

EMC Test Report

Industry Canada RSS-Gen Issue 2 / RSS 210 Issue 7 FCC Part 15 Subpart C

Intel® Centrino® Advanced-N 6235, models 6235ANHMW and 6235ANHU

IC CERTIFICATION #: 1000M-6235ANH and 1000M-6235ANHU

FCC ID: PD96235ANH and PD96235ANHU

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-4, 2845-5, 2845B-7

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PROGRAM MGR /

TECHNICAL REVIEWER:

David W. Bare Chief Engineer QUALITY ASSURANCE DELEGATE / FINAL REPORT PREPARER:

David Guidotti Senior Technical Writer



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Test Report Report Date: September 27, 2011

REVISION HISTORY

Rev#	Date	Comments	Modified By
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SCOPE

An electromagnetic emissions test has been performed on the Intel Corporation model Intel® Centrino® Advanced-N 6235, models 6235ANHMW and 6235ANHU, 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 KDB558074, March 2005

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.

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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 the Intel® Centrino® Advanced-N 6235, models 6235ANHMW and 6235ANHU complied with the requirements of the following regulations:

Industry Canada RSS-Gen Issue 2

RSS 210 Issue 7 "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 the Intel® Centrino® Advanced-N 6235, models 6235ANHMW and 6235ANHU and therefore apply only to the tested samples. The samples were selected and prepared by Steve Hackett of Intel Corporation.

DEVIATIONS FROM THE STANDARDS

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

TEST RESULTS SUMMARY

DIGITAL TRANSMISSION SYSTEMS (2400 - 2483.5MHz)

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Systems uses OFDM / DSSS techniques	System must utilize digital transmission technology	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	Bluetooth - 735 kHz 802.11 – 10.0 MHz	>500kHz	Complies
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	Bluetooth 4.8mW 802.11b: 49 mW 802.11g: 38 mW n20: 41 mW n40: 34 mW EIRP max = 102mW	1Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	-6.9 dBm / 3kHz	8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz	All spurious more than -30dBc.	< -30dBc Note 2	Complies
15.247(c) / 15.209	RSS 210 A8.5	Radiated Spurious Emissions 30MHz – 25 GHz	53.0dBµV/m @ 2390.0MHz	15.207 in restricted bands, all others <-30dBc Note 2	Complies (-1.0dB)

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 techniques	System must utilize digital transmission technology	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	16.3MHz	>500kHz	Complies
15.247 (b)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	802.11a: 39.8 mW n20: 39.8 mW n40: 246 mW EIRP = 0.778 W Note 1	1Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	-7.7 dBm / 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 for n40 mode and below - 30dBc for 802.11a and n20 modes.	< -20dBc < -30dBc Note 2	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 40 GHz	49.4dBμV/m @ 11650.5MHz	15.207 in restricted bands, all others < -20dBc / <-30dBc ²	Complies (-4.6dB)

Note 1: EIRP calculated using antenna gain of 5.0 dBi for the highest EIRP system.

Note 2: Limit of -30dBc used for 802.11a and 802.11n 20MHz modes because the power was measured using the UNII test procedure (maximum power averaged over a transmission burst). The limit for 802.11n 40Mhz mode was -20dBc because the power measurements are 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	Integral or unique connector required	Complies
15.109	RSS GEN 6.1 Table 2	Receiver spurious emissions	41.2dBµV/m @ 662.52MHz	Refer to page 20	Complies (-4.8dB)
15.207	RSS GEN Table 4	AC Conducted Emissions	40.6dBμV @ 14.758MHz	Refer to page 19	Complies (-9.4dB)
15.247 (b) (5) 15.407 (f)	RSS-GEN 5.6 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	User Manual	Refer to page 11 of the user's manual	Statement required regarding non-interference	Complies
-	RSP 100 RSS GEN 7.1	User Manual	Not applicable, antenna is integral to host systems.	Statement for products with detachable antenna	N/A
-	RSP 100 RSS GEN 4.6.1	99% Bandwidth (2400-2483.5MHz)	Bluetooth: 1.06 MHz 802.11b: 13.6 MHz 802.11g: 17.1 MHz n20: 18.3 MHz n40: 36.6 MHz	Information only	N/A
		99% Bandwidth (5725-5850 MHz)	802.11a: 17.6MHz n20: 18.7 MHz n40: 38.8 MHz		

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)
15.247 / 15.209	RSS 210	Spurious emissions	51.7dBµV/m @ 2360.0MHz	15.209 in restricted bands, all others < -20dBc	Complies (-2.3dB)

MEASUREMENT UNCERTAINTIES

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

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

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Intel® Centrino® Advanced-N 6235, models 6235ANHMW and 6235ANHU 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 only operation mode is a 1x1. 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 and two different model numbers (see table below). The models/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.

Samples were received on September 13, 2010 and August 31, 2011 and tested on September 13-17, 20, 21, 28, 29, 30, October 1, 4, 2010, August 31, 2011, September 2 and 8, 2011. The EUT is:

Manufacturer	Model	Description	MAC Address	FCC ID and Canada UPN
Intel Corporation	6235ANHMW	PCIe Half Mini Card form factor Bluetooth / IEEE	00150079AD10	PD96235ANH PD96235ANHU 1000M-6235ANH
Intel Corporation	poration 6235ANHU	802.11a/b/g/n wireless network adapter	001300/9AD10	1000M-6235ANHU

ANTENNA SYSTEM

The EUT antenna is 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	1	Test Fixture	D9164573K0B0	N/A
DELL	Latitude D520	Laptop PC	HM9383J	N/A
Agilent	E3610A	DC Supply	MY4001740	N/A

EUT INTERFACE PORTS

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

Port	Connected		Cable(s)	
ron	То	Description	Shielded or Unshielded	Length(m)
Laptop USB	Fixture USB	USB cable	Shielded	
Laptop Mini PCI	Fixture PCIe	Ribbon	unshielded	
DC Power	Fixture DC power	2-wire	unshielded	

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 – 802.11a, 802.11b, 802.11g, 802.11n (20 MHz channel bandwidth) and 802.11n (40MHz channel bandwidth), Bluetooth 1Mb/s, Bluetooth 3Mb/s and Bluetooth Low Energy. 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 intermodulation products were created.

The data rates used when evaluating the WiFi transmitter 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.

Bluetooth operation was evaluated at both 1Mb/s and 3Mb/s and Low Energy data rates. 2Mb/s data rate was found, through preliminary testing, to produce emissions similar to those for 3Mb/s.

Receiver spurious emissions in 802.11 modes were evaluated in single chain and multichain modes. Bluetooth receiver spurious emissions were evaluated for single chain only as MISO is not supported for Bluetooth.

The PC was using the Intel test utility DRTU Version 1.2.12-0197 and the device driver was version 14.0.0.39 except for the Bluetooth Low Energy testing which used versions 1.5.3-0320 and 15.0.0.51 respectively.

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	Registratio	Location		
Site	FCC	Canada	Location	
Chamber 4	211948	2845B-4	41039 Boyce Road	
Chamber 7	A2LA accreditation	2845B-7	Fremont, CA 94538-2435	

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.

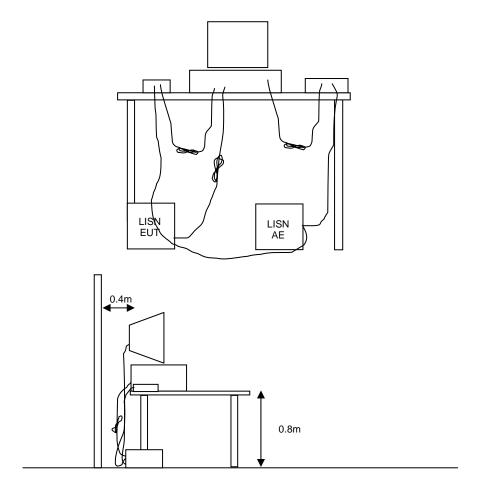
TEST PROCEDURES

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.



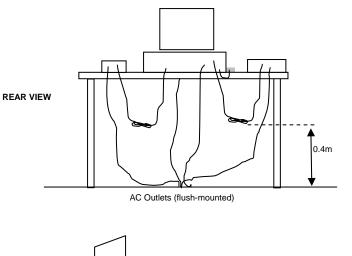
RADIATED EMISSIONS

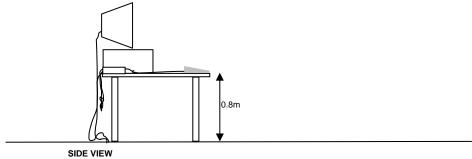
A preliminary scan of the radiated emissions is performed in which all significant EUT frequencies are identified with the system in a nominal configuration. At least two scans are performed, one scan for each antenna polarization (horizontal and vertical; loop parallel and perpendicular to the EUT). 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.

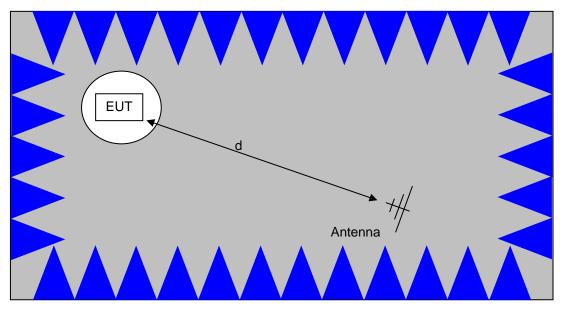
Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth, which results in the highest emission is then maintained while varying the antenna 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.



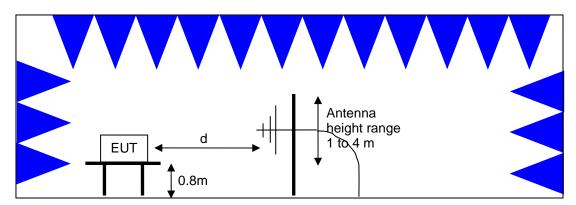


Typical Test Configuration for Radiated Field Strength Measurements



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.



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

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 bands¹ (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

Appendix A Test Equipment Calibration Data

	ripperium reet =quipment			
Radio Antenna Port (E <u>Manufacturer</u> EMCO	Bandedge), 13,14-Sep-10 Description Antenna, Horn, 1-18 GHz (SA40-Red)	<u>Model</u> 3115	Asset # 1142	<u>Cal Due</u> 8/2/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	8/26/2011
Radio Antenna Port (E	Sandedge) 15-Sep-10			
Manufacturer	Description	Model	Asset #	Cal Due
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/14/2011
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/22/2012
Dad'a Assaula Dad (D	2 de dos). 40 O 40			
Radio Antenna Port (B				0.15
Manufacturer	<u>Description</u>	Model	Asset #	Cal Due
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40)	8564E (84125C)	1771	8/26/2011
	Purple			
Padia (Spurious Emis	sions) 16 Son 10			
Radio (Spurious Emis		Madal	A + #	Cal Dua
Manufacturer Date of Carlo	<u>Description</u>	Model	<u>Asset #</u>	Cal Due
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/22/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	8/26/2011
Rohde & Schwarz	Attenuator, 20 dB, 10W, DC-18	20dB, 10W, Type N	1795	6/2/2011
	GHz			
Rohde & Schwarz	Power Sensor 100 uW - 10	NRV-Z53	1796	6/2/2011
	Watts			
Radiated Emissions T	OTS Bandedge, 17-Sep-10			
Manufacturer	<u>Description</u>	Model	Asset #	Cal Due
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40)	8564E (84125C)	1771	8/26/2011
newiell Fackaru	Purple	0304E (04123C)	1771	0/20/2011
Rohde & Schwarz	Power Sensor 100 uW - 10 Watts	NRV-Z53	1555	2/5/2011
Rohde & Schwarz	Attenuator, 20 dB, 50 ohm, 10W, DC-18 GHz	20dB, 10W, Type N	1556	2/5/2011
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1787	12/4/2010
	•			
DTS Spurs, 20-Sep-10				
<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	Asset #	Cal Due
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	870	6/25/2011
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/10/2011
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	8/26/2011
Radiated Emissions 1	000 - 26,500 MHz, 20-Sep-10			
Manufacturer	Description	Model	Asset #	Cal Due
EMCO		3115		7/6/2012
	Antenna, Horn, 1-18 GHz		487	
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	870	6/25/2011
Rohde & Schwarz	Power Sensor 100 uW - 10	NRV-Z53	1555	2/5/2011

		The point 2	are. Septem	, , , , , , , , , , , , , , , , , , , ,
	Watts			
Rohde & Schwarz	Attenuator, 20 dB, 50 ohm,	20dB, 10W, Type N	1556	2/5/2011
	10W, DC-18 GHz			
Micro-Tronics	Band Reject Filter, 2400-2500	BRM50702-02	1683	8/10/2011
	MHz			
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40)	8564E (84125C)	1771	8/26/2011
Handatt Daalrand	Purple	044050	4770	E/C/0044
Hewlett Packard	Head (Inc W1-W4, 1946, 1947) Purple	84125C	1772	5/6/2011
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1787	12/4/2010
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	3/18/2011
	1000 - 40,000 MHz, 21-Sep-10	OAO 374, p/11. 2301	2100	3/10/2011
Manufacturer	Description	<u>Model</u>	Asset #	Cal Due
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Hewlett Packard	Microwave Preamplifier, 1-	8449B	870	6/25/2011
riomon r donard	26.5GHz	01102	0.0	0,20,2011
Micro-Tronics	Band Reject Filter, 5725-5875	BRC50705-02	1728	2/1/2011
	MHz	2.1000.000	0	_, .,_•
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40)	8564E (84125C)	1771	8/26/2011
	Purple	(,		
Hewlett Packard	Head (Inc W1-W4, 1946, 1947)	84125C	1772	5/6/2011
	Purple			
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	3/18/2011
	s - AC Power Ports, 28-Sep-10	•		
<u>Manufacturer</u>	Description	<u>Model</u>	Asset #	Cal Due
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	372	2/3/2011
Solar Electronics	LISN	8028-50-TS-24-BNC	904	3/2/2011
		support		
EMCO	LISN, 10 kHz-100 MHz	3825/2	1292	3/12/2011
Hewlett Packard	EMC Spectrum Analyzer, 9 KHz	8593EM	1319	10/19/2010
	- 22 GHz			
Rohde & Schwarz	Test Receiver, 9 kHz-2750 MHz	ESCS 30	1337	11/11/2010
	30 - 1,000 MHz, 28-Sep-10			
<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	Asset #	Cal Due
Hewlett Packard	EMC Spectrum Analyzer, 9 KHz	8593EM	1319	10/19/2010
	- 22 GHz			
Rohde & Schwarz	Test Receiver, 9 kHz-2750 MHz	ESCS 30	1337	11/11/2010
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548	6/24/2012
Com-Power Corp.	Preamplifier, 30-1000 MHz	PAM-103	2234	5/19/2011
	Power and Spurious Emissions),			
<u>Manufacturer</u>	<u>Description</u>	Model	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT	8564E (84125C)	1393	4/14/2011
Dalala o Oalaaa	(SA40) Blue	NDV 700	4500	0/40/0044
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts	NRV-Z32	1536	9/13/2011
Dalala 0 Oak	(w/ 20 dB pad, SN BJ5155)	NDV 750	4555	0/5/0044
Rohde & Schwarz	Power Sensor 100 uW - 10	NRV-Z53	1555	2/5/2011
Dobdo 9 Cobworz	Watts	20dB 10W Type N	1556	0/5/0011
Rohde & Schwarz	Attenuator, 20 dB , 50 ohm,	20dB, 10W, Type N	1556	2/5/2011
	10W, DC-18 GHz			
DE Wijei 9 DT Simul	taneous Tx, 30-Sep-10			
		Model	Accet #	Cal Dua
Manufacturer	Description Microwaya Proposition 1	Model 9440B	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	263	12/15/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	786	12/11/2011
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT	8564E (84125C)	1393	4/14/2011
i iowick i achaiu	(SA40) Blue	0007L (071200)	1000	7/17/2011
	(OATO) Dide			

Test Report Report Date: September 27, 2011

		кероп Д	ане. Зернети	per 27, 2011
Rohde & Schwarz	Power Sensor 100 uW - 10 Watts	NRV-Z53	1555	2/5/2011
Rohde & Schwarz	Attenuator, 20 dB , 50 ohm, 10W, DC-18 GHz	20dB, 10W, Type N	1556	2/5/2011
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	8/10/2011
Radio Spurious and P	Power, 01-Oct-10			
Manufacturer	<u>Description</u>	Model	Asset #	Cal Due
Hewlett Packard	SpecAn 9 KHz-26.5 GHz, Non- Program	8563E	284	1/29/2011
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/8/2012
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Rohde & Schwarz	Power Sensor 100 uW - 10 Watts	NRV-Z53	1555	2/5/2011
Hewlett Packard	Microwave Preamplifier, 1- 26.5GHz	8449B	2199	1/11/2011
Radiated Emissions, (05. 06-Oct-10			
Manufacturer	Description	Model	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Rohde & Schwarz	Power Sensor 100 uW - 10	NRV-Z53	1555	2/5/2011
	Watts			
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/22/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	8/26/2011
	1000 - 26,500 MHz, 31-Aug-11			
<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	Asset #	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	12/8/2011
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	8/15/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2249	10/11/2011
Radio Antenna Port (F	Power and Spurious Emissions), (02-Sep-11		
Manufacturer	<u>Description</u>	<u>Model</u>	Asset #	Cal Due
Hewlett Packard	SpecAn 30 Hz -40 GHz, SV (SA40) Red	8564E (84125C)	1148	8/15/2012
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts (w/ 20 dB pad, SN BJ5155)	NRV-Z32	1536	9/13/2011
Rohde & Schwarz	Power Meter, Dual Channel	NRVD	1539	9/13/2011
	1,000 - 10,000 MHz, 08-Sep-11		_	
<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	5/18/2012
EMCO	Antenna, Horn, 1-18 GHz	3115	786	12/11/2011
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	8/9/2012
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	2238	10/1/2011

Appendix B Test Data

T80540.2	
AC Conducted Emissions	Pages 27 - 109
Radiated Spurious Emissions	
T80759.2	Dogge 110 192
Antenna Port Measurements	Pages 110 - 183
T80540.2	
Radiated Spurious Emissions –	Degree 194 212
simultaneous transmissions from	Pages 184 - 213
Bluetooth and Wi-Fi transceivers	
T84484	
Bluetooth Low Energy Antenna	
port and Radiated Spurious	Dagga 214 226
Emissions including simultaneous	Pages 214 - 236
transmissions form Bluetooth and	
Wi-Fi transceivers	

Ellio Ellio	MC Test Data		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247	Class:	В
Immunity Standard(s):	-	Environment:	-

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test: 10/6/2010

EIIOTT An WZEJ company	EMC Test Data
Client: Intel Corporation	Job Number: J84365
Model: Intel® Centrino® Advanced-N 6235	T-Log Number: T80540.2
Widder. Inter® Centinio® Advanced-N 0233	Account Manager: Christine Krebill
Contact: Steve Hackett	
Standard: ECC 15 247	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: 9/28/2010 Config. Used: Modular Test
Test Engineer: Rafael Varelas Config Change: None
Test Location: FT Chamber #7 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: 21.9 °C

Rel. Humidity: 42 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

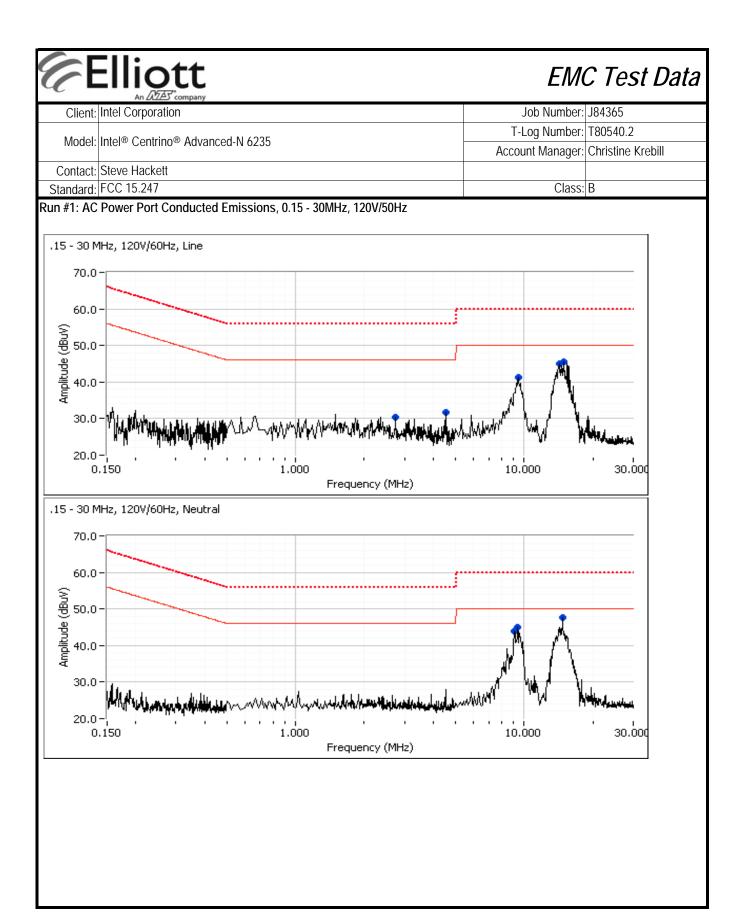
Run #	Test Performed	Limit	Result	Margin
1	CE, AC Power, 120V/60Hz	RSS 210 / 15.207	Pass	40.6dBµV @ 14.758MHz (-9.4dB)

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.



	Ellic	在 company					LIVI	C Test Da
Client	Intel Corpor	ation					Job Number:	J84365
NA1 - 1	L-1-1@ O1-	' ® A -l	- I.M. (225				T-Log Number:	T80540.2
Model	Intel® Centi	ino® Advanc	ed-IN 6235				Account Manager:	Christine Krebill
Contact	Steve Hack	ett						
Standard	FCC 15.247	1					Class:	В
	•					•		
						s. average limit)		
Frequency	Level	AC		ss B	Detector	Comments		
MHz	dΒμV	Line	Limit	Margin	QP/Ave			
2.739	30.4	Line 1	46.0	-15.6	Peak			
4.528	31.8	Line 1	46.0	-14.2	Peak			
9.571	41.2	Line 1	50.0	-8.8	Peak			
14.272	44.9	Line 1	50.0	-5.1	Peak			
14.925	45.4	Line 1	50.0	-4.6	Peak			
9.073	44.0	Neutral	50.0	-6.0	Peak			
9.336	44.9	Neutral	50.0	-5.1	Peak			
14.758	47.7	Neutral	50.0	-2.3	Peak			
		verage readi				1		
Frequency		AC		ss B	Detector	Comments		
MHz	dΒμV	Line	Limit	Margin	QP/Ave			
14.758	40.6	Neutral	50.0	-9.4	AVG	AVG (0.100s)		
14.272	40.1	Line 1	50.0	-9.9	AVG	AVG (0.100s)		
14.925	35.7	Line 1	50.0	-14.3	AVG	AVG (0.100s)		
14.272	44.8	Line 1	60.0	-15.2	QP	QP (1.000s)		
9.336	34.6	Neutral	50.0	-15.4	AVG	AVG (0.100s)		
	44.6	Neutral	60.0	-15.4	QP	QP (1.000s)		
14.758	32.7	Neutral	50.0	-17.3	AVG	AVG (0.100s)		
14.758 9.073			50.0	-17.4	AVG	AVG (0.100s)		
14.758 9.073 9.571	32.6	Line 1			0.0	QP (1.000s)		
14.758 9.073 9.571 14.925	32.6 42.4	Line 1 Line 1	60.0	-17.6	QP			
14.758 9.073 9.571	32.6			-17.6 -20.1	QP QP	QP (1.000s)		
14.758 9.073 9.571 14.925	32.6 42.4	Line 1	60.0					



Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
woder:	Intel® Centinio® Advanced-N 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	В

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: 9/28/2010 Config. Used: Modular Test
Test Engineer: Rafael Varelas Config Change: None
Test Location: FT Chamber #7 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: 21.9 °C Rel. Humidity: 42 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

Run #	Test Performed	Limit	Result	Margin
1	Radiated Emissions 30 - 1000 MHz	FCC 15.209 / RSS 210	Pass	41.2dBµV/m @ 662.52MHz (-4.8dB)

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

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.

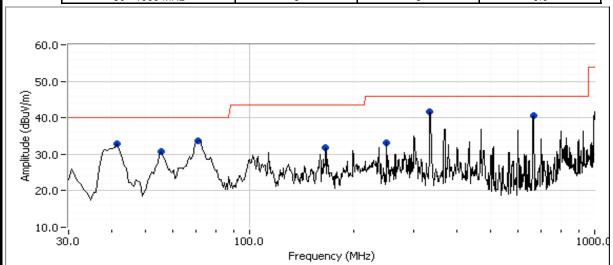


	The Date Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Intel® Centinio® Advanced-N 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	В

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

Configured to TX, 802.11b 16.5dBm on each chain (settings 23.5) 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 15.20 ^o	9 / RSS 210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
39.869	33.0	V	40.0	-7.0	Peak	185	2.5	
55.317	30.8	V	40.0	-9.2	Peak	333	1.0	
70.276	33.6	V	40.0	-6.4	Peak	40	1.0	
166.249	31.8	V	43.5	-11.7	Peak	202	1.0	
250.000	33.1	Н	46.0	-12.9	Peak	154	1.5	
299.217	36.3	Н	46.0	-9.7	Peak	172	1.0	
332.857	41.7	Н	46.0	-4.3	Peak	116	1.0	
662.560	40.5	V	46.0	-5.5	Peak	44	1.0	

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

Frequency	Level	Pol	FCC 15.209	9 / RSS 210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
662.515	41.2	V	46.0	-4.8	QP	44	1.0	QP (1.000s)
332.857	36.9	Н	46.0	-9.1	QP	116	1.0	QP (1.000s)
39.869	29.7	V	40.0	-10.3	QP	185	2.5	QP (1.000s)
70.276	29.3	V	40.0	-10.7	QP	40	1.0	QP (1.000s)
55.317	27.1	V	40.0	-12.9	QP	333	1.0	QP (1.000s)
166.249	27.3	V	43.5	-16.2	QP	202	1.0	QP (1.000s)
		•						



	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	III(e) Ceritiiii) Advanceu-ii 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin	
D # 1	n40	#3 2422MHz	16.5	10.5	Restricted Band Edge at 2400 MHz	15.209	52.6dBµV/m @ 2390.0MHz (-1.4dB)	
Run # 1	Chain A	#9 2452MHz	16.5	10.1	Restricted Band Edge at 2483.5 MHz	15.209	52.4dBµV/m @ 2483.5MHz (-1.6dB)	
Run # 2	n40	#4 2427MHz	16.5	10.5	Restricted Band Edge at 2400 MHz	15.209	52.3dBµV/m @ 2390.0MHz (-1.7dB)	
Rull# Z	Chain A	#8 2447MHz	16.5	10.2	Restricted Band Edge at 2483.5 MHz	15.209	52.9dBµV/m @ 2483.5MHz (-1.1dB)	
Run # 3	n40	#5 2432MHz	16.5	12.5	Restricted Band Edge at 2400 MHz	15.209	53.0dBµV/m @ 2390.0MHz (-1.0dB)	
Ruii# 3	Chain A	#7 2442MHz	16.5	11.2	Restricted Band Edge at 2483.5 MHz	15.209	52.0dBµV/m @ 2483.5MHz (-2.0dB)	
Run # 4	n40	#6 2437MHz	16.5	13.5	Restricted Band Edge at 2400 MHz	15.209	49.9dBµV/m @ 2390.0MHz (-4.1dB)	
Rull#4	Chain A		16.5	13.5	Restricted Band Edge at 2483.5 MHz	15.209	51.9dBµV/m @ 2483.5MHz (-2.1dB)	
Run # 5	n20 Chain A	#1 2412MHz	16.5	12.9	Restricted Band Edge at 2400 MHz	15.209	52.4dBµV/m @ 2390.0MHz (-1.6dB)	
Run # 5		#11 2462MHz	16.5	12.4	Restricted Band Edge at 2483.5 MHz	15.209	50.8dBµV/m @ 2483.5MHz (-3.2dB)	
Dun # /	802.11g	#1 2412MHz	16.5	14.1	Restricted Band Edge at 2400 MHz	15.209	51.9dBµV/m @ 2390.0MHz (-2.1dB)	
Run # 6	Chain A	thain A #11 16.5 13.9 Restricted Band Edge at 2462MHz 2463.5 MHz	15.209	52.8dBµV/m @ 2483.5MHz (-1.2dB)				
Run # 7	, 802.11b Chain A	#1 2412MHz	16.5	16.5	Restricted Band Edge at 2400 MHz	15.209	50.7dBµV/m @ 2389.6MHz (-3.3dB)	
Kull#/		#11 2462MHz	16.5	16.9	Restricted Band Edge at 2483.5 MHz	15.209	49.3dBµV/m @ 2485.3MHz (-4.7dB)	
Dun # 0	802.11n20	#2		15.7	Restricted Band Edge at 2400 MHz	16.209	52.7dBµV/m @ 2390.0MHz (-1.3dB)	
Run # 8	Chain A	Chain A		16.5	15.8	Restricted Band Edge at 2483.5 MHz	15.209	52.4dBµV/m @ 2390.0MHz (-1.6dB)

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.

	An ZAZZES company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	III(e) Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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: 15 - 55 % Temperature: 18 - 25 °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.

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 1, Band Edge Field Strength - n40, Chain A Date of Test: 9/14/2010 Test Location: FT Chamber#7 Test Engineer: Joseph Cadigal Config Change: none Run # 1a, EUT on Channel #3 2422MHz - n40, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 10.5 20.0 Chain A Fundamental Signal Field Strength Frequency Level 15.209 / 15.247 Detector Azimuth Height Comments Pol MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq meters degrees 2434.730 91.8 Н AVG 252 1.0 PK 2420.070 99.8 Н 252 1.0 2419.130 86.6 ٧ **AVG** 217 2.1 2416.000 94.7 ٧ PΚ 217 2.1 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta V Fundamental emission level @ 3m in 1MHz RBW: 99.8 94.7 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 91.8 86.6 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 37.0 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 62.8 dBuV/m Calculated Band-Edge Measurement (Avg) 54.8 dBuV/m Margin Level Limit Detector -1.4 52.6 35.8 dB 54 Delta Marker - 1MHz/1MHz: Avg Delta Marker - 1MHz/10Hz: **39.2** *dB* -11.2 62.8 74 Pk Calculated Band-Edge Measurement (Peak) 64.0 dBuV/m Using 100kHz delta value Calculated Band-Edge Measurement (Avg): 52.6 dBuV/m Using 1MHz delta value Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz dBµV/m v/h Limit Margin Pk/QP/Avq degrees meters 2390.000 54.0 Using 1MHz delta value 52.6 -1.4 Ava -20.0 Analyzer Settings HP8564E,EMICF: 2390.000 -25.0 -30.0 -SPAN: 110.000 MHz -35.0 RB: 1.000 MHz -40.0 VB: 10 Hz Detector: Sample -45.0· Attn: 10 DB -50.0 RL Offset: 0.0 DB -55.0 Sweep Time: 41.0s Ref Lvl: 0.0 DBM -60.0 Comments -70.0 BE @ 2390 MHz -75.0· 802.11n40 -80.0 -¦l 2350 2360 2370 2380 2390 2400 2410 2420 2430

Cursor 1 2390.0000 -61.83 💠 🔆 🖫

Cursor 2 2409.9834 -22.67 💠 🔆 🖫

Frequency (MHz)

Delta Freq. 19.983

Delta Amplitude 39.17

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 1b, EUT on Channel #9 2452MHz - n40, Chain A **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 10.0 21.0 Chain A Fundamental Signal Field Strength Frequency 15.209 / 15.247 Level Detector Azimuth Heiaht Comments Pol v/h Limit Pk/QP/Avq degrees MHz dBuV/m Margin meters 2449.000 89.4 ٧ **AVG** 189 1.6 2440.870 98.2 ٧ PΚ 189 1.6 2443.930 90.1 Н **AVG** 254 1.0 --2440.600 101.2 Н PΚ 254 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ 98.2 Fundamental emission level @ 3m in 1MHz RBW: 101.2 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 90.1 89.4 Average Measurement (RB=1MHz, VB=10Hz) 35.2 dB <- this can only be used if band edge signal is Delta Marker - 100kHz Calculated Band-Edge Measurement (Peak): 66.0 dBuV/m highest within 2MHz of band edge. Calculated Band-Edge Measurement (Avg) 54.9 dBuV/m Margin Level Detector Limit Delta Marker - 1MHz/1MHz: 34.0 dB -1.6 52.4 54 Ava Delta Marker - 1MHz/10Hz. **37.7** *dB* -8.0 66.0 74 Pk Calculated Band-Edge Measurement (Peak) 67.2 dBuV/m Using 100kHz delta value Calculated Band-Edge Measurement (Avg): 52.4 dBuV/m Using 1MHz delta value FCC 15.209 Pol Detector Comments Frequency Level Azimuth Height Pk/QP/Avq MHz $dB\mu V/m$ v/h Limit Margin degrees meters 2483.500 52.4 54.0 -1.6 Ava Using 1MHz delta value Analyzer Settings -25.0 HP8564E,EMICF: 2483,500 -30.0 SPAN: 110.000 MHz -35.0 RB: 1,000 MHz VB: 10 Hz -40.0 Detector: Sample -45.0 Attn: 10 DB -50.0 RL Offset: 0.0 DB Sweep Time: 41.0s -55.0 Ref Lvl: 0.0 DBM -60.0 -65.0 · Comments -70.0 BE @ 2483.5 MHz -75.0 802.11n40 -80.0 -Chain A 2440 2450 2460 2470 2480 2490 2500 2510 2520 2530 2538 Frequency (MHz) Cursor 1 2439.6833 -21.50 + --- 6 -Delta Freq. 43.817 Cursor 2 2483.5000 -59.17 💠 🛧 🖫 Delta Amplitude 37.67

4		A company						LIVI	J 1631	t Data
Client:	Client: Intel Corporation							Job Number:	J84365	
Madal							T-	Log Number:	T80540.2	
iviodei:	Model: Intel® Centrino® Advanced-N 6235							unt Manager:	Christine Kr	ebill
Contact:	Steve Hacke	ett								
Standard:	FCC 15.247							Class:	N/A	
	nd Edge Fie		- n40 Chair	ıΑ						
	Date of Test:		iiio, oilaii		Te	est Location:	FT Chambe	er#5		
Te	st Engineer:	Joseph Cad	igal		Cor	nfig Change:	none			
Run # 2a, E	UT on Chan	nel #4 24271	ИНz - n40, С	Chain A					-	
			_			Settings				
	Target (dBm) Chain A 16.5					ed (dBm)		e Setting		
Fundamen	al Cianal E	Chain A		0.5] 10).5	2	1.0		
Fundament Frequency	<i>al Signal Fie</i> Level	Pol		/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	COMMENIC		
2419.000	87.7	V	-	-	AVG	244	1.6			
2420.870	96.0	V	-	-	PK	244	1.6			
2439.530	93.1	Н	-	-	AVG	249	1.0			
2434.070	101.3	Н	-	-	PK	249	1.0			
2390 MHz E	Band Edge S	ignal Radiat	ted Field Sti	rength - Mar	1		•			
			1001	4441 55141	Н	V		. (5.5		
Fundamental emission level @ 3m in 1MHz RBW: Fundamental emission level @ 3m in 1MHz RBW:					101.3	96.0		urement (RB=	,	/D 4011-)
	-undamentai	emission iev			93.1	87.7		easurement (l		
	Calculat	ted Band-Ed		ker - 100kHz		dBuV/m		only be used hin 2MHz of b		Signal is
		ated Band-Ed				dBuV/m	Margin	Level	Limit	Detector
	Caroun		ta Marker - 1	ί 0,	36.3		-1.7	52.3 54 Avg		
			Ita Marker -		40.8		-11.4	62.6	74	Pk
	Calculat	ted Band-Ed				dBuV/m	Using 100kHz delta value			
	Calcula	ated Band-E	dge Measure	ement (Avg):	52.3	52.3 dBuV/m Using 1MHz delta value				
					_					
Frequency	Level	Pol		15.209	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		1 11 1	
2390.000	52.3	-	54.0	-1.7	Avg	-	-	Using 1MHz	delta value	
-20.0					 (.	Analyzer Sett				
-25.0 - -30.0 -				<u> </u>		MHz SPAN: 120.00				
-35.0 -						RB: 1.000 MH:				
-40.0 − -8 -45.0 −						VB: 10 Hz Detector: Sam	ple			
9 -45.0 - id -50.0 - 4 -55.0 -						Attn: 10 DB RL Offset: 0.0	DB			
			سسمدا	'		Sweep Time: 4 Ref Lvl: 0.0 Dt				
-60.0 - -65.0 -			/							
-70.0-		/				Comments	1 -			
-75.0 - -80.0 -						BE @ 2390 MH 802.11n40	12			
	2340 2350 23		i i I 2390 2400 2 uency (MHz)	2410 2420 24	30 2440 2450	Chain A				

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 2b, EUT on Channel #8 2447MHz - n40, Chain A Date of Test: 9/29/2010 Test Location: FT Chamber#5 Test Engineer: Mehran Birgani Config Change: none Power Settings Target (dBm) Measured (dBm) Software Setting 10.2 21.0 Chain A 16.5 Fundamental Signal Field Strenath Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments dBμV/m Pk/QP/Avg MHz v/h Limit Margin degrees meters 2444.670 ٧ AVG 1.5 89.7 202 2449.930 ٧ PK 1.5 98.8 202 94.4 AVG 2450.200 Η 256 1.0 2450.270 103.9 Н PK 256 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta Н ٧ Fundamental emission level @ 3m in 1MHz RBW: 103.9 98.8 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 94.4 89.7 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 38.5 dB Calculated Band-Edge Measurement (Peak): 65.4 dBuV/m highest within 2MHz of band edge. Calculated Band-Edge Measurement (Avg) 55.9 dBuV/m Margin Level Limit Detector 52.9 -1.1 54 Delta Marker - 1MHz/1MHz: 35.0 dB Ava Delta Marker - 1MHz/10Hz: **41.5** *dB* -8.6 65.4 74 Pk Calculated Band-Edge Measurement (Peak): Using 100kHz delta value 68.9 dBuV/m Calculated Band-Edge Measurement (Avg): Using 1MHz delta value 52.9 dBuV/m Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq degrees meters 2483.500 52.9 54.0 -1.1 Using 1MHz delta value Avq -5.0 Analyzer Settings -10.0 HP8564E CF: 2485.300 MHz -15.0 -SPAN: 120,000 MHz RB: 1,000 MHz -20.0 = -25.0 -VB: 10 Hz -30.0 Detector: Sample Attn: 20 DB RL Offset: 1.0 DB -35.0 -40.0 -Sweep Time: 30.0s Ref Lvl: 5.2 DBM -45.0 -50.0 -55.0· Comments -60.0 BE @ 2483.5 MHz -65.0· 802.11n 40MHz -70.0 -Chain A - Average 2440 2450 2460 2470 2480 2490 2500 2510 2520 2530 Frequency (MHz) Cursor 1 2434.8999 -8.97 ↔ 🕸 Delta Freq. 48.600 Cursor 2 2483.5000 -50.47 💠 🐣 🔊 Delta Amplitude 41.50

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 3, Band Edge Field Strength - n40, Chain A Date of Test: 9/15/2010 Test Location: FT Chamber #7 Test Engineer: Joseph Cadigal Config Change: none Run # 3a, EUT on Channel #5 2432MHz - n40, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 12.5 23.5 Chain A Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin meters degrees 2419.670 91.9 ٧ AVG 186 1.8 ٧ PK 2419.530 100.0 186 1.8 2444.600 95.3 Н **AVG** 252 1.0 2444.670 103.4 Н PΚ 252 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 103.4 100.0 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 95.3 91.9 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 40.5 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 62.9 dBuV/m Calculated Band-Edge Measurement (Avg): 54.8 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 38.0 dB -1.0 53.0 54 Avg Delta Marker - 1MHz/10Hz. **42.3** dB -11.1 62.9 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 65.4 dBuV/m Calculated Band-Edge Measurement (Avg): 53.0 dBuV/m Using 1MHz delta value FCC 15.209 Pol Frequency Level Detector Azimuth Height Comments $dB\mu V/m$ MHz v/h Limit Margin Pk/QP/Avq degrees meters 2390.000 53.0 54.0 -1.0 Using 1MHz delta value Avq -15.0° Analyzer Settings HP8564E,EMICF: 2390.000 -20.0 -25.0 SPAN: 130,000 MHz -30.0 RB: 1.000 MHz -35.0 -VB: 10 Hz -40.0 Detector: Sample Attn: 10 DB -45.0 · RL Offset: 0.0 DB -50.0 -Sweep Time: 49.0s -55.0 Ref Lvl: 0.0 DBM -60.0 -65.0 Comments -70.0 -BE @ 2390 MHz -75.0· 802.11n40 -80.0 -^l

2325

2340

Cursor 1 2390.0000 -61.33 💠 🔆 🖫

Cursor 2 2429.2166 -19.00 💠 🛧 🔊

2360

2380

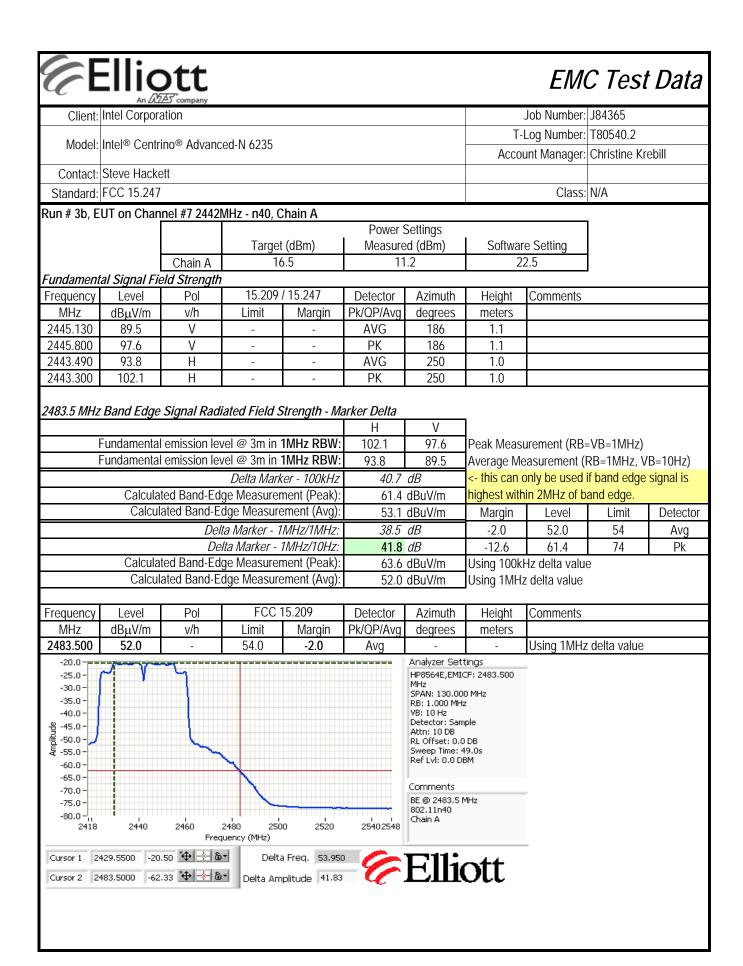
Frequency (MHz)

2400

2420

Delta Freq. 39.217

Delta Amplitude 42.33



Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 4, Band Edge Field Strength - n40, Chain A Date of Test: 9/15/2010 Test Location: FT Chamber#7 Test Engineer: Joseph Cadigal Config Change: none EUT on Channel #6 2437MHz - n40, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 24.5 Chain A Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq meters degrees 2449.470 96.4 ٧ AVG 344 1.0 ٧ PK 1.0 2449.800 104.8 344 2440.200 96.6 Н **AVG** 269 1.0 2449.730 104.8 Н PΚ 269 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 104.8 104.8 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 96.6 96.4 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz **46.7** *dB* Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 58.1 dBuV/m Calculated Band-Edge Measurement (Avg): 49.9 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 39.7 dB -4.1 49.9 54 Avg Delta Marker - 1MHz/10Hz. 46.5 dB -15.9 58.1 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 65.1 dBuV/m Calculated Band-Edge Measurement (Avg): 50.1 dBuV/m Using 100kHz delta value FCC 15.209 Pol Detector Frequency Level Azimuth Height Comments $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq degrees MHz meters 2390.000 49.9 54.0 Using 100kHz delta value Ava Analyzer Settings -10.0 HP8564E,EMICF: 2390.000 -20.0 SPAN: 140,000 MHz RB: 100 kHz -30.0 VB: 100 kHz Detector: POS -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 77.0ms Ref Lvl: 0.0 DBM -60.0

-70.0

-80.0

2320

Cursor 2 2435.2666

Cursor 1 2390,0000 -59,00 ♣ -*- ७ -

2400

2420

Delta Freq. 45.267

Delta Amplitude 46.67

2380

-12.33 💠 📥 🖫

Frequency (MHz)

Comments

Chain A

BE @ 2390 MHz 802.11n40

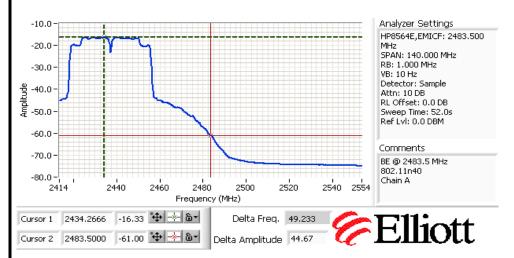


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Client:	Intel Corporation	Job Number:	J84365
Modol	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	III(e) Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta

			-			
	Н	V				
Fundamental emission level @ 3m in 1MHz RBW:	104.8	104.8	Peak Measurement (RB=VB=1MHz)			
Fundamental emission level @ 3m in 1MHz RBW:	96.6	96.4	Average Measurement (RB=1MHz, VB=10Hz)			
Delta Marker - 100kHz	43.5		<- this can only be used if band edge signal is			
Calculated Band-Edge Measurement (Peak):	61.3	dBuV/m	highest within 2MHz of band edge.			
Calculated Band-Edge Measurement (Avg):	53.1 dBuV/m		Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	38.3	38.3 dB		51.9	54	Avg
Delta Marker - 1MHz/10Hz:	44.7 <i>dB</i>		-12.7	61.3	74	Pk
Calculated Band-Edge Measurement (Peak):	66.5 dBuV/m		Using 100kHz delta value			
Calculated Band-Edge Measurement (Avg):	51.9 dBuV/m		Using 1MHz delta value			

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	51.9	-	54.0	-2.1	Avg	-	-	Using 1MHz delta value



Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 5, Band Edge Field Strength - n20, Chain A Date of Test: 9/15/2010 Test Location: FT Chamber#7 Test Engineer: Joseph Cadigal Config Change: none Run # 5a, EUT on Channel #1 2412MHz - n20, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 12.9 24.0 Chain A Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin meters degrees 2415.000 98.3 ٧ AVG 202 1.0 ٧ PK 1.0 2415.500 106.3 202 2415.270 100.1 Н **AVG** 320 1.0 2414.070 108.2 Н PΚ 320 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta Η ٧ Fundamental emission level @ 3m in 1MHz RBW: 108.2 106.3 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 100.1 98.3 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 47.0 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 61.2 dBuV/m Calculated Band-Edge Measurement (Avg): 53.1 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 37.5 dB -1.6 52.4 54 Avg Delta Marker - 1MHz/10Hz. **47.7** dB -12.8 61.2 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 70.7 dBuV/m Calculated Band-Edge Measurement (Avg): 52.4 dBuV/m Using 1MHz delta value FCC 15.209 Pol Detector Frequency Level Azimuth Height Comments $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq degrees MHz meters 2390.000 52.4 54.0 -1.6 Using 1MHz delta value Avq Analyzer Settings -10.0 HP8564E,EMICF: 2390.000 -20.0 SPAN: 70,000 MHz RB: 1.000 MHz -30.0° VB: 10 Hz Detector: Sample -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 26.0s Ref Lvl: 0.0 DBM -60.0 Comments -70.0 BE @ 2390 MHz -80.0 2355 2360 2400 2420 2425 2380 2390 2410 Frequency (MHz)

Cursor 1 2390,0000 -61,00 + -*- 6-

Cursor 2 2415.2000 -13.33 💠 🐣 🖫

Delta Freq. 25.200

Delta Amplitude 47.67

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 5b, EUT on Channel #11 2462MHz - n20, Chain A **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 12.4 23.5 Chain A Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Pol Detector Azimuth Height Comments MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq degrees meters 2465.230 97.3 ٧ **AVG** 344 1.0 2465.430 ٧ 105.5 PΚ 344 1.0 2465.130 96.6 Н **AVG** 320 1.0 PK 2465.300 104.9 Н 320 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 104.9 105.5 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 96.6 97.3 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz **46.5** *dB* highest within 2MHz of band edge. Calculated Band-Edge Measurement (Peak) 59.0 dBuV/m Calculated Band-Edge Measurement (Avg): 50.8 dBuV/m Margin Level Detector Limit Delta Marker - 1MHz/1MHz: -3.2 50.8 54 37.2 dB Avg Delta Marker - 1MHz/10Hz. 46.3 dB -15.0 59.0 74 Pk Calculated Band-Edge Measurement (Peak): 68.3 dBuV/m Using 100kHz delta value Calculated Band-Edge Measurement (Avg): 51.0 dBuV/m Using 100kHz delta value FCC 15.209 Level Pol Detector Azimuth Height Comments Frequency Margin MHz dBµV/m v/h Limit Pk/QP/Ava degrees meters 2483.500 54.0 -3.2 Using 100kHz delta value 50.8 Ava Analyzer Settings -10.0 HP8564E,EMICF: 2483.500 -20.0 SPAN: 70,000 MHz RB: 100 kHz -30.0 VB: 100 kHz Detector: POS -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 50.0ms Ref Lvl: 0.0 DBM -60.0 Comments -70.0 BE @ 2483.5 MHz 802.11n20 -80.0 Chain A 2460 2480 2490 2500 Frequency (MHz) Cursor 1 2467.1667 -10.17 💠 🔆 💩 Delta Freq. 16.683 Cursor 2 2483.8501 -56.67 💠 🛧 🗟 🕶 Delta Amplitude 46.50

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 6, Band Edge Field Strength - 802.11g, Chain A Date of Test: 9/15/2010 Test Location: FT Chamber #7 Test Engineer: Joseph Cadigal Config Change: none Run # 6a, EUT on Channel #1 2412MHz - 802.11g, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 14.1 25.5 Chain A Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin meters degrees 2414.470 97.6 ٧ AVG 344 1.0 2413.630 ٧ PK 1.0 105.8 344 2416.300 101.1 Н **AVG** 268 1.0 2415.030 109.2 Н PΚ 268 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 109.2 105.8 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 101.1 97.6 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 48.2 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 61.0 dBuV/m Calculated Band-Edge Measurement (Avg): 52.9 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 38.8 dB -2.1 51.9 54 Avg Delta Marker - 1MHz/10Hz. **49.2** dB -13.0 61.0 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 70.4 dBuV/m Calculated Band-Edge Measurement (Avg): 51.9 dBuV/m Using 1MHz delta value FCC 15.209 Pol Detector Frequency Level Azimuth Height Comments dB_uV/m v/h Limit Margin Pk/QP/Avq degrees MHz meters 2390.000 51.9 54.0 -2.1 Using 1MHz delta value Avq Analyzer Settings -10.0 HP8564E,EMICF: 2390.000 -20.0 SPAN: 70.000 MHz RB: 1.000 MHz -30.0 Detector: Sample -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 26.0s Ref Lvl: 0.0 DBM Comments -70.0 BE @ 2390 MHz 802.11g

-80.0 -

2355 2360

2370

Cursor 1 2390.0000 -61.00 ↔ 🛧 🗟 🕶

Cursor 2 2411.1167 -11.83 💠 🐣 🔊

2380

2390

Frequency (MHz)

2400

Delta Freq. 21.117

Delta Amplitude 49.17

2410

2420 2425

Chain A

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 6b, EUT on Channel #11 2462MHz - 802.11g, Chain A Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Detector Pol Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin degrees meters 2464.170 98.8 ٧ 120.0 -21.2 **AVG** 344 1.0 2465.230 106.9 ٧ 120.0 -13.1 PK 344 1.0 2460.540 100.0 Н 120.0 -20.0 **AVG** 268 1.0 2463.450 107.9 Н 120.0 -12.1PΚ 268 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta Η ٧ Fundamental emission level @ 3m in 1MHz RBW: 107.9 106.9 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 100.0 98.8 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 46.3 dB Calculated Band-Edge Measurement (Peak): 61.6 dBuV/m highest within 2MHz of band edge. Calculated Band-Edge Measurement (Avg): 53.7 dBuV/m Margin Level Detector Limit Delta Marker - 1MHz/1MHz: 37.3 dB -1.2 52.8 54 Avg Delta Marker - 1MHz/10Hz: 47.2 dB -12.4 74 61.6 Pk Calculated Band-Edge Measurement (Peak): Using 100kHz delta value dBuV/m Calculated Band-Edge Measurement (Avg): 52.8 dBuV/m Using 1MHz delta value FCC 15.209 Pol Frequency Level Detector Azimuth Height Comments MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avg degrees meters 2483.500 52.8 54.0 Using 1MHz delta value -1.2 Avg -10.0 Analyzer Settings HP8564E,EMICF: 2483.500 -20.0 SPAN: 70,000 MHz RB: 1.000 MHz -30.0 VB: 10 Hz Detector: Sample -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 26.0s Ref Lvl: 0.0 DBM -60.0 Comments -70.0 BE @ 2483.5 MHz 802.11g 2490 2460 2470 2480 2500 2510 2518 Cursor 1 2458.7666 -12.67 💠 🕸 🗟 🖜 Delta Freq. 24.733 Cursor 2 2483.5000 -59.83 💠 🐣 🔊 Delta Amplitude 47.17



	An ZCZES company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/15/2010 Test Location: FT Chamber #7

Test Engineer: Rafael Varelas Config Change: none

Run # 7a, EUT on Channel #1 2412MHz - 802.11b, Chain A

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

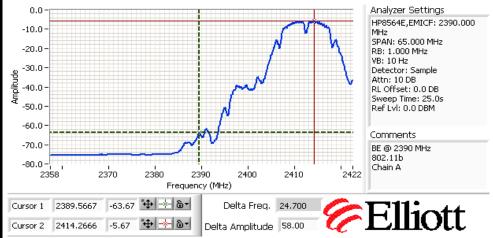
Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2413.830	108.7	Н	120.0	-11.3	AVG	267	1.1	
2413.200	112.1	Н	120.0	-7.9	PK	267	1.1	
2410.370	103.4	V	120.0	-16.6	AVG	202	1.0	
2413.130	106.7	V	120.0	-13.3	PK	202	1.0	

2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta

\boldsymbol{j}			_			
	Н	V				
Fundamental emission level @ 3m in 1MHz RBW:	112.1	106.7	Peak Measurement (RB=VB=1MHz)			
Fundamental emission level @ 3m in 1MHz RBW:	108.7	103.4	Average Measurement (RB=1MHz, VB=10Hz)			
Delta Marker - 100kHz	56.8	dB	<- this can only be used if band edge signal is			
Calculated Band-Edge Measurement (Peak):	55.3	dBuV/m	highest within 2MHz of band edge.			
Calculated Band-Edge Measurement (Avg):	51.9 dBuV/m		Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	49.0	49.0 dB		50.7	54	Avg
Delta Marker - 1MHz/10Hz:	58.0 <i>dB</i>		-18.7	55.3	74	Pk
Calculated Band-Edge Measurement (Peak):		dBuV/m	Using 100kHz delta value			
Calculated Band-Edge Measurement (Avg):	50.7	dBuV/m	Using 1MHz	delta value		

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.566	50.7	-	54.0	-3.3	Avg	-	-	Using 1MHz delta value



Client:	Intel Corpora	tion						Job Number:	J84365	
Model:	Intel® Centrir	no® Advanc	od N 6235				T-Log Number: T80540.2			
Model.	miler Centin	io Auvano	.eu-11 0233				Acco	unt Manager:	Christine Kr	ebill
	Steve Hacket	tt								
	FCC 15.247							Class:	N/A	
≀un # 7b, E	UT on Chanr	nel #11 246	2MHz - 802.1	11b, Chain <i>F</i>		Na HP a sa a			Ī	
			Target	(dRm)	Power S Measure	0	Softwar	e Setting		
		Chain A		5.5	16			3.5		
T da	_ +-! C:! F:-									
Frequency	tal Signal Fie Level	<i>ra Strength</i> Pol		/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	COMMINICING		
2463.800	104.6	V	120.0	-15.4	AVG	344	1.0			
2461.200	107.9	V	120.0	-12.1	PK	344	1.0			
2460.300	107.8	<u>H</u>	120.0	-12.2	AVG	266	1.0			
2460.700	111.0	Н	120.0	-9.0	PK	266	1.0			
2483.5 MHz	Band Edge	Signal Rad	iated Field S	Strength - Ma	1		-			
	E de de l			AMIL DOW	H	V 107.0	D. d. M		\/D_4\/ -\	
Fundamental emission level @ 3m in 1MHz RBW: Fundamental emission level @ 3m in 1MHz RBW:					111.0 107.8	107.9 104.6	-	urement (RB: easurement (•	/R_10U-7
	Tunuamentar	CITIISSIOITIC		er - 100kHz			Ü	only be used		
Calculated Band-Edge Measurement (Peak):					dBuV/m		nin 2MHz of b	•	o.g. ao	
	Calcula	ited Band-E	dge Measure	ement (Avg):	49.3	dBuV/m	Margin	Level	Limit	Detect
			ta Marker - 1		47.0		-4.7	49.3	54	Avg
	Calculat		lta Marker -		57.0					Pk
			ge Measurer dge Measure		1	64.0 dBuV/m Using 100kHz delta va 50.8 dBuV/m Using 100kHz delta va				
					-		-			
Frequency MHz	Level dBµV/m	Pol v/h	Limit	15.209	Detector Pk/QP/Avg	Azimuth	Height	Comments		
2485.340	49.3	V/11 -	54.0	Margin -4.7	Avg	degrees -	meters -	Using 100kl	Hz delta valu	е.
0.0-	17.0		0 1.0		7.09	Anal	yzer Settings		12 dolla vala	<u> </u>
-10.0 - -20.0 - -30.0 - -30.0 - -40.0 - -50.0 - -60.0 - -70.0 - -80.0 -	1 2460	2470	2480	Valorika (1878) 2490 25	00 2510	MHz SPAIA RB: VB: Dete Attn RL C Swe Ref	N: 65.000 MHz 100 kHz 100 kHz sctor: Normal : 10 DB offset: 0.0 DB ep Time: 50.0n Lvl: 0.0 DBM oments p 2483.5 MHz 11b			



Client [,]	Intel Corporation	Job Number:	184365
Oliciti	into octiporation	T-Log Number:	
Model:	Intel® Centrino® Advanced-N 6235	Account Manager:	
Contact	Steve Hackett	Account Manager.	CHIISTINE KIEDIII
Standard:	FCC 15.247	Class:	N/A

Run # 8, Band Edge Field Strength - 802.11n20MHz, Chain A

Date of Test: 9/17/2010 Test Location: FT Chamber #7

Test Engineer: Rafael Varelas Config Change: none

Run # 8a, EUT on Channel #2 2417MHz - 802.11n20MHz, Chain A

		Power Settings							
	Target (dBm)	Measured (dBm)	Software Setting						
Chain A	16.5	15.7	28.0						

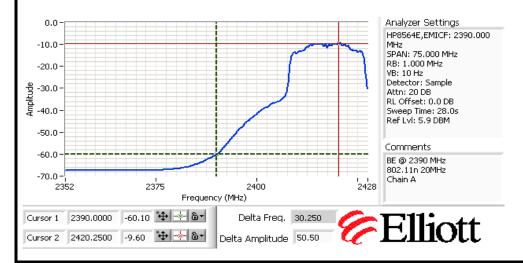
Fundamental Signal Field Strength

i dinddinoni	ar eignar i k	na on ongui						
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2413.770	103.2	Н	120.0	-16.8	AVG	357	1.0	
2413.070	111.4	Н	120.0	-8.6	PK	357	1.0	
2413.970	98.9	V	120.0	-21.1	AVG	204	1.2	
2412.670	107.4	V	120.0	-12.6	PK	204	1.2	

2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta

2370 Will Band Lage Signal Radiated Field Strength - Wall	(CI DCIIa		_				
	Н	V					
Fundamental emission level @ 3m in 1MHz RBW:	111.4	107.4	Peak Meası	urement (RB=	=VB=1MHz)		
Fundamental emission level @ 3m in 1MHz RBW:	103.2	98.9	Average Measurement (RB=1MHz, VB=10Hz)				
Delta Marker - 100kHz	48.7 dB <- this can only be used if band edge sign					signal is	
Calculated Band-Edge Measurement (Peak):	62.7	dBuV/m	highest within 2MHz of band edge.				
Calculated Band-Edge Measurement (Avg):	54.5	dBuV/m	Margin	Level	Limit	Detector	
Delta Marker - 1MHz/1MHz:	40.5	<i>40.5 dB</i> -1.3 5			54	Avg	
Delta Marker - 1MHz/10Hz:	50.5	dB	-11.3	62.7	74	Pk	
Calculated Band-Edge Measurement (Peak):	70.9	dBuV/m	Using 100kHz delta value				
Calculated Band-Edge Measurement (Avg):	52.7	dBuV/m	Using 1MHz	z delta value			
Francisco I and I Dal I FCC 15 200	Datastan	Λ =! H=	I I a l'ada l	0			

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	52.7	-	54.0	-1.3	Avg	-	-	Using 1MHz delta value



Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 8b, EUT on Channel #10 2457MHz - 802.11n20MHz, Chain A Power Settings Target (dBm) Measured (dBm) Software Setting Chain A 16.5 15.8 28.0 Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Pol Detector Azimuth Height Comments MHz v/h Limit Margin Pk/QP/Ava $dB\mu V/m$ degrees meters 2460.000 102.1 Η 120.0 -17.9AVG 14 1.0 2459.000 110.1 Н 120.0 -9.9 PΚ 14 1.0 2460.270 99.8 V 120.0 -20.2 **AVG** 345 1.0 2461.430 108.1 ٧ 120.0 -11.9 PΚ 345 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Н Fundamental emission level @ 3m in 1MHz RBW: 110.1 Peak Measurement (RB=VB=1MHz) 108.1 Fundamental emission level @ 3m in 1MHz RBW: 99.8 Average Measurement (RB=1MHz, VB=10Hz) 102.1 Delta Marker - 100kHz <- this can only be used if band edge signal is 48.7 dB Calculated Band-Edge Measurement (Peak): 61.4 dBuV/m highest within 2MHz of band edge. Calculated Band-Edge Measurement (Avg): 53.4 dBuV/m Margin Detector Level Limit Delta Marker - 1MHz/1MHz. 39.7 dB -1.6 52.4 54 Avg Delta Marker - 1MHz/10Hz. -12.6 **49.7** dB 61.4 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 70.4 dBuV/m Calculated Band-Edge Measurement (Avg): 52.4 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Level Pol Detector Azimuth Height Comments dB_μV/m Pk/QP/Avq MHz v/h Limit Margin degrees meters 2483.500 52.4 54.0 -1.6 Using 1MHz delta value Avg Analyzer Settings 0.0 HP8564E,EMICF: 2483.500 -10.0 SPAN: 75,000 MHz RB: 1.000 MHz -20.0 VB: 10 Hz Detector: Sample -30.0 Attn: 20 DB RL Offset: 0.0 DB Sweep Time: 28.0s Ref Lvl: 5.9 DBM -40.0 -50.0 Comments -60.0 BE @ 2483.5 MHz 802.11n 20MHz -70.0Chain A 2500 2446 2475 Frequency (MHz) Cursor 1 2460.3750 -9.93 ♣ -*- 🏝 Delta Freq. 23.125

Cursor 2 2483.5000 -59.60 💠 🗻 🗟 🗖

Delta Amplitude 49.67



	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model:	Ilitel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,, <u>,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u>	0177 11011 1001 110111 7711	Billy of Volotoli i ilotolo	,
Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Dup # 1	n40	#3 2422MHz	16.5	9.1	Restricted Band Edge at 2400 MHz	15.209	52.9dBµV/m @ 2389.3MHz (-1.1dB)
Run # 1	Chain B	#9 2452MHz	16.5	10.1	Restricted Band Edge at 2483.5 MHz	15.209	53.0dBµV/m @ 2484.2MHz (-1.0dB)
Run # 2	n40	#4 2427MHz	16.5	9.5	Restricted Band Edge at 2400 MHz	15.209	52.2dBµV/m @ 2390.0MHz (-1.8dB)
Ruii # Z	Chain B	#8 2447MHz	16.5	9.9	Restricted Band Edge at 2483.5 MHz	15.209	53.0dBµV/m @ 2483.5MHz (-1.0dB)
Run # 3	n40	#5 2432MHz	16.5	11.9	Restricted Band Edge at 2400 MHz	15.209	52.2dBµV/m @ 2389.6MHz (-1.8dB)
Kuii# 3	Chain B	#7 2442MHz	14.5 11.4		Restricted Band Edge at 2483.5 MHz	15.209	52.9dBµV/m @ 2483.5MHz (-1.1dB)
Run # 4	n40	#6	16.5	12.6	Restricted Band Edge at 2400 MHz	16.209	48.9dBµV/m @ 2390.0MHz (-5.1dB)
Kull#4	Chain B	2437MHz	16.5	12.6	Restricted Band Edge at 2483.5 MHz	16.209	52.1dBµV/m @ 2483.5MHz (-1.9dB)
Run # 5	n20	#1 2412MHz	16.5	12.4	Restricted Band Edge at 2400 MHz	16.209	52.0dBµV/m @ 2390.0MHz (-2.0dB)
Rull# 3	Chain B		16.5	12.3	Restricted Band Edge at 2483.5 MHz	16.209	52.6dBµV/m @ 2483.5MHz (-1.4dB)
Run # 6	802.11g	#1 2412MHz	16.5	13.8	Restricted Band Edge at 2400 MHz	16.209	52.1dBµV/m @ 2390.0MHz (-1.9dB)
Rull#0	Chain B		16.5	13.4	Restricted Band Edge at 2483.5 MHz	16.209	51.9dBµV/m @ 2483.5MHz (-2.1dB)
Run # 7	802.11b	#1 2412MHz	16.5	16.7	Restricted Band Edge at 2400 MHz	15.209	49.4dBµV/m @ 2389.9MHz (-4.6dB)
Ruii # 7	Chain B	#11 2462MHz	16.5	16.7	Restricted Band Edge at 2483.5 MHz	15.209	48.1dBµV/m @ 2483.5MHz (-5.9dB)
Run # 8	802.11n20	#2 2417MHz	16.5	16.2	Restricted Band Edge at 2400 MHz	16.209	49.5dBµV/m @ 2390.0MHz (-4.5dB)
Kuii# 0	Chain B		16.5	16.3	Restricted Band Edge at 2483.5 MHz	15.209	52.5dBµV/m @ 2483.5MHz (-1.5dB)

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.

	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model:	intel® Centinio® Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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: 15 - 55 % Temperature: 18 - 25 °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.



	An ZCZES company		
Client:	Intel Corporation	Job Number:	J84365
Model: I	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/15/2010 Test Location: FT Chamber #7

Test Engineer: Rafael Varelas Config Change: none

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

		Power Settings			
	Target (dBm)	Measured (dBm)	Software Setting		
Chain B	16.5	9.1	21.5		

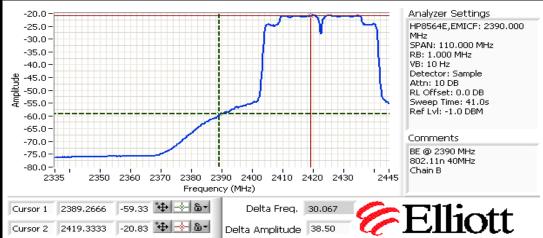
Fundamental Signal Field Strength

	· · · · · · · · · · · · · · · · ·							
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2434.730	91.4	Н	-	•	AVG	238	1.0	
2432.600	99.6	Н	-	•	PK	238	1.0	
2410.000	88.5	V	-	-	AVG	231	1.0	
2410.870	96.6	V	-	-	PK	231	1.0	

2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	Н	V				
Fundamental emission level @ 3m in 1MHz RBW:	99.6	96.6	Peak Measurement (RB=VB=1MHz)			
Fundamental emission level @ 3m in 1MHz RBW:	91.4	88.5	Average Measurement (RB=1MHz, VB=10Hz)			
Delta Marker - 100kHz	38.3	dB	<- this can only be used if band edge signal is			
Calculated Band-Edge Measurement (Peak):	61.3	dBuV/m	highest within 2MHz of band edge.			
Calculated Band-Edge Measurement (Avg):	53.1	dBuV/m	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	34.2	dB	-1.1	52.9	54	Avg
Delta Marker - 1MHz/10Hz:	38.5	dB	-12.7	61.3	74	Pk
Calculated Band-Edge Measurement (Peak):	65.4 dBuV/m Using 100kHz delta value			9		
Calculated Band-Edge Measurement (Avg):	52.9	dBuV/m	Using 1MHz delta value			

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.266	52.9	-	54.0	-1.1	Avg	-	-	Using 1MHz delta value

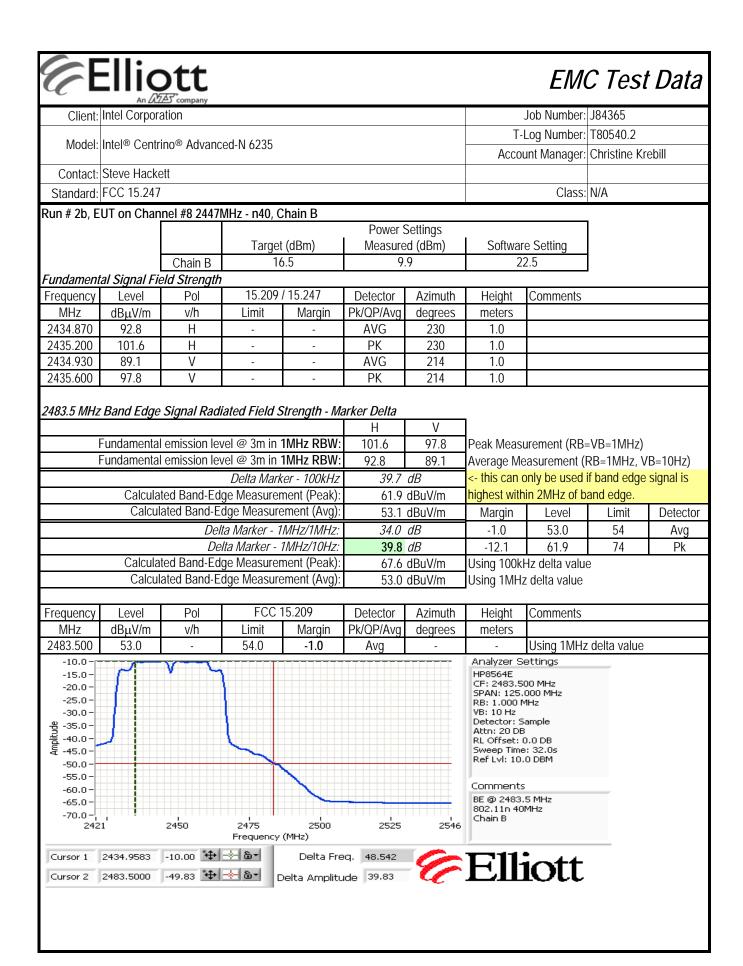


4) A company								t Data
Client:	Intel Corpora	ation						Job Number:		
Model·	Intel® Centr	ino® Advanc	ed-N 6235				T-Log Number: T80540.2			
WOOdel.	inter ochti	ino havano	Cu 11 0233				Accou	unt Manager:	Christine Kr	ebill
Contact:	Steve Hacke	ett								
Standard:	FCC 15.247							Class:	N/A	
Run # 1b, E	UT on Chan	nel #9 2452I	MHz - n40, C	hain B					_	
						Settings				
			Target		Measure	, ,		e Setting		
5	-1.6'1.5'	Chain B	16	5.5	10).1	2.	2.5		
	<i>al Signal Fie</i> Level	eld Strength		/ 15.247	Detector	Azimuth	Hoight	Comments		
Frequency MHz	dB _µ V/m	Pol v/h	Limit	Margin	Pk/QP/Avg	degrees	Height meters	Comments		
2439.670	и <u>Б</u> µν/III 89.7	Н	LIIIIII -	ivial yill	AVG	239	1.0			
2440.600	98.0	Н	-	-	PK	239	1.0			
2439.930	89.3	V	-	-	AVG	322	1.0			
2445.870	97.8	V	-		PK	322	1.0			
2192 5 MHz	Rand Edgo	Signal Radi	istad Eiald S	Stronath M	arkor Dolta					
2403.3 IVII IZ	Danu Luge	Signal Kaul	aleu i ieiu S	urengur - wa	H	V				
	undamental	emission lev	/el @ 3m in 1	1MHz RBW:	98.0	97.8	Peak Measi	urement (RB:	=VB=1MHz)	
		emission lev			89.7	89.3		easurement (/B=10Hz)
			Delta Mark	er - 100kHz	33.7			only be used		
	Calcula	ted Band-Ed	ge Measurer	nent (Peak):	64.3	dBuV/m		in 2MHz of b	•	Ü
	Calcul	ated Band-E	dge Measure	ement (Avg):	56.0	dBuV/m	Margin	Level	Limit	Detector
		Dell	ta Marker - 1	MHz/1MHz:	32.8	dB	-1.0			
			lta Marker - 1		36.7					Pk
		ted Band-Ed				dBuV/m	Using 100kHz delta value			
	Calcul	ated Band-E			53.0	dBuV/m	Using 1MHz	z delta value		
Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2484.166	53.0	-	54.0	-1.0	Avg	-	-	Using 1MHz	delta value	
-20.0 -25.0 -30.0 -35.0 -40.0 -9 45.0 -9 45.0 -60.0 -65.0 -60.0 -65.0 -70.0 -75.0 -80.0 -24342440 2450 2460 2470 2480 2490 2500 2510					2520 253	MHz SPAN: 1000 RB: 1.000 I VB: 10 Hz Detector: S Attn: 10 DE RL Offset: Sweep Time Ref Lvl: -1. Comments BE @ 2483 802.11n 40 Chain B	MICF: 2483.500 000 MHz MHz iample 3 0.0 DB :: 37.0s 0 DBM			
Cursor 1 2		Fre 0.33		ta Freq. 44.5	00	Ell	iott			

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 2, Band Edge Field Strength - n40, Chain B Date of Test: 9/16/2010 Test Location: Chamber #7 Test Engineer: Mehran Birgani/R. Varelas Config Change: none Run # 2a, EUT on Channel #4 2427MHz - n40, Chain B Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 9.5 22.0 Chain B Fundamental Signal Field Strength Frequency Level 15.209 / 15.247 Detector Azimuth Height Comments Pol MHz $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq meters degrees 2419.670 93.2 Н AVG 233 1.0 -PK 2421.530 101.9 Н 233 1.0 2414.870 89.3 ٧ **AVG** 218 1.0 2416.530 98.1 ٧ PΚ 218 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 101.9 98.1 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 93.2 89.3 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 38.2 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 63.7 dBuV/m Calculated Band-Edge Measurement (Avg): 55.0 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 37.7 dB -1.8 52.2 54 Avg Delta Marker - 1MHz/10Hz. **41.0** *dB* -10.3 63.7 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 64.2 dBuV/m Calculated Band-Edge Measurement (Avg): 52.2 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Level Pol Detector Azimuth Height Comments v/h Limit Margin Pk/QP/Avq meters MHz dB_uV/m degrees 2390.000 52.2 54.0 -1.8 Using 1MHz delta value Avg Analyzer Settings -5.0 HP8564E -10.0 CF: 2390.000 MHz -15.0 SPAN: 120.000 MHz RB: 1.000 MHz -20.0 VB: 10 Hz -25.0 Detector: Sample Attn: 20 DB -30.0 를 -35.0 -투 -40.0 · RL Offset: 1.0 DB Sweep Time: 30.0s Ref Lvl: 10.8 DBM -45.0 -50.0 Comments -55.0 BE @ 2390 MHz -60.0 802.11n 40MHz -65.0 -Chain B 2330 2340 2350 2360 2370 2380 2390 2400 2410 2420 2430 2440 2450 Frequency (MHz) Cursor 1 2390.0000 -50.37 💠 🔆 🖫 Delta Freq. 25.200 **Elliott**

Cursor 2 2415.2000 -9.37 💠 🛧 🗟 🔻

Delta Amplitude 41.00



E	Ellic	ott						EMO	C Test	t Data	
Client:	Intel Corpora	ation						Job Number:	J84365		
			LN / 005				T-	Log Number:	T80540.2		
Model:	Intel® Centr	ino® Advanc	ed-N 6235				Acco	unt Manager:	Christine Kr	ebill	
Contact:	Steve Hacke	ett									
Standard:	FCC 15.247							Class:	N/A		
	Date of Test: st Engineer:	9/16/2010 Mehran Birg	ani/R. Varela	as		est Location: ofig Change:	Chamber # none	7			
itair # 5a, E	OT OIT OTIGIT	1101 #3 24321	VIIIZ 1140, C	niain b	Power S	Settings					
			Target	(dBm)	Measure		Softwar	e Setting			
		Chain B		5.5	11	.9	2	4.0			
		eld Strength		/15 047	D.L.	A! 11	I 11.2.11	0			
Frequency MHz	Level	Pol v/h	Limit	/ 15.247	Detector Pk/QP/Avg	Azimuth	Height	Comments			
2420.000	dBμV/m 95.4	Н	- LIIIIII -	Margin -	AVG	degrees 236	meters 1.0				
2420.730	104.3	Н	_	-	PK	236	1.0				
2419.870	91.6	V	-	-	AVG	217	1.0				
2420.400	100.4	V	ı	-	PK	217	1.0				
2483.5 MHz	Band Edge	Signal Radi	iated Field S	Strength - Ma			=				
					Н	V					
		emission lev			104.3	100.4	-1	rement (RB=VB=1MHz)			
<u> </u>	-undamentai	emission lev			95.4	91.6		easurement (RB=1MHz, VB=10Hz) poly be used if band edge signal is			
	Calcula	ted Band-Ed		rer - 100kHz	43.2	<i>aв</i> dBuV/m		nin 2MHz of b	•	signal is	
		ated Band-Ed				dBuV/m	Margin	Level	Limit	Detector	
	Caloui		ta Marker - 1		39.2		-1.8	52.2	54	Avg	
			Ita Marker - 1		43.0		-12.9	61.1	74	Pk	
	Calcula	ted Band-Ed	ge Measurer	nent (Peak):		65.1 dBuV/m Using 100kHz delta value				1	
	Calcul	ated Band-E	dge Measure	ement (Avg):	52.4	dBuV/m	Using 100k	Hz delta value			
Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	11.1. 2557	1 1 0 1		
2389.583	52.2	-	54.0	-1.8	Avg		- Nashusan Cati	Using 100kl	Hz delta valu	ie	
-10.0 - -20.0 - -20.0 - -20.0 -				المستعملين	<mark>, ≖grimr* if</mark> fr	Wall-Look	Analyzer Seti HP8564E CF: 2390,000 5PAN: 125,00 RB: 100 kHz VB: 100 kHz Detector: POS Attn: 20 DB RL Offset: 0.0 5weep Time: 5 Ref Lvl: 10.0 I	MHz 0 MHz DB 00.0ms			
-50.0 -							Comments BE @ 2390 MH	la.			
-70.0 -							BE @ 2390 MF B02.11n 40MF Chain B				
2328	3 235	0 23	375 Frequency (f	2400 MHz)	2425	2452	Cildii i D				
Cursor 1	2389.5833	-47.50	*- 6-	Delta Freq	. 34.583		Ellic	_44			
Cursor I											

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 3b, EUT on Channel #7 2442MHz - n40, Chain B **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 11.4 23.5 Chain B Fundamental Signal Field Strength Frequency 15.209 / 15.247 Level Detector Azimuth Heiaht Comments Pol v/h Limit Pk/QP/Avq degrees MHz dBuV/m Margin meters 2429.800 94.6 Н **AVG** 231 1.0 2431.530 103.6 Н PΚ 231 1.0 2429.930 90.7 ٧ **AVG** 1.0 --214 V 2430.730 99.2 PΚ 214 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta V Fundamental emission level @ 3m in 1MHz RBW: 103.6 99.2 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: Average Measurement (RB=1MHz, VB=10Hz) 94.6 90.7 <- this can only be used if band edge signal is Delta Marker - 100kHz 41.7 dB Calculated Band-Edge Measurement (Peak) highest within 2MHz of band edge. 61.9 dBuV/m Calculated Band-Edge Measurement (Avg): 52.9 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: -1.1 52.9 54 37.3 dB Avg Delta Marker - 1MHz/10Hz. -12.1 41.7 dB 61.9 74 Pk Calculated Band-Edge Measurement (Peak): Using 100kHz delta value 66.3 dBuV/m Calculated Band-Edge Measurement (Avg) 52.9 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Pol Detector Azimuth Heiaht Comments Level Pk/QP/Avq degrees MHz dBuV/m v/h Limit Margin meters 2483.500 52.9 -1.1 Using 1MHz delta value 54.0 Avq Analyzer Settings 0.0 HP8564E CF: 2483,500 MHz -10.0 SPAN: 125,000 MHz RB: 1.000 MHz -20.0 VB: 10 Hz Detector: Sample -30.0 Attn: 20 DB RL Offset: 0.0 DB -40.0 Sweep Time: 32.0s Ref Lvl: 10.0 DBM -50.0 Comments -60.0 BE @ 2483.5 MHz 802.11n 40MHz -70.0 Chain B 2475 2450 2500 2525 2546 Frequency (MHz) Delta Freq. 53.542 Cursor 1 2429.9583 -8.33 -50.00 💠 🛧 ७▾ Cursor 2 2483,5000 Delta Amplitude 41.67

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 4, Band Edge Field Strength - n40, Chain B Date of Test: 9/16/2010 Test Location: Chamber #7 Test Engineer: Mehran Birgani/R. Varelas Config Change: none EUT on Channel #6 2437MHz - n40, Chain B Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 12.6 25.0 Chain B Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin meters degrees 2424.870 96.6 Н AVG 234 1.0 2425.330 PK 105.3 Н 234 1.0 2424.870 92.5 ٧ **AVG** 215 1.3 2425.070 101.3 ٧ PΚ 215 1.3 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 105.3 101.3 Peak Measurement (RB=VB=1MHz) Average Measurement (RB=1MHz, VB=10Hz) Fundamental emission level @ 3m in 1MHz RBW: 96.6 92.5 <- this can only be used if band edge signal is Delta Marker - 100kHz **47.7** *dB* Calculated Band-Edge Measurement (Peak) highest within 2MHz of band edge. 57.6 dBuV/m Calculated Band-Edge Measurement (Avg): 48.9 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 41.3 dB -5.1 48.9 54 Avg Delta Marker - 1MHz/10Hz. 47.2 dB -16.4 57.6 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 64.0 dBuV/m Calculated Band-Edge Measurement (Avg): 49.4 dBuV/m Using 100kHz delta value FCC 15.209 Pol Detector Frequency Level Azimuth Height Comments MHz dB_uV/m v/h Limit Margin Pk/QP/Avq meters degrees 2390.000 48.9 54.0 -5.1Using 100kHz delta value Avq Analyzer Settings 0.0 HP8564E CF: 2390.000 MHz -10.0 SPAN: 125,000 MHz RB: 100 kHz -20.0 VB: 100 kHz Detector: POS Attn: 20 DB -30.0 RL Offset: 0.0 DB -40.0 Sweep Time: 50.0ms Ref Lvl: 4.8 DBM -50.0 Comments -60.0 BE @ 2390 MHz 802.11n 40MHz -70.0 -Chain B 2400 2425 2328 Frequency (MHz) Cursor 1 2390.0000 -51.53 💠 🔆 🗟 🔻 Delta Freq. 51.875

Cursor 2 2441.8750

Delta Amplitude 47.67

+ -*- 6-

-3.87

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta Н ٧ Fundamental emission level @ 3m in 1MHz RBW: 105.3 101.3 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 96.6 92.5 Average Measurement (RB=1MHz, VB=10Hz) Delta Marker - 100kHz 44.0 dB <- this can only be used if band edge signal is highest within 2MHz of band edge. Calculated Band-Edge Measurement (Peak): 61.3 dBuV/m Calculated Band-Edge Measurement (Avg): 52.6 dBuV/m Margin Level Limit 39.2 dB -1.9 52.1 54 Delta Marker - 1MHz/1MHz: Delta Marker - 1MHz/10Hz. -12.7 61.3 44.5 dB 74 Calculated Band-Edge Measurement (Peak): 66.1 dBuV/m Using 100kHz delta value Calculated Band-Edge Measurement (Avg): 52.1 dBuV/m Using 1MHz delta value Frequency Level Pol FCC 15.209 Detector Azimuth Height Comments Margin $dB\mu V/m$ Pk/QP/Ava MHz v/h Limit degrees meters 2483.500 52.1 54.0 Using 1MHz delta value Analyzer Settings 0.0 HP8564E CF: 2483.500 MHz -10.0SPAN: 125,000 MHz RB: 1.000 MHz -20.0 VB: 10 Hz Detector: Sample -30.0 Attn: 20 DB RL Offset: 0.0 DB -40.0 Sweep Time: 32.0s Ref Lvl: 10.0 DBM -50.0 Comments -60.0 BE @ 2483.5 MHz 802.11n 40MHz -70.0

2450

-51.67 💠 🚣 🔊 ·

Cursor 1 2424.5417 -7.17 💠 🔆 🖫

Cursor 2 2483,5000

2475

Frequency (MHz)

2500

Delta Freq. 58.958

Delta Amplitude 44.50

2525

Detector

Avg

Pk

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 5, Band Edge Field Strength - n20, Chain B Date of Test: 9/16/2010 Test Location: FT Chamber #7 Test Engineer: Rafael Varelas Config Change: none Run # 5a, EUT on Channel #1 2412MHz - n20, Chain B Power Settings Target (dBm) Measured (dBm) Software Setting 16.5 12.4 25.0 Chain B Fundamental Signal Field Strength Frequency Level Pol 15.209 / 15.247 Detector Azimuth Height Comments Pk/QP/Avg MHz $dB\mu V/m$ v/h Limit Margin meters degrees 2415.030 98.8 Н AVG 234 1.0 PK 2415.500 108.0 Н 234 1.0 2415.170 97.3 ٧ **AVG** 70 1.0 2416.670 106.3 ٧ PΚ 70 1.0 2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Fundamental emission level @ 3m in 1MHz RBW: 108.0 106.3 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: 98.8 97.3 Average Measurement (RB=1MHz, VB=10Hz) <- this can only be used if band edge signal is Delta Marker - 100kHz 46.7 dB Calculated Band-Edge Measurement (Peak): highest within 2MHz of band edge. 61.3 dBuV/m Calculated Band-Edge Measurement (Avg): 52.1 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: 35.8 dB -2.0 52.0 54 Avg Delta Marker - 1MHz/10Hz. **46.8** *dB* -12.7 61.3 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 72.2 dBuV/m Calculated Band-Edge Measurement (Avg): 52.0 dBuV/m Using 1MHz delta value FCC 15.209 Pol Detector Frequency Level Azimuth Height Comments $dB\mu V/m$ v/h Limit Margin Pk/QP/Avq meters MHz degrees 2390.000 52.0 54.0 -2.0 Using 1MHz delta value Avq -10.0 Analyzer Settings HP8564E CF: 2390.000 MHz SPAN: 65.000 MHz -20.0 RB: 1.000 MHz VB: 10 Hz Detector: Sample Attn: 10 DB RL Offset: 0.0 DB -30.0 -40.0 Sweep Time: 17.0s Ref Lvl: -2.3 DBM -50.0

-70.0

-80.0 - 1 2358

2370

2380

2390

Frequency (MHz)

