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Electromagnetic Emissions Test Report and Application for Grant of Equipment Authorization pursuant to Industry Canada RSS-Gen Issue 1 / RSS 210 Issue 6 FCC Part 15, Subpart E on the Cisco-Linksys Transmitter Model: WRT600N

UPN:	3839A-WRT6NV1
FCC ID:	Q87-WRT600NV1
GRANTEE:	Cisco-Linksys 121 Theory Drive Irvine, CA 92617
TEST SITE:	Elliott Laboratories, Inc. 684 W. Maude Ave Sunnyvale, CA 94086
REPORT DATE:	April 6, 2007
FINAL TEST DATE:	March 22, March 23 and April 6, 2007
AUTHORIZED SIGNATORY:	Juan Martinez Senior EMC Engineer

2016-01

REVISION HISTORY

Revision #	Date	Comments	Modified By
1	April 10, 2007	Initial Release	David Guidotti

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SCOPE

An electromagnetic emissions test has been performed on the Cisco-Linksys LLC model WRT600N pursuant to the following rules:

Industry Canada RSS-Gen Issue 1
RSS 210 Issue 6 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"
FCC Part 15, Subpart E requirements for UNII Devices

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:

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.

The test results recorded herein are based on a single type test of the Cisco-Linksys LLC model WRT600N and therefore apply only to the tested sample. The sample was selected and prepared by Jennifer Yu of Cisco-Linksys

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 Cisco-Linksys LLC model WRT600N complied with the requirements of the following regulations:

RSS 210 Issue 6 "Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"
FCC Part 15, Subpart E requirements for UNII Devices

Maintenance of compliance is the responsibility of the manufacturer. Any 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.).

TEST RESULTS SUMMARY

UNII / LELAN DEVICES

Operation in the 5.15 – 5.25 GHz Band

FCC Rule Part	RSS Rule Part	Description	Measured Value / Comments	Limit / Requirement	Result
15.407(e)		Indoor operation only	Refer to user's manual	N/A	Complies
15.407(a) (1)		26dB Bandwidth	802.11a = 22.3 MHz 802.11Siso = 46 MHz 802.11n 20MHz = 23.7 MHz 802.11n 40MHz = 44.3 MHz	N/A – limits output power if < 20MHz	N/A
	RSP100	99% Bandwidth	802.11a = 17 MHz 802.11Siso = 36.6 MHz 802.11n 20MHz = 18 MHz 802.11n 40MHz = 36.9 MHz	N/A – limits output power if < 20MHz	N/A
15.407(a) (1)	A9.2(1)	Output Power	16dBm dBm (.04 W)		Complies
15.407(a) (1))	A9.2(1)	Power Spectral Density	3.64dBm/MHz		Complies
	A9.5b	Peak Spectral Density	3.64dBm/MHz	Shall not exceed the average value by more than 3dB	Complies

GENERAL REQUIREMENTS APPLICABLE TO ALL BANDS

FCC Rule Part	RSS Rule part	Description	Measured Value / Comments	Limit / Requirement	Result (margin)
15.203	-	RF Connector	Integral to the device. User will not have access or be able to open the device.		Complies
15.407(b) (5) / 15.209	A9.3	Spurious Emissions below 1GHz	No emission detected 20-dB of the limit		Complies
15.407(b) (2)	A9.3	Spurious Emissions above 1GHz	53.1dBµV/m (451.9µV/m) @ 3282.7MHz		Complies (-0.9 dB)
15.407(a)(6)	-	Peak Excursion Ratio	12.63 dB	< 13dB	Complies
15.109	RSS GEN 7.2.3 Table 1	Receiver spurious emissions	53.4dBµV/m (467.7µV/m) @ 2125.1MHz		Complies (-0.6 dB)
15.207	RSS GEN Table 2	AC Conducted Emissions	Refer to data	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	
	RSP 100 RSS GEN 7.1.5	User Manual		Statement required regarding detachable antenna	

MEASUREMENT UNCERTAINTIES

ISO Guide 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)
Conducted Emissions	0.15 to 30	± 2.4
Radiated Emissions	0.015 to 30	± 3.0
Radiated Emissions	30 to 1000	± 3.6
Radiated Emissions	1000 to 40000	± 6.0

EQUIPMENT UNDER TEST (EUT) DETAILS

GENERAL

The Cisco-Linksys LLC model WRT600N is a Dual-band Wireless-N Router that is designed to provide wireless internet and networking service. Since the EUT would be placed on a table top during operation, the EUT was treated as table-top equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 120Volts , 60 Hz, 1 Amps.

The sample was received on March 20, 2007 and tested on March 22, March 23 and April 6, 2007. The EUT consisted of the following component(s):

Manufacturer	Model	Description	Serial Number	FCC ID
Cisco-Linksys LLC	WRT600N	Dual-band Wireless-N Router	-	Q87-WRT600NV1

OTHER EUT DETAILS

List any items from the test log.

ANTENNA SYSTEM

The integral antenna system used with the Cisco-Linksys LLC model WRT600N consists of a diple antenna with a maximum gain of 3.7dBi, PiFA antenna maximum gain 3.7, and a PCB antenna maximum gain 2.9dBi.

ENCLOSURE

The EUT enclosure is primarily constructed of plastic. It measures approximately 30 cm wide by 5 cm deep by 25 cm high.

MODIFICATIONS

The EUT did not require modifications during testing in order to comply with emissions specifications.

SUPPORT EQUIPMENT

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

Manufacturer	Model	Description	Serial Number	FCC ID
-	-	-	-	-

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

Manufacturer	Model	Description	Serial Number	FCC ID
Hewlett Packard	Zv6000	Laptop	CBD52904S1	DoC

EUT INTERFACE PORTS

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

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Ethernet	Laptop	Cat5	Unshielded	1.0
AC power	AC mains	-	-	-

EUT OPERATION

During emissions testing the EUT was set to either to transmit at maximum power or receive on appropriate channels.

TEST SITE

GENERAL INFORMATION

Final test measurements were taken on March 22, March 23 and April 6, 2007at the Elliott Laboratories Open Area Test Site # located at 684 West Maude Avenue, Sunnyvale, California or 41039 Boyce Road, Fremont, California 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.

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 of predictable local TV, radio, and mobile communications traffic. The test site contains 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 and RSS 212.

CONDUCTED EMISSIONS CONSIDERATIONS

Conducted emissions testing is performed in conformance with ANSI C63.4:2003 and RSS 212. 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 / RSS 212.

MEASUREMENT INSTRUMENTATION

RECEIVER SYSTEM

An EMI receiver as specified in CISPR 16-1 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 and RSS 212 specify that the test height above ground for table mounted devices shall be 80 centimeters. Floor mounted equipment shall be placed on the ground plane if the device is normally used on a conductive floor or separated from the ground plane by insulating material from 3 to 12 mm if the device is normally used on a non-conductive floor. During radiated measurements, the EUT is positioned on a motorized turntable in conformance with this requirement.

INSTRUMENT CALIBRATION

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

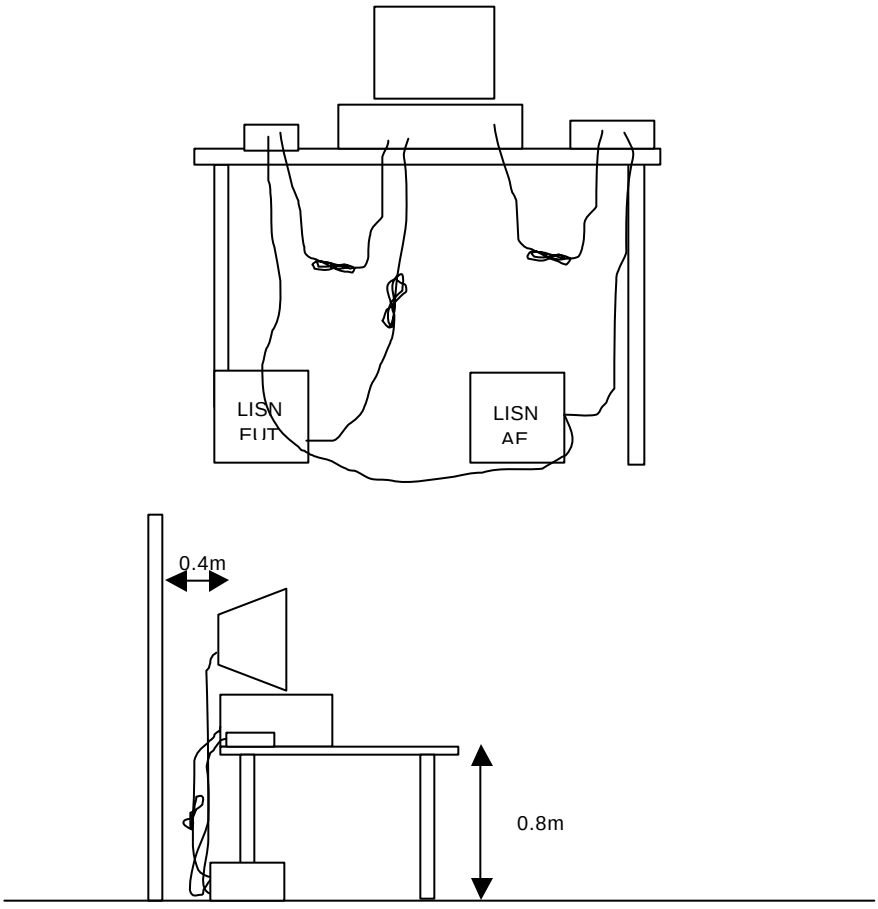
TEST PROCEDURES

EUT AND CABLE PLACEMENT

The regulations require that interconnecting cables be connected to the available ports of the unit and that the placement of the unit and the attached cables simulate the worst case orientation that can be expected from a typical installation, so far as practicable. To this end, the position of the unit and associated cabling is varied within the guidelines of ANSI C63.4:2003, and the worst-case orientation is used for final measurements.

CONDUCTED EMISSIONS

Conducted emissions are measured at the plug end of the power cord supplied with the EUT. Excess power cord length is wrapped in a bundle between 30 and 40 centimeters in length near the center of the cord. Preliminary measurements are made to determine the highest amplitude emission relative to the specification limit for all the modes of operation. Placement of system components and varying of cable positions are performed in each mode. A final peak mode scan is then performed in the position and mode for which the highest emission was noted on all current carrying conductors of the power cord.



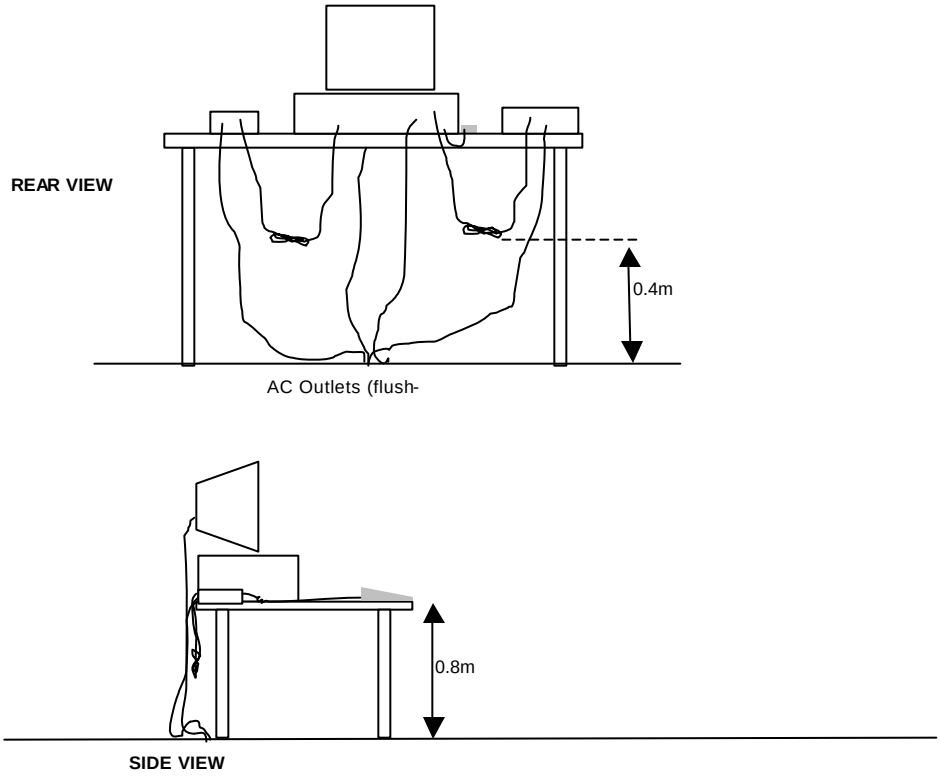
RADIATED EMISSIONS

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

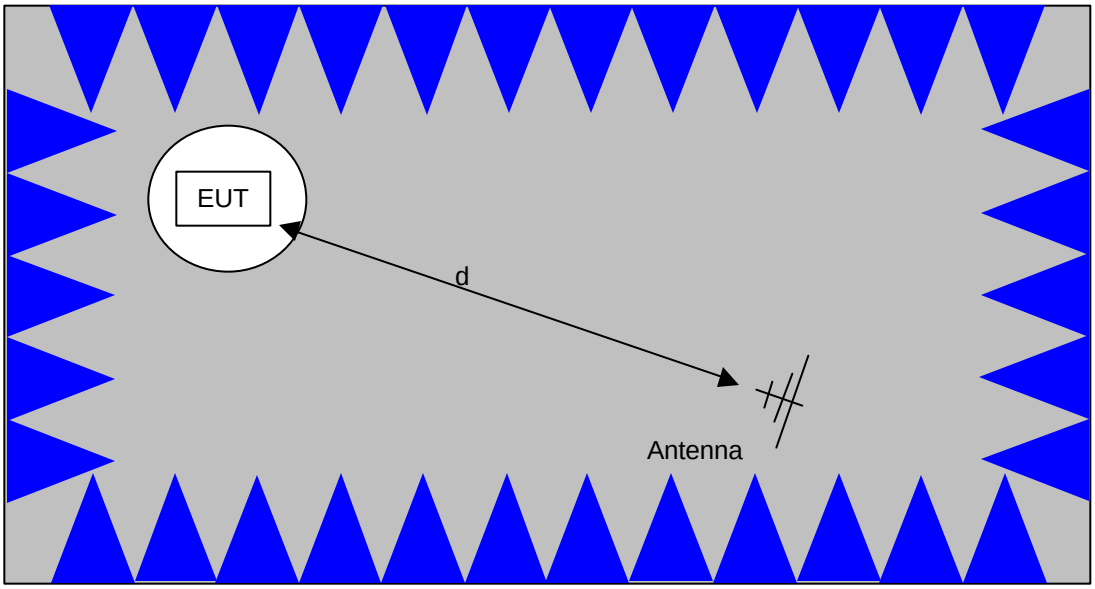
A speaker is provided in the receiver to aid in discriminating between EUT and ambient emissions. Other methods used during the preliminary scan for EUT emissions involve scanning with near field magnetic loops, monitoring I/O cables with RF current clamps, and cycling power to the EUT.

Final maximization is a phase in which the highest amplitude emissions identified in the spectral search are viewed while the EUT azimuth angle is varied from 0 to 360 degrees relative to the receiving antenna. The azimuth, which results in the highest emission is then maintained while varying the antenna height from one to four meters (for measurements above 30 MHz, measurements below 30 MHz are made with the loop antenna at a fixed height of 1m). The result is the identification of the highest amplitude for each of the highest peaks. Each recorded level is corrected in the receiver using appropriate factors for cables, connectors, antennas, and preamplifier gain.

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

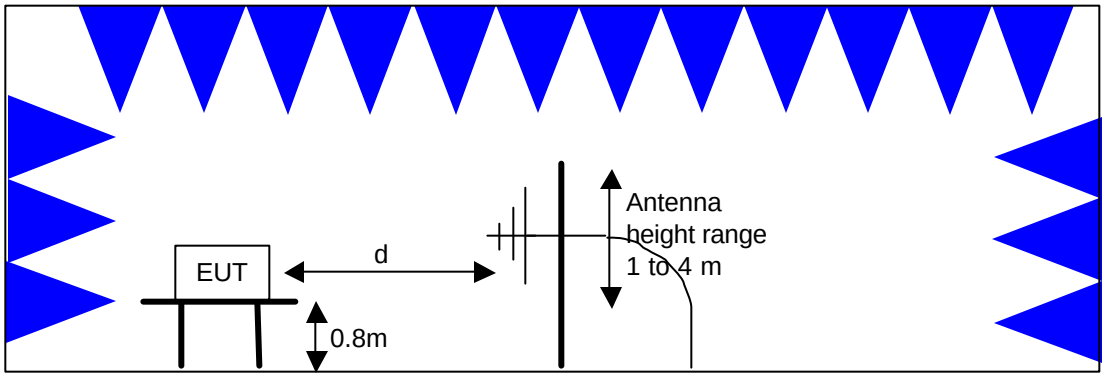


Typical Test Configuration for Radiated Field Strength Measurements



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

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



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

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:

GENERAL TRANSMITTER RADIATED EMISSIONS SPECIFICATION LIMITS

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

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

FCC 15.407 (a) OUTPUT POWER LIMITS

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

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

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

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

OUTPUT POWER AND SPURIOUS LIMITS –UNII DEVICES

The table below shows the limits for output power and output power density defined by FCC Part 15 Subpart E. Where the signal bandwidth is less than 20 MHz the maximum output power is reduced to the power spectral density limit plus 10 times the log of the bandwidth (in MHz).

Operating Frequency (MHz)	Output Power	Power Spectral Density
5150 - 5250	50mW (17 dBm)	10 dBm/MHz
5250 - 5350	250 mW (24 dBm)	11 dBm/MHz
5470 - 5725	250 mW (24 dBm)	11 dBm/MHz
5725 – 5825	1 Watts (30 dBm)	17 dBm/MHz

The peak excursion envelope is limited to 13dB.

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

SAMPLE CALCULATIONS - CONDUCTED EMISSIONS

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

$$R_r - S = M$$

where:

R_r = Receiver Reading in dBuV

S = Specification Limit in dBuV

M = Margin to Specification in +/- dB

SAMPLE CALCULATIONS - RADIATED EMISSIONS

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

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

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

where:

F_d = Distance Factor in dB

D_m = Measurement Distance in meters

D_s = Specification Distance in meters

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

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

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

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

$$R_C = R_r + F_d$$

and

$$M = R_C - L_S$$

where:

R_r = Receiver Reading in dBuV/m

F_d = Distance Factor in dB

R_C = Corrected Reading in dBuV/m

L_S = Specification Limit in dBuV/m

M = Margin in dB Relative to Spec

SAMPLE CALCULATIONS - FIELD STRENGTH TO EIRP CONVERSION

Where the radiated electric field strength is expressed in terms of the equivalent isotropic radiated power (eirp), or where a field strength measurement of output power is made in lieu of a direct measurement, the following formula is used to convert between eirp and field strength at a distance of 3m from the equipment under test:

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

where P is the eirp (Watts)

EXHIBIT 1: Test Equipment Calibration Data

1 Page

Radio Antenna Port (Power and Spurious Emissions), 23-Mar-07
Engineer: Mark Hill

Manufacturer	Description	Model #	Asset #	Cal Due
EMCO	Antenna, Horn, 1-18 GHz	3115	786	28-Nov-07
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FMT (SA40) Blue	8564E (84125C)	1393	09-Jan-08
Rohde & Schwarz	EMI Test Receiver, 20 Hz-7 GHz	ESIB7	1538	08-Aug-07

Radio Antenna Port (Power and Spurious Emissions), 20-Mar to 4-Apr-07
Engineer: Juan Martinez, Rafael Varelas

Manufacturer	Description	Model #	Asset #	Cal Due
Hewlett Packard	Microwave Preamplifier, 1-26.5GHz	8449B	263	16-Mar-08
EMCO	Antenna, Horn, 1-18 GHz	3115	786	28-Nov-07
Hewlett Packard	SpecAn 9 kHz - 40 GHz, FMT (SA40) Blue	8564E (84125C)	1393	09-Jan-08

EXHIBIT 2: Test Measurement Data

106 Pages

Elliott

EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	Test-Log Number:	T67324
		Project Manager:	-
Contact:	Kevin Lee		
Emissions Spec:	FCC 15.407	Class:	Radio
Immunity Spec:	-	Environment:	-

EMC Test Data

For The

Cisco-Linksys

Model

WRT600N

Date of Last Test: 4/14/2007

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	Test-Log Number:	T67324
		Project Manager:	-
Contact:	Kevin Lee		
Emissions Spec:	FCC 15.407	Class:	Radio
Immunity Spec:	-	Environment:	-

EUT INFORMATION

The following information was collected during the test sessions(s).

General Description

The EUT is a Dual-band Wireless-N Router that is designed to provide wireless internet and networking services. Since the EUT would be placed on a table top during operation, the EUT was treated as table-top equipment during testing to simulate the end-user environment. The electrical rating of the EUT is 120 Volts , 60 Hz, .5 Amps.

Equipment Under Test

Manufacturer	Model	Description	Serial Number	FCC ID
Cisco-Linksys LLC	WRT600N	Dual-band Wireless-N	-	Q87-WRT600NV1

Other EUT Details

None

EUT Antenna (Intentional Radiators Only)

The antenna is integral to the device. A diple antenna with a maximum gain of 3.7dBi, PiFA antenna maximum gain 3.7, and a PCB antenna maximum gain 2.9dBi.

EUT Enclosure

The EUT enclosure is primarily constructed of plastic. It measures approximately 30 cm wide by 5 cm deep by 25 cm high.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	Test-Log Number:	T67324
		Project Manager:	-
Contact:	Kevin Lee		
Emissions Spec:	FCC 15.407	Class:	Radio
Immunity Spec:	-	Environment:	-

Modification History

Mod. #	Test	Date	Modification
1			
2			
3			

Modifications applied are assumed to be used on subsequent tests unless otherwise stated as a further modification.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Project Manager:	-
Contact:	Kevin Lee		
Emissions Spec:	FCC 15.407	Class:	Radio
Immunity Spec:	-	Environment:	-

Test Configuration #1

The following information was collected during the test sessions(s).

Local Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
-	-	-	-	-

Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
Hewlett Packard	zv6000	Laptop	CND52904S1	DoC

Cabling and Ports

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
Ethernet	Laptop	Cat5	Unshielded	1.0
AC Power	AC Mains	-	-	-

EUT Operation During Emissions Tests

During emissions testing the EUT was set to either to transmit at maximum power or receive on appropriate channels.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

RSS 210 and FCC 15.247 Radiated 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.

Date of Test: 3/22/2007
Test Engineer: Juan Martinez
Test Location: Fremont Chamber #3

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

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 °C
Rel. Humidity: 37 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1 (802.11a Mode)	Bandedges	FCC Part 15.209 / 15.407	Pass	Refer to runs
2 (802.11Siso Mode)	Bandedges	FCC Part 15.209 / 15.407	Pass	Refer to runs
3 (802.11n 40 MHz Mode)	Bandedges	FCC Part 15.209 / 15.407	Pass	Refer to runs
4 (802.11n 20 MHz Mode)	Bandedges	FCC Part 15.209 / 15.407	Pass	Refer to runs

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

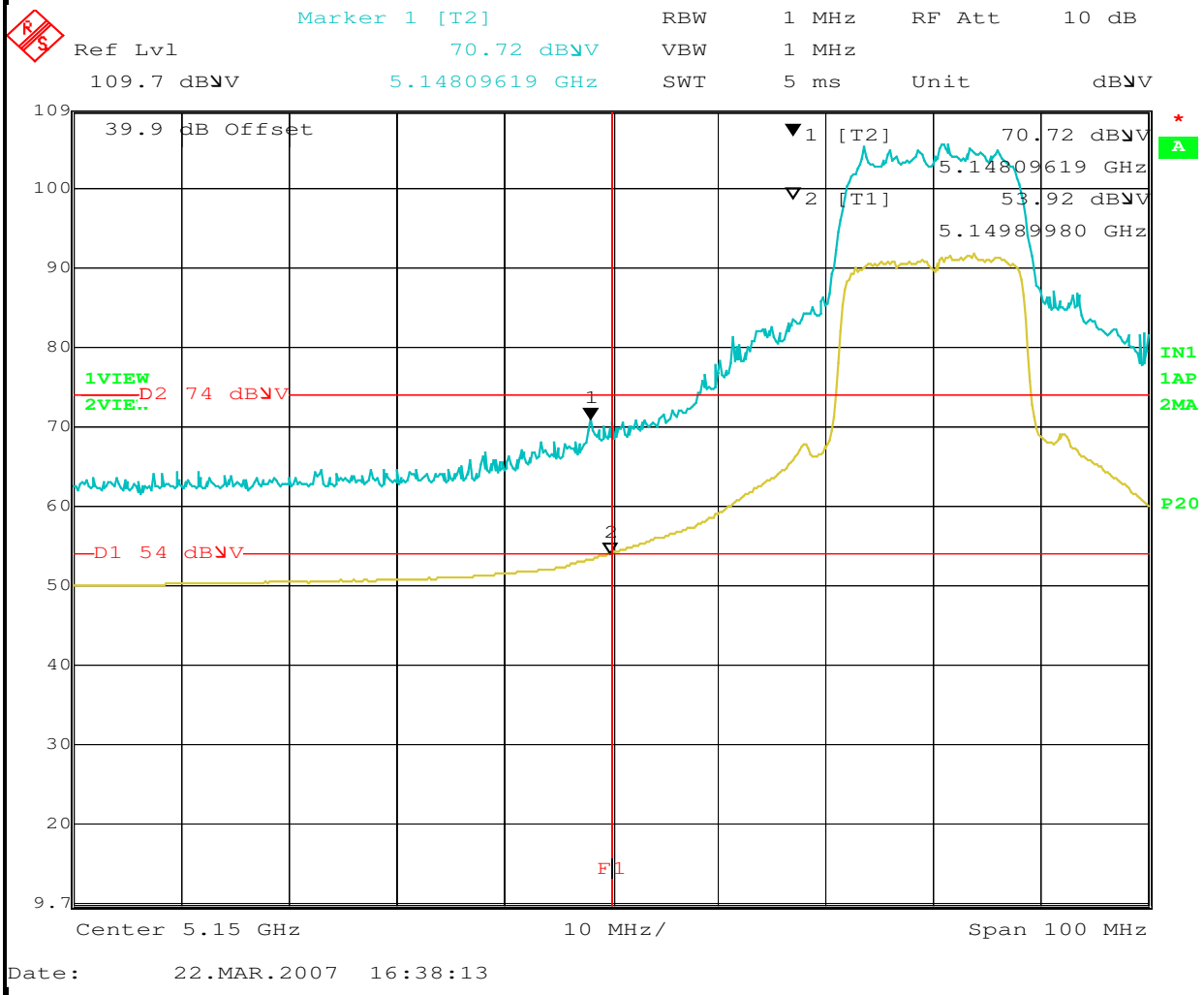
Elliott — EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1a: Radiated Bandedge. Operating Mode: 802.11a
Bandedge power measurement

Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)
5180	0x07xx			17.0	17.0	0.050

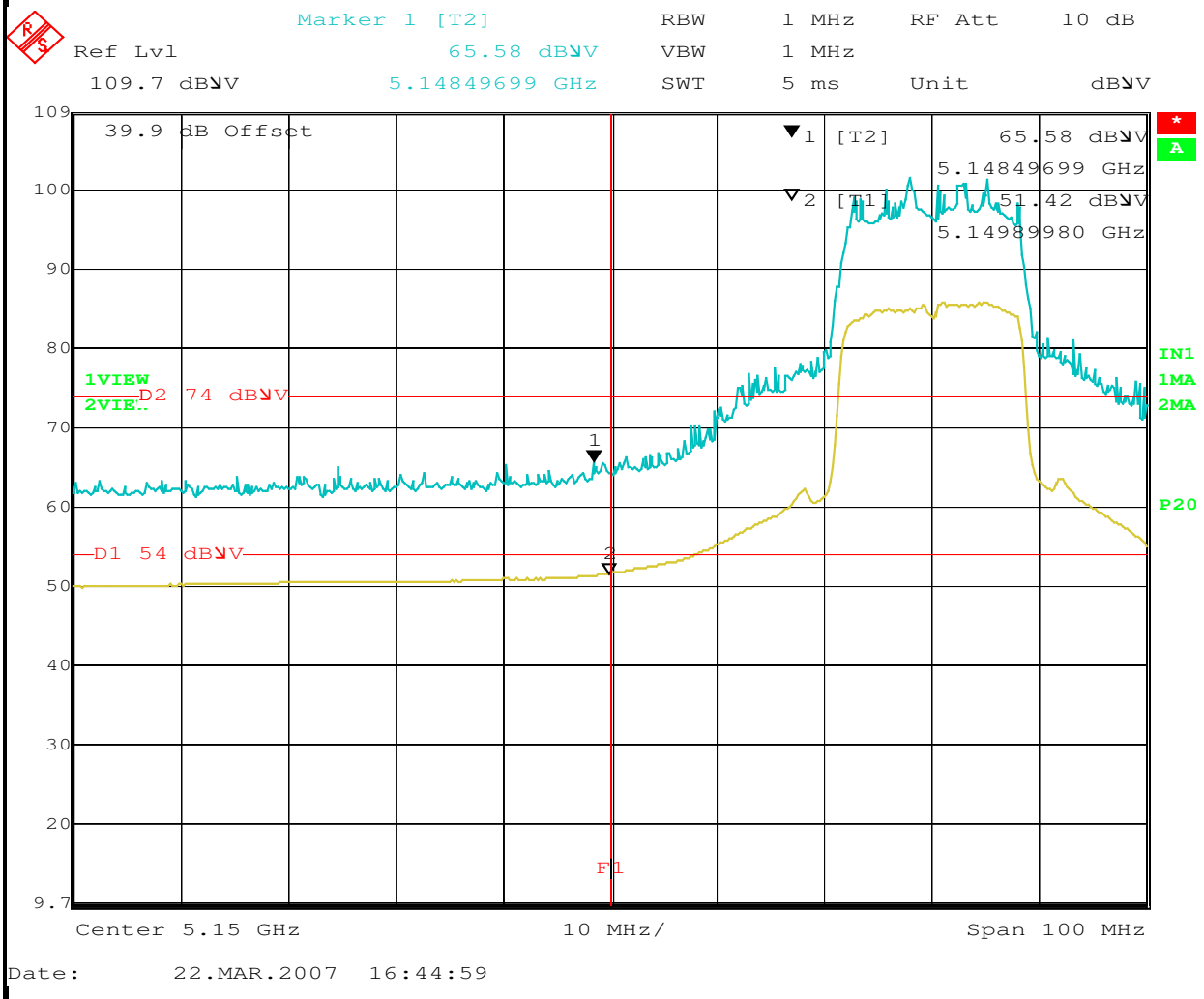
Vertical



Elliott — EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Horizontal

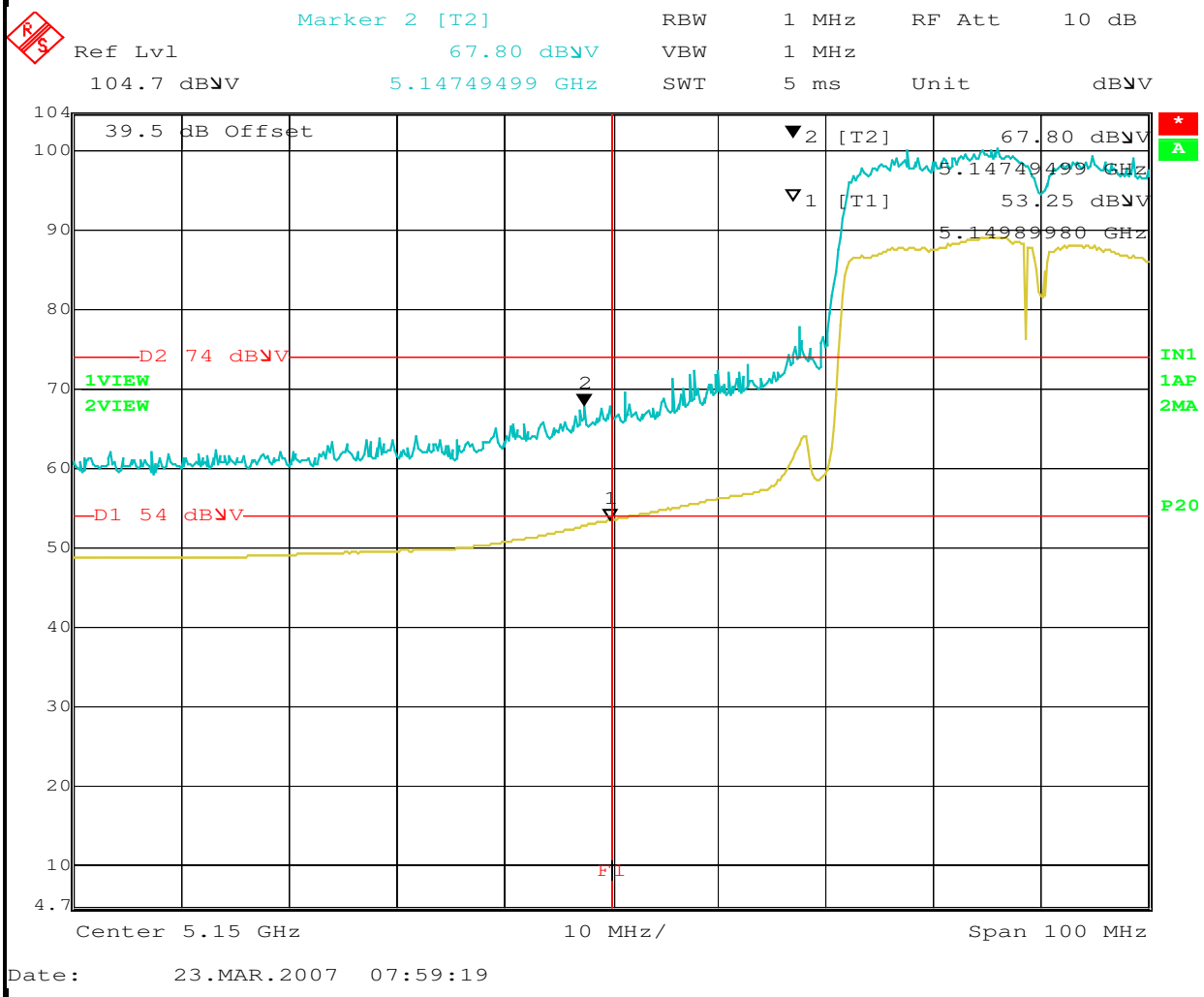


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2a: Radiated Bandedge. Operating Mode: 802.11Siso
Bandedge power measurement

Frequency (MHz)	Software Setting	Bandwidth 26dB	Bandwidth 99%[4]	Output Power[1] dBm Measured	Output Power[1] dBm Limit	Power (Watts)
5190	0x0f0f			15.0	17.0	0.032

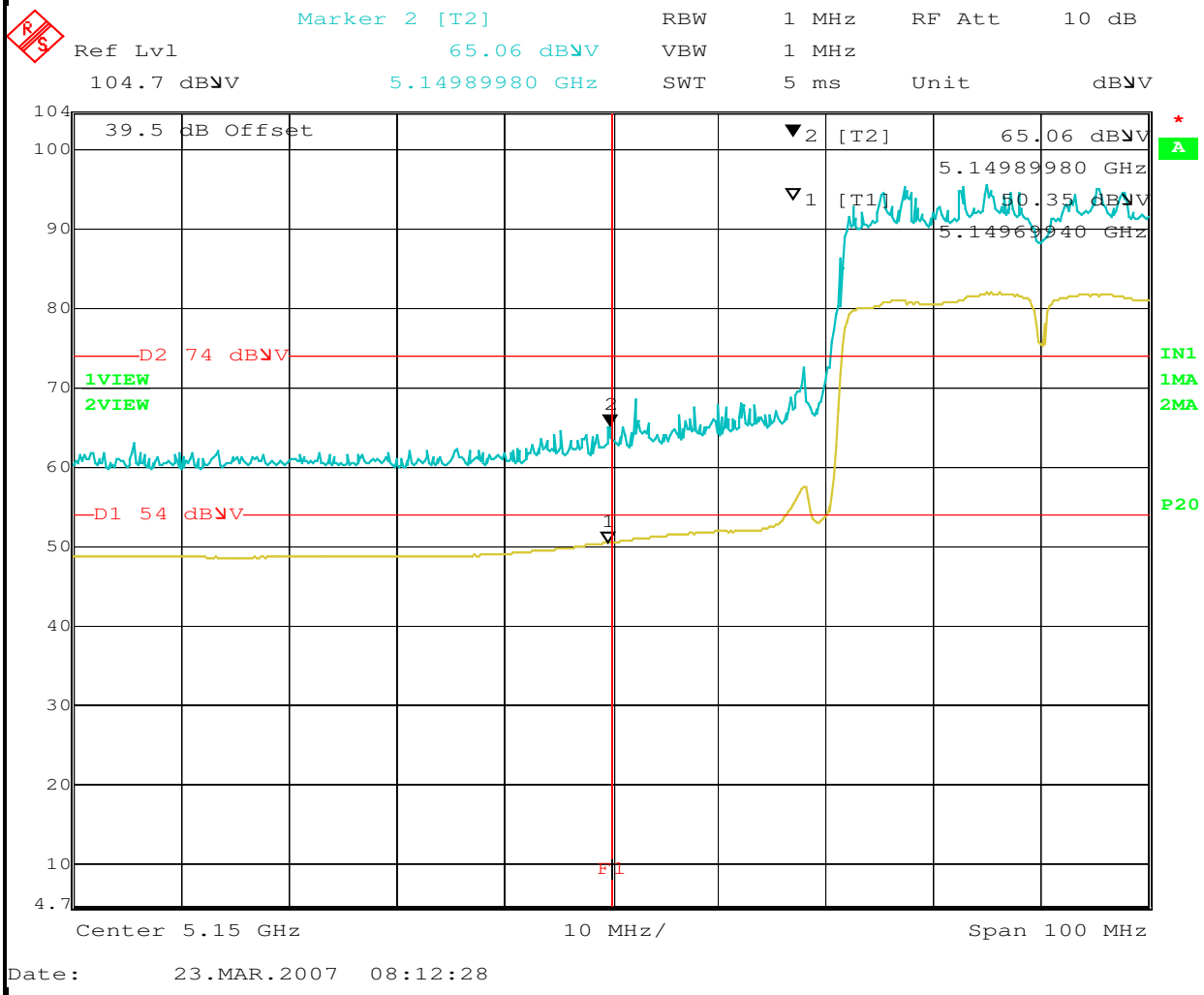
Vertical



Elliott — EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Horizontal

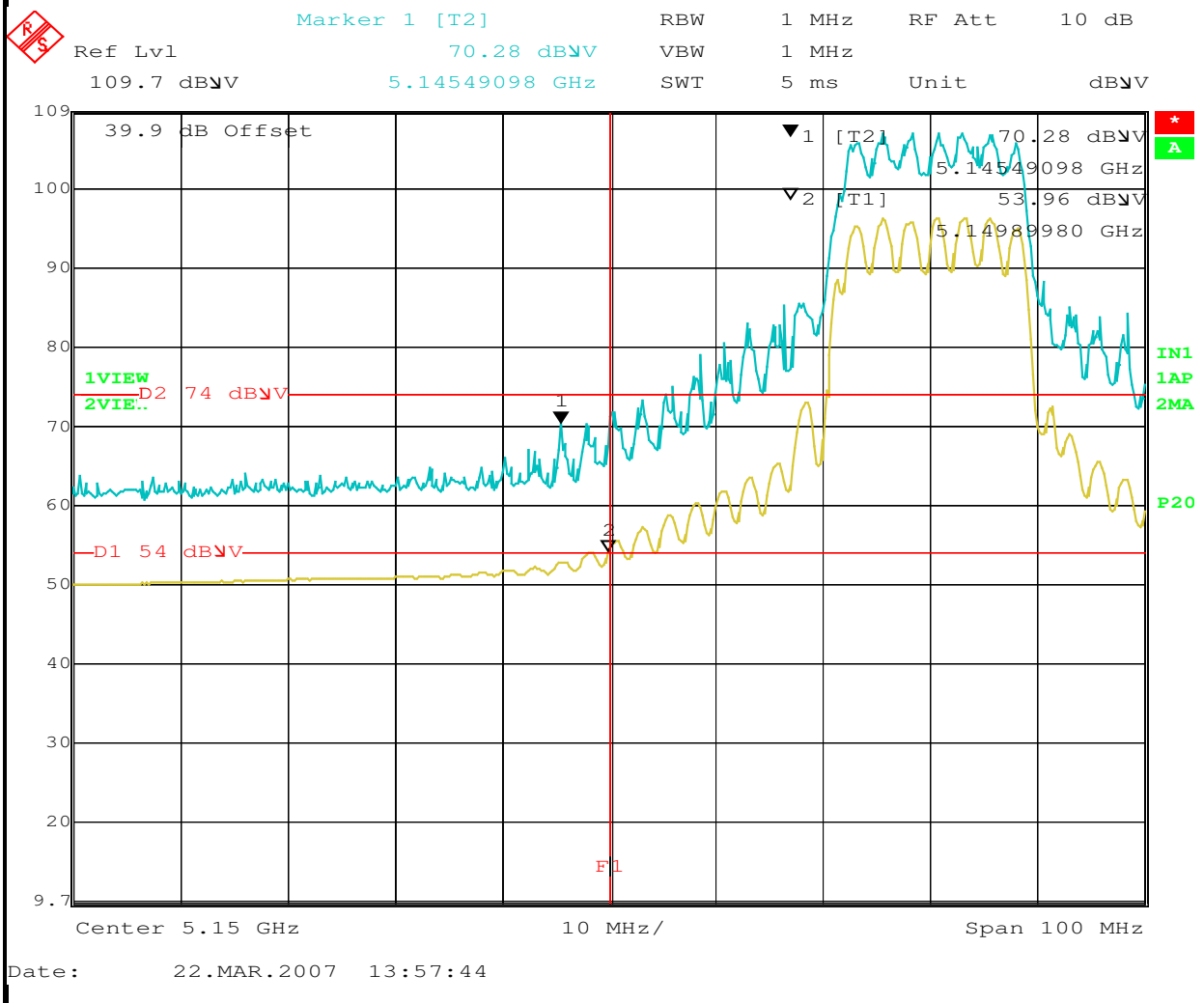


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #3a: Radiated Bandedge. Operating Mode: 802.11n 20 MHz
Bandedge power measurement

Power Setting[4]	Frequency (MHz)	Output Power (dBm) Note 1			Antenna Gain (dBi) Note 3			EIRP Note 2	
		Chain 1	Chain 2	Total	Chain 1	Chain 2	Total	dBm	W
0x0a0a	5180	16.0	16.0	19.0	3.7	3.7	-	22.7	0.187

