MET Laboratories, Inc. *Safety Certification - EMI - Telecom Environmental Simulation*

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13301 MCCALLEN PASS ● AUSTIN, TX 78753 ● PHONE (512) 287-2500 ● FAX (512) 287-2513

December 17, 2013

Meru Networks, Inc.
140 Knowles Drive
Los Gatos, CA 95032

Dear Rajendran Chary,

Enclosed is the EMC Wireless test report for compliance testing of the Meru Networks, Inc., Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Title 47 of the CFR, Part 15.407 and Industry Canada RSS-210, Annex 9, Issue 8, December 2010 for Intentional Radiators.

Thank you for using the services of MET Laboratories, Inc. If you have any questions regarding these results or if MET can be of further service to you, please feel free to contact me.

Sincerely yours,
MET LABORATORIES, INC.

Jennifer Warnell
Documentation Department

Reference: (\Meru Networks, Inc.\EMCS34526A-FCC407 Rev. 4 (UNII 2))

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Electromagnetic Compatibility Criteria
Test Report

for the

Meru Networks, Inc.
Model Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e

Tested under
the Certification Rules
contained in
Title 47 of the CFR, Part 15.407 & RSS-210, Annex 9
for Intentional Radiators

MET Report: EMCS34526A-FCC407 Rev. 4 (UNII 2)

December 17, 2013

Prepared For:

Meru Networks, Inc.
140 Knowles Drive
Los Gatos, CA 95032

Prepared By:
MET Laboratories, Inc.
914 W. Patapsco Ave.
Baltimore, MD 21230

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for Intentional Radiators

Aaron Chang, Project Engineer
Electromagnetic Compatibility Lab

Jennifer Warnell
Documentation Department

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 15.407, of the FCC Rules and Industry Canada standard RSS-210 Annex 9 under normal use and maintenance.

Asad Bajwa, Director
Electromagnetic Compatibility Lab

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Report Status Sheet

Revision	Report Date	Reason for Revision
∅	December 23, 2012	Initial Issue.
1	August 23, 2013	Editorial corrections.
2	November 12, 2013	Revised to add DFS results.
3	November 19, 2013	Revised to reflect engineer corrections.
4	December 17, 2013	Revised to reflect engineer corrections.

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List of Terms and Abbreviations

AC	**A**lternating **C**urrent
ACF	**A**ntenna **C**orrection **F**actor
Cal	**Cal**ibration
d	**M**easurement **D**istance
dB	**D**eci**b**els
dBµA	**D**eci**b**els above one **micro**amp
dBµV	**D**eci**b**els above one **micro**volt
dBµA/m	**D**eci**b**els above one **micro**amp **per m**eter
dBµV/m	**D**eci**b**els above one **micro**volt **per m**eter
DC	**D**irect **C**urrent
E	**E**lectric Field
DSL	**D**igital **S**ubscriber **L**ine
ESD	**E**lectro**s**tatic **D**ischarge
EUT	**E**quipment **U**nder **T**est
f	**F**requency
FCC	**F**ederal **C**ommunications **C**ommission
GRP	**G**round **R**eference **P**lane
H	Magnetic Field
HCP	**H**orizontal **C**oupling **P**lane
Hz	**H**ert**z**
IEC	**I**nternational **E**lectrotechnical **C**ommission
kHz	**k**ilo**h**ert**z**
kPa	**k**ilo**pa**scal
kV	**k**ilo**v**olt
LISN	**L**ine **I**mpedance **S**tabilization **N**etwork
MHz	**M**ega**h**ertz
µH	**microh**enry
µ	**microf**arad
µs	**micros**econds
PRF	**P**ulse **R**epetition **F**requency
RF	**R**adio **F**requency
RMS	**R**oot-**M**ean-**S**quare
TWT	**T**raveling **W**ave **T**ube
V/m	**V**olts **per m**eter
VCP	**V**ertical **C**oupling **P**lane

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I. Executive Summary

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A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Meru Networks, Inc. Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e, with the requirements of Part 15, §15.407. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with §2.1033, the following data is presented in support of the Certification of the Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e. Meru Networks, Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.407, in accordance with Meru Networks, Inc., purchase order number 103991. All tests were conducted using measurement procedure ANSI C63.4-2003.

FCC Reference	Industry Canada Reference	Description	Results
15.203	RSS-GEN 7.1.4	Antenna Requirements	Compliant
15.207	RSS-GEN 7.2.2; RSS-210 2.2	AC Conducted Emissions 150KHz – 30MHz	Compliant
15.403 (i)	A8.2	26dB Occupied Bandwidth	Compliant
15.407 (a)(2)	A9.2(3)	Conducted Transmitter Output Power	Compliant
15.407 (a)(2)	A9.2(3)	Power Spectral Density	Compliant
15.407 (a)(6)	N/A	Peak Excursion	Compliant
15.407 (b)(2), (3), (5), (6)	A9.3(4)	Undesirable Emissions (15.205/15.209 - General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Compliant
15.407(f)	RSS-GEN	RF Exposure	Compliant
15.407(g)	2.1	Frequency Stability	Compliant
15.407 (h)(2)(ii)	--	Initial Channel Availability Check Time	Compliant
15.407 (h)	--	DFS Bandwidth	Compliant
15.407 (h)(2)(ii)	--	Radar Burst at the Beginning of Channel Availability Check Time	Compliant
15.407 (h)(2)(ii)	--	Radar Burst at the End of Channel Availability Check Time	Compliant
15.407 (h)(2)(iii)	--	Channel Move Time and Channel Closing Time	Compliant
15.407 (h)(2)(iv)	--	Non-Occupancy Period	Compliant
15.407 (h)(2)	--	Statistical Performance Check	Compliant

Table 1. Executive Summary of EMC Part 15.407 ComplianceTesting

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II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by Meru Networks, Inc. to perform testing on the Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e, under Meru Networks, Inc.'s purchase order number 103991.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Meru Networks, Inc. Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e.

The results obtained relate only to the item(s) tested.

Model(s) Tested:	Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e	
Model(s) Covered:	Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e	
EUT Specifications:	Primary Power: 120 VAC, 60 Hz	
	FCC ID: RE7-AP332E IC: 6749A-AP332E	
	Type of Modulations:	DSSS, OFDM
	Equipment Code:	NII
	Peak RF Output Power:	22.82 dBm (0.191 Watts)
	EUT Frequency Ranges:	5260-5700 MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35º C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Jeff Pratt	
Report Date(s):	December 17, 2013	

Table 2. EUT Summary

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B. References

CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
RSS-210, Issue 8, Dec. 2010	Low-power Licence-exempt Radiocommunications Devices (All Frequency Bands): Category I Equipment
RSS-GEN, Issue 3, Dec. 2010	General Requirements and Information for the Certification of Radio Apparatus
ANSI C63.4:2003	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2005	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices

Table 3. References

C. Test Site

All testing was performed at MET Laboratories, Inc., 914 W. Patapsco Ave., Baltimore, MD 21230. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Radiated Emissions measurements were performed in a 3 meter semi-anechoic chamber (equivalent to an Open Area Test Site). In accordance with §2.948(a)(3), a complete site description is contained at MET Laboratories.

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D. Description of Test Sample

The Meru Networks, Inc. Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e, Equipment Under Test (EUT), is a wireless access point (WAP) that allows wireless devices to connect to a wired network using Wi-Fi, standard. The WAP usually connects to a router (via a wired network), and can relay data between the wireless devices (such as computers or printers) and wired devices on the network. Both radios will not operate simultaneously in the same band.

Photograph 1. Meru Networks, Inc. Dual Radio 802.11abgn 3x3 Access Point with External Antenna - AP332e

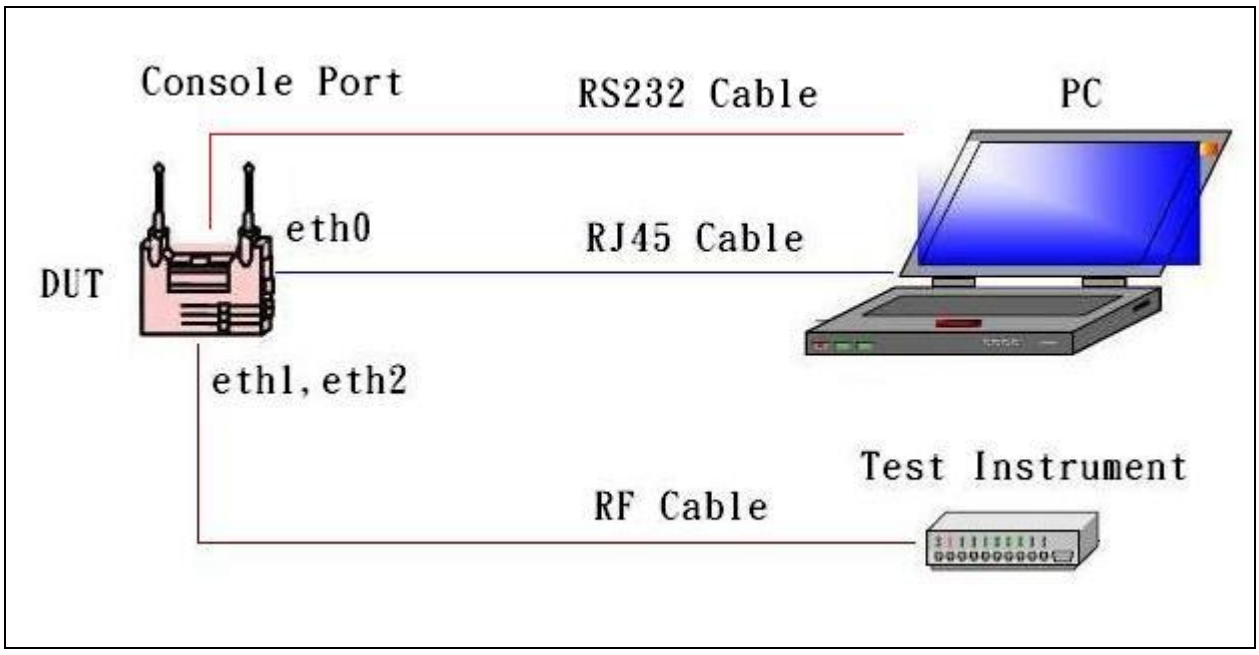

Figure 1. Block Diagram of Test Configuration

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E. Support Equipment

Support equipment supplied is listed in the following Support Equipment List.

SN	Type	Model and Serial Number	Quantity
1	AP433e	SN: 112A332e0DEE93,112A332e0DEE8B, 112A332e0DEE8F	3
3	Antenna	ANT-ABGN-0304-W Omni directional rubber duct Dual-Band	36
4	Antenna	ANT-I3ABGN-0304-O Ceiling mount Omni Dual-Band 3 x 3 MIMO	1
5	Antenna	ANT-06ABGN-0606-O Outdoor Omi Dual-Band 3X3 MIMO	3
6	Antenna	ANT-06ABGN-0607-PT Wall mount Dual-Band 3 X 3 MIMO	3
10	PoE	PD-9001GR/AC	2
11	PoE	PS-9001G	2
12	Cable	Serial cable	2
13	Cable	Ethernet cable	4
--	--	AC-DC Adapter GS18A12-P1J	2

Table 4. Support Equipment

F. Ports and Cabling Information

Ref. ID	Port Name on EUT	Cable Description	Qty.	Length (m)	Shielded (Y/N)	Termination Point
--	12V DC	DC power supply	1	1	N	--
--	Console Port	Serial cable	1	1	N	--
--	G1 PoE	Ethernet and PoE port	1	1	1	--

Table 5. Ports and Cabling Information

G. Mode of Operation

During the normal operation the configuration is controlled by the Meru controller which sets the country code, ESSID, Operating frequency band and Channel etc.

H. Method of Monitoring EUT Operation

During the normal operation with controller Green or Blue LED indication on the Access point indicate the normal operation of the Access point. A Red LED indicates a failure of hardware or software settings.

I. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

J. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Meru Networks, Inc. upon completion of testing.

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III. Electromagnetic Compatibility Criteria for Intentional Radiators

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.203 Antenna Requirement

Test Requirement: **§ 15.203:** An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The structure and application of the EUT were analyzed to determine compliance with Section 15.203 of the Rules. Section 15.203 states that the subject device must meet at least one of the following criteria:

a.) Antenna must be permanently attached to the unit.

b.) Antenna must use a unique type of connector to attach to the EUT.

c.) Unit must be professionally installed. Installer shall be responsible for verifying that the correct antenna is employed with the unit.

Results: The EUT as tested is compliant the criteria of §15.203. Units are professionally installed.

Test Engineer(s): Anderson Soungpanya

Test Date(s): 04/27/12

Gain (dBi)		Antenna Type	Antenna Description	Manufacturer	Model Number
2.4 GHz	5 GHz				
2	2	Dipole	Omni Directional Rubber Duct Dual-Band	SOCAA	ANT-ABGN-0304-W
3	4	Dipole	Omni Directional Ceiling Mount Dual-Band 3 x 3 MIMO	Terrawave Solutions	ANT-I3ABGN-0304-O
6	6	Dipole (6 dBi Dipole Antenna)	Omni Directional Cane Dual-Band 3 x 3 MIMO	Terrawave Solutions	ANT-06ABGN-0606-O
6	7	Patch	Directional Wall Mount Dual-Band 3 x 3 MIMO	Terrawave Solutions	ANT-06ABGN-0607-PT

Table 6. Antenna List

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.207 Conducted Emissions Limits

Test Requirement(s): **§ 15.207 (a):** For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 Σ line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency range (MHz)	§ 15.207(a), Conducted Limit (dBμV)	
	Quasi-Peak	Average
* 0.15- 0.45	66 - 56	56 - 46
0.45 - 0.5	56	46
0.5 - 30	60	50

Table 7. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)

Test Procedure: The EUT was placed on a 0.8 m-high wooden table inside a screen room. The EUT was situated such that the back of the EUT was 0.4 m from one wall of the vertical ground plane, and the remaining sides of the EUT were no closer than 0.8 m from any other conductive surface. The EUT was powered from a 50 Ω/50 μH Line Impedance Stabilization Network (LISN). The EMC receiver scanned the frequency range from 150 kHz to 30 MHz. Conducted Emissions measurements were made in accordance with *ANSI C63.4-2003 "Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz"*. The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω/50 μH LISN as the input transducer to an EMC/field intensity meter. For the purpose of this testing, the transmitter was turned on. Scans were performed with the transmitter on.

Test Results: The EUT was compliant with this requirement. Measured emissions were below applicable limits.

Test Engineer(s): Anderson Soungpanya

Test Date(s): 05/07/12

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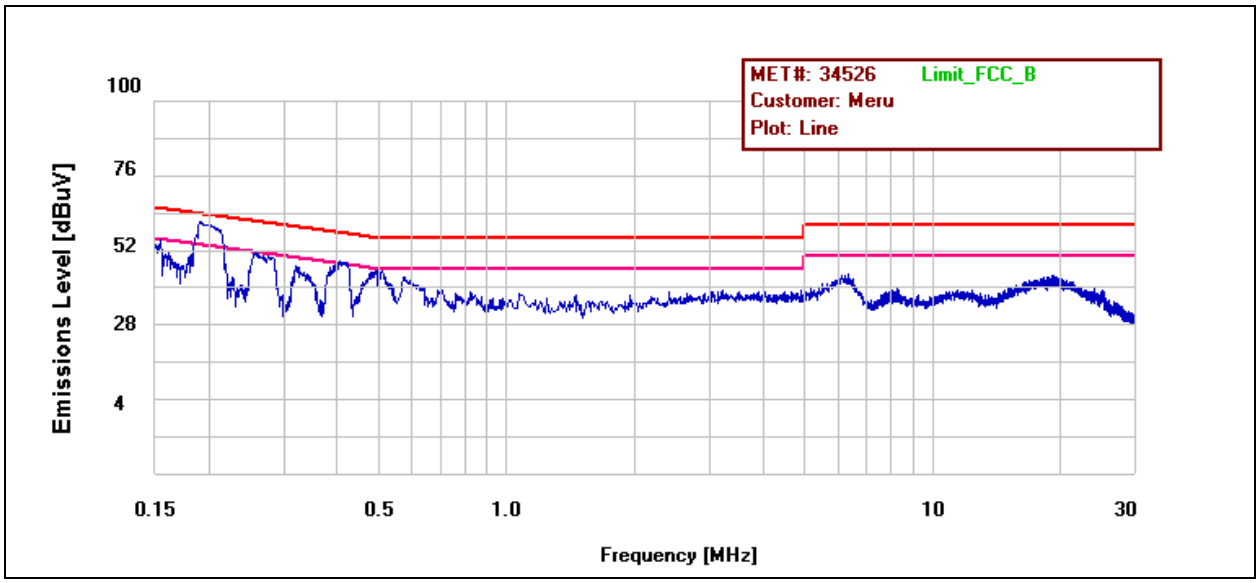
15.207(a) Conducted Emissions Test Results, 2.4 GHz

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Line	.190	60.23	64.042	-3.812	Pass	39.01	54.042	-15.032	Pass
Line	.390	43.52	58.085	-14.565	Pass	30.34	48.085	-17.745	Pass
Line	.498	39.42	56.034	-16.614	Pass	28.45	46.034	-17.584	Pass

Table 8. Conducted Emissions, 15.207(a), Phase Line, Test Results, 2.4 GHz



Plot 1. Conducted Emissions, 15.207(a), Phase Line, 2.4 GHz

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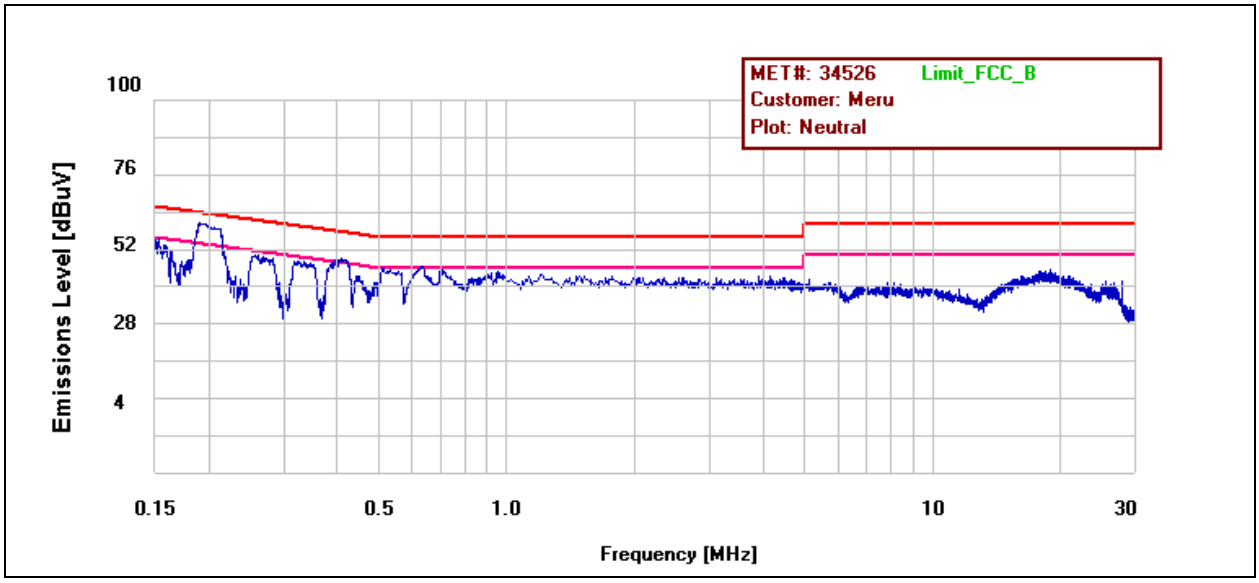
15.207(a) Conducted Emissions Test Results

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Neutral	.191	57.21	63.998	-6.788	Pass	37.57	53.998	-16.428	Pass
Neutral	.391	40.84	58.064	-17.224	Pass	29.58	48.064	-18.484	Pass
Neutral	.623	37.38	56	-18.62	Pass	29.01	46	-16.99	Pass

Table 9. Conducted Emissions, 15.207(a), Neutral Line, Test Results, 2.4 GHz



Plot 2. Conducted Emissions, 15.207(a), Neutral Line, 2.4 GHz

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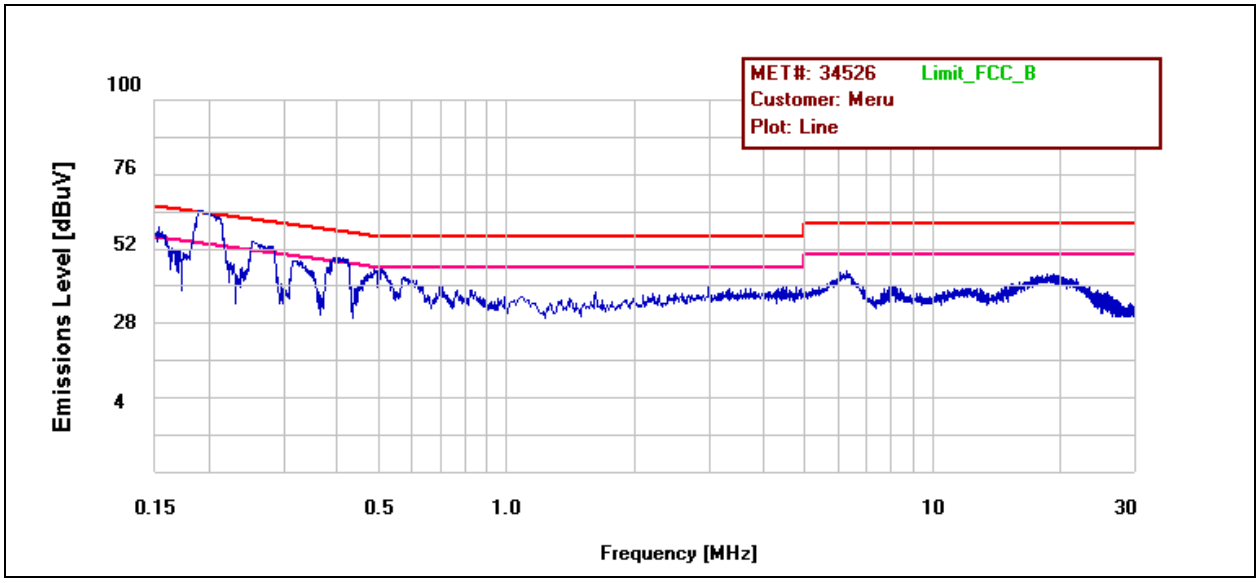
15.207(a) Conducted Emissions Test Results, 5 GHz

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Line	.190	60.18	64.042	-3.862	Pass	38.57	54.042	-15.472	Pass
Line	.257	49.38	61.54	-12.16	Pass	32.26	51.54	-19.28	Pass
Line	.389	43.69	58.107	-14.417	Pass	29.857	48.107	-18.25	Pass
Line	.485	41.37	56.26	-14.89	Pass	28.107	46.26	-18.153	Pass

Table 10. Conducted Emissions, 15.207(a), Phase Line, Test Results, 5 GHz



Plot 3. Conducted Emissions, 15.207(a), Phase Line, 5 GHz

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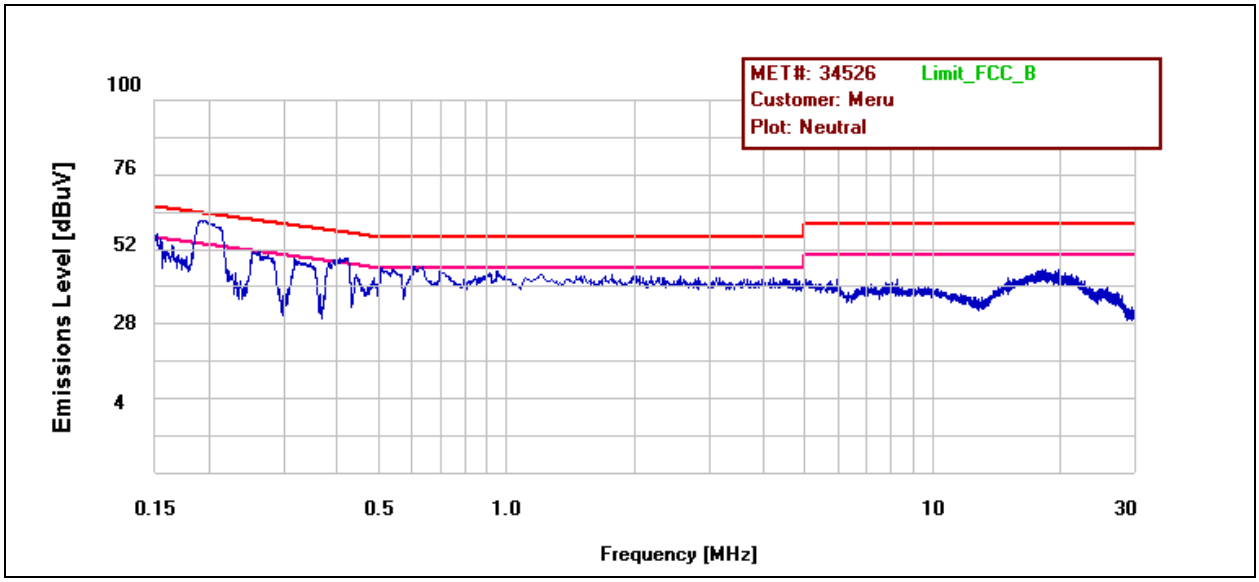
15.207(a) Conducted Emissions Test Results

Line	Freq. (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Neutral	.193	57.31	63.912	-6.602	Pass	38.43	53.912	-15.482	Pass
Neutral	.412	43.09	57.631	-14.541	Pass	30.54	47.631	-17.091	Pass
Neutral	.519	41.95	56	-14.05	Pass	28.42	46	-17.58	Pass

Table 11. Conducted Emissions, 15.207(a), Neutral Line, Test Results, 5 GHz



Plot 4. Conducted Emissions, 15.207(a), Neutral Line, 5 GHz

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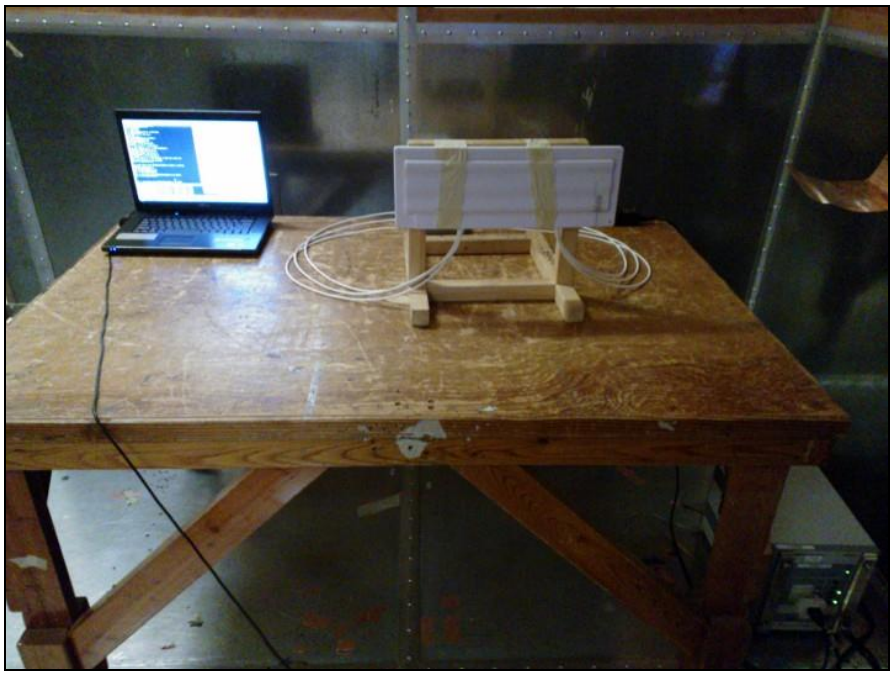
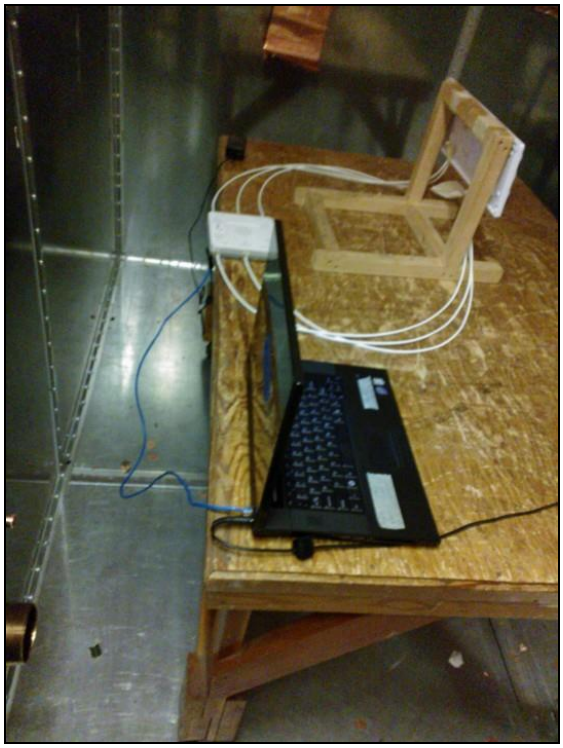
15.207(a) Conducted Emissions Test Setup



Photograph 2. Conducted Emissions, 15.207(a), Test Setup



Photograph 3. Conducted Emissions, 15.207(a), Test Setup, Rear View

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 403(c) 26dB Bandwidth

Test Requirements: **§ 15.403 (i):** For purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolution bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

Test Procedure: The transmitter was set to both operating frequencies at the highest output power and connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using a RBW approximately equal to 1% of the total emission bandwidth, VBW > RBW. The 26 dB Bandwidth was measured and recorded.

Test Results The 26 dB Bandwidth was compliant with the requirements of this section and was determined from the plots on the following pages.

Test Engineer(s): Jeff Pratt

Test Date(s): 05/24/12

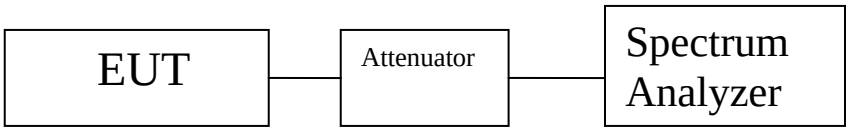

Figure 2. Occupied Bandwidth, Test Setup

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Mode	Frequency (MHz)	26 dB Bandwidth (MHz)
802.11a – A4	5260	26.697
802.11a – A4	5300	27.902
802.11a – A4	5320	27.231
802.11a – A4	5500	26.870
802.11a – A4	5580	27.878
802.11a – A4	5700	27.534
802.11n 20 MHz – A4	5260	27.468
802.11n 20 MHz – A5	5260	26.348
802.11n 20 MHz – A6	5260	26.839
802.11n 20 MHz – A4	5300	27.096
802.11n 20 MHz – A5	5300	26.643
802.11n 20 MHz – A6	5300	26.794
802.11n 20 MHz – A4	5320	27.260
802.11n 20 MHz – A5	5320	26.364
802.11n 20 MHz – A6	5320	25.808
802.11n 20 MHz – A4	5500	27.705
802.11n 20 MHz – A5	5500	26.413
802.11n 20 MHz – A6	5500	26.779
802.11n 20 MHz – A4	5580	27.178
802.11n 20 MHz – A5	5580	25.821
802.11n 20 MHz – A6	5580	26.328
802.11n 20 MHz – A4	5700	27.274
802.11n 20 MHz – A5	5700	27.120
802.11n 20 MHz – A6	5700	27.183
802.11n 40 MHz – A4	5270	39.097
802.11n 40 MHz – A5	5270	39.418
802.11n 40 MHz – A6	5270	39.387
802.11n 40 MHz – A4	5310	39.246
802.11n 40 MHz – A5	5310	39.591
802.11n 40 MHz – A6	5310	39.318
802.11n 40 MHz – A4	5510	39.360
802.11n 40 MHz – A5	5510	39.538
802.11n 40 MHz – A6	5510	39.444
802.11n 40 MHz – A4	5670	39.241
802.11n 40 MHz – A5	5670	39.487
802.11n 40 MHz – A6	5670	39.367

Table 12. 26 dB Occupied Bandwidth, Test Results

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Mode	Frequency (MHz)	99% Bandwidth (MHz)
802.11a – A4	5260	16.59
802.11a – A4	5300	16.52
802.11a – A4	5320	16.52
802.11a – A4	5500	16.48
802.11a – A4	5580	16.76
802.11a – A4	5700	16.43
802.11n 20 MHz – A4	5260	17.67
802.11n 20 MHz – A5	5260	17.59
802.11n 20 MHz – A6	5260	17.81
802.11n 20 MHz – A4	5300	17.69
802.11n 20 MHz – A5	5300	17.70
802.11n 20 MHz – A6	5300	17.79
802.11n 20 MHz – A4	5320	17.78
802.11n 20 MHz – A5	5320	17.68
802.11n 20 MHz – A6	5320	17.67
802.11n 20 MHz – A4	5500	17.78
802.11n 20 MHz – A5	5500	17.80
802.11n 20 MHz – A6	5500	17.81
802.11n 20 MHz – A4	5580	17.72
802.11n 20 MHz – A5	5580	17.79
802.11n 20 MHz – A6	5580	17.75
802.11n 20 MHz – A4	5700	17.62
802.11n 20 MHz – A5	5700	17.67
802.11n 20 MHz – A6	5700	17.78
802.11n 40 MHz – A4	5270	36.50
802.11n 40 MHz – A5	5270	36.63
802.11n 40 MHz – A6	5270	36.34
802.11n 40 MHz – A4	5310	36.15
802.11n 40 MHz – A5	5310	36.70
802.11n 40 MHz – A6	5310	36.36
802.11n 40 MHz – A4	5510	36.57
802.11n 40 MHz – A5	5510	36.98
802.11n 40 MHz – A6	5510	36.14
802.11n 40 MHz – A4	5670	36.76
802.11n 40 MHz – A5	5670	36.70
802.11n 40 MHz – A6	5670	37.14

Table 13. 99% Occupied Bandwidth, Test Results

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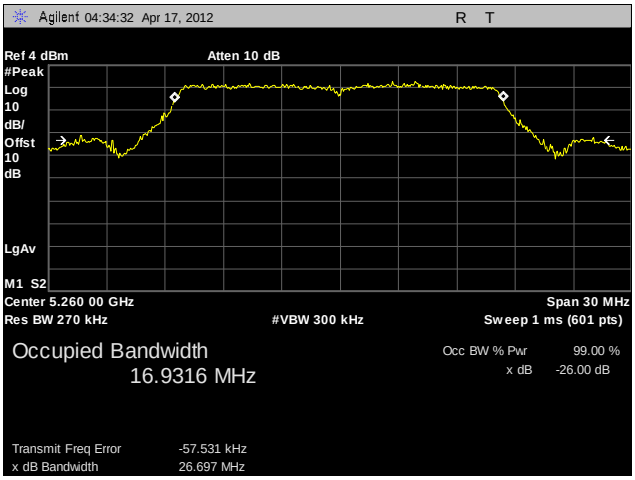
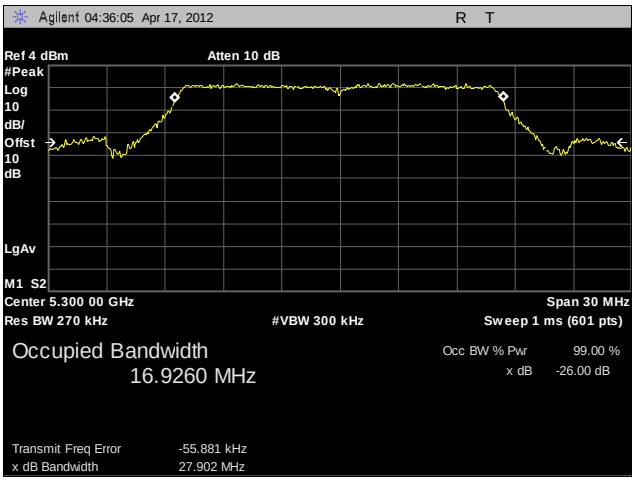
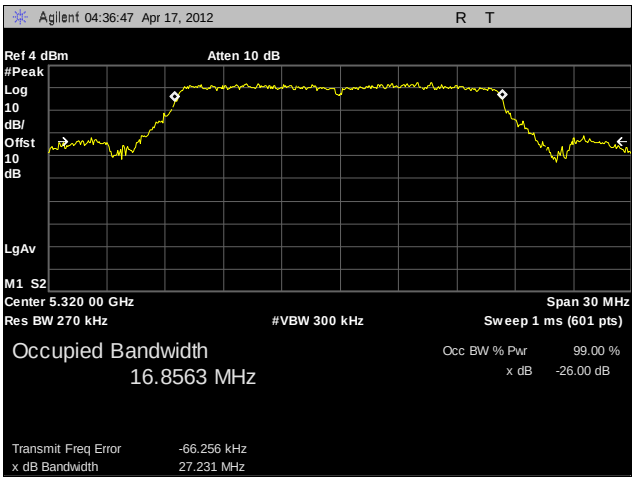
26 dB Occupied Bandwidth



Plot 5. 26 dB Occupied Bandwidth, 802.11a, A4, 5260 MHz



Plot 6. 26 dB Occupied Bandwidth, 802.11a, A4, 5300 MHz



Plot 7. 26 dB Occupied Bandwidth, 802.11a, A4, 5320 MHz

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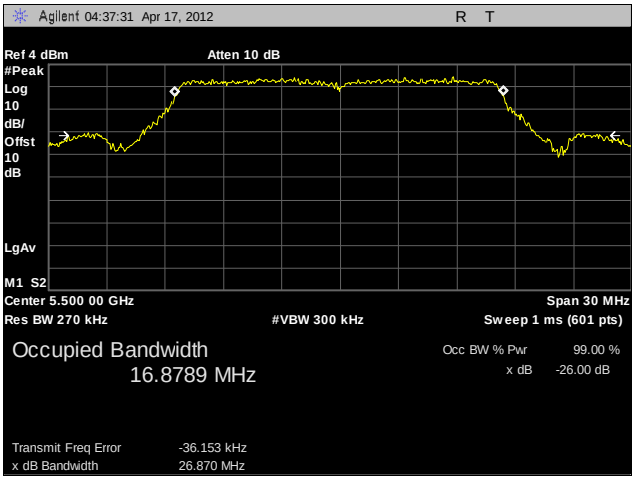
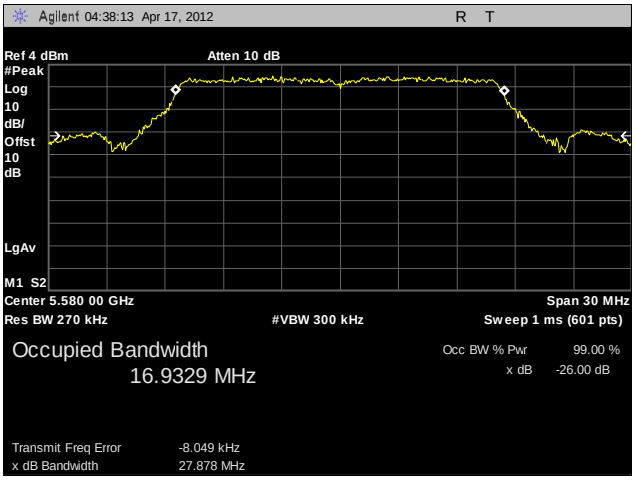
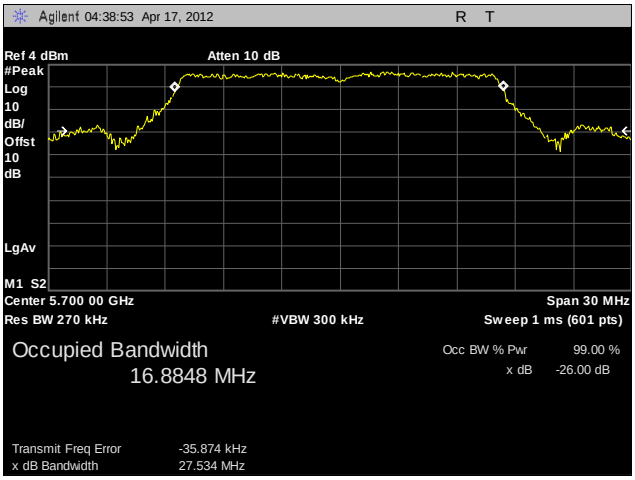


Plot 8. 26 dB Occupied Bandwidth, 802.11a, A4, 5500 MHz



Plot 9. 26 dB Occupied Bandwidth, 802.11a, A4, 5800 MHz



Plot 10. 26 dB Occupied Bandwidth, 802.11a, A4, 5700 MHz

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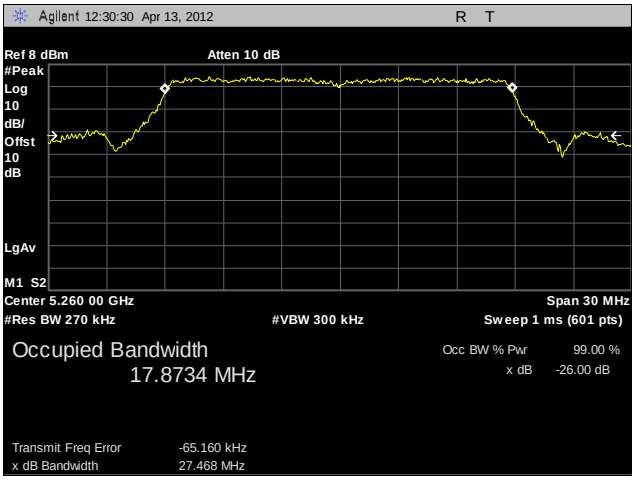
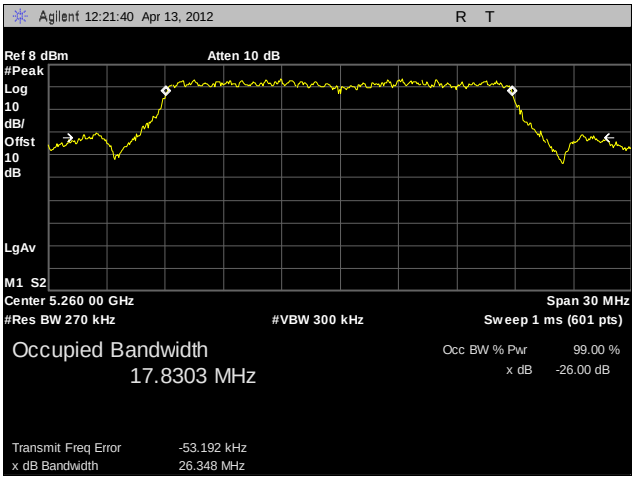
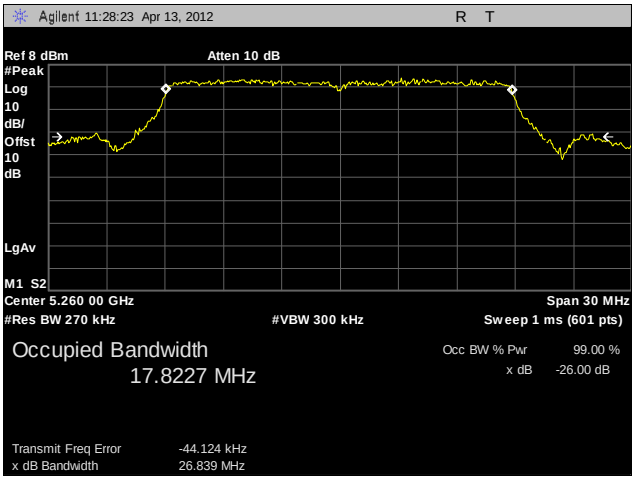


Plot 11. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5260 MHz



Plot 12. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5260 MHz



Plot 13. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5260 MHz

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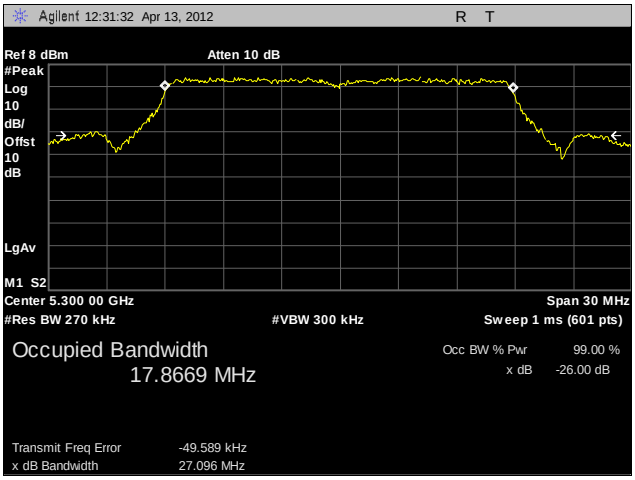
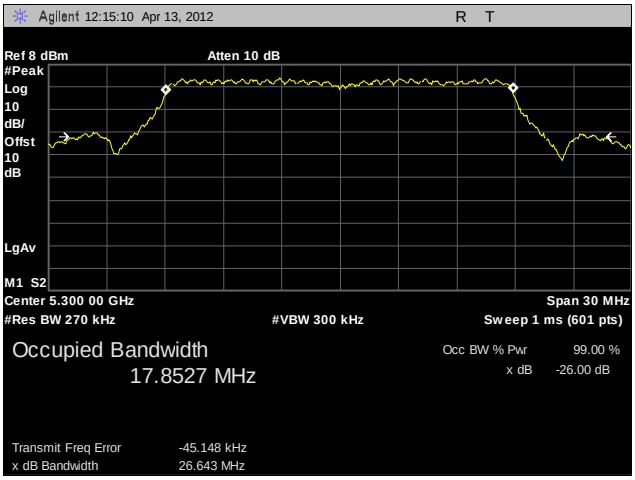
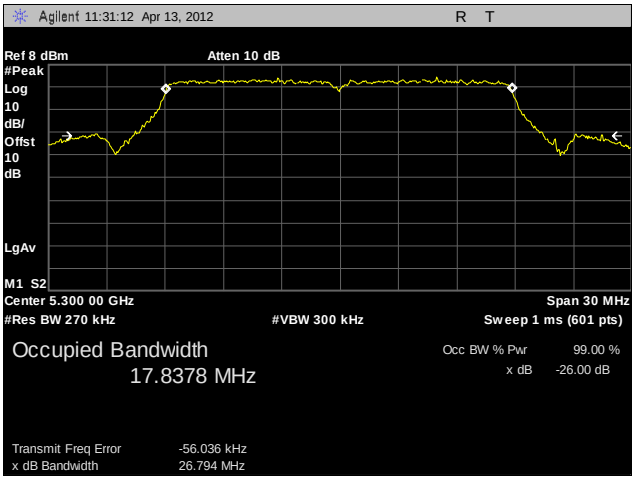


Plot 14. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5300 MHz



Plot 15. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5300 MHz



Plot 16. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5300 MHz

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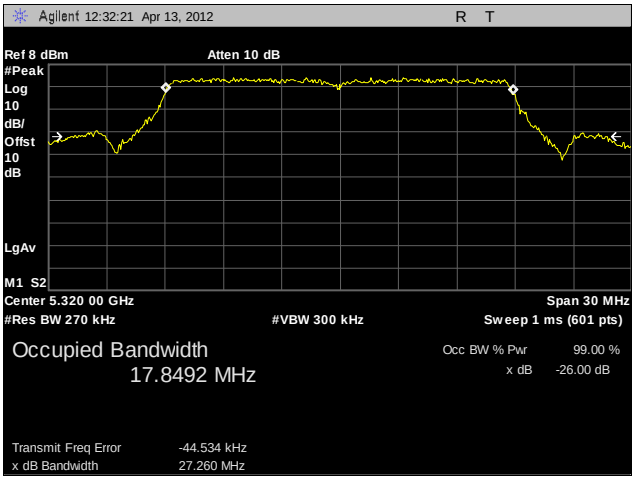
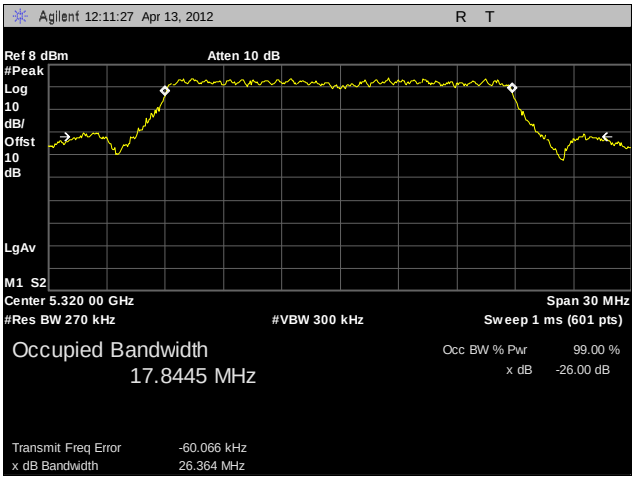
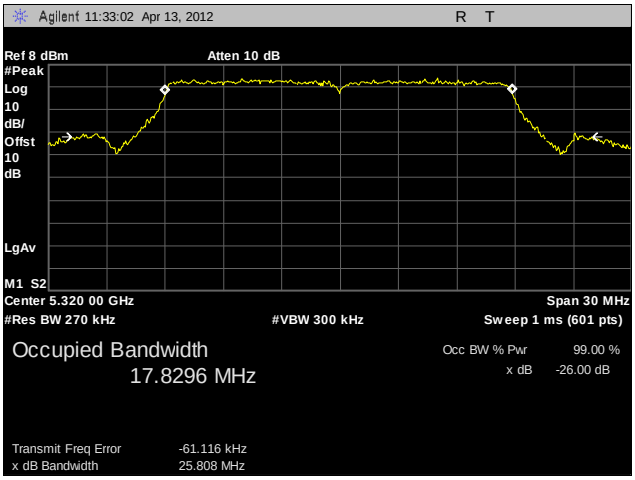


Plot 17. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5320 MHz



Plot 18. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5320 MHz



Plot 19. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5320 MHz

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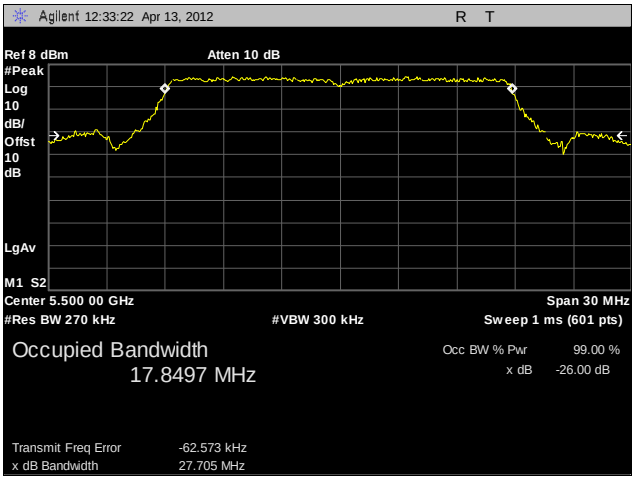
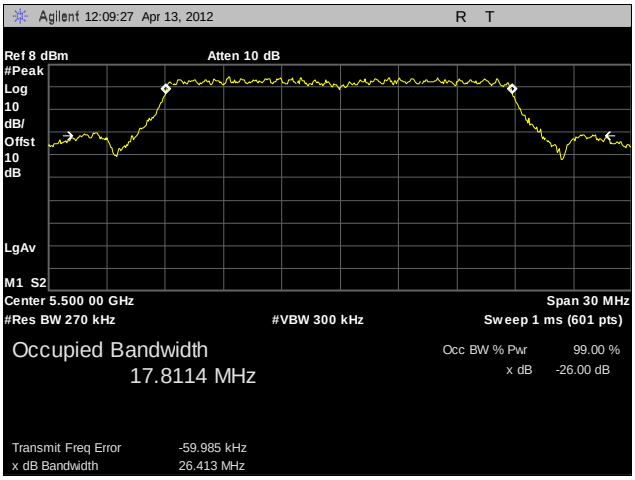
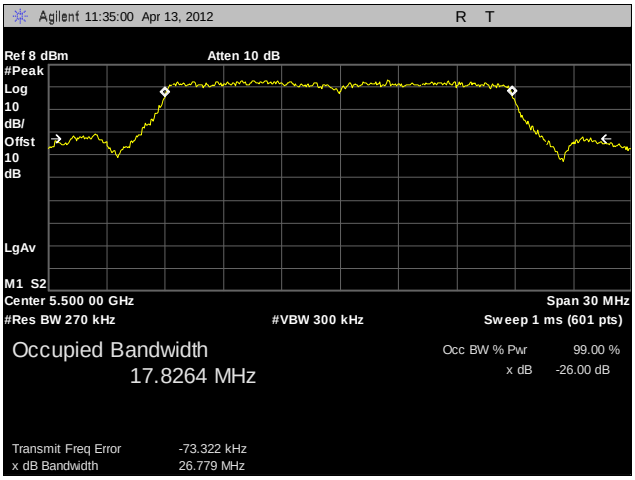


Plot 20. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5500 MHz



Plot 21. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5500 MHz



Plot 22. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5500 MHz

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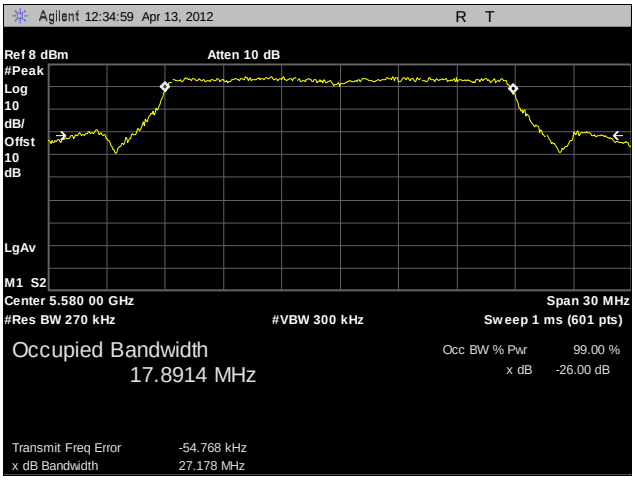
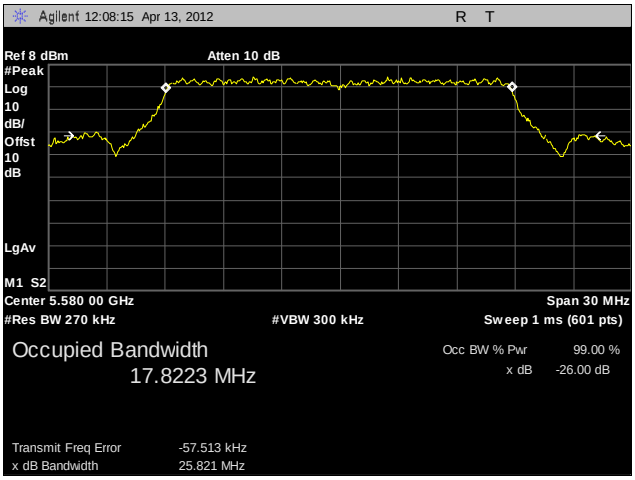
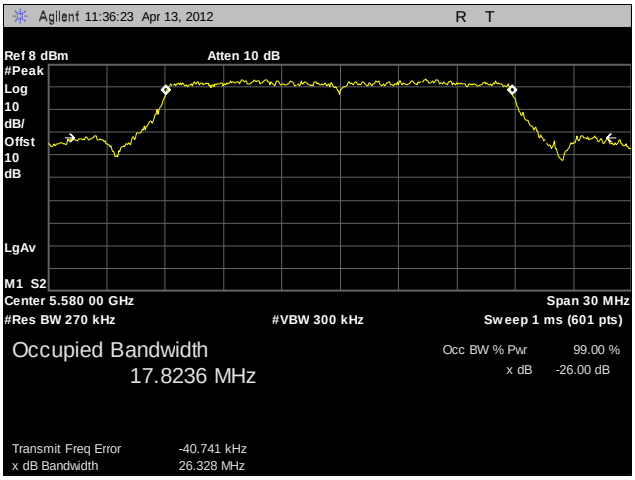


Plot 23. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5800 MHz



Plot 24. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5800 MHz



Plot 25. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5800 MHz

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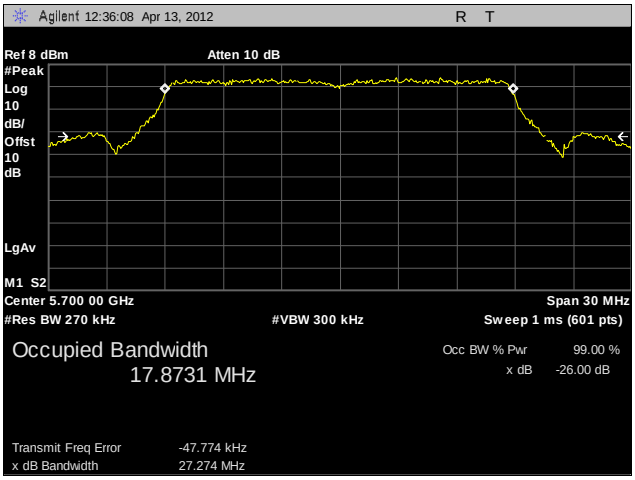
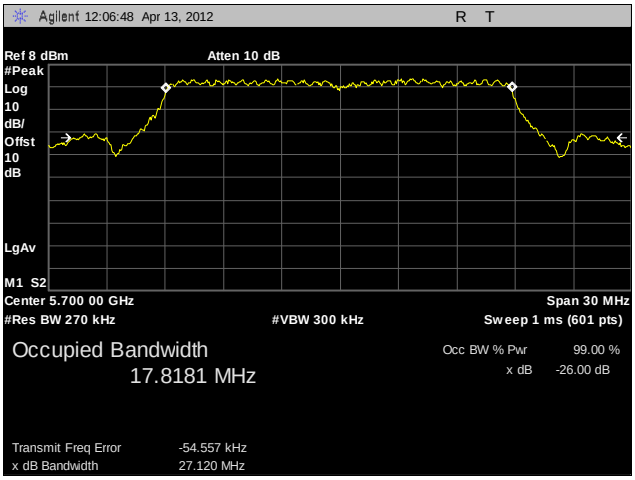
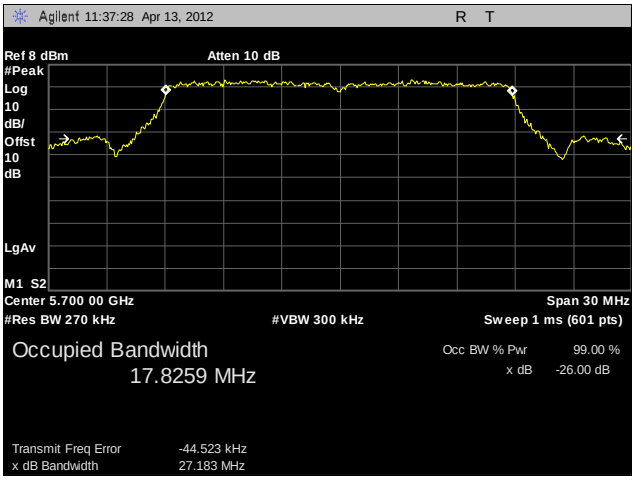


Plot 26. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A4, 5700 MHz



Plot 27. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A5, 5700 MHz



Plot 28. 26 dB Occupied Bandwidth, 802.11n 20 MHz, A6, 5700 MHz

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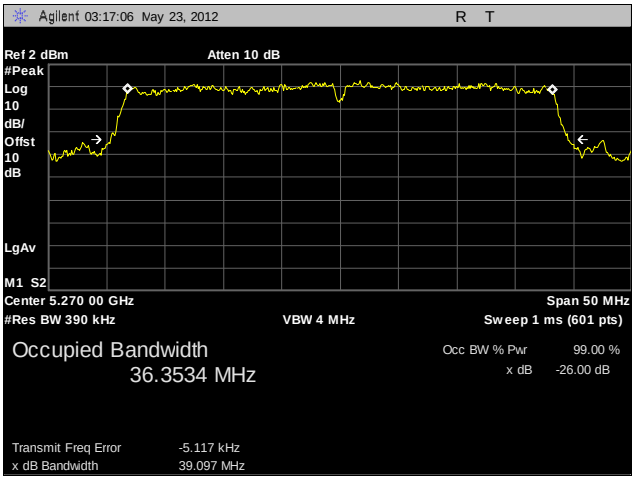
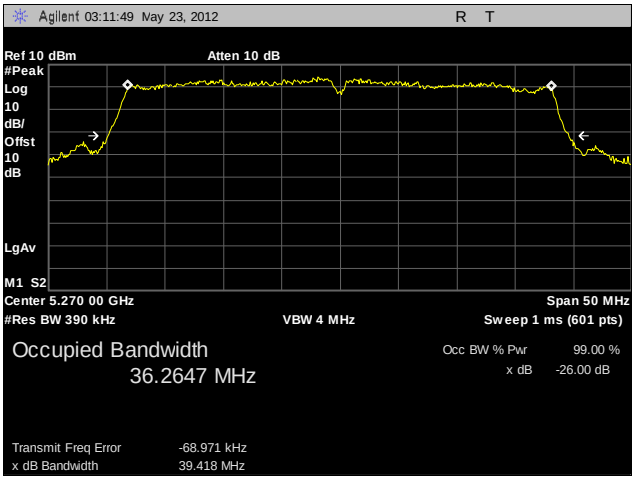
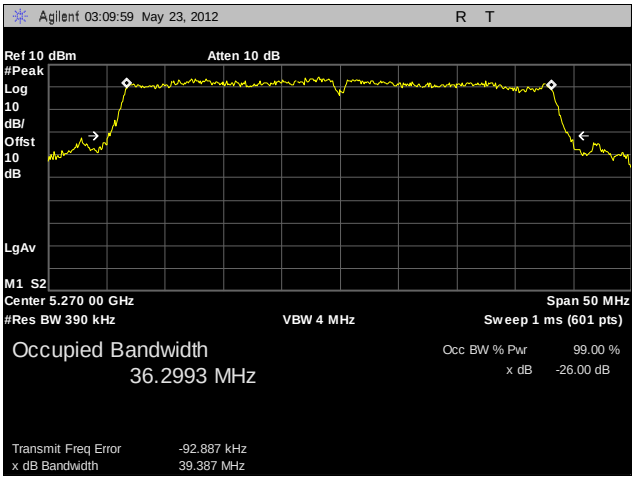


Plot 29. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A4, 5270 MHz



Plot 30. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A5, 5270 MHz



Plot 31. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A6, 5270 MHz

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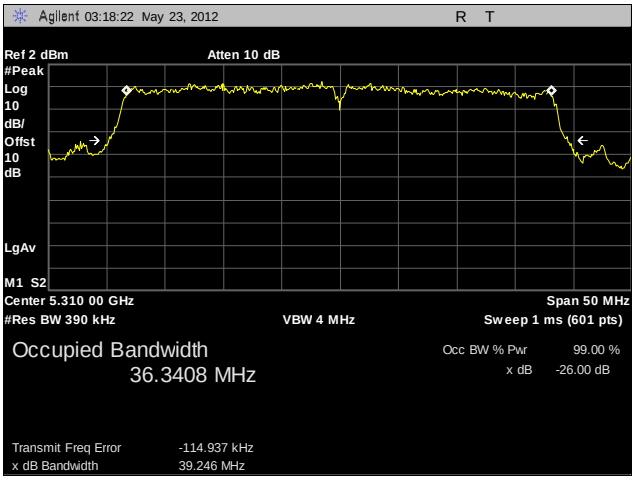
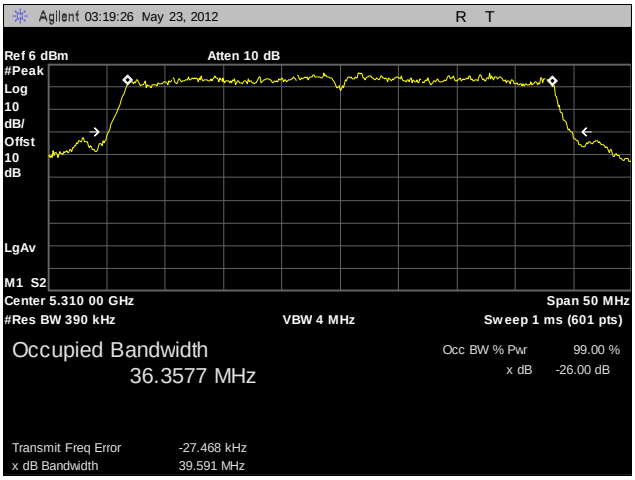
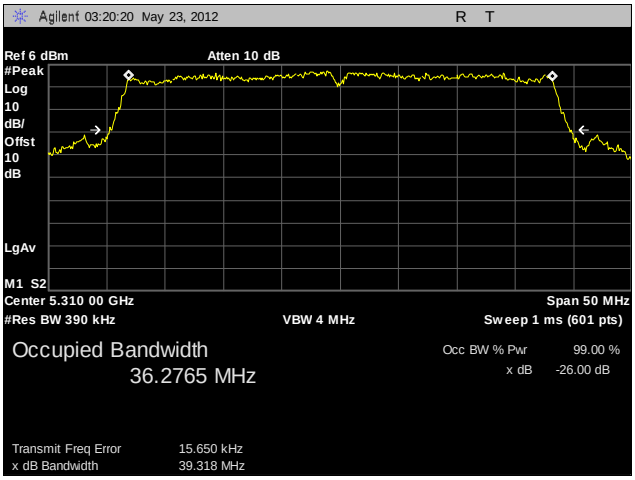


Plot 32. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A4, 5310 MHz



Plot 33. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A5, 5310 MHz



Plot 34. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A6, 5310 MHz

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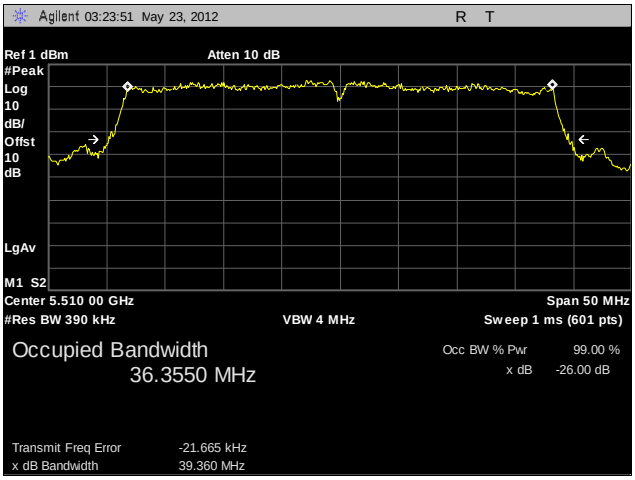
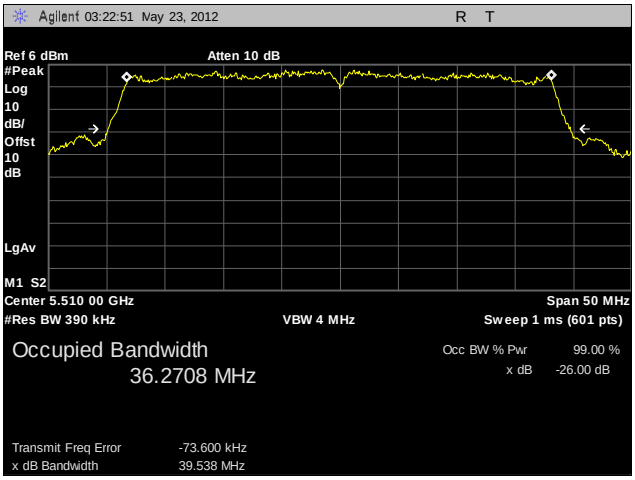
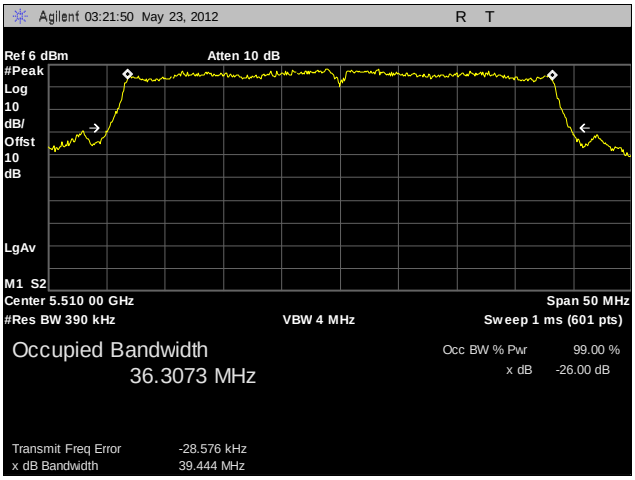


Plot 35. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A4, 5510 MHz



Plot 36. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A5, 5510 MHz



Plot 37. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A6, 5510 MHz

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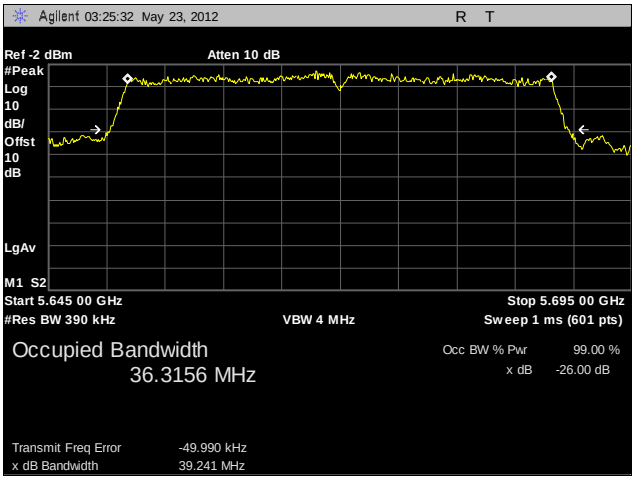
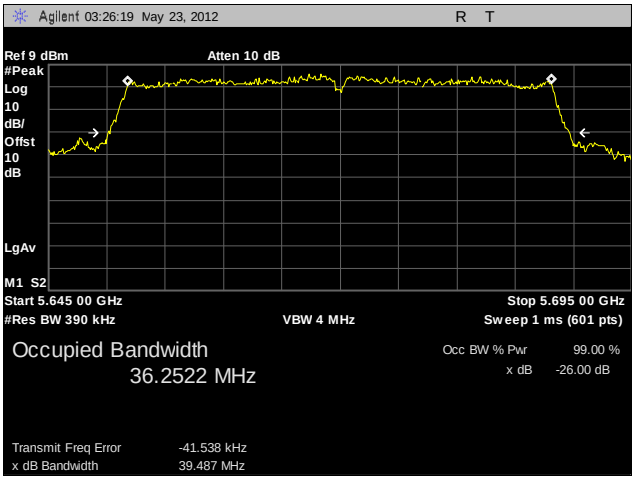
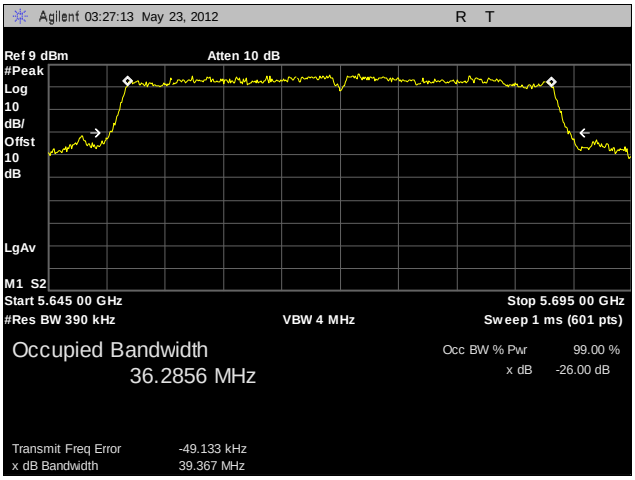


