

## *EMC Test Report*

### *Industry Canada RSS-Gen Issue 3 / RSS 210 Issue 8 FCC Part 15 Subpart C*

### *Intel® Centrino® Advanced-N 6205 with WNC 81XCAA15.G03 Dipole Antenna*

IC CERTIFICATION #: 1000M-62205ANHU, 1000M-62205ANH  
FCC ID: PD962205ANHU, PD962205ANH

APPLICANT: Intel Corporation  
100 Center Point Circle Suite 200  
Columbia, SC 29210

TEST SITE(S): National Technical Systems - Silicon Valley  
41039 Boyce Road.  
Fremont, CA. 94538-2435

IC SITE REGISTRATION #: 2845B-3; 2845B-4, 2845B-5

REPORT DATE: April 2, 2013

FINAL TEST DATES: June 13, 14, 15, 2011 and March 11, 18, 2013

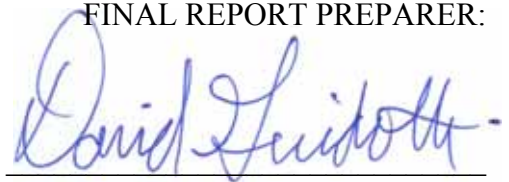
TOTAL NUMBER OF PAGES: 68

PROGRAM MGR /  
TECHNICAL REVIEWER:



David W. Bare  
Chief Engineer

QUALITY ASSURANCE DELEGATE /  
FINAL REPORT PREPARER:



David Guidotti  
Senior Technical Writer



National Technical Systems - Silicon Valley is accredited by the A2LA, certificate number 0214.26, to perform the test(s) listed in this report, except where noted otherwise. This report and the information contained herein represent the results of testing test articles identified and selected by the client performed to specifications and/or procedures selected by the client. National Technical Systems (NTS) makes no representations, expressed or implied, that such testing is adequate (or inadequate) to demonstrate efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it represent any statement whatsoever as to its merchantability or fitness of the test article, or similar products, for a particular purpose. This report shall not be reproduced except in full

**REVISION HISTORY**

Rev#	Date	Comments	Modified By
-	04-02-2013	First release	

**TABLE OF CONTENTS**

**REVISION HISTORY .....2**

**TABLE OF CONTENTS .....3**

**SCOPE.....4**

**OBJECTIVE .....5**

**STATEMENT OF COMPLIANCE.....5**

**DEVIATIONS FROM THE STANDARDS.....5**

**TEST RESULTS SUMMARY .....6**

    DIGITAL TRANSMISSION SYSTEMS (2400 – 2483.5MHZ).....6

    DIGITAL TRANSMISSION SYSTEMS (5725 –5850 MHZ).....6

    GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS.....7

**MEASUREMENT UNCERTAINTIES.....7**

**EQUIPMENT UNDER TEST (EUT) DETAILS.....8**

    GENERAL.....8

    ANTENNA SYSTEM .....9

    ENCLOSURE.....9

    MODIFICATIONS.....9

    SUPPORT EQUIPMENT.....9

    EUT INTERFACE PORTS .....9

    EUT OPERATION .....10

**TEST SITE.....11**

    GENERAL INFORMATION.....11

    RADIATED EMISSIONS CONSIDERATIONS .....11

**MEASUREMENT INSTRUMENTATION .....11**

    RECEIVER SYSTEM .....11

    INSTRUMENT CONTROL COMPUTER .....12

    FILTERS/ATTENUATORS .....12

    ANTENNAS.....12

    ANTENNA MAST AND EQUIPMENT TURNTABLE.....12

    INSTRUMENT CALIBRATION.....12

**TEST PROCEDURES .....13**

    EUT AND CABLE PLACEMENT .....13

    RADIATED EMISSIONS .....13

    SPECIFICATION LIMITS AND SAMPLE CALCULATIONS .....17

    GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS .....17

    RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS .....18

    TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS AND DTS SYSTEMS.....18

    SAMPLE CALCULATIONS - RADIATED EMISSIONS.....18

**APPENDIX A TEST EQUIPMENT CALIBRATION DATA .....20**

**APPENDIX B TEST DATA .....22**

**END OF REPORT .....68**

## **SCOPE**

An electromagnetic emissions test has been performed on the Intel Corporation Intel® Centrino® Advanced-N 6205 with WNC 81XCAA15.G03 Dipole Antenna, pursuant to the following rules:

- Industry Canada RSS-Gen Issue 3
- RSS 210 Issue 8 “Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment”
- FCC Part 15 Subpart C

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in National Technical Systems - Silicon Valley test procedures:

- ANSI C63.4:2003
- FCC DTS Measurement Procedure, KDB 558074

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

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.

## **OBJECTIVE**

The primary objective of the manufacturer is compliance with the regulations outlined in the previous section.

Prior to marketing in the USA, all unlicensed transmitters and transceivers require certification. Receive-only devices operating between 30 MHz and 960 MHz are subject to either certification or a manufacturer's declaration of conformity, with all other receive-only devices exempt from the technical requirements.

Prior to marketing in Canada, Class I transmitters, receivers and transceivers require certification. Class II devices are required to meet the appropriate technical requirements but are exempt from certification requirements.

Certification is a procedure where the manufacturer submits test data and technical information to a certification body and receives a certificate or grant of equipment authorization upon successful completion of the certification body's 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.

Maintenance of compliance 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.).

## **STATEMENT OF COMPLIANCE**

The tested samples of Intel Corporation Intel® Centrino® Advanced-N 6205 with WNC 81XCAA15.G03 Dipole Antenna complied with the requirements of the following regulations:

- Industry Canada RSS-Gen Issue 3
- RSS 210 Issue 8 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"
- FCC Part 15 Subpart C

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

The test results recorded herein are based on a single type test of Intel Corporation Intel® Centrino® Advanced-N 6205 with WNC 81XCAA15.G03 Dipole Antenna and therefore apply only to the tested samples. The samples were selected and prepared by Steve Hackett of Intel Corporation.

## **DEVIATIONS FROM THE STANDARDS**

No deviations were made from the published requirements listed in the scope of this report.

**TEST RESULTS SUMMARY****DIGITAL TRANSMISSION SYSTEMS (2400 – 2483.5MHz)**

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Not evaluated. The proposed changes (addition of new certification numbers) do not affect the values previously reported.		
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth			
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power (multipoint systems)			
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density			
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz			
15.247(c) / 15.209	RSS 210 A8.5	Radiated Spurious Emissions 30MHz – 25 GHz	53.4dB $\mu$ V/m @ 2390.0MHz	15.207 in restricted bands, all others <-30dBc <sup>Note 2</sup>	Complies (-0.6dB)
Note 1: The previously reported worst case value for radiated spurious emissions was 53.3dB $\mu$ V/m @ 2389.9MHz (0.7dB below the limit) using the original PIFA antenna.					
Note 2: Limit of -30dBc used because the power was measured using the UNII test procedure (maximum power averaged over a transmission burst).					

**DIGITAL TRANSMISSION SYSTEMS (5725 –5850 MHz)**

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Not evaluated. The proposed changes (addition of new certification numbers) do not affect the values previously reported.		
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth			
15.247 (b)	RSS 210 A8.2 (4)	Output Power (multipoint systems)			
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density			
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions – 30MHz – 40 GHz			
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 40 GHz	42.9dB $\mu$ V/m@ 11649.7MHz	15.207 in restricted bands, all others <-30dBc <sup>Note 2</sup>	Complies
Note 1: The previously reported worst case value for radiated spurious emissions was 47.1dB $\mu$ V/m @ 11649.9MHz (6.9dB below the limit) using the original PIFA antenna.					
Note 2: Limit of -30dBc used because the power was measured using the UNII test procedure (maximum power averaged over a transmission burst).					

**GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS**

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	Not evaluated. The proposed changes (addition of new certification numbers) do not affect the values previously reported.		
15.207	RSS GEN Table 2	AC Conducted Emissions			
	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	Not evaluated. No longer required per RSS-GEN		
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Not evaluated. The addition of new certification numbers does not affect the MPE values.		
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth	Not evaluated. The proposed changes (addition of new certification numbers) do not affect the values previously reported.		
Note 1: The previously reported worst case value for radiated spurious emissions was 34.9dB $\mu$ V/m @ 199.83MHz (8.6dB below the limit) using the original PIFA antenna.					

**MEASUREMENT UNCERTAINTIES**

ISO/IEC 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	Measurement Unit	Frequency Range	Expanded Uncertainty
RF power, conducted (power meter)	dBm	25 to 7000 MHz	$\pm 0.52$ dB
RF power, conducted (Spectrum analyzer)	dBm	25 to 7000 MHz	$\pm 0.7$ dB
Conducted emission of transmitter	dBm	25 to 26500 MHz	$\pm 0.7$ dB
Conducted emission of receiver	dBm	25 to 26500 MHz	$\pm 0.7$ dB
Radiated emission (substitution method)	dBm	25 to 26500 MHz	$\pm 2.5$ dB
Radiated emission (field strength)	dB $\mu$ V/m	25 to 1000 MHz	$\pm 3.6$ dB
		1000 to 40000 MHz	$\pm 6.0$ dB
Conducted Emissions (AC Power)	dB $\mu$ V	0.15 to 30 MHz	$\pm 2.4$ dB

**EQUIPMENT UNDER TEST (EUT) DETAILS****GENERAL**

The Intel Corporation Intel® Centrino® Advanced-N 6205 with WNC 81XCAA15.G03 Dipole Antenna is a PCIe Half Mini Card form factor IEEE 802.11a/b/g/n wireless network adapter that operates in both the 2.4 GHz and 5.0 GHz spectra. The card supports 2x2 MIMO for 802.11n modes in both 20MHz and 40MHz channels. In legacy modes 1x2 operation is supported.

For radio testing purposes the card was installed in a test fixture that exposed all sides of the card.

The card has been certified with limited modular approval. The limited modular version is intended to allow the OEM to permit user installation when the host system is provided with a bios locking feature that prevents unauthorized installation (FCC ID: PD962205ANHU; IC:1000M-62205ANHU) The U.S./FCC approved version is approved under Intel model 62205ANHMW and for Canada/IC as model 62205ANHU.

The scope of this report has been changed to add the full modular approval for model 62205ANHMW (FCC ID: PD962205ANH; IC:1000M-62205ANH). The full modular version is intended for factory installation only by the OEM. Limited radiated emissions testing was performed as the original tests were performed more than 1 year ago.

Samples were received on June 13, 2011 and March 11, 2013 and tested on June 13, 14, 15, 2011 and March 11, 18, 2013. The EUT tested are as follows:

Company	Model	Description	Serial Number	FCC ID <i>IC CN</i>
Intel Corporation	62205ANHMW	PCIe Half Mini Card 802.11a/b/g/n wireless network adapter	MAC address 001500634F48 (2011 tests)	PD962205ANH PD962205ANHU <i>1000M-62205ANH</i>
	62205ANHU		A088B449143C (2013 tests)	<i>1000M-62205ANHU</i>



**ANTENNA SYSTEM**

The antenna originally approved with the system was a two-antenna PIFA antenna system – Shanghai Universe Communication Electron Co., Ltd. and dipole antenna, part number WNC P/N 81XCAA15.G03. In all bands the dipole antenna has lower gain than the PIFA antenna.

Band	Antenna Gain	
	Original PIFA	New Dipole
200-2483.5 MHz	3.2 dBi	Tx/Rx1: -0.45 dBi Tx/Rx2: 1.26 dBi
5150-5350 MHz	3.7 dBi	Tx/Rx1: -0.36 dBi Tx/Rx2: 1.58 dBi
5470-5725 MHz	4.8 dBi	Tx/Rx1: -0.07 dBi Tx/Rx2: 1.01 dBi
5725-5850 MHz	5 dBi	Tx/Rx1: 0.83 dBi Tx/Rx2: 1.09 dBi

**ENCLOSURE**

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

**MODIFICATIONS**

No modifications were made to the EUT during the time the product was at Elliott.

**SUPPORT EQUIPMENT**

The following equipment was used as support equipment for testing:

Company	Model	Description	Serial Number	FCC ID
Intel	Shiloh	MINI PCI test fixture	2009-1543	-
Dell	Prototype	Laptop PC	-	-
Agilent	-	DC bench supply	-	-

**EUT INTERFACE PORTS**

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

Port	Connected To	Description	Cable(s)	
			Shielded or Unshielded	Length(m)
test fixture DC In	DC Supply out	2-wire	Unshielded	2
test fixture PCIe	Laptop PCIe	Ribbon	Unshielded	1

### **EUT OPERATION**

The EUT was installed into a test fixture that exposed all sides of the card. The test fixture interfaced to a laptop computer and dc power supply. The laptop computer was used to configure the EUT to continuously transmitter or continuously receive on the channel specified in the test data.

For transmit mode measurements the system was configured to operate in one or more of the available operating modes – 802.11b, 802.11g, 802.11a, 802.11n20 and 802.11n40. The output power for all measurements was set to be within 0.5dB of the output power measured during the original testing.

The data rates used for all tests were the lowest data rates for each mode – 1Mb/s for 802.11b, 6Mb/s for 802.11a and 802.11g, 6.5MB/s for 802.11n20, and 13 Mb/s for 802.11n40. The device operates at its maximum output power at the lowest data rate (this was confirmed through separate measurements during the original device certification tests).

The scope of testing was to update the report with new data from 2013. The actual modes evaluated were based on the worst case mode or modes observed during the original tests.

Compliance with radiated spurious emissions requirements in the restricted bands adjacent to the 2400-2483.5 MHz allocated band was evaluated in the worst case 20-MHz mode which was (802.11n20) and also in the 802.11n40 mode.

Compliance with radiated spurious emissions requirements away from the allocated band edges were performed in the worst case OFDM mode and, for operation in the 2.4GHz band, the DSSS (802.11b) mode. The worst-case OFDM modes were 802.11g in the 2.4GHz band and 802.11n 20MHz in the 5.8GHz DTS band.

The PC was using the Intel test utility DRTU Version 1.1.3 and the device driver was version 13.0.0.238 for testing performed in 2011. DRTU Tool Version 1.5.3-0320 Driver version 15.0.0.51 were used for testing performed in 2013.

**TEST SITE****GENERAL INFORMATION**

Final test measurements were taken at the test sites listed below. Pursuant to section 2.948 of the FCC's Rules and section 3.3 of RSP-100, construction, calibration, and equipment data has been filed with the Commission and with industry Canada.

Site	Registration Numbers		Location
	FCC	Canada	
Chamber 3	769238	2845B-3	41039 Boyce Road Fremont, CA 94538-2435
Chamber 4	211948	2845B-4	
Chamber 5	211948	2845B-5	

ANSI C63.4:2003 recommends that ambient noise at the test site be at least 6 dB below the allowable limits. Ambient levels are below this requirement. The test site(s) contain separate areas for radiated and conducted emissions testing. Considerable engineering effort has been expended to ensure that the facilities conform to all pertinent requirements of ANSI C63.4:2003.

**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 or in a semi-anechoic chamber. The test sites are maintained free of conductive objects within the CISPR defined elliptical area incorporated in ANSI C63.4:2003 guidelines and meet the Normalized Site Attenuation (NSA) requirements of ANSI C63.4:2003.

**MEASUREMENT INSTRUMENTATION****RECEIVER SYSTEM**

An EMI receiver as specified in CISPR 16-1-1 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. If the repetition frequency of the signal being measured is below 20Hz, peak measurements are made in lieu of Quasi-Peak 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, unless the signal is pulsed in which case the average (or video) bandwidth of the measuring instrument is reduced to onset of pulse desensitization and then increased.

### *INSTRUMENT CONTROL COMPUTER*

The receivers utilize either a Rohde & 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.

### *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 loop antenna is used below 30 MHz. For the measurement range 30 MHz to 1000 MHz either a combination of a biconical antenna and a log periodic or a bi-log antenna is used. Above 1000 MHz, horn antennas are used. The antenna calibration factors to convert the received voltage to an electric field strength are included with appropriate cable loss and amplifier gain factors to determine an overall site factor, which is then programmed into the test receivers or incorporated into the test software.

### *ANTENNA MAST AND EQUIPMENT TURNTABLE*

The antennas used to measure the radiated electric field strength are mounted on a non-conductive antenna mast equipped with a motor-drive to vary the antenna height. Measurements below 30 MHz are made with the loop antenna at a fixed height of 1m above the ground plane.

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*

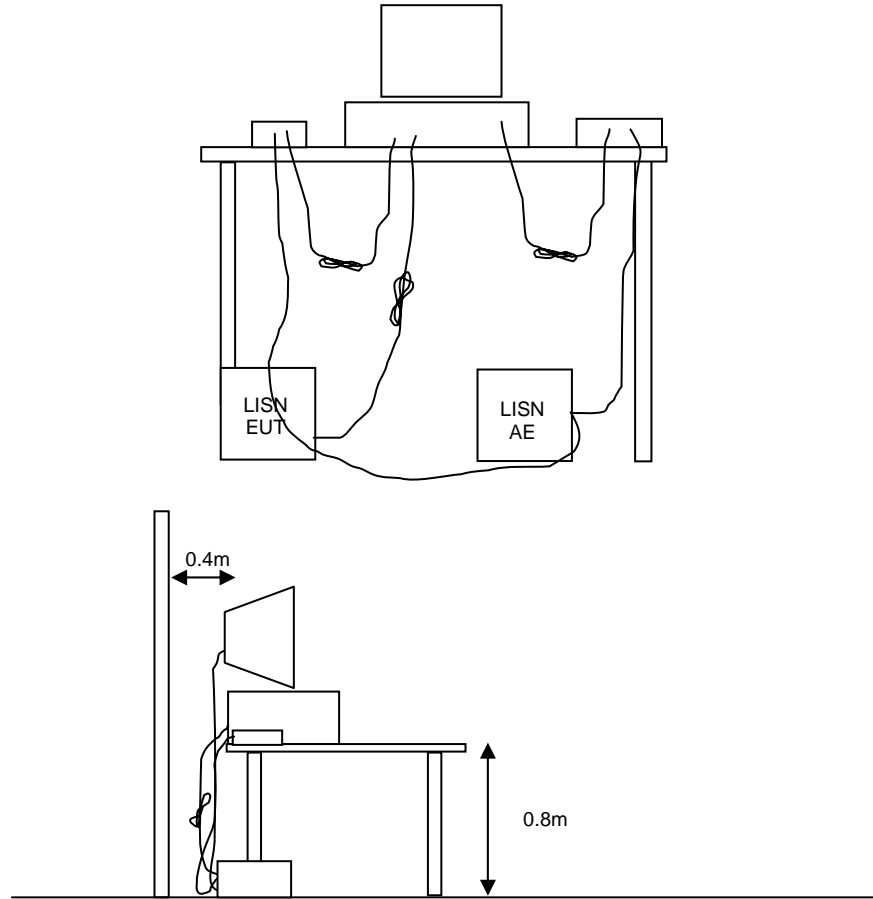
All test equipment is regularly checked to ensure that performance is maintained in accordance with the manufacturer's specifications. All antennas are calibrated at regular intervals with respect to tuned half-wave dipoles. An exhibit of this report contains the list of test equipment used and calibration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

## TEST PROCEDURES

### EUT AND CABLE PLACEMENT

The regulations require 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.

