



*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 C  
Model: WLAN AP 8120*

IC CERTIFICATION #: 3794G-AP8120  
FCC ID: X7CAP8120

APPLICANT: Avaya  
4655 Great America Parkway  
Santa Clara, CA 95054

TEST SITE(S): Elliott Laboratories  
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Sunnyvale, CA 94085  
and 41039 Boyce Road.  
Fremont, CA. 94538-2435

IC SITE REGISTRATION #: 2845A-1; 2845A-2; 2845B-3; 2845B-4, 2845B-5

REPORT DATE: March 5, 2010

FINAL TEST DATES: January 25, 26, 27, 28, 29, 31, February 1, 2, 3, 8, 9, 10 and 11, 2010

AUTHORIZED SIGNATORY:

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Testing Cert #2016-01

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**REVISION HISTORY**

Rev#	Date	Comments	Modified By
-	March 5, 2010	First release	

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## SCOPE

An electromagnetic emissions test has been performed on the Avaya model WLAN AP 8120, 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 C

Conducted and radiated emissions data has been collected, reduced, and analyzed within this report in accordance with measurement guidelines set forth in the following reference standards and as outlined in Elliott Laboratories test procedures:

ANSI C63.4:2003  
FCC DTS Measurement Procedure KDB558074, March 2005

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

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

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

**OBJECTIVE**

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

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

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

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

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 Avaya model WLAN AP 8120 complied with the requirements of the following regulations:

Industry Canada RSS-Gen Issue 2  
RSS 210 Issue 7 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"  
FCC Part 15 Subpart C

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

The test results recorded herein are based on a single type test of Avaya model WLAN AP 8120 and therefore apply only to the tested sample. The sample was selected and prepared by Vipin Naik of Avaya.

**DEVIATIONS FROM THE STANDARDS**

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

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

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Systems uses OFDM / DSSS techniques	-	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	802.11b: 10.2 MHz 802.11g: 16.5 MHz  802.11n20 CDD: 17.8 MHz  802.11n40 CDD: 36.8 MHz  802.11n40 SISO: 36.7 MHz	>500kHz	Complies
15.247 (b) (3)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	802.11b: 18.8 dBm (0.076 Watts) EIRP = 0.264 W <sup>Note 1</sup>  802.11g: 22.9 dBm (0.195 Watts) EIRP = 0.678 W <sup>Note 1</sup>  802.11n20 CDD: 25.6 dBm (0.364 Watts) EIRP = 2.53 W <sup>Note 1</sup>  802.11n40 CDD: 21.0 dBm (0.126 Watts) EIRP = 0.874 W <sup>Note 1</sup>  802.11n40 SISO: 19.1 dBm (0.081 Watts) EIRP = 0.282 W <sup>Note 1</sup>	1 Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	802.11b: -1.3 dBm/MHz 802.11g: -5.1 dBm/MHz 802.11n20 CDD: -0.6 dBm/MHz 802.11n40 CDD: -6.5 dBm/MHz 802.11n40 SISO: -10.2 dBm/MHz	8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions 30MHz – 25 GHz	All spurious emissions < -20dBc or < -30dBc <sup>Note 2</sup>	< -20dBc or < -30dBc <sup>Note 2</sup>	Complies

15.247(c) / 15.209	RSS 210 A8.5	Radiated Spurious Emissions 30MHz – 25 GHz	53.9dB $\mu$ V/m @ 2483.8MHz (-0.1dB)	15.207 in restricted bands, all others < -20dBc <-30dBc <sup>Note 2</sup>	Complies
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Note 1: EIRP calculated using antenna gain of 5.41 dBi for the non-MIMO operation and 8.41 dBi for the MIMO operation.

Note 2: For those modes that were tested using a peak power meter, a limit of -20dBc was used. For those modes that were tested using the UNII test procedure (maximum power averaged over a transmission burst) / RMS averaging over a time interval, as permitted under RSS 210 section A8.4(4), a limit of -30dBc was used. Refer to the test data in the appendix for details.

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

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.247(a)	RSS 210 A8.2	Digital Modulation	Systems uses OFDM / DSSS techniques	System must utilize a digital transmission technology	Complies
15.247 (a) (2)	RSS 210 A8.2 (1)	6dB Bandwidth	802.11a: 16.3 MHz 802.11n40 CDD: 35.8 MHz	>500kHz	Complies
15.247 (b)	RSS 210 A8.2 (4)	Output Power (multipoint systems)	802.11a: 17.1 dBm (0.046 Watts) EIRP = 0.148 W <sup>Note 1</sup> 802.11n20 CDD: 19.6 dBm (0.091 Watts) EIRP = 0.585 W <sup>Note 1</sup> 802.11n40 CDD: 22.3 dBm (0.170 Watts) EIRP = 1.10 W <sup>Note 1</sup>	1 Watt, EIRP limited to 4 Watts.	Complies
15.247(d)	RSS 210 A8.2 (2)	Power Spectral Density	dBm / MHz	Maximum permitted is 8dBm/3kHz	Complies
15.247(c)	RSS 210 A8.5	Antenna Port Spurious Emissions – 30MHz – 40 GHz	All spurious emissions < -20dBc or < -30dBc <sup>Note 2</sup>	< -20dBc < -30dBc <sup>Note 2</sup>	Complies
15.247(c) / 15.209	RSS 210 A8.5 Table 2, 3	Radiated Spurious Emissions 30MHz – 40 GHz	52.7dB $\mu$ V/m @ 11509.8MHz (-1.3dB)	15.207 in restricted bands, all others < -20dBc <-30dBc <sup>Note 2</sup>	Complies

Note 1: EIRP calculated using antenna gain of 5.09 dBi for the non-MIMO operation and 8.09 dBi for the MIMO operation.

Note 2: For those modes that were tested using a peak power meter, a limit of -20dBc was used. For those modes that were tested using the UNII test procedure (maximum power averaged over a transmission burst) / RMS averaging over a time interval, as permitted under RSS 210 section A8.4(4), a limit of -30dBc was used. Refer to the test data in the appendix for details.



## GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	The antennas are attached via internal u.FL connectors.	Refer to standard	Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	46.9dB $\mu$ V/m @ 3076.2MHz (-7.1dB)	Refer to standard	Complies
15.207	RSS GEN Table 2	AC Conducted Emissions	38.2dB $\mu$ V @ 2.442MHz (-7.8dB)	Refer to standard	Complies
15.247 (b) (5) 15.407 (f)	RSS 102	RF Exposure Requirements	Refer to MPE calculations in Exhibit 11, RSS 102 declaration and User Manual statements.	Refer to OET 65, FCC Part 1 and RSS 102	Complies
-	RSP 100 RSS GEN 7.1.5	User Manual		Statement required regarding non-interference	Complies
-	RSP 100 RSS GEN 4.4.1	99% Bandwidth	802.11b: 13.7 MHz 802.11g: 18.6 MHz  802.11n20 CDD (2.4GHz): 19.1 MHz  802.11n40 CDD (2.4GHz): 37.3 MHz  802.11a: 17.5 MHz  802.11n40 CDD (5.7GHz): 37.9 MHz  802.11n40 SISO (2.4GHz): 37.3 MHz	Information only	N/A

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**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	Frequency Range (MHz)	Calculated Uncertainty (dB)
<hr/>		
Conducted Emissions	0.15 to 30	$\pm 2.4$
Radiated Emissions	0.015 to 30	$\pm 3.0$
Radiated Emissions	30 to 1000	$\pm 3.6$
Radiated Emissions	1000 to 40000	$\pm 6.0$

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

The Avaya model WLAN AP 8120 is a 802.11abgn wireless router/access point that is designed to wireless connectivity for enterprise network systems. The EUT can be table-top or wall mounted in normal operation. During testing, the EUT was treated as table-top, and rotated thru different orientation to simulate wall mounting, as noted. The EUT is powered via a POE connection.

The sample was received on January 25, 2010 and tested on January 25, 26, 27, 28, 29, 31, February 1, 2, 3, 8, 9, 10 and 11, 2010. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Avaya	AP8120	802.11abgn AP	Prototype	X7CAP8120

**OTHER EUT DETAILS**

The following EUT details should be noted: The EUT contains 2 abgn radio modules. One module is used for 2.4GHz operation and one module is used for 5GHz operation. Simultaneous transmission is possible, but never in the same band at the same time. The device supports 2x3 MIMO operation.

**ANTENNA SYSTEM**

The antenna system used consists of 6 custom antennas mounted on one assembly. The antenna is integral to the device.

**ENCLOSURE**

The EUT outer enclosure is primarily constructed of plastic. It measures approximately 23.5 cm wide by 15 cm deep by 5.5 cm high. The plastic outer enclosure covers a full metalized inner enclosure.

**MODIFICATIONS**

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

**SUPPORT EQUIPMENT**

The following equipment was used as support equipment for testing:

Company	Model	Description	Serial Number	FCC ID
Dell	Inspiron 1501	Laptop	-	-
-	-	USB to Serial Adapter	-	-

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

Company	Model	Description	Serial Number	FCC ID
PowerDsine	PowerDsine 9001G	POE Injector	D094565000005 8BA00	-

**EUT INTERFACE PORTS**

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

Port	Connected To	Description	Cable(s)	
			Shielded or Unshielded	Length(m)
POE	POE Injector	CAT-5	Unshielded	5.0
Serial Port	USB-to-Serial Adapter to Laptop	CAT-5 to Serial	Unshielded	6.0

**EUT OPERATION**

During testing, the EUT was configured to transmit continuously on the noted channel. Data rate was set to 1Mbps for 802.11b mode and 6Mbps for 802.11g. For MIMO mode testing, please refer to the actual data for the MCS setting.

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

Final test measurements were taken on February 11, 2010 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	
SVOATS #2	90593	2845A-2	684 West Maude Ave, Sunnyvale CA 94085-3518
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 with the exception, on OATS sites, of predictable local TV, radio, and mobile communications traffic. 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.

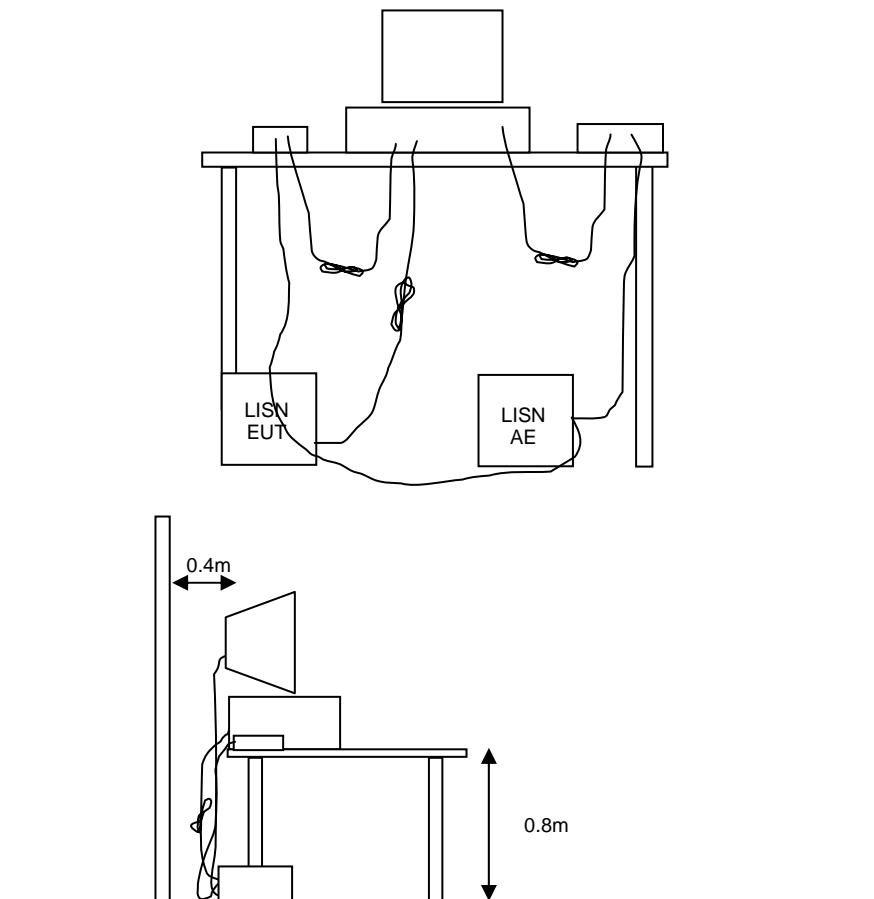
## TEST PROCEDURES

### 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.





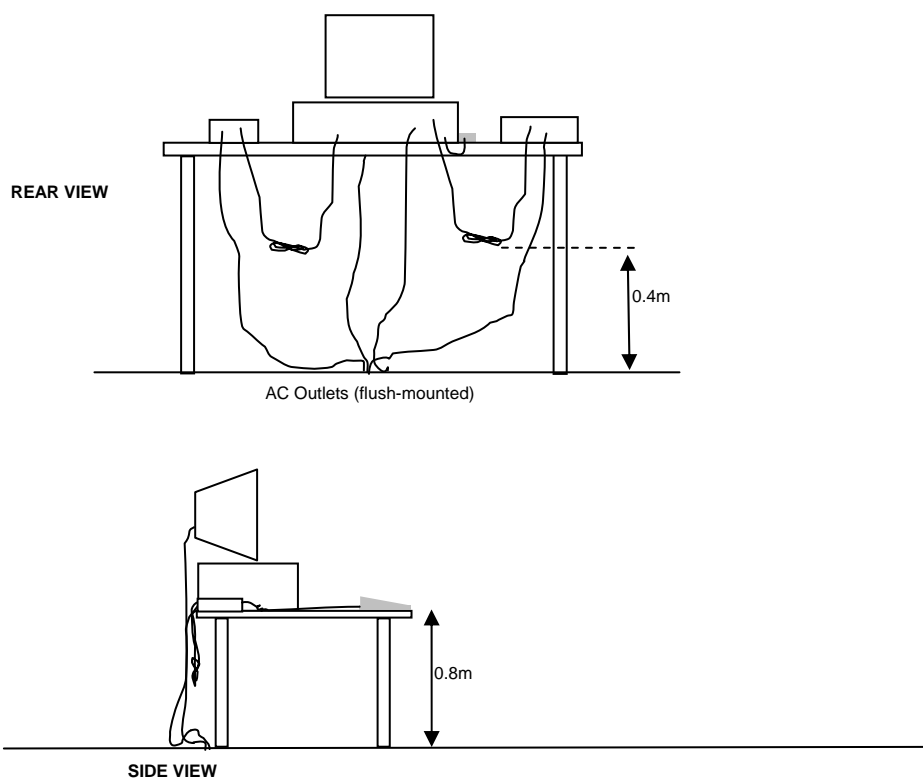
**RADIATED EMISSIONS**

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.

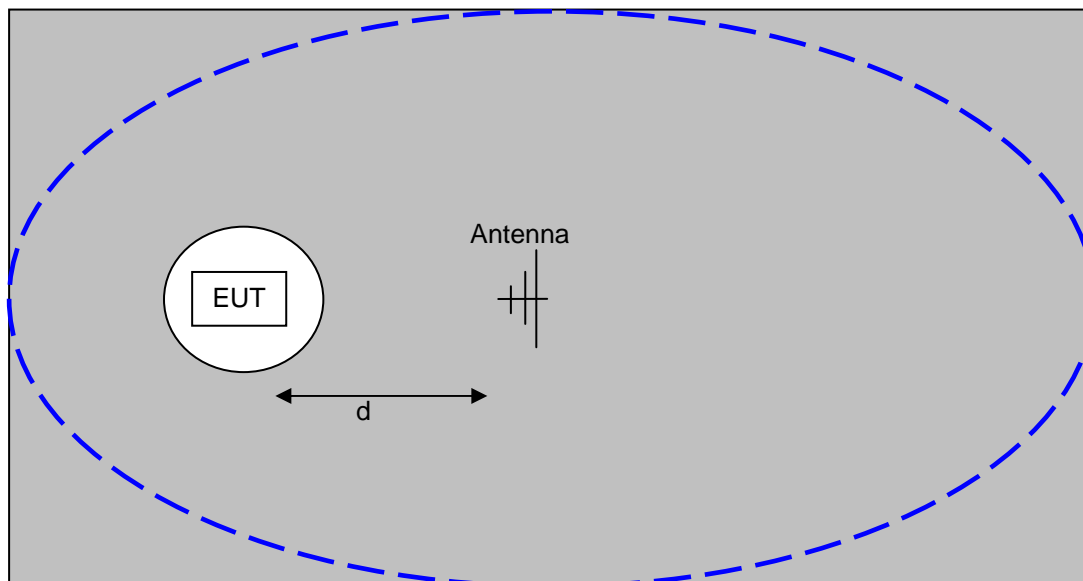
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

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.

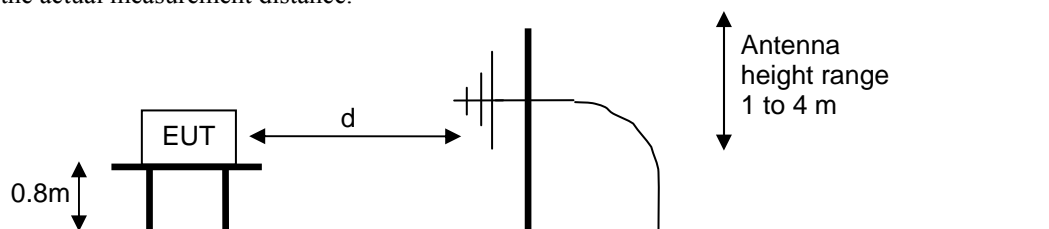
When testing above 18 GHz, the receive antenna is located at 1 meter from the EUT and the antenna height is restricted to a maximum of 2.5 meters.



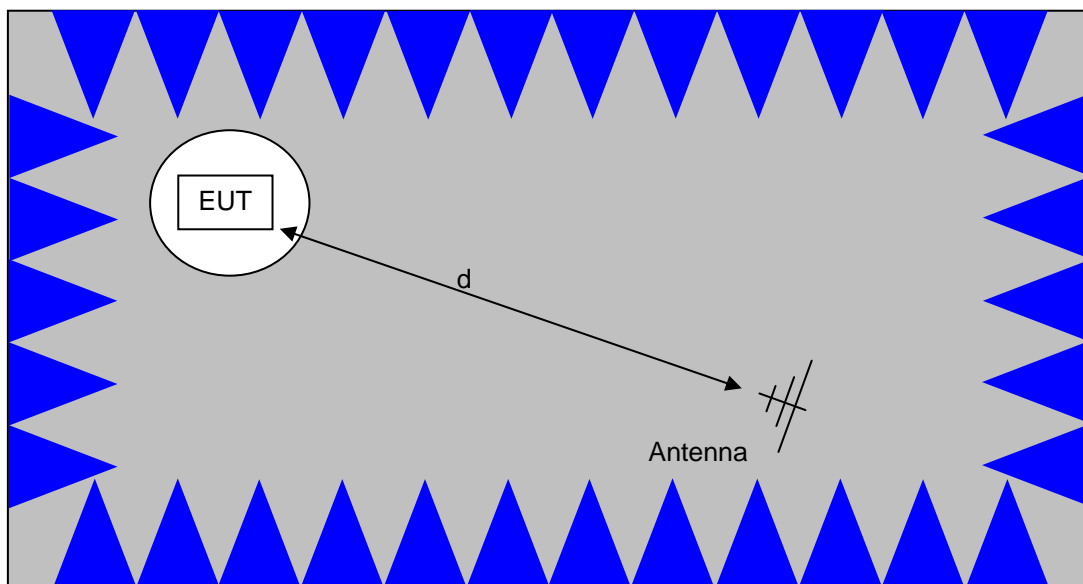
Typical Test Configuration for Radiated Field Strength Measurements



The ground plane extends beyond the ellipse defined in CISPR 16 / CISPR 22 / ANSI C63.4 and is large enough to accommodate test distances (d) of 3m and 10m. Refer to the test data tables for the actual measurement distance.

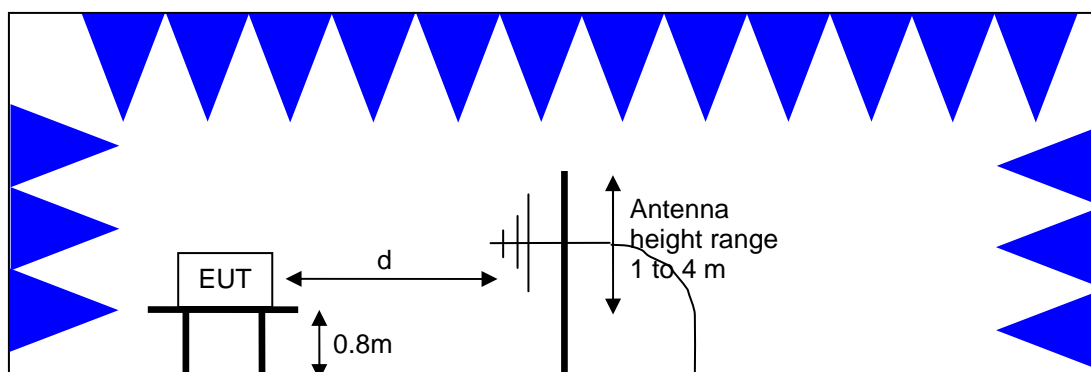


Test Configuration for Radiated Field Strength Measurements  
OATS- Plan and Side Views



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

#### **BANDWIDTH MEASUREMENTS**

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

**SPECIFICATION LIMITS AND SAMPLE CALCULATIONS**

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

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

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

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

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

**GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS**

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

Frequency Range (MHz)	Limit (uV/m)	Limit (dBuV/m @ 3m)
0.009-0.490	2400/F <sub>KHz</sub> @ 300m	67.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 300m
0.490-1.705	24000/F <sub>KHz</sub> @ 30m	87.6-20*log <sub>10</sub> (F <sub>KHz</sub> ) @ 30m
1.705 to 30	30 @ 30m	29.5 @ 30m
30 to 88	100 @ 3m	40 @ 3m
88 to 216	150 @ 3m	43.5 @ 3m
216 to 960	200 @ 3m	46.0 @ 3m
Above 960	500 @ 3m	54.0 @ 3m

**RECEIVER RADIATED SPURIOUS EMISSIONS SPECIFICATION LIMITS**

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

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

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

**OUTPUT POWER LIMITS – DIGITAL TRANSMISSION SYSTEMS**

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

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

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

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

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

**SAMPLE CALCULATIONS - CONDUCTED EMISSIONS**

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

$$R_r - S = M$$

where:

$R_r$  = Receiver Reading in dBuV

$S$  = Specification Limit in dBuV

$M$  = Margin to Specification in +/- dB

**SAMPLE CALCULATIONS - RADIATED EMISSIONS**

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

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

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

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:

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

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

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

$$R_c = R_r + F_d$$

and

$$M = R_c - L_s$$

where:

$$R_r = \text{Receiver Reading in dBuV/m}$$

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

$$R_c = \text{Corrected Reading in dBuV/m}$$

$$L_s = \text{Specification Limit in dBuV/m}$$

$$M = \text{Margin in dB Relative to Spec}$$

#### *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 3m from the equipment under test:

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

where P is the eirp (Watts)



**Appendix A Test Equipment Calibration Data****Radio Spurious Emissions, 26-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/10/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/10/2010
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1731	11/4/2010
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	1780	9/17/2010

**Radio (Spurious Emissions), 28-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
EMCO	Antenna, Horn, 1-18 GHz (SA40-Blu)	3115	1386	9/2/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/10/2010
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	7/29/2010
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1728	9/25/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	2/10/2010
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	1780	9/17/2010

**TX Spurious Emissions, 28-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	6/3/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/10/2010
Micro-Tronics	Band Reject Filter, 5725-5875 MHz	BRC50705-02	1728	9/25/2010
Hewlett Packard	High Pass filter, 8.2 GHz (Purple System)	P/N 84300-80039 (84125C)	1767	11/4/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	9/30/2010

**Radio (Spurious Emissions), 29-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	6/3/2010
Hewlett Packard	High Pass filter, 8.2 GHz (Blue System)	P/N 84300-80039 (84125C)	1392	6/22/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/10/2010
Micro-Tronics	Band Reject Filter, 2400-2500 MHz	BRM50702-02	1683	7/29/2010
Micro-Tronics	Band Reject Filter, 5150-5350 MHz	BRC50703-02	1729	9/25/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	2/10/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	9/30/2010

**TX Spurious Emissions, 29-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
EMCO	Antenna, Horn, 1-18GHz	3115	868	6/10/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	2/26/2010

**Tx/Rx Spurious Emissions, 31-Jan-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	6/3/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/10/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	9/30/2010

**RadioSpurious Emissions, 04-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	785	6/3/2010
EMCO	Antenna, Horn, 1-18 GHz	3115	1561	6/10/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, (SA40) Purple	8564E (84125C)	1771	9/30/2010

**Radiated Emissions, 30 - 1,000 MHz, 04-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1549	6/4/2010
Hewlett Packard	Preamplifier, 100 kHz - 1.3 GHz	8447E	1606	4/30/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	2/10/2010

**Conducted Emissions - AC Power Ports, 05-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
EMCO	LISN, 10 kHz-100 MHz	3825/2	1292	3/11/2010
EMCO	LISN, 10 kHz-100 MHz	3825/2	1293	3/18/2010
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	1593	6/9/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	2/10/2010

**Radiated Emissions, 30 - 1,000 MHz, 05-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Com-Power Corp.	Preamplifier, 30-1000 MHz	PA-103	1543	9/2/2010
Sunol Sciences	Biconilog, 30-3000 MHz	JB3	1548	6/13/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1630	2/26/2010

**Conducted Emissions - AC Power Ports, 10-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Elliott Laboratories	LISN, FCC / CISPR	LISN-3, OATS	304	7/15/2010
Hewlett Packard	EMC Spectrum Analyzer, 9 kHz - 6.5 GHz	8595EM	787	5/18/2010
Rohde & Schwarz	Pulse Limiter	ESH3 Z2	812	2/23/2010
Solar Electronics	LISN	8028-50-TS-24-BNC support	904	2/23/2010
Rohde & Schwarz	Test Receiver, 9 kHz-2750 MHz	ESCS 30	1337	11/11/2010

**Radio Antenna Port (Power and Spurious Emissions), 03-Feb-10**

<u>Manufacturer</u>	<u>Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Cal Due</u>
Rohde & Schwarz	Power Meter, Single Channel	NRVS	1290	10/22/2010
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FT (SA40) Blue	8564E (84125C)	1393	4/10/2010
Rohde & Schwarz	Power Sensor 100 uW - 2 Watts	NRV-Z32	1423	10/23/2010
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1756	2/10/2010

## *Appendix B Test Data*

T78071 101 Pages  
T78130 57 Pages  
T78249 8 Pages



## EMC Test Data

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78071
		Account Manager:	Dean Eriksen
Contact:	Vipin Naik		-
Emissions Standard(s):	FCC 15.247	Class:	B
Immunity Standard(s):	-	Environment:	-

## EMC Test Data

For The

**Avaya**

Model

AP 8120

Date of Last Test: 2/10/2010

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (2.4GHz Bandedges)

### Test Specific Details

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

### General Test Configuration

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

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

### Ambient Conditions:

Temperature: 10-15 °C  
 Rel. Humidity: 35-50 %

### 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.

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

Run #	Mode	Channel	Antenna/ Orientation	Power Setting	Test Performed	Limit	Result / Margin
1a	b	1 - 2412 MHz	Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.3dBμV/m @ 2375.3MHz (-0.7dB)
1e	b	11 - 2462 MHz	Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.8dBμV/m @ 2498.8MHz (-0.2dB)
2a	g	1 - 2412 MHz	Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.0dBμV/m @ 2390.1MHz (-1.0dB)
2b	g	2 - 2417 MHz	Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	52.2dBμV/m @ 2390.0MHz (-1.8dB)
2c	g	10 - 2457 MHz	Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	73.6dBμV/m @ 2483.8MHz (-0.4dB)
2d	g	11 - 2462 MHz	Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2483.8MHz (-0.1dB)

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78071
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

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

Run #	Mode	Channel	Antenna/ Orientation	Measured Power	Test Performed	Limit	Result / Margin
3a	n20 - CDD	1 - 2412 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.2dBμV/m @ 2390.0MHz (-0.8dB)
3b	n20 - CDD	2 - 2417 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2390.0MHz (-0.1dB)
3c	n20 - CDD	3 - 2422 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2388.1MHz (-0.1dB)
3d	n20 - CDD	9 - 2452 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	50.5dBμV/m @ 2487.9MHz (-3.5dB)
3e	n20 - CDD	10 - 2457 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	52.7dBμV/m @ 2483.6MHz (-1.3dB)
3f	n20 - CDD	11 - 2462 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.3dBμV/m @ 2483.6MHz (-0.7dB)
5a	n40 - CDD MCS12	3 - 2422 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	72.2dBμV/m @ 2388.4MHz (-1.8dB)
5b	n40 - CDD MCS12	4 - 2427 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	52.7dBμV/m @ 2389.6MHz (-1.4dB)
5c	n40 - CDD MCS12	7 - 2447 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	52.2dBμV/m @ 2483.6MHz (-1.8dB)
5d	n40 - CDD MCS12	8 - 2447 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2484.3MHz (-0.1dB)
5e	n40 - CDD MCS12	9 - 2452 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.5dBμV/m @ 2486.6MHz (-0.5dB)

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Run #1: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11b

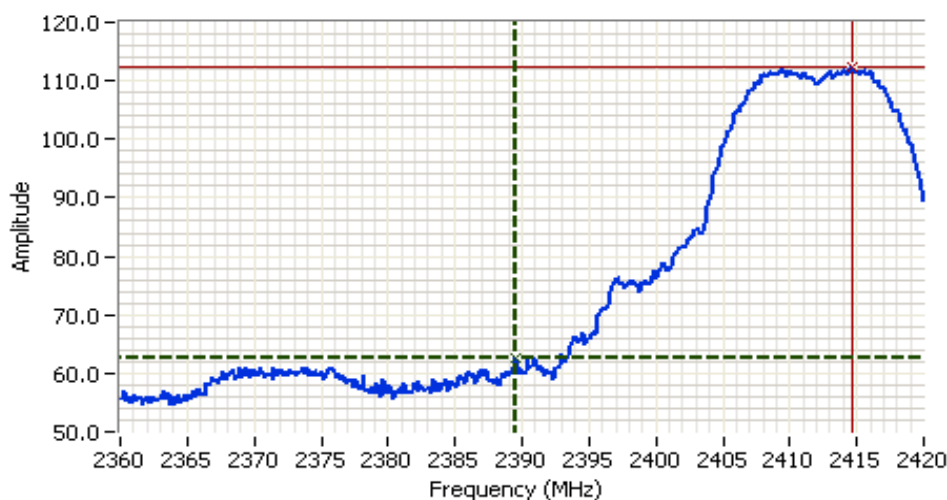
Run #1a: Low Channel (1) @ 2412 MHz, UP Right Orientation

Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2415.311	108.4	H	-	-	Avg	231	1.0	
2414.589	112.3	H	-	-	PK	231	1.0	
2414.830	104.1	V	-	-	Avg	188	1.0	
2414.589	108.0	V	-	-	PK	188	1.0	

Band Edge Signal Field Strength - Direct measurement of field strength

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2375.271	53.3	H	54.0	-0.7	Avg	231	1.0	
2389.579	62.6	H	74.0	-11.4	PK	231	1.0	
2375.391	50.1	V	54.0	-3.9	Avg	188	1.0	
2387.054	59.8	V	74.0	-14.2	PK	188	1.0	



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 5.0ms  
 Ref Lvl: 114.40 DBUV

**Comments**

BE @ 2390 MHz  
 PK-H

Cursor 1 2389.5791 62.56  
 Cursor 2 2414.5891 112.29

Delta Freq. 25.010  
 Delta Amplitude 49.74

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40DBUV

**Comments**  
 BE @ 2390 MHz  
 Avg-H

Cursor 1 2375.2705 53.29  
 Cursor 2 2415.3105 108.37

Delta Freq. 40.040  
 Delta Amplitude 55.07



## Run #1e: High Channel (11) @ 2462 MHz, Up Right

Date of Test: 1/25/2010  
 Test Engineer: Rafael Varelas  
 Test Location: Fremont Chamber #5

Config. Used: 1  
 Config Change: None  
 EUT Voltage: POE

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

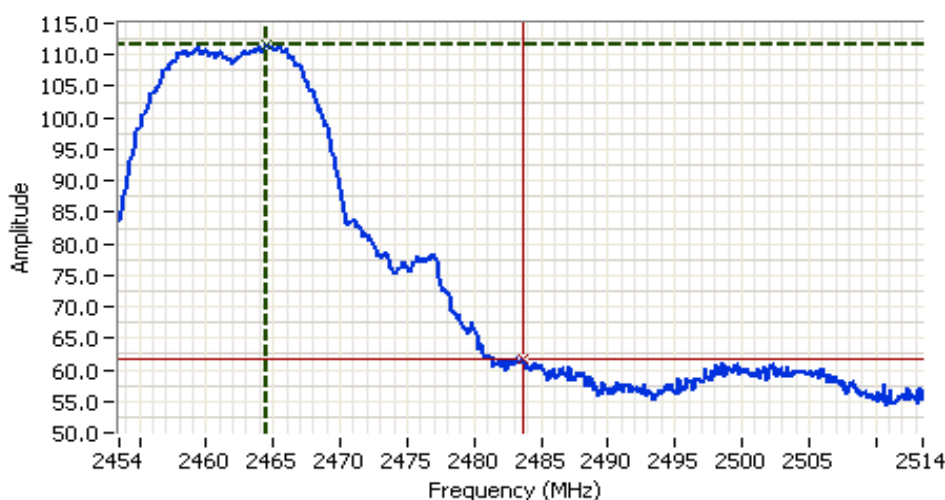
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2464.803	107.8	H	-	-	Avg	232	1.0	UpRight
2464.442	111.7	H	-	-	PK	232	1.0	UpRight
2464.682	103.2	V	-	-	Avg	207	1.0	UpRight
2464.562	107.0	V	-	-	PK	207	1.0	UpRight

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2498.831	53.8	H	54.0	-0.2	Avg	232	1.0	UpRight
2483.680	61.7	H	74.0	-12.3	PK	232	1.0	UpRight
2499.312	49.6	V	54.0	-4.4	Avg	207	1.0	UpRight
2503.761	58.5	V	74.0	-15.5	PK	207	1.0	UpRight



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 5.0ms  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 PK-H

2412 MHz

Cursor 1 2464.4419 111.71

Cursor 2 2483.6804 61.74

Delta Freq. 19.239

Delta Amplitude 49.97



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H

2412 MHz

Cursor 1 2464.8025 107.82

Cursor 2 2498.8306 53.77

Delta Freq. 34.028

Delta Amplitude 54.05



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Run #2: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11g

Run #2a: Low Channel (1) @ 2412 MHz, Upright Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

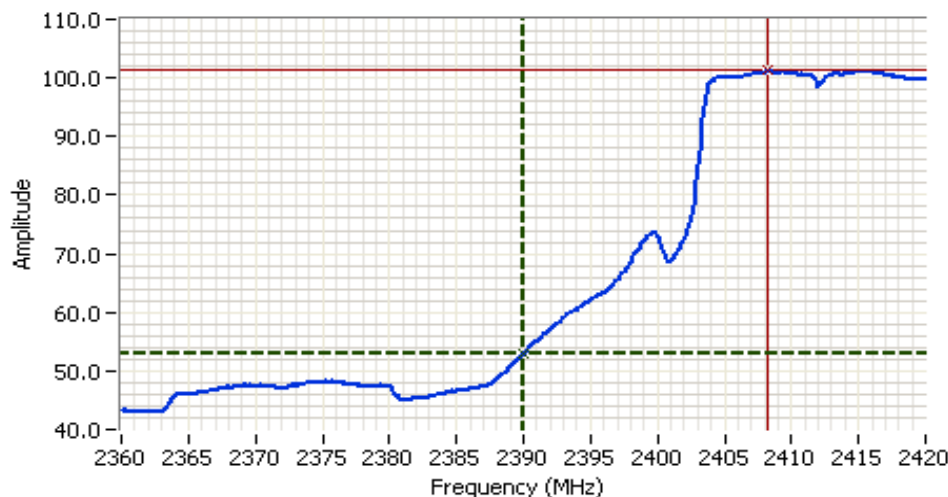
Config. Used: 1  
Config Change: None  
EUT Voltage: POE

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2408.217	101.5	H	-	-	Avg	234	1.0	
2414.469	112.1	H	-	-	PK	234	1.0	
2414.348	99.0	V	-	-	Avg	190	1.0	
2415.189	109.8	V	-	-	PK	190	1.0	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.060	53.0	H	54.0	-1.0	Avg	234	1.0	
2390.060	71.8	H	74.0	-2.2	PK	234	1.0	
2390.059	53.8	V	54.0	-0.2	Avg	190	1.0	
2390.059	72.4	V	74.0	-1.6	PK	190	1.0	



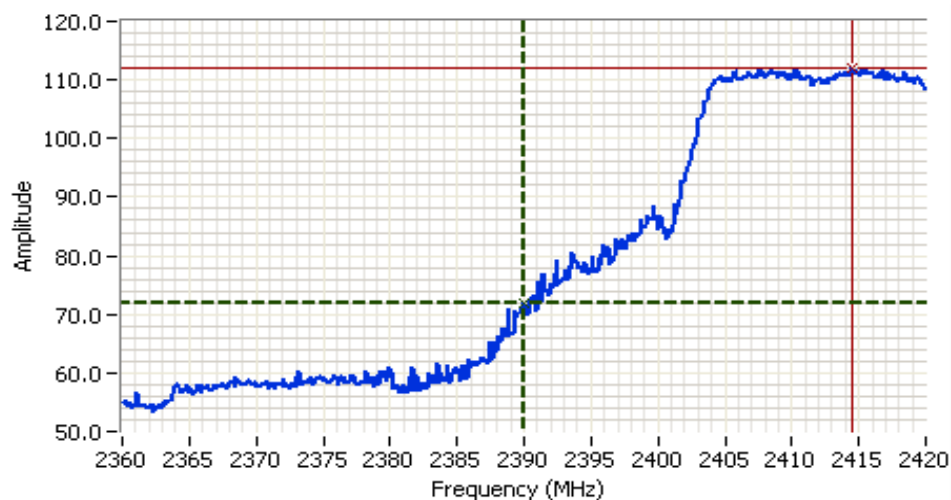
**Analyzer Settings**  
Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 15.0s  
Ref Lvl: 114.40 DBUV

**Comments**  
BE @ 2390 MHz  
Avg-H  
2412 MHz

Cursor 1 2390.0601 52.96  
Cursor 2 2408.2166 101.47

Delta Freq. 18.156  
Delta Amplitude 48.51

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A





## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector PO5  
 Att 10  
 RL Offset 32.40  
 Sweep Time 5.0ms  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 PK-H

2412 MHz

Cursor 1	2390.0601	71.78	
Cursor 2	2414.4690	112.10	

Delta Freq. 24.409

Delta Amplitude 40.31

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

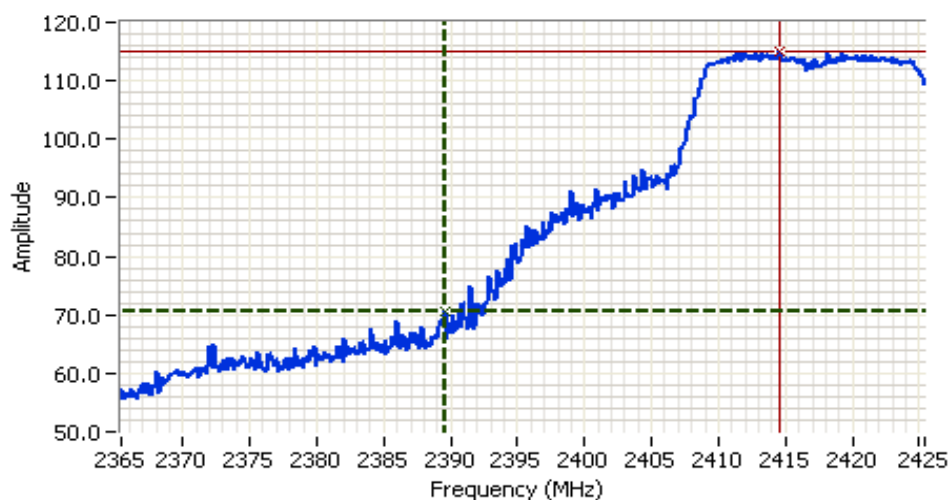
## Run #2b: Channel (2) @ 2417 MHz, Upright Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.049	52.2	H	54.0	-1.8	Avg	234	1.0	
2389.568	70.4	H	74.0	-3.6	PK	234	1.0	
2389.808	50.5	V	54.0	-3.5	Avg	190	1.0	
2389.928	67.7	V	74.0	-6.3	PK	190	1.0	





### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2395.400 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

BE @ 2390 MHz  
PK-H

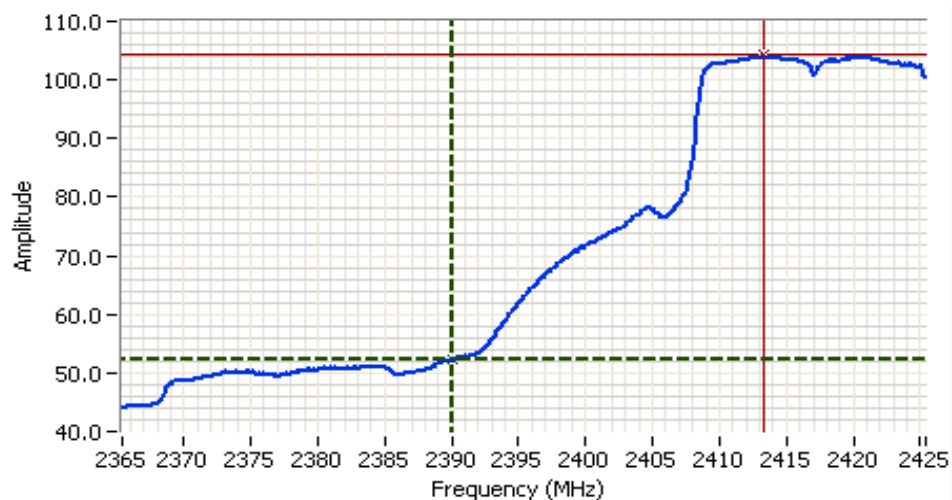
2417 MHz

Cursor 1	2389.5684	70.44	
Cursor 2	2414.5784	114.95	

Delta Freq. 25.010

Delta Amplitude 44.51

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2395.400 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H  
 2417 MHz

Cursor 1	2390.0493	52.24	
Cursor 2	2413.3757	104.23	

Delta Freq. 23.326

Delta Amplitude 51.99



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2c: Channel (10) @ 2457 MHz, Upright Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2483.812	73.6	H	74.0	-0.4	PK	215	1.0	
2483.571	51.9	H	54.0	-2.1	Avg	215	1.0	
2500.164	47.0	V	54.0	-7.0	Avg	212	1.0	
2489.102	65.5	V	74.0	-8.5	PK	212	1.0	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2478.100 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

BE @ 2483.5 MHz  
PK-H

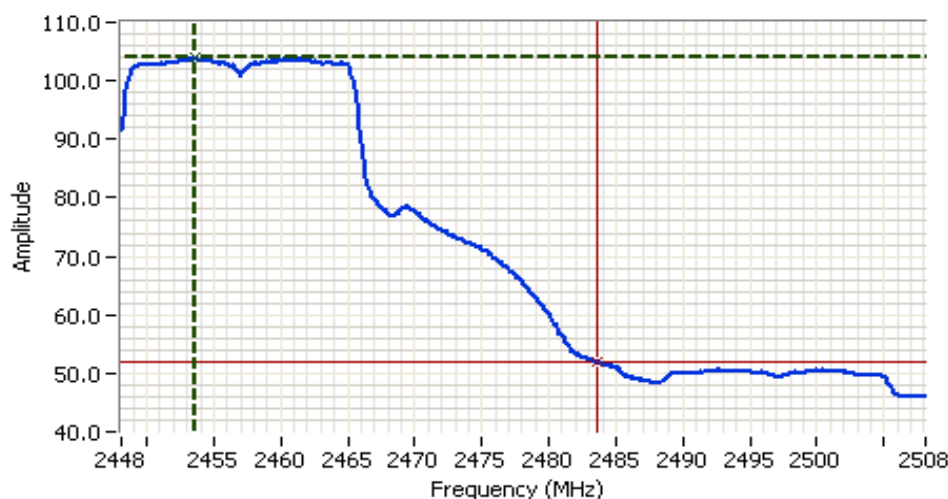
2457 MHz

Cursor 1	2461.3267	114.52	
Cursor 2	2483.8115	73.60	

Delta Freq. 22.485

Delta Amplitude 40.91

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2478.100 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40DBUV

**Comments**  
 BE @ 2483.5 MHz  
 Avg-H  
 2457 MHz

Cursor 1 2453.6311 103.93  
 Cursor 2 2483.5710 51.93

Delta Freq. 29.940

Delta Amplitude 52.00



Run #2d: High Channel (11) @ 2462 MHz, UP Right Orientation

Date of Test: 1/25/2010  
 Test Engineer: Rafael Varelas  
 Test Location: FT Chamber #5

Config. Used: 1  
 Config Change: None  
 EUT Voltage: POE

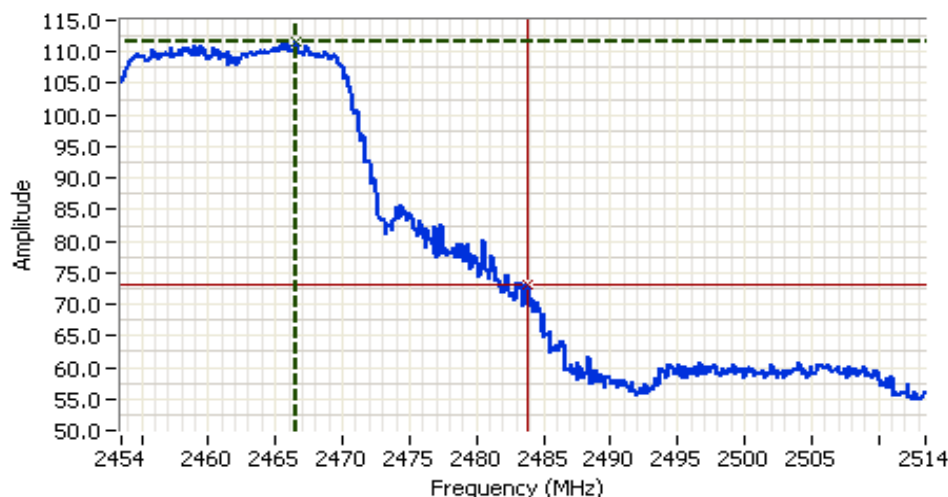
**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2464.682	100.7	H	-	-	Avg	215	1.0	
2466.606	111.5	H	-	-	PK	215	1.0	
2464.803	98.2	V	-	-	Avg	212	1.0	
2464.803	108.6	V	-	-	PK	212	1.0	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.801	53.9	H	54.0	-0.1	Avg	215	1.0	
2483.801	73.2	H	74.0	-0.8	PK	215	1.0	
2483.560	53.3	V	54.0	-0.8	Avg	212	1.0	
2483.560	71.4	V	74.0	-2.7	PK	212	1.0	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 5.0ms  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 PK-H

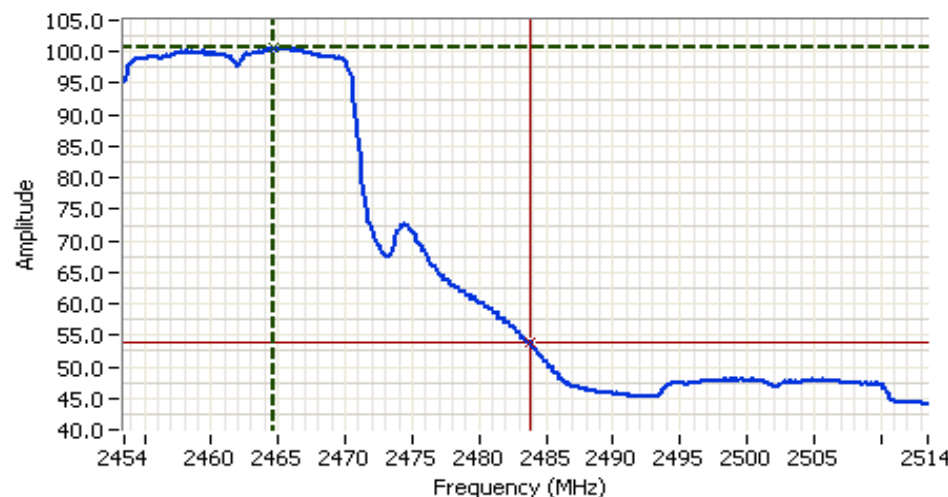
2462 MHz

Cursor 1 2466.6062 111.45

Delta Freq. 17.194

Cursor 2 2483.8005 73.23

Delta Amplitude 38.26



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H

2462 MHz

Cursor 1 2466.6824 100.70

Delta Freq. 19.118

Cursor 2 2483.8005 53.91

Delta Amplitude 46.79





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Run #3: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n20 - CDD, MCS0

Run #3a: Low Channel (1) @ 2412 MHz, UP Right Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2415.429	100.6	H	-	-	Avg	236	1.0	
2415.308	111.8	H	-	-	PK	236	1.0	
2415.070	96.8	V	-	-	Avg	193	1.0	
2407.856	108.8	V	-	-	PK	193	1.0	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.000	53.2	H	54.0	-0.8	Avg	236	1.0	
2389.938	71.3	H	74.0	-2.7	PK	236	1.0	
2389.940	50.7	V	54.0	-3.3	Avg	193	1.0	
2390.060	69.0	V	74.0	-5.0	PK	193	1.0	



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2391.200 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

## Comments

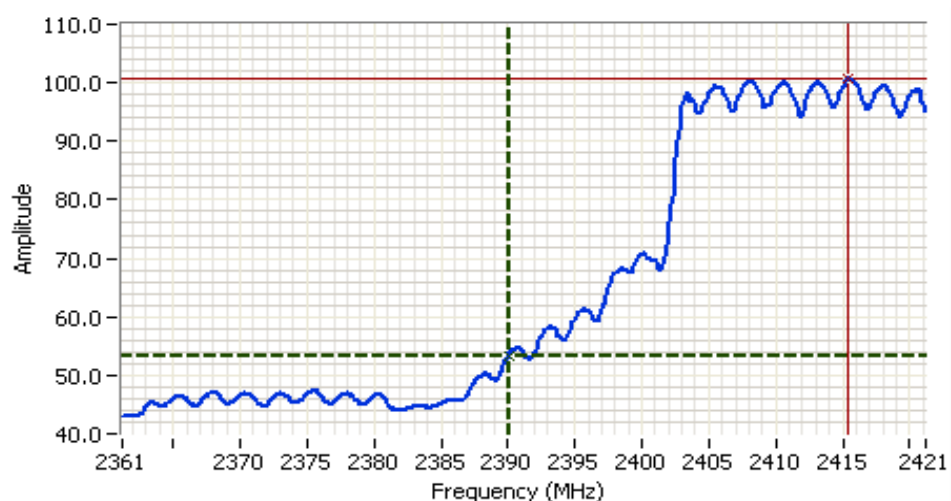
BE @ 2390 MHz  
PK-H  
2412 MHz

Cursor 1	2389.9375	71.29	
Cursor 2	2415.3081	111.76	

Delta Freq. 25.371

Delta Amplitude 40.48

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2391.200 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H  
 2412 MHz