Plot 38. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A4, 5670 MHz



Plot 39. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A5, 5670 MHz



Plot 40. 26 dB Occupied Bandwidth, 802.11n 40 MHz, A6, 5670 MHz

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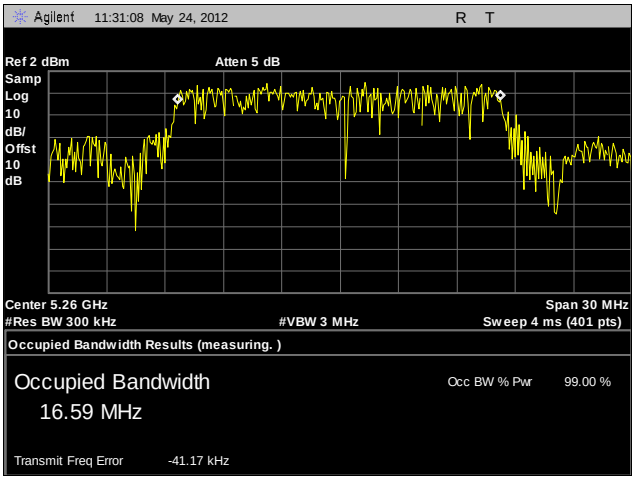
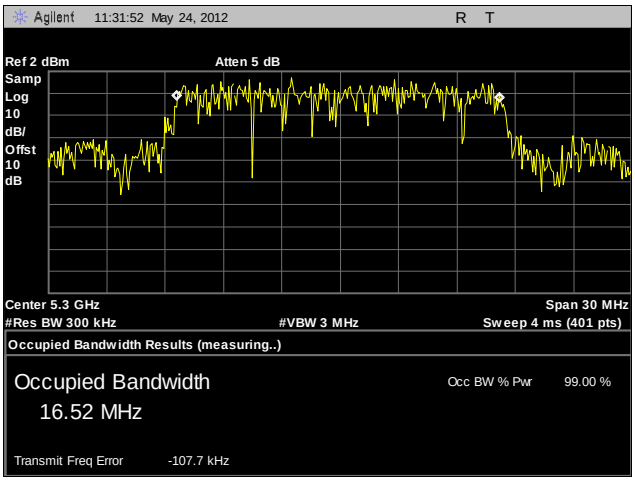
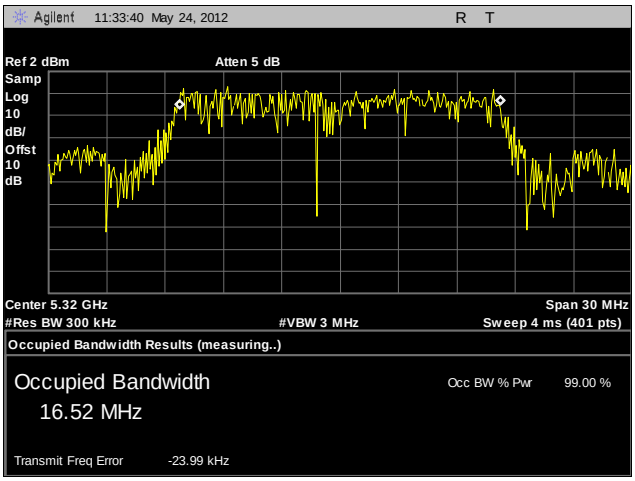
99% Occupied Bandwidth



Plot 41. 99% Occupied Bandwidth, 802.11a, A4, 5260 MHz



Plot 42. 99% Occupied Bandwidth, 802.11a, A4, 5300 MHz



Plot 43. 99% Occupied Bandwidth, 802.11a, A4, 5320 MHz

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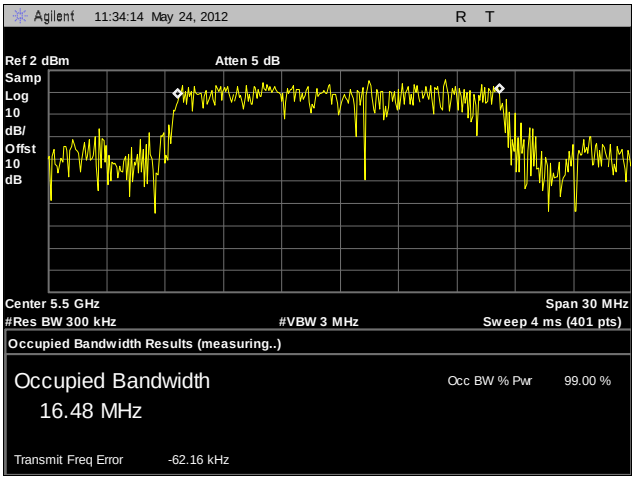
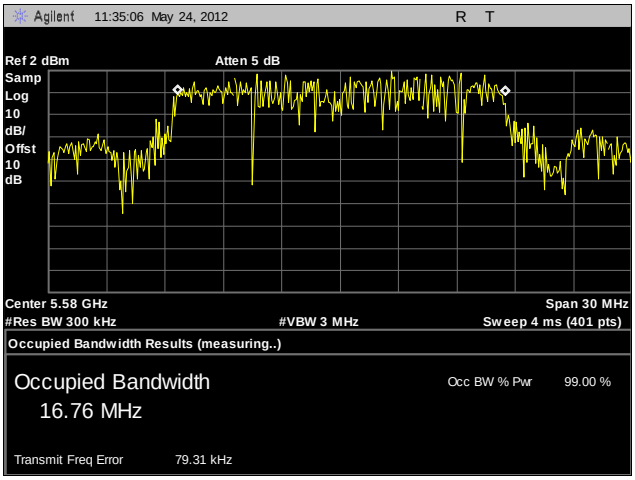
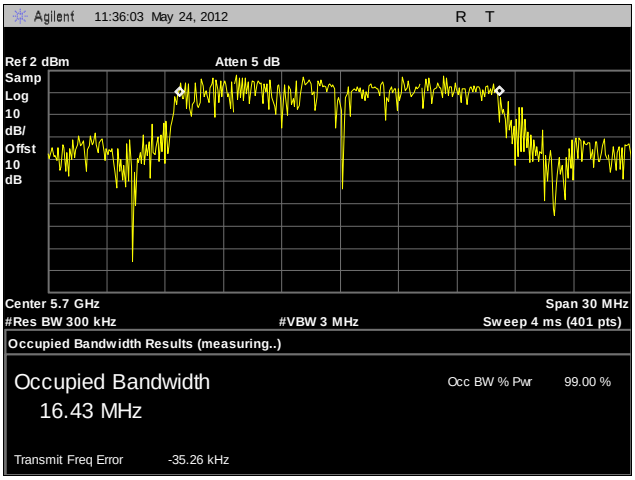


Plot 44. 99% Occupied Bandwidth, 802.11a, A4, 5500 MHz



Plot 45. 99% Occupied Bandwidth, 802.11a, A4, 5800 MHz



Plot 46. 99% Occupied Bandwidth, 802.11a, A4, 5700 MHz

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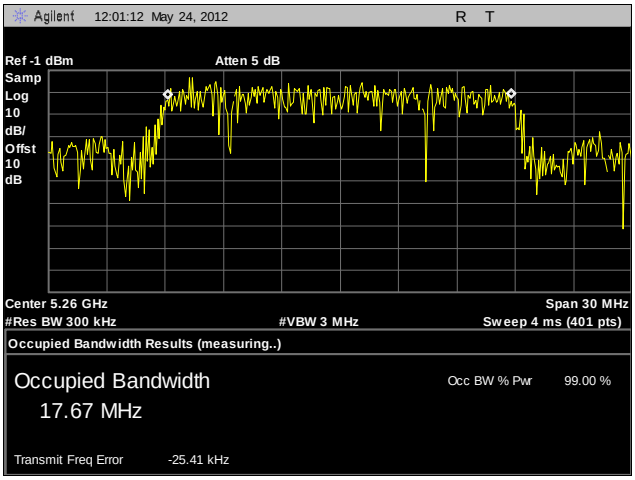
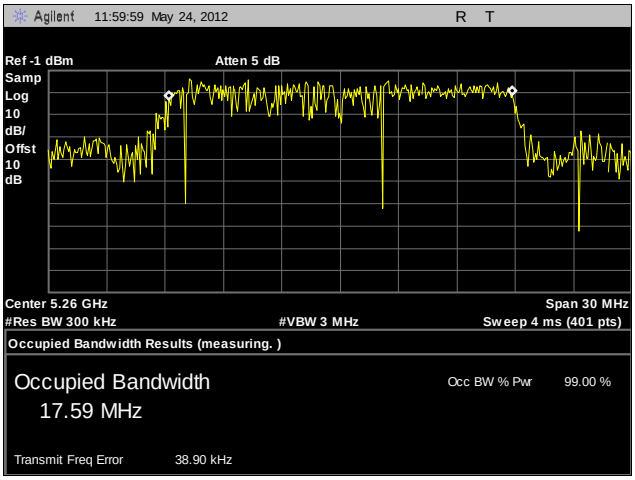
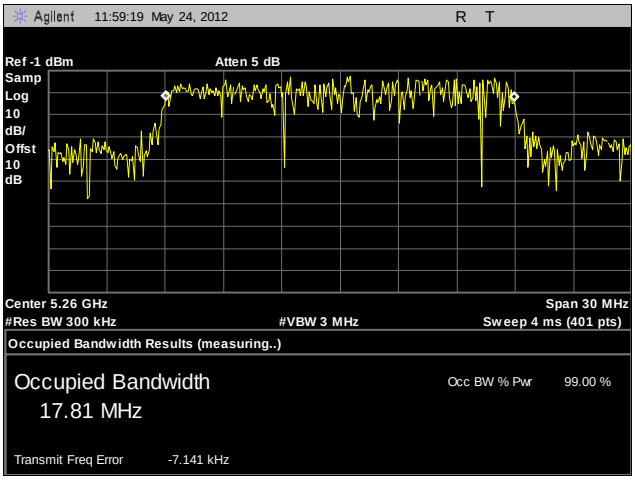


Plot 47. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5260 MHz



Plot 48. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5260 MHz



Plot 49. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5260 MHz

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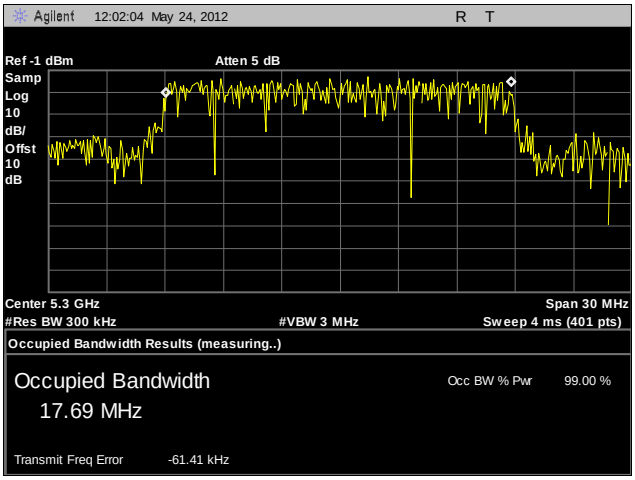
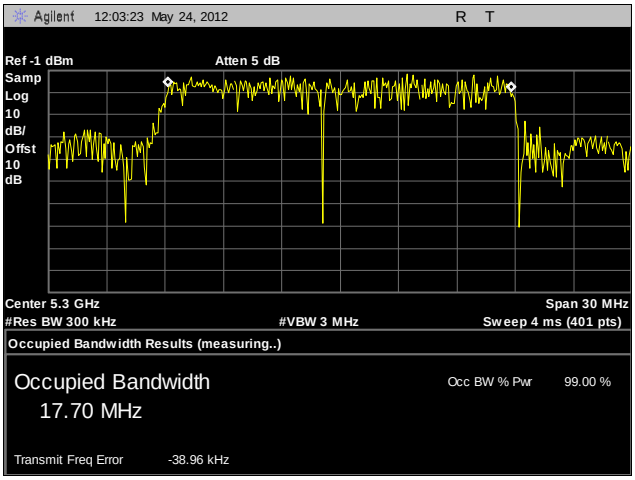
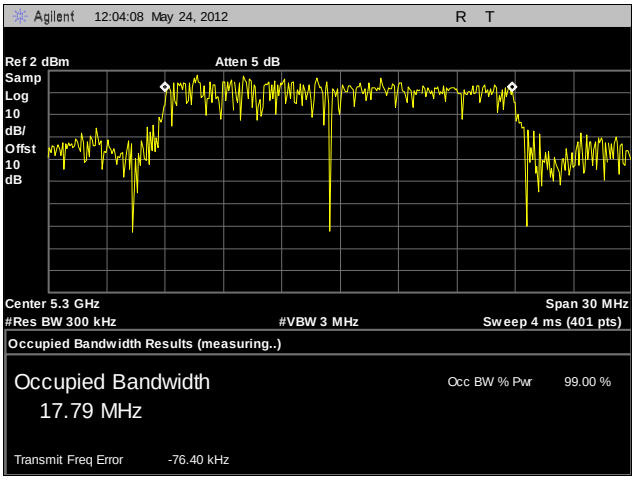


Plot 50. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5300 MHz



Plot 51. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5300 MHz



Plot 52. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5300 MHz

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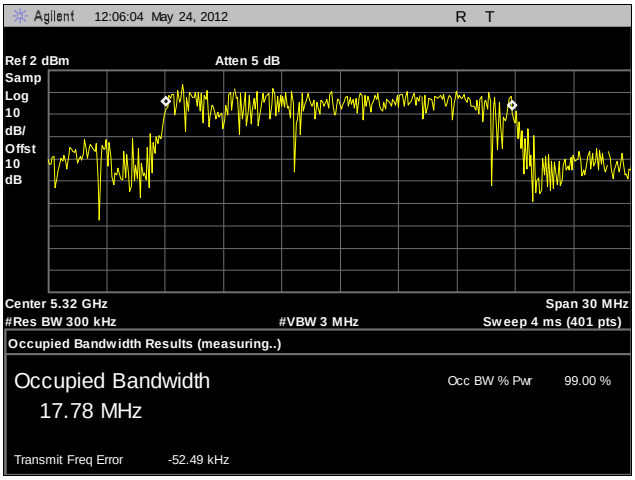
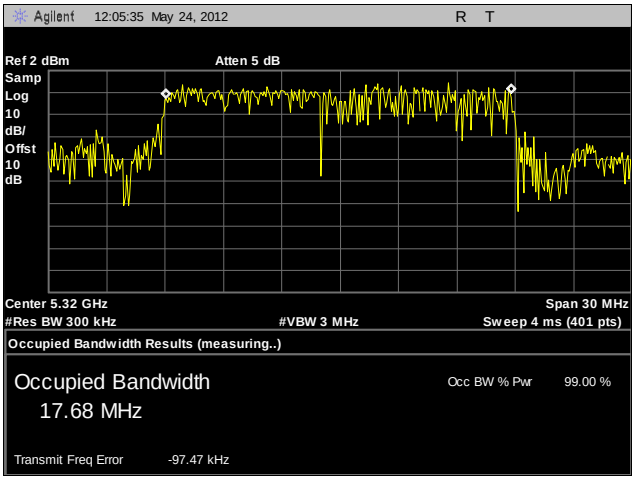
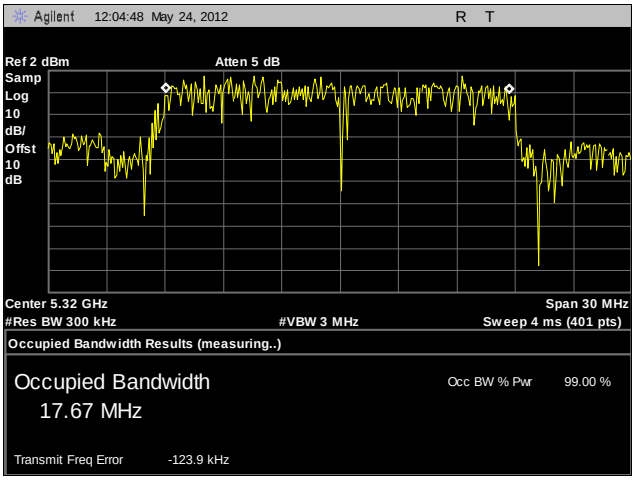


Plot 53. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5320 MHz



Plot 54. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5320 MHz



Plot 55. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5320 MHz

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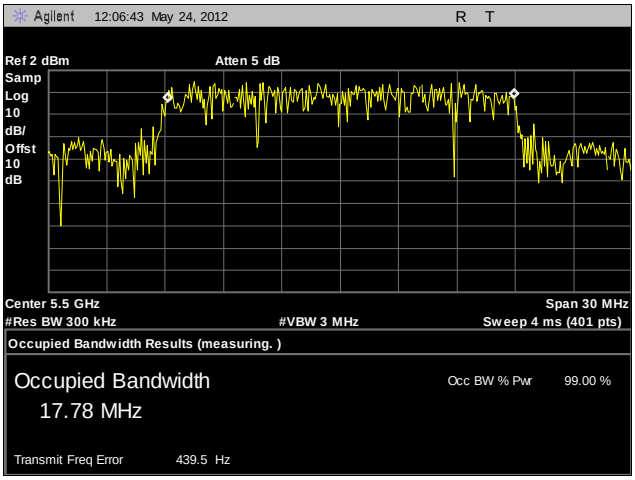
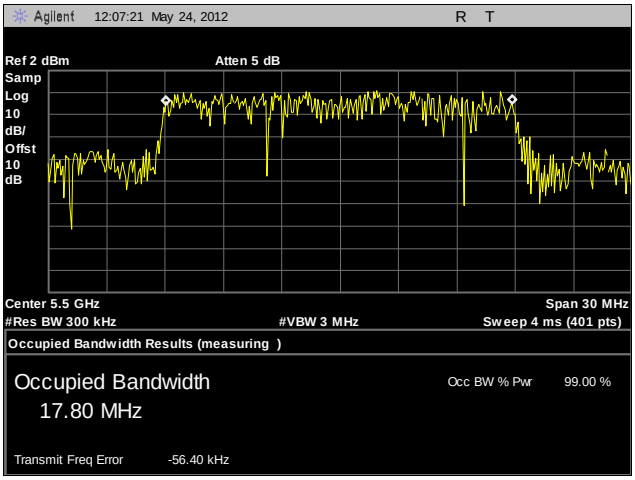
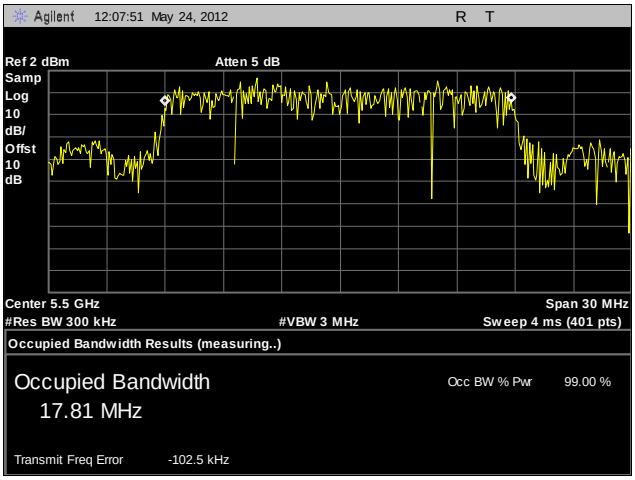


Plot 56. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5500 MHz



Plot 57. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5500 MHz



Plot 58. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5500 MHz

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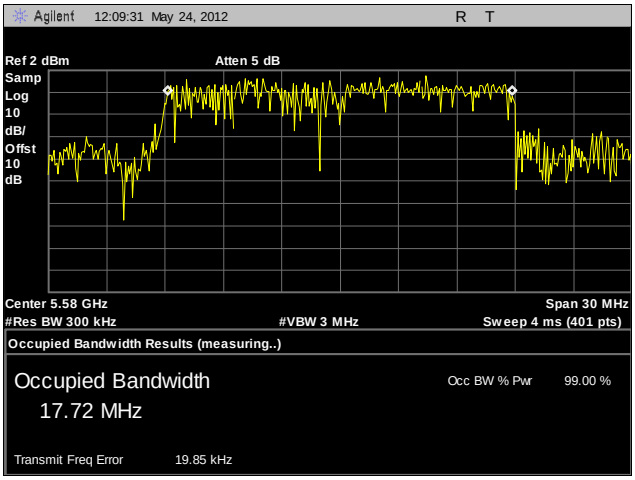
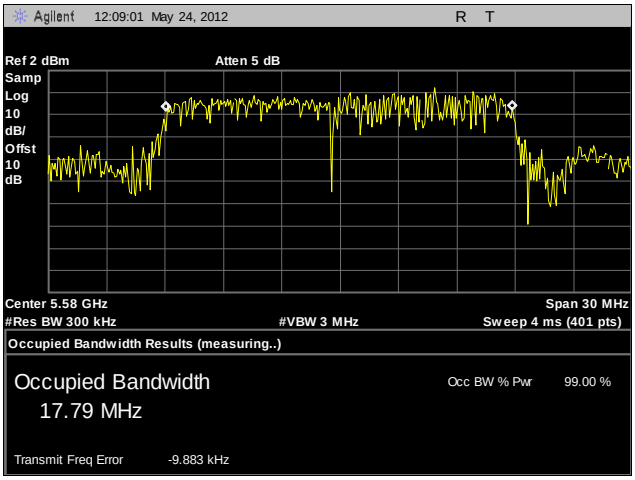
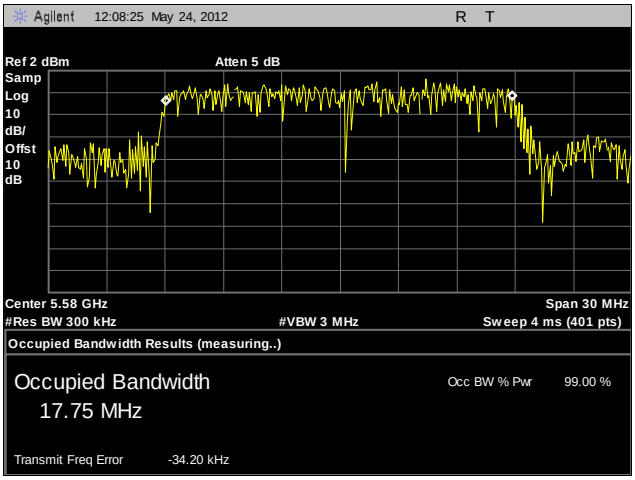


Plot 59. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5580 MHz



Plot 60. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5580 MHz



Plot 61. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5580 MHz

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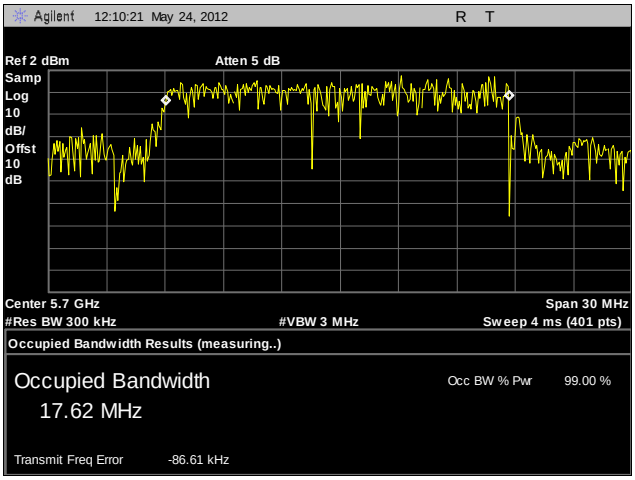
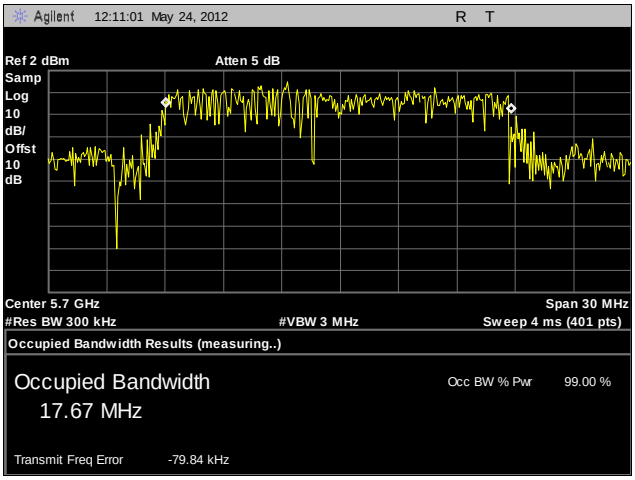
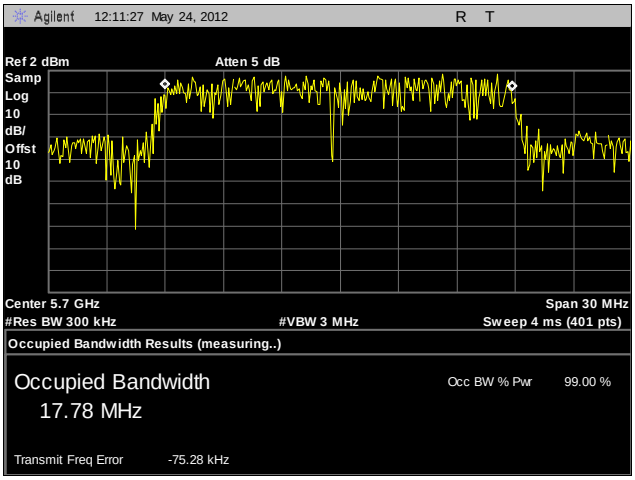


Plot 62. 99% Occupied Bandwidth, 802.11n 20 MHz, A4, 5700 MHz



Plot 63. 99% Occupied Bandwidth, 802.11n 20 MHz, A5, 5700 MHz



Plot 64. 99% Occupied Bandwidth, 802.11n 20 MHz, A6, 5700 MHz

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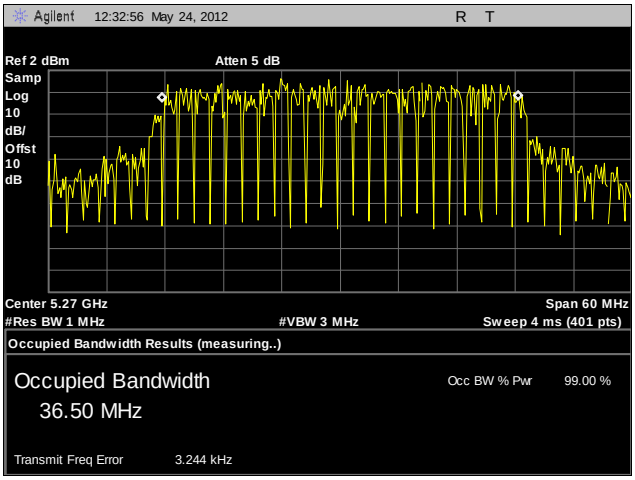
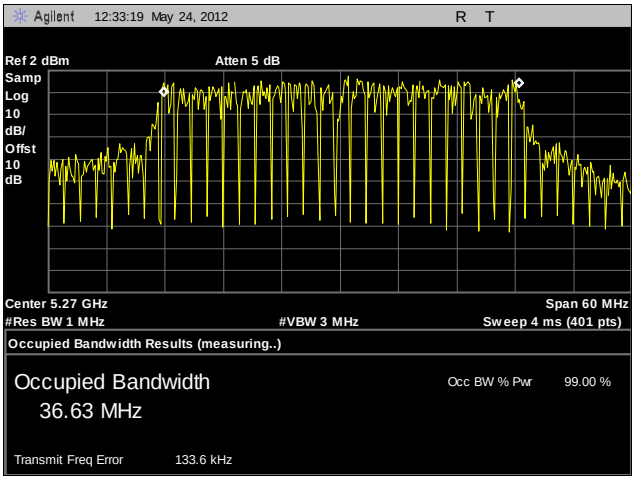
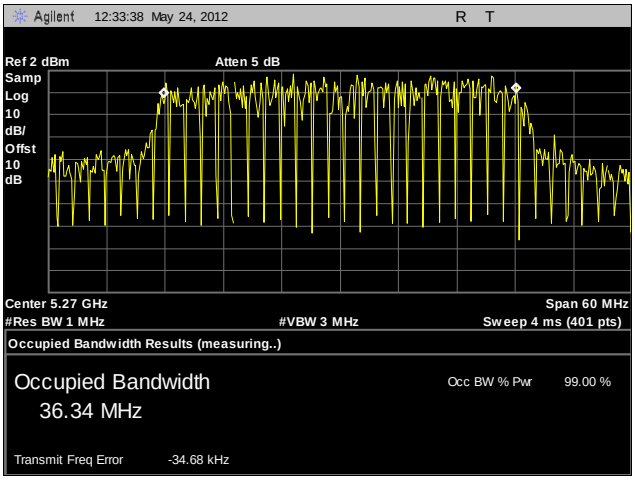


Plot 65. 99% Occupied Bandwidth, 802.11n 40 MHz, A4, 5270 MHz



Plot 66. 99% Occupied Bandwidth, 802.11n 40 MHz, A5, 5270 MHz



Plot 67. 99% Occupied Bandwidth, 802.11n 40 MHz, A6, 5270 MHz

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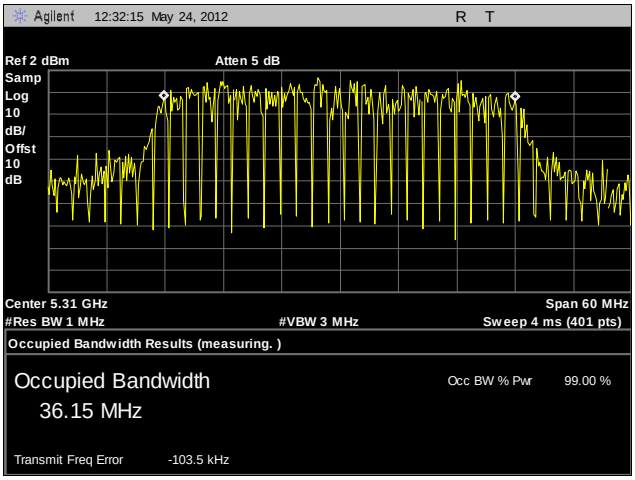
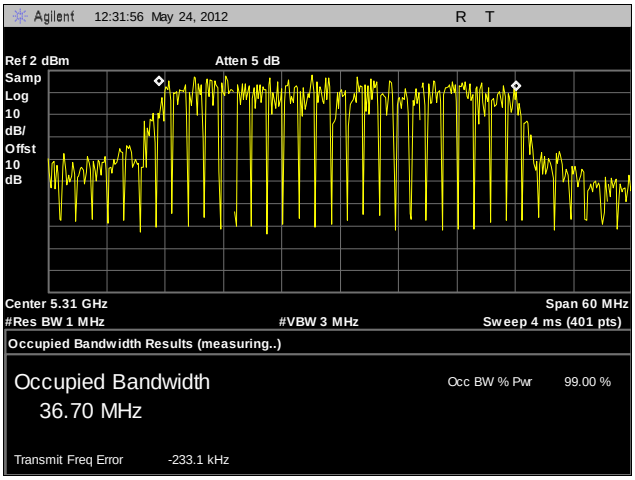
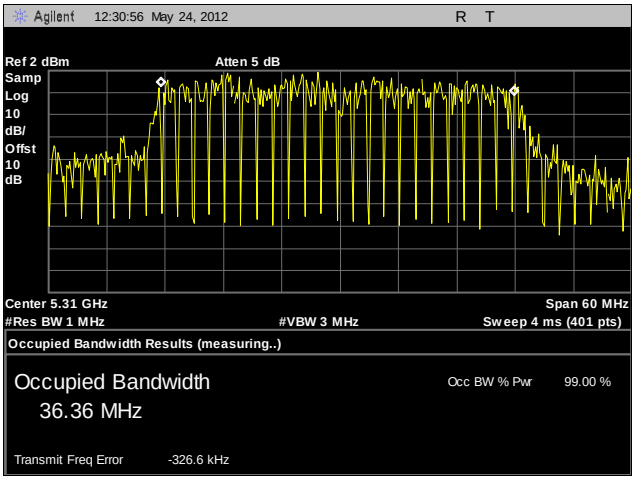


Plot 68. 99% Occupied Bandwidth, 802.11n 40 MHz, A4, 5310 MHz



Plot 69. 99% Occupied Bandwidth, 802.11n 40 MHz, A5, 5310 MHz



Plot 70. 99% Occupied Bandwidth, 802.11n 40 MHz, A6, 5310 MHz

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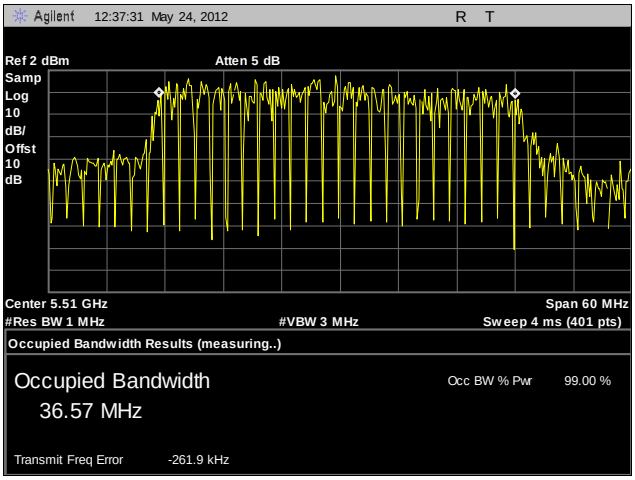
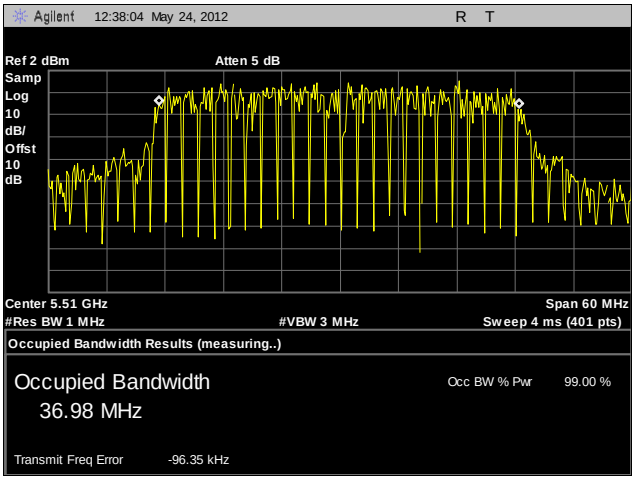
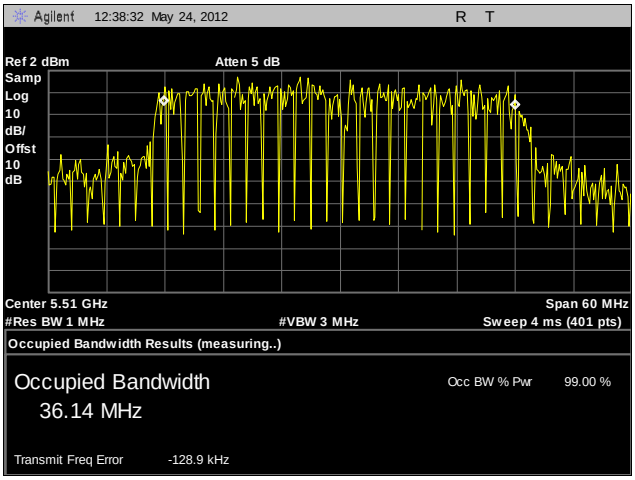


Plot 71. 99% Occupied Bandwidth, 802.11n 40 MHz, A4, 5510 MHz



Plot 72. 99% Occupied Bandwidth, 802.11n 40 MHz, A5, 5510 MHz



Plot 73. 99% Occupied Bandwidth, 802.11n 40 MHz, A6, 5510 MHz

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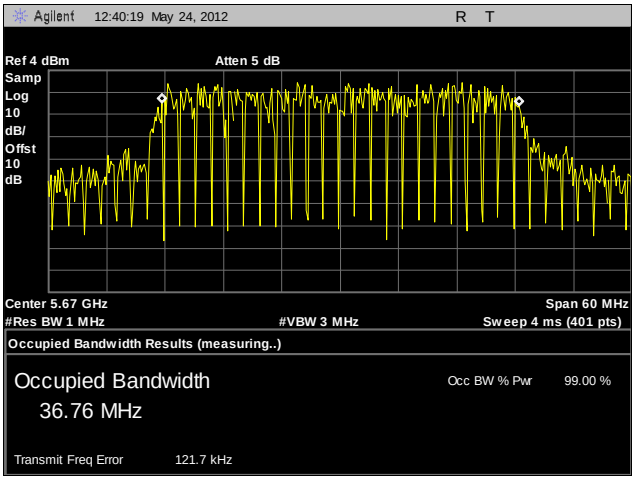
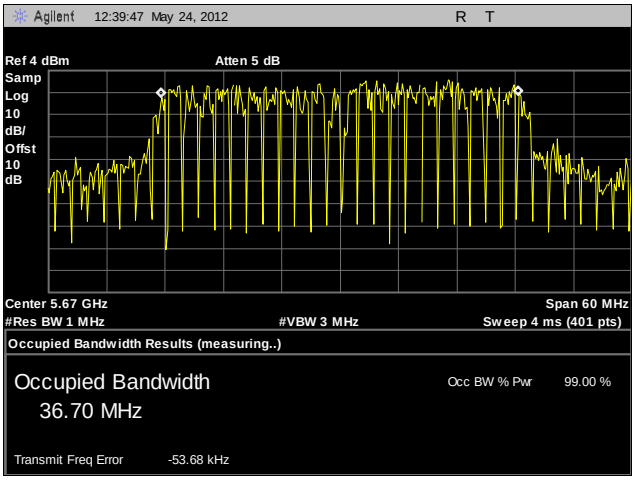
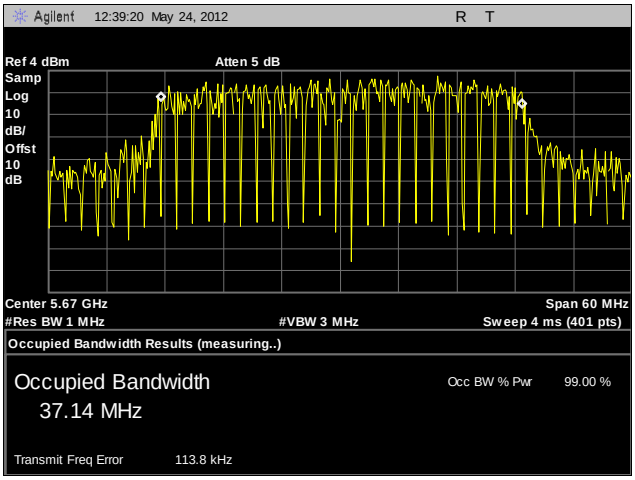


Plot 74. 99% Occupied Bandwidth, 802.11n 40 MHz, A4, 5670 MHz



Plot 75. 99% Occupied Bandwidth, 802.11n 40 MHz, A5, 5670 MHz



Plot 76. 99% Occupied Bandwidth, 802.11n 40 MHz, A6, 5670 MHz

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 407(a)(2) RF Power Output

Test Requirements: **§15.407(a)(2):** The maximum output power of the intentional radiator shall not exceed the following:

§15.407(a) (2): For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10log B, where B is the 26 dB emission bandwidth in megahertz.

Test Procedure: The EUT was connected to a Spectrum Analyzer. The transmitter was set to low, mid, and high channels. The RBW was set to 1MHz, and the VBW>RBW. A sample detector was used with power averaging over 100 traces. Power was summed over each port and compared to the limits of 15.407(a)(2). The following table is valid for the 2 dBi antenna. For the higher gain antennas the power will be reduced 1 dB for every dB the gain exceeds 2 dBi.

Test Results: Equipment was compliant with the Peak Power Output limits of **§ 15.401(a)(2)**.

Test Engineer(s): Jeff Pratt

Test Date(s): 04/19/12 – 04/25/12

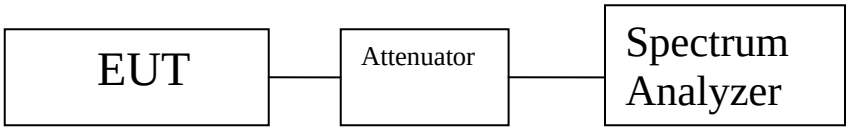

Figure 3. Power Output Test Setup

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Frequency (MHz)	Mode/Modulation Type	Port A4 Conducted Power (dBm)	Port A5 Conducted Power (dBm)	Power A6 Conducted Power (dBm)	Aggregate Conducted Power (dBm)	Maximum Conducted Power (dBm)
5260	802.11a	17.66			17.66	24.00
5300	802.11a	20.51			20.51	24.00
5320	802.11a	14.25			14.25	24.00
5500	802.11a	14.37			14.37	24.00
5580	802.11a	20.61			20.61	24.00
5700	802.11a	17.68			17.68	24.00
5260	802.11n HT20	16.88	15.81	17.45	21.54	23.21
5300	802.11n HT20	17.18	15.91	17.15	21.56	23.21
5320	802.11n HT20	12.84	11.67	13.09	17.35	23.21
5500	802.11n HT20	13.1	13.63	13.16	18.07	23.21
5580	802.11n HT20	16.65	15.12	16.67	20.98	23.21
5700	802.11n HT20	13.29	13.3	14.23	18.40	23.21
5270	802.11n HT40	18.25	17.41	18.43	22.82	23.21
5310	802.11n HT40	12	11.2	11.49	16.35	23.21
5510	802.11n HT40	12.2	12.31	12.35	17.06	23.21
5670	802.11n HT40	17.46	17.6	18.09	22.50	23.21

Table 14. RF Power Output, Test Results

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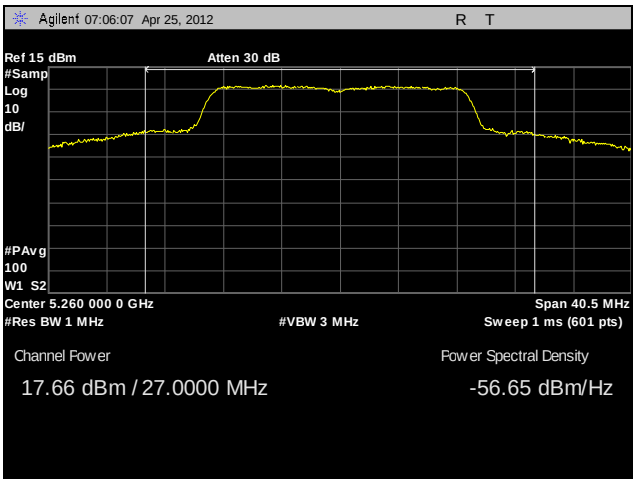
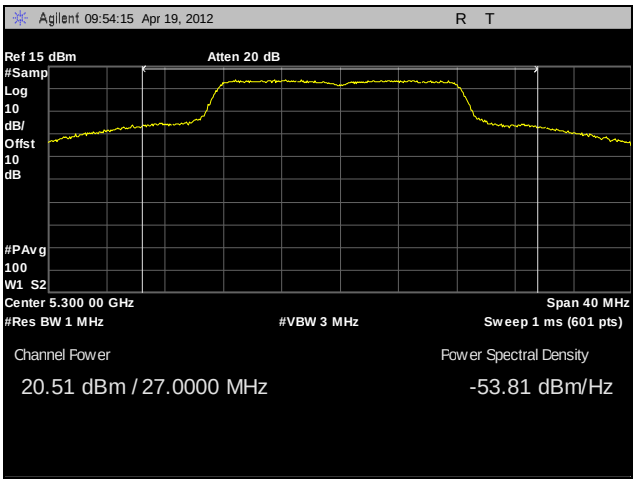
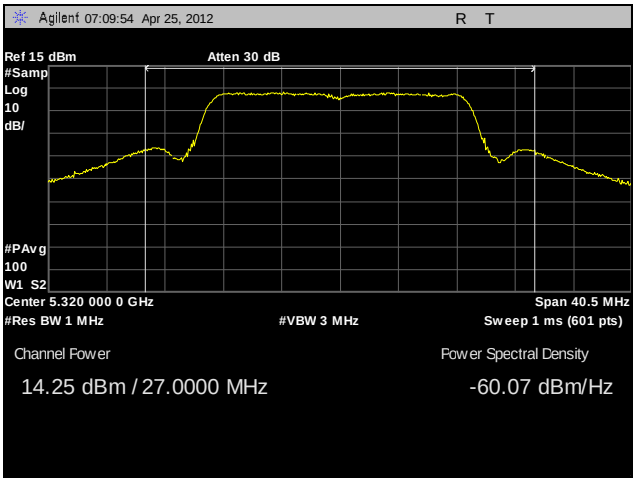


Plot 77. RF Power Output, 802.11a, A4, 5260 MHz



Plot 78. RF Power Output, 802.11a, A4, 5300 MHz



Plot 79. RF Power Output, 802.11a, A4, 5320 MHz

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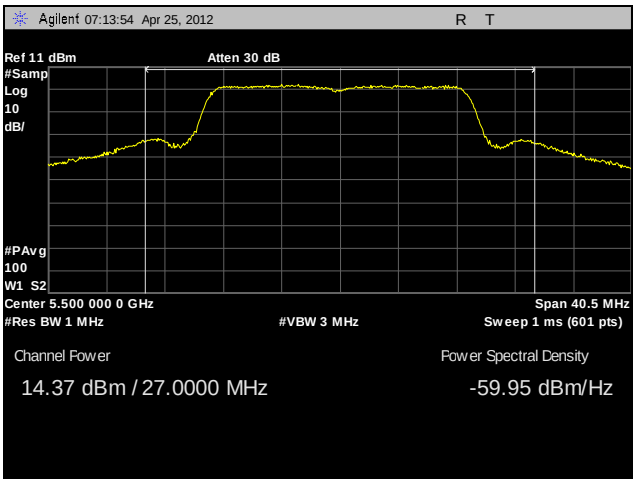
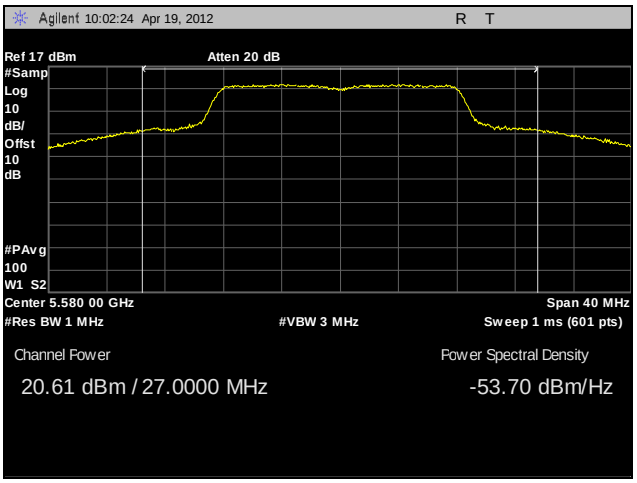
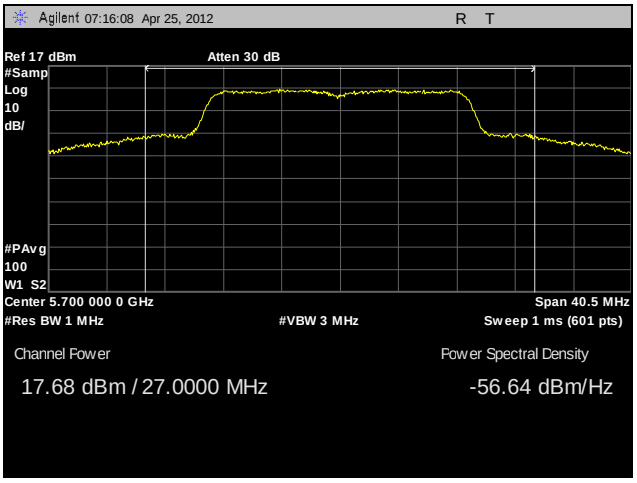


Plot 80. RF Power Output, 802.11a, A4, 5500 MHz



Plot 81. RF Power Output, 802.11a, A4, 5580 MHz



Plot 82. RF Power Output, 802.11a, A4, 5700 MHz

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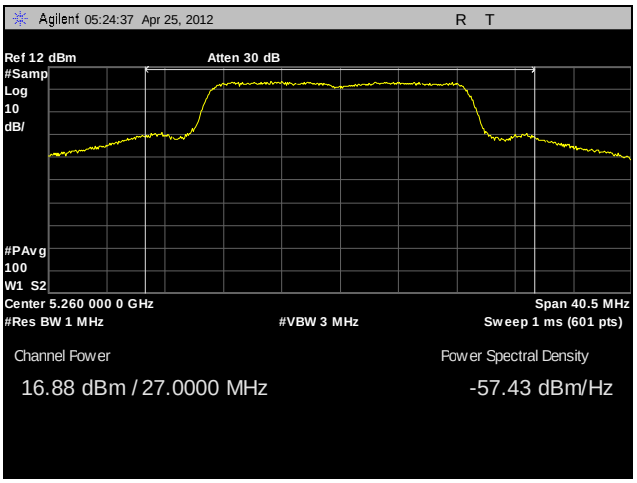
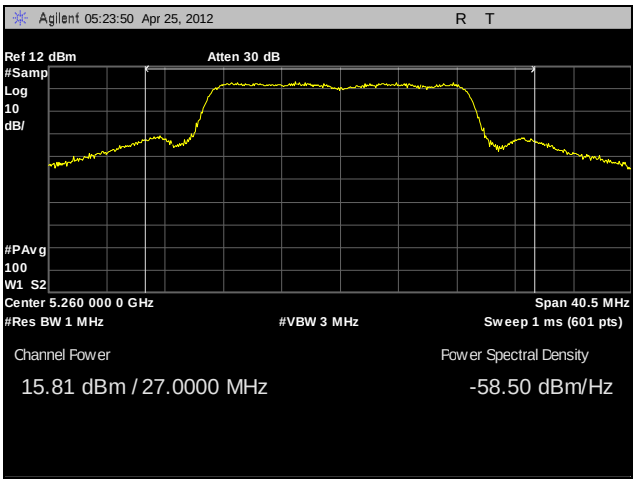
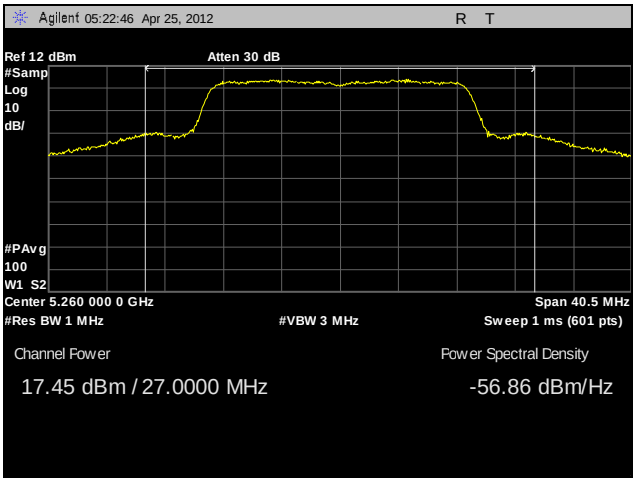


Plot 83. RF Power Output, 802.11n 20 MHz, A4, 5260 MHz



Plot 84. RF Power Output, 802.11n 20 MHz, A5, 5260 MHz



Plot 85. RF Power Output, 802.11n 20 MHz, A6, 5260 MHz

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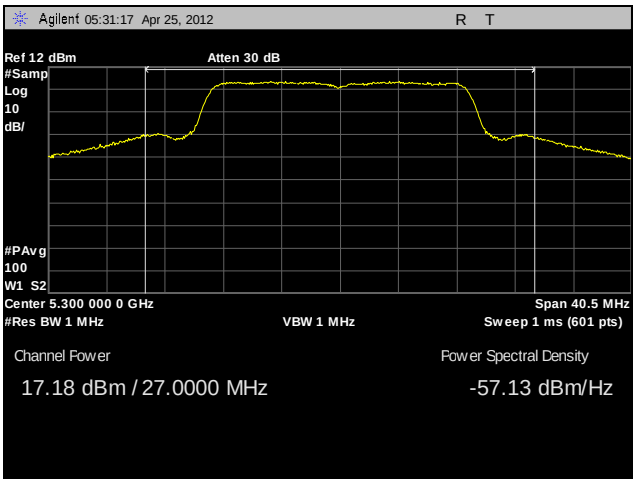
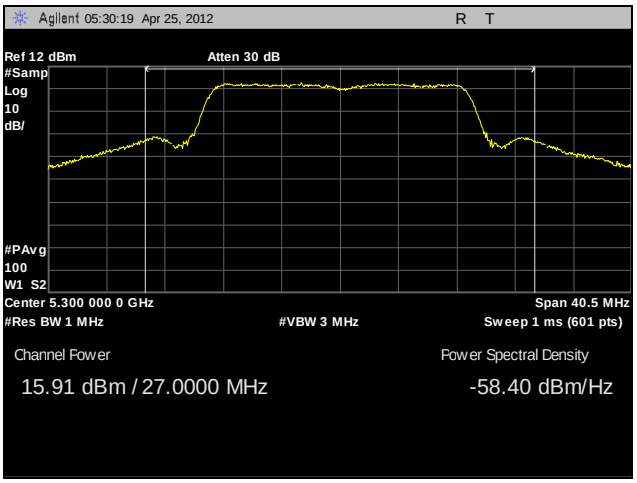
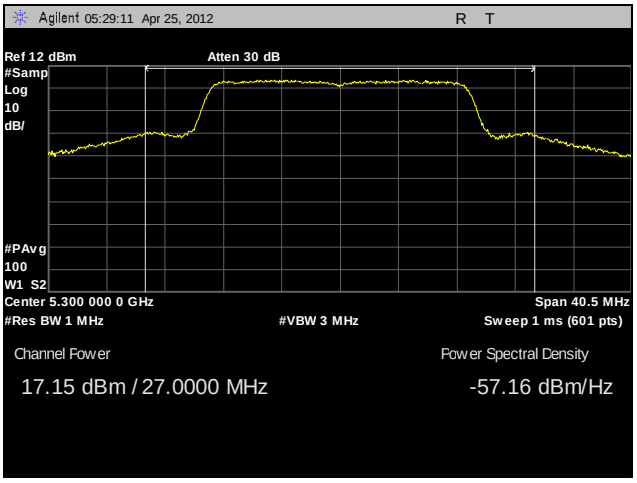


Plot 86. RF Power Output, 802.11n 20 MHz, A4, 5300 MHz



Plot 87. RF Power Output, 802.11n 20 MHz, A5, 5300 MHz



Plot 88. RF Power Output, 802.11n 20 MHz, A6, 5300 MHz

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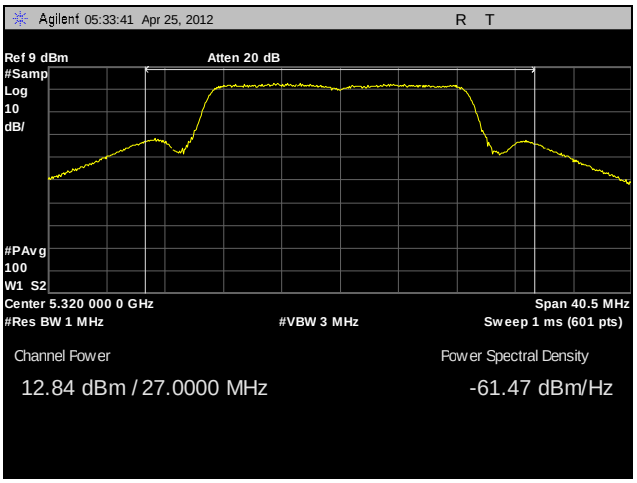
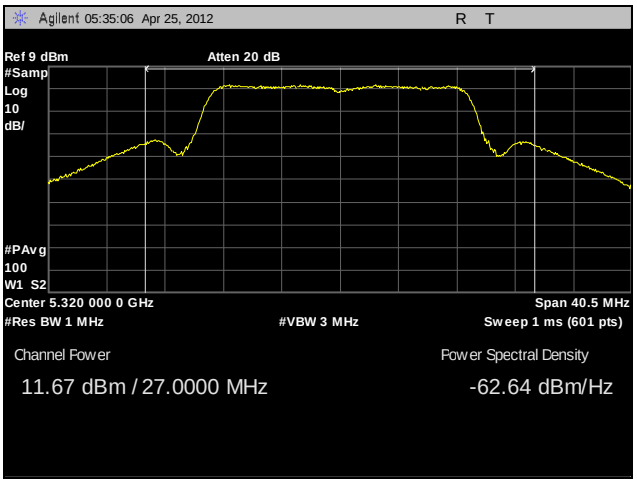
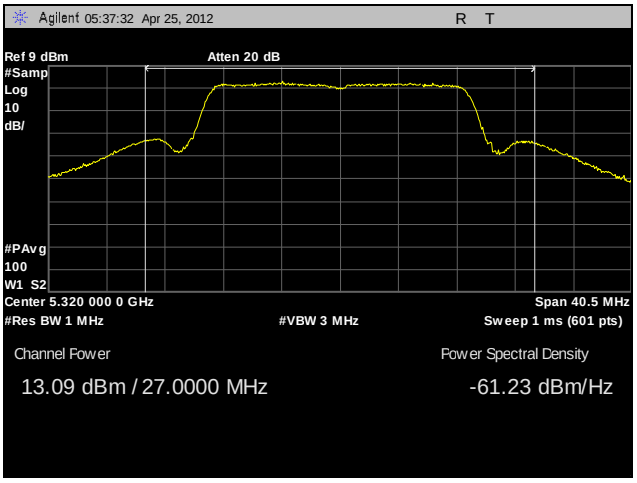


Plot 89. RF Power Output, 802.11n 20 MHz, A4, 5320 MHz



Plot 90. RF Power Output, 802.11n 20 MHz, A5, 5320 MHz



Plot 91. RF Power Output, 802.11n 20 MHz, A6, 5320 MHz

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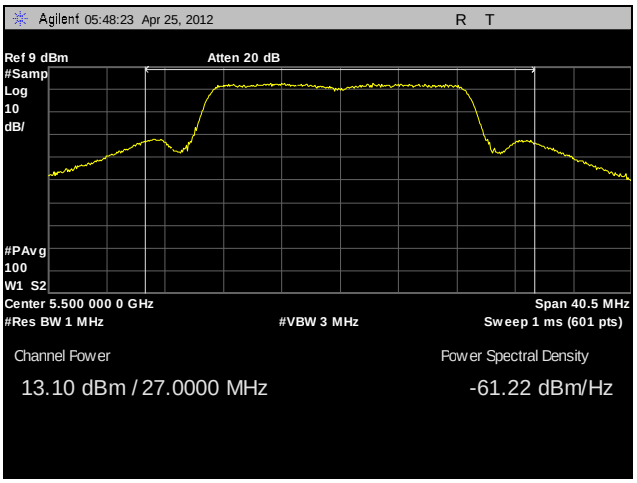
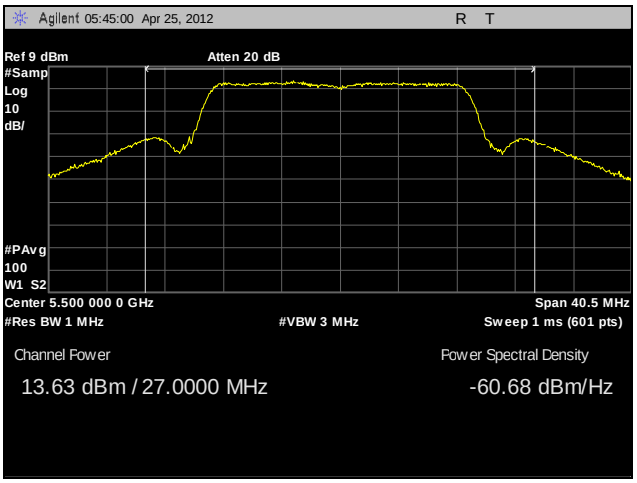
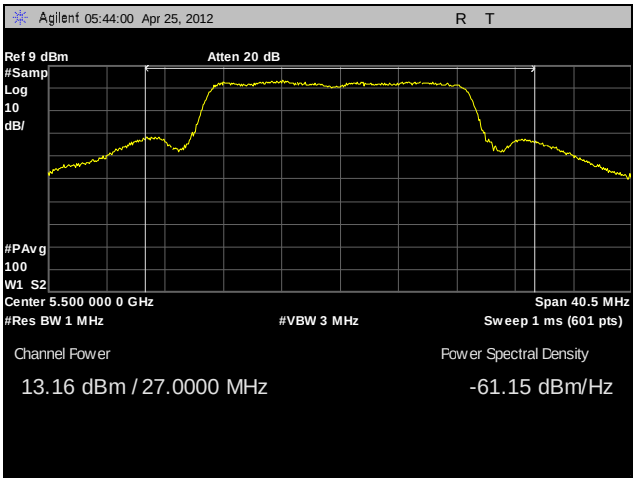


Plot 92. RF Power Output, 802.11n 20 MHz, A4, 5500 MHz



Plot 93. RF Power Output, 802.11n 20 MHz, A5, 5500 MHz



Plot 94. RF Power Output, 802.11n 20 MHz, A6, 5500 MHz

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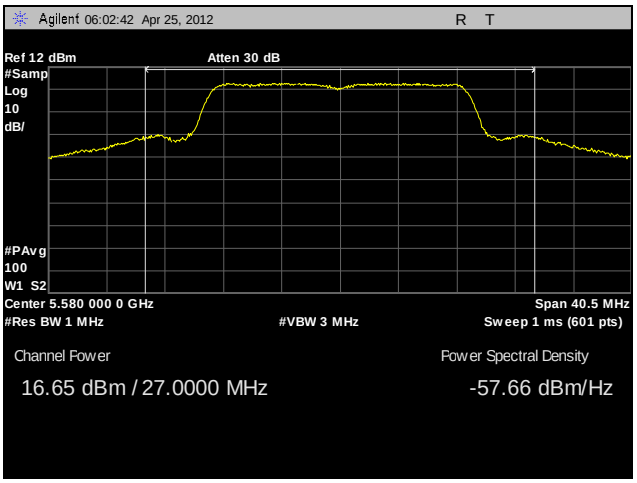
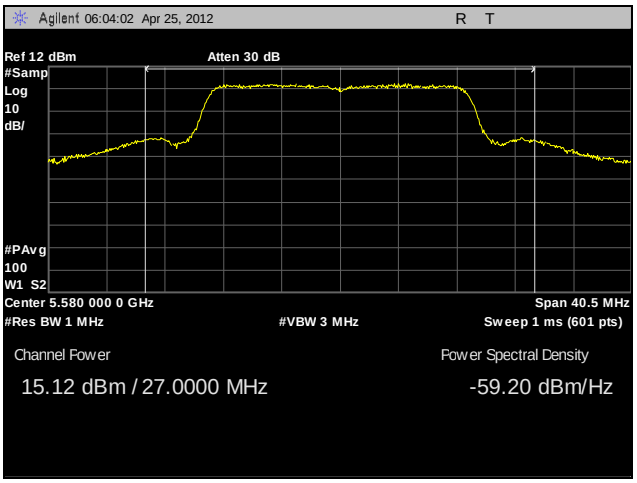
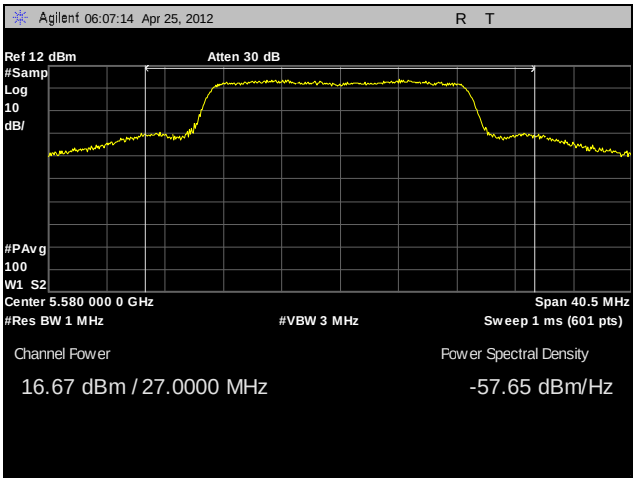


Plot 95. RF Power Output, 802.11n 20 MHz, A4, 5580 MHz

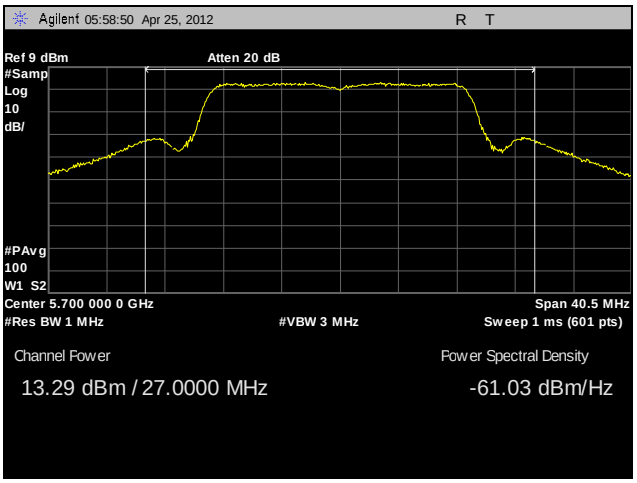


Plot 96. RF Power Output, 802.11n 20 MHz, A5, 5580 MHz

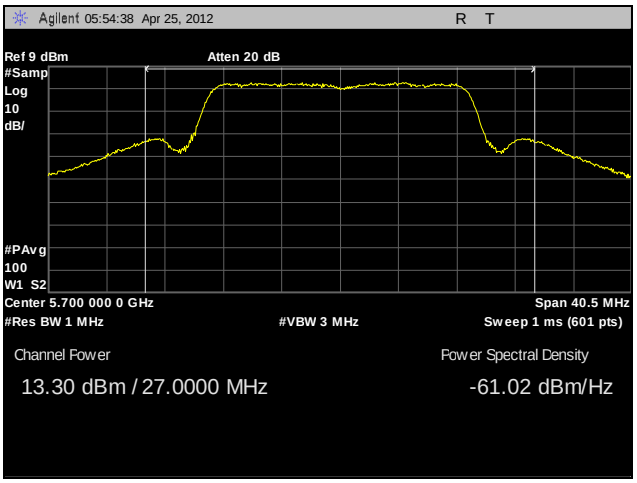


Plot 97. RF Power Output, 802.11n 20 MHz, A6, 5580 MHz

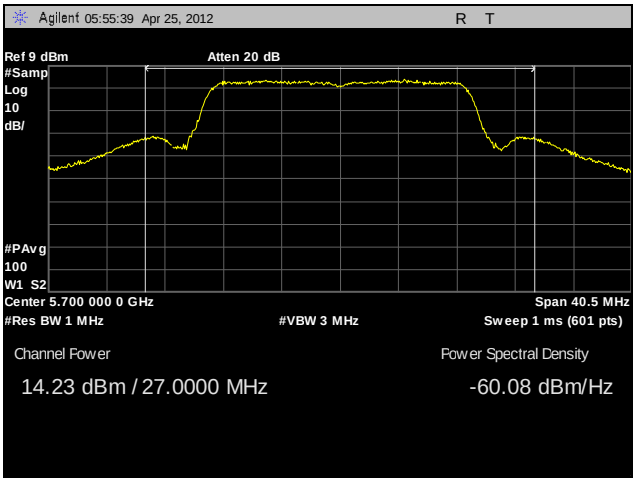
 © 2013, MET Laboratories, Inc.



