Keyboard port --- a Keyboard
  - \*Mouse port --- a Mouse
  - \*Monitor port --- a monitor
- (Each port on PC is connected with suitable device)

**EUT:**

- \*RJ45 Jack --- a RJ45 cable which 20m long, non-shielded, with no ferrite core to another Lan card installed in another PC via a HUB located remotely.

**List of support equipment****Conducted (Radiated) test:****PC : HP**

Model : Vectra VE 5/166 Series 3  
Serial No. : SG72450174  
FCC ID : B94VECTRA53  
Power type : AC 110~120 / 220~240 VAC, Switching  
Power cord : non-Shielded, 1.7m long, Plastic, no ferrite core

**Monitor : HP**

Model No. : D2084 (D2813)  
Serial No. : KR4397004 (TW63803597)  
FCC ID : CSYSC-428VSP (A3KM043)  
Power type : AC 110~120 / 220~240 VAC, Switching  
Power cord : Non-Shielded, 3m long, no ferrite core  
Data cable : Shielded, 1.8m long, with ferrite core

**Keyboard : Digital**

Model No. : KB-5923  
Serial No. : 9S74904837 (9S74904665)  
FCC ID : E8HKB-5923  
Power type : By PC  
Data cable : Shielded, 1.8m long, with ferrite core

**Printer : HP**

Model No. : C2642A  
Serial No. : SG69A196GV  
FCC ID : B94C2642X  
Power type : 220VAC  
Power cord : Non-shielded, 2m long, no ferrite core  
Data cable : Shielded, 1.84m long, no ferrite core (1.7m)

**Modem** : **ACEEX**  
Model No. : XDM-9624  
FCC ID : IFAXDM-9624  
Power type : 220VAC, 50Hz / 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

**PABX** : **King Design**  
Model No. : KD8705-A  
Serial No. : GV101101186  
Power type : 220 VAC, 50Hz  
Power cord : Non - Shielded

**Mouse** : **Hewlett Packard mouse**  
Model No. : C3751B  
Serial No. : LCA52707170  
FCC ID : DZL210582  
Power type : Powered by PC  
Power Cable : Non – Shielded. 5.5' long, Plastic hoods, 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 which 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, it will be measured by CISPR's quasi-peak 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:***

Instrument Name	Model No.	Brand	Serial No.	<b><u>Calibration Date</u></b>	
				<u>Last time</u>	<u>Next time</u>
Spectrum analyzer	8591A	H P	2919A00263	01/07/98	01/07/99
LISN (EUT)	3825/2	EMCO	9411-2284	05/15/98	05/15/99
LISN (Support E.)	AC3-001	TRC	-----	05/15/98	05/15/99
Preamplifier	AC3-002	TRC	-----	05/15/98	05/15/99
Line switch box	AC3-003	TRC	-----	05/15/98	05/15/99

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

***Test Result: Pass (Appendix A)***



### **Chapter 3 Radiated emission test**

#### **Test condition and setup:**

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

**Final test:** Final radiation measurements are 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 EMCO whole range Antenna is used to measure frequency from 30 MHz to 1GHz. The final test is used the spectrum HP 8591EM.

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 which is made by TRC is used for improving sensitivity and precautions 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 anechoic chamber will be taken as the final data.

#### **List of test Instrument:**

#### **Calibration Date**

<u>Instrument Name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Last</u>	<u>Next</u>
Spectrum analyzer	8591EM	H P	3710A01203	10/22/97	12/22/98
RF Pre-selector	AC4-001	TRC	-----	05/15/98	05/15/99
Antenna (30M-2G Hz)	3141	EMCO	9711-1076	12/17/97	12/17/98
Open test side (Antenna, Amplify, cable calibrated together)				05/15/98	05/15/99

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

#### **Test Result: Pass (Appendix B)**

## Appendix A

### Conducted Emission Test Result:

Testing room: Temperature : 23 ° C Humidity : 54 % RH

#### Line 1

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)
342	41.29	50.51	-9.22
352	43.43	50.23	-6.80
366	39.37	49.83	-10.46
593	38.38	46.00	-7.62
828	36.87	46.00	-9.13
947	36.73	46.00	-9.27
1063	36.79	46.00	-9.21
1307	38.66	46.00	-7.34
1419	36.68	46.00	-9.32
1780	38.17	46.00	-7.83

#### Line 2

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
947	33.00	46.00	-13.00
1184	35.56	46.00	-10.44
1535	36.69	46.00	-9.31
1657	33.87	46.00	-12.13
1780	37.27	46.00	-8.73
1896	33.14	46.00	-12.86
2000	34.19	46.00	-11.81
2930	33.58	46.00	-12.42
4740	33.54	46.00	-12.46
17700	37.78	50.00	-12.22

\* The reading amplitudes are all under average limit.

**Appendix B****Radiated Emission Test Result: (Horizontal)**

Test Conditions:

Testing room : Temperature : 27 ° C Humidity : 41 % RH

Testing site : Temperature : 29 ° C Humidity : 50 % RH

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

431.060	48.21	2.50	227	-15.12	33.09	37.00	-3.91
464.190	48.54	2.50	135	-13.74	34.80	37.00	-2.20
596.830	43.46	0.99	42	-14.63	28.83	37.00	-8.17
663.190	49.71	4.00	111	-16.05	33.66	37.00	-3.34
729.490	45.51	0.99	118	-15.30	30.21	37.00	-6.79
***							

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	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB

146.670	50.86	2.50	207	-22.87	27.99	30.00	-2.01
199.990	42.03	2.50	138	-22.77	19.26	30.00	-10.74
232.110	52.18	0.99	232	-21.30	30.88	37.00	-6.12
464.190	48.16	0.99	236	-13.74	34.42	37.00	-2.58
663.130	48.25	2.50	34	-16.05	32.20	37.00	-4.80
862.090	51.09	4.01	73	-19.25	31.84	37.00	-5.16
***							

***Final statement:***

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