



MYRICOM, INC. TEST REPORT

FOR THE

LAN INTERFACE CARD, 10G-PCI8A-C

**EN55024 (1998 W/A1: 01 & A2: 03), EN55022 (1998) CLASS A,
FCC PART 15 SUBPART B SECTION 15.109 CLASS A
& CISPR 22 (1997) CLASS A**

COMPLIANCE

DATE OF ISSUE: OCTOBER 12, 2005

PREPARED FOR:

Myricom, Inc.
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Arcadia, CA 91006

P.O. No.: 007636-00
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PREPARED BY:

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Date of test: October 10-11, 2005

Report No.: CE05-162

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TABLE OF CONTENTS

Administrative Information	4
Summary of Results	5
Conditions for Compliance	5
Approvals	5
Equipment Under Test (EUT) Description	6
Equipment Under Test	6
Peripheral Devices	6
Specifications and Requirements	7
Report of Measurements	8
Table 1: Six Highest Radiated Emission Levels: EN55022	8
Table 2: Six Highest Conducted Emission Levels: EN55022	9
Table 3: Six Highest Conducted Emission Levels: CISPR 22	10
Table 4: Six Highest Radiated Emission Levels: FCC >1 GHz	11
Table 5: ESD (Direct Discharge)	12
Table 6: Radiated Immunity	13
Table 7: EFTB (Power Cable)	14
Table 8: EFTB (I/O Cables)	14
Table 9: Surge (Power Mains)	15
Table 10: Surge (I/O Cables)	15
Table 11: Conducted Immunity	16
Table 12: Magnetic Immunity	17
Table 13: Voltage Dips & Interrupts	17
Testing	18
Emissions	18
Correction Factors	18
Table A: Sample Calculations	18
Test Instrumentation And Analyzer Settings	19
Table B: Analyzer Bandwidth Settings Per Frequency Range	19
Spectrum Analyzer Detector Functions	19
Peak	19
Quasi-Peak	19
Average	19
Radiated Emissions	20
Conducted Emissions	20
Immunity	20
Monitoring of Operating Parameters	20
Electrostatic Discharge	21
Radiated Immunity	21
Electrical Fast Transient Burst	21
Conducted Immunity	21
Appendix A: Information About The Equipment Under Test	22

I/O Ports	23
Crystal Oscillators.....	23
Printed Circuit Boards	23
Cable Information	23
Photograph Showing Radiated Emissions	24
Photograph Showing Radiated Emissions	25
Photograph Showing Mains Conducted Emissions	26
Photograph Showing Mains Conducted Emissions	27
Photograph Showing Electrostatic Discharge.....	28
Photograph Showing Electrostatic Discharge Points.....	29
Photograph Showing Radiated Immunity	30
Photograph Showing Radiated Immunity	31
Photograph Showing Electrical Fast Transient Burst	32
Photograph Showing Conducted Immunity	33
Photograph Showing Conducted Immunity	34
Appendix B: Test Equipment List - Emissions.....	35
Appendix C: Measurement Data Sheets	36

ADMINISTRATIVE INFORMATION

DATE OF TEST: October 10-11, 2005

DATE OF RECEIPT: October 10, 2005

MANUFACTURER: Myricom, Inc.
325 North Santa Anita Ave.
Arcadia, CA 91006

REPRESENTATIVE: Alan Kulawik

TEST LOCATION: CKC Laboratories, Inc.
110 Olinda Place
Brea, CA 92621

TEST METHOD: EN55024 (1998 w/A1: 01 & A2: 03),
EN55022 (1998) and ANSI C63.4 (2003)

PURPOSE OF TEST: To demonstrate the compliance of the LAN Interface Card, 10G-PCI8A-C with the requirements for EN55024, EN55022 Class A, CISPR 22 Class A and FCC Part 15 Subpart B Section 15.109 Class A devices.

SUMMARY OF RESULTS

It is the opinion of CKC Laboratories that the LAN Interface Card, 10G-PCI8A-C was found to be fully compliant with the following standards and specifications:

European Union

- EN55024 (1998 w/A1: 01 & A2: 03)
- EN55022 (1998) Class A

Australia/New Zealand

- AS/NZS CISPR 22 (2002) Class A using:
- EN55022 (1998) Class A

Japan

- VCCI (April 2000) Class A using:
- CISPR 22 (1997) Class A
 - ANSI C63.4 (2003) method
- VCCI Acceptance Nos. R-301 & C-314

United States

- FCC Part 15 Subpart B Class A using:
- FCC Part 15 Subpart B Section 15.109 Class A
 - CISPR 22 (1997) Class A
 - ANSI C63.4 (2003) method
- FCC Site No. 90473

Canada

- ICES-003 Class A using:
- CISPR 22 (1997) Class A
 - ANSI C63.4 (2003) method
- Industry of Canada File No. IC 3172-A

Note: 89/336/EEC Article 7.1 stipulates that a national standard transposed from the harmonized standard published in the OJ is to be used to show compliance. However, for convenience and to reduce confusion, the date of the CENELEC harmonized standard is used in the report. Should questions arise, the national standard transposed from the harmonized (BS EN) is the official standard used.

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

APPROVALS

QUALITY ASSURANCE:



Steve Behm, Director of Engineering Services



Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:



Daniel Bertran-Rahu, EMC Test Technologist

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

EQUIPMENT UNDER TEST

LAN Interface Card

Manuf: Myricom
Model: 10G-PCI8A-C
Serial: 268005, 267383

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

Game Pad

Manuf: Microsoft
Model: X04-63237
Serial: 6323700759385

Stereo Headphone

Manuf: Radioshack
Model: NOVA-35
Serial: NA

Modem

Manuf: Hayes
Model: 07-00038
Serial: A32800153892

Monitor

Manuf: Gateway
Model: 500-069EV
Serial: 1501A000011

Mouse

Manuf: COMPAQ
Model: MUSAJ
Serial: 1D767Ao05172

Keyboard

Manuf: COMPAQ
Model: RT231BTW
Serial: B07080A39EBK9D

SPECIFICATIONS AND REQUIREMENTS

The following summarizes the specifications and requirements for the emission and immunity tests performed on the EUT. If the actual test levels are higher or different than required, these levels are listed in the appropriate tables.

