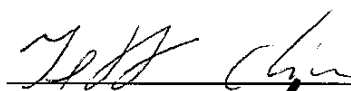
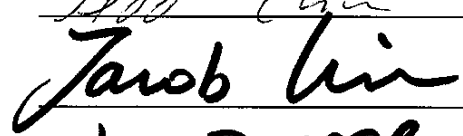
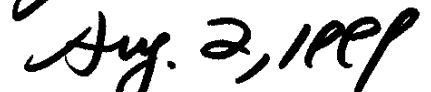


EXHIBIT B

Test Report

Report No.	A0415532	
Specifications	FCC Part 15.109(g), Class B	
Test Method	ANSI C63.4 1992	
Applicant address	2F, NO. 2, Alley 1, Sze-Wei Lane, Chung-Cheng Rd., Hsin-Tien, Taipei, 23138, Taiwan, R.O.C.	
Applicant Items tested	ACEEX CORPORATION USB Modem	
Model No.	DM-5614/USB (Sample # A04532)	
Results	Compliance (As detailed within this report)	
Sample received data	07/13/1999 (month / day / year)	
Prepared by		project engineer
Authorized by		Vice General Manager (Jacob Lin)
Issue date		(month / day / year)
Modifications	Appendix C	
Tested by	Training Research Co., Ltd.	
Office and 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.**

★ FCC ID: IFAXDM5614USB

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Chapter 1 Introduction

Description of EUT:

This USB data-fax-voice modem is a data communication device. It is designed to connect with PC or notebook via an USB cable that designed for the use of USB port and makes your data equipment available to transmit and receive data via the public telephone network.

Connections of EUT:

- (1)The USB plug of EUT was connected with the USB port A of PC via USB cable.
- (2)The line jack of EUT is connected with the PABX located remotely via a line cable.
- (3)The phone jack of EUT is connected with a telephone set.

Test method:

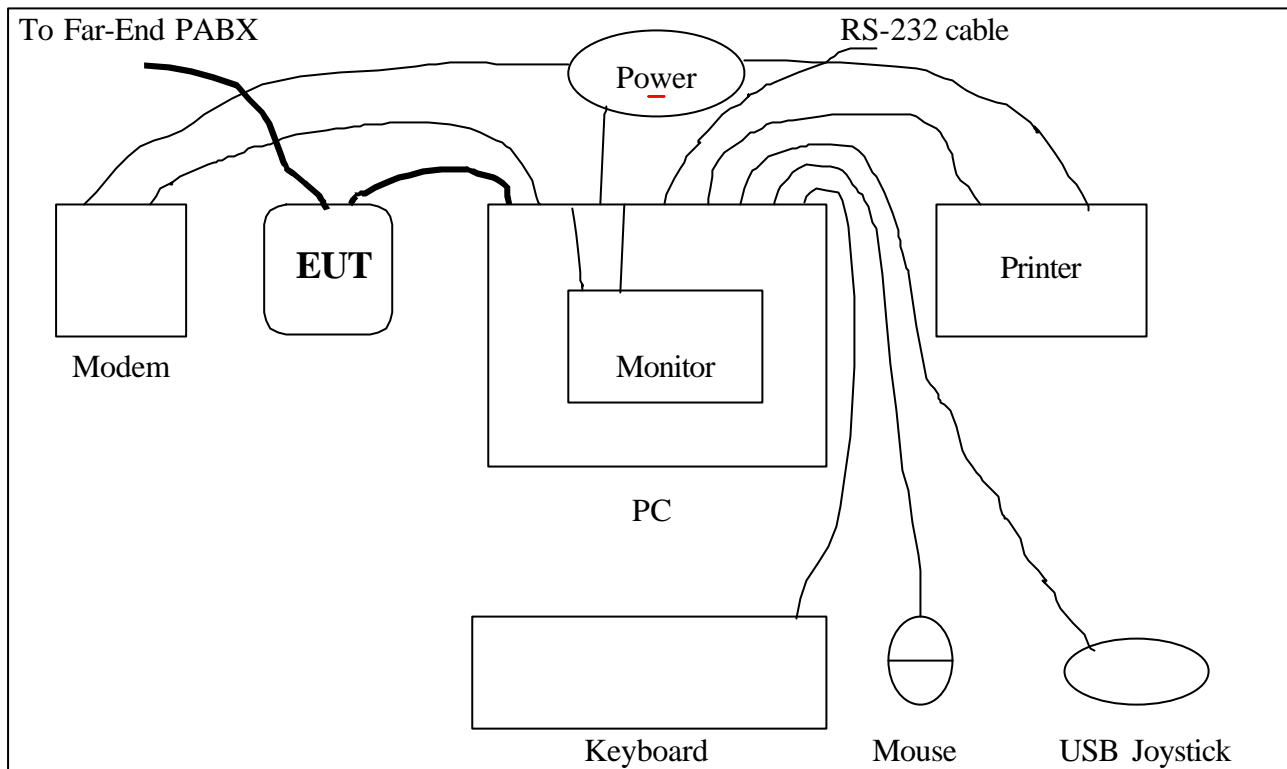
Pretest was found that the emission of operating mode is worse than standby mode. So, The final test is made at the operating mode.

