Measurement/Technical Report

Intel Corporation
Model PILA8472 LAN Adapter

FCC ID: EJMNPDOHIO

April 10, 1998

This report concerns (check one): Original Grant __X__ Class II Change _____

Equipment Type: Class B Computing Device / LAN Adapter

Deferred grant requested per 47 CFR 0.457 (d)(1)(ii)? yes _____ no __X__

If yes, defer until: _____N/A_____ date

Intel Corporation _____ agrees to notify the Commission by: _____N/A_____ date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37: yes _____ no __X__

If no, assumed Part 15, Subpart B for unintentional radiators - new 47 CFR [10-1-92] provision.

Report prepared by:

Northwest EMC, Inc.
120 South Elliott Road, Suite 300
Newberg, OR 97132
(503) 537-0728
fax: (503) 537-0735

Table of Contents

1.0 General Information

1.1 Product Description

Manufactured By ..... Intel Corporation

Address ..... 5200 NE Elam Young Parkway Hillsboro, OR 97124

Test Requested By: ..... Richard Abel

Model PILA8472

FCC ID ..... EJMNPDOHIO

Serial Number(s) ..... A

Date of Test ..... April 6, 1998 through April 10, 1998

Job Number INTE1771

The Equipment Under Test (EUT) is the Intel Corporation, PILA8472, Pro/100+ Dual Port PCI LAN Adapter, Serial No. A, PCB Model No. PB703875-002, FCC ID: EJMNPDOHIO. The EUT is a PC (Personal Computer) PCI option slot card designed to be used as an Ethernet LAN adapter. This adapter is intended to support the Intel processors. The EUT operates a network at 10 or 100 megabits-per-second (MBpS).

Hardware Description:

- Clocks/Oscillators Frequencies: Oscillator 25 MHz, 10 MHz clock 10 MBpS,
- 125 MHz clock 100 MBpS.
- Ports: RJ-45 (2)

1.2 Related Submittals/Grants

None.

1.3 Tested System Details

EUT and Peripherals

Item	FCC ID	Description and Serial No.
EUT	EJMNPDOHIO	Intel Corporation Model PILA8472, Serial No. A, PBA 711269-002.
Printer	B94C2121X	Hewlett Packard Model C2121A, Serial No. US39J25029.
Printer	B94C2114X	Hewlett Packard Model C2114A, Serial No. MY41Q1D027.
PS/2 Mouse	DZL33G5430	IBM Model 33G5430, Serial No. 23-G51151.
Keyboard	AQ6RT101-LC	NMB Model RT101+, Serial No. 01156032.
Monitor	A3DJC-1532VMA	NEC Model JC-1532VMA-2, Serial No. 3415114MA.
Host PC	n/a	Gateway Model G6-266, Serial No. 0008529499.
Remote System	EJMNIENDVR	Intel Model S100MTE8LC, Serial No. A05562464.
Remote Monitor	A3DJC-1532VMR	NEC Model JC-1532VMA-2, Serial No. 3262102NA.
Remote Keyboard	AQ6RT101-LC	NMB Model RT101+, Serial No. 80530392.
Remote LAN Card	EJMNPDPILA8465B	Intel Pro/100, Serial No. 00ADC91F09E2.

Cables:

Item	Description
Parallel Printer Cable	1 meter in length. Shielded with braid over foil and no ferrite beads. Connected from the host PC parallel port to the parallel printer.

Cables con't:

Item	Description
Network Cable (Cat 5)	50 feet in length. Not shielded and no ferrite beads. Plastic RJ-45 connectors. Connected from the EUT Data Port to the Remote PC.
Serial Printer Cable	1 meter in length. Shielded with no ferrite beads. Connected from the COM1 port of the host PC to the serial printer.
Video Cable	1.8 meters in length. Shielded, with a metal backshell and one molded ferrite bead at the PC end of the cable. Permanently attached to the monitor and connected to the VGA port of the host PC.
Mouse Cable	2.4 meters in length. Metal connector backshells. Permanently attached to the mouse and connected to a 9-pin to PS/2 adapter that is connected to the PC mouse port (supplied with the mouse).
Keyboard Cable	1.2 meters in length (Coiled), with a metal connector backshell. Permanently attached to the keyboard and connected to the PS/2 keyboard port of the EUT.
Serial Printer DC Cable	1.9 meters in length. No shielding and no ferrite beads. Permanently attached to the serial printer AC adapter and connected to the serial printer.
Serial Printer AC Cable	1.9 meters in length. No shielding and no ferrite beads. Permanently attached to the serial printer AC adapter and connected to the AC Mains.
Parallel Printer DC Cable	1.8 meters in length. No shielding and no ferrite beads. Permanently attached to the parallel printer AC adapter and connected to the parallel printer.
Parallel Printer AC Cable	1.8 meters in length. No shielding and no ferrite beads. Permanently attached to the parallel printer AC adapter and connected to the AC Mains.
Monitor AC Cable	1.9 meters in length. No shielding and no ferrite beads. Connected from AC input of the monitor to the AC mains.
EUT Power	1.9 meters in length. No shielding and no ferrite beads. Connected form AC input of the EUT to the AC mains.

1.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (1992). Radiated testing was performed at an antenna to EUT distance of 10 meters. Please reference Appendix I for further detail on Test Methodology.

