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Class II Permissive Change
Test Report
And Application for Grant of Equipment Authorization

TEST REPORT PERTAINING TO:

Equipment Under Test	Model Number(s)
Intel PRO/Wireless 3945ABG Network Connection	WM3945ABG

CONFIGURATION
802.11a / 802.11b / 802.11g with a set of Compal HDL20 Antennas

MEASUREMENTS PERFORMED IN ACCORDANCE WITH THE FOLLOWING STANDARD (S)

Regulatory Standard(s)
47 CFR Part 15, Subpart E Section 15.407 (UNII Devices) Test Method: ANSI C63.4: 2003 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

ACCREDITED
Certificate Number: 1111.01

PREPARED FOR:
Intel Corporation
2111 NE 25th Avenue
Hillsboro, Oregon 97124
Contact(s): Mr. Robert Paxman

PREPARED BY:
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Mr. Johnny Candelas

Test Report #: INTEL-060718F

Test Report Revision: NONE

	REPORT BODY	APPENDICES		TOTAL PAGES
		A	*B*	
PAGES	13	14	1	28

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1.0 REGULATORY COMPLIANCE GUIDELINES

Aegis Labs, Inc. operates as both a Nevada and California Corporation with no organizational or financial relationship with any company, institution, or private individual. Testing and engineering functions provided by Aegis Labs were furnished by RF technicians and engineers with accredited qualifications and training credentials to carry out their duties.

The object of this report was to publish verifiable test results of an EUT subjected to the tests outlined in the standard listed on the cover page of this report.

1.1 Guidelines For Testing To Emissions Standards

This standard for EMC emission requirements apply to electrical equipment for Information Technology Equipment (ITE). Compliance to these standards and in combination with the other standards listed in this test report can be used to demonstrate presumption of compliance with the protection requirements of the appropriate agency standard.

The purpose of this standard is to specify minimum requirements for emissions regarding electromagnetic compatibility (EMC) and protect the radio frequency spectrum 9 kHz. – 400 GHz. from unwanted interference generated from electrical/digital systems that intentionally or unintentionally generated RF energy. The emissions standards, normative documents and/or publications were used to conduct all tests performed on the equipment herein referred to as “Equipment Under Test”.

2.0 SUMMARY OF TEST RESULTS

EMISSIONS STANDARD			
FCC Part 15 Section	**Description**	**Results**	**Comments**
Operation in the 5.15-5.25 GHz Band			
15.407(d)	Any UNII device shall use a transmitting antenna that is an integral part of the device.	PASSED	The antenna will be integral when installed in a notebook computer
15.407(e)	UNII devices will be restricted to indoor operations.	PASSED	Refer to "User's Manual" Exhibit
15.407(a)(1)	26dB emissions bandwidth in MHz.	N/A	5.18 GHz = 23.33 MHz *Per Original Filing*
15.407(a)(1)	Peak transmit power shall not exceed the lesser of 50mW or 4dBm+10logB (where B = 26dB emissions bandwidth).	PASSED	5.18 GHz = 16.00dBm (39.81mW) 5.24 GHz = 16.90dBm (48.98mW)
15.407(a)(1)	The peak power spectral density shall not exceed 4dBm in any 1MHz band.	PASSED	5.18 GHz = 3.50dBm *Per Original Filing*
15.407(a)(1)	Peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the transmitting antenna exceeds 6dBi.	N/A	All antennas tested have less than 6dBi antenna gain (Please see the antenna data sheets)
15.407(b)(6) 15.209	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209.	PASSED	*See Original Filing*
15.407(b)(1)	All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27dBm/MHz.	PASSED	See Data Sheets
Operation in the 5.25-5.35 GHz Band			
15.407(a)(2)	26dB emissions bandwidth in MHz.	N/A	5.26 GHz = 23.33 MHz 5.32 GHz = 25.33 MHz *Per Original Filing*
15.407(a)(2)	Peak transmit power shall not exceed the lesser of 250mW or 11dBm+10logB (where B = 26dB emissions bandwidth).	PASSED	5.26 GHz = 18.10dBm (64.57mW) 5.32 GHz = 18.30dBm (67.61mW)
15.407(a)(2)	The peak power spectral density shall not exceed 11dBm in any 1MHz band.	PASSED	5.26 GHz = 7.33dBm 5.32 GHz = 7.00dBm *Per Original Filing*
15.407(a)(2)	Peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the transmitting antenna exceeds 6dBi.	N/A	All antennas tested have less than 6dBi antenna gain (Please see the antenna data sheets)
15.407(b)(6) 15.209	Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209.	PASSED	*See Original Filing*
15.407(b)(2)	All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of –27dBm/MHz. Must meet all applicable technical requirements for operating in the 5.15-5.25 GHz band.	PASSED	See Data Sheets

2.0 Summary of Test Results (Continued)

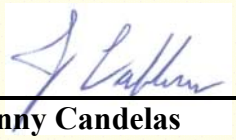
EMISSIONS STANDARD			
FCC Part 15 Section	**Description**	**Results**	**Comments**
General Requirements For All Bands			
15.407(a)(6)	The ratio of the peak excursion of the modulation envelope to the peak transmit power shall not exceed 13dB across any 1 MHz bandwidth or the emissions bandwidth whichever is less.	PASSED	5.18 GHz = 5.00 dB 5.26 GHz = 5.00 dB 5.32 GHz = 5.00 dB *Per Original Filing*
15.407(f)	Radio frequency radiation exposure requirement.	PASSED	Refer to MPE Calculations Exhibit
15.407(b)(6) 15.207	UNII devices using AC power line are required to comply with the conducted limits set forth in Section 15.207.	PASSED	*See Original Filing*

ANALYSIS AND CONCLUSIONS

Based upon the measurement results we find that this equipment is within the limits of the global standards listed on the cover page of this test report. All results are based on a test of one sample. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

Approval Signatories

Test and Report Completed By:



07/21/06

Johnny Candelas **Date:**
Test Technician
Aegis Labs, Inc.

Report Approved By:

07/21/06

Rick Candelas **Date:**
Quality Assurance Manager
Aegis Labs, Inc.

