

Elliott Laboratories Inc. www.elliottlabs.com

684 West Maude Avenue Sunnyvale, CA 94086-3518 408-245-3499 Fax

408-245-7800 Phone

Electromagnetic Emissions Test Report and Request for Class II Permissive Change pursuant to FCC Part 15, Subpart C (15.247) DTS Specifications and Industry Canada RSS 210 Issue 5 for an Intentional Radiator on the Intel Corporation Model: WM3B2200BG

FCC ID: UPN:	PD9WM3B2200BG 1000M-3B2200BG
GRANTEE:	Intel Corporation 13280 Evening Creek Drive San Diego, CA 92128
TEST SITE:	Elliott Laboratories, Inc. 684 W. Maude Avenue Sunnyvale, CA 94086
REPORT DATE:	June 22, 2005
FINAL TEST DATE:	May 23, 2005

AUTHORIZED SIGNATORY:

man

Juan Martinez Senior EMC Engineer



Elliott Laboratories, Inc. is accredited by the A2LA, certificate number 2016-01, to perform the test(s) listed in this report. This report shall not be reproduced, except in its entirety, without the written approval of Elliott Laboratories, Inc.

DECLARATIONS OF COMPLIANCE

Equipment Name and Model: WM3B2200BG

Manufacturer:

Intel Corporation 13280 Evening Creek Drive San Diego, CA 92128

Tested to applicable standards:

RSS-210, Issue 5, November 2001 (Low Power License-Exempt Radiocommunication Devices) FCC Part 15.247 (DTS)

Measurement Facility Description Filed With Department of Industry:

Departmental Acknowledgement Number: IC 4549-5 Dated July 19, 2003

Address

I declare that the testing was performed or supervised by me; that the test measurements were made in accordance with the above mentioned departmental standards (through the use of ANSI C63.4:2003 as detailed in section 5.3 of RSS-210, Issue 5); and that the equipment performed in accordance with the data submitted in this report.

Signature <u>Juan Mann</u> Name Juan Martinez Title Senior EMC Engineer Company Elliott Laboratories Inc.

Elliott Laboratories Inc. 684 W. Maude Ave Sunnyvale, CA 94086 USA

Date: June 22, 2005

Maintenance of compliance with the above standards is the responsibility of the manufacturer. Any modification of the product which may result in increased emissions should be checked to ensure compliance has been maintained (i.e., printed circuit board layout changes, different line filter, different power supply, harnessing or I/O cable changes, etc.).

TABLE OF CONTENTS

COVER PAGE	1
DECLARATIONS OF COMPLIANCE	.2
TABLE OF CONTENTS	.3
SCOPE	.5
OBJECTIVE	.5
SUMMARY OF RESULTS	.6
MEASUREMENT UNCERTAINTIES	7
EQUIPMENT UNDER TEST (EUT) DETAILS	. 8
GENERAL ENCLOSURE MODIFICATIONS SUPPORT EQUIPMENT EUT INTERFACE PORTS EUT OPERATION DURING TESTING ANTENNA REQUIREMENTS.	8 8 9 9
PROPOSED MODIFICATION DETAILS	.9
GENERAL	9
TEST SITE1	10
GENERAL INFORMATION CONDUCTED EMISSIONS CONSIDERATIONS RADIATED EMISSIONS CONSIDERATIONS	10
MEASUREMENT INSTRUMENTATION1	11
RECEIVER SYSTEM INSTRUMENT CONTROL COMPUTER LINE IMPEDANCE STABILIZATION NETWORK (LISN) POWER METER FILTERS/ATTENUATORS ANTENNAS ANTENNAS ANTENNA MAST AND EQUIPMENT TURNTABLE INSTRUMENT CALIBRATION	11 11 12 12 12 12
TEST PROCEDURES1	13
EUT AND CABLE PLACEMENT CONDUCTED EMISSIONS RADIATED EMISSIONS CONDUCTED EMISSIONS FROM ANTENNA PORT	13 13
SPECIFICATION LIMITS AND SAMPLE CALCULATIONS	14
FCC 15.407 (A)AND RSS 210 (O) OUTPUT POWER LIMITS RSS 210 (O) AND FCC 15.247 SPURIOUS RADIATED EMISSIONS LIMITS FCC 15.205 AC POWER PORT CONDUCTED EMISSIONS LIMITS RSS-210 SECTION 6.6 AC POWER PORT CONDUCTED EMISSIONS LIMITS SAMPLE CALCULATIONS - CONDUCTED EMISSIONS SAMPLE CALCULATIONS - RADIATED EMISSIONS	15 16 16 17

TABLE OF CONTENTS (Continued)

EXHIBIT 2: Test Data Log Sheets
EXHIBIT 3: Test Configuration Photographs
EXHIBIT 4: Proposed FCC ID Label & Label Location
EXHIBIT 5: Detailed Photographs
EXHIBIT 6: Operator's Manual
EXHIBIT 7: Block Diagram
EXHIBIT 8: Schematic Diagrams
EXHIBIT 9: Theory of Operation
EXHIBIT 10: Advertising Literature
EXHIBIT 11: RF Exposure Information11

SCOPE

An electromagnetic emissions test has been performed on the Intel Corporation 802.11abg model WM3B2200BG pursuant to Subpart C of Part 15 of FCC Rules for intentional radiators and RSS-210 Issue 5 for license-exempt low power devices. Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in ANSI C63.4:2003 as outlined in Elliott Laboratories test procedures.

The intentional radiator above has been tested in a simulated typical installation to demonstrate compliance with the relevant FCC performance and procedural standards.

Final system data was gathered in a mode that tended to maximize emissions by varying orientation of EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization.

Every practical effort was made to perform an impartial test using appropriate test equipment of known calibration. All pertinent factors have been applied to reach the determination of compliance.

The test results recorded herein are based on a single type test of the Intel Corporation model WM3B2200BG and therefore apply only to the tested sample. The sample was selected and prepared by Robert Paxman of Intel Corporation

OBJECTIVE

The primary objective of the manufacturer is compliance with Subpart C of Part 15 of FCC Rules and RSS-210 Issue 5 for license-exempt low power devices for the radiated and conducted emissions of intentional radiators. Certification of these devices is required as a prerequisite to marketing as defined in Part 2 the FCC Rules.

Certification is a procedure where the manufacturer or a contracted laboratory makes measurements and submits the test data and technical information to the FCC. The FCC issues a grant of equipment authorization upon successful completion of their review of the submitted documents. Once the equipment authorization has been obtained, the label indicating compliance must be attached to all identical units which are subsequently manufactured.

SUMMARY OF RESULTS

FCC Part 15 Section	RSS 210 Section	Description	Measured Value	Comments	Result
15.247(a)	6.2.2(o)(b)	Digital Modulation	Systems uses OFDM / DSSS techniques	System must utilize a digital transmission technology	Complies
15.247 (a) (2)	6.2.2(o)(b)	6dB Bandwidth	N/A	Minimum allowed is 500kHz	N/A
	RSP 100	99% Bandwidth	N/A	For information only	N/A
15.247 (b) (3)	6.2.2(o)(b)	Output Power, 17 dBm Multi-point applications: Maximum permitted is		Complies	
15.247(d)	6.2.2(o)(b)	Power Spectral Density	N/A	Maximum permitted is 8dBm/3kHz	N/A
15.247(c)	6.2.2(o)(e1)	Antenna Port Spurious Emissions – 30MHz – 25 GHz	N/A	All spurious emissions < -20dBc.	N/A
15.247(c) / 15.209		Radiated Spurious Emissions – 30MHz – 25 GHz	49.9 dBuV/m @ 2483.5 MHz (-4.1 dB)	Emissions in restricted bands must meet the radiated emissions limits detailed in 15.207. All others must be < -20dBc	Complies
15.207		AC Conducted Emissions	N/A		N/A
	6.6	AC Conducted Emissions	N/A		N/A
15.247 (b) (5)		RF Exposure Requirements	MPE Calculation		Complies
	7.3	Receiver Emissions	53.1 dBuV/m @ 3000 MHz (-0.9 dB)		Complies
15.203		RF Connector	Hirose connector (Antennas will be installed inside laptops)	Unique antenna connection required for user-installed applications.	Complies

EIRP calculated using antenna gain of dBi (.7) for the highest EIRP point-to-multipoint system.

MEASUREMENT UNCERTAINTIES

ISO Guide 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level and were calculated in accordance with UKAS document LAB 34.

Measurement Type	Frequency Range (MHz)	Calculated Uncertainty (dB)
Conducted Emissions	0.15 to 30	± 2.4
Radiated Emissions	30 to 1000	± 3.6

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Intel Corporation model WM3B2200BG is a 802.11 b/g wireless that is designed to connect to PC. Normally, the EUT would be placed on a tabletop during operation. The EUT was, therefore, treated as tabletop equipment during testing to simulate the end-user environment. The EUT is powered via the PC.

The sample was received on May 23, 2005 and tested on May 23, 2005. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Serial Number	FCC ID
Intel	WMB32200BG	802.11b/g card	B2C80C494BC 88305001	PD9WM3B2200BG

ENCLOSURE

The EUT does not have an enclosure as it is designed to be installed within the enclosure of a host computer.

MODIFICATIONS

The EUT did not require modifications during testing in order to comply with the emission specifications.

SUPPORT EQUIPMENT

The following equipment was used as local support equipment for emissions testing:

Manufacturer	Model	Description	Serial Number	FCC ID
Hewlett Packard	Pavilian a300n	Computer	MXK3391864	-
Hewlett Packard	M042KG	Mouse	030870136	-
Hewlett Packard	5183	Keyboard	BF3339165	E5XKB5183
Samsung	151S R	Monitor	GG15H4JTB04858E	-

No equipment was used as remote support equipment for emissions testing:

EUT INTERFACE PORTS

The I/O cabling configuration during emissions testing was as follows:

Port Connected To		Cable(s)		
TOIL	Connected 10	Description Shielded or Unshi		Length (m)
Main Ant	Antenna	Coax	Shielded	0.25

EUT OPERATION DURING TESTING

The EUT was transmitting continuously on either the low, 2412MHz, the middle, 2437MHz, or the high, 2462MHz.