Cursor 1 2390.0576 53.22

Cursor 2 2415.4285 100.6

Delta Freq. 25.371

Delta Amplitude 47.42



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3b: Channel (2) @ 2417 MHz, UP Right Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.000	53.9	H	54.0	-0.1	Avg	236	1.0	
2390.000	71.8	H	74.0	-2.2	PK	236	1.0	
2390.000	51.1	V	54.0	-2.9	Avg	193	1.0	
2389.927	67.7	V	74.0	-6.3	PK	193	1.0	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2396.600 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

BE @ 2390 MHz  
PK-H  
2417 MHz

Cursor 1	2390.0469	71.78	
Cursor 2	2420.5881	116.00	

Delta Freq. 30.541  
Delta Amplitude 44.22

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2396.600 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

2417 MHz

Cursor 1 2390.0469 53.85

Cursor 2 2413.1331 104.97

Delta Freq. 23.086

Delta Amplitude 51.12



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

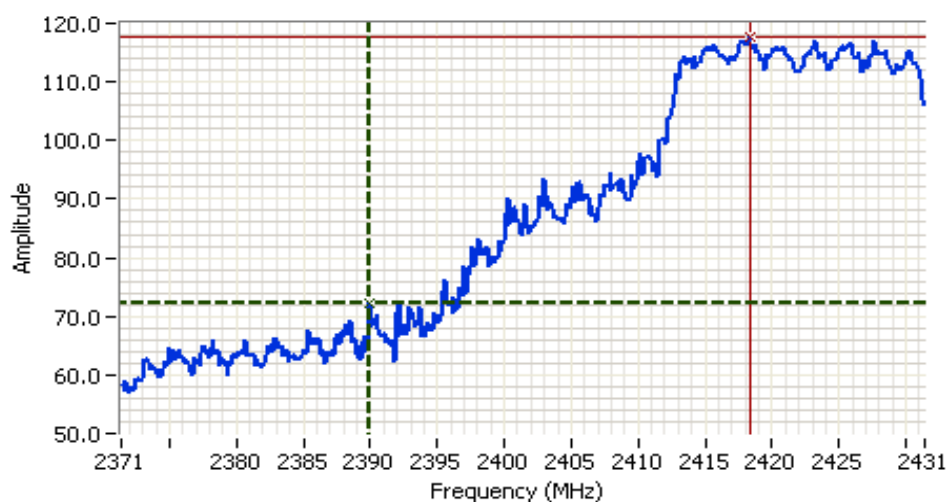
## Run #3c: Channel (3) @ 2422 MHz, UP Right Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
2388.113	53.9	H	54.0	-0.1	Avg	222	1.1	
2389.917	72.1	H	74.0	-1.9	PK	236	1.1	
2390.037	50.2	V	54.0	-3.8	Avg	193	1.0	
2387.512	64.5	V	74.0	-9.6	PK	193	1.0	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2401.400 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40 DBUV

### Comments

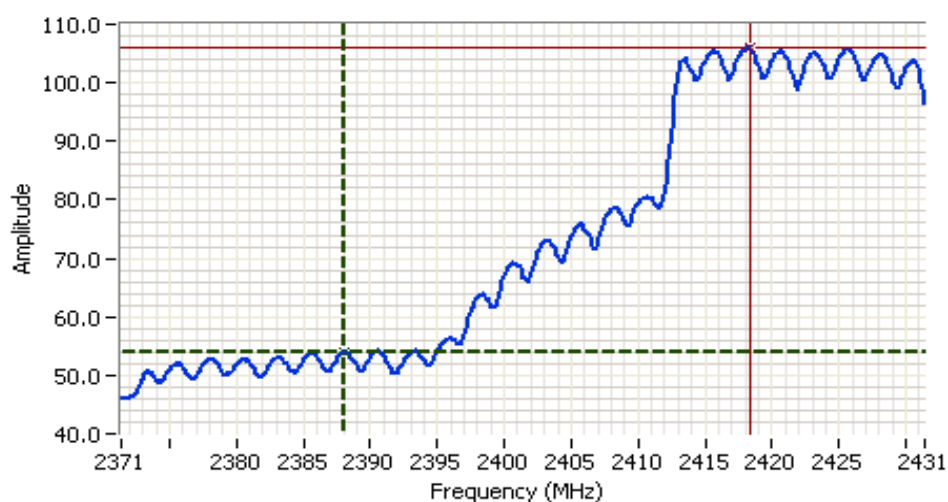
BE @ 2390 MHz  
PK-H

2422 MHz

Cursor 1	2389.9170	72.06	
Cursor 2	2418.2937	117.52	

Delta Freq. 28.377  
Delta Amplitude 45.45

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2401.400 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40 DBUW

## Comments

BE @ 2390 MHz  
 Avg-H

2422 MHz

Cursor 1 2388.1133 53.85  
 Cursor 2 2418.2937 105.94

Delta Freq. 30.180

Delta Amplitude 52.09



Run #3d: Channel (9) @ 2452 MHz, UP Right Orientation

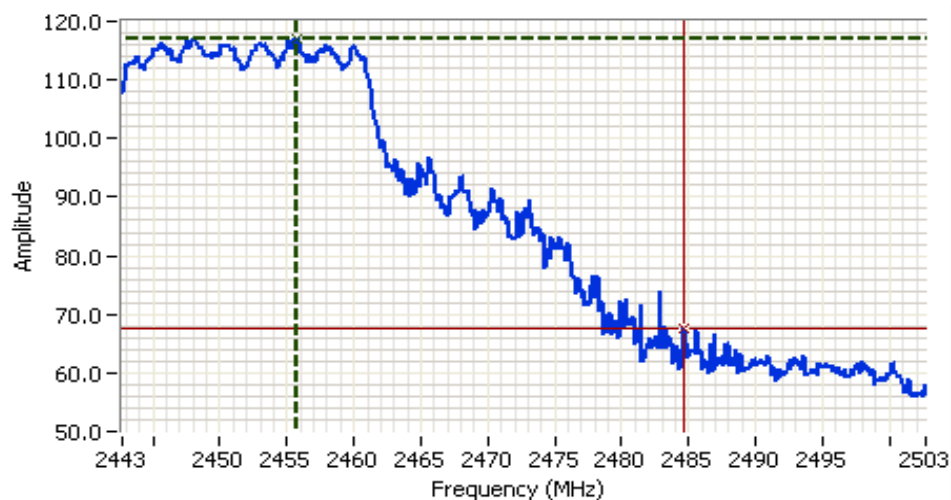
Date of Test: 1/25/2010  
 Test Engineer: Rafael Varelas  
 Test Location: FT Chamber #5

Config. Used: 1  
 Config Change: None  
 EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2487.910	50.5	H	54.0	-3.5	Avg	212	1.0	
2484.664	67.4	H	74.0	-6.6	PK	212	1.0	
2495.967	47.3	V	54.0	-6.7	Avg	206	1.0	
2485.626	66.6	V	74.0	-7.4	PK	206	1.0	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2472.700 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 5.0ms  
 Ref Lvl: 114.40DBUV

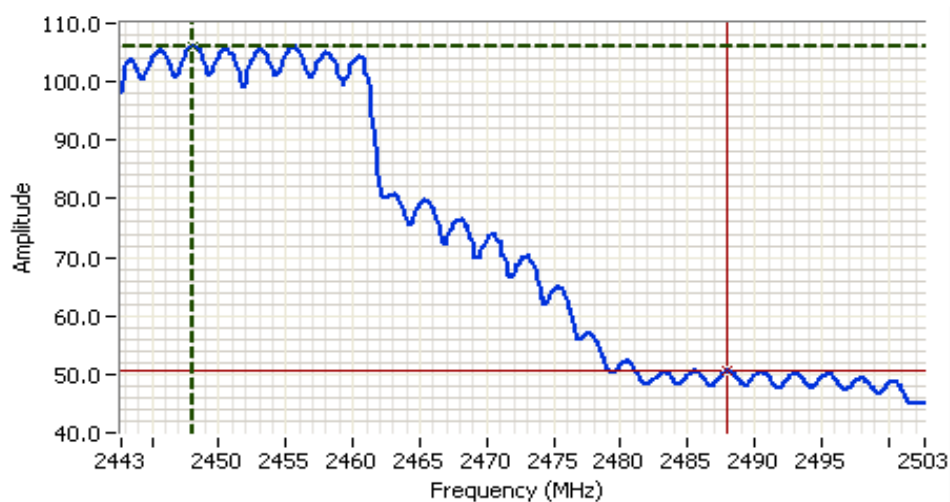
## Comments

BE @ 2483.5 MHz  
 PK-H  
 2452 MHz

Cursor 1 2455.8062 117.16  
 Cursor 2 2484.6638 67.42

Delta Freq. 28.858

Delta Amplitude 49.74



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2472.700 MHz  
 SPAN: 60.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 15.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H  
 2452 MHz

Cursor 1 2448.1108 106.16  
 Cursor 2 2487.9104 50.52

Delta Freq. 39.800

Delta Amplitude 55.66



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

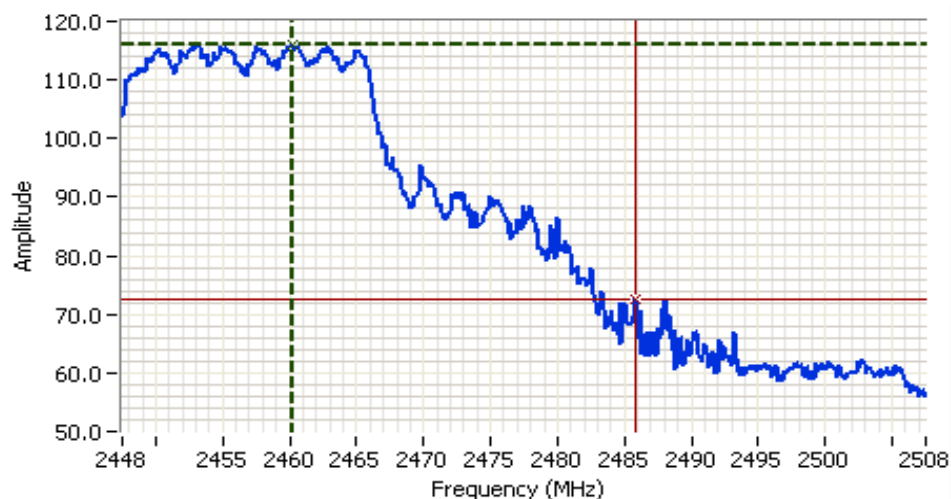
## Run #3e: Channel (10) @ 2457 MHz, UP Right Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.572	52.7	H	54.0	-1.3	Avg	215	1.3	
2485.857	72.6	H	74.0	-1.5	PK	215	1.3	
2483.572	48.9	V	54.0	-5.1	Avg	206	1.0	
2484.173	69.0	V	74.0	-5.0	PK	206	1.0	





### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2477.500 MHz  
SPAN: 60.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector PO5  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

BE @ 2483.5 MHz  
PK-H  
2457 MHz

Cursor 1	2460.2456	116.13	
Cursor 2	2485.8567	72.55	

Delta Freq. 25.611

Delta Amplitude 43.58



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



<b>Analyzer Settings</b>
Rohde&Schwarz, ESI 7
CF: 2477.500 MHz
SPAN: 60.000 MHz
RB 1.000 MHz
VB 10 Hz
Detector PO5
Att 10
RL Offset 32.40
Sweep Time 15.0s
Ref Lvl: 114.40 DBU
<b>Comments</b>
BE @ 2483.5 MHz
Avg-H
2457 MHz

Cursor 1	2460.3657	105.08
Cursor 2	2483.5723	52.72

Delta Freq.	23.207
Delta Amplitude	52.36



## Run #3f: High Channel (11) @ 2462 MHz, UP Right Orientation

Date of Test: 1/25/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

## Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2457.829	100.4	H	-	-	Avg	215	1.3	
2465.043	111.6	H	-	-	PK	215	1.3	
2465.765	96.3	V	-	-	Avg	211	1.0	
2465.765	108.4	V	-	-	PK	211	1.0	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.560	53.3	H	54.0	-0.7	Avg	215	1.3	
2485.003	70.6	H	74.0	-3.4	PK	215	1.3	
2483.560	50.4	V	54.0	-3.7	Avg	211	1.0	
2483.560	68.8	V	74.0	-5.3	PK	211	1.0	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



Cursor 1 2465.0430 111.62

Cursor 2 2485.0029 70.57

Delta Freq. 19.960

Delta Amplitude 41.05



Cursor 1 2457.8286 100.35

Cursor 2 2483.5601 53.32

Delta Freq. 25.731

Delta Amplitude 47.03



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Run #5: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - CDD - MCS12

Run #5a: Low Channel (3) @ 2422 MHz, UP Right Orientation

Date of Test: 1/29/2009  
Test Engineer: Mark Hill  
Test Location: FT #3

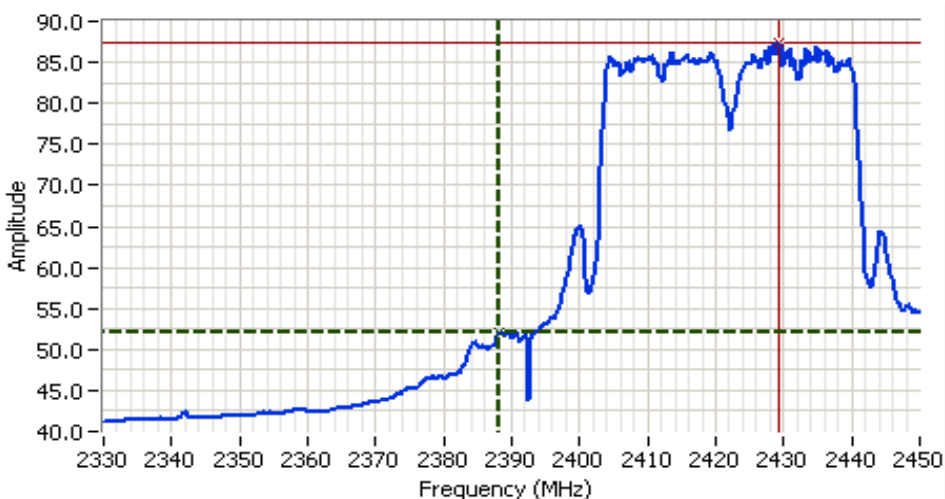
Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2429.319	87.3	H	-	-	Avg	212	1.6	
2416.814	108.3	H	-	-	Pk	212	1.6	
2428.357	82.4	V	-	-	Avg	175	1.6	
2427.876	100.9	V	-	-	Pk	175	1.6	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2388.190	52.1	H	54.0	-1.9	Avg	212	1.6	
2388.196	46.3	V	54.0	-7.7	Avg	175	1.6	
2388.430	72.2	H	74.0	-1.8	Pk	212	1.6	
2388.436	62.7	V	74.0	-11.3	Pk	175	1.6	



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector AutoPeak  
Att 10  
RL Offset 32.50  
Sweep Time 30.0s  
Ref Lvl: 104.50 DBUV

## Comments

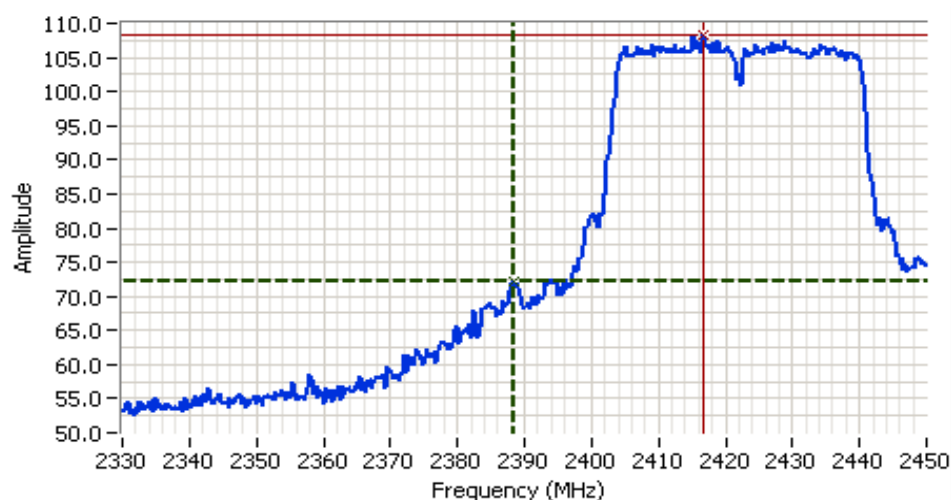
802.11n40, Channel 3,  
MCS12, Horizontal, Avg

Cursor 1	2388.1963	52.11			
Cursor 2	2429.3186	87.33			

Delta Freq. 41.122

Delta Amplitude 35.22

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A








## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.50  
 Sweep Time 5.0ms  
 Ref Lvl: 114.50DBUV

## Comments

802.11n40, Channel 3,  
 MSC12, Horizontal,  
 Peak

Cursor 1	2388.4368	72.16			
Cursor 2	2416.8137	108.25			

Delta Freq. 28.377

Delta Amplitude 36.09



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

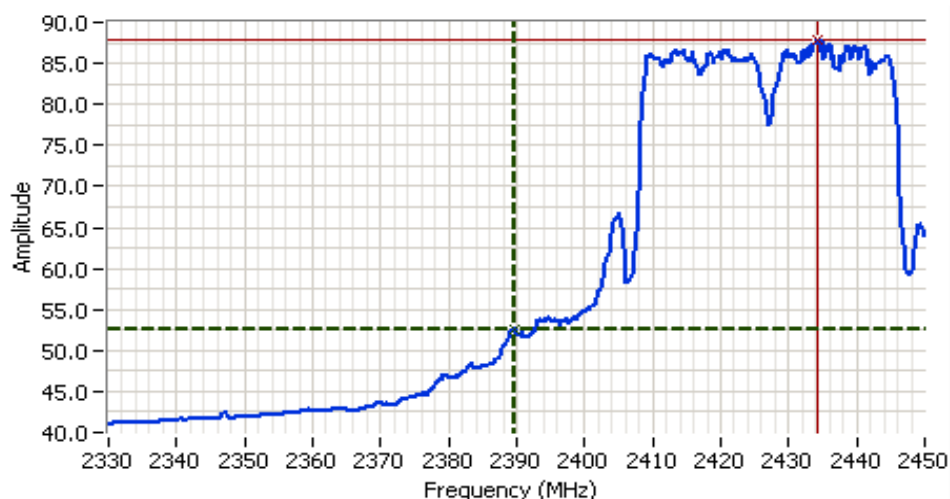
## Run #5b: Channel (4) @ 2427 MHz, UP Right Orientation

Date of Test: 1/29/2009  
Test Engineer: Mark Hill  
Test Location: FT #3

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2389.640	52.7	H	54.0	-1.4	Avg	211	1.6	
2389.158	71.3	H	74.0	-2.7	Pk	211	1.6	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector AutoPeak  
Att 10  
RL Offset 32.50  
Sweep Time 30.0s  
Ref Lvl: 114.50 DBUV

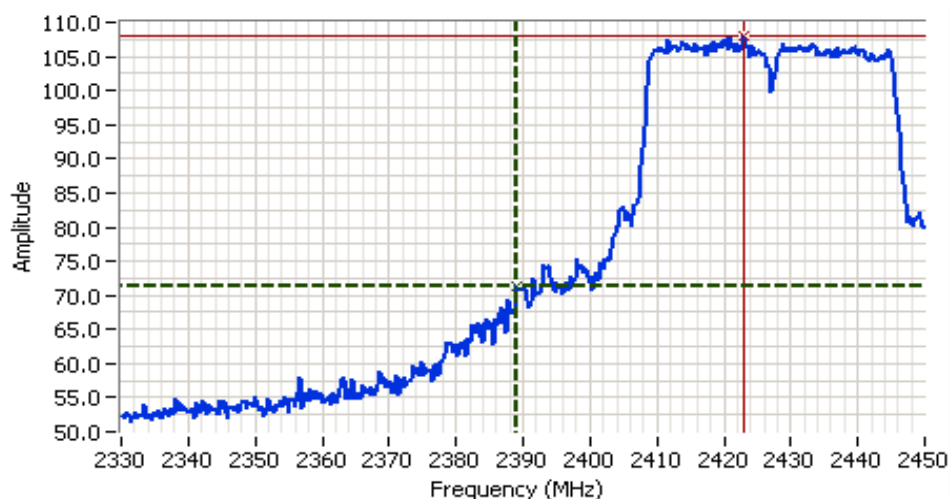
### Comments

802.11n40, Channel 4,  
MSC12, Horizontal, Avg

Cursor 1	2389.6392	52.65	↕	↔	⏏
Cursor 2	2434.3687	87.91	↕	↔	⏏

Delta Freq. 44.729  
Delta Amplitude 35.26

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A






## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.50  
 Sweep Time 5.0ms  
 Ref Lvl: 114.50 DBUV

## Comments

802.11n40, Channel 4,  
 MSC12, Horizontal, Pk

Cursor 1	2389.1582	71.33			
Cursor 2	2423.0662	107.95			

Delta Freq. 33.908

Delta Amplitude 36.63



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #5c: Channel (7) @ 2442 MHz, UP Right Orientation

Date of Test: 1/29/2009

Test Engineer: Mark Hill

Test Location: FT #3

Config. Used: -

Config Change: None

EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.620	52.2	H	54.0	-1.8	Avg	230	1.5	
2486.025	70.7	H	74.0	-3.3	Pk	230	1.5	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector AutoPeak  
Att 10  
RL Offset 32.90  
Sweep Time 30.0s  
Ref Lvl: 114.90DBUV

### Comments

802.11n40, Channel  
7, MCS12,  
Horizontal, Avg

Cursor 1	2453.3196	89.21	↕	✱	⏏
Cursor 2	2483.6204	52.21	↕	✱	⏏

Delta Freq. 30.301

Delta Amplitude 37.00

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.90  
 Sweep Time 5.0ms  
 Ref Lvl: 114.90DBUV

**Comments**  
 802.11n40, Channel  
 7, MCS12,  
 Horizontal, Pk

Cursor 1	2444.1814	109.84	↕	↔	↖
Cursor 2	2486.0251	70.74	↕	↔	↖

Delta Freq. 41.844  
 Delta Amplitude 39.09



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #5d: Channel (8) @ 2447 MHz, UP Right Orientation

Date of Test: 1/29/2009

Test Engineer: Mark Hill

Test Location: FT #3

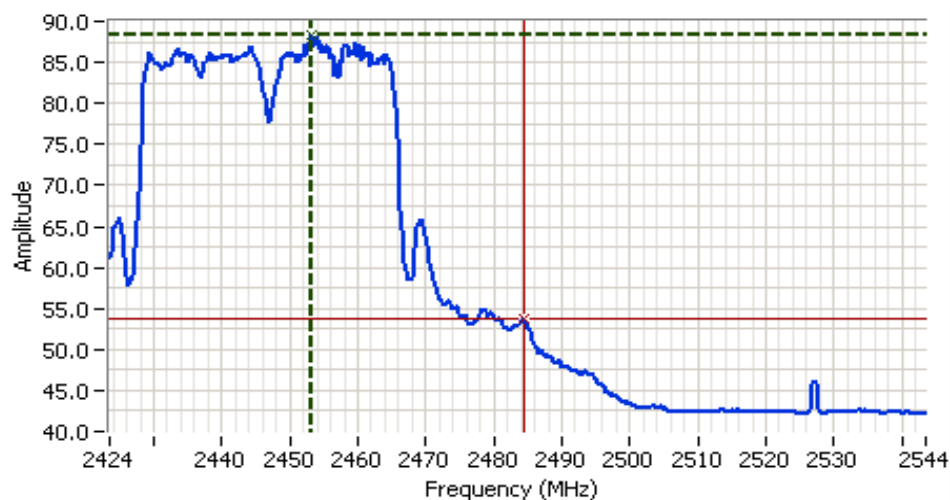
Config. Used: -

Config Change: None

EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2484.342	53.9	H	54.0	-0.1	Avg	230	1.5	
2483.861	71.3	H	74.0	-2.7	Pk	230	1.5	
2484.582	56.5	H	54.0	2.5	Avg	230	1.5	
2484.582	75.2	H	74.0	1.2	Pk	230	1.5	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector AutoPeak  
Att 10  
RL Offset 32.90  
Sweep Time 30.0s  
Ref Lvl: 114.90 DBUV

### Comments

802.11n40, Channel 8,  
MSC12, Horizontal, Avg

Cursor 1	2453.3196	88.35	
Cursor 2	2484.3418	53.85	

Delta Freq. 31.022

Delta Amplitude 34.50

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.90  
 Sweep Time 5.0ms  
 Ref Lvl: 114.90DBUV

## Comments

802.11n40, Channel 8, MSC12, Horizontal, PK

Cursor 1 2452.5981 107.95  
 Cursor 2 2483.8608 71.34

Delta Freq. 31.263

Delta Amplitude 36.61



## Run #5e: High Channel (9) @ 2452 MHz, UP Right Orientation

Date of Test: 1/29/2009  
 Test Engineer: Mark Hill  
 Test Location: FT #3

Config. Used: -  
 Config Change: None  
 EUT Voltage: 120V/ 60Hz

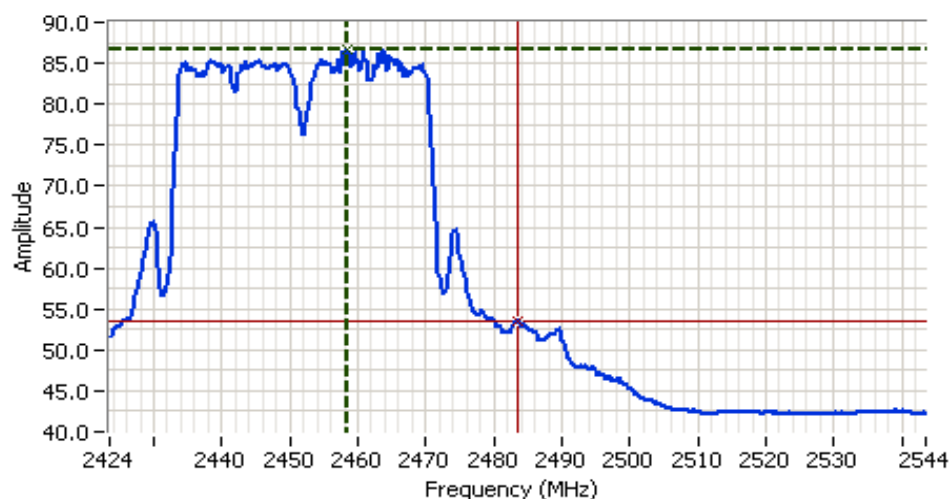
## Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2458.369	86.7	H	-	-	Avg	208	1.5	
2454.282	106.7	H	-	-	Pk	208	1.5	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2486.620	53.5	H	54.0	-0.5	Avg	208	1.5	
2483.861	69.8	H	74.0	-4.2	Pk	208	1.5	
2483.620	54.0	H	54.0	0.0	Avg	208	1.5	
2483.620	70.7	H	74.0	-3.3	Pk	208	1.5	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector AutoPeak  
 Att 10  
 RL Offset 32.90  
 Sweep Time 30.0s  
 Ref Lvl: 114.90 DBUV

## Comments

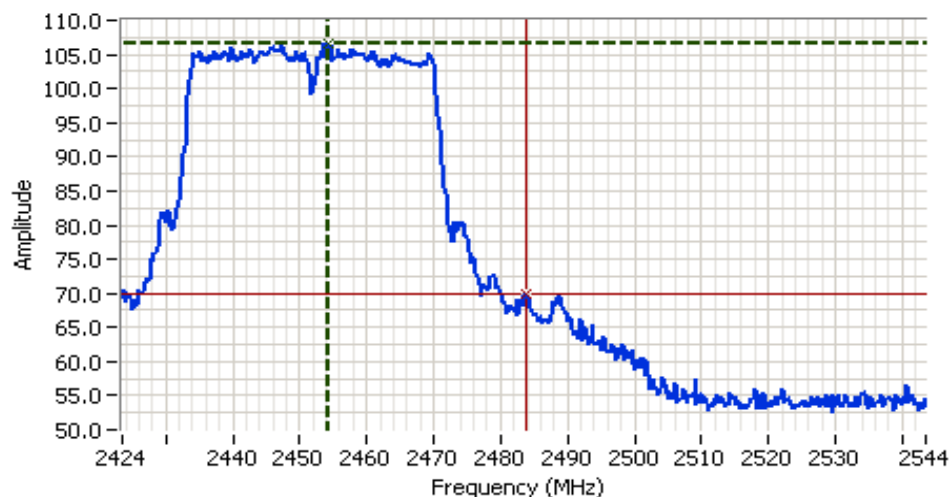
802.11n40, Channel 9,  
 MSC12, Horizontal, Avg

Cursor 1 2458.3696 86.68

Cursor 2 2483.6204 53.54

Delta Freq. 25.251

Delta Amplitude 33.14



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 1.000 MHz  
 Detector POS  
 Att 10  
 RL Offset 32.90  
 Sweep Time 5.0ms  
 Ref Lvl: 114.90 DBUV

## Comments

802.11n40, Channel 9,  
 MSC12, Horizontal, Pk

Cursor 1 2454.2815 106.67

Cursor 2 2483.8608 69.84

Delta Freq. 29.579

Delta Amplitude 36.83



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Radiated Spurious Emissions (2.4GHz Bandedges - Continued)

### Test Specific Details

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

### General Test Configuration

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

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

### Ambient Conditions:

Temperature: 10-15 °C  
 Rel. Humidity: 35-50 %

### 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: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

Run #	Mode	Channel	Antenna/ Orientation	Power Setting	Test Performed	Limit	Result / Margin
1a	n40 - SISO MCS0	3 - 2422 MHz	Main (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.8dBμV/m @ 2390.0MHz (-0.2dB)
1b	n40 - SISO MCS0	4 - 2427 MHz	Main (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.2dBμV/m @ 2390.0MHz (-0.8dB)
1c	n40 - SISO MCS0	5 - 2432 MHz	Main (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.7dBμV/m @ 2390.0MHz (-0.3dB)
1d	n40 - SISO MCS0	6 - 2437 MHz	Main (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	50.6dBμV/m @ 2390.0MHz (-3.4dB)
1e	n40 - SISO MCS0	6 - 2437 MHz	Main (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	52.8dBμV/m @ 2483.6MHz (-1.2dB)
1f	n40 - SISO MCS0	7 - 2442 MHz	Main (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.2dBμV/m @ 2483.6MHz (-0.8dB)
1g	n40 - SISO MCS0	8 - 2447 MHz	Main (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.4dBμV/m @ 2483.9MHz (-0.6dB)
1h	n40 - SISO MCS0	9 - 2452 MHz	Main (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.5dBμV/m @ 2483.6MHz (-0.5dB)
2a	n40 - CDD MCS0	3 - 2422 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.7dBμV/m @ 2388.4MHz (-0.3dB)
2b	n40 - CDD MCS0	4 - 2427 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2390.0MHz (-0.1dB)
2c	n40 - CDD MCS0	5 - 2432 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2390.0MHz (-0.1dB)
2d	n40 - CDD MCS0	6 - 2437 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2390 MHz)	FCC Part 15.209 / 15.247( c)	51.3dBμV/m @ 2390.0MHz (-2.7dB)
2e	n40 - CDD MCS0	6 - 2447 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	51.8dBμV/m @ 2483.6MHz (-2.3dB)
2f	n40 - CDD MCS0	7 - 2447 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2483.6MHz (-0.1dB)
2g	n40 - CDD MCS0	8 - 2447 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.4dBμV/m @ 2485.5MHz (-0.6dB)
2h	n40 - CDD MCS0	9 - 2452 MHz	Main/Aux (Up Right)	-	Restricted Band Edge (2483.5 MHz)	FCC Part 15.209 / 15.247( c)	53.9dBμV/m @ 2485.5MHz (-0.1dB)

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Run #1: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - SISO - MCS0

Run #1a: Low Channel (3) @ 2422 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael varelas  
Test Location: FT Chamber #4

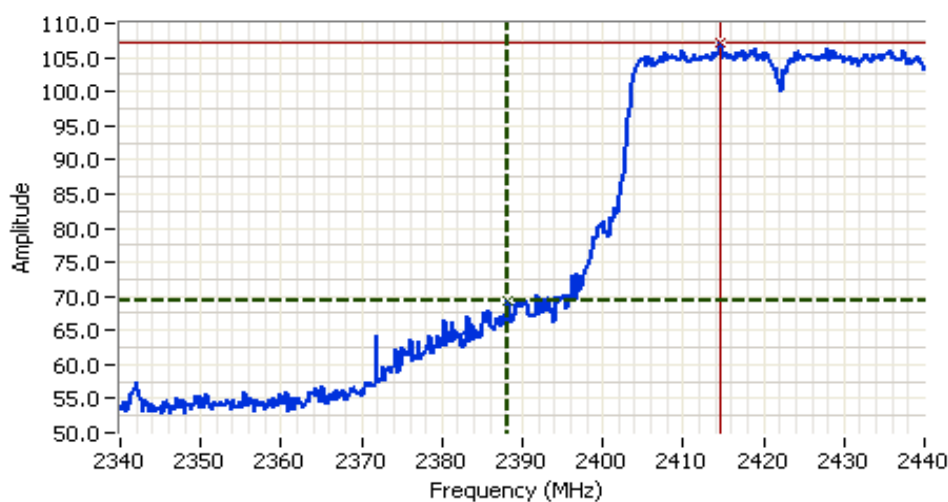
Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	V/H	Limit	Margin	PK/QP/Avg	degrees	meters	
2434.790	94.9	H	-	-	Avg	210	1.1	
2414.549	107.1	H	-	-	PK	210	1.1	
2426.172	89.3	V	-	-	Avg	156	1.1	
2430.581	101.8	V	-	-	PK	156	1.1	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	V/H	Limit	Margin	PK/QP/Avg	degrees	meters	
2390.000	53.80	H	54.0	-0.2	Avg	210	1.1	
2388.297	69.39	H	74.0	-4.6	PK	210	1.1	
2389.900	48.66	V	54.0	-5.3	Avg	156	1.1	
2389.098	64.85	V	74.0	-9.2	PK	156	1.1	



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 100.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40 DBUV

## Comments

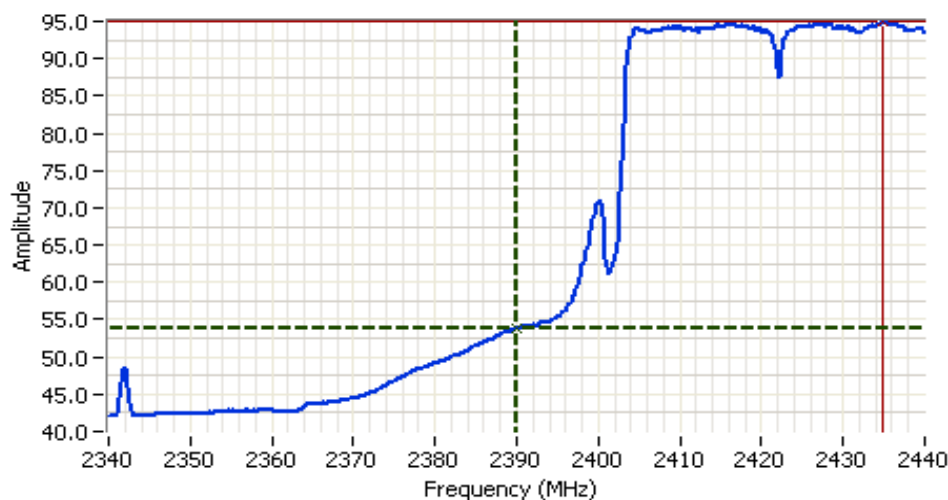
BE @ 2390 MHz  
PK-H

Cursor 1	2388.2966	69.39	
Cursor 2	2414.5491	107.14	

Delta Freq. 26.252

Delta Amplitude 37.74

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A





## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 100.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 25.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1	2390.1001	53.80	
Cursor 2	2434.7896	94.89	

Delta Freq. 44.689  
 Delta Amplitude 41.09



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

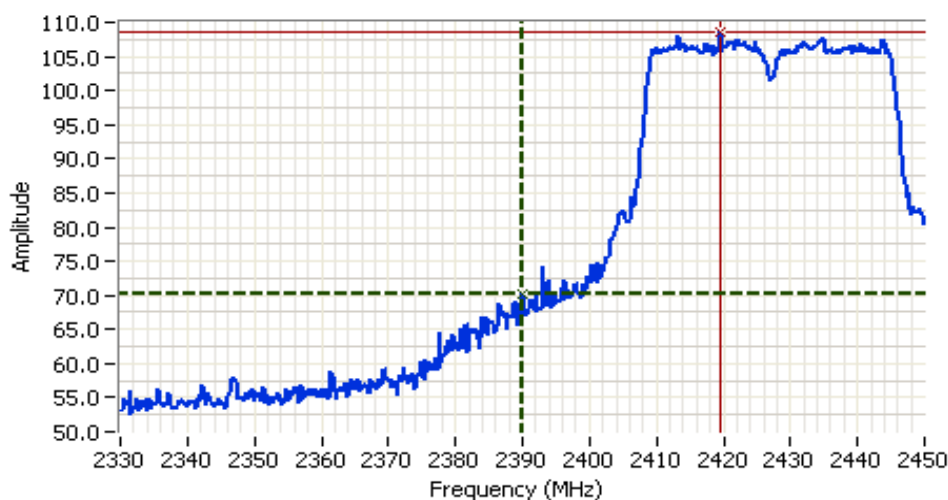
## Run #1b: Channel (4) @ 2427 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	53.2	H	54.0	-0.8	Avg	210	1.1	
2390.000	70.1	H	74.0	-3.9	PK	210	1.1	
2390.000	48.0	V	54.0	-6.0	Avg	156	1.1	
2389.639	63.3	V	74.0	-10.7	PK	156	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

BE @ 2390 MHz  
PK-H

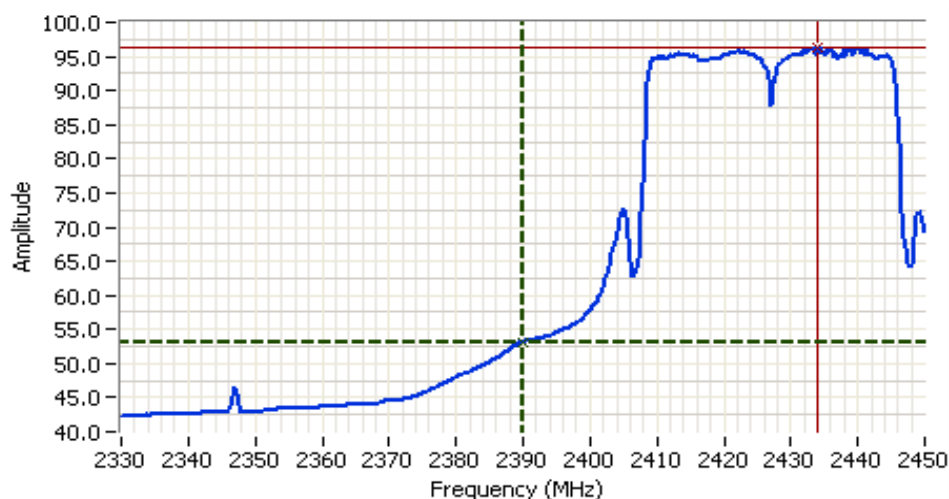
Cursor 1	2390.1204	70.10	
Cursor 2	2419.4590	108.62	

Delta Freq. 29.339

Delta Amplitude 38.53



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1 2390.1204 53.18  
 Cursor 2 2433.8877 96.32

Delta Freq. 43.767  
 Delta Amplitude 43.14



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

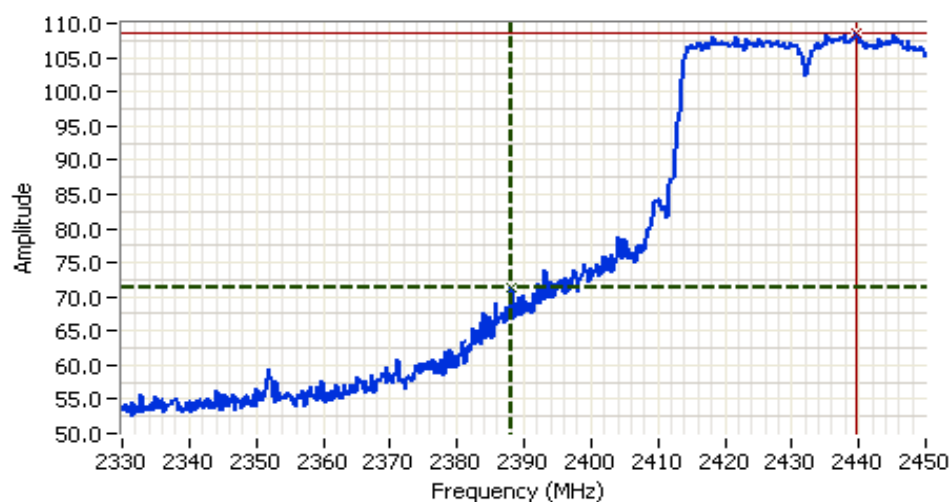
## Run #1c: Channel (5) @ 2432 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	53.7	H	54.0	-0.3	Avg	210	1.1	
2388.196	71.2	H	74.0	-2.8	PK	210	1.1	
2390.000	48.4	V	54.0	-5.6	Avg	156	1.1	
2388.677	64.3	V	74.0	-9.7	PK	156	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

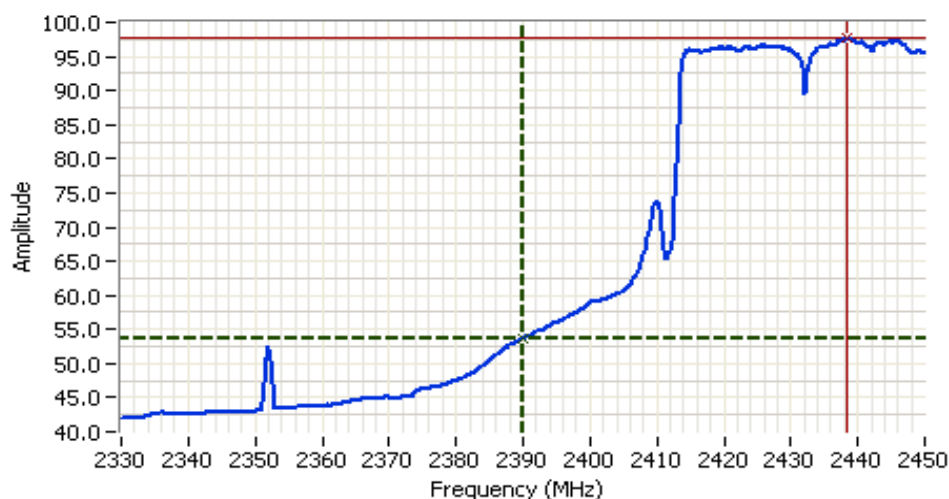
BE @ 2390 MHz  
PK-H

Cursor 1	2388.1963	71.19	
Cursor 2	2439.6594	108.48	

Delta Freq. 51.463

Delta Amplitude 37.29

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40DBUV

**Comments**  
 BE @ 2390 MHz  
 Avg-H

Cursor 1 2390.1204 53.69  
 Cursor 2 2438.4570 97.62

Delta Freq. 48.337  
 Delta Amplitude 43.92



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1d: Channel (6) @ 2437 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	50.6	H	54.0	-3.4	AVG	210	1.1	
2389.146	66.1	H	74.0	-7.9	PK	210	1.1	
2356.922	47.6	V	54.0	-6.4	AVG	156	1.1	
2389.146	60.8	V	74.0	-13.2	PK	156	1.1	



**Analyzer Settings**  
Rohde&Schwarz, ESI 7  
CF: 2396.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

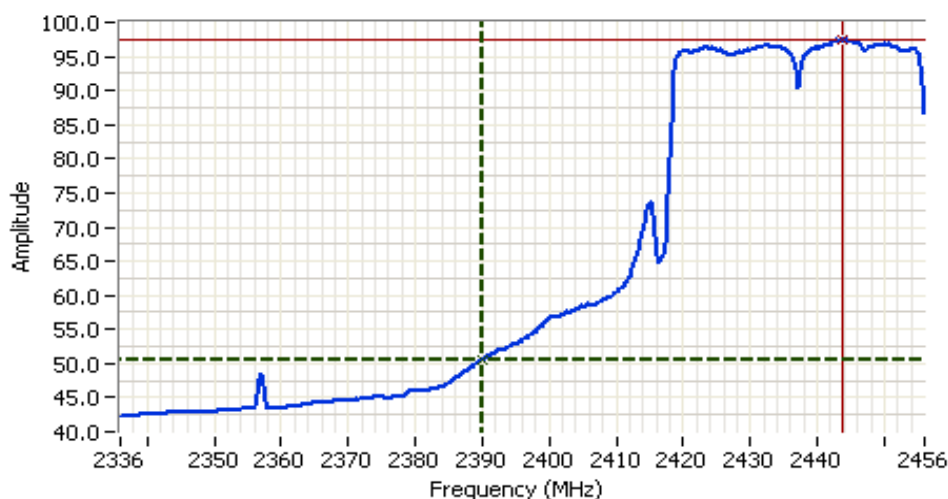
BE @ 2390 MHz  
PK-H

Cursor 1 2389.1462 66.06  
Cursor 2 2443.4949 109.54

Delta Freq. 54.349  
Delta Amplitude 43.48



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A




## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2396.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1	2390.1082	50.61			
Cursor 2	2443.7354	97.45			

Delta Freq. 53.627

Delta Amplitude 46.84



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1e: Channel (6) @ 2437 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.632	52.8	H	54.0	-1.2	AVG	136	1.3	
2486.037	70.2	H	74.0	-3.8	PK	136	1.3	
2483.632	49.9	V	54.0	-4.1	AVG	198	1.1	
2485.316	66.5	V	74.0	-7.5	PK	198	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2477.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

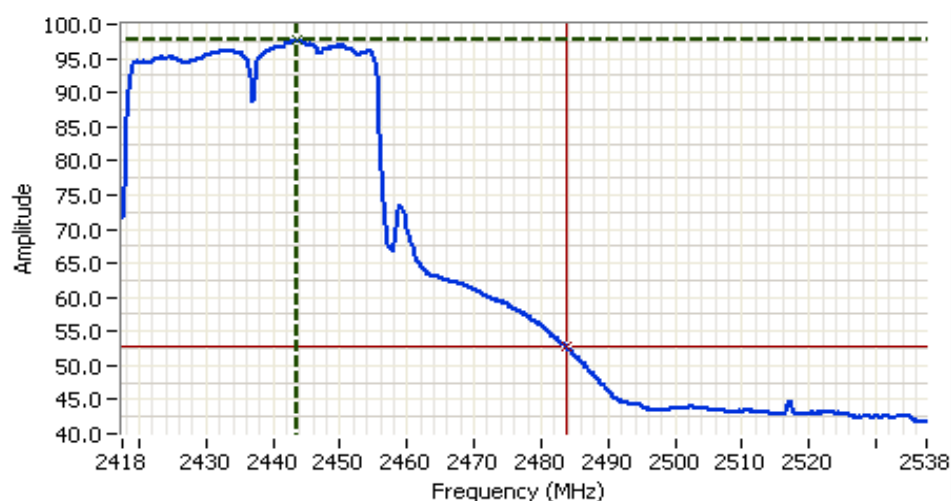
### Comments

BE @ 2483.5 MHz  
PK-H





Cursor 1 2444.4338 109.46  
Cursor 2 2486.0371 70.15

Delta Freq. 41.603  
Delta Amplitude 39.31

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



<b>Analyzer Settings</b>
Rohde&Schwarz, ESI 7
CF: 2477.500 MHz
SPAN: 120.000 MHz
RB 1.000 MHz
VB 10 Hz
Detector POS
Att 10
RL Offset 32.40
Sweep Time 30.0s
Ref Lvl: 114.40 DBUV
<b>Comments</b>
BE @ 2483.5 MHz
Avg-H

Cursor 1	2443.7124	97.64			
Cursor 2	2483.6323	52.78			

Delta Freq.	39.920
Delta Amplitude	44.87



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

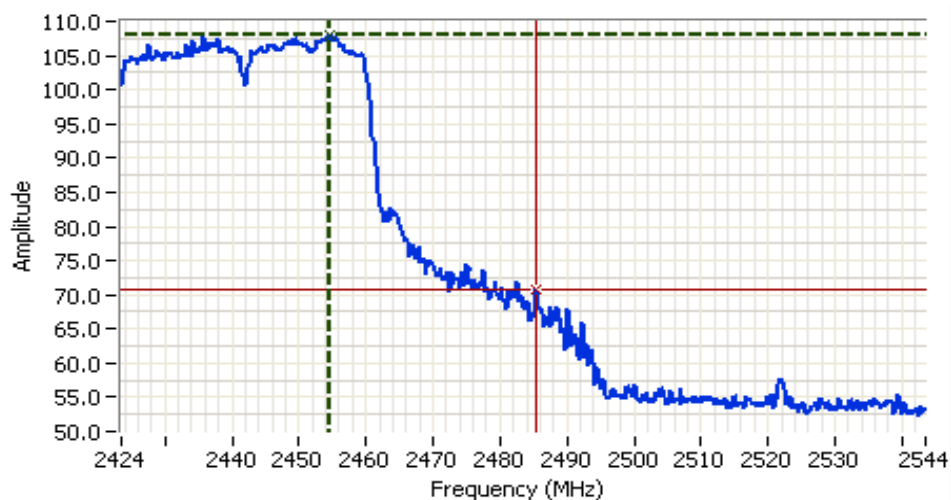
## Run #1f: Channel (7) @ 2442 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.620	53.2	H	54.0	-0.8	AVG	136	1.3	
2485.304	70.8	H	74.0	-3.2	PK	136	1.3	
2483.620	51.1	V	54.0	-3.0	AVG	198	1.1	
2485.304	68.2	V	74.0	-5.8	PK	198	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

