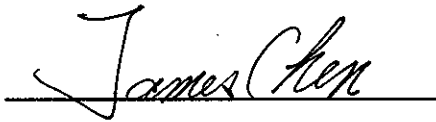
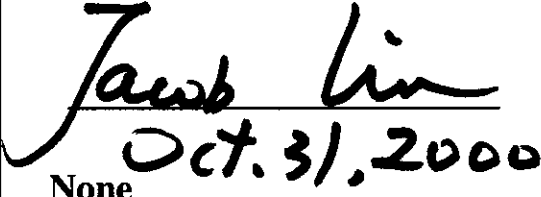


***EXHIBIT B***

***Test Report***

**Test Report**

1/13

Report No.	G2815035
FCC ID	OR7-GL-3000
Specifications	FCC P15.227, ANSI C63.4
Applicant	Globlink Technology Inc.
Address	2F1., 101 Feenliau St., Nei-hu, Taipei, Taiwan
Applicant	
Items tested	FreeBoard 2F Transmitter
Model No.	FreeBoard 2F (Sample # G28033)
Frequency Range	26.9850 - 27.2600 MHz (Operating Frequency: 26.9850MHz)
Results	<b>Compliance</b> (As detailed within this report)
Date	09/27/2000 (month / day / year)(Sample received) 10/30/2000 (month / day / year)(Tested)
Prepared by	 Project Engineer
Authorized by	 V.General Manager (Jacob Lin)
Issue date	Oct. 31, 2000 (month / day / year)
Modifications	None
Tested by	Training Research Co., Ltd.
Office at	2, Lane 194, Huan-Ho Street, Hsichih, Taipei Hsien 221, Taiwan
Open site at	No. 15, Lane 530, Pa-Lian RD., Sec. 1, Hsichih City, 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 test report, measurements made by TRC are traceable to the NIST only Conducted and Radiated Method.**

**★ NVLAP LAB CODE: 200174-0**

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## ***Chapter 1 Introduction***

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

This Transmitter is a wireless keyboard made for PC . Its relative receiver has been approved by DOC. It has 6 communication channels with pointing device on the right upper corner of the keyboard. The EUT is powered by two new 1.5V AAA batteries and the operating frequency is generated by a local oscillator 10.24MHz . The frequencies are 26.985MHz, 27.010MHz, 27.035MHz, 27.210MHz, 27.235MHz, and 27.260 MHz. This is tested according to FCC 15.227 regulation.

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

The EUT has no external cable connected , only put on the test table as test configuration showed.