1.5 Test Facility

The Open Area Test Site and conducted measurement facility used to collect the radiated and conducted data is located at

Northwest EMC, Inc.
120 South Elliott Road, Suite 300
Newberg, OR 97132
(503) 537-0728
Fax: 537-0735

The Open Area Test Site, and conducted measurement facility is located in Newberg, OR, at the address shown above. These sites have been fully described in reports filed with the FCC (Federal Communications Commission), and accepted by the FCC in letters maintained in our files.

Northwest EMC, Inc. is recognized under the United States Department of Commerce, National Institute of Standards and Technology, National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. NVLAP Lab Code: 200059-0.

Northwest EMC, Inc. has been assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).

3.0 System Test Configuration

3.1 Justification

While prescanning the emissions, all operating modes of the EUT were investigated. This included all available data rates 10 MBpS and 100 MBpS. The EUT was connected to a remote PC, via an unshielded Ethernet cable. The EUT was then set up to continuously transmit and receive data packets to the remote PC. This allowed the EUT to be fully functional for the test.

3.2 EUT Exercise Software

The EUT was transmitting data using ***ST.EXE*** software, operating under the ***DOS 6.1*** operating system. This allowed the EUT to continuously transmit and receive data packets to the remote PC. This software was used since it would allow full functionality to the EUT.

3.3 Special Accessories

No special accessories will be sold with the EUT.

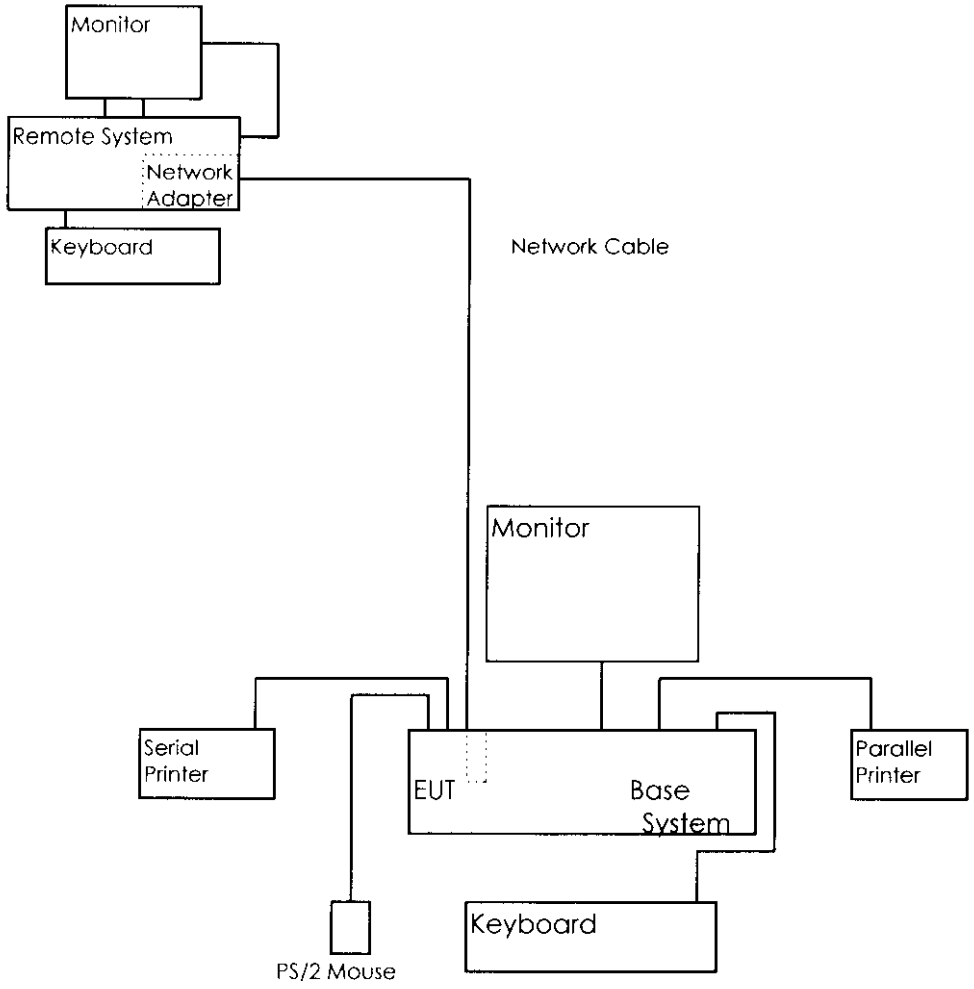
3.4 Equipment Modifications

No EMI suppression devices were added or modified. The EUT was tested as delivered by the applicant.

3.5 Configuration of Tested System

The EUT was placed in an Option Slot of the host PC. A full system configuration was used as per ANSI C63.4 (section 11.2) consisting of a Personal Computer, keyboard, mouse, monitor, modem, and 2 printers. A remote PC with a LAN adapter installed was placed in a remote location, to provide a system for the EUT to communicate with. The test software which exercised the EUT was run off of the hard disk inside the PC.

