FOUNTAIN TECHNOLOGIES, INC.

COMPLIANCE LABORATORY

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ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

of

PC KEYBOARD
MODEL: SR-2500 WINDOW'S 98
FCC ID: OT3SR2500

November 22, 1999

This report concerns (check one): Original grant __x__ Class II change _____
Equipment type: computer peripheral

Deferred grant requested per 47 CF 0.457(d)(1)(ii)? yes _____ no __x__
If yes, defer until: _____ (date)
Company agrees to notify the Commission by _____ (date)
of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? yes _____ no __x__
If no, assumed Part 15, Subpart B for unintentional radiators - the new 47 CFR [10-1-90 Edition] provision.

Report prepared for: Shenzhen Rongfeng Sunrise Electronics Factory
Report prepared by: Fountain Compliance Lab
Report number: 0048-991119-03

NVLAP

The test result in this report IS supported and covered by the NVLAP accreditation

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1. GENERAL INFORMATION

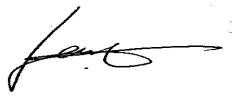
1.1 Verification of Compliance

EUT:	PC KEYBOARD
Model:	SR-2500 WINDOW'S 98
Applicant:	Shenzhen Rongfeng Sunrise Electronics Factory
Test Type:	FCC Part 15 Class B CERTIFICATION
Result:	PASS
Tested by:	David Tu
Test Date:	11-22-99
Report Number:	0048-991119-03

The above equipment was tested by Compliance Laboratory, Fountain Technologies, Inc. for compliance with the requirement set forth in the FCC rules and regulations Part 15, subpart B. This said equipment in the configuration described in the report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Fountain Compliance Lab. Doc. No. 0048-01-01.

	Prob. Dist.	Uncertainty(dB)	Uncertainty(dB)	Uncertainty(dB)
		30-1000MHz	1-6.5GHz	Conducted
Combined Std. Uncertainty u_c	norm.	±2.36	±2.99	±1.83



Wei Li
Lab Manager
Fountain Compliance Lab
Fountain Technologies, Inc.

Date: Nov. 22, 1999

1.2 Equipment Modifications

N/A

1.3 Product Information

System Configuration

ITEM	DESCRIPTION	FCC ID or DOC	CABLE
Product	PC Keyboard SR-2500 Window's 98	OT3SR2500(1)	
System Model	FTNA7300MB1	DOC: FTNA7300MB1	
Housing	Metal		
Power Supply	SPI SPI-235HA		
Clock/OSC Freq.	14.318MHz		
Memory	32MByte		
FDD/HDD Ctrl.	ON BOARD		
I/O	ON BOARD		
Floppy Drive(s)	CHINON FG-357		
Hard Drive(s)	CP30254		
CD-ROM Drive	TOSHIBA XM-6102B		
Mouse	MS serial mouse	C3KKS2	Non-Shielded, 1.5m
Trackball	MICROSPEED PC-TRAC	FUUTB02	Non-Shielded, 2.0m
Modem	EASYDATA 2400BD	EIY4Y8-24085-DM-E	Shielded, 1.0m
Printer	HP THINKJET	DSI6XU2225P	Shielded, 1.0m
Monitor	HITACHI HM-4721-D	KMGHM4721D	Shielded, 1.5m
USB mouse	Microsoft/IM1	DOC: IM1	Non-Shielded, 1.5m

(1) EUT tested for DOC.

1.4 Test Methodology

Radiated tests were performed according to the procedures in ANSI C63.4-1992 at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated and conducted data are located at 50 Randolph Road, Somerset, New Jersey. This site has been accepted by FCC to perform measurements under Part 15 or 18 in a letter dated May 19, 1997 (Refer to: 31040/PRV 1300F2). The NVLAP Lab code for accreditation of FCC EMC Test Method is: 200101-0.

1.6 Test Equipment

Manufacture	Model	Serial No.	Description	Last Cal dd/mm/yy	Cal Due dd/mm/yy
Hewlett-Packard	HP8546A	3625A00341	EMI Receiver	17/11/99	17/11/00
Fischer Custom	LISN-2	900-4-008	Line Impedance Stabilization Networks	20/05/99	20/05/00
Fischer Custom	LISN-2	900-4-009	Line Impedance Stabilization Networks	26/04/99	26/04/00
ARA	BCD-235/B	172	30-200MHz Biconical Antenna	05/05/99	05/05/00
EMCO	3146	9008-2860	200-1000MHz Log-Periodic Antenna	05/05/99	05/05/00

All Test Equipment Used are Calibrated Traceable to NIST Standards.