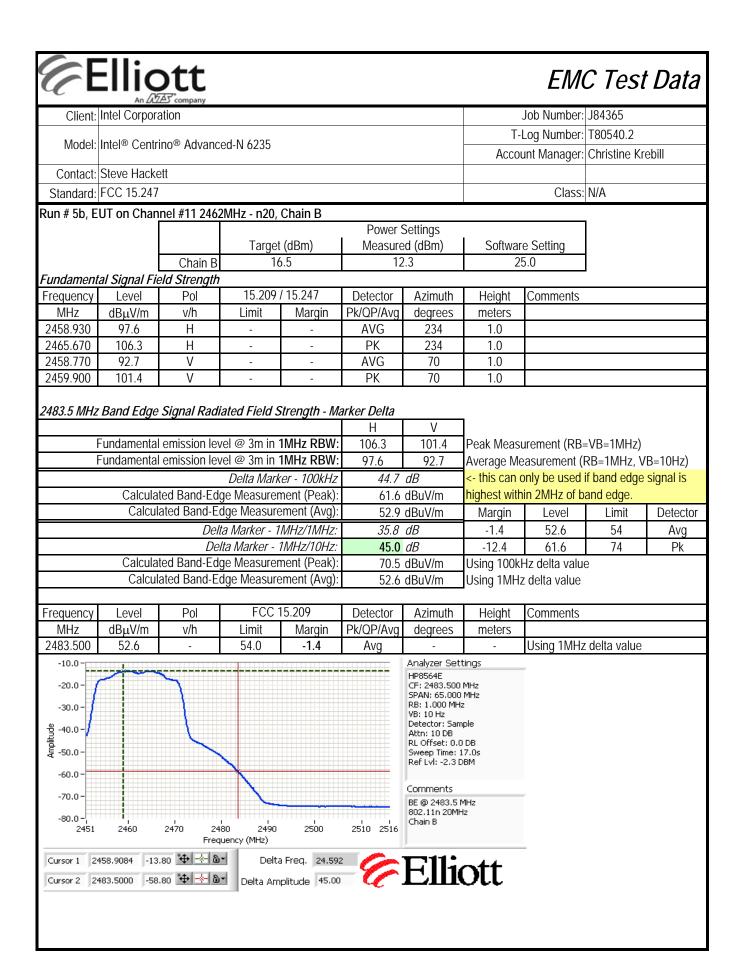
2400

Delta Amplitude

2410

Comments

BE @ 2390 MHz 802.11n 20MHz Chain B



Client:	Intel Corpora	ation						Job Number:	J84365	
			LNL / 005				T-	Log Number:	T80540.2	
Model:	Intel® Centri	ino® Advanc	ea-N 6235				Acco	unt Manager:	Christine Kr	ebill
Contact:	Steve Hacke	ett								
Standard:	FCC 15.247							Class:	N/A	
un # 6, Ba	ind Edge Fie	ld Strength	- 802.11g, C	Chain B						
	Date of Test:						FT Chambe	er #7		
	est Engineer:			t - Obele D	Con	ifig Change:	none			
un # 6a, E	UT on Chan	nei #1 2412N	VIHZ - 802.11	ig, Chain B	Power S	Sottings			1	
			Target	t (dBm)	Measure	•	Softwar	e Setting		
		Chain B		6.5		13.8 26.5				
undament	tal Signal Fie									
requency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2415.730	100.4	Н	-	-	AVG	235	1.0			
2415.200 2414.570	109.0 98.8	H V	-	-	PK AVG	235 70	1.0			
2414.370	107.4	V	<u> </u>	-	PK	70	1.0			
	Band Edge S Fundamental Fundamental	emission lev	vel @ 3m in	1MHz RBW:	H 109.0 100.4	V 107.4 98.8	Average Me	urement (RB: easurement (RB=1MHz, V	
	Band Edge S Fundamental Fundamental Calcula	emission lev emission lev ted Band-Ed	vel @ 3m in vel @ 3m in vel @ 3m in vel @ 3m in vel and velta Mark	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak):	H 109.0 100.4 47.7 61.3	107.4 98.8 <i>dB</i> dBuV/m	Average Me <- this can object with	easurement (only be used nin 2MHz of b	RB=1MHz, V if band edge and edge.	signal is
	Band Edge S Fundamental Fundamental Calcula	emission lev emission lev ted Band-Ed ated Band-Ed	rel @ 3m in rel @ 3m in Delta Mark ge Measurer dge Measurer	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg):	H 109.0 100.4 47.7 61.3 52.7	107.4 98.8 <i>dB</i> dBuV/m dBuV/m	Average Me <- this can on highest with Margin	easurement (only be used nin 2MHz of b Level	RB=1MHz, V if band edge and edge. Limit	signal is Detect
	Band Edge S Fundamental Fundamental Calcula	emission lev emission lev ted Band-Ed ated Band-Ed	vel @ 3m in vel @ 3m in vel @ 3m in vel @ 3m in vel wark Delta Mark ge Measurer dge Measurer ta Marker - 1	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg):	H 109.0 100.4 47.7 61.3 52.7 37.3	107.4 98.8 dB dBuV/m dBuV/m	Average Me <- this can of highest with Margin -1.9	easurement (conly be used hin 2MHz of but he be	RB=1MHz, V if band edge and edge. Limit 54	Detect Avg
	Band Edge S Fundamental Fundamental Calcula	emission lev emission lev ted Band-Ed ated Band-Ed Deli Del	vel @ 3m in vel @ 3m in vel @ 3m in Delta Markge Measurer dge Measurer a Marker - 1	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz:	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3	107.4 98.8 dB dBuV/m dBuV/m dB	Average Me <- this can of highest with Margin -1.9 -12.7	easurement (conly be used hin 2MHz of but he level 52.1 61.3	RB=1MHz, vif band edge and edge. Limit 54	signal is
	Fundamental Fundamental Calculat Calculat Calculat	emission lev emission lev ted Band-Ed ated Band-Ed	vel @ 3m in vel @ 3m in Delta Markge Measurer dge Measurer da Marker - 1 dta Marker - ge Measurer dge Measurer	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg):	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7	107.4 98.8 dB dBuV/m dBuV/m	Average Me <- this can of highest with Margin -1.9 -12.7 Using 100k	easurement (conly be used hin 2MHz of but he be	RB=1MHz, vif band edge and edge. Limit 54	Detect Avg
requency	Fundamental Fundamental Calcula Calcula Calcula Calcula	emission leventssion leventssi	vel @ 3m in vel @ 3m in vel @ 3m in Delta Mark ge Measurer dge Measurer a Marker - 1 Ita Marker - ge Measurer dge Measurer dge Measurer fCC 2	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg):	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me <- this can of highest with Margin -1.9 -12.7 Using 100k Using 1MH:	easurement (conly be used thin 2MHz of but the level to be seen to be seen the level to be s	RB=1MHz, vif band edge and edge. Limit 54	Detect Avg
requency MHz	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission lev emission lev ted Band-Ed ated Band-Ed Deli Dee ted Band-Ed ated Band-Ed	vel @ 3m in vel @ 4m vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dBuV/m	Average Me <- this can of highest with Margin -1.9 -12.7 Using 100k Using 1MH:	easurement (conly be used a sin 2MHz of b Level 52.1 61.3 Hz delta value Comments	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz	Fundamental Fundamental Calcula Calcula Calcula Calcula	emission leventssion leventssi	vel @ 3m in vel @ 3m in vel @ 3m in Delta Mark ge Measurer dge Measurer a Marker - 1 Ita Marker - ge Measurer dge Measurer dge Measurer fCC 2	1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg):	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can of highest with Margin1.912.7 Using 100k Using 1MH: Height meters	easurement (conly be used hin 2MHz of b Level 52.1 61.3 Hz delta value Comments Using 1MHz	RB=1MHz, vif band edge and edge. Limit 54	Detect Avg
requency MHz 2390.000	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @ 4m vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can of highest with Margin 1.9 12.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E	easurement (conly be used a sin 2MHz of b Level 52.1 61.3 Hz delta value comments Using 1MHz settings	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 -	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @ 4m vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can or highest with Margin1.912.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.C SPAN: 65.0	easurement (conly be used hin 2MHz of b Level 52.1 61.3 Hz delta value comments Using 1MHz Using 1MHz Using 1MHz	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 – -20.0 –	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @ 4m vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can or highest with Margin 1.9 12.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.0 SPAN: 65.0 RB: 1.000 VB: 10 Hz	easurement (conly be used hin 2MHz of but the level of 52.1 of 1.3 of the level of	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 – -20.0 – -30.0 –	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @ 4m vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can o highest with Margin1.912.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.0 SPAN: 65.0 SPAN: 65.0 RB: 1.000 VB: 10 Hz Detector: 5 Attn: 10 Di	easurement (conly be used hin 2MHz of but the second seco	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 – -20.0 – -30.0 –	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can of highest with Margin1.912.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.0 SPAN: 65.0 RB: 1.0001 VB: 10 Hz Detector: \$ Attn: 10 Di RL Offset: Sweep Tim	easurement (conly be used hin 2MHz of b Level 52.1 61.3 Hz delta value comments Using 1MHz Diettings OOO MHz MHz MHz Sample 30.0 DB e: 17.0s	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 – -20.0 –	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can or highest with Margin 1.9 12.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.0 SPAN: 65.0 RB: 1.000 VB: 10 Hz Detector: 3 Attn: 10 Di RL Offset:	easurement (conly be used hin 2MHz of b Level 52.1 61.3 Hz delta value comments Using 1MHz Diettings OOO MHz MHz MHz Sample 30.0 DB e: 17.0s	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg
requency MHz 2390.000 -10.0 - -20.0 - -30.0 -	Fundamental Fundamental Calcula Calcula Calcula Calcula Level dBµV/m	emission leventssion leventssi	vel @ 3m in vel @	1MHz RBW: 1MHz RBW: 1MHz RBW: wer - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209 Margin	H 109.0 100.4 47.7 61.3 52.7 37.3 48.3 71.7 52.1 Detector Pk/QP/Avg	107.4 98.8 dB dBuV/m dBuV/m dB dB dB dB dB dBuV/m dBuV/m dBuV/m	Average Me this can of highest with Margin1.912.7 Using 100k Using 1MH: Height meters Analyzer S HP8564E CF: 2390.0 SPAN: 65.0 RB: 1.0001 VB: 10 Hz Detector: \$ Attn: 10 Di RL Offset: Sweep Tim	easurement (conly be used hin 2MHz of b Level 52.1 61.3 Hz delta value comments Using 1MHz Gettings Hz Hz Hz Gettings Hz	RB=1MHz, V if band edge and edge. Limit 54 74	Detect Avg

Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 6b, EUT on Channel #11 2462MHz - 802.11g, Chain B **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 13.4 26.0 Chain B Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Detector Azimuth Heiaht Comments Pol v/h Limit Pk/QP/Avq degrees MHz dBuV/m Margin meters 2460.300 98.9 Н **AVG** 232 1.0 2458.270 107.7 Н PΚ 1.0 232 2457.870 94.0 ٧ **AVG** 1.0 --70 V 2457.930 102.7 PΚ 70 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta V Fundamental emission level @ 3m in 1MHz RBW: 107.7 102.7 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: Average Measurement (RB=1MHz, VB=10Hz) 98.9 94.0 <- this can only be used if band edge signal is Delta Marker - 100kHz 44.8 dB Calculated Band-Edge Measurement (Peak) highest within 2MHz of band edge. 62.9 dBuV/m Calculated Band-Edge Measurement (Avg): 54.1 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: -2.1 51.9 54 40.0 dB Avg Delta Marker - 1MHz/10Hz. 62.9 **47.0** dB -11.1 74 Pk Calculated Band-Edge Measurement (Peak): Using 100kHz delta value 67.7 dBuV/m Calculated Band-Edge Measurement (Avg) 51.9 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Pol Detector Azimuth Heiaht Comments Level Pk/QP/Avq degrees MHz dBuV/m v/h Limit Margin meters 2483.500 51.9 54.0 -2.1 Using 1MHz delta value Avq Analyzer Settings -10.0 HP8564E CF: 2483.500 MHz -20.0 SPAN: 65,000 MHz RB: 1.000 MHz -30.0 VB: 10 Hz Detector: Sample -40.0 Attn: 10 DB RL Offset: 0.0 DB -50.0 Sweep Time: 17.0s Ref Lvl: -2.3 DBM -60.0 Comments -70.0 BE @ 2483.5 MHz 802.11g -80.0 Chain B 2480 2490 2470 2500 2510 2516 2451 2460 Frequency (MHz) -12.80 ♣ -*- 🌣 • Cursor 1 2460.1001 Delta Freq. 23.400 -59.80 💠 📥 🆫 🖜 Cursor 2 2483.5000 Delta Amplitude 47.00



	An 2/22 company						
Client:	Intel Corporation	Job Number:	J84365				
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2				
Model.	intel® Centinio® Advanceu-iv 0233	Account Manager:	Christine Krebill				
Contact:	Steve Hackett						
Standard:	FCC 15.247	Class:	N/A				

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

Date of Test: 9/16/2010 Test Location: FT Chamber #7

Test Engineer: Rafael Varelas Config Change: none

Run # 7a, EUT on Channel #1 2412MHz - 802.11b, Chain B

	Power Settings							
	Target (dBm)	Target (dBm) Measured (dBm) Software Setting						
Chain B	16.5	16.7	24.5					

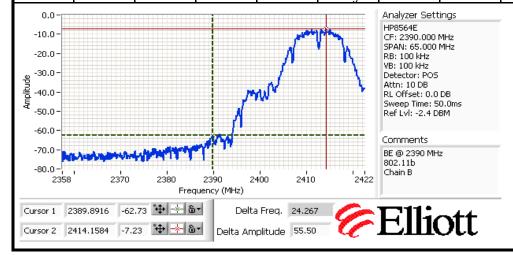
Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2413.900	103.6	V	-	-	AVG	70	1.0	
2413.230	107.6	V	-	-	PK	70	1.0	
2413.930	104.9	Н	-	-	AVG	235	1.0	
2413.630	108.9	Н	-	-	PK	235	1.0	

2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	Н	V				
Fundamental emission level @ 3m in 1MHz RBW:	108.9	107.6	Peak Measu	rement (RB=	VB=1MHz)	
Fundamental emission level @ 3m in 1MHz RBW:	104.9	103.6	Average Measurement (RB=1MHz, VB=10Hz)			
Delta Marker - 100kHz	55.5	dB	<- this can only be used if band edge signal is			signal is
Calculated Band-Edge Measurement (Peak):		dBuV/m	highest within 2MHz of band edge.			
Calculated Band-Edge Measurement (Avg):	49.4	dBuV/m	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	45.8	dB	-4.6	49.4	54	Avg
Delta Marker - 1MHz/10Hz:	55.2	dB	-20.6	53.4	74	Pk
Calculated Band-Edge Measurement (Peak):		dBuV/m	Using 100kHz delta value			
Calculated Band-Edge Measurement (Avg):	49.7	dBuV/m	Using 100kHz delta value			

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.892	49.4	-	54.0	-4.6	Ava	-	-	Using 100kHz delta value



Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 7b, EUT on Channel #11 2462MHz - 802.11b, Chain B **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 16.7 24.5 Chain B Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Detector Azimuth Heiaht Comments Pol v/h Limit Pk/QP/Avq degrees MHz dBuV/m Margin meters 2459.530 98.7 ٧ **AVG** 69 1.0 2460.770 102.6 ٧ PΚ 69 1.0 2460.300 104.1 Н **AVG** 235 1.0 --2460.700 108.1 Н PΚ 235 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta V Fundamental emission level @ 3m in 1MHz RBW: 108.1 102.6 Peak Measurement (RB=VB=1MHz) Fundamental emission level @ 3m in 1MHz RBW: Average Measurement (RB=1MHz, VB=10Hz) 104.1 98.7 <- this can only be used if band edge signal is Delta Marker - 100kHz 55.2 dB Calculated Band-Edge Measurement (Peak) highest within 2MHz of band edge. 52.9 dBuV/m Calculated Band-Edge Measurement (Avg): 48.9 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz: -5.9 48.1 54 45.3 dB Avg Delta Marker - 1MHz/10Hz. **56.0** *dB* -21.1 52.9 74 Pk Calculated Band-Edge Measurement (Peak): Using 100kHz delta value 62.8 dBuV/m Calculated Band-Edge Measurement (Avg) 48.1 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Pol Detector Azimuth Heiaht Comments Level Pk/QP/Avq degrees MHz dBuV/m v/h Limit Margin meters 2483.500 -5.9 Using 1MHz delta value 48.1 54.0 Avg Analyzer Settings 0.0 HP8564E -10.0 CF: 2483.500 MHz SPAN: 65.000 MHz -20.0 RB: 1.000 MHz VB: 10 Hz Detector: Sample Attn: 10 DB RL Offset: 0.0 DB 40.0 Sweep Time: 17.0s Ref Lvl: -2.4 DBM -50.0 -60.0 Comments -70.0 BE @ 2483.5 MHz 802.11b -80.0 Chain B 2490 2500 2480 2510 2516 2451 Frequency (MHz) -7.40 ♣ ♣ ७ • Cursor 1 2459.3416 Delta Freg. 24.158 **Elliott** Cursor 2 2483,5000 -63,40 💠 🗻 🗟 🗖 Delta Amplitude 56.00



	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Intel® Centinio® Advanced-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 8, Band Edge Field Strength - 802.11n20MHz, Chain B

Date of Test: 10/5/2010 Test Location: FT Chamber #4

Test Engineer: Mehran Birgani Config Change: None

Run # 8a, EUT on Channel #2 2417MHz - 802.11n20MHz, Chain B

		-					
	Power Settings						
	Target (dBm)	Measured (dBm)	Software Setting				
Chain B	16.5	16.2	29.5				

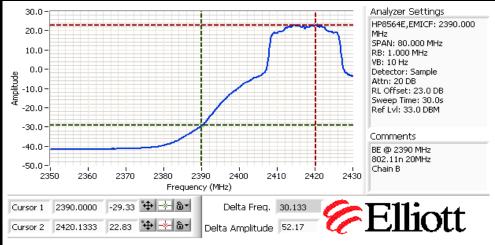
Fundamental Signal Field Strength

, amaamom	ar eignar i k	na on ongui						
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2420.070	97.8	V	-	-	AVG	267	1.0	
2421.400	106.1	V	-	-	PK	267	1.0	
2413.830	101.7	Н	-	-	AVG	236	1.2	
2413.200	110.2	Н	-	-	PK	236	1.2	

2390 MHz Band Edge Signal Radiated Field Strength - Marker Delta

3 3			_			
	Н	V				
Fundamental emission level @ 3m in 1MHz RBW:	110.2	106.1	Peak Measurement (RB=VB=1MHz)			
Fundamental emission level @ 3m in 1MHz RBW:	101.7	97.8	Average Me	asurement (I	RB=1MHz, V	B=10Hz)
Delta Marker - 100kHz	51.0	dB	<- this can only be used if band edge signal is			
Calculated Band-Edge Measurement (Peak):	59.2	dBuV/m	m highest within 2MHz of band edge.			
Calculated Band-Edge Measurement (Avg):	50.7	dBuV/m	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	40.8	dB	-4.5	49.5	54	Avg
Delta Marker - 1MHz/10Hz:	52.2	dB	-14.8	59.2	74	Pk
Calculated Band-Edge Measurement (Peak):	69.4	dBuV/m	Using 100kl	Iz delta valu	е	
Calculated Band-Edge Measurement (Avg):	49.5	dBuV/m	Using 1MHz	delta value		
	<u>-</u>	1		T		

Frequency	Level	Pol	FCC 1	15.209	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	49.5	-	54.0	-4.5	Avg	-	-	Using 1MHz delta value



Elliott EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80540.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Run # 8b, EUT on Channel #10 2457MHz - 802.11n20MHz, Chain B **Power Settings** Target (dBm) Measured (dBm) Software Setting 16.5 16.3 29.5 Chain B Fundamental Signal Field Strength 15.209 / 15.247 Frequency Level Pol Detector Azimuth Height Comments v/h Limit Margin Pk/QP/Ava MHz $dB\mu V/m$ degrees meters 2460.270 95.7 ٧ AVG 245 1.0 2461.530 103.8 ٧ PΚ 245 1.0 2460.030 102.3 Н **AVG** 248 1.0 2461.330 110.6 Н PΚ 248 1.0 2483.5 MHz Band Edge Signal Radiated Field Strength - Marker Delta ٧ Н Fundamental emission level @ 3m in 1MHz RBW: Peak Measurement (RB=VB=1MHz) 110.6 103.8 95.7 Fundamental emission level @ 3m in 1MHz RBW: 102.3 Average Measurement (RB=1MHz, VB=10Hz) Delta Marker - 100kHz <- this can only be used if band edge signal is 47.5 dB Calculated Band-Edge Measurement (Peak): 63.1 dBuV/m highest within 2MHz of band edge. Calculated Band-Edge Measurement (Avg): 54.8 dBuV/m Margin Level Limit Detector Delta Marker - 1MHz/1MHz. 39.5 dB -1.5 52.5 54 Avg Delta Marker - 1MHz/10Hz. -10.9 **49.8** *dB* 63.1 74 Pk Calculated Band-Edge Measurement (Peak) Using 100kHz delta value 71.1 dBuV/m Calculated Band-Edge Measurement (Avg): 52.5 dBuV/m Using 1MHz delta value FCC 15.209 Frequency Level Pol Detector Azimuth Height Comments Limit $dB\mu V/m$ v/h Margin Pk/QP/Avq degrees meters MHz 2483.500 52.5 54.0 -1.5 Using 1MHz delta value Ava Analyzer Settings 30.0 HP8564E,EMICF: 2483.500 20.0 MHz SPAN: 80,000 MHz 10.0 RB: 1.000 MHz VB: 10 Hz 0.0 Detector: Sample Attn: 20 DB -10.0 RL Offset: 23.0 DB Sweep Time: 30.0s -20.0 Ref Lvl: 28.2 DBM Comments -40.0 BE @ 2483.5 MHz 802.11n 20MHz -50.0 2490 2500 2524 2444 2450 2460 2470 2480 2510 Frequency (MHz) Cursor 1 2453.8999 22.53 💠 🔆 🖫 Delta Freq. 29.600 Cursor 2 2483,5000 -27,30 💠 🛧 🗟 🖜 Delta Amplitude 49.83



	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	III(e) Ceritiiii) Advanceu-ii 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
		#3	A: 13.5	A: 7.3	Restricted Band Edge at		52.3dBµV/m @
D #4	n40	2422MHz	B: 13.5	B: 6.9	2400 MHz	15.209	2389.9MHz (-1.7dB)
Run # 1	Chain A+B	#9	A: 13.5	A: 6.8	Restricted Band Edge at	1F 200	52.8dBµV/m @
		2452MHz	B: 13.5	B: 6.4	2483.5 MHz	15.209	2484.2MHz (-1.2dB)
		#4	A: 13.5	A: 8.2	Restricted Band Edge at	15.209	51.0dBµV/m @
Run # 2	n40	2427MHz	B: 13.5	B: 8.4	2400 MHz		2389.8MHz (-3.0dB)
IXIII // Z	Chain A+B	#8	A: 13.5	A: 8.2	Restricted Band Edge at	15.209	53.0dBµV/m @
		2447MHz	B: 13.5	B: 8.5	2483.5 MHz		2484.4MHz (-1.0dB)
		#5	A: 13.5	A: 10.5	Restricted Band Edge at	15.209	52.6dBµV/m @
Run # 3	n40	2432MHz	B: 13.5	B: 10.6	2400 MHz		2390.0MHz (-1.4dB)
rtan " o	Chain A+B	#7	A: 13.5	A: 10.5	Restricted Band Edge at	15.209	52.9dBµV/m @
		2442MHz	B: 13.5	B: 10.7	2483.5 MHz		2483.5MHz (-1.1dB)
					Restricted Band Edge at	15.209	51.8dBµV/m @
Run # 4	n40	#6	A: 13.5	A: 12.3	2400 MHz		2389.8MHz (-2.2dB)
	Chain A+B	2437MHz	B: 13.5	B: 12.4	Restricted Band Edge at	15.209	52.8dBµV/m @
					2483.5 MHz		2483.5MHz (-1.2dB)
		#1	A: 13.5	A: 11.4	Restricted Band Edge at	15.209	51.9dBµV/m @
Run # 5	n20	2412MHz	B: 13.5	B: 11.6	2400 MHz		2390.0MHz (-2.1dB)
	Chain A+B	#11	A: 13.5	A: 11.1	Restricted Band Edge at	15.209	53.0dBµV/m @
		2462MHz	B: 13.5	B: 10.7	2483.5 MHz		2483.5MHz (-1.0dB)
		#2	A: 13.5	A: 13.5	Restricted Band Edge at	15.209	49.3dBµV/m @
Run # 6	n20	2417MHz	B: 13.5	B: 13.7	2400 MHz		2389.9MHz (-4.7dB)
	Chain A+B	#10	A: 13.5	A: 13.6	Restricted Band Edge at	15.209	50.6dBµV/m @
		2457MHz	B: 13.5	B: 14.0	2483.5 MHz		2483.5MHz (-3.4dB)

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.



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Client:	Intel Corporation	Job Number:	J84365						
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2						
Model.	Intel® Centino® Advanced-in 0255	Account Manager:	Christine Krebill						
Contact:	Steve Hackett								
Standard:	FCC 15.247	Class:	N/A						

Test Specific Details

 $Objective: \begin{array}{l} \text{The objective of this test session is to perform engineering evaluation testing of the EUT with respect to the specification listed above.} \end{array}$

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: 15 - 55 % Temperature: 18 - 25 °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.



	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/21/2010 Test Location: FT7
Test Engineer: Mehran Config Change: none

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

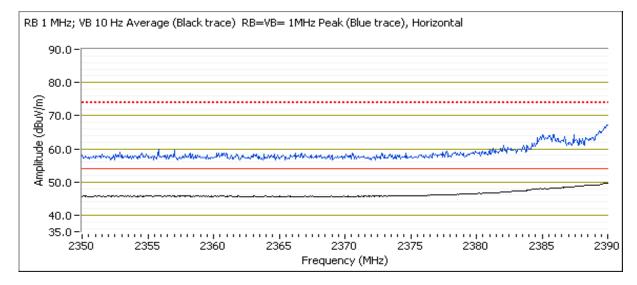
	Power Settings										
		Target	t (dBm)		Measured (dBm) Software Setting				Software Setting		
Chain	А	В	С	Total	А	В	С	Total			
Chain	13.5	13.5		16.5	7.3	6.9		10.1	21.5. 22.5		

Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2434.870	93.3	V	-	-	AVG	335	1.0	
2434.670	104.1	V	-	-	PK	335	1.0	
2409.730	92.9	Н	-	-	AVG	11	1.3	
2415.470	103.4	Н	-	-	PK	11	1.3	

Direct measurement of bandedge

Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
52.3	Н	54.0	-1.7	AVG	11	1.3	
49.3	V	54.0	-4.7	AVG	335	1.0	
65.2	Н	74.0	-8.8	PK	11	1.3	
60.6	V	74.0	-13.4	PK	335	1.0	
	dBμV/m 52.3 49.3 65.2	dBμV/m v/h 52.3 H 49.3 V 65.2 H	dBμV/m v/h Limit 52.3 H 54.0 49.3 V 54.0 65.2 H 74.0	dBμV/m v/h Limit Margin 52.3 H 54.0 -1.7 49.3 V 54.0 -4.7 65.2 H 74.0 -8.8	dBμV/m v/h Limit Margin Pk/QP/Avg 52.3 H 54.0 -1.7 AVG 49.3 V 54.0 -4.7 AVG 65.2 H 74.0 -8.8 PK	dBμV/m v/h Limit Margin Pk/QP/Avg degrees 52.3 H 54.0 -1.7 AVG 11 49.3 V 54.0 -4.7 AVG 335 65.2 H 74.0 -8.8 PK 11	dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 52.3 H 54.0 -1.7 AVG 11 1.3 49.3 V 54.0 -4.7 AVG 335 1.0 65.2 H 74.0 -8.8 PK 11 1.3





	All Date: Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

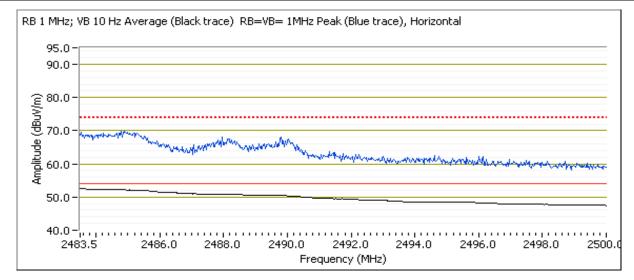
	Power Settings										
		Target	(dBm)		Measured (dBm) Software Setting				Software Setting		
Chain	Α	В	С	Total	Α	В	С	Total			
Chain	13.5	13.5		16.5	6.8	6.4		9.6	21.0, 22.0		

Fundamental Signal Field Strength

. amaamone	and another orginal role of origin										
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
2464.870	92.6	Н	-	-	AVG	16	1.0				
2463.470	102.7	Н	-	-	PK	16	1.0				
2439.400	91.0	V	-	-	AVG	205	1.0				
2444.470	100.6	V	-	-	PK	205	1.0				

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	
2484.240	52.8	Н	54.0	-1.2	AVG	16	1.0	
2484.460	50.8	V	54.0	-3.2	AVG	205	1.0	
2484.520	68.3	Н	74.0	-5.7	PK	16	1.0	
2484.350	63.3	V	74.0	-10.7	PK	205	1.0	





	An ZAZZZ Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/21/2010 Test Engineer: Mehran Test Location: FT7 Config Change: none

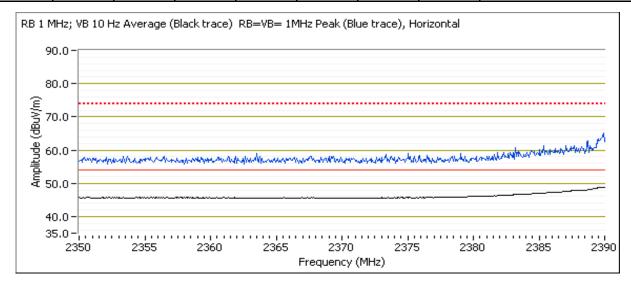
Run # 2a, EUT on Channel #4, 2427MHz - n40, Chain A+B

		Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting			
Chain	Α	В	С	Total	Α	В	С	Total				
Cilalii	13.5	13.5		16.5	8.2	8.4		11.3	22.5, 23.5			

Fundamental Signal Field Strength

	· · · · · · ·	· · · · · · · · · · · · · · · · · · ·						
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2430.000	92.2	V	-	-	AVG	205	1.0	
2438.330	102.4	V	-	-	PK	205	1.0	
2434.870	94.3	Н	-	-	AVG	336	1.0	
2432.330	104.7	Н	-	-	PK	336	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	
2389.800	51.0	Н	54.0	-3.0	AVG	336	1.0	
2389.730	51.0	V	54.0	-3.0	AVG	205	1.0	
2387.670	64.5	V	74.0	-9.5	PK	205	1.0	
2389.730	63.4	Н	74.0	-10.6	PK	336	1.0	





1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

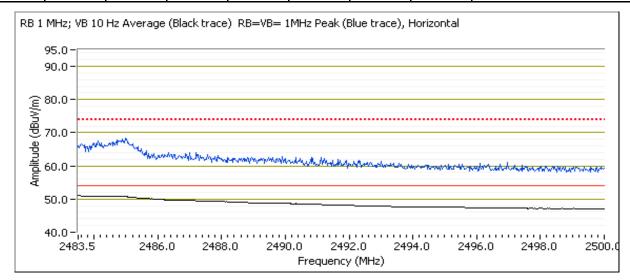
Run # 2b, EUT on Channel #8 2447MHz - n40, Chain A+B

		Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting			
Chain	Α	В	С	Total	Α	В	С	Total				
Chain	13.5	13.5		16.5	8.2	8.5		11.4	22.5, 23.5			

Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2434.730	94.1	Н	-	-	AVG	337	1.0	
2439.670	103.8	Н	-	-	PK	337	1.0	
2434.600	92.9	V	-	-	AVG	205	1.0	
2442.270	103.2	V	-	-	PK	205	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	
2484.410	53.0	Н	54.0	-1.0	AVG	337	1.0	
2484.650	51.4	V	54.0	-2.6	AVG	205	1.0	
2484.820	67.8	Н	74.0	-6.2	PK	337	1.0	
2484.980	64.2	V	74.0	-9.8	PK	205	1.0	





	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/17/2010 Test Engineer: Rafael Varelas Test Location: FT Chamber #7

Config Change: none

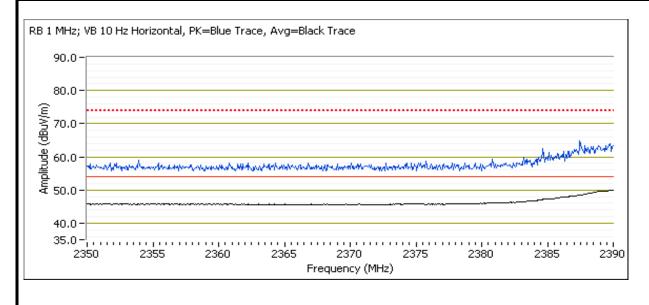
Run # 3a, EUT on Channel #5 2432MHz - n40, Chain A+B

		Power Settings										
		Target	(dBm)			Measure	Software Setting					
Chain	Α	В	С	Total	А	В	С	Total				
Chain	13.5	13.5		16.5	10.5	10.6		13.6	24.5/26.0			

Fundamental Signal Field Strength

Tundamental Signal From Carengar											
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
2434.800	96.7	Н	120.0	-23.3	AVG	9	1.0	RB 1 MHz;VB 10 Hz;Pk			
2427.000	106.4	Н	120.0	-13.6	PK	9	1.0	RB 1 MHz;VB 3 MHz;Pk			
2429.330	92.6	V	120.0	-27.4	AVG	219	1.0	RB 1 MHz;VB 10 Hz;Pk			
2427.330	103.1	V	120.0	-16.9	PK	219	1.0	RB 1 MHz;VB 3 MHz;Pk			

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.950	52.6	Н	54.0	-1.4	AVG	0	1.0	RB 1 MHz;VB 10 Hz;Pk
2390.000	66.9	Н	74.0	-7.1	PK	0	1.0	RB 1 MHz;VB 3 MHz;Pk
2389.980	50.4	V	54.0	-3.6	AVG	220	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.930	63.5	V	74.0	-10.5	PK	220	1.0	RB 1 MHz;VB 3 MHz;Pk





1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

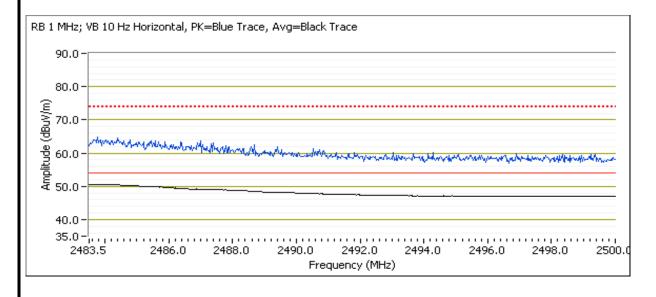
Run # 3b, EUT on Channel #7 2442MHz - n40, Chain A+B

		Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting			
Chain	А	В	С	Total	Α	В	С	Total				
	13.5	13.5		16.5	10.5	10.7		13.6	24.5/26.0			

Fundamental Signal Field Strength

i diladillelli	undamental eighal Field etterigati										
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
2429.400	93.4	V	120.0	-26.6	AVG	215	1.0	RB 1 MHz;VB 10 Hz;Pk			
2430.270	103.1	V	120.0	-16.9	PK	215	1.0	RB 1 MHz;VB 3 MHz;Pk			
2433.530	96.3	Н	120.0	-23.7	AVG	9	1.0	RB 1 MHz;VB 10 Hz;Pk			
2436.200	106.9	Н	120.0	-13.1	PK	9	1.0	RB 1 MHz;VB 3 MHz;Pk			

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.540	52.9	Н	54.0	-1.1	AVG	10	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.580	65.8	Н	74.0	-8.2	PK	10	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.520	50.7	V	54.0	-3.3	AVG	343	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.860	63.3	V	74.0	-10.7	PK	343	1.0	RB 1 MHz;VB 3 MHz;Pk





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Client:	Intel Corporation	Job Number:	J84365
Modol:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/17/2010 Test Location: FT Chamber #7

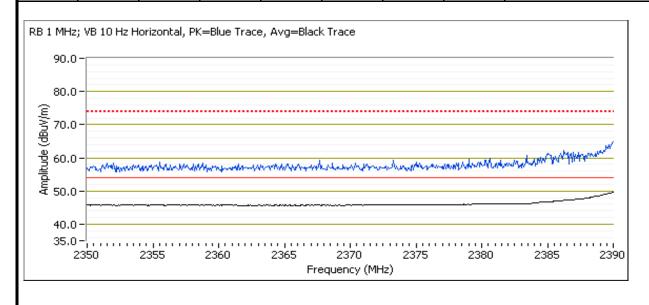
Test Engineer: Rafael Varelas Config Change: none

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

		Power Settings											
		Target	(dBm)			Measure	ed (dBm)		Software Setting				
Chain	Α	В	С	Total	Α	В	С	Total					
Chain	13.5	13.5		16.5	12.3	12.4		15.4	26.5/28.0				
Fundamental Signal Field Strength													
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments					
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters						
2425.600	94.3	V	120.0	-25.7	AVG	215	1.0	RB 1 MHz;\	/B 10 Hz;Pk				
2432.130	104.3	V	120.0	-15.7	PK	215	1.0	RB 1 MHz;\	/B 3 MHz;Pk				
2434.400	98.4	Н	120.0	-21.6	AVG	10	1.0	RB 1 MHz;\	/B 10 Hz;Pk				
2432.670	108.8	Н	120.0	-11.2	PK	10	1.0	RB 1 MHz;\	/B 3 MHz;Pk				

2390 MHz Band Edge

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.790	51.8	Н	54.0	-2.2	AVG	360	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.580	65.4	Н	74.0	-8.6	PK	360	1.0	RB 1 MHz;VB 3 MHz;Pk
2389.810	50.6	V	54.0	-3.4	AVG	215	1.0	RB 1 MHz;VB 10 Hz;Pk
2389.220	63.5	V	74.0	-10.5	PK	215	1.0	RB 1 MHz;VB 3 MHz;Pk



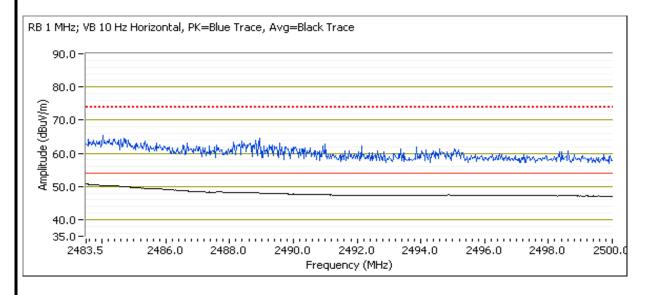


	All Bazz Stormpuny		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

2483.5 MHz Band Edge

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	52.8	Н	54.0	-1.2	AVG	8	1.0	RB 1 MHz;VB 10 Hz;Pk
2484.700	65.3	Н	74.0	-8.7	PK	8	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.500	50.4	V	54.0	-3.6	AVG	342	1.0	RB 1 MHz;VB 10 Hz;Pk
2485.220	63.3	V	74.0	-10.7	PK	342	1.0	RB 1 MHz;VB 3 MHz;Pk



Page 78



	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Modal:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/21/2010 Test Location: FT7
Test Engineer: Mehran Config Change: none

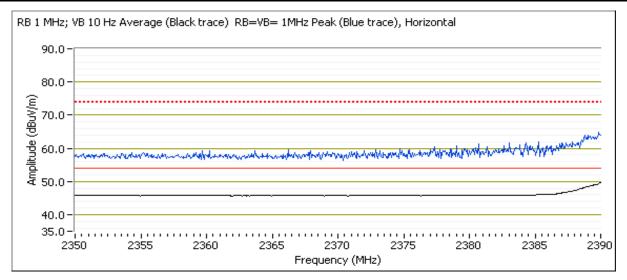
Run # 5a, EUT on Channel #1 2412MHz - n20, Chain A+B

		Power Settings										
		Target	(dBm)			Measure	Software Setting					
Chain	А	В	С	Total	Α	В	С	Total				
Chain	13.5	13.5		16.5	11.4	11.6		14.5	26.0, 27.5			

Fundamental Signal Field Strength

i diladilicit	undamental Signal Field Strength											
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments				
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters					
2413.800	98.2	V	120.0	-21.8	AVG	189	1.0					
2414.270	108.3	V	120.0	-11.7	PK	189	1.0					
2416.170	100.6	Н	120.0	-19.4	AVG	17	1.0					
2416.770	111.2	Н	120.0	-8.8	PK	17	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	
2390.000	51.9	Н	54.0	-2.1	AVG	17	1.0	
2390.000	51.6	V	54.0	-2.4	AVG	189	1.0	
2389.870	63.8	V	74.0	-10.2	PK	189	1.0	
2389.730	63.4	Н	74.0	-10.6	PK	17	1.0	





	All Bazz Stormpuny		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

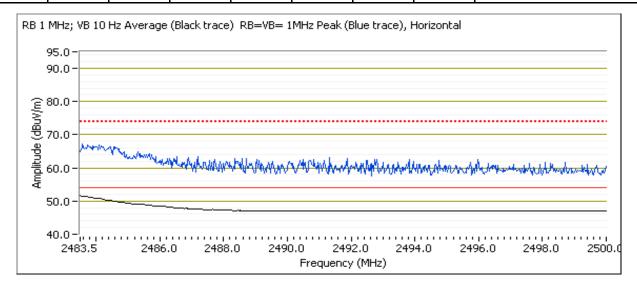
Run # 5b, EUT on Channel #11 2462MHz - n20, Chain A+B

Ituli # 35, L	, LOT ON CHAINET #11 2402WHZ - 1120, CHAIN ATD										
	Power Settings										
		Target	(dBm)			Software Setting					
Chain	Α	В	С	Total	А	В	С	Total			
Challi	13.5	13.5		16.5	11.1	10.7		13.9	25.5, 26.0		

Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2466.600	100.6	Н	-	-	AVG	15	1.0	
2463.470	110.7	Н	-	-	PK	15	1.0	
2463.670	96.7	V	-	-	AVG	187	0.9	
2466.600	107.1	V	-	-	PK	187	0.9	

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	Н	54.0	-1.0	AVG	15	1.0	
2483.500	51.3	V	54.0	-2.7	AVG	187	0.9	
2484.320	66.2	Н	74.0	-7.8	PK	15	1.0	
2483.500	63.5	V	74.0	-10.5	PK	187	0.9	





	An ZCZES company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 6, Band Edge Field Strength - n20, Chain A+B

Date of Test: 9/21/2010 Test Location: Chamber #4
Test Engineer: Mehran Birgani Config Change: None

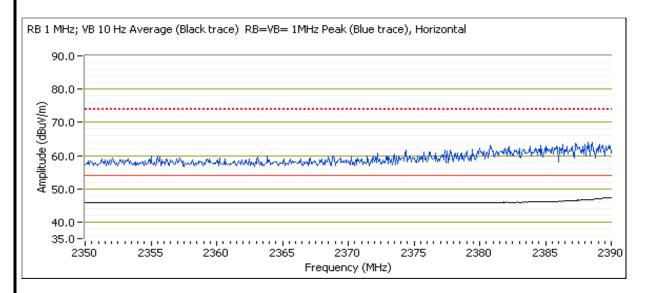
Run # 6a, EUT on Channel #2 2417MHz - n20, Chain A+B

	Power Settings									
		Target	(dBm)			Measure	Software Setting			
Chain	Α	В	С	Total	Α	В	С	Total		
Chain	13.5	13.5		16.5	13.5	13.7		16.6	28.5, 29.5	

Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2412.800	103.0	Н	-	-	AVG	10	1.3	
2415.570	113.1	Н	-	-	PK	10	1.3	
2421.130	100.4	V	-	-	AVG	189	1.0	
2414.200	110.8	V	-	-	PK	189	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	
2389.930	49.3	Н	54.0	-4.7	AVG	10	1.3	
2389.600	49.0	V	54.0	-5.0	AVG	189	1.0	
2385.270	64.2	Н	74.0	-9.8	PK	10	1.3	
2387.800	63.6	V	74.0	-10.4	PK	189	1.0	





1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

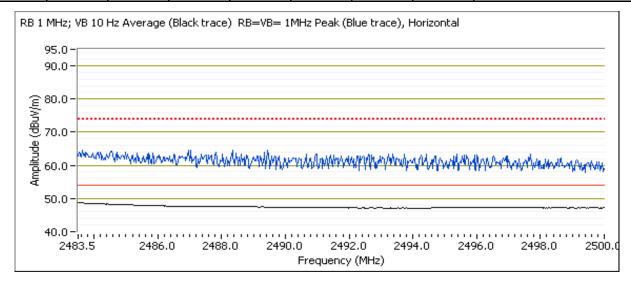
Run # 6b, EUT on Channel #10 2457MHz - n20, Chain A+B

		Power Settings										
		Target	(dBm)			Measure	Software Setting					
Chain	Α	В	С	Total	Α	В	С	Total				
Chain	13.5	13.5		16.5	13.6	14.0		16.8	28.5, 29.5			

Fundamental Signal Field Strength

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2460.870	102.9	Н	120.0	-17.1	AVG	15	1.0	
2459.670	113.0	Н	120.0	-7.0	PK	15	1.0	
2461.170	98.9	V	120.0	-21.1	AVG	197	1.0	
2461.630	109.1	V	120.0	-10.9	PK	197	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	
2483.500	50.6	Н	54.0	-3.4	AVG	15	1.0	
2483.660	49.5	V	54.0	-4.5	AVG	197	1.0	
2483.770	64.9	Н	74.0	-9.1	PK	15	1.0	
2487.680	62.7	V	74.0	-11.3	PK	197	1.0	





	An ZAZZES company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
woder.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (1-26GHz)

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
		#1 2412MHz	16.5	16.8			51.4dBµV/m @ 4824.0MHz (-2.6dB)
	802.11b Chain A	#6 2437MHz	16.5	16.4	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	49.1dBµV/m @ 4874.0MHz (-4.9dB)
Run #1		#11 2462MHz	16.5	16.8			50.4dBµV/m @ 4924.0MHz (-3.6dB)
Rull#1	802.11b Chain B	#1 2412MHz	16.5	16.8	Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	50.0dBµV/m @ 4824.0MHz (-4.0dB)
		#6 2437MHz	16.5	15.0			50.7dBµV/m @ 4874.0MHz (-3.3dB)
		#11 2462MHz	16.5	15.9			50.8dBµV/m @ 4924.0MHz (-3.2dB)

Scans on center channel in all three OFDM modes to determine the worst case mode. Note that for n20 and n40 mode the output power was set to 16.5dBm per chain. The maximum power per chain in MIMO mode would be 13.5dBm, however as the single chain power

could be 16.5dBm the scans were run at the higher single-chain power level with both chains active.

		802.11g	#6	1/Г	1/ /			40.8dBµV/m @
		Chain A	2437MHz	16.5	16.4			4874.2MHz (-13.2dB)
		802.11g	#6	16.5	16.7			44.3dBµV/m @
	Run # 2	Chain B	2437MHz	10.0	10.7	Radiated Emissions,	FCC 15.209 / 15.247	4874.4MHz (-9.7dB)
	Rull# Z	802.11n20	#6	A:16.5	A:16.6	1 - 26 GHz	FCC 15.209 / 15.24 /	45.0dBµV/m @
		Chain A+B	2437MHz	B:16.5	B:16.5			4873.2MHz (-9.0dB)
		802.11n40	#6	A:16.5	A:16.6			39.5dBµV/m @
		Chain A+B	2437MHz	B:16.5	B:16.5			4873.9MHz (-14.5dB)
	Top and bot	tom channels	s in worst cas	se OFDM mo	ode:			
		Worst case	#1	47.5	A:16.5	Dedicted Englacians		36.5dBµV/m @
		OFDM	2412MHz	16.5	B:16.6			4827.0MHz (-17.5dB)
	Run # 3	802.11n				Radiated Emissions, 1 - 26 GHz	FCC 15.209 / 15.247	
ı		20MHz	#11	16.5	14 E A:16.7	1 - 20 GHZ		43.3dBµV/m @
ı		Chain A+B	2462MHz	10.5	B:16.7			4923.1MHz (-10.7dB)

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.



	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Receiver Sp	Receiver Spurious Emissions								
Run #	Mode	Channel	Target	Measured	Test Performed	Limit	Result / Margin		
Kull#		Charine	Power	Power	rest renomieu	Littiit	Nesuit / Margin		
		#6, Chain A	-				40.7dBµV/m @		
	Receive	#0, Chain A		-	Radiated Emissions, 1 - 7.5 GHz	RSS 210	1200.0MHz (-13.3dB)		
Run # 4		#6, Chain B		-			39.7dBµV/m @		
Rull#4			-				2986.7MHz (-14.3dB)		
		#6, Chain					39.2dBµV/m @		
		A+B		-			1200.1MHz (-14.8dB)		

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: 15 - 55 % Temperature: 18 - 25 °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.



	An 2/22 company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Intel® Centino® Advanced-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Date of Test: 9/17/2010 Test Location: FT Chamber #7

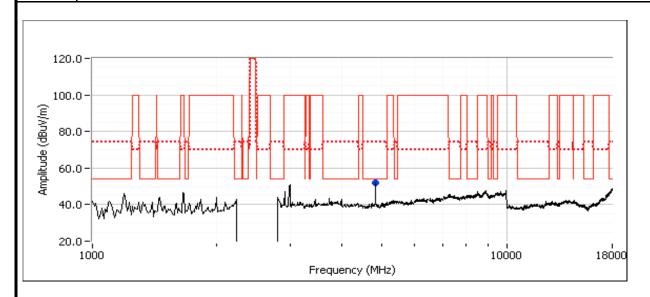
Test Engineer: Rafael Varelas Config Change: none

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

٠.		··· ooziii io oii aiii ii						
			Power Settings					
		Target (dBm)	Target (dBm) Measured (dBm) Software Setting					
	Chain A	16.5	16.8	23.5				

Spurious Radiated Emissions:

Frequency	Level	Pol	15 209	/15.247	Detector	Azimuth	Heiaht	Comments
MHz				ī				Comments
	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4824.020	51.4	V	54.0	-2.6	AVG	2	1.0	RB 1 MHz;VB 10 Hz;Pk
4824.030	54.7	V	74.0	-19.3	PK	2	1.0	RB 1 MHz;VB 3 MHz;Pk





	All 2023 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

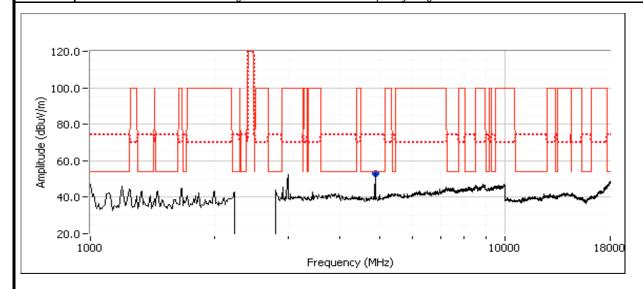
Run #1b: , EUT on Channel #6 2437MHz - 802.11b, Chain A

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.4	23.0

Spurious Radiated Emissions:

	r · · · · · · · · · · · · · · · · · · ·								
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
4873.980	49.1	V	54.0	-4.9	AVG	70	1.0		
4873.980	52.2	V	74.0	-21.8	PK	70	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.





