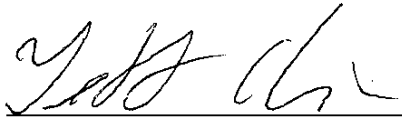
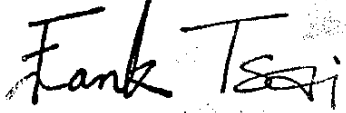


***EXHIBIT B***

***Test Report***

Report No.	I1615970
Specifications Test Method	FCC Part 15, Class B ANSI C63.4 1992
Applicant address	55 Leveroni Court, Suite9 Novato, CA 94949, USA
Applicant Items tested Model No.	IntelliTools Inc. Young Explorer Keyboard YE-KBD (Sample # I16970)
Results Sample received date	<b>Compliance</b> (As detailed within this report) 11/11/1999 (month / day / year)
Prepared by	 project engineer
Authorized by	 General Manager (Frank Tsai)
Issue date	Nov. 29, 1999 (month / day / year)
<b>Modifications</b>	<b>None</b>
Tested by	Training Research Co., Ltd.
Office at	2, Lane 194, Huan-Ho Street, Hsichih, Taipei Hsien 221, Taiwan
Chamber at	2, Lane 194, Huan-Ho Street, Hsichih, Taipei Hsien 221, Taiwan

**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: OTGYE-KBD**

# 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
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## Appendix B:

Radiated test result.....	12
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## ***Chapter 1 Introduction***

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

The EUT is a PS/2 keyboard. It has numeric keys, function keys and alphabetical keys. It is designed for suitable the IBM computer or compatible one and to use for kids.

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

Connect the PS/2 plug of EUT to the keyboard port of PC.

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

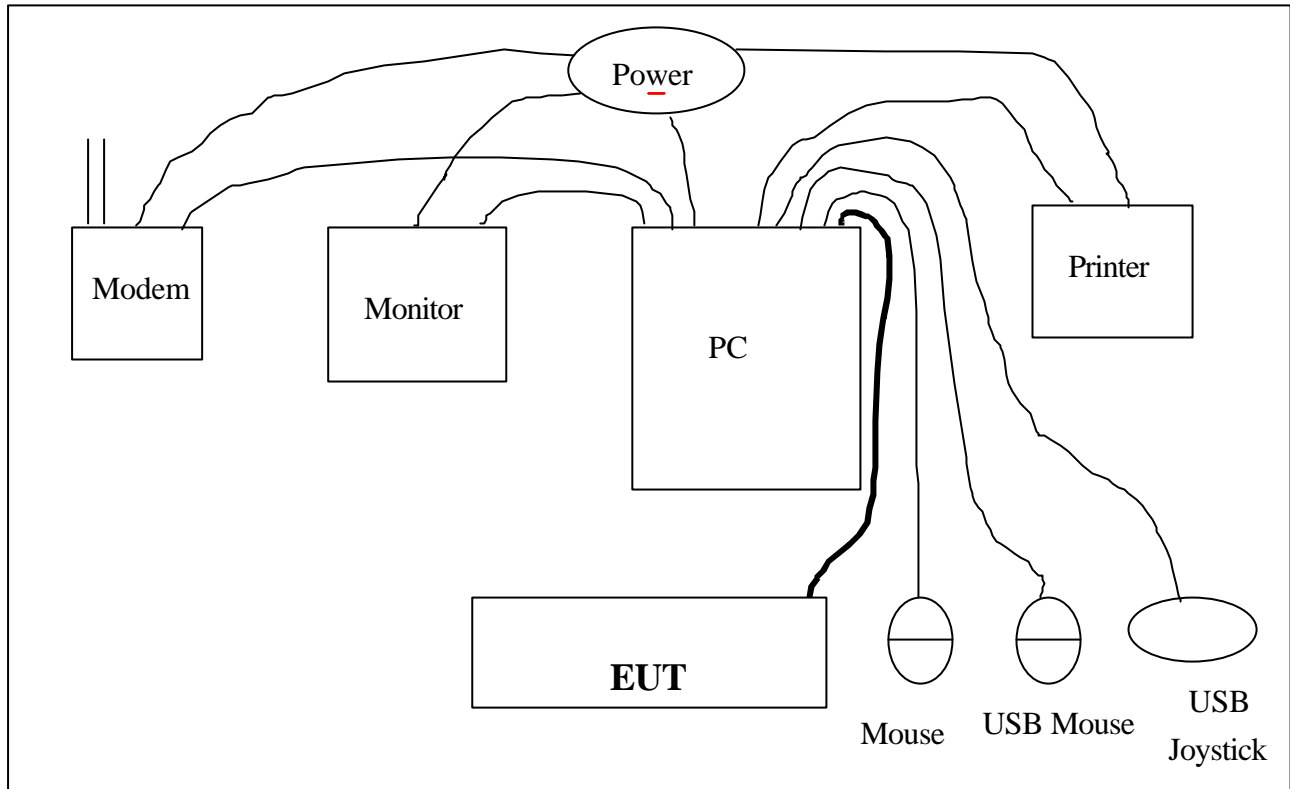
All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4 – 1992.

