EMC Test Report
Application for Grant of Equipment Authorization
Industry Canada RSS-Gen Issue 3 / RSS 210 Issue 8
FCC Part 15 Subpart C

Intel® Centrino® Advanced-N 6235, Models 6235ANHMRW and 6235ANHRU

IC CERTIFICATION #:	1000M-6235ANHR and 1000M-6235ANHRU
FCC ID:	PD96235ANHR and PD96235ANHRU
APPLICANT:	Intel Corporation 100 Center Point Circle Suite 200 Columbia, SC 29210
TEST SITE(S):	Elliott Laboratories 41039 Boyce Road. Fremont, CA. 94538-2435
IC SITE REGISTRATION #:	2845B-3; 2845B-4, 2845B-5, 2845B-7
REPORT DATE:	May 24, 2012
FINAL TEST DATES:	April 16, 17, 19, 20, 23, 24, 25, 28 and 29 and May 1, 2, 3, 4, 7, 9 and 10, 2012
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REVISION HISTORY

Rev#	Date	Comments	Modified By
-	05-24-2012	First release	

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SCOPE

An electromagnetic emissions test has been performed on the Intel Corporation model Intel® Centrino® Advanced-N 6235, Models 6235ANHMRW and 6235ANHRU, 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 Elliott Laboratories 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.

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.

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 sample of Intel Corporation Intel® Centrino® Advanced-N 6235, Models 6235ANHMRW and 6235ANHRU 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 6235, Models 6235ANHMRW and 6235ANHRU and therefore apply only to the tested sample. The sample was 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	Systems uses OFDM / DSSS techniques	System must utilize a digital transmission technology	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	Bluetooth - 720 kHz 802.11 – 10.1 MHz	>500kHz	Complies
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power	802.11b: 47.9mW 802.11g: 91.2mW n20: 39.6mW n40: 26mW EIRP = 0.191 W Note 1	1Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	-8.6 dBm/3kHz	8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz	All emissions below the limit	< -30dBc Note 2	Complies
15.247(c) / 15.209	RSS 210 A8.5	Radiated Spurious Emissions 30MHz – 25 GHz	53.8 dBµV/m @ 2483.5 MHz (-0.2 dB)	15.207 in restricted bands, all others <-30dBc Note 2	Complies

Note 1: EIRP calculated using antenna gain of 3.2 dBi for the highest EIRP system.
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	Systems uses OFDM / DSSS techniques	System must utilize a digital transmission technology	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth Chain A	16.3 MHz	>500kHz	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth Chain B	16.3 MHz	>500kHz	Complies
15.247 (b)	RSS 210 A8.2 (4)	Output Power Chain A	802.11a: 50.0 mW n20: 95.0 mW n40: 100 mW EIRP = 0.634 W Note 1	1Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density Chain A	-7.5dBm/3kHz	Maximum permitted is 8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions – 30MHz – 40 GHz	All spurious emissions < -20dBc	< -20dBc / < -30dBc Note 2	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 40 GHz	-31.8 dBc @ 5724.80 MHz (-1.8 dB)	15.207 in restricted bands, all others < -20dBc / <-30dBc Note 2	Complies

Note 1: EIRP calculated using antenna gain of 5 dBi for the highest EIRP system.
Note 2: Limit of -30dBc or -20dBc based on mode and chain because the power was measured using either the UNII test procedure (maximum power averaged over a transmission burst) or using peak power measurements.

GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	Unique connector used	Unique or integral antenna required	Complies
15.207	RSS GEN Table 2	AC Conducted Emissions	39.7 dBµV @ 15.416 MHz (-20.3 dB)	Refer to page 19	Complies
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to SAR report, RSS 102 declaration and User Manual pages 11, 14 and 15	Refer to OET 65, FCC Part 1 and RSS 102	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	Refer to page 11 of the user's manual	Statement required regarding non-interference	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	Not applicable, antenna is integral to host systems.	Statement for products with detachable antenna	Complies
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth 2.4GHZ	Bluetooth: 1.08MHz 802.11b: 13.8MHz 802.11g: 19.3MHz n20: 18.4MHz n40: 36.6MHz	Information only	N/A
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth 5 GHZ	802.11a: 18.5 MHz n20: 29.9 MHz n40: 42.2 MHz	Information only	N/A

ADDITIONAL MEASUREMENTS

As both Bluetooth and 802.11 transmissions can occur simultaneously, radiated spurious measurements were made with both Bluetooth and 802.11 devices transmitting simultaneously.

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.209	RSS 210	Spurious emissions	52.1 dBµV/m @ 7386.9 MHz	15.209 in restricted bands, all others < -20dBc	Complies (-1.9dB)
Signal was actually second harmonic of 802.11 signal and not an inter-modulation product, but this was the highest level signal observed with both Bluetooth and Wi-Fi transmitters operational simultaneously.					

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	± 0.52 dB
RF power, conducted (Spectrum analyzer)	dBm	25 to 7000 MHz	± 0.7 dB
Conducted emission of transmitter	dBm	25 to 26500 MHz	± 0.7 dB
Conducted emission of receiver	dBm	25 to 26500 MHz	± 0.7 dB
Radiated emission (substitution method)	dBm	25 to 26500 MHz	± 2.5 dB
Radiated emission (field strength)	dBµV/m	25 to 1000 MHz	± 3.6 dB
		1000 to 40000 MHz	± 6.0 dB
Conducted Emissions (AC Power)	dBµV	0.15 to 30 MHz	± 2.4 dB

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Intel Corporation Intel® Centrino® Advanced-N 6235, Models 6235ANHMRW and 6235ANHRU are PCIe Half Mini Card form factor Bluetooth/IEEE 802.11a/b/g/n wireless network adapters. The card supports MIMO (2x2) for 802.11n modes and MISO (1x2) for 802.11a/b/g modes.
Bluetooth operates on a single chain and supports Basic rate, Enhanced data rate and Low Energy modes. The Basic and Enhanced data rates fully support frequency hopping while the Low Energy (LE) mode can operate in both hoping and non-hopping modes. The LE mode was evaluated under the rules for digital modulation systems while the other modes were evaluated as FHSS.
When Bluetooth is operational then 802.11b/g/n modes operate as SISO (1x1). 802.11a/n modes still operate as MIMO (2x2) with Bluetooth operational.
The card is sold using two different FCC/IC ID numbers (see table below). The ID's ending in "U" are intended to allow user install conditions and host systems must be provided with a BIOS locking feature that prevents installation of unauthorized devices.
For radio testing purposes the card was installed in a test fixture that exposed all sides of the card. For digital device testing for certification under equipment code JBP the card was installed inside a laptop PC.

The samples were received on April 16, 2012 and tested on April 16, 17, 19, 20, 23, 24, 25, 28 and 29 and May 1, 2, 3, 4, 7, 9 and 10, 2012. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Intel Corporation	6235ANHMRW	PCIe Half Mini Card form factor Bluetooth / IEEE 802.11a/b/g/n wireless network adapter	44850006303D	PD96235ANHR PD96235ANHRU 1000M-6235ANHR
	6235ANHRU			1000M-6235ANHRU

ANTENNA SYSTEM

The EUT antenna is a a two-antenna PIFA antenna system – Shanghai Universe Communication Electron Co., Ltd. The antenna connects to the EUT via a non-standard antenna connector, thereby meeting the requirements of FCC 15.203.

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 Corporation	-	Test Fixture		N/A
Dell	PP17L	Laptop PC	CN-ONF743-48643-7B6-0727	N/A
Agilent	E3610A	DC Supply	100708	N/A

No remote support equipment was used during testing.

EUT INTERFACE PORTS

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

Port		Cable(s)		
From	To	Description	Shielded/Unshielded	Length(m)
Laptop USB	Fixture USB	USB cable	Shielded	1.5
Laptop Mini PCI	Fixture PCIe	Ribbon	unshielded	0.7
DC Power	Fixture DC power	2-wire	unshielded	0.7

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 transmit at a specified output power or continuously receive on the channel specified in the test data. For transmit mode measurements the system was configured to operate in each of the available operating modes – 802.11b, 802.11g, 802.11n (20 MHz channel bandwidth) and 802.11n (40MHz channel bandwidth), Bluetooth 1Mb/s and Bluetooth 3Mb/s. In addition radiated spurious tests were repeated with the device operating in both Bluetooth and 802.11 modes to determine if any spurious emissions due to inter-modulation products were created.

The data rates used for all tests were the lowest data rates for each 802.11 mode – 1Mb/s for 802.11b, 6Mb/s for 802.11a and 802.11g, 6.5MB/s for 802.11n (20MHz), and 13 Mb/s for 802.11n (40MHz). The device operates at its maximum output power at the lowest data rate (this was confirmed through separate measurements – refer to test data for actual measurements).

The field strength at the band edges was evaluated for each mode and on each chain individually on the lowest and highest channels at the rated power for the channel under test. Where the power at the edge channels was lower than the power at the center channels additional measurements were made at the adjacent channels. MIMO and SISO modes were fully evaluated.

Spurious emissions measurements at frequencies away from the band edges were made at the highest power rating for the band in each mode. For 802.11n modes both chains were active (MIMO mode) but with each chain at the highest power rating per chain (MIMO power setting) to cover both modes of operation at the same time.

The PC was using the Intel test utility DRTU Version 1.5.4.0399 and the device driver was version 15.1.0.99.

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	
Chamber 7	A2LA accreditation	2845B-7	

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.

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 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.

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.

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.

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.

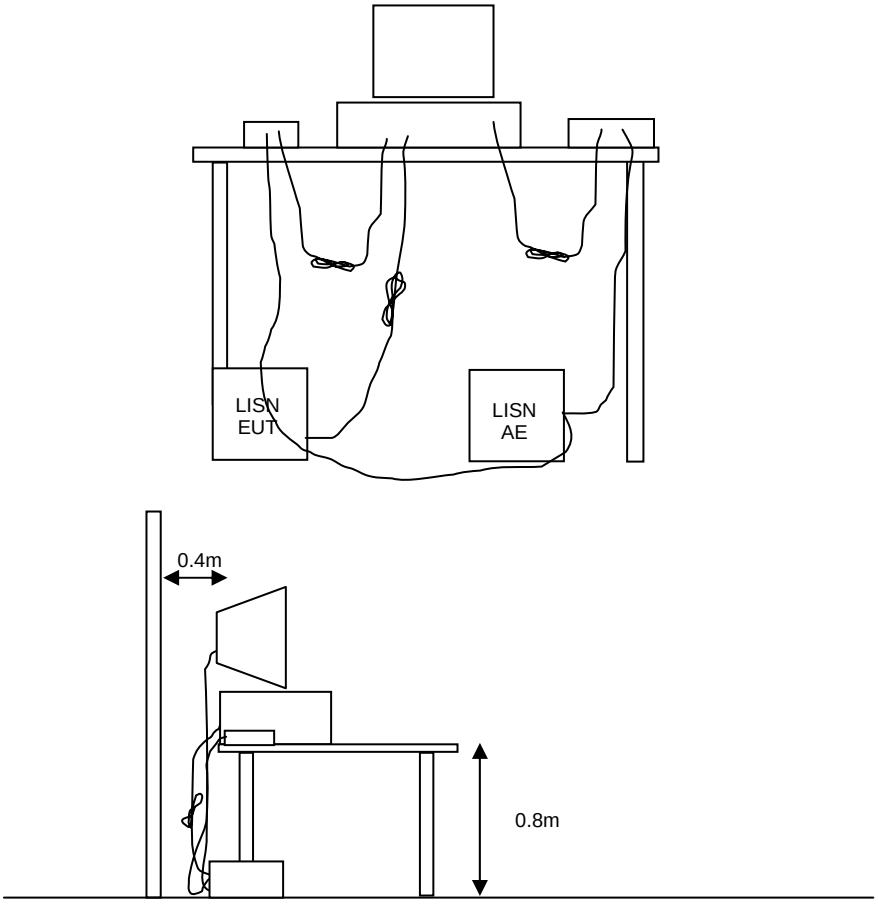


Figure 1 Typical Conducted Emissions Test Configuration

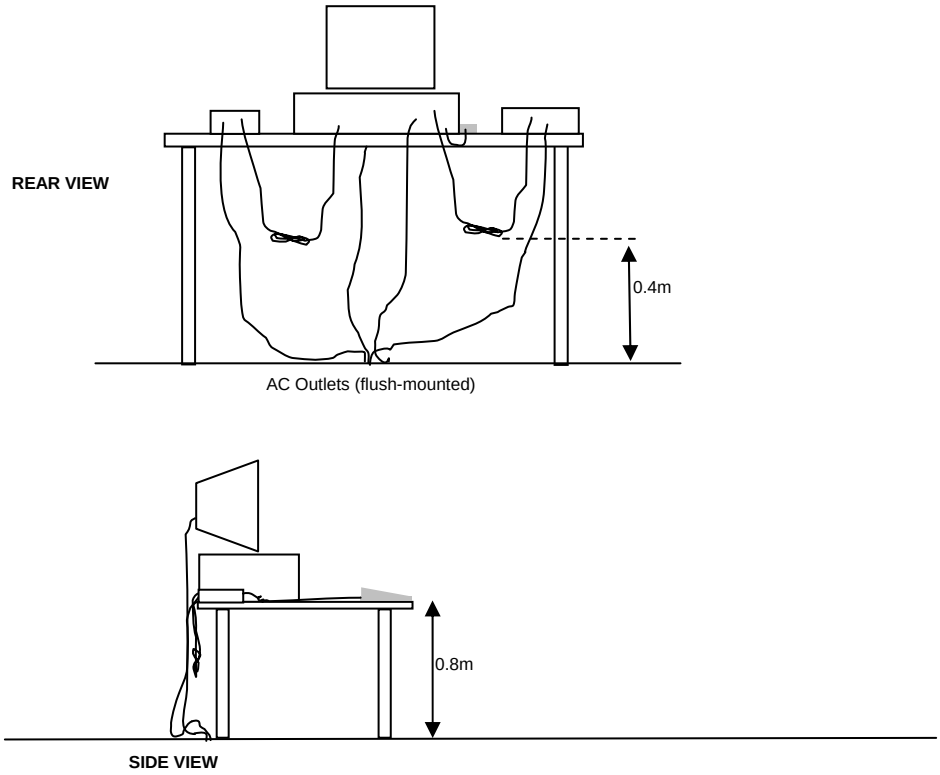
RADIATED EMISSIONS

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.

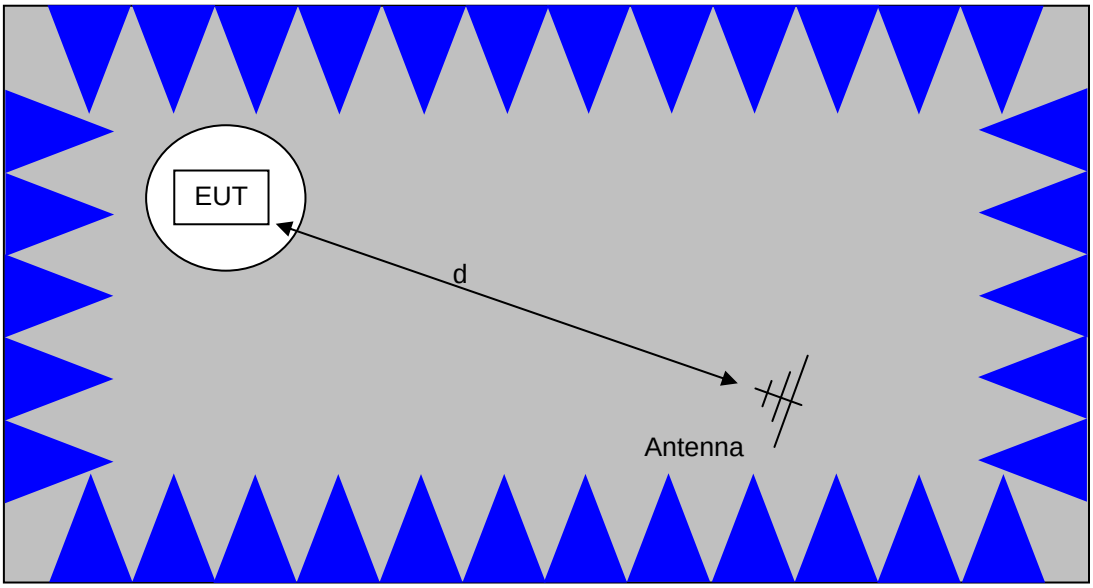
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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 (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 1meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.

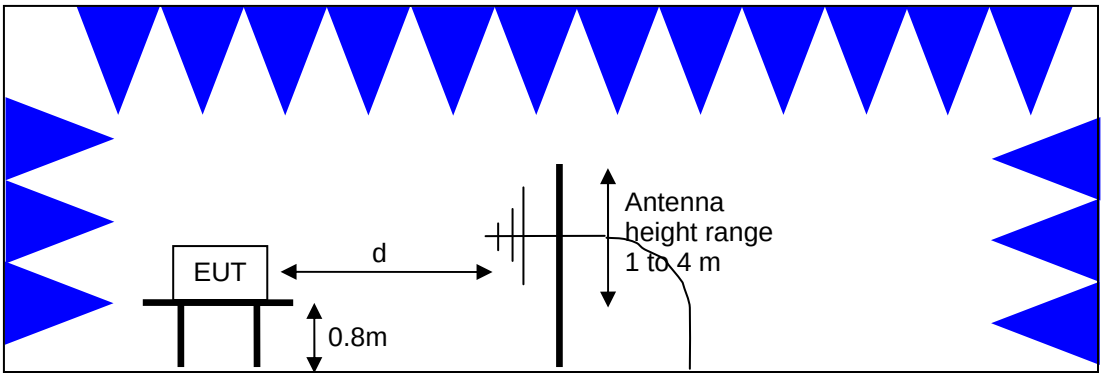


Typical Test Configuration for Radiated Field Strength Measurements



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.

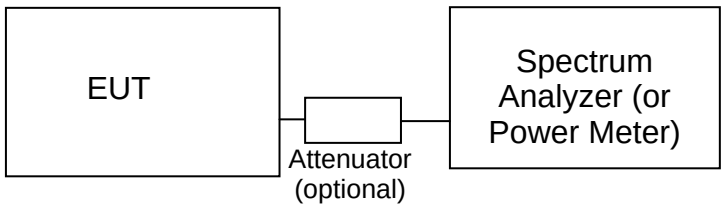
Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



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

CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements of power, bandwidth and power spectral density are performed, where possible, 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.



Test Configuration for Antenna Port Measurements

Measurement bandwidths (video and resolution) are set in accordance with the relevant standards and Elliott's test procedures for the type of radio being tested. When power measurements are made using a resolution bandwidth less than the signal bandwidth the power is calculated by summing the power across the signal bandwidth using either the analyzer channel power function or by capturing the trace data and calculating the power using software. In both cases the summed power is corrected to account for the equivalent noise bandwidth (ENBW) of the resolution bandwidth used.

If power averaging is used (typically for certain digital modulation techniques), the EUT is configured to transmit continuously. Power averaging is performed using either the built-in function of the analyzer or, if the analyzer does not feature power averaging, using external software. In both cases the average power is calculated over a number of sweeps (typically 100). When the EUT cannot be configured to continuously transmit then either the analyzer is configured to perform a gated sweep to ensure that the power is averaged over periods that the device is transmitting or power averaging is disabled and a max-hold feature is used.

If a power meter is used to make output power measurements the sensor head type (peak or average) is stated in the test data table.

BANDWIDTH MEASUREMENTS

The 6dB, 20dB and/or 26dB signal bandwidth is measured in using the bandwidths recommended by ANSI C63.4. When required, the 99% bandwidth is measured using the methods detailed in RSS GEN.

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:

CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(a), RSS GEN

The table below shows the limits for the emissions on the AC power line from an intentional radiator and a receiver.

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	46.0	56.0
5.000 to 30.000	50.0	60.0

GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

The table below shows the limits for the spurious emissions from transmitters that fall in restricted bands[1] (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	$2400/F_{KHz}$ @ 300m	$67.6-20*\log_{10}(F_{KHz})$ @ 300m
0.490-1.705	$24000/F_{KHz}$ @ 30m	$87.6-20*\log_{10}(F_{KHz})$ @ 30m
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

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

[1] The restricted bands are detailed in FCC 15.203, RSS 210 Table 1 and RSS 310 Table 2

OUTPUT POWER LIMITS – DIGITAL TRANSMISSION SYSTEMS

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 Watt (30 dBm)	8 dBm/3kHz
2400 – 2483.5	1 Watt (30 dBm)	8 dBm/3kHz
5725 – 5850	1 Watt (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.

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 - CONDUCTED EMISSIONS

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

$$R_r - S = M$$

where:

R_r = Receiver Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

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:

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

where:

F_d = Distance Factor in dB

D_m = Measurement Distance in meters

D_s = Specification Distance in meters

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:

$$F_d = 40*LOG_{10} (D_m/D_s)$$

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

SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

Where the radiated electric field strength is expressed in terms of the equivalent isotropic radiated power (eirp), or where a field strength measurement of output power is made in lieu of a direct measurement, the following formula is used to convert between eirp and field strength at a distance of d (meters) from the equipment under test:

$$E = \frac{1000000 \sqrt{30 P}}{d} \text{ microvolts per meter}$$

where P is the eirp (Watts)

For a measurement at 3m the conversion from a logarithmic value for field strength (dBuV/m) to an eirp power (dBm) is -95.3dB.

Appendix A Test Equipment Calibration Data

T87211

Manufacturer	Description	Model	Asset #	Cal Due
Radiated Emissions, 1000 - 6,500 MHz, 16-Apr-12				
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Radiated Emissions, 1000 - 6,500 MHz, 17-Apr-12				
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/2/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/6/2012
Radiated Emissions, 1,000 - 6,500 MHz, 19-Apr-12				
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012
Radiated Emissions, Band Edge, 23-Apr-12				
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/6/2012
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/22/2012
Radiated Emissions, 1000 - 6,500 MHz, 24-Apr-12				
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Radiated Emissions, 1000 - 6,500 MHz, 24-Apr-12				
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Radiated Emissions, Band Edge, 24-Apr-12				
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012
Radiated Emissions, 30 - 18,000 MHz, 25-Apr-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1657	5/28/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/23/2013
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2239	10/4/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/11/2012
Com-Power Corp.	Preamplifier, 30-1000 MHz	PA-103A	2359	2/14/2013
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012
Radiated Emissions, 1000 - 26,500 MHz, 25-Apr-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012

Manufacturer	Description	Model	Asset #	Cal Due
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/23/2013
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	5/23/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/11/2012
Radiated Emissions, 1,000 - 18,000 MHz, 25-Apr-12				
EMCO	Antenna, Horn, 1-18 GHz	3115	786	12/19/2013
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1682	3/23/2013
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	2199	2/23/2013
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	7/28/2012
Radiated Emissions, 1000 - 40000MHz, 27-Apr-12				
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/2/2012
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	8/15/2012
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1681	9/8/2012
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	1780	11/22/2012
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2239	10/4/2012
Radiated Spurious Emissions, 1000 - 40,000 MHz, 27-Apr-12				
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300-80039	1156	6/24/2012
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/22/2012
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1730	8/5/2012
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	2199	2/23/2013
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	2415	7/28/2012
Radiated Emissions, 1,000 - 18,000 MHz, 28-Apr-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Hewlett Packard	High Pass filter, 8.2 GHz (Purple System)	P/N 84300-80039 (84125C)	1767	11/29/2012
Radiated Emissions, 1000 - 26,500 MHz, 30-Apr-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/3/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/23/2013
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	5/23/2012
Radiated Emissions, 30 - 1,000 MHz, 01-May-12				
Manufacturer	Description	Model #	Asset #	Cal Due
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/6/2012

Manufacturer	Description	Model	Asset #	Cal Due
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548	6/24/2012
Hewlett Packard	9KHz-1300MHz pre-amp	8447F	2328 CG0177	3/16/2013
Conducted Emissions - AC Power Ports, 01-May-12				
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	1401	5/12/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	12/6/2012
Fischer Custom Comm	LISN, 25A, 150kHz to 30MHz, 25 Amp,	FCC-LISN-50-25-2-09	2000	10/18/2012
Fischer Custom Comm	LISN, 25A, 150kHz to 30MHz, 25 Amp,	FCC-LISN-50-25-2-09	2001	2/15/2013
Radiated Emissions, 1000 - 10,000 MHz, 02-May-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18 GHz (SA40-Red)	3115	1142	8/2/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	6/8/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/3/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/23/2013
Radiated Emissions, 1000 - 15,000 MHz, Simultaneous Transmission, 02-May-12				
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	3/29/2013
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Hewlett Packard	High Pass filter, 8.2 GHz	P/N 84300-80039	1156	6/24/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/3/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/30/2013
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2239	10/4/2012
Radio Antenna Port (Power and Spurious Emissions), 04-May-12				
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	3/30/2013
Radiated Emissions, 1,000- 6,500 MHz, 09-May-12				
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/21/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012
Radiated Emissions, 30 - 1,000 MHz, 11-May-12				
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1657	5/28/2012
Com-Power Corp.	Preamplifier, 30-1000 MHz	PA-103A	2359	2/14/2013
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012
Conducted Emissions - AC Power Ports, 10-May-12				
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	1594	5/17/2012
Fischer Custom Comm	LISN, 25A, 150kHz to 30MHz, 25 Amp,	FCC-LISN-50-25-2-09	2000	10/18/2012
Fischer Custom Comm	LISN, 25A, 150kHz to 30MHz, 25 Amp,	FCC-LISN-50-25-2-09	2001	2/15/2013

Manufacturer	Description	Model	Asset #	Cal Due
Rohde & Schwarz	EMI Test Receiver, 20 Hz-40 GHz	ESIB40 (1088.7490.40)	2493	12/9/2012

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Radio Antenna Port (Power and Spurious Emissions), 2-May-12

Manufacturer	Description	Model #	Asset #	Cal Due
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	01-May-13

Radio Antenna Port (Power and Spurious Emissions), 3-May-12

Manufacturer	Description	Model #	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	26-May-12
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:100059 only	NRV-Z32	1423	01-Sep-12
Agilent	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	23-Feb-13

Radio Antenna Port (Power and Spurious Emissions), 4-May-12

Manufacturer	Description	Model #	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	26-May-12
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:100059 only	NRV-Z32	1423	01-Sep-12
Agilent	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	23-Feb-13

Radio Antenna Port (Power and Spurious Emissions), 7-May-12

Manufacturer	Description	Model #	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	26-May-12
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:100059 only	NRV-Z32	1423	01-Sep-12
Agilent	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	23-Feb-13

Radio Antenna Port (Power and Spurious Emissions), 9-May-12

Manufacturer	Description	Model #	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1071	26-May-12
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts use with 20dB attenuator sn:100059 only	NRV-Z32	1423	01-Sep-12
Agilent	PSA, Spectrum Analyzer, (installed options, 111, 115, 123, 1DS, B7J, HYX,	E4446A	2139	23-Feb-13

Appendix B Test Data

T87211 Pages 29 – 200
T87656 Pages 201 - 232

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247, 15.407	Class:	B
Immunity Standard(s):	-	Environment:	-

EMC Test Data

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test: 5/22/2012

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manger:	Christine Krebill
Contact:	Steve Hackett		
Emissions Standard(s):	FCC 15.247, 15.407	Class:	B
Immunity Standard(s):	-	Environment:	-

Power vs. Data Rate

In normal operating modes the card uses power settings stored on EEPROM to set the output power. For a given nominal output power the actual transmit power is redcued as the data rate increases, therefore testing was performed at the lowest data rate in each mode as this data rate to determine compliance with the requirements at the highest power seting.

The following power measurements were made using an average power meter and the with the device configured in a continuous transmit mode on Chain A at the various data rates in each mode to verify this:

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Date of Test: 5/20/2012 Config. Used: 1

Test Engineer: Jack Liu Config Change: none

Test Location: FT Chamber#4 Host Unit Voltage 120V/60Hz

802.11 DTS 2.4GHz ChainA

Mode	Data Rate	Power (dBm)	Power setting
802.11b	1	16.5	22.5
	2	16.4	
	5.5	16.5	
	11	16.4	
802.11g	6	16.5	28.5
	9	16.4	
	12	16.4	
	18	16.4	
	24	16.3	
	36	16.2	
	48	16.2	
	54	16.2	
802.11n 20MHz	6.5	15.9	28.0
	13	15.8	
	19.5	15.9	
	26	15.8	
	39	15.8	
	52	15.8	
	58.5	15.7	
	65	15.7	
802.11n 40MHz	13.5	12.9	24.0
	27	12.8	
	40.5	12.7	
	54	12.5	
	81	12.4	
	108	12.3	
	121.5	12.4	
	135	12.3	

Note : Power setting - the software power setting used during testing, included for reference only.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Radiated Emissions 30-1000 MHz, Wireless Module (FCC 15.247/RSS 210)

(Elliott Laboratories Fremont Facility, Semi-Anechoic Chamber)

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: 5/10/2012
Test Engineer: Joseph Cadigal
Test Location: FT Chamber#5

Config. Used: Modular Test
Config Change: None
Host Unit Voltage 120V/60Hz

General Test Configuration

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

The test distance and extrapolation factor (if applicable) are detailed under each run description.

Note, preliminary testing indicates that the emissions were maximized by orientation of the EUT and elevation of the measurement antenna. Maximized testing indicated that the emissions were maximized by orientation of the EUT, elevation of the measurement antenna, and manipulation of the EUT's interface cables.

Ambient Conditions:

Temperature: 21 °C
Rel. Humidity: 34 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Test Performed	Limit	Result	Margin
1	Radiated Emissions 30 - 1000 MHz	FCC 15.209 / RSS 210	Pass	38.0 dBµV/m @ 58.48 MHz (-2.0 dB)

Note - preliminary measurements indicated that the radiated emissions from the combination of test fixture and EUT were not affected by the modules operating frequency or mode (transmit versus receive mode). The system was therefore evaluated against the most stringent set of limits from FCC 15.247, FCC 15E and RSS 210 with the device operating at max power (16.5dBm) on Chain A at 2437MHz, 802.11b mode and max power (7dBm) on the top channel in Bluetooth mode (1Mb/s data rate).

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

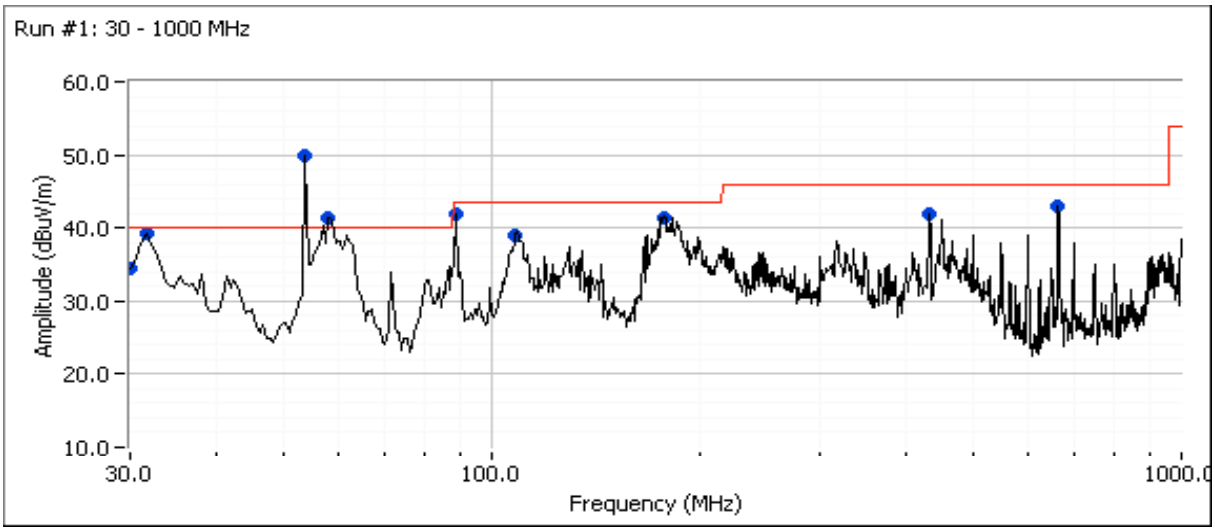
No deviations were made from the requirements of the standard.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Preliminary Radiated Emissions, 30 - 1000 MHz

Configured to TX , 802.11b 16.5dBm on each chain (settings 22.5) on channel 6, Bluetooth 7dBm, 1Mb/s (settings 8.0)

Frequency Range	Test Distance	Limit Distance	Extrapolation Factor
30 - 1000 MHz	3	3	0.0



Preliminary peak readings captured during pre-scan

Frequency	Level	Pol	FCC 15.209 / RSS 210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
54.342	50.0	V	40.0	10.0	Peak	0	2.5	
31.815	39.3	V	40.0	-0.7	Peak	2	1.5	
431.996	41.9	H	46.0	-4.1	Peak	12	1.0	
178.100	41.3	V	43.5	-2.2	Peak	29	1.0	
663.571	43.1	V	46.0	-2.9	Peak	87	1.0	
30.022	34.6	V	40.0	-5.4	Peak	138	1.0	
108.350	38.9	H	43.5	-4.6	Peak	267	3.0	
58.477	41.5	V	40.0	1.5	Peak	279	1.0	
89.397	41.9	V	43.5	-1.6	Peak	286	1.5	

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Maximized quasi-peak readings (includes manipulation of EUT interface cables)

Frequency	Level	Pol	FCC 15.209 / RSS 210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
58.477	38.0	V	40.0	-2.0	QP	280	1.0	QP (1.00s)
108.350	38.1	H	43.5	-5.4	QP	270	3.0	QP (1.00s)
431.996	40.0	H	46.0	-6.0	QP	13	1.0	QP (1.00s)
31.815	33.6	V	40.0	-6.4	QP	6	1.5	QP (1.00s)
178.100	36.7	V	43.5	-6.8	QP	33	1.0	QP (1.00s)
30.022	30.8	V	40.0	-9.2	QP	141	1.0	QP (1.00s)
663.571	35.0	V	46.0	-11.0	QP	90	1.0	QP (1.00s)
54.342	24.4	V	40.0	-15.6	QP	0	2.5	QP (1.00s)
89.397	26.1	V	43.5	-17.4	QP	287	1.5	QP (1.00s)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	B

Conducted Emissions

(Elliott Laboratories Fremont Facility, Semi-Anechoic Chamber)

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: 5/10/2012
Test Engineer: Joseph Cadigal
Test Location: FT Chamber#5

Config. Used: Modular Test
Config Change: None
Host Unit Voltage 120V/60Hz

General Test Configuration

The test fixture was located on a wooden table inside the semi-anechoic chamber, 40 cm from a vertical coupling plane and 80cm from the LISN. A second LISN was used for all local support equipment.

Ambient Conditions:

Temperature: 21 °C
Rel. Humidity: 34 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Test Performed	Limit	Result	Margin
1	CE, AC Power,120V/60Hz	RSS 210 / 15.207	Pass	39.7 dBµV @ 15.416 MHz (-20.3 dB)

Modifications Made During Testing

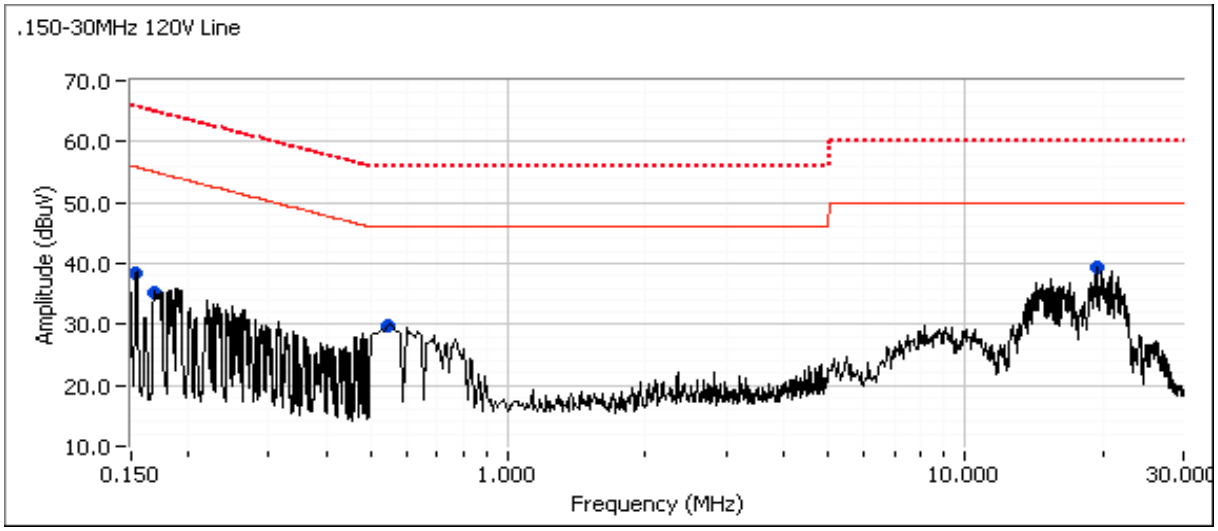
No modifications were made to the EUT during testing

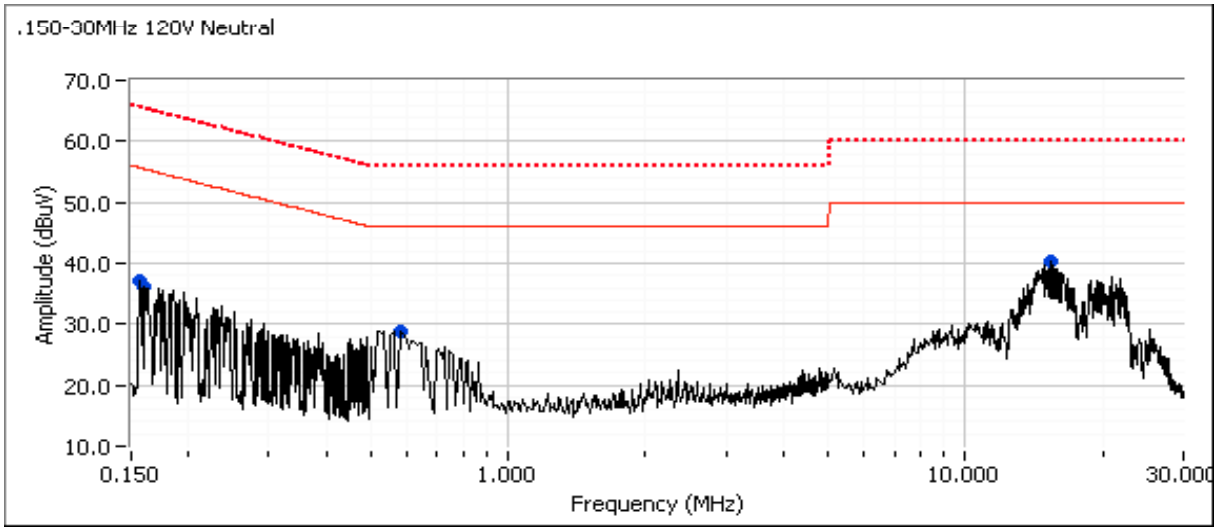
Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	B

Run #1: AC Power Port Conducted Emissions, 0.15 - 30MHz, 120V/60Hz





Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	B

Preliminary peak readings captured during pre-scan (peak readings vs. average limit)

Frequency	Level	AC	RSS 210 / 15.207		Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
0.153	38.5	Line 1	55.8	-17.3	Peak	
19.320	39.4	Line 1	50.0	-10.6	Peak	
0.553	29.9	Line 1	46.0	-16.1	Peak	
0.168	35.2	Line 1	55.0	-19.8	Peak	
0.157	37.1	Neutral	55.6	-18.5	Peak	
15.416	40.3	Neutral	50.0	-9.7	Peak	
0.573	28.9	Neutral	46.0	-17.1	Peak	
0.161	36.1	Neutral	55.4	-19.3	Peak	

Final quasi-peak and average readings

Frequency	Level	AC	RSS 210 / 15.207		Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
15.416	39.7	Neutral	60.0	-20.3	QP	QP (1.00s)
19.320	28.9	Line 1	50.0	-21.1	AVG	AVG (0.10s)
19.320	36.0	Line 1	60.0	-24.0	QP	QP (1.00s)
0.553	21.5	Line 1	56.0	-34.5	QP	QP (1.00s)
0.153	30.6	Line 1	65.8	-35.2	QP	QP (1.00s)
0.573	20.5	Neutral	56.0	-35.5	QP	QP (1.00s)
0.168	28.3	Line 1	65.1	-36.8	QP	QP (1.00s)
0.157	26.9	Neutral	65.6	-38.7	QP	QP (1.00s)
0.161	26.3	Neutral	65.4	-39.1	QP	QP (1.00s)
0.553	4.2	Line 1	46.0	-41.8	AVG	AVG (0.10s)
0.573	3.8	Neutral	46.0	-42.2	AVG	AVG (0.10s)
0.153	11.4	Line 1	55.8	-44.4	AVG	AVG (0.10s)
0.168	9.8	Line 1	55.1	-45.3	AVG	AVG (0.10s)
0.161	9.5	Neutral	55.4	-45.9	AVG	AVG (0.10s)
0.157	9.4	Neutral	55.6	-46.2	AVG	AVG (0.10s)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements

Power, PSD, Bandwidth and 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: 5/2/2012
Test Engineer: Joseph Cadigal / Rafael Varelas
Test Location: FT Chamber#5

Config. Used: 1
Config Change: none
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 23 °C
Rel. Humidity: 37 %

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1			Output Power	15.247(b)	Pass	802.11b: 47.9mW 802.11g: 43.9mW n20: 39.6mW n40: 20mW
2			Power spectral Density (PSD)	15.247(d)	Pass	-13.3 dBm/3kHz
3			Minimum 6dB Bandwidth	15.247(a)	Pass	10.1 MHz
3			99% Bandwidth	RSS GEN	-	802.11b: 13.6MHz 802.11g: 17.1MHz n20: 18.3MHz n40: 36.6MHz
4			Spurious emissions	15.247(b)	Pass	All emissions below the limit -30dBc

Modifications Made During Testing

No modifications were made to the EUT during testing

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Deviations From The Standard

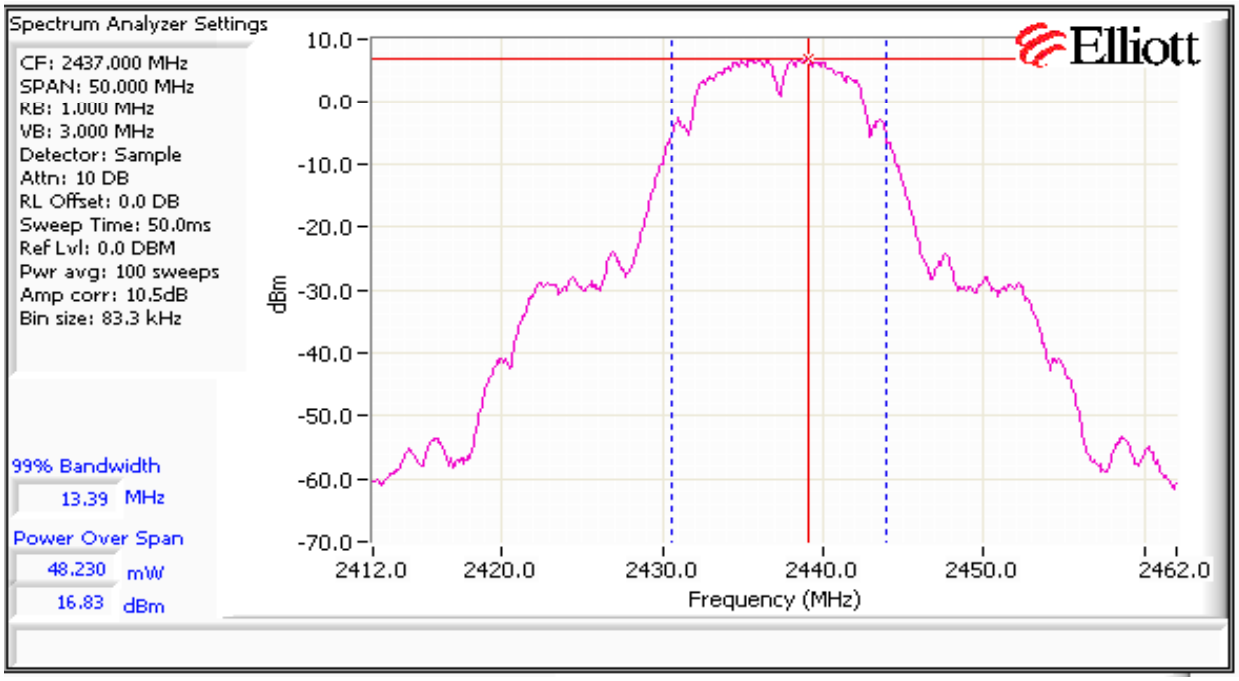
No deviations were made from the requirements of the standard.

Run #1: Output Power

802.11b Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
23	2412	16.8	47.6	3.2	Pass	20.0	0.100	16.5	44.7
22.5	2437	16.8	47.9	3.2	Pass	20.0	0.100	16.5	44.7
22.5	2462	16.3	42.8	3.2	Pass	19.5	0.089	16.5	44.7

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

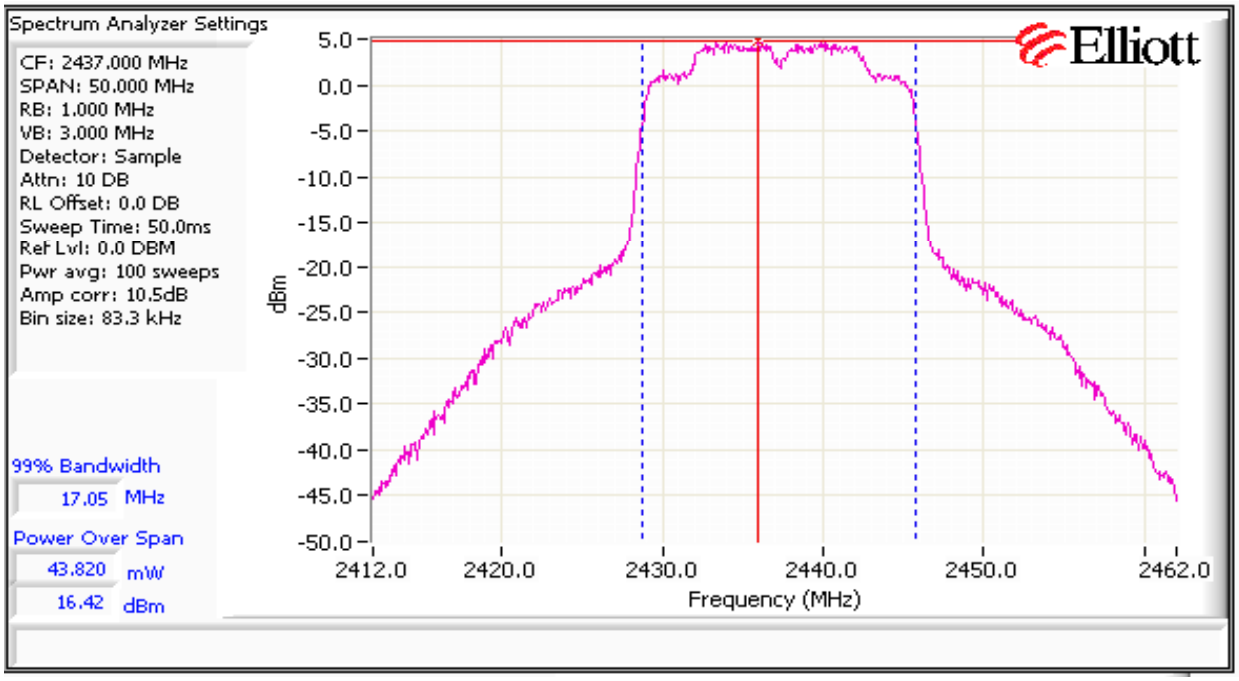


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11g Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP Note 2 dBm	EIRP Note 2 W	Output Power (dBm) [3]	Output Power mW
26	2412	14.2	26.5	3.2	Pass	17.4	0.055	14.5	28.2
28.5	2437	16.4	43.9	3.2	Pass	19.6	0.092	16.5	44.7
25	2462	13.3	21.6	3.2	Pass	16.5	0.045	14.3	26.9

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

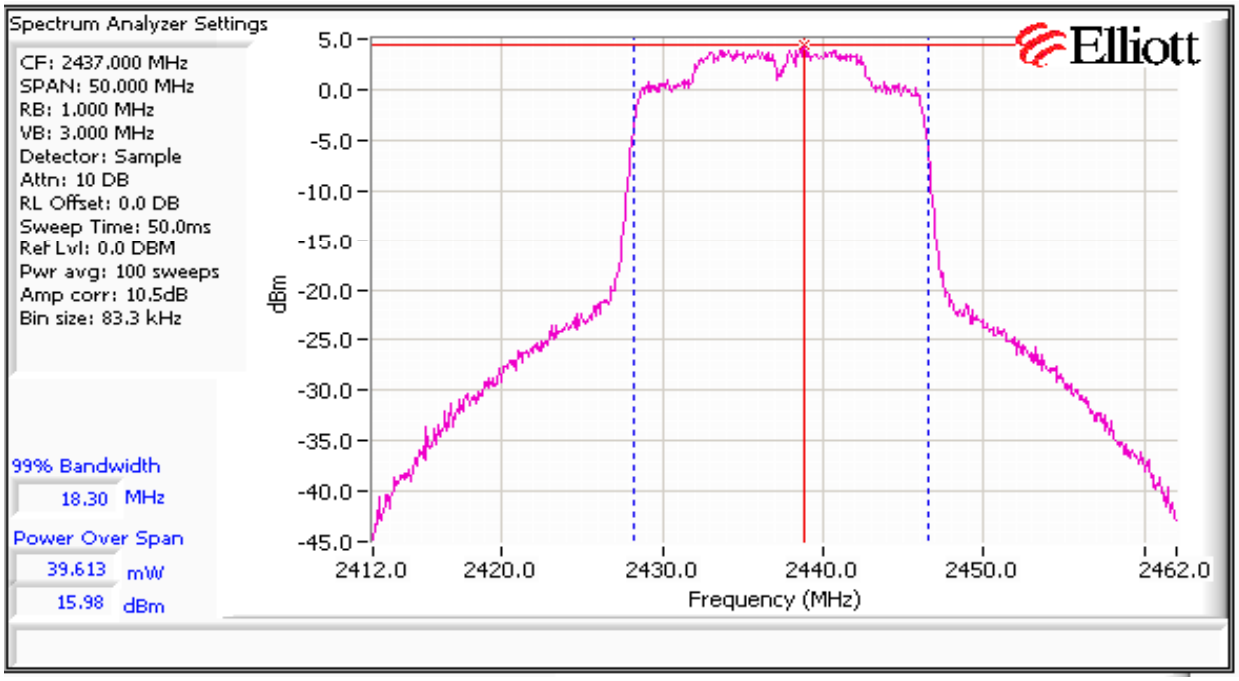


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 20MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
24.5	2412	13.0	19.7	3.2	Pass	16.2	0.041	13.1	20.4
28	2437	16.0	39.6	3.2	Pass	19.2	0.083	16.5	44.7
22.5	2462	11.3	13.4	3.2	Pass	14.5	0.028	12.5	17.8

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

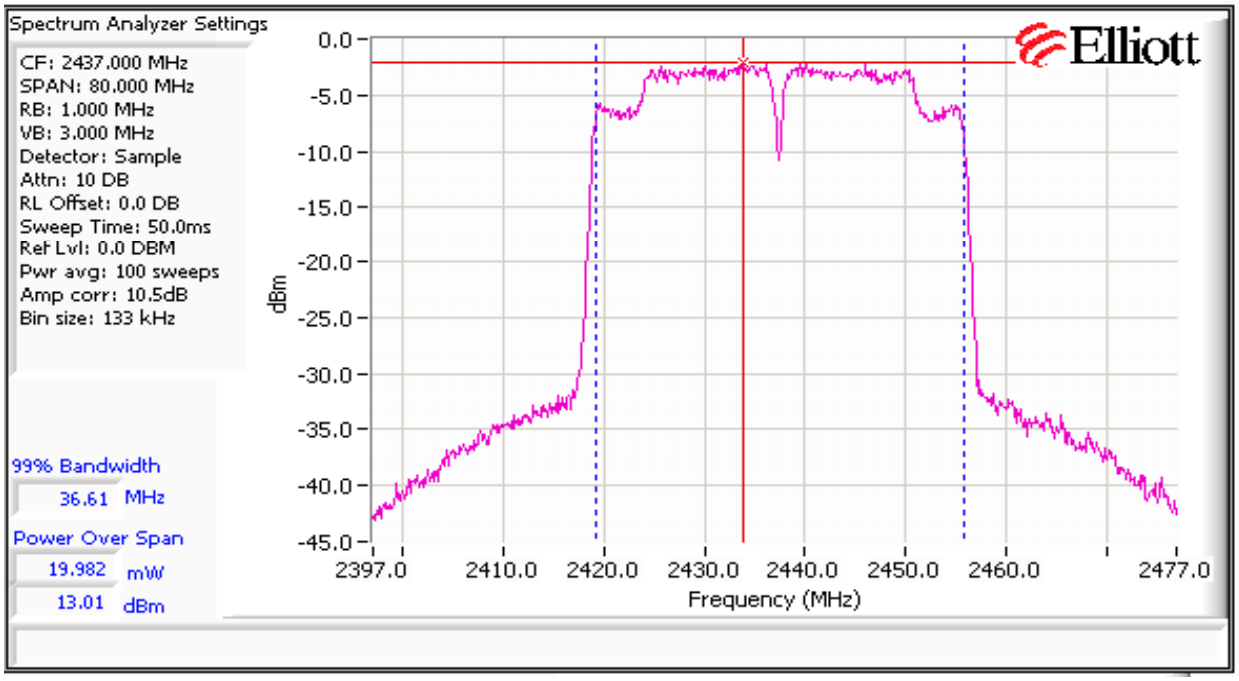


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 40MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
21	2422	10.2	10.4	3.2	Pass	13.4	0.022	10.6	11.5
24	2437	13.0	20.0	3.2	Pass	16.2	0.042	13.6	22.9
20.5	2452	9.7	9.4	3.2	Pass	12.9	0.020	10.1	10.2

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

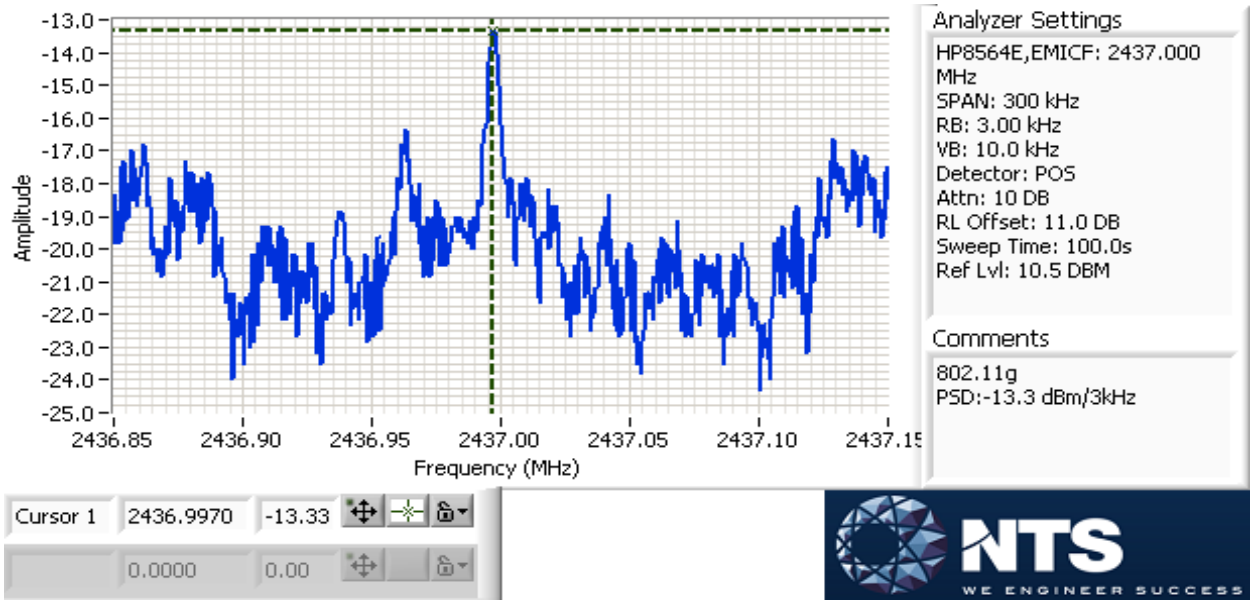


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
802.11b	23	2412	-15.7	8.0	Pass
	22.5	2437	-16.5	8.0	Pass
	22.5	2462	-16.7	8.0	Pass
802.11g	26	2412	-17.5	8.0	Pass
	28.5	2437	-13.3	8.0	Pass
	25	2462	-17.3	8.0	Pass
802.11n 20MHz	24.5	2412	-16.5	8.0	Pass
	28	2437	-16.5	8.0	Pass
	22.5	2462	-20.2	8.0	Pass
802.11n 40MHz	21	2422	-29.5	8.0	Pass
	24	2437	-29.5	8.0	Pass
	20.5	2452	-24.8	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
802.11b	23	2412	100kHz/1MHz	10.1	13.6
	22.5	2437	100kHz/1MHz	10.2	13.6
	22.5	2462	100kHz/1MHz	10.2	13.6
802.11g	26	2412	100kHz/1MHz	15.2	16.9
	28.5	2437	100kHz/1MHz	15.1	17.1
	25	2462	100kHz/1MHz	15.4	16.9
802.11n 20MHz	24.5	2412	100kHz/1MHz	15.1	18.1
	28	2437	100kHz/1MHz	15.3	18.3
	22.5	2462	100kHz/1MHz	15.3	18.1
802.11n 40MHz	21	2422	100kHz/1MHz	35.2	36.6
	24	2437	100kHz/1MHz	35.2	36.6
	20.5	2452	100kHz/1MHz	36.3	36.6

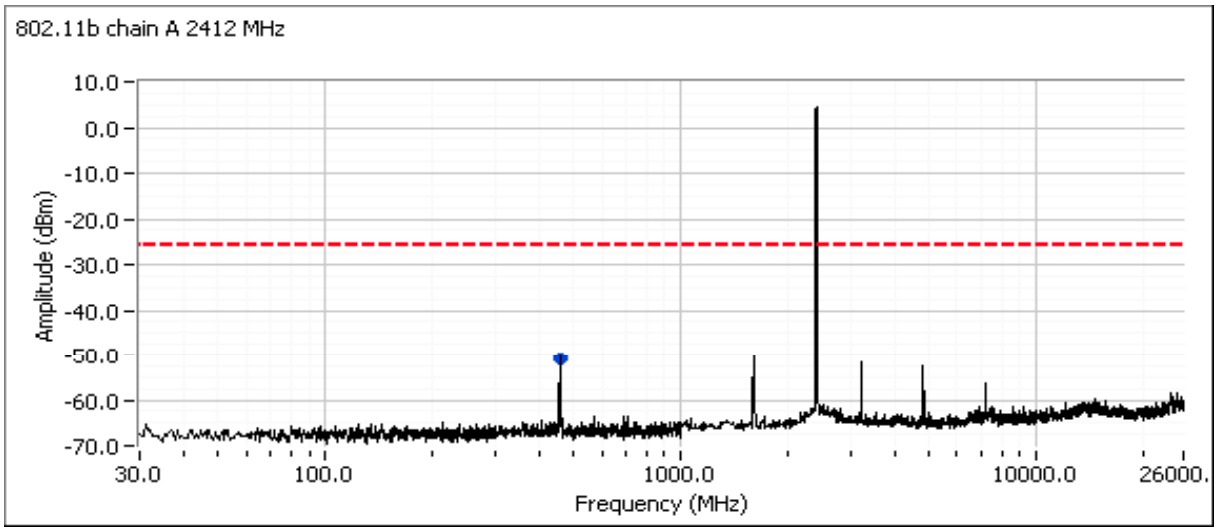
Note 1: 99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #4: Out of Band Spurious Emissions
802.11b Mode

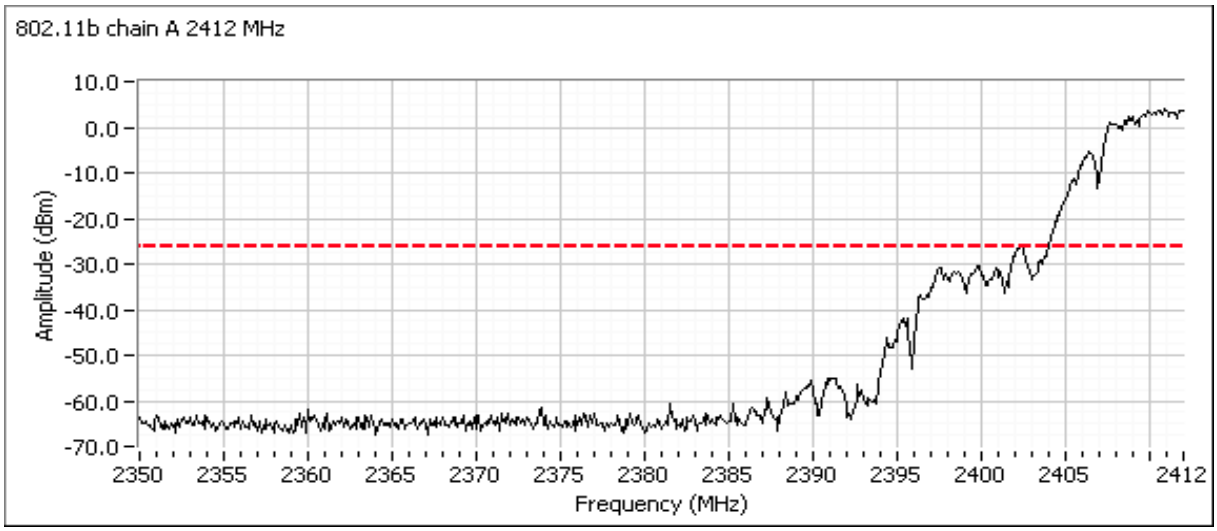
Frequency (MHz)	Limit	Result
2412	-30dBc	Pass
2437	-30dBc	Pass
2462	-30dBc	Pass

Plots for low channel, power setting(s) = 23

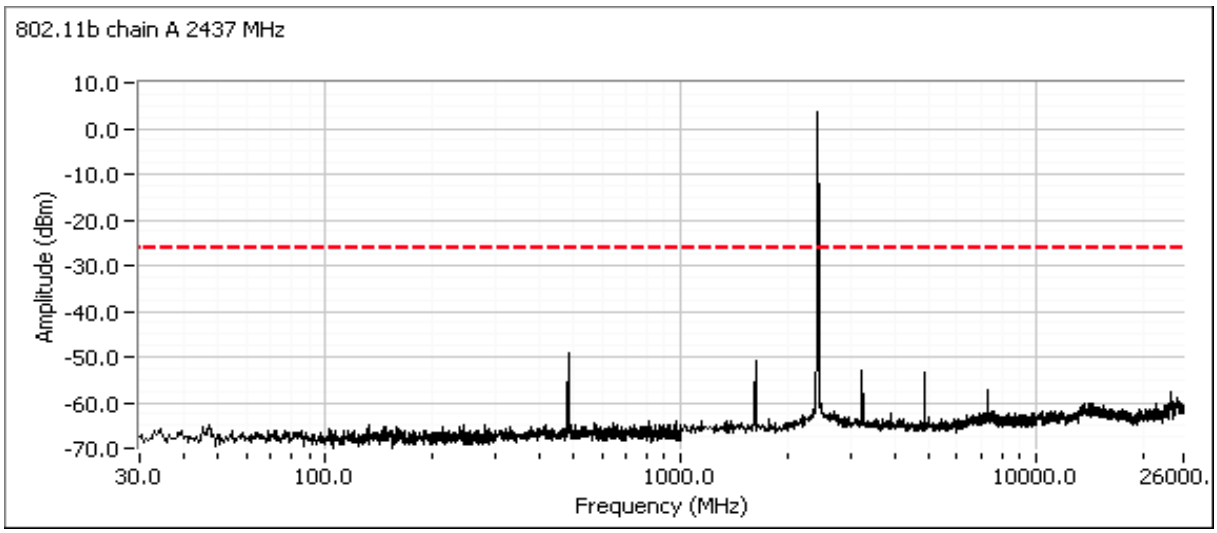


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

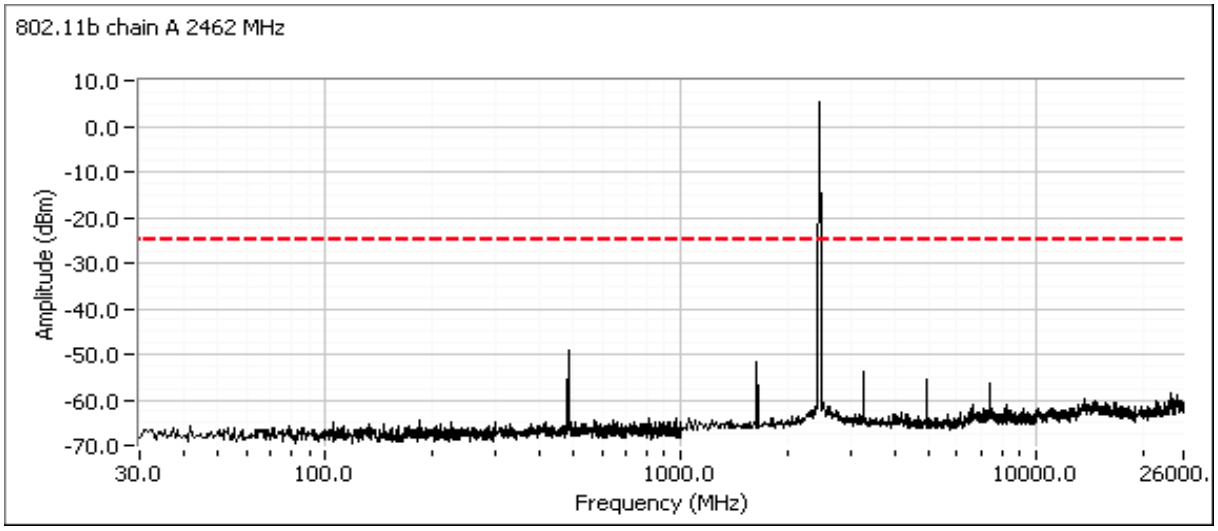


Plots for center channel, power setting(s) = 22.5



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for high channel, power setting(s) = 22.5

