EMC Test Report
Application for Grant of Equipment Authorization
pursuant to
Industry Canada RSS-Gen Issue 2 / RSS 210 Issue 7
FCC Part 15, Subpart E

Model: Intel® Centrino® Advanced-N 6205

IC CERTIFICATION #:	1000M-622ANH 1000M-62205ANHU
FCC ID:	PD962205ANH PD962205ANHU
APPLICANT:	Intel Corporation 100 Center Point Circle Suite 200 Columbia, SC 29210
TEST SITE(S):	Elliott Laboratories 41039 Boyce Road. Fremont, CA. 94538-2435
IC SITE REGISTRATION #:	2845B-3; 2845B-4, 2845B-5
REPORT DATE:	August 31, 2010
FINAL TEST DATES:	August 4, 5, 9, 10, 11, 13, 17, 18, and 20, 2010

AUTHORIZED SIGNATORY:

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Testing Cert #2016.01

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REVISION HISTORY

Rev#	Date	Comments	Modified By
-	08-31-2010	First release	

TABLE OF CONTENTS

REVISION HISTORY **2**
TABLE OF CONTENTS **3**
SCOPE **4**
OBJECTIVE **4**
STATEMENT OF COMPLIANCE **5**
DEVIATIONS FROM THE STANDARDS **5**
TEST RESULTS SUMMARY **6**
UNII / LELAN DEVICES 6
MEASUREMENT UNCERTAINTIES 8
EQUIPMENT UNDER TEST (EUT) DETAILS **9**
GENERAL 9
OTHER EUT DETAILS 9
ENCLOSURE 10
MODIFICATIONS 10
SUPPORT EQUIPMENT 10
INTERFACE PORTS 10
EUT OPERATION 11
TEST SITE **12**
GENERAL INFORMATION 12
CONDUCTED EMISSIONS CONSIDERATIONS 12
RADIATED EMISSIONS CONSIDERATIONS 12
MEASUREMENT INSTRUMENTATION **13**
RECEIVER SYSTEM 13
INSTRUMENT CONTROL COMPUTER 13
LINE IMPEDANCE STABILIZATION NETWORK (LISN) 13
FILTERS/ATTENUATORS 14
ANTENNAS 14
ANTENNA MAST AND EQUIPMENT TURNTABLE 14
INSTRUMENT CALIBRATION 14
TEST PROCEDURES **15**
EUT AND CABLE PLACEMENT 15
CONDUCTED EMISSIONS 15
RADIATED EMISSIONS 15
RADIATED EMISSIONS 16
CONDUCTED EMISSIONS FROM ANTENNA PORT 19
BANDWIDTH MEASUREMENTS 19
SPECIFICATION LIMITS AND SAMPLE CALCULATIONS 20
CONDUCTED EMISSIONS SPECIFICATION LIMITS: FCC 15.207; FCC 15.107(A), RSS GEN 20
RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS 20
GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS 21
FCC 15.407 (A) OUTPUT POWER LIMITS 21
OUTPUT POWER LIMITS –LELAN DEVICES 22
SPURIOUS EMISSIONS LIMITS –UNII AND LELAN DEVICES 22
SAMPLE CALCULATIONS - CONDUCTED EMISSIONS 23
SAMPLE CALCULATIONS - RADIATED EMISSIONS 23
SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION 24
APPENDIX A TEST EQUIPMENT CALIBRATION DATA **1**
APPENDIX B TEST DATA **2**
APPENDIX C PHOTOGRAPHS OF TEST CONFIGURATIONS **3**

SCOPE

An electromagnetic emissions test has been performed on the Intel Corporation model Intel® Centrino® Advanced-N 6205, pursuant to the following rules:

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 E requirements for UNII Devices (using FCC DA 02-2138, August 30, 2002)

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 UNII test procedure 2002-08 DA-02-2138, August 2002

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

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

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

OBJECTIVE

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

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

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

Certification is a procedure where the manufacturer submits test data and technical information to a certification body and receives a certificate or grant of equipment authorization upon successful completion of the certification body's review of the submitted documents. Once the equipment authorization has been obtained, the label indicating compliance must be attached to all identical units, which are subsequently manufactured.

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

STATEMENT OF COMPLIANCE

The tested sample of Intel Corporation model Intel® Centrino® Advanced-N 6205 complied with the requirements of the following regulations:

RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"
FCC Part 15, Subpart E requirements for UNII Devices

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

The test results recorded herein are based on a single type test of Intel Corporation model Intel® Centrino® Advanced-N 6205 and therefore apply only to the tested sample. The sample was selected and prepared by Steve Hackett of Intel Corporation.

DEVIATIONS FROM THE STANDARDS

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

TEST RESULTS SUMMARY

UNII / LELAN DEVICES

Operation in the 5.15 – 5.25 GHz Band

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.407(e)		Indoor operation only	Refer to user's manual	N/A	Complies
15.407(a) (1)		26dB Bandwidth	Limits output power if < 20MHz		N/A
15.407 (a) (1)	A9.2(1)	Output Power	802.11a: 0.032 W n20: 0.028 W n40: 0.030 W	0.050 W (17dBm)	Complies
15.407 (a) (1)	-	Power Spectral Density	2.3 dBm/MHz (802.11a mode)	SISO 4.0dBm/MHz MIMO 3.3dBm/MHz	Complies
-	A9.5 (2)				Complies

Operation in the 5.25 – 5.35 GHz Band

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(a) (2)		26dB Bandwidth	Limits output power if < 20MHz		N/A
15.407(a) (2)	A9.2(2)	Output Power	802.11a: 0.028 W n20: 0.028 W n40: 0.029 W	17dBm (50mW)	Complies
15.407(a) (2))	-	Power Spectral Density	1.8 dBm/MHz (802.11a and n20 modes)	SISO 11.0dBm/MHz MIMO 10.7dBm/MHz	Complies
-	A9.2(2) / A9.5 (2)	Power Spectral Density		11 dBm / MHz	Complies

Operation in the 5.47 – 5.725 GHz Band

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.407(a) (2)		26dB Bandwidth	Limits output power if < 20MHz		N/A
15.407(a) (2)	A9.2(2)	Output Power	802.11a: 0.033 W n20: 0.032 W n40: 0.034 W	24 dBm / 250mW (eirp < 30dBm)	Complies
15.407(a) (2))		Power Spectral Density	2.5 dBm/MHz (802.11a mode)	SISO 11.0dBm/MHz MIMO 9.2dBm/MHz	Complies
	A9.2(2) / A9.5 (2)	Power Spectral Density		11.0 dBm / MHz	Complies
KDB 443999	A9	Non-operation in 5600 – 5650 MHz sub band	Device cannot operate in the 5600 – 5650 MHz band (client devices will only operate on channels authorized by a Master device)		Complies

Requirements for all U-NII/LELAN bands

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result (Margin)
15.407	A9.5a	Modulation	Digital Modulation is used (OFDM/QAM)	Digital modulation is required	Complies
15.407(b) (5) / 15.209	A9.3	Spurious Emissions below 1GHz	34.9dBµV/m @ 199.83MH	Refer to page 22	Complies (-8.6dB)
15.407(b) (5) / 15.209	A9.3	Spurious Emissions above 1GHz	52.9dBµV/m @ 5149.5MHz		Complies (-1.1dB)
15.407(a)(6)	-	Peak Excursion Ratio	12.1dB	< 13dB	Complies (-0.9dB)
	A9.5 (3)	Channel Selection	Spurious emissions tested at outermost channels in each band	Device was tested on the top, bottom and center channels in each band	Complies
15			Measurements on three channels in each band		Complies
15.407 (c)	A9.5(4)	Operation in the absence of information to transmit	Operation is discontinued in the absence of information (Operational Description page 9)	Shall automatically discontinue operation in the absence of information to transmit	Complies
15.407 (g)	A9.5 (5)	Frequency Stability	Frequency stability is better than 20ppm (Operational Description page 9)	Signal shall remain in-band	Complies
15.407 (h1)	A9.4	Transmit Power Control	TPC is not required as the device operates at below 500mW eirp		
15.407 (h2)	A9.4	Dynamic frequency Selection (device without radar detection)	Refer to separate test report, reference R80390		
	A9.9g	User Manual information	Refer to page 19 of the user manual	Warning regarding radar interference	Complies
15.203	-	RF Connector	Non standard and typically integral to host system	Unique or integral	Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	34.9dBµV/m @ 199.83MHz	Refer to page 21	Complies (-8.6dB)
15.207	RSS GEN Table 2	AC Conducted Emissions	33.2dBµV @ 13.426MHz	Refer to page 20	Complies (-16.8dB)
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to MPE calculations, RSS 102 declaration and User Manual (page 8).	Refer to OET 65, FCC Part 1 and RSS 102	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	User Manual (page 11).	Statement required regarding non-interference	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual	Antenna is intended to be integrated into the host system.	Statement for products with detachable antenna	Complies
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth	802.11a: 18 MHz n 20MHz: 18.8 MHz n 40MHz: 37.1 MHz	Information only	N/A

MEASUREMENT UNCERTAINTIES

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

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

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

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

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

The card is being certified with both full modular approval and limited modular approval. The two versions are electrically identical using the same hardware. The full modular version is intended for factory installation only by the oem (FCC ID:PD962205ANH; IC:1000M-62205ANH). The limited modular version is intended to allow the oem to permit user installation when the host system is provided with a bios locking feature that prevents unauthorized installation (FCC ID:PD962205ANHU; IC:1000M-62205ANHU). All versions are approved under Intel model 62205ANHMW with the exception of the limited modular approval for Canada which is approved as model 62205ANHU (see table below).

The samples were received on August 2, 2010 and tested on August 4, 5, 9, 10, 11, 13, 17, 18, and 20, 2010. The first sample was tested from August 6 through to August 9, 2010. The second sample was used for all subsequent tests due to the rf connector on the first sample breaking. The EUT consisted of the following component(s):

Manufacturer	Model	Description	MAC address	FCC ID / IC UPN
Intel Corporation	62205ANHMW	PCIe Half Mini Card 802.11a/b/g/n wireless network adapter	Sample #1: 001500633B2C	PD962205ANH PD962205ANHU 1000M-622ANH
	62205ANHU		Sample #2: 001500633B14	1000M-62205ANHU

OTHER EUT DETAILS

The EUT antenna system consists of two PIFA antennas manufactured by the 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. Further the antenna connectors are typically located inside the host PC without access to the end user. Where the end user can install the module the systems are protected by a BiOS Lock mechanism to ensure the card is only used with the approved antennas in the approved host systems.

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 local support equipment for emissions testing:

Company	Model	Description	Serial Number	FCC ID
Intel	-	test fixture	-	-
Dell	prototype	Laptop	-	-

INTERFACE PORTS

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

Port		Cable(s)		
From	To	Description	Shielded/Unshielded	Length(m)
Fixture PCIe	Laptop PCIe	Ribbon	Shielded	1
Fixture USB	Laptop USB	-	Shielded	2
Fixture DC Power	DC Power Supply	-	Unshielded	1

EUT OPERATION

The EUT was installed into a test fixture that exposed all sides of the card. The test fixture interfaced to a laptop computer and dc power supply. The laptop computer was used to configure the EUT to continuously transmit at a specified output power or continuously receive on the channel specified in the test data. For transmit mode measurements the system was configured to operate in each of the available operating modes – 802.11b, 802.11g, 802.11a, 802.11n (20 MHz channel bandwidth) and 802.11n (40MHz channel bandwidth).

Legacy modes (SISO-only) were evaluated on each chain individually. The 802.11n modes were evaluated operating on each chain separately (SISO) and on both chains simultaneously (MIMO). Spurious measurements, other than band-edge measurements, were only performed on 802.11n modes with both chains transmitting simultaneously. For those tests the output power per chain was set to the higher single-chain power level to cover both SISO and MIMO operation.

The data rates used for all tests were the lowest data rates for each mode – 1Mb/s for 802.11b, 6Mb/s for 802.11a and 802.11g, 6.5MB/s for 802.11n (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 PC was using the Intel test utility DRTU Version 1.1.3 and the device driver was version 13.0.0.238.

TEST SITE

GENERAL INFORMATION

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

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

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

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.

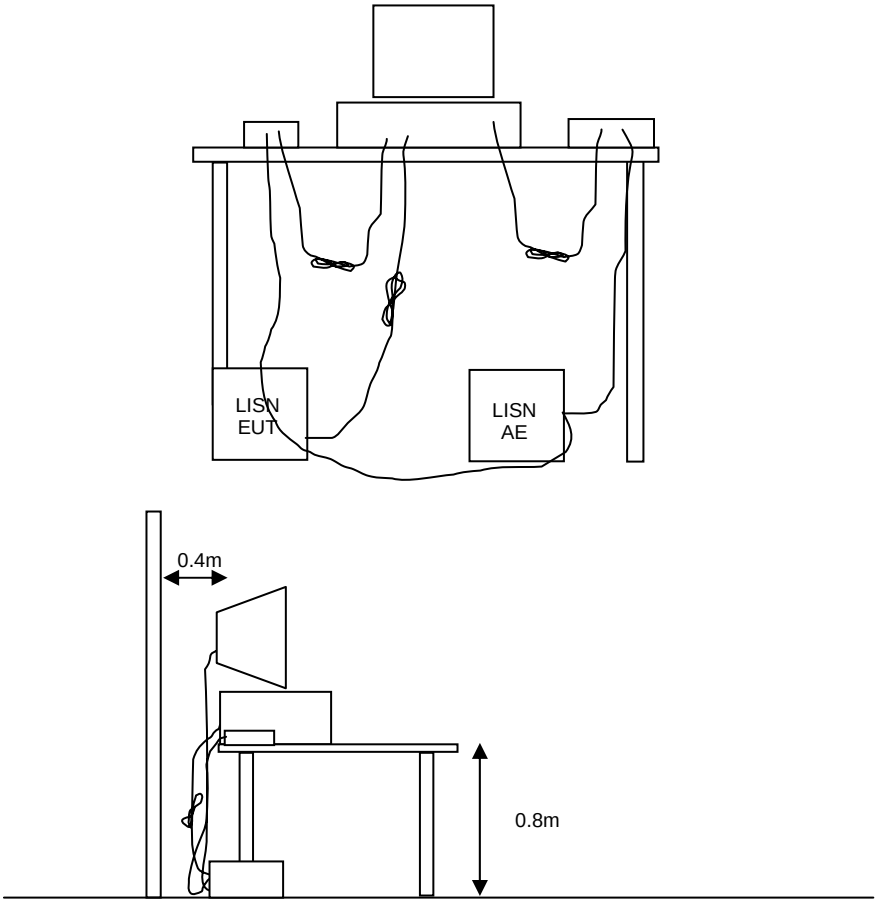
TEST PROCEDURES

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.



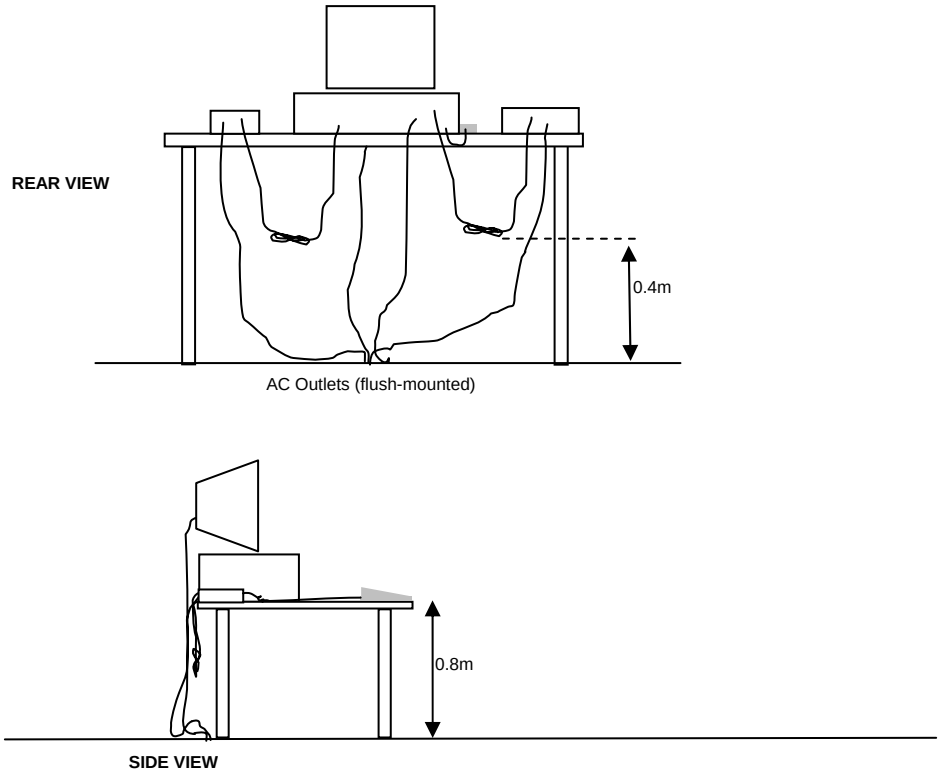
RADIATED EMISSIONS

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.

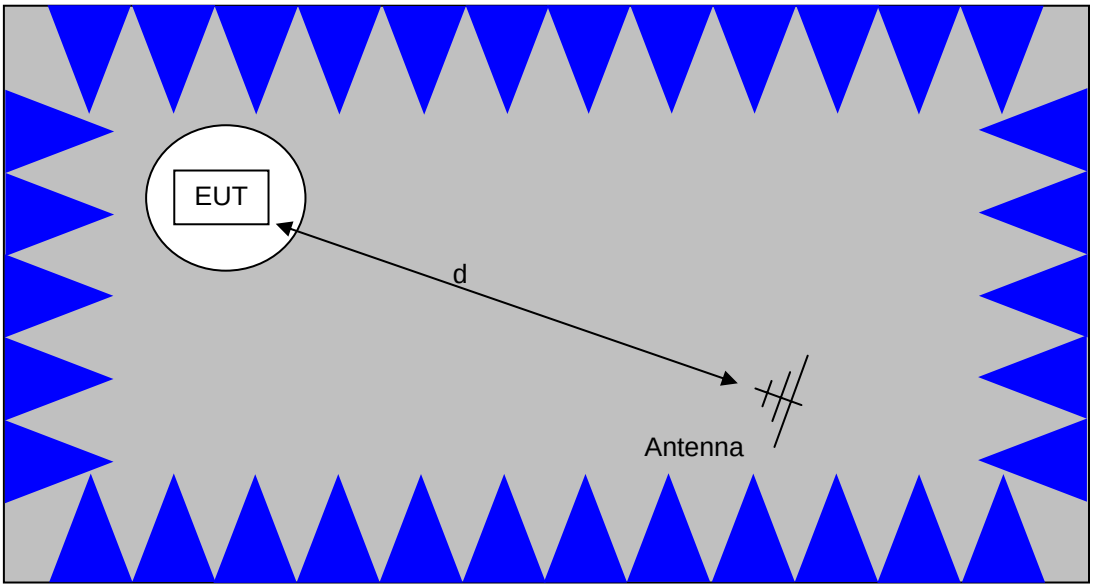
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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.

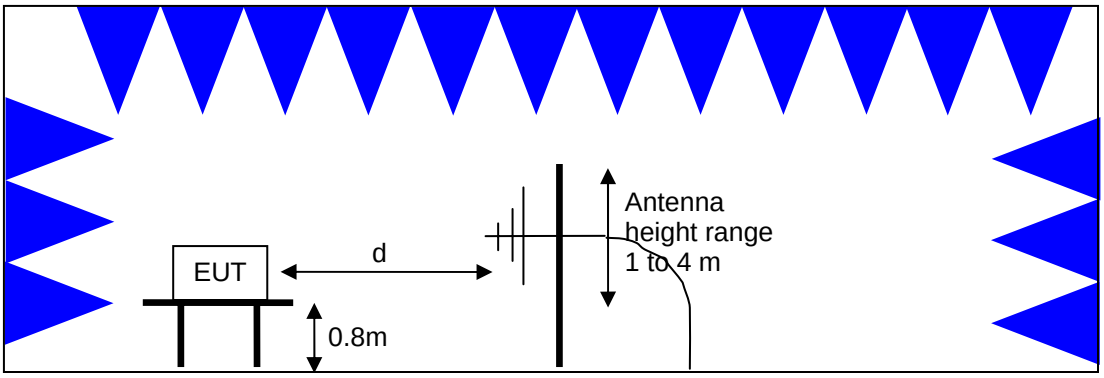


Typical Test Configuration for Radiated Field Strength Measurements



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.

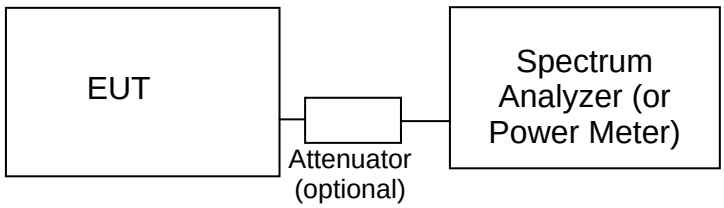
Floor-standing equipment is placed on the floor with insulating supports between the unit and the ground plane.



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

CONDUCTED EMISSIONS FROM ANTENNA PORT

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



Test Configuration for Antenna Port Measurements

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

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

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

BANDWIDTH MEASUREMENTS

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

SPECIFICATION LIMITS AND SAMPLE CALCULATIONS

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

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

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

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

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

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

GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

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

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

FCC 15.407 (a) OUTPUT POWER LIMITS

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

Operating Frequency (MHz)	Output Power	Power Spectral Density
5150 – 5250	50mW (17 dBm)	4 dBm/MHz
5250 – 5350	250 mW (24 dBm)	11 dBm/MHz
5725 – 5825	1 Watts (30 dBm)	17 dBm/MHz

For system using antennas with gains exceeding 6dBi, the output power and power spectral density limits are reduced by 1dB for every dB the antenna gain exceeds 6dBi. Fixed point-to-point applications using the 5725 – 5825 MHz band may use antennas with gains of up to 23dBi without this limitation. If the gain exceeds 23dBi then the output power limit of 1 Watt is reduced by 1dB for every dB the gain exceeds 23dBi.

The peak excursion envelope is limited to 13dB.

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

OUTPUT POWER LIMITS –LELAN DEVICES

The table below shows the limits for output power and output power density defined by RSS 210. 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
5150 – 5250	200mW (23 dBm) eirp	10 dBm/MHz eirp
5250 – 5350	250 mW (24 dBm)[2] 1W (30dBm) eirp	11 dBm/MHz
5470 – 5725	250 mW (24 dBm)[3] 1W (30dBm) eirp	11 dBm/MHz
5725 – 5825	1 Watts (30 dBm) 4W eirp	17 dBm/MHz

In addition, the power spectral density limit shall be reduced by 1dB for every dB the highest power spectral density exceeds the "average" power spectral density) by more than 3dB. The "average" power spectral density is determined by dividing the output power by 10log(EBW) where EBW is the 99% power bandwidth.

Fixed point-to-point applications using the 5725 – 5825 MHz band may use antennas with gains of up to 23dBi without this limitation. If the gain exceeds 23dBi then the output power limit of 1 Watt is reduced by 1dB for every dB the gain exceeds 23dBi.

SPURIOUS EMISSIONS LIMITS –UNII and LELAN DEVICES

The spurious emissions limits for signals below 1GHz are the FCC/RSS-GEN general limits. For emissions above 1GHz, signals in restricted bands are subject to the FCC/RSS GEN general limits. All other signals have a limit of –27dBm/MHz, which is a field strength of 68.3dBuV/m/MHz at a distance of 3m. This is an average limit so the peak value of the emission may not exceed –7dBm/MHz (68.3dBuV/m/MHz at a distance of 3m). For devices operating in the 5725-5850Mhz bands under the LELAN/UNII rules, the limit within 10Mhz of the allocated band is increased to –17dBm/MHz.

[2] If EIRP exceeds 500mW the device must employ TPC
[3] If EIRP exceeds 500mW the device must employ TPC

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

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

$$R_r - S = M$$

where:

R_r = Receiver Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS - RADIATED EMISSIONS

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

A distance factor, when used for electric field measurements above 30MHz, is calculated by using the following formula:

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

where:

F_d = Distance Factor in dB

D_m = Measurement Distance in meters

D_s = Specification Distance in meters

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

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

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

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

$$R_c = R_r + F_d$$

and

$$M = R_c - L_s$$

where:

R_r = Receiver Reading in dBuV/m

F_d = Distance Factor in dB

R_c = Corrected Reading in dBuV/m

L_s = Specification Limit in dBuV/m

M = Margin in dB Relative to Spec

SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

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

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

where P is the eirp (Watts)

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

Appendix A Test Equipment Calibration Data

Radiated Emissions, 1,000 - 40,000 MHz

Manufacturer	Description	Model	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	487	7/6/2012
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/14/2011
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, 5150-5350 MHz	BRC50703-02	1729	9/25/2010
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	1730	9/25/2010
Hewlett Packard	Head (Inc W1-W4, 1946, 1947) Purple	84125C	1772	5/6/2011
A.H. Systems	Blue System Horn, 18-40GHz	SAS-574, p/n: 2581	2159	3/18/2011
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	2239	7/2/2011
Micro-Tronics	Band Reject Filter, 5470-5725 MHz	BRC50704-02	2240	7/2/2011

Radiated Emissions, 30 - 1,000 MHz and Conducted Emissions, 13-Aug-10

Manufacturer	Description	Model	Asset #	Cal Due
Solar Electronics	LISN	8028-50-TS-24-BNC support	904	3/2/2011
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	1401	4/20/2011
Com-Power Corp.	Preamplifier, 30-1000 MHz	PA-103	1632	4/23/2011
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1657	5/28/2012
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	3/16/2011
Fischer Custom Comm	LISN, 25A, 150kHz to 30MHz, 25 Amp,	FCC-LISN-50-25-2-09	2001	10/21/2010

Radio Antenna Port (Power and Spurious Emissions), 16-Aug-10 to 20-Aug-10

Manufacturer	Description	Model	Asset #	Cal Due
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/14/2011
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

Appendix B Test Data

T80214 167 Pages

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		-
Emissions Standard(s):	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B
Immunity Standard(s):	-	Environment:	Radio

EMC Test Data

For The

Intel Corporation

Model

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

Date of Last Test: 8/21/2010

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

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

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

Mode	Data Rate	Power
802.11b	1	13.7
	2	13.7
	5.5	13.4
	11	13.4
802.11g (802.11a)	6	15.1
	9	14.8
	12	14.7
	18	14.7
	24	14.5
	36	14.6
	48	13.3
	54	11.2
802.11n 20MHz	6.5	14.9
	13	14.8
	19.5	14.5
	26	14.4
	39	14.2
	52	13.4
	58.5	10.7
	65	9.2
802.11n 40MHz	13.5	14.9
	27	14.8
	40.5	14.8
	54	14.7
	81	14.5
	108	13.5
	121.5	10.8
	135	9.2

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

Conducted Emissions - Wireless Module (DTS/NII/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: 8/13/2010
Test Engineer: Mark Hill
Test Location: FT #3

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

General Test Configuration

The test fixture was located on a wooden table inside the semi-anechoic chamber, 40 cm from a vertical coupling plane and 80cm from the LISN which was used to connect to the AC input of the DC power supply connected to the test fixture. A second LISN was used for all remaining support equipment.

Ambient Conditions:

Temperature: 22 °C
Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	CE, AC Power,120V/60Hz	FCC 15.207/RSS GEN	Pass	33.2dBµV @ 13.426MHz (-16.8dB)

Modifications Made During Testing

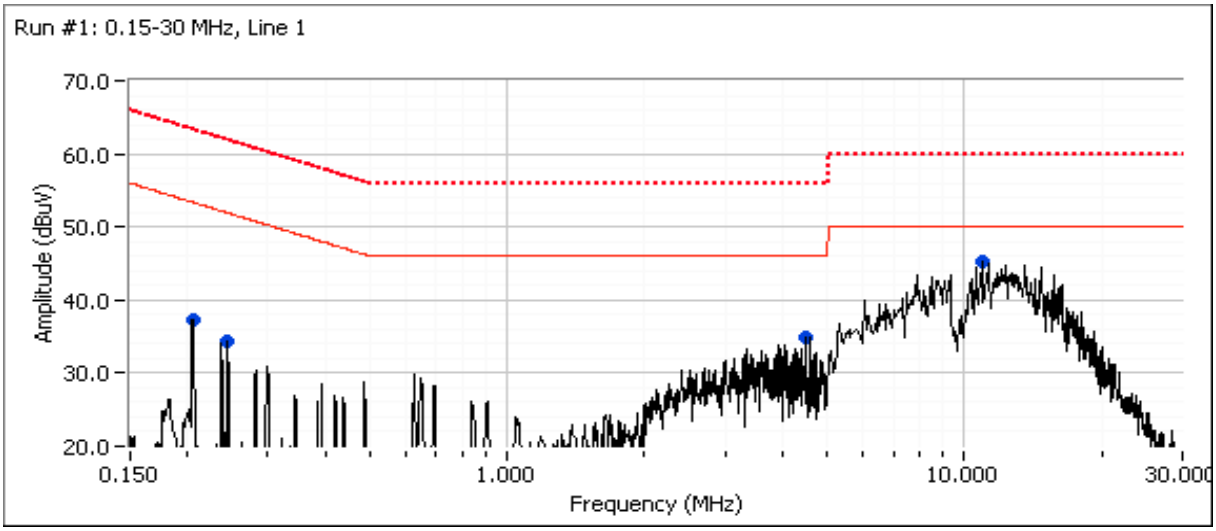
No modifications were made to the EUT during testing

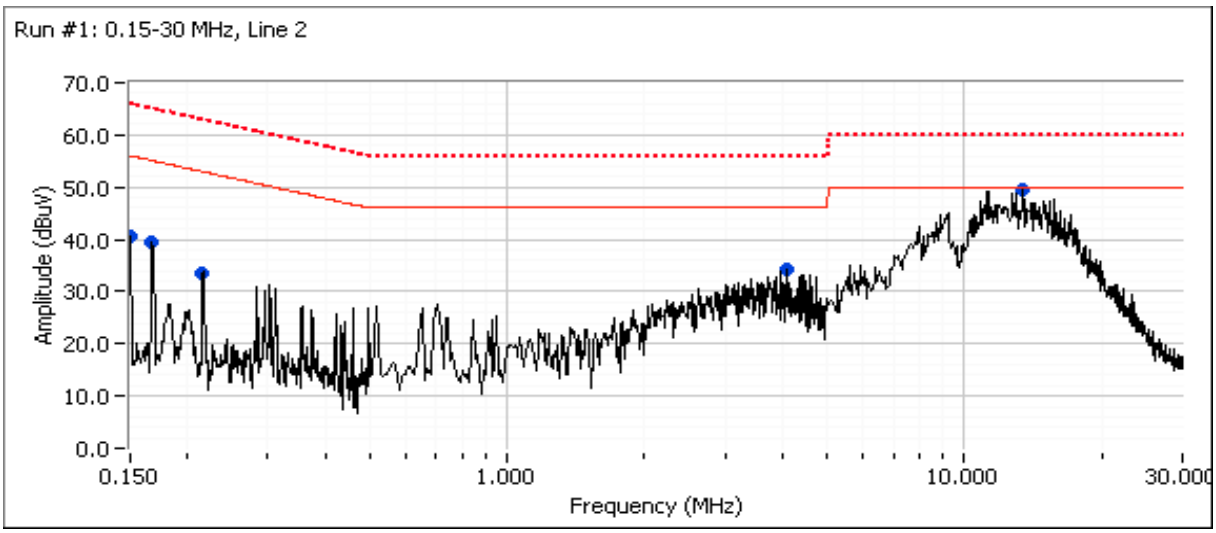
Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

Run #1: AC Power Port Conducted Emissions, 0.15 - 30MHz, 120V/60Hz
Configured to TX at 16.5dBm on each chain (settings 33/31) on channel 6, HT8





Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

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

Frequency	Level	AC	FCC 15.207/RSS GEN		Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
13.426	**49.5**	Line 2	50.0	**-0.5**	Peak	
10.909	45.2	Line 1	50.0	-4.8	Peak	
4.488	35.0	Line 1	46.0	-11.0	Peak	
4.088	34.3	Line 2	46.0	-11.7	Peak	
0.150	40.7	Line 2	56.0	-15.3	Peak	
0.168	39.5	Line 2	55.1	-15.6	Peak	
0.205	37.4	Line 1	53.4	-16.0	Peak	
0.245	34.4	Line 1	51.9	-17.5	Peak	
0.217	33.5	Line 2	53.0	-19.5	Peak	

Final quasi-peak and average readings

Frequency	Level	AC	FCC 15.207/RSS GEN		Detector	Comments
MHz	dBµV	Line	Limit	Margin	QP/Ave	
13.426	**33.2**	Line 2	50.0	**-16.8**	AVG	AVG (0.10s)
13.426	42.6	Line 2	60.0	-17.4	QP	QP (1.00s)
10.909	39.1	Line 1	60.0	-20.9	QP	QP (1.00s)
10.909	27.9	Line 1	50.0	-22.1	AVG	AVG (0.10s)
4.488	28.7	Line 1	56.0	-27.3	QP	QP (1.00s)
4.088	28.2	Line 2	56.0	-27.8	QP	QP (1.00s)
0.150	36.1	Line 2	66.0	-29.9	QP	QP (1.00s)
0.168	35.0	Line 2	65.1	-30.1	QP	QP (1.00s)
4.488	15.7	Line 1	46.0	-30.3	AVG	AVG (0.10s)
4.088	14.7	Line 2	46.0	-31.3	AVG	AVG (0.10s)
0.205	30.4	Line 1	63.4	-33.0	QP	QP (1.00s)
0.245	28.7	Line 1	61.9	-33.2	QP	QP (1.00s)
0.217	28.5	Line 2	62.9	-34.4	QP	QP (1.00s)
0.205	14.8	Line 1	53.4	-38.6	AVG	AVG (0.10s)
0.245	12.3	Line 1	51.9	-39.6	AVG	AVG (0.10s)
0.217	11.5	Line 2	52.9	-41.4	AVG	AVG (0.10s)
0.150	13.9	Line 2	56.0	-42.1	AVG	AVG (0.10s)
0.168	12.8	Line 2	55.1	-42.3	AVG	AVG (0.10s)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

Radiated Emissions 30-1000 MHz, Wireless Module (DTS/NII/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: 8/13/2010
Test Engineer: Mark Hill
Test Location: FT #3

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

General Test Configuration

The EUT and any local support equipment were located on the turntable for radiated emissions testing. Any remote support equipment was located outside the semi-anechoic chamber. Any cables running to remote support equipment where routed through metal conduit and when possible passed through a ferrite clamp upon exiting the chamber.

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: 22 °C
Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	Radiated Emissions 30 - 1000 MHz	FCC 15.209 / RSS 210	Pass	34.9dBµV/m @ 199.83MHz (-8.6dB)

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 per chain on both chains in 802.11n 20MHz mode at 2437 MHz.**

Modifications Made During Testing

No modifications were made to the EUT during testing

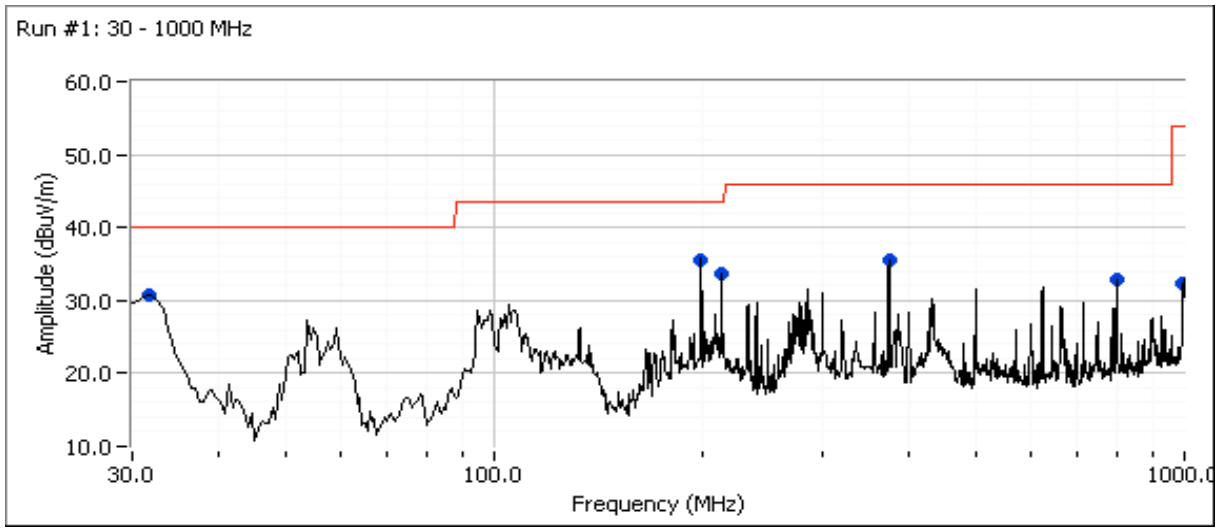
Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	B

Run #1: Preliminary Radiated Emissions, 30 - 1000 MHz
Configured to TX at 16.5dBm on each chain (settings 33/31) on channel 6, HT8

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



Preliminary peak readings captured during pre-scan

Frequency	Level	Pol	FCC 15.209 / RSS 210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
199.830	**35.5**	H	43.5	**-8.0**	Peak	232	1.5	
32.144	30.8	V	40.0	-9.2	Peak	83	1.0	
213.950	33.6	H	43.5	-9.9	Peak	262	1.5	
374.346	35.6	H	46.0	-10.4	Peak	283	1.0	
796.607	32.9	H	46.0	-13.1	Peak	171	1.0	
996.867	32.3	H	54.0	-21.7	Peak	238	1.5	

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

Frequency	Level	Pol	FCC 15.209 / RSS 210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
199.830	**34.9**	H	43.5	**-8.6**	QP	251	1.5	QP (1.00s)
32.144	29.0	V	40.0	-11.0	QP	56	1.0	QP (1.00s)
374.346	33.2	H	46.0	-12.8	QP	259	1.0	QP (1.00s)
213.950	30.1	H	43.5	-13.4	QP	261	1.5	QP (1.00s)
796.607	31.8	H	46.0	-14.2	QP	163	1.0	QP (1.00s)
996.867	28.3	H	54.0	-25.7	QP	231	1.5	QP (1.00s)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS 210 and FCC 15.E (NII) Radiated Emissions
Band Edge Measurements

Summary of Results

MAC Address: 001500633B2C DRTU Tool Version 1.1.3 Driver version 13.0.0.238 Sample: 1340

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.

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 1	n 40MHz Chain A	#38 5190MHz	11.0	11.2	Restricted Band Edge at 5150 MHz	15.209	45.3dBµV/m @ 5150.0MHz (-8.7dB)
		#62 5310MHz	11.0	11.2	Restricted Band Edge at 5350 MHz	15.209	44.4dBµV/m @ 5350.0MHz (-9.6dB)
		#102 5510MHz	13.5	13.6	Restricted Band Edge at 5460 MHz	15.209	45.2dBµV/m @ 5460.0MHz (-8.8dB)
					Band Edge at 5470 MHz	15 E	54.2dBµV/m @ 5469.8MHz (-14.1dB)
		#134 5670MHz	16.5	16.6	Band Edge at 5725 MHz	15 E	46.5dBµV/m @ 5725.0MHz (-21.8dB)
Run # 2	n 40MHz Chain B	#38 5190MHz	11.0	11.3	Restricted Band Edge at 5150 MHz	15.209	48.2dBµV/m @ 5150.0MHz (-5.8dB)
		#62 5310MHz	11.0	11.2	Restricted Band Edge at 5350 MHz	15.209	46.6dBµV/m @ 5350.0MHz (-7.4dB)
		#102 5510MHz	13.5	13.4	Restricted Band Edge at 5460 MHz	15.209	46.0dBµV/m @ 5460.0MHz (-8.0dB)
					Band Edge at 5470 MHz	15 E	53.8dBµV/m @ 5469.6MHz (-14.5dB)
		#134 5670MHz	16.5	16.6	Band Edge at 5725 MHz	15 E	43.1dBµV/m @ 5727.6MHz (-25.2dB)
Run # 3	n 40MHz Chain A+B	#38 5190MHz	A: 10 B: 10	A: 10.0 B: 10.0	Restricted Band Edge at 5150 MHz	15.209	47.3dBµV/m @ 5149.4MHz (-6.7dB)
		#62 5310MHz	A: 10 B: 10	A: 10.1 B: 10.1	Restricted Band Edge at 5350 MHz	15.209	46.5dBµV/m @ 5350.0MHz (-7.5dB)
		#102 5510MHz	A: 12.5 B: 12.5	A: 12.6 B: 12.4	Restricted Band Edge at 5460 MHz	15.209	49.4dBµV/m @ 5458.6MHz (-4.6dB)
					Band Edge at 5470 MHz	15 E	52.2dBµV/m @ 5469.8MHz (-16.1dB)
		#134 5670MHz	A: 13.5 B: 13.5	A: 13.5 B: 13.8	Band Edge at 5725 MHz	15 E	42.3dBµV/m @ 5725.5MHz (-26.0dB)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 4	n 20MHz Chain A	#36 5180MHz	15.5	15.5	Restricted Band Edge at 5150 MHz	15.209	38.8dBµV/m @ 5150.0MHz (-15.2dB)
		#64 5320MHz	16.0	15.9	Restricted Band Edge at 5350 MHz	15.209	40.4dBµV/m @ 5350.3MHz (-13.6dB)
		#100 5500MHz	16.5	16.5	Restricted Band Edge at 5460 MHz	15.209	37.9dBµV/m @ 5458.1MHz (-16.1dB)
					Band Edge at 5470 MHz	15 E	43.3dBµV/m @ 5468.9MHz (-25.0dB)
		#140 5700MHz	16.5	16.4	Band Edge at 5725 MHz	15 E	47.2dBµV/m @ 5728.0MHz (-21.1dB)
Run # 5	n 20MHz Chain B	#36 5180MHz	15.5	15.6	Restricted Band Edge at 5150 MHz	15.209	45.2dBµV/m @ 5149.3MHz (-8.8dB)
		#64 5320MHz	16.0	16.0	Restricted Band Edge at 5350 MHz	15.209	39.5dBµV/m @ 5350.0MHz (-14.5dB)
		#100 5500MHz	16.5	16.4	Restricted Band Edge at 5460 MHz	15.209	39.8dBµV/m @ 5459.2MHz (-14.2dB)
					Band Edge at 5470 MHz	15 E	44.3dBµV/m @ 5469.3MHz (-24.0dB)
		#140 5700MHz	16.5	16.4	Band Edge at 5725 MHz	15 E	43.9dBµV/m @ 5729.4MHz (-24.4dB)
Run #6	n 20MHz Chain A+B	#36 5180MHz	A: 12.5 B: 12.5	A: 12.4 B: 12.5	Restricted Band Edge at 5150 MHz	15.209	52.9dBµV/m @ 5149.5MHz (-1.1dB)
		#64 5320MHz	A: 13.0 B: 13.0	A: 13.2 B: 13.1	Restricted Band Edge at 5350 MHz	15.209	48.6dBµV/m @ 5350.0MHz (-5.4dB)
		#100 5500MHz	A: 13.5 B: 13.5	A: 13.6 B: 13.6	Restricted Band Edge at 5460 MHz	15.209	47.4dBµV/m @ 5457.6MHz (-6.6dB)
					Band Edge at 5470 MHz	15 E	48.5dBµV/m @ 5469.1MHz (-19.8dB)
		#140 5700MHz	A: 13.5 B: 13.5	A: 13.4 B: 13.6	Band Edge at 5725 MHz	15 E	51.8dBµV/m @ 5728.7MHz (-16.5dB)
802.11a mode tested on the chain with least margin from 802.11n 20MHz mode							
Run # 7	802.11a Chain B	#36 5180MHz	16.0	16.2	Restricted Band Edge at 5150 MHz	15.209	48.0dBµV/m @ 5150.0MHz (-6.0dB)
		#64 5320MHz	16.0	15.9	Restricted Band Edge at 5350 MHz	15.209	43.1dBµV/m @ 5350.0MHz (-10.9dB)
		#100 5500MHz	16.5	16.7	Restricted Band Edge at 5460 MHz	15.209	39.9dBµV/m @ 5459.9MHz (-14.1dB)
					Band Edge at 5470 MHz	15 E	46.9dBµV/m @ 5470.0MHz (-21.4dB)
		#140 5700MHz	16.5	16.5	Band Edge at 5725 MHz	15 E	46.5dBµV/m @ 5725.1MHz (-21.8dB)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Test Specific Details

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

General Test Configuration

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

Ambient Conditions:

Rel. Humidity: 25 - 50 %
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 and radiated (at a distance of ~ 50cm) for MIMO modes.
The fundamental field strength is always measured at a 3m test distance.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1, Band Edge Field Strength - n 40MHz, Chain A
Run # 1a, EUT on Channel #38 5190MHz - n 40MHz, Chain A

Date of Test: 8/4/2010 Test Location: Chamber #3
Test Engineer: Suhaila Khushzad Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	11.0	11.2	15.5

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	
5187.130	87.2	H	-	-	AVG	316	1.0	RB 1 MHz;VB 10 Hz;Pk
5182.270	95.0	H	-	-	PK	316	1.0	RB 1 MHz;VB 3 MHz;Pk
5192.800	87.6	V	-	-	AVG	123	1.9	RB 1 MHz;VB 10 Hz;Pk
5191.870	95.6	V	-	-	PK	123	1.9	RB 1 MHz;VB 3 MHz;Pk

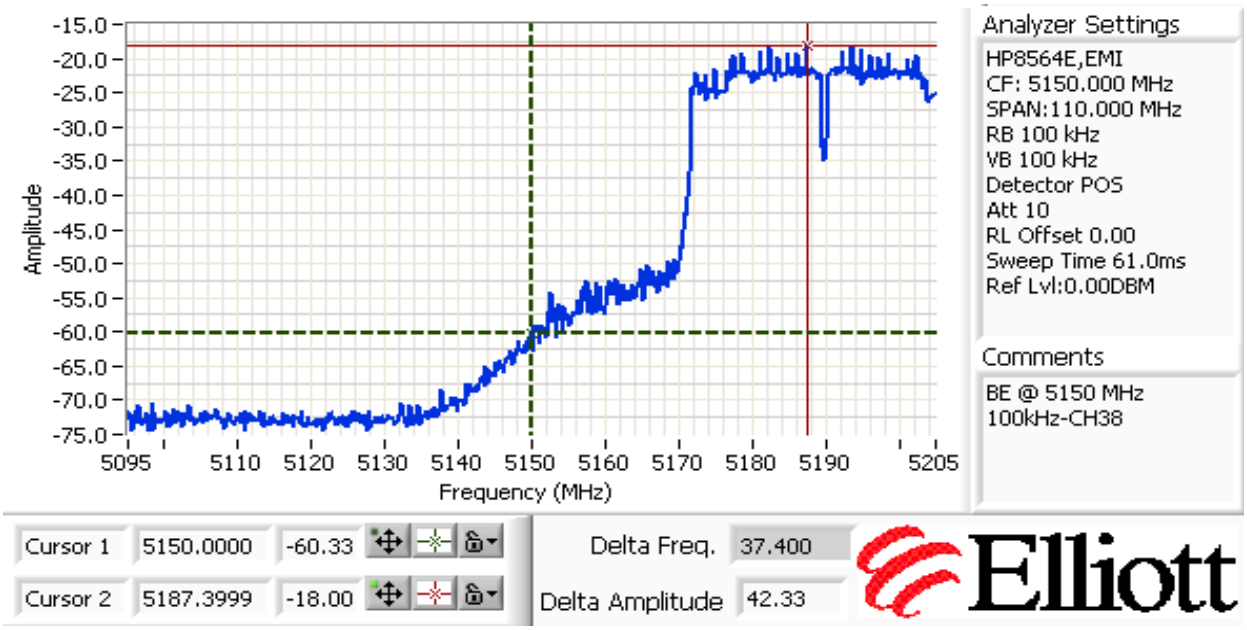
5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	95.0	95.6	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	87.2	87.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**42.3** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	53.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	45.3 dBuV/m		
Delta Marker - 1MHz/1MHz:	*37.0 dB*		-8.7
Delta Marker - 1MHz/10Hz:	*41.3 dB*		-20.7
Calculated Band-Edge Measurement (Peak):	58.6 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.3 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-8.7	45.3	54	Avg
-20.7	53.3	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5150.000	45.3	-	54.0	**-8.7**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1b, EUT on Channel #62 5310MHz - n 40MHz, Chain A

Date of Test: 8/4/2010 Test Location: Chamber #3

Test Engineer: Suhaila Khushzad Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	11.0	11.2	16.0

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	
5313.070	86.7	H	-	-	AVG	330	1.0	RB 1 MHz;VB 10 Hz;Pk
5312.800	94.6	H	-	-	PK	330	1.0	RB 1 MHz;VB 3 MHz;Pk
5313.070	87.6	V	-	-	AVG	159	1.1	RB 1 MHz;VB 10 Hz;Pk
5313.600	95.6	V	-	-	PK	159	1.1	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

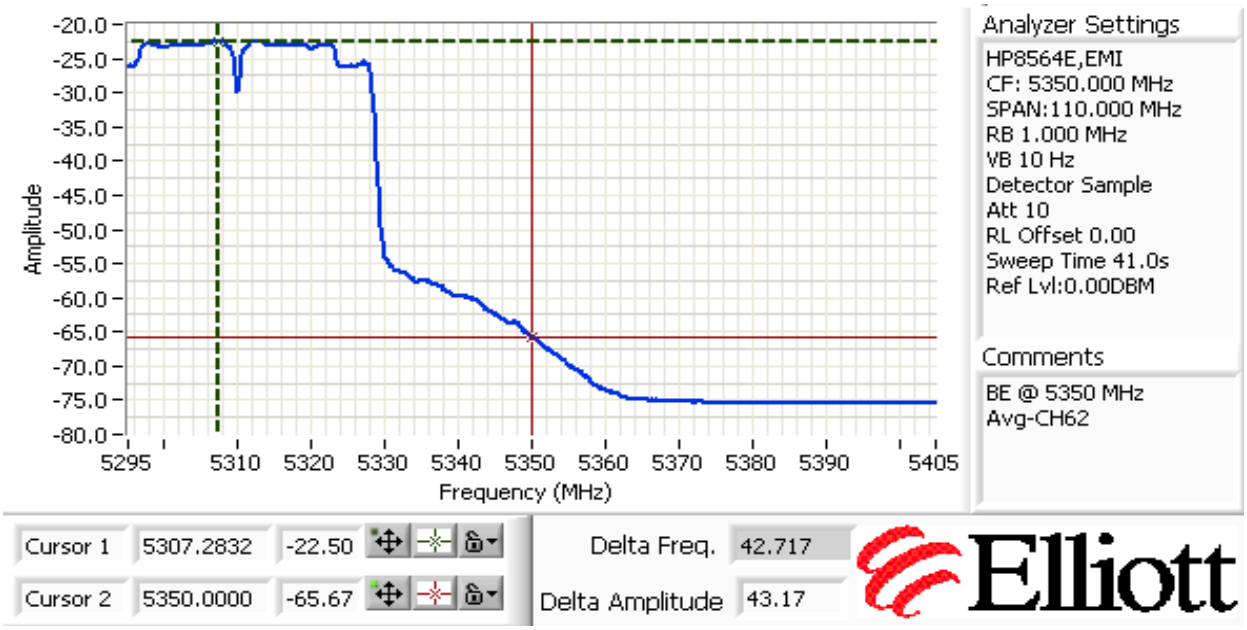
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	94.6	95.6	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	86.7	87.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*42.8 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	52.8 dBuV/m		
Calculated Band-Edge Measurement (Avg):	44.8 dBuV/m		

Margin	Level	Limit	Detector
-9.6	44.4	54	Avg
-21.2	52.8	74	Pk

Delta Marker - 1MHz/1MHz:	*39.2 dB*	
Delta Marker - 1MHz/10Hz:	**43.2** *dB*	
Calculated Band-Edge Measurement (Peak):	56.4 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	44.4 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/Avg	degrees	meters	
5350.000	44.4	-	54.0	**-9.6**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1c, EUT on Channel #102 5510MHz - n 40MHz, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	13.5	13.6	22.0

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	
5512.870	90.9	V	-	-	AVG	183	1.9	RB 1 MHz;VB 10 Hz;Pk
5513.670	99.2	V	-	-	PK	183	1.9	RB 1 MHz;VB 3 MHz;Pk
5497.530	90.8	H	-	-	AVG	262	1.0	RB 1 MHz;VB 10 Hz;Pk
5497.530	99.2	H	-	-	PK	262	1.0	RB 1 MHz;VB 3 MHz;Pk

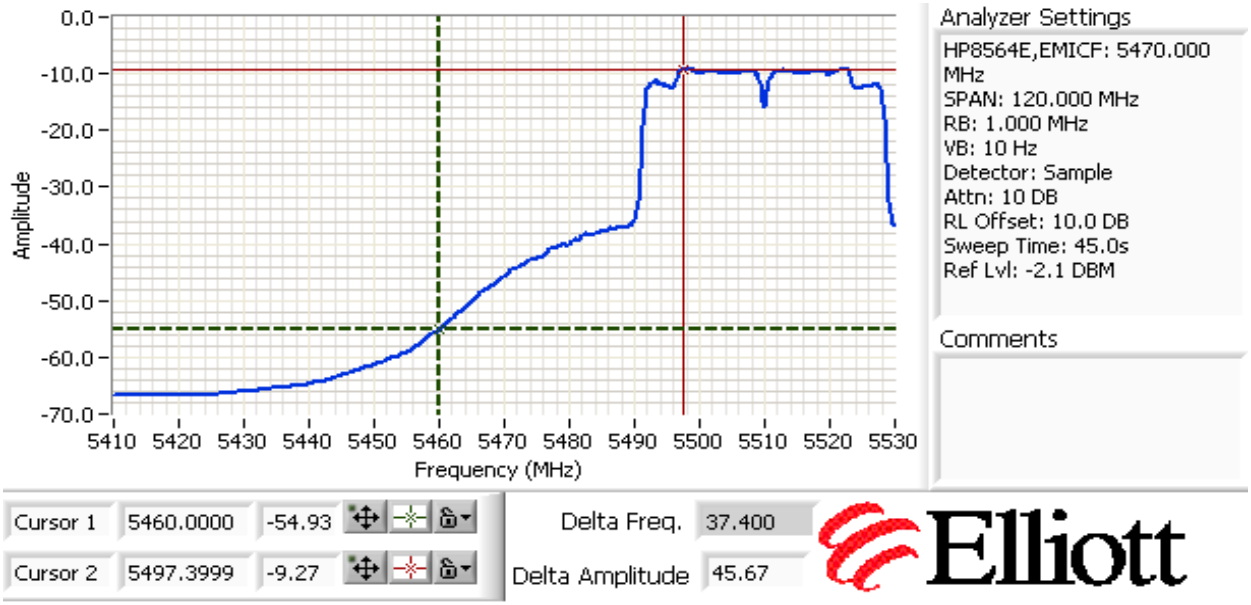
5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	99.2	99.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	90.8	90.9	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*45.0 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	54.2 dBuV/m		
Calculated Band-Edge Measurement (Avg):	45.9 dBuV/m		
Delta Marker - 1MHz/1MHz:	*40.0 dB*		
Delta Marker - 1MHz/10Hz:	***45.7*** *dB*		
Calculated Band-Edge Measurement (Peak):	59.2 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	45.2 dBuV/m		Using 1MHz delta value

Margin	Level	Limit	Detector
-8.8	45.2	54	Avg
-19.8	54.2	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5460.000	45.2	-	54.0	**-8.8**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

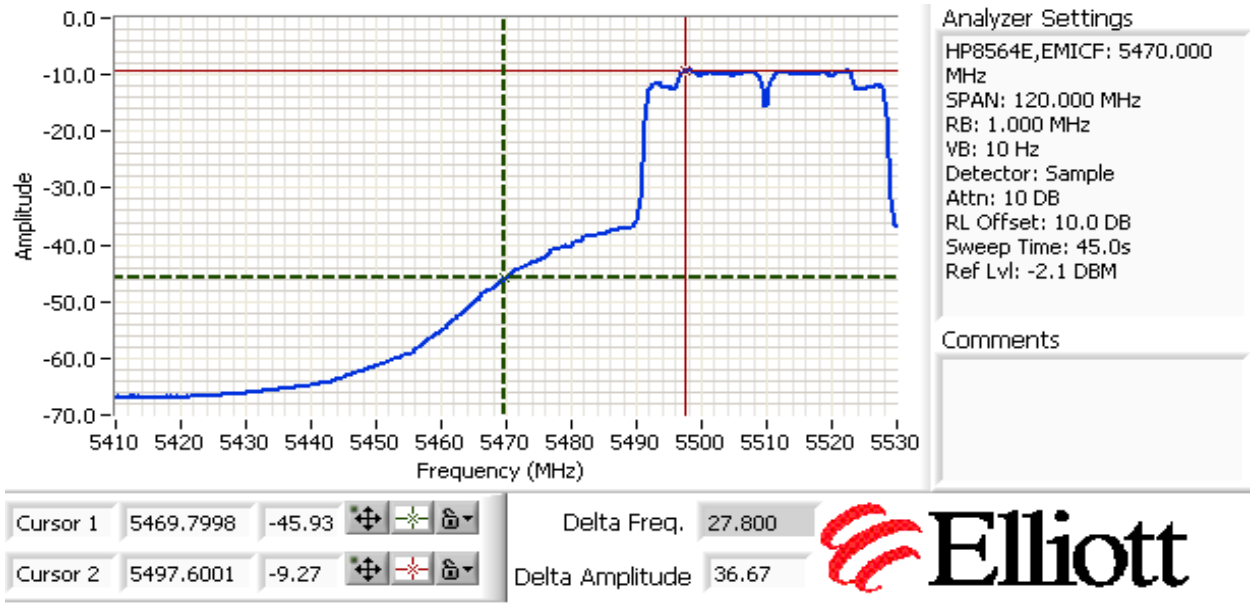
5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	99.2	99.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	90.8	90.9	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*35.7 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	63.5 dBuV/m		
Calculated Band-Edge Measurement (Avg):	55.2 dBuV/m		
Delta Marker - 1MHz/1MHz:	*32.3 dB*		
Delta Marker - 1MHz/10Hz:	***36.7*** *dB*		
Calculated Band-Edge Measurement (Peak):	66.9 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	54.2 dBuV/m		Using 1MHz delta value

Margin	Level	Limit	Detector
-14.1	54.2	68.3	Avg
-24.8	63.5	88.3	Pk

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5469.800	54.2	-	68.3	**-14.1**	Avg	-	-	Using 1MHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1d, EUT on Channel #134 5670MHz - n 40MHz, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.6	26.5

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	
5657.930	93.3	H	-	-	AVG	259	1.4	RB 1 MHz;VB 10 Hz;Pk
5662.130	101.7	H	-	-	PK	259	1.4	RB 1 MHz;VB 3 MHz;Pk
5662.130	91.8	V	-	-	AVG	145	1.0	RB 1 MHz;VB 10 Hz;Pk
5662.600	100.7	V	-	-	PK	145	1.0	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	101.7	100.7	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.3	91.8	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*45.7 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	56.0 dBuV/m		
Calculated Band-Edge Measurement (Avg):	47.6 dBuV/m		