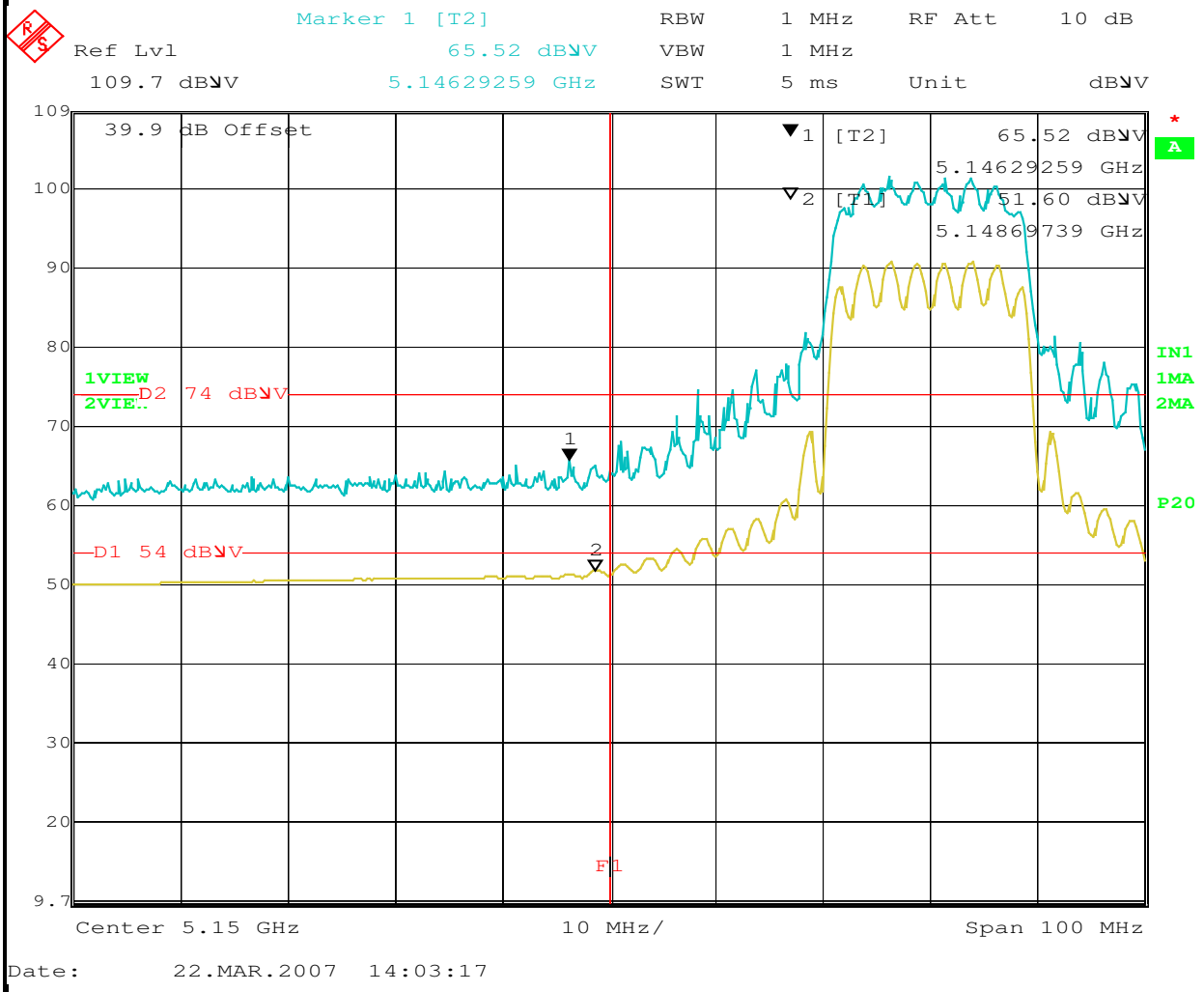
Vertical



EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Horizontal

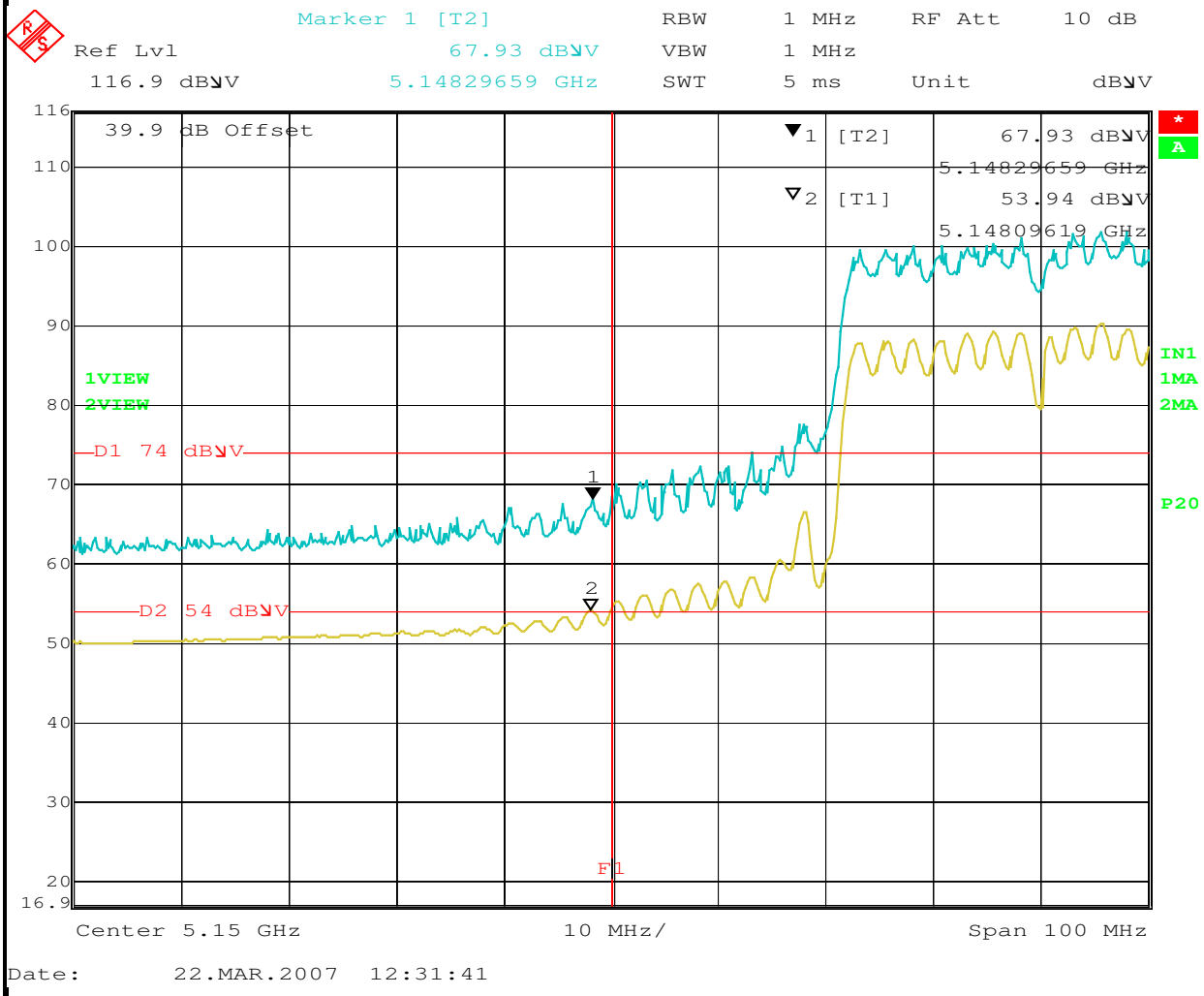


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #4a: Radiated Bandedge. Operating Mode: 802.11n 40 MHz
Bandedge power measurement

Power Setting[4]	Frequency (MHz)	Output Power (dBm) Note 1			Antenna Gain (dBi) Note 3			EIRP Note 2	
		Chain 1	Chain 2	Total	Chain 1	Chain 2	Total	dBm	W
0x1110	5190	14.0	14.0	17.0	3.7	3.7	-	20.7	0.118

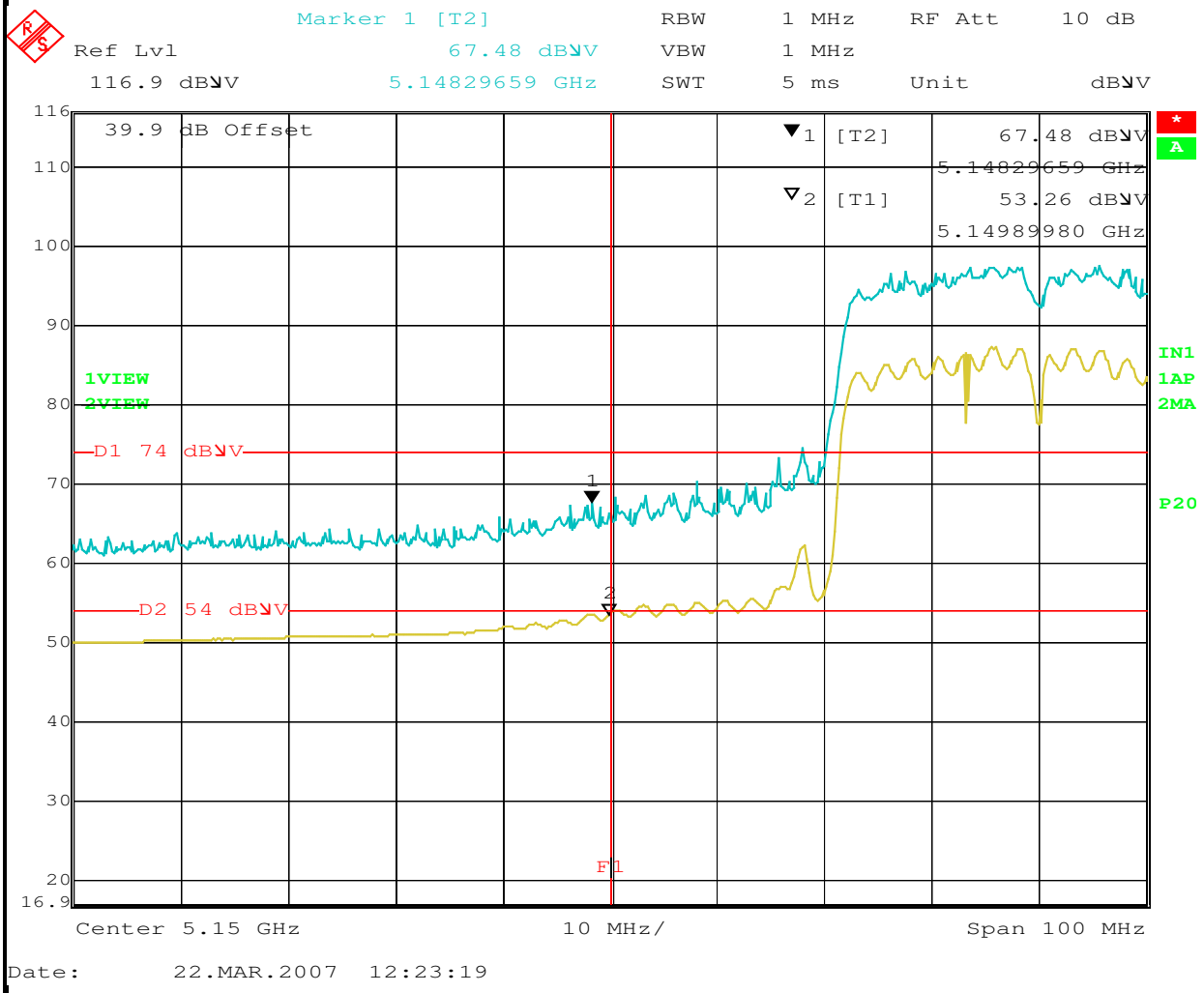
Vertical



Elliott — EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Horizontal



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

FCC Part 15 Subpart E Tests (Legacy A - 5150-5250 MHz)

Test Specific Details

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

Date of Test: 3/22/2007 9:01
Test Engineer: Mark Hill/Rafael
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

General Test Configuration

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

Ambient Conditions:

Temperature: 22.2 °C
Rel. Humidity: 44 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	14.3 dBm
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	3.64dBm/MHz
1	26dB Bandwidth	15.407	Pass	> 20 MHz
1	99% Bandwidth	RSS 210	Pass	17 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	12.63 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Bandwidth, Output Power and Power spectral Density

Antenna Gain: 3.7 dBi

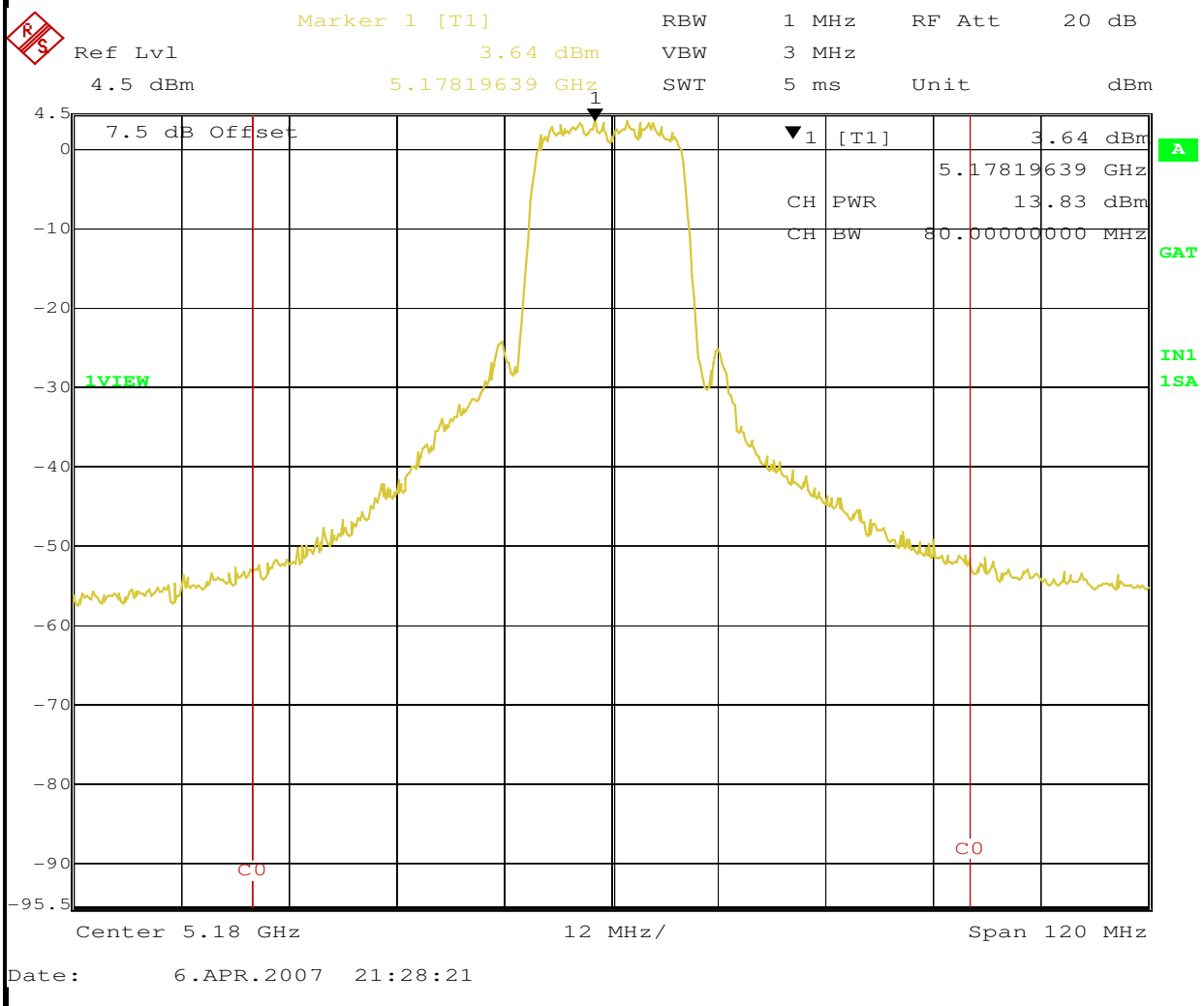
Regulatory Final Power Measurements:

Frequency (MHz)	Software Setting	Bandwidth		Output Power[1] dBm		Power (Watts)	PSD[2] dBm/MHz			Result
		26dB	99%[4]	Measured	Limit		Measured	FCC Limit	RSS Limit[3]	
5180	0x1010	19.2	16.8	13.8	16.0	0.024	3.64	4.0	4.6	Pass
5200	0x0f0f	19.9	17.0	14.3	16.0	0.027	3.64	4.0	5.0	Pass
5240	0x1414	22.3	17.0	14.1	16.0	0.026	3.43	4.0	4.8	Pass

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 100 MHz
Note 2:	Measured using the same analyzer settings used for output power.
Note 3:	For RSS210 the measured value of the PSD (see note 3) must not exceed the average value (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB.
Note 4:	99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

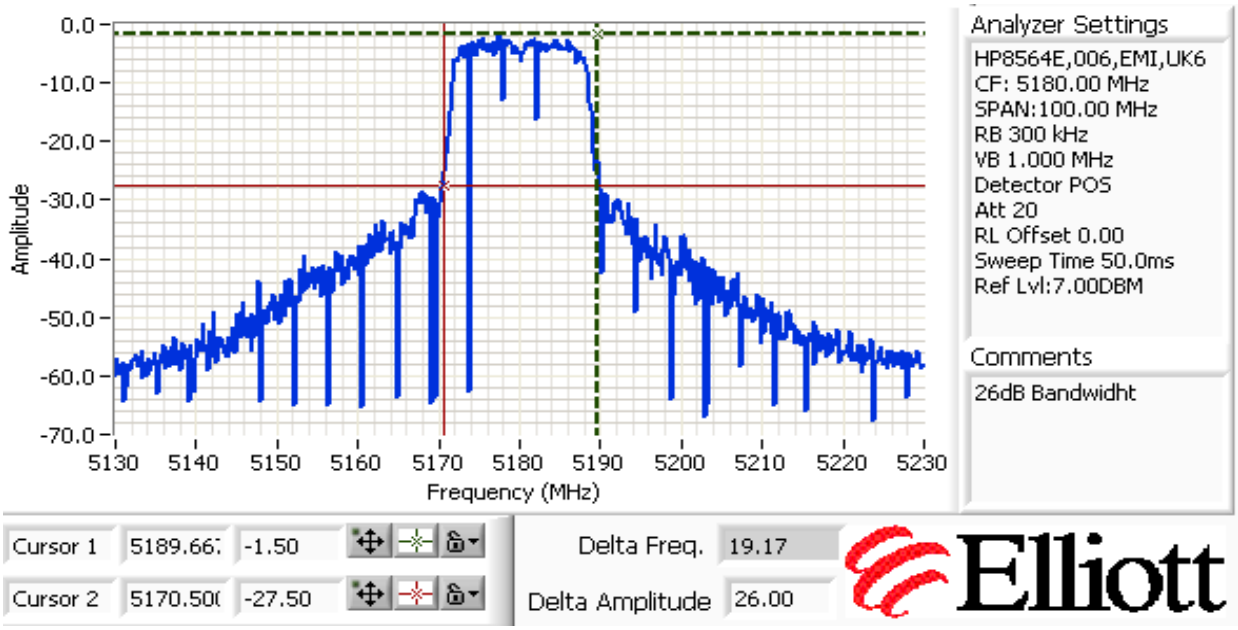
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 36 @ 5180 MHz
Output Power & PSD

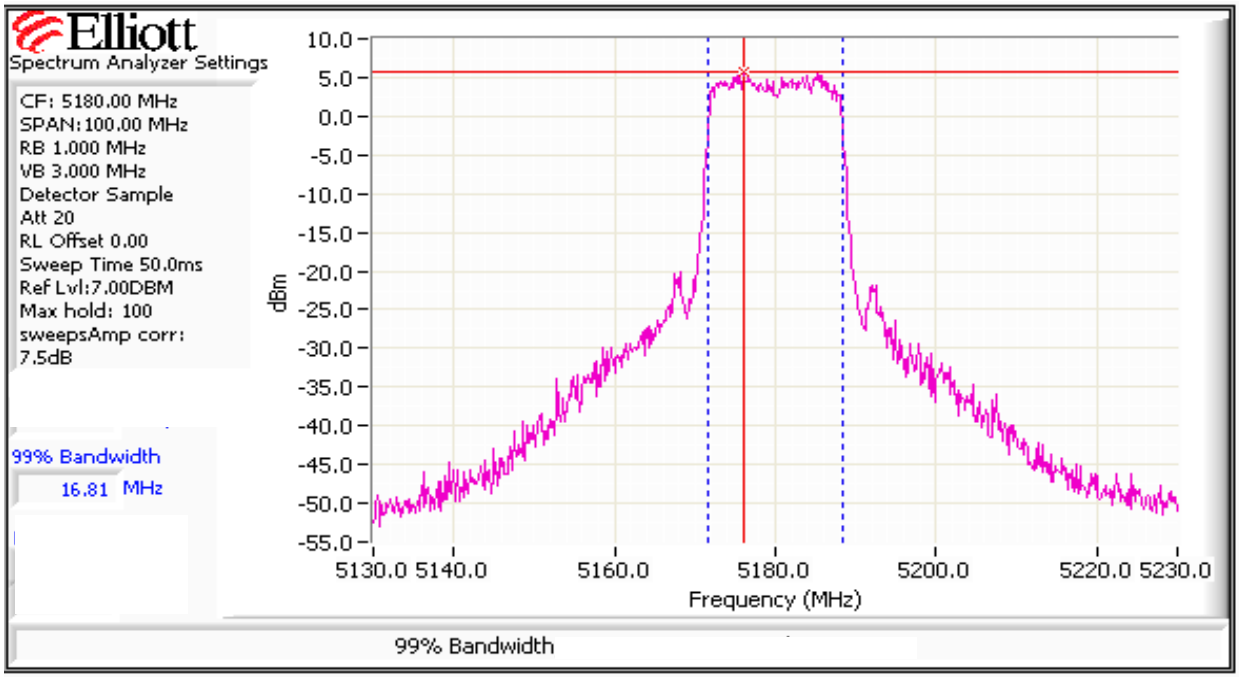


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 36 @ 5180 MHz
26dB Bandwith

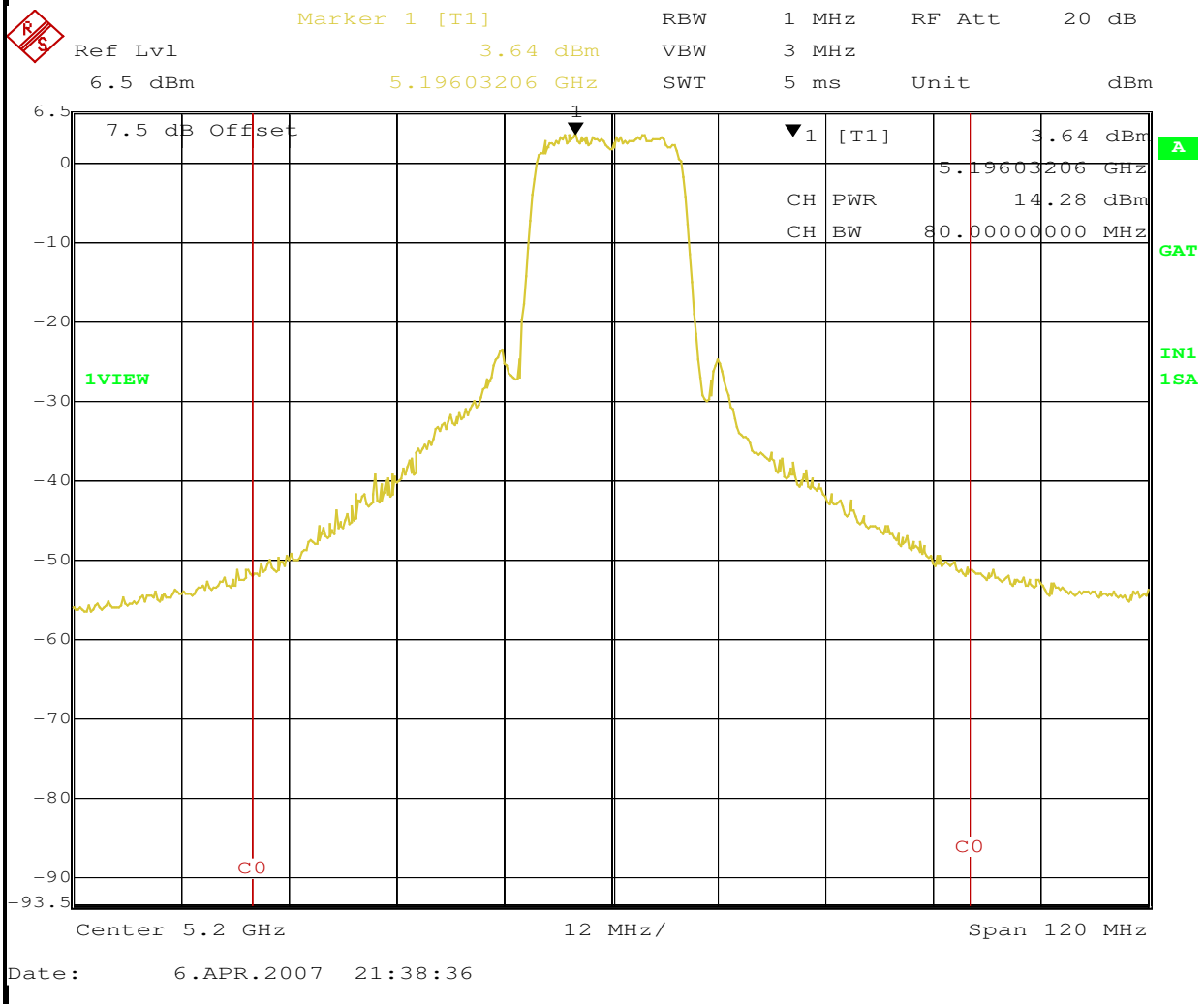


Low Channel 36 @ 5180 MHz
99% Bandwith



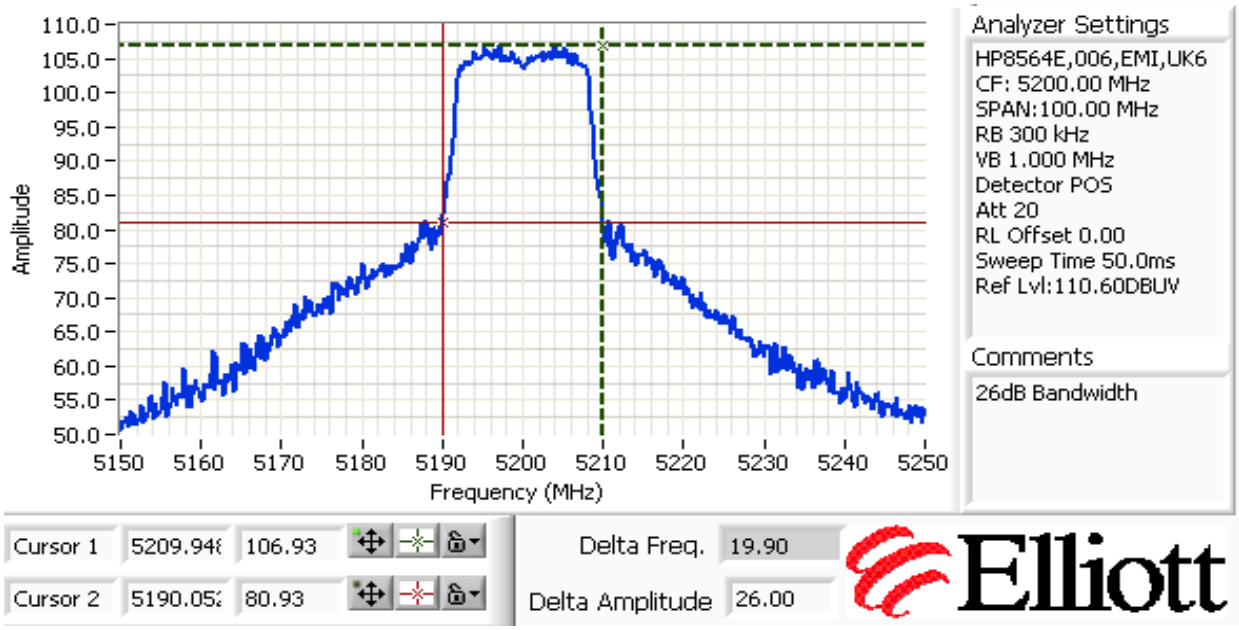
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Middle Channel 40 @ 5200 MHz
Output Power and PSD

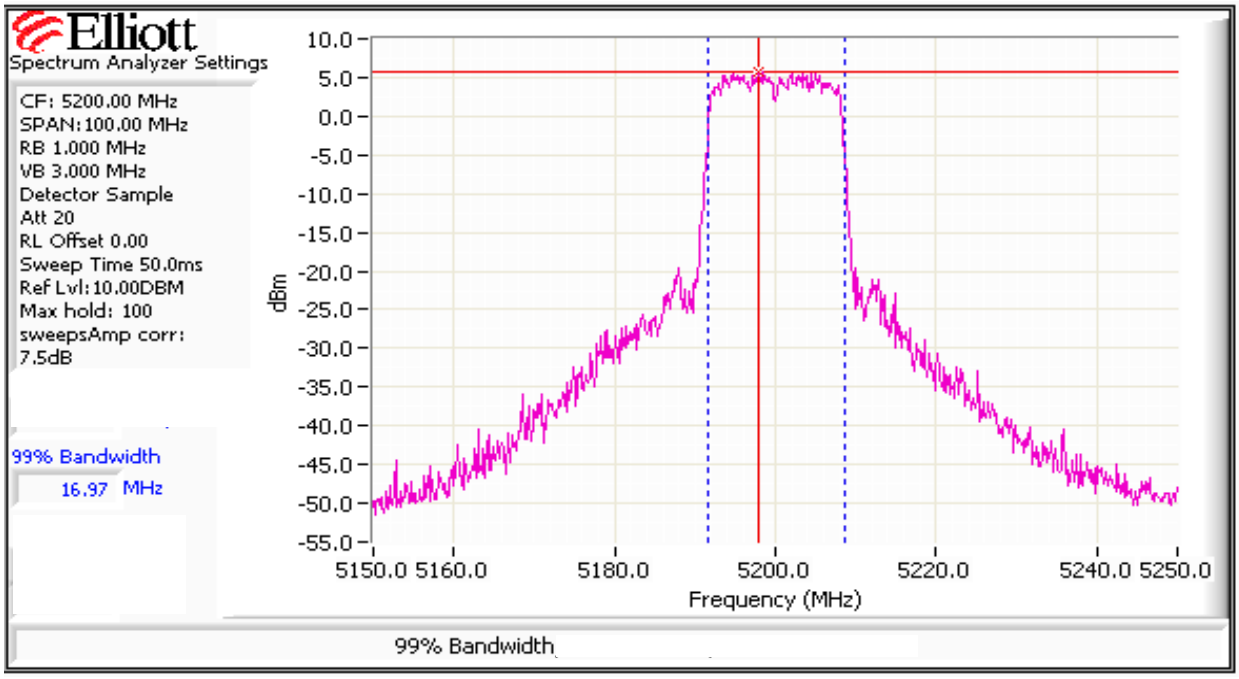


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Middle Channel 40 @ 5200 MHz
26dB Bandwith

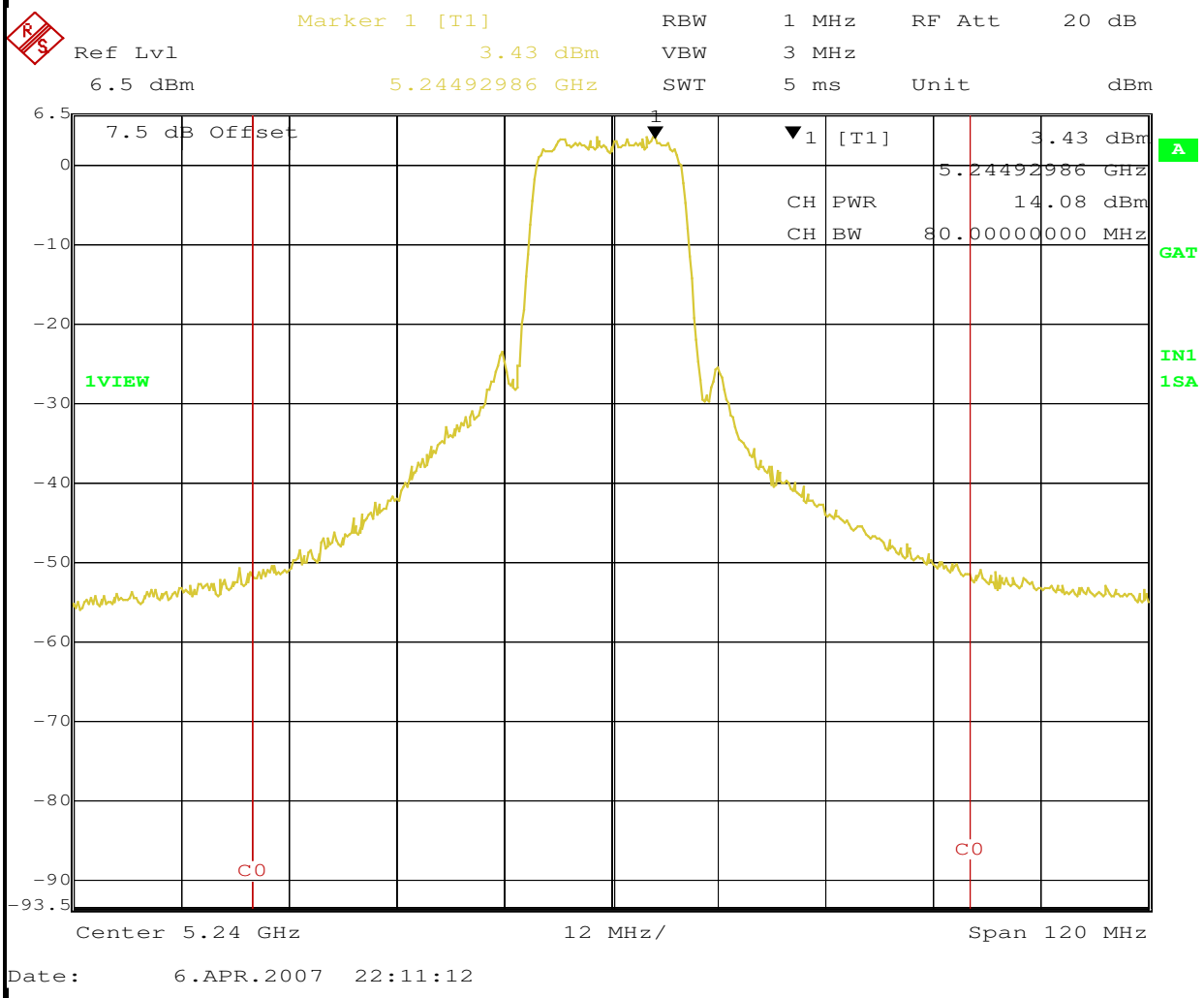


Middle Channel 40 @ 5200 MHz
99% Bandwith



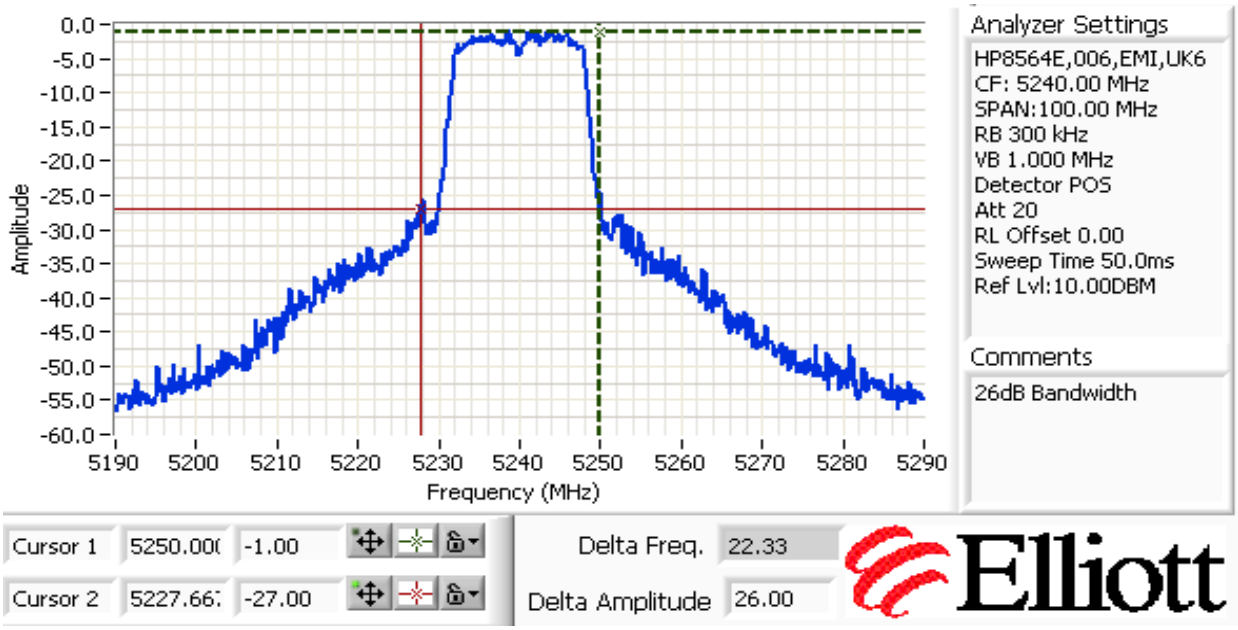
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 48 @ 5240 MHz
Output Power & PSD

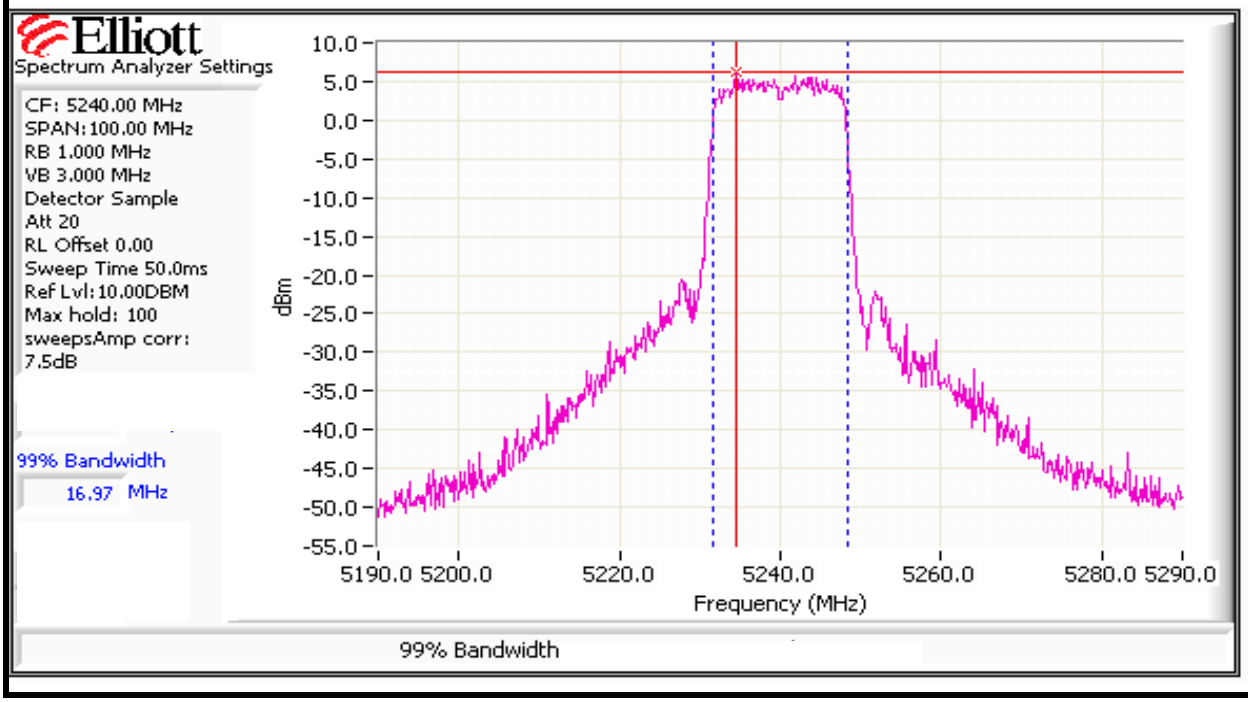


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 48 @ 5240 MHz
26dB Bandwith



High Channel 48 @ 5240 MHz
99% Bandwith

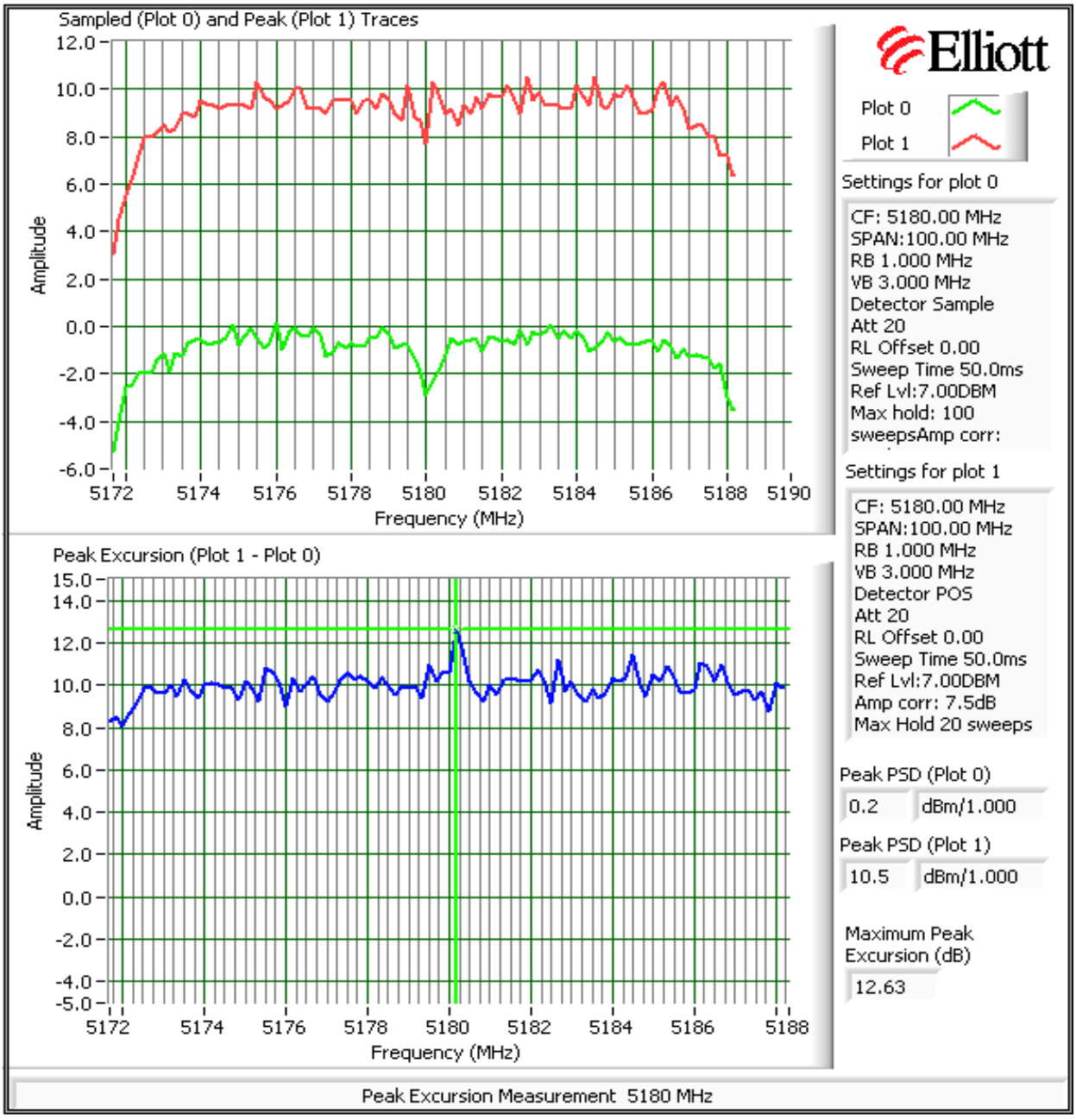


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2: Peak Excursion Measurement