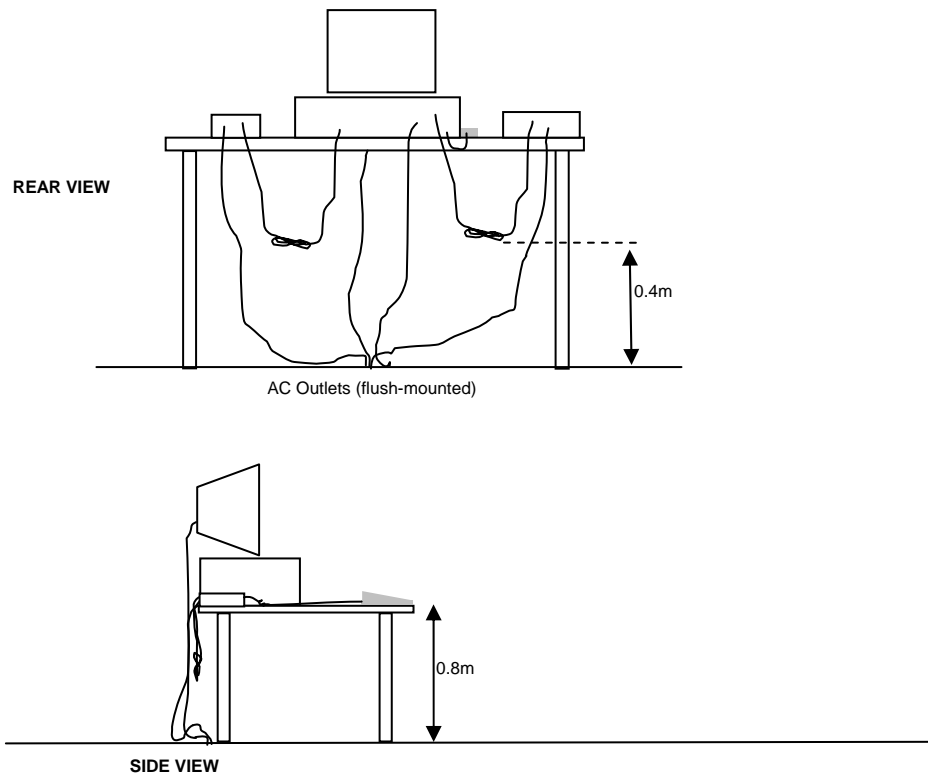
### RADIATED EMISSIONS



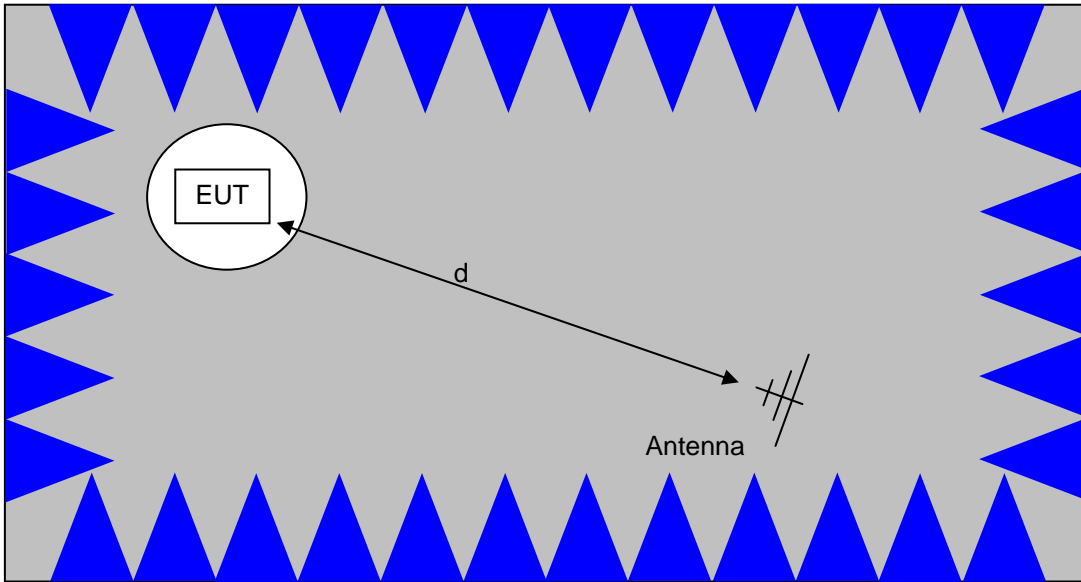
A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). During the preliminary scans, the EUT is rotated through 360°, the antenna height is varied (for measurements above 30 MHz) and cable positions are varied to determine the highest emission relative to the limit. Preliminary scans may be performed in a fully anechoic chamber for the purposes of identifying the frequencies of the highest emissions from 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 (for measurements above 30 MHz, measurements below 30 MHz are made with the loop antenna at a fixed height of 1m). 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.

When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.

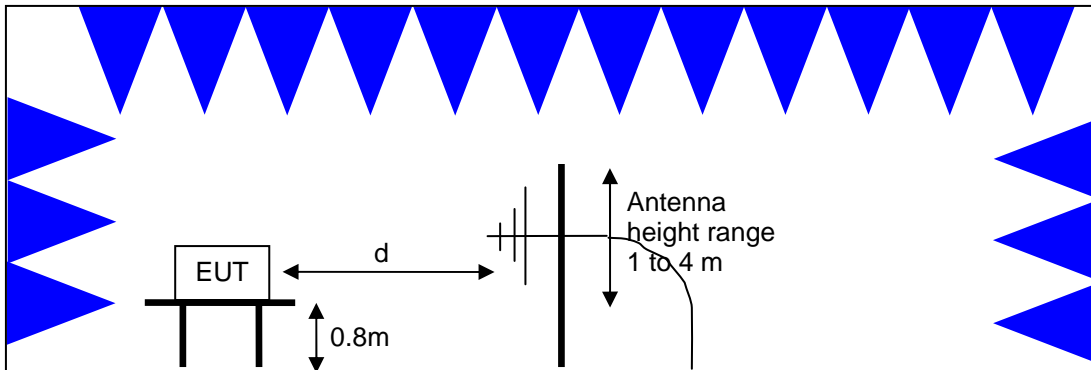


Typical Test Configuration for Radiated Field Strength Measurements



The anechoic materials on the walls and ceiling ensure compliance with the normalized site attenuation requirements of CISPR 16 / CISPR 22 / ANSI C63.4 for an alternate test site at the measurement distances used.

Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



Test Configuration for Radiated Field Strength Measurements  
Semi-Anechoic Chamber, Plan and Side Views



**SPECIFICATION LIMITS AND SAMPLE CALCULATIONS**

The limits for conducted emissions are given in units of microvolts, and the limits for radiated emissions are given in units of microvolts per meter at a specified test distance. 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.

For reference, converting the specification limits from linear to decibel form is accomplished by taking the base ten logarithm, then multiplying by 20. These limits in both linear and logarithmic form are as follows.

**GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS**

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands<sup>1</sup> (with the exception of transmitters operating under FCC Part 15 Subpart D and RSS 210 Annex 9), the limits for all emissions from a low power device operating under the general rules of RSS 310 (tables 3 and 4), RSS 210 (table 2) and FCC Part 15 Subpart C section 15.209.

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	$2400/F_{\text{KHz}} @ 300\text{m}$	$67.6-20*\log_{10}(F_{\text{KHz}}) @ 300\text{m}$
0.490-1.705	$24000/F_{\text{KHz}} @ 30\text{m}$	$87.6-20*\log_{10}(F_{\text{KHz}}) @ 30\text{m}$
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

<sup>1</sup> The restricted bands are detailed in FCC 15.203, RSS 210 Table 1 and RSS 310 Table 2

**RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS**

The table below shows the limits for the spurious emissions from receivers as detailed in FCC Part 15.109, RSS 210 Table 2, RSS GEN Table 1 and RSS 310 Table 3. Note that receivers operating outside of the frequency range 30 MHz – 960 MHz are exempt from the requirements of 15.109.

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

**TRANSMIT MODE SPURIOUS RADIATED EMISSIONS LIMITS – FHSS and DTS SYSTEMS**

The limits for unwanted (spurious) emissions from the transmitter falling in the restricted bands are those specified in the general limits sections of FCC Part 15 and RSS 210. All other unwanted (spurious) emissions shall be at least 20dB below the level of the highest in-band signal level (30dB if the power is measured using the sample detector/power averaging method).

**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 above 30MHz, is calculated by using the following formula:

$$F_d = 20 * \text{LOG}_{10} (D_m/D_s)$$

where:

$$F_d = \text{Distance Factor in dB}$$

$$D_m = \text{Measurement Distance in meters}$$

$$D_s = \text{Specification Distance in meters}$$

For electric field measurements below 30MHz the extrapolation factor is either determined by making measurements at multiple distances or a theoretical value is calculated using the formula:

$$F_d = 40 * \text{LOG}_{10} (D_m/D_s)$$

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

**Appendix A Test Equipment Calibration Data****Radiated Emissions, 30 - 40,000 MHz, 13 & 14-Jun-11**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	5/18/2012
EMCO	Antenna, Horn, 1-18 GHz	3115	786	12/11/2011
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	6/14/2011
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1422	12/1/2011
Hewlett Packard	Head (Inc W1-W4, 1742 , 1743) Blue	84125C	1620	5/9/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/10/2011
Rohde & Schwarz	Attenuator, 20 dB, 10W, DC-18 GHz	20dB, 10W, Type N	1795	5/25/2012
Rohde & Schwarz	Power Sensor 100 uW - 10 Watts	NRV-Z53	1796	5/25/2012
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	3/23/2012

**DTS Spurs , 15-Jun-11**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	12/8/2011
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	7/12/2011

**Radiated Spurious Emissions, 1000 - 2,500 MHz, 11-Mar-13**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/19/2014
Rohde & Schwarz	Power Sensor, 1 uW-100 mW, DC-18 GHz, 50ohms	NRV-Z51	1070	6/1/2013
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	6/1/2013
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	1/18/2014

**Radiated Emissions, 1000 - 26,500 MHz, 11-Mar-13**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	11/9/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2013
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/2/2013

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
<b>Radiated Spurious Emissions, 1000 - 40,000 MHz, 11-Mar-13</b>				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	11/9/2013
Narda West	High Pass Filter, 8 GHz	HPF 180	821	3/22/2013
Hewlett Packard	Head (Inc flex cable, 1143, 2198) Red	84125C	1145	7/5/2013

Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2013
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	7/12/2014
A.H. Systems	Red System Horn, 18-40GHz	SAS-574, p/n: 2581	2161	3/20/2013
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	2240	10/4/2013
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2251	10/11/2013
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	1/18/2014

**Radiated Emissions, 1000 - 40000MHz, 18-Mar-13**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	11/9/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/23/2014
Hewlett Packard	Head (Inc flex cable, 1143, 2198) Red	84125C	1145	7/5/2013
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	9/14/2013
A.H. Systems	Purple System Horn, 18-40GHz	SAS-574, p/n: 2581	2160	4/17/2013

## *Appendix B Test Data*

T83587 Pages 23 - 54

T91093 Pages 55 - 67



## EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T83587
	with WNC 81XCAA15.G03 Dipole	Account Manager:	Christine Krebil
Contact:	Steven Hackett		-
Emissions Standard(s):	FCC 15.247 / FCC 15 E / RSS 210	Class:	B
Immunity Standard(s):	-	Environment:	Radio

# EMC Test Data

For The

## Intel Corporation

Model

62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole

Date of Last Test: 6/20/2011



# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions

### Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

### Summary of Results

MAC Address: 001500634F48 DRTU Tool Version 1.1.3 Driver version 13.0.0.238

Band edge measurements - the modes tested (n20 and n40) were the worst case 20- and 40-MHz modes based on measurements made in the original filing.

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 1	802.11n40 Chain A	#3 2422MHz	9.1dBm	9.2	Restricted Band Edge at 2390 MHz	15.209	53.0dBµV/m @ 2389.9MHz (-1.0dB)
		#9 2452MHz	9.6dBm	9.6	Restricted Band Edge at 2483.5 MHz	15.209	51.9dBµV/m @ 2483.5MHz (-2.1dB)
	802.11n40 Chain B	#3 2422MHz	9.5dBm	9.7	Restricted Band Edge at 2390 MHz	15.209	53.0dBµV/m @ 2389.4MHz (-1.0dB)
		#9 2452MHz	10.0dBm	10.2	Restricted Band Edge at 2483.5 MHz	15.209	52.0dBµV/m @ 2483.5MHz (-2.0dB)
Run # 2	802.11n20 Chain A	#1 2412MHz	13.1dBm	13.0	Restricted Band Edge at 2390 MHz	15.209	<b>53.4dBµV/m @ 2390.0MHz (-0.6dB)</b>
		#11 2462MHz	12.4dBm	12.4	Restricted Band Edge at 2483.5 MHz	15.209	51.1dBµV/m @ 2483.6MHz (-2.9dB)
	802.11n20 Chain B	#1 2412MHz	12.9dBm	12.8	Restricted Band Edge at 2390 MHz	15.209	50.6dBµV/m @ 2389.9MHz (-3.4dB)
		#11 2462MHz	12.8dBm	12.9	Restricted Band Edge at 2483.5 MHz	15.209	50.4dBµV/m @ 2483.6MHz (-3.6dB)

Spurious radiated emissions were made on the worst-case mode (based on the original measurements made on the device with a PIFA antenna) in each band for OFDM and DSS modulations.

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 3	802.11g Chain A	#6 2437MHz	16.5dBm	16.7	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	34.5dBµV/m @ 1597.6MHz (-19.5dB)
	802.11g Chain B		16.5dBm	16.8			39.2dBµV/m @ 4874.1MHz (-14.8dB)
	802.11g Chain B	#1 2412MHz	16.5dBm	16.6			37.2dBµV/m @ 1598.2MHz (-16.8dB)
		#11 2462MHz	16.5dBm	16.8			39.4dBµV/m @ 1593.9MHz (-14.6dB)





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

Spurious emissions away from the band edges - continued

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin	
Run # 4	802.11b Chain A	#6	15.5dBm	15.5	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	46.4dBµV/m @ 4873.9MHz (-7.6dB)	
	802.11b Chain B	2437MHz	15.5dBm	15.6			42.8dBµV/m @ 4873.9MHz (-11.2dB)	
	802.11b Chain A	#1	2412MHz	15.5dBm			15.5	43.9dBµV/m @ 4824.0MHz (-10.1dB)
		#11	2462MHz	15.5dBm			15.6	32.8dBµV/m @ 1600.3MHz (-21.2dB)
Run # 5	802.11n20 Chain A+B	#149	A:16.5 B:16.5	A:16.7 B:16.8	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15.247	41.2dBµV/m @ 11489.8MHz (-12.8dB)	
		#157	A:16.5 B:16.5	A:16.6 B:16.7			40.8dBµV/m @ 11569.9MHz (-13.2dB)	
		#165	A:16.5 B:16.5	A:16.5 B:16.6			42.9dBµV/m@11649.7 MHz (-11.1dB)	
Run # 6	Receiver Chain A	#6	-	-	Radiated Emissions, 1 - 7.5 GHz	RSS GEN	46.8dBµV/m @ 3000.4MHz (-7.2dB)	
	Receiver Chain B	#6	-	-	Radiated Emissions, 1 - 7.5 GHz		47.2dBµV/m @ 3000.3MHz (-6.8dB)	
	Receiver Chain A+B	#157	-	-	Radiated Emissions, 1 - 18 GHz		46.4dBµV/m @ 3000.3MHz (-7.6dB)	

## General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing.

For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

**Ambient Conditions:** Temperature: 15-25 °C  
Rel. Humidity: 30-80 %

## Modifications Made During Testing

No modifications were made to the EUT during testing



# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 1, Band Edge Field Strength - 802.11n40

