



Test Report

For

Applicant : AboCom Systems, Inc.
Equipment Type : USB 10M HomePNA Adapter
Model : UHL2000
FCC ID : MQ4UHL2000A1

Report No. : 004H060FI



Test Report Certification

QuieTek Corporation

No.75-1, Wang-Yeh Valley, Yung-Hsing, Chiung-Lin,
Hsin-Chu County, Taiwan, R.O.C.
Tel : 886-3-592-8858, Fax: 886-3-592-8859
E-Mail : quietek@ms24.hinet.net

Accredited by NIST(NVLAP), VCCI, BSMI, DNV, TUV

Applicant : AboCom Systems, Inc.
Address : 1F, No.21, R&D Road II, Science-Based Industrial Park,
Hsin-Chu , Taiwan, R.O.C.
Equipment Type : USB 10M HomePNA Adapter
Model : UHL2000
FCC ID. : MQ4UHL2000A1
Measurement Standard : CISPR 22/1994
Measurement Procedure : ANSI C63.4 /1992
Operation Voltage : DC 5V
Classification : Class B
Test Result : Complied
Test Date : May 1, 2000
Report No. : 004H060FI



The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented by: Zoe Lee	Test Engineer: Sean Chang	Approved: Kevin Wang
------------------------	---------------------------	----------------------



TABLE OF CONTENTS

Description	Page
1. GENERAL INFORMATION.....	4
1.1 EUT Description.....	4
1.2 Tested System Details.....	5
1.3 EUT Configuration.....	8
1.4 EUT Exercise Software.....	9
1.5 Test performed.....	9
1.6 Test Facility.....	10
2. CONDUCTED EMISSION.....	11
2.1 Test Equipment List.....	11
2.2 Test Setup.....	11
2.3 Limits.....	11
2.4 Test Procedure.....	12
2.5 Test Results.....	12
3. RADIATED EMISSION.....	13
3.1 Test Equipment.....	13
3.2 Test Setup.....	13
3.3 Limits.....	14
3.4 Test Procedure.....	14
3.5 Test Results.....	14
4. EMI REDUCTION METHOD DURING COMPLIANCE TESTING.....	15
5. ATTACHMENT.....	16
ATTACHMENT 1: SUMMARY OF TEST RESULTS	
ATTACHMENT 2: EUT TEST PHOTOGRAPHS	
ATTACHMENT 3: EUT DETAIL PHOTOGRAPHS	



1. General Information

1.1 EUT Description

Applicant : AboCom Systems, Inc.

Address : 1F, No.21, R&D Road II, Science-Based Industrial Park,
Hsin-Chu , Taiwan, R.O.C.

Equipment Type : USB 10M HomePNA Adapter

Model : UHL2000

FCC ID : MQ4UHL2000A1

Operation Voltage : DC 5V

USB Cable : Shielded, 0.6m

Remark :

- The EUT is an USB 10M HomePNA Adapter.
2. QuieTek had verified the construction and function in typical operation,
then shown in this test report.



1.2 Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

1.2.1 USB 10M HomePNA Adapter (EUT)

Model Number :UHL2000
Serial Number :N/A
FCC ID :MQ4UHL2000A1
Manufacturer :AboCom
USB Cable :Shielded, 0.6m

1.2.2 Notebook

Model Number : Think Pad 570
Manufacturer : IBM
Serial Number : 27L8835
FCC ID : DoC
Power Adapter : IBM, 02K6543
Cable In : Non-Shielded, 1.5m
Cable Output : Non-Shielded, 1.8m

1.2.3 Monitor

Model Number : CM752ET-311
Serial Number : T8E004439
FCC ID : DoC
Manufacturer : HITACHI
Data Cable : Shielded, 1.5m
Power Cord : Shielded, 1.7m

1.2.4 Keyboard

Model Number : 6311-TW4C
Serial Number : 916590704C91F25613
FCC ID : DoC
Manufacturer : ACER
Data Cable : Shielded, 1.8m



1.2.5 Modem

Model Number : 1414
Serial Number : 980033035
FCC ID : IFAXDM1414
Manufacturer : ACEEX
Data Cable : Shielded, 1.5m
Power Adapter : ACCEX, SCP41-91000A
Cable Output : Shielded, 1.5m

1.2.6 Printer

Model Number : C2642A
Serial Number : MY75N1D2BC
FCC ID : B94C2642X
Manufacturer : HP
Data Cable : Shielded, 1.2m
Power Adapter : NMB, C2175A
Cable for AC IN: Non-Shielded, 0.7m
Cable for AC Out: Non-Shielded, 1.5m