Figure 3.1: Configuration of Tested System



6.0 Conducted Emissions Data

6.1 The initial step in collecting conducted data is a spectrum analyzer, peak scan of the entire measurement range. All signals with less than 3 dB margin are then measured using a quasi-peak detector. Complete graphs and data sheets may be referenced on the following pages. Minimum margins are listed below:

CISPR 22 Class B Specification Limits

100MBits

Frequency (MHz)	Measured Level (dBuV)	Limit (dBuV)	Margin (dB)*	Lead
0.301	40.4	50.2	9.8	High
0.258	38.3	51.5	13.2	High
20.253	35.5	50.0	14.5	High
20.304	35.1	50.0	14.9	High
0.404	32.7	47.8	15.1	High

Frequency (MHz)	Measured Level (dBuV)	Limit (dBuV)	Margin (dB)*	Lead
0.304	43.7	50.1	6.4	Low
0.300	42.9	50.2	7.3	Low
0.154	48.2	55.8	7.6	Low
0.166	46.5	55.2	8.7	Low
0.403	39.1	47.8	8.7	Low

All readings listed above are Peak, using an IF Bandwidth of 9 kHz, a video filter was not used.
Judgment: Passed, minimum margin of 6.4 dB.

6.0 Conducted Emissions Data con't

10MBits

Frequency (MHz)	Measured Level (dBuV)	Limit (dBuV)	Margin (dB)*	Lead
0.300	42.3	50.2	7.9	High
0.162	46.9	55.4	8.5	High
0.172	45.8	54.9	9.1	High
0.170	45.8	54.9	9.1	High
0.205	43.9	53.4	9.5	High

Frequency (MHz)	Measured Level (dBuV)	Limit (dBuV)	Margin (dB)*	Lead
0.298	43.6	50.3	6.7	Low
0.305	41.5	50.1	8.6	Low
0.304	41.5	50.1	8.6	Low
0.154	46.6	55.8	9.2	Low
0.404	38.5	47.8	9.3	Low

All readings listed above are Peak, using an IF Bandwidth of 9 kHz, a video filter was not used.
Judgment: Passed, minimum margin of 6.7 dB.

Test Personnel:

Tester Signature: _____ Date: 5/7/98

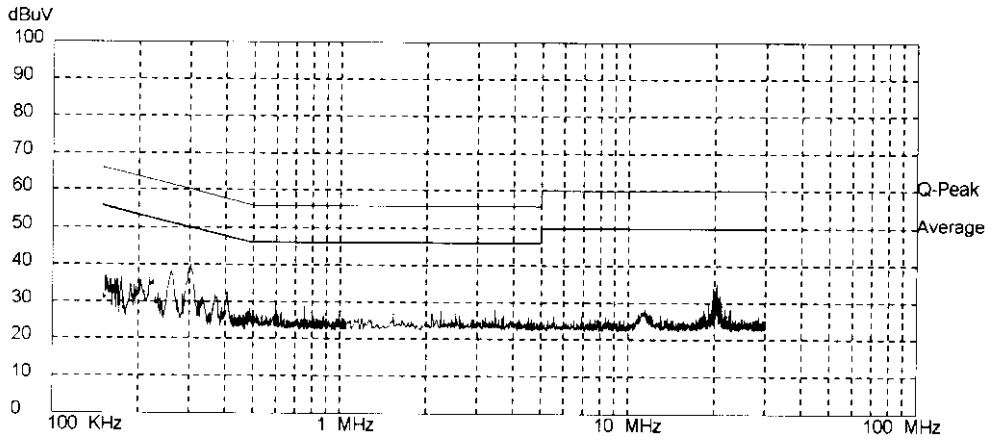
Typed/Printed Name: DEAN GHIZZONE

Northwest EMC, Inc.

Ver 5.4a, Jan 1997

Equipment Tested: Chainsaw (Ohio)
Serial Number:
Manufacturer: Intel Corp.
Job Number: INTE1771
Date/Time: 04-09-1998 09:21:59
Tested By: Donald Facteau, 100
Comments: 100MBit, Looped back
Run #3, 120VAC 60Hz mains

CISPR 22 Class B Conducted Limit (Average) High Line Peak data



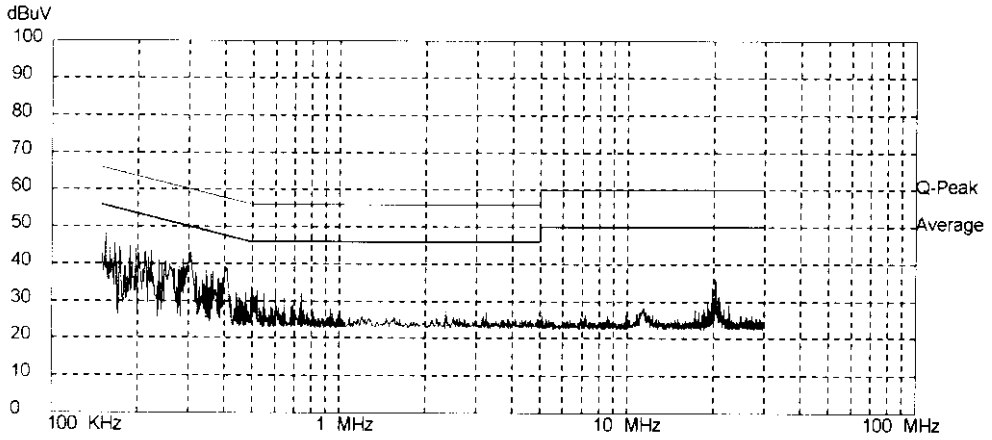
Frequency (MHz)	Meter Reading (dBuV)	Power Line	Correction Factor (dB/m)	Adjusted Level (dBuV)	Spec Limit (dBuV)	Compared To Limit (dB)
0.301	20.4	High	20.0	40.4	50.2	-9.8
0.258	18.3	High	20.0	38.3	51.5	-13.2
20.253	15.5	High	20.0	35.5	50.0	-14.5
20.304	15.1	High	20.0	35.1	50.0	-14.9
0.404	12.7	High	20.0	32.7	47.8	-15.1
0.217	17.4	High	20.0	37.4	52.9	-15.5
19.794	14.2	High	20.0	34.2	50.0	-15.8
0.224	16.2	High	20.0	36.2	52.7	-16.5
0.368	11.9	High	20.0	31.9	48.5	-16.6
0.373	11.4	High	20.0	31.4	48.4	-17.0
0.753	8.9	High	20.0	28.9	46.0	-17.1
0.598	8.9	High	20.0	28.9	46.0	-17.1
0.402	10.4	High	20.0	30.4	47.8	-17.4
0.203	16.0	High	20.0	36.0	53.5	-17.5
20.809	12.2	High	20.0	32.2	50.0	-17.8
3.461	8.1	High	20.0	28.1	46.0	-17.9
0.173	16.8	High	20.0	36.8	54.8	-18.0
0.331	11.4	High	20.0	31.4	49.4	-18.0
0.485	8.2	High	20.0	28.2	46.3	-18.1
2.237	7.9	High	20.0	27.9	46.0	-18.1