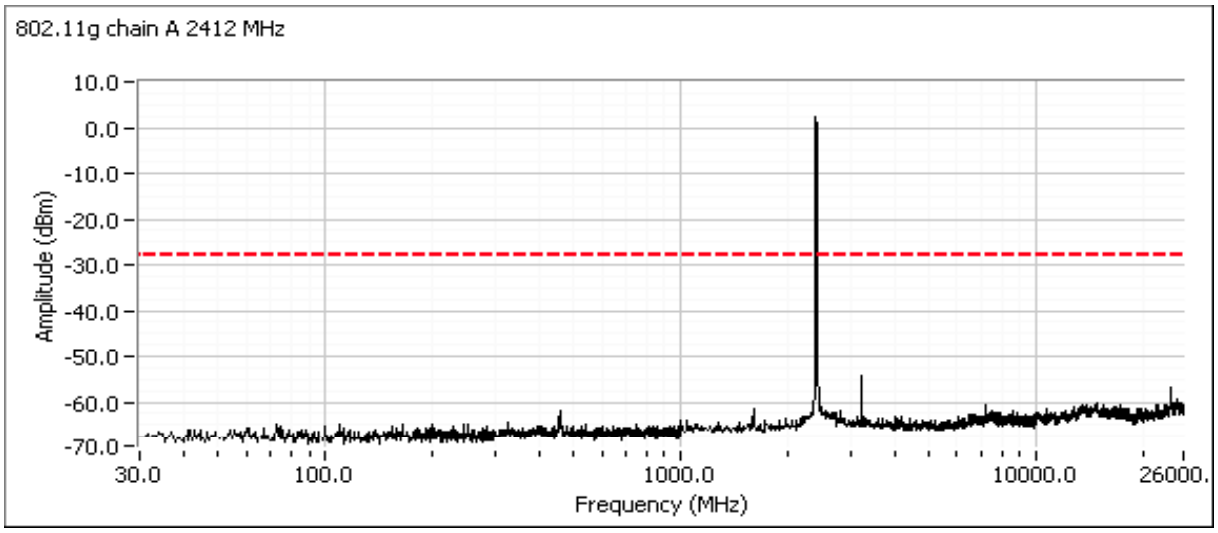


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

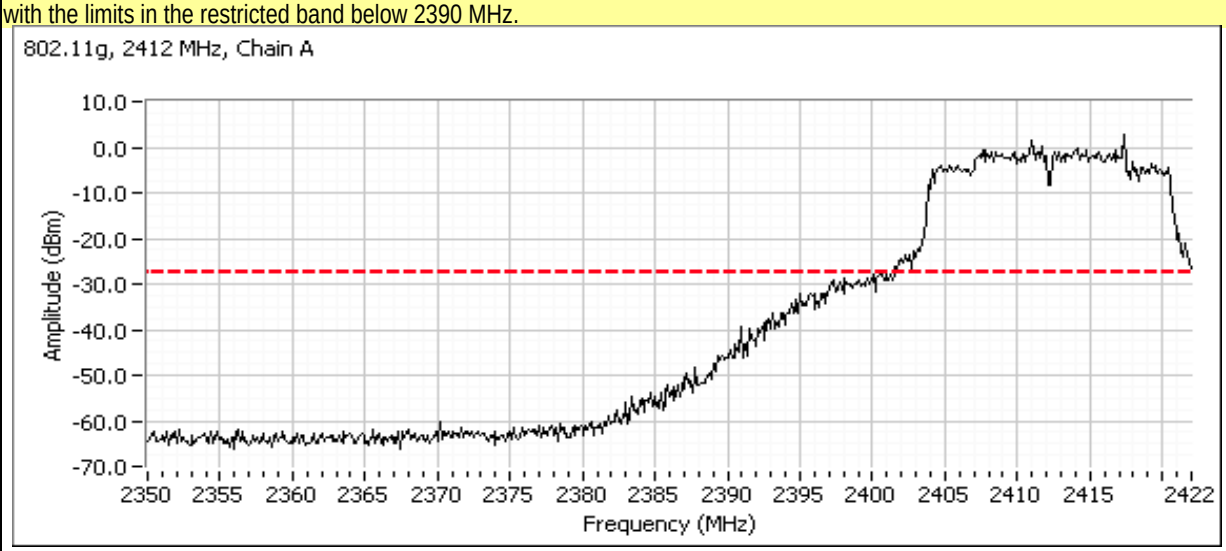
802.11g Mode

Frequency (MHz)	Limit	Result
2412	-30dBc	Pass
2437	-30dBc	Pass
2462	-30dBc	Pass

Plots for low channel, power setting(s) = 26

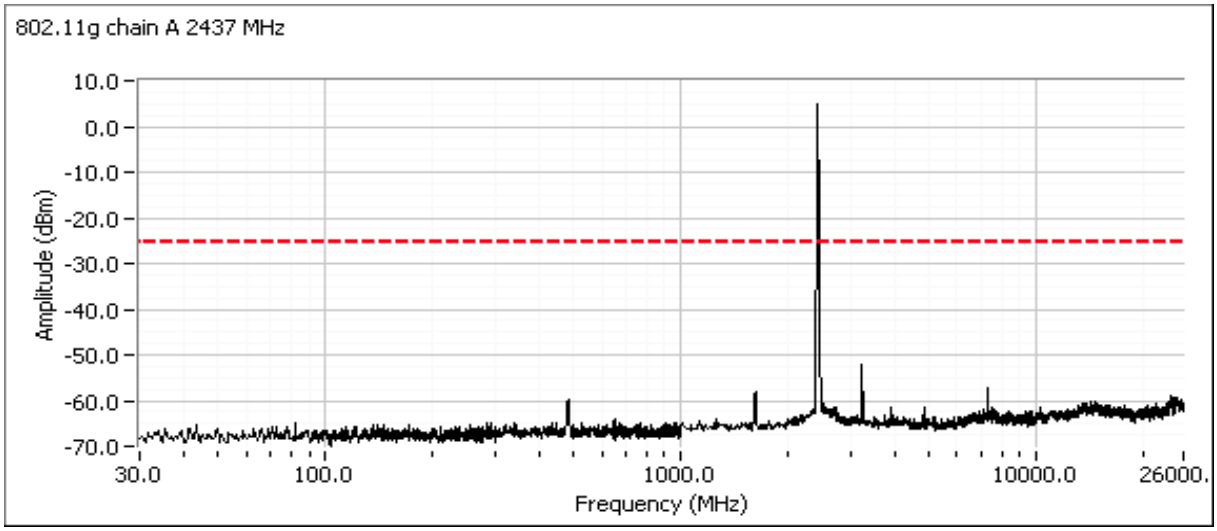


Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

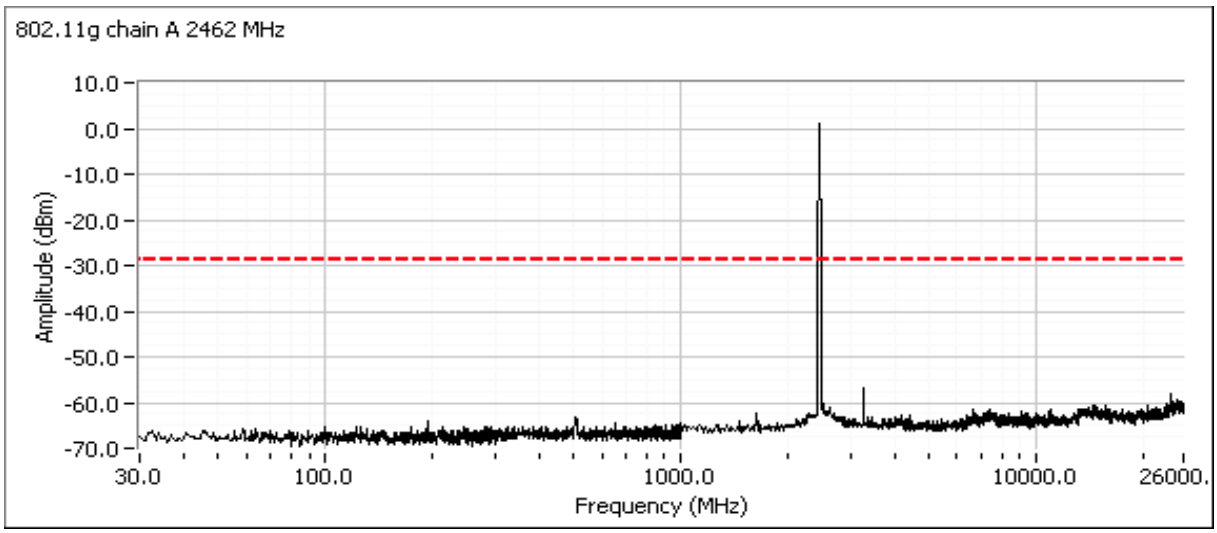


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 28.5



Plots for high channel, power setting(s) = 25

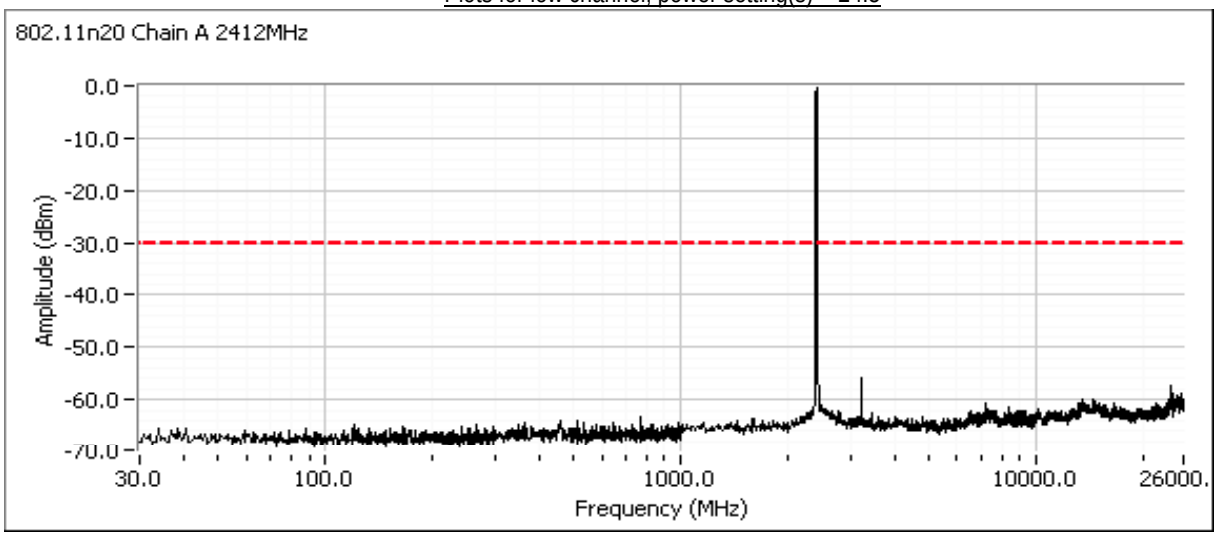


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

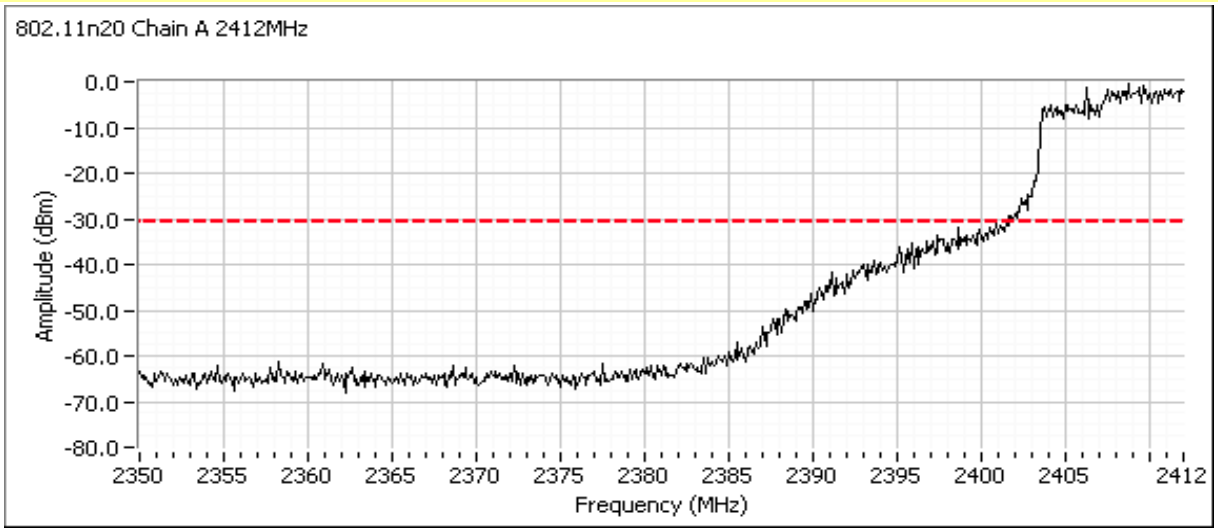
802.11n 20MHz Mode

Frequency (MHz)	Limit	Result
2412	-30dBc	Pass
2437	-30dBc	Pass
2462	-30dBc	Pass

Plots for low channel, power setting(s) = 24.5

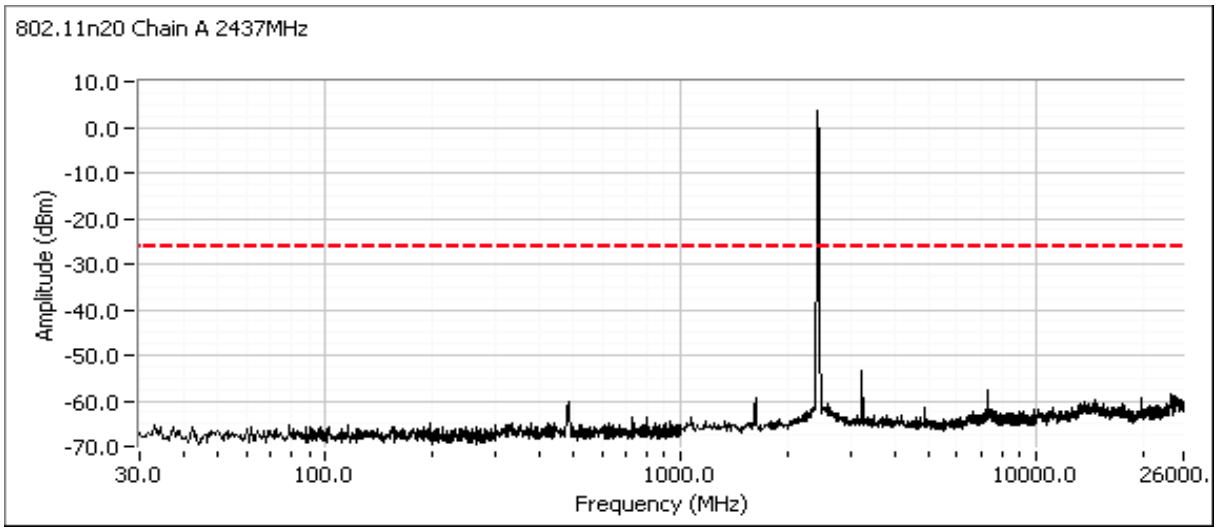


Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

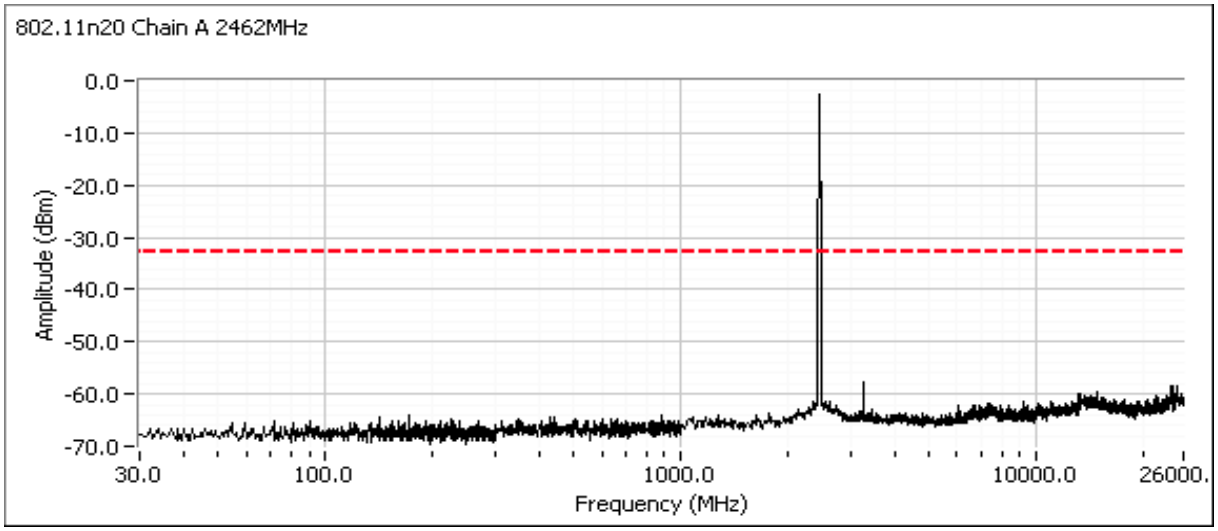


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 28



Plots for high channel, power setting(s) = 22.5

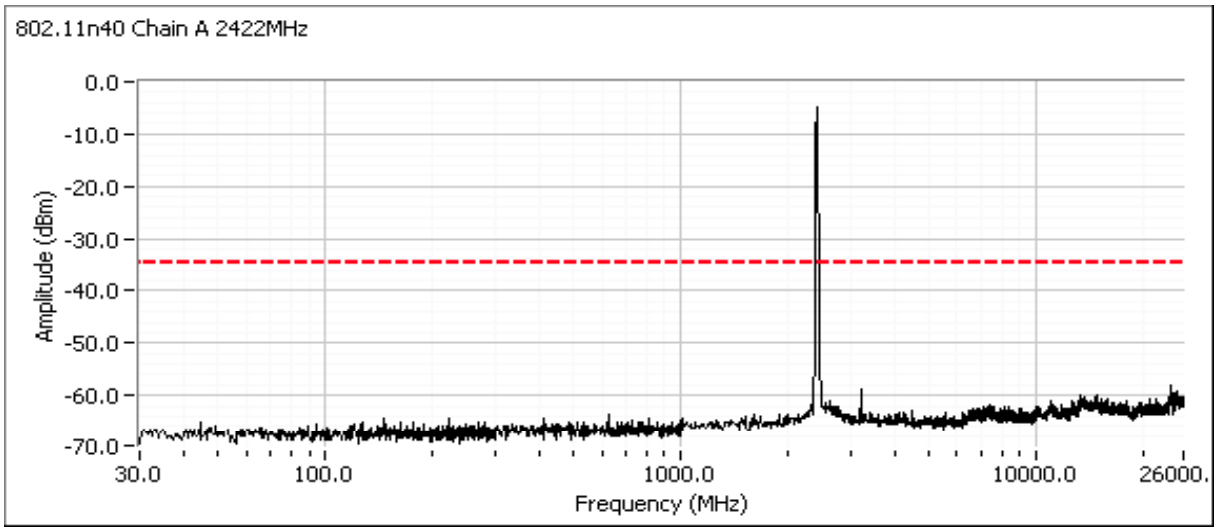


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

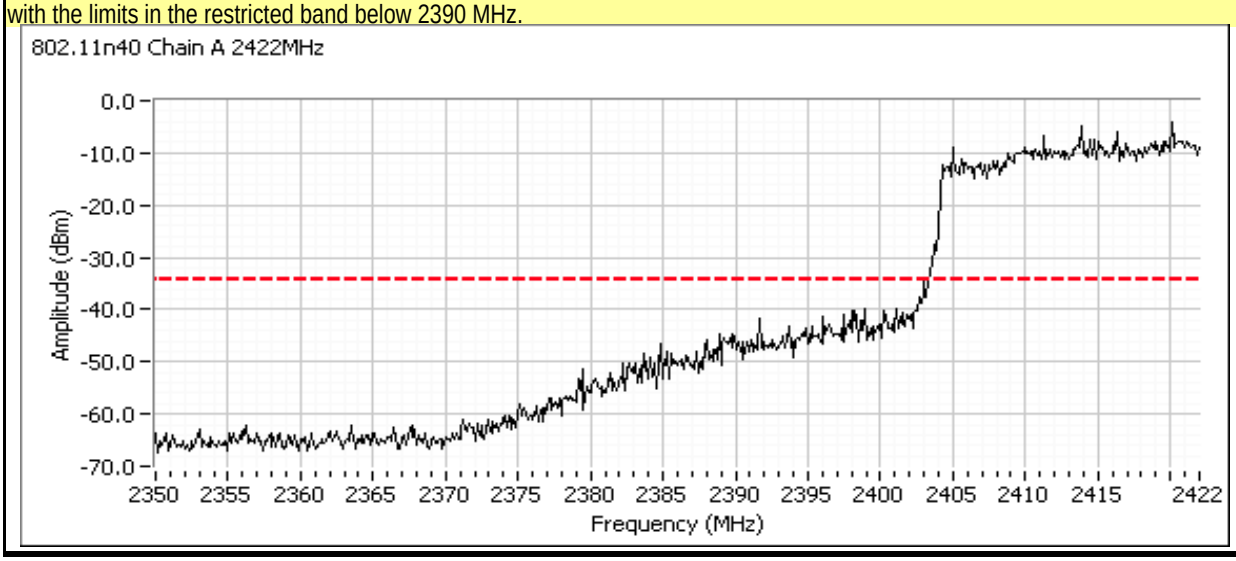
802.11n 40MHz Mode

Frequency (MHz)	Limit	Result
2422	-30dBc	Pass
2437	-30dBc	
2452	-30dBc	

Plots for low channel, power setting(s) = 21

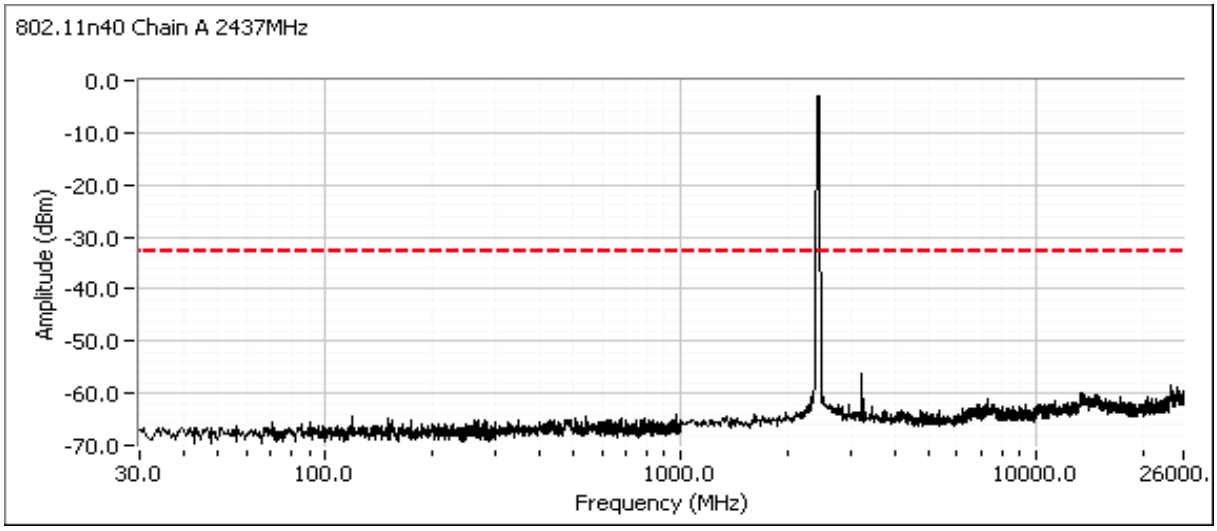


Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

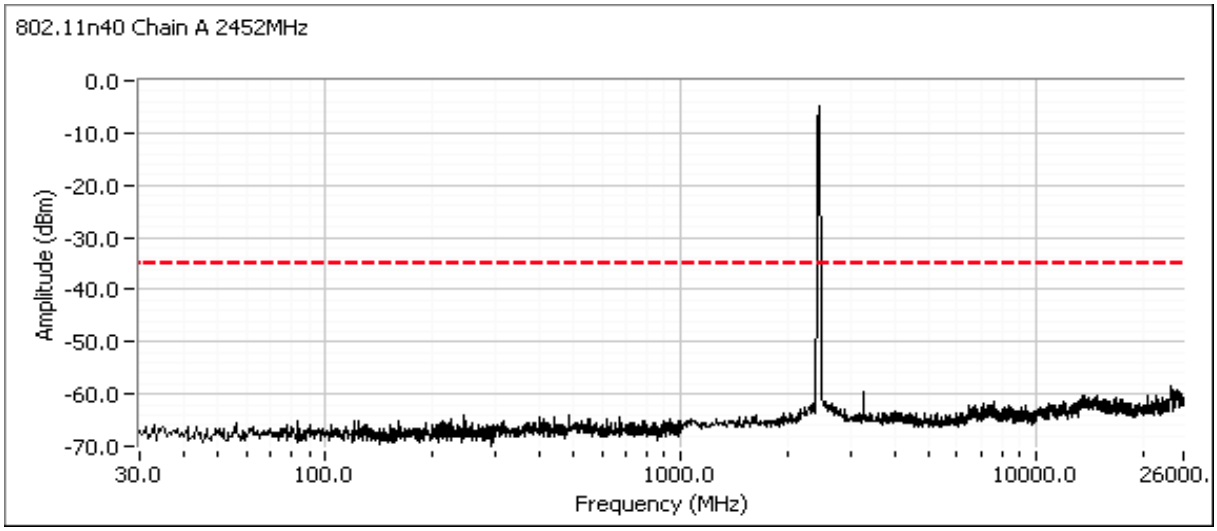


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 24



Plots for high channel, power setting(s) = 20.5



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements

Power, PSD, Bandwidth and 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: 5/7/2012
Test Engineer: Rafael Varelas
Test Location: FT Lab#2

Config. Used: 1
Config Change: none
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 22.3 °C
Rel. Humidity: 34 %

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1			Output Power	15.247(b)	Pass	802.11b: 42.7 mW 802.11g: 91.2 mW n20: 37.2 mW n40: 15.1 mW
2			Power spectral Density (PSD)	15.247(d)	Pass	-8.7 dBm/3kHz
3			Minimum 6dB Bandwidth	15.247(a)	Pass	10.1 MHz
3			99% Bandwidth	RSS GEN	-	802.11b: 13.8 MHz 802.11g: 19.3 MHz n20: 18.4 MHz n40: 36.6 MHz
4			Spurious emissions	15.247(b)	Pass	All emissions below the limit

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.

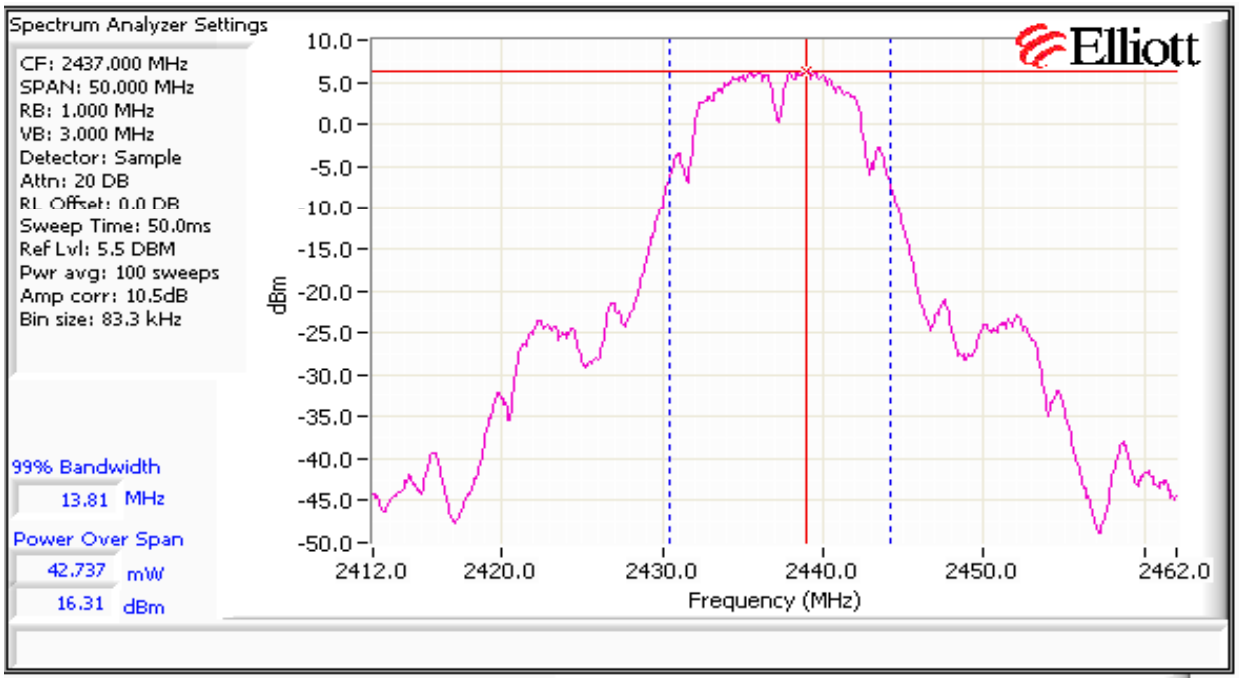
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Output Power

802.11b Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP Note 2 dBm	EIRP Note 2 W	Output Power (dBm) [3]	Output Power mW
28.5	2412	15.3	33.9	3.2	Pass	18.5	0.071	16.1	40.7
28.5	2437	16.3	42.7	3.2	Pass	19.5	0.089	16.7	46.8
26.5	2462	16.1	40.7	3.2	Pass	19.3	0.085	16.2	41.7

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11g Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
31	2412	17.3	53.7	3.2	Pass	20.5	0.112	13.6	22.9
34	2437	19.6	91.2	3.2	Pass	22.8	0.191	16.6	45.7
28.5	2462	17.7	58.9	3.2	Pass	20.9	0.123	13.6	22.9

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

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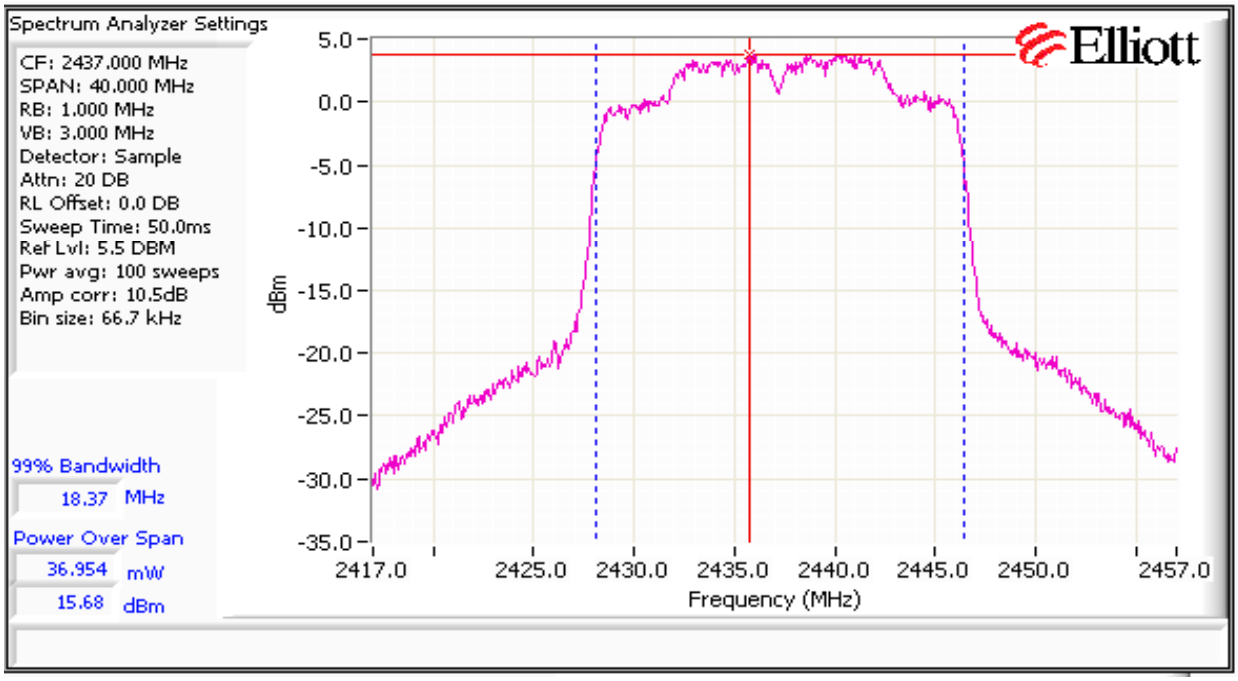
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 20MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
29.5	2412	11.5	14.1	3.2	Pass	14.7	0.030	12.5	17.8
34	2437	15.7	37.2	3.2	Pass	18.9	0.078	16.6	45.7
27.5	2462	11.6	14.5	3.2	Pass	14.8	0.030	12.6	18.2

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

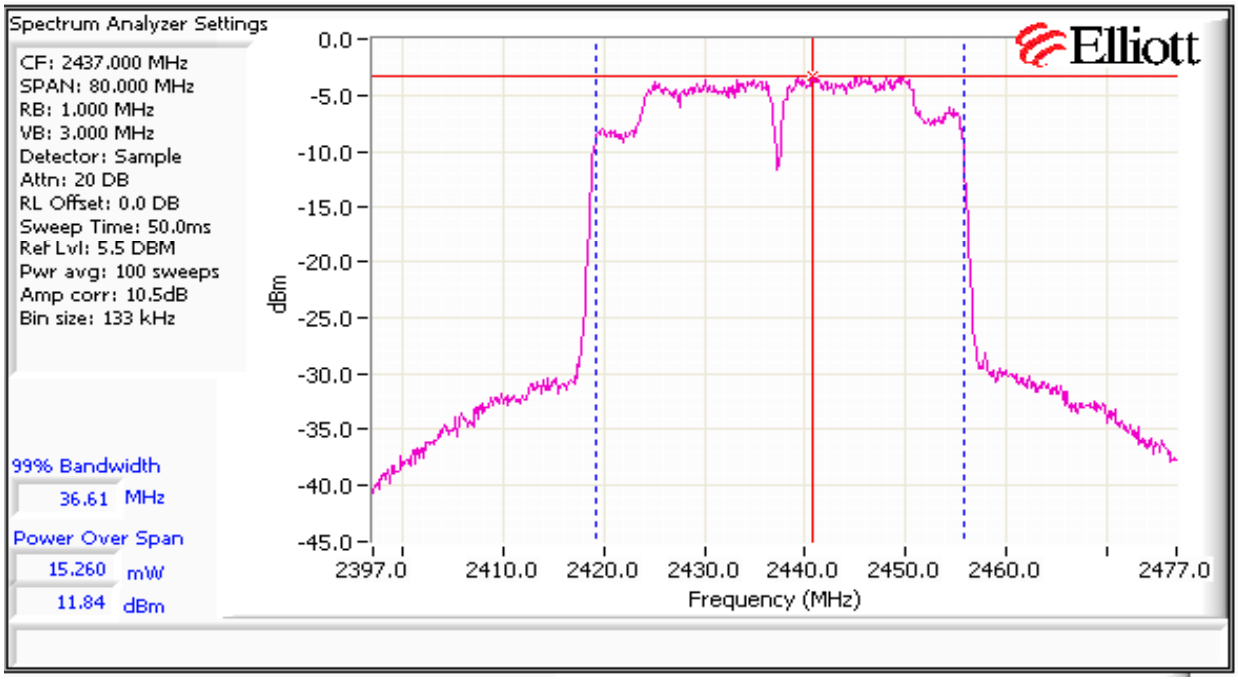


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 40MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
25.5	2422	8.7	7.4	3.2	Pass	11.9	0.015	9.7	9.3
28.5	2437	11.8	15.1	3.2	Pass	15.0	0.032	12.6	18.2
23.5	2452	8.0	6.3	3.2	Pass	11.2	0.013	9.1	8.1

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

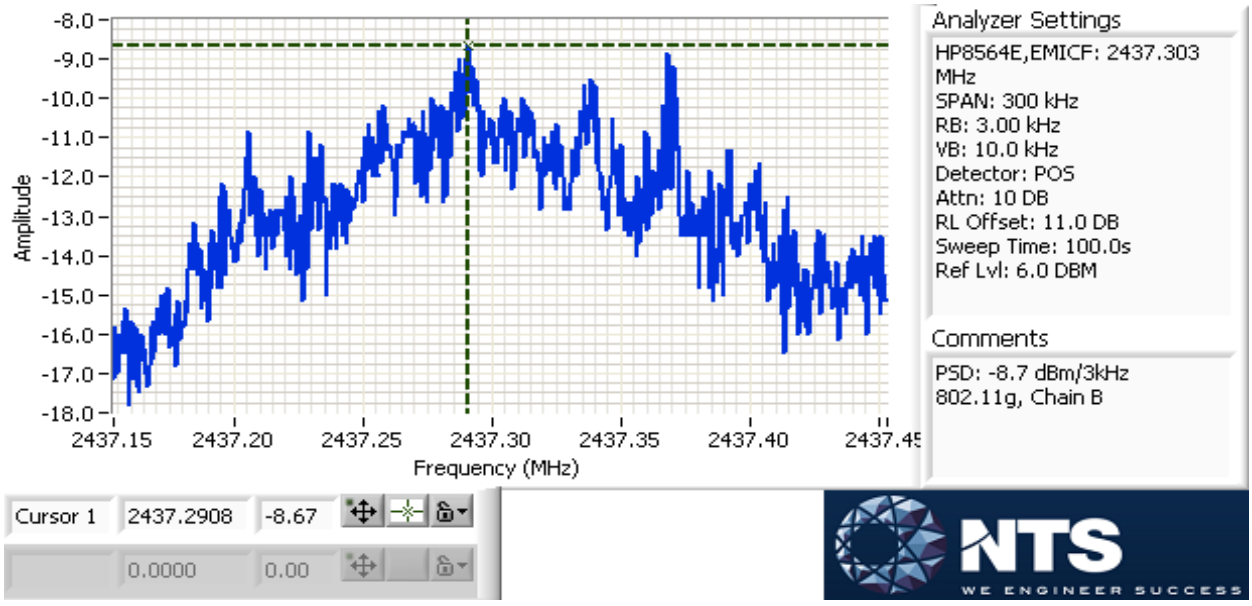


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
802.11b	28.5	2412	-10.2	8.0	Pass
	28.5	2437	-9.3	8.0	Pass
	26.5	2462	-8.8	8.0	Pass
802.11g	31.0	2412	-11.8	8.0	Pass
	34.0	2437	-8.7	8.0	Pass
	28.5	2462	-11.7	8.0	Pass
802.11n 20MHz	29.5	2412	-13.9	8.0	Pass
	34.0	2437	-9.6	8.0	Pass
	27.5	2462	-13.3	8.0	Pass
802.11n 40MHz	25.5	2422	-18.9	8.0	Pass
	28.5	2437	-15.9	8.0	Pass
	23.5	2452	-18.4	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



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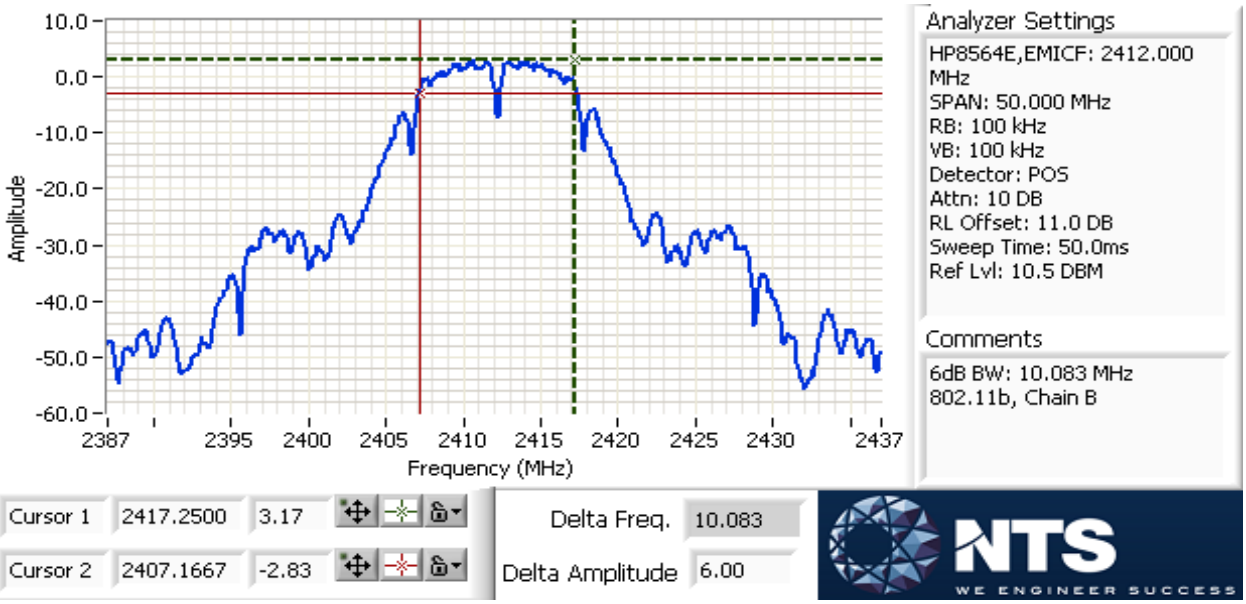
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
802.11b	28.5	2412	100kHz/1MHz	10.1	13.6
	28.5	2437	100kHz/1MHz	10.2	13.8
	26.5	2462	100kHz/1MHz	10.2	13.6
802.11g	31.0	2412	100kHz/1MHz	15.8	17.8
	34.0	2437	100kHz/1MHz	15.2	19.3
	28.5	2462	100kHz/1MHz	15.8	17.6
802.11n 20MHz	29.5	2412	100kHz/1MHz	15.2	18.1
	34.0	2437	100kHz/1MHz	15.2	18.4
	27.5	2462	100kHz/1MHz	15.2	18.2
802.11n 40MHz	25.5	2422	100kHz/1MHz	35.7	36.5
	28.5	2437	100kHz/1MHz	35.3	36.6
	23.5	2452	100kHz/1MHz	34.4	36.6

Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB

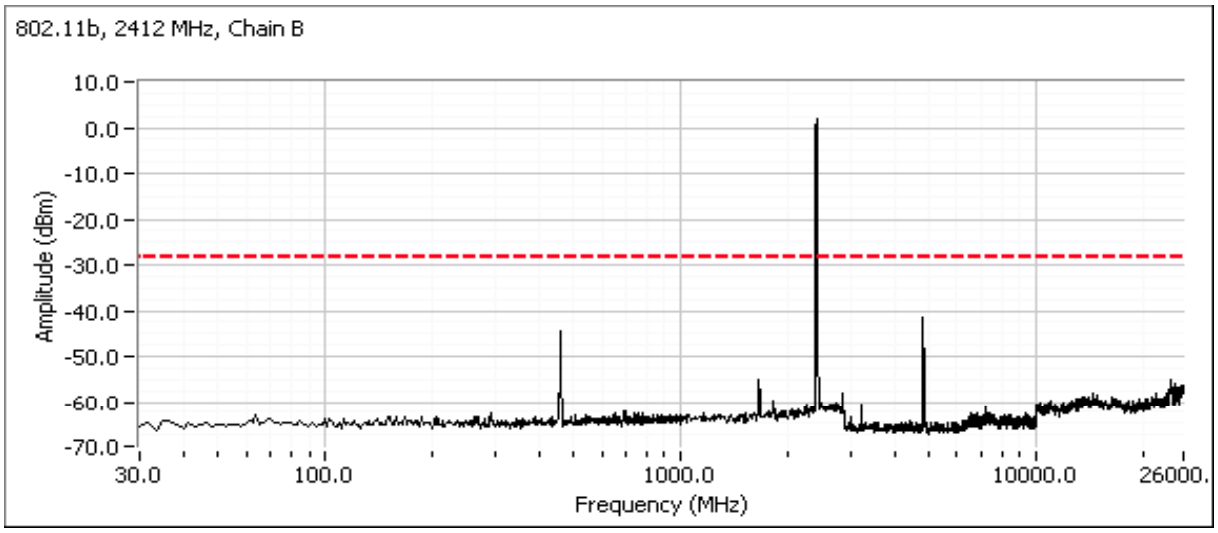


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

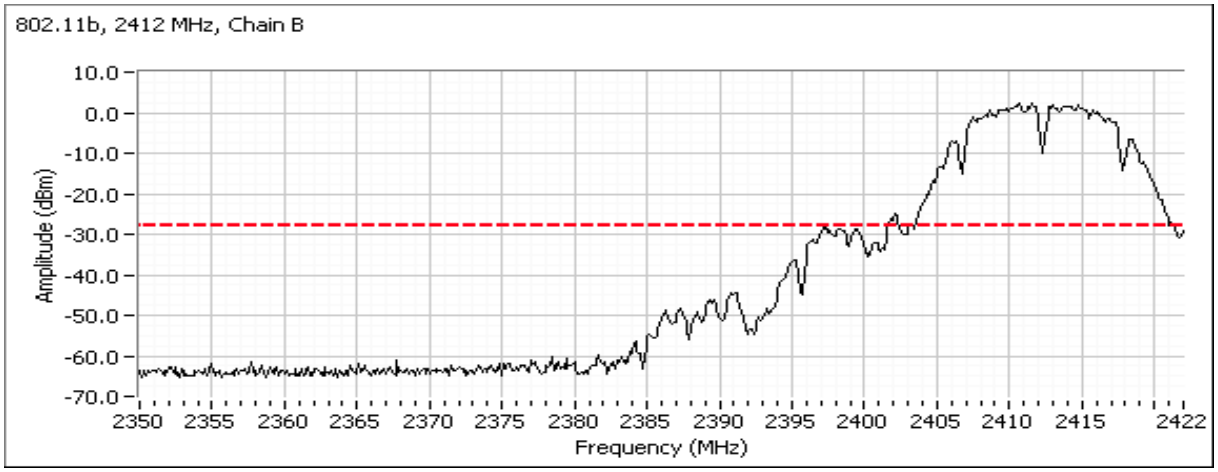
Run #4: Out of Band Spurious Emissions
802.11b Mode

Frequency (MHz)	Limit	Result
2412	-30dBc	Pass
2437	-30dBc	Pass
2462	-30dBc	Pass

Plots for low channel, power setting(s) = 28.5

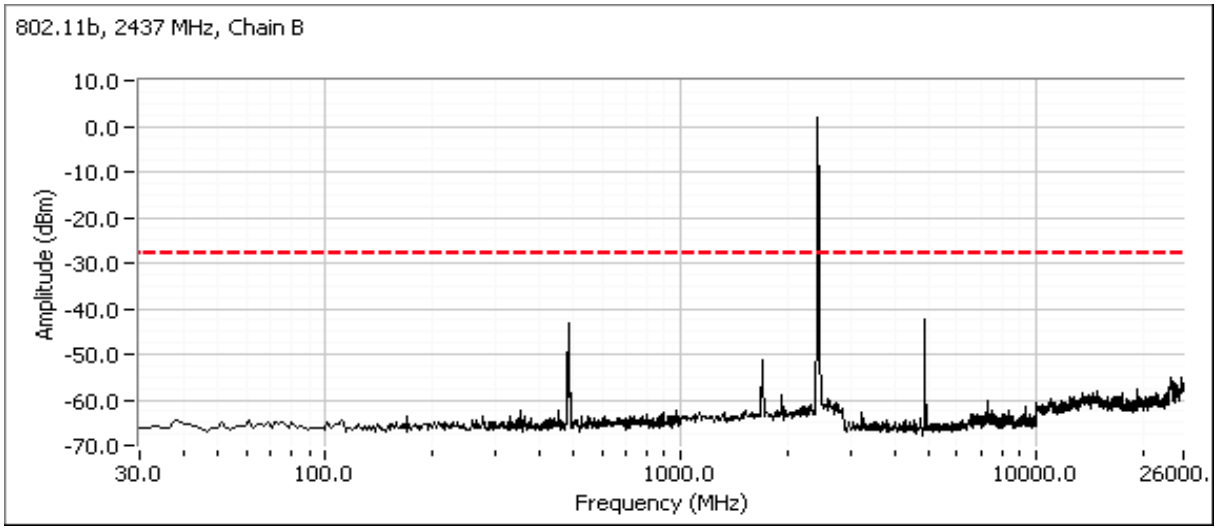


Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

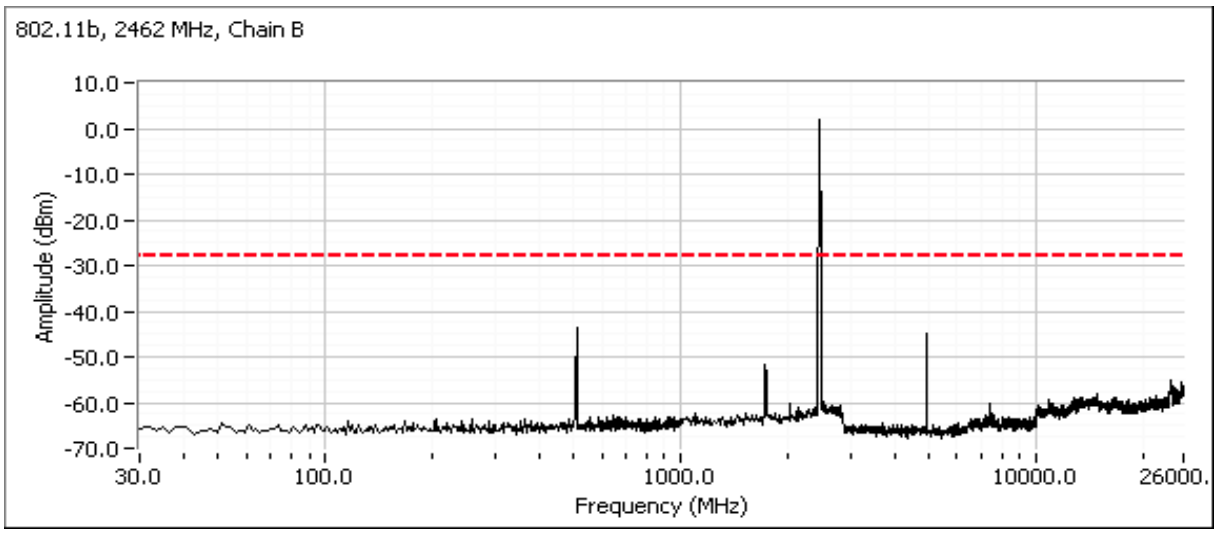


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 28.5



Plots for high channel, power setting(s) = 26.5



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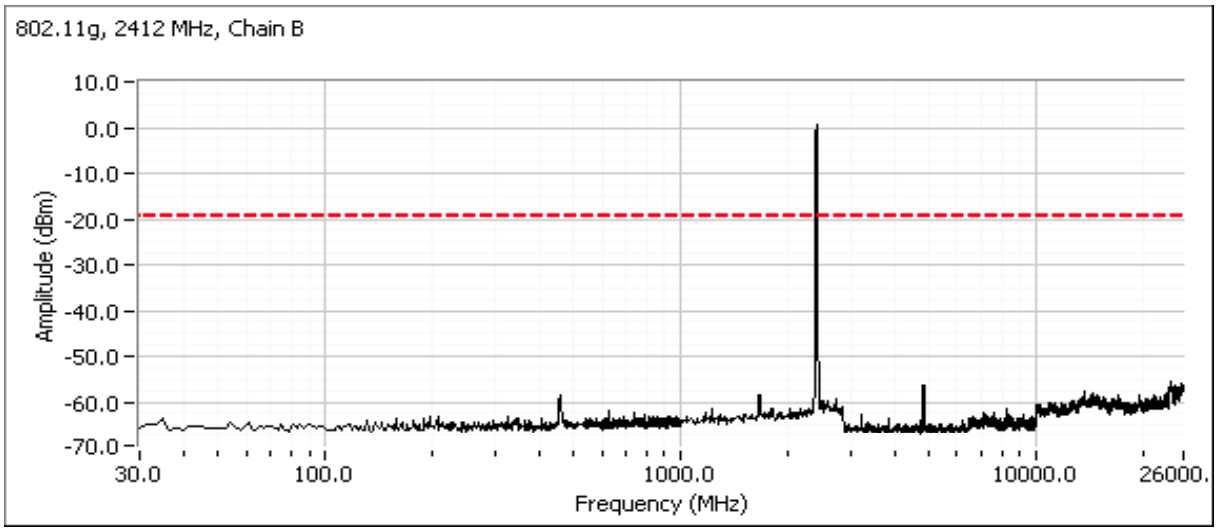
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

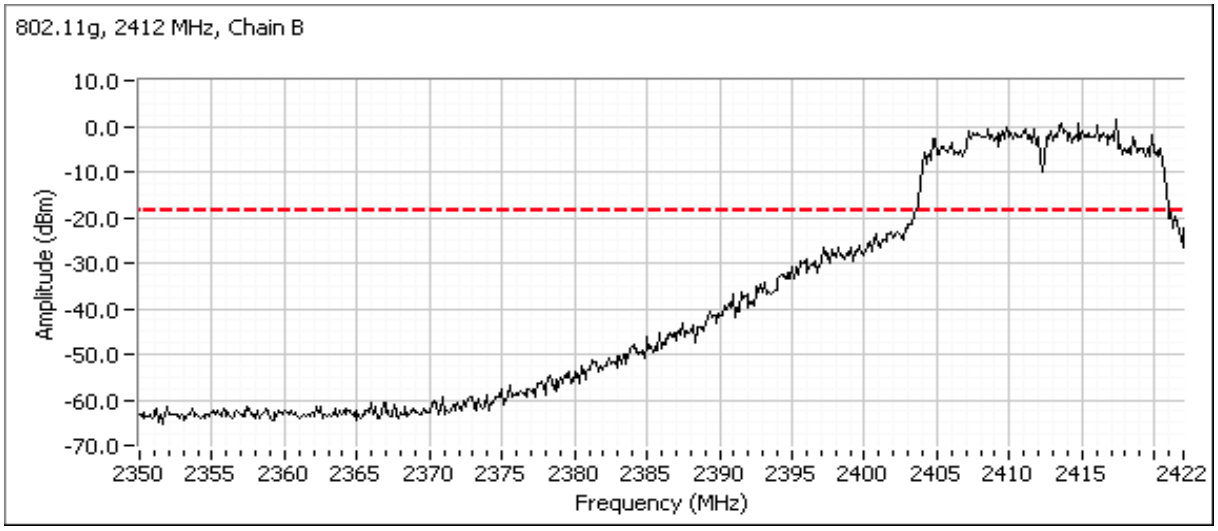
802.11g Mode

Frequency (MHz)	Limit	Result
2412	-20dBc	Pass
2437	-20dBc	Pass
2462	-20dBc	Pass

Plots for low channel, power setting(s) = 31

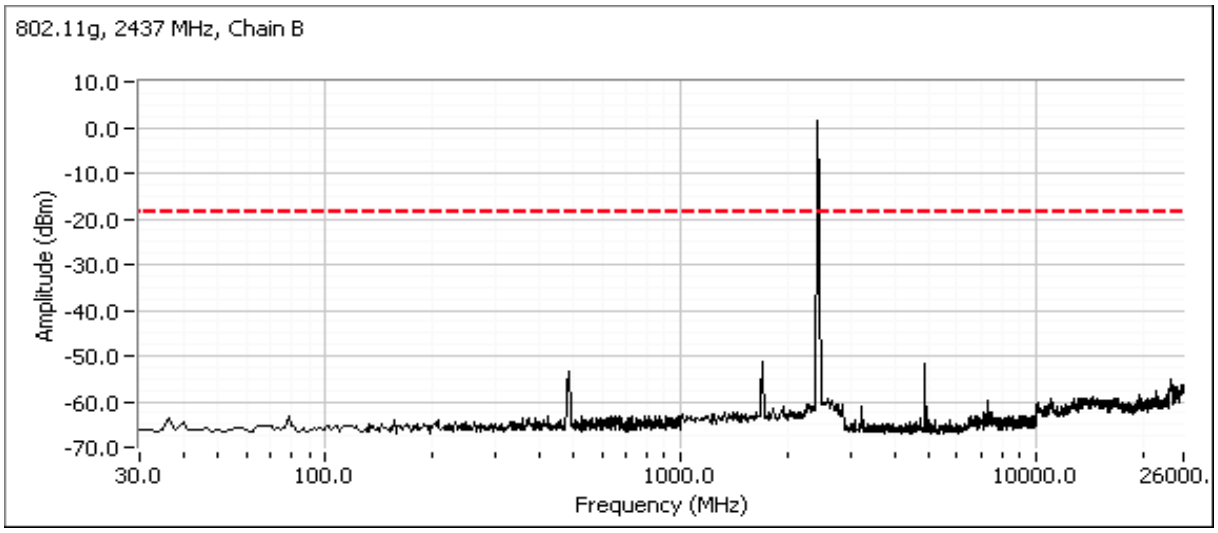


Additional plot showing compliance with -20dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

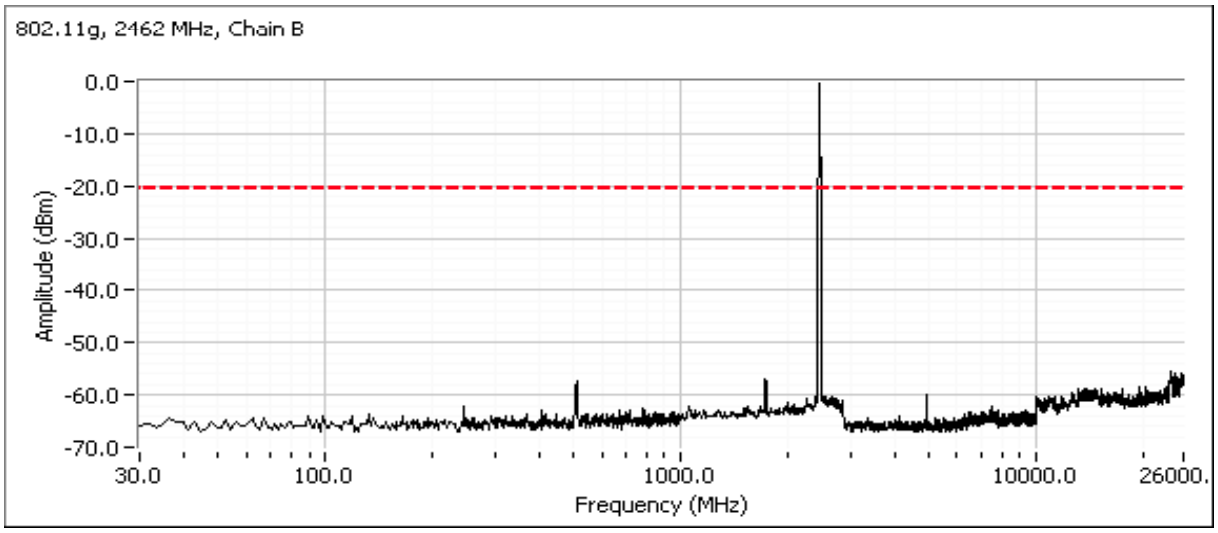


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 34



Plots for high channel, power setting(s) =28.5



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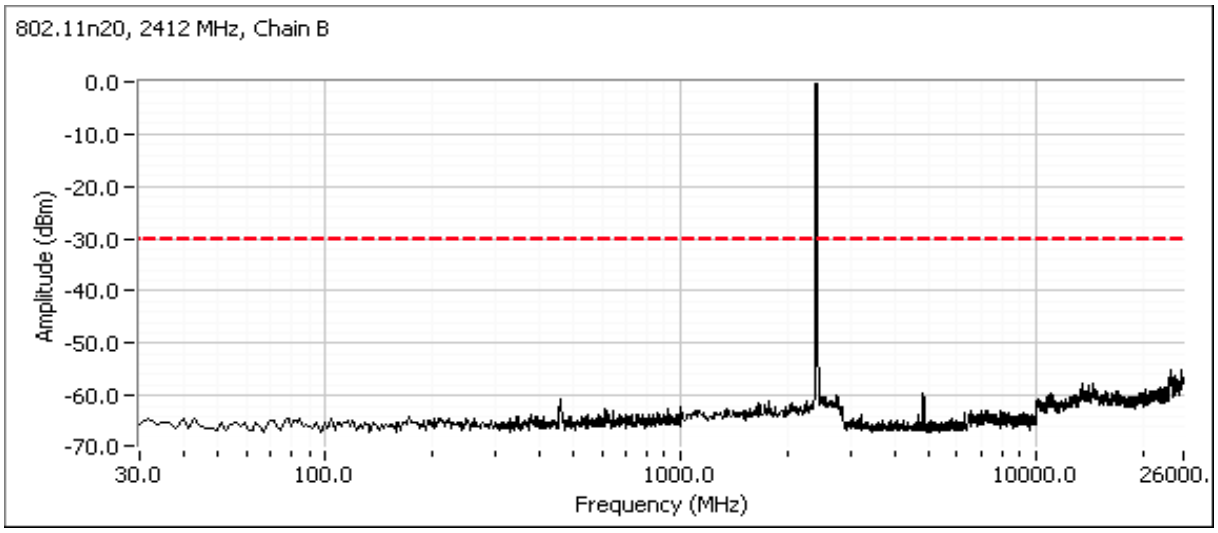
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

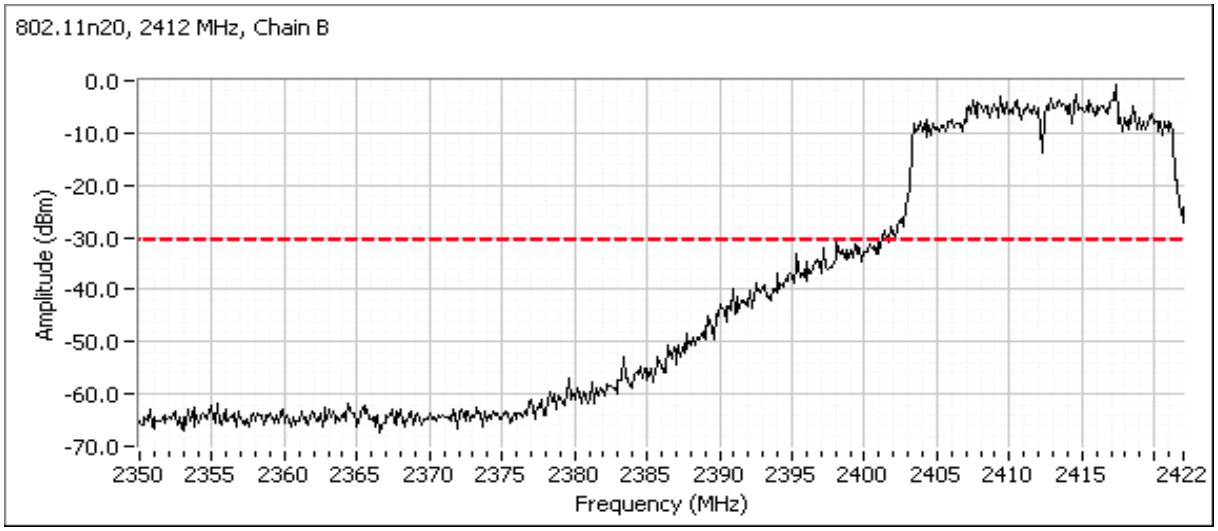
802.11n 20MHz Mode

Frequency (MHz)	Limit	Result
2412	-30dBc	Pass
2437	-30dBc	Pass
2462	-30dBc	Pass

Plots for low channel, power setting(s) = 29.5



Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



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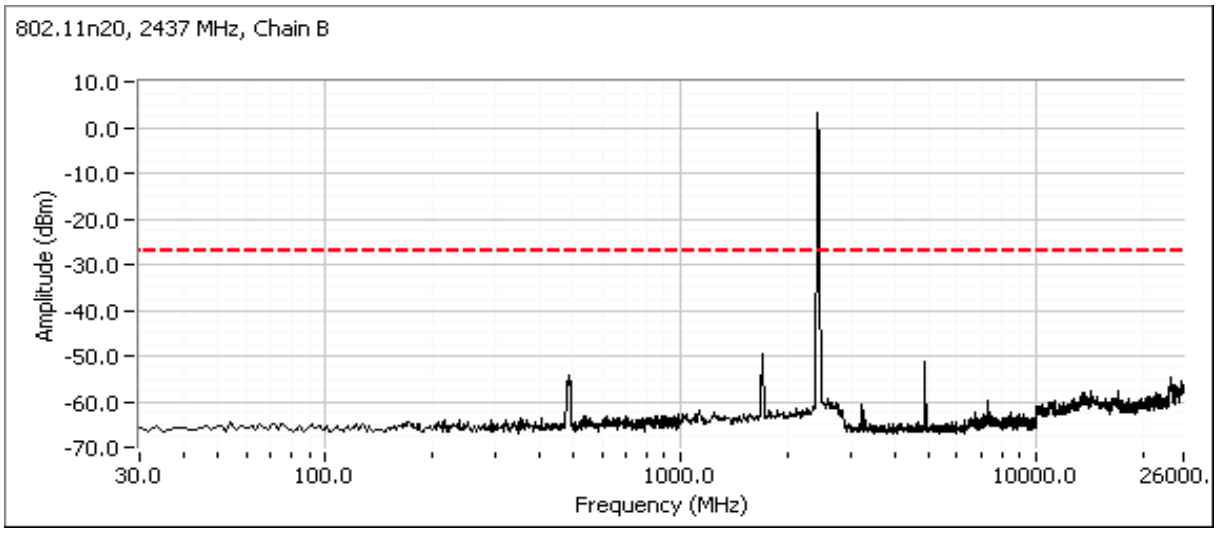
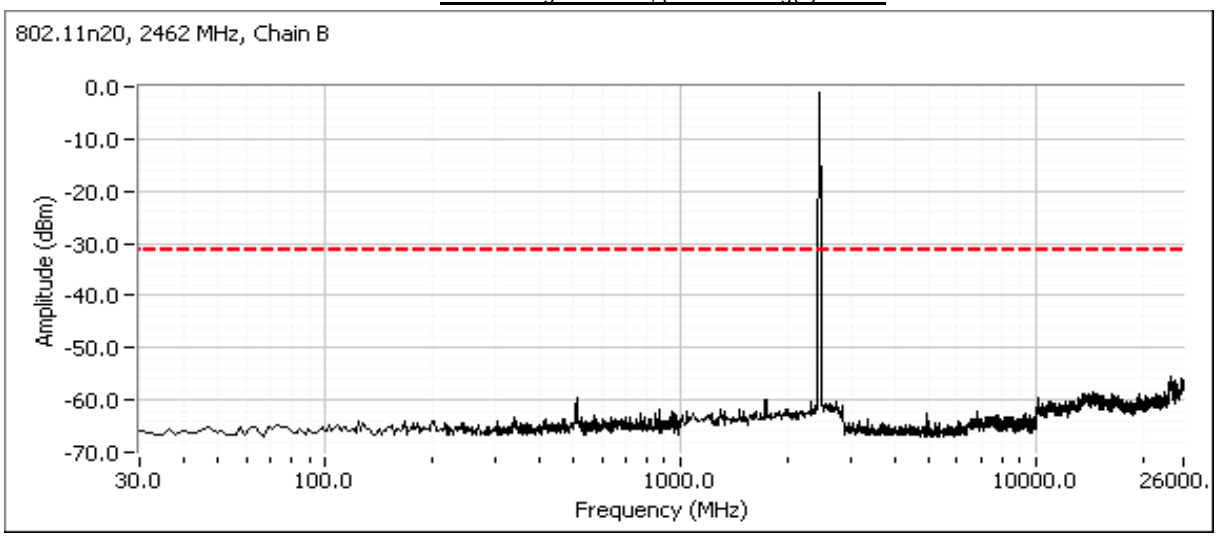
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 34



Plots for high channel, power setting(s) = 27.5



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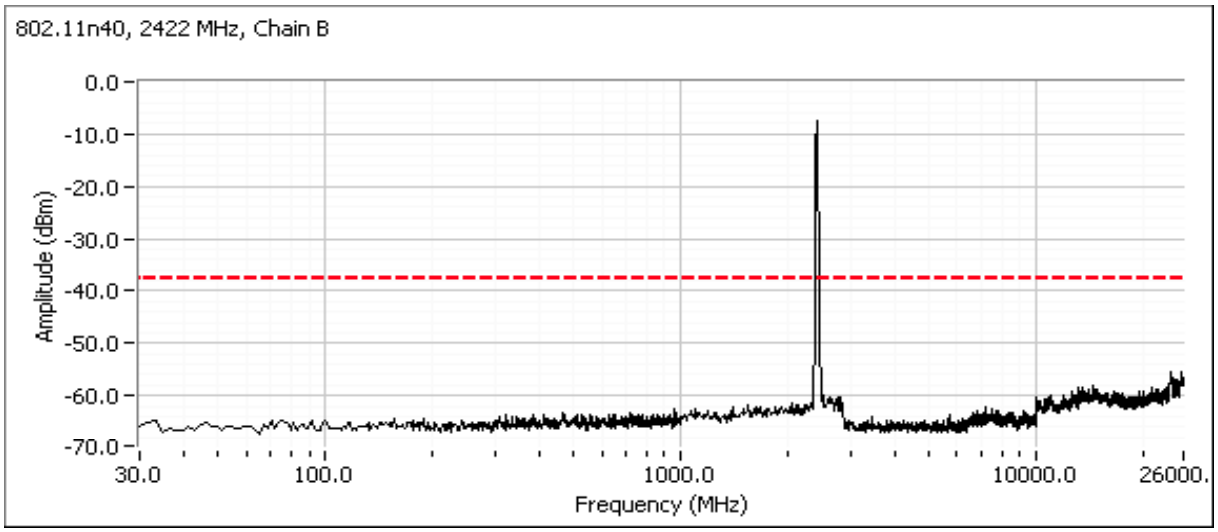
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

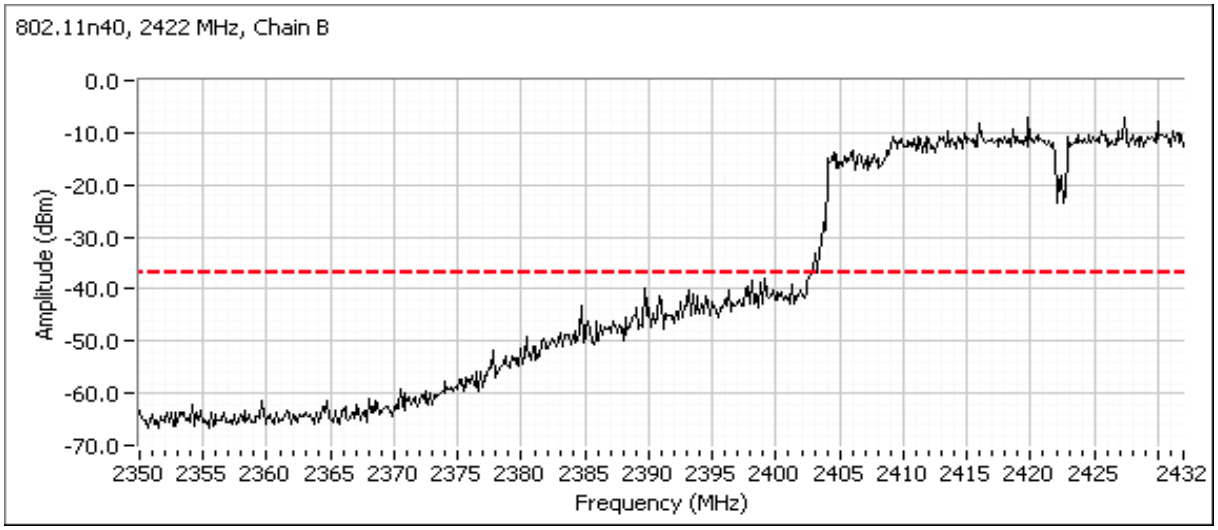
802.11n 40MHz Mode

Frequency (MHz)	Limit	Result
2422	-30dBc	Pass
2437	-30dBc	Pass
2452	-30dBc	Pass

Plots for low channel, power setting(s) = 25.5



Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



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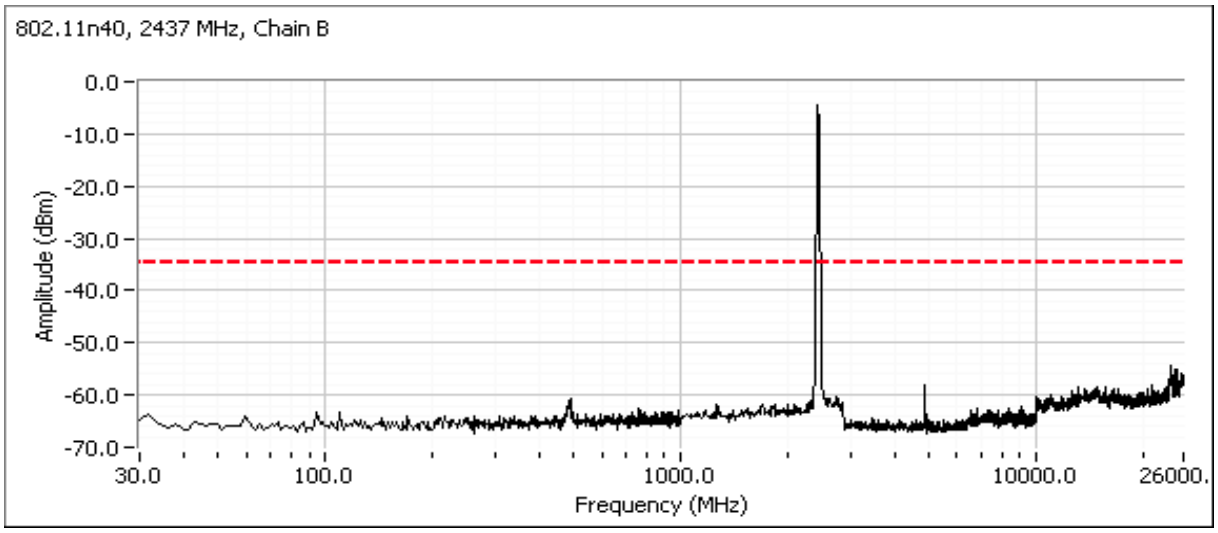
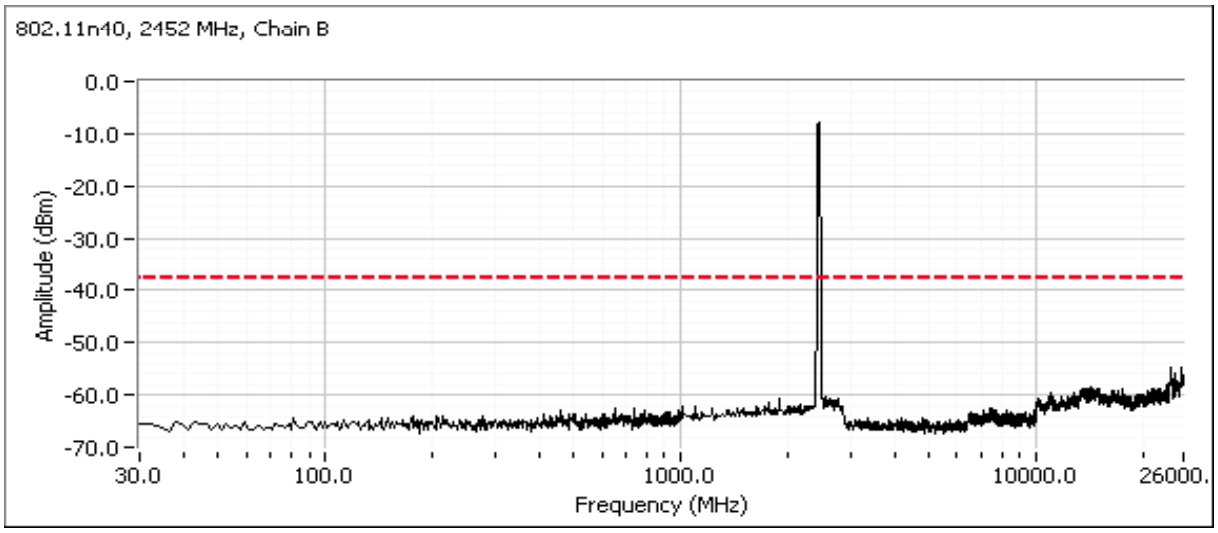
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel, power setting(s) = 28.5



Plots for high channel, power setting(s) = 23.5



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		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
MIMO and Smart Antenna Systems
Power, PSD, Bandwidth and 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: 5/7/2012
Test Engineer: Rafael Varelas
Test Location: FT Lab#2

Config. Used: 1
Config Change: none
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 22.3 °C
Rel. Humidity: 34 %

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1	See below	See below	Output Power	15.247(b)	Pass	n20: 32.0 mW n40: 26.0 mW
2	See below	See below	Power spectral Density (PSD)	15.247(d)	Pass	-8.6 dBm/3kHz
3			Minimum 6dB Bandwidth	15.247(a)		These measurements are covered by the single chain data
3			99% Bandwidth	RSS GEN		
4			Spurious emissions	15.247(b)		

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:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Output Power - Chain A + B

Use the same method for power measurement for each mode as was used for single chain measurements.