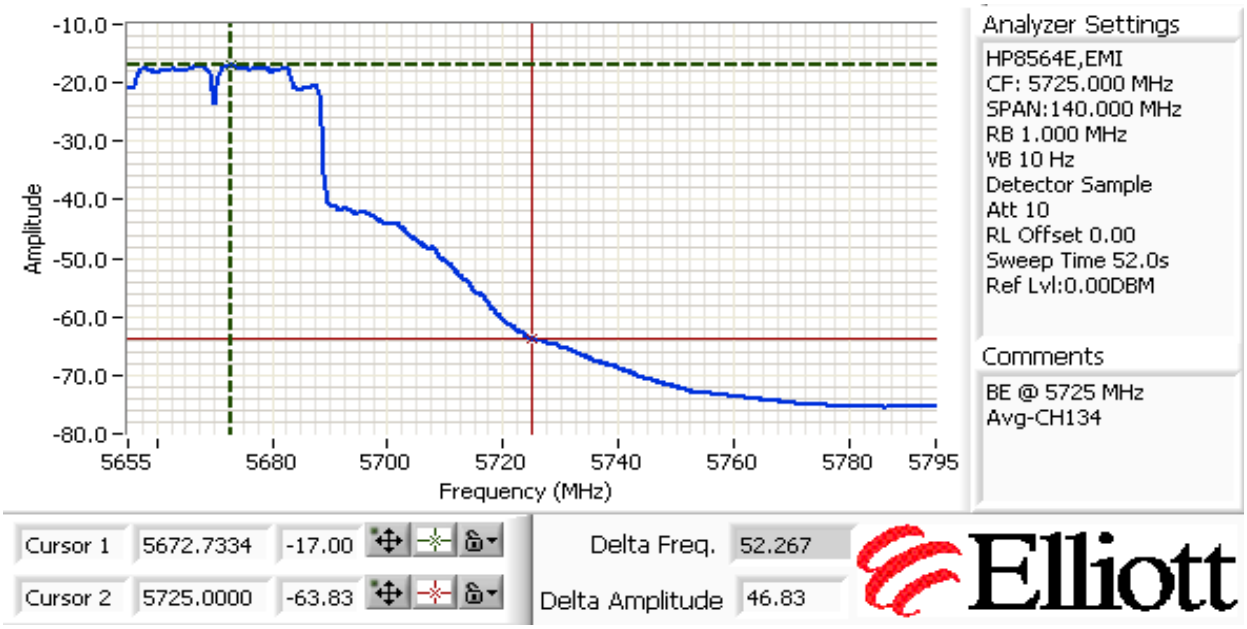
Margin	Level	Limit	Detector
-21.8	46.5	68.3	Avg
-32.3	56.0	88.3	Pk

Delta Marker - 1MHz/1MHz:	*43.3 dB*	
Delta Marker - 1MHz/10Hz:	**46.8** *dB*	
Calculated Band-Edge Measurement (Peak):	58.4 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.5 dBuV/m	Using 1MHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5725.000	46.5	-	68.3	**-21.8**	Avg	-	-	Using 1MHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2, Band Edge Field Strength - n 40MHz, Chain B
Run # 2a, EUT on Channel #38 5190MHz - n 40MHz, Chain B

Date of Test: 8/4/2010 Test Location: FT Chamber #3
Test Engineer: Rafael Varelas Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	11.0	11.3	15.5

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	
5182.130	89.2	H	-	-	AVG	152	1.0	RB 1 MHz;VB 10 Hz;Pk
5182.270	97.8	H	-	-	PK	152	1.0	RB 1 MHz;VB 3 MHz;Pk
5193.000	90.2	V	-	-	AVG	160	1.2	RB 1 MHz;VB 10 Hz;Pk
5193.670	98.3	V	-	-	PK	160	1.2	RB 1 MHz;VB 3 MHz;Pk

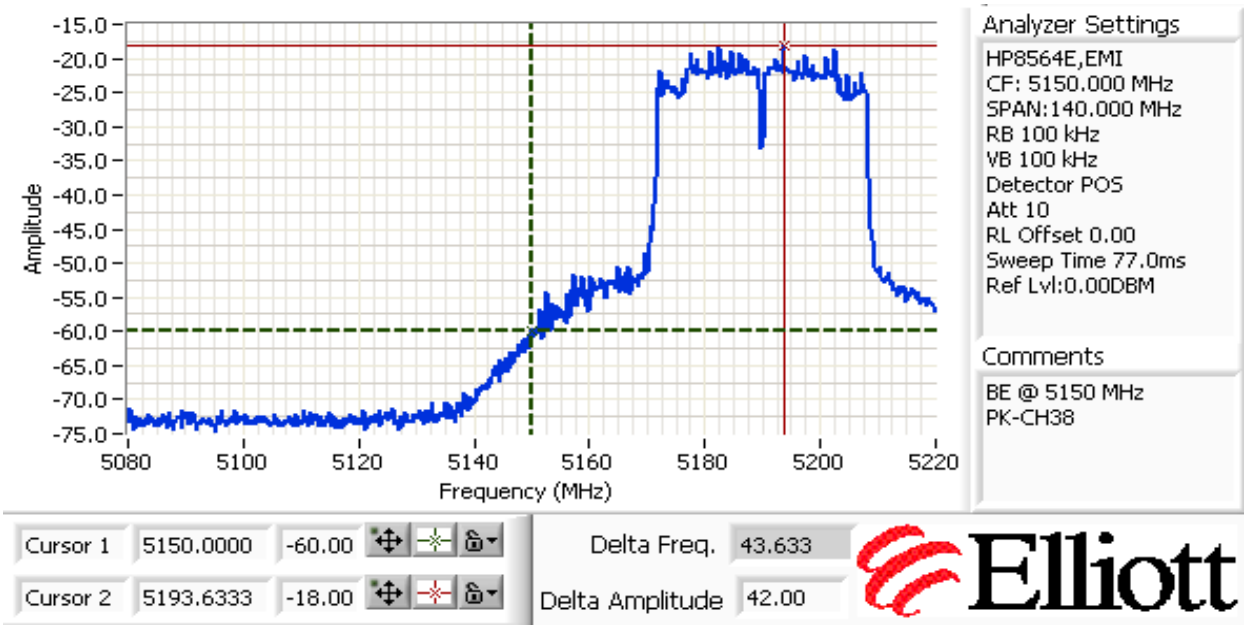
5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	98.3	97.8	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	90.2	89.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**42.0** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	56.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	48.2 dBuV/m		
Delta Marker - 1MHz/1MHz:	*37.0 dB*		
Delta Marker - 1MHz/10Hz:	*41.0 dB*		
Calculated Band-Edge Measurement (Peak):	61.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	49.2 dBuV/m		

Margin	Level	Limit	Detector
-5.8	48.2	54	Avg
-17.7	56.3	74	Pk
Using 100kHz delta value			
Using 100kHz delta value			

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5150.000	48.2	-	54.0	**-5.8**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2b, EUT on Channel #62 5310MHz - n 40MHz, Chain B

Date of Test: 8/4/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	11.0	11.2	16.5

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	
5311.600	88.0	V	-	-	AVG	160	1.0	RB 1 MHz;VB 10 Hz;Pk
5311.330	96.3	V	-	-	PK	160	1.0	RB 1 MHz;VB 3 MHz;Pk
5322.600	89.6	H	-	-	AVG	118	1.1	RB 1 MHz;VB 10 Hz;Pk
5320.270	97.8	H	-	-	PK	118	1.1	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

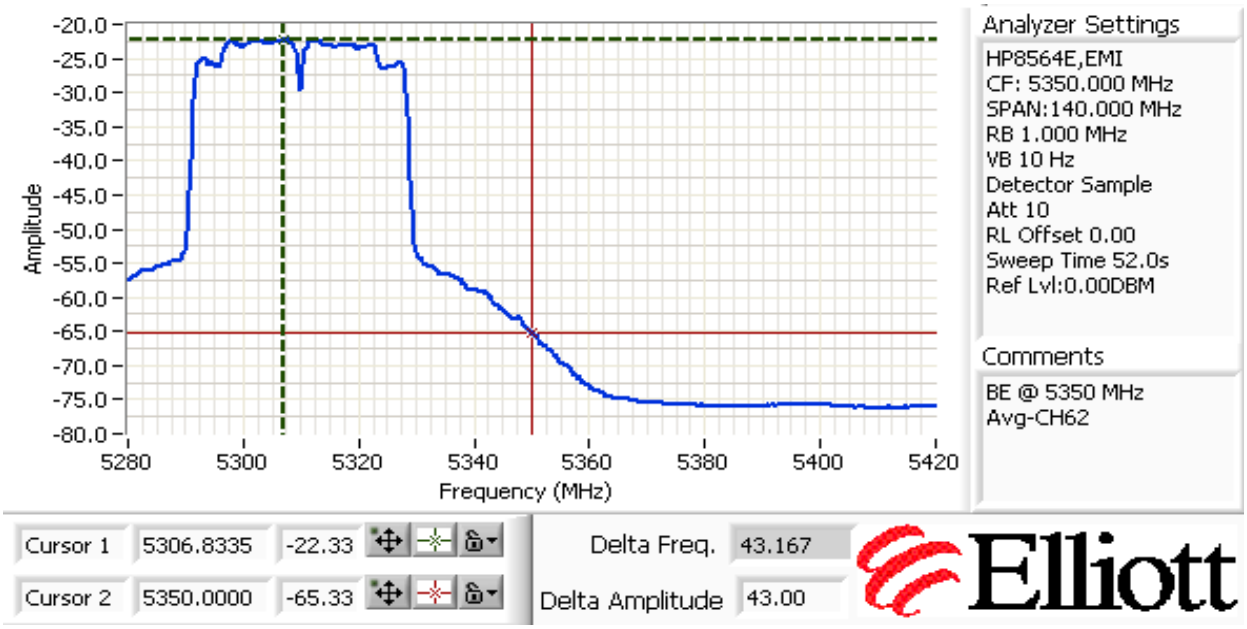
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	97.8	96.3	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	89.6	88.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*43.0 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	54.8 dBuV/m		
Calculated Band-Edge Measurement (Avg):	46.6 dBuV/m		

Margin	Level	Limit	Detector
-7.4	46.6	54	Avg
-19.2	54.8	74	Pk

Delta Marker - 1MHz/1MHz:	*39.8 dB*	
Delta Marker - 1MHz/10Hz:	*43.0 dB*	
Calculated Band-Edge Measurement (Peak):	58.0 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.6 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/Avg	degrees	meters	
5350.000	46.6	-	54.0	**-7.4**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2c, EUT on Channel #102 5510MHz - n 40MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	13.5	13.4	22.0

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	
5506.800	89.5	V	-	-	AVG	136	1.0	RB 1 MHz;VB 10 Hz;Pk
5506.270	97.8	V	-	-	PK	136	1.0	RB 1 MHz;VB 3 MHz;Pk
5517.870	91.0	H	-	-	AVG	103	1.2	RB 1 MHz;VB 10 Hz;Pk
5513.670	99.2	H	-	-	PK	103	1.2	RB 1 MHz;VB 3 MHz;Pk

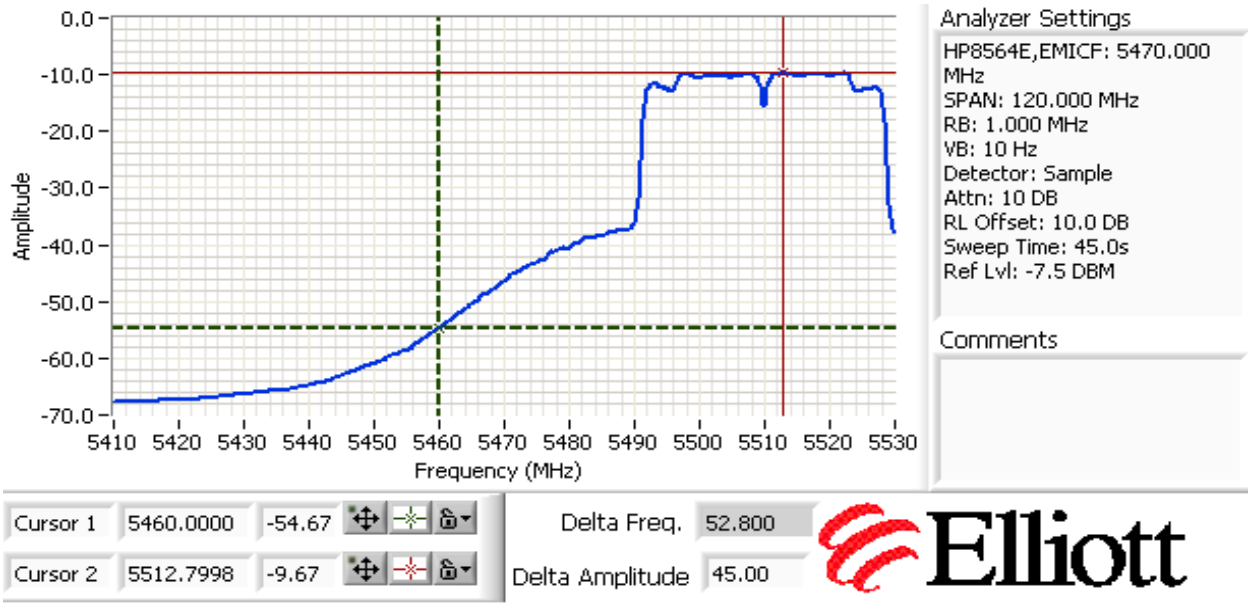
5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	97.8	99.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	89.5	91.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*44.2 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	55.0 dBuV/m		
Calculated Band-Edge Measurement (Avg):	46.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*40.3 dB*		
Delta Marker - 1MHz/10Hz:	**45.0** *dB*		
Calculated Band-Edge Measurement (Peak):	58.9 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.0 dBuV/m		Using 1MHz delta value

Margin	Level	Limit	Detector
-8.0	46.0	54	Avg
-19.0	55.0	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5460.000	46.0	-	54.0	**-8.0**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



EMC Test Data

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

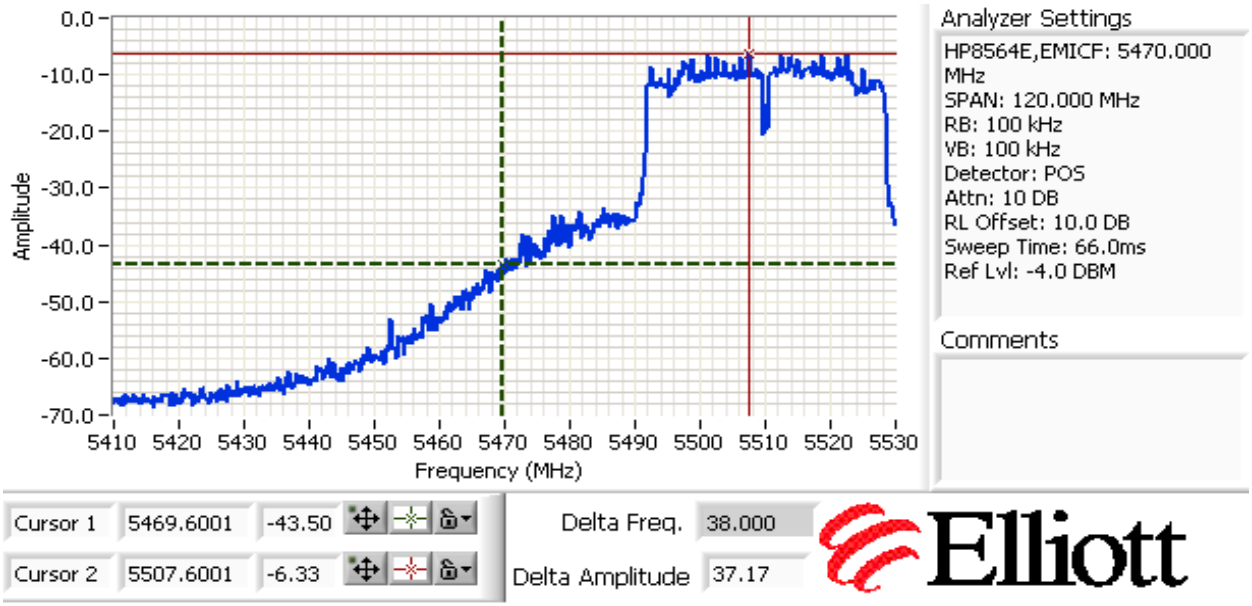
5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	97.8	99.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	89.5	91.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**37.2** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	62.0 dBuV/m		
Calculated Band-Edge Measurement (Avg):	53.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*32.8 dB*		
Delta Marker - 1MHz/10Hz:	*36.5 dB*		
Calculated Band-Edge Measurement (Peak):	66.4 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	54.5 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-14.5	53.8	68.3	Avg
-26.3	62.0	88.3	Pk

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5469.600	53.8	-	68.3	**-14.5**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2d, EUT on Channel #134 5670MHz - n 40MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.6	26.5

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	
5682.600	90.4	V	-	-	AVG	146	1.0	RB 1 MHz;VB 10 Hz;Pk
5682.200	98.4	V	-	-	PK	146	1.0	RB 1 MHz;VB 3 MHz;Pk
5661.870	91.9	H	-	-	AVG	108	1.0	RB 1 MHz;VB 10 Hz;Pk
5662.200	100.9	H	-	-	PK	108	1.0	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	100.9	98.4	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	91.9	90.4	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**48.8** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	52.1 dBuV/m		
Calculated Band-Edge Measurement (Avg):	43.1 dBuV/m		

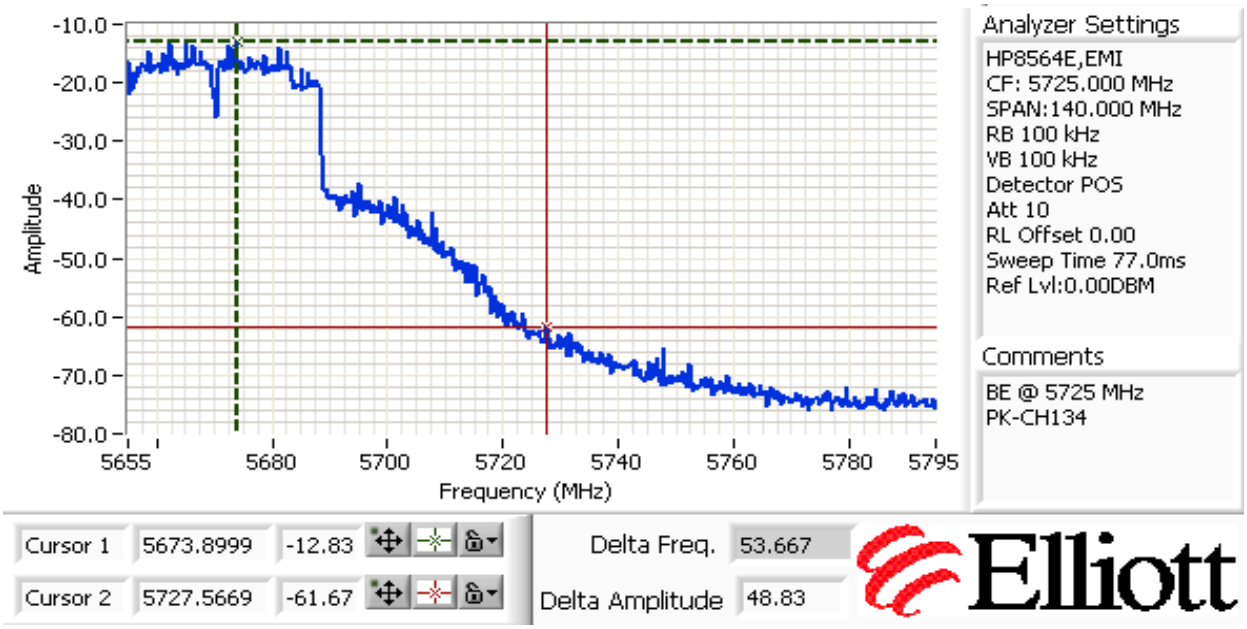
	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	-25.2	43.1	68.3	Avg
Delta Marker - 1MHz/10Hz:	-36.2	52.1	88.3	Pk

Calculated Band-Edge Measurement (Peak):	57.2 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	44.2 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5727.567	43.1	-	68.3	**-25.2**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3, Band Edge Field Strength - n 40MHz, Chain A+B
Run # 3a, EUT on Channel #38 5190MHz - n 40MHz, Chain A+B

Date of Test: 8/5/2010 Test Location: FT Chamber #3
Test Engineer: Mehran Birgani Config Change: none

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	10.0	10.0		13.0	10.0	10.0		13.0	18.5 / 18.0

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	
5187.270	90.1	V	-	-	AVG	153	1.2	RB 1 MHz;VB 10 Hz;Pk
5184.670	100.4	V	-	-	PK	153	1.2	RB 1 MHz;VB 3 MHz;Pk
5193.600	88.6	H	-	-	AVG	129	1.0	RB 1 MHz;VB 10 Hz;Pk
5195.330	98.6	H	-	-	PK	129	1.0	RB 1 MHz;VB 3 MHz;Pk

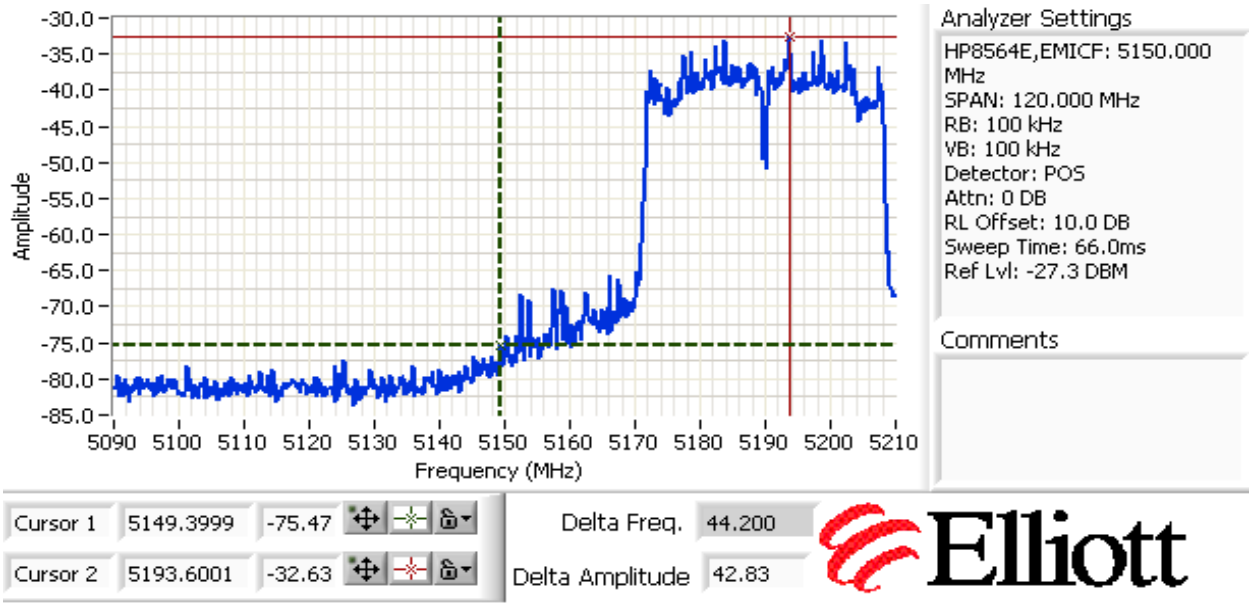
5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	98.6	100.4	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	88.6	90.1	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**42.8** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	57.6 dBuV/m		
Calculated Band-Edge Measurement (Avg):	47.3 dBuV/m		
Delta Marker - 1MHz/1MHz:	*36.5 dB*		
Delta Marker - 1MHz/10Hz:	*39.1 dB*		
Calculated Band-Edge Measurement (Peak):	63.9 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	51.0 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-6.7	47.3	54	Avg
-16.4	57.6	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5149.400	47.3	-	54.0	**-6.7**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3b, EUT on Channel #62 5310MHz - n 40MHz, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	10.0	10.0		13.0	10.1	10.1		13.1	19.5 / 19.5

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	
5298.130	88.7	V	-	-	AVG	153	1.2	RB 1 MHz;VB 10 Hz;Pk
5305.470	99.6	V	-	-	PK	153	1.2	RB 1 MHz;VB 3 MHz;Pk
5312.400	87.0	H	-	-	AVG	111	1.2	RB 1 MHz;VB 10 Hz;Pk
5308.870	96.7	H	-	-	PK	111	1.2	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

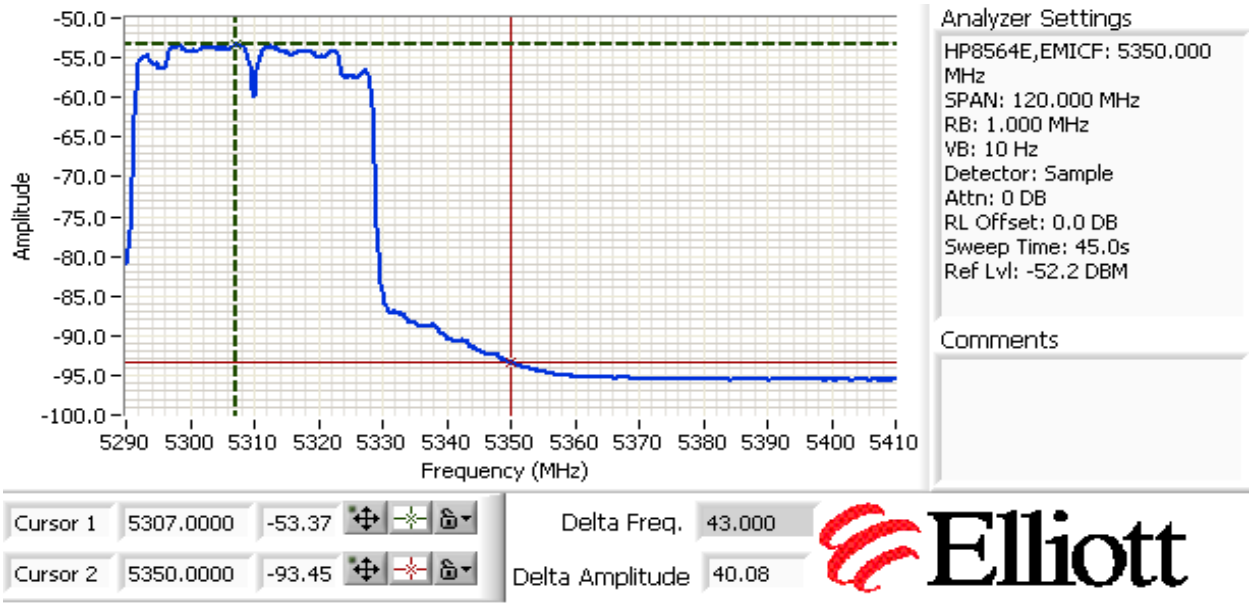
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	87.0	99.6	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.7	88.7	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**45.7** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	53.9 dBuV/m		
Calculated Band-Edge Measurement (Avg):	51.0 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz: *38.5 dB*	-7.5	46.5	54	Avg
Delta Marker - 1MHz/10Hz: *40.1 dB*	-20.1	53.9	74	Pk

Calculated Band-Edge Measurement (Peak):	61.1 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	56.6 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5350.000	46.5	-	54.0	**-7.5**	Avg	-	-	

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3c, EUT on Channel #102 5510MHz - n 40MHz, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	12.5	12.5		15.5	12.6	12.4		15.5	24.0 / 24.0

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	
5505.130	90.8	V	-	-	AVG	142	1.1	RB 1 MHz;VB 10 Hz;Pk
5505.000	101.7	V	-	-	PK	142	1.1	RB 1 MHz;VB 3 MHz;Pk
5497.930	90.0	H	-	-	AVG	261	1.0	RB 1 MHz;VB 10 Hz;Pk
5521.130	100.2	H	-	-	PK	261	1.0	RB 1 MHz;VB 3 MHz;Pk

5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

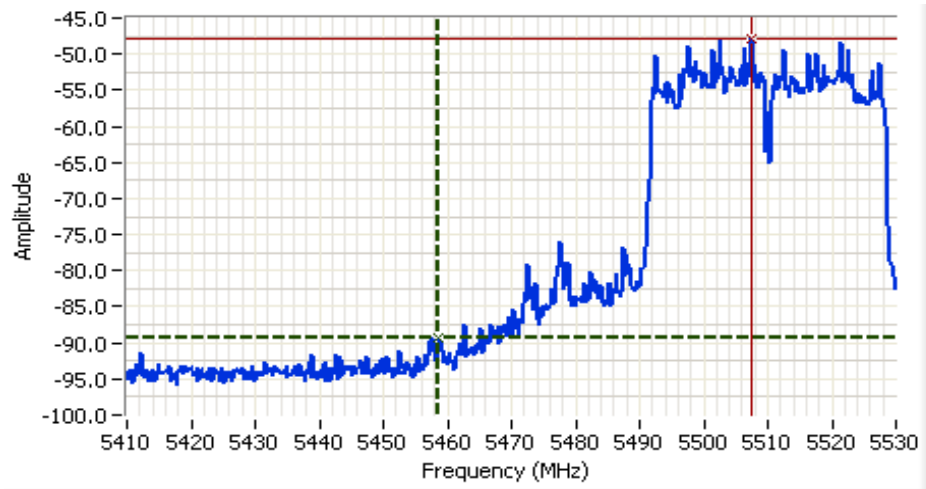
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	100.2	101.7	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	90.0	90.8	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**41.4** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	60.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	49.4 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz: *36.3 dB*	-4.6	49.4	54	Avg
Delta Marker - 1MHz/10Hz: *39.1 dB*	-13.7	60.3	74	Pk

Calculated Band-Edge Measurement (Peak):	65.4 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	51.7 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5458.571	49.4	-	54.0	**-4.6**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Analyzer Settings

HP8564E,EMICF: 5470.000 MHz
SPAN: 120.000 MHz
RB: 100 kHz
VB: 100 kHz
Detector: POS
Attn: 0 DB
RL Offset: 0.0 DB
Sweep Time: 66.0ms
Ref Lvl: -48.6 DBM

Comments

Cursor 1	5458.5714	-89.18	Delta Freq.	49.029
Cursor 2	5507.6001	-47.77	Delta Amplitude	41.42

Elliott

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

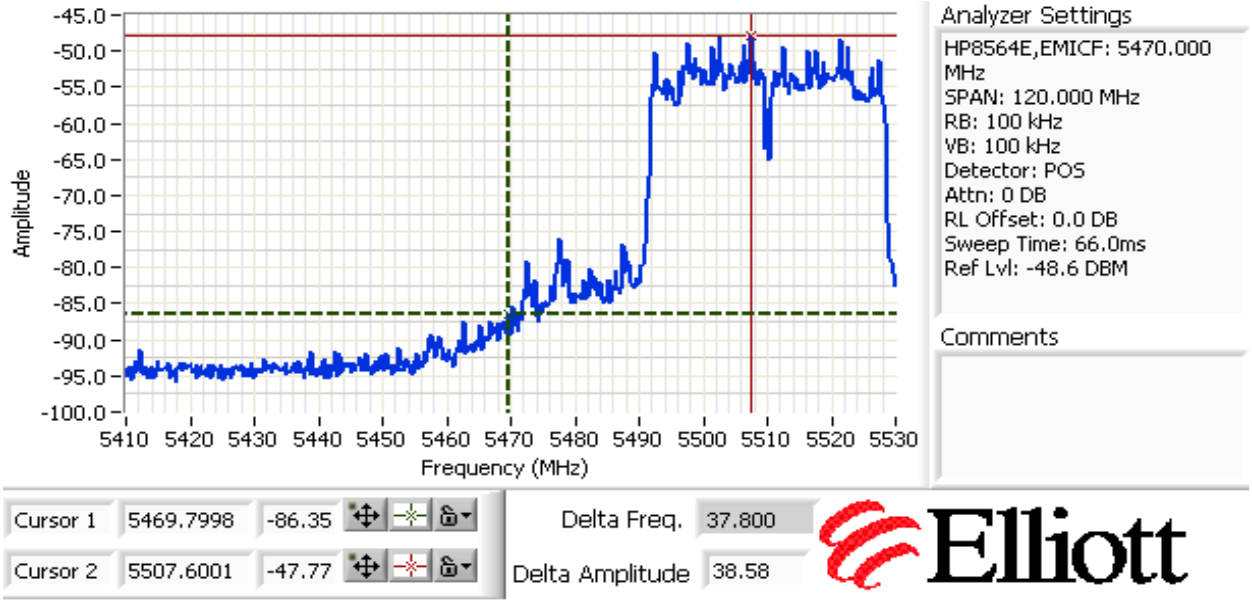
5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	100.2	101.7	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	90.0	90.8	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**38.6** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	63.1 dBuV/m		
Calculated Band-Edge Measurement (Avg):	52.2 dBuV/m		
Delta Marker - 1MHz/1MHz:	*33.3 dB*		
Delta Marker - 1MHz/10Hz:	*34.8 dB*		
Calculated Band-Edge Measurement (Peak):	68.4 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	56.0 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-16.1	52.2	68.3	Avg
-25.2	63.1	88.3	Pk

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5469.800	52.2	-	68.3	**-16.1**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3d, EUT on Channel #134 5670MHz - n 40MHz, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.5	13.5		16.5	13.5	13.8		16.7	26.5

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	
5682.800	90.7	V	-	-	AVG	142	1.0	RB 1 MHz;VB 10 Hz;Pk
5664.930	100.3	V	-	-	PK	142	1.0	RB 1 MHz;VB 3 MHz;Pk
5682.670	92.3	H	-	-	AVG	263	1.4	RB 1 MHz;VB 10 Hz;Pk
5678.270	101.3	H	-	-	PK	263	1.4	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	101.3	100.3	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	92.3	90.7	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**50.0** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	51.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	42.3 dBuV/m		

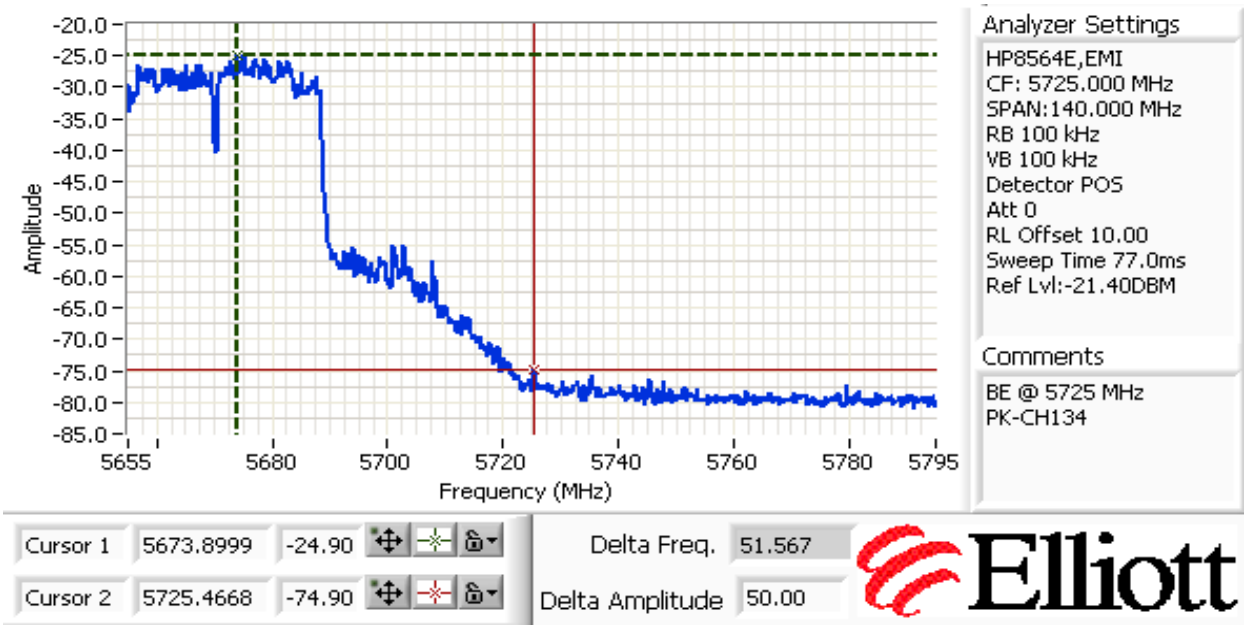
	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	-26.0	42.3	68.3	Avg
Delta Marker - 1MHz/10Hz:	-37.0	51.3	88.3	Pk

Calculated Band-Edge Measurement (Peak):	56.5 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	43.1 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5725.466	42.3	-	68.3	**-26.0**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4, Band Edge Field Strength - n 20MHz, Chain A
Run # 4a, EUT on Channel #36 5180MHz - n 20MHz, Chain A

Date of Test: 8/5/2010 Test Location: Chamber #3
Test Engineer: David W. Bare Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	15.5	15.5	19.5

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	
5181.390	93.3	H	-	-	AVG	256	1.4	RB 1 MHz;VB 10 Hz;Pk
5178.770	101.5	H	-	-	PK	256	1.4	RB 1 MHz;VB 3 MHz;Pk
5181.300	92.6	V	-	-	AVG	106	1.4	RB 1 MHz;VB 10 Hz;Pk
5178.720	101.0	V	-	-	PK	106	1.4	RB 1 MHz;VB 3 MHz;Pk

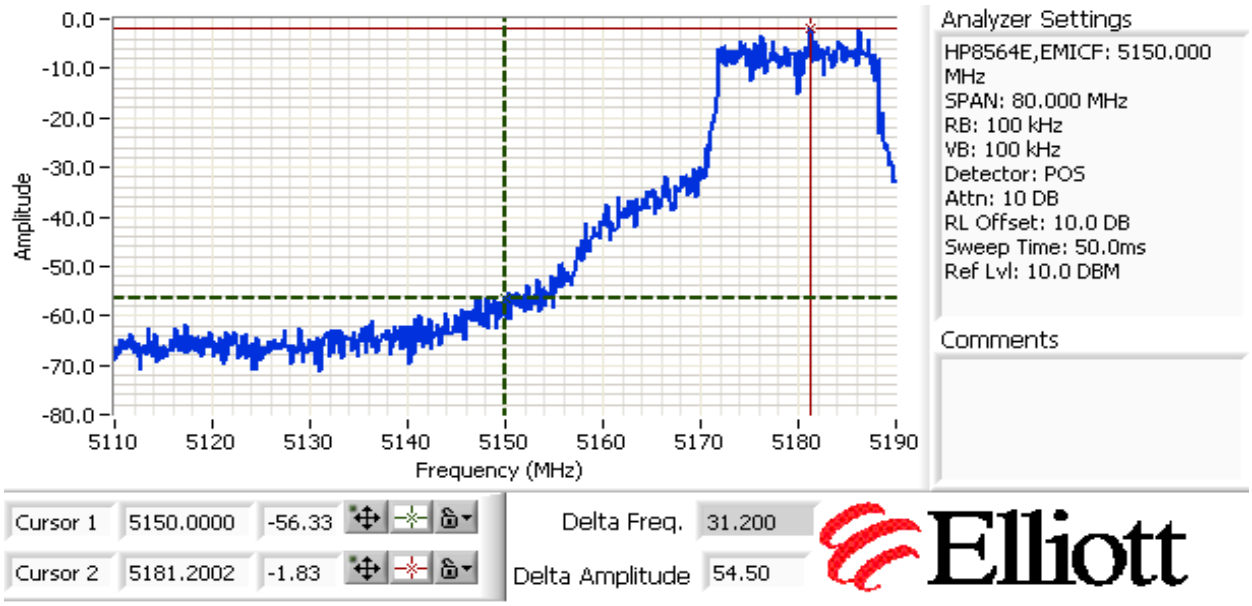
5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	101.5	101.0	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.3	92.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**54.5** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	47.0 dBuV/m		
Calculated Band-Edge Measurement (Avg):	38.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*47.3 dB*		
Delta Marker - 1MHz/10Hz:	*48.5 dB*		
Calculated Band-Edge Measurement (Peak):	54.2 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	44.8 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-15.2	38.8	54	Avg
-27.0	47.0	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5150.000	**38.8**	-	54.0	**-15.2**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4b, EUT on Channel #64 5320MHz - n 20MHz, Chain A

Date of Test: 8/5/2010 Test Location: Chamber #3

Test Engineer: David W. Bare Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	15.9	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	
5318.540	94.7	H	100.0	-5.3	AVG	257	1.4	RB 1 MHz;VB 10 Hz;Pk
5318.830	103.2	H	70.0	33.2	PK	257	1.4	RB 1 MHz;VB 3 MHz;Pk
5321.330	95.2	V	100.0	-4.8	AVG	154	1.2	RB 1 MHz;VB 10 Hz;Pk
5318.790	103.5	V	70.0	33.5	PK	154	1.2	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

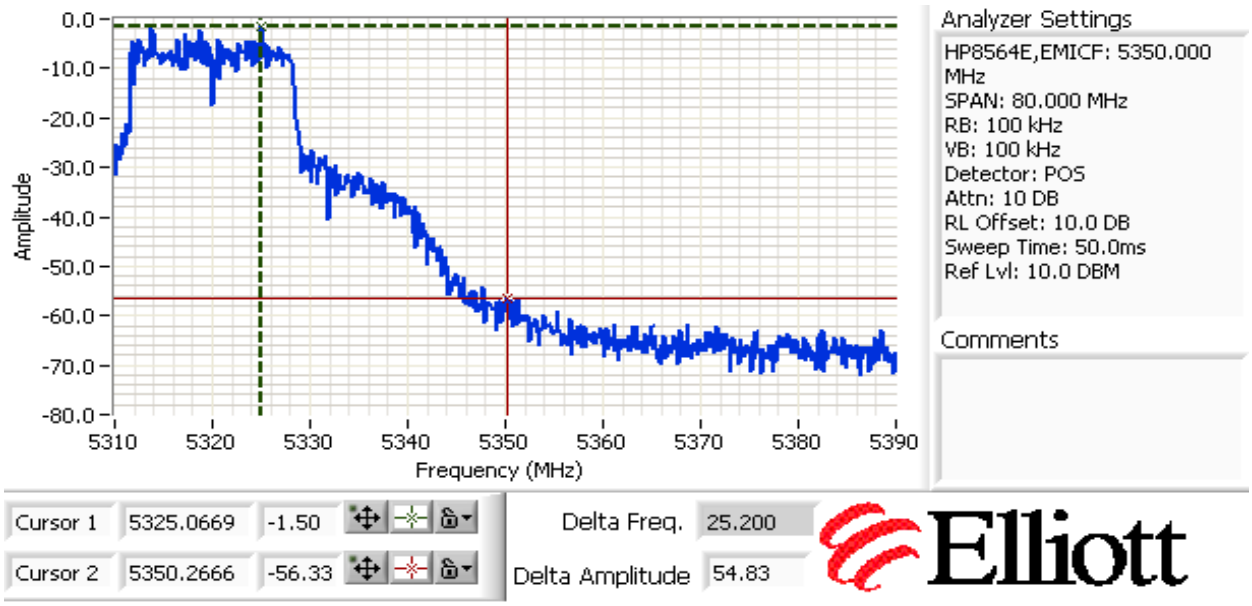
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.2	103.5	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	94.7	95.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**54.8** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	48.7 dBuV/m		
Calculated Band-Edge Measurement (Avg):	40.4 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	-13.6	40.4	54	Avg
Delta Marker - 1MHz/10Hz:	-25.3	48.7	74	Pk

Calculated Band-Edge Measurement (Peak):	55.3 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	45.2 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5350.267	**40.4**	-	54.0	**-13.6**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4c, EUT on Channel #100 5500MHz - n 20MHz, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.5	24.0

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	
5498.500	95.6	H	-	-	AVG	260	1.3	RB 1 MHz;VB 10 Hz;Pk
5498.810	103.9	H	-	-	PK	260	1.3	RB 1 MHz;VB 3 MHz;Pk
5501.290	93.8	V	-	-	AVG	107	1.0	RB 1 MHz;VB 10 Hz;Pk
5501.080	101.9	V	-	-	PK	107	1.0	RB 1 MHz;VB 3 MHz;Pk

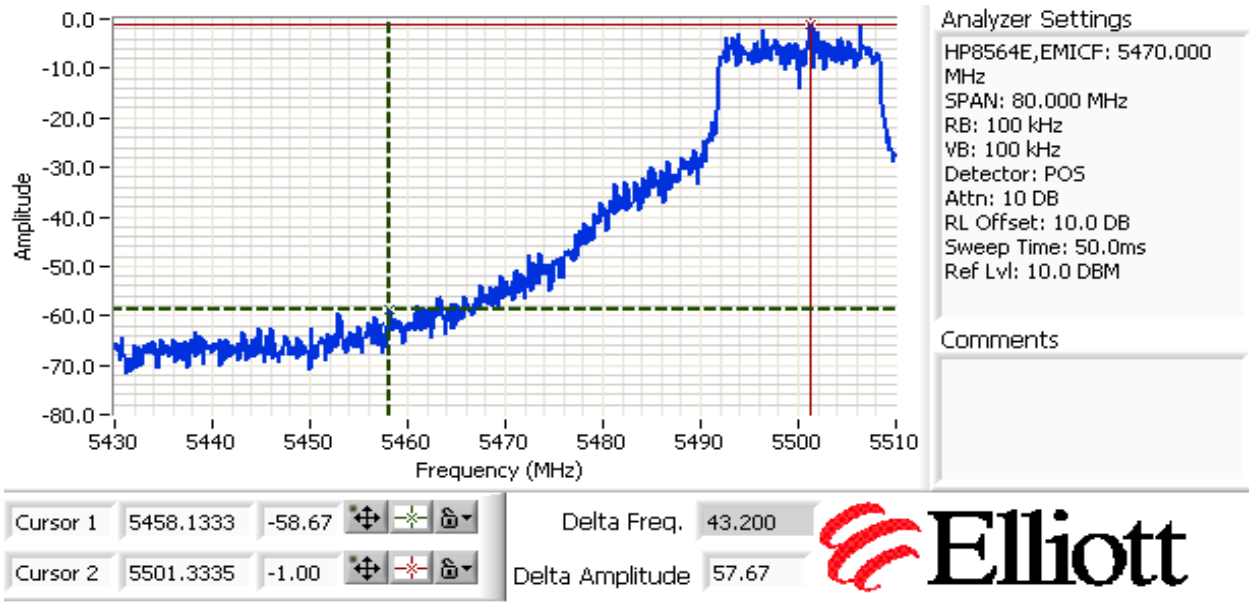
5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.9	101.9	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	95.6	93.8	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**57.7** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	46.2 dBuV/m		
Calculated Band-Edge Measurement (Avg):	37.9 dBuV/m		
Delta Marker - 1MHz/1MHz:	*50.8 dB*		
Delta Marker - 1MHz/10Hz:	*53.7 dB*		
Calculated Band-Edge Measurement (Peak):	53.1 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	41.9 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-16.1	37.9	54	Avg
-27.8	46.2	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5458.133	**37.9**	-	54.0	**-16.1**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



EMC Test Data

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

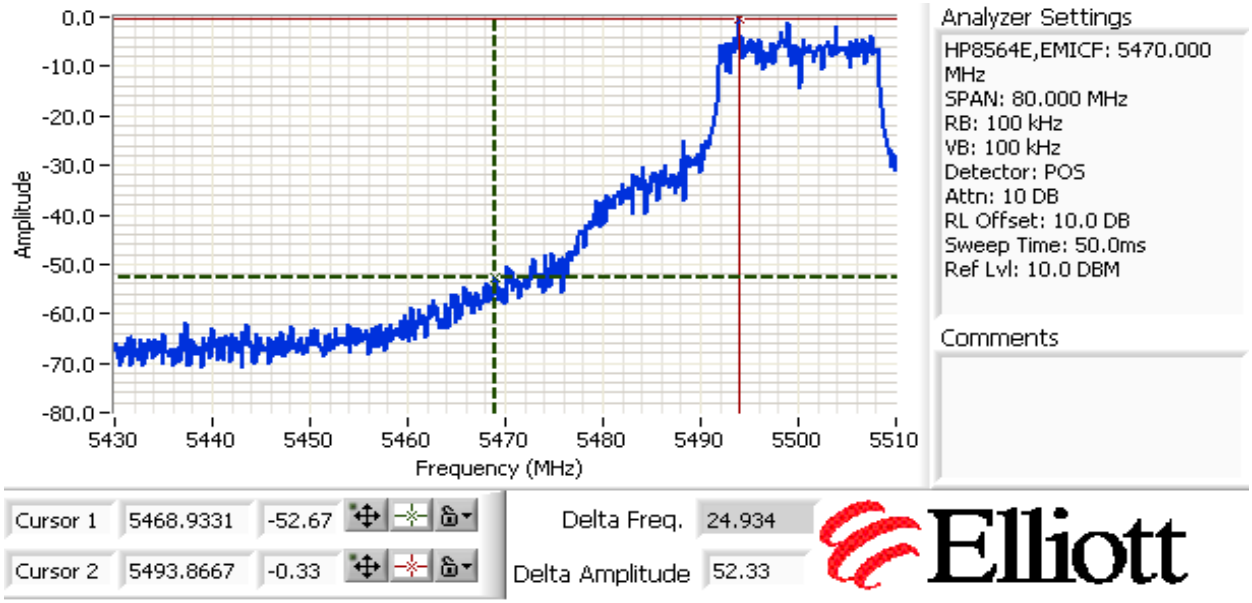
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.9	101.9	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	95.6	93.8	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**52.3** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	51.6 dBuV/m		
Calculated Band-Edge Measurement (Avg):	43.3 dBuV/m		

Margin	Level	Limit	Detector
-25.0	43.3	68.3	Avg
-36.7	51.6	88.3	Pk

Delta Marker - 1MHz/1MHz:	*43.2 dB*	
Delta Marker - 1MHz/10Hz:	*46.7 dB*	
Calculated Band-Edge Measurement (Peak):	60.7 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	48.9 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5468.933	**43.3**	-	68.3	**-25.0**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4d, EUT on Channel #140 5700MHz - n 20MHz, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.5	16.4	25.5

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	
5698.500	96.0	H	-	-	AVG	259	1.4	RB 1 MHz;VB 10 Hz;Pk
5698.710	104.7	H	-	-	PK	259	1.4	RB 1 MHz;VB 3 MHz;Pk
5698.520	93.6	V	-	-	AVG	149	1.0	RB 1 MHz;VB 10 Hz;Pk
5698.670	102.0	V	-	-	PK	149	1.0	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	104.7	102.0	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.0	93.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**48.8** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	55.9 dBuV/m		
Calculated Band-Edge Measurement (Avg):	47.2 dBuV/m		

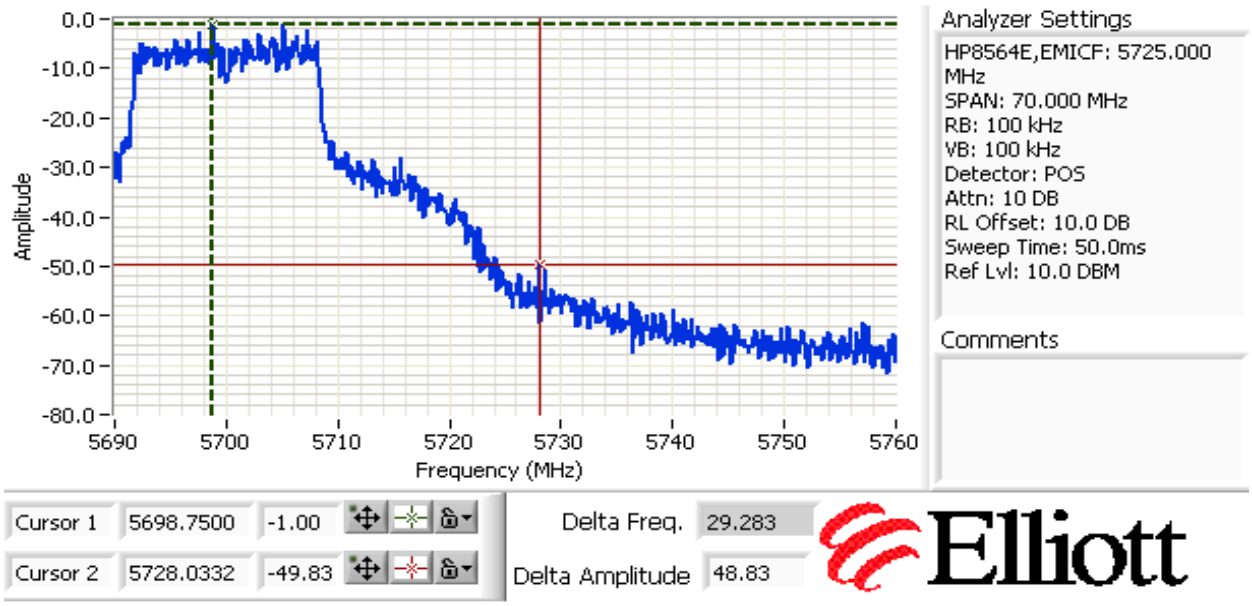
	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz: *46.8 dB*	-21.1	47.2	68.3	Avg
Delta Marker - 1MHz/10Hz: *45.0 dB*	-32.4	55.9	88.3	Pk

Calculated Band-Edge Measurement (Peak):	57.9 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	51.0 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5728.033	**47.2**	-	68.3	**-21.1**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 5, Band Edge Field Strength - n 20MHz, Chain B
Run # 5a, EUT on Channel #36 5180MHz - n 20MHz, Chain B

Date of Test: 8/5/2010 Test Location: Chamber #3
Test Engineer: David W. Bare Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	15.5	15.6	19.5

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	
5180.990	94.6	H	100.0	-5.4	AVG	143	1.4	RB 1 MHz;VB 10 Hz;Pk
5180.420	104.5	H	70.0	34.5	PK	143	1.4	RB 1 MHz;VB 3 MHz;Pk
5181.210	96.0	V	100.0	-4.0	AVG	161	1.0	RB 1 MHz;VB 10 Hz;Pk
5180.560	105.9	V	70.0	35.9	PK	161	1.0	RB 1 MHz;VB 3 MHz;Pk

5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

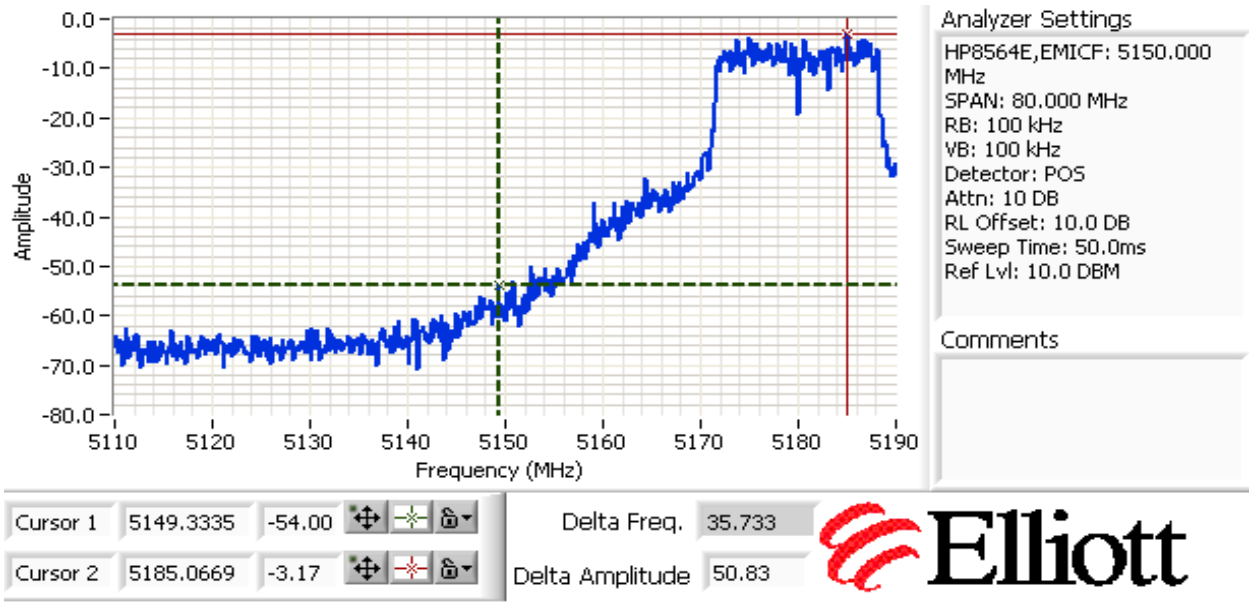
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	104.5	105.9	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	94.6	96.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**50.8** *dB*		<- this can only be used if band edge signal is
Calculated Band-Edge Measurement (Peak):	55.1 dBuV/m		highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Avg):	45.2 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	-8.8	45.2	54	Avg
Delta Marker - 1MHz/10Hz:	-18.9	55.1	74	Pk

Calculated Band-Edge Measurement (Peak):	57.4 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	48.5 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5149.334	**45.2**	-	54.0	**-8.8**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 5b, EUT on Channel #64 5320MHz - n 20MHz, Chain B

Date of Test: Test Location:

Test Engineer: Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.0	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	
5318.500	95.1	H	100.0	-4.9	AVG	145	1.4	RB 1 MHz;VB 10 Hz;Pk
5320.440	105.1	H	70.0	35.1	PK	145	1.4	RB 1 MHz;VB 3 MHz;Pk
5318.510	95.2	V	100.0	-4.8	AVG	158	1.1	RB 1 MHz;VB 10 Hz;Pk
5320.400	104.8	V	70.0	34.8	PK	158	1.1	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

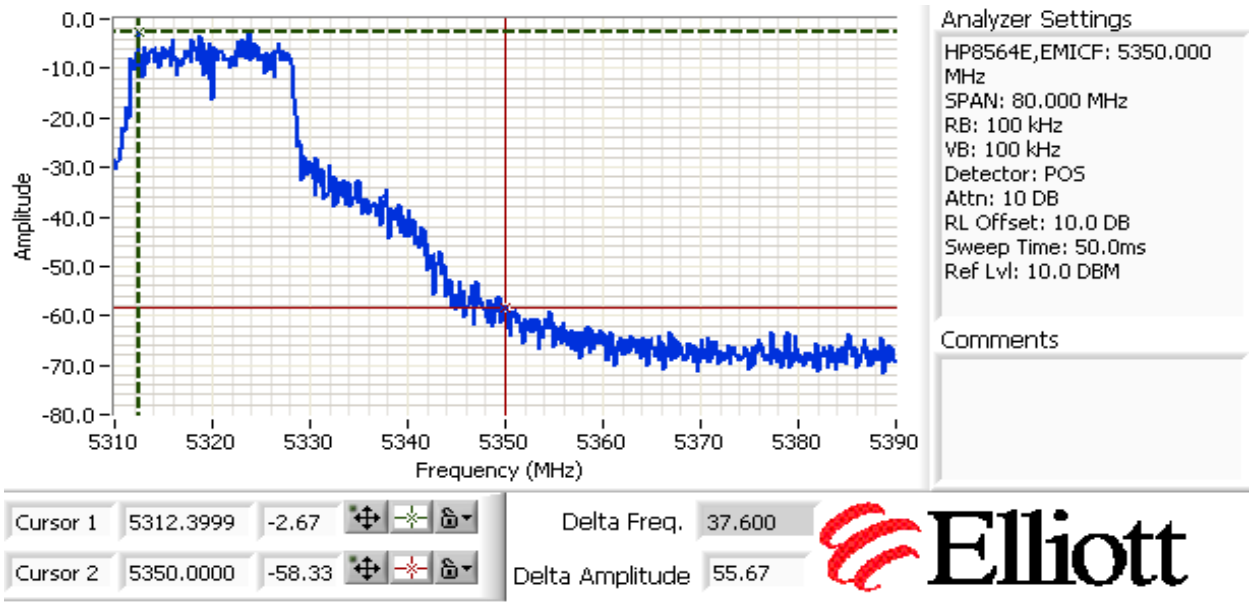
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	105.1	104.8	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	95.1	95.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**55.7** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	49.4 dBuV/m		
Calculated Band-Edge Measurement (Avg):	39.5 dBuV/m		

Margin	Level	Limit	Detector
-14.5	39.5	54	Avg
-24.6	49.4	74	Pk

Delta Marker - 1MHz/1MHz:	*49.3 dB*	
Delta Marker - 1MHz/10Hz:	*49.5 dB*	
Calculated Band-Edge Measurement (Peak):	55.8 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	45.7 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5350.000	**39.5**	-	54.0	**-14.5**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 5c, EUT on Channel #100 5500MHz - n 20MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.4	24.0

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	
5501.070	96.5	H	100.0	-3.5	AVG	134	1.2	RB 1 MHz;VB 10 Hz;Pk
5500.440	106.7	H	70.0	36.7	PK	134	1.2	RB 1 MHz;VB 3 MHz;Pk
5498.500	95.2	V	100.0	-4.8	AVG	152	1.0	RB 1 MHz;VB 10 Hz;Pk
5500.600	105.2	V	70.0	35.2	PK	152	1.0	RB 1 MHz;VB 3 MHz;Pk