3.0 ADMINISTRATIVE DATA AND TEST DESCRIPTION

DEVICE TESTED:	ITE Type: Intel PRO/Wireless 3945ABG Network Connection Model Number(s): WM3945ABG Serial Number: 00B11A295CVD26965002 FCC ID: PD9LEN3945ABG
DATE EUT RECEIVED:	July 17th, 2006
TEST DATE(S):	July 17th – 19th, 2006
ORIGIN OF TEST SAMPLE(S):	Production
EQUIPMENT CLASS:	EUT tested as CLASS B device
RESPONSIBLE PARTY:	Intel Corporation 2111 NE 25th Avenue Hillsboro, Oregon 97124
CLIENT CONTACT:	Mr. Robert Paxman
MANUFACTURER:	Intel Corporation
TEST LOCATION:	Aegis Labs, Inc. 32231 Trabuco Creek Road Trabuco Canyon, CA 92678 Open Area Test Site #2
ACCREDITATION CERTIFICATE(s):	A2LA Certificate Number: 1111.01, Valid through February 28, 2008
PURPOSE OF TEST:	To demonstrate compliance with the standards as described in Sections 1.0 & 2.0 of this report.
UNCERTAINTY BUDGET:	Proficiency Testing and Uncertainty Calculations for all tests indicated in this report have been conducted in accordance with ISO 17025: 2005 requirements Section 5.4.6, and 5.9. Uncertainty Budgets and Proficiency Test results available upon request.
STATEMENT OF CALIBRATION:	All accredited equipment calibrations were performed by Liberty Labs, Inc. and World Cal. with typical calibration uncertainty estimates derived from ISO Guide to the determination of uncertainties with a Coverage Factor of k=2 for 95% level of confidence.

4.0 DESCRIPTION OF EUT CONFIGURATION

4.1 EUT Description

Equipment Under Test (EUT)	
Trade Name:	Intel PRO/Wireless 3945ABG Network Connection
Model Number:	WM3945ABG
Frequency Range:	5.15-5.35 GHz
Enclosure:	The EUT contains it's own shield made of aluminum approximately 2.5cm wide by 2cm deep by 2mm high.
Transfer Rate:	6/36/54 Mbps
Antenna Type:	PIFA (Main/Aux)
Antenna Gain (See Note 2):	5 GHz = 1.29 (Main), -0.17 (Aux) dBi
Transmit Output Power:	16 dBm (Typical) for 5.15-5.25 GHz 18 dBm (Typical) for 5.25-5.35 GHz Please see Appendix A (Data Sheets) for actual output power.
Power Supply:	3.3VDC from computer MPCI slot.
Number of External Test Ports Exercised:	2 Antenna Ports (1 Main & 1 Auxiliary)

The Intel PRO/Wireless 3945ABG Network Connection is an embedded 802.11a/b/g network adapter operating in the 2.4 GHz and 5 GHz spectrum. The EUT is based on the Mini Card form factor designed to meet the space and size requirements for thin and light notebook PCs. It is capable of a data rate of up to 52 Mbps.

NOTE 1: For a more detailed description, please refer to the manufacture's specifications or User's Manual.

NOTE 2: The EUT was tested with a set of Compal HDL20 Antennas. (Refer to the antenna specifications exhibits).

4.2 EUT Configuration

The EUT was tested installed in the Mini PCI-E slot of the host computer as a modular device using a PCI extender board to extend the EUT outside the computer chassis. The EUT was then connected to a set of antennas via its Main and Aux antenna ports. Data for a set of Compal HDL20 Antennas can be found in Appendix A (Data Sheets)

The low, middle, and high channels were tested in 802.11a, b, & g modes. Also, the EUT was tested once transmitting from the Main antenna port and once transmitting from the Aux antenna port. The EUT was placed in either continuous transmit or continuous receive mode by a program provided by the manufacturer (GRTT *Version 1.1.1*).

4.3 List of EUT, Sub-Assemblies and Host Equipment

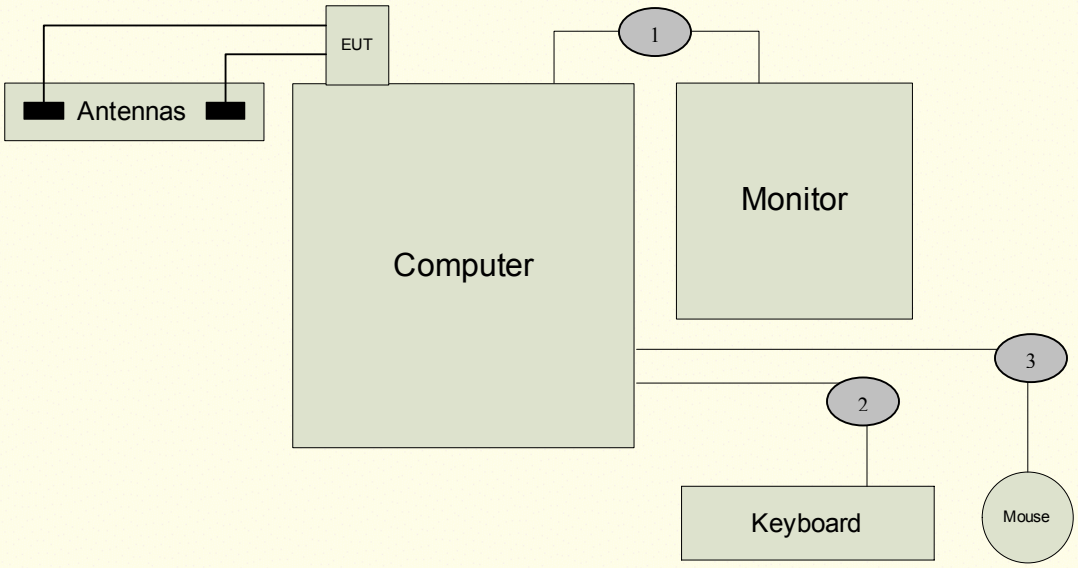
Equipment Under Test			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
Intel Corporation	Intel PRO/Wireless 3945ABG Network Connection	WM3945ABG	00B11A295CVD26965002

EUT Sub Assemblies			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
SmartAnt	Main Multi Band Antenna	CPL06-220530 (B)	N/A
SmartAnt	Auxiliary Multi Band Antenna	CPL06-220530 (G)	N/A

HOST EQUIPMENT LIST			
Manufacturer	**Equipment Name**	**Model or Part Number**	**Serial Number**
Computer	Intel	Generic	IZTGVV4312035
Monitor	Compaq	473A	545AF16AD243
Keyboard	Logitech	Y-BF37	MCTZ5200581
Mouse	Logitech	M-BJ58	LZE14759424

NOTE: All the power cords of the above support equipment are standard and non-shielded.