	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

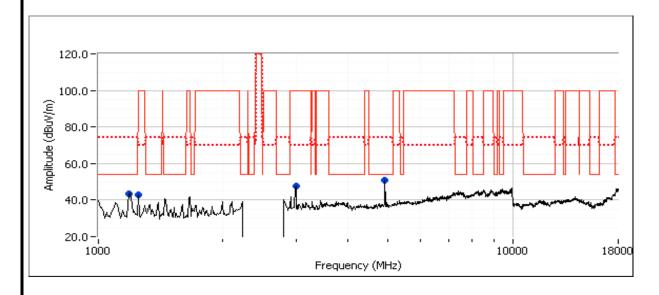
Run #1c: , EUT on Channel #11 2462MHz - 802.11b, Chain A

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.8	23.5

Spurious Radiated Emissions:

Sparious N	Sparious 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		
4924.030	50.4	V	54.0	-3.6	AVG	155	1.0		
4923.950	52.9	V	74.0	-21.1	PK	155	1.0		
1192.680	44.9	Н	54.0	-9.1	AVG	120	1.7		
1192.680	46.9	Н	74.0	-27.1	PK	120	1.7		
1220.250	33.8	V	54.0	-20.2	AVG	183	1.0		
1220.720	41.1	V	74.0	-32.9	PK	183	1.0		
2993.170	39.9	V	100.0	-60.1	AVG	152	1.0		
2999.570	57.6	V	70.0	-12.4	PK	152	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.





	All 2023 Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

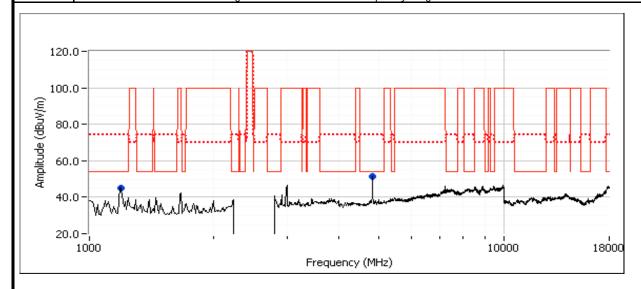
Run #1d, EUT on Channel #1 2412MHz - 802.11b, Chain B

•										
			Power Settings							
		Target (dBm)	Target (dBm) Measured (dBm) Software Setting							
	Chain B	16.5	16.8	25.0						

Spurious Radiated Emissions:

opanious n	opunious radiated Enhistrensi									
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
4824.020	50.0	V	54.0	-4.0	AVG	191	1.0			
1192.550	43.6	V	54.0	-10.4	AVG	210	1.1			
4824.080	52.7	V	74.0	-21.3	PK	191	1.0			
1192.700	46.5	V	74.0	-27.5	PK	210	1.1			

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.





	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

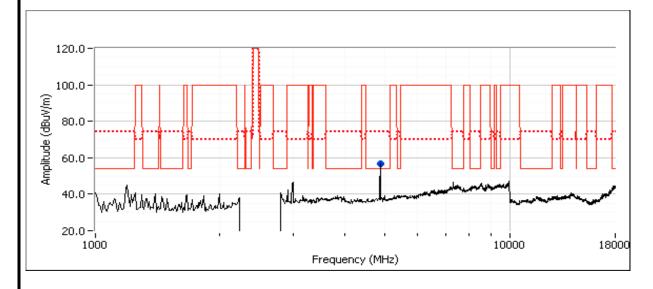
Run #1e: , EUT on Channel #6 2437MHz - 802.11b, Chain B

۰.		mile outrible onamie							
		Power Settings							
		Target (dBm) Measured (dBm) Software Setting							
	Chain B	16.5	15.0	23.0					

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		
4873.990	50.7	V	54.0	-3.3	AVG	172	1.0		
4873.990	53.2	V	74.0	-20.8	PK	172	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.





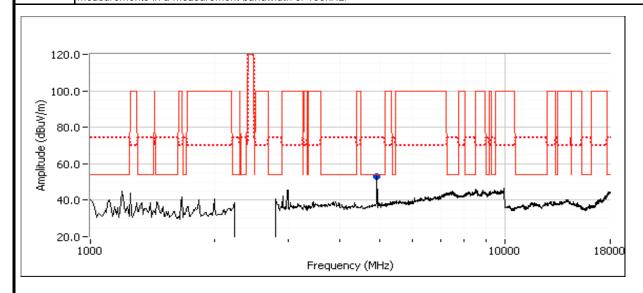
	All 2023 Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	ilitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

	Power Settings									
	Target (dBm)	Target (dBm) Measured (dBm) Software Setting								
Chain B	16.5	15.9	23.5							

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	Setting	
4923.980	50.8	V	54.0	-3.2	AVG	305	1.0	23.5	
4923.920	53.2	V	74.0	-20.8	PK	305	1.0	23.5	





An ACE company									
Client:	Intel Corporation	Job Number:	J84365						
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2						
wouei.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill						
Contact:	Steve Hackett								
Standard:	FCC 15.247	Class:	N/A						

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

Date of Test: 9/20/2010 Test Location: Chamber #7
Test Engineer: Mehran Birgani Config Change: None

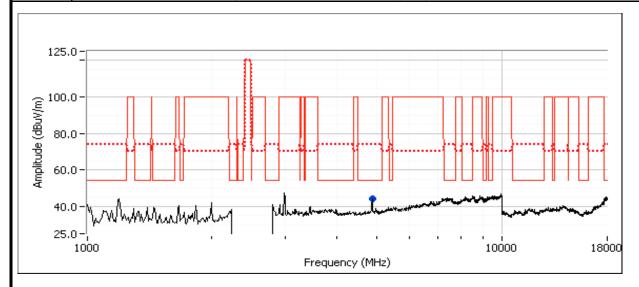
Run # 2a, EUT on Channel #6 2437MHz - 802.11g Chain A

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

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	
4874.230	40.8	V	54.0	-13.2	AVG	13	1.0	
4875.150	52.4	V	74.0	-21.6	PK	13	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.





	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

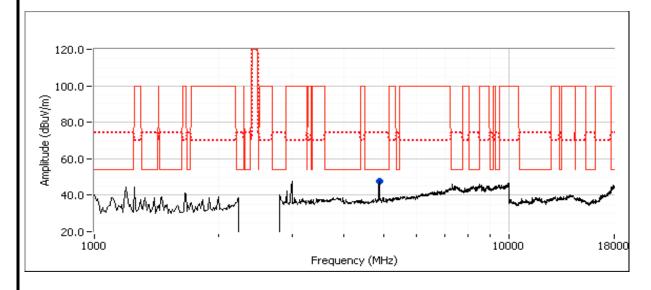
Run # 2a, EUT on Channel #6 2437MHz - 802.11g Chain B

	3		
		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	30.5	16.7

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209/	/15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
4874.350	44.3	V	54.0	-9.7	AVG	181	1.0			
4876.520	55.7	V	74.0	-18.3	PK	181	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.





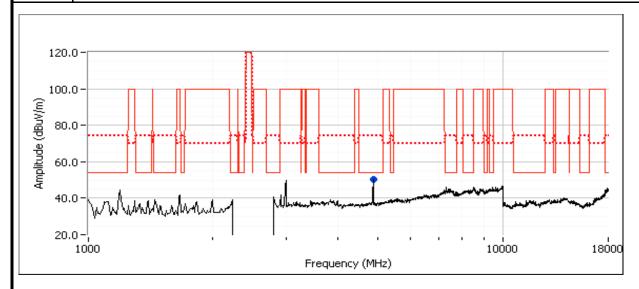
1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Modal:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Certifillo Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Ruit # 20. , Lot on Ghanner #0 2437Witz - 002.1 Mizo, Chain A+D											
	Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting		
Chain	Α	В	С	Total	Α	В	С	Total			
CHAIH	16.5	16.5		19.5	16.6	16.5		19.6	32.5, 34.0		

Spurious Radiated Emissions:

	opunious naunateu zimesione.									
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
4873.170	45.0	V	54.0	-9.0	AVG	180	1.1			
4874.040	59.8	V	74.0	-14.2	PK	180	1.1			





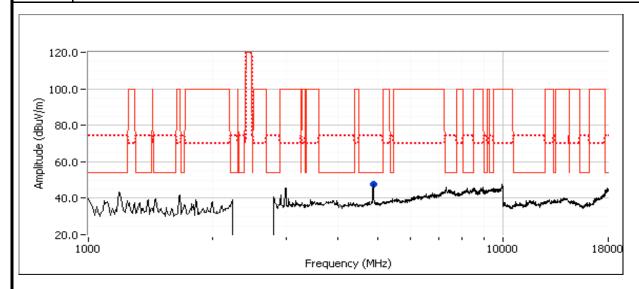
1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Modal:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

	Power Settings									
		Target	(dBm)		Measured (dBm)				Software Setting	
Chain	А	В	С	Total	Α	В	С	Total		
Chain	16.5	16.5		19.5	16.6	16.5		19.6	32.5, 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			
4873.870	39.5	Н	54.0	-14.5	AVG	120	1.1			
4874.030	54.7	Н	74.0	-19.3	PK	120	1.1			





	An 2/22 company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	inter Centino Advanced-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 3, Radiated Spurious Emissions, 1-26GHz, Worst case OFDM 802.11n 20MHz, Chain A+B

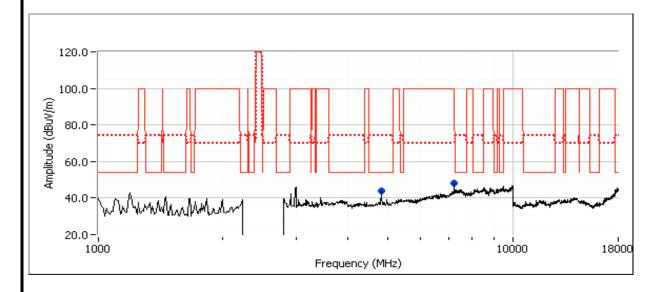
Date of Test: 9/20/2010 Test Location: Chamber #7
Test Engineer: Rafael Varelas Config Change: None

Run # 3a, EUT on Channel #1 2412MHz - 802.11n 20MHz, Chain A+B

		Power Settings										
		Target	(dBm)	Measured (d					Software Setting			
Chain	А	В	С	Total	Α	В	С	Total				
Challi	16.5	16.5		19.5	16.5	16.6		19.6	32.5, 34.0			

Spurious Radiated Emissions:

					T _ T			-
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4826.970	36.5	V	54.0	-17.5	AVG	137	1.1	RB 1 MHz;VB 10 Hz;Pk
4824.030	50.0	V	74.0	-24.0	PK	137	1.1	RB 1 MHz;VB 3 MHz;Pk
7236.050	48.4	V	70.0	-21.6	Peak	167	1.0	





	An ACCE company									
Client:	Intel Corporation	Job Number:	J84365							
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2							
	ilitel Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill							
Contact:	Steve Hackett									
Standard:	FCC 15.247	Class:	N/A							

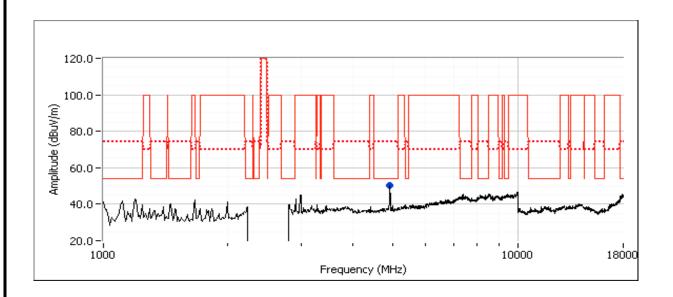
Run # 3b: , EUT on Channel #11 2462MHz - 802.11n 20MHz, Chain A+B

Date of Test: 9/20/2010 Test Location: Chamber #7
Test Engineer: Mehran Birgani Config Change: None

		Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting			
Chain	А	В	С	Total	Α	В	С	Total				
Chain	16.5	16.5		19.5	16.7	16.7		19.7	32.5, 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	
4923.130	43.3	V	54.0	-10.7	AVG	318	1.0	
4924.130	58.1	V	74.0	-15.9	PK	318	1.0	





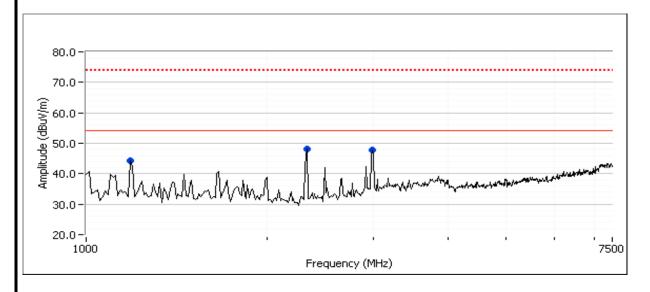
	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 4, Radiated Spurious Emissions, 1-26GHz, Receive, Chain A,B, A+B

Date of Test: 9/20/2010 Test Location: Chamber #7
Test Engineer: Rafael Varelas Config Change: none

Run # 4a, EUT on Channel #6 2437MHz - Receive, Chain A

Frequency	Level	Pol	RSS	210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1200.040	40.7	Н	54.0	-13.3	AVG	126	1.8	RB 1 MHz;VB 10 Hz;Pk
1200.060	46.3	Н	74.0	-27.7	PK	126	1.8	RB 1 MHz;VB 3 MHz;Pk
2987.470	38.0	V	54.0	-16.0	AVG	170	1.0	RB 1 MHz;VB 10 Hz;Pk
3000.000	55.0	V	74.0	-19.0	PK	170	1.0	RB 1 MHz;VB 3 MHz;Pk
2330.940	36.5	V	54.0	-17.5	AVG	258	1.0	RB 1 MHz;VB 10 Hz;Pk
2331.440	53.7	V	74.0	-20.3	PK	258	1.0	RB 1 MHz;VB 3 MHz;Pk

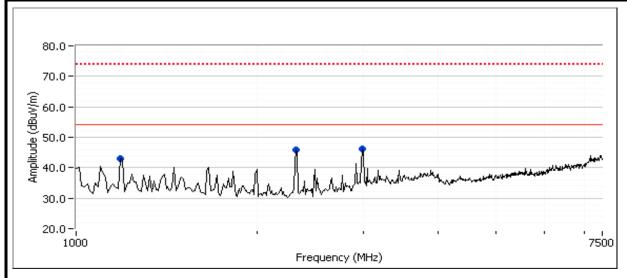




All Delta Company								
Client:	Intel Corporation	Job Number:	J84365					
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2					
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill					
Contact:	Steve Hackett							
Standard:	FCC 15.247	Class:	N/A					

Run # 4b: EUT on Channel #6 2437MHz - Receive, Chain B

Frequency	Level	Pol	RSS	210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2986.720	39.7	V	54.0	-14.3	AVG	161	1.0	RB 1 MHz;VB 10 Hz;Pk
2987.450	56.9	V	74.0	-17.1	PK	161	1.0	RB 1 MHz;VB 3 MHz;Pk
2324.000	37.6	V	54.0	-16.4	AVG	186	1.3	RB 1 MHz;VB 10 Hz;Pk
2324.460	55.7	V	74.0	-18.3	PK	186	1.3	RB 1 MHz;VB 3 MHz;Pk
1200.070	38.9	Н	54.0	-15.1	AVG	120	1.7	RB 1 MHz;VB 10 Hz;Pk
1199.980	44.9	Н	74.0	-29.1	PK	120	1.7	RB 1 MHz;VB 3 MHz;Pk

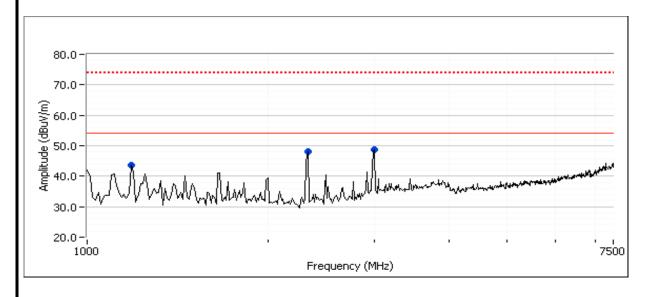




	An 2022 Company	All 2422 Company									
Client:	Intel Corporation	Job Number:	J84365								
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2								
	IIIIel® Cellillio® Advanced-iv 0255	Account Manager:	Christine Krebill								
Contact:	Steve Hackett										
Standard:	FCC 15.247	Class:	N/A								

Run # 4c: EUT on Channel #6 2437MHz - Receive, Chain A+B

Eroguopey	Level	Pol	DCC	210	Detector	Azimuth	Height	Comments
Frequency	Levei	PUI	I\33	210	Detector	AZIIIIUIII	пеідпі	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1200.050	39.2	V	54.0	-14.8	AVG	104	1.8	RB 1 MHz;VB 10 Hz;Pk
1199.910	45.4	V	74.0	-28.6	PK	104	1.8	RB 1 MHz;VB 3 MHz;Pk
2987.130	38.9	V	54.0	-15.1	AVG	154	1.0	RB 1 MHz;VB 10 Hz;Pk
2985.230	56.5	V	74.0	-17.5	PK	154	1.0	RB 1 MHz;VB 3 MHz;Pk
2323.250	36.1	V	54.0	-17.9	AVG	360	1.0	RB 1 MHz;VB 10 Hz;Pk
2321.940	53.6	V	74.0	-20.4	PK	360	1.0	RB 1 MHz;VB 3 MHz;Pk





	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	T80540.2 Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (1-26GHz)

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
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Scans on center channel in all three OFDM modes to determine the worst case. Note that for n20 and n40 mode the output power was set to 16.5dBm per chain, the maximum power per chain in MIMO mode would be 13.5dBm, however as the single chain power could be 16.5dBm the scans were run at the higher single-chain power level but with both chains active to cover both MIMO and MISO modes.

	802.11a	#157	1/ E	147			44.8dBµV/m @
Dup # 1	Chain A	5785MHz	16.5	16.7	Radiated Emissions,	FCC 15.209 / 15.247	11570.3MHz (-9.2dB)
Run # 1	802.11a	#157	1/ Г	1/ 0	1 - 40 GHz	FCC 15.2097 15.247	45.1dBµV/m @
	Chain B	5785MHz	16.5	16.8			11570.2MHz (-8.9dB)
		#157	16.5	A=16.6			47.6dBµV/m @
Run # 2	n20/n40	5785MHz	10.0	B=16.7	Radiated Emissions,	FCC 15.209 / 15.247	11570.8MHz (-6.4dB)
Rull # Z	Chain A+B	#159	16.5	A=16.6	.6 1 - 40 GHz .7	FCC 13.2097 13.247	46.3dBµV/m @
		5795MHz	10.0	B=16.7			11590.1MHz (-7.7dB)
Top and bo	ttom channe	els in worst	case OFDM	mode (n20,	Chain A+B):		
		#149	16.5 16.5	A=16.7	Radiated Emissions, 1 - 40 GHz		46.4dBµV/m @
Run # 3	Mode: n20 Chain A+B	5745MHz		B=16.8		FCC 15.209 / 15.247	11490.0MHz (-7.6dB)
IXuII # 3		#165		A=16.6			49.4dBµV/m @
		5825MHz	10.5	B=16.7			11650.5MHz (-4.6dB)
Receiver Sp	ourious Emi	ssions					
		#157,					38.8dBµV/m @
	Receive	Chain A	-	-			2998.7MHz (-15.2dB)
Run # 4	Chain A,B,	#157,			Radiated Emissions,	RSS 210	38.7dBµV/m @
IXUIT# 4	A+B	Chain B	-	•	1 - 7.5 GHz	133210	2995.4MHz (-15.3dB)
	A+D	#157,					38.8dBµV/m @
		Chain A+B	-	-			2328.2MHz (-15.2dB)

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.

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.



	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Ambient Conditions:

Rel. Humidity: 15 - 55 % Temperature: 18 - 25 °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.

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

Date of Test: 9/21/2010 Test Location: FT chamber #4

Test Engineer: Rafael Varelas Config Change: none

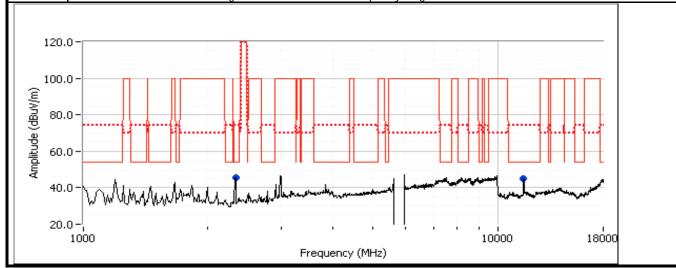
Run # 1a, EUT on Channel #157 5785MHz - 802.11a, Chain A

		Power Settings							
	Target (dBm) Measured (dBm) Software Setting								
Chain A	16.5	16.7	29.5						

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	
11570.250	44.8	V	54.0	-9.2	AVG	162	1.1	RB 1 MHz;VB 10 Hz;Pk
11571.650	55.7	V	74.0	-18.3	PK	162	1.1	RB 1 MHz;VB 3 MHz;Pk
2331.360	35.9	V	54.0	-18.1	AVG	339	1.0	RB 1 MHz;VB 10 Hz;Pk
2325.530	53.0	V	74.0	-21.0	PK	339	1.0	RB 1 MHz;VB 3 MHz;Pk

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





1	All Date Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

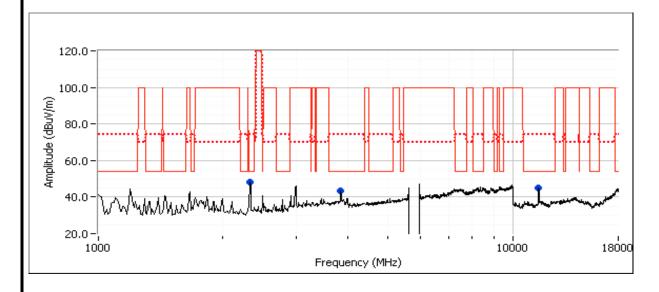
Run # 1b: , EUT on Channel #157 5785MHz - 802.11a, Chain B

		Power Settings					
	Target (dBm)	Target (dBm) Measured (dBm) Software Setting					
Chain A	16.5	16.8	29.0				

Spurious Radiated Emissions:

opunious naunatou zimesione.									
Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments		
dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
45.1	V	54.0	-8.9	AVG	285	1.0	RB 1 MHz;VB 10 Hz;Pk		
56.9	V	74.0	-17.1	PK	285	1.0	RB 1 MHz;VB 3 MHz;Pk		
38.2	V	54.0	-15.8	AVG	347	0.9	RB 1 MHz;VB 10 Hz;Pk		
56.9	V	74.0	-17.1	PK	347	0.9	RB 1 MHz;VB 3 MHz;Pk		
44.2	V	54.0	-9.8	AVG	219	1.0	RB 1 MHz;VB 10 Hz;Pk		
49.7	V	74.0	-24.3	PK	219	1.0	RB 1 MHz;VB 3 MHz;Pk		
	Level dBµV/m 45.1 56.9 38.2 56.9 44.2	Level Pol dBμV/m v/h 45.1 V 56.9 V 38.2 V 56.9 V 44.2 V	Level Pol 15.209. dBμV/m v/h Limit 45.1 V 54.0 56.9 V 74.0 38.2 V 54.0 56.9 V 74.0 44.2 V 54.0	Level Pol 15.209/15.247 dBμV/m v/h Limit Margin 45.1 V 54.0 -8.9 56.9 V 74.0 -17.1 38.2 V 54.0 -15.8 56.9 V 74.0 -17.1 44.2 V 54.0 -9.8	Level Pol 15.209/15.247 Detector dBμV/m v/h Limit Margin Pk/QP/Avg 45.1 V 54.0 -8.9 AVG 56.9 V 74.0 -17.1 PK 38.2 V 54.0 -15.8 AVG 56.9 V 74.0 -17.1 PK 44.2 V 54.0 -9.8 AVG	Level Pol 15.209/15.247 Detector Azimuth dBμV/m v/h Limit Margin Pk/QP/Avg degrees 45.1 V 54.0 -8.9 AVG 285 56.9 V 74.0 -17.1 PK 285 38.2 V 54.0 -15.8 AVG 347 56.9 V 74.0 -17.1 PK 347 44.2 V 54.0 -9.8 AVG 219	Level Pol 15.209/15.247 Detector Azimuth Height dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 45.1 V 54.0 -8.9 AVG 285 1.0 56.9 V 74.0 -17.1 PK 285 1.0 38.2 V 54.0 -15.8 AVG 347 0.9 56.9 V 74.0 -17.1 PK 347 0.9 44.2 V 54.0 -9.8 AVG 219 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.





	All Diff. Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 2, Radiated Spurious Emissions, 1-40GHz, 802.11n modes, Chain A+B

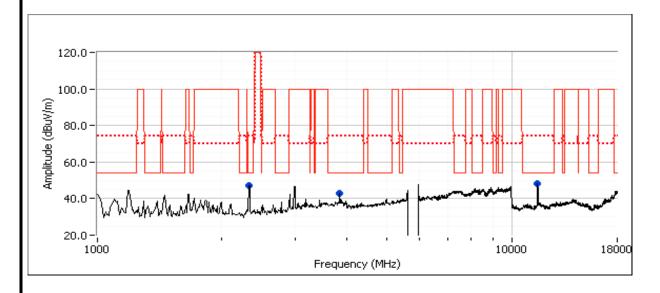
Date of Test: 9/21/2010 Test Location: FT chamber #4

Test Engineer: Rafael Varelas Config Change: none

Run # 2a, EUT on Channel #157 5785MHz - n20/n40, Chain A+B

		Power Settings									
		Target	(dBm)			Measure	ed (dBm)		Software Setting		
Chain	Α	В	С	Total	Α	В	С	Total			
Cilalii	16.5	16.5		19.5	16.6	16.7		19.7	35.5/35.0		
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		
11570.800	47.6	V	54.0	-6.4	AVG	161	1.1	RB 1 MHz;VB 10 Hz;Pk	
11570.000	60.7	V	74.0	-13.3	PK	161	1.1	RB 1 MHz;VB 3 MHz;Pk	
3856.660	43.2	V	54.0	-10.8	AVG	269	1.0	RB 1 MHz;VB 10 Hz;Pk	
3856.860	48.5	V	74.0	-25.5	PK	269	1.0	RB 1 MHz;VB 3 MHz;Pk	
2331.460	38.4	V	54.0	-15.6	AVG	180	1.4	RB 1 MHz;VB 10 Hz;Pk	
2331.830	57.5	V	74.0	-16.5	PK	180	1.4	RB 1 MHz;VB 3 MHz;Pk	





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Client:	Intel Corporation	Job Number:	J84365						
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2						
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill						
Contact:	Steve Hackett								
Standard:	FCC 15.247	Class:	N/A						

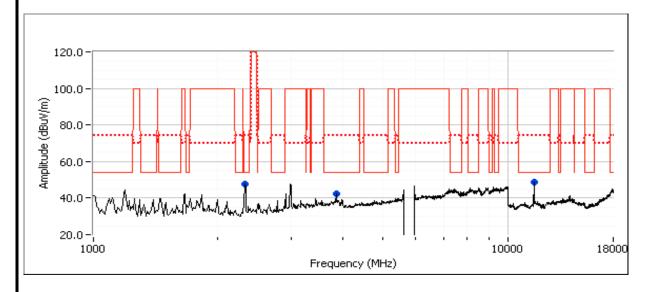
Run # 2b: , EUT on Channel #159 5795MHz - n20/n40, Chain A+B

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		Power Settings									
		Target	(dBm)		Measured (dBm)				Software Setting		
Chain	Α	В	С	Total	Α	В	С	Total			
Chain	16.5	16.5		19.5	16.6	16.7		19.7	36.5/36.0		

Spurious Radiated Emissions:

Spunous Rudiated Emissions.											
Frequency	Level	Pol	15.209/	/15.247	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
11590.100	46.3	V	54.0	-7.7	AVG	253	1.3	RB 1 MHz;VB 10 Hz;Pk			
11590.200	60.7	V	74.0	-13.3	PK	253	1.3	RB 1 MHz;VB 3 MHz;Pk			
2323.240	37.9	V	54.0	-16.1	AVG	160	1.4	RB 1 MHz;VB 10 Hz;Pk			
2325.640	55.5	V	74.0	-18.5	PK	160	1.4	RB 1 MHz;VB 3 MHz;Pk			
3863.370	42.6	V	54.0	-11.4	AVG	132	1.0	RB 1 MHz;VB 10 Hz;Pk			
3863.360	47.6	V	74.0	-26.4	PK	132	1.0	RB 1 MHz;VB 3 MHz;Pk			

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





	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

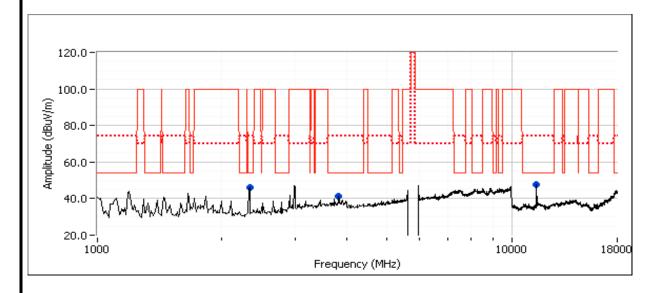
Date of Test: 9/21/2010 Test Location: FT chamber #4

Test Engineer: Rafael Varelas Config Change: none

Run # 3a, EUT on Channel #149 5745MHz - 802.11n 20MHz Chain A+B

		Power Settings									
	Target (dBm)				Measured (dBm)				Software Setting		
Chain	Α	В	С	Total	Α	В	С	Total			
	16.5	16.5		19.5	16.7	16.8		19.8	35.5/35.0		
Spurious R	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	
11490.000	46.4	V	54.0	-7.6	AVG	159	1.0	RB 1 MHz;VB 10 Hz;Pk
11490.230	61.2	V	74.0	-12.8	PK	159	1.0	RB 1 MHz;VB 3 MHz;Pk
2332.460	37.2	V	54.0	-16.8	AVG	167	1.1	RB 1 MHz;VB 10 Hz;Pk
2331.730	55.8	V	74.0	-18.2	PK	167	1.1	RB 1 MHz;VB 3 MHz;Pk
3830.000	40.4	V	54.0	-13.6	AVG	219	1.0	RB 1 MHz;VB 10 Hz;Pk
3829.910	47.5	V	74.0	-26.5	PK	219	1.0	RB 1 MHz;VB 3 MHz;Pk





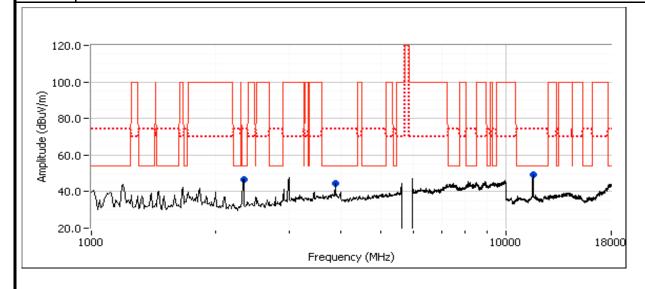
	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 3b, EUT on Channel #165 5825MHz - 802.11n 20MHz Chain A+B

Tuil# JD, L	OT OIL CHAIL	1101 # 103 30	ZJIVII IZ - 002	2. I III ZUIVII IZ	Chain ATD							
		Power Settings										
		Target	(dBm)		Measured (dBm)				Software Setting			
Chain	Α	В	С	Total	Α	В	С	Total				
Chain	16.5	16.5		19.5	16.6	16.7		19.7	35.5/35.0			

Spurious Radiated Emissions:

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Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments			
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters				
11650.470	49.4	V	54.0	-4.6	AVG	159	1.1	RB 1 MHz;VB 10 Hz;Pk			
11650.170	61.6	V	74.0	-12.4	PK	159	1.1	RB 1 MHz;VB 3 MHz;Pk			
2323.040	37.3	V	54.0	-16.7	AVG	54	1.1	RB 1 MHz;VB 10 Hz;Pk			
2321.740	54.7	V	74.0	-19.3	PK	54	1.1	RB 1 MHz;VB 3 MHz;Pk			
3883.330	43.7	V	54.0	-10.3	AVG	50	1.0	RB 1 MHz;VB 10 Hz;Pk			
3883.280	49.1	V	74.0	-24.9	PK	50	1.0	RB 1 MHz;VB 3 MHz;Pk			





	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

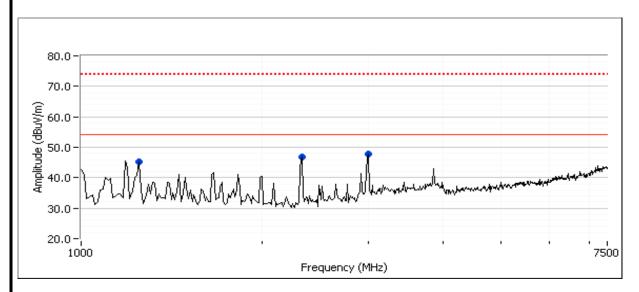
Run # 4, Radiated Spurious Emissions, 1-26GHz, Receive, Chain A,B, A+B

Date of Test: 9/21/2010 Test Location: FT chamber #4

Test Engineer: Rafael Varelas Config Change: none

Run # 4a, EUT on Channel #157 5785MHz - Receive, Chain A

Frequency	Level	Pol	RSS	210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2998.720	38.8	V	54.0	-15.2	AVG	122	1.0	RB 1 MHz;VB 10 Hz;Pk
2990.290	56.1	V	74.0	-17.9	PK	122	1.0	RB 1 MHz;VB 3 MHz;Pk
1244.620	26.8	V	54.0	-27.2	AVG	227	1.2	RB 1 MHz;VB 10 Hz;Pk
1242.850	37.4	V	74.0	-36.6	PK	227	1.2	RB 1 MHz;VB 3 MHz;Pk
2323.220	36.6	V	54.0	-17.4	AVG	111	1.3	RB 1 MHz;VB 10 Hz;Pk
2321.920	53.9	V	74.0	-20.1	PK	111	1.3	RB 1 MHz;VB 3 MHz;Pk

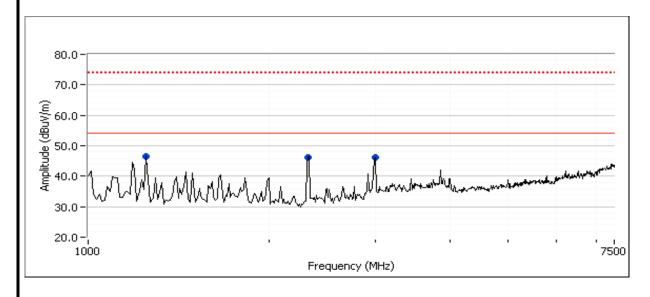




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Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 4b: EUT on Channel #157 5785MHz - Receive, Chain B

Frequency	Level	Pol	RSS 210		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2995.410	38.7	V	54.0	-15.3	AVG	113	1.0	RB 1 MHz;VB 10 Hz;Pk
2999.210	56.0	V	74.0	-18.0	PK	113	1.0	RB 1 MHz;VB 3 MHz;Pk
2323.010	36.6	V	54.0	-17.4	AVG	55	1.0	RB 1 MHz;VB 10 Hz;Pk
2323.070	54.1	V	74.0	-19.9	PK	55	1.0	RB 1 MHz;VB 3 MHz;Pk
1251.340	26.0	V	54.0	-28.0	AVG	18	1.0	RB 1 MHz;VB 10 Hz;Pk
1251.020	37.8	V	74.0	-36.2	PK	18	1.0	RB 1 MHz;VB 3 MHz;Pk

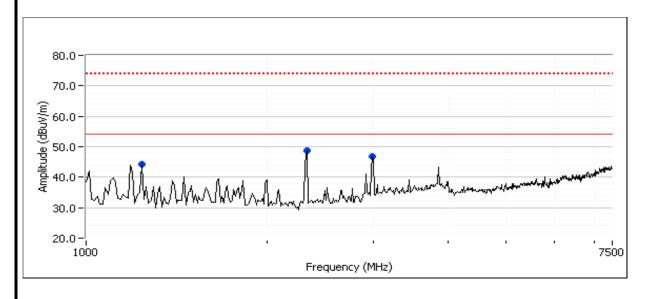




	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 4c: EUT on Channel #157 5785MHz - Receive, Chain A+B

Frequency	Level	Pol	RSS	210	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2328.210	38.8	V	54.0	-15.2	AVG	353	1.0	RB 1 MHz;VB 10 Hz;Pk
2329.210	56.6	V	74.0	-17.4	PK	353	1.0	RB 1 MHz;VB 3 MHz;Pk
2992.320	39.1	V	54.0	-14.9	AVG	130	1.0	RB 1 MHz;VB 10 Hz;Pk
2990.920	55.9	V	74.0	-18.1	PK	130	1.0	RB 1 MHz;VB 3 MHz;Pk
1239.940	26.9	V	54.0	-27.1	AVG	9	1.0	RB 1 MHz;VB 10 Hz;Pk
1239.900	39.1	V	74.0	-34.9	PK	9	1.0	RB 1 MHz;VB 3 MHz;Pk



Ellio AN AND AND	tt Company	Ei	MC Test Data
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247	Class:	В
Immunity Standard(s):	-	Environment:	-

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test:

	Eliott An AZAS company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	IIIIel® Cellillio® Advanced-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

Class: N/A

Test Specific Details

Standard: FCC 15.247

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: 10/1/2010 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: none Test Location: FT Chamber #7 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: 21.9 °C Rel. Humidity: 42 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin 802.11b: 49 mW	
1			Output Power	15.247(b)	Doce	802.11g: 38 mW	
ļ			Output Fower	15.247(b)	Pass	n20: 35.5 mW	
						n40: 17 mW	
2			Power spectral Density (PSD)	Power spectral Density (PSD) 15.247(d) Pa		-7.4 dBm/3kHz	
3			Minimum 6dB Bandwidth 15.247(a)		Pass	10.2 MHz	
						802.11b: 13.6 MHz	
2			99% Bandwidth	99% Bandwidth RSS GEN		802.11g: 17.1 MHz	
3			7770 Banawiatii 1833 GEW	K33 GEN	-	n20: 18.3 MHz	
						n40: 36.6 MHz	
1			Spurious emissions	15.247(b)	Pass	All emissions below the	
4	4		Spurious erriissioris	13.247(D)	Pass	limit	

Modifications Made During Testing

No modifications were made to the EUT during testing



Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Deviations From The Standard

No deviations were made from the requirements of the standard.

Run #1: Output Power

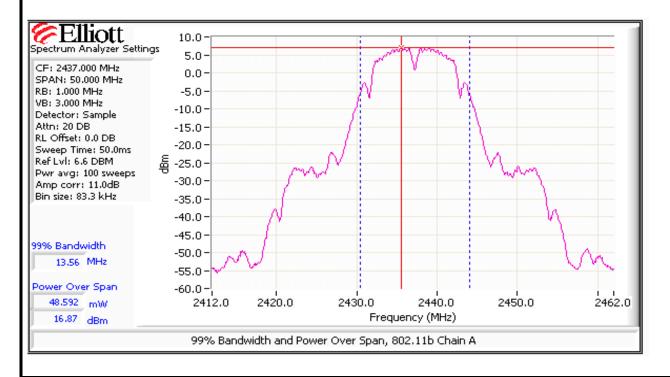
802.11b Mode

Power	Fraguanay (MII-)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHz)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
23.5	2412	16.7	46.8	3.2	Pass	19.9	0.098	16.8	47.9
23.5	2437	16.9	49.0	3.2	Pass	20.1	0.102	16.8	47.9
23.5	2462	16.8	47.9	3.2	Pass	20.0	0.100	16.8	47.9

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes -30dBc.

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes -30dBc.

Note 2: Power setting - the software power setting used during testing, included for reference only.





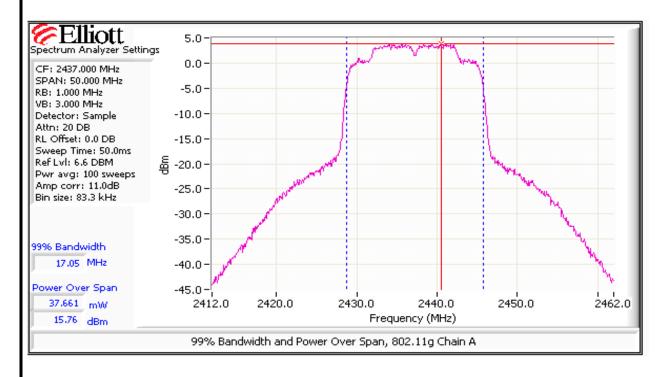
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	III(e) Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11g Mode

Power	Frequency (MHz)	Output	Power	Antenna	Docult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
25.5	2412	12.9	19.5	3.2	Pass	16.1	0.041	14.1	25.7
29	2437	15.8	38.0	3.2	Pass	19.0	0.079	16.6	45.7
25.5	2462	13.1	20.4	3.2	Pass	16.3	0.043	14.0	25.1

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.





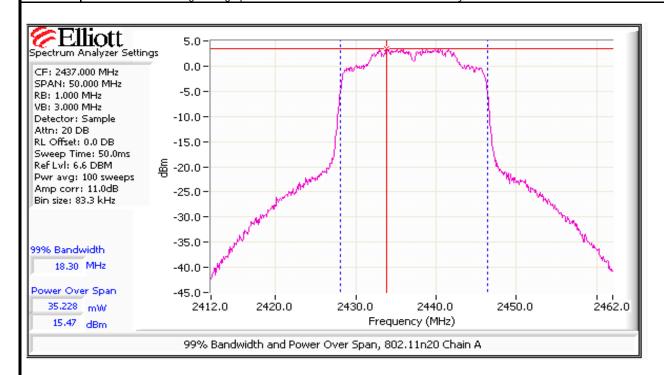
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 20MHz Mode

Power	Frequency (MHz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
24.5	2412	12.0	15.8	3.2	Pass	15.2	0.033	13.1	20.4
29	2437	15.5	35.5	3.2	Pass	18.7	0.074	16.5	44.7
24	2462	11.6	14.5	3.2	Pass	14.8	0.030	12.5	17.8

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.





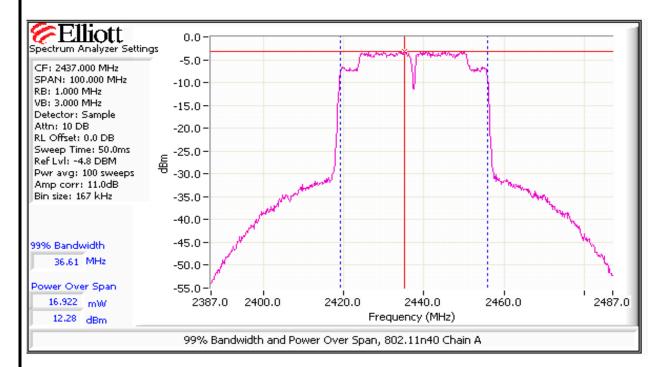
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 40MHz Mode

Power	Fraguerou (MII-)	Output	Power	Antenna	Dooult	EIRP	Note 2	Output	Power
Setting ²	Frequency (MHz)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) 3	mW
22	2422	9.3	8.5	3.2	Pass	12.5	0.018	10.6	11.5
25	2437	12.3	17.0	3.2	Pass	15.5	0.035	13.6	22.9
21.5	2452	8.7	7.4	3.2	Pass	11.9	0.015	10.1	10.2

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **80 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.





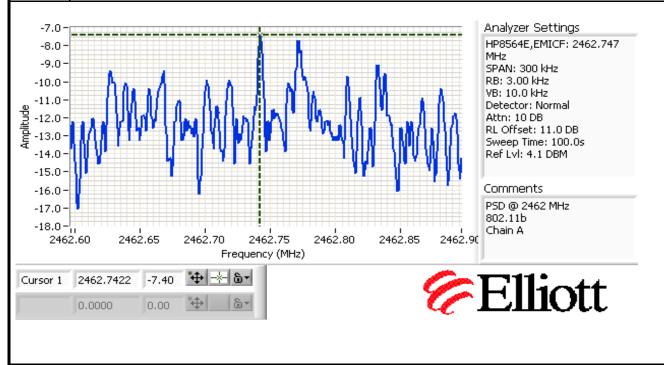
	All Dates Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	IIIIel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) ^{Note 1}	Limit dBm/3kHz	Result
	23.5	2412	-8.2	8.0	Pass
802.11b	23.5	2437	-8.2	8.0	Pass
	23.5	2462	-7.4	8.0	Pass
	25.5	2412	-10.4	8.0	Pass
802.11g	29	2437	-8.2	8.0	Pass
	25.5	2462	-10.7	8.0	Pass
802.11n	24.5	2412	-13.1	8.0	Pass
20MHz	29	2437	-8.9	8.0	Pass
ZUIVIITZ	24	2462	-10.9	8.0	Pass
802.11n	22	2422	-16.7	8.0	Pass
40MHz	25	2437	-13.4	8.0	Pass
4UIVINZ	21.5	2452	-16.7	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.