Test	Specification	Requirement
Radiated Emissions	EN55022 (1998) FCC Part 15 Subpart B Section 15.109	Class A
Mains Conducted Emissions	EN55022 (1998) CISPR 22 (1997)	Class A
Electrostatic Discharge	EN61000-4-2 (1995) EN55024 (1998 w/A1: 01 & A2: 03)	±4 kV contact +8kV air
Radiated Immunity	EN61000-4-3 (1997) EN55024 (1998 w/A1: 01 & A2: 03)	3 V/m
Electrical Fast Transient Burst	EN61000-4-4 (1995) EN55024 (1998 w/A1: 01 & A2: 03)	1kV (AC) 0.5kV (I/O)
Surge	EN61000-4-5 (1995) EN55024 (1998 w/A1: 01 & A2: 03)	2kV (AC) 1kV (AC) 0.5kV (I/O)
Conducted Immunity	EN61000-4-6 (1996) EN55024 (1998 w/A1: 01 & A2: 03)	3 Vrms
Magnetic Immunity	EN61000-4-8 (1994) EN55024 (1998)	1 A/m
Voltage Dips & Interrupts	EN61000-4-11 (1994) EN55024 (1998 w/A1: 01 & A2: 03)	>95%, 30% & >95%

REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the EUT. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

Table 1: Six Highest Radiated Emission Levels: EN55022									
FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
110.622	54.0	10.6	-27.6	2.0	-10.0	29.0	40.0	-11.0	V
119.988	47.7	11.1	-27.6	2.1	-10.0	23.3	40.0	-16.7	H
544.031	42.7	20.4	-27.8	5.0	-10.0	30.3	47.0	-16.7	V
625.011	42.3	19.9	-27.1	5.4	-10.0	30.5	47.0	-16.5	V
781.538	39.8	22.4	-26.9	6.1	-10.0	31.4	47.0	-15.6	H
875.023	38.5	23.9	-27.1	6.5	-10.0	31.8	47.0	-15.2	H

Test Method: EN55022 (1998)
 Spec Limit: EN55022 Class A
 Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
 V = Vertical Polarization

COMMENTS: The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Table 2: Six Highest Conducted Emission Levels: EN55022

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V	SPEC LIMIT dB μ V	MARGIN dB	NOTES
		HPF dB	Att dB	Cable dB	Lisn dB				
0.162363	46.5	2.3	5.8	0.0	0.1.	54.7	66.0	-11.3	W
0.168180	46.7	1.9	5.8	0.0	0.1	54.5	66.0	-11.5	B
0.172543	45.4	1.7	5.8	0.0	0.1	53.0	66.0	-13.0	B
0.192178	41.4	0.6	5.8	0.0	0.1	47.9	66.0	-18.1	W
0.198723	40.1	0.3	5.8	0.0	0.0	46.2	66.0	-19.8	B
15.436220	29.4	0.2	5.8	0.3	0.5	36.2	60.0	-23.8	W

Test Method: EN55022 (1998)
Spec Limit: EN55022 Class A

NOTES: B = Black Lead
W = White Lead

COMMENTS: The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Table 3: Six Highest Conducted Emission Levels: CISPR 22

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V	SPEC LIMIT dB μ V	MARGIN dB	NOTES
		HPF dB	Att dB	Cable dB	Lisn dB				
0.160908	50.4	2.4	5.8	0.0	0.1	58.7	66.0	-7.3	W
0.165271	50.4	2.1	5.8	0.0	0.1	58.4	66.0	-7.6	B
0.232174	38.0	0.2	5.8	0.0	0.0	44.0	66.0	-22.0	B
0.235083	38.1	0.2	5.8	0.0	0.1	44.2	66.0	-21.8	W
0.236538	38.1	0.2	5.8	0.0	0.1	44.2	66.0	-21.8	W
0.237265	38.5	0.2	5.8	0.0	0.0	44.5	66.0	-21.5	B

Test Method: ANSI C63.4 (2003)
Spec Limit: CISPR 22 Class A

NOTES: B = Black Lead
W = White Lead

COMMENTS: The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Table 4: Six Highest Radiated Emission Levels: FCC >1 GHz

FREQUENCY MHz	METER READING dB μ V	CORRECTION FACTORS				CORRECTED READING dB μ V/m	SPEC LIMIT dB μ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
1607.407	62.5	24.8	-38.5	3.3	-10.0	42.1	49.5	-7.4	V
1948.710	63.3	25.6	-39.6	3.4	-10.0	42.7	49.5	-6.8	V
3125.000	59.1	29.0	-38.6	4.2	-10.0	43.7	49.5	-5.8	H
3125.080	59.9	29.0	-38.6	4.2	-10.0	44.5	49.5	-5.0	V
6250.003	54.4	32.7	-37.8	6.2	-10.0	45.5	49.5	-4.0	HA
6250.014	55.3	32.7	-37.8	6.2	-10.0	46.4	49.5	-3.1	V

Test Method: ANSI C63.4 (2003)
 Spec Limit: FCC Part 15 Subpart B Section 15.109 Class A
 Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
 V = Vertical Polarization
 A = Average Reading

COMMENTS: The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 1000MHz to 8000MHz, since the EUT has a 1562MHz clock (fifth harmonic of 1562MHz).

EN55024

Table 5: EN61000-4-2 ESD (Direct Discharge)

Tested By: Daniel Bertran-Rahuet

Location of discharge	Type of discharge	Test Level	Pass / Fail / NA	Performance Criterion
Front	HCP	4kV	Pass	A
Front	VCP	4kV	NA	NA
Right	VCP	4kV	NA	NA
Back	VCP	4kV	Pass	A
Left	VCP	4kV	NA	NA
Front	Contact	4kV	NA	NA
Right	Contact	4kV	NA	NA
Back	Contact	4kV	Pass	A
Left	Contact	4kV	NA	NA
Front	Air	8kV	NA	NA
Back	Air	8kV	Pass	A
Left	Air	8kV	NA	NA
Right	Air	8kV	NA	NA
Top	Air	8kV	NA	NA

HCP=Horizontal Coupling Plane VCP=Vertical Coupling Plane NA=Not Applicable because the customer states that the device is sold and shipped in a static arresting bag and labeled static sensitive.

Temperature: 22 °C

Relative Humidity: 48 %

Atmospheric Pressure: 100.5 kPa

Performance Criteria: During and after the test, the EUT shall operate without: error rate beyond the figure defined by the manufacturer; requests for retry beyond the figure defined by the manufacturer; speed of data transmission rate beyond the figure defined by the manufacturer; protocol failure; or loss of link.

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
ESD Simulator	01650	KeyTek	MZ-15ec	9503235	020205	020207

EN55024

Table 6: EN61000-4-3 Radiated Immunity

Tested By: Daniel Bertran-Rahuet

Frequency Range MHz	Test Distance	Front V/H	Back V/H	Left Side V/H	Right Side V/H	Performance Criterion
80-1000	3	Pass	Pass	Pass	Pass	A

V=Vertical H=Horizontal Test Level: 3 V/m, 80% 1 kHz Amplitude Modulated (AM)

Performance Criteria: During and after the test, the EUT shall operate without: error rate beyond the figure defined by the manufacturer; requests for retry beyond the figure defined by the manufacturer; speed of data transmission rate beyond the figure defined by the manufacturer; protocol failure; or loss of link.

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
BiLog Antenna	01370	EMCO	3143	9409-1047	NCR	NCR
Amplifier	00627	AR	50W1000A	14335	010405	010407
Directional Coupler	00714	Werlatone	C2630	3806	042005	042007
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807
Signal Generator	02227	Marconi	2024	112282/515	081805	081807
Cable	N/A	Andrew	Hardline	Cable#3	010505	010506
Anechoic Chamber	02710	LM	N/A	N/A	121504	121506

NCR = No Cal Required

EN55024

Table 7: EN61000-4-4 Electrical Fast Transient Burst (EFTB) (Power Cable)

EFTB insertion point	+ 1 kV pass / fail	- 1 kV pass / fail	Performance Criterion
Line to Ground	NA	NA	NA
Neutral to Ground	NA	NA	NA
Protective Earth to Ground	NA	NA	NA
Line/Neutral/Protective Earth to Ground.	NA	NA	NA

NA=Not Applicable because the EUT has no AC power.