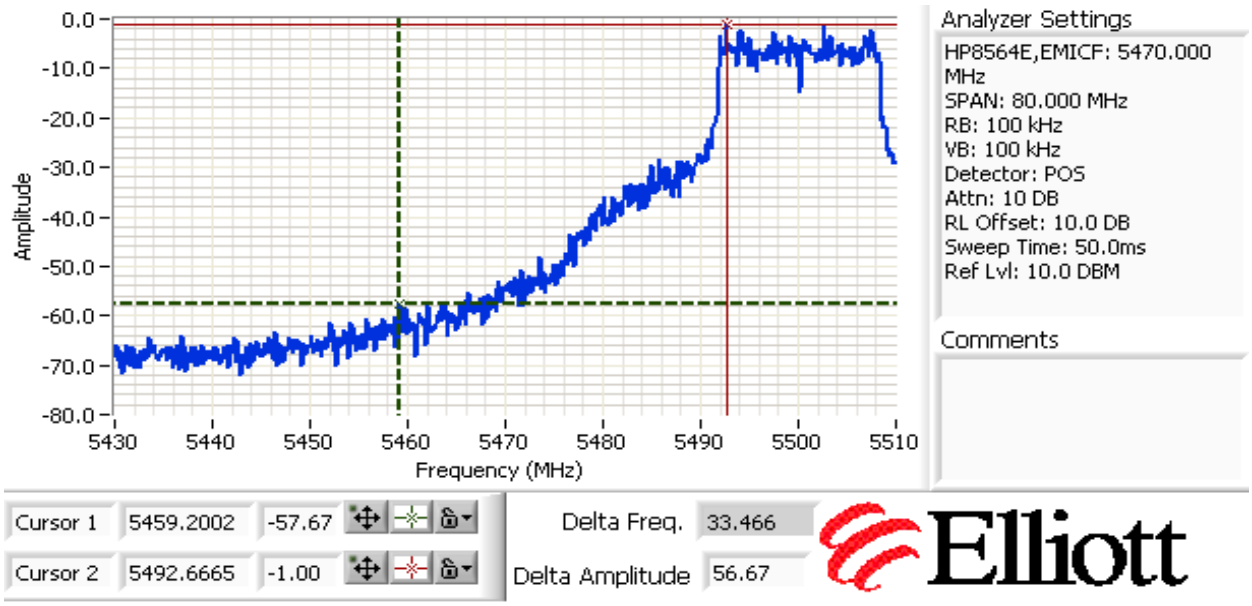
5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	106.7	105.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.5	95.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**56.7** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	50.0 dBuV/m		
Calculated Band-Edge Measurement (Avg):	39.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*54.2 dB*		
Delta Marker - 1MHz/10Hz:	*53.2 dB*		
Calculated Band-Edge Measurement (Peak):	52.5 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	43.3 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-14.2	39.8	54	Avg
-24.0	50.0	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5459.200	**39.8**	-	54.0	**-14.2**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

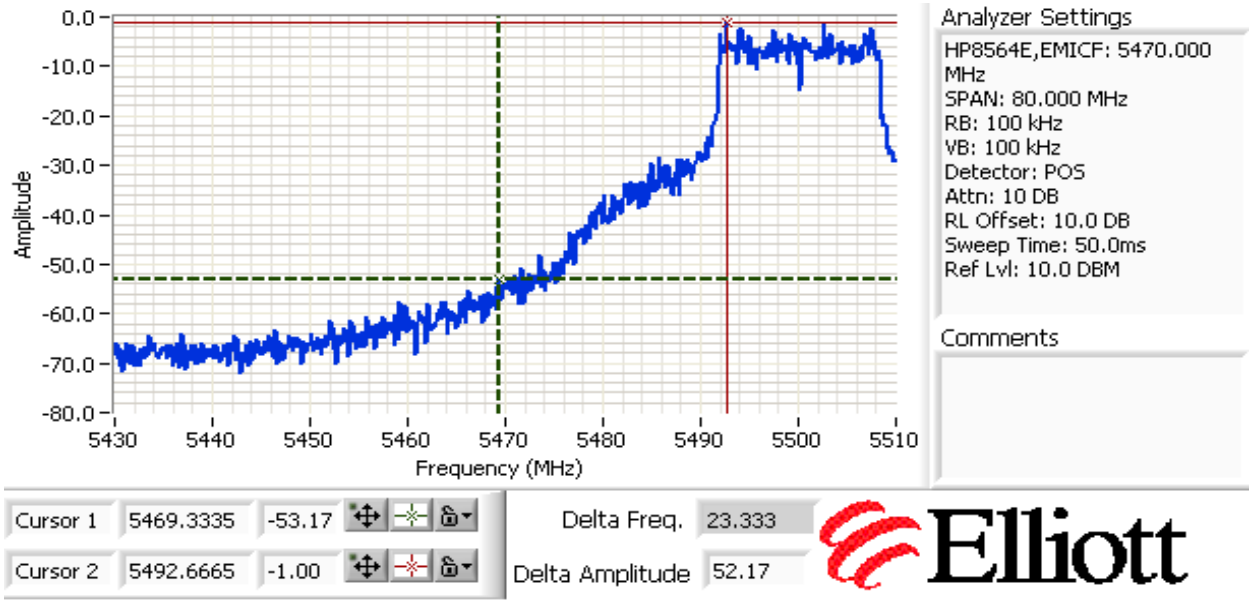
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	106.7	105.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.5	95.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**52.2** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	54.5 dBuV/m		
Calculated Band-Edge Measurement (Avg):	44.3 dBuV/m		

Margin	Level	Limit	Detector
-24.0	44.3	68.3	Avg
-33.8	54.5	88.3	Pk

Delta Marker - 1MHz/1MHz:	*44.0 dB*	
Delta Marker - 1MHz/10Hz:	*46.7 dB*	
Calculated Band-Edge Measurement (Peak):	62.7 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	49.8 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5469.334	**44.3**	-	68.3	**-24.0**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 5d, EUT on Channel #140 5700MHz - n 20MHz, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.4	25.0

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	
5698.500	94.2	H	100.0	-5.8	AVG	132	1.5	RB 1 MHz;VB 10 Hz;Pk
5700.480	104.6	H	70.0	34.6	PK	132	1.5	RB 1 MHz;VB 3 MHz;Pk
5701.120	93.9	V	100.0	-6.1	AVG	187	1.0	RB 1 MHz;VB 10 Hz;Pk
5700.440	104.2	V	70.0	34.2	PK	187	1.0	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	104.6	104.2	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	94.2	93.9	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**50.3** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	54.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	43.9 dBuV/m		

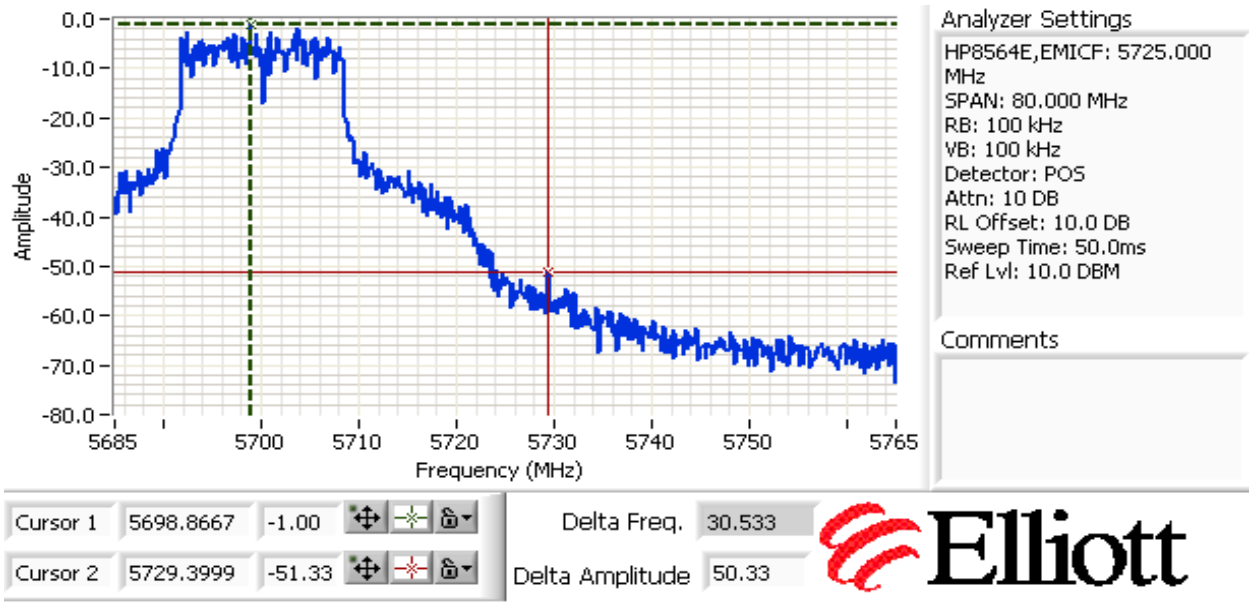
	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz: *46.2 dB*	-24.4	43.9	68.3	Avg
Delta Marker - 1MHz/10Hz: *45.7 dB*	-34.0	54.3	88.3	Pk

Calculated Band-Edge Measurement (Peak):	58.4 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	48.5 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5729.400	**43.9**	-	68.3	**-24.4**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #6, Band Edge Field Strength - n 20MHz, Chain A+B
Run #6a, EUT on Channel #36 5180MHz - n 20MHz, Chain A+B

Date of Test: 8/5/2010 Test Location: -
Test Engineer: Mehran Birgani Config Change: none

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	12.5	12.5		15.5	12.4	12.5		15.5	19.5/19.5

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	
5173.630	95.5	V	-	-	AVG	157	1.2	RB 1 MHz;VB 10 Hz;Pk
5184.470	105.5	V	-	-	PK	157	1.2	RB 1 MHz;VB 3 MHz;Pk
5185.470	93.0	H	-	-	AVG	113	1.1	RB 1 MHz;VB 10 Hz;Pk
5186.100	103.3	H	-	-	PK	113	1.1	RB 1 MHz;VB 3 MHz;Pk

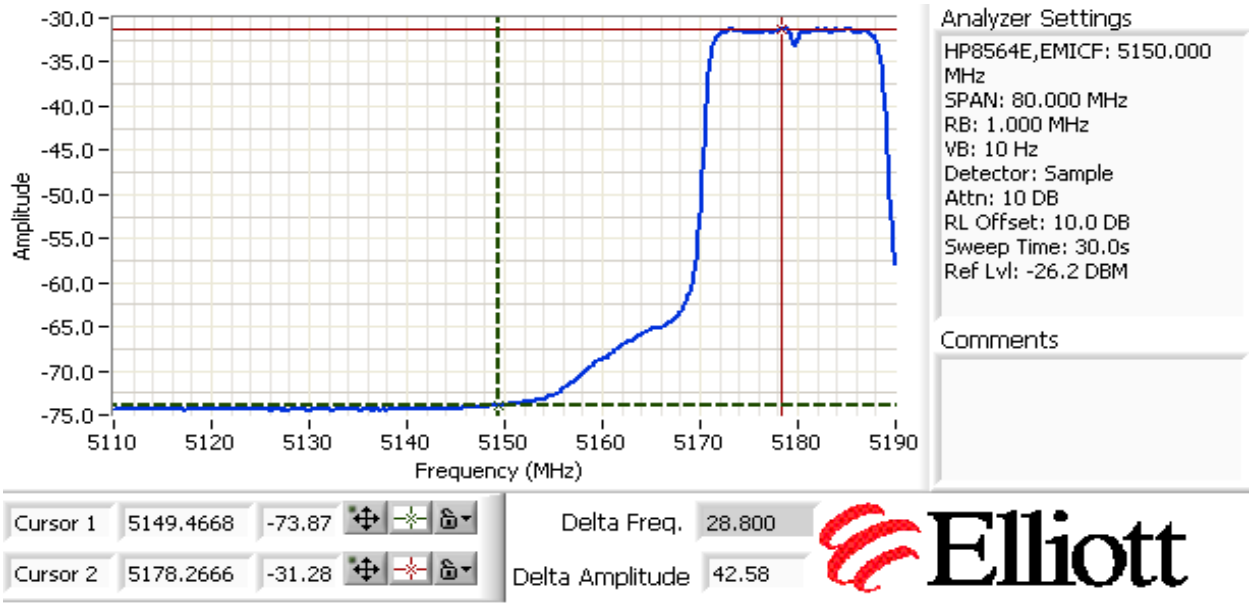
5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.3	105.5	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.0	95.5	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**44.9** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	60.6 dBuV/m		
Calculated Band-Edge Measurement (Avg):	50.6 dBuV/m		
Delta Marker - 1MHz/1MHz:	*36.3 dB*		-1.1
Delta Marker - 1MHz/10Hz:	*42.6 dB*		-13.4
Calculated Band-Edge Measurement (Peak):	69.3 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	52.9 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-1.1	52.9	54	Avg
-13.4	60.6	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5149.467	52.9	-	54.0	**-1.1**	Avg	-	-	

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #6b, EUT on Channel #64 5320MHz - n 20MHz, Chain A+B

Date of Test: 8/5/2010 Test Location: -
Test Engineer: Mehran Birgani Config Change: none

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.0	13.0		16.0	13.2	13.1		16.2	21.5/21.5

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	
5312.830	93.6	V	-	-	AVG	151	1.0	RB 1 MHz;VB 10 Hz;Pk
5313.800	103.3	V	-	-	PK	151	1.0	RB 1 MHz;VB 3 MHz;Pk
5325.430	93.2	H	-	-	AVG	118	1.1	RB 1 MHz;VB 10 Hz;Pk
5326.100	103.4	H	-	-	PK	118	1.1	RB 1 MHz;VB 3 MHz;Pk

5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

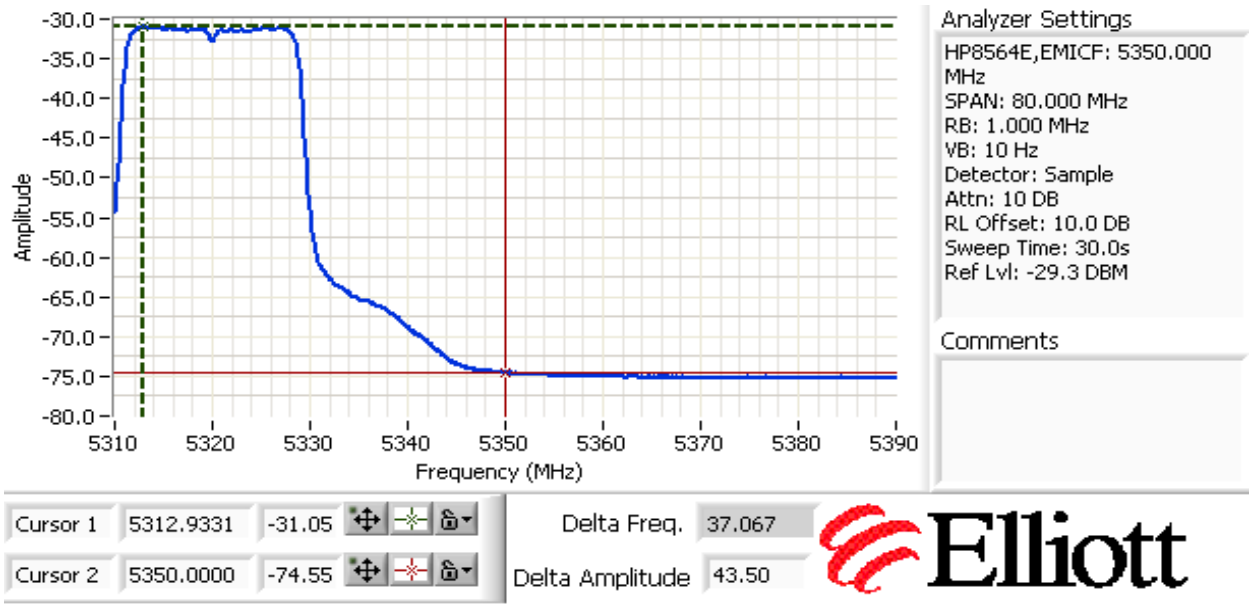
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.4	103.3	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.2	93.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**45.0** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	58.4 dBuV/m		
Calculated Band-Edge Measurement (Avg):	48.6 dBuV/m		

Margin	Level	Limit	Detector
-5.4	48.6	54	Avg
-15.6	58.4	74	Pk

Delta Marker - 1MHz/1MHz:	*39.6 dB*	
Delta Marker - 1MHz/10Hz:	*43.5 dB*	
Calculated Band-Edge Measurement (Peak):	63.8 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	50.1 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5350.000	48.6	-	54.0	**-5.4**	Avg	-	-	

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #6c, EUT on Channel #100 5500MHz - n 20MHz, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.5	13.5		16.5	13.6	13.6		16.6	24.0/24.0

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	
5506.570	93.4	V	-	-	AVG	137	1.0	RB 1 MHz;VB 10 Hz;Pk
5495.070	103.8	V	-	-	PK	137	1.0	RB 1 MHz;VB 3 MHz;Pk
5493.500	93.7	H	-	-	AVG	260	1.0	RB 1 MHz;VB 10 Hz;Pk
5494.330	103.4	H	-	-	PK	260	1.0	RB 1 MHz;VB 3 MHz;Pk

5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

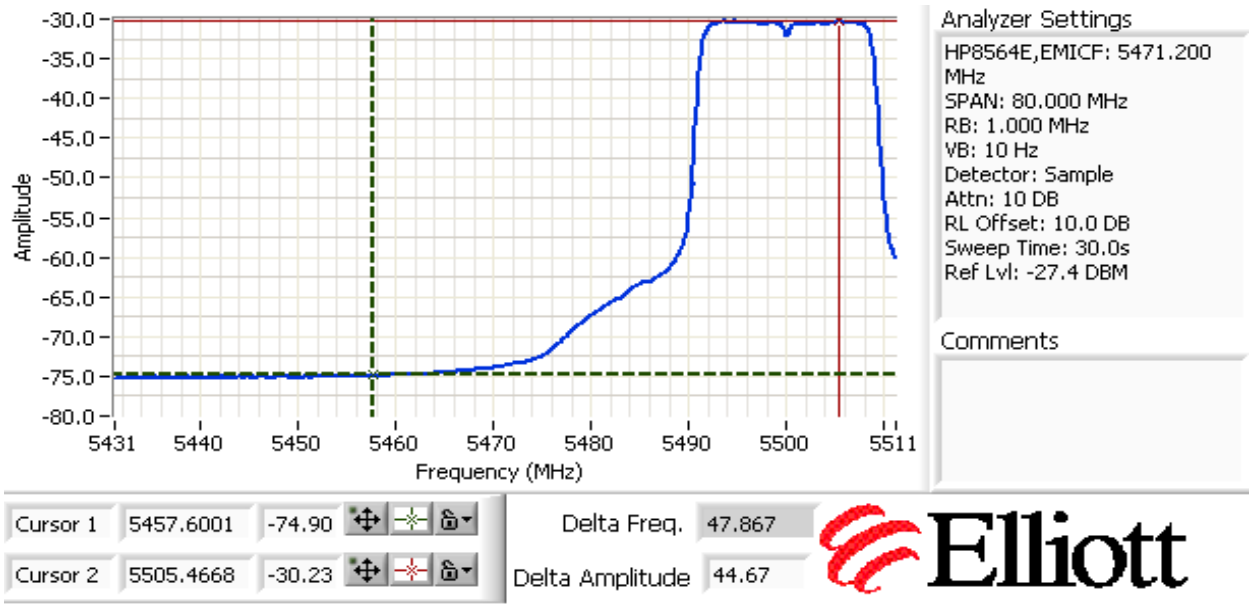
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.4	103.8	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.7	93.4	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**46.3** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	57.5 dBuV/m		
Calculated Band-Edge Measurement (Avg):	47.4 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz: *40.7 dB*	-6.6	47.4	54	Avg
Delta Marker - 1MHz/10Hz: *44.7 dB*	-16.5	57.5	74	Pk

Calculated Band-Edge Measurement (Peak):	63.1 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	49.0 dBuV/m	Using 100kHz delta value

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5457.600	47.4	-	54.0	**-6.6**	Avg	-	-	Using 100kHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

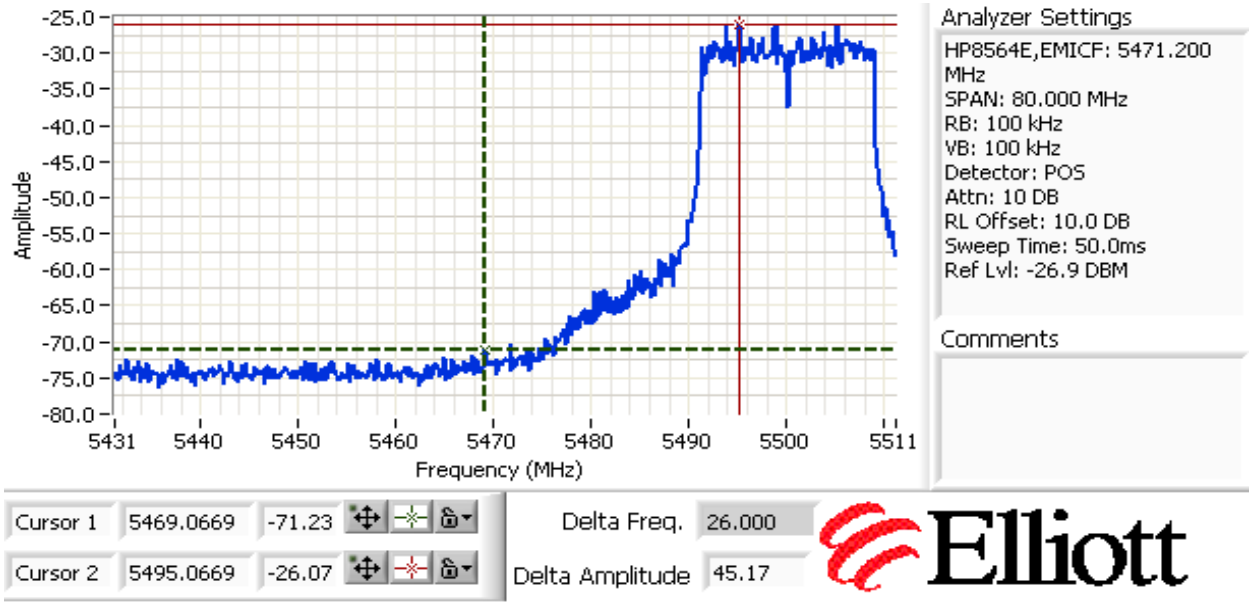
5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.4	103.8	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	93.7	93.4	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**45.2** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	58.6 dBuV/m		
Calculated Band-Edge Measurement (Avg):	48.5 dBuV/m		
Delta Marker - 1MHz/1MHz:	*39.8 dB*		
Delta Marker - 1MHz/10Hz:	*43.6 dB*		
Calculated Band-Edge Measurement (Peak):	64.0 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	50.1 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-19.8	48.5	68.3	Avg
-29.7	58.6	88.3	Pk

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5469.067	48.5	-	68.3	**-19.8**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #6d, EUT on Channel #140 5700MHz - n 20MHz, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	13.5	13.5		16.5	13.4	13.6		16.5	25.0/25.0

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	
5693.570	93.6	V	-	-	AVG	151	1.1	RB 1 MHz;VB 10 Hz;Pk
5702.700	103.7	V	-	-	PK	151	1.1	RB 1 MHz;VB 3 MHz;Pk
5706.630	92.4	H	-	-	AVG	129	1.1	RB 1 MHz;VB 10 Hz;Pk
5702.730	102.0	H	-	-	PK	129	1.1	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

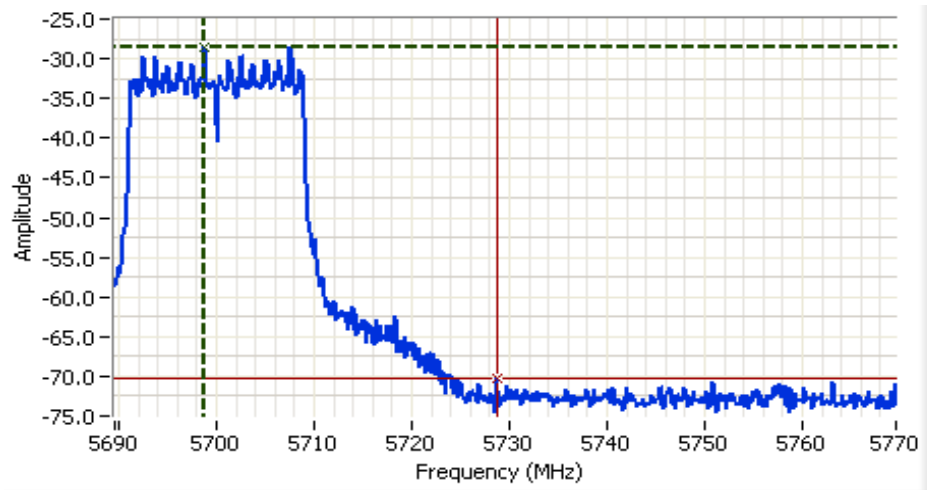
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	102.0	103.7	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	92.4	93.6	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	**41.8** *dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	61.9 dBuV/m		
Calculated Band-Edge Measurement (Avg):	51.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*37.9 dB*		-16.5
Delta Marker - 1MHz/10Hz:	*40.3 dB*		-26.4
Calculated Band-Edge Measurement (Peak):	65.8 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	53.3 dBuV/m		Using 100kHz delta value

Margin	Level	Limit	Detector
-16.5	51.8	68.3	Avg
-26.4	61.9	88.3	Pk

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5728.667	51.8	-	68.3	**-16.5**	Avg	-	-	Using 100kHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Analyzer Settings

HP8564E,EMICF: 5729.600 MHz
SPAN: 80.000 MHz
RB: 100 kHz
VB: 100 kHz
Detector: POS
Attn: 10 DB
RL Offset: 10.0 DB
Sweep Time: 50.0ms
Ref Lvl: -27.8 DBM

Comments

Cursor 1	5698.7998	-28.47	Delta Freq.	29.867	Elliott
Cursor 2	5728.6665	-70.30	Delta Amplitude	41.83	

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 7, Band Edge Field Strength - 802.11a, Chain B
Run # 7a, EUT on Channel #36 5180MHz - 802.11a, Chain B

Date of Test: 8/5/2010 Test Location: -
Test Engineer: Mehran Birgani Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.2	20.5

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	
5173.130	98.0	V	-	-	AVG	159	1.1	RB 1 MHz;VB 10 Hz;Pk
5173.000	106.4	V	-	-	PK	159	1.1	RB 1 MHz;VB 3 MHz;Pk
5186.300	96.9	H	-	-	AVG	116	1.1	RB 1 MHz;VB 10 Hz;Pk
5182.130	105.0	H	-	-	PK	116	1.1	RB 1 MHz;VB 3 MHz;Pk

5150 MHz Band Edge Signal Radiated Field Strength - Marker Delta

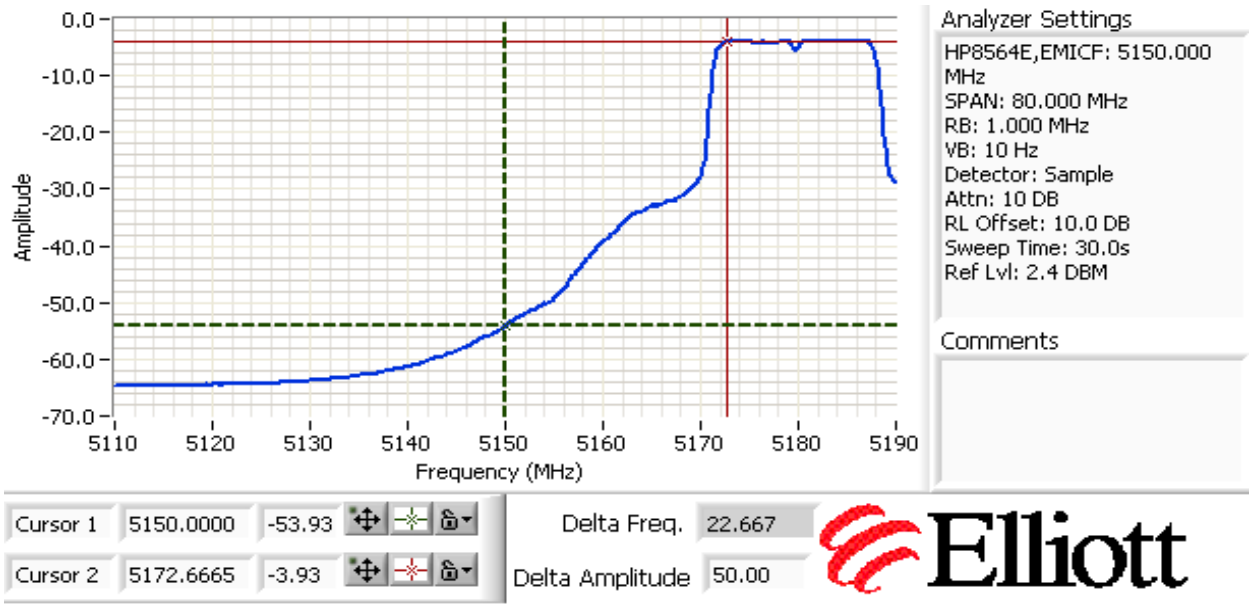
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	105.0	106.4	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.9	98.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*49.8 dB*		<- this can only be used if band edge signal is
Calculated Band-Edge Measurement (Peak):	56.6 dBuV/m		highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Avg):	48.2 dBuV/m		

	Margin	Level	Limit	Detector
Delta Marker - 1MHz/1MHz:	-6.0	48.0	54	Avg
Delta Marker - 1MHz/10Hz:	-17.4	56.6	74	Pk

Calculated Band-Edge Measurement (Peak):	61.7 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	48.0 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/Avg	degrees	meters	
5150.000	**48.0**	-	54.0	**-6.0**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 7b, EUT on Channel #64 5320MHz - 802.11a, Chain B

Date of Test: 8/5/2010 Test Location: -

Test Engineer: Mehran Birgani Config Change: none

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	15.9	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	
5312.970	95.7	V	-	-	AVG	148	1.4	RB 1 MHz;VB 10 Hz;Pk
5312.970	103.8	V	-	-	PK	148	1.4	RB 1 MHz;VB 3 MHz;Pk
5326.170	96.1	H	-	-	AVG	121	1.1	RB 1 MHz;VB 10 Hz;Pk
5326.870	104.1	H	-	-	PK	121	1.1	RB 1 MHz;VB 3 MHz;Pk

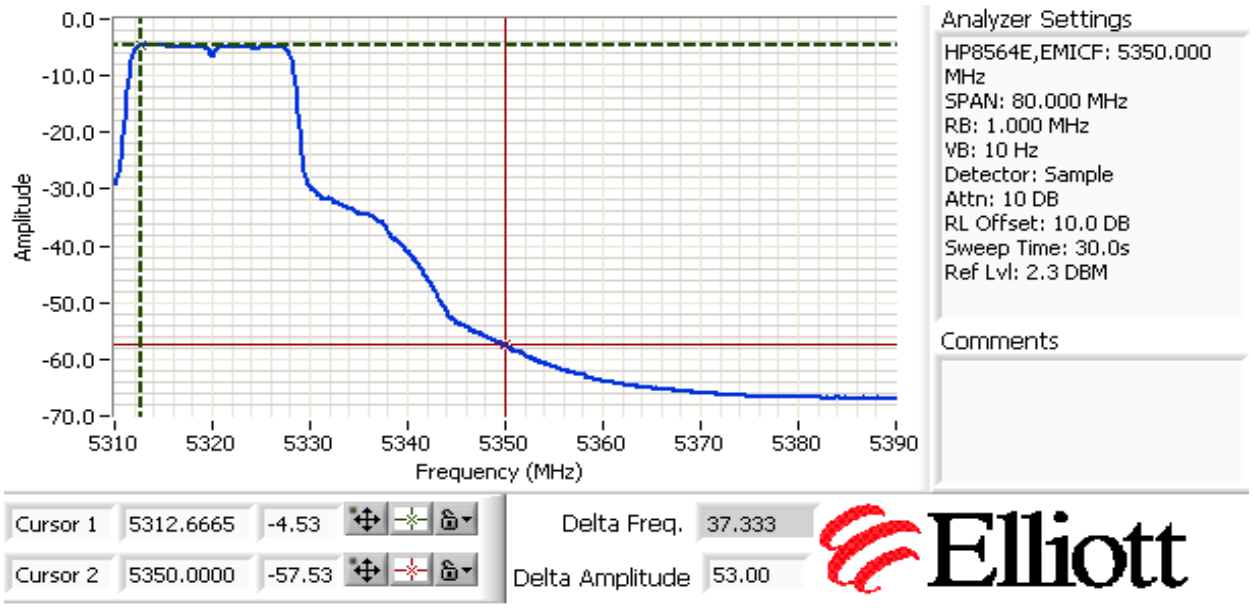
5350 MHz Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	104.1	103.8	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.1	95.7	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*52.3 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	51.8 dBuV/m		
Calculated Band-Edge Measurement (Avg):	43.8 dBuV/m		
Delta Marker - 1MHz/1MHz:	*46.7 dB*		
Delta Marker - 1MHz/10Hz:	**53.0** *dB*		
Calculated Band-Edge Measurement (Peak):	57.4 dBuV/m		Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	43.1 dBuV/m		Using 1MHz delta value

Margin	Level	Limit	Detector
-10.9	43.1	54	Avg
-22.2	51.8	74	Pk

Frequency	Level	Pol	FCC 15.209		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5350.000	**43.1**	-	54.0	**-10.9**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 7c, EUT on Channel #100 5500MHz - 802.11a, Chain B

	Power Settings		
	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	
5493.200	96.0	V	-	-	AVG	156	1.0	RB 1 MHz;VB 10 Hz;Pk
5493.500	104.3	V	-	-	PK	156	1.0	RB 1 MHz;VB 3 MHz;Pk
5493.270	96.6	H	-	-	AVG	114	1.1	RB 1 MHz;VB 10 Hz;Pk
5493.500	105.2	H	-	-	PK	114	1.1	RB 1 MHz;VB 3 MHz;Pk

5460 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

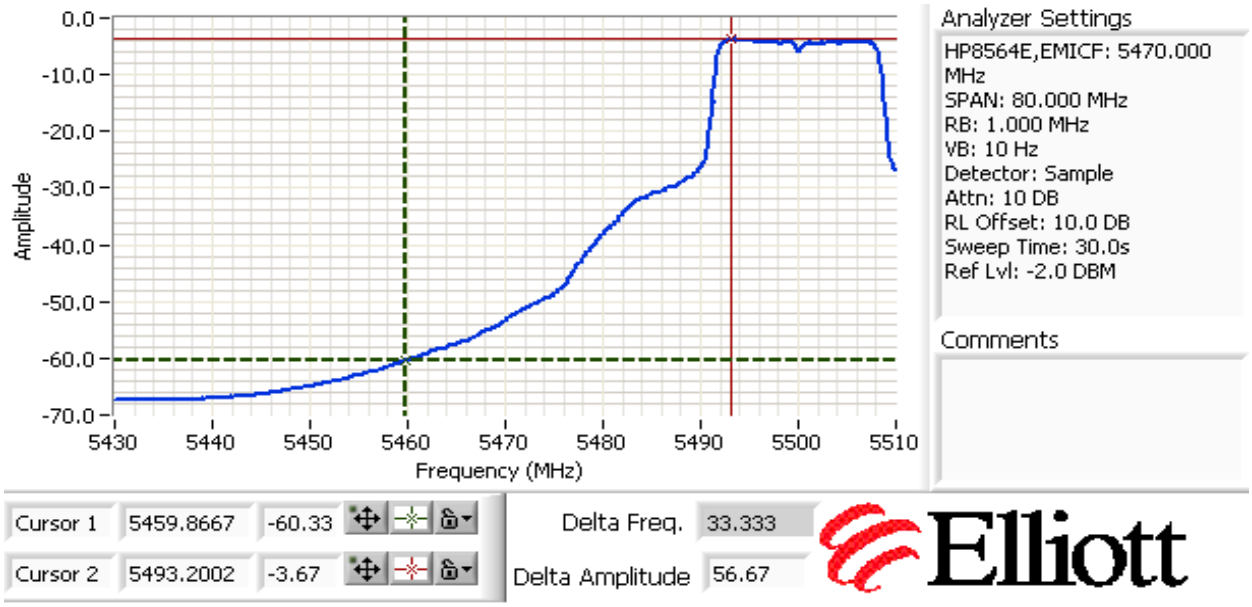
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	105.2	104.3	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.6	96.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*56.3 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	48.9 dBuV/m		
Calculated Band-Edge Measurement (Avg):	40.3 dBuV/m		

Margin	Level	Limit	Detector
-14.1	39.9	54	Avg
-25.1	48.9	74	Pk

Delta Marker - 1MHz/1MHz:	*49.0 dB*	
Delta Marker - 1MHz/10Hz:	**56.7** *dB*	
Calculated Band-Edge Measurement (Peak):	56.2 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	39.9 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/Avg	degrees	meters	
5459.867	**39.9**	-	54.0	**-14.1**	Avg	-	-	Using 1MHz delta value

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



EMC Test Data

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

5470 MHz Band Edge Signal Radiated Field Strength - Marker Delta

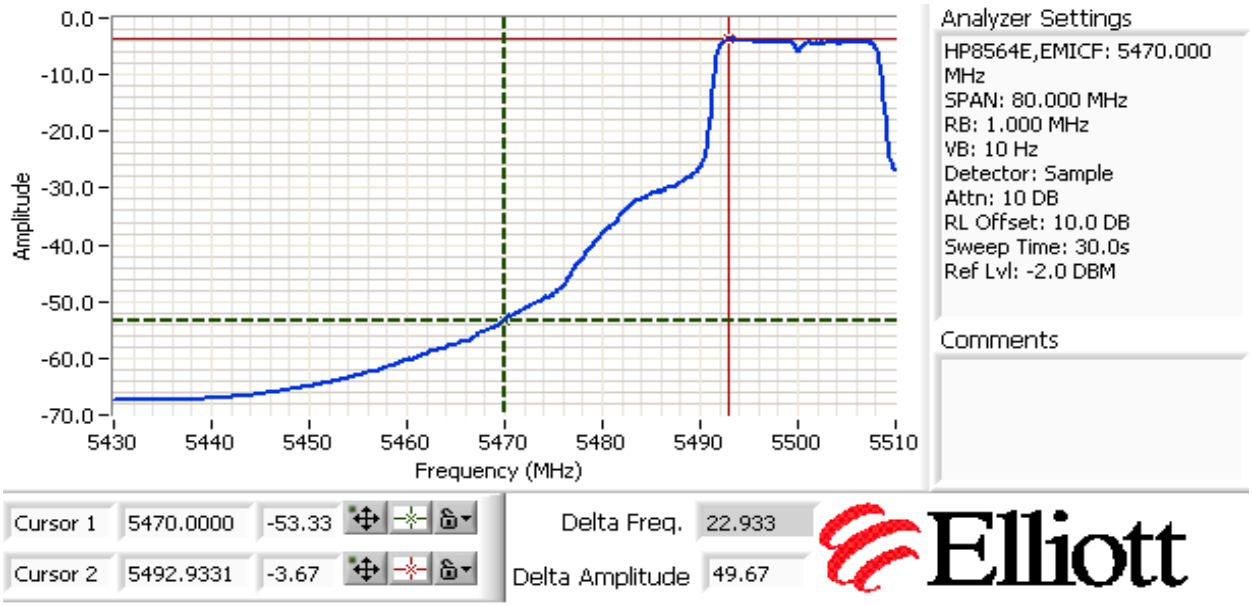
	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	105.2	104.3	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	96.6	96.0	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*49.0 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	56.2 dBuV/m		
Calculated Band-Edge Measurement (Avg):	47.6 dBuV/m		

Margin	Level	Limit	Detector
-21.4	46.9	68.3	Avg
-32.1	56.2	88.3	Pk

Delta Marker - 1MHz/1MHz:	*42.3 dB*	
Delta Marker - 1MHz/10Hz:	**49.7** *dB*	
Calculated Band-Edge Measurement (Peak):	62.9 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.9 dBuV/m	Using 1MHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5470.000	**46.9**	-	68.3	**-21.4**	Avg	-	-	Using 1MHz delta value

Note - average limit is equivalent to -27dBm eirp.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 7d, EUT on Channel #140 5700MHz - 802.11a, Chain B

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

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	
5706.230	94.2	V	-	-	AVG	250	1.0	RB 1 MHz;VB 10 Hz;Pk
5702.370	102.5	V	-	-	PK	250	1.0	RB 1 MHz;VB 3 MHz;Pk
5706.900	95.2	H	-	-	AVG	136	1.0	RB 1 MHz;VB 10 Hz;Pk
5703.030	103.3	H	-	-	PK	136	1.0	RB 1 MHz;VB 3 MHz;Pk

5725 MHz Restricted Band Edge Signal Radiated Field Strength - Marker Delta

	H	V	
Fundamental emission level @ 3m in **1MHz RBW:**	103.3	102.5	Peak Measurement (RB=VB=1MHz)
Fundamental emission level @ 3m in **1MHz RBW:**	95.2	94.2	Average Measurement (RB=1MHz, VB=10Hz)
Delta Marker - 100kHz	*47.0 dB*		<- this can only be used if band edge signal is highest within 2MHz of band edge.
Calculated Band-Edge Measurement (Peak):	56.3 dBuV/m		
Calculated Band-Edge Measurement (Avg):	48.2 dBuV/m		

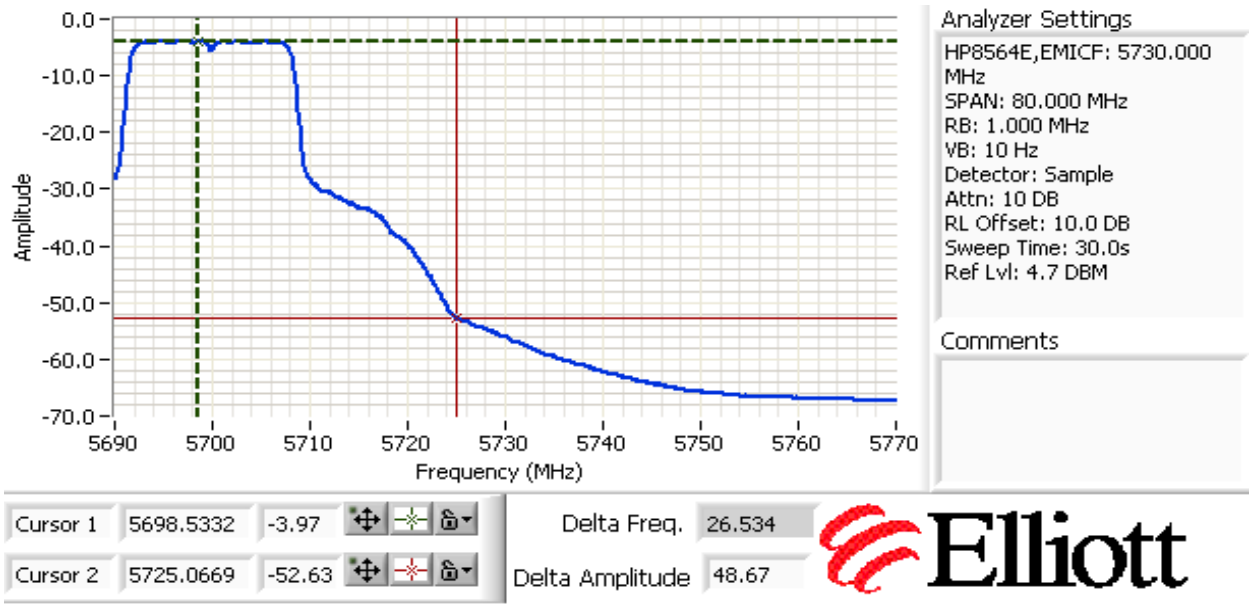
Margin	Level	Limit	Detector	
-21.8	46.5	68.3	Avg	*Delta Marker - 1MHz/1MHz:* *41.5 dB*
-32.0	56.3	88.3	Pk	*Delta Marker - 1MHz/10Hz:* **48.7** *dB*

Calculated Band-Edge Measurement (Peak):	61.8 dBuV/m	Using 100kHz delta value
Calculated Band-Edge Measurement (Avg):	46.5 dBuV/m	Using 1MHz delta value

Frequency	Level	Pol	FCC 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5725.067	**46.5**	-	68.3	**-21.8**	Avg	-	-	Using 1MHz delta value

Note - average limit is equivalent to -27dBm eirp.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS 210 and FCC 15.E (NII) Radiated Emissions

Summary of Results

MAC Address: 001500633B14 DRTU Tool Version 1.1.3 Driver version 13.0.0.238 Sample: 1340

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
First set of measurements - center channel in each band to determine which mode has the highest emissions. SISO modes evaluated at the same per chain power as the highest single chain power to cover both MIMO & SISO operation.							
Run # 1	n40 Chain A+B	#46 5230MHz	A: 16.0 B: 16.0	A: 16.1 B: 15.9	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	38.4dBµV/m @ 2485.0MHz (-15.6dB)
		#62 5310MHz	A: 16.0 B: 16.0	A: 16.1 B: 16.0			43.0dBµV/m @ 10621.2MHz (-11.0dB)
		#118 5590MHz	A: 16.5 B: 16.5	A: 16.4 B: 16.5			42.7dBµV/m @ 11178.6MHz (-11.3dB)
Run # 2	n20 Chain A+B	#40 5200MHz	A: 16.0 B: 16.0	A: 16.1 B: 16.0	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	44.3dBµV/m @ 7500.1MHz (-9.7dB)
		#60 5300MHz	A: 16.5 B: 16.5	A: 16.5 B: 16.4			43.8dBµV/m @ 10600.7MHz (-10.2dB)
		#120 5600MHz	A: 16.5 B: 16.5	A: 16.7 B: 16.5			45.8dBµV/m @ 11199.1MHz (-8.2dB)
Run # 3	802.11a Chain A	#40 5200MHz	16.0	16.3	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	42.9dBµV/m @ 7500.1MHz (-11.1dB)
		#60 5300MHz	16.0	16.1			42.2dBµV/m @ 7500.0MHz (-11.8dB)
		#120 5600MHz	16.5	16.6			47.5dBµV/m @ 11200.2MHz (-6.5dB)
	802.11a Chain B	#40 5200MHz	16.0	16.2	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	44.0dBµV/m @ 7500.0MHz (-10.0dB)
		#60 5300MHz	16.0	16.2			44.0dBµV/m @ 7500.1MHz (-10.2dB)
		#120 5600MHz	16.5	16.6			44.4dBµV/m @ 7500.1MHz (-9.6dB)
Final measurements based on center channel measurements in each band. 802.11n 20MHz mode was worst case in the 5150-5250 and 5250-5350 MHz bands.							
Run # 4	n20 Chain A+B	#36 5180MHz	A: 16.0 B: 16.0	A: 16.0 B: 15.9	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	43.7dBµV/m @ 7500.1MHz (-10.3dB)
		#48 5240MHz	A: 16.0 B: 16.0	A: 16.0 B: 15.9			45.4dBµV/m @ 10478.9MHz (-22.9dB)
Run # 4	n20 Chain A+B	#52 5260MHz	A: 16.0 B: 16.0	A: 15.9 B: 16.1	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	44.7dBµV/m @ 10519.2MHz (-23.6dB)
		#64 5320MHz	A: 16.0 B: 16.0	A: 15.9 B: 15.8			44.9dBµV/m @ 10639.6MHz (-9.1dB)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Final measurements based on center channel measurements in each band. 802.11a was worst case in the 5470-5725MHz band.

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Run # 4	802.11a Chain A	#100 5500MHz	16.5	16.5	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	41.2dBµV/m @ 10996.9MHz (-12.8dB)
		#140 5700MHz	16.5	16.4			42.2dBµV/m @ 11399.8MHz (-11.8dB)
Run # 4	802.11a Chain B	#100 5500MHz	16.5	16.5	Radiated Emissions, 1 - 40 GHz	FCC 15.209 / 15 E	**47.7dBµV/m @ 11000.3MHz (-6.3dB)**
		#140 5700MHz	16.5	16.5			42.8dBµV/m @ 11400.0MHz (-11.2dB)

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 final qualification 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.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1, Radiated Spurious Emissions, 1-40GHz, n40, Chain A+B

Date of Test: 8/9/2010 Test Location: FT Chamber #5

Test Engineer: Rafael Varelas Config Change: none

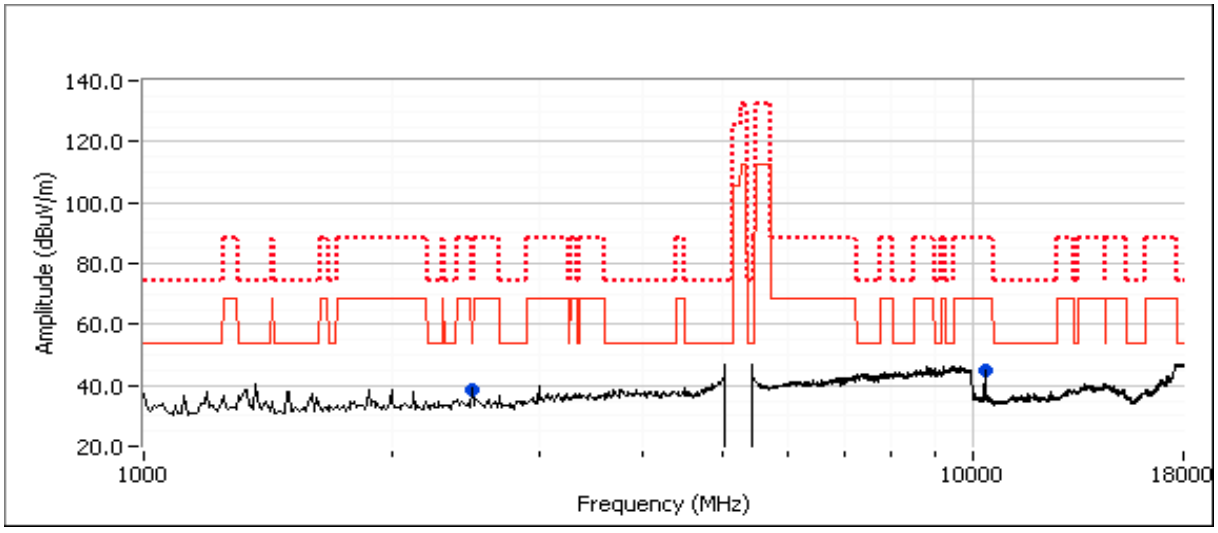
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -27dBm eirp (68.3dBuV/m @3m). As the power measured is average power this is considered an average limit so the peak limit would be 88.3dBuV/m at 3m.

Run # 1a: EUT on Channel #46 5230MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	16.1	15.9		19.0	24.5/24.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2485.000	38.4	V	54.0	-15.6	Peak	321	1.3	
10453.330	45.0	V	68.3	-23.3	Peak	360	1.3	



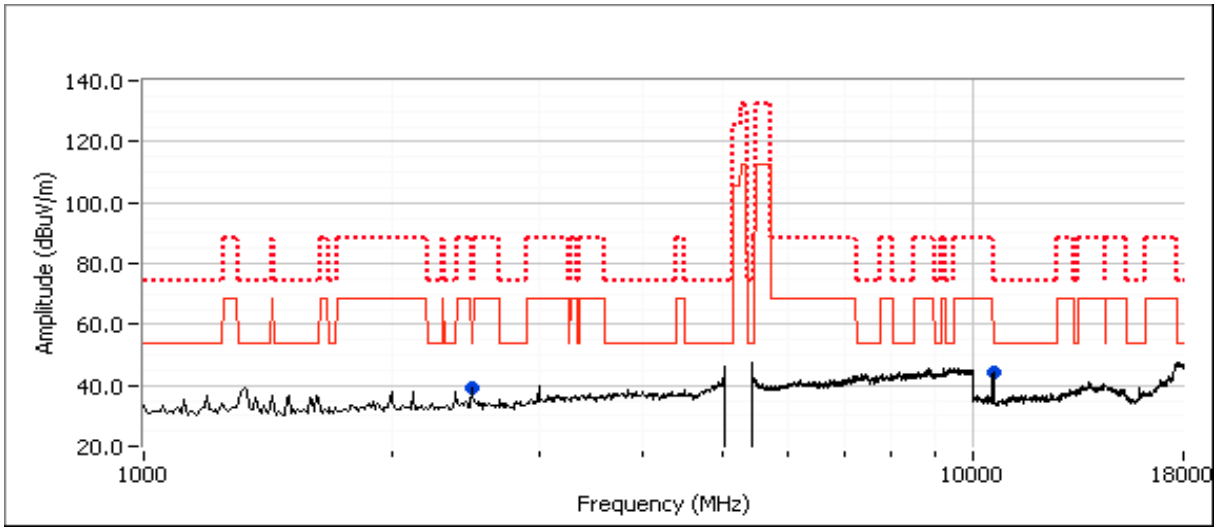
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1b: EUT on Channel #62 5310MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.1	16.0		19.1	25.5/26.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10621.220	43.0	V	54.0	-11.0	AVG	0	1.0	MHz;VB 10 Hz;Pk
10621.120	55.3	V	74.0	-18.7	PK	0	1.0	MHz;VB 3 MHz;Pk
2485.000	39.2	V	54.0	-14.8	Peak	318	1.3	



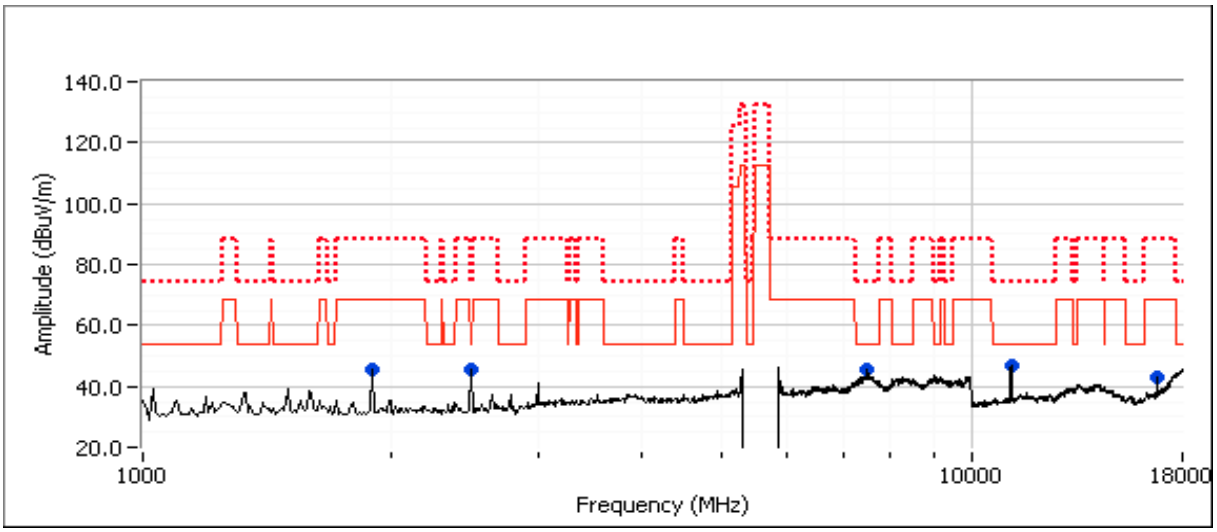
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1c: EUT on Channel #118 5590MHz - n40, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.4	16.5		19.5	30.5/31.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11178.580	42.7	V	54.0	-11.3	AVG	226	1.0	RB 1 MHz;VB 10 Hz;Pk
11178.880	54.3	V	74.0	-19.7	PK	226	1.0	RB 1 MHz;VB 3 MHz;Pk
2489.940	36.8	V	54.0	-17.2	AVG	143	1.4	RB 1 MHz;VB 10 Hz;Pk
2490.910	52.7	V	74.0	-21.3	PK	143	1.4	RB 1 MHz;VB 3 MHz;Pk
7500.010	42.3	V	54.0	-11.7	AVG	254	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.080	50.8	V	74.0	-23.2	PK	254	1.0	RB 1 MHz;VB 3 MHz;Pk
1889.170	45.4	V	68.3	-22.9	Peak	110	1.6	
16773.330	42.7	H	68.3	-25.6	Peak	144	1.0	



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

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

Date of Test: 8/10/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change:

For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -27dBm eirp (68.3dBuV/m @3m). As the power measured is average power this is considered an average limit so the peak limit would be 88.3dBuV/m at 3m.