Northwest EMC, Inc.

Ver 5.4a, Jan 1997

Equipment Tested: Chainsaw (Ohio)
Serial Number:
Manufacturer: Intel Corp.
Job Number: INTE1771
Date/Time: 04-09-1998 09:24:18
Tested By: Donald Facteau, 100
Comments: 100MBit, Looped back
Run #4, 120VAC 60Hz mains

CISPR 22 Class B Conducted Limit (Average) Low Line Peak data



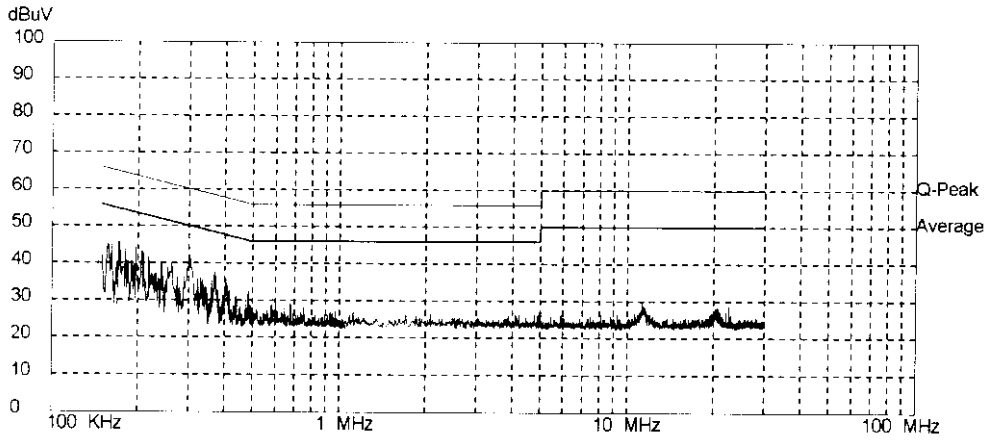
Frequency (MHz)	Meter Reading (dBuV)	Power Line	Correction Factor (dB/m)	Adjusted Level (dBuV)	Spec Limit (dBuV)	Compared To Limit (dB)
0.304	23.7	Low	20.0	43.7	50.1	-6.4
0.300	22.9	Low	20.0	42.9	50.2	-7.3
0.154	28.2	Low	20.0	48.2	55.8	-7.6
0.166	26.5	Low	20.0	46.5	55.2	-8.7
0.403	19.1	Low	20.0	39.1	47.8	-8.7
0.222	23.7	Low	20.0	43.7	52.7	-9.0
0.187	25.1	Low	20.0	45.1	54.2	-9.1
0.286	21.4	Low	20.0	41.4	50.6	-9.2
0.196	24.2	Low	20.0	44.2	53.8	-9.6
0.277	21.2	Low	20.0	41.2	50.9	-9.7
0.212	23.4	Low	20.0	43.4	53.1	-9.7
0.172	24.9	Low	20.0	44.9	54.9	-10.0
0.363	18.2	Low	20.0	38.2	48.7	-10.5
0.345	18.5	Low	20.0	38.5	49.1	-10.6
0.200	23.0	Low	20.0	43.0	53.6	-10.6
0.160	24.8	Low	20.0	44.8	55.5	-10.7
0.249	20.8	Low	20.0	40.8	51.8	-11.0
0.217	21.9	Low	20.0	41.9	52.9	-11.0
0.293	19.4	Low	20.0	39.4	50.4	-11.0
0.236	21.1	Low	20.0	41.1	52.2	-11.1

Northwest EMC, Inc.

Ver 5.4a, Jan 1997

Equipment Tested: Chainsaw (Ohio)
Serial Number:
Manufacturer: Intel Corp.
Job Number: INTE1771
Date/Time: 04-09-1998 09:28:48
Tested By: Donald Facteau, 100
Comments: 10MBit, Looped back
Run #6, 120VAC 60Hz mains

CISPR 22 Class B Conducted Limit (Average) High Line Peak data.