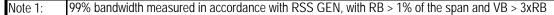


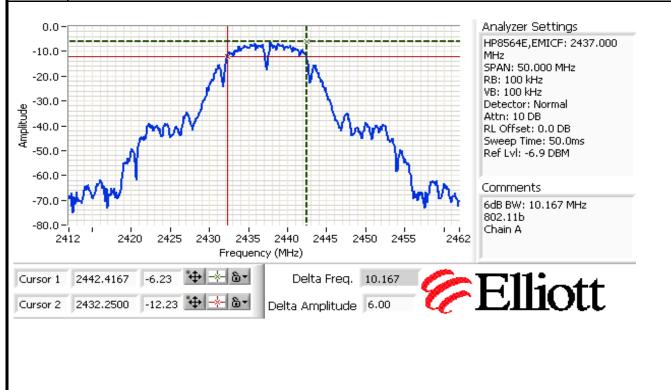


	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.	IIIIei® Celiiiiio® Auvanceu-N 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power	[Resolution	Bandwid	Ith (MHz)
	Setting	Frequency (MHz)	Bandwidth	6dB	99%
	23.5	2412	100kHz	10.2	13.6
802.11b	23.5	2437	100kHz	10.2	13.6
	23.5	2462	100kHz	10.2	13.6
	25.5	2412	100kHz	15.4	16.9
802.11g	29	2437	100kHz	15.2	17.1
	25.5	2462	100kHz	15.3	16.9
802.11n	24.5	2412	100kHz	15.2	18.1
20MHz	29	2437	100kHz	15.3	18.3
ΖΟΙVΙΠΖ	24	2462	100kHz	15.2	18.1
802.11n	22	2422	100kHz	35.3	36.6
802.11f1 40MHz	25	2437	100kHz	35.3	36.6
40IVITZ	21.5	2452	100kHz	35.5	36.6







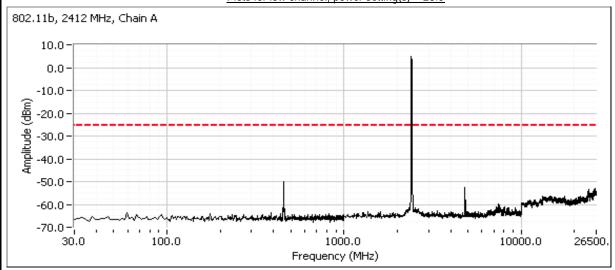
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

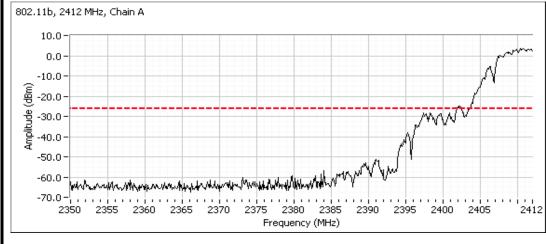
Run #4: Out of Band Spurious Emissions

802.11b Mode

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

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

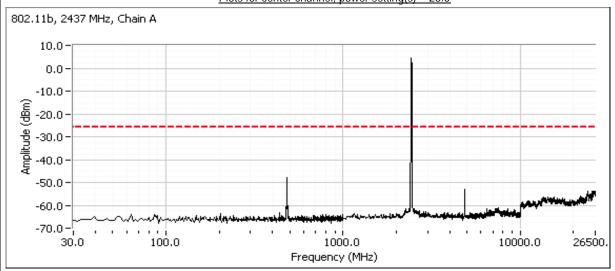




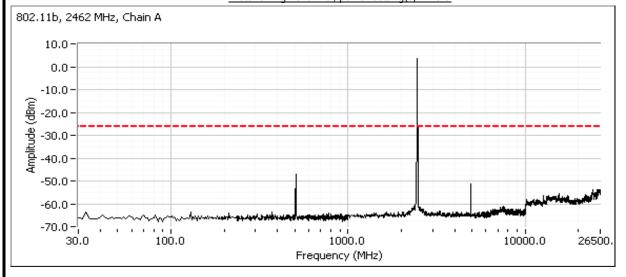


	The second secon		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.	IIIIel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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



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



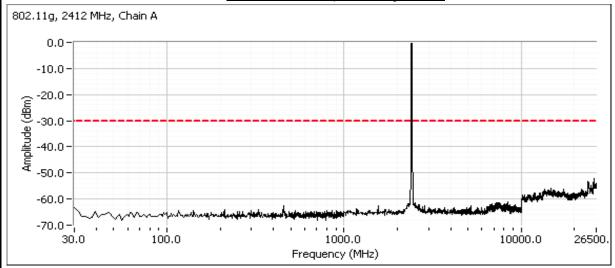


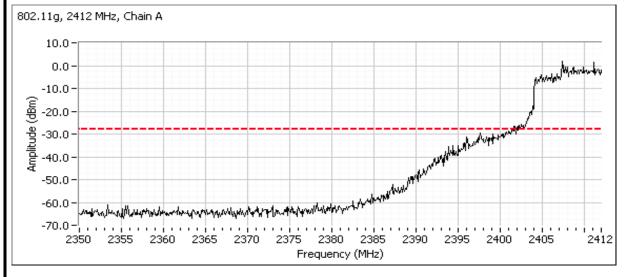
	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	IIIIel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11g Mode

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

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

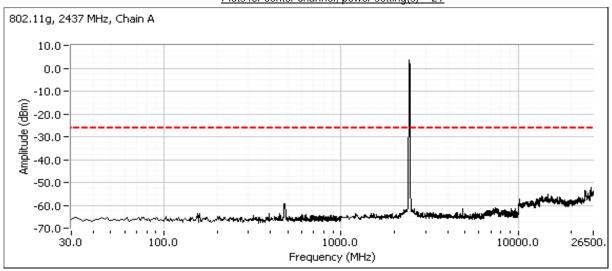




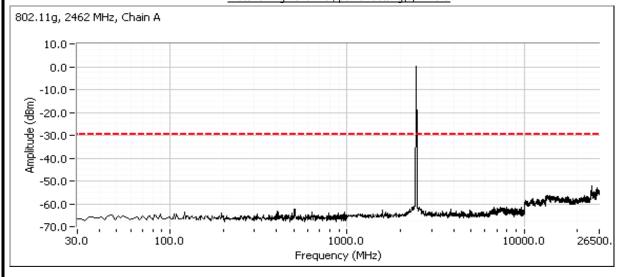


	All Diff. Company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	ilitel® Certifilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting(s) = 29



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



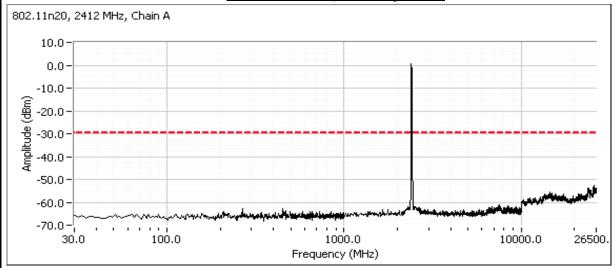


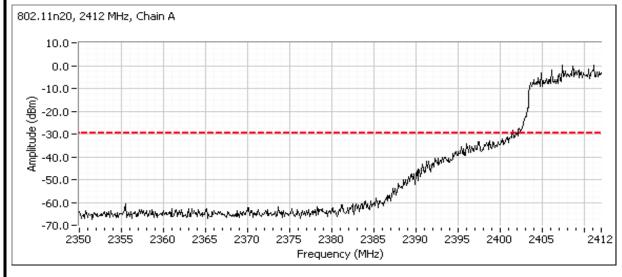
	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	IIIIel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

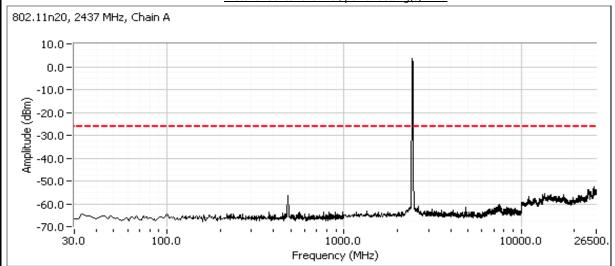




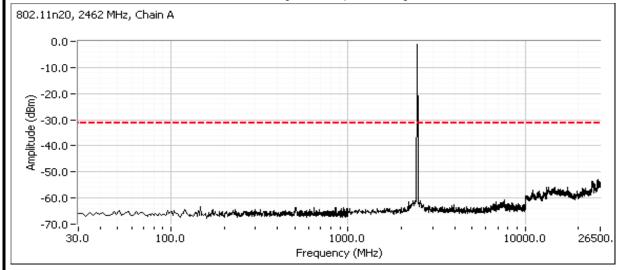


	The second secon		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	Ilitel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting(s) = 29



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



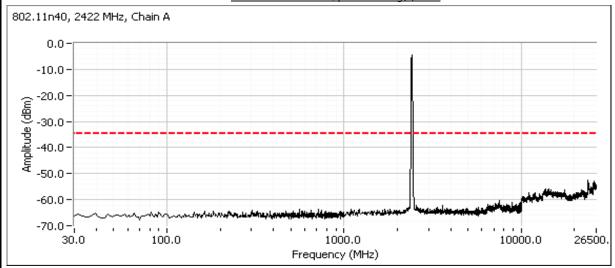


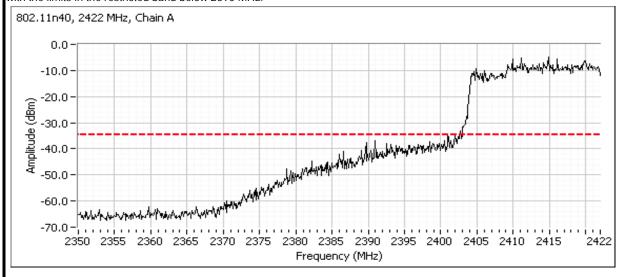
	Tables company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 40MHz Mode

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

Plots for low channel, power setting(s) = 22

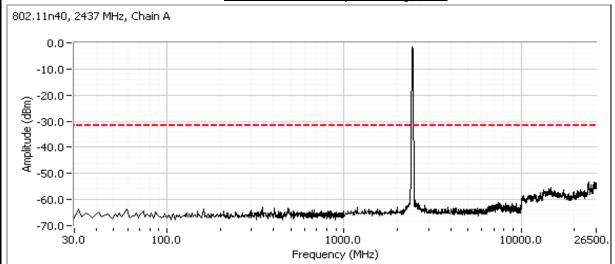




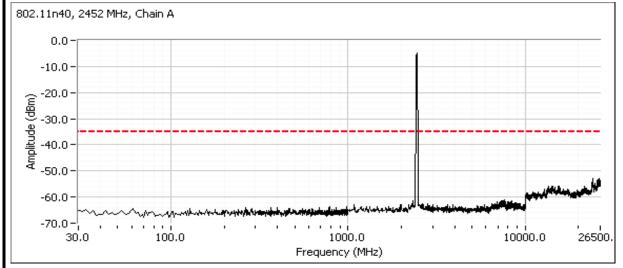


Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	III(e) Ceritiiio Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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



Plots for high channel, power setting(s) = 21.5



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	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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.

Config. Used: 1 Date of Test: 10/1/2010 Test Engineer: Rafael Varelas Config Change: none Test Location: FT Chamber #7 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: 20-25 °C

> Rel. Humidity: 40-50 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

iiii to i taar c	MINTO TRACTICOST CO TOCOT TO TOCOT VOISION THE COTY										
Run#	Pwr setting	Avg Pwr	r Test Performed Limit Pass / Fail		Result / Margin						
						802.11b: 38 mW					
1			Output Power	15.247(b)	Doce	802.11g: 34 mW					
'			Output Power	13.247(0)	Pass	n20: 33.1 mW					
						n40: 14.1 mW					
2			Power spectral Density (PSD)	15.247(d)	Pass	-6.9 dBm/3kHz					
3			Minimum 6dB Bandwidth	15.247(a)	Pass	10.0 MHz					
						802.11b: 13.7 MHz					
2			99% Bandwidth	RSS GEN		802.11g: 17.2 MHz					
3	3		9970 Dariuwiuiii	K33 GEN	-	n20: 18.5 MHz					
						n40: 36.6 MHz					
1			Spurious emissions	15.247(b)	Pass	All emissions					
4			Sparious etilissions	15.247(D)	Pa55	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.

Elliott

EMC Test Data

	An 2023 Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	ilitel® Celitillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

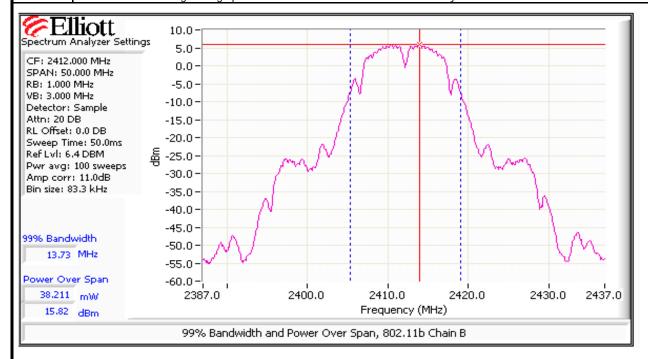
Run #1: Output Power

802.11b Mode

Power	Frequency (MHz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
25	2412	15.8	38.0	3.2	Pass	19.0	0.079	16.6	45.7
23	2437	14.2	26.3	3.2	Pass	17.4	0.055	15.0	31.6
24	2462	15.3	33.9	3.2	Pass	18.5	0.071	16.0	39.8

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.





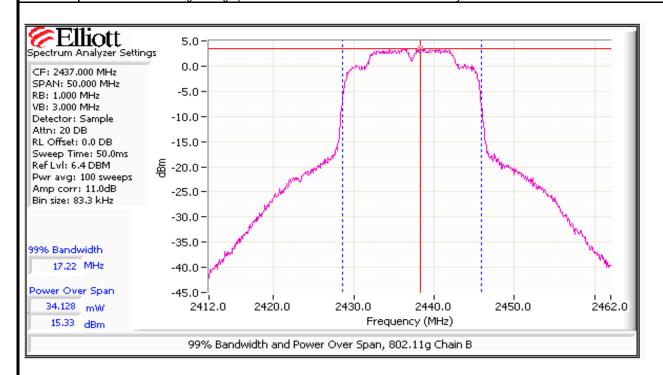
	Till Ball Stompany		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	III(e) Cerili III) Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11q Mode

Power	Frequency (MHz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
27	2412	12.1	16.2	3.2	Pass	15.3	0.034	13.9	24.5
30.5	2437	15.3	33.9	3.2	Pass	18.5	0.071	16.7	46.8
26.5	2462	12.0	15.8	3.2	Pass	15.2	0.033	13.5	22.4

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.



Elliott

EMC Test Data

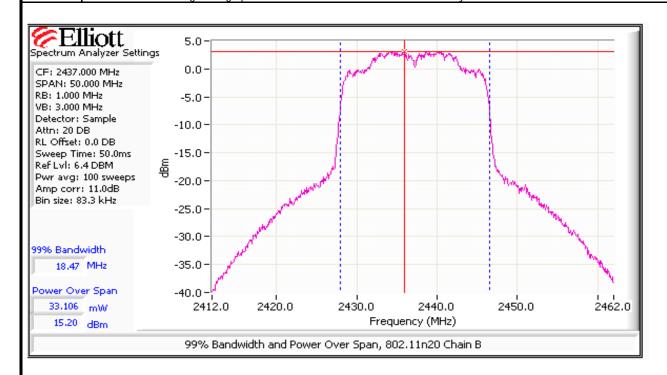
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 20MHz Mode

Power	Frequency (MHz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
25.5	2412	10.7	11.7	3.2	Pass	13.9	0.025	12.5	17.8
30.5	2437	15.2	33.1	3.2	Pass	18.4	0.069	16.6	45.7
25.5	2462	10.8	12.0	3.2	Pass	14.0	0.025	12.4	17.4

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.



Elliott

EMC Test Data

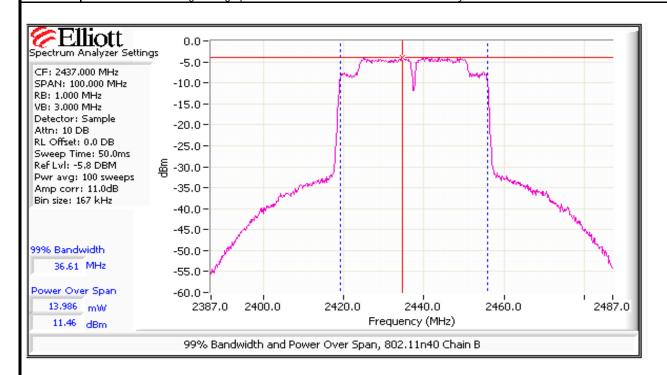
	Till Ball Stompany		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
woder.		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 40MHz Mode

Power	Frequency (MHz)	Output	Power	Antenna	Docult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
22.0	2422	8.0	6.3	3.2	Pass	11.2	0.013	9.2	8.3
25.5	2437	11.5	14.1	3.2	Pass	14.7	0.030	12.7	18.6
23.0	2452	8.8	7.6	3.2	Pass	12.0	0.016	10.1	10.2

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **80 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

Note 2: Power setting - the software power setting used during testing, included for reference only.





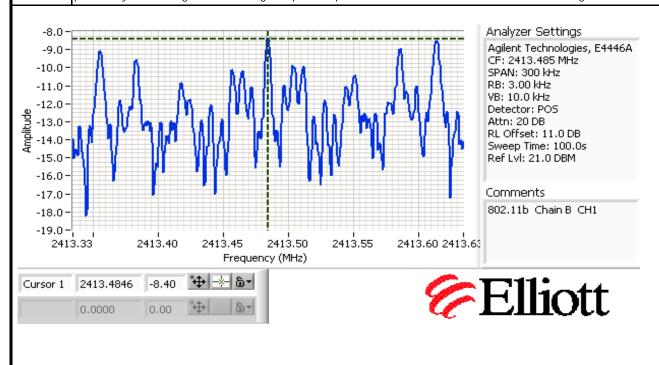
	All DEED Company				
Client:	Intel Corporation	Job Number:	J84365		
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2		
Model.		Account Manager:	Christine Krebill		
Contact:	Steve Hackett				
Standard:	FCC 15.247	Class:	N/A		

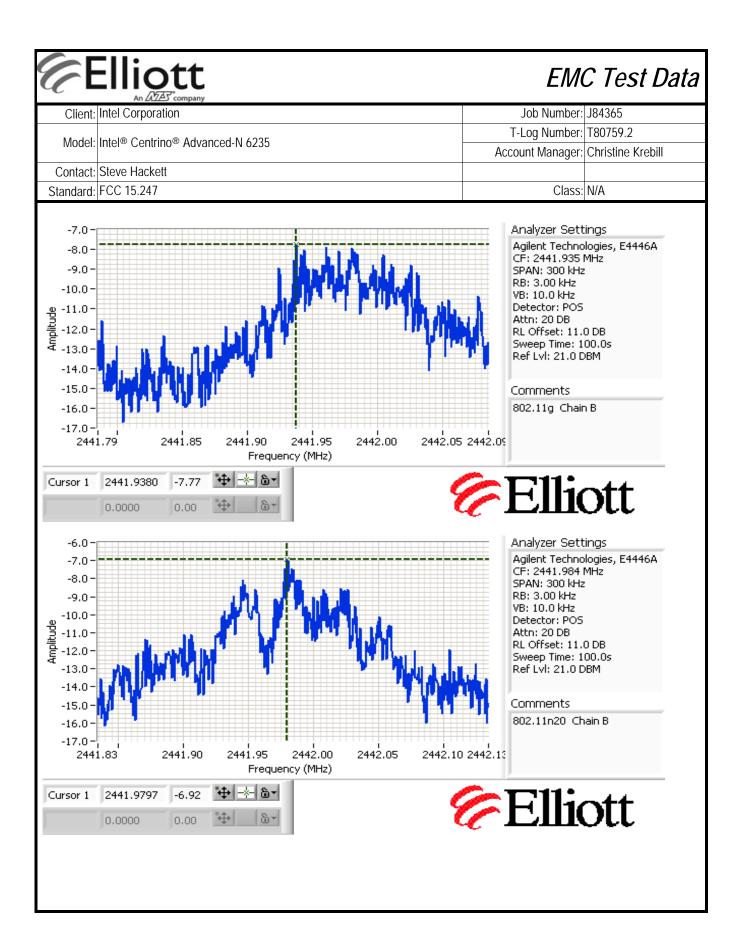
Run #2: Power spectral Density

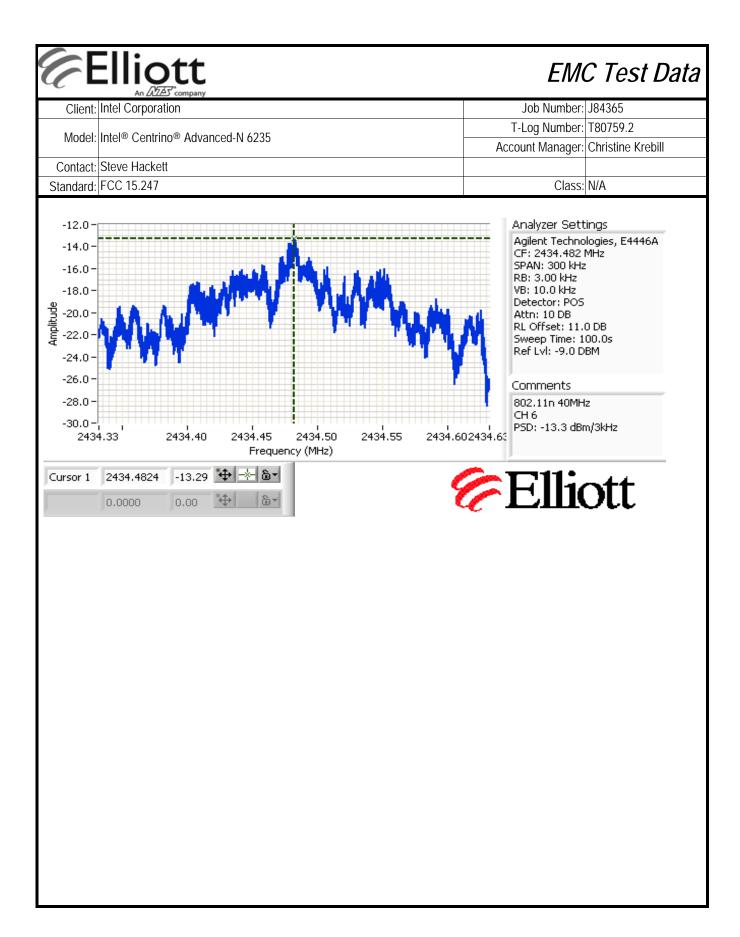
Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) ^{Note 1}	Limit dBm/3kHz	Result
	25.0	2412	-8.4	8.0	Pass
802.11b	23.0	2437	-9.8	8.0	Pass
	24.0	2462	-8.7	8.0	Pass
	27.0	2412	-9.1	8.0	Pass
802.11g	30.5	2437	-7.8	8.0	Pass
	26.5	2462	-12.4	8.0	Pass
802.11n	25.5	2412	-11.5	8.0	Pass
20MHz	30.5	2437	-6.9	8.0	Pass
ZUIVITZ	25.5	2462	-11.9	8.0	Pass
802.11n	22.0	2422	-17.0	8.0	Pass
40MHz	25.5	2437	-13.3	8.0	Pass
4UIVIMZ	21.0	2452	-17.3	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.







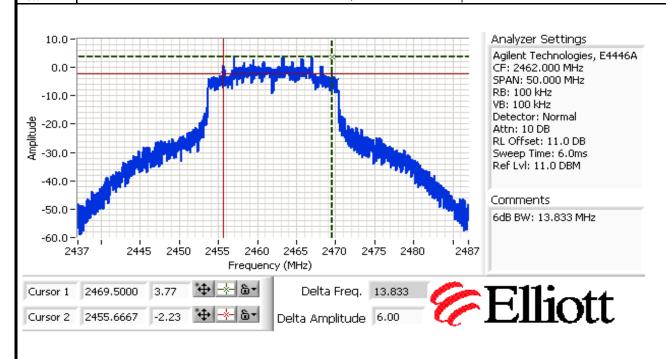


	All DEED Company				
Client:	Intel Corporation	Job Number:	J84365		
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2		
Model.		Account Manager:	Christine Krebill		
Contact:	Steve Hackett				
Standard:	FCC 15.247	Class:	N/A		

Run #3: Signal Bandwidth

Mode	Power	Eroquoney (MHz)	Resolution	Bandwid	lth (MHz)
	Setting	Frequency (MHz)	Bandwidth	6dB	99%
	25.0	2412	100kHz	10.0	13.7
802.11b	23.0	2437	100kHz	10.0	13.3
	24.0	2462	100kHz	10.0	13.6
	27.0	2412	100kHz	15.0	16.9
802.11g	30.5	2437	100kHz	15.0	17.2
	26.5	2462	100kHz	13.8	16.9
802.11n	25.5	2412	100kHz	15.0	18.1
20MHz	30.5	2437	100kHz	15.0	18.5
ZUIVIITZ	25.5	2462	100kHz	15.0	18.1
802.11n	22.0	2422	100kHz	35.0	36.6
40MHz	25.5	2437	100kHz	35.0	36.6
4UIVINZ	21.0	2452	100kHz	35.0	36.6

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





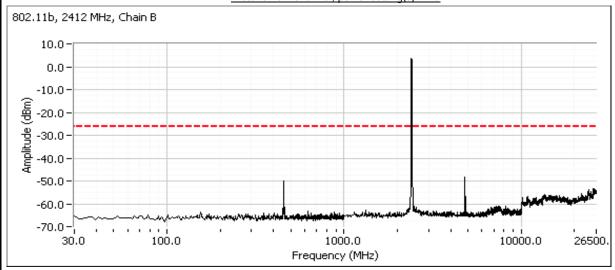
	Till Ball Stompany		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
woder.		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

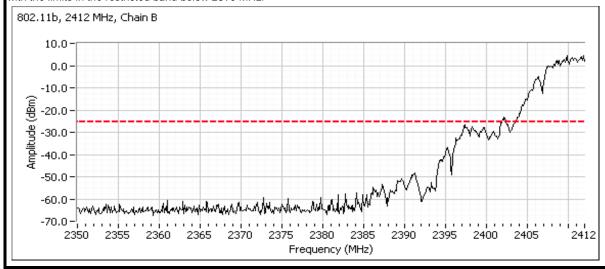
Run #4: Out of Band Spurious Emissions

802.11b Mode

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

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

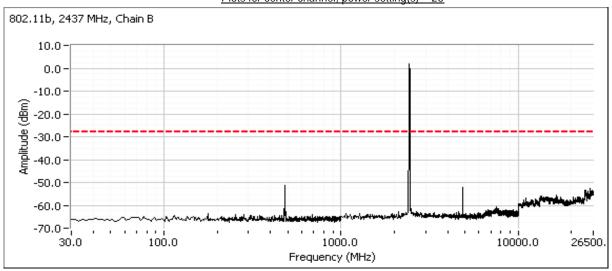




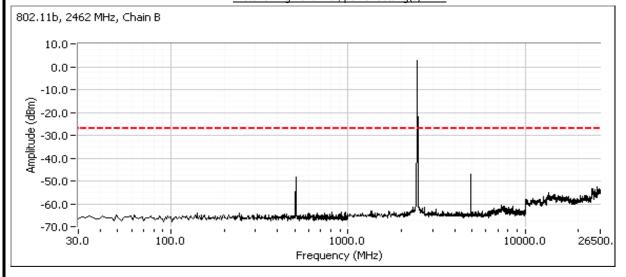


	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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



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



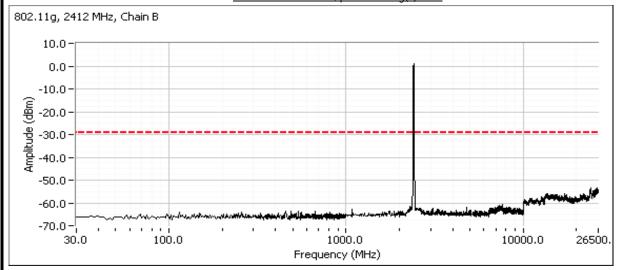


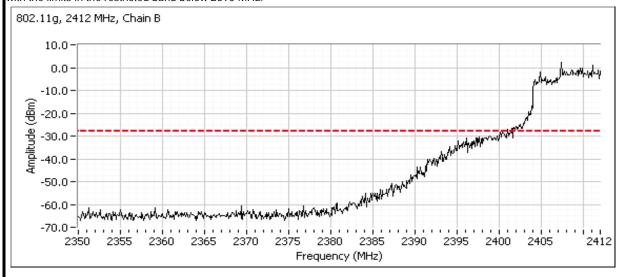
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	III.lel® Cellilillo® Advaliceu-iv 0235	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11g Mode

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

Plots for low channel, power setting(s) = 27

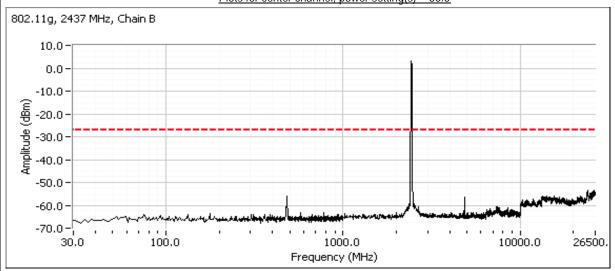




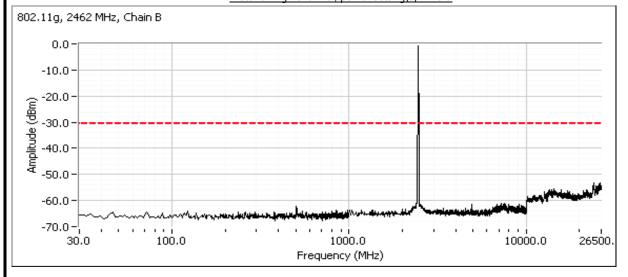


	The secondary		
Client:	Intel Corporation	Job Number: J84365 T-Log Number: T80759.2 Account Manager: Christine Krebill Class: N/A	
Madalı	Intol® Contring® Advanced N 4225	T-Log Number:	T80759.2
wouer.	linel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Model: Intel® Centrino® Advanced-N 6235 Contact: Steve Hackett Account Manager: Christine Ki			
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting(s) = 30.5



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



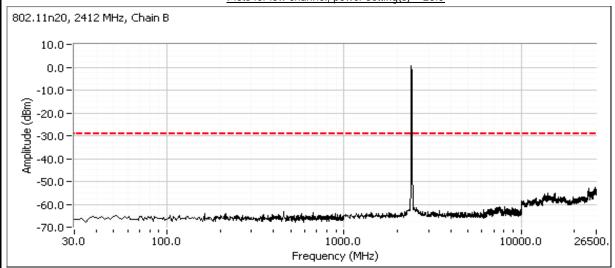


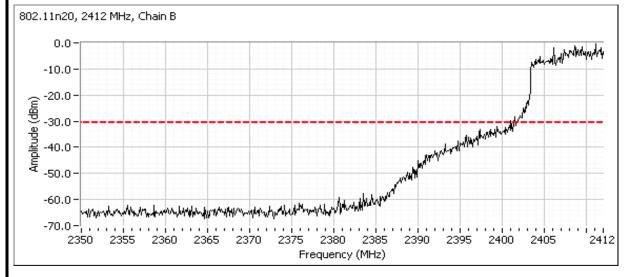
· · · · · · · · · · · · · · · · · · ·			
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

802.11n 20MHz Mode

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

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

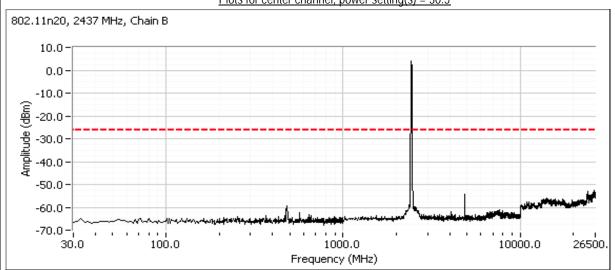




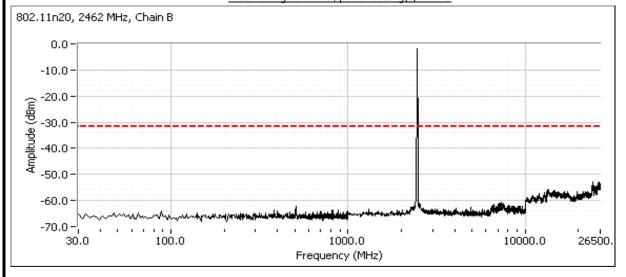


	The secondary		
Client:	Intel Corporation	Job Number: J84365 T-Log Number: T80759.2 Account Manager: Christine Krebill Class: N/A	
Madalı	Intol® Contring® Advanced N 4225	T-Log Number:	T80759.2
wouer.	linel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Model: Intel® Centrino® Advanced-N 6235 Contact: Steve Hackett Account Manager: Christine Ki			
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting(s) = 30.5



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



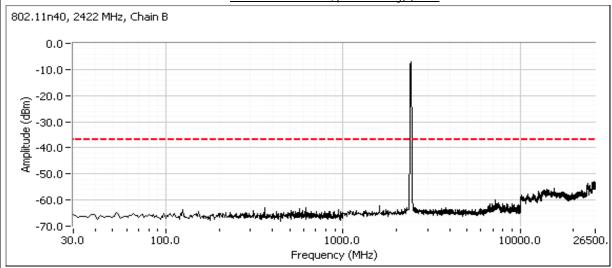


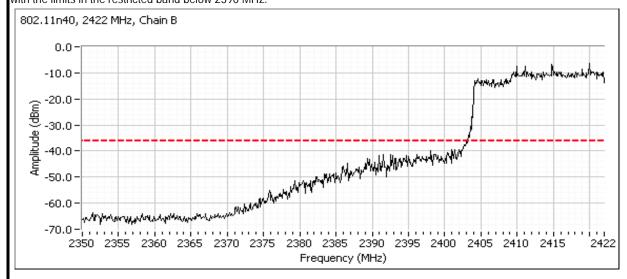
All 2422 Company				
Client: Intel Corporation Model: Intel® Centrino® Advanced-N 6235 Contact: Steve Hackett	Job Number:	J84365		
Model	Intol® Contring® Advanced N 6225	T-Log Number:	T80759.2	
Model.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill	
Contact:	Steve Hackett			
Standard:	FCC 15.247	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) = 22

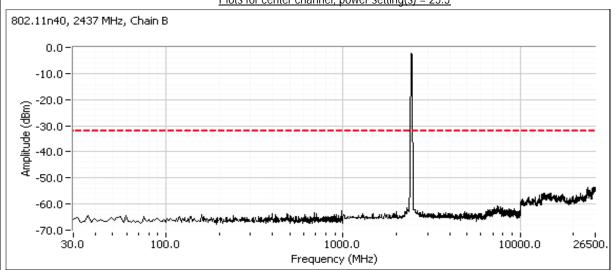




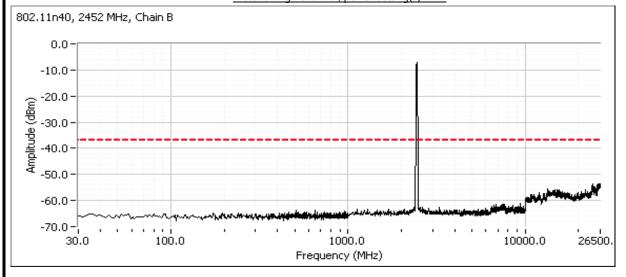


	All Diff. Company		
Client: Intel Corporation Model: Intel® Centrino® Advanced Contact: Steve Hackett	Intel Corporation	Job Number:	J84365
Model	Intol® Contring® Advanced N 6225	T-Log Number:	T80759.2
wouer.	ilitel® Celitillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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



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



CEII	IOTT An 位益 company	EMC Test Da		
Client: Intel C	orporation	Job Number:	J84365	
Madal: Intal®	Centrino® Advanced-N 6235	T-Log Number:	T80759.2	
wiodei. iintei®	Cellillio Advanced-ii 0255	Account Manager:	Christine Krebill	
Contact: Steve	Hackett			
Standard: FCC 1	5.247	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

○□ □ : - 44

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: 10/4/2010 Config. Used: 1 Test Engineer: M. Birgani/R. Varelas Config Change: none Test Location: FT Lab #4 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

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

Ambient Conditions: Temperature: 22.4 °C

> Rel. Humidity: 39 %

Summary of Results

Run#	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1			Output Power	15.247(b)	Pass	n20: 41 mW
I			Output Fower	13.247(b)	Pa55	n40: 34 mW
2			Power spectral Density (PSD)	15.247(d)	Pass	-8.6 dBm/3kHz
3			Minimum 6dB Bandwidth	15.247(a)		These measurements
3			99% Bandwidth	RSS GEN		are covered by the
4			Spurious emissions	15.247(b)		single chain data

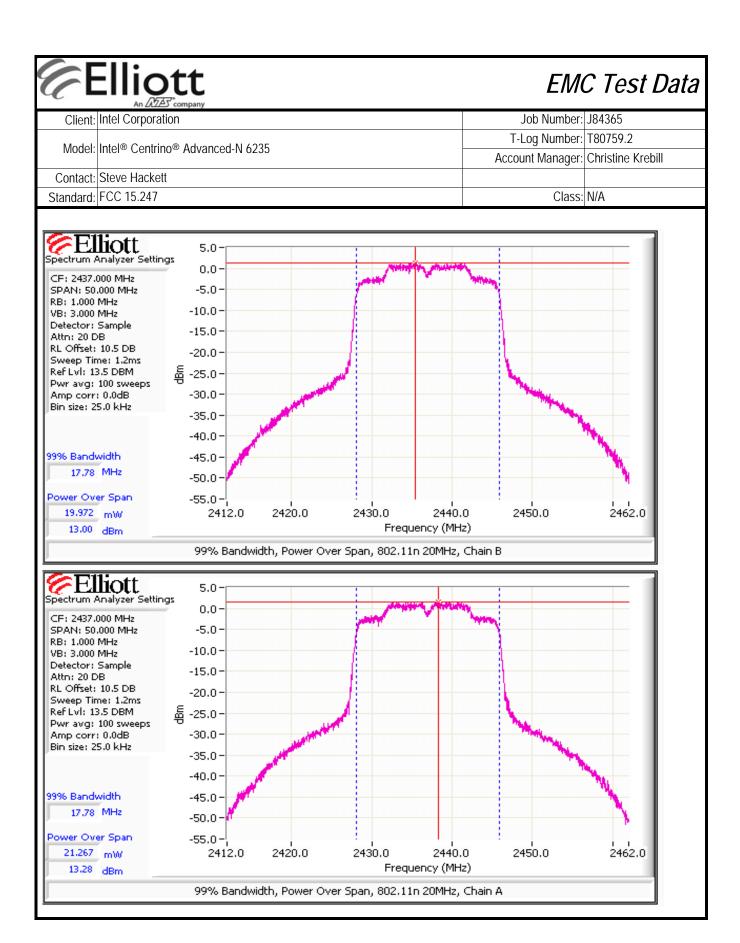
Modifications Made During Testing

No modifications were made to the EUT during testing

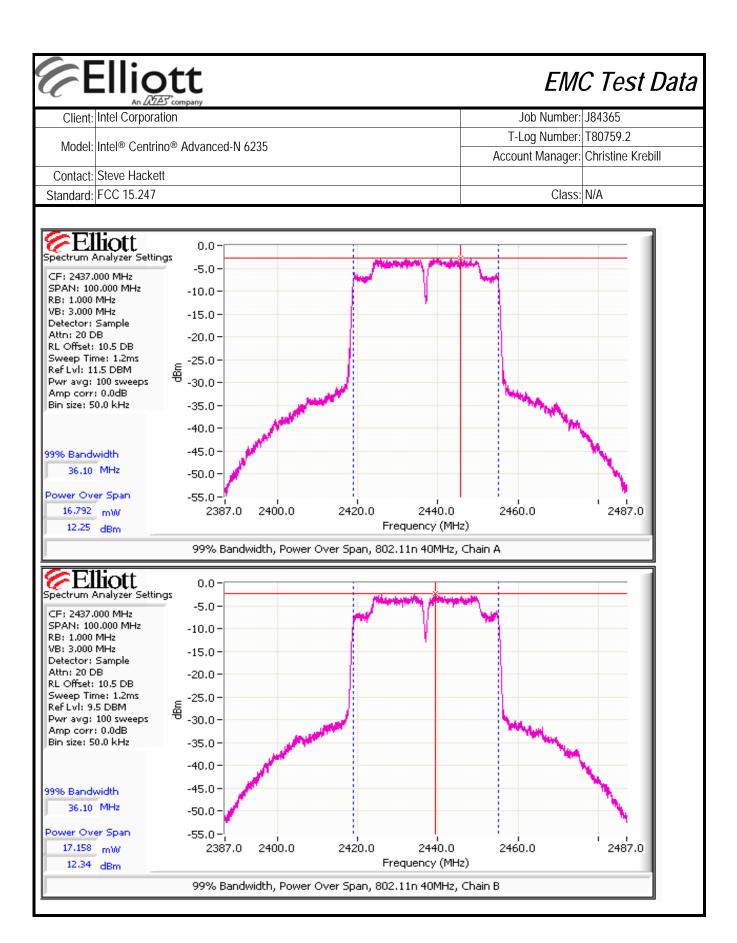
Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Client: Intel Corporation						lob Number:	J84365	
Model, Intel® Contring® Advanced N 4225						T-Log Number: T80759.2			
Model: Intel® Centrino® Advanced-N 6235							nt Manager:	Christine Kre	ebill
	Steve Hackett								
Standard:	FCC 15.247						Class:	N/A	
	tput Power - Chain A +								
se the sam	e method for power mea			as was used	for single ch	ain measurer	nents.		
Tran	ope smitted signal on chain	erating Mode:							
man	isitiittea signai on chain	is concient:	NO						
	n 20MHz 2412 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across	c All Chains	Lin	nit
ower Settin	g ^{Note 3}	26.0	27.5			TUIAI ACTUS:	S All Challis	LIII	IIIL
verage Pov	ver ^{Note 3}					3.0 dBm	0.002 W		
utput Powe		11.6	11.6			14.6 dBm	0.029 W	30.0 dBm	1.000
ntenna Gai	n (dBi) Note 2	3.2	3.2				3.2 dBi	Pa	SS
rp (dBm) ^{No}	ote 2	14.8	14.8			17.8 dBm	0.060 W		
202 11 r	n 20MHz 2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4			I	
Power Setting ^{Note 3}		28.0	29.0	- Cham u	CARRIAN	Total Across All Chains		Limit	
Average Power ^{Note 3}		20.0	27.0			3.0 dBm	0.002 W		
utput Powe	er (dBm) Note 1	13.3	13.0			16.2 dBm	0.041 W	30.0 dBm	1.000
Antenna Gain (dBi) Note 2		3.2	3.2				3.2 dBi		
eirp (dBm) Note 2		16.5	16.2			19.4 dBm	0.086 W	Pa	SS
			•	A		1		1	
	n 20MHz 2462 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across	s All Chains	Lin	nit
ower Settin	Note 3	25.5	26.0			2 0 dDm	0.002.W		
verage Pow	ver (dBm) Note 1	11.1	10.4			3.0 dBm 13.8 dBm	0.002 W 0.024 W	30.0 dBm	1.000
ntenna Gai		3.2	3.2			13.0 UDIII	3.2 dBi	30.0 UDIII	1.000
rp (dBm) ^{No}	II (UDI)	14.3	13.6			17.0 dBm	0.050 W	Pa	SS
ip (ubili)		14.3	13.0			17.0 ubili	0.030 W		
I									
	Output power measured	• .	,					•	•
	averaging on (transmitte equivalent to method 1							נווטט דווו אטפ	5 558074
	As there is no coherence				sum of the in	idividual EIRF	Ps and effect	ive antenna g	jain equ
the eirp divide by the sum of the power on each chain.									
	Down cotting and aver	ane nower are	e for referenc	te only Aver:	age power m	easured usin	g average p	ower sensor.	