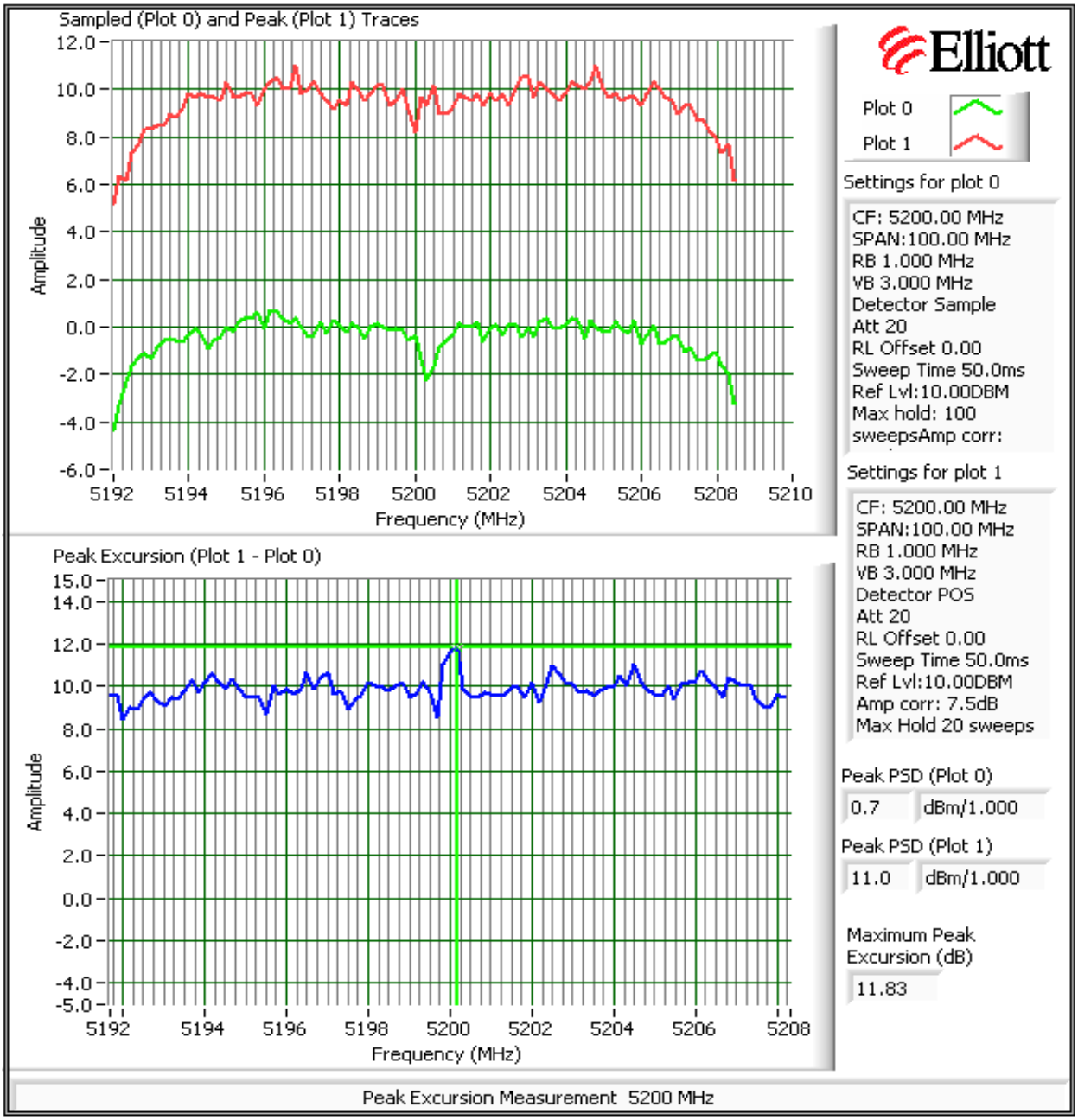
Plots Showing Peak Excursion

Low Channel 36 @ 5180 MHz



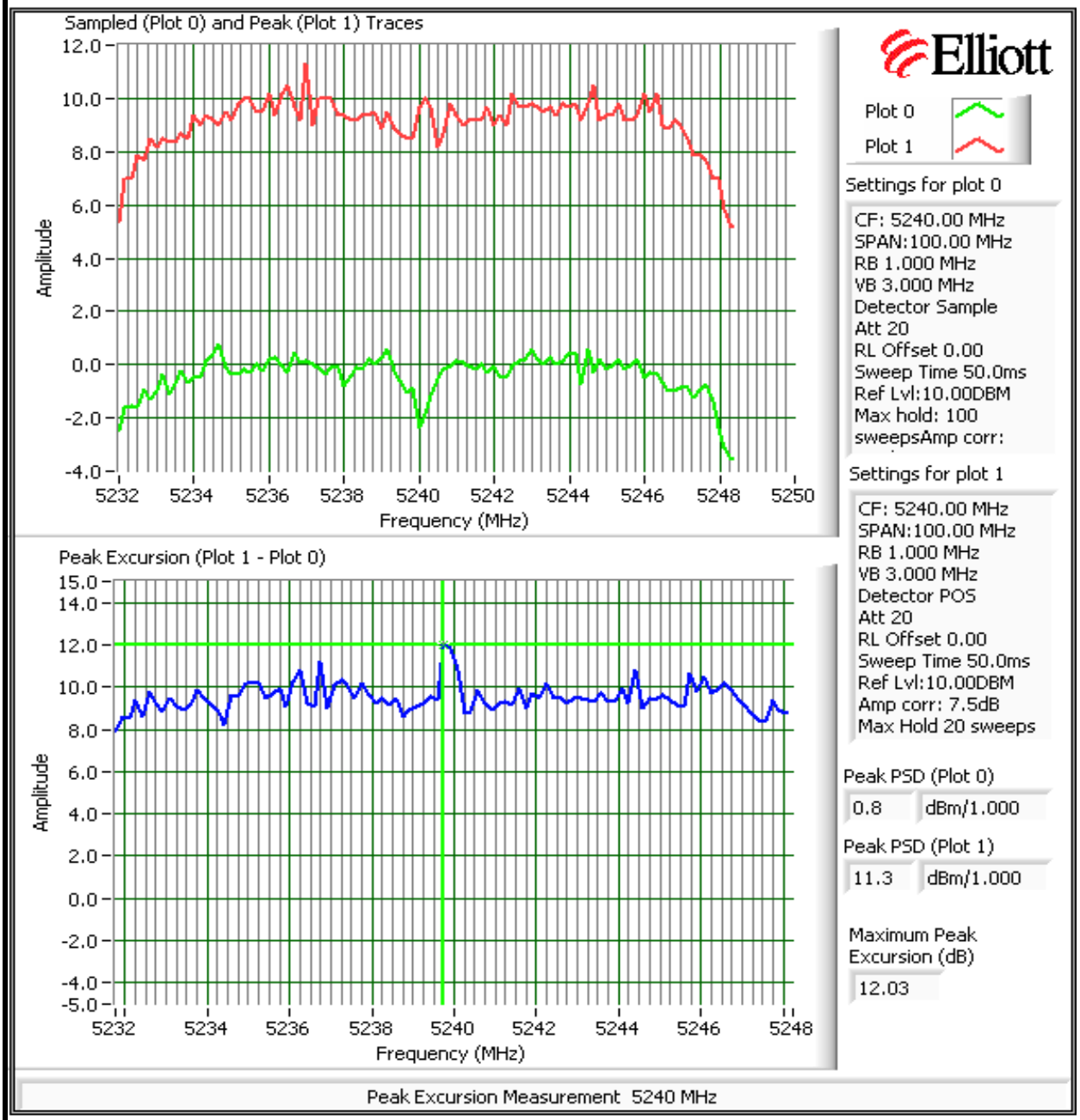
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Middle Channel 40 @ 5200 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 48 @ 5240 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

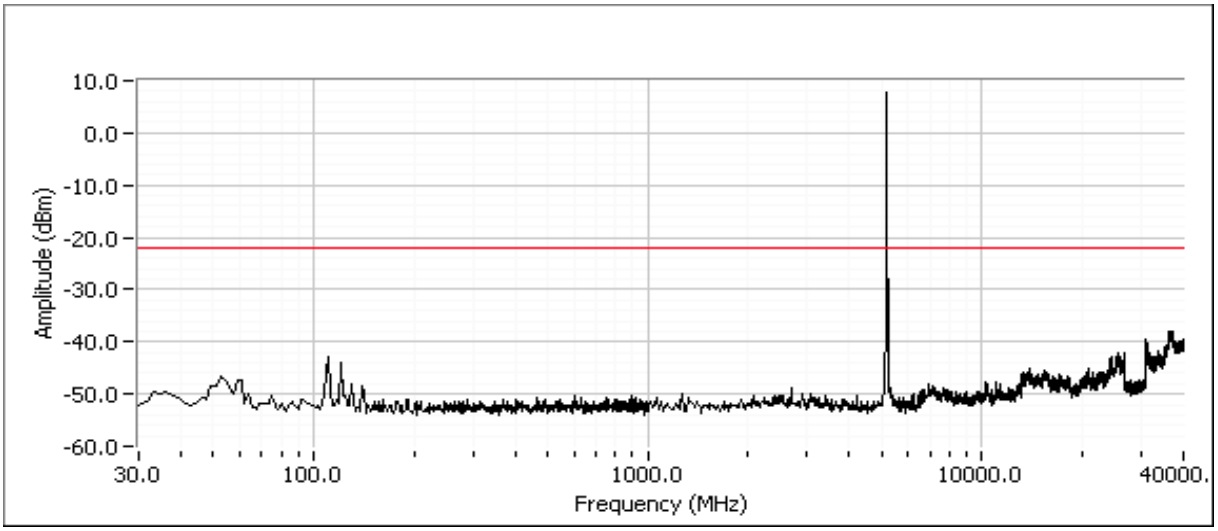
Run #3: Out Of Band Spurious Emissions - Antenna Conducted

Maximum Antenna Gain:	3.7 dBi
Spurious Limit:	-27 dBm/MHz eirp
Limit Used On Plots [Note 1]:	-30.7 dBm/MHz

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

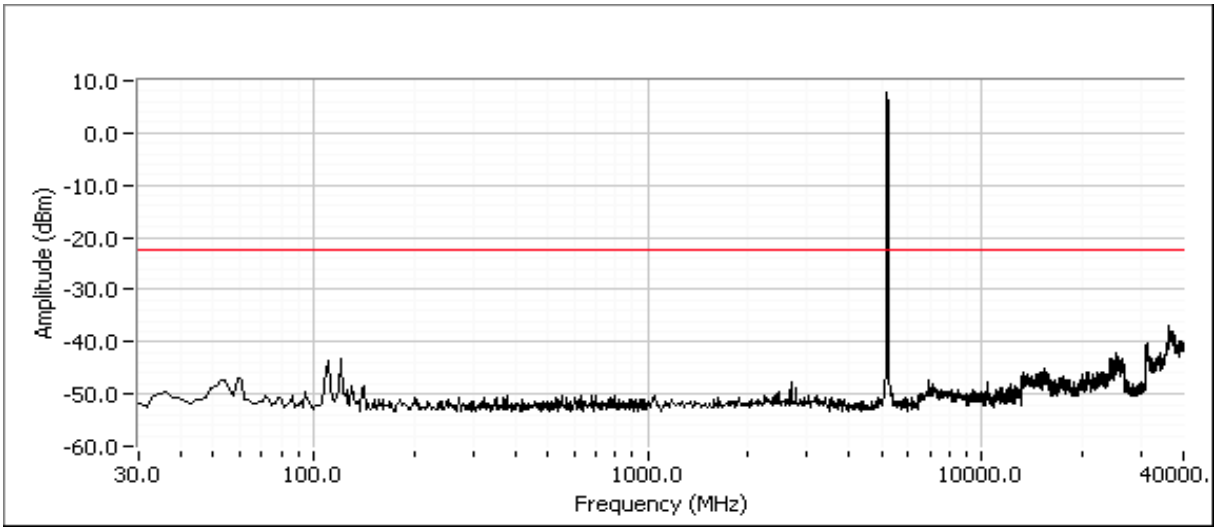
Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

Low Channel 36 @ 5180 MHz

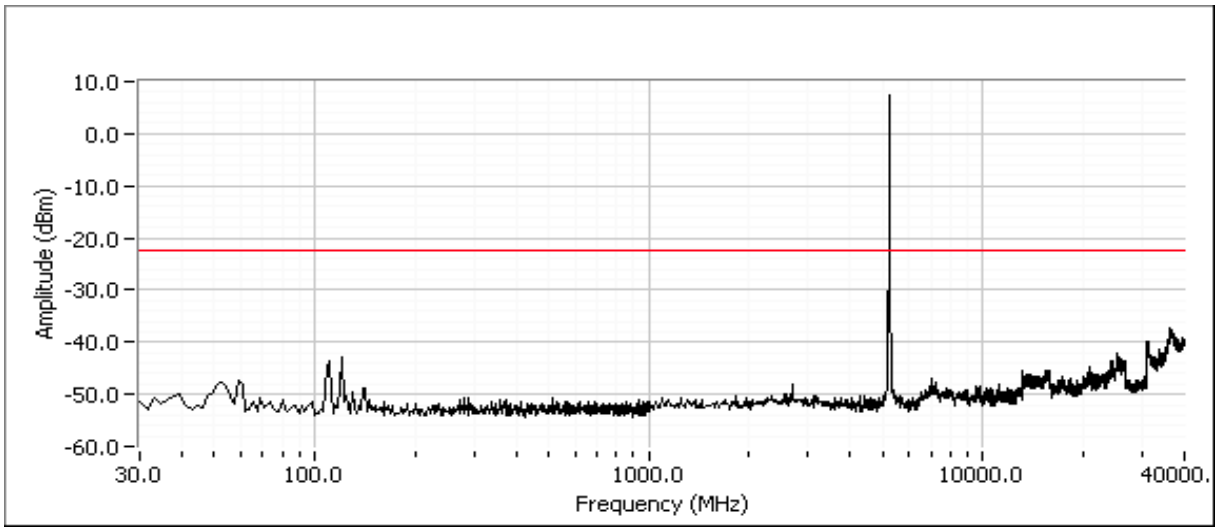


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Middle Channel 40 @ 5200 MHz



High Channel 48 @ 5240 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

FCC Part 15 Subpart E Tests (5150-5250 MHz, SISO, 40 MHz)

Test Specific Details

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

Date of Test: 3/22/2007 9:01
Test Engineer: Mark Hill/Rafael
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

General Test Configuration

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

Ambient Conditions:

Temperature: 21.9 °C
Rel. Humidity: 44 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	16dBm
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	2.2 dBm/MHz
1	26dB Bandwidth	15.407	Pass	> 20 MHz
1	99% Bandwidth	RSS 210	Pass	36.6 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	5.54 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Bandwidth, Output Power and Power spectral Density
Unit standing upright

Antenna Gain: 3.7 dBi

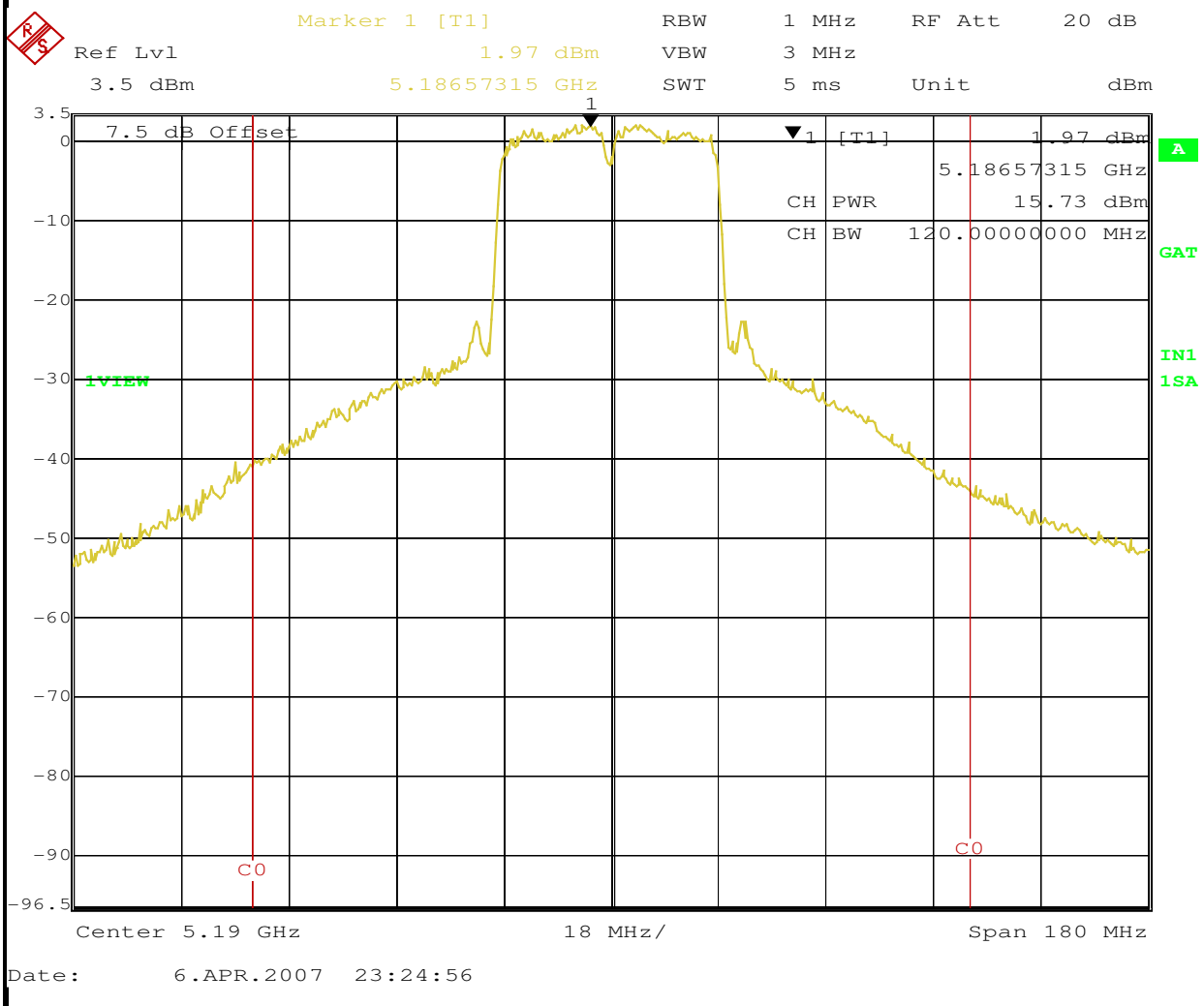
Regulatory Final Power Measurements:

Frequency	Software	Bandwidth		Output Power[1] dBm		Power	PSD[2] dBm/MHz			Result
(MHz)	Setting	26dB	99%[4]	Measured	Limit	(Watts)	Measured	FCC Limit	RSS Limit[3]	
5190	0x0a0a	45.0	36.6	15.7	17.0	0.037	1.97	4.0	3.1	Pass
5230	0x0c0c	46.0	36.6	16.0	17.0	0.040	2.20	4.0	3.4	Pass

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 100 MHz
Note 2:	Measured using the same analyzer settings used for output power.
Note 3:	For RSS210 the measured value of the PSD (see note 3) must not exceed the average value (calculated from the measured power divided by the measured 99% bandwidth) by more than 3dB.
Note 4:	99% Bandwidth measured in accordance with RSS GEN - RB > 1% of span and VB >=3xRB

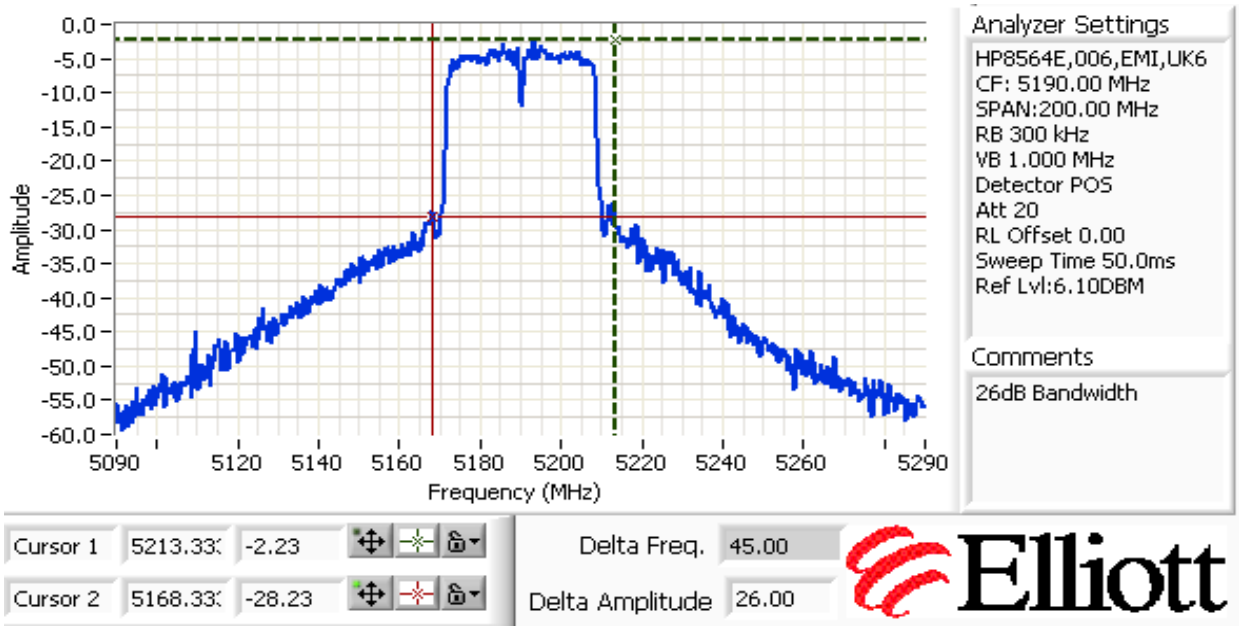
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 38 @ 5190 MHz
Output Power & PSD

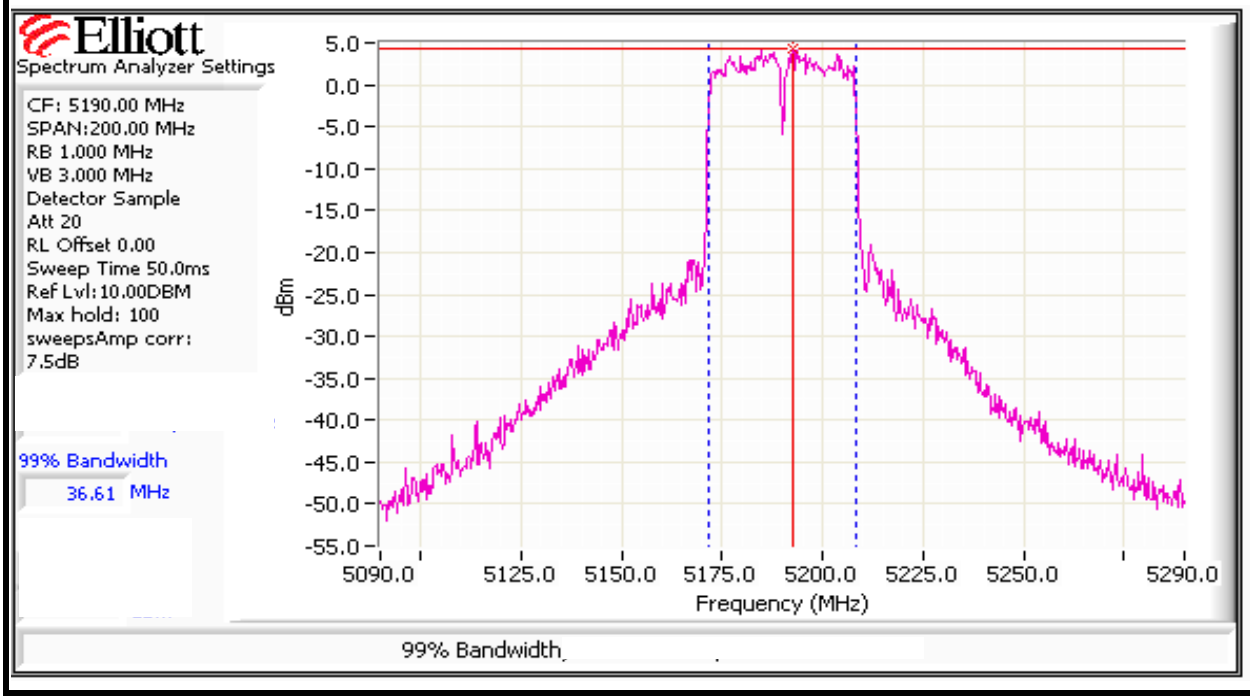


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 38 @ 5190 MHz
26dB Bandwith

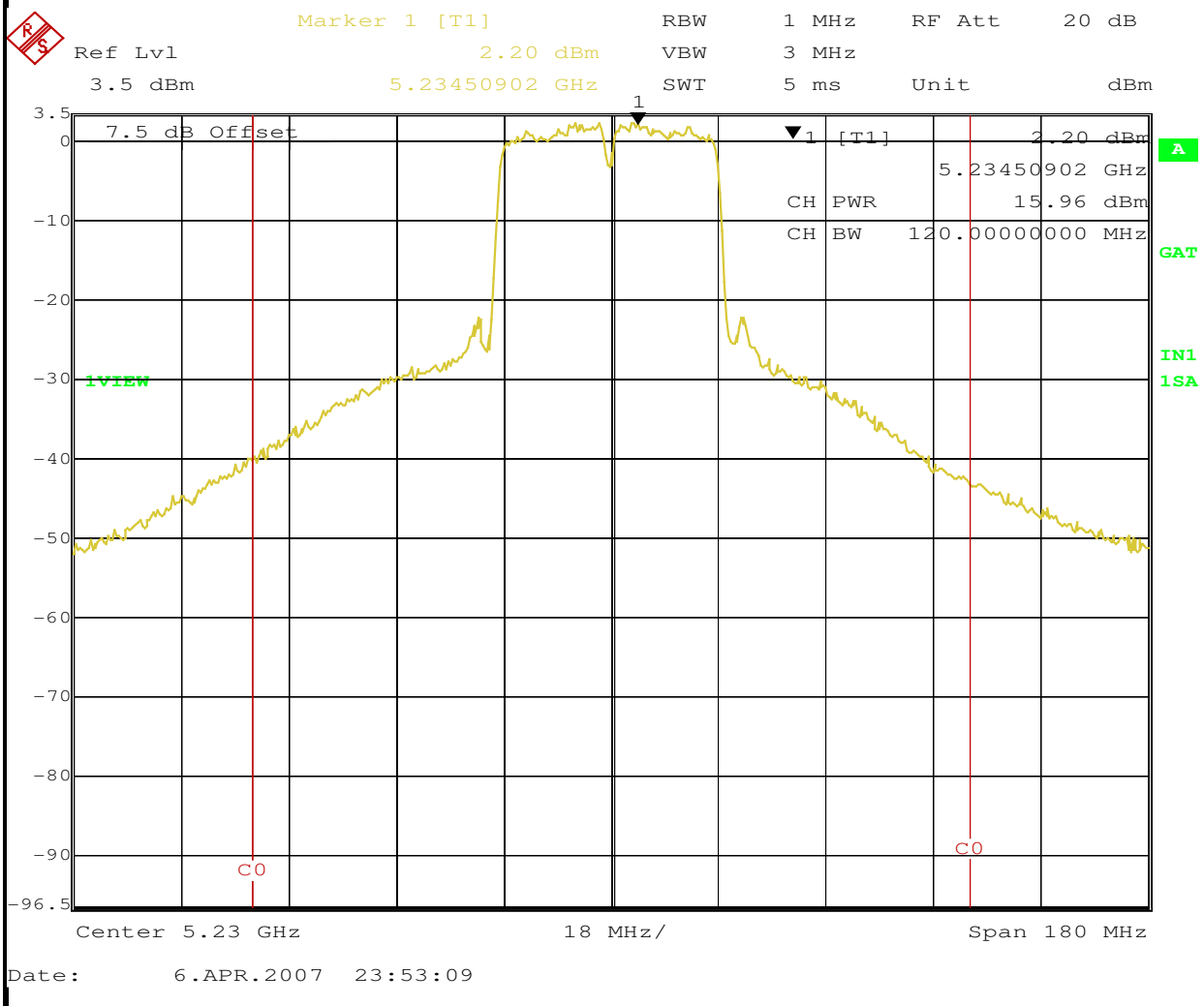


Low Channel 38 @ 5190 MHz
99% Bandwith



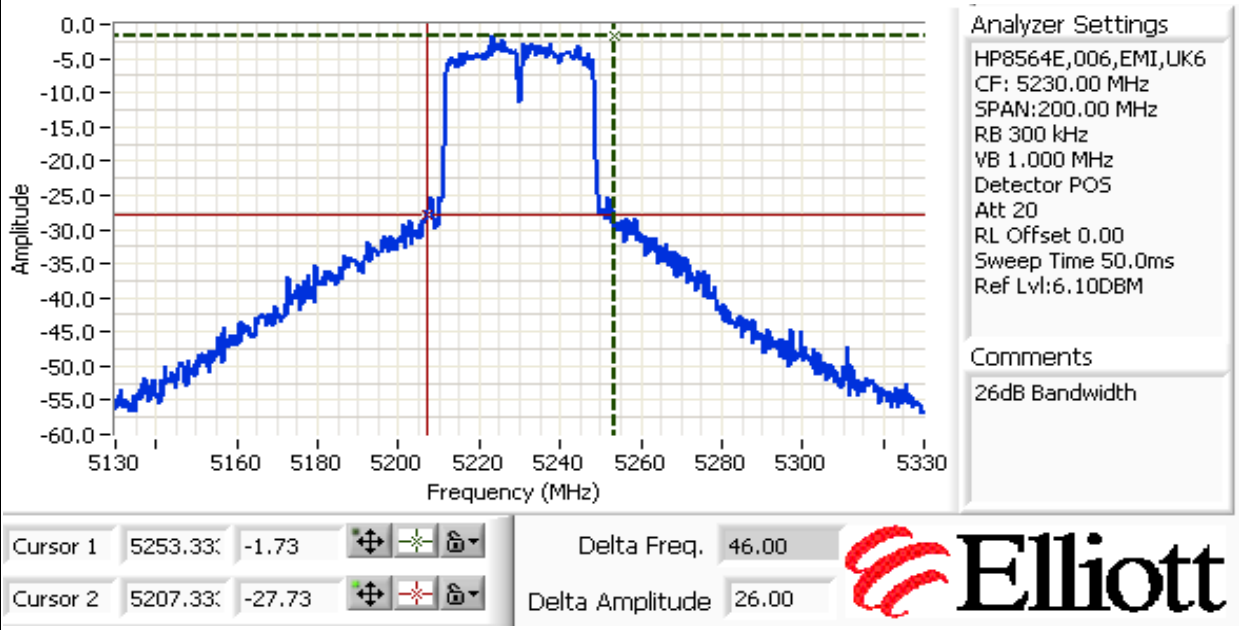
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz
Output Power & PSD

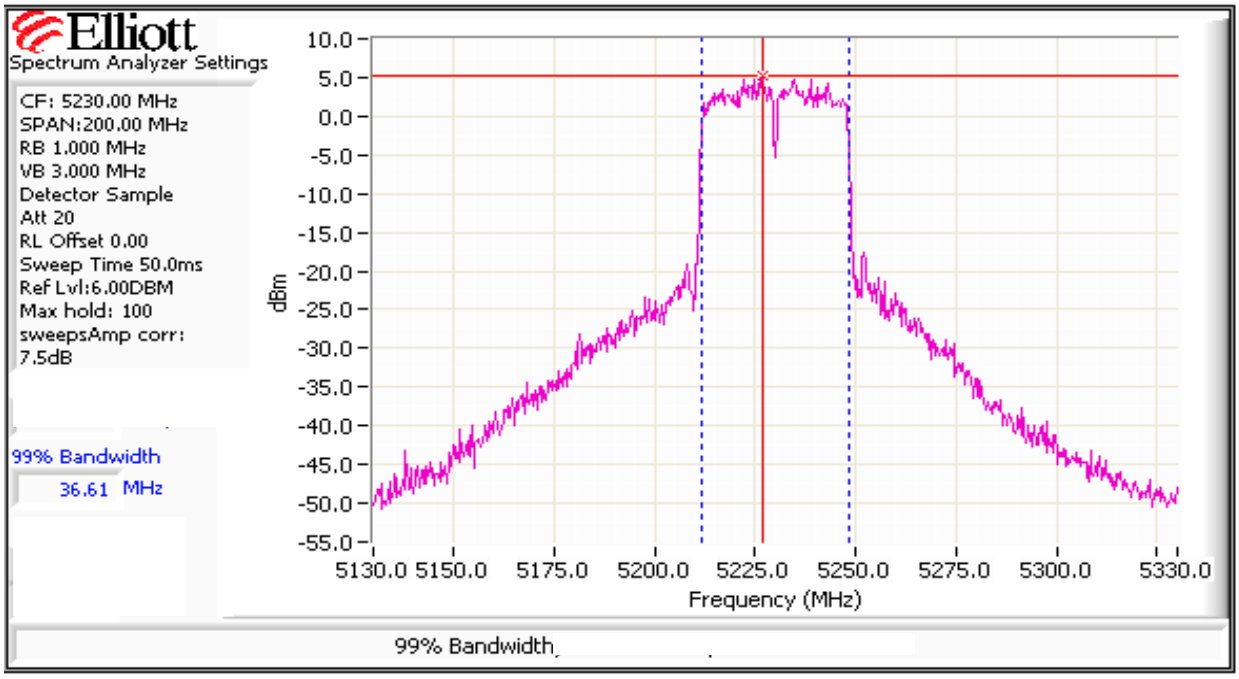


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz
26dB Bandwidth



High Channel 46 @ 5230 MHz
99% Bandwith

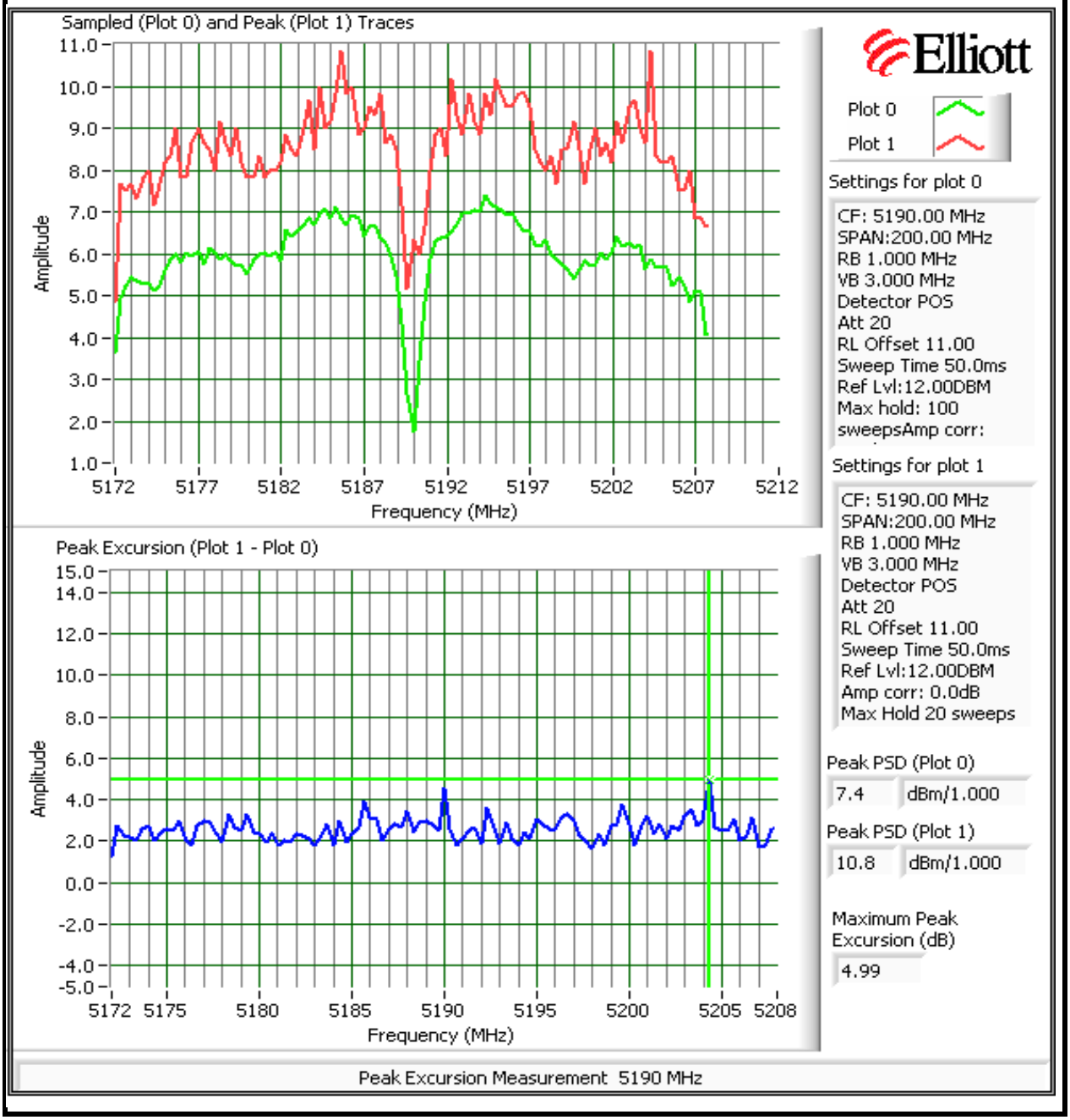


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2: Peak Excursion Measurement

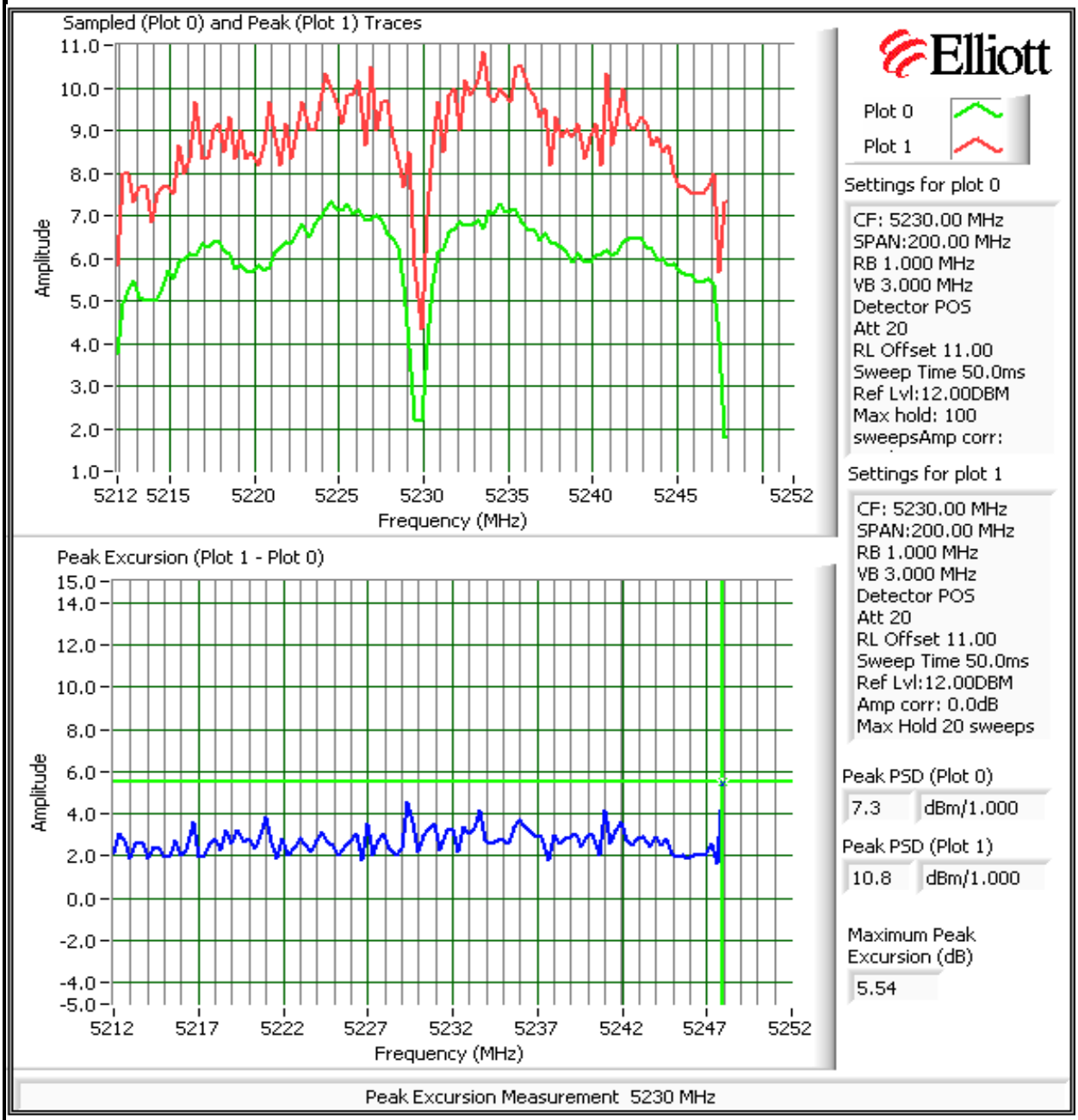
Plots Showing Peak Excursion

Low Channel 38 @ 5190 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

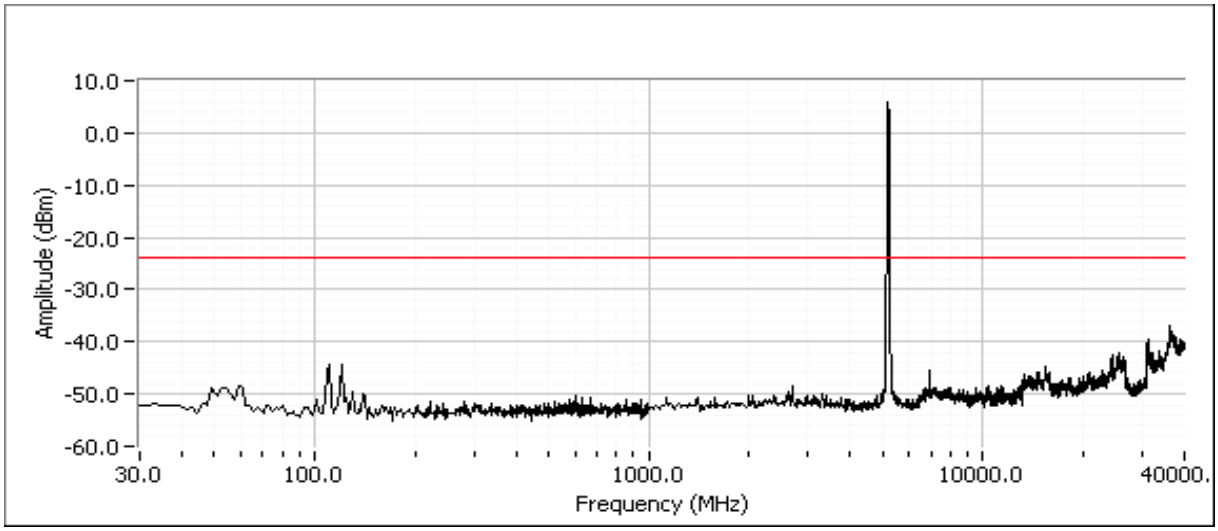
Run #3: Out Of Band Spurious Emissions - Antenna Conducted

Maximum Antenna Gain:	3.7	dBi
Spurious Limit:	-27	dBm/MHz eirp
Limit Used On Plots [Note 1]:	-30.7	dBm/MHz

