

FCC PART 15.247

EMI MEASUREMENT AND TEST REPORT



For

Ambit Microsystems Corporation

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FCC ID: MCLAIRMPI350DE

2004-02-23

This Report Concerns: <input checked="" type="checkbox"/> Permissive Change Report	Equipment Type: Wireless MiniPCI Card
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Report No.: R0402024	
Test Date: 2004-02-09	
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Note: This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *AMBIT Microsystems Corporation's* Model: *AIR-MPI350* or the "EUT" as referred to in this report is a wireless MiniPCI Card.

The mini PCI card wireless LAN card provides RF modem functionality utilizing direct sequence spread spectrum technology for client applications in the ISM 2.4GHz RF frequency band. Supporting a Type IIIA mini PCI from factor, this product provides industry-standard PHY/MAC functionality per the standard of IEEE 802.11b at 1, 2, 5.5 & 11 Mb/s data rates. The design is based on the Intersil Prism 2.5 chipset. This product will be PCI 2.2 compliant, and will provide a standard Mini PCI Card Interface through the industry-standard 124-pin connector. The product interface utilizes bus mastering DMA for all packet data transfers across the system bus.

The EUT provides the following feature(s):

- Compatible with IEEE 802.11b high rate standard to provide wireless Ethernet speeds of 11Mbps data rate
- Modulation BPSK-1 Mbps, QPSK-2 Mbps, CCK 5.5 and 11 Mbps
- Allow auto fallback data rate for optimized reliability, throughput and transmission range
- Supports wireless data encryption with 128-bit WEP standard for security, EAP and LEAP security is addresses with WEP (up to 1024 bit) and other security management provisions as enabled by the firmware and the host driver.
- Dual diversity antenna connectors supported for the multi-path environment
- Frequency 2400-2500MHz, useable 2412-2484 MHz in 1 MHz steps
- External ON/OFF switch & indicator LEDs
- It is a bus mastering PCI interface with full support for power management including ACPI power states D0-D3, CAM, MaxPSP and Fast PSP.
- 4M flash was designed to allow for the PXE code (remote boot), which is a BIOS extension.

The EUT was installed in 2 different notebooks with 2 corresponding different antennas. The notebook and antenna list is as follows:

DELL Notebook Model: T0775
Serial Number: 62L 1431
With Antenna CAO-S

DELL Notebook Model: T0775
Serial Number: D9N1431
With Antenna HFT06

** The test data gathered are from production sample, serial number:000000001SC/00D059C99003, provided by the manufacturer.*

Objective

This type approval report is prepared on behalf of *Ambit Microsystems Corporation* in accordance with Part 2, Subpart J, Part 15, Subparts A and C of the Federal Communication Commissions rules.

This is a PCII application. The original application was granted on 09/03/2003. The difference between the original device and the current one is the manufacturer installed it into another 2 different notebooks with 2 different antennas.

The objective of the manufacturer is to determine compliance with FCC rules for Output Power, Antenna Requirements, 6 dB Bandwidth, power density, 100 kHz Bandwidth of Band Edges Measurement, Conducted and Spurious Radiated Emission.

Related Submittal(s)/Grant(s)

The PCII application was originally granted on 09/03/2003. Please refer to BACL report R0305081 for the details of the original application.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2001, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz and FCC97114 for Direct Sequence SS.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Open Area Test site used by BACL to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at BACL has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2001.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The scope of the accreditation covers the FCC Method – 47 CFR Part – Digital Devices, CISPER 22: 1997: Electromagnetic Interference – Limits and Methods of Measurement of Information Technology Equipment test methods.

Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	Notebook	T0775	62L1431	DOC
DELL	Notebook	T0775	D9N1431	DOC
HP	Printer	2225C	N/A	DOC
EVEREX	Modem	EV-945	12006A8EX0-09A08	E3E5UVEV-945

External I/O Cabling List and Details

Cable Description	Length (M)	Port/From	To
Shielded Printer Cable	1.5	Parallel Port/Notebook PC	Printer
Shielded Printer Cable	1.5	Serial Port/Notebook PC	Modem

Power Supply Information

Manufacturer	Description	Model	Serial Number	FCC ID
DELL	AC Adapter	PA-1650-05D	CN-05U092-48010-2BQ-02A6	DOC
DELL	AC Adapter	PA-1650-05D	CN-05U092-48010-33Q-265E	DOC

SYSTEM TEST CONFIGURATION

Justification

The host system was configured for testing according to ANSI C63.4-2001.

The EUT was tested in the normal (native) operating mode to represent *worst*-case results during the final qualification test.

EUT Exercise Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the system components in a manner similar to a typical use. The test software, provided by the customer, is started the Windows terminal program under the Windows 98/2000/ME/XP operating system.