Plot 98. RF Power Output, 802.11n 20 MHz, A4, 5700 MHz



Plot 99. RF Power Output, 802.11n 20 MHz, A5, 5700 MHz



Plot 100. RF Power Output, 802.11n 20 MHz, A6, 5700 MHz

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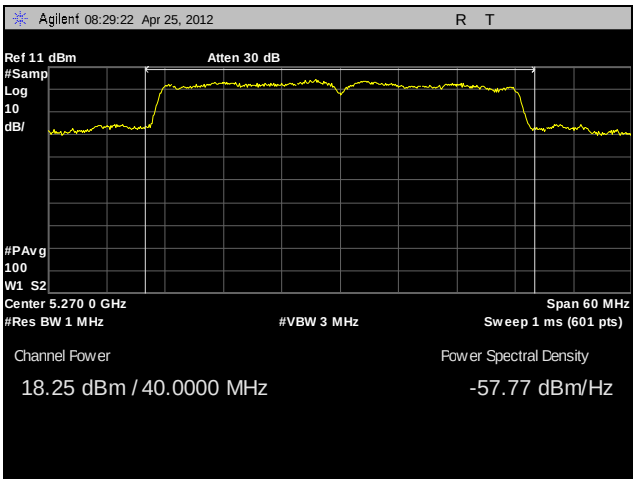
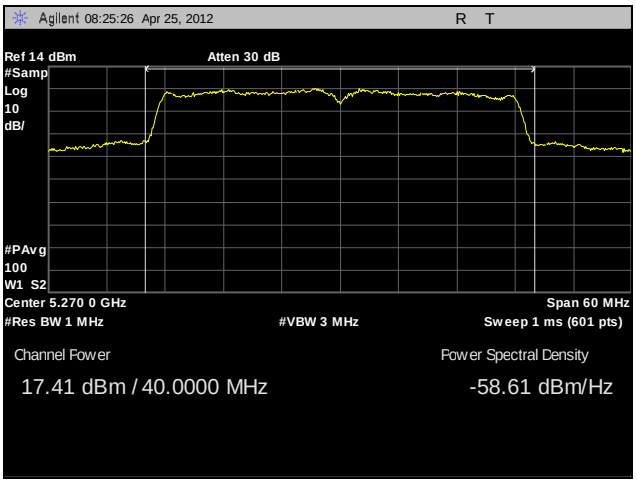
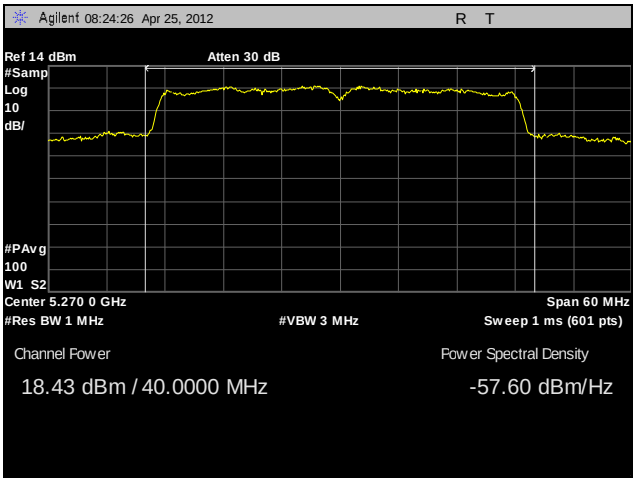


Plot 101. RF Power Output, 802.11n 40 MHz, A4, 5270 MHz



Plot 102. RF Power Output, 802.11n 40 MHz, A5, 5270 MHz



Plot 103. RF Power Output, 802.11n 40 MHz, A6, 5270 MHz

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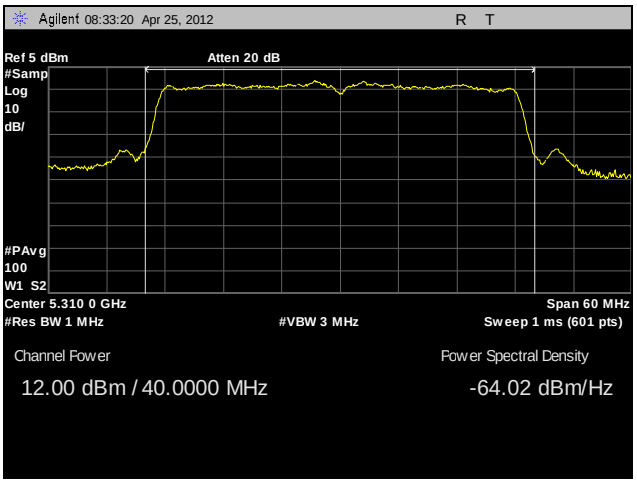
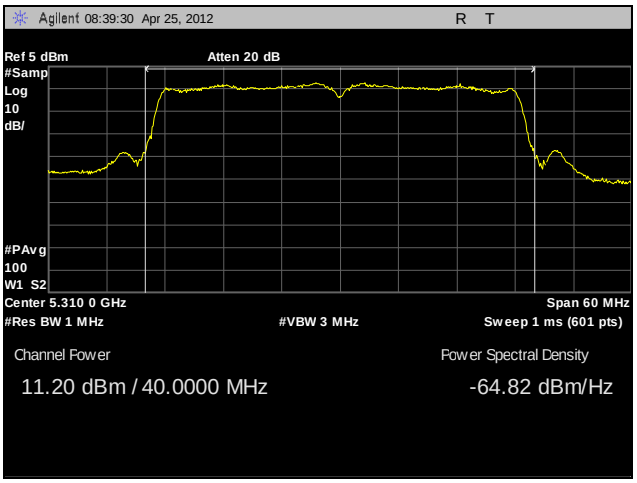
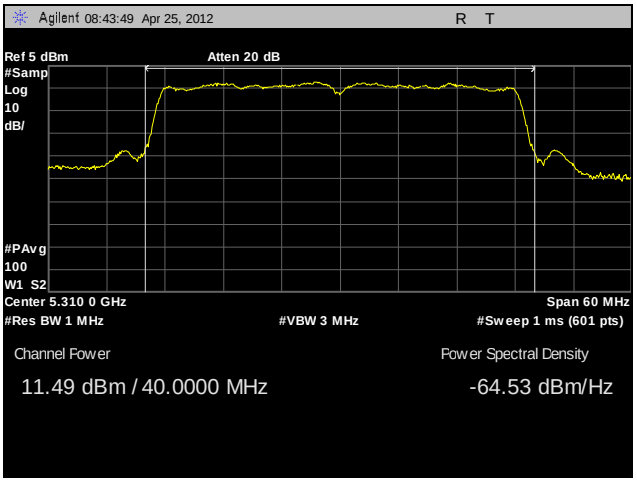


Plot 104. RF Power Output, 802.11n 40 MHz, A4, 5310 MHz



Plot 105. RF Power Output, 802.11n 40 MHz, A5, 5310 MHz



Plot 106. RF Power Output, 802.11n 40 MHz, A6, 5310 MHz

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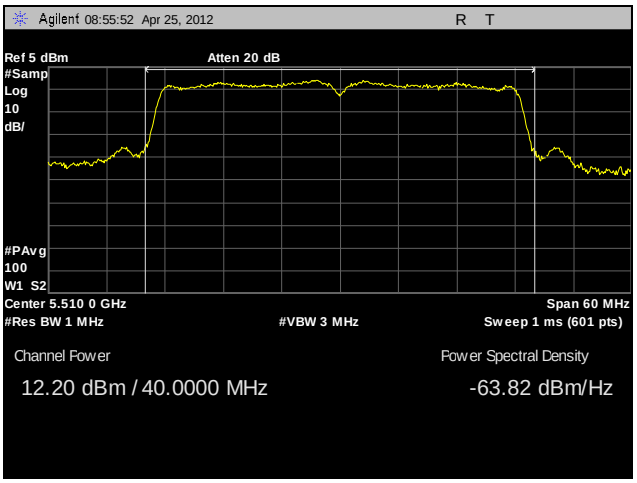
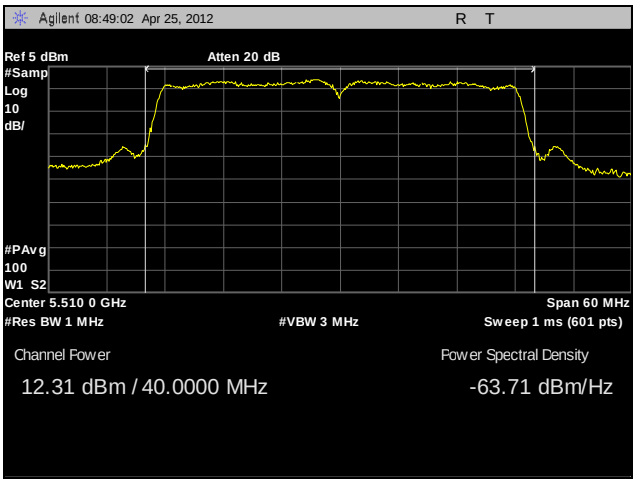
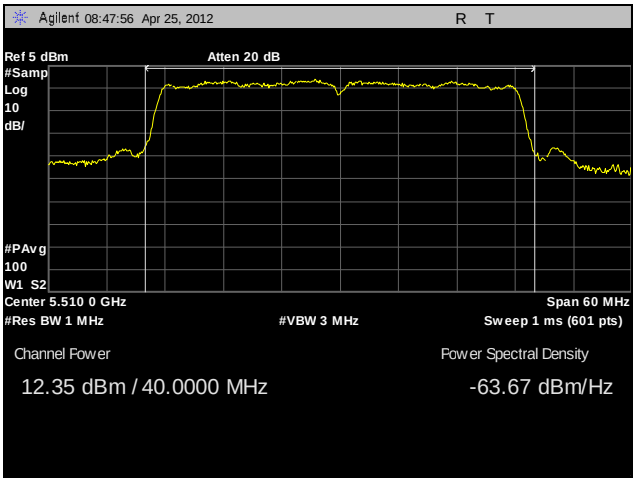


Plot 107. RF Power Output, 802.11n 40 MHz, A4, 5510 MHz



Plot 108. RF Power Output, 802.11n 40 MHz, A5, 5510 MHz



Plot 109. RF Power Output, 802.11n 40 MHz, A6, 5510 MHz

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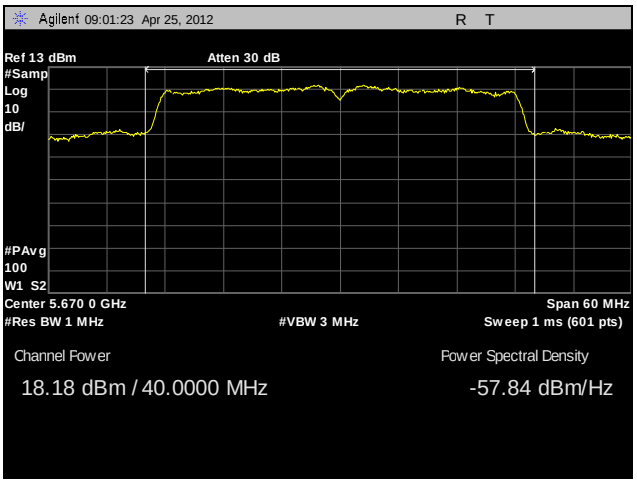
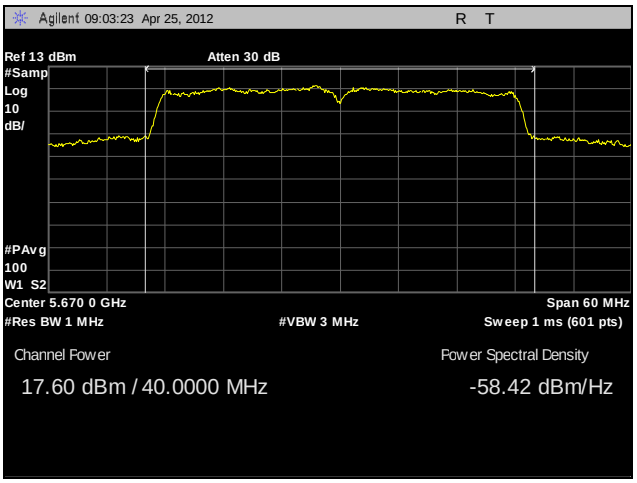
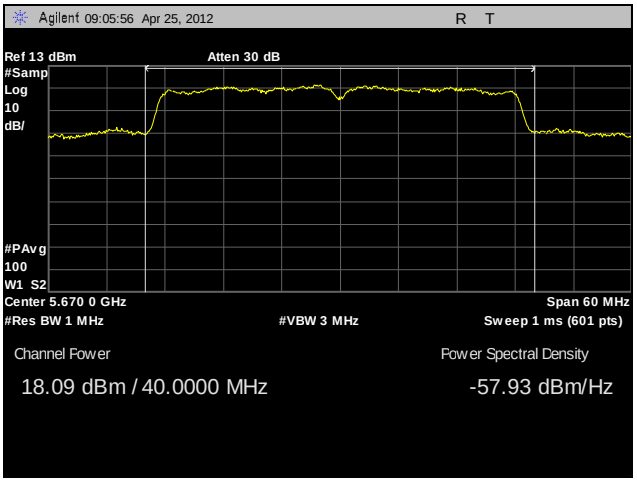


Plot 110. RF Power Output, 802.11n 40 MHz, A4, 5670 MHz



Plot 111. RF Power Output, 802.11n 40 MHz, A5, 5670 MHz



Plot 112. RF Power Output, 802.11n 40 MHz, A6, 5670 MHz

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(a)(2) Peak Power Spectral Density

Test Requirements: **§ 15.407(a)(2):** In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.

Test Procedure: The transmitter was connected directly to a Spectrum Analyzer through an attenuator. The power level was set to the maximum level on the EUT. The RBW was set to 1MHz and the VBW was set to 3MHz. Method SA-1 from FCC Publication 789033 was used.

Test Results: Equipment was compliant with the peak power spectral density limits of **§ 15.407 (a)(2).** The peak power spectral density was determined from plots on the following page(s).

Test Engineer(s): Jeff Pratt

Test Date(s): 04/19/12 – 04/25/12

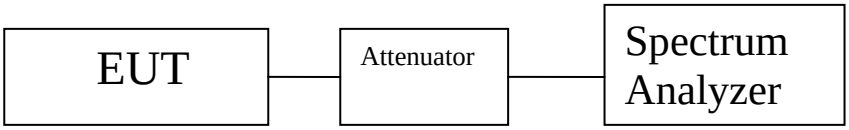

Figure 4. Power Spectral Density Test Setup

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Frequency MHz	Mode	PSD Port 1 dBm	PSD Port 2 dBm	PSD Port 3 dBm	Sum Port dBm	Limit dBm
5260	802.11a	7.432	NA	NA	7.432	10.23
5300	802.11a	8.861	NA	NA	8.861	10.23
5320	802.11a	2.097	NA	NA	2.097	10.23
5500	802.11a	4.438	NA	NA	4.438	10.23
5580	802.11a	9.39	NA	NA	9.39	10.23
5700	802.11a	7.693	NA	NA	7.693	10.23
5260	802.11n 20 MHz	5.228	4.783	6.169	10.20	10.23
5300	802.11n 20 MHz	5.466	4.696	5.925	10.16	10.23
5320	802.11n 20 MHz	1.7	0.585	1.657	6.11	10.23
5500	802.11n 20 MHz	1.848	2.079	2.278	6.84	10.23
5580	802.11n 20 MHz	5.272	4.867	5.576	10.02	10.23
5700	802.11n 20 MHz	2.356	2.055	2.808	7.19	10.23
5270	802.11n 40 MHz	5.393	4.446	5.28	9.83	10.23
5310	802.11n 40 MHz	-1.256	-2.281	-1.643	3.06	10.23
5510	802.11n 40 MHz	-0.821	-0.677	-0.907	3.97	10.23
5670	802.11n 40 MHz	5.131	4.49	4.314	9.43	10.23

Table 15. Power Spectral Density, Test Results

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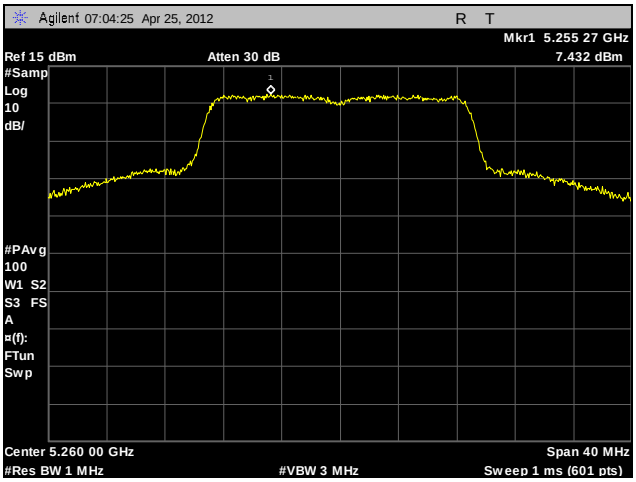
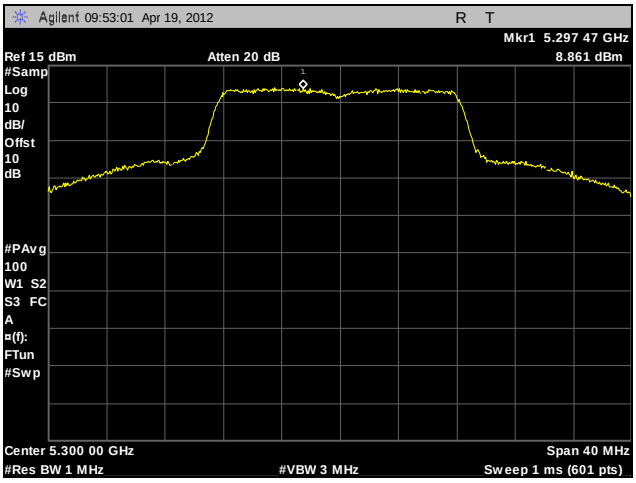
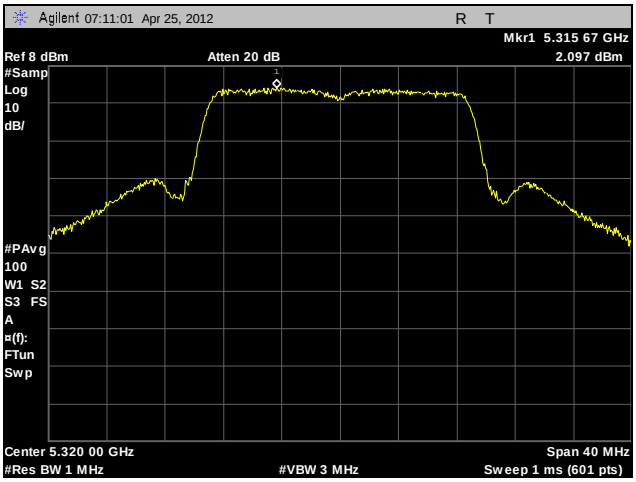
Electromagnetic Compatibility Criteria for Intentional Radiators



Plot 113. Power Spectral Density, 802.11a, A4, 5260 MHz



Plot 114. Power Spectral Density, 802.11a, A4, 5300 MHz



Plot 115. Power Spectral Density, 802.11a, A4, 5320 MHz

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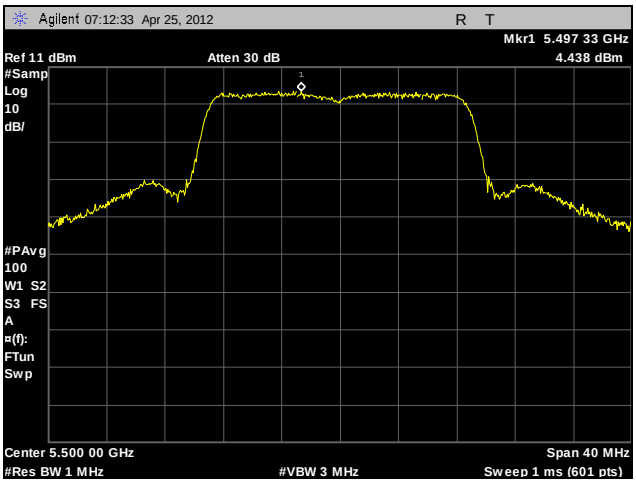
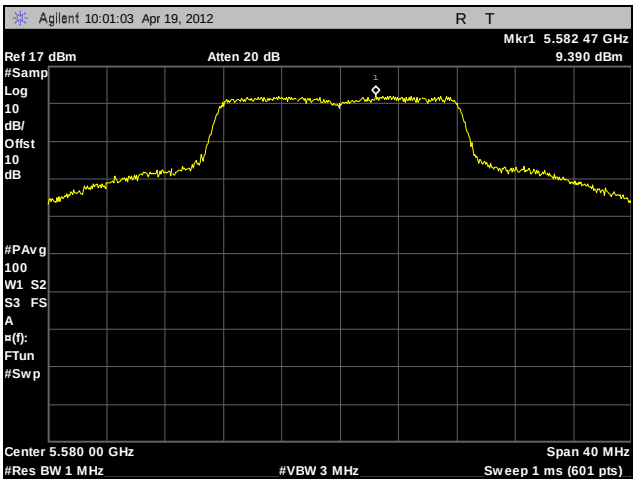
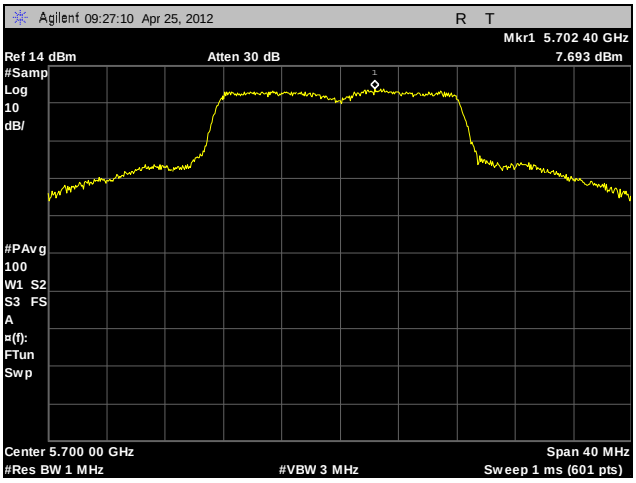


Plot 116. Power Spectral Density, 802.11a, A4, 5500 MHz



Plot 117. Power Spectral Density, 802.11a, A4, 5580 MHz



Plot 118. Power Spectral Density, 802.11a, A4, 5700 MHz

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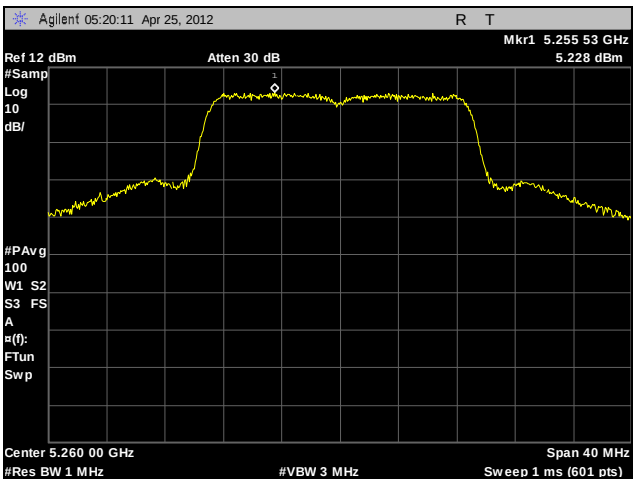
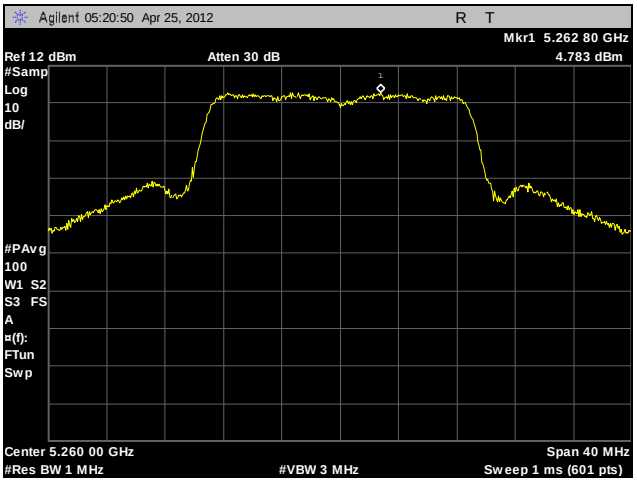
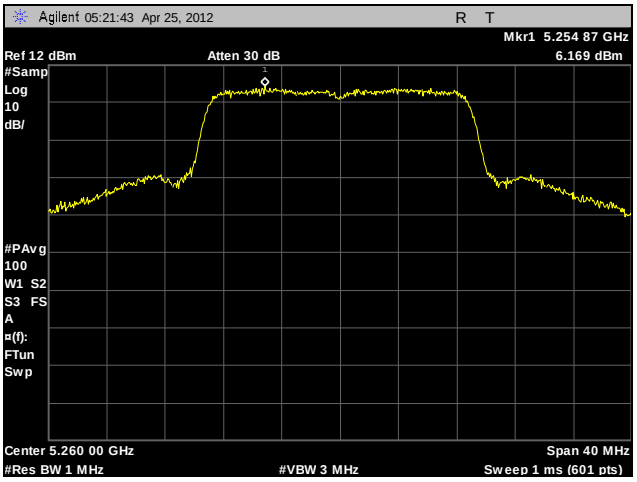


Plot 119. Power Spectral Density, 802.11n 20 MHz, A4, 5260 MHz



Plot 120. Power Spectral Density, 802.11n 20 MHz, A5, 5260 MHz



Plot 121. Power Spectral Density, 802.11n 20 MHz, A6, 5260 MHz

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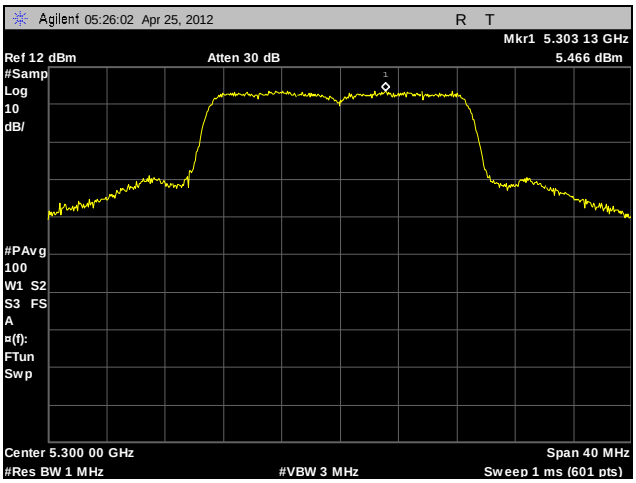
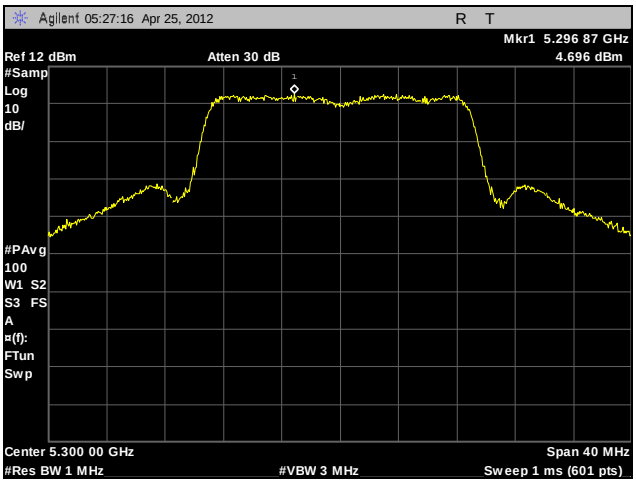
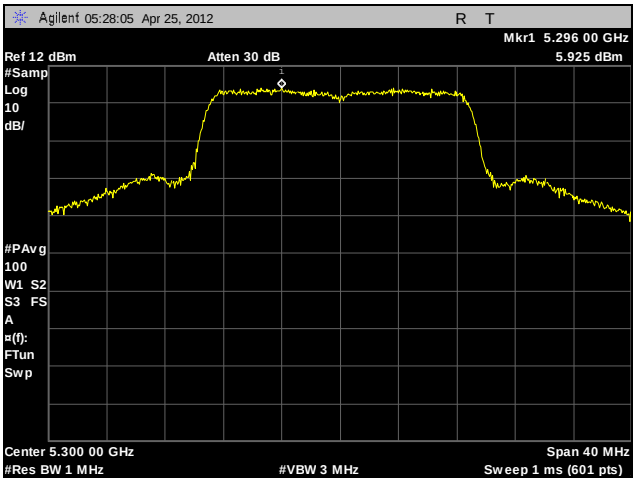


Plot 122. Power Spectral Density, 802.11n 20 MHz, A4, 5300 MHz



Plot 123. Power Spectral Density, 802.11n 20 MHz, A5, 5300 MHz



Plot 124. Power Spectral Density, 802.11n 20 MHz, A6, 5300 MHz

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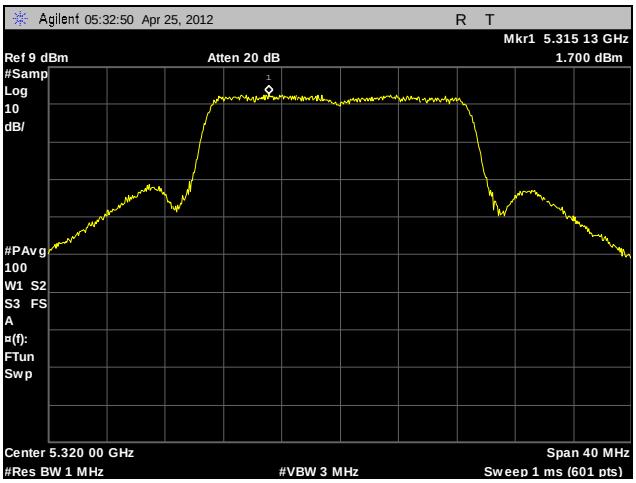
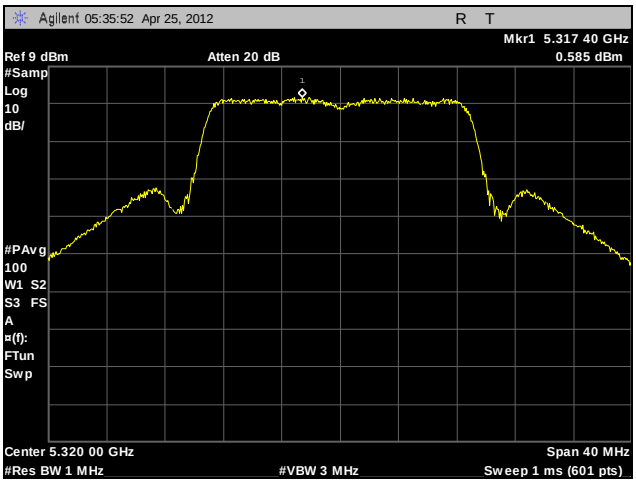
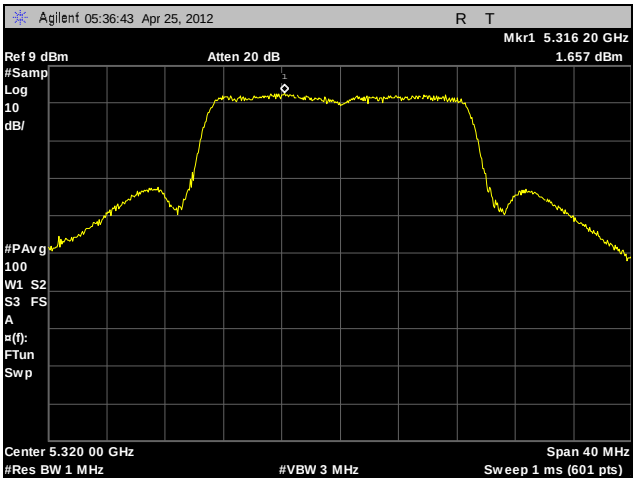


Plot 125. Power Spectral Density, 802.11n 20 MHz, A4, 5320 MHz



Plot 126. Power Spectral Density, 802.11n 20 MHz, A5, 5320 MHz



Plot 127. Power Spectral Density, 802.11n 20 MHz, A6, 5320 MHz

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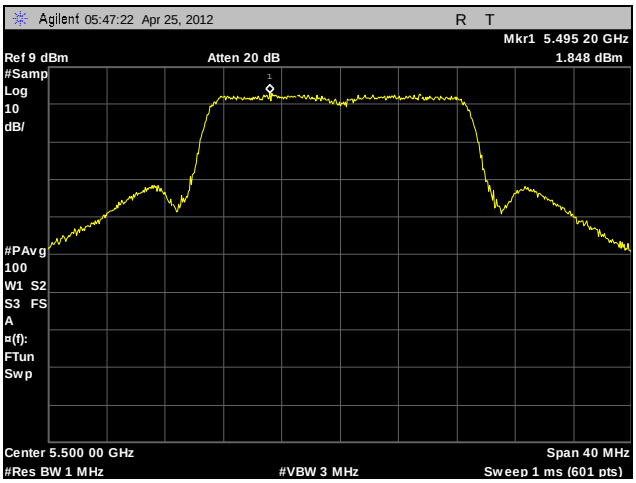
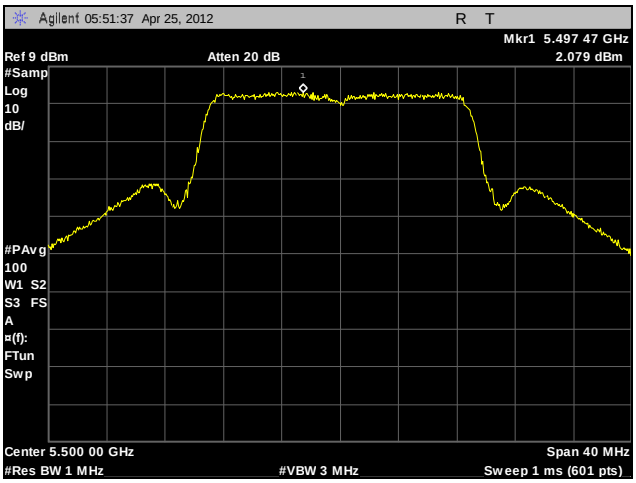
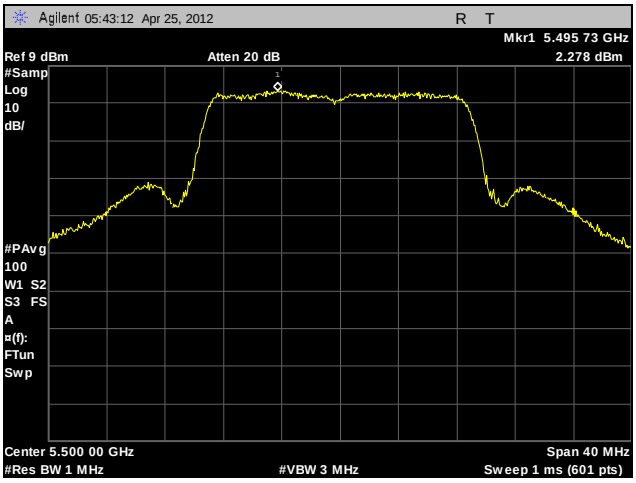


Plot 128. Power Spectral Density, 802.11n 20 MHz, A4, 5500 MHz



Plot 129. Power Spectral Density, 802.11n 20 MHz, A5, 5500 MHz



Plot 130. Power Spectral Density, 802.11n 20 MHz, A6, 5500 MHz

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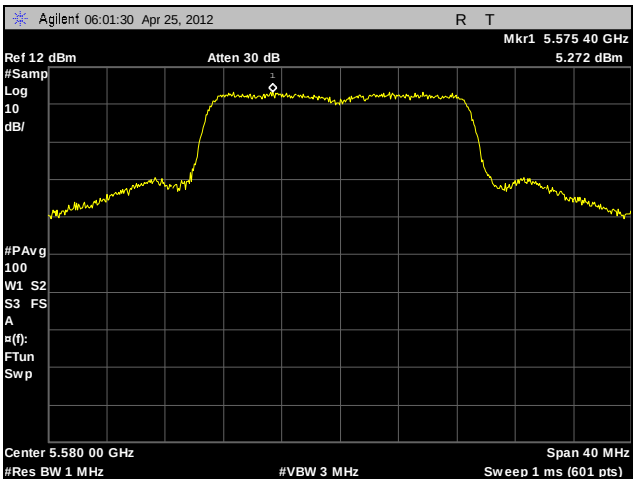
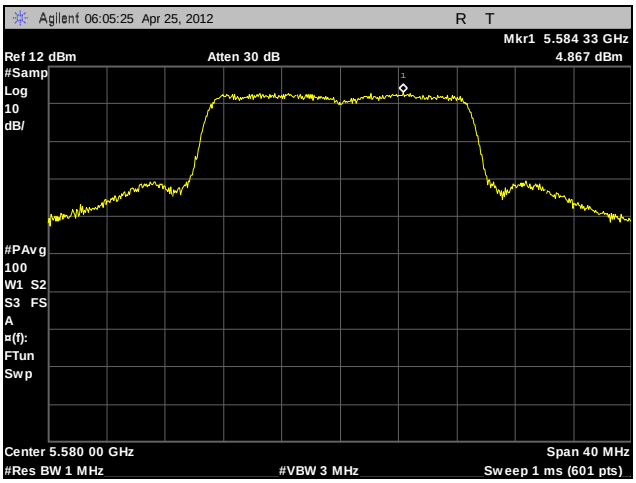
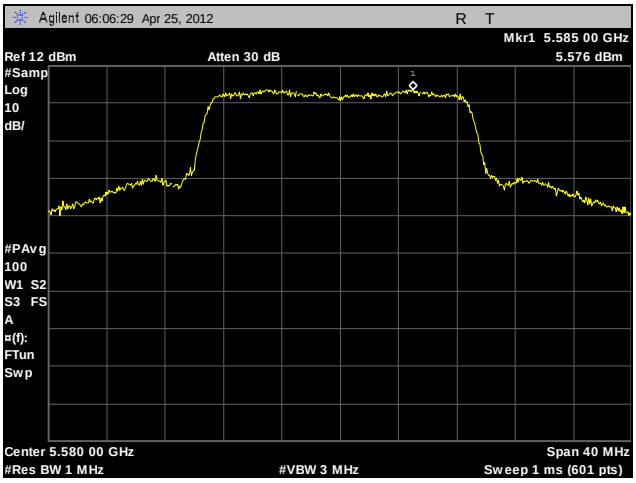


Plot 131. Power Spectral Density, 802.11n 20 MHz, A4, 5580 MHz



Plot 132. Power Spectral Density, 802.11n 20 MHz, A5, 5580 MHz



Plot 133. Power Spectral Density, 802.11n 20 MHz, A6, 5580 MHz

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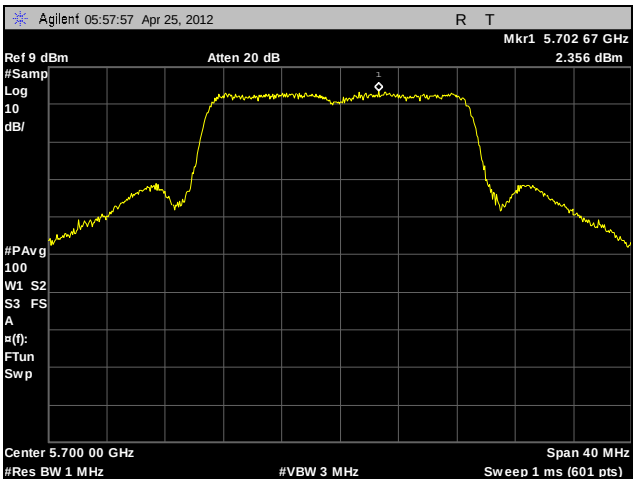
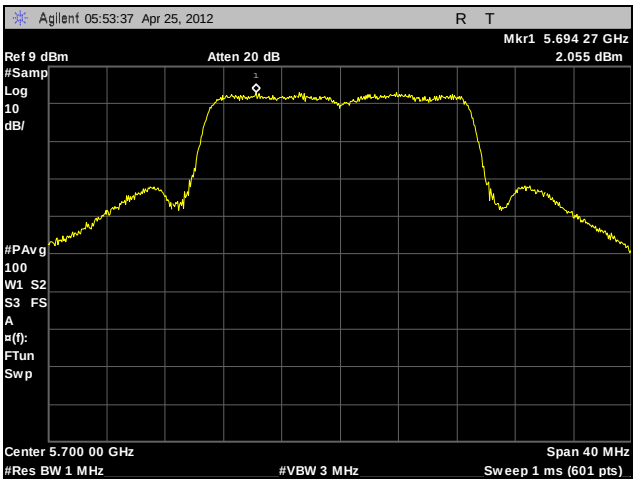
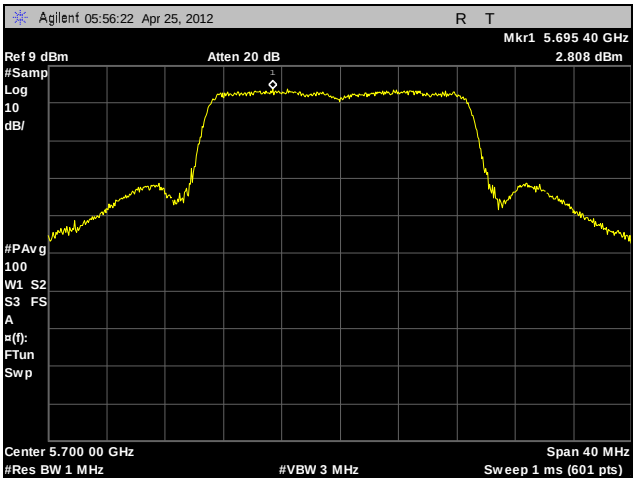


Plot 134. Power Spectral Density, 802.11n 20 MHz, A4, 5700 MHz



Plot 135. Power Spectral Density, 802.11n 20 MHz, A5, 5700 MHz



Plot 136. Power Spectral Density, 802.11n 20 MHz, A6, 5700 MHz

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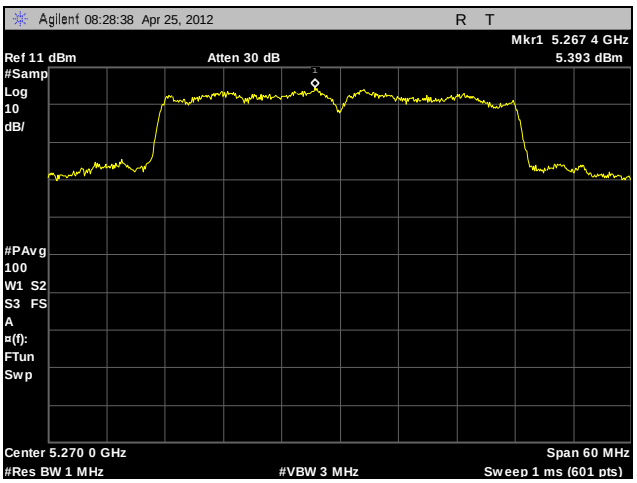
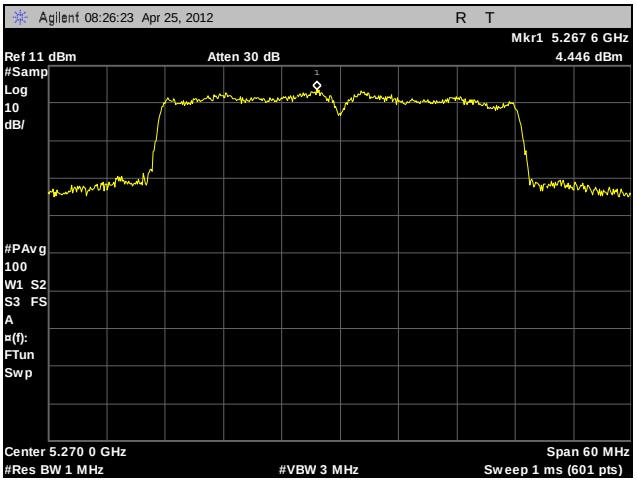
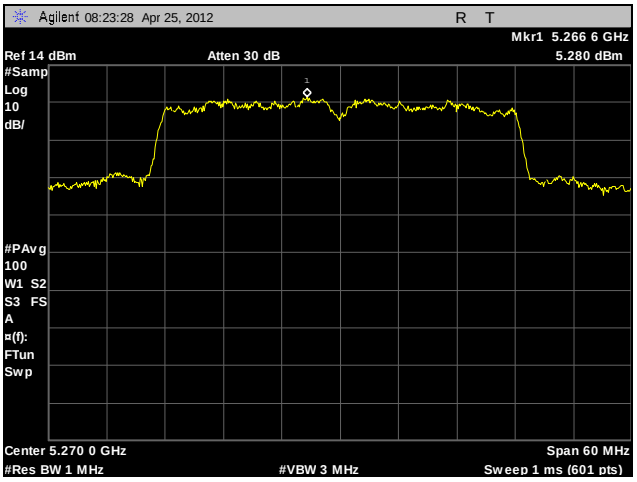


Plot 137. Power Spectral Density, 802.11n 40 MHz, A4, 5270 MHz



Plot 138. Power Spectral Density, 802.11n 40 MHz, A5, 5270 MHz



Plot 139. Power Spectral Density, 802.11n 40 MHz, A6, 5270 MHz

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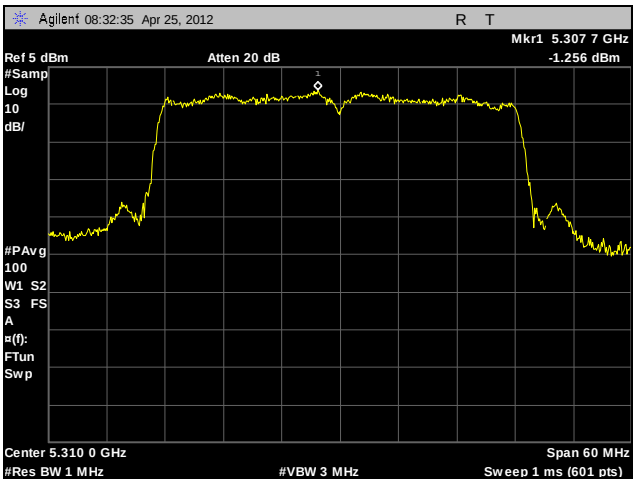
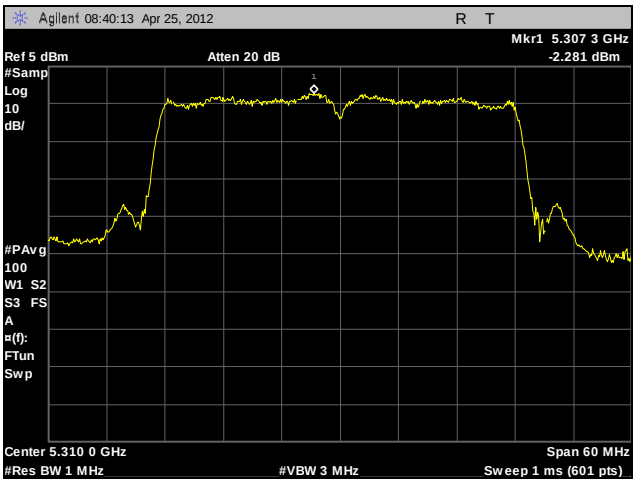
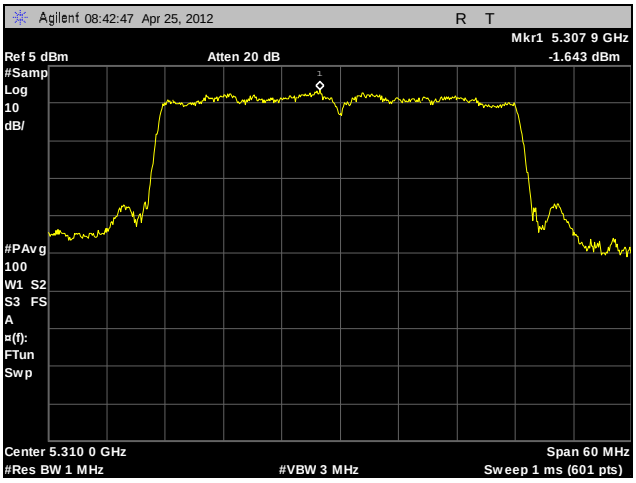


Plot 140. Power Spectral Density, 802.11n 40 MHz, A4, 5310 MHz

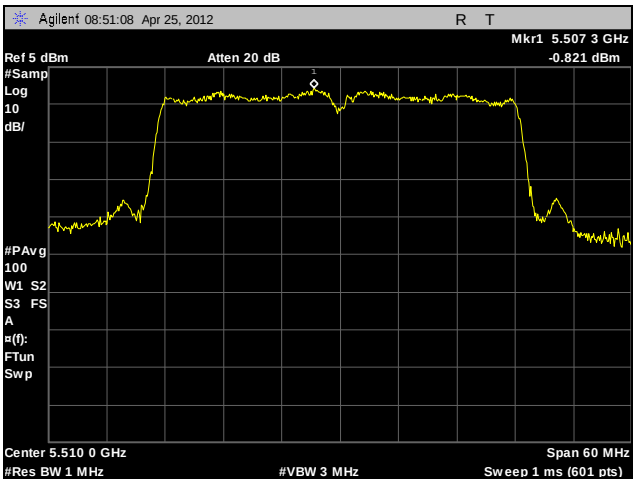


Plot 141. Power Spectral Density, 802.11n 40 MHz, A5, 5310 MHz

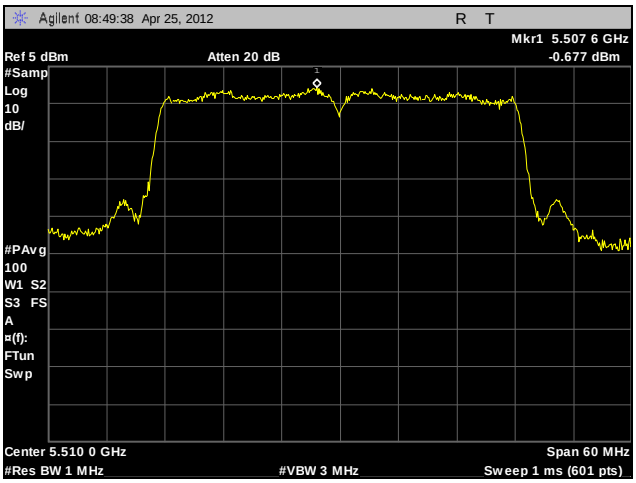


Plot 142. Power Spectral Density, 802.11n 40 MHz, A6, 5310 MHz

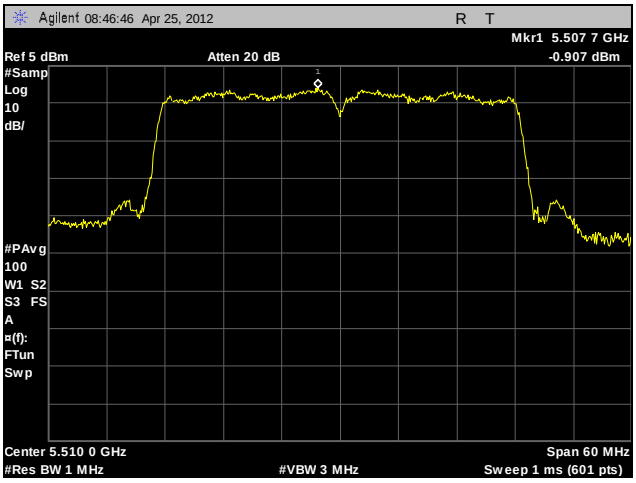
 © 2013, MET Laboratories, Inc.



Plot 143. Power Spectral Density, 802.11n 40 MHz, A4, 5510 MHz

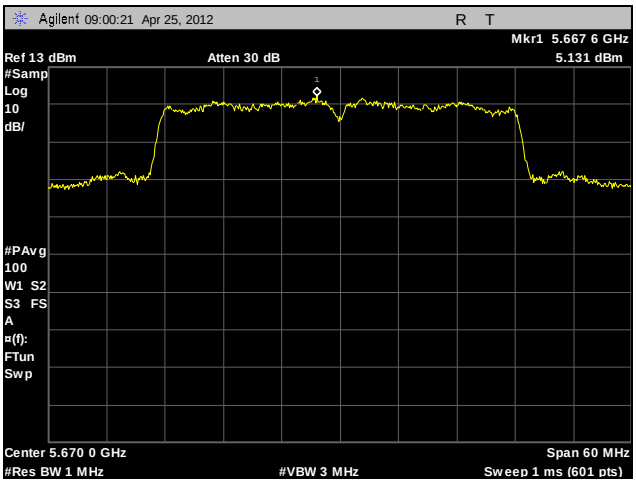


Plot 144. Power Spectral Density, 802.11n 40 MHz, A5, 5510 MHz

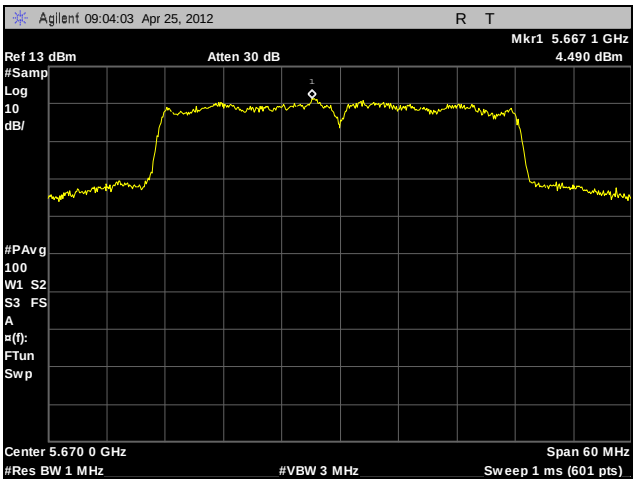


Plot 145. Power Spectral Density, 802.11n 40 MHz, A6, 5510 MHz

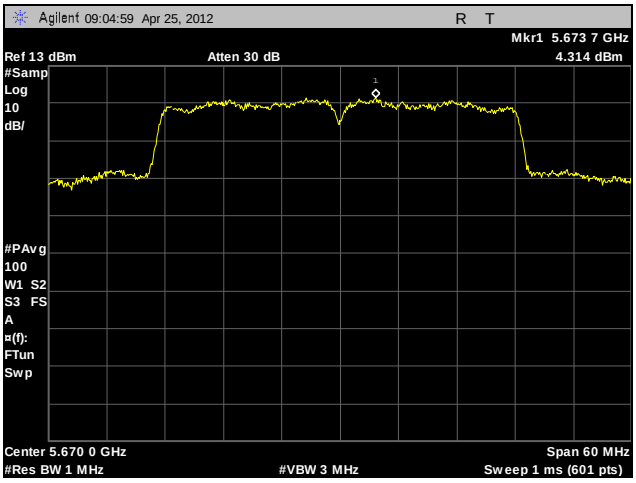
 © 2013, MET Laboratories, Inc.



Plot 146. Power Spectral Density, 802.11n 40 MHz, A4, 5670 MHz



Plot 147. Power Spectral Density, 802.11n 40 MHz, A5, 5670 MHz



Plot 148. Power Spectral Density, 802.11n 40 MHz, A6, 5670 MHz

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(a)(6) Peak Excursion Ratio

Test Requirements: **§ 15.407(a)(6):** The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Procedure: The EUT was connected directly to the spectrum analyzer through cabling and attenuation. The 1st trace on the spectrum analyzer was set to RBW=1MHz, VBW=3MHz. The peak detector mode was used and the trace max held. The 2nd trace on the spectrum analyzer was set according to measurement Method SA-1 from FCC Publication 789033 for making conducted power measurements.

Test Results: Equipment was compliant with the peak excursion ratio limits of **§ 15.407(a)(6).** The peak excursion ratio was determined from plots on the following page(s).

Test Engineer(s): Jeff Pratt

Test Date(s): 04/25/12 – 04/26/12

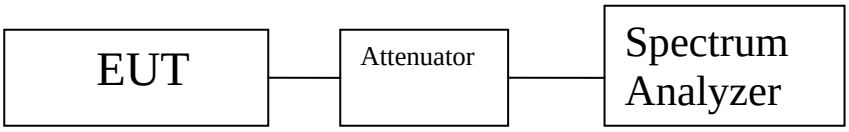

Figure 5. Peak Excursion Ration Test Setup

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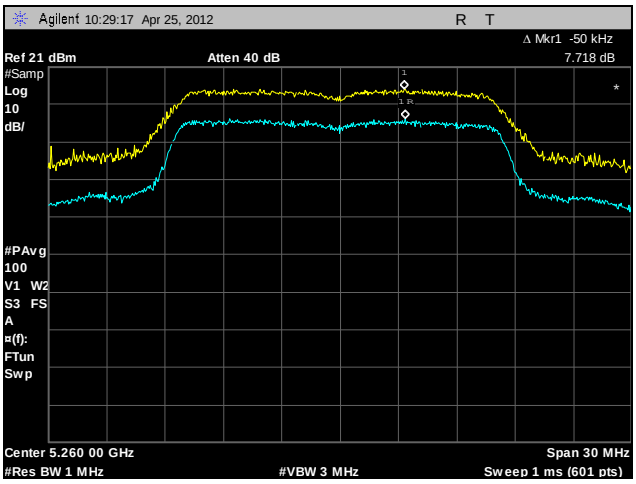
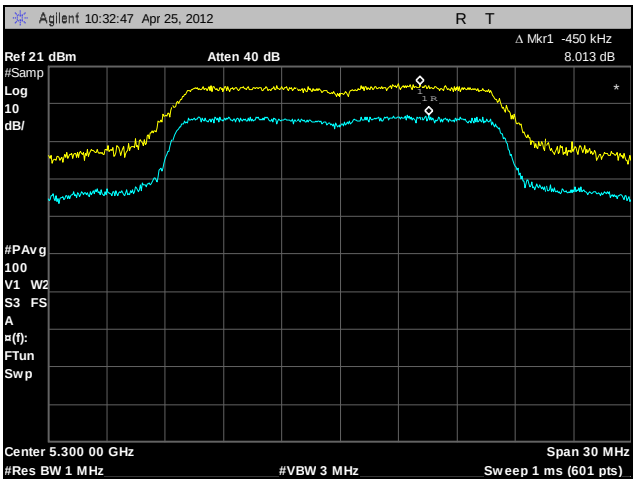
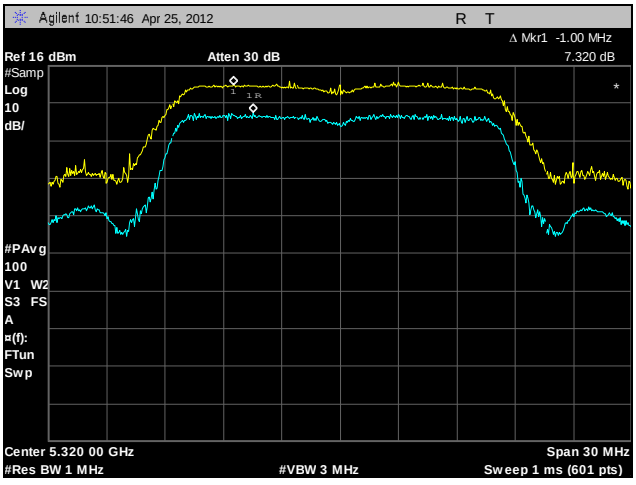


Plot 149. Peak Excursion Ratio, 802.11a, A4, 5260 MHz



Plot 150. Peak Excursion Ratio, 802.11a, A4, 5300 MHz



Plot 151. Peak Excursion Ratio, 802.11a, A4, 5320 MHz

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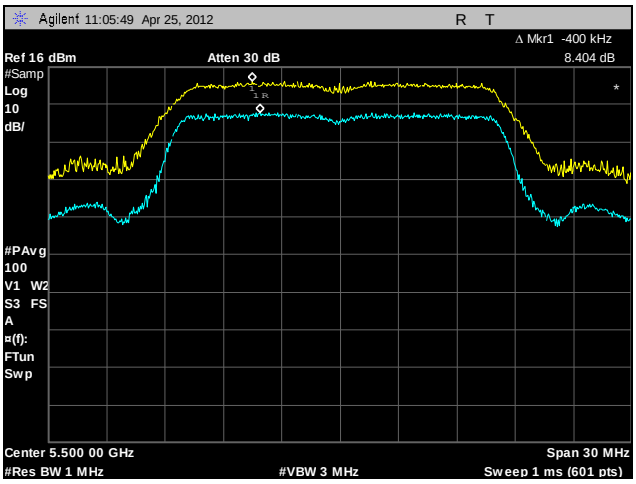
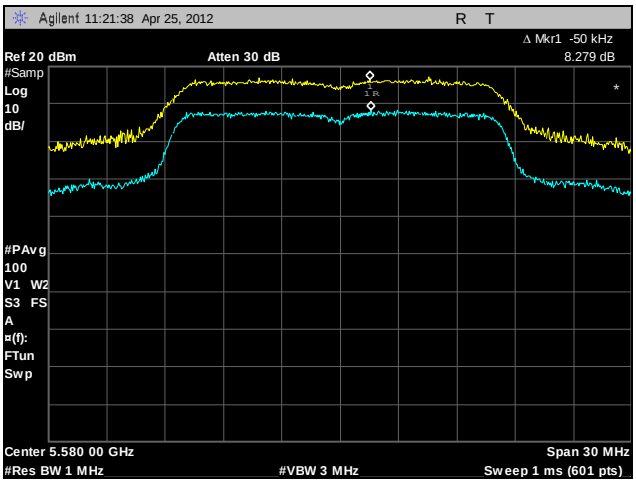
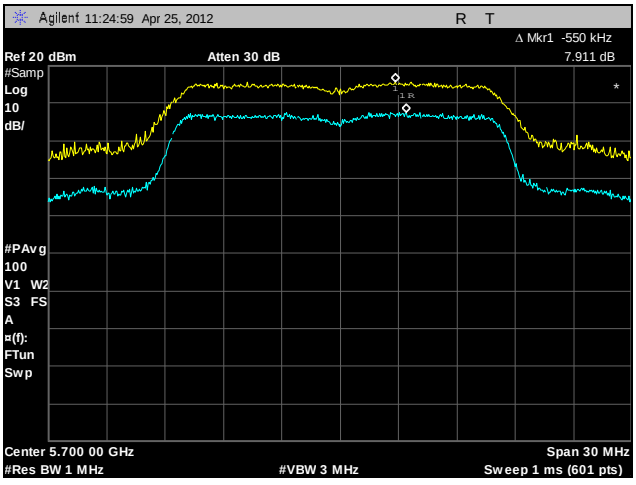


Plot 152. Peak Excursion Ratio, 802.11a, A4, 5500 MHz



Plot 153. Peak Excursion Ratio, 802.11a, A4, 5580 MHz



Plot 154. Peak Excursion Ratio, 802.11a, A4, 5700 MHz

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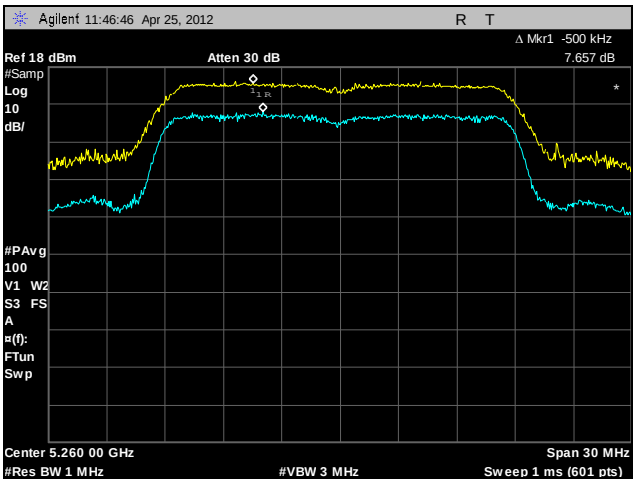
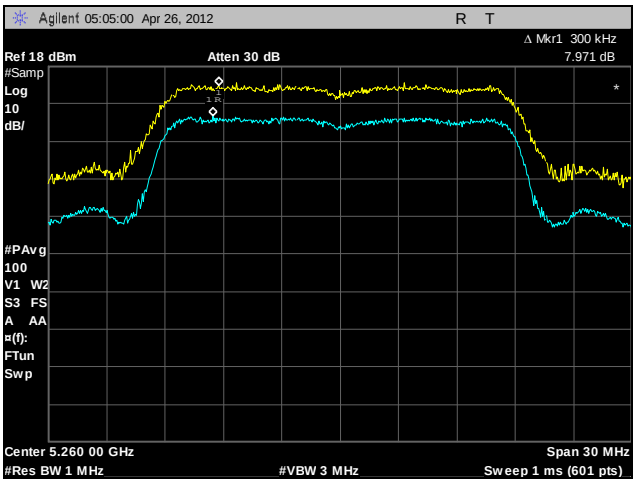
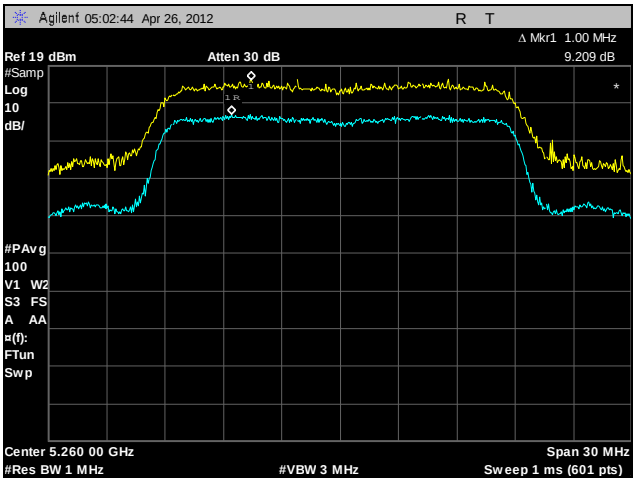


Plot 155. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5260 MHz



Plot 156. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5260 MHz



Plot 157. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5260 MHz

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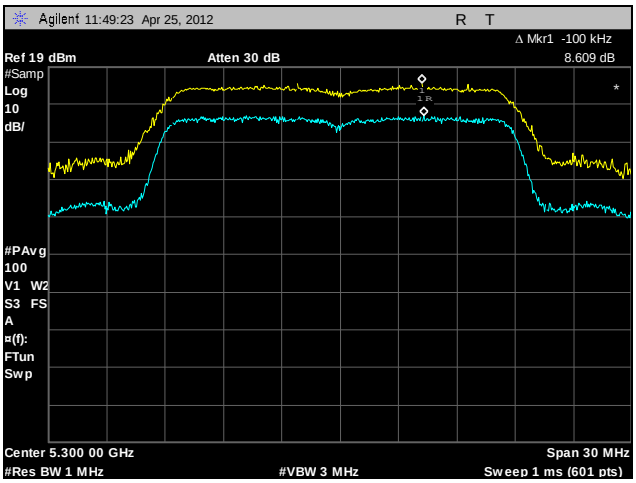
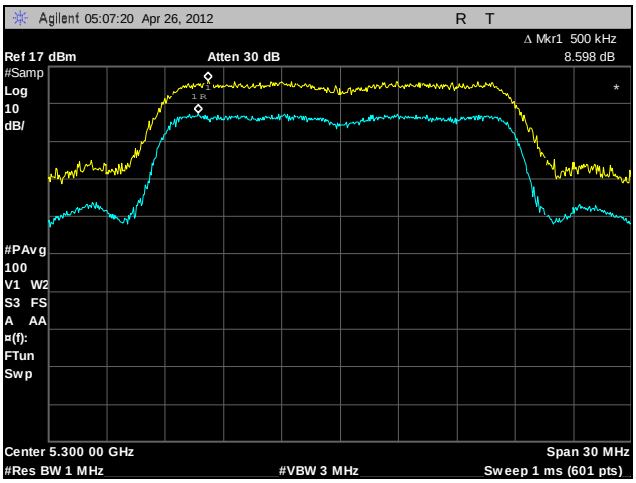
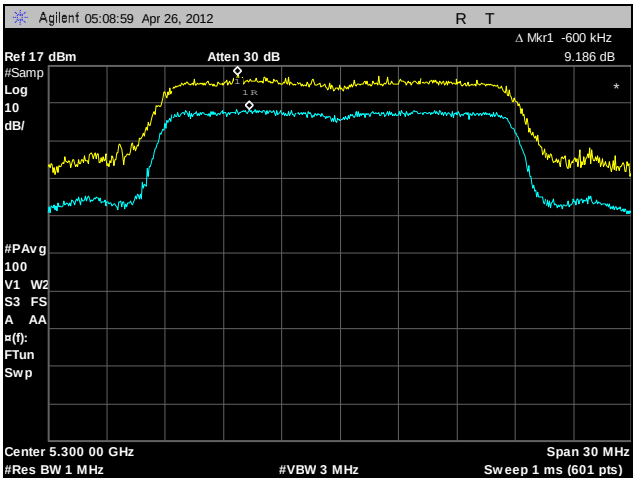


Plot 158. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5300 MHz



Plot 159. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5300 MHz



Plot 160. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5300 MHz

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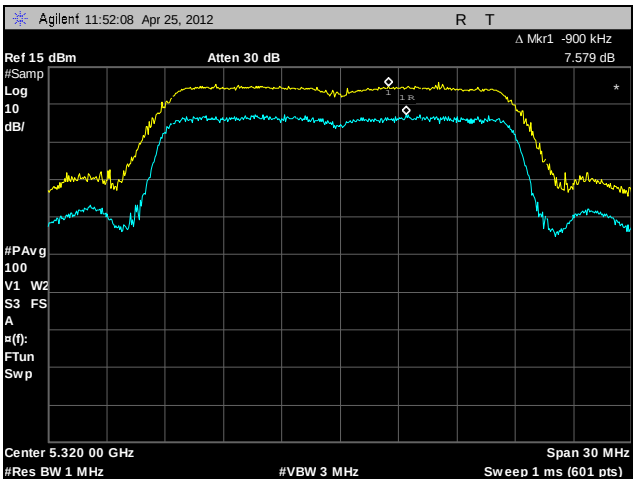
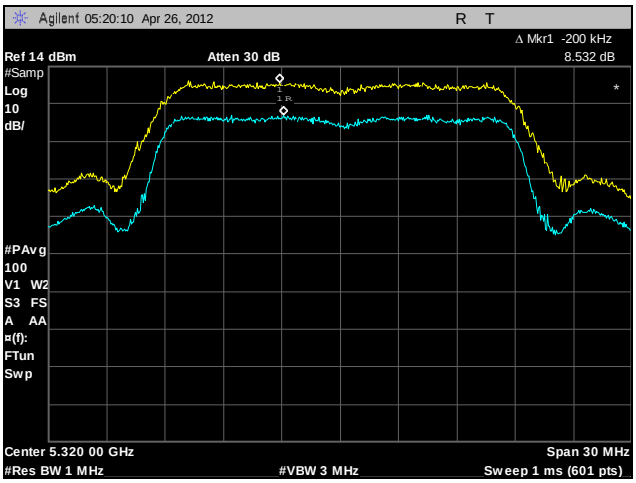
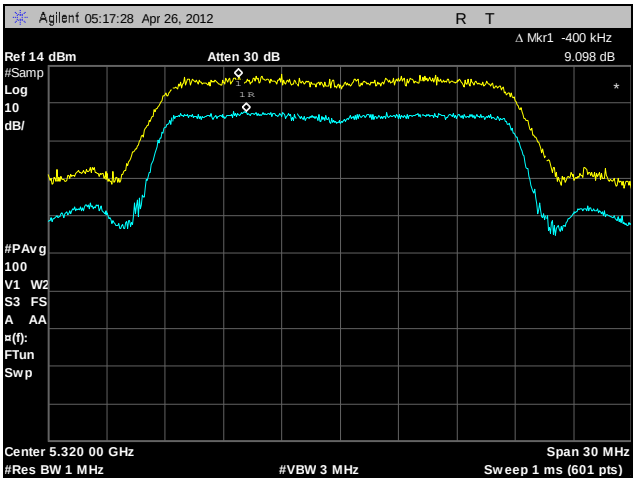


Plot 161. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5320 MHz



Plot 162. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5320 MHz



Plot 163. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5320 MHz

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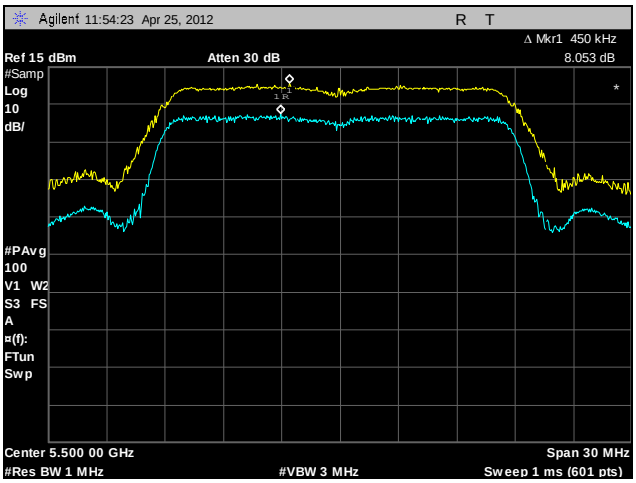
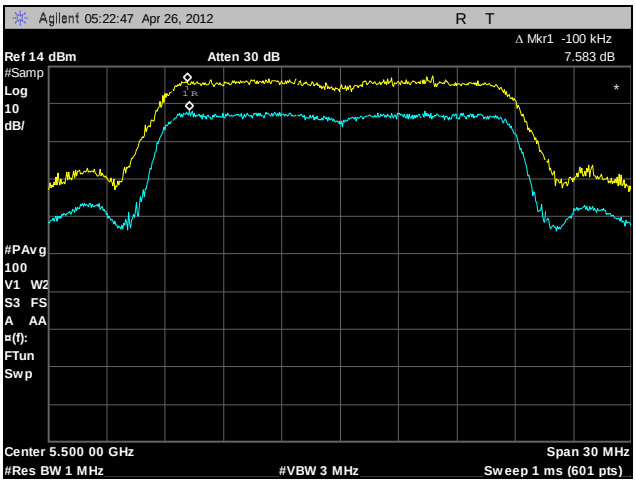
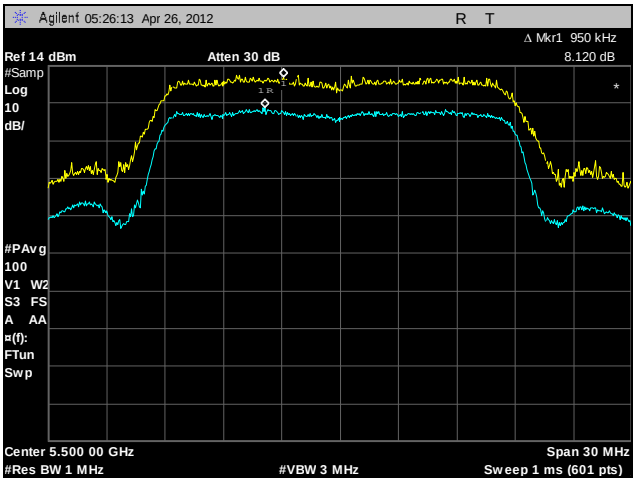