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

During testing, the EUT was depressed one key continuously. This was done in order to ensure that maximum emission levels were attained. 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 port --- via a 76 cm shielded RS-23 cable to an external modem
  - \* Printer port --- a printer with 1.2m length data cable
  - \* Keyboard port --- **EUT**
  - \* Mouse port --- a Mouse with 0.7m long of data cable
  - \* Monitor port --- a monitor with 0.7m long of data cable
  - \* USB port --- a joystick with 1.5m long, shielded, no ferrite bead, data cable
  - \* USB port --- a mouse with 1.5m long, shielded, no ferrite bead, data cable
- (Each port on PC is connected with suitable device)

**EUT:**

- \* PS/2 connector --- via a 1.2m long, non shielded, no ferrite bead, data cable to the keyboard port of the PC.

**List of support equipment**

**Conducted (Radiated) test:**

**PC : HP Brio 85xx 6/350**

Model No. : D6928A  
Serial No. : SG91800435  
FCC ID : N/A  
檢磁 : 3872H013  
Power type : 100 ~ 230VAC / 50 ~ 60Hz, 5A, Switching  
Power cord : Non-shielded, 2.30m long, Plastic, No ferrite core

**Monitor : HP 15' Color Monitor**

Model No. : D2832A  
Serial No. : KR91159981  
FCC ID : Doc Approved  
檢磁 : 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

**Mouse : HP**

Model No. : M-S34  
Serial No. : LZB90910464  
FCC ID : DZL211029  
檢磁 : 4862A011  
Power type : By PC  
Power cord : Non-shielded, 1.80m long, No ferrite core

**Printer : EPSON**

Model No. : P78PA  
Serial No. : 0EE0014030  
FCC ID : BKM9A8P70RA  
Power type : Linear  
Power cord : Non-shielded, 2m long, No ferrite core  
Data cable : Shielded, 1.84m long, No ferrite core

**Modem : ACEEX 9624 External Fax / Modem**

Model No. : XDM-9624  
Serial No. : N / A  
FCC ID : IFAXDM-9624  
Power Type : Linear  
Power Cord : Non-shielded, 5.5' long, Plastic hoods, and no ferrite bead  
Data Cable : RS-232 Shielded, 3' long, Metal hoods , No bead  
RJ-11C Non-shielded, 7'long, Plastic hoods, No bead

**USB Joystick: Padix**

Model No. : QF-307U  
Power type : Powered by PC  
Power Cable : Shielded, 1.5M long, No ferrite bead data cable

**USB Mouse : Chic Technology Corporation**

Model No. : CM-USB  
Serial No. : N/A)  
FCC ID : IOWCM-USB  
Power type : Powered by PC  
Power Cable : Shielded. 1.8M long, Plastic hoods, No ferrite bead  
RJ11C x 2, 7' long non-shielded, no 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 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 450KHz 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	8591EM	H P	3619A00821	10/29/99	10/29/00
LISN (EUT)	3825/2	EMCO	9411-2284	05/20/99	05/20/00
LISN (Support E.)	3825/2	EMCO	9210-2007	05/20/99	05/20/00
Preamplifier	8447F	H P	2944A03706	05/20/99	05/20/00
Line switch box	AC1-003	TRC	-----	05/20/99	05/20/00
Line selector	AC1-002	TRC	-----	05/20/99	05/20/00

