EXHIBIT B

Test Report

Test Report

Report No.	C0915625
Specifications Test Method	FCC Part 15.109(g), Class B ANSI C63.4 1992
Applicant address	1-10, Nisshincho, 183-8501, Fuchu, Tokyo, Japan
Applicant Items tested Model No.	NEC Corporation, LAN Division 10/100Mbps Switching Hub ES100/16HL (Sample # C09625)
Results Sample received date	**Compliance** (As detailed within this report) 11/16/1998 (month / day / year)
Prepared by	project engineer
Authorized by	Vice General Manager (Jacob Lin) (month / day / year)
Issue date	Dec. 3, 1998
Modifications Tested by Office and Open site at	**None** Training Research Co., Ltd. No. 15, Lane 530, Pa-Lian RD., Sec. 1, Hsi-Chih Town, Taipei Hsien, Taiwan, R.O.C.

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★ ***FCC ID: MQL989IRVINE2***

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Chapter 1 Introduction

Description of EUT:

The EUT supports both 10Mbps and 100Mbps on each of its 16 ports, automatically negotiate the speed and duplex mode of the attached device. It contains following features:

1. All ports allow for half-duplex and full-duplex communications. The EUT provides flow control features (IEEE 802.3 in full-duplex mode).
2. It has two switching method: " Store " and " forward ".
3. Virtual LAN can be configured by port or MAC address.
4. Management features:
   (1) SNMP agent features (MIB-II, bridge MIB)
   (2) Four RMON groups.
   (3) Console functions (local Management, Telnet, SLIP)
   (4) Allows for software upgrade in TFTP protocol.

Connections of EUT:

1. The power jack of EUT was connected with the AC source.
2. One port of EUT was connected with the Lan Card installed in a PC remotely.
3. Another port of EUT was connected with the Lan Card installed in another PC remotely.
4. The others were connected with dummy load.
5. The serial port of EUT was connected with the serial port of PC.

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 pretest, there were three modes testing: 10 x 10Mbps, 10 x 100Mbps, 100 x 100Mbps. Pretest was found out that the " 100 x 100Mbps " mode was the worst case. So, the final radiated emission measurement was tested in the " 100 x 100Mbps " mode.

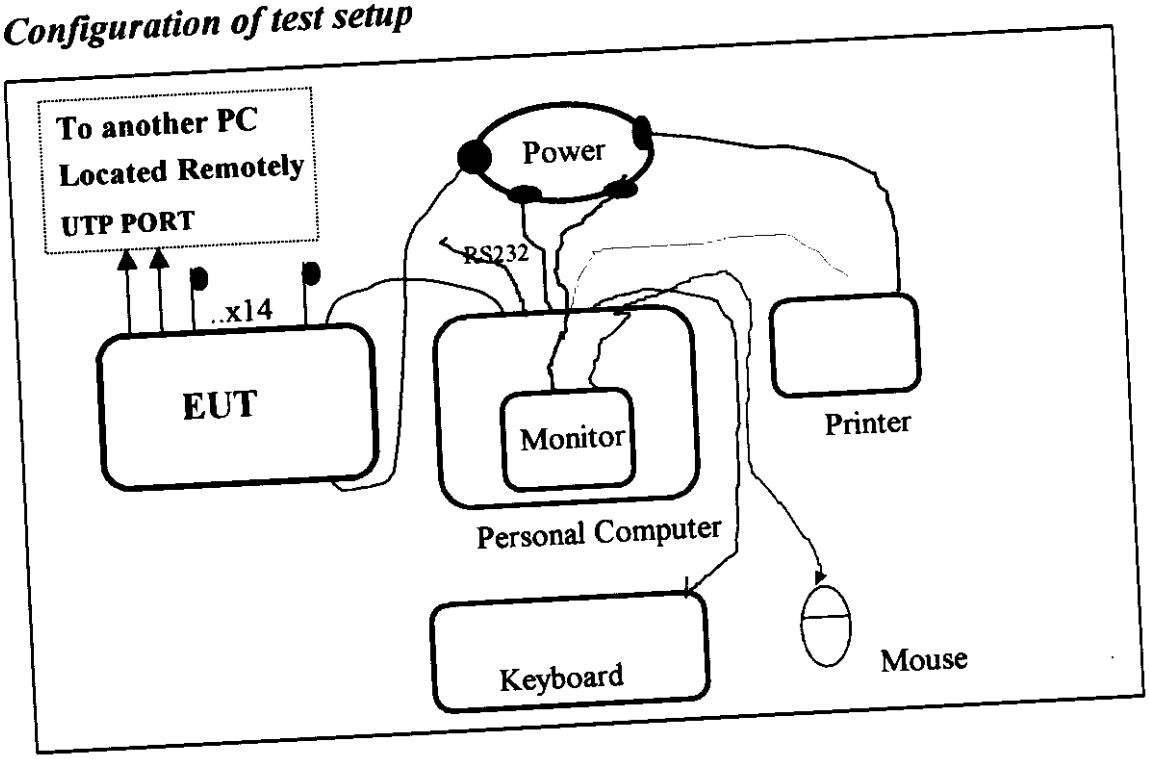
During testing, the EUT was operated at "transmitting" and "receiving" mode simultaneously.