1.2.7 Mouse

Model Number : M-M35
Serial Number : LZA75102600
FCC ID : DZL211029
Manufacturer : Logitech
Data Cable : Shielded, 1.8m

1.2.8 Microphone

Model Number : CD-8000
Serial Number : N/A
FCC ID : DoC
Manufacturer : AIWA
Data Cable : Non-Shielded, 1m

1.2.9 Earphone

Model Number : PH136
Serial Number : N/A
Manufacturer : BSD
Data Cable : Shielded, 1.2m



1.2.10 Speaker
Model Number : J-009
Serial Number : 97-C-019790-T
FCC ID : DoC
Manufacturer : JS
Data Cable : Non-Shielded, 1.2m

1.2.11 Telephone
Model Number : ST-206
Serial Number : N/A
Manufacturer : SENAO
Data Cable : Non-Shielded, 2m

Partner PC System

1.2.12 Host Personal Computer
Model Number : P2L97
Serial Number : 92M1Y00768
FCC ID : DoC
Manufacturer : ASUS
Power Cord : Non-Shielded, 1.8m

1.2.13 Monitor
Model Number : CM752ET-311
Serial Number : T8E004443
FCC ID : DoC
Manufacturer : HITACHI
Data Cable : Shielded, 1.5m
Power Cord : Shielded, 1.8m

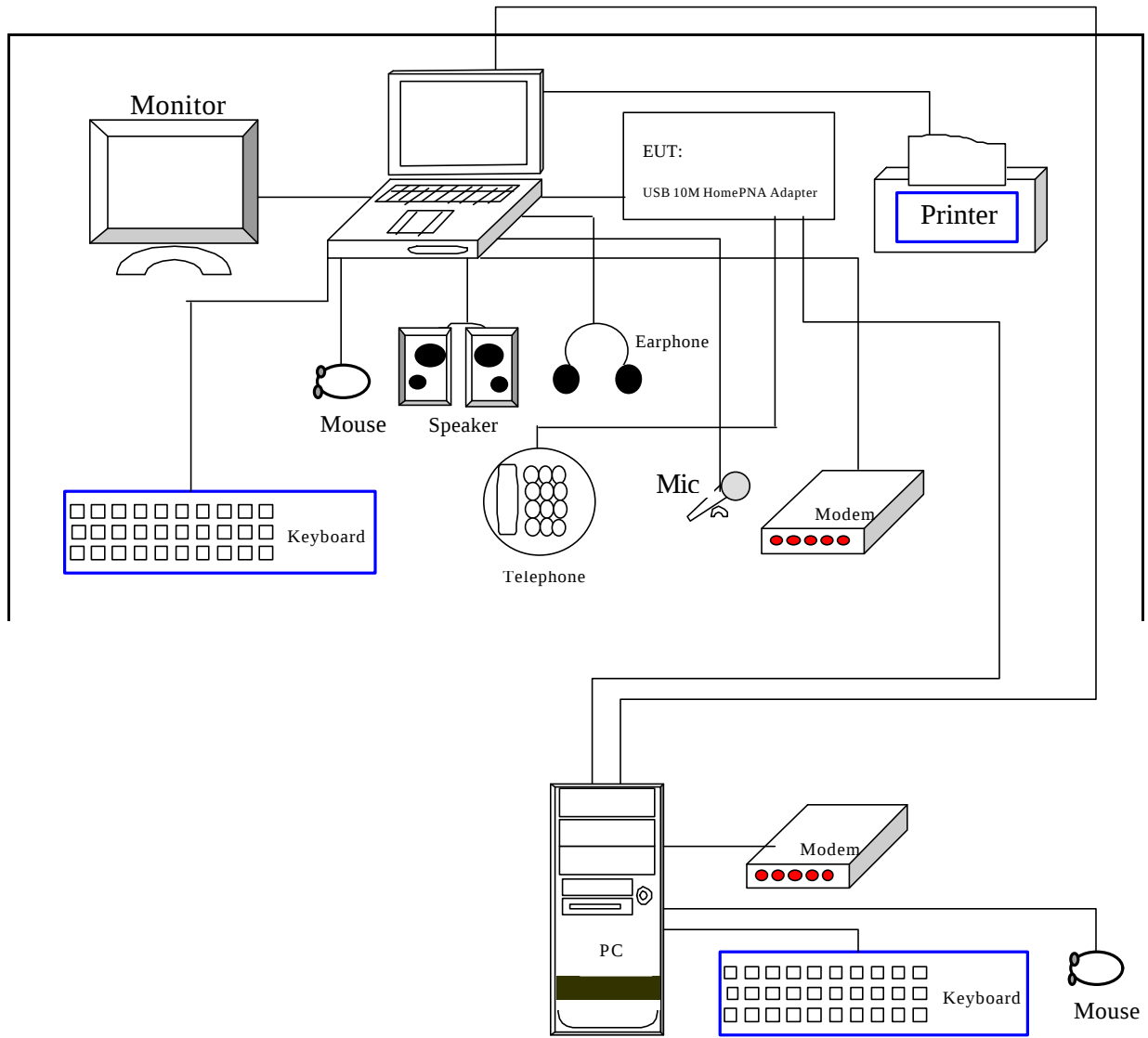
1.2.14 Keyboard
Model Number : 6311-TW4C
Serial Number : 916590704C91F24436
FCC ID : DoC
Manufacturer : ACER
Data Cable : Shielded, 1.8m