4.4 I/O Cabling Diagram and Description



Signal Line Cable Description

Cable	Length	Construction	Source Connector	Destination Connector	Bundled Length	Ferrite Attached	Note
1	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic DB-15	Monitor: Hardwired	N/A	N/A	N/A
2	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic 8-pin Mini DIN	Keyboard: Hardwired	N/A	N/A	N/A
3	1.5m	Round, Braid & Foil Shielded	Host Computer: Metallic 8-pin Mini DIN	Mouse: Hardwired	N/A	N/A	N/A

4.5 EMC Test Hardware and Software Measurement Equipment

TEST EQUIPMENT LIST - Emissions					
Equipment Name	**Manufacturer**	**Model Number**	**Serial Number**	**Calibration Due Date**	**Maintenance Calibration Cycle**
Spectrum Analyzer	Agilent	8564EC	4046A00387	08/15/06	1 Year
Antenna - Horn	EMCO	3115	2230	05/15/07	1 Year
Preamp	Agilent	8449B	3008A01573	12/08/06	1 Year
18 Foot Coax	Semflex	X116BFSX10216	546	12/14/06	1 Year
2.4 GHz Notch Filter	Micro-Tronics	BRM50702-02	003	10/21/06	1.5 Years
5.15-5.35 GHz Notch Filter	Microwave Circuits	N0452502	3173-01	10/21/06	1.5 Years
5.725-5.850 GHz Notch Filter	Microwave Circuits	N0257881	3173-01	10/21/06	1.5 Years
Antenna - 18-26.5 GHz Pre-amplified Horn	Aegis Labs, Inc.	H042	SLK-35-3W	02/08/07	1 Year
Power Meter	Anritsu	ML2487A	6K00001785	05/30/07	1 Year
Wide Bandwidth Sensor	Anritsu	MA2491A	31193	05/30/07	1 Year
12dB Attenuator	Narda	4779-12	203	12/09/06	1.5 Year
Temperature/Humidity Monitor	Dickson	TH550	7255185	03/24/07	1 Year

5.0 CONDITIONS DURING EMISSIONS MEASUREMENTS

5.1 General

All measurements were made according to the procedures defined in or referred to by the standard listed on the cover page of this report. The measurements were made in the operating mode producing the largest emissions consistent with normal operation and connected to the minimum configuration of auxiliary devices.

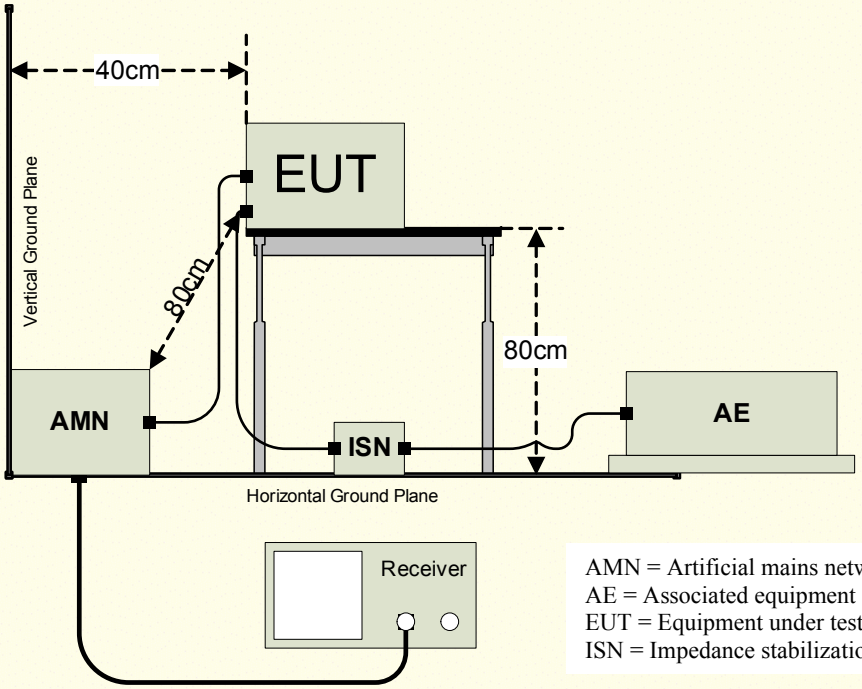
5.2 Conducted Emissions Test Setup

The following was the test configuration.

EUT signal cables that hung closer than 40 cm to the horizontal metal ground plane were folded back and forth forming a bundle 30 cm to 40 cm long. The power cord of the EUT was also bundled in the center and plugged into one of the artificial mains network (AMN). All peripheral equipment was powered from a second AMN via a multiple outlet strip placed at a distance on 10cm from each other. The AMN and ISN were positioned 80cm from the EUT. Signal cables that were not connected to an AE were terminated using the correct termination. If applicable, the current probe was placed at 0.1 m from the ISN.

Peak, quasi-peak and/or average detectors were used for testing performed between 150 kHz and 30 MHz. A swept frequency scan was performed for both Line 1 and Line 2. The six highest readings were compared against the limit and recorded in the data sheet along with a snapshot image of the sweep scan. The graphical scans in Appendix A only reflect peak readings while the tabulated data sheets reflect peak, average, and/or quasi-peak measurements.

Climatic Conditions:
The EUT was tested within its intended operating and climatic conditions.