BE @ 2483.5 MHz  
PK-H

Cursor 1	2454.5220	108.04	
Cursor 2	2485.3037	70.84	

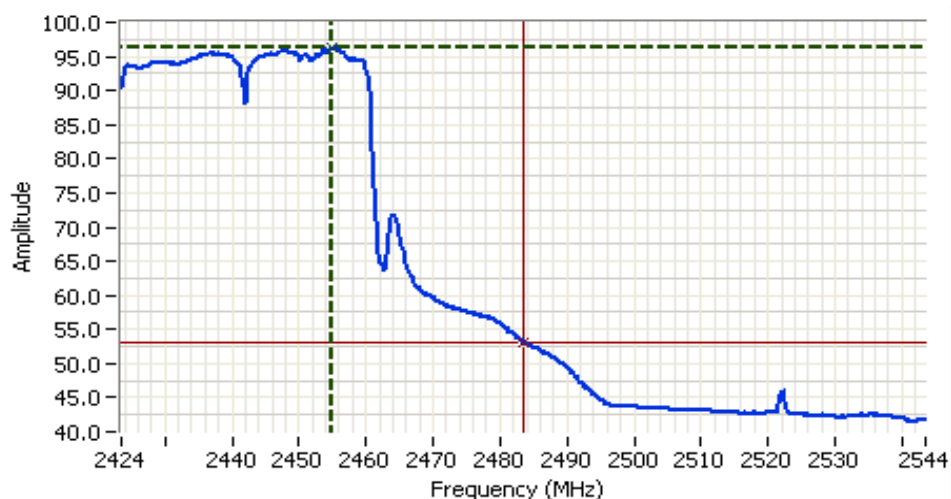
Delta Freq. 30.782

Delta Amplitude 37.20





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBU

## Comments

BE @ 2483.5 MHz  
 Avg-H

Cursor 1 2455.0029 96.34  
 Cursor 2 2483.6204 53.20

Delta Freq. 28.617  
 Delta Amplitude 43.14



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1g: Channel (8) @ 2447 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.861	53.4	H	54.0	-0.6	AVG	136	1.3	
2488.190	69.9	H	74.0	-4.1	PK	136	1.3	
2483.620	50.6	V	54.0	-3.4	AVG	198	1.1	
2485.785	66.3	V	74.0	-7.7	PK	198	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

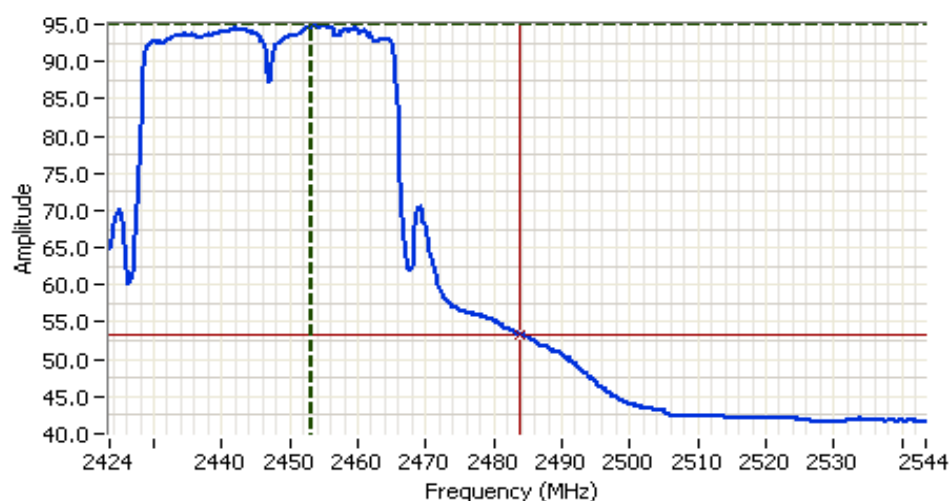
BE @ 2483.5 MHz  
PK-H

Cursor 1	2454.2815	106.82	
Cursor 2	2488.1895	69.89	

Delta Freq. 33.908

Delta Amplitude 36.94

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A









## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H

Cursor 1	2453.0791	94.98			
Cursor 2	2483.8608	53.36			

Delta Freq. 30.782

Delta Amplitude 41.62



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1h: High Channel (9) @ 2452 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

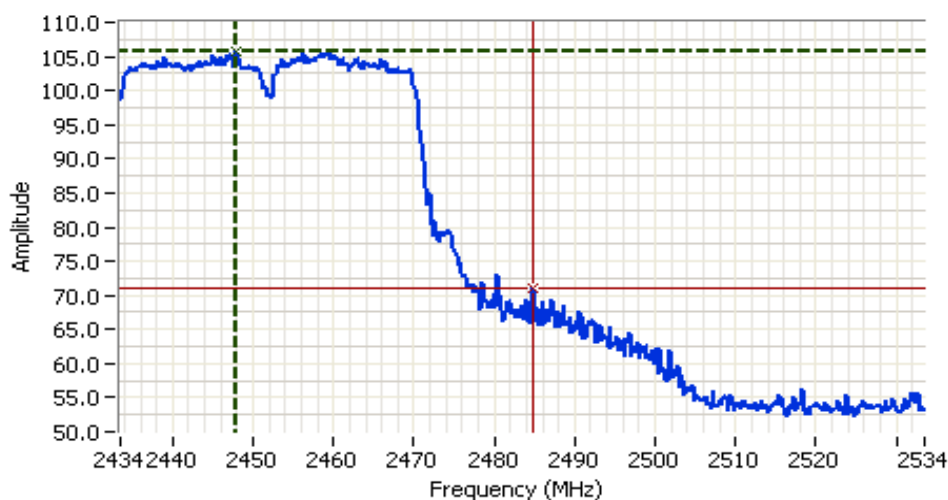
Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

## Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2458.149	94.3	H	-	-	AVG	136	1.3	
2447.929	105.7	H	-	-	PK	136	1.3	
2458.129	91.0	V	-	-	AVG	198	1.1	
2459.332	102.0	V	-	-	PK	198	1.1	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.600	53.5	H	54.0	-0.5	AVG	136	1.3	
2484.803	71.1	H	74.0	-2.9	PK	136	1.3	
2483.620	50.5	V	54.0	-3.5	AVG	198	1.1	
2484.823	66.2	V	74.0	-7.8	PK	198	1.1	



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 100.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

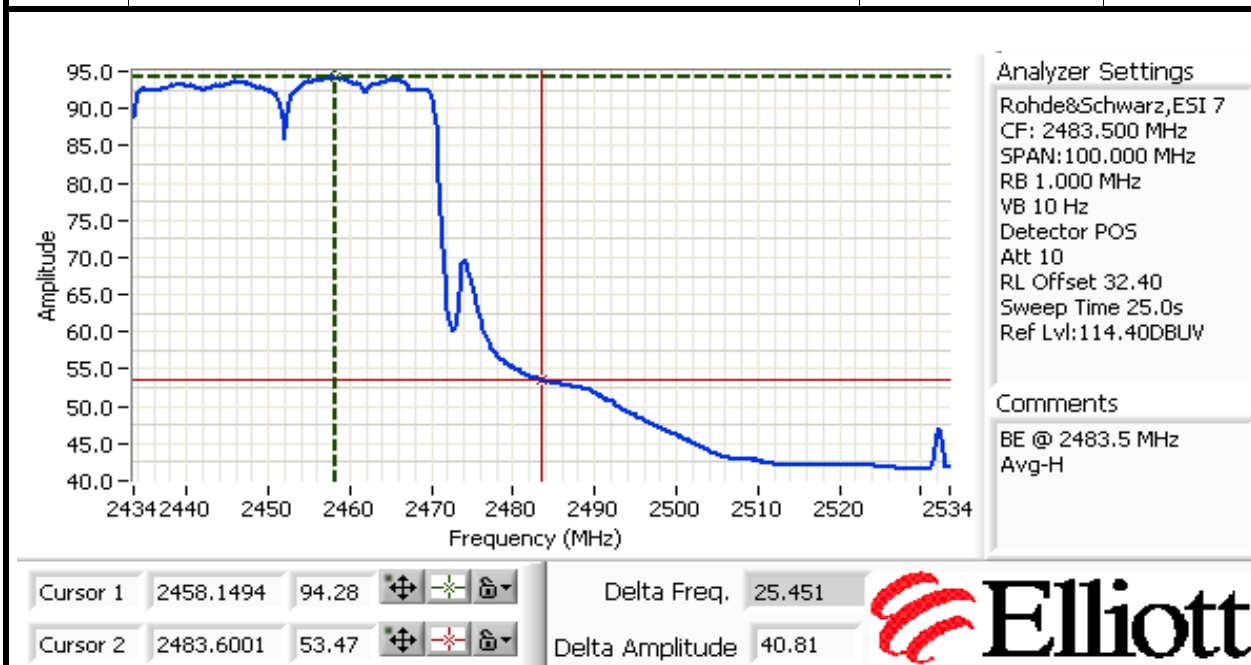
BE @ 2483.5 MHz  
PK-H

Cursor 1	2447.9290	105.72	
Cursor 2	2484.8025	71.13	

Delta Freq. 36.874

Delta Amplitude 34.59

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



Run #2: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - CDD - MCS0

Run #2a: Low Channel (3) @ 2422 MHz, UP Right Orientation

Date of Test: 2/8/2010  
 Test Engineer: Rafael Varelas  
 Test Location: FT Chamber #4

Config. Used: -  
 Config Change: None  
 EUT Voltage: 120V/ 60Hz

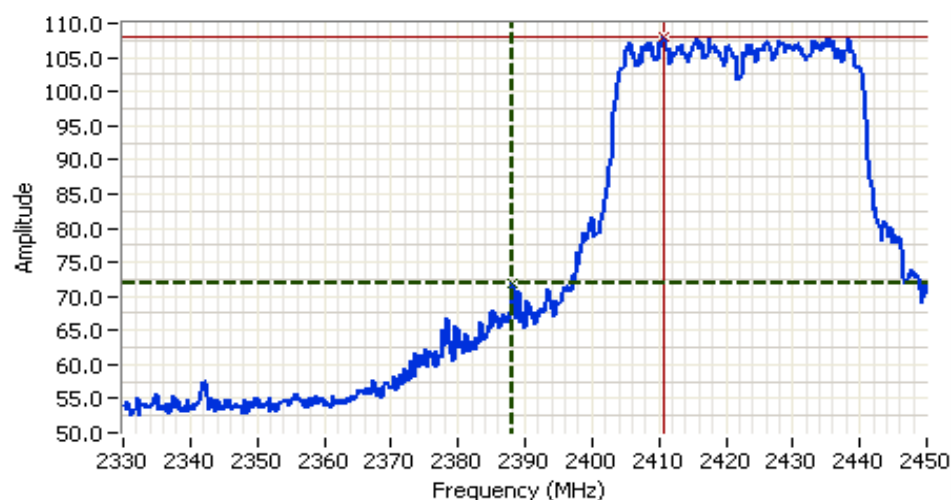
**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2435.571	96.6	H	-	-	Avg	208	1.4	
2410.802	108.1	H	-	-	Pk	208	1.4	
2427.154	91.5	V	-	-	Avg	153	1.1	
2417.054	104.0	V	-	-	Pk	153	1.1	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2388.437	53.7	H	54.0	-0.3	AVG	208	1.4	
2388.196	72.0	H	74.0	-2.0	PK	208	1.4	
2389.639	49.8	V	54.0	-4.2	AVG	153	1.1	
2389.399	66.2	V	74.0	-7.8	PK	153	1.1	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

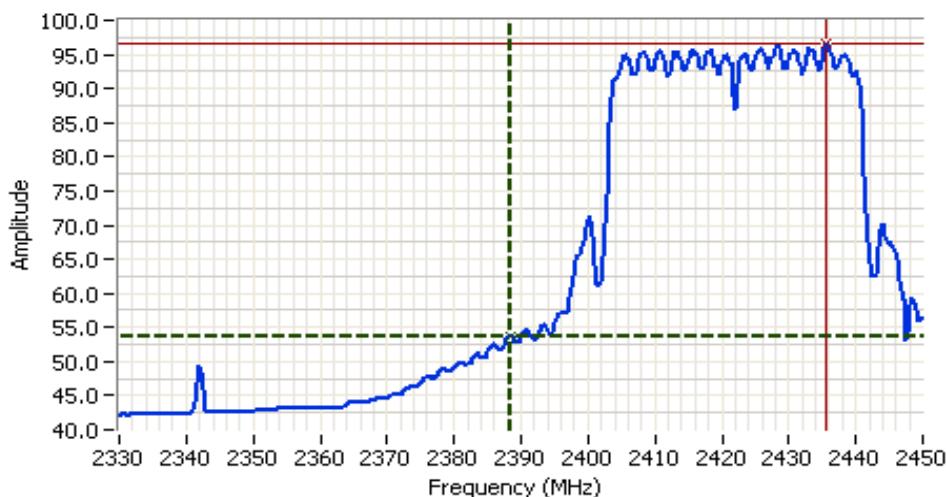
## Comments

BE @ 2390 MHz  
PK-H

Cursor 1 2388.1963 71.99  
Cursor 2 2410.8015 108.13

Delta Freq. 22.605

Delta Amplitude 36.15



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 30.0s  
Ref Lvl: 114.40DBUV

## Comments

BE @ 2390 MHz  
Avg-H

Cursor 1 2388.4368 53.73  
Cursor 2 2435.5710 96.55

Delta Freq. 47.134

Delta Amplitude 42.82



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

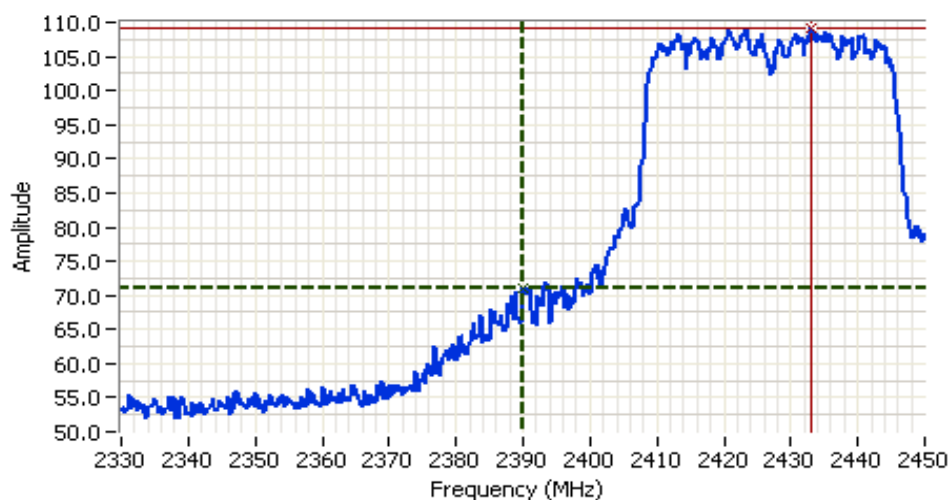
## Run #2b: Channel (4) @ 2427 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	53.9	H	54.0	-0.1	AVG	208	1.4	
2390.000	70.9	H	74.0	-3.1	PK	208	1.4	
2389.399	50.1	V	54.0	-3.9	AVG	153	1.1	
2389.639	65.0	V	74.0	-9.0	PK	153	1.1	








### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUW

### Comments

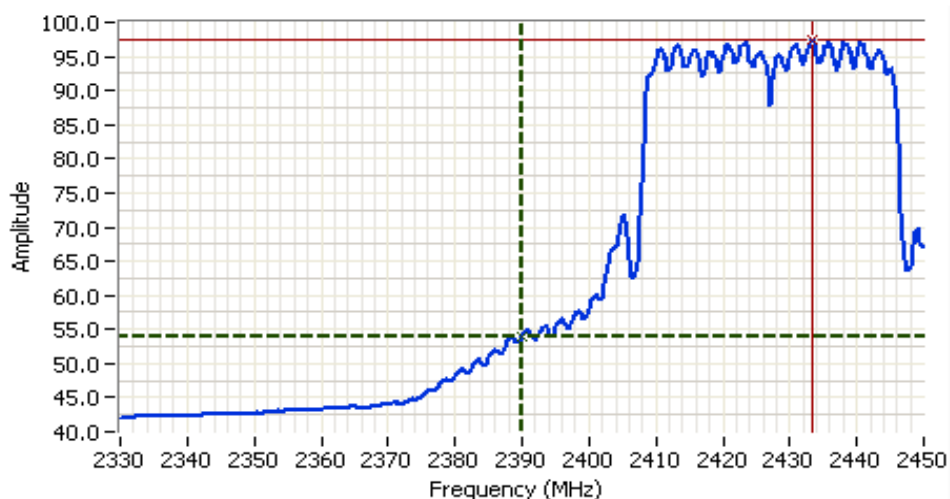
BE @ 2390 MHz  
PK-H

Cursor 1	2390.1204	70.91			
Cursor 2	2433.1663	109.14			

Delta Freq. 43.046

Delta Amplitude 38.23

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1 2390.1204 53.88

Cursor 2 2433.4067 97.46

Delta Freq. 43.286

Delta Amplitude 43.59





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

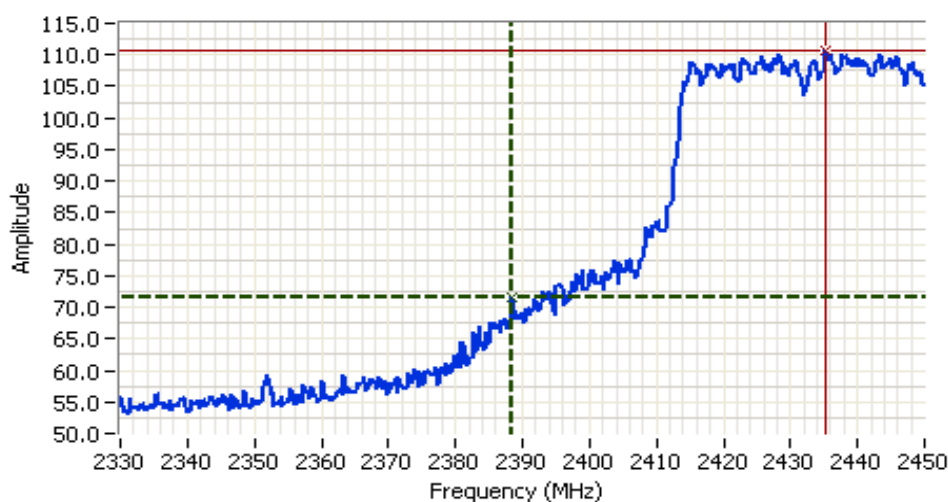
## Run #2c: Channel (5) @ 2432 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2390.000	53.9	H	54.0	-0.1	AVG	208	1.4	
2388.437	71.6	H	74.0	-2.4	PK	208	1.4	
2389.399	49.9	V	54.0	-4.1	AVG	153	1.1	
2388.437	68.6	V	74.0	-5.4	PK	153	1.1	









### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2390.000 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

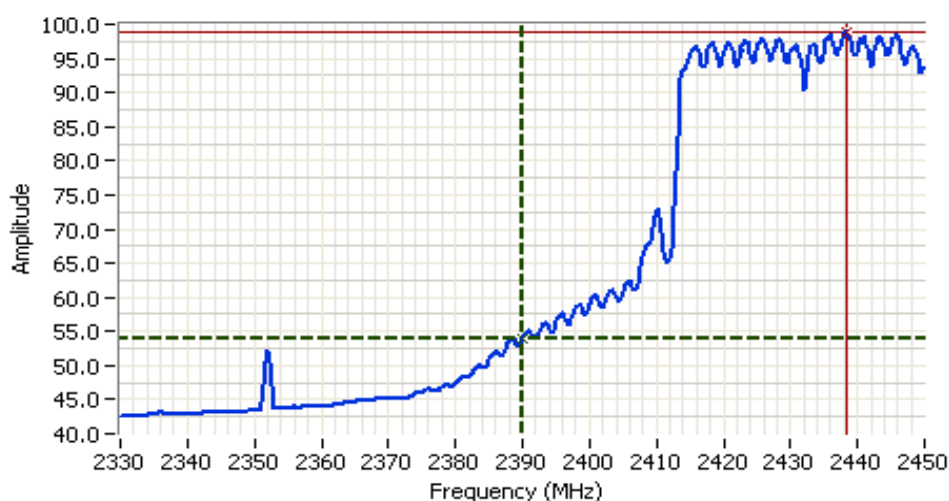
BE @ 2390 MHz  
PK-H

Cursor 1	2388.4368	71.62			
Cursor 2	2435.3306	110.68			

Delta Freq. 46.894

Delta Amplitude 39.06

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2390.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBUW

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1	2390.1204	53.91	
Cursor 2	2438.4570	98.88	

Delta Freq. 48.337

Delta Amplitude 44.97



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

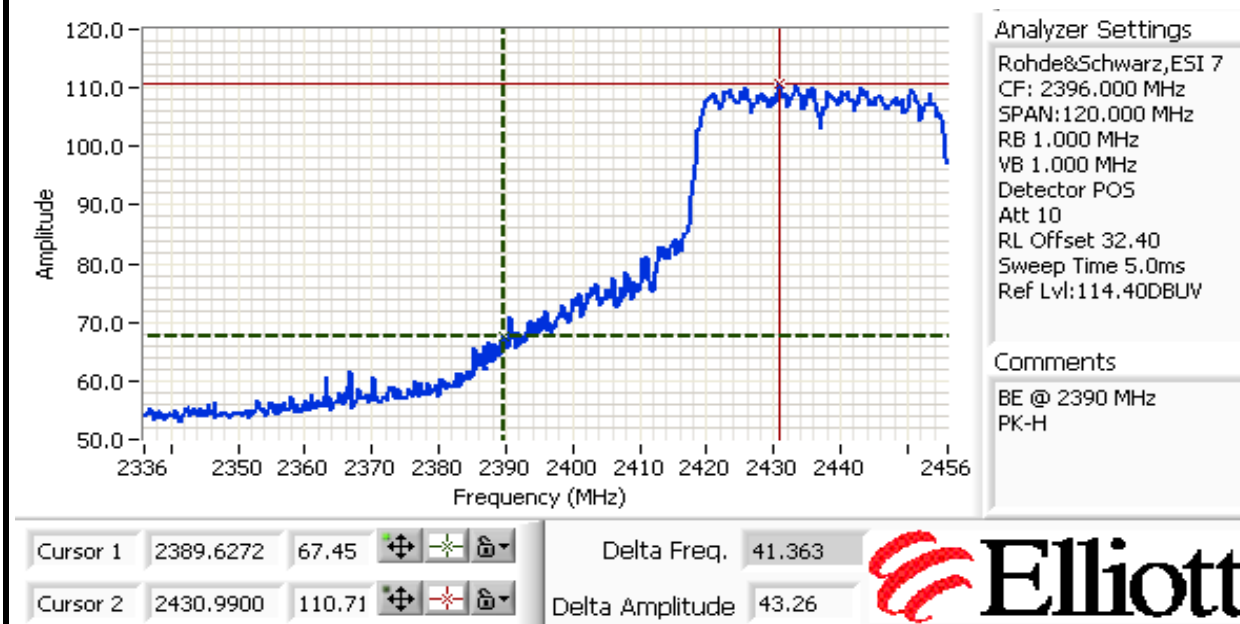
## Run #2d: Channel (6) @ 2437 MHz, UP Right Orientation

Date of Test: 2/8/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

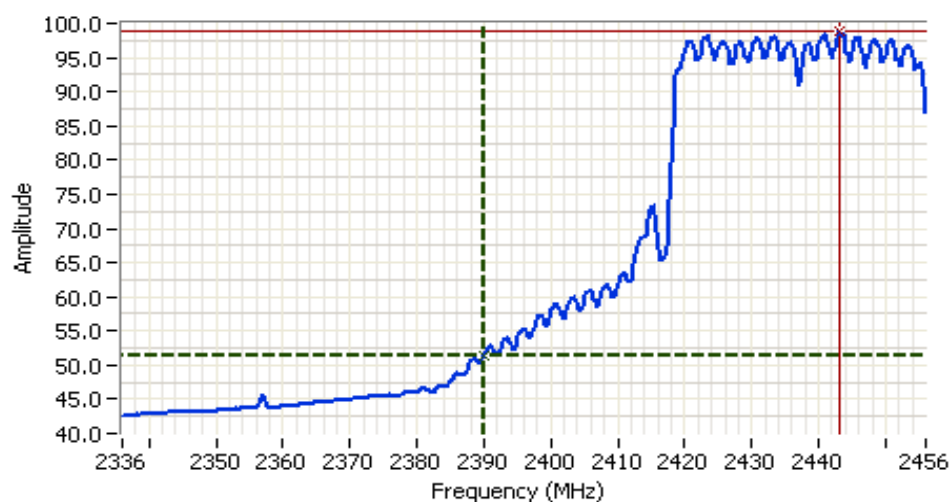
Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247	Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters
2390.000	51.3	H	54.0	-2.7	AVG	208	1.4
2389.627	67.5	H	74.0	-6.6	PK	208	1.4
2356.922	48.7	V	54.0	-5.3	AVG	153	1.1
2389.627	63.7	V	74.0	-10.3	PK	153	1.1



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A




## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2396.000 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2390 MHz  
 Avg-H

Cursor 1	2390.1082	51.28	
Cursor 2	2443.2544	98.84	

Delta Freq. 53.146

Delta Amplitude 47.56



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

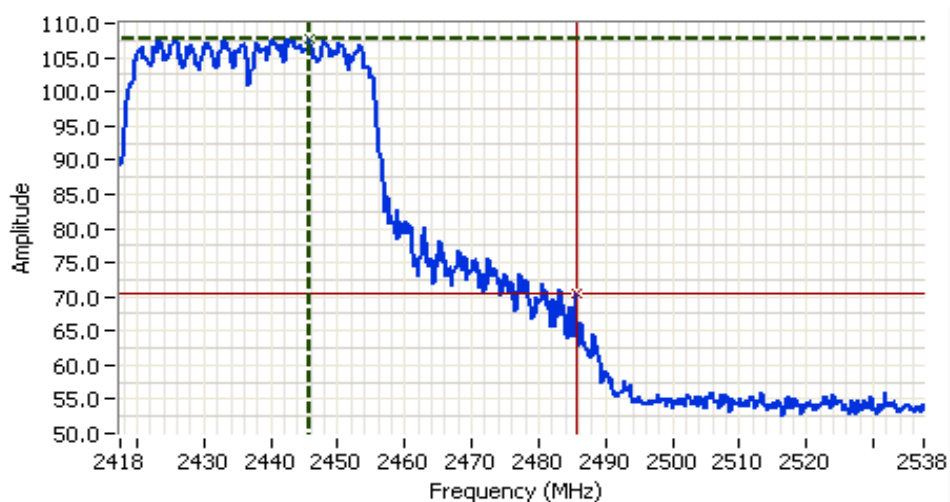
## Run #2e: Channel (6) @ 2437 MHz, UP Right Orientation

Date of Test: 2/9/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.632	51.8	H	54.0	-2.3	Avg	200	1.4	
2485.556	70.4	H	74.0	-3.6	Pk	200	1.4	
2484.594	47.6	V	54.0	-6.4	AVG	152	1.4	
2484.113	62.6	V	74.0	-11.4	PK	152	1.4	



**Analyzer Settings**  
Rohde&Schwarz, ESI 7  
CF: 2477.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

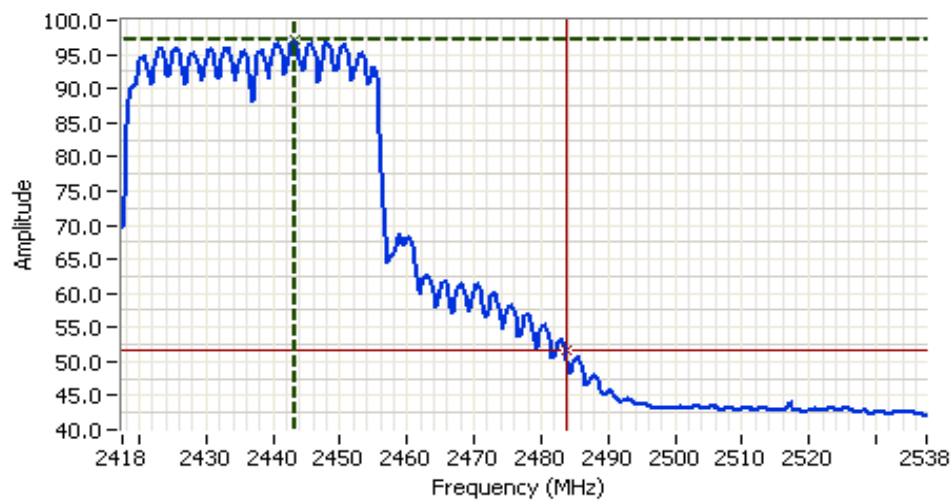
**Comments**  
BE @ 2483.5 MHz  
PK-H

Cursor 1 2445.6362 107.81  
Cursor 2 2485.5562 70.43

Delta Freq. 39.920

Delta Amplitude 37.38

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A







## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2477.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 30.0s  
Ref Lvl: 114.40 DBUV

## Comments

BE @ 2483.5 MHz  
Avg-H

Cursor 1	2443.2314	97.16			
Cursor 2	2483.6323	51.75			

Delta Freq. 40.401

Delta Amplitude 45.41



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

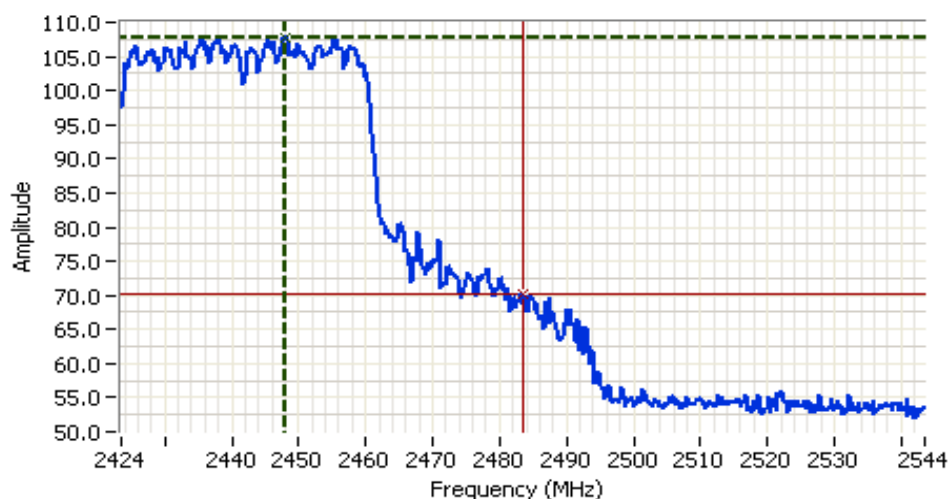
## Run #2f: Channel (7) @ 2442 MHz, UP Right Orientation

Date of Test: 2/9/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2483.620	53.9	H	54.0	-0.1	Avg	200	1.4	
2483.620	70.2	H	74.0	-3.8	Pk	200	1.4	
2484.342	49.6	V	54.0	-4.4	AVG	152	1.4	
2487.468	65.0	V	74.0	-9.0	PK	152	1.4	









### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

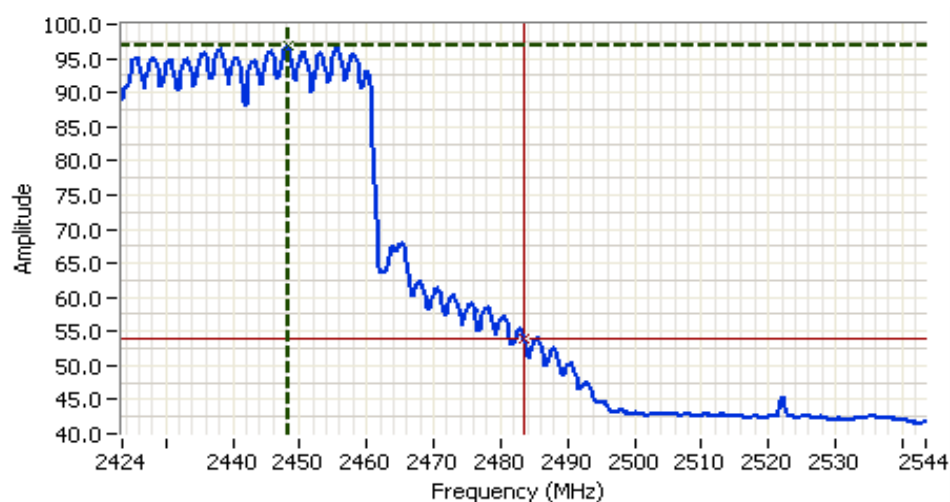
BE @ 2483.5 MHz  
PK-H

Cursor 1	2448.0291	107.7%			
Cursor 2	2483.6204	70.17%			

Delta Freq. 35.591

Delta Amplitude 37.62

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A









## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H

Cursor 1	2448.2695	96.73			
Cursor 2	2483.6204	53.94			

Delta Freq. 35.351

Delta Amplitude 42.79





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2g: Channel (8) @ 2447 MHz, UP Right Orientation

Date of Test: 2/9/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #4

Config. Used: -  
Config Change: None  
EUT Voltage: 120V/ 60Hz

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2485.544	53.4	H	54.0	-0.6	Avg	200	1.4	
2485.544	69.5	H	74.0	-4.6	Pk	200	1.4	
2484.582	49.3	V	54.0	-4.7	Avg	152	1.4	
2486.987	62.7	V	74.0	-11.3	Pk	152	1.4	



**Analyzer Settings**  
Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

### Comments

BE @ 2483.5 MHz  
PK-H

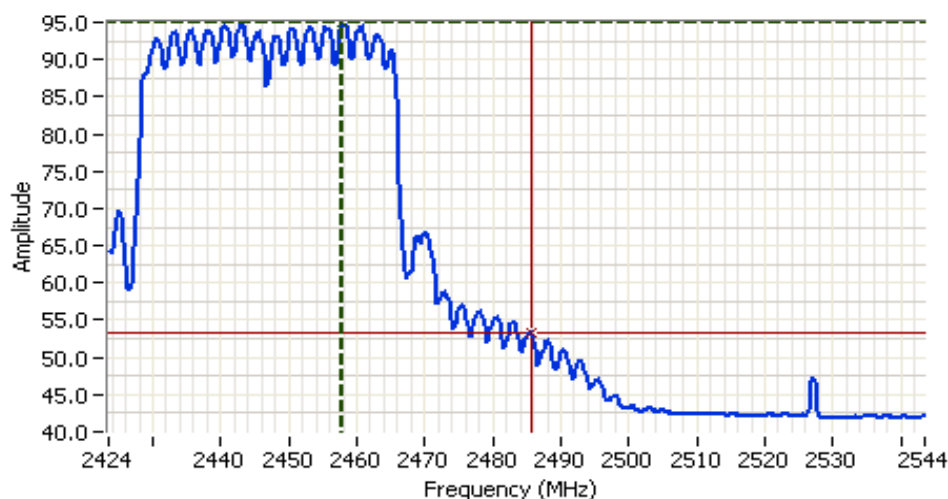
Cursor 1 2440.5742 106.37  
Cursor 2 2485.5442 69.45

Delta Freq. 44.970

Delta Amplitude 36.92



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



**Analyzer Settings**  
 Rohde&Schwarz, ESI 7  
 CF: 2483.500 MHz  
 SPAN: 120.000 MHz  
 RB 1.000 MHz  
 VB 10 Hz  
 Detector POS  
 Att 10  
 RL Offset 32.40  
 Sweep Time 30.0s  
 Ref Lvl: 114.40 DBUV

## Comments

BE @ 2483.5 MHz  
 Avg-H

Cursor 1 2457.8887 94.89  
 Cursor 2 2485.5442 53.39

Delta Freq. 27.656

Delta Amplitude 41.51



## Run #2h: High Channel (9) @ 2452 MHz, UP Right Orientation

Date of Test: 2/9/2010  
 Test Engineer: Rafael Varelas  
 Test Location: FT Chamber #4

Config. Used: -  
 Config Change: None  
 EUT Voltage: 120V/ 60Hz

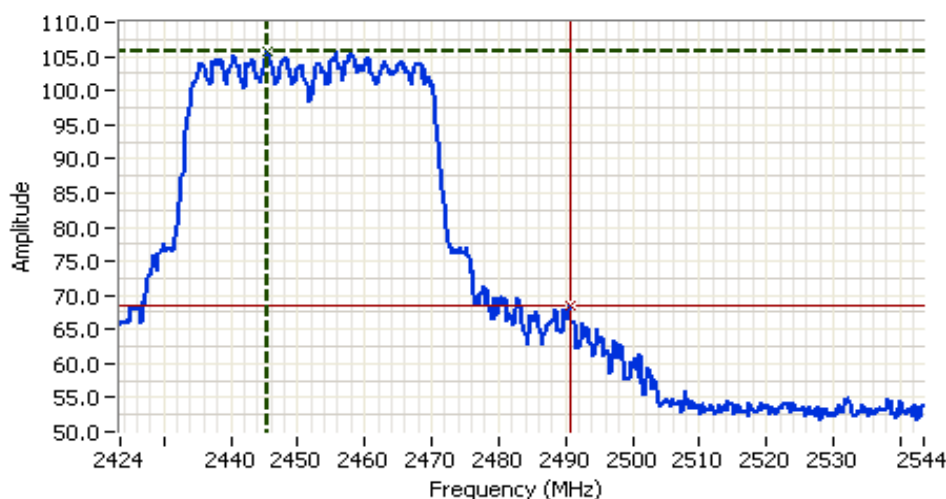
## Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2458.129	94.9	H	-	-	Avg	200	1.4	
2445.624	105.8	H	-	-	Pk	200	1.4	
2446.827	90.9	V	-	-	Avg	152	1.4	
2456.927	102.2	V	-	-	Pk	152	1.4	

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

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2485.544	53.9	H	54.0	-0.1	Avg	200	1.4	
2490.594	68.4	H	74.0	-5.6	Pk	200	1.4	
2484.582	49.4	V	54.0	-4.6	Avg	152	1.4	
2484.101	63.5	V	74.0	-10.5	Pk	152	1.4	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 1.000 MHz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 5.0ms  
Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
PK-H



## Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 2483.500 MHz  
SPAN: 120.000 MHz  
RB 1.000 MHz  
VB 10 Hz  
Detector POS  
Att 10  
RL Offset 32.40  
Sweep Time 30.0s  
Ref Lvl: 114.40DBUV

## Comments

BE @ 2483.5 MHz  
Avg-H

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78071
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

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

### **Test Specific Details**

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

### **General Test Configuration**

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

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

### **Ambient Conditions:**

Temperature: 10-15 °C  
Rel. Humidity: 40-50 %

### **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.

Note: Preliminary testing showed no radio related emissions below 1 GHz and above 18 GHz.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

Run #	Mode	Channel	Antenna/ Orientation	Measured Power	Test Performed	Limit	Result / Margin
1a	802.11b	1 - 2412 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	53.6dBμV/m @ 4824.0MHz (-0.4dB)
1b	802.11b	6 - 2437 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	53.4dBμV/m @ 4874.0MHz (-0.6dB)
1c	802.11b	11 - 2462 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	51.2dBμV/m @ 4924.0MHz (-2.8dB)
2a	802.11g	1 - 2412 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	49.5dBμV/m @ 4824.0MHz (-4.5dB)
2b	802.11g	6 - 2437 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	48.1dBμV/m @ 4874.0MHz (-5.9dB)
2c	802.11g	11 - 2462 MHz	Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	45.0dBμV/m @ 4923.9MHz (-9.0dB)
3a	n20 - CDD	1 - 2412 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	51.0dBμV/m @ 4824.3MHz (-3.0dB)
3b	n20 - CDD	6 - 2437 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	52.7dBμV/m @ 4873.9MHz (-1.3dB)
3c	n20 - CDD	11 - 2462 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	48.9dBμV/m @ 7385.9MHz (-5.1dB)
4a	n40 - CDD	3 - 2422 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	41.8dBμV/m @ 4843.6MHz (-12.2dB)
4b	n40 - CDD	6 - 2437 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	40.0dBμV/m @ 7306.4MHz (-14.0dB)
4c	n40 - CDD	9 - 2452 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	41.3dBμV/m @ 4904.3MHz (-12.7dB)
6a	n40 - SISO MCS0	3 - 2422 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	38.8dBμV/m @ 1117.9MHz (-15.2dB)
6b	n40 - SISO MCS0	6 - 2437 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	39.2dBμV/m @ 1118.0MHz (-14.8dB)
6c	n40 - SISO MCS0	9 - 2452 MHz	Main/Aux (Up Right)	-	Radiated Emissions, 1 - 26 GHz	FCC Part 15.209 / 15.247( c)	39.0dBμV/m @ 1117.9MHz (-15.0dB)

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

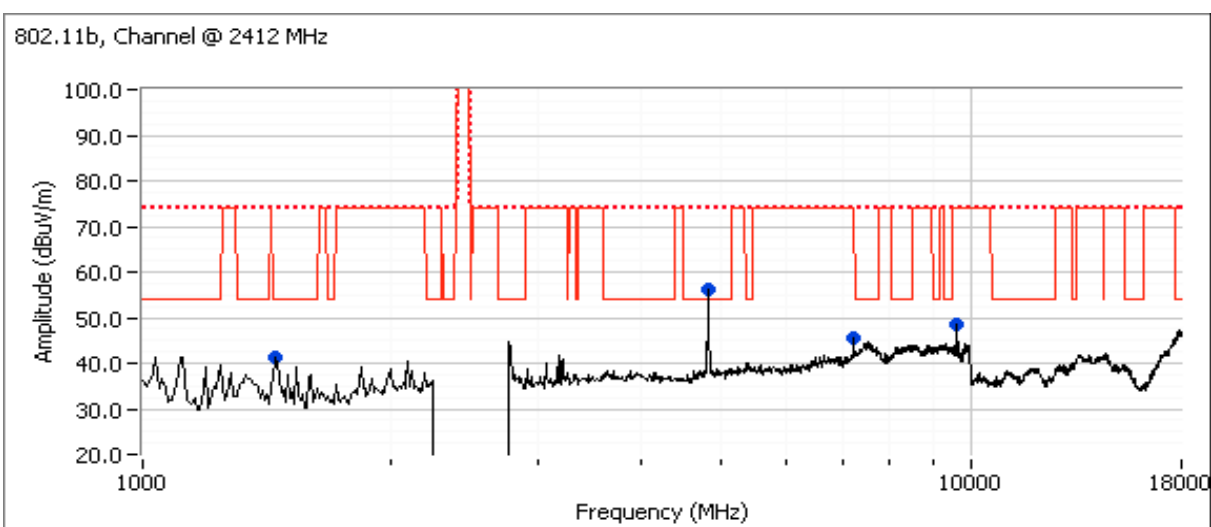
## Run #1: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11b

Date of Test: 1/26/2010

Test Engineer: Suhaila Khushzad

Test Location: Chamber #4

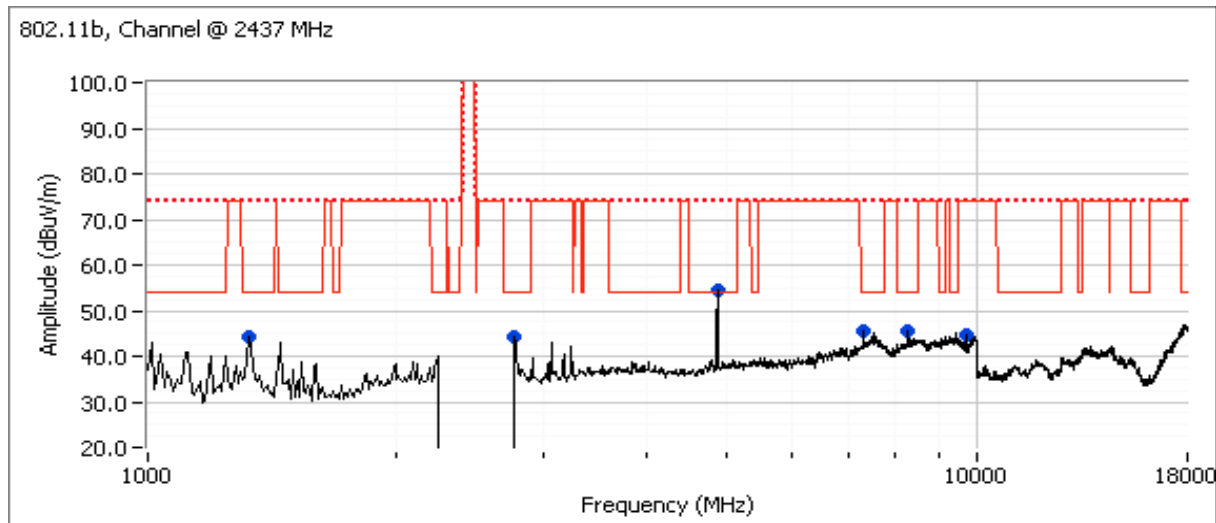
## Run #1a: Low Channel (1) @ 2412 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4823.990	53.6	V	54.0	-0.4	AVG	198	1.0	RB 1 MHz; VB: 10 Hz
4824.050	55.4	V	74.0	-18.6	PK	198	1.0	RB 1 MHz; VB: 1 MHz
1457.610	41.6	V	54.0	-12.4	AVG	91	1.0	RB 1 MHz; VB: 10 Hz
1457.540	44.3	V	74.0	-29.7	PK	91	1.0	RB 1 MHz; VB: 1 MHz
7233.490	45.6	V	54.0	-8.4	Peak	128	1.3	Peak vs Avg Limit
9647.980	48.3	H	54.0	-5.7	Peak	189	1.0	Peak vs Avg Limit

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1b: Center Channel (6) @ 2437 MHz, Up Right Orientation

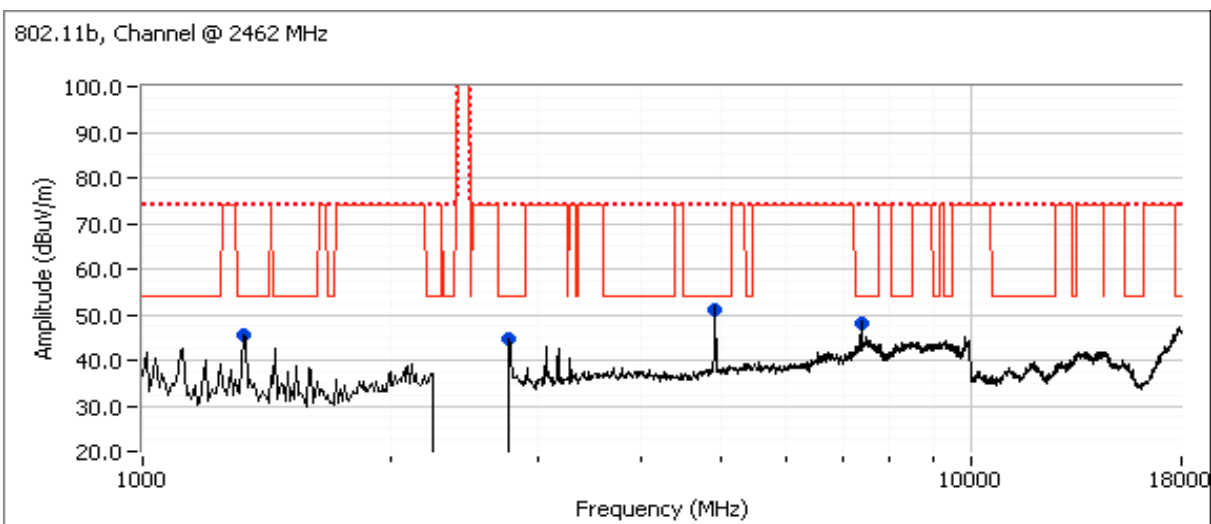


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4874.010	53.4	V	54.0	-0.6	AVG	198	1.0	RB 1 MHz; VB: 10 Hz
4873.910	55.5	V	74.0	-18.5	PK	198	1.0	RB 1 MHz; VB: 1 MHz
7307.780	43.1	V	54.0	-10.9	AVG	136	1.0	RB 1 MHz; VB: 10 Hz
7307.240	51.1	V	74.0	-22.9	PK	136	1.0	RB 1 MHz; VB: 1 MHz
8276.790	36.7	H	54.0	-17.3	AVG	164	1.0	RB 1 MHz; VB: 10 Hz
8279.990	47.9	H	74.0	-26.1	PK	164	1.0	RB 1 MHz; VB: 1 MHz
1301.730	28.4	V	54.0	-25.6	AVG	67	1.0	RB 1 MHz; VB: 10 Hz
1296.400	38.6	V	74.0	-35.4	PK	67	1.0	RB 1 MHz; VB: 1 MHz
9748.000	44.5	H	54.0	-9.5	Peak	245	1.6	Peak vs Avg Limit, Note 2

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1c: High Channel (11) @ 2462 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4924.040	51.2	H	54.0	-2.8	AVG	171	1.6	RB 1 MHz; VB: 10 Hz
4923.970	53.2	H	74.0	-20.8	PK	171	1.6	RB 1 MHz; VB: 1 MHz
7389.250	46.0	H	54.0	-8.0	AVG	240	1.3	RB 1 MHz; VB: 10 Hz
7389.980	52.7	H	74.0	-21.3	PK	240	1.3	RB 1 MHz; VB: 1 MHz
2782.540	38.5	H	54.0	-15.5	AVG	0	1.0	RB 1 MHz; VB: 10 Hz
2757.680	49.4	H	74.0	-24.6	PK	0	1.0	RB 1 MHz; VB: 1 MHz
1374.950	32.4	V	54.0	-21.6	AVG	67	1.0	RB 1 MHz; VB: 10 Hz
1357.850	44.4	V	74.0	-29.6	PK	67	1.0	RB 1 MHz; VB: 1 MHz



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

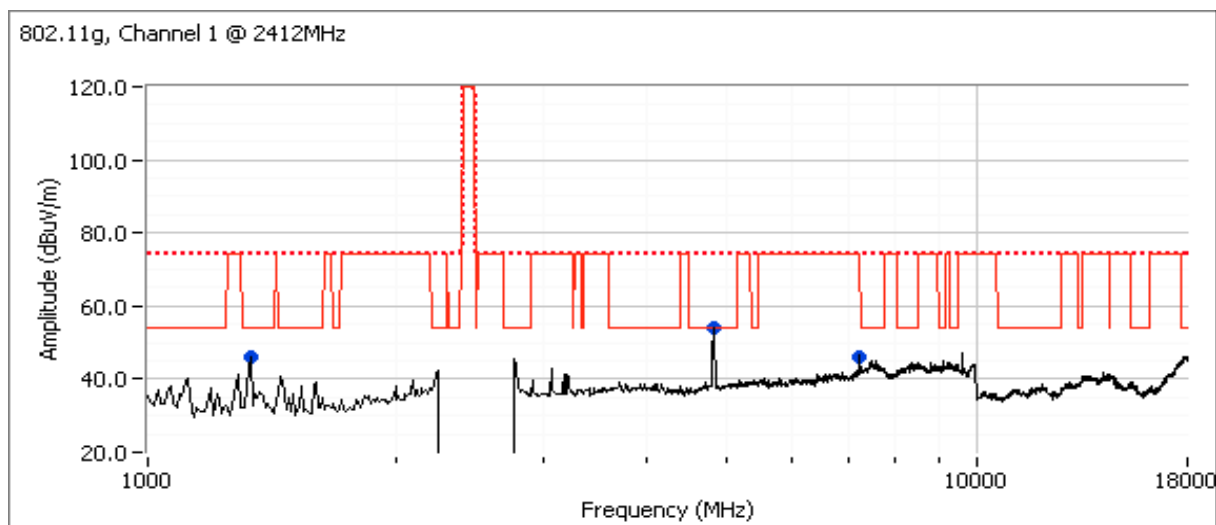
## Run #2: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11g

Date: 1/26/2010

Test Engineer: Mehran Birgani

Test Location: FT Chamber #4

## Run #2a: Low Channel (1) @ 2412 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1374.950	32.4	V	54.0	-21.6	AVG	67	1.0	
<b>4824.000</b>	<b>49.5</b>	<b>H</b>	<b>54.0</b>	<b>-4.5</b>	<b>AVG</b>	<b>158</b>	<b>1.0</b>	
1357.850	44.4	V	74.0	-29.6	PK	67	1.0	
4819.070	61.8	H	74.0	-12.2	PK	158	1.0	
7229.170	46.2	H	54.0	-7.8	PK	232	1.0	Pk vs. Average limit