Operating Mode: See below

Transmitted signal on chain is coherent ? Yes

802.11 n 20MHz 2412 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	27.5	33.5						
Average Power Note 3	12.5	12.7			15.6 dBm	0.036 W		
Output Power (dBm) Note 1	10.7	10.8			13.7 dBm	0.024 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	13.9	14.0			20.0 dBm	0.099 W		

802.11 n 20MHz 2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	28.5	33.5						
Average Power Note 3	13.6	13.6			16.6 dBm	0.046 W		
Output Power (dBm) Note 1	12.2	11.9			15.1 dBm	0.032 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	15.4	15.1			21.3 dBm	0.134 W		

802.11 n 20MHz 2462 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	25.5	30.0						
Average Power Note 3	11.7	11.6			14.7 dBm	0.029 W		
Output Power (dBm) Note 1	10.1	9.6			12.9 dBm	0.019 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	13.3	12.8			19.1 dBm	0.081 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain
Note 3:	Power setting and average power are for reference only. Average power measured using average power sensor.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11 n 40MHz 2422 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	21.0	25.5						
Average Power Note 3	7.7	7.6			10.7 dBm	0.012 W		
Output Power (dBm) Note 1	5.0	4.3			7.7 dBm	0.006 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	8.16	7.5			13.9 dBm	0.024 W		

802.11 n 40MHz 2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	27.0	32.5						
Average Power Note 3	12.6	12.7			15.7 dBm	0.037 W		
Output Power (dBm) Note 1	11.0	11.4			14.2 dBm	0.026 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	14.17	14.6			20.4 dBm	0.110 W		

802.11 n 40MHz 2452 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	21.5	25.5						
Average Power Note 3	8.3	8.2			11.3 dBm	0.013 W		
Output Power (dBm) Note 1	6.3	6			9.2 dBm	0.008 W	29.8 dBm	0.953 W
Antenna Gain (dBi) Note 2	3.2	3.2			6.2 dBi		Pass	
eirp (dBm) Note 2	9.5	9.2			15.4 dBm	0.034 W		

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain
Note 3:	Power setting and average power are for reference only. Average power measured using average power sensor.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1 Chain 1	Chain 2	Chain 3	Chain 4	Total	Limit dBm/3kHz	Result
802.11n 20MHz								
27.5/33.5	2412	-11.9	-11.6			-8.7	8.0	Pass
28.5/33.5	2437	-12.1	-11.1			-8.6	8.0	Pass
25.5/30.0	2462	-12.9	-12.2			-9.5	8.0	Pass
802.11n 40MHz								
21.0/25.5	2422	-20.6	-20.1			-17.3	8.0	Pass
27.0/32.5	2437	-14.6	-14.3			-11.4	8.0	Pass
21.5/25.5	2452	-19.0	-19.5			-16.2	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements

Power, PSD, Bandwidth and 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: 5/9/2012
Test Engineer: Joseph Cadigal
Test Location: FT Chamber#3

Config. Used: -
Config Change: -
EUT Voltage: 3.3V

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 30-35 °C
Rel. Humidity: 17-20 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	5.2 dBm
2	Power spectral Density (PSD)	15.247(d)	Pass	-10.33dBm/3kHz
3	Minimum 6dB Bandwidth	15.247(a)	Pass	.72 kHz
3	99% Bandwidth	RSS GEN	-	1.08MHz
4	Spurious emissions	15.247(b)	Pass	> 20dB below the limit

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:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Output Power

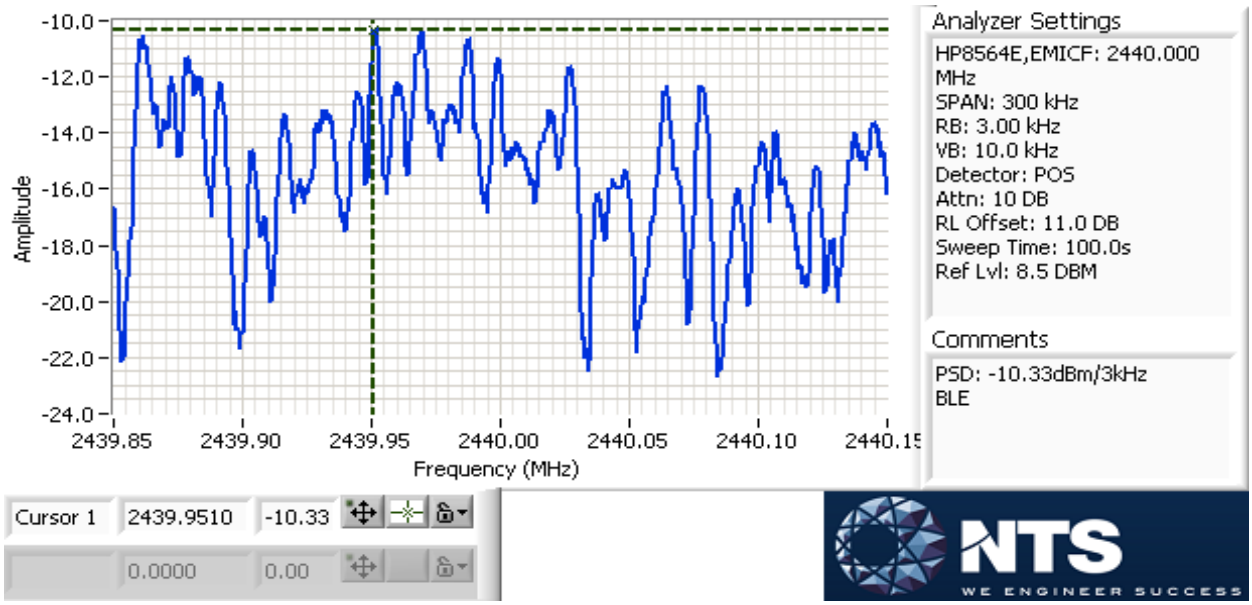
Power Setting	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP dBm	EIRP W		
	2402	5.0	3.2	3.2	Pass	8.2	0.007		
	2440	5.1	3.2	3.2	Pass	8.3	0.007		
	2480	5.2	3.3	3.2	Pass	8.4	0.007		

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.

Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
	2402	-10.8	8.0	Pass
	2440	-10.3	8.0	Pass
	2480	-10.3	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

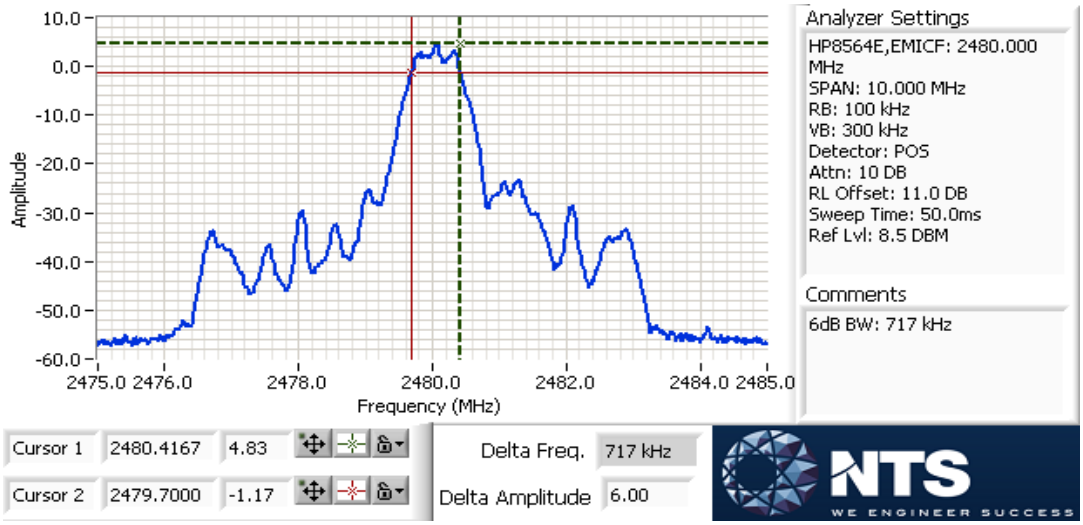


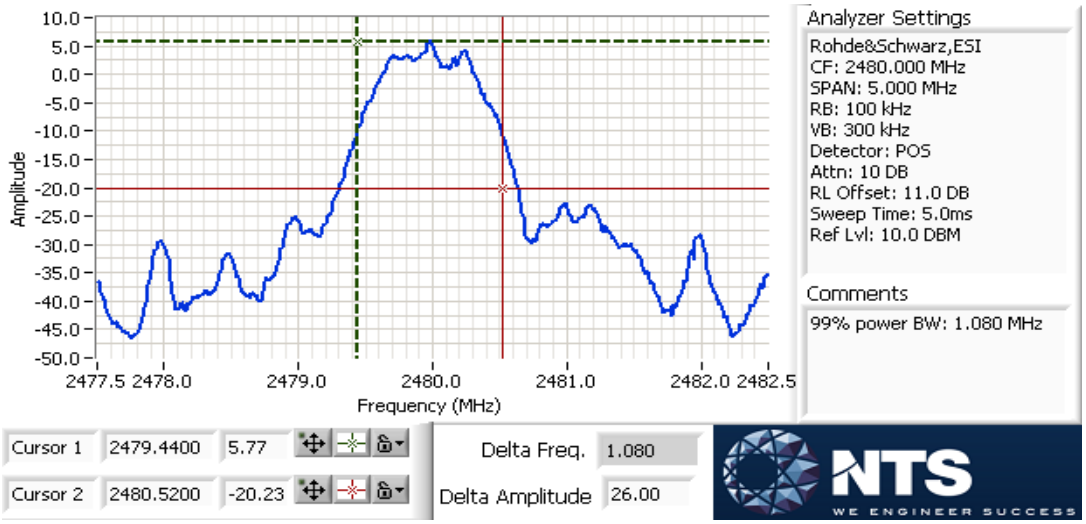
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #3: Signal Bandwidth

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
	2402	100kHz / 1MHz	0.70	1.07
	2440	100kHz / 1MHz	0.68	1.08
	2480	100kHz / 1MHz	0.72	1.08

Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB





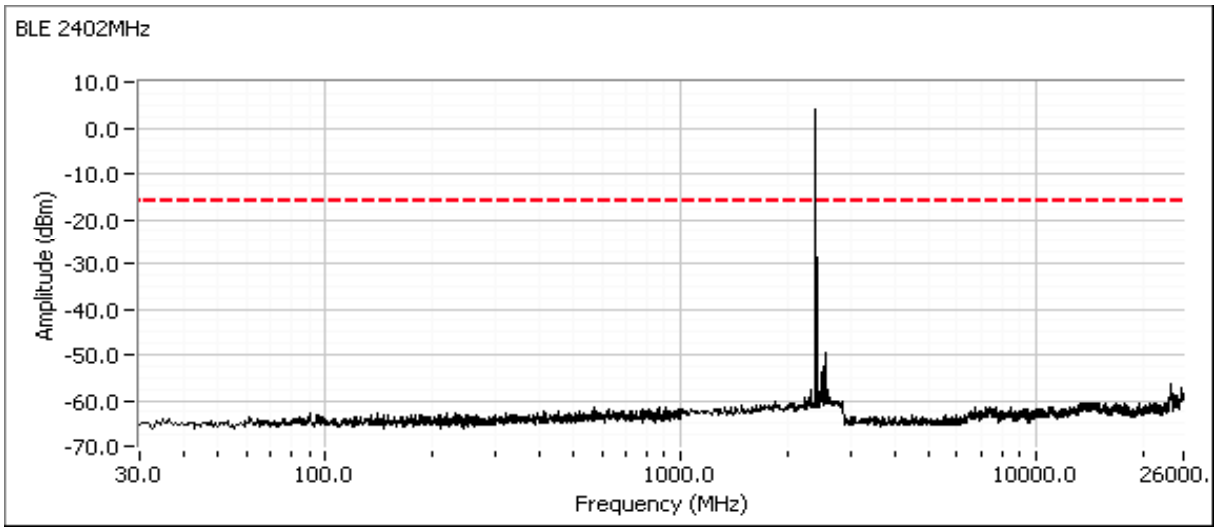
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #4: Out of Band Spurious Emissions

Frequency (MHz)	Limit	Result
2402	-20dBc	Pass
2440	-20dBc	Pass
2480	-20dBc	Pass

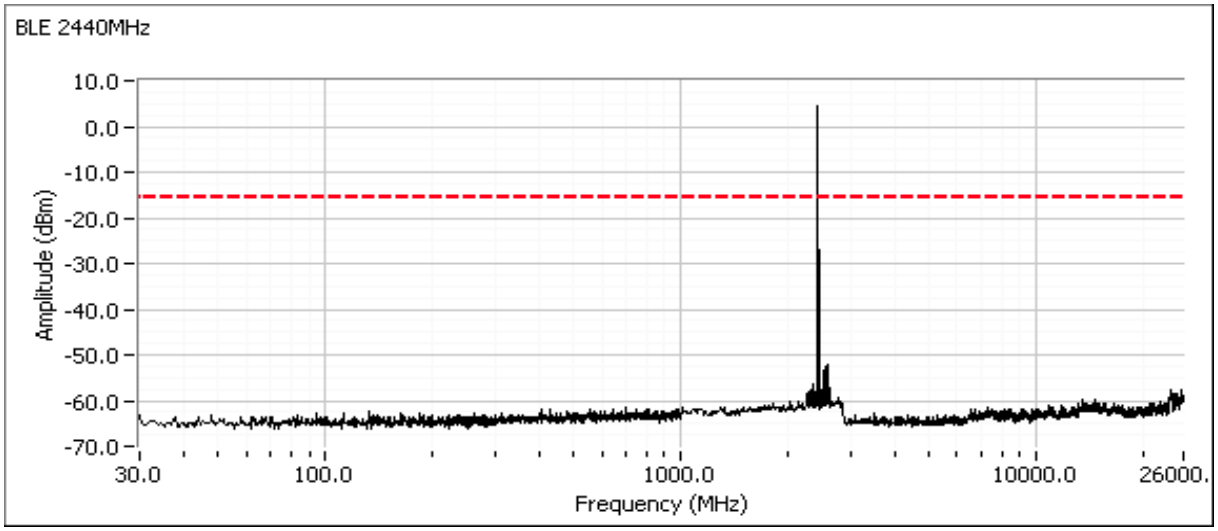
Plots for low channel

Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

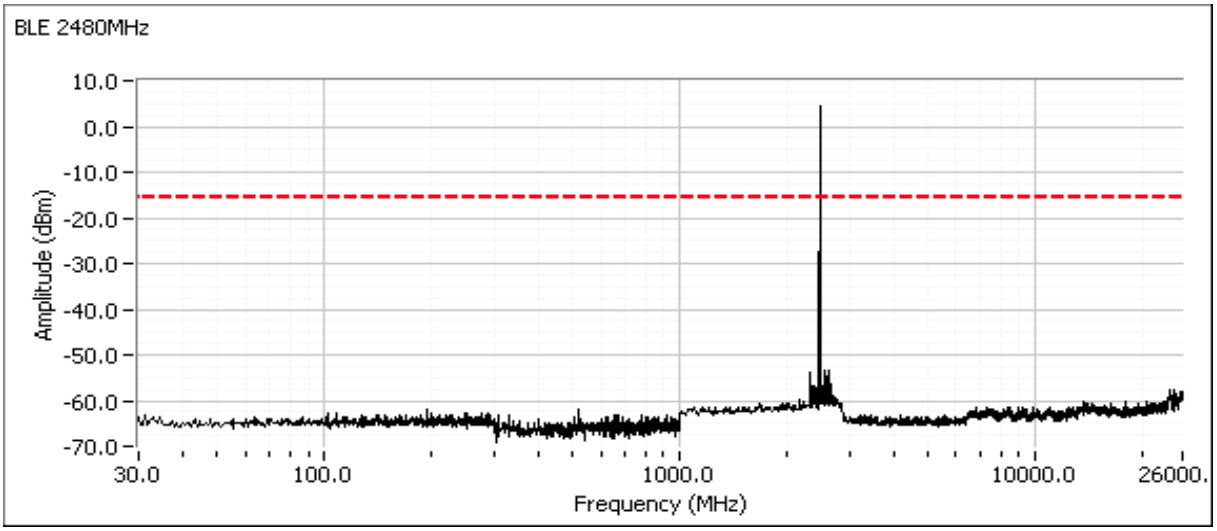


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for center channel



Plots for high channel



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (Band Edge)

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run #1	n40 Chain A	#3 2422MHz	10.5	10.5	Restricted Band Edge at 2400 MHz	15.209	47.8 dBµV/m @ 2390.0 MHz (-6.2 dB)
		#9 2452MHz	10.0	10.1	Restricted Band Edge at 2483.5 MHz	15.209	51.6 dBµV/m @ 2483.5 MHz (-2.4 dB)
Run #2	n40 Chain A	#4 2427MHz	11.5	11.5	Restricted Band Edge at 2400 MHz	15.209	48.7 dBµV/m @ 2389.9 MHz (-5.3 dB)
		#8 2447MHz	11.0	11.3	Restricted Band Edge at 2483.5 MHz	15.209	50.5 dBµV/m @ 2483.5 MHz (-3.5 dB)
Run #3	n40 Chain A	#5 2432MHz	13.5	13.6	Restricted Band Edge at 2400 MHz	15.209	49.4 dBµV/m @ 2390.0 MHz (-4.6 dB)
		#7 2442MHz	11.5	11.8	Restricted Band Edge at 2483.5 MHz	15.209	48.9 dBµV/m @ 2483.5 MHz (-5.1 dB)
Run # 4	n40 Chain A	#6 2437MHz	13.5	13.7	Restricted Band Edge at 2400 MHz	15.209	44.6 dBµV/m @ 2390.0 MHz (-9.4 dB)
			13.5	13.7	Restricted Band Edge at 2483.5 MHz	15.209	49.8 dBµV/m @ 2483.5 MHz (-4.2 dB)
Run # 5	n20 Chain A	#1 2412MHz	13.5	13.6	Restricted Band Edge at 2400 MHz	15.209	48.4 dBµV/m @ 2390.0 MHz (-5.6 dB)
		#11 2462MHz	12.5	12.7	Restricted Band Edge at 2483.5 MHz	15.209	51.8 dBµV/m @ 2483.5 MHz (-2.2 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 6	802.11g Chain A	#1 2412MHz	14.0	14.1	Restricted Band Edge at 2400 MHz	15.209	47.2 dBµV/m @ 2390.0 MHz (-6.8 dB)
		#1 2412MHz	14.5	14.4	Restricted Band Edge at 2400 MHz	15.209	48.6 dBµV/m @ 2390.0 MHz (-5.4 dB)
		#11 2462MHz	14.0	14.3	Restricted Band Edge at 2483.5 MHz	15.209	52.2 dBµV/m @ 2483.5 MHz (-1.8 dB)
Run # 7	802.11g Chain A	#2 2417MHz	16.5	16.6	Restricted Band Edge at 2400 MHz	15.209	46.7 dBµV/m @ 2390.0 MHz (-7.3 dB)
		#10 2457MHz	16.5	16.7	Restricted Band Edge at 2483.5 MHz	15.209	51.6 dBµV/m @ 2483.5 MHz (-2.4 dB)
Run # 8	802.11b Chain A	#1 2412MHz	16.5	16.6	Restricted Band Edge at 2400 MHz	15.209	38.5 dBµV/m @ 2389.4 MHz (-15.5 dB)
		#11 2462MHz	16.5	16.5	Restricted Band Edge at 2483.5 MHz	15.209	40.5 dBµV/m @ 2483.5 MHz (-13.5 dB)
Run # 9	802.11n20 Chain A	#2 2417MHz	16.5	16.6	Restricted Band Edge at 2400 MHz	15.209	46.9 dBµV/m @ 2390.0 MHz (-7.1 dB)
		#10 2457MHz	16.5	16.7	Restricted Band Edge at 2483.5 MHz	15.209	53.6 dBµV/m @ 2483.5 MHz (-0.4 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

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.

Before disconnecting the power meter, EUT antennas or spectrum analyzer from the device please click on Power Down to stop the transmitter. Once the rf port is connected back up to the antenna, power meter or analyzer click on "Start TX". This prevents the feedback circuit on the EUT from dropping power while there is nothing connected and then ramping it back up when it sees a load.

Use the Gain Control mode of adjusting power. Set power to within +/-0.2dB of target.

Test Specific Details

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

General Test Configuration

The EUT ws installed into a test fixture such that the EUT was exposed (i.e. outside of a host PC).
For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

Ambient Conditions:

Rel. Humidity:	20.3 %
Temperature:	34 °C

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.

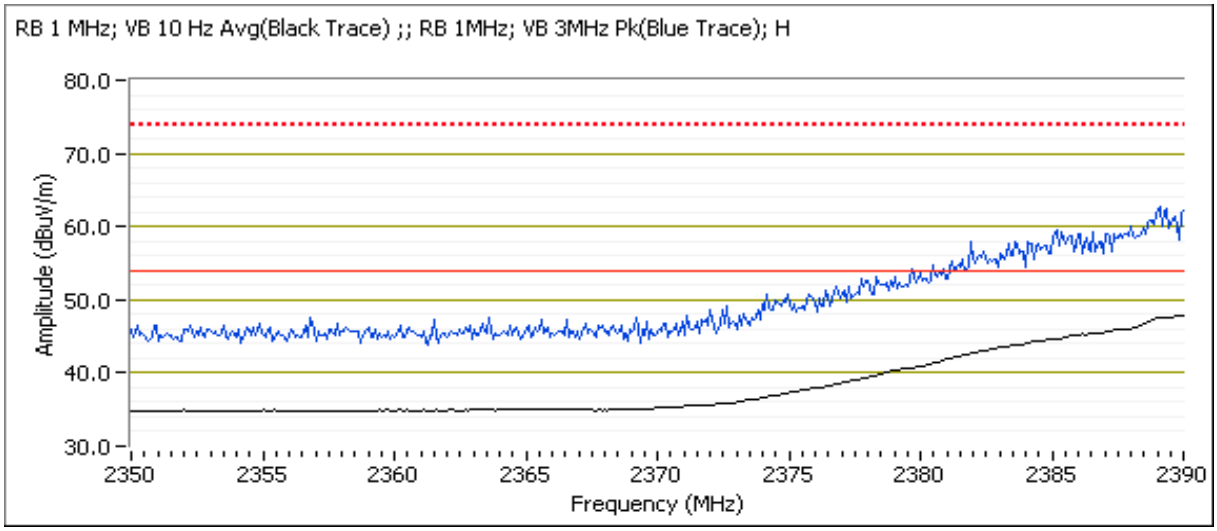
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1, Band Edge Field Strength - n40, Chain A
Run # 1a, EUT on Channel #3 2422MHz - n40, Chain A
Date of Test: 5/2/2012
Test Engineer: Jack Liu
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	10.5	10.5	21.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	47.8	H	54.0	-6.2	AVG	295	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.360	62.7	H	74.0	-11.3	PK	295	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.7	V	54.0	-6.3	AVG	248	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.120	62.1	V	74.0	-11.9	PK	248	1.0	POS; RB 1 MHz; VB: 3 MHz



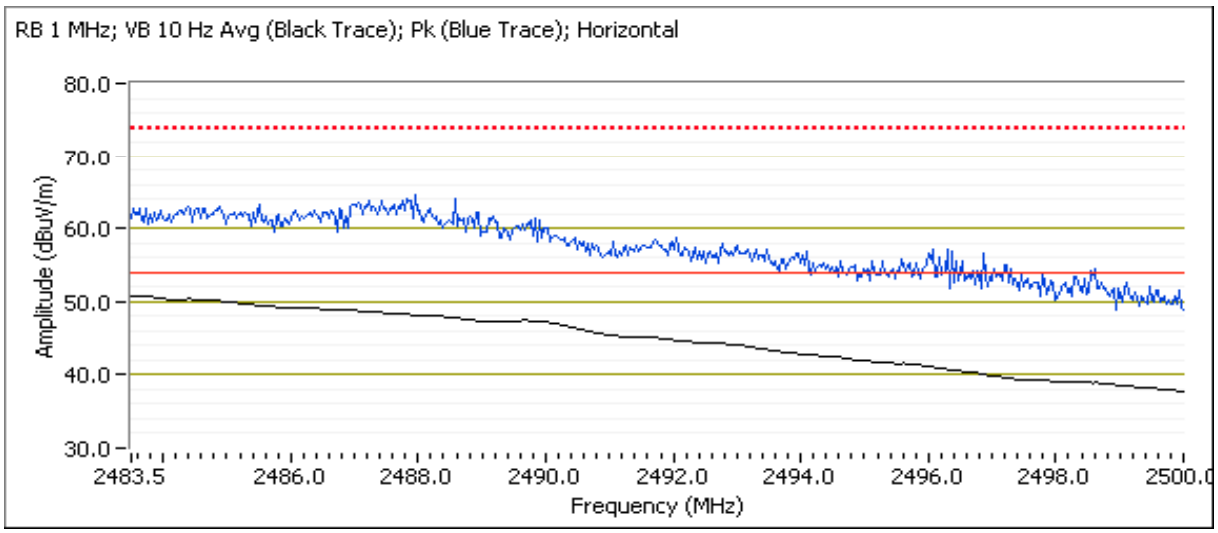
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1b, EUT on Channel #9 2452MHz - n40, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	10.0	10.1	20.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.6	H	54.0	-2.4	AVG	148	1.0	POS; RB 1 MHz; VB: 10 Hz
2487.010	63.3	H	74.0	-10.7	PK	148	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	46.4	V	54.0	-7.6	AVG	297	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.690	58.5	V	74.0	-15.5	PK	297	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

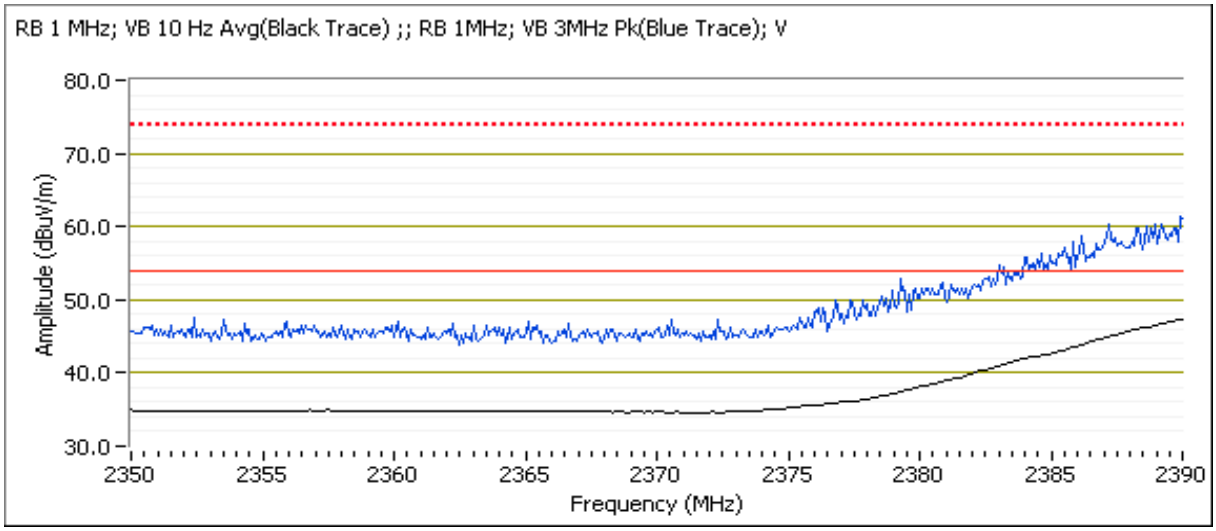
Run # 2, Band Edge Field Strength - n40, Chain A
Run # 2a, EUT on Channel #4 2427MHz - n40, Chain A

Date of Test: 5/2/2012
Test Engineer: Jack Liu
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	11.5	11.5	22.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.920	48.7	V	54.0	-5.3	AVG	254	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.520	60.7	V	74.0	-13.3	PK	254	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.1	H	54.0	-6.9	AVG	302	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.680	59.2	H	74.0	-14.8	PK	302	1.0	POS; RB 1 MHz; VB: 3 MHz



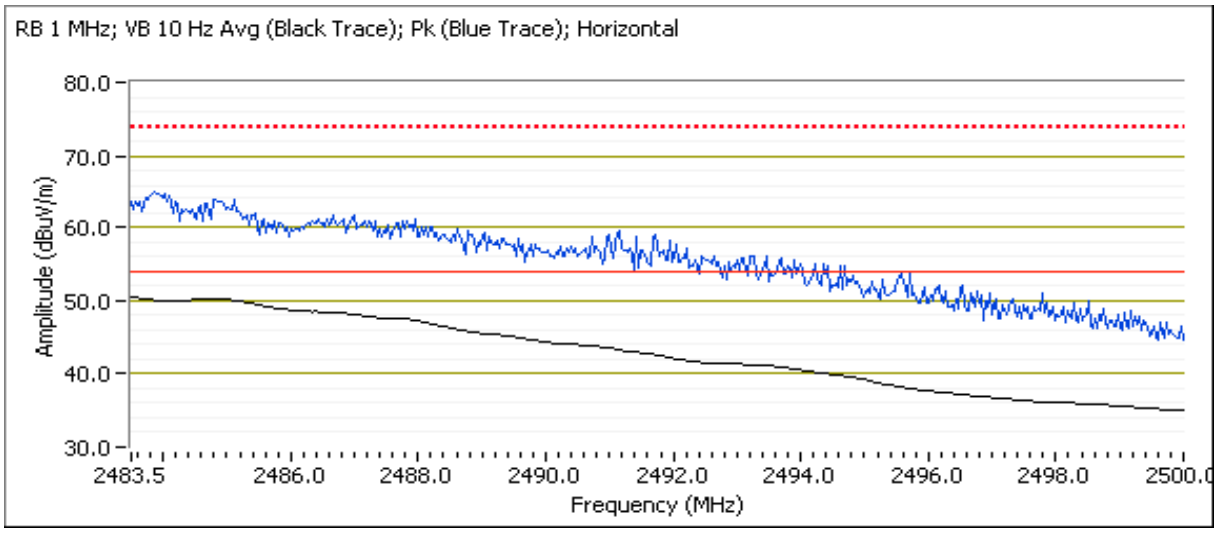
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2b, EUT on Channel #8 2447MHz - n40, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	11.0	11.3	21.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	50.5	H	54.0	-3.5	AVG	0	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.130	64.2	H	74.0	-9.8	PK	0	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	46.6	V	54.0	-7.4	AVG	273	1.1	POS; RB 1 MHz; VB: 10 Hz
2483.700	58.8	V	74.0	-15.2	PK	273	1.1	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

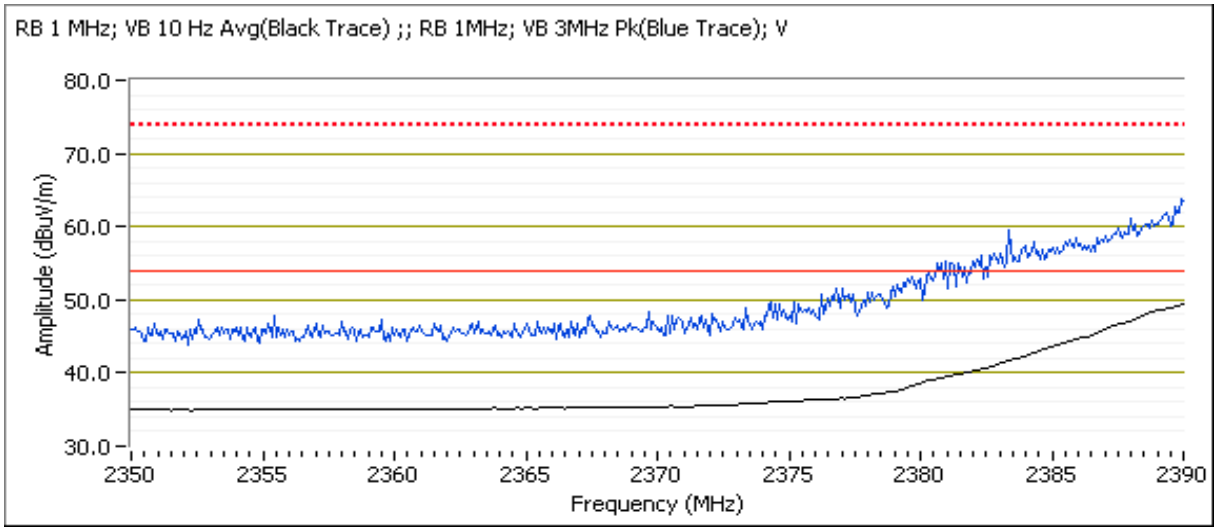
Run # 3, Band Edge Field Strength - n40, Chain A
Run # 3a, EUT on Channel #5 2432MHz - n40, Chain A

Date of Test: 5/2/2012
Test Engineer: Jack Liu
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	13.5	13.6	25.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	49.4	V	54.0	-4.6	AVG	268	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.680	62.1	V	74.0	-11.9	PK	268	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	49.3	H	54.0	-4.7	AVG	305	1.5	POS; RB 1 MHz; VB: 10 Hz
2389.200	60.8	H	74.0	-13.2	PK	305	1.5	POS; RB 1 MHz; VB: 3 MHz



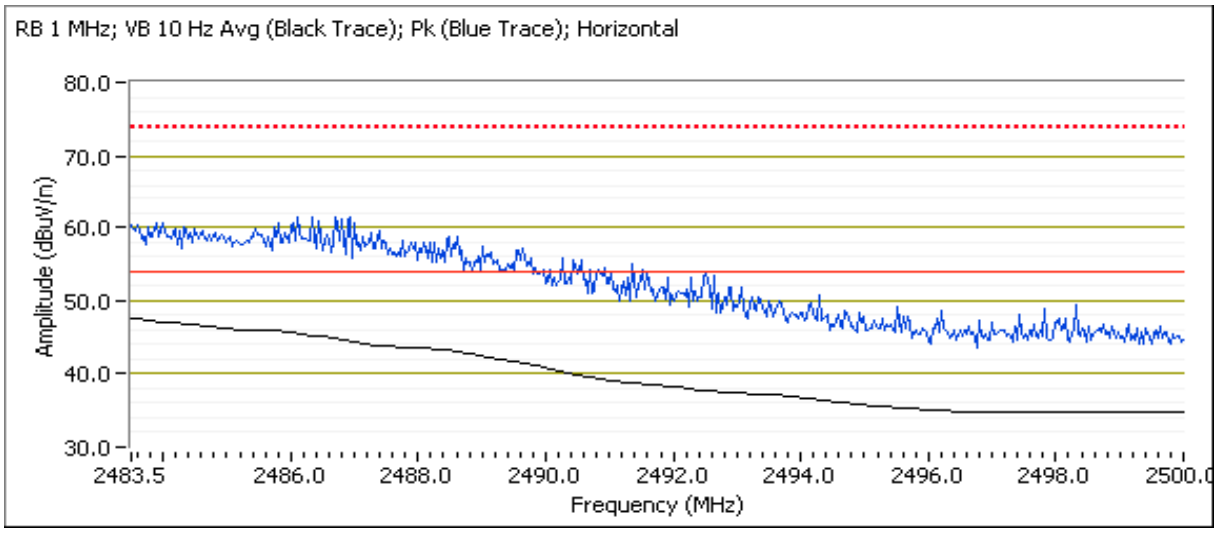
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3b, EUT on Channel #7 2442MHz - n40, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	11.5	11.8	22.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	48.9	H	54.0	-5.1	AVG	147	1.0	POS; RB 1 MHz; VB: 10 Hz
2486.180	61.3	H	74.0	-12.7	PK	147	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	45.3	V	54.0	-8.7	AVG	292	1.1	POS; RB 1 MHz; VB: 10 Hz
2483.900	56.4	V	74.0	-17.6	PK	292	1.1	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 4, Band Edge Field Strength - n40, Chain A

Date of Test: 4/16/2012

Test Engineer: Rafael Varelas

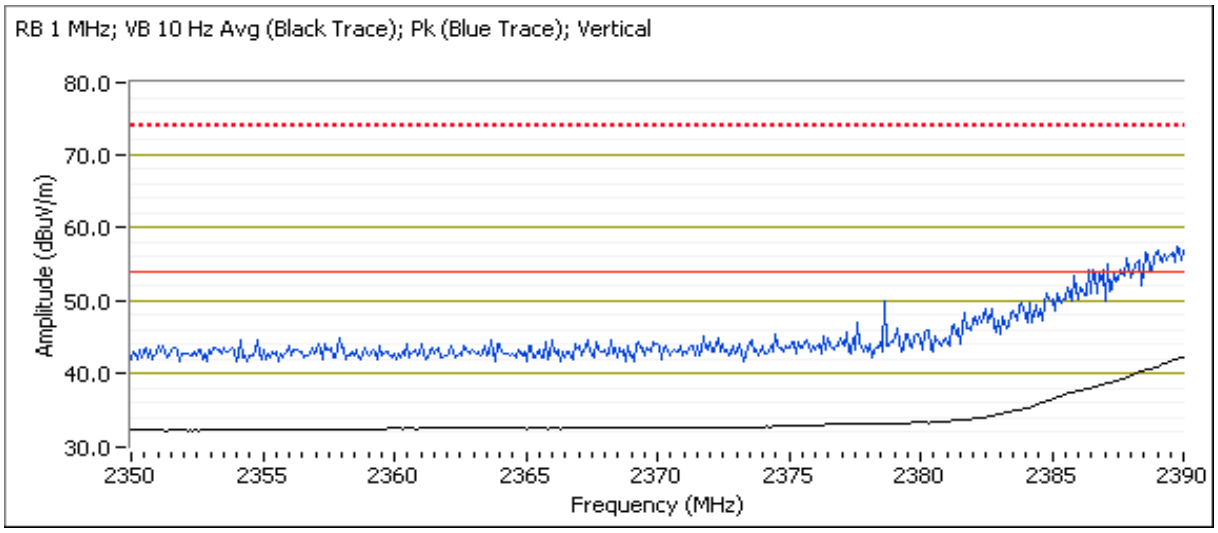
Test Location: FT5

EUT on Channel #6 2437MHz - n40, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	13.5	13.7	24.5

Direct measurement of bandedge (2390 MHz)

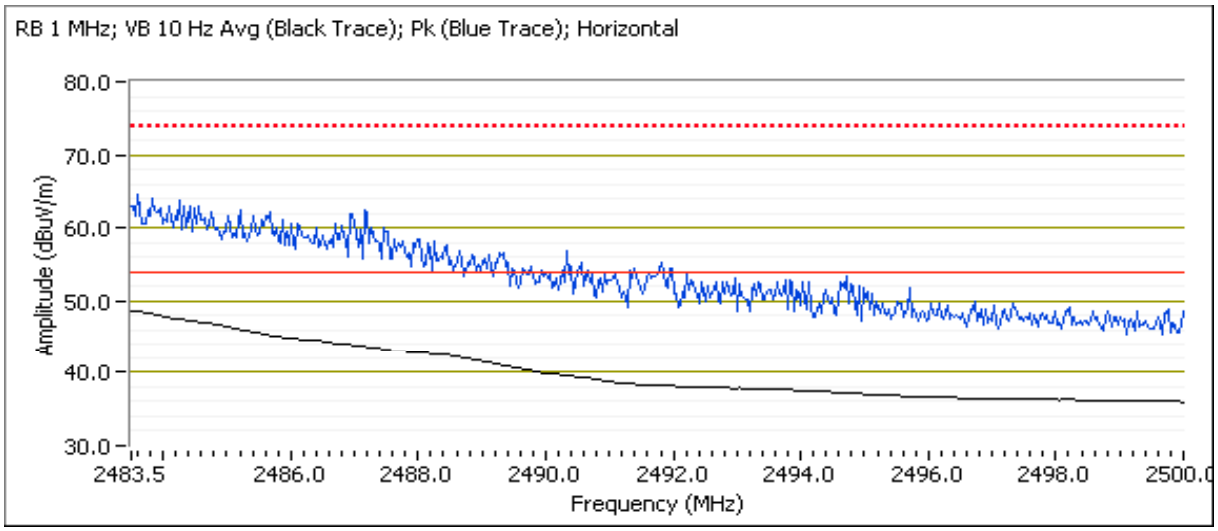
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	44.6	V	54.0	-9.4	AVG	233	2.0	POS; RB 1 MHz; VB: 10 Hz
2389.200	56.9	V	74.0	-17.1	PK	233	2.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	42.3	H	54.0	-11.7	AVG	143	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.760	55.0	H	74.0	-19.0	PK	143	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Direct measurement of bandedge (2483.5 MHz)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	49.8	H	54.0	-4.2	AVG	148	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.960	61.5	H	74.0	-12.5	PK	148	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	45.2	V	54.0	-8.8	AVG	298	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.190	56.7	V	74.0	-17.3	PK	298	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

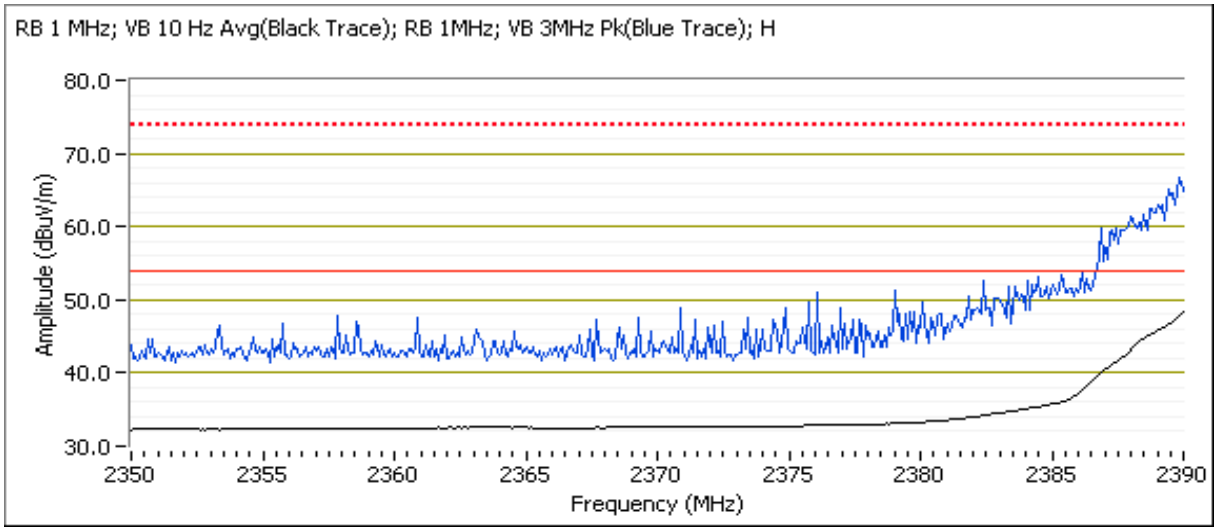
Run # 5, Band Edge Field Strength - n20, Chain A
Run # 5a, EUT on Channel #1 2412MHz - n20, Chain A

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	13.5	13.6	25.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	48.4	H	54.0	-5.6	AVG	43	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.680	63.8	H	74.0	-10.2	PK	43	1.1	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.5	V	54.0	-6.5	AVG	276	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.280	63.7	V	74.0	-10.3	PK	276	1.1	POS; RB 1 MHz; VB: 3 MHz



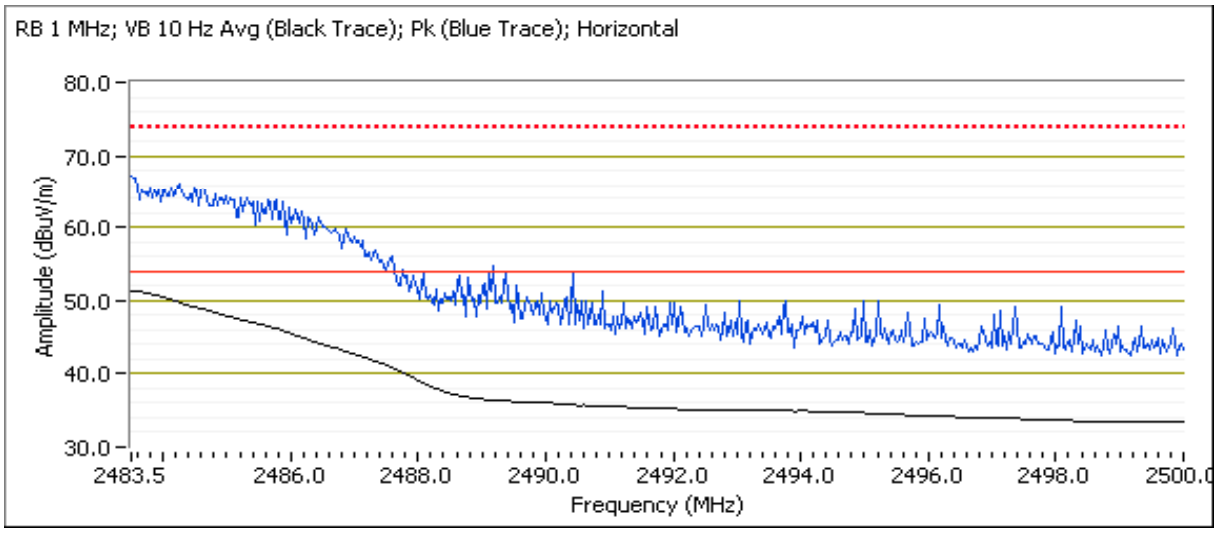
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5b, EUT on Channel #11 2462MHz - n20, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	12.5	12.7	23.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.8	H	54.0	-2.2	AVG	175	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.500	66.1	H	74.0	-7.9	PK	175	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	46.4	V	54.0	-7.6	AVG	282	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.620	60.3	V	74.0	-13.7	PK	282	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

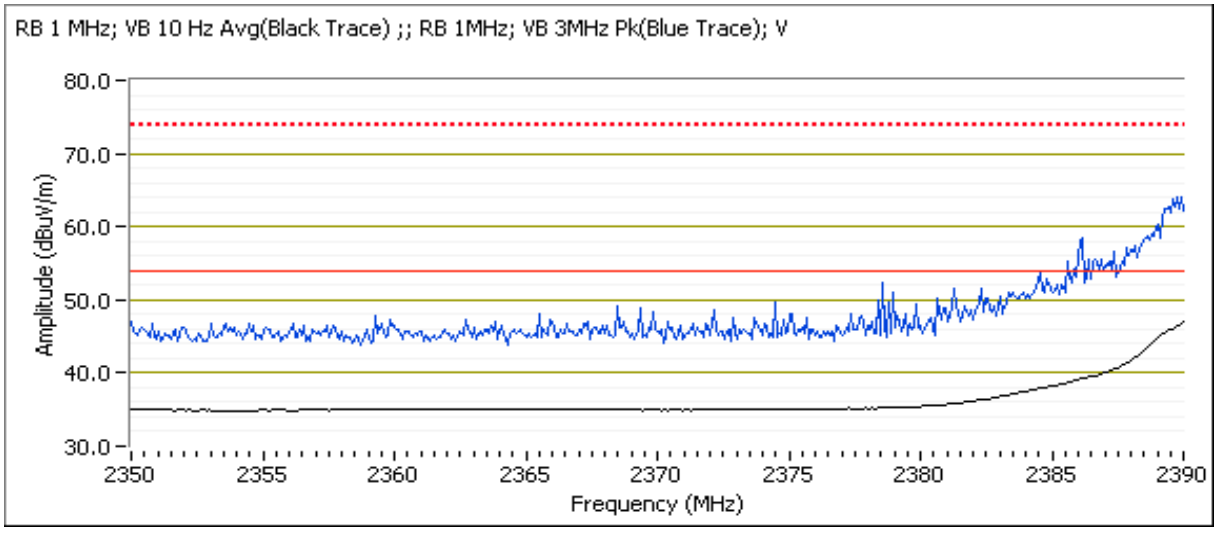
Run # 6, Band Edge Field Strength - 802.11g, Chain A
Run # 6a, EUT on Channel #1 2412MHz - 802.11g, Chain A

Date of Test: 5/2/2012
Test Engineer: Jack Liu
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	14.5	14.4	26.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	48.6	V	54.0	-5.4	AVG	262	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.360	61.3	V	74.0	-12.7	PK	262	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	46.2	H	54.0	-7.8	AVG	294	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.680	61.5	H	74.0	-12.5	PK	294	1.0	POS; RB 1 MHz; VB: 3 MHz



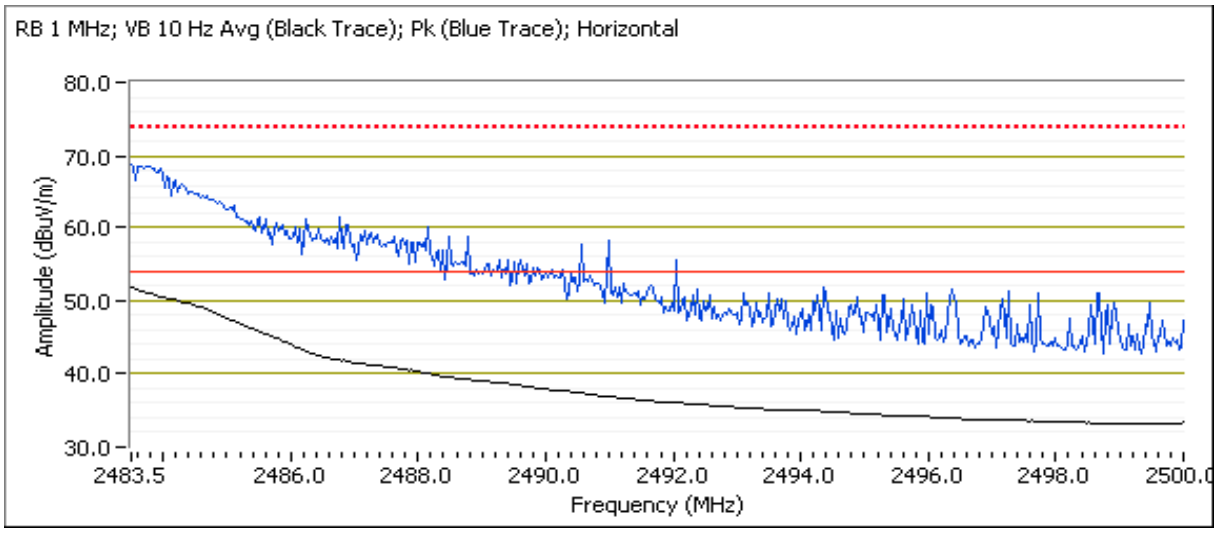
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 6b, EUT on Channel #11 2462MHz - 802.11g, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	14.0	14.3	25.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	52.2	H	54.0	-1.8	AVG	174	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.730	66.4	H	74.0	-7.6	PK	174	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	47.8	V	54.0	-6.2	AVG	285	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.960	62.9	V	74.0	-11.1	PK	285	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 7, Band Edge Field Strength - 802.11g, Chain A

Date of Test: 4/17/2012

Test Engineer: Rafael Varelas

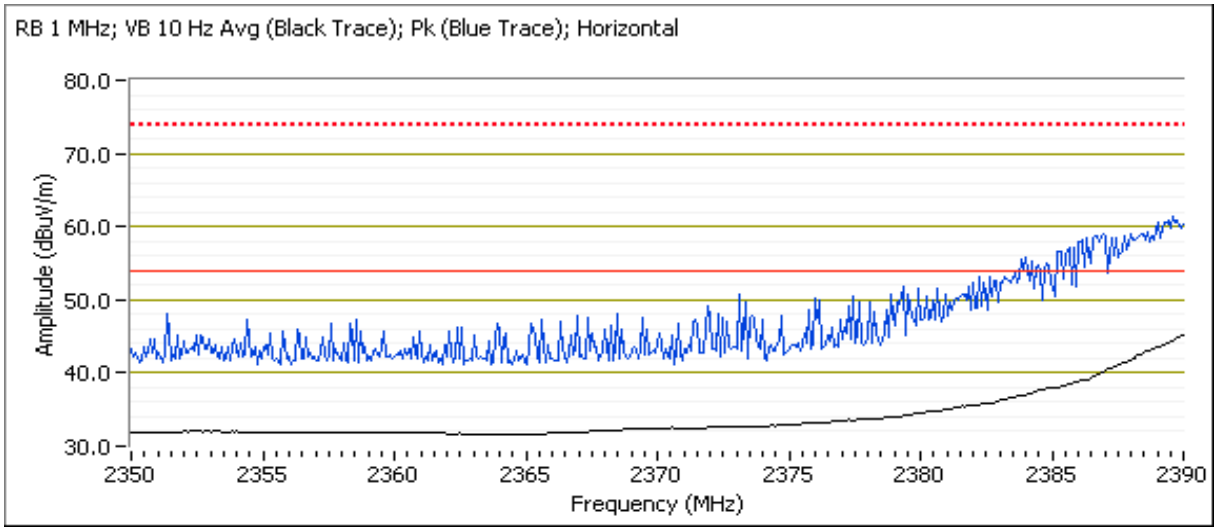
Test Location: FT4

Run # 7a, EUT on Channel #1 2417MHz - 802.11g, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	28.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	46.7	H	54.0	-7.3	AVG	144	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.520	62.4	H	74.0	-11.6	PK	144	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	43.4	V	54.0	-10.6	AVG	284	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.440	58.1	V	74.0	-15.9	PK	284	1.0	POS; RB 1 MHz; VB: 3 MHz



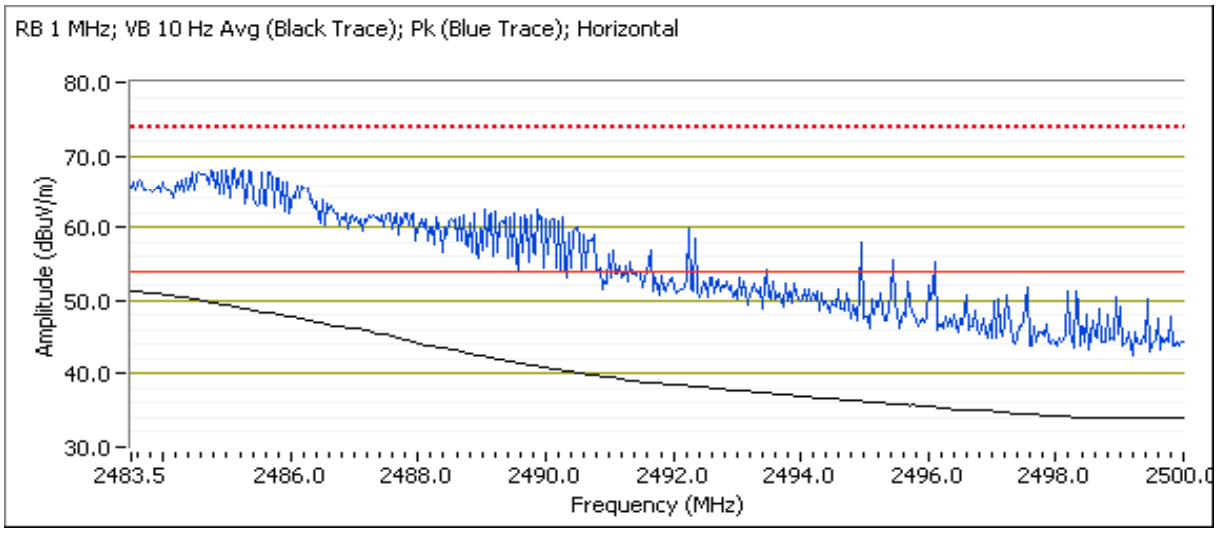
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 7b, EUT on Channel #10 2457MHz - 802.11g, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.7	28.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.6	H	54.0	-2.4	AVG	175	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.950	67.5	H	74.0	-6.5	PK	175	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	47.6	V	54.0	-6.4	AVG	282	0.9	POS; RB 1 MHz; VB: 10 Hz
2484.920	63.2	V	74.0	-10.8	PK	282	0.9	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

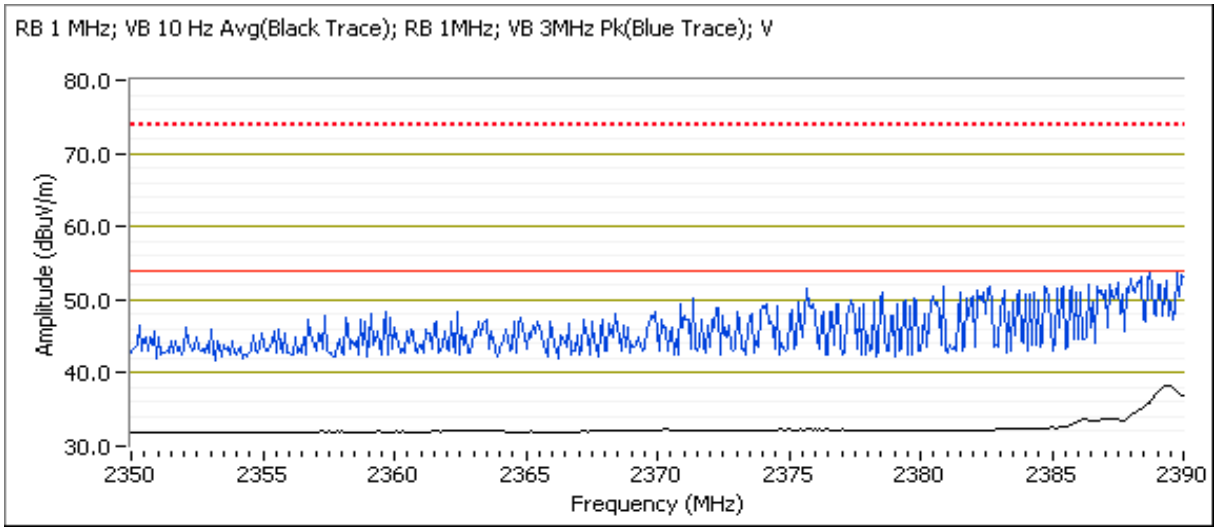
Run # 8, Band Edge Field Strength - 802.11b, Chain A
Run # 8a, EUT on Channel #1 2412MHz - 802.11b, Chain A

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	23.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.360	38.5	V	54.0	-15.5	AVG	277	1.1	POS; RB 1 MHz; VB: 10 Hz
2390.000	55.4	V	74.0	-18.6	PK	277	1.1	POS; RB 1 MHz; VB: 3 MHz
2389.360	38.4	H	54.0	-15.6	AVG	148	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.520	53.1	H	74.0	-20.9	PK	148	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

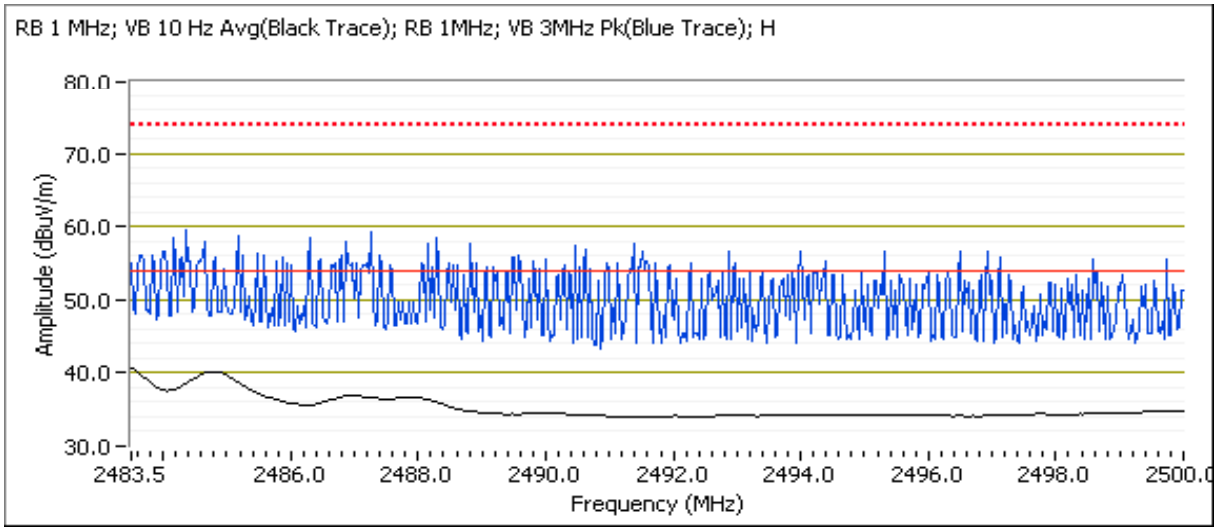
Run # 8b, EUT on Channel #11 2462MHz - 802.11b, Chain A

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	22.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	40.5	H	54.0	-13.5	AVG	167	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.560	57.8	H	74.0	-16.2	PK	167	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	32.0	V	54.0	-22.0	AVG	222	1.0	POS; RB 1 MHz; VB: 10 Hz
2489.450	53.9	V	74.0	-20.1	PK	222	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 9, Band Edge Field Strength - 802.11n20MHz, Chain A

Date of Test: 4/17/2012

Test Engineer: Rafael Varelas

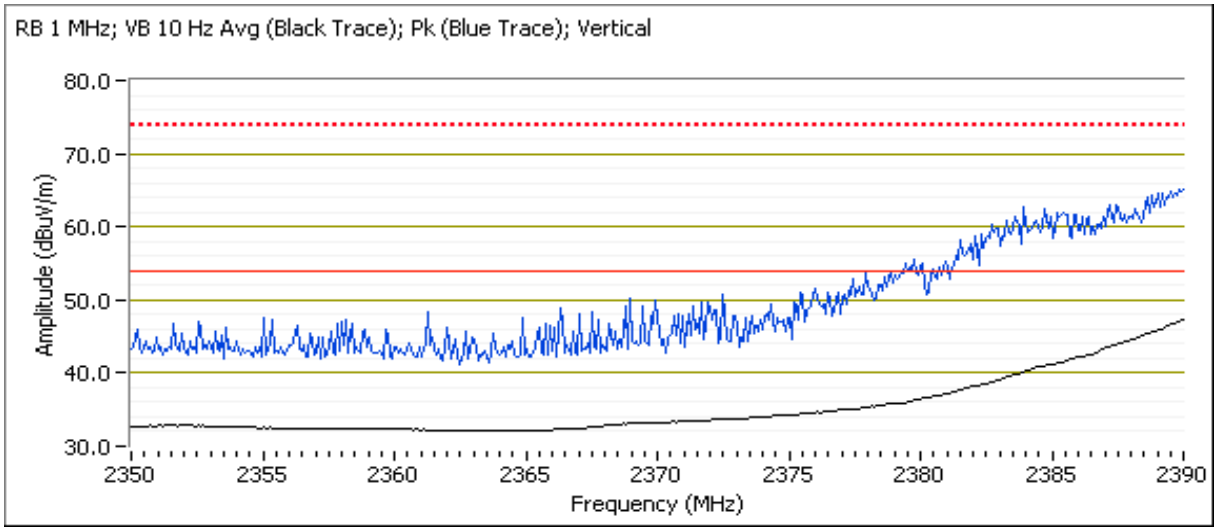
Test Location: FT4

Run # 9a, EUT on Channel #2 2417MHz - 802.11n20MHz, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	29.0	16.6

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	46.9	V	54.0	-7.1	AVG	248	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.840	64.1	V	74.0	-9.9	PK	248	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	45.5	H	54.0	-8.5	AVG	148	1.0	POS; RB 1 MHz; VB: 10 Hz
2388.640	61.4	H	74.0	-12.6	PK	148	1.0	POS; RB 1 MHz; VB: 3 MHz



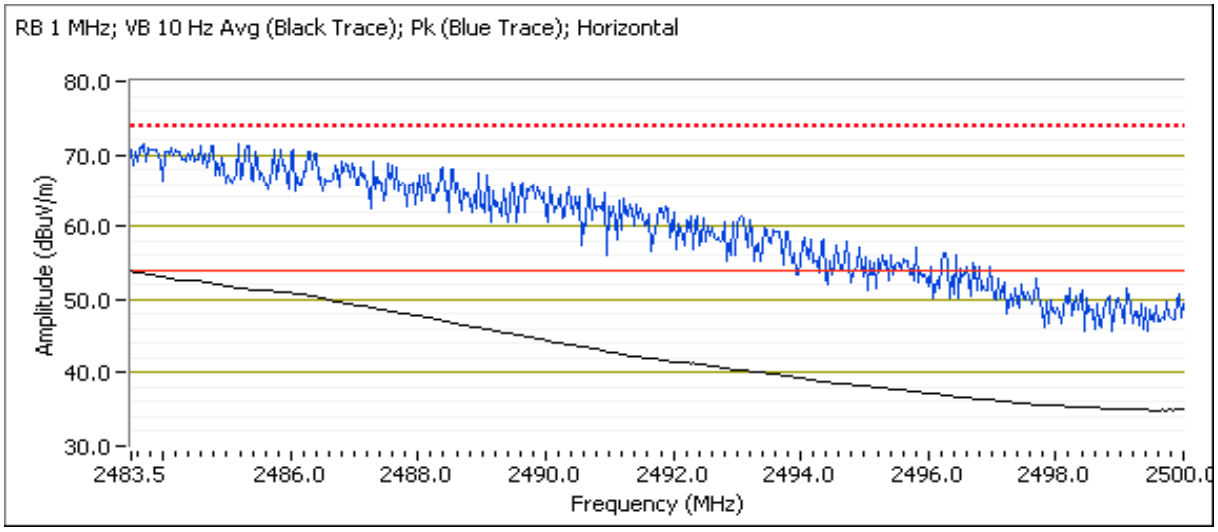
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 9b, EUT on Channel #10 2457MHz - 802.11n20MHz, Chain A

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

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	53.6	H	54.0	-0.4	AVG	147	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.000	71.4	H	74.0	-2.6	PK	147	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	49.6	V	54.0	-4.4	AVG	282	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.500	68.0	V	74.0	-6.0	PK	282	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (Band Edge)

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run #1	n40 Chain B	#3 2422MHz	9.5	9.6	Restricted Band Edge at 2400 MHz	15.209	51.9 dBµV/m @ 2390.0 MHz (-2.1 dB)
		#9 2452MHz	9.0	9.2	Restricted Band Edge at 2483.5 MHz	15.209	52.1 dBµV/m @ 2483.6 MHz (-1.9 dB)
		#4 2427MHz	10.0	10.2	Restricted Band Edge at 2400 MHz	15.209	49.5 dBµV/m @ 2390.0 MHz (-4.5 dB)
		#8 2447MHz	10.0	10.2	Restricted Band Edge at 2483.5 MHz	15.209	51.9 dBµV/m @ 2483.5 MHz (-2.1 dB)
Run # 3	n40 Chain B	#5 2432MHz	12.0	12.2	Restricted Band Edge at 2400 MHz	15.209	51.2 dBµV/m @ 2390.0 MHz (-2.8 dB)
		#7 2442MHz	11.5	11.7	Restricted Band Edge at 2483.5 MHz	15.209	53.0 dBµV/m @ 2483.5 MHz (-1.0 dB)
Run # 4	n40 Chain B	#6 2437MHz	12.5	12.7	Restricted Band Edge at 2400 MHz	15.209	46.4 dBµV/m @ 2390.0 MHz (-7.6 dB)
			12.5	12.7	Restricted Band Edge at 2483.5 MHz	15.209	51.5 dBµV/m @ 2483.5 MHz (-2.5 dB)
Run # 5	n20 Chain B	#1 2412MHz	12.5	12.6	Restricted Band Edge at 2400 MHz	15.209	51.4 dBµV/m @ 2390.0 MHz (-2.6 dB)
		#11 2462MHz	12.5	12.8	Restricted Band Edge at 2483.5 MHz	15.209	53.8 dBµV/m @ 2483.5 MHz (-0.2 dB)
Run # 6	802.11g Chain B	#1 2412MHz	13.5	13.5	Restricted Band Edge at 2400 MHz	15.209	49.8 dBµV/m @ 2390.0 MHz (-4.2 dB)
		#11 2462MHz	13.5	13.4	Restricted Band Edge at 2483.5 MHz	15.209	52.0 dBµV/m @ 2483.5 MHz (-2.0 dB)
Run # 7	802.11g Chain B	#2 2417MHz	16.5	16.6	Restricted Band Edge at 2400 MHz	15.209	51.4 dBµV/m @ 2390.0 MHz (-2.6 dB)
		#10 2457MHz	16.5	16.0	Restricted Band Edge at 2483.5 MHz	15.209	52.9 dBµV/m @ 2483.6 MHz (-1.1 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 8	802.11n20 Chain B	#1 2412MHz	16.0	16.0	Restricted Band Edge at 2400 MHz	15.209	51.2 dBµV/m @ 2389.4 MHz (-2.8 dB)
		#11 2462MHz	16.0	16.0	Restricted Band Edge at 2483.5 MHz	15.209	46.9 dBµV/m @ 2483.5 MHz (-7.1 dB)
Run # 9	802.11n20 Chain B	#2 2417MHz	16.5	16.5	Restricted Band Edge at 2400 MHz	15.209	53.5 dBµV/m @ 2390.0 MHz (-0.5 dB)
		#10 2457MHz	16.5	15.8	Restricted Band Edge at 2483.5 MHz	15.209	53.6 dBµV/m @ 2483.5 MHz (-0.4 dB)

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.