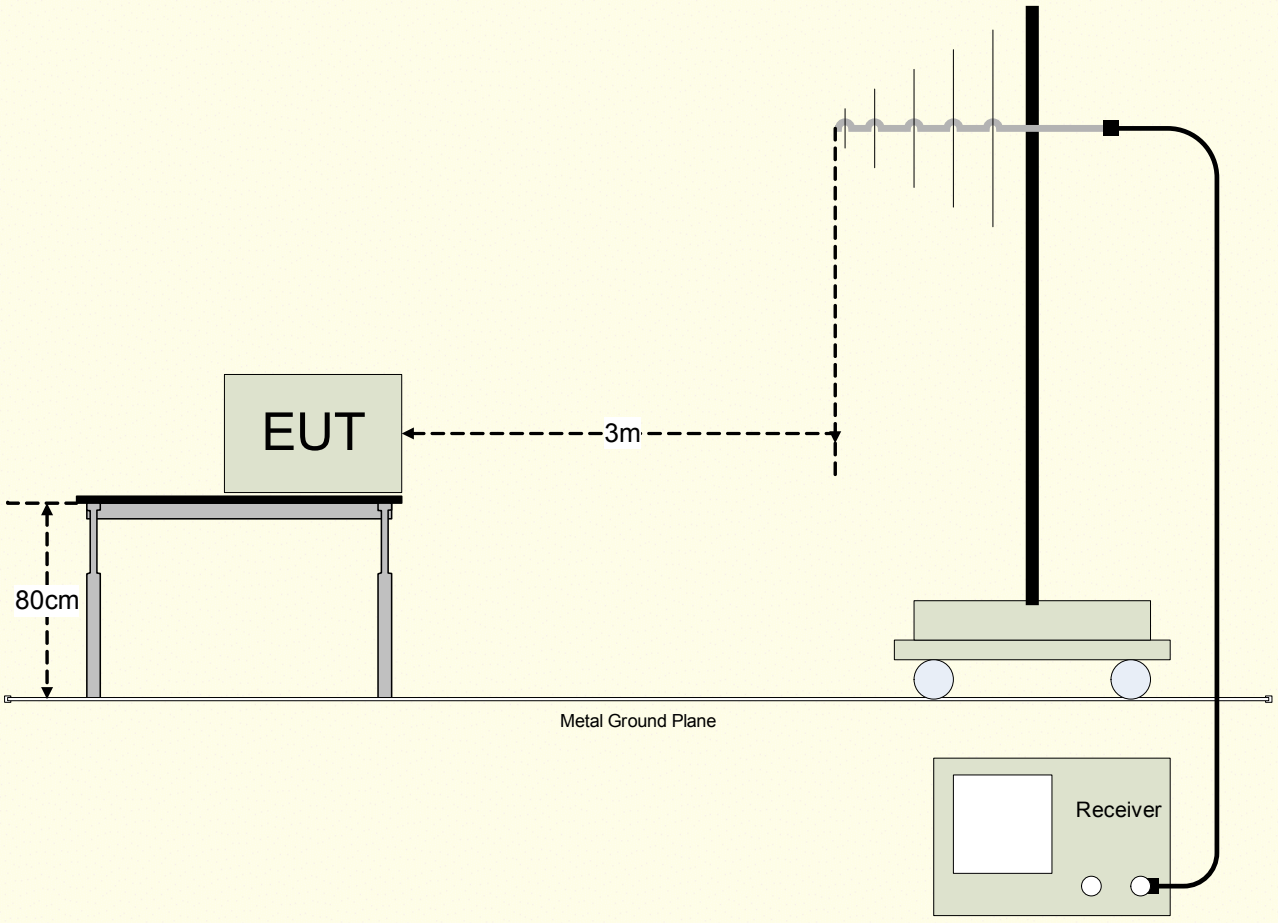
AMN = Artificial mains network
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

5.3 Radiated Emissions Test Setup

The Open Area Test Site (OATS) was used for radiated emission testing. The receiving (Rx) antenna(s) was placed 10m from the nearest side of the EUT facing the Rx antenna. The EUT (if floor-standing) was placed directly on the flush-mounted 360 degree rotating turntable. The EUT (if table-top) was placed directly on an 80cm high non-metallic table, and the table was placed on the rotating turntable. During the initial EMI scan, all the suspect frequencies, i.e.; harmonics, broadband signals were checked with the Rx broadband antennas in both vertical and horizontal polarities. The biconical Rx, log periodic Rx, and horn Rx antennas were used from 30MHz – 299.99MHz, 300MHz – 1000MHz, and 1GHz – 18GHz respectively.

Upon completion of all harmonic and broadband measurements, the balance of any remaining frequencies was checked between 30MHz – 18GHz. Any signals appearing within 20 dB of the classification limit was measured. Each signal was maximized by first rotating the turntable at least 360 degrees and recording the azimuth in the data sheet. Lastly, the Rx antenna was raised and/or lowered to maximize the signal elevation. If the measured signal was obtained using the peak detector and that signal appeared within 3 dB of the regulatory limit line, then the same signal was re-measured using the quasi-peak detector on the EMI receiver. Both meter readings if necessary were recorded on the data sheet.

Climatic Conditions:
The EUT was tested within its intended operating and climatic conditions.



APPENDIX A

TEST DATA

RADIATED EMISSIONS TEST RESULTS

CLIENT:	Intel Corporation	**DATE:**	07/17/06
EUT:	Intel PRO/Wireless 3945ABG Network Connection	**PROJECT NUMBER:**	INTEL-060717
MODEL NUMBER:	WM3945ABG	**TEST ENGINEER:**	BM
SERIAL NUMBER:	00B11A295CVD26965002	**SITE #:**	2
CONFIGURATION:	Tested installed in the host computer's mini PCI slot in **802.11a (5150-5350 MHz) mode with Compal HDL20 Antennas.**	**TEMPERATURE:**	24 deg. C
		HUMIDITY:	68% RH
		TIME:	4:00 PM

Description:	Radiated RF Emissions (1 GHz – 18 GHz)
Results:	**PASSED** Horizontal and Vertical Antenna Polarizations Class B Limits
Note:	Radiated Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Unwanted Spurious Emissions Limits			
Frequency (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m) (Emissions in the restricted bands)**	**Field Strength (dBm/MHz) (Emissions outside the restricted bands)**
Above 960	500	54.00 (Average) 74.00 (Peak)	< -20 dBc

Radiated Emissions Sample Calculations

Corrected Meter Reading = Meter Reading + F +C - D

Where, F = Antenna Factor
C = Cable Factor
G = Amplifier Gain
D = Distance Factor (if applicable)

Therefore, the equation for determining the Corrected Meter Reading Limit (CML) is:

CML = Specification Limit - F - C + D

Radiated Emissions Test Results (Continued)

*Fundamental Measurements in **802.11a mode (5150-5350 MHz)***
Channels 36, 48, 52, & 64
Continuous TX** at MAIN Antenna port with **Compal HDL20 Antennas
Aegis Labs, Inc. File #: INTEL-060717-02

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Comments*
5180.00	67.00	100	135			4.73	34.62	106.36			**Ch. 36**
5180.00				58.59	A	4.73	34.62	97.95			
5240.00	65.00	100	225			4.76	34.73	104.49			**Ch. 48**
5240.00				56.87	A	4.76	34.73	96.36			
5260.00	65.50	100	225			4.77	34.77	105.04			**Ch. 52**
5260.00				57.41	A	4.77	34.77	96.95			
5320.00	67.50	150	225			4.80	34.88	107.17			**Ch. 64**
5320.00				59.50	A	4.80	34.88	99.17			

RADIATED EMISSIONS – Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Comments*
5180.00	65.67	100	180			4.73	34.39	104.79			**Ch. 36**
5180.00				57.50	A	4.73	34.39	96.62			
5240.00	64.50	100	180			4.76	34.48	103.74			**Ch. 48**
5240.00				56.25	A	4.76	34.48	95.49			
5260.00	64.00	100	225			4.77	34.52	103.29			**Ch. 52**
5260.00				55.27	A	4.77	34.52	94.56			
5320.00	64.83	125	225			4.80	34.61	104.24			**Ch. 64**
5320.00				56.69	A	4.80	34.61	96.10			

NOTE: Fundamental signals measured to calculate the band edge field strengths using the “Marker Delta Method”.

