# EXHIBIT B

Test Report

Report No.

B0415291

Specifications
Test Method

FCC Part 15.109 (g), Class B

ANSI C63.4 1992

Applicant address

12F, NO. 18, SEC. 1, CHANG AN E. RD.,

TAIPEI, TAIWAN, R.O.C.

**Applicant** 

BEHAVIOR TECH COMPUTER CORP.

Items tested Model No.

Internal Fax/Data/Voice Modem K56PCI, 1456PCI (Sample # B04291)

Results

As detailed within this report

Sample received

04/29/1998 (month / day / year)

data

Prepared by

repared by

Authorized by

Issue date

project engineer

Vice General Manager

(Jacob Lin)

(month / day / year)

**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.

## 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 : E5XK56PCI

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# Chapter 1 Introduction

## **Description of EUT:**

This Internal Fax/Data/Voice Modem is a data communication device. It is designed to install in the personal computer and makes your data equipment available to transmit and receive data via the public telephone network.

## Connections of EUT:

- (1) Put the EUT into a personal computer's bus and screw it.
- (2)Line jack of EUT connects with a line cable to the PABX located remotely.
- (3) Phone jack of EUT connects with a telephone set.
- (4) Spk jack of EUT connects a pairs of speakers.
- (5) Mic jack of EUT connects a microphone.

#### Test method:

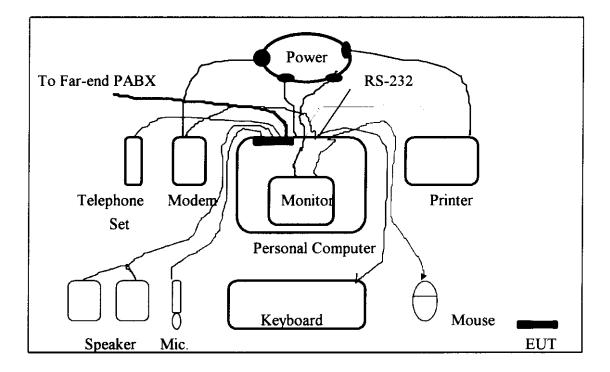
Pretest was found that the emission of operating mode is worse than standby mode. So, The final test is made at the operating mode.

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

While testing, the transmitting rate was set to "AUTO" which means it transmitted the test file depending on the telephone line condition, normally the operating rate is the highest speed. 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 --- a external modem
- \*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:

- \*Line jack --- via 15 m RJ11C cable to PABX located remotely
- \*Phone jack --- via a 7 feet RJ11C cable to telephone set
- \*Spk. jack --- a pairs of speakers with 1.2 m long wire
- \*Mic. Jack --- a dynamic microphone with 3 m long wire

## List of support equipment

#### Conducted (Radiated) test:

PC

HP

Model

Vectra VE2

Serial No.

SG61803151 (SG61802786)

FCC ID

**HCJVECTRAVL5** 

Power type

AC 117 VAC, switching

Power cord

non-Shielded, 1.7m long, Plastic, no ferrite core

**Monitor** 

HP

Model No.

D2084 (D2813)

Serial No.

KR4397004 (TW63803597)

FCC ID

CSYSC-428VSP (A3KM043)

Power type

117VAC, Switching

Power cord

Non-Shielded, 3m long, no ferrite core

Data cable

Shielded, 1.8m long, with ferrite core

Keyboard

HP

Model No.

C3757 #ABO (C3346A #ABO)

Serial No.

C3757-60423 (C3346-60231)

FCC ID

CIGE03614

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

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

PABX : King Design

Model No. : KD8705-A

Serial No. : GV101101186

Power type : 110 VAC 50/60Hz

Power cord : Non - Shielded

Microphone : KOKA
Model : DM-515

Power type : Dynamic

Data cable : non-Shielded, 3m

Speaker : J-S Model : J-006

Data cable : non-Shielded, 1.2 m

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

# 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 which 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 a 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.

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#### List of test Instrument:

				Calibration Date		
Instrument Name	Model No.	Brand	Serial No.	Last time	Next time	
Spectrum analyzer	8591EM	ΗP	3619A00821	10/06/97	10/06/98	
LISN (EUT)	3825/2	<b>EMCO</b>	9411-2284	05/15/97	05/15/98	
LISN (Support E.)	3825/2	EMCO	9210-2007	05/15/97	05/15/98	
Preamplifier	8447F	ΗP	2944A03706	05/13/97	05/15/98	
Line switch box	AC1-003	TRC		05/15/97	05/15/98	
Line selector	AC1-002	TRC		05/15/97	05/15/98	

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

## Test Result: Pass (Appendix A)

Test date: 05/14/98, Training Research Co., Ltd., TEL: 886-2-26461146, Fax: 886-2-26461778

## 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, GTEM, and scan from 30MHz to 1GHz. This is done to ensure the radiation exactly emits form the EUT.