Table 8: EN61000-4-4 EFTB (I/O Cables)

Tested By: Daniel Bertran-Rahuet

Cable tested	+ .5 kV pass / fail	- .5 kV pass / fail	Performance Criterion
Signal Line – CX4 cable	Pass	Pass	B
DC Power Line	NA	NA	NA

NA=Not Applicable because the EUT has no DC power lines.

Temperature: 22 °C
 Relative Humidity: 48 %
 Atmospheric Pressure: 100.5 kPa

Performance Criteria: Error rate, request for retry and speed of data transmission rate may be degraded during the application of the test. Degradation of the performance as described in criteria A is permitted provided that the normal operation of the EUT is self-recoverable to the condition immediately before the application of the test. In these cases, operator response is permitted to re-initiate an operation.

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
EFT Generator	01691	Velonex	V3300	16692	010405	010407
Capacitive Coupling Clamp	01692	Velonex	V3334	16701	010405	010407

EN55024

Table 9: EN61000-4-5 Surge (Power Mains)

Voltage level kV	Insertion points	0 degrees input +voltage-	90 degrees input +voltage-	180 degrees input +voltage-	270 degrees input +voltage-	Performance Criterion Met
		pass / fail	pass / fail	pass / fail	pass / fail	
1	Line-Neutral	NA	NA	NA	NA	NA
2	Line-Ground	NA	NA	NA	NA	NA
2	Neutral-Ground	NA	NA	NA	NA	NA

NA=Not Applicable because the EUT has no AC power.

Table 10: EN61000-4-5 Surge (I/O Cables)

Voltage level kV	Cable	pass / fail +	pass / fail -	Performance Criterion Met
0.5	DC Power Lines	NA	NA	NA
0.5	Signal Line	NA	NA	NA

NA=Not Applicable because the EUT has no DC power lines and has no ports directly connected to outside lines.

EN55024

Table 11: EN61000-4-6 Conducted Immunity

Tested By: Daniel Bertran-Rahuet

Cable Tested	Frequency Range	Pass/fail	Performance Criterion
AC Power Line	.15-80MHz	Pass	A
Signal Line	.15-80MHz	Pass	A

Modulated with a 1 kHz AM sine wave at 80%, 3 Vrms.

Performance Criteria: During and after the test, the EUT shall operate without: error rate beyond the figure defined by the manufacturer; requests for retry beyond the figure defined by the manufacturer; speed of data transmission rate beyond the figure defined by the manufacturer; protocol failure; or loss of link.

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Coupling Decoupling Network	01648	Fischer	FCC-801-M3-25	58	052305	052307
Injection Probe	01647	Fischer	F-120-1	62	010705	010707
Amplifier	00628	AR	100W100	14328	010405	010407
Directional Coupler	00714	Werlatone	02630	3806	042005	042007
Spectrum Analyzer RF Section	00989A	HP	8568A	2049A01287	040805	040807
Spectrum Analyzer Display Section	00034	HP	85662A	2349A06091	040805	040807
Quasi Peak Adapter	00200	HP	85650A	2043A00221	040805	040807
Signal Generator	02227	Marconi	2024	112282/515	090903	090905
Current Probe	00296	Solar	6741-1	8020-9	010705	010707
Coaxial Cable	-	Carolina Wire	M17/58 - RG142	Cable #16	070204	070206

EN55024

Table 12: EN61000-4-8 Magnetic Immunity

Amplitude	X-Axis	Y-Axis	Z-Axis	Performance Criterion
1 A/m	NA	NA	NA	NA

NA=Not Applicable because the customer declares the EUT has no magnetically susceptible components.

Table 13: EN61000-4-11 Voltage Dips & Interrupts

% reduction	Duration	Pass/fail	Performance Criterion	Notes
>95	0.5 period (10ms)	NA	NA	3 interrupts with 10 sec between each
30	25 periods (500ms)	NA	NA	3 interrupts with 10 sec between each
>95	250 periods (5 sec)	NA	NA	3 interrupts with 10 sec between each

NA = Not Applicable because the EUT has no AC power.

TESTING

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

EMISSIONS

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The radiated and conducted emissions data was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A. The corrected data was then compared to the applicable emission limits to determine compliance.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dB μ V/m, the spectrum analyzer reading in dB μ V was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS		
	Meter reading	(dB μ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB μ V/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Appendix B were used to collect the radiated and conducted emissions data. For radiated measurements from 30 to 1000 MHz, the biconilog antenna was used. For frequencies above 1000 MHz, the horn antenna was used.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dB μ V, and a vertical scale of 10 dB per division.

TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	8 GHz	1 MHz

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual was followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

RADIATED EMISSIONS

During the preliminary radiated scan, the EUT was powered up and operating in its defined test mode. The frequency range of 30 MHz - 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 - 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands. An analysis was performed to determine if the signals that were at or near the limit were caused by an ambient transmission. If unable to determine by analysis, the equipment was powered down to make the final determination if the EUT was the source of the emission.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable and raising and lowering the antenna from one to four meters as needed. The test engineer maximized the readings with respect to the table rotation, antenna height and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor.

CONDUCTED EMISSIONS

The vertical metal plane used for conducted emissions was grounded to the earth. Power to the EUT was provided through a LISN. The LISN was grounded to the ground plane. All other objects were kept a minimum of 80 cm away from the EUT during the conducted test.

The LISNs used were 50 μ H-/+50 ohms. Above 150 kHz, a 0.15 μ F series capacitor was added in-line prior to connecting the analyzer to restore the proper impedance for the range. A 30 to 50 second sweep time was used for automated measurements in the frequency bands of 150 kHz to 500 kHz, and 500 kHz to 30 MHz. All readings within 20 dB of the limit were recorded, and those within 6 dB of the limit were examined with additional measurements using a slower sweep time.

IMMUNITY

The EUT was set up in a manner that represented its normal use, as shown in the setup photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the immunity tables.

MONITORING OF OPERATING PARAMETERS

The device was monitored during the tests by means of a visual check whereby the essential parameters were displayed.

ELECTROSTATIC DISCHARGE

During Electrostatic Discharge testing, the EUT was located on a wooden table measuring approximately 80 cm high, 1 meter deep, and 1.5 meters in length. A horizontal coupling plane, 1.6 meters by 0.8 meters, was placed on top of the table. The EUT was then placed on a 0.5 mm thick insulating material. A 0.1 meter separation from the coupling plane was obtained. A vertical coupling plane, 0.5 m by 0.5 m, was placed parallel to, and positioned 0.1 m from, the EUT. The coupling plane was electrically bonded through two 470 k Ω series resistors to the earth reference plane on the floor, which was attached to the ground on the electrical outlet service. The ESD generator (ESD gun) was grounded to the metal ground reference plane on the floor. The ESD generator power supply was located on the ground reference plane. The ESD generator was positioned at least 0.1 meter from the EUT, with the discharge electrode touching the coupling plane.

The EUT was exposed to at least 100 (contact) discharges each at negative and positive polarity (50 discharges at each point), at a minimum of four test points, one being the horizontal coupling plane. At least 50 indirect discharges were applied to the center front edge of the horizontal coupling plane. The remaining test points received at least 50 direct contact discharges. If no direct contact test points were available, then at least 200 indirect discharges were applied to the vertical coupling plane. These tests were performed at a maximum repetition rate of one discharge per second. On the parts of the EUT where it was not possible to perform contact discharge testing, user accessible points were investigated using the air discharge method. A minimum of 10 single discharges were applied to the selected test points.