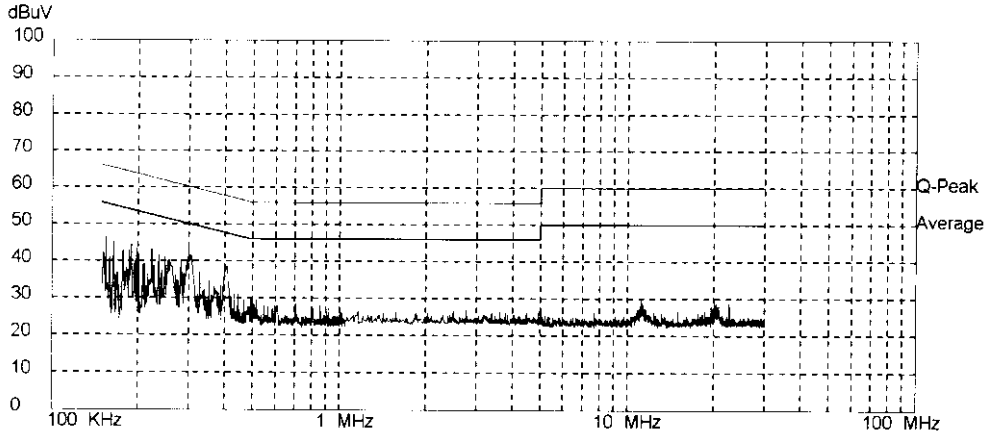
Frequency (MHz)	Meter Reading (dBuV)	Power Line	Correction Factor (dB/m)	Adjusted Level (dBuV)	Spec Limit (dBuV)	Compared To Limit (dB)
0.300	22.3	High	20.0	42.3	50.2	-7.9
0.162	26.9	High	20.0	46.9	55.4	-8.5
0.172	25.8	High	20.0	45.8	54.9	-9.1
0.170	25.8	High	20.0	45.8	55.0	-9.2
0.205	23.9	High	20.0	43.9	53.4	-9.5
0.195	24.3	High	20.0	44.3	53.8	-9.5
0.208	23.1	High	20.0	43.1	53.3	-10.2
0.180	24.2	High	20.0	44.2	54.5	-10.3
0.156	25.3	High	20.0	45.3	55.7	-10.4
0.369	18.0	High	20.0	38.0	48.5	-10.5
0.217	21.8	High	20.0	41.8	52.9	-11.1
0.306	18.9	High	20.0	38.9	50.1	-11.2
0.261	20.0	High	20.0	40.0	51.4	-11.4
0.402	15.8	High	20.0	35.8	47.8	-12.0
0.239	20.1	High	20.0	40.1	52.1	-12.0
0.483	13.5	High	20.0	33.5	46.3	-12.8
0.252	18.9	High	20.0	38.9	51.7	-12.8
0.405	14.4	High	20.0	34.4	47.8	-13.4
0.330	16.1	High	20.0	36.1	49.5	-13.4
0.359	15.3	High	20.0	35.3	48.8	-13.5

Northwest EMC, Inc.

Ver 5.4e. Jan 1997

Equipment Tested: Chainsaw (Ohio)
Serial Number:
Manufacturer: Intel Corp.
Job Number: INTE1771
Date/Time: 04-09-1998 09:27:32
Tested By: Donald Facteau, 100
Comments: 10MBit, Looped back
Run #5, 120VAC 60Hz mains

CISPR 22 Class B Conducted Limit (Average) Low Line Peak data



Frequency (MHz)	Meter Reading (dBuV)	Power Line	Correction Factor (dB/m)	Adjusted Level (dBuV)	Spec Limit (dBuV)	Compared To Limit (dB)
0.298	23.6	Low	20.0	43.6	50.3	-6.7
0.305	21.5	Low	20.0	41.5	50.1	-8.6
0.304	21.5	Low	20.0	41.5	50.1	-8.6
0.154	26.6	Low	20.0	46.6	55.8	-9.2
0.404	18.5	Low	20.0	38.5	47.8	-9.3
0.189	24.7	Low	20.0	44.7	54.1	-9.4
0.223	23.2	Low	20.0	43.2	52.7	-9.5
0.163	25.8	Low	20.0	45.8	55.3	-9.5
0.401	17.7	Low	20.0	37.7	47.8	-10.1
0.281	20.5	Low	20.0	40.5	50.8	-10.3
0.235	21.9	Low	20.0	41.9	52.3	-10.4
0.197	23.3	Low	20.0	43.3	53.7	-10.4
0.293	19.9	Low	20.0	39.9	50.4	-10.5
0.247	21.2	Low	20.0	41.2	51.9	-10.7
0.398	17.2	Low	20.0	37.2	47.9	-10.7
0.257	20.3	Low	20.0	40.3	51.5	-11.2
0.185	22.9	Low	20.0	42.9	54.3	-11.4
0.253	20.2	Low	20.0	40.2	51.7	-11.5
0.177	23.0	Low	20.0	43.0	54.6	-11.6
0.201	21.7	Low	20.0	41.7	53.6	-11.9

7.0 Radiated Emissions Data

7.1 The following data lists the six most significant emission frequencies, total (corrected) levels, and specification margins. Correction factors, antenna height, table azimuth, etc., are contained in the data sheets immediately following. Explanation of the correction factors is given in paragraph 7.2 of this report. Complete graphs and data sheets may be referenced on the following pages. Minimum margins are listed below:

CISPR 22 Class B Specification Limits

100Mbits

Frequency (MHz)	Detection	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)*	Polarization
125.004	QP	28.9	30.0	1.1	Vertical
166.635	QP	27.2	30.0	2.8	Horizontal
66.655	QP	27.0	30.0	3.0	Vertical
166.635	QP	26.4	30.0	3.6	Vertical
499.904	PK	33.2	37.0	3.8	Horizontal
124.999	QP	25.5	30.0	4.5	Horizontal

Judgment: Passed, minimum margin of 1.1 dB.