Plot 164. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5500 MHz



Plot 165. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5500 MHz



Plot 166. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5500 MHz

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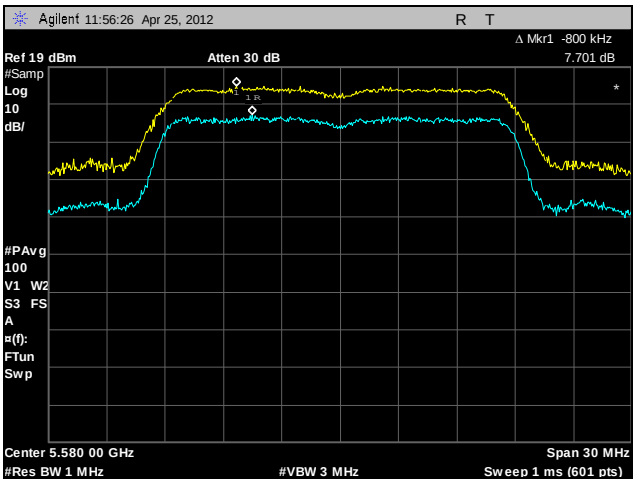
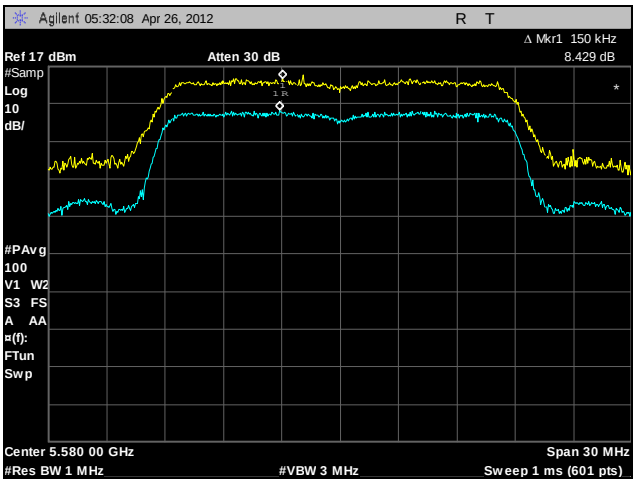
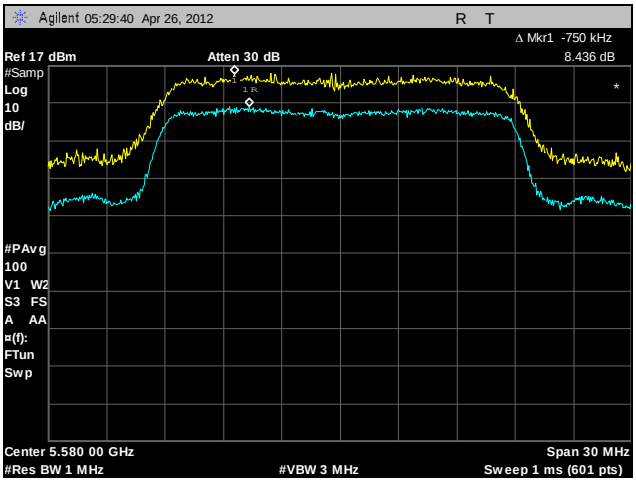


Plot 167. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5580 MHz



Plot 168. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5580 MHz



Plot 169. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5580 MHz

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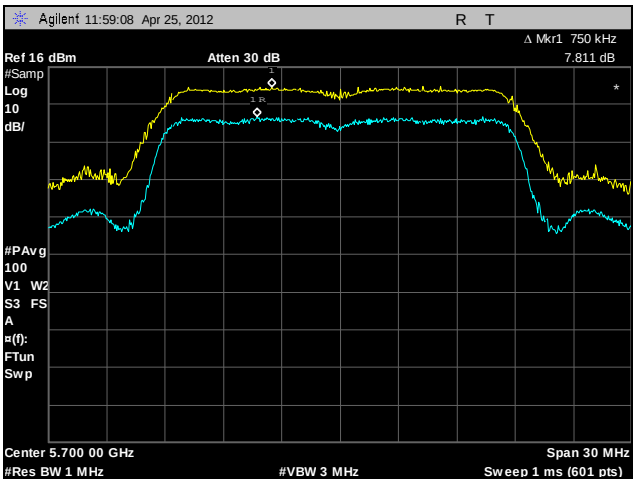
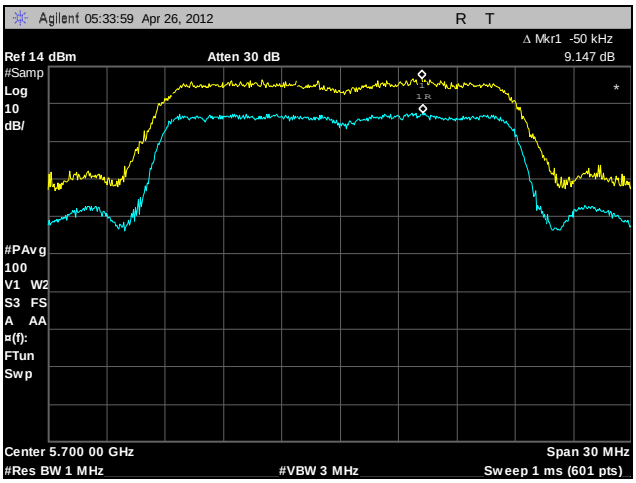
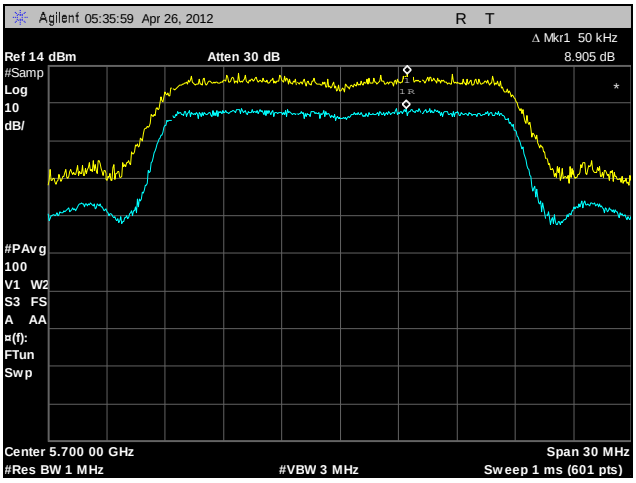


Plot 170. Peak Excursion Ratio, 802.11n 20 MHz, A4, 5700 MHz



Plot 171. Peak Excursion Ratio, 802.11n 20 MHz, A5, 5700 MHz



Plot 172. Peak Excursion Ratio, 802.11n 20 MHz, A6, 5700 MHz

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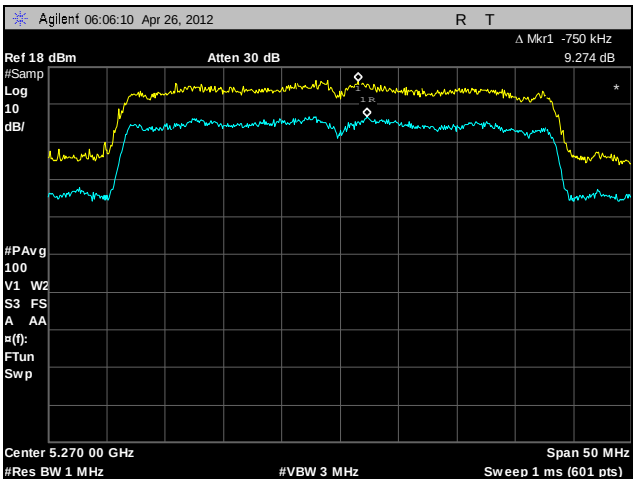
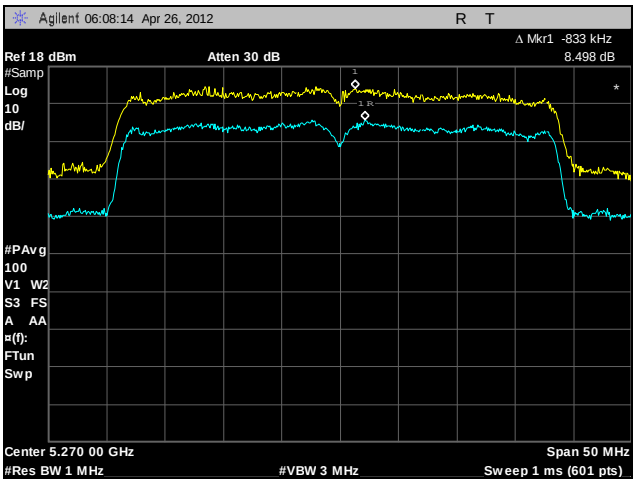
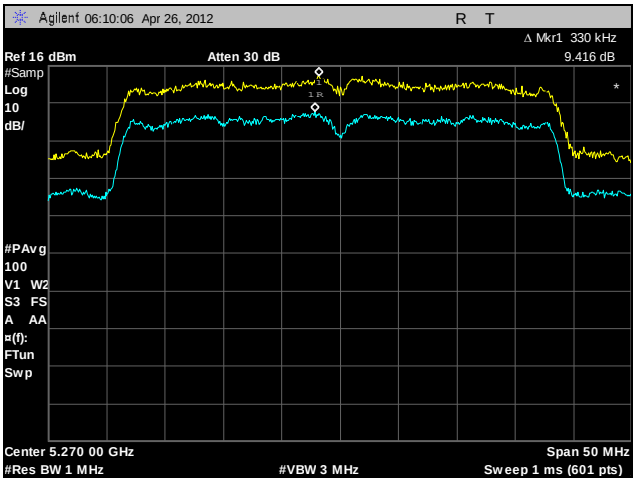


Plot 173. Peak Excursion Ratio, 802.11n 40 MHz, A4, 5270 MHz



Plot 174. Peak Excursion Ratio, 802.11n 40 MHz, A5, 5270 MHz



Plot 175. Peak Excursion Ratio, 802.11n 40 MHz, A6, 5270 MHz

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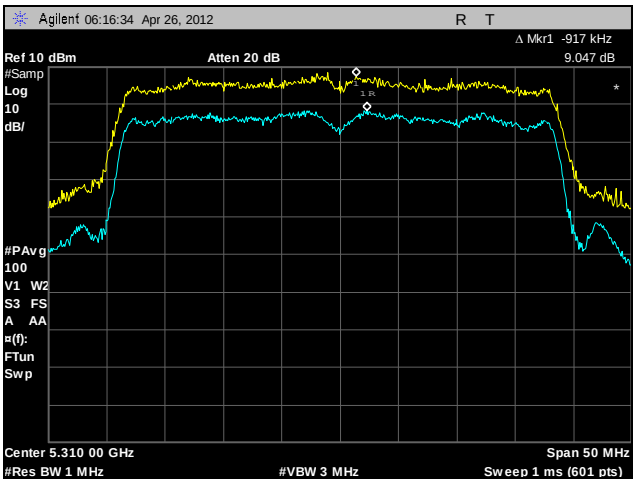
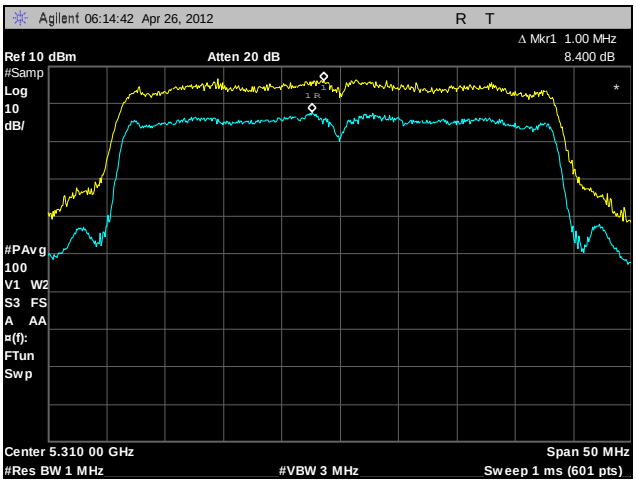
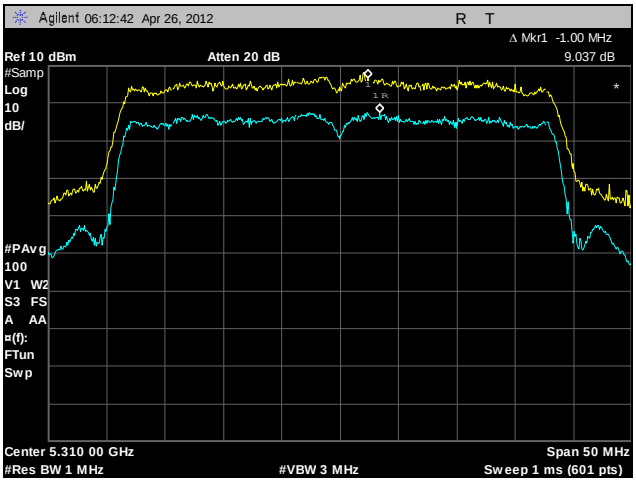


Plot 176. Peak Excursion Ratio, 802.11n 40 MHz, A4, 5310 MHz



Plot 177. Peak Excursion Ratio, 802.11n 40 MHz, A5, 5310 MHz



Plot 178. Peak Excursion Ratio, 802.11n 40 MHz, A6, 5310 MHz

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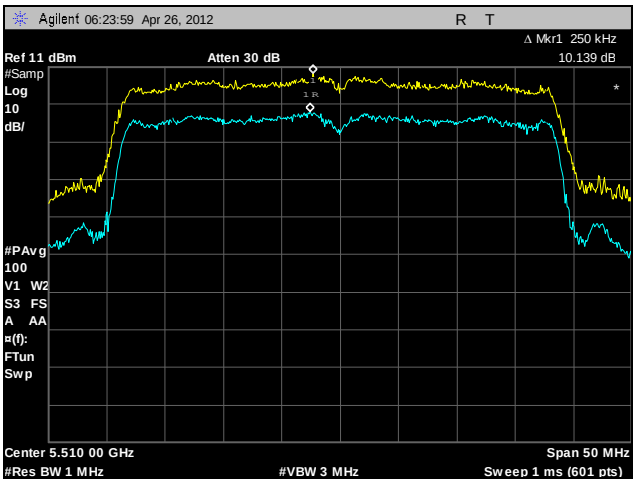
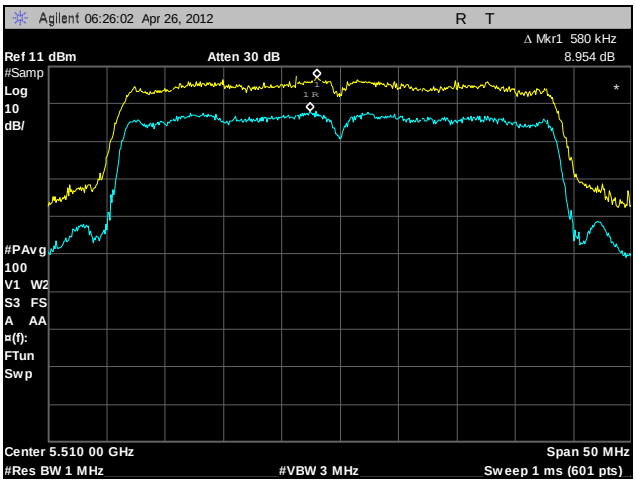
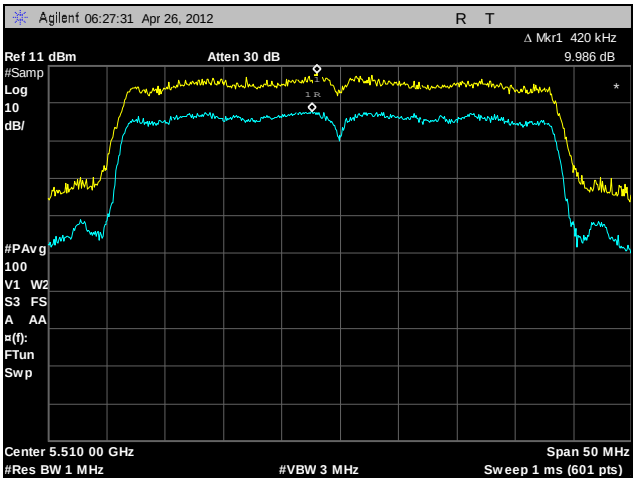


Plot 179. Peak Excursion Ratio, 802.11n 40 MHz, A4, 5510 MHz



Plot 180. Peak Excursion Ratio, 802.11n 40 MHz, A5, 5510 MHz



Plot 181. Peak Excursion Ratio, 802.11n 40 MHz, A6, 5510 MHz

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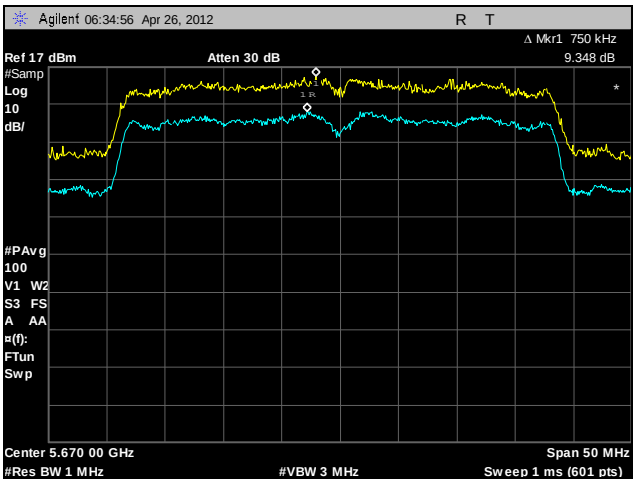
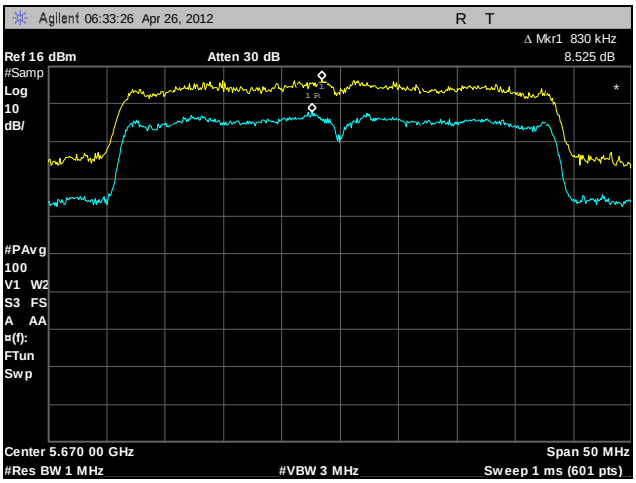
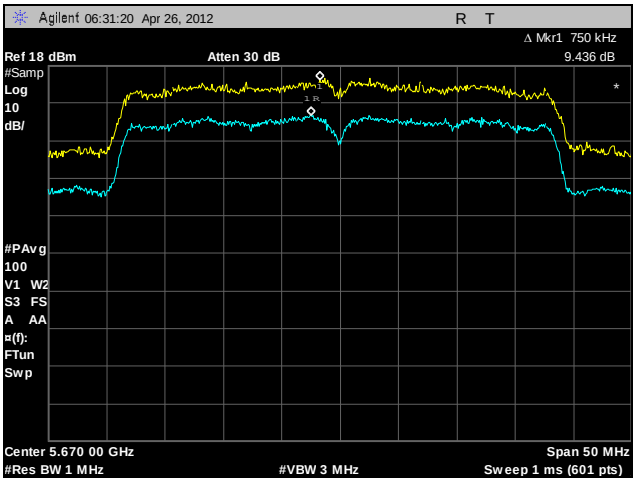


Plot 182. Peak Excursion Ratio, 802.11n 40 MHz, A4, 5670 MHz



Plot 183. Peak Excursion Ratio, 802.11n 40 MHz, A5, 5670 MHz



Plot 184. Peak Excursion Ratio, 802.11n 40 MHz, A6, 5670 MHz

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(b)(2), (3), (6), (7) Undesirable Emissions

Test Requirements: **§ 15.407(b)(2), (3), (6), (7)**; **§15.205:** Emissions outside the frequency band.

§ 15.407(b)(2): For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.

§ 15.407(b)(3): For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz**.**

§ 15.407(b)(6): Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.

§ 15.407(b)(7): The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

Test Procedure: The transmitter was placed on an acrylic stand inside in a semi-anechoic chamber. Measurements were performed with the EUT rotated 360 degrees and varying the adjustable antenna mast height to determine worst case orientation for maximum emissions.

For frequencies from 30 MHz to 1 GHz, measurements were made using a quasi-peak detector with a 120 kHz bandwidth.

For measurements above 1 GHz, measurements were made with a Peak detector with 1 MHz resolution bandwidth. Where the spurious emissions fell into a restricted band, measurements were also made with an average detector to make sure they complied with 15.209 limits. Emissions were explored up to 40 GHz.
The equation, **EIRP= E + 20 log D – 104.8** was used to convert an EIRP limit to a field strength limit.
E = field strength (dBUv/m)
D = Reference measurement distance

Test Results: The EUT was compliant with the Radiated Emission limits for Intentional Radiators. See following pages for detailed test results.

Test Engineer(s): Jeff Pratt

Test Date(s): 04/16/12 – 10/08/12

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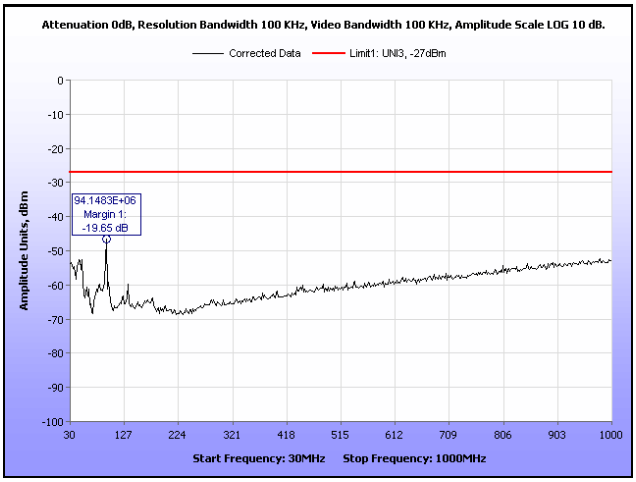
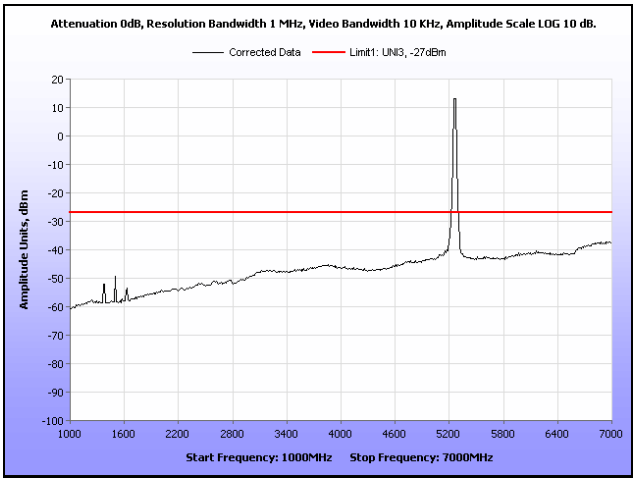
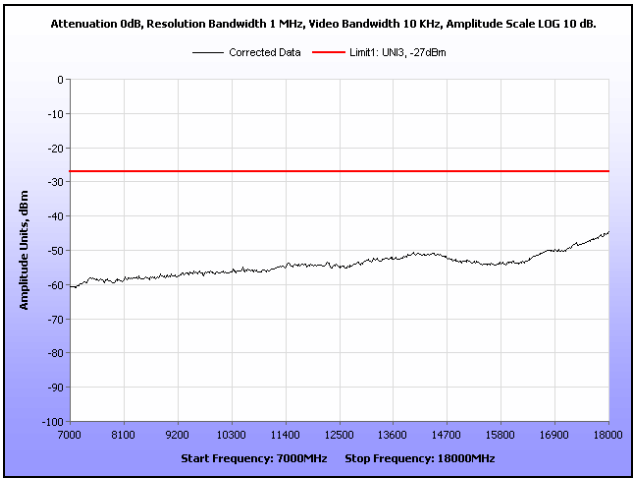
Radiated Emissions Limits



Plot 185. Radiated Spurious Emissions, 802.11a, 5260 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 186. Radiated Spurious Emissions, 802.11a, 5260 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 187. Radiated Spurious Emissions, 802.11a, 5260 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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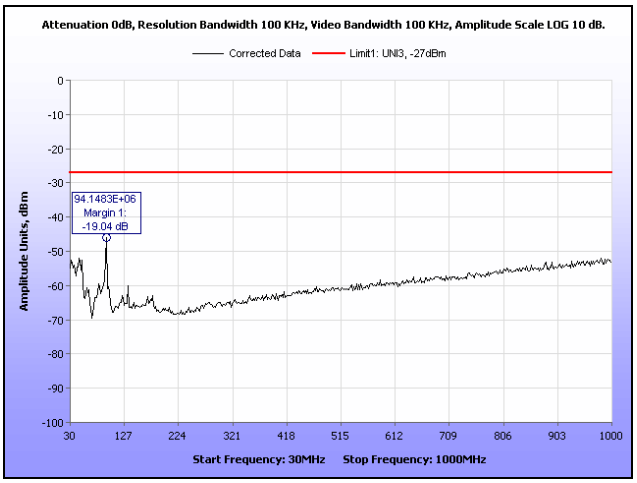
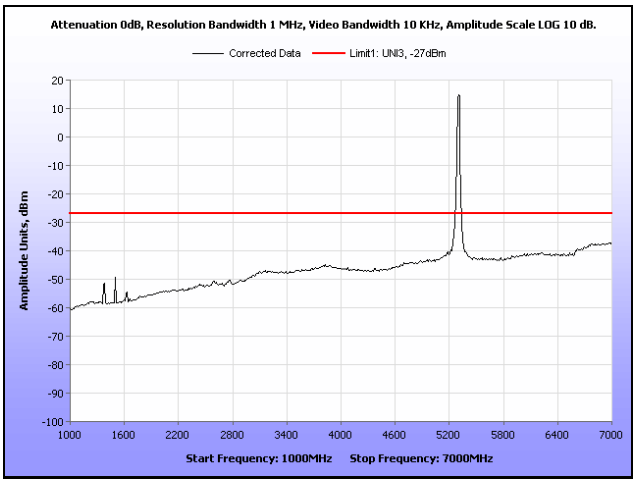
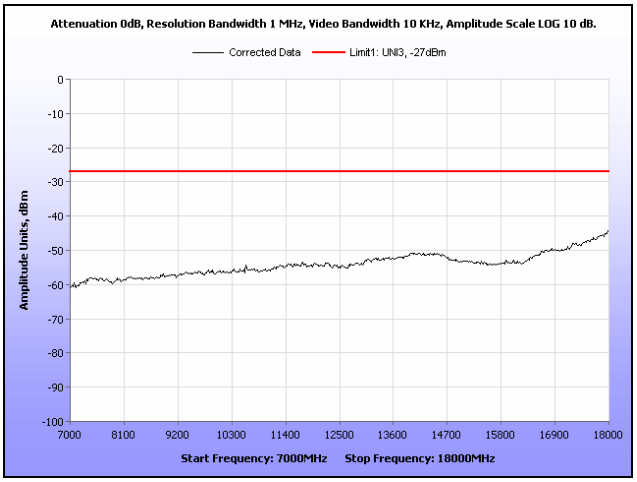


Plot 188. Radiated Spurious Emissions, 802.11a, 5300 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 189. Radiated Spurious Emissions, 802.11a, 5300 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 190. Radiated Spurious Emissions, 802.11a, 5300 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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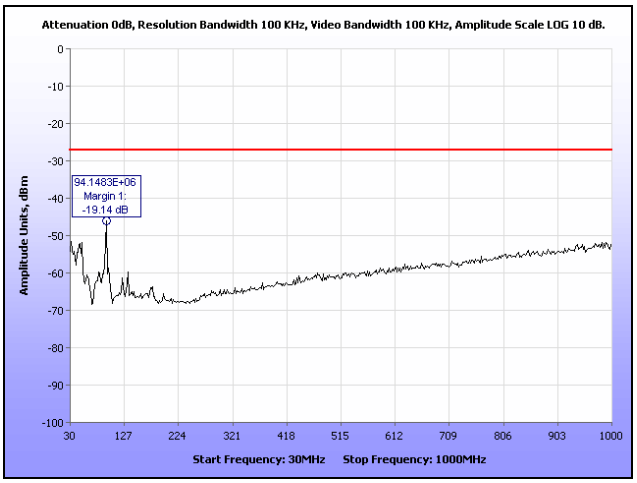
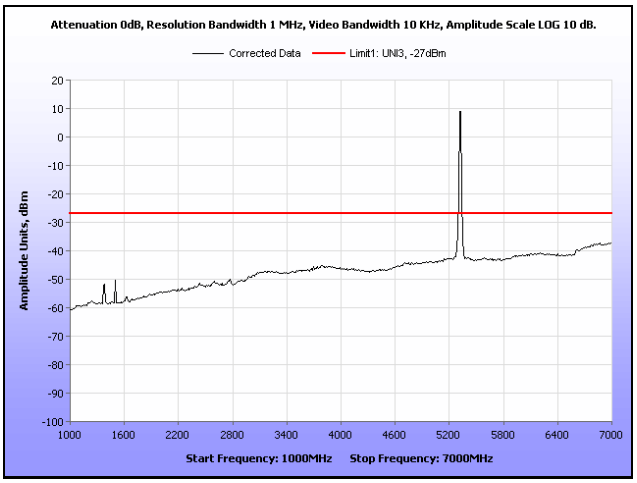
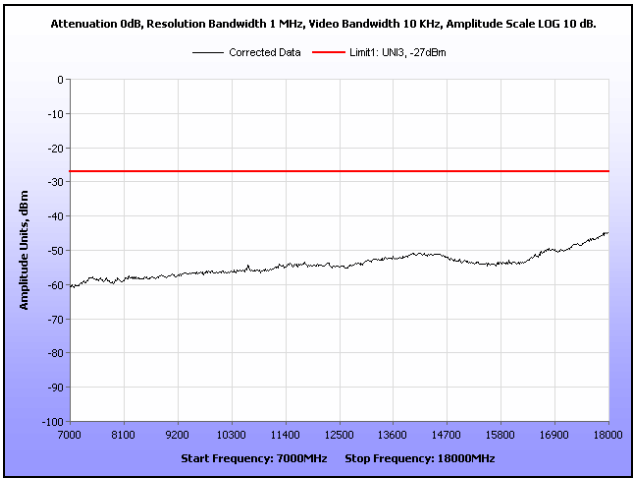


Plot 191. Radiated Spurious Emissions, 802.11a, 5320 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 192. Radiated Spurious Emissions, 802.11a, 5320 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 193. Radiated Spurious Emissions, 802.11a, 5320 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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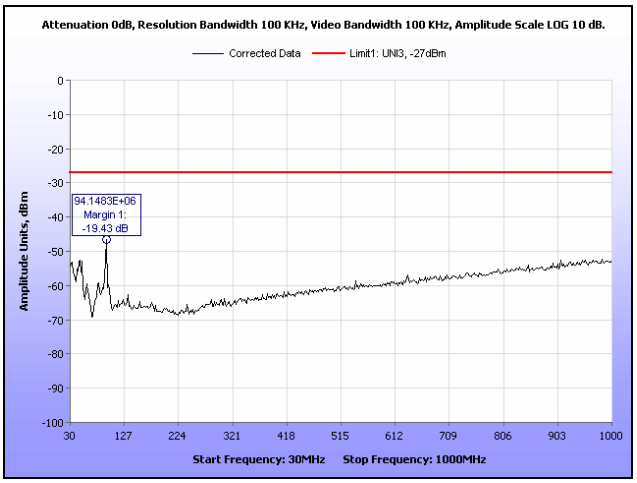
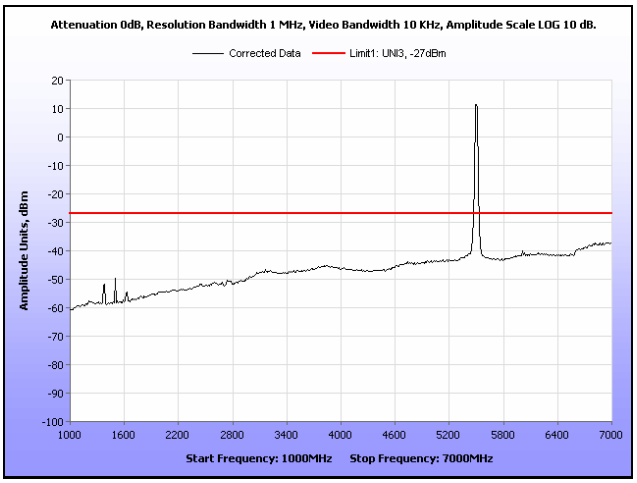
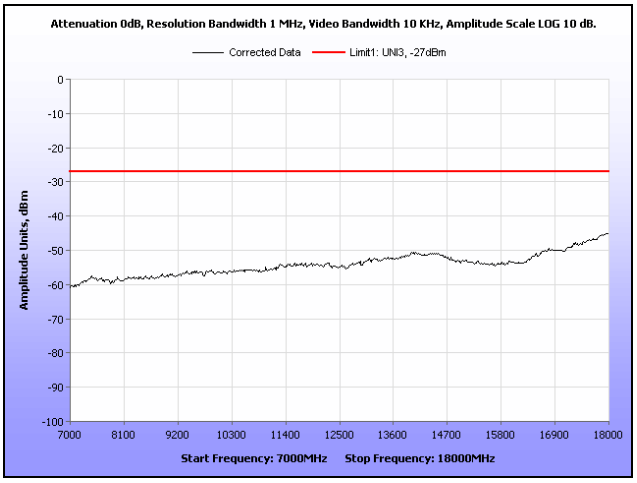


Plot 194. Radiated Spurious Emissions, 802.11a, 5500 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 195. Radiated Spurious Emissions, 802.11a, 5500 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 196. Radiated Spurious Emissions, 802.11a, 5500 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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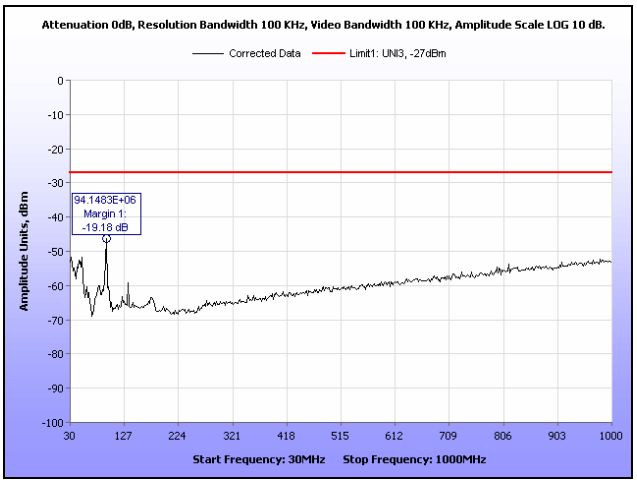
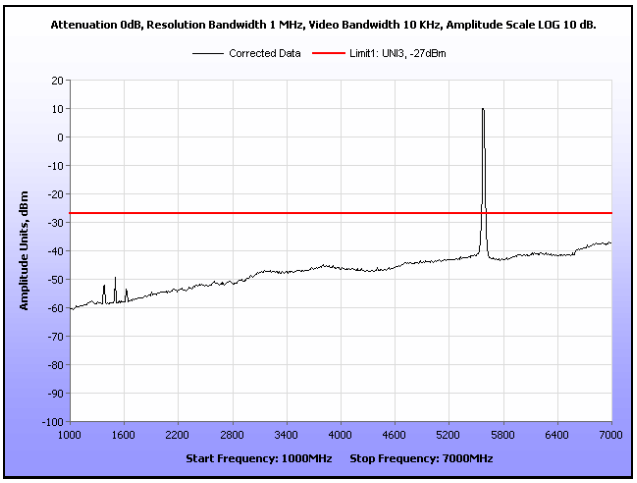
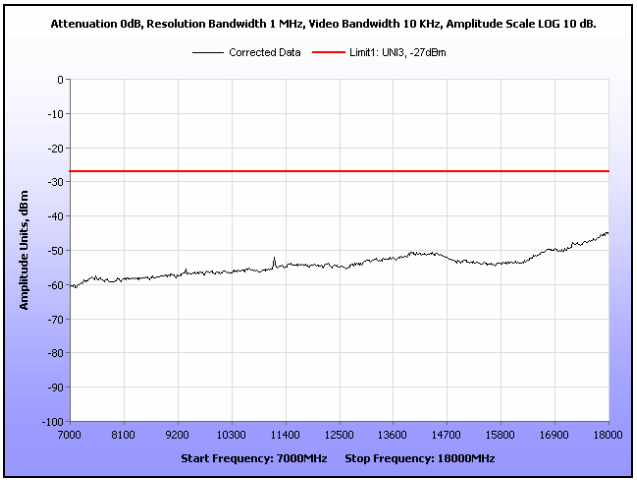


Plot 197. Radiated Spurious Emissions, 802.11a, 5580 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 198. Radiated Spurious Emissions, 802.11a, 5580 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 199. Radiated Spurious Emissions, 802.11a, 5580 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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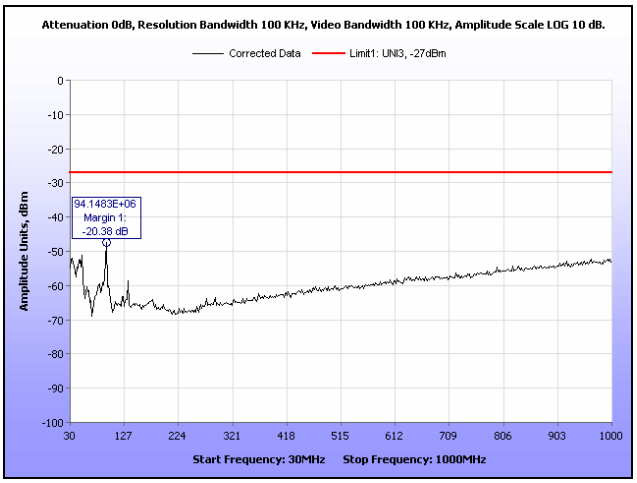
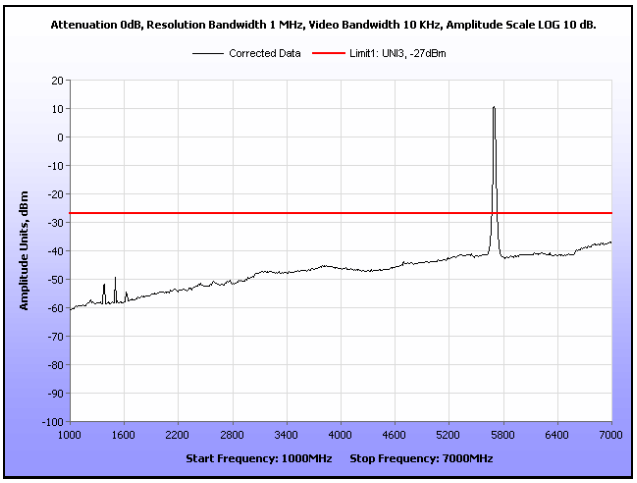
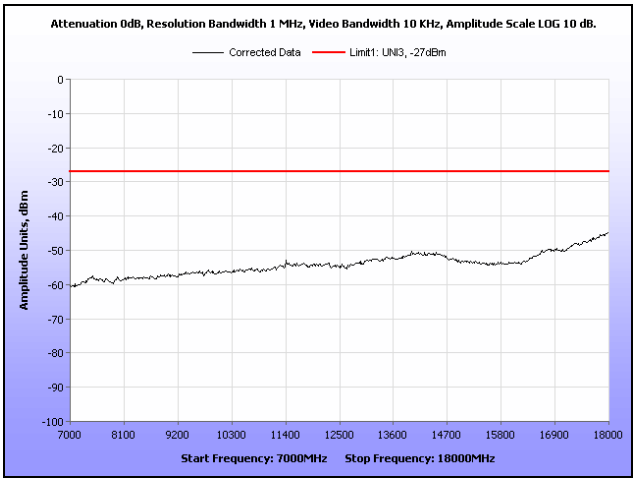


Plot 200. Radiated Spurious Emissions, 802.11a, 5700 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 201. Radiated Spurious Emissions, 802.11a, 5700 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 202. Radiated Spurious Emissions, 802.11a, 5700 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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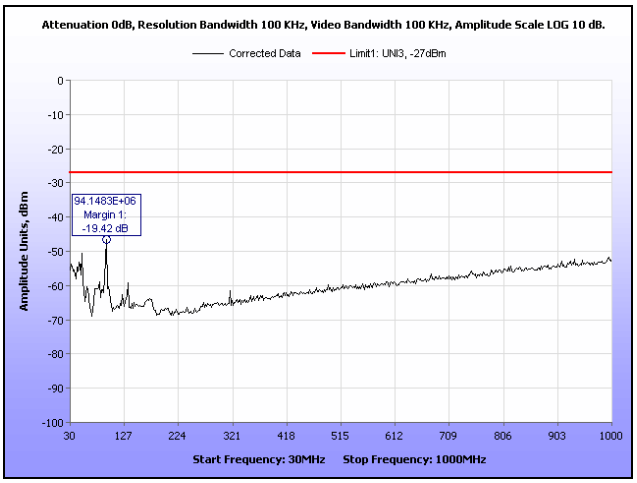
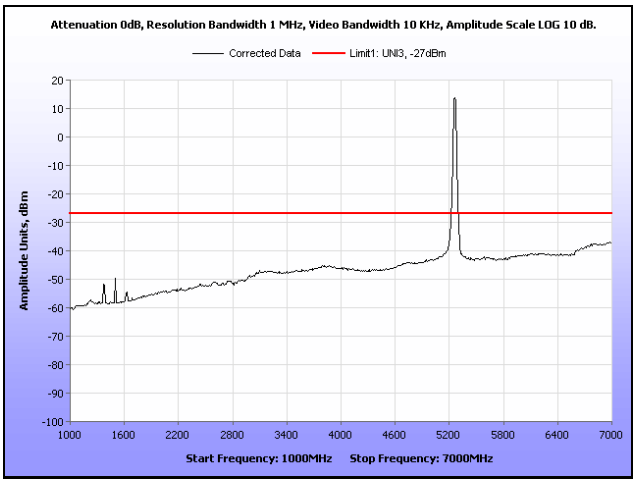
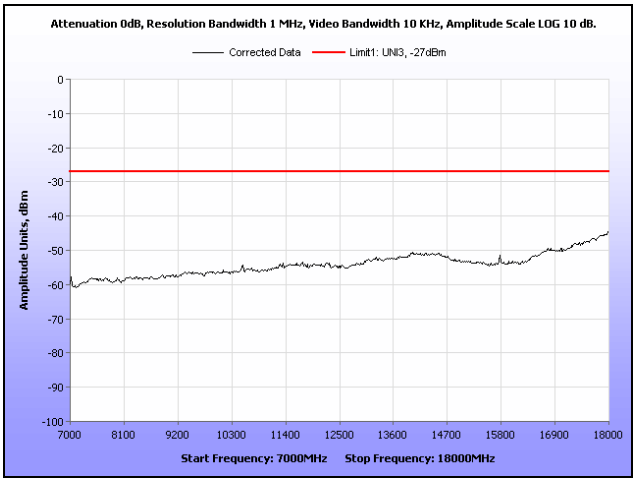


Plot 203. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 204. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 205. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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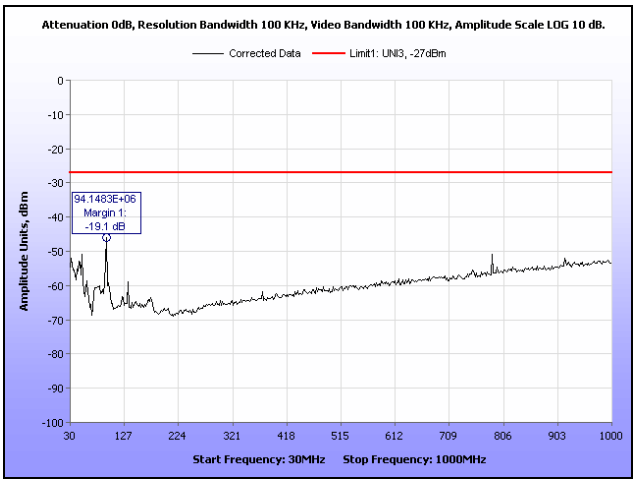
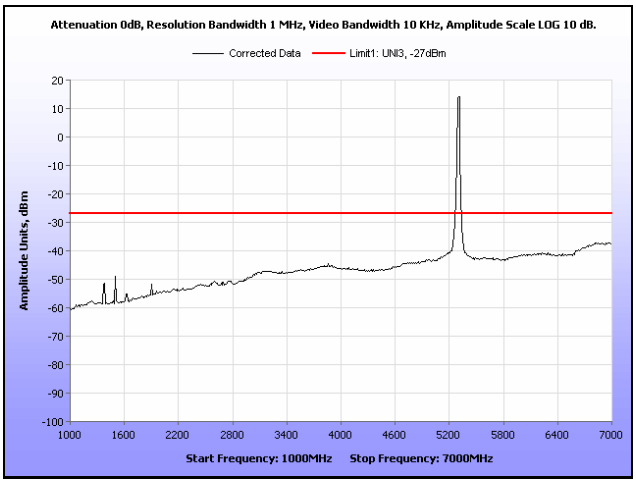
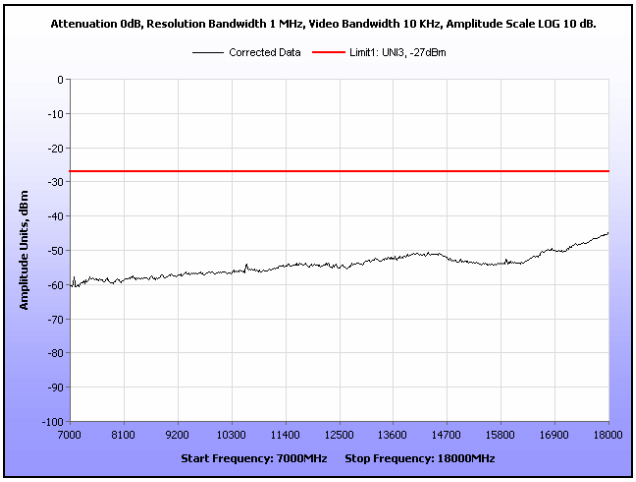


Plot 206. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 207. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 208. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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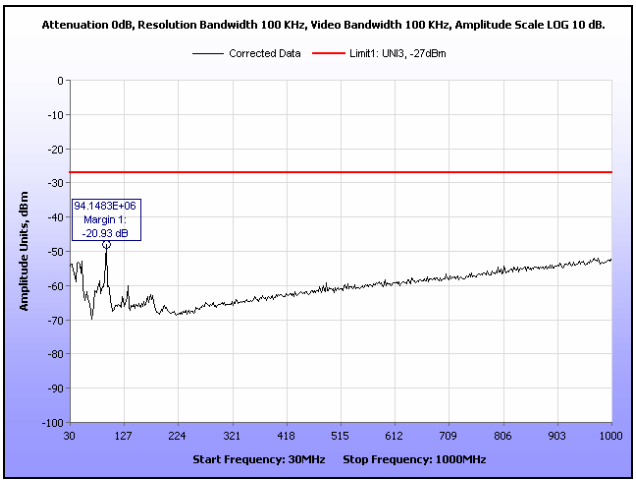
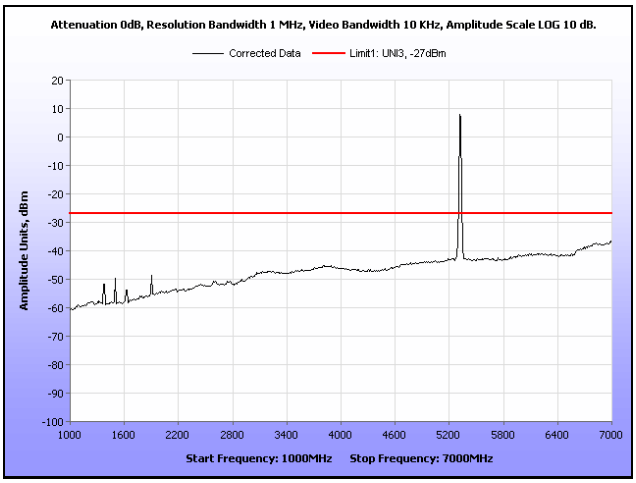
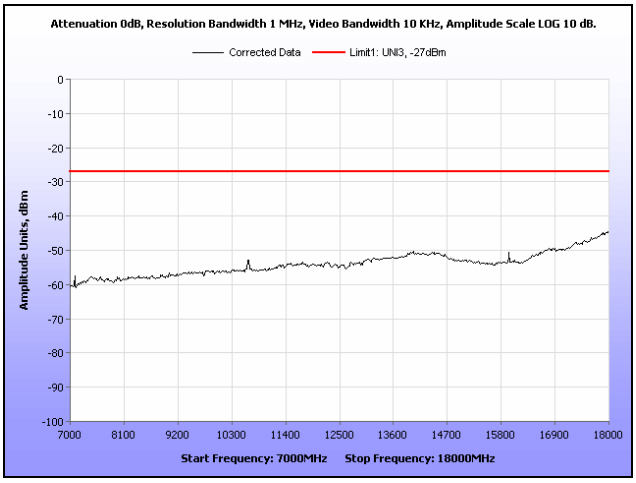


Plot 209. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 210. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 211. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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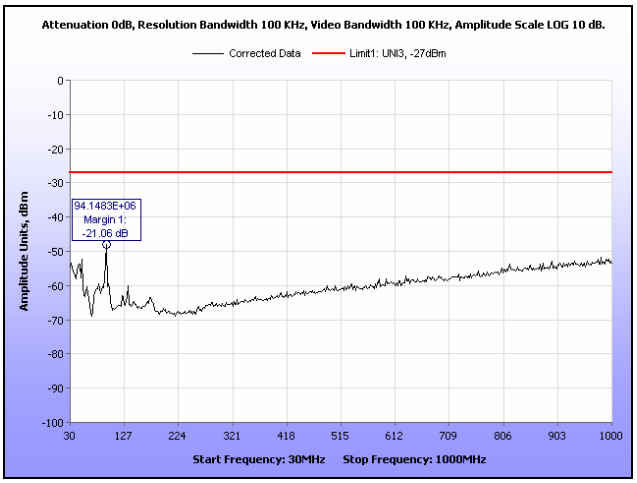
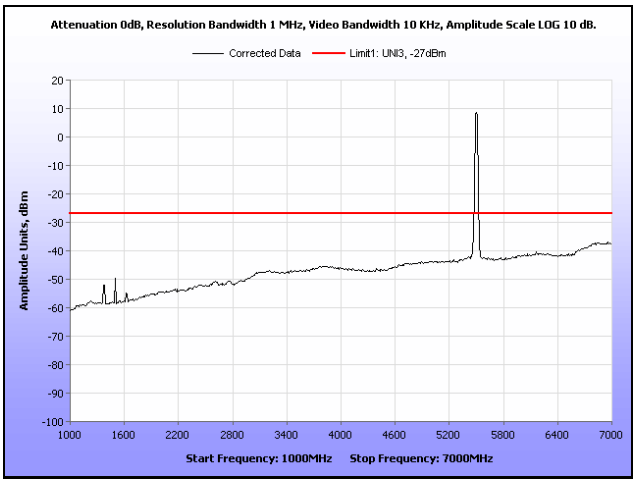
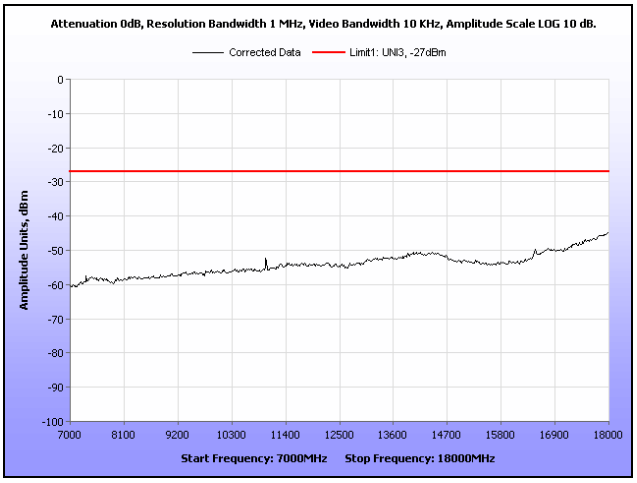


Plot 212. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 213. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 214. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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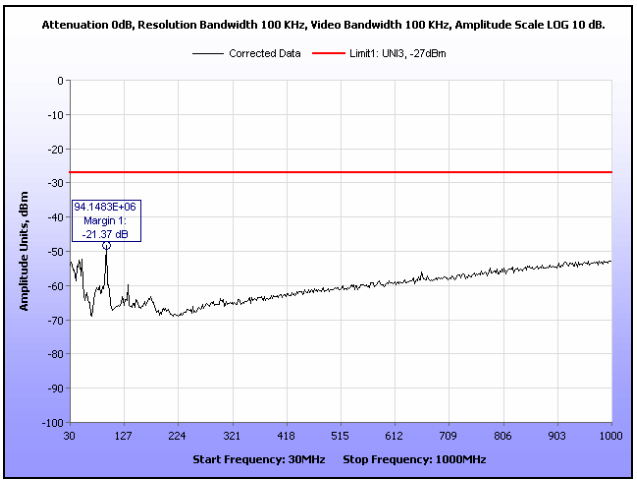
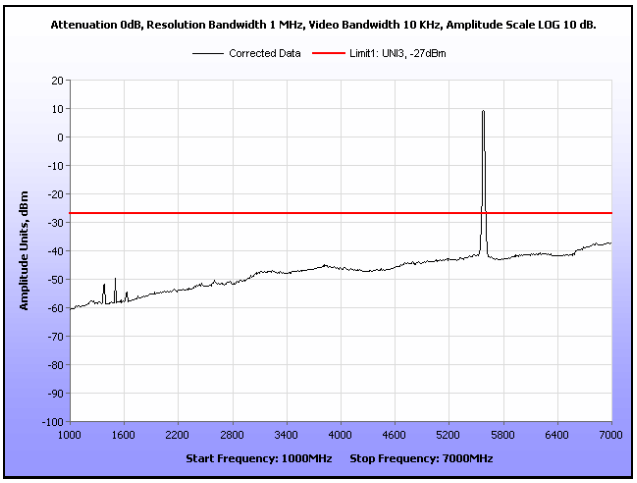
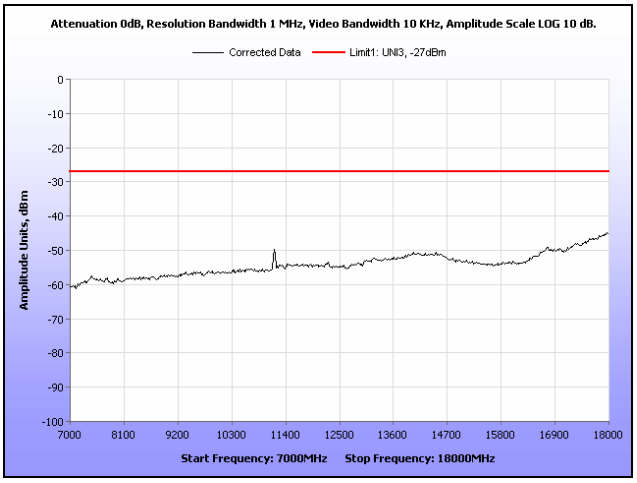


Plot 215. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 216. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 217. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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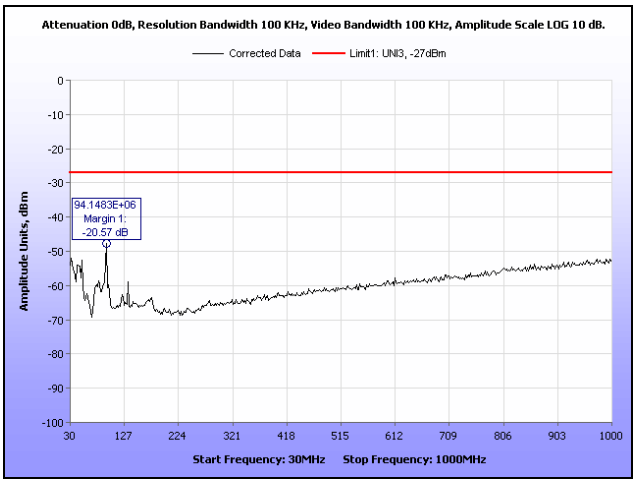
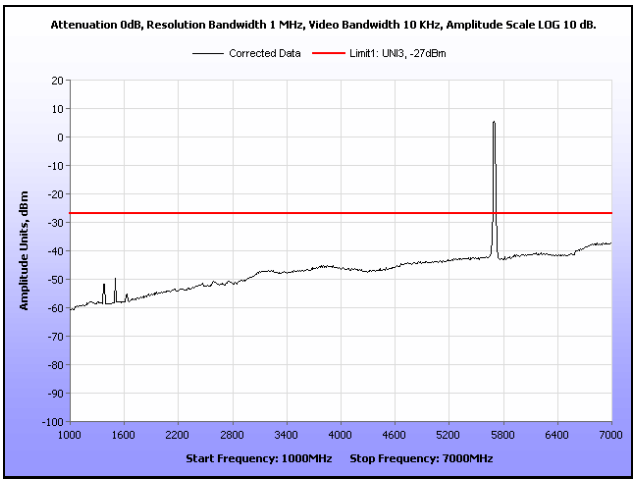
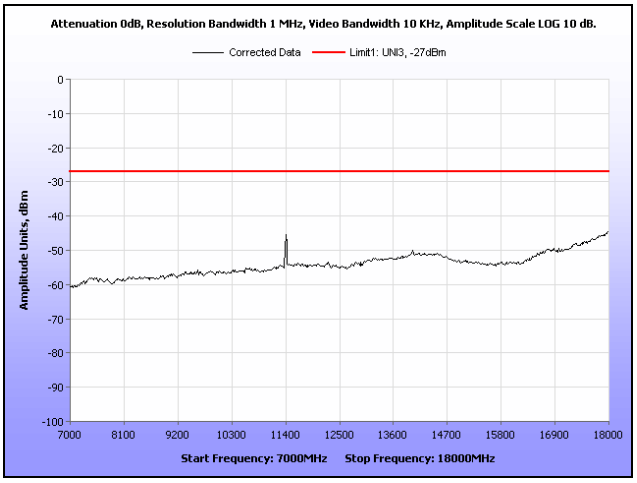


Plot 218. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 219. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 220. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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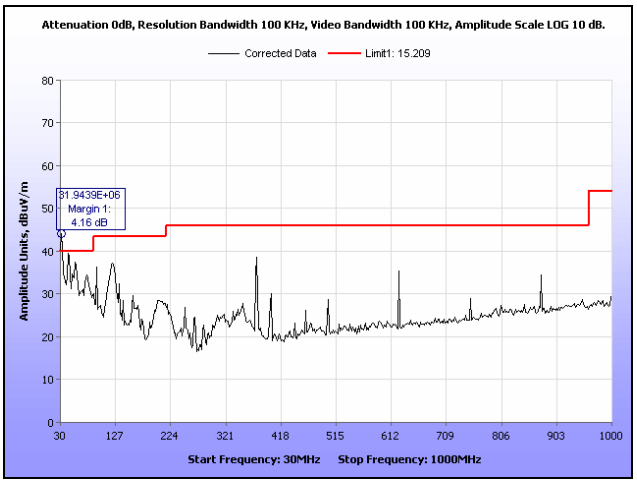
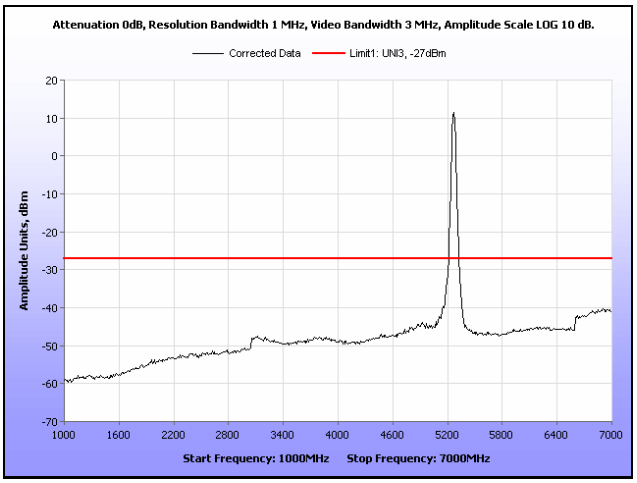
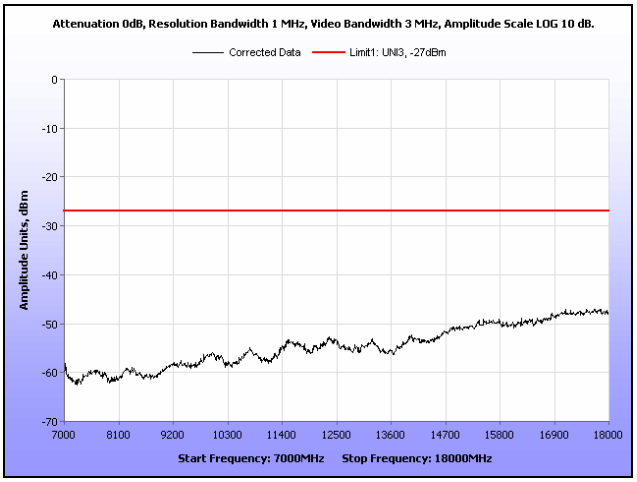


Plot 221. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 222. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 223. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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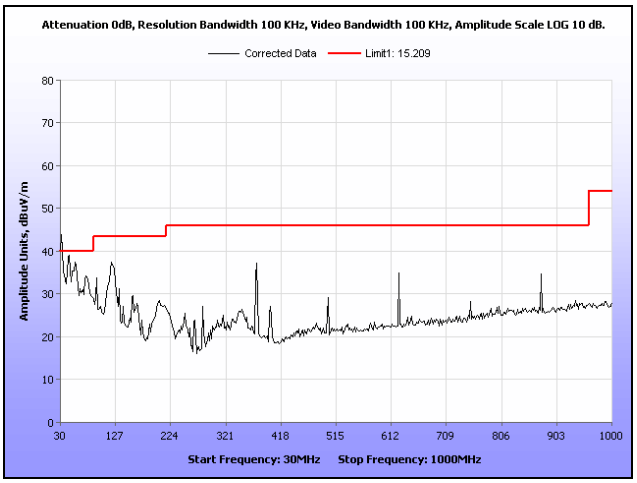
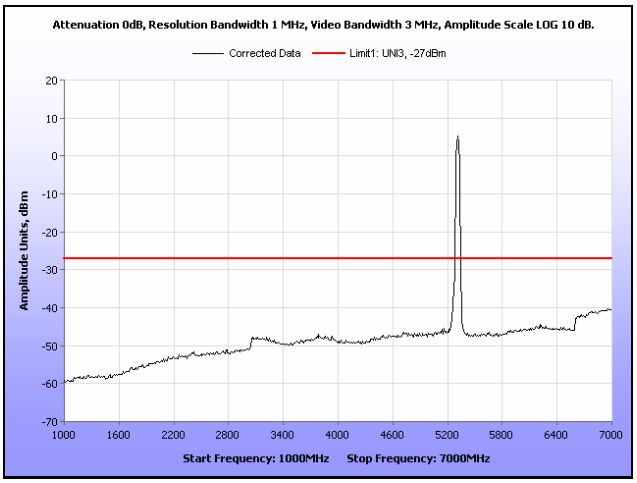
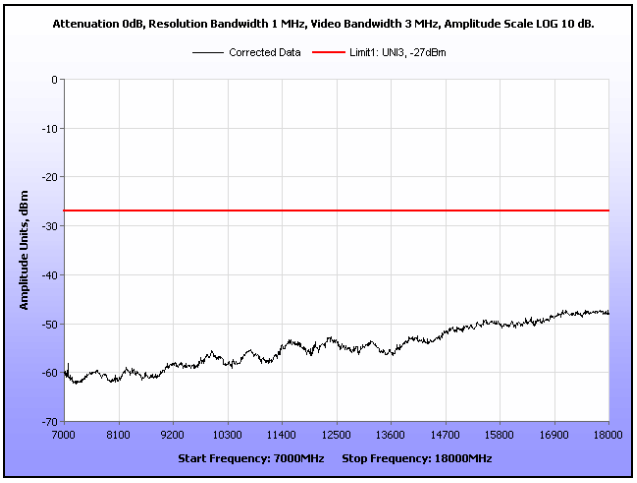


Plot 224. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 225. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 226. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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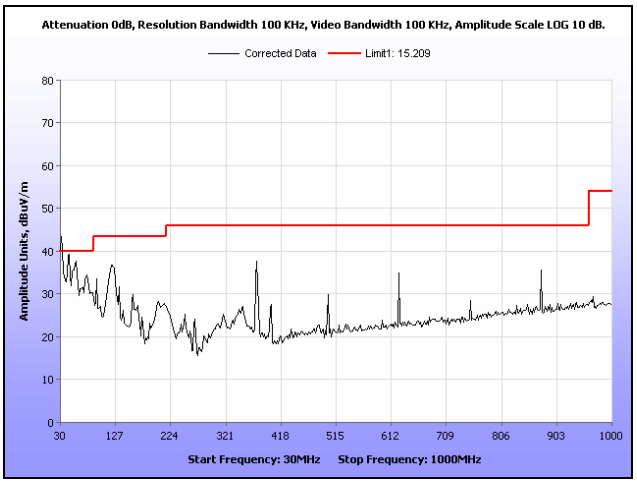
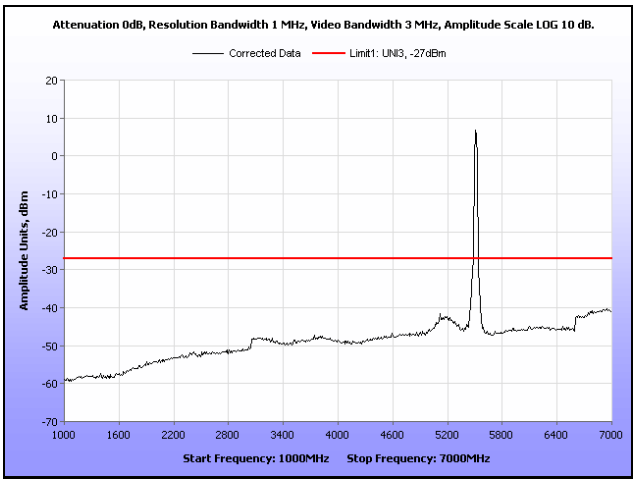
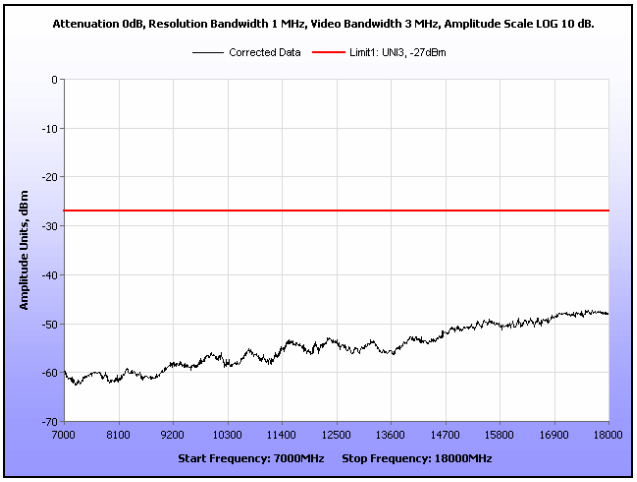


Plot 227. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 228. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 229. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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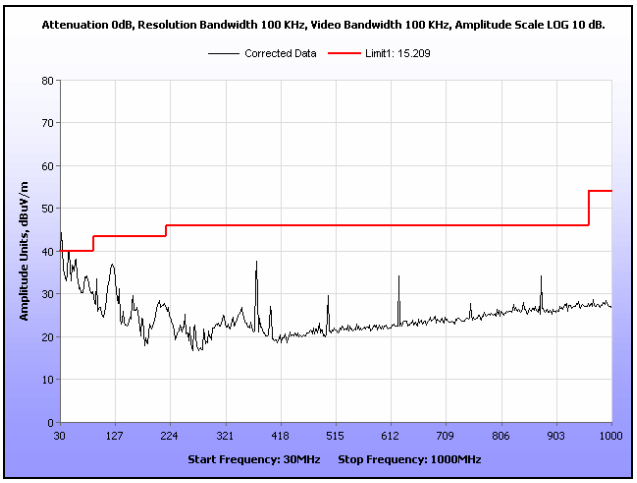
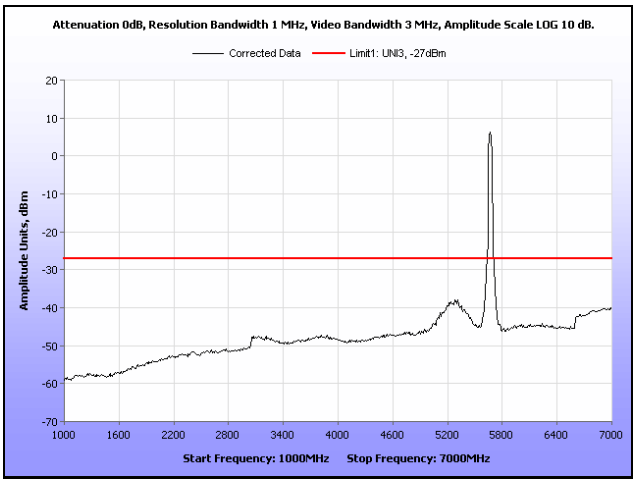
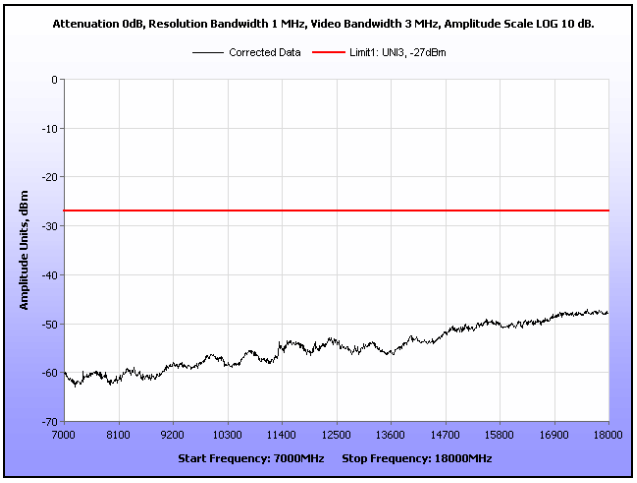