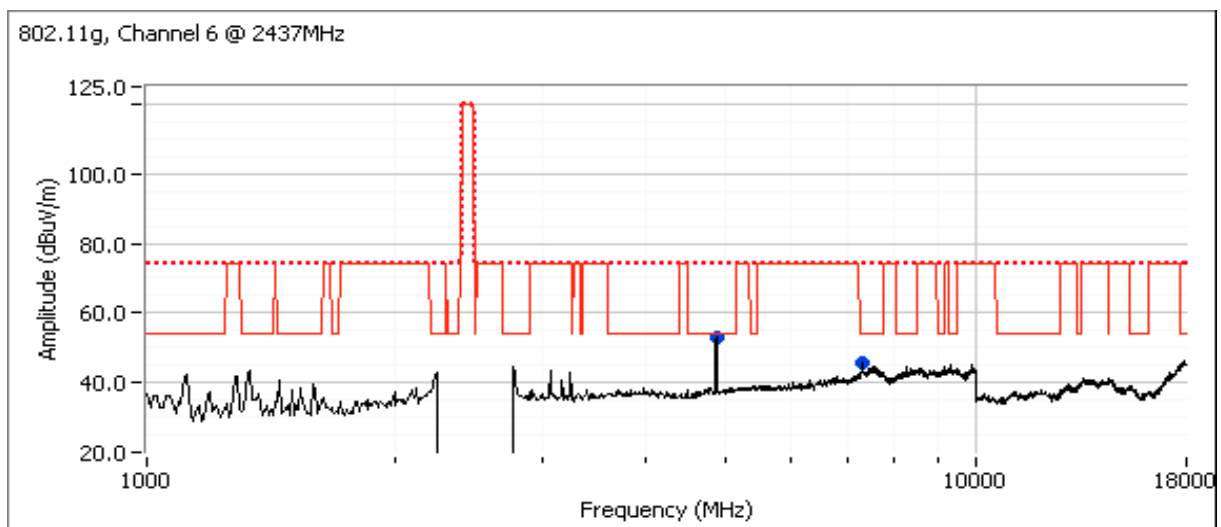
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2b: Center Channel (6) @ 2437 MHz, Up Right Orientation

Date: 1/26/2010

Test Engineer: Joseph Cadigal

Test Location: FT Chamber #4



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4874.040	48.1	V	54.0	-5.9	AVG	188	1.0	
7314.560	41.7	H	54.0	-12.3	AVG	237	1.7	
4873.370	61.8	V	74.0	-12.2	PK	188	1.0	
7310.230	53.8	H	74.0	-20.2	PK	237	1.7	

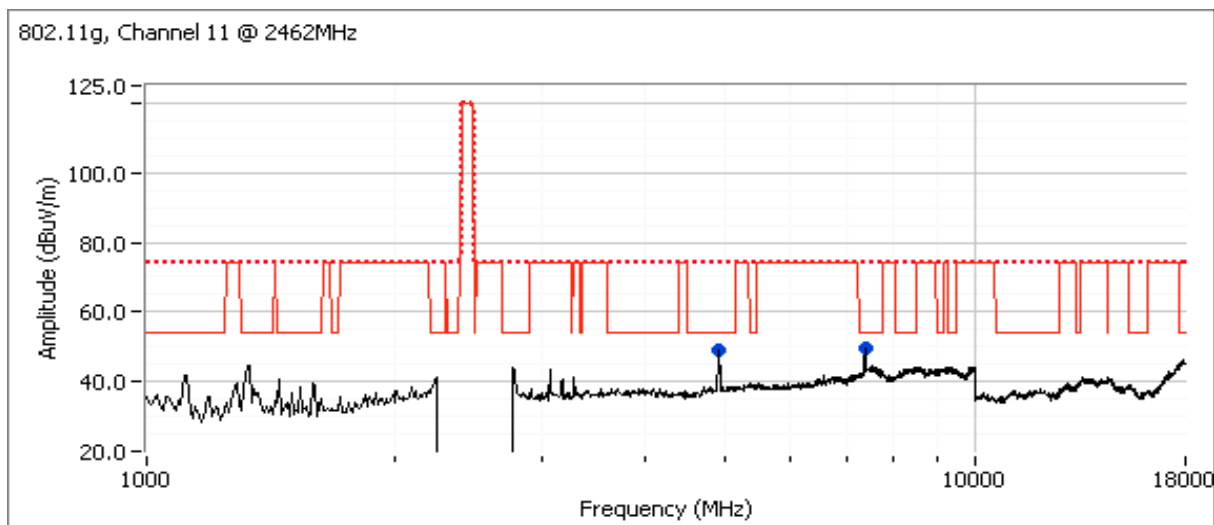
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2c: High Channel (11) @ 2462 MHz, Up Right Orientation

Date: 1/26/2010

Test Engineer: Joseph Cadigal

Test Location: FT Chamber #4



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4923.930	45.0	H	54.0	-9.0	AVG	169	1.7	
7389.130	44.2	V	54.0	-9.8	AVG	133	1.3	
4926.730	56.8	H	74.0	-17.2	PK	169	1.7	
7390.730	56.3	V	74.0	-17.7	PK	133	1.3	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

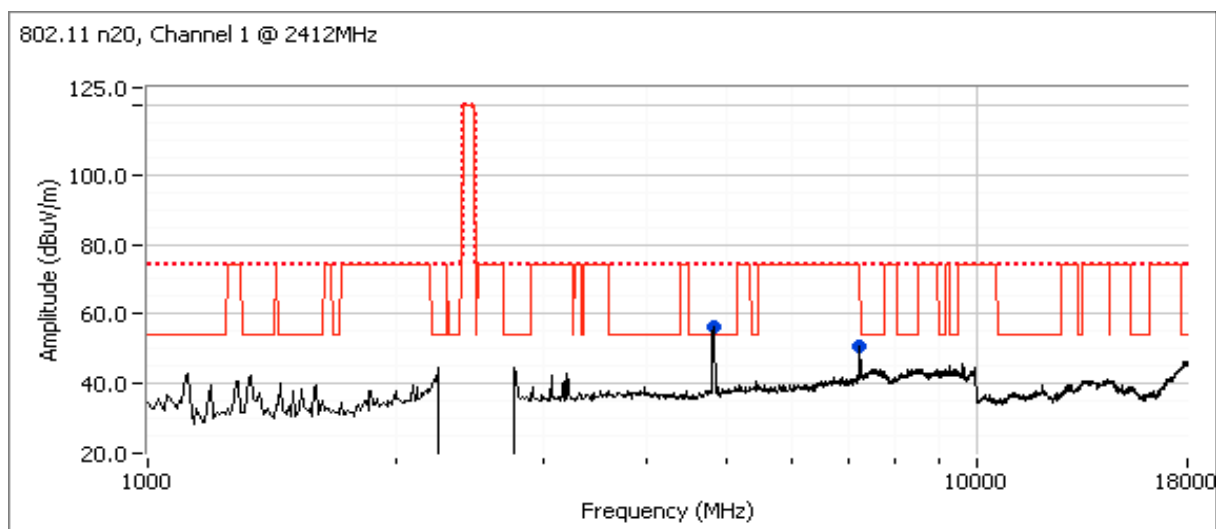
## Run #3: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n20 - CDD

Date: 1/26/2010

Test Engineer: Joseph Cadigal

Test Location: FT Chamber #4

## Run #3a: Low Channel (1) @ 2412 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4824.290	51.0	H	54.0	-3.0	AVG	162	1.1	RB 1 MHz; VB: 10 Hz
7235.350	43.9	V	54.0	-10.1	AVG	154	1.6	RB 1 MHz; VB: 10 Hz, Note 2
4819.690	65.2	H	74.0	-8.8	PK	162	1.1	RB 1 MHz; VB: 1 MHz
7235.220	55.6	V	74.0	-18.4	PK	154	1.6	RB 1 MHz; VB: 1 MHz, Note 2

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

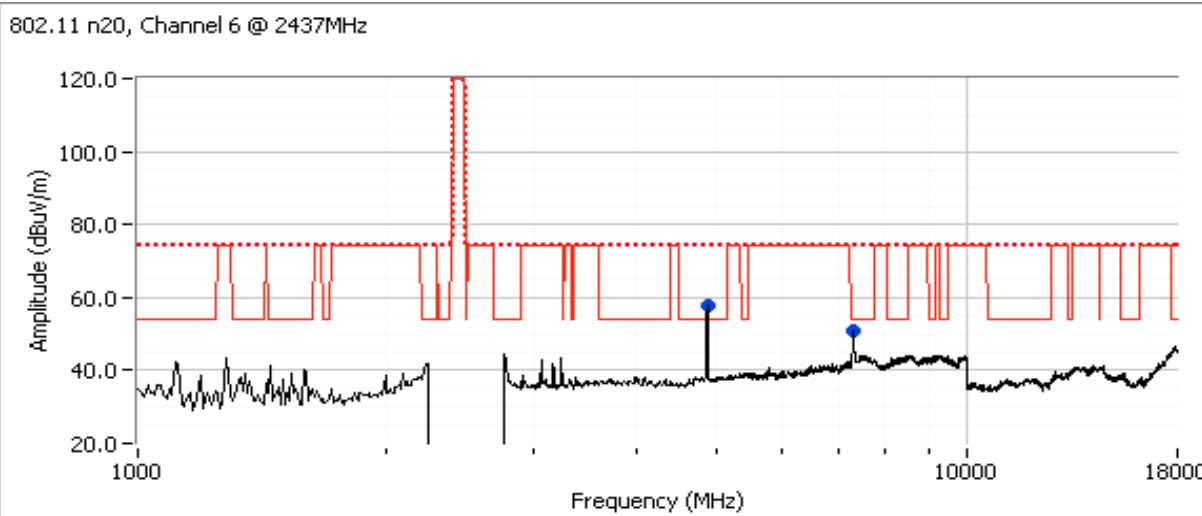
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3b: Center Channel (6) @ 2437 MHz, Up Right Orientation

Date: 1/26/2010

Test Engineer: Joseph Cadigal

Test Location: FT Chamber #4



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4873.910	52.7	H	54.0	-1.3	AVG	191	1.7	
7310.980	46.3	V	54.0	-7.7	AVG	164	1.3	
4873.710	66.1	H	74.0	-7.9	PK	191	1.7	
7313.320	59.1	V	74.0	-14.9	PK	164	1.3	

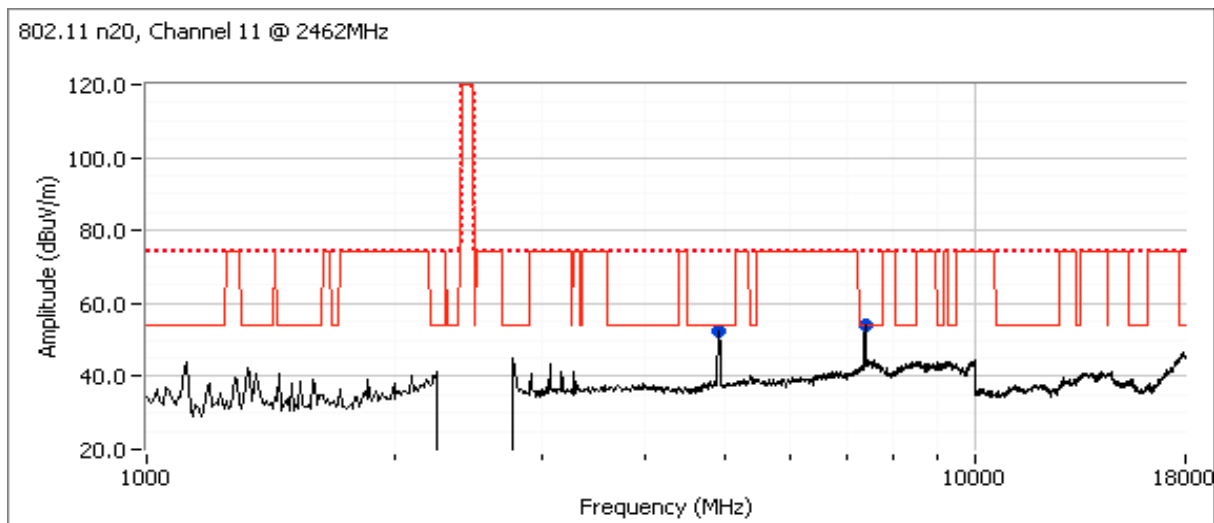
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3c: High Channel (11) @ 2462 MHz, Up Right Orientation

Date: 1/26/2010

Test Engineer: Joseph Cadigal

Test Location: FT Chamber #4



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4924.510	47.4	H	54.0	-6.6	AVG	181	1.1	
7385.910	48.9	V	54.0	-5.1	AVG	162	1.3	
4924.240	60.8	H	74.0	-13.2	PK	181	1.1	
7380.640	60.6	V	74.0	-13.4	PK	162	1.3	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

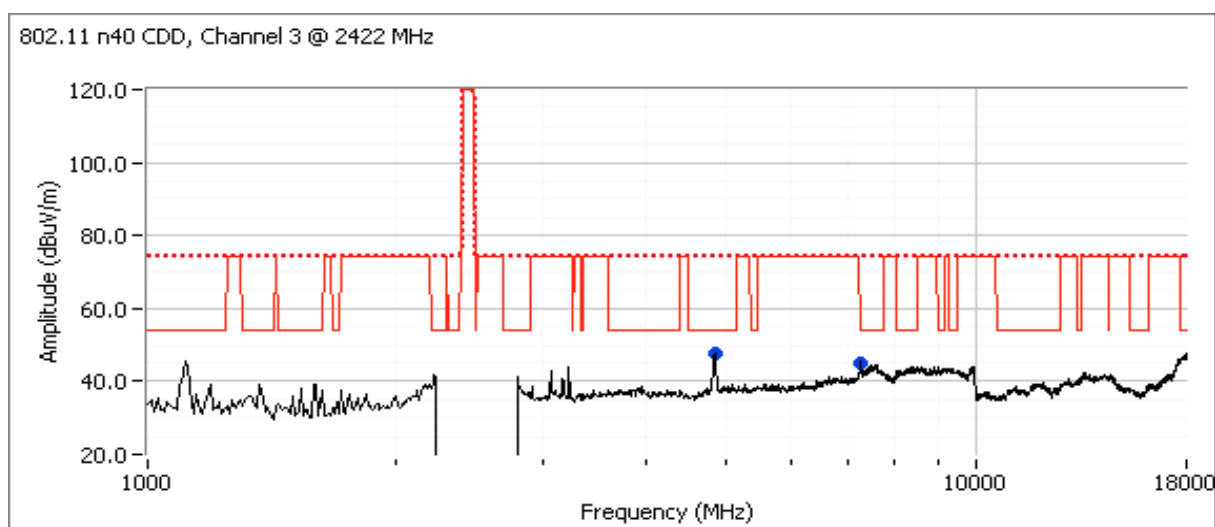
## Run #4: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - CDD - MCS0

Date: 1/27/2010

Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

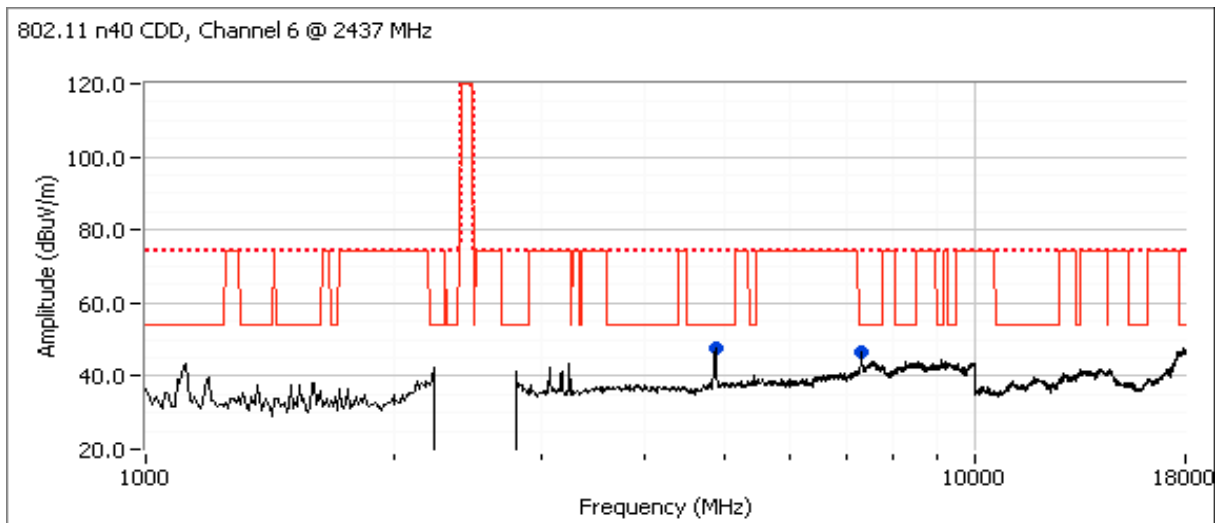
## Run #4a: Low Channel (3) @ 2422 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4843.600	41.8	H	54.0	-12.2	AVG	203	1.0	
4846.530	55.5	H	74.0	-18.5	PK	203	1.0	
7271.110	40.0	V	54.0	-14.0	AVG	142	1.4	
7277.440	51.1	V	74.0	-22.9	PK	142	1.4	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #4b: Center Channel (6) @ 2437 MHz, Up Right Orientation

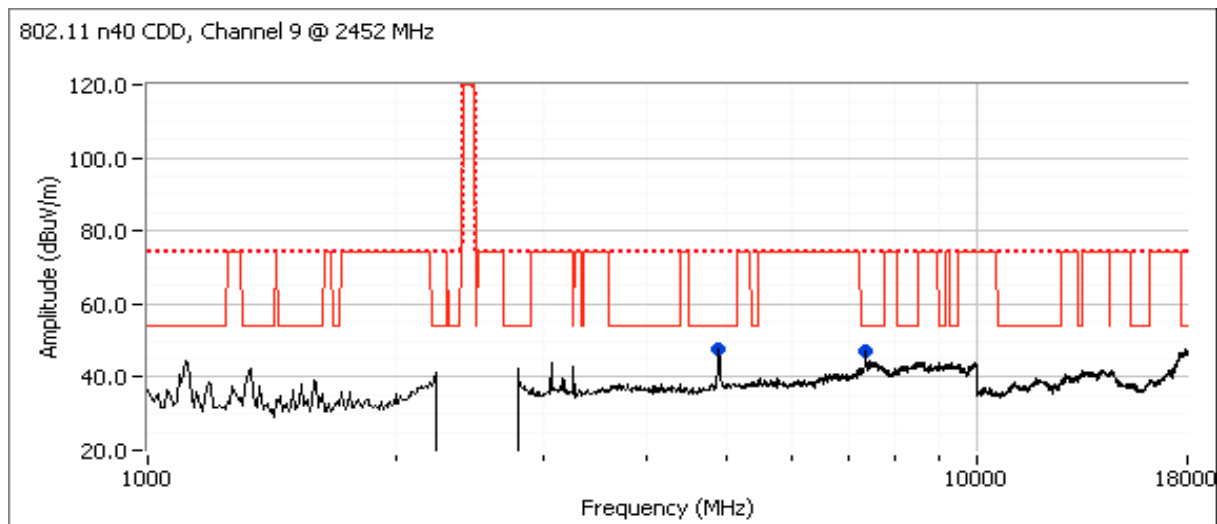


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
7306.400	40.0	V	54.0	-14.0	AVG	140	1.3	
7304.070	51.6	V	74.0	-22.4	PK	140	1.3	
4873.630	39.9	H	54.0	-14.1	AVG	210	1.0	
4868.530	53.7	H	74.0	-20.3	PK	210	1.0	



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #4c: High Channel (9) @ 2452 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4904.310	41.3	H	54.0	-12.7	AVG	173	1.4	
4904.440	55.8	H	74.0	-18.2	PK	173	1.4	
7361.480	41.1	V	54.0	-12.9	AVG	138	1.3	
7356.650	54.5	V	74.0	-19.5	PK	138	1.3	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

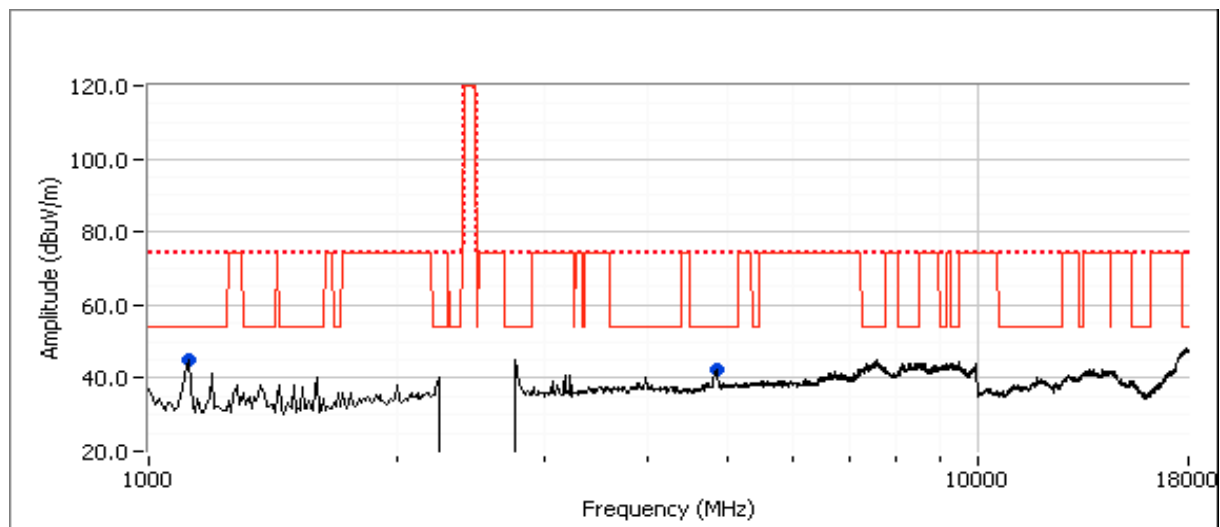
Run #6: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - SISO - MCS0

Date: 2/9/2010

Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

Run #6a: Low Channel (3) @ 2422 MHz, Up Right Orientation

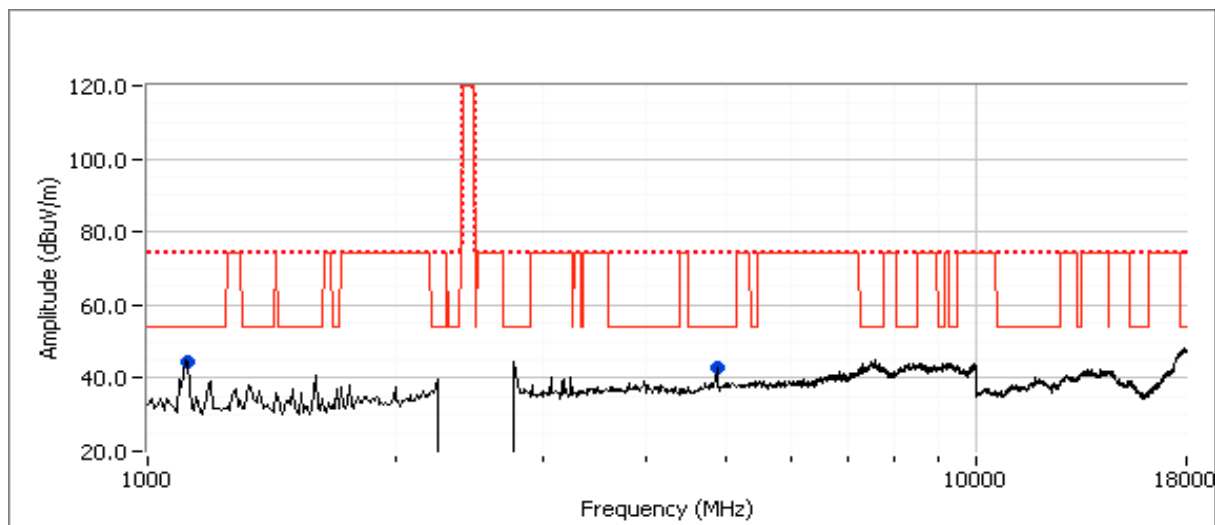


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1117.850	38.8	V	54.0	-15.2	AVG	79	1.0	RB 1 MHz; VB: 10 Hz, Note 2
1118.810	50.9	V	74.0	-23.1	PK	79	1.0	RB 1 MHz; VB: 1 MHz, Note 2
4844.380	37.0	H	54.0	-17.0	AVG	143	1.0	RB 1 MHz; VB: 10 Hz
4844.650	52.3	H	74.0	-21.7	PK	143	1.0	RB 1 MHz; VB: 1 MHz

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #6b: Center Channel (6) @ 2437 MHz, Up Right Orientation

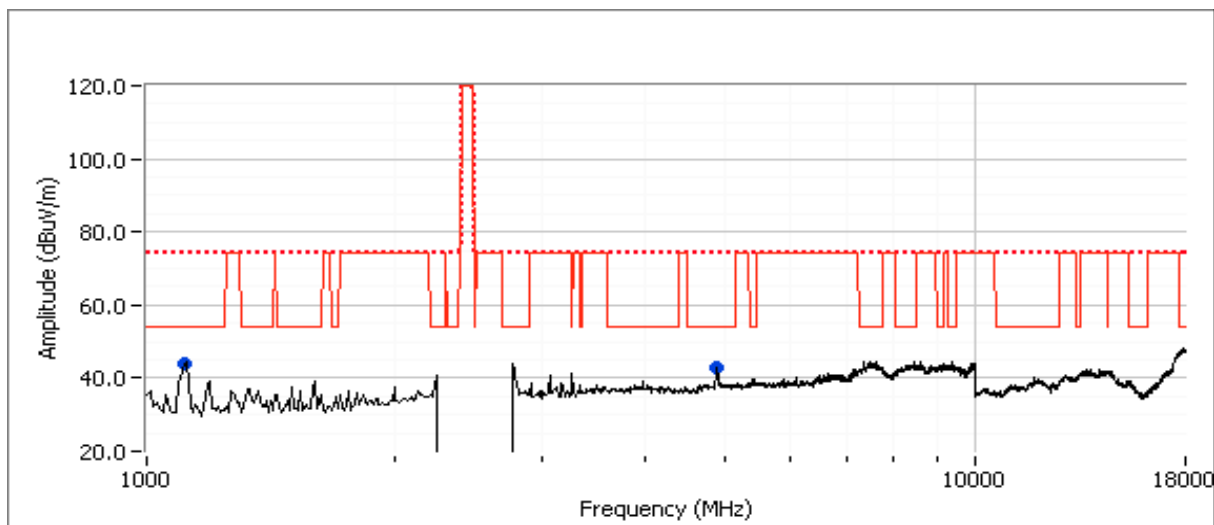


Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1117.970	39.2	V	54.0	-14.8	AVG	84	1.0	RB 1 MHz; VB: 10 Hz, Note 2
1119.830	51.9	V	74.0	-22.1	PK	84	1.0	RB 1 MHz; VB: 1 MHz, Note 2
4873.370	33.8	H	54.0	-20.2	AVG	217	1.0	RB 1 MHz; VB: 10 Hz
4879.370	46.7	H	74.0	-27.3	PK	217	1.0	RB 1 MHz; VB: 1 MHz

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #6c: High Channel (9) @ 2452 MHz, Up Right Orientation



Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1117.890	39.0	V	54.0	-15.0	AVG	79	1.0	RB 1 MHz; VB: 10 Hz, Note 2
4904.290	35.6	H	54.0	-18.4	AVG	139	1.0	RB 1 MHz; VB: 10 Hz
1118.610	52.0	V	74.0	-22.0	PK	79	1.0	RB 1 MHz; VB: 1 MHz, Not2e
4902.190	49.9	H	74.0	-24.1	PK	139	1.0	RB 1 MHz; VB: 1 MHz

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

### Test Specific Details

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

### General Test Configuration

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

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

**Ambient Conditions:**  
 Temperature: 19.4 °C  
 Rel. Humidity: 37 %

Note: Preliminary testing showed no radio related emissions below 1 GHz and above 18 GHz.

### Summary of Results - Device Operating in the 5725 - 5850 MHz Band

Run #	Mode	Channel	Antenna/ Orientation	Measured Power	Test Performed	Limit	Result / Margin
1a	a	149 - 5745 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	51.7dBμV/m @ 11489.3MHz (-2.3dB)
1b	a	157 - 5785 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	49.2dBμV/m @ 11568.9MHz (-4.8dB)
1c	a	165 - 5825 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	46.9dBμV/m @ 11649.4MHz (-7.1dB)
2a	n20 - CDD	149 - 5745 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	50.6dBμV/m @ 11489.0MHz (-3.4dB)
2b	n20 - CDD	157 - 5785 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	46.8dBμV/m @ 11571.5MHz (-7.2dB)
2c	n20 - CDD	165 - 5825 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	50.5dBμV/m @ 17470.0MHz (-3.5dB)
3a	n40 - CDD	151 - 5755 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	52.7dBμV/m @ 11509.8MHz (-1.3dB)
3b	n40 - CDD	159 - 5795 MHz	Upright	-	Radiated Emissions, 1 - 40GHz	FCC Part 15.209 / 15.247( c)	51.0dBμV/m @ 11590.4MHz (-3.0dB)

### Modifications Made During Testing

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Note - preliminary scans showed no emissions above 18GHz.

Run #1: Radiated Spurious Emissions, 1000 - 40000 MHz. Operating Mode: 802.11a

Date: 1/27/2010

Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

Run #1a: Low Channel (149) @ 5745 MHz, Upright Orientation

Fundamental Signal Field Strength: Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5748.130	106.3	H	-	-	AVG	195	1.0	RB 1 MHz; VB: 10 Hz
5748.630	115.3	H	-	-	PK	195	1.0	RB 1 MHz; VB: 1 MHz
5746.330	106.3	H	-	-	PK	195	1.0	RB 100 kHz; VB: 100 kHz
5741.300	102.8	V	-	-	AVG	152	1.1	RB 1 MHz; VB: 10 Hz
5748.070	112.1	V	-	-	PK	152	1.1	RB 1 MHz; VB: 1 MHz

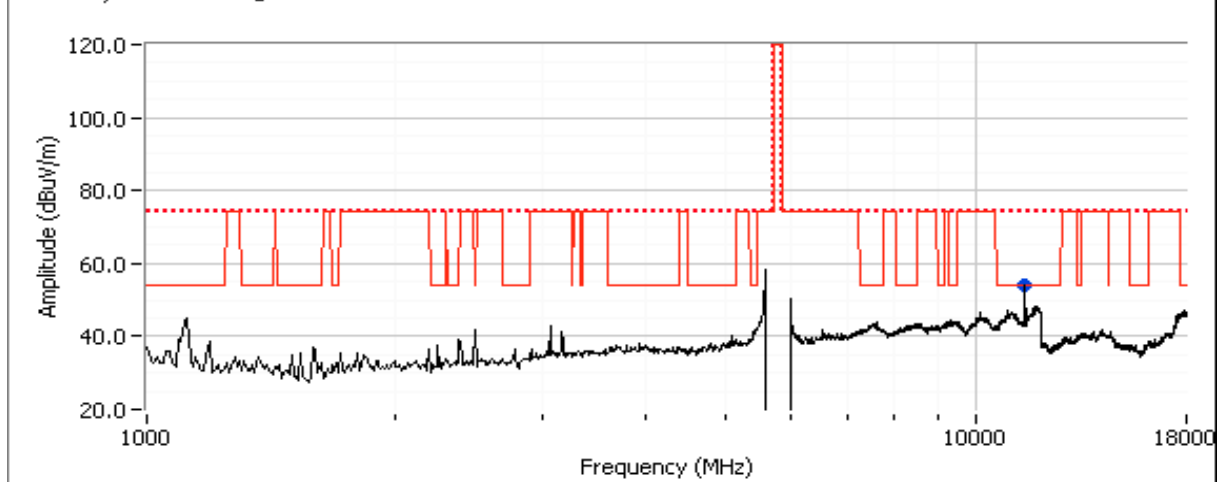
Fundamental emission level @ 3m in 100kHz RBW:	106.3	dB $\mu$ V/m
Limit for emissions outside of restricted bands:	86.3	dB $\mu$ V/m
Limit for emissions outside of restricted bands:	76.3	dB $\mu$ V/m

Limit is -20dBc (Peak power measurement)

Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11489.290	51.7	H	54.0	-2.3	AVG	217	1.5	
11489.580	65.1	H	74.0	-8.9	PK	217	1.5	

802.11a, Channel 149 @ 5745 MHz



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1b: Center Channel (157) @ 5785 MHz,Upright Orientation

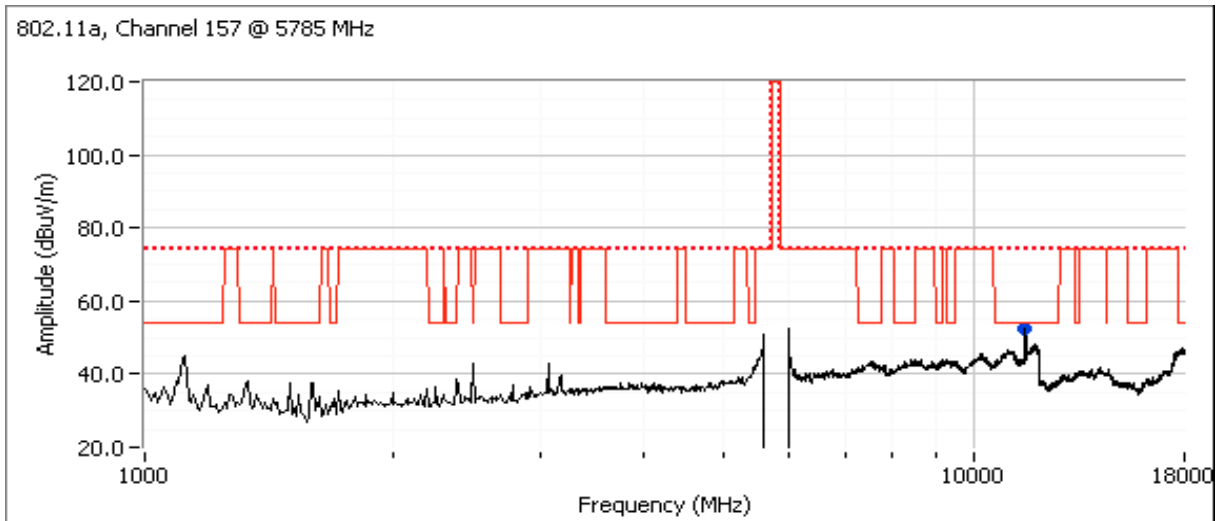
**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
<b>EUT Upright</b>								
5781.270	102.6	V	-	-	AVG	150	1.2	RB 1 MHz; VB: 10 Hz
5782.770	111.5	V	-	-	PK	150	1.2	RB 1 MHz; VB: 1 MHz
5780.130	103.7	V	-	-	PK	150	1.2	RB 100 kHz; VB: 100 kHz
5781.300	106.1	H	-	-	AVG	185	1.1	RB 1 MHz; VB: 10 Hz
5789.100	114.4	H	-	-	PK	185	1.1	RB 1 MHz; VB: 1 MHz
5782.630	105.8	H	-	-	PK	185	1.1	RB 100 kHz; VB: 100 kHz
<b>EUT Flat</b>								
5781.130	99.5	V	-	-	AVG	237	1.8	RB 1 MHz; VB: 10 Hz
5782.130	107.8	V	-	-	PK	237	1.8	RB 1 MHz; VB: 1 MHz
5777.200	98.7	V	-	-	PK	237	1.8	RB 100 kHz; VB: 100 kHz
5781.230	94.5	H	-	-	AVG	14	1.7	RB 1 MHz; VB: 10 Hz
5780.970	104.1	H	-	-	PK	14	1.7	RB 1 MHz; VB: 1 MHz
5781.330	95.3	H	-	-	PK	14	1.7	RB 100 kHz; VB: 100 kHz
<b>EUT Side</b>								
5780.970	101.0	V	-	-	AVG	299	1.2	RB 1 MHz; VB: 10 Hz
5779.470	109.3	V	-	-	PK	299	1.2	RB 1 MHz; VB: 1 MHz
5781.370	101.9	V	-	-	PK	299	1.2	RB 100 kHz; VB: 100 kHz
5781.370	103.0	H	-	-	AVG	297	1.4	RB 1 MHz; VB: 10 Hz
5779.600	111.4	H	-	-	PK	297	1.4	RB 1 MHz; VB: 1 MHz
5790.170	103.4	H	-	-	PK	297	1.4	RB 100 kHz; VB: 100 kHz

Fundamental emission level @ 3m in 100kHz RBW:	105.4	dBμV/m	
Limit for emissions outside of restricted bands:	85.4	dBμV/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	75.4	dBμV/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11568.870	49.2	V	54.0	-4.8	AVG	216	1.2	
11568.790	61.7	V	74.0	-12.3	PK	216	1.2	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1c: High Channel (165) @ 5825 MHz, Upright Orientation

**Fundamental Signal Field Strength:** Peak and average values measured in 1 MHz, and peak value measured in 100kHz

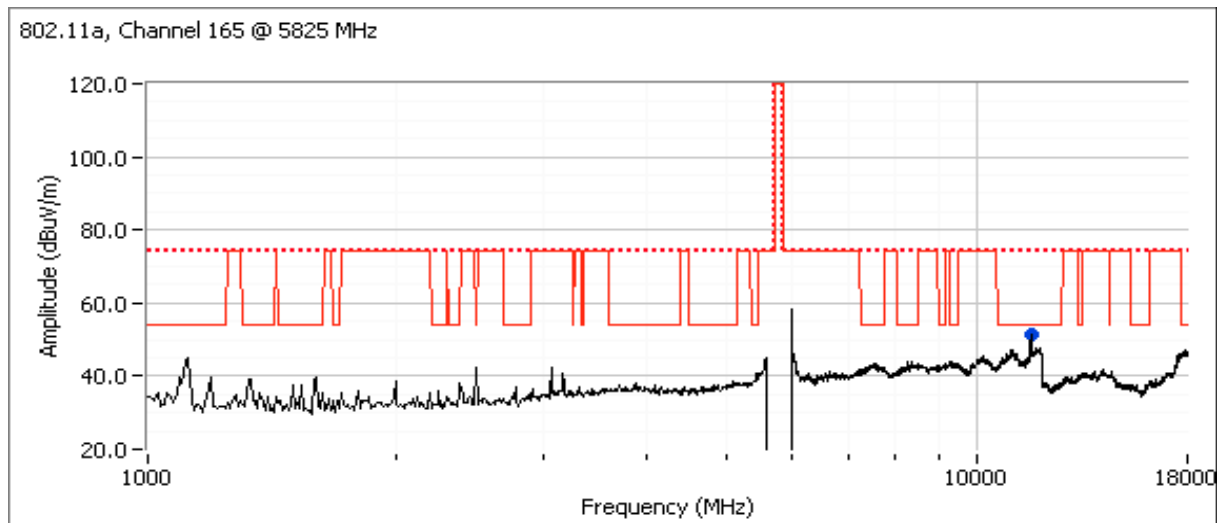
Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5828.830	106.2	H	-	-	AVG	189	1.1	RB 1 MHz; VB: 10 Hz
5829.970	114.8	H	-	-	PK	189	1.1	RB 1 MHz; VB: 1 MHz
5828.870	107.2	H	-	-	PK	189	1.1	RB 100 kHz; VB: 100 kHz
5829.200	103.4	V	-	-	AVG	151	1.1	RB 1 MHz; VB: 10 Hz
5831.270	112.3	V	-	-	PK	151	1.1	RB 1 MHz; VB: 1 MHz

Fundamental emission level @ 3m in 100kHz RBW:	107.2	dB $\mu$ V/m
Limit for emissions outside of restricted bands:	87.2	dB $\mu$ V/m
Limit for emissions outside of restricted bands:	77.2	dB $\mu$ V/m

Limit is -20dBc (Peak power measurement)

Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11649.440	46.9	V	54.0	-7.1	AVG	210	1.0	
11647.540	58.9	V	74.0	-15.1	PK	210	1.0	



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Radiated Spurious Emissions, 1000 - 40000 MHz. Operating Mode: 802.11n 20 MHz CDD

Date: 1/27/2010

Test Engineer: Rafael Varelas

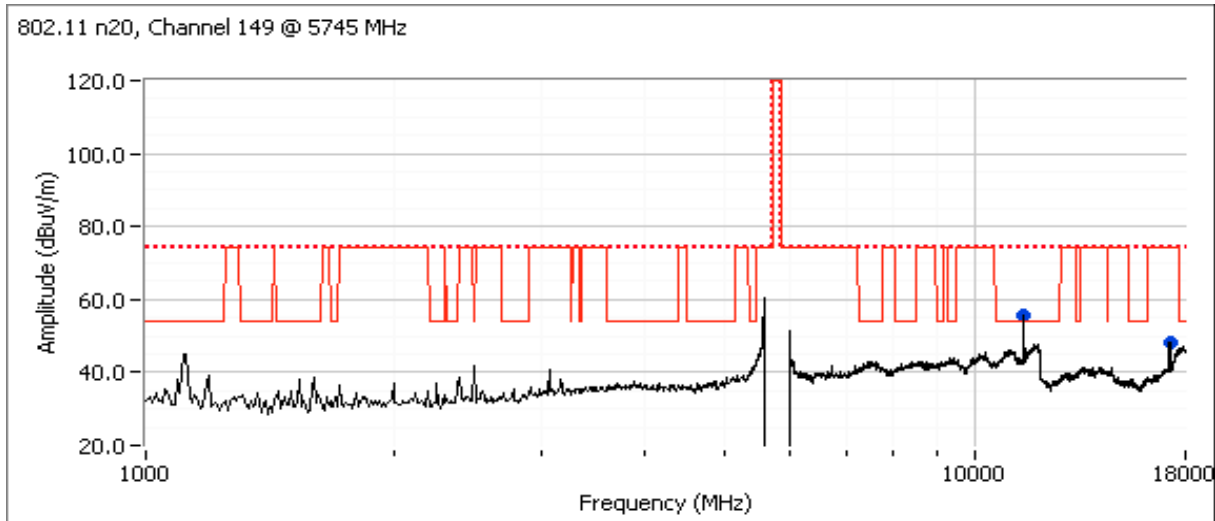
Test Location: FT Chamber #4

### Run #2a: Low Channel (149) @ 5745 MHz, Upright Orientation

Fundamental emission level @ 3m in 100kHz RBW:	108.7	dB $\mu$ V/m	
Limit for emissions outside of restricted bands:	88.7	dB $\mu$ V/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	78.7	dB $\mu$ V/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11489.000	50.6	H	54.0	-3.4	AVG	198	1.0	
11489.160	62.4	H	74.0	-11.6	PK	198	1.0	
11490.260	49.2	V	54.0	-4.8	AVG	174	1.0	
11490.320	61.4	V	74.0	-12.6	PK	174	1.0	
17230.000	48.4	V	54.0	-5.6	Peak	180	1.0	Note 2, peak reading vs ave limit

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.



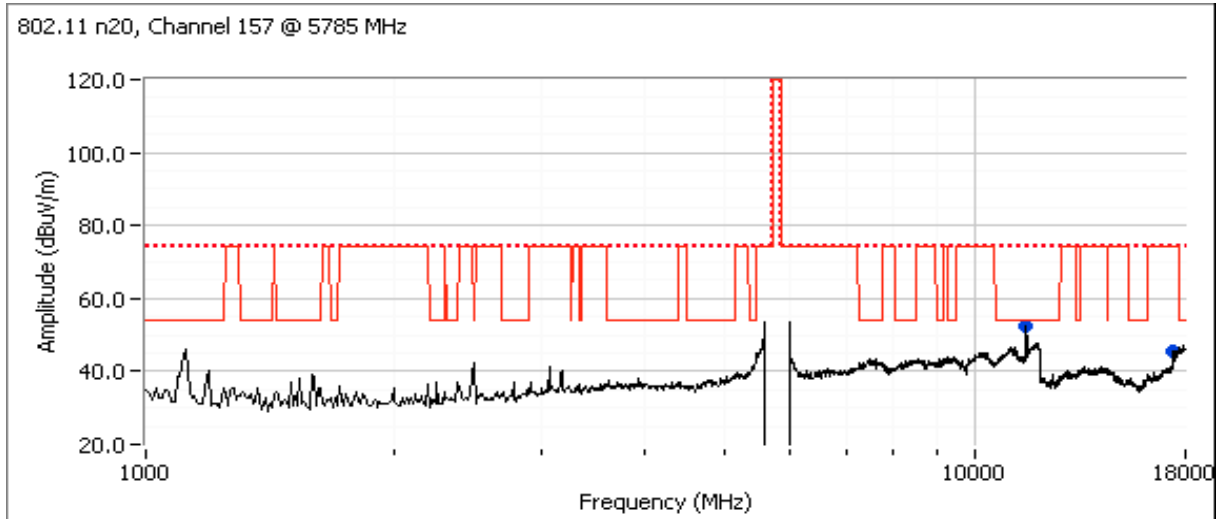
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2b: Center Channel (157) @ 5785 MHz,Upright Orientation

Fundamental emission level @ 3m in 100kHz RBW:	109.5	dB $\mu$ V/m	
Limit for emissions outside of restricted bands:	89.5	dB $\mu$ V/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	79.5	dB $\mu$ V/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11571.520	46.8	H	54.0	-7.2	AVG	199	1.0	
11571.600	59.9	H	74.0	-14.1	PK	199	1.0	
11570.200	45.6	V	54.0	-8.4	AVG	235	1.0	
11570.100	57.6	V	74.0	-16.4	PK	235	1.0	
17350.000	45.5	V	54.0	-8.5	Peak	183	1.0	Note 2, peak reading vs ave limit

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

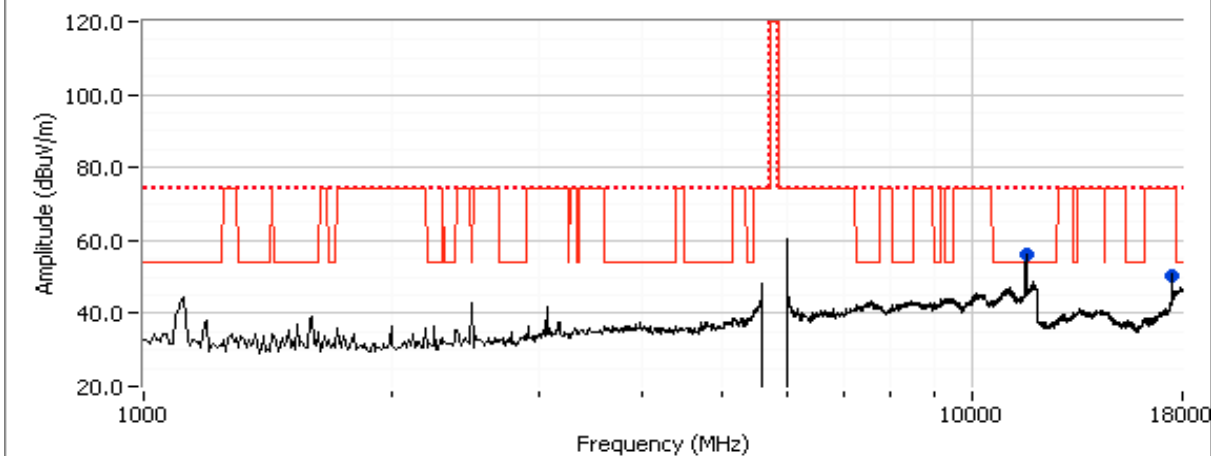
## Run #2c: High Channel (165) @ 5825 MHz, Upright Orientation

Fundamental emission level @ 3m in 100kHz RBW:	107.6	dB $\mu$ V/m	
Limit for emissions outside of restricted bands:	87.6	dB $\mu$ V/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	77.6	dB $\mu$ V/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
11650.870	48.6	H	54.0	-5.4	AVG	159	1.0	
11651.170	49.3	V	54.0	-4.7	AVG	208	1.2	
<b>17470.000</b>	<b>50.5</b>	<b>V</b>	<b>54.0</b>	<b>-3.5</b>	Peak	182	1.0	Note 2, peak reading vs ave limit
11650.810	62.1	H	74.0	-11.9	PK	159	1.0	
11651.220	61.5	V	74.0	-12.5	PK	208	1.2	

Note 2: Signal is not in a restricted band but the more stringent restricted band limit was used.