Before disconnecting the power meter, EUT antennas or spectrum analyzer from the device please click on Power Down to stop the transmitter. Once the rf port is connected back up to the antenna, power meter or analyzer click on "Start TX". This prevents the feedback circuit on the EUT from dropping power while there is nothing connected and then ramping it back up when it sees a load.

Use the Gain Control mode of adjusting power. Set power to within +/-0.2dB of target.

Test Specific Details

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

General Test Configuration

The EUT ws installed into a test fixture such that the EUT was exposed (i.e. outside of a host PC).
For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

Ambient Conditions:

Rel. Humidity: 20.6 %
Temperature: 35 °C

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:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

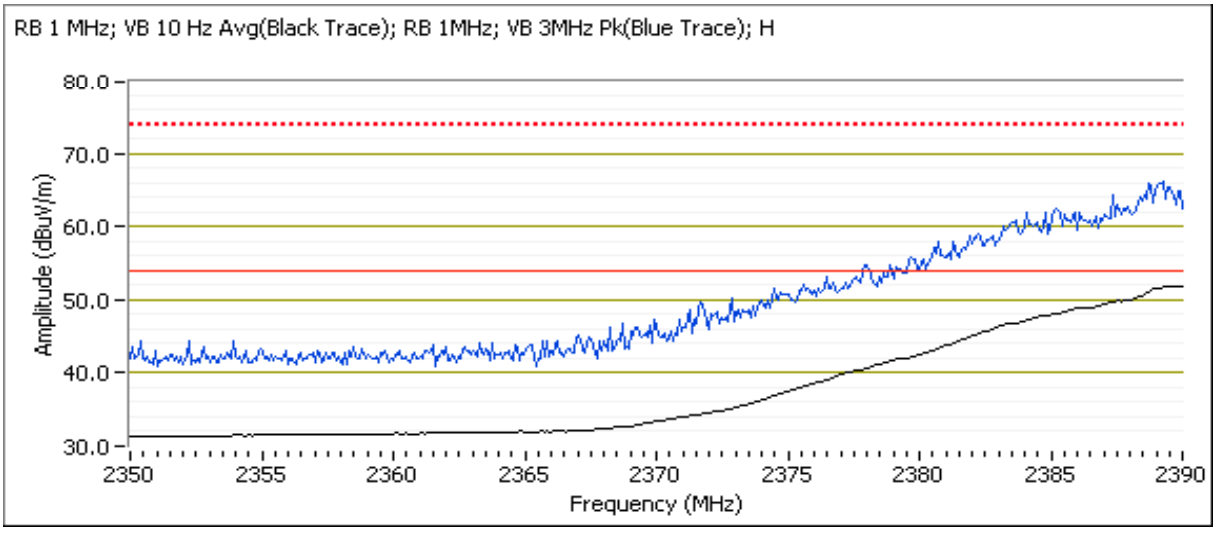
Run # 1, Band Edge Field Strength - n40, Chain B
Run # 1a, EUT on Channel #3 2422MHz - n40, Chain B

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	9.5	9.6	26.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	51.9	H	54.0	-2.1	AVG	335	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.200	64.7	H	74.0	-9.3	PK	335	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	48.0	V	54.0	-6.0	AVG	100	1.1	POS; RB 1 MHz; VB: 10 Hz
2388.880	61.8	V	74.0	-12.2	PK	100	1.1	POS; RB 1 MHz; VB: 3 MHz



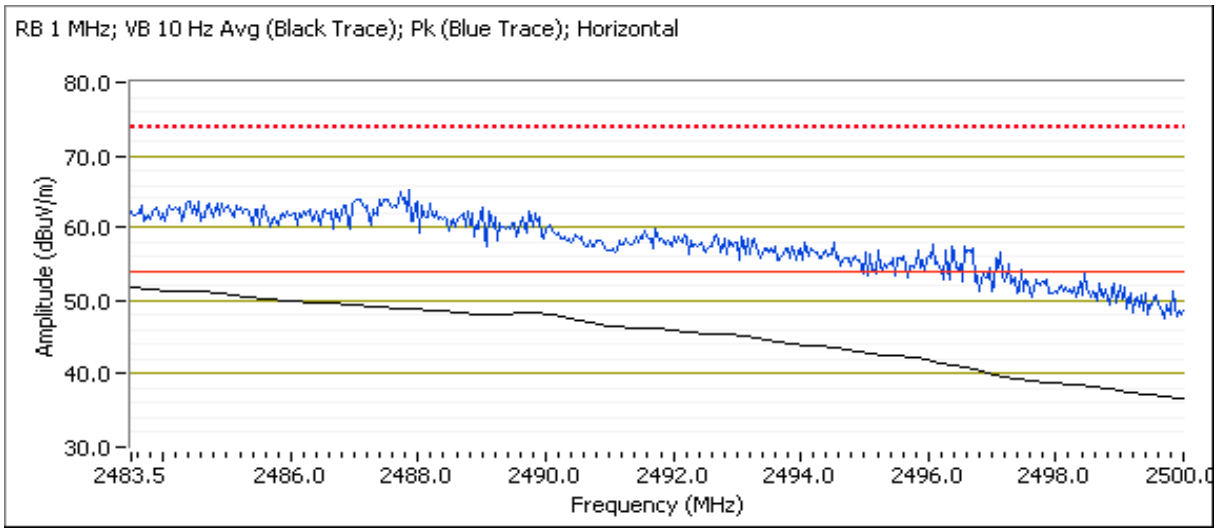
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1b, EUT on Channel #9 2452MHz - n40, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	9.0	9.2	23.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.600	52.1	H	54.0	-1.9	AVG	219	1.0	POS; RB 1 MHz; VB: 10 Hz
2487.900	63.9	H	74.0	-10.1	PK	219	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.570	45.8	V	54.0	-8.2	AVG	87	0.9	POS; RB 1 MHz; VB: 10 Hz
2487.370	58.0	V	74.0	-16.0	PK	87	0.9	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

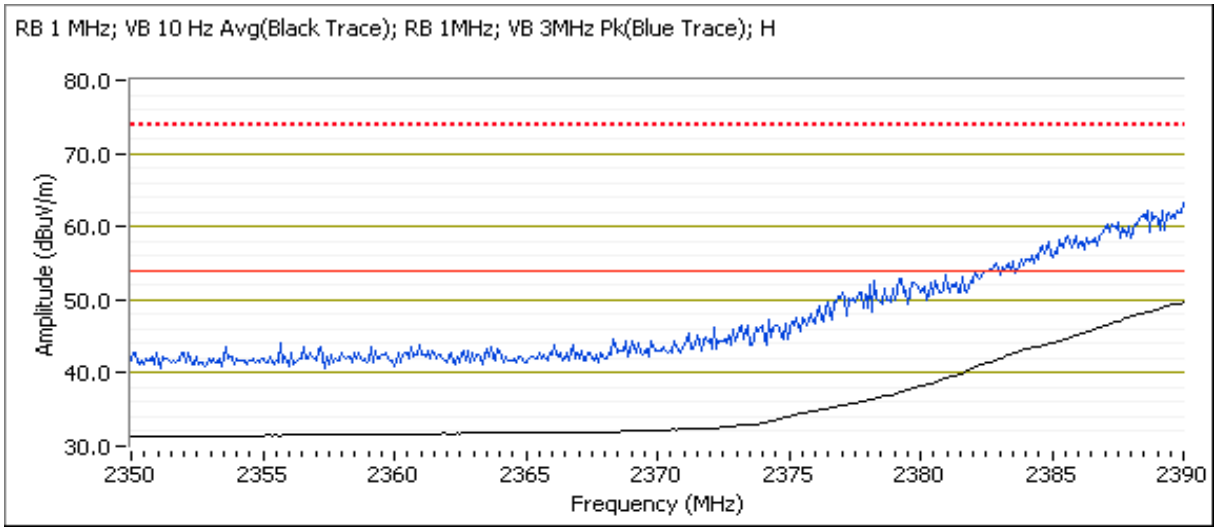
Run # 2, Band Edge Field Strength - n40, Chain B
Run # 2a, EUT on Channel #4 2427MHz - n40, Chain B

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	10.0	10.2	26.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	49.5	H	54.0	-4.5	AVG	336	1.0	POS; RB 1 MHz; VB: 10 Hz
2388.400	61.6	H	74.0	-12.4	PK	336	1.0	POS; RB 1 MHz; VB: 3 MHz
2389.840	47.4	V	54.0	-6.6	AVG	104	1.1	POS; RB 1 MHz; VB: 10 Hz
2387.270	59.1	V	74.0	-14.9	PK	104	1.1	POS; RB 1 MHz; VB: 3 MHz



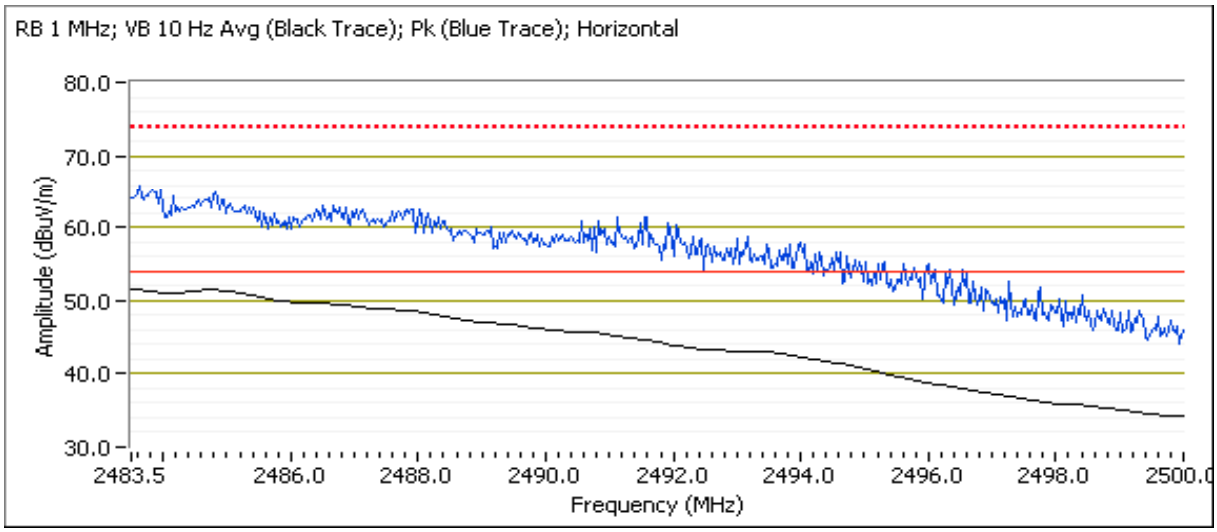
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2b, EUT on Channel #8 2447MHz - n40, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	10.0	10.2	24.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.9	H	54.0	-2.1	AVG	218	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.260	65.2	H	74.0	-8.8	PK	218	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	45.7	V	54.0	-8.3	AVG	42	1.5	POS; RB 1 MHz; VB: 10 Hz
2484.160	58.8	V	74.0	-15.2	PK	42	1.5	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3, Band Edge Field Strength - n40, Chain B

Date of Test: 4/17/2012

Test Engineer: Rafael Varelas

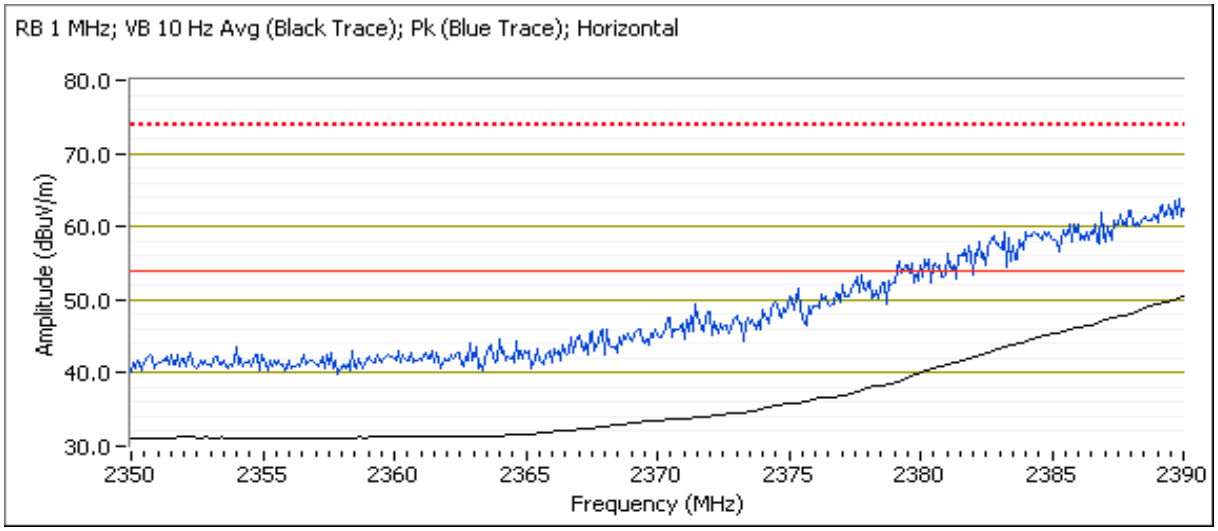
Test Location: FT4

Run # 3a, EUT on Channel #5 2432MHz - n40, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	12.0	12.2	28.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	51.2	H	54.0	-2.8	AVG	53	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.920	64.4	H	74.0	-9.6	PK	53	1.1	POS; RB 1 MHz; VB: 3 MHz
2390.000	45.2	V	54.0	-8.8	AVG	168	1.7	POS; RB 1 MHz; VB: 10 Hz
2389.520	55.6	V	74.0	-18.4	PK	168	1.7	POS; RB 1 MHz; VB: 3 MHz



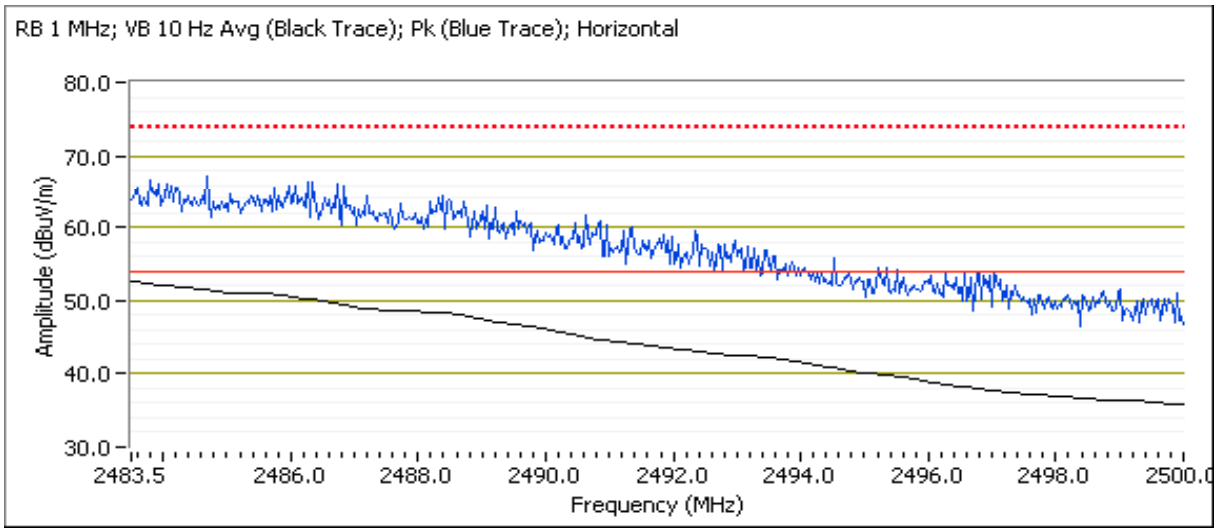
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3b, EUT on Channel #7 2442MHz - n40, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	11.5	11.7	27.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	53.0	H	54.0	-1.0	AVG	219	1.0	POS; RB 1 MHz; VB: 10 Hz
2485.950	66.1	H	74.0	-7.9	PK	219	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	46.0	V	54.0	-8.0	AVG	37	1.4	POS; RB 1 MHz; VB: 10 Hz
2483.760	57.4	V	74.0	-16.6	PK	37	1.4	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 4, Band Edge Field Strength - n40, Chain B

Date of Test: 4/17/2012

Test Engineer: Rafael Varelas

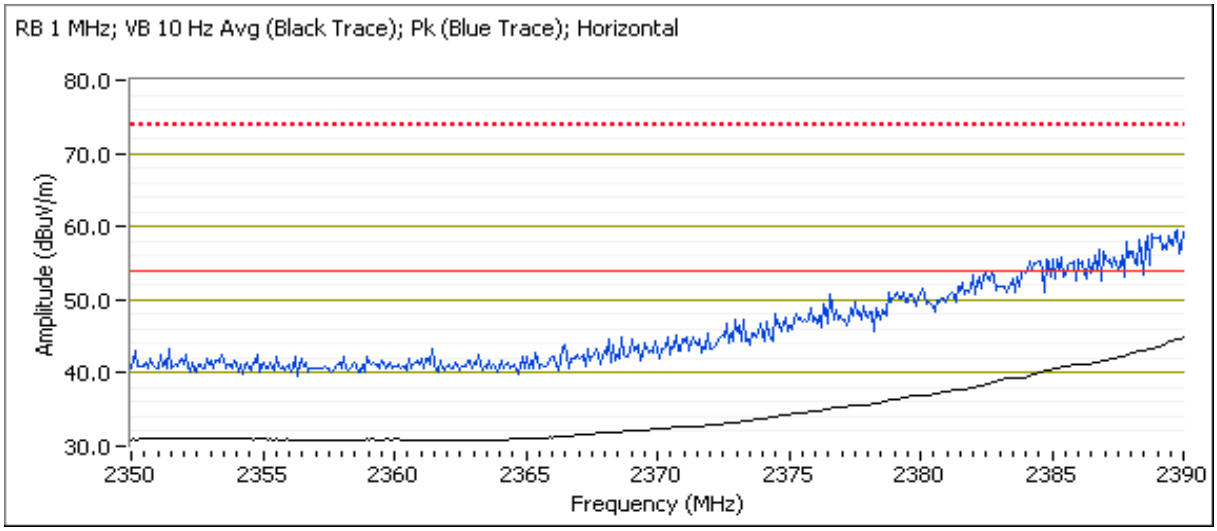
Test Location: FT4

EUT on Channel #6 2437MHz - n40, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	12.5	12.7	28.5

Direct measurement of bandedge (2390 MHz)

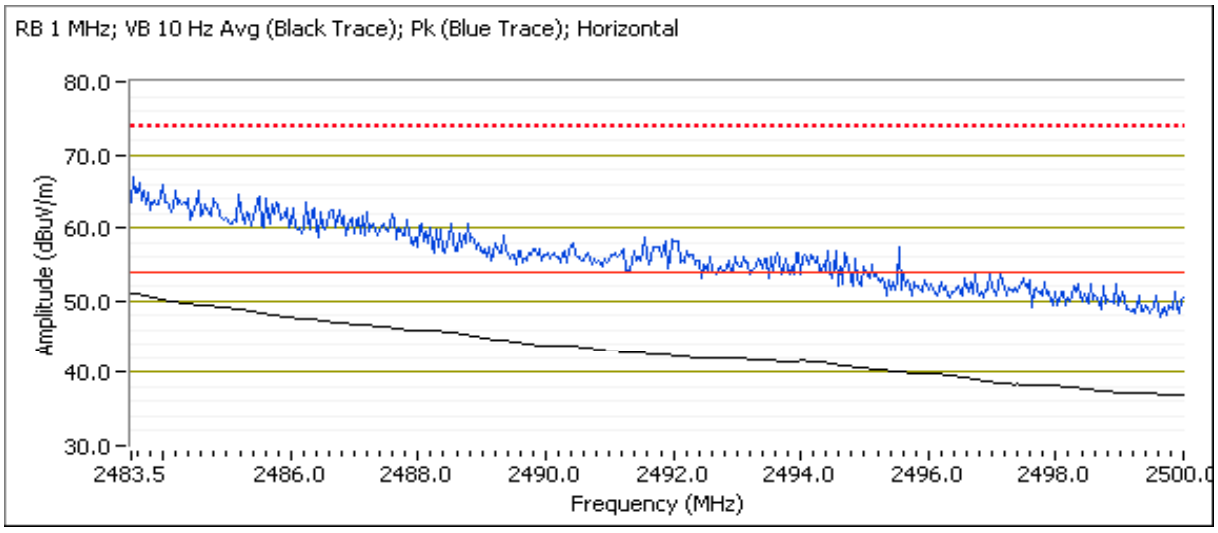
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	46.4	H	54.0	-7.6	AVG	52	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.920	59.9	H	74.0	-14.1	PK	52	1.1	POS; RB 1 MHz; VB: 3 MHz
2390.000	43.7	V	54.0	-10.3	AVG	171	1.7	POS; RB 1 MHz; VB: 10 Hz
2389.360	54.0	V	74.0	-20.0	PK	171	1.7	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Direct measurement of bandedge (2483.5 MHz)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.5	H	54.0	-2.5	AVG	218	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.600	65.6	H	74.0	-8.4	PK	218	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	43.8	V	54.0	-10.2	AVG	38	1.4	POS; RB 1 MHz; VB: 10 Hz
2483.500	57.8	V	74.0	-16.2	PK	38	1.4	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5, Band Edge Field Strength - n20, Chain B

Date of Test: 4/17/2012

Test Engineer: Rafael Varelas

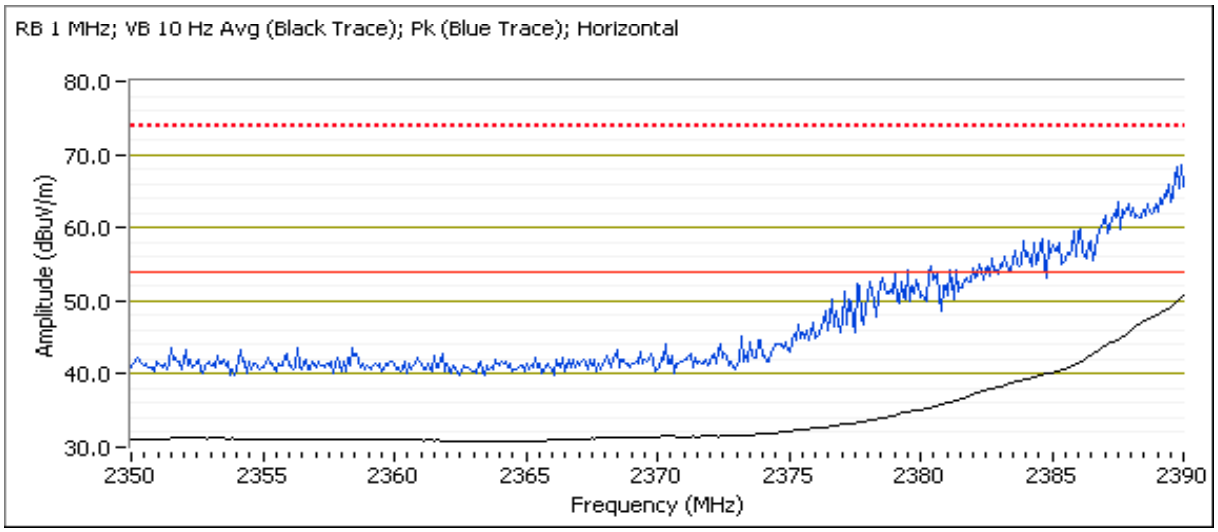
Test Location: FT4

Run # 5a, EUT on Channel #1 2412MHz - n20, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	12.5	12.6	29.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	51.4	H	54.0	-2.6	AVG	54	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.600	64.6	H	74.0	-9.4	PK	54	1.1	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.7	V	54.0	-6.3	AVG	359	1.2	POS; RB 1 MHz; VB: 10 Hz
2389.760	62.1	V	74.0	-11.9	PK	359	1.2	POS; RB 1 MHz; VB: 3 MHz



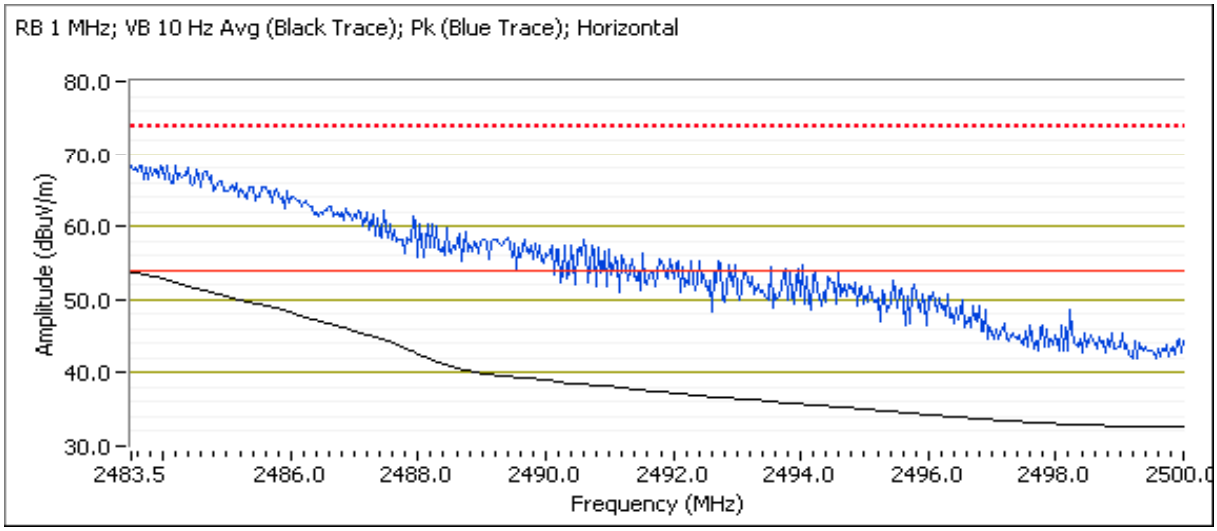
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5b, EUT on Channel #11 2462MHz - n20, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	12.5	12.8	28.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	53.8	H	54.0	-0.2	AVG	217	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.630	66.1	H	74.0	-7.9	PK	217	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	48.9	V	54.0	-5.1	AVG	39	1.5	POS; RB 1 MHz; VB: 10 Hz
2483.530	63.4	V	74.0	-10.6	PK	39	1.5	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 6, Band Edge Field Strength - 802.11g, Chain B

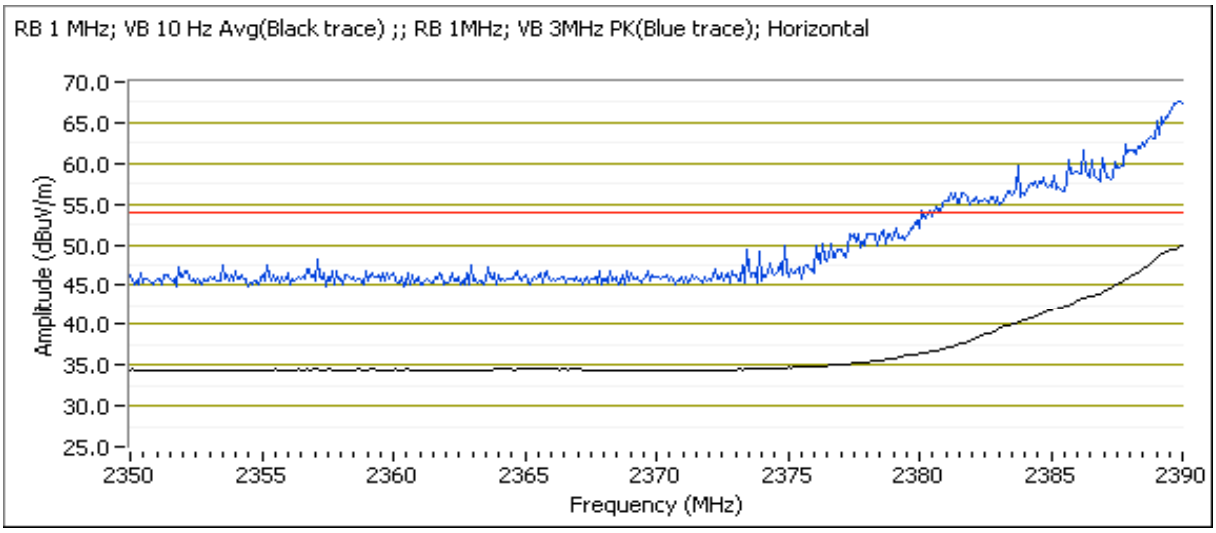
Date of Test: 4/19/2012

Test Engineer: Jack Liu

Test Location: FT 5

Run # 6a, EUT on Channel #1 2412MHz - 802.11g, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	13.5	13.5	30.0



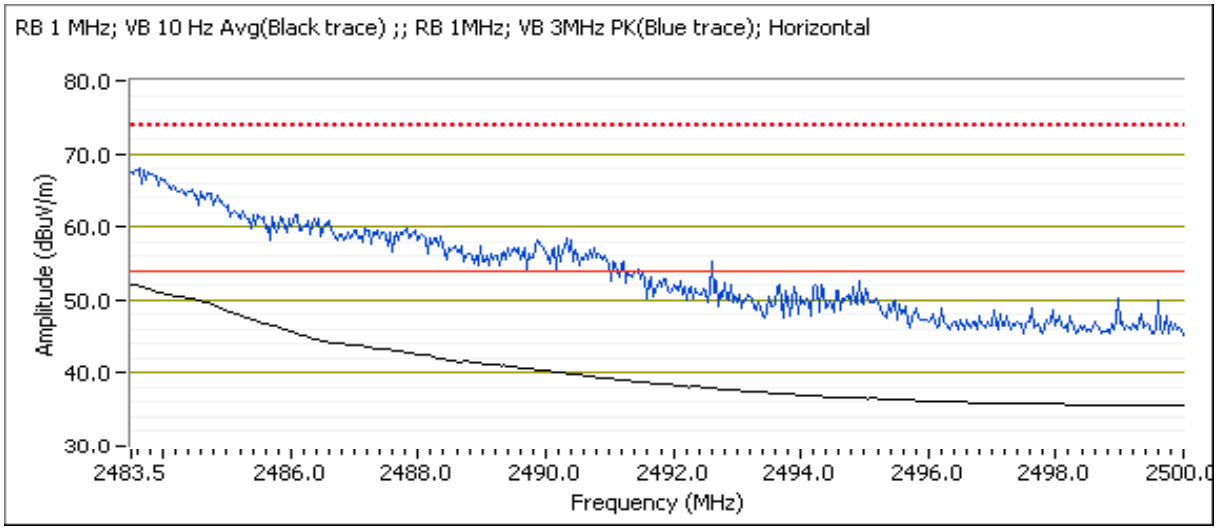
Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	49.8	H	54.0	-4.2	AVG	43	1.2	POS; RB 1 MHz; VB: 10 Hz
2389.280	65.8	H	74.0	-8.2	PK	43	1.2	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.2	V	54.0	-6.8	AVG	87	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.680	63.7	V	74.0	-10.3	PK	87	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 6b, EUT on Channel #11 2462MHz - 802.11g, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	13.5	13.4	28.0



Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.530	52.0	H	54.0	-2.0	AVG	185	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.960	67.1	H	74.0	-6.9	PK	185	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	46.0	V	54.0	-8.0	AVG	18	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.000	60.6	V	74.0	-13.4	PK	18	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 7, Band Edge Field Strength - 802.11g, Chain B

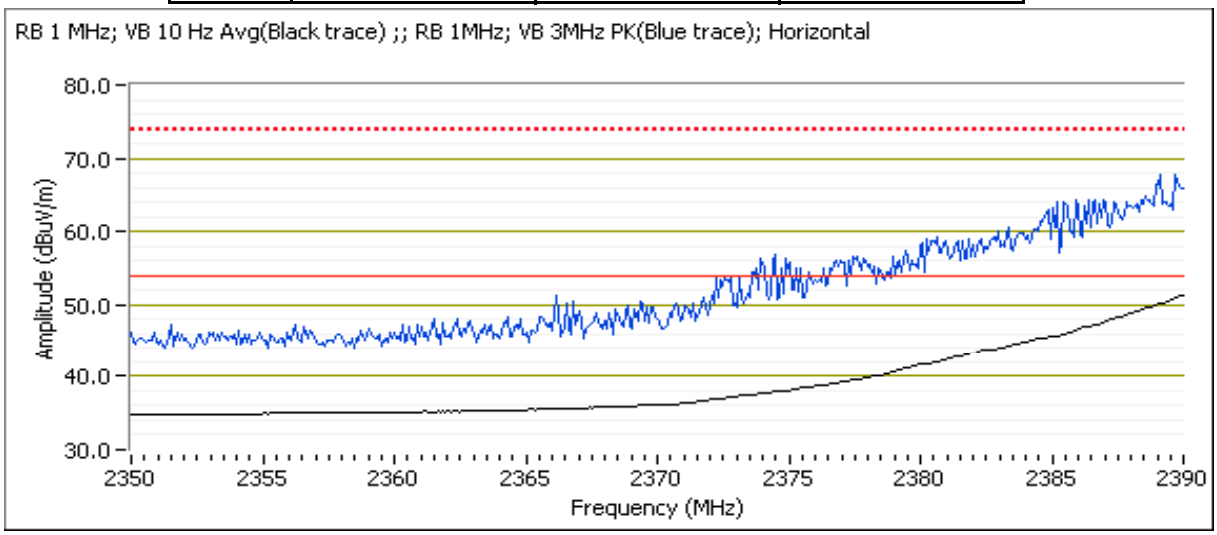
Date of Test: 4/19/2012

Test Engineer: Jack Liu

Test Location: FT 5

Run # 7a, EUT on Channel #2 2417MHz - 802.11g, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.6	34.0



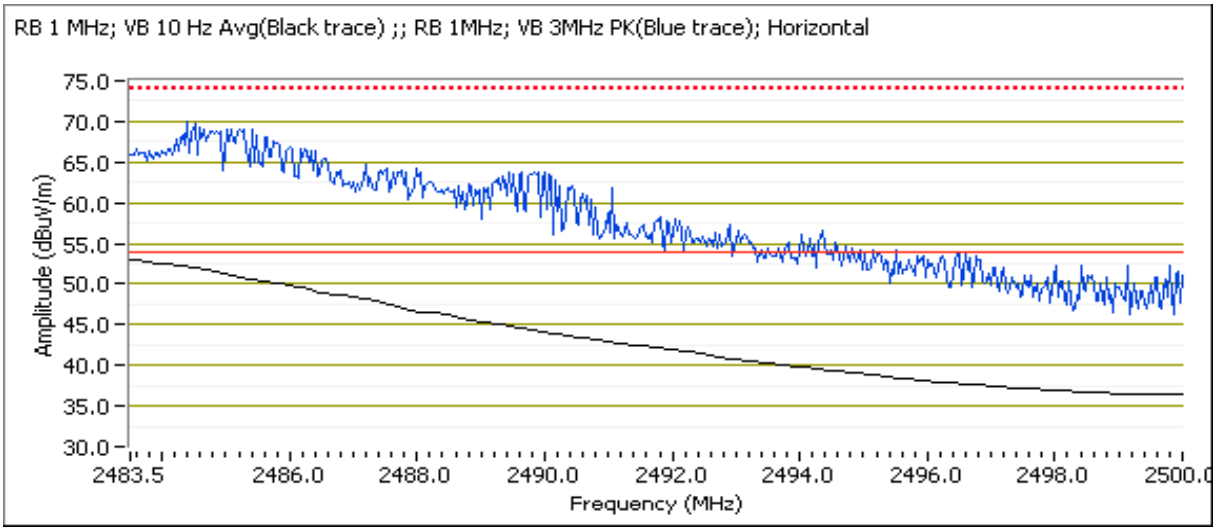
Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	51.4	H	54.0	-2.6	AVG	47	1.5	POS; RB 1 MHz; VB: 10 Hz
2385.430	65.3	H	74.0	-8.7	PK	47	1.5	POS; RB 1 MHz; VB: 3 MHz
2390.000	49.0	V	54.0	-5.0	AVG	89	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.280	65.9	V	74.0	-8.1	PK	89	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 7b, EUT on Channel #10 2457MHz - 802.11g, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.0	32.0



Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.570	52.9	H	54.0	-1.1	AVG	191	1.1	POS; RB 1 MHz; VB: 10 Hz
2485.320	68.6	H	74.0	-5.4	PK	191	1.1	POS; RB 1 MHz; VB: 3 MHz

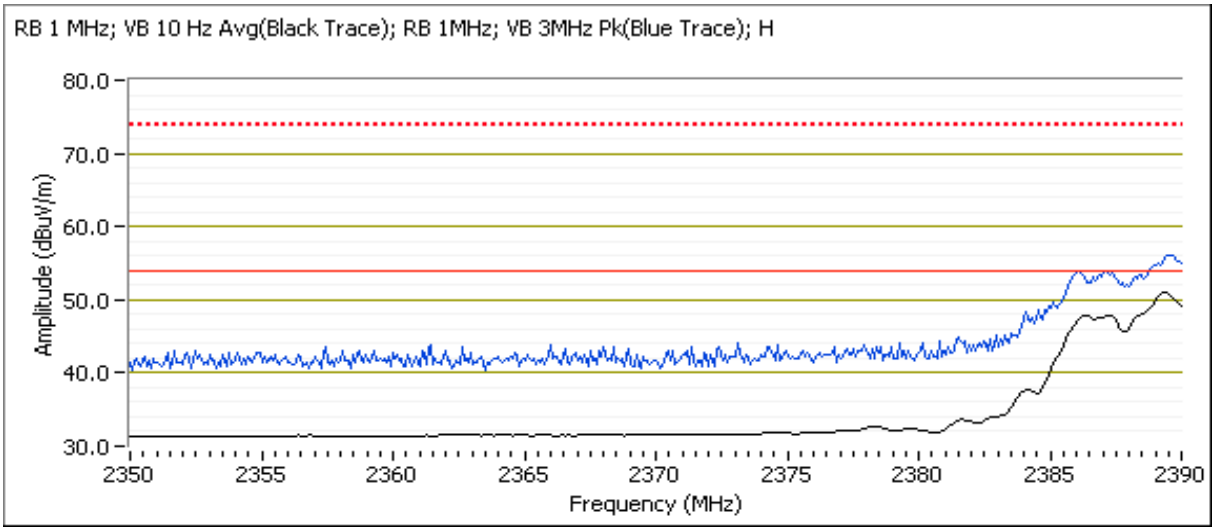
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 8, Band Edge Field Strength - 802.11b, Chain B
Run # 8a, EUT on Channel #1 2412MHz - 802.11b, Chain B

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.0	29.0

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.360	51.2	H	54.0	-2.8	AVG	332	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.520	56.0	H	74.0	-18.0	PK	332	1.0	POS; RB 1 MHz; VB: 3 MHz
2389.360	50.3	V	54.0	-3.7	AVG	88	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.600	57.2	V	74.0	-16.8	PK	88	1.0	POS; RB 1 MHz; VB: 3 MHz



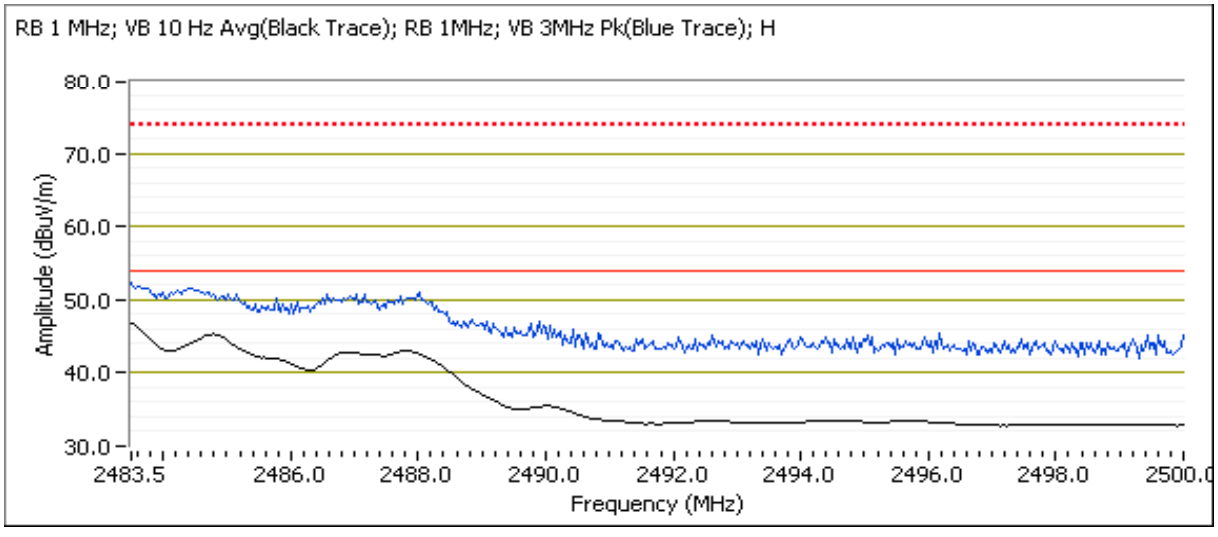
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 8b, EUT on Channel #11 2462MHz - 802.11b, Chain B

Date of Test: 4/28/2012
Test Engineer: Jack Liu
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.0	27.0

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	46.9	H	54.0	-7.1	AVG	194	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.670	51.9	H	74.0	-22.1	PK	194	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	44.4	V	54.0	-9.6	AVG	88	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.590	54.8	V	74.0	-19.2	PK	88	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 9, Band Edge Field Strength - 802.11n20MHz, Chain B

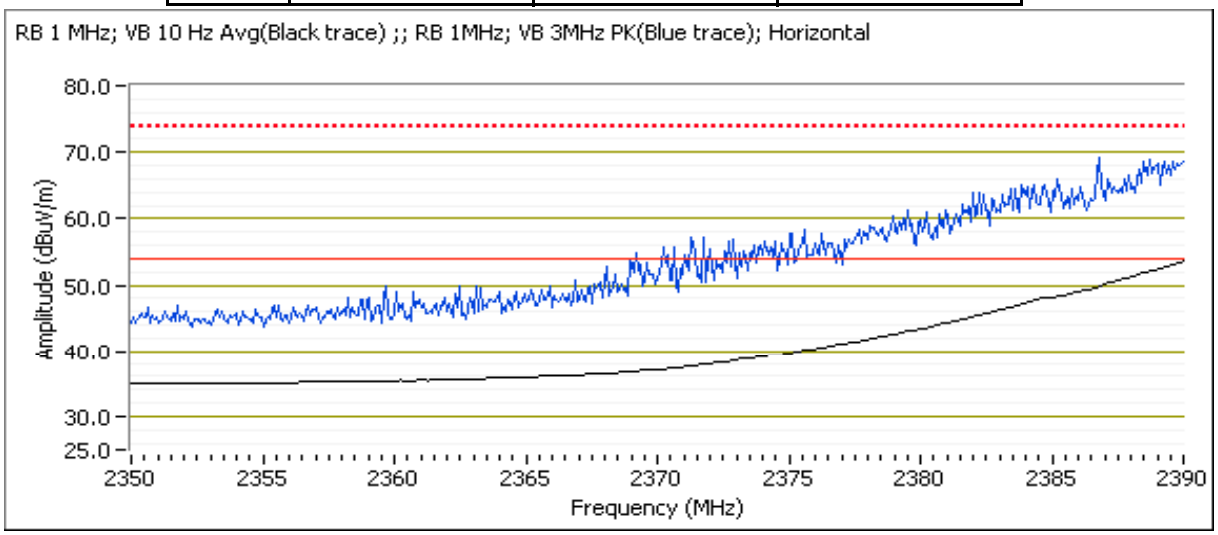
Date of Test: 4/19/2012

Test Engineer: Jack Liu

Test Location: FT 5

Run # 9a, EUT on Channel #2 2417MHz - 802.11n20MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.5	34.5



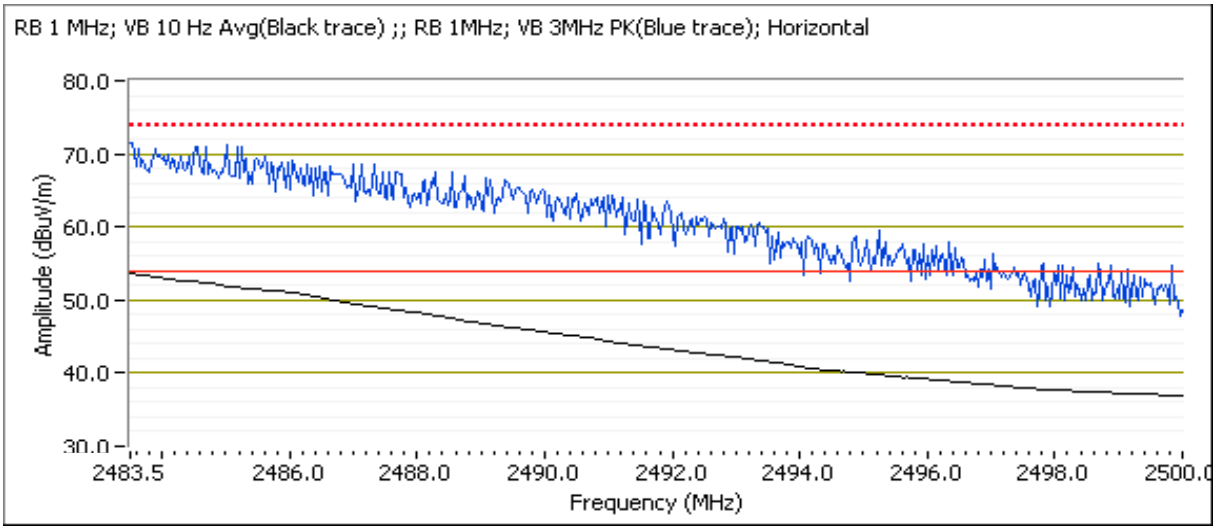
Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	53.5	H	54.0	-0.5	AVG	55	1.5	POS; RB 1 MHz; VB: 10 Hz
2390.000	69.0	H	74.0	-5.0	PK	55	1.5	POS; RB 1 MHz; VB: 3 MHz
2390.000	49.5	V	54.0	-4.5	AVG	349	1.0	POS; RB 1 MHz; VB: 10 Hz
2388.480	64.4	V	74.0	-9.6	PK	349	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 9b, EUT on Channel #10 2457MHz - 802.11n20MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	15.8	32.0



Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	53.6	H	54.0	-0.4	AVG	184	1.1	POS; RB 1 MHz; VB: 10 Hz
2485.190	70.8	H	74.0	-3.2	PK	184	1.1	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (Band Edge)

Summary of Results

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 1	n40 Chain A+B	#3 2422MHz	A: 7.5 B: 7.5	A: 7.6 B: 7.6	Restricted Band Edge at 2400 MHz	15.209	47.5 dBµV/m @ 2389.9 MHz (-6.5 dB)
		#9 2452MHz	A: 8.0 B: 8.0	A: 8.1 B: 8.2	Restricted Band Edge at 2483.5 MHz	15.209	52.3 dBµV/m @ 2483.5 MHz (-1.7 dB)
Run # 2	n40 Chain A+B	#4 2427MHz	A: 9.5 B: 9.5	A: 9.5 B: 9.6	Restricted Band Edge at 2400 MHz	15.209	49.5 dBµV/m @ 2389.8 MHz (-4.5 dB)
		#8 2447MHz	A: 9.0 B: 9.0	A: 9.1 B: 9.0	Restricted Band Edge at 2483.5 MHz	15.209	50.9 dBµV/m @ 2483.5 MHz (-3.1 dB)
Run # 3	n40 Chain A+B	#5 2432MHz	A: 11.5 B: 11.5	A: 11.5 B: 11.4	Restricted Band Edge at 2400 MHz	15.209	50.5 dBµV/m @ 2390.0 MHz (-3.5 dB)
		#7 2442MHz	A: 10.5 B: 10.5	A: 10.8 B: 10.9	Restricted Band Edge at 2483.5 MHz	15.209	52.0 dBµV/m @ 2483.5 MHz (-2.0 dB)
Run # 4	n40 Chain A+B	#6 2437MHz	A: 12.5 B: 12.5	A: 12.6 B: 12.6	Restricted Band Edge at 2400 MHz	15.209	48.3 dBµV/m @ 2390.0 MHz (-5.7 dB)
					Restricted Band Edge at 2483.5 MHz	15.209	50.0 dBµV/m @ 2483.5 MHz (-4.0 dB)
Run # 5	n20 Chain A+B	#1 2412MHz	A: 12.5 B: 12.5	A: 12.5 B: 12.3	Restricted Band Edge at 2400 MHz	15.209	52.5 dBµV/m @ 2390.0 MHz (-1.5 dB)
		#11 2462MHz	A: 11.5 B: 11.5	A: 11.6 B: 11.5	Restricted Band Edge at 2483.5 MHz	15.209	51.9 dBµV/m @ 2483.5 MHz (-2.1 dB)
Run # 6	n20 Chain A+B	#2 2417MHz	A: 13.5 B: 13.5	A: 13.8 B: 13.5	Restricted Band Edge at 2400 MHz	15.209	45.6 dBµV/m @ 2390.0 MHz (-8.4 dB)
		#10 2457MHz	A: 13.5 B: 13.5	A: 13.7 B: 13.4	Restricted Band Edge at 2483.5 MHz	15.209	43.7 dBµV/m @ 2483.5 MHz (-10.3 dB)

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.

Before disconnecting the power meter, EUT antennas or spectrum analyzer from the device please click on Power Down to stop the transmitter. Once the rf port is connected back up to the antenna, power meter or analyzer click on "Start TX". This prevents the feedback circuit on the EUT from dropping power while there is nothing connected and then ramping it back up when it sees a load.

Use the Gain Control mode of adjusting power. Set power to within +/-0.2dB of target.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Test Specific Details

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

General Test Configuration

The EUT ws installed into a test fixture such that the EUT was exposed (i.e. outside of a host PC).
For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

Ambient Conditions:

Rel. Humidity:	25 %
Temperature:	35 °C

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.

Marker Delta Measurements

Three sets of marker deltas are measured using the following settings: RB=VB=100kHz; RB=1MHz,VB=1MHz; RB=1MHz, VB=10Hz.
Marker deltas are made conducted (analyzer connected to EUT rf port a 20dB pad) for single chain operation.
The fundamental field strength is always measured at a 3m test distance.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1, Band Edge Field Strength - n40, Chain A

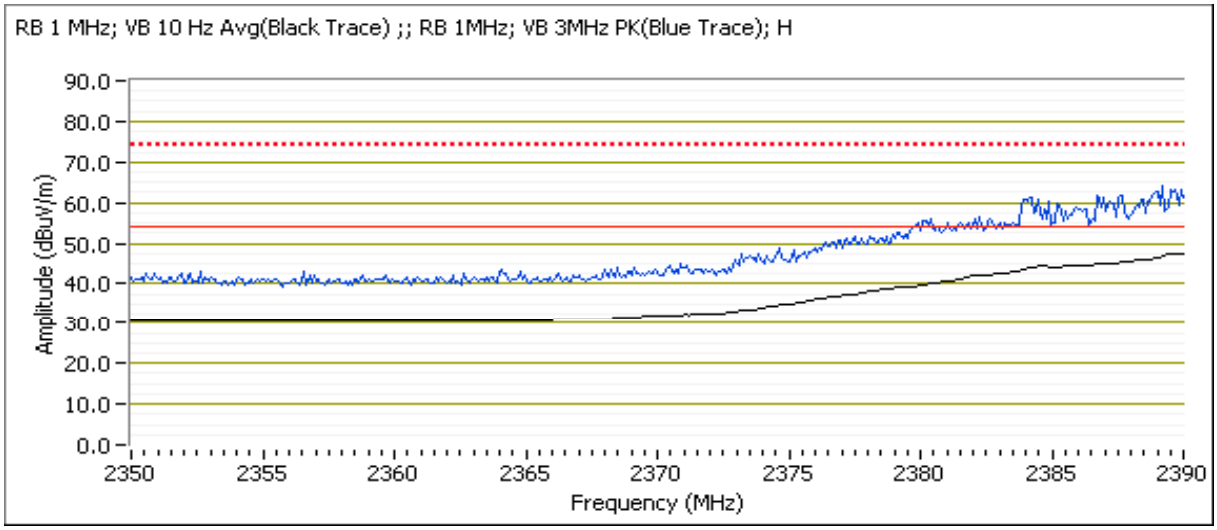
Date of Test: 4/20/2012

Test Engineer: Jack Liu

Test Location: FT 4

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

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	7.5	7.5		10.5	7.6	7.6		10.6	A:21.5 B:26



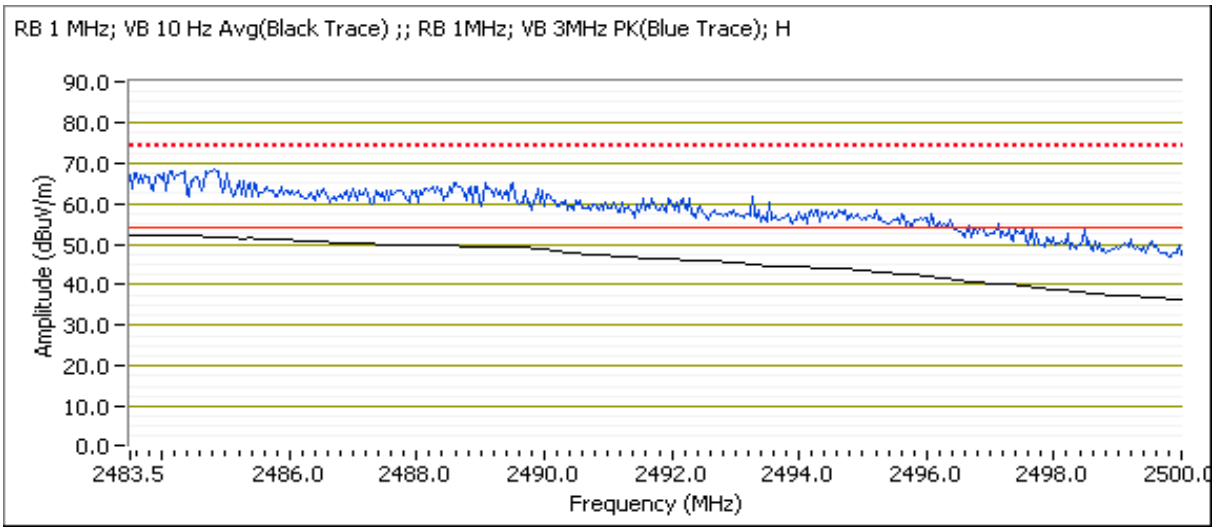
Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.920	47.5	H	54.0	-6.5	AVG	230	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.120	62.9	H	74.0	-11.1	PK	230	1.1	POS; RB 1 MHz; VB: 3 MHz
2389.760	42.9	V	54.0	-11.1	AVG	150	1.0	POS; RB 1 MHz; VB: 10 Hz
2383.910	56.5	V	74.0	-17.5	PK	150	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1b, EUT on Channel #9 2452MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	8.0	8.0		11.0	8.1	8.2		11.2	A:22 B:26



Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	52.3	H	54.0	-1.7	AVG	171	1.1	POS; RB 1 MHz; VB: 10 Hz
2484.620	68.2	H	74.0	-5.8	PK	171	1.1	POS; RB 1 MHz; VB: 3 MHz
2484.330	45.2	V	54.0	-8.8	AVG	165	0.9	POS; RB 1 MHz; VB: 10 Hz
2483.800	60.2	V	74.0	-13.8	PK	165	0.9	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2, Band Edge Field Strength - n40, Chain A+B

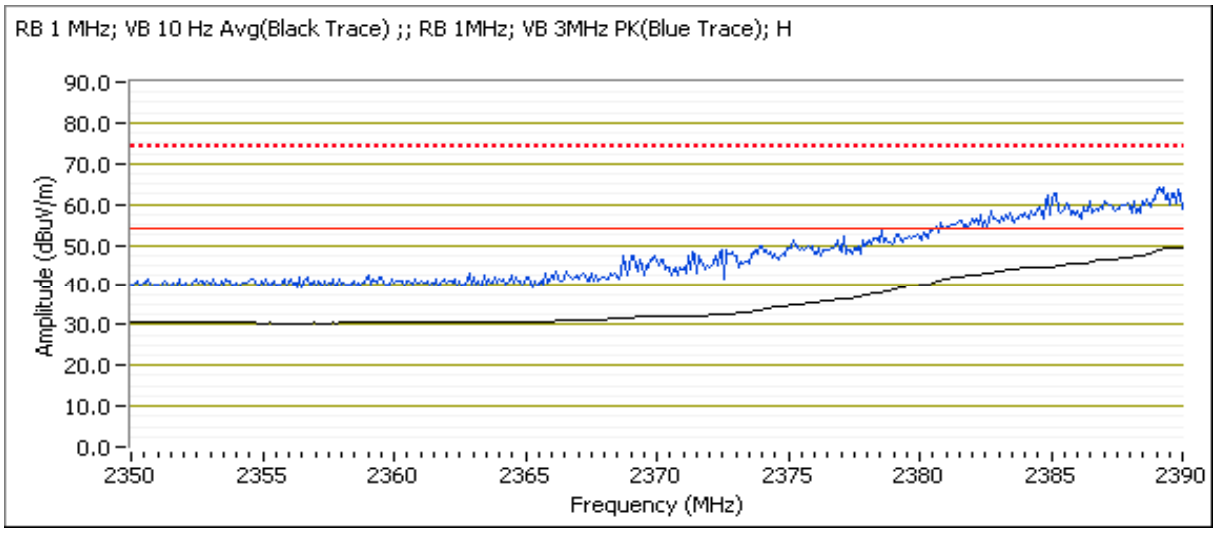
Date of Test: 4/20/2012

Test Engineer: Jack Liu

Test Location: FT 4

Run # 2a, EUT on Channel #4 2427MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	9.5	9.5		12.5	9.5	9.6		12.6	A:23.5 B:28.5



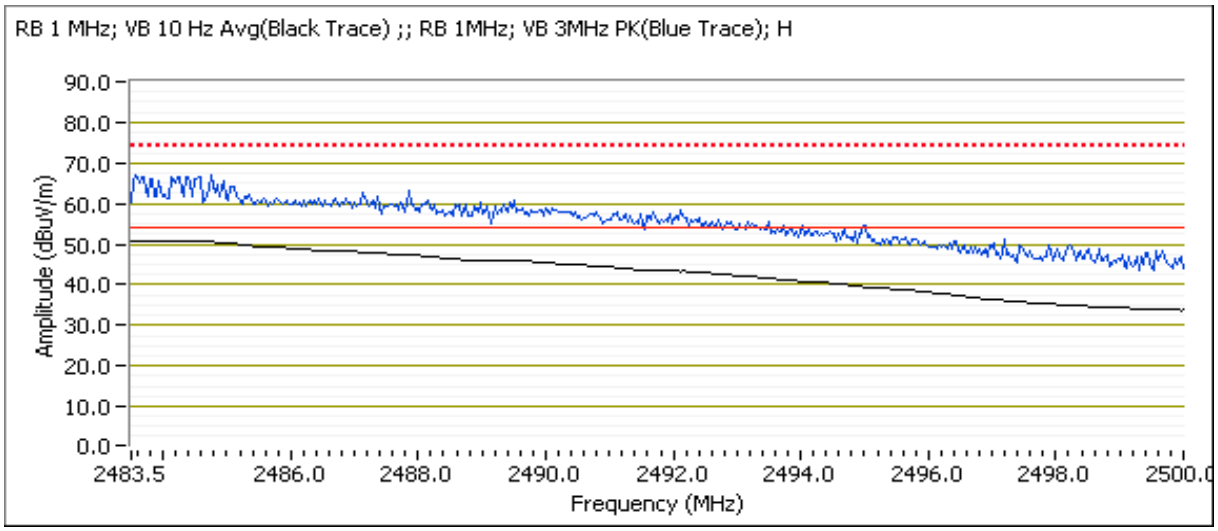
Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.760	49.5	H	54.0	-4.5	AVG	233	1.1	POS; RB 1 MHz; VB: 10 Hz
2389.120	64.0	H	74.0	-10.0	PK	233	1.1	POS; RB 1 MHz; VB: 3 MHz
2389.840	45.7	V	54.0	-8.3	AVG	151	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.920	60.1	V	74.0	-13.9	PK	151	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2b, EUT on Channel #8 2447MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	9.0	9.0		12.0	9.1	9.0		12.1	A:23 B:27



Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.530	50.9	H	54.0	-3.1	AVG	197	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.720	65.3	H	74.0	-8.7	PK	197	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	44.7	V	54.0	-9.3	AVG	221	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.630	60.3	V	74.0	-13.7	PK	221	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3, Band Edge Field Strength - n40, Chain A+B

Date of Test: 4/23/2012

Test Engineer: Mark Hill

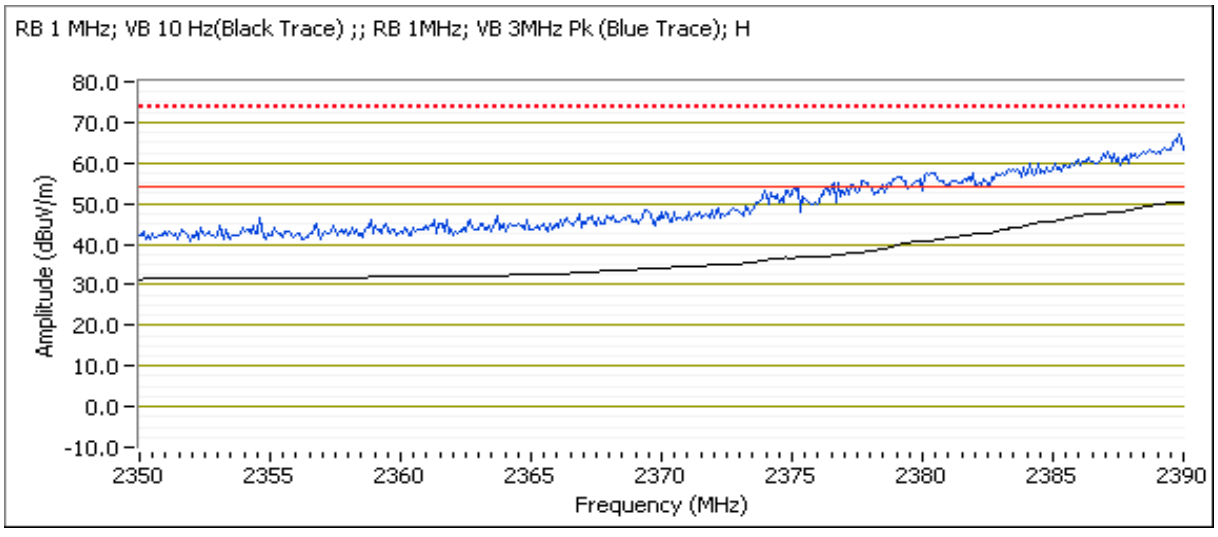
Test Location: FT#4

Run # 3a, EUT on Channel #5 2432MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	11.5	11.5		14.5	11.5	11.4		14.5	A: 25.5, B:31.0

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	50.5	H	54.0	-3.5	AVG	15	1.2	POS; RB 1 MHz; VB: 10 Hz
2389.840	66.7	H	74.0	-7.3	PK	15	1.2	POS; RB 1 MHz; VB: 3 MHz
2390.000	47.3	V	54.0	-6.7	AVG	171	1.0	POS; RB 1 MHz; VB: 10 Hz
2388.720	58.8	V	74.0	-15.2	PK	171	1.0	POS; RB 1 MHz; VB: 3 MHz