Plot 230. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 30 MHz – 1 GHz, 2 dBi Dipole Antenna



Plot 231. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 1 GHz – 7 GHz, 2 dBi Dipole Antenna



Plot 232. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 7 GHz – 18 GHz, 2 dBi Dipole Antenna

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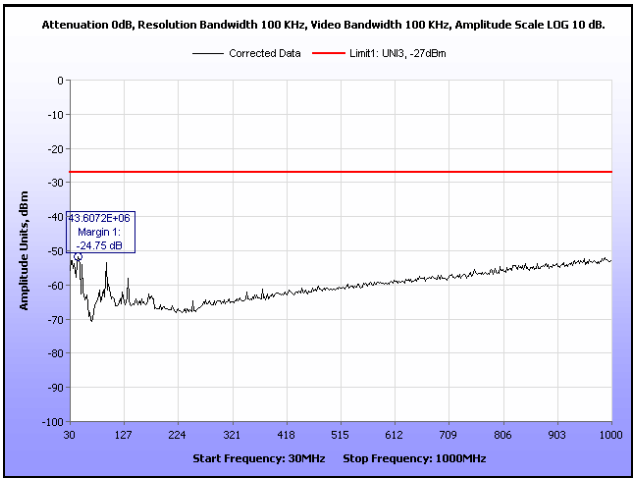
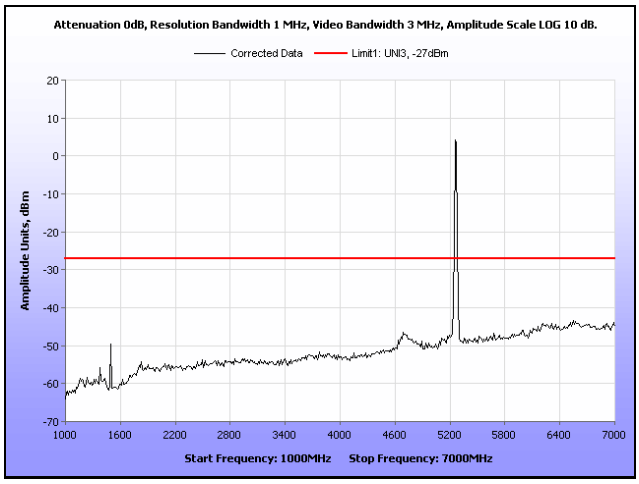
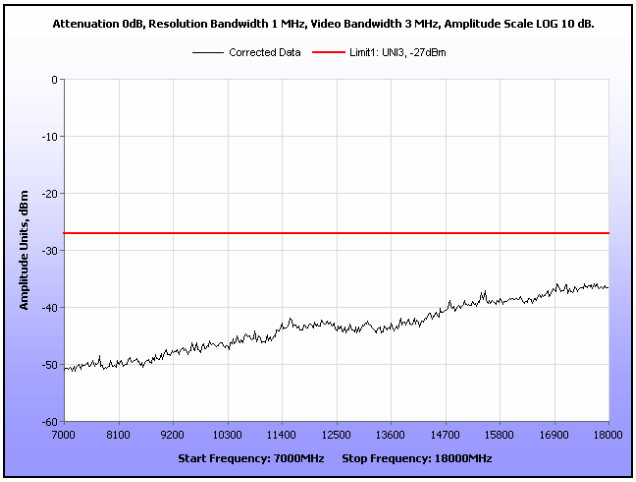
Radiated Emissions Limits, Patch Antenna



Plot 233. Radiated Spurious Emissions, 802.11a, 5260 MHz, 30 MHz – 1 GHz, Patch



Plot 234. Radiated Spurious Emissions, 802.11a, 5260 MHz, 1 GHz – 7 GHz, Patch



Plot 235. Radiated Spurious Emissions, 802.11a, 5260 MHz, 7 GHz – 18 GHz, Patch

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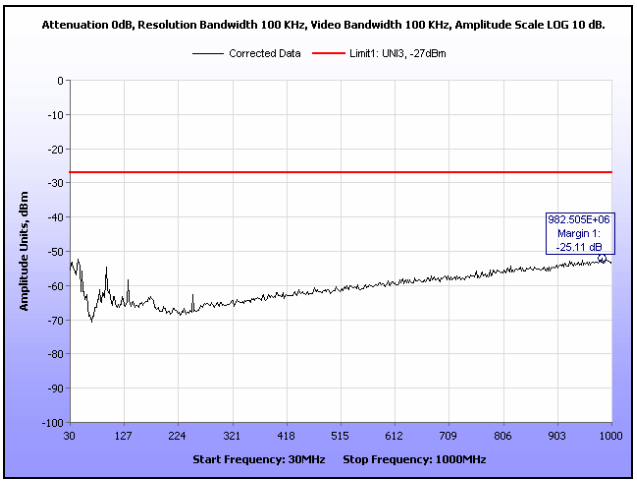
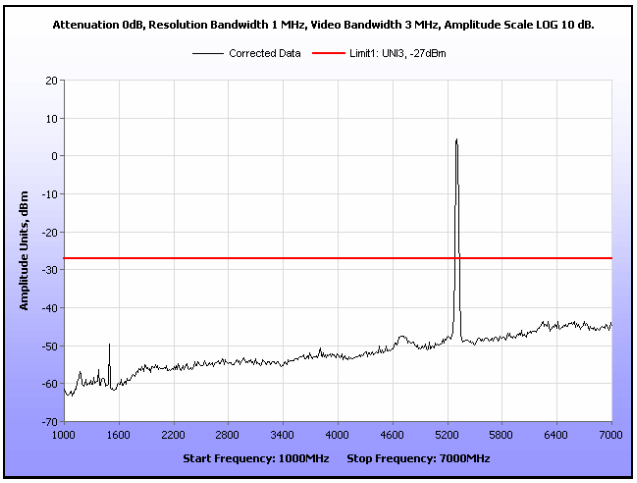
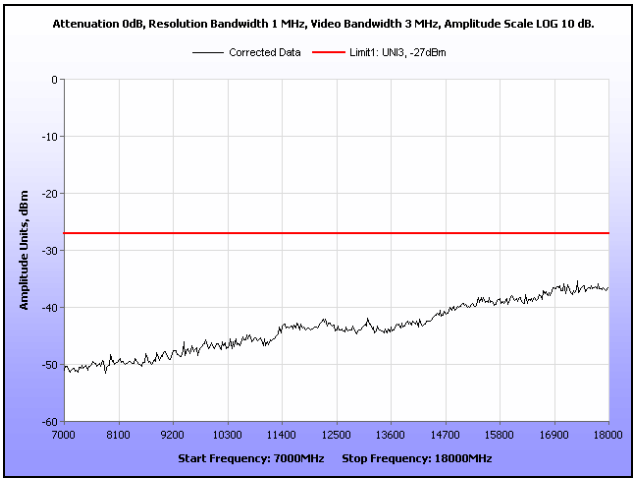


Plot 236. Radiated Spurious Emissions, 802.11a, 5300 MHz, 30 MHz – 1 GHz, Patch



Plot 237. Radiated Spurious Emissions, 802.11a, 5300 MHz, 1 GHz – 7 GHz, Patch



Plot 238. Radiated Spurious Emissions, 802.11a, 5300 MHz, 7 GHz – 18 GHz, Patch

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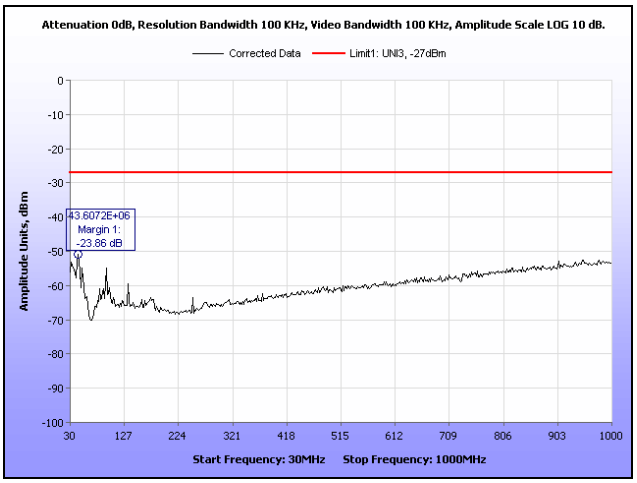
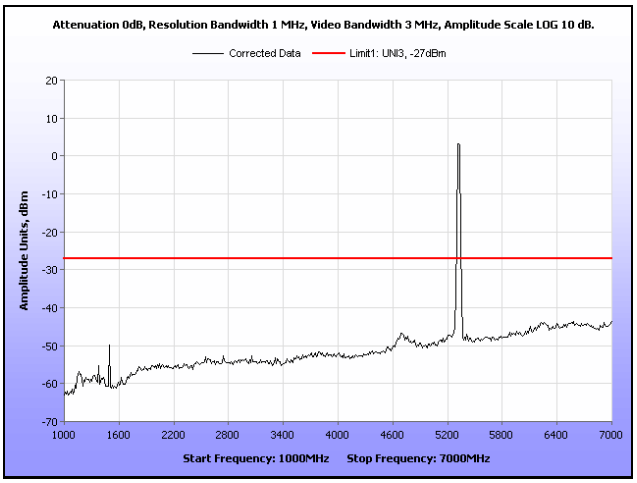
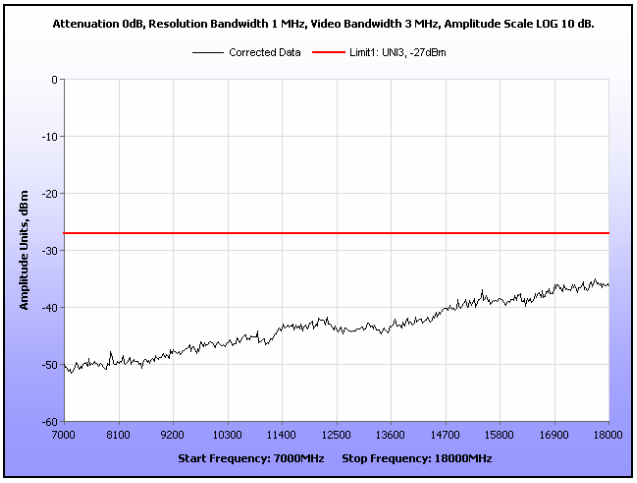


Plot 239. Radiated Spurious Emissions, 802.11a, 5320 MHz, 30 MHz – 1 GHz, Patch



Plot 240. Radiated Spurious Emissions, 802.11a, 5320 MHz, 1 GHz – 7 GHz, Patch



Plot 241. Radiated Spurious Emissions, 802.11a, 5320 MHz, 7 GHz – 18 GHz, Patch

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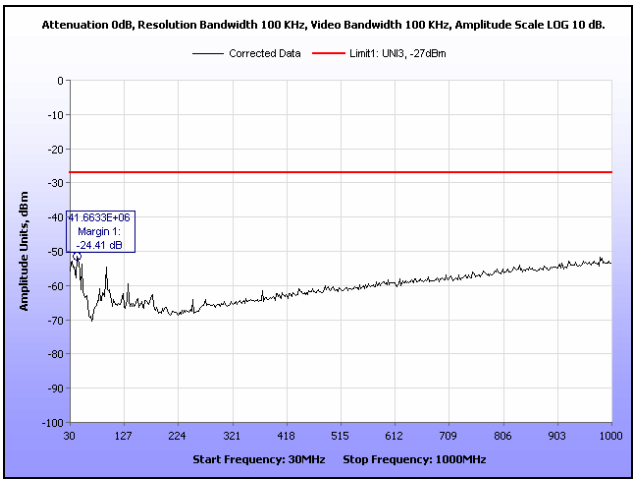
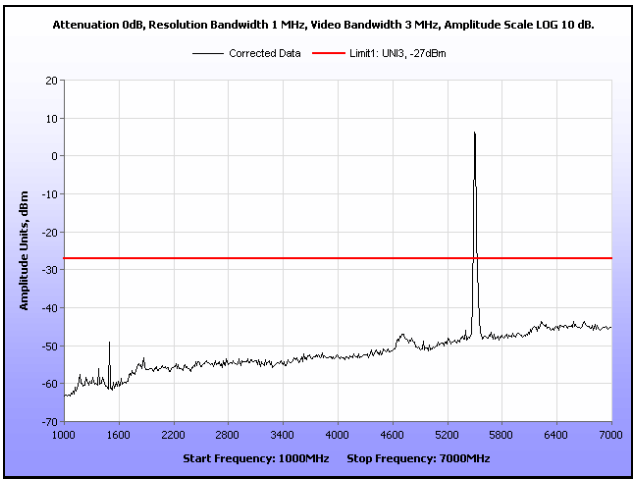
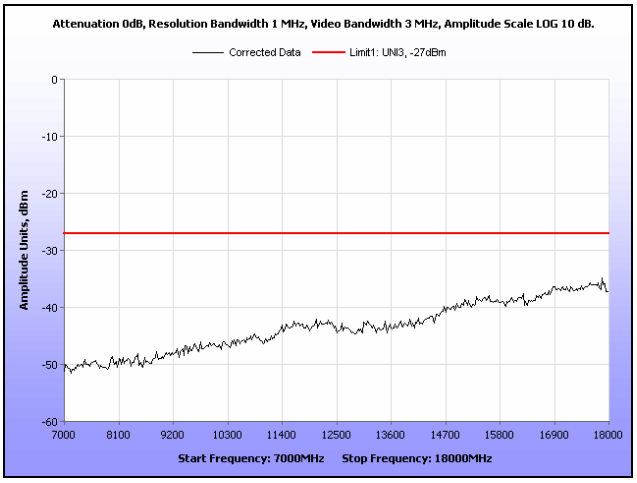


Plot 242. Radiated Spurious Emissions, 802.11a, 5500 MHz, 30 MHz – 1 GHz, Patch



Plot 243. Radiated Spurious Emissions, 802.11a, 5500 MHz, 1 GHz – 7 GHz, Patch



Plot 244. Radiated Spurious Emissions, 802.11a, 5500 MHz, 7 GHz – 18 GHz, Patch

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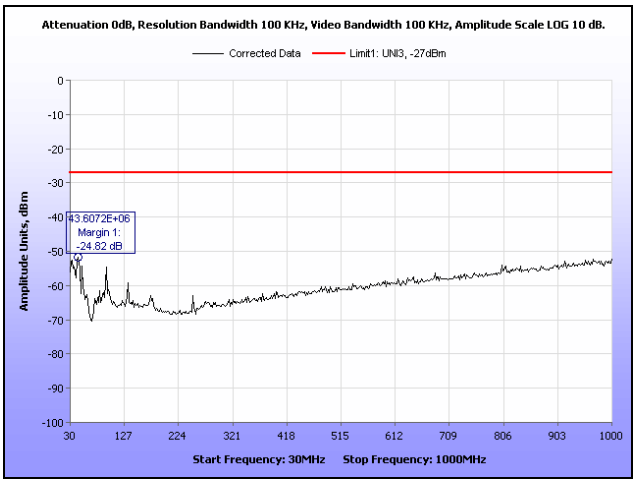
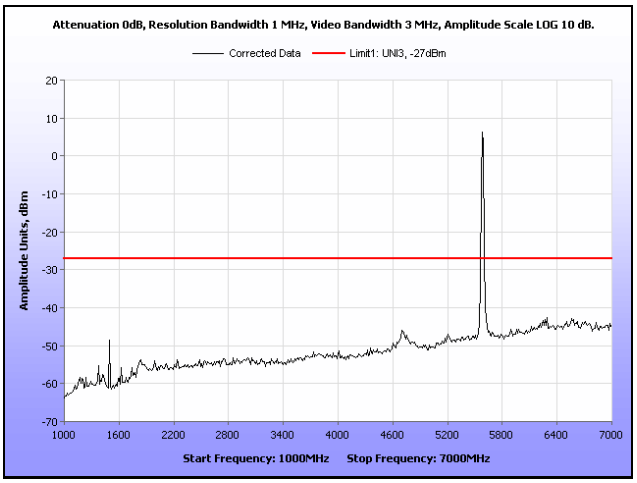
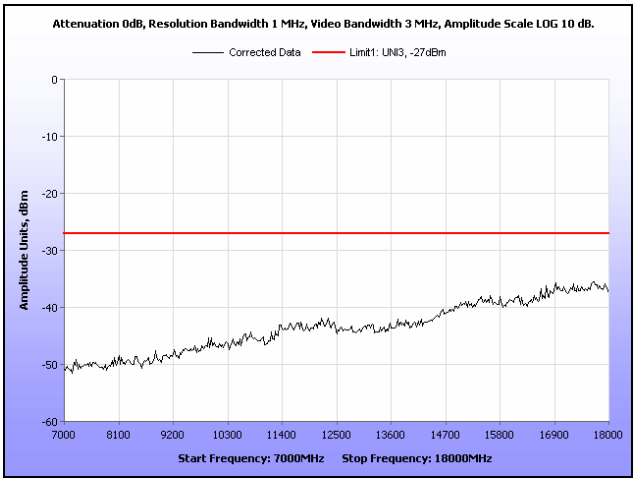


Plot 245. Radiated Spurious Emissions, 802.11a, 5580 MHz, 30 MHz – 1 GHz, Patch



Plot 246. Radiated Spurious Emissions, 802.11a, 5580 MHz, 1 GHz – 7 GHz, Patch



Plot 247. Radiated Spurious Emissions, 802.11a, 5580 MHz, 7 GHz – 18 GHz, Patch

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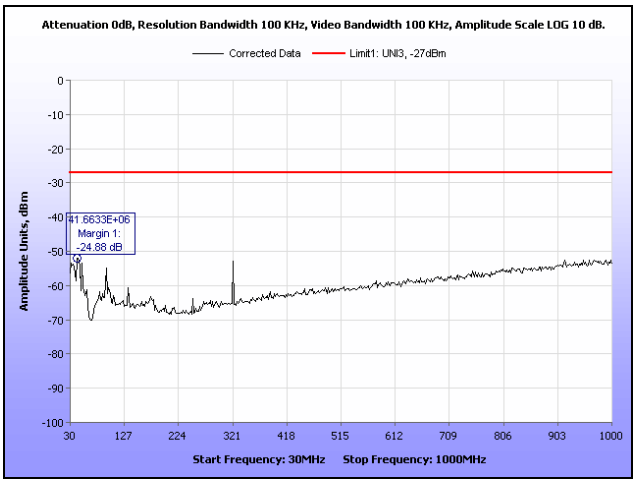
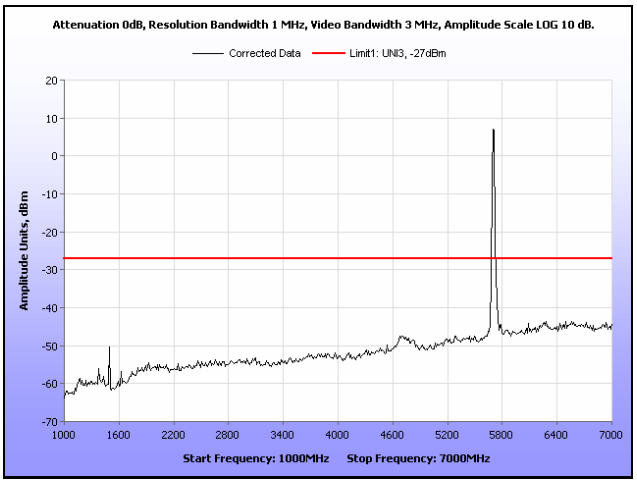
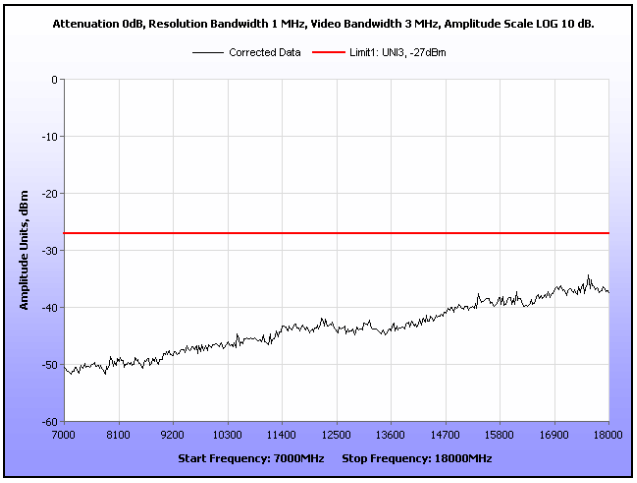


Plot 248. Radiated Spurious Emissions, 802.11a, 5700 MHz, 30 MHz – 1 GHz, Patch



Plot 249. Radiated Spurious Emissions, 802.11a, 5700 MHz, 1 GHz – 7 GHz, Patch



Plot 250. Radiated Spurious Emissions, 802.11a, 5700 MHz, 7 GHz – 18 GHz, Patch

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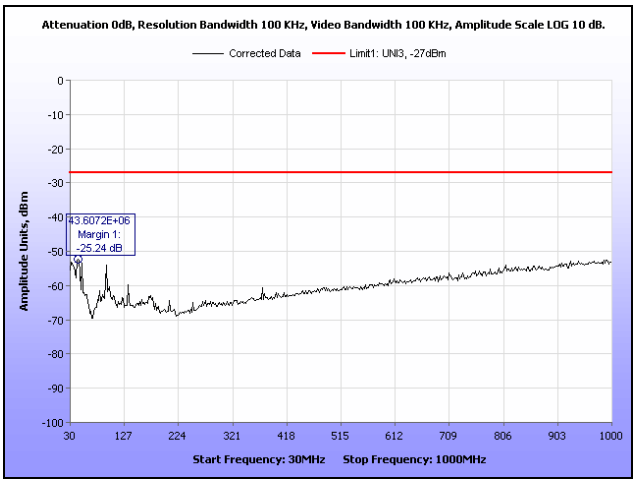
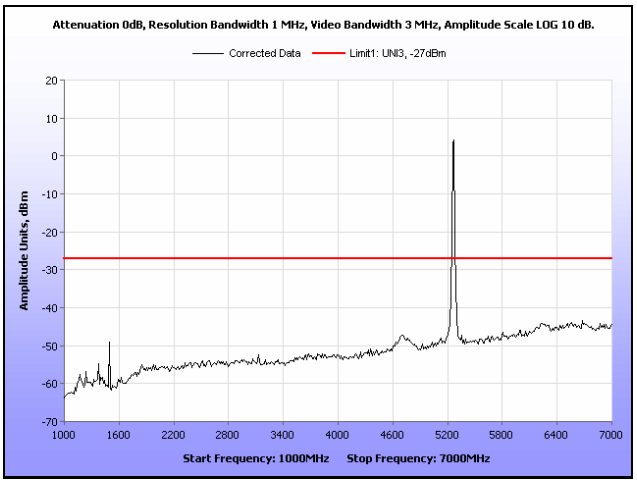
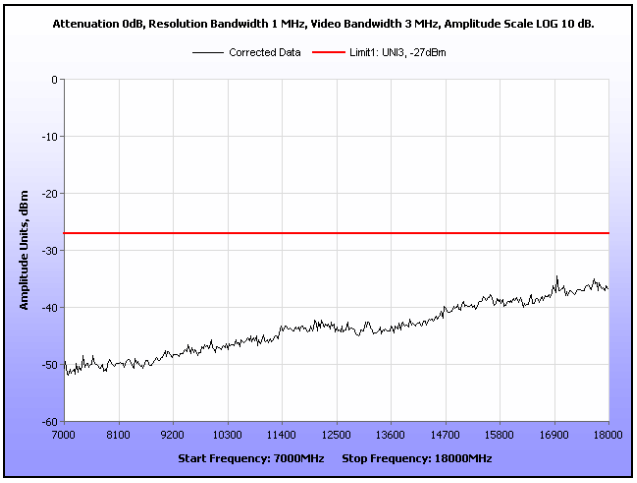


Plot 251. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 30 MHz – 1 GHz, Patch



Plot 252. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 1 GHz – 7 GHz, Patch



Plot 253. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 7 GHz – 18 GHz, Patch

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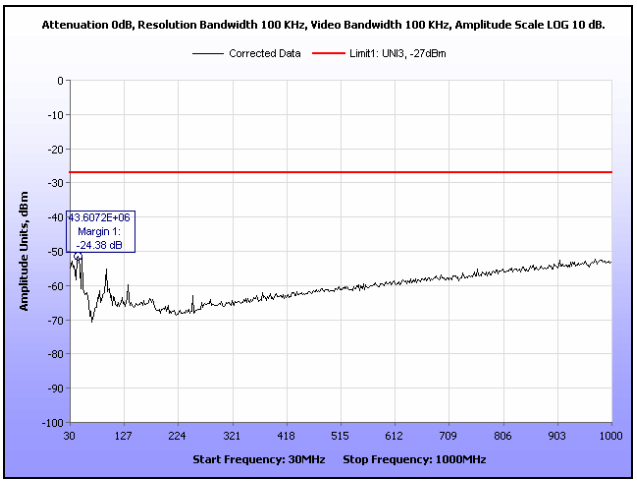
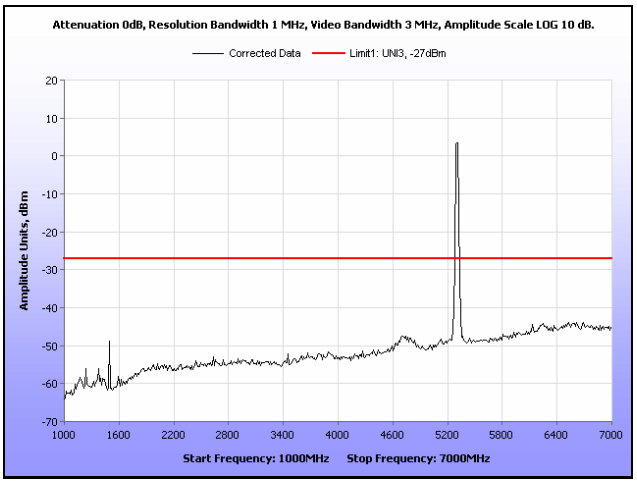
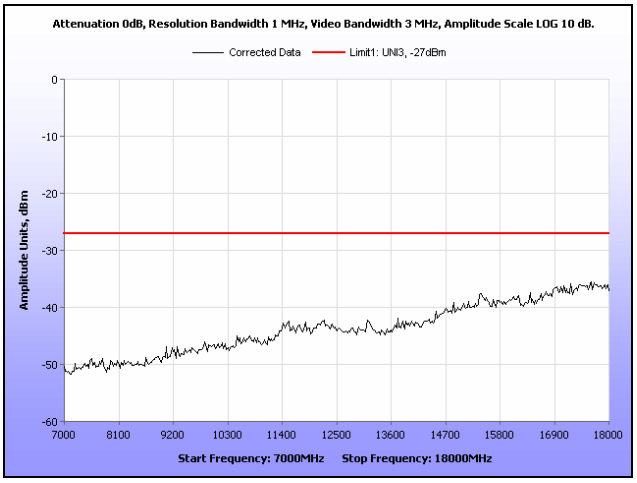


Plot 254. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 30 MHz – 1 GHz, Patch



Plot 255. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 1 GHz – 7 GHz, Patch



Plot 256. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 7 GHz – 18 GHz, Patch

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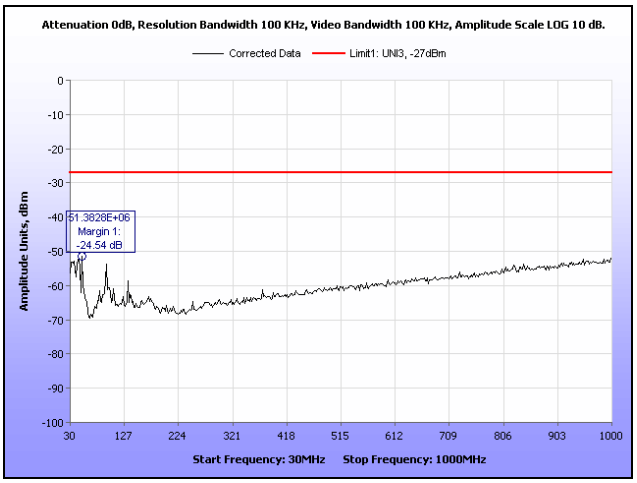
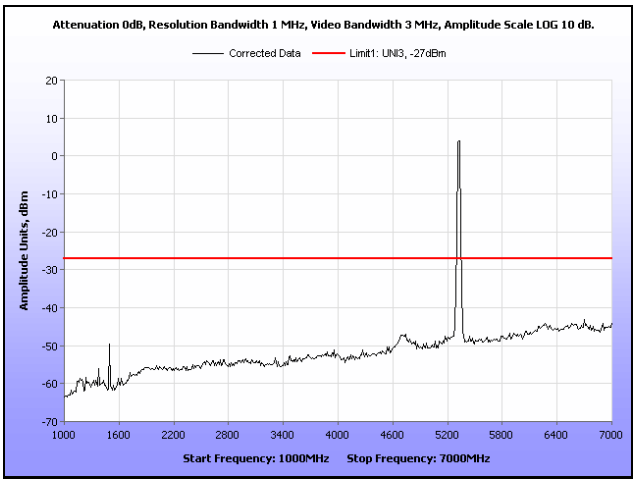
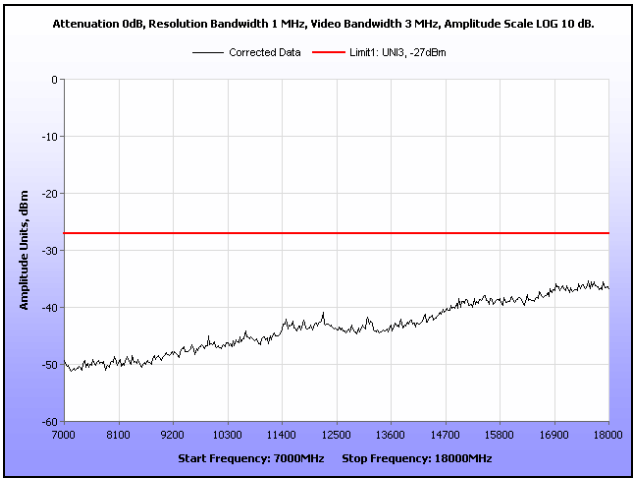


Plot 257. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 30 MHz – 1 GHz, Patch



Plot 258. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 1 GHz – 7 GHz, Patch



Plot 259. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 7 GHz – 18 GHz, Patch

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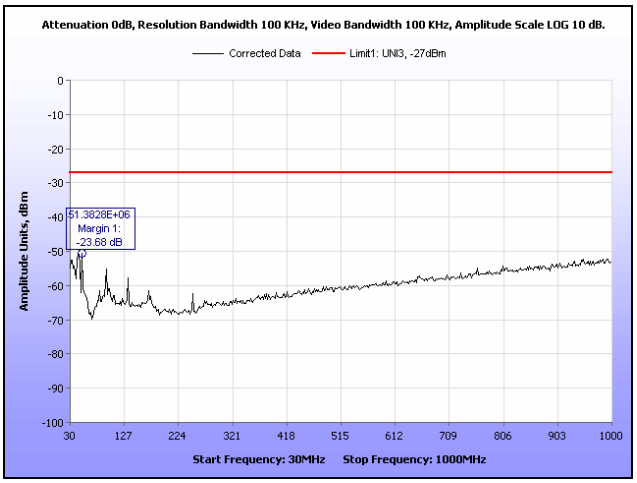
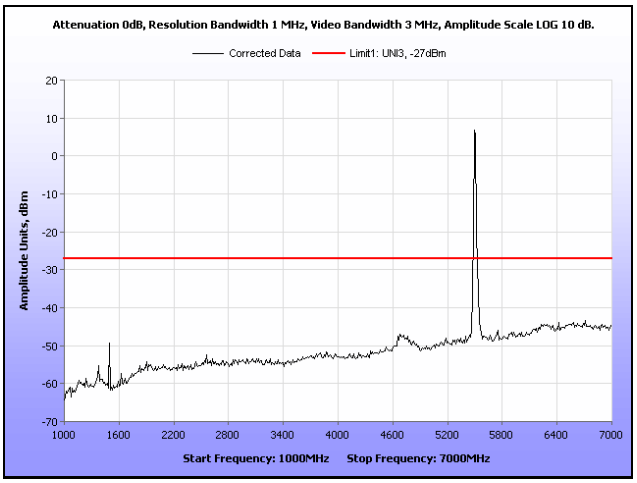
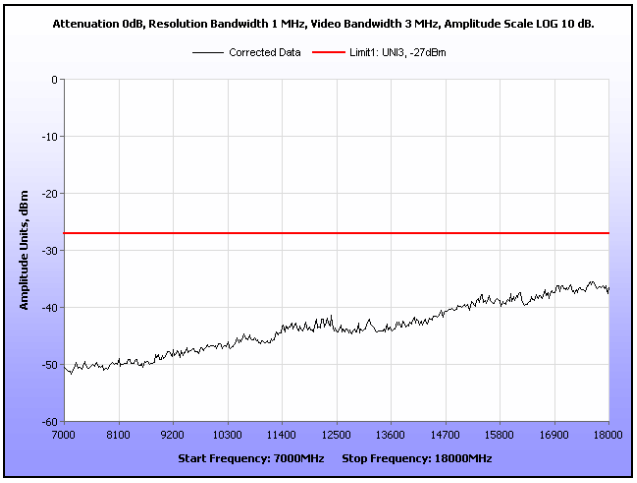


Plot 260. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 30 MHz – 1 GHz, Patch



Plot 261. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 1 GHz – 7 GHz, Patch



Plot 262. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 7 GHz – 18 GHz, Patch

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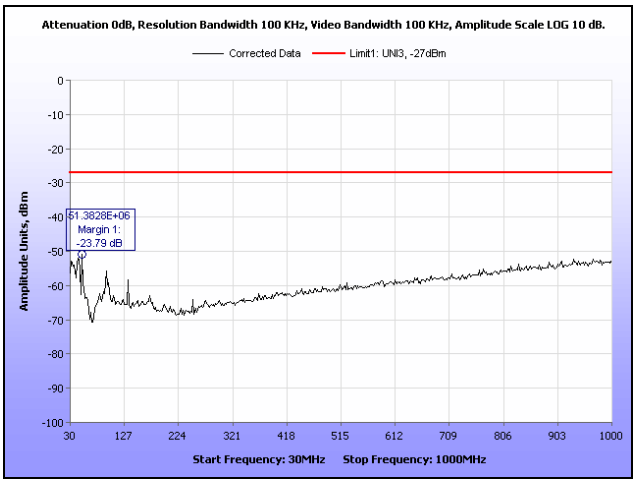
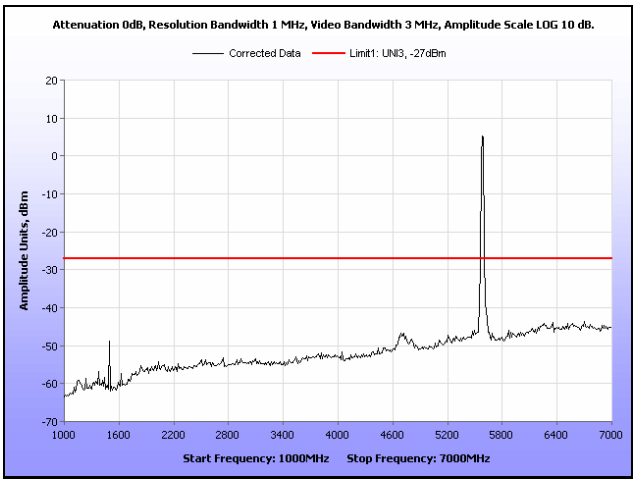
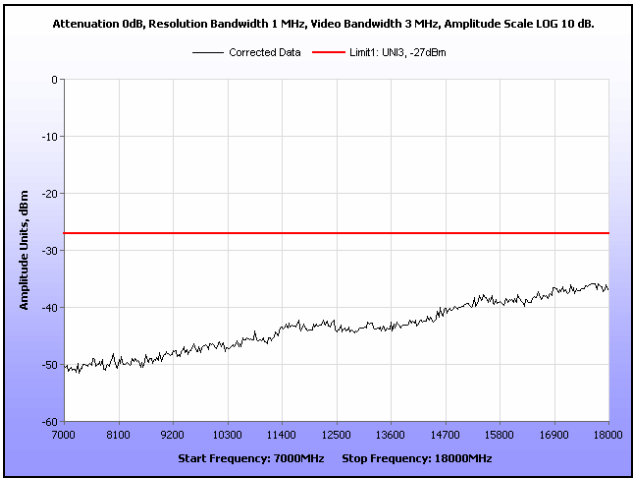


Plot 263. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 30 MHz – 1 GHz, Patch



Plot 264. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 1 GHz – 7 GHz, Patch



Plot 265. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 7 GHz – 18 GHz, Patch

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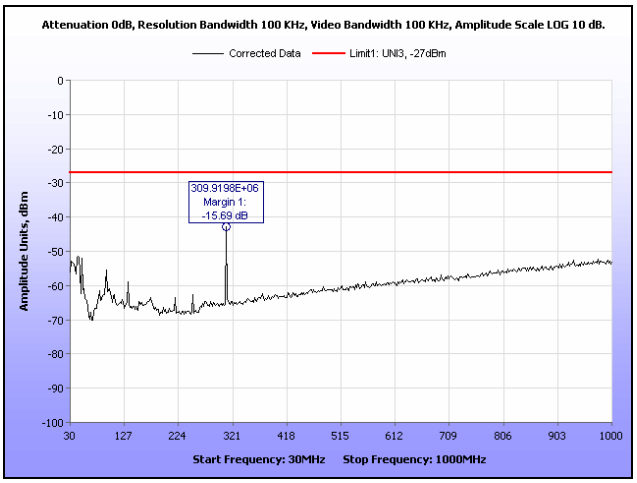
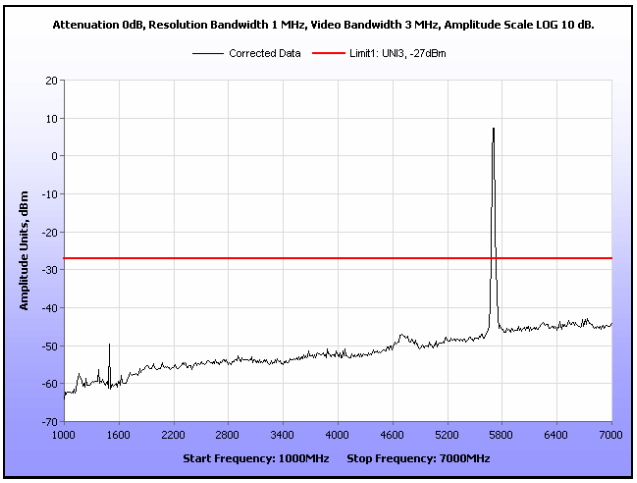
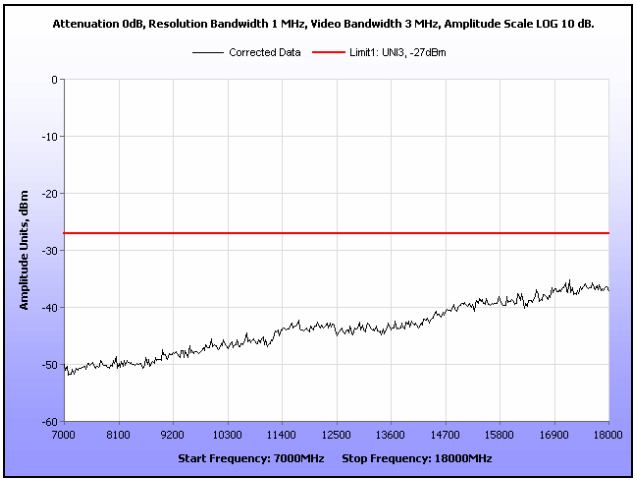


Plot 266. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 30 MHz – 1 GHz, Patch



Plot 267. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 1 GHz – 7 GHz, Patch



Plot 268. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 7 GHz – 18 GHz, Patch

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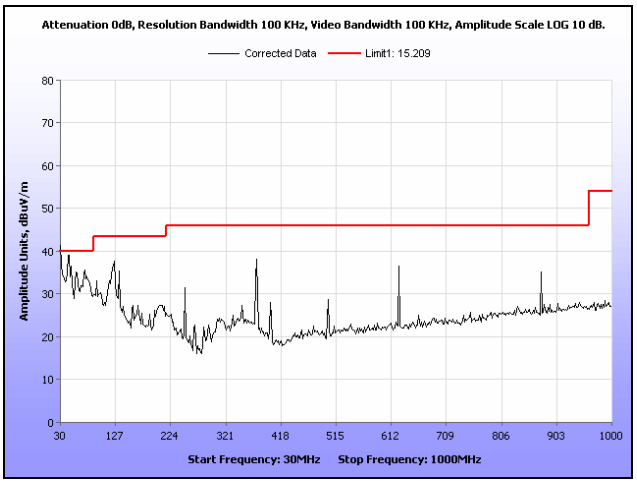
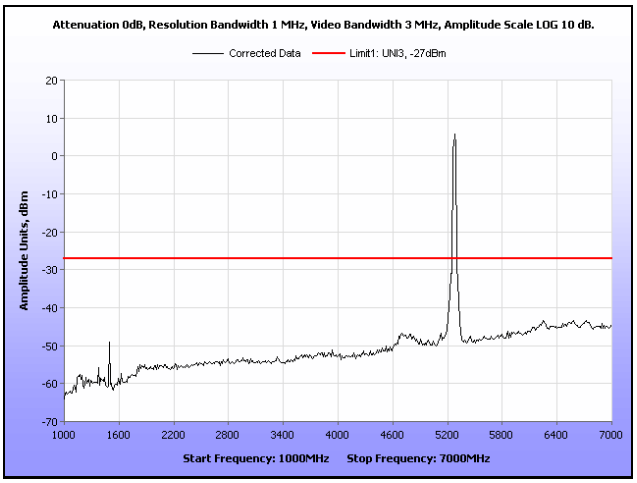
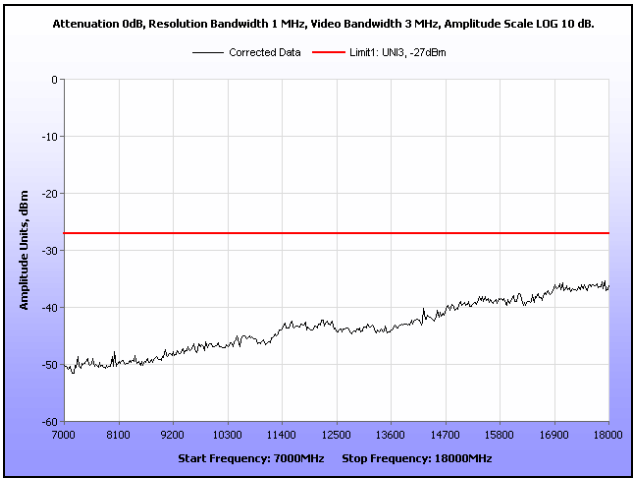


Plot 269. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 30 MHz – 1 GHz, Patch



Plot 270. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 1 GHz – 7 GHz, Patch



Plot 271. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 7 GHz – 18 GHz, Patch

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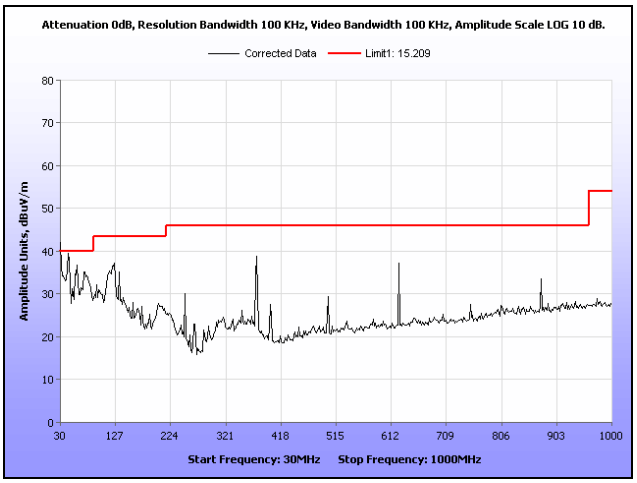
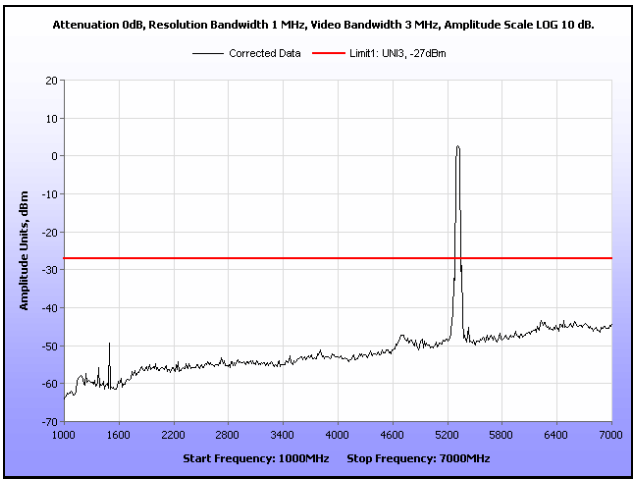
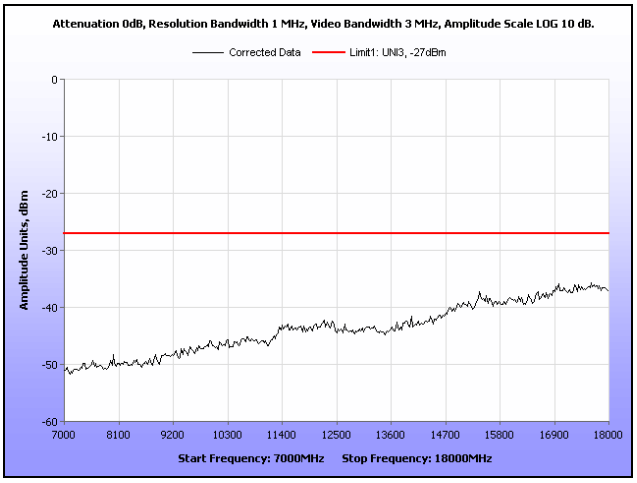


Plot 272. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 30 MHz – 1 GHz, Patch



Plot 273. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 1 GHz – 7 GHz, Patch



Plot 274. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 7 GHz – 18 GHz, Patch

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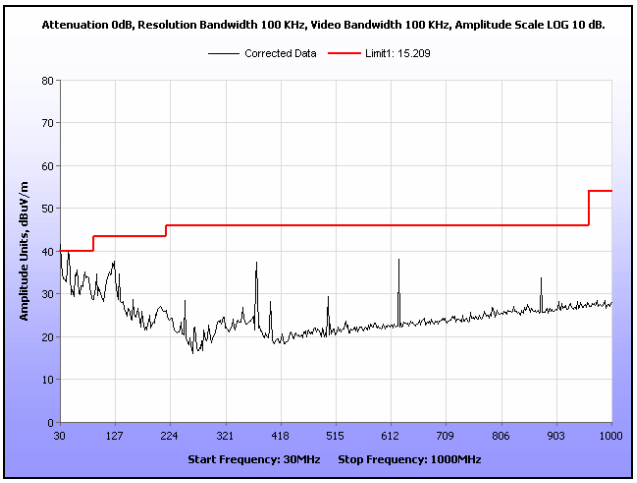
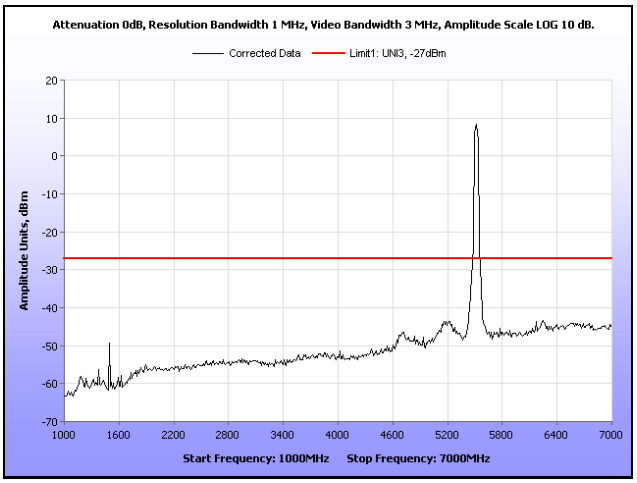
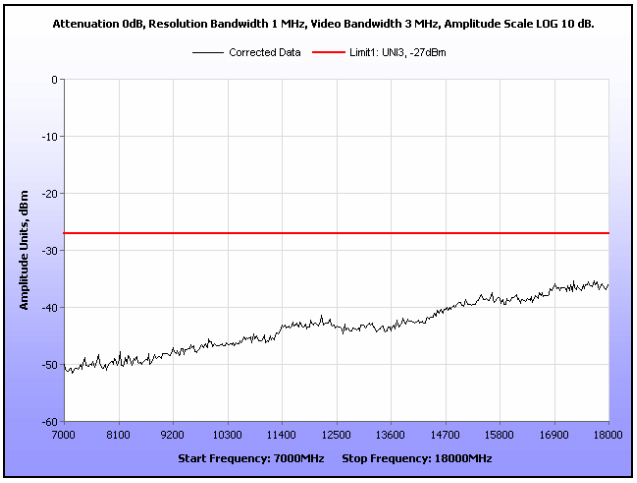


Plot 275. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 30 MHz – 1 GHz, Patch



Plot 276. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 1 GHz – 7 GHz, Patch



Plot 277. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 7 GHz – 18 GHz, Patch

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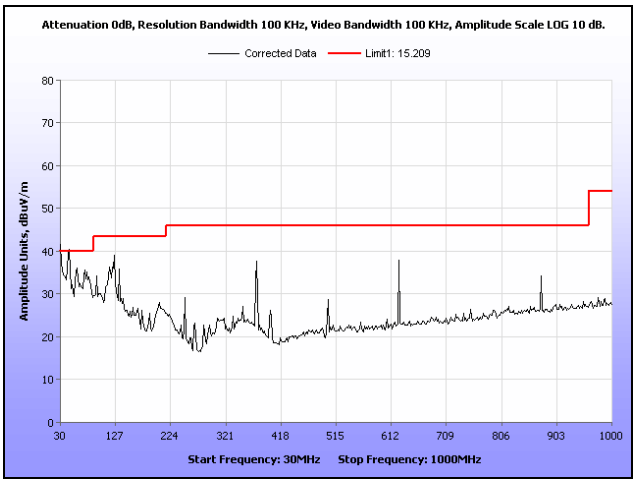
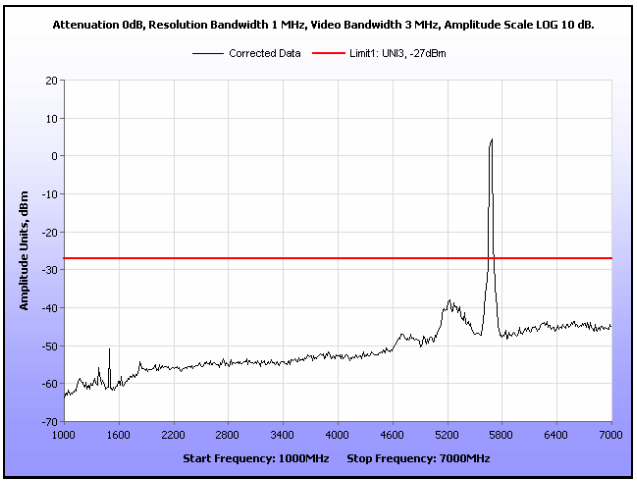
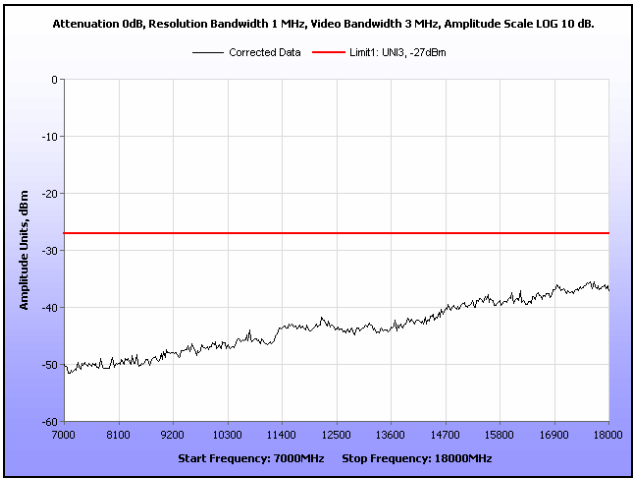


Plot 278. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 30 MHz – 1 GHz, Patch



Plot 279. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 1 GHz – 7 GHz, Patch



Plot 280. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 7 GHz – 18 GHz, Patch

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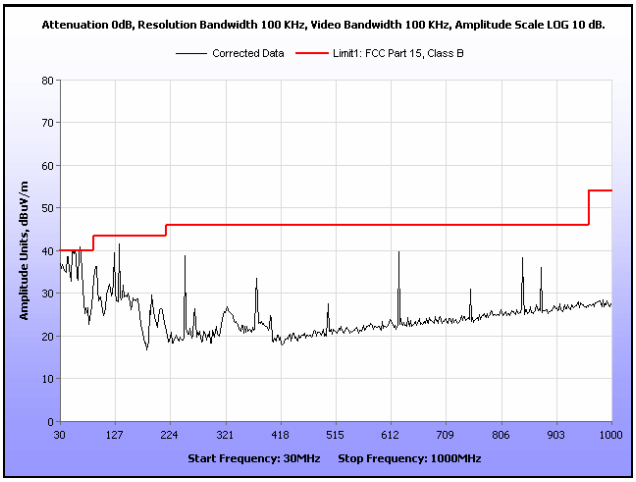
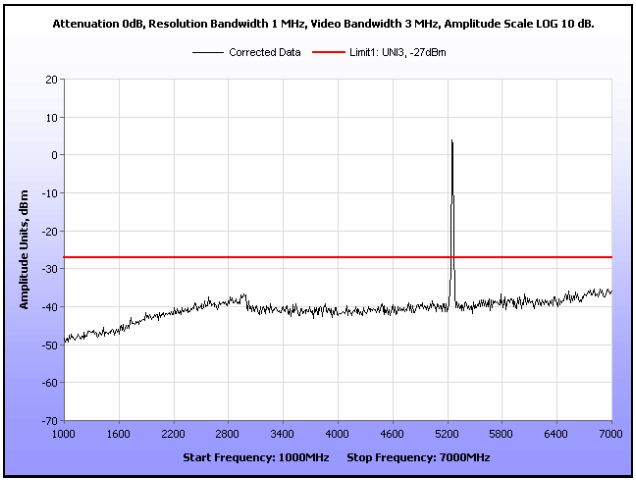
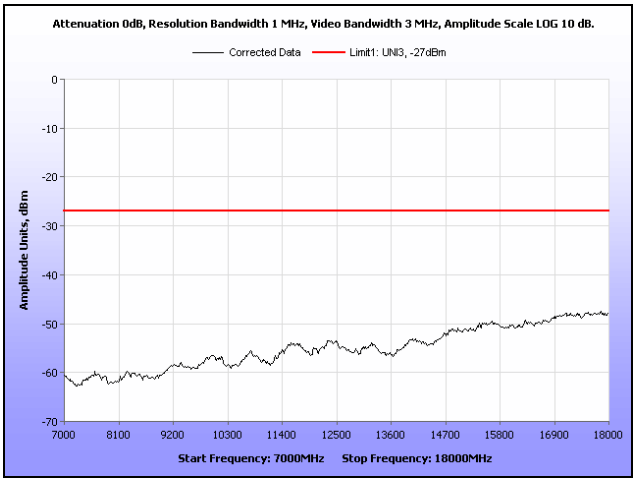
Radiated Emissions Limits, 6 dBi Dipole Antenna



Plot 281. Radiated Spurious Emissions, 802.11a, 5260 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 282. Radiated Spurious Emissions, 802.11a, 5260 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 283. Radiated Spurious Emissions, 802.11a, 5260 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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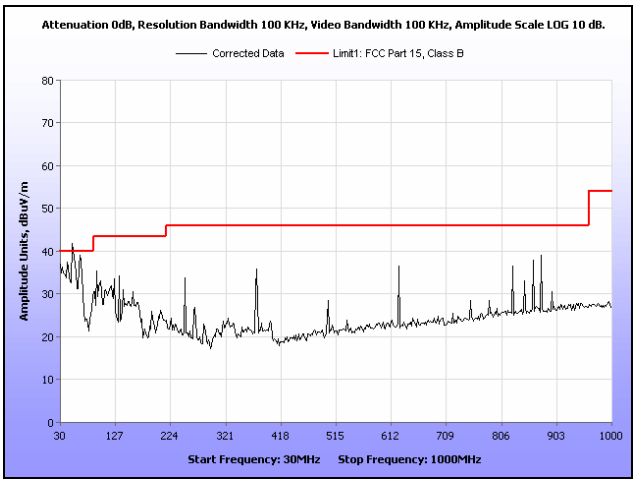
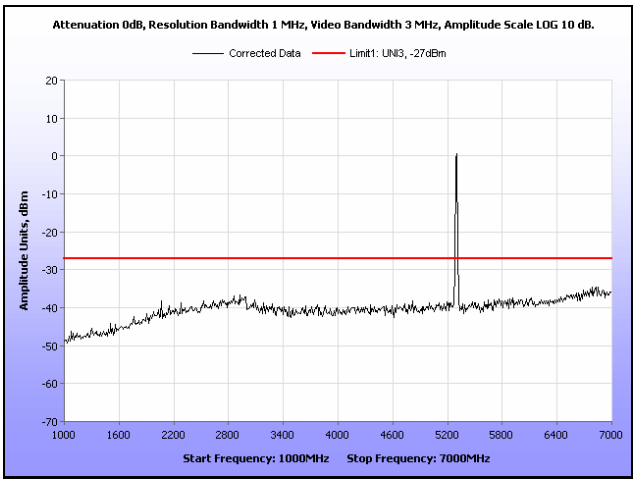
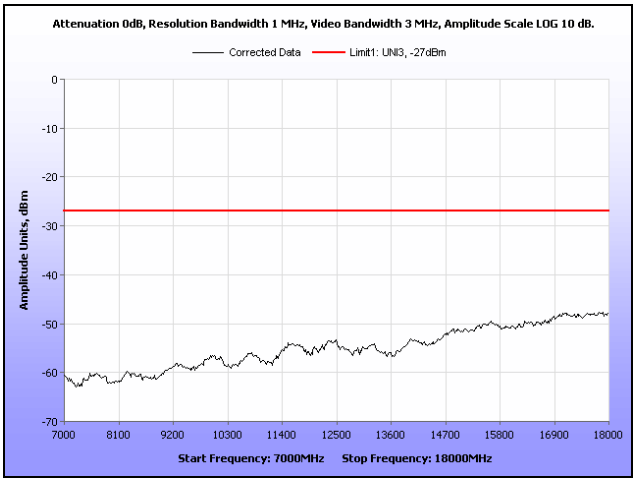


Plot 284. Radiated Spurious Emissions, 802.11a, 5300 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 285. Radiated Spurious Emissions, 802.11a, 5300 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 286. Radiated Spurious Emissions, 802.11a, 5300 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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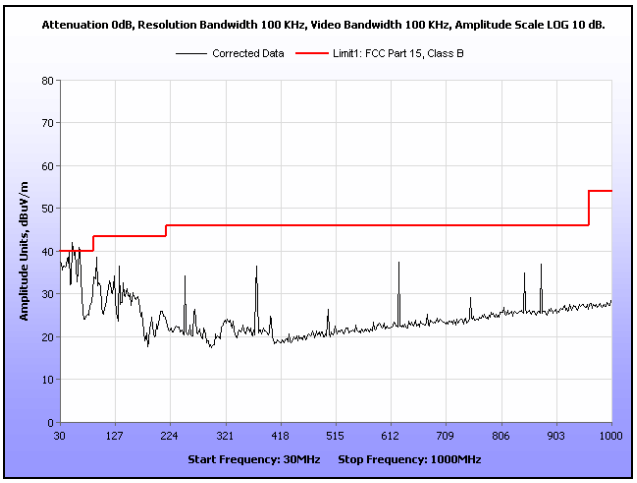
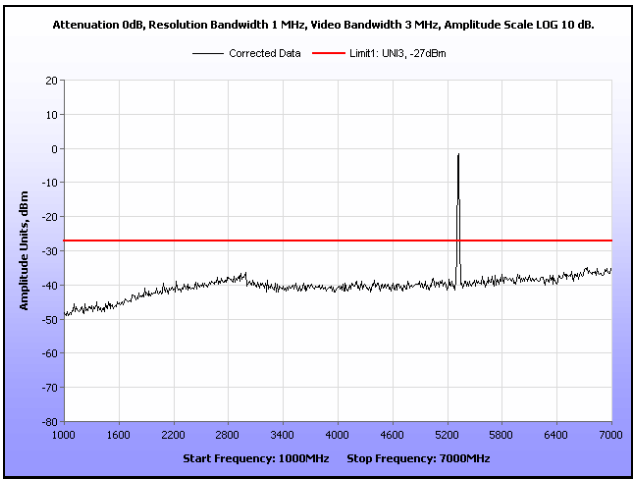
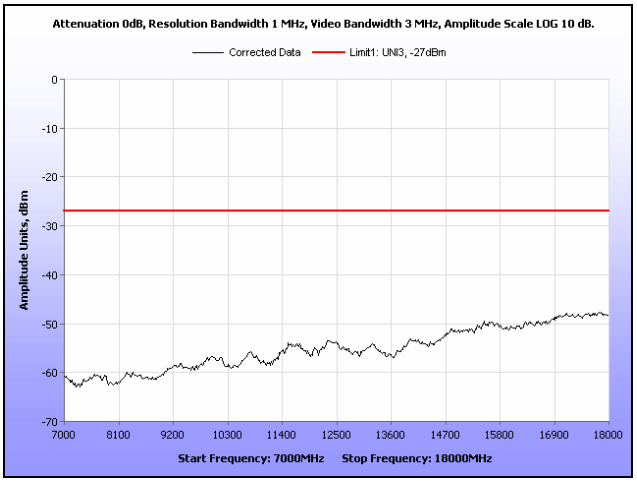


Plot 287. Radiated Spurious Emissions, 802.11a, 5320 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 288. Radiated Spurious Emissions, 802.11a, 5320 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 289. Radiated Spurious Emissions, 802.11a, 5320 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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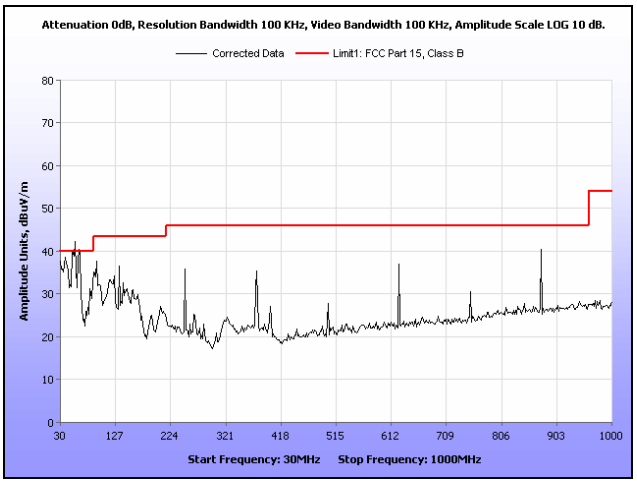
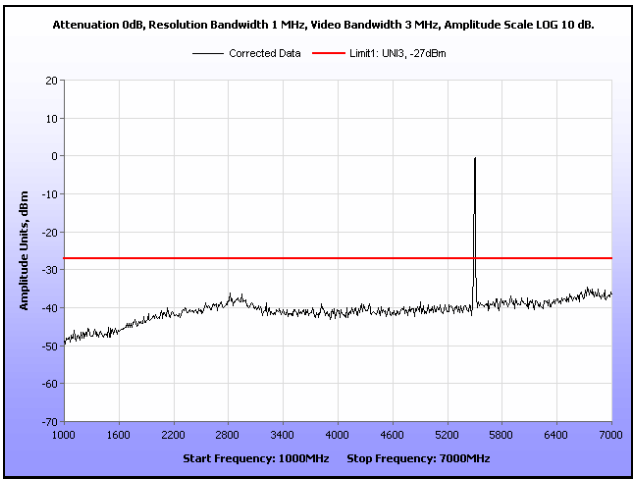
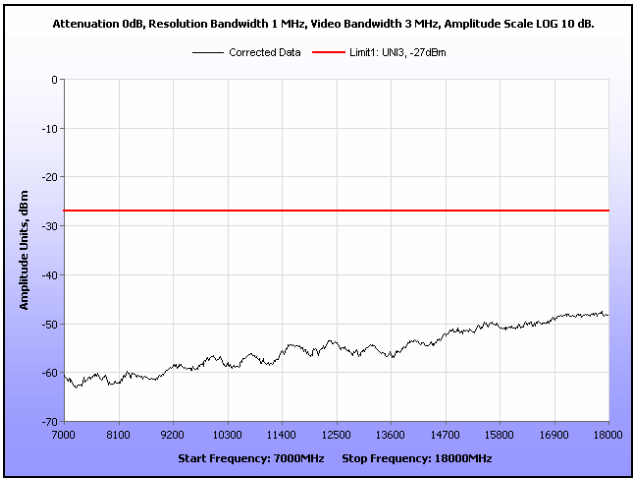


Plot 290. Radiated Spurious Emissions, 802.11a, 5500 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 291. Radiated Spurious Emissions, 802.11a, 5500 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 292. Radiated Spurious Emissions, 802.11a, 5500 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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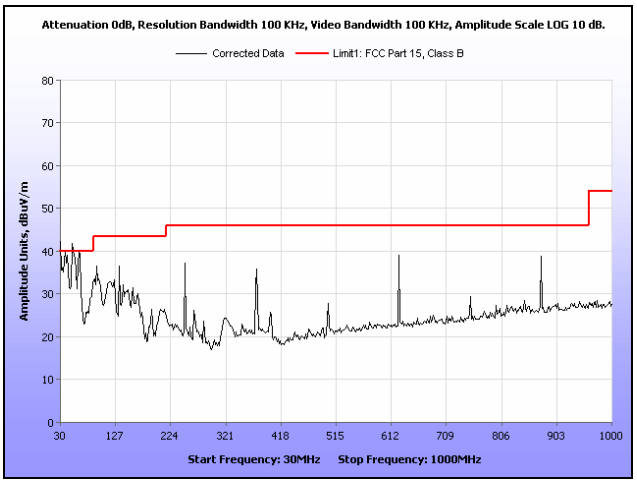
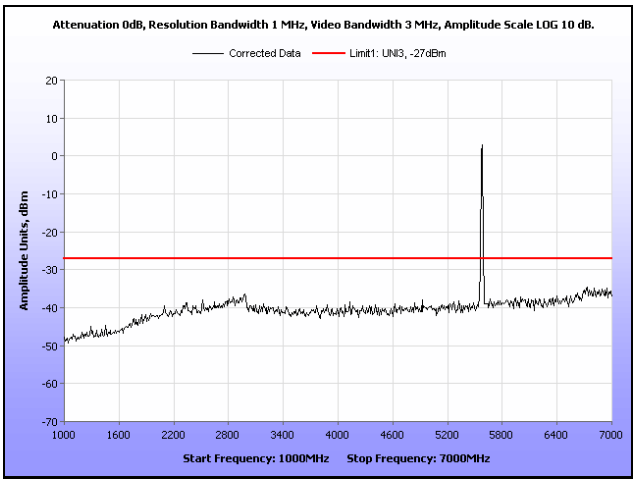
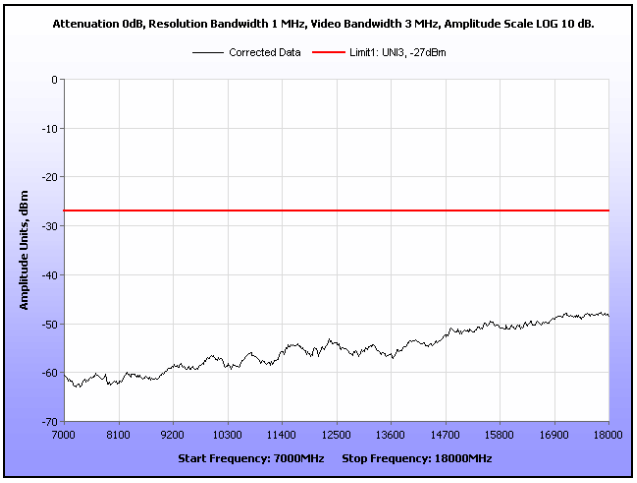


Plot 293. Radiated Spurious Emissions, 802.11a, 5580 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 294. Radiated Spurious Emissions, 802.11a, 5580 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 295. Radiated Spurious Emissions, 802.11a, 5580 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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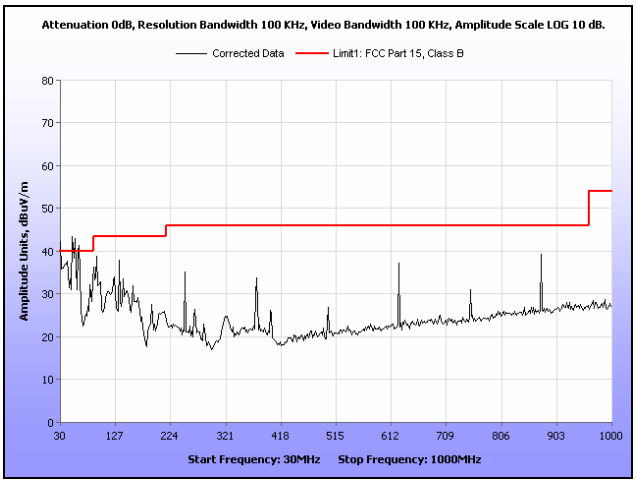
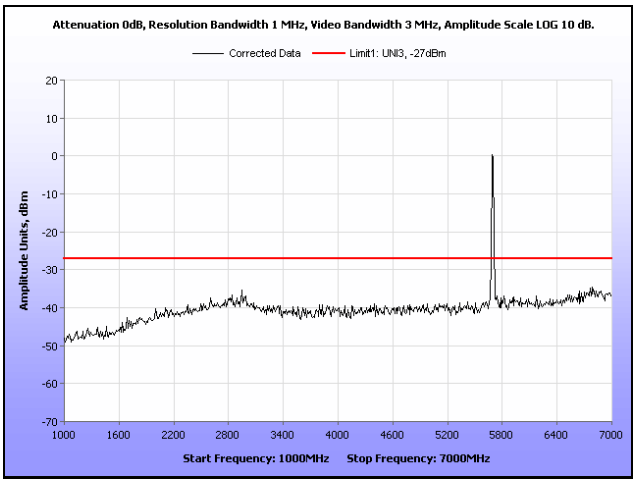
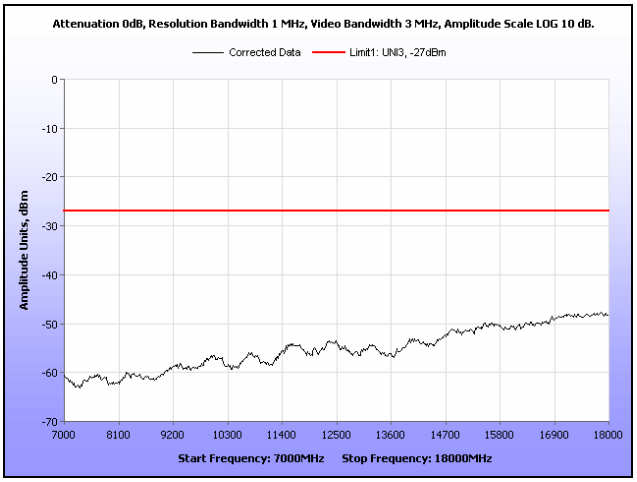