Client	Elliott An WIAS company : Intel Corporation					J	lob Number:	J84365	
						T-L	og Number:	T80759.2	
Model	: Intel® Centrino® Advan	iced-N 6235						Christine Kre	ebill
Contact	: Steve Hackett								
Standard	: FCC 15.247						Class:	N/A	
802.11	n 40MHz 2422 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across	s All Chains	Lir	nit
Power Sett	ing ^{Note 3}	21.5	22.5					Lii	
Average Po						3.0 dBm	0.002 W		
Output Pov	ver (abm)	7.3	7.0			10.2 dBm	0.010 W	30.0 dBm	1.000 W
Antenna Ga	ain (dBi) Note 2	3.2	3.2			10 1 15	3.2 dBi	Pa	SS
eirp (dBm)	Note 2	10.5	10.2			13.4 dBm	0.022 W		
802.11	n 40MHz 2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4				
Power Sett		26.5	28.0			Total Across	s All Chains	Lir	nit
Average Po	ower ^{Note 3}					3.0 dBm	0.002 W		
Output Pov	ver (dBm) Note 1	12.3	12.3			15.3 dBm	0.034 W	30.0 dBm	1.000 W
Antenna Ga	ain (dBi) Note 2	3.2	3.2				3.2 dBi	Do	
eirp (dBm)	Note 2	15.5	15.5			18.5 dBm	0.071 W	Pa	SS
		01 1 4	01 1 0					T.	
	n 40MHz 2452 MHz	Chain 1 20.5	Chain 2	Chain 3	Chain 4	Total Across	s All Chains	Lir	nit
Power Sett Average Po	Note 3	20.3	22.0			3.0 dBm	0.002 W		
Average Fu	ver (dBm) Note 1	6.5	6.7			9.6 dBm	0.002 W	30.0 dBm	1.000 W
Antenna G	ain (dBi) Note 2	3.2	3.2			7:0 dBIII	3.2 dBi		
eirp (dBm)	Note 2	9.7	9.9			12.8 dBm	0.019 W	Pa	SS
Note 1:	Output power measured averaging on (transmitte equivalent to method 1	ed signal was	continuous)	and power in	tegration ove	er 100 MHz (d	option #2, m	•	•
	As there is no coherency between chains the total EIRP is the sum of the individual EIRPs and effective antenna gain equals						Ps and effect	tive antenna ç	gain equals
Note 2:	the eirp divide by the sum of the power on each chain. Note 3: Power setting and average power are for reference only. Average power								



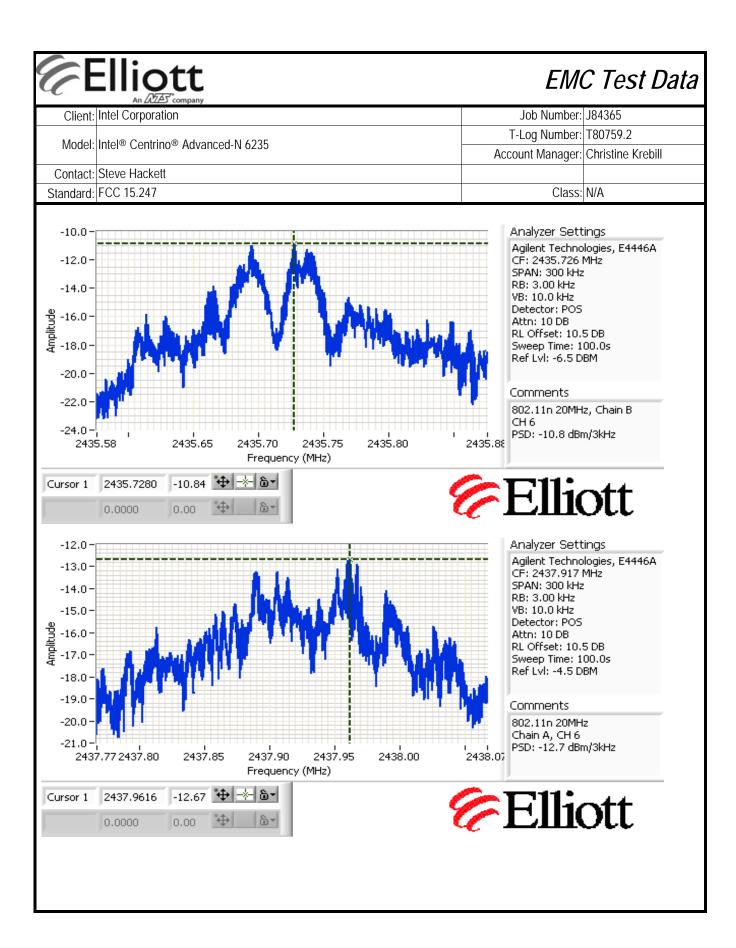
	Elliott An ATAS company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #2: Power spectral Density

Power	Frequency (MHz)	Oh alia 1		D (dBm/3kHz) Note 1	Tatal	Limit	Result
Setting 802.11n 20 N	MHz	Chain 1	Chain 2	Chain 3 Chain 4	Total	dBm/3kHz	
26.0/27.5	2412	-12.6	-11.5		-9.0	8.0	Pass
28.0/ 29.0	2437	-12.7	-10.8		-8.6	8.0	Pass
25.5/ 26.0	2467	-14.0	-13.2		-10.6	8.0	Pass
802.11n 40N	ИНz						
21.5/ 22.5	2422	-18.6	-19.3		-15.9	8.0	Pass
26.5/ 28.0	2437	-13.7	-13.9		-10.8	8.0	Pass
20.5/ 22.0	2452	-19.5	-19.5		-16.5	8.0	Pass

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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	An ATAS company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	III(e) Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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: 9/29/2010 Config. Used: Modular Test Engineer: John Caizzi/R. Varelas Config Change: none Test Location: FT Chamber #7 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: 22.4 °C Rel. Humidity: 42 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

Wir to rtadi d	233. 00 13007	MOIN DI	10 1001 VC131011 1.2.12 0177 DITVC1	VCI 31011 14.0.0.37		
Run#	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
						802.11a: 27.3 mW
1	30	16.5	Output Power	15.247(b)	Pass	n20: 29.4 mW
						n40: 95.5 mW
						802.11a:-8.1dBm/3kHz
2	29	16.5	Power spectral Density (PSD)	15.247(d)	Pass	n20: -7.9 dBm/3kHz
						n40: -10.3 dBm/3kHz
3	28.5	16.5	Minimum 6dB Bandwidth	15.247(a)	Pass	16.4 MHz
						802.11a: 17.22 MHz
3	30.5	16.5	99% Bandwidth	RSS GEN	-	n20: 18.39 MHz
						n40: 38.8 MHz
4		16.5	Spurious emissions	15.247(b)	Pass	All Emissions below the
4	_	10.5	Sparious ciriissions	13.247(b)	1 033	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:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #1: Output Power

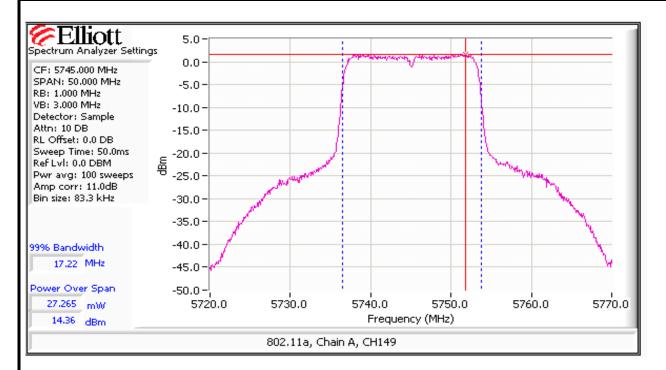
802.11a Mode

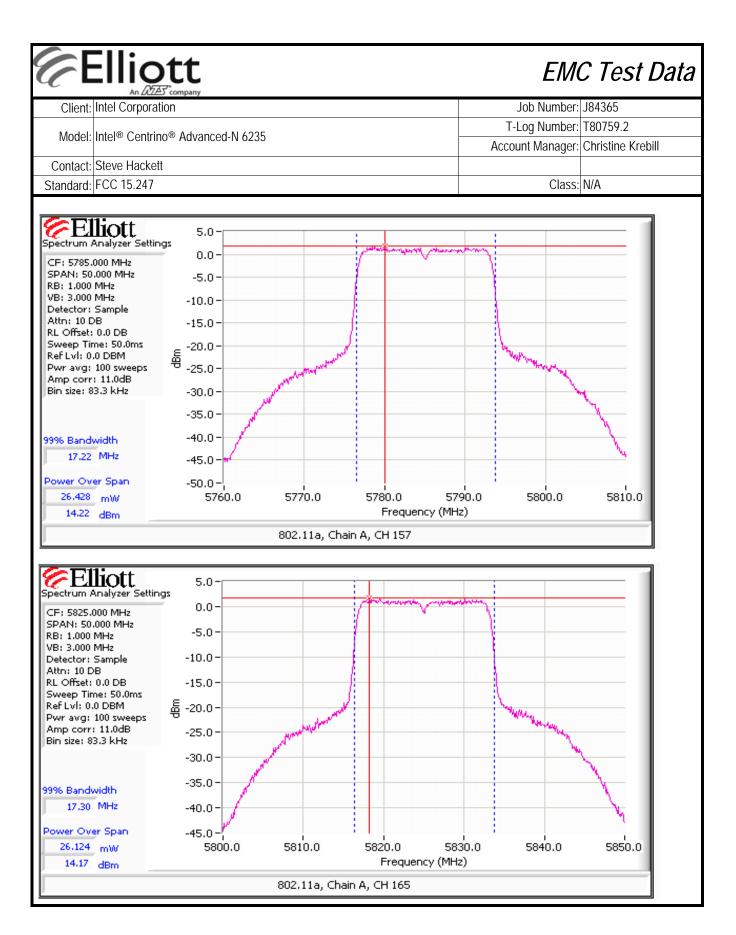
Power	Frequency (MHz)	Output	Power	Antenna	Docult	EIRP	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
28.5	5745	14.4	27.3	5.0	Pass	19.4	0.086	16.5	44.7
28.5	5785	14.2	26.4	5.0	Pass	19.2	0.084	16.5	44.7
29.0	5825	14.2	26.1	5.0	Pass	19.2	0.083	16.5	44.7

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes -30dBc.

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:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
Model.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

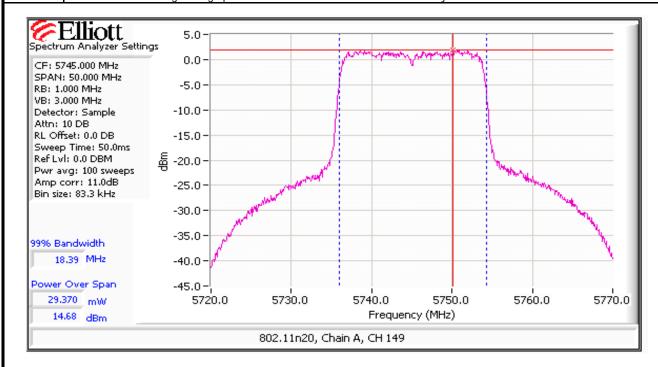
802.11n 20MHz Mode

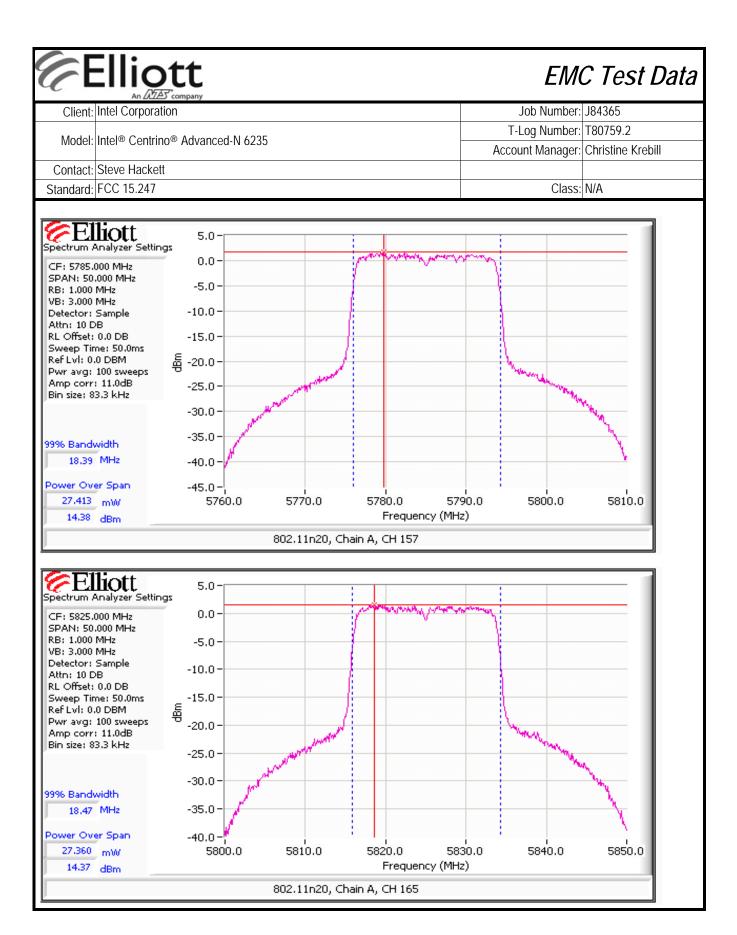
Power	Frequency (MHz)	Output	Power	Antenna	Result	EIRP	Note 2	Output	Power
Setting ²	riequency (Minz)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
29.0	5745	14.7	29.4	5.0	Pass	19.7	0.093	16.6	45.7
29.0	5785	14.4	27.4	5.0	Pass	19.4	0.087	16.5	44.7
29.5	5825	14.4	27.4	5.0	Pass	19.4	0.086	16.5	44.7

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50 MHz (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes -30dBc.

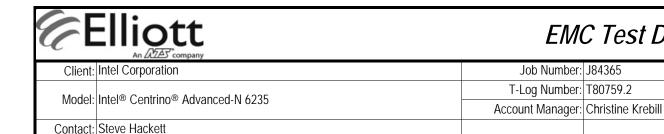
Note 2: Power setting - the software power setting used during testing, included for reference only.

Note 3: Power measured using average power meter and is included for reference only.





	Intel Corporation						Job Number:	10/12/5	
Cilent	inter Corporation						_og Number:		
Model:	Intel® Centrino® Advanc	ed-N 6235						Christine Kr	ohill
Contact	Steve Hackett					Accor	ini wanager.	CHIISHIE KI	CDIII
	FCC 15.247						Class:	N/A	
ziarraara.							0.000.		
2.11n 40	MHz Mode								
Power	Frequency (MHz)		Power	Antenna	Result		Note 2		Power
Setting ²	. 5	(dBm) ¹	mW	Gain (dBi)		dBm	W	(dBm) ³	mW
30.0	5755	19.8	95.5	5.0	Pass	24.8	0.302	16.5	44.7
30.5	5795	19.6	91.2	5.0	Pass	24.6	0.288	16.5	44.7
	lo								
Note 1:	Output power measured	using a peak	power met	er, spurious lir	nit is -20dBo	<u>, </u>			
lote 2:	Power setting - the softw	are power se	etting used d	luring testing,	included for	reference on	ly.		
Note 1: Note 2: Note 3:		are power se	etting used d	luring testing,	included for	reference on	ly.		
lote 2:	Power setting - the softw	are power se	etting used d	luring testing,	included for	reference on	ly.		
lote 2:	Power setting - the softw	are power se	etting used d	luring testing,	included for	reference on	ly.		
lote 2:	Power setting - the softw	are power se	etting used d	luring testing,	included for	reference on	ly.		
lote 2:	Power setting - the softw	are power se	etting used d	luring testing,	included for	reference on	ly.		

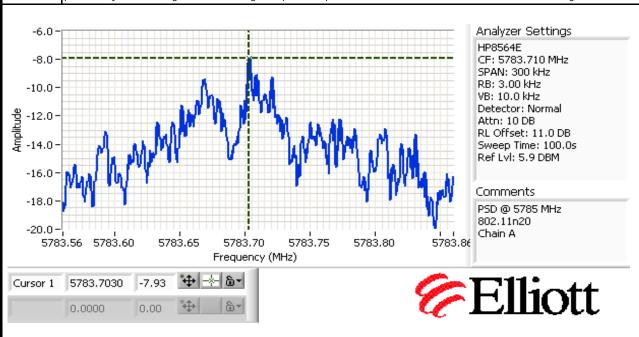


Run #2: Power spectral Density

Standard: FCC 15.247

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) ^{Note 1}	Limit dBm/3kHz	Result
	28.5	5745	-9.3	8.0	Pass
802.11a	28.5	5785	-8.9	8.0	Pass
	29	5825	-8.1	8.0	Pass
802.11n	29	5745	-10.6	8.0	Pass
20MHz	29	5785	-7.9	8.0	Pass
ZUIVIITZ	29.5	5825	-8.6	8.0	Pass
802.11n	30	5755	-10.3	8.0	Pass
40MHz	30.5	5795	-13.6	8.0	Pass

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 Note 1: preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.



EMC Test Data

Class: N/A

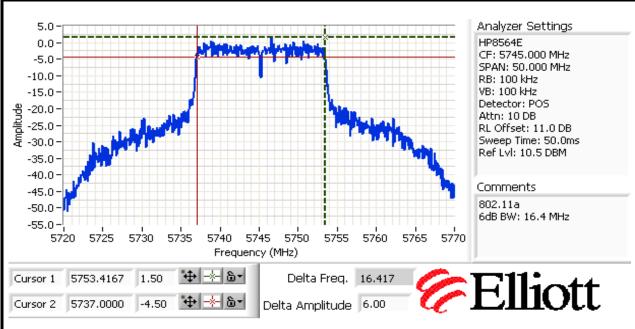


	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouer.	III(e) Ceritiiii) Advanceu-ii 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #3: Signal Bandwidth

Mode	Power	Frequency (MHz)	Resolution	Bandwid	th (MHz)
	Setting	riequency (Minz)	Bandwidth	6dB	99%
	28.5	5745	100kHz	16.4	17.2
802.11a	28.5	5785	100kHz	16.4	17.2
	29.0	5825	100kHz	16.5	17.3
802.11n	29.0	5745	100kHz	17.7	18.4
20MHz	29.0	5785	100kHz	17.8	18.4
ZUIVIITIZ	29.5	5825	100kHz	17.3	18.5
802.11n	30.0	5755	100kHz	35.7	37.3
40MHz	30.5	5795	100kHz	36.2	38.8

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





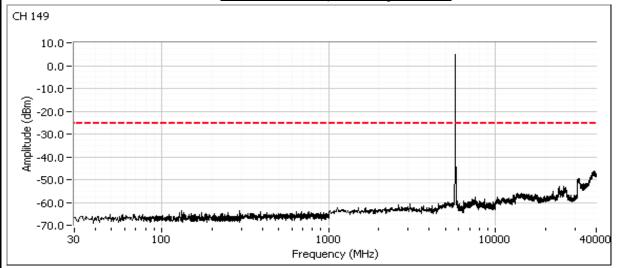
	Tables company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #4: Out of Band Spurious Emissions

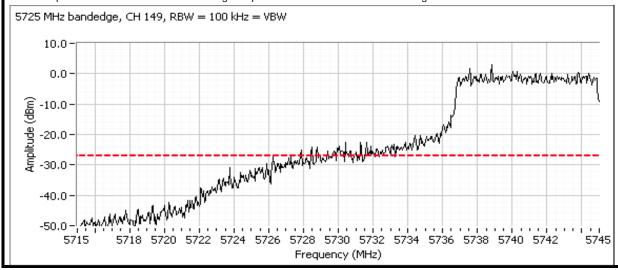
802.11a Mode

Frequency (MHz)	Limit	Result
5745	-30dBc	Pass
5785	-30dBc	Pass
5825	-30dBc	Pass

Plots for low channel, power setting = 16.5 dBm



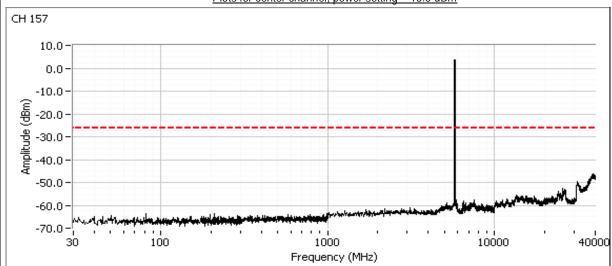
Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.



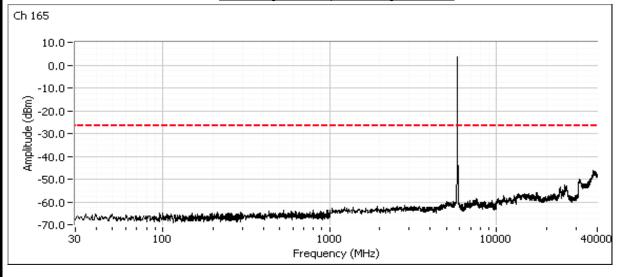


	The second secon		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	Ilitel® Cellillio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting = 16.5 dBm



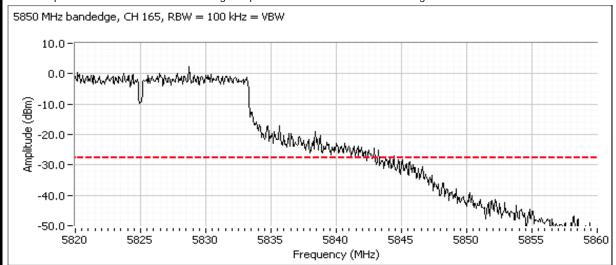
Plots for high channel, power setting = 16.5 dBm





All Dates Company					
Client:	Intel Corporation	Job Number:	J84365		
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2		
	ilitel® Celitillo® Advanceu-iv 0255	Account Manager:	Christine Krebill		
Contact:	Steve Hackett				
Standard:	FCC 15.247	Class:	N/A		

Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.



Client: Intel Corporation Model: Intel® Centrino® Advanced-N 6235 Contact: Steve Hackett Standard: FCC 15.247 Frequency (MHz) EMC Test Data Job Number: J84365 T-Log Number: T80759.2 Account Manager: Christine Krebill Class: N/A

Plots for low channel, power setting = 16.6 dBm

-30dBc

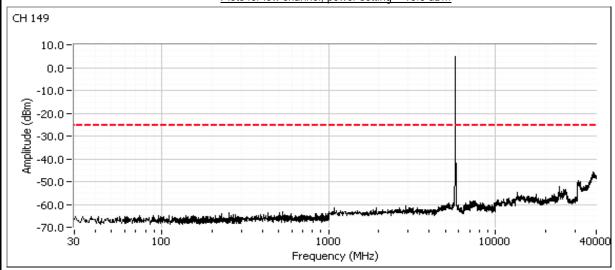
-30dBc

-30dBc

Pass

Pass

Pass

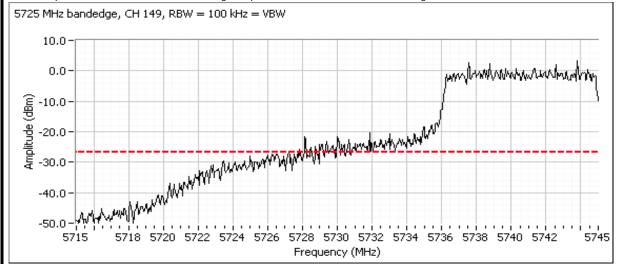


Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.

5745

5785

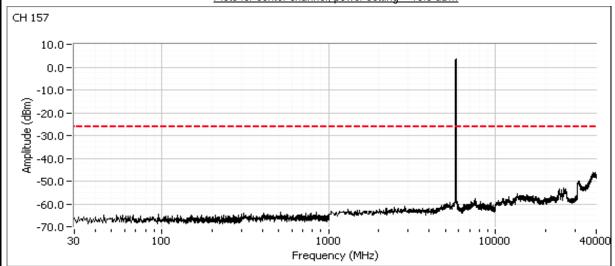
5825



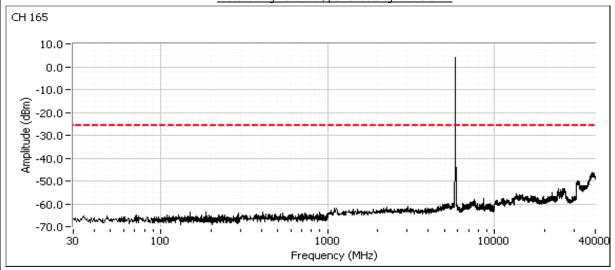


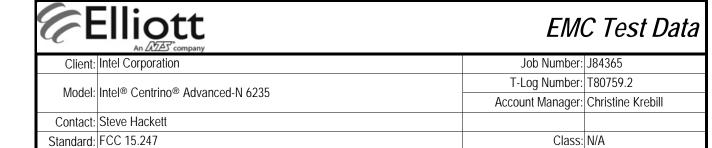
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	III(e) Ceritiiio Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting = 16.5 dBm

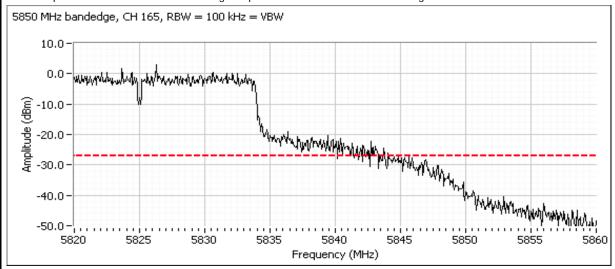


Plots for high channel, power setting = 16.5 dBm





Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.



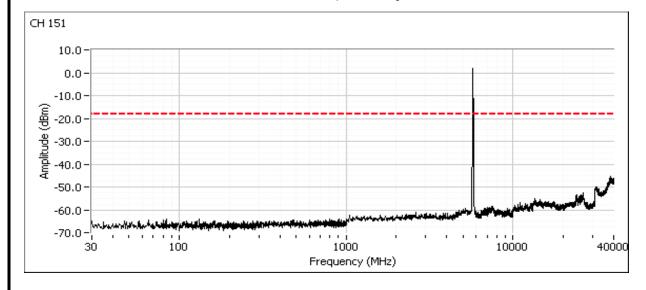


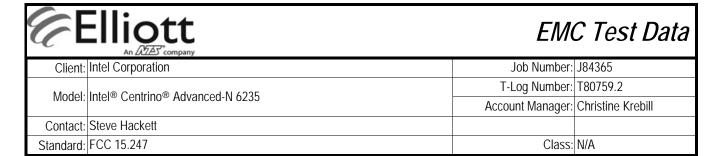
	All Date Company					
Client:	Intel Corporation	Job Number:	J84365			
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2			
	ilitel Ceritilio Advanced-iv 0233	Account Manager:	Christine Krebill			
Contact:	Steve Hackett					
Standard:	FCC 15.247	Class:	N/A			

802.11n 40MHz Mode

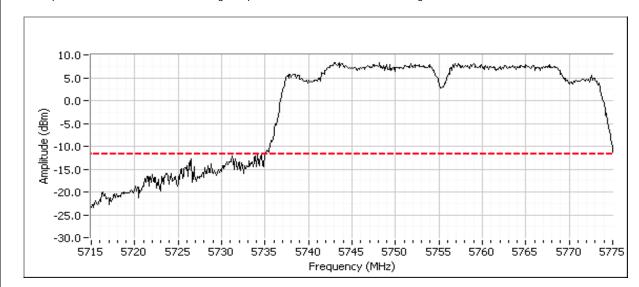
Frequency (MHz)	Limit	Result	
5795	-20dBc	Pass	
5755	-20dBc	Pass	

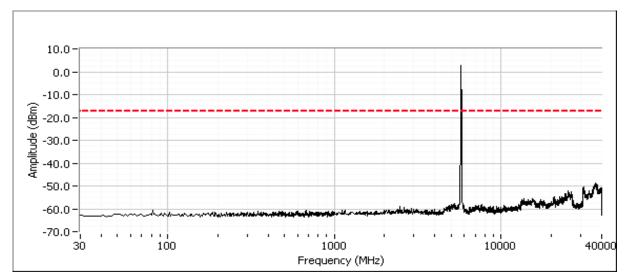
Plots for low channel, power setting = 16.5 dBm





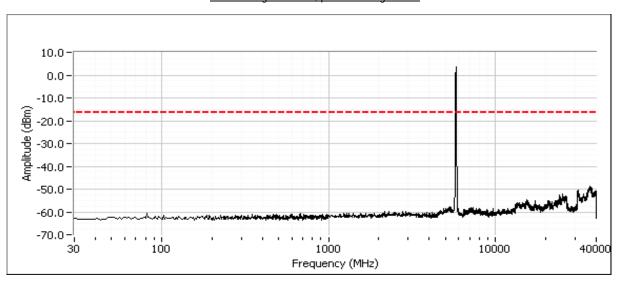
Additional plot from 5715 - 5775 MHz showing compliance with -20dBc at the band edge.



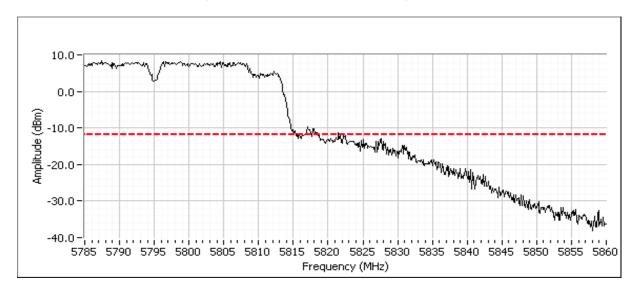


	Elliott An ATAS company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for high channel, power setting = 16.5



Additional plot from 5785 - 5860 MHz showing compliance with -20dBc at the band edge.



Elliott EMC Tes			C Test Data
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	Intel® Centillio® Advanced-N 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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: 9/29/2010 Config. Used: 1 Test Engineer: Rafael Varelas Config Change: none Test Location: FT Chamber #5 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: 22.4 °C Rel. Humidity: 42 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

iiii to i taal c	200. 00 10007	7710 IT OIL	TO TOOL VOISION THEMSE OTTO	10101011 1 11010107		
Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
						802.11a: 39.8 mW
1	30	16.6	Output Power	15.247(b)	Pass	n20: 39.8 mW
						n40: 102 mW
						802.11a:-7.7dBm/3kHz
2	29	16.7	Power spectral Density (PSD)	15.247(d)	Pass	n20: -7.7dBm/3kHz
						n40: -8.2dBm/3kHz
3	29	16.6	Minimum 6dB Bandwidth	15.247(a)	Pass	16.3 MHz
						802.11a: 17.6 MHz
3	30	16.6	99% Bandwidth	RSS GEN	-	n20: 18.7 MHz
						n40: 37.8 MHz
4			Spurious emissions	15.247(b)	Pass	All emissions below the
4	_	-	Sparious etilissions	13.247(0)	1 033	limit

Modifications Made During Testing

No modifications were made to the EUT during testing



All Dates company					
Client:	Intel Corporation	Job Number:	J84365		
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2		
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill		
Contact:	Steve Hackett				
Standard:	FCC 15.247	Class:	N/A		

Deviations From The Standard

No deviations were made from the requirements of the standard.

Run #1: Output Power

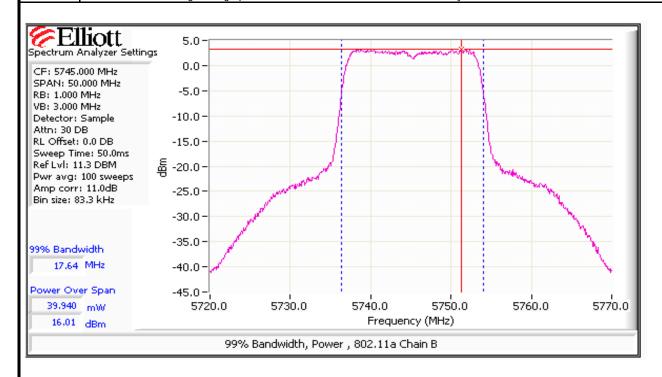
802.11a Mode

Power	Frequency (MHz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
29	5745	16.0	39.8	5.0	Pass	21.0	0.126	16.7	46.8
29	5785	15.9	38.9	5.0	Pass	20.9	0.123	16.7	46.8
29	5825	15.9	38.9	5.0	Pass	20.9	0.123	16.6	45.7

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

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:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

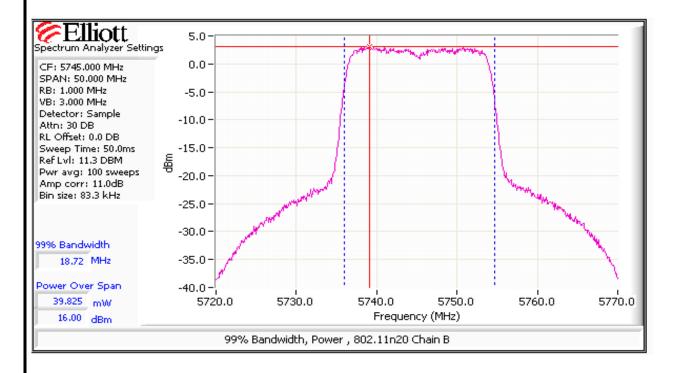
802.11n 20MHz Mode

Power	Fraguanay (MIIz)	Output	Power	Antenna	Dogult	EIRF	Note 2	Output	Power
Setting ²	Frequency (MHz)	(dBm) ¹	mW	Gain (dBi)	Result	dBm	W	(dBm) ³	mW
29	5745	16.0	39.8	5.0	Pass	21.0	0.126	16.7	46.8
29	5785	15.9	38.9	5.0	Pass	20.9	0.123	16.6	45.7
29	5825	15.9	38.9	5.0	Pass	20.9	0.123	16.6	45.7

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **50 MHz** (option #2, method 1 in KDB 558074, equivalent to method 1 of DA-02-2138A1 for U-NII devices). Spurious limit becomes **-30dBc**.

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



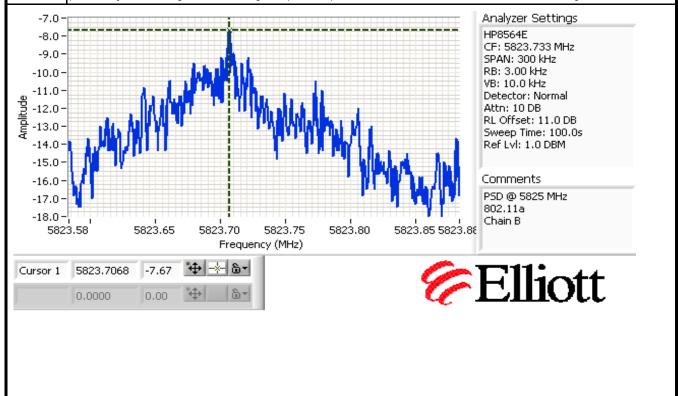
D2.11n 40MHz Mode Power Setting ² Frequency (MHz) Output Power (dBm) 1 mW Gain (dBi) Antenna Result Result dBm W (dBm) 3 mW EIRP Note 2 dBm W (dBm) 3 mW Output Power (dBm) 3 mW 30 5755 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4.2	Model: Intel® Centrino® Advanced-N 6235 Contact: Steve Hackett Standard: FCC 15.247 Class: N 02.11n 40MHz Mode Power Setting² Frequency (MHz) Output Power Antenna Gain (dBi) Result dBm W	Christine Kre	bill
Contact: Steve Hackett Standard: FCC 15.247 Class: N/A Class: N/A Class:	Contact: Steve Hackett Standard: FCC 15.247 Class: N O2.11n 40MHz Mode Power Setting ² Frequency (MHz) Output Power Antenna Gain (dBi) Result BIRP Note 2 (dBm) 1 mW Gain (dBi)		bill
Standard: FCC 15.247 Class: N/A	Standard: FCC 15.247 Class: No. 1	Ι/Λ	
Power Setting ² Frequency (MHz) Output Power Antenna Result dBm W (dBm) MW	Power Setting ² Frequency (MHz) Output Power Antenna Gain (dBi) Result BRP Note 2 Gamble (dBm) MW		
Power Setting ² Frequency (MHz) Output Power (dBm) 1 mW Gain (dBi) Result dBm W (dBm) 3 mW 30 5755 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4 30 5795 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4 16.6 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.	Power Setting ² Frequency (MHz) Output Power (dBm) MW Gain (dBi) Result EIRP Note 2 dBm W	WA.	
Power Setting ² Frequency (MHz) Output Power (dBm) 1 mW Gain (dBi) Result dBm W (dBm) 3 mW 30 5755 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4 30 5795 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4 16.6 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.	Power Setting ² Frequency (MHz) Output Power Antenna Gain (dBi) Result BIRP Note 2 dBm W		
Setting (dBm) MW (dBm) MW (dBm) W (dBm) MW (dBm)	Setting Gain (dBn) MVV Gain (dBl) dBm VV		Power
30 5795 20.1 102.3 5.0 Pass 25.1 0.324 16.6 4 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.			mW
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.			45
lote 2: Power setting - the software power setting used during testing, included for reference only.	30 5/95 20.1 102.3 5.0 Pass 25.1 0.324	10.0	45
lote 2: Power setting - the software power setting used during testing, included for reference only.	lote 1. Output power measured using a peak power meter, spurious limit is -20dBc.		
With 3. If over measured asing average points measured to reference only.			

	Eliott An ATAS company	EMC Test Data		
Client:	Intel Corporation	Job Number:	J84365	
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2	
wouei.	III(el Cell(IIII) Advanced-iv 0233	Account Manager:	Christine Krebill	
Contact:	Steve Hackett			
Standard:	FCC 15.247	Class:	N/A	

Run #2: Power spectral Density

Mode	Power Setting	Frequency (MHz)	PSD (dBm/3kHz) Note 1	Limit dBm/3kHz	Result
	29	5745	-9.2	8.0	Pass
802.11a	29	5785	-9.5	8.0	Pass
	29	5825	-7.7	8.0	Pass
802.11n	29	5745	-10.7	8.0	Pass
20MHz	29	5785	-7.8	8.0	Pass
ZUIVINZ	29	5825	-7.7	8.0	Pass
802.11n	30	5755	-8.2	8.0	Pass
40MHz	30	5795	-8.5	8.0	Pass

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.



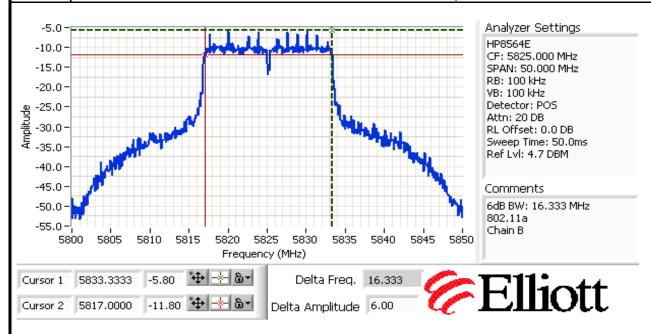


	All Debts Company				
Client:	Intel Corporation	Job Number:	J84365		
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2		
Model.	ilitel Ceritilio Advanced-iv 0233	Account Manager:	Christine Krebill		
Contact:	Steve Hackett				
Standard:	FCC 15.247	Class:	N/A		

Run #3: Signal Bandwidth

Mode	Power	Eroguaney (MUz)	Resolution	Bandwid	lth (MHz)
	Setting Frequency (MHz)		Bandwidth	6dB	99%
	29	5745	100kHz	16.5	17.6
802.11a	29	5785	100kHz	16.4	17.6
	29	5825	100kHz	16.3	17.6
802.11n	29	5745	100kHz	17.1	18.7
20MHz	29	5785	100kHz	17.4	18.7
ZUIVITIZ	29	5825	100kHz	17	18.6
802.11n	30	5755	100kHz	34	37.8
40MHz	30	5795	100kHz	35.2	37.4

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





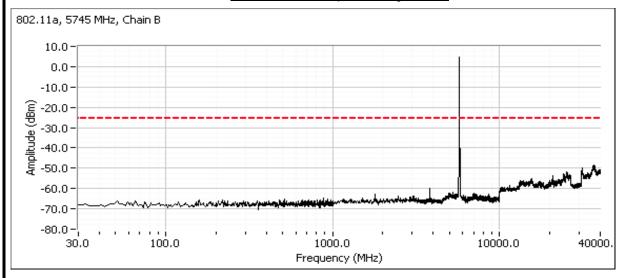
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run #4: Out of Band Spurious Emissions

802.11a Mode

Frequency (MHz)	Limit	Result
5745	-30dBc	Pass
5785	-30dBc	Pass
5825	-30dBc	Pass

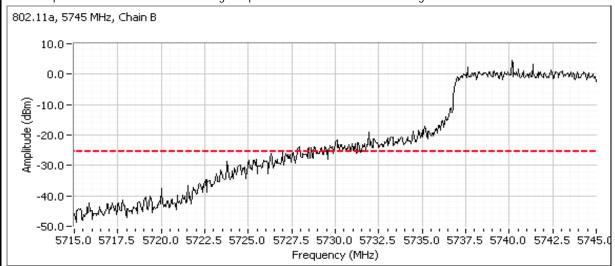
Plots for low channel, power setting(s) = 29.0



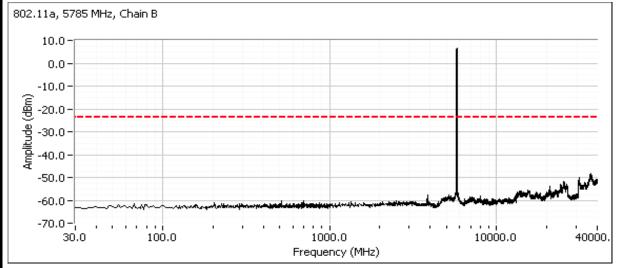


	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.



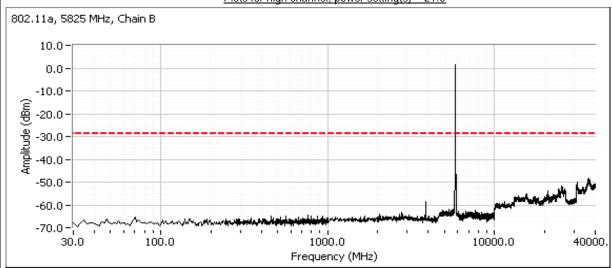
Plots for center channel, power setting(s) = 29.0



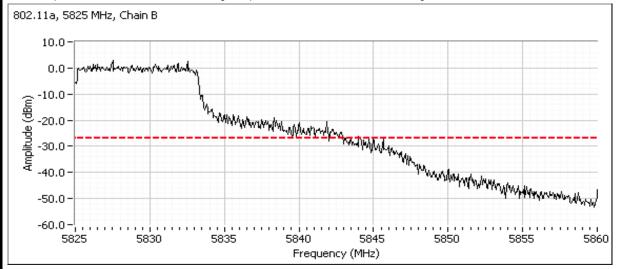


	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

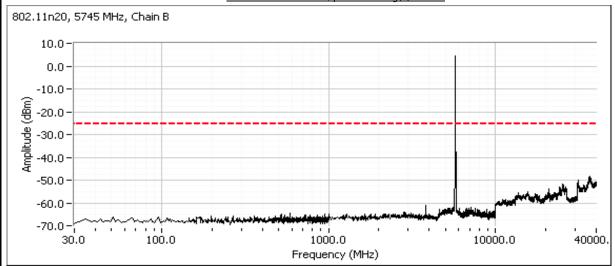
Plots for high channel, power setting(s) = 29.0



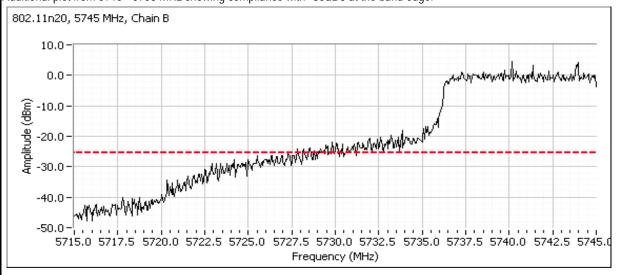
Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.



EMC Test Data Client: Intel Corporation Job Number: J84365 T-Log Number: T80759.2 Model: Intel® Centrino® Advanced-N 6235 Account Manager: Christine Krebill Contact: Steve Hackett Standard: FCC 15.247 Class: N/A 802.11n 20MHz Mode Frequency (MHz) Limit Result 5745 -30dBc **Pass** 5785 -30dBc Pass 5825 -30dBc Pass Plots for low channel, power setting(s) = 29.0 802.11n20, 5745 MHz, Chain B 10.0



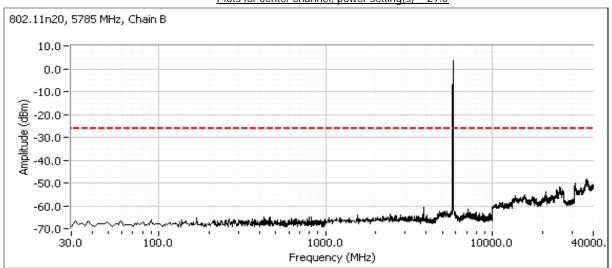
Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.



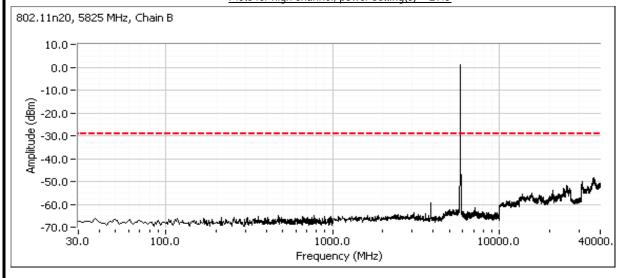


The secondary			
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Plots for center channel, power setting(s) = 29.0



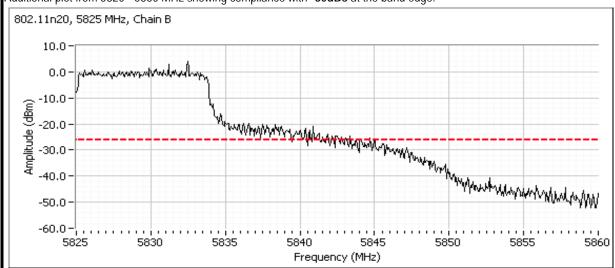
Plots for high channel, power setting(s) = 29.0





All Diff. Company			
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

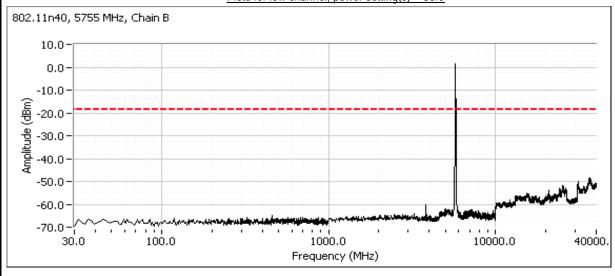
Additional plot from 5820 - 5860 MHz showing compliance with -30dBc at the band edge.



802.11n 40MHz Mode

Frequency (MHz)	Limit	Result
5755	-20dBc	Pass
5795	-20dBc	Pass

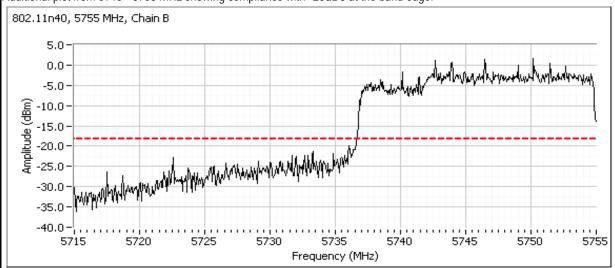
Plots for low channel, power setting(s) = 30.0



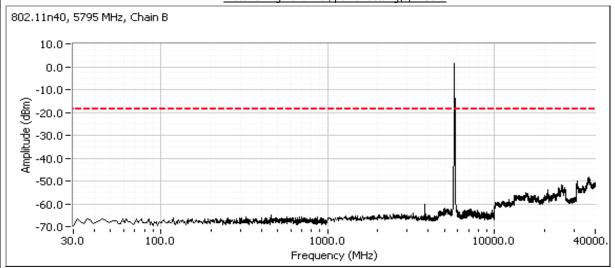


	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Additional plot from 5715 - 5755 MHz showing compliance with -20dBc at the band edge.



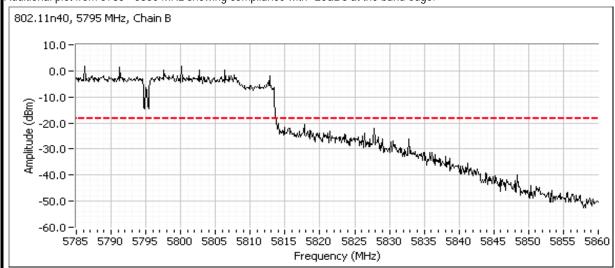
Plots for high channel, power setting(s) = 30.0





All 2022 Company			
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Additional plot from 5785 - 5860 MHz showing compliance with -20dBc at the band edge.