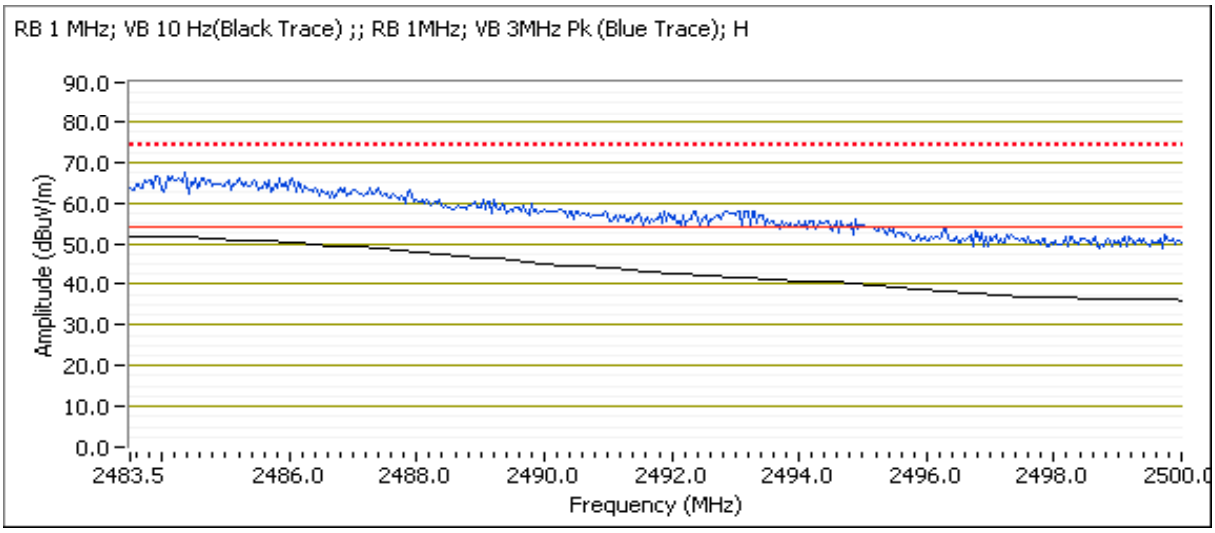
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3b, EUT on Channel #7 2442MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	10.5	10.5		13.5	10.8	10.9		13.9	A: 25 B:30

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	52.0	H	54.0	-2.0	AVG	196	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.860	65.1	H	74.0	-8.9	PK	196	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	46.0	V	54.0	-8.0	AVG	200	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.530	58.8	V	74.0	-15.2	PK	200	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 4, Band Edge Field Strength - n40, Chain A+B

Date of Test: 4/23/2012

Test Engineer: Mark Hill

Test Location: FT#4

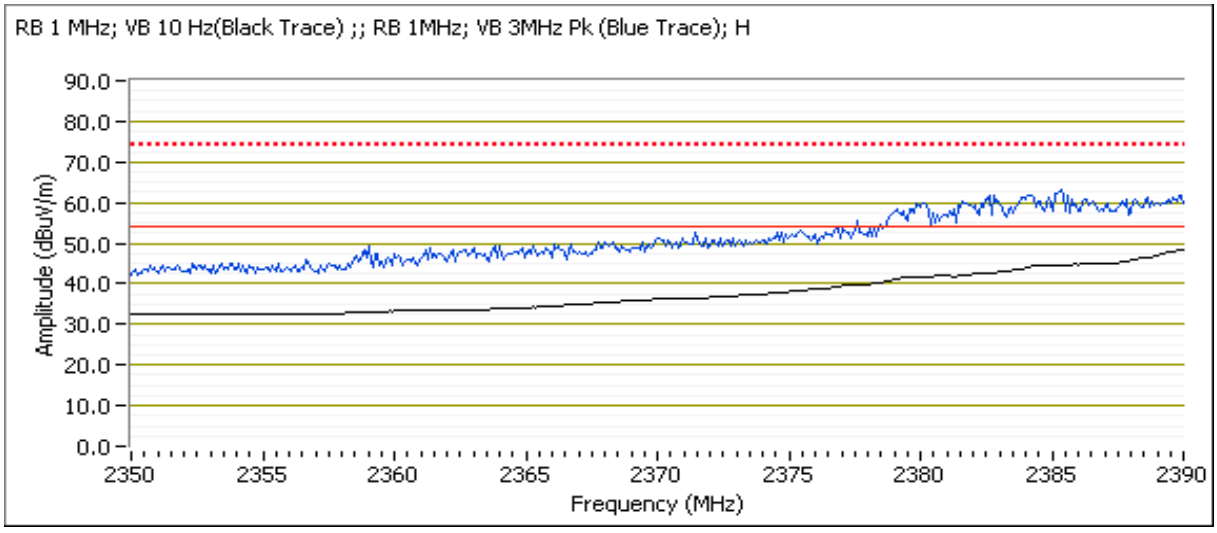
EUT on Channel #6 2437MHz - n40, Chain A+B

Remember, this is for both band edges (if needed)

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	12.5	12.5		15.5	12.6	12.6		15.6	A: 27 B: 32.5

Direct measurement of bandedge (2390 MHz)

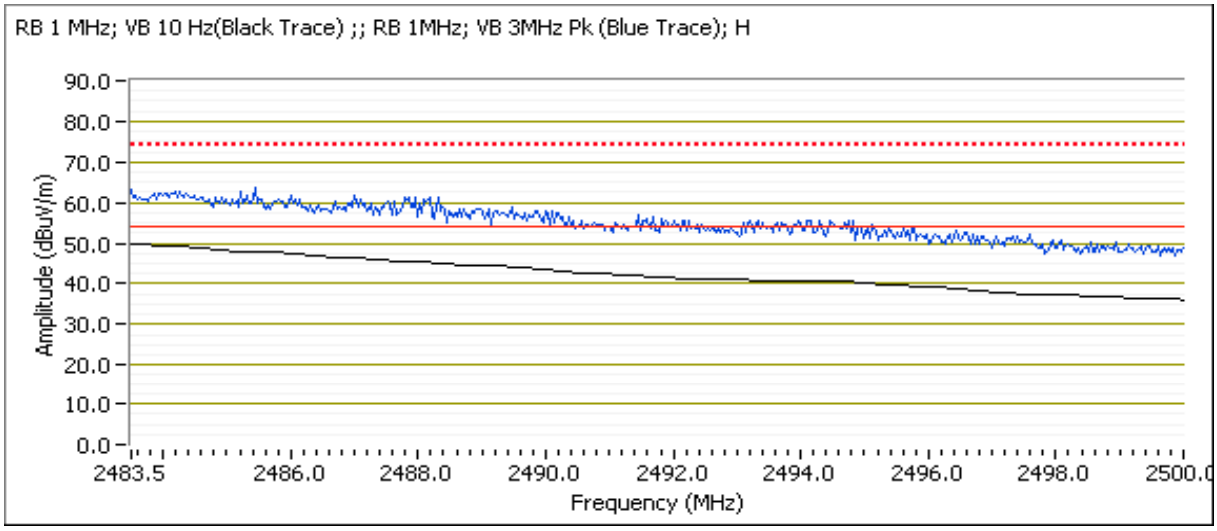
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	48.3	H	54.0	-5.7	AVG	14	1.0	POS; RB 1 MHz; VB: 10 Hz
2384.710	61.8	H	74.0	-12.2	PK	14	1.0	POS; RB 1 MHz; VB: 3 MHz
2390.000	44.0	V	54.0	-10.0	AVG	170	1.0	POS; RB 1 MHz; VB: 10 Hz
2381.820	57.6	V	74.0	-16.4	PK	170	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Direct measurement of bandedge (2483.5 MHz)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	50.0	H	54.0	-4.0	AVG	15	1.0	POS; RB 1 MHz; VB: 10 Hz
2486.010	61.7	H	74.0	-12.3	PK	15	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.530	46.4	V	54.0	-7.6	AVG	202	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.500	57.6	V	74.0	-16.4	PK	202	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5, Band Edge Field Strength - n20, Chain A+B

Date of Test: 4/23/2012

Test Engineer: Mark Hill

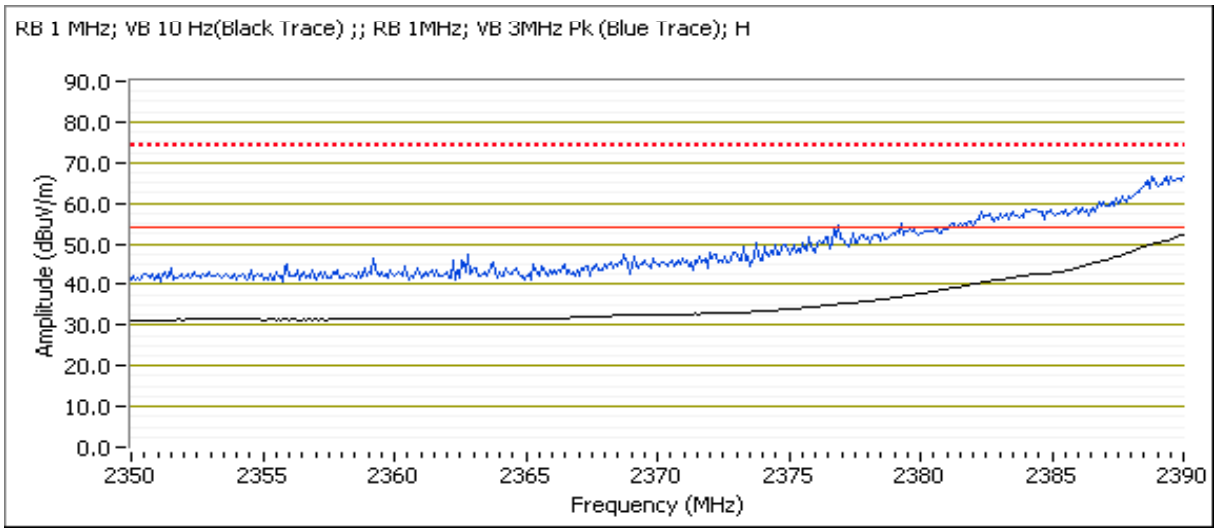
Test Location: FT#4

Run # 5a, EUT on Channel #1 2412MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	12.5	12.5		15.5	12.5	12.3		15.4	A: 27.5 B:33

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	52.5	H	54.0	-1.5	AVG	360	1.2	POS; RB 1 MHz; VB: 10 Hz
2389.600	66.4	H	74.0	-7.6	PK	360	1.2	POS; RB 1 MHz; VB: 3 MHz
2390.000	48.5	V	54.0	-5.5	AVG	95	1.0	POS; RB 1 MHz; VB: 10 Hz
2389.920	62.2	V	74.0	-11.8	PK	95	1.0	POS; RB 1 MHz; VB: 3 MHz



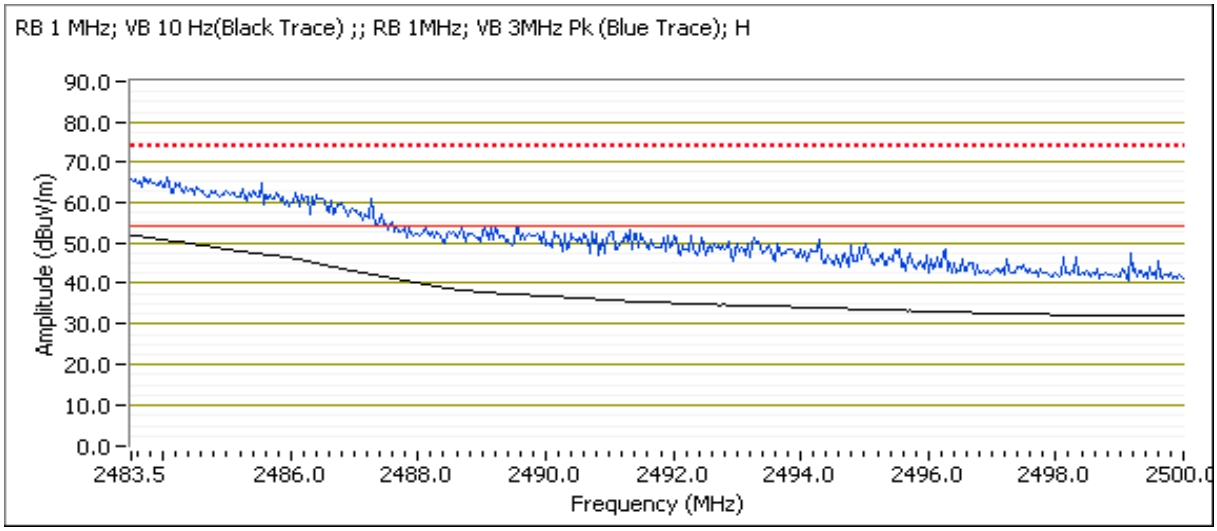
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5b, EUT on Channel #11 2462MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	11.5	11.5		14.5	11.6	11.5		14.6	A: 26 B: 30

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.9	H	54.0	-2.1	AVG	196	1.1	POS; RB 1 MHz; VB: 10 Hz
2483.570	65.0	H	74.0	-9.0	PK	196	1.1	POS; RB 1 MHz; VB: 3 MHz
2483.570	47.7	V	54.0	-6.3	AVG	203	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.530	58.7	V	74.0	-15.3	PK	203	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 6, Band Edge Field Strength - 802.11g, Chain A+B

Date of Test: 4/23/2012

Test Engineer: Mark Hill

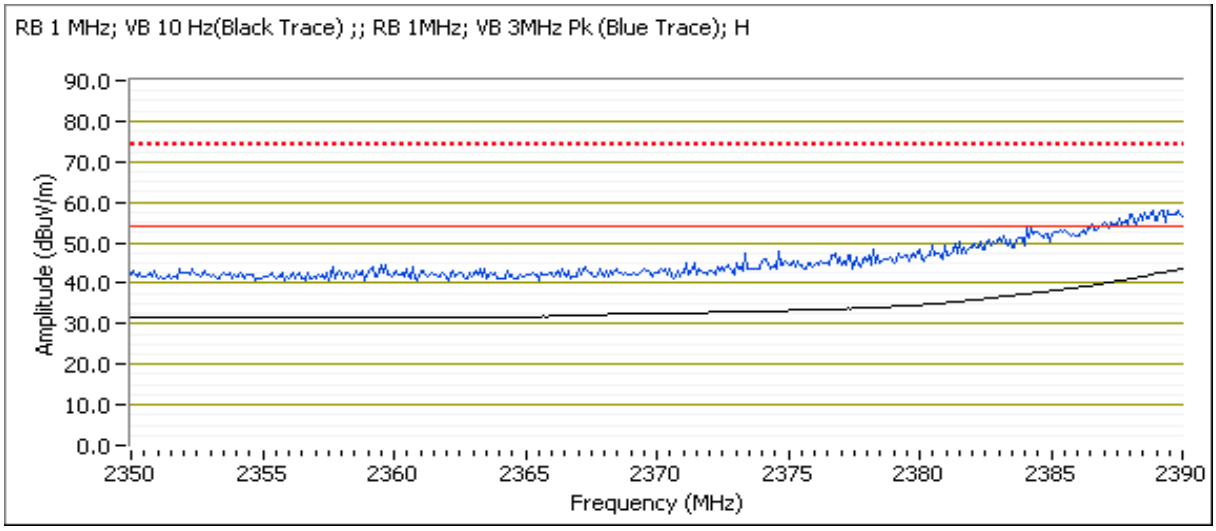
Test Location: FT#4

Run # 6a, EUT on Channel #2 2417MHz - 802.11g, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.5	13.5		16.5	13.8	13.5		16.7	A: 29 B: 33.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	45.6	H	54.0	-8.4	AVG	13	1.5	POS; RB 1 MHz; VB: 10 Hz
2388.240	58.8	H	74.0	-15.2	PK	13	1.5	POS; RB 1 MHz; VB: 3 MHz
2390.000	40.2	V	54.0	-13.8	AVG	98	1.0	POS; RB 1 MHz; VB: 10 Hz
2388.000	54.5	V	74.0	-19.5	PK	98	1.0	POS; RB 1 MHz; VB: 3 MHz



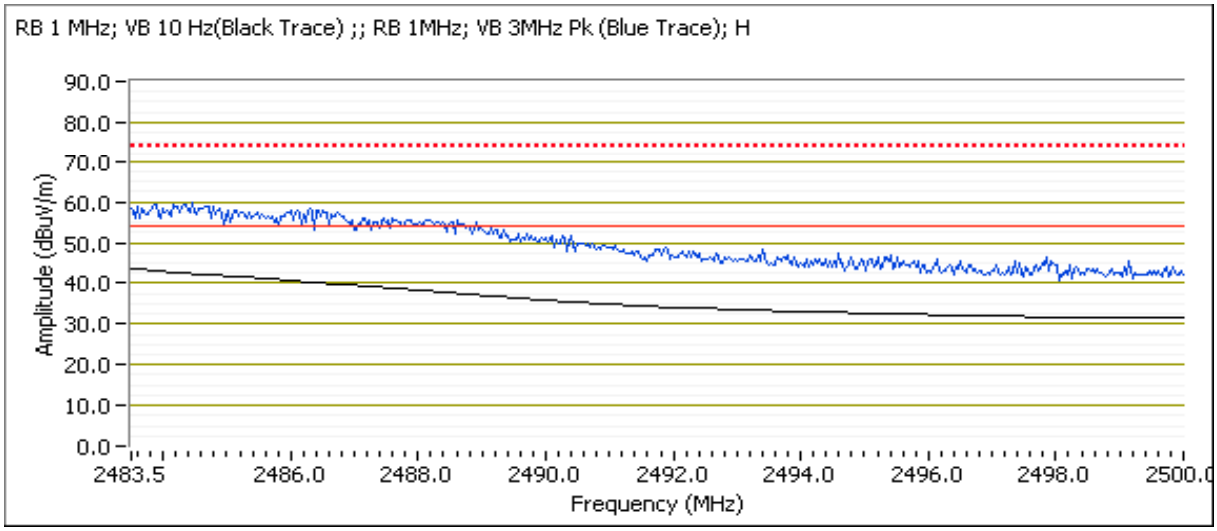
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 6b, EUT on Channel #10 2457MHz - 802.11g, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.5	13.5		16.5	13.7	13.4		16.6	A: 28.5 B: 32.5

Direct measurement of bandedge

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	43.7	H	54.0	-10.3	AVG	344	1.0	POS; RB 1 MHz; VB: 10 Hz
2484.460	58.9	H	74.0	-15.1	PK	344	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	42.9	V	54.0	-11.1	AVG	199	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.930	54.8	V	74.0	-19.2	PK	199	1.0	POS; RB 1 MHz; VB: 3 MHz



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	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. 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: 18-21 °C

Rel. Humidity: 30-35 %

Summary of Results - Device Operating in the 2400 MHz Band

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Run #1	802.11b Chain A	#1 2412MHz	16.5	16.7	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	47.2 dBµV/m @ 7236.9 MHz (-6.8 dB)
		#6 2437MHz	16.0	15.9			47.0 dBµV/m @ 3245.8 MHz (-7.0 dB)
		#11 2462MHz	16.5	16.8			48.4 dBµV/m @ 7385.2 MHz (-5.6 dB)
	802.11b Chain B	#1 2412MHz	16.0	16.2	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	49.1 dBµV/m @ 4824.0 MHz (-4.9 dB)
		#6 2437MHz	15.5	15.5			45.1 dBµV/m @ 4874.0 MHz (-8.9 dB)
		#11 2462MHz	16.0	16.1			52.3 dBµV/m @ 4924.0 MHz (-1.7 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Scans on center channel in all three OFDM modes in each operatintg band were used to determine the worst case. Note that for n20 and n40 modes the output power was set to the single chain power per chain. The maximum power per chain in MIMO mode is always lower than the single chain power but the scans were run at the higher single-chain power level but with both chains active to cover both MIMO and MISO modes.

Run # 2	802.11g Chain A	#6 2437MHz	16.5	16.7	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	49.4 dBµV/m @ 3245.8 MHz (-4.6 dB)
	802.11g Chain B	#6 2437MHz	16.5	16.5			47.8 dBµV/m @ 2998.3 MHz (-6.2 dB)
	802.11n20 Chain A+B	#6 2437MHz	A:16.5 B:16.5	A: 16.4 B: 16.5			43.3 dBµV/m @ 7310.1 MHz (-10.7 dB)
	802.11n40 Chain A+B	#6 2437MHz	A:13.5 B:12.5	A: 13.4 B: 12.7			47.8 dBµV/m @ 2998.3 MHz (-6.2 dB)
Top and bottom channels in worst case OFDM mode:							
Run # 3	Worst case OFDM 802.11n 20MHz Chain A+B	#1 2412MHz	A:16.5 B:16.5	A: 16.7 B: 16.4	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	48.2 dBµV/m @ 7237.2 MHz (-5.8 dB)
		#11 2462MHz	A:16.5 B:16.5	A: 16.7 B: 16.7			49.7 dBµV/m @ 3282.7 MHz (-4.3 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.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

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

Date of Test: 4/29/2012 Test Location: FT3

Test Engineer: Rafael Varelas

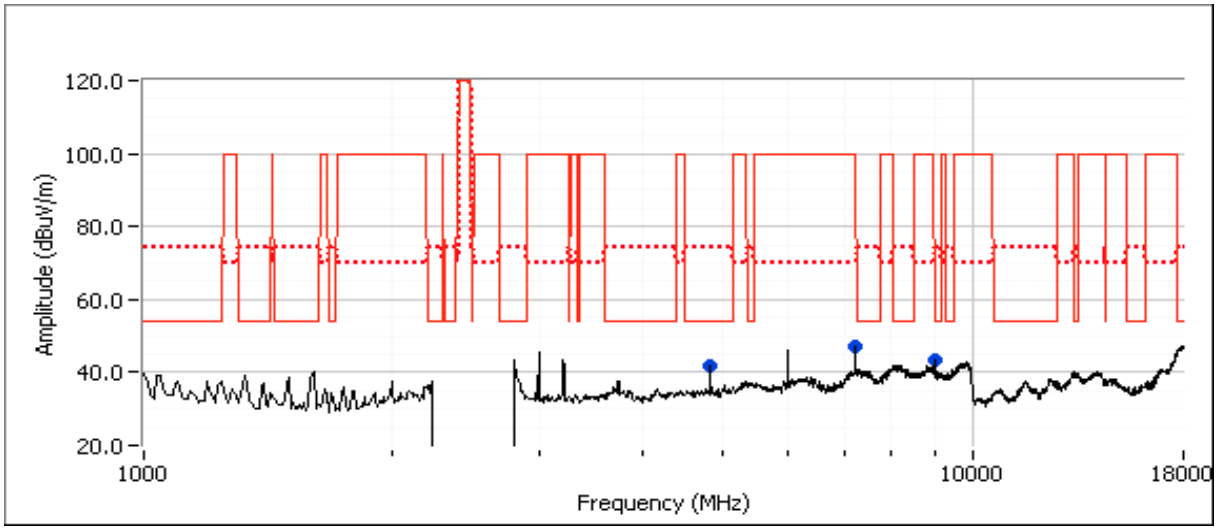
Run #1a, EUT on Channel #1 2412MHz - 802.11b, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.7	23.0

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7236.860	47.2	V	54.0	-6.8	Peak	261	1.6	RB 1 MHz;VB 3 MHz;Peak, Note 2
4823.950	41.7	V	54.0	-12.3	AVG	132	1.0	RB 1 MHz;VB 10 Hz;Peak
9000.960	39.9	V	54.0	-14.1	AVG	151	1.0	RB 1 MHz;VB 10 Hz;Peak
9001.210	48.1	V	74.0	-25.9	PK	151	1.0	RB 1 MHz;VB 3 MHz;Peak
4824.120	45.7	V	74.0	-28.3	PK	132	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

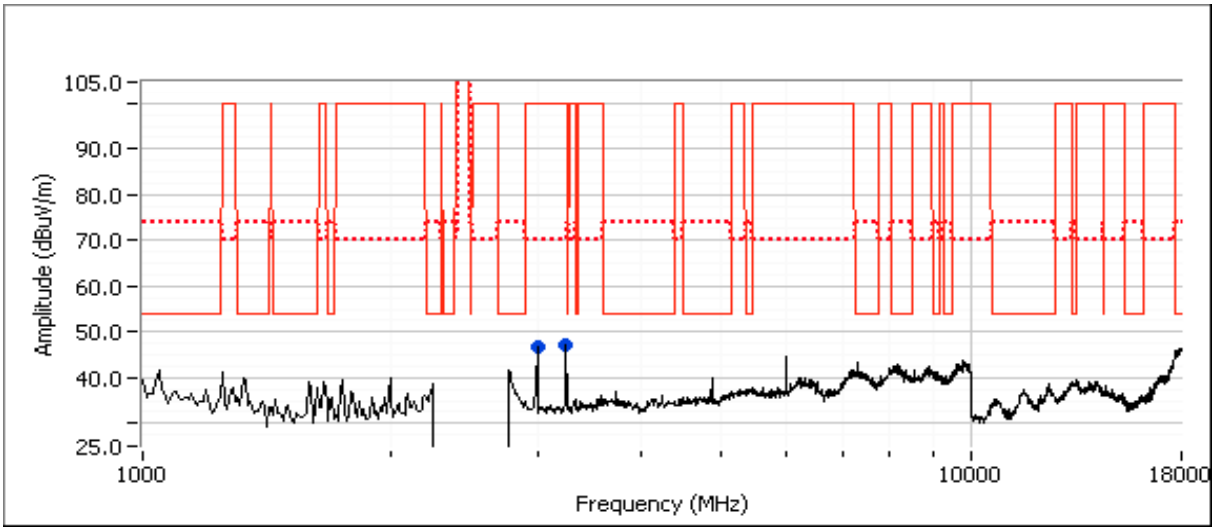
Run #1b: , EUT on Channel #6 2437MHz - 802.11b, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	15.9	21.5

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3245.830	47.0	V	54.0	-7.0	Peak	77	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
2998.330	46.9	H	54.0	-7.1	Peak	183	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2

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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

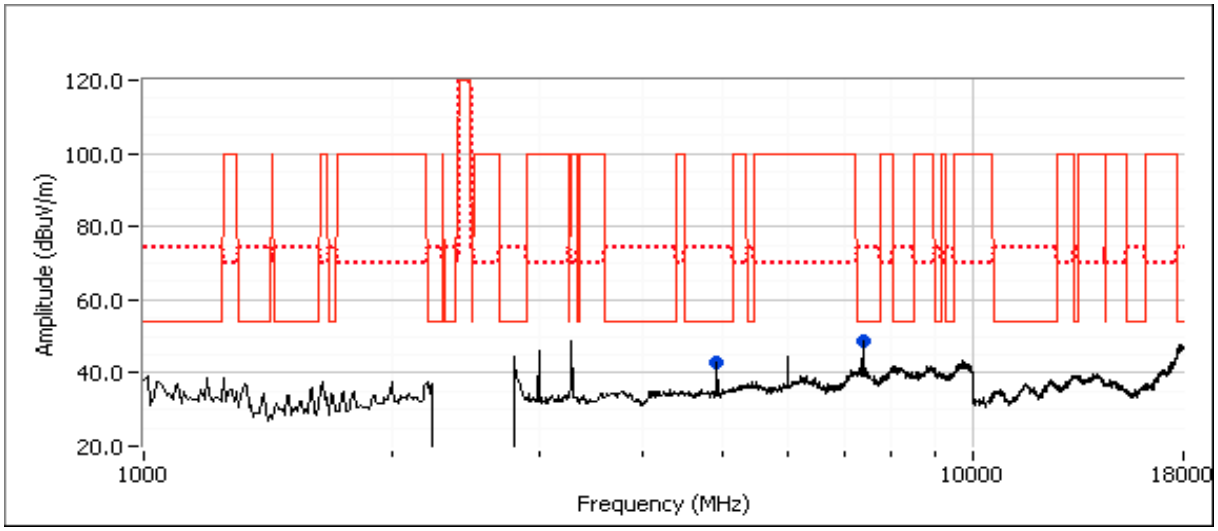
Run #1c: , EUT on Channel #11 2462MHz - 802.11b, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.8	23.0

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7385.240	48.4	V	54.0	-5.6	AVG	84	1.7	RB 1 MHz;VB 10 Hz;Peak
4923.950	41.9	V	54.0	-12.1	AVG	153	1.0	RB 1 MHz;VB 10 Hz;Peak
7384.930	53.5	V	74.0	-20.5	PK	84	1.7	RB 1 MHz;VB 3 MHz;Peak
4924.010	45.9	V	74.0	-28.1	PK	153	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

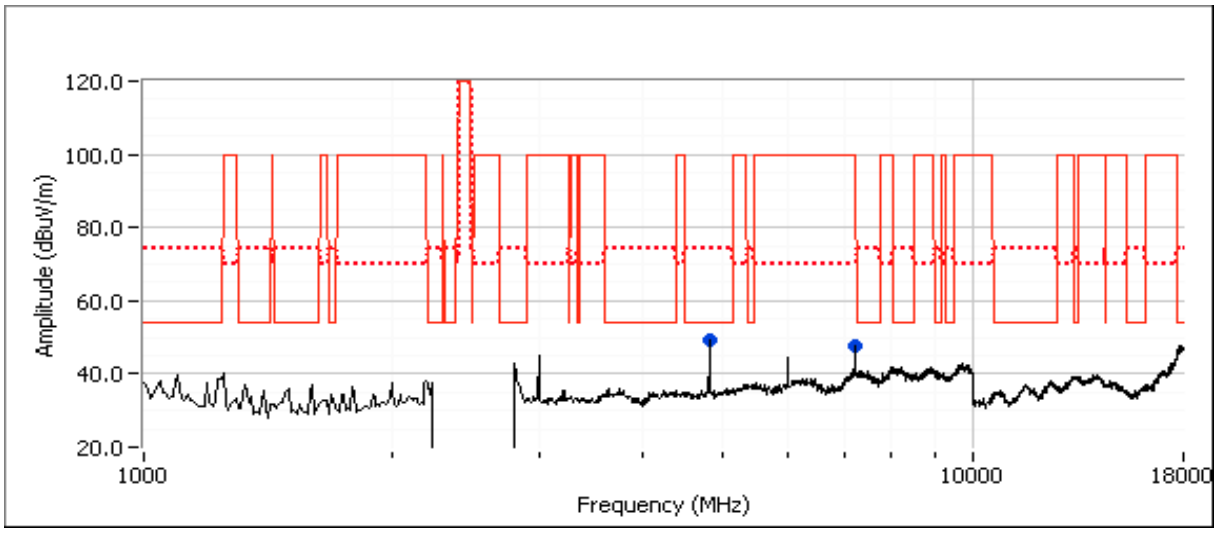
Run #1d, EUT on Channel #1 2412MHz - 802.11b, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.2	29.5

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4823.970	49.1	V	54.0	-4.9	AVG	152	1.0	RB 1 MHz;VB 10 Hz;Peak
4824.100	51.3	V	74.0	-22.7	PK	152	1.0	RB 1 MHz;VB 3 MHz;Peak
7237.330	47.9	V	54.0	-6.1	Peak	248	1.3	RB 1 MHz;VB 3 MHz;Peak, Note 2

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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

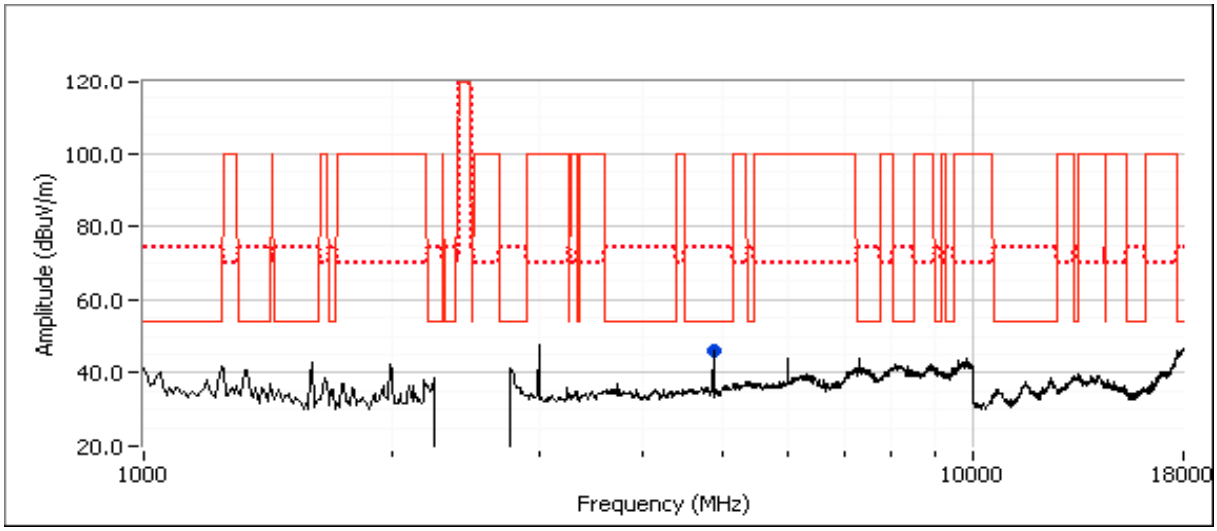
Run #1e: , EUT on Channel #6 2437MHz - 802.11b, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	15.5	15.5	27.0

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4874.010	45.1	V	54.0	-8.9	AVG	141	1.0	RB 1 MHz;VB 10 Hz;Peak
4873.910	48.5	V	74.0	-25.5	PK	141	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

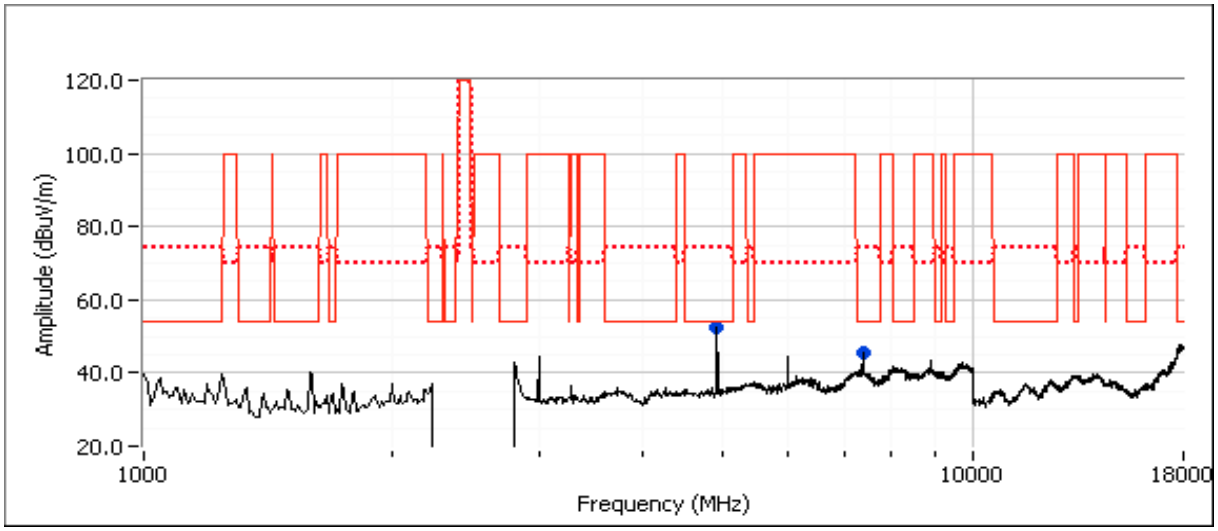
Run #1f: , EUT on Channel #11 2462MHz - 802.11b, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.1	27.0

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4923.950	52.3	V	54.0	-1.7	AVG	148	1.1	RB 1 MHz;VB 10 Hz;Peak
7386.700	44.8	V	54.0	-9.2	AVG	252	1.7	RB 1 MHz;VB 10 Hz;Peak
4924.030	54.0	V	74.0	-20.0	PK	148	1.1	RB 1 MHz;VB 3 MHz;Peak
7387.340	51.4	V	74.0	-22.6	PK	252	1.7	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2, Radiated Spurious Emissions, 1-26GHz, 802.11g, n20 and n40, Chain A

Date of Test: 4/24/2012 Test Location: FT5

Test Engineer: Rafael Varelas

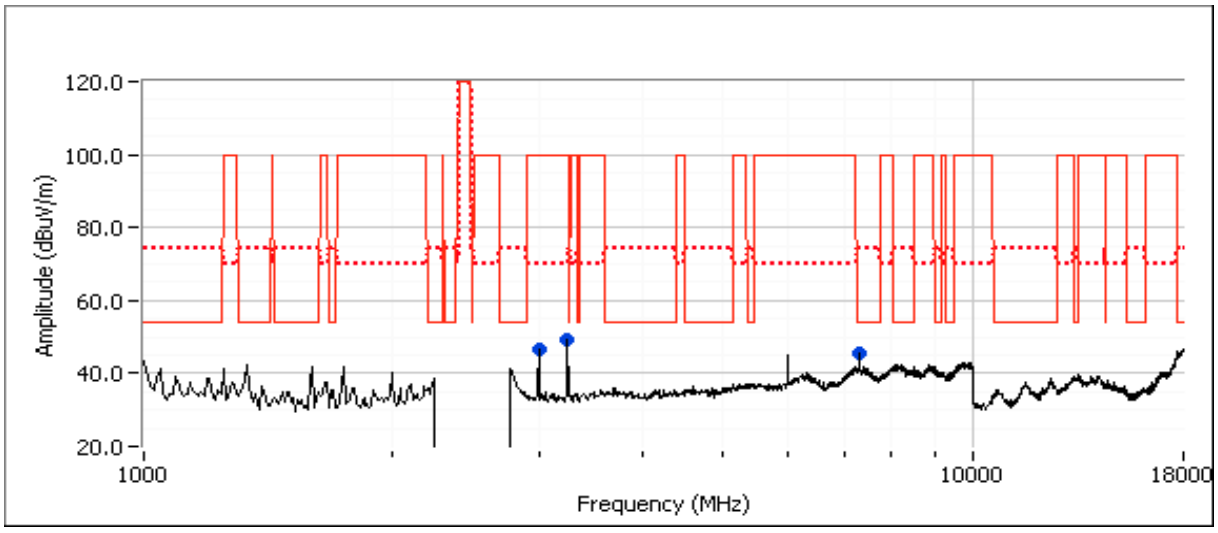
Run # 2a, EUT on Channel #6 2437MHz - 802.11g Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.7	28.5

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	
3245.830	49.4	V	54.0	-4.6	Peak	47	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
2998.330	46.4	V	54.0	-7.6	Peak	187	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
7310.130	42.8	V	54.0	-11.2	AVG	65	1.6	RB 1 MHz;VB 10 Hz;Peak
7315.200	54.2	V	74.0	-19.8	PK	65	1.6	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

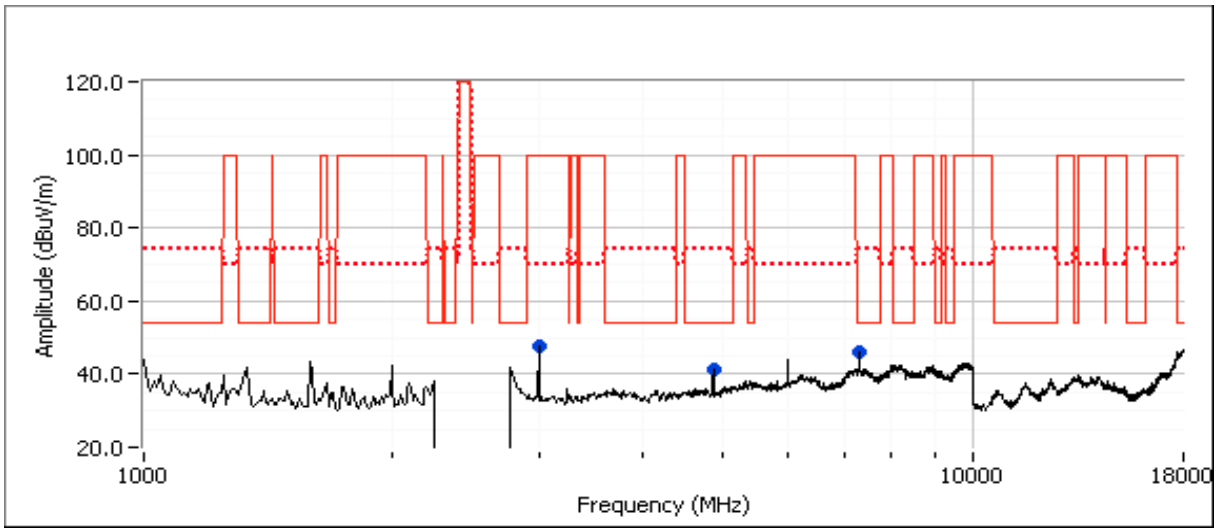
Run # 2b, EUT on Channel #6 2437MHz - 802.11g Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.5	34.0

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	
2998.330	47.8	H	54.0	-6.2	Peak	184	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
7309.950	40.7	V	54.0	-13.3	AVG	221	1.0	RB 1 MHz;VB 10 Hz;Peak
4873.920	37.5	V	54.0	-16.5	AVG	142	1.0	RB 1 MHz;VB 10 Hz;Peak
7309.410	51.5	V	74.0	-22.5	PK	221	1.0	RB 1 MHz;VB 3 MHz;Peak
4876.150	48.8	V	74.0	-25.2	PK	142	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

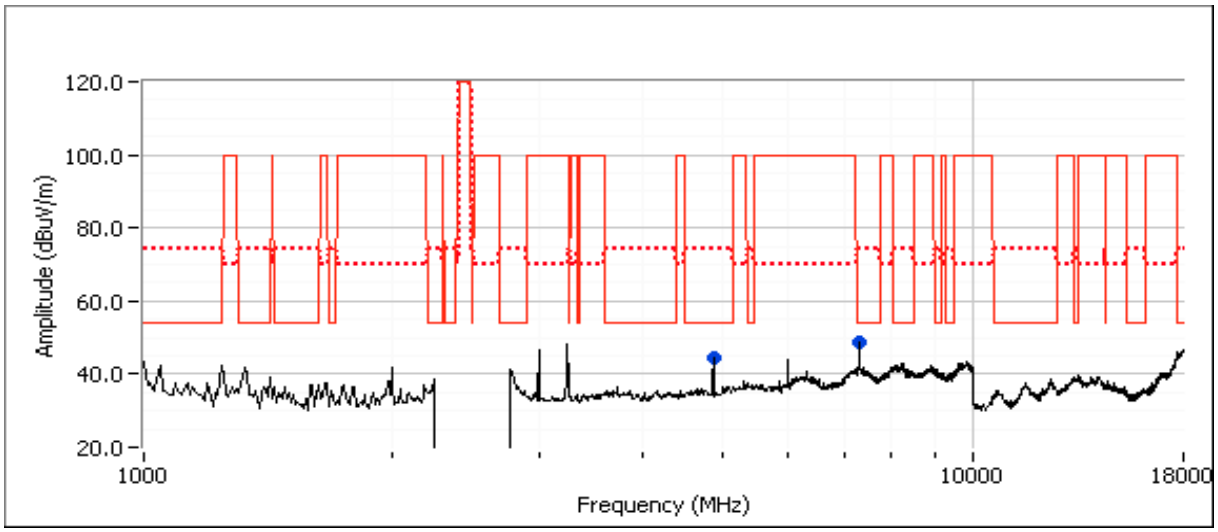
Run # 2c, EUT on Channel #6 2437MHz - 802.11n20 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.4	32.0
Chain B	16.5	16.5	38.0

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	
7310.110	43.3	V	54.0	-10.7	AVG	256	1.3	RB 1 MHz;VB 10 Hz;Peak
4872.890	36.8	V	54.0	-17.2	AVG	168	1.1	RB 1 MHz;VB 10 Hz;Peak
7313.880	53.9	V	74.0	-20.1	PK	256	1.3	RB 1 MHz;VB 3 MHz;Peak
4873.890	49.5	V	74.0	-24.5	PK	168	1.1	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

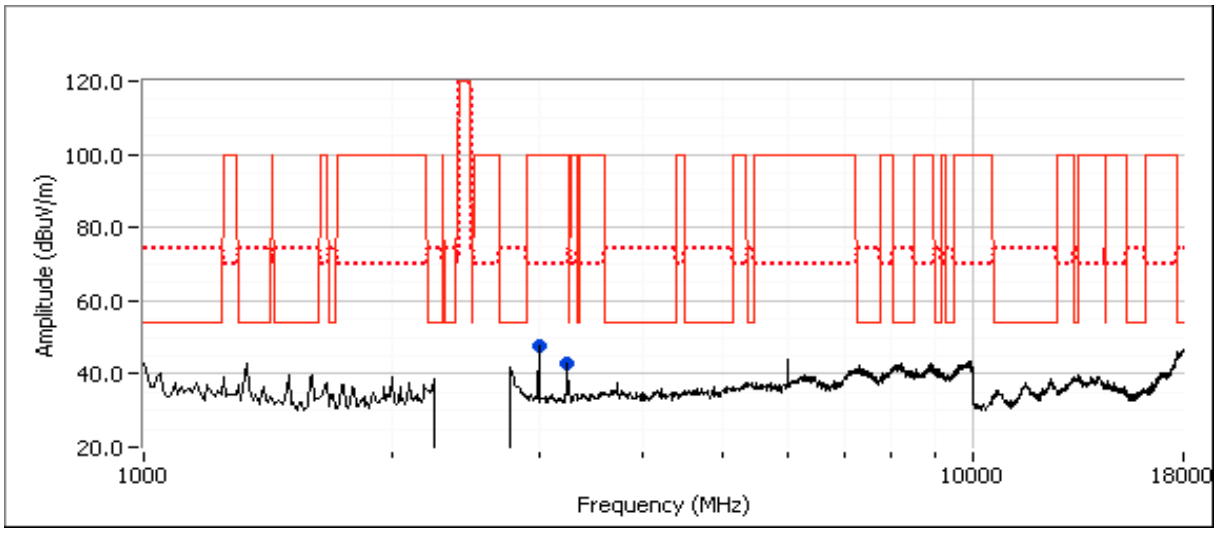
Run # 2d, EUT on Channel #6 2437MHz - 802.11n40 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	13.5	13.4	28.0
Chain B	12.5	12.7	32.5

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	
2998.330	47.8	H	54.0	-6.2	Peak	186	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
3245.830	42.9	V	54.0	-11.1	Peak	87	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2

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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3, Radiated Spurious Emissions, 1-26GHz, 802.11n20, Chain A+B

Date of Test: 4/24/2012 Test Location: FT5

Test Engineer: Rafael Varelas

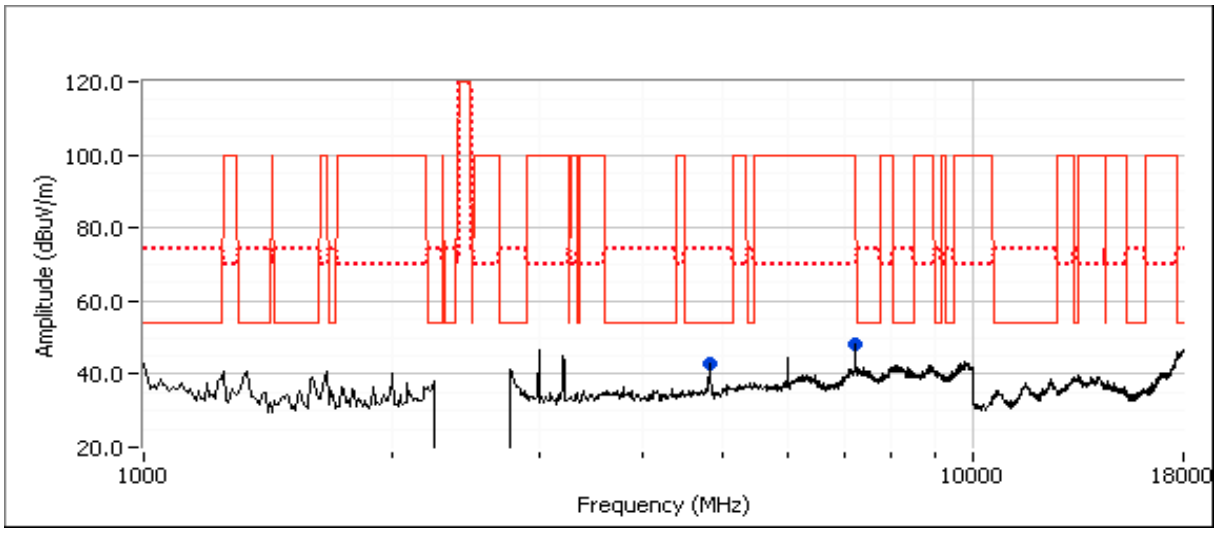
Run # 3a, EUT on Channel #1 2412MHz - 802.11n20 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.7	33.0
Chain B	16.5	16.4	39.0

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	
7237.150	48.2	V	54.0	-5.8	Peak	227	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
4822.950	36.1	V	54.0	-17.9	AVG	10	1.0	RB 1 MHz;VB 10 Hz;Peak
4823.880	47.9	V	74.0	-26.1	PK	10	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 is -30dBc for peak measurements in a measurement bandwidth of 100kHz.
Note 2:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

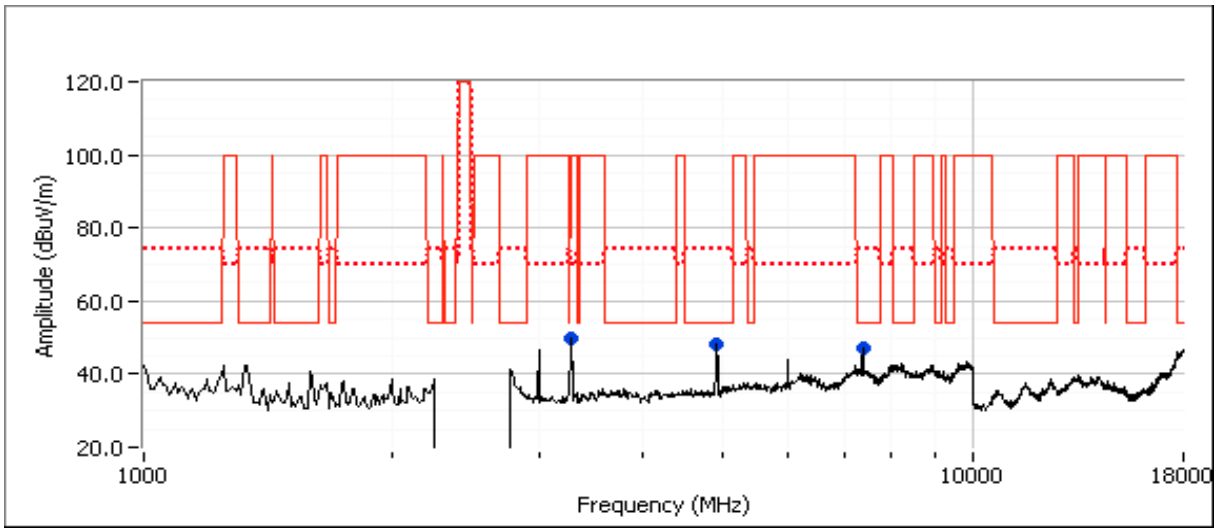
Run # 3b, EUT on Channel #11 2462MHz - 802.11n20 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.7	32.5
Chain B	16.5	16.7	37.5

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	
3282.680	49.7	V	54.0	-4.3	Peak	76	1.0	RB 1 MHz;VB 3 MHz;Peak, Note 2
7387.430	43.3	V	54.0	-10.7	AVG	66	1.6	RB 1 MHz;VB 10 Hz;Peak
4924.600	41.3	H	54.0	-12.7	AVG	87	1.0	RB 1 MHz;VB 10 Hz;Peak
7385.870	55.4	V	74.0	-18.6	PK	66	1.6	RB 1 MHz;VB 3 MHz;Peak
4923.730	54.2	H	74.0	-19.8	PK	87	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 is -30dBc for peak measurements in a measurement bandwidth of 100kHz.
Note 2:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	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. 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: 25 °C
Rel. Humidity: 40 %

Summary of Results - Device Operating in the 5800 MHz Band

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Scans on center channel in all three OFDM modes in each operatintg band were used to determine the worst case. Note that for n20 and n40 modes the output power was set to the single chain power per chain. The maximum power per chain in MIMO mode is always lower than the single chain power but the scans were run at the higher single-chain power level but with both chains active to cover both MIMO and MISO modes.							
Run # 1	802.11a Chain A	#157 5785MHz	16.0	16.0	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15.247	42.1 dBµV/m @ 3856.8 MHz (-11.9 dB)
	802.11a Chain B	#157 5785MHz	16.0	16.1			43.7dBµV/m @ 11570.0MHz (-10.3dB)
Run # 2	n20 Chain A+B n40	#157 5785MHz	A:16.0 B:16.0	A: 15.6 B: 16.0	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15.247	45.8 dBµV/m @ 11569.5 MHz (-8.2 dB)
		#159 5795MHz	A:16.0 B:16.0	A: 15.1 B: 15.6			44.2 dBµV/m @ 11590.2 MHz (-9.8 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #	Mode	Channel	Power Setting	Measured Power	Test Performed	Limit	Result / Margin
Top and bottom channels in worst case OFDM mode:							
Run # 3	Worst case OFDM 802.11n 20MHz	#149 5745MHz	A:16.0 B:16.0	A: 15.4 B: 16.1	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	46.2 dBµV/m @ 11490.6 MHz (-7.8 dB)
		#165 5825MHz	A:16.0 B:16.0	A: 15.4 B: 16.1			44.0dBµV/m @ 11650.7MHz (-10.0dB)

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:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1, Radiated Spurious Emissions, 1-40GHz, 802.11a, Chain A

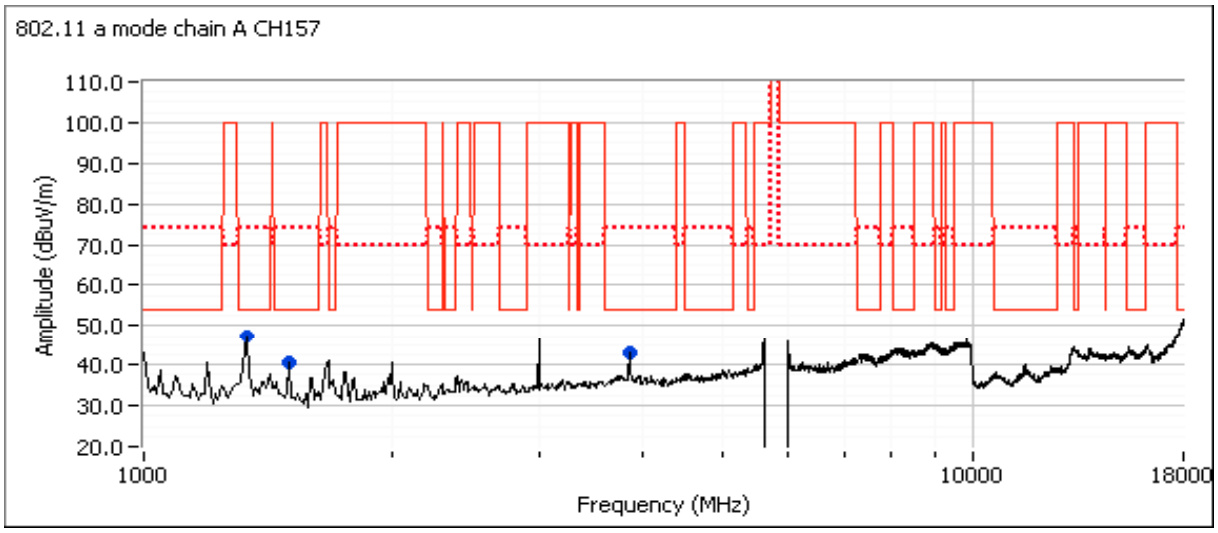
Date of Test: 4/25/2012

Test Engineer: Jack Liu

Test Location: FT 3

Run #1a, EUT on Channel #157 5785MHz - 802.11a, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	16.0	31.5



Spurious Emissions

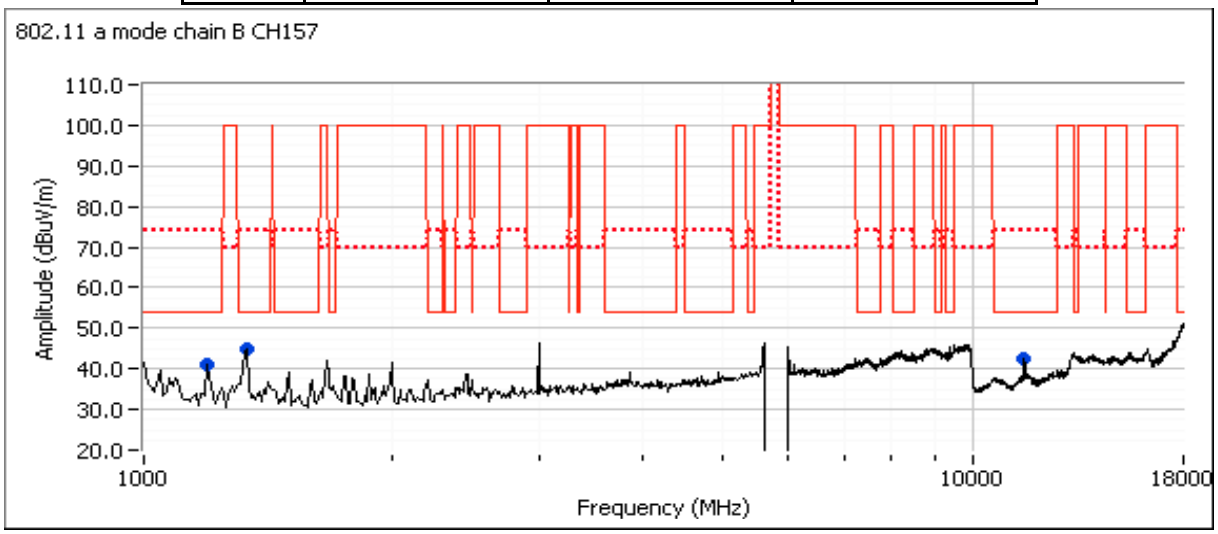
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3856.800	42.1	V	54.0	-11.9	AVG	142	1.0	
1332.800	33.2	V	54.0	-20.8	AVG	144	1.0	
1497.900	31.5	H	54.0	-22.5	AVG	129	1.0	
1331.130	51.0	V	74.0	-23.0	PK	144	1.0	
3856.870	47.7	V	74.0	-26.3	PK	142	1.0	
1499.080	46.3	H	74.0	-27.7	PK	129	1.0	

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:	Scans made between 18 - 40GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1b, EUT on Channel #157 5785MHz - 802.11a, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.1	30.0



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11569.970	43.7	V	54.0	-10.3	AVG	228	1.3	
11572.780	55.2	V	74.0	-18.8	PK	228	1.3	
1196.200	33.5	V	54.0	-20.5	AVG	125	1.0	
1332.270	28.1	H	54.0	-25.9	AVG	266	1.0	
1196.950	46.9	V	74.0	-27.1	PK	125	1.0	
1332.650	45.5	H	74.0	-28.5	PK	266	1.0	

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:	Scans made between 18 - 40GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

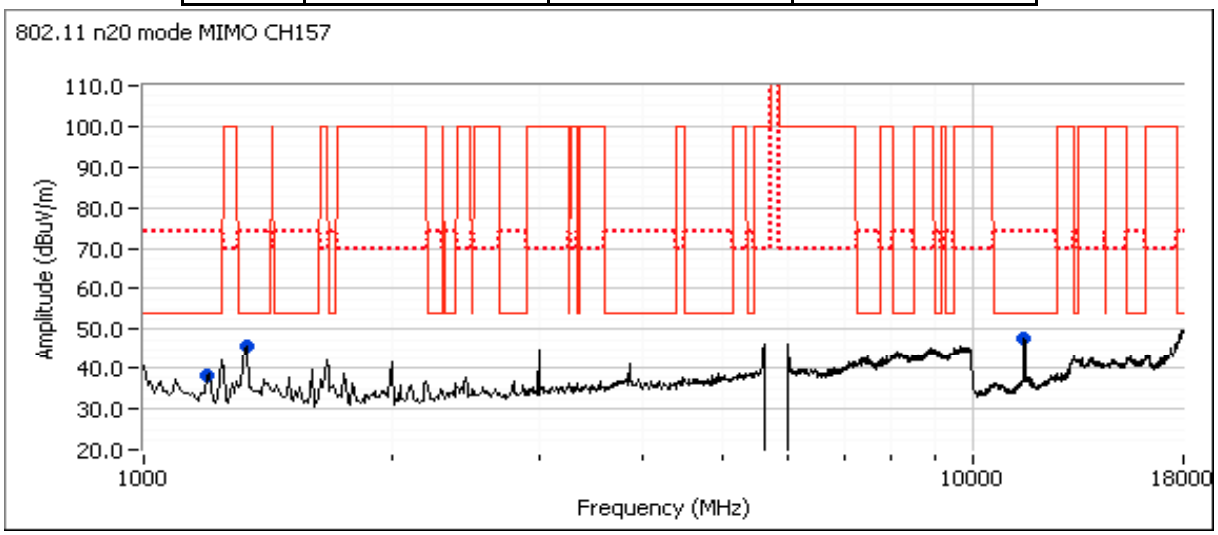
Run # 2, Radiated Spurious Emissions, 1-40GHz, 802.11n20 and n40, Chain A+B

Date of Test: 4/25/2012 Test Location: FT Chamber #3

Test Engineer: Jack Liu

Run # 2a, EUT on Channel #157 5785MHz - 802.11n20 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	15.6	39.0
Chain B	16.0	16.0	38.5



Spurious Radiated Emissions:

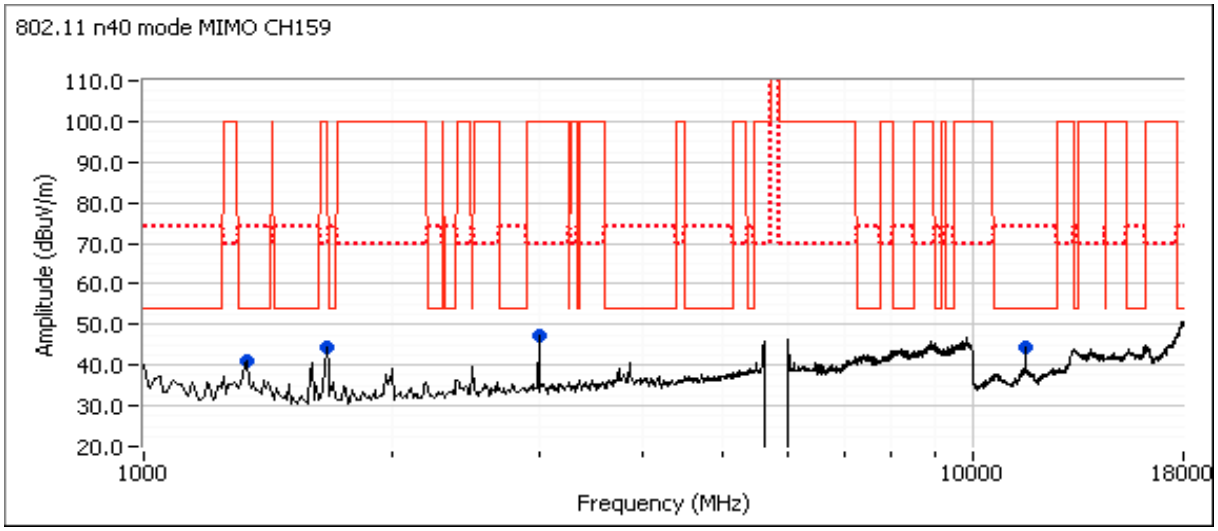
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11569.500	45.8	V	54.0	-8.2	AVG	82	1.0	
11570.150	61.5	V	74.0	-12.5	PK	82	1.0	
1329.200	33.4	V	54.0	-20.6	AVG	111	1.4	
1329.830	52.4	V	74.0	-21.6	PK	111	1.4	
1195.470	27.6	V	54.0	-26.4	AVG	198	1.7	
1197.370	41.9	V	74.0	-32.1	PK	198	1.7	

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:	Scans made between 18 - 40GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range
Note 3:	Signal is not in a restricted band but the more stringent restricted band limit was used.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2b, EUT on Channel #159 5795MHz - 802.11n40 Chain A+B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	15.1	39.0
Chain B	16.0	15.5	39.0



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	
11590.150	44.2	V	54.0	-9.8	AVG	225	1.3	
11590.120	58.4	V	74.0	-15.6	PK	225	1.3	
1661.270	36.4	V	54.0	-17.6	AVG	211	1.0	
3000.230	51.5	H	54.0	-2.5	PK	187	1.0	Note 3
1331.270	33.8	V	54.0	-20.2	AVG	145	1.0	
1661.920	53.7	V	74.0	-20.3	PK	211	1.0	
1329.450	51.1	V	74.0	-22.9	PK	145	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:	Scans made between 18 - 40GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range
Note 3:	Signal is not in a restricted band but the more stringent restricted band limit was used.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

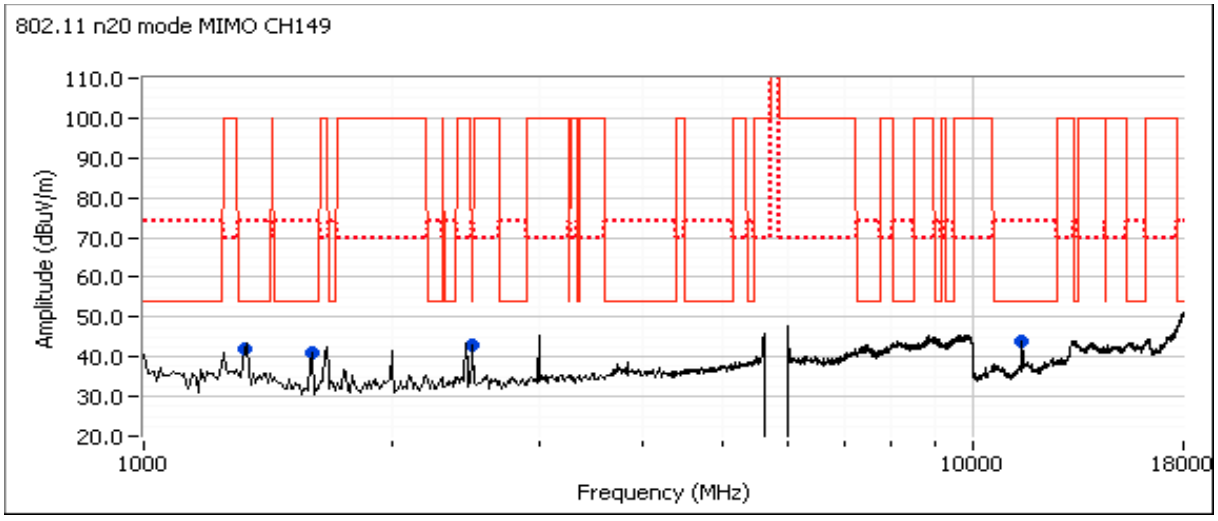
Run # 3, Radiated Spurious Emissions, 1-40GHz, 802.11n20, Chain A+B

Date of Test: 4/25/2012 Test Location: FT Chamber #3

Test Engineer: Jack Liu

Run # 3a, EUT on Channel #149 5745MHz - 802.11n20 Chain A+B

	Power Settings			
	Target (dBm)	Measured (dBm)	Software Setting	
Chain A	16.0	15.4	39.0	(max gain setting)
Chain B	16.0	16.1	39.0	



Spurious Radiated Emissions:

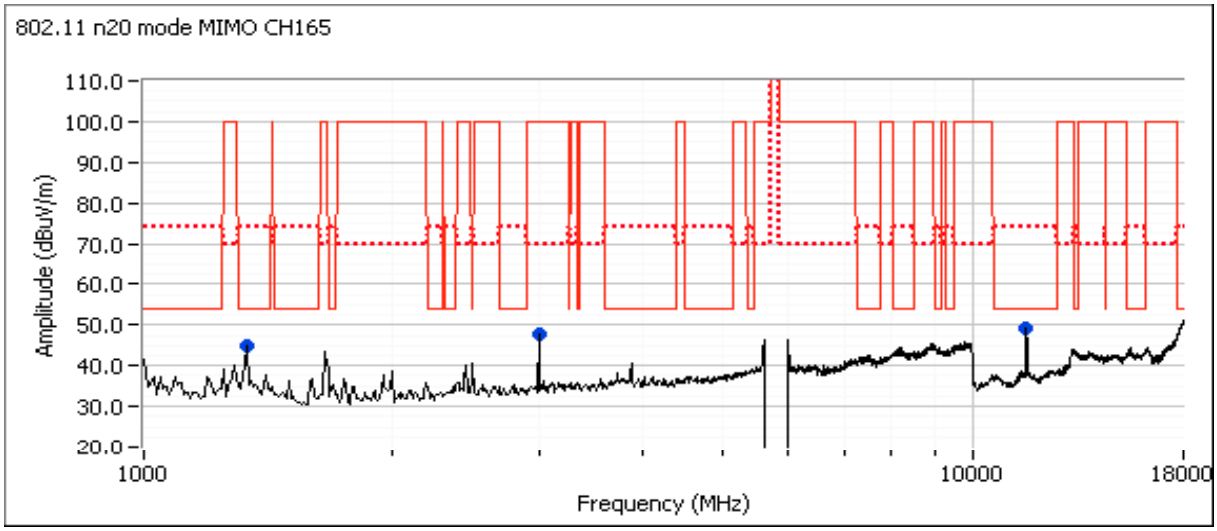
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11490.560	46.2	V	54.0	-7.8	AVG	224	1.2	
11490.250	58.8	V	74.0	-15.2	PK	224	1.2	
1594.200	35.9	V	54.0	-18.1	AVG	154	1.6	
1326.860	32.5	V	54.0	-21.5	AVG	149	1.0	
1594.450	50.2	V	74.0	-23.8	PK	154	1.6	
2495.520	50.1	V	74.0	-23.9	PK	132	1.3	
1326.500	48.8	V	74.0	-25.2	PK	149	1.0	
2495.310	28.7	V	54.0	-25.3	AVG	132	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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range
Note 3:	Signal is not in a restricted band but the more stringent restricted band limit was used.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3b, EUT on Channel #165 5825MHz - 802.11n20 Chain A+B

	Power Settings			
	Target (dBm)	Measured (dBm)	Software Setting	
Chain A	16.0	15.4	39.0	(max gain setting)
Chain B	16.0	16.1	39.0	



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	
11650.720	44.0	V	54.0	-10.0	AVG	237	1.2	
3000.250	52.8	H	54.0	-1.2	PK	187	1.0	Note 3
11650.150	56.0	V	74.0	-18.0	PK	237	1.2	
1329.600	33.4	V	54.0	-20.6	AVG	318	2.2	
1327.130	51.0	V	74.0	-23.0	PK	318	2.2	

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:	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range
Note 3:	Signal is not in a restricted band but the more stringent restricted band limit was used.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DSS) Radiated Spurious Emissions
Bluetooth - Transmitter and Receiver Mode

Summary of Results - Device Operating in the 2400-2483.5 MHz Band

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

For Bluetooth: Tx is chain B, Rx is chain B

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
1a	Bluetooth LE	2402	7.5dBm	2.0	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247(c)	44.2 dBµV/m @ 2362.1 MHz (-9.8 dB)
					Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	38.0 dBµV/m @ 1599.1 MHz (-16.0 dB)
1b		2440	7.5dBm	2.6	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	38.4 dBµV/m @ 1347.9 MHz (-15.6 dB)
1c		2480	7.5dBm	2.7	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247(c)	46.2 dBµV/m @ 2483.5 MHz (-7.8 dB)
					Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	39.0 dBµV/m @ 1002.5 MHz (-15.0 dB)

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: 30-35 °C
Rel. Humidity: 17-20 %

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.