10Mbits

Frequency (MHz)	Detection	Total Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)*	Polarization
133.307	QP	26.8	30.0	3.2	Vertical
166.634	QP	25.8	30.0	4.2	Vertical
66.654	QP	25.2	30.0	4.8	Vertical
533.231	QP	32.2	37.0	4.8	Horizontal
133.307	QP	24.1	30.0	5.9	Horizontal
266.616	QP	30.4	37.0	6.6	Horizontal

Judgment: Passed, minimum margin of 3.2 dB.

Test Personnel:

Tester Signature: _____ Date: 5/7/98

Typed/Printed Name: DEAN GHIZZONE

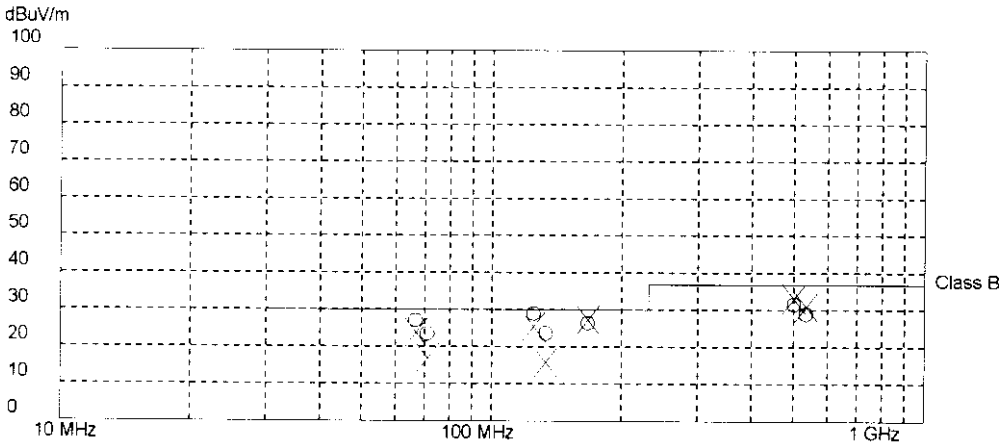
Northwest EMC, Inc.

Version 5.2, Jan. 1998

EUT Name:	**Chainsaw**
Serial Number:	**3**
Manufacturer:	**Intel Corp.**
Job Number:	**INTE1766**
Test Date:	**04-06-1998**
Tested By:	**Donald Facteau, Elliot 10M**
Test Distance:	**10 meters.**
Comments:	**100MBit, CAT5 loopback cables Run #3**

Horizontal= X
Vertical = O

CISPR 22 Class B (10 meter limit)



Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	Antenna Horizontal Vertical	Preamp Gain (dB)	Cable Loss (dB)	Adjusted Level (dBuV/m)	Spec Limit (dBuV/m)	Table Azimuth (degree)	Antenna Height (meters)	Compared (To Limit) (dB)
125.004	48.3	QP	10.5	VDIP	32.2	2.3	28.9	30.0	180.0	1.0	-1.1
166.635	43.9	QP	12.8	HBIC	32.1	2.6	27.2	30.0	0.0	4.0	-2.8
66.655	48.8	QP	8.8	VBIC	32.4	1.8	27.0	30.0	200.0	3.5	-3.0
166.635	43.1	QP	12.8	VBIC	32.1	2.6	26.4	30.0	180.0	1.0	-3.6
499.904	42.4	PK	17.8	HLPA	31.9	4.9	33.2	37.0	315.0	1.3	-3.8
124.999	44.9	QP	10.5	HDIP	32.2	2.3	25.5	30.0	180.0	3.9	-4.5
499.905	40.8	QP	17.8	VLPA	31.9	4.9	31.6	37.0	180.0	1.0	-5.4
533.232	39.8	QP	18.1	HLPA	31.9	5.0	31.0	37.0	270.0	1.3	-6.0
66.655	45.6	QP	8.8	HBIC	32.4	1.8	23.8	30.0	90.0	4.0	-6.2
133.308	41.5	PK	11.8	VBIC	32.1	2.4	23.6	30.0	20.0	1.0	-6.4
70.853	45.4	QP	8.6	VBIC	32.3	1.8	23.5	30.0	315.0	2.5	-6.5
533.232	37.7	QP	18.1	VLPA	31.9	5.0	28.9	37.0	180.0	1.0	-8.1
70.913	38.8	QP	8.6	HBIC	32.3	1.8	16.9	30.0	270.0	4.0	-13.1
133.309	33.7	PK	11.8	HBIC	32.1	2.4	15.8	30.0	45.0	4.0	-14.2