E E	Elliott An AZES company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80759.2
wouei.	IIIIei® Ceitiiiio® Auvanceu-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	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: 10/1/2010 Config. Used: 1 Test Engineer: David Bare Config Change: None Host Unit Voltage 120V/60Hz Test Location: Chamber 7

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 °C Rel. Humidity: 41 %

Summary of Results

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 Driver version 14.0.0.39

Run#	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin	
Chain A +	Chain A + B						
1	Coo Polow	See Below	e Below Output Power, 15.247(b)		Pass	n20: 21 mW	
I	See Delow	See Delow	Average for n20, Peak for n40	15.247(0)	Pa55	n40: 246 mW	
2	Coo Polow	See Below	Power spectral Density (PSD)	15.247(d)	Pass	n20: -10.3 dBm/3kHz	
Z	See Delow	See Delow	rower spectral behistry (F3D)	15.247(u)	Pa55	n40: -12.2. dBm/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					J	lob Number:	J84365	
Model	del: Intel® Centrino® Advanced-N 6235						T-Log Number:		
		Ceu-IV 0233				Accou	nt Manager:	Christine Kre	ebill
	Steve Hackett								
	FCC 15.247						Class:	N/A	
	utput Power - Chain A + Ope nsmitted signal on chain	erating Mode:							
	n 20MHz 5745 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across	o All Chaine	Lin	nit
ower Setti	ng ^{Note 3}	31.0	28.0			TOTAL ACTOS:	S All Challis	Lir	IIIL
verage po	wer ^{Note 3}	13.6	13.5						
utput Pow	er (dBm) Note 1	10.4	10.2			13.3 dBm	0.021 W	30.0 dBm	1.000 V
ntenna Ga	in (dBi) Note 2	5	5			40.0 ID	5.0 dBi	Pa	SS
rp (dBm) ¹	VOIG 2	15.4	15.2			18.3 dBm	0.068 W		
802.11	n 20MHz 5785 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		<u> </u>	
ower Setti	ng ^{Note 3}	31.0	28.0					Lir	nit
verage po	wer ^{Note 3}	13.5	13.4						
utput Pow	er (dBm) Note 1	10.3	10.2			13.3 dBm	0.021 W	30.0 dBm	1.000 \
ntenna Ga	ıin (dBi) ^{Note 2}	5	5				5.0 dBi	Pass	
rp (dBm) [†]	Note 2	15.3	15.2			18.3 dBm	0.067 W	1 4	
802 11	n 20MHz 5825 MHz	Chain 1	Chain 2	Chain 3	Chain 4			I	
ower Setti		31.0	28.5		SWIGHT 4	Total Across	s All Chains	Lir	nit
verage po	wer ^{Note 3}	13.3	13.7						
utput Pow	er (dBm) ^{Note 1}	10.2	10.4			13.3 dBm	0.021 W	30.0 dBm	1.000 \
ntenna Ga	in (dBi) Note 2	5	5				5.0 dBi	Pa	cc
rp (dBm) ¹	Note 2	15.2	15.4			18.3 dBm	0.068 W	Pa	22
Note 1: Note 2:	Output power measured averaging on (transmitte equivalent to method 1 described as there is no coherence the eirp divide by the surpower setting and average.	ed signal was of DA-02-213 y between ch m of the powe	continuous) 8A1 for U-NI ains the tota er on each c	and power in I devices). S I EIRP is the hain.	tegration ove purious limit sum of the in	er 50 MHz (op becomes - 30 dividual EIRF	otion #2, me odBc. Ps and effect	thod 1 in KDE	3 558074 gain equa
Note 3:	sensor. Power setting is					the power in	easureu usir	ig all average	power

Client	: Intel Corporation						lob Number:	J84365		
Ollotti							og Number:			
Model	: Intel® Centrino® Advan	ced-N 6235					0	Christine Kre	hill	
Contact	: Steve Hackett					Accou	int Manager.	OTHISHIIC KIC	,DIII	
	: FCC 15.247						Class:	NI/A		
Stariuaru	: FCC 13.247						Class.	IV/A		
802 1	In 40MHz 5755 MHz	Chain 1	Chain 2	Chain 3	Chain 4					
Power Sett		31.0	29.0	0.000	COLLEGIO	Total Acros	s All Chains	Lir	nit	
verage po	wer ^{Note 3}	13.5	13.5							
Jutnut Pow	ver (dBm) Note 1	21	20.8			23.9 dBm	0.246 W	30.0 dBm	1.000 \	
Intenna G		5	5			2017 02111	5.0 dBi			
eirp (dBm)		26	25.8			28.9 dBm	0.778 W	Pa	SS	
<u>p (abiii)</u>			20.0			2017 42111	0.770 11			
802.1	In 40MHz 5795 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Takal Assas	- All Ob -!	1.5	. ! 1	
ower Sett	ing ^{Note 3}	31.0	29.0			Total Across All Chains		Limit		
verage po	wer ^{Note 3}	13.3	13.4							
Output Pov		20.6	20.7			23.7 dBm	0.232 W	30.0 dBm	1.000 \	
ntenna G	ain (dBi) Note 2	5	5			5.0 dBi		Da	Pass	
irp (dBm) Note 2		25.6	25.7			28.7 dBm	0.735 W	Ра	SS	
, , , ,		•						•		
Note 1:	Output power measured	l using a peak	power met	er, spurious lir	mit is -20dBc	· ·				
Note 2:	As there is no coherenc the eirp divide by the su	-			sum of the inc	dividual EIRF	Ps and effect	ive antenna g	jain equa	
Note 3:	Power setting and avera sensor. Power setting i	· .		•	• .	the power m	easured usir	ng an average	power	
Run #2: Power Setting	ower spectral Density Frequency (MHz)	Chain 1	PSI Chain 2	O (dBm/3kHz)	Note 1	Total	Limit dBm/3kHz	Result		
	MHz mode							·		
31 / 28	5745	-14.8	-15.2			-12.0	8.0	Pass		
31 / 28	5785	-12.7	-14.0			-10.3	8.0	Pass		
31 / 28.5	5825	-14.5	-14.8			-11.6	8.0	Pass		
	MHz mode				mmmmmmm	ا ا		_		
31 / 29	5755	-15.5	-16.7			-13.0	8.0	Pass		
31 / 29	5795	-14.8	-15.7			-12.2	8.0	Pass		

preliminary scans using RB=3kHz using multiple sweeps at a faster rate over the 6dB bandwidth of the signal.

Ellio Ellio	tt Frompany	El	MC Test Data
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247	Class:	В
Immunity Standard(s):	-	Environment:	-

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test: 10/6/2010

	Elliott An AZAS company	EMO	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	IIIIel® Cellillio® Advanced-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

RSS 210 and FCC 15.247 (DSS) Radiated Spurious Emissions 802.11bgn and Bluetooth - 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). For conducted emissions testing the measurement antenna port.

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.

MAC Address: 00150079AD1A DRTU Tool Version 1.2.12-0197 New tool from 9/14 Driver version 14.0.0.39

					T I		T .
Run#	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
1	BT 1Mb/s 802.11b	2402MHz 2412MHz	7dBm 16.5dBm	4.4 16.5		FCC 15.247	48.0dBµV/m @ 4824.0MHz (-6.0dB)
2	BT 1Mb/s 802.11b	2480MHz 2462MHz	7dBm 16.5dBm	5.3 16.6	Radiated Emissions	FCC 15.247	48.4dBµV/m @ 2360.0MHz (-5.6dB)
3	BT 1Mb/s 802.11g	2402MHz 2412MHz	7dBm 16.5dBm	4.4 16.3	1- 10 GHz	FCC 15.247	46.0dBµV/m @ 2281.9MHz (-8.0dB)
4	BT 1Mb/s 802.11g	2480MHz 2462MHz	7dBm 16.5dBm	5.3 16.9		FCC 15.247	46.6dBµV/m @ 2360.0MHz (-7.4dB)
WiFi mode f	or the followi	ng runs base	ed on worst c	ase mode fro	om runs 1 through 4		•
5	BT 1Mb/s 802.11b	2402MHz 2437MHz	7dBm 16.5dBm	4.3 16.6	Radiated Emissions	FCC 15.247	46.8dBµV/m @ 2282.0MHz (-7.2dB)
6	BT 1Mb/s 802.11b	2440MHz 2412MHz	7dBm 16.5dBm	5.4 16.5	1- 10 GHz	FCC 15.247	49.3dBµV/m @ 2320.0MHz (-4.7dB)
7	BT 1Mb/s 802.11b	2440MHz 2462MHz	7dBm 16.5dBm	5.4 16.6	Radiated Emissions	FCC 15.247	47.8dBµV/m @ 2320.0MHz (-6.2dB)
8	BT 1Mb/s 802.11b	2480MHz 2437MHz	7dBm 16.5dBm	5.1 16.6	1- 10 GHz	FCC 15.247	48.9dBµV/m @ 2360.0MHz (-5.1dB)
WiFi mode a	and channel a	and Bluetootl	n channel ba	sed on the w	orst case mode from runs	1 through 8	
9	BT 3Mb/s 802.11b	2440 MHz 2412 MHz	7dBm 16.5dBm	1.4 16.5	Radiated Emissions 1- 10 GHz	FCC 15.247	46.4dBµV/m @ 2383.9MHz (-7.6dB)
			·		·	·	·



Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

WiFi mode - 802.11n 20MHz with both chains active at 16.5dBm per chain, center channel in each 5GHz band. Bluetooth on center channel, 1Mb/s mode

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
10	BT 1Mb/s 802.11n20	2440MHz 5200MHz	7dBm 16.5/16.5	5.4 16.6/16.7		FCC 15.247	41.9dBµV/m @ 2280.0MHz (-12.1dB)
11	BT 1Mb/s 802.11n20	2440MHz 5300MHz	7dBm 16.5/16.5	5.4 16.7/16.5	Radiated Emissions	FCC 15.247	37.2dBµV/m @ 10600.0MHz (-16.8dB)
12	BT 1Mb/s 802.11n20	2440MHz 5600MHz	7dBm 16.5/16.5	5.4 16.5/16.5	1- 15 GHz	FCC 15.247	45.1dBµV/m @ 11199.8MHz (-8.9dB)
13	BT 1Mb/s 802.11n20	2440MHz 5785MHz	7dBm 16.5/16.5	5.4 16.5/16.7		FCC 15.247	44.7dBµV/m @ 11570.7MHz (-9.3dB)

Modifications Made During Testing

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

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.

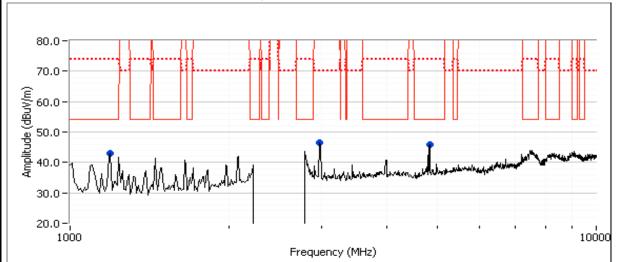


	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

	Power Settings						
	Target (dBm)	Measured (dBm)	Software Setting				
Chain A	16.5	16.5	24.5				
Chain B	7.0	4.4	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	
4822.500	46.0	V	54.0	-8.0	Peak	154	1.0	
1192.500	42.9	V	54.0	-11.1	Peak	82	1.5	
2980.000	46.4	V	70.0	-23.6	Peak	154	1.0	

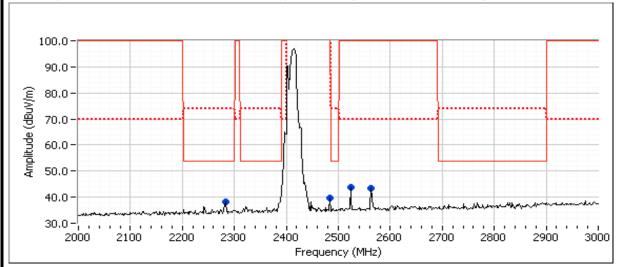
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4824.000	48.0	V	54.0	-6.0	AVG	153	1.16	
4823.900	50.8	V	74.0	-23.2	PK	153	1.16	
1192.530	42.9	V	54.0	-11.1	AVG	92	1.64	
1192.550	45.6	V	74.0	-28.4	PK	92	1.64	



	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)



Preliminary measurements at ~ 20cm, 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	
2283.330	38.3	Н	54.0	-15.7	Peak	321	1.0	
2483.330	39.8	Н	120.0	-80.2	Peak	4	1.0	In band
2523.330	43.6	Н	70.0	-26.4	Peak	0	1.0	Non-restricted band
2563.330	43.4	Н	70.0	-26.6	Peak	212	1.0	Non-restricted band

Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2281.900	46.0	Н	54.0	-8.0	AVG	69	2.18	Note 2
2282.130	55.6	Н	74.0	-18.4	PK	69	2.18	Note 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:	Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

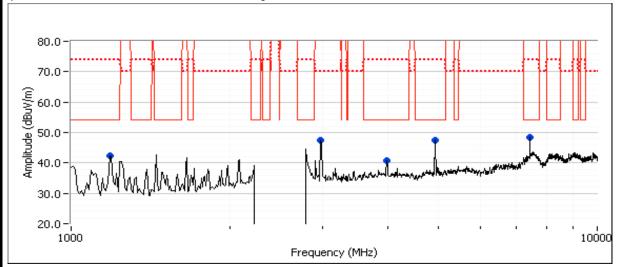


	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

	Power Settings								
	Target (dBm)	Measured (dBm)	Software Setting						
Chain A	16.5	16.6	23.5						
Chain B	7.0	5.3	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	
7439.170	48.3	V	54.0	-5.7	Peak	167	2.0	
4914.170	47.5	V	54.0	-6.5	Peak	209	2.5	
1183.330	42.3	V	54.0	-11.7	Peak	97	2.0	
3979.170	40.8	V	54.0	-13.2	Peak	146	1.0	
2980.000	47.4	V	70.0	-22.6	Peak	<i>153</i>	1.0	

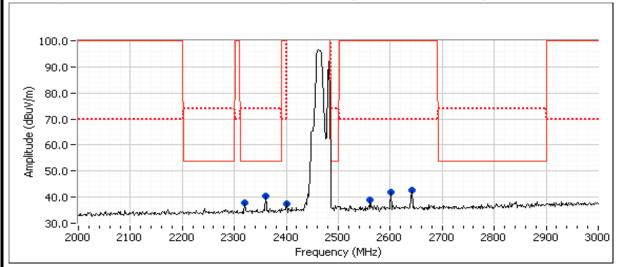
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
4924.000	46.8	V	54.0	-7.2	AVG	212	2.48			
7439.940	46.5	V	54.0	-7.5	AVG	166	2.00			
4923.890	50.0	V	74.0	-24.0	PK	212	2.48			
7440.500	53.1	V	74.0	-20.9	PK	166	2.00			



	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)



Preliminary measurements at ~ 20cm, 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	
2320.000	37.9	Н	54.0	-16.1	Peak	185	1.0	
2360.000	40.3	Н	54.0	-13.7	Peak	338	1.0	
2400.000	37.4	Н	70.0	-32.6	Peak	<i>352</i>	1.0	Non-restricted band
2561.670	39.1	Н	70.0	-30.9	Peak	<i>75</i>	1.0	Non-restricted band
2601.670	42.1	Н	70.0	-27.9	Peak	144	1.0	Non-restricted band
2641.670	42.5	Н	70.0	-27.5	Peak	147	1.0	Non-restricted band

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	46.3	Н	54.0	-7.7	AVG	345	1.25	Note 2
2319.830	56.6	Н	74.0	-17.4	PK	345	1.25	Note 2
2360.020	48.4	Н	54.0	-5.6	AVG	70	1.27	Note 2
2360.000	57.2	Н	74.0	-16.8	PK	70	1.27	Note 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: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

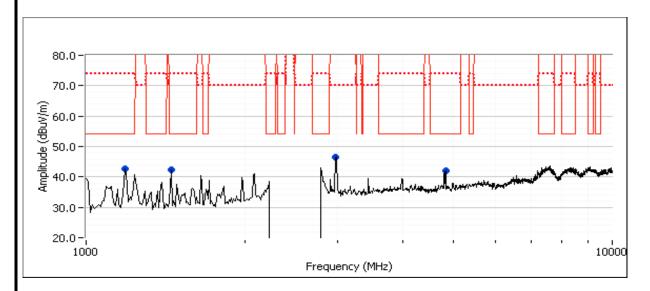
Elliott

EMC Test Data

	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
woder:	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 3, Rainbow Peak 2x2: 1-10GHz, 802.11g @ 2412 MHz Chain A, BT Basic Rate @ 2402 MHz Chain B Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band:

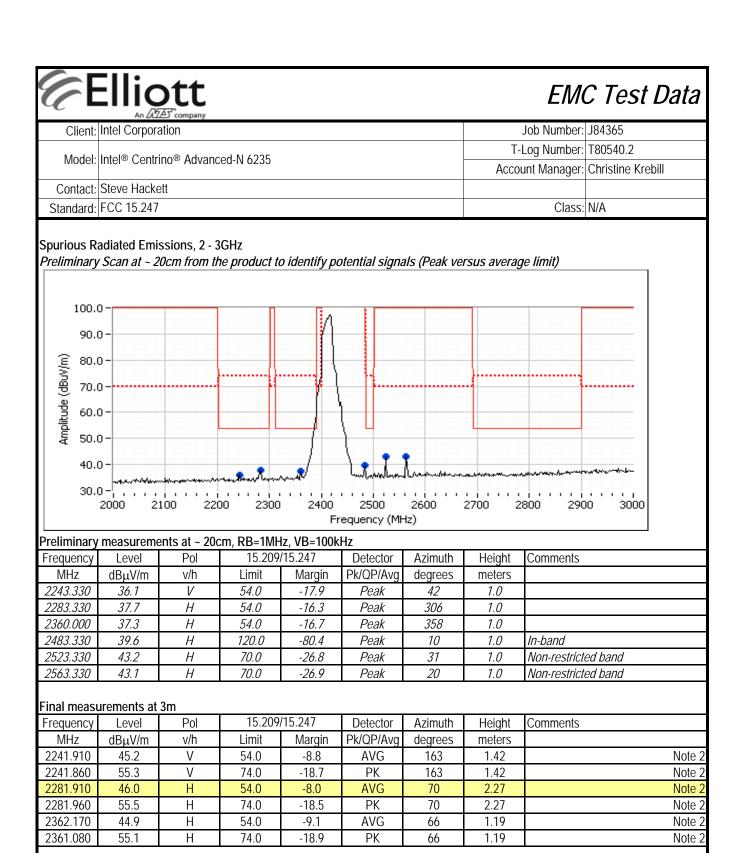
		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.3	31.0
Chain B	7.0	4.4	8.0



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	
1183.330	42.8	V	54.0	-11.2	Peak	102	2.0	
1449.170	42.5	Н	54.0	-11.5	Peak	138	1.5	
4822.500	42.1	V	54.0	-11.9	Peak	283	2.0	
2980.000	46.4	V	70.0	-23.6	Peak	153	1.0	

MHz dBμV/m v/h Limit Margin Pk/QP/Avg degrees meters 1457.590 43.2 H 54.0 -10.8 AVG 132 1.33 1457.600 45.4 H 74.0 -28.6 PK 132 1.33 1192.560 42.5 V 54.0 -11.5 AVG 89 1.99	Frequency	Level	Frequency	Pol	ncy Leve	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
1457.600 45.4 H 74.0 -28.6 PK 132 1.33 1192.560 42.5 V 54.0 -11.5 AVG 89 1.99	MHz	dBμV/m	MHz	v/h	z dBμV	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1192.560 42.5 V 54.0 -11.5 AVG 89 1.99	1457.590	43.2	1457.590	Н	90 43.2	Н	54.0	-10.8	AVG	132	1.33	
	1457.600	45.4	1457.600	Н	00 45.4	Н	74.0	-28.6	PK	132	1.33	
4400 (00	1192.560	42.5	1192.560	V	660 42.	V	54.0	-11.5	AVG	89	1.99	
1192.600 44.8 V 74.0 -29.2 PK 89 1.99	1192.600	44.8	1192.600	V	000 44.8	V	74.0	-29.2	PK	89	1.99	
4823.900 40.7 V 54.0 -13.3 AVG 153 1.18	4823.900	40.7	4823.900	V	000 40.	V	54.0	-13.3	AVG	153	1.18	
4826.970 52.1 V 74.0 -21.9 PK 153 1.18	4826.970	52.1	4826.970	V	70 52.	V	74.0	-21.9	PK	153	1.18	



For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak

Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

measurements in a measurement bandwidth of 100kHz.

Note 1:

Note 2:

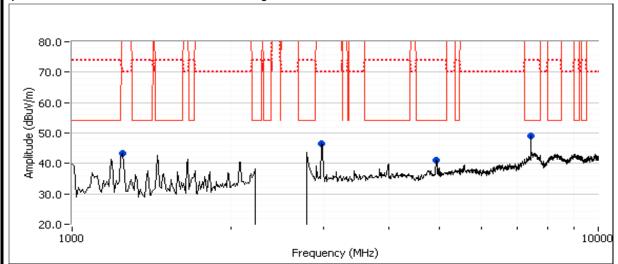


Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.9	29.5
Chain B	7.0	5.3	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	
7439.170	49.2	V	54.0	-4.8	Peak	174	1.5	
4923.330	41.1	V	54.0	-12.9	Peak	181	2.5	
2980.000	46.6	V	70.0	-23.4	Peak	160	1.0	
1247.500	43.4	Н	70.0	-26.6	Peak	<i>152</i>	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	
7440.020	45.8	V	54.0	-8.2	AVG	178	1.52	
7439.570	52.7	V	74.0	-21.3	PK	178	1.52	

Note: 7440MHz is directly related to the Bluetooth signal and was observed during the Bluetooth only spurious measurements.

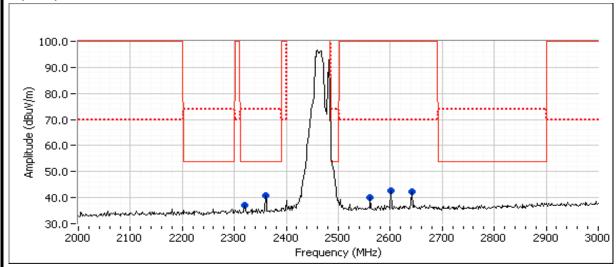


	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)

No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2320.000	37.2	Н	54.0	-16.8	Peak	317	1.0	
2360.000	40.7	Н	54.0	-13.3	Peak	347	1.0	
2561.670	39.9	Н	70.0	-30.1	Peak	205	1.0	Non-restricted band
2601.670	42.6	Н	70.0	-27.4	Peak	144	1.0	Non-restricted band
2641.670	42.4	Н	70.0	-27.6	Peak	173	1.0	Non-restricted band

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	
2324.470	44.5	Н	54.0	-9.5	AVG	236	1.0	
2360.040	46.6	Н	54.0	-7.4	AVG	326	1.0	
2323.600	57.6	Н	74.0	-16.4	PK	236	1.0	
2359.450	56.2	Н	74.0	-17.8	PK	326	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: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

Note 3: Signal is present when Bluetooth is disabled (powered off)

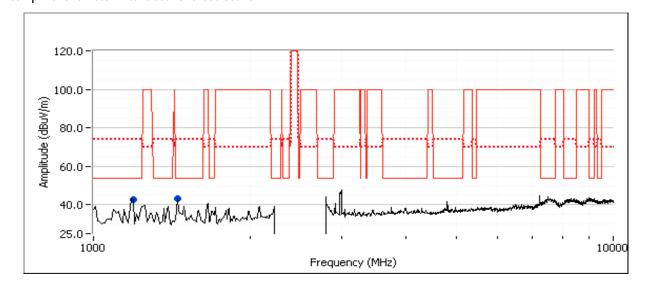


	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
woder:	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	23.5
Chain B	7.0	4.3	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band: Preamplifier and notch filter used for these scans



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	
1457.620	43.2	Н	54.0	-10.8	Peak	130	1.5	
1199.820	42.6	V	54.0	-11.4	Peak	96	2.0	

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	
1200.140	40.1	V	54.0	-13.9	AVG	100	2.0	
1457.570	43.0	Н	54.0	-11.0	AVG	127	1.4	
1199.950	44.7	V	74.0	-29.3	PK	100	2.0	
1457.490	45.1	Н	74.0	-28.9	PK	127	1.4	

Note: 4804MHz is directly related to the Bluetooth signal and was observed during the Bluetooth only spurious measurements.

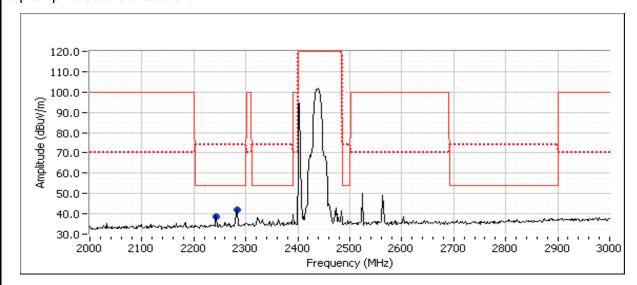


	An Z/Z/E3 company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)

No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2283.330	41.8	V	54.0	-12.2	Peak	180	1.0	5
2243.330	38.7	V	54.0	-15.3	Peak	180	1.0	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	
2281.990	46.8	Η	54.0	-7.2	AVG	70	1.0	RB 1 MHz;VB 10 Hz;Pk
2282.150	56.7	Η	74.0	-17.3	PK	70	1.0	RB 1 MHz;VB 3 MHz;Pk
2242.060	46.7	Η	54.0	-7.3	AVG	68	1.0	RB 1 MHz;VB 10 Hz;Pk
2241.580	56.3	Н	74.0	-17.7	PK	68	1.0	RB 1 MHz;VB 3 MHz;Pk
2282.000	45.9	V	54.0	-8.1	AVG	105	1.2	RB 1 MHz;VB 10 Hz;Pk
2282.210	56.1	V	74.0	-17.9	PK	105	1.2	RB 1 MHz;VB 3 MHz;Pk

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

Note 2: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

Note 3: Signal is present when Bluetooth is disabled (powered off)



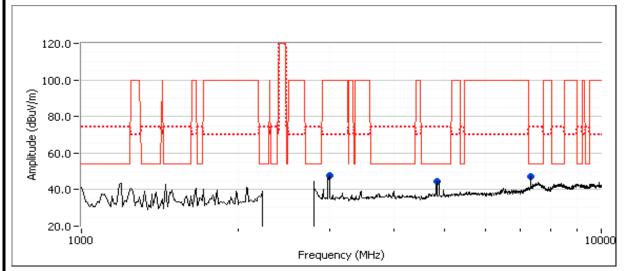
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

		Power Settings					
	Target (dBm) Measured (dBm) Software Setting						
Chain A	16.5	16.5	23.5				
Chain B	7.0	5.4	8.0				

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

Preamplifier and notch filter used for these scans



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	
2998.330	47.9	V	70.0	-22.1	Peak	141	1.0	
4823.990	44.6	V	54.0	-9.4	Peak	149	1.0	
7316.670	47.1	V	54.0	-6.9	Peak	165	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	
4823.980	44.9	V	54.0	-9.1	AVG	149	1.3	RB 1 MHz;VB 10 Hz;Pk
4823.900	48.4	V	74.0	-25.6	PK	149	1.3	RB 1 MHz;VB 3 MHz;Pk
7319.940	43.6	V	54.0	-10.4	AVG	170	2.0	RB 1 MHz;VB 10 Hz;Pk
7319.350	51.4	V	74.0	-22.6	PK	170	2.0	RB 1 MHz;VB 3 MHz;Pk

Note: 7320 MHz is directly related to the Bluetooth signal and was observed during the Bluetooth only spurio us measurements.

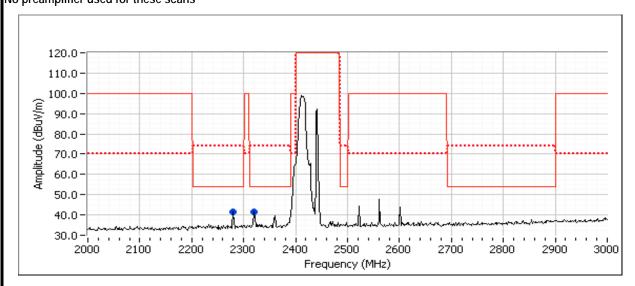


	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)

No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2320.000	40.1	-	54.0	-13.9	Peak	180	1.0	
2280.000	39.0	-	54.0	-15.0	Peak	180	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	
2319.970	49.3	Н	54.0	-4.7	AVG	70	1.2	RB 1 MHz;VB 10 Hz;Pk
2319.990	57.3	Н	74.0	-16.7	PK	70	1.2	RB 1 MHz;VB 3 MHz;Pk
2279.960	46.8	Н	54.0	-7.2	AVG	70	1.9	RB 1 MHz;VB 10 Hz;Pk
2279.780	55.9	Н	74.0	-18.1	PK	70	1.9	RB 1 MHz;VB 3 MHz;Pk
2319.980	46.7	V	54.0	-7.3	AVG	104	1.0	RB 1 MHz;VB 10 Hz;Pk
2319.800	56.2	V	74.0	-17.8	PK	104	1.0	RB 1 MHz;VB 3 MHz;Pk

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

Note 2: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

Note 3: Signal is present when Bluetooth is disabled (powered off)

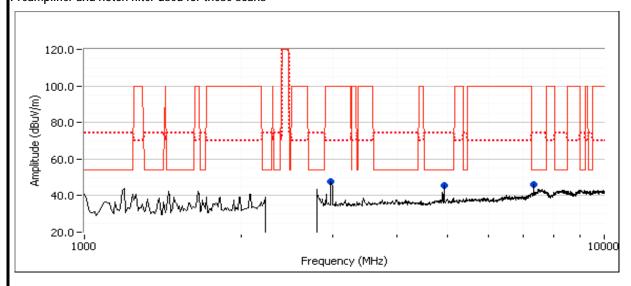


Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	23.5
Chain B	7.0	5.4	8.0

Spurious Radiated Emissions, 1 - 10GHz excluding the allocated band: Preamplifier and notch filter used for these scans



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	
2980.000	47.7	V	70.0	-22.3	Peak	141	1.0	
4923.860	45.3	V	54.0	-8.7	Peak	166	1.6	
7322.500	46.3	V	54.0	-7.7	Peak	182	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	
4923.980	47.6	V	54.0	-6.4	AVG	166	1.7	RB 1 MHz;VB 10 Hz;Pk
4923.940	50.3	V	74.0	-23.7	PK	166	1.7	RB 1 MHz;VB 3 MHz;Pk
7320.050	41.2	V	54.0	-12.8	AVG	201	2.0	RB 1 MHz;VB 10 Hz;Pk
7320.180	49.5	V	74.0	-24.5	PK	201	2.0	RB 1 MHz;VB 3 MHz;Pk

Note: 7320 MHz is directly related to the Bluetooth signal and was observed during the Bluetooth only spurio us measurements.

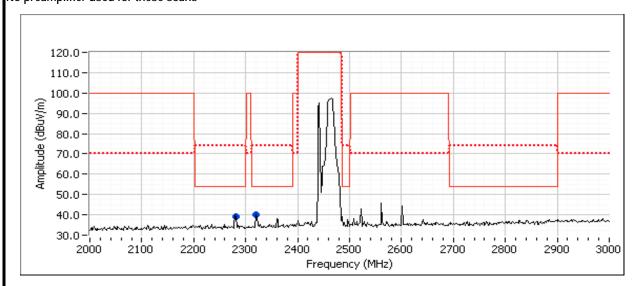


	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)

No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2320.000	40.1	Н	54.0	-13.9	Peak	180	1.0	
2288.500	39.0	Н	54.0	-15.0	Peak	180	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	
2319.980	47.8	Н	54.0	-6.2	AVG	72	1.2	
2279.930	46.7	Н	54.0	-7.3	AVG	69	1.0	
2320.040	45.8	V	54.0	-8.2	AVG	100	1.0	
2279.930	45.2	V	54.0	-8.8	AVG	101	1.0	
2320.230	57.3	Н	74.0	-16.7	PK	72	1.2	
2284.230	56.0	Н	74.0	-18.0	PK	69	1.0	
2324.580	55.8	V	74.0	-18.2	PK	100	1.0	
2280.470	55.3	V	74.0	-18.7	PK	101	1.0	

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

Note 2: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

Note 3: Signal is present when Bluetooth is disabled (powered off)



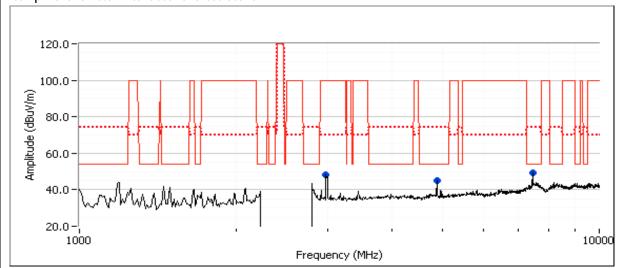
	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

		Power Settings					
	Target (dBm) Measured (dBm) Software Setting						
Chain A	16.5	16.6	23.5				
Chain B	7.0	5.1	8.0				

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

Preamplifier and notch filter used for these scans



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	
2980.000	48.4	V	70.0	-21.6	Peak	148	1.0	
4873.880	45.0	V	54.0	-9.0	Peak	148	1.3	
7439.170	49.5	V	54.0	-4.5	Peak	166	2.2	

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	
4874.020	45.2	V	54.0	-8.8	AVG	146	1.2	RB 1 MHz;VB 10 Hz;Pk
4874.030	49.0	V	74.0	-25.0	PK	146	1.2	RB 1 MHz;VB 3 MHz;Pk
7440.000	44.9	V	54.0	-9.1	AVG	167	1.5	RB 1 MHz;VB 10 Hz;Pk
7440.270	52.2	V	74.0	-21.8	PK	167	1.5	RB 1 MHz;VB 3 MHz;Pk

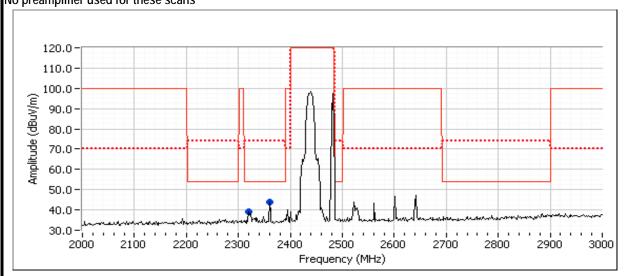
Note: 7320 MHz is directly related to the Bluetooth signal and was observed during the Bluetooth only spurio us measurements.



	An Z/Z/E3 company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)
No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2360.000	43.8	-	54.0	-10.2	Peak	180	1.0	
2320.000	39.2	-	54.0	-14.8	Peak	180	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	
2360.020	48.9	Н	54.0	-5.1	AVG	328	1.0	
2319.980	47.9	Н	54.0	-6.1	AVG	69	1.3	
2359.980	46.7	V	54.0	-7.3	AVG	107	1.0	
2320.040	45.7	V	54.0	-8.3	AVG	104	1.0	
2320.230	57.3	Н	74.0	-16.7	PK	69	1.3	
2360.430	56.7	V	74.0	-17.3	PK	107	1.0	
2360.100	56.6	Н	74.0	-17.4	PK	328	1.0	
2324.580	55.6	V	74.0	-18.4	PK	104	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
Note 1:	measurements in a measurement bandwidth of 100kHz.

Note 2: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied Note 3: Signal is present when Bluetooth is disabled (powered off)



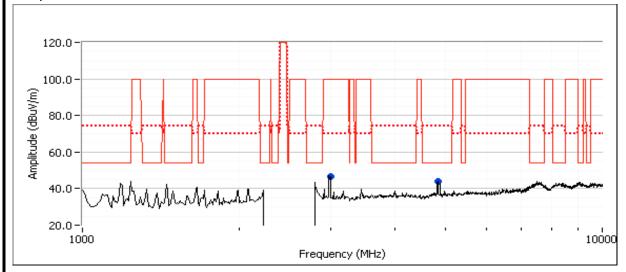
	An ZAZZZ company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 9, Rainbow Peak 2x2: 1-10GHz, 802.11b @ 2412 MHz Chain A, BT EDR @ 2440 MHz Chain B

		Power Settings				
	Target (dBm) Measured (dBm) Software Settin					
Chain A	16.5	16.5	23.5			
Chain B	7.0	1.4	8.0			

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

Preamplifier and notch filter used for these scans



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	
2998.330	46.7	V	70.0	-23.3	Peak	130	1.0	
4823.990	44.0	V	54.0	-10.0	Peak	134	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	
4824.030	43.1	V	54.0	-10.9	AVG	131	1.0	RB 1 MHz;VB 10 Hz;Pk
4823.990	47.7	V	74.0	-26.3	PK	131	1.0	RB 1 MHz;VB 3 MHz;Pk

Note: 4924 MHz is directly related to the WiFi (802.11b) signal and was observed during the 802.11b mode spurious m easurements.

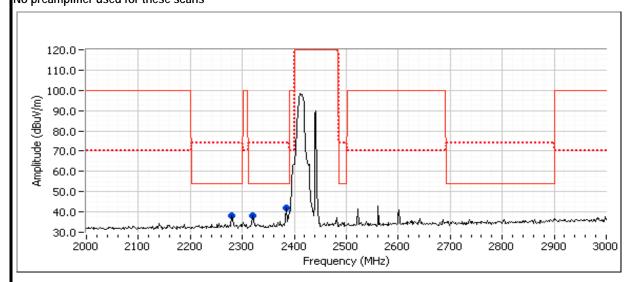


	An Z/Z/E3 company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)

No preamplifier used for these scans



Preliminary measurements at ~ 20cm, 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	
2385.000	42.2	V	54.0	-11.8	Peak	192	1.0	
2320.000	38.2	V	54.0	-15.8	Peak	192	1.0	
2280.000	38.2	V	54.0	-15.8	Peak	192	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	
2383.860	46.4	Н	54.0	-7.6	AVG	350	1.0	RB 1 MHz;VB 10 Hz;Pk
2384.460	59.4	Н	74.0	-14.6	PK	350	1.0	RB 1 MHz;VB 3 MHz;Pk
2319.970	46.4	Н	54.0	-7.6	AVG	3	1.1	RB 1 MHz;VB 10 Hz;Pk
2320.330	56.0	Н	74.0	-18.0	PK	3	1.1	RB 1 MHz;VB 3 MHz;Pk
2279.900	44.6	Н	54.0	-9.4	AVG	68	1.0	RB 1 MHz;VB 10 Hz;Pk
2279.060	55.4	Н	74.0	-18.6	PK	68	1.0	RB 1 MHz;VB 3 MHz;Pk
2384.170	45.9	V	54.0	-8.1	AVG	205	1.5	RB 1 MHz;VB 10 Hz;Pk
2386.600	59.7	V	74.0	-14.3	PK	205	1.5	RB 1 MHz;VB 3 MHz;Pk

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

Note 2: Signal is only present when Bluetooth is enabled, average correction for hopping occupancy could be applied

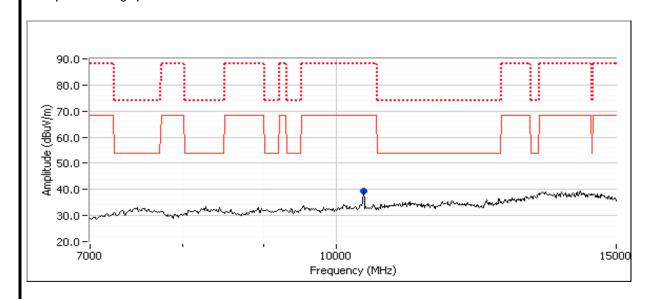
Note 3: Signal is present when Bluetooth is disabled (powered off)

	Elliott An AZAS company	EM	C Test Data
	Intel Corporation	Job Number:	J84365
Madali	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouei.	III.let © Cetilitio © Advanced-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 10, Rainbow Peak 2x2: 1-15GHz, 802.11n20 @ 5200 MHz Chain A and B, BT Basic Rate @ 2440 MHz Chain B

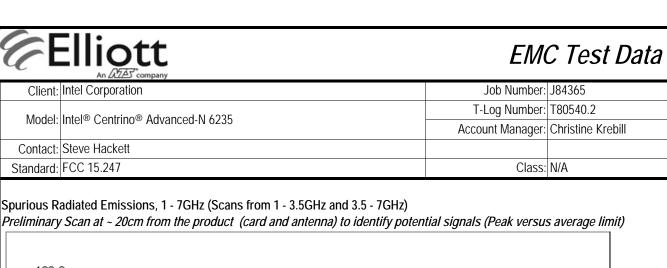
	Power Settings						
	Target (dBm)	Measured (dBm)	Software Setting				
WiFi A	16.5	16.6	31.5				
WiFi B	16.5	16.7	30.5				
Bluetooth	7.0	5.4	8.0				

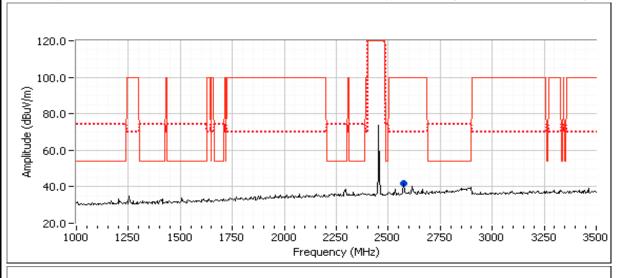
Spurious Radiated Emissions, 7 - 15GHz: Preamplifier and high pass filter used for these scans

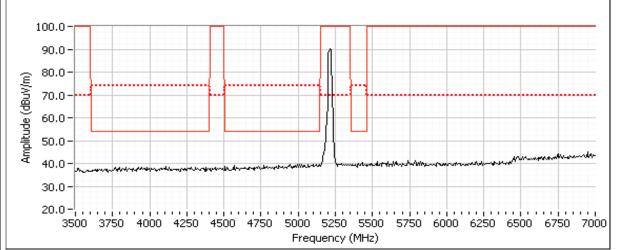


Preliminary Measurements (Peak versus average limit)

I	Frequency	Level	Pol	15.209/15	5.247/15E	Detector	Azimuth	Height	Comments
	MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
I	10400.000	39.4	V	68.3	-28.9	Peak	198	1.3	







Client:		An ATAT company Intel Corporation						Job Number:	J84365	
N.A J I	L-1-1@ O L-1		- IN (225				T-	Log Number:	T80540.2	
Model:	Intel® Centri	no® Advano	Ced-IN 6235				Acco	unt Manager:	Christine Krebi	II
Contact:	Steve Hacke	tt								
Standard:	FCC 15.247							Class	N/A	
•	adiated Emis		•			- 7GHz)				
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2560.000	40.1	V	100.0	-59.9	Peak	360	1.0			
Final meas	urements 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			
2280.000	41.9	Н	54.0	-12.1	AVG	0	1.2	RB 1 MHz;\		Not
2320.000	41.7	V	54.0	-12.3	AVG	77	1.3		/B 10 Hz;Pk	No
2360.000	39.6	V	54.0	-14.4	AVG	77	1.2		/B 10 Hz;Pk	No
2320.000	39.4	Н	54.0	-14.6	AVG	206	1.3		/B 10 Hz;Pk	No
2360.000	38.1	Н	54.0	-15.9	AVG	39	1.2		/B 10 Hz;Pk	Not
2280.000	37.8	V	54.0	-16.2	AVG	140	1.0		/B 10 Hz;Pk	No
2320.000	55.0	V	74.0	-19.0	PK	77	1.3		/B 3 MHz;Pk	Not
2560.000	50.6	Н	70.0	-19.4	PK	168	1.4		/B 3 MHz;Pk	Not
2560.000	46.9	V	70.0	-23.1	PK	216	1.9	_	/B 3 MHz;Pk	No
2280.000	46.8	H	74.0	-27.2	PK	0	1.2		/B 3 MHz;Pk	Not
2320.000	46.2	H	74.0	-27.8	PK	206	1.3	_	/B 3 MHz;Pk	Not
2360.000	45.4	V	74.0	-28.6	PK	77	1.2		/B 3 MHz;Pk	Not
2360.000	44.3	Н	74.0	-29.7	PK	39	1.2		/B 3 MHz;Pk	Not
2280.000	44.0	V	74.0	-30.0 -53.7	PK	140	1.0		/B 3 MHz;Pk	Not
2560.000	46.3	H V	100.0	0017	AVG	168	1.4	RB 1 MHz;\\ RB 1 MHz;\	/	Not Not
2560.000	40.5	V	100.0	-59.5	AVG	216	1.9	KB I WIHZ;\	/B TU HZ;PK	INO
lote 1:	For emission measuremer					For all othe	r emissions	, the limit is -3	30dBc for peak	
Note 2:					average corre	ection for hor	nina occun	ancy could be	annlied	

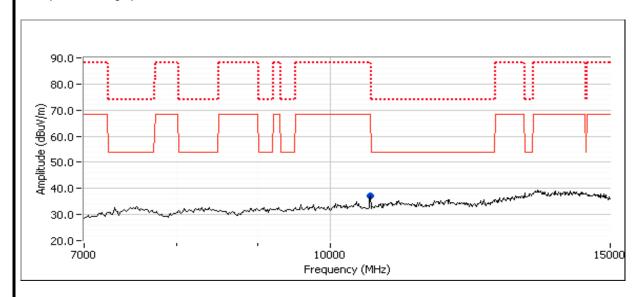
	Elliott An ATAS company	EMO	C Test Data
	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	III(e) Ceritiiii) Advanced-14 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 11, Rainbow Peak 2x2: 1-15GHz, 802.11n20 @ 5300 MHz Chain A and B, BT Basic Rate @ 2440 MHz Chain B

	Power Settings						
	Target (dBm) Measured (dBm) Software Setting						
WiFi A	16.5	16.7	32.0				
WiFi B	16.5	16.5	31.0				
Bluetooth	7.0	5.4	8.0				

Spurious Radiated Emissions, 7 - 15GHz:

Preamplifier and high pass filter used for these scans



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15	5.247/15E	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10600.000	37.2	V	54.0	-16.8	Peak	182	1.0	

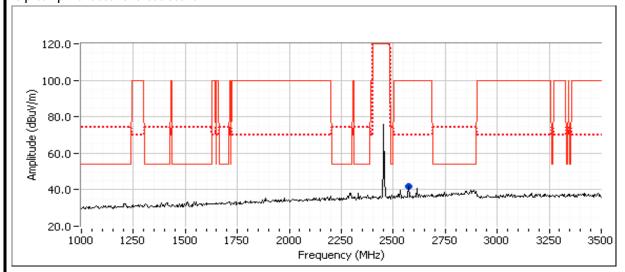


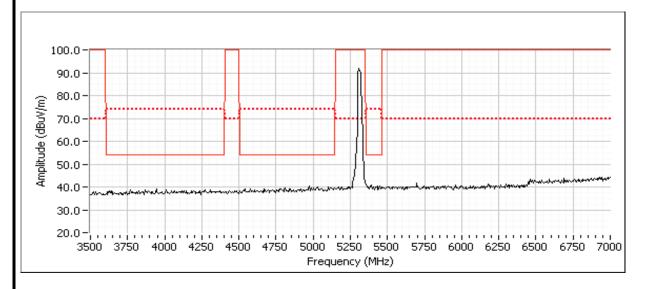
	An ZAZZZ company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Preliminary Scan at ~ 20cm from the product (card and antenna) to identify potential signals (Peak versus average limit)

No preamplifier used for these scans





Note 1: The emissions observed above the noise floor are the same as those observed with the Wi-Fi radio at 5200 MHz (Run 10) and are unaffected when the Wi-Fi radio is disabled (powered off). Additional measurements were therefore not necessary.