RADIATED IMMUNITY

A field strength of 3 V/m was established from 80 MHz to 1000 MHz. This frequency range was modulated with a 1 kHz sine wave at 80%. The signal generators provided the modulated frequency at a 1% step size to the RF amplifiers. The RF amplifiers provided the necessary power to the antenna to establish the field levels. The antenna was positioned 3 meters from all four faces of the EUT. A biconilog antenna was used to cover the range of 80 to 1000 MHz in both polarizations. The field strength at the required 40 cm height was 2.3 V/m.

ELECTRICAL FAST TRANSIENT BURST

Test voltages of up to 0.5 kV was applied to the I/O cables. The test voltages were at a 5 kHz pulse repetition frequency and were applied for 60 seconds between ground and each power supply terminal and between ground and protective earth. The coupling clamp was used to apply 0.5 kV to the I/O cables.

CONDUCTED IMMUNITY

A 3 Vrms level was established from 150 kHz to 80 MHz. This frequency range was modulated with 1 kHz sine wave at 80%. The signal generators provided the modulated frequency at a 1% step size to the RF amplifiers. The RF amplifiers provided the necessary power to the CDN and injection probe to establish the 3 volt level. The injection probe was positioned 0.3 meters from the rear of the EUT.

APPENDIX A

INFORMATION ABOUT THE EQUIPMENT UNDER TEST

INFORMATION ABOUT THE EQUIPMENT UNDER TEST	
Test Software/Firmware:	along_test
CRT was displaying:	Byte counts and errors
Power Supply Manufacturer:	American Media Systems
Power Supply Part Number:	PP-4603 EPS
AC Line Filter Manufacturer:	N/A
AC Line Filter Part Number:	N/A

I/O PORTS	
Type	#
CX4	2

CRYSTAL OSCILLATORS	
Type	Freq In MHz
CMOS	156.25
CMOS	125
CMOS	78.25

PRINTED CIRCUIT BOARDS				
Function	Model & Rev	Clocks, MHz	Layers	Location
LAN card	05-03174	313,1250,1562.5	all	In PC

CABLE INFORMATION

Cable #:	1	Cable(s) of this type:	1
Cable Type:	CX4	Shield Type:	Braid/foil
Construction:	STP	Length In Meters:	5
Connected To End (1):	EUT	Connected To End (2):	EUT
Connector At End (1):	CX4	Connector At End (2):	CX4
Shield Grounded At (1):	Yes	Shield Grounded At (2):	yes
Part Number:	GORE IBN6800-5	Number of Conductors:	17
Notes and/or description:			

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS



Mains Conducted Emissions - Front View

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS



Mains Conducted Emissions - Side View

PHOTOGRAPH SHOWING ELECTROSTATIC DISCHARGE



Electrostatic Discharge

PHOTOGRAPH SHOWING ELECTROSTATIC DISCHARGE POINTS



Electrostatic Discharge Points

PHOTOGRAPH SHOWING RADIATED IMMUNITY



Radiated Immunity - Front View

PHOTOGRAPH SHOWING RADIATED IMMUNITY



Radiated Immunity - Back View

PHOTOGRAPH SHOWING ELECTRICAL FAST TRANSIENT BURST



Electrical Fast Transient Burst - I/O Cables

PHOTOGRAPH SHOWING CONDUCTED IMMUNITY



Conducted Immunity - Power Lines

PHOTOGRAPH SHOWING CONDUCTED IMMUNITY



Conducted Immunity - I/O Cables

APPENDIX B

TEST EQUIPMENT LIST - EMISSIONS

The following list of test equipment was used during emissions testing. For equipment used during immunity testing, refer to the individual immunity tables.

Radiated Emissions

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	011405	011407
Biconilog Antenna	01995	Chase	CBL6111C	2451	080105	080107
Pre-amp	00309	HP	8447D	1937A02548	071404	071406
Antenna cable	NA	NA	RG214	Cable#15	010305	010306
Pre-amp to SA cable	NA	Pasternack	RG223/U	Cable#10	051605	051606
Horn Antenna	0849	EMCO	3115	6246	072204	072206
Microwave Pre-amp	00786	HP	83017A	3123A00281	081204	081206
Heliastax Antenna cable	NA	Andrew	LDF1-50	Cable#20	091604	091606
24" SMA Cable	2604	Argosy	UFA147A	0-0360-200200	012304	012306

Conducted Emissions

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02672	Agilent	E4446A	US44300438	011405	011407
Conducted Cable	04358	Harbour Ind	RG142	Cable # 21	070204	070206
150kHz HPF	02610	TTE	HB9615-150k-50-720	G7755	041606	041606
6dB Attenuator	P05267	Weinschel	18W	(none)	092805	092807
LISN	00847	EMCO	3816/2NM	1104	120804	120806
LISN	00276, 00277, 00278	Solar	8028-50-TS-24BNC	B2	101403	101405

APPENDIX C

MEASUREMENT DATA SHEETS

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **EN55022 A RADIATED**
 Work Order #: **84347**
 Test Type: **Radiated Scan**
 Equipment: **LAN interface card**
 Manufacturer: **Myricom**
 Model: **10G-PCI8A-C**
 S/N: **268005, 267383**

Date: 10/10/2005
 Time: 13:28:59
 Sequence#: 1
 Tested By: D.Bertran

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	
Modem	Hayes	07-00038	A32800153892
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767A005172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Transducer Legend:

T1=Bilog 2451 080107	T2=Cable #10 051606
T3=Cable #15, Site A, 010306	T4=Preamp 8447D 071406

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	110.622M	54.0	+10.6	+0.1	+1.9	-27.6	-10.0	29.0	40.0	-11.0	Vert
2	875.023M	38.5	+23.9	+0.6	+5.9	-27.1	-10.0	31.8	47.0	-15.2	Horiz
3	781.538M	39.8	+22.4	+0.6	+5.5	-26.9	-10.0	31.4	47.0	-15.6	Horiz
4	625.011M	42.3	+19.9	+0.5	+4.9	-27.1	-10.0	30.5	47.0	-16.5	Vert
5	119.988M	47.7	+11.1	+0.1	+2.0	-27.6	-10.0	23.3	40.0	-16.7	Horiz
6	544.031M	42.7	+20.4	+0.5	+4.5	-27.8	-10.0	30.3	47.0	-16.7	Vert
7	944.058M	34.2	+25.7	+0.6	+6.2	-27.0	-10.0	29.7	47.0	-17.3	Horiz
8	782.298M	38.0	+22.3	+0.6	+5.5	-26.9	-10.0	29.5	47.0	-17.5	Vert