1.2.15 Mouse
Model Number : M-S35
Serial Number : LZA75102600
FCC ID : DZL211029
Manufacturer : Logitech
Data Cable : Shielded, 1.8m

1.2.16 Telephone Line: Non-Shielded, 5m, 3pcs



1.3 EUT Configuration



1.4 EUT Exercise Software

The EUT exercise program used during conducted testing was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below:

- 1.4.1 Setup the EUT and simulators as shown on 1.3.
- 1.4.2 Turn on the power of all equipment.
- 1.4.3 Boot the PC from Hard Disk .
- 1.4.4 Data will be communicated between EUT and computer.
- 1.4.5 All the peripheral will be retrieved during the test.
- 1.4.6 Repeat the above procedure 1.4.4 to 1.4.6

1.5 Test performed

Conducted emissions were investigated over the frequency range from **0.15MHz to 30MHz** using a receiver bandwidth of 9kHz.

Radiated emissions were investigated over the frequency range from **30MHz to 1000MHz** using a receiver bandwidth of 120kHz. Radiated testing was performed at an antenna to EUT distance of **10 meters**.



1.6 Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: November 3, 1998 File on

Federal Communications Commission

FCC Engineering Laboratory

7435 Oakland Mills Road

Columbia, MD 21046

Reference 31040/SIT1300F2



September 30, 1998 Accreditation on NVLAP

NVLAP Lab Code: 200347-0

February 23, 1999 Accreditation on DNV

Statement No. : 413-99-LAB11



December 8, 1998 Registration on VCCI

Registration No. for No.2 Shielded Room C-858

Registration No. for No.1 Open Area Test Site R-823

Registration No. for No.2 Open Area Test Site R-835



January 04, 1999 Accreditation on TÜV Rheinland

Certificate No.: I9865712-9901



Name of firm : QuieTek Corporation

Site location : No.75-1, Wang-Yeh Valley, Yung-Hsing Tsuen,
Chiung-Lin, Hsin-Chu County, Taiwan, R.O.C.



2. Conducted Emission

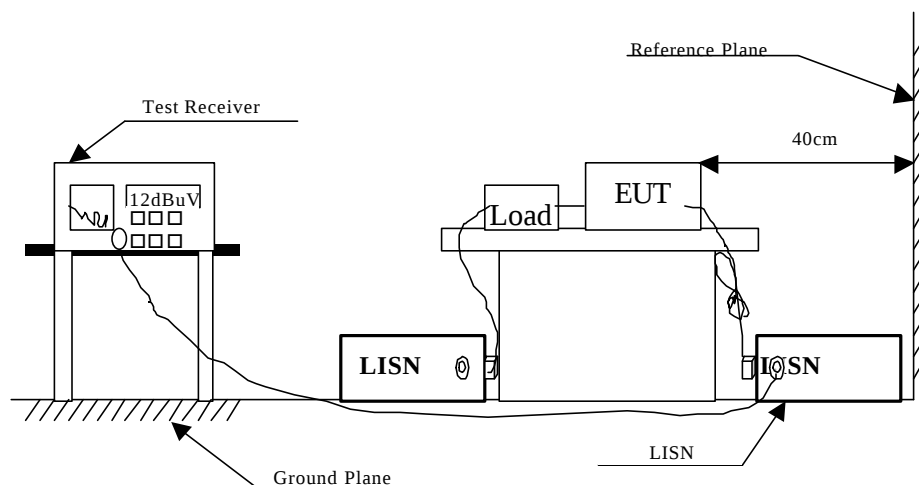
2.1 Test Equipment List

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal..	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 1999	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 1999	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 1999	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	N/A	
5	N0.2 Shielded Room			N/A	

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.2 Test Setup



2.3 Limits

CISPR 22 Limits (dBuV)					FCC Part 15 Subpart B (dBuV)				
Frequency MHz	Class A		Class B		Frequency MHz	Class A		Class B	
	QP	AV	QP	AV		uV	dBuV	uV	dBuV
0.15 - 0.50	79	66	66-56	56-46	0.45-1.705	1000	60.0	250	48.0
0.50-5.0	73	60	56	46	1.705-30	3000	69.5	250	48.0
5.0 - 30	73	60	60	50					

Remarks : In the above table, the tighter limit applies at the band edges.