Radiated Emissions Test Results (Continued)

*Band Edge Field Strength Measurements in **802.11a mode (5150-5350 MHz)***
Channels 36 & 64
Continuous TX** at MAIN Antenna port with **Compal HDL20 Antennas
Aegis Labs, Inc. File #: INTEL-060717-02

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Comments*
5150.00								60.70	74.00	-13.30	**Ch. 36**
5150.00					A			47.29	54.00	-6.71	
5350.00								63.34	74.00	-10.66	**Ch. 64**
5350.00					A			52.01	54.00	-1.99	
5353.00								66.34	74.00	-7.66	
5353.00					A			50.67	54.00	-3.33	

RADIATED EMISSIONS – Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*	*Comments*
5150.00								59.13	74.00	-14.87	**Ch. 36**
5150.00					A			45.96	54.00	-8.04	
5350.00								60.41	74.00	-13.59	**Ch. 64**
5350.00					A			48.94	54.00	-5.06	
5353.00								63.41	74.00	-10.59	
5353.00					A			47.60	54.00	-6.40	

NOTE: The "Band Edge Field Strength" was calculated using the "Fundamental" and "Conducted Band Edge" measurements per the "Marker-Delta Method" with the following formula:

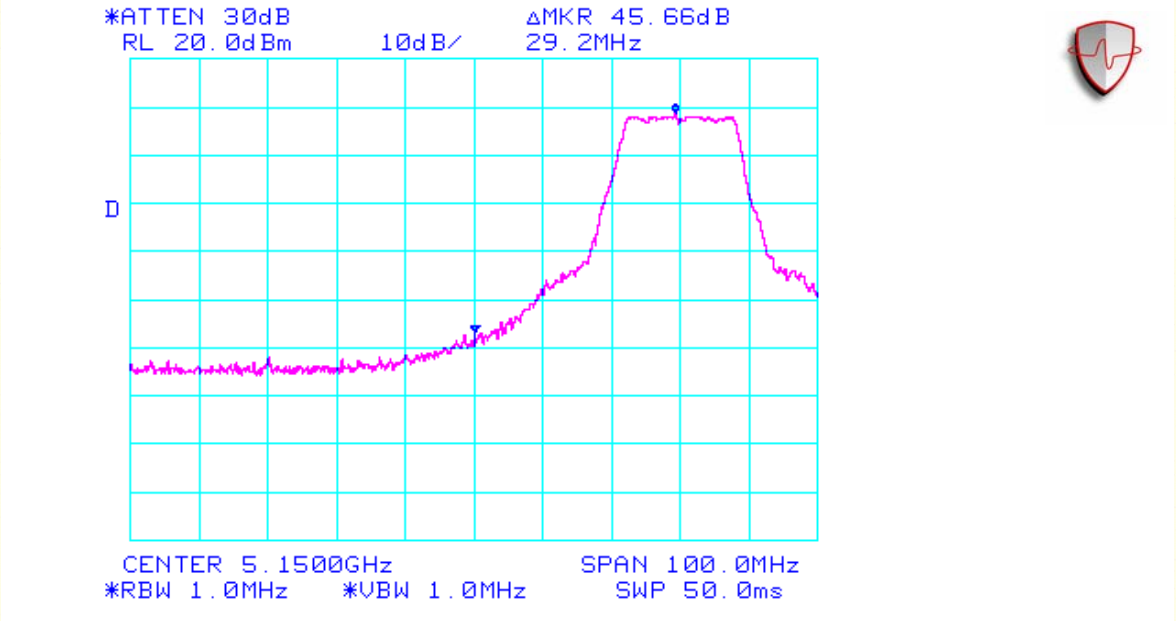
BE = Fm – Δm

Where
BE = Band Edge Field Strength
Fm = Measured Fundamental (Peak or Average)
Δm = Measured Conducted Band Edge Delta (Peak or Average)

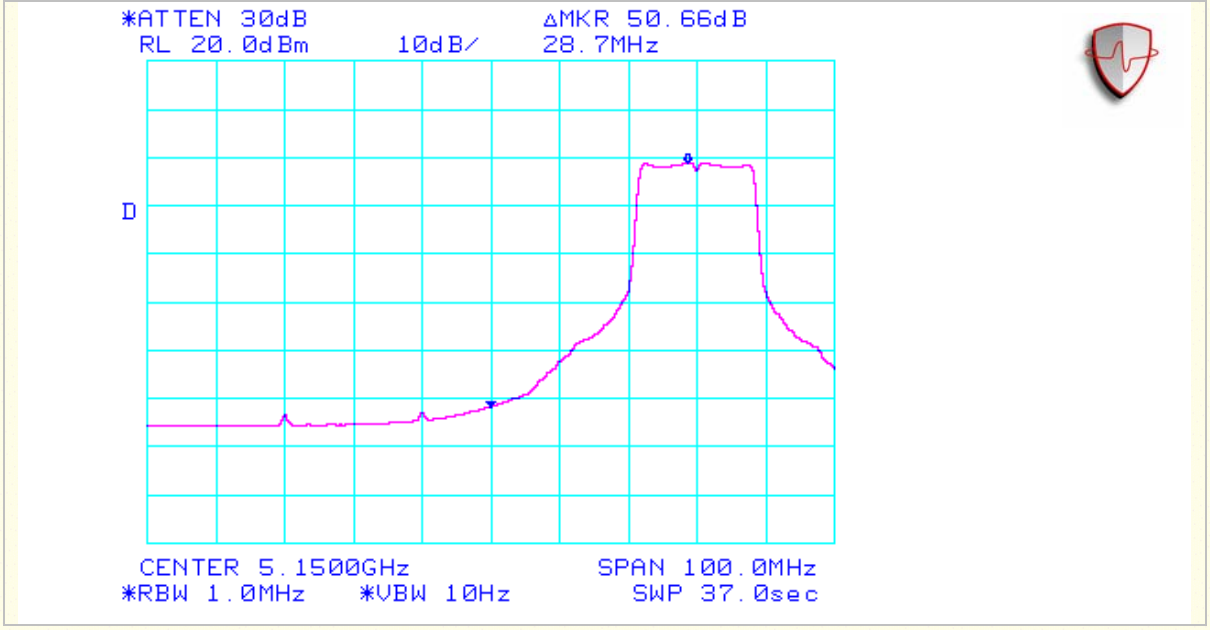
Radiated Emissions Test Results (Continued)