9	800.038M	37.9	+22.1	+0.6	+5.6	-26.9	-10.0	29.3	47.0	-17.7	Horiz
10	624.999M	40.7	+19.9	+0.5	+4.9	-27.1	-10.0	28.9	47.0	-18.1	Horiz
11	803.699M	37.3	+22.2	+0.6	+5.6	-26.9	-10.0	28.8	47.0	-18.2	Vert
12	704.041M	39.2	+20.8	+0.5	+5.2	-26.9	-10.0	28.8	47.0	-18.2	Vert
13	816.033M	36.4	+22.7	+0.6	+5.7	-26.9	-10.0	28.5	47.0	-18.5	Horiz
14	468.822M	44.3	+17.3	+0.3	+4.1	-27.7	-10.0	28.3	47.0	-18.7	Vert
15	960.063M	32.5	+25.8	+0.6	+6.2	-27.0	-10.0	28.1	47.0	-18.9	Horiz
16	944.048M	32.3	+25.7	+0.6	+6.2	-27.0	-10.0	27.8	47.0	-19.2	Vert
17	768.038M	36.0	+22.5	+0.5	+5.5	-26.8	-10.0	27.7	47.0	-19.3	Horiz
18	125.024M	45.0	+11.2	+0.1	+2.0	-27.6	-10.0	20.7	40.0	-19.3	Vert
19	333.278M	47.4	+14.0	+0.3	+3.5	-27.6	-10.0	27.6	47.0	-19.4	Horiz
20	61.837M	52.1	+4.8	+0.1	+1.3	-27.7	-10.0	20.6	40.0	-19.4	Vert
21	832.043M	34.4	+23.3	+0.6	+5.7	-26.9	-10.0	27.1	47.0	-19.9	Horiz
22	468.808M	42.3	+17.3	+0.3	+4.1	-27.7	-10.0	26.3	47.0	-20.7	Horiz
23	704.029M	36.4	+20.8	+0.5	+5.2	-26.9	-10.0	26.0	47.0	-21.0	Horiz
24	157.178M	43.7	+10.3	+0.2	+2.3	-27.6	-10.0	18.9	40.0	-21.1	Horiz
25	78.697M	48.0	+6.9	+0.1	+1.6	-27.7	-10.0	18.9	40.0	-21.1	Vert
26	640.021M	37.3	+20.1	+0.5	+5.0	-27.1	-10.0	25.8	47.0	-21.2	Vert
27	768.048M	34.0	+22.5	+0.5	+5.5	-26.8	-10.0	25.7	47.0	-21.3	Vert
28	608.041M	37.6	+19.7	+0.5	+4.8	-27.1	-10.0	25.5	47.0	-21.5	Vert
29	175.994M	44.0	+9.0	+0.2	+2.5	-27.6	-10.0	18.1	40.0	-21.9	Vert
30	544.028M	37.2	+20.4	+0.5	+4.5	-27.8	-10.0	24.8	47.0	-22.2	Horiz
31	896.043M	31.2	+23.9	+0.6	+6.0	-27.2	-10.0	24.5	47.0	-22.5	Horiz
32	800.048M	33.1	+22.1	+0.6	+5.6	-26.9	-10.0	24.5	47.0	-22.5	Vert
33	939.488M	29.0	+25.5	+0.6	+6.2	-27.0	-10.0	24.3	47.0	-22.7	Horiz

34	535.791M	36.9	+20.0	+0.5	+4.4	-27.7	-10.0	24.1	47.0	-22.9	Vert
35	512.033M	38.2	+18.7	+0.4	+4.3	-27.6	-10.0	24.0	47.0	-23.0	Vert
36	375.008M	42.1	+15.3	+0.3	+3.7	-27.5	-10.0	23.9	47.0	-23.1	Horiz
37	208.019M	42.9	+8.5	+0.2	+2.6	-27.6	-10.0	16.6	40.0	-23.4	Vert
38	345.764M	42.7	+14.3	+0.3	+3.6	-27.6	-10.0	23.3	47.0	-23.7	Horiz
39	39.668M	39.4	+13.1	+0.1	+1.1	-27.7	-10.0	16.0	40.0	-24.0	Horiz
40	480.063M	38.5	+17.5	+0.4	+4.2	-27.7	-10.0	22.9	47.0	-24.1	Vert
41	480.058M	37.6	+17.5	+0.4	+4.2	-27.7	-10.0	22.0	47.0	-25.0	Horiz
42	374.999M	39.8	+15.3	+0.3	+3.7	-27.5	-10.0	21.6	47.0	-25.4	Vert
43	401.848M	38.7	+16.1	+0.3	+3.7	-27.4	-10.0	21.4	47.0	-25.6	Horiz
44	448.034M	37.0	+16.8	+0.3	+4.0	-27.8	-10.0	20.3	47.0	-26.7	Vert
45	416.009M	36.9	+16.3	+0.3	+3.8	-27.5	-10.0	19.8	47.0	-27.2	Vert
46	366.618M	37.1	+15.0	+0.3	+3.6	-27.5	-10.0	18.5	47.0	-28.5	Horiz
47	250.019M	40.7	+12.0	+0.2	+3.0	-27.5	-10.0	18.4	47.0	-28.6	Vert
48	233.338M	42.1	+10.7	+0.2	+2.8	-27.6	-10.0	18.2	47.0	-28.8	Horiz
49	233.314M	41.6	+10.7	+0.2	+2.8	-27.6	-10.0	17.7	47.0	-29.3	Vert
50	266.659M	38.3	+12.4	+0.3	+3.1	-27.6	-10.0	16.5	47.0	-30.5	Vert
51	312.489M	34.0	+13.4	+0.3	+3.3	-27.5	-10.0	13.5	47.0	-33.5	Vert

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **EN55022 A COND AVG**
 Work Order #: **84347**
 Test Type: **Conducted Emissions**
 Equipment: **LAN interface card**
 Manufacturer: **Myricom**
 Model: **10G-PCI8A-C**
 S/N: **268005, 267383**

Date: 10/10/2005
 Time: 5:06:11 PM
 Sequence#: 4
 Tested By: D.Bertran
 235Vac 50Hz

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	
Modem	Hayes	07-00038	A32800153892
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767A005172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Transducer Legend:

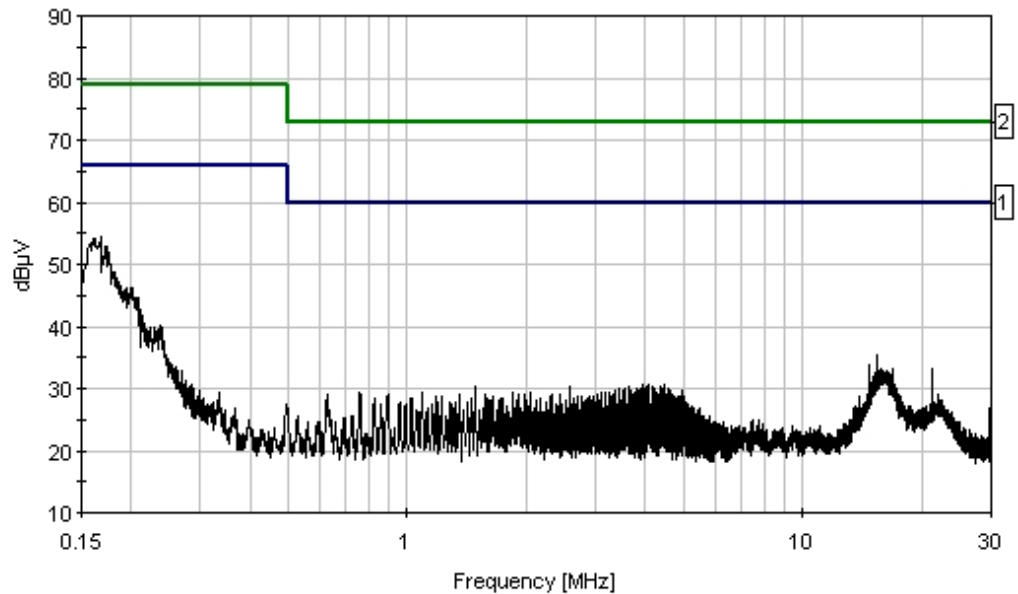
T1=150kHz HPF 041605	T2=6dB Attenuator P05267 092807
T3=Cable #21 Conducted Site A 070206	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	168.180k	46.7	+1.9	+5.8	+0.0	+0.1	+0.0	54.5	66.0	-11.5	Black
2	172.543k	45.4	+1.7	+5.8	+0.0	+0.1	+0.0	53.0	66.0	-13.0	Black
3	198.723k	40.1	+0.3	+5.8	+0.0	+0.0	+0.0	46.2	66.0	-19.8	Black
4	15.436M	28.5	+0.2	+5.8	+0.3	+0.5	+0.0	35.3	60.0	-24.7	Black
5	14.743M	27.0	+0.2	+5.8	+0.3	+0.5	+0.0	33.8	60.0	-26.2	Black
6	15.824M	26.3	+0.2	+5.8	+0.3	+0.6	+0.0	33.2	60.0	-26.8	Black
7	16.986M	26.3	+0.2	+5.8	+0.3	+0.6	+0.0	33.2	60.0	-26.8	Black
8	21.238M	25.8	+0.2	+5.8	+0.4	+0.9	+0.0	33.1	60.0	-26.9	Black

9	16.049M	26.0	+0.2	+5.8	+0.3	+0.6	+0.0	32.9	60.0	-27.1	Black
10	16.256M	25.9	+0.2	+5.8	+0.3	+0.6	+0.0	32.8	60.0	-27.2	Black
11	15.310M	25.6	+0.2	+5.8	+0.3	+0.5	+0.0	32.4	60.0	-27.6	Black
12	16.472M	25.5	+0.2	+5.8	+0.3	+0.6	+0.0	32.4	60.0	-27.6	Black
13	16.670M	25.3	+0.2	+5.8	+0.3	+0.6	+0.0	32.2	60.0	-27.8	Black
14	16.941M	25.1	+0.2	+5.8	+0.3	+0.6	+0.0	32.0	60.0	-28.0	Black
15	15.211M	25.0	+0.2	+5.8	+0.3	+0.5	+0.0	31.8	60.0	-28.2	Black

CKC Laboratories, Inc. Date: 10/10/2005 Time: 5:06:11 PM Myricom, Inc. WO#: 84347
 EN55022 A COND AVG Test Lead: Black 235Vac 50Hz Sequence#: 4



— Sweep Data — 1 - EN55022 A COND AVG — 2 - EN55022 A COND QP

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **EN55022 A COND AVG**
 Work Order #: **84347**
 Test Type: **Conducted Emissions**
 Equipment: **LAN interface card**
 Manufacturer: **Myricom**
 Model: **10G-PCI8A-C**
 S/N: **268005, 267383**

Date: 10/10/2005
 Time: 5:09:31 PM
 Sequence#: 5
 Tested By: D.Bertran
 235Vac 50Hz

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	
Modem	Hayes	07-00038	A32800153892
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767A005172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Transducer Legend:

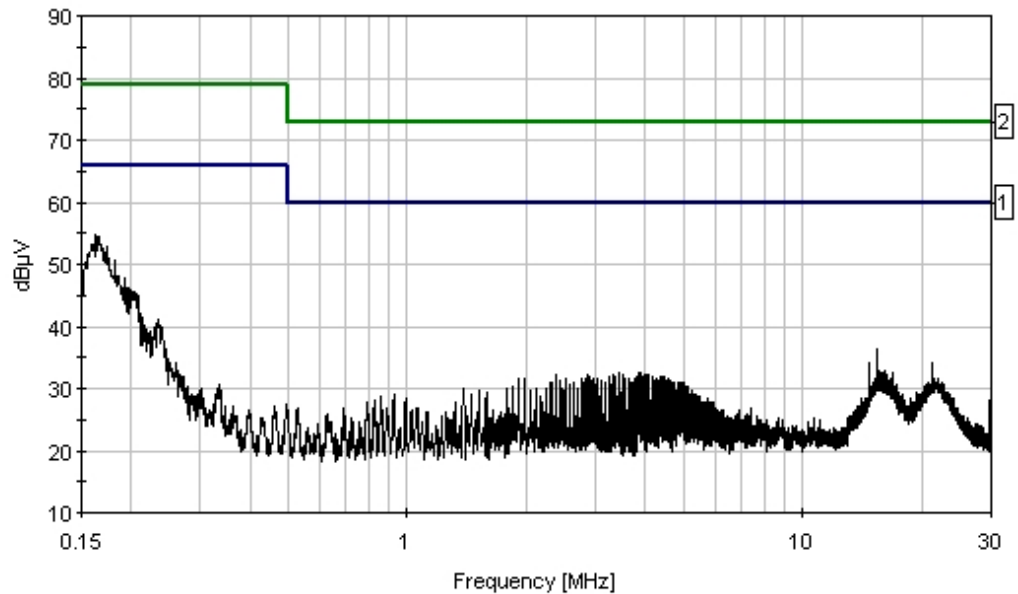
T1=150kHz HPF 041605	T2=6dB Attenuator P05267 092807
T3=Cable #21 Conducted Site A 070206	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	162.363k	46.5	+2.3	+5.8	+0.0	+0.1	+0.0	54.7	66.0	-11.3	White
2	192.178k	41.4	+0.6	+5.8	+0.0	+0.1	+0.0	47.9	66.0	-18.1	White
3	15.436M	29.4	+0.2	+5.8	+0.3	+0.5	+0.0	36.2	60.0	-23.8	White
4	214.721k	35.4	+0.2	+5.8	+0.0	+0.1	+0.0	41.5	66.0	-24.5	White
5	212.540k	35.1	+0.2	+5.8	+0.0	+0.1	+0.0	41.2	66.0	-24.8	White
6	233.629k	35.0	+0.2	+5.8	+0.0	+0.1	+0.0	41.1	66.0	-24.9	White
7	21.247M	27.0	+0.2	+5.8	+0.4	+0.8	+0.0	34.2	60.0	-25.8	White
8	14.743M	27.3	+0.2	+5.8	+0.3	+0.5	+0.0	34.1	60.0	-25.9	White

9	15.490M	26.2	+0.2	+5.8	+0.3	+0.5	+0.0	33.0	60.0	-27.0	White
10	15.526M	26.0	+0.2	+5.8	+0.3	+0.5	+0.0	32.8	60.0	-27.2	White
11	16.112M	26.0	+0.2	+5.8	+0.3	+0.5	+0.0	32.8	60.0	-27.2	White
12	3.833M	26.4	+0.1	+5.8	+0.2	+0.1	+0.0	32.6	60.0	-27.4	White
13	3.897M	26.4	+0.1	+5.8	+0.2	+0.1	+0.0	32.6	60.0	-27.4	White
14	3.433M	26.3	+0.1	+5.8	+0.2	+0.1	+0.0	32.5	60.0	-27.5	White
15	16.995M	25.6	+0.2	+5.8	+0.3	+0.6	+0.0	32.5	60.0	-27.5	White