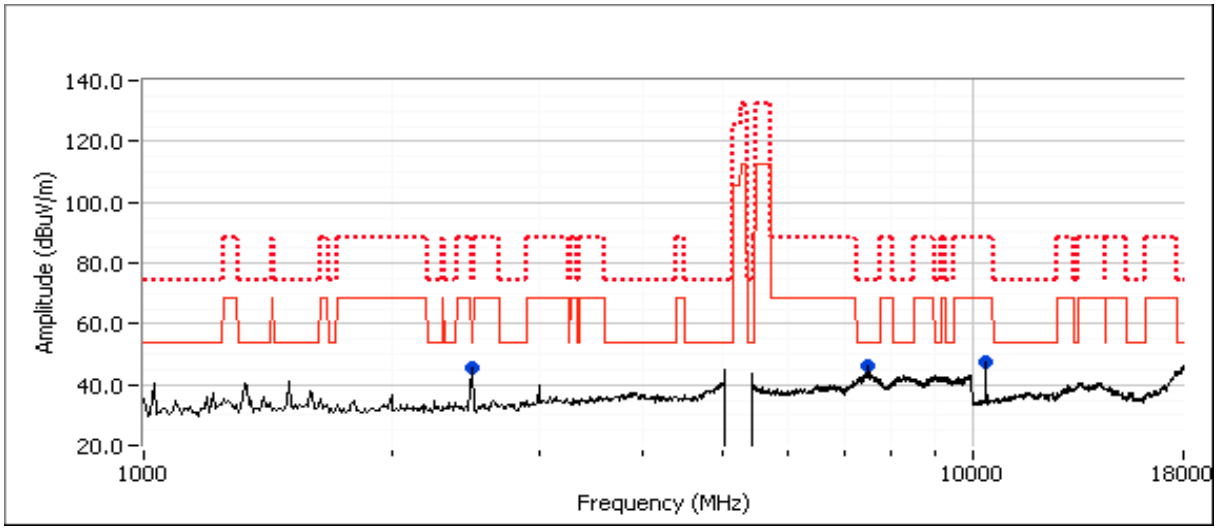
Run # 2a: EUT on Channel #40 5200MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	16.1	16.0		19.1	24.0/24.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.050	44.3	V	54.0	-9.7	AVG	318	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.130	51.1	V	74.0	-22.9	PK	318	1.0	RB 1 MHz;VB 3 MHz;Pk
2489.820	37.0	V	54.0	-17.0	AVG	145	1.0	RB 1 MHz;VB 10 Hz;Pk
2489.040	52.9	V	74.0	-21.1	PK	145	1.0	RB 1 MHz;VB 3 MHz;Pk
10386.670	47.6	V	68.3	-20.7	Peak	238	1.0	

Note 1: No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

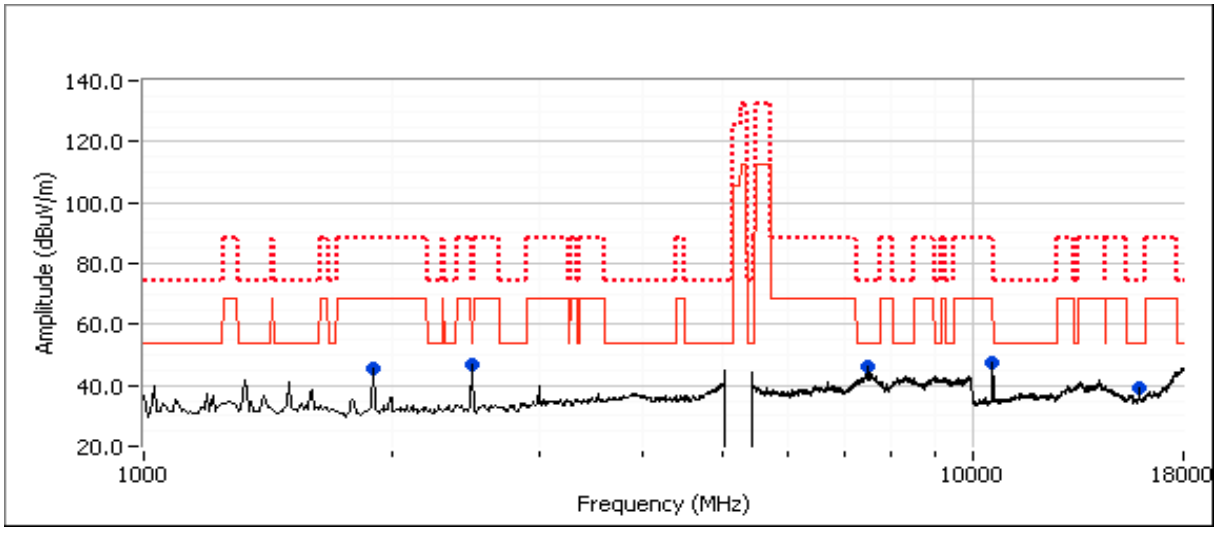
Run # 2b: EUT on Channel #60 5300MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	16.5	16.4		19.5	25.0/26.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10600.680	43.8	V	54.0	-10.2	AVG	201	1.9	MHz;VB 10 Hz;Pk
10599.620	55.8	V	88.3	-32.5	PK	201	1.9	MHz;VB 3 MHz;Pk
1899.420	45.3	V	68.3	-23.0	Peak	159	1.3	
7500.020	43.8	V	54.0	-10.2	AVG	317	1.0	MHz;VB 10 Hz;Pk
7499.970	50.9	V	74.0	-23.1	PK	317	1.0	MHz;VB 3 MHz;Pk
2489.840	37.4	V	54.0	-16.6	AVG	147	1.0	MHz;VB 10 Hz;Pk
2488.910	53.4	V	74.0	-20.6	PK	147	1.0	MHz;VB 3 MHz;Pk
15906.670	39.0	V	54.0	-15.0	Peak	224	1.0	

Note 1:	No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

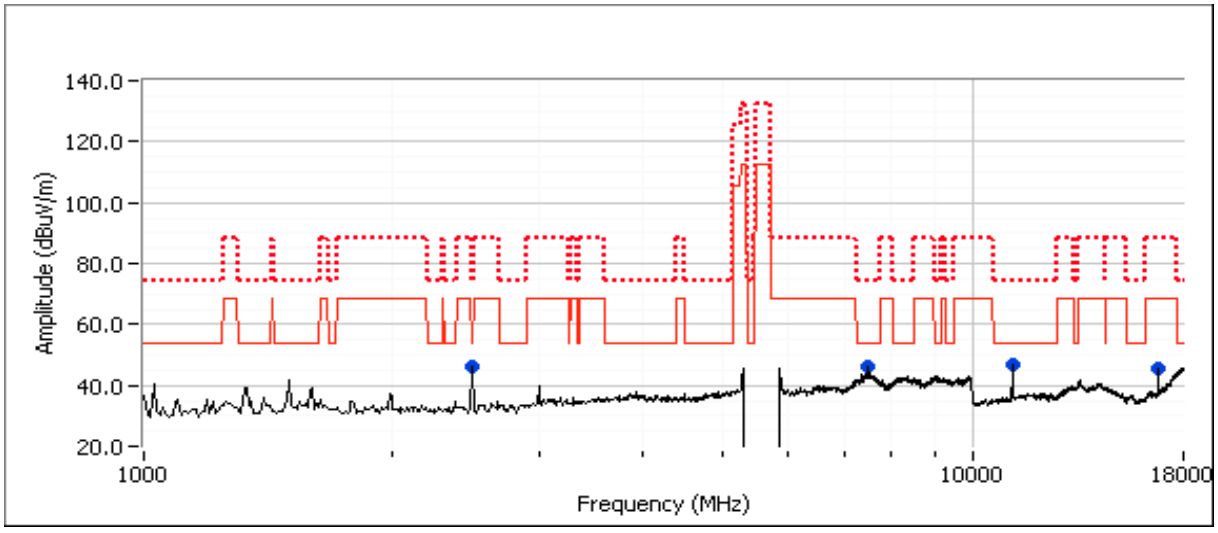
Run # 2c: EUT on Channel #120 5600MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.5	16.5		19.5	16.7	16.5		19.6	30.0/30.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11199.130	45.8	V	54.0	-8.2	AVG	225	1.4	RB 1 MHz;VB 10 Hz;Pk
11199.930	60.6	V	74.0	-13.4	PK	225	1.4	RB 1 MHz;VB 3 MHz;Pk
7500.010	42.3	V	54.0	-11.7	AVG	252	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.800	50.1	V	74.0	-23.9	PK	252	1.0	RB 1 MHz;VB 3 MHz;Pk
2496.200	36.1	V	54.0	-17.9	AVG	125	1.0	RB 1 MHz;VB 10 Hz;Pk
2497.060	52.1	V	74.0	-21.9	PK	125	1.0	RB 1 MHz;VB 3 MHz;Pk
16800.000	45.6	H	68.3	-22.7	Peak	147	1.0	

Note 1:	No emissions observed above 18GHz when scanning with the measurement antenna within 20cm of the device.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3, Radiated Spurious Emissions, 1-40GHz, 802.11a, Chain A and Chain B

Date of Test: 8/10/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change:

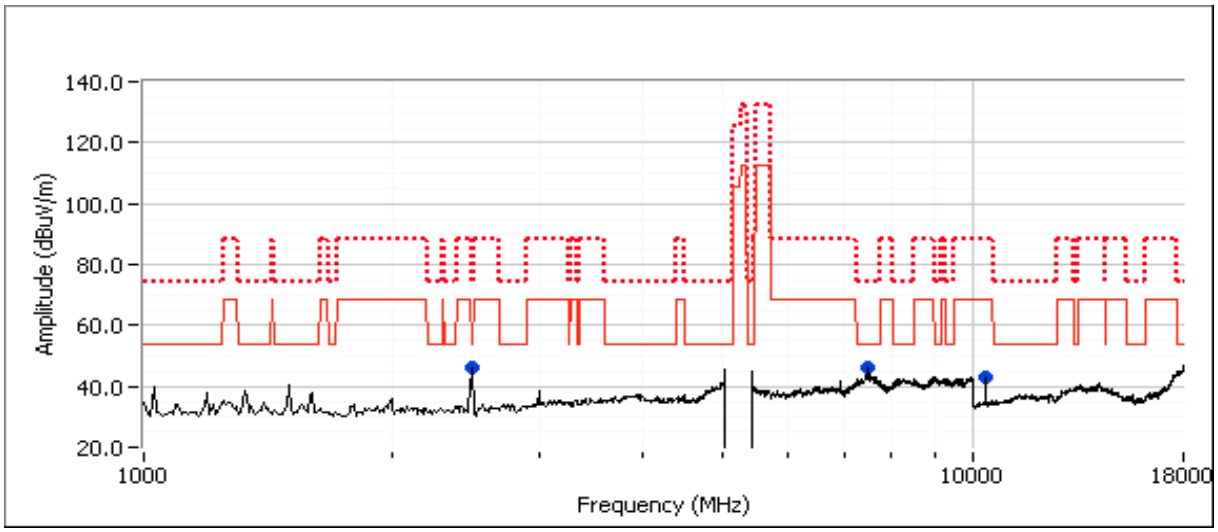
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -27dBm eirp (68.3dBuV/m @3m). As the power measured is average power this is considered an average limit so the peak limit would be 88.3dBuV/m at 3m.

Run # 3a: EUT on Channel #40 5200MHz - 802.11a, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	16.3	20.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.050	42.9	V	54.0	-11.1	AVG	263	1.1	RB 1 MHz;VB 10 Hz;Pk
7499.990	50.8	V	74.0	-23.2	PK	263	1.1	RB 1 MHz;VB 3 MHz;Pk
2490.260	37.4	V	54.0	-16.6	AVG	146	1.0	RB 1 MHz;VB 10 Hz;Pk
2490.630	53.3	V	74.0	-20.7	PK	146	1.0	RB 1 MHz;VB 3 MHz;Pk
10400.000	42.7	V	68.3	-25.6	Peak	292	1.3	



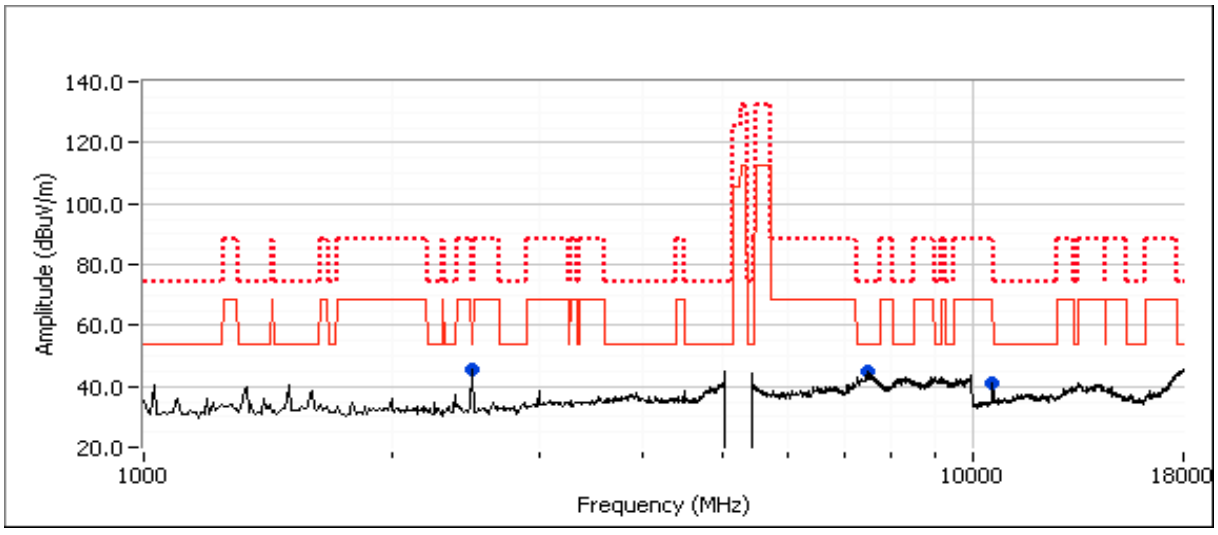
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3b: EUT on Channel #60 5300MHz - 802.11a, Chain A

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain A	16.0	16.1	20.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.030	42.2	V	54.0	-11.8	AVG	253	1.0	MHz;VB 10 Hz;Pk
7499.930	51.3	V	74.0	-22.7	PK	253	1.0	MHz;VB 3 MHz;Pk
2496.720	37.4	V	54.0	-16.6	AVG	145	1.0	MHz;VB 10 Hz;Pk
2497.440	53.3	V	74.0	-20.7	PK	145	1.0	MHz;VB 3 MHz;Pk
10600.100	41.6	V	54.0	-12.4	AVG	199	1.2	MHz;VB 10 Hz;Pk
10600.900	52.6	V	74.0	-21.4	PK	199	1.2	MHz;VB 3 MHz;Pk



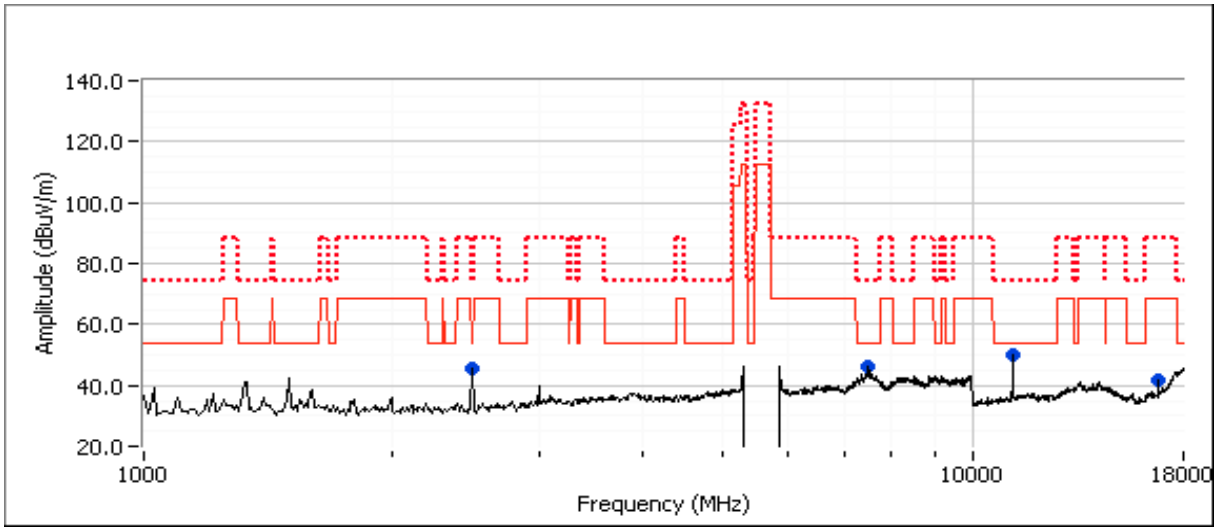
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3c: EUT on Channel #120 5600MHz - 802.11a, Chain A

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

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11200.200	47.5	V	54.0	-6.5	AVG	220	1.5	RB 1 MHz;VB 10 Hz;Pk
11201.800	58.9	V	74.0	-15.1	PK	220	1.5	RB 1 MHz;VB 3 MHz;Pk
7500.010	43.3	V	54.0	-10.7	AVG	262	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.860	51.5	V	74.0	-22.5	PK	262	1.0	RB 1 MHz;VB 3 MHz;Pk
2490.580	35.7	V	54.0	-18.3	AVG	125	1.0	RB 1 MHz;VB 10 Hz;Pk
2495.520	51.5	V	74.0	-22.5	PK	125	1.0	RB 1 MHz;VB 3 MHz;Pk
16800.000	41.8	H	68.3	-26.5	Peak	146	1.0	



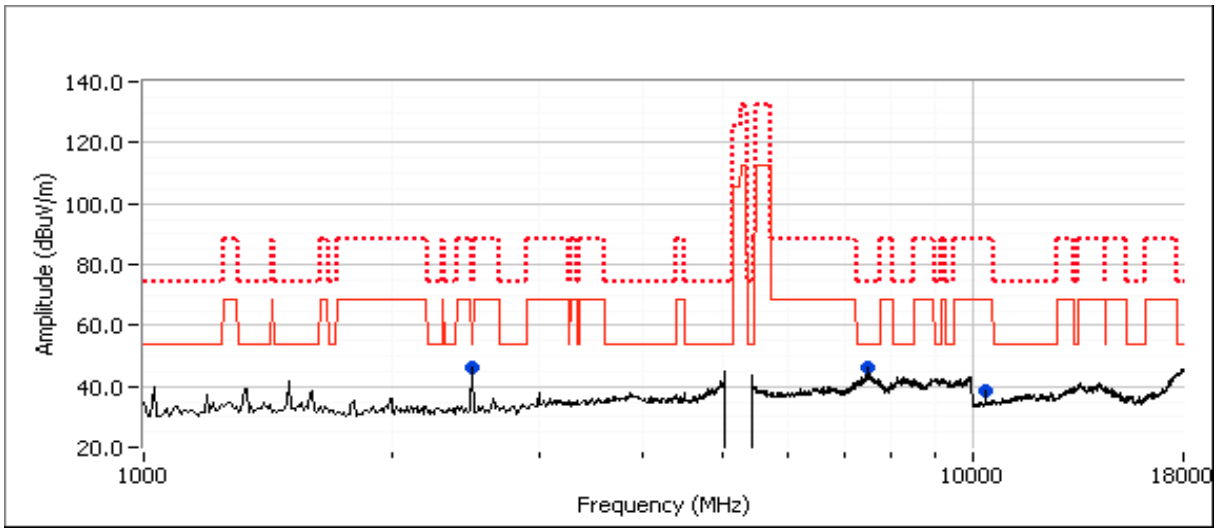
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3d: EUT on Channel #40 5200MHz - 802.11a, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.2	20.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.010	44.0	V	54.0	-10.0	AVG	78	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.180	51.0	V	74.0	-23.0	PK	78	1.0	RB 1 MHz;VB 3 MHz;Pk
2490.320	37.1	H	54.0	-16.9	AVG	154	1.0	RB 1 MHz;VB 10 Hz;Pk
2491.450	52.6	H	74.0	-21.4	PK	154	1.0	RB 1 MHz;VB 3 MHz;Pk
10396.670	38.6	H	68.3	-29.7	Peak	293	1.3	



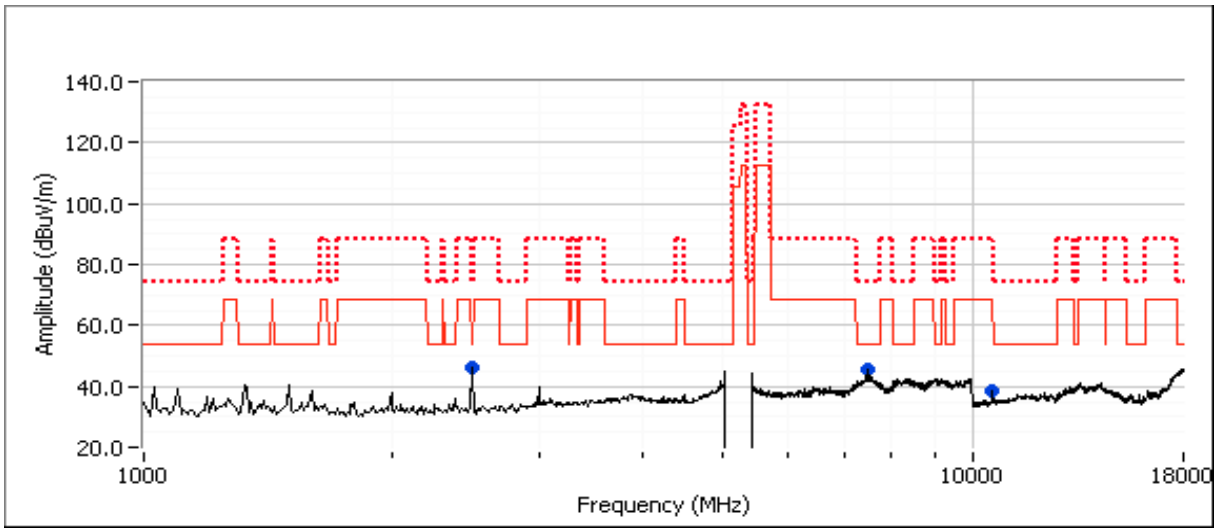
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3e: EUT on Channel #60 5300MHz - 802.11a, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.0	16.2	21.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.050	43.8	V	54.0	-10.2	AVG	102	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.960	51.4	V	74.0	-22.6	PK	102	1.0	RB 1 MHz;VB 3 MHz;Pk
2490.230	37.9	V	54.0	-16.1	AVG	153	1.0	RB 1 MHz;VB 10 Hz;Pk
2489.960	54.3	V	74.0	-19.7	PK	153	1.0	RB 1 MHz;VB 3 MHz;Pk
10600.070	38.8	V	54.0	-15.2	AVG	187	1.1	RB 1 MHz;VB 10 Hz;Pk
10601.070	49.2	V	74.0	-24.8	PK	187	1.1	RB 1 MHz;VB 3 MHz;Pk



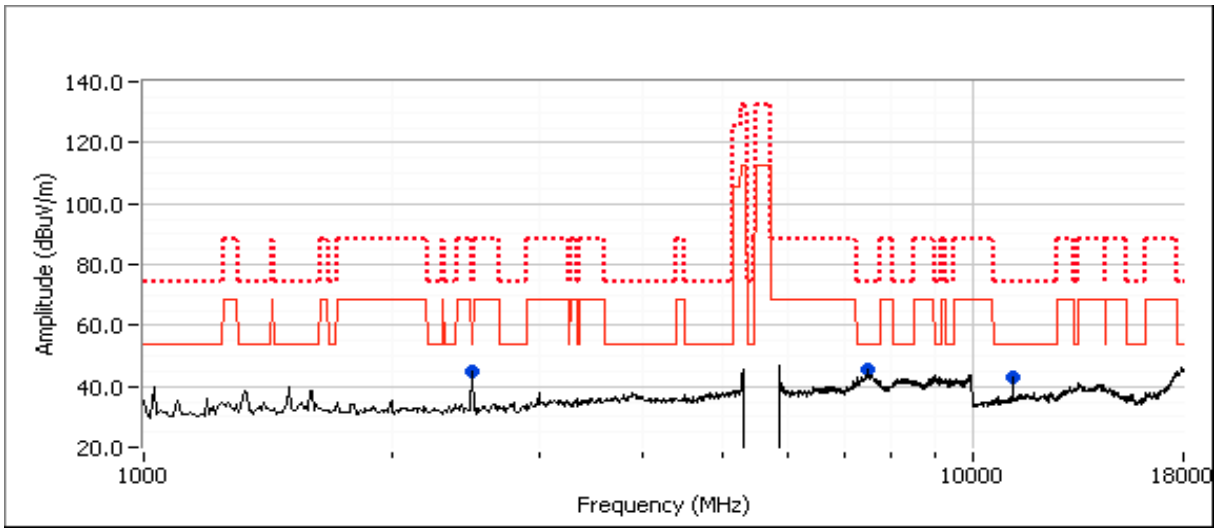
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3f: EUT on Channel #120 5600MHz - 802.11a, Chain B

	Power Settings		
	Target (dBm)	Measured (dBm)	Software Setting
Chain B	16.5	16.6	25.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.050	44.4	V	54.0	-9.6	AVG	264	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.780	51.5	V	74.0	-22.5	PK	264	1.0	RB 1 MHz;VB 3 MHz;Pk
2496.460	36.7	V	54.0	-17.3	AVG	152	1.0	RB 1 MHz;VB 10 Hz;Pk
2498.920	52.2	V	74.0	-21.8	PK	152	1.0	RB 1 MHz;VB 3 MHz;Pk
11198.090	40.8	V	54.0	-13.2	AVG	227	1.9	RB 1 MHz;VB 10 Hz;Pk
11193.490	51.5	V	74.0	-22.5	PK	227	1.9	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4, Radiated Spurious Emissions, 1-40GHz, n20, Chain A+B

Date of Test: 8/10/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change: none

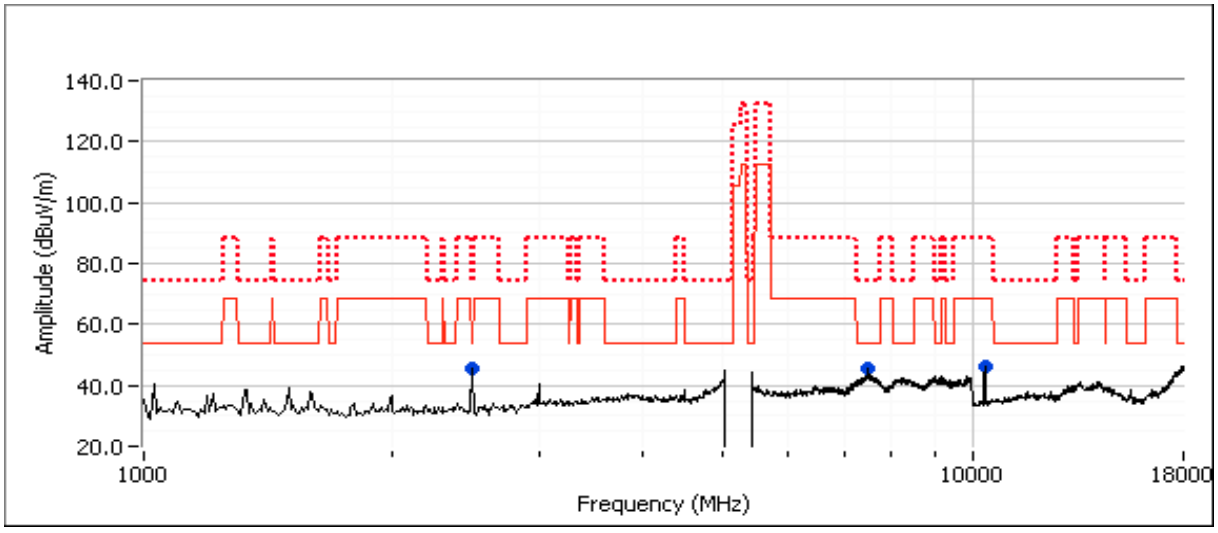
For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit is -27dBm eirp (68.3dBuV/m @3m). As the power measured is average power this is considered an average limit so the peak limit would be 88.3dBuV/m at 3m.

Run # 4a: EUT on Channel #36 5180MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	16.0	15.9		19.0	23.5/23.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.120	43.7	V	54.0	-10.3	AVG	254	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.950	50.3	V	74.0	-23.7	PK	254	1.0	RB 1 MHz;VB 3 MHz;Pk
2489.770	37.5	V	54.0	-16.5	AVG	148	1.0	RB 1 MHz;VB 10 Hz;Pk
2488.770	53.4	V	74.0	-20.6	PK	148	1.0	RB 1 MHz;VB 3 MHz;Pk
10360.000	46.0	V	68.3	-22.3	Peak	299	1.3	



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4b: EUT on Channel #48 5240MHz - n20, Chain A+B

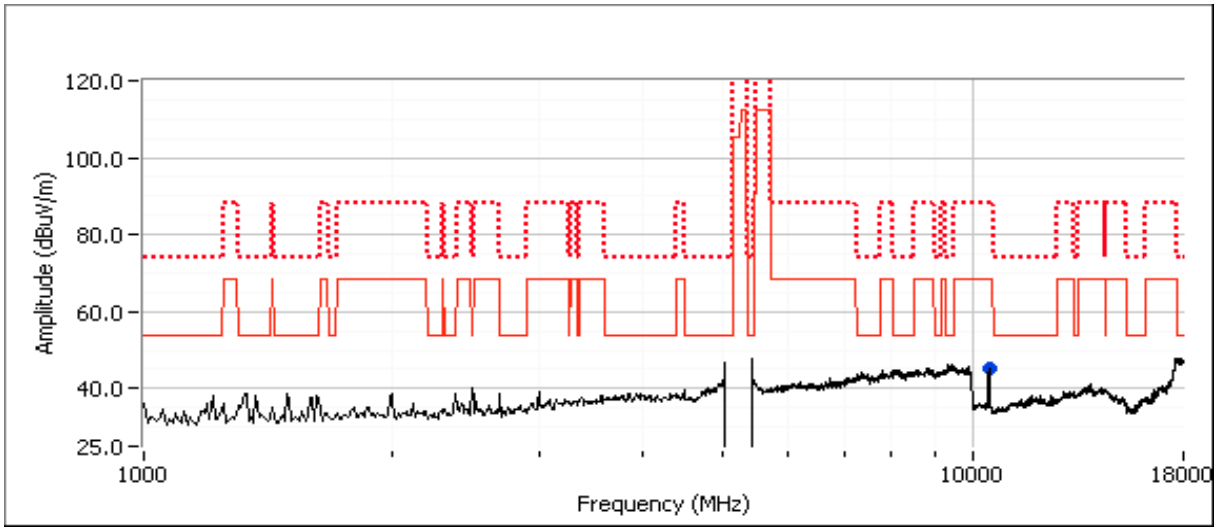
Date of Test: 8/11/2010 Test Location: FT Chamber #3

Test Engineer: Mehran B./Rafael V. Config Change: none

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	16.0	15.9		19.0	24.0 / 25.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10478.900	45.4	V	68.3	-22.9	AVG	189	1.3	RB 1 MHz;VB 10 Hz;Pk
10480.030	59.3	V	88.3	-29.0	PK	189	1.3	RB 1 MHz;VB 3 MHz;Pk



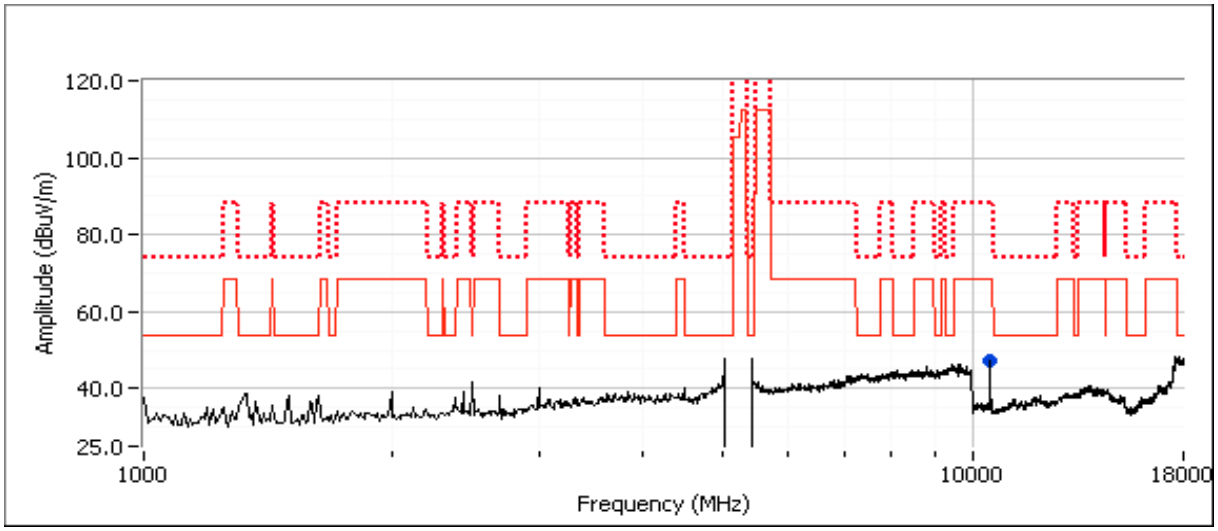
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4c: EUT on Channel #52 5260MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	15.9	16.1		19.0	24.0 / 25.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10519.230	44.7	V	68.3	-23.6	AVG	136	1.3	RB 1 MHz;VB 10 Hz;Pk
10520.230	57.0	V	88.3	-31.3	PK	136	1.3	RB 1 MHz;VB 3 MHz;Pk



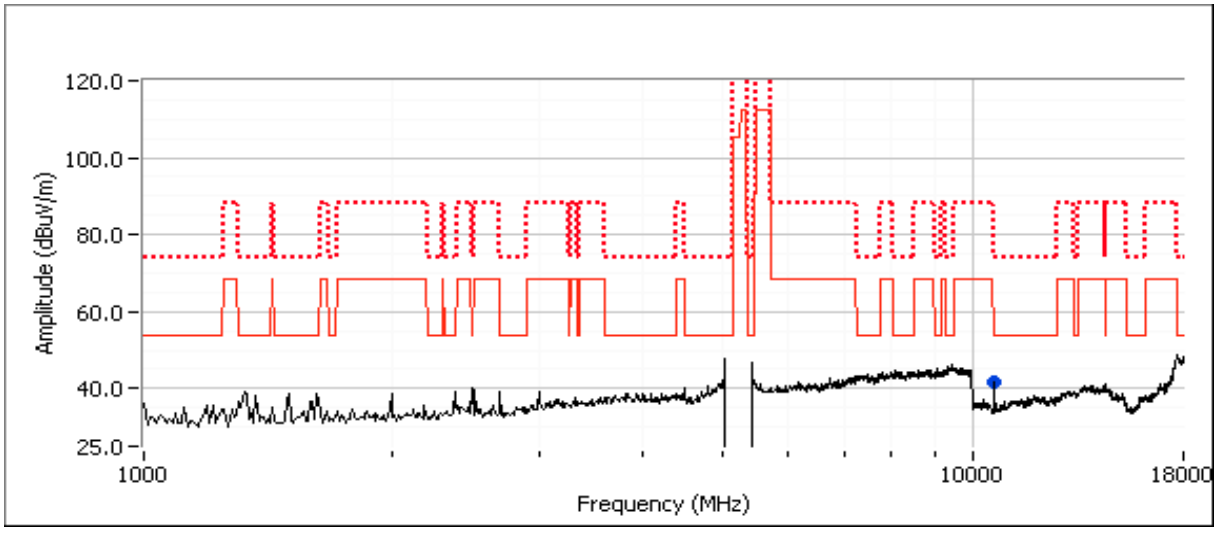
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4d: EUT on Channel #64 5320MHz - n20, Chain A+B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.0	16.0		19.0	15.9	15.8		18.9	24.5 / 26.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10639.570	44.9	V	54.0	-9.1	AVG	298	1.8	RB 1 MHz;VB 10 Hz;Pk
10640.170	57.0	V	74.0	-17.0	PK	298	1.8	RB 1 MHz;VB 3 MHz;Pk



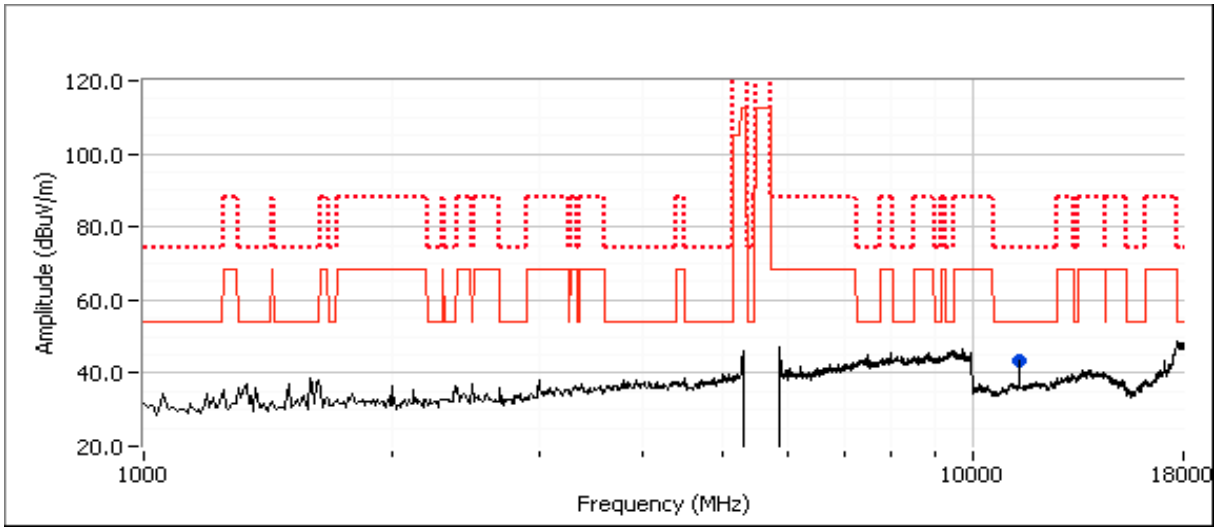
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4e: EUT on Channel #100 5500MHz - 802.11a, Chain A

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.5			16.5	16.5			16.5	24.0

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10996.930	41.2	H	54.0	-12.8	AVG	226	1.5	RB 1 MHz;VB 10 Hz;Pk
10996.930	52.8	H	74.0	-21.2	PK	226	1.5	RB 1 MHz;VB 3 MHz;Pk



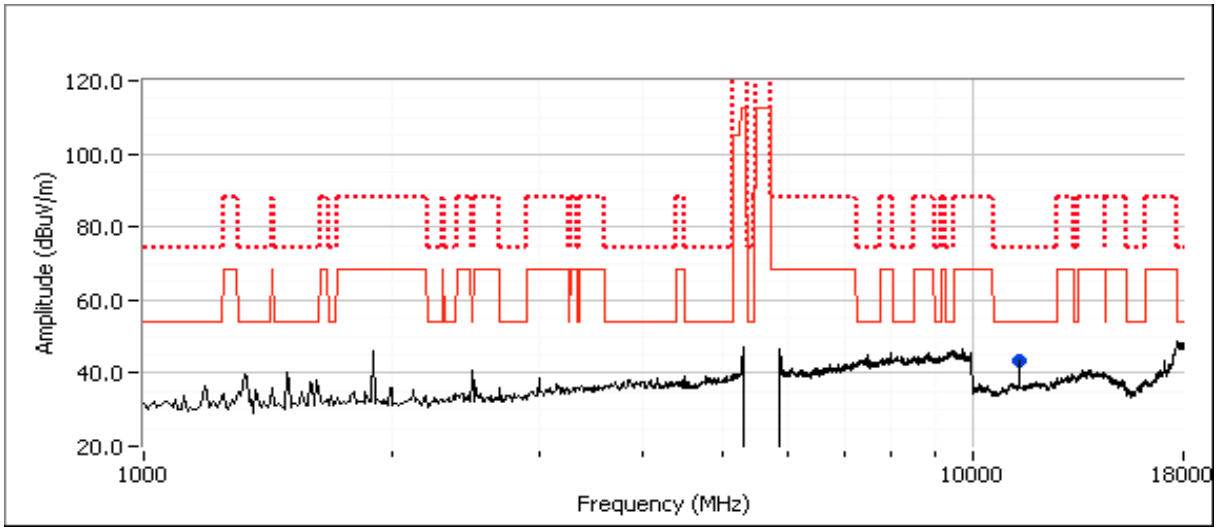
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4f: EUT on Channel #140 5700MHz - 802.11a, Chain A

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
	16.5			16.5	16.4			16.4	25.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11399.800	42.2	H	54.0	-11.8	AVG	225	1.5	RB 1 MHz;VB 10 Hz;Pk
11396.500	53.9	H	74.0	-20.1	PK	225	1.5	RB 1 MHz;VB 3 MHz;Pk



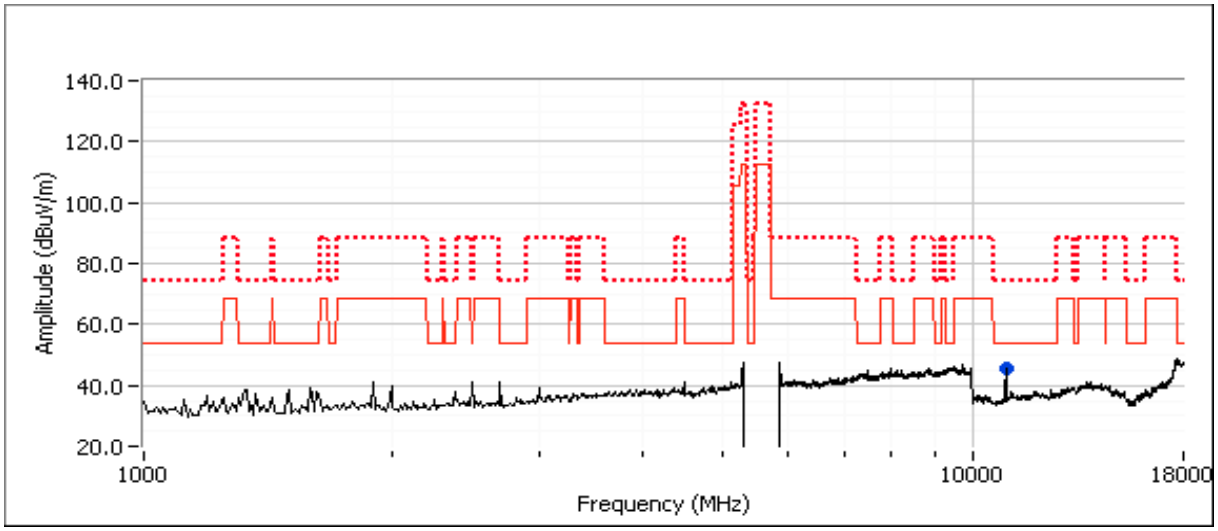
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4g: EUT on Channel #100 5500MHz - 802.11a, Chain B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
		16.5		16.5		16.5		16.5	24.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11000.340	47.7	V	54.0	-6.3	AVG	175	1.9	RB 1 MHz;VB 10 Hz;Pk
11002.470	59.6	V	74.0	-14.4	PK	175	1.9	RB 1 MHz;VB 3 MHz;Pk



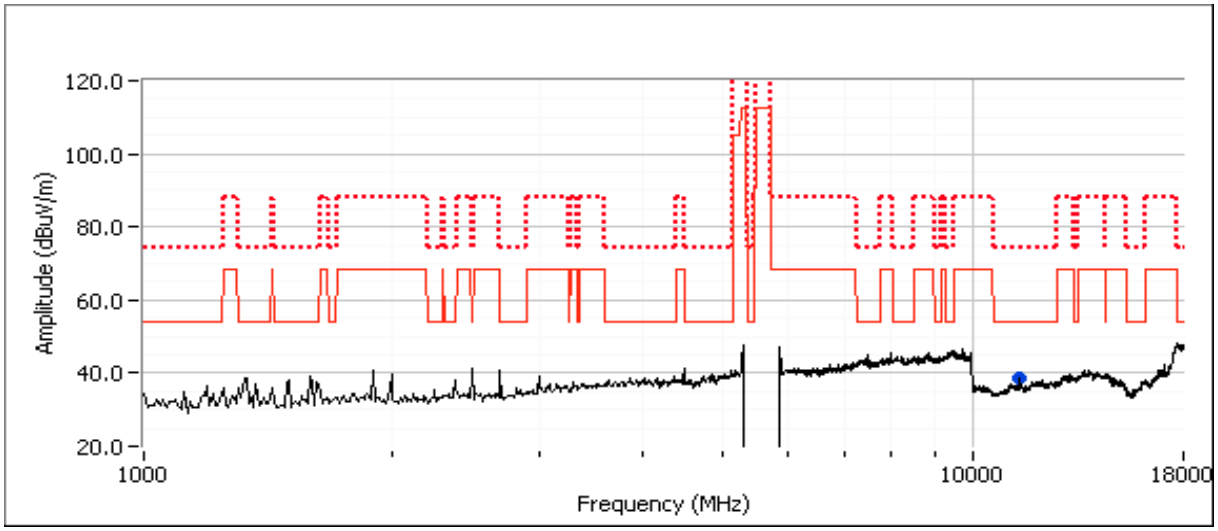
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 4h: EUT on Channel #140 5700MHz - 802.11a, Chain B

	Power Settings								
	Target (dBm)				Measured (dBm)				Software Setting
Chain	A	B	C	Total	A	B	C	Total	
		16.5		16.5		16.5		16.5	25.5

Spurious Radiated Emissions:

Frequency	Level	Pol	15.209 / 15E		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11400.000	42.8	V	54.0	-11.2	AVG	232	1.3	RB 1 MHz;VB 10 Hz;Pk
11400.770	53.9	V	74.0	-20.1	PK	232	1.3	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS 210 Receiver Spurious Radiated Emissions (LELAN bands)

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 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.

Summary of Results

MAC Address: 001500633B14 DRTU Tool Version 1.1.3 Driver version 13.0.0.238 Sample: 1340

Run #	Mode	Channel	Target Power	Measured Power	Test Performed	Limit	Result / Margin
Receiver spurious measurements for the 5.7GHz band indicated that there were no signifcant differences in emissions between Chain B and Chain A + B and emissions on Chain A were lower than both Chain B and Chain A+B. Measurements were made with both chains active and only repeated on the individual chains for frequencies where the margin was less than 10dB.							
Run # 1	receive mode Chain A+B	#40 5200MHz	-	-	Radiated Emissions, 1 - 18 GHz	RSS 210	40.7dBµV/m @ 9520.0MHz (-13.3dB)
		#60 5300MHz	-	-			44.6dBµV/m @ 7500.0MHz (-9.4dB)
		#120 5600MHz	-	-			44.7dBµV/m @ 7500.1MHz (-9.3dB)
Run # 2	receive mode Chain A	#40 5200MHz	-	-	Radiated Emissions, 1 - 18 GHz	RSS 210	Dual chain had > 10dB margin
		#60 5300MHz	-	-			44.6dBµV/m @ 7500.0MHz (-9.4dB)
		#120 5600MHz	-	-			44.5dBµV/m @ 7500.0MHz (-9.5dB)
Run # 3	receive mode Chain B	#40 5200MHz	-	-	Radiated Emissions, 1 - 18 GHz	RSS 210	Dual chain had > 10dB margin
		#60 5300MHz	-	-			43.7dBµV/m @ 7500.1MHz (-10.3dB)
		#120 5600MHz	-	-			44.4dBµV/m @ 7500.0MHz (-9.6dB)

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	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.

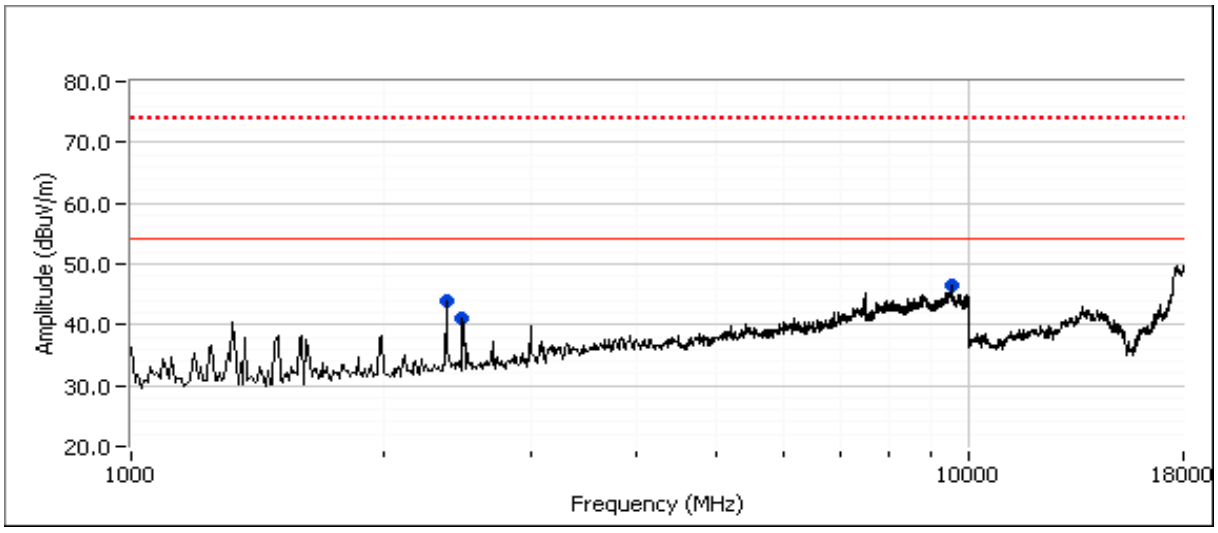
Run # 1, Radiated Spurious Emissions, 1-18GHz, Receive Mode, Chain A+B

Date of Test: 8/11/2010 Test Location: FT Chamber #3
Test Engineer: Rafael Varelas Config Change: none

Run # 1a: EUT on Channel #40 5200MHz - Receive Mode, Chain A+B

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
9519.950	40.7	V	54.0	-13.3	AVG	61	1.1	RB 1 MHz;VB 10 Hz;Pk
9515.150	51.9	V	74.0	-22.1	PK	61	1.1	RB 1 MHz;VB 3 MHz;Pk
2372.380	29.8	V	54.0	-24.2	AVG	147	1.0	RB 1 MHz;VB 10 Hz;Pk
2372.020	41.6	V	74.0	-32.4	PK	147	1.0	RB 1 MHz;VB 3 MHz;Pk
2487.800	28.9	H	54.0	-25.1	AVG	32	1.0	RB 1 MHz;VB 10 Hz;Pk
2484.050	40.7	H	74.0	-33.3	PK	32	1.0	RB 1 MHz;VB 3 MHz;Pk

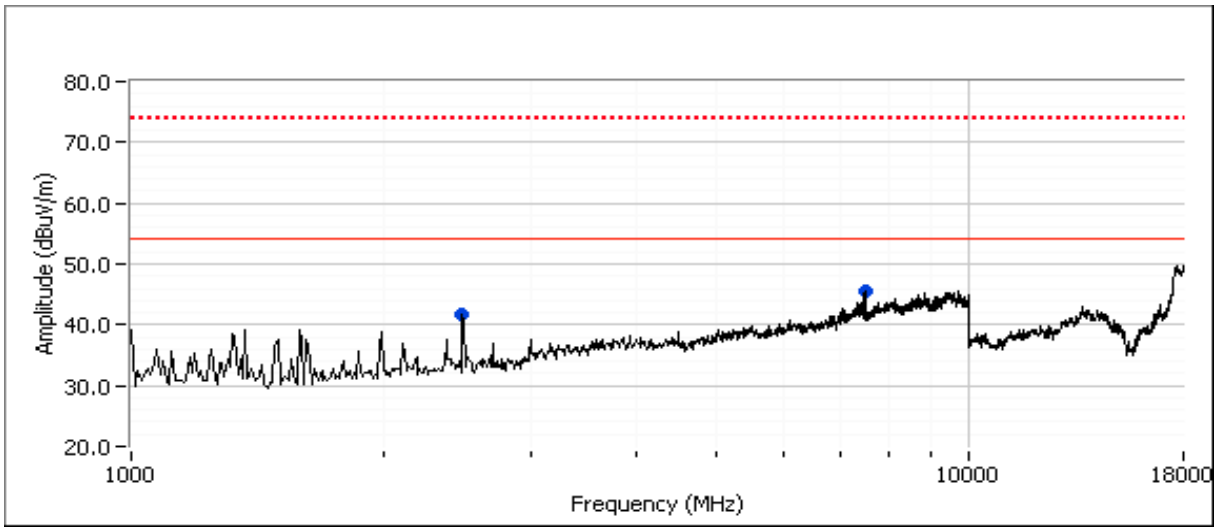


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1b: EUT on Channel #60 5300MHz - Receive Mode, Chain A+B

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.030	44.6	V	54.0	-9.4	AVG	87	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.630	51.3	V	74.0	-22.7	PK	87	1.0	RB 1 MHz;VB 3 MHz;Pk
2489.800	33.7	V	54.0	-20.3	AVG	146	1.0	RB 1 MHz;VB 10 Hz;Pk
2495.700	50.8	V	74.0	-23.2	PK	146	1.0	RB 1 MHz;VB 3 MHz;Pk

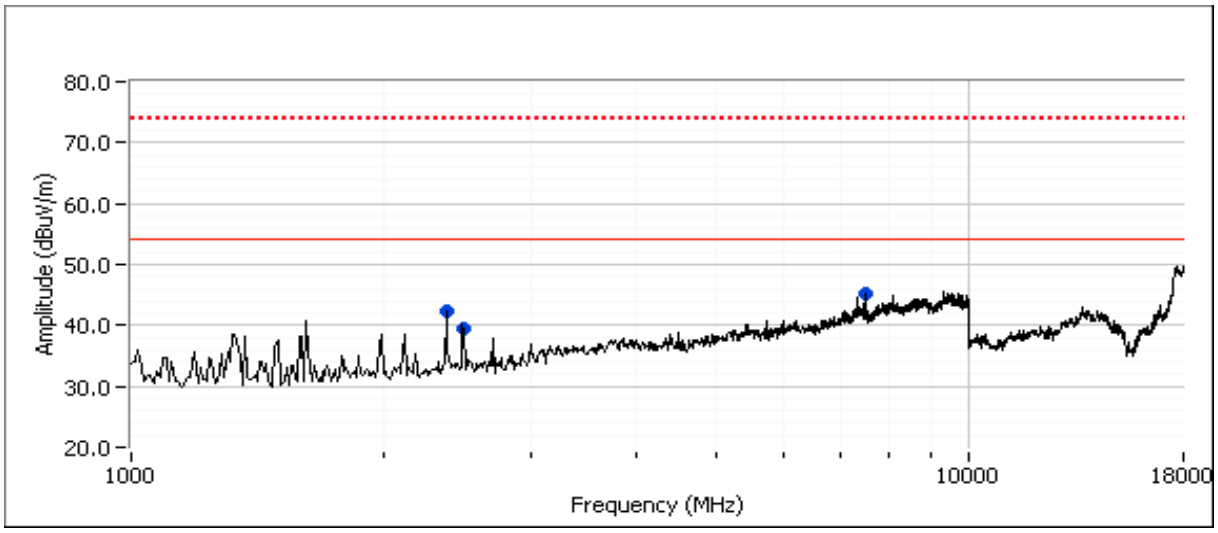


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 1c: EUT on Channel #120 5600MHz - Receive Mode, Chain A+B

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.050	44.7	V	54.0	-9.3	AVG	87	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.620	52.9	V	74.0	-21.1	PK	87	1.0	RB 1 MHz;VB 3 MHz;Pk
2378.160	29.8	V	54.0	-24.2	AVG	0	1.0	RB 1 MHz;VB 10 Hz;Pk
2377.960	42.1	V	74.0	-31.9	PK	0	1.0	RB 1 MHz;VB 3 MHz;Pk
2497.170	33.1	V	54.0	-20.9	AVG	140	1.0	RB 1 MHz;VB 10 Hz;Pk
2497.000	50.3	V	74.0	-23.7	PK	140	1.0	RB 1 MHz;VB 3 MHz;Pk



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2, Radiated Spurious Emissions, 1-18GHz, Receive Mode, Chain A

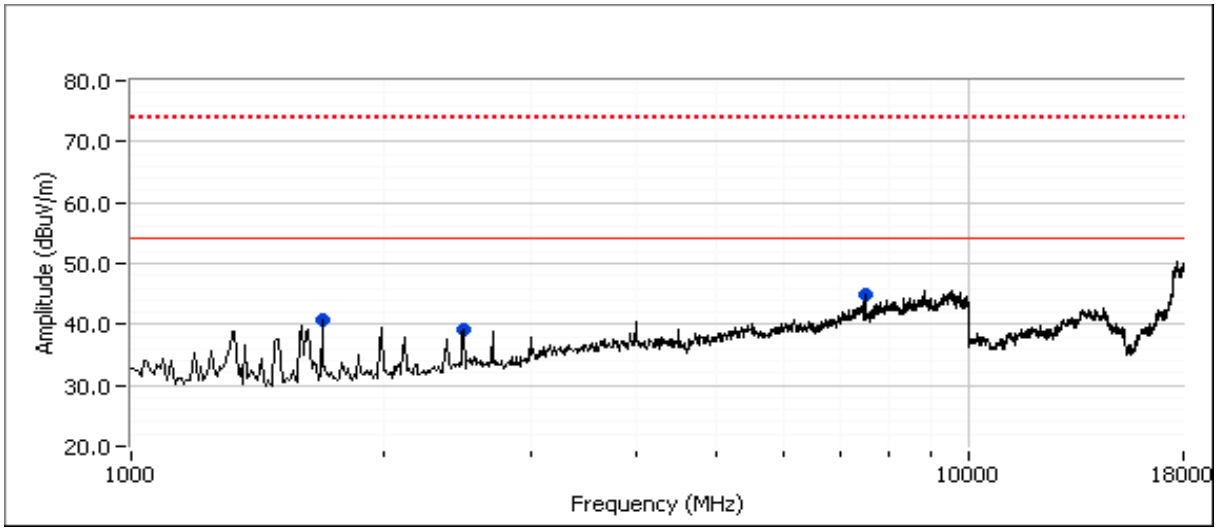
Date of Test: 8/11/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change: none

Run # 2b: EUT on Channel #60 5300MHz - Receive Mode, Chain A

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.000	44.6	V	54.0	-9.4	AVG	86	1.0	RB 1 MHz;VB 10 Hz;Pk
7499.830	52.3	V	74.0	-21.7	PK	86	1.0	RB 1 MHz;VB 3 MHz;Pk
1691.880	40.8	H	54.0	-13.2	Peak	47	1.0	
2517.770	39.0	V	54.0	-15.0	Peak	145	1.0	

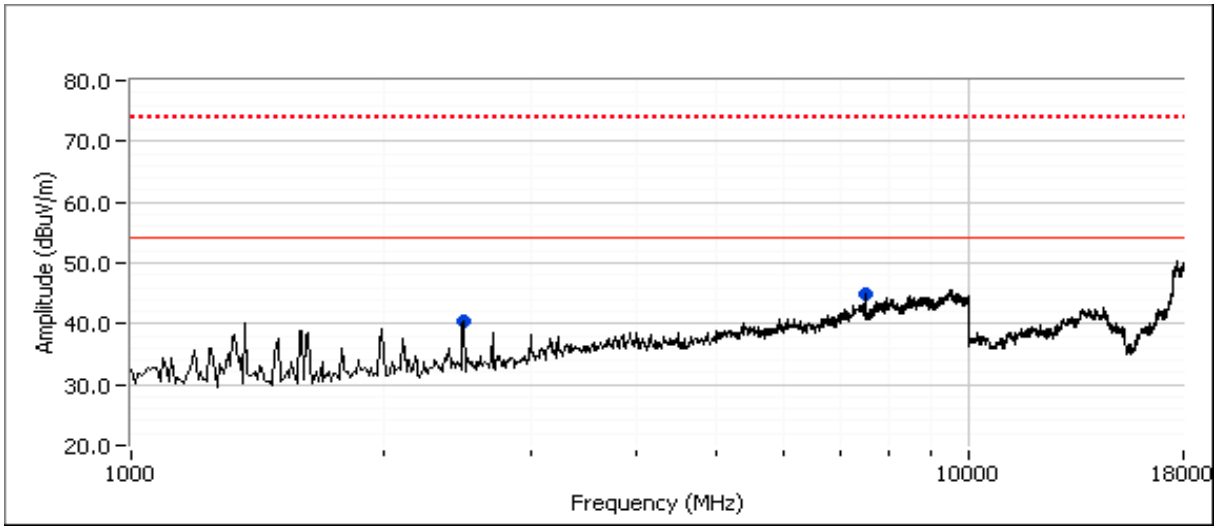


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 2c: EUT on Channel #120 5600MHz - Receive Mode, Chain A

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.040	44.5	V	54.0	-9.5	AVG	90	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.150	51.5	V	74.0	-22.5	PK	90	1.0	RB 1 MHz;VB 3 MHz;Pk
2499.510	40.3	V	54.0	-13.7	Peak	119	1.0	



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3, Radiated Spurious Emissions, 1-18GHz, Receive Mode, Chain B

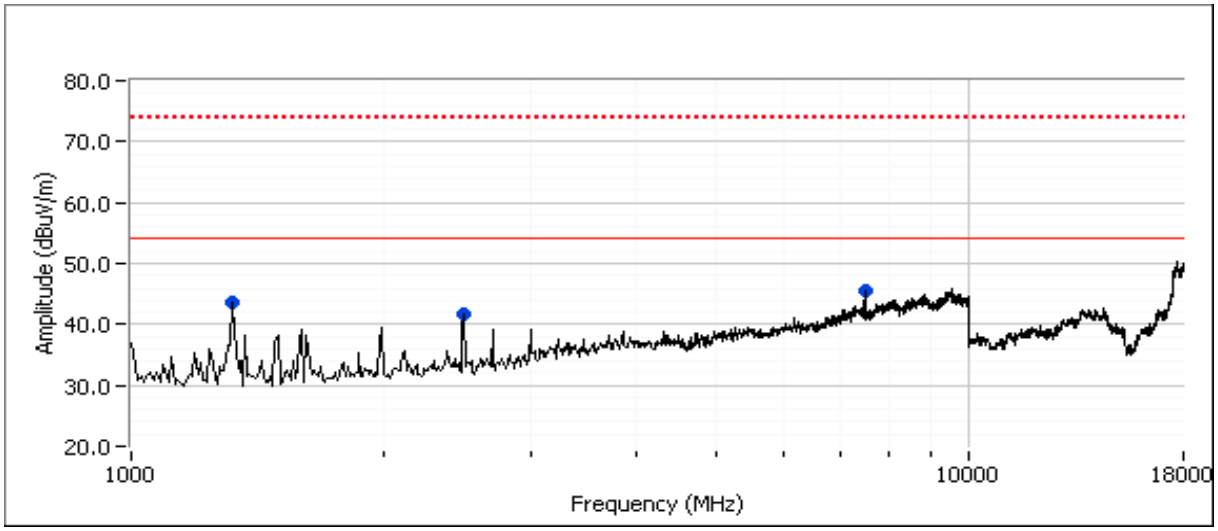
Date of Test: 8/11/2010 Test Location: FT Chamber #3

Test Engineer: Rafael Varelas Config Change: none

Run # 3b: EUT on Channel #60 5300MHz - Receive Mode, Chain B

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.090	43.7	V	54.0	-10.3	AVG	86	1.0	MHz;VB 10 Hz;Pk
7500.270	51.7	V	74.0	-22.3	PK	86	1.0	MHz;VB 3 MHz;Pk
1329.560	37.9	V	54.0	-16.1	AVG	243	1.0	MHz;VB 10 Hz;Pk
1326.830	49.5	V	74.0	-24.5	PK	243	1.0	MHz;VB 3 MHz;Pk
2491.930	41.8	V	54.0	-12.2	Peak	148	1.0	

