
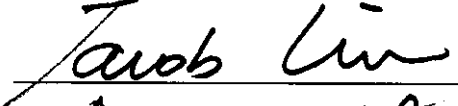
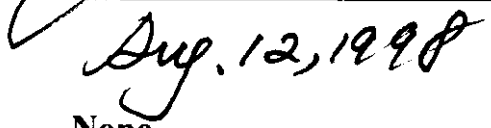


EXHIBIT B

Test Report

Report No.	C3115725
Specifications	FCC Part 15.109(g), Class B
Test Method	ANSI C63.4 1992
Applicant address	3F, No. 15, Alley 11, Lane 327, Sec. 2, Chung Shan Rd., Chung Ho City, Taipei Hsien, Taiwan, R.O.C.
Applicant Items tested	CHIC TECHNOLOGY CORPORATION COMBO MOUSE (Sample # C31725)
Results	As detailed within this report
Sample received data	08/03/1998 (month / day / year)
Prepared by	 project engineer
Authorized by	 Vice General Manager (Jacob Lin)
Issue date	 (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.*

★ FCC ID : IOWCM-TRACKBALL

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Chapter 1 Introduction

Description of EUT :

The EUT is a combo mouse. It can be serial port mouse and PS/2 mouse. If the 6 pin to 9 pin adapter was removed, the EUT will be PS/2 mouse. It has three buttons and one micro switch. It is suitable for IBM or compatible computer.

Connections of EUT :

Connect the mouse to the serial A Port of PC.

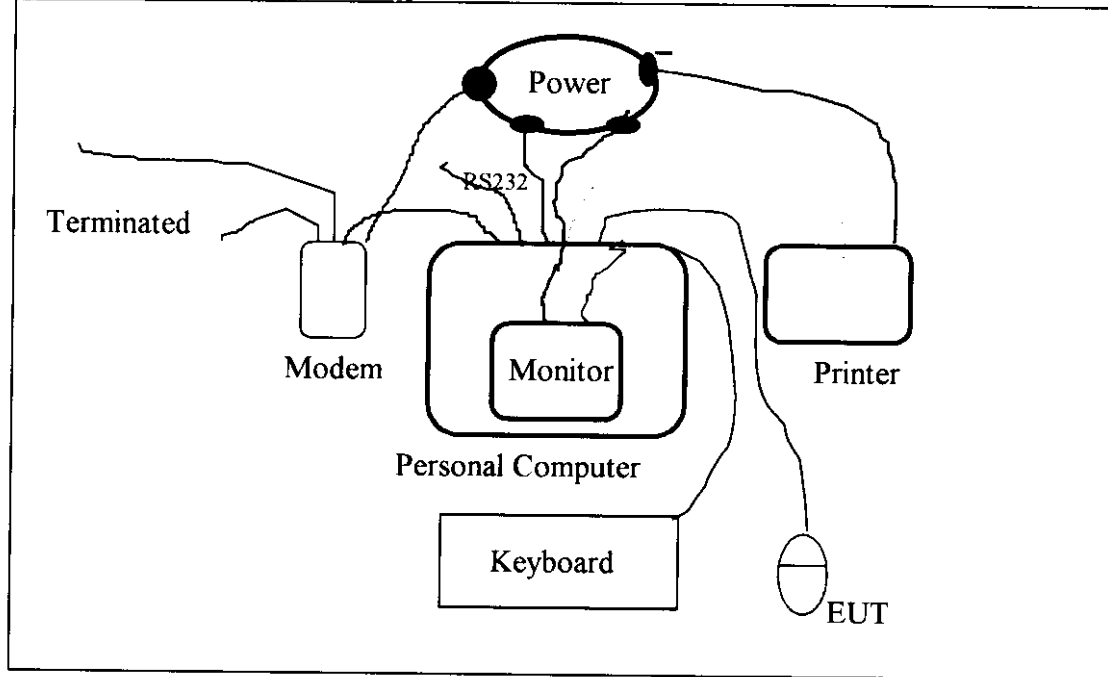
Test method :

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4 – 1992.