5/8/12 - MH - Retest per Intel's request using second sample - MAC: 44850006301F

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Radiated Spurious Emissions, 1000-26000 MHz. Operating Mode: BLE (1Mb/s)

Date of Test: 5/9/2012
Test Engineer: Jack Liu
Test Location: FT Chamber#4

Run #1a: Low Channel @ 2402 MHz

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	7.5	2.0	default

Note - measured power in table above is average power, for reference only.

Fundamental Signal Field Strength: Peak value measured in 100kHz

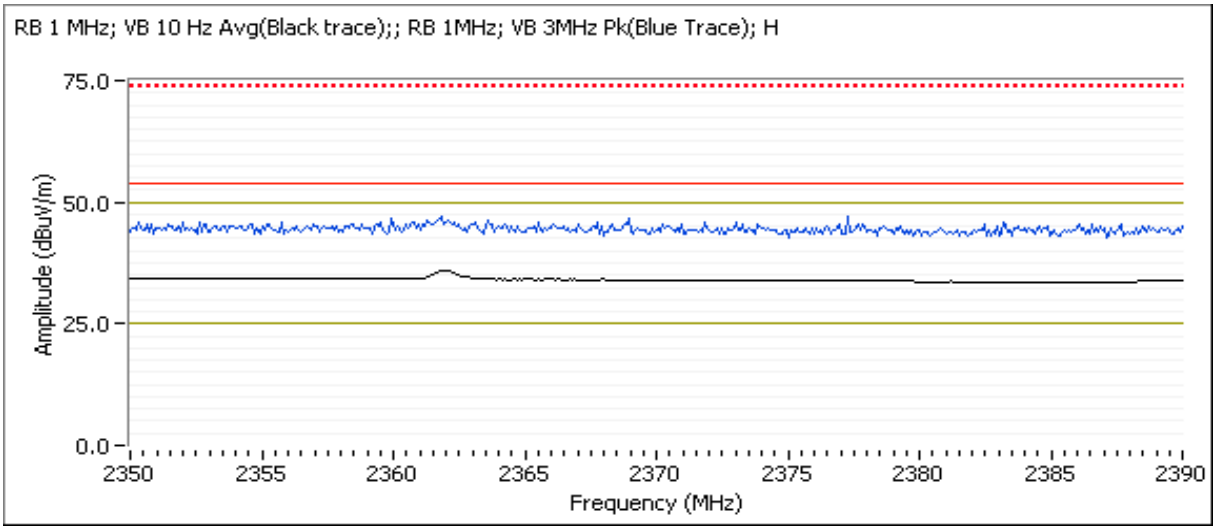
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2401.980	99.6	V	-	-	Pk	81	1.0	POS; RB 100 kHz; VB: 100 kHz
2401.990	94.2	V	-	-	Pk	81	1.0	POS; RB 1 MHz; VB: 10 Hz
2402.230	99.6	V	-	-	Pk	81	1.0	POS; RB 1 MHz; VB: 3 MHz
2402.260	101.8	H	-	-	Pk	222	1.1	POS; RB 100 kHz; VB: 100 kHz
2402.000	96.6	H	-	-	Pk	222	1.1	POS; RB 1 MHz; VB: 10 Hz
2402.230	102.1	H	-	-	Pk	222	1.1	POS; RB 1 MHz; VB: 3 MHz

Fundamental emission level @ 3m in 100kHz RBW:	101.8 dBmV/m	
Limit for emissions outside of restricted bands:	81.8 dBmV/m	Limit is -20dBc (Peak power measurement)

Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2362.100	44.2	H	54.0	-9.8	AVG	223	1.1	POS; RB 1 MHz; VB: 10 Hz
2369.880	57.1	H	74.0	-16.9	PK	223	1.1	POS; RB 1 MHz; VB: 3 MHz
2362.100	44.2	V	54.0	-9.8	AVG	89	1.0	POS; RB 1 MHz; VB: 10 Hz
2371.400	55.3	V	74.0	-18.7	PK	89	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

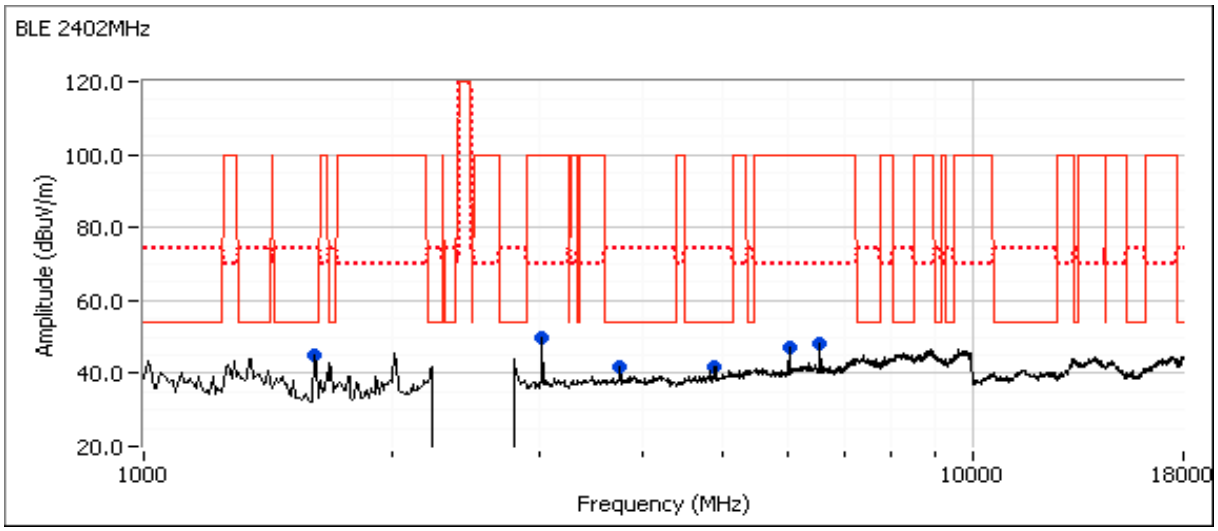


Date of Test: 5/9/2012
Test Engineer: Joseph Cadigal
Test Location: FT Chamber#3

Other Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1599.050	38.0	V	54.0	-16.0	AVG	142	1.5	RB 1 MHz;VB 10 Hz;Peak
4888.580	34.4	H	54.0	-19.6	AVG	150	1.0	RB 1 MHz;VB 10 Hz;Peak
3761.580	33.3	V	54.0	-20.7	AVG	183	1.0	RB 1 MHz;VB 10 Hz;Peak
1599.420	52.0	V	74.0	-22.0	PK	142	1.5	RB 1 MHz;VB 3 MHz;Peak
4889.450	46.6	H	74.0	-27.4	PK	150	1.0	RB 1 MHz;VB 3 MHz;Peak
3760.480	45.1	V	74.0	-28.9	PK	183	1.0	RB 1 MHz;VB 3 MHz;Peak
6010.670	48.0	V	81.8	-33.8	PK	263	1.0	RB 1 MHz;VB 3 MHz;Peak
3024.160	45.1	V	81.8	-36.7	PK	198	1.0	RB 1 MHz;VB 3 MHz;Peak

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A



Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.
Note 2	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1b: Center Channel @ 2440 MHz

Date of Test: 5/9/2012

Test Engineer: Joseph Cadigal

Test Location: FT Chamber#3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	7.5	2.6	default

Note - measured power in table above is average power, for reference only.

Fundamental Signal Field Strength: Peak value measured in 100kHz

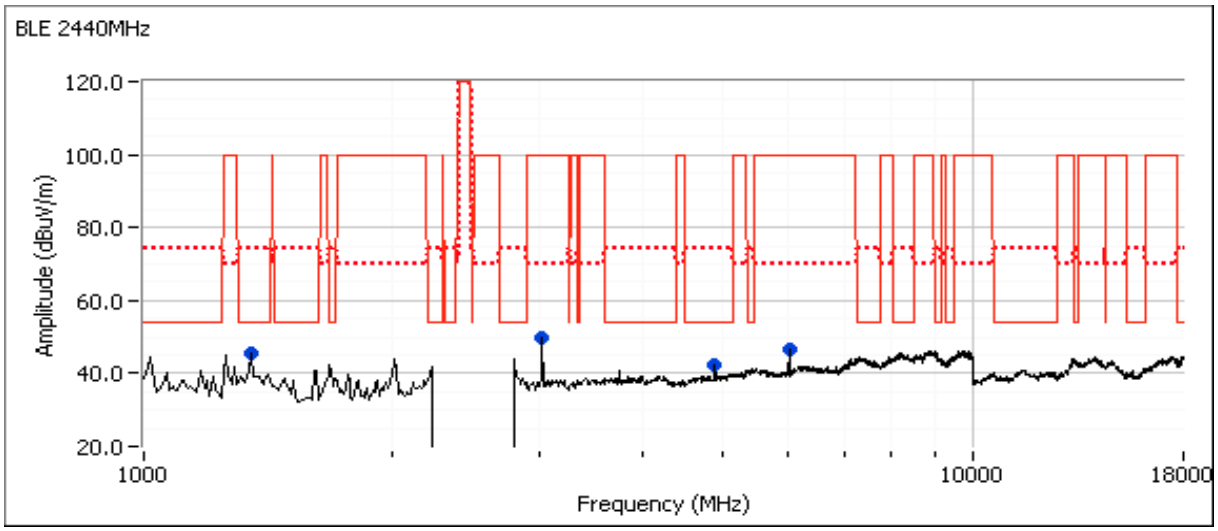
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2440.000	93.2	V	-	-	AVG	183	1.0	RB 1 MHz;VB 10 Hz;Peak
2440.260	96.3	V	-	-	PK	183	1.0	RB 1 MHz;VB 3 MHz;Peak
2440.040	96.6	V	-	-	PK	183	1.0	RB 100 kHz;VB 100 kHz;Peak
2440.000	101.0	H	-	-	AVG	223	1.0	RB 1 MHz;VB 10 Hz;Peak
2440.240	103.9	H	-	-	PK	223	1.0	RB 1 MHz;VB 3 MHz;Peak
2440.010	103.7	H	-	-	PK	223	1.0	RB 100 kHz;VB 100 kHz;Peak

Fundamental emission level @ 3m in 100kHz RBW:	103.7 dBmV/m	
Limit for emissions outside of restricted bands:	83.7 dBmV/m	Limit is -20dBc (Peak power measurement)

Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1347.930	38.4	V	54.0	-15.6	AVG	4	1.0	RB 1 MHz;VB 10 Hz;Peak
4898.960	34.0	V	54.0	-20.0	AVG	156	1.5	RB 1 MHz;VB 10 Hz;Peak
6021.220	47.9	V	83.7	-35.8	PK	148	1.0	RB 1 MHz;VB 3 MHz;Peak
1347.830	50.6	V	74.0	-23.4	PK	4	1.0	RB 1 MHz;VB 3 MHz;Peak
3017.800	44.5	V	70.0	-25.5	PK	225	1.0	RB 1 MHz;VB 3 MHz;Peak
4899.170	45.5	V	74.0	-28.5	PK	156	1.5	RB 1 MHz;VB 3 MHz;Peak

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A



Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental and measured in 100kHz.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1c: High Channel @ 2480 MHz

Date of Test: 5/9/2012

Test Engineer: Jack Liu

Test Location: FT Chamber#4

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	7.5	2.7	default

Note - measured power in table above is average power, for reference only.

Fundamental Signal Field Strength: Peak value measured in 100kHz

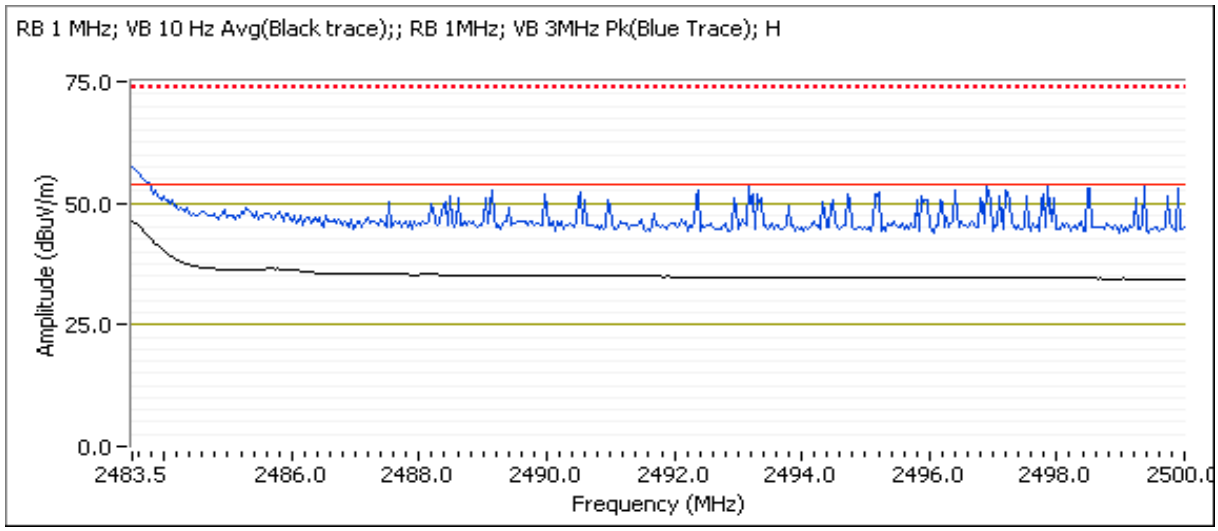
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2480.000	104.9	H	-	-	Pk	223	1.0	POS; RB 100 kHz; VB: 100 kHz
2480.000	99.6	H	-	-	Pk	223	1.0	POS; RB 1 MHz; VB: 10 Hz
2480.260	105.0	H	-	-	Pk	223	1.0	POS; RB 1 MHz; VB: 3 MHz
2479.970	99.1	V	-	-	Pk	80	1.0	POS; RB 100 kHz; VB: 100 kHz
2480.000	93.9	V	-	-	Pk	80	1.0	POS; RB 1 MHz; VB: 10 Hz
2479.930	99.4	V	-	-	Pk	80	1.0	POS; RB 1 MHz; VB: 3 MHz

Fundamental emission level @ 3m in 100kHz RBW:	104.9	dBmV/m	
Limit for emissions outside of restricted bands:	84.9	dBmV/m	Limit is -20dBc (Peak power measurement)

Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	46.2	H	54.0	-7.8	AVG	223	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.630	54.2	H	74.0	-19.8	PK	223	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	42.6	V	54.0	-11.4	AVG	80	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.530	53.1	V	74.0	-20.9	PK	80	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

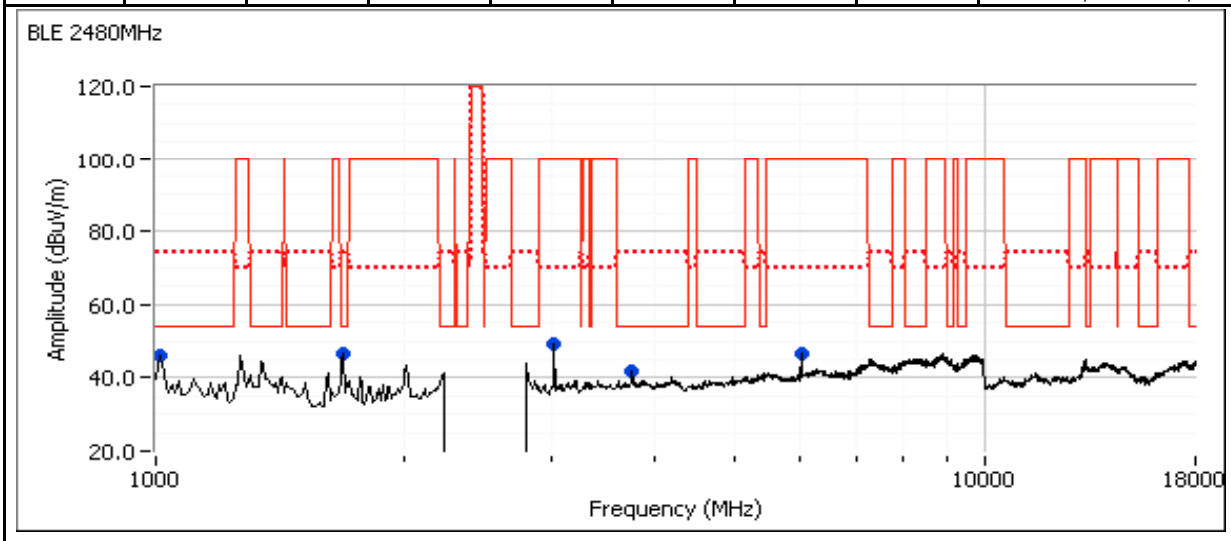


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Date of Test: 5/9/2012
Test Engineer: Joseph Cadigal
Test Location: FT Chamber#3

Other Spurious Emissions

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBmV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1002.510	39.0	H	54.0	-15.0	AVG	21	1.0	RB 1 MHz;VB 10 Hz;Peak
1692.750	37.6	V	54.0	-16.4	AVG	208	1.0	RB 1 MHz;VB 10 Hz;Peak
1001.270	55.8	H	74.0	-18.2	PK	21	1.0	RB 1 MHz;VB 3 MHz;Peak
3760.510	33.3	H	54.0	-20.7	AVG	156	1.5	RB 1 MHz;VB 10 Hz;Peak
6021.850	48.0	V	84.9	-36.9	PK	141	1.0	RB 1 MHz;VB 3 MHz;Peak
1693.030	50.6	V	74.0	-23.4	PK	208	1.0	RB 1 MHz;VB 3 MHz;Peak
3026.030	44.6	V	84.9	-40.3	PK	222	1.0	RB 1 MHz;VB 3 MHz;Peak
3760.000	46.1	H	74.0	-27.9	PK	156	1.5	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 20dB below the level of the fundamental and measured in 100kHz.
Note 2	Scans made between 18 - 26GHz with the measurement antenna moved around the card and its antennas 20-50cm from the device indicated there were no signifcant emissions in this frequency range.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DSS) Radiated Spurious Emissions 802.11bgn and Bluetooth LE - Transmitter Mode

Test Specific Details

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

General Test Configuration

The EUT was installed into a test fixture such that the EUT was exposed (i.e. outside of a host PC).

Summary of Results

For Bluetooth: Tx is chain B, Rx is chain B. For WiFi, only Chain A is used for transmit in the 2.4GHz band, both chains used in 5GHz bands. The channels and WiFi modes were selected based on the worst case results from evaluating the BLE, EDR and Basic-Rate Bluetooth modes. BT Basic was selected because basic has higher power.

MAC Address: 44850006303D DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
1	BT Basic 802.11b	2402MHz 2412MHz	7dBm 16.5dBm	4.5 16.6	Radiated Spurious Emissions	FCC 15.247	45.9 dBµV/m @ 7235.2 MHz (-8.1 dB)
2	BT Basic 802.11b	2480MHz 2462MHz	7dBm 16.5dBm	5.1 16.54	Radiated Spurious Emissions	FCC 15.247	52.1 dBµV/m @ 7386.9 MHz (-1.9 dB)
3	BT Basic 802.11g	2402MHz 2412MHz	7dBm 16.5dBm	4.5 16.47	Radiated Spurious Emissions	FCC 15.247	47.8 dBµV/m @ 7235.5 MHz (-6.2 dB)
4	BT Basic 802.11g	2480MHz 2462MHz	7dBm 16.5dBm	5.1 16.48	Radiated Spurious Emissions	FCC 15.247	48.3 dBµV/m @ 3282.7 MHz (-5.7 dB)
WiFi mode for the following runs based on worst case mode from runs 1 through 4							
5	BT Basic 802.11b	2402MHz 2437MHz	7dBm 16.5dBm	4.5 16.5	Radiated Emissions 1- 10 GHz	FCC 15.247	44.9 dBµV/m @ 7311.7 MHz (-9.1 dB)
6	BT Basic 802.11b	2440MHz 2412MHz	7dBm 16.5dBm	4.9 16.5		FCC 15.247	42.5 dBµV/m @ 9001.0 MHz (-11.5 dB)
7	BT Basic 802.11b	2440MHz 2462MHz	7dBm 16.5dBm	4.9 16.5	Radiated Emissions 1- 10 GHz	FCC 15.247	44.1 dBµV/m @ 7386.6 MHz (-9.9 dB)
8	BT Basic 802.11b	2480MHz 2437MHz	7dBm 16.5dBm	5.1 16.5		FCC 15.247	45.1 dBµV/m @ 7310.1 MHz (-8.9 dB)

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

WiFi mode and channel and Bluetooth channel based on the worst case mode from runs 1 through 8

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
9	BT 3Mb/s 802.11b	2480 MHz 2462 MHz	7dBm 16.5dBm	2.3 16.5	Radiated Emissions 1- 10 GHz	FCC 15.247	46.0 dBµV/m @ 7386.6 MHz (-8.0 dB)

WiFi mode - 802.11n 20MHz with both chains active at 16.5dBm per chain, center channel in each 5GHz band. Bluetooth on center channel, Basic mode.

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
10	BT Basic 802.11n20	2440MHz 5200MHz	7dBm 16.5/16.5	4.9 15.0 / 16.0	Radiated Emissions 1- 15 GHz	FCC 15.247	46.1 dBµV/m @ 10400.0 MHz (-7.9 dB)
11	BT Basic 802.11n20	2440MHz 5300MHz	7dBm 16.5/16.5	4.9 15.9 / 16.3		FCC 15.247	38.0 dBµV/m @ 4880.0 MHz (-16.0 dB)
12	BT Basic 802.11n20	2440MHz 5580MHz	7dBm 16.5/16.5	4.9 16.2 / 16.4		FCC 15.247	32.8 dBµV/m @ 1660.7 MHz (-21.2 dB)
13	BT Basic 802.11n20	2440MHz 5785MHz	7dBm 16.5/16.5	4.9 15.2 / 15.6		FCC 15.247	34.1 dBµV/m @ 4880.0 MHz (-19.9 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.

Notes:

Bluetooth uses a frequency hopping algorithm that means that the device, during normal operation, is only on a specific channel for a short period of time. The average correction factor is calculated as follows:

A maximum length packet has a duration of 5 time slots.
The hopping rate is 1600 hops/second so the maximum dwell time is 5/1600 seconds, or 3.125ms.
With a minimum of 20 hopping channels a channel will not be used more than 4 times in any 100ms period.
The maximum dwell time in a 100ms period is 4 x 3.125ms = 12.5ms.
The average correction factor is, therefore, 20log(12.5/100) =-18dB

As this is a hopping radio the correction factor can be applied to the average value of the signal provided the average value was measured with the device continuously transmitting. DA 00-0705 permits the use of the average correction on the measured average value for frequency hopping radios.

All measurements in this data sheet do not include the average correction factor.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 1, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2412 MHz Chain A, BT Basic @ 2402 MHz Chain B

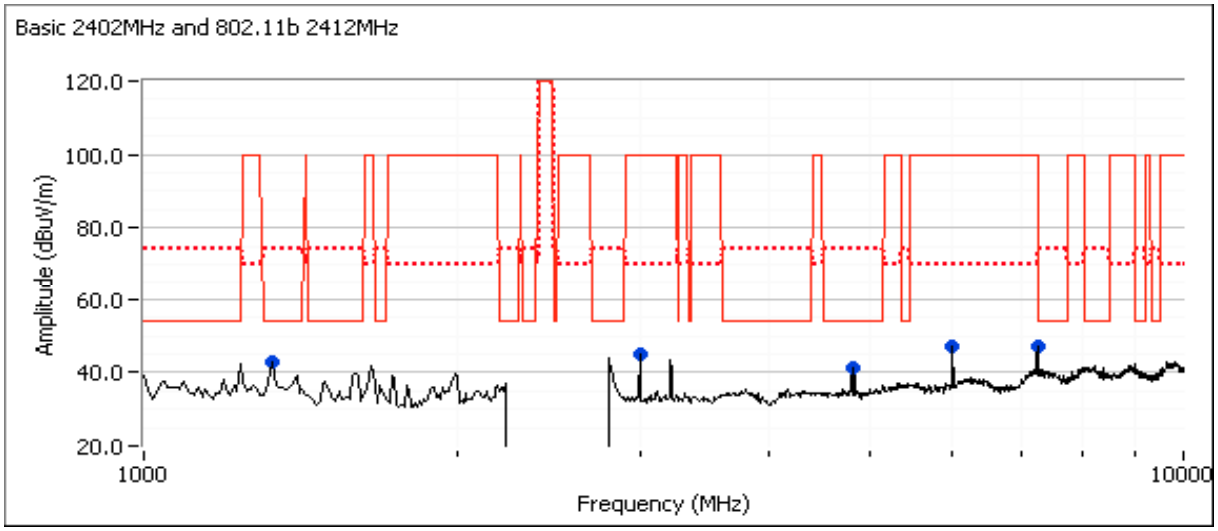
Date of Test: 5/1/2012

Test Engineer: Jack Liu

Test Location: FT 5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	23.5
Chain B	7.0	4.5	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1330.000	43.0	V	54.0	-11.0	Peak	317	1.3	
4804.170	41.1	V	54.0	-12.9	Peak	220	1.6	
2998.330	45.2	V	54.0	-8.8	Peak	206	1.0	
5995.830	46.9	V	54.0	-7.1	Peak	263	1.0	
7235.000	47.1	V	54.0	-6.9	Peak	82	1.6	

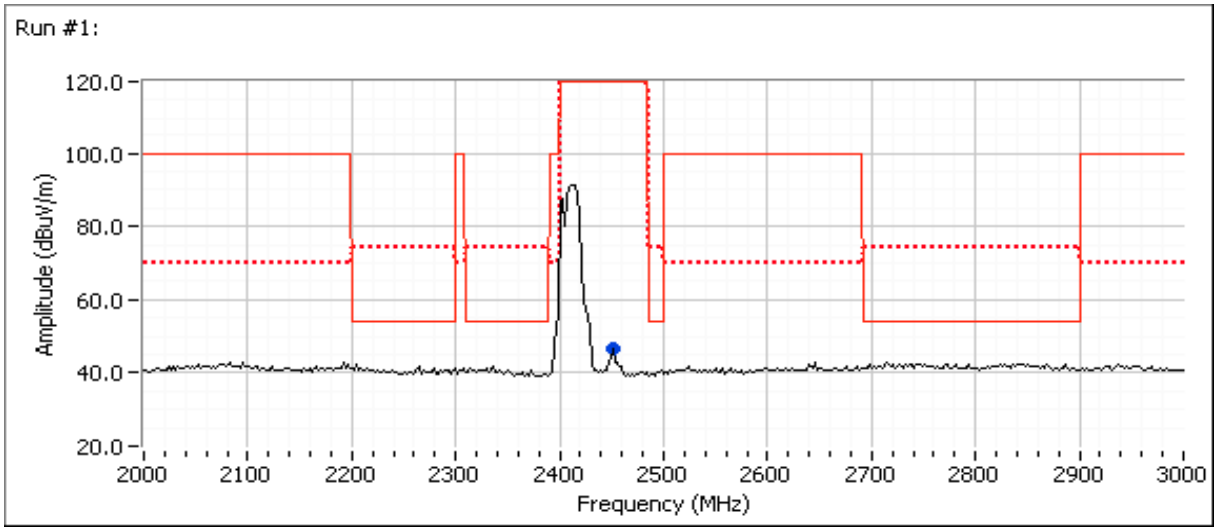
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7235.230	45.9	V	54.0	-8.1	AVG	67	1.7	RB 1 MHz;VB 10 Hz;Peak
6000.650	44.9	V	54.0	-9.1	AVG	141	1.0	RB 1 MHz;VB 10 Hz;Peak
3000.280	44.4	V	54.0	-9.6	AVG	200	1.0	RB 1 MHz;VB 10 Hz;Peak
4803.940	39.4	V	54.0	-14.6	AVG	219	1.6	RB 1 MHz;VB 10 Hz;Peak
1345.250	32.5	V	54.0	-21.5	AVG	94	1.1	RB 1 MHz;VB 10 Hz;Peak
7235.050	51.8	V	74.0	-22.2	PK	67	1.7	RB 1 MHz;VB 3 MHz;Peak
6000.630	49.0	V	74.0	-25.0	PK	141	1.0	RB 1 MHz;VB 3 MHz;Peak
3000.230	48.4	V	74.0	-25.6	PK	200	1.0	RB 1 MHz;VB 3 MHz;Peak
4804.170	45.6	V	74.0	-28.4	PK	219	1.6	RB 1 MHz;VB 3 MHz;Peak
1346.900	44.5	V	74.0	-29.5	PK	94	1.1	RB 1 MHz;VB 3 MHz;Peak

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2450.900	46.7	H	-	-	Peak	153	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 2, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2462 MHz Chain A, BT Basic @ 2480 MHz Chain B

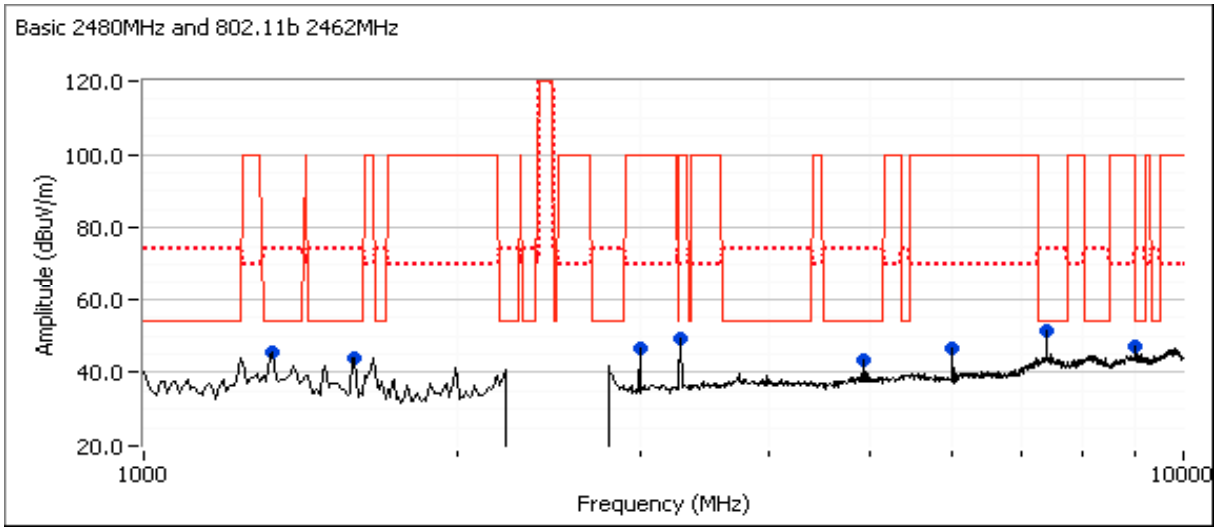
Date of Test: 5/1/2012

Test Engineer: Jack Liu

Test Location: FT 5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	5.1	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1330.000	45.7	V	54.0	-8.3	Peak	112	1.3	
1595.830	43.8	V	54.0	-10.2	Peak	179	1.0	
4923.330	43.4	V	54.0	-10.6	Peak	133	1.3	
9002.500	47.1	V	54.0	-6.9	Peak	145	1.0	
7386.670	51.4	V	54.0	-2.6	Peak	71	1.6	
2998.330	46.6	V	54.0	-7.4	Peak	193	1.0	
5995.830	46.8	V	54.0	-7.2	Peak	269	1.0	
3282.500	49.2	V	54.0	-4.8	Peak	89	1.0	

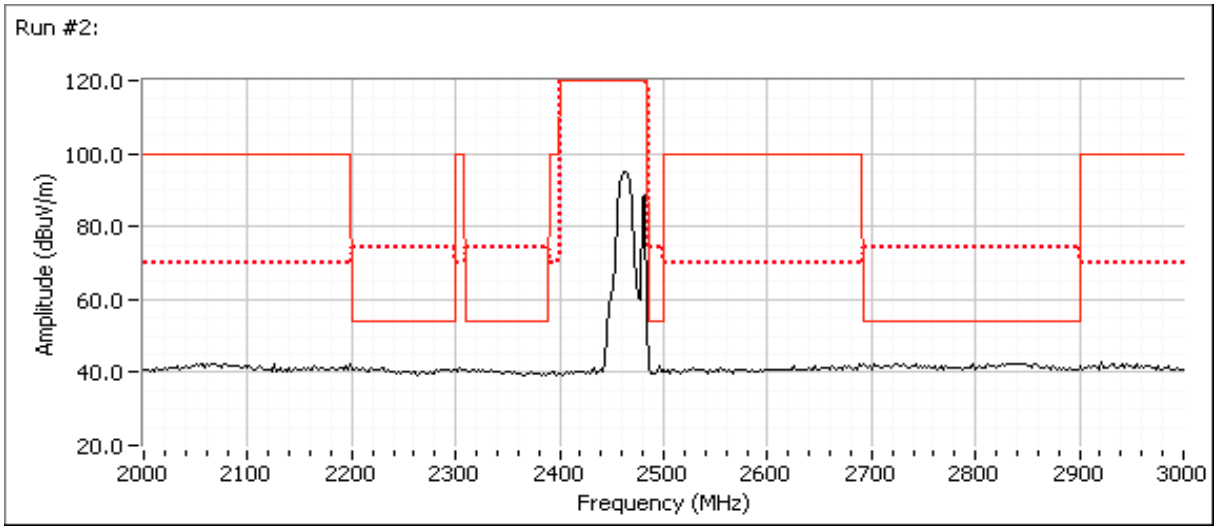
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Final measurements at 3m

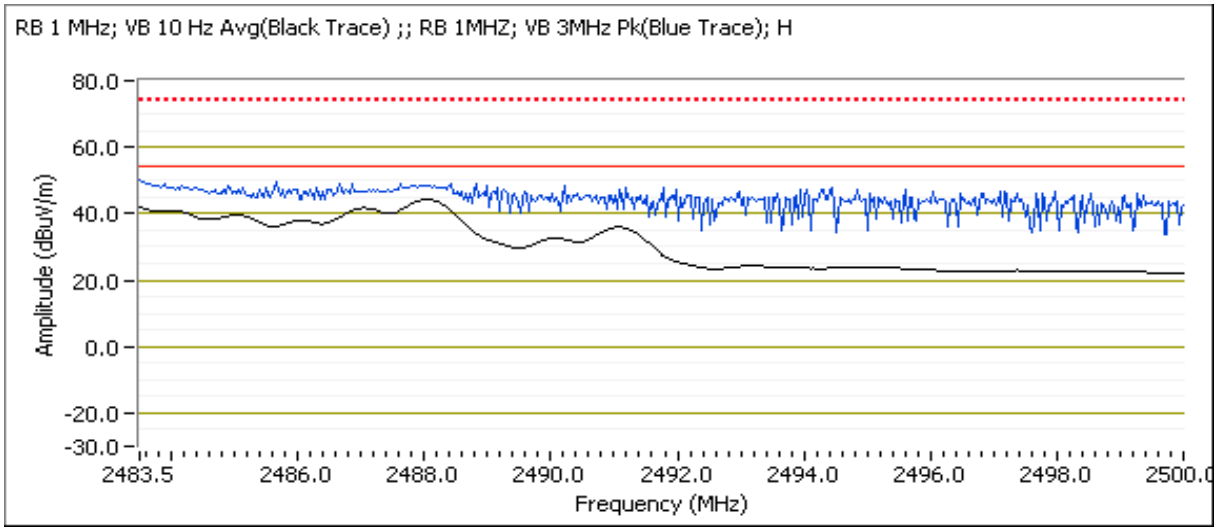
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7386.870	52.1	V	54.0	-1.9	AVG	63	1.6	RB 1 MHz;VB 10 Hz;Peak
7385.870	58.1	V	74.0	-15.9	PK	63	1.6	RB 1 MHz;VB 3 MHz;Peak
1329.380	35.4	V	54.0	-18.6	AVG	111	1.4	RB 1 MHz;VB 10 Hz;Peak
1332.630	52.7	V	74.0	-21.3	PK	111	1.4	RB 1 MHz;VB 3 MHz;Peak
1595.750	35.8	V	54.0	-18.2	AVG	210	1.0	RB 1 MHz;VB 10 Hz;Peak
1593.210	48.8	V	74.0	-25.2	PK	210	1.0	RB 1 MHz;VB 3 MHz;Peak
4924.050	42.7	V	54.0	-11.3	AVG	134	1.1	RB 1 MHz;VB 10 Hz;Peak
4924.030	48.5	V	74.0	-25.5	PK	134	1.1	RB 1 MHz;VB 3 MHz;Peak
9001.070	45.6	V	54.0	-8.4	AVG	177	1.0	RB 1 MHz;VB 10 Hz;Peak
9001.190	53.7	V	74.0	-20.3	PK	177	1.0	RB 1 MHz;VB 3 MHz;Peak
3000.360	47.1	V	54.0	-6.9	AVG	189	1.0	RB 1 MHz;VB 10 Hz;Peak
3000.390	51.8	V	74.0	-22.2	PK	189	1.0	RB 1 MHz;VB 3 MHz;Peak
3282.720	49.9	V	54.0	-4.1	AVG	82	1.0	RB 1 MHz;VB 10 Hz;Peak
3282.850	52.3	V	74.0	-21.7	PK	82	1.0	RB 1 MHz;VB 3 MHz;Peak
6000.800	46.7	V	54.0	-7.3	AVG	148	1.0	RB 1 MHz;VB 10 Hz;Peak
6000.480	51.0	V	74.0	-23.0	PK	148	1.0	RB 1 MHz;VB 3 MHz;Peak

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A



Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2488.030	44.3	H	54.0	-9.7	AVG	211	1.0	POS; RB 1 MHz; VB: 10 Hz
2483.530	49.0	H	74.0	-25.0	PK	211	1.0	POS; RB 1 MHz; VB: 3 MHz
2483.500	30.9	V	54.0	-23.1	AVG	200	1.2	POS; RB 1 MHz; VB: 10 Hz
2489.820	42.9	V	74.0	-31.1	PK	200	1.2	POS; RB 1 MHz; VB: 3 MHz

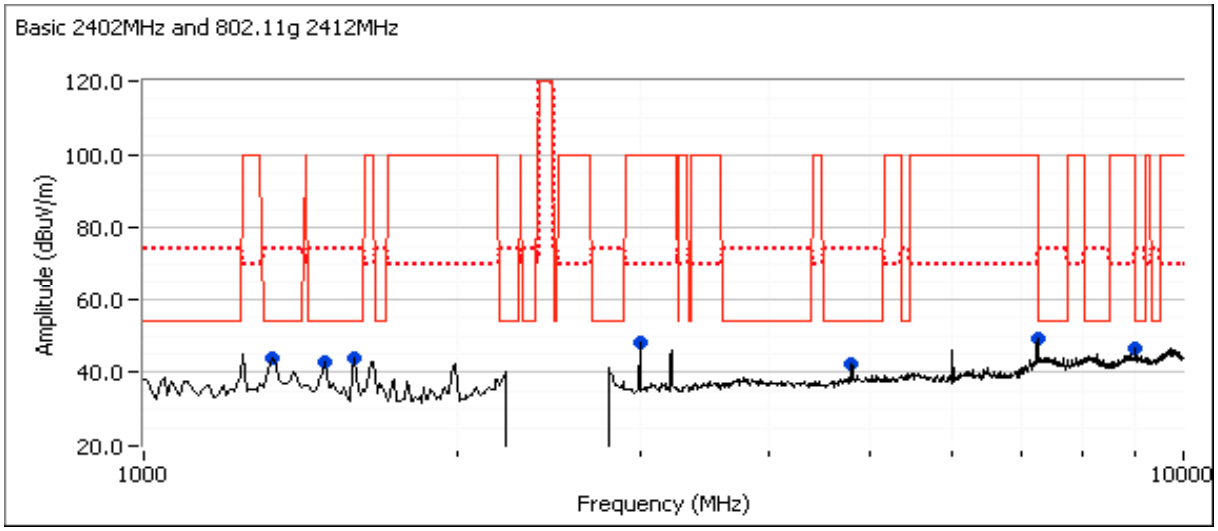
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 3, Jackson Peak 2x2: 1-10GHz, 802.11g @ 2412 MHz Chain A, BT Basic @ 2402 MHz Chain B

Date of Test: 5/1/2012
Test Engineer: Jack Liu
Test Location: FT 5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	29.5
Chain B	7.0	4.5	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1330.000	43.8	V	54.0	-10.2	Peak	317	1.6	
1595.830	44.1	H	54.0	-9.9	Peak	130	1.6	
1495.000	42.9	H	54.0	-11.1	Peak	125	1.0	
4795.000	42.5	H	54.0	-11.5	Peak	150	1.0	
9002.500	46.6	V	54.0	-7.4	Peak	145	1.0	
2998.330	48.2	H	54.0	-5.8	Peak	205	1.0	
7235.000	49.4	V	54.0	-4.6	Peak	226	1.6	

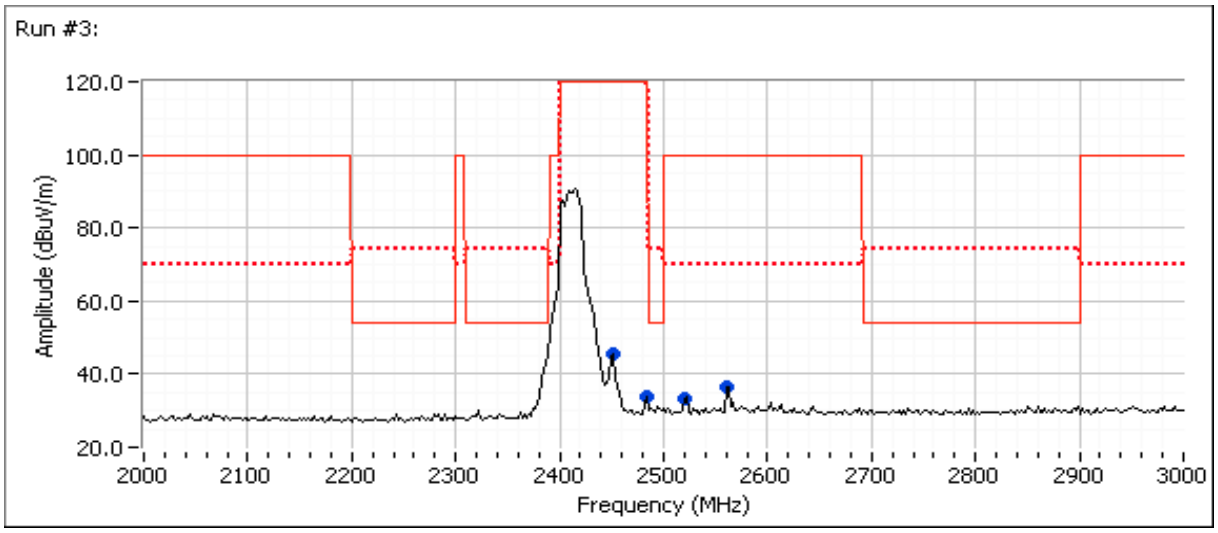
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7235.470	47.8	V	54.0	-6.2	AVG	222	1.6	RB 1 MHz;VB 10 Hz;Peak
3000.420	46.1	H	54.0	-7.9	AVG	177	1.0	RB 1 MHz;VB 10 Hz;Peak
9001.100	45.8	V	54.0	-8.2	AVG	136	1.0	RB 1 MHz;VB 10 Hz;Peak
4804.020	42.6	H	54.0	-11.4	AVG	144	1.0	RB 1 MHz;VB 10 Hz;Peak
7242.730	59.6	V	74.0	-14.4	PK	222	1.6	RB 1 MHz;VB 3 MHz;Peak
1593.830	36.8	H	54.0	-17.2	AVG	133	1.0	RB 1 MHz;VB 10 Hz;Peak
1494.700	35.6	H	54.0	-18.4	AVG	127	1.0	RB 1 MHz;VB 10 Hz;Peak
1333.250	35.5	V	54.0	-18.5	AVG	286	1.5	RB 1 MHz;VB 10 Hz;Peak
9000.490	53.3	V	74.0	-20.7	PK	136	1.0	RB 1 MHz;VB 3 MHz;Peak
1328.200	53.2	V	74.0	-20.8	PK	286	1.5	RB 1 MHz;VB 3 MHz;Peak
3000.000	51.3	H	74.0	-22.7	PK	177	1.0	RB 1 MHz;VB 3 MHz;Peak
4803.850	49.3	H	74.0	-24.7	PK	144	1.0	RB 1 MHz;VB 3 MHz;Peak
1495.570	49.2	H	74.0	-24.8	PK	127	1.0	RB 1 MHz;VB 3 MHz;Peak
1597.700	49.1	H	74.0	-24.9	PK	133	1.0	RB 1 MHz;VB 3 MHz;Peak

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2450.900	45.4	H	54.0	-8.6	Peak	336	1.5	
2482.970	34.0	H	54.0	-20.0	Peak	222	1.0	
2521.040	33.3	H	54.0	-20.7	Peak	180	1.0	
2561.120	36.4	H	54.0	-17.6	Peak	199	1.0	

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 4, Jackson Peak 2x2: 1-10GHz, 802.11g @ 2462 MHz Chain A, BT Basic @ 2480 MHz Chain B

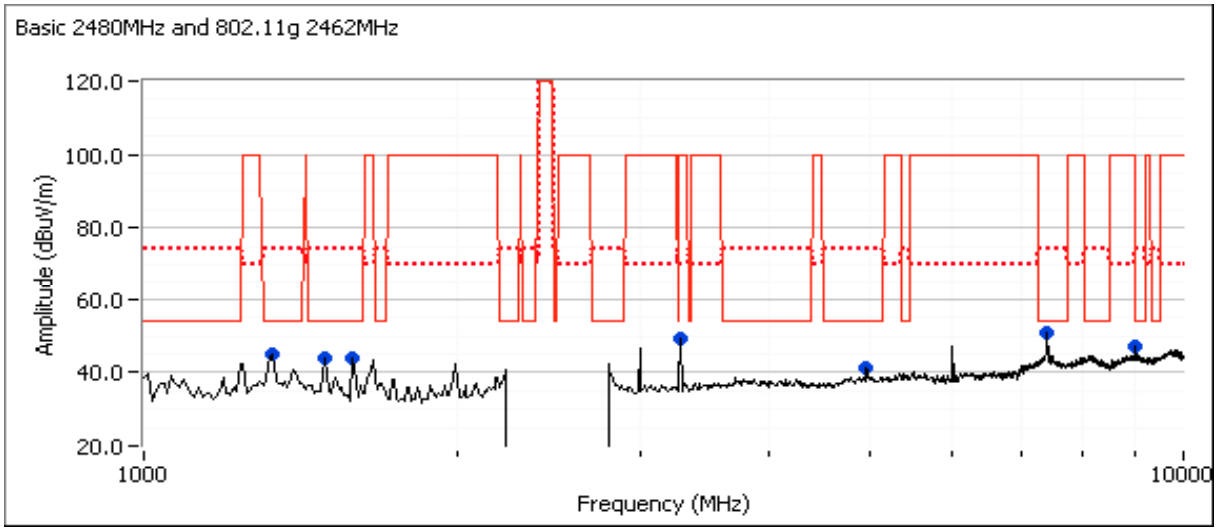
Date of Test: 5/1/2012

Test Engineer: Jack Liu

Test Location: FT 5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	29.0
Chain B	7.0	5.1	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7386.670	50.8	V	54.0	-3.2	Peak	249	1.3	
9002.500	46.9	V	54.0	-7.1	Peak	137	1.0	
1330.000	45.0	V	54.0	-9.0	Peak	348	1.9	
1485.830	40.2	H	54.0	-13.8	Peak	344	1.9	
1586.670	42.3	V	54.0	-11.7	Peak	118	1.6	
4960.000	42.4	V	54.0	-11.6	Peak	140	1.0	
3282.500	49.8	H	54.0	-4.2	Peak	246	1.0	

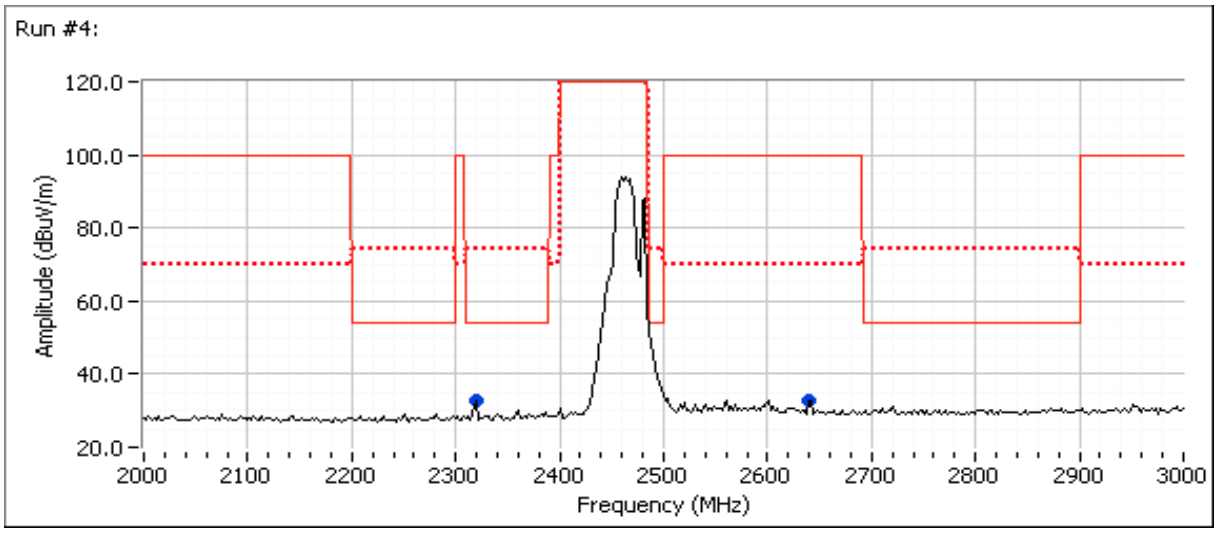
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3282.720	48.3	H	54.0	-5.7	AVG	244	1.0	RB 1 MHz;VB 10 Hz;Peak
7385.000	47.2	V	54.0	-6.8	AVG	246	1.1	RB 1 MHz;VB 10 Hz;Peak
9001.050	45.3	V	54.0	-8.7	AVG	133	1.0	RB 1 MHz;VB 10 Hz;Peak
7380.540	59.6	V	74.0	-14.4	PK	246	1.1	RB 1 MHz;VB 3 MHz;Peak
4959.970	38.5	V	54.0	-15.5	AVG	85	1.0	RB 1 MHz;VB 10 Hz;Peak
1593.520	37.4	V	54.0	-16.6	AVG	104	1.6	RB 1 MHz;VB 10 Hz;Peak
1328.900	35.0	V	54.0	-19.0	AVG	351	1.9	RB 1 MHz;VB 10 Hz;Peak
9001.420	53.1	V	74.0	-20.9	PK	133	1.0	RB 1 MHz;VB 3 MHz;Peak
1495.130	32.3	H	54.0	-21.7	AVG	333	1.7	RB 1 MHz;VB 10 Hz;Peak
3282.800	52.2	H	74.0	-21.8	PK	244	1.0	RB 1 MHz;VB 3 MHz;Peak
1333.000	51.5	V	74.0	-22.5	PK	351	1.9	RB 1 MHz;VB 3 MHz;Peak
1597.800	50.2	V	74.0	-23.8	PK	104	1.6	RB 1 MHz;VB 3 MHz;Peak
4960.220	47.0	V	74.0	-27.0	PK	85	1.0	RB 1 MHz;VB 3 MHz;Peak
1497.830	44.7	H	74.0	-29.3	PK	333	1.7	RB 1 MHz;VB 3 MHz;Peak

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2320.640	32.6	H	54.0	-21.4	Peak	332	1.0	
2639.280	32.7	H	54.0	-21.3	Peak	225	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2320.070	40.3	H	54.0	-13.7	AVG	117	1.0	POS; RB 1 MHz; VB: 10 Hz
2319.890	45.3	H	74.0	-28.7	PK	117	1.0	POS; RB 1 MHz; VB: 3 MHz

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 5, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2437 MHz Chain A, BT Basic @ 2402 MHz Chain B

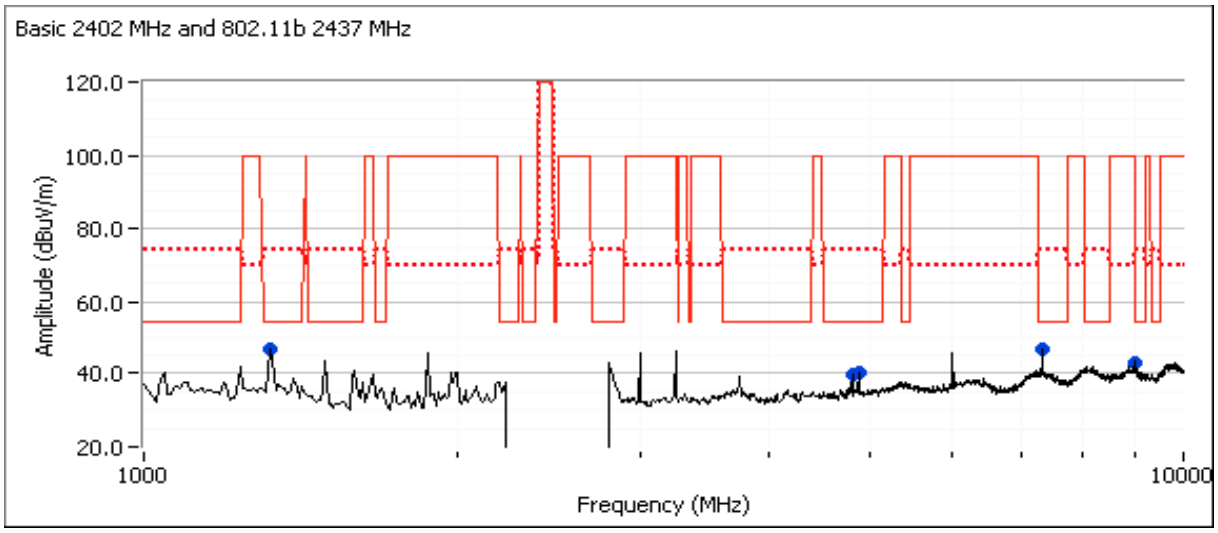
Date of Test: 5/1/2012

Test Engineer: Jack Liu / Rafael Varelas

Test Location: FT 5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	4.5	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1320.830	*46.6*	*V*	*54.0*	*-7.4*	*Peak*	*314*	*1.6*	
4868.330	*40.1*	*V*	*54.0*	*-13.9*	*Peak*	*108*	*1.6*	
4804.170	*39.8*	*V*	*54.0*	*-14.2*	*Peak*	*229*	*1.9*	
7310.830	*46.4*	*V*	*54.0*	*-7.6*	*Peak*	*249*	*1.9*	
9002.500	*43.1*	*V*	*54.0*	*-10.9*	*Peak*	*146*	*1.0*	

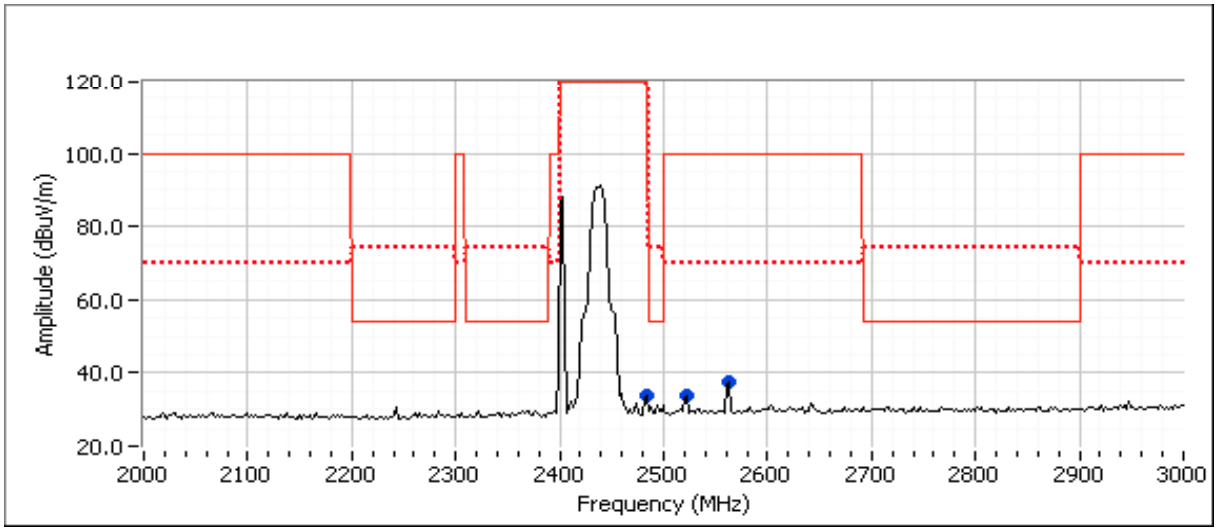
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7311.700	44.9	V	54.0	-9.1	AVG	251	1.9	RB 1 MHz;VB 10 Hz;Pk
7311.960	50.6	V	74.0	-23.4	PK	251	1.9	RB 1 MHz;VB 3 MHz;Pk
1327.430	36.2	V	54.0	-17.8	AVG	318	1.7	RB 1 MHz;VB 10 Hz;Pk
1328.960	51.0	V	74.0	-23.0	PK	318	1.7	RB 1 MHz;VB 3 MHz;Pk
4873.900	40.3	V	54.0	-13.7	AVG	107	1.6	RB 1 MHz;VB 10 Hz;Pk
4873.880	44.7	V	74.0	-29.3	PK	107	1.6	RB 1 MHz;VB 3 MHz;Pk
4803.970	36.9	V	54.0	-17.1	AVG	227	1.9	RB 1 MHz;VB 10 Hz;Pk
4804.340	43.3	V	74.0	-30.7	PK	227	1.9	RB 1 MHz;VB 3 MHz;Pk
9000.980	43.4	V	54.0	-10.6	AVG	145	1.0	RB 1 MHz;VB 10 Hz;Pk
9000.940	49.2	V	74.0	-24.8	PK	145	1.0	RB 1 MHz;VB 3 MHz;Pk

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2482.970	33.6	H	54.0	-20.4	Peak	190	1.0	
2523.050	33.9	H	54.0	-20.1	Peak	225	1.0	
2563.130	37.5	H	54.0	-16.5	Peak	216	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Run # 6, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2412 MHz Chain A, BT Basic @ 2440 MHz Chain B

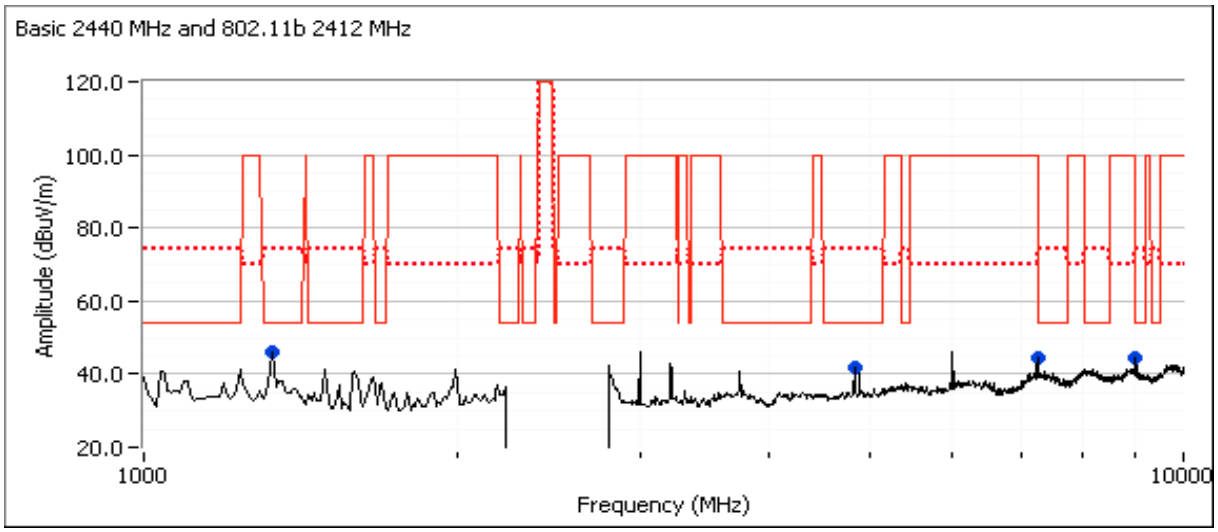
Date of Test: 5/1/2012

Test Engineer: Rafael Varelas

Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	4.9	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary Measurements (Peak versus average limit)

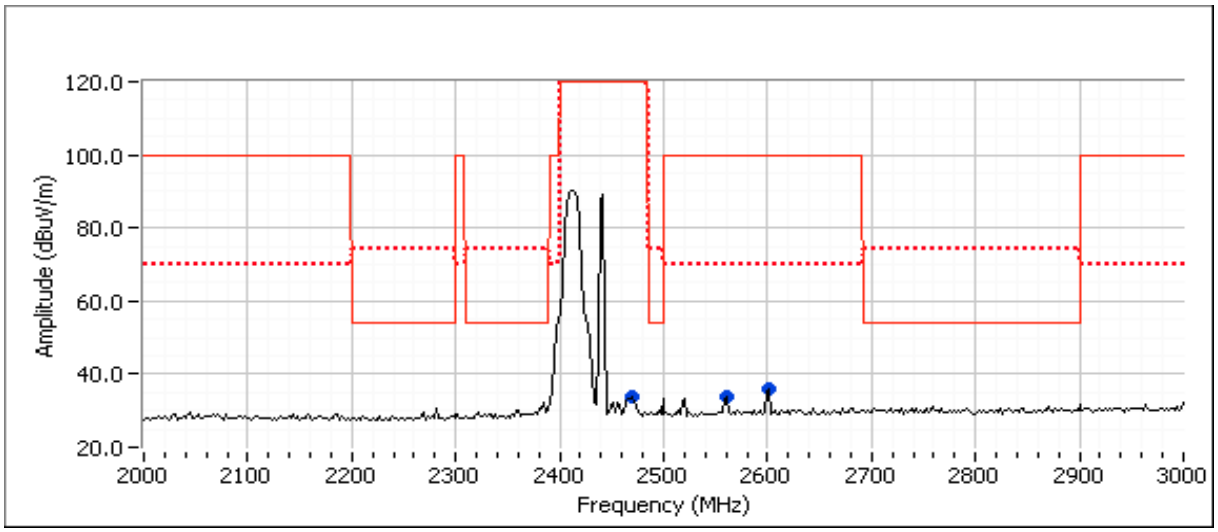
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1328.930	46.0	V	54.0	-8.0	Peak	313	1.6	
4823.960	42.0	V	54.0	-12.0	Peak	120	1.6	
7234.010	44.3	V	54.0	-9.7	Peak	234	1.6	
9000.330	44.6	V	54.0	-9.4	Peak	186	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
9001.040	42.5	V	54.0	-11.5	AVG	185	1.0	RB 1 MHz;VB 10 Hz;Pk
9001.070	49.4	V	74.0	-24.6	PK	185	1.0	RB 1 MHz;VB 3 MHz;Pk
4823.970	40.7	V	54.0	-13.3	AVG	120	1.7	RB 1 MHz;VB 10 Hz;Pk
4823.870	44.9	V	74.0	-29.1	PK	120	1.7	RB 1 MHz;VB 3 MHz;Pk
1330.730	35.6	V	54.0	-18.4	AVG	312	1.9	RB 1 MHz;VB 10 Hz;Pk
1329.600	54.4	V	74.0	-19.6	PK	312	1.9	RB 1 MHz;VB 3 MHz;Pk

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2468.940	34.0	H	54.0	-20.0	Peak	197	1.0	
2561.120	34.0	H	54.0	-20.0	Peak	227	1.0	
2601.200	36.0	H	54.0	-18.0	Peak	219	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Run # 7, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2462 MHz Chain A, BT Basic @ 2440 MHz Chain B

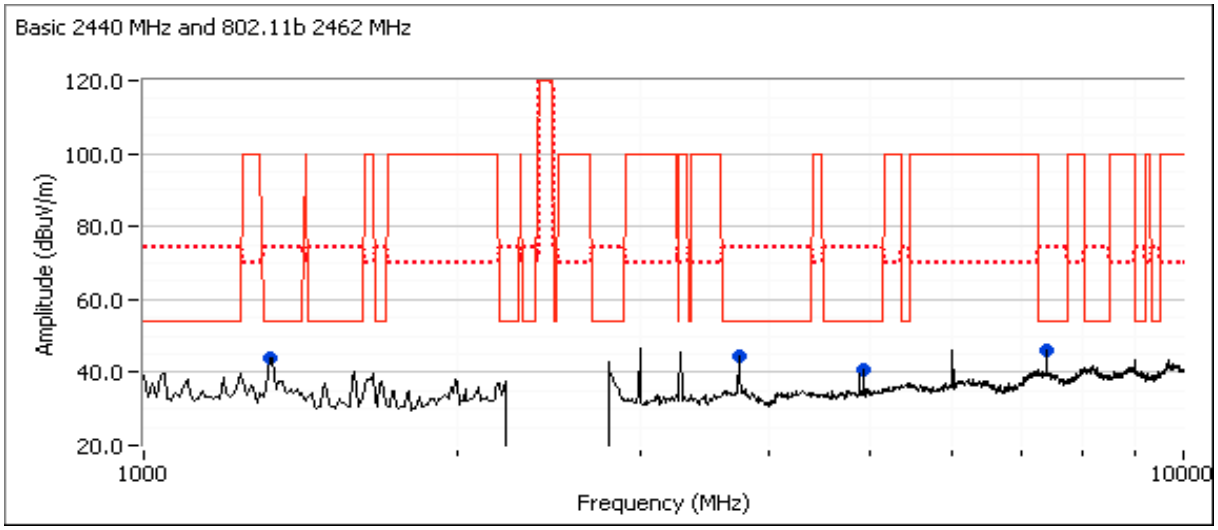
Date of Test: 5/1/2012

Test Engineer: Rafael Varelas

Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	4.9	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary Measurements (Peak versus average limit)