2.4 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4 /1992 on conducted measurement.

The bandwidth of the field strength meter (R & S Test Receiver ESCS 30) is set at 9kHz.

2.5 Test Results

The conducted emission from the EUT is measured and shown in attachment 1 of test report. The acceptance criterion was met and the EUT passed the test.



3. Radiated Emission

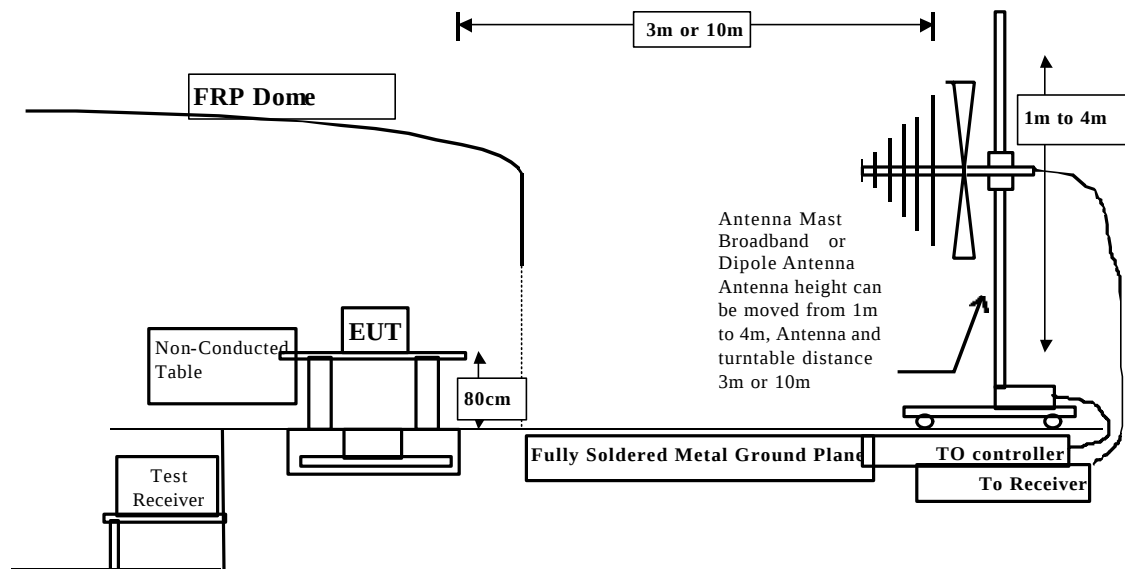
3.1 Test Equipment

The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	X	Test Receiver	R & S	ESCS 30 / 825442/14	May, 1999
		Spectrum Analyzer	Advantest	R3261C / 71720140	May, 1999
		Pre-Amplifier	HP	8447D/3307A01812	May, 1999
	X	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 1999
	X	Horn Antenna	EM	EM6917 / 103325	May, 1999
Site # 2	X	Test Receiver	R & S	ESCS 30 / 825442/17	May, 1999
		Spectrum Analyzer	Advantest	R3261C / 71720609	May, 1999
		Pre-Amplifier	HP	8447D/3307A01814	May, 1999
	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 1999
	X	Horn Antenna	EM	EM6917 / 103325	May, 1999

Note: 1. All equipment upon which need to calibrated are with calibration period of 1 year.
2.. Mark "X" test instruments are used to measure the final test results.

3.2 Test Setup



3.3 Limits

CISPR 22 Limits					FCC Part 15 Subpart B				
Frequency	Class A		Class B		Frequency	Class A		Class B	
MHz	Distance (m)	dBuV/m	Distance (m)	dBuV/m		UV/m	dBuV/m	UV/m	dBuV/m
30 – 230	10	40	10	30	30 – 88	90	39	100	40.0
230 – 1000	10	47	10	37	88 – 216	150	43.5	150	43.5
					216 – 960	210	46.5	200	46.0
					960 - 2000	300	49.5	500	54.0

Remark: 1. The tighter limit shall apply at the edge between two frequency bands.