ANTENNA REQUIREMENTS

The EUT antenna is an Tyco Electronics P/N 1770431.1 Gain = -1.02dBi The EUT antenna is an Cotton antenna P/N: CP250925-03 Gain = .7 dBi The antenna is integral to the device

PROPOSED MODIFICATION DETAILS

GENERAL

For details of the modifications being proposed to the Intel Corporation model WM3B2200BG, please refer to Intel Class II Permissive Change Letter.

TEST SITE

GENERAL INFORMATION

Final test measurements were taken on May 23, 2005 at the Elliott Laboratories Anechoic Chamber #5 located at 41039 Boyce Road, Fremont, CA 94538-2435. The test site contains separate areas for radiated and conducted emissions testing. Pursuant to section 2.948 of the Rules, construction, calibration, and equipment data has been filed with the Federal Communications Commission. In accordance with Industry Canada rules detailed in RSS 210 Issue 5 and RSS-212, construction, calibration, and equipment data for the test sites have been filed with the Federal Communications Commission.

The FCC recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement with the exception of predictable local TV, radio, and mobile communications traffic. The test site contains separate areas for radiated and conducted emissions testing. Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent FCC requirements.

CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.4:2003. Measurements are made with the EUT connected to the public power network through a nominal, standardized RF impedance, which is provided by a line impedance stabilization network, known as a LISN. A LISN is inserted in series with each current-carrying conductor in the EUT power cord.

RADIATED EMISSIONS CONSIDERATIONS

The FCC has determined that radiation measurements made in a shielded enclosure are not suitable for determining levels of radiated emissions. Radiated measurements are performed in an open field environment. The test site is maintained free of conductive objects within the CISPR defined elliptical area incorporated in ANSI C63.4:2003 guidelines.

MEASUREMENT INSTRUMENTATION

RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1 is used for emissions measurements. The receivers used can measure over the frequency range of 9 kHz up to 2000 MHz. These receivers allow both ease of measurement and high accuracy to be achieved. The receivers have Peak, Average, and CISPR (Quasi-peak) detectors built into their design so no external adapters are necessary. The receiver automatically sets the required bandwidth for the CISPR detector used during measurements.

For measurements above the frequency range of the receivers, a spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis. Average measurements above 1000MHz are performed on the spectrum analyzer using the linear-average method with a resolution bandwidth of 1 MHz and a video bandwidth of 10 Hz.

INSTRUMENT CONTROL COMPUTER

The receivers utilize either a Rohde and Schwarz EZM Spectrum Monitor/Controller or contain an internal Spectrum Monitor/Controller to view and convert the receiver measurements to the field strength at an antenna or voltage developed at the LISN measurement port, which is then compared directly with the appropriate specification limit. This provides faster, more accurate readings by performing the conversions described under Sample Calculations within the Test Procedures section of this report. Results are printed in a graphic and/or tabular format, as appropriate. A personal computer is used to record all measurements made with the receivers.

The Spectrum Monitor provides a visual display of the signal being measured. In addition, the controller or a personal computer run automated data collection programs which control the receivers. This provides added accuracy since all site correction factors, such as cable loss and antenna factors are added automatically.

LINE IMPEDANCE STABILIZATION NETWORK (LISN)

Line conducted measurements utilize a fifty microhenry Line Impedance Stabilization Network as the monitoring point. The LISN used also contains a 250 uH CISPR adapter. This network provides for calibrated radio frequency noise measurements by the design of the internal low pass and high pass filters on the EUT and measurement ports, respectively.

POWER METER

A power meter and peak power sensor are used for all direct output power measurements from transmitters as they provide a broadband indication of the power output.

FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the receiving antenna or LISN and the receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

ANTENNAS

A biconical antenna is used to cover the range from 30 MHz to 300 MHz and a log periodic antenna is utilized from 300 MHz to 1000 MHz. Narrowband tuned dipole antennas are used over the entire 30 to 1000 MHz range for precision measurements of field strength. Above 1000 MHz, a horn antenna is used. The antenna calibration factors are included in site factors programmed into the test receivers.

ANTENNA MAST AND EQUIPMENT TURNTABLE

The antennas used to measure the radiated electric field strength are mounted on a nonconductive antenna mast equipped with a motor-drive to vary the antenna height.

ANSI C63.4:2003 specifies that the test height above ground for table mounted devices shall be 80 centimeters. Floor mounted equipment shall be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

INSTRUMENT CALIBRATION

All test equipment is regularly checked to ensure that performance is maintained in accordance with the manufacturer's specifications. All antennas are calibrated at regular intervals with respect to tuned half-wave dipoles. An exhibit of this report contains the list of test equipment used and calibration information.

TEST PROCEDURES

EUT AND CABLE PLACEMENT

The FCC requires that interconnecting cables be connected to the available ports of the unit and that the placement of the unit and the attached cables simulate the worst case orientation that can be expected from a typical installation, so far as practicable. To this end, the position of the unit and associated cabling is varied within the guidelines of ANSI C63.4:2003, and the worst case orientation is used for final measurements.

CONDUCTED EMISSIONS

Conducted emissions are measured at the plug end of the power cord supplied with the EUT. Excess power cord length is wrapped in a bundle between 30 and 40 centimeters in length near the center of the cord. Preliminary measurements are made to determine the highest amplitude emission relative to the specification limit for all the modes of operation. Placement of system components and varying of cable positions are performed in each mode. A final peak mode scan is then performed in the position and mode for which the highest emission was noted on all current carrying conductors of the power cord.

RADIATED EMISSIONS

Radiated emissions measurements are performed in two phases as well. A preliminary scan of emissions is conducted in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed from 30 MHz up to the frequency required by the regulation specified on page 1. One or more of these is with the antenna polarized vertically while the one or more of these is with the antenna polarized horizontally. During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied and cable positions are varied to determine the highest emission relative to the limit.

A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth which results in the highest emission is then maintained while varying the antenna height from one to four meters. The result is the identification of the highest amplitude for each of the highest peaks. Each recorded level is corrected in the receiver using appropriate factors for cables, connectors, antennas, and preamplifier gain. Emissions which have values close to the specification limit may also be measured with a tuned dipole antenna to determine compliance.

CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements are performed with the antenna port of the EUT connected to either the power meter or spectrum analyzer via a suitable attenuator and/or filter. These are used to ensure that the front end of the measurement instrument is not overloaded by the fundamental transmission.

Measurement bandwidths (video and resolution) are set in accordance with FCC procedures for the type of radio being tested.

SPECIFICATION LIMITS AND SAMPLE CALCULATIONS

The limits for conducted emissions from the AC power port are given in units of microvolts, the limits for radiated electric field emissions are given in units of microvolts per meter at a specified test distance and the output power limits are given in terms of Watts, milliwatts or dBm. Data is measured in the logarithmic form of decibels relative to one microvolt, or dB microvolts (dBuV). For radiated emissions, the measured data is converted to the field strength at the antenna in dB microvolts per meter (dBuV/m). The results are then converted to the linear forms of uV and uV/m for comparison to published specifications.

Where the radiated electric field strength is expressed in terms of the equivalent isotropic radiated power (eirp) the following formula is used to determine the field strength limit in terms of microvolts per meter at a distance of 3m from the equipment under test:

 $E = \frac{1000000 \text{ v } 30 \text{ P}}{3} \text{ microvolts per meter}$

where P is the eirp (Watts)

For reference, converting the voltage and electric field strength specification limits from linear to decibel form is accomplished by taking the base ten logarithm, then multiplying by 20. Conversion of power specification limits from linear units (in milliwatts) to decibel form (in dBm) is accomplished by taking the base ten logarithm, then multiplying by 10.

FCC 15.407 (a)and RSS 210 (o) OUTPUT POWER LIMITS

The table below shows the limits for output power and output power density. Where the signal bandwidth is less than 20 MHz the maximum output power is reduced to the power spectral density limit plus 10 times the log of the bandwidth (in MHz).

Operating Frequency (MHz)	Output Power	Power Spectral Density
902 - 928	1 Watts (30 dBm)	8 dBm/3kHz
2400 - 2483.5	1 Watts (30 dBm)	8 dBm/3kHz
5725 - 5850	1 Watts (30 dBm)	8 dBm/3kHz

The maximum permitted output power is reduced by 1dB for every dB the antenna gain exceeds 6dBi. Fixed point-to-point applications using the 5725 - 5850 MHz band are not subject to this restriction.

RSS 210 (o) AND FCC 15.247 SPURIOUS RADIATED EMISSIONS LIMITS

T limits for unwanted (spurious) emissions from the transmitter falling in the restricted bands detailed in Part 15.205 and for all spurious emissions from the receiver are:

Frequency Range (MHz)	Limit (uV/m @ 3m)	Limit (dBuV/m @ 3m)
30 to 88	100	40
88 to 216	150	43.5
216 to 960	200	46.0
Above 960	500	54.0

All other unwanted (spurious) emissions shall be at least 20dB below the level of the highest inband signal level.

FCC 15.205 AC POWER PORT CONDUCTED EMISSIONS LIMITS

The table below shows the limits for emissions on the AC power line as detailed in FCC Part 15.205.

Frequency (MHz)	Average Limit (dBuV)	Quasi Peak Limit (dBuV)
0.150 to 0.500	Linear decrease on logarithmic frequency axis between 56.0 and 46.0	Linear decrease on logarithmic frequency axis between 66.0 and 56.0
0.500 to 5.000 5.000 to 30.000	46.0 50.0	56.0 60.0

RSS-210 SECTION 6.6 AC POWER PORT CONDUCTED EMISSIONS LIMITS

The table below shows the limits for emissions on the AC power line as detailed in Industry Canada RSS-210 section 6.6.