1.7 Statement for the Document Use

This report shall not be reproduced except in full, without the written approval of the laboratory. And this report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

2. PRODUCT LABELING

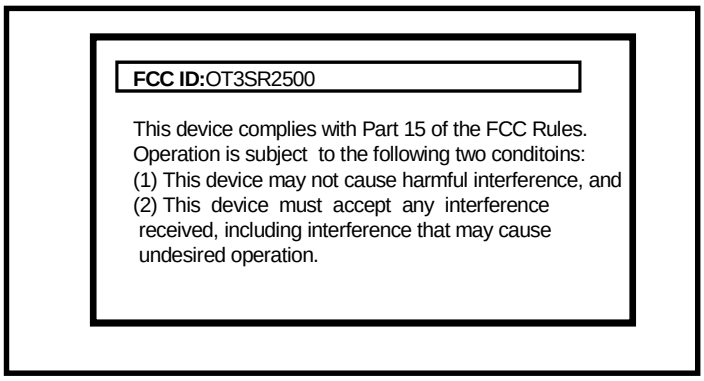


Figure 2.1 FCC ID Label

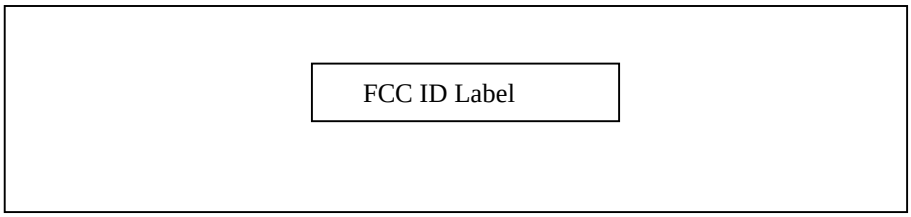


Figure 2.2 Location of Label on Back of the EUT

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it).

The monitor was investigated as powered from both wall mounted receptacle and EUT accessory outlet during preliminary conducted and radiated emission testing. The wall mounted receptacle was used for final testing as it was found to be the worst case operating mode.

3.2 EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to typical use. The software is installed on the floppy disk and is auto-starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is: (1) An H is printed on the monitor, (2) Printer prints a H. The complete cycle takes about 1 second and is repeated continuously. As the keyboard and mouse are strictly input devices, no data is transmitted to them during test. They are, however, continuously scanned for input activity.

3.3 Special Accessories

As shown in Figure 3.1, all interface cables used for compliance testing are as normally supplied by manufactures. These cable model and part numbers are marketed with the company peripherals to the end users, and appear on the company related product price list supplied to the customers.

3.4 Configuration of Tested System

Figure 3.1 through Figure 3.5 illustrate the typical system, which consists of four major components: keyboard, monitor, printer, and system unit. The term typical is used because a system can consist of a variety of different components.