CKC Laboratories, Inc. Date: 10/10/2005 Time: 5:09:31 PM Myricom, Inc. WO#: 84347
 EN55022 A COND AVG Test Lead: White 235Vac 50Hz Sequence#: 5



— Sweep Data — 1 - EN55022 A COND AVG — 2 - EN55022 A COND GP

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **CISPR22 A COND AVE**
 Work Order #: **84347**
 Test Type: **Conducted Emissions**
 Equipment: **LAN interface card**
 Manufacturer: **Myricom**
 Model: **10G-PCI8A-C**
 S/N: **268005, 267383**

Date: 10/10/2005
 Time: 4:39:38 PM
 Sequence#: 2
 Tested By: D.Bertran
 110V 60Hz

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	
Modem	Hayes	07-00038	A32800153892
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767A005172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Transducer Legend:

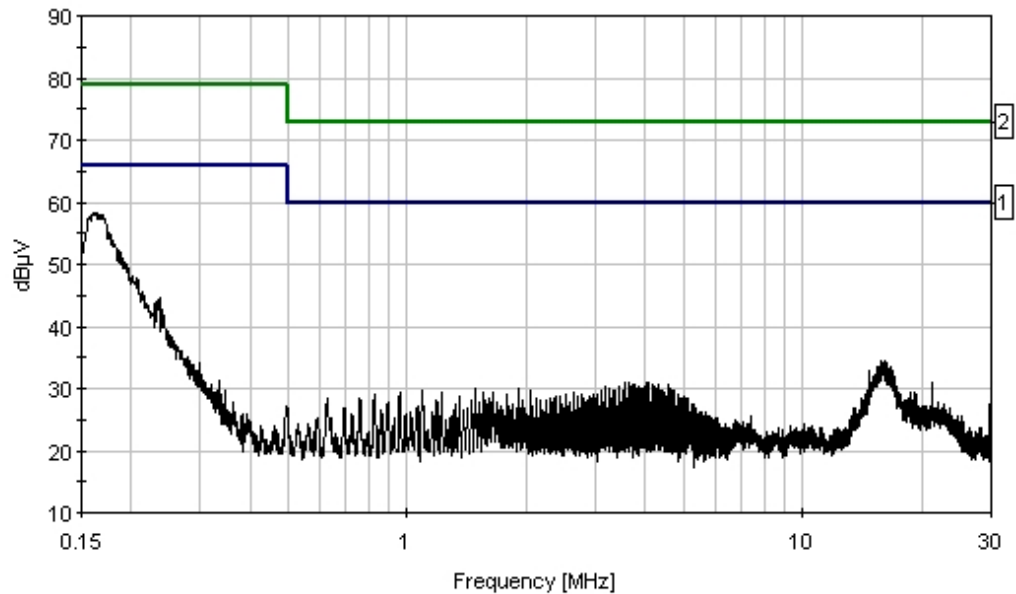
T1=150kHz HPF 041605	T2=6dB Attenuator P05267 092807
T3=Cable #21 Conducted Site A 070206	T4=(L1) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: Black

#	Freq MHz	Rdng dB μ V	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dB μ V	Spec dB μ V	Margin dB	Polar Ant
1	165.271k	50.4	+2.1	+5.8	+0.0	+0.1	+0.0	58.4	66.0	-7.6	Black
2	237.265k	38.5	+0.2	+5.8	+0.0	+0.0	+0.0	44.5	66.0	-21.5	Black
3	232.174k	38.0	+0.2	+5.8	+0.0	+0.0	+0.0	44.0	66.0	-22.0	Black
4	240.901k	36.8	+0.2	+5.8	+0.0	+0.0	+0.0	42.8	66.0	-23.2	Black
5	15.833M	27.5	+0.2	+5.8	+0.3	+0.6	+0.0	34.4	60.0	-25.6	Black
6	16.130M	27.4	+0.2	+5.8	+0.3	+0.6	+0.0	34.3	60.0	-25.7	Black
7	16.355M	27.3	+0.2	+5.8	+0.3	+0.6	+0.0	34.2	60.0	-25.8	Black
8	16.184M	27.2	+0.2	+5.8	+0.3	+0.6	+0.0	34.1	60.0	-25.9	Black

9	16.229M	27.1	+0.2	+5.8	+0.3	+0.6	+0.0	34.0	60.0	-26.0	Black
10	16.625M	26.7	+0.2	+5.8	+0.3	+0.6	+0.0	33.6	60.0	-26.4	Black
11	16.283M	26.6	+0.2	+5.8	+0.3	+0.6	+0.0	33.5	60.0	-26.5	Black
12	15.508M	26.6	+0.2	+5.8	+0.3	+0.5	+0.0	33.4	60.0	-26.6	Black
13	16.436M	26.3	+0.2	+5.8	+0.3	+0.6	+0.0	33.2	60.0	-26.8	Black
14	15.364M	26.3	+0.2	+5.8	+0.3	+0.5	+0.0	33.1	60.0	-26.9	Black
15	14.743M	26.0	+0.2	+5.8	+0.3	+0.5	+0.0	32.8	60.0	-27.2	Black

CKC Laboratories, Inc. Date: 10/10/2005 Time: 4:39:38 PM Myricom, Inc. WO#: 84347
 CISPR22 A COND AVE Test Lead: Black 110V 60Hz Sequence#: 2



Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **CISPR22 A COND AVE**
 Work Order #: **84347** Date: 10/10/2005
 Test Type: **Conducted Emissions** Time: 4:45:10 PM
 Equipment: **LAN interface card** Sequence#: 3
 Manufacturer: Myricom Tested By: D.Bertran
 Model: 10G-PCI8A-C 110V 60Hz
 S/N: 268005, 267383

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	
Modem	Hayes	07-00038	A32800153892
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767A005172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 30MHz to 1000MHz.

Transducer Legend:

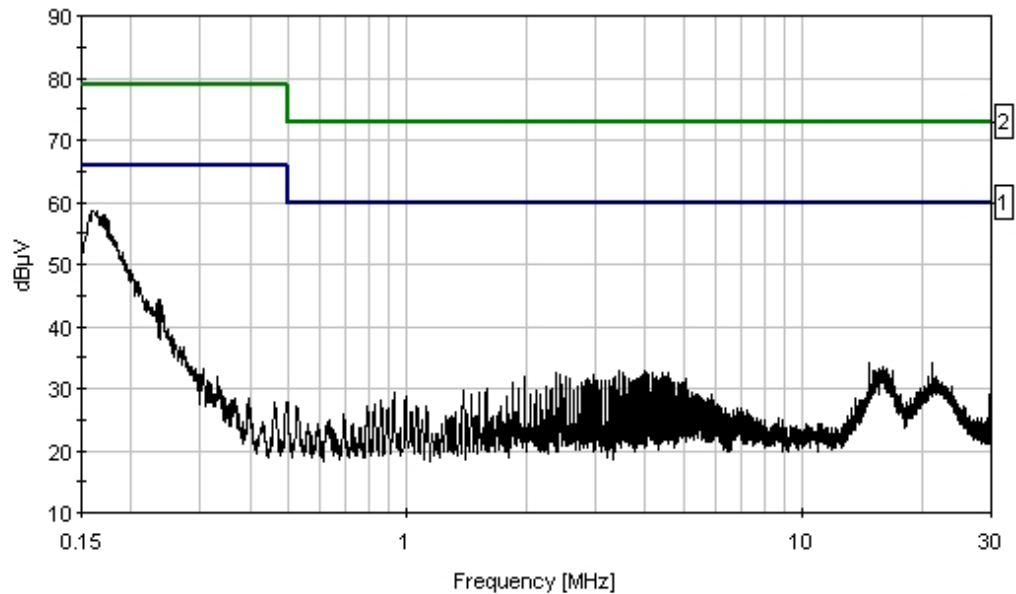
T1=150kHz HPF 041605	T2=6dB Attenuator P05267 092807
T3=Cable #21 Conducted Site A 070206	T4=(L2) Insertion Loss 00847 EMCO 3816/2NM