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

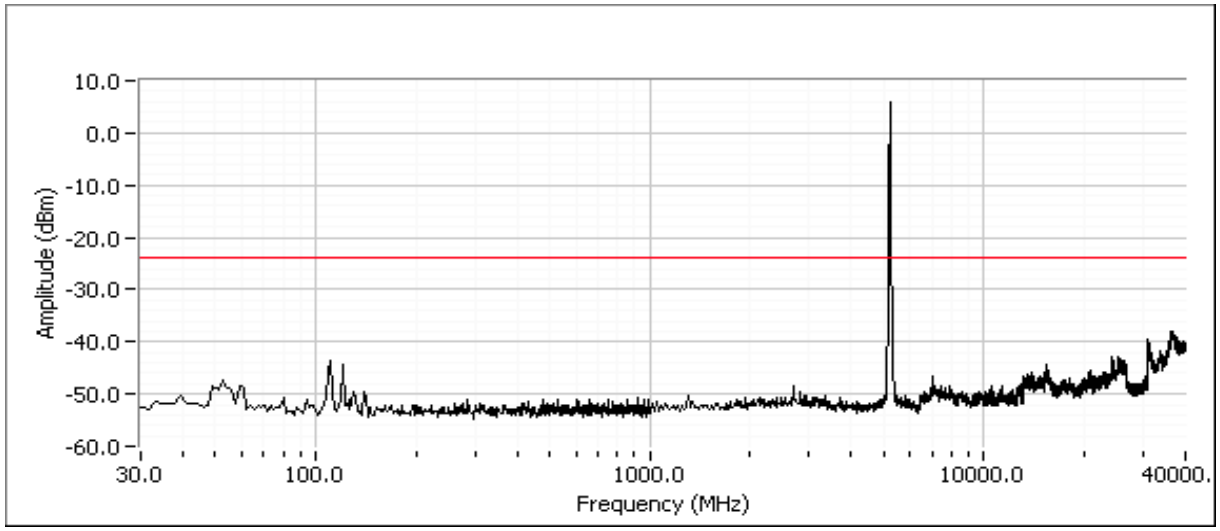
Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

Low Channel 38 @ 5190 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

FCC Part 15 Subpart E Tests (5150-5250 MHz, 802.11n, 20 MHz)

Test Specific Details

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

Date of Test: 3/22/2007
Test Engineer: Mark Hill
Test Location: Fremont Chamber #3

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

General Test Configuration

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

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

Ambient Conditions:

Temperature: 21.8 °C
Rel. Humidity: 47 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	14.1 dBm
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	3.15dBm/MHz
1	26dB Bandwidth	15.407	Pass	> 20 MHz
1	99% Bandwidth	RSS 210	Pass	18 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	12.47 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1a: Output Power

Transmitted signal on chain is coherent ? Yes

Regulatory Final Power Measurements:

Power Setting[4]	Frequency (MHz)	Output Power (dBm) Note 1			Antenna Gain (dBi) Note 3			EIRP Note 2	
		Chain 1	Chain 2	Total	Chain 1	Chain 2	Total	dBm	W
0x1a1a	5180	10.8	11.0	13.9	3.7	3.7	6.7	20.6	0.115
0x1a1a	5200	11.0	11.2	14.1	3.7	3.7	6.7	20.8	0.121
0x2424	5240	10.7	9.8	13.3	3.7	3.7	6.7	20.0	0.099

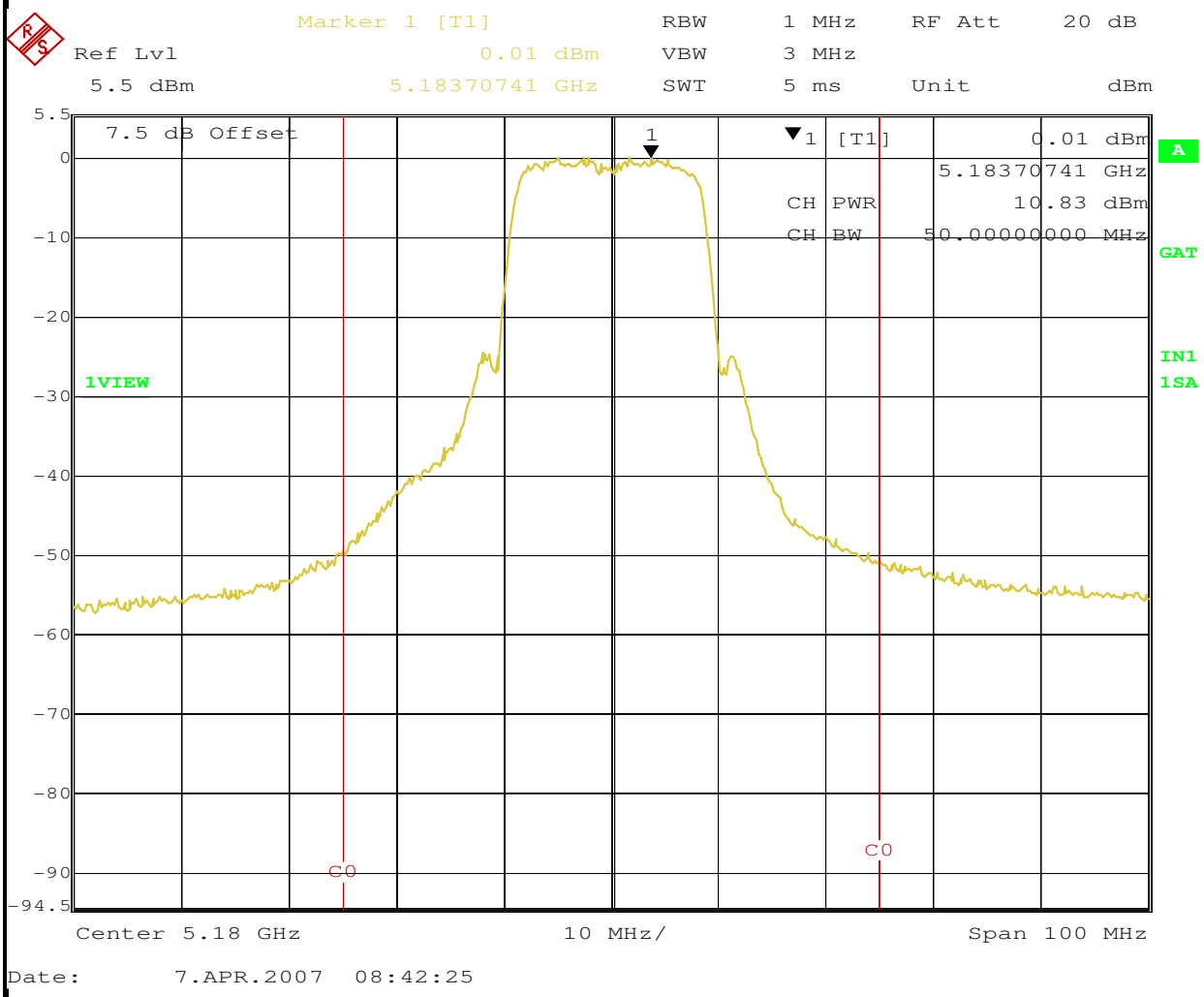
Frequency (MHz)	Software Setting	Bandwidth		Output Power[1] dBm		Power (Watts)	PSD[2] dBm/MHz			Result
		26dB	99%[4]	Measured	Limit		Measured	FCC Limit	RSS Limit[3]	
5180	0x1a1a	23.7	18.0	13.9	15.8	0.024	3.02	3.3	4.3	Pass
5200	0x1a1a	23.5	18.0	14.1	15.8	0.026	3.15	3.3	4.6	Pass
5240	0x2424	23.5	18.0	13.3	15.8	0.021	2.48	3.3	3.7	Pass

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 100 MHz
Note 2:	EIRP - if transmit chains are coherent then the EIRP is calculated from the sum of the antenna gains plus the total power (i.e. beam-forming is assumed because of coherency on the chains). If the individual chains are incoherent then the EIRP is calculated from the sum of the individual EIRPs for each chain.
Note 3:	If the transmit chains are coherent then the total system antenna gain is the sum of the numeric gains for each antenna. If the transmit chains are incoherent then the system antenna gain is not applicable as each transmit chain can be treated independently.
Note 4:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for chain 1, power setting y for chain 2.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

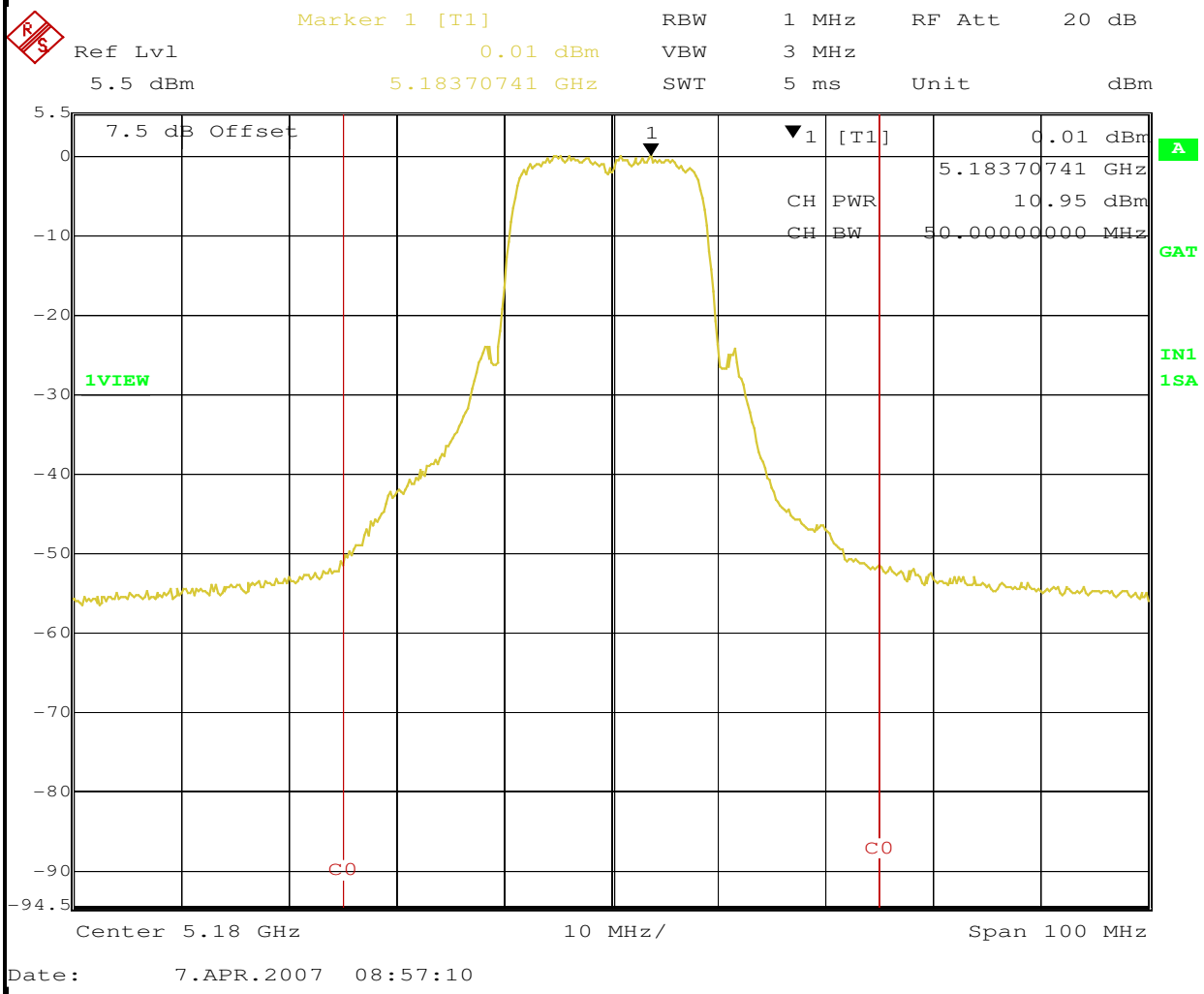
Channel 36 @ 5180 MHz
Output Power and PSD

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

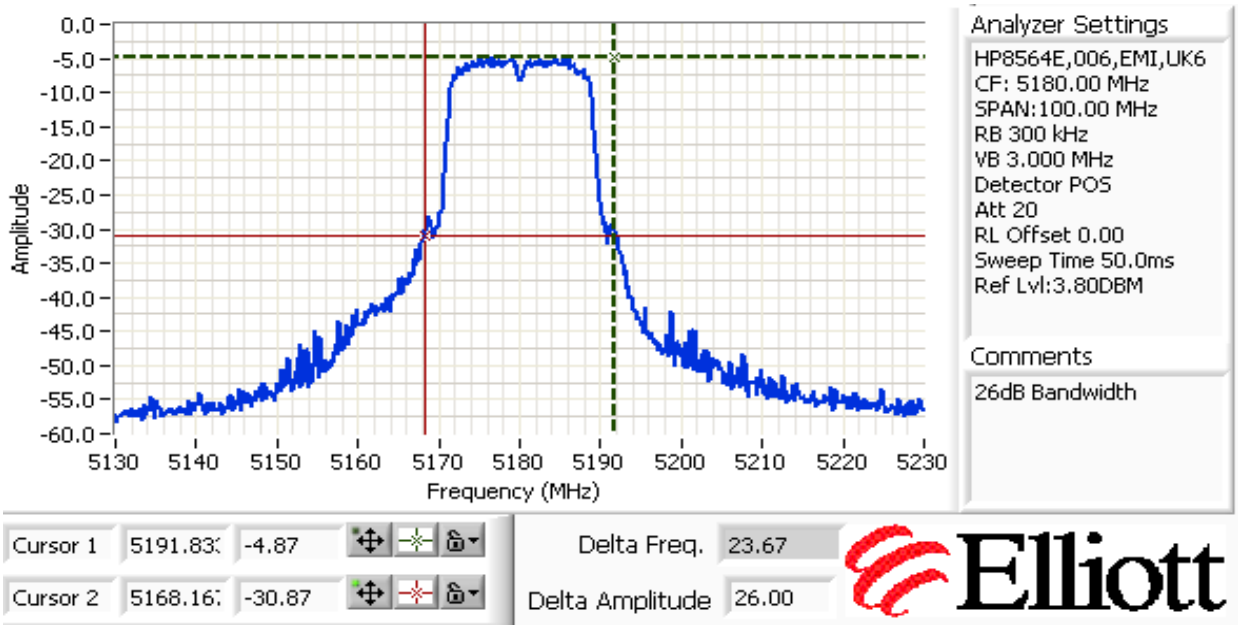
Chain 2



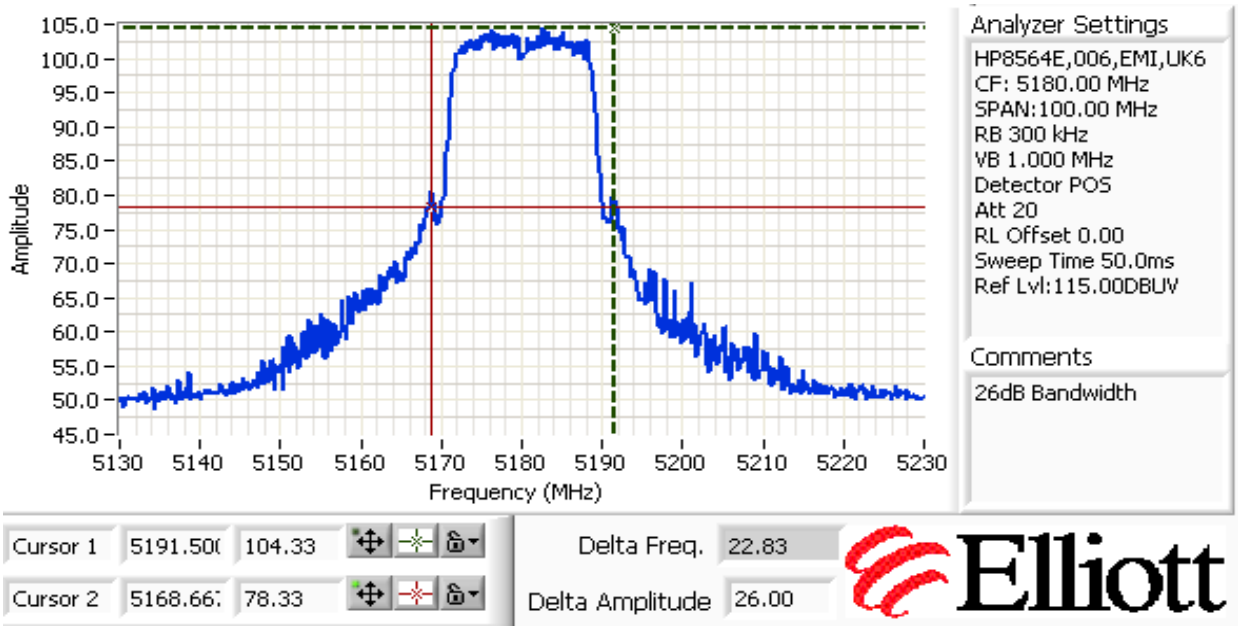
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 36 @ 5180 MHz
26dB Bandwidth

Chain 1

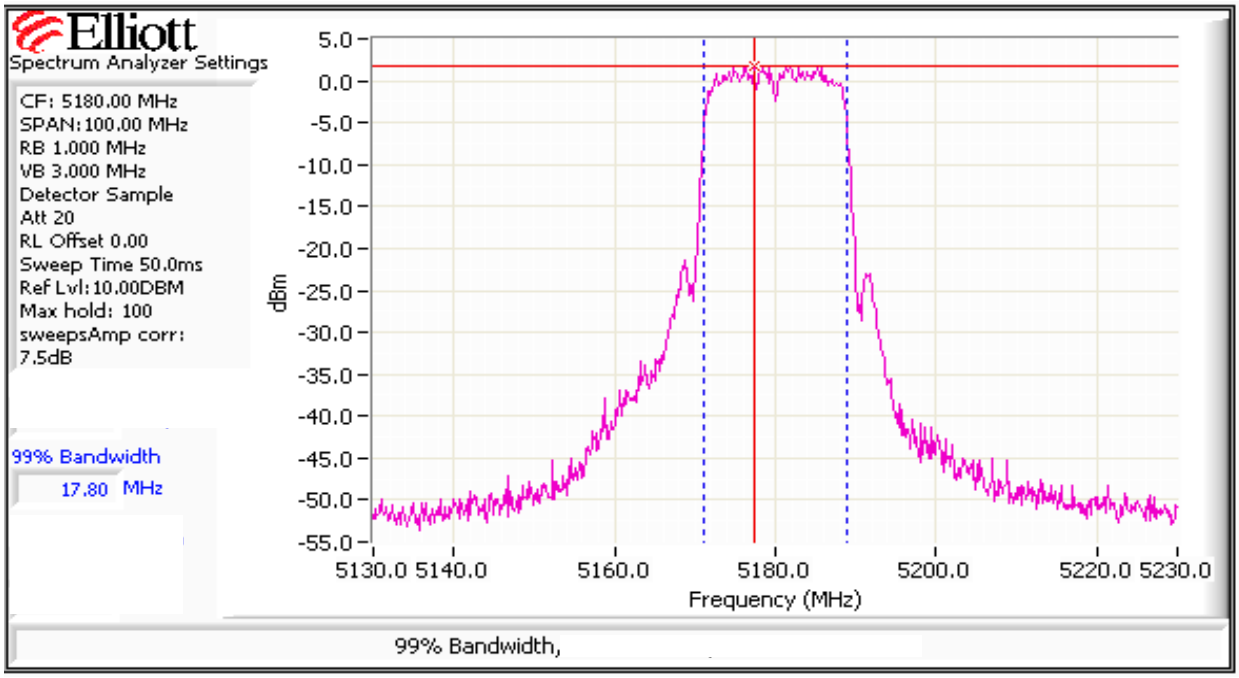


Chain 2

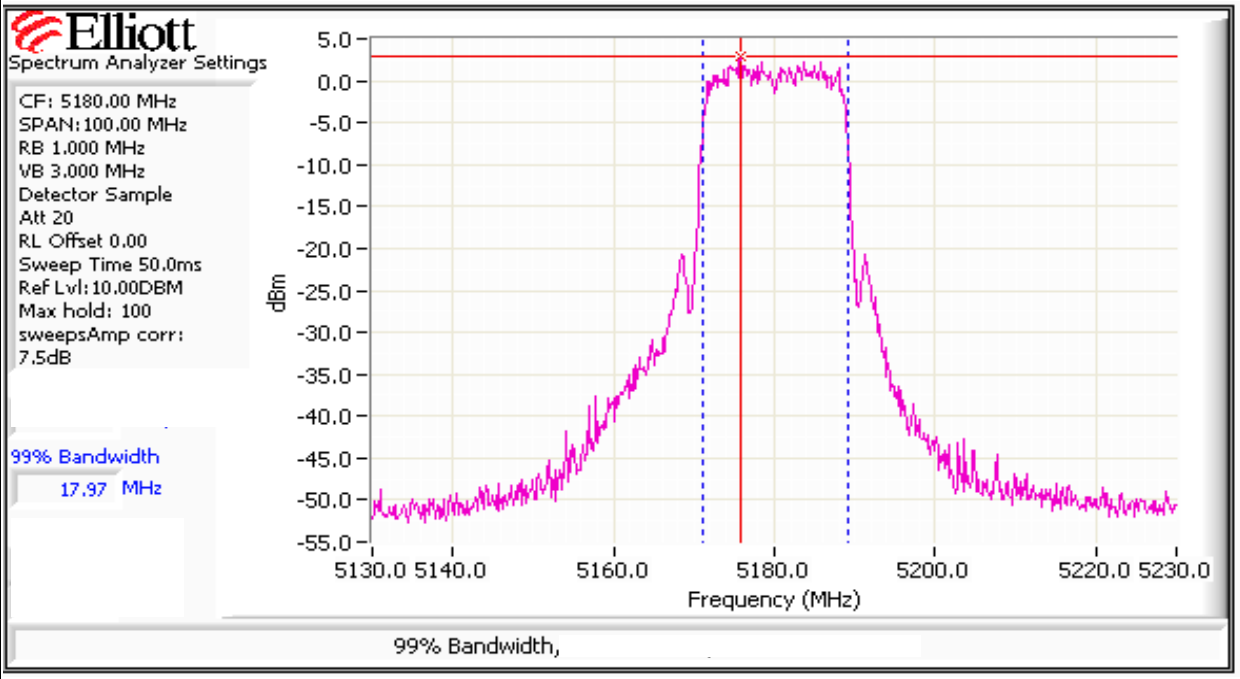


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 36 @ 5180 MHz
99% Bandwidth
Chain 1



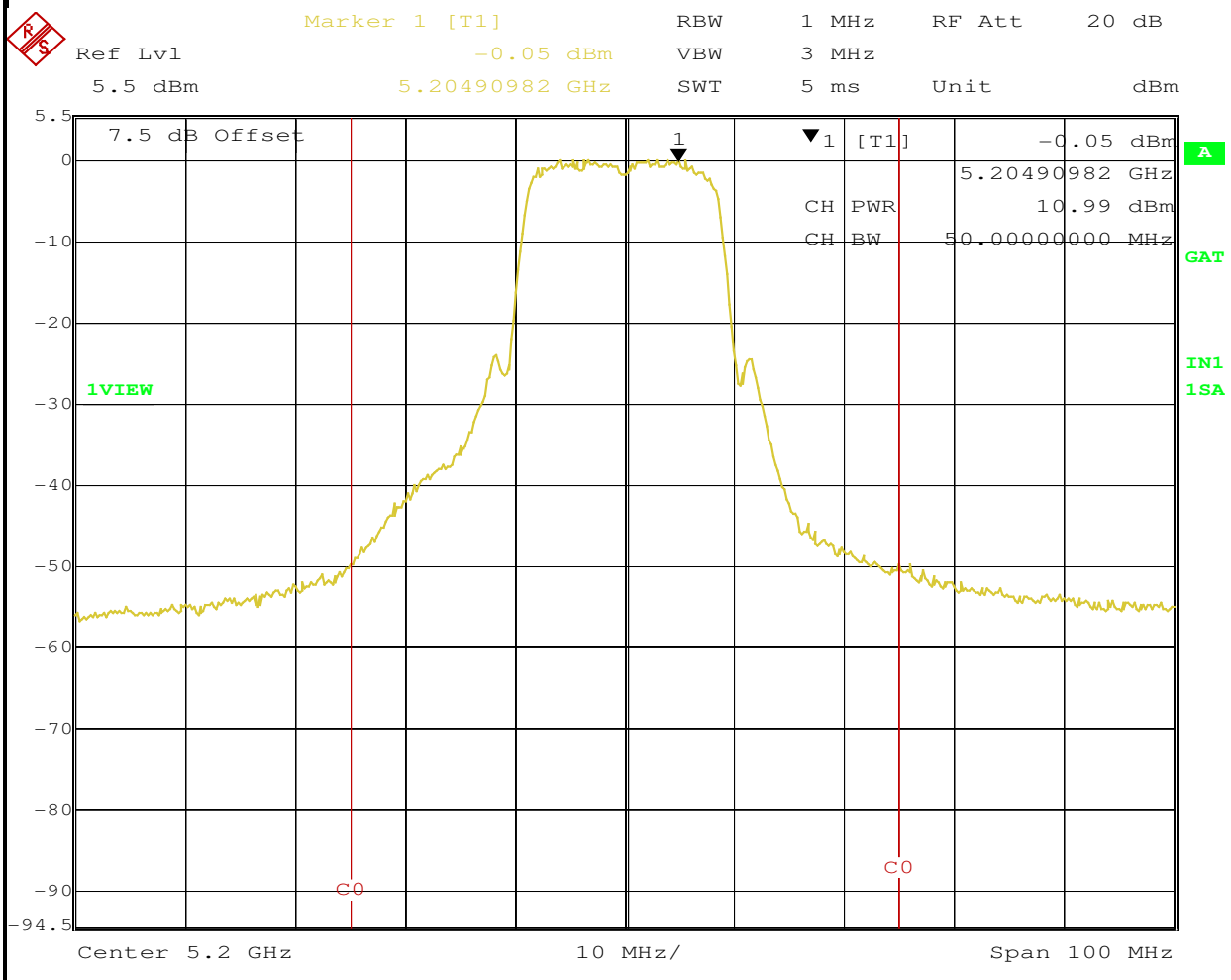
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

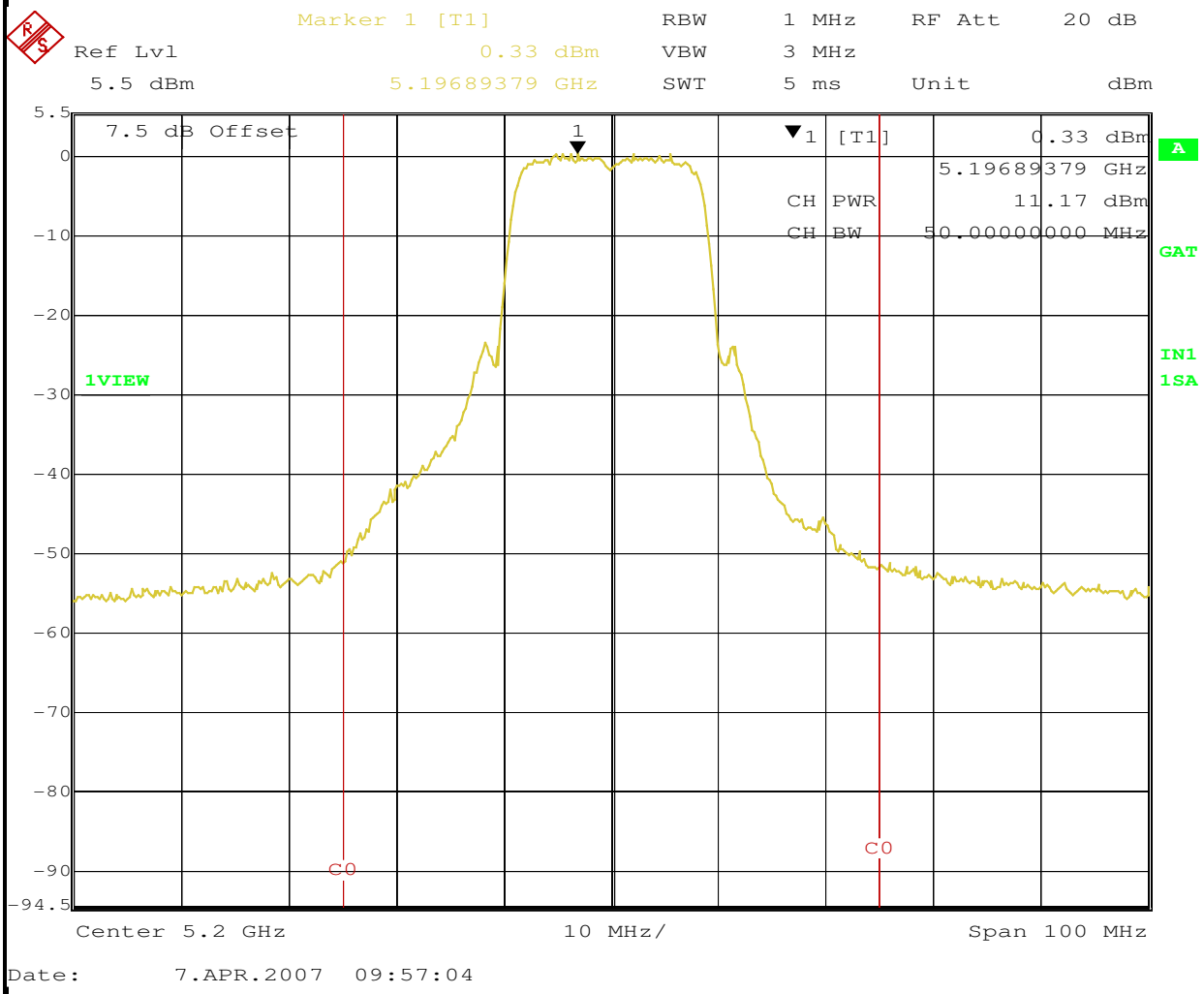
Channel 40 @ 5200 MHz
Output Power and PSD

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

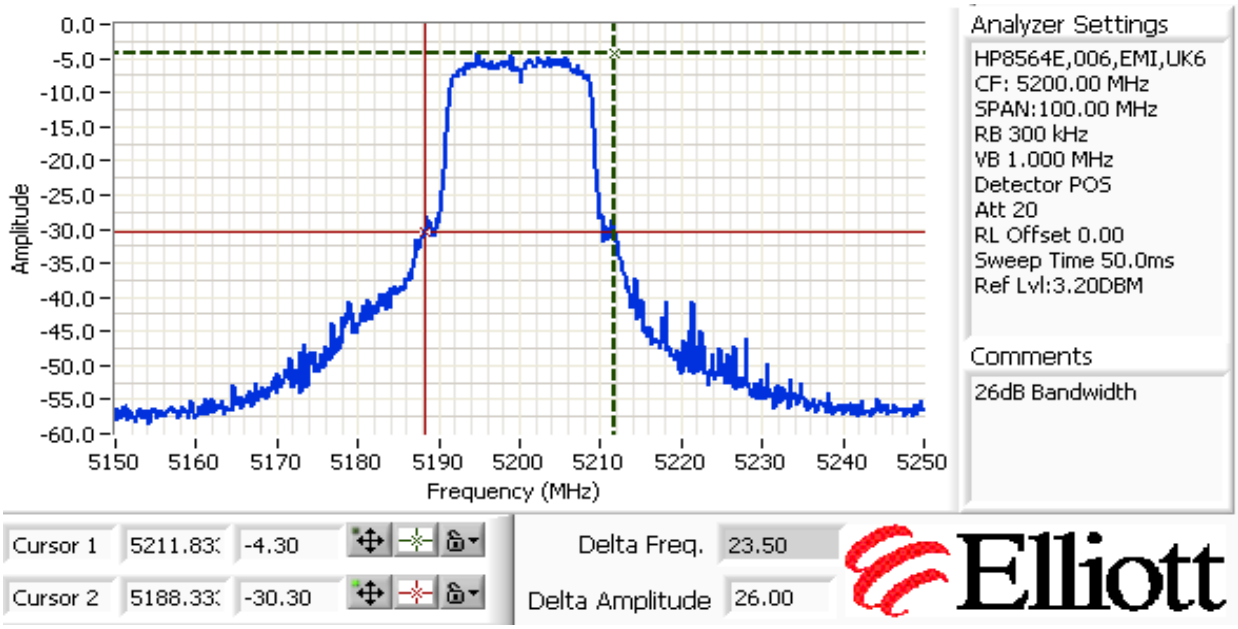
Chain 2



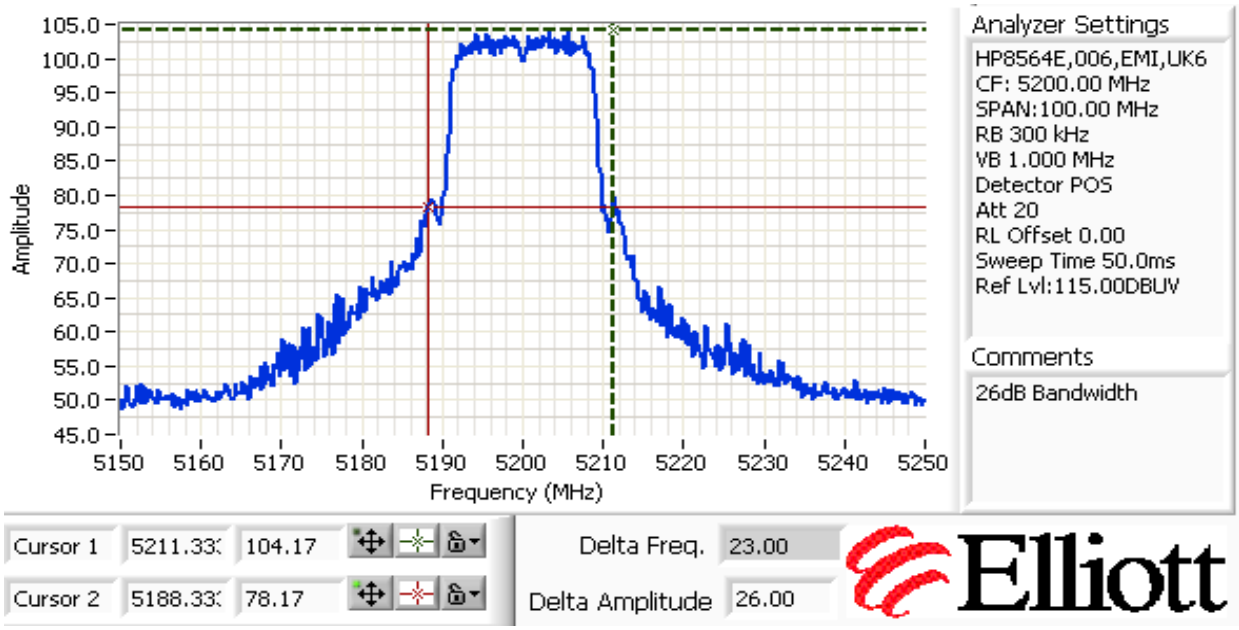
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 40 @ 5200 MHz
26dB Bandwidth

Chain 1

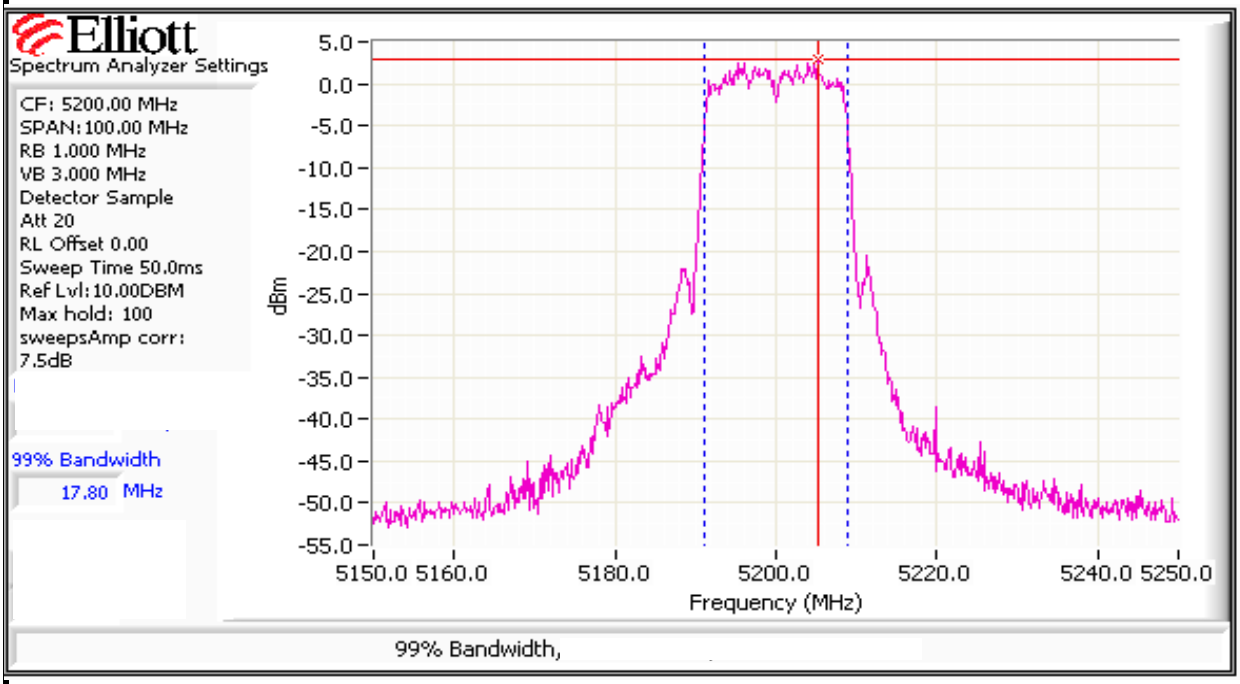


Chain 2

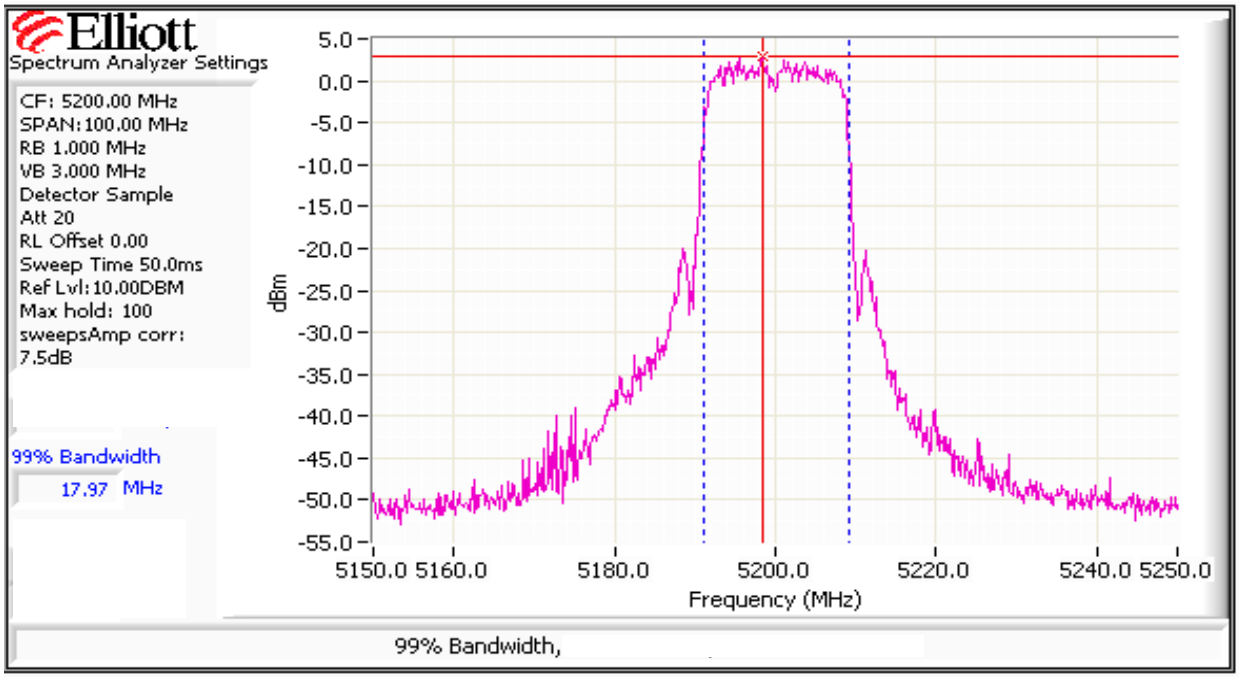


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 40 @ 5200 MHz
99% Bandwidth
Chain 1

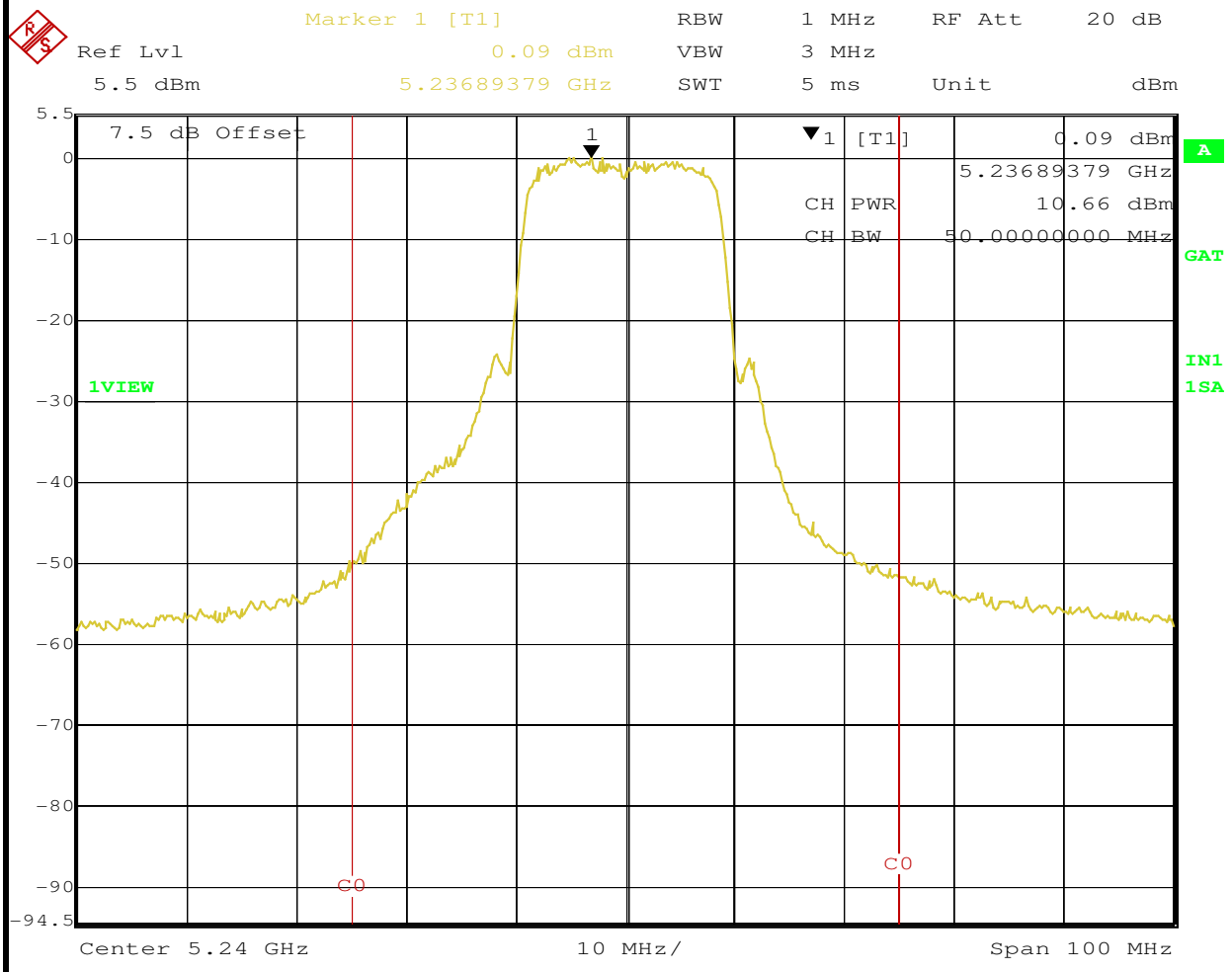


Chain 2



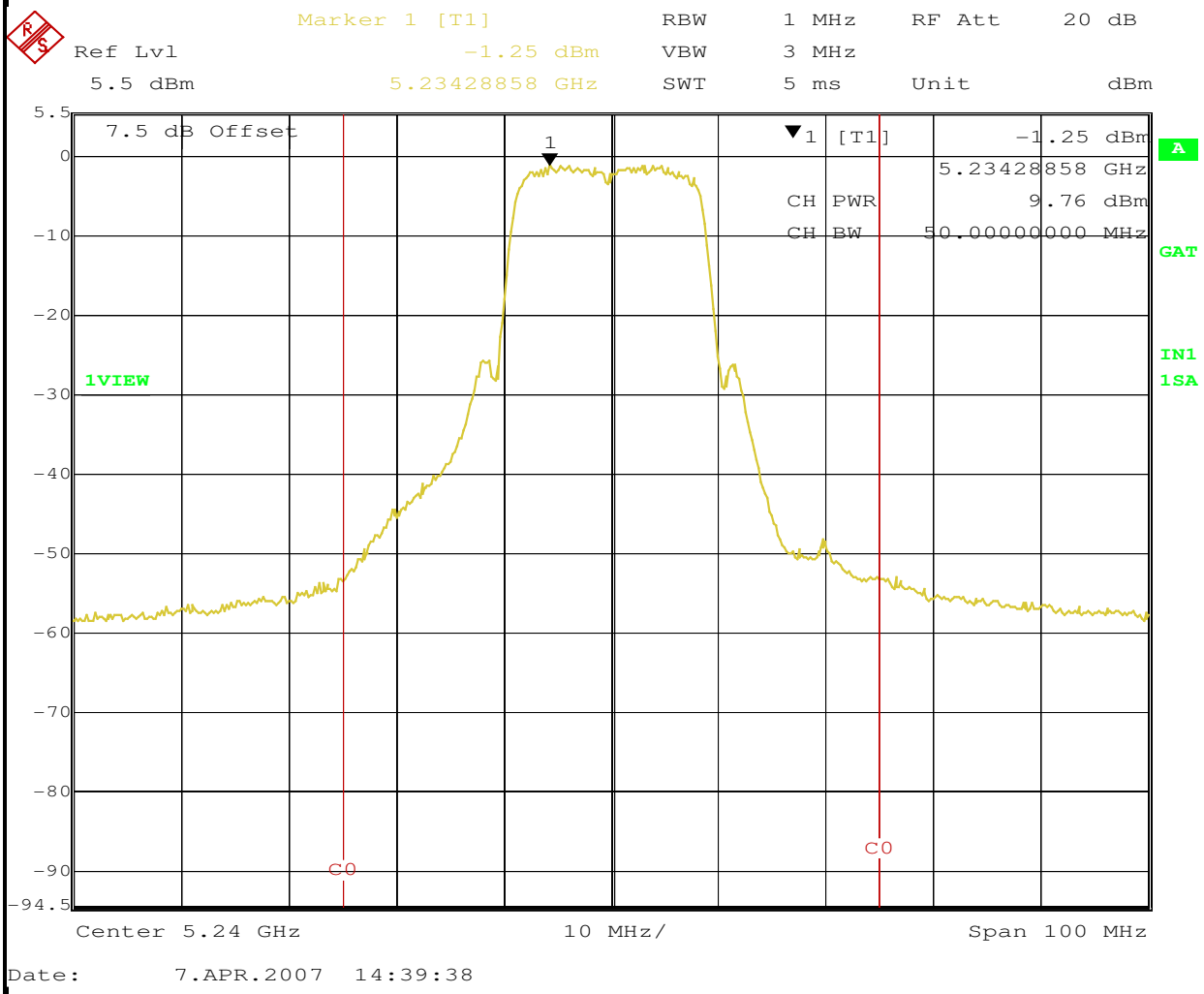
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 48 @ 5240 MHz
Output Power and PSD
Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