Frequency		
Range	Limit	Limit
(MHz)	(uV)	(dBuV)
0.450 to 30.000	250	48

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

Receiver readings are compared directly to the conducted emissions specification limit (decibel form) as follows:

$$R_r - B = C$$

and

$$C - S = M$$

where:

 $R_r = Receiver Reading in dBuV$

B = Broadband Correction Factor*

C = Corrected Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

^{*} Broadband Level - Per ANSI C63.4:2003, 13 dB may be subtracted from the quasi-peak level if it is determined that the emission is broadband in nature. If the signal level in the average mode is six dB or more below the signal level in the peak mode, the emission is classified as broadband.

SAMPLE CALCULATIONS - RADIATED EMISSIONS

Receiver readings are compared directly to the specification limit (decibel form). The receiver internally corrects for cable loss, preamplifier gain, and antenna factor. The calculations are in the reverse direction of the actual signal flow, thus cable loss is added and the amplifier gain is subtracted. The Antenna Factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements. A distance factor, when used for electric field measurements, is calculated by using the following formula:

$$F_d = 20*LOG_{10} (D_m/D_s)$$

where:

 F_d = Distance Factor in dB D_m = Measurement Distance in meters D_s = Specification Distance in meters

Measurement Distance is the distance at which the measurements were taken and Specification Distance is the distance at which the specification limits are based. The antenna factor converts the voltage at the antenna coaxial connector to the field strength at the antenna elements.

The margin of a given emission peak relative to the limit is calculated as follows:

$$R_c = R_r + F_d$$

and

$$M = R_c - L_s$$

where:

- R_r = Receiver Reading in dBuV/m
- F_d = Distance Factor in dB
- R_c = Corrected Reading in dBuV/m
- L_S = Specification Limit in dBuV/m
- M = Margin in dB Relative to Spec

EXHIBIT 1: Test Equipment Calibration Data

2 Pages

Radiated Emissions, 1000 - 25,000MHz, 23-May-05 Engineer: Chris Byleckie Manufacturer Description Model # Hewlett Packard Microwave Preamplifier, 1-26.5GHz 8449B EMC Spectrum Analyzer 9KHz-26.5GHz, non Hewlett Packard 8563E programmable Horn Antenna, D. Ridge 1-18GHz EMCO 3115 Hewlett Packard High Pass filter, 3.5GHz P/N 84300-80038 Rohde & Schwarz Power Meter, Dual Channel NRVD

Peak Power Sensor 100uW - 2 Watts

Rohde & Schwarz

Asset # Cal Due

18-Jan-06

22-Apr-06

20-Apr-06

28-Apr-06

04-Apr-06

01-Mar-06

263

284

868

1391

1539

1423

NRV-Z32

Radiated Emissions, 100 Engineer:Jmartinez	10 - 25,000MHz, 9-July-05			
Manufacturer	Description	Model #	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	18-Jan-06
Hewlett Packard	EMC Spectrum Analyzer 9KHz-26.5GHz, non programmable	8563E	284	22-Apr-06
EMCO	Horn Antenna, D. Ridge 1-18GHz	3115	868	20-Apr-06
Hewlett Packard	High Pass filter, 3.5GHz	P/N 84300-80038	1391	28-Apr-06
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1539	04-Apr-06
Rohde & Schwarz	Peak Power Sensor 100uW - 2 Watts	NRV-Z32	1423	01-Mar-06

EXHIBIT 2: Test Data Log Sheets

ELECTROMAGNETIC EMISSIONS

TEST LOG SHEETS

AND

MEASUREMENT DATA

T5985413 PagesT6037113 Pages

Ellio	t	EM	C Test Data
Client:	Intel	Job Number:	J59825
Model:	WM3B2200BG Permissive Change	T-Log Number:	T59854
		Account Manager:	
Contact:	Robert Paxman		
Emissions Spec:	FCC 15.247	Class:	
Immunity Spec:		Environment:	

EMC Test Data

For The

Intel

Model

WM3B2200BG Permissive Change

Date of Last Test: 6/16/2005

E E	liot	t			ЕМ	C Test Data
	Client:	Intel			Job Number:	J59825
	Model:	WM3B2200BG P	ermissive Chanc	le	T-Log Number:	T59854
					Account Manager:	
(Contact:	Robert Paxman				
Emission	ns Spec:	FCC 15.247			Class:	
Immuni	ty Spec:	Enter immunity s	pec on cover		Environment:	
The WMB3220	0BG is a	802.11/ab/g wire	Gener	FORMATIC al Description uned to connect to	-	ould be placed on a
environment.	The EUT	is powered via th	e PC. Equipm	nent Under Tes		
Manufactur	er	Model		Description	Serial Number	FCC ID
Intel		WMB32200	BG 80	2.11b/g card	B2C80C494BC88305001	PD9WM3B2200BG
IC ID: 1000M-3 The EUT anten The antenna is	ına is an	Tyco Electronics	EU	r EUT Details IT Antenna Gain = -1.02dBi		
The EUT does	s not hav	e an enclosure as	it is designed to	FEnclosure be installed within cation History	n the enclosure of a host co	omputer.
Mod. #		Test	Date		Modification	
1		1031	Date		Modification	
2						
3						
	pplied ar	re assumed to be	used on subseq	uent tests unless o	otherwise stated as a furthe	er modification.

Client:	Intel		Job Number:	159825
	WM3B2200BG Permissive	Change	T-Log Number:	
modoli		onungo	Account Manager:	
Contact:	Robert Paxman		y	
Emissions Spec:	FCC 15.247		Class:	
Immunity Spec:	Enter immunity spec on co	ver	Environment:	
		t Configuration		
Manufacturer	Model	Description	Serial Number	FCC ID
Hewlett Packard	Pavilian a300n	Computer	MXK3391864	-
Hewlett Packard	M042KG	Mouse	030870136	-
Hewlett Packard	5183	Keyboard	BF3339165	E5XKB5183
Samsung	151S R	Monitor	GG15H4JTB04858E	-
		rface Cabling and	Ports Cable(s)	
Port	Connected To	Description	Shielded or Unshield	led Length(n
	Antonna	Coax	Shielded	
Main Ant	Antenna	CUAX	Shiciucu	0.25

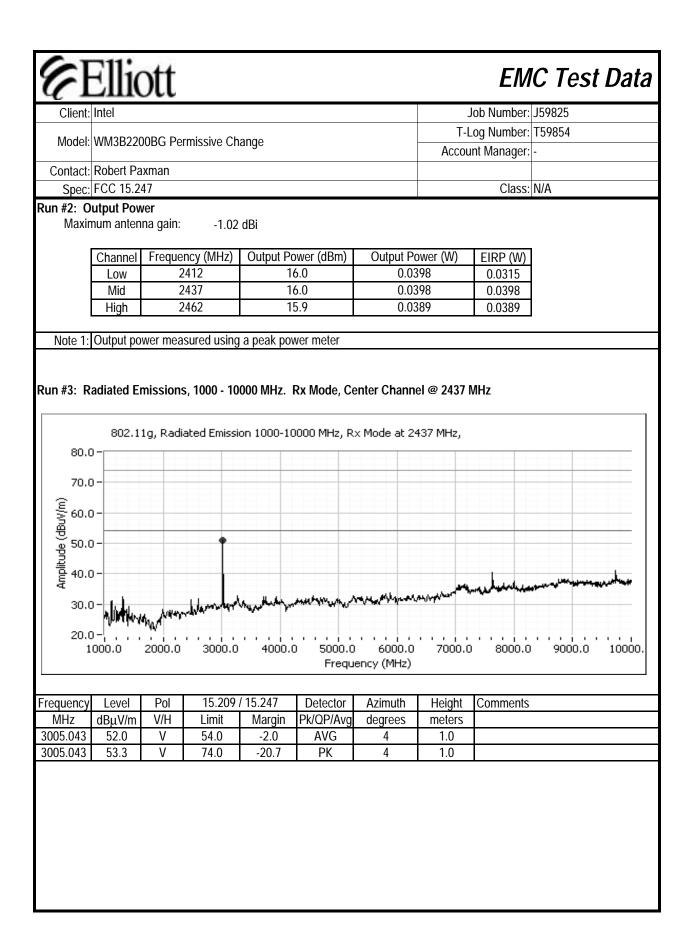
			J	b Number:	J59825
			T-Lo	g Number:	T59854
Model: WM3B2200	OBG Permissive Change		Accour	t Manager:	-
Contact: Robert Pax					
Spec: FCC 15.24	7			Class:	N/A
F	CC 15.247 DTS -	Spurious Em	issions	(802.1	1a)
•	00 10.247 010 -		13310113	(002.1	'9 <i>)</i>
Test Specifics					
	The objective of this test sessio specification listed above.	n is to perform final qual	lification testir	ig of the EU	T with respect
Date of Test: 5	5/23/2005	Config. Used	l: 1		
Test Engineer [.] (Chris Byleckie	Config Change			
Test Location: F	Fremont Chamber #5 figuration support equipment were locate	Host Unit Voltaged on the turntable for rac		s emissions	testing.
Test Location: F General Test Con The EUT and all local s For radiated emissions	figuration support equipment were locate testing the measurement ante	d on the turntable for rac nna was located 3 mete	diated spuriou		testing.
Test Location: F General Test Con The EUT and all local s For radiated emissions	figuration support equipment were locate testing the measurement ante ns: Temperature:	d on the turntable for rac nna was located 3 mete 19 °C	diated spuriou		testing.
Test Location: F General Test Con he EUT and all local s or radiated emissions	figuration support equipment were locate testing the measurement ante	d on the turntable for rac nna was located 3 mete 19 °C	diated spuriou		testing.
Test Location: F General Test Con The EUT and all local s For radiated emissions Ambient Conditio	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity:	d on the turntable for rac nna was located 3 mete 19 °C	diated spuriou		testing.
Test Location: F General Test Con The EUT and all local s or radiated emissions Ambient Conditio	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed	d on the turntable for rac nna was located 3 mete 19 °C	diated spuriou	JT. Result	/ Margin
Test Location: F General Test Con The EUT and all local s for radiated emissions Ambient Conditio Summary of Resu	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed RE, 1000 - 25000 MHz -	d on the turntable for rac nna was located 3 mete 19 °C 48 %	diated spuriou rs from the El	JT. Result 47.4d	/ Margin Вµ V/m
Test Location: F General Test Con The EUT and all local s For radiated emissions Ambient Conditio Summary of Resu	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In	d on the turntable for rac nna was located 3 mete 19 °C 48 % Limit	diated spuriou rs from the El	JT. <u>Result</u> 47.4d (234.4µ	/ Margin Βμ V/m ι V/m) @
Test Location: F General Test Con The EUT and all local s for radiated emissions Ambient Conditio Summary of Resu	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In Restricted Bands	d on the turntable for rac nna was located 3 mete 19 °C 48 % Limit FCC Part 15.209 / 15.247(c)	diated spuriou rs from the El Pass / Fail Pass	JT. <u>Result</u> 47.4d (234.4µ 4924.3MF	/ Margin Вµ V/m ı V/m) @ Hz (-6.6dB)
Test Location: F General Test Con he EUT and all local s or radiated emissions Ambient Conditio Gummary of Resu	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In	d on the turntable for rac nna was located 3 mete 19 °C 48 % Limit FCC Part 15.209 /	diated spuriou rs from the El	JT. <u>Result</u> 47.4di (234.4µ <u>4924.3MH</u> 16dBm @	/ Margin Вµ V/m I V/m) @ Iz (-6.6dB) 2 2412MHz
Test Location: F General Test Con he EUT and all local s or radiated emissions Ambient Conditio Gummary of Resu	figuration support equipment were locate testing the measurement ante ns: Temperature: Rel. Humidity: Ilts Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In Restricted Bands	d on the turntable for rac nna was located 3 mete 19 °C 48 % Limit FCC Part 15.209 / 15.247(c)	diated spuriou rs from the El Pass / Fail Pass	JT. Result 47.4d (234.4µ 4924.3MH 16dBm @ 52.0d	/ Margin Вµ V/m ı V/m) @ Hz (-6.6dB)