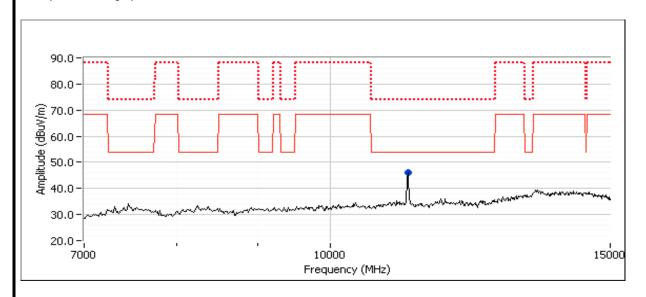
	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	ilitel® Celitilio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 12, Rainbow Peak 2x2: 1-15GHz, 802.11n20 @ 5600 MHz Chain A and B, BT Basic Rate @ 2440 MHz Chain B

	Power Settings						
	Target (dBm)	Measured (dBm)	Software Setting				
WiFi A	16.5	16.5	34.0				
WiFi B	16.5	16.5	34.0				
Bluetooth	7.0	5.4	8.0				

Spurious Radiated Emissions, 7 - 15GHz:

Preamplifier and high pass filter used for these scans



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15	5.247/15E	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11200.340	46.0	V	54.0	-8.0	Peak	188	1.0	

Frequency	Level	Pol	15.209/15.247/15E		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11199.810	45.1	V	54.0	-8.9	AVG	157	1.9	RB 1 MHz;VB 10 Hz;Pk
11200.110	61.2	V	74.0	-12.8	PK	157	1.9	RB 1 MHz;VB 3 MHz;Pk



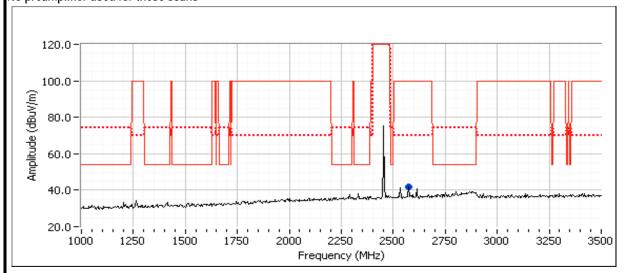
	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

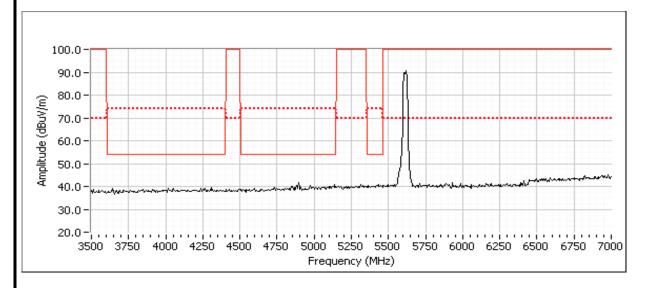
Spurious Radiated Emissions, 1 - 7GHz (Scans from 1 - 3.5GHz and 3.5 - 7GHz)

Preliminary Scan at ~ 20cm from the product (card and antenna) to identify potential signals (Peak

Preliminary Scan at ~ 20cm from the product (card and antenna) to identify potential signals (Peak versus average limit)

No preamplifier used for these scans





Note 1: The emissions observed above the noise floor are the same as those observed with the Wi-Fi radio at 5200 MHz (Run 10) and are unaffected when the Wi-Fi radio is disabled (powered off). Additional measurements were therefore not necessary.



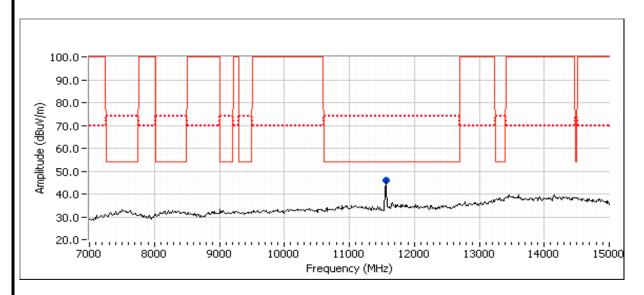
	An Z/Z/E3 company		
Client:	Intel Corporation	Job Number:	J84365
Madali	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
wouer.	Illitel® Cellillillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

Run # 13, Rainbow Peak 2x2: 1-15GHz, 802.11n20 @ 5785 MHz Chain A and B, BT Basic Rate @ 2440 MHz Chain B

	Power Settings							
	Target (dBm)	Measured (dBm)	Software Setting					
WiFi A	16.5	16.5	35.0					
WiFi B	16.5	16.7	34.5					
Bluetooth	7.0	5.4	8.0					

Spurious Radiated Emissions, 7 - 15GHz:

Preamplifier and high pass filter used for these scans



Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15	5.247/15E	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11570.410	45.9	V	54.0	-8.1	Peak	187	1.0	

Frequency	Level	Pol	15.209/15.247/15E		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11570.680	44.7	V	54.0	-9.3	AVG	192	1.4	RB 1 MHz;VB 10 Hz;Pk
11570.280	57.8	V	74.0	-16.2	PK	192	1.4	RB 1 MHz;VB 3 MHz;Pk

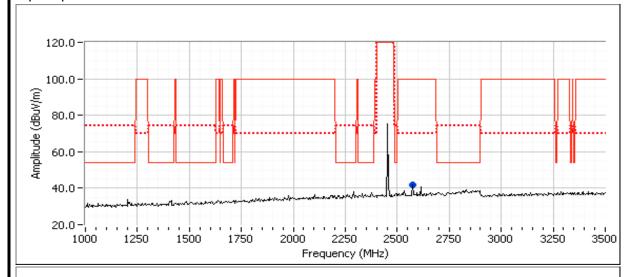


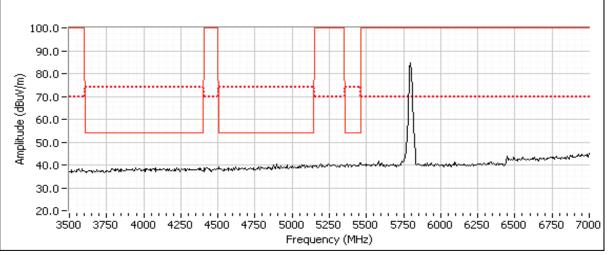
Client:	Intel Corporation	Job Number:	J84365
Madali	Intel® Centrino® Advanced-N 6235	T-Log Number:	T80540.2
Model.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247	Class:	N/A

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

Preliminary Scan at ~ 20cm from the product (card and antenna) to identify potential signals (Peak versus average limit)

No preamplifier used for these scans





Note 1: The emissions observed above the noise floor are the same as those observed with the Wi-Fi radio at 5200 MHz (Run 10) and are unaffected when the Wi-Fi radio is disabled (powered off). Additional measurements were therefore not necessary.

Ellio	tt S company	El	MC Test Data
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
		Account Manager:	Christine Krebill
Contact:	Steve Hackett		-
Emissions Standard(s):	FCC 15.247 (DTS)	Class:	-
Immunity Standard(s):	-	Environment:	-

For The

Intel Corporation

Model

Intel® Centrino® Advanced-N 6235

Date of Last Test: 9/8/2011

(EI	liott
	An /47A5 company

	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	ilitel Ceritilio Advanceu-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	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

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

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
				3.2dBm	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247(c)	48.3dBµV/m @ 2362.2MHz (-5.7dB)
1a	24	2402	7.5dBm		Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	41.7dBµV/m @ 7325.4MHz (-12.3dB)
1b	Bluetooth LE	2440	7.5dBm	4.1dBm	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c)	38.5dBµV/m @ 7326.0MHz (-15.5dB)
1c		2480	7.5dBm	3.4dBm	Restricted Band Edge (2483.5 MHz) Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247(c) FCC Part 15.209 / 15.247(c)	36.4dBµV/m @ 2483.5MHz (-17.6dB) 43.3dBµV/m @ 7439.7MHz (-10.7dB)

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:

21.4 °C

Rel. Humidity:

39 %

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.



	An ZZZZ Company		
Client:	Intel Corporation	Job Number:	J84365
Model:	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
	ilitel Ceritilio Advanced-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

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

Date of Test: 8/31/2011 Test Engineer: Joseph Cadigal Test Location: FT Chamber#4

Run #1a: Low Channel @ 2402 MHz

٠.	O LIGE WILL								
		Power Settings							
	Target (dBm) Measured (dBm) Software								
	Chain B	7.5	3.2	default					

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

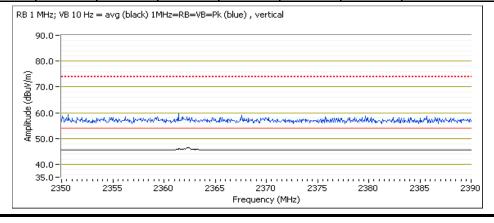
Fundamental Signal Field Strength: Peak value measured in 100kHz

—	<u> </u>							
Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2401.960	100.2	V	-	-	AVG	87	1.1	RB 1 MHz;VB 10 Hz;Pk
2402.320	103.4	V	-	-	PK	87	1.1	RB 1 MHz;VB 3 MHz;Pk
2402.040	103.1	V	-	-	-	86	1.0	RB 100 kHz;VB 100 kHz;Pk
2402.040	98.3	Н	-	-	AVG	52	1.4	RB 1 MHz;VB 10 Hz;Pk
2402.300	101.5	Н	-	-	PK	52	1.4	RB 1 MHz;VB 3 MHz;Pk
2402.030	99.0	Н	-	-	-	52	1.4	RB 100 kHz;VB 100 kHz;Pk

Fundamental emission level @ 3m in 100kHz RBW:	103.1 dBμV/m	
Limit for emissions outside of restricted bands:	83.1 dB _µ V/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	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2362.200	48.3	V	54.0	-5.7	AVG	88	1.0	RB 1 MHz;VB 10 Hz;Pk
2363.000	58.8	V	74.0	-15.2	PK	88	1.0	RB 1 MHz;VB 3 MHz;Pk
2362.130	47.5	Н	54.0	-6.5	AVG	52	1.4	RB 1 MHz;VB 10 Hz;Pk
2387.200	58.5	Н	74.0	-15.5	PK	52	1.4	RB 1 MHz;VB 3 MHz;Pk

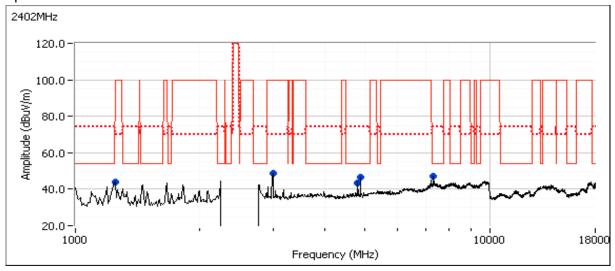


Elliott An ATA Company

EMC Test Data

	Till Dall's Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Other 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	
7325.440	41.7	V	54.0	-12.3	AVG	249	1.3	RB 1 MHz;VB 10 Hz;Pk
4798.700	32.3	V	54.0	-21.7	AVG	285	1.3	RB 1 MHz;VB 10 Hz;Pk
7324.530	52.2	V	74.0	-21.8	PK	249	1.3	RB 1 MHz;VB 3 MHz;Pk
4874.710	32.1	V	54.0	-21.9	AVG	279	1.0	RB 1 MHz;VB 10 Hz;Pk
2997.860	56.2	V	83.1	-26.9	PK	151	1.0	RB 1 MHz;VB 3 MHz;Pk
1245.480	55.8	V	83.1	-27.3	PK	137	1.0	RB 1 MHz;VB 3 MHz;Pk
4801.360	44.0	V	74.0	-30.0	PK	285	1.3	RB 1 MHz;VB 3 MHz;Pk
4873.390	43.7	V	74.0	-30.3	PK	279	1.0	RB 1 MHz;VB 3 MHz;Pk

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

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EMC Test Data

	Till Dall's Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	intel® Centinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run #1b: Center Channel @ 2440 MHz

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	7.5	4.0	default

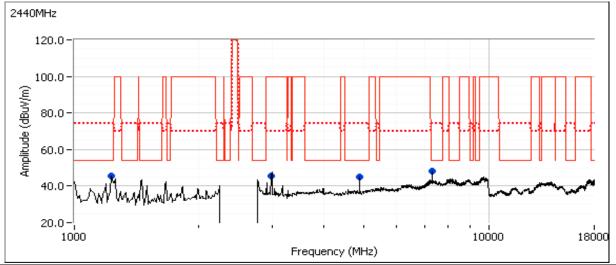
Note - measured power in table above is average power, for reference only.

Fundamental Signal Field Strength: Peak value measured in 100kHz

Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2440.050	100.6	V	-	-	-	91	1.0	RB 100 kHz;VB 100 kHz;Pk
2440.020	98.6	Н	-	-	-	344	1.0	RB 100 kHz;VB 100 kHz;Pk

Fundamental emission level @ 3m in 100kHz RBW: 100.6 $dB\mu V/m$ Limit for emissions outside of restricted bands: 80.6 $dB\mu V/m$ Limit is -20dBc (Peak power measurement)

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	
7325.970	38.5	V	54.0	-15.5	AVG	233	1.3	RB 1 MHz;VB 10 Hz;Pk
4881.030	37.4	V	54.0	-16.6	AVG	139	1.6	RB 1 MHz;VB 10 Hz;Pk
1233.010	31.6	V	54.0	-22.4	AVG	213	1.0	RB 1 MHz;VB 10 Hz;Pk
7328.470	50.1	V	74.0	-23.9	PK	233	1.3	RB 1 MHz;VB 3 MHz;Pk
1232.350	49.5	V	74.0	-24.5	PK	213	1.0	RB 1 MHz;VB 3 MHz;Pk
2992.760	55.7	V	80.6	-24.9	PK	154	1.0	RB 1 MHz;VB 3 MHz;Pk
4881.060	47.6	V	74.0	-26.4	PK	139	1.6	RB 1 MHz;VB 3 MHz;Pk

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



	The secondary		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
woden.	intel® Centinio® Advanced-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run #1c: High Channel @ 2480 MHz

		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	7.5	3.4	default

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

Fundamental Signal Field Strength: Peak value measured in 100kHz

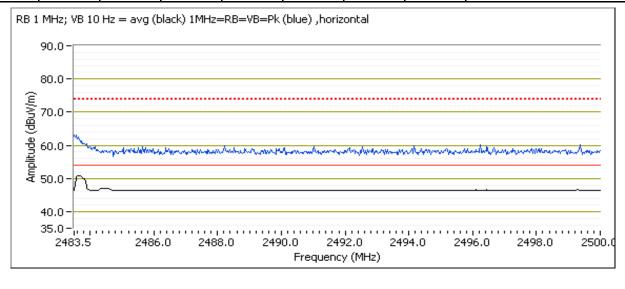
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Frequency	Level	Pol	15.209	/ 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2481.080	99.9	V	-	-	-	92	1.0	RB 100 kHz;VB 100 kHz;Pk
2480.000	97.4	Н	-	-	-	9	1.0	RB 100 kHz;VB 100 kHz;Pk

Fundamental emission level @ 3m in 100kHz RBW:	99.9	dBμV/m
Limit for emissions outside of restricted bands:	79.9	dBμV/m

Limit is -20dBc (Peak power measurement)

Band Edge Signal Field Strength - Direct measurement of field strength

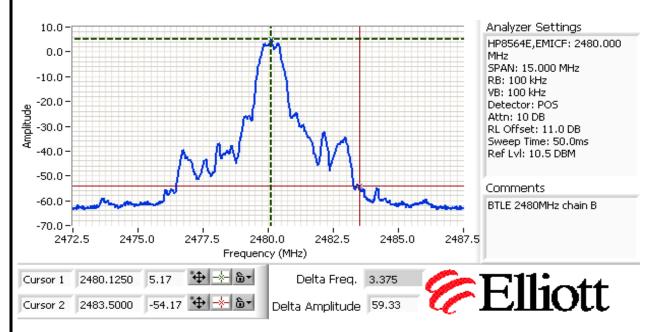
Frequency	Level	Pol	15.209	15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.500	53.9	Н	54.0	-0.1	AVG	9	1.0	RB 1 MHz;VB 10 Hz;Pk
2494.640	62.9	Н	74.0	-11.1	PK	9	1.0	RB 1 MHz;VB 3 MHz;Pk
2483.610	53.8	V	54.0	-0.2	AVG	92	1.0	RB 1 MHz;VB 10 Hz;Pk
2483.610	63.1	V	74.0	-10.9	PK	92	1.0	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corpora	ation						Job Number:	J84365	
Model·	Intel® Centr	ino® Advano	ed-N 6235					Log Number:		
							Accou	unt Manager:	Christine Kr	ebill
	Steve Hacke									
Standard:	FCC 15.247	(DTS)						Class:	N/A	
undament	tal Signal Fie	eld Strength	: Peak and a	average value	es measured	in 1 MHz, aı	nd peak valu	e measured i	n 100kHz	
Frequency		Pol		/ 15.247	Detector	Azimuth	Height	Comments		
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters			
2479.960	94.3	V	-	-	AVG	93	1.0	RB 1 MHz;V		
2480.290	97.9	V	-	-	PK	93	1.0	RB 1 MHz;V		
2480.000	97.3	V	-	-	-	93	1.0	RB 100 kHz		;;Pk
2480.030	95.7	H	-	-	AVG	4	1.0	RB 1 MHz;V		
2480.300 2480.000	99.2 98.7	H	-	-	PK	4	1.0 1.0	RB 1 MHz;V RB 100 kHz		
2480.000	98.7	П	-	-	-	4	1.0	KB 100 KHZ	;VB 100 KHZ	.;PK
Fı	undamental e	emission leve	@ 3m in 1 (OOkHz RBW:	98.7	dBμV/m	1			
		emissions ou				dBμV/m	Limit is -200	dBc (Peak po	wer measure	ement)
		emissions ou				dBμV/m		dBc (UNII pov		•
2483.5 MHz	z Band Edge	Signal Radi	iated Field S	Strength - Ma		υσμνητί	LIIIII 13 -300	our form bor	ver measure	ment)
	z <i>Band Edge</i> i <mark>on if using th</mark>				arker Delta	•]	льс (отт роч	vei measure	ment)
<mark>Jse this opt</mark>	<mark>ion if using th</mark>	n <mark>e marker de</mark>	lta method	Strength - Ma	arker Delta H	V]			menij
<mark>Jse this opt</mark>		<mark>ne marker de</mark> I emission lev	Ita method vel @ 3m in	Strength - Ma	arker Delta	•	Peak Measi	urement (RB=	=VB=1MHz)	·
<mark>Jse this opt</mark>	<mark>ion if using th</mark> Fundamenta	<mark>ne marker de</mark> I emission lev	vel @ 3m in vel @ 3m in	Strength - Ma	H 99.2	V 97.9 94.3	Peak Meası Average Me		-VB=1MHz) RB=1MHz, V	/B=10Hz)
<mark>Jse this opt</mark>	ion if using the Fundamenta Fundamenta Calcula	ne marker de I emission lev I emission lev ted Band-Ed	vel @ 3m in vel @ 3m in Delta Mari ge Measurel	Strength - Ma 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak):	H 99.2 95.7 59.3	V 97.9 94.3	Peak Measi Average Me	urement (RB= easurement (I	=VB=1MHz) RB=1MHz, V	/B=10Hz)
<mark>Jse this opt</mark>	ion if using the Fundamenta Fundamenta Calcula	ne marker de l emission lev l emission lev	vel @ 3m in vel @ 3m in Delta Mari ge Measurel	Strength - Ma 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak):	H 99.2 95.7 59.3 39.9	V 97.9 94.3	Peak Measi Average Me	urement (RB- easurement (I only be used	=VB=1MHz) RB=1MHz, V	B=10Hz) signal is
<mark>Jse this opt</mark>	ion if using the Fundamenta Fundamenta Calcula	l emission level emission emissio	vel @ 3m in vel @ 3m in Delta Marri ge Measure dge Measure ta Marker - 1	1MHz RBW: 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg):	H 99.2 95.7 59.3 39.9 36.4 42.7	V 97.9 94.3 <i>dB</i> dBuV/m dBuV/m	Peak Meası Average Me <- this can o	urement (RB= easurement (I only be used hin 2MHz of b Level 36.4	=VB=1MHz) RB=1MHz, V If band edge and edge. Limit 54	B=10Hz) signal is
<mark>Jse this opt</mark>	Fundamenta Fundamenta Calcula Calcul	l emission levil emission levil emission levil emission levil emission levil ed Band-Ed ated Band-Ed ated Band-Ed Del Del	vel @ 3m in vel @ 3m in Delta Mari ge Measure dge Measure ta Marker - Ta lta Marker -	Strength - Ma 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz:	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3	V 97.9 94.3 dB dBuV/m dBuV/m dB	Peak Meason Average Meason of this can of	urement (RB= easurement (I only be used hin 2MHz of b Level 36.4 39.9	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	/B=10Hz) signal is Detecto
<mark>Jse this opt</mark>	Fundamenta Fundamenta Calcula Calcula Calcula	l emission leving emission	vel @ 3m in vel @ 3m in Delta Mari ge Measure dge Measure ta Marker - 10 Ita Marker -	Strength - Ma 1MHz RBW: 1MHz RBW: tker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak):	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3 56.5	V 97.9 94.3 <i>dB</i> dBuV/m dBuV/m <i>dB</i> dBuV/m	Peak Measi Average Me <- this can of highest with Margin -17.6 -34.1 Using 100k	urement (RB- easurement (I only be used in 2MHz of b Level 36.4 39.9 Hz delta value	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	/B=10Hz) signal is Detecto Avg
<mark>Jse this opt</mark>	Fundamenta Fundamenta Calcula Calcula Calcula	l emission leving emission	vel @ 3m in vel @ 3m in Delta Mari ge Measure dge Measure ta Marker - 10 Ita Marker -	Strength - Ma 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz:	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3 56.5	V 97.9 94.3 dB dBuV/m dBuV/m dB	Peak Measi Average Me <- this can of highest with Margin -17.6 -34.1 Using 100k	urement (RB= easurement (I only be used hin 2MHz of b Level 36.4 39.9	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	/B=10Hz) signal is Detecto Avg
Jse this opt	Fundamenta Fundamenta Calcula Calcul Calcula Calcula	l emission level emission emissio	vel @ 3m in vel @ 3m in Delta Mariege Measured Marker - Talla Marker - Talla Marker - Ge Measured Measured Measured Measured Measured	Strength - Ma 1MHz RBW: 1MHz RBW: tker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak):	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3 56.5 63.4	V 97.9 94.3 dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m	Peak Measi Average Me <- this can on highest with Margin -17.6 -34.1 Using 100kl	urement (RB= easurement (I enly be used to in 2MHz of b Level 36.4 39.9 Hz delta value Hz delta value	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	/B=10Hz) signal is Detector Avg
Jse this opt	Fundamenta Fundamenta Calcula Calcula Calcula	l emission leving emission	vel @ 3m in vel @ 3m in Delta Mariege Measured Marker - Talla Marker - Talla Marker - Ge Measured Measured Measured Measured Measured	1MHz RBW: 1MHz RBW: 1MHz RBW: tker - 100kHz ment (Peak): ement (Avg): 1MHz/10Hz: ment (Peak): ement (Avg):	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3 56.5	V 97.9 94.3 <i>dB</i> dBuV/m dBuV/m <i>dB</i> dBuV/m	Peak Measi Average Me <- this can of highest with Margin -17.6 -34.1 Using 100k	urement (RB- easurement (I only be used in 2MHz of b Level 36.4 39.9 Hz delta value	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	/B=10Hz) signal is Detector Avg
Use this opt	Fundamenta Fundamenta Calcula Calcula Calcula Calcula	l emission level emission emis	vel @ 3m in vel @ 3m in Delta Marri ge Measurel dge Measurel ta Marker - 1 ge Measurel dge Measurel dge Measurel dge Measurel	1MHz RBW: 1MHz RBW: 1MHz RBW: ker - 100kHz ment (Peak): ement (Avg): 1MHz/1MHz: 1MHz/10Hz: ment (Peak): ement (Avg): 15.209	H 99.2 95.7 59.3 39.9 36.4 42.7 32.3 56.5 63.4 Detector	V 97.9 94.3 dB dBuV/m dBuV/m dB dBuV/m dBuV/m dBuV/m dBuV/m	Peak Measi Average Me <- this can o highest with Margin -17.6 -34.1 Using 100kl Using 100kl	urement (RB= easurement (I enly be used to in 2MHz of b Level 36.4 39.9 Hz delta value Hz delta value	=VB=1MHz) RB=1MHz, V if band edge and edge. Limit 54 74	B=10H signal Dete

	Eliott An AZAS company	EM	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Model	Intol® Contring® Advanced N 4225	T-Log Number:	T84484
iviouei.	Intel® Centrino® Advanced-N 6235	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Delta Marker plot

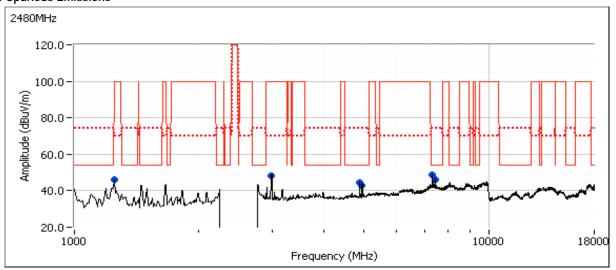


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EMC Test Data

Client:	Intel Corporation	Job Number:	J84365
	1	T-Log Number:	T84484
Model:	Intel® Centrino® Advanced-N 6235	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Other 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	
7439.650	43.3	V	54.0	-10.7	AVG	90	1.0	RB 1 MHz;VB 10 Hz;Pk
7325.100	42.3	V	54.0	-11.7	AVG	233	1.6	RB 1 MHz;VB 10 Hz;Pk
4959.980	38.4	V	54.0	-15.6	AVG	298	1.6	RB 1 MHz;VB 10 Hz;Pk
7441.630	53.3	V	74.0	-20.7	PK	90	1.0	RB 1 MHz;VB 3 MHz;Pk
7323.290	52.8	V	74.0	-21.2	PK	233	1.6	RB 1 MHz;VB 3 MHz;Pk
4873.660	31.9	V	54.0	-22.1	AVG	287	1.3	RB 1 MHz;VB 10 Hz;Pk
2985.090	56.6	V	79.9	-23.3	PK	153	1.0	RB 1 MHz;VB 3 MHz;Pk
1244.360	54.8	V	79.9	-25.1	PK	343	1.9	RB 1 MHz;VB 3 MHz;Pk
4959.350	47.3	V	74.0	-26.7	PK	298	1.6	RB 1 MHz;VB 3 MHz;Pk
4873.620	44.3	V	74.0	-29.7	PK	287	1.3	RB 1 MHz;VB 3 MHz;Pk

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

	=lliott	EMC Test Data
Client:	: Intel Corporation	Job Number: J84365
Model	: Intel® Centrino® Advanced-N 6235	T-Log Number: T84484
wodei.	. Inter® Centinio® Advanced-in 0255	Account Manager: Christine Krebill
Contact:	: Steve Hackett	
Standard:	FCC 15.247 (DTS)	Class: N/A

RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions

Test Specific Details

Elliott

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: 9/2/2011 Config. Used: -Test Engineer: Mehran Birgani Config Change: -Test Location: FT Chamber #4 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

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

Ambient Conditions: 20-23 °C Temperature:

> Rel. Humidity: 30-40 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power	15.247(b)	PASS	6.8 dBm
2	Power spectral Density (PSD)	15.247(d)	PASS	-8.6 dBm/3kHz
3	Minimum 6dB Bandwidth	15.247(a)	PASS	735 kHz
3	99% Bandwidth	RSS GEN	-	1.06 MHz
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.

DRTU Version: 1.5.3-0320 Driver Version: 15.0.0.51 MAC Address: 44850001DDF3



Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	III(el Cell(IIII) Advanced-N 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run #1: Output Power

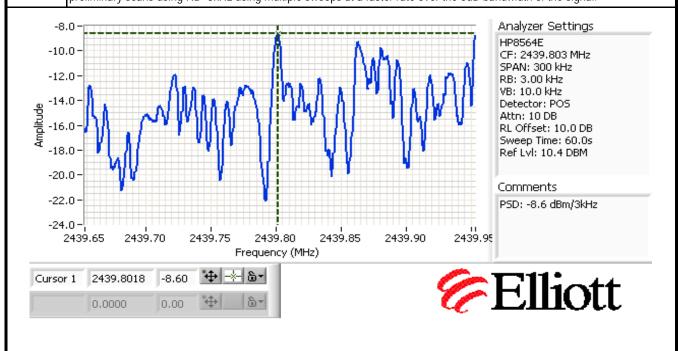
Power	Frequency (MHz)	Output	Power	Antenna	Result	EI	RP	_
Setting	rrequency (MHZ)	(dBm) ¹	mW	Gain (dBi)	Resuit	dBm	W	
	2402	6.7	4.7	3.2	Pass	9.9	0.010	
	2440	6.7	4.7	3.2	Pass	9.9	0.010	
	2480	6.8	4.8	3.2	Pass	10.0	0.010	

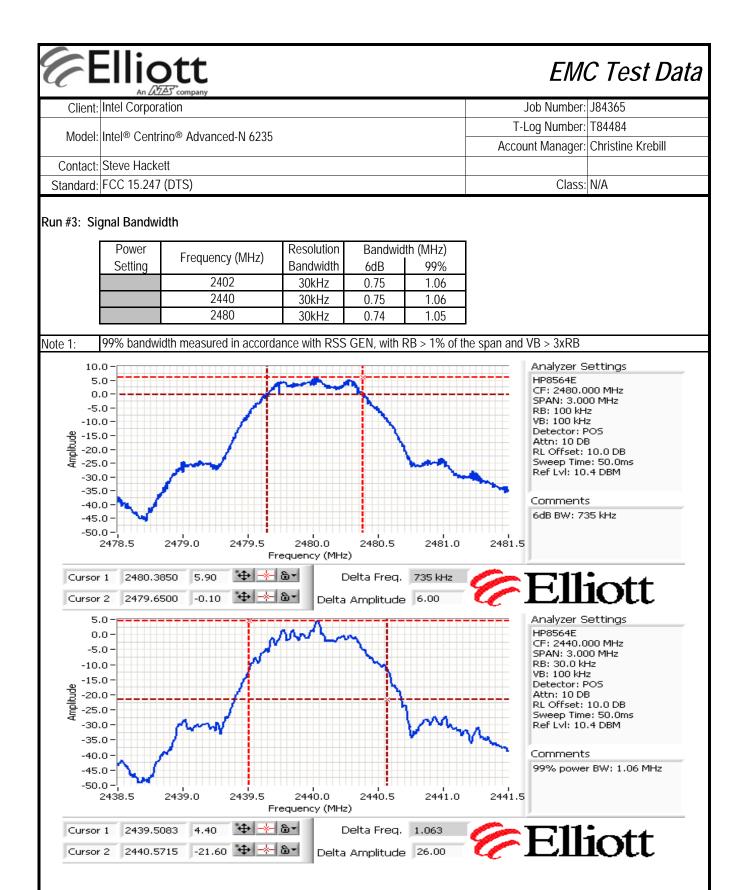
Note 1: Output power measured using a peak power meter, spurious limit is -20dBc.

Run #2: Power spectral Density

Power	Eroguopov (MHz)	PSD	Limit	Result
Setting	Frequency (MHz)	(dBm/3kHz) Note 1	dBm/3kHz	
	2402	-9.3	8.0	Pass
	2440	-8.6	8.0	Pass
	2480	-8.9	8.0	Pass

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.







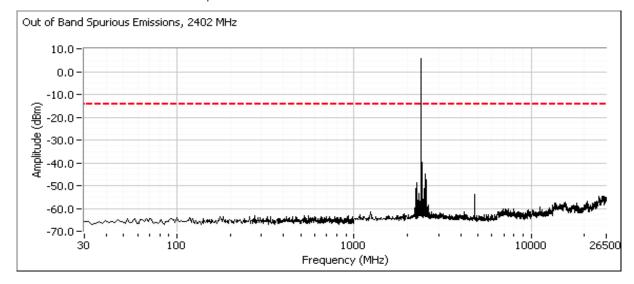
	An 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	IIIIel® Ceriliiiio® Advanceu-ii 6233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run #4: Out of Band Spurious Emissions

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

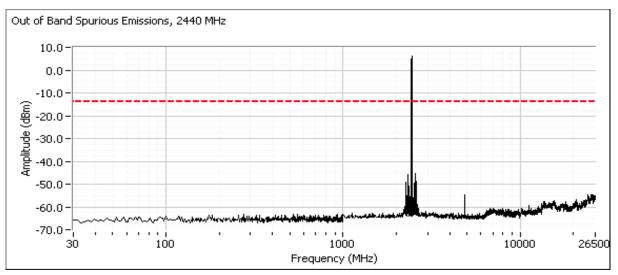
Plots for low channel

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

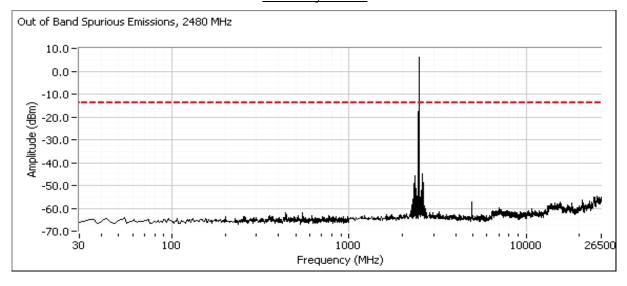


Elliott EMC Tes			C Test Data
Client:	Intel Corporation	Job Number:	J84365
Madali	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
woden.	inter® Centinio® Advanced-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Plots for center channel



Plots for high channel



	Eliott An 必否。company	EM	C Test Data
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	IIIIei® Ceillillio® Advanced-in 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	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 EDR and Basic-Rate Bluetooth modes.

MAC Address: 44850001DDF3 DRTU Tool Version 1.5.3-0320 Driver version 15.0.0.51

Run#	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
1	BT LE 802.11b	2480MHz 2462MHz	7dBm 16.5dBm	3.9 16.7	Radiated Spurious Emissions	FCC 15.247	51.7dBµV/m @ 2360.0MHz (-2.3dB)
2	BT LE 802.11b	2440MHz 2412MHz	7dBm 16.5dBm	3.9 16.6	Radiated Spurious Emissions	FCC 15.247	50.4dBµV/m @ 2320.1MHz (-3.6dB)
3	BT LE 802.11n20	2440MHz 5600MHz	7dBm 16.5/16.5	3.9 16.5/16.6	Radiated Spurious Emissions	FCC 15.247	50.3dBµV/m @ 2320.0MHz (-3.7dB)

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.

E E	Elliott An OZES*company	EMO	C Test Data
	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	Intel® Centino® Advanced-N 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

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 4×3.125 ms = 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.

Date of Test: 9/8/2011
Test Engineer: Mehran Birgani
Test Location: FT Chamber#5

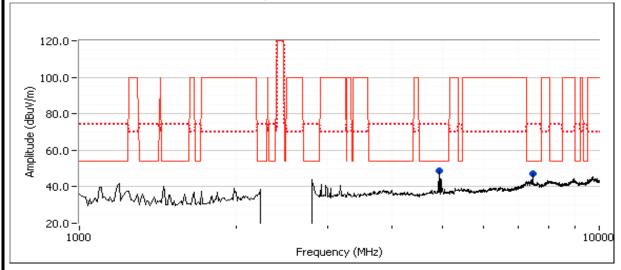


Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
wouei.	III(e) Certifillo Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run # 1, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2462 MHz Chain A, BT Low Energy (LE) @ 2480 MHz Chain B

	Power Settings								
	Target (dBm) Measured (dBm) Software Setting								
Chain A	16.5	16.7	24.5						
Chain B	7.0	3.9	37.0						

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	
4923.970	48.6	V	54.0	-5.4	Peak	85	1.9	
7439.170	47.3	V	54.0	-6.7	Peak	84	1.6	

Final measurements at 3m

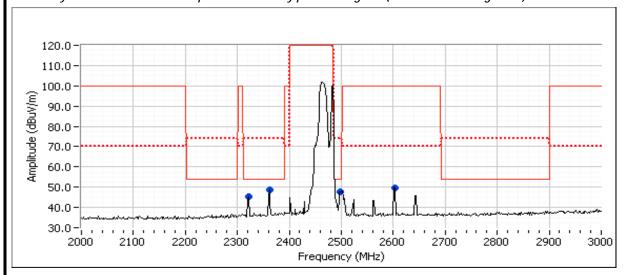
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4924.060	46.1	V	54.0	-7.9	AVG	94	1.0	RB 1 MHz;VB 10 Hz;Pk
4923.920	50.7	V	74.0	-23.3	PK	94	1.0	RB 1 MHz;VB 3 MHz;Pk
7439.650	42.5	V	54.0	-11.5	AVG	83	1.5	RB 1 MHz;VB 10 Hz;Pk
7439.290	52.6	V	74.0	-21.4	PK	83	1.5	RB 1 MHz;VB 3 MHz;Pk



	An ZAZES company		
Client:	Intel Corporation	Job Number:	J84365
Madal	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
wodei.	Illitel® Certifillo® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)



Preliminary measurements at ~ 20cm, 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				
2321.670	45.2	V	54.0	-8.8	Peak	182	1.0				
2361.670	48.5	V	54.0	-5.5	Peak	182	1.0				
2498.330	47.7	V	54.0	-6.3	Peak	182	1.0				
2603.330	49.6	V	70.0	-20.4	Peak	182	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	
2359.980	51.7	V	54.0	-2.3	AVG	87	1.2	RB 1 MHz;VB 10 Hz;Pk
2360.220	60.7	V	74.0	-13.3	PK	87	1.2	RB 1 MHz;VB 3 MHz;Pk
2319.990	49.2	V	54.0	-4.8	AVG	87	1.1	RB 1 MHz;VB 10 Hz;Pk
2319.980	59.3	V	74.0	-14.7	PK	87	1.1	RB 1 MHz;VB 3 MHz;Pk
2359.980	51.2	Н	54.0	-2.8	AVG	118	1.0	RB 1 MHz;VB 10 Hz;Pk
2360.280	61.1	Η	74.0	-12.9	PK	118	1.0	RB 1 MHz;VB 3 MHz;Pk
2499.960	48.9	V	54.0	-5.1	AVG	93	1.0	RB 1 MHz;VB 10 Hz;Pk
2498.440	60.5	V	74.0	-13.5	PK	93	1.0	RB 1 MHz;VB 3 MHz;Pk
2499.240	49.4	Н	54.0	-4.6	AVG	58	1.1	RB 1 MHz;VB 10 Hz;Pk
2497.810	61.1	Н	74.0	-12.9	PK	58	1.1	RB 1 MHz;VB 3 MHz;Pk

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.

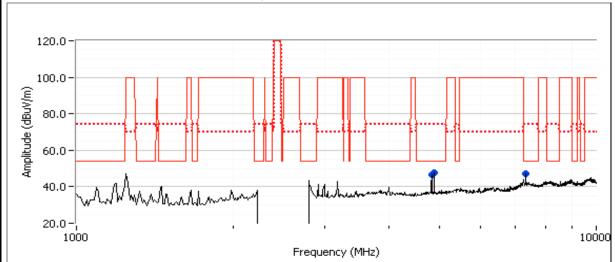


	All 2022 Company		
Client:	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	ilitel Ceritilio Advanced-iv 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run # 2, Jackson Peak 2x2: 1-10GHz, 802.11b @ 2412 MHz Chain A, BT Low Energy (LE) @ 2440 MHz Chain B

	Power Settings								
	Target (dBm) Measured (dBm) Software Settin								
Chain A	16.5	16.6	24.5						
Chain B	7.0	3.9	37.0						

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	
4823.990	46.8	V	54.0	-7.2	Peak	130	1.6	
4879.530	47.8	V	54.0	-6.2	Peak	122	1.3	
7325.420	46.9	V	54.0	-7.1	Peak	106	1.0	

Final measurements at 3m

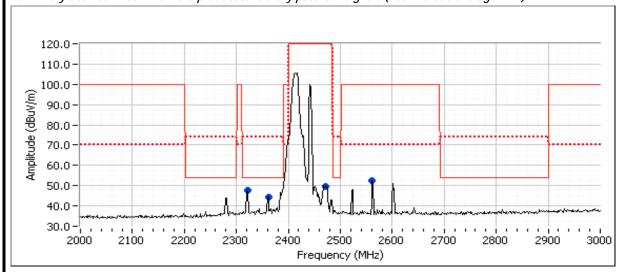
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4824.060	47.6	V	54.0	-6.4	AVG	137	1.9	RB 1 MHz;VB 10 Hz;Pk
4824.100	51.6	V	74.0	-22.4	PK	137	1.9	RB 1 MHz;VB 3 MHz;Pk
4879.950	45.3	V	54.0	-8.7	AVG	127	1.3	RB 1 MHz;VB 10 Hz;Pk
4880.070	52.2	V	74.0	-21.8	PK	127	1.3	RB 1 MHz;VB 3 MHz;Pk
7319.570	42.1	V	54.0	-11.9	AVG	88	1.2	RB 1 MHz;VB 10 Hz;Pk
7319.190	52.7	V	74.0	-21.3	PK	88	1.2	RB 1 MHz;VB 3 MHz;Pk



	An ZCZES company		
Client:	Intel Corporation	Job Number:	J84365
Madalı	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
wouer.	Illiel® Cerilinio® Advanceu-iv 0255	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Spurious Radiated Emissions, 2 - 3GHz

Preliminary Scan at ~ 20cm from the product to identify potential signals (Peak versus average limit)



Preliminary measurements at ~ 20cm, 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	
2321.670	47.7	V	54.0	-6.3	Peak	181	1.0	
2361.670	44.5	V	54.0	-9.5	Peak	181	1.0	
2471.670	49.5	V	120.0	-70.5	Peak	181	1.0	
2561.670	52.4	V	70.0	-17.6	Peak	181	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	50.4	V	54.0	-3.6	AVG	84	0.9	RB 1 MHz;VB 10 Hz;Pk
2319.860	59.6	V	74.0	-14.4	PK	84	0.9	RB 1 MHz;VB 3 MHz;Pk
2320.070	49.8	Н	54.0	-4.2	AVG	49	1.8	RB 1 MHz;VB 10 Hz;Pk
2320.150	59.4	Н	74.0	-14.6	PK	49	1.8	RB 1 MHz;VB 3 MHz;Pk
2360.040	48.5	V	54.0	-5.5	AVG	85	0.9	RB 1 MHz;VB 10 Hz;Pk
2365.820	59.3	V	74.0	-14.7	PK	85	0.9	RB 1 MHz;VB 3 MHz;Pk

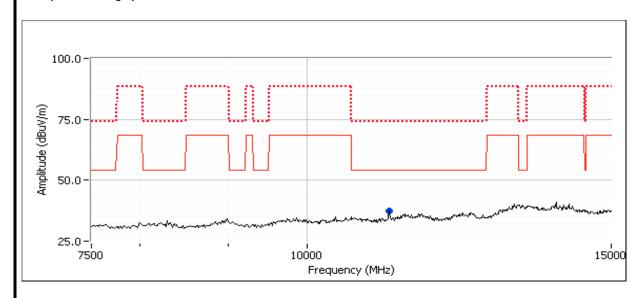
Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -30dBc for peak measurements in a measurement bandwidth of 100kHz.

	Elliott An ATAS company	EMO	C Test Data
	Intel Corporation	Job Number:	J84365
Model	Intel® Centrino® Advanced-N 6235	T-Log Number:	T84484
Model.	III(e) Ceritiiii) Advanced-14 0233	Account Manager:	Christine Krebill
Contact:	Steve Hackett		
Standard:	FCC 15.247 (DTS)	Class:	N/A

Run # 3, Rainbow Peak 2x2: 1-15GHz, 802.11n20 @ 5580 MHz Chain A and B, BT LE @ 2440 MHz Chain B

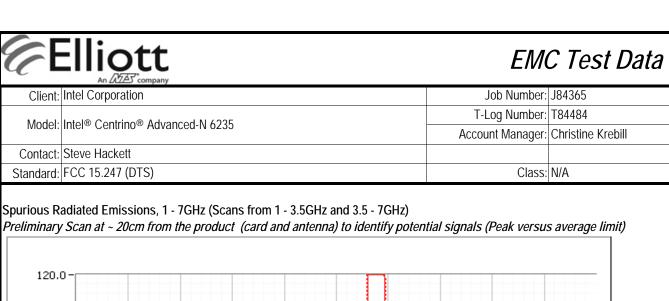
		Power Settings	
	Target (dBm)	Measured (dBm)	Software Setting
WiFi A	16.5	16.5	37.5
WiFi B	16.5	16.6	38.5
Bluetooth	7.0	3.9	37.0

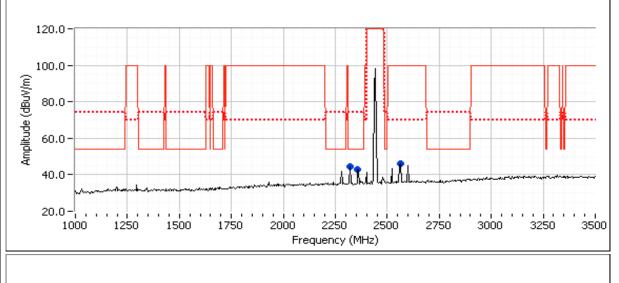
Spurious Radiated Emissions, 7 - 15GHz: Preamplifier and high pass filter used for these scans

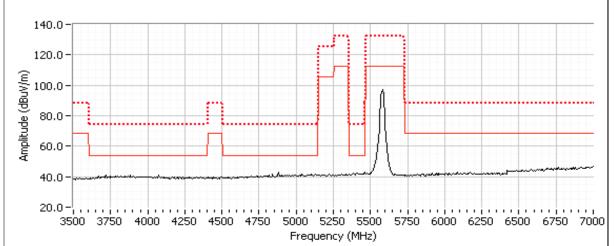


Preliminary Measurements (Peak versus average limit)

Frequency	Level	Pol	15.209/15	5.247/15E	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11160.000	37.5	Н	54.0	-16.5	Peak	210	1.0	







Client:	Intel Corpora	ation					Job Number: J84365		J84365
Model	Intel® Centri	no® Advanc	od N 6335				T-Log Number: T84484		
Model.	IIIICI CCIIIII	no Auvano	.cu-11 0233				Acco	unt Manager:	Christine Krebil
	Steve Hacke								
Standard:	FCC 15.247	(DTS)						Class:	N/A
Preliminary	/ measureme	ents at ~ 20d	cm, RB=1MH	łz, VB=100k	кHz				
Frequency	Level	Pol		/15.247	Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2320.830	44.5	V	54.0	-9.5	Peak	178	1.0		
2358.330	42.7	V	54.0	-11.3	Peak	178	1.0		
2562.500	46.1	V	70.0	-23.9	Peak	178	1.0		
inal moas	urements at	2m							
Frequency	Level	Pol	15.209	/15.247	Detector	Azimuth	Height	Comments	
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters		
2319.960	50.3	V	54.0	-3.7	AVG	86	1.1	RB 1 MHz;V	'B 10 Hz;Pk
2320.140	60.2	V	74.0	-13.8	PK	86	1.1	RB 1 MHz;V	B 3 MHz;Pk
2320.000	49.0	Н	54.0	-5.0	AVG	115	1.0	RB 1 MHz;V	'B 10 Hz;Pk
2320.870	59.5	Н	74.0	-14.5	PK	115	1.0	RB 1 MHz;V	B 3 MHz;Pk
2359.910	48.2	V	54.0	-5.8	AVG	84	1.0	RB 1 MHz;V	'B 10 Hz;Pk
2359.980	58.7	V	74.0	-15.3	PK	84	1.0	RB 1 MHz;V	
2359.980	47.8	Н	54.0	-6.2	AVG	335	1.1	RB 1 MHz;V	
2359.930	59.0	Н	74.0	-15.0	PK	335	1.1	RB 1 MHz;V	B 3 MHz;Pk
	For emission	ns in restricte	ed bands, the	limit of 15.2	209 was used.	For all othe	r emissions	. the limit is -3	OdBc for peak
Note 1:	measuremer					. 0. 4 00		,	ouzoro, pour

End of Report

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