Sample: 001500634F48

Date of Test: 6/13/2011

Test Location: FT Chamber #5

Test Engineer: Rafael Varelas

Config Change: none

## Run # 1a, EUT on Channel #3 2422MHz - 802.11n40, Chain A

Chain A	Target (dBm)	Power Settings Measured (dBm)	Software Setting
		9.1	23.0

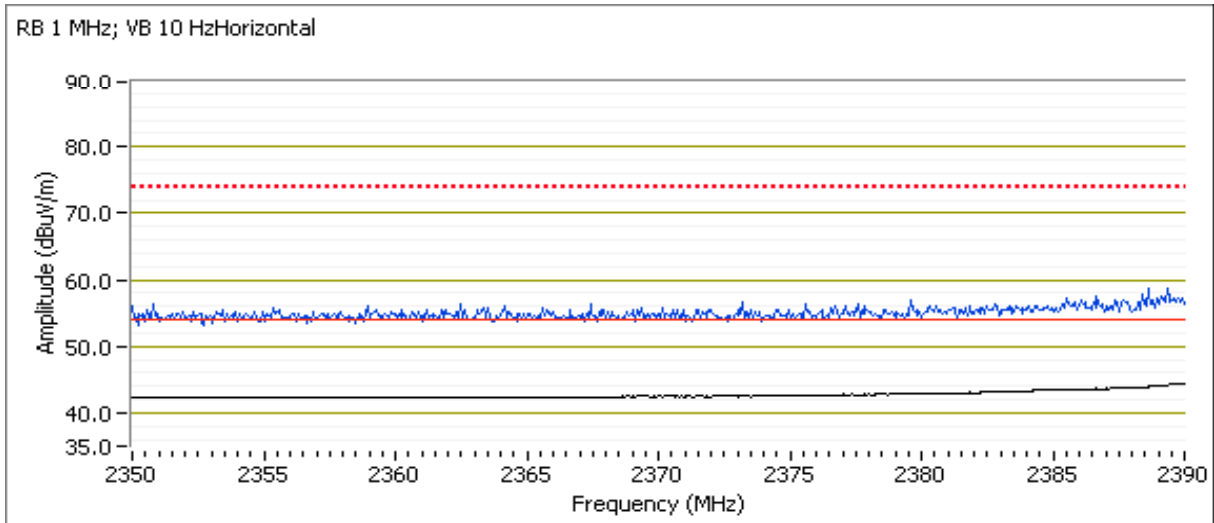
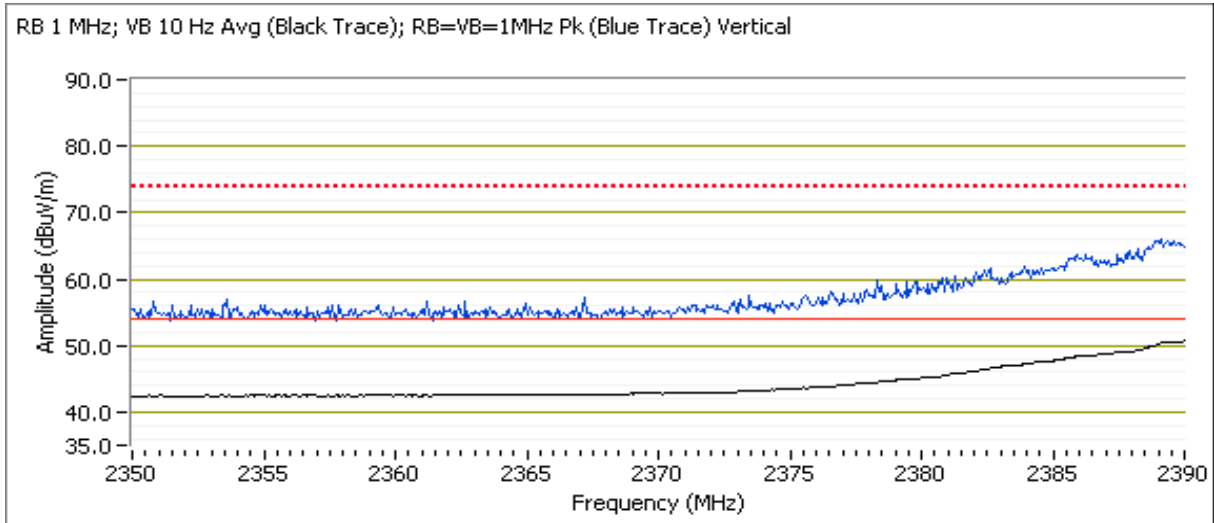
## Fundamental Signal Field Strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2425.200	90.2	V	-	-	AVG	302	1.0	RB 1 MHz;VB 10 Hz;Pk
2425.800	98.1	V	-	-	PK	302	1.0	RB 1 MHz;VB 3 MHz;Pk
2427.270	90.9	V	-	-	PK	304	1.0	RB 100 kHz;VB 100 kHz;Pk
2425.200	84.1	H	-	-	AVG	357	1.1	RB 1 MHz;VB 10 Hz;Pk
2429.130	92.6	H	-	-	PK	357	1.1	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2390 MHz bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.910	53.0	V	54.0	-1.0	AVG	305	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.630	66.0	V	74.0	-8.0	PK	305	1.0	RB 1 MHz;VB 3 MHz;Pk
2389.730	46.4	H	54.0	-7.6	AVG	194	1.3	RB 1 MHz;VB 10 Hz;Pk
2389.960	58.6	H	74.0	-15.4	PK	194	1.3	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 1b, EUT on Channel #3 2452MHz - 802.11n40, Chain A

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	9.6	9.6	23.0

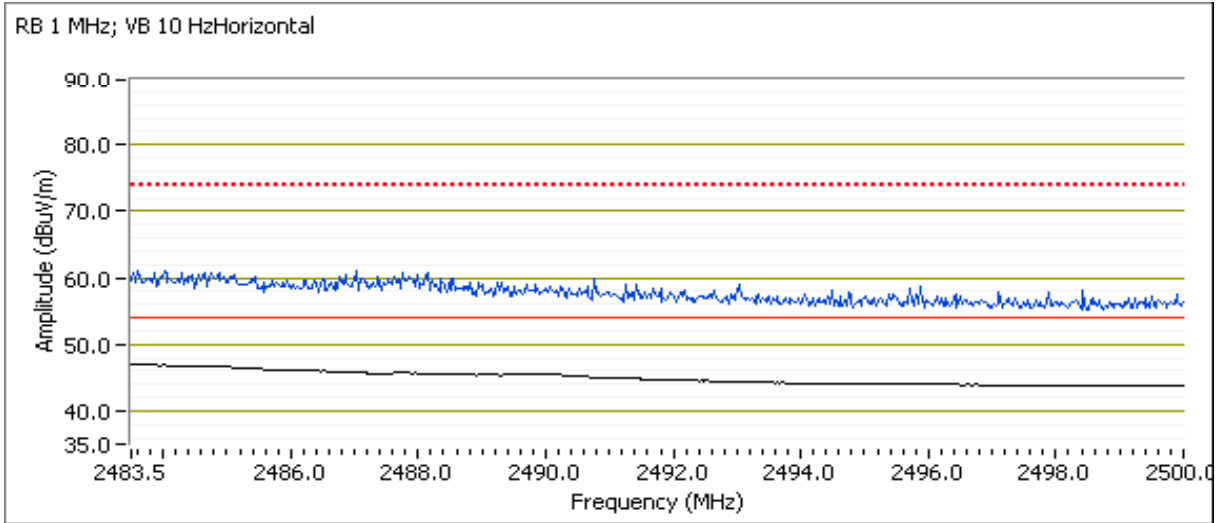
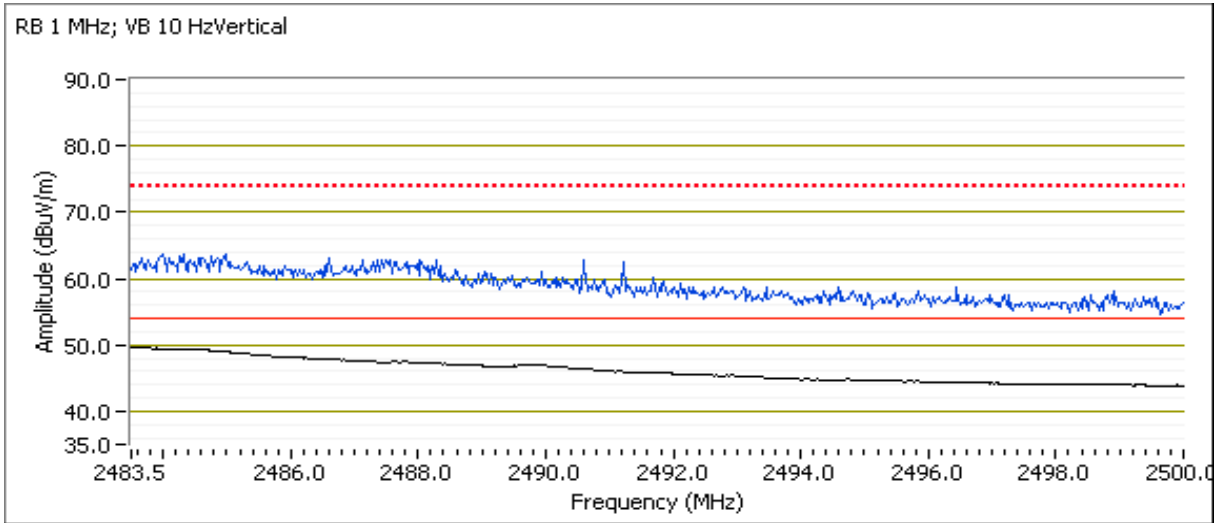
## Fundamental Signal Field Strength

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2460.470	91.2	V	-	-	AVG	299	1.0	RB 1 MHz;VB 10 Hz;Pk
2464.800	99.3	V	-	-	PK	299	1.0	RB 1 MHz;VB 3 MHz;Pk
2460.070	92.1	V	-	-	PK	299	1.0	RB 100 kHz;VB 100 kHz;Pk
2464.730	83.8	H	-	-	AVG	318	1.0	RB 1 MHz;VB 10 Hz;Pk
2464.800	92.0	H	-	-	PK	318	1.0	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2483.5 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2483.530	51.9	V	54.0	-2.1	AVG	296	1.0	RB 1 MHz;VB 10 Hz;Pk
2484.550	64.0	V	74.0	-10.0	PK	296	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.500	49.1	H	54.0	-4.9	AVG	340	1.0	RB 1 MHz;VB 10 Hz;Pk
2485.170	61.0	H	74.0	-13.0	PK	340	1.0	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 1c, EUT on Channel #3 2422MHz - 802.11n40, Chain B

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	9.5	9.7	22.0

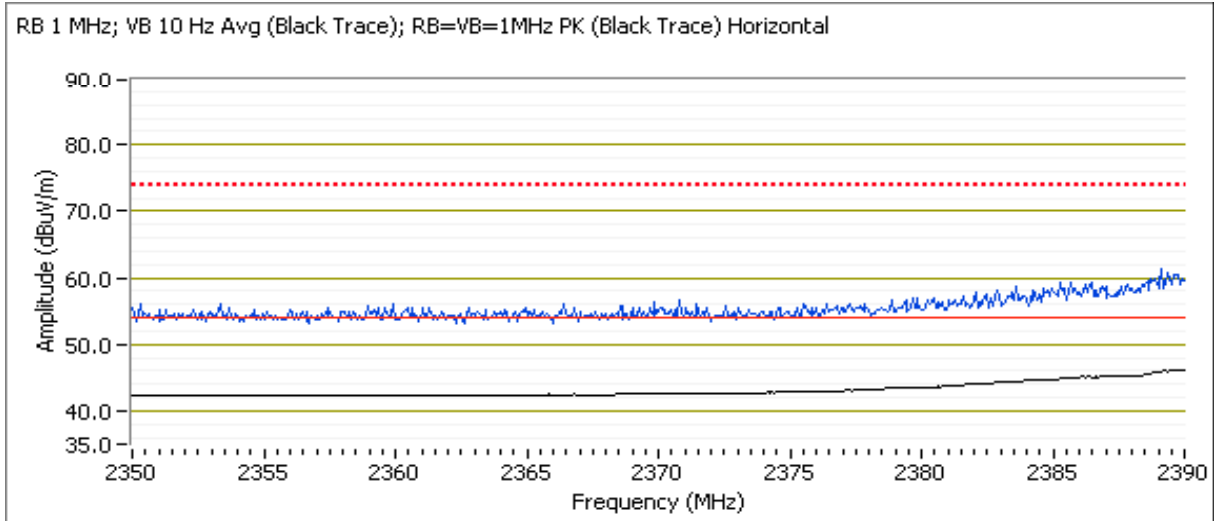
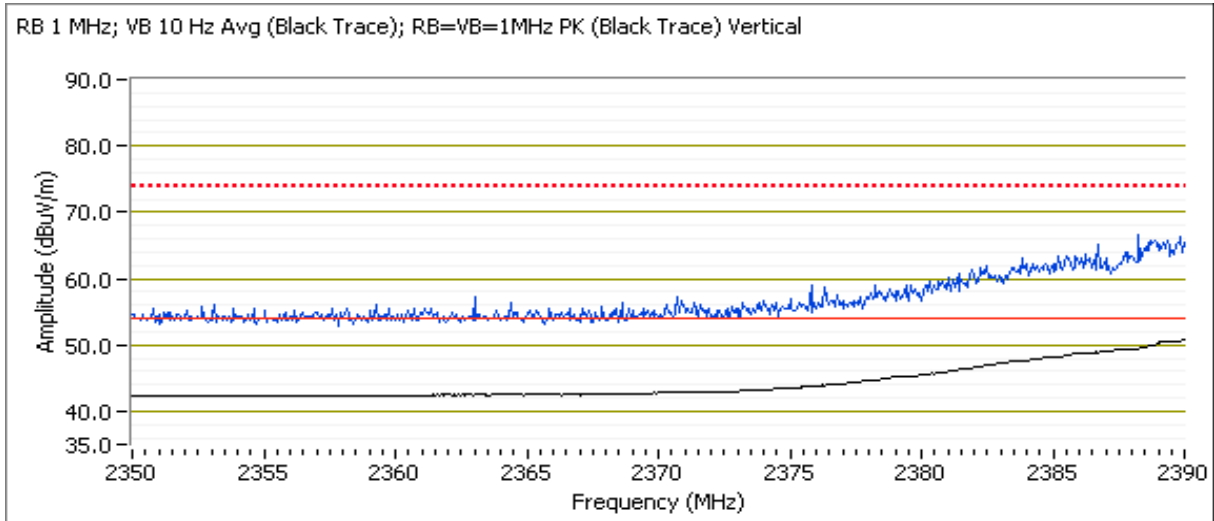
### Fundamental Signal Field Strength

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2425.400	91.0	V	-	-	AVG	349	1.1	RB 1 MHz;VB 10 Hz;Pk
2429.730	99.1	V	-	-	PK	349	1.1	RB 1 MHz;VB 3 MHz;Pk
2419.730	91.6	V	-	-	PK	349	1.1	RB 100 kHz;VB 100 kHz;Pk
2430.270	85.3	H	-	-	AVG	288	1.0	RB 1 MHz;VB 10 Hz;Pk
2429.600	93.6	H	-	-	PK	288	1.0	RB 1 MHz;VB 3 MHz;Pk

### Direct measurement of field strength at the 2390 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2389.430	53.0	V	54.0	-1.0	AVG	22	1.1	RB 1 MHz;VB 10 Hz;Pk
2389.790	66.0	V	74.0	-8.0	PK	22	1.1	RB 1 MHz;VB 3 MHz;Pk
2389.230	48.3	H	54.0	-5.7	AVG	287	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.350	61.7	H	74.0	-12.3	PK	287	1.0	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 1d, EUT on Channel #3 2452MHz - 802.11n40, Chain B

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	10.0	10.2	22.5

## Fundamental Signal Field Strength

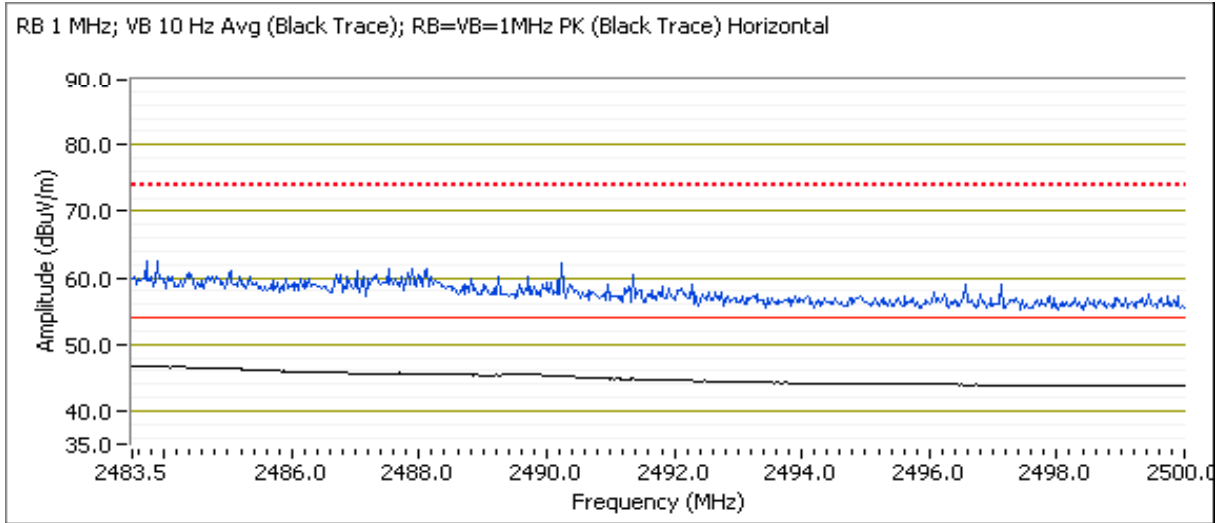
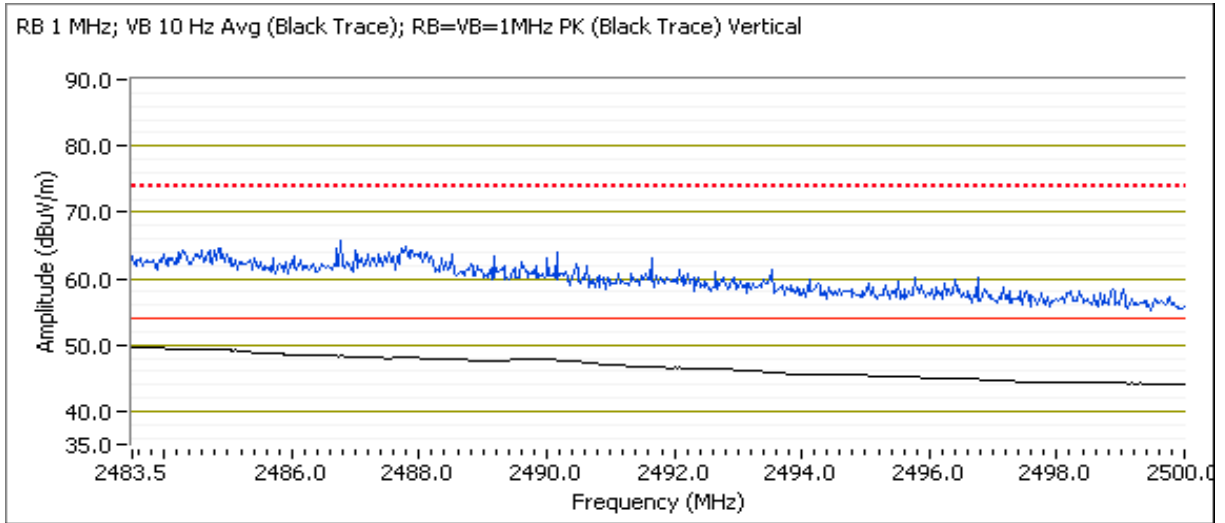
Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2439.530	90.7	V	-	-	AVG	45	1.1	RB 1 MHz;VB 10 Hz;Pk
2440.600	98.7	V	-	-	PK	45	1.1	RB 1 MHz;VB 3 MHz;Pk
2440.870	91.0	V	-	-	PK	45	1.1	RB 100 kHz;VB 100 kHz;Pk
2464.670	84.8	H	-	-	AVG	285	1.0	RB 1 MHz;VB 10 Hz;Pk
2462.800	93.0	H	-	-	PK	285	1.0	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2483.5 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2483.540	52.0	V	54.0	-2.0	AVG	360	1.0	RB 1 MHz;VB 10 Hz;Pk
2484.930	64.8	V	74.0	-9.2	PK	360	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.500	48.7	H	54.0	-5.3	AVG	290	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.600	61.8	H	74.0	-12.2	PK	290	1.0	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 2, Band Edge Field Strength - 802.11n20