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 with 76 cm shielded RS-232 cable
 - *Serial B port --- a shielded RS232 cable with 76cm long, no ferrite bead
 - *Printer port --- a Printer with 1.2m length data cable
 - *Keyboard port --- a Keyboard with 1m length data cable
 - *Mouse port --- a Mouse with 0.7m long of data cable
 - *Monitor port --- a monitor with 1m length data cable
 - *USB port A --- **EUT**
 - *USB port B --- a USB joystick with 1.5m long, shielded, no ferrite bead data cable
- (Each port on PC is connected with suitable device)

EUT:

- *USB plug --- connect to the USB port A of PC via the USB cable that is 1.9m long, shielded, with ferrite core.
- *Line jack --- via a 20 m long, no ferrite bead, RJ-11 cable to PABX located remotely

List of support equipment

Conducted (Radiated) test:

PC : HP

Model : VE6/350 SERIES 8
Serial No. : SG91002329
FCC ID : DoC Approval
Power type : AC 100~127 / 200~240 VAC, Switching
Power cord : non-Shielded, 1.7m long, Plastic, no ferrite core

Monitor : HP

Model No. : D2821
Serial No. : TW 73512262 (TW 73147163)
FCC ID : A3KMO64
Power type : AC 110~120 / 220~240 VAC, Switching
Power cord : Non-Shielded, 3m long, no ferrite core
Data cable : Shielded, 1.8m long, with 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

Printer : HP

Model No. : C2642A
Serial No. : SG69A196GV
FCC ID : B94C2642X
Power type : 220VAC, 50Hz
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-56V14
FCC ID : IFAXDM-56V14
Power type : 110VAC, 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

Mouse : **Hewlett Packard Mouse**
Model No. : C3751B
Serial No. : LZA2216003
FCC ID : DZL211029
Power type : Powered by PC
Power Cable : Non – Shielded. 5.5' long, Plastic hoods, No ferrite bead

PABX : **King Design**
Model No. : KD8705-A
Serial No. : GV101101186
Power type : 220 VAC 50Hz
Power cord : Non – Shielded, 1.8m long

Joystick : **Padix**
Model : QF-606U (DoC Approval)
Power Type : By PC

Chapter 2 Conducted emission test

Test condition and setup:

All the equipment is placed and setup according to the CISPR 22.

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 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.

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	8594EM	H P	3710A00279	01/07/99	01/07/00
LISN (EUT)	3825/2	EMCO	9411-2284	05/20/99	05/20/00
LISN (Support E.)	AC3-001	TRC	-----	05/20/99	05/20/00
Preamplifier	AC3-002	TRC	-----	05/20/99	05/20/00
Line switch box	AC3-003	TRC	-----	05/20/99	05/20/00

The level of confidence of 95%, the uncertainty of measurement of conducted emission is ± 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 anechoic chamber 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 **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. The placement is according to CISPR 22.