802.11 n20, Channel 165 @ 5825 MHz



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Radiated Spurious Emissions, 1000 - 40000 MHz. Operating Mode: 802.11n 40 MHz CDD

Date of Test: 1/28/2010

Test Engineer: Mark Hill

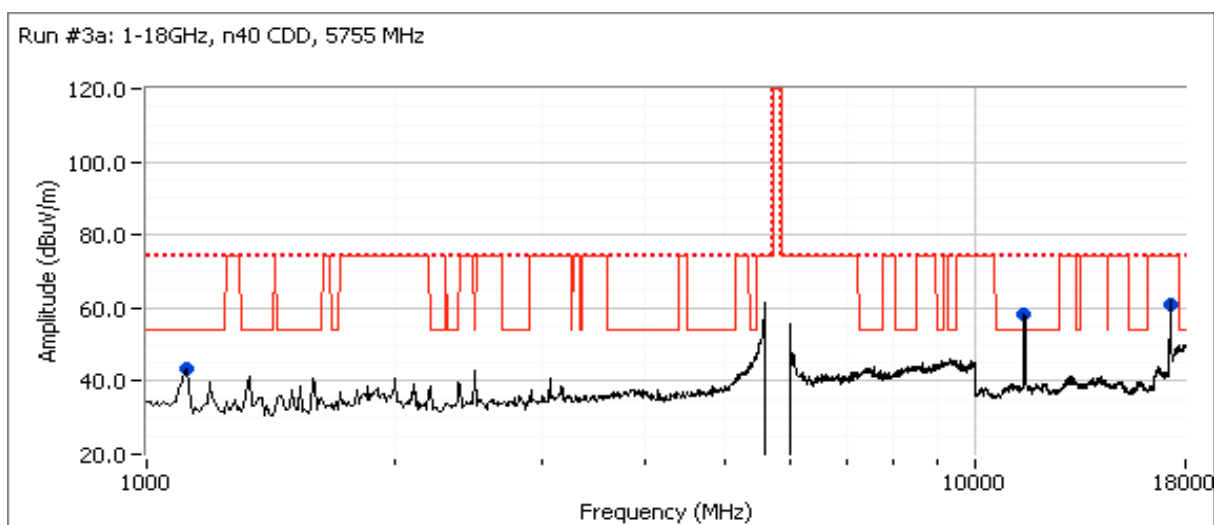
Test Location: FT#5

## Run #3a: Low Channel (151) @ 5755 MHz, Upright

Fundamental emission level @ 3m in 100kHz RBW:	108.8	dB $\mu$ V/m	
Limit for emissions outside of restricted bands:	88.8	dB $\mu$ V/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	78.8	dB $\mu$ V/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1125.020	34.7	V	54.0	-19.3	AVG	94	1.2	RB 1 MHz; VB: 10 Hz
<b>11509.840</b>	<b>52.7</b>	<b>H</b>	<b>54.0</b>	<b>-1.3</b>	AVG	222	1.0	RB 1 MHz; VB: 10 Hz
1124.940	42.3	V	74.0	-31.7	PK	94	1.2	RB 1 MHz; VB: 1 MHz
11509.990	63.5	H	74.0	-10.5	PK	222	1.0	RB 1 MHz; VB: 1 MHz
17310.580	57.7	H	78.8	-21.1	PK	186	1.0	RB 100 kHz; VB: 100 kHz

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



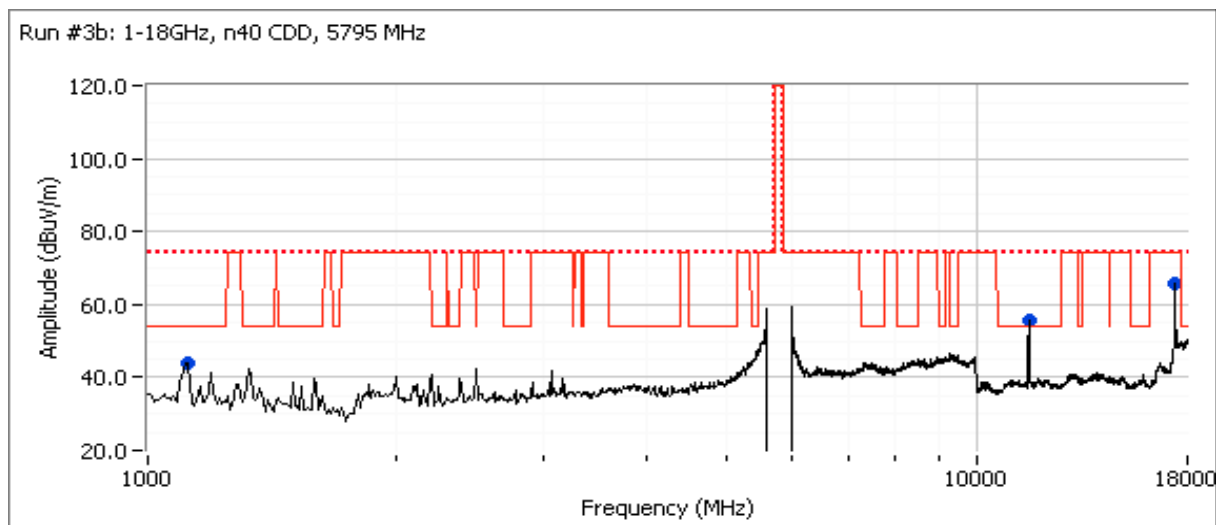
Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3b: High Channel (159) @ 5795 MHz, Upright

Fundamental emission level @ 3m in 100kHz RBW:	106.7	dB $\mu$ V/m	
Limit for emissions outside of restricted bands:	86.7	dB $\mu$ V/m	Limit is -20dBc (Peak power measurement)
Limit for emissions outside of restricted bands:	76.7	dB $\mu$ V/m	Limit is -30dBc (UNII power measurement)

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1125.050	36.0	V	54.0	-18.0	AVG	39	1.0	RB 1 MHz; VB: 10 Hz
<b>11590.360</b>	<b>51.0</b>	<b>H</b>	<b>54.0</b>	<b>-3.0</b>	<b>AVG</b>	<b>227</b>	<b>1.0</b>	<b>RB 1 MHz; VB: 10 Hz</b>
1125.270	44.8	V	74.0	-29.2	PK	39	1.0	RB 1 MHz; VB: 1 MHz
11592.700	61.9	H	74.0	-12.1	PK	227	1.0	RB 1 MHz; VB: 1 MHz
17393.440	60.6	H	76.7	-16.1	PK	191	1.0	RB 100 kHz; VB: 100 kHz

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



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS-GEN Radiated Spurious Emissions - RX Mode

### Test Specific Details

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

### General Test Configuration

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

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

### Ambient Conditions:

Temperature: 18.9 °C  
Rel. Humidity: 38 %

### 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.

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

Run #	Mode	Channel	Antenna/ Orientation	Measured Power	Test Performed	Limit	Result / Margin
1	802.11b	6 - 2437 MHz	Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	40.1dBμV/m @ 3076.5MHz (-13.9dB)
2	n20 - CDD	6 - 2437 MHz	Main/Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	39.3dBμV/m @ 3076.5MHz (-14.7dB)
3	n40 - CDD	6 - 2437 MHz	Main/Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	39.8dBμV/m @ 3076.5MHz (-14.2dB)

Note: Preliminary testing showed no radio related emissions below 1 GHz

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11b

Date: 1/31/2010

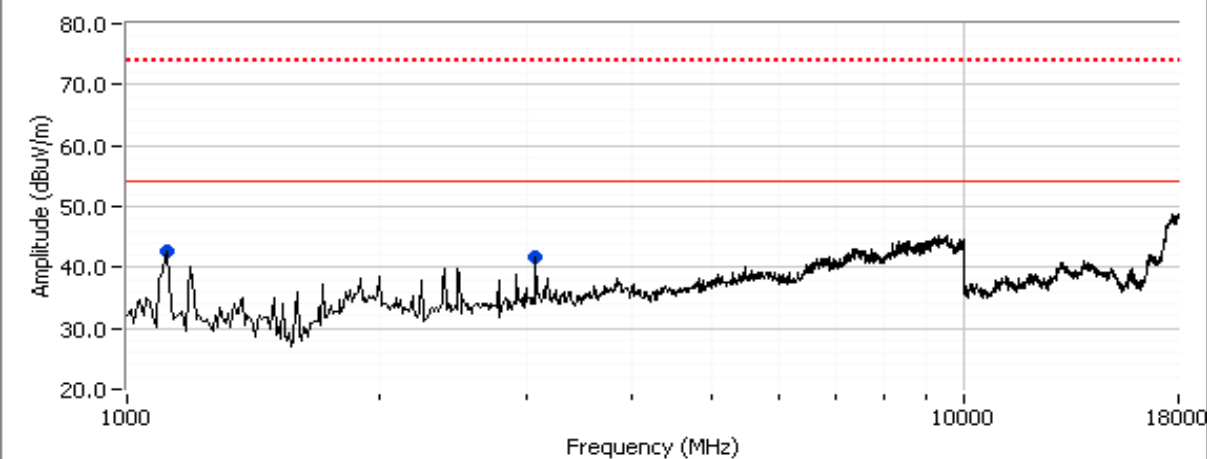
Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

## Run #1: Center Channel (6) @ 2437 MHz, Up Right Orientation

Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3076.490	40.1	V	54.0	-13.9	AVG	52	1.4	RB 1 MHz; VB: 10 Hz
3076.440	45.2	V	74.0	-28.8	PK	52	1.4	RB 1 MHz; VB: 1 MHz
1117.780	36.1	V	54.0	-17.9	AVG	104	1.0	RB 1 MHz; VB: 10 Hz
1118.350	48.7	V	74.0	-25.3	PK	104	1.0	RB 1 MHz; VB: 1 MHz

802.11b, Channel 6 @ 2437 MHz





Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n20 - CDD

Date: 1/31/2010

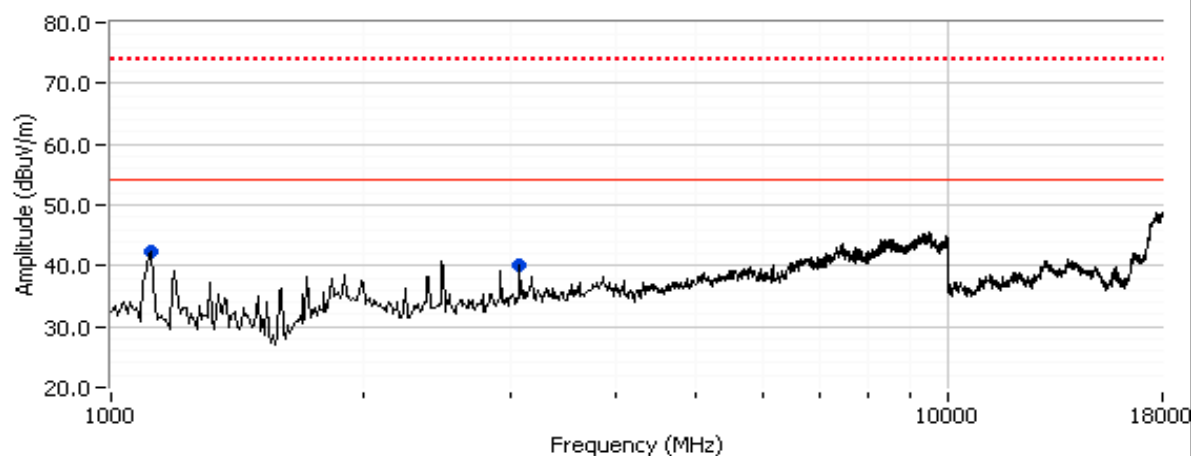
Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

## Run #2: Center Channel (6) @ 2437 MHz, Up Right Orientation

Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3076.460	39.3	V	54.0	-14.7	AVG	48	1.0	RB 1 MHz; VB: 10 Hz
3076.370	45.2	V	74.0	-28.8	PK	48	1.0	RB 1 MHz; VB: 1 MHz
1117.670	36.0	V	54.0	-18.0	AVG	87	1.0	RB 1 MHz; VB: 10 Hz
1119.660	48.7	V	74.0	-25.3	PK	87	1.0	RB 1 MHz; VB: 1 MHz

802.11 n20, Channel 6 @ 2437 MHz



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - CDD

Date: 1/31/2010

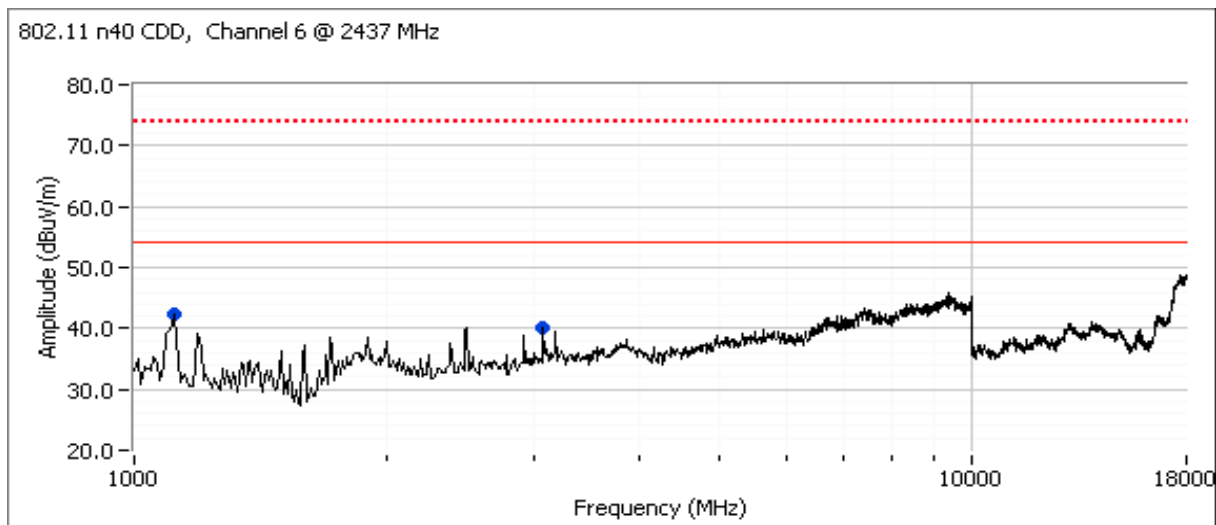
Test Engineer: Rafael Varelas

Test Location: FT Chamber #4

## Run #3: Center Channel (6) @ 2437 MHz, Up Right Orientation

Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3076.490	39.8	V	54.0	-14.2	AVG	52	1.0	RB 1 MHz; VB: 10 Hz
3076.540	45.5	V	74.0	-28.5	PK	52	1.0	RB 1 MHz; VB: 1 MHz
1117.560	35.6	V	54.0	-18.4	AVG	87	1.0	RB 1 MHz; VB: 10 Hz
1118.760	49.7	V	74.0	-24.3	PK	87	1.0	RB 1 MHz; VB: 1 MHz

802.11 n40 CDD, Channel 6 @ 2437 MHz



Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS-GEN Radiated Spurious Emissions - RX Mode

### Test Specific Details

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

### General Test Configuration

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

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

### Ambient Conditions:

Temperature: 20 °C  
Rel. Humidity: 45 %

### 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.

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

Run #	Mode	Channel	Antenna/ Orientation	Measured Power	Test Performed	Limit	Result / Margin
1	802.11a	157 5785 MHz	Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	45.9dBµV/m @ 3075.9MHz (-8.1dB)
2	n20 - CDD	157 5785 MHz	Main/Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	44.3dBµV/m @ 3075.8MHz (-9.7dB)
3	n40 - CDD	151 5755 MHz	Main/Aux (Up Right)	Rx	Radiated Emissions, 1 - 26 GHz	RSS-GEN	46.9dBµV/m @ 3076.2MHz (-7.1dB)

Note: Preliminary testing showed no radio related emissions below 1 GHz

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

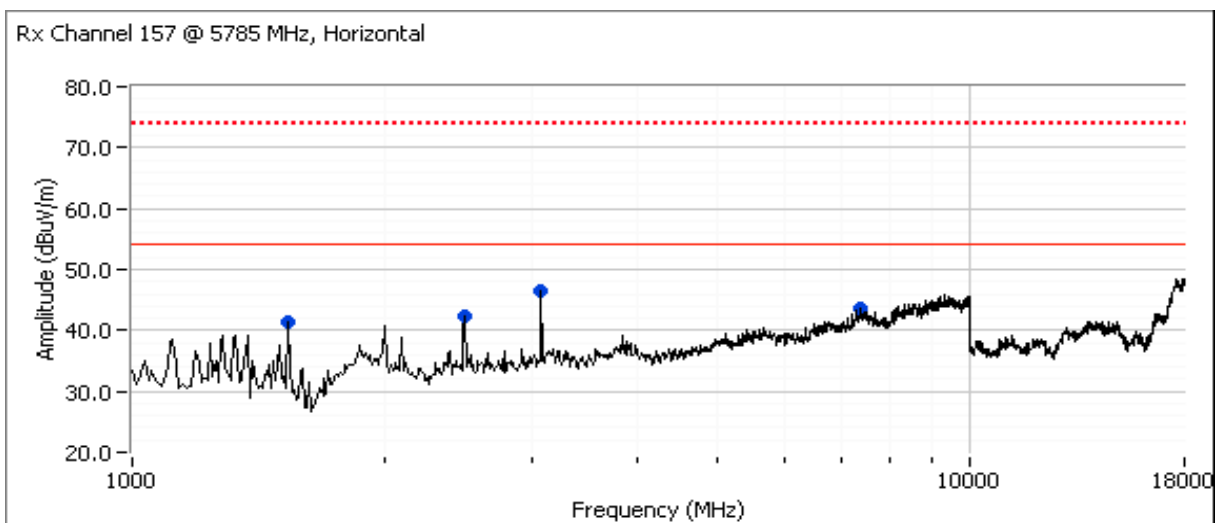
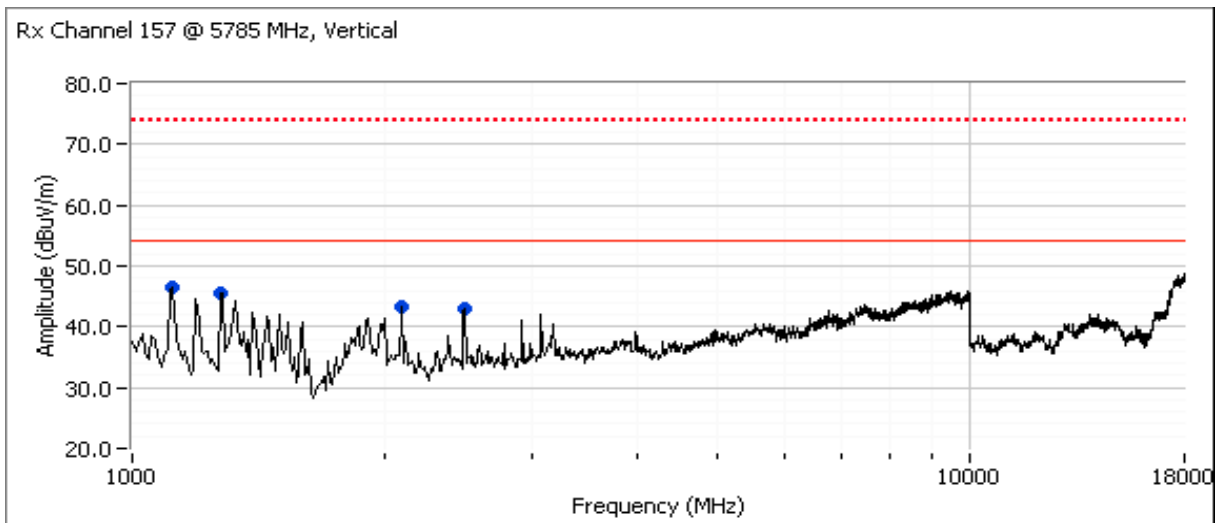
Run #1: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11b

Date: 2/4/2010

Test Engineer: Suhaila Khushzad

Test Location: Chamber #5

Run #1: Center Channel (157) @ 5785 MHz, Up Right Orientation



Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78071
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
3075.880	45.9	H	54.0	-8.1	AVG	176	1.0	RB 1 MHz; VB: 10 Hz
3075.880	49.1	H	74.0	-24.9	PK	176	1.0	RB 1 MHz; VB: 1 MHz
1117.250	37.0	V	54.0	-17.0	AVG	98	1.0	RB 1 MHz; VB: 10 Hz
1119.120	49.0	V	74.0	-25.0	PK	98	1.0	RB 1 MHz; VB: 1 MHz
1300.040	32.2	V	54.0	-21.8	AVG	174	1.0	RB 1 MHz; VB: 10 Hz
1275.240	46.1	V	74.0	-27.9	PK	174	1.0	RB 1 MHz; VB: 1 MHz
7384.110	37.0	H	54.0	-17.0	AVG	206	1.9	RB 1 MHz; VB: 10 Hz
7357.310	47.8	H	74.0	-26.2	PK	206	1.9	RB 1 MHz; VB: 1 MHz
1538.010	38.9	H	54.0	-15.1	AVG	166	1.2	RB 1 MHz; VB: 10 Hz
1537.950	41.9	H	74.0	-32.1	PK	166	1.2	RB 1 MHz; VB: 1 MHz
2496.720	34.8	H	54.0	-19.2	AVG	167	1.0	RB 1 MHz; VB: 10 Hz
2499.190	51.0	H	74.0	-23.0	PK	167	1.0	RB 1 MHz; VB: 1 MHz
2100.090	43.2	V	54.0	-10.8	Peak	174	1.0	Peak vs Avg limit
2496.640	43.0	V	54.0	-11.0	Peak	299	1.0	Peak vs Avg limit

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n20 - CDD

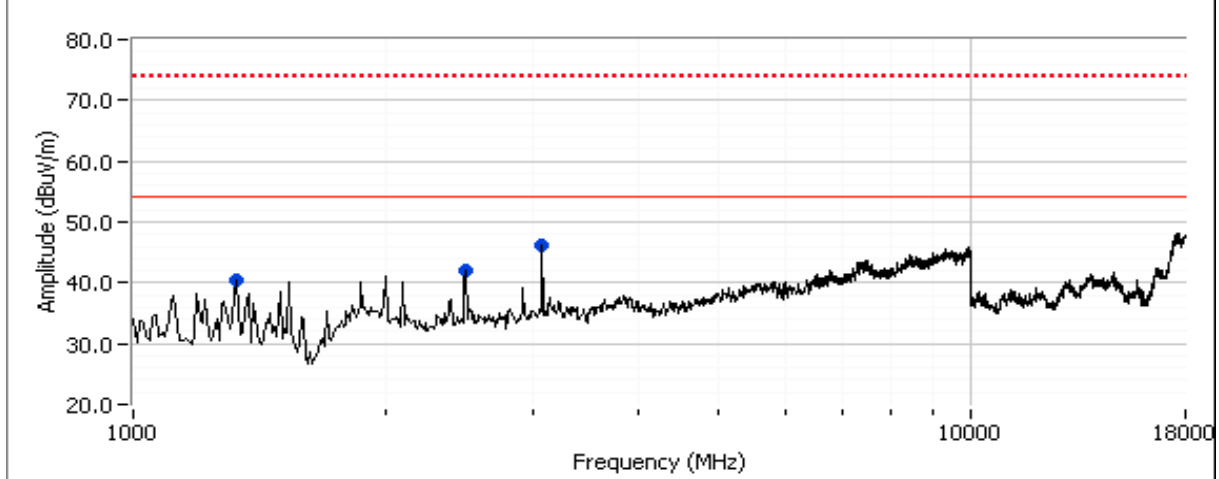
Date: 2/4/2010

Test Engineer: Suhaila Khushzad

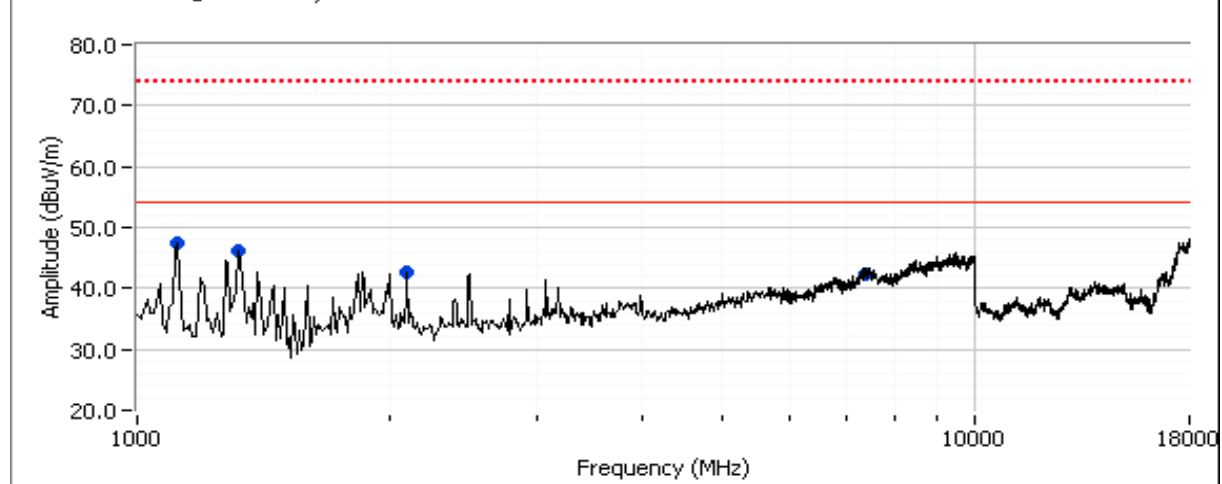
Test Location: Chamber #5

## Run #2: Center Channel (157) @ 5785 MHz, Up Right Orientation

Rx Channel 157 @ 5785 MHz, Horizontal



Rx Channel 157 @ 5785 MHz, Vertical



Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78071
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	PK/QP/Avg	degrees	meters	
3075.810	44.3	H	54.0	-9.7	AVG	190	1.0	RB 1 MHz; VB: 10 Hz
3075.780	48.7	H	74.0	-25.3	PK	190	1.0	RB 1 MHz; VB: 1 MHz
2497.030	31.4	H	54.0	-22.6	AVG	185	0.0	RB 1 MHz; VB: 10 Hz
2499.160	46.3	H	74.0	-27.7	PK	185	0.0	RB 1 MHz; VB: 1 MHz
1329.870	34.4	H	54.0	-19.6	AVG	123	1.0	RB 1 MHz; VB: 10 Hz
1344.730	39.4	H	74.0	-34.6	PK	123	1.0	RB 1 MHz; VB: 1 MHz
1117.500	36.8	V	54.0	-17.2	AVG	105	1.0	RB 1 MHz; VB: 10 Hz
1106.300	40.4	V	74.0	-33.6	PK	105	1.0	RB 1 MHz; VB: 1 MHz
1281.910	38.3	V	54.0	-15.7	AVG	138	1.0	RB 1 MHz; VB: 10 Hz
1300.050	39.9	V	74.0	-34.1	PK	138	1.0	RB 1 MHz; VB: 1 MHz
7411.350	42.4	V	54.0	-11.6	Peak	284	1.9	Peak vs Avg limit
2100.270	42.7	V	54.0	-11.3	Peak	168	1.0	Peak vs Avg limit

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78071
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

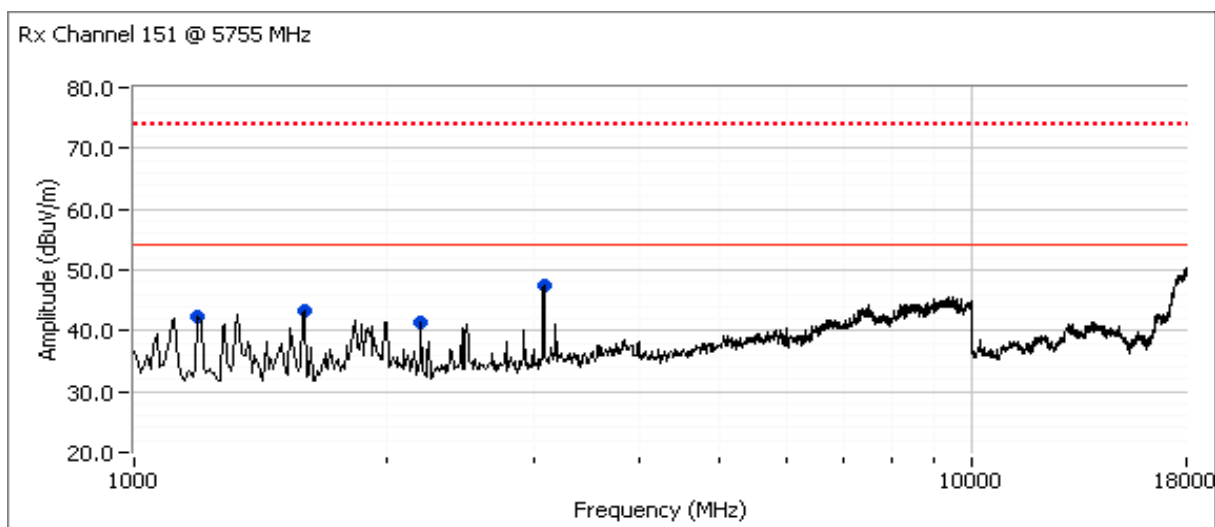
## Run #3: Radiated Spurious Emissions, 1000 - 26500 MHz. Operating Mode: 802.11n40 - CDD - MCS0

Date: 2/4/2010

Test Engineer: Suhaila Khushzad

Test Location: Chamber #4

## Run #3: Center Channel (151) @ 5755 MHz, Up Right Orientation



Frequency	Level	Pol	RSS-GEN		Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3076.150	46.9	V	54.0	-7.1	AVG	51	1.0	MHz; VB: 10 Hz
3076.030	49.5	V	74.0	-24.5	PK	51	1.0	MHz; VB: 1 MHz
1600.070	39.5	V	54.0	-14.5	AVG	209	1.0	MHz; VB: 10 Hz
1600.160	46.6	V	74.0	-27.4	PK	209	1.0	MHz; VB: 1 MHz
1192.620	36.9	V	54.0	-17.1	AVG	178	1.1	MHz; VB: 10 Hz
1197.150	49.5	V	74.0	-24.5	PK	178	1.1	MHz; VB: 1 MHz
2200.210	41.1	V	54.0	-12.9	AVG	194	1.0	MHz; VB: 10 Hz
2200.210	45.3	V	74.0	-28.7	PK	194	1.0	MHz; VB: 1 MHz





## EMC Test Data

Client:	Avaya	Job Number:	J7865
Model:	AP 8120	T-Log Number:	T78130
		Account Manager:	Dean Eriksen
Contact:	Vipin Naik		-
Emissions Standard(s):	FCC 15.247	Class:	-
Immunity Standard(s):	-	Environment:	-

## EMC Test Data

For The

**Avaya**

Model

AP 8120

Date of Last Test: 2/12/2010

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions (802.11b Mode)

### 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: 2/1/2010  
Test Engineer: Suhaila Khushzad/R. Varelas  
Test Location: Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**

Temperature:	20 °C
Rel. Humidity:	50 %

### Summary of Results

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1	-	18.8	Output Power	15.247(b)	Pass	18.8 dBm
2	-	18.8	Power spectral Density (PSD)	15.247(d)	Pass	-1.3 dBm/3kHz
3	-	18.8	Minimum 6dB Bandwidth	15.247(a)	Pass	10.2 MHz
3	-	18.8	99% Bandwidth	RSS GEN	-	13.7 MHz
4	-	18.8	Spurious emissions	15.247(b)	Pass	All Emissions < -30dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

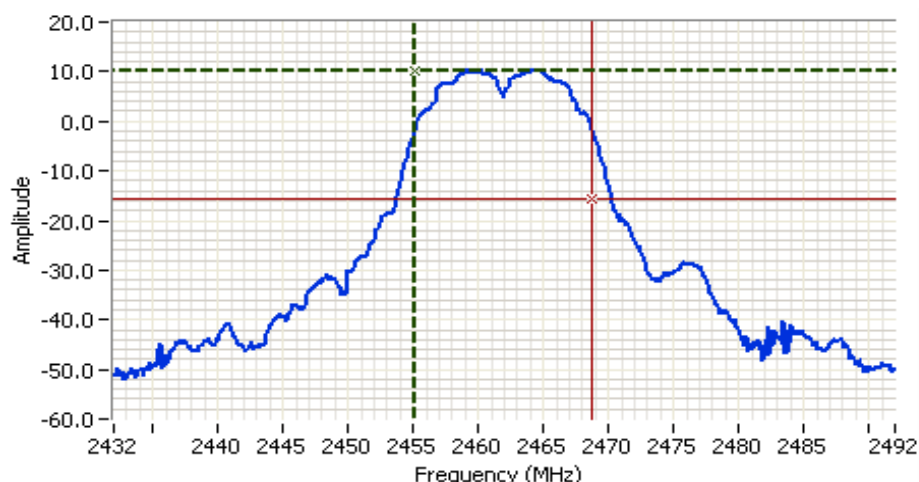
## Run #1: Output Power

Port: Aux

Power Setting <sup>2</sup>	Frequency (MHz)	Output Power (dBm) <sup>1</sup>	mW	Antenna Gain (dBi)	Result	EIRP dBm	W
-	2412	18.1	64.6	5.4	Pass	23.5	0.224
-	2437	18.8	75.9	5.4	Pass	24.2	0.264
-	2462	18.7	74.1	5.4	Pass	24.1	0.258

Note 1: RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power integration over 50 MHz. Spurious limit is -30dBc because this method was used.

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



### Analyzer Settings

Rohde&Schwarz, ESI  
CF: 2462.000 MHz  
SPAN: 60.000 MHz  
RB: 1.000 MHz  
VB: 3.000 MHz  
Detector: SAMPLE  
Attn: 20 DB  
RL Offset: 11.0 DB  
Sweep Time: 5.0ms  
Ref Lvl: 10.0 DBM  
Vavg: 100

### Comments

99% BW: 13.56 MHz  
Power: 18.74dBm

Cursor 1	2455.1600	10.28	+	-	+	-
Cursor 2	2468.7200	-15.72	+	-	+	-

Delta Freq. 13.560  
Delta Amplitude 26.00

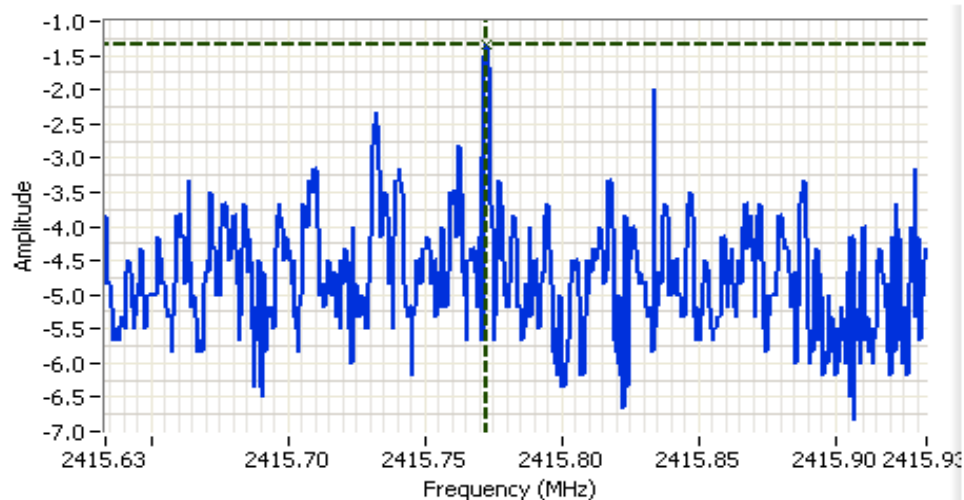
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Port: Aux

Power Setting	Frequency (MHz)	PSD	Limit dBm/3kHz	Result
		(dBm/3kHz) <small>Note 1</small>		
-	2412	-1.3	8.0	Pass
-	2437	-2.0	8.0	Pass
-	2462	-2.7	8.0	Pass

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



### Analyzer Settings

HP8564E,EMI  
CF: 2415.783 MHz  
SPAN:300 kHz  
RB 3.00 kHz  
VB 10.00 kHz  
Detector POS  
Att 20  
RL Offset 11.00  
Sweep Time 100.0s  
Ref Lvl:21.00DBM

### Comments

PSD: -1.33 dBm/3kHz  
802.11b, 2412 Mhz

Cursor 1	2415.7724	-1.33	↕	↔	↖
	0.0000	0.00	↕	↔	↖

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth Port: Aux







Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)	
			6dB	99%
-	2412	100kHz	10.2	13.68
-	2437	100kHz	10.2	13.68
-	2462	100kHz	10.2	13.56

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



**Analyzer Settings**  
 HP8564E,EMICF: 2437.000 MHz  
 SPAN: 50.000 MHz  
 RB: 100 kHz  
 VB: 100 kHz  
 Detector: Normal  
 Attn: 20 DB  
 RL Offset: 11.0 DB  
 Sweep Time: 50.0ms  
 Ref Lvl: 11.3 DBM

**Comments**  
 6dB BW: 10.167 MHz

Cursor 1	2442.4167	9.30			
Cursor 2	2432.2500	3.30			

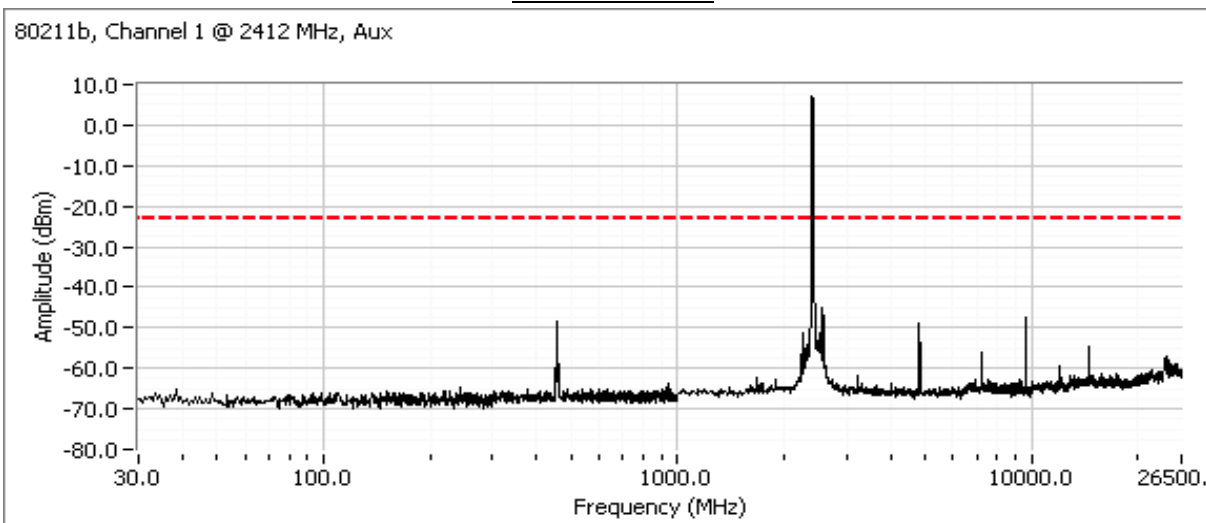
Delta Freq. 10.167  
 Delta Amplitude 6.00

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #4: Out of Band Spurious Emissions Port: Aux

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

### Plots for low channel

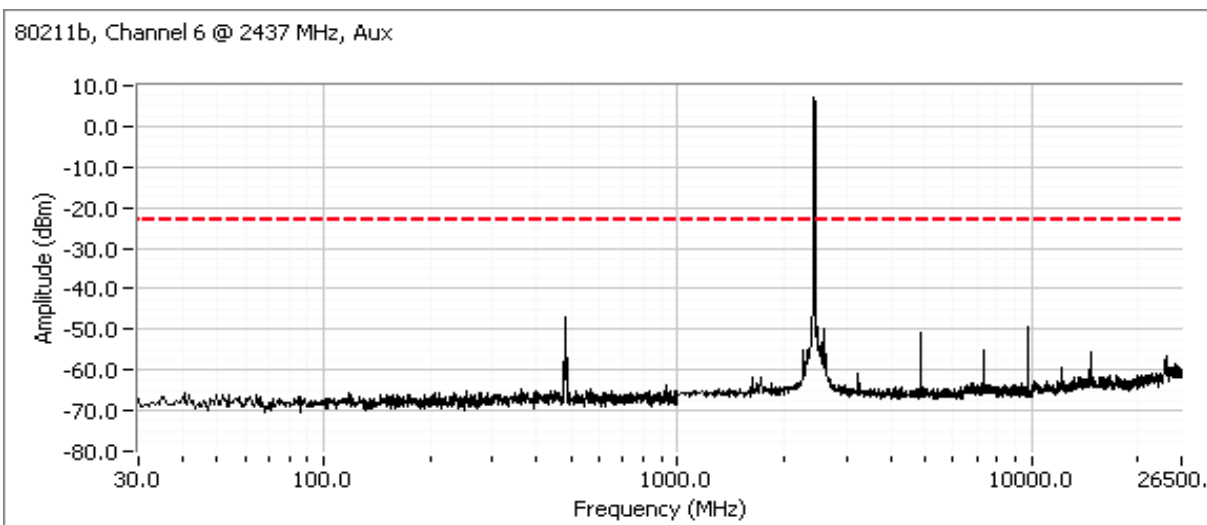


Additional plot showing compliance with -30dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.

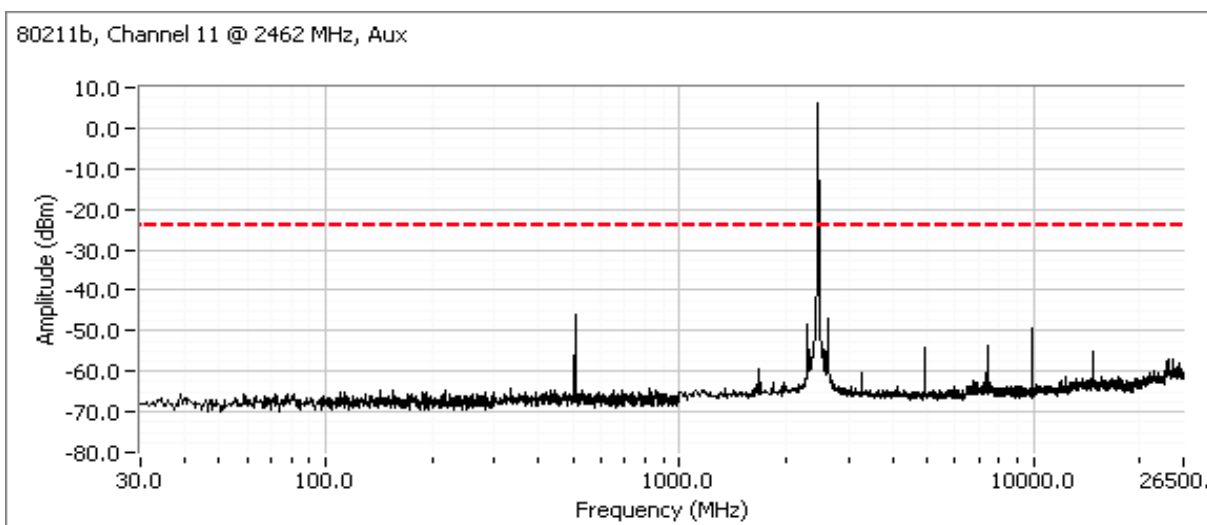


Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel



## Plots for high channel



Client:	Avaya	Job Number:	J7865
Model:	AP 8120	T-Log Number:	T78130
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions (802.11g Mode)

### 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: 2/1/2010	Config. Used: 1
Test Engineer: Suhaila Khushzad/R. Varelas	Config Change: None
Test Location: Chamber #5	EUT Voltage: POE

### General Test Configuration

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

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

Ambient Conditions:	Temperature:	20 °C
	Rel. Humidity:	50 %

### Summary of Results

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1	-	-	Output Power	15.247(b)	Pass	22.9 dBm
2	-	-	Power spectral Density (PSD)	15.247(d)	Pass	-5.1 dBm/3kHz
3	-	-	Minimum 6dB Bandwidth	15.247(a)	Pass	16.4 MHz
3	-	-	99% Bandwidth	RSS GEN	-	18.6 MHz
4	-	-	Spurious emissions	15.247(b)	Pass	All Emissions < -20dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power

Port: Aux

Power Setting <sup>2</sup>	Frequency (MHz)	Output Power		Antenna Gain (dBi)	Result	EIRP	
		(dBm) <sup>1</sup>	mW			dBm	W
-	2412	20.4	109.6	5.4	Pass	25.8	0.381
-	2437	22.9	195.0	5.4	Pass	28.3	0.678
-	2462	19.1	81.3	5.4	Pass	24.5	0.282

Note 1: Output power measured using a peak power meter. The output power limit is 20dBm

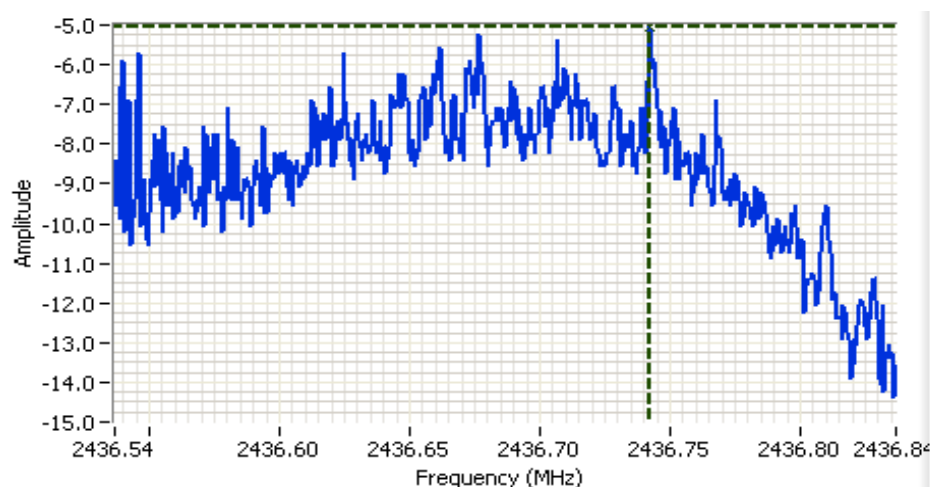
Note 2: Power setting - the software power setting used during testing, included for reference only.