Plots Showing Out-Of-Band Emissions (Peak RBW=VBW=1MHz; Average RBW = 1MHz, VBW = 10Hz)

Test Date	*Data*	*Test Eng.*
07/26/05	5.18 GHz band edge **PEAK DELTA** (INTEL-050721-22c01)	JC



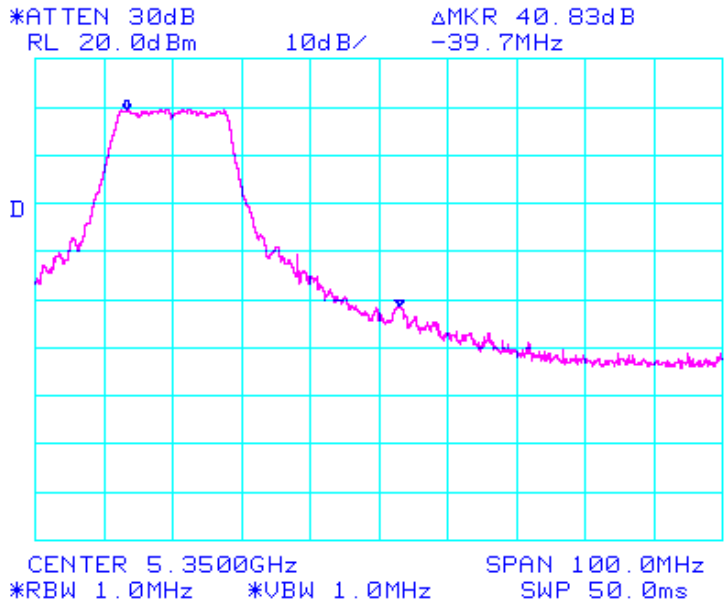
Test Date	*Data*	*Test Eng.*
07/26/05	5.18 GHz band edge **AVERAGE DELTA** (INTEL-050721-22c02)	JC



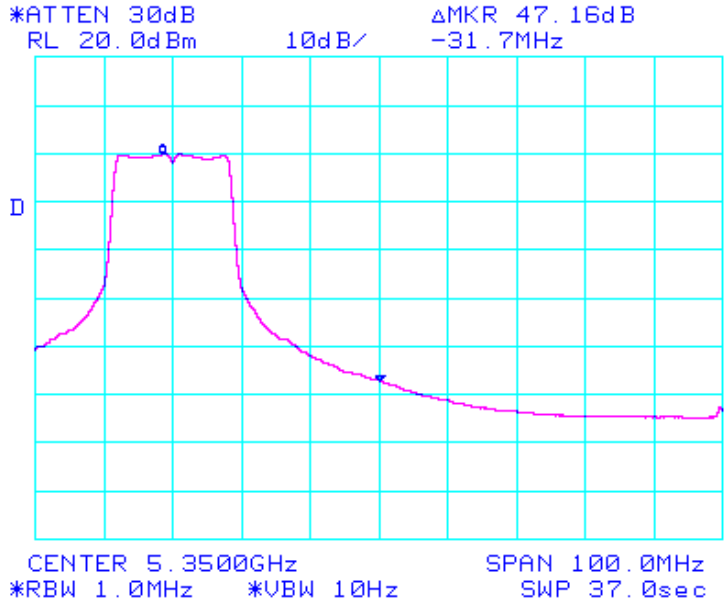
Radiated Emissions Test Results (Continued)

Plots Showing Out-Of-Band Emissions (Peak RBW=VBW=1MHz; Average RBW = 1MHz, VBW = 10Hz)

Test Date	*Data*	*Test Eng.*
07/26/05	5.32 GHz band edge **PEAK DELTA** (INTEL-050721-22c03)	JC



Test Date	*Data*	*Test Eng.*
07/26/05	5.32 GHz band edge **AVERAGE DELTA** (INTEL-050721-22c04)	JC



Radiated Emissions Test Results (Continued)

*Spurious Emissions Measurements in **802.11a mode (5150-5350 MHz)***
Channels 36, 52, & 64
Continuous TX** at MAIN Antenna port with **Compal HDL20 Antennas
Aegis Labs, Inc. File #: INTEL-060717-06

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*
EUT in Continuous Transmit Mode on Channel 36 (5.18 GHz)											
3453.33	45.33	125	135			36.63	3.84	32.29	44.83	68.00	-23.17
10360.01	59.00	100	225			36.87	6.86	38.62	67.60	68.00	-0.40
15540.00	49.83	100	135			36.46	8.57	39.04	60.97	74.00	-13.03
15540.00				35.19	A	36.46	8.57	39.04	46.33	54.00	-7.67
EUT in Continuous Transmit Mode on Channel 52 (5.26 GHz)											
3506.66	45.83	100	225			36.61	3.87	32.41	45.50	68.00	-22.50
10520.00	49.67	100	225			36.74	6.93	38.71	58.57	68.00	-9.43
15780.00	48.00	100	225			36.54	8.63	38.65	58.74	74.00	-15.26
15780.00				34.66	A	36.54	8.63	38.65	45.40	54.00	-8.60
EUT in Continuous Transmit Mode on Channel 64 (5.32 GHz)											
3546.66	45.67	100	225			36.58	3.90	32.50	45.49	68.00	-22.51
10639.98	55.33	100	225			36.65	6.96	38.76	64.40	74.00	-9.60
10639.98				43.21	A	36.65	6.96	38.76	52.28	54.00	-1.72
15960.00	54.17	100	225			36.60	8.67	38.36	64.61	74.00	-9.39
15960.00				40.32	A	36.60	8.67	38.36	50.76	54.00	-3.24