Plot 296. Radiated Spurious Emissions, 802.11a, 5700 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 297. Radiated Spurious Emissions, 802.11a, 5700 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 298. Radiated Spurious Emissions, 802.11a, 5700 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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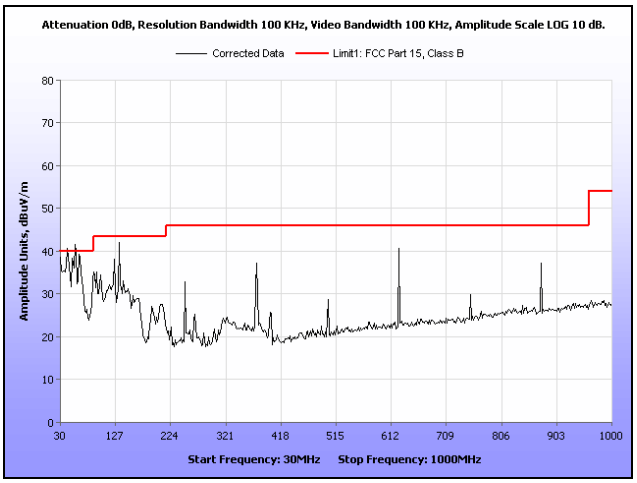
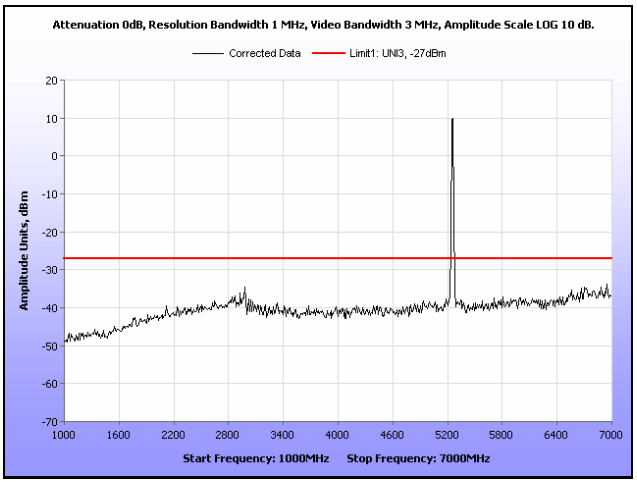
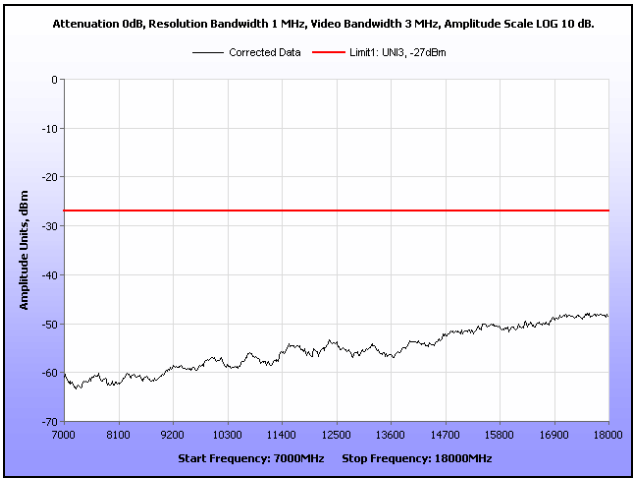


Plot 299. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 300. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 301. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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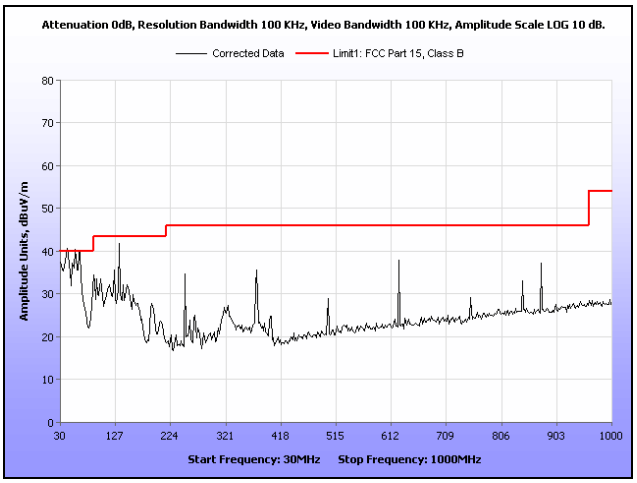
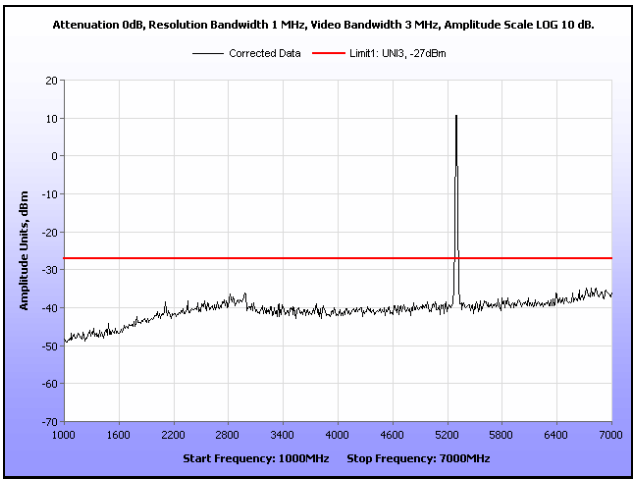
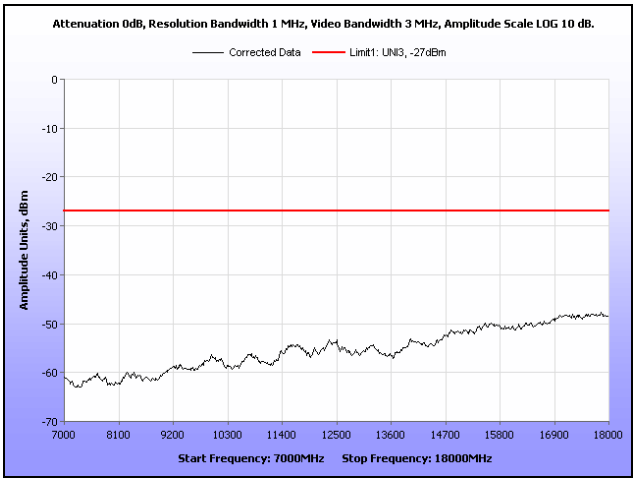


Plot 302. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 303. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 304. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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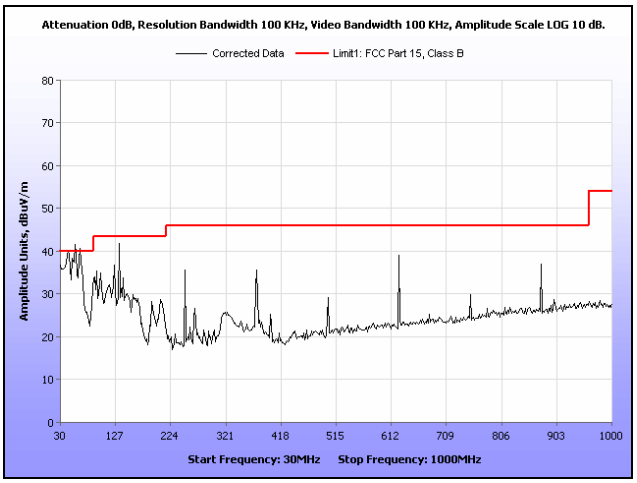
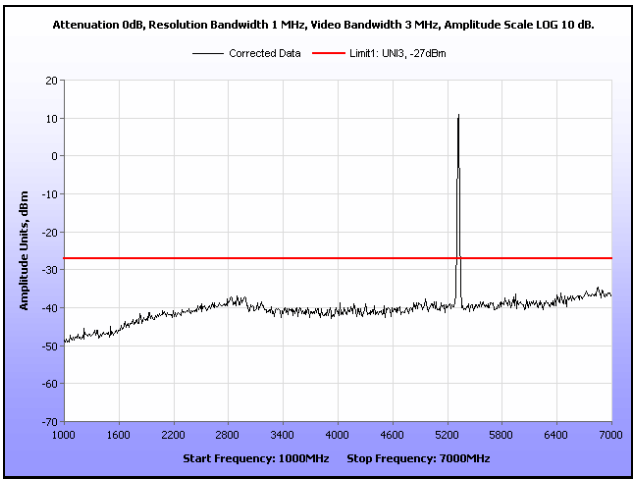
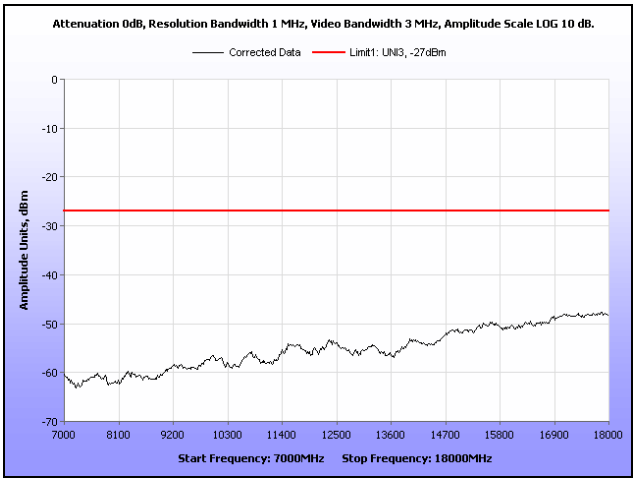


Plot 305. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 306. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 307. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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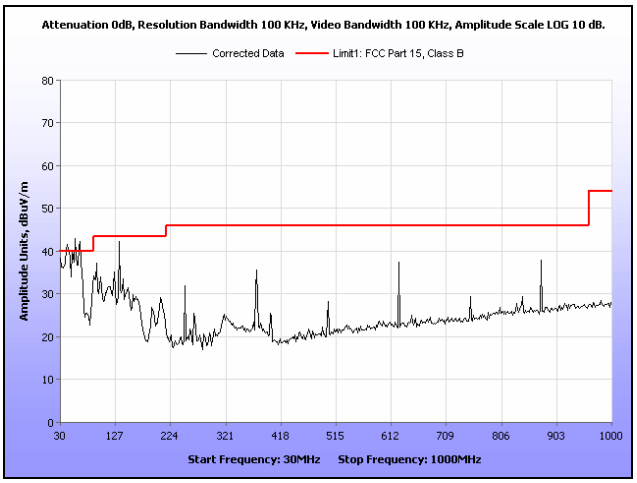
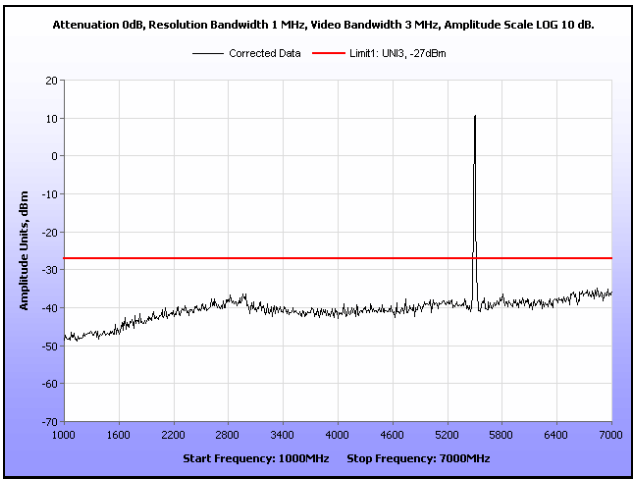
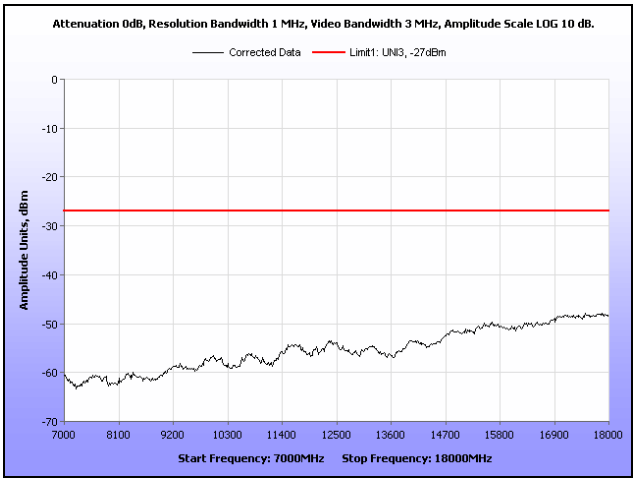


Plot 308. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 309. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 310. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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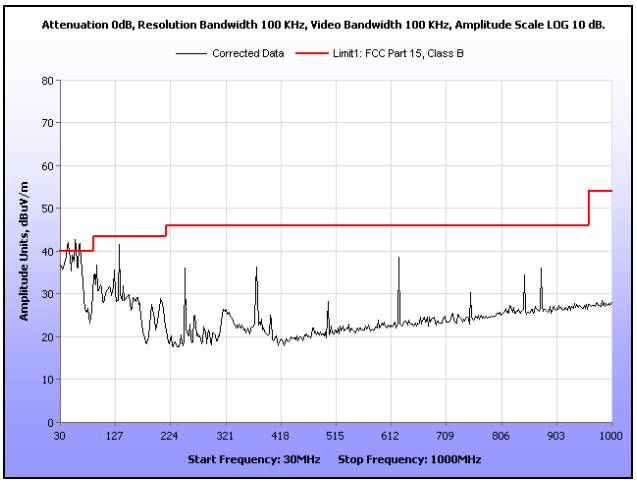
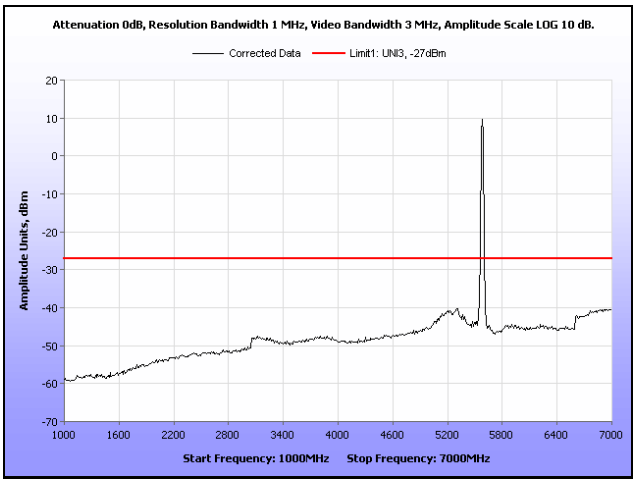
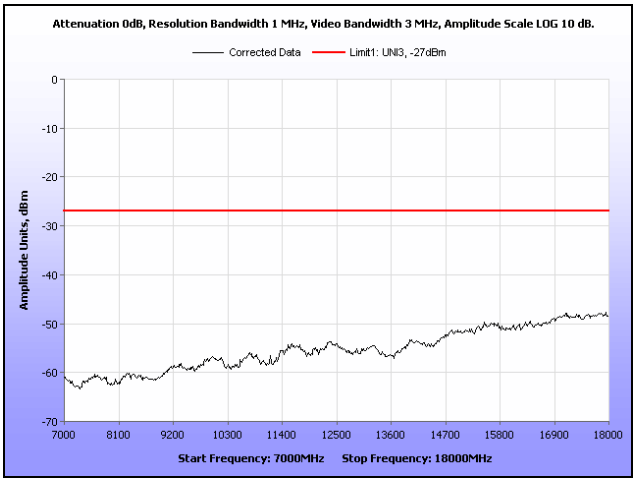


Plot 311. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 312. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 313. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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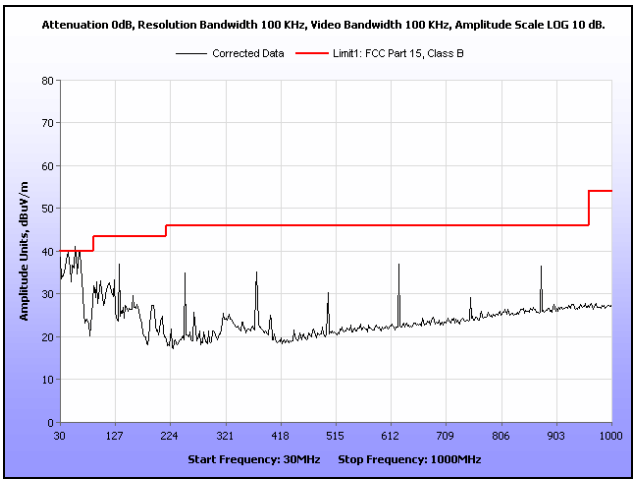
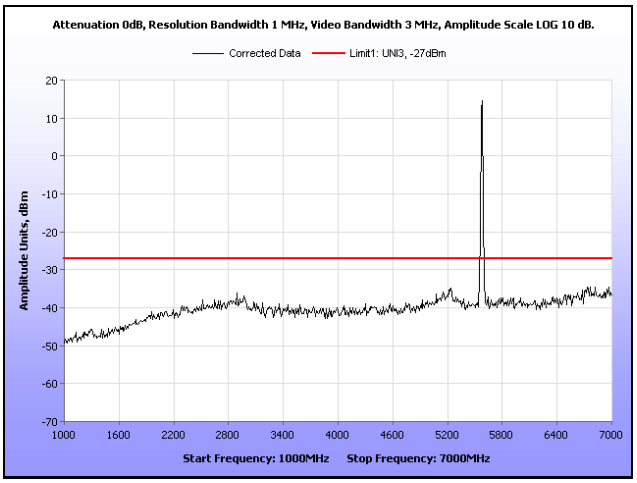
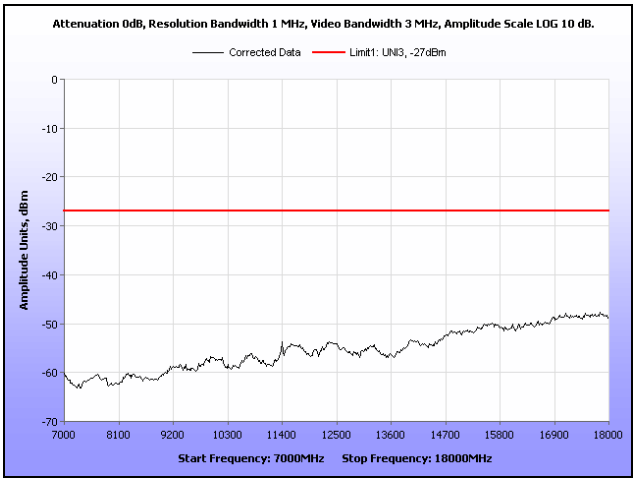


Plot 314. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 315. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 316. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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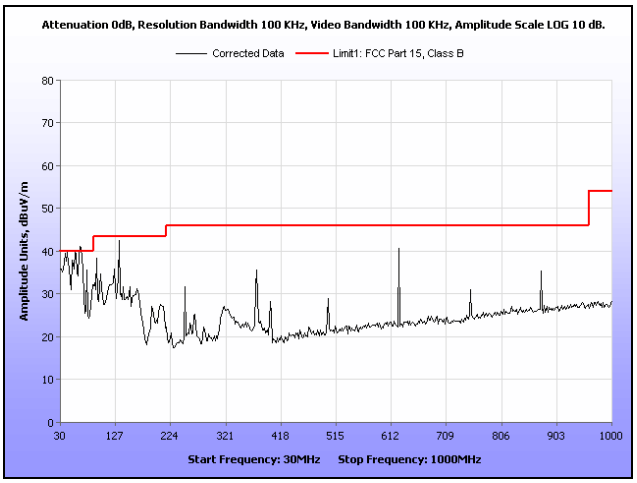
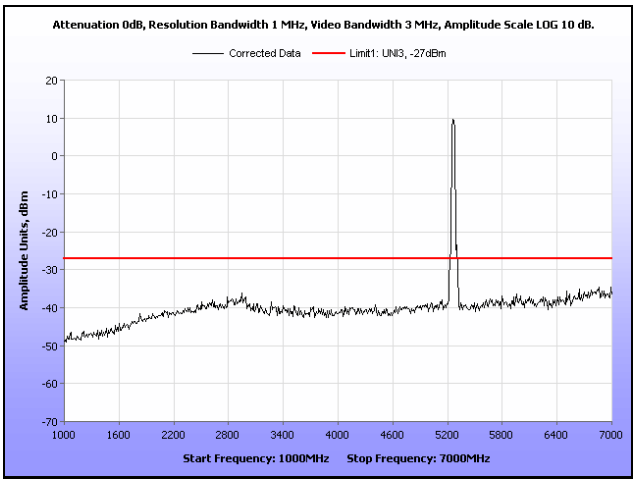
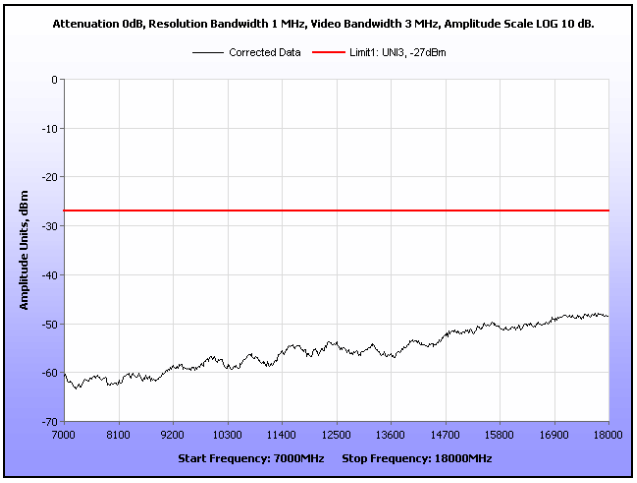


Plot 317. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 318. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 319. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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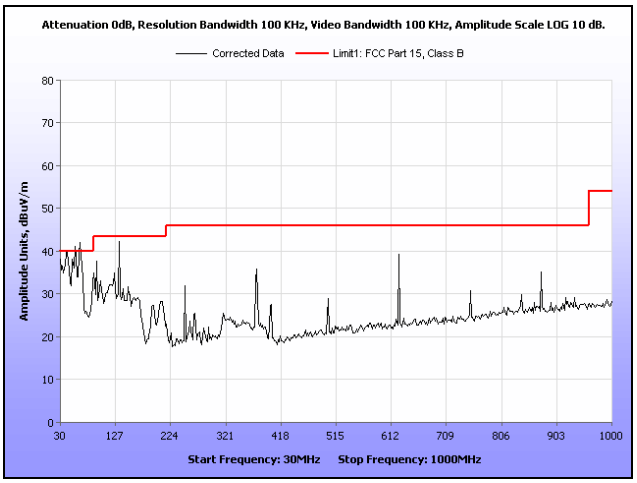
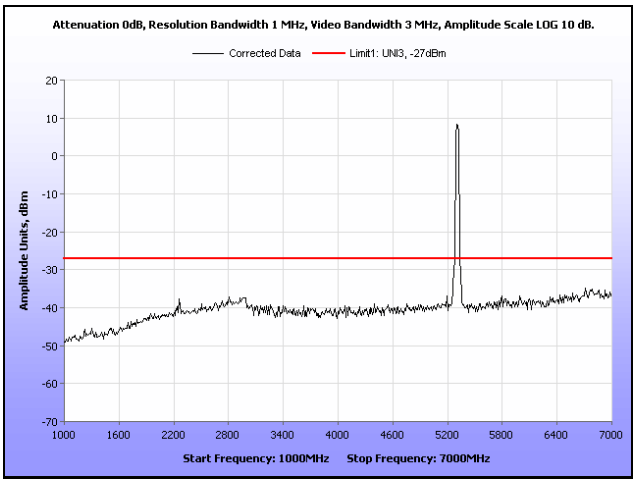
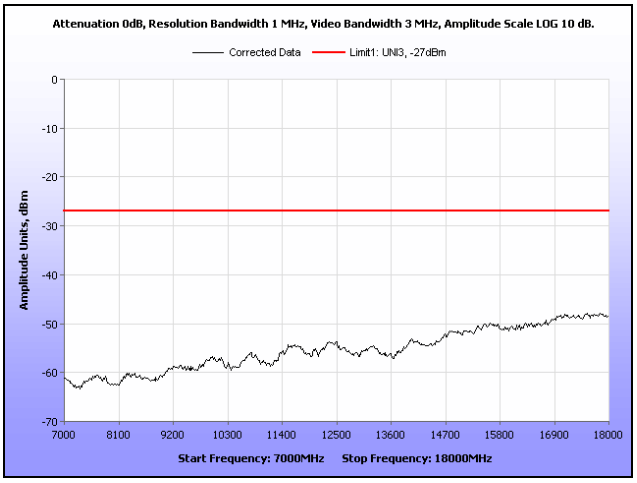


Plot 320. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 321. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 322. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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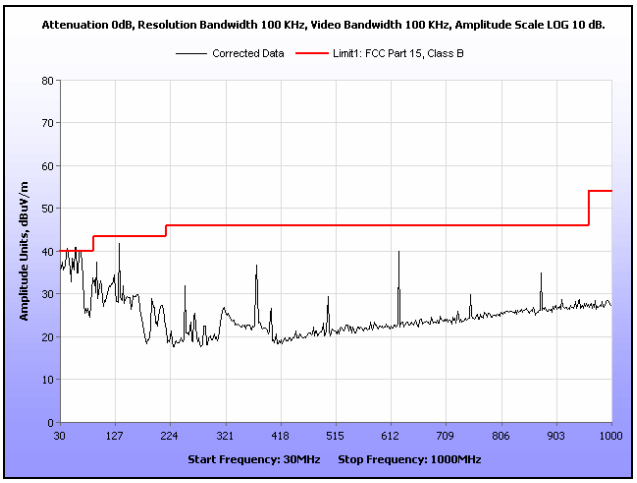
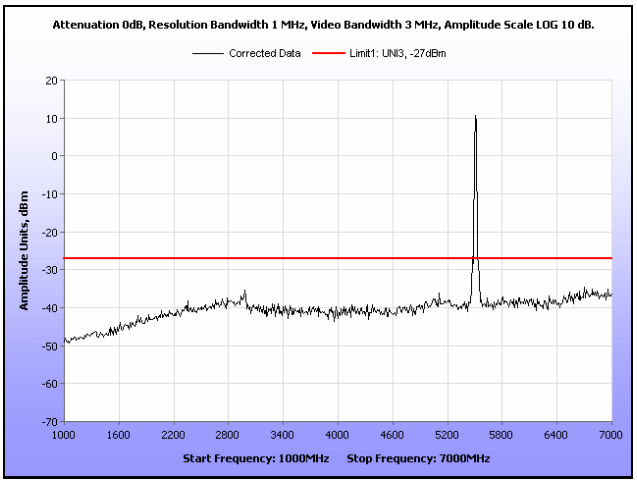
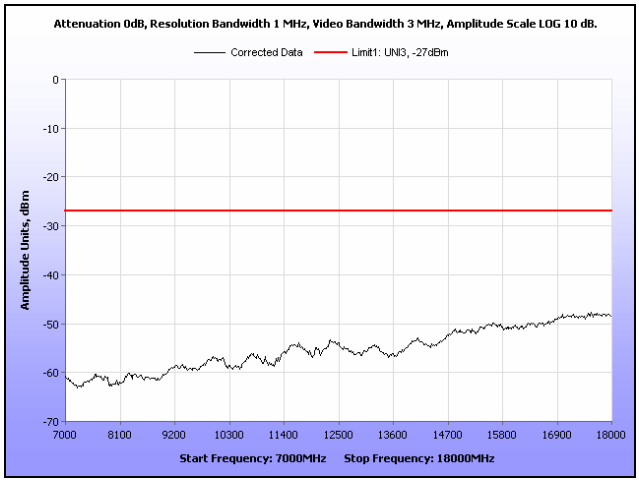


Plot 323. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 324. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 325. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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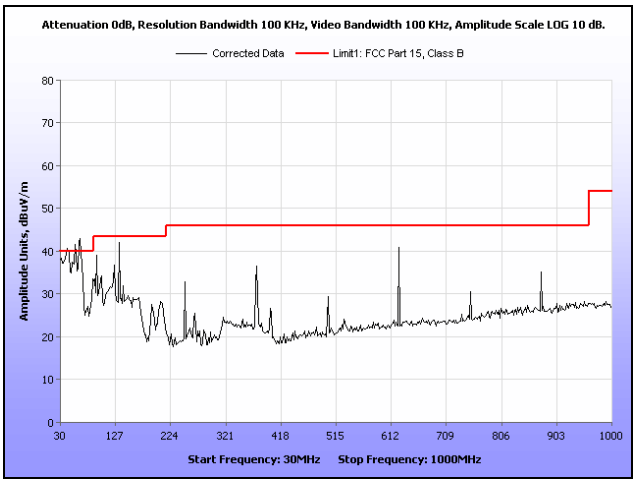
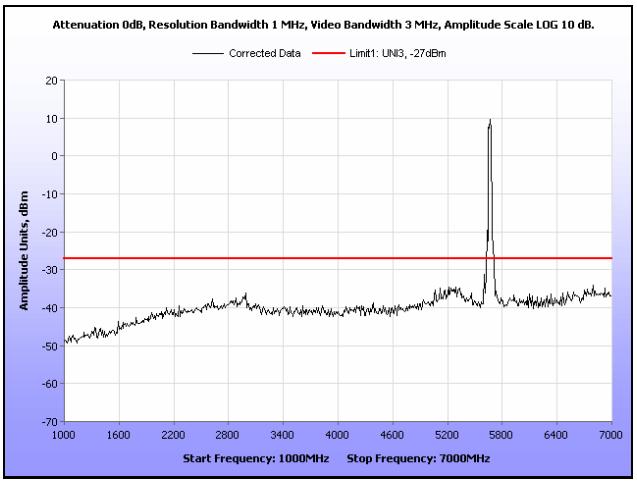
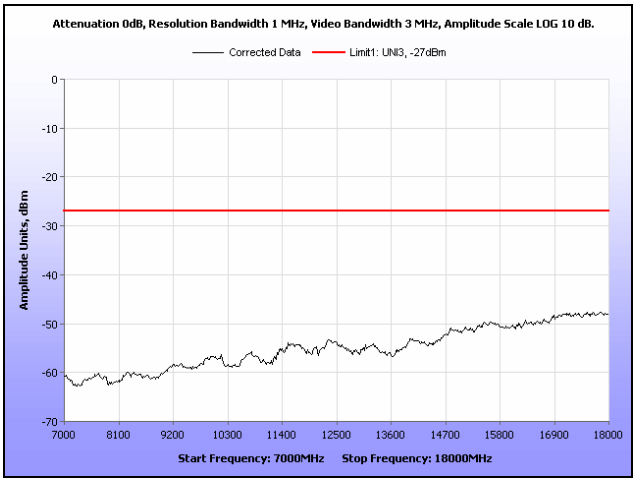


Plot 326. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 30 MHz – 1 GHz, 6 dBi Dipole Antenna



Plot 327. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 1 GHz – 7 GHz, 6 dBi Dipole Antenna



Plot 328. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 7 GHz – 18 GHz, 6 dBi Dipole Antenna

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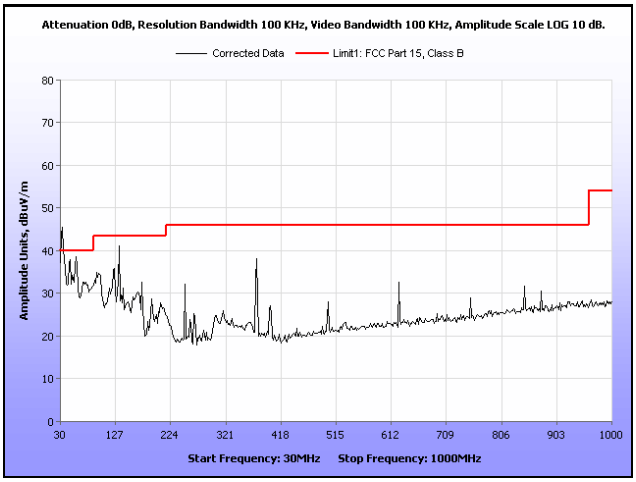
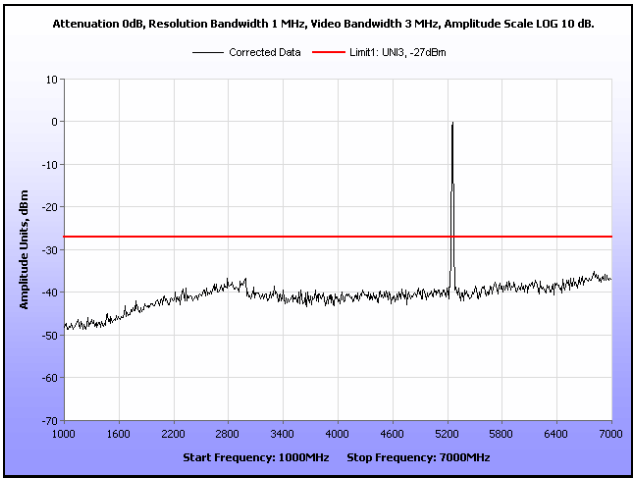
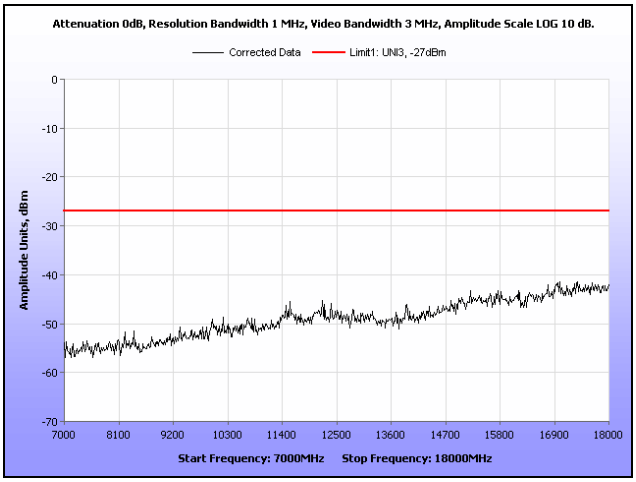
Radiated Emissions Limits, Ceiling Mount Antenna



Plot 329. Radiated Spurious Emissions, 802.11a, 5260 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 330. Radiated Spurious Emissions, 802.11a, 5260 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 331. Radiated Spurious Emissions, 802.11a, 5260 MHz, 7 GHz – 18 GHz, Ceiling Mount

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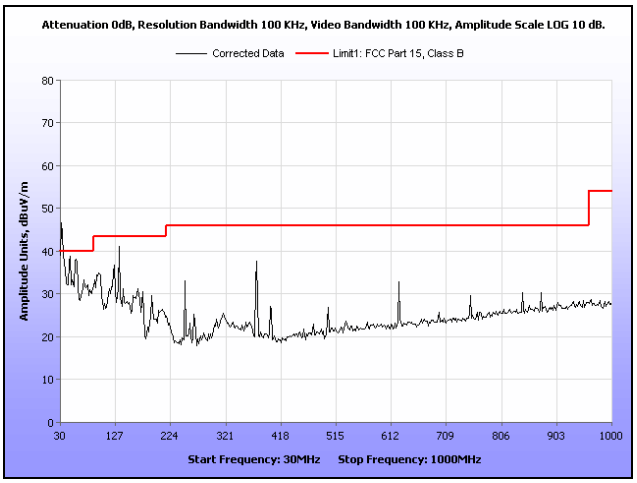
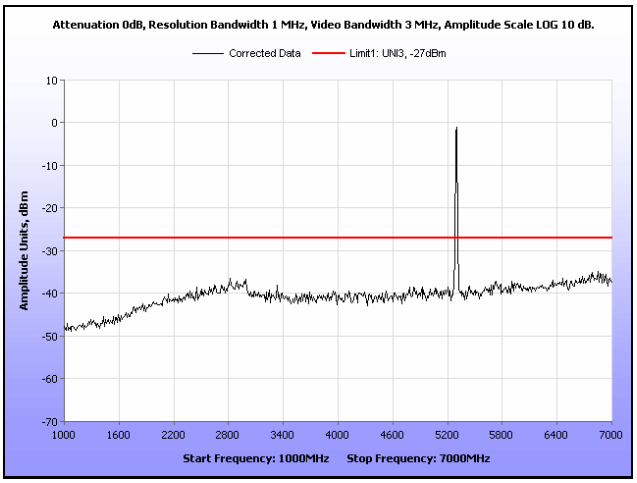
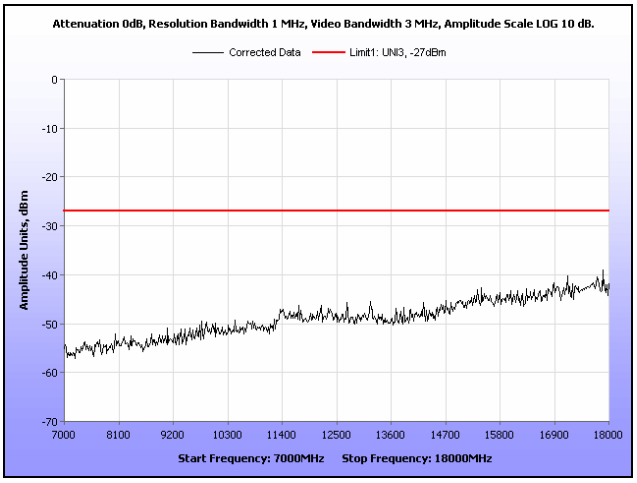


Plot 332. Radiated Spurious Emissions, 802.11a, 5300 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 333. Radiated Spurious Emissions, 802.11a, 5300 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 334. Radiated Spurious Emissions, 802.11a, 5300 MHz, 7 GHz – 18 GHz, Ceiling Mount

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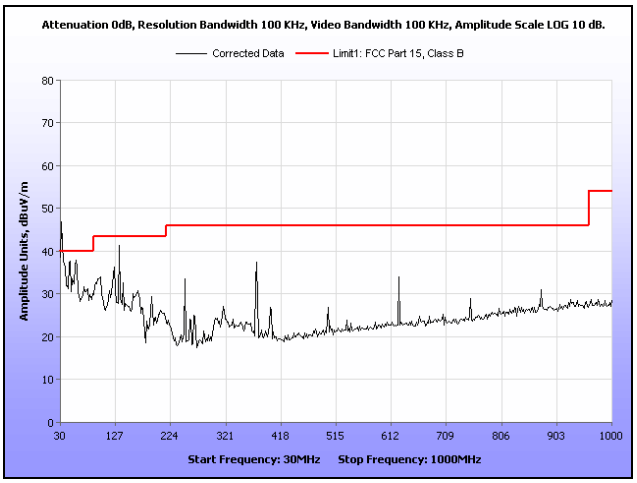
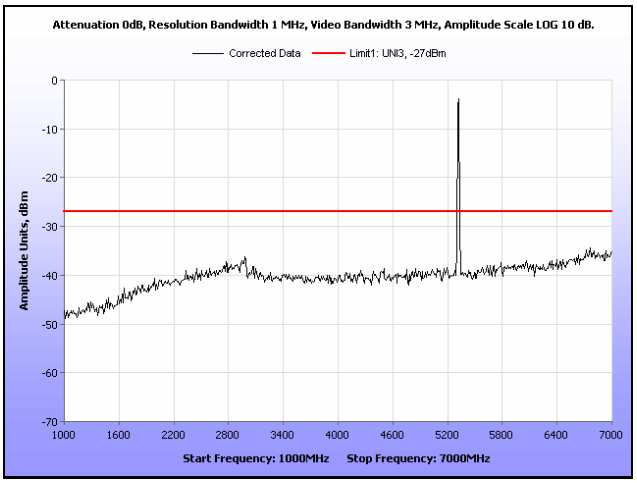
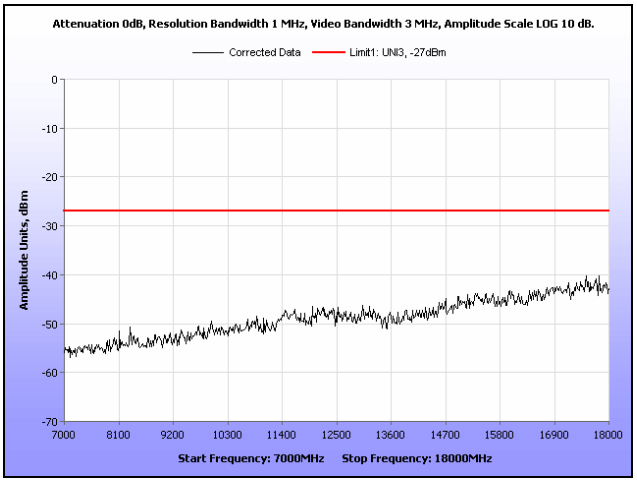


Plot 335. Radiated Spurious Emissions, 802.11a, 5320 MHz, 30 MHz – 1 GHz, Ceiling Mount

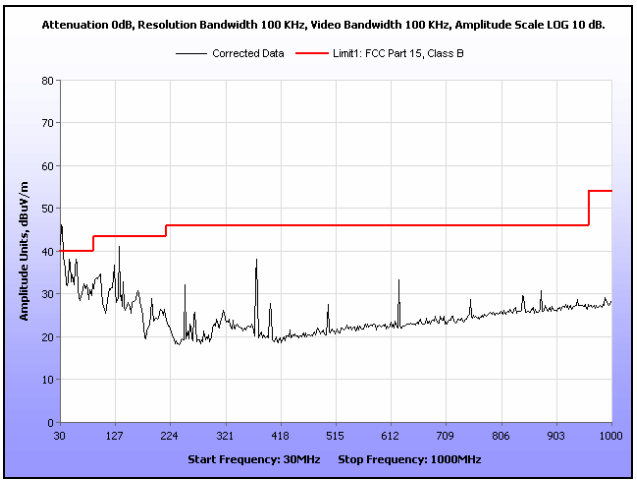


Plot 336. Radiated Spurious Emissions, 802.11a, 5320 MHz, 1 GHz – 7 GHz, Ceiling Mount

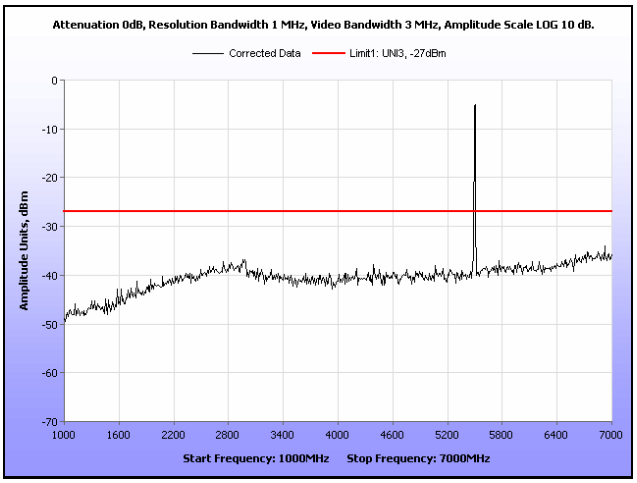


Plot 337. Radiated Spurious Emissions, 802.11a, 5320 MHz, 7 GHz – 18 GHz, Ceiling Mount

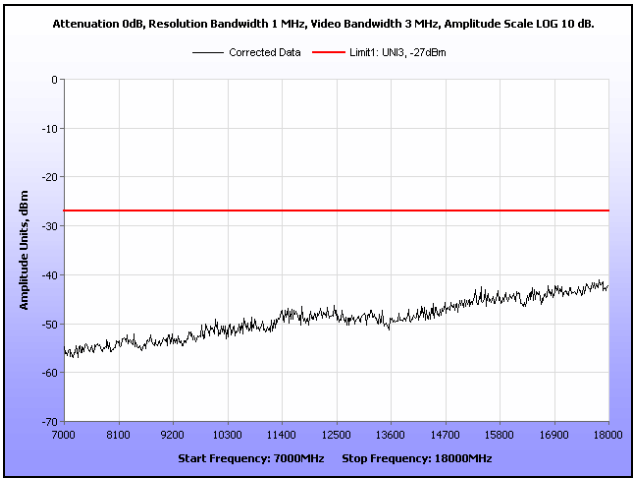
 © 2013, MET Laboratories, Inc.



Plot 338. Radiated Spurious Emissions, 802.11a, 5500 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 339. Radiated Spurious Emissions, 802.11a, 5500 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 340. Radiated Spurious Emissions, 802.11a, 5500 MHz, 7 GHz – 18 GHz, Ceiling Mount

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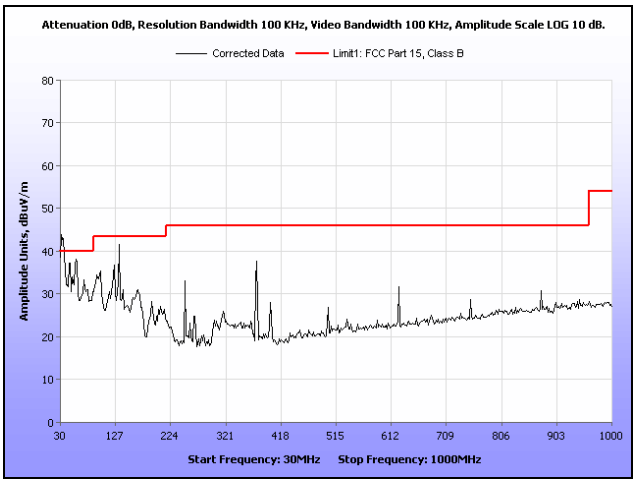
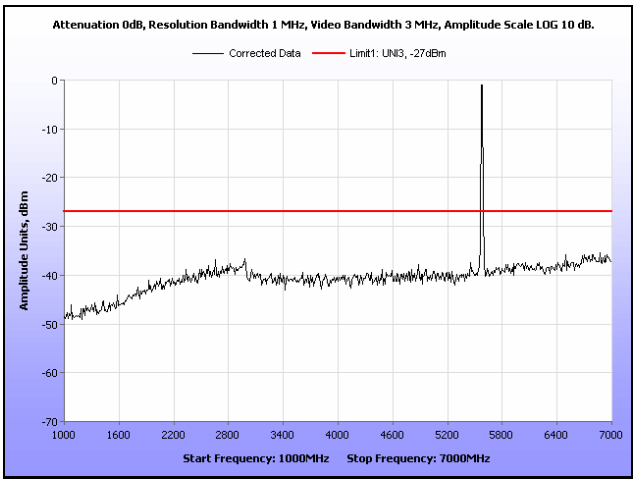
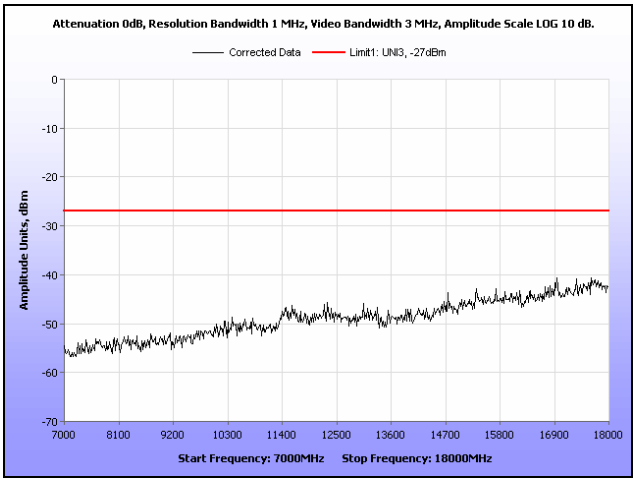


Plot 341. Radiated Spurious Emissions, 802.11a, 5580 MHz, 30 MHz – 1 GHz, Ceiling Mount

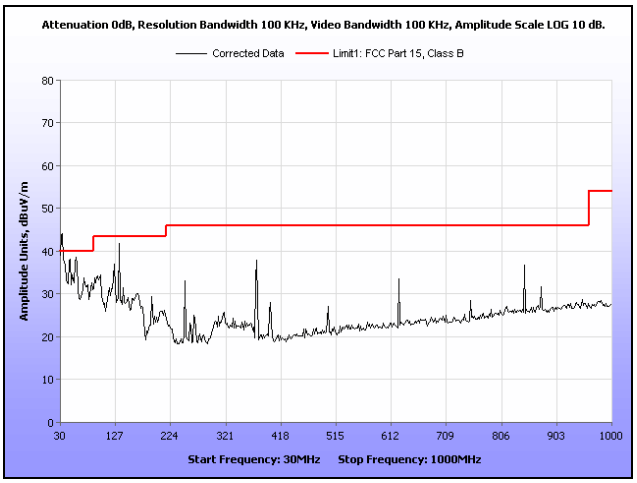


Plot 342. Radiated Spurious Emissions, 802.11a, 5580 MHz, 1 GHz – 7 GHz, Ceiling Mount

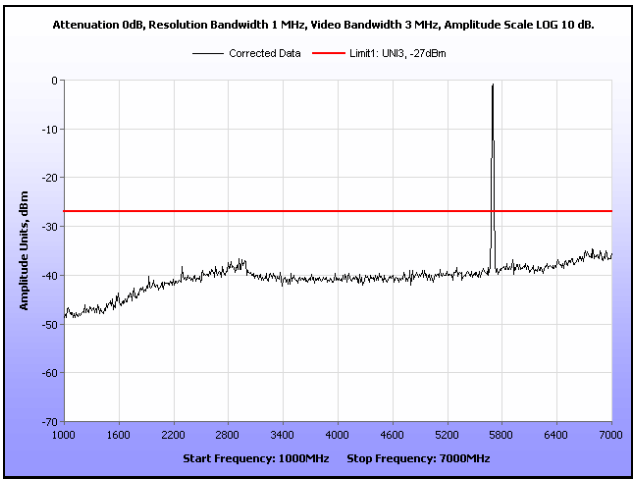


Plot 343. Radiated Spurious Emissions, 802.11a, 5580 MHz, 7 GHz – 18 GHz, Ceiling Mount

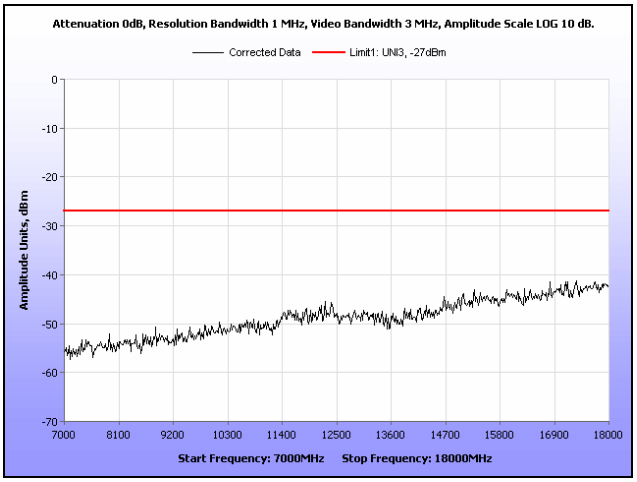
 © 2013, MET Laboratories, Inc.



Plot 344. Radiated Spurious Emissions, 802.11a, 5700 MHz, 30 MHz – 1 GHz, Ceiling Mount

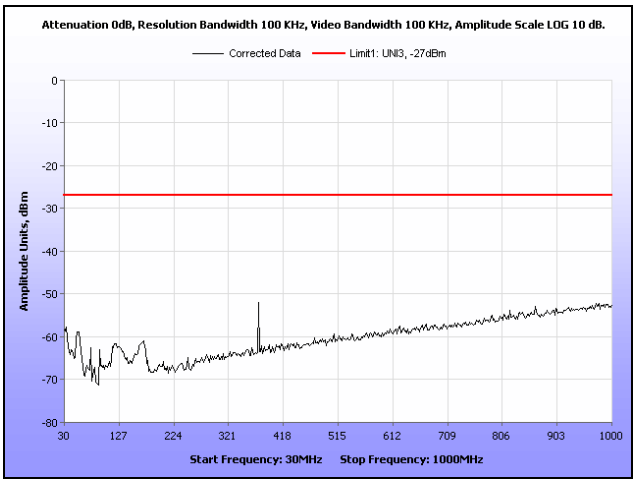


Plot 345. Radiated Spurious Emissions, 802.11a, 5700 MHz, 1 GHz – 7 GHz, Ceiling Mount

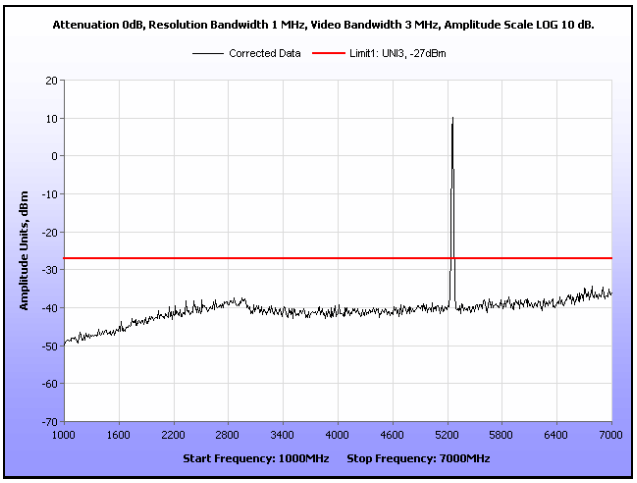


Plot 346. Radiated Spurious Emissions, 802.11a, 5700 MHz, 7 GHz – 18 GHz, Ceiling Mount

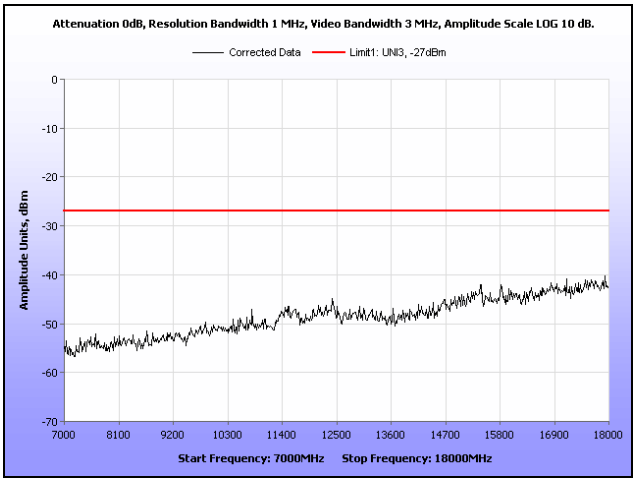
 © 2013, MET Laboratories, Inc.



Plot 347. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 348. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 349. Radiated Spurious Emissions, 802.11n 20 MHz, 5260 MHz, 7 GHz – 18 GHz, Ceiling Mount

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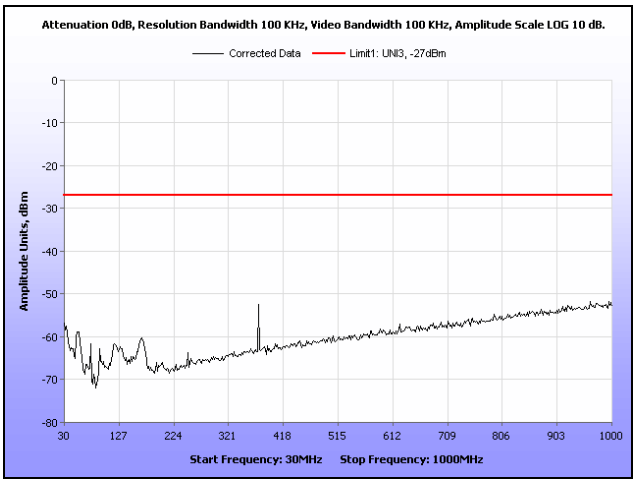
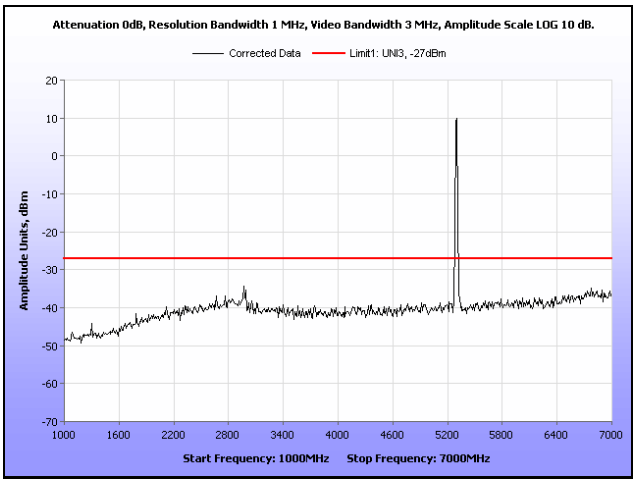
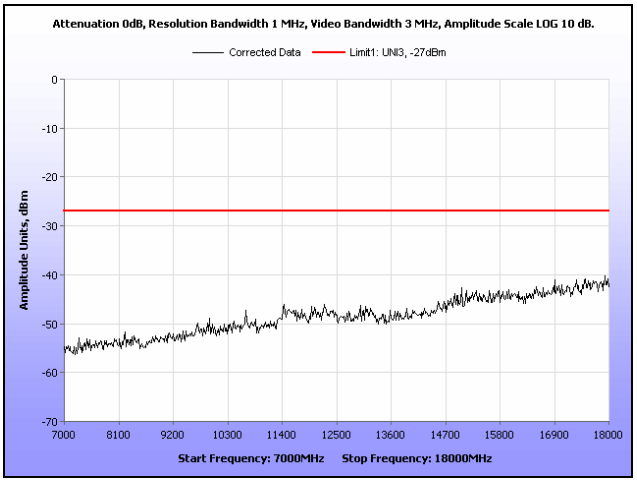


Plot 350. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 351. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 352. Radiated Spurious Emissions, 802.11n 20 MHz, 5300 MHz, 7 GHz – 18 GHz, Ceiling Mount

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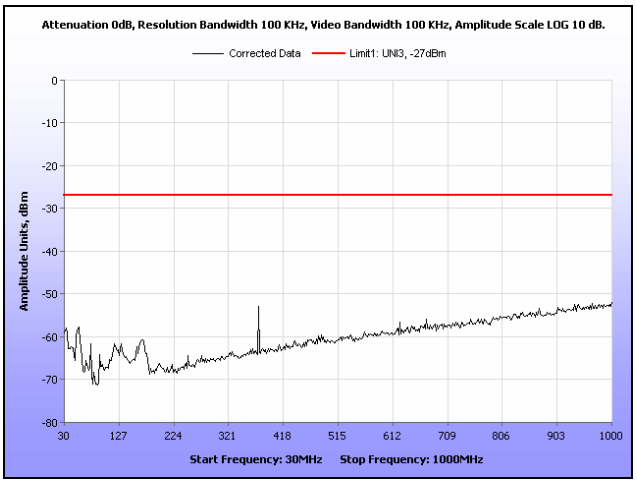
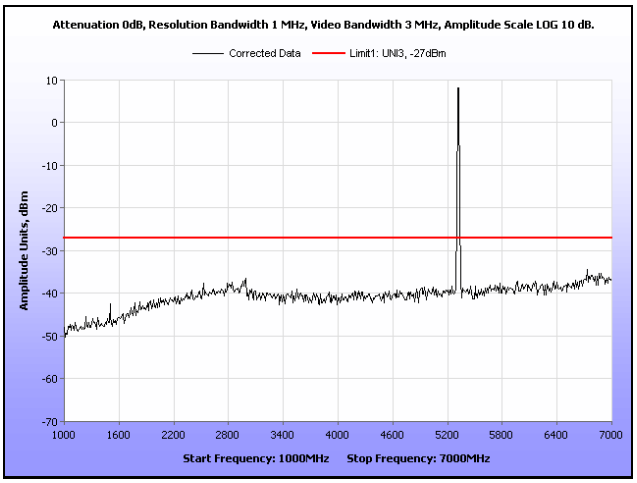
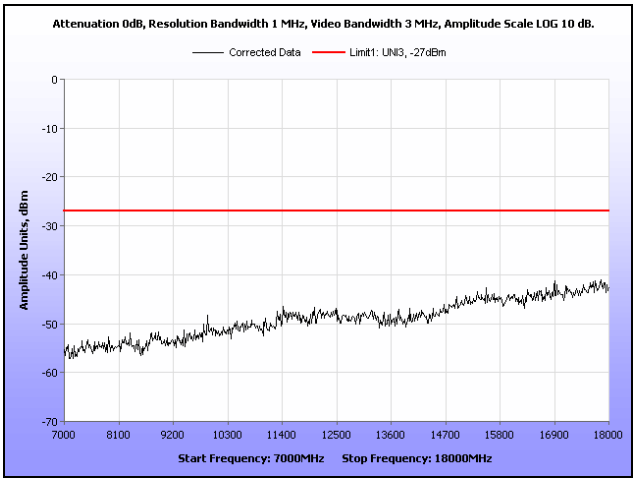


Plot 353. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 354. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 355. Radiated Spurious Emissions, 802.11n 20 MHz, 5320 MHz, 7 GHz – 18 GHz, Ceiling Mount

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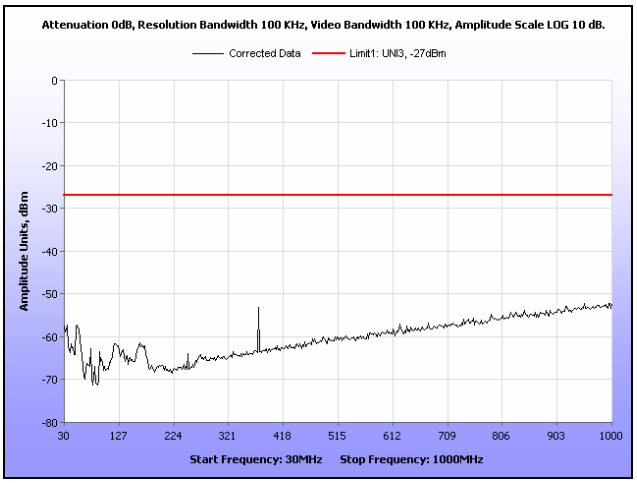
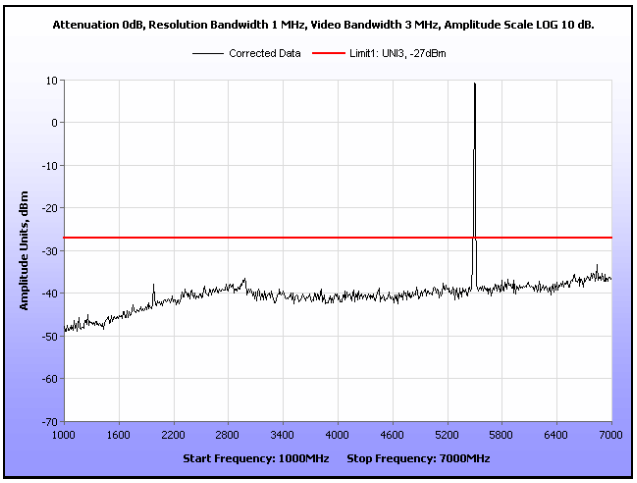
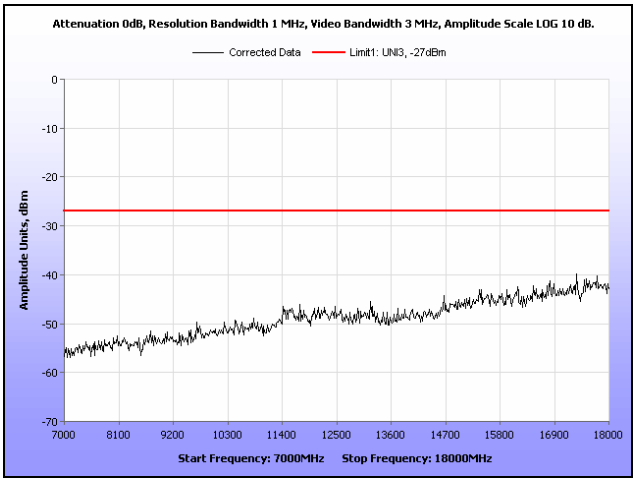


Plot 356. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 357. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 358. Radiated Spurious Emissions, 802.11n 20 MHz, 5500 MHz, 7 GHz – 18 GHz, Ceiling Mount

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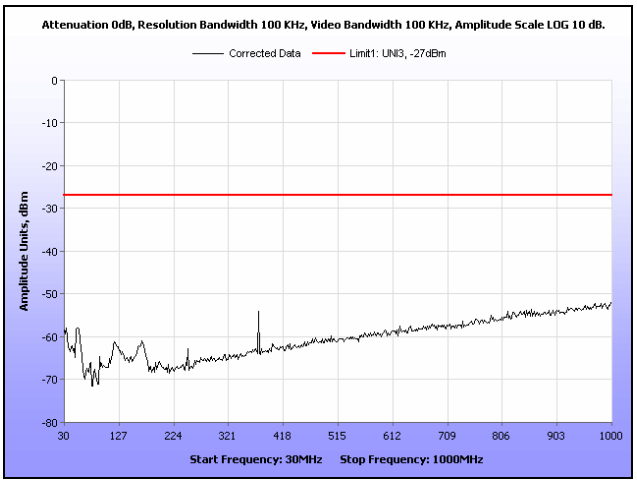
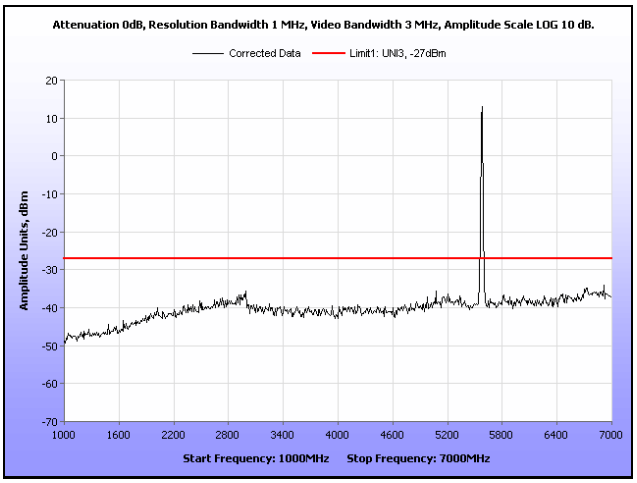
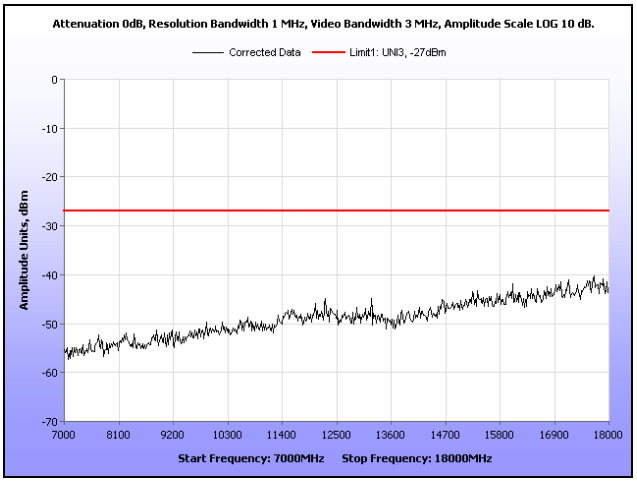


Plot 359. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 360. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 361. Radiated Spurious Emissions, 802.11n 20 MHz, 5580 MHz, 7 GHz – 18 GHz, Ceiling Mount

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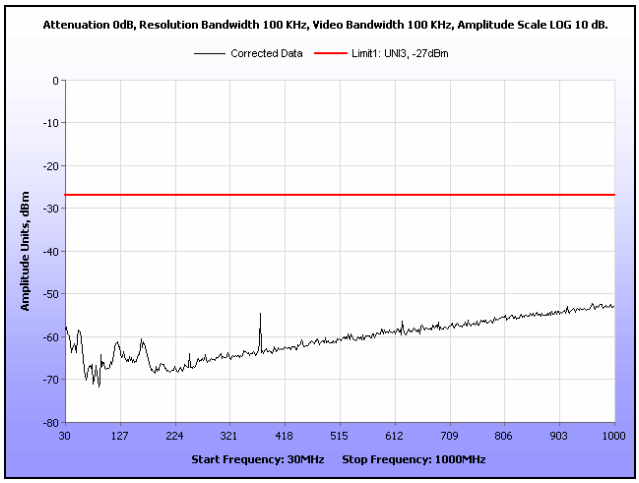
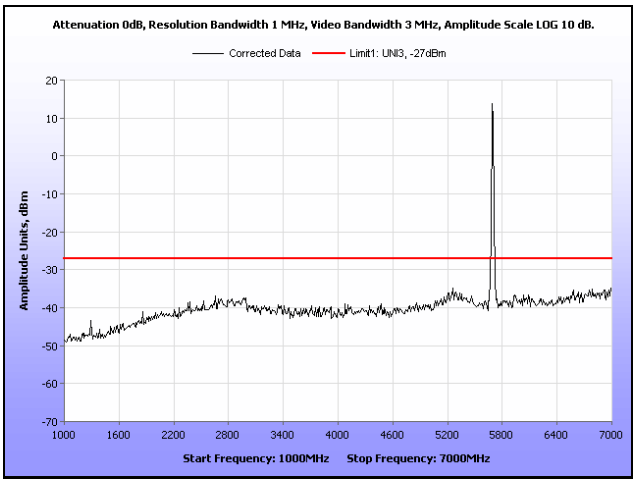
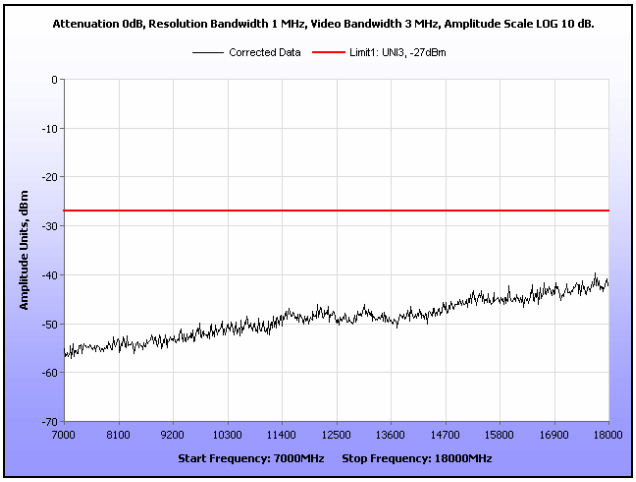


Plot 362. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 363. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 364. Radiated Spurious Emissions, 802.11n 20 MHz, 5700 MHz, 7 GHz – 18 GHz, Ceiling Mount