No deviations were made from the requirements of the standard.

Client:	Ellic						~	Job Number:	J59825
Model	WW3B 230		missive Ch	ango			T-L	og Number:	T59854
				lange			Accou	int Manager:	-
	Robert Pa								
	FCC 15.2						_	Class:	N/A
un #1a: I ain Settir		Spurious	Emission	s, 1000 - 25	000 MHz. L	ow Channe	l @ 2412 M	Hz	
iani Settii	iy - 23				Н	V	1		
Fundam	ental emis	sion leve	@ 3m in 1	MHz RBW:	97.3	98.5	Peak Meas	surement (R	B=VB=1MHz)
Fundam	ental emis	sion leve		MHz RBW:	88.3	88.9	Average N	leasurement	(RB=1MHz, VB=10H
				arker - Peak	42.2		4		
	Calcu			er - Average easurement:		dB dBuV/m	Peak		
				asurement:		dBuV/m dBuV/m	Average		
ATTEN		Later Dull	<u> </u>	R 42.17d]		ATTEN 100	- ·	۸A	KR 43.00dB
RL 5.1		10d B-		SeMHz		RL ØdBn	10		75MHz
		_		$+ 4^{}$					-
\vdash			+ $+$						
+-			+	+					
				++					
mensor	and the second	the Martin Contractor							
		-				F			
CENTER #RBN 1.	2.3900 8MHz	8GHz ≋VBN 1.		SPAN 50. #SWP 20		CENTER 2. RBW 1.0MH		10Hz	SPAN 50.00MHz SWP 13xec
requency	Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz 823.865	dBµV/m 31.5	v/h H	Limit 54.0	Margin -22.5	Pk/QP/Avg AVG	degrees 162	meters 1.0		
822.830	30.7	V	54.0	-22.3	AVG	-5	1.0		
823.865	42.8	Ĥ	74.0	-31.2	PK	162	1.0	1	
822.830	41.4	V	74.0	-32.6	PK	-5	1.0		
	For evel-	lanc le -	otrioteri		L of 15 000		معالم المع		
			stricted bai		t of 15.209 v	vas used. Fo	or all other e	emissions, th	e limit was set 20 dB

	Ellic	ott						EM	C Test Data
Client:								Job Number:	J59825
							T-L	og Number:	T59854
Model:	WM3B220	0BG Per	missive Ch	ange				int Manager:	
Contact:	Robert Pax	xman							
Spec:	FCC 15.24	17						Class:	N/A
		Spurious	Emission	s, 1000 - 2	5000 MHz. C	enter Chan	nel @ 2437	MHz	
Gain Settir	<u> </u>	1	45.000	145.047	<u> </u>			1	
Frequency		Pol		/ 15.247	Detector	Azimuth	Height	Comments	
MHz 4875.135	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4875.135	31.2 31.2	H V	54.0 54.0	-22.8 -22.9	AVG AVG	<u> </u>	1.0 1.0		
7300.334	31.2	V	54.0	-22.9	AVG	-0 -2	1.0		
7310.970	31.1	H	54.0	-23.0	AVG	3	1.0		
4875.135	43.4	H	74.0	-30.6	PK	4	1.0		
7300.334	42.8	V	74.0	-31.2	PK	-2	1.0		
4872.300	42.0	V	74.0	-32.0	PK	-6	1.0		
7310.970	41.6	H	74.0	-32.4	PK	3	1.0		

Client:	Ellic						J	Job Numbe	er: J59825	i	
Model [.]	WM3B220)0BG Pei	rmissive Ch	ange				.og Numbe		1	
				ango			Accou	nt Manage	er: -		
	Robert Pa FCC 15.2							Clas	s: N/A		
			Emission	s 1000 - 25	000 MHz. H	igh Channe	el @ 2462 M		5. IN/A		
Gain Settin		spunous	Emission	5, 1000 25	000 10112. 11						
					Н	V]				
			l @ 3m in 1		97.5	96.2	Peak Meas				1011-
runuali		SION IEVE	l @ 3m in 1 Delta Ma	irker - Peak	88.6 39.3 (86.7 dB	Average M	ieasureme	iiit (KB=11	VIHZ, VB=	IUHZ
		[r - Average	41.2 (1				
		lated Bar	nd-Edge Me	asurement:	58.2 (dBuV/m	Peak				
	Calcu	lated Bar	nd-Edge Me	asurement:	47.4 (dBuV/m	Average				
ATTEN 2 RL 10.		10d B/		39.33dB 32MHz		TEN 10dB 0dBm	1041		KR 41.1 2.92MHz		
						Gabh	1001		e. sennz		
					F						•
	+ +	_			L . [
		Martin I.					V				
	++	-	The and share	al market was	\vdash	_			_		_
	++	-		and the second						-	_
	++				\vdash				-		-
											-
CENTER #RBW 1.4	2.48350 MHz #	WBM 1.		5NP 50m	UE UE	NTER 2.4		PH 2		0.00MH 13sec	z
							BODH 1			10540	
requency		Pol		/ 15.247	Detector	Azimuth	Height	Commen	ts		
MHz 4924.290	dBµV/m 32.0	v/h H	Limit 54.0	Margin -22.0	Pk/QP/Avg AVG	degrees 4	meters 1.0	#11 Eupo	amental x	<i>י</i> רי	
4924.290	32.0	V	54.0	-22.0	AVG	-3	1.0		amental x		
7387.130	31.2	H	54.0	-22.8	AVG	2	1.0		amental x		
7387.165	31.2	V	54.0	-22.8	AVG	-2	1.0		lamental x		
4923.515	43.3	V	74.0	-30.8	PK	-3	1.0		amental x		
4924.290 7387.165	42.6 42.5	H V	74.0 74.0	-31.4 -31.5	PK PK	4 -2	1.0 1.0		lamental » lamental »		
7387.105	42.5	V H	74.0	-31.5	PK PK	-2	1.0		amental x		
				0110		_	1	1			
	For emiss			nds, the limit	of 15.209 w	as used. Fo	or all other e	missions,	the limit w	vas set 20	dB be
Note 1:			damental.								



Ellic	ott			EMC Tes	t Da
Client: Intel			J	b Number: J59825	
Model: WM3B2200	OBG Permissive Change			og Number: T59854	
	5		Accour	it Manager: -	
Contact: Robert Pax					
Spec: FCC 15.24	7			Class: N/A	
	The objective of this test session specification listed above.	n is to perform final quali	fication testir	ng of the EUT with respec	ct to th
Date of Test: 5	5/23/2005	Config. Used	: 1		
Test Engineer: (Chris Byleckie	Config Change	: None		
Test Location: F	Fremont Chamber #5	Host Unit Voltage	e 120V/60Hz		
	figuration support equipment were located testing the measurement anter				
Ambient Conditio	ns: Temperature:	19 °C			
	Rel. Humidity:				
Summary of Resu					
Run #	Test Performed	Limit	Pass / Fail	Result / Margin	
1	RE, 1000 - 25000 MHz -	FCC Part 15.209 /	Dece	49.9dBµV/m	
1	Spurious Emissions In Restricted Bands	15.247(c)	Pass	(312.61µ V/m) @ 2483.5MHz (-4.1dB)	
2	Output Power	15.247(b)	Pass	17dBm @ 2412MHz	1
3	Recever Emissions	RSS-210	Pass	44.7dBμV/m (171.0μV/m) @ 2240.2MU τ (0.2dB)	

3249.3MHz (-9.3dB)

Modifications Made During Testing:

No modifications were made to the EUT during testing

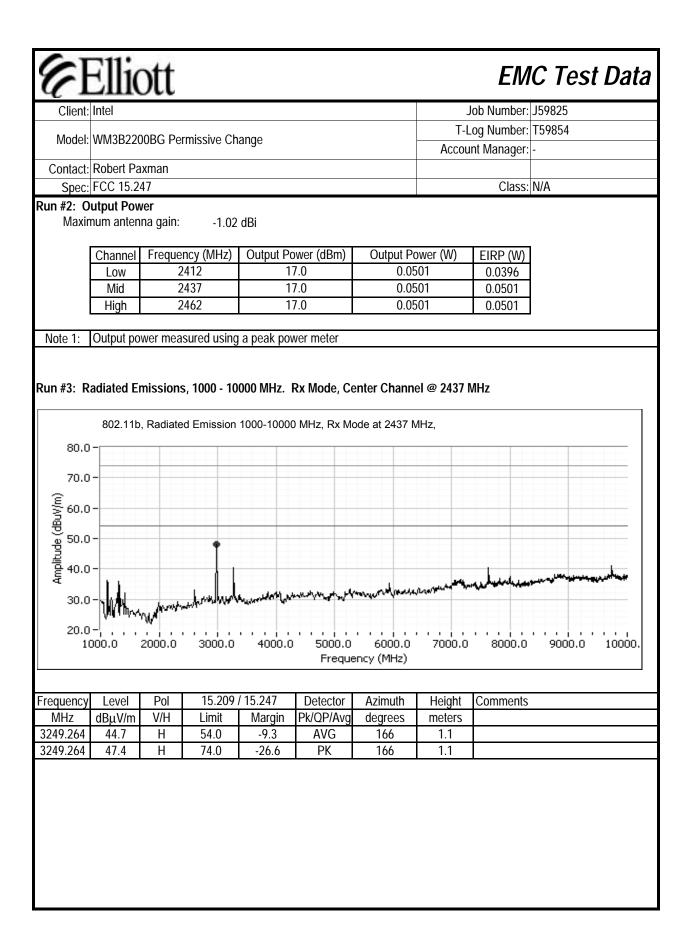
Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:							J	ob Number:	J59825		
Model	\ <u>\/\</u> /2B220		missive Ch	ango			T-L	og Number:	T59854		
mouel.	WWJDZZU			ange			Accour	nt Manager:	-		
	Robert Pa										
Spec:	FCC 15.24	17						Class:	N/A		
un #1a:	Radiated S	purious	Emission	s, 1000 - 25	6000 MHz. L	ow Channe	l @ 2412MH	Z			
ain Setti	ng - 30				1 1		-				
E					H	V		. (5)			
				MHz RBW: MHz RBW:		104.1	Peak Meas	•		,	
Fundan	ientai emis	sion leve		irker - Peak		100.7	Average Me	easurement	(RB= IMI	HZ, VB=	IUHZ
		Г		r - Average			4				
	Calcul			asurement:		dBuV/m	Peak				
				asurement:		dBuV/m	Average				
ATTEN :	28dB		AMKR	50.17dB	AT	TEN 18dE	1		R 53.6	4dB	
RL 18.	8d Bm	10dB/	22.92	MHz		- BdBm	104		25MHz	المر ا	~
		-		1						V	-
\vdash		-		1				++			-
		-		/	D			++	1/		-
-		-	ALL BOARD	1	\vdash				N		-
	-1	and t	AL AL			-00	ne	11			-
mar	- AL		r			~~~~	VT	+	-		-
		-									-
		-									-
CENTER	2.39000 3MHz #	GHz /BW 1.6		AN 50 00 SNP 50ns		CNTER 2.3		LBHz		13sec	łz
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments			
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
823.965	48.6	Н	54.0	-5.4	AVG	162	1.0				
	42.3	V	54.0	-11.7	AVG	174	1.0				
823.920	51.7	Н	74.0	-22.3	PK	162	1.0				
823.920 823.965 823.920	47.7	V	74.0	-26.3	PK	174	1.0				
4823.965	48.6 42.3 51.7	H V	54.0 54.0	-5.4 -11.7 -22.3	AVG AVG PK PK	162 174 162	1.0 1.0 1.0 1.0			s set 20	d

E	Ellic	ott						EM	C Test Data
Client:							~	Job Number:	J59825
Madal	14/14/10/00/00		rmiasius Ch				T-L	og Number:	T59854
woder:	VVIVI3DZZU	UBG Pe	rmissive Cha	ange			Accou	int Manager:	-
Contact:	Robert Pax	kman							
Spec:	FCC 15.24	7						Class:	N/A
Run #1b:	Radiated S	purious	s Emissions	s, 1000 - 25	5000 MHz. C	enter Chani	nel @ 2437	MHz	
Gain Settir	<u> </u>								
Frequency	Level	Pol	15.209/		Detector	Azimuth	Height	Comments	
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4873.965	46.5	H V	54.0	-7.5	AVG	172	1.0		
4873.975 7312.315	42.5 34.0	H	54.0 54.0	-11.5 -20.0	AVG AVG	125 192	1.0 1.0		
7312.315	34.0	н V	54.0 54.0	-20.0	AVG	192	1.0		
4873.965	51.6	H	74.0	-21.0	PK	172	1.0		
4873.975	47.9	V	74.0	-26.1	PK	125	1.0		
7312.315	43.7	Н	74.0	-30.3	PK	192	1.0		
7309.715	42.7	٧	74.0	-31.4	PK	148	1.0		
l									

Model: W								Job Number:	J59825	
	Manaaa		miasius Ch				T-I	_og Number:	T59854	
Combo at Dr	IVI3BZZU	UBG Per	missive Cr	lange			Αссоι	Int Manager:	-	
Contact: RC	obert Pax	kman								
Spec: FC	CC 15.24	7						Class:	N/A	
		purious	Emission	s, 1000 - 25	000 MHz. H	igh Channe	el @ 2462 N	1Hz		
ain Setting	- 30				Н	V	٦			
Fundamen	tal emiss	ion level	@ 3m in 1	MHz RBW:	98.7	102.4	Peak Mea	surement (R	R=VR=1MF	47)
				MHz RBW:	95.5	99.1		leasurement		
			Delta Ma	arker - Peak					(_, ,
				er - Average						
				asurement:		dBuV/m	Peak			
	Calcula	ated Ban	v	asurement:	49.9	dBuV/m	Average			
ATTEN 288 FL 18.865		10dB/	AMKR -26.71	48.67dB 5MHz		TEN 10dB			(R 49.16 50MHz	id B
m					Ē	m				
	5					1				
							h			
	r	The last					- m			
		X	men	man				V	N.	~~
					~				M	~
CENTER 2. RBN 1.0MH		Н2 ВЫ 1.01		AN 58.88 SNP 58mz		INTER 2 4		18Hz		3.00MHz L3sec
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments		121230
	BµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
	47.8	Н	54.0	-6.2	AVG	158	1.0			
924.000	44.1	V	54.0	-9.9	AVG	121	1.6			
/387.117	34.5	V	54.0	-19.5	AVG	132	1.0			
385.045	33.1	Н	54.0	-21.0	AVG	191	1.0			
923.925	51.5	Н	74.0	-22.5	PK	158	1.0			
924.000	48.6	V	74.0	-25.4	PK	121	1.6			
387.117	44.4	V	74.0	-29.6	PK	132	1.0	 		
385.045	43.7	Н	74.0	-30.3	PK	191	1.0			





EMC Test Data

Client	Intol	Joh Number	IEO02E
Client:	Inter	Job Number:	J09820
Model:	WM3B2200BG Permissive Change w/	T-Log Number:	T60371
	Cotton antenna	Account Manager:	Nesha Lambert
Contact:	Robert Paxman		
Emissions Spec:	FCC 15.247	Class:	Radio
Immunity Spec:		Environment:	

EMC Test Data

For The

Intel

Model

WM3B2200BG Permissive Change w/ Cotton antenna

Date of Last Test: 7/9/2005

	Elliot	t
--	--------	---

EMC Test Data

Clien	t: Intel			Job Number:	J59825
Mode	I: WM3B2200BG P	ermissive Chang	e w/	T-Log Number:	T60371
	Cotton antenna	5		Account Manager:	
Contac	t: Robert Paxman			ŭ	
Emissions Spec	: FCC 15.247			Class:	Radio
	: Enter immunity sp	bec on cover		Environment:	
	tion. The EUT was,	Genera less that is design therefore, treate		-	
			ent Under Tes	st	
Manufacturer	Model		escription	Serial Number	FCC ID
Intel	WMB32200	3G 802	2.11b/g card	B2C80C494BC88305001	PD9WM3B2200BG
IC ID: 1000M-3B2200 The EUT antenna is a The antenna is integra The EUT does not ha	n Cotton antenna P al to the device	EU /N: CP250925-03 /N: CP250925-03	Enclosure	n the enclosure of a host co	omputer.
Mod. #	Test	Date		Modification	
1	1000	Date		Modifieddoff	
2					
3					
	are assumed to be	used on subsequ	ent tests unless o	otherwise stated as a furthe	er modification.

6	El	liott
4		non

EMC Test Data

Client:	Intel	Job Number:	J59825
Model:	WM3B2200BG Permissive Change w/	T-Log Number:	T60371
	Cotton antenna	Account Manager:	Nesha Lambert
Contact:	Robert Paxman		
Emissions Spec:	FCC 15.247	Class:	Radio
Immunity Spec:	Enter immunity spec on cover	Environment:	

Test Configuration #1

Local	Sup	oort E	quip	ment
-------	-----	--------	------	------

Manufacturer	Model	Description	Serial Number	FCC ID
Hewlett Packard	Pavilian a300n	Computer	MXK3391864	-
Hewlett Packard	M042KG	Mouse	030870136	-
Hewlett Packard	5183	Keyboard	BF3339165	E5XKB5183
Samsung	151S R	Monitor	GG15H4JTB04858E	-

Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
None				

Interface Cabling and Ports

Port	Connected To		Cable(s)	
FUIL	Connected To	Description	Shielded or Unshielded	Length(m)
Main Ant	Antenna	Соах	Shielded	0.25