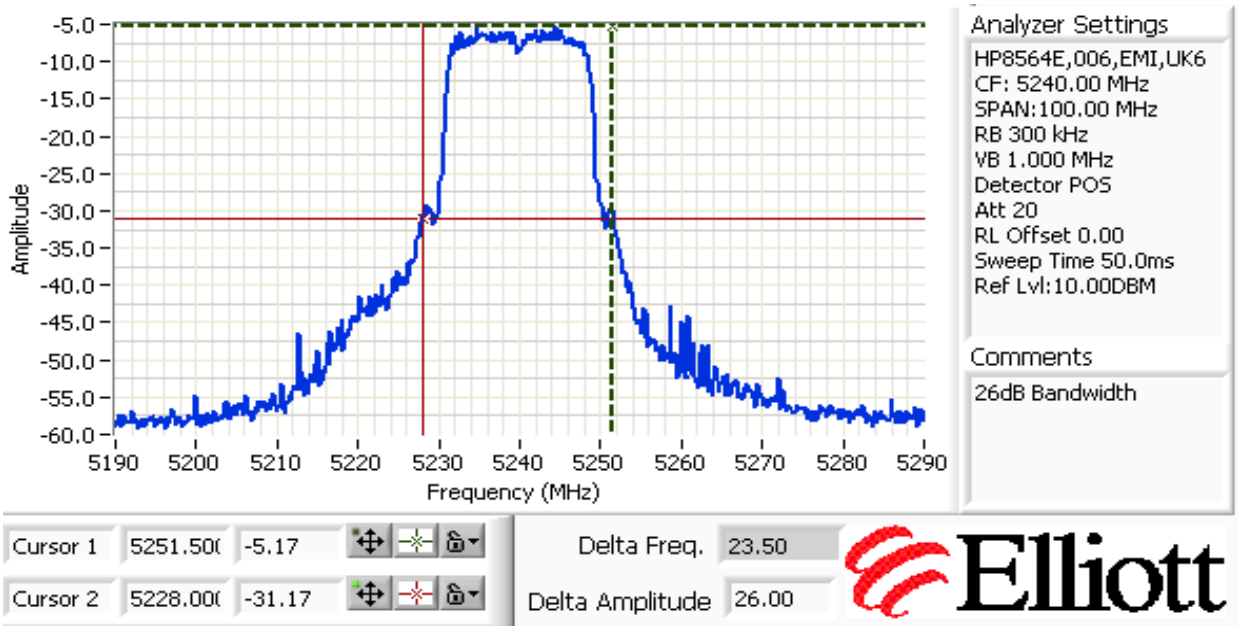
Chain 2



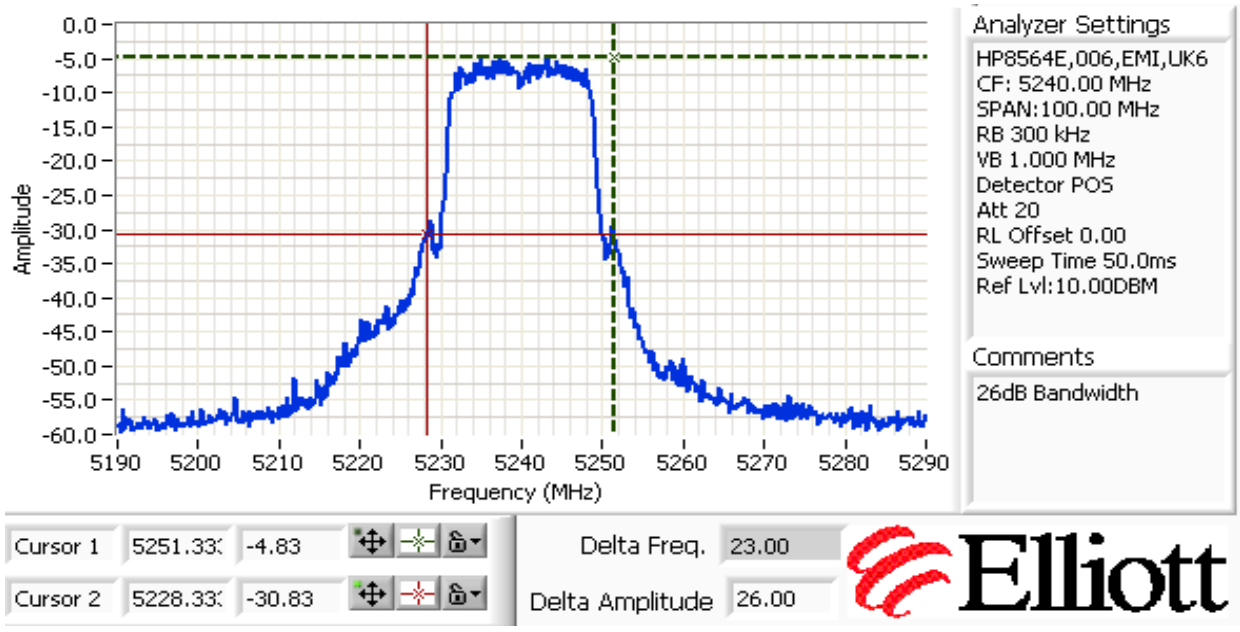
EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 48 @ 5240 MHz
26dB Bandwidth
Chain 1

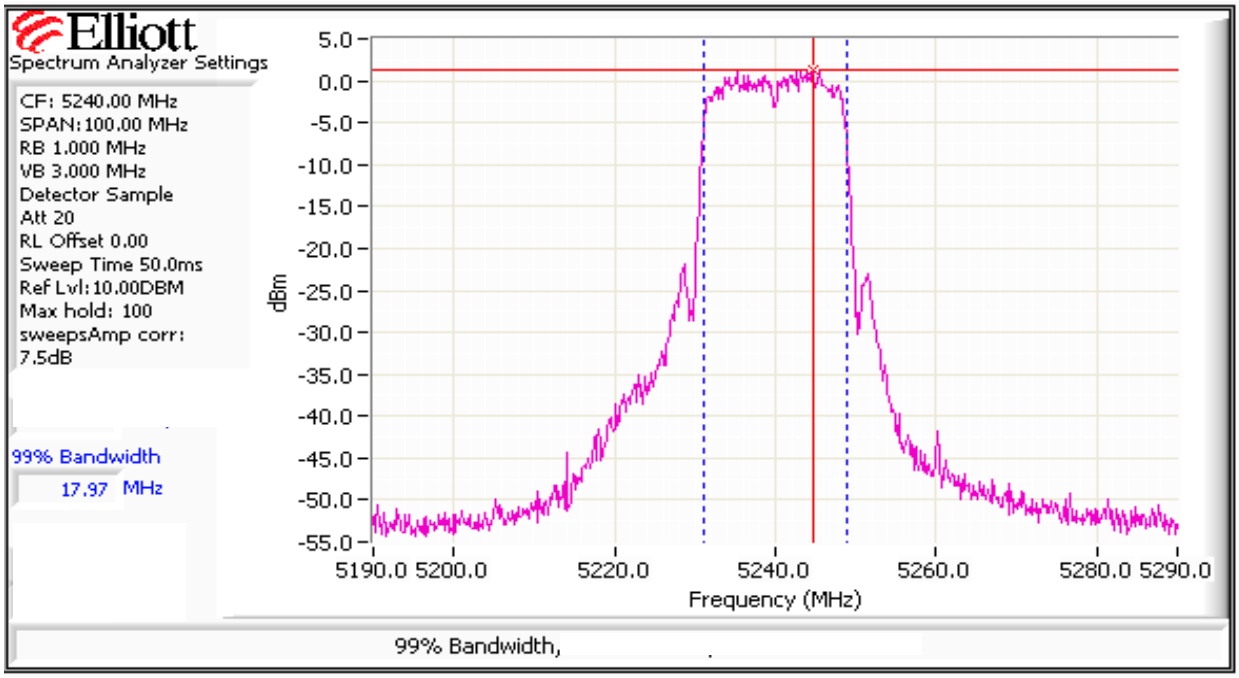


Chain 2

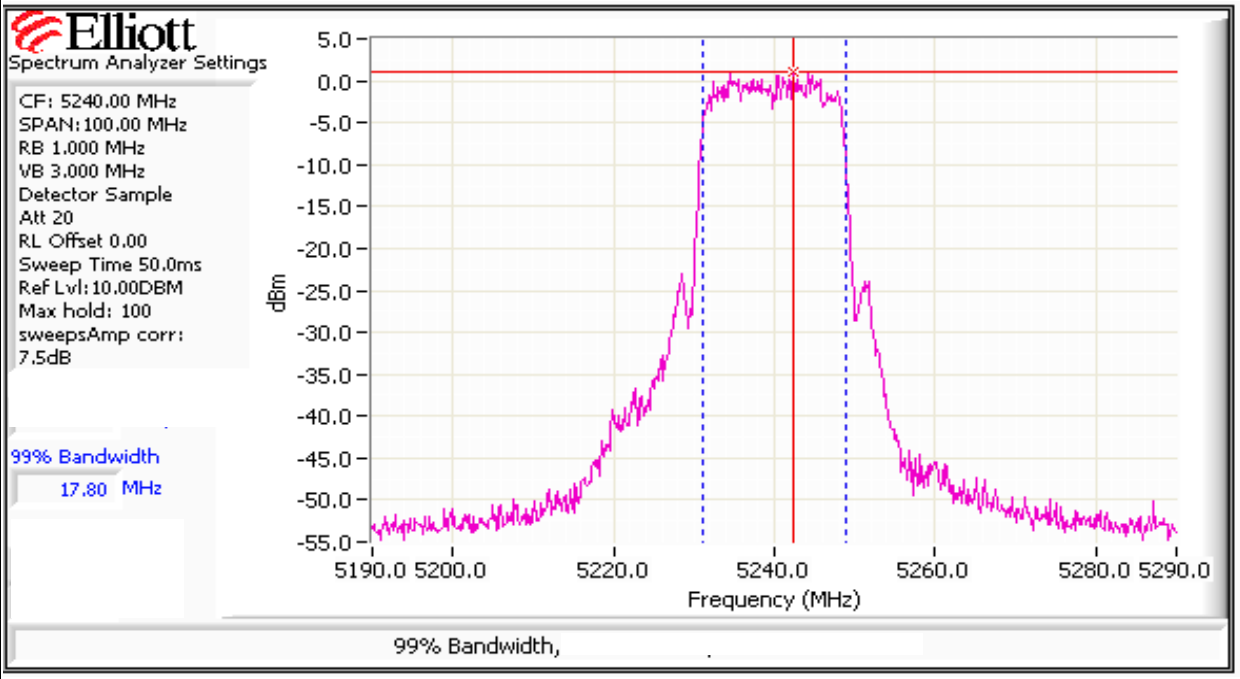


Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Channel 48 @ 5240 MHz
99% Bandwidth
Chain 1



Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1b: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/1MHz) Note 1 Main (dBm)	Aux (dBm)	Total	dBm/1MHz	
0x1a1a	5180	0.0	0.0	3.0	3.3	Pass
0x1a1a	5200	-0.1	0.3	3.2	3.3	Pass
0x2424	5240	0.1	-1.3	2.5	3.3	Pass

Note 1:	PSD - if transmit chains are coherent then the PSD is calculated from the sum of the antenna gains plus the total power (i.e. beam-forming is assumed because of coherency on the chains). If the individual chains are incoherent then the PSD is calculated from the sum of the individual EIRPs for each chain.

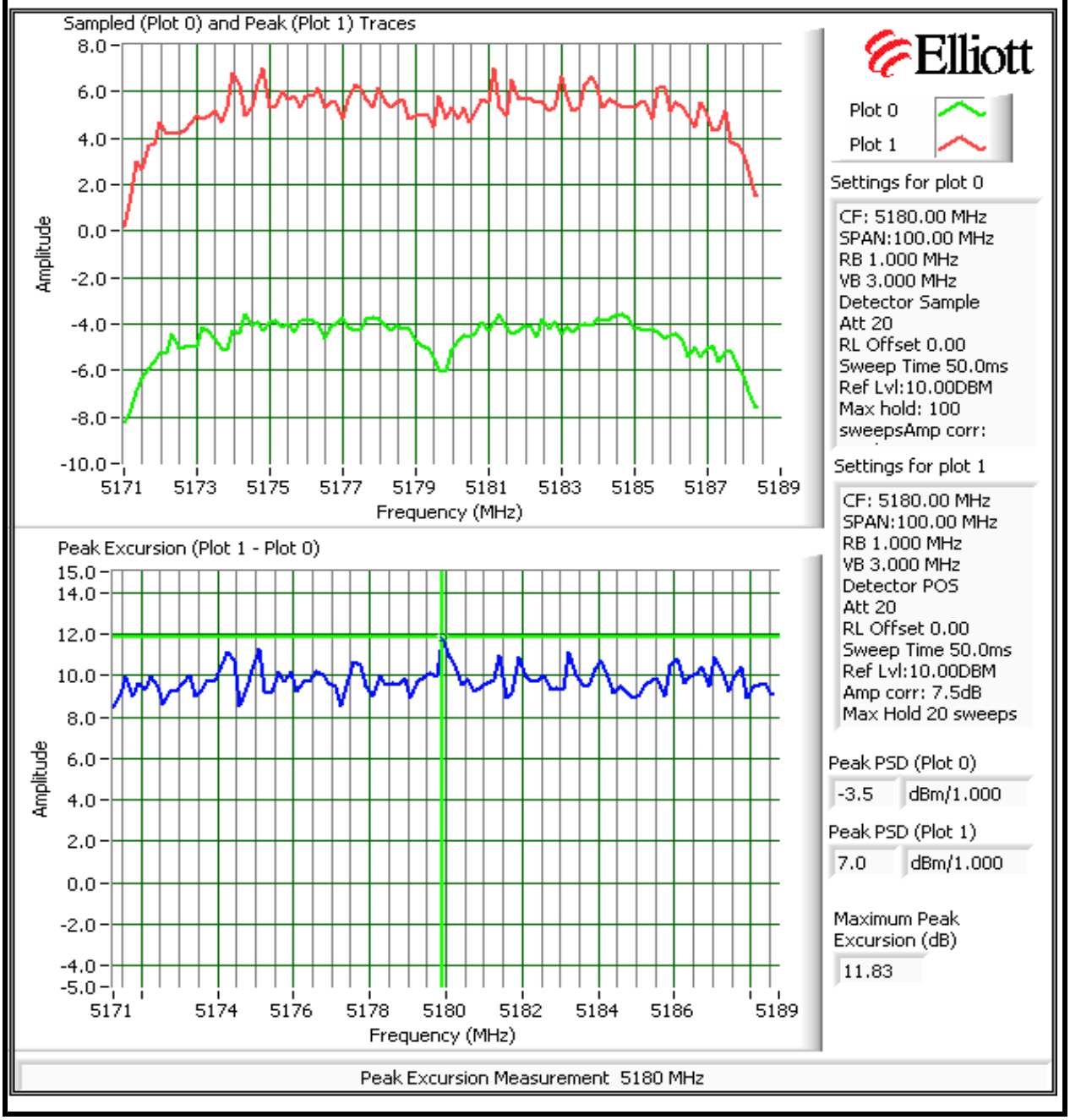
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2: Peak Excursion Measurement

Plots Showing Peak Excursion

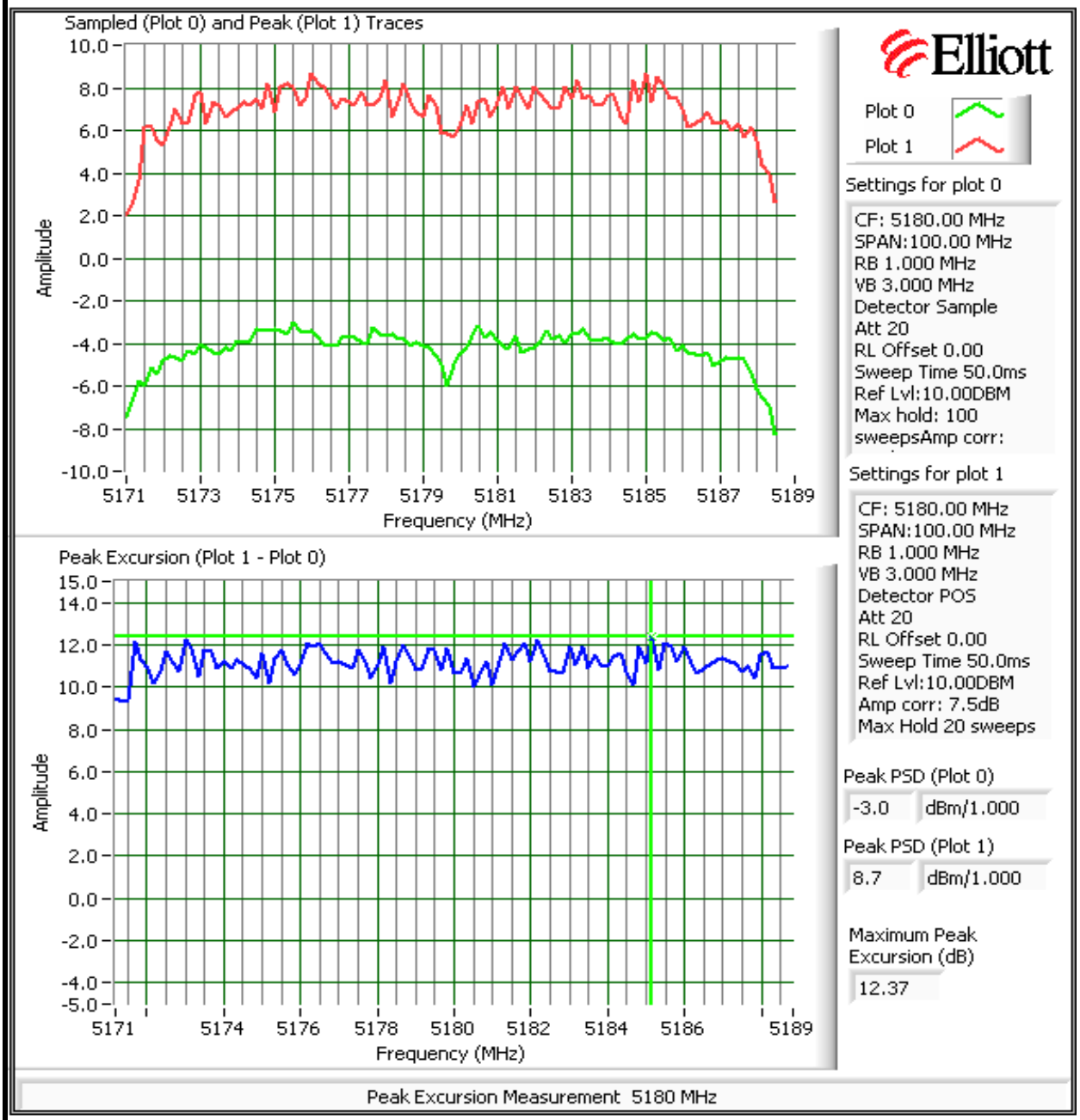
Channel 36 @ 5180 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

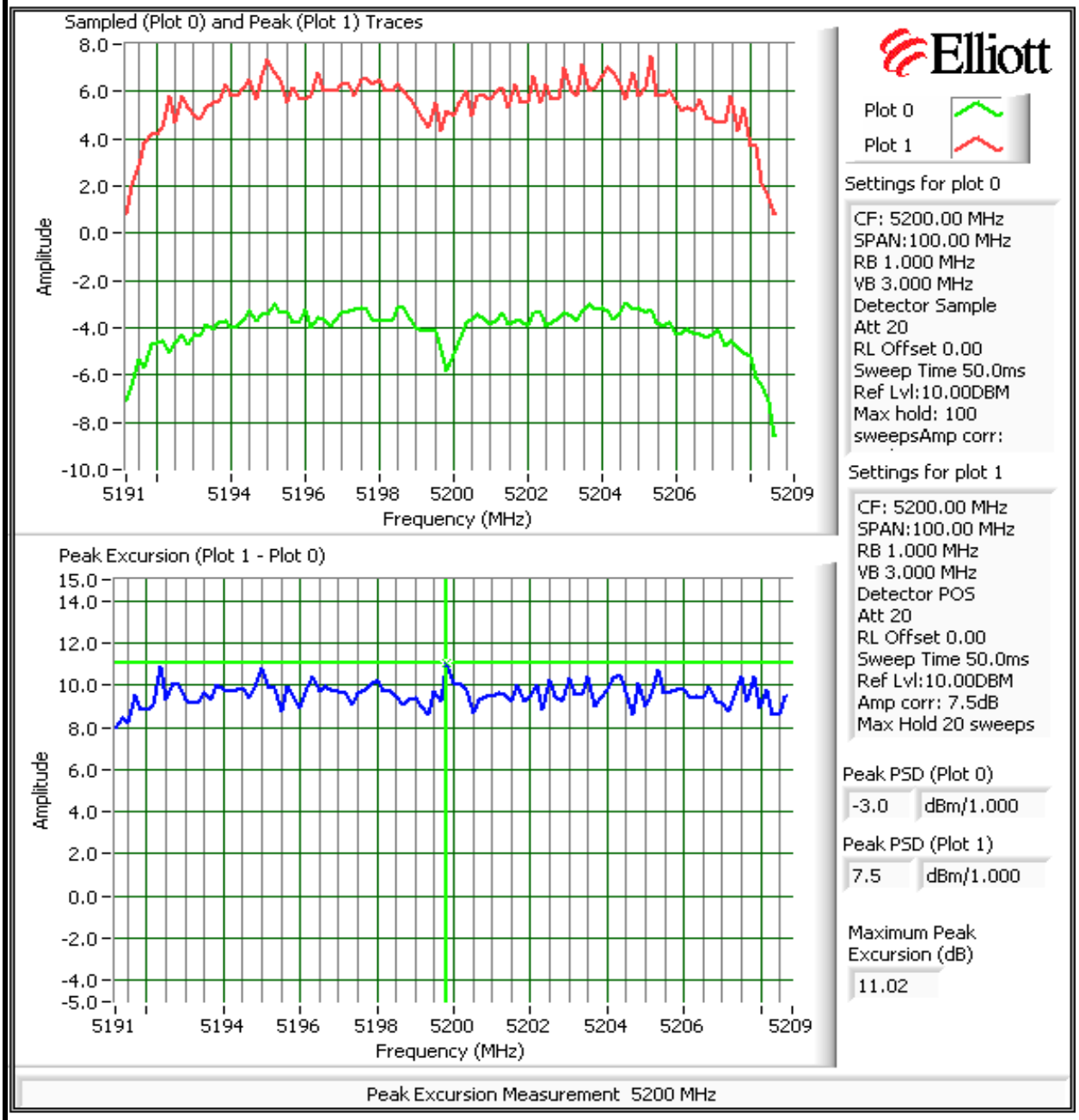
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

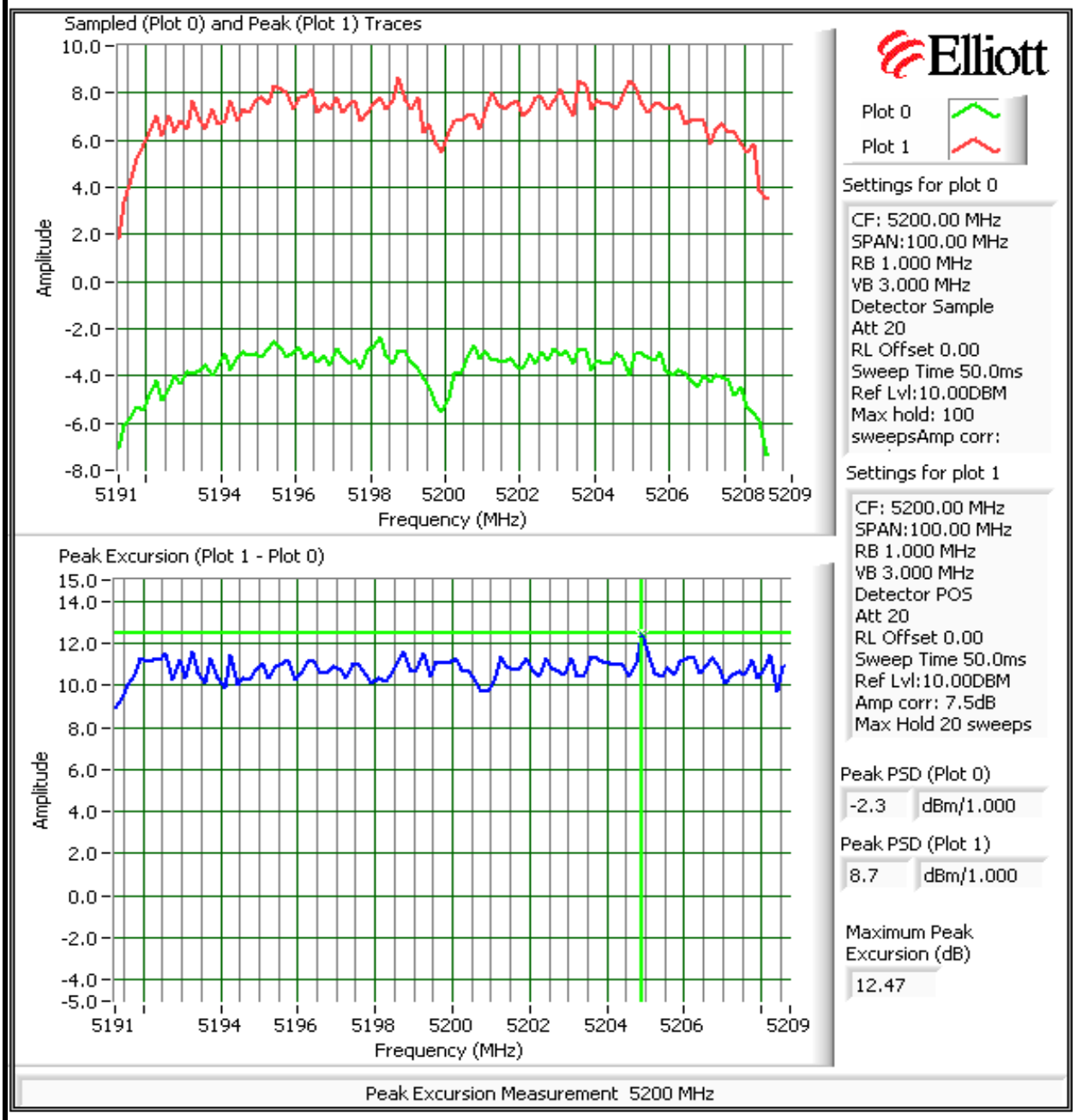
Channel 40 @ 5200 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

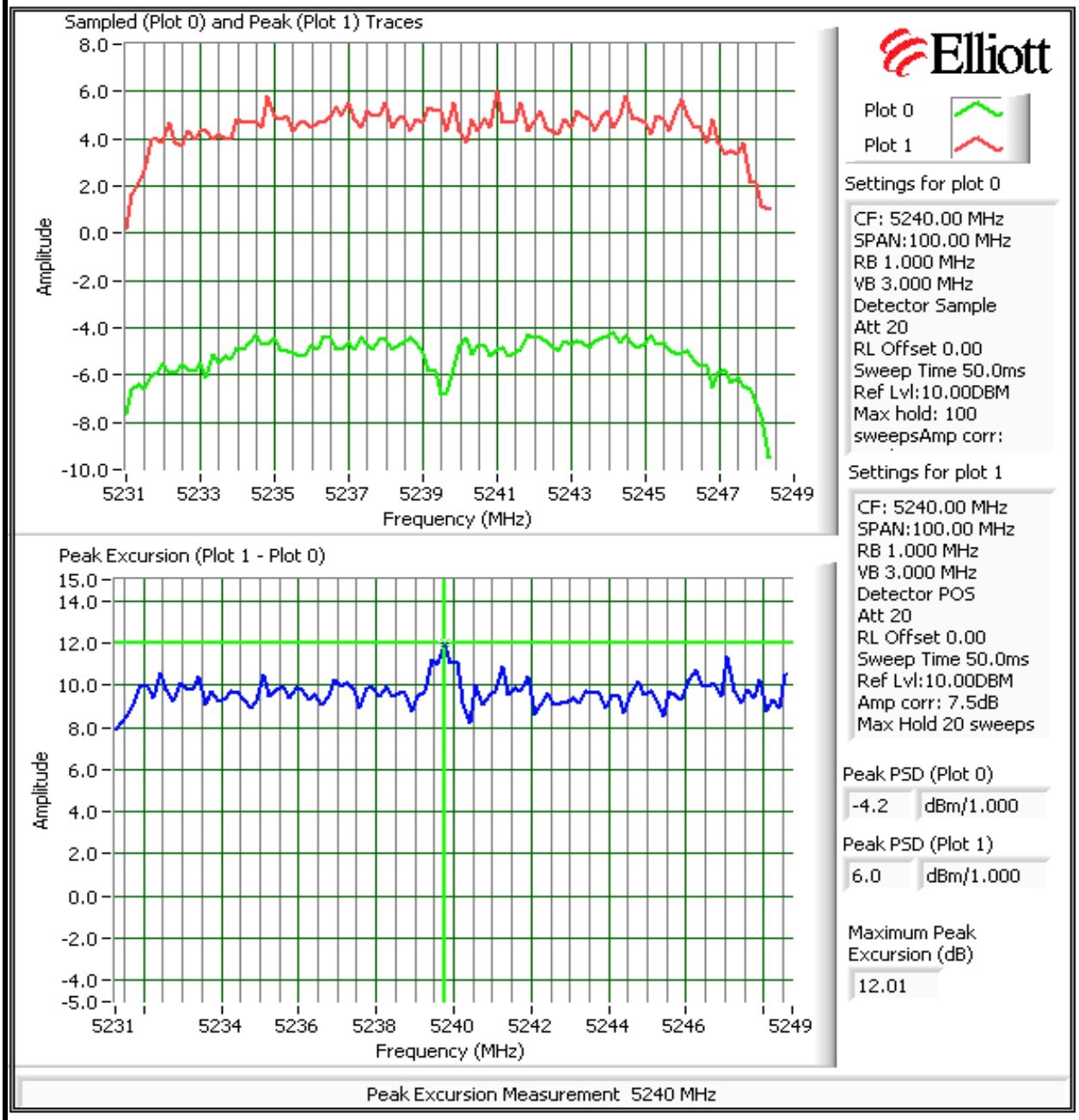
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

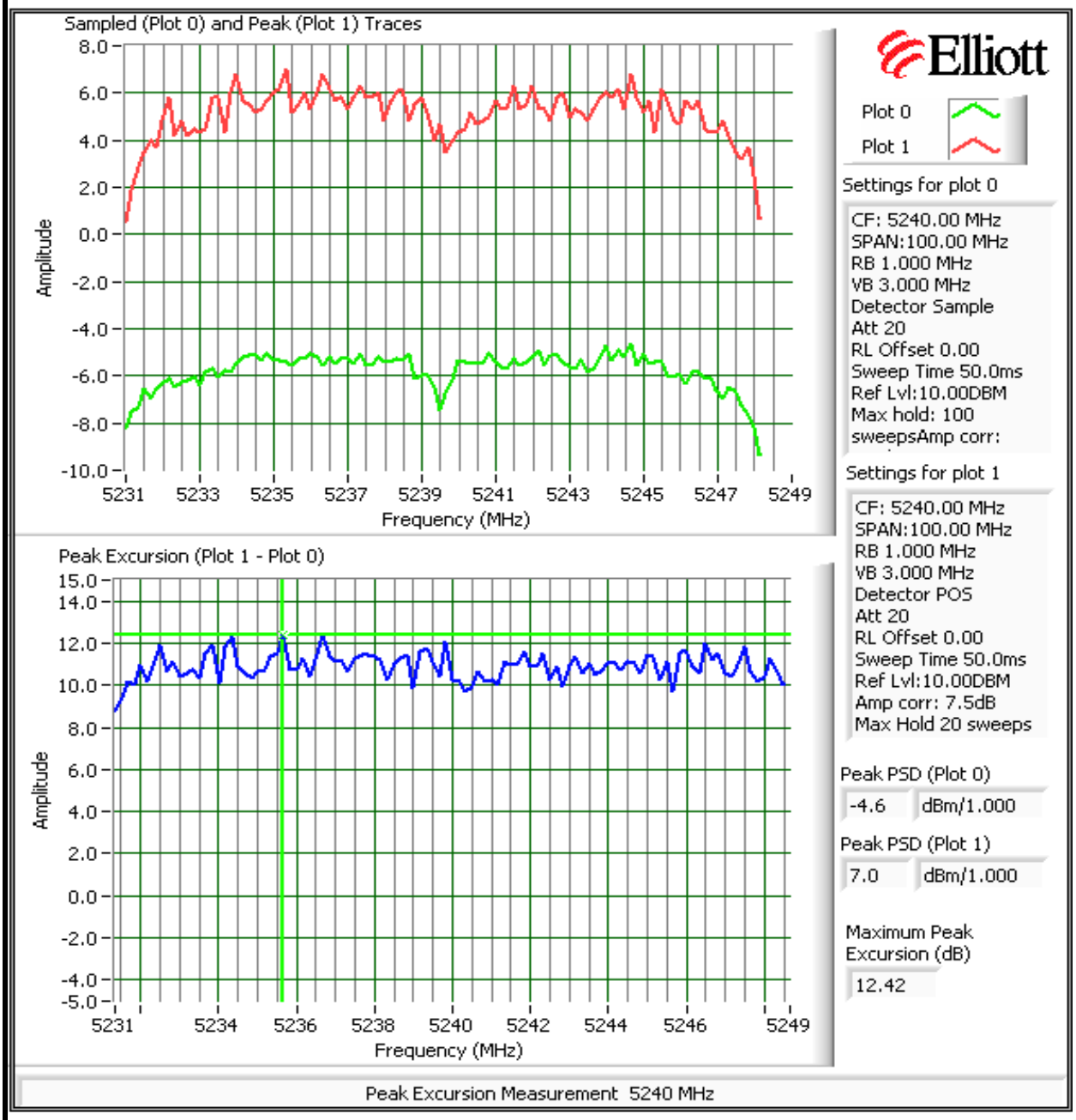
Channel 48 @ 5240 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

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

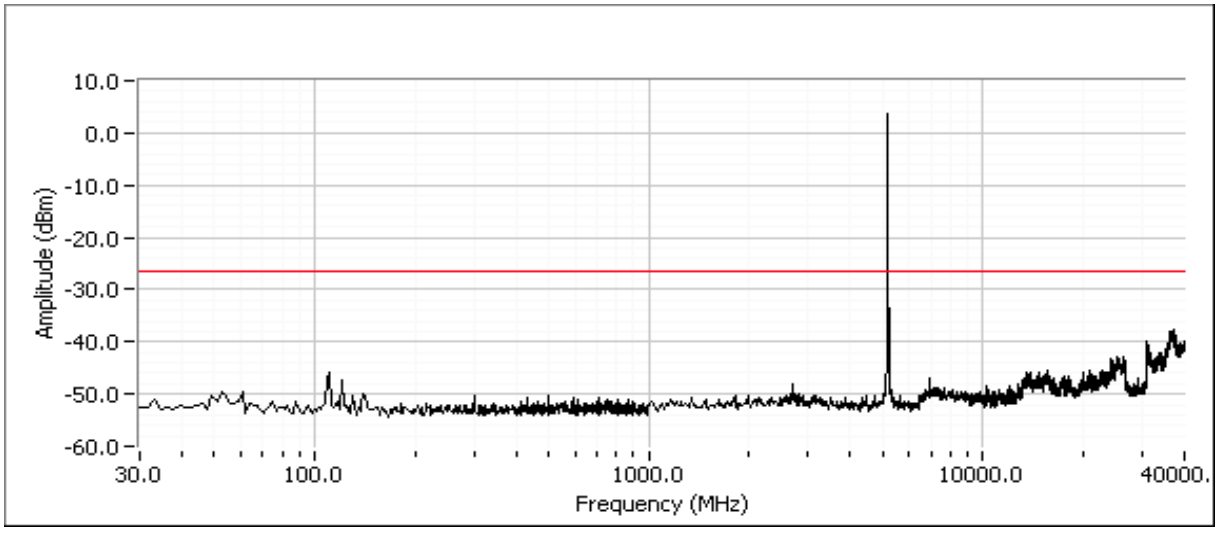
Maximum Antenna Gain:	3.7	dBi
Spurious Limit:	-27	dBm/MHz eirp
Limit Used On Plots [Note 1]:	-30.7	dBm/MHz

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

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

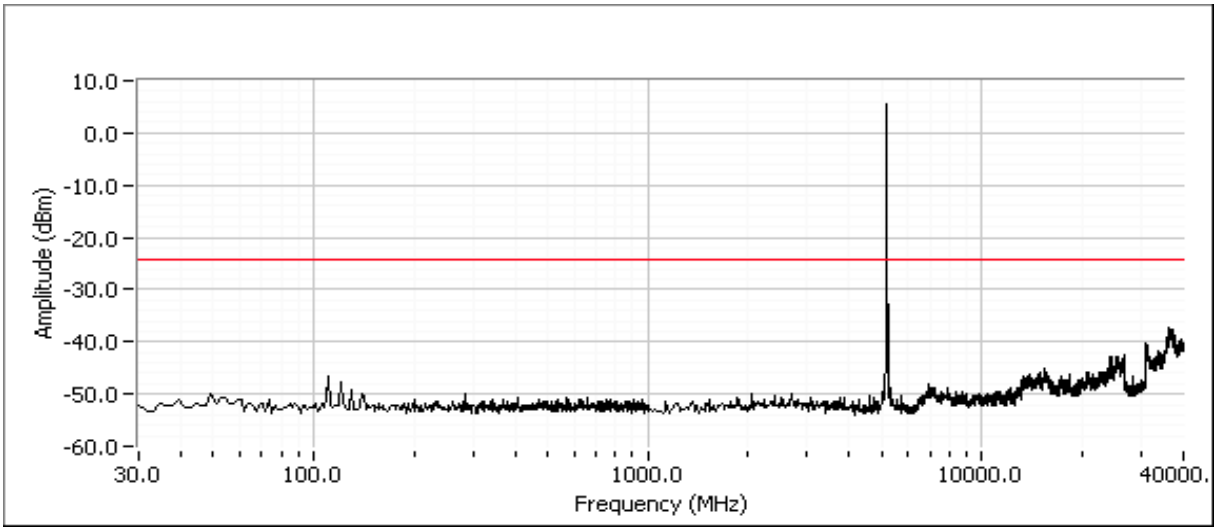
Channel 36 @ 5180 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

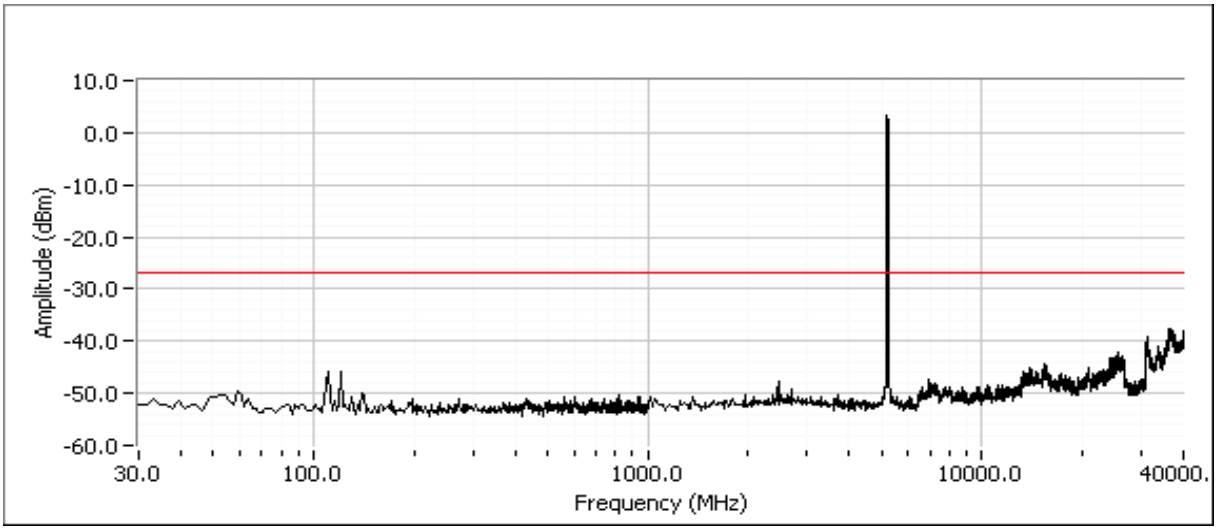
Chain 2



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

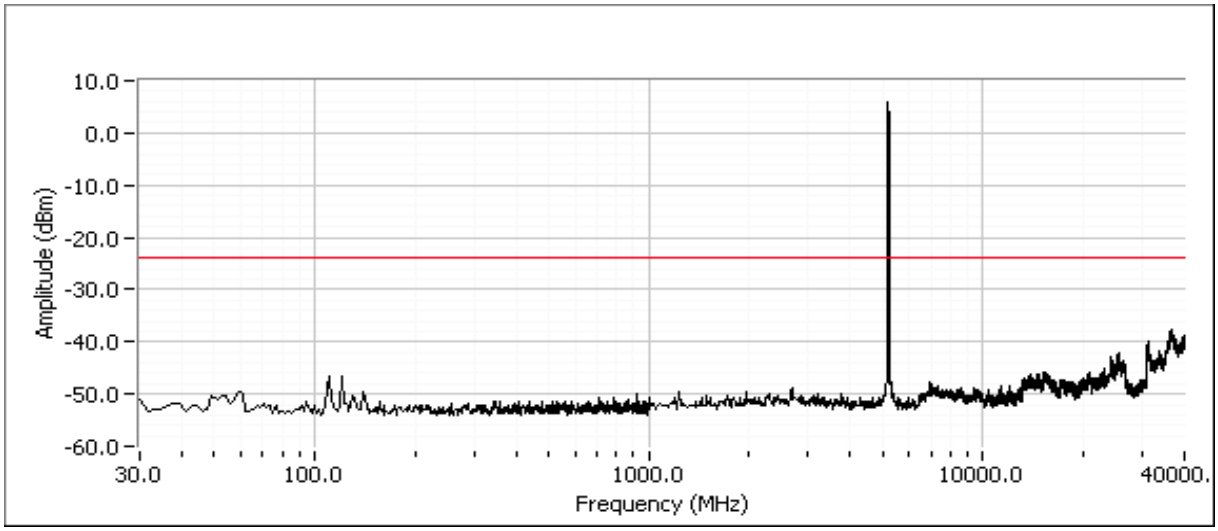
Channel 40 @ 5200 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