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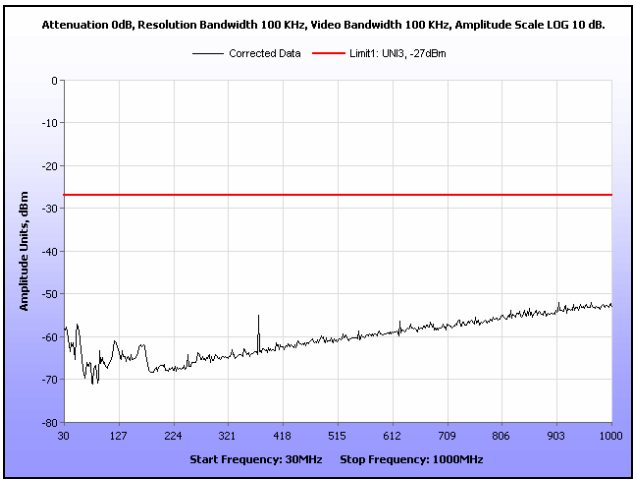
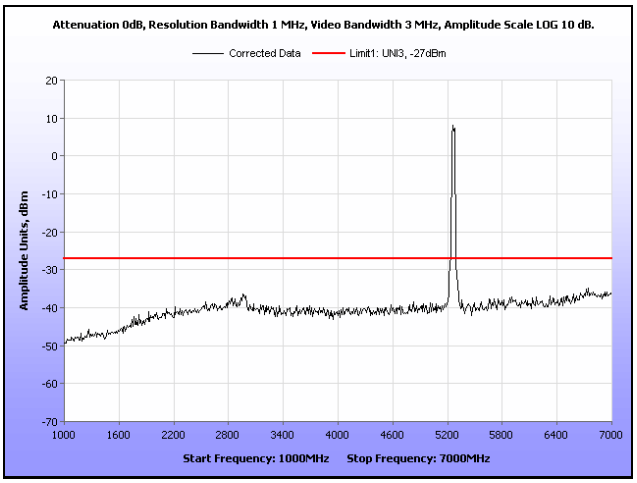
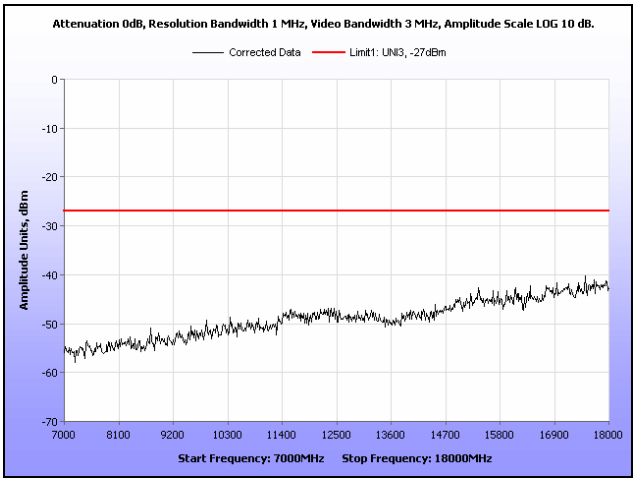


Plot 365. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 366. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 367. Radiated Spurious Emissions, 802.11n 40 MHz, 5270 MHz, 7 GHz – 18 GHz, Ceiling Mount

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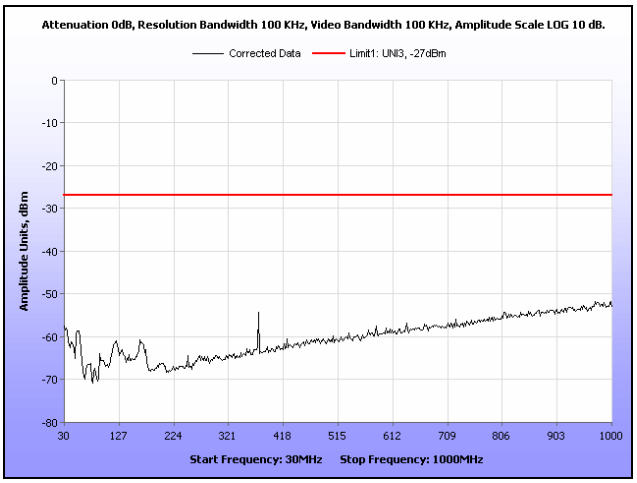
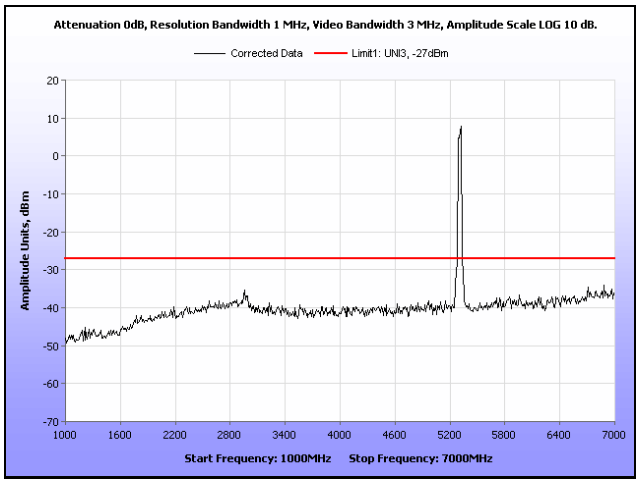
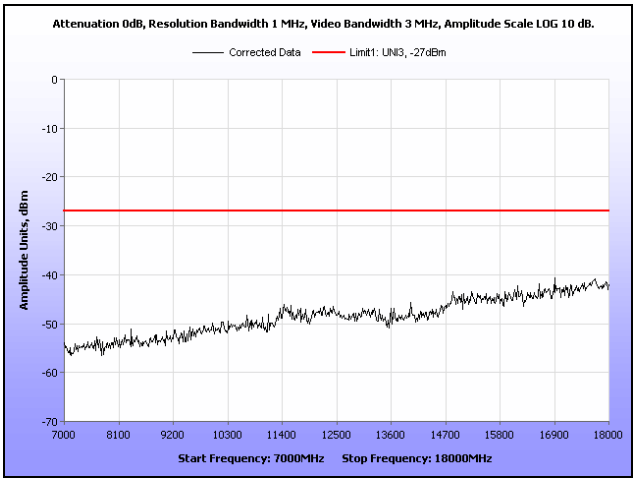


Plot 368. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 369. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 370. Radiated Spurious Emissions, 802.11n 40 MHz, 5310 MHz, 7 GHz – 18 GHz, Ceiling Mount

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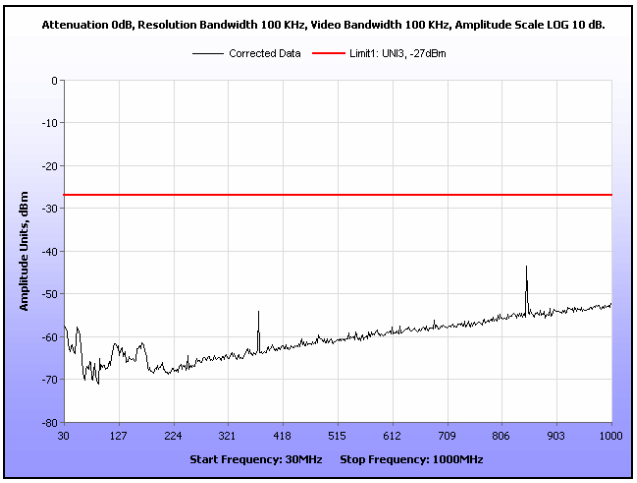
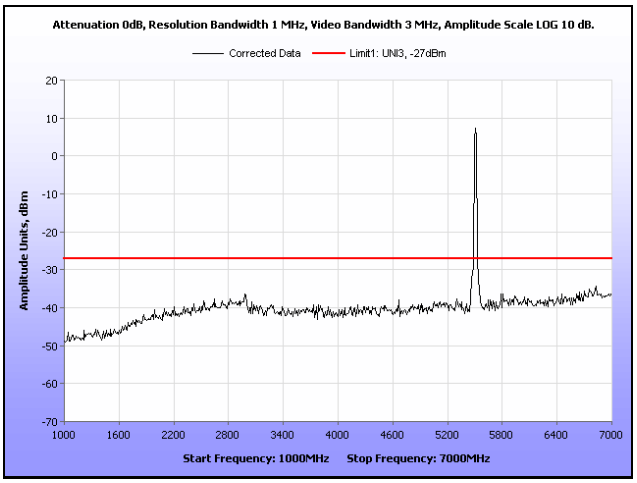
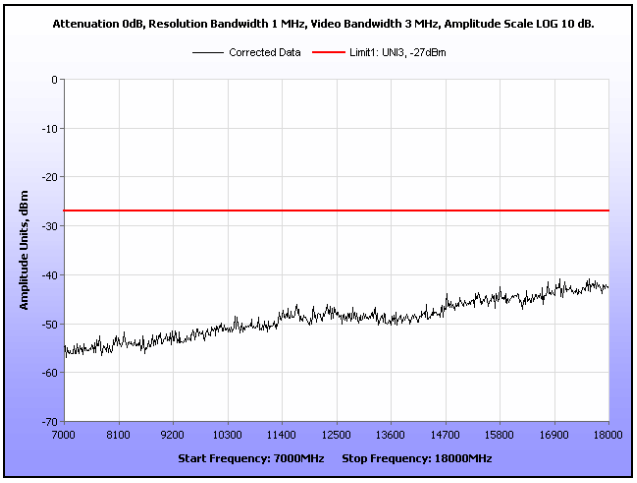


Plot 371. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 372. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 373. Radiated Spurious Emissions, 802.11n 40 MHz, 5510 MHz, 7 GHz – 18 GHz, Ceiling Mount

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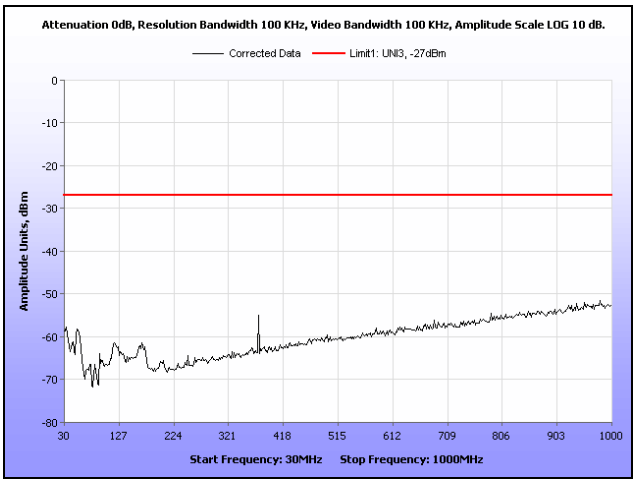
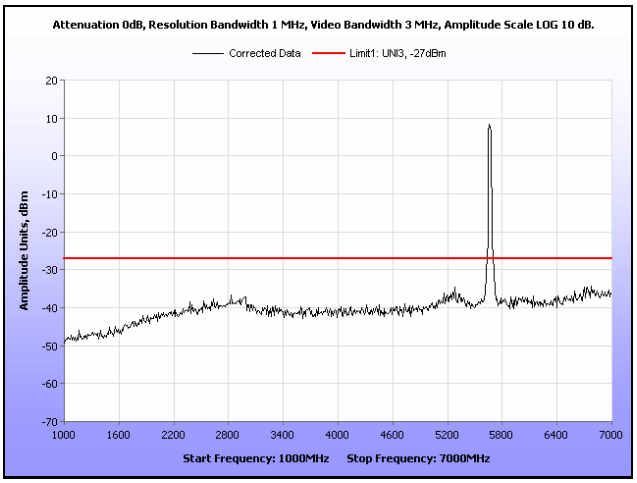
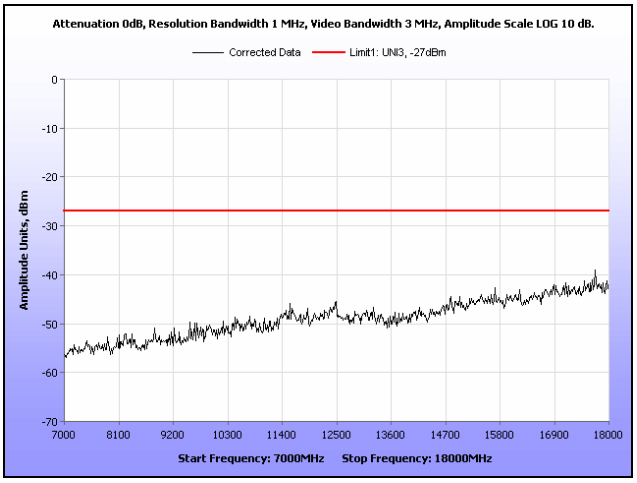


Plot 374. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 30 MHz – 1 GHz, Ceiling Mount



Plot 375. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 1 GHz – 7 GHz, Ceiling Mount



Plot 376. Radiated Spurious Emissions, 802.11n 40 MHz, 5670 MHz, 7 GHz – 18 GHz, Ceiling Mount

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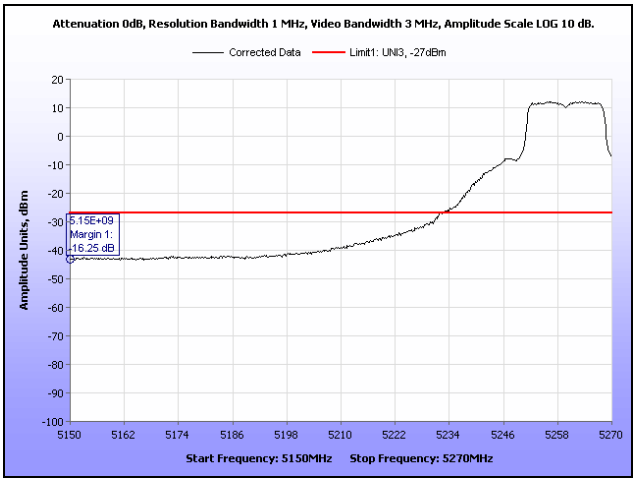
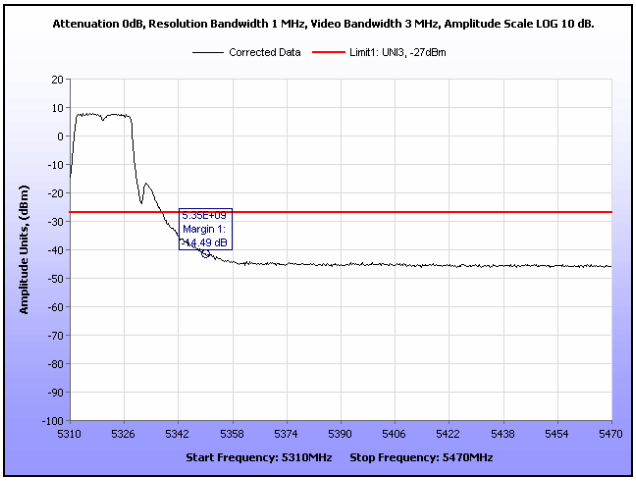
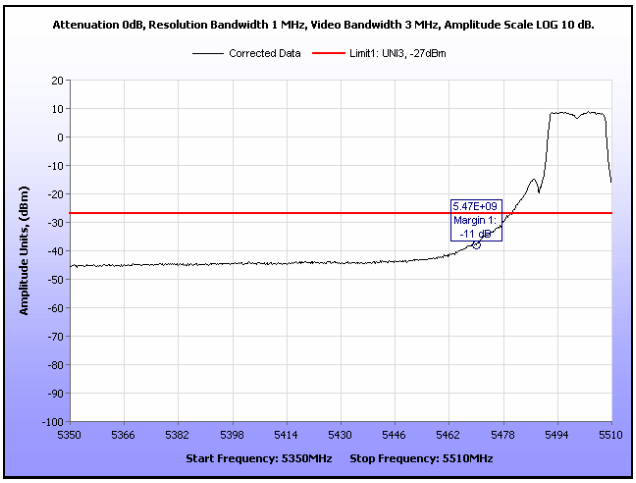
Radiated Band Edge



Plot 377. Radiated Band Edge, 802.11a, 5260 MHz



Plot 378. Radiated Band Edge, 802.11a, 5320 MHz



Plot 379. Radiated Band Edge, 802.11a, 5500 MHz

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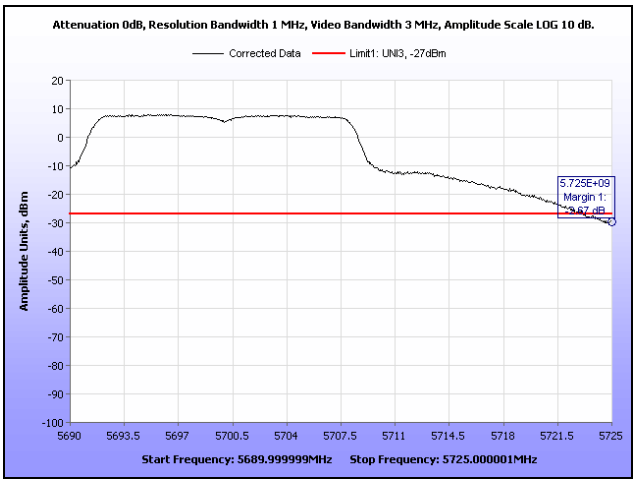
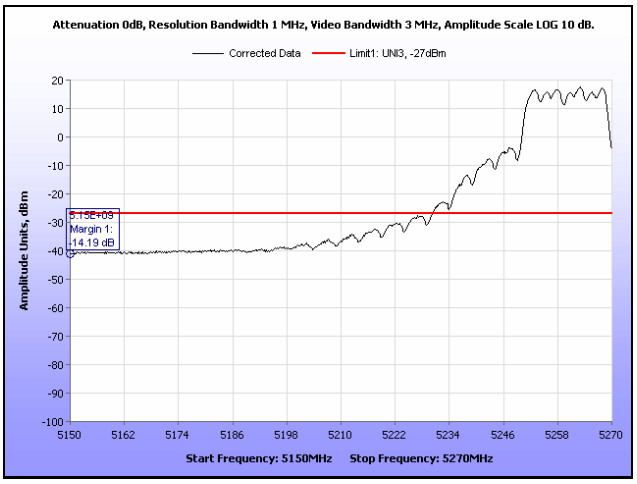
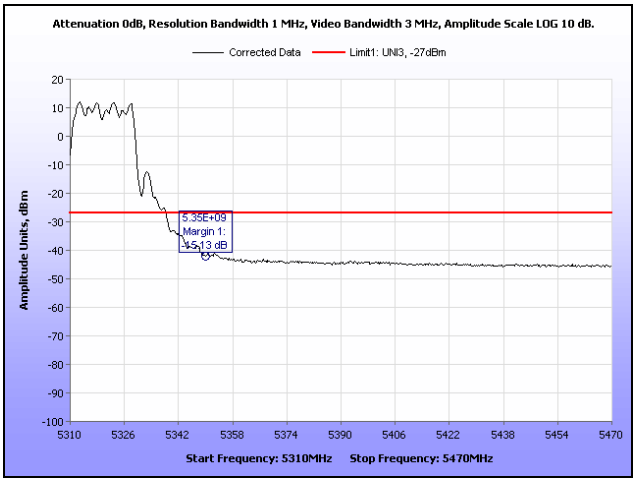


Plot 380. Radiated Band Edge, 802.11a, 5700 MHz



Plot 381. Radiated Band Edge, 802.11n 20 MHz, 5260 MHz



Plot 382. Radiated Band Edge, 802.11n 20 MHz, 5320 MHz

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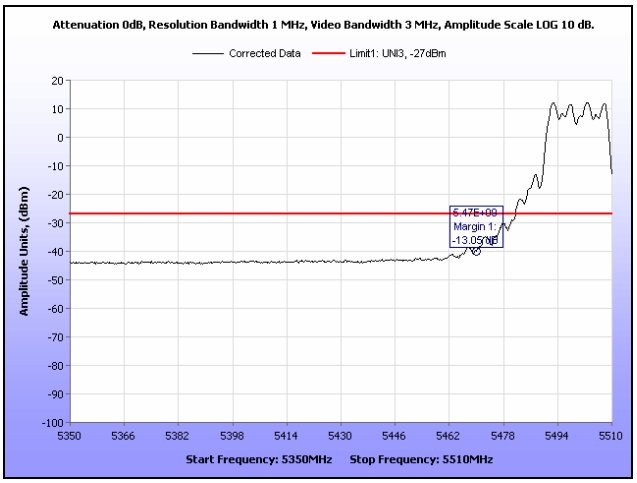
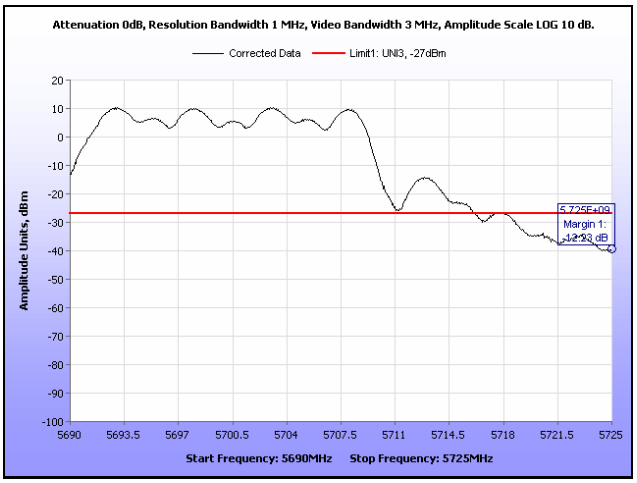
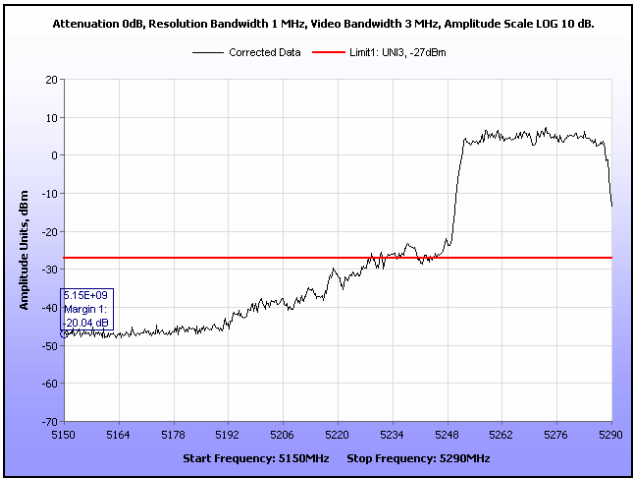


Plot 383. Radiated Band Edge, 802.11n 20 MHz, 5500 MHz



Plot 384. Radiated Band Edge, 802.11n 20 MHz, 5700 MHz



Plot 385. Radiated Band Edge, 802.11n 40 MHz, 5270 MHz

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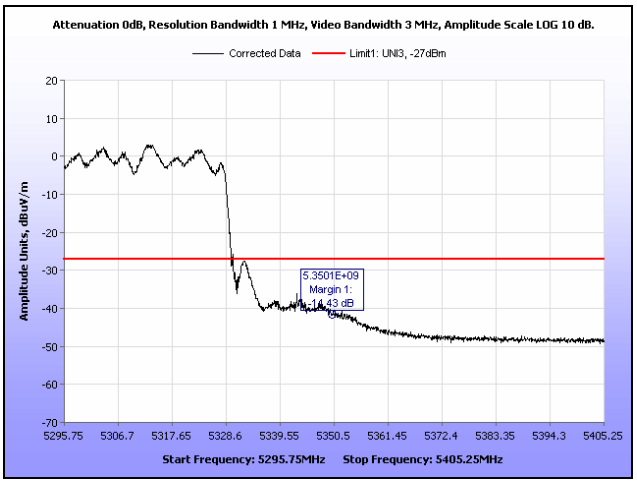
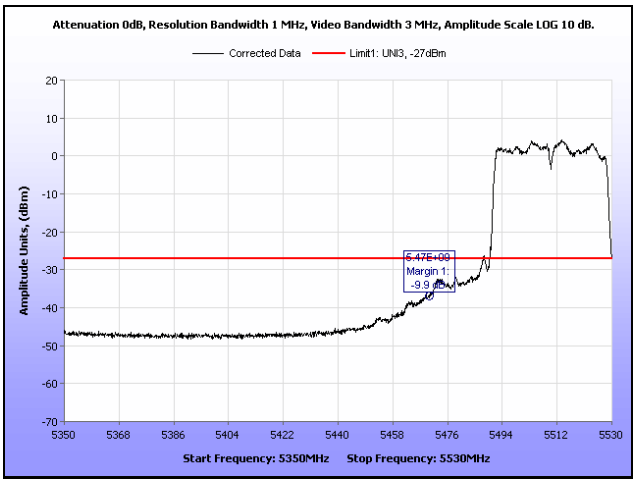
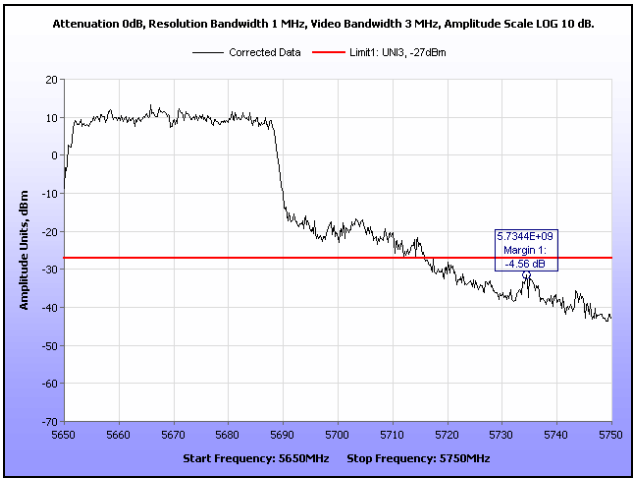


Plot 386. Radiated Band Edge, 802.11n 40 MHz, 5310 MHz



Plot 387. Radiated Band Edge, 802.11n 40 MHz, 5510 MHz



Plot 388. Radiated Band Edge, 802.11n 40 MHz, 5670 MHz

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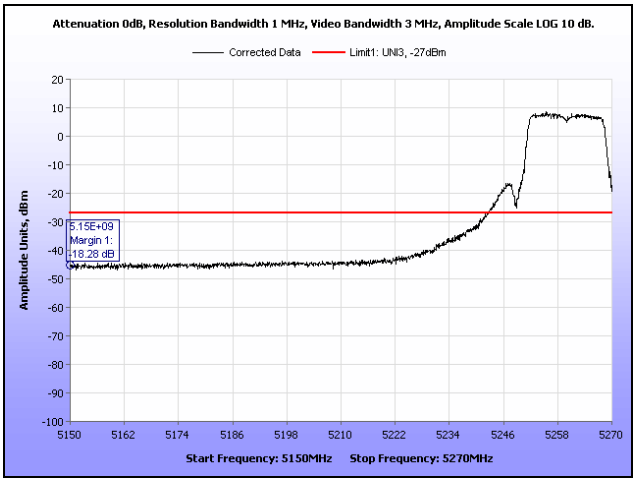
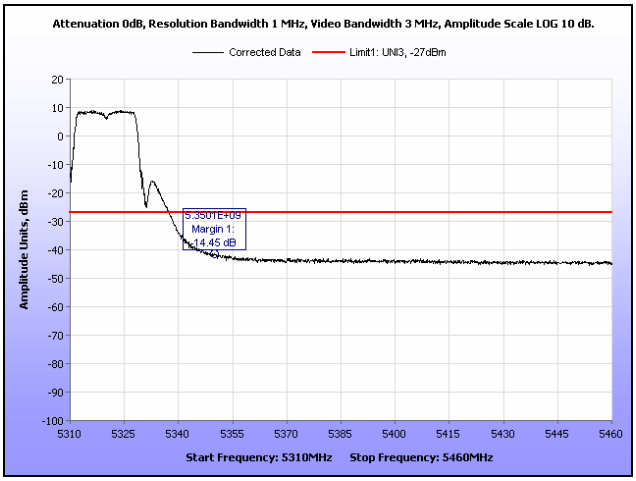
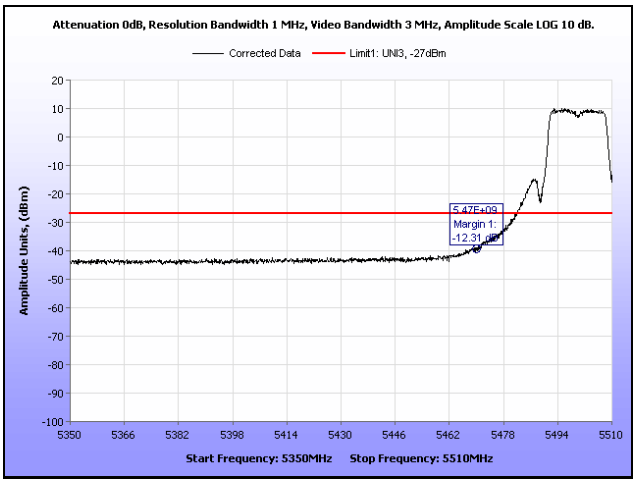
Radiated Band Edge, Patch



Plot 389. Radiated Band Edge, 802.11a, 5260 MHz, Patch



Plot 390. Radiated Band Edge, 802.11a, 5320 MHz, Patch



Plot 391. Radiated Band Edge, 802.11a, 5500 MHz, Patch

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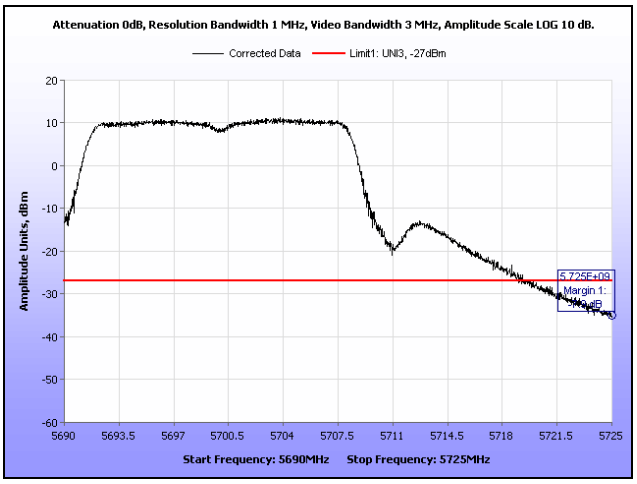
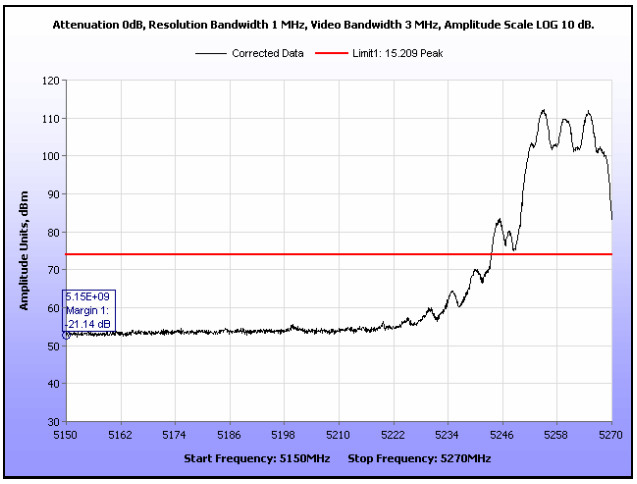
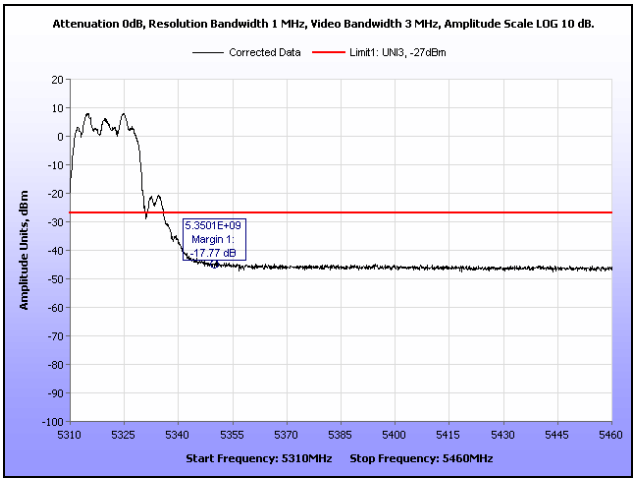


Plot 392. Radiated Band Edge, 802.11a, 5700 MHz, Patch



Plot 393. Radiated Band Edge, 802.11n 20 MHz, 5260 MHz, Patch



Plot 394. Radiated Band Edge, 802.11n 20 MHz, 5320 MHz, Patch

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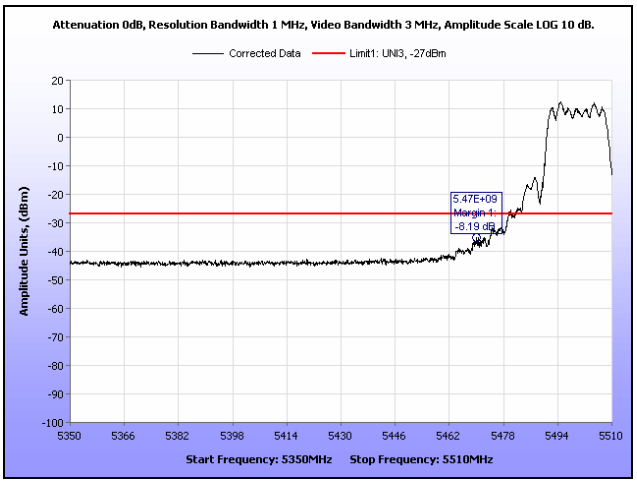
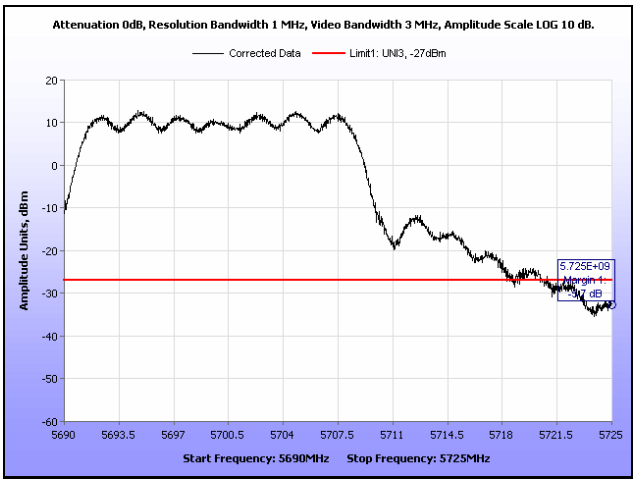
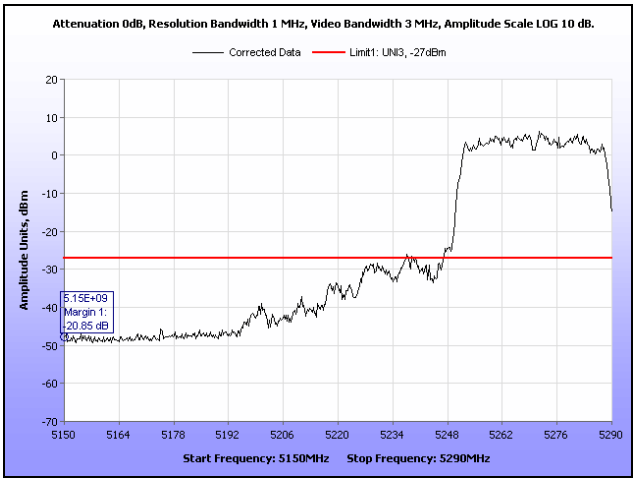


Plot 395. Radiated Band Edge, 802.11n 20 MHz, 5500 MHz, Patch



Plot 396. Radiated Band Edge, 802.11n 20 MHz, 5700 MHz, Patch



Plot 397. Radiated Band Edge, 802.11n 40 MHz, 5270 MHz, Patch

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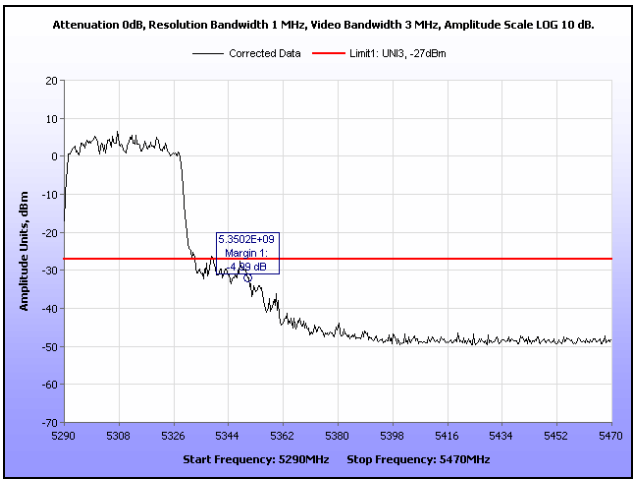
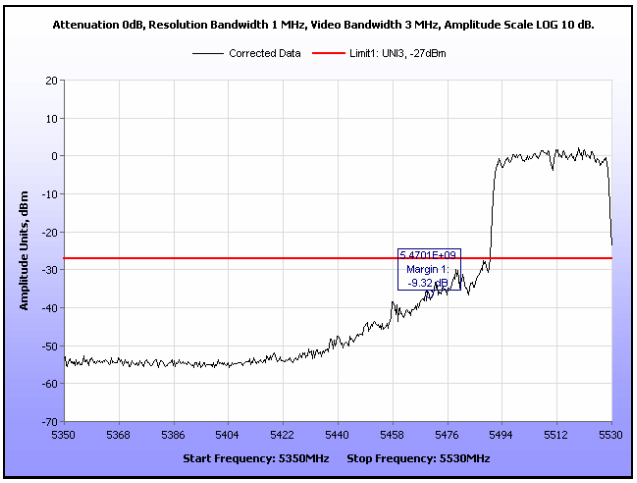
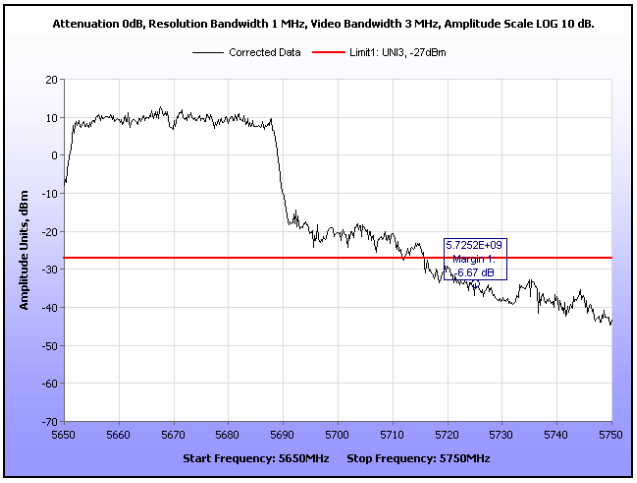


Plot 398. Radiated Band Edge, 802.11n 40 MHz, 5310 MHz, Patch



Plot 399. Radiated Band Edge, 802.11n 40 MHz, 5510 MHz, Patch



Plot 400. Radiated Band Edge, 802.11n 40 MHz, 5670 MHz, Patch

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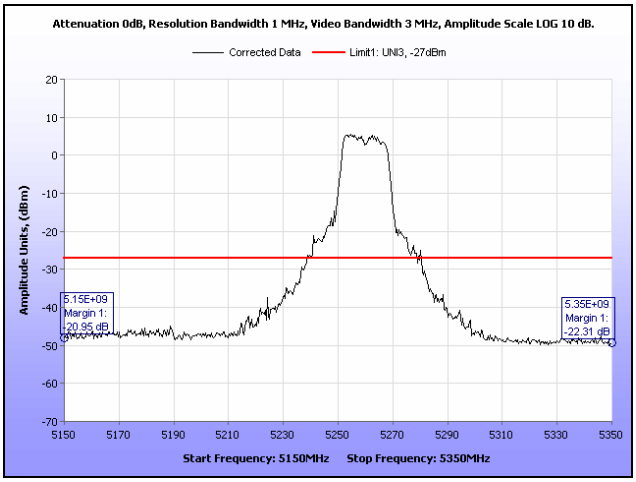
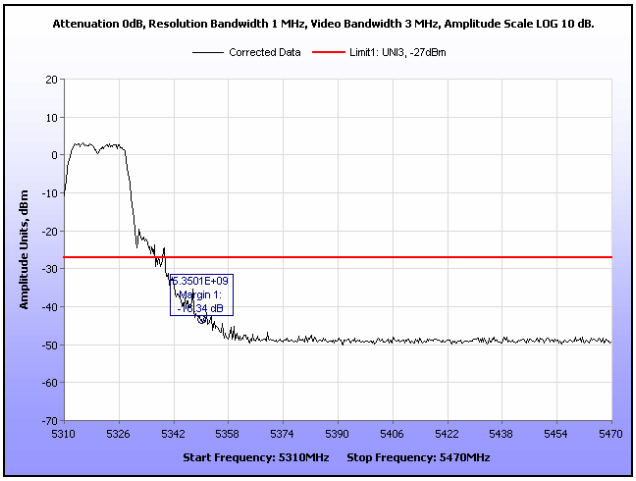
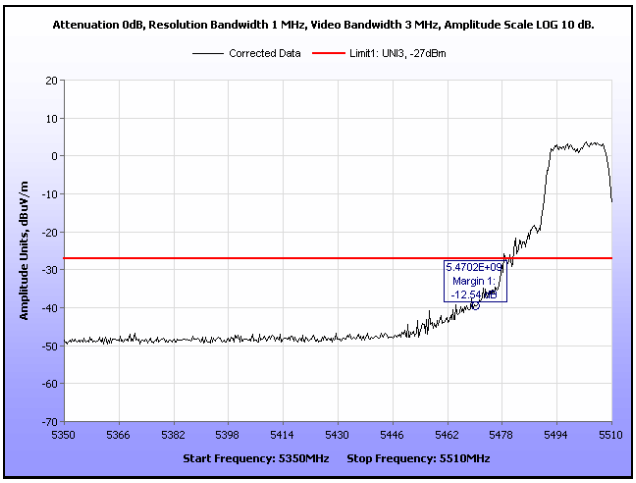
Radiated Band Edge, 6 dBi Dipole Antenna



Plot 401. Radiated Band Edge, 802.11a, 5260 MHz, 6 dBi Dipole Antenna



Plot 402. Radiated Band Edge, 802.11a, 5320 MHz, 6 dBi Dipole Antenna



Plot 403. Radiated Band Edge, 802.11a, 5500 MHz, 6 dBi Dipole Antenna

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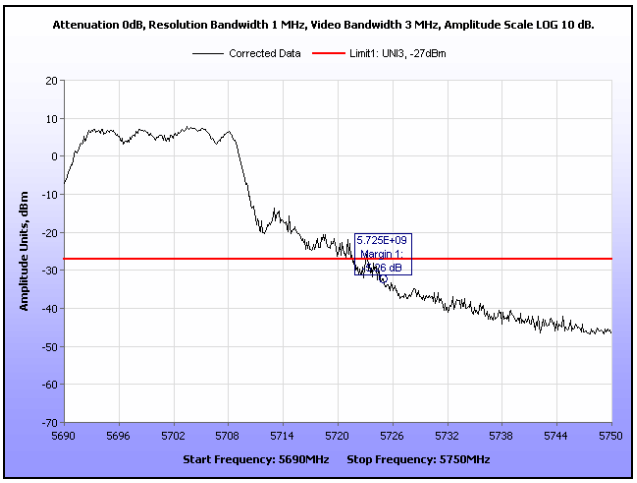
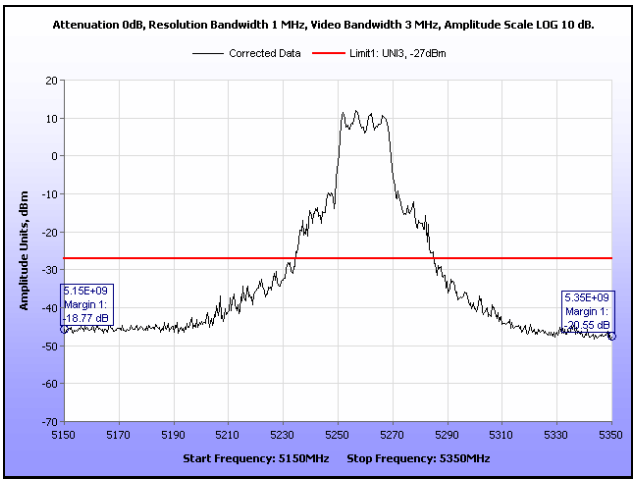
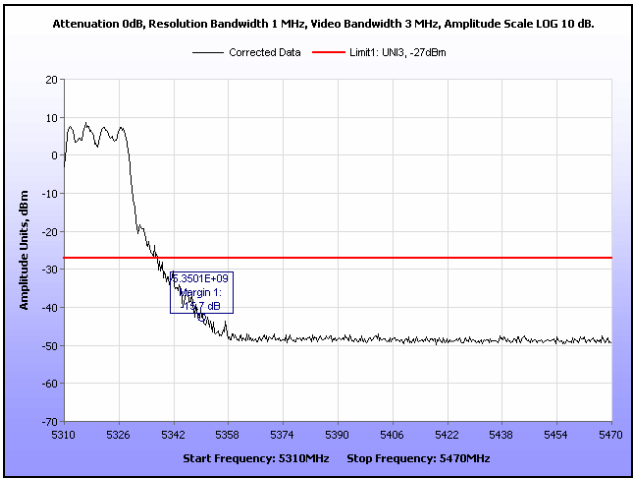


Plot 404. Radiated Band Edge, 802.11a, 5700 MHz, 6 dBi Dipole Antenna



Plot 405. Radiated Band Edge, 802.11n 20 MHz, 5260 MHz, 6 dBi Dipole Antenna



Plot 406. Radiated Band Edge, 802.11n 20 MHz, 5320 MHz, 6 dBi Dipole Antenna

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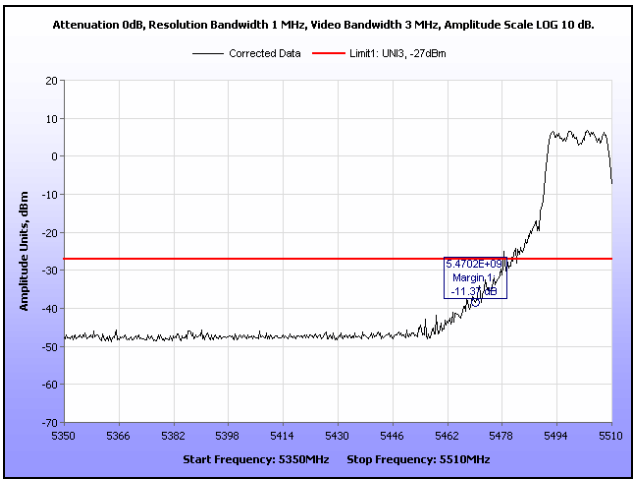
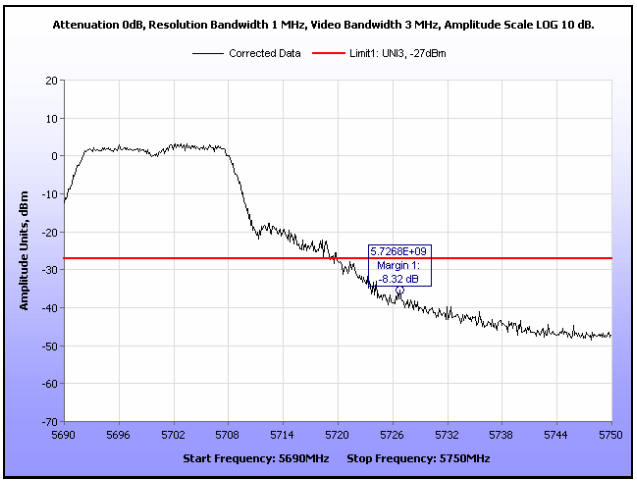
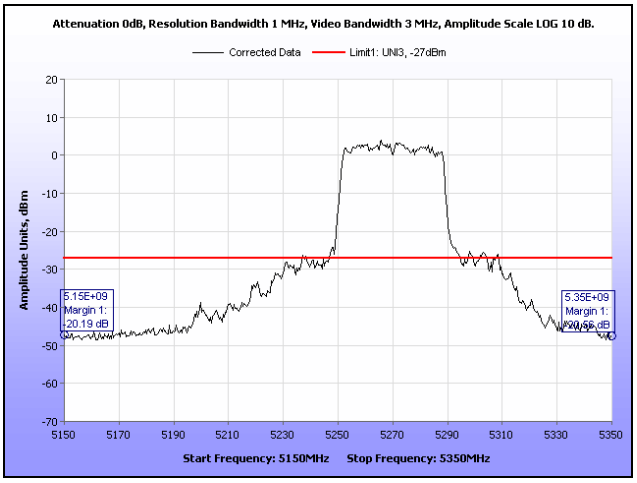


Plot 407. Radiated Band Edge, 802.11n 20 MHz, 5500 MHz, 6 dBi Dipole Antenna



Plot 408. Radiated Band Edge, 802.11n 20 MHz, 5700 MHz, 6 dBi Dipole Antenna



Plot 409. Radiated Band Edge, 802.11n 40 MHz, 5270 MHz, 6 dBi Dipole Antenna

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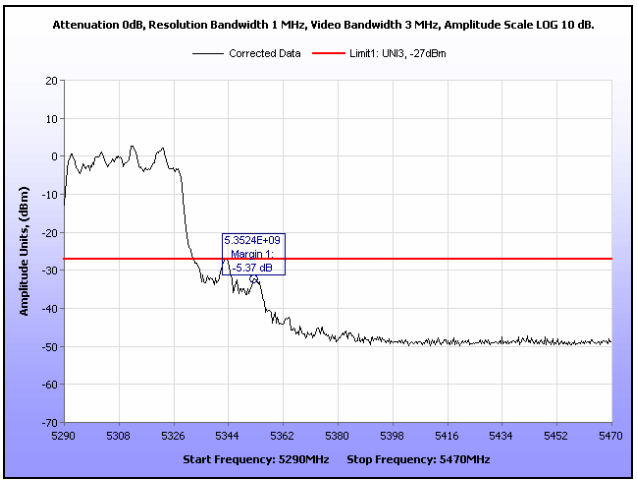
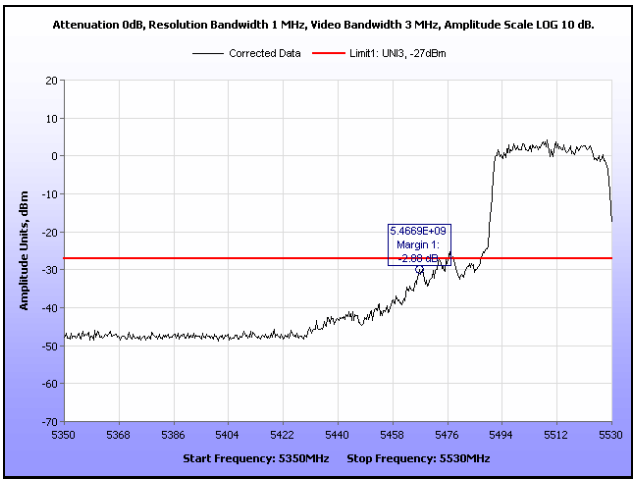
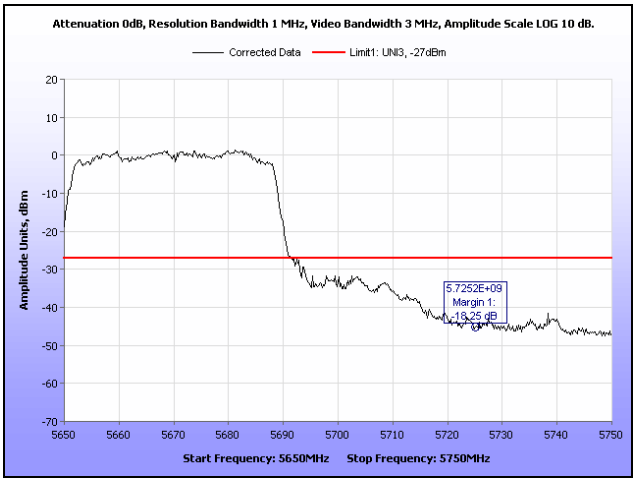


Plot 410. Radiated Band Edge, 802.11n 40 MHz, 5310 MHz, 6 dBi Dipole Antenna



Plot 411. Radiated Band Edge, 802.11n 40 MHz, 5510 MHz, 6 dBi Dipole Antenna



Plot 412. Radiated Band Edge, 802.11n 40 MHz, 5670 MHz, 6 dBi Dipole Antenna

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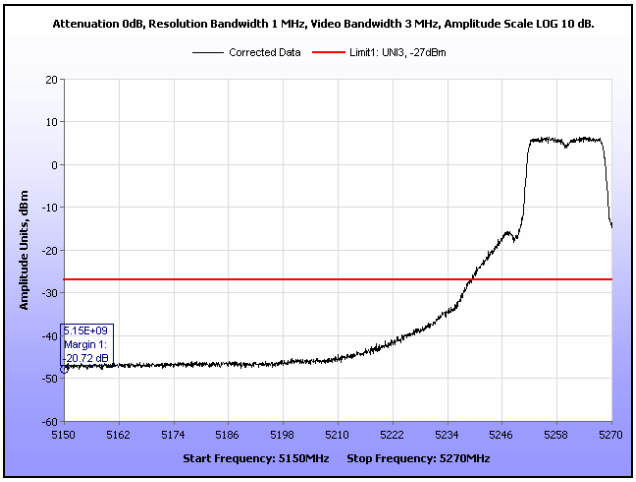
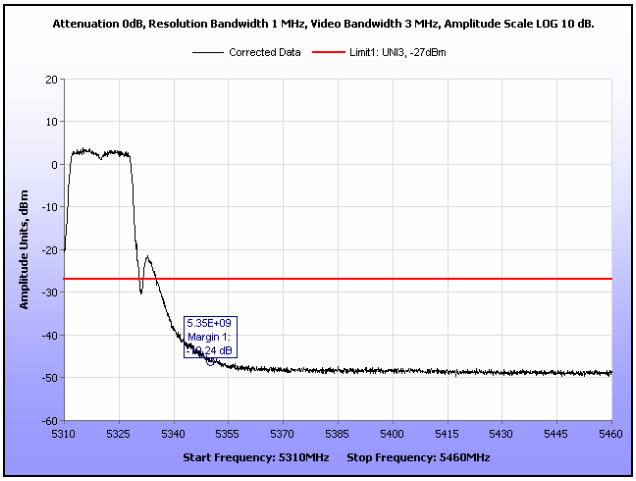
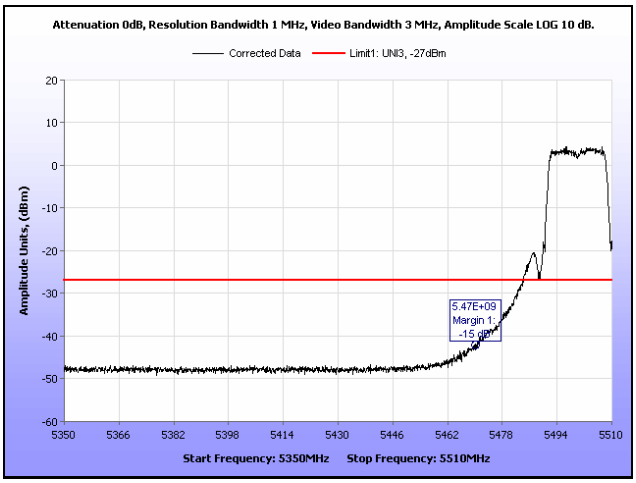
Radiated Band Edge, Ceiling Mount



Plot 413. Radiated Band Edge, 802.11a, 5260 MHz, Ceiling Mount



Plot 414. Radiated Band Edge, 802.11a, 5320 MHz, Ceiling Mount



Plot 415. Radiated Band Edge, 802.11a, 5500 MHz, Ceiling Mount

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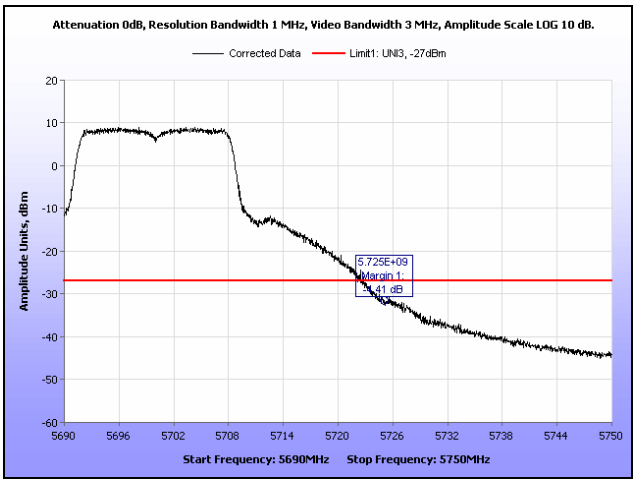
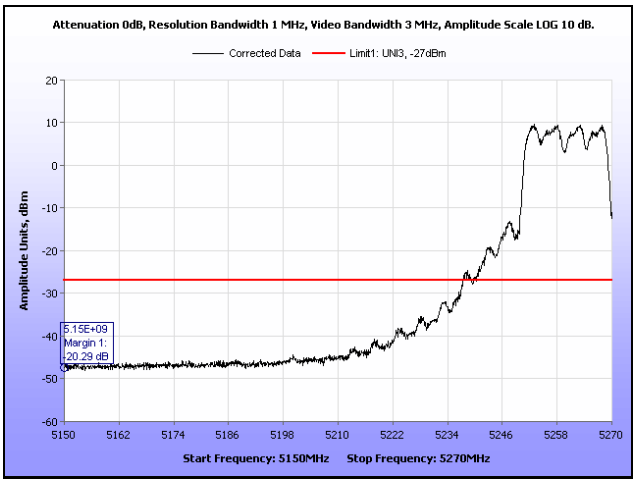
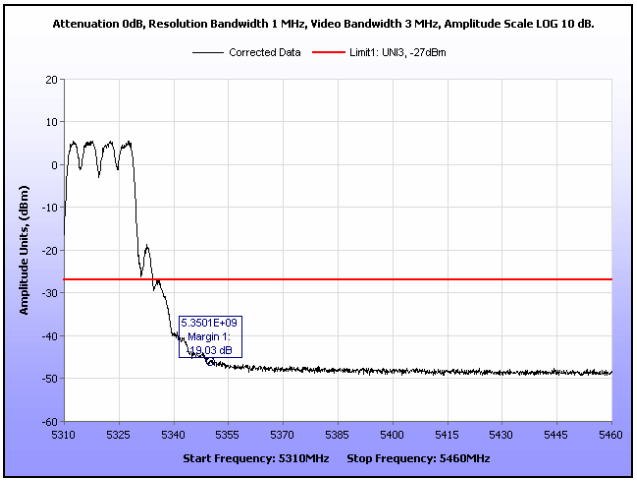


Plot 416. Radiated Band Edge, 802.11a, 5700 MHz, Ceiling Mount



Plot 417. Radiated Band Edge, 802.11n 20 MHz, 5260 MHz, Ceiling Mount



Plot 418. Radiated Band Edge, 802.11n 20 MHz, 5320 MHz, Ceiling Mount

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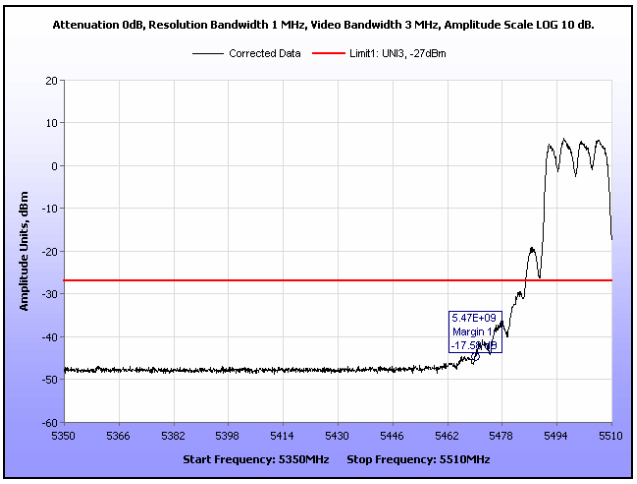
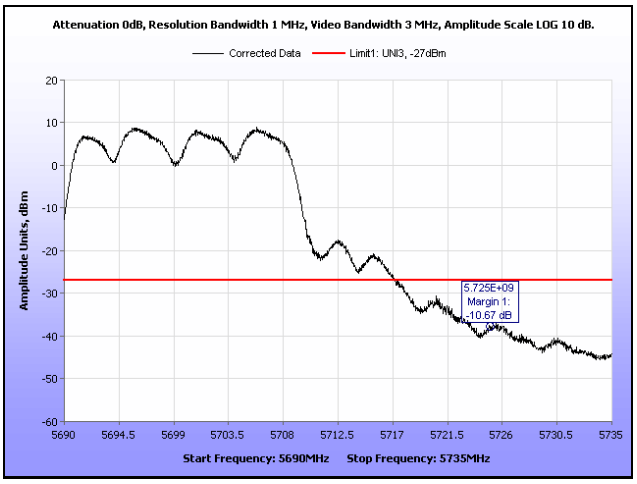
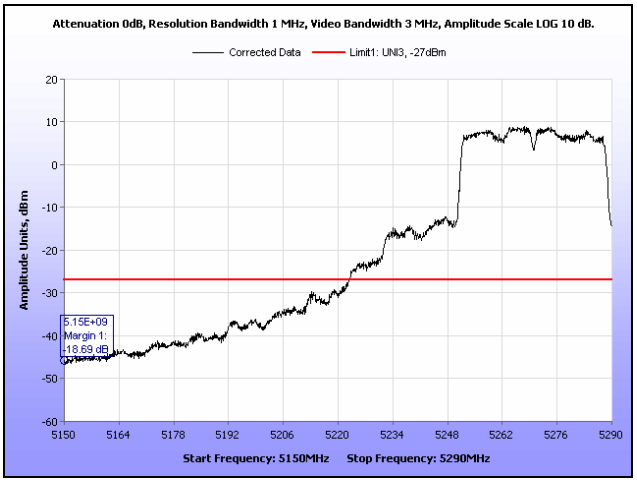


Plot 419. Radiated Band Edge, 802.11n 20 MHz, 5500 MHz, Ceiling Mount



Plot 420. Radiated Band Edge, 802.11n 20 MHz, 5700 MHz, Ceiling Mount



Plot 421. Radiated Band Edge, 802.11n 40 MHz, 5270 MHz, Ceiling Mount

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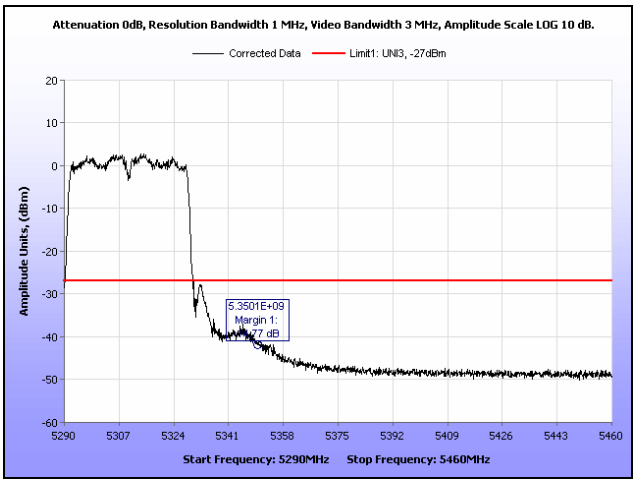
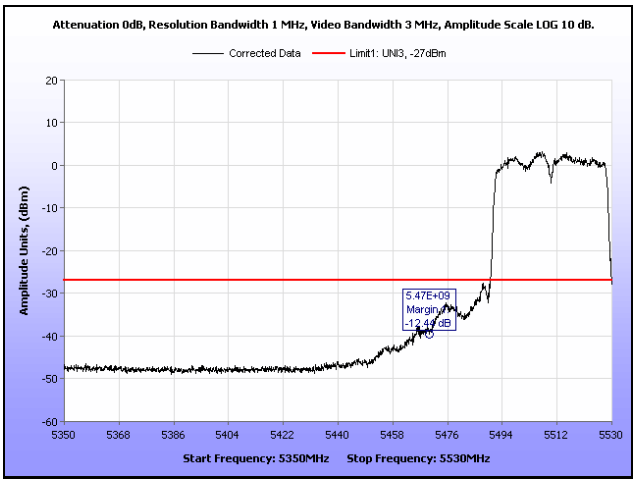
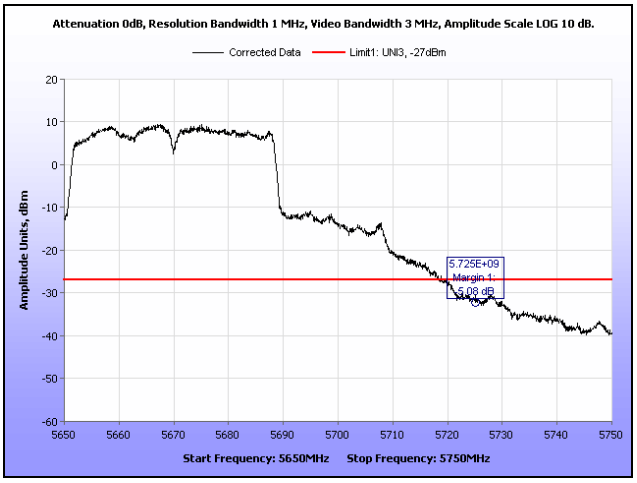


Plot 422. Radiated Band Edge, 802.11n 40 MHz, 5310 MHz, Ceiling Mount



Plot 423. Radiated Band Edge, 802.11n 40 MHz, 5510 MHz, Ceiling Mount



Plot 424. Radiated Band Edge, 802.11n 40 MHz, 5670 MHz, Ceiling Mount

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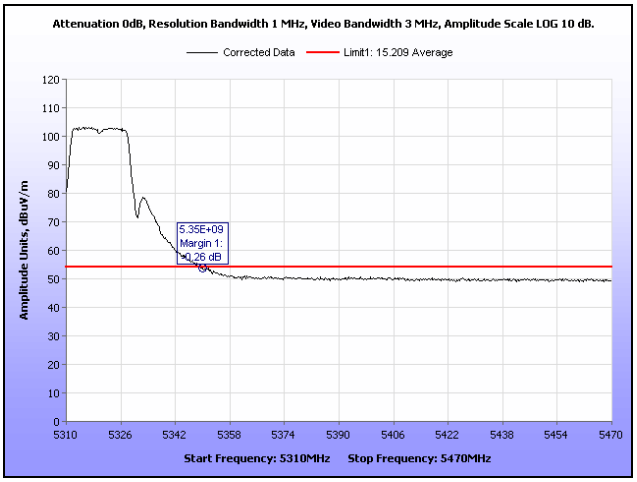
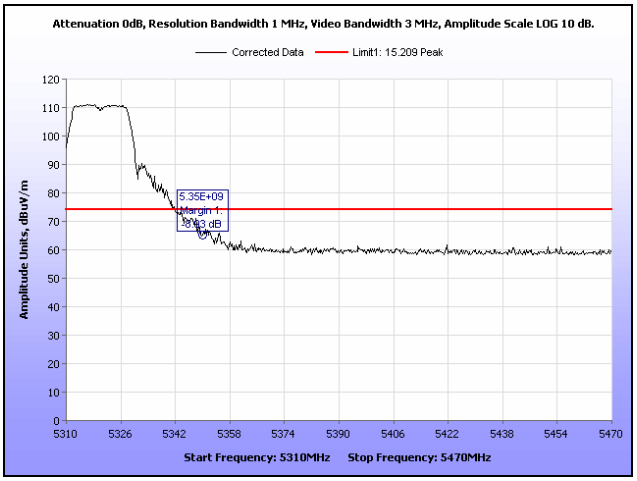
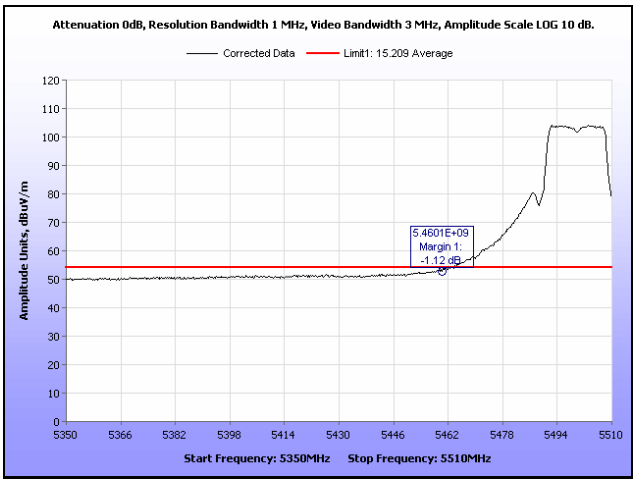
Restricted Band



Plot 425. Restricted Band, 802.11a, 5320 MHz, Average



Plot 426. Restricted Band, 802.11a, 5320 MHz, Peak



Plot 427. Restricted Band, 802.11a, 5500 MHz, Average

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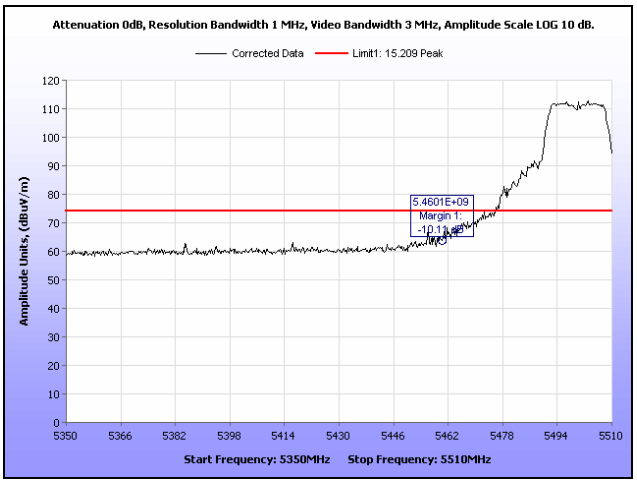
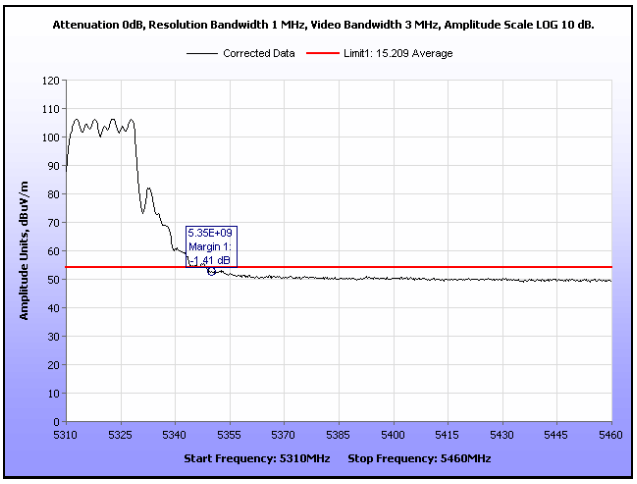
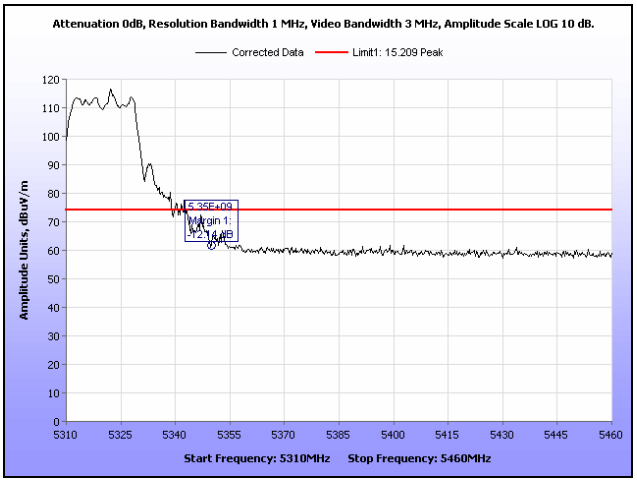