Radiated Emissions Test Results (Continued)

RADIATED EMISSIONS - Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*
EUT in Continuous Transmit Mode on Channel 36 (5.18 GHz)											
3453.33	46.33	100	225			36.63	3.84	31.80	45.34	68.00	-22.66
10360.02	55.33	125	225			36.87	6.86	38.59	63.90	68.00	-4.10
15540.00	50.83	100	225			36.46	8.57	39.04	61.97	74.00	-12.03
15540.00				36.35	A	36.46	8.57	39.04	47.49	54.00	-6.51
EUT in Continuous Transmit Mode on Channel 52 (5.26 GHz)											
3506.66	46.67	100	225			36.61	3.87	31.92	45.85	68.00	-22.15
10520.00	45.33	100	225			36.74	6.93	38.70	54.22	68.00	-13.78
15780.00	46.67	100	225			36.54	8.63	38.65	57.41	74.00	-16.59
15780.00				34.15	A	36.54	8.63	38.65	44.89	54.00	-9.11
EUT in Continuous Transmit Mode on Channel 64 (5.32 GHz)											
3546.66	46.83	100	225			36.58	3.90	32.02	46.17	68.00	-21.83
10639.98	52.50	100	225			36.65	6.96	38.73	61.54	74.00	-12.46
10639.98				39.67	A	36.65	6.96	38.73	48.71	54.00	-5.29
15960.00	51.67	100	225			36.60	8.67	38.36	62.11	74.00	-11.89
15960.00				38.36	A	36.60	8.67	38.36	48.80	54.00	-5.20

Spurious Radiated Emissions Test Results (Continued)

*Spurious Emissions Measurements in **802.11a mode (5150-5350 MHz)***
Channels 36, 52, & 64
Continuous TX** at MAIN Antenna port with **Compal HDL20 Antennas
Aegis Labs, Inc. File #: INTEL-060717-05

RADIATED EMISSIONS - Horizontal Antenna Polarization										
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Antenna/ Preamp Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
EUT in Continuous Transmit Mode on Channel 36 (5.18 GHz)										
20720.00	43.83	100	180			10.07	-3.36	50.54	74.00	-23.46
20720.00				32.96	A	10.07	-3.36	39.67	54.00	-14.33
EUT in Continuous Transmit Mode on Channel 52 (5.26 GHz)										
21040.00	53.83	100	225			10.20	-3.33	60.70	74.00	-13.30
21040.00				37.96	A	10.20	-3.33	44.83	54.00	-9.17
EUT in Continuous Transmit Mode on Channel 64 (5.32 GHz)										
21280.00	55.33	100	225			10.22	-3.38	62.17	74.00	-11.83
21280.00				42.68	A	10.22	-3.38	49.52	54.00	-4.48

RADIATED EMISSIONS - Vertical Antenna Polarization										
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Cable Factor (dB)*	*Antenna/ Preamp Factor (dB)*	*Corrected Reading (dBuV/m)*	*Limits (dBuV/m)*	*Diff (dB) +=FAIL*
EUT in Continuous Transmit Mode on Channel 36 (5.18 GHz)										
20720.00	52.17	100	225			10.07	-3.29	58.96	74.00	-15.05
20720.00				39.08	A	10.07	-3.29	45.87	54.00	-8.14
EUT in Continuous Transmit Mode on Channel 52 (5.26 GHz)										
21040.00	59.67	100	225			10.20	-3.28	66.59	74.00	-7.41
21040.00				42.99	A	10.20	-3.28	49.91	54.00	-4.09
EUT in Continuous Transmit Mode on Channel 64 (5.32 GHz)										
21280.00	58.17	100	225			10.22	-3.24	65.16	74.00	-8.84
21280.00				44.62	A	10.22	-3.24	51.61	54.00	-2.39

Radiated Emissions Test Results (Continued)

*Spurious Emissions Measurements in **802.11a mode (5150-5350 MHz)***
Channels 36, 52, & 64
Continuous RX** at MAIN Antenna port with **Compal HDL20 Antennas
Aegis Labs, Inc. File #: INTEL-060717-04

RADIATED EMISSIONS - Horizontal Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*
EUT in Continuous Receive Mode on Channel 36 (5.18 GHz)											
3453.33	50.67	100	135			46.84	3.84	32.29	39.96	74.00	-34.04
3453.33				38.17	A	46.84	3.84	32.29	27.46	54.00	-26.54
EUT in Continuous Receive Mode on Channel 52 (5.26 GHz)											
3506.66	51.17	100	135			46.85	3.87	32.41	40.61	74.00	-33.39
3506.66				38.00	A	46.85	3.87	32.41	27.44	54.00	-26.56
EUT in Continuous Receive Mode on Channel 64 (5.32 GHz)											
3546.66	50.33	100	225			46.84	3.90	32.50	39.89	74.00	-34.11
3546.66				38.00	A	46.84	3.90	32.50	27.56	54.00	-26.44

RADIATED EMISSIONS - Vertical Antenna Polarization											
Freq. (MHz)	*Meter Reading (dBuV)*	*Antenna Height (cm)*	*Azimuth (degrees)*	*Quasi pk or AVG (dBuV)*		*Preamp Factor (dB)*	*Cable Factor (dB)*	*Ant. Factor (dB)*	*Corrected Reading (dBuV)*	*Limits (dBuV)*	*Diff (dB) +=FAIL*
EUT in Continuous Receive Mode on Channel 36 (5.18 GHz)											
3453.33	50.67	100	225			46.84	3.84	31.80	39.47	74.00	-34.53
3453.33				38.36	A	46.84	3.84	31.80	27.16	54.00	-26.84
EUT in Continuous Receive Mode on Channel 52 (5.26 GHz)											
3506.68	51.33	100	180			46.85	3.87	31.92	40.27	74.00	-33.73
3506.68				38.48	A	46.85	3.87	31.92	27.42	54.00	-26.58
EUT in Continuous Receive Mode on Channel 64 (5.32 GHz)											
3546.66	51.00	100	180			46.84	3.90	32.02	40.08	74.00	-33.92
3546.66				38.48	A	46.84	3.90	32.02	27.56	54.00	-26.44

PEAK TRANSMIT POWER

CLIENT:	Intel Corporation	**DATE:**	07/17/06
EUT:	Intel PRO/Wireless 3945ABG Network Connection	**PROJECT NUMBER:**	INTEL-060717
MODEL NUMBER:	WM3945ABG	**TEST ENGINEER:**	BM
SERIAL NUMBER:	00B11A295CVD26965002	**SITE #:**	2
CONFIGURATION:	Tested installed in the host computer's mini PCI slot.	**TEMPERATURE:**	24 deg. C
		HUMIDITY:	68% RH
		TIME:	4:00 PM

Description:	For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10logB, where B is the 26-dB emission bandwidth in MHz. For the band 5.25-5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10logB, where B is the 26-dB emission bandwidth in MHz.
Results:	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

Peak Transmit Power Limits		
Frequency (MHz)	**Output Power (mW)**	**Output Power (Note 1)**
5150-5250	50 (17 dBm)	4 dBm + 10logB = 17.68 dBm @ 5180 MHz
5250-5350	250 (24 dBm)	11 dBm + 10logB = 24.68 dBm @ 5260 MHz 11 dBm + 10logB = 25.04 dBm @ 5320 MHz

Note 1: Calculated using the 26-dB emissions bandwidth measurements.