Temperature 60F 50% Humidity

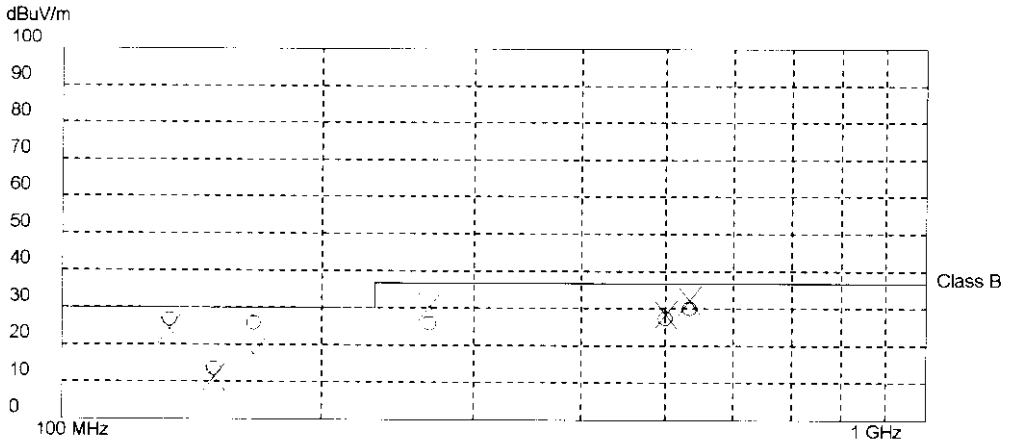
Northwest EMC, Inc.

Version 5.2. Jan. 1998

EUT Name:	**Chainsaw**
Serial Number:	**3**
Manufacturer:	**Intel Corp.**
Job Number:	**INTE1766**
Test Date:	**04-06-1998**
Tested By:	**Donald Facteau, Elliott 10M**
Test Distance:	**10 meters.**
Comments:	**10 MBit, CAT5 loopback cable**
	Run #4

Horizontal= X
Vertical = O

CISPR 22 Class B (10 meter limit)



Frequency (MHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	Antenna Horizontal Vertical	Preamp Gain (dB)	Cable Loss (dB)	Adjusted Level (dBuV/m)	Spec Limit (dBuV/m)	Table Azimuth (degree)	Antenna Height (meters)	Compared (To Limit) (dB)
133.307	44.7	QP	11.8	VBIC	32.1	2.4	26.8	30.0	20.0	1.0	-3.2
166.634	42.5	QP	12.8	VBIC	32.1	2.6	25.8	30.0	180.0	1.8	-4.2
66.654	47.0	QP	8.8	VBIC	32.4	1.8	25.2	30.0	180.0	3.8	-4.8
533.231	41.0	QP	18.1	HLPA	31.9	5.0	32.2	37.0	270.0	1.1	-4.8
133.307	42.0	QP	11.8	HBIC	32.1	2.4	24.1	30.0	315.0	3.5	-5.9
266.616	46.2	QP	12.8	HLPA	32.0	3.4	30.4	37.0	200.0	3.9	-6.6
533.231	38.8	QP	18.1	VLPA	31.9	5.0	30.0	37.0	0.0	1.0	-7.0
66.654	44.5	QP	8.8	HBIC	32.4	1.8	22.7	30.0	270.0	4.0	-7.3
499.903	37.6	PK	17.8	HLPA	31.9	4.9	28.4	37.0	70.0	4.0	-8.6
499.904	36.5	PK	17.8	VLPA	31.9	4.9	27.3	37.0	45.0	1.0	-9.7
266.616	41.6	QP	12.8	VLPA	32.0	3.4	25.8	37.0	225.0	1.0	-11.2
166.635	34.4	PK	12.8	HBIC	32.1	2.6	17.7	30.0	0.0	3.5	-12.3
150.004	30.9	PK	12.4	VBIC	32.1	2.5	13.7	30.0	180.0	1.0	-16.3
150.004	28.5	PK	12.4	HBIC	32.1	2.5	11.3	30.0	90.0	3.7	-18.7

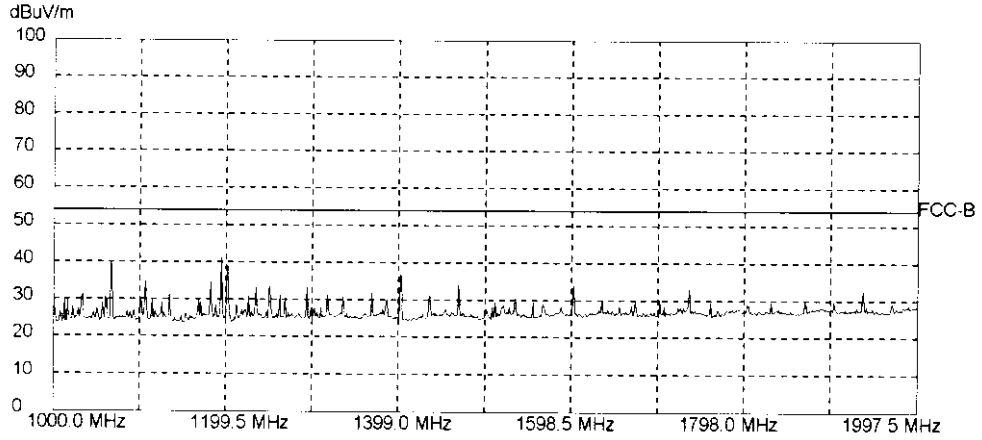
Temperature 60F 50% Humidity

Northwest EMC, Inc.