Once loaded, set the Tx channel to low, mid and high for testing.

Special Accessories

As shown in following test setup block diagram, all interface cables used for compliance testing are shielded. The notebook and the peripherals featured shielded metal connectors.

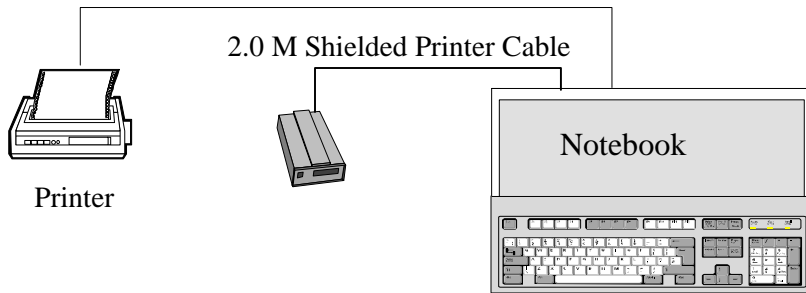
Schematics / Block Diagram

Please refer to Appendix A.

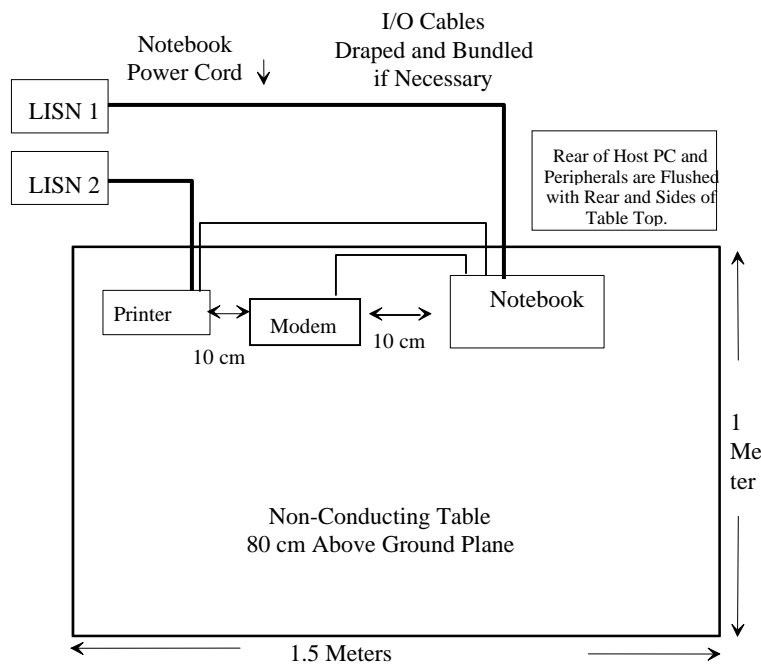
Equipment Modifications

No modifications were made to the EUT.

Configuration of Test System



Test Setup Block Diagram



SUMMARY OF TEST RESULTS

Results reported relate only to the product tested, serial number: *MPI350-001*.

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.205	Restricted Bands	Compliant
§15.207 (a)	Conducted Emission	Compliant
§15.209 (a)	Radiated Emission	Compliant
§15.209 (a),	Spurious Emission	Compliant
§15.247	Spurious Emission	Compliant

§15.203 - ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to § 15.247 (1), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connected Construction

The antenna connector is designed with unique attachment. Please see the antenna spec. provided by the applicant for details.

§15.205 & §15.209(a) - SPURIOUS RADIATED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at BA CL is ± 4.0 dB.

EUT Setup

The radiated emission tests were performed in the open area 3-meter test site, using the setup in accordance with the ANSI C63.4-2001. The specification used was the FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The host PC system was connected with 110VAC/60Hz power source.

Spectrum Analyzer Setup

According to FCC Rules, 47 CFR §15.33 (a) (1), the system was tested to 25GHz.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

<i>Frequency Range</i>	<i>RBW</i>	<i>Video B/W</i>
Below 30MHz	10kHz	10kHz
30 – 1000MHz	100kHz	100kHz
Above 1000MHz	1MHz	1MHz

Test Procedure

For the radiated emissions test, the Host PC system power cord was connected to the AC floor outlet since the power supply used in the EUT did not provide an accessory power outlet.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB μ V of specification limits), and are distinguished with a "Qp" in the data table.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB μ V means the emission is 7dB μ V below the maximum limit for Subpart C. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Subpart C Limit}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date
HP	Spectrum Analyzer	8568B	2601A02165	2003-07-03
HP	Amplifier	8447E	2944A10187	2003-09-23
HP	Quasi-Peak Adapter	85650A	3019A05393	2003-06-13
HP	Analyzer, Spectrum	8565EC	3946A00131	2003-06-30
A.H. System	Horn Antenna	SAS0200/571	261	12/27/03
EMCO	Biconical Antenna	3110B	9309-1165	2003-10-11
EMCO	Log Periodic Antenna	3146	2101	2003-10-11