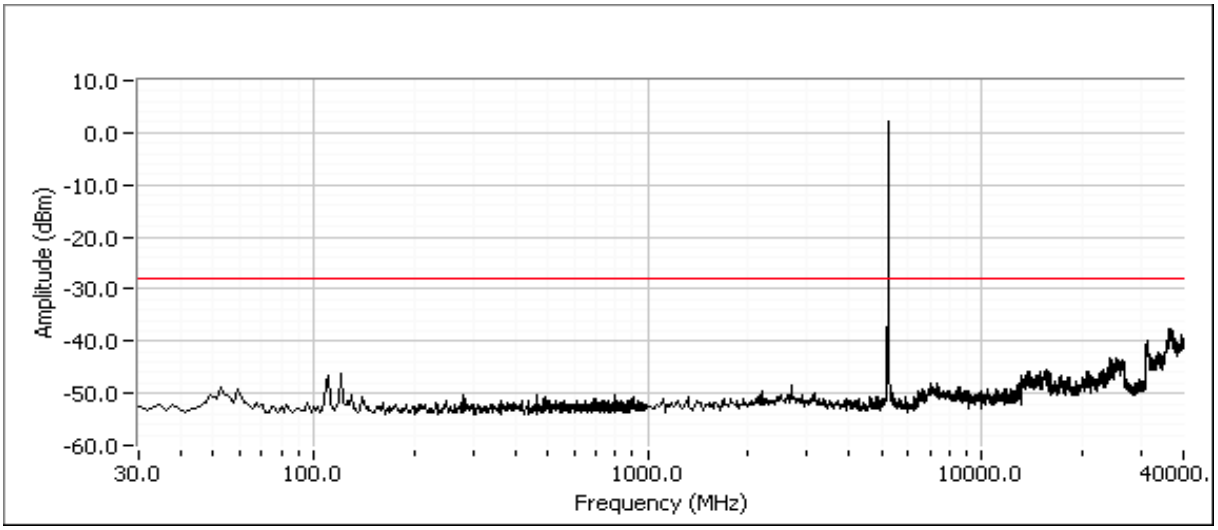
Chain 2



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

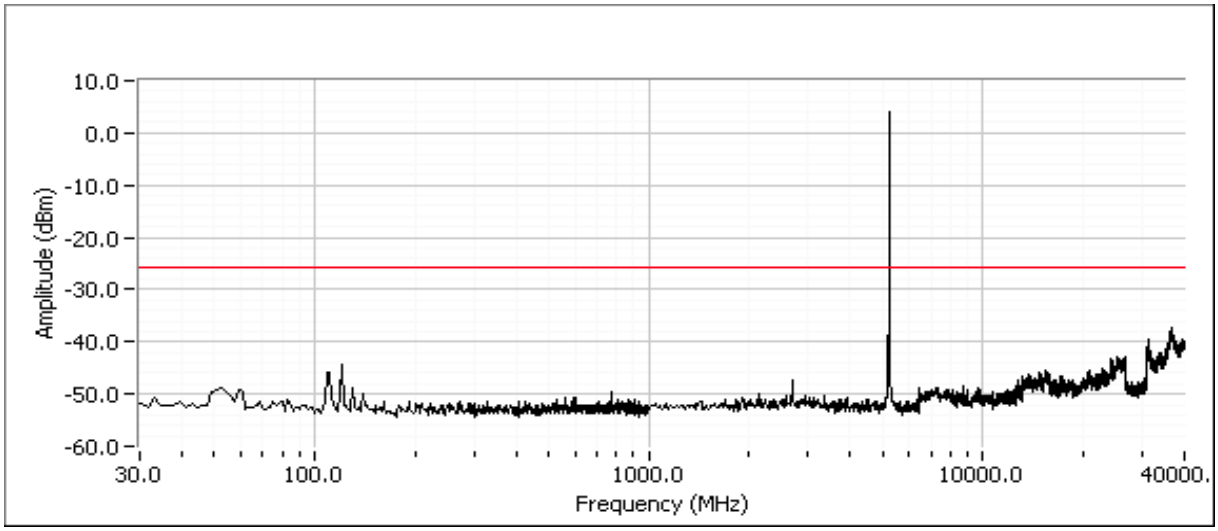
Channel 48 @ 5240 MHz

Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

FCC Part 15 Subpart E Tests (5150-5250 MHz, 802.11n, 40 MHz)

Test Specific Details

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

Date of Test: 3/22/2007
Test Engineer: Mark Hill/Rafael
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

General Test Configuration

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

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

Ambient Conditions:

Temperature: 21.1 °C
Rel. Humidity: 43 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
1	Power, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	12dBm
1	PSD, 5150 - 5250MHz	15.407(a) (1), (2)	Pass	1.28dBm/MHz
1	26dB Bandwidth	15.407	Pass	> 20 MHz
1	99% Bandwidth	RSS 210	Pass	36.9 MHz
2	Peak Excursion Envelope	15.407(a) (6)	Pass	5.54 dB
3	Antenna Conducted - Out of Band Spurious	15.407(b)	Pass	All emissions below the -27dBm/MHz limit

Modifications Made During Testing:

No modifications were made to the EUT during testing

Deviations From The Standard

No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Output Power

Transmitted signal on chain is coherent ? Yes

Regulatory Final Power Measurements:

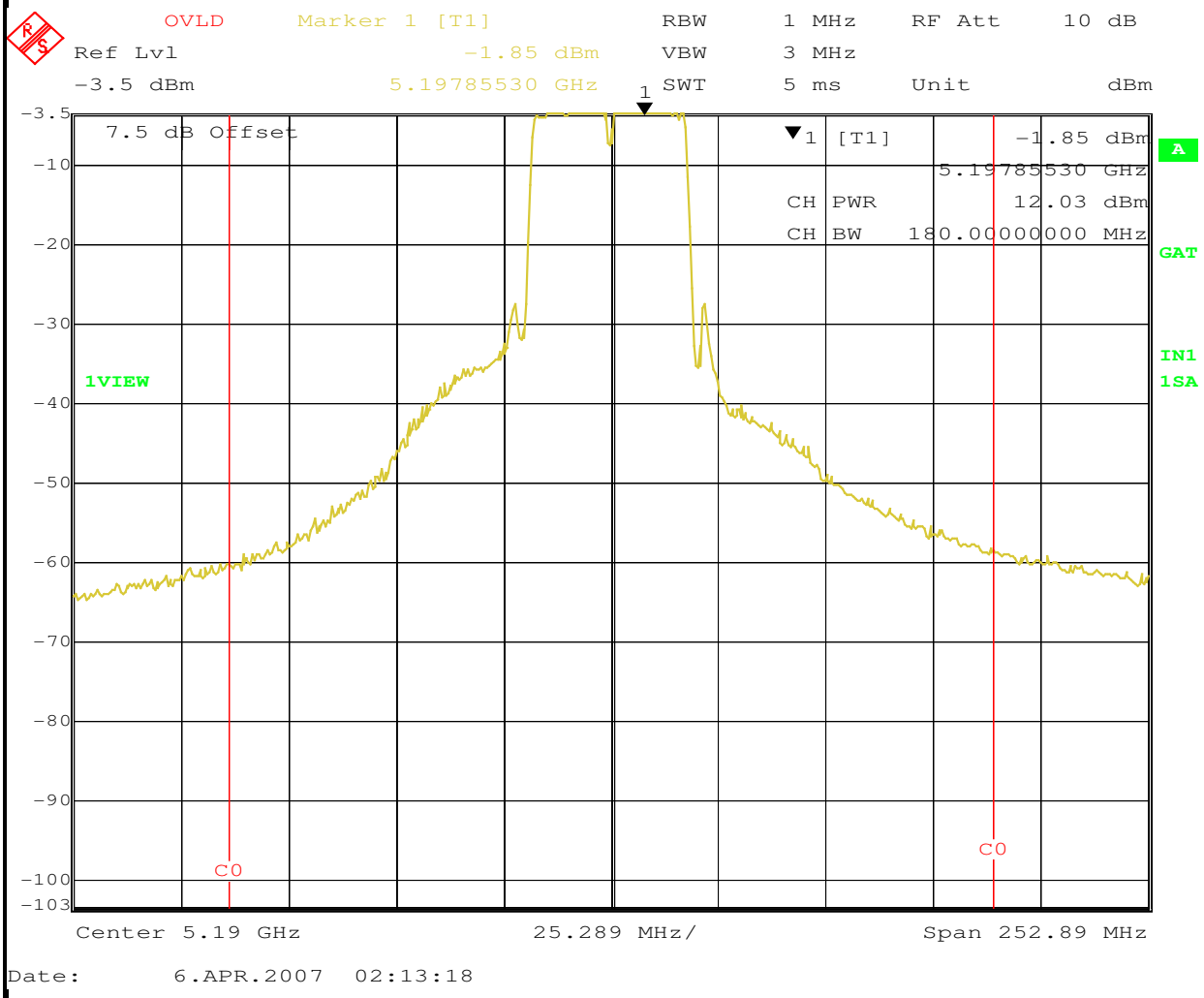
Power Setting[4]	Frequency (MHz)	Output Power (dBm) Note 1			Antenna Gain (dBi) Note 3			EIRP Note 2	
		Chain 1	Chain 2	Total	Chain 1	Chain 2	Total	dBm	W
0x0d0d	5190	12.0	12.3	15.2	3.7	3.7	6.7	21.9	0.154
0x1111	5230	11.7	11.7	14.7	3.7	3.7	6.7	21.4	0.138

Frequency (MHz)	Software Setting	Bandwidth		Output Power[1] dBm		Power (Watts)	PSD[2] dBm/MHz			Result
		26dB	99%[4]	Measured	Limit		Measured	FCC Limit	RSS Limit[3]	
5180	0x1a1a	44.3	36.9	15.2	16.3	0.033	1.28	3.3	2.5	Pass
5230	0x1a1a	41.7	36.6	14.7	16.3	0.030	1.03	3.3	2.1	Pass

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 100 MHz
Note 2:	EIRP - if transmit chains are coherent then the EIRP is calculated from the sum of the antenna gains plus the total power (i.e. beam-forming is assumed because of coherency on the chains). If the individual chains are incoherent then the EIRP is calculated from the sum of the individual EIRPs for each chain.
Note 3:	If the transmit chains are coherent then the total system antenna gain is the sum of the numeric gains for each antenna. If the transmit chains are incoherent then the system antenna gain is not applicable as each transmit chain can be treated independently.
Note 4:	Power setting - if a single number the same power setting was used for each chain. If multiple numbers the power setting for each chain is separated by a comma (e.g. x,y would indicate power setting x for chain 1, power setting y for chain 2.

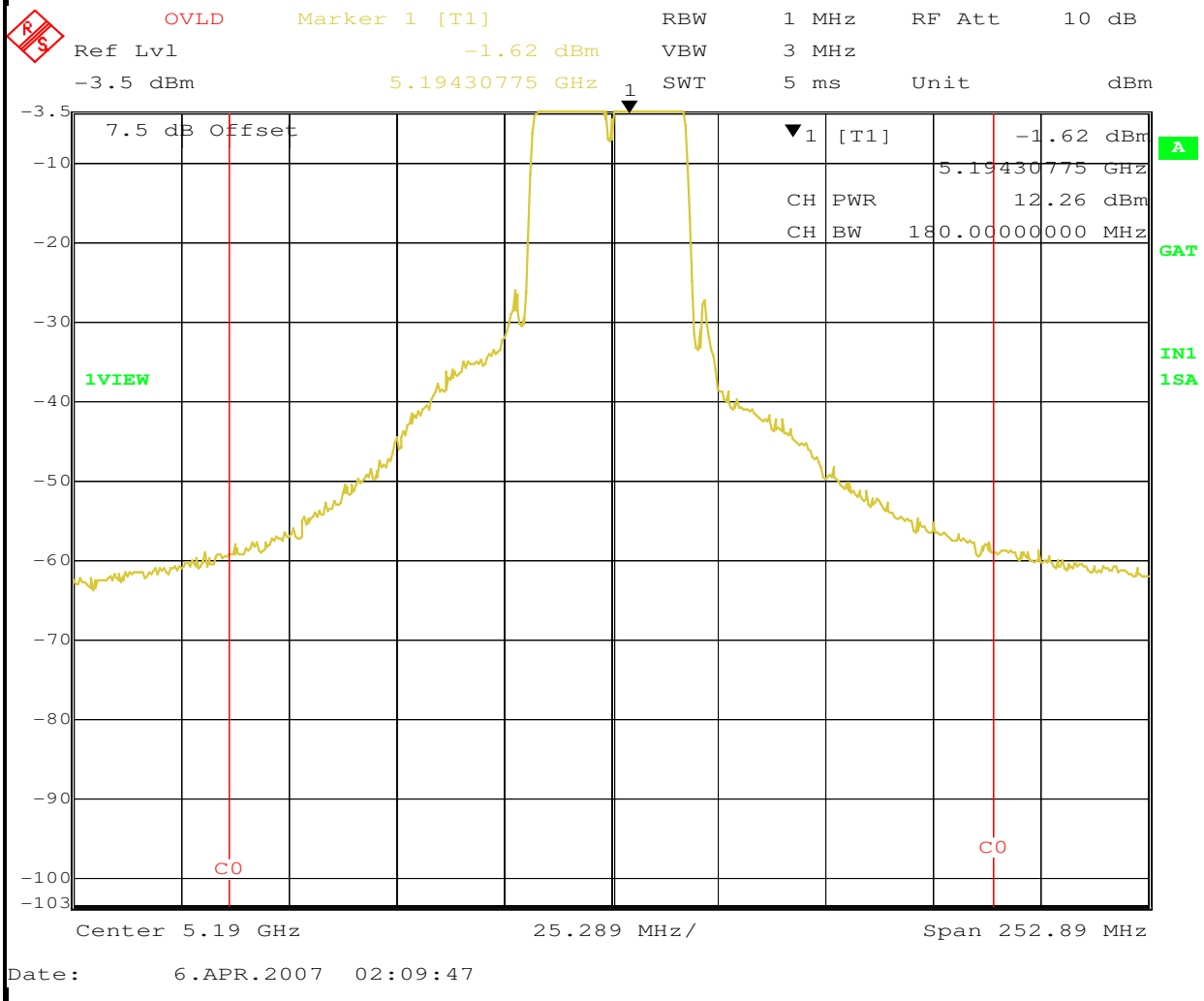
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 38 @ 5190 MHz
Chain 1



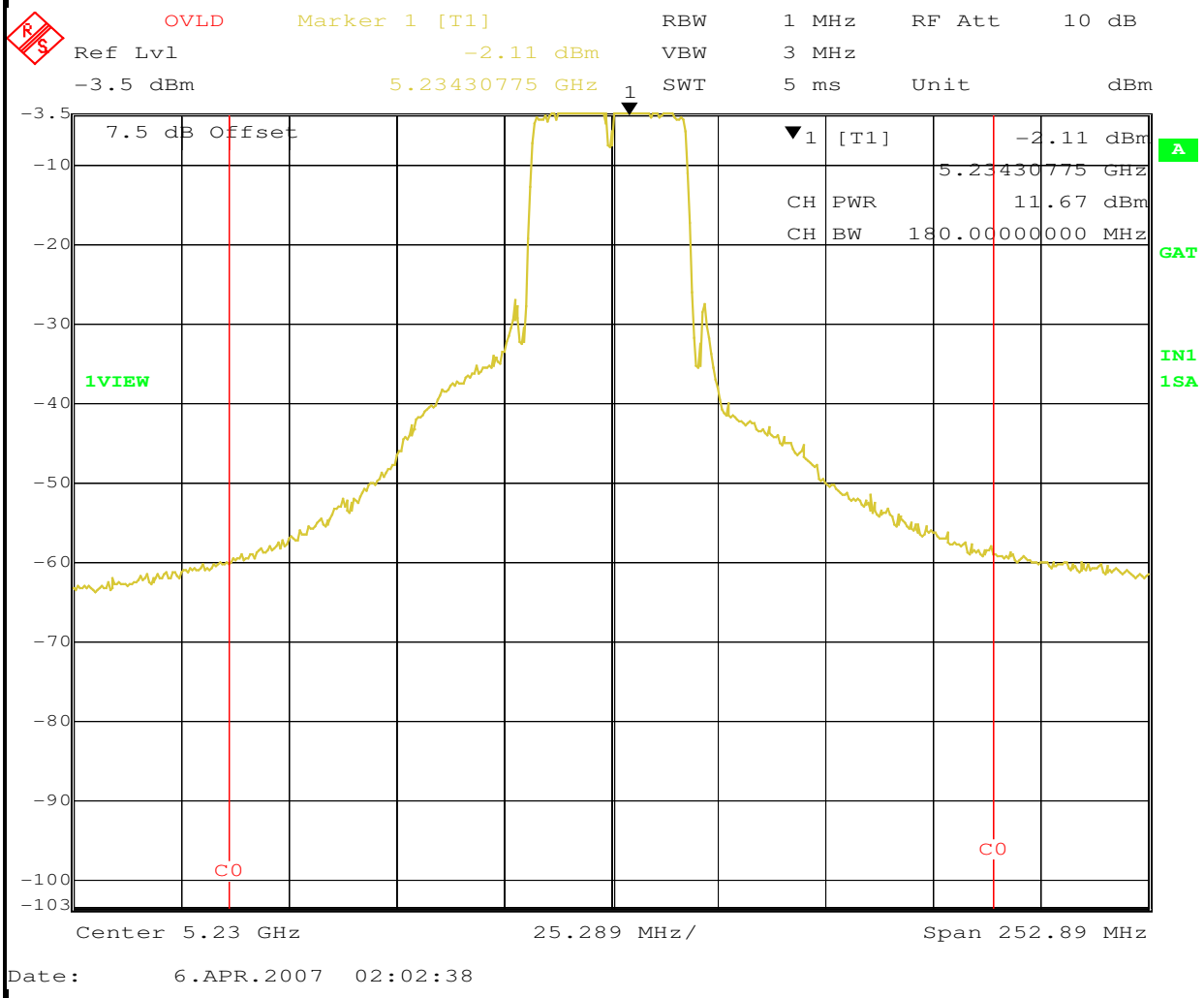
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 38 @ 5190 MHz
Chain 2



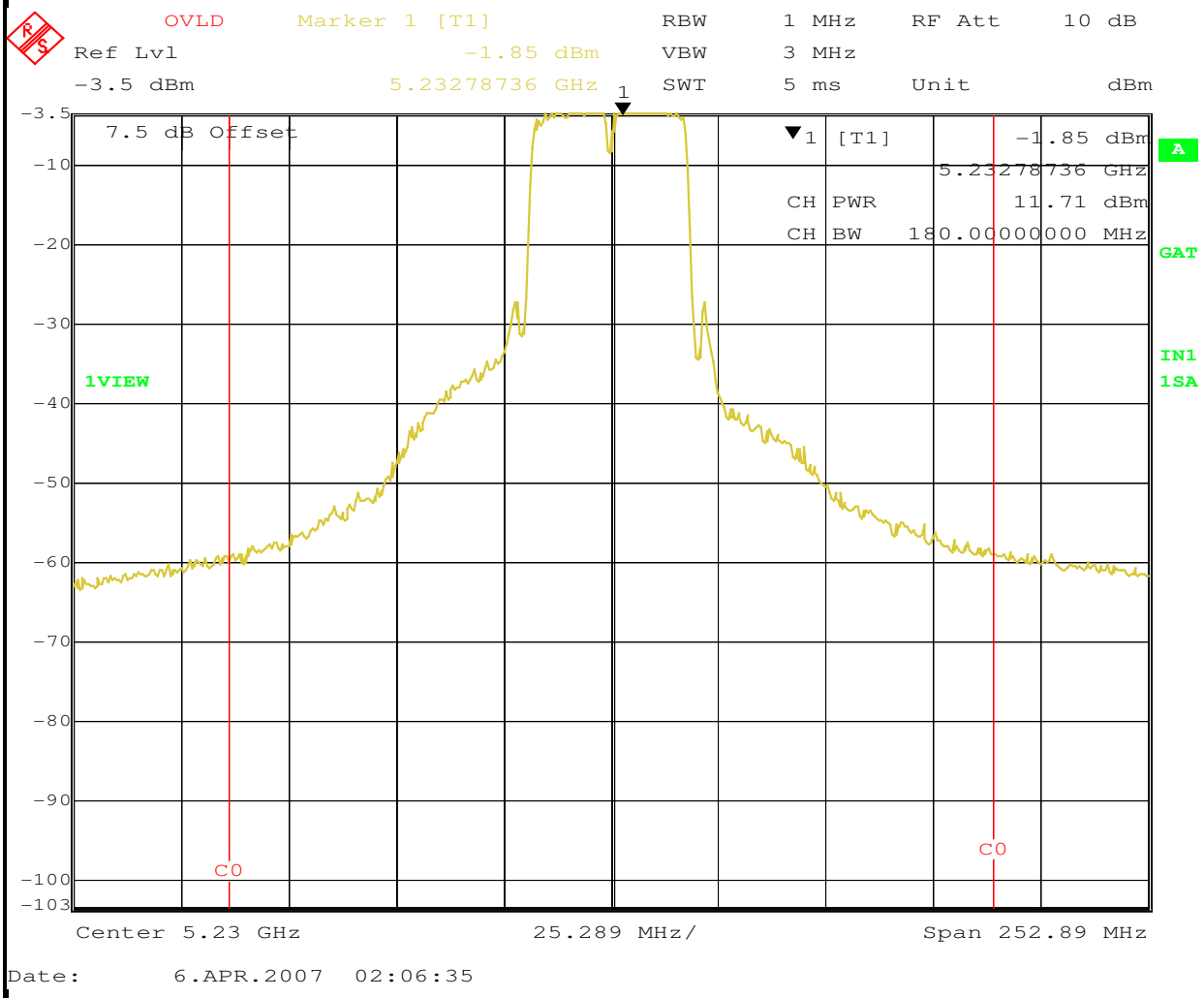
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz
Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

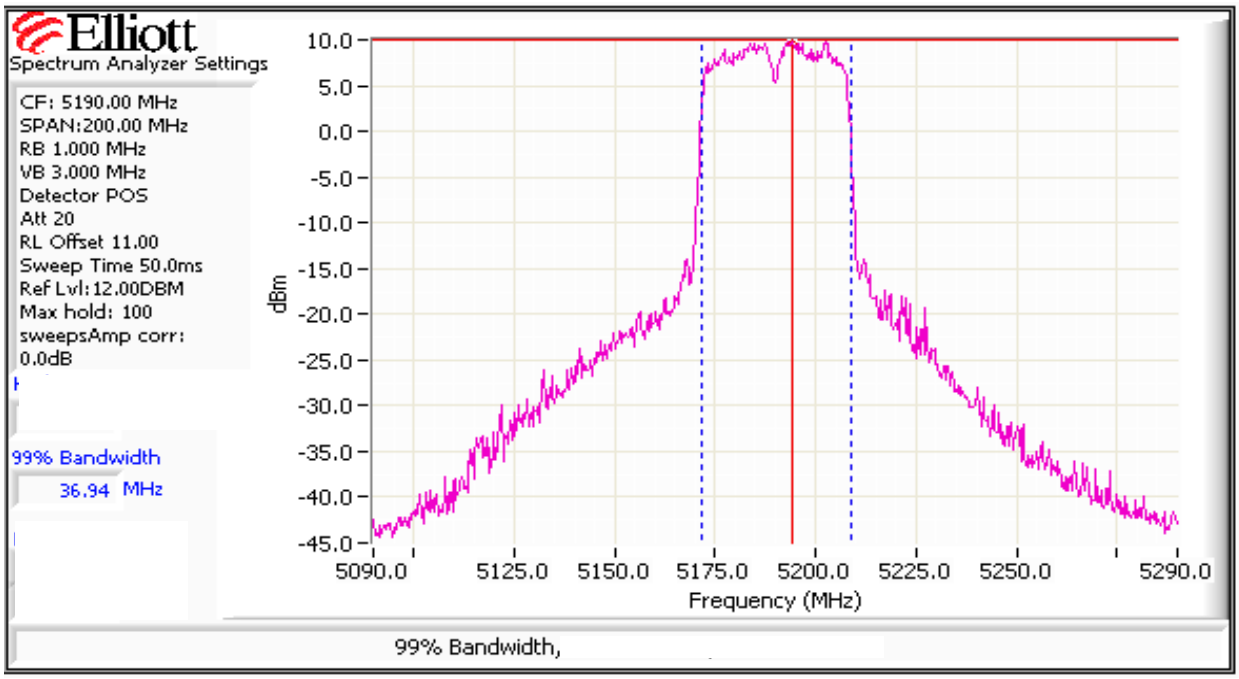
Run #2: Power spectral Density

Power Setting	Frequency (MHz)	PSD (dBm/1MHz) Note 1				
		Main (dBm)	Aux (dBm)	Total	dBm/1MHz	
0x0d0d	5190	-1.9	-1.6	1.3	3.3	Pass
0x1111	5230	-2.1	-1.9	1.0	3.3	Pass

Note 1:	PSD - if transmit chains are coherent then the PSD is calculated from the sum of the antenna gains plus the total power (i.e. beam-forming is assumed because of coherency on the chains). If the individual chains are incoherent then the PSD is calculated from the sum of the individual EIRPs for each chain.

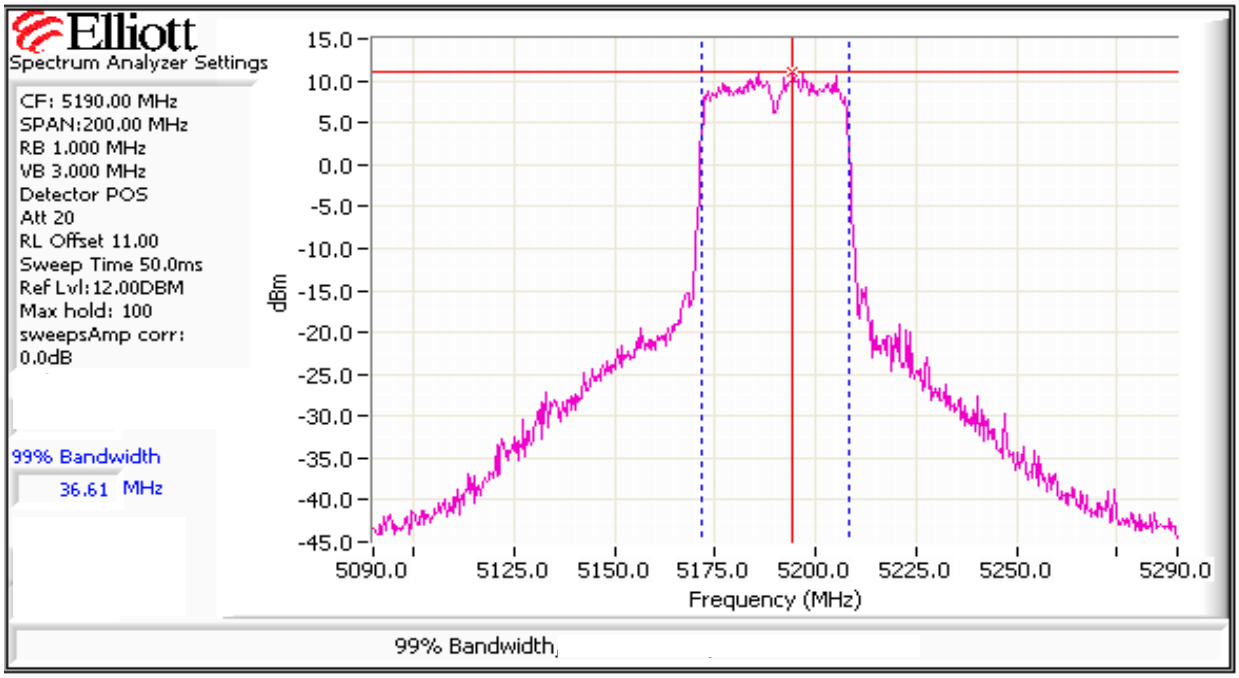
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

99% Bandwidth Plot
Low Channel 38 @ 5190 MHz
Chain 1



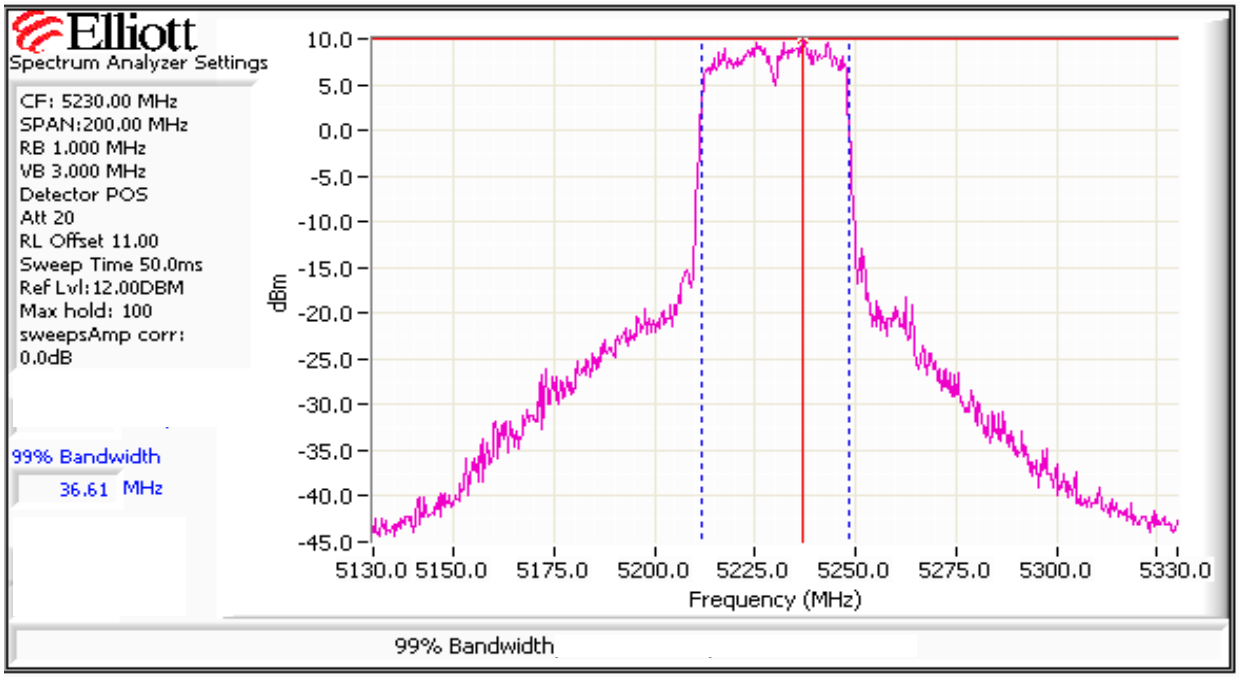
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

99% Bandwidth Plot
Low Channel 38 @ 5190 MHz
Chain 2



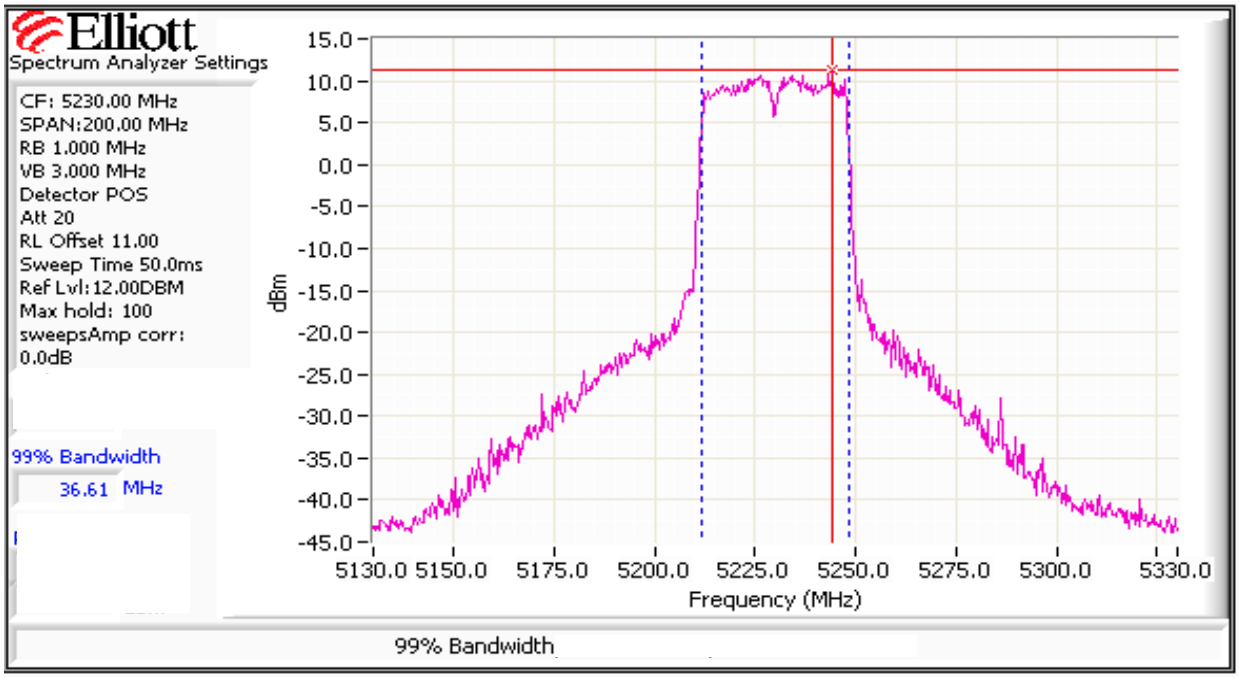
Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

99% Bandwidth Plot
High Channel 46 @ 5230 MHz
Chain 1



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

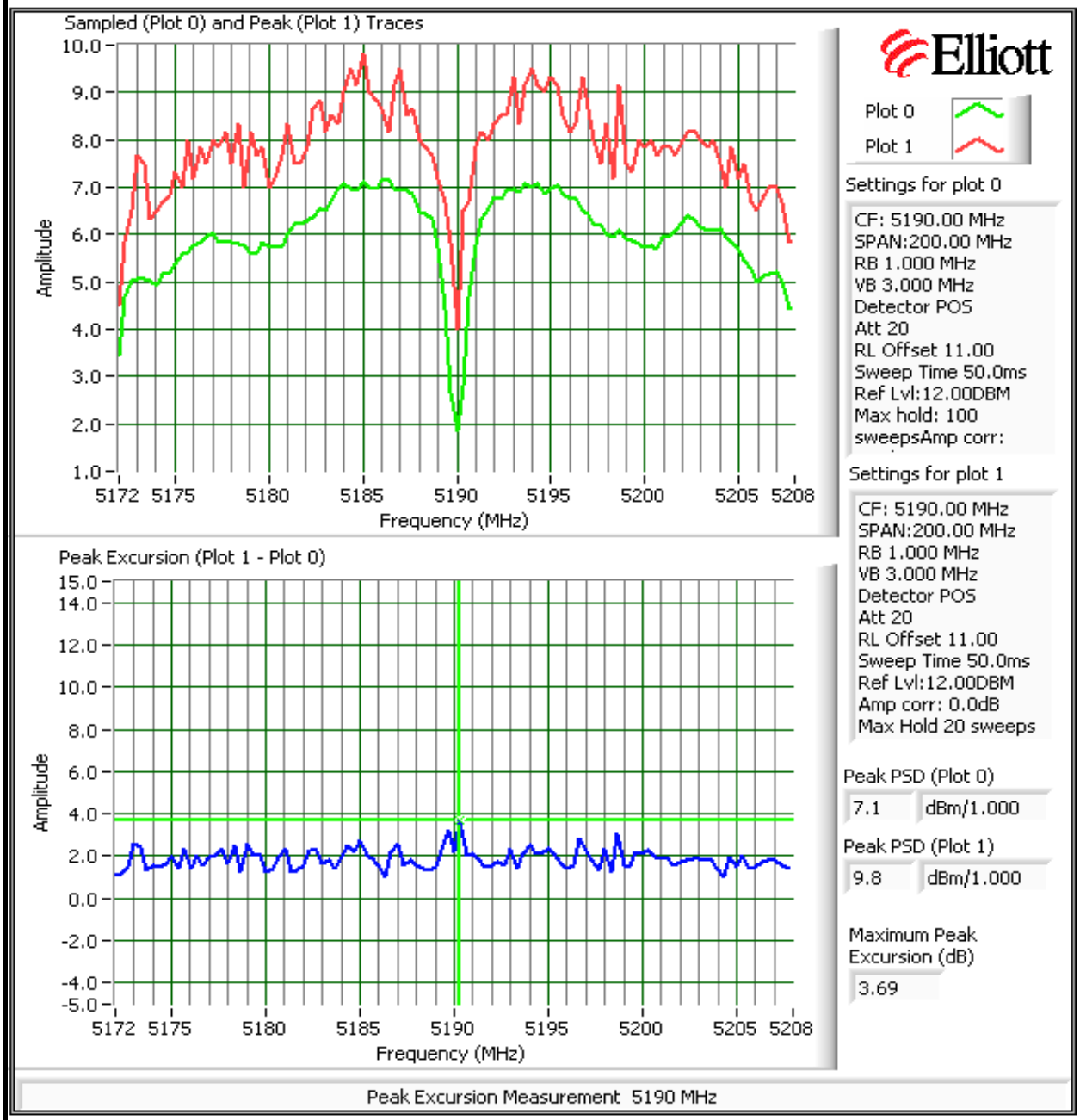
99% Bandwidth Plot
High Channel 46 @ 5230 MHz
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2a: Peak Excursion Measurement
Low Channel 38 @ 5190 MHz
Chain 1

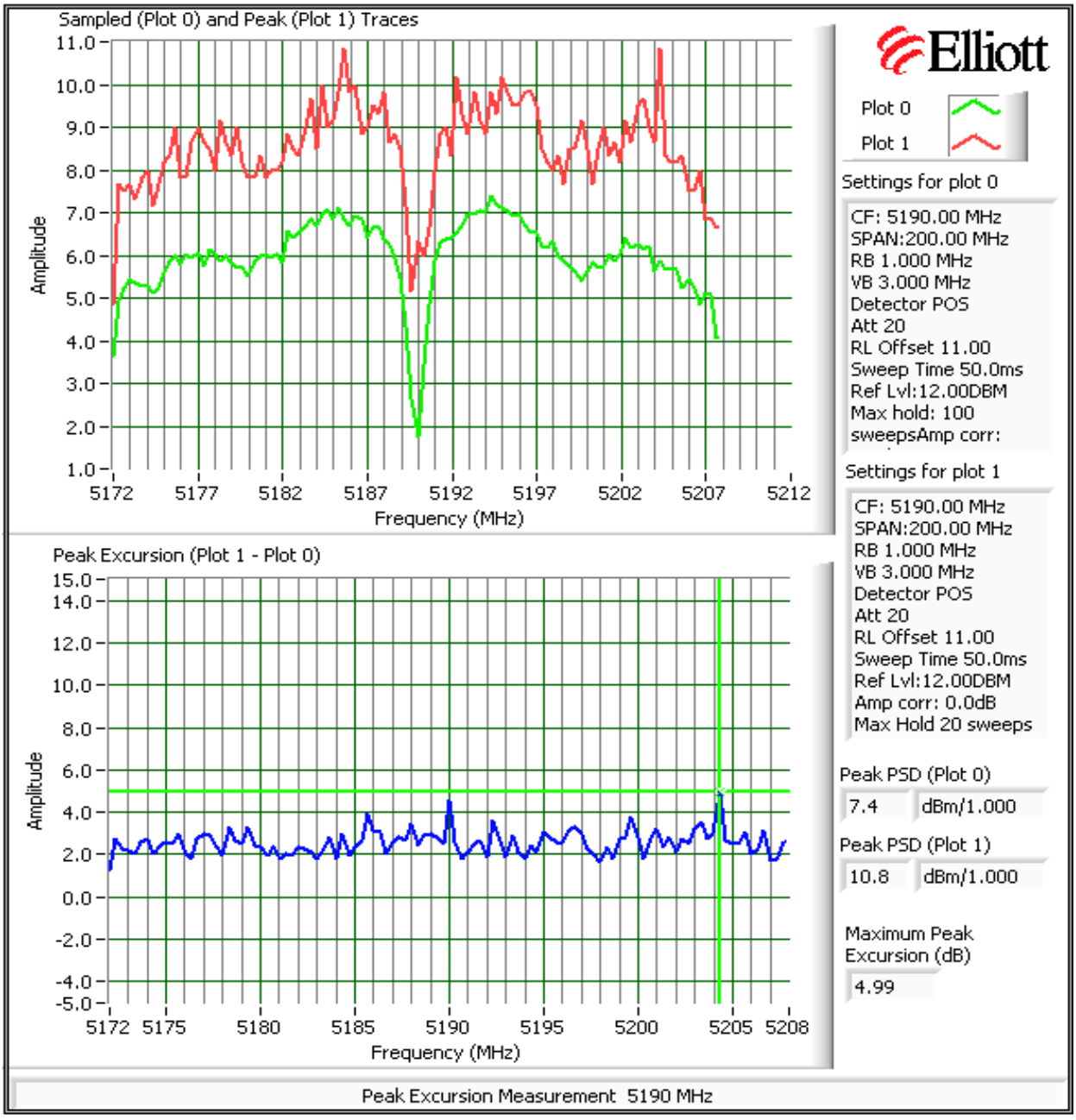
Plots Showing Peak Excursion



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Low Channel 38 @ 5190 MHz
Chain 2