**Final test:** Final radiation measurements is made on a 10 - meter, open-field test site. The EUT is placed on a nonconductive table which is 0.8 m 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 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 GTEM will be taken as the final data.

#### List of test Instrument:

#### Calibration Date

Instrument name	Model No.	Brand	Serial No.	Last	Next			
Spectrum analyzer	8568B	ΗP	3004A18617	05/15/97	05/15/98			
Quasi-peak Adapter	85650A	ΗP	2521A00984	05/15/97	05/15/98			
RF Pre-selector	85685A	ΗP	2947A01011	05/15/97	05/15/98			
Spectrum analyzer	8594EM	H P	3619A00198	08/13/97	08/13/98			
Antenna (30M-2G Hz)	3141	<b>EMCO</b>	9706-1049	01/30/97	12/30/98			
Open test side (Antenna, Amplify, cable calibrated together) 05/15/97 05/15/98								

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

## Test Result: Pass (Appendix B)

Test date: 05/14/98, Training Research Co., Ltd., TEL: 886-2-26461146, Fax: 886-2-26461778

# Appendix A

#### Conducted Emission Test Result:

Testing room : Temperature : 34 ° C Humidity : 70 % RH

Line 1

<u>Line 1</u>			
Frequency (MHz)	Amplitude (dBuV)	Limit (dBuV/m)	Margin (dB)
0.375	43.37	49.57	-6.20
1.572	39.02	46.00	-6.98
1.796	38.54	46.00	-7.46
2.992	36.43	46.00	-9.57
3.142	36.16	46.00	-9.84
4.394	35.42	46.00	-10.58
16.617	36.81	50.00	-13.19
17.952	37.41	50.00	-12.59
18.100	34.87	50.00	-15.13
19.137	34.59	50.00	-15.41

Line 2

Frequency	Amplitude	Limit	Margin
(MHz)	(dBuV)	(dBuV)	(dB)
0.225	36.95	53.85	-16.90
1.572	36.86	46.00	-9.14
1.796	36.43	46.00	-9.57
3.366	36.23	46.00	-9.77
15.578	36.37	50.00	-13.63
16.320	37.11	50.00	-12.89
16.840	37.65	50.00	-12.35
17.581	36.33	50.00	-13.67
19.360	36.79	50.00	-13.21
19.508	37.20	50.00	-12.80

<sup>\*</sup> The reading amplitudes are all under average limit.

## Appendix B

## Radiated Emission Test Result: (Horizontal)

**Test Conditions:** 

Testing room: Temperature : 23 ° C Humidity: 63 % RH
Testing site : Temperature : 25 ° C Humidity: 80 % RH

Frequency	Reading Amplitude	Ant. Height	Table	Correction Factors	Corrected Amplitude	Class B	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
84.672	39.75	4.00	4	-14.86	24.89	30.00	-5.11
141.122	39.72	4.00	41	-13.28	26.44	30.00	-3.56
225.791	37.03	4.00	243	-8.65	28.38	30.00	-1.62
254.019	40.83	4.00	42	-7.38	33.45	37.00	-3,55
366.916	51.65	1.00	273	-16.98	34.67	37.00	-2.33
479.814	46.02	1.00	7	-14.75	31.27	37.00	-5.73
508.039	46.02	1.00	360	-13.89	32.13	37.00	-4.87
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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	Margin
MHz	dBuV	m	degree	dB/m	dBuV/m	dBuV/m	dB
84.672	43.46	4.00	177	-14.86	28.60	30.00	-1.40
141.122	41.17	4.00	168	-13.28	27.89	30.00	-2.11
225.791	37.41	1.00	272	-8.65	28.76	30.00	-1.24
254.019	42.17	1.00	72	-7.38	34.79	37.00	-2.21
366.916	47.46	1.00	194	-16.98	30.48	37.00	-6.52
479.814	45.24	1.00	71	-14.75	30.49	37.00	-6.51
508.039	43.58	1.00	184	-13.89	29.69	37.00	-7.31
***							

#### Final statement:

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