* **Statement of Traceability: BACL Corp.** certifies that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Summary of Test Results

According to the data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.207 and 15.247, and had the worst margin of:

Notebook:DELL T0775, S/N: 62L1431

- 5.3 dB at 4824.00 MHz in the **Horizontal** polarization, Low Channel
- 4.3 dB at 4874.00 MHz in the **Horizontal** polarization, Middle Channel
- 3.1 dB at 4924.00 MHz in the **Horizontal** polarization, High Channel
- 3.0 dB at 86.26 MHz in the **Horizontal** polarization, Unintentional Emission

Notebook:DELL T0775, S/N: D9N1431

- 2.4 dB at 4824.00 MHz in the **Vertical** polarization, Low Channel
- 6.1 dB at 4874.00 MHz in the **Vertical** polarization, Middle Channel
- 3.1 dB at 4924.00 MHz in the **Horizontal** polarization, High Channel
- 4.5 dB at 83.25 MHz in the **Horizontal** polarization, Unintentional Emission

Test Data, Notebook:DELL T0775, S/N: 62L1431

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 C	
Frequency MHz	Ampl. dBµV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable DB	Amp. DB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
Low Channel											
2412.00	110.0	Fund/Peak	90	1.6	V	28.1	3.4	35.2	106.3		
2412.00	111.7	Fund/Peak	270	1.8	H	28.1	3.4	35.2	107.9		
2412.00	106.5	Fund/Ave	90	1.6	V	28.1	3.4	35.2	102.8		
2412.00	107.1	Fund/Ave	270	1.8	H	28.1	3.4	35.2	103.4		
4824.00	44.3	Ave	180	1.6	H	32.5	4.9	33.0	48.7	54	-5.3
4824.00	41.0	Ave	330	1.2	V	32.5	4.9	33.0	45.4	54	-8.6
7236.00	32.8	Ave	90	1.2	H	35.1	5.6	33.5	40.1	54	-13.9
7236.00	32.7	Ave	200	1.4	V	35.1	5.6	33.5	39.9	54	-14.1
4824.00	49.5	Peak	180	1.6	H	32.5	4.9	33.0	53.9	74	-20.1
4824.00	48.7	Peak	330	1.2	V	32.5	4.9	33.0	53.1	74	-20.9
7236.00	45.8	Peak	90	1.2	H	35.1	5.6	33.5	53.1	74	-20.9
7236.00	45.5	Peak	200	1.4	V	35.1	5.6	33.5	52.7	74	-21.3
Middle Channel											
2437.00	111.3	Fund/Peak	90	1.8	V	28.1	3.4	35.2	107.6		
2437.00	112.7	Fund/Peak	250	1.6	H	28.1	3.4	35.2	108.9		
2437.00	107.8	Fund/Ave	90	1.8	V	28.1	3.4	35.2	104.1		
2437.00	109.0	Fund/Ave	250	1.6	H	28.1	3.4	35.2	105.3		
4874.00	45.3	Ave	180	1.2	H	32.5	4.9	33.0	49.7	54	-4.3
4874.00	42.3	Ave	330	1.2	V	32.5	4.9	33.0	46.7	54	-7.3
7311.00	32.8	Ave	0	1.4	V	35.1	5.6	33.5	40.1	54	-13.9
7311.00	32.7	Ave	90	1.8	H	35.1	5.6	33.5	39.9	54	-14.1
4874.00	50.7	Peak	180	1.2	H	32.5	4.9	33.0	55.1	74	-18.9
4874.00	49.8	Peak	330	1.2	V	32.5	4.9	33.0	54.2	74	-19.8
7311.00	45.8	Peak	0	1.4	V	35.1	5.6	33.5	53.1	74	-20.9
7311.00	45.5	Peak	90	1.8	H	35.1	5.6	33.5	52.7	74	-21.3
High Channel											
2462.00	111.7	Fund/Peak	90	1.6	V	28.1	3.4	35.2	107.9		
2462.00	111.5	Fund/Peak	270	1.5	H	28.1	3.4	35.2	107.8		
2462.00	108.0	Fund/Ave	90	1.6	V	28.1	3.4	35.2	104.3		
2462.00	107.7	Fund/Ave	270	1.5	H	28.1	3.4	35.2	103.9		
4924.00	46.5	Ave	180	1.8	H	32.5	4.9	33.0	50.9	54	-3.1
4924.00	43.3	Ave	200	1.6	V	32.5	4.9	33.0	47.7	54	-6.3
7386.00	32.9	Ave	90	1.5	V	35.1	5.6	33.5	40.1	54	-13.9
7386.00	32.8	Ave	180	1.2	H	35.1	5.6	33.5	40.0	54	-14.0
4924.00	51.8	Peak	180	1.8	H	32.5	4.9	33.0	56.2	74	-17.8
4924.00	49.7	Peak	200	1.6	V	32.5	4.9	33.0	54.1	74	-19.9
7386.00	46.1	Peak	90	1.5	V	35.1	5.6	33.5	53.3	74	-20.7
7386.00	45.8	Peak	180	1.2	H	35.1	5.6	33.5	53.0	74	-21.0