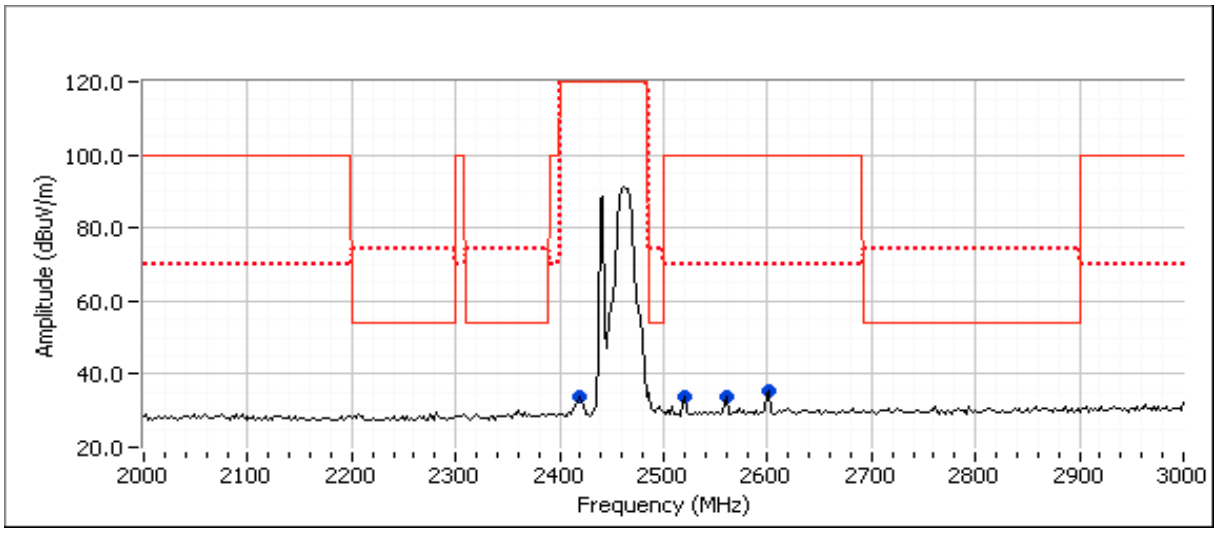
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1320.830	*44.0*	*V*	*54.0*	*-10.0*	*Peak*	*302*	*1.9*	
3731.700	44.6	H	54.0	-9.4	Peak	130	1.0	
4923.880	40.7	V	54.0	-13.3	Peak	105	1.3	
7386.150	45.8	V	54.0	-8.2	Peak	233	1.6	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7386.620	44.1	V	54.0	-9.9	AVG	238	1.0	RB 1 MHz;VB 10 Hz;Pk
7386.850	49.9	V	74.0	-24.1	PK	238	1.0	RB 1 MHz;VB 3 MHz;Pk
1326.830	30.7	V	54.0	-23.3	AVG	272	2.0	RB 1 MHz;VB 10 Hz;Pk
1327.300	49.1	V	74.0	-24.9	PK	272	2.0	RB 1 MHz;VB 3 MHz;Pk
3750.700	29.1	H	54.0	-24.9	AVG	124	1.0	RB 1 MHz;VB 10 Hz;Pk
3750.300	49.9	H	74.0	-24.1	PK	124	1.0	RB 1 MHz;VB 3 MHz;Pk
4923.920	39.5	V	54.0	-14.5	AVG	78	1.0	RB 1 MHz;VB 10 Hz;Pk
4923.830	44.1	V	74.0	-29.9	PK	78	1.0	RB 1 MHz;VB 3 MHz;Pk

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2418.840	33.9	H	54.0	-20.1	Peak	217	1.0	
2521.040	34.0	H	54.0	-20.0	Peak	218	1.0	
2561.120	34.0	H	54.0	-20.0	Peak	220	1.0	
2601.200	35.4	H	54.0	-18.6	Peak	215	1.0	

Final measurements at 3m

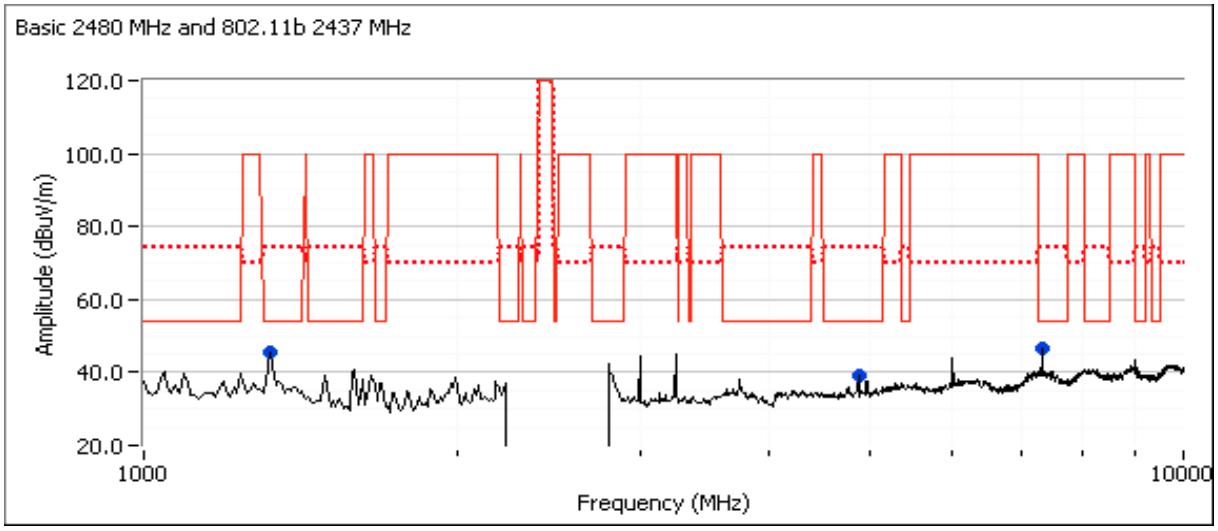
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Run # 8, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2437 MHz Chain A, BT Basic @ 2480 MHz Chain B

Date of Test: 5/1/2012
Test Engineer: Rafael Varelas
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	5.1	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary Measurements (Peak versus average limit)

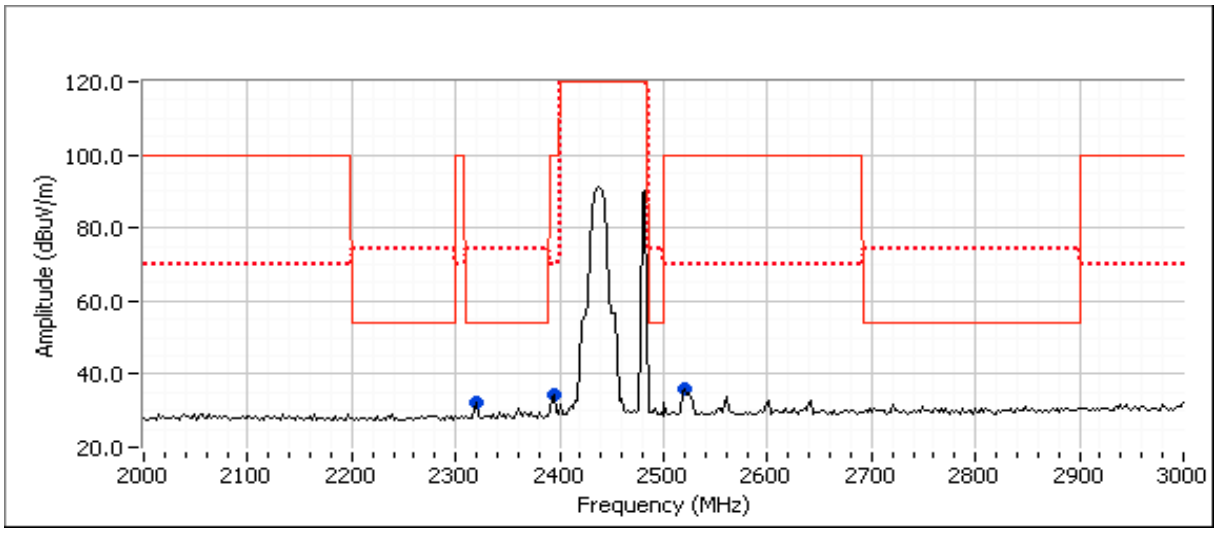
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1319.980	45.5	V	54.0	-8.5	Peak	313	1.6	
4873.940	39.4	V	54.0	-14.6	Peak	152	1.3	
7310.210	46.4	V	54.0	-7.6	Peak	241	1.9	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7310.140	45.1	V	54.0	-8.9	AVG	234	1.6	RB 1 MHz;VB 10 Hz;Pk
7311.880	50.6	V	74.0	-23.4	PK	234	1.6	RB 1 MHz;VB 3 MHz;Pk
4873.940	37.9	V	54.0	-16.1	AVG	169	1.5	RB 1 MHz;VB 10 Hz;Pk
4873.820	43.8	V	74.0	-30.2	PK	169	1.5	RB 1 MHz;VB 3 MHz;Pk
1331.850	34.7	V	54.0	-19.3	AVG	340	1.5	RB 1 MHz;VB 10 Hz;Pk
1330.910	52.1	V	74.0	-21.9	PK	340	1.5	RB 1 MHz;VB 3 MHz;Pk

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2320.640	32.4	V	54.0	-21.6	Peak	80	1.3	
2394.790	34.6	V	54.0	-19.4	Peak	272	1.0	
2521.040	36.1	H	54.0	-17.9	Peak	214	1.0	

Final measurements at 3m

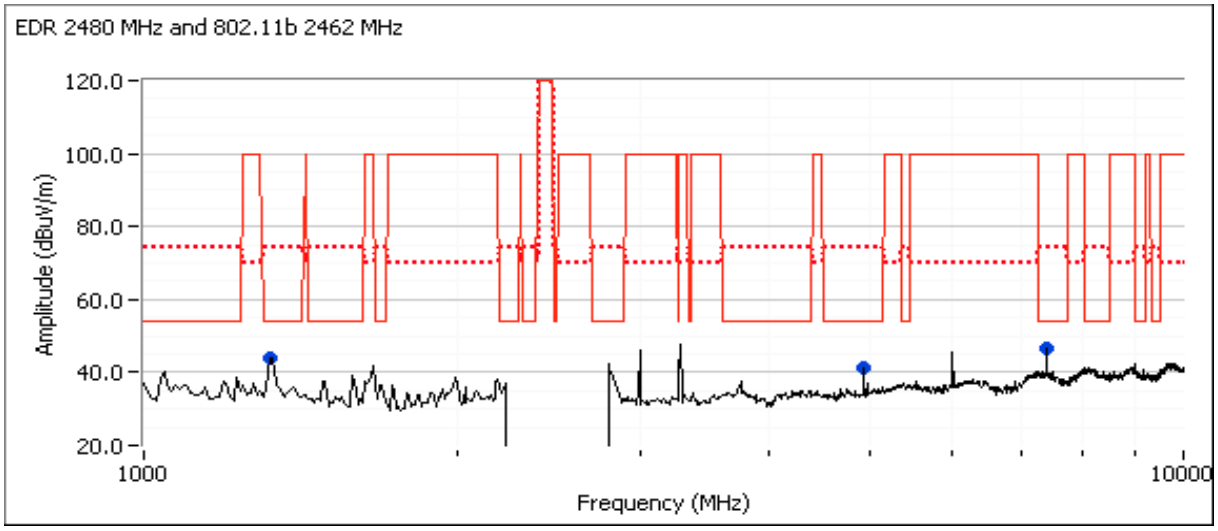
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2320.050	39.9	V	54.0	-14.1	AVG	91	1.0	POS; RB 1 MHz; VB: 10 Hz
2319.700	46.4	V	74.0	-27.6	PK	91	1.0	POS; RB 1 MHz; VB: 3 MHz

Run # 9, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2462 MHz Chain A, EDR Mode @ 2480 MHz Chain B

Date of Test: 5/1/2012
Test Engineer: Rafael Varelas
Test Location: FT3

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	23.5
Chain B	7.0	2.3	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary Measurements (Peak versus average limit)

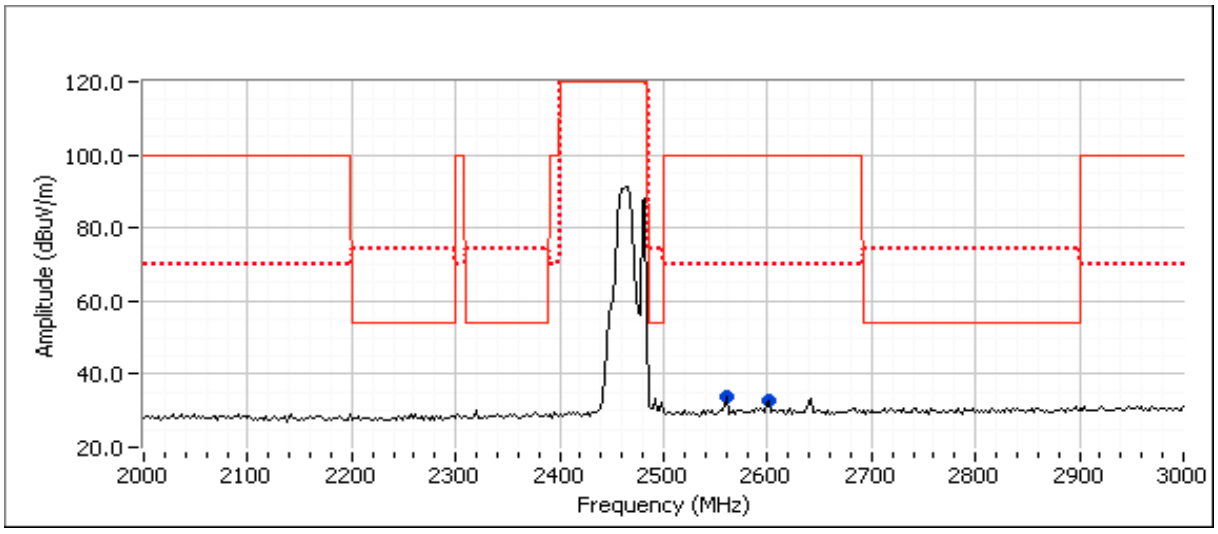
Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1328.210	43.8	V	54.0	-10.2	Peak	296	1.9	
4923.880	41.1	V	54.0	-12.9	Peak	225	1.3	
7387.210	46.5	V	54.0	-7.5	Peak	235	1.6	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7386.610	46.0	V	54.0	-8.0	AVG	256	1.6	RB 1 MHz;VB 10 Hz;Pk
7383.680	51.1	V	74.0	-22.9	PK	256	1.6	RB 1 MHz;VB 3 MHz;Pk
1328.610	30.5	V	54.0	-23.5	AVG	269	1.6	RB 1 MHz;VB 10 Hz;Pk
1330.610	45.5	V	74.0	-28.5	PK	269	1.6	RB 1 MHz;VB 3 MHz;Pk
4923.860	40.2	V	54.0	-13.8	AVG	237	1.7	RB 1 MHz;VB 10 Hz;Pk
4923.950	44.7	V	74.0	-29.3	PK	237	1.7	RB 1 MHz;VB 3 MHz;Pk

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 30cm from the product to identify potential signals (Peak versus average limit)



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2561.120	33.6	H	54.0	-20.4	Peak	214	1.0	
2601.200	32.7	H	54.0	-21.3	Peak	215	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

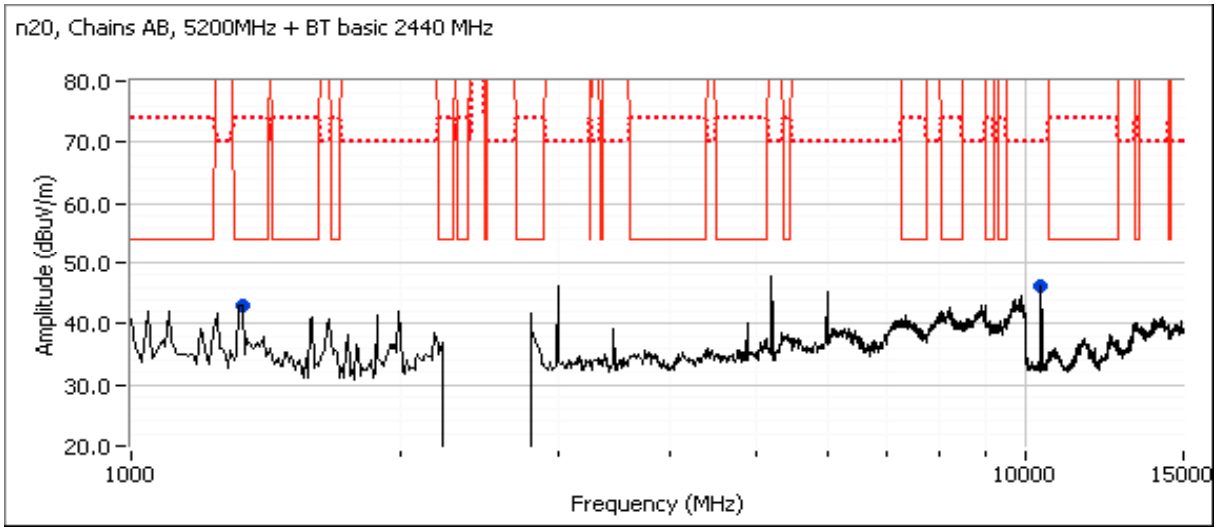
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 10, Jackson Peak 2x2: 1-15 GHz, 802.11n20 @ 5200 MHz, Chains A + B, & BT basic @ 2440 MHz.

Date of Test: 5/2/2012
Test Engineer: John Caizzi
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	15.0	39.0
Chain B	16.5 / 7	16.0 / 4.9	39.0 / 8.0

Spurious Radiated Emissions, 1 - 15 GHz, excluding the allocated band.



Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10400.000	*46.1*	*V*	*54.0*	*-7.9*	*Peak*	*65*	*1.0*	*Note 2*
1330.000	*42.9*	*V*	*54.0*	*-11.1*	*Peak*	*172*	*1.0*	*Note 1*

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

Note 1	Not an intermodulation product. Signal present regardless of band, channel, & mode.
Note 2	Not an intermodulation product. 2nd harmonic of WiFi fundamental.

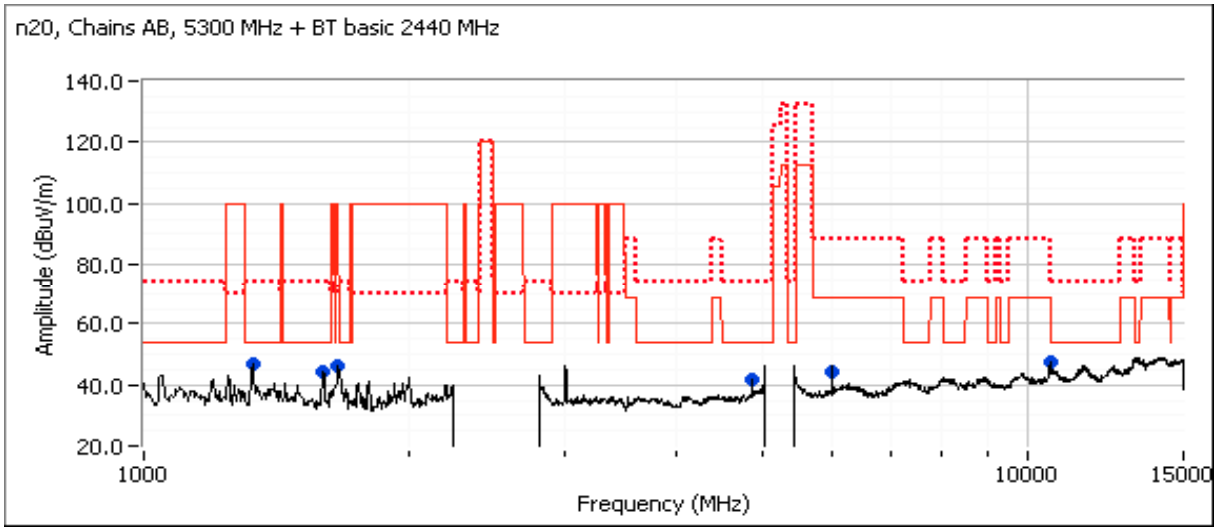
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 11, Jackson Peak 2x2: 1-15 GHz, 802.11n20 @ 5300 MHz, Chains A + B, & BT basic @ 2440 MHz.

Date of Test: 5/2/2012
Test Engineer: John Caizzi / Joseph Cadigal
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	15.9	39.0
Chain B	16.5 / 7	16.3 / 4.9	39.0 / 8.0

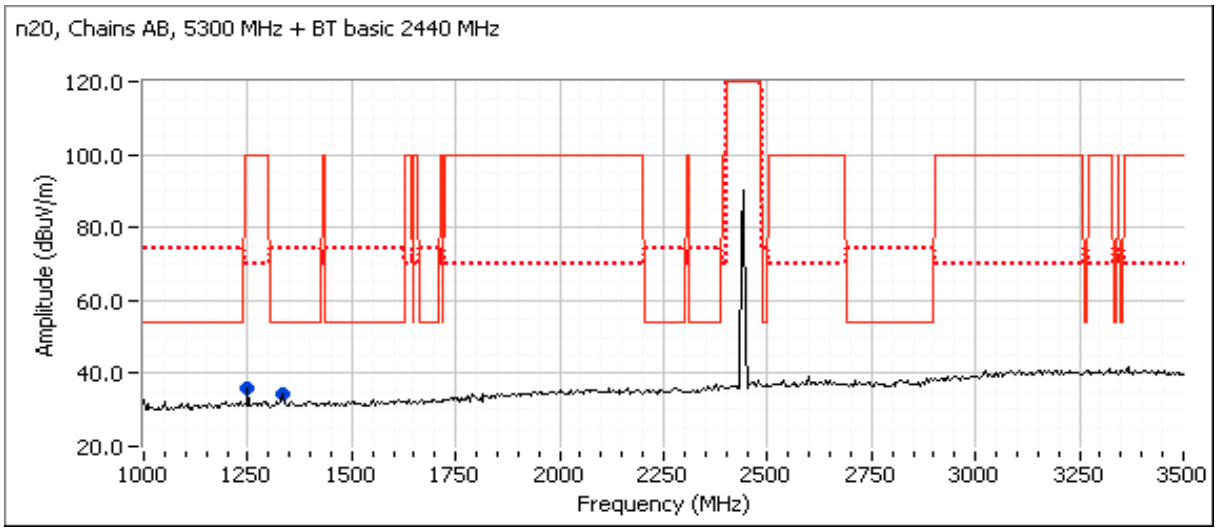
Spurious Radiated Emissions, 1 - 15 GHz, excluding the allocated band.

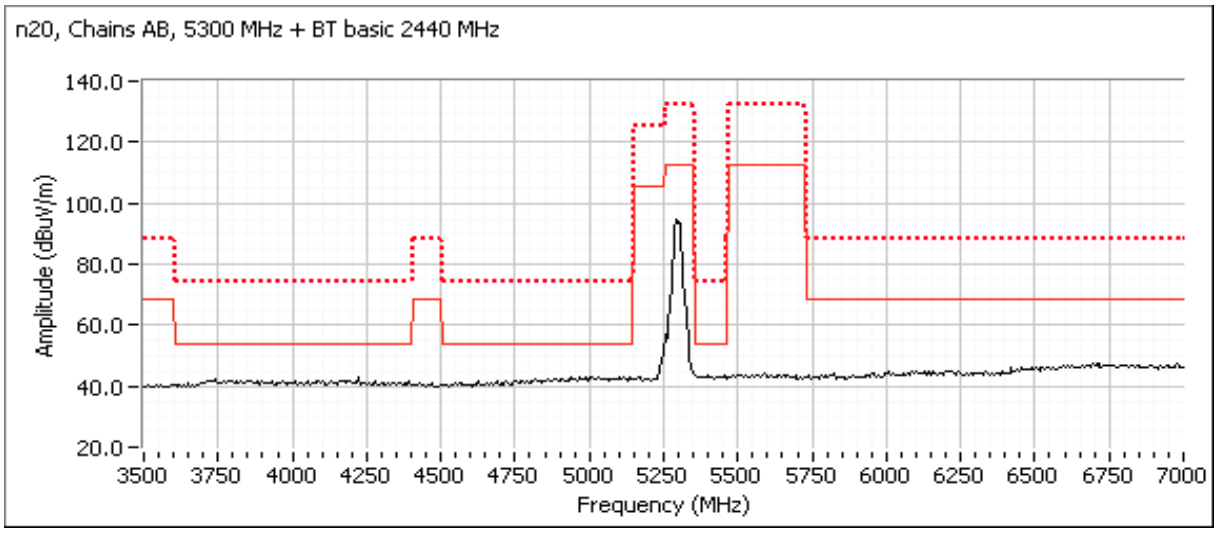


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Spurious Radiated Emissions, 1 - 7GHz (Scans from 1 - 3.5GHz and 3.5 - 7GHz)

Preliminary Scans at ~ 30cm from the product (card and antenna) to identify potential signals (Peak versus average limit)





Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1253.490	35.8	V	54.0	-18.2	Peak	162	1.0	
1331.570	34.3	V	54.0	-19.7	Peak	341	1.0	

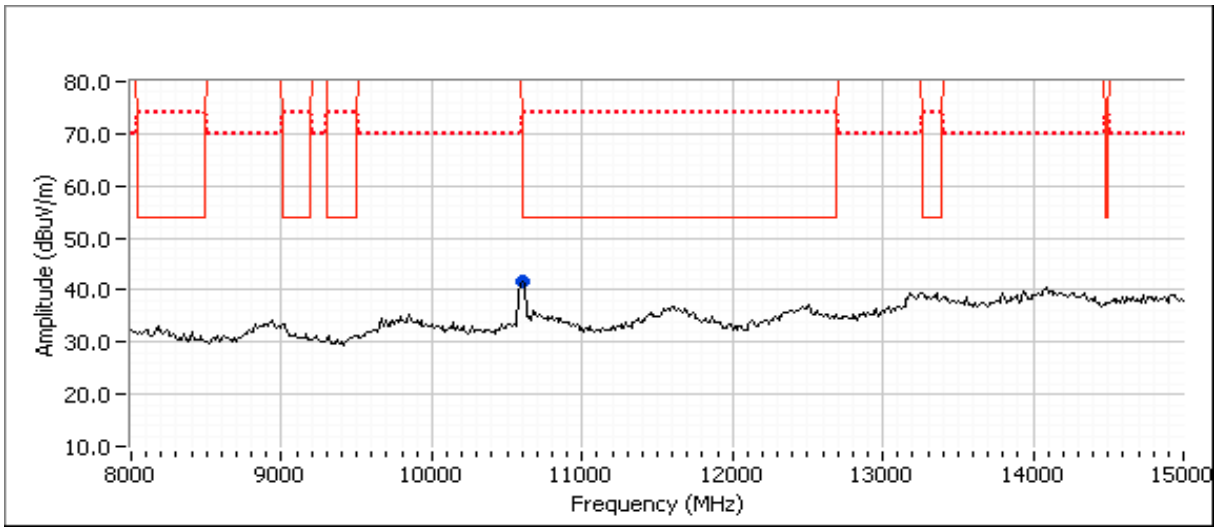
Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

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.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preamplifier and high pass filter used for this scan.



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10601.670	*41.8*	*V*	*54.0*	*-12.2*	*Peak*	*151*	*1.6*	*Note 1*
1328.340	46.7	V	54.0	-7.3	Peak	163	1.0	
1592.340	44.0	V	54.0	-10.0	Peak	194	1.0	
1658.720	45.9	V	54.0	-8.1	Peak	209	1.0	
6001.410	46.2	V	54.0	-7.8	Peak	135	1.0	
4880.110	41.8	H	54.0	-12.2	Peak	159	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4879.980	38.0	H	54.0	-16.0	AVG	158	1.0	RB 1 MHz;VB 10 Hz;Peak
10601.330	37.1	V	54.0	-16.9	AVG	233	1.5	RB 1 MHz;VB 10 Hz;Peak
1328.330	33.4	V	54.0	-20.6	AVG	160	1.0	RB 1 MHz;VB 10 Hz;Peak
1659.770	49.2	V	70.0	-20.8	PK	210	1.0	RB 1 MHz;VB 3 MHz;Peak
1660.030	32.5	V	54.0	-21.5	AVG	210	1.0	RB 1 MHz;VB 10 Hz;Peak
1593.310	31.6	V	54.0	-22.4	AVG	198	1.0	RB 1 MHz;VB 10 Hz;Peak
1328.570	51.1	V	74.0	-22.9	PK	160	1.0	RB 1 MHz;VB 3 MHz;Peak
10600.120	50.5	V	74.0	-23.5	PK	233	1.5	RB 1 MHz;VB 3 MHz;Peak
4879.840	44.7	H	74.0	-29.3	PK	158	1.0	RB 1 MHz;VB 3 MHz;Peak
1593.310	44.4	V	74.0	-29.6	PK	198	1.0	RB 1 MHz;VB 3 MHz;Peak
6000.560	48.6	V	68.3	-19.7	PK	133	1.0	RB 1 MHz;VB 3 MHz;Peak

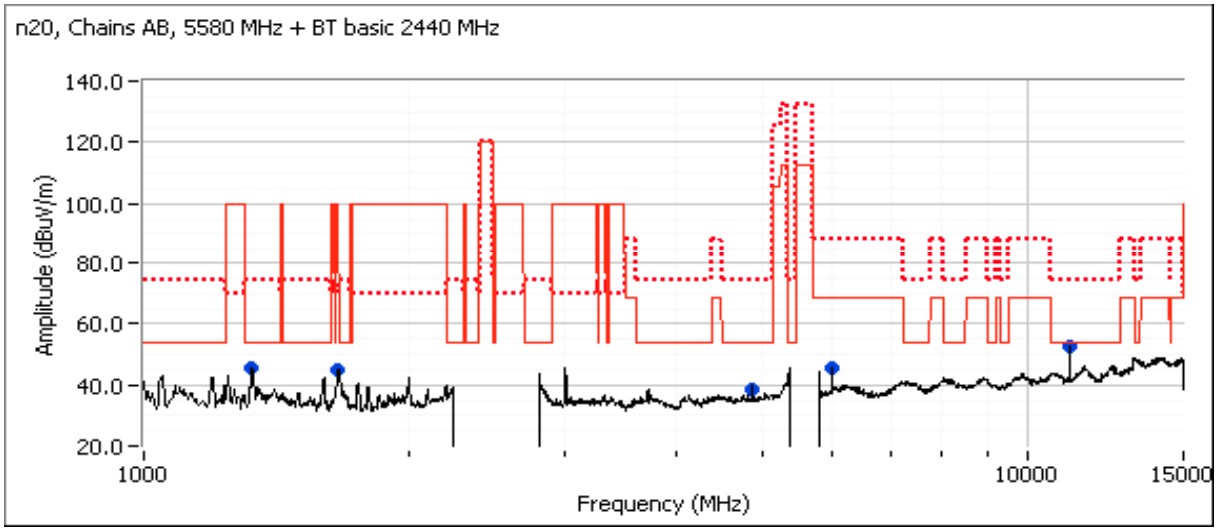
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 12, Jackson Peak 2x2: 1-15GHz, 802.11n20 @ 5580 MHz Chain A + B, BT basic @ 2440 MHz.

Date of Test: 5/2/2012
Test Engineer: John Caizzi / Joseph Cadigal
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.2	39.0
Chain B	16.5 / 7	16.4 / 4.9	39.0 / 8.0

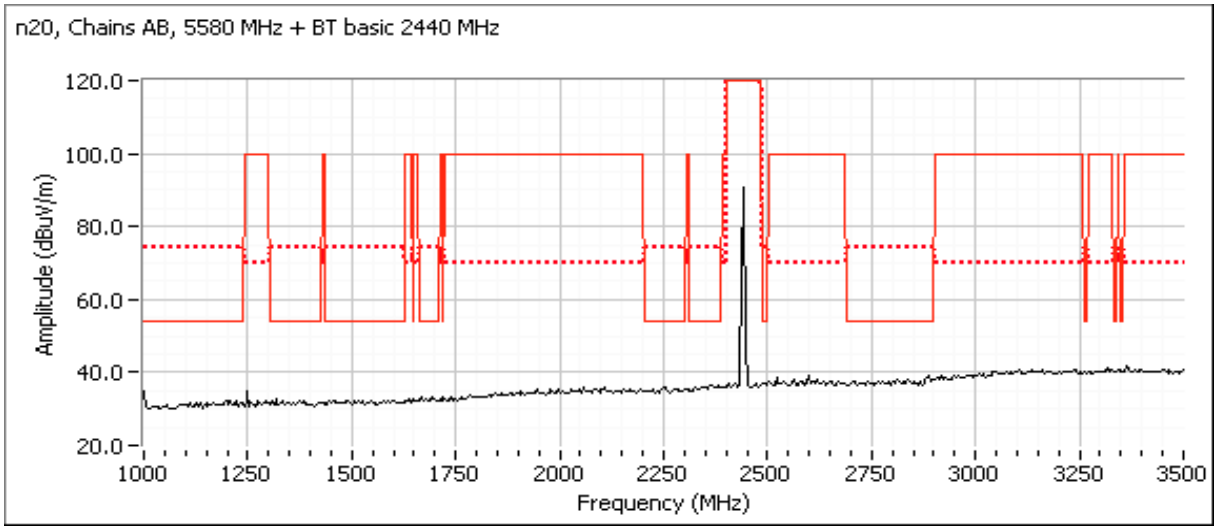
Spurious Radiated Emissions, 1 - 15 GHz:

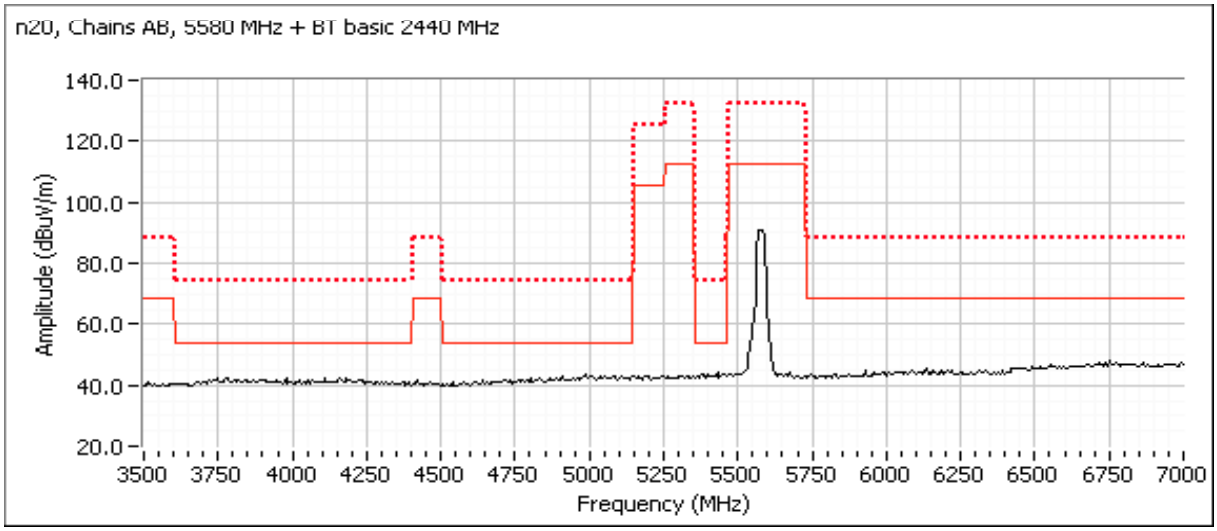


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Spurious Radiated Emissions, 1 - 7GHz (Scans from 1 - 3.5GHz and 3.5 - 7GHz)

Preliminary Scans at ~ 30cm from the product (card and antenna) to identify potential signals (Peak versus average limit)





Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

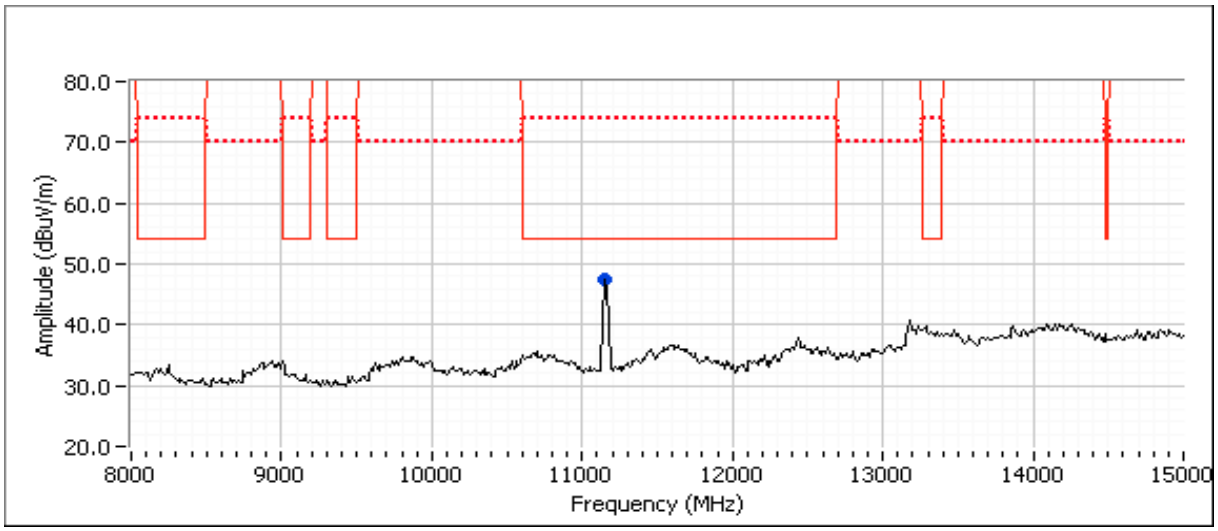
Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

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.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preamplifier and high pass filter used for this scan.



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247/15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11160.040	52.4	V	54.0	-1.6	Peak	289	1.0	Note 1
4880.360	38.7	H	54.0	-15.3	Peak	119	1.0	
6000.650	45.4	V	68.3	-22.9	Peak	134	1.0	
1661.160	44.8	V	70.0	-25.2	Peak	204	1.0	
1328.770	45.7	V	54.0	-8.3	Peak	292	1.5	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1660.730	32.8	V	54.0	-21.2	AVG	208	1.0	RB 1 MHz;VB 10 Hz;Peak
4880.020	32.1	H	54.0	-21.9	AVG	115	1.0	RB 1 MHz;VB 10 Hz;Peak
1328.160	31.7	V	54.0	-22.3	AVG	295	1.5	RB 1 MHz;VB 10 Hz;Peak
1327.730	49.6	V	74.0	-24.4	PK	295	1.5	RB 1 MHz;VB 3 MHz;Peak
5999.920	41.6	V	68.3	-26.7	AVG	134	1.0	RB 1 MHz;VB 10 Hz;Peak
4879.570	41.0	H	74.0	-33.0	PK	115	1.0	RB 1 MHz;VB 3 MHz;Peak
1659.890	49.4	V	68.3	-18.9	PK	208	1.0	RB 1 MHz;VB 3 MHz;Peak
5999.940	47.0	V	68.3	-21.3	PK	134	1.0	RB 1 MHz;VB 3 MHz;Peak

Note 1	Not an intermodulation product. 2nd harmonic of WiFi fundamental.

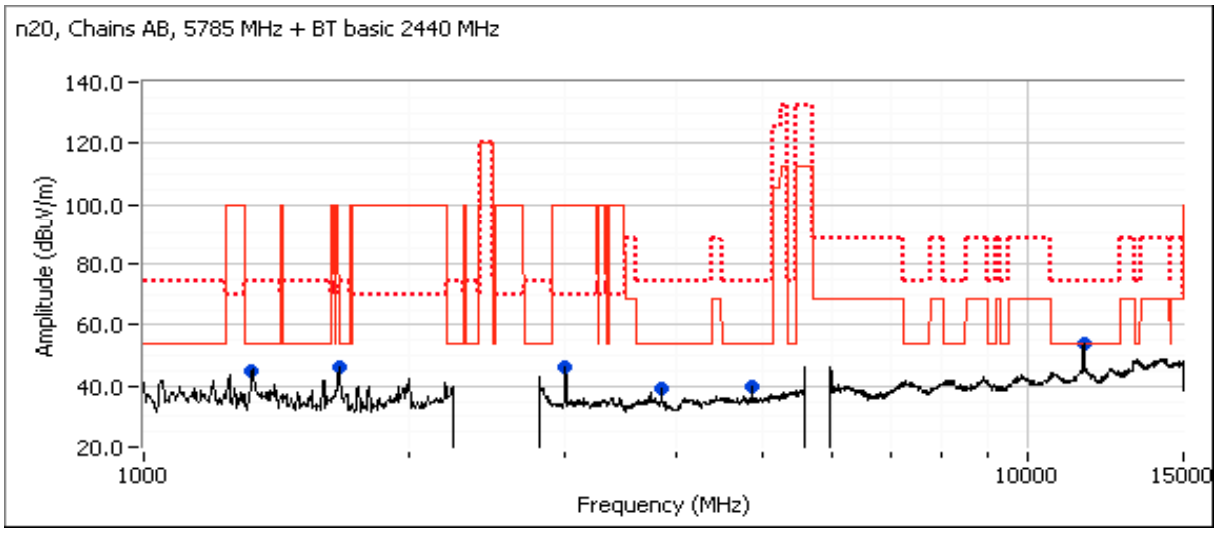
Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run # 13, Jackson Peak 2x2: 1-15GHz, 802.11n20 @ 5785 MHz Chain A + B, BT basic @ 2440 MHz.

Date of Test: 5/2/2012
Test Engineer: John Caizzi / Joseph Cadigal
Test Location: FT5

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.2	39.0
Chain B	16.5 / 7	16.4 / 4.9	39.0 / 8.0

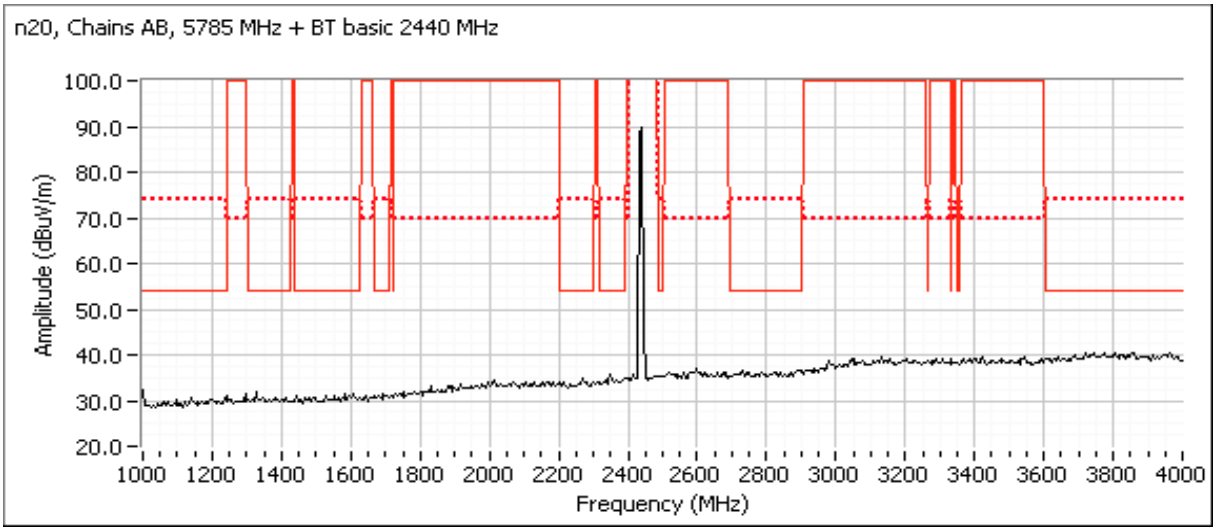
Spurious Radiated Emissions, 1 - 15 GHz:

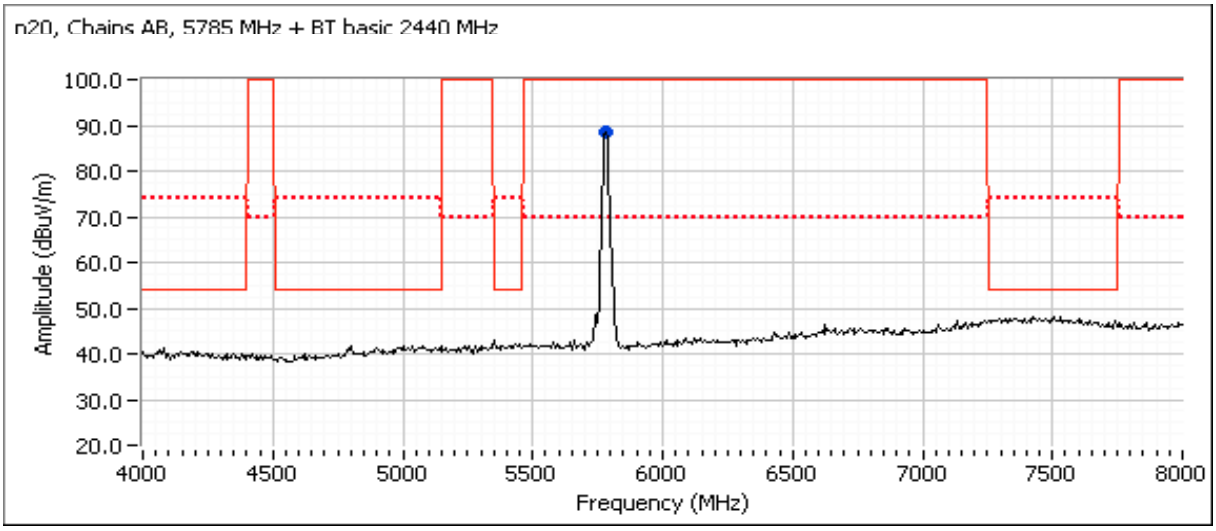


Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Spurious Radiated Emissions, 1 - 7GHz (Scans from 1 - 4GHz and 4 - 8GHz)

Preliminary Scans at ~ 30cm from the product (card and antenna) to identify potential signals (Peak versus average limit)





Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preliminary measurements at ~ 30cm, RB=1MHz, VB=100kHz

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5780.000	*88.5*	*V*	*-*	*-*	*Peak*	*247*	*1.0*	

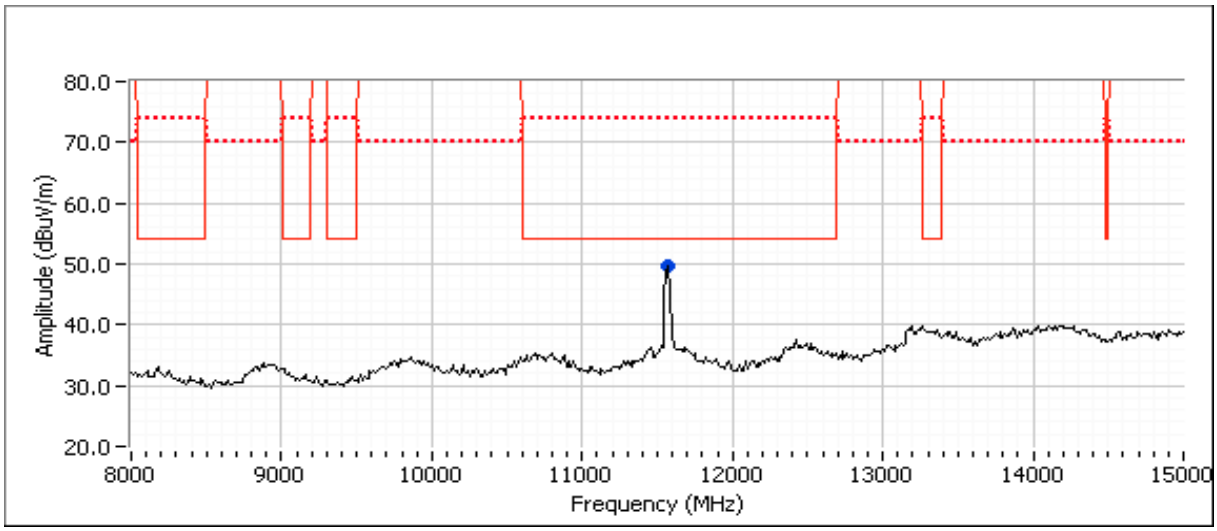
Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	

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.

Client:	Intel Corporation	Job Number:	J87129
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87211
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Preamplifier and high pass filter used for this scan.



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15.247/15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11561.530	53.7	V	54.0	-0.3	Peak	96	2.5	Note 1
4880.000	40.0	H	54.0	-14.0	Peak	100	1.5	
3850.360	39.2	V	54.0	-14.8	Peak	123	1.0	
1327.140	44.7	V	54.0	-9.3	Peak	145	1.0	
3000.290	46.0	H	70.0	-24.0	Peak	200	1.0	
1661.070	46.1	V	54.0	-7.9	Peak	206	1.0	

Final measurements at 3m

Frequency	Level	Pol	15.209/15.247		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4880.000	34.1	H	54.0	-19.9	AVG	107	1.5	RB 1 MHz;VB 10 Hz;Peak
1661.810	32.9	V	54.0	-21.1	AVG	207	1.0	RB 1 MHz;VB 10 Hz;Peak
1328.560	31.9	V	54.0	-22.1	AVG	144	1.0	RB 1 MHz;VB 10 Hz;Peak
1327.800	49.7	V	74.0	-24.3	PK	144	1.0	RB 1 MHz;VB 3 MHz;Peak
1660.670	49.0	V	74.0	-25.0	PK	207	1.0	RB 1 MHz;VB 3 MHz;Peak
3850.470	28.4	V	54.0	-25.6	AVG	123	1.0	RB 1 MHz;VB 10 Hz;Peak
4880.290	42.0	H	74.0	-32.0	PK	107	1.5	RB 1 MHz;VB 3 MHz;Peak
3851.510	39.3	V	74.0	-34.7	PK	123	1.0	RB 1 MHz;VB 3 MHz;Peak
3000.190	48.5	H	68.3	-19.8	PK	203	1.0	RB 1 MHz;VB 3 MHz;Peak

Note 1	Not an intermodulation product. 2nd harmonic of WiFi fundamental.

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247, 15.407	Class:	B
Immunity Standard(s):	-	Environment:	-

EMC Test Data

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test: 5/22/2012

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements

Power, PSD, Bandwidth and Spurious Emissions - Chain A

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: 5/2/12, 5/3/12
Test Engineer: Jack Liu / Rafael Varelas
Test Location: FT3/Power Fault

Config. Used: 1
Config Change: none
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 20.4 °C
Rel. Humidity: 36 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	802.11a: 41.7. mW n20: 81.3 mW n40: 79.4 mW
2	Power spectral Density (PSD)	15.247(d)	Pass	802.11a:-7.5dBm/3kHz n20: -8.7 dBm/3kHz n40: -7.7 dBm/3kHz
3	Minimum 6dB Bandwidth	15.247(a)	Pass	16.3 MHz
3	99% Bandwidth	RSS GEN	-	802.11a: 18.5 MHz n20: 29.0 MHz n40: 42.1 MHz
4	Spurious emissions	15.247(b)	Pass	All emissions below the limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Deviations From The Standard

No deviations were made from the requirements of the standard.

Run #1: Output Power

802.11a Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
32.5	5745	19.1	81.1	5.0	Pass	24.1	0.256	16.0	40.1
33	5785	19.1	80.4	5.0	Pass	24.1	0.254	16.2	41.7
33	5825	19.0	78.5	5.0	Pass	24.0	0.248	16.2	41.7

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

802.11n 20MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
32.5	5745	19.1	81.3	5.0	Pass	24.1	0.257	16.2	41.7
32.5	5785	19.0	79.4	5.0	Pass	24.0	0.251	16.1	40.7
32.5	5825	19.1	81.3	5.0	Pass	24.1	0.257	16.1	40.7

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

802.11n 40MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
33.5	5755	19.0	79.4	5.0	Pass	24.0	0.251	16.1	40.7
33.5	5795	18.9	77.6	5.0	Pass	23.9	0.245	16.0	39.8

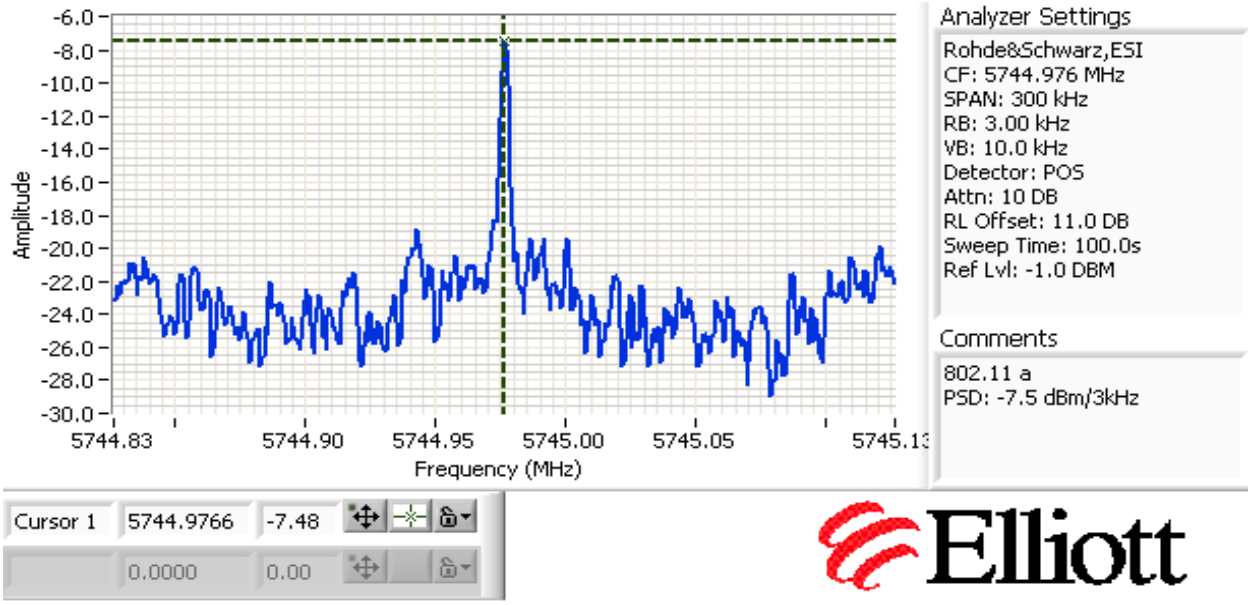
Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
802.11a	32.5	5744.9766	-7.5	8.0	Pass
	33	5784.9763	-7.8	8.0	Pass
	33	5824.976	-7.8	8.0	Pass
802.11n 20MHz	32.5	5744.9766	-8.7	8.0	Pass
	32.5	5784.9766	-9.0	8.0	Pass
	32.5	5824.9763	-9.0	8.0	Pass
802.11n 40MHz	33.5	5754.9765	-7.7	8.0	Pass
	33.5	5794.9766	-7.9	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

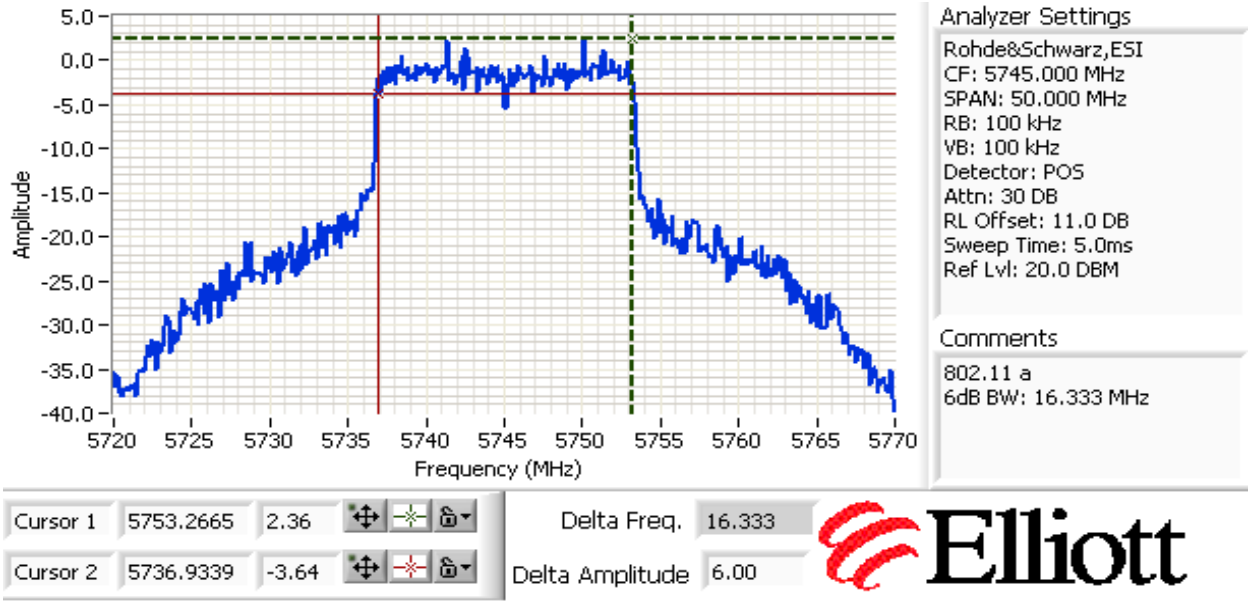


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
802.11a	32.5	5745	100kHz/1MHz	16.33	18.2
	33	5785	100kHz/1MHz	16.33	18.5
	33	5825	100kHz/1MHz	16.43	18.3
802.11n 20MHz	32.5	5745	100kHz/1MHz	17.5	28.4
	32.5	5785	100kHz/1MHz	17.5	29.0
	32.5	5825	100kHz/1MHz	17.5	28.3
802.11n 40MHz	33.5	5755	100kHz/1MHz	34.5	42.1
	33.5	5795	100kHz/1MHz	33.8	41.8

Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB

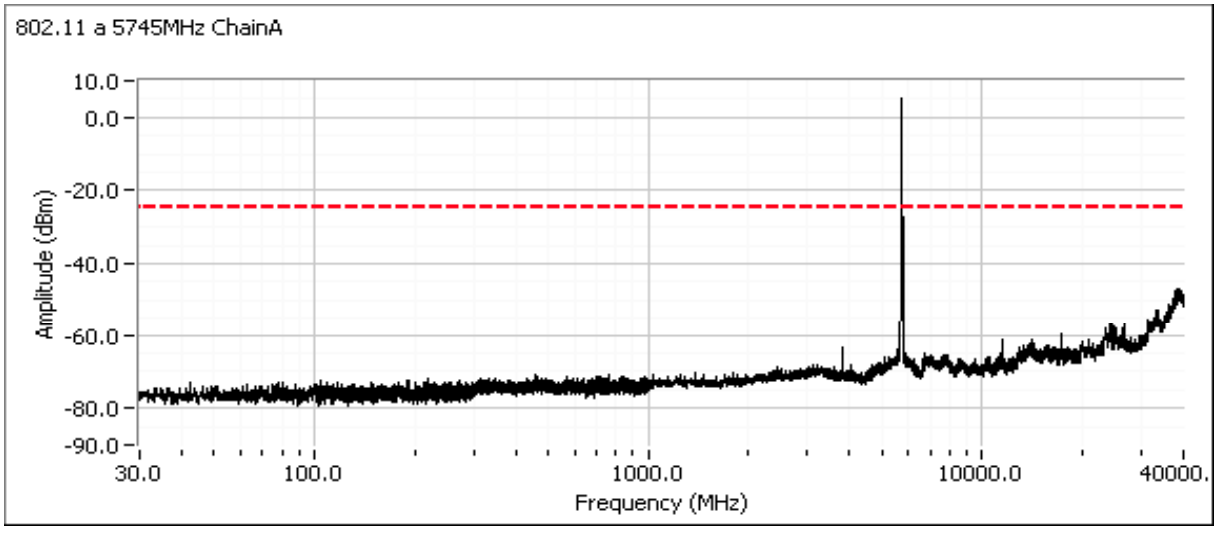


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #4: Out of Band Spurious Emissions
802.11a Mode

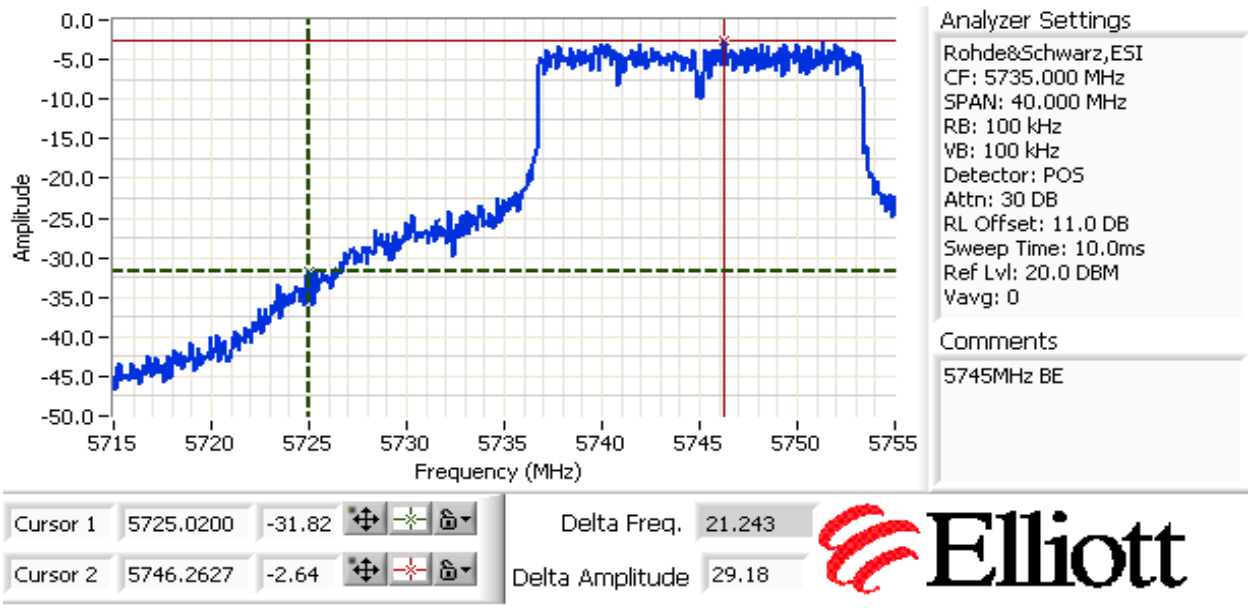
Frequency (MHz)	Limit	Result
5745	-20dBc	Pass
5785	-20dBc	Pass
5825	-20dBc	Pass

Plots for low channel, power setting(s) = 32.5

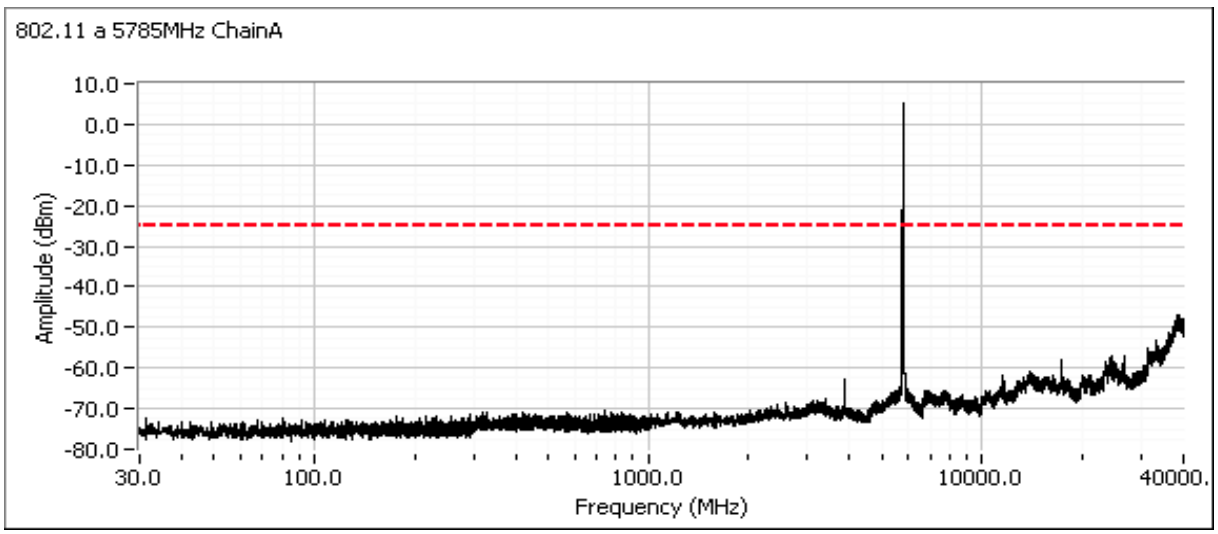


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.

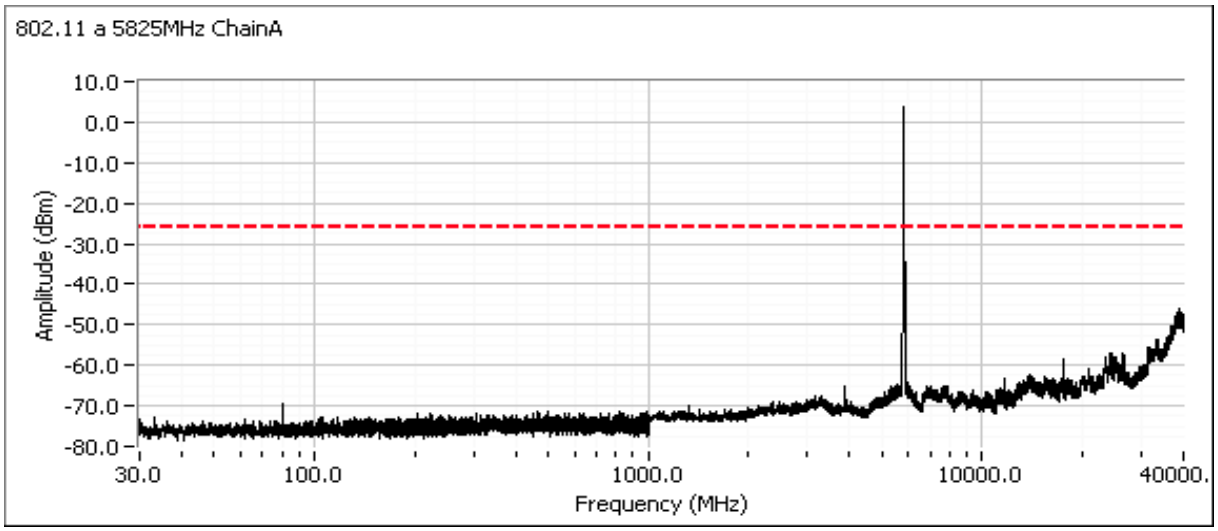


Plots for center channel, power setting(s) = 33.0

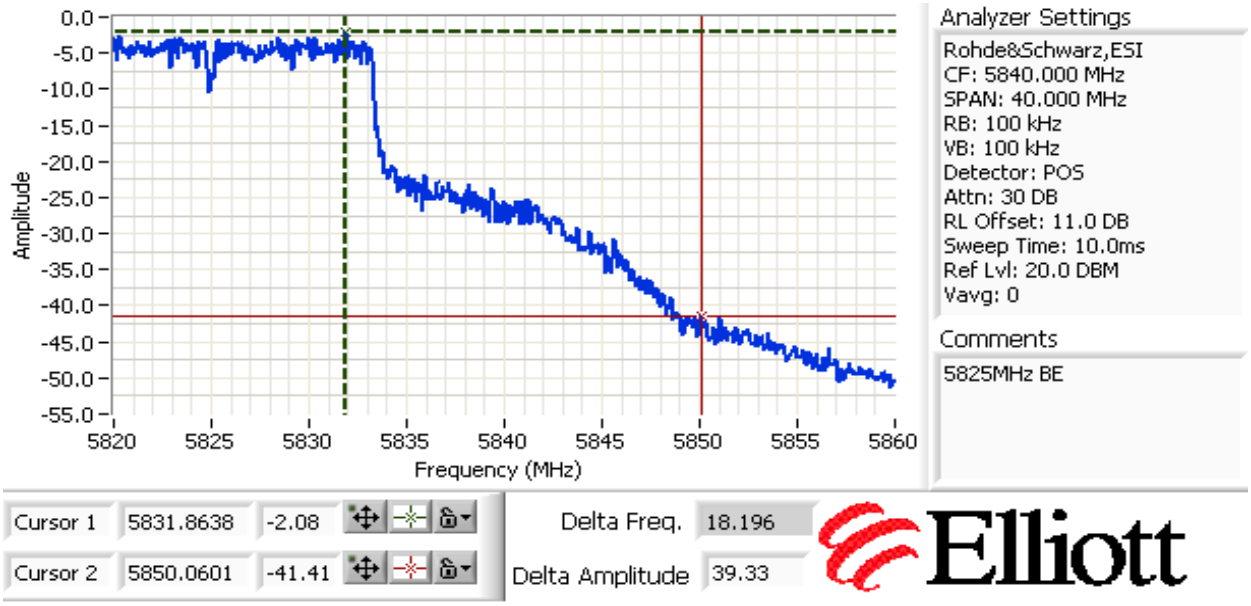


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for high channel, power setting(s) = 33.0



Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.