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. RF Line Voltage (dBuV/m) = 20 log RF Line Voltage (uV/m)

3.4 Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters . The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4 /1992 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz.

3.5 Test Results

The radiated emission from the EUT is measured and shown in attachment 1 of test report. The acceptance criterion was met and the EUT passed the test.

4. EMI Reduction Method During Compliance Testing

No modification was made during testing.



5. **Attachment**

Attachment 1: Summary of Test Results	Number of Pages: 5
Attachment 2: EUT Test Photographs	Number of Pages: 2
Attachment 3: EUT detailed photographs	Number of Pages: 4



Attachment 1 : Summary of Test Results

The test results in the emission and immunity were performed according to the requirements of measurement standard and process. QuieTek Corporation is assumed full responsibility for the accuracy and completeness of these measurements. The test data of the emission and immunity are listed as the attached data.

All the tests were carried out with the EUT in normal operation, which was defined as:

[Mode 1: 10M Data Transfer](#)

The EUT passed all the tests.

The uncertainty is calculated in accordance with NAMAS NIS 81, The total uncertainty for this test is as follows:

➤ Emission Test

- Uncertainty in the Conducted Emission Test: $< \pm 2.0 \text{ dB}$
- Uncertainty in the field strength measured: $< \pm 4.0 \text{ dB}$

➤ ESD

- Uncertainty in risetime (10%/90%) in first peak of the discharge pulse: $< \pm 20\%$
- Uncertainty in first peak value of the discharge pulse: $< \pm 8\%$
- Uncertainty in the discharge pulse value at 30ns: $< \pm 30\%$
- Uncertainty in the discharge pulse value at 60ns: $< \pm 30\%$

➤ RS

- Uncertainty in Radiated Immunity Test (3m antenna distance): $-2.1/+2.9 \text{ dB}$

➤ EFT/B

- Uncertainty in risetime (10%/90%) in of the pulse: $< \pm 30\%$
- Uncertainty in half width (50%/50%) in of the pulse: $< \pm 30\%$
- Uncertainty in pulse repetition: $< \pm 20\%$
- Uncertainty in the amplitude of the pulse: $< \pm 10.8\%$

CONDUCTED EMISSION DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1 Detect Mode : Quasi-Peak & Average

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
	Loss	Factor	Line1	Line1	
MHz	dB	dB	dBuV	dBuV	dBuV
=====					
*0.199	0.01	0.10	51.99	52.10	63.65
0.263	0.03	0.10	43.09	43.22	61.34
0.398	0.05	0.10	33.37	33.52	57.90
0.531	0.07	0.10	32.52	32.69	56.00
4.650	0.20	0.17	39.65	40.01	56.00
21.255	0.36	0.47	31.43	32.27	60.00

Average:

0.199	0.01	0.10	41.70	41.81	53.65
0.263	0.03	0.10	35.70	35.83	51.34
0.398	0.05	0.10	28.40	28.55	47.90
0.531	0.07	0.10	31.80	31.97	46.00
4.650	0.20	0.17	32.90	33.26	46.00
21.255	0.36	0.47	26.90	27.74	50.00

Remarks :

1. “ * ” means that this data is the worst emission level.



CONDUCTED EMISSION DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1 Detect Mode : Quasi-Peak & Average

Frequency	Cable	LISN	Reading Level	Measurement Level	Limits
	Loss	Factor	Line2	Line2	
MHz	dB	dB	dBuV	dBuV	dBuV
=====					
*0.197	0.01	0.10	51.89	52.00	63.74
0.267	0.03	0.10	44.69	44.82	61.21
0.397	0.05	0.10	35.83	35.98	57.92
0.464	0.06	0.10	33.61	33.77	56.62
4.646	0.20	0.17	36.24	36.60	56.00
20.712	0.36	0.46	27.87	28.69	60.00

Average:

0.196	0.01	0.10	40.20	40.31	53.78
0.266	0.03	0.10	35.80	35.93	51.24
0.397	0.05	0.10	31.70	31.85	47.92
0.464	0.06	0.10	30.10	30.26	46.62
4.646	0.20	0.17	30.70	31.06	46.00
20.712	0.36	0.46	22.90	23.72	50.00

Remarks :

1. “ * ” means that this data is the worst emission level.