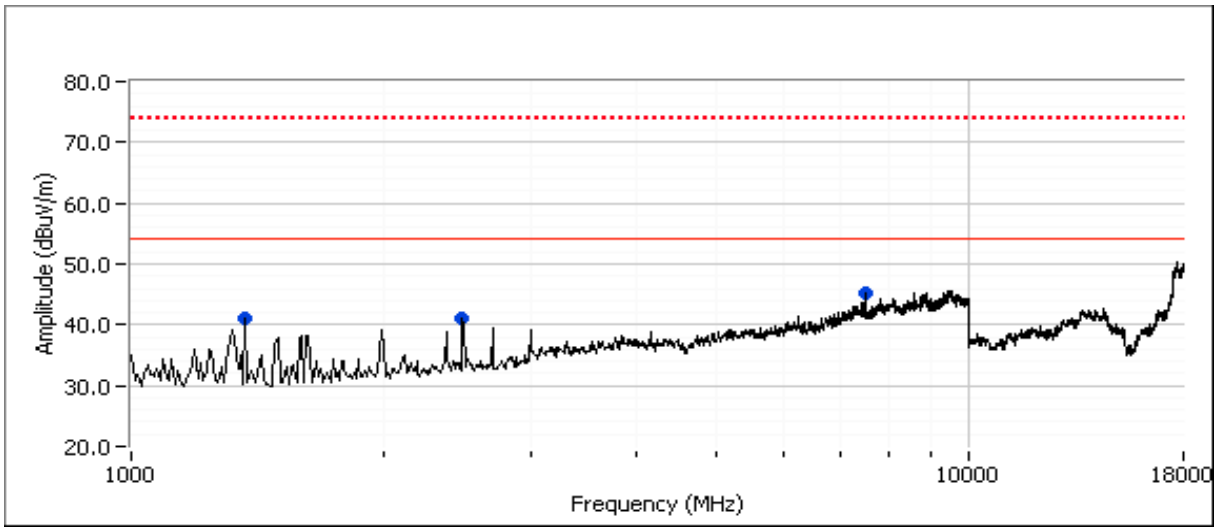


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run # 3c: EUT on Channel #120 5600MHz - Receive Mode, Chain B

Spurious Radiated Emissions:

Frequency	Level	Pol	RSS210		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7500.030	44.4	V	54.0	-9.6	AVG	90	1.0	RB 1 MHz;VB 10 Hz;Pk
7500.040	52.0	V	74.0	-22.0	PK	90	1.0	RB 1 MHz;VB 3 MHz;Pk
1355.030	41.0	V	54.0	-13.0	Peak	200	1.3	
2500.590	41.2	V	54.0	-12.8	Peak	150	1.0	



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements, SISO Mode Chain A
Power, PSD, Peak Excursion, 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: 8/17/2010
Test Engineer: Rafael Varelas
Test Location: FT Lab #3

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

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11a: 27.5 mW 802.11n 20MHz: 27.5 mW 802.11n n40MHz: 29.5 mW
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11a: 1.8 dBm/MHz 802.11n 20MHz: 1.6 dBm/MHz 802.11n n40MHz: -0.6 dBm/MHz
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11a: 27.5 mW 802.11n 20MHz: 27.5 mW 802.11n n40MHz: 28.8 mW
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11a: 1.6 dBm/MHz 802.11n 20MHz: 1.8 dBm/MHz 802.11n n40MHz: -0.8 dBm/MHz
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11a: 33.1 mW 802.11n 20MHz: 32.4 mW 802.11n n40MHz: 31.6 mW
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11a: 2.5 dBm/MHz 802.11n 20MHz: 2.2 dBm/MHz 802.11n n40MHz: -0.2 dBm/MHz
1	26dB Bandwidth	15.407 (Information only)	-	> 20MHz for all modes
1	99% Bandwidth	RSS 210 (Information only)	N/A	802.11a: 18 MHz 802.11n 20MHz: 18.8 MHz 802.11n n40MHz: 37.1 MHz
2	Peak Excursion Envelope	15.407(a) (6) 13dB	Pass	11.9 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b) -27dBm/MHz	Pass	All emissions below the -27dBm/MHz limit

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature: 22.5 °C
Rel. Humidity: 43 %

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: Bandwidth, Output Power and Power Spectral Density - Single Chain Systems

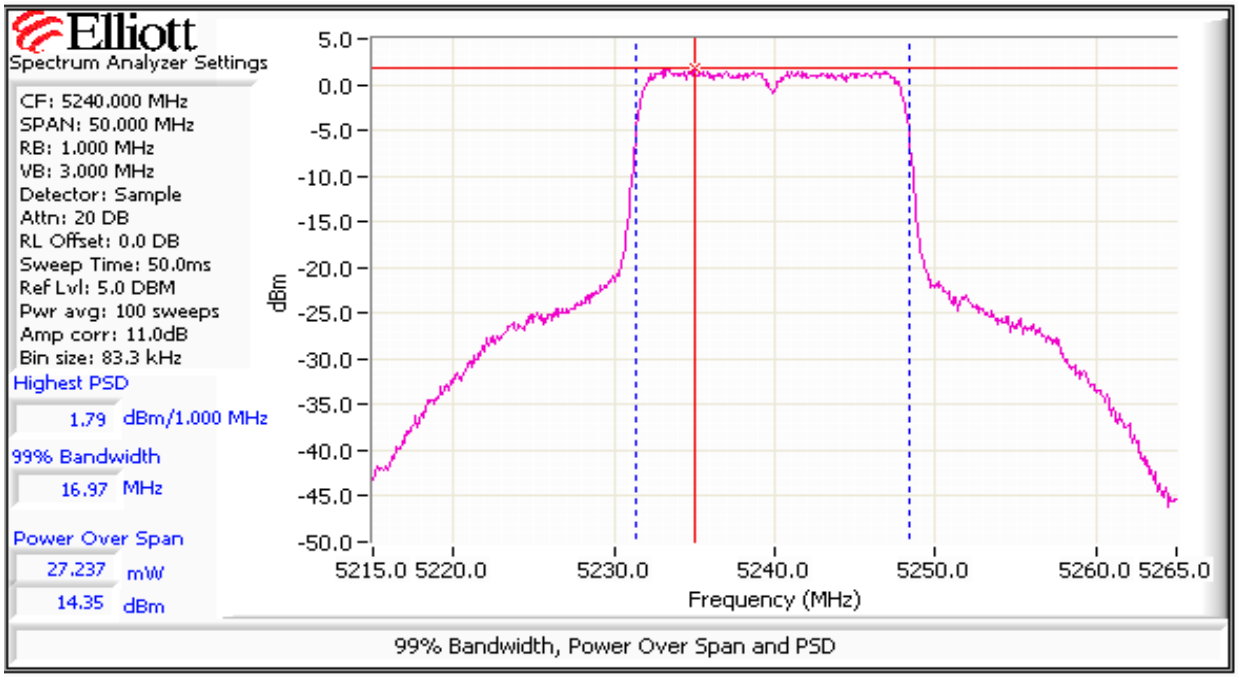
Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **40MHz (n20) or 80** MHz (n40) - method 1 of DA 02-2138A1.
Note 2:	Measured using the same analyzer settings used for output power.
Note 3:	For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
Note 4:	99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

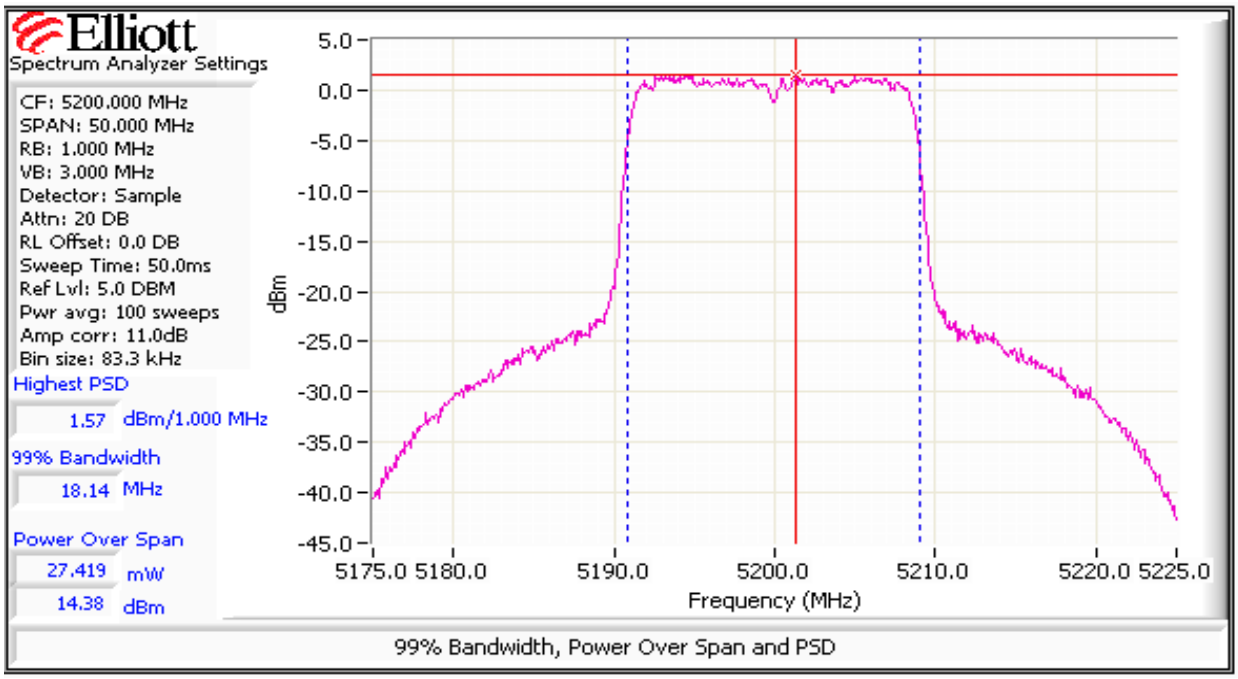
Single Chain Operation, 5150-5250MHz Band - Chain A

Antenna Gain (dBi): 3.7 EIRP: 64.6 mW 18.1 dBm

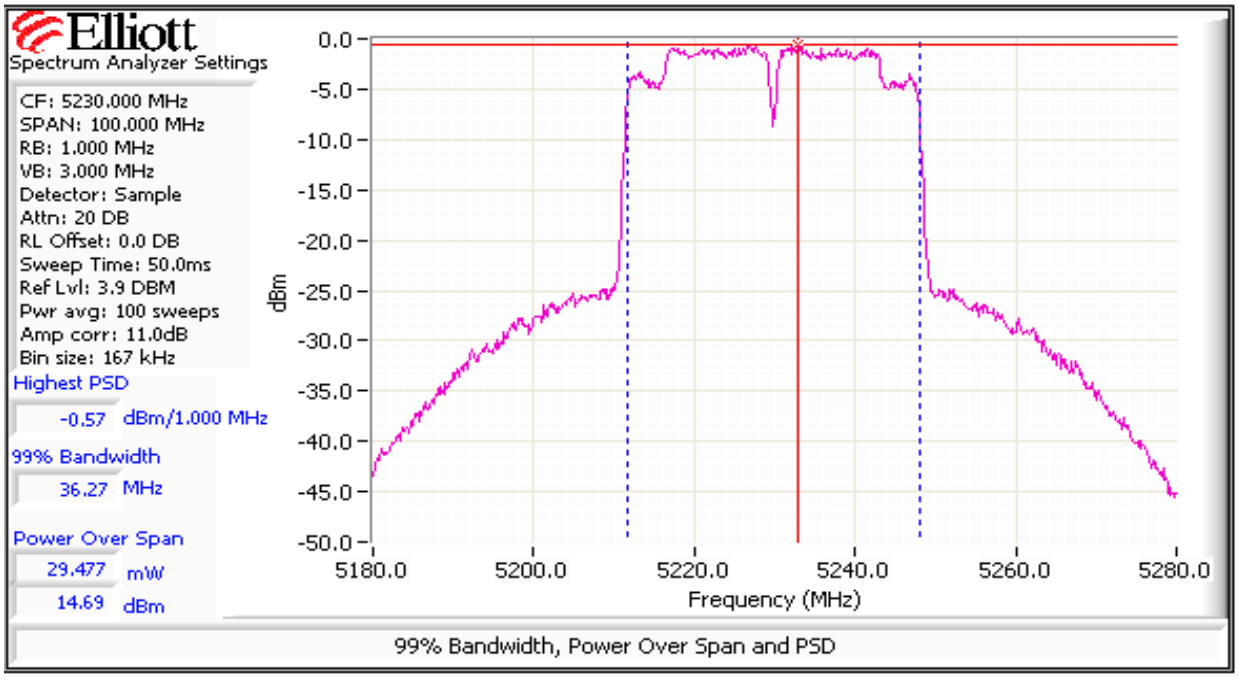
Frequency (MHz)	Software Setting / Pout	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5180	21 / 16.1	36.2	17.1	14.3	17.0	0.027	1.7	4.0	6.3	Pass
5200	21 / 16	36.4	17.0	14.2	17.0	0.026	1.6	4.0	6.3	Pass
5240	21.5 / 16.1	36.7	17.0	14.4	17.0	0.028	1.8	4.0	6.3	Pass
802.11n 20MHz										
5180	20.5 / 15.6	40.3	18.1	13.6	17.0	0.023	1.0	4.0	6.3	Pass
5200	21.5 / 16.1	43.0	18.1	14.4	17.0	0.028	1.6	4.0	6.3	Pass
5240	21.5 / 16.1	43.0	18.1	14.2	17.0	0.026	1.3	4.0	6.3	Pass
802.11n 40MHz										
5190	16 / 11.1	40.3	36.1	9.3	17.0	0.009	-6.1	4.0	6.3	Pass
5230	22.5 / 16.1	65.8	36.3	14.7	17.0	0.029	-0.6	4.0	6.3	Pass

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A





Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

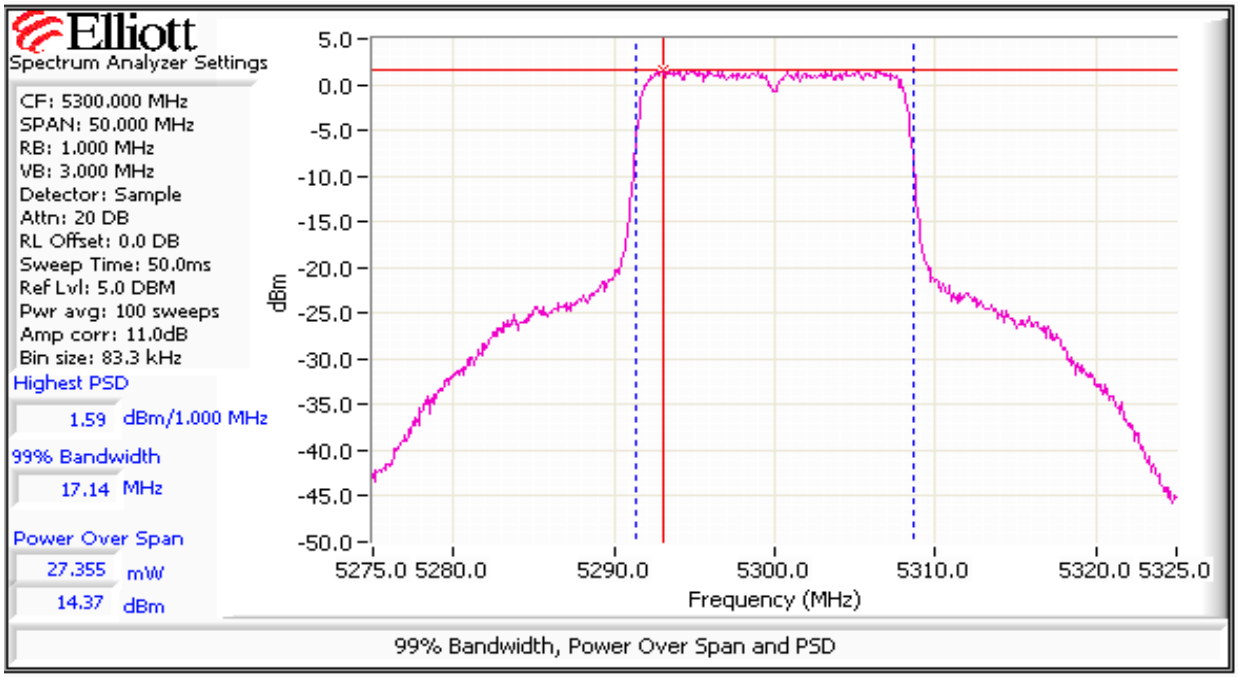


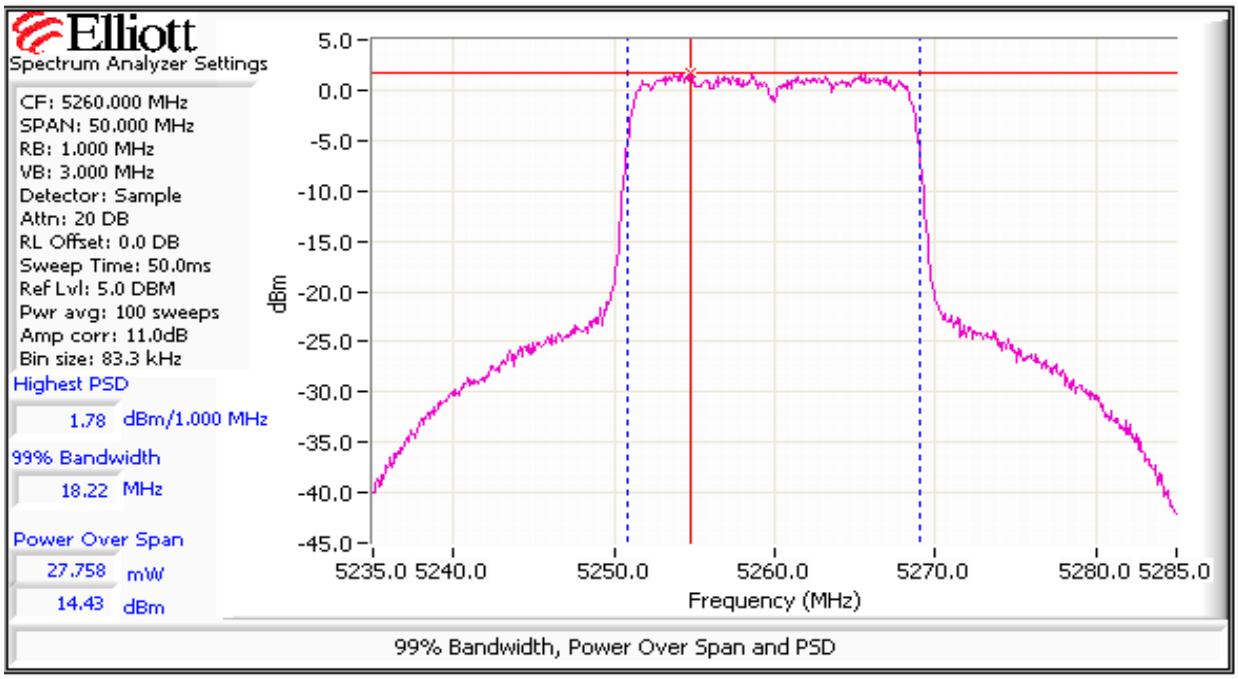
Single Chain Operation, 5250-5350 MHz Band - Chain A

Antenna Gain (dBi): 3.7 EIRP: 64.6 mW 18.1 dBm

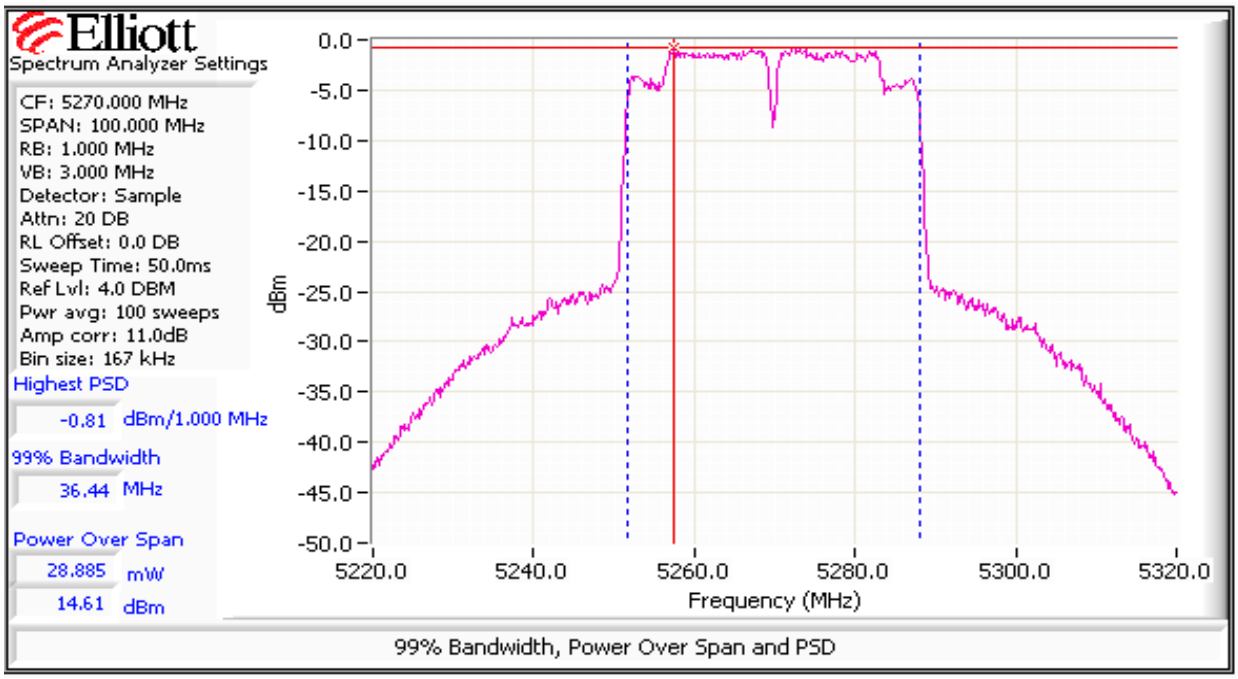
Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5260	21.5 / 16.1	36.8	17.1	14.1	24.0	0.026	1.3	11.0	11.0	Pass
5300	22 / 16.2	37.9	17.1	14.4	24.0	0.028	1.6	11.0	11.0	Pass
5320	22 / 16.1	37.8	17.1	14.2	24.0	0.026	1.4	11.0	11.0	Pass
802.11n 20MHz										
5260	22 / 16.2	42.5	18.2	14.4	24.0	0.028	1.8	11.0	11.0	Pass
5300	22 / 16.1	43.3	18.2	14.2	24.0	0.026	1.4	11.0	11.0	Pass
5320	22 / 16.0	43.7	18.2	14.0	24.0	0.025	1.2	11.0	11.0	Pass
802.11n 40MHz										
5270	23.5 / 16.5	70.0	36.4	14.6	24.0	0.029	-0.8	11.0	11.0	Pass
5310	17 / 11.2	40.5	36.3	9.2	24.0	0.008	-6.2	11.0	11.0	Pass

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A





Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Output Power at Low Power Setting - 5250-5350 MHz Band

EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Single Chain Operation, 5470- 5725 MHz Band, Chain A

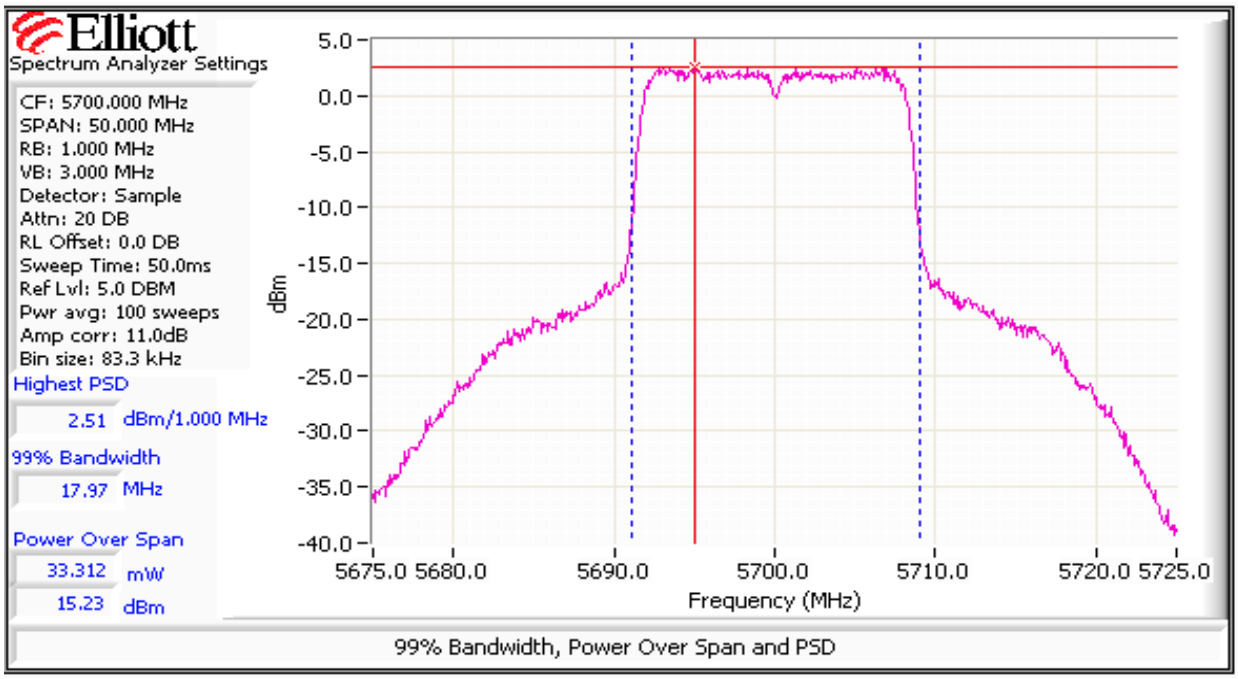
Antenna Gain (dBi): 4.8 EIRP: 100.0 mW 20.0 dBm

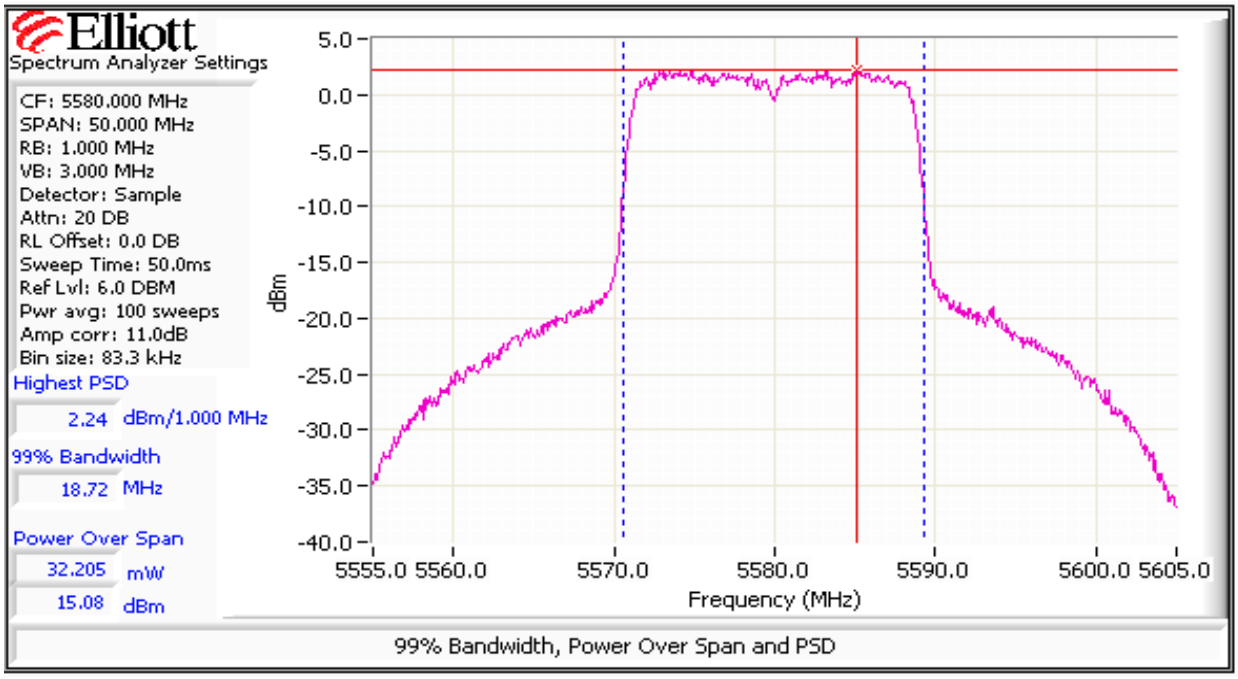
Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5500	25 / 16.6	39.8	17.3	14.6	24.0	0.029	2.0	11.0	11.0	Pass
5580	26.5 / 16.6	40.7	17.5	14.8	24.0	0.030	2.1	11.0	11.0	Pass
5700	28.5 / 16.6	41.0	18.0	15.2	24.0	0.033	2.5	11.0	11.0	Pass
802.11n 20MHz										
5500	26 / 16.7	45.4	18.6	15.0	24.0	0.032	2.2	11.0	11.0	Pass
5580	27 / 16.7	45.9	18.7	15.1	24.0	0.032	2.2	11.0	11.0	Pass
5700	28.5 / 16.5	46.7	18.8	15.0	24.0	0.032	2.1	11.0	11.0	Pass
802.11n 40MHz										
5510	22 / 13.7	60.5	36.3	11.7	24.0	0.015	-3.6	11.0	11.0	Pass
5550	27 / 16.5	79.2	36.8	14.7	24.0	0.029	-0.8	11.0	11.0	Pass
5670	29 / 16.5	79.7	37.1	15.0	24.0	0.031	-0.2	11.0	11.0	Pass

Output Power at Low Power Setting - 5470-5725 MHz Band

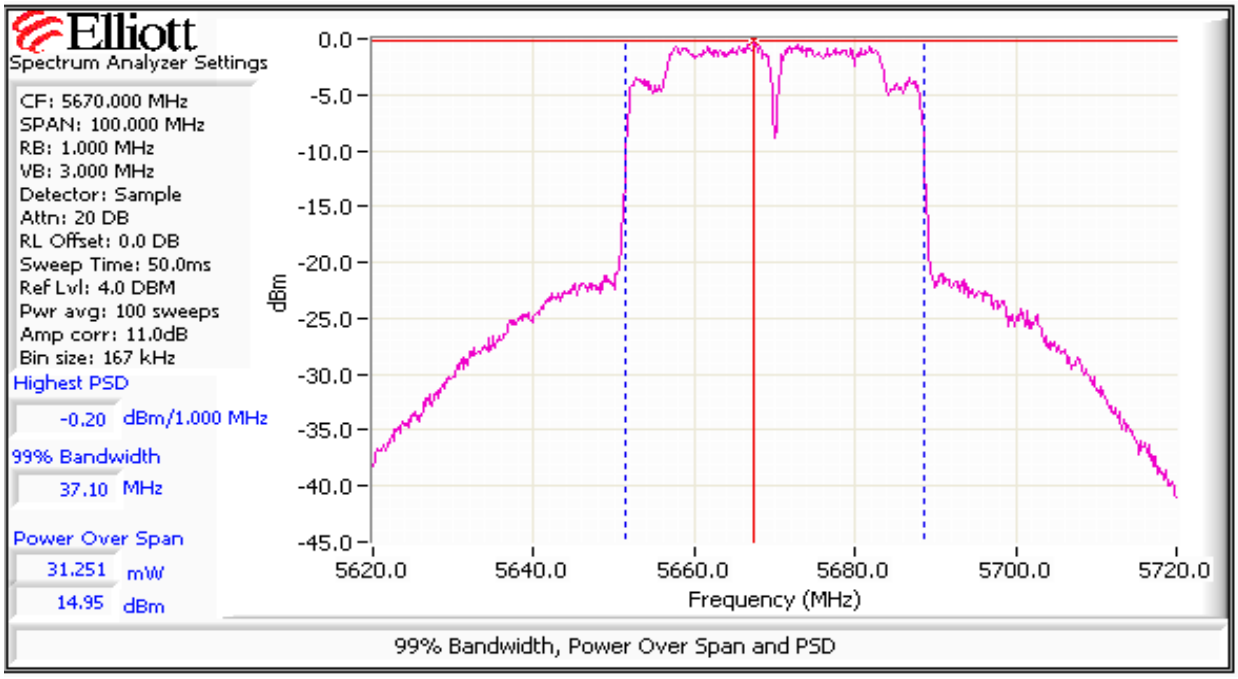
EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A





Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #2: Peak Excursion Measurement

802.11a: Device meets the requirement for the peak excursion

Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	9.7	13.0	5260	9.9	13.0	5500	9.8	13.0
5200	9.3	13.0	5300	9.7	13.0	5580	9.8	13.0
5240	9.7	13.0	5320	9.6	13.0	5700	9.9	13.0

n20MHz: Device meets the requirement for the peak excursion

Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.2	13.0	5260	10.8	13.0	5500	10.6	13.0
5200	10.0	13.0	5300	10.3	13.0	5580	10.3	13.0
5240	10.3	13.0	5320	10.5	13.0	5700	10.3	13.0

n40MHz: Device meets the requirement for the peak excursion

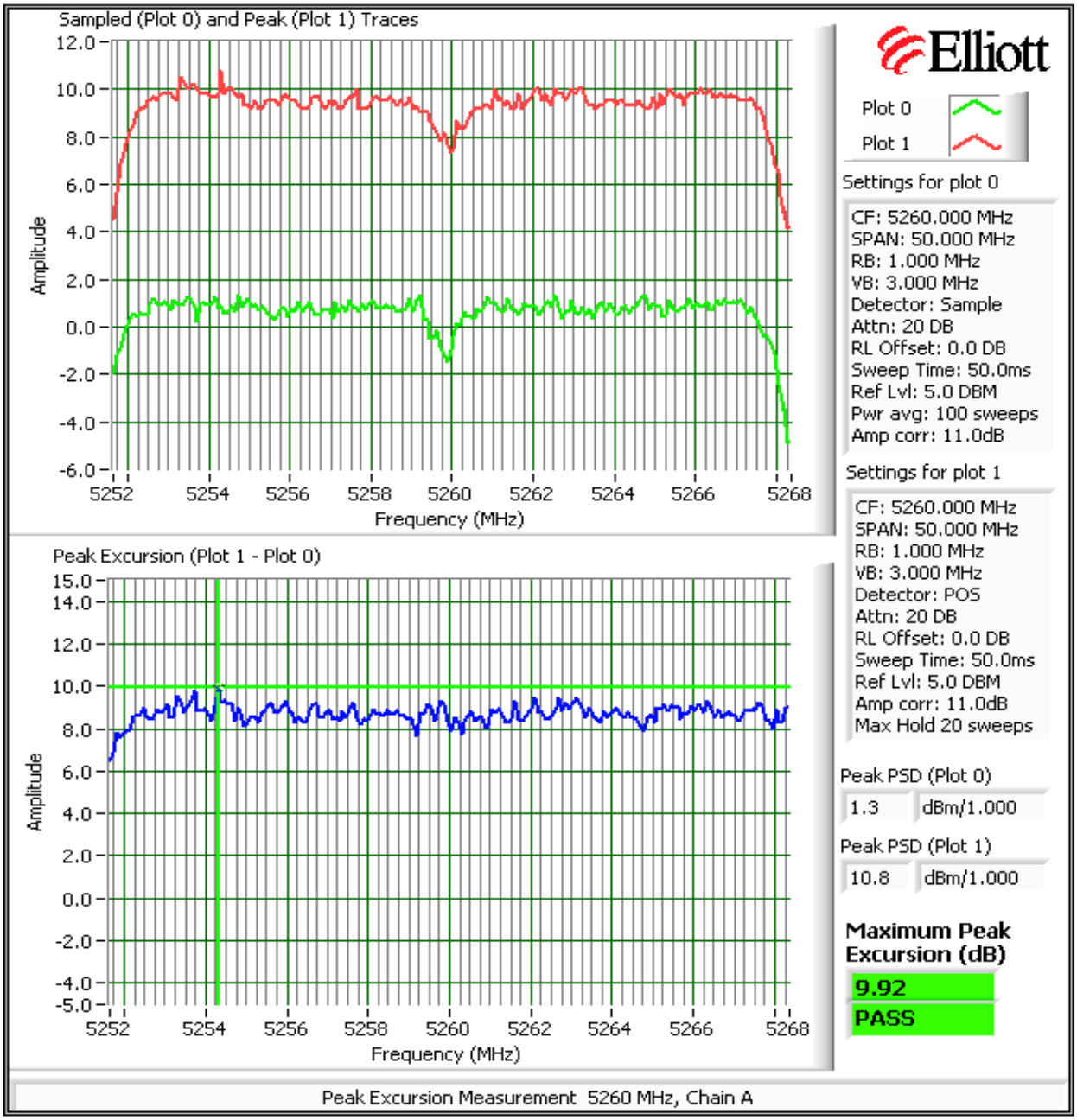
Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5190	11.7	13.0	5270	11.2	13.0	5510	11.3	13.0
5230	10.5	13.0	5310	11.6	13.0	5550	11.9	13.0
						5670	11.7	13.0

Plots Showing Peak Excursion

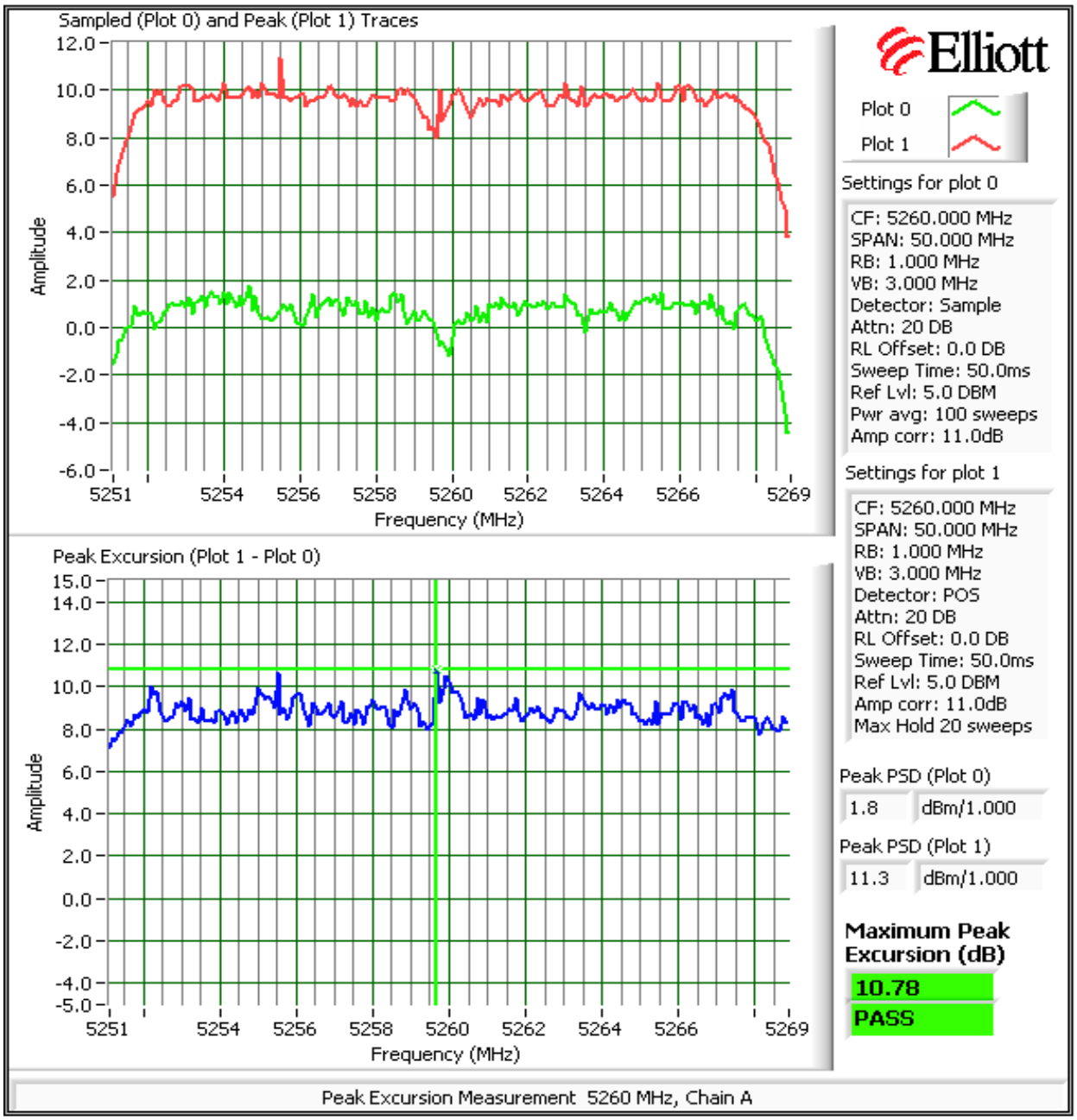
Trace A: RBW = 1MHz, VBW = 3MHz, Peak hold

Trace B: Same settings as used for power/PSD measurements (RBW = 1 MHz, VBW = 3MHz, Integrated **average** power)

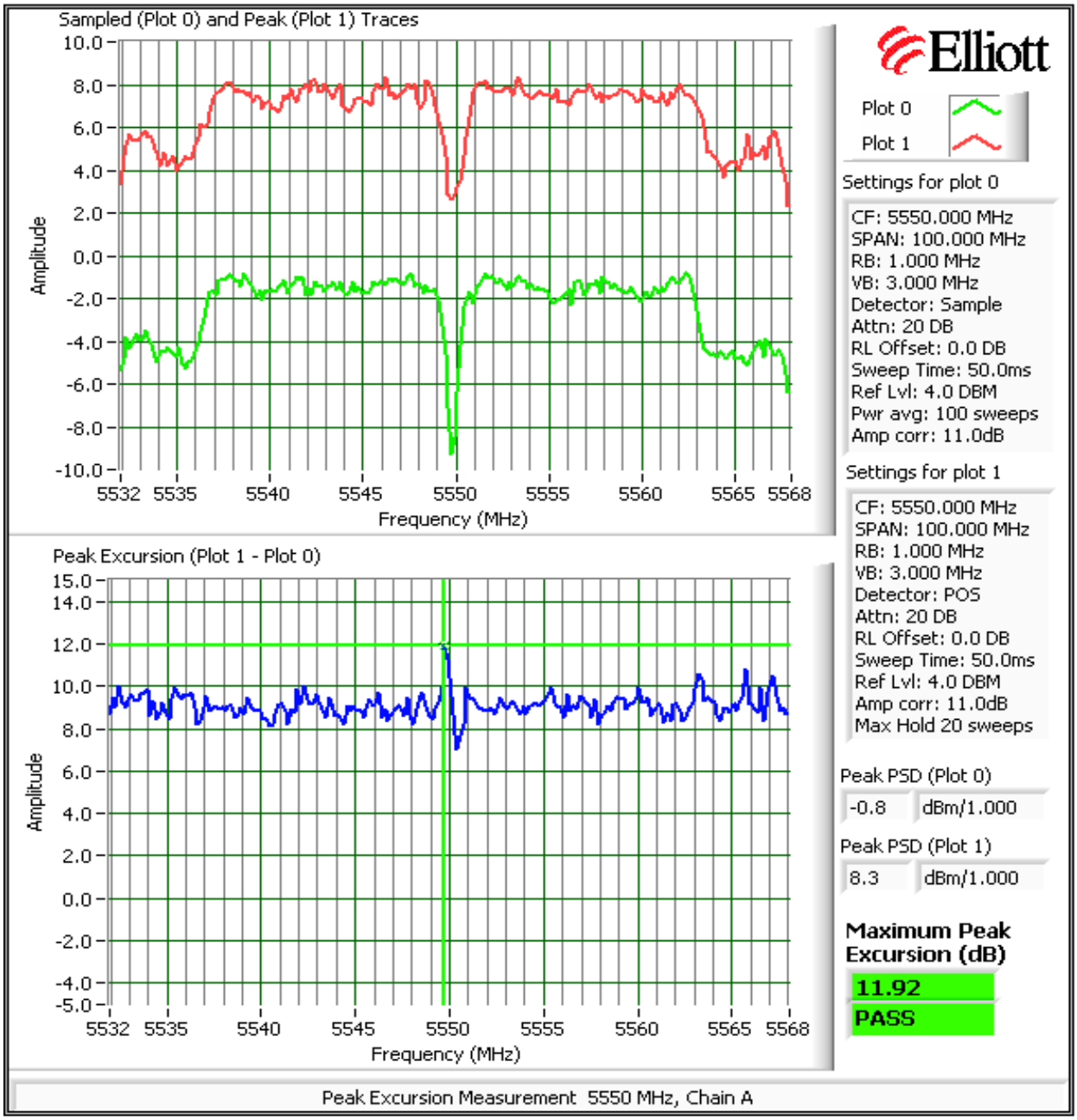
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #3: Out Of Band Spurious Emissions - Antenna Conducted

802.11a

Maximum Antenna Gain:	4.8	dBi	
Spurious Limit:	-27.0	dBm/MHz eirp	
Limit Used On Plots [Note 1]:	**-31.8**	dBm/MHz	Average Limit (RB=1MHz, VB=10Hz)
	-11.8	dBm/MHz	Peak Limit (RB=VB=1MHz)

802.11n Antenna gain used is the effective gain calculated in the power section of this data sheet. The plots were obtained for each chain individually and the limit was adjusted to account for all chains transmitting simultaneously (solid red line on plot)

Number of transmit chains:	2		
Maximum Antenna Gain:	4.8	dBi	
Spurious Limit:	-27.0	dBm/MHz eirp	
Adjustment for 2 chains:	-3.0	dB adjustment for multiple chains.	
Limit Used On Plots [Note 1]:	**-34.8**	dBm/MHz	Average Limit (RB=1MHz, VB=10Hz)
	-14.8	dBm/MHz	Peak Limit (RB=VB=1MHz)

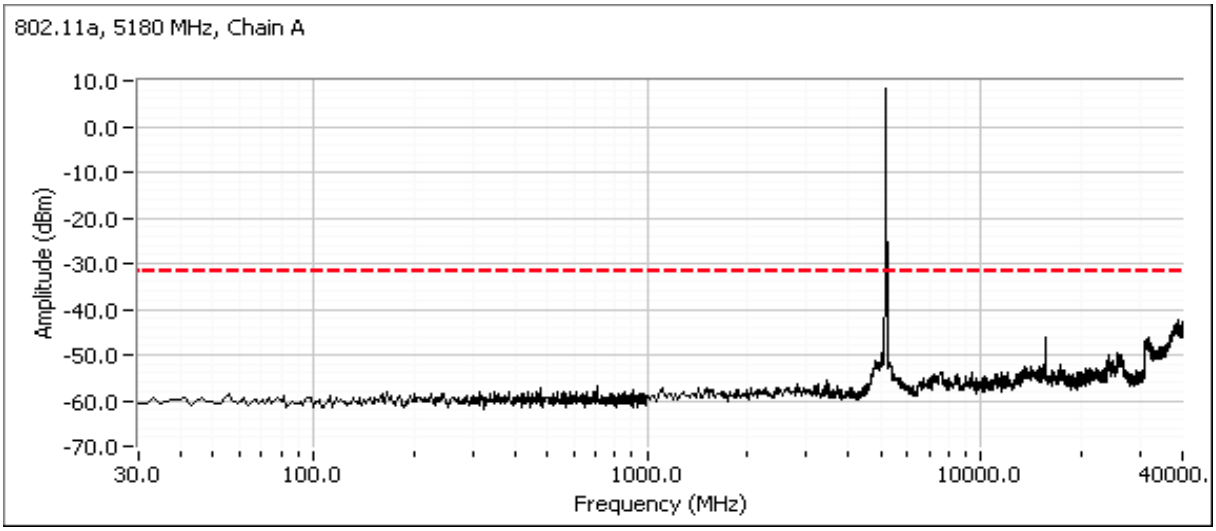
Note 1:	The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain). Radiated field strength measurements for signals more than 50MHz from the bands and that are close to the limit are made to determine compliance as the antenna gain is not known at these frequencies.
Note 2:	All spurious signals below 1GHz are measured during digital device radiated emissions test.
Note 3:	Signals within 10MHz of the 5.725 or 5.825 Band edge are subject to a limit of -17dBm EIRP
Note 4:	If the device is for outdoor use then the -27dBm eirp limit also applies in the 5150 - 5250 MHz band.
Note 5:	Signals that fall in the restricted bands of 15.205 are subject to the limit of 15.209.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

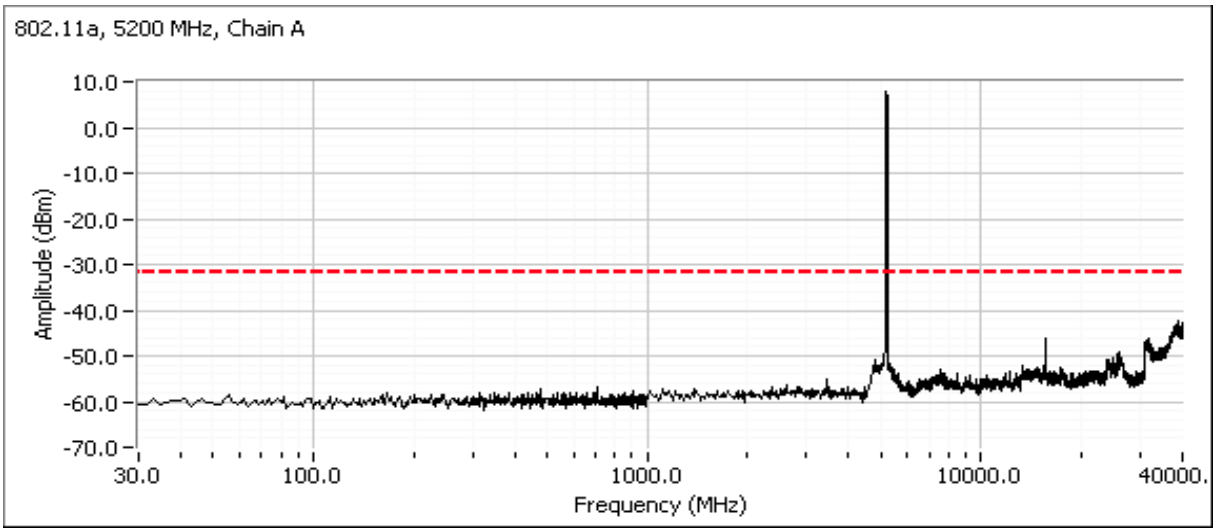
Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

Low channel, 5150 - 5250 MHz Band 802.11a

Compliance with the radiated limits for the restricted Band 802.11a immediately below 5150MHz is demonstrated through the radiated emissions tests.

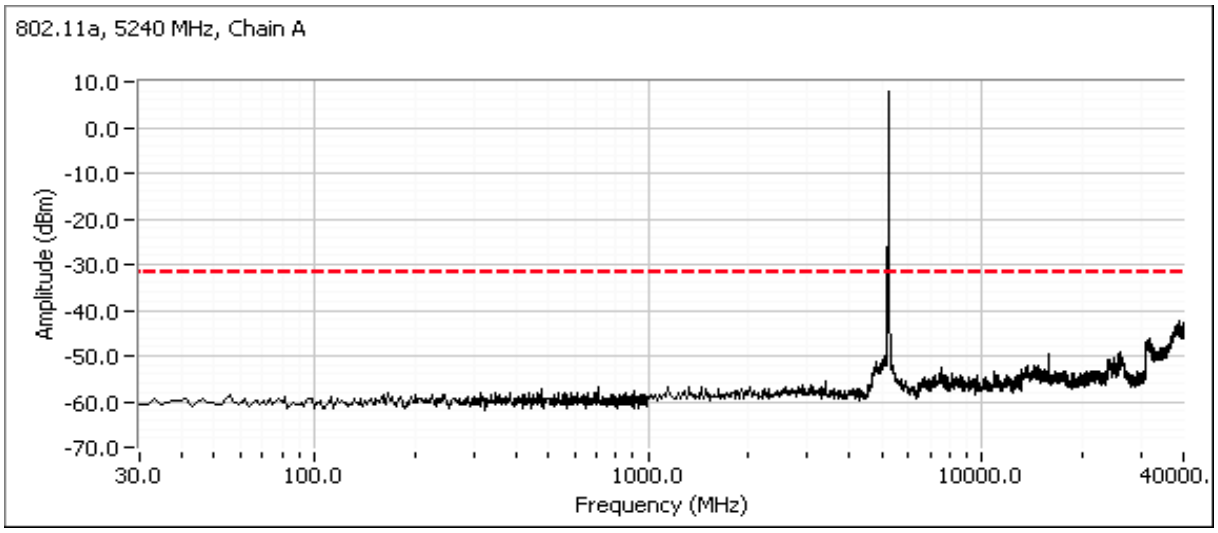


Center channel, 5150 - 5250 MHz Band 802.11a

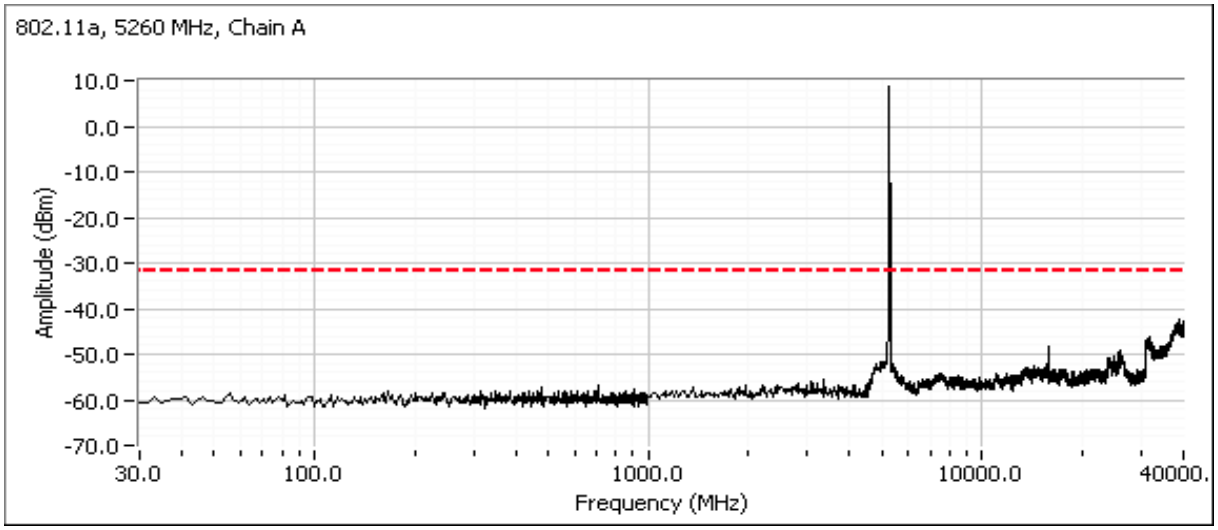


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5150 - 5250 MHz Band 802.11a

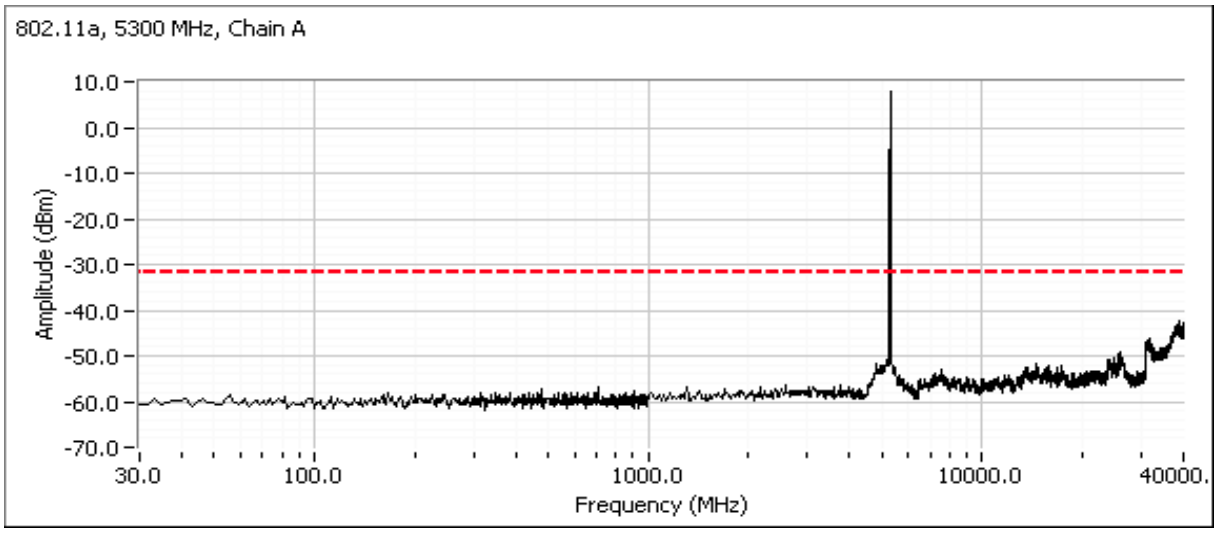


Low channel, 5250 - 5350 MHz Band 802.11a



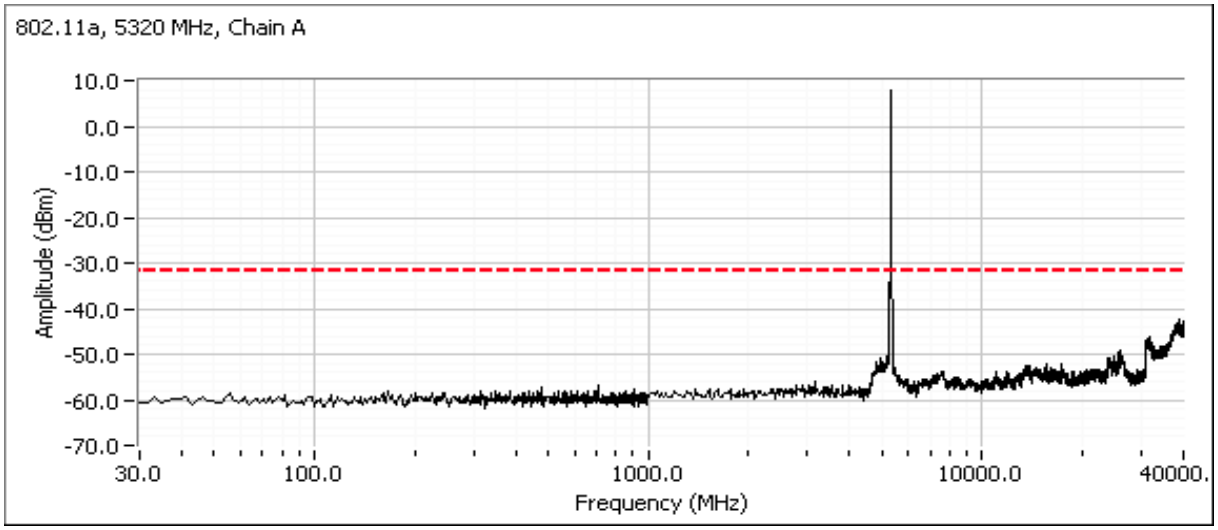
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Center channel, 5250 - 5350 MHz Band 802.11a