Indicated		Direction Degree	Table Height Meter	Antenna		Correction Factor			FCC 15 C	
Frequency MHz	Ampl. dBµV/ m			Polar H/V	Antenn a dBµV/ m	Cable Loss dBµV/ m	Amp. dB	Corr. Ampl. dBµV/ m	Limit dBµV/ m	Margin dB
86.26	54.7	200	1.6	H	9.8	1.2	28.7	37.0	40	-3.0
83.35	53.8	30	2.0	H	9.5	1.2	28.7	35.8	40	-4.2
38.73	50.2	0	2.2	H	13.4	1.0	28.9	35.7	40	-4.3
51.34	51.17	330	2.5	H	10.2	1.0	28.8	33.6	40	-6.4
147.40	50.7	100	2.2	H	12.6	1.7	28.6	36.3	43.5	-7.2
164.53	48.7	90	2.2	V	12.9	1.8	28.2	35.1	43.5	-8.4
210.42	45.2	150	1.0	V	11.9	2.2	28.2	31.0	43.5	-12.5
226.78	41.2	180	1.5	V	11.8	2.2	28.2	26.9	46	-19.1
353.63	35.7	90	1.6	V	15.5	2.3	28.3	25.2	46	-20.8

Test Data, Notebook:DELL T0775, S/N: D9N1431

INDICATED			TABLE	ANTENNA		CORRECTION FACTOR			CORRECTED AMPLITUDE	FCC 15 C	
Frequency MHz	Ampl. dBµV/m	Comments	Angle Degree	Height Meter	Polar H/ V	Antenna dBµV/m	Cable DB	Amp. DB	Corr. Ampl. dBµV/m	Limit dBµV/m	Margin dB
Low Channel											
2412.00	112.7	Fund/Peak	270	1.6	V	28.1	3.4	35.2	109.0		
2412.00	112.0	Fund/Peak	180	1.5	H	28.1	3.4	35.2	108.3		
2412.00	109.0	Fund/Ave	270	1.6	V	28.1	3.4	35.2	105.3		
2412.00	108.0	Fund/Ave	180	1.5	H	28.1	3.4	35.2	104.3		
4824.00	47.2	Ave	270	1.6	V	32.5	4.9	33.0	51.6	54	-2.4
4824.00	47.1	Ave	45	1.8	H	32.5	4.9	33.0	51.5	54	-2.5
7236.00	34.0	Ave	300	1.3	V	35.1	5.6	33.5	41.2	54	-12.8
7236.00	33.8	Ave	30	1.5	H	35.1	5.6	33.5	41.1	54	-12.9
4824.00	52.1	Peak	45	1.8	H	32.5	4.9	33.0	56.5	74	-17.5
4824.00	52.0	Peak	270	1.6	V	32.5	4.9	33.0	56.4	74	-17.6
7236.00	46.5	Peak	300	1.3	V	35.1	5.6	33.5	53.7	74	-20.3
7236.00	46.2	Peak	30	1.5	H	35.1	5.6	33.5	53.4	74	-20.6
Middle Channel											
2437.00	112.5	Fund/Peak	60	1.5	V	28.1	3.4	35.2	108.8		
2437.00	112.8	Fund/Peak	180	2.2	H	28.1	3.4	35.2	109.1		
2437.00	108.3	Fund/Ave	60	1.5	V	28.1	3.4	35.2	104.6		
2437.00	109.2	Fund/Ave	180	2.2	H	28.1	3.4	35.2	105.4		
4874.00	43.5	Ave	90	1.6	V	32.5	4.9	33.0	47.9	54	-6.1
4874.00	43.5	Ave	180	1.8	H	32.5	4.9	33.0	47.9	54	-6.1
7311.00	33.6	Ave	180	1.8	V	35.1	5.6	33.5	40.8	54	-13.2
7311.00	33.5	Ave	270	2.0	H	35.1	5.6	33.5	40.7	54	-13.3
4874.00	50.2	Peak	90	1.6	V	32.5	4.9	33.0	54.6	74	-19.4
4874.00	49.3	Peak	180	1.8	H	32.5	4.9	33.0	53.7	74	-20.3
7311.00	46.0	Peak	180	1.8	V	35.1	5.6	33.5	53.2	74	-20.8
7311.00	45.8	Peak	270	2.0	H	35.1	5.6	33.5	53.0	74	-21.0
High Channel											
2462.00	112.0	Fund/Peak	90	1.8	V	28.1	3.4	35.2	108.3		
2462.00	112.5	Fund/Peak	60	1.5	H	28.1	3.4	35.2	108.8		
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4924.00	42.5	Ave	60	1.6	V	32.5	4.9	33.0	46.9	54	-7.1
7386.00	33.7	Ave	100	1.5	V	35.1	5.6	33.5	40.9	54	-13.1
7386.00	33.6	Ave	180	2.0	H	35.1	5.6	33.5	40.8	54	-13.2
4924.00	51.8	Peak	180	1.8	H	32.5	4.9	33.0	56.2	74	-17.8
4924.00	49.8	Peak	90	1.2	V	32.5	4.9	33.0	54.2	74	-19.8
7386.00	46.2	Peak	100	1.5	V	35.1	5.6	33.5	53.4	74	-20.6
7386.00	45.5	Peak	180	2.0	H	35.1	5.6	33.5	52.7	74	-21.3