EUT Operation During Emissions Tests

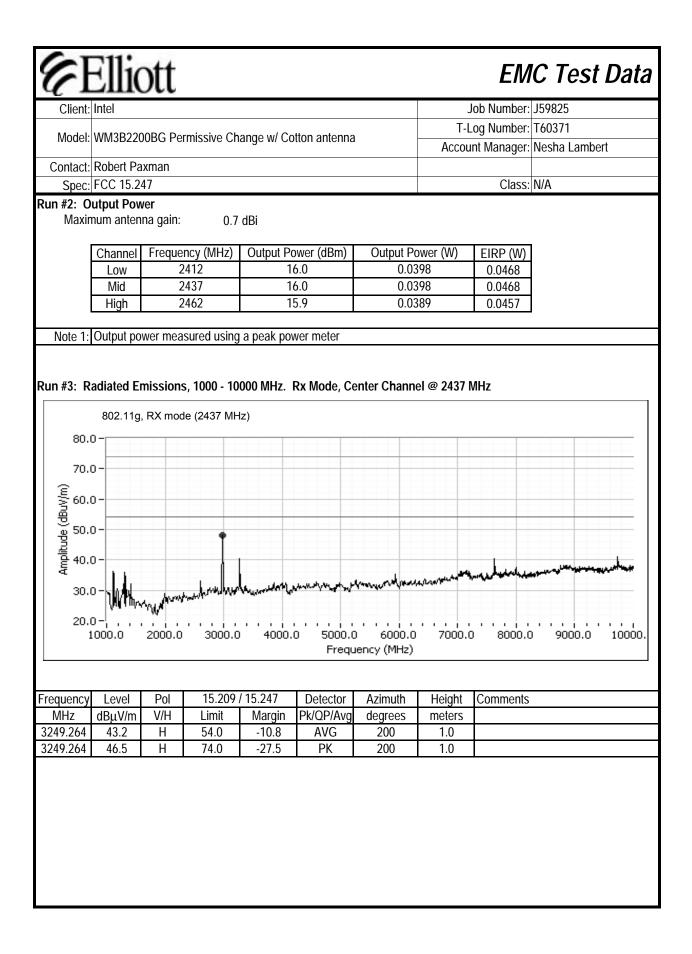
The EUT was transmitting continuously on either the low, 2412MHz, the middle, 2437MHz, or the high, 2462MHz.

Elli				I. N. I.	150005
Client: Intel				b Number:	
Model: WM3B22	00BG Permissive Change w/ Cot	ton antenna		og Number: ht Manager:	160371 Nesha Lambert
Contact: Robert P	axman		7 locour	it manager.	
Spec: FCC 15.2	247			Class:	N/A
est Specifics	FCC 15.247 DTS - 3	Spurious Emi	ssions	(802.1	l1g)
Objective:	The objective of this test session specification listed above.	n is to perform final qualit	fication testin	ng of the EU	JT with respect to t
Date of Test: Test Engineer: Test Location:		Config. Used: Config Change: Host Unit Voltage	None		
General Test Co	nfiguration				
he EUT and all loca	I support equipment were located				s testing.
he EUT and all loca	I support equipment were located ns testing the measurement anter ons: Temperature:	nna was located 3 meters 18 °C			s testing.
he EUT and all loca or radiated emission .mbient Conditi	I support equipment were located ns testing the measurement anter ons: Temperature: Rel. Humidity:	nna was located 3 meters			s testing.
ne EUT and all loca or radiated emission mbient Conditi	I support equipment were located ns testing the measurement anter ons: Temperature: Rel. Humidity: sults Test Performed	nna was located 3 meters 18 °C		JT.	s testing. / Margin
ne EUT and all loca or radiated emission mbient Conditi ummary of Res	I support equipment were located ns testing the measurement anter ons: Temperature: Rel. Humidity: sults	nna was located 3 meters 18 °C 48 % Limit FCC Part 15.209 / 15.247(c)	s from the El	JT. Result 48.8dB 2390MH	: / Margin 3µ V/m @ łz (-5.2dB)
ne EUT and all loca or radiated emission mbient Conditi ummary of Res Run #	I support equipment were located ns testing the measurement anter ons: Temperature: Rel. Humidity: sults Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In	nna was located 3 meters 18 °C 48 % Limit FCC Part 15.209 /	s from the El	JT. Result 48.8dB 2390MH	: / Margin Bµ V/m @
he EUT and all loca or radiated emission ambient Conditi fummary of Res Run # 1	I support equipment were located ns testing the measurement anter ons: Temperature: Rel. Humidity: sults Test Performed RE, 1000 - 25000 MHz - Spurious Emissions In Restricted Bands	nna was located 3 meters 18 °C 48 % Limit FCC Part 15.209 / 15.247(c)	s from the EU Pass / Fail Pass	JT. <u>Result</u> 48.8dB 2390MH <u>16dBm @</u> 43.2d (144.5)	: / Margin 3µ V/m @ łz (-5.2dB)

Model: WW Contact: Rol Spec: FC Run #1a: Rad Gain Setting - Fundamenta Fundamenta	bert Pax C 15.24		missive Ch	ange w/ Co	Hon ortene -		ті	NI	T(0074		
Contact: Rol Spec: FC un #1a: Rad ain Setting - Fundamenta	bert Pax C 15.24		missive Ch	ande w/ Co			I-L	.og Numbe	r: 1603/1		
Spec: FC un #1a: Rad ain Setting - Fundamenta	C 15.24	man			lion antenna	i	Accou	int Manage	r: Nesha I	ambert	
un #1a: Rad ain Setting - Fundamenta		inan									
Fundamenta		7						Class	s: N/A		
Fundamenta	liated Sp	purious	Emission	s, 1000 - 25	000 MHz. L	.ow Channe	l @ 2412 M	Hz			
	23						-				
			@)m in 1		H	V	Destant			N AL 1_)	
					104 91.76	102.35 90.1		surement (l leasureme			_10U-
				rker - Peak	42.2		Average iv	leasureniei	III (RD=IIV	INZ, VD	= ΙΟΠΖ,
		D		r - Average	43		-				
	Calcula			asurement:	61.8	dBuV/m	Peak				
	Calcula	ited Ban	d-Edge Me	asurement:	48.76	dBuV/m	Average				
ATTEN 200		10.15		₹ 42.17d]		ATTEN 10d RL 0dBm			MKR 43. 8.75MHz		
RL 5.1dB		10d B/	19.6	50MHz	Amon	0000	10		0. 70/142		
	\vdash	+	+	$\pm / -$							R-1
		-	+	\vee							
				/							
			a and a second								
مستجميعهما	a dente		+								
											_
											_
CENTER 2. *RBN 1.0MH		UBN 1.		SPAN 50.0 #SWP 20	oorinz 🛶	CENTER 2. RBN 1.0MH		10Hz		50.00 13xe	
		Dal	15 200	/ 15.247	Datastan	0 - inc	Listalat		1		
	.evel βμV/m	Pol v/h	Limit	Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comment	IS		
	47.3	V	54.0	-6.7	AVG	0	1.0				
	17.3 19.3	V	74.0	-24.7	PK	0	1.0	1			
	27.1	V	54.0	-26.9	AVG	110	1.0				
	37.9	V	74.0	-36.1	PK	110	1.0				
	27.1	Н	54.0	-26.9	AVG	253	1.0				
	38.6	H	74.0	-35.4	PK	253	1.0				
	26.1	H H	54.0	-27.9	AVG	41	1.0				
2970.341 3	37.2	П	74.0	-36.8	PK	41	1.0	1			
For	emissio	ons in res	stricted bar	nds, the limit	t of 15.209 v	vas used. Fo	or all other e	emissions, t	the limit wa	as set 20) dB
			ne fundame					- 1			

Model: WM3B2200BG Permissive Change w/ Cotton antenna T-Log Number: T60371 Contact: Robert Paxman Nesha Lambert Nesha Lambert Spec: FCC 15.247 Class: NA an #Tb: Radiated Spurious Emissions, 1000 • 25000 MHz. Center Channel @ 2437 MHz Matter Structure ain Setting - 23 equency Level Pol 15.209/15.247 Detector Azimuth Height Comments MHz dBµU/m Vh Limit Margin PK/OP/Avg degrees meters 233.294 43.7 V 54.0 -0.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -36.4 PK 140 1.0 Restricted 234.625 26.6 V 54.0 -27.5 AVG 0 1.0 Restricted 274.625 26.5 H 54.0 -11.5 AVG 0 1.0 Restricted 274.050 38.0 H 74.0 <	Client:	Ellic							Job Number:	J59825
Account Manager: Nesha LambertContact: Robert PaxmanSpec: FCC 15.247Class: N/Aun #1b: Radiated Spurious Emissions, 1000 - 25000 MHz. Center Channel @ 2437 MHzain Setting - 23equencyLevelPol15.209 / 15.247DetectorAzimuthHeightCommentsMHzdBµV/mv/hLimitMarginPk/QP/Avgdegreesmeters233.29443.7V54.0-10.3AVG2551.0Restricted233.29449.5V74.0-24.5PK2551.0Restricted874.62526.6V54.0-27.4AVG1401.0Restricted874.62537.6V74.0-36.4PK1401.0Restricted874.05026.5H54.0-27.5AVG01.0Restricted874.05038.0H74.0-36.0PK01.0Restricted233.34442.5H54.0-11.5AVG2151.0Restricted233.34448.8H74.0-25.2PK2151.0RestrictedTo a first on the service of the servic	Model	\\/\\/\?D		missivo Ch	ango w/ Co	tton antonno		T-l	og Number:	T60371
Spec: FCC 15.247 Class: N/A un #1b: Radiated Spurious Emissions, 1000 - 25000 MHz. Center Channel @ 2437 MHz ain Setting - 23 ain Setting - 23 ain Setting - 23 comments comments <tdo< td=""><td>wouel:</td><td>VVIVI3B220</td><td>UDG Pel</td><td>IIIISSIVE CU</td><td>ange w/ C0</td><td>mon antenna</td><td></td><td>Accou</td><td>int Manager:</td><td>Nesha Lambert</td></tdo<>	wouel:	VVIVI3B220	UDG Pel	IIIISSIVE CU	ange w/ C0	mon antenna		Accou	int Manager:	Nesha Lambert
un #1b: Radiated Spurious Emissions, 1000 - 25000 MHz. Center Channel @ 2437 MHz ain Setting - 23 requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 233.294 43.7 V 54.0 -10.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344										
ain Setting - 23 requency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avg degrees meters 233.294 43.7 V 54.0 -10.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215	Spec:	FCC 15.24	17						Class:	N/A
equency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 233.294 43.7 V 54.0 -10.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H <td></td> <td></td> <td>Spurious</td> <td>Emission</td> <td>s, 1000 - 25</td> <td>5000 MHz. C</td> <td>enter Chani</td> <td>nel @ 2437</td> <td>' MHz</td> <td></td>			Spurious	Emission	s, 1000 - 25	5000 MHz. C	enter Chani	nel @ 2437	' MHz	
MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 233.294 43.7 V 54.0 -10.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H			P∩l	15 209	/ 15 247	Detector	Azimuth	Height	Comments	
233.294 43.7 V 54.0 -10.3 AVG 255 1.0 Restricted 233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted The missions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dE					1				oominients	
233.294 49.5 V 74.0 -24.5 PK 255 1.0 Restricted 874.625 26.6 V 54.0 -27.4 AVG 140 1.0 Restricted 874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted The missions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dE									Restricted	
874.625 37.6 V 74.0 -36.4 PK 140 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted to 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB										
874.050 26.5 H 54.0 -27.5 AVG 0 1.0 Restricted 874.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB			V					1.0		
374.050 38.0 H 74.0 -36.0 PK 0 1.0 Restricted 233.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB	74.625	37.6	٧	74.0	-36.4	PK	140	1.0	Restricted	
33.344 42.5 H 54.0 -11.5 AVG 215 1.0 Restricted 33.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB					-27.5			1.0		
233.344 48.8 H 74.0 -25.2 PK 215 1.0 Restricted to 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB										
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB										
	233.344	48.8	Н	74.0	-25.2	PK	215	1.0	Restricted	