High channel, 5250 - 5350 MHz Band 802.11a

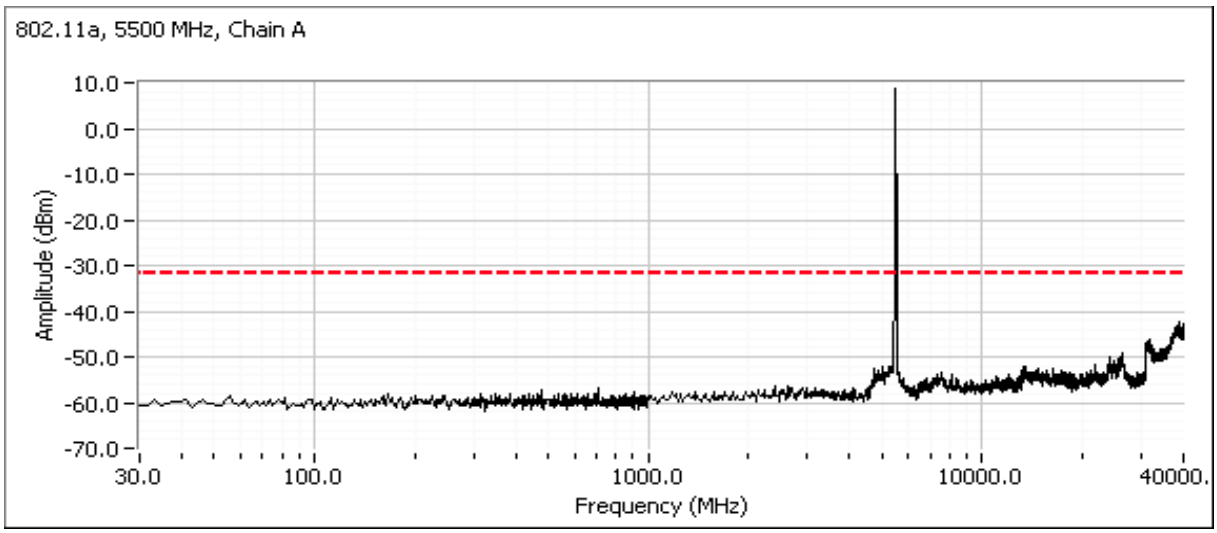
Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



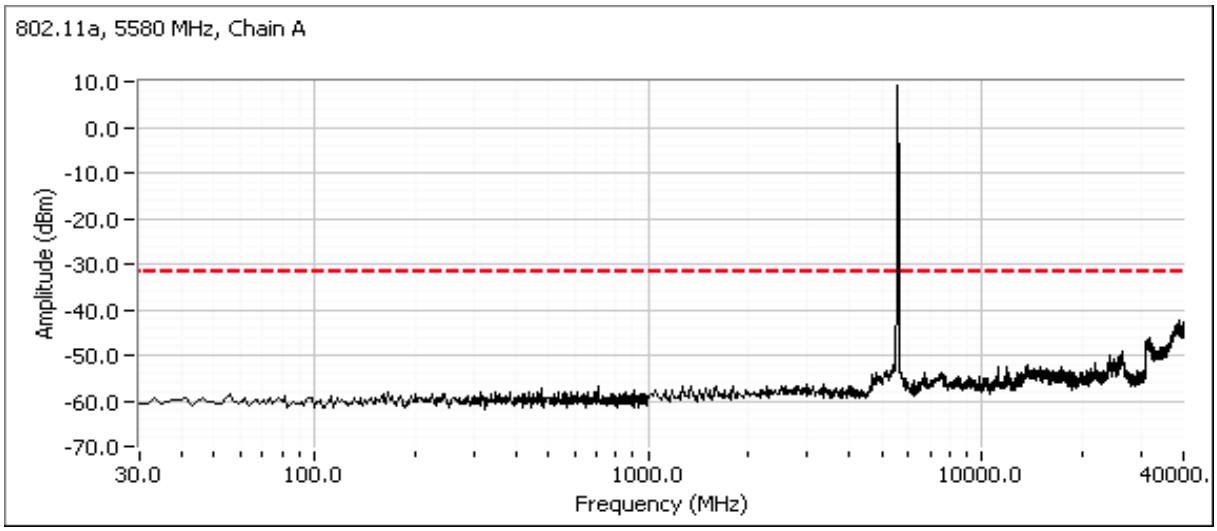
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5470 - 5725 MHz Band 802.11a

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



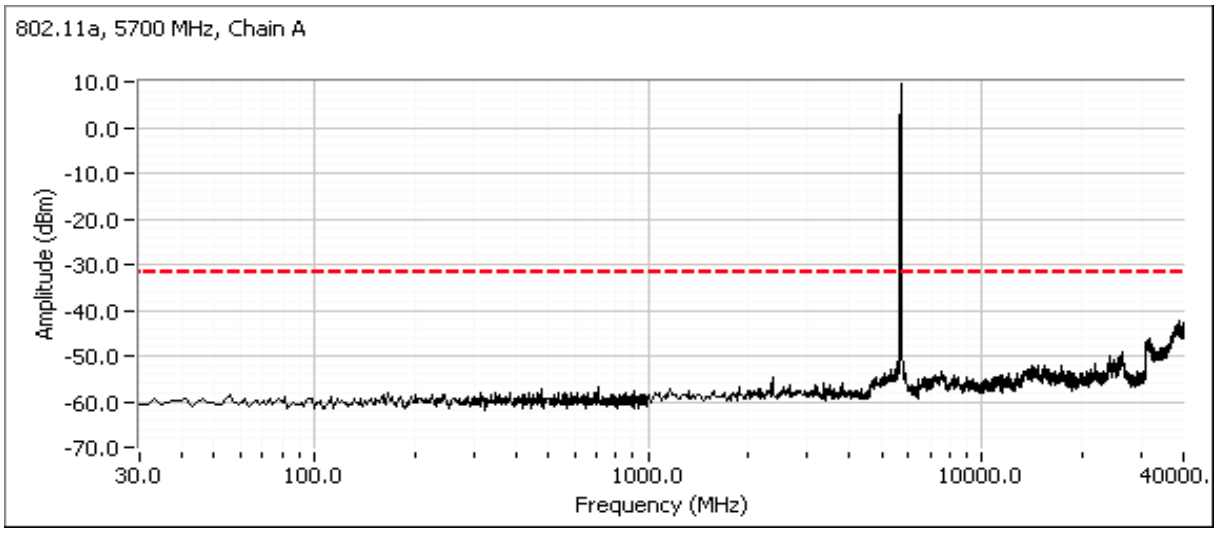
Center channel, 5470 - 5725 MHz Band 802.11a (20Mhz channel use 5580 MHz, 40MHz channel use 5550 MHz)



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5470 - 5725 MHz Band 802.11a

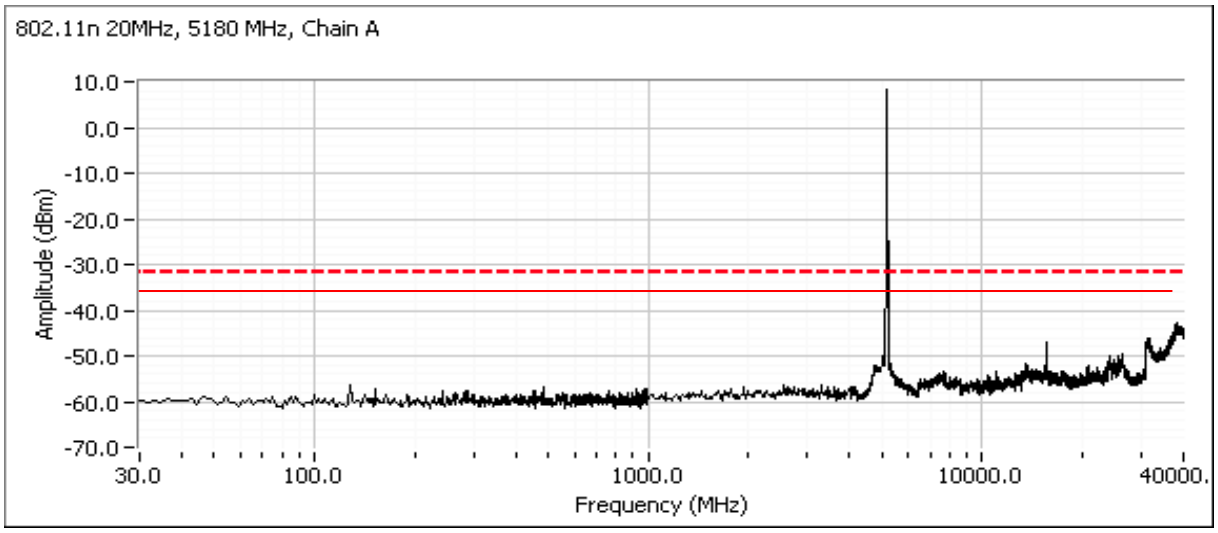
Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



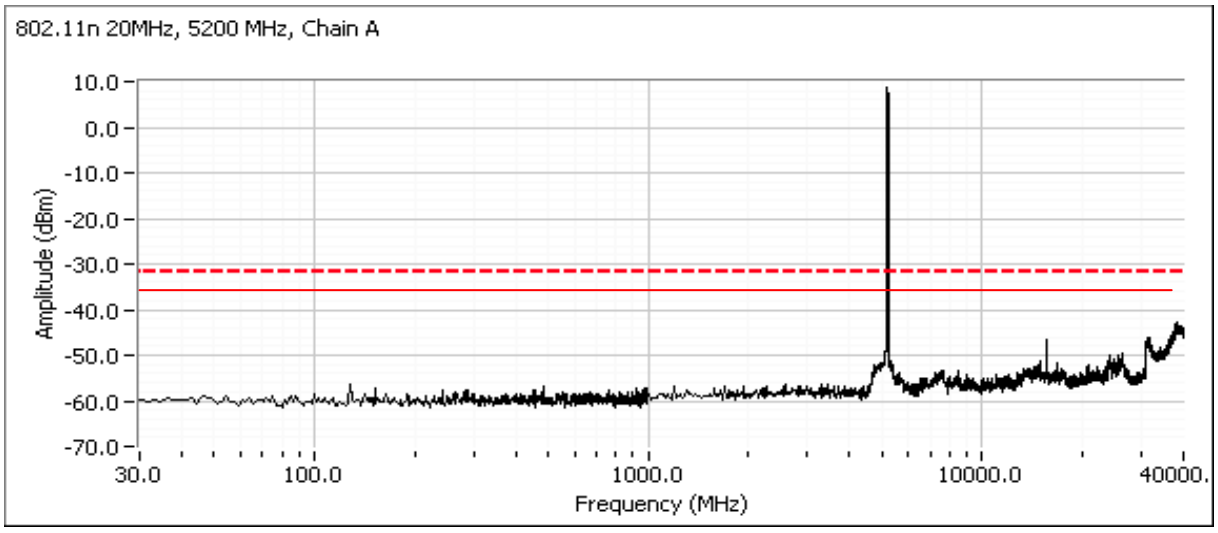
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5150 - 5250 MHz Band 802.11n 20MHz

Compliance with the radiated limits for the restricted Band 802.11n 20MHz immediately below 5150MHz is demonstrated through the radiated emissions tests.

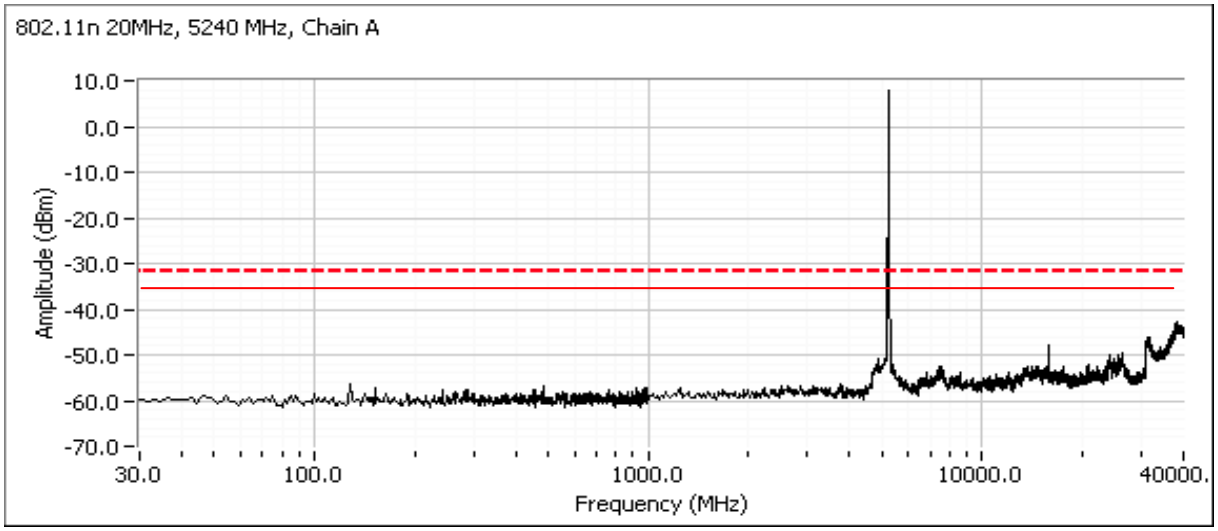


Center channel, 5150 - 5250 MHz Band 802.11n 20MHz

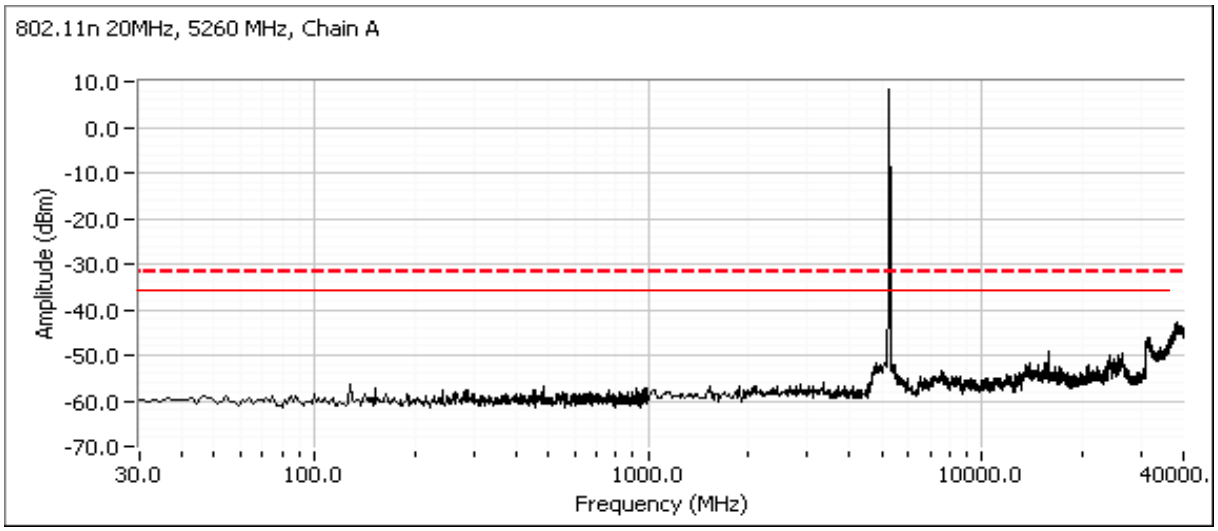


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5150 - 5250 MHz Band 802.11n 20MHz

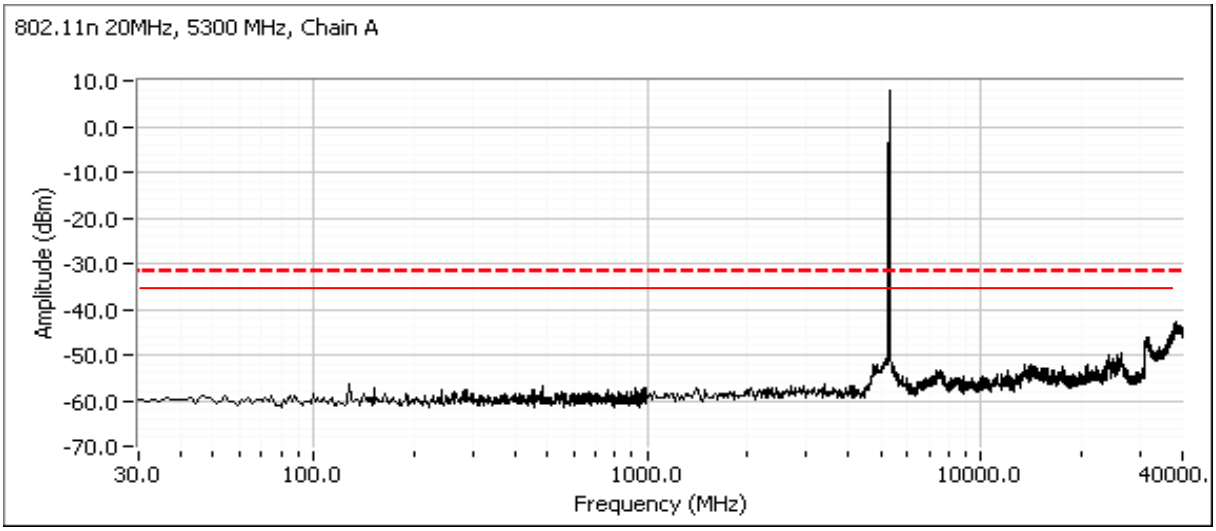


Low channel, 5250 - 5350 MHz Band 802.11n 20MHz



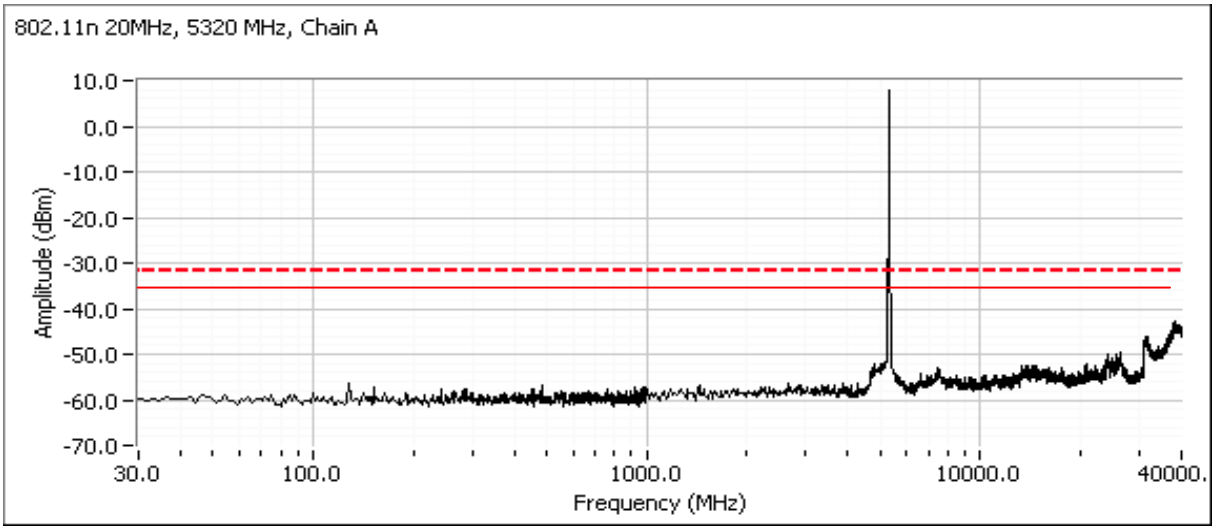
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Center channel, 5250 - 5350 MHz Band 802.11n 20MHz



High channel, 5250 - 5350 MHz Band 802.11n 20MHz

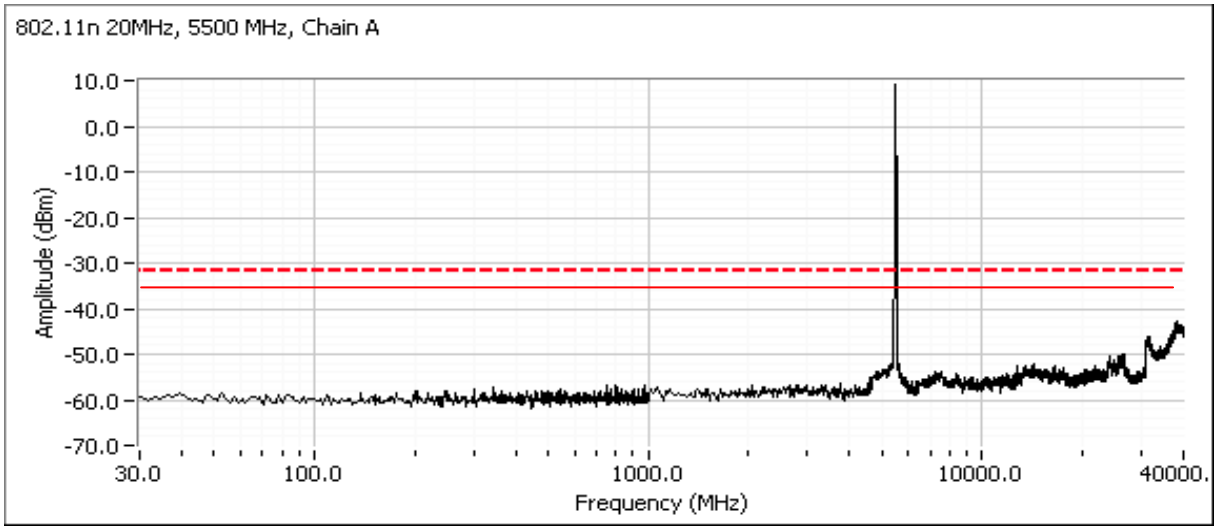
Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



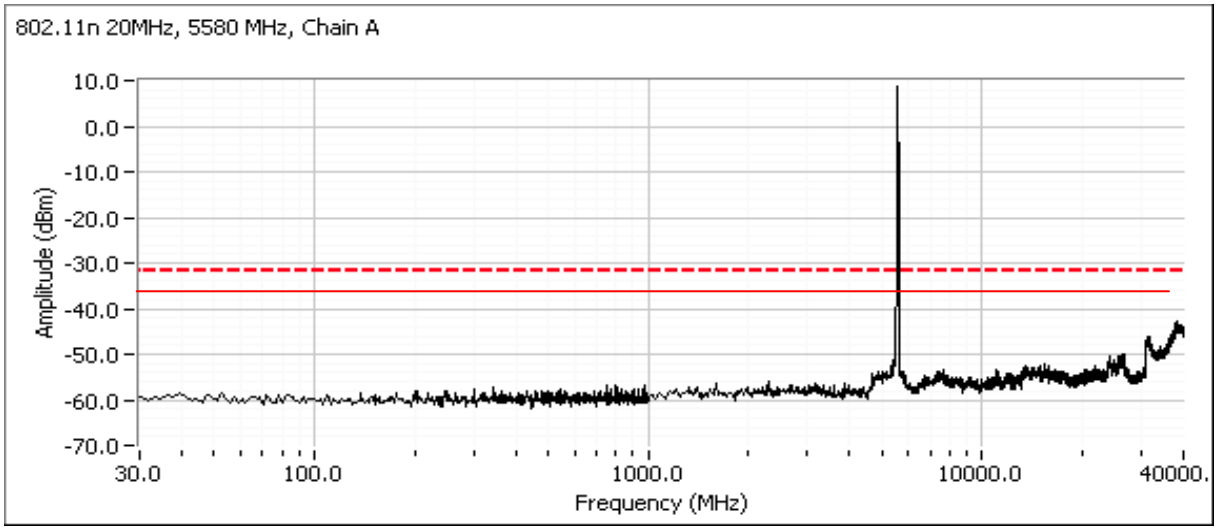
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5470 - 5725 MHz Band 802.11n 20MHz

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



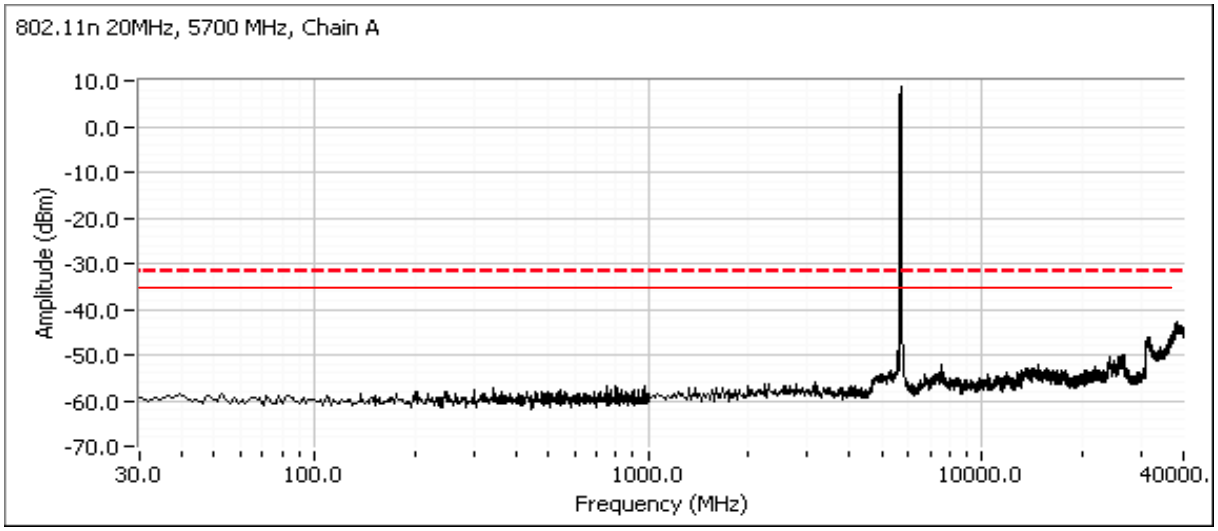
Center channel, 5470 - 5725 MHz Band 802.11n 20MHz (20Mhz channel use 5580 MHz, 40MHz channel use 5550 MHz)



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5470 - 5725 MHz Band 802.11n 20MHz

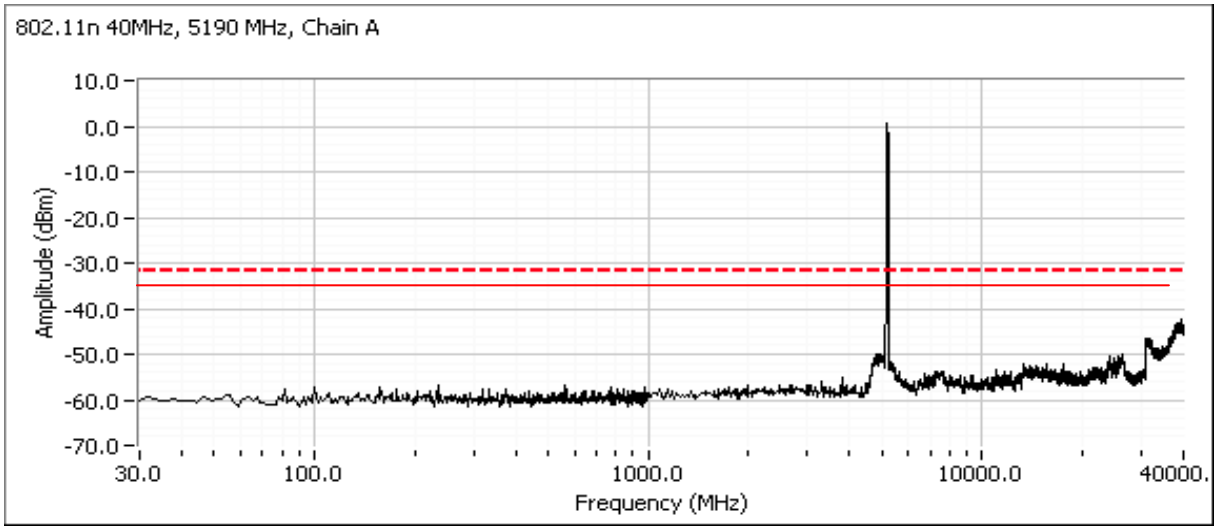
Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



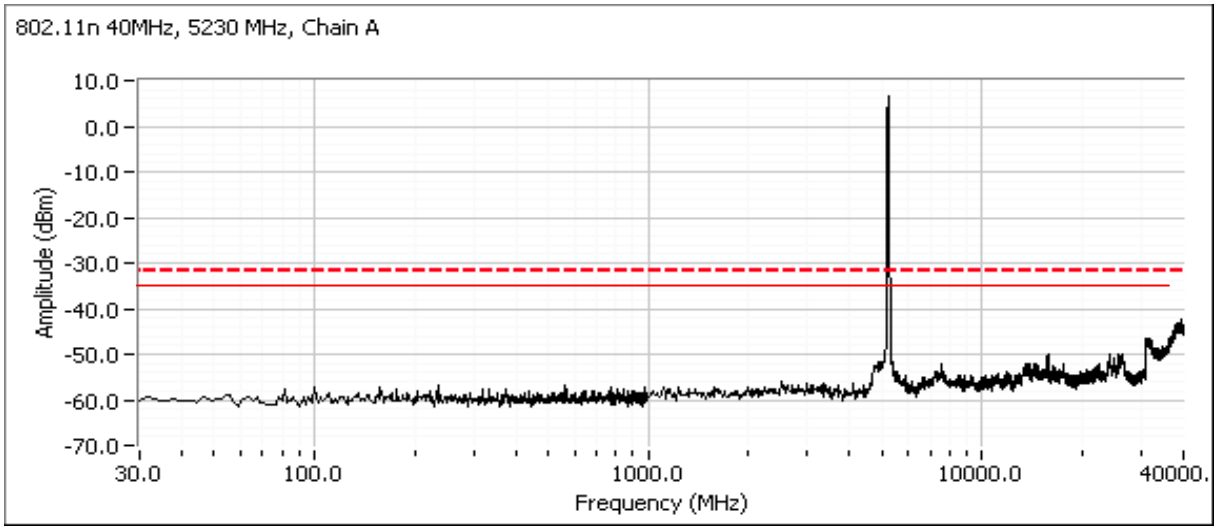
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5150 - 5250 MHz Band 802.11n 40MHz

Compliance with the radiated limits for the restricted Band 802.11n 40MHz immediately below 5150MHz is demonstrated through the radiated emissions tests.

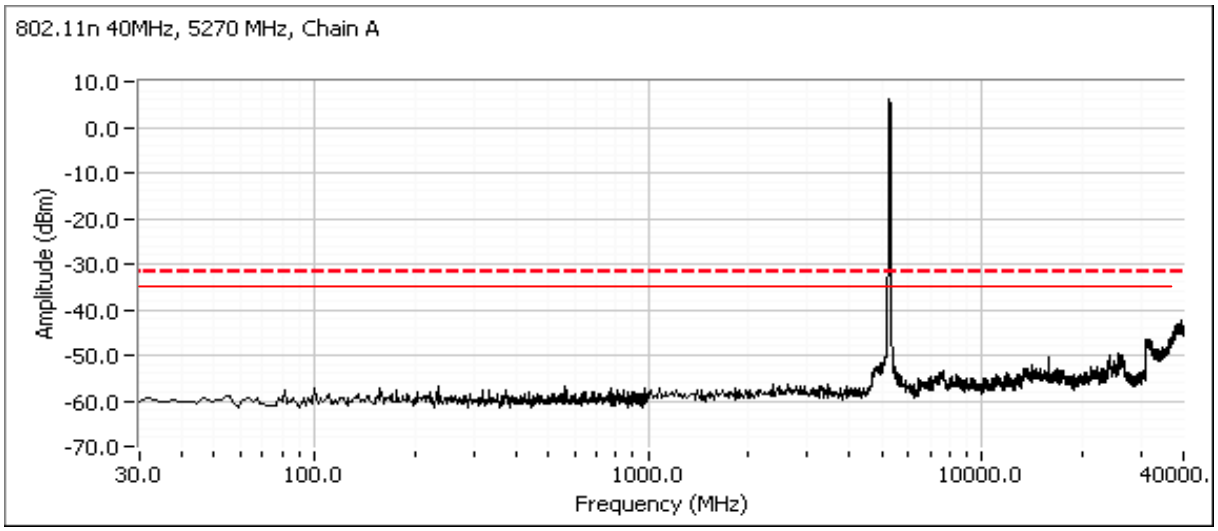


High channel, 5150 - 5250 MHz Band 802.11n 40MHz



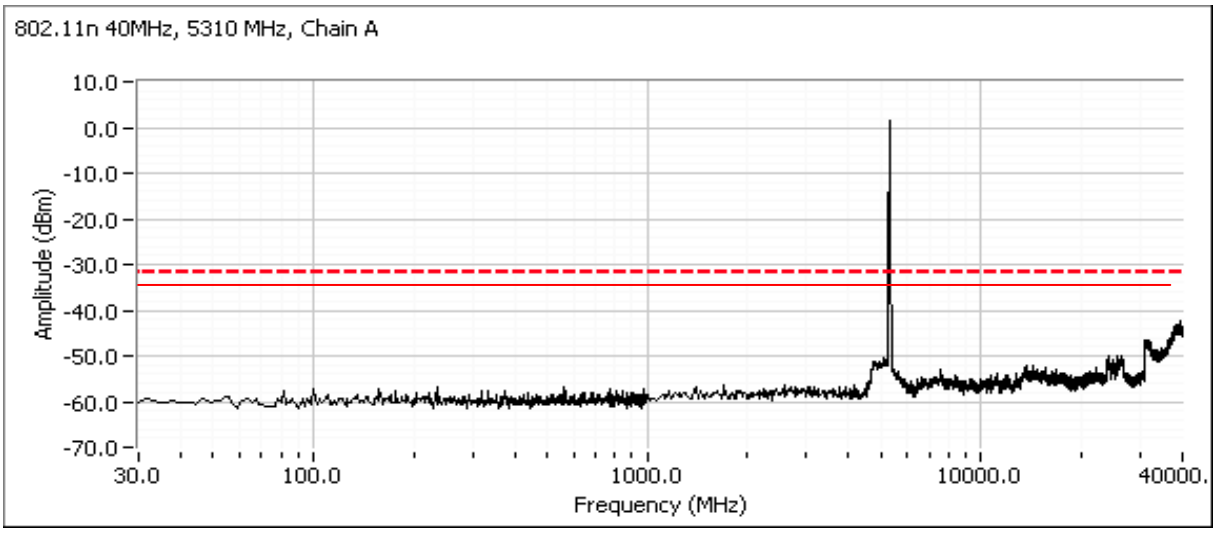
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5250 - 5350 MHz Band 802.11n 40MHz



High channel, 5250 - 5350 MHz Band 802.11n 40MHz

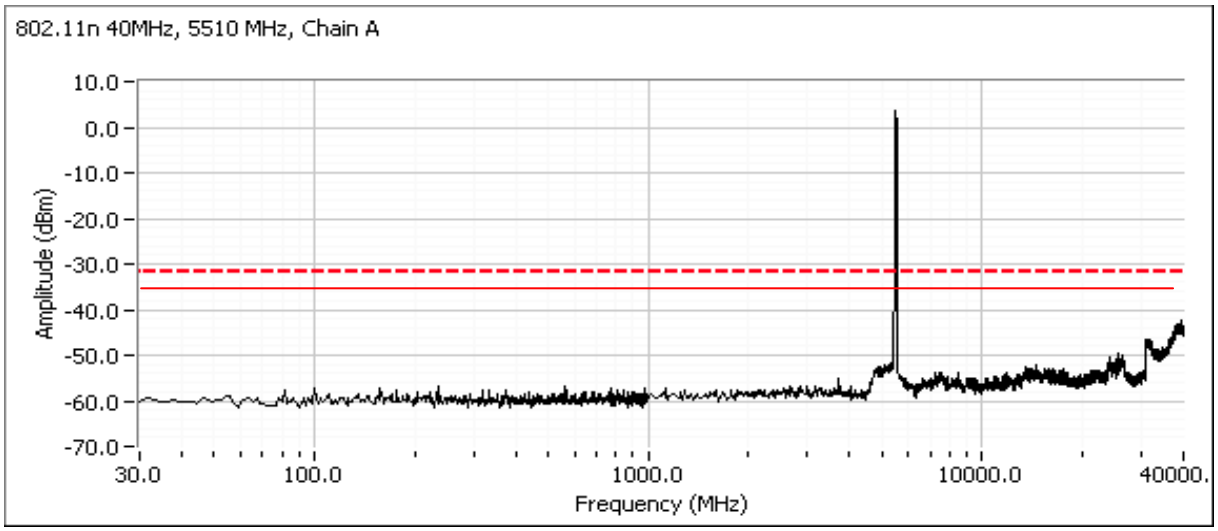
Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



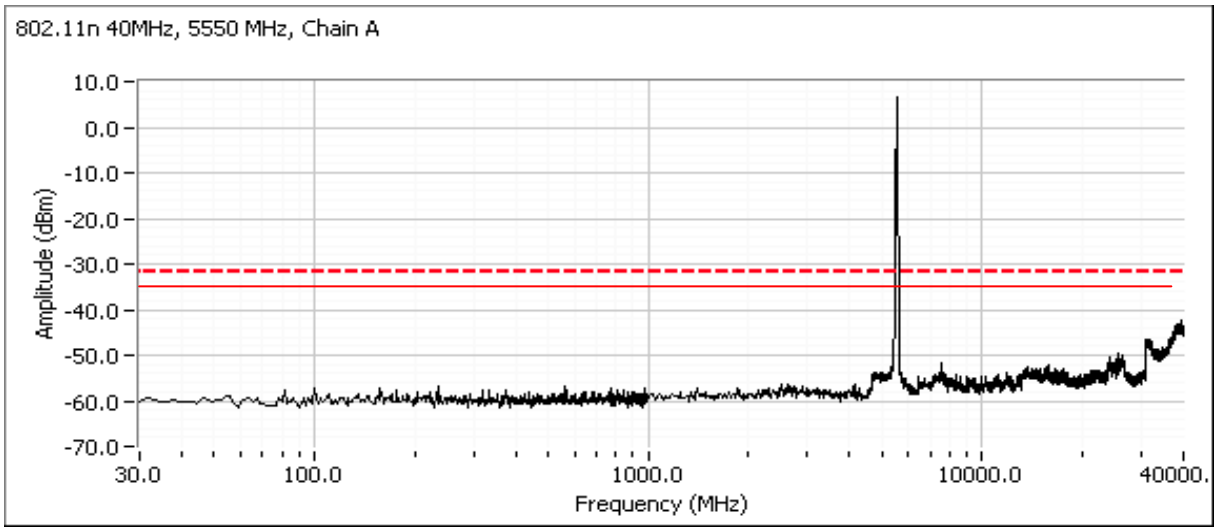
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5470 - 5725 MHz Band 802.11n 40MHz

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



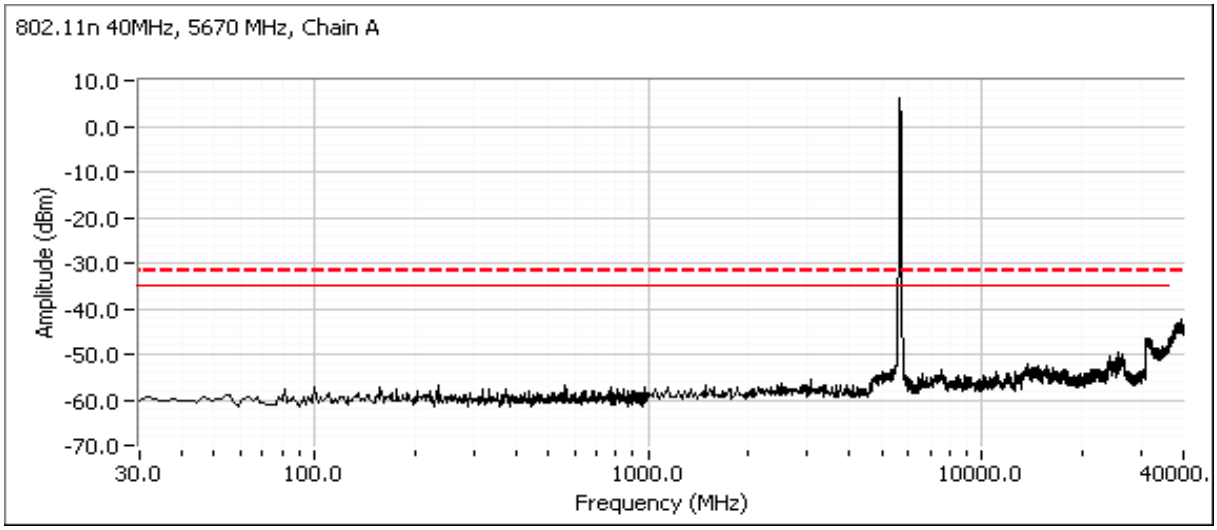
Center channel, 5470 - 5725 MHz Band 802.11n 40MHz



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5470 - 5725 MHz Band 802.11n 40MHz

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements, SISO Mode Chain B
Power, PSD, Peak Excursion, 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: 8/18/2010
Test Engineer: Rafael Varelas
Test Location: FT Lab #3

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

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11a: 32.4 mW 802.11n 20MHz: 25.7 mW 802.11n n40MHz: 26.9 mW
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11a: 2.3 dBm/MHz 802.11n 20MHz: 1.3 dBm/MHz 802.11n n40MHz: -1.1 dBm/MHz
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11a: 26.9 mW 802.11n 20MHz: 25.1 mW 802.11n n40MHz: 28.2 mW
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11a: 1.8 dBm/MHz 802.11n 20MHz: 1.2 dBm/MHz 802.11n n40MHz: -0.8 dBm/MHz
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11a: 32.4 mW 802.11n 20MHz: 32.4 mW 802.11n n40MHz: 33.9 mW
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11a: 2.4 dBm/MHz 802.11n 20MHz: 2.4 dBm/MHz 802.11n n40MHz: -0.1 dBm/MHz
1	26dB Bandwidth	15.407 (Information only)	-	> 20MHz for all modes
1	99% Bandwidth	RSS 210 (Information only)	N/A	802.11a: 17.1 MHz 802.11n 20MHz: 18.3 MHz 802.11n n40MHz: 36.6 MHz
2	Peak Excursion Envelope	15.407(a) (6) 13dB	Pass	12.1 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b) -27dBm/MHz	Pass	All emissions below the -27dBm/MHz limit

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature: 22.1 °C
Rel. Humidity: 44 %

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: Bandwidth, Output Power and Power Spectral Density - Single Chain Systems

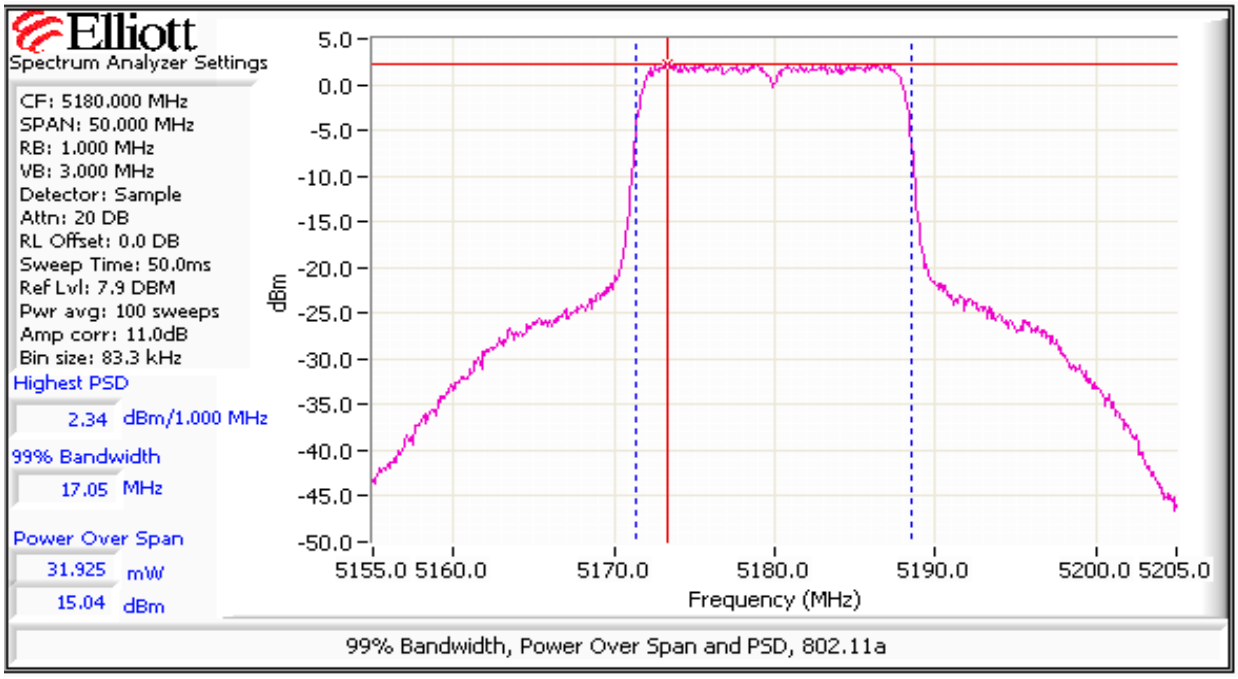
Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over **40MHz (n20) or 80** MHz (n40) - method 1 of DA 02-2138A1.
Note 2:	Measured using the same analyzer settings used for output power.
Note 3:	For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
Note 4:	99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

Single Chain Operation, 5150-5250MHz Band - Chain B

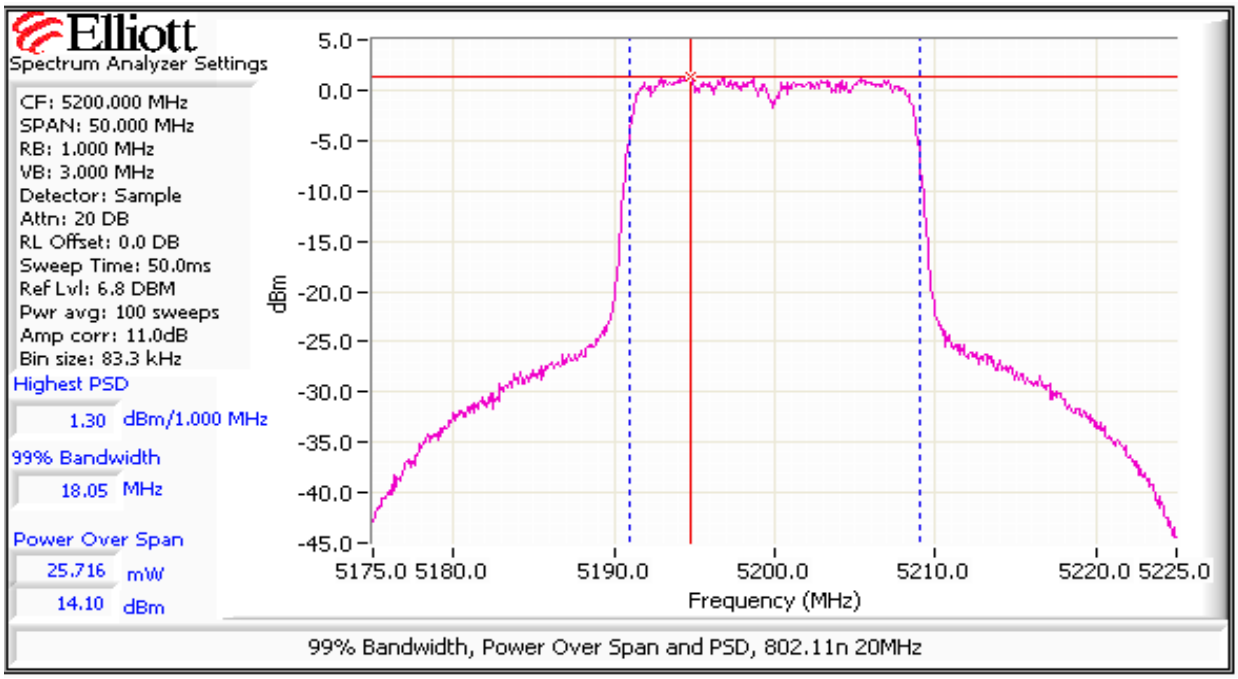
Antenna Gain (dBi): 3.7 EIRP: 75.9 mW 18.8 dBm

Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5180	20.5 / 16.2	33.9	17.1	15.1	17.0	0.032	2.3	4.0	6.3	Pass
5200	20.5 / 16.1	34.6	17.0	14.2	17.0	0.026	1.6	4.0	6.3	Pass
5240	21 / 16.1	34.1	17.0	14.3	17.0	0.027	1.5	4.0	6.3	Pass
802.11n 20MHz										
5180	19.5 / 15.6	39.6	18.1	13.3	17.0	0.021	0.5	4.0	6.3	Pass
5200	20.5 / 16.1	40.4	18.1	14.1	17.0	0.026	1.3	4.0	6.3	Pass
5240	21 / 16	39.2	18.1	14.0	17.0	0.025	1.1	4.0	6.3	Pass
802.11n 40MHz										
5190	15.5 / 11.1	40.2	36.1	9.7	17.0	0.009	-5.8	4.0	6.3	Pass
5230	22 / 16	60.7	36.3	14.3	17.0	0.027	-1.1	4.0	6.3	Pass

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

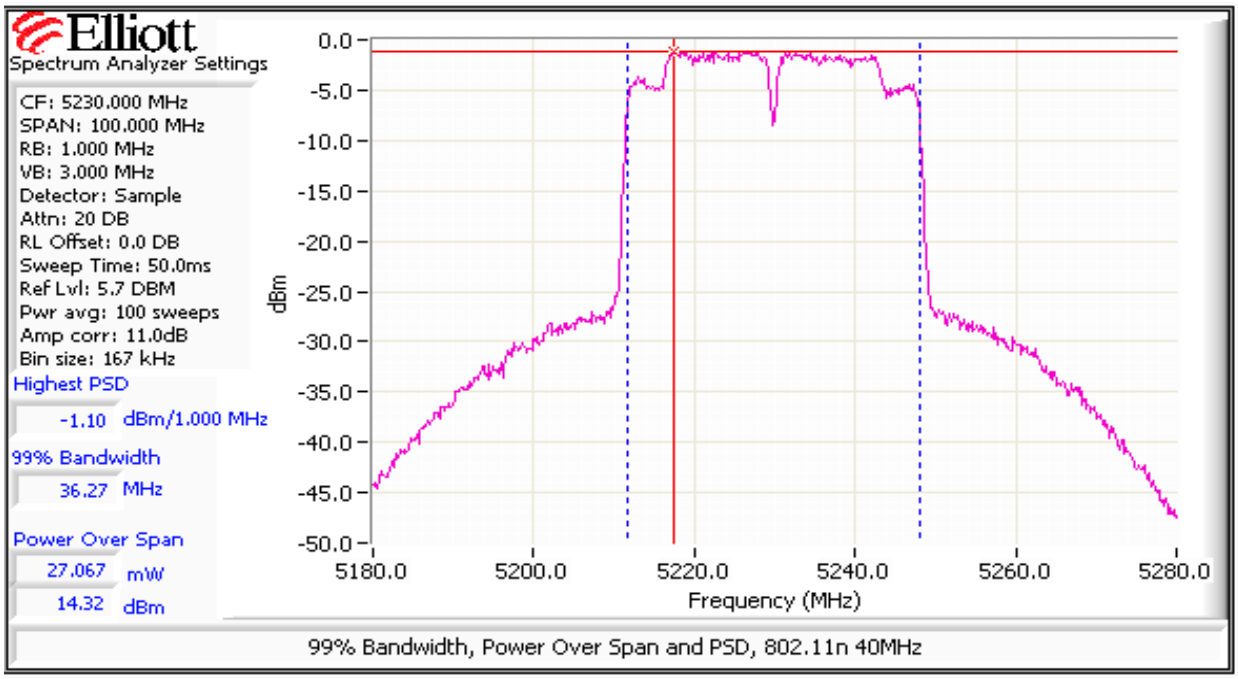


99% Bandwidth, Power Over Span and PSD, 802.11a



99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Single Chain Operation, 5250-5350 MHz Band - Chain B

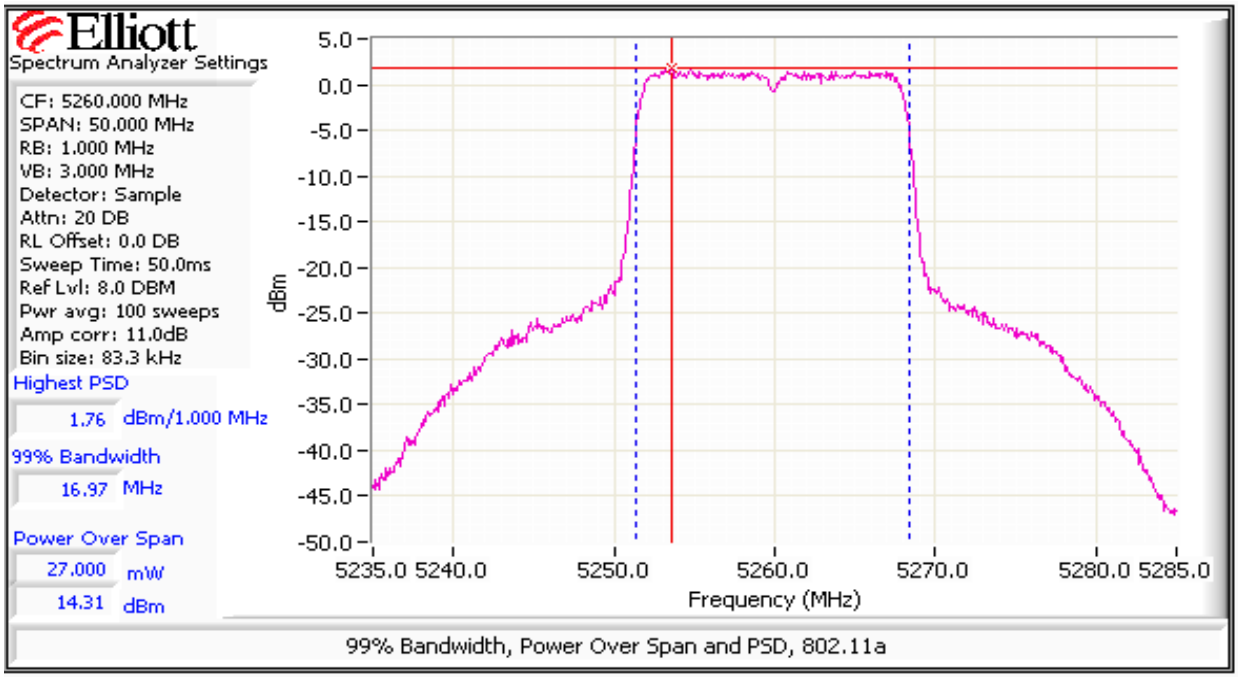
Antenna Gain (dBi): 3.7 EIRP: 63.1 mW 18.0 dBm

Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5260	21.5 / 16.2	36.6	17.0	14.3	24.0	0.027	1.8	11.0	11.0	Pass
5300	22 / 16.2	36.3	17.1	14.0	24.0	0.025	1.3	11.0	11.0	Pass
5320	22.5 / 16.2	36.8	17.1	14.1	24.0	0.026	1.4	11.0	11.0	Pass
802.11n 20MHz										
5260	21.5 / 16.2	42.6	18.1	14.0	24.0	0.025	1.2	11.0	11.0	Pass
5300	22 / 16.1	42.6	18.2	13.7	24.0	0.023	0.9	11.0	11.0	Pass
5320	22.5 / 16.2	43.1	18.1	13.8	24.0	0.024	1.0	11.0	11.0	Pass
802.11n 40MHz										
5270	23.5 / 16.6	68.8	36.3	14.5	24.0	0.028	-0.8	11.0	11.0	Pass
5310	17 / 11.1	40.2	36.3	8.7	24.0	0.007	-6.5	11.0	11.0	Pass

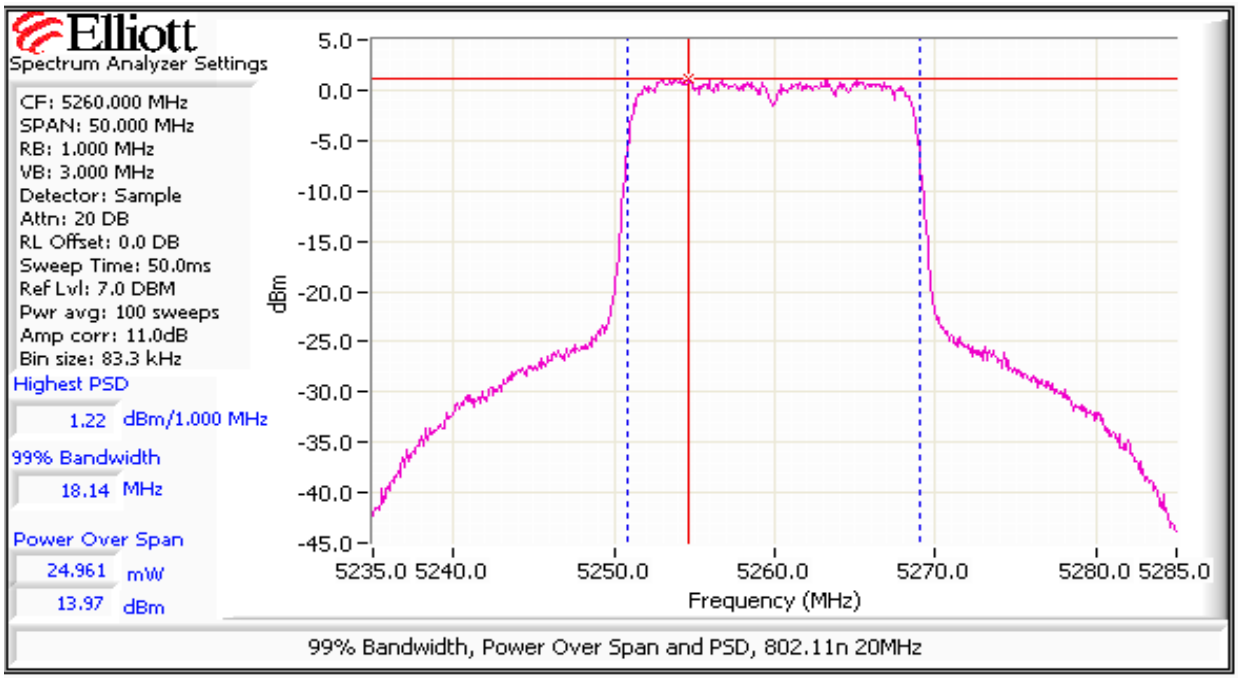
Output Power at Low Power Setting - 5250-5350 MHz Band

EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

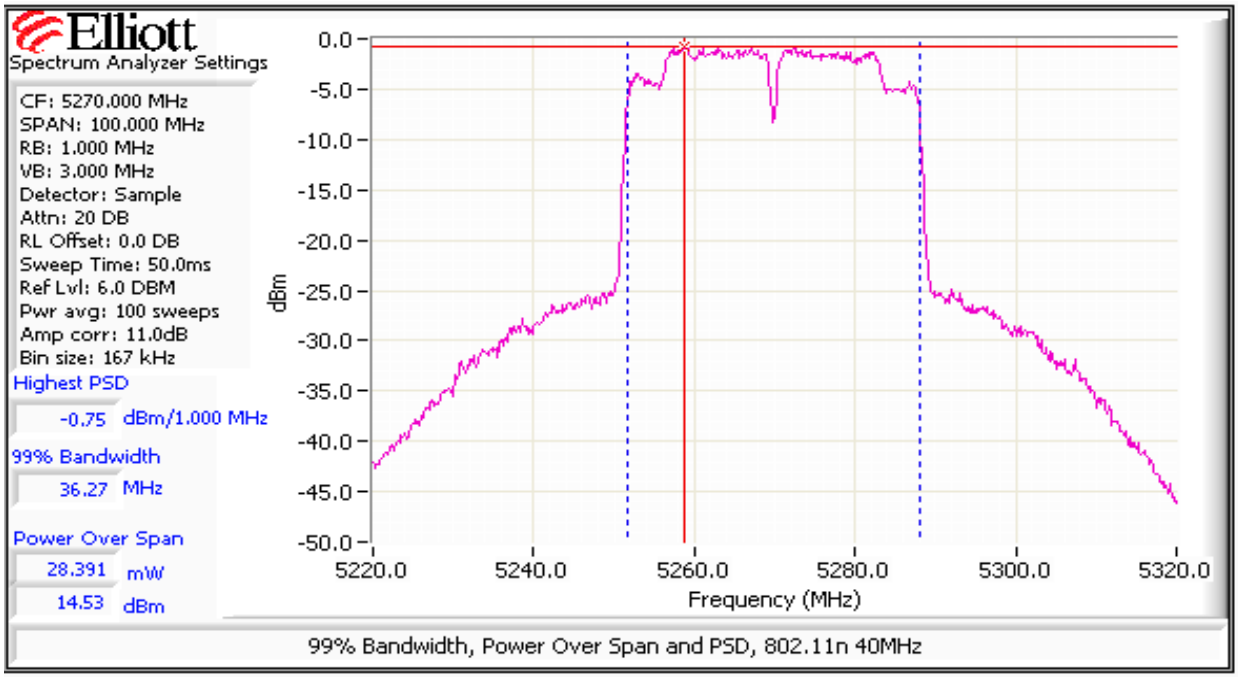


99% Bandwidth, Power Over Span and PSD, 802.11a



99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Single Chain Operation, 5470- 5725 MHz Band, Chain B