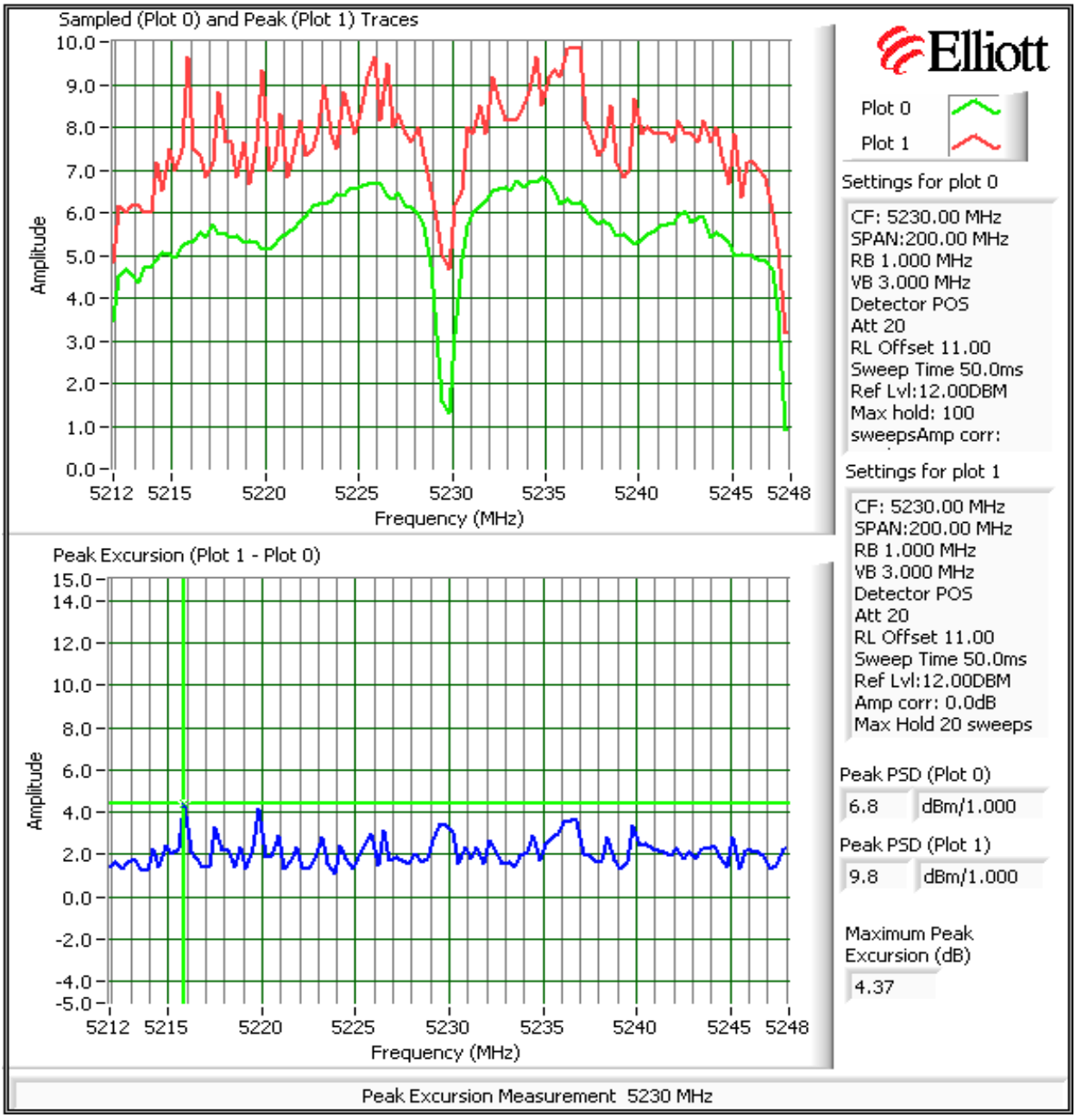
Plots Showing Peak Excursion



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #2b: Peak Excursion Measurement
High Channel 46 @ 5230 MHz
Chain 1

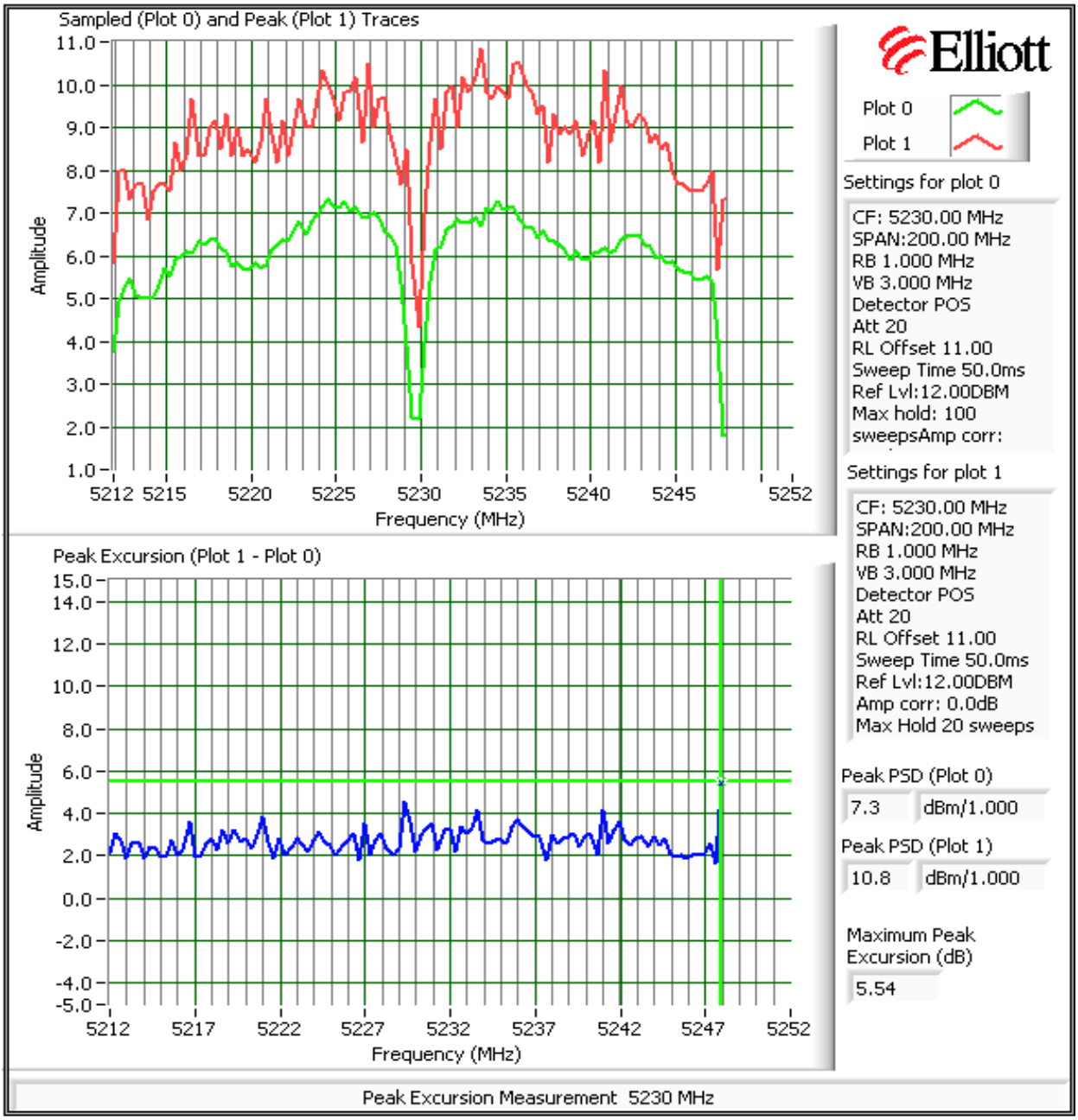
Plots Showing Peak Excursion



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

High Channel 46 @ 5230 MHz
Chain 2

Plots Showing Peak Excursion



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

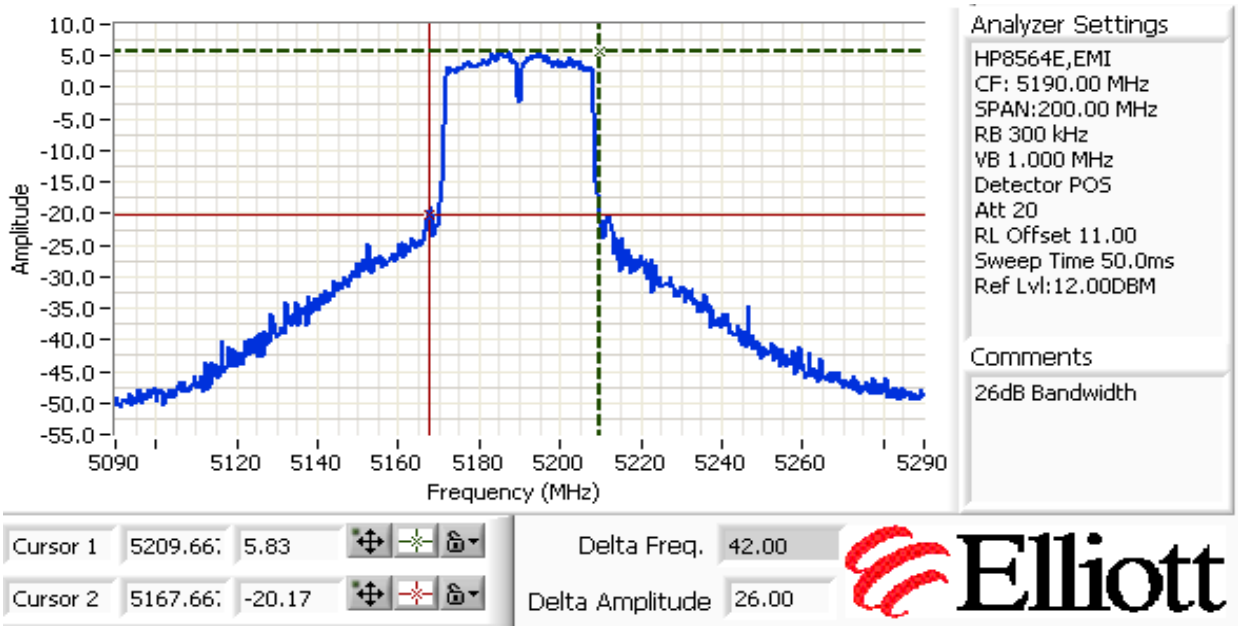
Run #3a: Out Of Band Spurious Emissions - Antenna Conducted
Low Channel 38 @ 5190 MHz

Maximum Antenna Gain:	3.7	dBi
Spurious Limit:	-27	dBm/MHz eirp
Limit Used On Plots [Note 1]:	-30.7	dBm/MHz

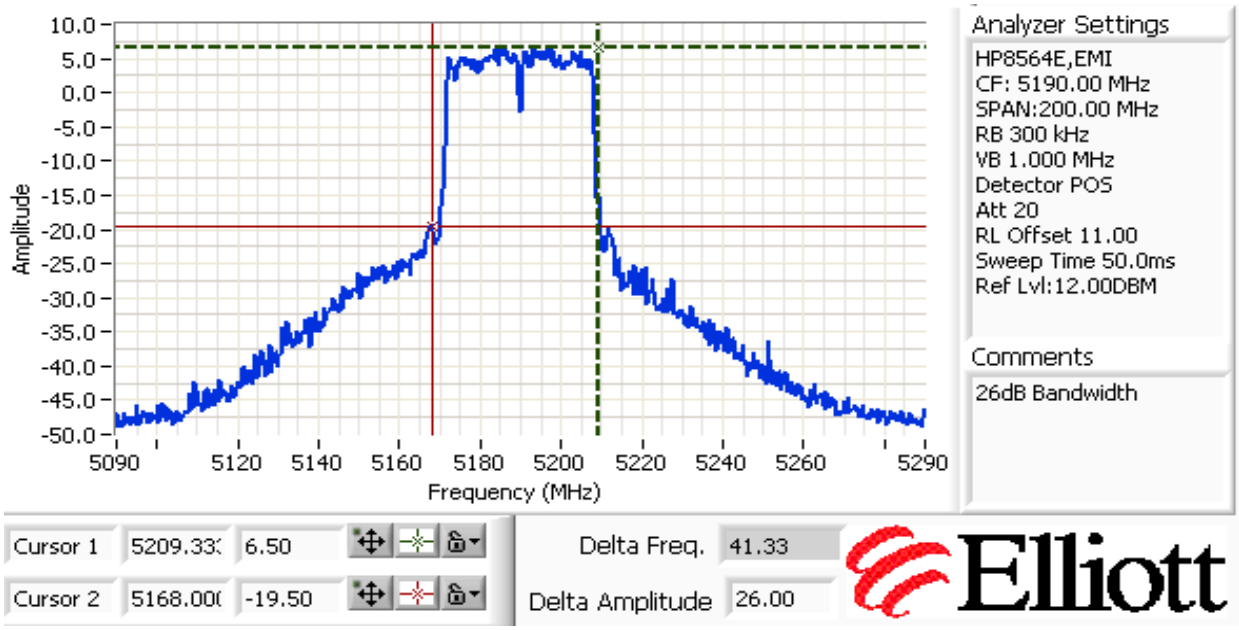
Note 1:	The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain). Radiated field strength measurements for signals more than 50MHz from the bands and that are close to the limit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

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

26dB Bandwidth Plot
Chain 1



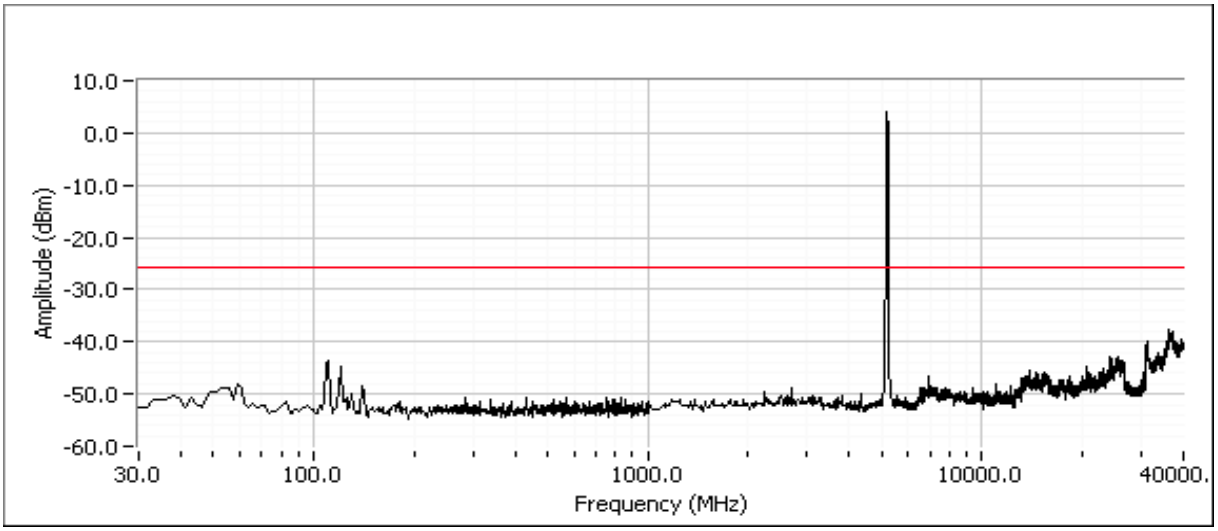
26dB Bandwidth Plot
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

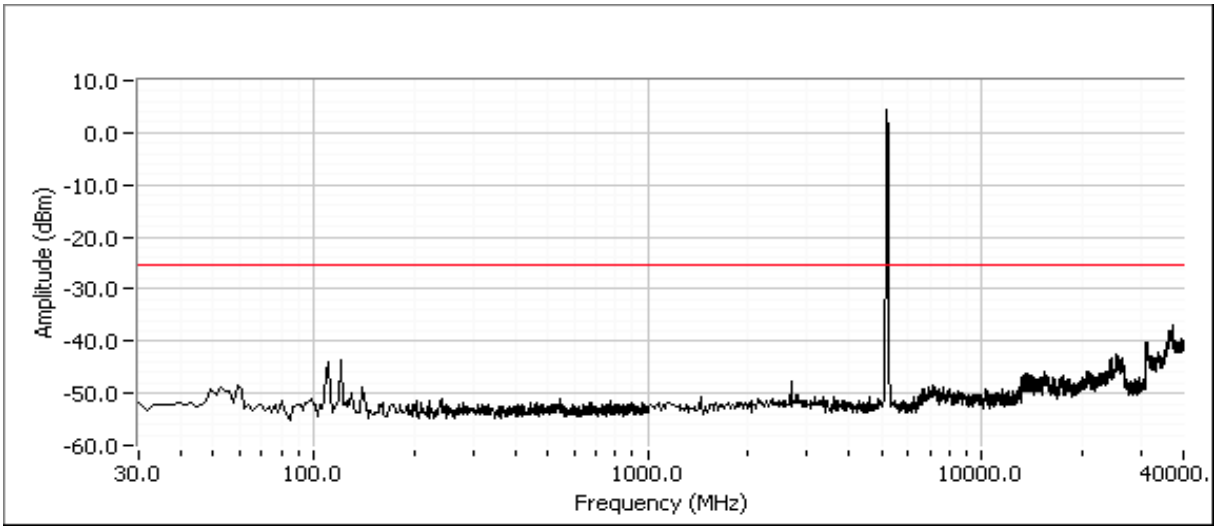
Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

Chain 1



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

Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

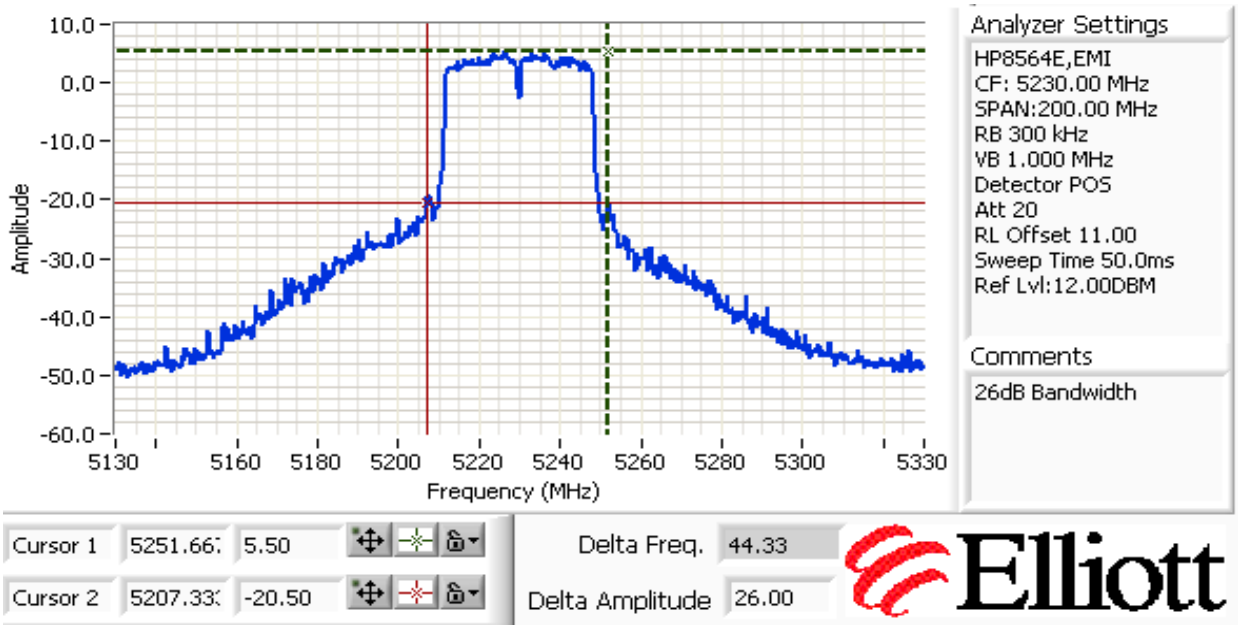
Run #3b: Out Of Band Spurious Emissions - Antenna Conducted
High Channel 46 @ 5230 MHz

Maximum Antenna Gain:	3.7	dBi
Spurious Limit:	-27	dBm/MHz eirp
Limit Used On Plots [Note 1]:	-30.7	dBm/MHz

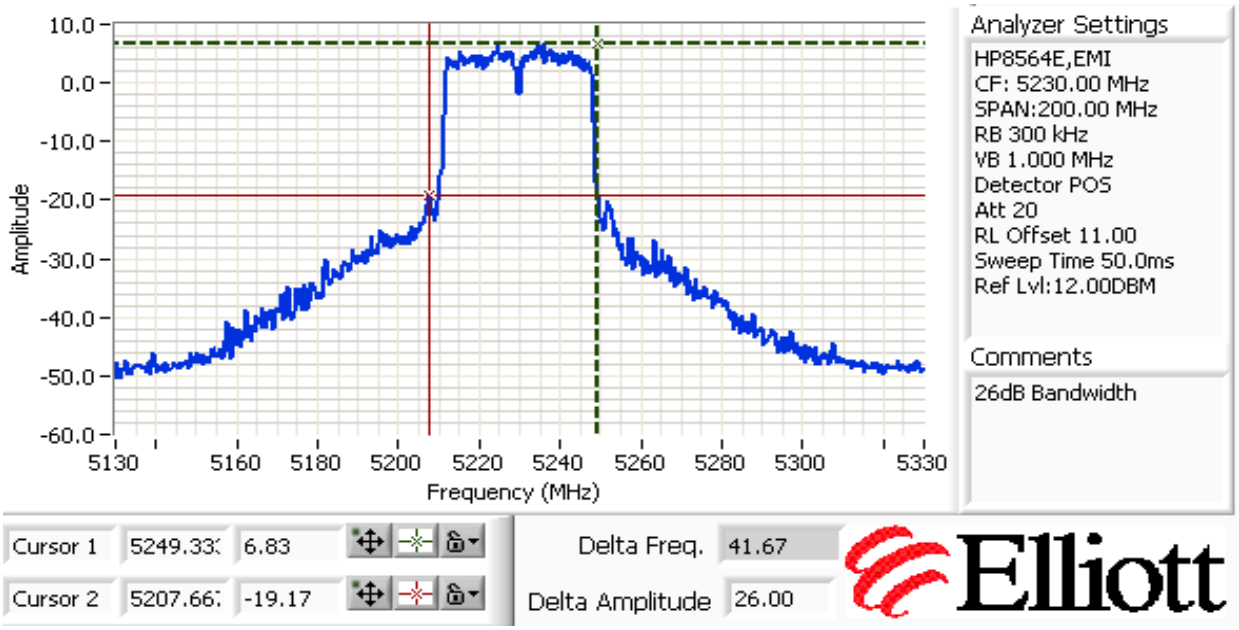
Note 1:	The -27dBm/MHz limit is an eirp limit. The limit for antenna port conducted measurements is adjusted to take into consideration the maximum antenna gain (limit = -27dBm - antenna gain). Radiated field strength measurements for signals more than 50MHz from the bands and that are close to the limit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

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

26dB Bandwidth Plot
Chain 1



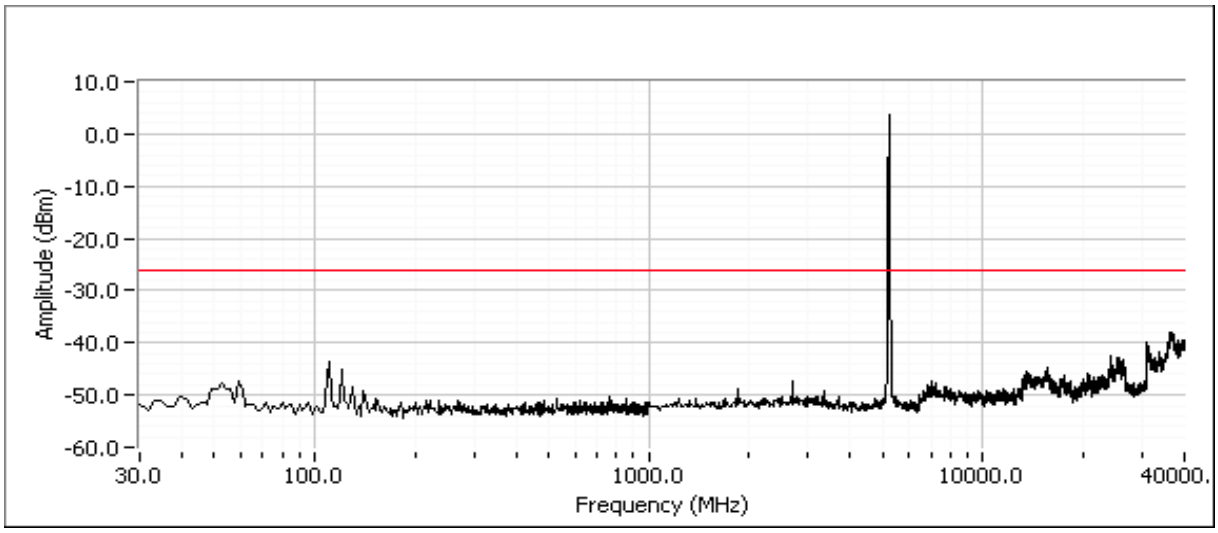
26dB Bandwidth Plot
Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

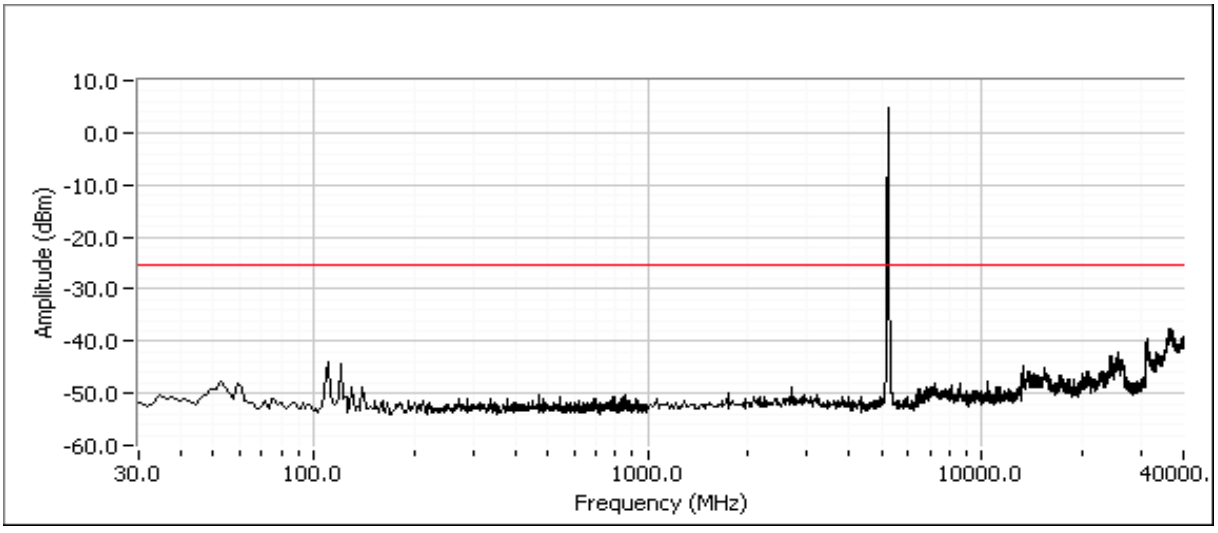
Plots Showing Out-Of-Band Emissions (RBW=VBW=1MHz)

Chain 1



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

Chain 2



Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

RSS 210 and FCC 15.407 Radiated Spurious Emissions

Test Specific Details

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

Date of Test: 3/22/2007
Test Engineer: Rafael Varelas
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

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: 19.8 °C
Rel. Humidity: 45 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
(802.11a Mode) Legacy	RE, 30 - 18000 MHz - Spurious Emissions	FCC Part 15.209 / 15.407	Pass	50.4dBµV/m (331.1µV/m) @ 4923.9MHz (-3.6dB)

Modifications Made During Testing:

No modifications were made to the EUT during testing

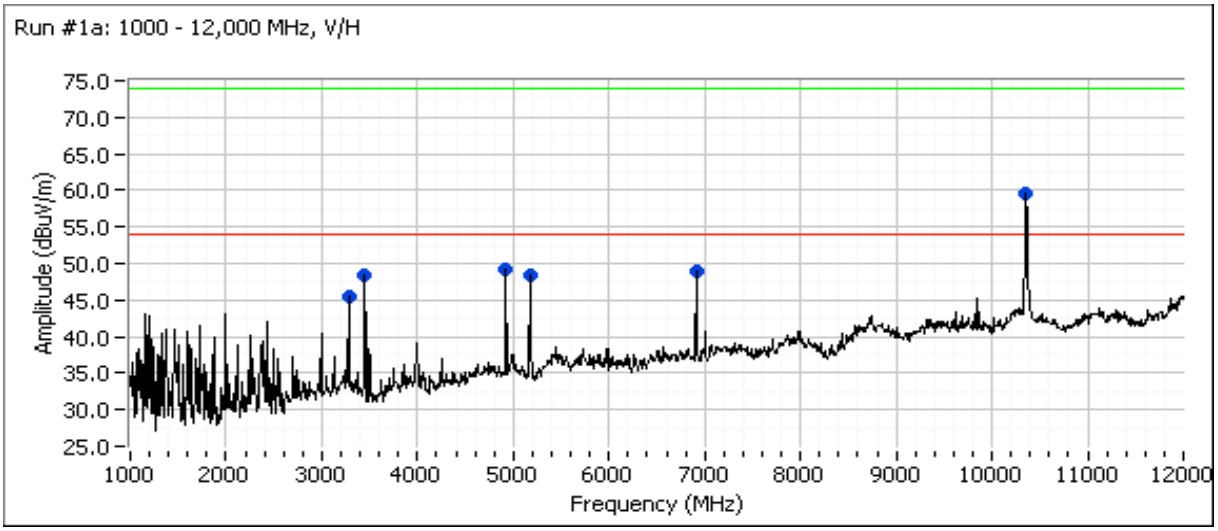
Deviations From The Standard

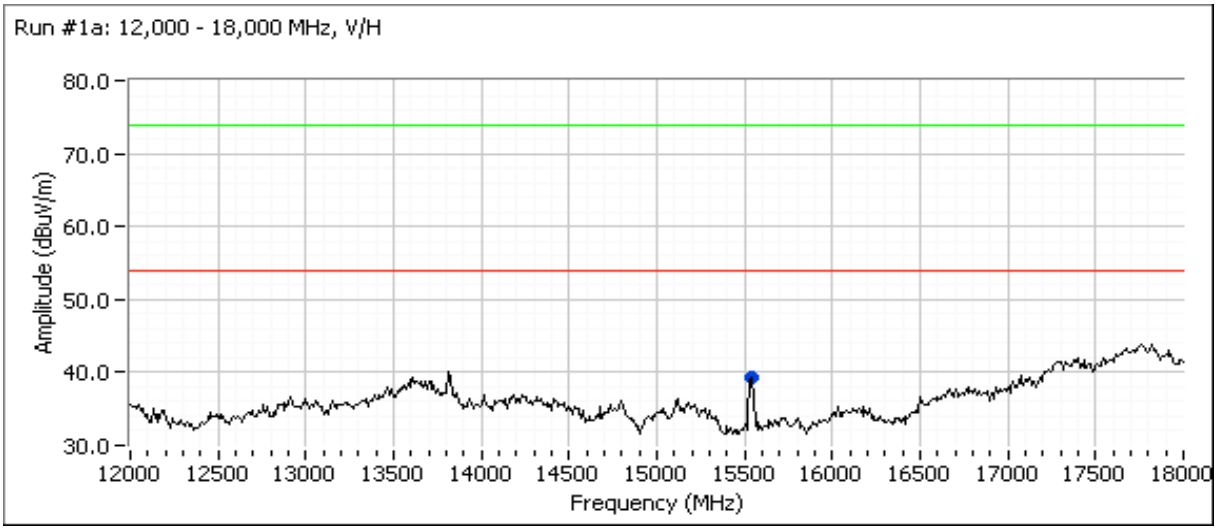
No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Radiated Spurious Emissions, 30 - 18000 MHz. Operating Mode: 802.11a

Run #1a: Low Channel 36 @ 5180 MHz





Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1a: Continued

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3447.500	48.5	H	54.0	-5.5	Peak	113	1.7	Non-restricted
4923.880	49.3	V	54.0	-4.7	Peak	250	1.9	
5170.830	48.3	V	54.0	-5.7	Peak	75	1.3	Non-restricted
3282.500	45.4	V	54.0	-8.6	Peak	271	1.3	Non-restricted
6912.500	49.0	V	54.0	-5.0	Peak	270	1.0	Non-restricted
10359.17	59.6	V	82.6	-23.0	Peak	106	1.0	Non-restricted
15540.00	39.4	V	54.0	-14.6	Peak	61	1.0	

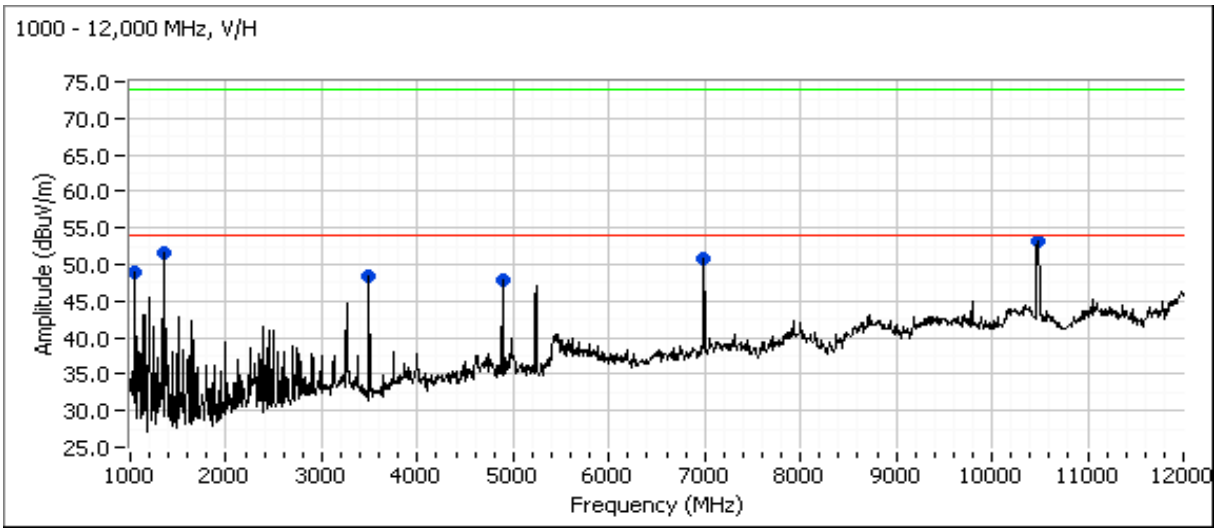
Maximized Readings

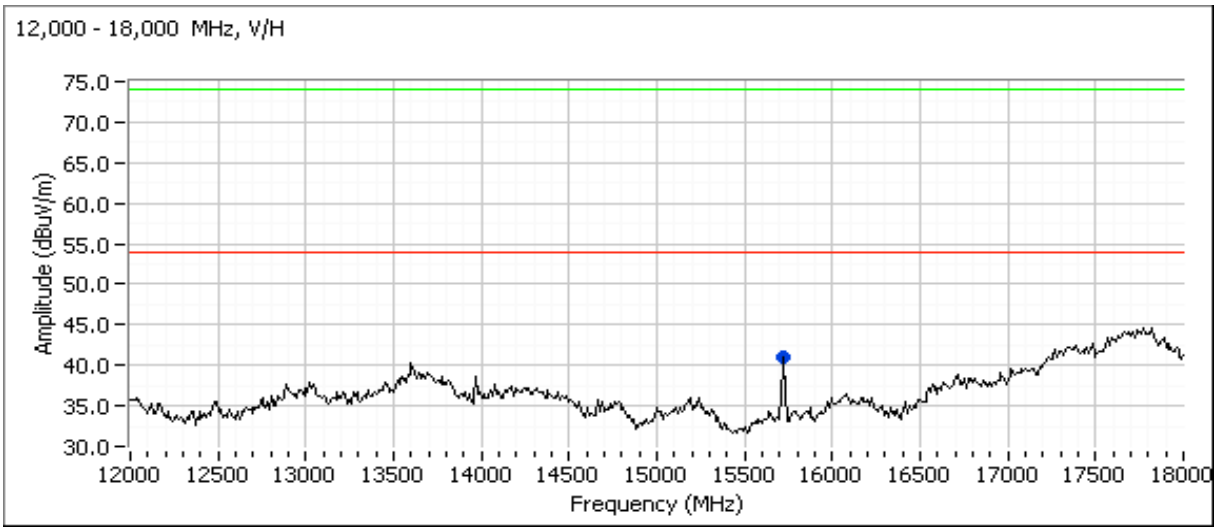
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4923.900	48.1	V	54.0	-5.9	AVG	251	1.9	
4923.900	50.8	V	74.0	-23.2	PK	251	1.9	

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1d: : Channel 48 @ 5240 MHz





Elliott

EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
6986.680	50.8	V	54.0	-3.2	Peak	284	1.0	Non-restricted
10480.040	53.3	V	54.0	-0.7	Peak	30	1.0	Non-restricted
1050.210	49.0	V	54.0	-5.0	Peak	317	1.0	
1350.040	51.6	V	54.0	-2.4	Peak	264	1.6	
3493.440	48.5	H	54.0	-5.5	Peak	111	1.7	Non-restricted
4894.040	47.9	V	54.0	-6.1	Peak	264	1.6	
15720.00	41.1	H	54.0	-12.9	Peak	66	1.0	

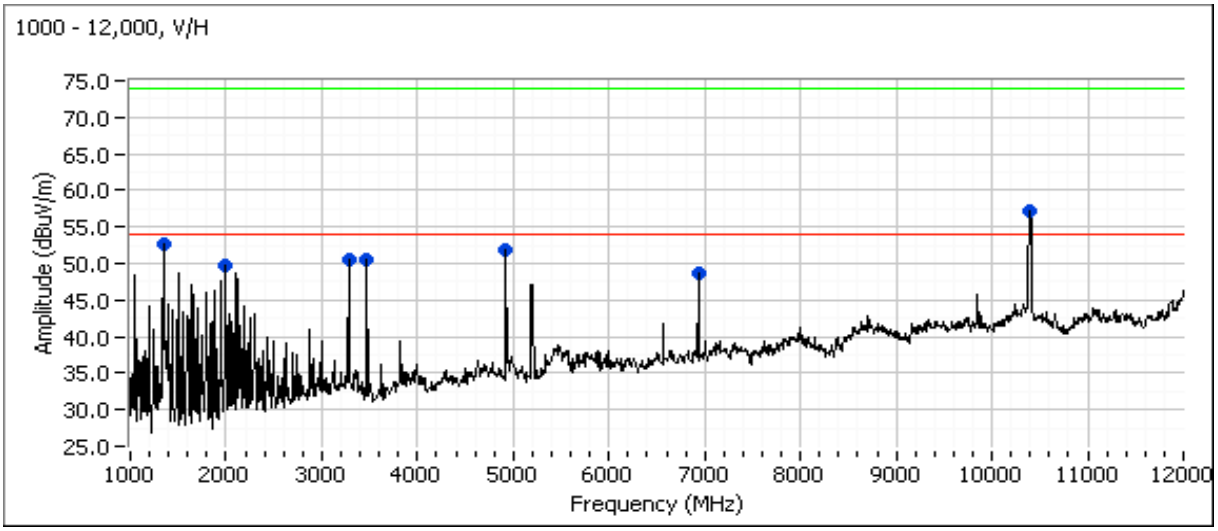
Maximized Readings

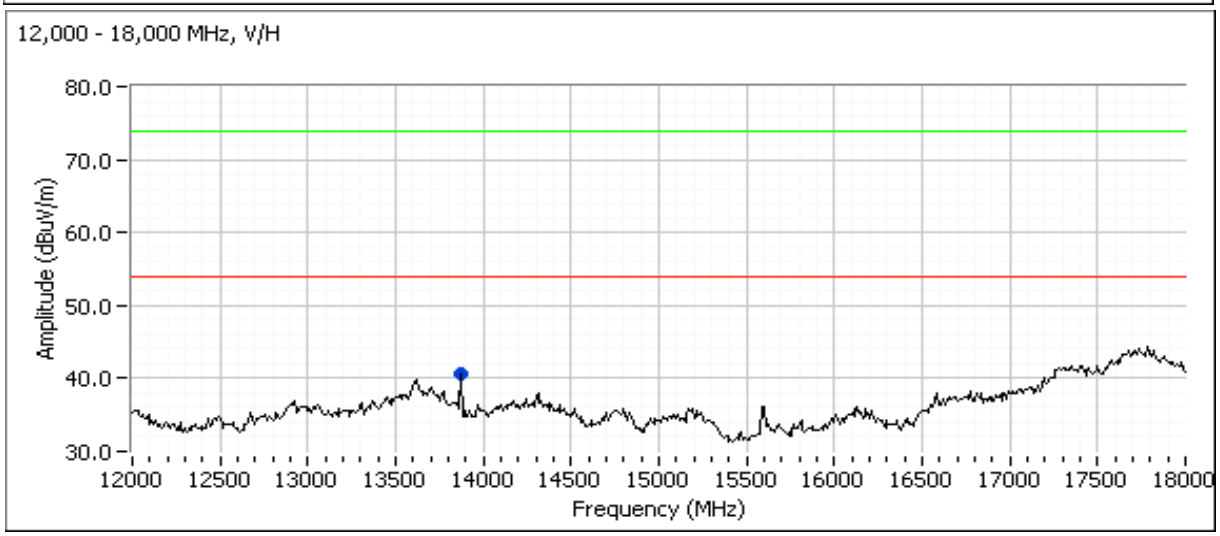
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10481.320	47.0	V	54.0	-7.0	AVG	34	1.0	Non-restricted
10481.320	60.3	V	74.0	-13.7	PK	34	1.0	Non-restricted
1349.980	50.9	V	54.0	-3.1	AVG	264	1.6	
1349.980	52.5	V	74.0	-21.5	PK	264	1.6	
6986.570	46.3	V	54.0	-7.7	AVG	286	1.0	Non-restricted
6986.570	50.7	V	74.0	-23.3	PK	286	1.0	Non-restricted

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1e: : Channel 40 @ 5200 MHz





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EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
6933.320	48.7	V	54.0	-5.3	Peak	52	1.6	Non-restricted
10398.760	57.2	V	54.0	3.2	Peak	182	1.8	Non-restricted
1349.980	52.6	H	54.0	-1.4	Peak	70	1.8	
3282.590	50.6	V	54.0	-3.4	Peak	289	1.3	Non-restricted
3466.750	50.6	H	54.0	-3.4	Peak	111	1.8	Non-restricted
4923.970	51.8	V	54.0	-2.2	Peak	245	1.6	
2000.090	49.8	H	54.0	-4.2	Peak	111	1.8	Non-restricted
13870.00	40.7	H	54.0	-13.3	Peak	41	1.2	

Maximized Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4923.930	50.4	V	54.0	-3.6	AVG	245	1.6	
4923.930	52.3	V	74.0	-21.7	PK	245	1.6	
1349.940	51.3	H	54.0	-2.7	AVG	69	1.8	
1349.940	52.7	H	74.0	-21.3	PK	69	1.8	
6933.240	39.6	V	54.0	-14.4	AVG	52	1.6	Non-restricted
6933.240	47.1	V	74.0	-26.9	PK	52	1.6	Non-restricted
10398.800	44.1	V	54.0	-9.9	AVG	182	1.8	Non-restricted
10398.800	58.6	V	74.0	-15.4	PK	182	1.8	Non-restricted
3282.580	49.0	V	54.0	-5.0	AVG	288	1.3	Non-restricted
3282.580	51.1	V	74.0	-22.9	PK	288	1.3	Non-restricted
3466.600	48.7	H	54.0	-5.3	AVG	110	1.8	Non-restricted
3466.600	50.6	H	74.0	-23.4	PK	110	1.8	Non-restricted
1999.960	32.6	H	54.0	-21.4	AVG	110	1.8	Non-restricted
1999.960	41.8	H	74.0	-32.2	PK	110	1.8	Non-restricted

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

RSS 210 and FCC 15.407 Radiated Spurious Emissions

Test Specific Details

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

Date of Test: 3/23/2007
Test Engineer: Rafael Varelas
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

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: 19.8 °C
Rel. Humidity: 45 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
(802.11a) SISO	RE, 1000 - 18000 MHz - Spurious Emissions	FCC Part 15.209 / 15.407	Pass	51.6dBµV/m (380.2µV/m) @ 1350.0MHz (-2.4dB)

Modifications Made During Testing:

No modifications were made to the EUT during testing

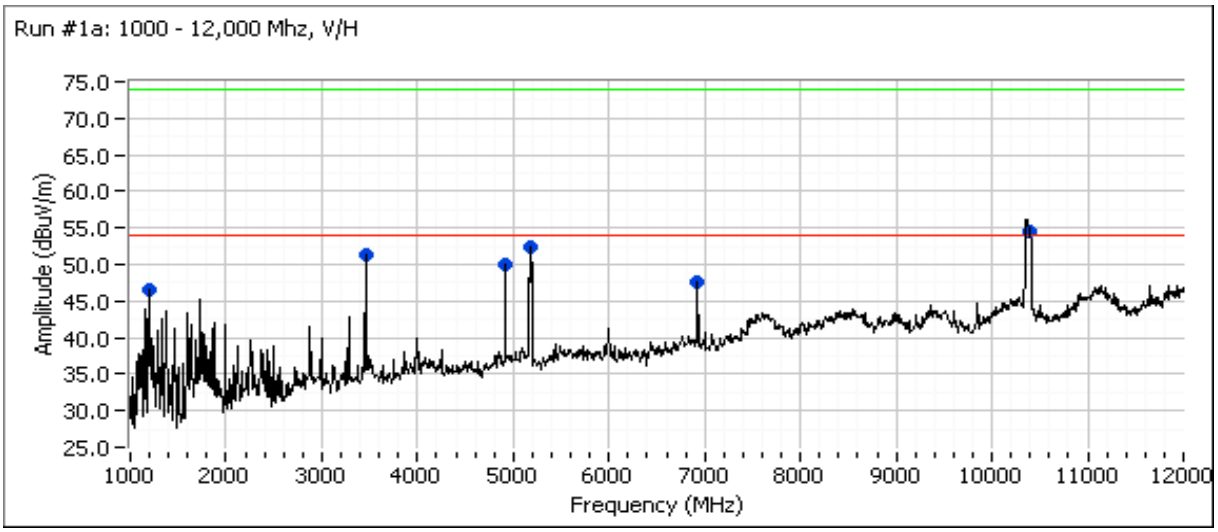
Deviations From The Standard

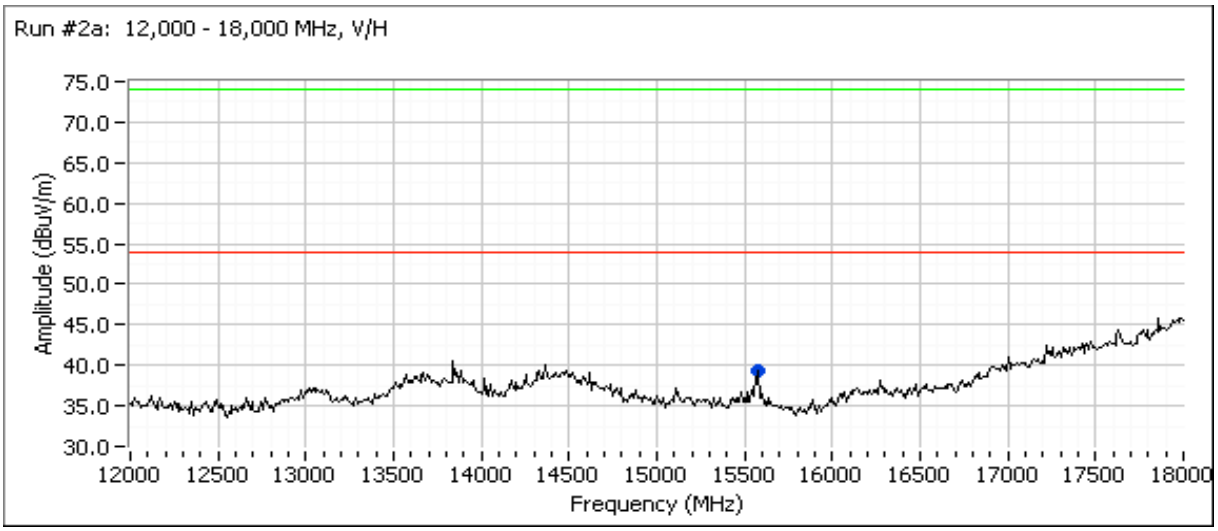
No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Radiated Spurious Emissions, 30 - 18000 MHz. Operating Mode: 802.11 SISO

Run #1a: Low Channel 38 @ 5190 MHz





Elliott

EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1192.500	46.5	V	54.0	-7.5	Peak	243	1.9	
3460.060	51.2	H	54.0	-2.8	Peak	110	1.7	Non-restricted
4923.870	50.0	H	54.0	-4.0	Peak	223	1.4	
5172.420	52.5	V	54.0	-1.5	Peak	305	1.3	Non-restricted
6921.670	47.5	V	54.0	-6.5	Peak	83	1.0	Non-restricted
10379.900	54.5	H	54.0	0.5	Peak	47	1.0	Non-restricted
15580.00	39.3	V	54.0	-14.7	Peak	64	1.0	

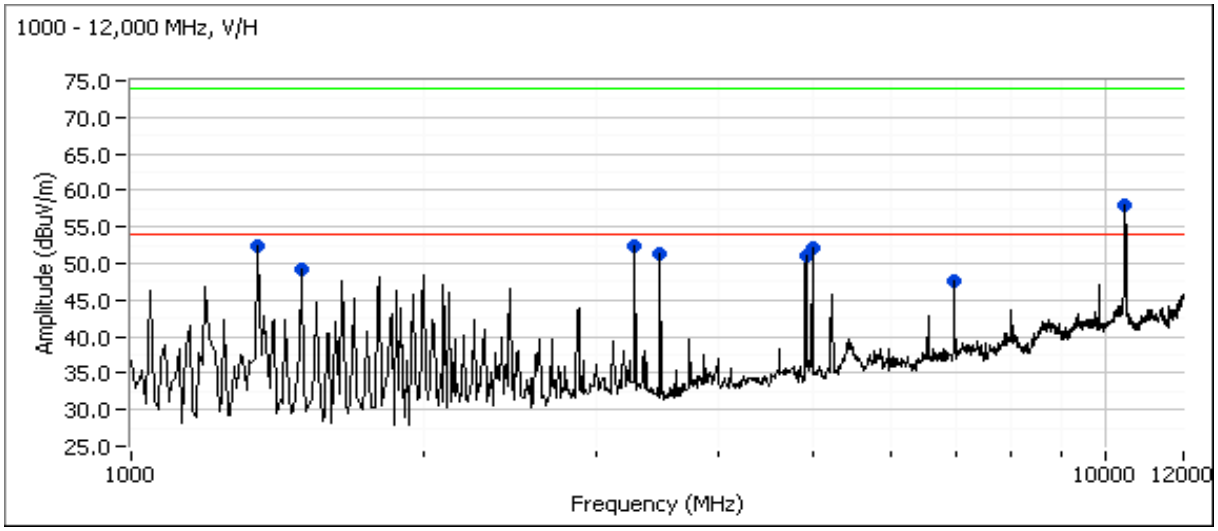
Maximized Readings

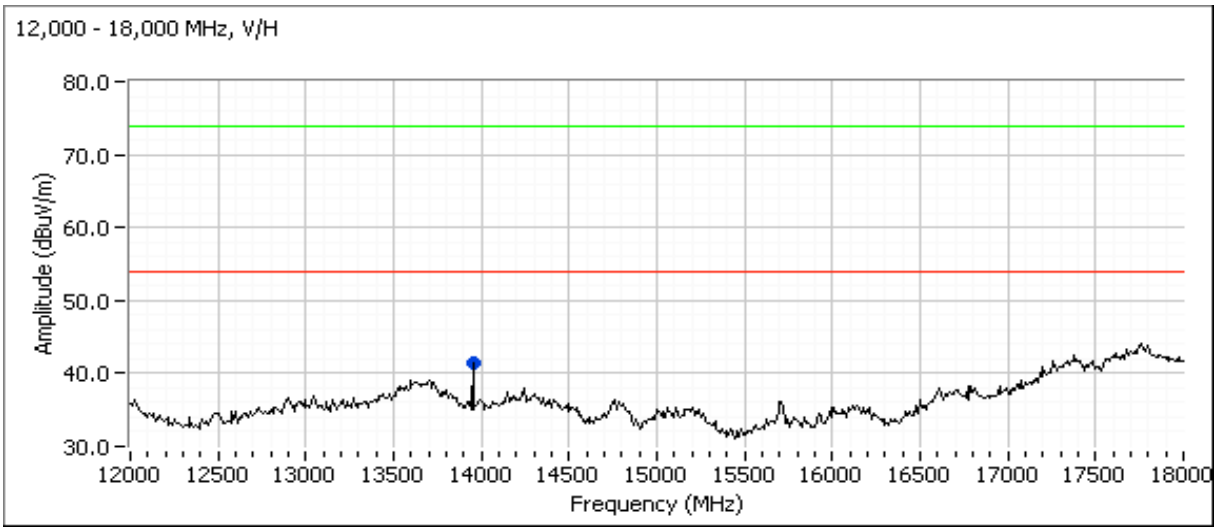
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
10380.100	50.7	H	54.0	-3.3	AVG	48	1.0	Non-restricted
10380.100	62.8	H	74.0	-11.2	PK	48	1.0	Non-restricted
3459.950	50.9	H	54.0	-3.1	AVG	111	1.7	Non-restricted
3459.950	52.8	H	74.0	-21.2	PK	111	1.7	Non-restricted
4924.010	50.1	H	54.0	-3.9	AVG	225	1.4	
4924.010	52.5	H	74.0	-21.5	PK	225	1.4	
5173.100	44.9	V	54.0	-9.1	AVG	306	1.3	Non-restricted
5173.100	54.8	V	74.0	-19.2	PK	306	1.3	Non-restricted

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1d: Channel 46 @ 5230 MHz





Elliott

EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
6973.280	47.7	V	54.0	-6.3	Peak	59	1.3	Non-restricted
10460.000	58.1	V	54.0	4.1	Peak	13	1.0	Non-restricted
1349.980	52.5	V	54.0	-1.5	Peak	294	1.3	
1500.120	49.1	H	54.0	-4.9	Peak	213	2.0	
3282.680	52.3	V	54.0	-1.7	Peak	266	1.3	Non-restricted
3486.820	51.3	H	54.0	-2.7	Peak	107	1.4	Non-restricted
4923.970	51.0	V	54.0	-3.0	Peak	229	1.6	
4994.660	52.1	H	54.0	-1.9	Peak	279	1.7	
13950.00	41.5	H	54.0	-12.5	Peak	35	1.1	

Maximized Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1349.990	51.6	V	54.0	-2.4	AVG	294	1.3	
1349.990	53.1	V	74.0	-20.9	PK	294	1.3	
10461.050	47.1	V	54.0	-6.9	AVG	13	1.0	Non-restricted
10461.050	60.6	V	74.0	-13.4	PK	13	1.0	Non-restricted
6973.290	46.2	V	54.0	-7.8	AVG	59	1.3	Non-restricted
6973.290	50.2	V	74.0	-23.8	PK	59	1.3	Non-restricted
3486.660	51.5	H	54.0	-2.5	AVG	107	1.4	Non-restricted
3486.660	52.8	H	74.0	-21.2	PK	107	1.4	Non-restricted
1499.960	47.3	H	54.0	-6.7	AVG	212	2.0	
1499.960	50.4	H	74.0	-23.6	PK	212	2.0	
3282.730	51.2	V	54.0	-2.8	AVG	266	1.3	Non-restricted
3282.730	52.9	V	74.0	-21.1	PK	266	1.3	Non-restricted
4924.040	50.9	V	54.0	-3.1	AVG	228	1.6	
4924.040	52.6	V	74.0	-21.4	PK	228	1.6	
4995.200	28.5	H	54.0	-25.5	AVG	279	1.7	
4995.200	40.2	H	74.0	-33.8	PK	279	1.7	

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

RSS 210 and FCC 15.407 Radiated Spurious Emissions

Test Specific Details

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

Date of Test: 3/22/2007
Test Engineer: Rafael Varelas
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

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: 19.7 °C
Rel. Humidity: 45 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
(802.11n Mode) 20MHz CDD	RE, 30 - 18000 MHz - Spurious Emissions	FCC Part 15.209 / 15.407	Pass	52.3dBµV/m (412.1µV/m) @ 1349.9MHz (-1.7dB)

Modifications Made During Testing:

No modifications were made to the EUT during testing

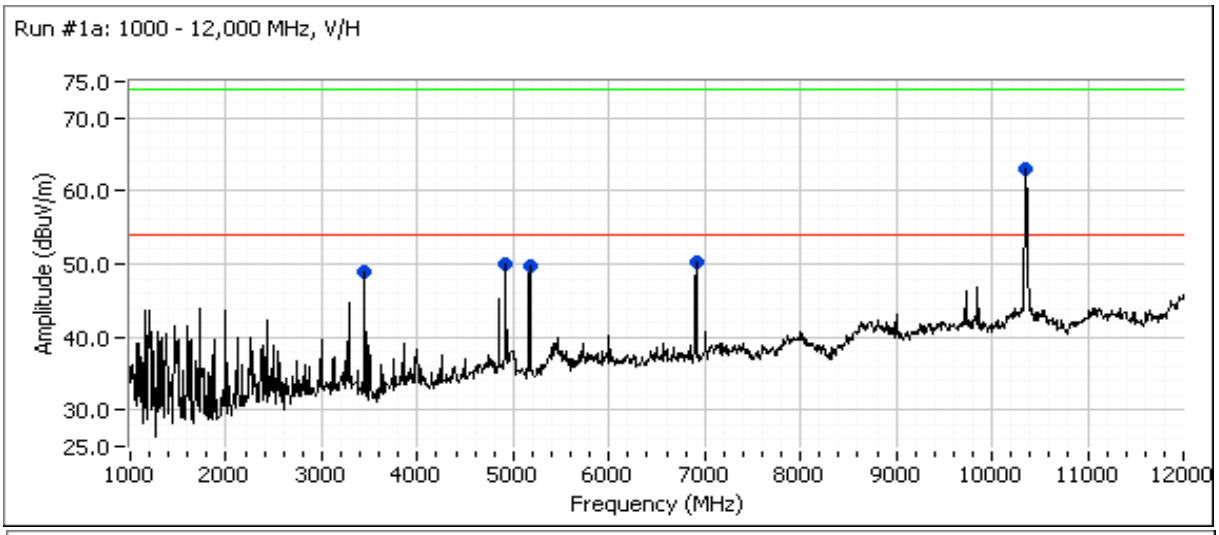
Deviations From The Standard

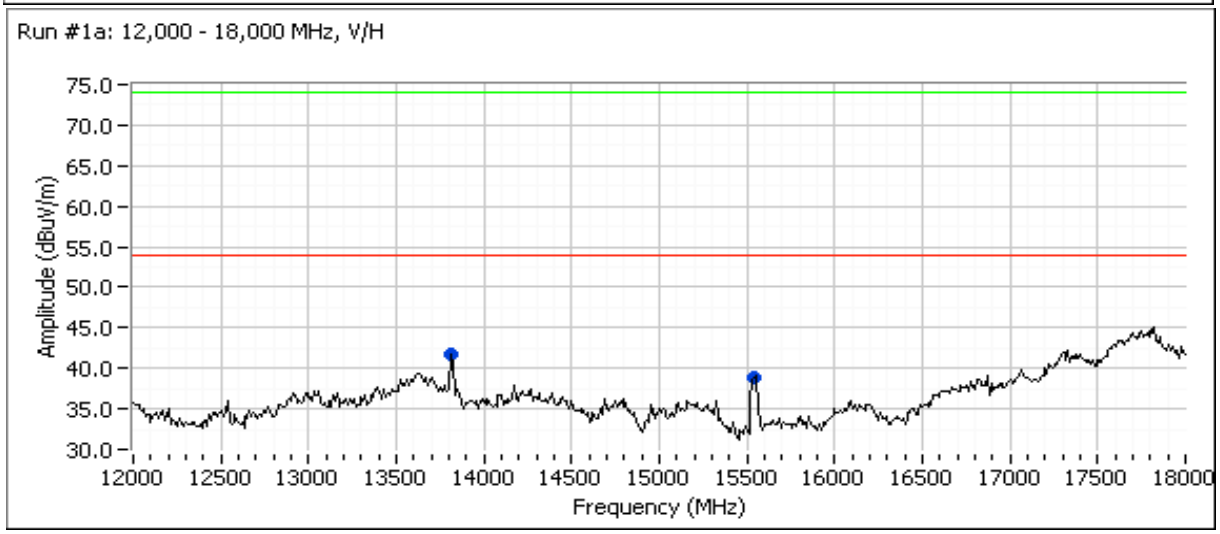
No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Radiated Spurious Emissions, 30 - 18000 MHz. Operating Mode: 802.11n 20MHz

Run #1a: Low Channel 36 @ 5180 MHz





Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3447.500	49.0	H	54.0	-5.0	Peak	117	1.4	Non-restricted
4923.960	50.0	V	54.0	-4.0	Peak	255	1.6	
5170.830	49.8	V	54.0	-4.2	Peak	74	1.9	Non-restricted
6912.500	50.2	H	54.0	-3.8	Peak	37	1.4	Non-restricted
10350.00	62.9	H	85.8	-22.9	Peak	45	1.0	Non-restricted
13810.00	41.7	V	54.0	-12.3	Peak	71	1.0	
15540.00	38.8	V	54.0	-15.2	Peak	57	1.0	

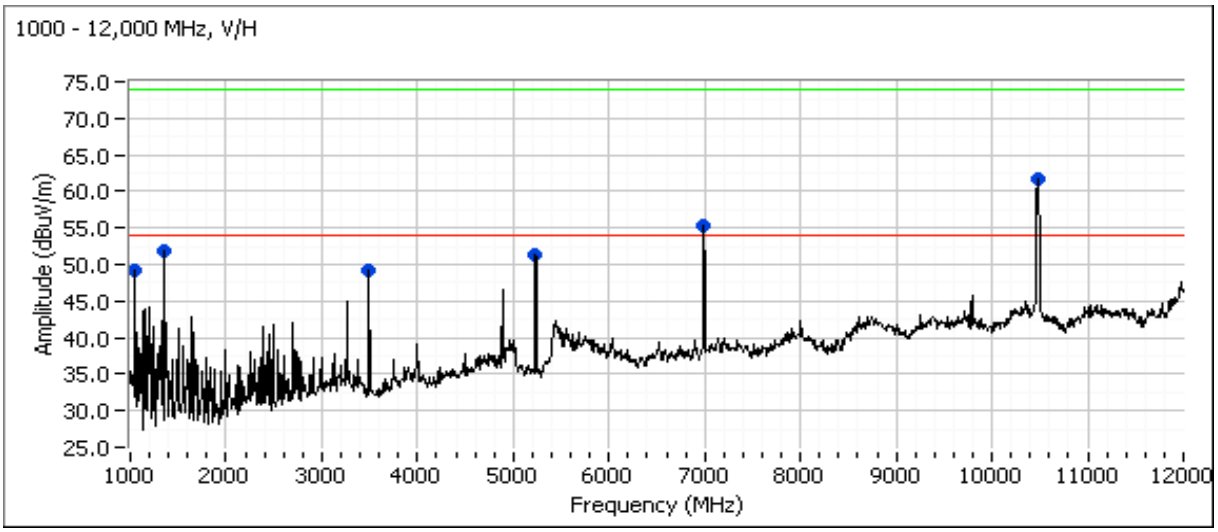
Maximized Readings

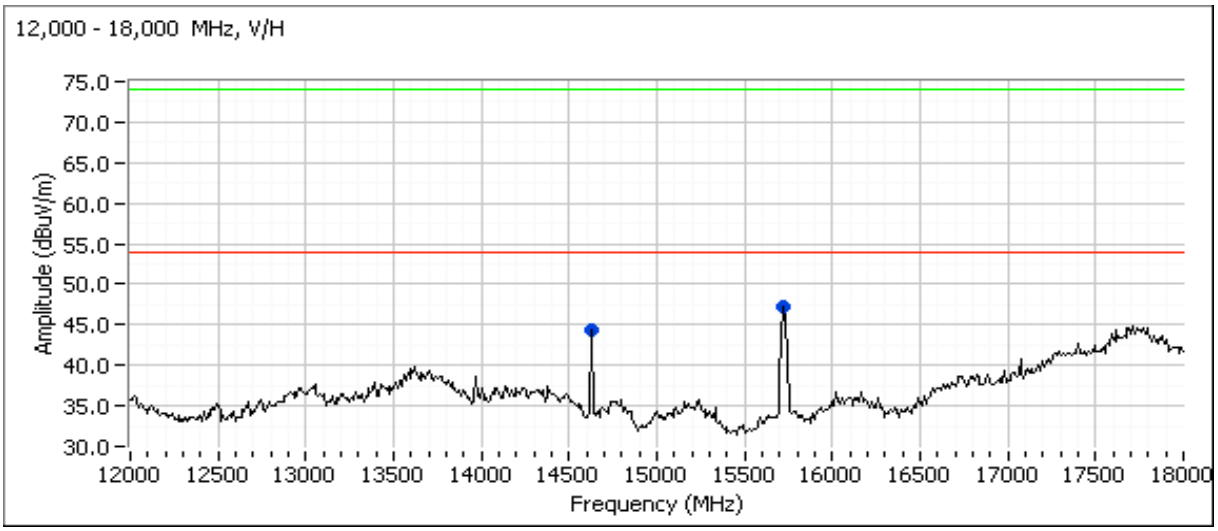
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4923.990	48.4	V	54.0	-5.6	AVG	256	1.6	
4923.990	50.8	V	74.0	-23.2	PK	256	1.6	

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1d: Channel 48 @ 5240 MHz





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EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1050.210	49.3	V	54.0	-4.7	Peak	323	1.0	
1350.040	51.9	V	54.0	-2.1	Peak	267	1.6	
3493.440	49.2	H	54.0	-4.8	Peak	110	1.7	Non-restricted
5234.910	51.3	V	54.0	-2.7	Peak	0	1.0	Non-restricted
6986.680	55.3	V	54.0	1.3	Peak	37	1.6	Non-restricted
10479.930	61.7	V	54.0	7.7	Peak	34	1.0	Non-restricted
14630.00	44.3	V	54.0	-9.7	Peak	229	1.0	
15720.00	47.3	V	54.0	-6.7	Peak	49	1.0	

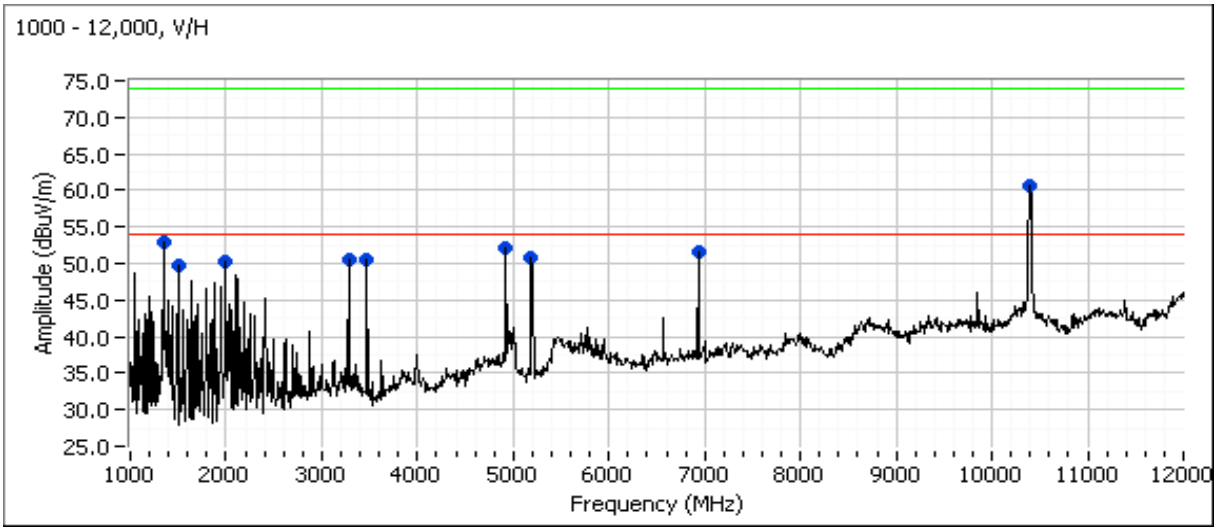
Maximized Readings

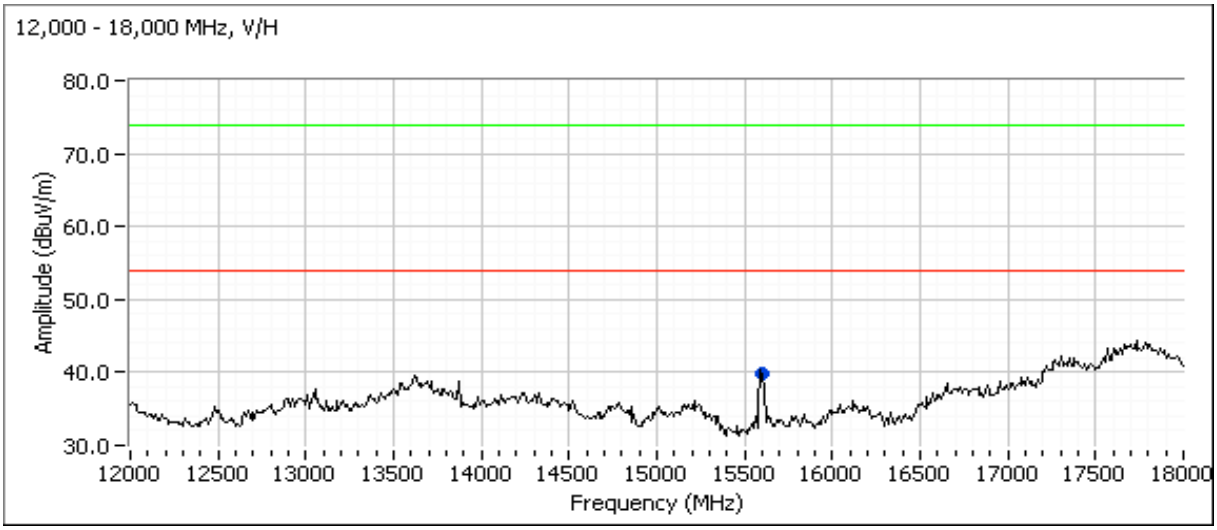
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
5235.570	50.0	V	54.0	-4.0	AVG	0	1.0	Non-restricted
5235.570	59.4	V	74.0	-14.6	PK	0	1.0	Non-restricted
10479.500	66.1	V	85.2	-19.1	PK	37	1.0	Non-restricted
6986.640	55.7	V	85.2	-29.5	PK	37	1.6	Non-restricted
3493.300	48.5	H	54.0	-5.5	AVG	110	1.7	Non-restricted
3493.300	50.3	H	74.0	-23.7	PK	110	1.7	Non-restricted
1350.080	48.6	V	54.0	-5.4	AVG	267	1.6	
1350.080	50.3	V	74.0	-23.7	PK	267	1.6	
1050.080	46.3	V	54.0	-7.7	AVG	323	1.0	
1050.080	48.2	V	74.0	-25.8	PK	323	1.0	

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1e: Channel 40 @ 5200 MHz





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EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1349.980	52.8	H	54.0	-1.2	Peak	64	1.8	
2004.020	50.3	H	54.0	-3.7	Peak	125	1.8	Non-restricted
3282.590	50.6	V	54.0	-3.4	Peak	288	1.3	Non-restricted
3466.750	50.6	H	54.0	-3.4	Peak	118	1.8	Non-restricted
4923.960	52.0	V	54.0	-2.0	Peak	244	1.6	
5194.390	50.9	V	54.0	-3.1	Peak	292	1.8	Non-restricted
1500.120	49.8	H	54.0	-4.2	Peak	224	1.8	
6933.320	51.7	V	54.0	-2.3	Peak	290	1.0	Non-restricted
10399.950	60.6	V	54.0	6.6	Peak	137	1.0	Non-restricted
15600.00	39.9	V	54.0	-14.1	Peak	77	1.0	

Maximized Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1349.930	52.3	H	54.0	-1.7	AVG	64	1.8	
1349.930	53.5	H	74.0	-20.5	PK	64	1.8	
2004.040	49.2	H	54.0	-4.8	AVG	124	1.8	Non-restricted
2004.040	50.4	H	74.0	-23.6	PK	124	1.8	Non-restricted
3466.710	49.4	H	54.0	-4.6	AVG	115	1.8	Non-restricted
3466.710	51.0	H	74.0	-23.0	PK	115	1.8	Non-restricted
3282.680	49.1	V	54.0	-4.9	AVG	288	1.3	Non-restricted
3282.680	51.2	V	74.0	-22.8	PK	288	1.3	Non-restricted
4923.940	51.0	V	54.0	-3.0	AVG	244	1.6	
4923.940	53.4	V	74.0	-20.6	PK	244	1.6	
5195.140	49.1	V	54.0	-4.9	AVG	291	1.8	Non-restricted
5195.140	58.4	V	74.0	-15.6	PK	291	1.8	Non-restricted
1500.100	47.9	H	54.0	-6.1	AVG	224	1.8	
1500.100	50.6	H	74.0	-23.4	PK	224	1.8	
6933.280	50.4	V	54.0	-3.6	AVG	289	1.0	Non-restricted
6933.280	52.7	V	74.0	-21.3	PK	289	1.0	Non-restricted
10399.100	50.5	V	54.0	-3.5	AVG	137	1.0	Non-restricted
10399.100	62.9	V	74.0	-11.1	PK	137	1.0	Non-restricted

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

RSS 210 and FCC 15.407 Radiated Spurious Emissions

Test Specific Details

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

Date of Test: 3/23/2007
Test Engineer: Rafael Varelas
Test Location: Fremont Chamber #3
Config. Used: 1
Config Change: None
EUT Voltage: 120V/60Hz

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: 19.8 °C
Rel. Humidity: 45 %

Summary of Results

Run #	Test Performed	Limit	Pass / Fail	Result / Margin
(802.11n Mode) 40MHz CDD	RE, 30 - 18000 MHz - Spurious Emissions	FCC Part 15.209 / 15.407	Pass	53.1dBµV/m (451.9µV/m) @ 3282.7MHz (-0.9dB)

Modifications Made During Testing:

No modifications were made to the EUT during testing

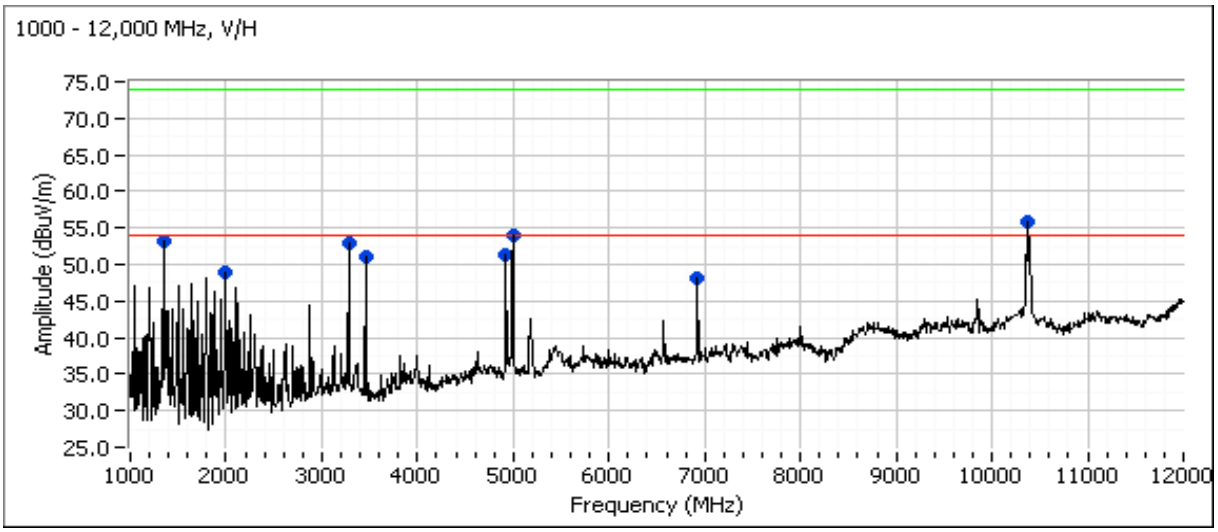
Deviations From The Standard

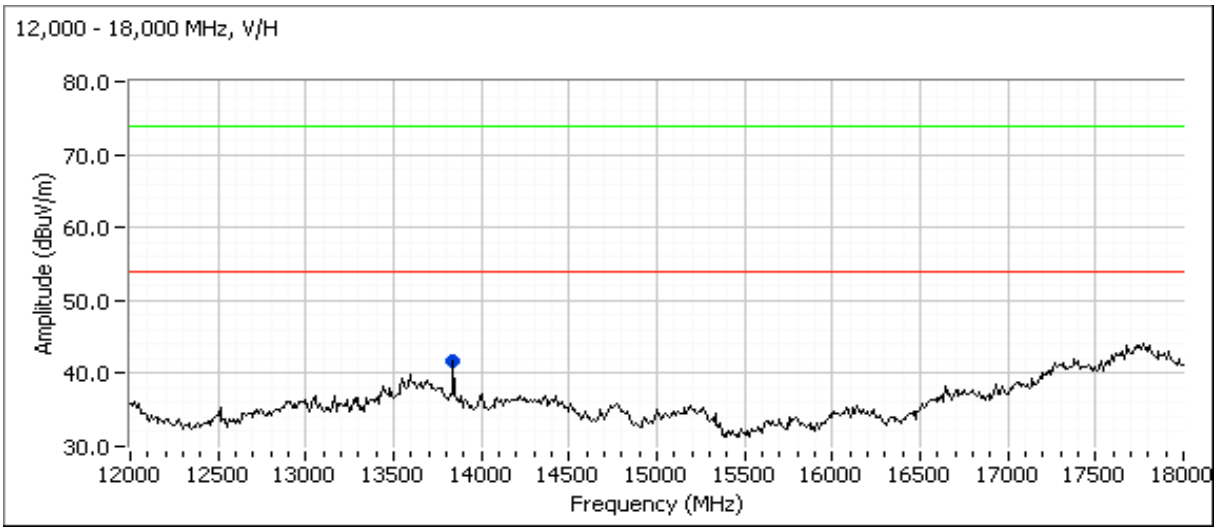
No deviations were made from the requirements of the standard.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1: Radiated Spurious Emissions, 30 - 18000 MHz. Operating Mode: 802.11n 40 MHz

Run #1a: Low Channel 38 @ 5190 MHz





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EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
13840.00	41.6	H	54.0	-12.4	Peak	43	1.1	Non-restricted
6920.020	48.1	V	54.0	-5.9	Peak	88	1.3	Non-restricted
10379.970	55.8	V	54.0	1.8	Peak	76	1.6	Non-restricted
1349.980	53.1	H	54.0	-0.9	Peak	56	1.7	
2003.930	49.0	H	54.0	-5.0	Peak	113	1.4	Non-restricted
3282.680	52.8	V	54.0	-1.2	Peak	260	1.3	Non-restricted
3460.150	51.1	H	54.0	-2.9	Peak	106	1.4	Non-restricted
4923.970	51.3	V	54.0	-2.7	Peak	237	1.6	
5000.150	54.1	V	54.0	0.1	Peak	260	1.9	

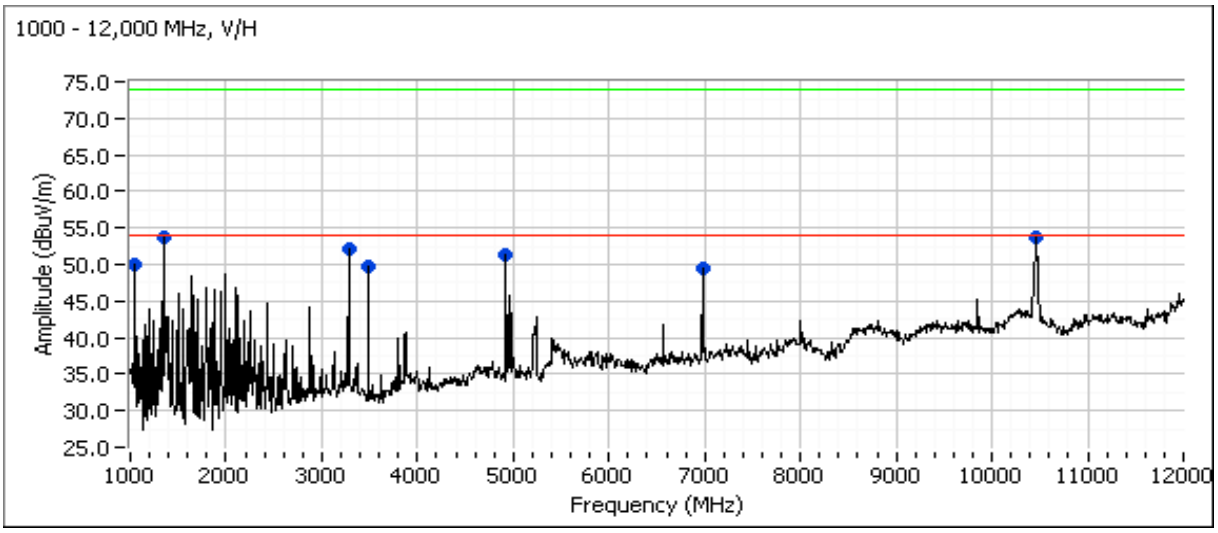
Maximized Readings

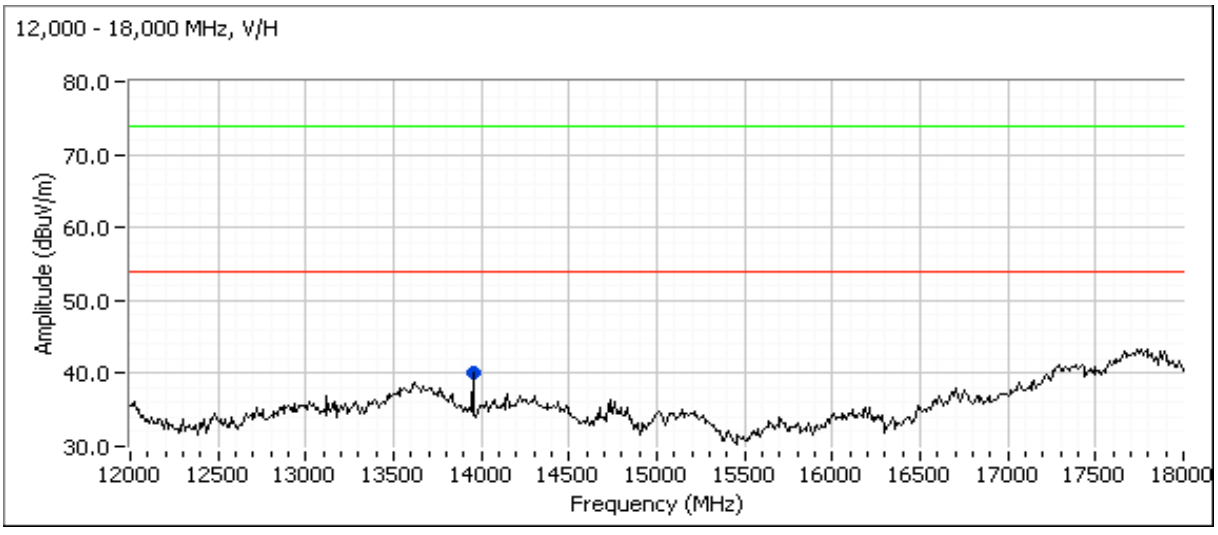
Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
3282.740	53.1	V	54.0	-0.9	AVG	261	1.3	Non-restricted
3282.740	54.3	V	74.0	-19.7	PK	261	1.3	Non-restricted
6919.920	46.8	V	54.0	-7.2	AVG	88	1.3	Non-restricted
6919.920	50.1	V	74.0	-23.9	PK	88	1.3	Non-restricted
10379.860	50.9	V	54.0	-3.1	AVG	75	1.6	Non-restricted
10379.860	59.7	V	74.0	-14.3	PK	75	1.6	Non-restricted
1350.050	52.2	H	54.0	-1.8	AVG	55	1.7	
1350.050	53.4	H	74.0	-20.6	PK	55	1.7	
2003.940	49.2	H	54.0	-4.8	AVG	113	1.4	Non-restricted
2003.940	50.1	H	74.0	-23.9	PK	113	1.4	Non-restricted
3459.940	51.6	H	54.0	-2.4	AVG	105	1.4	Non-restricted
3459.940	52.7	H	74.0	-21.3	PK	105	1.4	Non-restricted
4924.010	50.2	V	54.0	-3.8	AVG	237	1.6	
4924.010	52.1	V	74.0	-21.9	PK	237	1.6	
5000.440	31.0	V	54.0	-23.0	AVG	260	1.9	
5000.440	42.4	V	74.0	-31.6	PK	260	1.9	

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Run #1b: HighChannel 46 @ 5230 MHz





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EMC Test Data

Client:	Cisco-Linksys	Job Number:	J67313
Model:	WRT600N	T-Log Number:	T67324
		Account Manager:	-
Contact:	Kevin Lee		
Standard:	FCC 15.407	Class:	N/A

Preliminary Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1050.134	50.0	H	54.0	-4.0	Peak	266	1.8	
1349.980	53.6	H	54.0	-0.4	Peak	42	1.8	
3282.590	52.1	V	54.0	-1.9	Peak	257	1.3	Non-restricted
3486.820	49.8	H	54.0	-4.2	Peak	117	1.8	Non-restricted
4923.970	51.3	V	54.0	-2.7	Peak	232	1.6	
6973.280	49.4	V	54.0	-4.6	Peak	290	1.0	Non-restricted
10460.000	53.8	V	54.0	-0.2	Peak	88	1.6	Non-restricted
13950.00	40.1	V	54.0	-13.9	Peak	52	1.3	

Maximized Readings

Frequency	Level	Pol	15.209 / 15.407		Detector	Azimuth	Height	Comments
MHz	dBµV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
1350.020	51.5	H	54.0	-2.5	AVG	23	1.8	
1350.020	52.8	H	74.0	-21.2	PK	23	1.8	
10459.670	49.7	V	54.0	-4.3	AVG	88	1.6	Non-restricted
10459.670	57.1	V	74.0	-16.9	PK	88	1.6	Non-restricted
3486.740	48.9	H	54.0	-5.1	AVG	117	1.8	Non-restricted
3486.740	50.6	H	74.0	-23.4	PK	117	1.8	Non-restricted
1049.999	49.5	H	54.0	-4.5	AVG	266	1.8	
1049.999	51.0	H	74.0	-23.0	PK	266	1.8	
3282.600	50.8	V	54.0	-3.2	AVG	256	1.3	Non-restricted
3282.600	52.3	V	74.0	-21.7	PK	256	1.3	Non-restricted
4924.030	51.2	V	54.0	-2.8	AVG	231	1.6	
4924.030	53.1	V	74.0	-20.9	PK	231	1.6	
6973.280	45.9	V	54.0	-8.1	AVG	290	1.0	Non-restricted
6973.280	49.9	V	74.0	-24.1	PK	290	1.0	Non-restricted

Note 1:	For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 30dB below the level of the fundamental and measured in 100kHz.
Note 2:	No spurious emission, being 20-dB of the limit, were detected above 18GHz.

EXHIBIT 3: Photographs of Test Configurations

1 Page

EXHIBIT 4: Proposed FCC ID Label & Label Location

EXHIBIT 5: Detailed Photographs of Cisco-Linksys Model WRT600NConstruction

Pages

EXHIBIT 6: Operator's Manual for Cisco-Linksys Model WRT600N

Pages

EXHIBIT 7: Block Diagram of Cisco-Linksys Model WRT600N

Pages

EXHIBIT 8: Schematic Diagrams for Cisco-Linksys Model WRT600N

Pages

EXHIBIT 9: Theory of Operation for Cisco-Linksys Model WRT600N

Pages

EXHIBIT 10: RF Exposure Information

Pages