## Run #2: Power spectral Density

Port: Aux

Power Setting	Frequency (MHz)	PSD	Limit	Result
		(dBm/3kHz) <sup>Note 1</sup>		
-	2412	-8.0	8.0	Pass
-	2437	-5.1	8.0	Pass
-	2462	-5.6	8.0	Pass

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



**Analyzer Settings**  
 HP8564E,EMICF: 2436.687 MHz  
 SPAN: 300 kHz  
 RB: 3.00 kHz  
 VB: 10.0 kHz  
 Detector: POS  
 Attn: 20 DB  
 RL Offset: 11.0 DB  
 Sweep Time: 100.0s  
 Ref Lvl: 12.1 DBM

**Comments**  
 PSD = -5.07 dBm/3kHz

Cursor 1 2436.7422 -5.07  
 0.0000 0.00

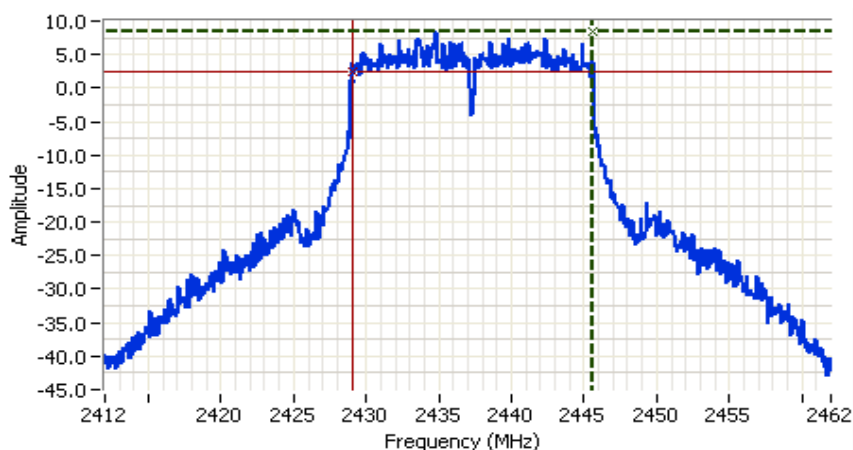
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Port: Aux

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)	
			6dB	99%
-	2412	100kHz	16.5	18.6
-	2437	100kHz	16.5	18.6
-	2462	100kHz	16.4	18.2

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

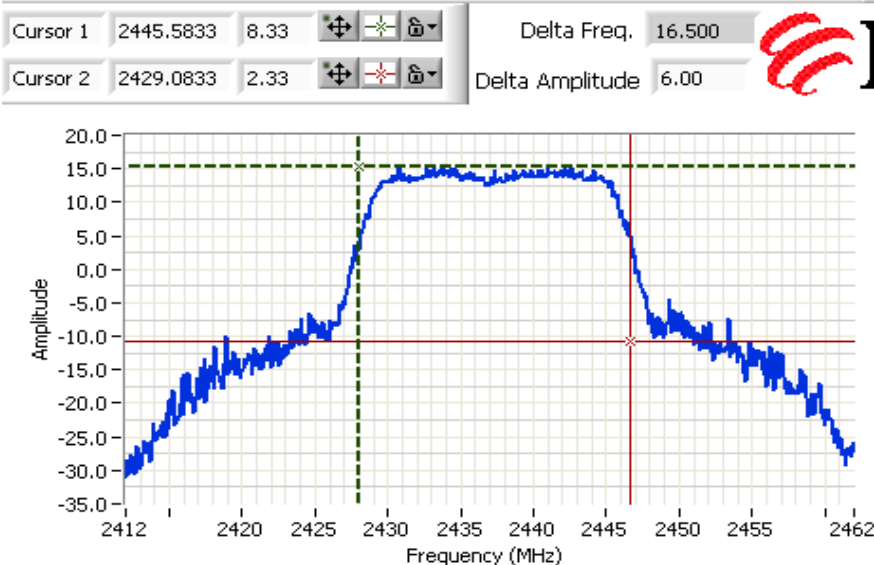


### Analyzer Settings

HP8564E,EMICF: 2437.000 MHz  
SPAN: 50.000 MHz  
RB: 100 kHz  
VB: 100 kHz  
Detector: Sample  
Attn: 30 DB  
RL Offset: 11.0 DB  
Sweep Time: 1.0s  
Ref Lvl: 25.0 DBM

### Comments

6dB BW: 16.50 MHz



### Analyzer Settings

HP8564E,EMI  
CF: 2437.000 MHz  
SPAN: 50.000 MHz  
RB 1.000 MHz  
VB 3.000 MHz  
Detector POS  
Att 20  
RL Offset 11.00  
Sweep Time 50.0ms  
Ref Lvl: 21.00DBM

### Comments

99% BW: 18.63 MHz

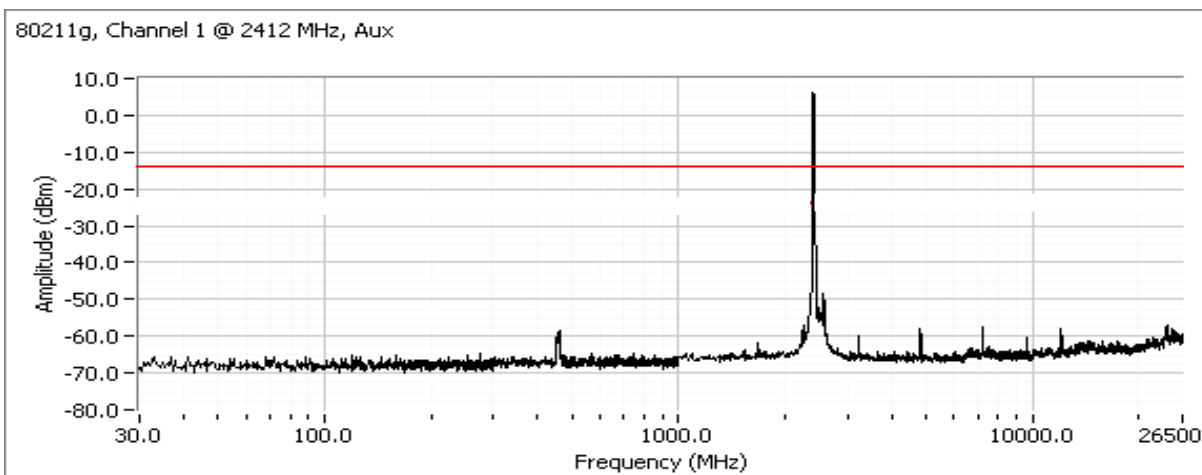
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #4: Out of Band Spurious Emissions

Port: Aux

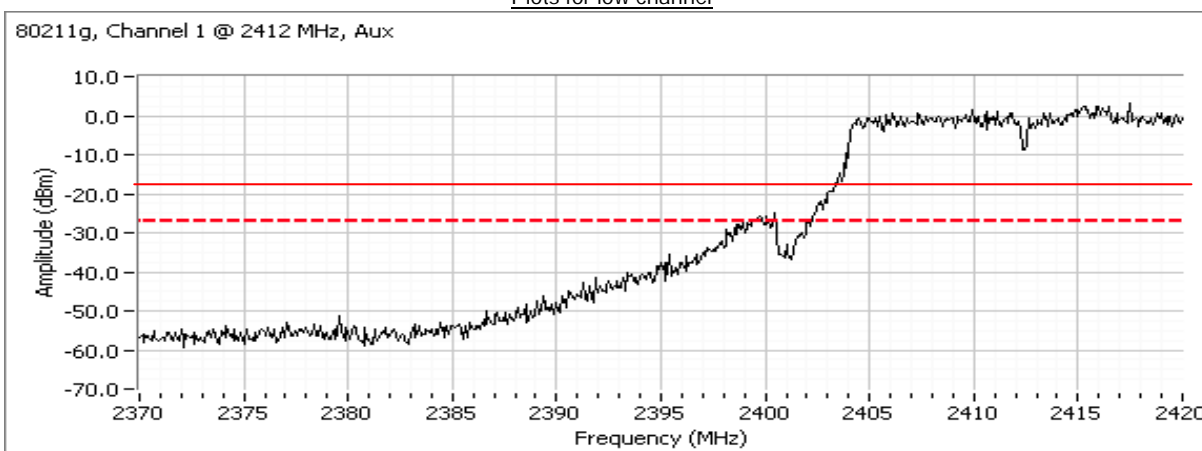
Frequency (MHz)	Limit	Result
2412	-20dBc	Pass
2437	-20dBc	Pass
2462	-20dBc	Pass

Plots for low channel



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

Plots for low channel

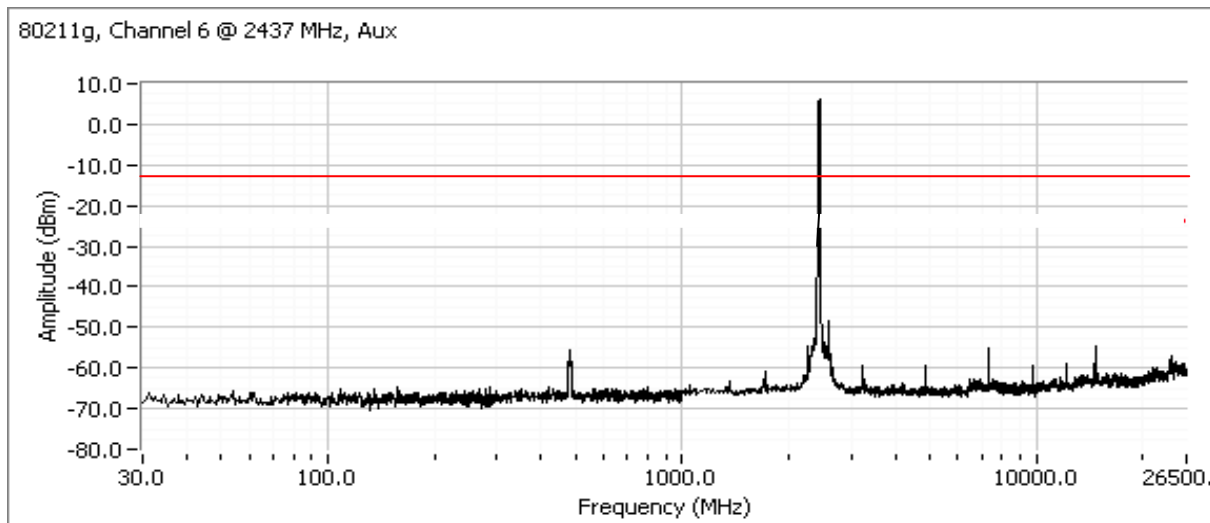


## Band Edge Signal Field Strength - Direct measurement of field strength

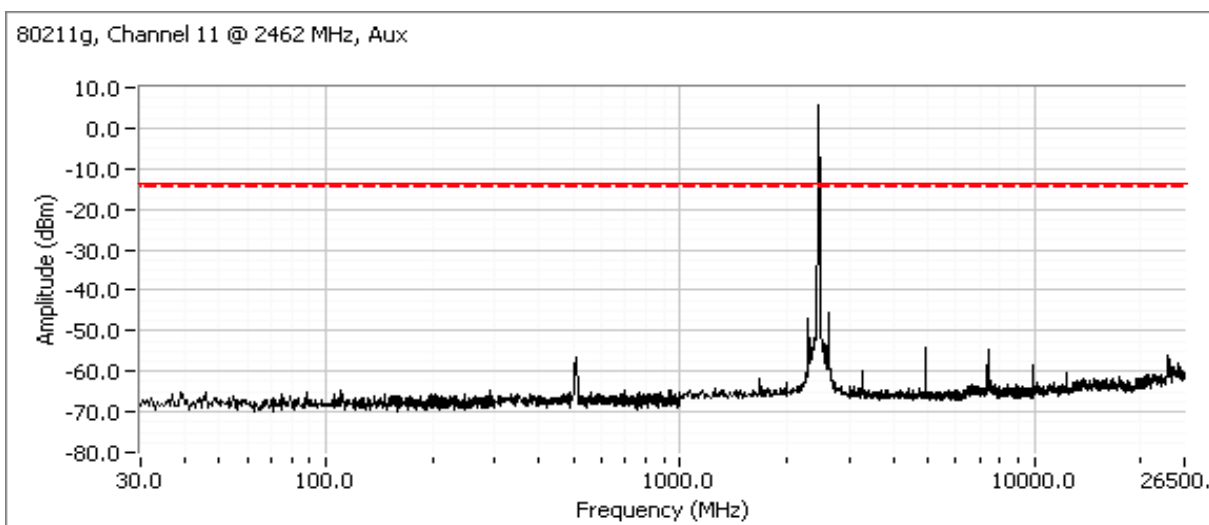
Frequency	Level	Pol	15.209 / 15.247		Comments
MHz	dBc	v/h	Limit	Margin	
2400.000	-25.8	-	-20.0	-5.8	

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel



## Plots for high channel



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements MIMO and Smart Antenna Systems Power, PSD, Bandwidth and Spurious Emissions (2.4GHz n20 CDD)

### 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: 2/1/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #3

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 19.6 °C  
Rel. Humidity: 38 %

### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	25.6 dBm
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-0.6 dBm/3kHz
-	6dB Bandwidth	15.247(a)	Pass	17.7 MHz
-	99% Bandwidth	RSS GEN	Pass	19.1 MHz
3	Spurious emissions	15.247(b)	Pass	All Emissions < -20dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power - Chain A + B

Operating Mode: 802.11n 20 CDD

Transmitted signal on chain is coherent ? yes

2412 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	17.6	18.5			21.1 dBm	0.128 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	23.01	23.91			29.5 dBm	0.892 W		

2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	22.6	22.6			25.6 dBm	0.364 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	28.01	28.01			34.0 dBm	2.530 W		

2462 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	17.7	18.3			21.0 dBm	0.126 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	23.11	23.71			29.4 dBm	0.879 W		

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

Note 2: As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain

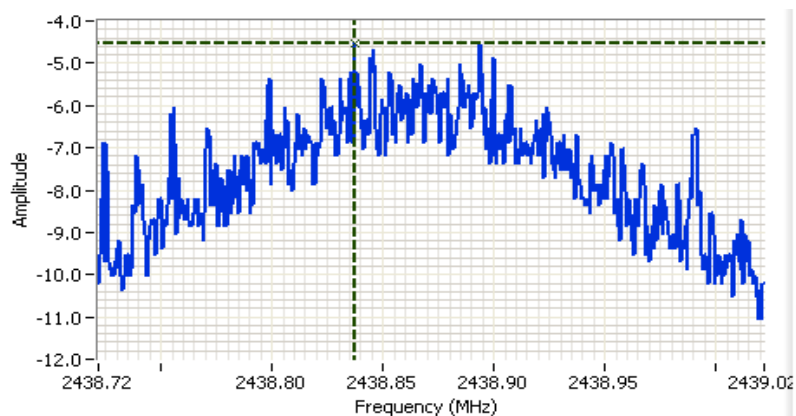
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) <sup>Note 1</sup>				Total	Limit dBm/3kHz	Result
		Chain 1	Chain 2	Chain 3	Chain 4			
-	2412	-9.9	-7.9			-5.8	8.0	Pass
-	2437	-2.9	-4.5			-0.6	8.0	Pass
-	2462	-4.7	-4.4			-1.5	8.0	Pass

Note 1:

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

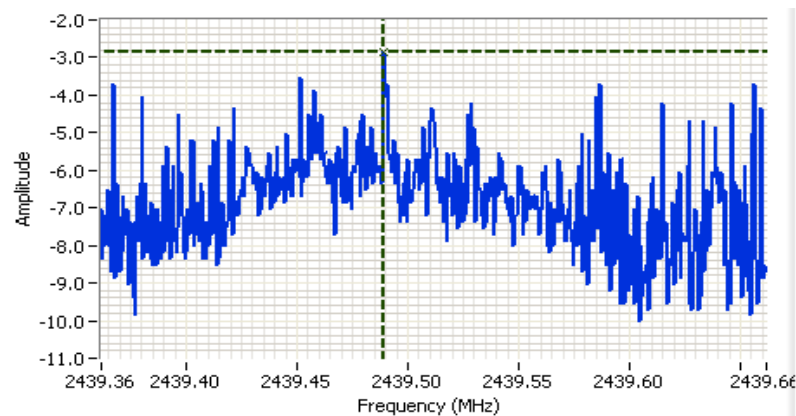
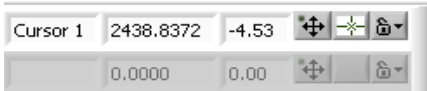


### Analyzer Settings

HP8564E,EMICF: 2438.872 MHz  
SPAN: 300 kHz  
RB: 3.00 kHz  
VB: 10.0 kHz  
Detector: POS  
Attn: 20 DB  
RL Offset: 11.0 DB  
Sweep Time: 100.0s  
Ref Lvl: 15.8 DBM

### Comments

PSD = 2.5 dBm/3kHz  
2437 MHz, Chain 2

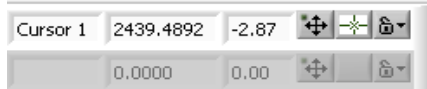


### Analyzer Settings

HP8564E,EMICF: 2439.512 MHz  
SPAN: 300 kHz  
RB: 3.00 kHz  
VB: 10.0 kHz  
Detector: POS  
Attn: 20 DB  
RL Offset: 11.0 DB  
Sweep Time: 100.0s  
Ref Lvl: 15.8 DBM

### Comments

PSD = -2.9 dBm/3kHz  
2437 MHz, Chain 1



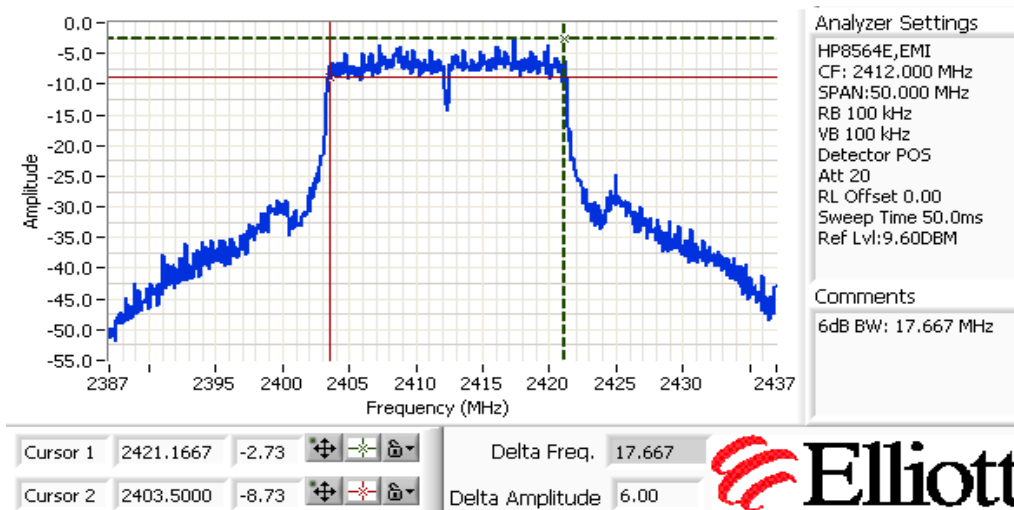
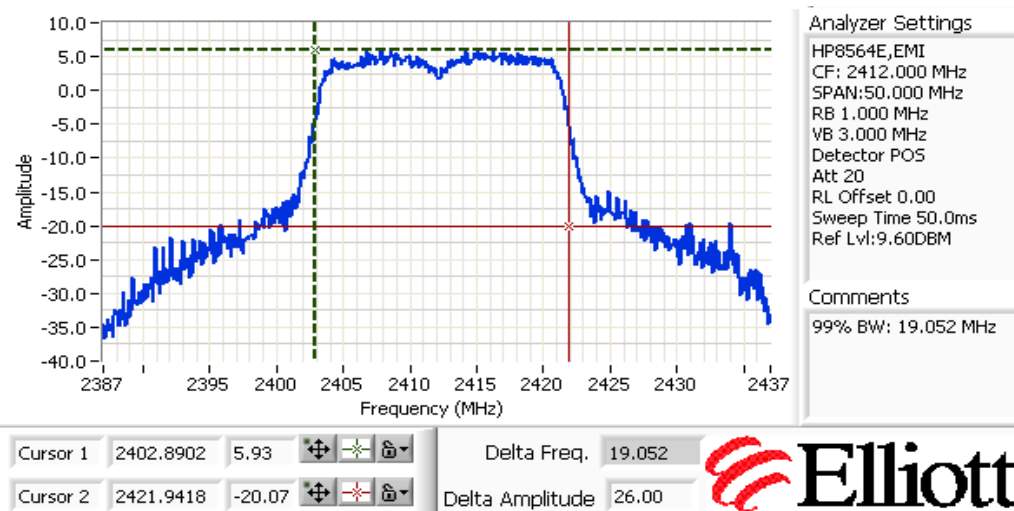
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)	
			6dB	99%
-	2412	100KHz	17.7	19.1
-	2437	100KHz	17.8	19.0
-	2462	100KHz	17.7	19.1

Note 1: Measured on a single chain

Note 2: 99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB





Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

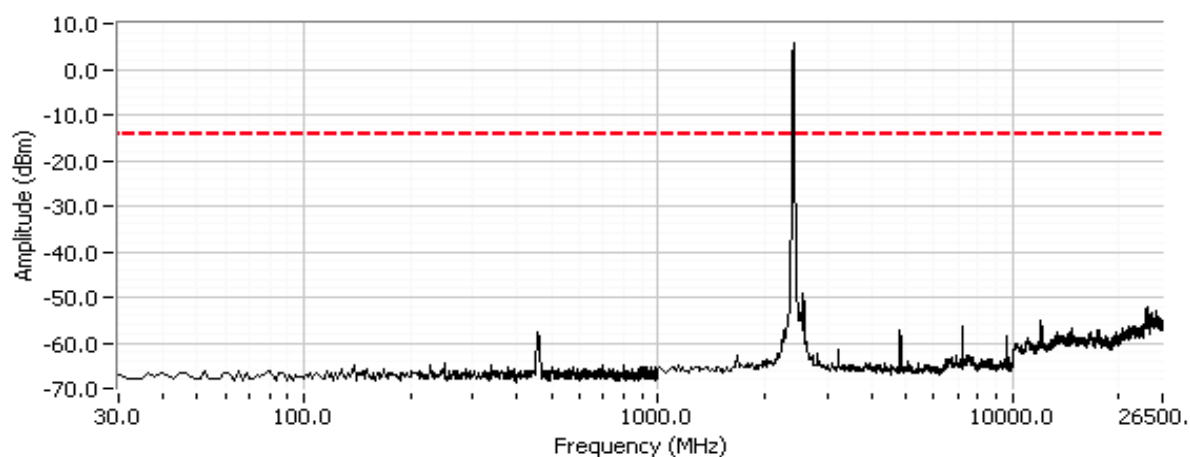
## Run #4: Out of Band Spurious Emissions

Power Setting Per Chain				Frequency (MHz)	Limit	Result
#1	#2	#3	#4			
-	-			2412	-20dBc	Pass
-	-			2437	-20dBc	Pass
-	-			2462	-20dBc	Pass

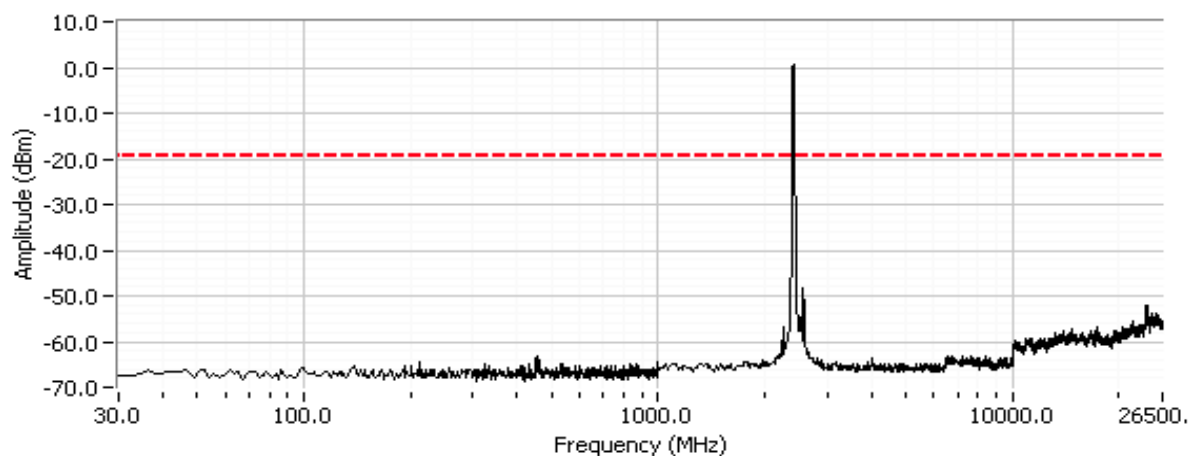
Note 1: Measured on each chain individually

### Plots for low channel

802.11n 20 CDD, Channel 1 @ 2412 MHz, Chain 1

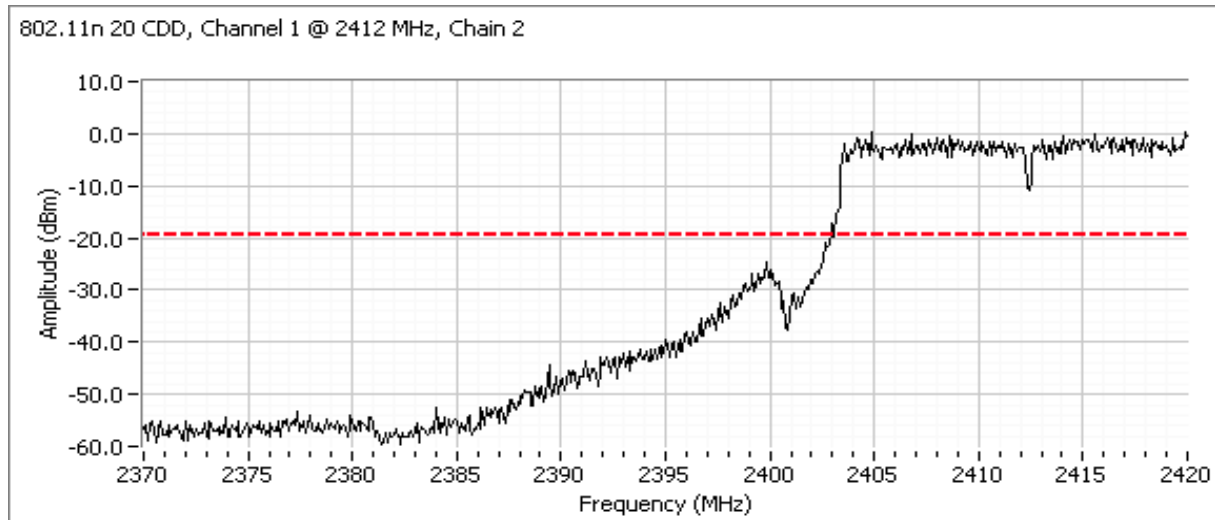
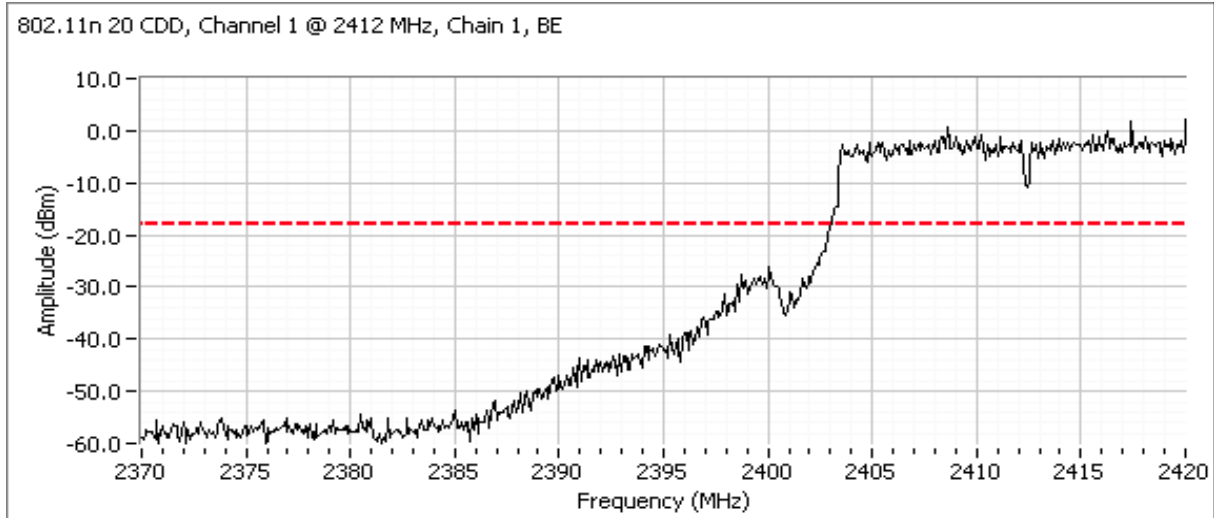


802.11n 20 CDD, Channel 1 @ 2412 MHz, Chain 2



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

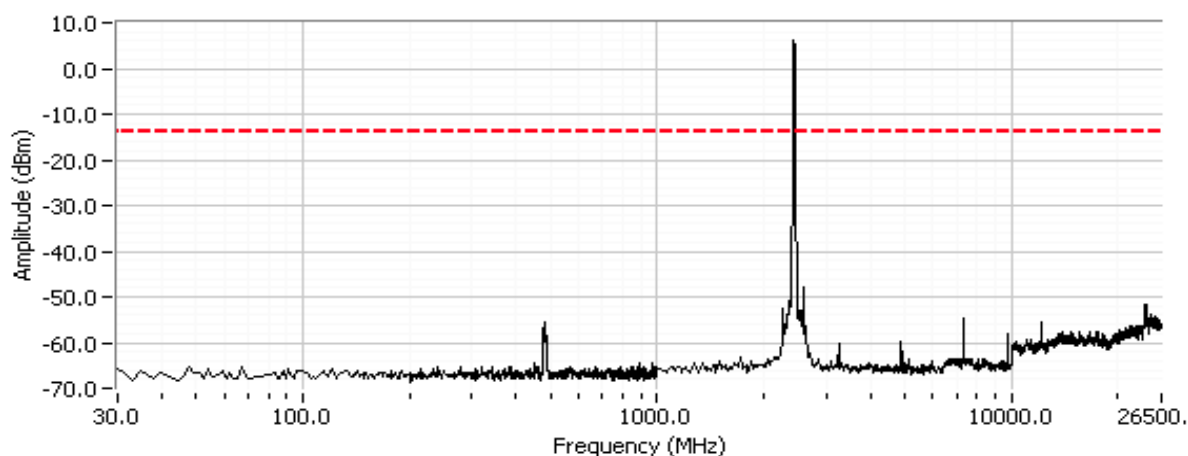
Additional plot showing compliance with -20dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



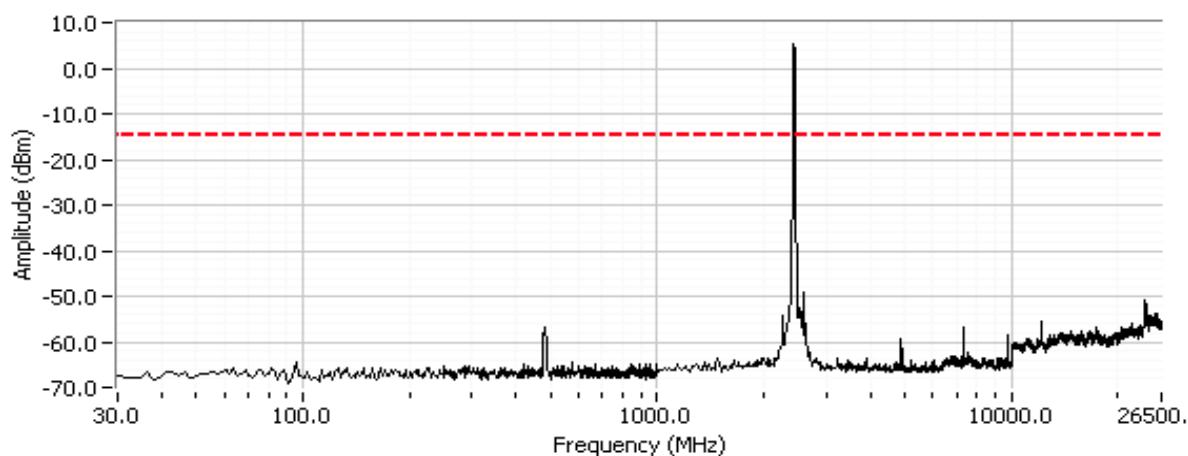
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel

802.11n 20 CDD, Channel 6 @ 2437 MHz, Chain 1



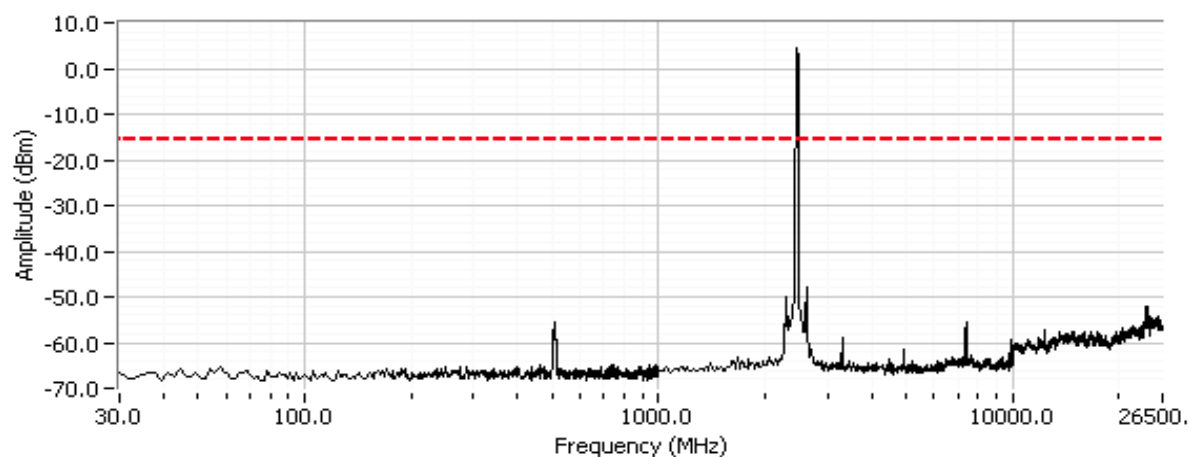
802.11n 20 CDD, Channel 6 @ 2437 MHz, Chain 2



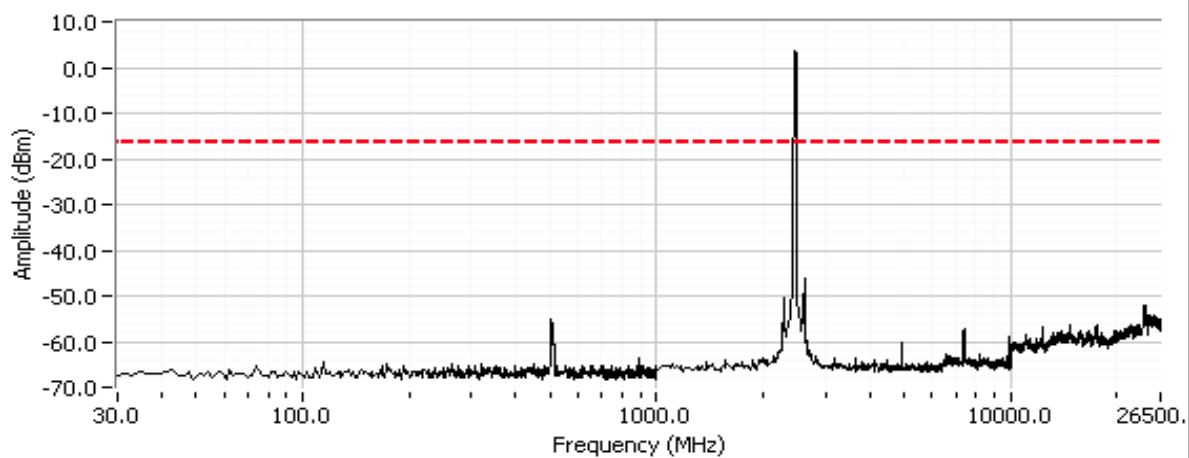
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for high channel

802.11n 20 CDD, Channel 11 @ 2462 MHz, Chain 1



802.11n 20 CDD, Channel 11 @ 2462 MHz, Chain 2



Client:	Avaya	Job Number:	J7865
Model:	AP 8120	T-Log Number:	T78130
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements MIMO and Smart Antenna Systems Power, PSD, Bandwidth and Spurious Emissions(MCS12)

### 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: 2/10/2010  
Test Engineer: Rafael Varelas  
Test Location: Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 19.4 °C  
Rel. Humidity: 41 %

### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	21.0 dBm (126mW)
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-6.5 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	36.5 MHz
3	99% Bandwidth	RSS GEN	-	37.3 MHz
4	Spurious emissions	15.247(b)	Pass	All Emissions <-20dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power - Chain A + B

Operating Mode: 802.11 n40 MHz CDD - MCS12

Transmitted signal on chain is coherent ? yes

2422 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	16.0	17.1			19.6 dBm	0.091 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	21.41	22.51			28.0 dBm	0.633 W		

2437 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	17.4	18.5			21.0 dBm	0.126 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	22.81	23.91			29.4 dBm	0.874 W		

2452 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	14.5	15.3			17.9 dBm	0.062 W	27.6 dBm	0.573 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.41	5.41			8.4 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	19.91	20.71			26.3 dBm	0.431 W		

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

Note 2: As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain

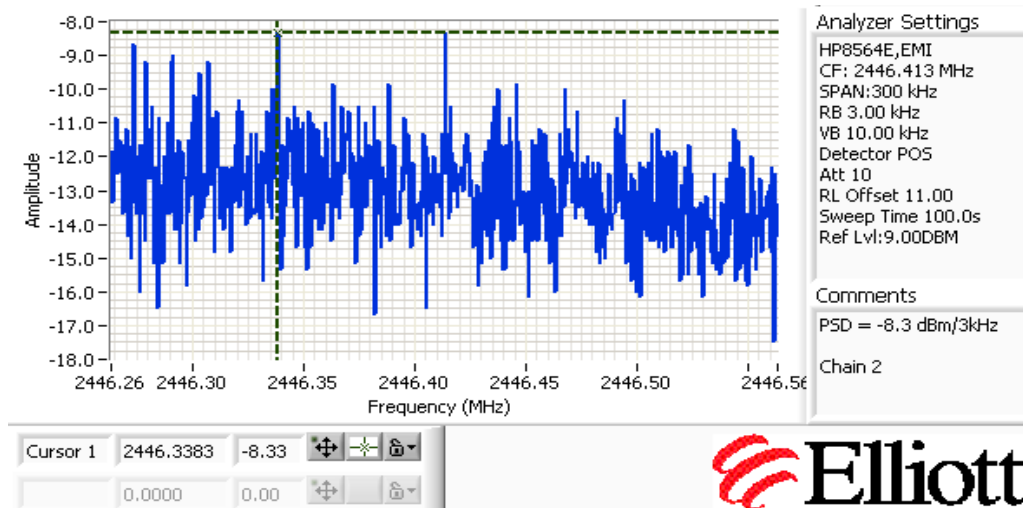
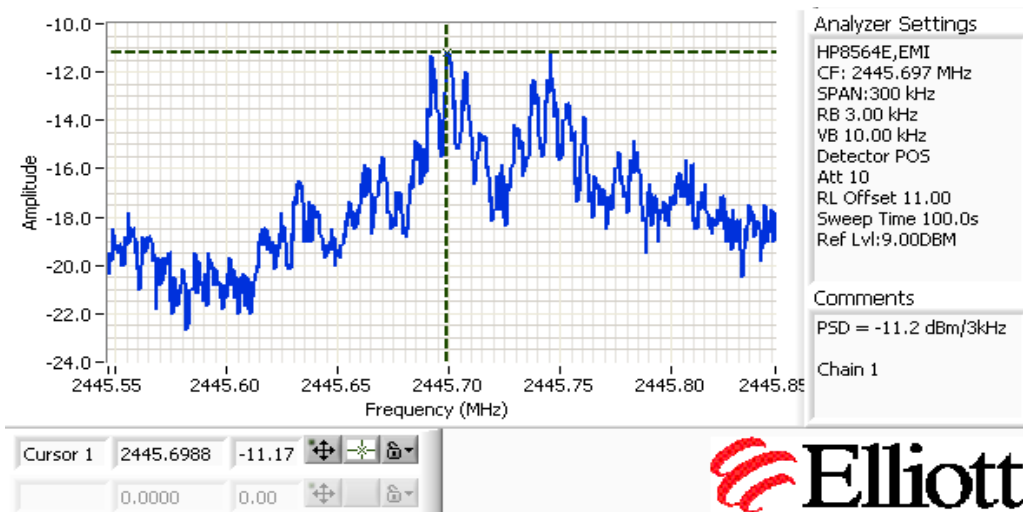
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) <sup>Note 1</sup>				Total	Limit dBm/3kHz	Result
		Chain 1	Chain 2	Chain 3	Chain 4			
-	2422	-11.5	-9.7			-7.5	8.0	Pass
-	2437	-11.2	-8.3			-6.5	8.0	Pass
-	2452	-10.8	-9.3			-7.0	8.0	Pass

Note 1:

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



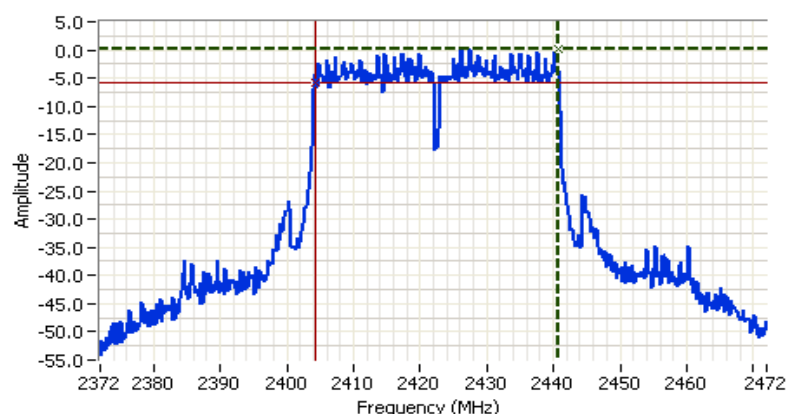
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)
			6dB   99%
-	2422	100kHz	36.5   37.1
-	2437	100kHz	36.8   37.1
-	2452	100kHz	36.7   37.3

Note 1: Measured on a single chain

Note 2: 99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB



### Analyzer Settings

HP8564E,EMI  
CF: 2422.000 MHz  
SPAN:100.000 MHz  
RB 100 kHz  
VB 100 kHz  
Detector POS  
Att 10  
RL Offset 12.00  
Sweep Time 55.0ms  
Ref Lvl:9.90DBM

### Comments

6dB BW: 36.500 MHz

Cursor 1	2440.8333	0.07		Delta Freq.	36.500
Cursor 2	2404.3333	-5.93		Delta Amplitude	6.00



### Analyzer Settings

HP8564E,EMI  
CF: 2452.000 MHz  
SPAN:100.000 MHz  
RB 1.000 MHz  
VB 3.000 MHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 50.0ms  
Ref Lvl:9.00DBM

### Comments

99% BW: 37.271 MHz

Chain 1

Cursor 1	2433.9468	8.00		Delta Freq.	37.271
Cursor 2	2471.2180	-18.00		Delta Amplitude	26.00





Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #4: Out of Band Spurious Emissions

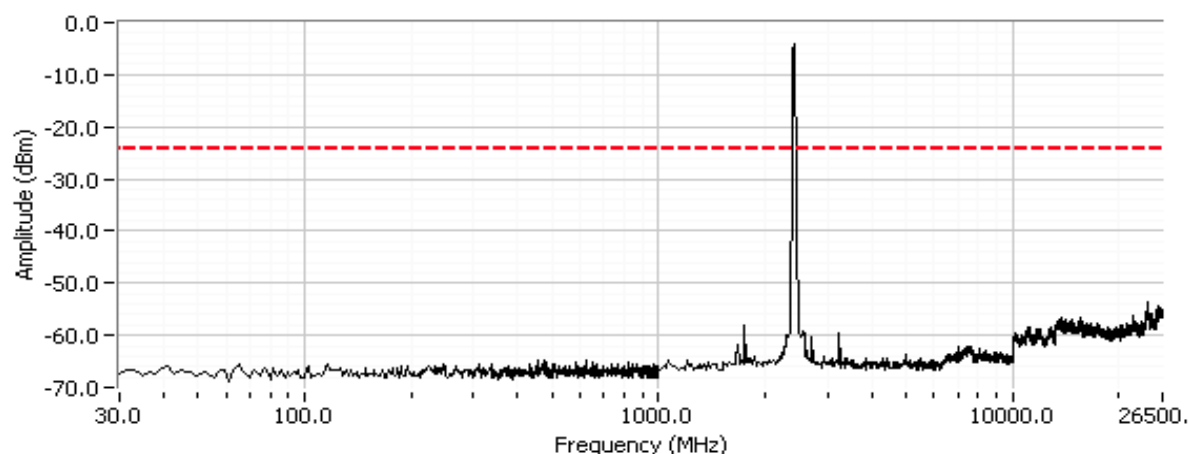
Power Setting Per Chain				Frequency (MHz)	Limit	Result
#1	#2	#3	#4			
-	-			2422	-20dBc	Pass
-	-			2437	-20dBc	Pass
-	-			2452	-20dBc	Pass

Note 1: Measured with all chains connected together through a combiner, unused ports on the combiner terminated in 50ohms.

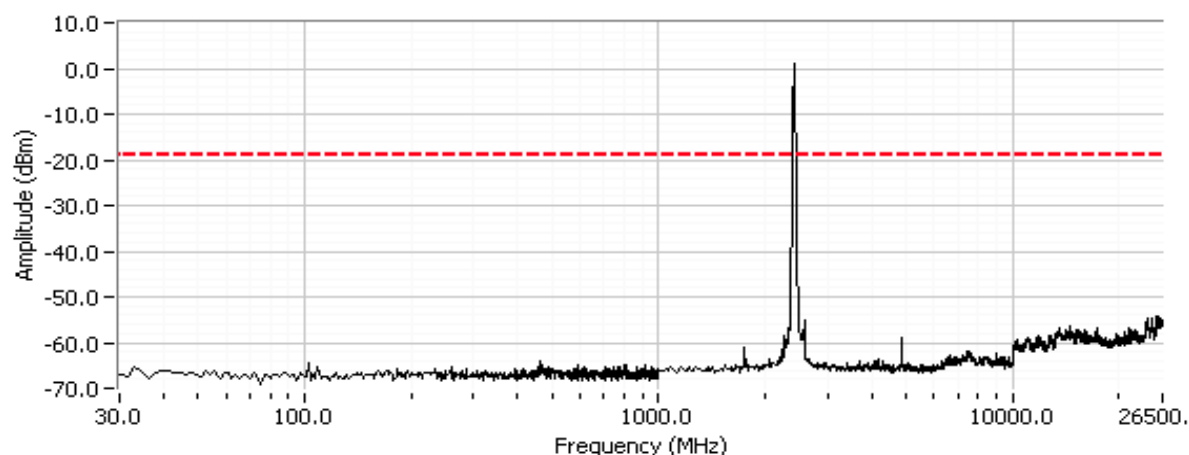
Note 1: Measured on each chain individually

### Plots for low channel

802.11n 40 CDD MCS12, Channel 3 @ 2422 MHz, Chain 1

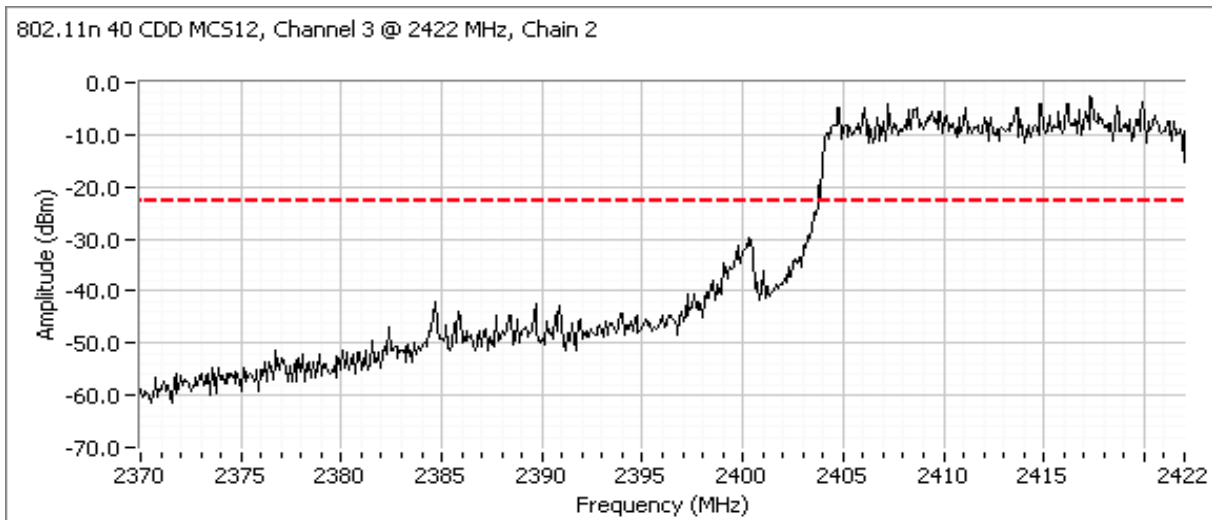
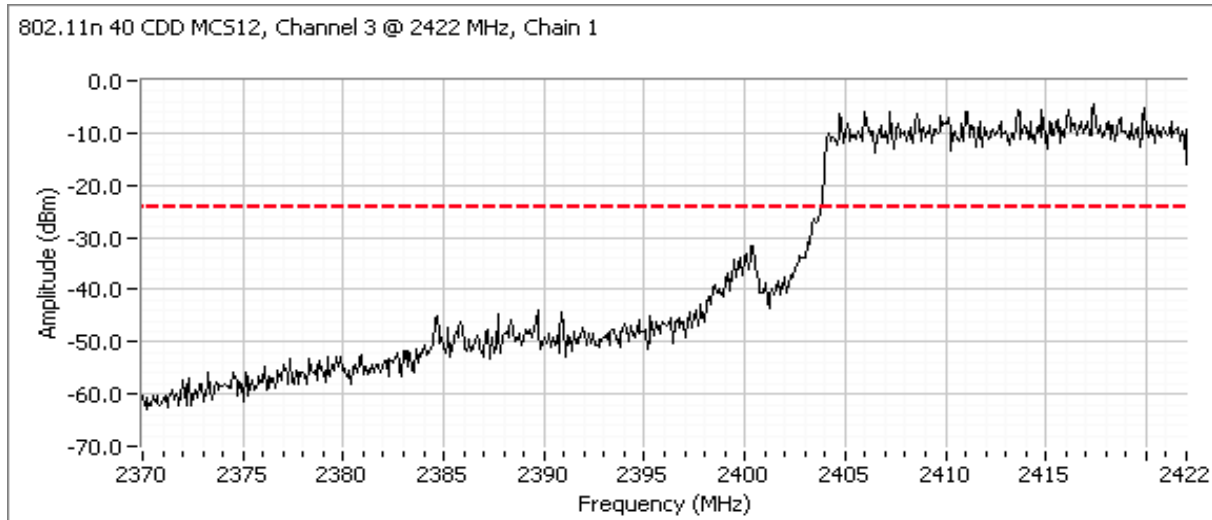


802.11n 40 CDD MCS12, Channel 3 @ 2422 MHz, Chain 2



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

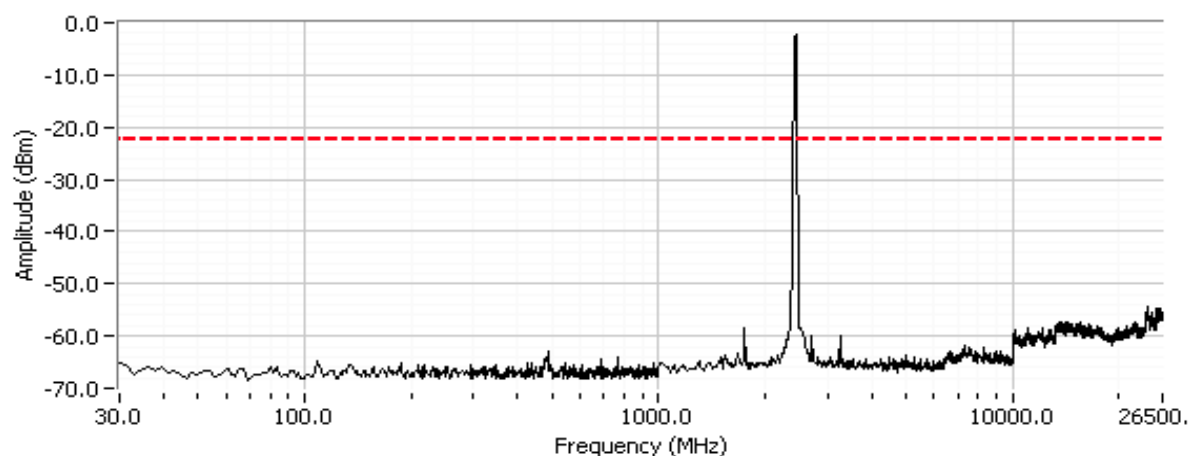
Additional plot showing compliance with -20dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



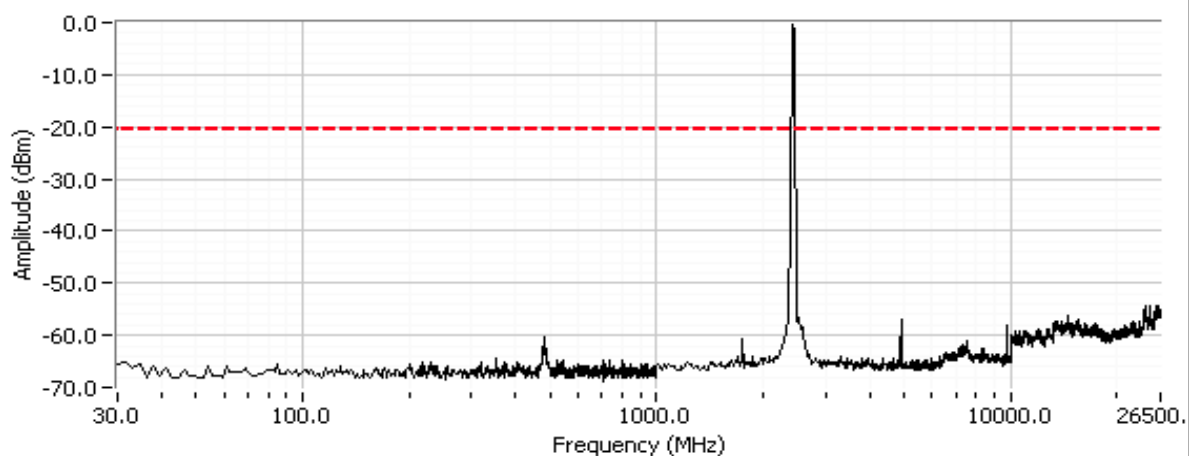
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel

802.11n 40 CDD MCS12, Channel 6 @ 2437 MHz, Chain 1



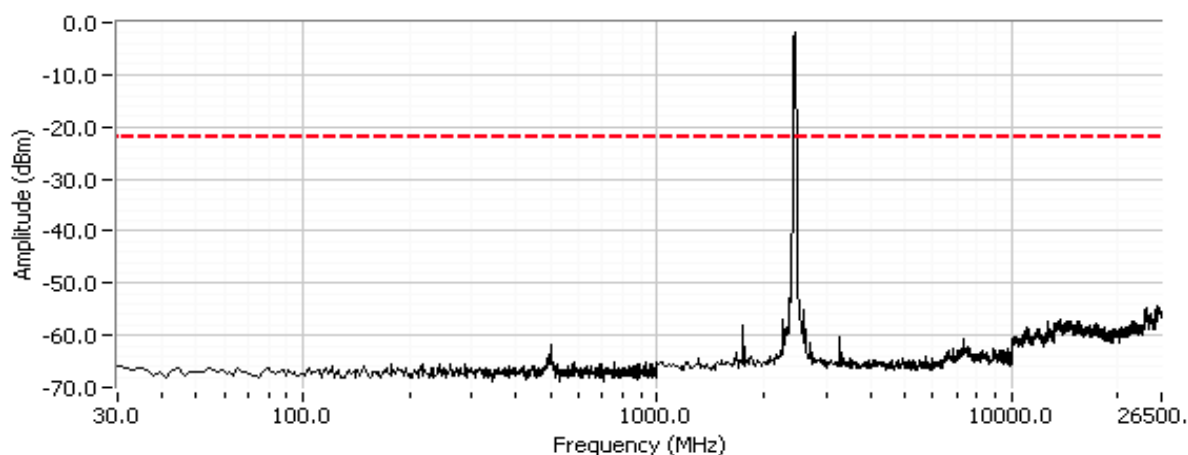
802.11n 40 CDD MCS12, Channel 6 @ 2437 MHz, Chain 2



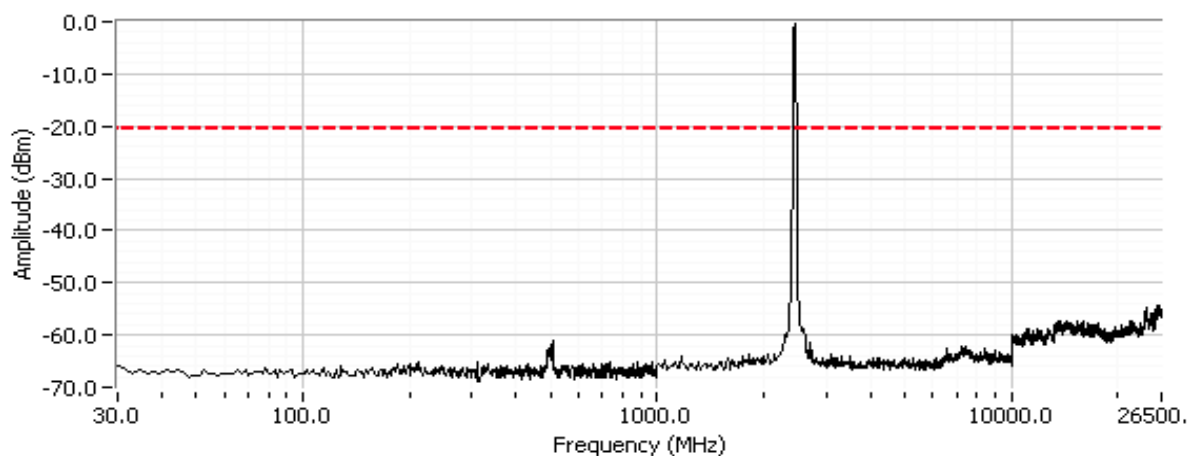
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for high channel

802.11n 40 CDD MCS12, Channel 9 @ 2452 MHz, Chain 1



802.11n 40 CDD MCS12, Channel 9 @ 2452 MHz, Chain 2



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions (MCS0)

### 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: 2/10/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 19.4 °C  
Rel. Humidity: 41 %

### Summary of Results

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1	-	-	Output Power	15.247(b)	Pass	19.1 dBm (81mW)
2	-	-	Power spectral Density (PSD)	15.247(d)	Pass	-10.8 dBm/3kHz
3	-	-	Minimum 6dB Bandwidth	15.247(a)	-	36.7 MHz
3	-	-	99% Bandwidth	RSS GEN	-	37.3 MHz
4	-	-	Spurious emissions	15.247(b)	Pass	All Emissions <-20dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power

Power Setting <sup>2</sup>	Frequency (MHz)	Output Power		Antenna Gain (dBi)	Result	EIRP <sup>Note 2</sup>		Output Power	
		(dBm) <sup>1</sup>	mW			dBm	W	(dBm)	mW
-	2422	16.5	44.7	5.4	Pass	21.9	0.155		
-	2437	19.1	81.3	5.4	Pass	24.5	0.282		
-	2452	15.9	38.9	5.4	Pass	21.3	0.135		

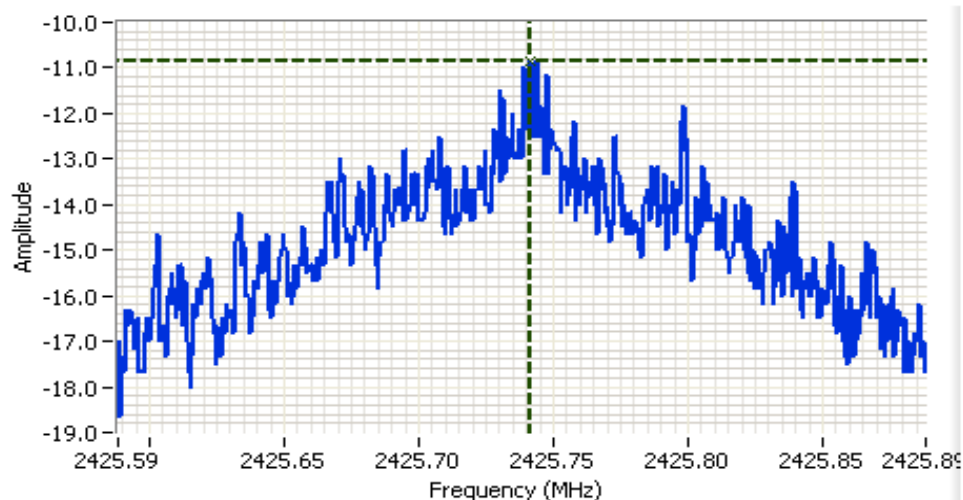
Note 1: Output power measured using a peak power meter.