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

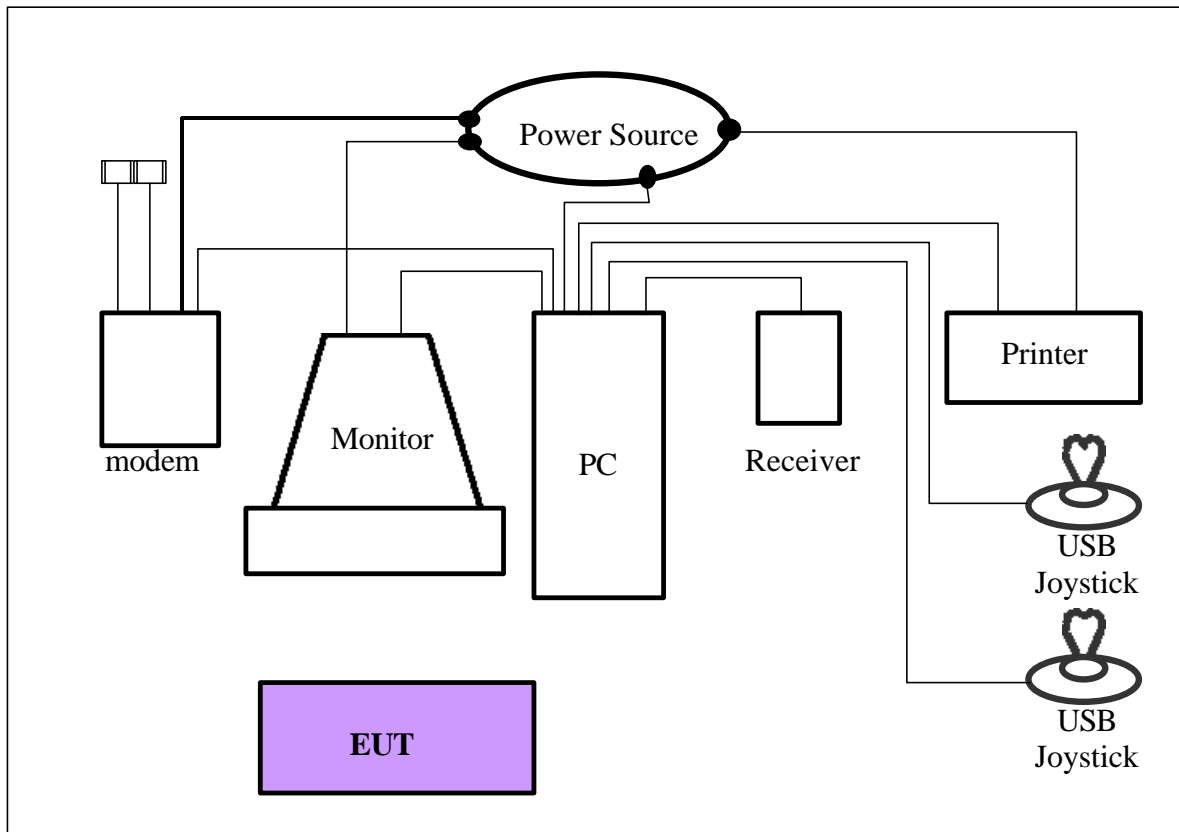
Pretest was found that the emission of transmitting mode is worse than standby mode. So, The final test is made at the transmitting mode.

During testing, the keyboard was sending a letter “H” continuously.

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 RS32 cable is connected with an external modem
  - \*Printer port --- a printer with 1.2m length data cable
  - \*Monitor port --- a monitor with 0.7m long of data cable
  - \*USB port A --- a joystick with 1.5m long, shielded and no ferrite bead data cable
  - \*USB port B --- a joystick with 1.5m long, shielded and no ferrite bead data cable
  - \*PS/2 Port--- the receiver via a 1.48m long ,non-shield, no ferrite bead, 1 to 2 PS/2 cable to PS/2 Ports of the PC.
- (Each port on PC is connected with suitable device)

**EUT:**

- \*Power by two size AAA 1.5V batteries.

**List of support equipment**

**Conducted (Radiated) test:**

**PC** : **HP Brio 85xx 6/350**  
Model No. : D6928A  
Serial No. : SG91801535  
FCC ID : N/A (Doc Approved)  
檢 磁 : 3872H013  
Power type : 100 ~ 230VAC / 50 ~ 60Hz, 5A, Switching  
Power cord : Non-shielded, 2.33m long, Plastic, No ferrite core

**Monitor** : **HP 15' Color Monitor**  
Model No. : D2827A  
Serial No. : KR91161717  
FCC ID : C5F7NFCMC1518X  
檢 磁 : 3872B039  
Power type : 110 ~ 240 VAC / 50 ~ 60 Hz, Switching  
Power cord : Shielded, 1.83m long, No ferrite core  
Data cable : Shielded, 1.46m long, with two ferrite cores

**Printer** : **HP**  
Model No. : C2642A  
Serial No. : SG69A196GV  
FCC ID : B94C2642X  
Power type : 120VAC, 60Hz, 180mA, 23VA/ 30V, 400mA  
Power cord : Non-shielded, 2m long, no ferrite core  
Data cable : Shielded, 1.84m long, no ferrite core