RADIATED EMISSION DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1 Test Site : No.2 Open Test Site

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit	Ant	Turn
	Loss	Factor		Level	Horizontal				
MHz	dB	dB/m	dB	dBuV	dBuV/m	dB	dBuV/m	cm	deg
=====									
48.000	1.33	8.92	0.00	7.64	17.89	12.11	30.00	395	17
64.000	1.48	5.73	0.00	8.67	15.87	14.13	30.00	395	203
*144.000	2.24	11.16	0.00	11.07	24.47	5.53	30.00	395	99
224.000	3.02	9.78	0.00	11.54	24.34	5.66	30.00	395	74
288.000	3.63	13.11	0.00	11.76	28.50	8.50	37.00	395	126
319.992	3.86	13.59	0.00	8.64	26.09	10.91	37.00	324	21
639.992	5.53	19.29	0.00	5.59	30.41	6.59	37.00	156	203

Remarks:

- 1.All Readings below 1GHz are Quasi-Peak, above are average value.
- 2.“ * ”, means this data is the worst emission level.
- 3.Emission Level = Reading Level + Antenna Factor + Cable loss



RADIATED EMISSION DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1 Test Site : No.2 Open Test Site

Freq.	Cable	Probe	PreAMP	Reading	Measurement	Margin	Limit	Ant	Turn	
	Loss	Factor		Level	Vertical					
MHz	dB	dB/m		dB	dBuV	dBuV/m	dB	dBuV/m	cm	deg
=====										
48.000	1.33	8.03	0.00	16.42	25.78	4.22	30.00	99	42	
*64.000	1.48	6.58	0.00	21.30	29.36	1.64	30.00	99	11	
68.000	1.51	5.47	0.00	20.82	27.80	2.20	30.00	99	203	
80.000	1.64	7.12	0.00	12.06	20.82	9.18	30.00	99	35	
128.000	2.09	11.83	0.00	12.21	26.14	3.86	30.00	99	102	
192.000	2.71	8.88	0.00	14.77	26.36	3.64	30.00	99	110	
224.000	3.02	9.65	0.00	12.24	24.91	5.09	30.00	100	118	
320.000	3.86	14.13	0.00	10.19	28.18	8.82	37.00	99	29	
384.000	4.19	15.50	0.00	8.24	27.93	9.07	37.00	99	57	

Remarks:

- 1.All Readings below 1GHz are Quasi-Peak, above are average value.
- 2.“ * ”, means this data is the worst emission level.
- 3.Emission Level = Reading Level + Antenna Factor + Cable loss



POWER HARMONICS TEST DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter

Test Mode : Mode 1

Harmonic Current Results				Harmonic Voltage Results			
Hn	AMPS	LO Limit	HI Limit	Result	%Fund.	Limit	Result
0	0.000	0.000	0.000	PASS	0.000	NaN	PASS
1	0.037	NaN	NaN	PASS	100.000	100.001	PASS
2	0.000	1.080	1.080	PASS	0.005	0.200	PASS
3	0.013	2.300	2.300	PASS	0.007	0.900	PASS
4	0.000	0.430	0.430	PASS	0.003	0.200	PASS
5	0.011	1.140	1.140	PASS	0.005	0.400	PASS
6	0.000	0.300	0.300	PASS	0.002	0.200	PASS
7	0.003	0.770	0.770	PASS	0.001	0.300	PASS
8	0.000	0.230	0.230	PASS	0.001	0.200	PASS
9	0.001	0.400	0.400	PASS	0.005	0.200	PASS
10	0.000	0.184	0.184	PASS	0.001	0.200	PASS
11	0.002	0.330	0.330	PASS	0.002	0.100	PASS
12	0.000	0.153	0.153	PASS	0.004	0.100	PASS
13	0.001	0.210	0.210	PASS	0.003	0.100	PASS
14	0.000	0.131	0.131	PASS	0.004	0.100	PASS
15	0.001	0.150	0.150	PASS	0.003	0.100	PASS
16	0.000	0.115	0.115	PASS	0.003	0.100	PASS
17	0.001	0.132	0.132	PASS	0.001	0.100	PASS
18	0.000	0.102	0.102	PASS	0.003	0.100	PASS
19	0.000	0.118	0.118	PASS	0.002	0.100	PASS
20	0.000	0.092	0.092	PASS	0.001	0.100	PASS
21	0.000	0.107	0.107	PASS	0.002	0.100	PASS
22	0.000	0.084	0.084	PASS	0.003	0.100	PASS
23	0.000	0.098	0.098	PASS	0.002	0.100	PASS
24	0.000	0.077	0.077	PASS	0.005	0.100	PASS
25	0.000	0.090	0.090	PASS	0.002	0.100	PASS
26	0.000	0.071	0.071	PASS	0.002	0.100	PASS
27	0.000	0.083	0.083	PASS	0.002	0.100	PASS
28	0.000	0.066	0.066	PASS	0.001	0.100	PASS
29	0.000	0.078	0.078	PASS	0.001	0.100	PASS
30	0.000	0.061	0.061	PASS	0.001	0.100	PASS
31	0.000	0.073	0.073	PASS	0.001	0.100	PASS
32	0.000	0.058	0.058	PASS	0.001	0.100	PASS
33	0.000	0.068	0.068	PASS	0.004	0.100	PASS
34	0.000	0.054	0.054	PASS	0.002	0.100	PASS
35	0.000	0.064	0.064	PASS	0.001	0.100	PASS
36	0.000	0.051	0.051	PASS	0.002	0.100	PASS
37	0.000	0.061	0.061	PASS	0.002	0.100	PASS
38	0.000	0.048	0.048	PASS	0.004	0.100	PASS
39	0.000	0.058	0.058	PASS	0.002	0.100	PASS
40	0.000	0.046	0.046	PASS	0.003	0.100	PASS