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

## Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD	Limit	Result
		(dBm/3kHz) <sup>Note 1</sup>		
-	2422	-10.8	8.0	Pass
-	2437	-12.8	8.0	Pass
-	2452	-12.2	8.0	Pass

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



### Analyzer Settings

HP8564E,EMI  
CF: 2425.738 MHz  
SPAN:300 kHz  
RB 3.00 kHz  
VB 10.00 kHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 100.0s  
Ref Lvl:11.00DBM

### Comments

PSD = -10.8 dBm/3kHz

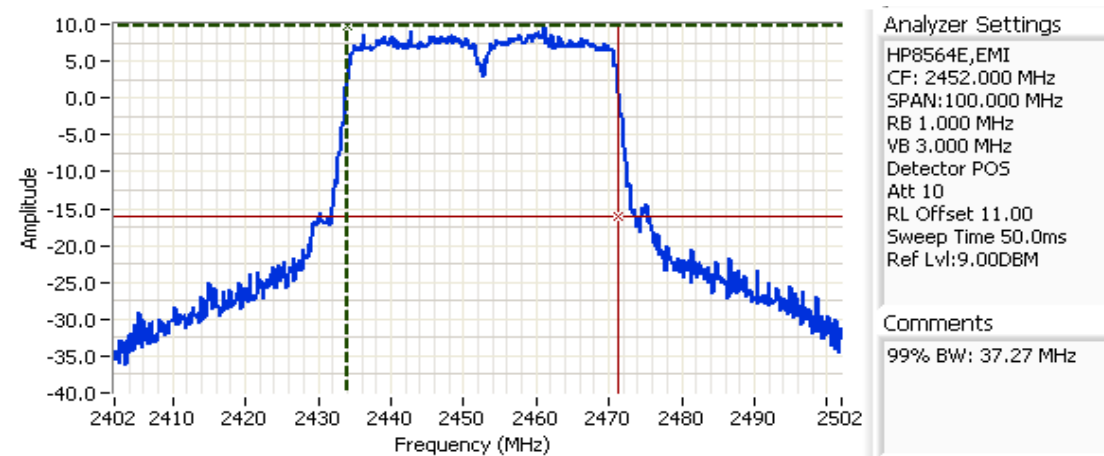
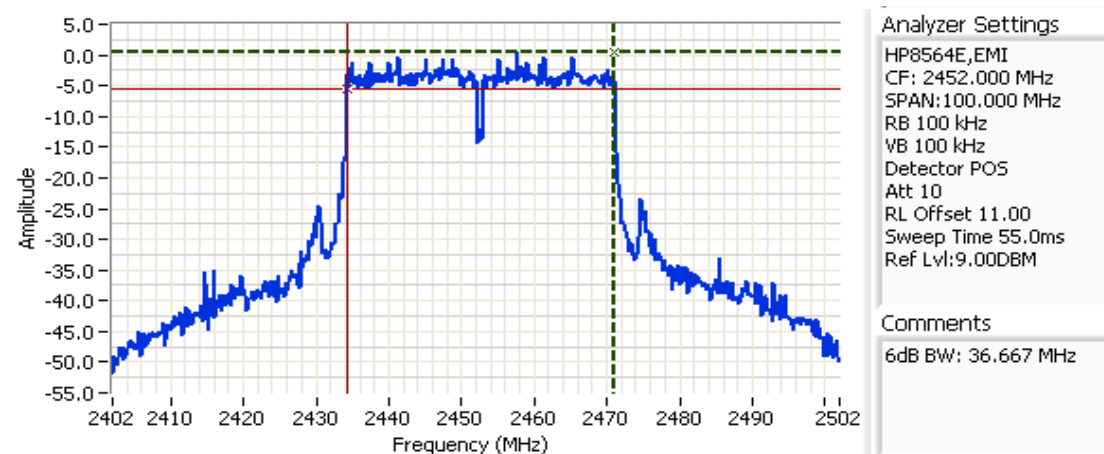
Cursor 1	2425.7418	-10.83	
	0.0000	0.00	

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)	
			6dB	99%
-	2422	100kHz	36.7	37.3
-	2437	100kHz	36.7	37.1
-	2452	100kHz	36.7	37.3

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

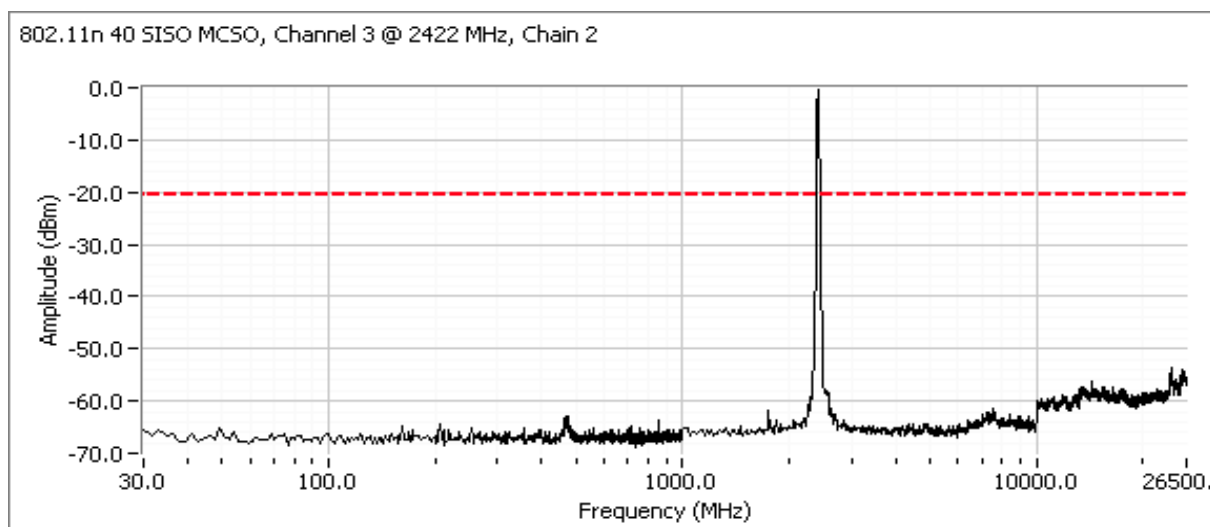


Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

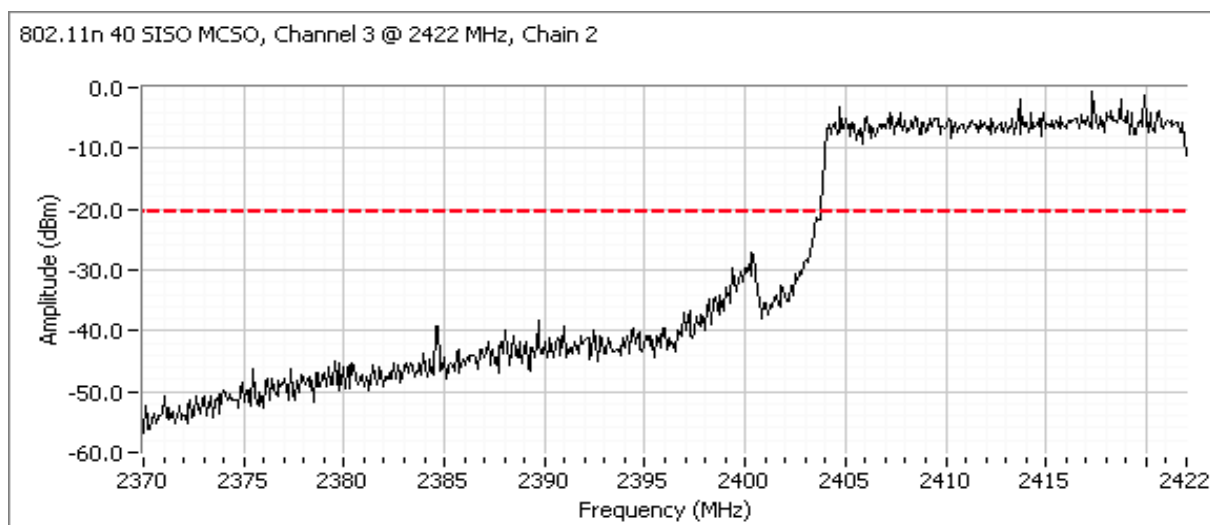
## Run #4: Out of Band Spurious Emissions

Frequency (MHz)	Limit	Result
2422	-20dBc	Pass
2437	-20dBc	Pass
2452	-20dBc	Pass

### Plots for low channel



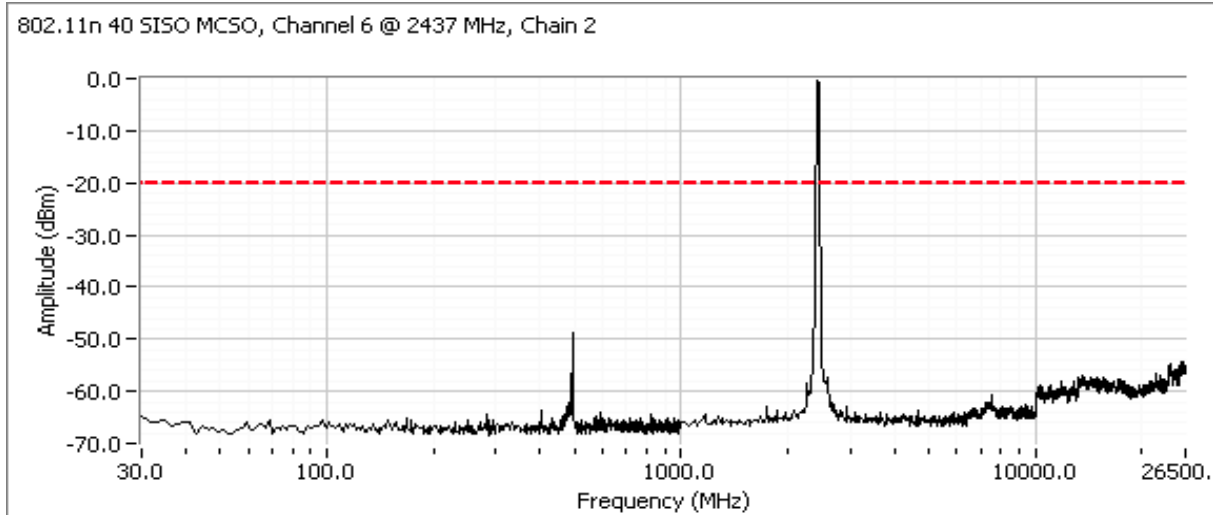
Additional plot showing compliance with -20dBc limit from 2390 MHz to 2400 MHz. Radiated measurements used to show compliance with the limits in the restricted band below 2390 MHz.



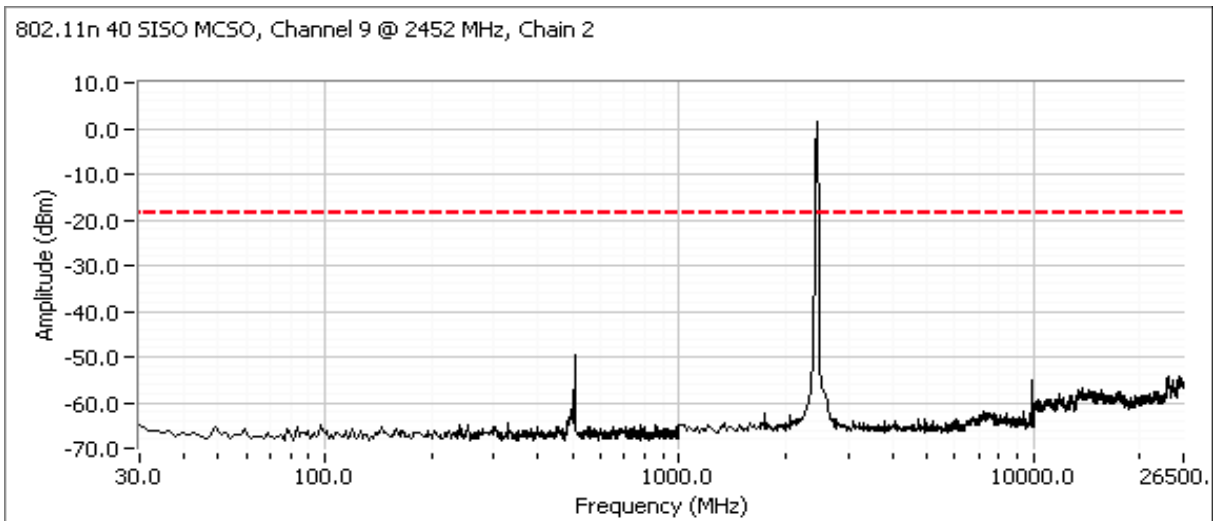


Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel



## Plots for high channel



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements Power, PSD, Bandwidth and Spurious Emissions (5.7GHz Legacy A)

### Test Specific Details

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

Date of Test: 2/2/2010  
Test Engineer: Rafael Varelas  
Test Location: Chamber #4

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 19.4 °C  
Rel. Humidity: 41 %

### Summary of Results

Run #	Pwr setting	Avg Pwr	Test Performed	Limit	Pass / Fail	Result / Margin
1	-	-	Output Power	15.247(b)	Pass	17.1 dBm
2	-	-	Power spectral Density (PSD)	15.247(d)	Pass	-6.5 dBm/3kHz
3	-	-	Minimum 6dB Bandwidth	15.247(a)	Pass	16.3 MHz
3	-	-	99% Bandwidth	RSS GEN	-	17.5 MHz
4	-	-	Spurious emissions	15.247(b)	Pass	All Emissions < -30dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

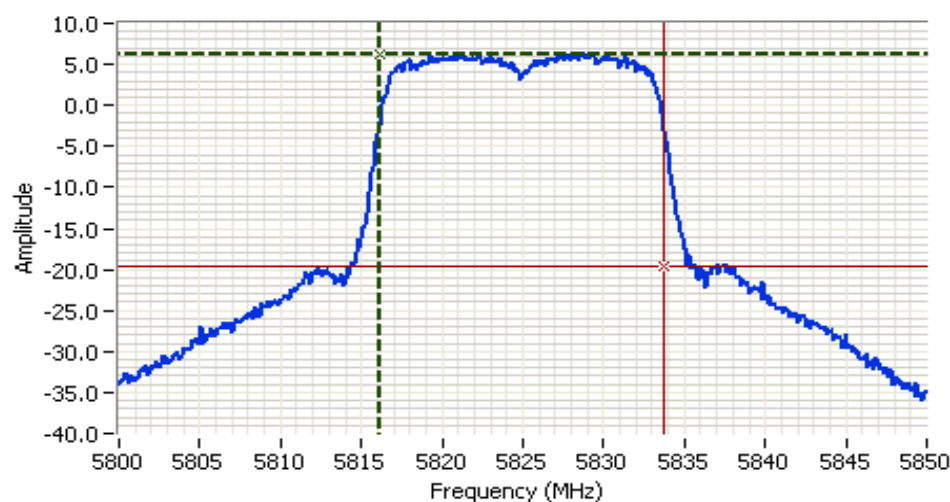
## Run #1: Output Power Port: Main

Power Setting <sup>2</sup>	Frequency (MHz)	Output Power		Antenna Gain (dBi)	Result	EIRP <sup>Note 2</sup>		Output Power	
		(dBm) <sup>1</sup>	mW			dBm	W	(dBm) <sup>3</sup>	mW
-	5745	16.4	43.7	5.1	Pass	21.5	0.141	8.1	6.5
-	5785	16.6	45.7	5.1	Pass	21.7	0.148	8.2	6.6
-	5825	17.1	51.3	5.1	Pass	22.2	0.166	8.5	7.1

Note 1: RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power integration over 50 MHz. Spurious limit is -30dBc because this method was used.

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

Note 3: Power measured using Avg Sensor and is included for reference only.





### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 5825.000 MHz  
SPAN: 50.000 MHz  
RB 1.000 MHz  
VB 3.000 MHz  
Detector Sample  
Att 20  
RL Offset 11.00  
Sweep Time 5.0ms  
Ref Lvl: 10.00DBM

### Comments

99% BW: 17.50 MHz  
Power: 17.05dBm

Cursor 1	5816.2000	6.30	
Cursor 2	5833.7000	-19.70	

Delta Freq. 17.500  
Delta Amplitude 26.00

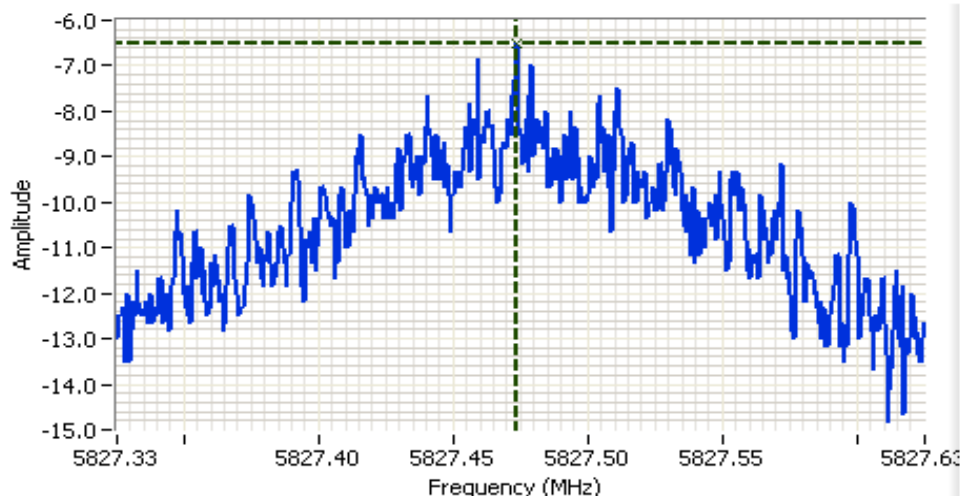
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Port: Main

Power Setting	Frequency (MHz)	PSD	Limit dBm/3kHz	Result
		(dBm/3kHz) <small>Note 1</small>		
-	5745	-8.2	8.0	Pass
-	5785	-7.5	8.0	Pass
-	5825	-6.5	8.0	Pass

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



### Analyzer Settings

HP8564E, EMI  
CF: 5827.475 MHz  
SPAN: 300 kHz  
RB 3.00 kHz  
VB 10.00 kHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 100.0s  
Ref Lvl: 9.00 DBM

### Comments

PSD = -6.5 dBm/3kHz

Cursor 1 5827.4736 -6.50  
0.0000 0.00

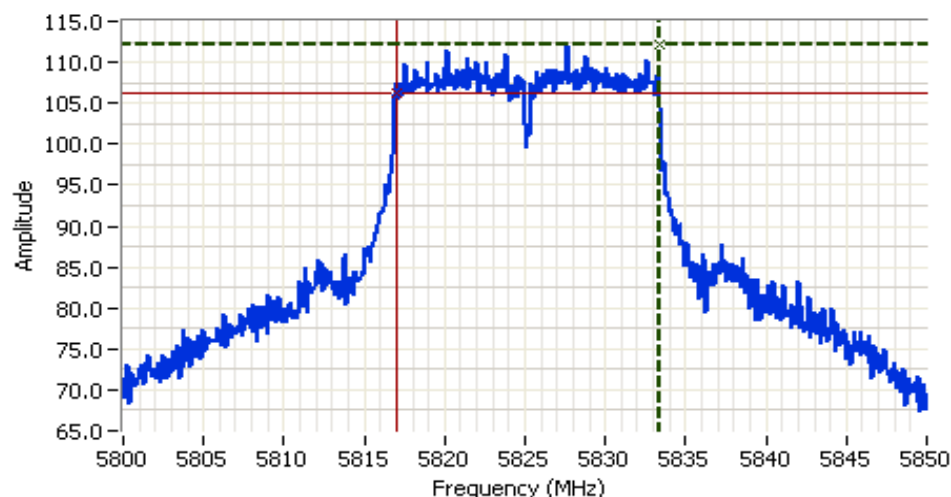
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Port: Main

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)	
			6dB	99%
-	5745	100kHz	16.4	17.4
-	5785	100kHz	16.5	17.5
-	5825	100kHz	16.3	17.5

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









### Analyzer Settings

HP8564E, EMI  
CF: 5825.000 MHz  
SPAN: 50.000 MHz  
RB 100 kHz  
VB 100 kHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 50.0ms  
Ref Lvl: 116.00DBUV

### Comments

6dB BW: 16.33 MHz

Cursor 1	5833.3333	112.17			
Cursor 2	5817.0000	106.17			

Delta Freq. 16.333

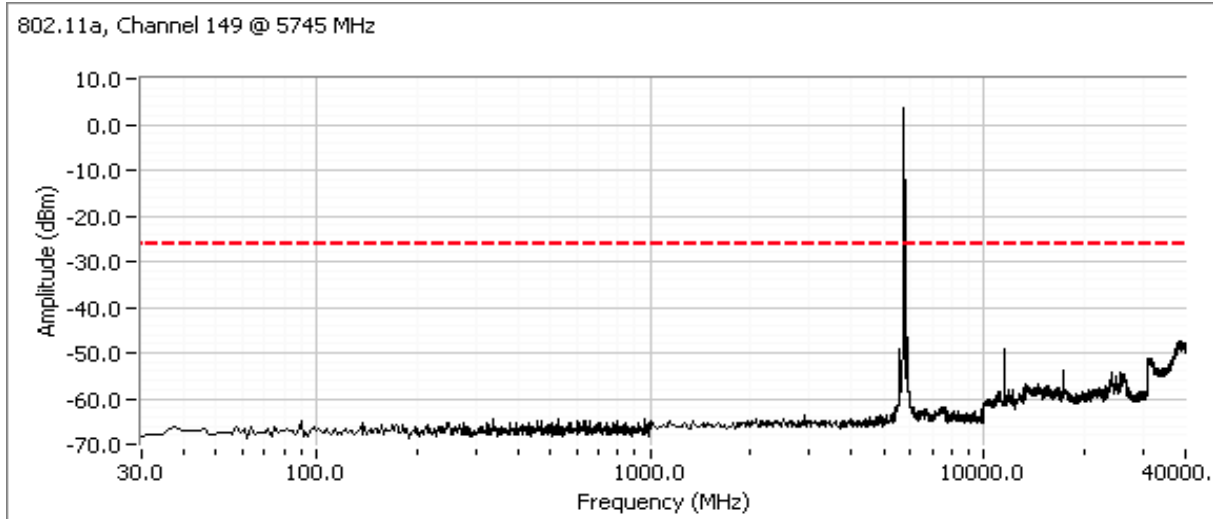
Delta Amplitude 6.00

Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

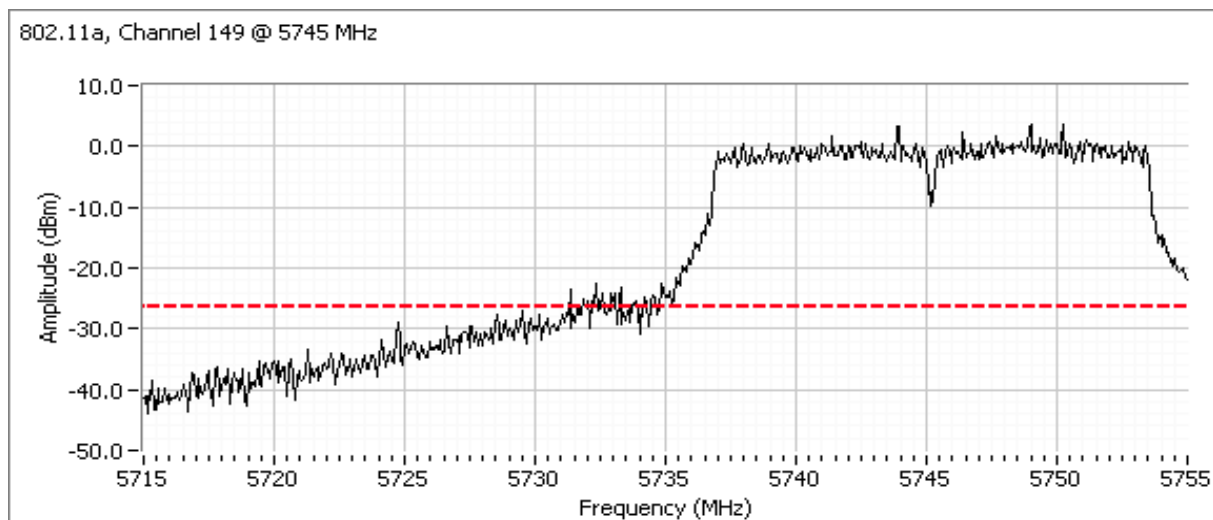
## Run #4: Out of Band Spurious Emissions Port: Main

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

### Plots for low channel



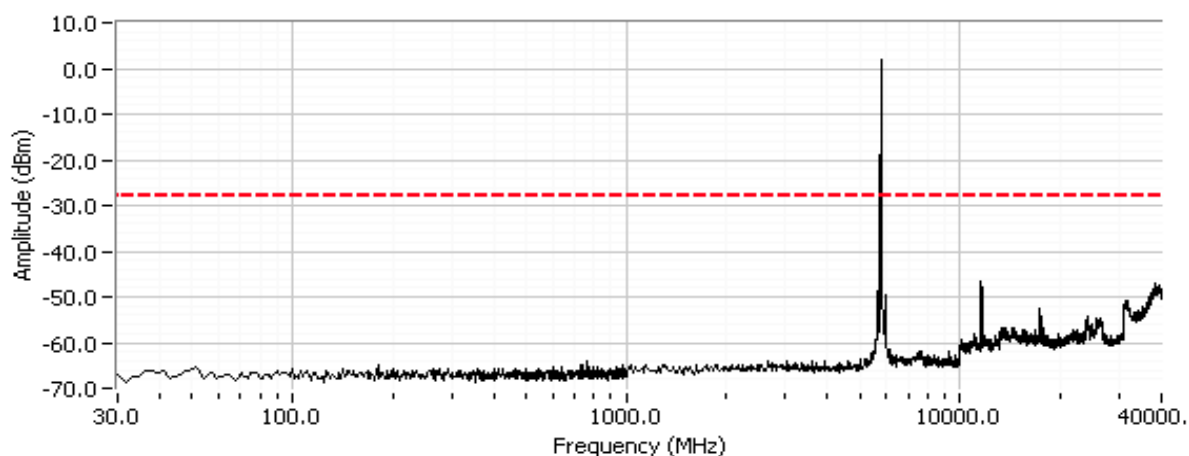
Additional plot from 5715 - 5755 MHz showing compliance with -30dBc at the band edge.



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

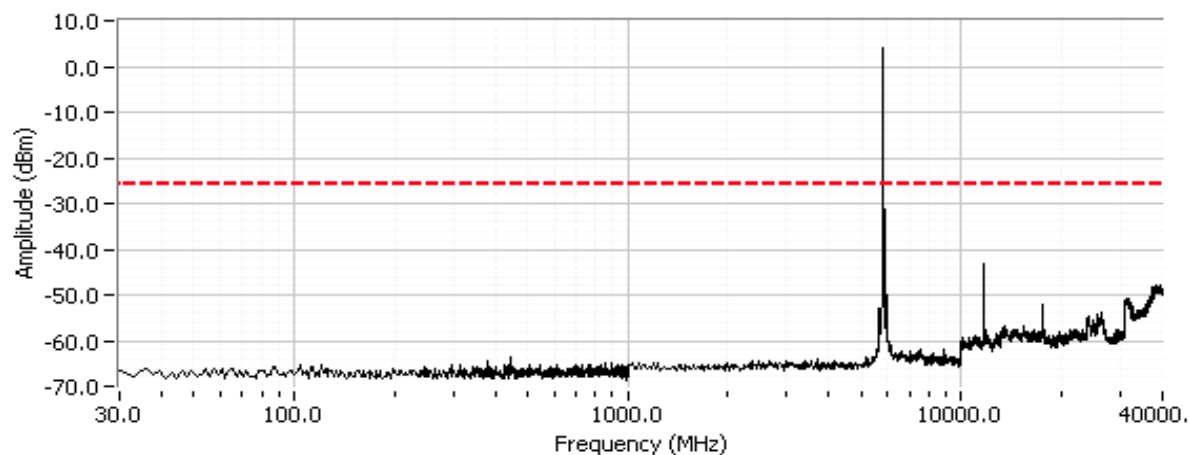
## Plots for center channel

802.11a, Channel 157 @ 5785 MHz



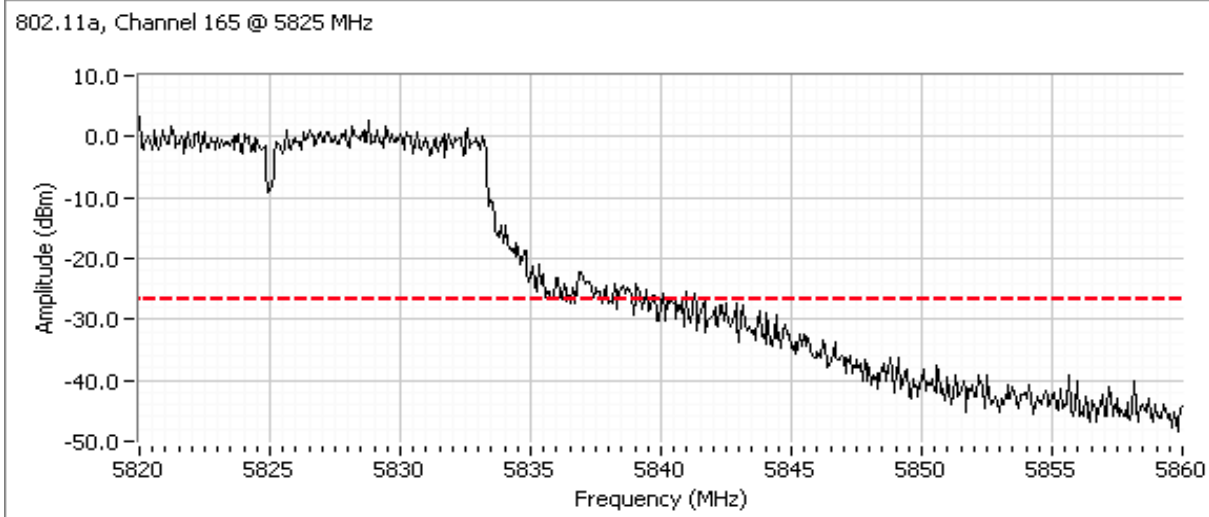
## Plots for high channel

802.11a, Channel 165 @ 5825 MHz



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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





Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements MIMO and Smart Antenna Systems Power, PSD, Bandwidth and Spurious Emissions (5.7GHz 802.11n 20 CDD)

### 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: 2/3/2010  
Test Engineer: Rafael Varelas  
Test Location: Fremont Chamber #4

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 19.2 °C  
Rel. Humidity: 40 %

### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	19.6 dBm
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-3.5 dBm/3kHz
-	6dB Bandwidth	15.247(a)	-	Covered by single-chain measurements
-	99% Bandwidth	RSS GEN	-	
3	Spurious emissions	15.247(b)	Pass	All Emissions < -30dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power - Chain A + B

Operating Mode: 802.11n20 CDD

Transmitted signal on chain is coherent ? yes

5745 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains	Limit
Power Setting <sup>Note 3</sup>	-	-				
Output Power (dBm) <sup>Note 1</sup>	16.3	15.8			19.1 dBm   0.081 W	27.9 dBm   0.617 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.09	5.09			8.1 dBi	
eirp (dBm) <sup>Note 2</sup>	21.39	20.89			27.2 dBm   0.521 W	Pass

5785 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains	Limit
Power Setting <sup>Note 3</sup>	-	-				
Output Power (dBm) <sup>Note 1</sup>	16.9	16.2			19.6 dBm   0.091 W	27.9 dBm   0.617 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.09	5.09			8.1 dBi	
eirp (dBm) <sup>Note 2</sup>	21.99	21.29			27.7 dBm   0.585 W	Pass

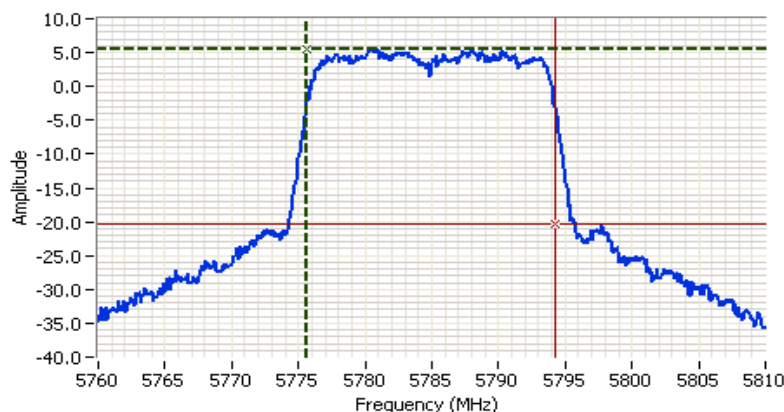
5825 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains	Limit
Power Setting <sup>Note 3</sup>	-	-				
Output Power (dBm) <sup>Note 1</sup>	16.8	16.1			19.5 dBm   0.089 W	27.9 dBm   0.617 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.09	5.09			8.1 dBi	
eirp (dBm) <sup>Note 2</sup>	21.89	21.19			27.6 dBm   0.572 W	Pass

Note 1:

Output power measured using a spectrum analyzer (see plots below) with RBW=1MHz, VB=3 MHz, sample detector, power averaging on (transmitted signal was not continuous but the ESI analyzer was configured with a gated sweep such that the analyzer was only sweeping when the device was transmitting) and power integration over **50 MHz** (reference method 1 of FCC DA 02-2138 for U-NII devices, August 30, 2002). Spurious limit becomes **-30dBc**.

Note 2:

As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain



### Analyzer Settings

Rohde&Schwarz, ESI 7  
CF: 5785.000 MHz  
SPAN: 50.000 MHz  
RB 1.000 MHz  
VB 3.000 MHz  
Detector Sample  
Att 20  
RL Offset 11.00  
Sweep Time 5.0ms  
Ref Lvl: 10.00dBm

### Comments

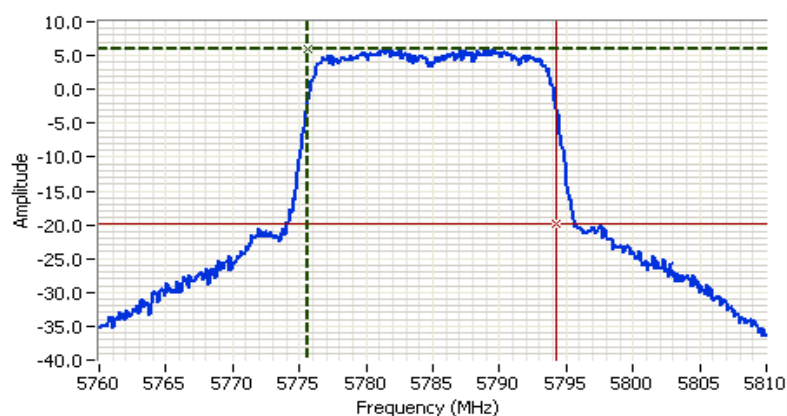
99% BW: 18.60 MHz  
Power span: 16.19dBm

Cursor 1 5775.6000 5.56  
Cursor 2 5794.2000 -20.44

Delta Freq. 18.600  
Delta Amplitude 26.00



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A





## Analyzer Settings

Rohde&Schwarz, ESI 7  
 CF: 5785.000 MHz  
 SPAN: 50.000 MHz  
 RB 1.000 MHz  
 VB 3.000 MHz  
 Detector Sample  
 Att 20  
 RL Offset 11.00  
 Sweep Time 5.0ms  
 Ref Lvl: 10.00dBm

## Comments

99% BW: 18.60 MHz  
 Power span: 16.86dBm

Cursor 1	5775.6000	6.06	
Cursor 2	5794.2000	-19.94	

Delta Freq. 18.600

Delta Amplitude 26.00



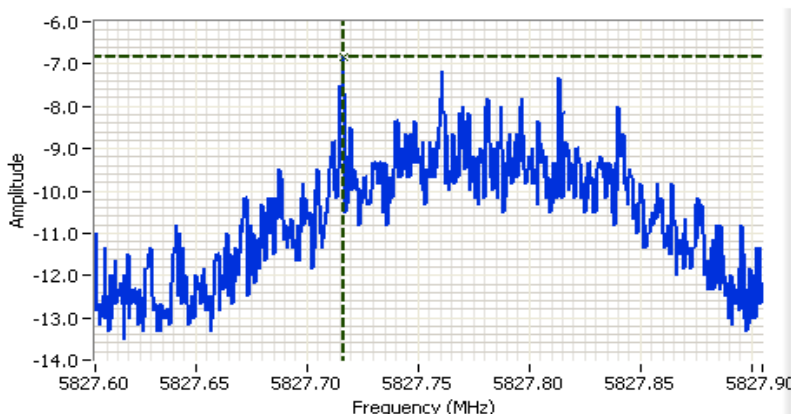
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) <sup>Note 1</sup>				Total	Limit dBm/3kHz	Result
		Chain 1	Chain 2	Chain 3	Chain 4			
-	5745	-8.2	-7.5			-4.8	8.0	Pass
-	5785	-8.2	-9.2			-5.7	8.0	Pass
-	5825	-6.3	-6.8			-3.5	8.0	Pass

Note 1:

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

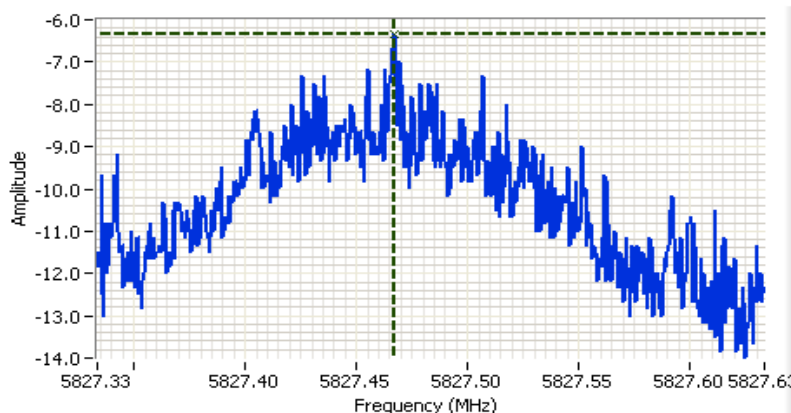
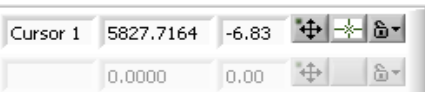


### Analyzer Settings

HP8564E,EMI  
CF: 5827.755 MHz  
SPAN:300 kHz  
RB 3.00 kHz  
VB 10.00 kHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 100.0s  
Ref Lvl:9.00DBM

### Comments

PSD = -6.8 dBm/3kHz

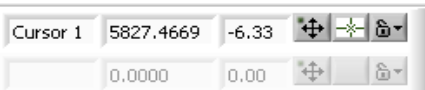


### Analyzer Settings

HP8564E,EMI  
CF: 5827.483 MHz  
SPAN:300 kHz  
RB 3.00 kHz  
VB 10.00 kHz  
Detector POS  
Att 10  
RL Offset 11.00  
Sweep Time 100.0s  
Ref Lvl:9.00DBM

### Comments

PSD = -6.3 dBm/3kHz



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

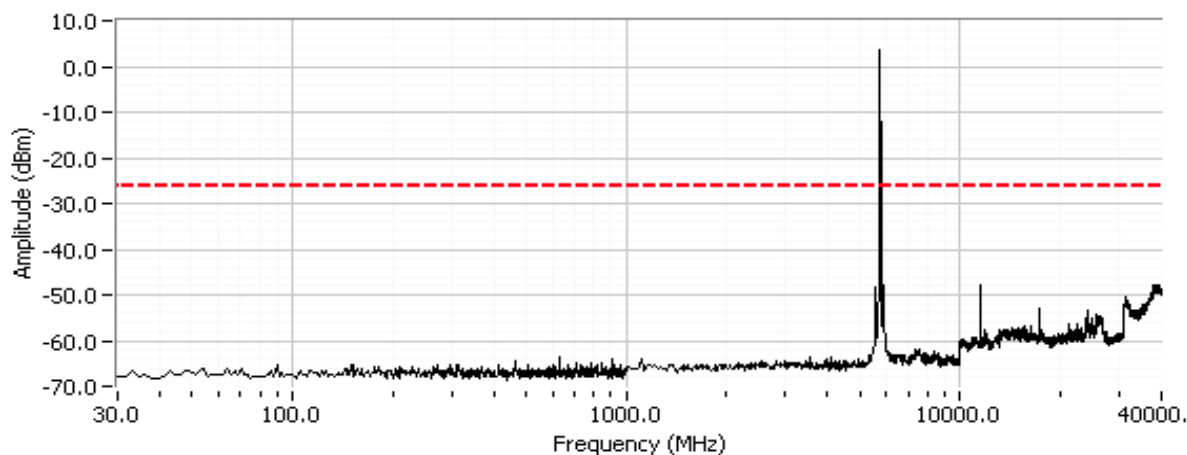
## Run #3: Out of Band Spurious Emissions

Power Setting Per Chain				Frequency (MHz)	Limit	Result
#1	#2	#3	#4			
-	-			5745	-30dBc	Pass
-	-			5785	-30dBc	Pass
-	-			5825	-30dBc	Pass

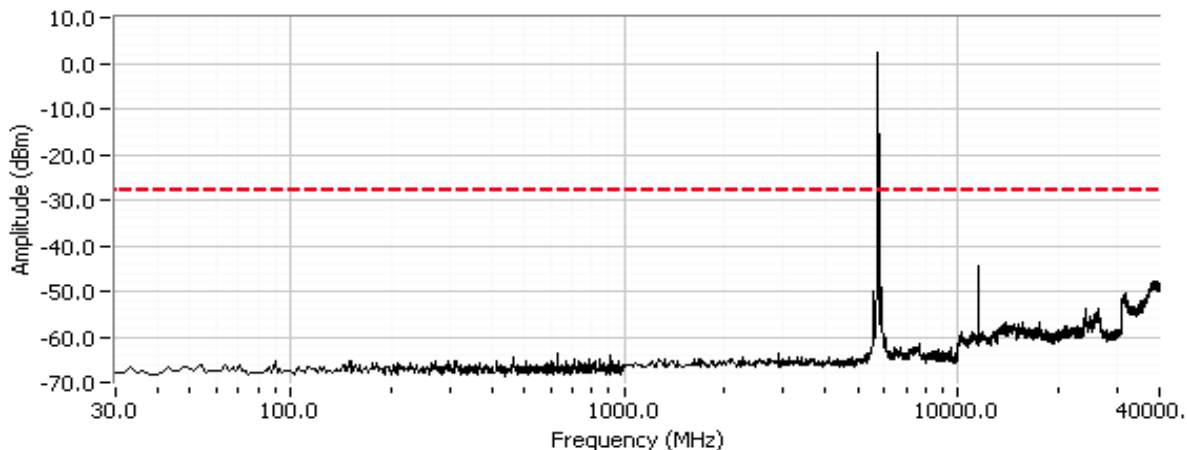
Note 1: Measured on each chain individually

### Plots for low channel

802.11n 20 CDD, Channel 149 @ 5745 MHz, Chain 1



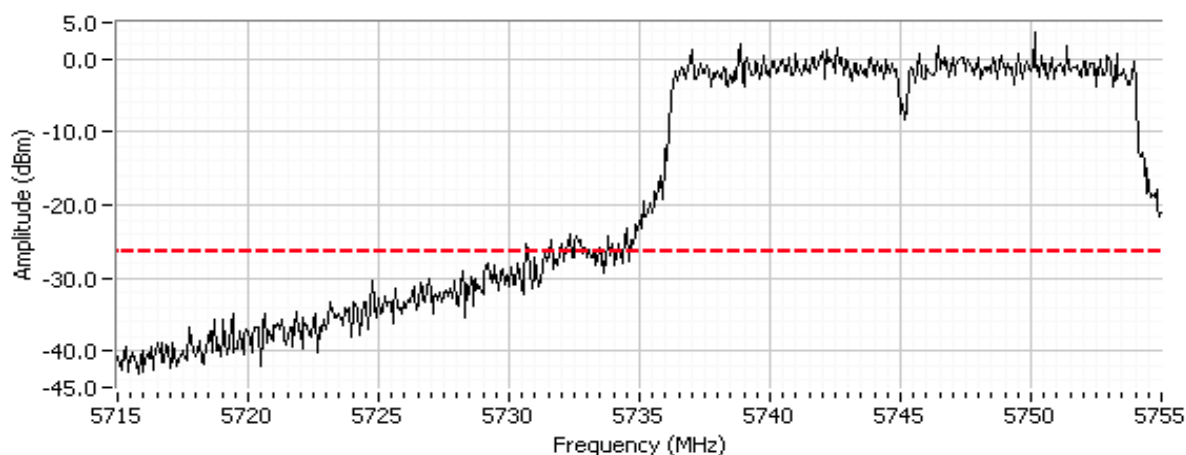
802.11n 20 CDD, Channel 149 @ 5745 MHz, Chain 2



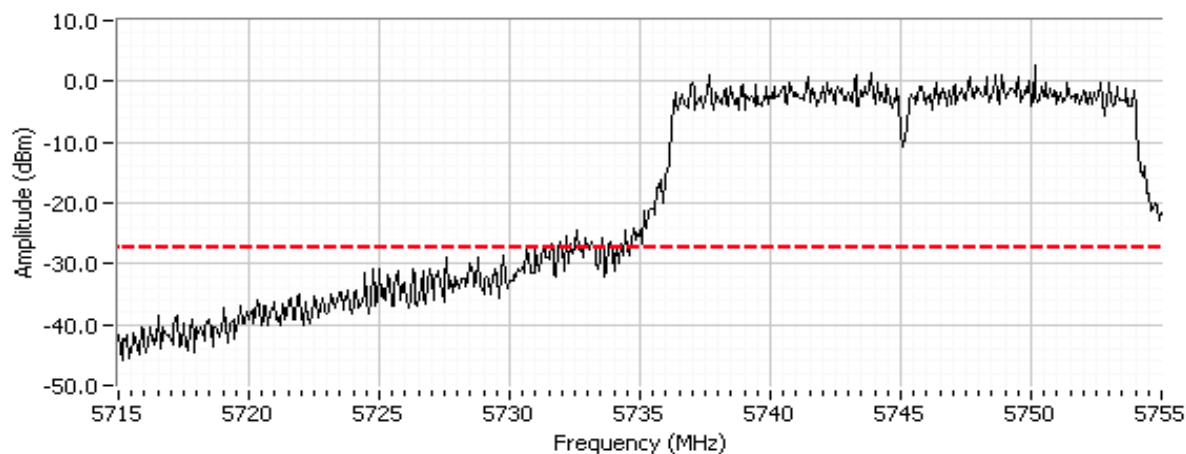
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

802.11n 20 CDD, Channel 149 @ 5745 MHz, Chain 1



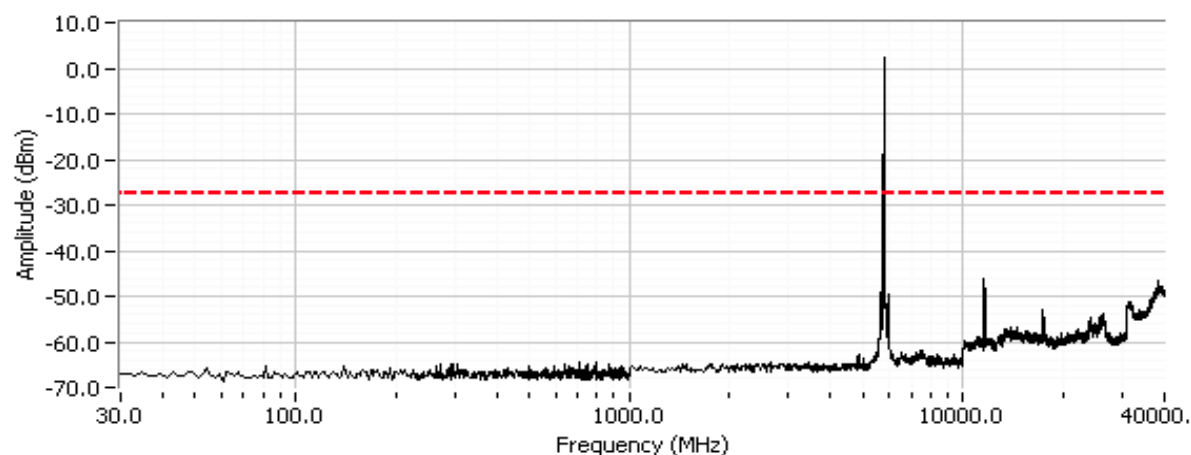
802.11n 20 CDD, Channel 149 @ 5745 MHz, Chain 2