**Modem** : **ACEEX**  
Model No. : DM-1414V  
FCC ID : IFAXDM1414  
Power type : 120VAC, 60Hz/ 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

**USB Joystick : Padix**

Model No. : QF-305U

Serial No. : N/A (8100848)

FCC ID : N/A, Doc Approval

Power type : Powered by PC

Power Cable : Shielded, 1.5M long, No ferrite bead data cable

**Receiver : Globlink**

Model No. : FreeBoard 2F

Serial No. : N/A

FCC ID : DOC Approved

檢 磁 : N/A

Power type : By PC

Data cable : none

## ***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 :***

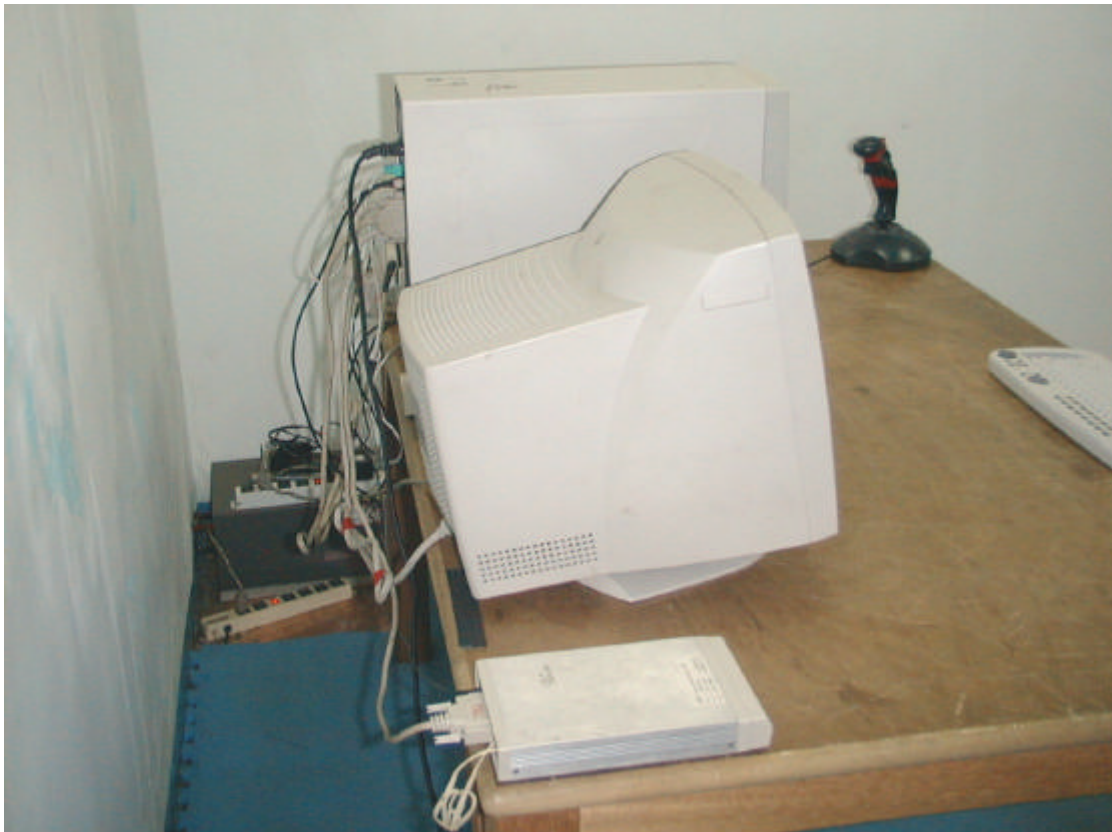
Instrument Name	Model No.	Brand	Serial No.	<b><u>Calibration Date</u></b>	
				Last time	Next time
Spectrum analyzer	8594EM	H P	3710A00198	06/29/00	06/29/01
LISN (EUT)	3825/2	EMCO	9411-2284	06/10/00	06/10/01
LISN (Support E.)	3825/2	EMCO	9210-2007	05/31/00	05/31/01
Preamplifier	EQ3-006	TRC	- - - - -	05/15/00	05/15/01
Line switch box	EQ3-007	TRC	- - - - -	05/15/00	05/15/01