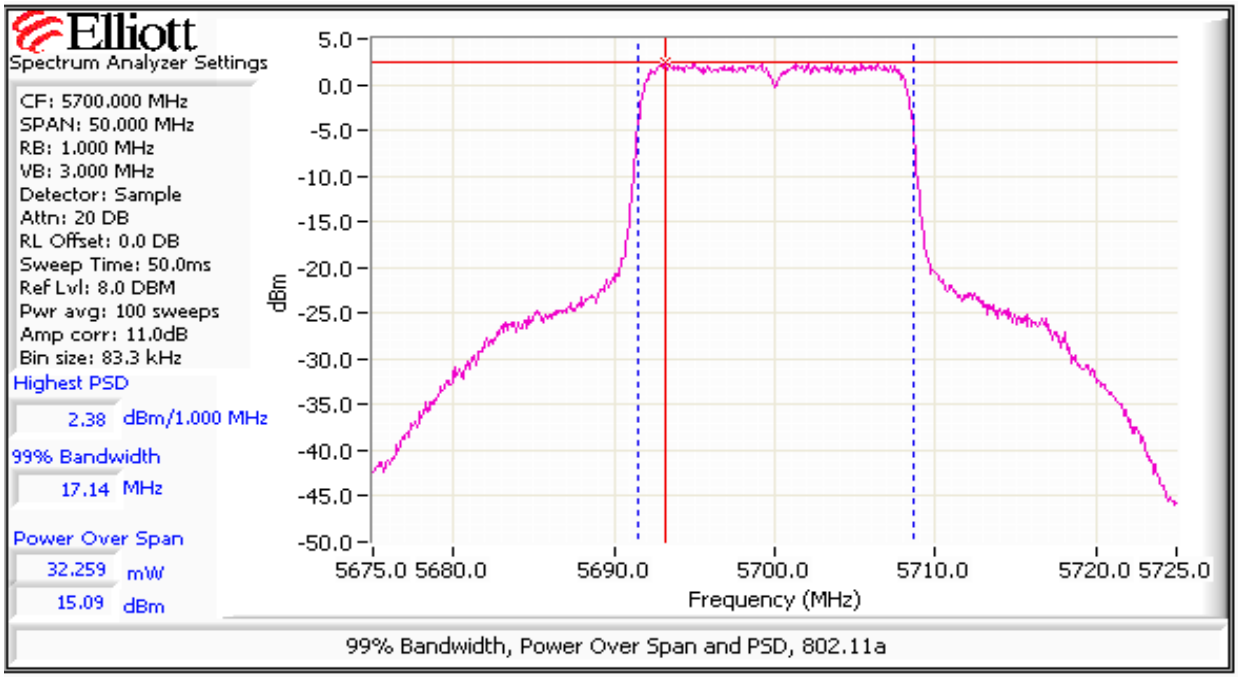
Antenna Gain (dBi): 4.8 EIRP: 97.7 mW 19.9 dBm

Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)	PSD[2] dBm/MHz Measured	PSD[2] dBm/MHz FCC Limit	PSD[2] dBm/MHz RSS Limit[3]	Result
802.11a										
5500	25 / 16.6	37.7	17.1	14.6	24.0	0.029	1.8	11.0	11.0	Pass
5580	26 / 16.7	38.0	17.1	14.9	24.0	0.031	2.4	11.0	11.0	Pass
5700	26.5 / 16.5	37.1	17.1	15.1	24.0	0.032	2.4	11.0	11.0	Pass
802.11n 20MHz										
5500	25 / 16.6	42.8	18.2	14.3	24.0	0.027	1.7	11.0	11.0	Pass
5580	26 / 16.6	43.4	18.2	14.5	24.0	0.028	1.9	11.0	11.0	Pass
5700	27 / 16.7	43.3	18.3	15.1	24.0	0.032	2.4	11.0	11.0	Pass
802.11n 40MHz										
5510	22 / 13.6	46.3	36.3	11.2	24.0	0.013	-4.0	11.0	11.0	Pass
5550	27 / 16.7	69.2	36.4	14.8	24.0	0.030	-0.7	11.0	11.0	Pass
5670	28 / 16.7	69.8	36.6	15.3	24.0	0.034	-0.1	11.0	11.0	Pass

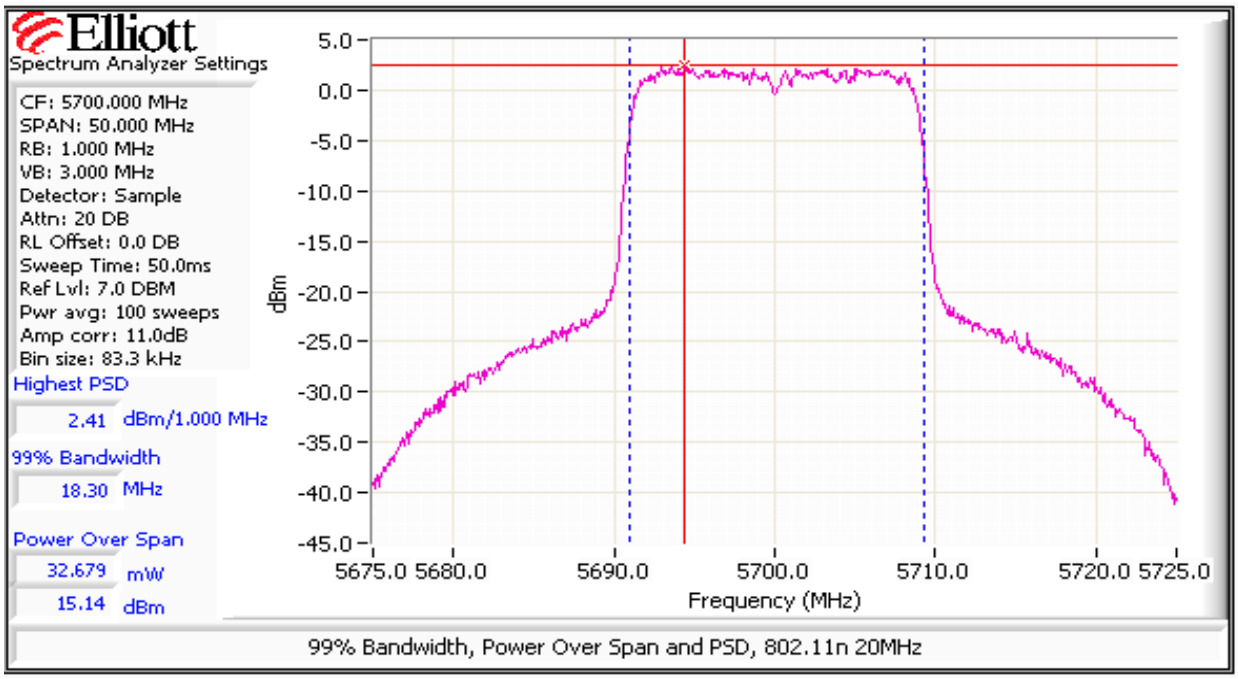
Output Power at Low Power Setting - 5470-5725 MHz Band

EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

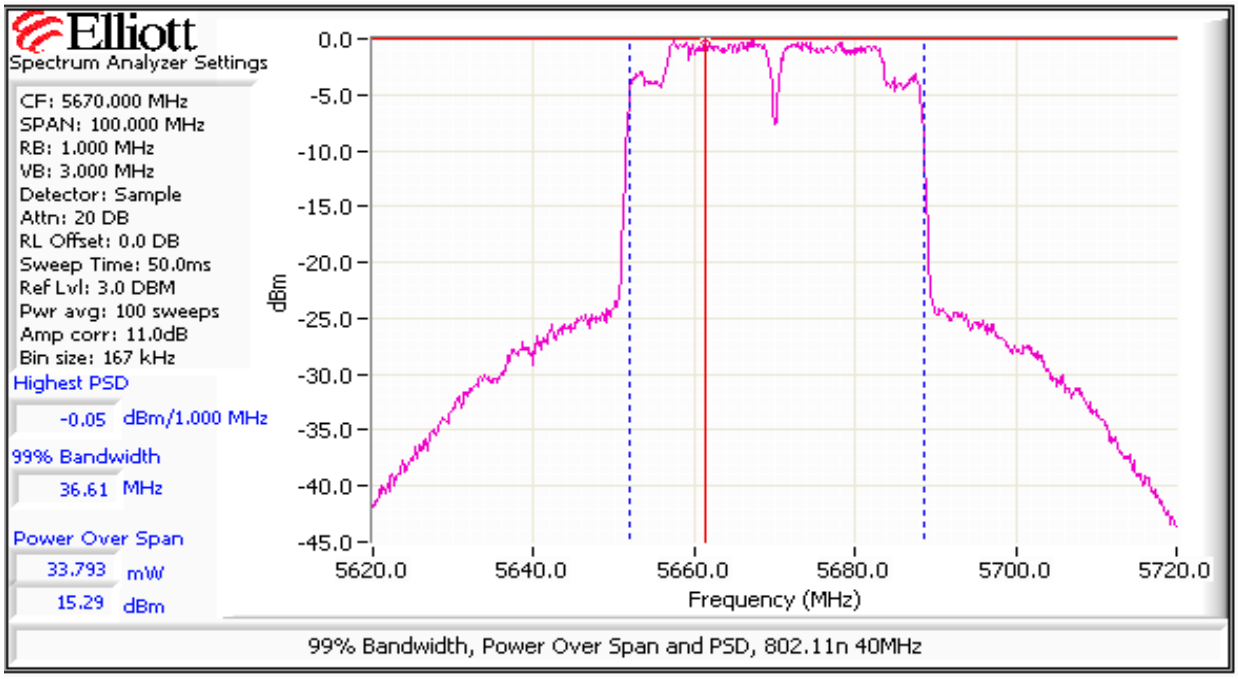


99% Bandwidth, Power Over Span and PSD, 802.11a



99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #2: Peak Excursion Measurement

802.11a: Device meets the requirement for the peak excursion

Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	9.4	13.0	5260	9.8	13.0	5500	9.8	13.0
5200	9.6	13.0	5300	9.6	13.0	5580	9.9	13.0
5240	9.7	13.0	5320	9.8	13.0	5700	**10.1**	13.0

n20MHz: Device meets the requirement for the peak excursion

Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5180	10.6	13.0	5260	10.7	13.0	5500	10.2	13.0
5200	**11.1**	13.0	5300	10.8	13.0	5580	10.5	13.0
5240	10.9	13.0	5320	10.1	13.0	5700	10.4	13.0

n40MHz: Device meets the requirement for the peak excursion

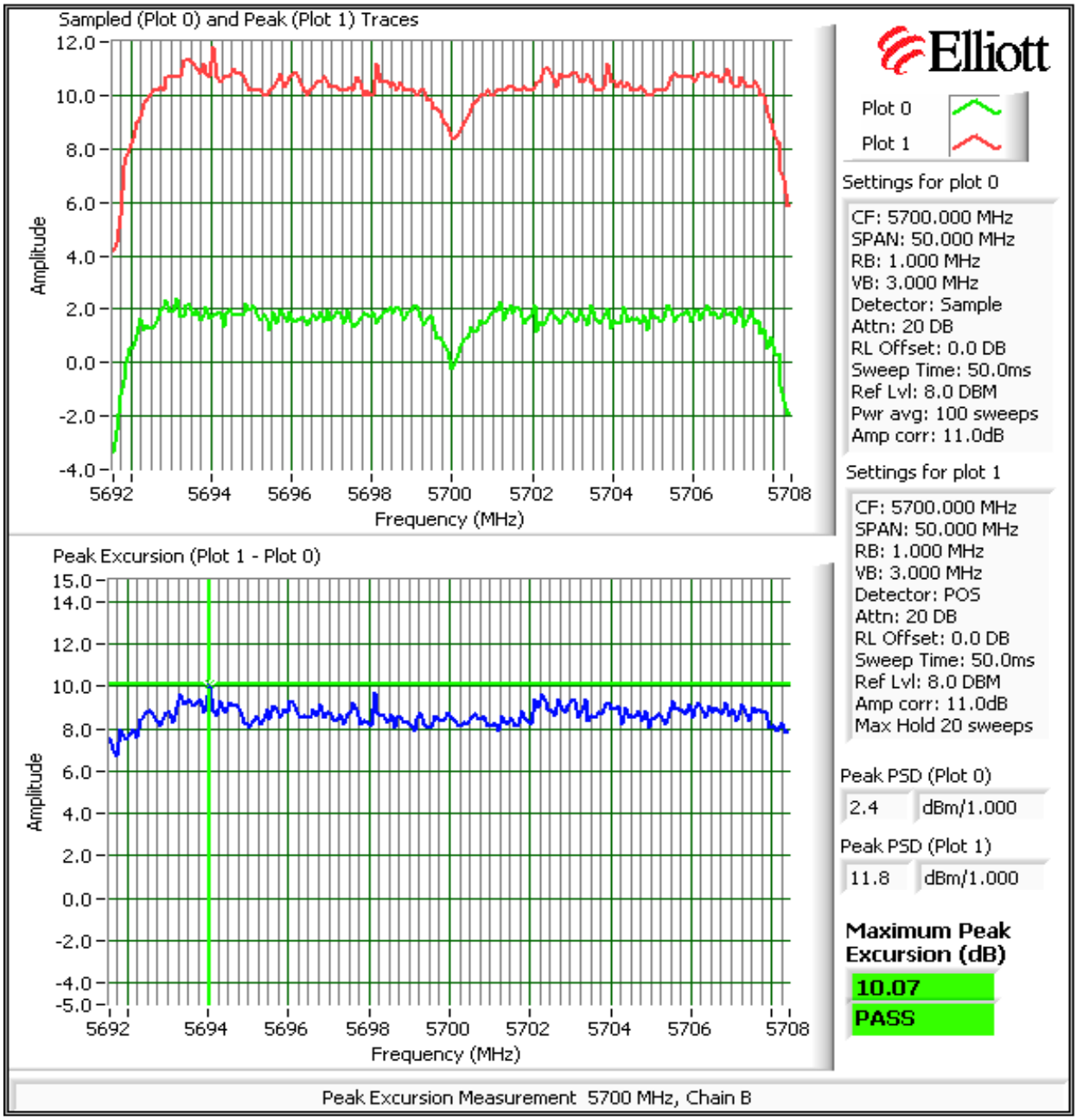
Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)		Freq	Peak Excursion(dB)	
(MHz)	Value	Limit	(MHz)	Value	Limit	(MHz)	Value	Limit
5190	11.4	13.0	5270	**12.1**	13.0	5510	12.0	13.0
5230	11.0	13.0	5310	11.6	13.0	5550	11.3	13.0
						5670	11.6	13.0

Plots Showing Peak Excursion

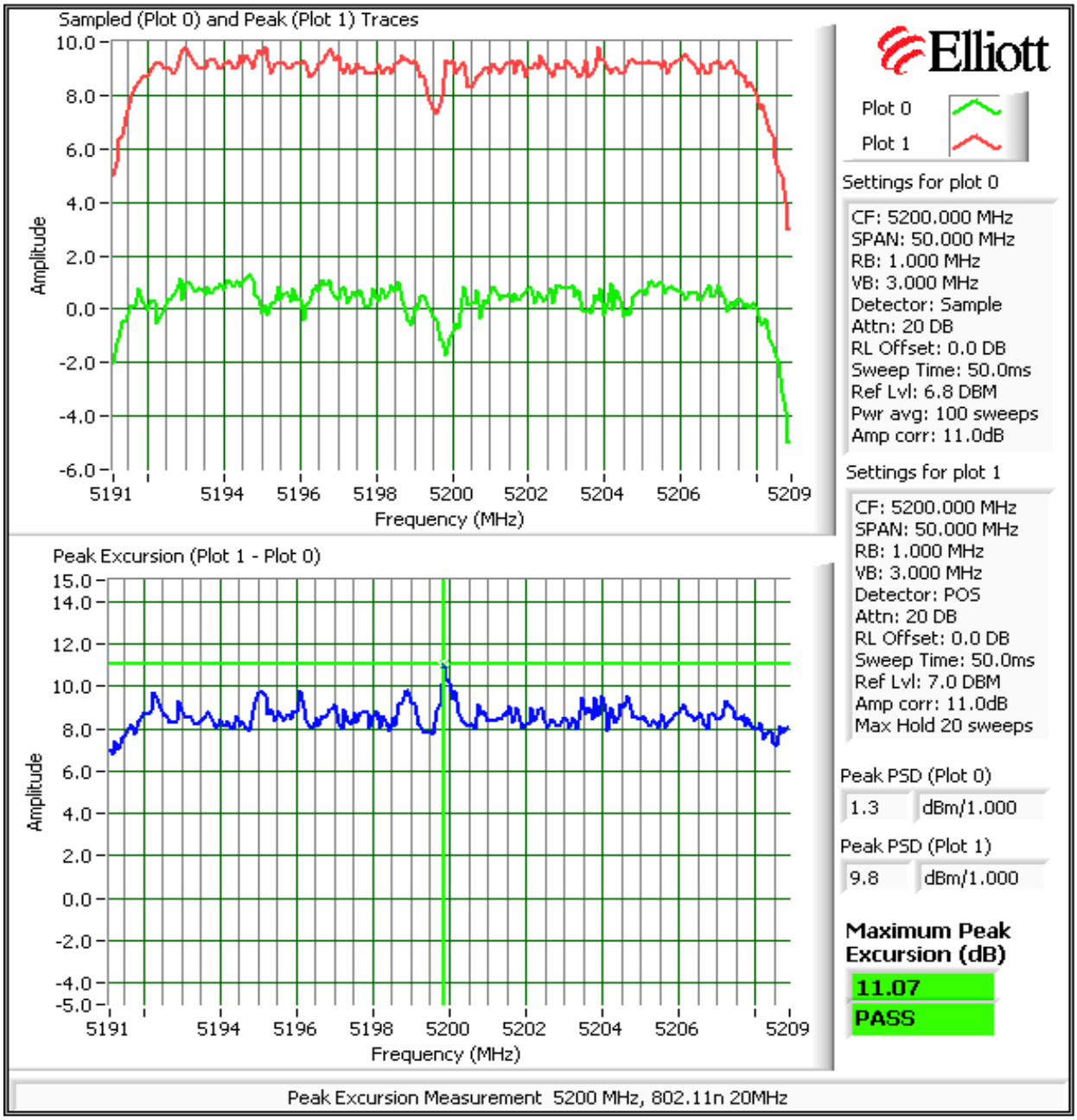
Trace A: RBW = 1MHz, VBW = 3MHz, Peak hold

Trace B: Same settings as used for power/PSD measurements (RBW = 1 MHz, VBW = 3MHz, Integrated **average** power)

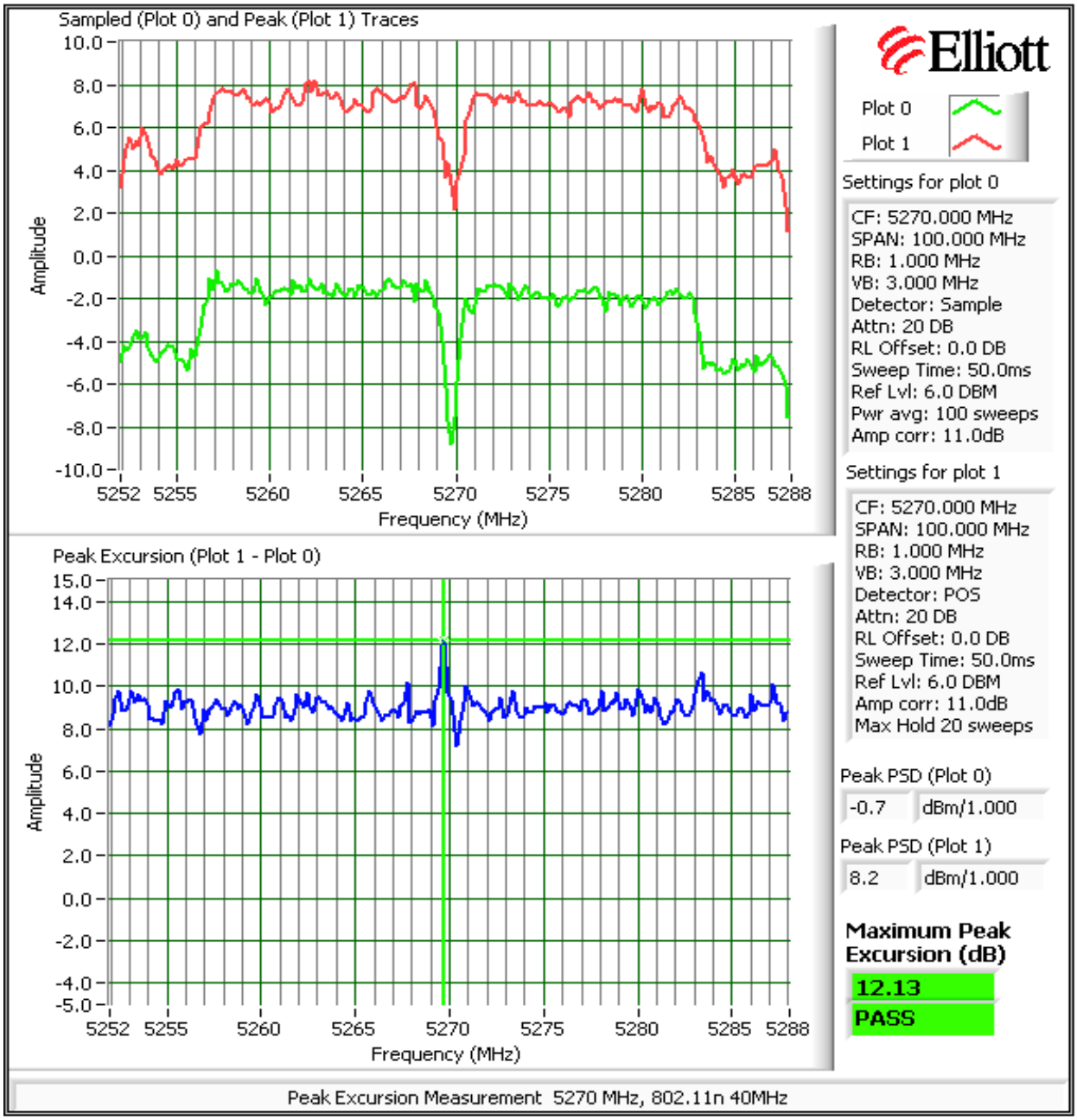
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Run #3: Out Of Band Spurious Emissions - Antenna Conducted

802.11a

Maximum Antenna Gain:	4.8	dBi	
Spurious Limit:	-27.0	dBm/MHz eirp	
Limit Used On Plots [Note 1]:	-31.8	dBm/MHz	Average Limit (RB=1MHz, VB=10Hz)
	-11.8	dBm/MHz	Peak Limit (RB=VB=1MHz)

802.11n Antenna gain used is the effective gain calculated in the power section of this data sheet. The plots were obtained for each chain individually and the limit was adjusted to account for all chains transmitting simultaneously

Number of transmit chains:	2		
Maximum Antenna Gain:	4.8	dBi	
Spurious Limit:	-27.0	dBm/MHz eirp	
Adjustment for 2 chains:	-3.0	dB adjustment for multiple chains.	
Limit Used On Plots [Note 1]:	**-34.8**	dBm/MHz	Average Limit (RB=1MHz, VB=10Hz)
	-14.8	dBm/MHz	Peak Limit (RB=VB=1MHz)

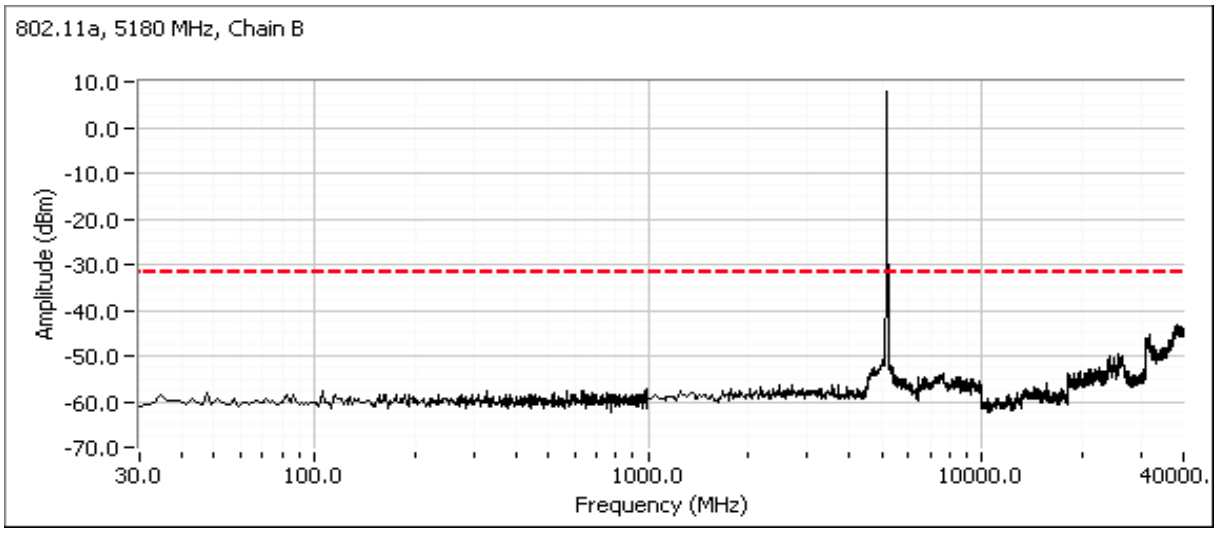
Note 1:	The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain). Radiated field strength measurements for signals more than 50MHz from the bands and that are close to the limit are made to determine compliance as the antenna gain is not known at these frequencies.
Note 2:	All spurious signals below 1GHz are measured during digital device radiated emissions test.
Note 3:	Signals within 10MHz of the 5.725 or 5.825 Band edge are subject to a limit of -17dBm EIRP
Note 4:	If the device is for outdoor use then the -27dBm eirp limit also applies in the 5150 - 5250 MHz band.
Note 5:	Signals that fall in the restricted bands of 15.205 are subject to the limit of 15.209.

Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

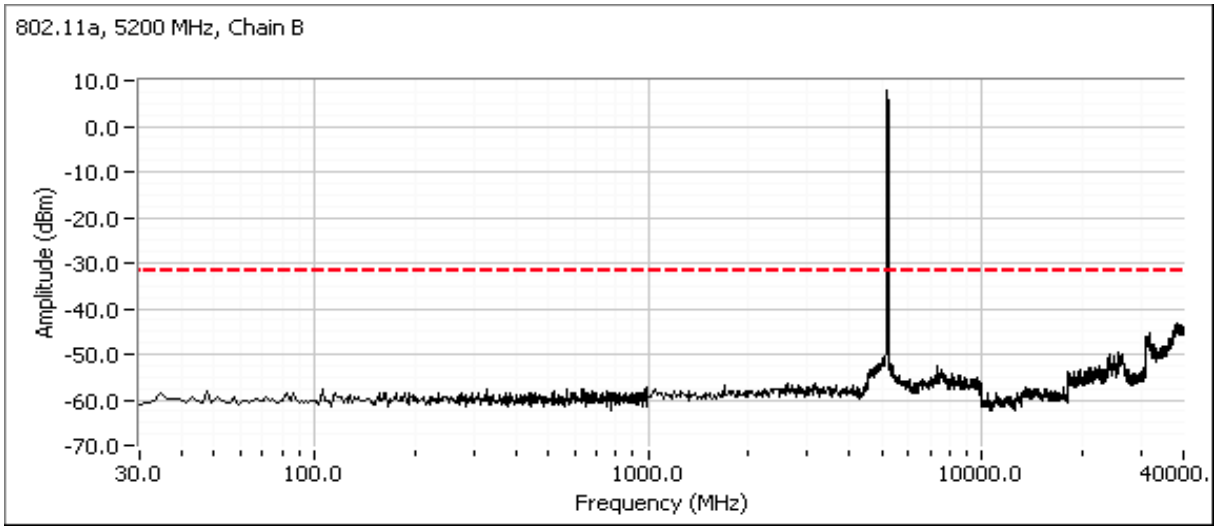
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5150 - 5250 MHz Band 802.11a

Compliance with the radiated limits for the restricted Band 802.11a immediately below 5150MHz is demonstrated through the radiated emissions tests.

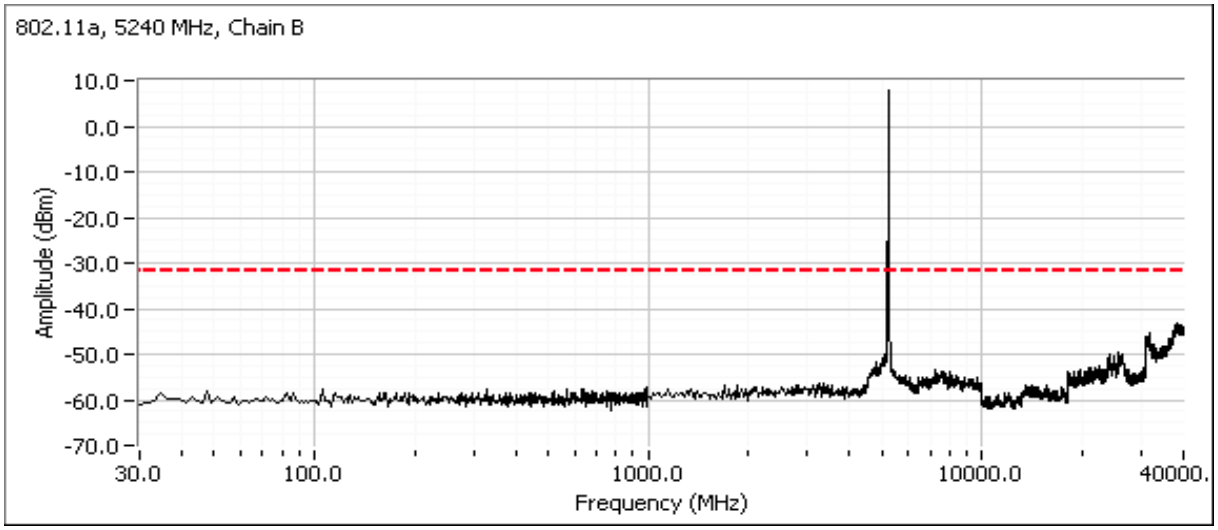


Center channel, 5150 - 5250 MHz Band 802.11a

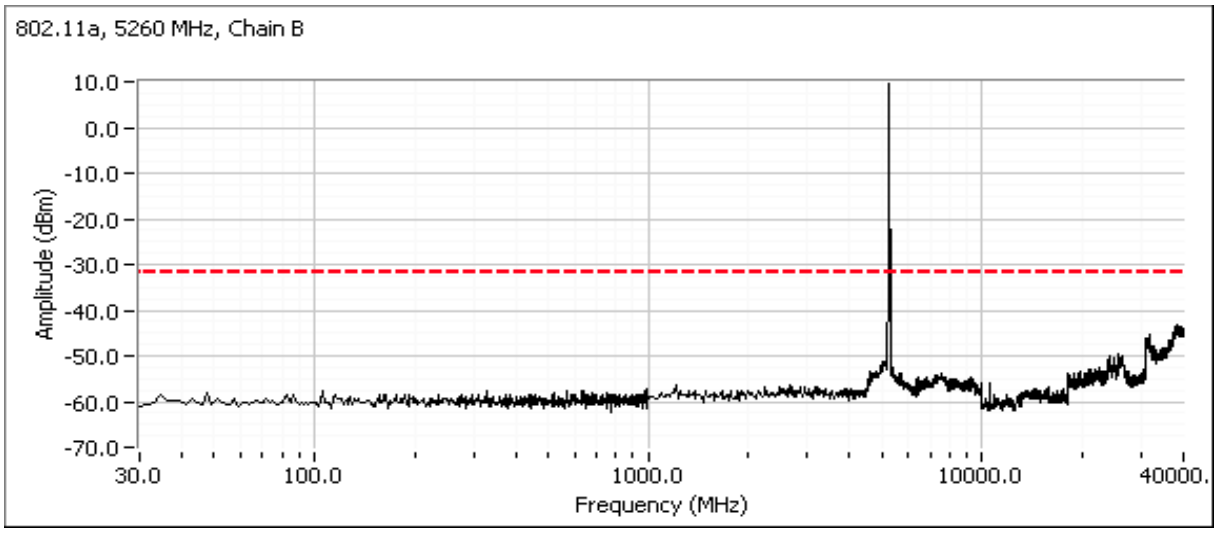


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5150 - 5250 MHz Band 802.11a

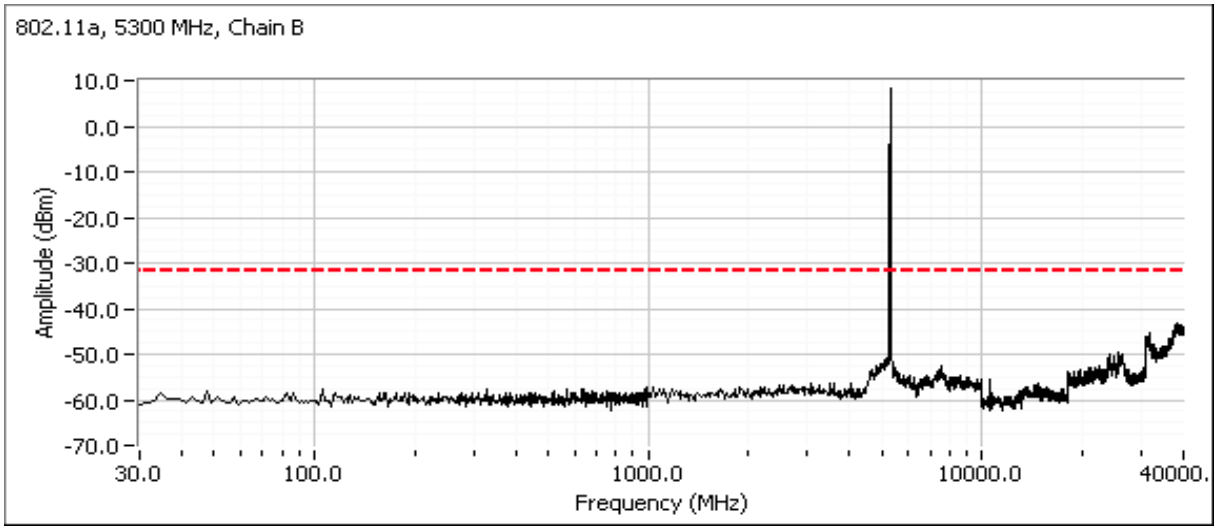


Low channel, 5250 - 5350 MHz Band 802.11a



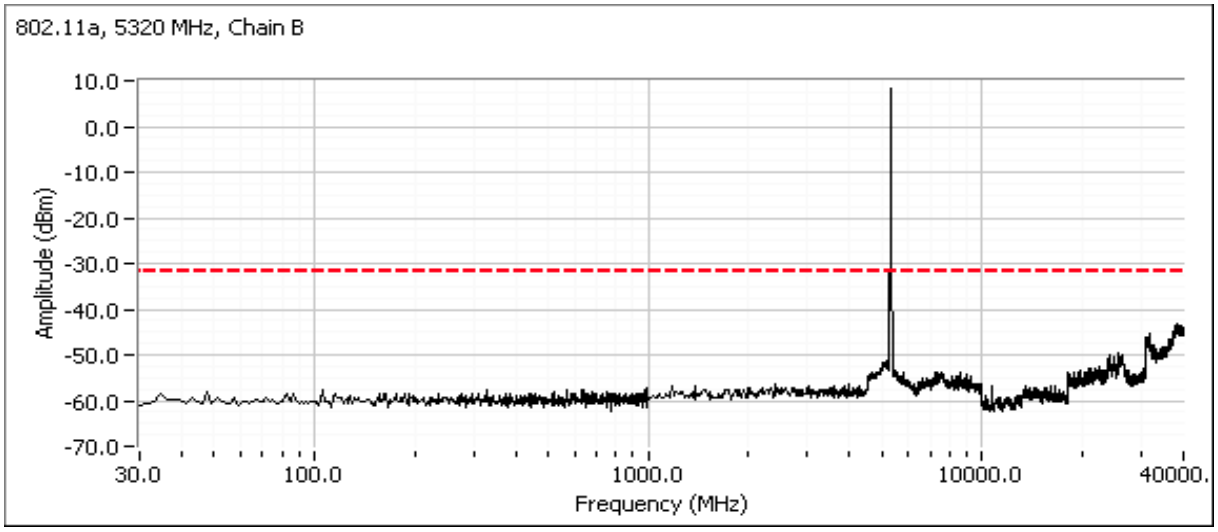
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Center channel, 5250 - 5350 MHz Band 802.11a



High channel, 5250 - 5350 MHz Band 802.11a

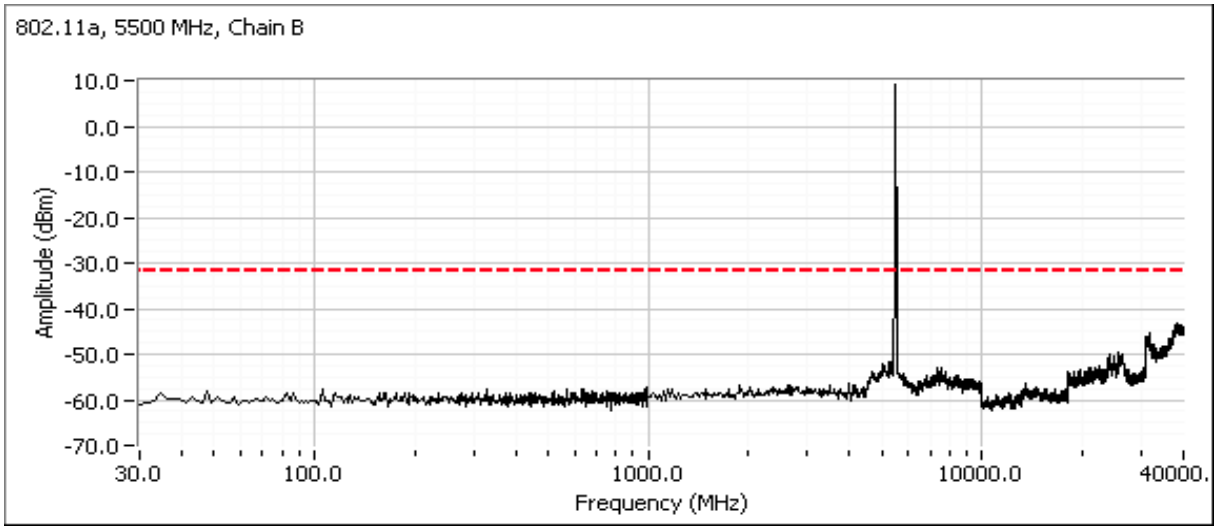
Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



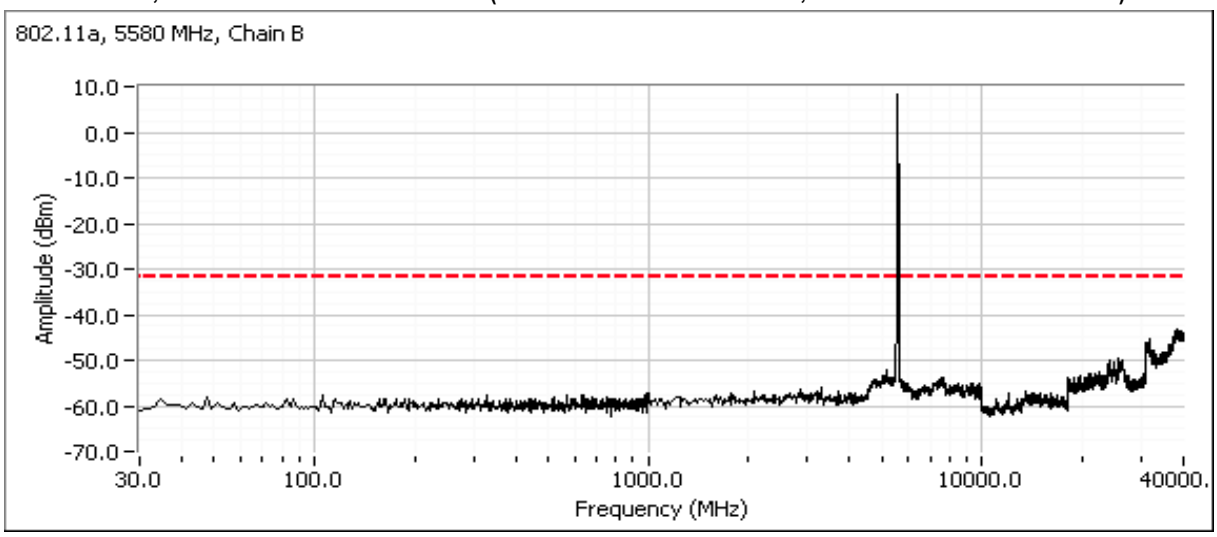
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5470 - 5725 MHz Band 802.11a

Compliance with the radiated limits for the restricted Band 802.11n 40MHz below 5460 MHz is demonstrated through the radiated emissions tests, as is compliance with the -27dBm/Mhz limit in the band immediately below the allocated band (5460-5470MHz).



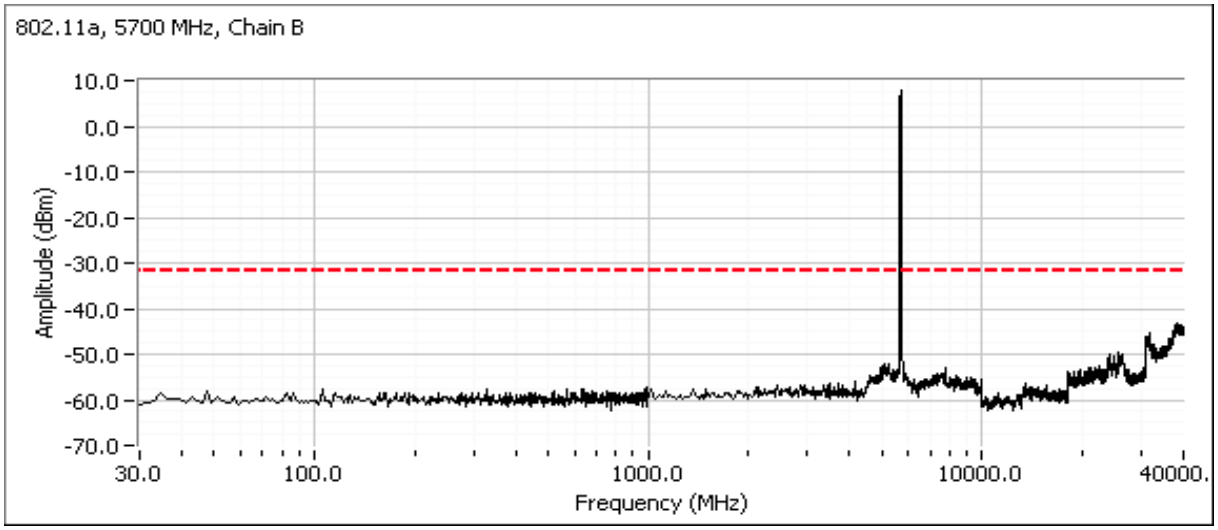
Center channel, 5470 - 5725 MHz Band 802.11a (20Mhz channel use 5580 MHz, 40MHz channel use 5550 MHz)



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

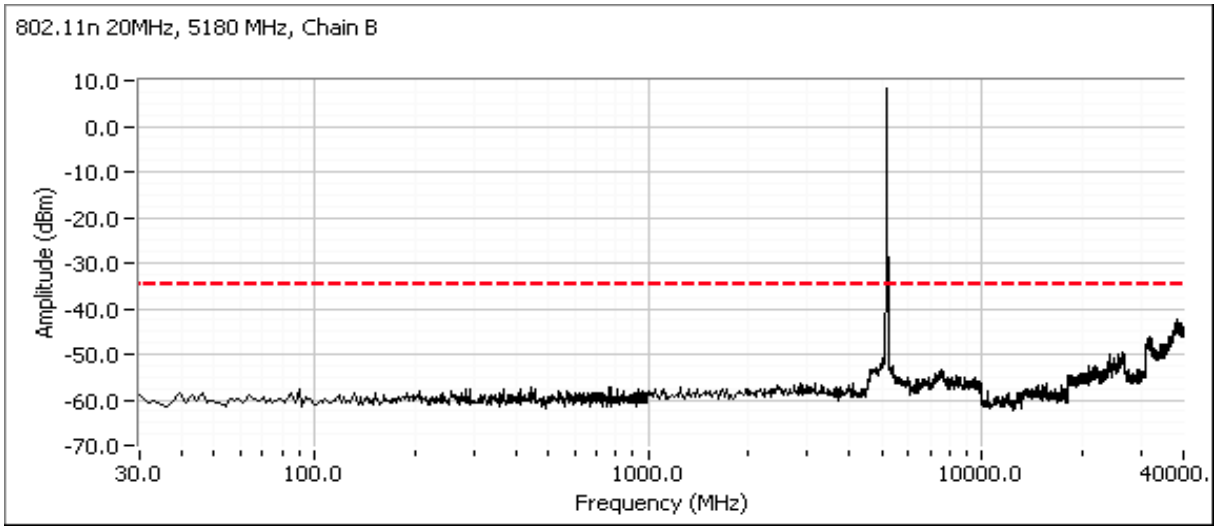
High channel, 5470 - 5725 MHz Band 802.11a

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



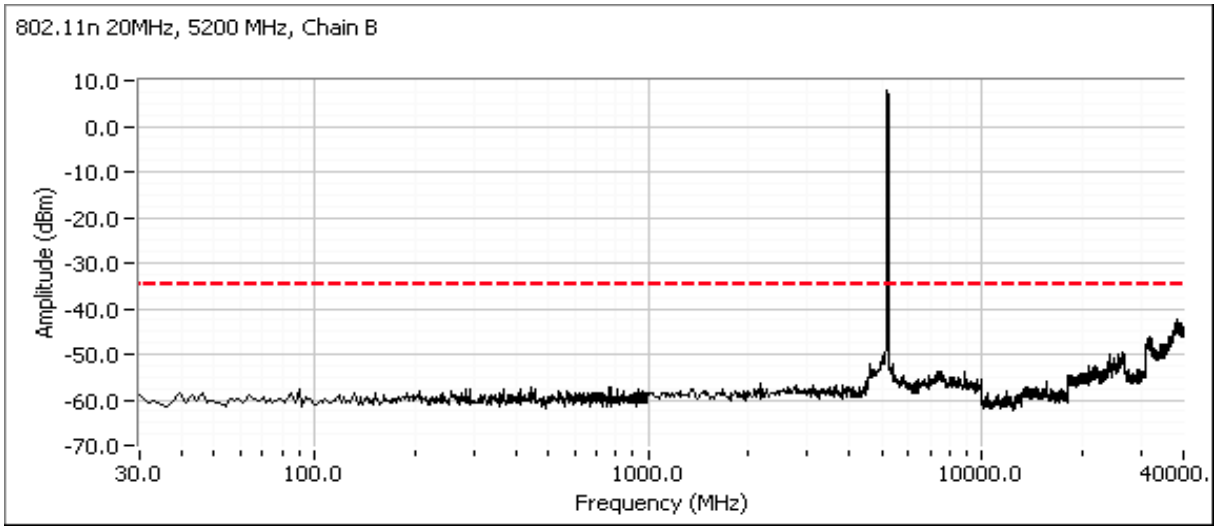
Low channel, 5150 - 5250 MHz Band 802.11n 20MHz

Compliance with the radiated limits for the restricted Band 802.11n 20MHz immediately below 5150MHz is demonstrated through the radiated emissions tests.

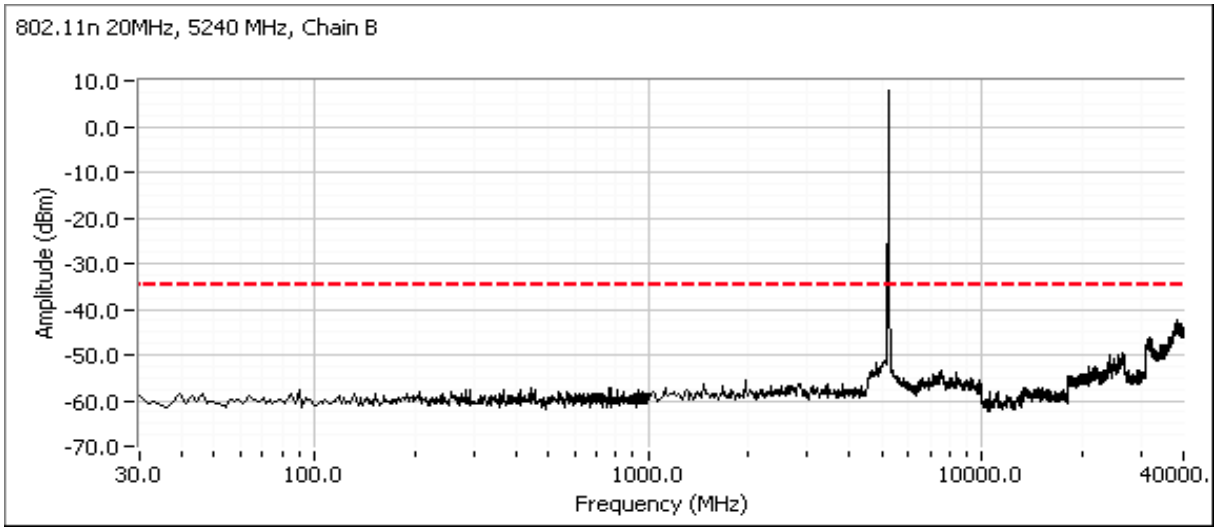


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Center channel, 5150 - 5250 MHz Band 802.11n 20MHz

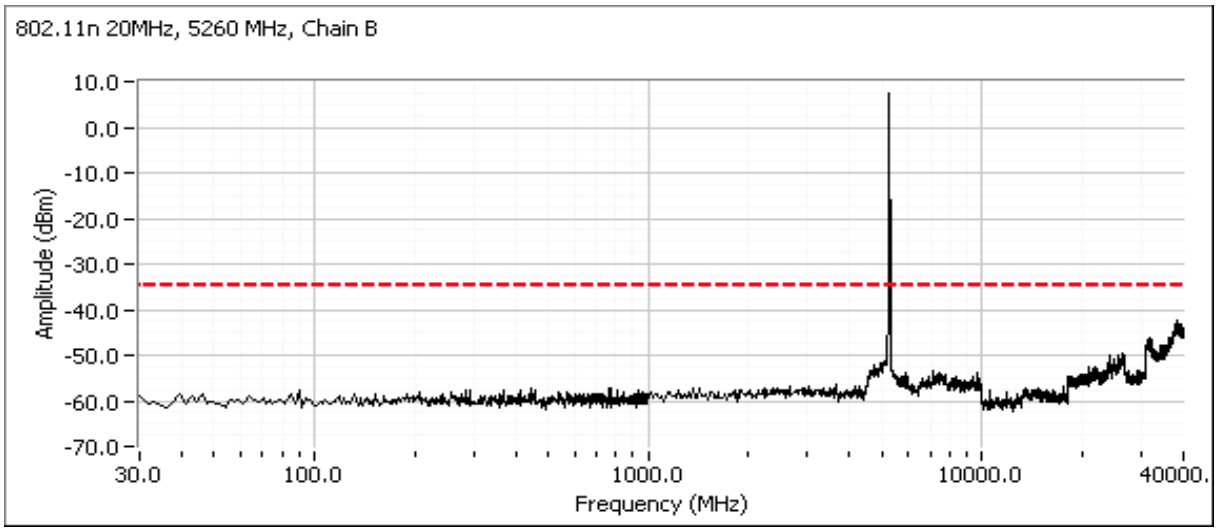


High channel, 5150 - 5250 MHz Band 802.11n 20MHz

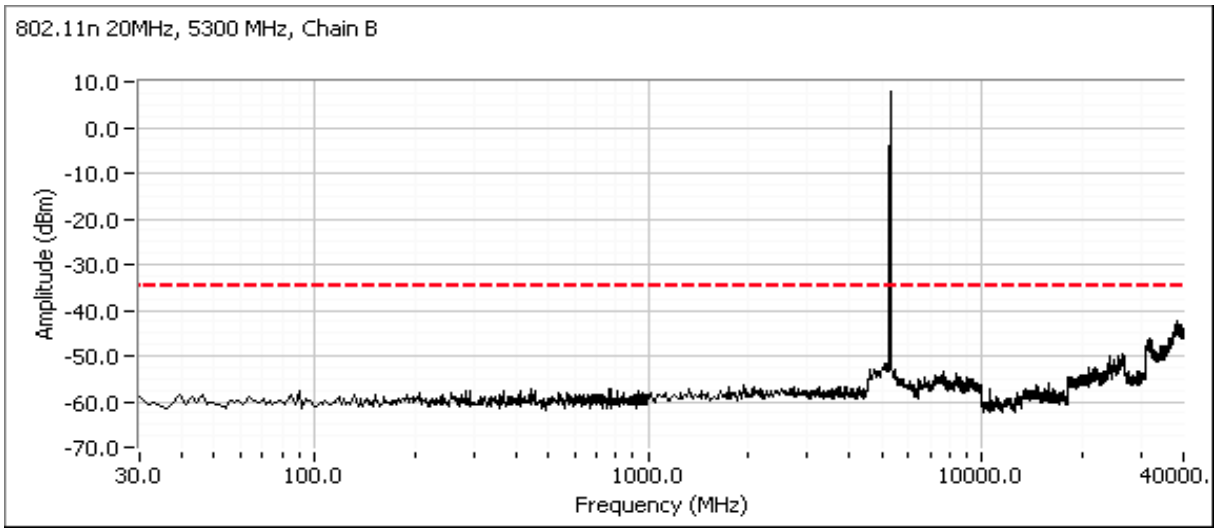


Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5250 - 5350 MHz Band 802.11n 20MHz



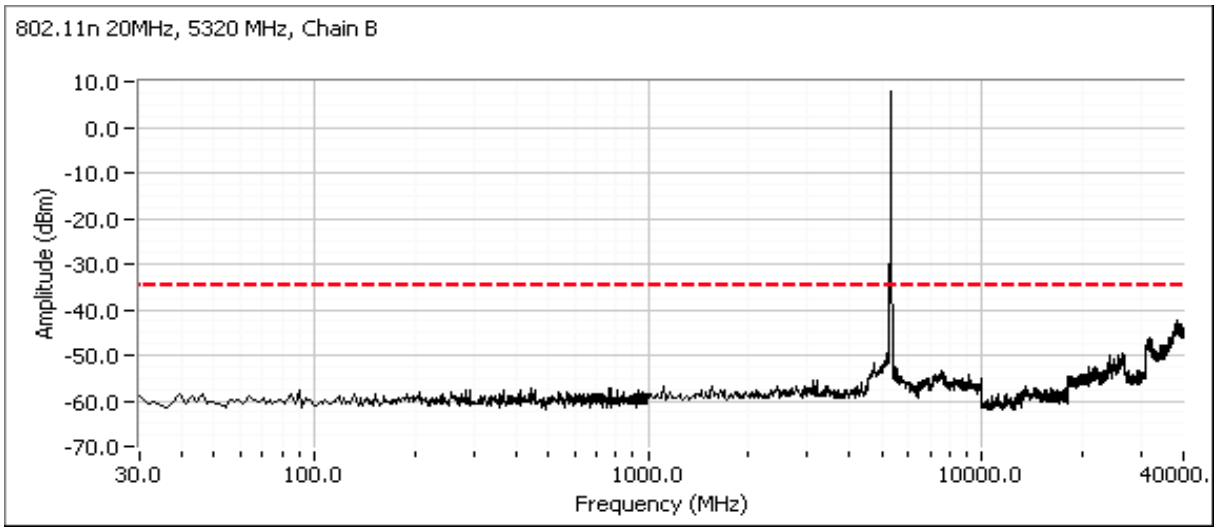
Center channel, 5250 - 5350 MHz Band 802.11n 20MHz



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

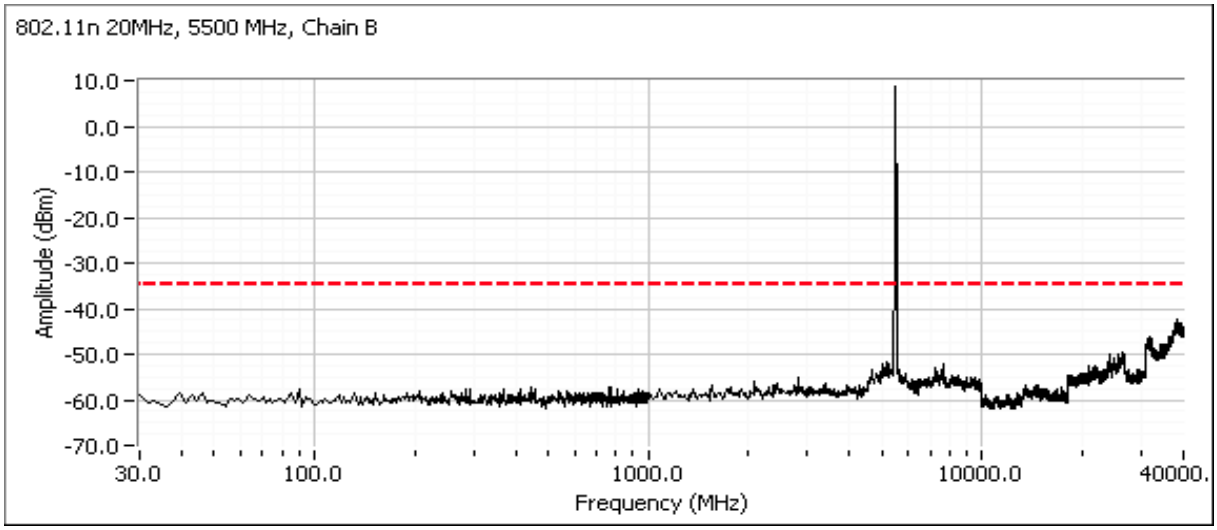
High channel, 5250 - 5350 MHz Band 802.11n 20MHz

Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



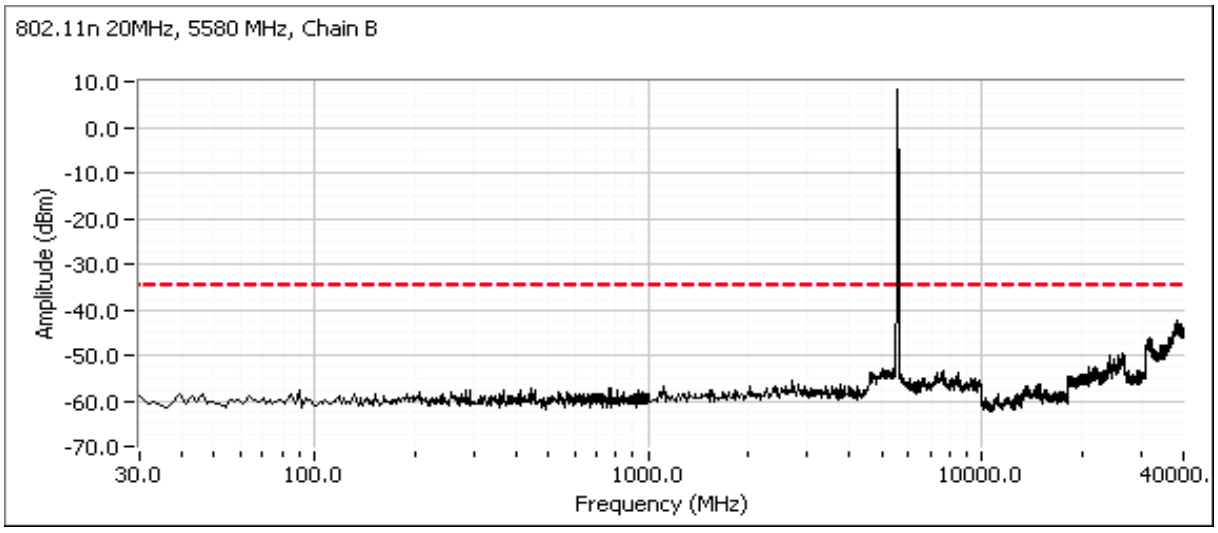
Low channel, 5470 - 5725 MHz Band 802.11n 20MHz

Compliance with the radiated limits for the restricted Band 802.11n 40MHz below 5460 MHz is demonstrated through the radiated emissions tests, as is compliance with the -27dBm/Mhz limit in the band immediately below the allocated band (5460-5470MHz).