Model	: Intel							lob Number:	J59825		
Model	· W/M3B220)0RG Per	missive Ch	ange w/ Co	tton antenna		T-L	og Number:	T60371		
							Accou	nt Manager:	Nesha L	ambert	
	: Robert Pa										
	: FCC 15.2							Class:	N/A		
		Spurious	Emission	s, 1000 - 25	000 MHz. H	ligh Channe	el @ 2462 M	Hz			
Gain Setti	ng - 23						7				
Fundar	nental emis	sion leve	l @ ?m in 1	MHz RBW:	H 100.2	V 98.78	Doak Moas	surement (RI	R_\/R_1		
				MHz RBW:	88.52	86.59		leasurement		,	0Hz
				rker - Peak					10 10		5112
				r - Average	41.2]				
				asurement:		dBuV/m	Peak				
	Calcu	lated Ban	d-Edge Me	asurement:	47.32	dBuV/m	Average				
ATTEN RL 18		10dB/		39.33dB 32MHz		TEN 104B			41.17	dB	
		104.07				. ØdBn	10d)	s/ -22.	92MHz		1
									+ +		
							++		+ +	_	
		<u></u>					\uparrow			_	1
		and the second		and shall and			X				1
			- Barry	man							1
											1
					+ [
H-+-											
	2.48350 ØMHz #	BGHz VBM 1.0	8 8MHz	PAN 50.0 SNP 50m		ENTER 2.4 BM 1.0MHz				3.00MHz L3sec	
	ØMHz 🕴	ЮВМ 1.0	ƏHHz	SMP 50m	s ≱RE	3W 1.0MHz	#OBM 1	8Hz	SPAN 50 SMP 1		
requency	emitiz + / Level	Рol	онни 15.209	SNP 50m / 15.247	Detector	Azimuth	₩UBW 1 Height				
requency MHz	emez / Level dBμV/m	Роl v/h	анни 15.209 / Limit	5NP 50m / 15.247 Margin	Detector Pk/QP/Avg	Azimuth degrees	Height meters	8Hz			
requency MHz 2962.864	/ Level dBµV/m 48.3	Pol V/h V	2HHz 15.209 Limit 80.0	5HP 50m / 15.247 Margin -31.7	Detector Pk/QP/Avg PK	Azimuth degrees 359	Height meters 1.0	8Hz			
•RBN 1. Frequency MHz 2962.864 4922.745	 P™Hz Level dBµV/m 48.3 27.3 	Pol v/h V V	DHHz 15.209 / Limit 80.0 54.0	5HP 50m / 15.247 Margin -31.7 -26.7	Detector Pk/QP/Avg PK AVG	Azimuth degrees 359 136	Height meters 1.0 1.0	8Hz			
requency MHz 2962.864	μ Level dBμV/m 48.3 27.3 38.4	Pol V/h V	2HHz 15.209 Limit 80.0	5HP 50m / 15.247 Margin -31.7	Detector Pk/QP/Avg PK	Azimuth degrees 359	Height meters 1.0	8Hz			



<i>C</i> Elli	ott			EMC Test		
Client: Intel			J	ob Number: J59825		
	00DC Dermissive Change w/ Col	tton ontonno	T-Log Number: T60371			
	00BG Permissive Change w/ Co	lion antenna	Accour	unt Manager: Nesha Lamb		
Contact: Robert Pa						
Spec: FCC 15.2	47			Class: N/A		
	Jmartinez Fremont Chamber #5	Config. Usec Config Change Host Unit Voltag	l: 1 :: None			
	I support equipment were located					
For radiated emissior	is testing the measurement ante	nna was located 3 mete	rs from the E	UT.		
Ambient Conditi	ons: Temperature:	18 °C				
	Rel. Humidity:	48 %				
Summary of Res		Limit		Decult / Morain		
Run #	Test Performed RE, 1000 - 25000 MHz -		Pass / Fail			
1	Spurious Emissions In Restricted Bands	FCC Part 15.209 / 15.247(c)	Pass	47.7 dBuV/m @ 2483.5 MHz (-6.4dB)		
2	Output Power	15.247(b)	Pass	17dBm @ 2412MHz		
		500.010		53.1dBµ V/m		

RSS-210

(451.9µV/m)@

3000.0MHz (-0.9dB)

Pass

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

3

No deviations were made from the requirements of the standard.

Recever Emissions

	: Intel						-	Job Number:	J59825		
Model: WM3B2200BG Permissive Change w/ Cotton antenna							T-Log Number: T60371				
Model					Account Manager: Nesha Lambert						
Contact	: Robert Pa	xman									
Spec	: FCC 15.2	47						Class:	N/A		
tun #1a :	Radiated S	Spurious	Emissions	s, 1000 - 25	000 MHz. L	ow Channe	l @ 2412Mł	Ιz			
Gain Setti	ng - 30						-				
					Н	V	4				
			el @ 3m in 1		106.36	104.26		ak Measurement (RB=VB=1MHz)			
Fundan	nental emis	sion leve	el @ 3m in 1	irker - Peak	99.47 50.2	97.3	Average Measurement (RB=1MHz, VB=10H			5=10HZ	
			Delta Marke		50.2		-				
	Calcul		nd-Edge Me	5		dBuV/m	Peak				
			nd-Edge Me			dBuV/m	Average				
ATTEN	28dB		AMKR	50.17dB	AT	TEN 18dB			R 53.84dB		
RL 18.	RL 18.8dBn 18dB/ 22.92MHz					- BdBm	108		25MHz	2~	
+		-				\rightarrow			V		
		-							$-\Lambda$	-	
D		-			D				1/		
+		-	and in	V			-				
		and.	- CURENCE			-20	-	A			
and and	- AL		1			~~~~	VI	\rightarrow +			
		-									
					1						
		-									
	Z. 39000			AN 50 00		NTER 2 3			SPAN 58.00		
*RBM 1	enns +	(油料 1.0		SNP 50ns	#1K1	1.0MHz	NGON	18Hz	SHP 13se	ie.	
requency		Pol		/ 15.247	Detector	Azimuth	Height	Comments			
		v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
MHz	dBµV/m				AVG			Restricted			
MHz 4823.917	37.4	V	54.0	-16.6		324	1.0				
MHz 4823.917 4823.917	37.4 43.7	٧	74.0	-30.3	PK	324	1.0	Restricted	stod		
MHz 4823.917 4823.917 9647.938	37.4 43.7 56.2	V V	74.0 86.0	-30.3 -29.8	PK AVG	324 266	1.0 1.0	Restricted Non-Restric	cted		
MHz 4823.917 4823.917 9647.938 2210.626	37.4 43.7 56.2 38.0	V V V	74.0 86.0 54.0	-30.3 -29.8 -16.1	PK AVG AVG	324 266 255	1.0 1.0 1.0	Restricted Non-Restric Restricted	cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626	37.4 43.7 56.2 38.0 44.1	V V V V	74.0 86.0 54.0 74.0	-30.3 -29.8 -16.1 -29.9	PK AVG AVG PK	324 266 255 255	1.0 1.0 1.0 1.0	Restricted Non-Restric Restricted Restricted			
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042	37.4 43.7 56.2 38.0 44.1 38.3	V V V V V	74.0 86.0 54.0 74.0 86.0	-30.3 -29.8 -16.1 -29.9 -47.7	PK AVG AVG PK PK	324 266 255 255 232	1.0 1.0 1.0 1.0 1.0 1.0	Restricted Non-Restric Restricted Restricted Non-Restric	cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626	37.4 43.7 56.2 38.0 44.1 38.3 42.5	V V V V	74.0 86.0 54.0 74.0	-30.3 -29.8 -16.1 -29.9	PK AVG AVG PK	324 266 255 255	1.0 1.0 1.0 1.0	Restricted Non-Restric Restricted Restricted	cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042 3216.050 4824.042	37.4 43.7 56.2 38.0 44.1 38.3 42.5	V V V V V V	74.0 86.0 54.0 74.0 86.0 86.0	-30.3 -29.8 -16.1 -29.9 -47.7 -43.5	PK AVG AVG PK PK PK	324 266 255 255 232 270	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Restricted Non-Restric Restricted Restricted Non-Restric Non-Restric	cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042 3216.050 4824.042 4824.042	37.4 43.7 56.2 38.0 44.1 38.3 42.5 42.9 46.5	V V V V V H	74.0 86.0 54.0 74.0 86.0 86.0 54.0	-30.3 -29.8 -16.1 -29.9 -47.7 -43.5 -11.1	PK AVG PK PK PK AVG	324 266 255 255 232 270 140	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Restricted Non-Restric Restricted Restricted Non-Restric Restricted	cted cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042 3216.050 4824.042 4824.042 9647.938	37.4 43.7 56.2 38.0 44.1 38.3 42.5 42.9 46.5	V V V V V H H	74.0 86.0 54.0 74.0 86.0 86.0 54.0 74.0	-30.3 -29.8 -16.1 -29.9 -47.7 -43.5 -11.1 -27.5	PK AVG PK PK PK AVG PK	324 266 255 255 232 270 140 140	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.2	Restricted Non-Restric Restricted Non-Restric Non-Restric Restricted Restricted	cted cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042 3216.050 4824.042 4824.042 9647.938 2210.711 2210.711	37.4 43.7 56.2 38.0 44.1 38.3 42.5 42.9 46.5 59.4 34.6 41.7	V V V V H H H H H	74.0 86.0 54.0 74.0 86.0 86.0 54.0 74.0 86.0 54.0 74.0	-30.3 -29.8 -16.1 -29.9 -47.7 -43.5 -11.1 -27.5 -26.6 -19.4 -32.3	PK AVG PK PK PK AVG PK AVG PK	324 266 255 235 232 270 140 140 140 304 239 239	$ \begin{array}{c} 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.2\\ 1.2\\ 1.2\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ \end{array} $	Restricted Non-Restric Restricted Non-Restric Non-Restric Restricted Restricted Non-Restric Restricted Restricted Restricted	cted cted		
MHz 4823.917 4823.917 9647.938 2210.626 2210.626 3005.042 3216.050	37.4 43.7 56.2 38.0 44.1 38.3 42.5 42.9 46.5 59.4 34.6 41.7 37.9	V V V V H H H H	74.0 86.0 54.0 74.0 86.0 86.0 54.0 74.0 86.0 54.0	-30.3 -29.8 -16.1 -29.9 -47.7 -43.5 -11.1 -27.5 -26.6 -19.4	PK AVG PK PK PK AVG PK AVG	324 266 255 255 232 270 140 140 304 239	$ \begin{array}{c} 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.0\\ 1.2\\ 1.2\\ 1.2\\ 1.0\\ 1.0\\ 1.0\\ \end{array} $	Restricted Non-Restric Restricted Non-Restric Non-Restric Restricted Restricted Non-Restric Restricted	cted cted cted		