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)**



## **Chapter 3 Radiated emission test**

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

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

**Final test :** Final radiation measurements is made on a **3 – meter**, open-field test site. The EUT is placed on a nonconductive table, which 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 M. E. whole range Antenna is used to measure frequency from 30 MHz to 1GHz. The final test is used the spectrum analyzer.

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 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 shielded room will be taken as the final data.

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

Instrument Name	Model No.	Brand	Serial No.	<u>Calibration Date</u>	
				Last time	Next time
Spectrum analyzer	8594EM	H P	3710A00279	06/22/00	06/22/01
Spectrum analyzer	8568B	H P	3710A00198	06/10/00	06/10/01
Antenna (30M-1.5G Hz)	VULB 9160	M.E.	3063	06/26/00	06/23/01
Antenna (30M-2G Hz)	3141	EMCO	9711-1076	05/15/00	05/15/01
RF Pre-selector	EQ3-003	TRC	- - - - -	05/15/00	05/15/01
Open test side (Antenna, Amplify, cable calibrated together)				05/15/00	05/15/01

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

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

***Radiated Test Placement: (Photographs)***





**Appendix A****Conducted Emission Test Result:**

Testing room: Temperature : 22 ° C

Humidity : 59 % 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)	
202.00	43.09	***.***	***.***	64.51	54.51	-11.43
211.00	38.88	***.***	***.***	64.26	54.26	-15.38
818.00	28.16	***.***	***.***	56.00	46.00	-17.84
1113.00	28.21	***.***	***.***	56.00	46.00	-17.79
1516.00	27.67	***.***	***.***	56.00	46.00	-18.33
1623.00	27.48	***.***	***.***	56.00	46.00	-18.52
17240.00	33.33	***.***	***.***	60.00	50.00	-16.67
18210.00	32.91	***.***	***.***	60.00	50.00	-17.09
18600.00	34.82	***.***	***.***	60.00	50.00	-15.18
26910.00	45.26	***.***	***.***	60.00	50.00	-4.74

**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)	
201.00	41.77	***.***	***.***	64.54	54.54	-12.78
213.00	39.09	***.***	***.***	64.20	54.20	-15.11
218.00	38.64	***.***	***.***	64.06	54.06	-15.42
1009.00	28.66	***.***	***.***	56.00	46.00	-17.34
1106.00	29.11	***.***	***.***	56.00	46.00	-16.89
1516.00	28.77	***.***	***.***	56.00	46.00	-17.23
1922.00	28.57	***.***	***.***	56.00	46.00	-17.43
17570.00	32.78	***.***	***.***	60.00	50.00	-17.22
18600.00	40.48	***.***	***.***	60.00	50.00	-9.52
26910.00	45.86	***.***	***.***	60.00	50.00	-4.14

\* The reading amplitudes are all under limit.

## **Appendix B**

### **Radiated Emission Test Result:(Operating frequency)**

Test Conditions:

Testing room : Temperature : 30.43 ° C      Humidity : 62 % RH

Testing site : Temperature : 32.94 ° C      Humidity : 72 % 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

498.818	55.64	0.99	288	-14.47	41.17	46.00	-4.83
575.999	48.91	0.99	185	-17.27	31.64	46.00	-14.36
581.955	56.23	0.99	128	-17.01	39.22	46.00	-6.78
665.092	53.85	0.99	81	-17.74	36.11	46.00	-9.89
***							

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	dBμV	m	degree	dB/m	dBμV/m	dBμV/m	dB

527.999	48.16	0.99	16	-17.47	30.69	46.00	-15.31
581.955	53.68	0.99	236	-17.01	36.67	46.00	-9.33
***							