Frequency MHz	Indicated		Table Height Meter	Antenna		Correction Factor			FCC 15 C	
	Ampl. dBµV/ m	Direction Degree		Polar H/V	Antenna dBµV/ m	Cable Loss dBµV/ m	Amp. dB	Corr. Ampl. dBµV/ m	Limit dBµV/ m	Margin dB
83.25	53.5	180	2.0	H	9.5	1.2	28.7	35.5	40	-4.5
38.73	49.5	30	2.2	H	13.4	1.0	28.9	35.0	40	-5.0
86.03	52.5	90	1.5	H	9.8	1.2	28.7	34.8	40	-5.2
147.39	48.8	100	2.0	H	12.6	1.7	28.6	34.4	43.5	-9.1
210.12	47.7	30	2.5	V	11.9	2.2	28.2	33.5	43.5	-10.0
164.52	46.8	300	1.5	V	12.9	1.8	28.2	33.3	43.5	-10.2
51.34	50.2	180	1.5	H	10.2	1.0	28.8	32.6	43.5	-10.9
94.02	48.3	0	2.2	V	10.1	1.3	28.7	31.0	43.5	-12.5
120.10	45.7	150	2.0	V	11.7	1.6	28.6	30.3	43.5	-13.2
353.29	38.0	270	1.5	V	15.5	2.3	28.3	27.5	46	-18.5
227.07	39.3	200	1.4	V	11.8	2.2	28.2	25.1	46	-20.9

Note:

AVG = average

Fund = fundamental

§15.207(a) - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BAEL is ± 2.4 dB.

EUT Setup

The measurement was performed in the shield room, using the same setup per ANSI C63.4-2001 measurement procedure. The specification used was FCC 15 Subpart C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The notebook PC was connected with 110VAC/60Hz power source.

Spectrum Analyzer Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30MHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date
Rohde & Schwarz	Artificial LISN	ESH2-Z5	871884/039	2003-03-28
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2003-05-06
Fluke	Calibrated Voltmeter	189	18485-38	2003-07-18

* **Statement of Traceability: BAEL Corp.** certifies that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the power cord of the host system was connected to the auxiliary outlet of the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of each modes tested to ensure EUT is compliant with all installation combination.

All data was recorded in the peak detection mode. Quasi-peak readings were only performed when an emission was found to be marginal (within -4 dB of specification limits). Quasi-peak readings are distinguished with a "Qp".

Summary of Test Results

According to the data in following table, the EUT complies with the FCC Conducted margin for a Class B device, with the *worst* margin reading of:

Notebook: DELL T0775, S/N: 62L1431: -13.1 dB at 0.435 MHz in the Neutral mode

Notebook: DELL T0775, S/N: D9N1431: -10.2 dB at 0.150 MHz in the Line mode

Conducted Emissions Test Data

Notebook: DELL T0775, S/N: 62L1431

Frequency MHz	LINE CONDUCTED EMISSIONS			FCC Part 15	
	Amplitude dB μ V	Detector Qp/Ave/Peak	Phase Line/Neutral	Limit dB μ V	Margin dB
0.435	34.1	AVG	Neutral	47.2	-13.1
0.435	32.8	AVG	Line	47.2	-14.4
0.165	49.7	QP	Line	65.2	-15.5
0.165	48.7	QP	Neutral	65.2	-16.5
0.165	38.2	AVG	Neutral	55.2	-17.0
0.165	37.1	AVG	Line	55.2	-18.1
0.435	35.1	QP	Neutral	57.2	-22.1
10.000	27.0	AVG	Neutral	50	-23.0
0.435	34.0	QP	Line	57.2	-23.2
10.000	25.8	AVG	Line	50	-24.2
10.000	31.8	QP	Line	60	-28.2
10.000	31.8	QP	Neutral	60	-28.2