Date of Test: 6/13/2011      Test Location: FT Chamber #5  
 Test Engineer: Rafael Varelas      Config Change: none

## Run # 2a, EUT on Channel #1 2412MHz - 802.11n20, Chain A

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	13.1	13.0	27.5

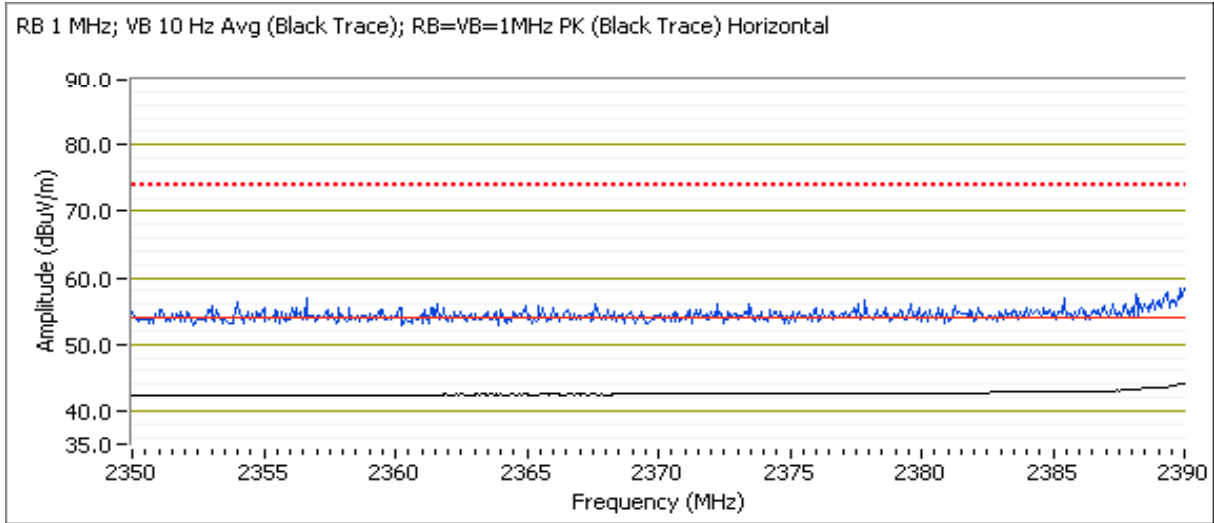
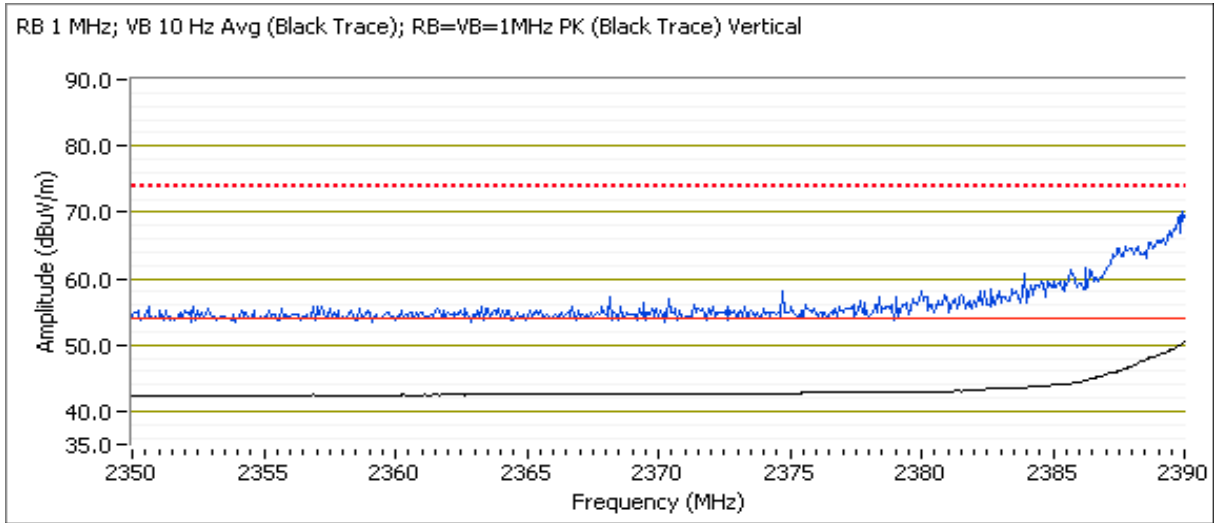
## Fundamental Signal Field Strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2407.770	97.0	V	-	-	AVG	299	1.0	RB 1 MHz;VB 10 Hz;Pk
2407.200	105.3	V	-	-	PK	299	1.0	RB 1 MHz;VB 3 MHz;Pk
2413.430	97.4	V	-	-	PK	299	1.0	RB 100 kHz;VB 100 kHz;Pk
2415.270	90.2	H	-	-	AVG	358	1.1	RB 1 MHz;VB 10 Hz;Pk
2415.470	98.2	H	-	-	PK	358	1.1	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2390 MHz bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.980	53.4	V	54.0	-0.6	AVG	233	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.950	70.2	V	74.0	-3.8	PK	233	1.0	RB 1 MHz;VB 3 MHz;Pk
2389.740	46.1	H	54.0	-7.9	AVG	128	1.1	RB 1 MHz;VB 10 Hz;Pk
2389.930	59.1	H	74.0	-14.9	PK	128	1.1	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 2b, EUT on Channel #11 2462MHz - 802.11n20, Chain A

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	12.4	12.4	26.0

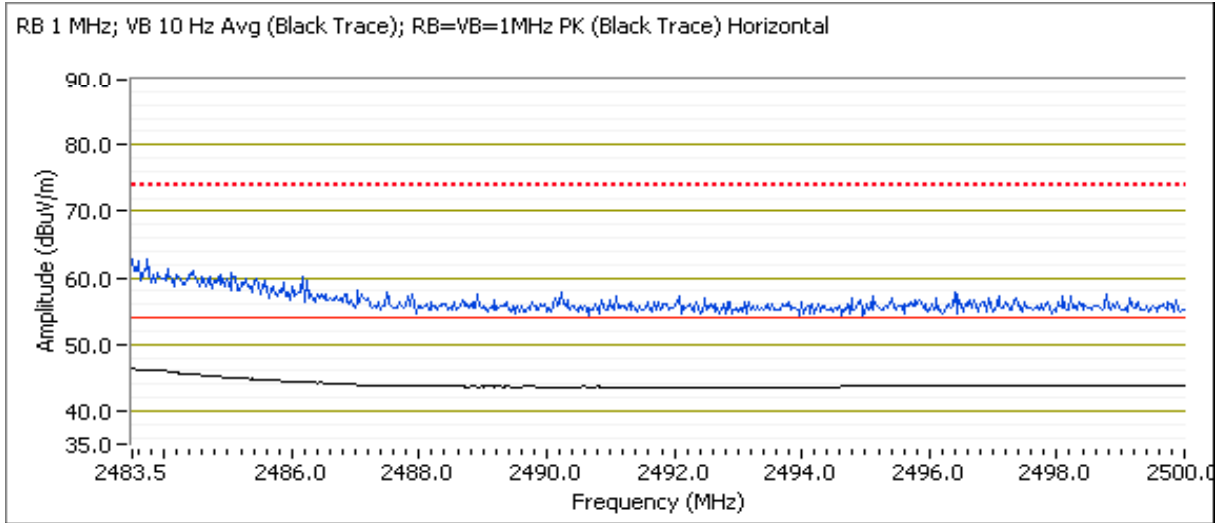
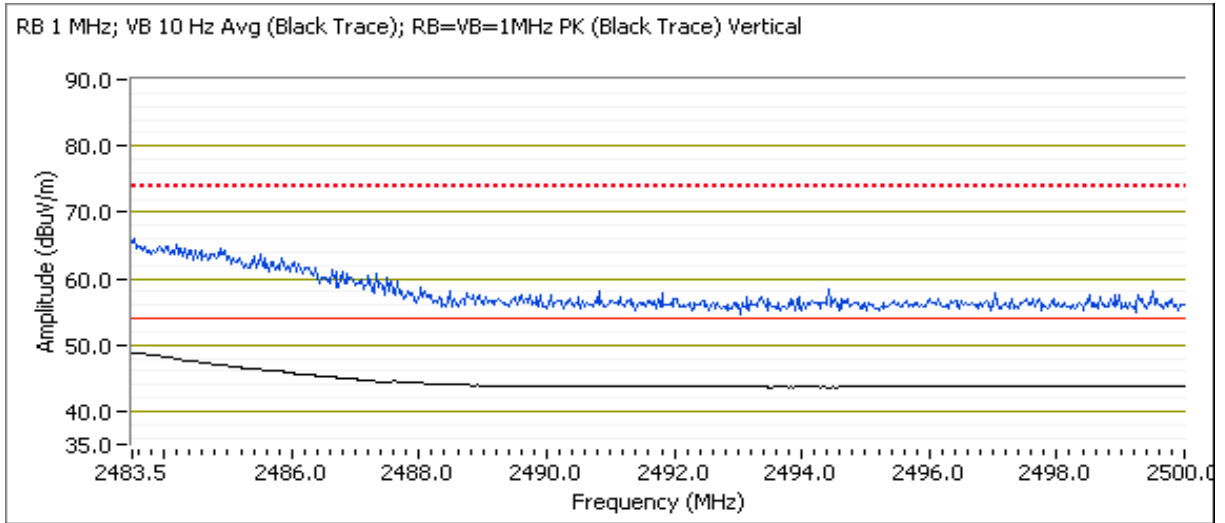
## Fundamental Signal Field Strength

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2460.700	96.1	V	-	-	AVG	301	1.2	RB 1 MHz;VB 10 Hz;Pk
2460.870	104.2	V	-	-	PK	301	1.2	RB 1 MHz;VB 3 MHz;Pk
2460.900	94.8	V	-	-	PK	301	1.2	RB 100 kHz;VB 100 kHz;Pk
2465.000	90.6	H	-	-	AVG	336	1.0	RB 1 MHz;VB 10 Hz;Pk
2463.930	98.9	H	-	-	PK	336	1.0	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2483.5 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2483.560	51.1	V	54.0	-2.9	AVG	277	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.590	65.1	V	74.0	-8.9	PK	277	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.510	48.3	H	54.0	-5.7	AVG	336	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.700	62.3	H	74.0	-11.7	PK	336	1.0	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 2c, EUT on Channel #1 2412MHz - 802.11n20, Chain B

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	12.9	12.8	25.5

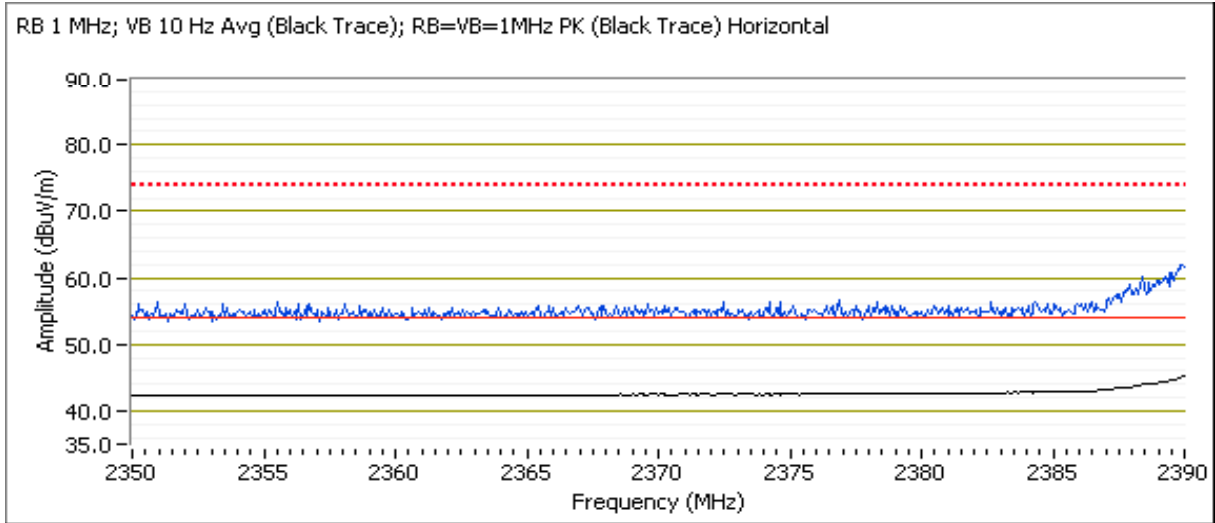
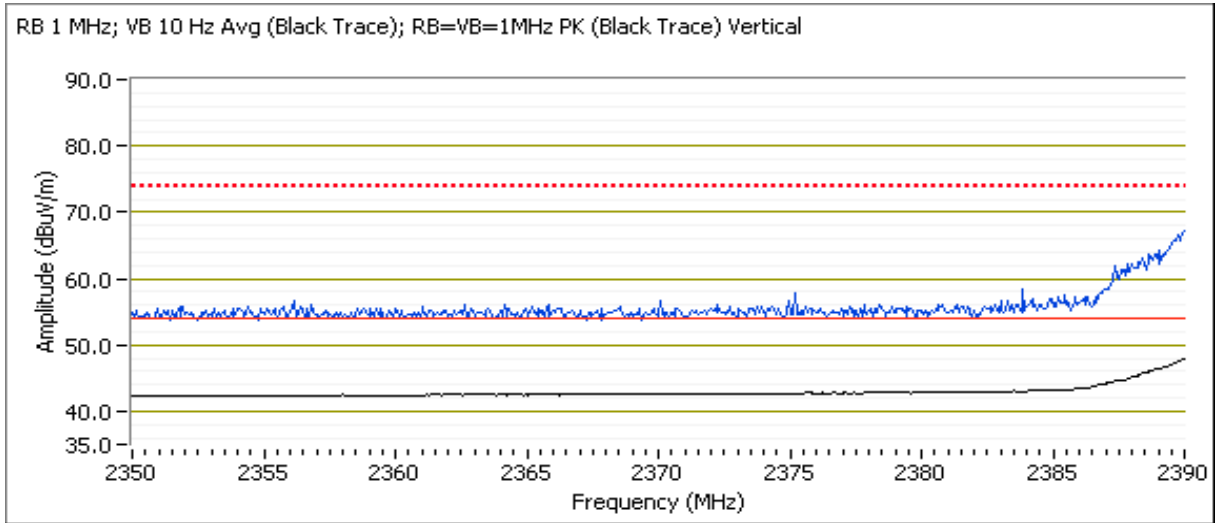
## Fundamental Signal Field Strength

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2415.030	95.8	V	-	-	AVG	21	1.0	RB 1 MHz;VB 10 Hz;Pk
2416.370	103.9	V	-	-	PK	21	1.0	RB 1 MHz;VB 3 MHz;Pk
2414.700	96.0	V	-	-	PK	21	1.0	RB 100 kHz;VB 100 kHz;Pk
2414.970	90.1	H	-	-	AVG	287	1.0	RB 1 MHz;VB 10 Hz;Pk
2414.030	98.4	H	-	-	PK	287	1.0	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2390 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2389.920	50.6	V	54.0	-3.4	AVG	20	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.780	67.1	V	74.0	-6.9	PK	20	1.0	RB 1 MHz;VB 3 MHz;Pk
2389.950	47.4	H	54.0	-6.6	AVG	287	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.820	62.8	H	74.0	-11.2	PK	287	1.0	RB 1 MHz;VB 3 MHz;Pk

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 2d, EUT on Channel #11 2462MHz - 802.11n20, Chain B

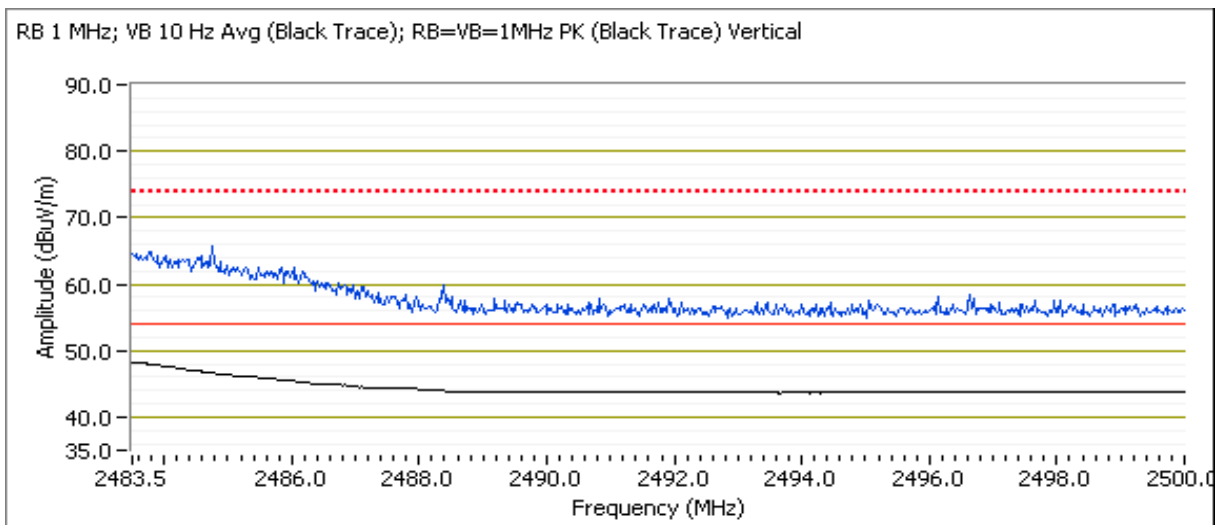
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	12.8	12.9	25.5