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

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



**Conducted Test Placement: (Photographs)**



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**Report No.: I1615970, Young Explorer Keyboard, FCC Part 15, Class B**

**Test date: 11/15/99, Training Research Co., Ltd., TEL: 886-2-26935155, Fax: 886-2-26934440**

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

**Test condition and setup:**

**Pretest:** Prior to the final 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 **3 - meter**, anechoic chamber. 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 EMI receiver is examined from 30 MHz to 1000 MHz measured by HP EMI receiver.

The SCHAFFNER whole range Antenna is used to measure frequency from 30 MHz to 2GHz. The final test is used the HP EMI receiver 8546A.

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 tester will recheck the data 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.

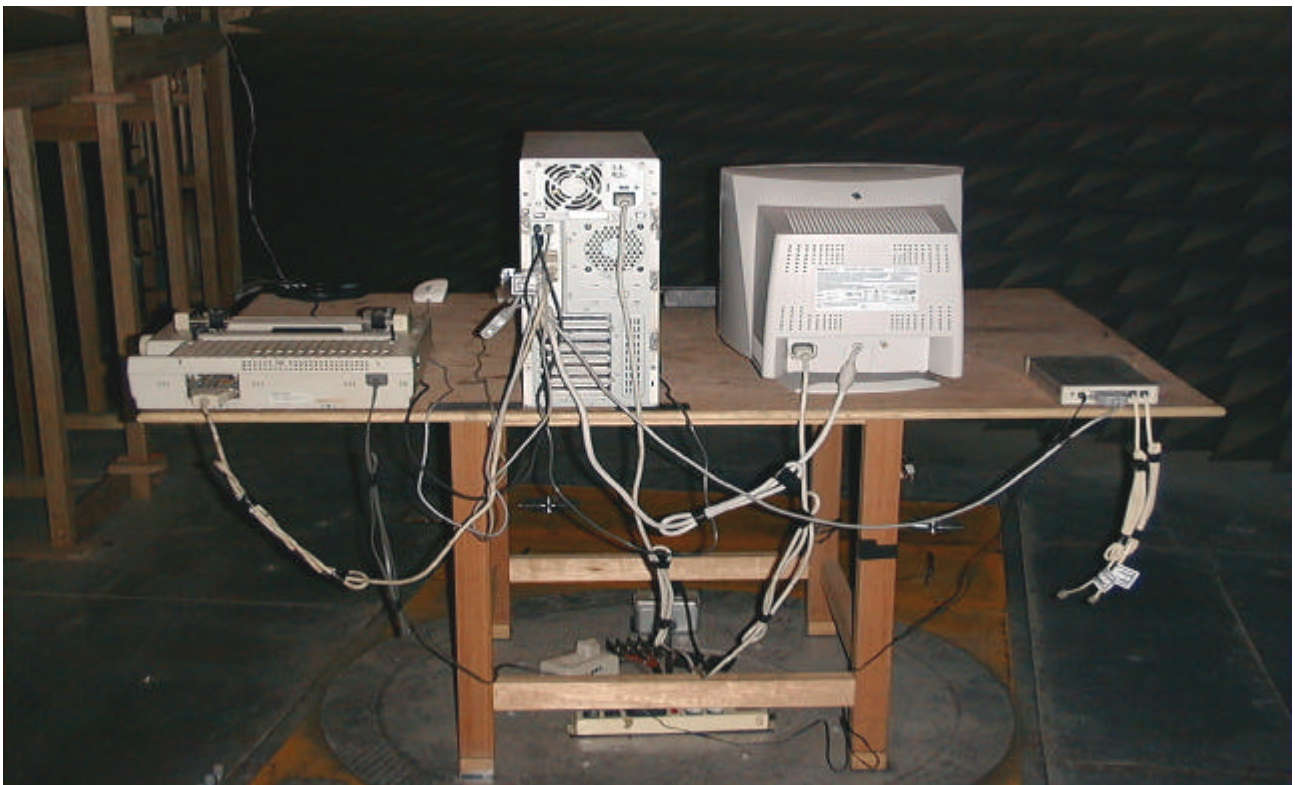
**List of test Instrument:**

<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>
EMI Receiver	8546A	H P	3520A00242	01/07/99	01/07/00
RF Filter Section	85460A	H P	3448A00217	01/07/99	01/07/00
Bi-log Antenna	CBL6141A	SCHAFFNER	4150	05/21/99	05/21/00
Anechoic Chambert (Amplify, cable calibrated together)				04/16/99	04/16/00