Notebook: DELL T0775, S/N: D9N1431

LINE CONDUCTED EMISSIONS				FCC Part 15	
Frequency MHz	Amplitude dB μ V	Detector Qp/Ave/Peak	Phase Line/Neutral	Limit dB μ V	Margin dB
0.150	55.8	QP	Line	66	-10.2
0.200	47.7	QP	Line	63.6	-15.9
0.150	37.2	AVG	Line	56	-18.8
0.255	42.8	QP	Line	61.6	-18.8
0.195	44.1	QP	Neutral	63.8	-19.7
0.260	40.5	QP	Neutral	61.4	-20.9
0.200	32.1	AVG	Line	53.6	-21.5
0.195	31.4	AVG	Neutral	53.8	-22.4
0.260	28.2	AVG	Neutral	51.4	-23.2
0.285	27.3	AVG	Line	50.7	-23.4
0.390	33.6	QP	Neutral	58.1	-24.5
0.400	21.8	AVG	Neutral	47.9	-26.1

Plot of Conducted Emissions Test Data

Plot(s) of Conducted Emissions Test Data is presented hereinafter as reference.

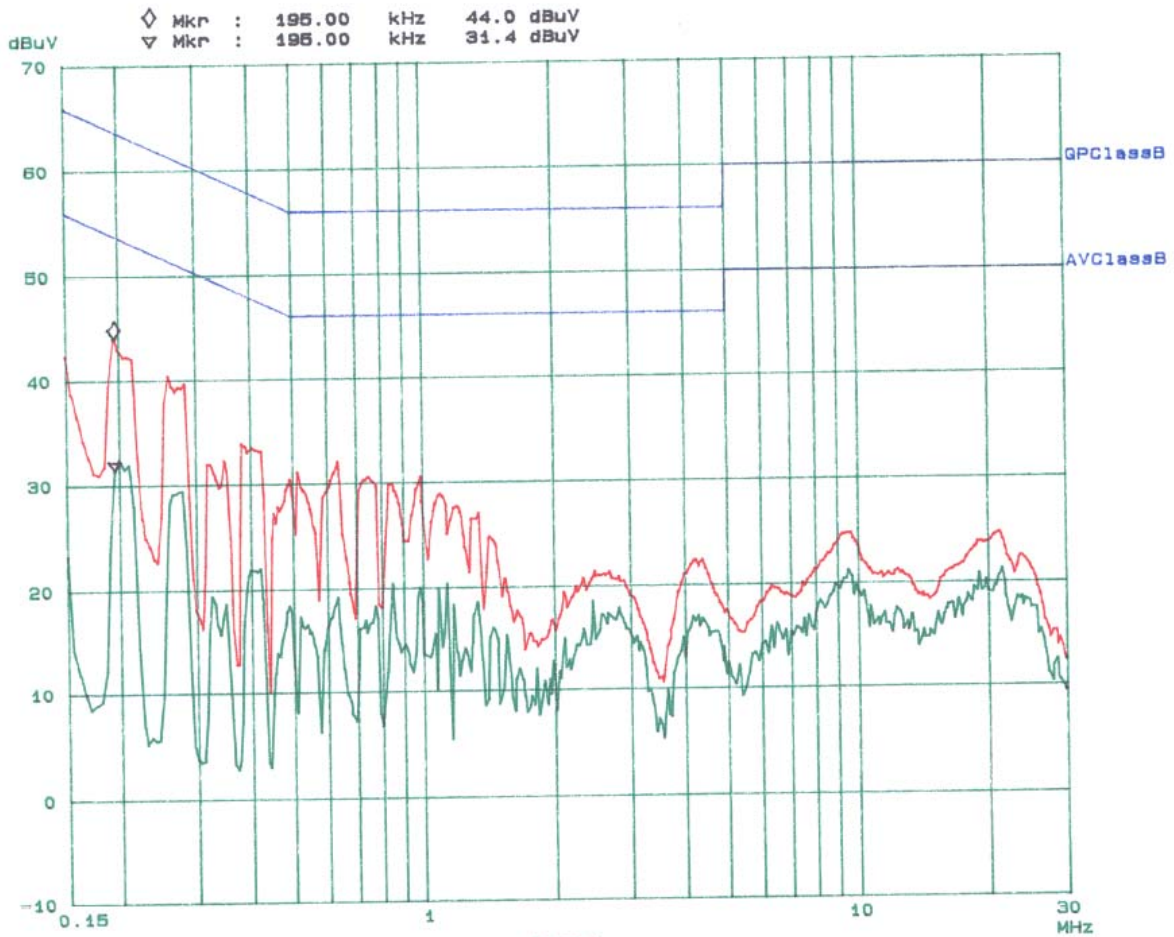
Bay Area Compliance Laboratory Corp
Class B