## Fundamental Signal Field Strength

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2459.570	95.8	V	-	-	AVG	12	1.1	RB 1 MHz;VB 10 Hz;Pk
2461.270	103.9	V	-	-	PK	12	1.1	RB 1 MHz;VB 3 MHz;Pk
2457.070	97.2	V	-	-	PK	12	1.1	RB 100 kHz;VB 100 kHz;Pk
2464.900	90.6	H	-	-	AVG	287	1.0	RB 1 MHz;VB 10 Hz;Pk
2464.030	98.8	H	-	-	PK	287	1.0	RB 1 MHz;VB 3 MHz;Pk

## Direct measurement of field strength at the 2483.5 MHz bandedge

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209 / 15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
2483.560	50.4	V	54.0	-3.6	AVG	350	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.530	65.2	V	74.0	-8.8	PK	350	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.680	47.0	H	54.0	-7.0	AVG	114	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.650	60.0	H	74.0	-14.0	PK	114	1.0	RB 1 MHz;VB 3 MHz;Pk







# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

### Run # 3, Radiated Spurious Emissions, 1-26GHz, 802.11g

Date of Test: 6/13/2011  
 Test Engineer: Rafael Varelas  
 Test Location: FT Chamber #5  
 Config Change: none

### Run # 3a, EUT on Channel #6 (2437MHz) - 802.11g, Chain A

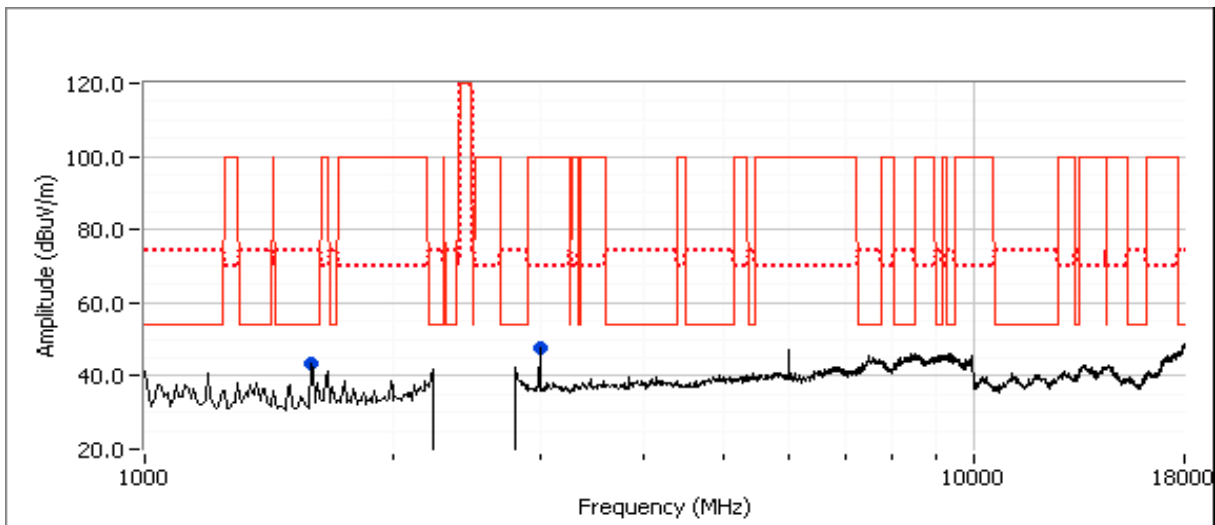
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	16.5	16.7	31.0

### Spurious Radiated Emissions:

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1597.560	34.5	V	54.0	-19.5	AVG	125	1.2	RB 1 MHz;VB 10 Hz;Pk
1598.590	48.1	V	74.0	-25.9	PK	125	1.2	RB 1 MHz;VB 3 MHz;Pk
3000.150	47.4	H	70.0	-22.6	Peak	167	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 3b, EUT on Channel #6 (2437MHz) - 802.11g, Chain B

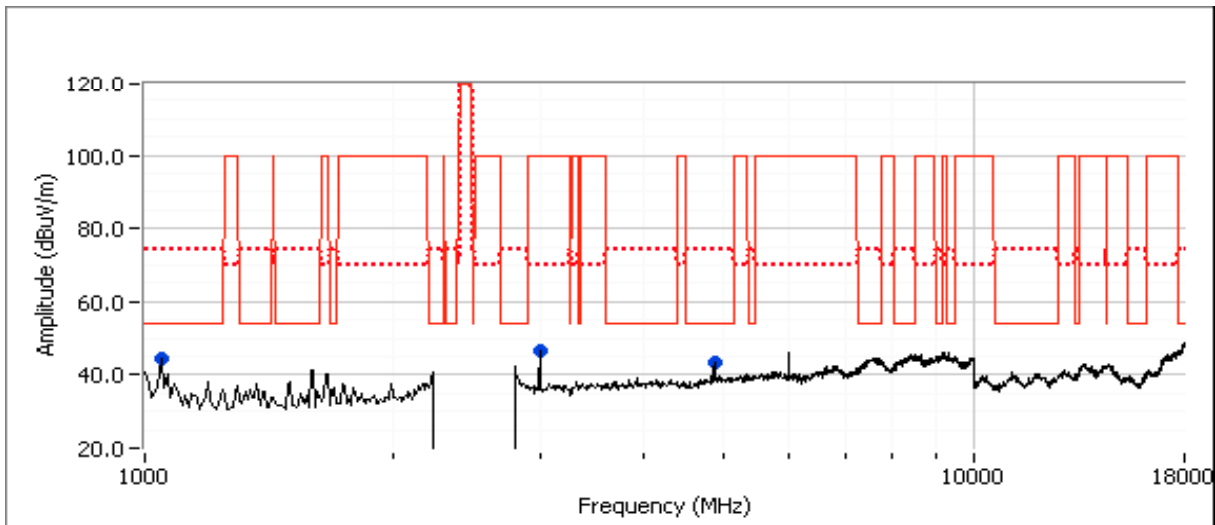
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	16.5	16.8	29.5

### Spurious Radiated Emissions:

Frequency MHz	Level dBμV/m	Pol v/h	15.209/15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
4874.050	39.2	V	54.0	-14.8	AVG	44	1.0	RB 1 MHz;VB 10 Hz;Pk
4875.920	51.2	V	74.0	-22.8	PK	44	1.0	RB 1 MHz;VB 3 MHz;Pk
1031.760	31.0	V	54.0	-23.0	AVG	141	1.1	RB 1 MHz;VB 10 Hz;Pk
1040.430	43.3	V	74.0	-30.7	PK	141	1.1	RB 1 MHz;VB 3 MHz;Pk
2999.610	46.8	V	70.0	-23.2	Peak	130	1.3	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

Run # 3c : , EUT on Channel #1 2412MHz - 802.11g, Chain B (worst case from run #3a and run #3b)

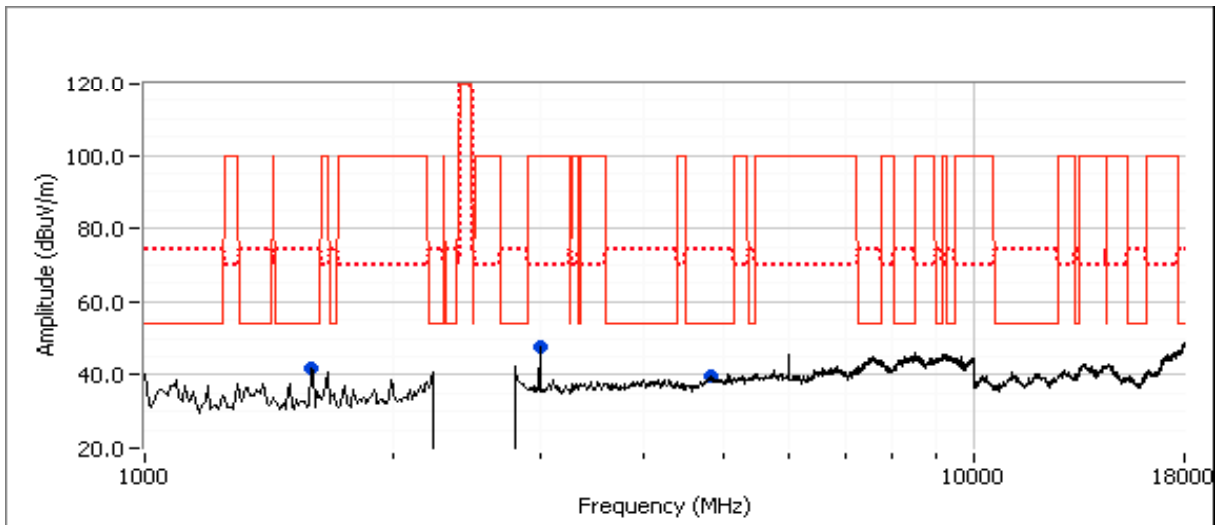
	Target (dBm)	Power Settings	
		Measured (dBm)	Software Setting
Chain B	16.5	16.6	29.5

### Spurious Radiated Emissions:

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209/15.247		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
1598.150	37.2	V	54.0	-16.8	AVG	117	1.0	RB 1 MHz;VB 10 Hz;Pk
1598.340	51.7	V	74.0	-22.3	PK	117	1.0	RB 1 MHz;VB 3 MHz;Pk
4824.040	34.3	V	54.0	-19.7	AVG	231	1.0	RB 1 MHz;VB 10 Hz;Pk
4821.640	45.9	V	74.0	-28.1	PK	231	1.0	RB 1 MHz;VB 3 MHz;Pk
3000.250	47.6	H	70.0	-22.4	Peak	152	1.3	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

Run # 3d: , EUT on Channel #11 2462MHz - 802.11g, Chain B (worst case from run #3a and run #3b)

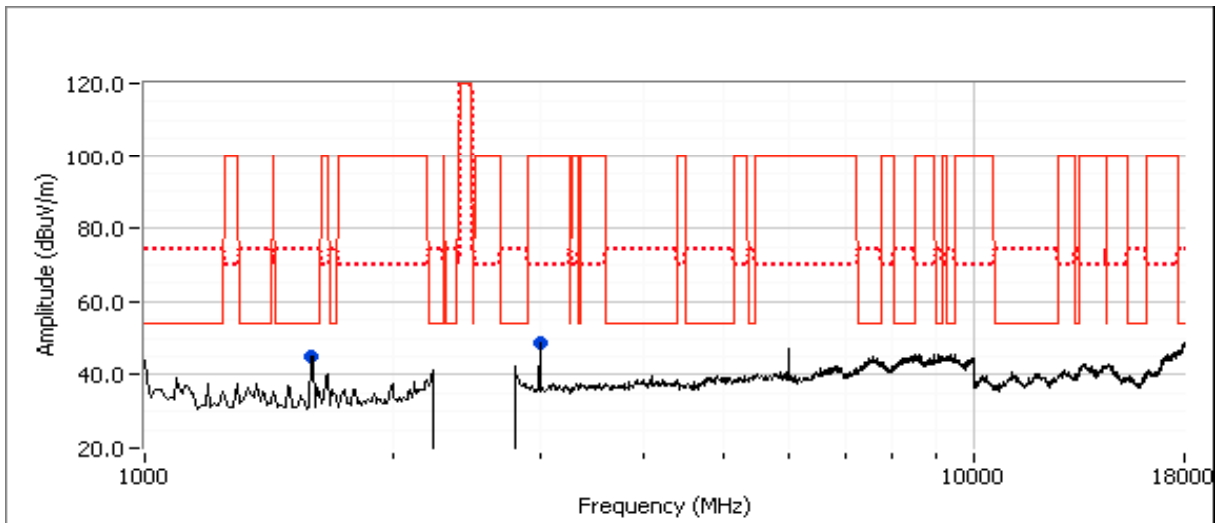
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	16.5	16.8	29.5

### Spurious Radiated Emissions:

Frequency MHz	Level dBμV/m	Pol v/h	15.209/15.247		Detector PK/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
1593.870	39.4	V	54.0	-14.6	AVG	197	1.0	RB 1 MHz;VB 10 Hz;Pk
1593.960	54.2	V	74.0	-19.8	PK	197	1.0	RB 1 MHz;VB 3 MHz;Pk
3000.250	48.6	H	70.0	-21.4	Peak	210	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 4, Radiated Spurious Emissions, 1-26GHz, 802.11b

Date of Test: 6/14/2011  
 Test Engineer: M. Birgani  
 Test Location: FT Chamber #4  
 Config Change: None

## Run # 4a, EUT on Channel #6 (2437MHz) - 802.11b, Chain A

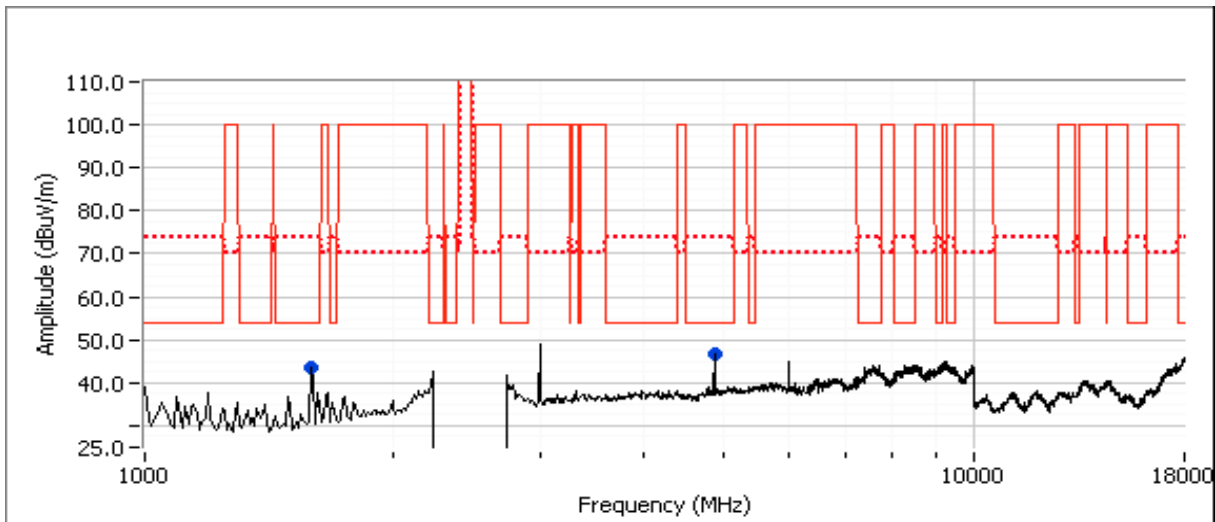
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	15.5	15.5	25.5

### Spurious Radiated Emissions:

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4873.930	46.4	V	54.0	-7.6	AVG	173	1.0	RB 1 MHz;VB 10 Hz;Pk
1594.960	35.0	V	54.0	-19.0	AVG	200	1.0	RB 1 MHz;VB 10 Hz;Pk
4873.920	50.9	V	74.0	-23.1	PK	173	1.0	RB 1 MHz;VB 3 MHz;Pk
1595.030	49.5	V	74.0	-24.5	PK	200	1.0	RB 1 MHz;VB 3 MHz;Pk

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 4b, EUT on Channel #6 (2437MHz) - 802.11b, Chain B

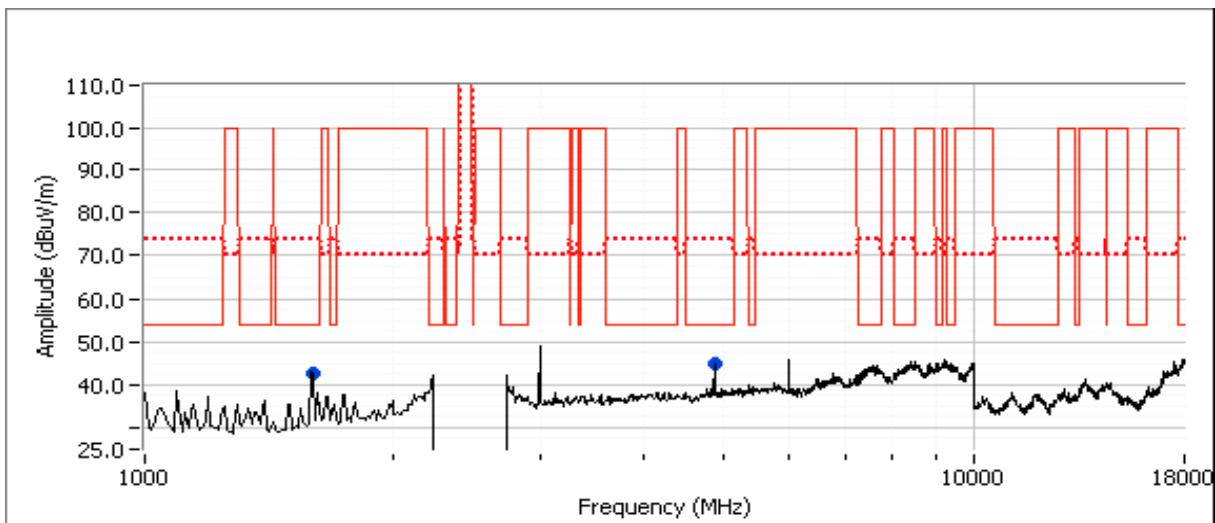
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	15.5	15.6	24.0