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)***



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**Report No.: I1615970, Young Explorer Keyboard, FCC Part 15, Class B**

**Test date: 11/15/99, Training Research Co., Ltd., TEL: 886-2-26935155, Fax: 886-2-26934440**

### Appendix A

**Conducted Emission Test Result:**

Testing room : Temperature : 21 ° C Humidity : 65 % RH

**Line 1**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBµV/m)	Quasi-peak (dBµV/m)	Average (dBµV/m)	Quasi-Peak (dBµV/m)	Average (dBµV/m)	
467	41.28	***.**	***.**	48.00	***.**	-6.72
489	41.72	***.**	***.**	48.00	***.**	-6.28
508	39.74	***.**	***.**	48.00	***.**	-8.26
553	43.72	***.**	***.**	48.00	***.**	-4.28
593	39.86	***.**	***.**	48.00	***.**	-8.14
1657	43.57	***.**	***.**	48.00	***.**	-4.43
1747	42.68	***.**	***.**	48.00	***.**	-5.32
1858	40.85	***.**	***.**	48.00	***.**	-7.15
7930	39.42	***.**	***.**	48.00	***.**	-8.58
8530	39.19	***.**	***.**	48.00	***.**	-8.81

**Line 2**

FREQUENCY ( KHz)	READING AMPLITUDE			LIMIT		MARGIN ( dB )
	Peak (dBµV/m)	Quasi-peak (dBµV/m)	Average (dBµV/m)	Quasi-Peak (dBµV/m)	Average (dBµV/m)	
464	40.00	***.**	***.**	48.00	***.**	-8.00
489	42.20	***.**	***.**	48.00	***.**	-5.80
508	39.07	***.**	***.**	48.00	***.**	-8.93
521	38.86	***.**	***.**	48.00	***.**	-9.14
553	42.70	***.**	***.**	48.00	***.**	-5.30
1646	42.75	***.**	***.**	48.00	***.**	-5.25
1847	40.14	***.**	***.**	48.00	***.**	-7.86
6930	40.57	***.**	***.**	48.00	***.**	-7.43
7350	38.94	***.**	***.**	48.00	***.**	-9.06
7550	38.13	***.**	***.**	48.00	***.**	-9.87

\* The reading amplitudes are all under average limit.

**Appendix B**

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

Test Conditions:

Testing room : Temperature : 26 ° C Humidity : 73 % RH

Testing site : Temperature : 31 ° C Humidity : 75 % 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

240.000	10.06	1.00	84	-15.09	25.15	46.00	-20.85
571.960	12.13	1.00	13	-23.08	35.21	46.00	-10.79
665.090	3.40	1.00	149	-24.42	27.82	46.00	-18.18
816.080	-1.02	1.94	81	-26.08	25.06	46.00	-20.94
873.867	1.71	1.00	15	-26.76	28.47	46.00	-17.53
907.535	-1.00	1.00	75	-27.61	26.61	46.00	-19.39
***							

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)***

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

38.470	0.71	1.00	81	-19.99	20.70	40.00	-19.30
582.503	-2.17	1.00	0	-23.40	21.23	46.00	-24.77
747.735	-4.19	1.00	0	-26.34	22.15	46.00	-23.85
814.572	1.10	1.94	28	-26.64	27.74	46.00	-18.26
873.365	-1.31	1.00	90	-27.67	26.36	46.00	-19.64
933.163	-5.14	1.94	58	-29.60	24.46	46.00	-21.54
***							

***Final statement:***

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

***EXHIBIT B***

***Test Report***