Peak Transmit Power (Continued)

Mode	Channel	Frequency (MHz)	Rate (Mbps)	Average Power (dBm)	Average Power (mW)	Peak Power (dBm)	Peak Power (mW)
802.11a	36	5180	6	16.30	42.66	16.00	39.81
802.11a	48	5240	6	16.24	42.07	16.90	48.98
802.11a	52	5260	6	16.70	46.77	18.10	64.57
802.11a	64	5320	6	17.24	52.97	18.30	67.61

NOTE: The output power measurement is conducted.

CONDCUTED BAND EDGE EMISSIONS TEST RESULTS

CLIENT:	Intel Corporation	**DATE:**	07/17/06
EUT:	Intel PRO/Wireless 3945ABG Network Connection	**PROJECT NUMBER:**	INTEL-060717
MODEL NUMBER:	WM3945ABG	**TEST ENGINEER:**	BM
SERIAL NUMBER:	00B11A295CVD26965002	**SITE #:**	2
CONFIGURATION:	Tested installed in the host computer's mini PCI slot.	**TEMPERATURE:**	24 deg. C
		HUMIDITY:	68% RH
		TIME:	4:00 PM

Description:	For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.
Results:	See Data Sheet
Note:	Conducted Emissions Measurements were performed on the EUT with power supply set at the following voltage and frequency. • 120VAC / 60 Hz.

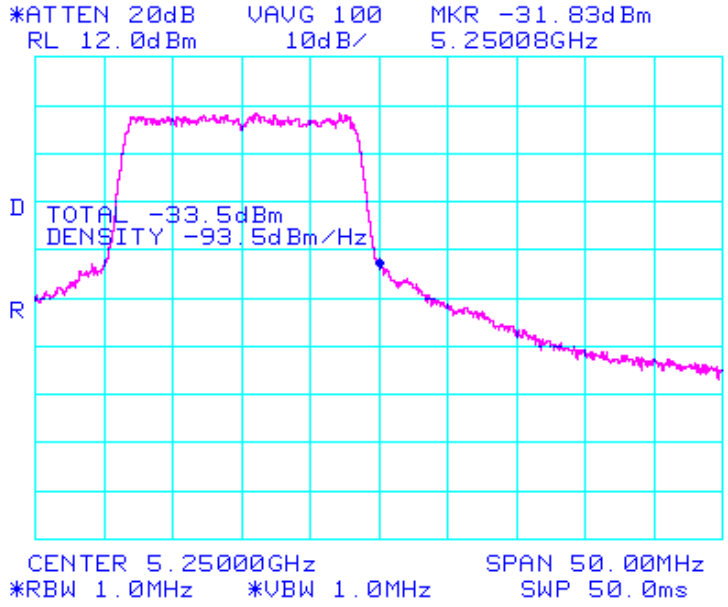
Unwanted Spurious Emissions Limits	
Frequency (MHz)	**Field Strength (dBm/Hz) (Emissions outside the restricted bands)**
5250-5350	EIRP < -27dBm/Hz (68.3dBuV/m)

Freq. (MHz)	*Power Spec Den. Reading (dBm/Hz)*	*Antenna Gain (dBi)*	*Corrected Reading (dBm/Hz)*	*Limits (dBm/Hz)*	*Diff (dB) +=FAIL*	*Comments*
With Compal HDL20 Antennas Gain at 5 GHz						
5250.00	-33.50	1.29	-32.21	-27.00	-5.21	Tx @ 5240 MHz
5250.00	-32.30	1.29	-31.01	-27.00	-4.01	Tx @ 5260 MHz

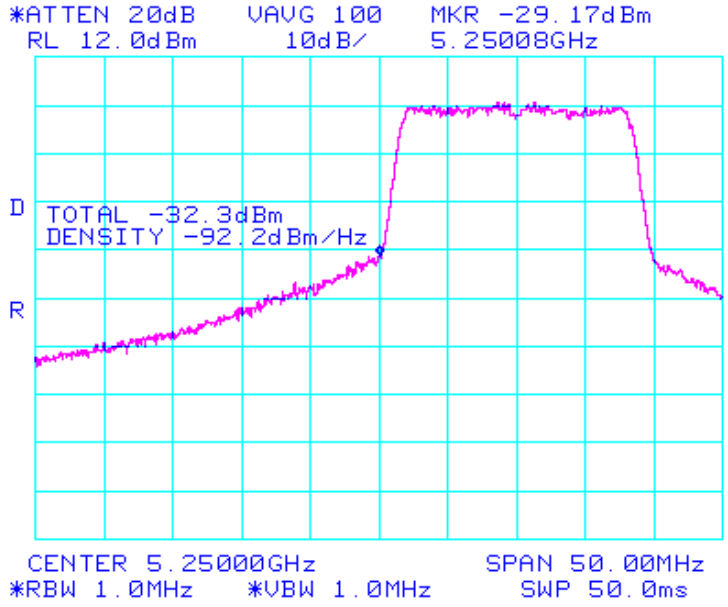
Conducted Band Edge Emissions Test Results (Continued)

Plots Showing Power Spectral Densities

Test Date	*Data*	*Test Eng.*
02/03/06	5.24 GHz band edge Power Spectral Density (INTEL-051104-11a3)	JC



Test Date	*Data*	*Test Eng.*
02/03/06	5.26 GHz band edge Power Spectral Density (INTEL-051104-11a4)	JC



APPENDIX B

MODIFICATIONS AND RECOMMENDATIONS

1.0	NONE