### Spurious Radiated Emissions:

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209/15.247		Detector PK/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
4873.940	42.8	V	54.0	-11.2	AVG	55	1.3	RB 1 MHz;VB 10 Hz;Pk
1594.220	37.2	V	54.0	-16.8	AVG	203	1.0	RB 1 MHz;VB 10 Hz;Pk
1596.920	51.6	V	74.0	-22.4	PK	203	1.0	RB 1 MHz;VB 3 MHz;Pk
4873.940	48.3	V	74.0	-25.7	PK	55	1.3	RB 1 MHz;VB 3 MHz;Pk

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

Run # 4c: , EUT on Channel #1 2412MHz - 802.11b, Chain A (worst case from run #4a and run #4b)

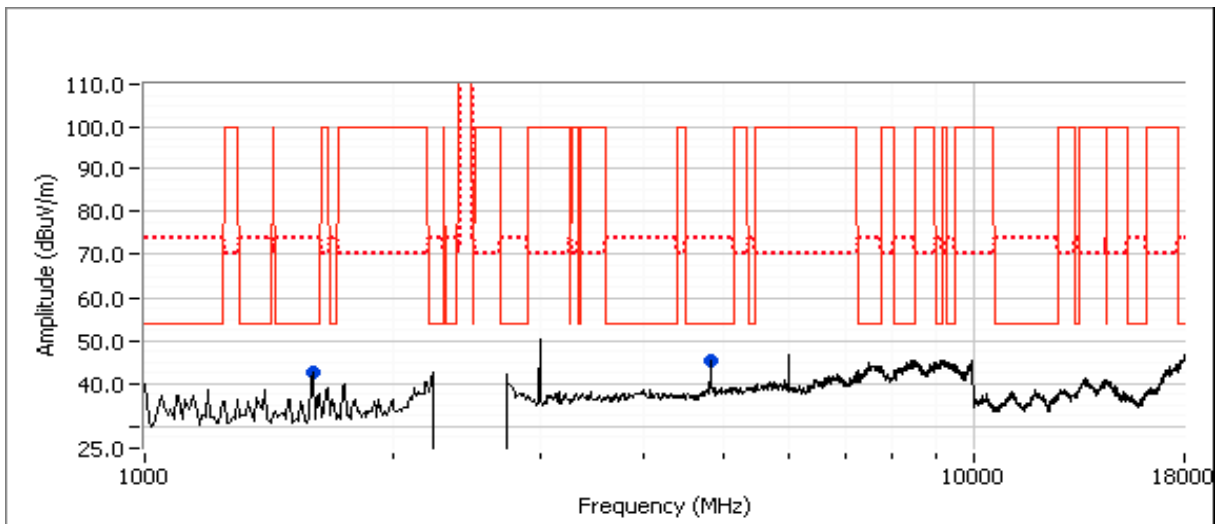
	Target (dBm)	Power Settings	
		Measured (dBm)	Software Setting
Chain A	15.5	15.5	25.5

### Spurious Radiated Emissions:

Frequency MHz	Level dBμV/m	Pol v/h	15.209/15.247		Detector PK/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
4823.980	43.9	V	54.0	-10.1	AVG	175	1.1	RB 1 MHz;VB 10 Hz;Pk
1600.140	32.7	V	54.0	-21.3	AVG	216	1.0	RB 1 MHz;VB 10 Hz;Pk
4823.910	48.8	V	74.0	-25.2	PK	175	1.1	RB 1 MHz;VB 3 MHz;Pk
1594.390	46.6	V	74.0	-27.4	PK	216	1.0	RB 1 MHz;VB 3 MHz;Pk

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

Run # 4d: , EUT on Channel #11 2462MHz - 802.11b, Chain A (worst case from run #4a and run #4b)

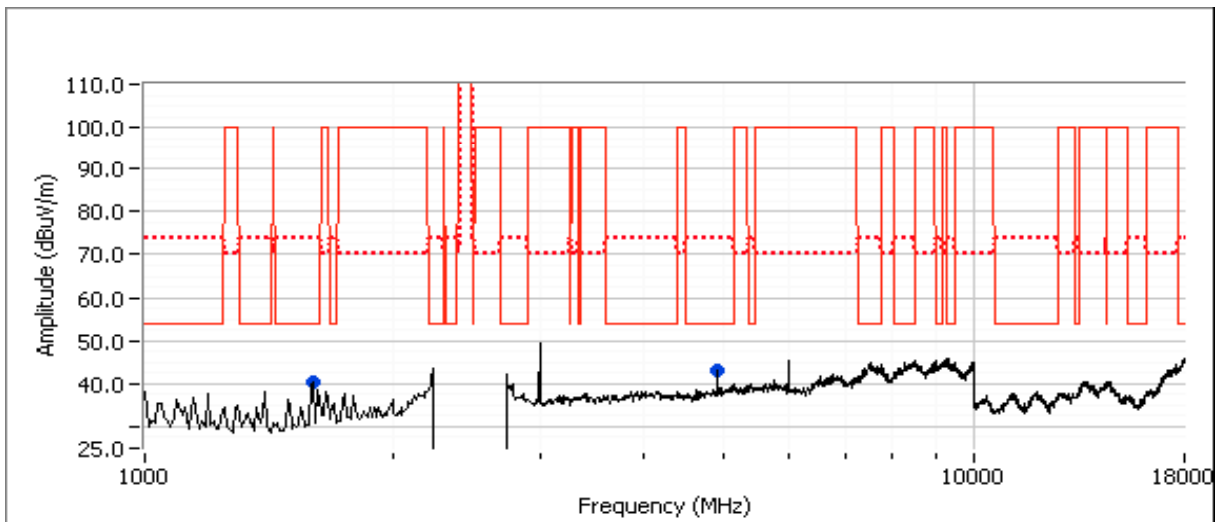
	Target (dBm)	Power Settings	
		Measured (dBm)	Software Setting
Chain A	15.5	15.6	25.5

### Spurious Radiated Emissions:

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	15.209/15.247		Detector PK/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
4923.920	42.6	V	54.0	-11.4	AVG	182	1.2	RB 1 MHz;VB 10 Hz;Pk
1600.250	32.8	V	54.0	-21.2	AVG	219	1.0	RB 1 MHz;VB 10 Hz;Pk
4923.850	48.4	V	74.0	-25.6	PK	182	1.2	RB 1 MHz;VB 3 MHz;Pk
1593.650	42.7	V	74.0	-31.3	PK	219	1.0	RB 1 MHz;VB 3 MHz;Pk

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz







# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

**Run # 5, Radiated Spurious Emissions, 1-26GHz, 802.11n20, Chain A+B**  
 Date of Test: 6/15/2011 Test Location: FT Chamber #4  
 Test Engineer: Rafael Varelas Config Change: -

**Run # 5a, EUT on Channel #149 5745MHz - 802.11n20, Chain A+B**

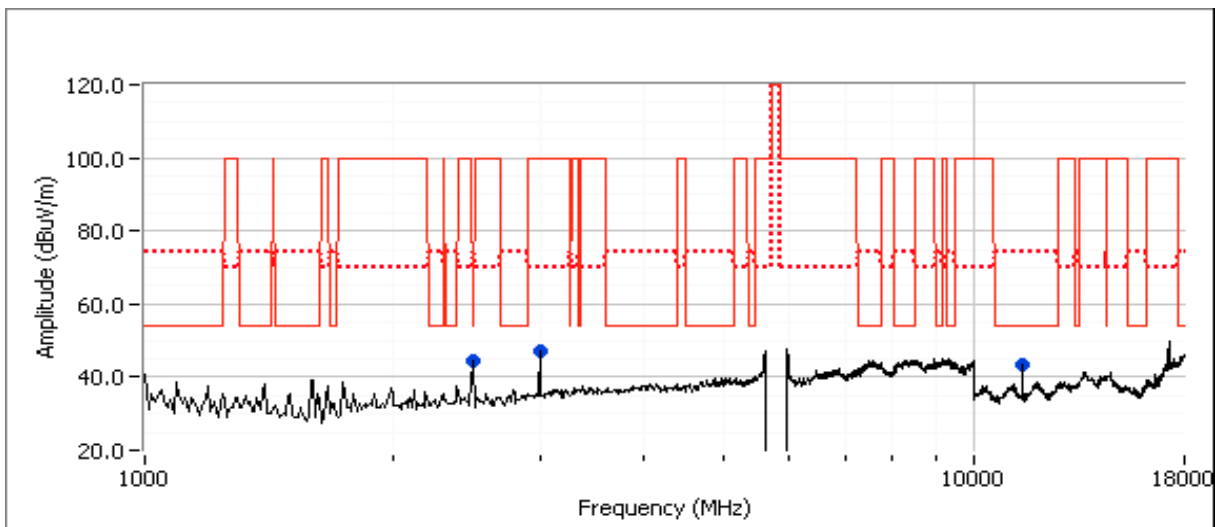
Chain	Power Settings								Software Setting
	Target (dBm)				Measured (dBm)				
	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.7	16.8		19.8	34.0/33.0

**Spurious Radiated Emissions:**

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11489.800	41.2	V	54.0	-12.8	AVG	25	1.8	RB 1 MHz;VB 10 Hz;Pk
11496.670	51.9	V	74.0	-22.1	PK	25	1.8	RB 1 MHz;VB 3 MHz;Pk
2490.180	34.4	H	54.0	-19.6	AVG	221	1.0	RB 1 MHz;VB 10 Hz;Pk
2490.260	55.8	H	74.0	-18.2	PK	221	1.0	RB 1 MHz;VB 3 MHz;Pk
3001.260	47.1	H	70.0	-22.9	Peak	223	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

**Run # 5b: , EUT on Channel #157 5785MHz - 802.11n20, Chain A+B**

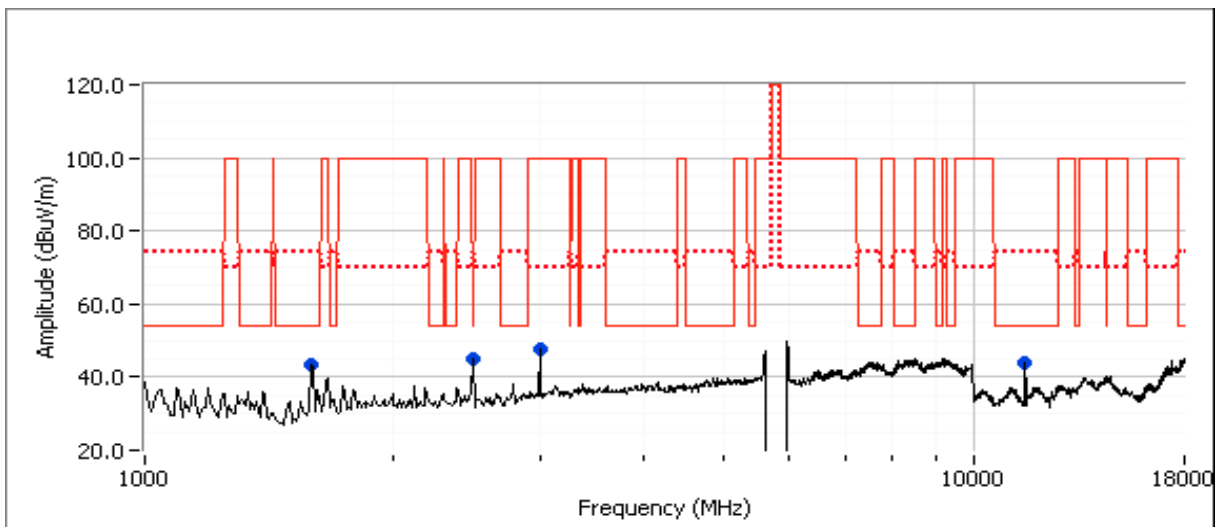
Chain	Target (dBm)				Power Settings Measured (dBm)				Software Setting
	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.6	16.7		19.7	

**Spurious Radiated Emissions:**

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11569.930	40.8	V	54.0	-13.2	AVG	32	1.6	RB 1 MHz;VB 10 Hz;Pk
11570.230	53.0	V	74.0	-21.0	PK	32	1.6	RB 1 MHz;VB 3 MHz;Pk
2490.040	34.1	H	54.0	-19.9	AVG	218	1.0	RB 1 MHz;VB 10 Hz;Pk
2491.340	55.2	H	74.0	-18.8	PK	218	1.0	RB 1 MHz;VB 3 MHz;Pk
1595.840	37.3	V	54.0	-16.7	AVG	199	1.0	RB 1 MHz;VB 10 Hz;Pk
1597.810	51.6	V	74.0	-22.4	PK	199	1.0	RB 1 MHz;VB 3 MHz;Pk
3000.070	47.8	H	70.0	-22.2	Peak	191	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

**Run # 5c : EUT on Channel #165 5825MHz - 802.11n20, Chain A+B**

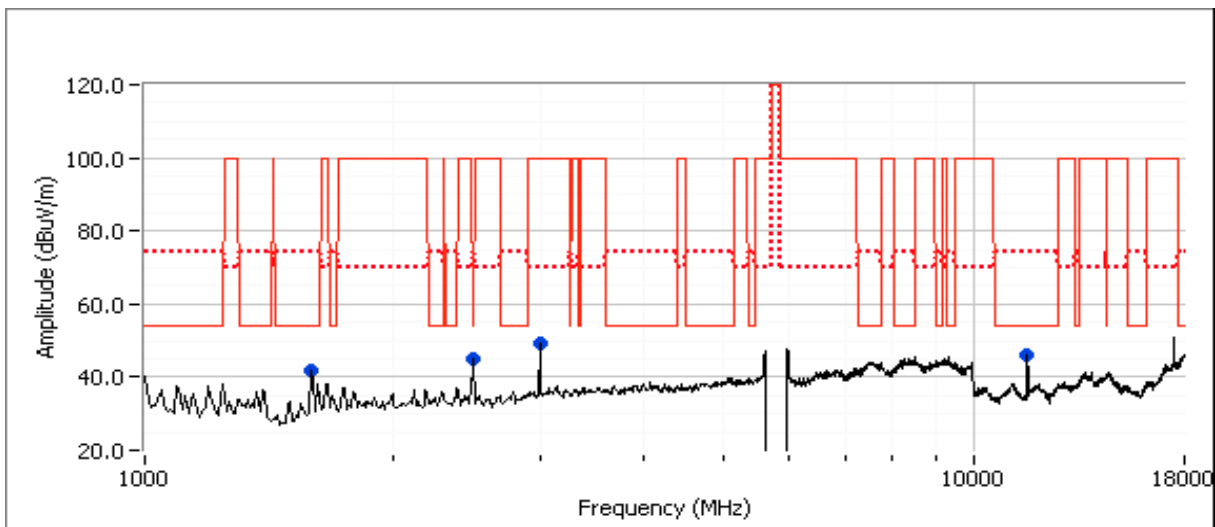
Chain	Target (dBm)				Power Settings Measured (dBm)				Software Setting
	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.5	16.6		19.6	

**Spurious Radiated Emissions:**

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11649.650	42.9	V	54.0	-11.1	AVG	37	1.4	RB 1 MHz;VB 10 Hz;Pk
11649.990	56.6	V	74.0	-17.4	PK	37	1.4	RB 1 MHz;VB 3 MHz;Pk
1593.780	35.5	V	54.0	-18.5	AVG	196	1.0	RB 1 MHz;VB 10 Hz;Pk
1594.650	50.2	V	74.0	-23.8	PK	196	1.0	RB 1 MHz;VB 3 MHz;Pk
2490.390	33.9	H	54.0	-20.1	AVG	218	1.0	RB 1 MHz;VB 10 Hz;Pk
2497.440	55.4	H	74.0	-18.6	PK	218	1.0	RB 1 MHz;VB 3 MHz;Pk
2998.330	49.4	H	70.0	-20.6	Peak	185	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

Note 2: No significant emissions above 18GHz





# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

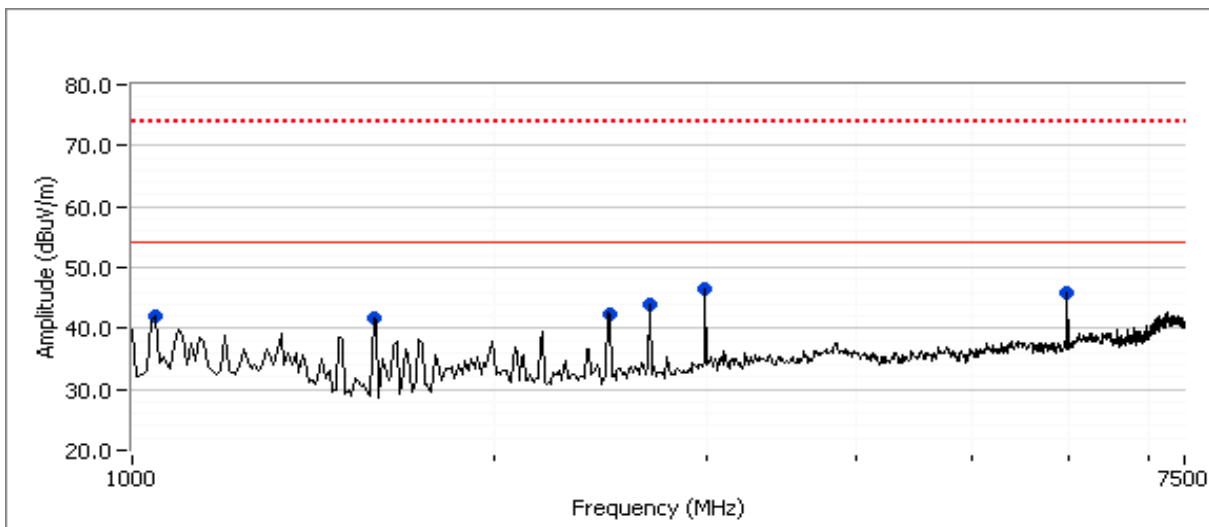
## Run # 6, Radiated Spurious Emissions, Receiver, Chain A

Date of Test: 06/15/2011      Test Location: CH#3  
 Test Engineer: Suresh Kondapalli      Config Change: None