11. Feb 04 09:52

EUT: AIR_MPI350
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: N
09N1431

Scan Settings (3 Ranges)			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	
150k	1M	5k	9k	QP+AV	20ms	15dB LN	OFF	
1M	5M	10k	9k	QP+AV	1ms	15dB LN	OFF	
5M	30M	100k	9k	QP+AV	1ms	15dB LN	OFF	

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Bay Area Compliance Laboratory Corp
Class B

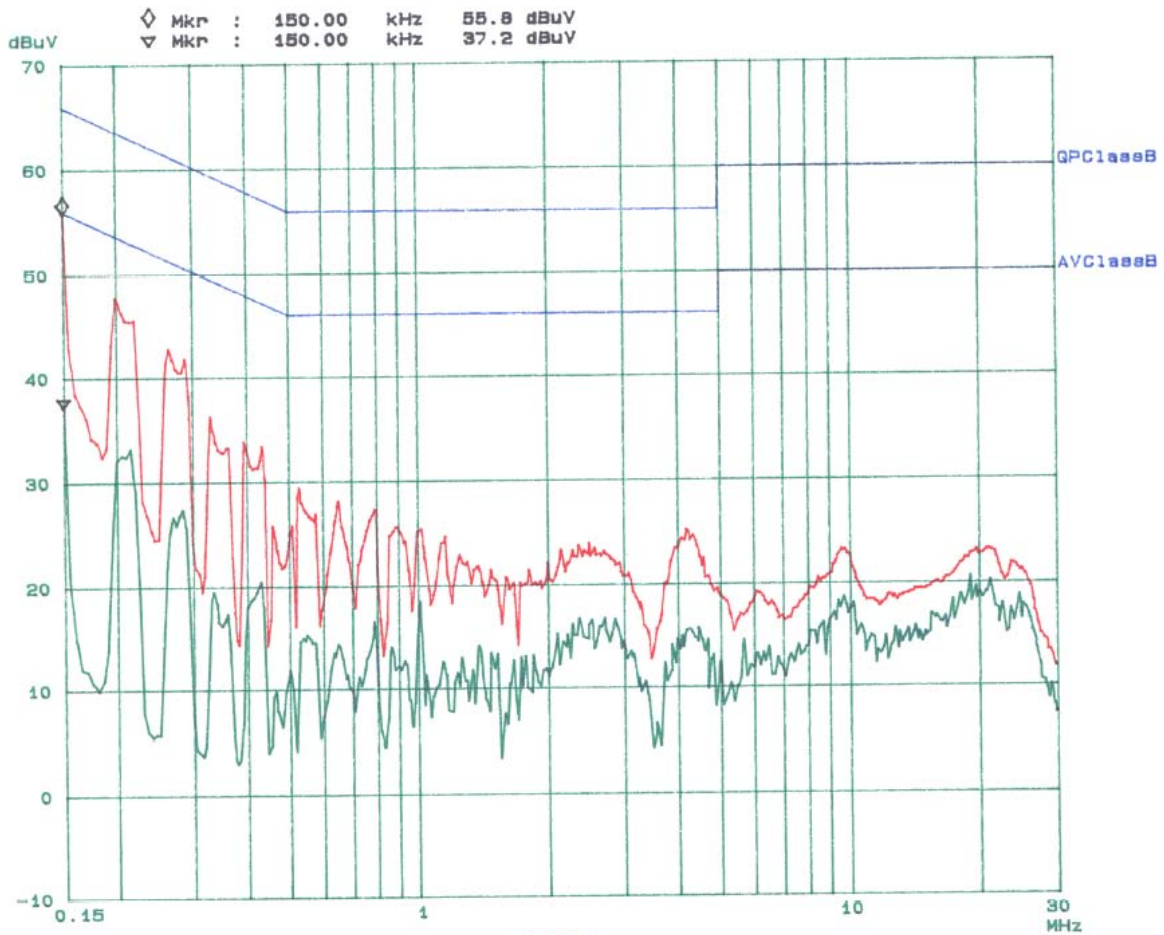
11. Feb 04 09:25

EUT: AIR_MPI350
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: L
D9N1431

Scan Settings (3 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	
150k	1M	5k	9k	QP+AV	20ms	15dB	OFF	
1M	5M	10k	9k	QP+AV	1ms	15dB	OFF	
5M	30M	100k	9k	QP+AV	1ms	15dB	OFF	