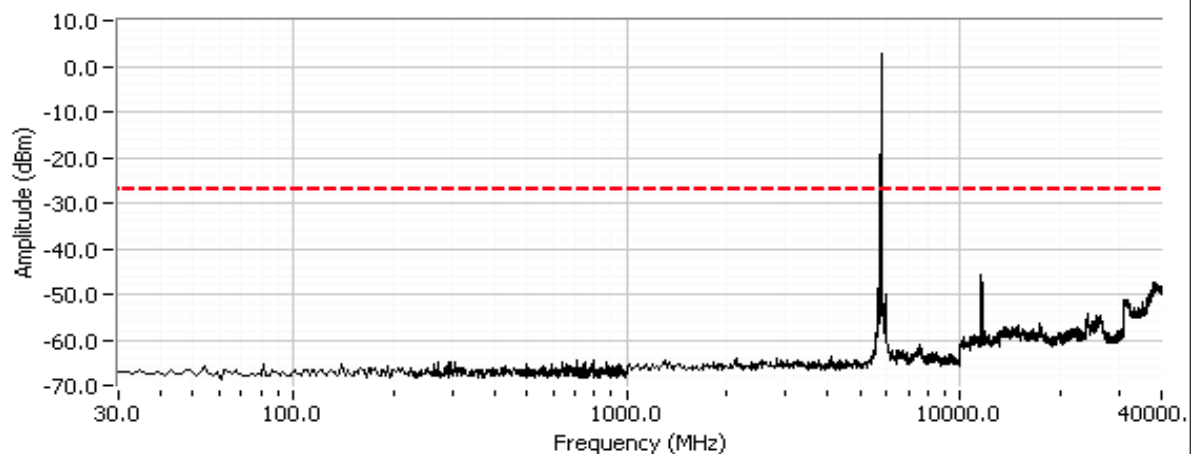
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for center channel

802.11n 20 CDD, Channel 157 @ 5785 MHz, Chain 1



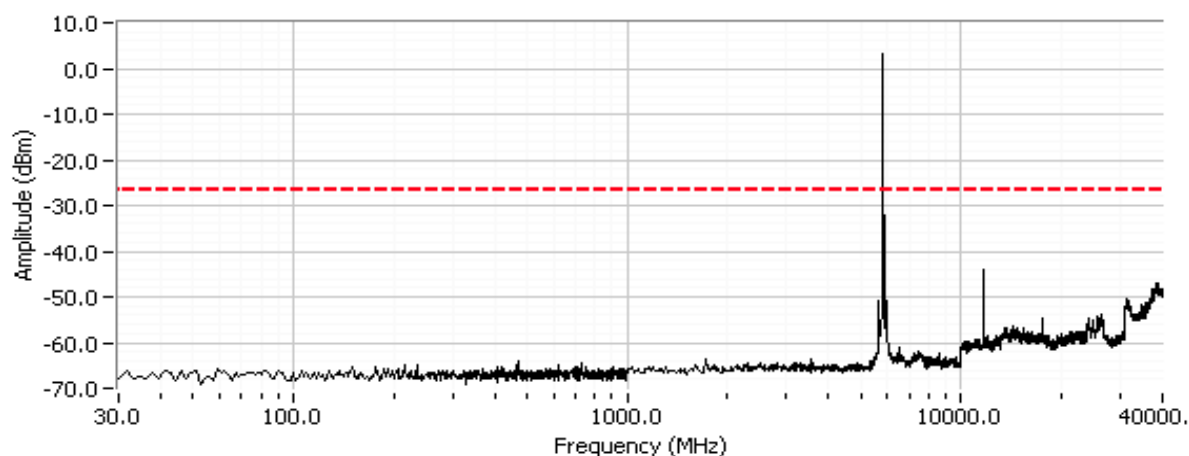
802.11n 20 CDD, Channel 157 @ 5785 MHz, Chain 2



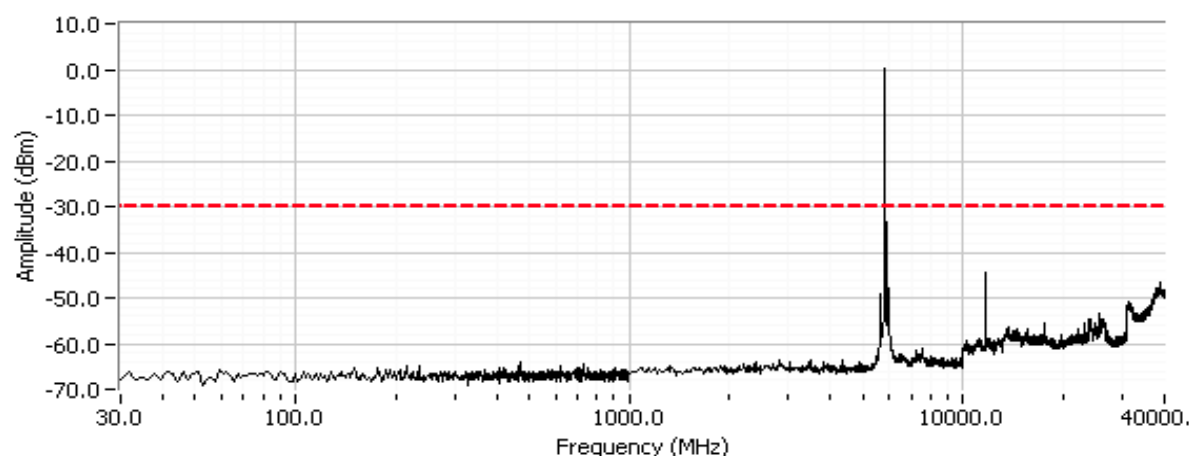
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for high channel

802.11n 20 CDD, Channel 165 @ 5825 MHz, Chain 1



802.11n 20 CDD, Channel 165 @ 5825 MHz, Chain 2

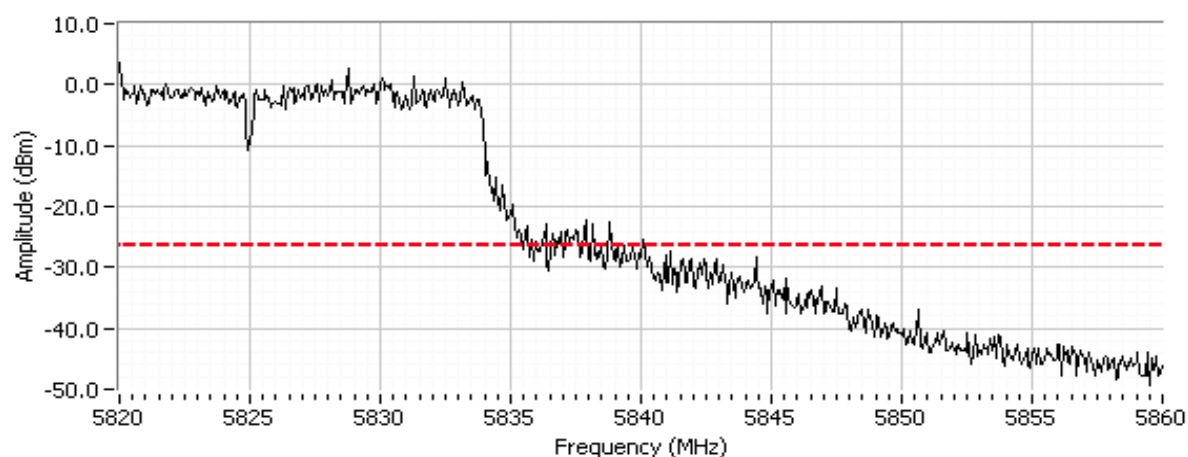




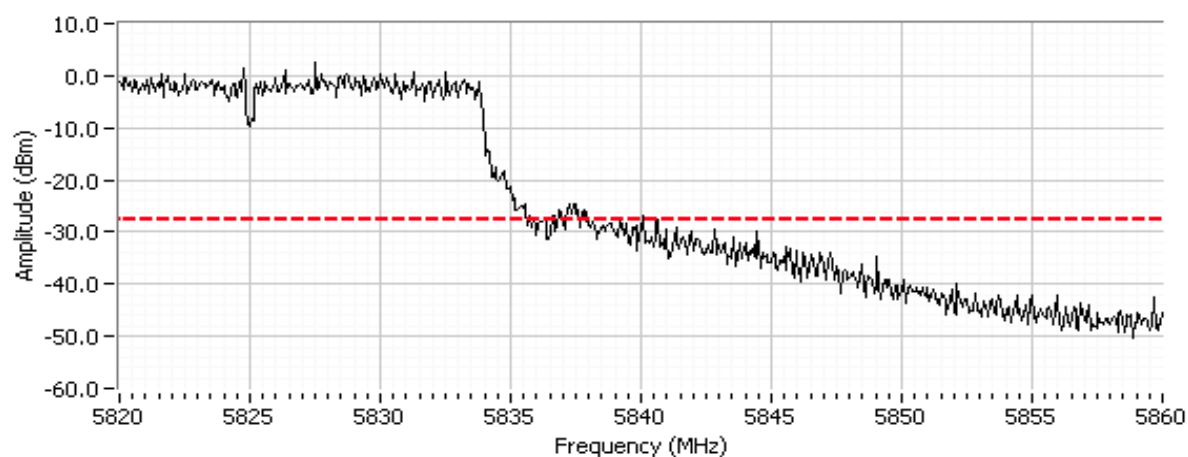
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

802.11n 20 CDD, Channel 165 @ 5825 MHz, Chain 1



802.11n 20 CDD, Channel 165 @ 5825 MHz, Chain 2



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## RSS 210 and FCC 15.247 (DTS) Antenna Port Measurements MIMO and Smart Antenna Systems Power, PSD, Bandwidth and Spurious Emissions (802.11n40 CDD MCS0 5.7GHz)

### 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: 2/11/2010  
Test Engineer: Rafael Varelas  
Test Location: FT Chamber #5

Config. Used: 1  
Config Change: None  
EUT Voltage: POE

### General Test Configuration

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

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

**Ambient Conditions:**  
Temperature: 18.7 °C  
Rel. Humidity: 38 %

### Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Output Power Chain A + B	15.247(b)	Pass	22.3 dBm (170mW)
2	Power spectral Density (PSD) Chain A + B	15.247(d)	Pass	-5.6 dBm/3kHz
3	6dB Bandwidth	15.247(a)	Pass	35.8 MHz
3	99% Bandwidth	RSS GEN	-	37.9 MHz
4	Spurious emissions	15.247(b)	Pass	All Emissions < -20dBc

### 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: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #1: Output Power - Chain A + B

Operating Mode: 802.11n 40 MHz MCS0

Transmitted signal on chain is coherent ? yes

5755 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	19.3	19.3			22.3 dBm	0.170 W	27.9 dBm	0.617 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.09	5.09			8.1 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	24.39	24.39			30.4 dBm	1.099 W		
5795 MHz	Chain 1	Chain 2	Chain 3	Chain 4	Total Across All Chains		Limit	
Power Setting <sup>Note 3</sup>	-	-						
Output Power (dBm) <sup>Note 1</sup>	19.2	19.4			22.3 dBm	0.170 W	27.9 dBm	0.617 W
Antenna Gain (dBi) <sup>Note 2</sup>	5.09	5.09			8.1 dBi		Pass	
eirp (dBm) <sup>Note 2</sup>	24.29	24.49			30.4 dBm	1.099 W		

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

Note 2: As there is coherency between chains the effective antenna gain is the sum of the individual antenna gains and the eirp is the product of the total power and the effective antenna gain

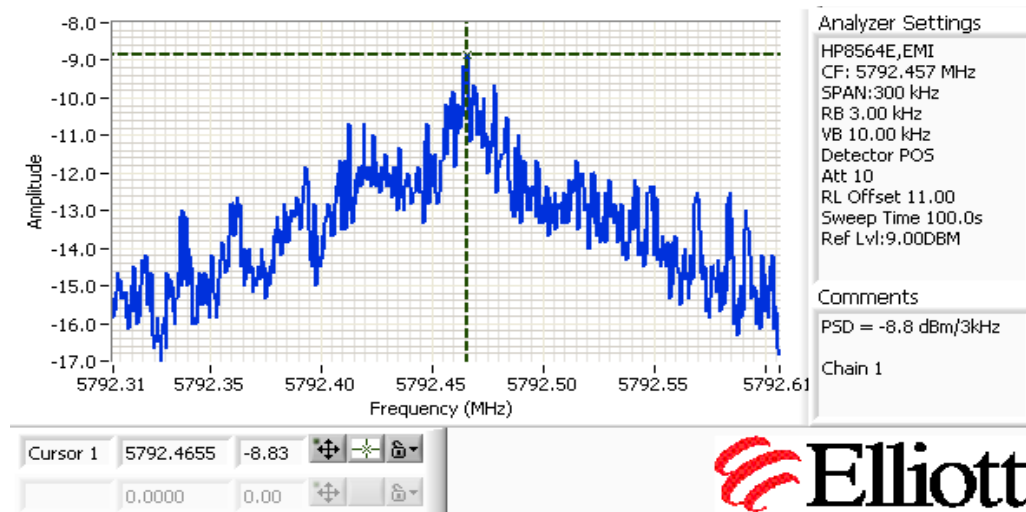
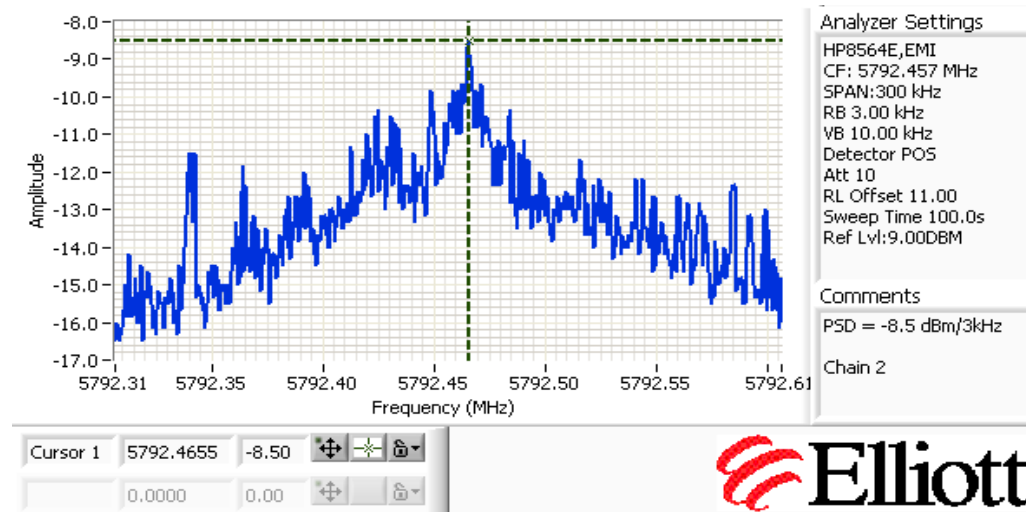
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/3kHz) <sup>Note 1</sup>				Total	Limit dBm/3kHz	Result
		Chain 1	Chain 2	Chain 3	Chain 4			
-	5755	-9.7	-8.8			-6.2	8.0	Pass
-	5795	-8.8	-8.5			-5.6	8.0	Pass

Note 1:

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



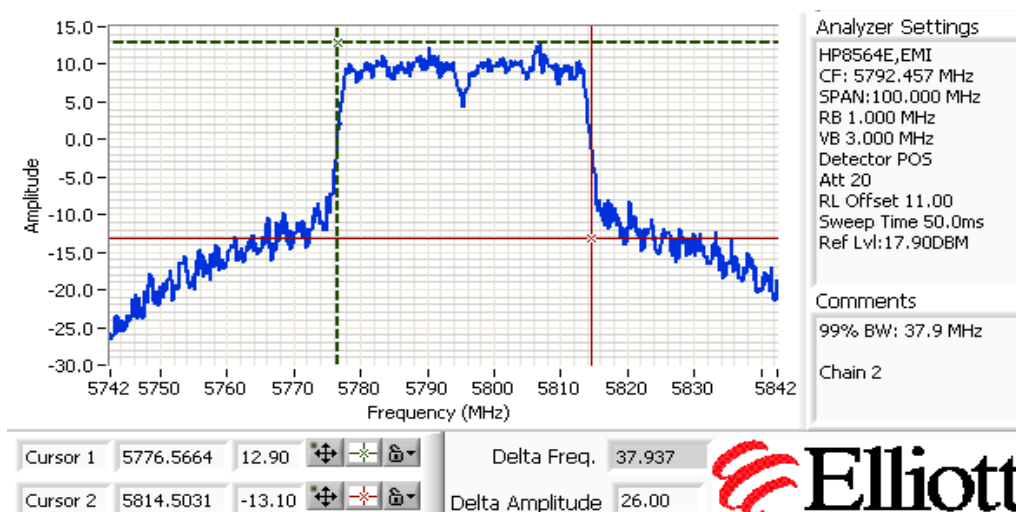
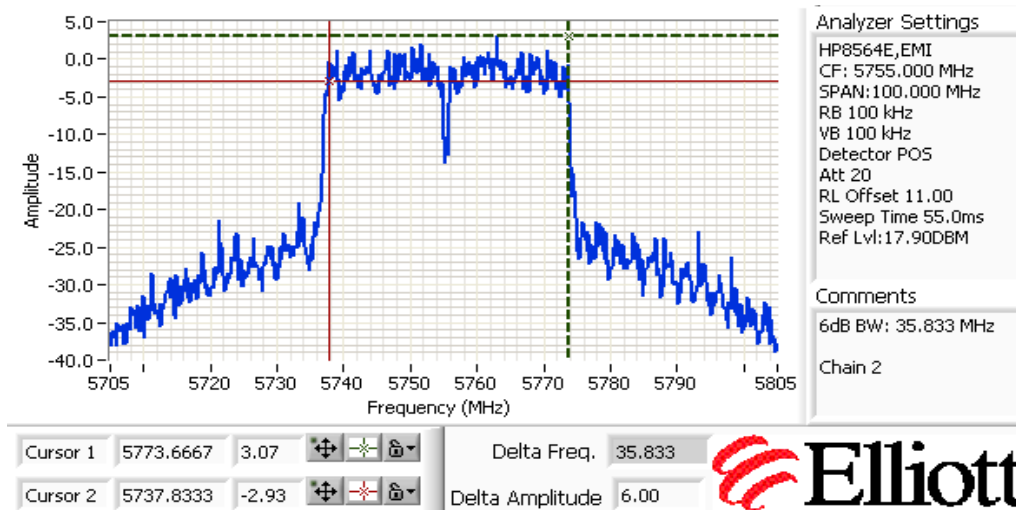
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Run #3: Signal Bandwidth

Power Setting	Frequency (MHz)	Resolution Bandwidth	Bandwidth (MHz)
-	5755	100kHz	35.8
-	5795	100kHz	36.2

Note 1: Measured on a single chain

Note 2: 99% bandwidth measured in accordance with RSS GEN, with RB > 1% of the span and VB > 3xRB



Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

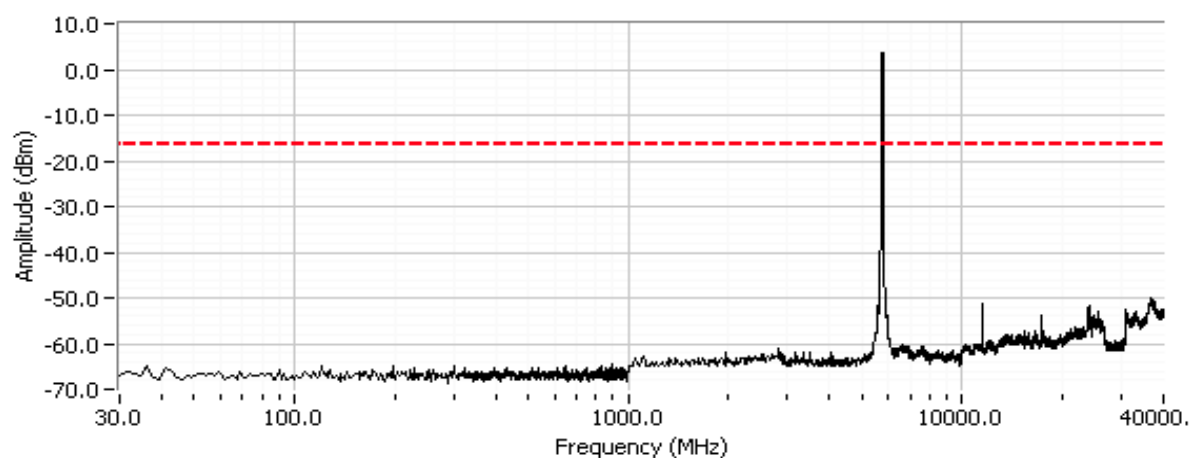
## Run #4: Out of Band Spurious Emissions

Power Setting Per Chain				Frequency (MHz)	Limit	Result
#1	#2	#3	#4			
-	-			5755	-20dBc	Pass
-	-			5795	-20dBc	Pass

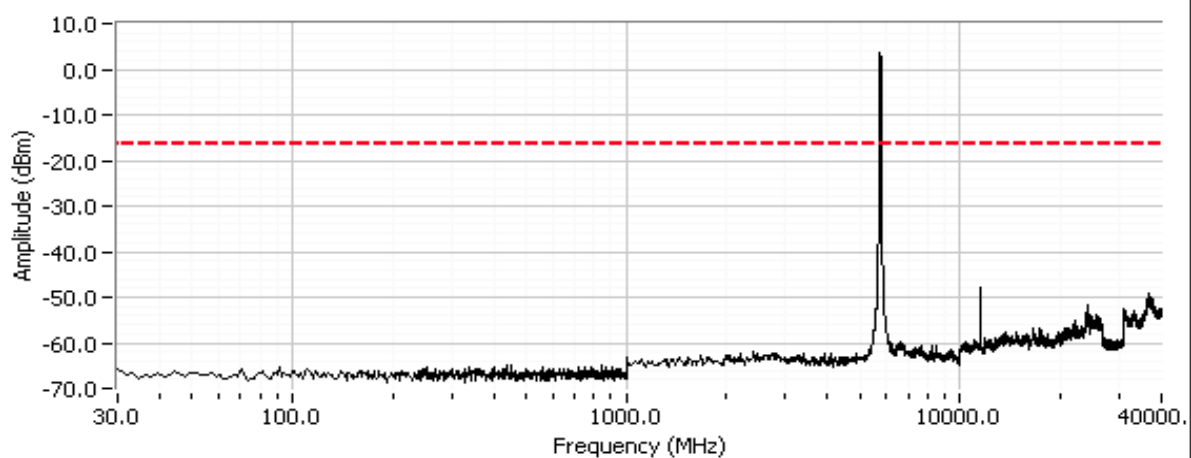
Note 1: Measured on each chain individually

### Plots for low channel, 5755 MHz

802.11n 40 CDD MCS0, Channel 151 @ 5755 MHz, Channel 1



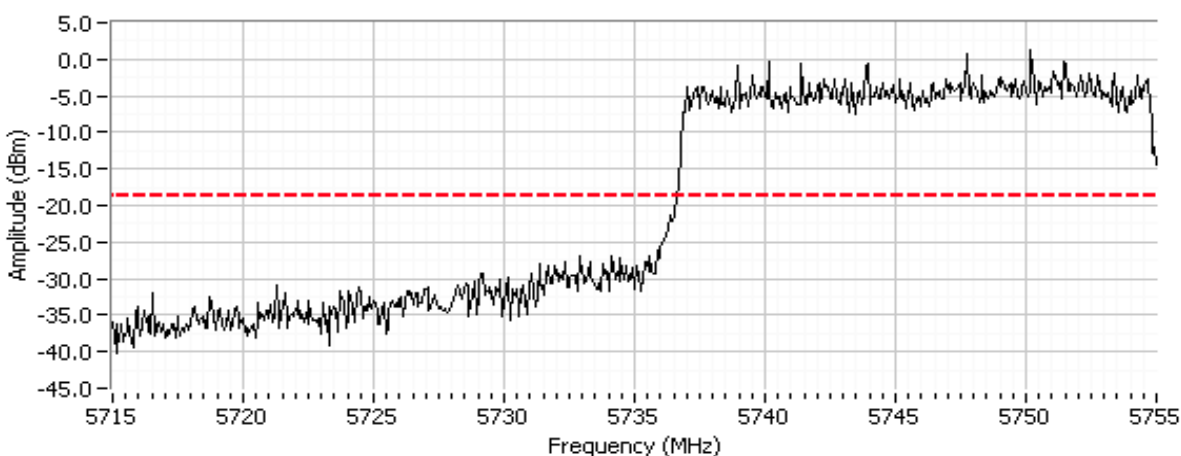
802.11n 40 CDD MCS0, Channel 151 @ 5755 MHz, Channel 2



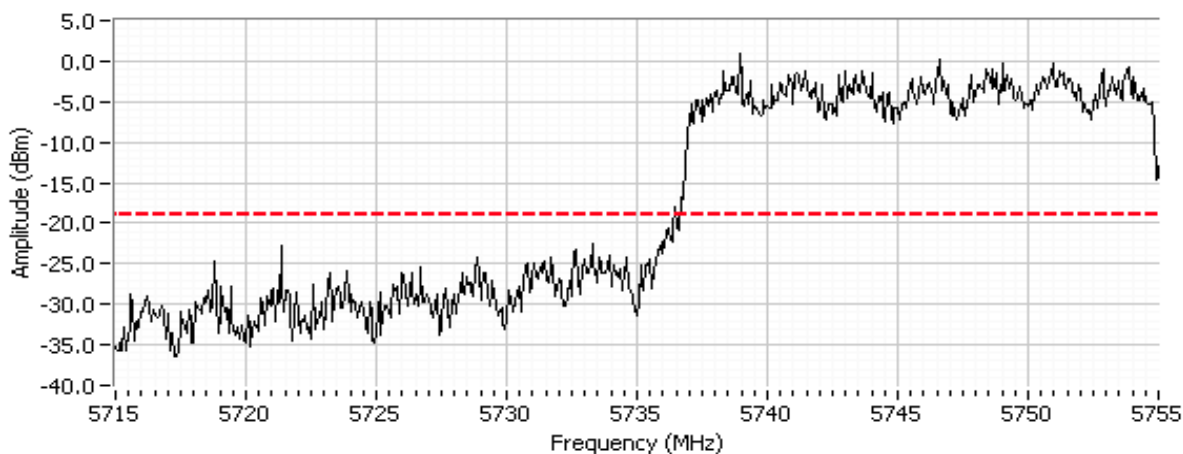
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

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

802.11n 40 CDD MCS0, Channel 151 @ 5755 MHz, Channel 1



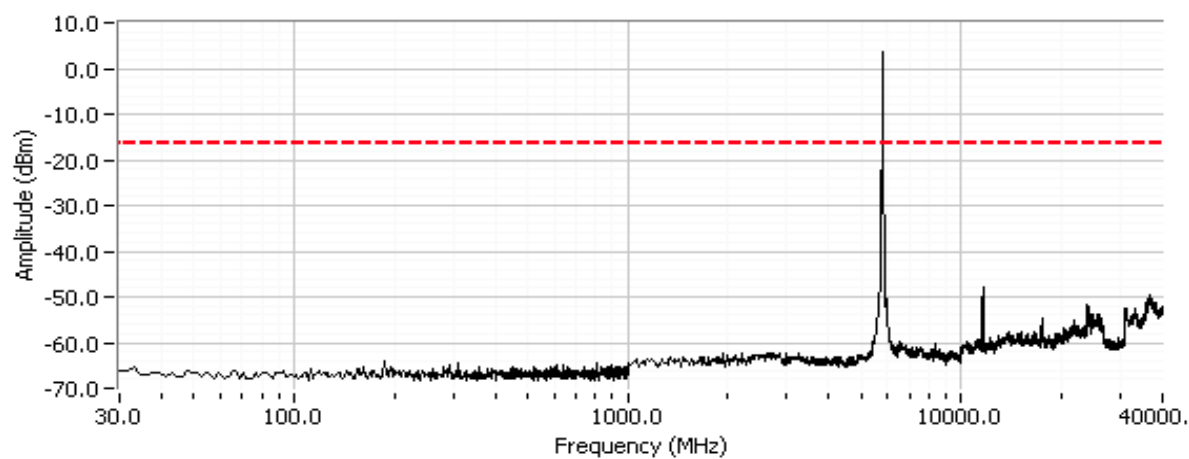
802.11n 40 CDD MCS0, Channel 151 @ 5755 MHz, Channel 2



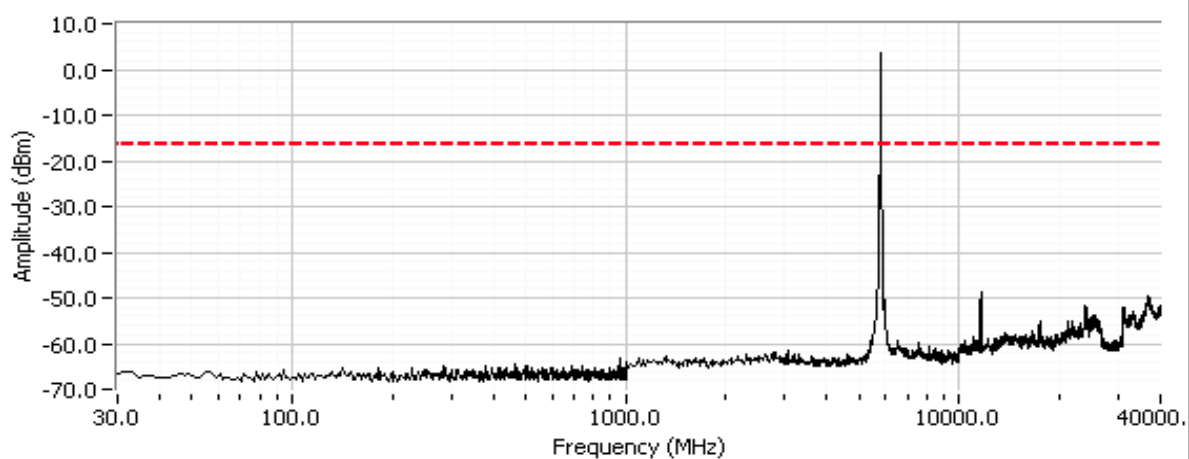
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

## Plots for high channel, 5795 MHz

802.11n 40 CDD MCSO, Channel 159 @ 5795 MHz, Channel 1



802.11n 40 CDD MCSO, Channel 159 @ 5795 MHz, Channel 2

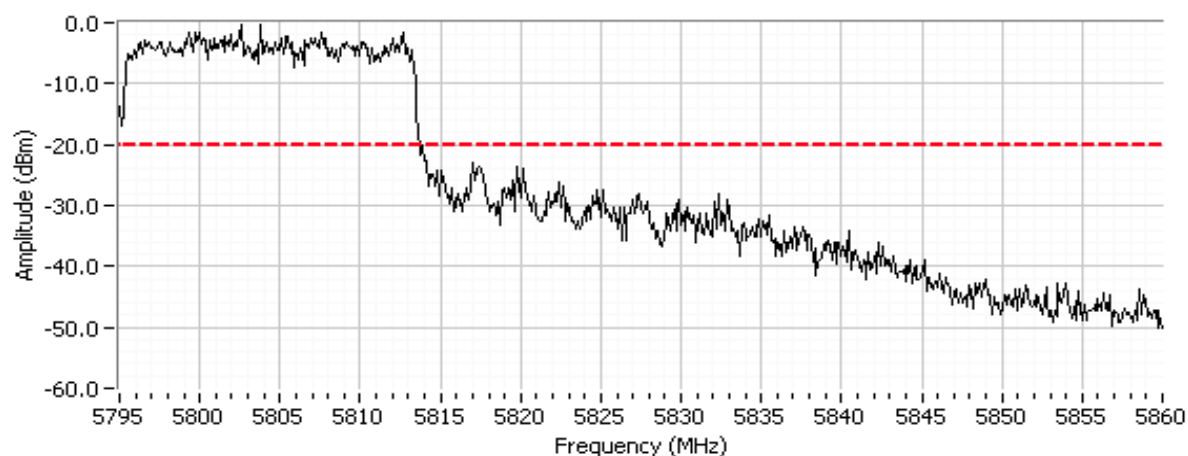




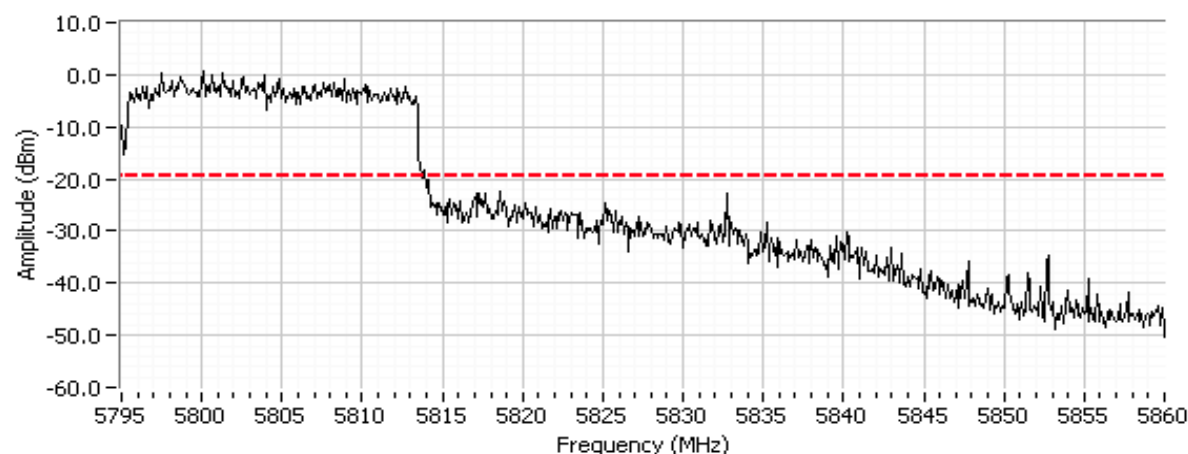
Client: Avaya	Job Number: J7865
Model: AP 8120	T-Log Number: T78130
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: N/A

Additional plot from 5795 - 5860 MHz showing compliance with -20dBc at the band edge.

802.11n 40 CDD MCS0, Channel 159 @ 5795 MHz, Channel 1



802.11n 40 CDD MCS0, Channel 159 @ 5795 MHz, Channel 2





## EMC Test Data

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78249
		Account Manager:	Dean Eriksen
Contact:	Vipin Naik		-
Emissions Standard(s):	FCC 15.247	Class:	B
Immunity Standard(s):	EN301 489-17	Environment:	-

## EMC Test Data

For The

**Avaya**

Model

AP 8120

Date of Last Test: 3/2/2010

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78249
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	B

## Conducted Emissions - Power Ports

### 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: 2/10/2010 12:37  
 Test Engineer: John Caizzi  
 Test Location: SVOATS #2

Config. Used: 1  
 Config Change: none  
 EUT Voltage: 230V / 50Hz & 120V / 60Hz

### General Test Configuration

The EUT was located on a wooden table, 40 cm from a vertical coupling plane and 80cm from the LISN. A second LISN was used for all local support equipment.

**Ambient Conditions:**  
 Temperature: 20 °C  
 Rel. Humidity: 39 %

### Summary of Results

Run #	Test Performed	Limit	Result	Margin
3	CE, AC Power, 230V/50Hz	EN 55022 Class B	Pass	38.2dBµV @ 2.442MHz (-7.8dB)
4	CE, AC Power, 120V/60Hz	EN 55022 Class B	Pass	42.9dBµV @ 2.657MHz (-13.1dB)

### Modifications Made During Testing

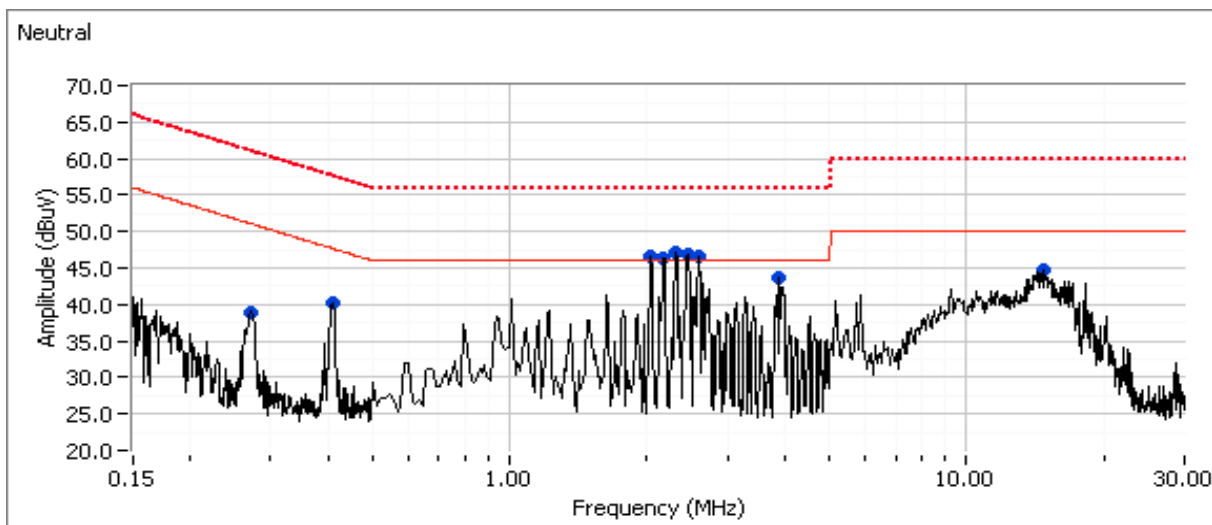
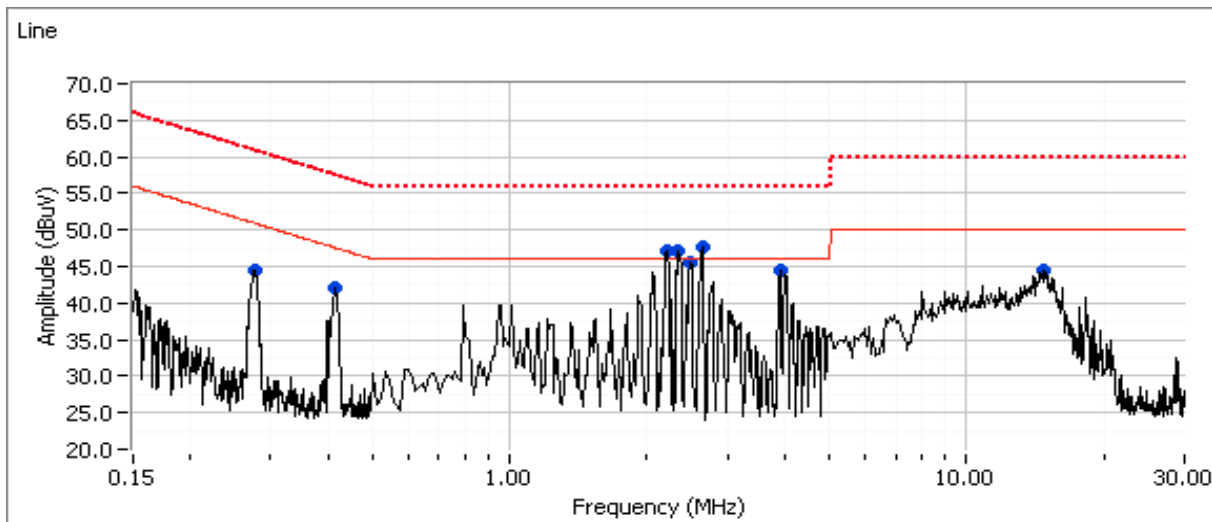
No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78249
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: B

Run #3: AC Power Port Conducted Emissions, 0.15 - 30MHz, 230V/50Hz. PoE injector #D0945650000058DA00



Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78249
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	B

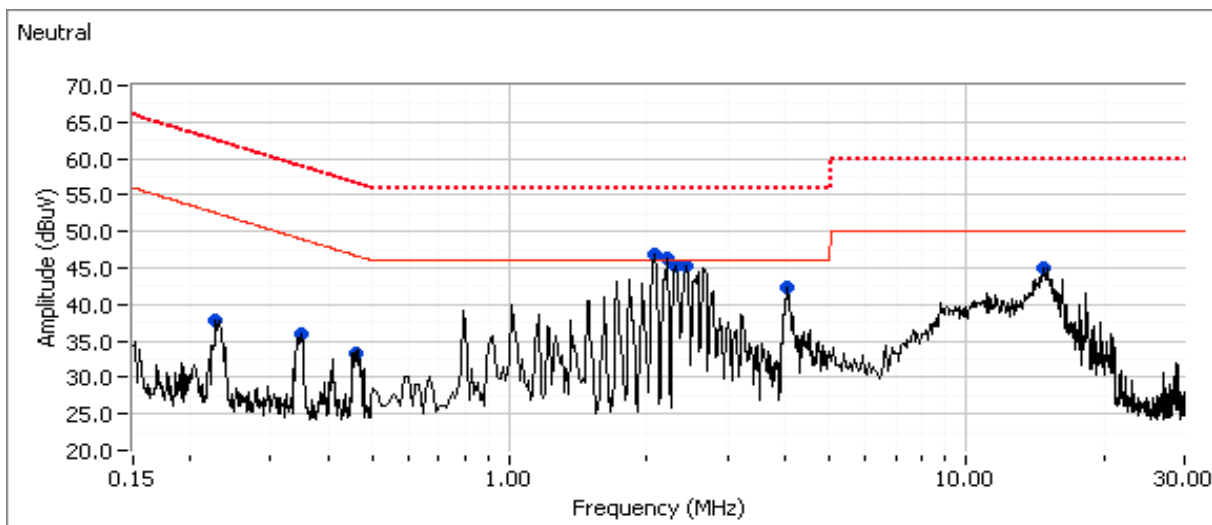
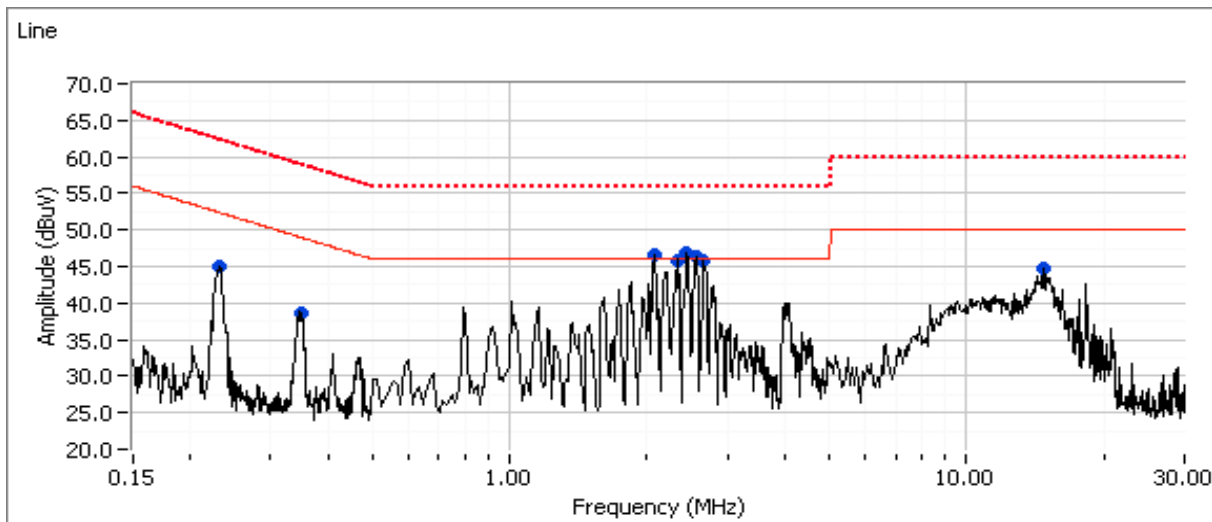
Frequency MHz	Level dBμV	AC Line	EN55022 B		Detector QP/Ave	Comments
			Limit	Margin		
2.616	47.7	Line	46.0	1.7	Peak	
2.206	47.0	Line	46.0	1.0	Peak	
2.343	47.0	Line	46.0	1.0	Peak	
2.467	45.5	Line	46.0	-0.5	Peak	
3.949	44.6	Line	46.0	-1.4	Peak	
14.675	44.6	Line	50.0	-5.4	Peak	
0.410	42.1	Line	47.5	-5.4	Peak	
0.275	44.5	Line	50.9	-6.4	Peak	
2.308	47.1	Neutral	46.0	1.1	Peak	
2.442	46.9	Neutral	46.0	0.9	Peak	
2.582	46.6	Neutral	46.0	0.6	Peak	
2.039	46.5	Neutral	46.0	0.5	Peak	
2.174	46.4	Neutral	46.0	0.4	Peak	
3.932	43.6	Neutral	46.0	-2.4	Peak	
14.765	44.7	Neutral	50.0	-5.3	Peak	
0.407	40.3	Neutral	47.6	-7.3	Peak	
0.272	39.0	Neutral	51.0	-12.0	Peak	
0.410	38.5	Line	47.7	-9.2	AVG	
2.457	36.1	Line	46.0	-9.9	AVG	
3.953	36.1	Line	46.0	-9.9	AVG	
2.321	35.9	Line	46.0	-10.1	AVG	
2.189	35.3	Line	46.0	-10.7	AVG	
2.600	34.6	Line	46.0	-11.4	AVG	
2.600	44.1	Line	56.0	-11.9	QP	
2.457	44.0	Line	56.0	-12.0	QP	
2.189	43.9	Line	56.0	-12.1	QP	
2.321	43.9	Line	56.0	-12.1	QP	
3.953	43.3	Line	56.0	-12.7	QP	
0.274	38.2	Line	51.0	-12.8	AVG	
0.410	41.4	Line	57.7	-16.3	QP	
14.675	33.5	Line	50.0	-16.5	AVG	
0.274	42.9	Line	61.0	-18.1	QP	
14.675	40.0	Line	60.0	-20.0	QP	
2.442	38.2	Neutral	46.0	-7.8	AVG	
2.308	36.5	Neutral	46.0	-9.5	AVG	
2.582	35.6	Neutral	46.0	-10.4	AVG	
2.174	35.5	Neutral	46.0	-10.5	AVG	
2.442	45.3	Neutral	56.0	-10.7	QP	
2.308	44.6	Neutral	56.0	-11.4	QP	
3.932	34.4	Neutral	46.0	-11.6	AVG	
0.407	35.9	Neutral	47.7	-11.8	AVG	
2.174	43.9	Neutral	56.0	-12.1	QP	

Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78249
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	B

2.038	33.5	Neutral	46.0	-12.5	AVG	
2.582	42.9	Neutral	56.0	-13.1	QP	
2.038	41.9	Neutral	56.0	-14.1	QP	
3.932	41.2	Neutral	56.0	-14.8	QP	
0.272	36.3	Neutral	51.1	-14.8	AVG	
14.765	34.2	Neutral	50.0	-15.8	AVG	
0.407	39.2	Neutral	57.7	-18.5	QP	
14.765	40.6	Neutral	60.0	-19.4	QP	
0.272	37.5	Neutral	61.1	-23.6	QP	

Client: Avaya	Job Number: J78065
Model: AP 8120	T-Log Number: T78249
Contact: Vipin Naik	Account Manager: Dean Eriksen
Standard: FCC 15.247	Class: B

Run #4: AC Power Port Conducted Emissions, 0.15 - 30MHz, 120V/60Hz. PoE injector #D0945650000058DA00.



Client:	Avaya	Job Number:	J78065
Model:	AP 8120	T-Log Number:	T78249
Contact:	Vipin Naik	Account Manager:	Dean Eriksen
Standard:	FCC 15.247	Class:	B

Frequency MHz	Level dBμV	AC Line	EN55022 B		Detector QP/Ave	Comments
			Limit	Margin		
2.425	46.9	Line	46.0	0.9	Peak	
2.073	46.6	Line	46.0	0.6	Peak	
2.554	46.2	Line	46.0	0.2	Peak	
2.322	45.9	Line	46.0	-0.1	Peak	
2.657	45.7	Line	46.0	-0.3	Peak	
14.696	44.8	Line	50.0	-5.2	Peak	
0.231	44.9	Line	52.4	-7.5	Peak	
0.349	38.5	Line	49.0	-10.5	Peak	
2.078	46.8	Neutral	46.0	0.8	Peak	
2.196	46.2	Neutral	46.0	0.2	Peak	
2.428	45.3	Neutral	46.0	-0.7	Peak	
2.313	45.3	Neutral	46.0	-0.7	Peak	
4.036	42.3	Neutral	46.0	-3.7	Peak	
14.659	45.0	Neutral	50.0	-5.0	Peak	
0.346	36.0	Neutral	49.0	-13.0	Peak	
0.462	33.4	Neutral	46.6	-13.2	Peak	
0.228	37.8	Neutral	52.5	-14.7	Peak	
2.657	42.9	Line	56.0	-13.1	QP	
2.539	42.1	Line	56.0	-13.9	QP	
2.425	31.9	Line	46.0	-14.1	AVG	
2.425	41.9	Line	56.0	-14.1	QP	
2.310	31.8	Line	46.0	-14.2	AVG	
0.231	38.1	Line	52.4	-14.3	AVG	
2.073	41.4	Line	56.0	-14.6	QP	
2.539	31.4	Line	46.0	-14.6	AVG	
2.073	31.2	Line	46.0	-14.8	AVG	
2.310	41.1	Line	56.0	-14.9	QP	
2.657	30.8	Line	46.0	-15.2	AVG	
14.696	33.7	Line	50.0	-16.3	AVG	
0.231	44.3	Line	62.4	-18.1	QP	
14.696	40.0	Line	60.0	-20.0	QP	
2.196	32.8	Neutral	46.0	-13.2	AVG	
2.313	32.8	Neutral	46.0	-13.2	AVG	
2.428	32.4	Neutral	46.0	-13.6	AVG	
2.078	41.6	Neutral	56.0	-14.4	QP	
2.196	41.4	Neutral	56.0	-14.6	QP	
2.313	41.3	Neutral	56.0	-14.7	QP	
2.078	31.2	Neutral	46.0	-14.8	AVG	
2.428	40.9	Neutral	56.0	-15.1	QP	
4.036	29.2	Neutral	46.0	-16.8	AVG	
14.659	32.9	Neutral	50.0	-17.1	AVG	
4.036	37.4	Neutral	56.0	-18.6	QP	



Client:	Avaya					Job Number:	J78065
Model:	AP 8120					T-Log Number:	T78249
						Account Manager:	Dean Eriksen
Contact:	Vipin Naik						
Standard:	FCC 15.247					Class:	B
0.346	28.9	Neutral	49.1	-20.2	AVG		
14.659	39.4	Neutral	60.0	-20.6	QP		
0.346	32.9	Neutral	59.1	-26.2	QP		