Measurement Data: Reading listed by margin. Test Lead: White

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	160.908k	50.4	+2.4	+5.8	+0.0	+0.1	+0.0	58.7	66.0	-7.3	White
2	235.083k	38.1	+0.2	+5.8	+0.0	+0.1	+0.0	44.2	66.0	-21.8	White
3	236.538k	38.1	+0.2	+5.8	+0.0	+0.1	+0.0	44.2	66.0	-21.8	White
4	238.719k	37.1	+0.2	+5.8	+0.0	+0.1	+0.0	43.2	66.0	-22.8	White
5	21.238M	26.9	+0.2	+5.8	+0.4	+0.8	+0.0	34.1	60.0	-25.9	White
6	14.752M	27.2	+0.2	+5.8	+0.3	+0.5	+0.0	34.0	60.0	-26.0	White
7	16.049M	26.7	+0.2	+5.8	+0.3	+0.5	+0.0	33.5	60.0	-26.5	White
8	15.616M	26.4	+0.2	+5.8	+0.3	+0.5	+0.0	33.2	60.0	-26.8	White

9	16.247M	26.2	+0.2	+5.8	+0.3	+0.6	+0.0	33.1	60.0	-26.9	White
10	15.589M	26.2	+0.2	+5.8	+0.3	+0.5	+0.0	33.0	60.0	-27.0	White
11	3.965M	26.7	+0.1	+5.8	+0.2	+0.1	+0.0	32.9	60.0	-27.1	White
12	15.292M	26.1	+0.2	+5.8	+0.3	+0.5	+0.0	32.9	60.0	-27.1	White
13	16.193M	26.0	+0.2	+5.8	+0.3	+0.6	+0.0	32.9	60.0	-27.1	White
14	16.292M	26.0	+0.2	+5.8	+0.3	+0.6	+0.0	32.9	60.0	-27.1	White
15	16.310M	26.0	+0.2	+5.8	+0.3	+0.6	+0.0	32.9	60.0	-27.1	White

CKC Laboratories, Inc. Date: 10/10/2005 Time: 4:45:10 PM Myricom, Inc. WO#: 84347
 CISPR22 A COND AVE Test Lead: White 110V 60Hz Sequence#: 3



— Sweep Data — 1 - CISPR22 A COND AVE — 2 - CISPR 22 A COND QP

Test Location: CKC Laboratories, Inc. • 110 N. Olinda Place • Brea, CA 92823 • (714) 993-6112

Customer: **Myricom, Inc.**
 Specification: **FCC 15.109 Class A**
 Work Order #: **84347**
 Test Type: **Radiated Scan**
 Equipment: **LAN interface card**
 Manufacturer: Myricom
 Model: 10G-PCI8A-C
 S/N: 268005, 267383

Date: 10/10/2005
 Time: 15:47:51
 Sequence#: 1
 Tested By: D.Bertran

Equipment Under Test (* = EUT):

Function	Manufacturer	Model #	S/N
LAN interface card*	Myricom	10G-PCI8A-C	268005, 267383

Support Devices:

Function	Manufacturer	Model #	S/N
Monitor	Gateway	500-069EV	1501A000011
Mouse	COMPAQ	MUSAJ	1D767Ao05172
Keyboard	COMPAQ	RT231BTW	B07080A39EBK9D
Stereo Headphone	Radioshack	NOVA-35	
Game Pad	Microsoft	X04-63237	6323700759385
Stereo Headphone	Radioshack	NOVA-35	

Test Conditions / Notes:

The EUT is a PCI card connected inside the CPU. This is placed on the wooden table. The Blue CX4 cable is connected between the two CX4 ports in loop back manner. CPU ports are being populated with a mouse, monitor, keyboard, an USB game pad, an RS232 modem and a headphone set. The EUT is exercising a software routine. 20°C, 31% relative humidity. Testing 1000MHz to 8000MHz, since the EUT has a 1250MHz clock (5*1562MHz).

Transducer Legend:

T1=Horn 6246_072206	T2=SMA Cable 1-40GHz AN2604_012306
T3=HP 83017A 071606	T4=Cable #20 48ft Heliac 091606

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	6250.014M	55.3	+32.7	+0.9	-37.8	+5.3	-10.0	46.4	49.5	-3.1	Vert
2	6250.003M	54.4	+32.7	+0.9	-37.8	+5.3	-10.0	45.5	49.5	-4.0	Horiz
^	6250.003M	57.0	+32.7	+0.9	-37.8	+5.3	-10.0	48.1	49.5	-1.4	Horiz
4	3125.080M	59.9	+29.0	+0.6	-38.6	+3.6	-10.0	44.5	49.5	-5.0	Vert
5	3125.000M	59.1	+29.0	+0.6	-38.6	+3.6	-10.0	43.7	49.5	-5.8	Horiz
6	1948.710M	63.3	+25.6	+0.5	-39.6	+2.9	-10.0	42.7	49.5	-6.8	Vert
7	1607.407M	62.5	+24.8	+0.4	-38.5	+2.9	-10.0	42.1	49.5	-7.4	Vert
8	1607.403M	61.8	+24.8	+0.4	-38.5	+2.9	-10.0	41.4	49.5	-8.1	Horiz

9	6249.960M	49.6	+32.7	+0.9	-37.8	+5.3	-10.0	40.7	49.5	-8.8	Vert
10	4687.330M	50.1	+31.6	+0.7	-38.0	+4.6	-10.0	39.0	49.5	-10.5	Vert
11	3013.683M	52.2	+28.8	+0.6	-38.7	+3.7	-10.0	36.6	49.5	-12.9	Horiz
12	2009.303M	55.6	+25.7	+0.5	-39.2	+2.9	-10.0	35.5	49.5	-14.0	Horiz
13	1205.599M	58.9	+23.6	+0.3	-40.9	+2.2	-10.0	34.1	49.5	-15.4	Vert
14	2500.033M	51.6	+27.0	+0.5	-39.1	+3.2	-10.0	33.2	49.5	-16.3	Horiz
15	1205.591M	57.9	+23.6	+0.3	-40.9	+2.2	-10.0	33.1	49.5	-16.4	Horiz
16	1440.603M	48.4	+24.3	+0.4	-39.4	+2.6	-10.0	26.3	49.5	-23.2	Horiz
17	1004.670M	52.7	+22.8	+0.3	-41.6	+1.9	-10.0	26.1	49.5	-23.4	Horiz