	Ellic	ott							C Test Data	
Client:	Intel				Job Number: J59825					
Model:	WM3B2200BG Permissive Change w/ Cotton antenna							T-Log Number: T60371		
				ange ni ee	Account Manager: Nesha Lambert					
	Robert Pa									
	FCC 15.24							Class:	N/A	
		purious	Emission	s, 1000 - 25	5000 MHz. C	enter Chani	nel @ 2437	MHz		
Gain Settin requency	Level	Pol	15 209	/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	Comments		
4873.957	36.8	V	54.0	-17.3	AVG	319	1.0	Restricted		
4873.957	42.9	V	74.0	-31.1	PK	319	1.0	Restricted		
9747.914	59.7	V	85.0	-25.3	PK	314	1.1	Non-Restric	cted	
2173.900	45.1	V	85.0	-39.9	PK	285	1.0	Non-Restric		
3342.976	39.0	V	85.0	-46.0	PK	128	1.0	Non-Restric	cted	
4874.067	41.2	Н	54.0	-12.8	AVG	142	1.1	Restricted		
4874.067	45.0	Н	74.0	-29.0	PK	142	1.1	Restricted		
9747.894	58.7	Н	85.0	-26.3	PK	332	1.0	Non-Restric		
2173.930	44.5	H	85.0	-40.5	PK	217	1.0	Non-Restric		
3341.085	39.1	Н	85.0	-45.9	PK	78	1.0	Non-Restric		
			stricted bar he fundame		it of 15.209 w	vas used. Fo	r all other e	missions, the	e limit was set 20 dB	
					it of 15.209 w	vas used. Fo	r all other e	missions, the		
					it of 15.209 w	vas used. Fo	r all other e	missions, the		
					it of 15.209 w	/as used. Fo	r all other e	missions, th		
					it of 15.209 w	vas used. Fo	r all other e	missions, th		
					it of 15.209 w	vas used. Fo	r all other e	missions, th		

Client:	Intel						2	lob Number:	J59825			
Model	WM3B220		missivo Ch	T-Log Number: T60371								
mouel.	WWJDZZU			Accou	Account Manager: Nesha Lambert							
	Robert Pa											
Spec:	FCC 15.24	17			Class:	N/A						
		Spurious	Emission	s, 1000 - 25	5000 MHz. H	igh Channe	el @ 2462 M	IHz				
Gain Setti	ng - 30				тт		7					
Eundor	ontal omic	cion lovo	@ 2m in 1	IMHz RBW:	H 103.75	V 101.04	Dook Moor	ouromont (D		1-1)		
				IMHZ RBW:		<u>101.96</u> 94.88		surement (R leasurement				
				arker - Peak			Average IV	icasuiemeni	עועם– וועוחע	L, VD-IUN2		
]		er - Average			1					
	Calcul			asurement		dBuV/m	Peak					
				asurement		dBuV/m	Average					
ATTEN 2		10.00		48. 67dB		TEN 1048			(R 49 16	dB		
FL 18.0	ad Bin	10dB/	-26.75	5/7H2	RL	Od Bm	104	-21	SOMHE			
	X	-			-	1						
		+ +					++					
					- 0							
	1						how					
		X	men					Var	~			
		1		Providence and	~			-ř-†-	M	m		
CENTER	2.483580			AN SE BOR		INTER 2 4			SPAN 50	. ØØMHz		
SICDIO 1 - S	orasz	/ВЫ 1.0			*R8	IN 1.8MHz	*UBH	0.3.62	SMP 1	3sec		
requency	1 1	Pol		/ 15.247	Detector	Azimuth	Height	Comments				
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg		meters					
3124.309	37.8	V	83.0	-45.2	PK	1	1.0	Non-restricted				
3282.591	42.6	V	83.0	-40.4	PK	271	1.0	Non-restricted				
2198.671 4924.017	43.9 38.0	V V	83.0 54.0	-39.2 -16.0	PK AVG	256 320	1.0 1.0	Non-restricted				
4924.017	38.0 43.7	V	54.0 74.0	-16.0	PK	320	1.0	Restricted Restricted				
4924.017 9847.889	43.7 60.0	V	83.0	-30.4	PK	278	1.0	Non-restricted				
3124.014	37.0	H	83.0	-46.0	PK	0	1.0	1	Non-restricted			
3282.716	44.4	H	83.0	-38.6	PK	198	1.0	Non-restric				
2197.386	43.3	H	83.0	-39.7	PK	215	1.0	Non-restric				
4924.027	39.2	H	54.0	-14.8	AVG	138	1.0	Restricted				
1924.027	43.9	Н	74.0	-30.1	PK	138	1.0	Restricted				
	60.4	Н	83.0	-22.6	PK	318	1.0	Non-restric	ted			
1847.908				-	· •		-	-				
9847.908			بمبالم ملماتهم	مرامطة ماسم	t of 15 200 w	ac used E	or all other e	missions th	o limit was	Ah NC taa		
lote 1:	For emissi	ons in re	stricted bai	nas, the lim	IL UL 15.209 W	as useu. Fi				361 ZU UD		

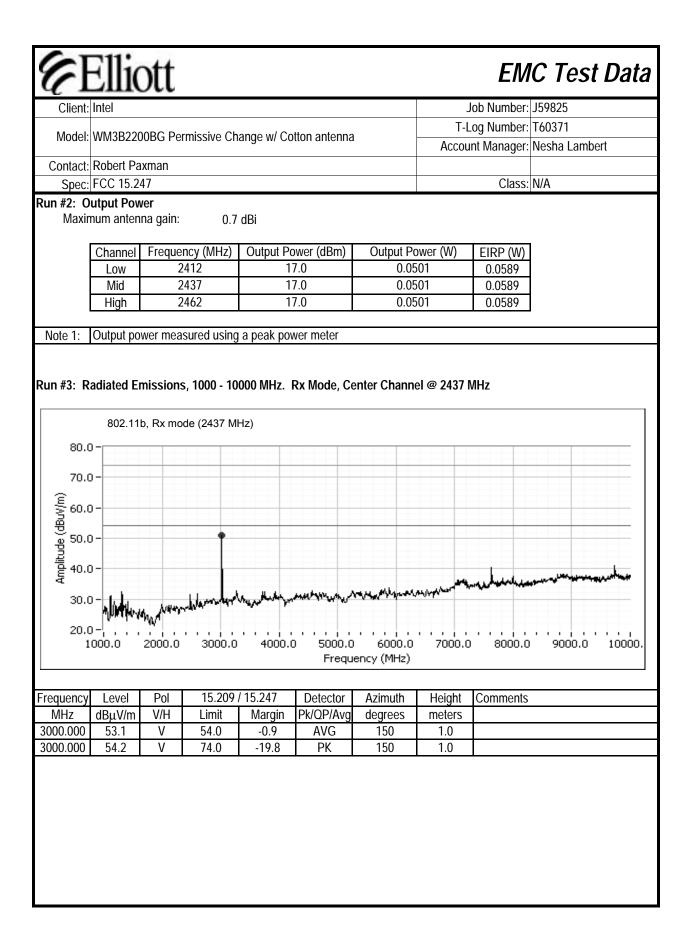


EXHIBIT 3: Test Configuration Photographs

2 Pages

EXHIBIT 4: Proposed FCC ID Label & Label Location

EXHIBIT 5: Detailed Photographs of Intel Corporation Model WM3B2200BG/WM3B2915ABGConstruction

EXHIBIT 6: Operator's Manual for Intel Corporation Model WM3B2200BG/WM3B2915ABG

EXHIBIT 7: Block Diagram of Intel Corporation Model WM3B2200BG/WM3B2915ABG

EXHIBIT 8: Schematic Diagrams for Intel Corporation Model WM3B2200BG/WM3B2915ABG

EXHIBIT 9: Theory of Operation for Intel Corporation Model WM3B2200BG/WM3B2915ABG

EXHIBIT 10: Advertising Literature

EXHIBIT 11: RF Exposure Information

ASUSA7VW 18 Pages Cotton Antenna Info MPE 2 Pages