3.5 Deviation

N/A

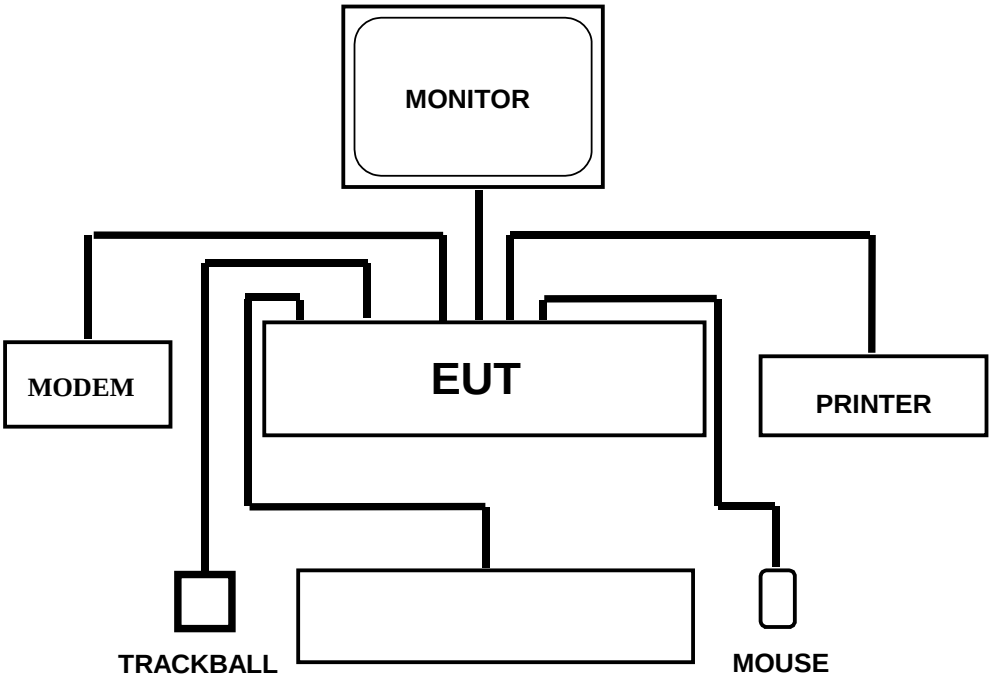


Figure 3.1 Interface Cabling Configuration of the EUT

See attachment: Radfront.jpg

Figure 3.2 Radiated Front

See attachment: Radrear.jpg

Figure 3.3 Radiated Rear

See attachment: Condfront.jpg

Figure 3.4 Conduct Front

See attachment: Condrear.jpg

Figure 3.5 Conduct Rear

4. SYSTEM SCHEMATICS

See attachment : schem.jpg

Figure 4.1 System Schematics

5. RADIATED EMISSION DATA

5.1 Test Methods and Conditions

The EUT exercise program was loaded during the conducted emission test. EMI Receiver was scanned from 450KHz to 30MHz with maximum hold mode for maximum emission. The IF Bandwidth is 9KHz. Recorded data was sent to the plotter to generate output in linear format. At the input of the spectrum analyzer, a HP transient limiter is inserted for protective purpose. This limiter has a 10 dB attenuation in the range of 450KHZ to 30MHZ. That factor was automatically compensated by the receiver, so the readings are the corrected readings. The reference of the plot is the FCC Class B limit 250 μV in Figure 5.1 through Figure 5.2.

Emissions that have peak values close to the specification limit (if any) are also measured in the quasi-peak mode to determine compliance.

5.2 Test Data

Figure 5.1 through Figure 5.2 show the neutral and line conducted emissions.

Test Personnel:

Tester Signature: David Tu Date: 11-22-1999

Typed/Printed Name: David Tu

See attachment: condneu.jpg

Figure 5.1 Neutral Conducted Emission

See attachment: condlin.jpg

Figure 5.2 Line Conducted Emission

6. RADIATED EMISSION DATA

6.1 Field Strength Calculation

The corrected field strength is automatically calculated by EMI Receiver using following:

$$FS = RA - AF - CF - AG$$

where FS: Corrected Field Strength in dBμV/m
RA: Amplitude of EMI Receiver before correction in dBμV
AF: Antenna Factor in dB/m
CF: Cable Attenuation Factor in dB
AG: Built-in Preamplifier Gain in dB (Stored in receiver as part of the calibration data)

So the receiver readings are recorded without further correction.

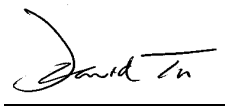
6.2 Test Methods and Conditions

The EUT exercise program was loaded during the radiated emission test. The initial step in collecting radiated data is a EMI Receiver scan of the measurement range 30MHz - 2GHz. Significant peaks are then marked down and these signals are then measured with quasi-peak detector conform with CISPR 16.

6.3 Test Data

The following data lists the significant emission frequencies, polarity, corrected amplitude reading of the EMI Receiver, the Class B limit, and the difference between the corrected reading and the Class B limit. Explanation of the correction is given in section 6.1.

Test Personnel:

Tester Signature:  Date: 11-22-1999

Typed/Printed Name: David Tu

Radiated Test Data

Frequency (MHz)	Polarity [H, V]	Height (m)	Azimuth (Degree)	Amplitude Reading (dBµV)	Class B 3m Limit (dBµV/m)	Difference from limit (dB)
237.8	H	1.0	038	39.0	46.0	**-7.0**
267.7	H	1.0	090	39.3	46.0	**-6.7**
300.5	H	1.2	090	39.3	46.0	**-6.7**
350.5	H	1.1	315	30.1	46.0	**-15.9**
356.9	H	1.0	315	31.2	46.0	**-14.8**
379.3	H	1.0	254	31.4	46.0	**-14.6**
406.3	H	1.0	270	33.1	46.0	**-12.9**
267.7	V	1.0	000	39.0	46.0	**-7.0**
300.5	V	1.0	000	30.2	46.0	**-15.8**
311.4	V	1.2	055	39.2	46.0	**-6.8**
350.5	V	1.0	000	39.5	46.0	**-6.5**

7. PHOTOS OF TESTED EUT

The following photos show the inside details of the EUT.

See Attachments: top.jpg, bottom.jpg, compnt.jpg, foil.jpg, inside.jpg