During testing, the dummy loads were wound with each other.

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 --- EUT
*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:

*RJ-45 jack (TX) --- via a 20M, Non-Shielded, Plastic Hood, No Ferrite bead RJ-45 cable to two LAN card.
*RJ-45 jack --- connect with fourteen RJ-45 cables which 1m length, terminated.
*Power cord --- non-shielded, 1.5 m
*RS232 port --- 76 cm shielded cable connected to PC with ferrite core.
(Crown Ferrite Enterprise Co., CF-100(B))

List of support equipment

Conducted (Radiated) test:

PC	:	**HP**
Model	:	Vectra VE 5/166 SERIES 3
Serial No.	:	SG72450161
FCC ID	:	B94VECTRAVE53
Power type	:	110~120 / 220~240 VAC, Switching
Power cord	:	non-Shielded, 1.7m long, Plastic, no ferrite core

Monitor	:	**HP**
Model No.	:	D2821
Serial No.	:	TW73107071 (TW73512262)
FCC ID	:	A3KM064
Power type	:	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.	:	9S74904768 (9S74904741)
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	:	230 VAC
Power cord	:	Non-shielded, 2m long, no ferrite core
Data cable	:	Shielded, 1.84m long, no ferrite core (1.7m)

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

Lan Card	:	**DELTA**
Model No.	:	AEF380-TX
Serial No.	:	N/A
Power Type	:	Powered by PC
Data Cable	:	UTP, 7', Plastic RJ-45 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:

				Calibration Date	
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time
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 ± 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 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 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	
Instrument Name	Model No.	Brand	Serial No.	Last	Next
Spectrum analyzer	8594EM	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 ± 4.96 dB.

Test Result: Pass (Appendix B)

Appendix A

Conducted Emission Test Result: (100 X 100 MHz)

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

Line 1

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)
186	48.21	54.97	-6.76
191	51.22	54.83	-3.61
197	40.81	54.66	-13.85
249	47.77	53.17	-5.40
256	45.49	52.97	-7.48
316	41.27	51.26	-9.99
505	32.23	46.00	-13.77
568	32.59	46.00	-13.41
14110	34.59	50.00	-15.41
20000	36.54	50.00	-13.46

Line 2

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
175	38.28	55.29	-17.01
180	43.70	55.14	-11.44
190	51.48	54.86	-3.38
243	36.68	53.34	-16.66
251	46.86	53.11	-6.25
314	38.78	51.31	-12.53
505	30.95	46.00	-15.05
568	31.81	46.00	-14.19
891	29.48	46.00	-16.52
28360	31.86	50.00	-18.14

* The reading amplitudes are all under average limit.

Appendix B

Radiated Emission Test Result: (Horizontal) (100 X 100 MHz)

Test Conditions:

Testing room : Temperature : 24 ° C Humidity : 40 % RH

Testing site : Temperature : 21 ° C Humidity : 51 % 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
624.990	51.16	0.99	308	-16.52	34.64	37.00	-2.36
724.990	48.90	0.99	124	-15.27	33.63	37.00	-3.37
825.010	52.47	0.99	121	-19.41	33.06	37.00	-3.94
874.990	54.55	0.99	117	-19.04	35.51	37.00	-1.49
975.000	49.23	0.99	243	-16.26	32.97	37.00	-4.03
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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
124.990	50.19	0.99	8	-24.60	25.59	30.00	-4.41
175.020	44.95	0.99	4	-23.03	21.92	30.00	-8.08
225.000	49.62	2.50	333	-21.54	28.08	30.00	-1.92
724.980	49.11	2.50	200	-15.27	33.84	37.00	-3.16
875.000	52.06	4.00	196	-19.04	33.02	37.00	-3.98
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Final statement:
This test report, measurements made by TRC are traceable to the NIST.