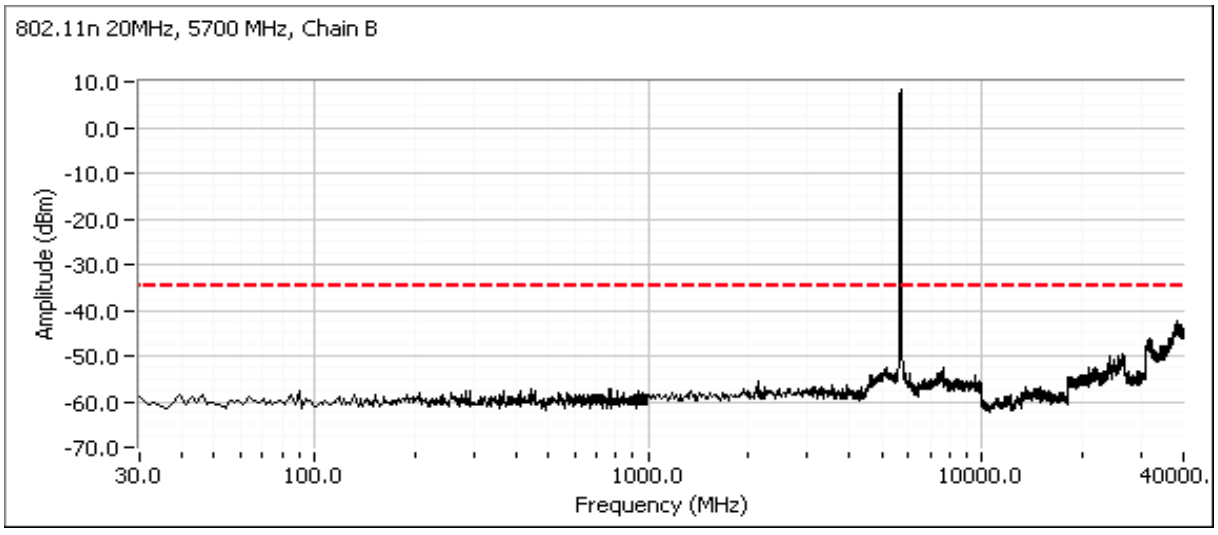
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Center channel, 5470 - 5725 MHz Band 802.11n 20MHz (20Mhz channel use 5580 MHz, 40MHz channel use 5550 MHz)



High channel, 5470 - 5725 MHz Band 802.11n 20MHz

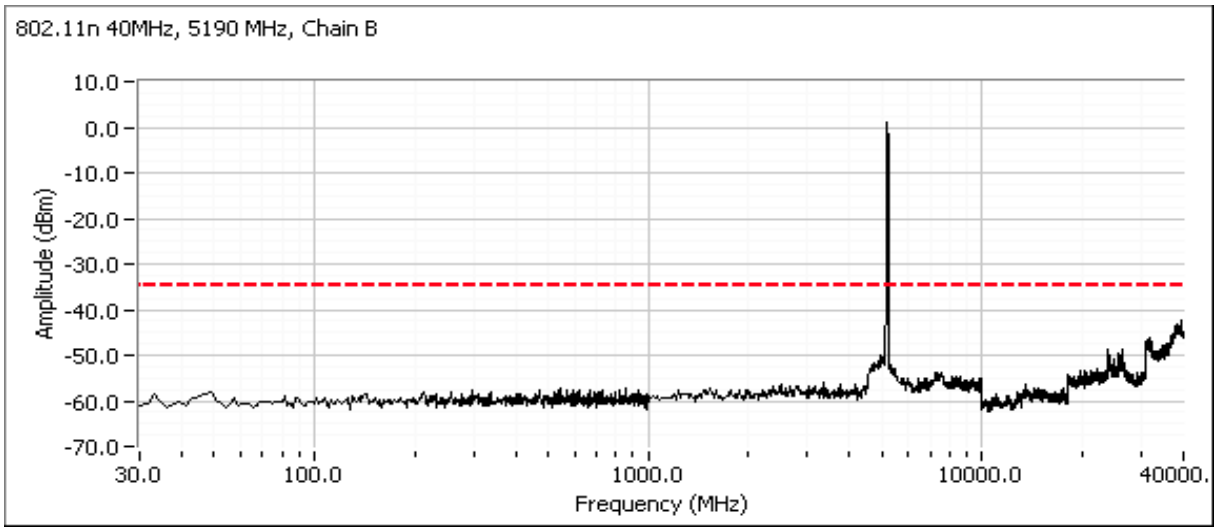
Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



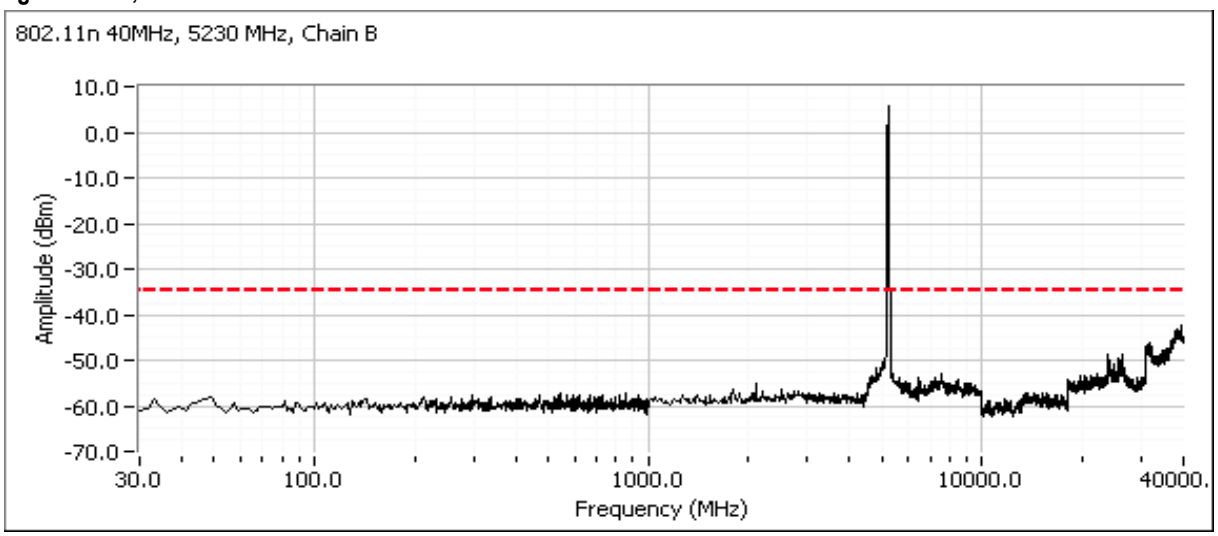
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5150 - 5250 MHz Band 802.11n 40MHz

Compliance with the radiated limits for the restricted Band 802.11n 40MHz immediately below 5150MHz is demonstrated through the radiated emissions tests.

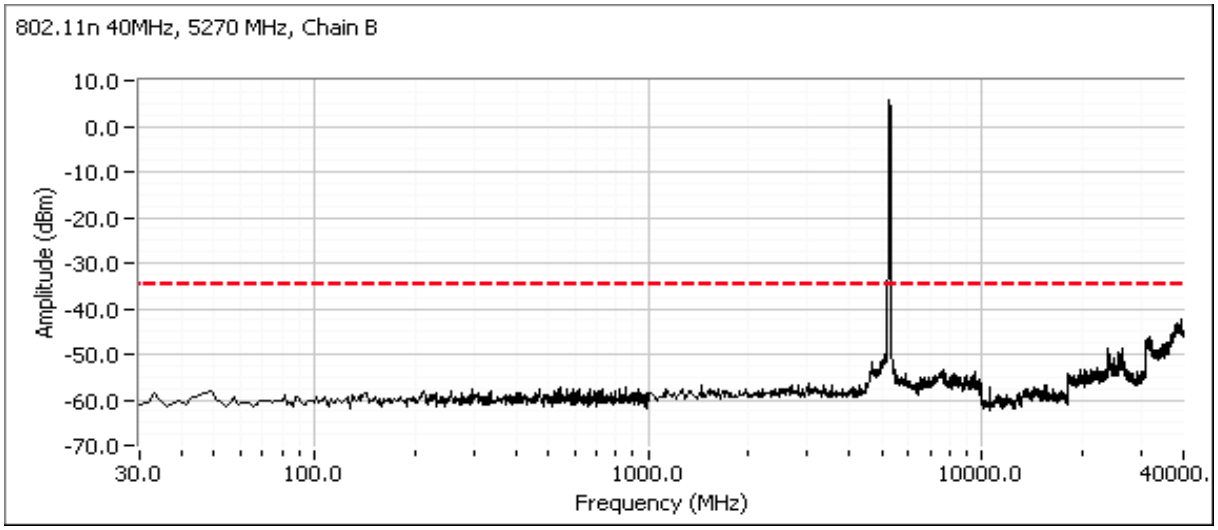


High channel, 5150 - 5250 MHz Band 802.11n 40MHz



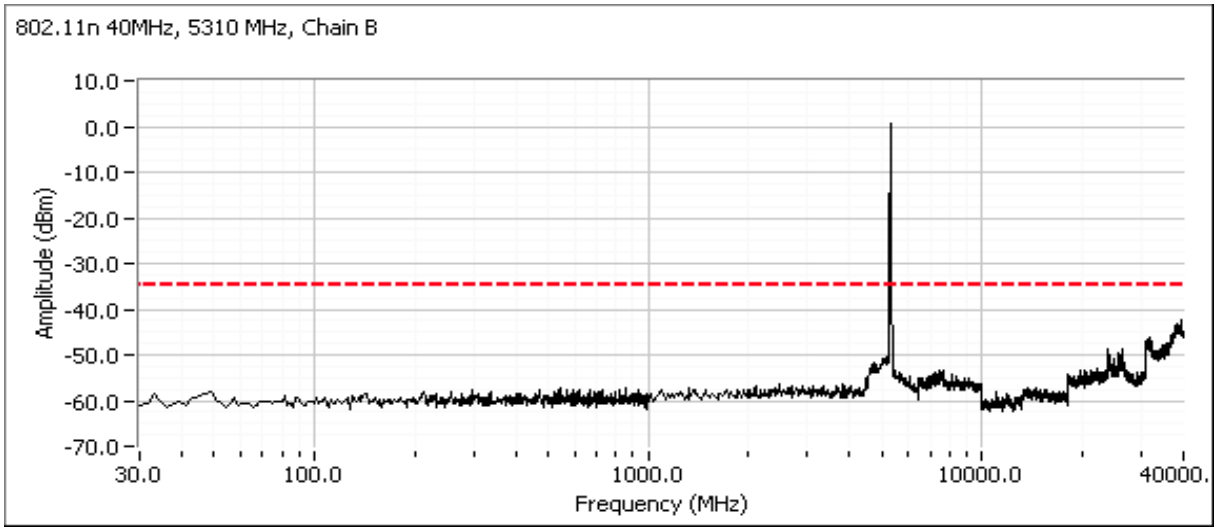
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5250 - 5350 MHz Band 802.11n 40MHz



High channel, 5250 - 5350 MHz Band 802.11n 40MHz

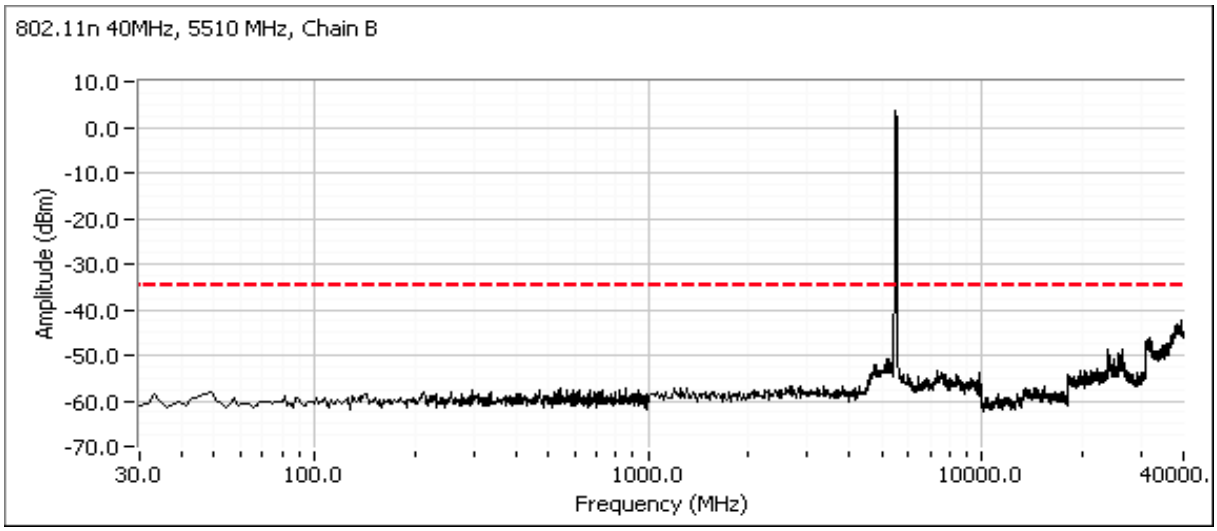
Compliance with the radiated limits for the restricted Band immediately above 5350MHz is demonstrated through the radiated emissions tests.



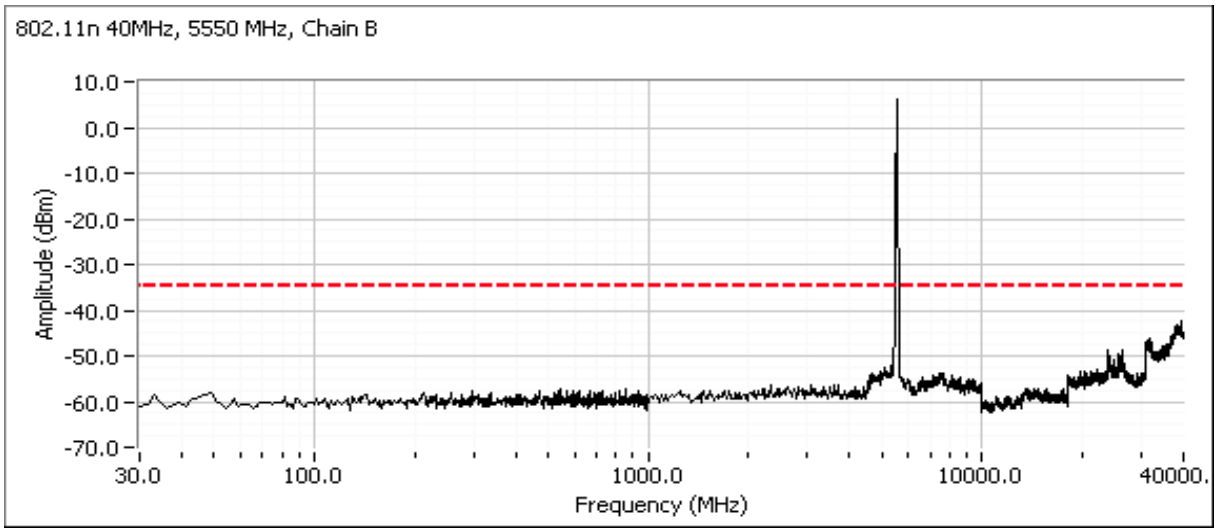
Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

Low channel, 5470 - 5725 MHz Band 802.11n 40MHz

Compliance with the radiated limits for the restricted Band 802.11n 40MHz below 5460 MHz is demonstrated through the radiated emissions tests, as is compliance with the -27dBm/Mhz limit in the band immediately below the allocated band (5460-5470MHz).



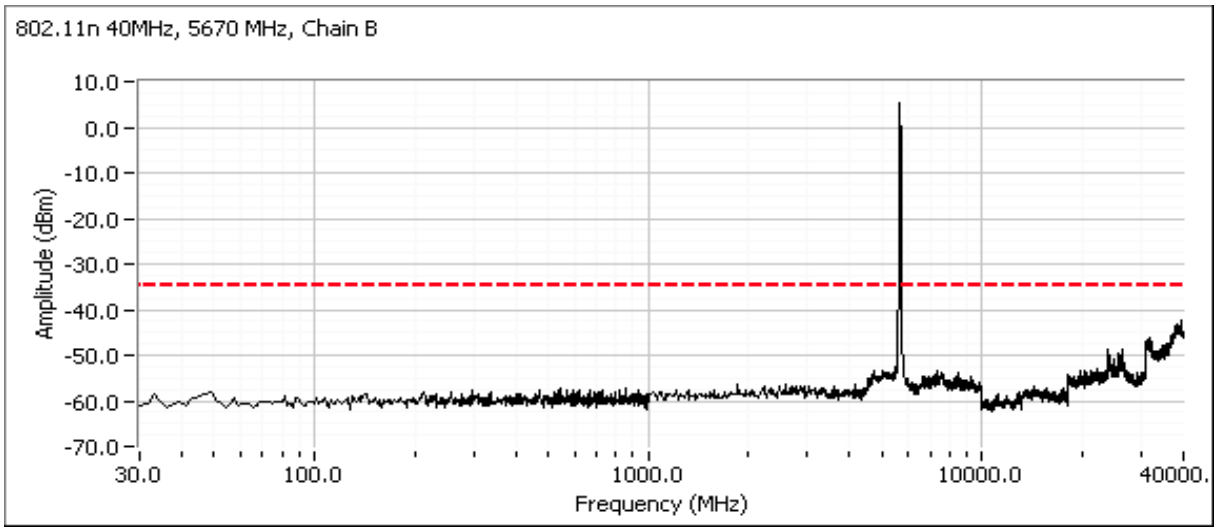
Center channel, 5470 - 5725 MHz Band 802.11n 40MHz (20Mhz channel use 5580 MHz, 40MHz channel use 5550 MHz)



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

High channel, 5470 - 5725 MHz Band 802.11n 40MHz

Compliance with the -27dBm/MHz eirp limit immediately above the allocated Band at 5725 MHz is demonstrated through radiated measurements.



Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

RSS-210 (LELAN) and FCC 15.407(UNII)
Antenna Port Measurements, MIMO Mode Chain A+B
Power, PSD, Peak Excursion, 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: 8/20/2010
Test Engineer: Rafael Varelas
Test Location: FT Lab #3

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

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 25.5 mW 802.11n n40MHz: 26.3 mW
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 1.3 dBm/MHz 802.11n n40MHz: -1.0 dBm/MHz
1	Power, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 23.8 mW 802.11n n40MHz: 25.5 mW
1	PSD, 5250 - 5350MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 1.0 dBm/MHz 802.11n n40MHz: -1.1 dBm/MHz
1	Power, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 30.6 mW 802.11n n40MHz: 28.9 mW
1	PSD, 5470 - 5725MHz	15.407(a) (1), (2)	Pass	802.11n 20MHz: 2.3 dBm/MHz 802.11n n40MHz: -0.6 dBm/MHz
1	99% Bandwidth	RSS 210 (Information only)	N/A	refer to SISO measurements
2	Peak Excursion Envelope	15.407(a) (6) 13dB	N/A	refer to SISO measurements
3	Antenna Conducted - Out of Band Spurious	15.407(b) -27dBm/MHz	N/A	refer to SISO measurements

General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators and cables used.

Ambient Conditions:

Temperature: 21.5 °C
Rel. Humidity: 42 %

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

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: Bandwidth, Output Power and Power Spectral Density - MIMO Systems

Note 1:	Output power measured using a peak power meter
Note 1:	Output power measured using a spectrum analyzer (see plots below). RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was continuous) and power integration over 50MHz (n20) or 100 MHz (n40) - method 1 of DA-02-2138A1.
Note 2:	Measured using the same analyzer settings used for output power.
Note 3:	For RSS-210 the limit for the 5150 - 5250 MHz band accounts for the antenna gain as the maximum eirp allowed is 10dBm/MHz. The limits are also corrected for instances where the highest measured value of the PSD exceeds the average PSD (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB by the amount that the measured value exceeds the average by more than 3dB.
Note 4:	99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB
Note 5:	For MIMO systems the total output power and total PSD are calculated form the sum of the powers of the individual chains (in linear terms). The antenna gain used to determine the EIRP and limits for PSD/Output power depends on the operating mode of the MIMO device. If the signals on the non-coherent between the transmit chains then the gain used to determine the limits is the highest gain of the individual chains and the EIRP is the sum of the products of gain and power on each chain. If the signals are coherent then the effective antenna gain is the sum (in linear terms) of the gains for each chain and the EIRP is the product of the effective gain and total power.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

MIMO Device - 5150-5250 MHz Band

	Chain 1	Chain 2	Chain 3	Coherent	Effective[5]	EIRP (mW)	EIRP (dBm)
Antenna Gain (dBi):	3.7	3.7		Yes	6.7	123.2	20.9

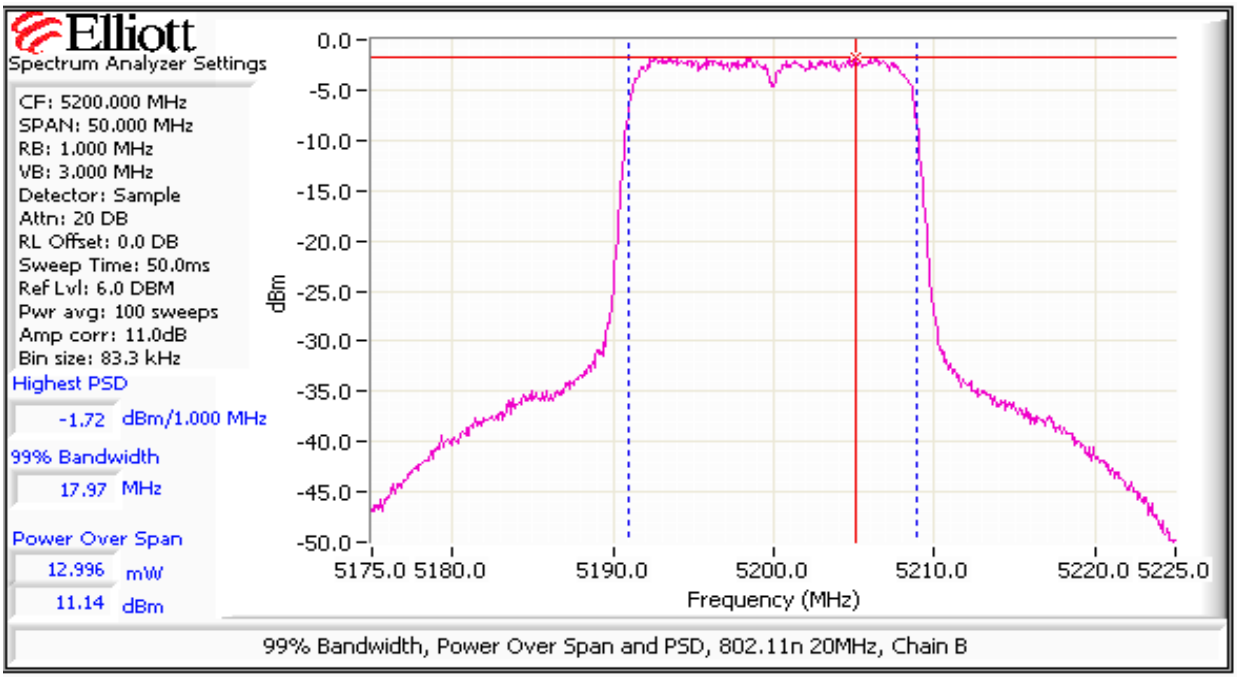
Power

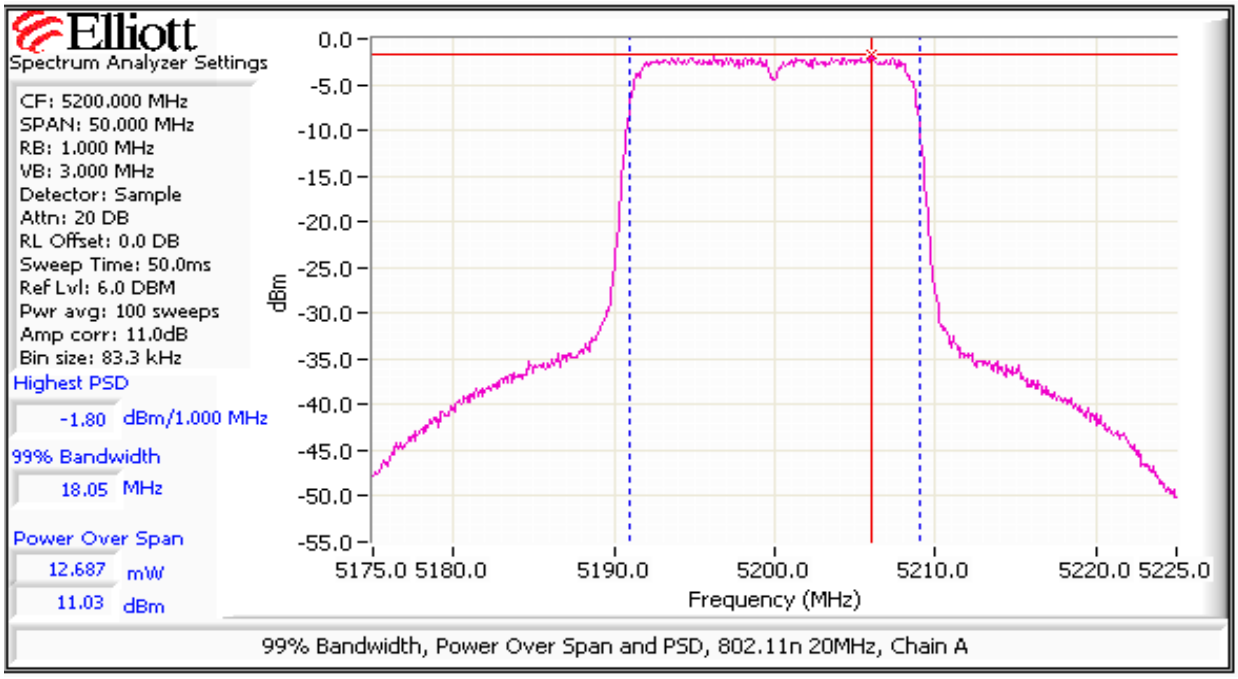
Frequency (MHz)	Software Setting	26dB BW (MHz)	Measured Output Power[1] dBm			Total		Limit (dBm)	Max Power (W)	Pass or Fail
			Chain 1	Chain 2	Chain 3	mW	dBm			
20MHz Mode										
5180	19.5 / 20	21.9	10.5	10.5		22.4	13.5	16.3	0.0255	PASS
5200	20.5 / 21	21.8	11.0	11.1		25.5	14.1	16.3		PASS
5240	20.5 / 21	21.8	11.0	10.5		23.8	13.8	16.3		PASS
40MHz Mode										
5190	18.5 / 18.5	40.0	8.5	8.3		13.8	11.4	16.3	0.0263	PASS
5230	22 / 22	40.5	11.7	10.6		26.3	14.2	16.3		PASS

PSD

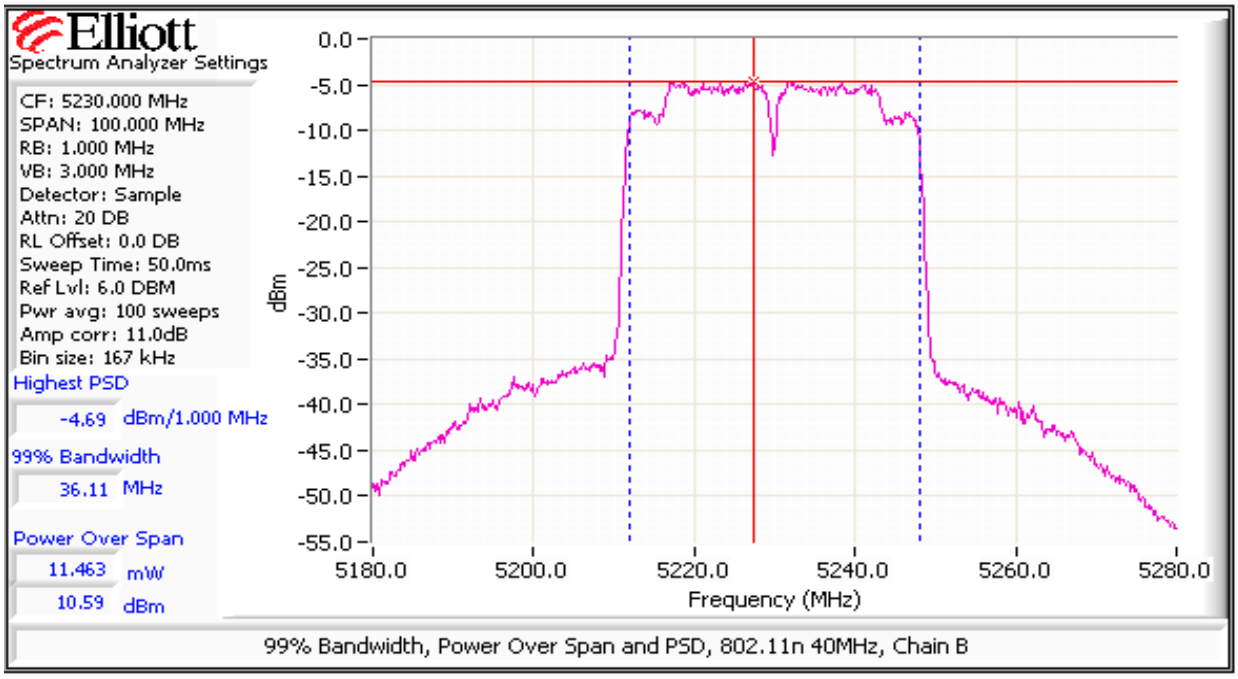
Frequency (MHz)	99%[4] BW	Total Power	PSD[2] dBm/MHz			Total PSD		Limit		Pass or Fail
			Chain 1	Chain 2	Chain 3	mW/MHz	dBm/MHz	FCC	RSS 210[3]	
20MHz Mode										
5180	18.0	13.5	-2.3	-2.3		1.2	0.7	3.3	3.3	PASS
5200	18.0	14.1	-1.8	-1.7		1.3	1.3	3.3	3.3	PASS
5240	18.0	13.8	-1.6	-2.3		1.3	1.1	3.3	3.3	PASS
40MHz Mode										
5190	36.1	11.4	-6.7	-6.9		0.4	-3.8	3.3	3.3	PASS
5230	36.3	14.2	-3.4	-4.7		0.8	-1.0	3.3	3.3	PASS

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

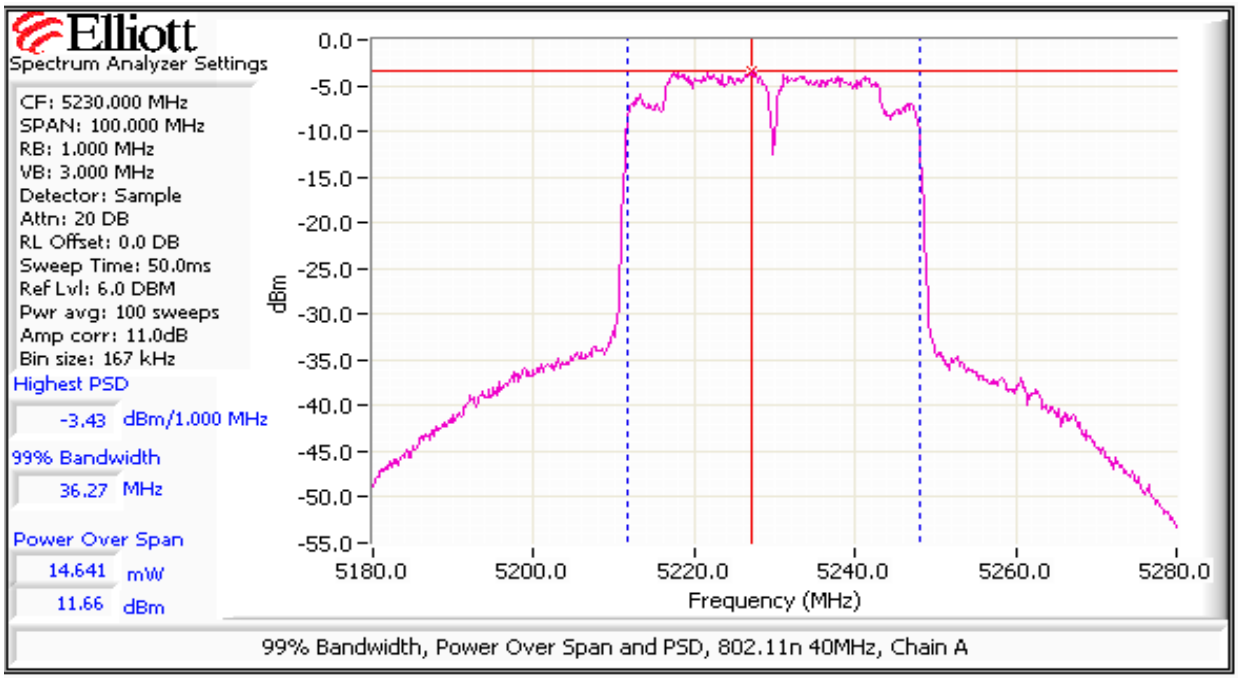




Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain B



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain A

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

MIMO Device - 5250-5350 MHz Band

	Chain 1	Chain 2	Chain 3	Coherent	Effective[5]	EIRP (mW)	EIRP (dBm)
Antenna Gain (dBi):	3.7	3.7		Yes	6.7	111.5	20.5

Power

Frequency (MHz)	Software Setting	26dB BW (MHz)	Measured Output Power[1] dBm			Total		Limit (dBm)	Max Power (W)	Pass or Fail
			Chain 1	Chain 2	Chain 3	mW	dBm			
20MHz Mode										
5260	20.5 / 21.5	22.1	10.6	10.9		23.8	13.8	23.3	0.0238	PASS
5300	21 / 21.5	22.0	11.0	10.2		23.1	13.6	23.3		PASS
5320	21 / 22	22.2	10.5	10.3		21.9	13.4	23.3		PASS
40MHz Mode										
5270	22 / 23	39.8	10.8	11.3		25.5	14.1	23.3	0.0255	PASS
5310	18.5 / 19.5	39.7	7.9	7.5		11.8	10.7	23.3		PASS

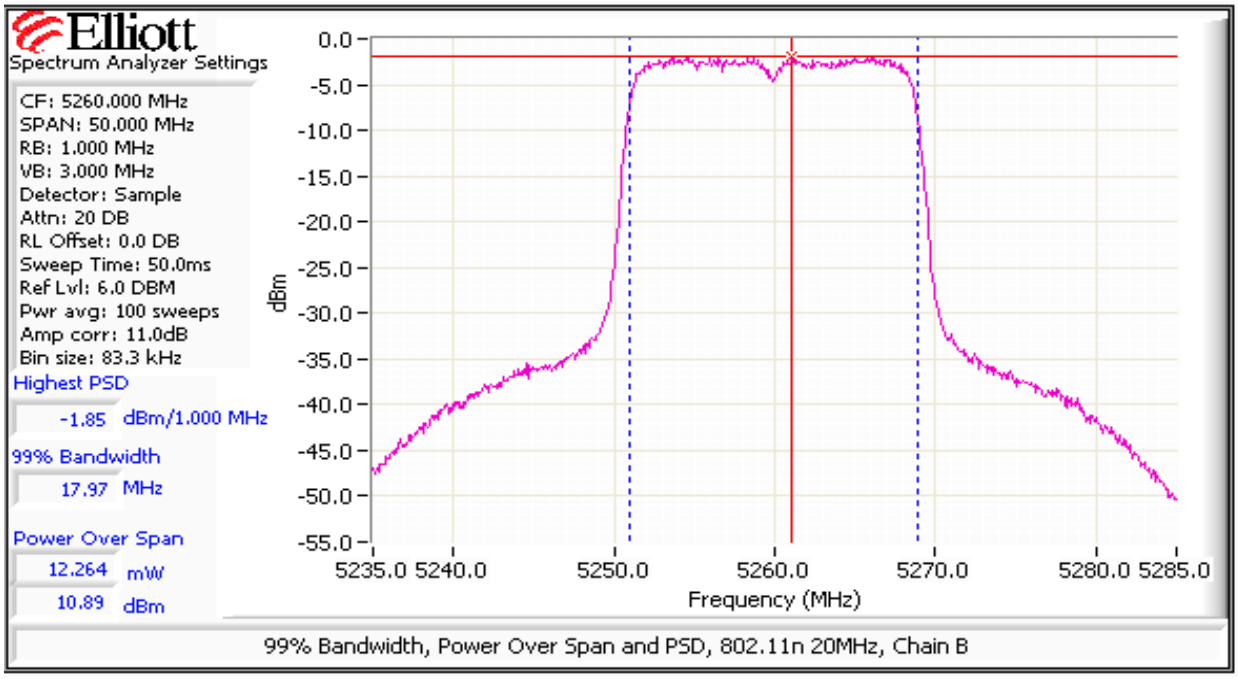
PSD

Frequency (MHz)	99%[4] BW	Total Power	PSD[2] dBm/MHz			Total PSD		Limit		Pass or Fail
			Chain 1	Chain 2	Chain 3	mW/MHz	dBm/MHz	FCC	RSS 210[3]	
20MHz Mode										
5260	18.0	13.8	-2.2	-1.9		1.2	1.0	10.3	11.0	PASS
5300	18.1	13.6	-2.0	-2.5		1.2	0.8	10.3	11.0	PASS
5320	18.1	13.4	-2.5	-2.6		1.1	0.5	10.3	11.0	PASS
40MHz Mode										
5270	36.1	14.1	-4.3	-4.0		0.8	-1.1	10.3	11.0	PASS
5310	36.3	10.7	-7.3	-7.4		0.4	-4.3	10.3	11.0	PASS

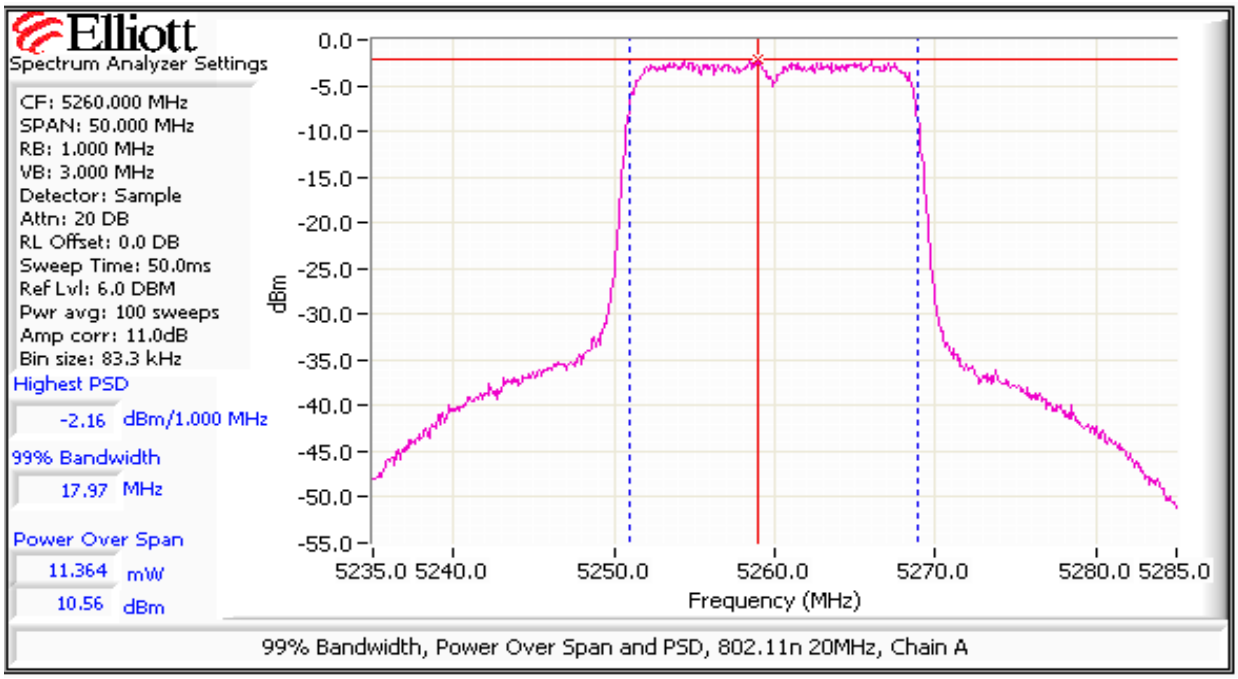
Output Power at Low Power Setting - 5250-5350 MHz Band

EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

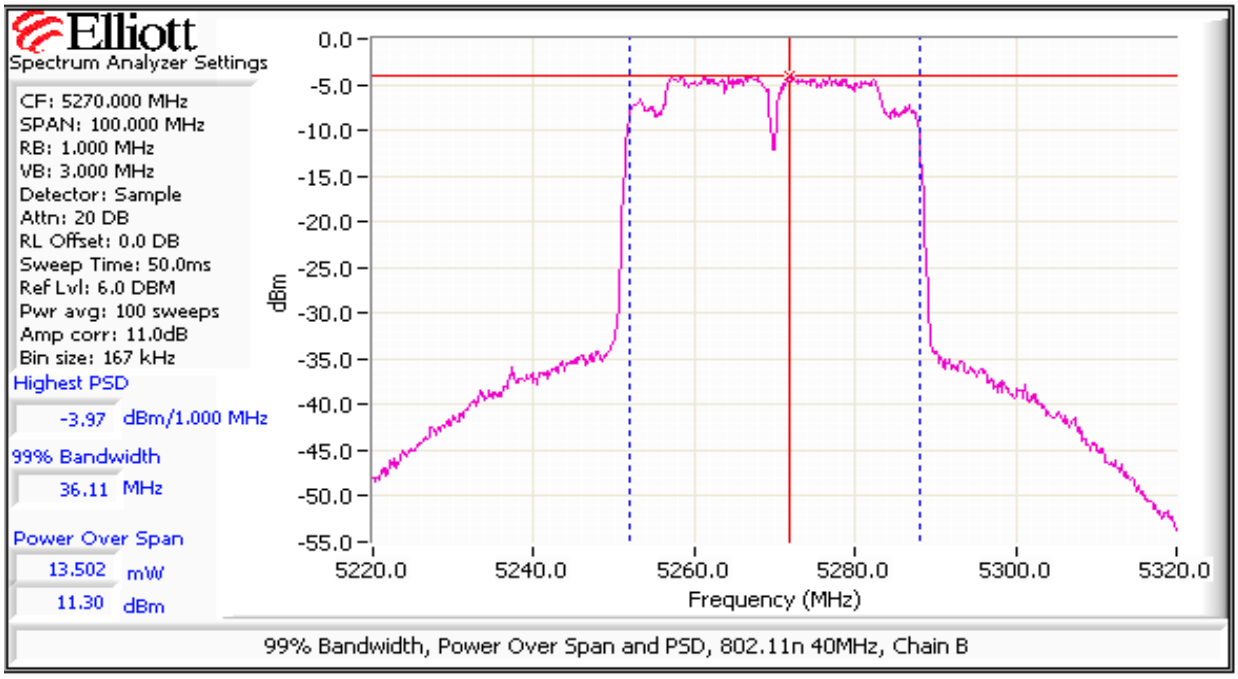


99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz, Chain B

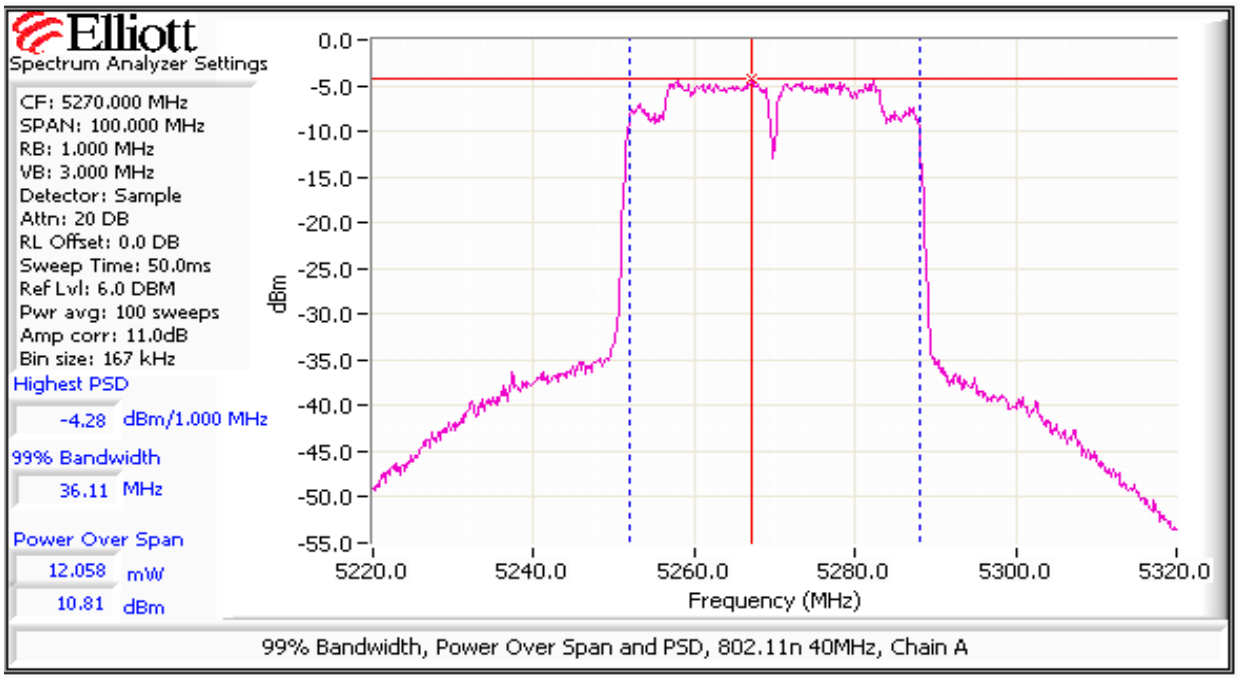


99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz, Chain A

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain B



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain A

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

MIMO Device - 5470-5725 MHz Band

	Chain 1	Chain 2	Chain 3	Coherent	Effective[5]	EIRP (mW)	EIRP (dBm)
Antenna Gain (dBi):	4.8	4.8		Yes	7.8	185.1	22.7

Power

Frequency (MHz)	Software Setting	26dB BW (MHz)	Measured Output Power[1] dBm			Total		Limit (dBm)	Max Power (W)	Pass or Fail
			Chain 1	Chain 2	Chain 3	mW	dBm			
20MHz Mode										
5500	23.5 / 24.5	22.3	11.3	10.9		25.8	14.1	22.2	0.0306	PASS
5580	25 / 26	23.1	11.5	12.2		30.6	14.9	22.2		PASS
5700	27 / 27	26.3	12.0	11.7		30.6	14.9	22.2		PASS
40MHz Mode										
5510	24 / 25	42.3	10.3	10.8		22.6	13.5	22.2	0.0289	PASS
5550	25.5 / 26	41.8	11.2	11.2		26.4	14.2	22.2		PASS
5670	27 / 27	44.7	11.4	11.8		28.9	14.6	22.2		PASS

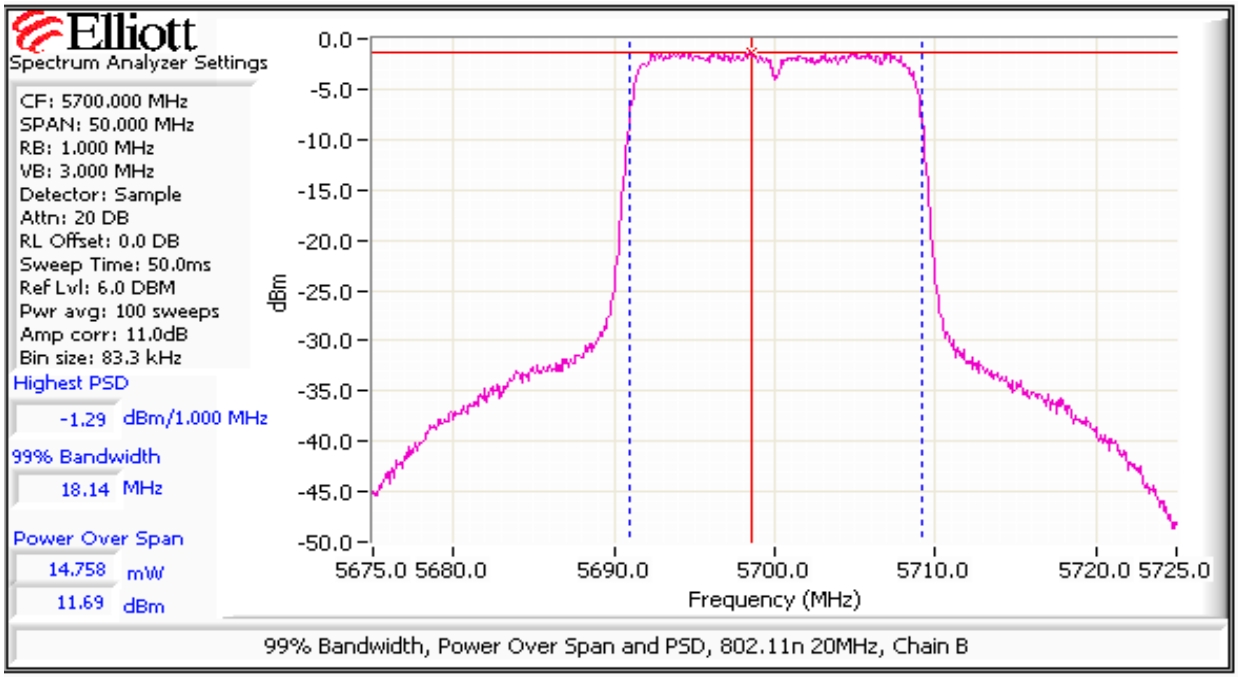
PSD

Frequency (MHz)	99%[4] BW	Total Power	PSD[2] dBm/MHz			Total PSD		Limit		Pass or Fail
			Chain 1	Chain 2	Chain 3	mW/MHz	dBm/MHz	FCC	RSS 210[3]	
20MHz Mode										
5500	18.1	14.1	-1.6	-1.6		1.4	1.4	9.2	11.0	PASS
5580	18.1	14.9	-1.2	-0.3		1.7	2.3	9.2	11.0	PASS
5700	18.1	14.9	-0.6	-1.3		1.6	2.1	9.2	11.0	PASS
40MHz Mode										
5510	36.1	13.5	-4.9	-4.5		0.7	-1.7	9.2	11.0	PASS
5550	36.3	14.2	-3.9	-4.1		0.8	-1.0	9.2	11.0	PASS
5670	36.4	14.6	-3.7	-3.5		0.9	-0.6	9.2	11.0	PASS

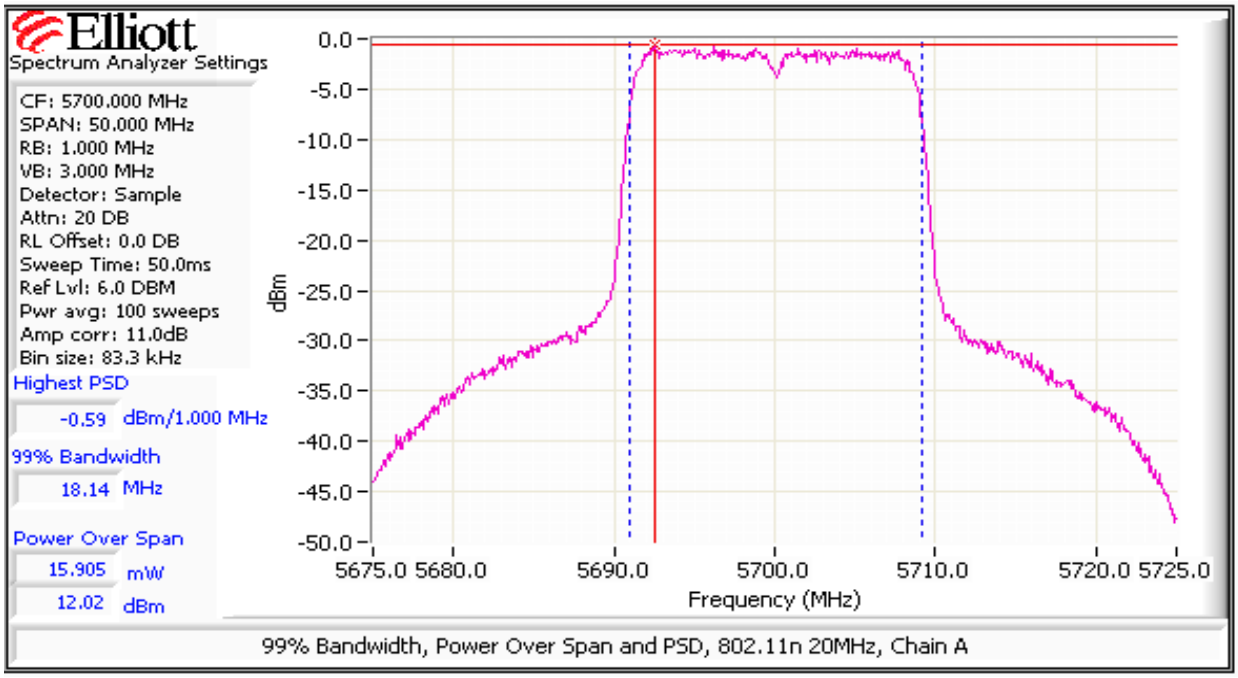
Output Power at Low Power Setting - 5470-5725 MHz Band

EIRP does not exceed 500mW, therefore TPC is not required and measurements at a low power setting are not required.

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A

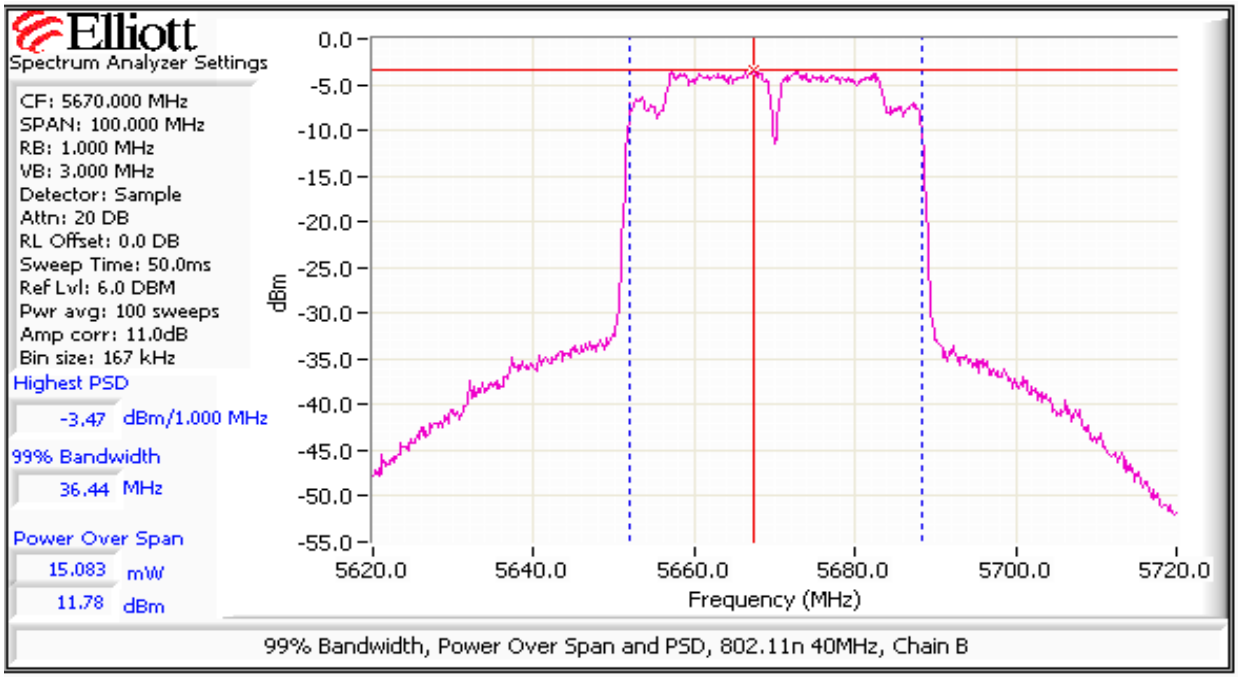


99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz, Chain B

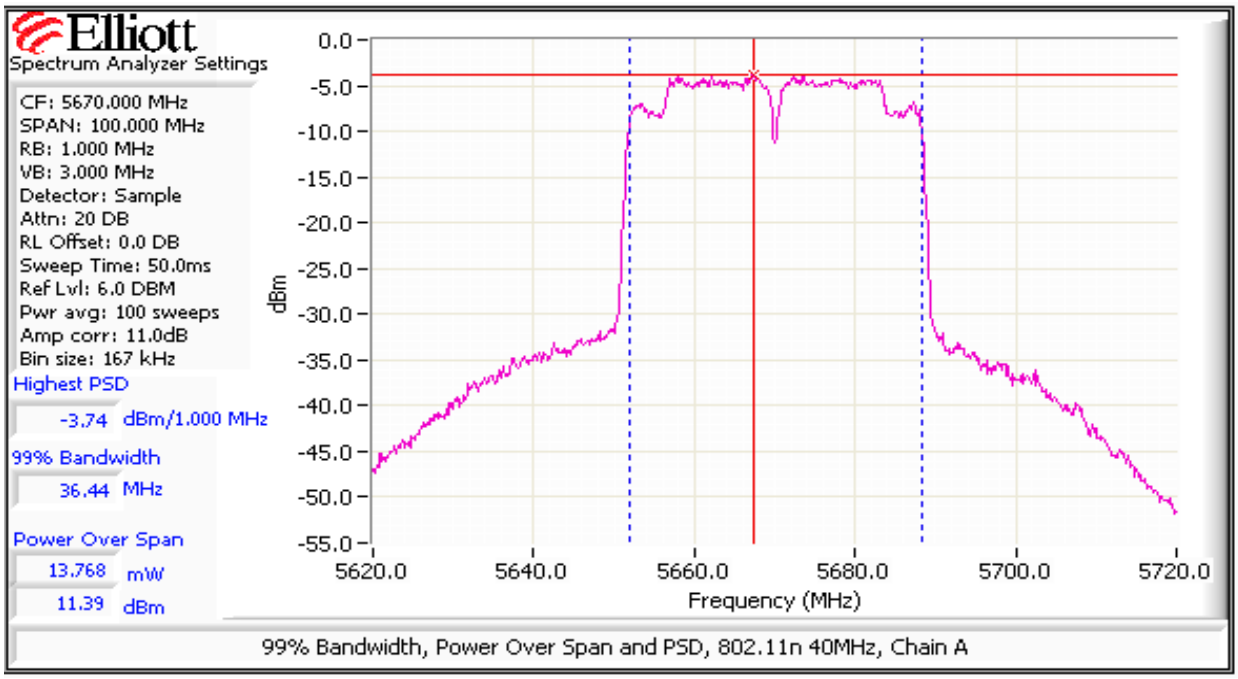


99% Bandwidth, Power Over Span and PSD, 802.11n 20MHz, Chain A

Client:	Intel Corporation	Job Number:	J80050
Model:	62205ANHMW (Intel® Centrino® Advanced-N 6205)	T-Log Number:	T80214
		Account Manager:	Christine Krebil
Contact:	Steven Hackett		
Standard:	FCC 15.247 / FCC 15 E / RSS 210 / FCC 15 B	Class:	N/A



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain B



99% Bandwidth, Power Over Span and PSD, 802.11n 40MHz, Chain A

Appendix C Photographs of Test Configurations

Uploaded as a separate exhibit