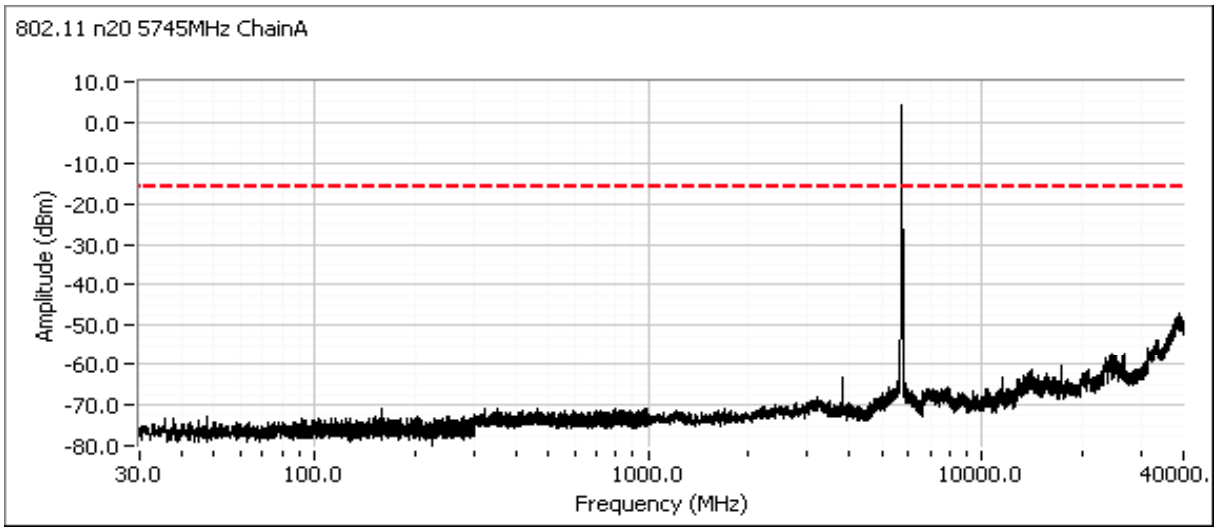


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 20MHz Mode

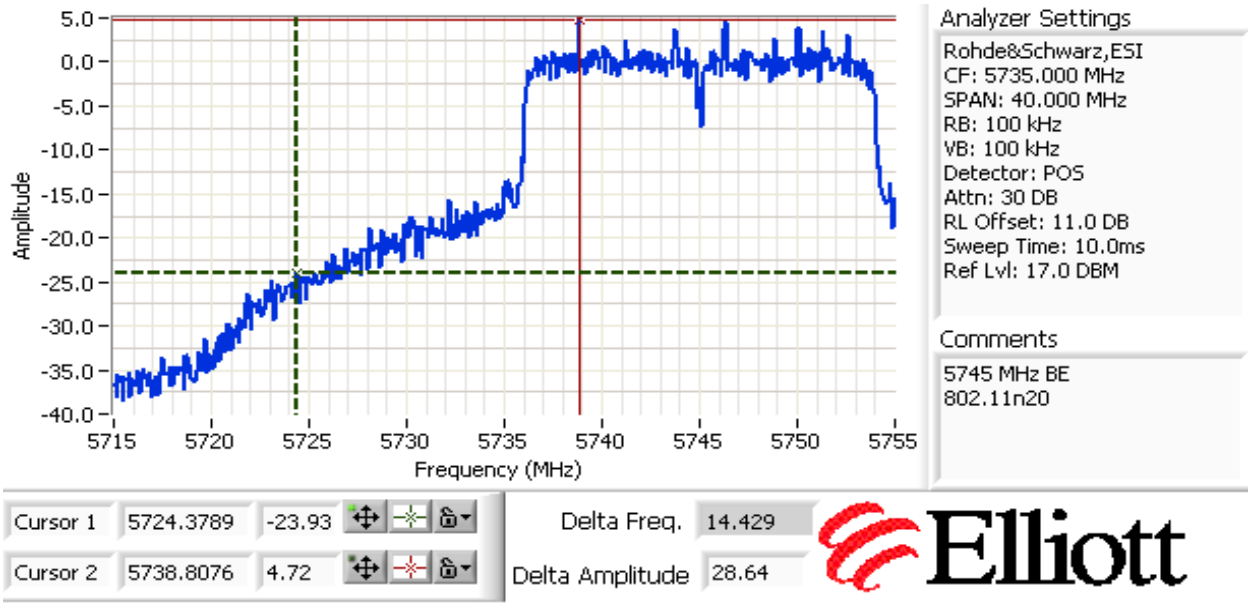
Frequency (MHz)	Limit	Result
5745	-20dBc	Pass
5785	-20dBc	Pass
5825	-20dBc	Pass

Plots for low channel, power setting(s) = 32.5

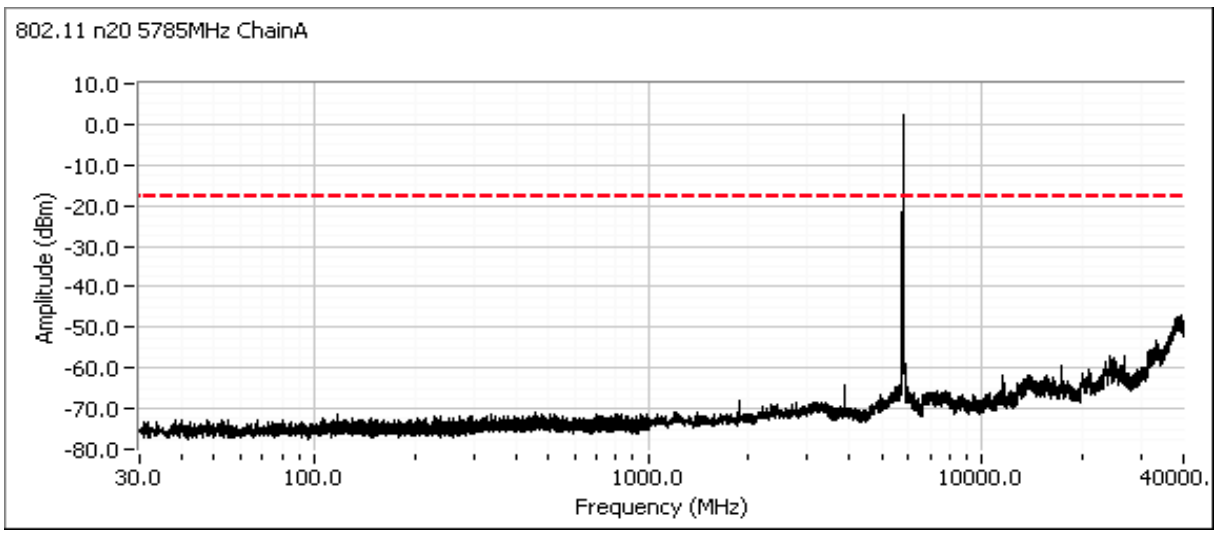


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.

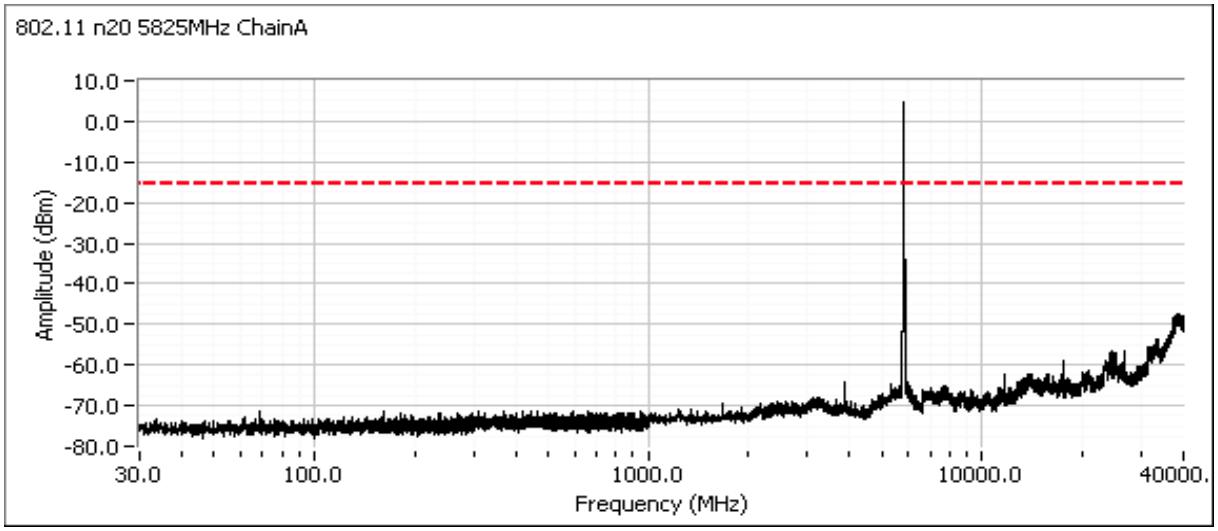


Plots for center channel, power setting(s) = 32.5

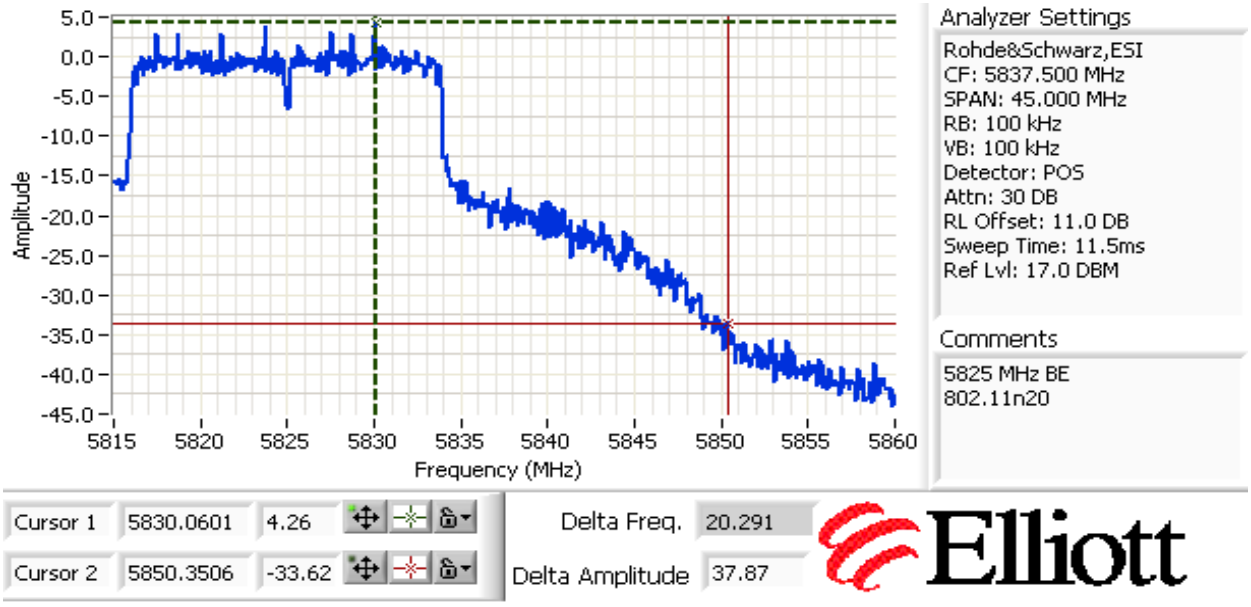


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for high channel, power setting(s) = 32.5



Additional plot from 5820 - 5860 MHz showing compliance with -20dBc at the band edge.

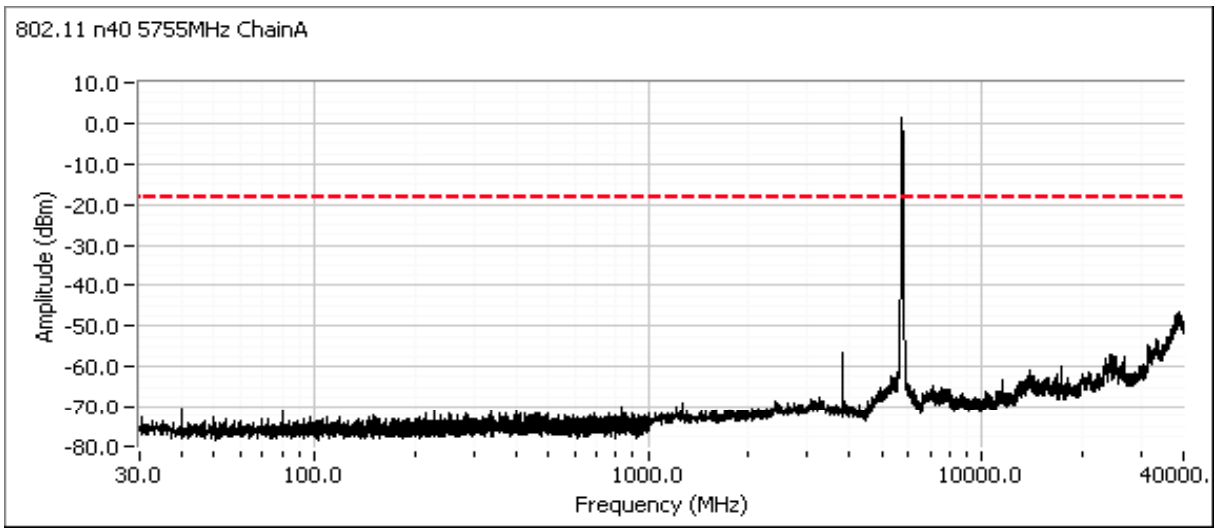


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 40MHz Mode

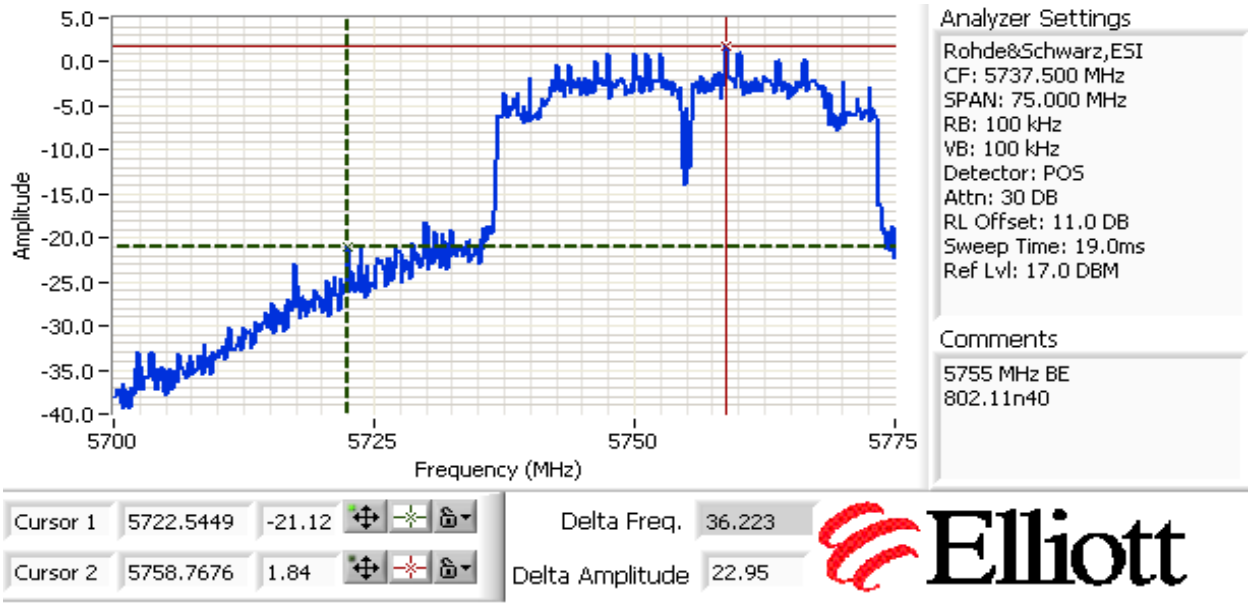
Frequency (MHz)	Limit	Result
5755	-20dBc	Pass
5795	-20dBc	Pass

Plots for low channel, power setting(s) = 33.5

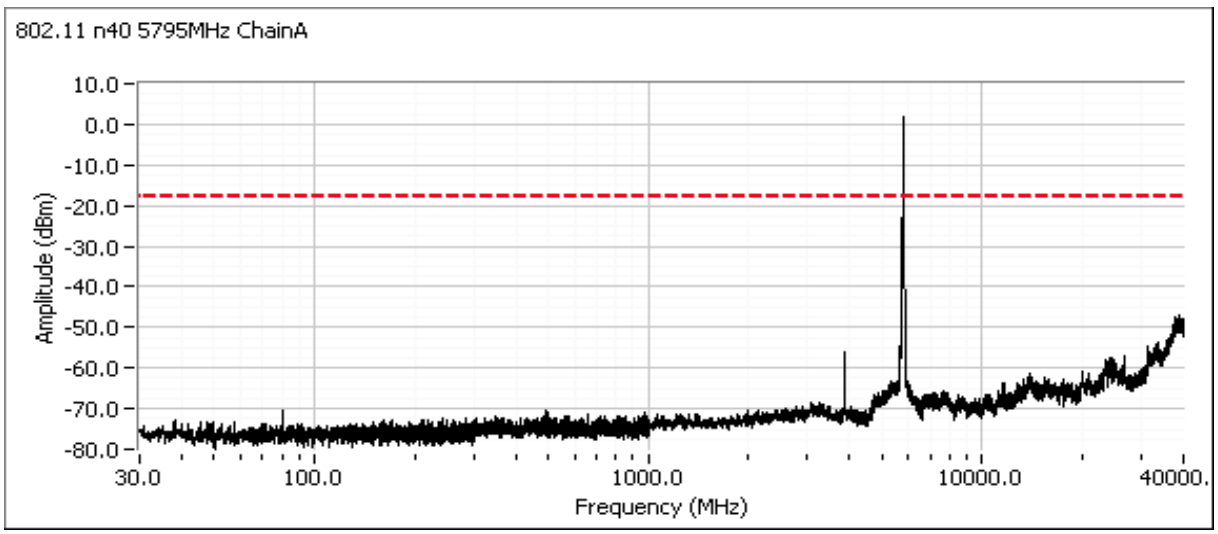


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.

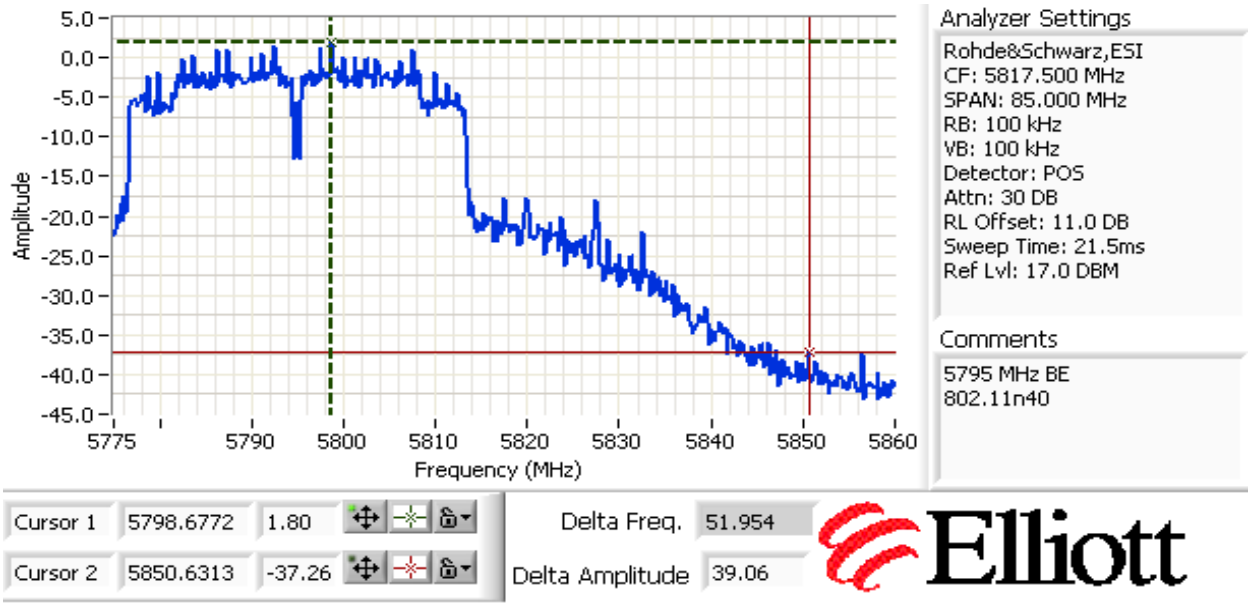


Plots for high channel, power setting(s) = 33.5



Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5785 - 5860 MHz showing compliance with -20dBc at the band edge.



Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements

Power, PSD, Bandwidth and Spurious Emissions - Chain B

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: 5/3/12, 5/4/12
Test Engineer: Jack Liu
Test Location: FT Power Fault, FT Lab3

Config. Used: 1
Config Change: none
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 24 °C
Rel. Humidity: 40 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	Pass	a: 50 mW n20: 93.3 mW n40: 93.3 mW
2	Power spectral Density (PSD)	15.247(d)	Pass	a:-12.7dBm/3kHz n20: -12.3dBm/3kHz n40: -12.5 dBm/3kHz
3	Minimum 6dB Bandwidth	15.247(a)	Pass	16.3 MHz
3	99% Bandwidth	RSS GEN	-	802.11a: 18.3 MHz n20: 29.9 MHz n40: 42.2 MHz
4	Spurious emissions	15.247(b)	Pass	All emissions below the limit

Modifications Made During Testing

No modifications were made to the EUT during testing

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Deviations From The Standard

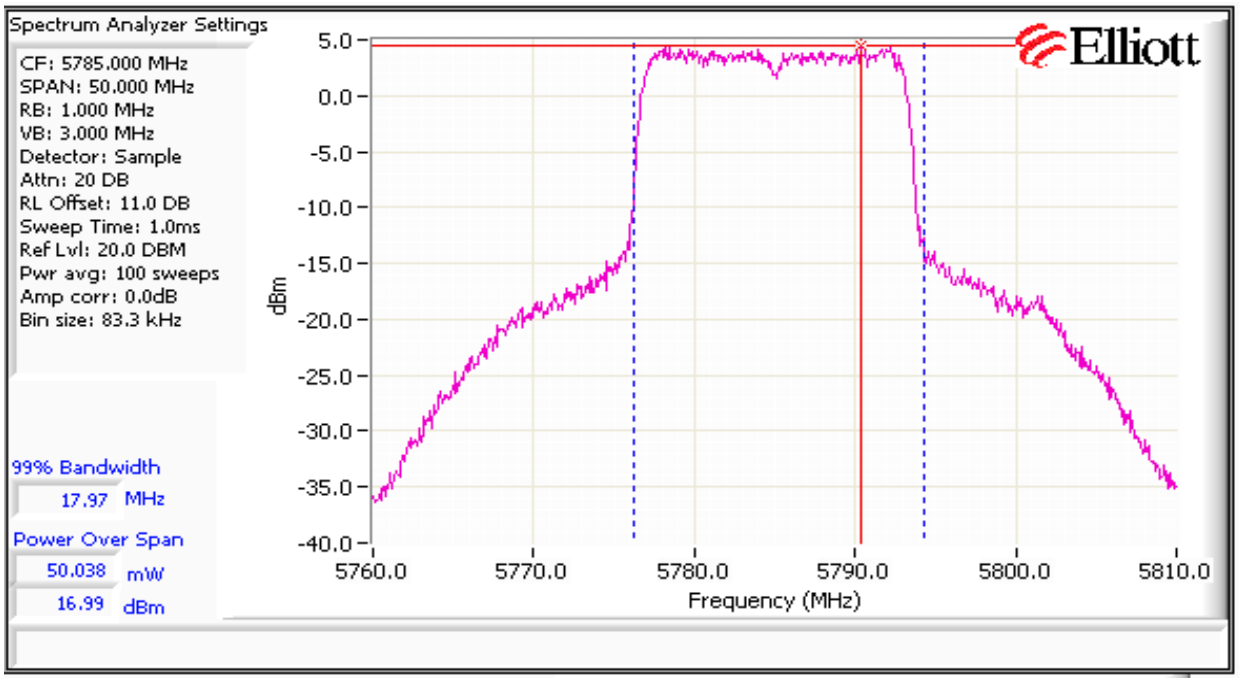
No deviations were made from the requirements of the standard.

Run #1: Output Power

802.11a Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm) [1]	Output Power mW	Antenna Gain (dBi) Gain (dBi)	Result	EIRP [Note 2] dBm	EIRP [Note 2] W	Output Power (dBm) [3]	Output Power mW
32.5	5745	16.8	47.9	5.0	Pass	21.8	0.151	16.1	41.1
32.5	5785	17.0	50.0	5.0	Pass	22.0	0.158	16.2	41.3
32.5	5825	16.5	45.0	5.0	Pass	21.5	0.142	16.2	41.8

Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, # of points in sweep ≥ 2*span/RBW, sample detector, power averaging on (transmitted signal was continuous) over 100 traces and power integration over the EBW (method AVG2 of KDB 558074).
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.



Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 20MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi) Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
32.5	5745	19.7	93.3	5.0	Pass	24.7	0.295	16.1	40.9
32.5	5785	19.7	93.3	5.0	Pass	24.7	0.295	16.1	40.8
32.5	5825	19.7	93.3	5.0	Pass	24.7	0.295	16.2	41.2

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

802.11n 40MHz Mode

Power Setting[2]	Frequency (MHz)	Output Power (dBm)[1]	Output Power mW	Antenna Gain (dBi) Gain (dBi)	Result	EIRP[Note 2] dBm	EIRP[Note 2] W	Output Power (dBm)[3]	Output Power mW
33.5	5755	19.7	93.3	5.0	Pass	24.7	0.295	16.1	40.3
33.5	5795	19.7	93.3	5.0	Pass	24.7	0.295	16.1	40.3

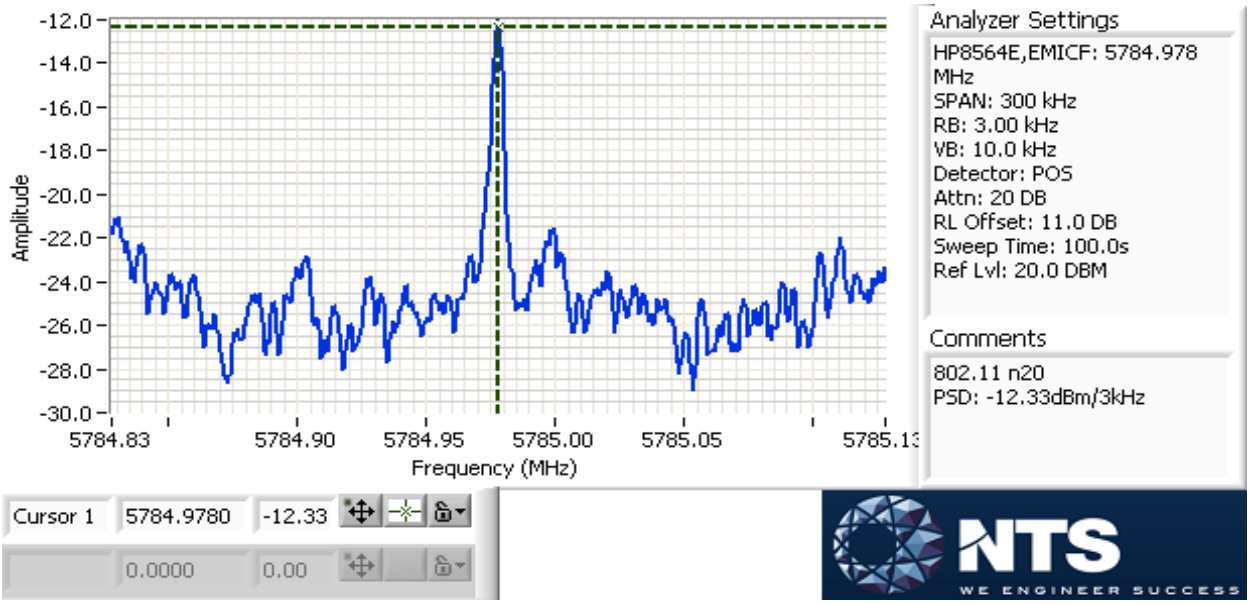
Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	Power setting - the software power setting used during testing, included for reference only.
Note 3:	Power measured using average power meter and is included for reference only.

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
802.11a	32.5	5745	-12.7	8.0	Pass
	32.5	5785	-12.8	8.0	Pass
	32.5	5825	-13.0	8.0	Pass
802.11n 20MHz	32.5	5745	-12.7	8.0	Pass
	32.5	5785	-12.3	8.0	Pass
	32.5	5825	-12.8	8.0	Pass
802.11n 40MHz	33.5	5755	-12.5	8.0	Pass
	33.5	5795	-12.5	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

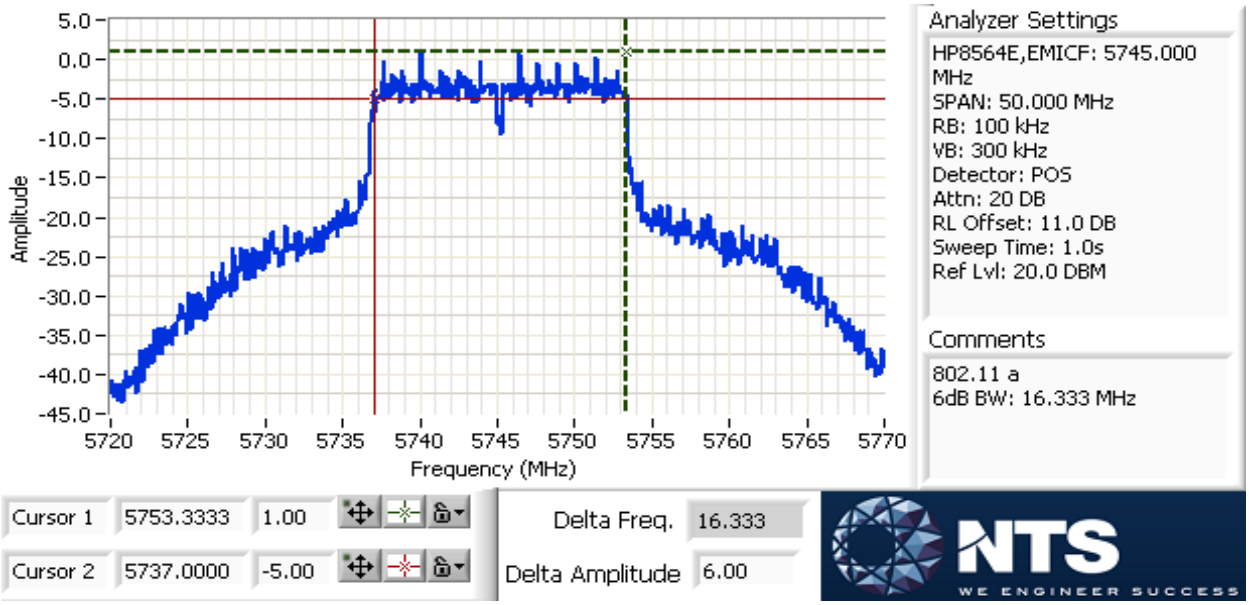


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz) 6dB	99%
802.11a	32.5	5745	100kHz/1MHz	16.33	18.3
	32.5	5785	100kHz/1MHz	16.42	18.0
	32.5	5825	100kHz/1MHz	16.33	17.8
802.11n 20MHz	32.5	5745	100kHz/1MHz	17.33	29.9
	32.5	5785	100kHz/1MHz	17.33	29.2
	32.5	5825	100kHz/1MHz	17.5	28.9
802.11n 40MHz	33.5	5755	100kHz/1MHz	35.067	42.2
	33.5	5795	100kHz/1MHz	35.067	40.5

Note 1:	99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB

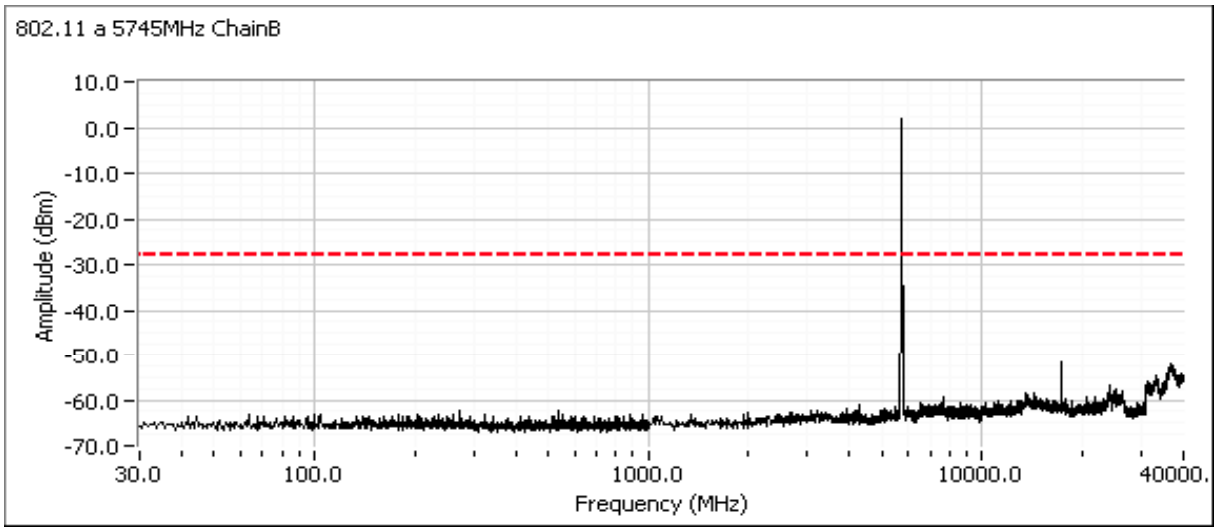


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #4: Out of Band Spurious Emissions
802.11a Mode

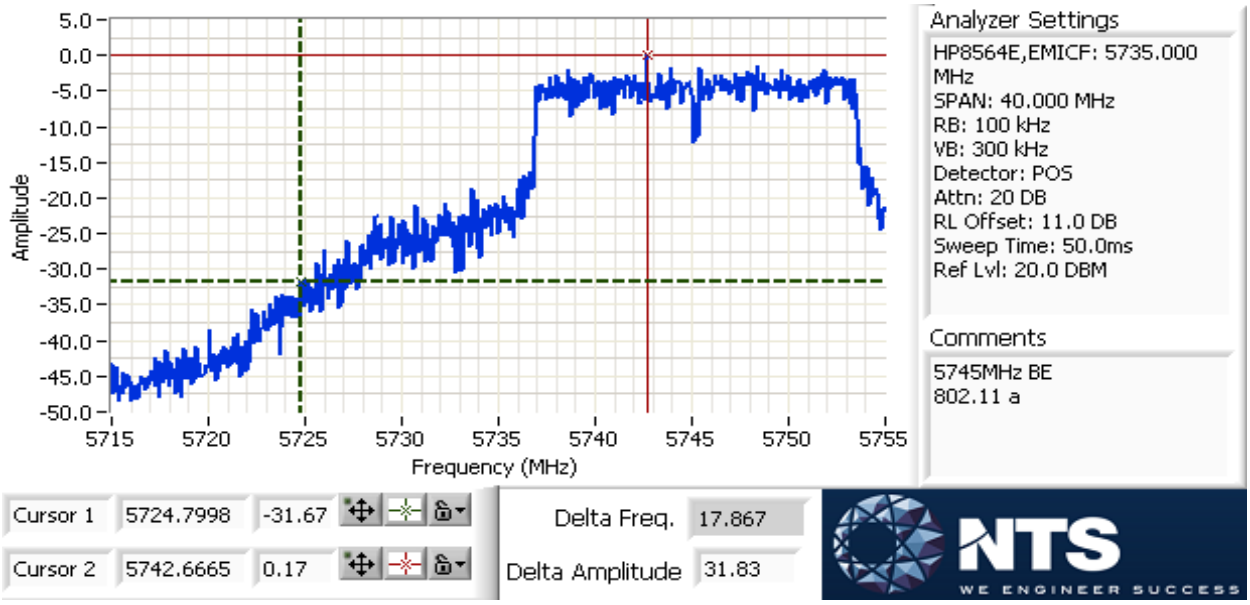
Frequency (MHz)	Limit	Result
5745	-30dBc	Pass
5785	-30dBc	Pass
5825	-30dBc	Pass

Plots for low channel, power setting(s) = 32.5

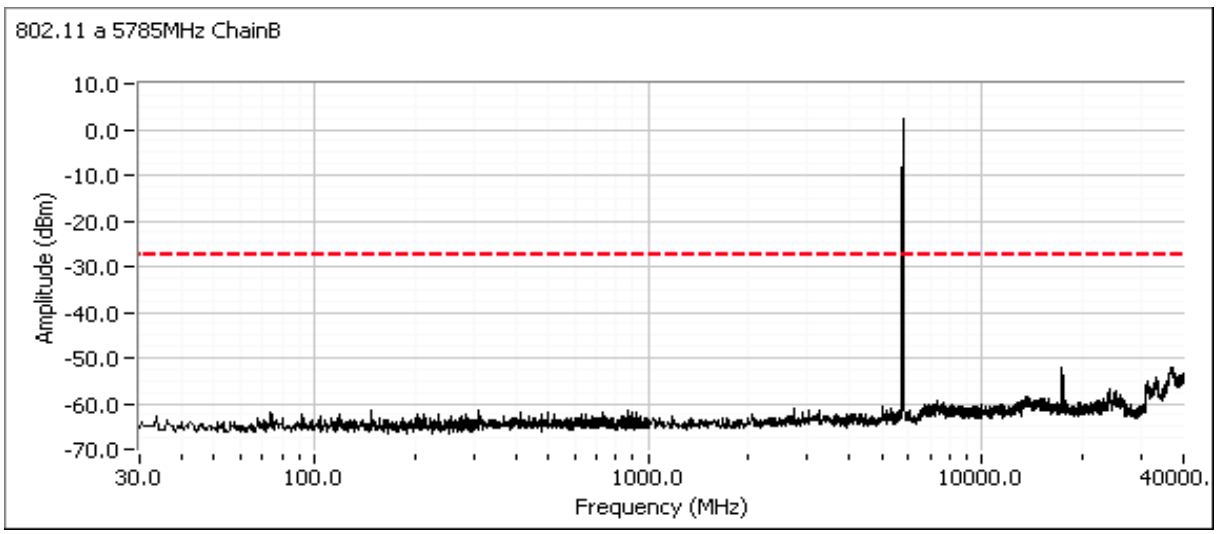


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.

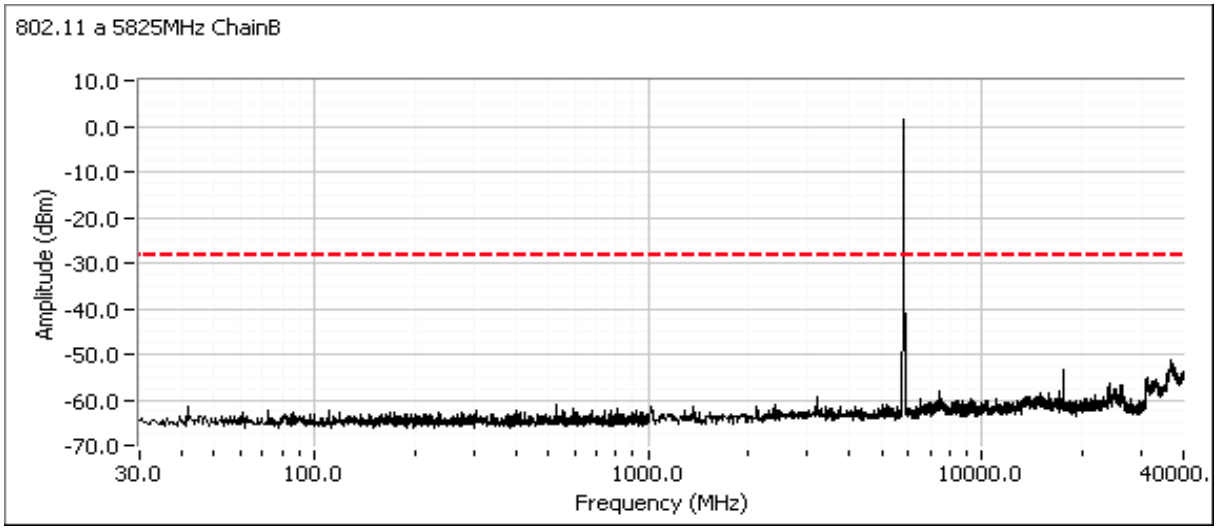


Plots for center channel, power setting(s) = 32.5

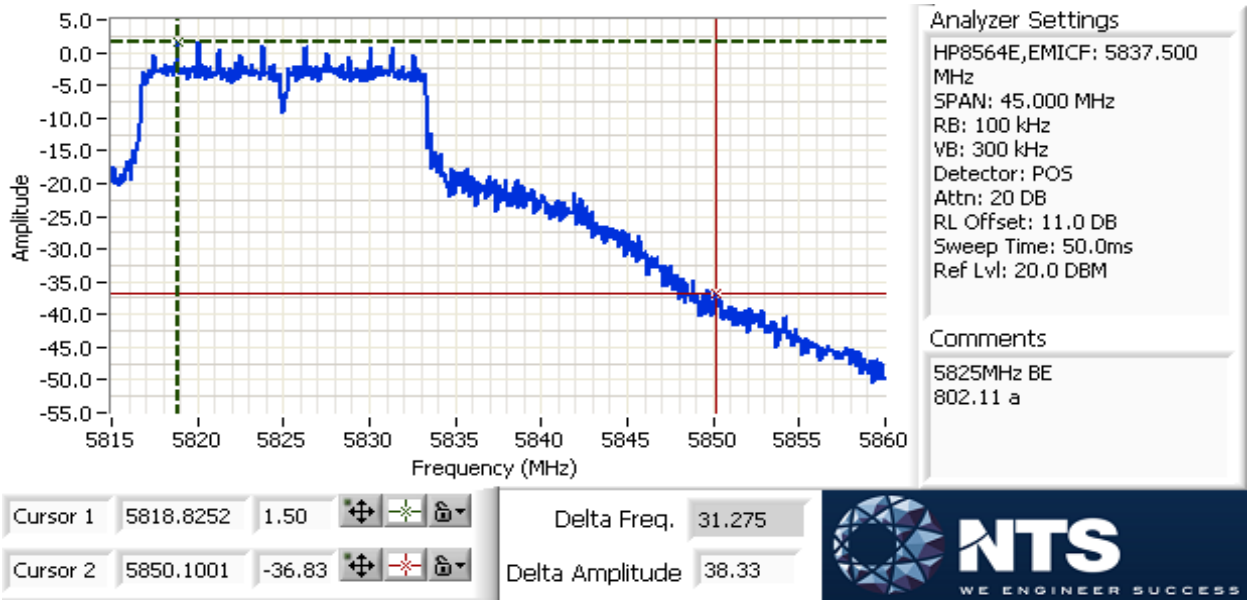


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for high channel, power setting(s) = 32.5



Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.

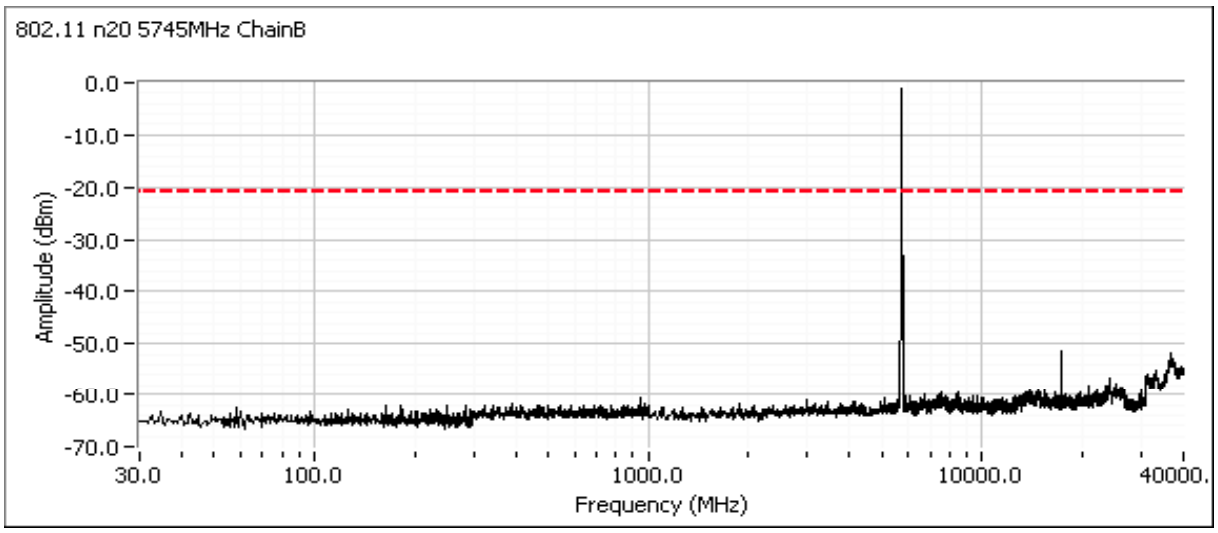


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 20MHz Mode

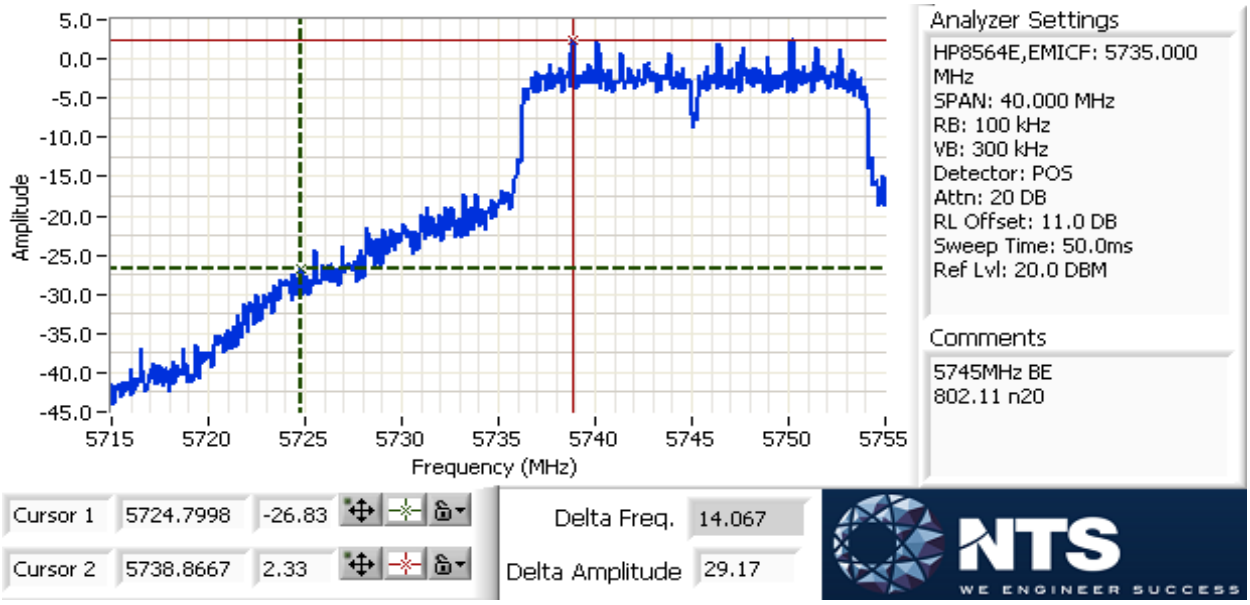
Frequency (MHz)	Limit	Result
5745	-20dBc	Pass
5785	-20dBc	Pass
5825	-20dBc	Pass

Plots for low channel, power setting(s) = 32.5

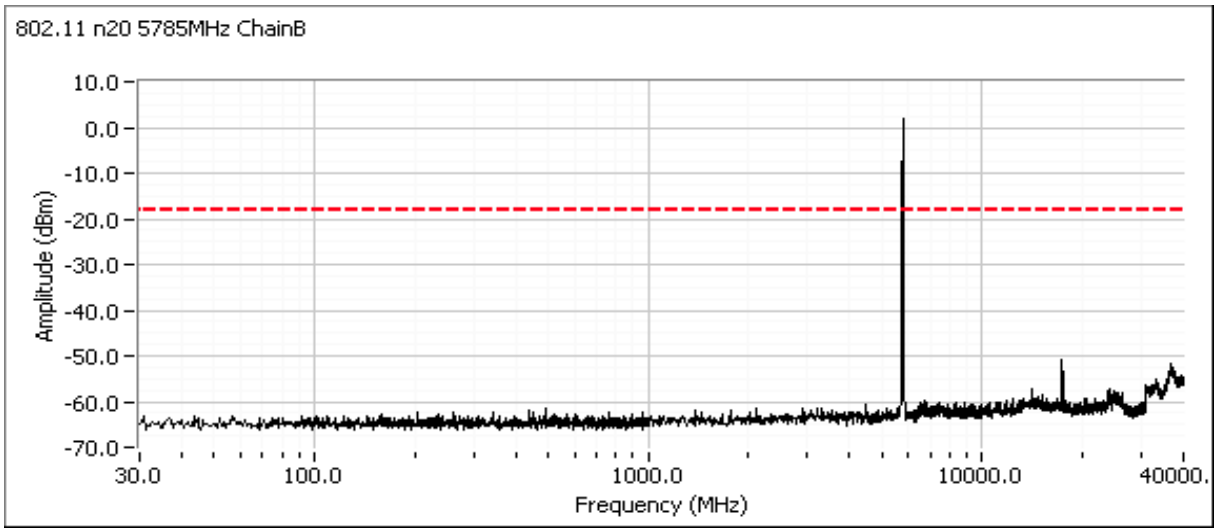


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.

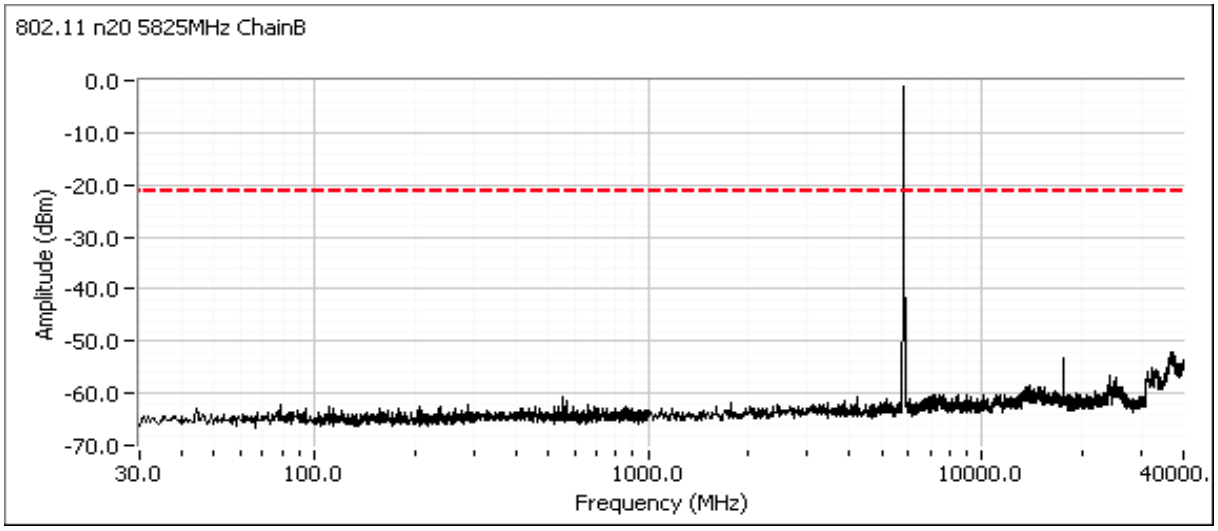


Plots for center channel, power setting(s) = 32.5

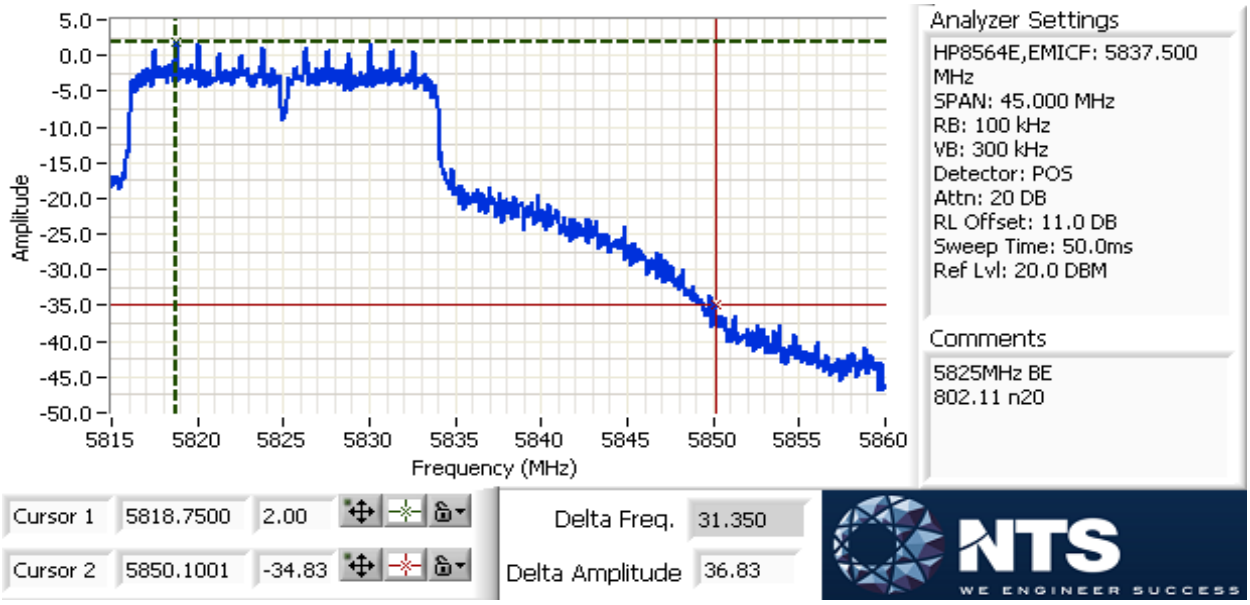


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Plots for high channel, power setting(s) = 32.5



Additional plot from 5820 - 5860 MHz showing compliance with -20dBc at the band edge.

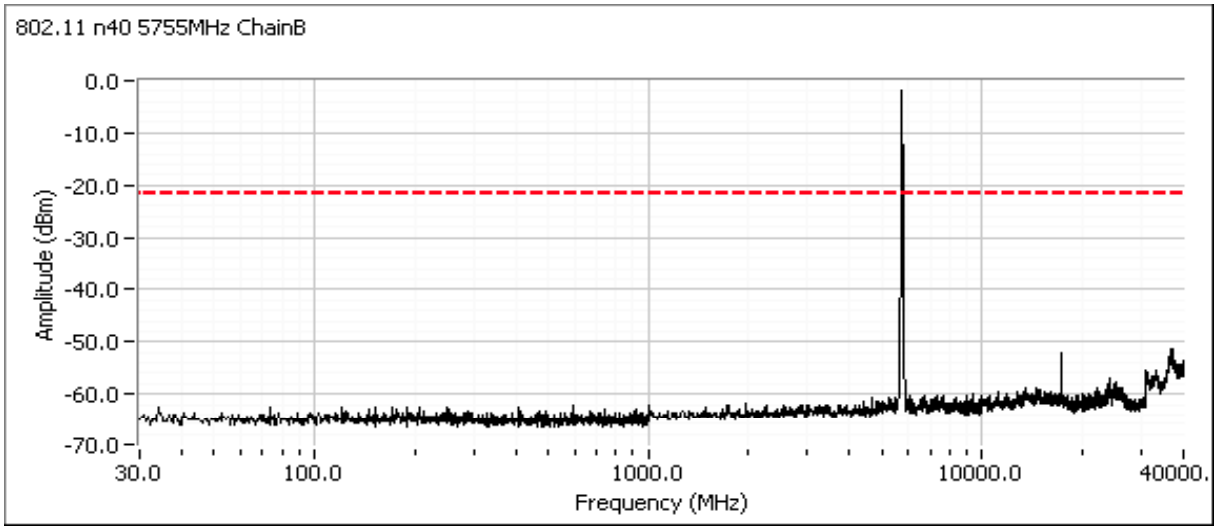


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 40MHz Mode

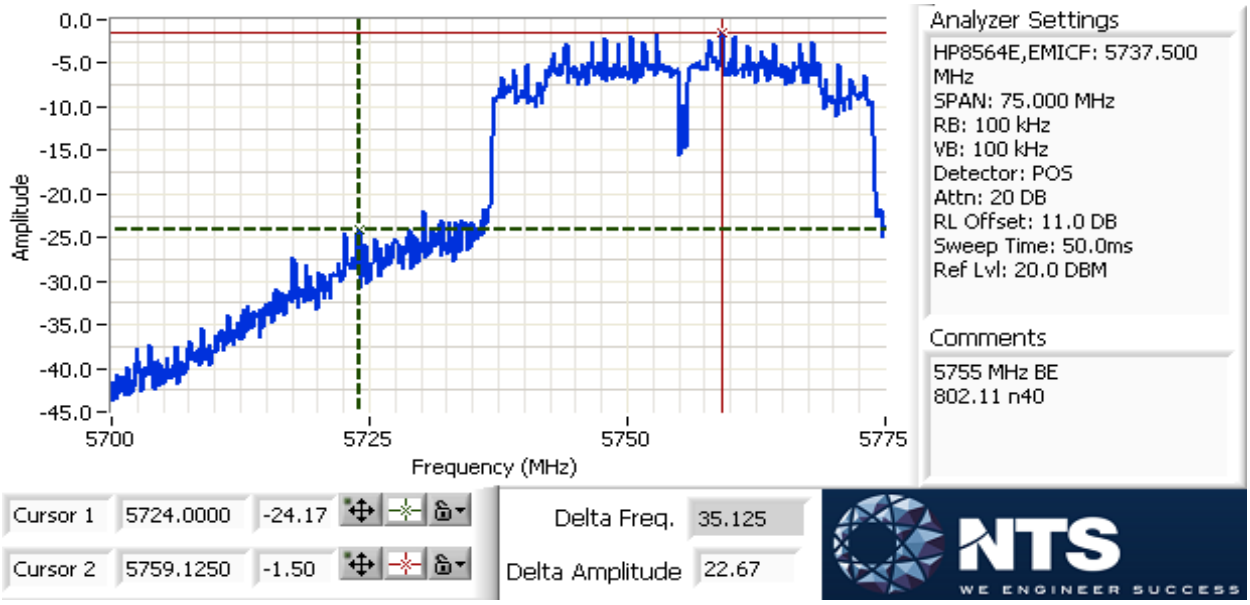
Frequency (MHz)	Limit	Result
5755	-20dBc	Pass
5795	-20dBc	Pass

Plots for low channel, power setting(s) = 33.5

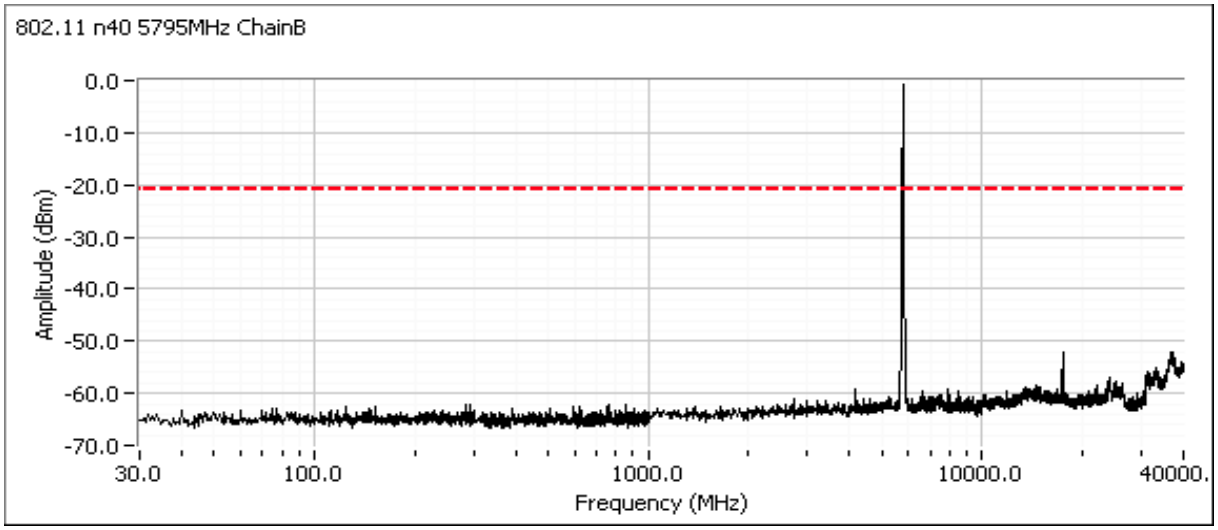


Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.

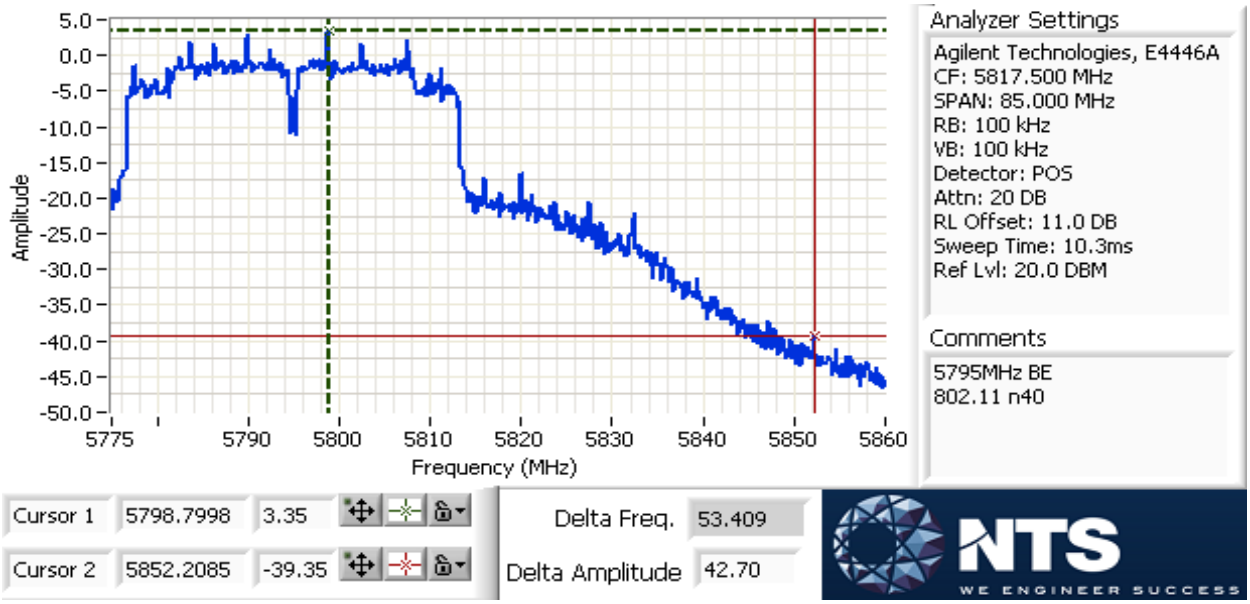


Plots for high channel, power setting(s) = 33.5



Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Additional plot from 5785 - 5860 MHz showing compliance with -20dBc at the band edge.



Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements
MIMO Antenna Systems - Chain A+B
Power, PSD, Bandwidth and 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: 5/4/2012
Test Engineer: Jack Liu
Test Location: FT Lab 3

Config. Used: 1
Config Change: None
Host Unit Voltage 120V/60Hz

General Test Configuration

The EUT was connected to the spectrum analyzer or power meter via a suitable attenuator. All measurements were made on a single chain.

All measurements have been corrected to allow for the external attenuators used.

Ambient Conditions:

Temperature: 24 °C
Rel. Humidity: 40 %

Summary of Results

MAC Address: 44850006301F DRTU Tool Version 1.5.4.0399 Driver version 15.1.0.99

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
Chain A + B						
1	See Below	See Below	Output Power, Peak for n20, n40	15.247(b)	Pass	n20: 0.095W n40: 0.100W
2	See Below	See Below	Power spectral Density (PSD)	15.247(d)	Pass	n20: -13dBm/3kHz n40: -11.5dBm/3kHz
3			Minimum 6dB Bandwidth	15.247(a)		covered by
3			99% Bandwidth	RSS GEN		single chain
4			Spurious emissions	15.247(b)		Measurements

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:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

Run #1: Output Power - Chain A + B

Operating Mode: MIMO

Transmitted signal on chain is coherent ? Yes

802.11n 20MHz 5745 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	34.0	33.5						
Average power Note 3	13.2	13.0						
Output Power (dBm) Note 1	16.8	16.7			19.8 dBm	0.095 W	28.0 dBm	0.629 W
Antenna Gain (dBi) Note 2	5	5			8.0 dBi		Pass	
eirp (dBm) Note 2	21.8	21.7			27.8 dBm	0.599 W		

802.11n 20MHz 5785 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	34.0	33.5						
Average power Note 3	13.1	13.0						
Output Power (dBm) Note 1	16.7	16.7			19.7 dBm	0.094 W	28.0 dBm	0.629 W
Antenna Gain (dBi) Note 2	5	5			8.0 dBi		Pass	
eirp (dBm) Note 2	21.7	21.7			27.7 dBm	0.592 W		

802.11n 20MHz 5825 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	34.0	33.5						
Average power Note 3	13.1	13.0						
Output Power (dBm) Note 1	16.6	16.7			19.7 dBm	0.092 W	28.0 dBm	0.629 W
Antenna Gain (dBi) Note 2	5	5			8.0 dBi		Pass	
eirp (dBm) Note 2	21.6	21.7			27.7 dBm	0.585 W		

Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain
Note 3:	Power setting and average power are for reference only. Average power is the power measured using an average power sensor. Power setting is the power setting used in the test utility.

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A

802.11n 40MHz 5755 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	36.0	35.5						
Average power Note 3	13.5	13.4						
Output Power (dBm) Note 1	17	17			20.0 dBm	0.100 W	28.0 dBm	0.629 W
Antenna Gain (dBi) Note 2	5	5			8.0 dBi		Pass	
eirp (dBm) Note 2	22	22			28.0 dBm	0.634 W		

802.11n 40MHz 5795 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting Note 3	36.0	35.5						
Average power Note 3	13.5	13.4						
Output Power (dBm) Note 1	17	17			20.0 dBm	0.100 W	28.0 dBm	0.629 W
Antenna Gain (dBi) Note 2	5	5			8.0 dBi		Pass	
eirp (dBm) Note 2	22	22			28.0 dBm	0.634 W		

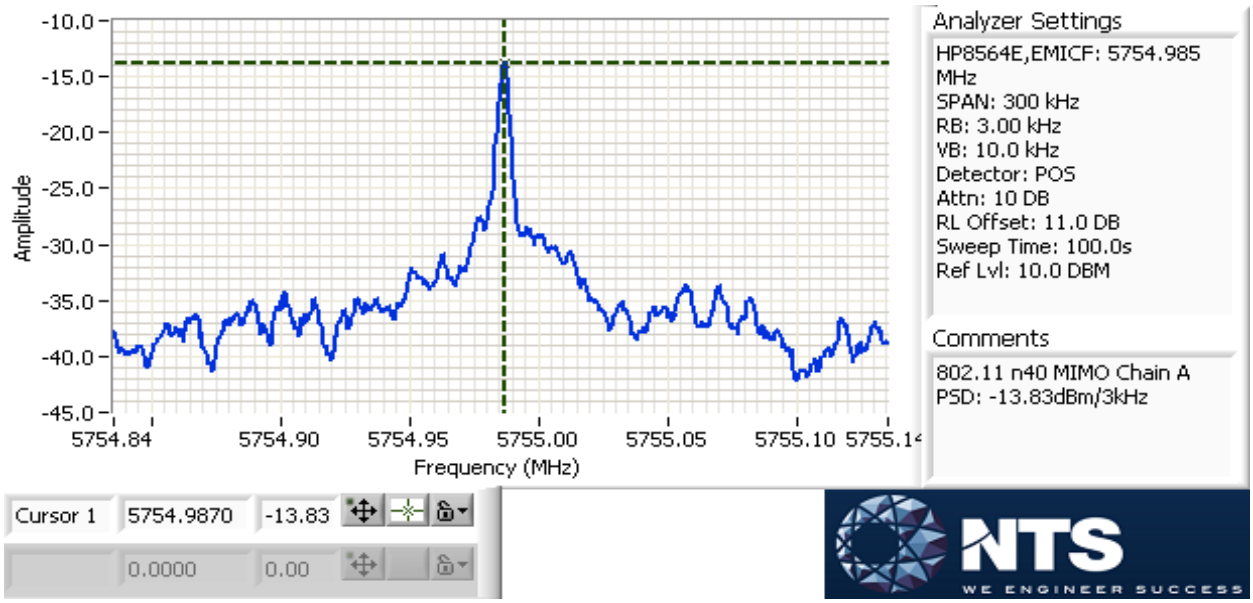
Note 1:	Output power measured using a peak power meter, spurious limit is -20dBc.
Note 2:	As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain
Note 3:	Power setting and average power are for reference only. Average power is the power measured using an average power sensor. Power setting is the power setting used in the test utility.

Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1 Chain 1	Chain 2	Chain 3	Chain 4	Total	Limit dBm/3kHz	Result
802.11n 20MHz mode								
34 / 33.5	5745	-15.7	-16.3			-13.0	8.0	Pass
34 / 33.5	5785	-15.8	-16.2			-13.0	8.0	Pass
34 / 33.5	5825	-16.0	-16.3			-13.1	8.0	Pass
802.11n 40MHz mode								
36 / 35.5	5755	-13.8	-15.3			-11.5	8.0	Pass
36 / 35.5	5795	-13.8	-15.5			-11.6	8.0	Pass

Note 1:	Power spectral density measured using RB=3 kHz, VB=10kHz, analyzer with peak detector and with a sweep time set to ensure a dwell time of at least 1 second per 3kHz. The measurement is made at the frequency of PPSD determined from preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

Client:	Intel Corporation	Job Number:	J87129
Product:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T87656
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247, 15.407	Class:	N/A



End of Report

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marks the last page of this test report.