## Run # 6a, EUT on Channel #6 2437MHz - Receiver, Chain A

### Spurious Radiated Emissions, 1-7.5 GHz:

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	RSS GEN		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
3000.380	46.8	V	54.0	-7.2	AVG	196	1.1	RB 1 MHz;VB 10 Hz;Pk
6000.760	45.7	V	54.0	-8.3	AVG	157	1.0	RB 1 MHz;VB 10 Hz;Pk
1596.770	36.9	V	54.0	-17.1	AVG	189	1.8	RB 1 MHz;VB 10 Hz;Pk
1047.240	35.2	H	54.0	-18.8	AVG	114	1.0	RB 1 MHz;VB 10 Hz;Pk
6000.700	52.7	V	74.0	-21.3	PK	157	1.0	RB 1 MHz;VB 3 MHz;Pk
3000.230	52.4	V	74.0	-21.6	PK	196	1.1	RB 1 MHz;VB 3 MHz;Pk
2490.170	30.7	V	54.0	-23.3	AVG	152	1.0	RB 1 MHz;VB 10 Hz;Pk
2700.030	30.1	V	54.0	-23.9	AVG	10	2.3	RB 1 MHz;VB 10 Hz;Pk
1598.720	49.6	V	74.0	-24.4	PK	189	1.8	RB 1 MHz;VB 3 MHz;Pk
2498.170	48.2	V	74.0	-25.8	PK	152	1.0	RB 1 MHz;VB 3 MHz;Pk
1046.080	47.5	H	74.0	-26.5	PK	114	1.0	RB 1 MHz;VB 3 MHz;Pk
2701.400	41.5	V	74.0	-32.5	PK	10	2.3	RB 1 MHz;VB 3 MHz;Pk





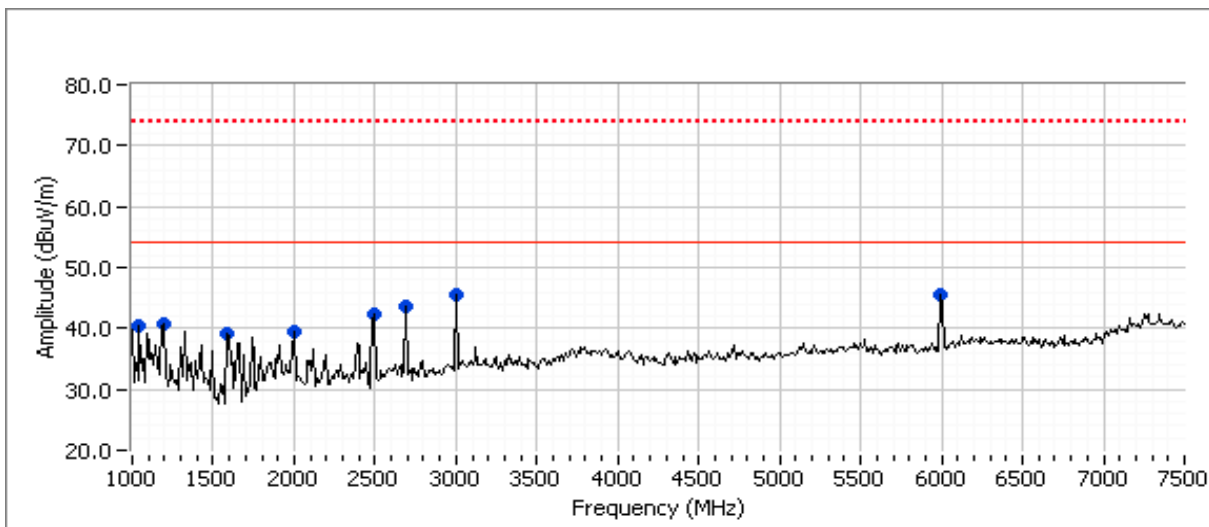
# EMC Test Data

Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

## Run # 6b, EUT on Channel #6 2437MHz - Receiver, Chain B

### Spurious Radiated Emissions, 1-7.5 GHz:

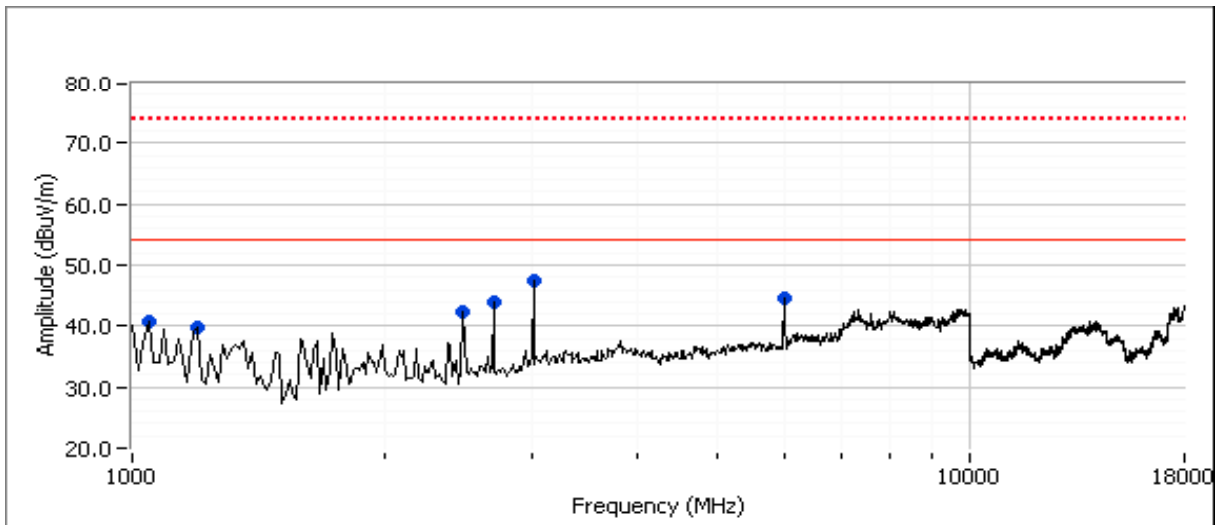
Frequency MHz	Level dB $\mu$ V/m	Pol v/h	RSS GEN		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
3000.340	47.2	V	54.0	-6.8	AVG	197	1.4	RB 1 MHz;VB 10 Hz;Pk
6000.800	46.3	V	54.0	-7.7	AVG	157	1.0	RB 1 MHz;VB 10 Hz;Pk
2700.100	44.8	V	54.0	-9.2	AVG	25	2.4	RB 1 MHz;VB 10 Hz;Pk
1596.900	36.8	V	54.0	-17.2	AVG	195	1.8	RB 1 MHz;VB 10 Hz;Pk
1047.870	35.8	H	54.0	-18.2	AVG	110	1.1	RB 1 MHz;VB 10 Hz;Pk
1196.270	35.3	V	54.0	-18.7	AVG	262	1.0	RB 1 MHz;VB 10 Hz;Pk
1997.400	34.7	V	54.0	-19.3	AVG	0	1.1	RB 1 MHz;VB 10 Hz;Pk
6000.470	52.0	V	74.0	-22.0	PK	157	1.0	RB 1 MHz;VB 3 MHz;Pk
3000.100	51.9	V	74.0	-22.1	PK	197	1.4	RB 1 MHz;VB 3 MHz;Pk
1598.370	48.9	V	74.0	-25.1	PK	195	1.8	RB 1 MHz;VB 3 MHz;Pk
1992.870	48.9	V	74.0	-25.1	PK	0	1.1	RB 1 MHz;VB 3 MHz;Pk
2483.030	28.5	V	54.0	-25.5	AVG	156	2.5	RB 1 MHz;VB 10 Hz;Pk
1198.830	48.1	V	74.0	-25.9	PK	262	1.0	RB 1 MHz;VB 3 MHz;Pk
2700.130	47.4	V	74.0	-26.6	PK	25	2.4	RB 1 MHz;VB 3 MHz;Pk
1045.770	47.1	H	74.0	-26.9	PK	110	1.1	RB 1 MHz;VB 3 MHz;Pk
2481.830	39.7	V	74.0	-34.3	PK	156	2.5	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corporation	Job Number:	J83582
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205) with WNC 81XCAA15.G03 Dipole	T-Log Number:	T83587
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210	Class:	N/A

**Run # 6c: , EUT on Channel #157 5785MHz - Receiver, Chain A and Chain B**  
**Spurious Radiated Emissions, 1-18GHz:**

Frequency MHz	Level dB $\mu$ V/m	Pol v/h	RSS GEN		Detector Pk/QP/Avg	Azimuth degrees	Height meters	Comments
			Limit	Margin				
3000.300	46.4	V	54.0	-7.6	AVG	196	1.5	RB 1 MHz;VB 10 Hz;Pk
6000.830	43.6	V	54.0	-10.4	AVG	218	1.0	RB 1 MHz;VB 10 Hz;Pk
1195.800	35.4	V	54.0	-18.6	AVG	263	1.0	RB 1 MHz;VB 10 Hz;Pk
1047.450	34.1	H	54.0	-19.9	AVG	150	1.0	RB 1 MHz;VB 10 Hz;Pk
2490.370	33.4	H	54.0	-20.6	AVG	131	1.1	RB 1 MHz;VB 10 Hz;Pk
2700.130	32.5	H	54.0	-21.5	AVG	88	2.5	RB 1 MHz;VB 10 Hz;Pk
2499.630	52.2	H	74.0	-21.8	PK	131	1.1	RB 1 MHz;VB 3 MHz;Pk
3000.070	51.5	V	74.0	-22.5	PK	196	1.5	RB 1 MHz;VB 3 MHz;Pk
6000.430	48.5	V	74.0	-25.5	PK	218	1.0	RB 1 MHz;VB 3 MHz;Pk
1194.970	47.7	V	74.0	-26.3	PK	263	1.0	RB 1 MHz;VB 3 MHz;Pk
1049.950	45.3	H	74.0	-28.7	PK	150	1.0	RB 1 MHz;VB 3 MHz;Pk
2700.430	41.2	H	74.0	-32.8	PK	88	2.5	RB 1 MHz;VB 3 MHz;Pk





## EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Product:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Emissions Standard(s):	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B
Immunity Standard(s):	-	Environment:	Radio

# EMC Test Data

For The

## Intel Corporation

Product

62205ANHMW (Intel® Centrino® Advanced-N 6205)

Date of Last Test: 3/26/2013



# EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

## RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions

### Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

### General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

### Ambient Conditions:

Temperature: 20 °C  
Rel. Humidity: 34 %

### Summary of Results

MAC Address: A088B449143C DRTU Tool Version 1.5.3-0320 Driver version 15.0.0.51

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Band edge measurements on the the worst case modes (n20 and n40) based on measurements made in the original filings.							
Run #1	802.11n20 Chain A	#1 2412MHz	23.5	13.3	Restricted Band Edge at 2390 MHz	15.209	50.8 dBµV/m @ 2390.0 MHz (-3.2 dB)
		#11 2462MHz	23.0	12.5	Restricted Band Edge at 2483.5 MHz		48.3 dBµV/m @ 2483.5 MHz (-5.7 dB)
Run #2	802.11n40 Chain B	#3 2422MHz	20.0	9.7	Restricted Band Edge at 2390 MHz		47.9 dBµV/m @ 2390.0 MHz (-6.1 dB)
		#9 2452MHz	20.5	9.9	Restricted Band Edge at 2483.5 MHz		48.6 dBµV/m @ 2483.5 MHz (-5.4 dB)
Spurious radiated emissions on the worst-case mode (b) based on the measurements made in the original filings.							
Run # 3	802.11b Chain A	#6 2437MHz	21.5	15.5	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	38.8 dBµV/m @ 4874.0 MHz (-15.2 dB)
Spurious radiated emissions on the worst-case modes (g and n20 MIMO) based on the measurements made in the original filings.							
Run # 4	802.11n20 Chain A+B	#6 2437MHz	A:29.0 B:29.0	A:16.4 B:16.7	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	33.1 dBµV/m @ 4877.3 MHz (-20.9 dB)
Run #5	802.11g Chain B	#11 2462MHz	29.0	16.6	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	39.6 dBµV/m @ 4923.7 MHz (-14.4 dB)

### Modifications Made During Testing

No modifications were made to the EUT during testing





## EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
		Account Manager:	Christine Krebill
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

### Deviations From The Standard

No deviations were made from the requirements of the standard.

Note - the target and measured power are average powers (measured with average power sensor) and are used for reference purposes only. Power is set using "GAIN CONTROL" mode in the DRTU tool.



# EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

## Run #1: Radiated Spurious Emissions, Band Edge. Operating Mode: 802.11n20

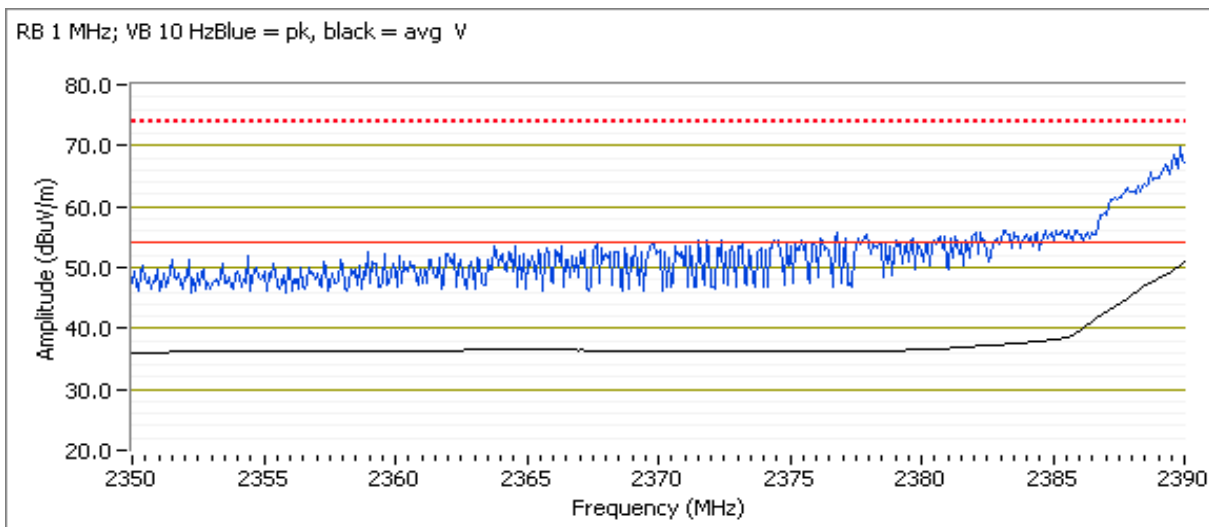
Date of Test: 3/11/2013  
 Test Engineer: John Caizzi  
 Test Location: Chamber 5

## Run #1a, EUT on Channel #1 2412MHz - Chain A

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	13.1	13.3	23.5

## Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.000	50.8	V	54.0	-3.2	AVG	222	1.00	
2389.040	69.9	V	74.0	-4.1	PK	222	1.00	
2390.000	39.1	H	54.0	-14.9	AVG	0	1.00	
2389.280	55.7	H	74.0	-18.3	PK	0	1.00	





# EMC Test Data

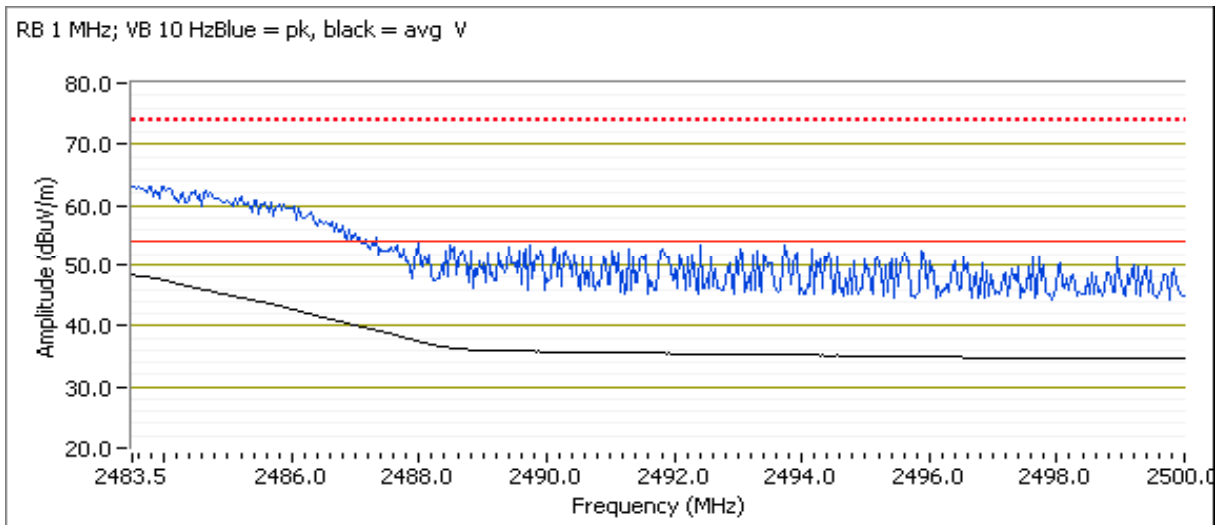
Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

## Run #1b, EUT on Channel #11 2462MHz - Chain A

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	12.4	12.5	23.0

## Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2483.500	48.3	V	54.0	-5.7	AVG	219	1.20	
2483.860	63.9	V	74.0	-10.1	PK	219	1.20	





# EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

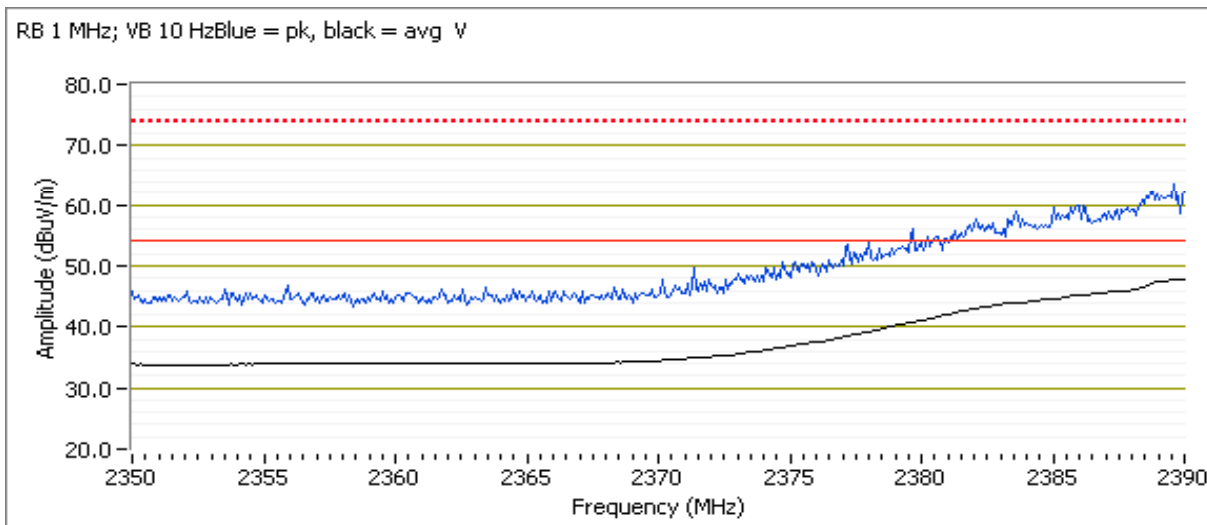
Run #2: Radiated Spurious Emissions, Band Edge. Operating Mode: 802.11n40

Run #2a, EUT on Channel #3 2422MHz - Chain B

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	9.5	9.7	20.0

### Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	47.9	V	54.0	-6.1	AVG	58	1.16	
2386.310	61.9	V	74.0	-12.1	PK	58	1.16	





# EMC Test Data

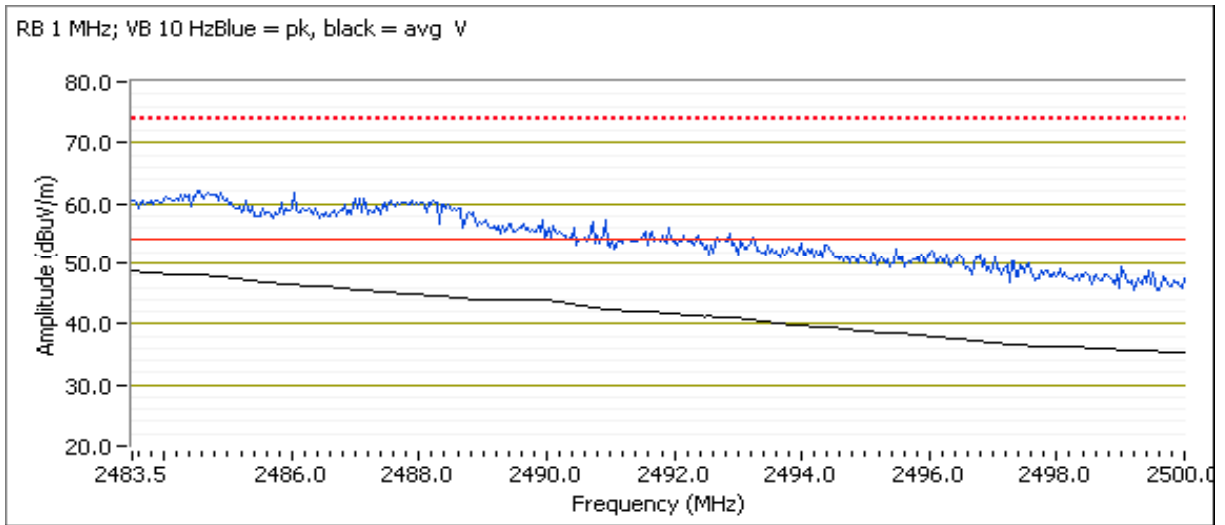
Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

## Run #2b, EUT on Channel #9 2452MHz - Chain B

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain B	10.0	9.9	20.5

## Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2483.500	48.6	V	54.0	-5.4	AVG	253	1.12	
2484.130	61.8	V	74.0	-12.2	PK	253	1.12	





# EMC Test Data

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

### Run #3, Radiated Spurious Emissions, 1-26GHz, 802.11b

Date of Test: 3/11/2013  
 Test Engineer: Joseph Cadigal  
 Test Location: Chamber 5

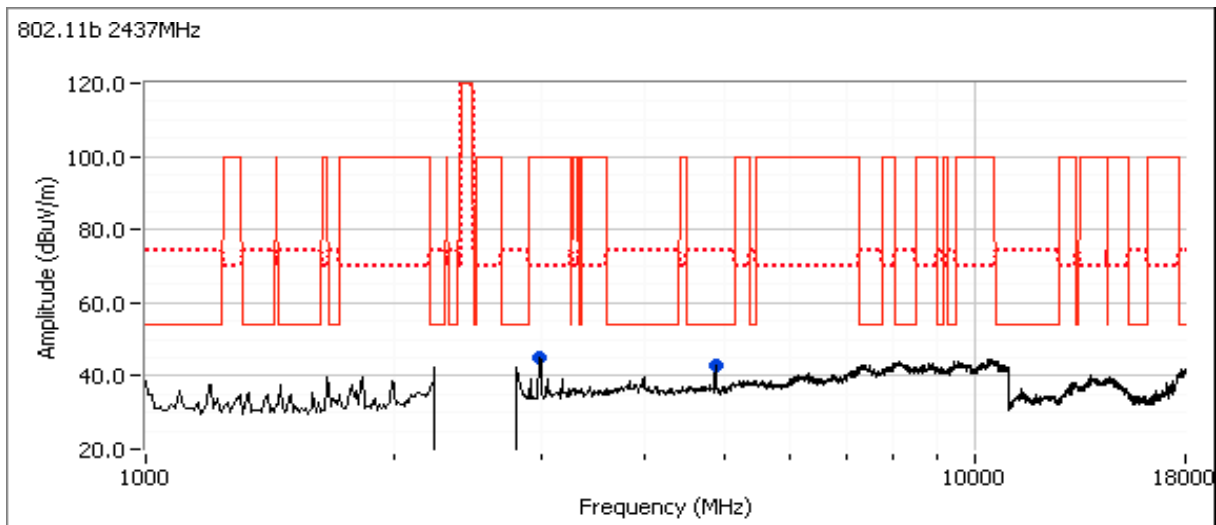
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	15.5	15.5	21.5

### Radiated Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247	Detector	Azimuth	Height	Comments	
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4874.030	38.8	V	54.0	-15.2	AVG	202	1.0	RB 1 MHz;VB 10 Hz;Peak
4873.770	46.4	V	74.0	-27.6	PK	202	1.0	RB 1 MHz;VB 3 MHz;Peak

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.

Note 2: No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.





# EMC Test Data

Client: Intel Corporation	Job Number: J90958
Model: 62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number: T91093
	Account Manager: Christine Krebill
Contact: Steven Hackett	
Standard: FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class: N/A

## Run #4, Radiated Spurious Emissions, 1-26GHz, 802.11n20

Date of Test: 3/11/2013  
 Test Engineer: Joseph Cadigal  
 Test Location: Chamber 5

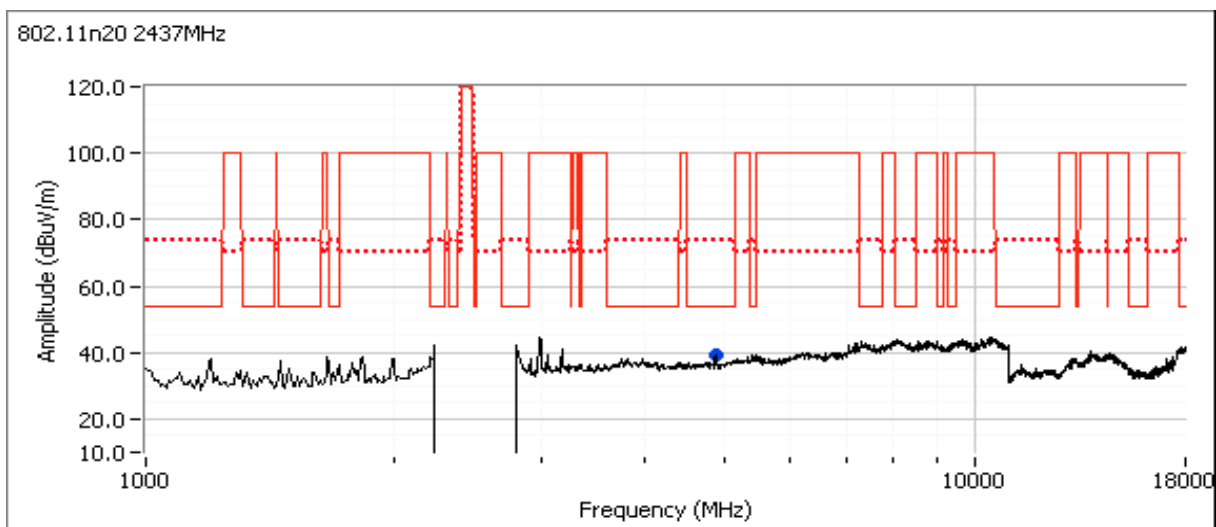
	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	16.5	16.4	29.0
Chain B	16.5	16.7	29.0

## Radiated Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
4877.280	33.1	V	54.0	-20.9	AVG	222	1.0	RB 1 MHz;VB 10 Hz;Peak
4879.410	44.9	V	74.0	-29.1	PK	222	1.0	RB 1 MHz;VB 3 MHz;Peak

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.

Note 2: No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.



Client: Intel Corporation	Job Number: J90958
Model: 62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number: T91093
	Account Manager: Christine Krebill
Contact: Steven Hackett	
Standard: FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class: N/A

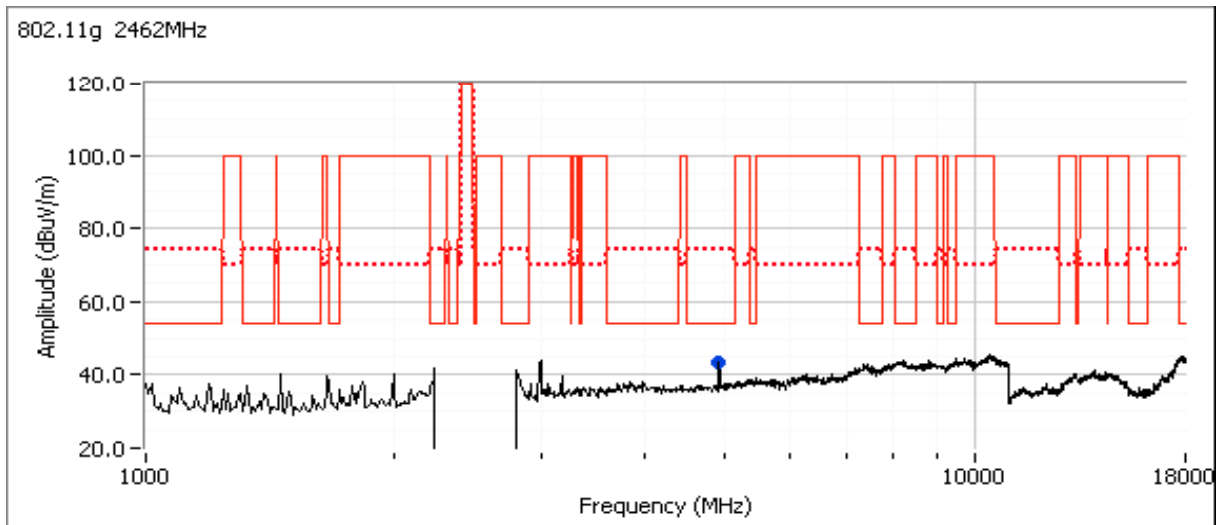
### Run #5: High Channel @ 2462 MHz

Date of Test: 3/18/2013  
 Test Engineer: Joseph Cadigal  
 Test Location: Chamber 5

### Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
4923.670	39.6	H	54.0	-14.4	AVG	139	1.0	RB 1 MHz;VB 10 Hz;Peak
4922.140	51.4	H	74.0	-22.6	PK	139	1.0	RB 1 MHz;VB 3 MHz;Peak

- Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
- Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.
- Note 3: No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.







# EMC Test Data

Client: Intel Corporation	Job Number: J90958
Model: 62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number: T91093
	Account Manager: Christine Krebill
Contact: Steven Hackett	
Standard: FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions

### Test Specific Details

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 3/18/2013 21:21	Config. Used: 1
Test Engineer: Joseph Cadigal	Config Change: None
Test Location: Fremont Chamber #5	EUT Voltage: 120V/60Hz

### General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. All remote support equipment was located approximately 30 meters from the EUT with all I/O connections running on top of the groundplane or routed in overhead in the GR-1089 test configuration.  
For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

### Ambient Conditions:

Temperature: 23 °C  
Rel. Humidity: 37 %

### Summary of Results

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Spurious radiated emissions on the worst-case mode (n20) based on the measurements made in the original filings.							
1	802.11n20 Chain A+B	#165 5825MHz	A: 33.0 B: 31.0	A: 16.6 B: 16.6	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15.247	42.0 dBµV/m @ 11640.0 MHz (-12.0 dB)

### 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.

### Test Procedure Comments:

Unless otherwise noted, average measurements above 1GHz were performed as documented in ANSI C63.10

Antenna: Antenna Connected  
Duty Cycle: 99%

Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

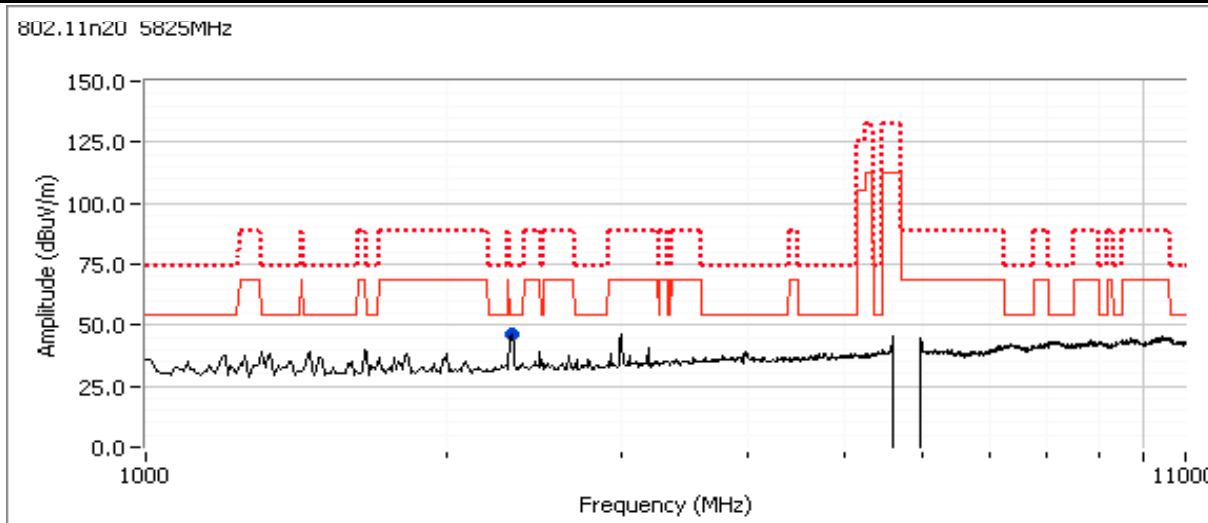
### Run #3c: High Channel

	Target (dBm)	Power Settings Measured (dBm)	Software Setting
Chain A	16.5	16.6	33.0
Chain B	16.5	16.6	31.0

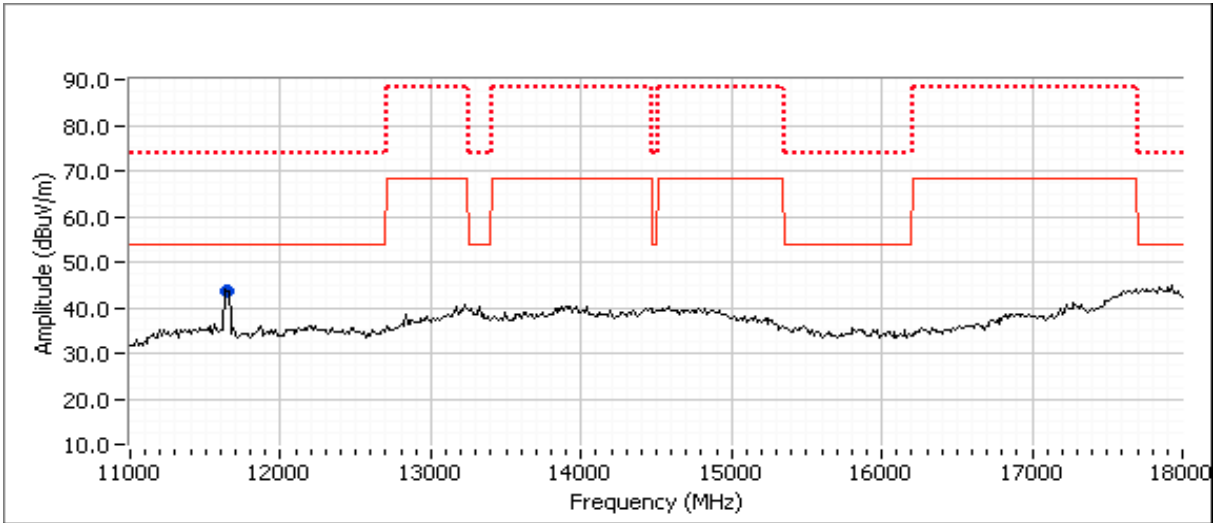
### Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11639.970	42.0	H	54.0	-12.0	AVG	199	1.5	RB 1 MHz;VB 10 Hz;Peak
11640.410	53.5	H	74.0	-20.5	PK	199	1.5	RB 1 MHz;VB 3 MHz;Peak
2331.250	38.0	H	54.0	-16.0	AVG	324	1.0	RB 1 MHz;VB 10 Hz;Peak
2332.900	56.4	H	74.0	-17.6	PK	324	1.0	RB 1 MHz;VB 3 MHz;Peak

- Note 1: For emissions in restricted bands, the limit of 15.209 was used which requires average and peak measurements.
- Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
- Note 3: No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.



Client:	Intel Corporation	Job Number:	J90958
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T91093
Contact:	Steven Hackett	Account Manager:	Christine Krebill
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



*End of Report*

This page is intentionally blank and marks the last page of this test report.