Ver 5.4e, Jan 1997

Equipment Tested: Chainsaw (Ohio)
Serial Number:
Manufacturer: Intel Corp.
Job Number: INTE1771
Date/Time: 04-09-1998 08:18:11
Tested By: Donald Facteau, 100
Test Distance: 3
Comments: 100MBit, Looped back
Run #1

FCC Class B Radiated Specification Limit (3 meter) Peak data



Frequency (MHz)	Meter Reading (dBuV)	Antenna Horizontal Vertical	Correction Factor (dB/m)	Adjusted Level (dBuV/m)	Spec Limit (dBuV/m)	Compared To Limit (dB)
1193.750	48.1	Hor.	-6.9	41.2	54.0	-12.8
1066.250	47.2	Ver.	-7.4	39.8	54.0	-14.2
1201.250	45.7	Hor.	-6.8	38.9	54.0	-15.1
1401.250	45.2	Hor.	-6.3	38.9	54.0	-15.1
1106.250	42.3	Hor.	-7.2	35.1	54.0	-18.9
1181.250	41.7	Ver.	-6.9	34.8	54.0	-19.2
1248.750	41.2	Ver.	-6.7	34.5	54.0	-19.5
1600.000	39.8	Ver.	-5.5	34.3	54.0	-19.7
1467.500	40.3	Ver.	-6.0	34.3	54.0	-19.7
1000.000	41.8	Ver.	-7.6	34.2	54.0	-19.8
1292.500	40.2	Ver.	-6.5	33.7	54.0	-20.3
1733.750	38.1	Ver.	-4.7	33.4	54.0	-20.6
1233.750	40.0	Ver.	-6.7	33.3	54.0	-20.7
1133.750	40.1	Ver.	-7.1	33.0	54.0	-21.0
1935.000	36.4	Hor.	-3.8	32.6	54.0	-21.4
1367.500	38.4	Ver.	-6.4	32.0	54.0	-22.0
1316.250	37.9	Ver.	-6.4	31.5	54.0	-22.5
1033.750	38.9	Ver.	-7.5	31.4	54.0	-22.6
1261.250	38.0	Hor.	-6.6	31.4	54.0	-22.6
1435.000	37.5	Ver.	-6.1	31.4	54.0	-22.6

7.2 Field Strength Calculations

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured level. The basic equation with a sample calculation is as follows:
FS = RA + AF + CF - AG

where : FS = Field Strength

RA = Measured Level

AF = Antenna Factor

CF = Cable Attenuation Factor

AG = Amplifier Gain

Assume a receiver reading of 52.5 dBuV is obtained. The Antenna Factor of 7.4 and a Cable Factor of 1.1 is added. The Amplifier Gain of 29 dB is subtracted, giving a field strength of 32 dBuV/meter.

FS = 52.5 + 7.4 + 1.1 - 29 = 32 dBuV/meter
Level in uV/m = Common Antilogarithm [(32 dBuV/m)/20] = 39.8 uV/m

7.3 Measurement Bandwidths

Peak Data

150 kHz - 30 MHz ..... 10 kHz
30 MHz - 1000 MHz ..... 100 kHz
1000 MHz - 2000 MHz ..... 1000 kHz

Quasi-peak Data

150 kHz - 30 MHz ..... 9 kHz
30 MHz - 1000 MHz ..... 120 kHz

All radiated measurements are quasi-peak unless otherwise stated. A video filter was not used.
All conducted measurements are peak unless otherwise stated. A video filter was not used.

8.0 Measurement Equipment

Instrument	Model	Serial No.	Freq Range	Last Cal	Cal Due
Spectrum Analyzer	HP 8591E	2943A00519	10 kHz - 1.8 GHz	01/17/98	01/17/99
Spectrum Analyzer	HP 8567A	2718A00358	10 kHz - 1.5 GHz	04/25/97	04/25/98
Quasi Peak Adapter	HP 85650A	2811A01175	10 kHz - 1000 MHz	02/20/98	02/20/99
LISN	EMCO 3825/2	9010-1705	10 kHz - 50 MHz	05/19/97	05/19/98
LISN	FCC LISN-2	n/a	10 kHz - 50 MHz	NCR	NCR
Log Periodic Antenna	EMCO 3146	9006-2809	200 MHz - 1000 MHz	01/31/98	01/31/99
Bicon Antenna	ARA BCD-235/B	1042	30 MHz - 200 MHz	01/31/98	01/31/99
Pre-Amplifier	AR LN1000AM3	21913	100 kHz - 1300 MHz	10/03/97	10/03/98
Dipole Antenna	EMCO 3121C	9211-866	28 MHz - 1000 MHz	09/25/97	12/31/98

Appendix I: Measurement Procedures

Each frequency was measured in both the horizontal and vertical antenna polarization's.

The EUT position was maximized for each frequency, for both the horizontal and vertical antenna polarization's, using a remotely controlled turntable.

The antenna height was varied from 1 - 4 meters at each frequency, for both the horizontal and vertical positions to maximize the emission level.

The cable and peripheral positions were manipulated to ensure maximum levels at each frequency for both horizontal and vertical antenna polarization's.

Measurements 30 MHz - 1000 MHz are made at an antenna to EUT distance of 10 meters.

Measurements 1000 MHz - 2000 MHz are made at an antenna to EUT distance of 3 meters.