POWER FLUCTUATION TEST DATA

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
Test Mode : Mode 1

TEST SETUP

Test Freq.: 50.00 Hz. Test Voltage: 230.0 vac
Waveform : SINE
Test Time: 12.0 min. Tshort: 1.0 min.

Prog. Zo Enabled: YES Prog. Zo: 0.000

Voltage Change less than once per Hour: NO
Impedance selected: IEC-725 STD. REF.

Synthetic R+L Enabled: NO
Resistance: 0.380 Ohms Inductance: 460.000 uH

TEST DATA

Result: PASS

	EUT Data	Limit	Result	Test Enabled
Pst max	0.001	1.00	PASS	true
Plt max	0.001	0.65	PASS	true
dc %	0.00	3.00	PASS	true
dmax %	0.00	4.00	PASS	true
d(t) sec.	0.00	0.20	PASS	true

Power Source Data

Source Pst max	0.021	0.400	PASS	true
% THD	0.02	3.00	PASS	true



ELECTROSTATIC DISCHARGE TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1

Item	Amount of Discharge	Voltage	Required Criteria	Complied To Criteria (A,B,C)	Results
Air Discharge	10	+8kV	B	B	Pass
	10	-8kV	B	B	Pass
Contact Discharge	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass
Indirect Discharge (HCP)	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass
Indirect Discharge (VCP Front)	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass
Indirect Discharge (VCP Left)	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass
Indirect Discharge (VCP Back)	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass
Indirect Discharge (VCP Right)	10	+4kV	B	B	Pass
	10	-4kV	B	B	Pass

NR: No Requirement

- ☐ Meet criteria A: Operate as intended during and after the test
- ☒ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☐ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at ____ kV.
 - ☒ No false alarms or other malfunctions were observed during or after the test.



RADIATED SUSCEPTIBILITY TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1

Frequency (Mhz)	Position (Angle)	Polarity (H or V)	Field Strength (V/m)	Required Criteria	Complied To Criteria (A,B,C)	Results
80-1000	0	H	3	A	A	Pass
80-1000	0	V	3	A	A	Pass
80-1000	90	H	3	A	A	Pass
80-1000	90	V	3	A	A	Pass
80-1000	180	H	3	A	A	Pass
80-1000	180	V	3	A	A	Pass
80-1000	270	H	3	A	A	Pass
80-1000	270	V	3	A	A	Pass
900 75	0	H	3	A	A	Pass
900 75	0	V	3	A	A	Pass
900 75	90	H	3	A	A	Pass
900 75	90	V	3	A	A	Pass
900 75	180	H	3	A	A	Pass
900 75	180	V	3	A	A	Pass
900 75	270	H	3	A	A	Pass
900 75	270	V	3	A	A	Pass

- ☒ Meet criteria A: Operate as intended during and after the test
☐ Meet criteria B: Operate as intended after the test
☐ Meet criteria C: Loss/Error of function
☐ Additional Information
 ☐ There was no observable degradation in performance.
 ☐ EUT stopped operation and could / could not be reset by operator at _____ V/m
 at frequency _____ MHz.
☒ No false alarms or other malfunctions were observed during or after the test.