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 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	3619A00198	11/17/98	11/17/99
RF Pre-selector	AC4-001	TRC	-----	05/20/99	05/20/00
Antenna (30M-2G Hz)	3141	EMCO	9711-1076	12/17/98	12/17/99
Open test side (Antenna, Amplify, cable calibrated together)				05/20/99	05/20/00

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)



Appendix A

Conducted Emission Test Result:

Testing room : Temperature : 30 ° C Humidity : 42 % 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)	
226	40.38	***.**	***.**	63.83	53.83	-13.45
590	31.19	***.**	***.**	56.00	46.00	-14.81
3400	31.44	***.**	***.**	56.00	46.00	-14.56
3490	32.28	***.**	***.**	56.00	46.00	-13.72
3630	34.01	***.**	***.**	56.00	46.00	-11.99
3810	32.90	***.**	***.**	56.00	46.00	-13.10
4190	32.14	***.**	***.**	56.00	46.00	-13.86
4510	33.87	***.**	***.**	56.00	46.00	-12.13
4740	34.43	***.**	***.**	56.00	46.00	-11.57
4910	33.34	***.**	***.**	56.00	46.00	-12.66

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)	
590	31.03	***.**	***.**	56.00	46.00	-14.97
3260	31.39	***.**	***.**	56.00	46.00	-14.61
3400	32.90	***.**	***.**	56.00	46.00	-13.10
3490	32.10	***.**	***.**	56.00	46.00	-13.90
3630	33.25	***.**	***.**	56.00	46.00	-12.75
3730	32.47	***.**	***.**	56.00	46.00	-13.53
3810	32.51	***.**	***.**	56.00	46.00	-13.49
4330	33.18	***.**	***.**	56.00	46.00	-12.82
4480	33.46	***.**	***.**	56.00	46.00	-12.54
4740	35.17	***.**	***.**	56.00	46.00	-10.83

* The reading amplitudes are all under average limit.

Appendix B

Radiated Emission Test Result: (Horizontal)

Test Conditions:

Testing room : Temperature : 28 °C Humidity : 36 % RH
 Testing site : Temperature : 29 °C Humidity : 44 % RH

Frequency	Reading Amplitude	Ant. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

265.420	52.95	4.01	319	-22.06	30.89	37.00	-6.11
294.910	49.57	4.01	257	-20.18	29.39	37.00	-7.61
560.330	45.50	2.50	19	-18.19	27.31	37.00	-9.69
621.000	46.05	4.01	295	-18.09	27.96	37.00	-9.04
648.810	43.67	0.99	270	-18.79	24.88	37.00	-12.12
678.300	40.32	0.99	74	-17.35	22.97	37.00	-14.03

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. Heigh	Table	Correction Factors	Corrected Amplitude	Class B limit	Margin
MHz	dBµV	m	degree	dB/m	dBµV/m	dBµV/m	dB

176.940	42.96	0.99	225	-23.02	19.94	30.00	-10.06
206.440	48.85	0.99	32	-24.37	24.48	30.00	-5.52
265.420	51.12	0.99	107	-22.06	29.06	37.00	-7.94
294.910	48.39	0.99	158	-20.18	28.21	37.00	-8.79
324.400	45.08	0.99	29	-20.19	24.89	37.00	-12.11
383.390	43.92	0.99	28	-18.49	25.43	37.00	-11.57

Final statement:

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

Appendix C

Modification List :

1. Add a ferrite bead (TOKIN, N1608ZA121) at the pin 101, 102, 103 of U5.
2. USB Jack:
 - (1) Move the R28 and R36(24 Ω) to close to the DADA – (+), then add serially a ferrite bead (TOKIN, N1608ZA121) and add a bypass capacitor (to ground) 20pf.
 - (2) L1 = 0 Ω
 - (3) Add a bypass capacitor (to ground) 1000pf at the place that close to the L3 and at the “USBpower” end of L3.
3. Move L6 to close to the jack (In another words, move L6 to the another end of R20).
4. Add some shielding sheets at the two sides of the screw hole that close to the C21 and C19.
5. The cover must be a shielding cover.

*** (Please refer to the exhibit F: the photographs of EUT) ***

Statement of Applicant:

I acknowledge that the modifications made to the EUT for compliance during testing will be incorporated into mass production units.

Applicant :Aceex Corporation.

By : Sen-Chiung Peng **Sen-Chiung Peng** **Date: JULY 27, 1999**

Signature

Printed

Title: General Manager