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



Bay Area Compliance Laboratory Corp
Class B

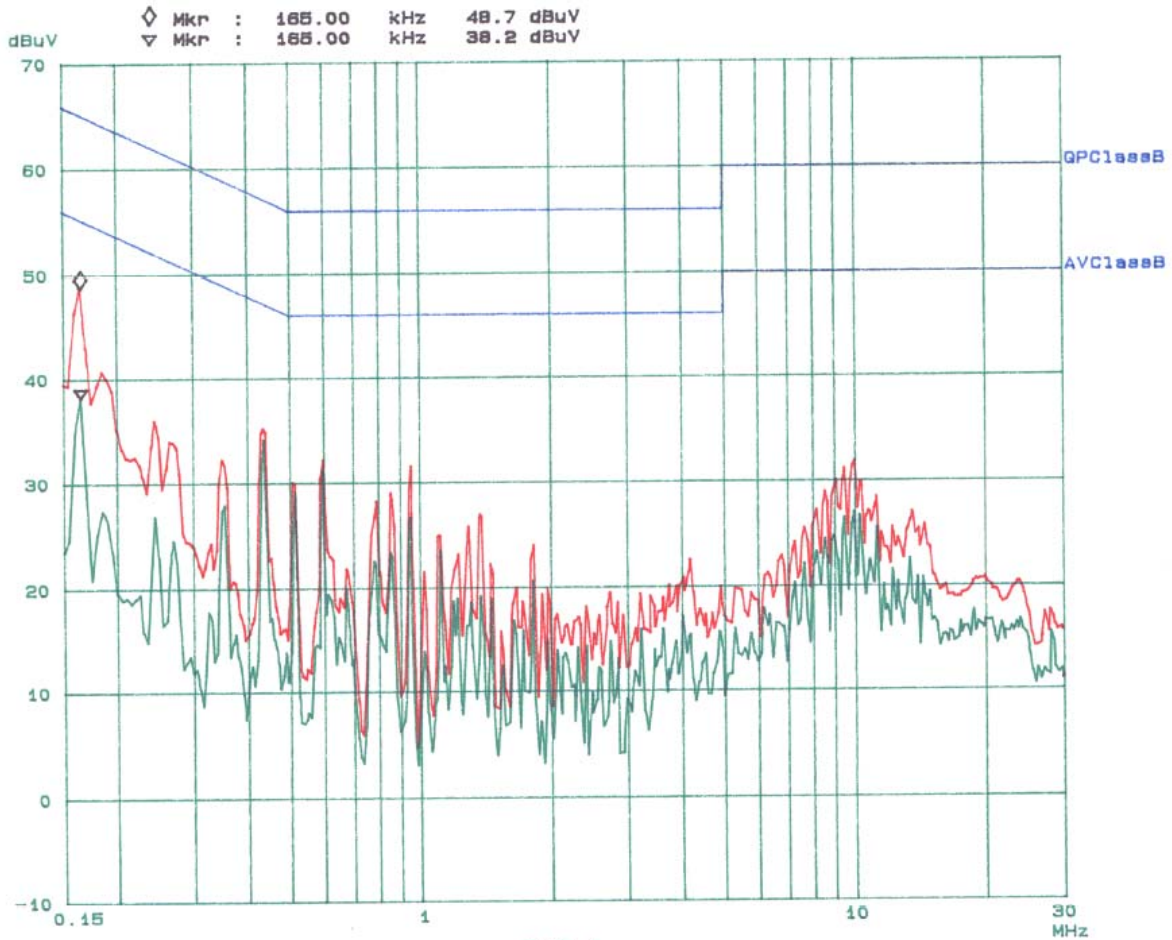
09. Feb 04 17: 46

EUT: AIR_MPI350
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: N

Scan Settings (3 Ranges)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	1M	5k	9k	QP+AV	20ms	15dB	OFF
1M	5M	10k	9k	QP+AV	1ms	15dB	OFF
5M	30M	100k	9k	QP+AV	1ms	15dB	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB



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Bay Area Compliance Laboratory Corp
Class B

09. Feb 04 17:25

EUT: AIR_MPI350
Manuf: AMBIT
Op Cond: Normal
Operator: LING
Comment: L

Scan Settings (3 Ranges)			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	
150k	1M	5k	9k	QP+AV	20ms	15dB	OFF	
1M	5M	10k	9k	QP+AV	1ms	15dB	OFF	
5M	30M	100k	9k	QP+AV	1ms	15dB	OFF	

Final Measurement: x QP / + AV
Meas Time: 1 s
Subranges: 25
Acc Margin: 6dB