ELECTRICAL FAST TRANSIENT / BURST TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1

Inject Line	Polarity	Voltage kV	Inject Time (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L	↗	1kV	60	Direct	B	A	Pass
N	↗	1kV	60	Direct	B	A	Pass
PE	↗	1kV	60	Direct	B	A	Pass
L+N	↗	1kV	60	Direct	B	A	Pass
L+PE	↗	1kV	60	Direct	B	A	Pass
N+PE	↗	1kV	60	Direct	B	A	Pass
L+N+PE	↗	1kV	60	Direct	B	A	Pass

☒ Meet criteria A : Operate as intended during and after the test

☐ Meet criteria B : Operate as intended after the test

☐ Meet criteria C : Loss/Error of function

☐ Additional Information

☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.

☒ No false alarms or other malfunctions were observed during or after the test.



SURGE TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1

Inject Line	Polarity	Angle	Voltage kV	Inject Time (Second)	Inject Method	Required Criteria	Complied to Criteria	Result
L+N	7	0	1kV	60	Direct	B	A	Pass
L+N	7	90	1kV	60	Direct	B	A	Pass
L+N	7	180	1kV	60	Direct	B	A	Pass
L+N	7	270	1kV	60	Direct	B	A	Pass
N+PE	7	0	2kV	60	Direct	B	A	Pass
N+PE	7	90	2kV	60	Direct	B	A	Pass
N+PE	7	180	2kV	60	Direct	B	A	Pass
N+PE	7	270	2kV	60	Direct	B	A	Pass
L+PE	7	0	2kV	60	Direct	B	A	Pass
L+PE	7	90	2kV	60	Direct	B	A	Pass
L+PE	7	180	2kV	60	Direct	B	A	Pass
L+PE	7	270	2kV	60	Direct	B	A	Pass

☒ Meet criteria A : Operate as intended during and after the test

☐ Meet criteria B : Operate as intended after the test

☐ Meet criteria C : Loss/Error of function

☐ Additional Information

☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.

☒ No false alarms or other malfunctions were observed during or after the test.



CONDUCTED SUSCEPTIBILITY TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
Test Mode : Mode 1

Inject Line	Field Strength dBuV(V)	Inject Method	Required Criteria	Performance Criteria Complied To	Result
AC Line	130(3V)	CDN	A	A	PASS

- ☒ Meet criteria A: Operate as intended during and after the test
- ☐ Meet criteria B: Operate as intended after the test
- ☐ Meet criteria C: Loss/Error of function
- ☐ Additional Information
 - ☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.
 - ☒ No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.



POWER FREQUENCY MAGNETIC FIELD TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter

Test Mode : Mode 1

Polarization	Frequency (Hz)	Magnetic Strength (A/m)	Required Performance Criteria	Performance Criteria Complied To	Test Result
X Orientation	50	3	A	A	PASS
Y Orientation	50	3	A	A	PASS
Z Orientation	50	3	A	A	PASS

☒ Meet criteria A: Operate as intended during and after the test

☐ Meet criteria B: Operate as intended after the test

☐ Meet criteria C: Loss/Error of function

☐ Additional Information

☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.

☒ No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.



VOLTAGE DIPS AND INTERRUPTION TEST RESULT

Date of Test : February 18, 2000 EUT : USB 10M HomePNA Adapter
 Test Mode : Mode 1

Voltage Dips and Interruption Reduction(%)	Angle	Test Duration (ms)	Required Performance Criteria	Performance Criteria Complied To	Test Result
30	0	10	B	A	PASS
30	45	10	B	A	PASS
30	60	10	B	A	PASS
30	90	10	B	A	PASS
30	135	10	B	A	PASS
30	180	10	B	A	PASS
30	225	10	B	A	PASS
30	270	10	B	A	PASS
30	315	10	B	A	PASS
60	0	100	C	A	PASS
60	45	100	C	A	PASS
60	60	100	C	A	PASS
60	90	100	C	A	PASS
60	135	100	C	A	PASS
60	180	100	C	A	PASS
60	225	100	C	A	PASS
60	270	100	C	A	PASS
60	315	100	C	A	PASS
>95	0	5000	C	A	PASS
>95	45	5000	C	A	PASS
>95	60	5000	C	A	PASS
>95	90	5000	C	A	PASS
>95	135	5000	C	A	PASS
>95	180	5000	C	A	PASS
>95	225	5000	C	A	PASS
>95	270	5000	C	A	PASS
>95	315	5000	C	A	PASS

☒ Meet criteria A: Operate as intended during and after the test

☐ Meet criteria B: Operate as intended after the test

☐ Meet criteria C: Loss/Error of function

☐ Additional Information

☐ EUT stopped operation and could / could not be reset by operator at _____ kV of Line _____.

☒ No false alarms or other malfunctions were observed during or after the test. The acceptance criteria were met, and the EUT passed the test.