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

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
 - *Monitor port --- a monitor
- (Each port on PC is connected with suitable device)

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

Model : Vectra VE 5/166 series 3

Serial No. : SG72450161(SG72450174)

FCC ID : B94VECTRAVE53

Power type : AC 117 VAC ,switching

Power cord : non-Shielded, 1.7m long ,Plastic ,no ferrite core

Monitor : HP

Model No. : D2821

Serial No. : TW 73107071(CN 73812777)

FCC ID : A3HM064

Power type : 117VAC ,Switching

Power cord : Non-Shielded, 3m long ,no ferrite core

Data cable : Shielded, 1.8m long ,with ferrite core

Printer : HP

Model No. : C2642A

Serial No. : SG69A196GV

FCC ID : B94C2642X

Power type : Linear

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 : Linear

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

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**

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 :

<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	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 an anechoic chamber and scan from 30MHz to 1GHz. This is done to ensure the radiation exactly emits from 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. All 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 8594EM.

Measure more than six top marked frequencies generated from 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 meter 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 K Hz, 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 :

<u>Instrument name</u>	<u>Model No.</u>	<u>Brand</u>	<u>Serial No.</u>	<u>Calibration Date</u>	
				<u>Last</u>	<u>Next</u>
Spectrum analyzer	8594EM	H P	3710A01203	10/22/97	10/22/98
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:**

Testing room : Temperature : 23 ° C Humidity : 49 % RH

Line 1

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)
223	40.04	53.91	-13.87
329	37.60	50.89	-13.29
342	36.66	50.51	-13.85
671	31.14	46.00	-14.86
788	31.06	46.00	-14.94
120	34.62	46.00	-11.38
1574	31.38	46.00	-14.62
1680	30.55	46.00	-15.45
2120	30.64	46.00	-15.36
2350	29.95	46.00	-16.05

Line 2

Frequency (KHz)	Amplitude (dBuV)	Limit (dBuV)	Margin (dB)
219	41.44	54.03	-12.59
226	42.12	53.83	-11.71
333	41.89	50.77	-8.88
556	35.24	46.00	-10.76
671	34.93	46.00	-11.07
783	34.55	46.00	-11.45
898	38.28	46.00	-7.72
1340	37.42	46.00	-8.58
1458	34.18	46.00	-11.82
1574	36.16	46.00	-9.84

* The reading amplitudes are all under average limit.

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

Test Conditions:

Testing room : Temperature : 28 ° C Humidity : 37 % RH
Testing site : Temperature : 27 ° C Humidity : 54 % RH

Frequency	Reading	Ant.	Table	Correction	Corrected	Class B	Margin
	Amplitude	Height		Factors	Amplitude	limit	
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
)				
298.400	48.30	4.00	211	-18.30	30.00	37.00	-7.00
331.570	49.20	2.51	19	-18.20	31.00	37.00	-6.00
596.840	46.35	0.99	294	-14.63	31.72	37.00	-5.28
663.170	49.52	0.99	42	-16.05	33.47	37.00	-3.53
686.480	40.79	4.01	18	-15.13	25.66	37.00	-11.34
729.470	52.16	0.99	254	-15.30	36.86	37.00	-0.14

Note:

1. Margin = Amplitude - limit, *if margin is minus means under limit.*
 2. Corrected Amplitude = Reading Amplitude -
 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	Ant.	Table	Correction	Corrected	Class B	Margin
	Amplitude	Height		Factors	Amplitude	limit	
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
)				
198.930	46.97	0.99	51	-22.80	24.17	30.00	-5.83
331.580	48.98	0.99	155	-18.20	30.78	37.00	-6.22
464.200	46.76	0.99	94	-13.74	33.02	37.00	-3.98
663.160	48.19	2.52	141	-16.05	32.14	37.00	-4.86
729.460	50.00	2.51	194	-15.30	34.70	37.00	-2.30

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