Plot 428. Restricted Band, 802.11a, 5500 MHz, Peak



Plot 429. Restricted Band, 802.11n 20 MHz, 5320 MHz, Average



Plot 430. Restricted Band, 802.11n 20 MHz, 5320 MHz, Peak

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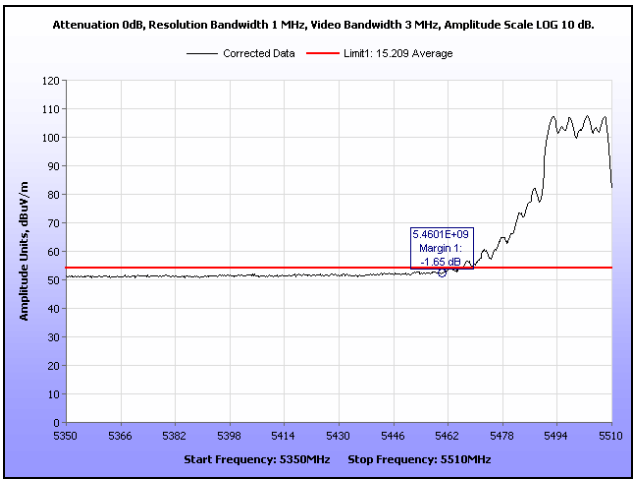
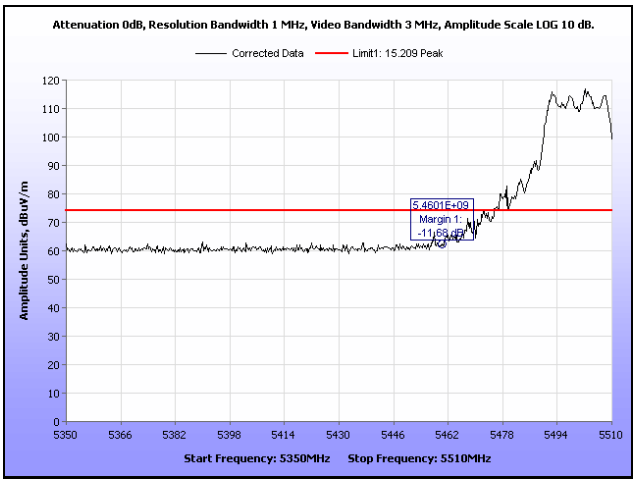
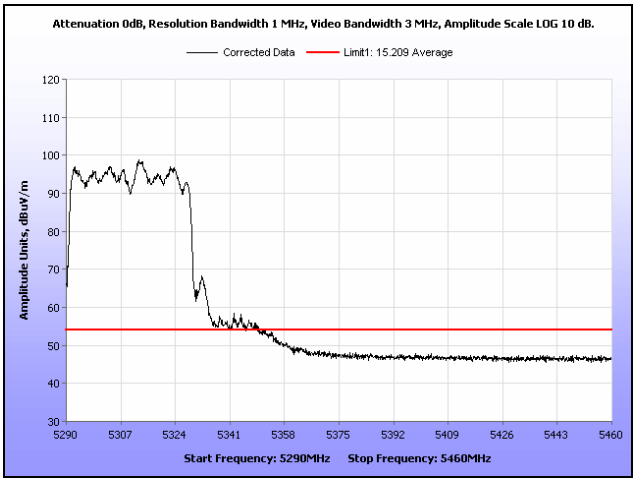


Plot 431. Restricted Band, 802.11n 20 MHz, 5500 MHz, Average



Plot 432. Restricted Band, 802.11n 20 MHz, 5500 MHz, Peak



Plot 433. Restricted Band, 802.11n 40 MHz, 5310 MHz, Average

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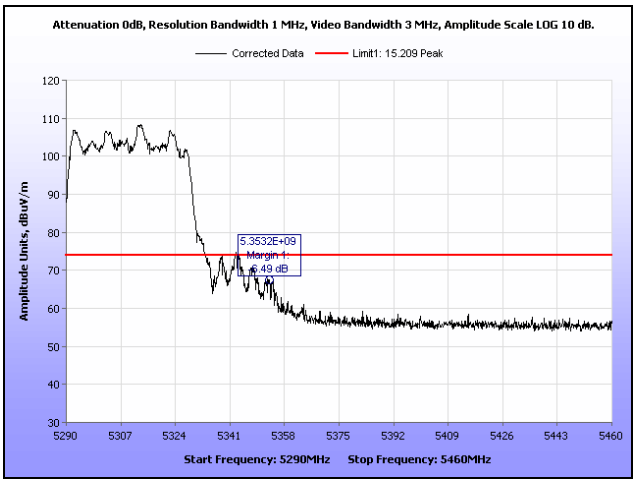
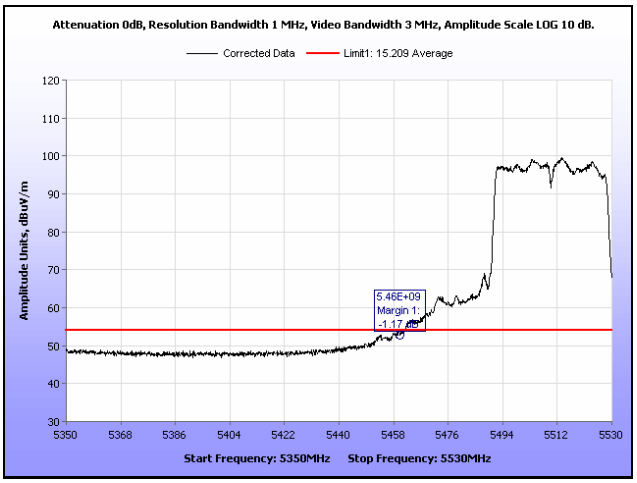
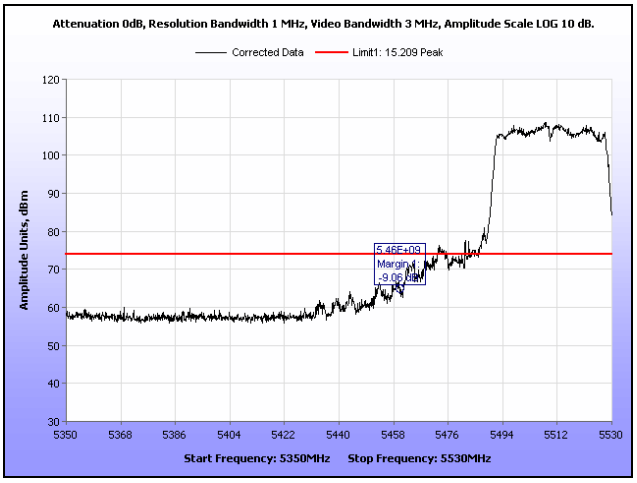


Plot 434. Restricted Band, 802.11n 40 MHz, 5310 MHz, Peak



Plot 435. Restricted Band, 802.11n 40 MHz, 5510 MHz, Average



Plot 436. Restricted Band, 802.11n 40 MHz, 5510 MHz, Peak

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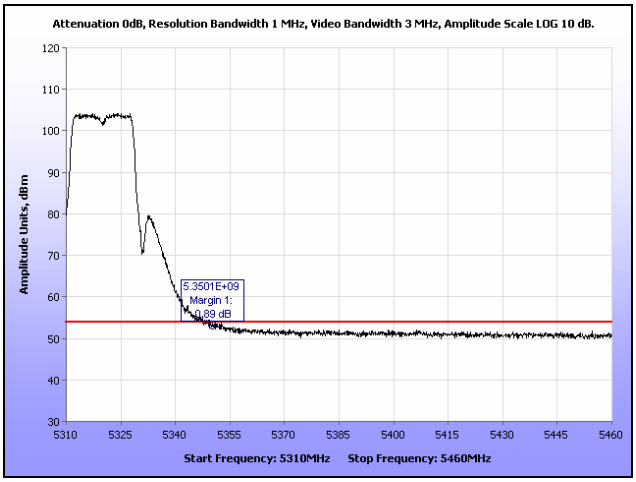
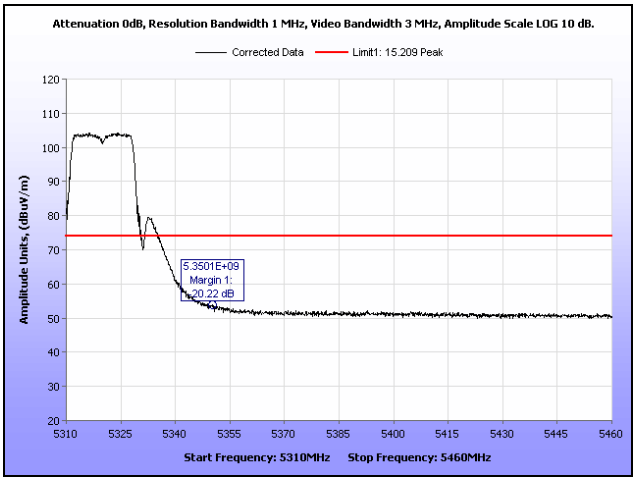
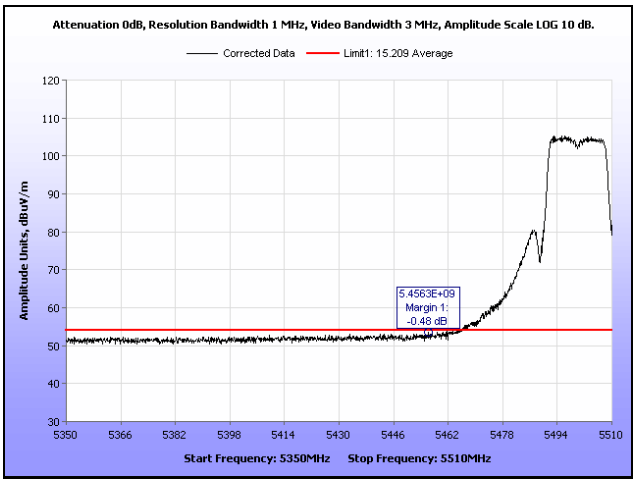
Restricted Band, Patch



Plot 437. Restricted Band, 802.11a, 5320 MHz, Average, Patch



Plot 438. Restricted Band, 802.11a, 5320 MHz, Peak, Patch



Plot 439. Restricted Band, 802.11a, 5500 MHz, Average, Patch

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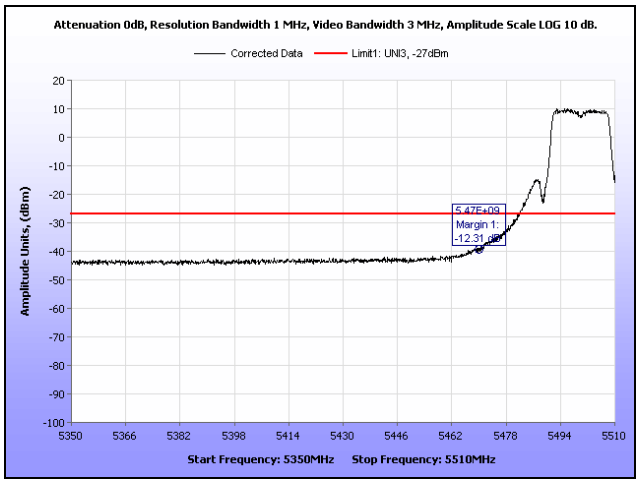
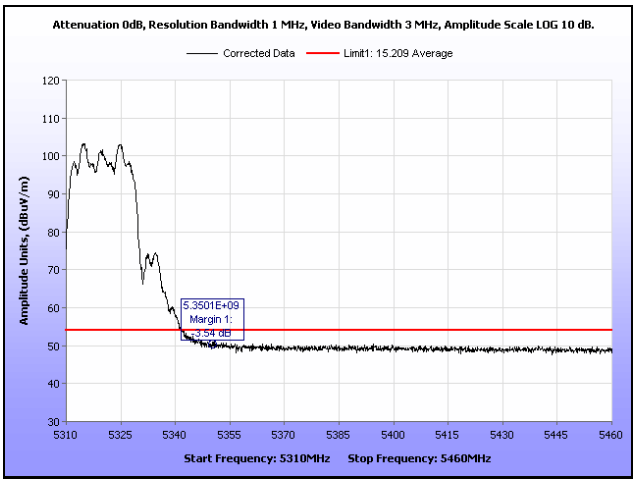
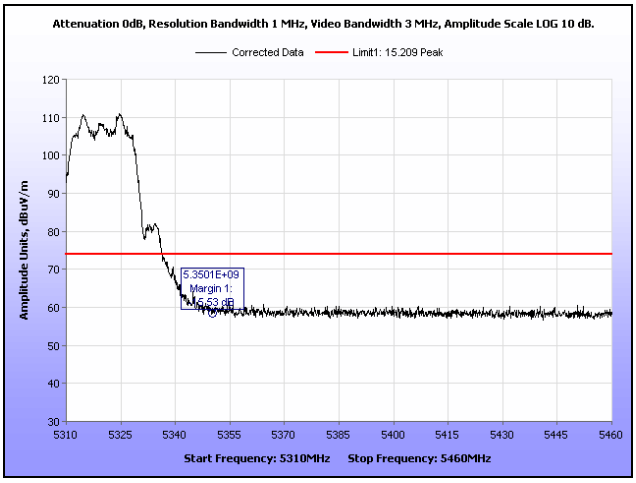


Plot 440. Restricted Band, 802.11a, 5500 MHz, Peak, Patch



Plot 441. Restricted Band, 802.11n 20 MHz, 5320 MHz, Average, Patch



Plot 442. Restricted Band, 802.11n 20 MHz, 5320 MHz, Peak, Patch

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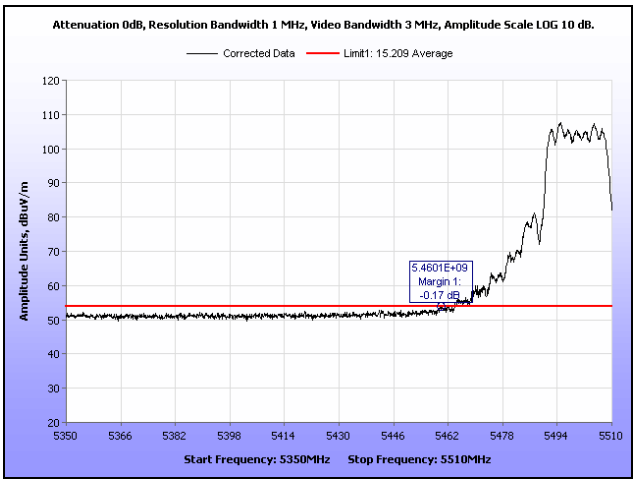
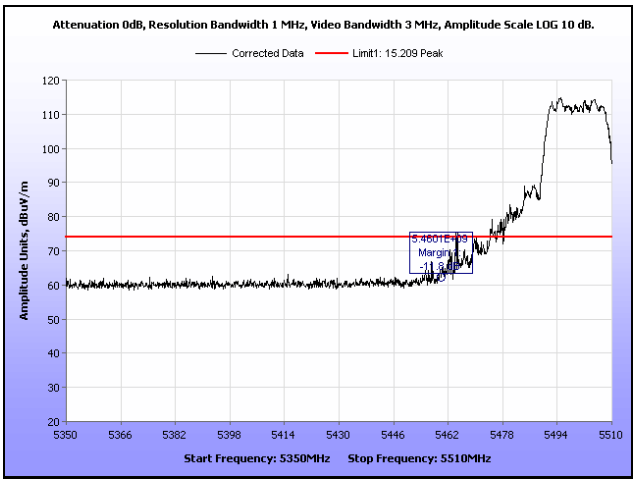
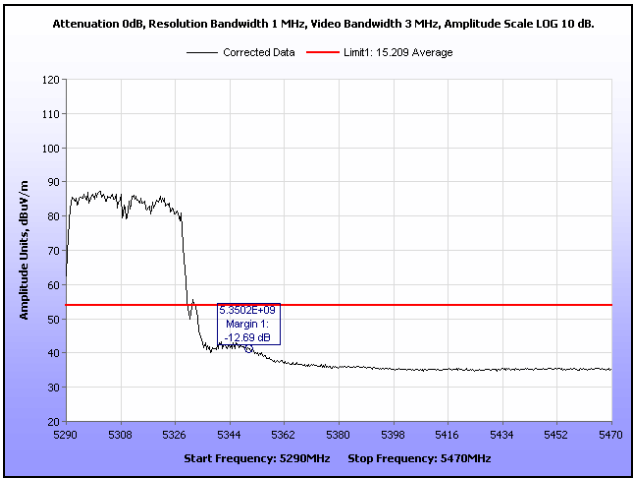


Plot 443. Restricted Band, 802.11n 20 MHz, 5500 MHz, Average, Patch



Plot 444. Restricted Band, 802.11n 20 MHz, 5500 MHz, Peak, Patch



Plot 445. Restricted Band, 802.11n 40 MHz, 5320 MHz, Average, Patch

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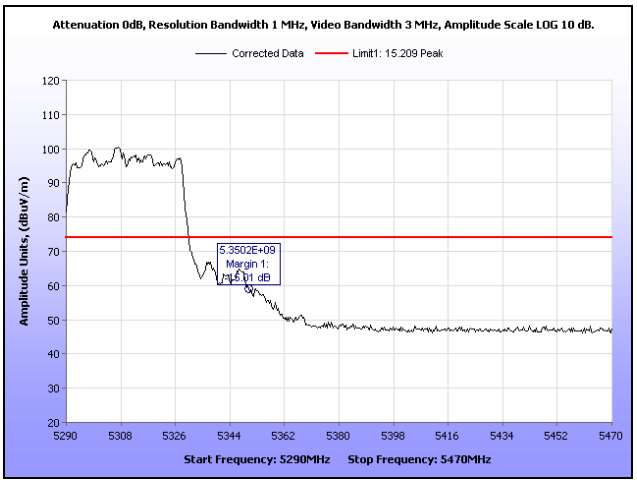
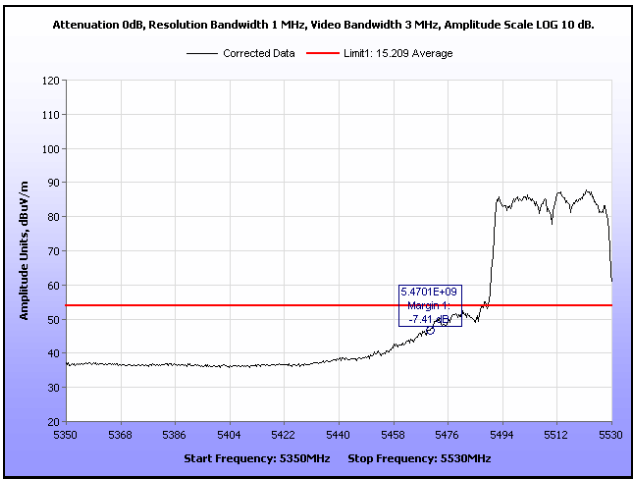
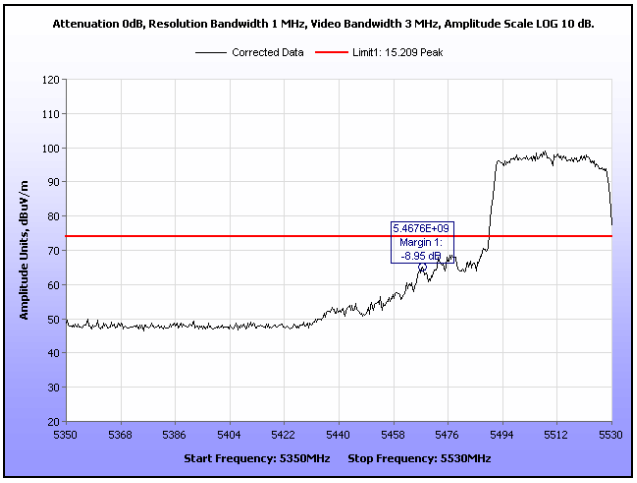


Plot 446. Restricted Band, 802.11n 40 MHz, 5310 MHz, Peak, Patch



Plot 447. Restricted Band, 802.11n 40 MHz, 5510 MHz, Average, Patch



Plot 448. Restricted Band, 802.11n 40 MHz, 5510 MHz, Peak, Patch

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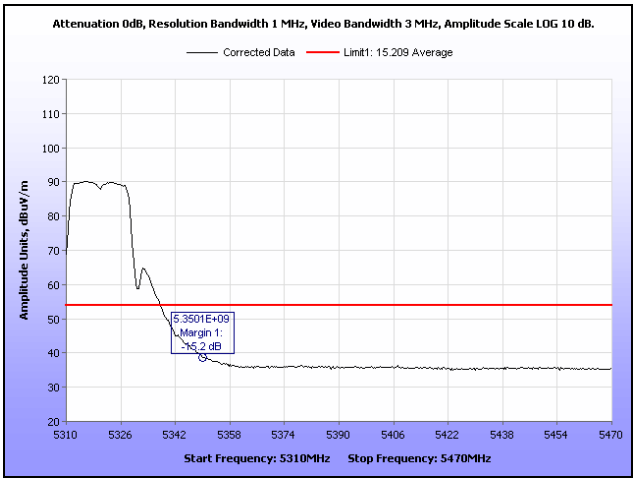
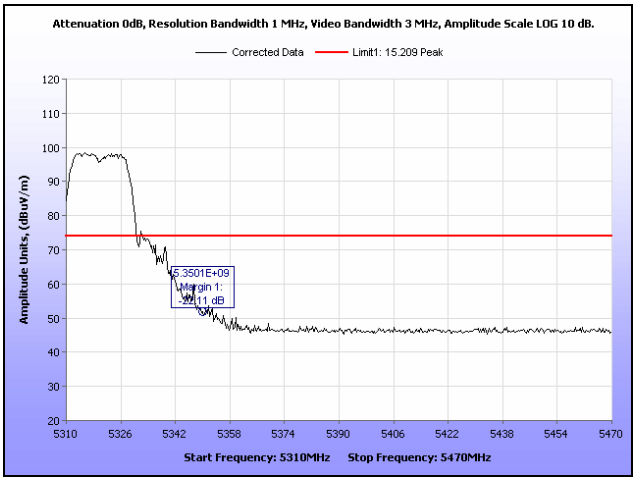
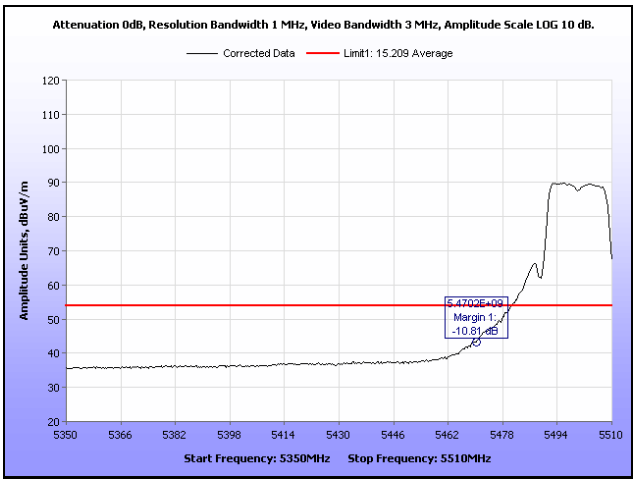
Restricted Band, 6 dBi Dipole Antenna



Plot 449. Restricted Band, 802.11a, 5320 MHz, Average, 6 dBi Dipole Antenna



Plot 450. Restricted Band, 802.11a, 5320 MHz, Peak, 6 dBi Dipole Antenna



Plot 451. Restricted Band, 802.11a, 5500 MHz, Average, 6 dBi Dipole Antenna

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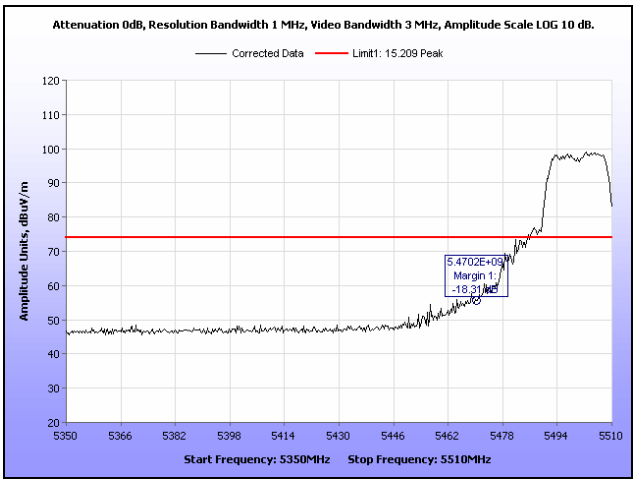
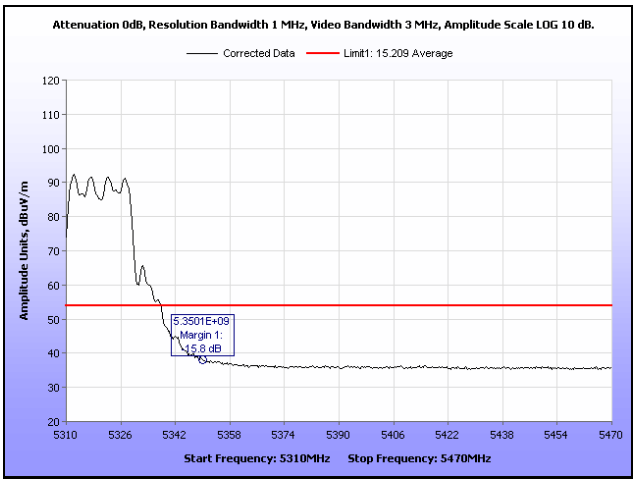
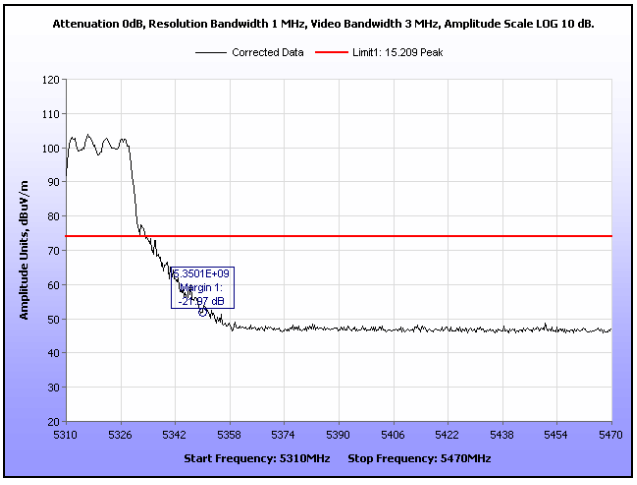


Plot 452. Restricted Band, 802.11a, 5500 MHz, Peak, 6 dBi Dipole Antenna



Plot 453. Restricted Band, 802.11n 20 MHz, 5320 MHz, Average, 6 dBi Dipole Antenna



Plot 454. Restricted Band, 802.11n 20 MHz, 5320 MHz, Peak, 6 dBi Dipole Antenna

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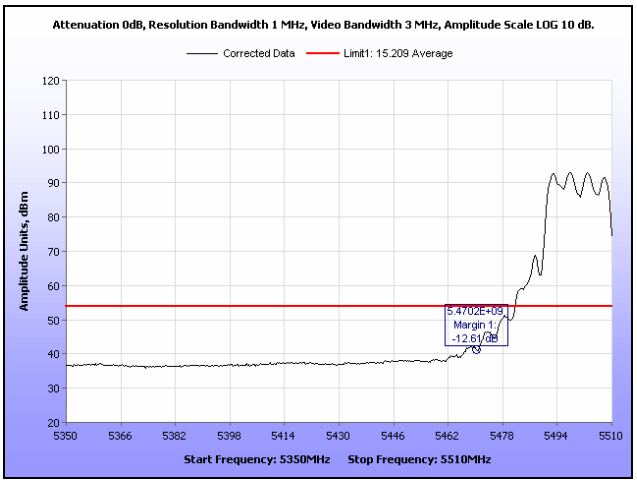
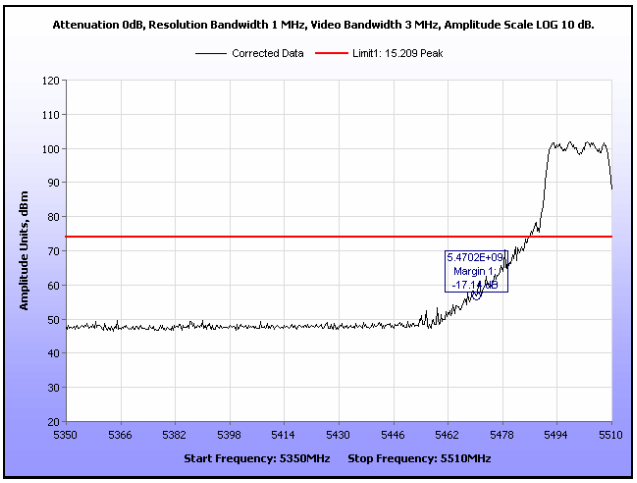
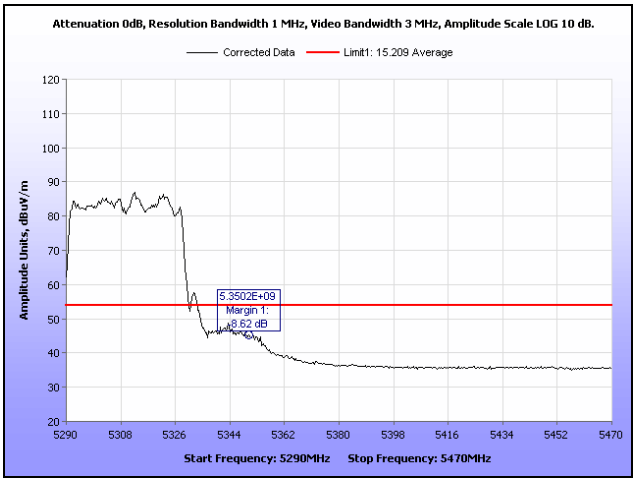


Plot 455. Restricted Band, 802.11n 20 MHz, 5500 MHz, Average, 6 dBi Dipole Antenna



Plot 456. Restricted Band, 802.11n 20 MHz, 5500 MHz, Peak, 6 dBi Dipole Antenna



Plot 457. Restricted Band, 802.11n 40 MHz, 5310 MHz, Average, 6 dBi Dipole Antenna

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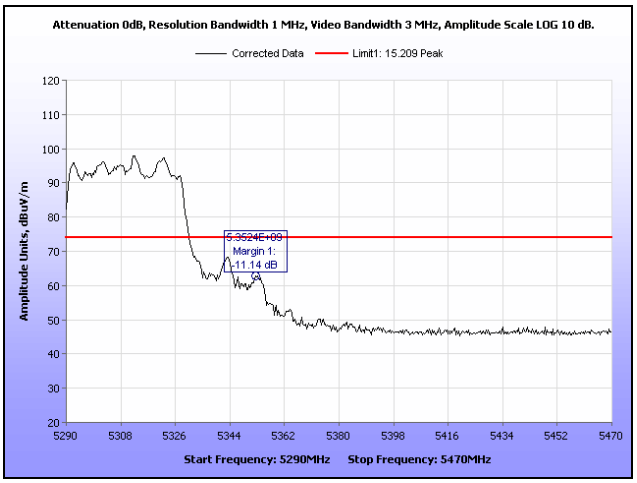
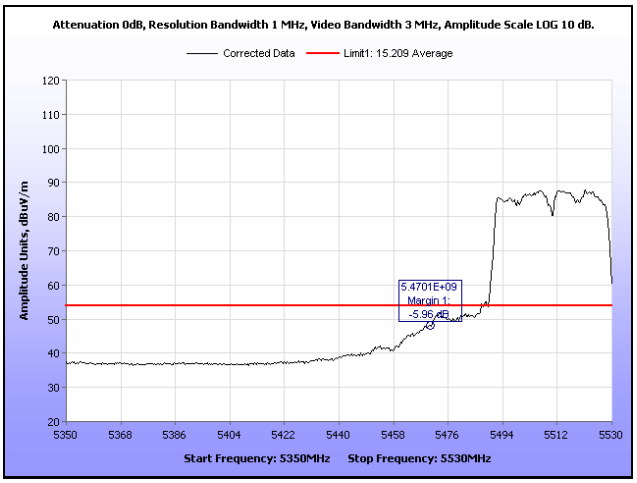
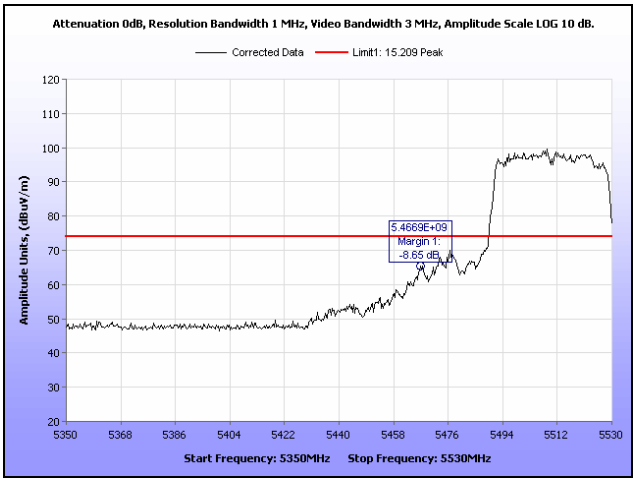


Plot 458. Restricted Band, 802.11n 40 MHz, 5310 MHz, Peak, 6 dBi Dipole Antenna



Plot 459. Restricted Band, 802.11n 40 MHz, 5510 MHz, Average, 6 dBi Dipole Antenna



Plot 460. Restricted Band, 802.11n 40 MHz, 5510 MHz, Peak, 6 dBi Dipole Antenna

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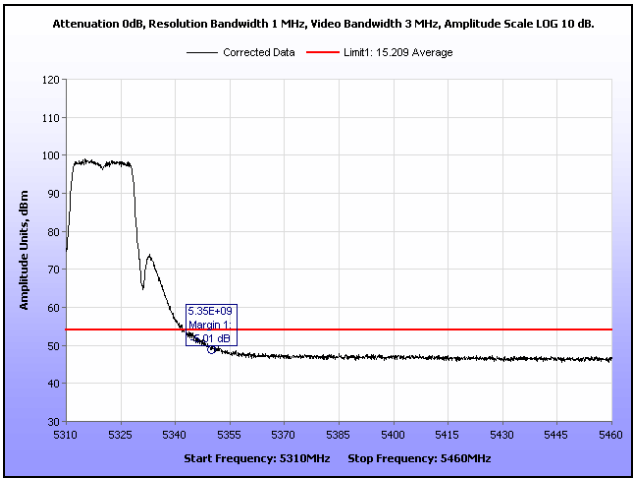
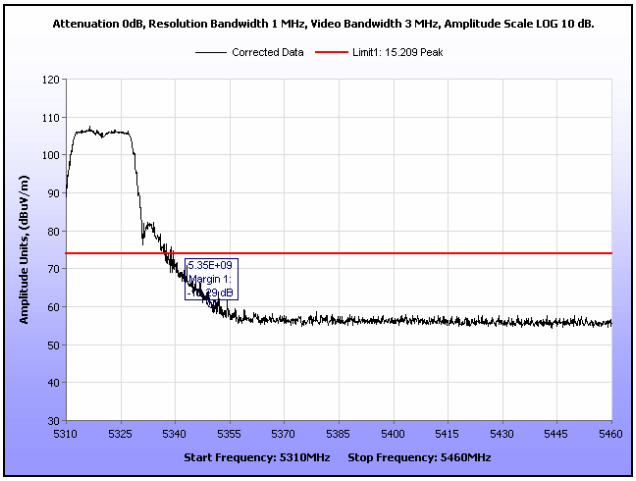
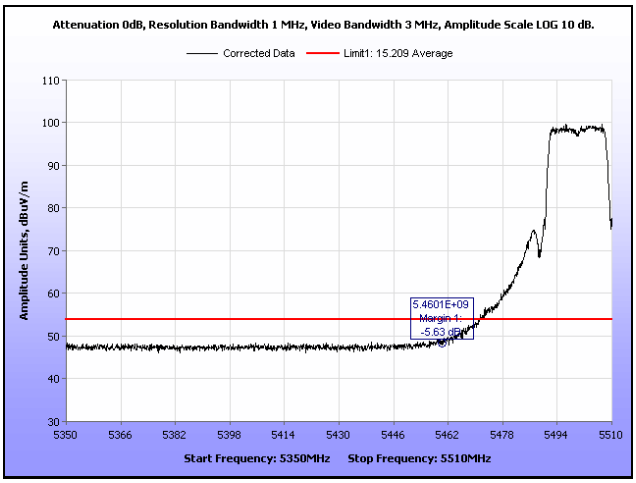
Restricted Band, Ceiling Mount



Plot 461. Restricted Band, 802.11a, 5320 MHz, Average, Ceiling Mount



Plot 462. Restricted Band, 802.11a, 5320 MHz, Peak, Ceiling Mount



Plot 463. Restricted Band, 802.11a, 5500 MHz, Average, Ceiling Mount

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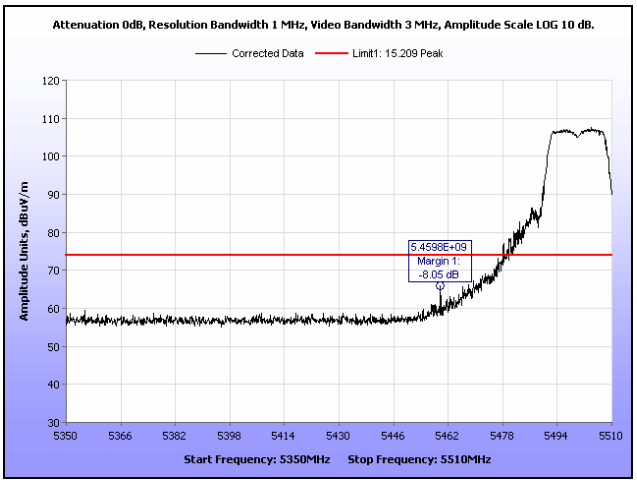
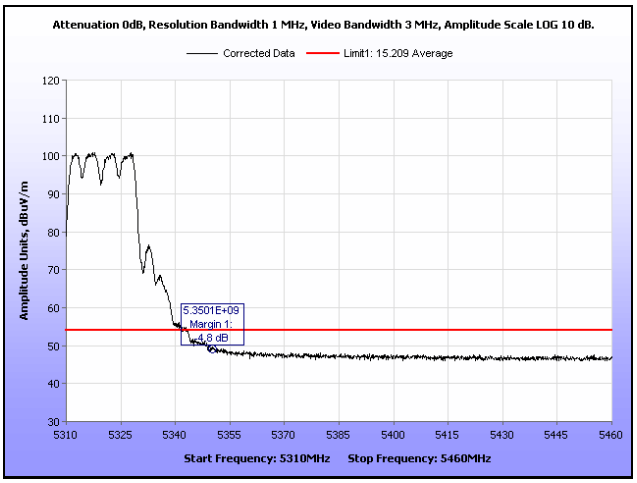
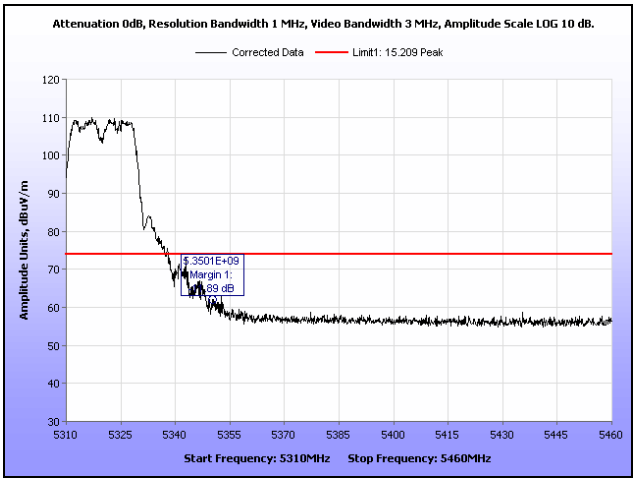


Plot 464. Restricted Band, 802.11a, 5500 MHz, Peak, Ceiling Mount



Plot 465. Restricted Band, 802.11n 20 MHz, 5320 MHz, Average, Ceiling Mount



Plot 466. Restricted Band, 802.11n 20 MHz, 5320 MHz, Peak, Ceiling Mount

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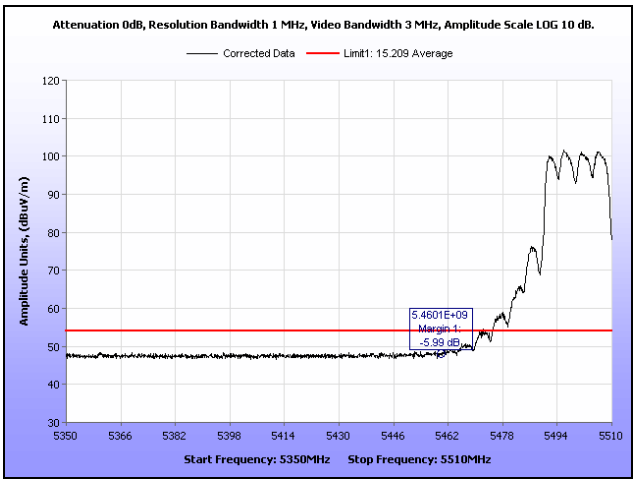
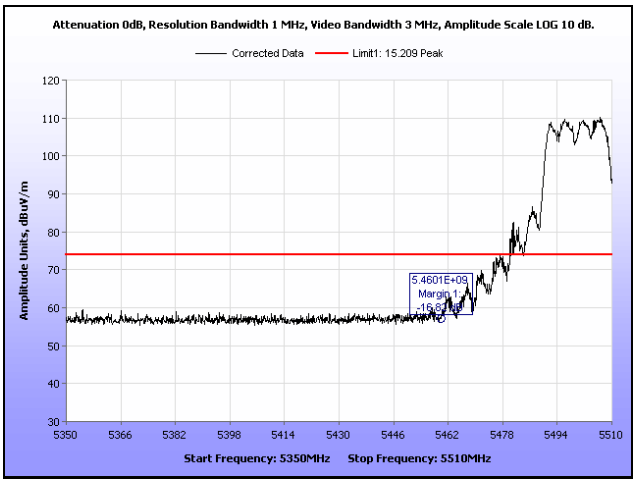
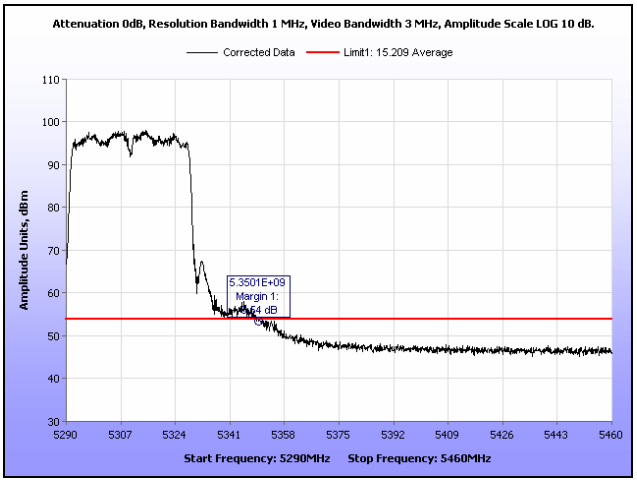


Plot 467. Restricted Band, 802.11n 20 MHz, 5500 MHz, Average, Ceiling Mount



Plot 468. Restricted Band, 802.11n 20 MHz, 5500 MHz, Peak, Ceiling Mount



Plot 469. Restricted Band, 802.11n 40 MHz, 5310 MHz, Average, Ceiling Mount

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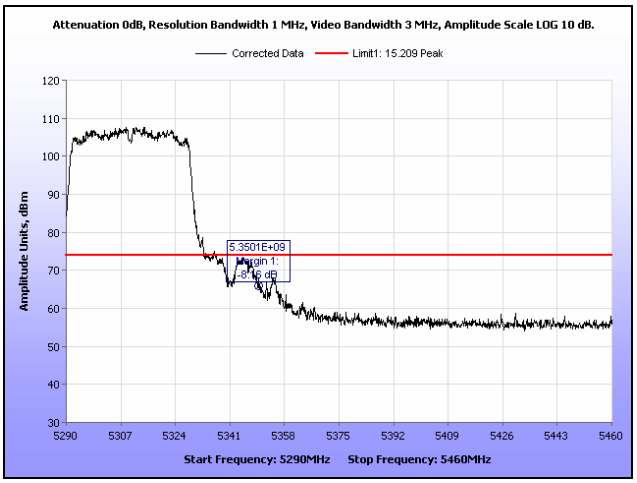
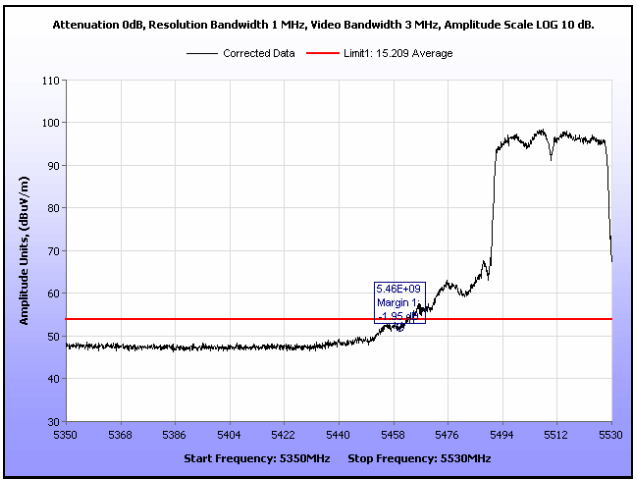
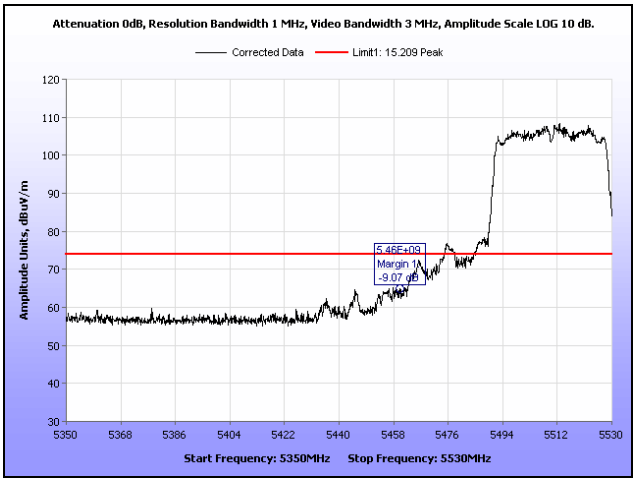


Plot 470. Restricted Band, 802.11n 40 MHz, 5310 MHz, Peak, Ceiling Mount



Plot 471. Restricted Band, 802.11n 40 MHz, 5510 MHz, Average, Ceiling Mount



Plot 472. Restricted Band, 802.11n 40 MHz, 5510 MHz, Average, Ceiling Mount

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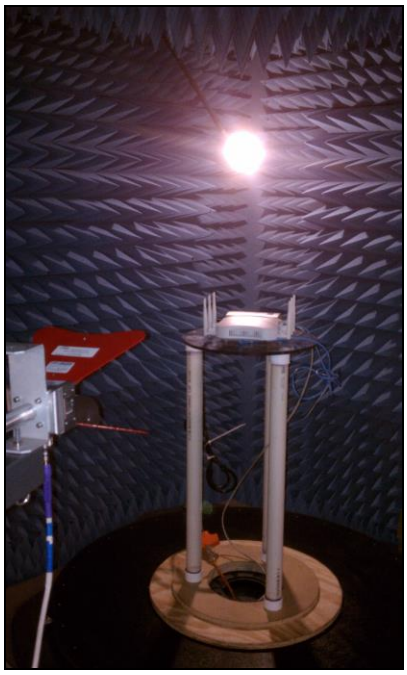
Photograph 4. Radiated Spurious Emissions, Test Setup, LF Dipole Antenna



Photograph 5. Radiated Spurious Emissions, Test Setup, HF Dipole Antenna

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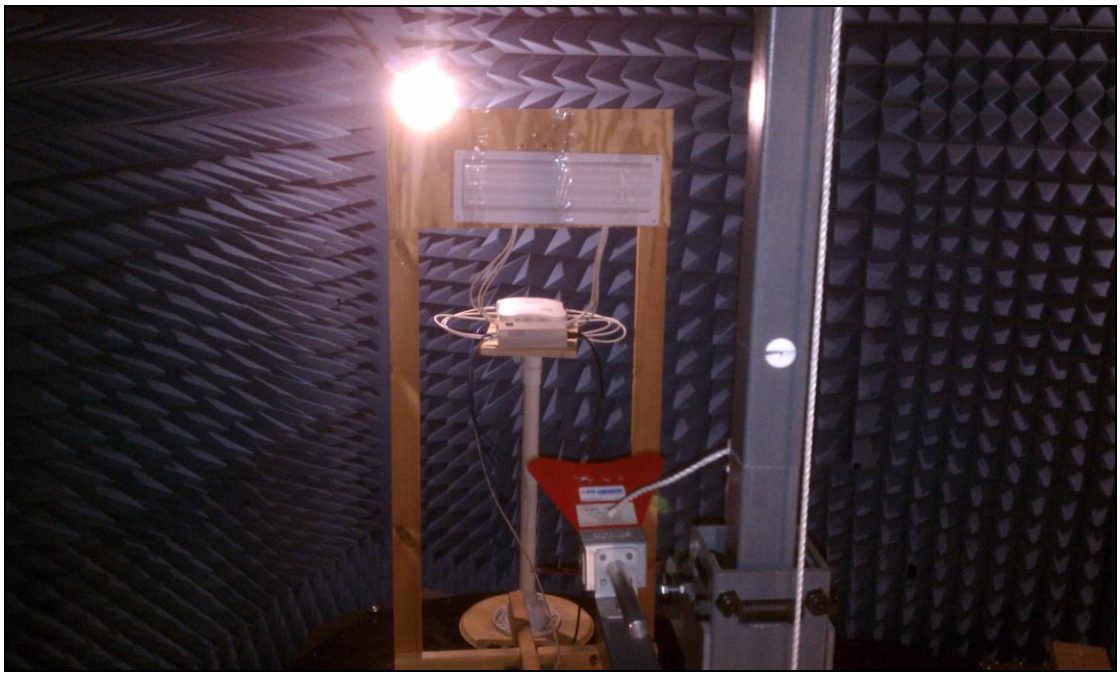
Photograph 6. Radiated Spurious Emissions, Test Setup, LF Patch Antenna



Photograph 7. Radiated Spurious Emissions, Test Setup, HF Patch Antenna

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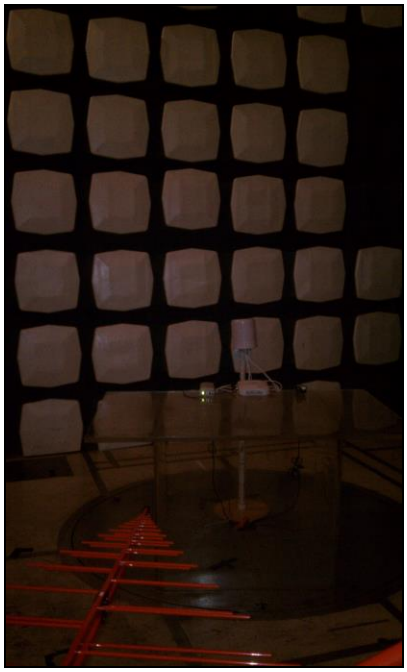
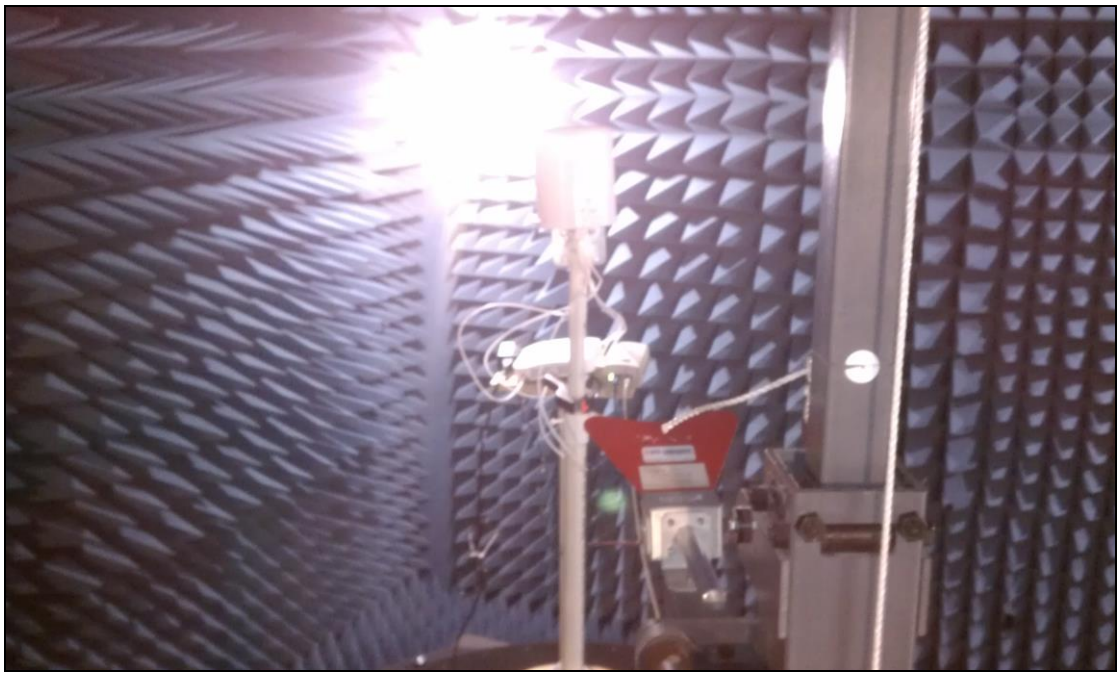


Photograph 8. Radiated Spurious Emissions, Test Setup, LF 6 dBi Dipole Antenna



Photograph 9. Radiated Spurious Emissions, Test Setup, HF 6 dBi Dipole Antenna

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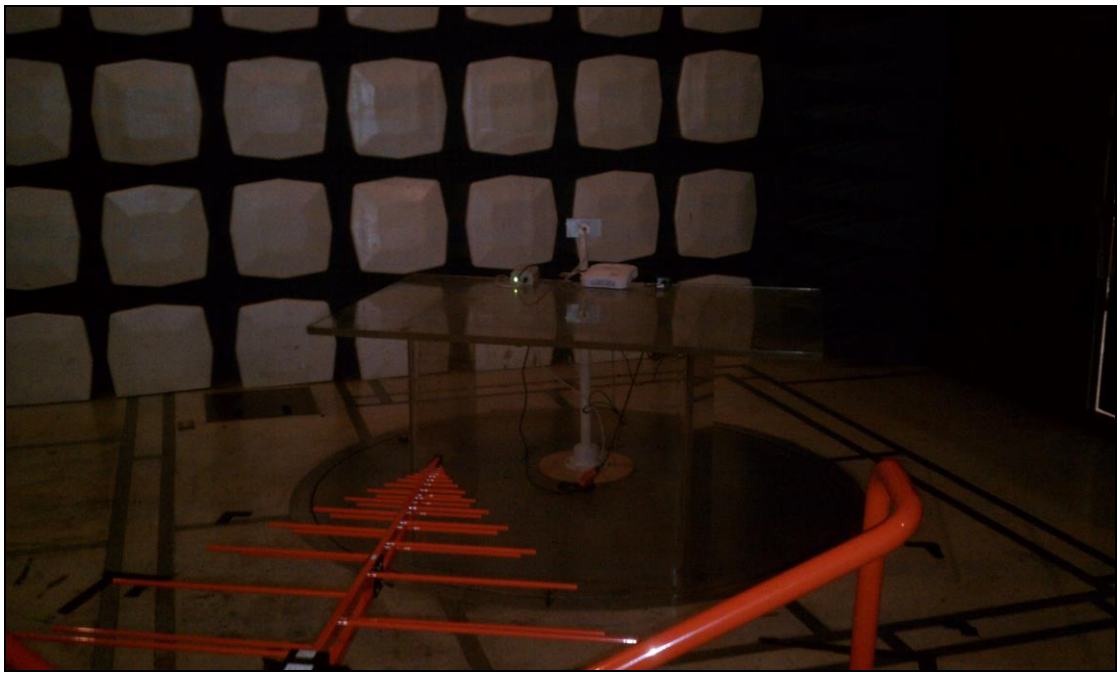
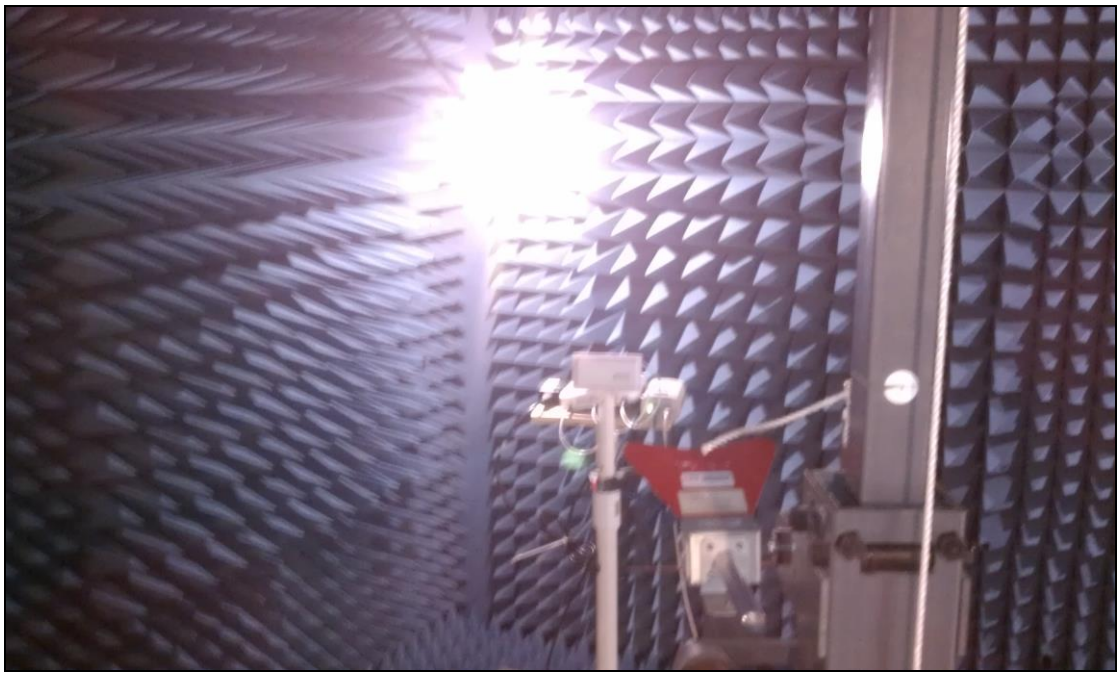


Photograph 10. Radiated Spurious Emissions, Test Setup, LF Ceiling Mount Antenna



Photograph 11. Radiated Spurious Emissions, Test Setup, HF Ceiling Mount Antenna

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(f) RF Exposure

RF Exposure Requirements: **§1.1307(b)(1) and §1.1307(b)(2):** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

RF Radiation Exposure Limit: **§1.1310:** As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

MPE Limit Calculation: EUT's operating frequency is 5260-5320MHz and 5500-5700MHz. Highest conducted power = 22.82dBm (avg). Therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2.**

Equation from page 18 of OET 65, Edition 97-01

$$S = P G / 4\pi R^2$$

where,

S = Power Density (mW/cm$^{2)}$
P = Power (191.43 mW)
R = Minimum Separation Distance (20 cm)
G = Linear Antenna Gain (4.75)

$$S = (191.43*4.75) / (4*3.14*20^{2)} = 0.181 \text{ mW/cm}^2$$

Therefore, EUT meets the Uncontrolled Exposure limit at 20cm.

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Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(g) Frequency Stability

Test Requirements: **§ 15.407(g):** Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

Test Procedure: The EUT was connected directly to a spectrum analyzer through an attenuator. The low and high channel of each band was turned on. The channels were inspected at 10°C intervals from -30°C to 55°C to see if they were within their band.

Test Results: The EUT was compliant with the requirements of **§15.407(g)**.

Test Engineer(s): Jeff Pratt

Test Date(s): 04/18/12 – 04/19/12

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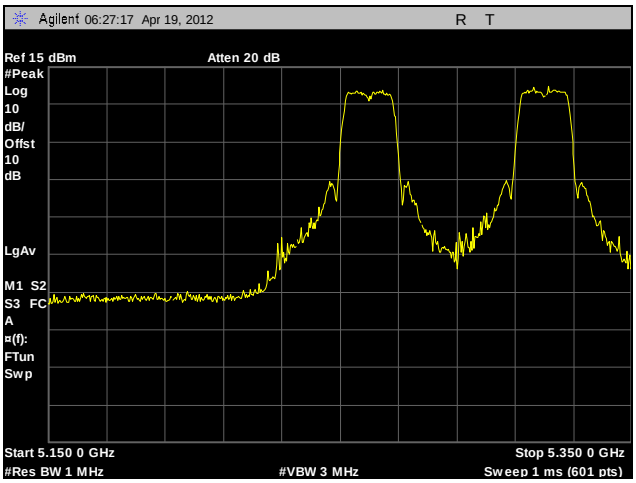
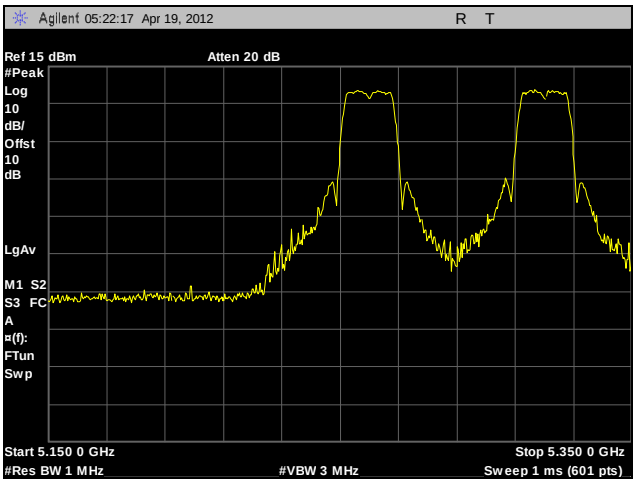
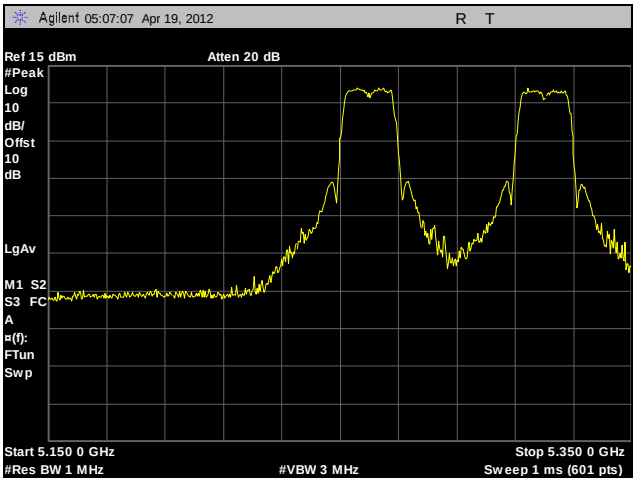


Plot 473. Frequency Stability, 5250 MHz – 5350 MHz, -30°C, 120 V



Plot 474. Frequency Stability, 5250 MHz – 5350 MHz, -20°C, 120 V



Plot 475. Frequency Stability, 5250 MHz – 5350 MHz, -10°C, 120 V

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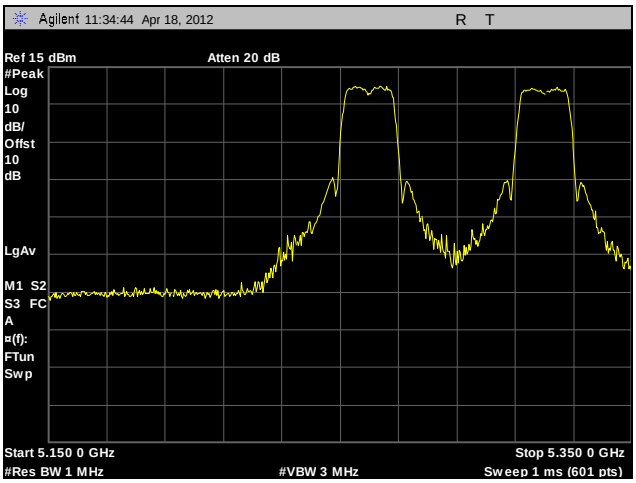
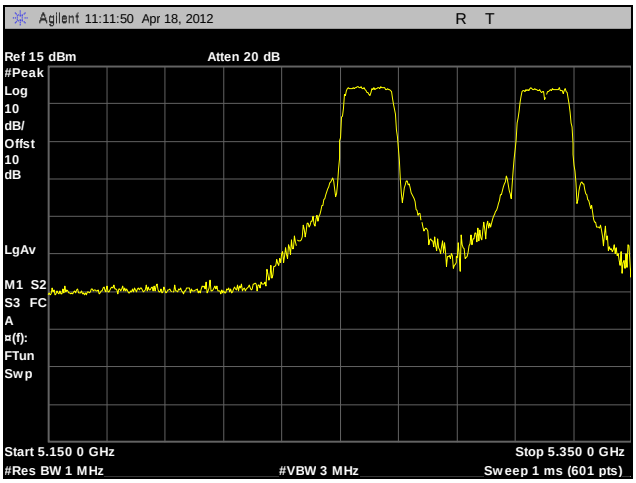
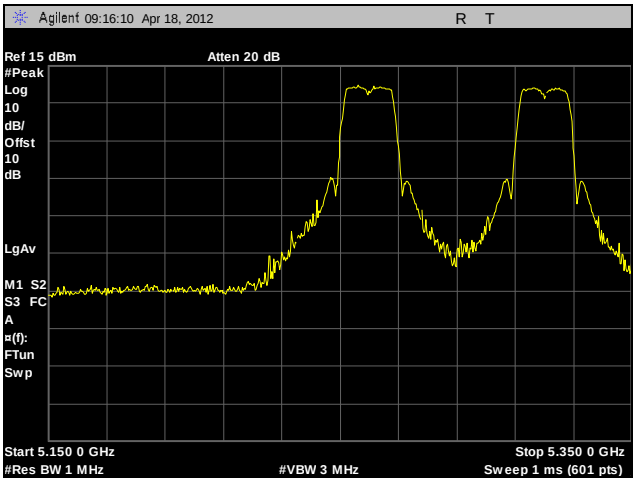


Plot 476. Frequency Stability, 5250 MHz – 5350 MHz, 0°C, 120 V



Plot 477. Frequency Stability, 5250 MHz – 5350 MHz, 10°C, 120 V



Plot 478. Frequency Stability, 5250 MHz – 5350 MHz, 20°C, 108 V

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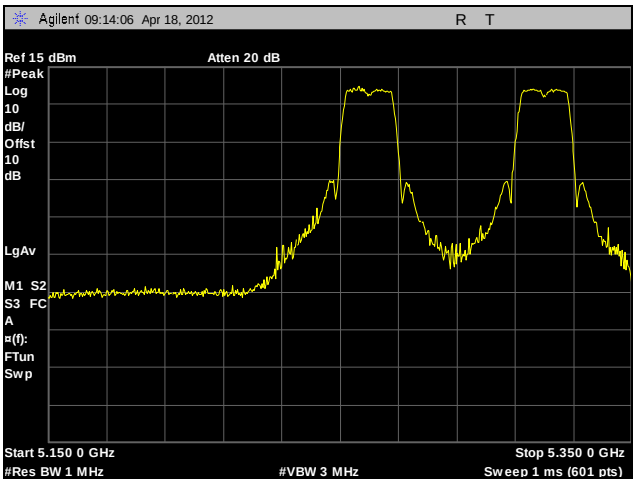
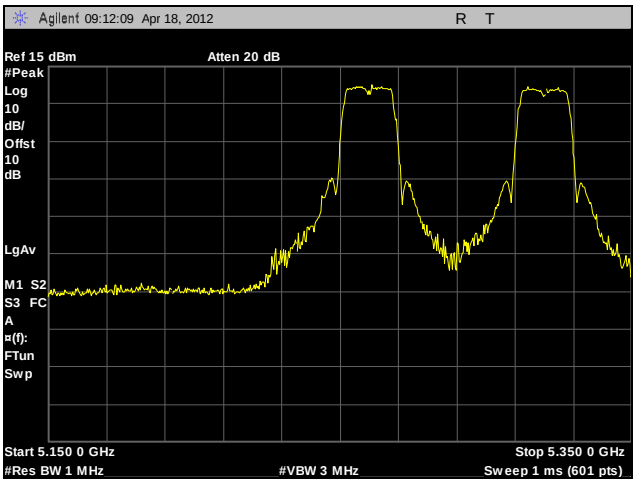
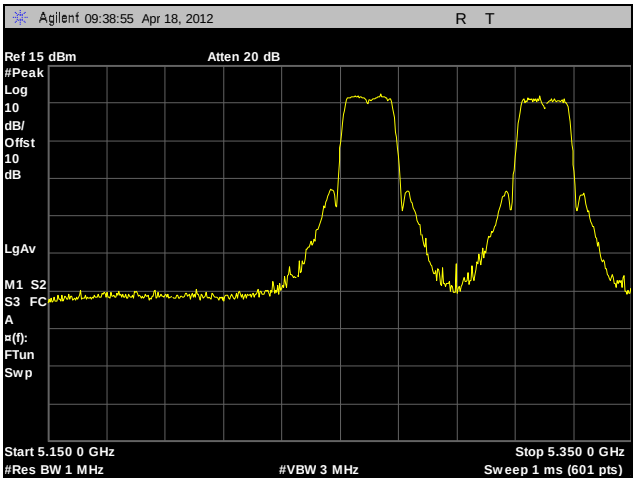


Plot 479. Frequency Stability, 5250 MHz – 5350 MHz, 20°C, 120 V



Plot 480. Frequency Stability, 5250 MHz – 5350 MHz, 20°C, 132 V



Plot 481. Frequency Stability, 5250 MHz – 5350 MHz, 30°C, 120 V

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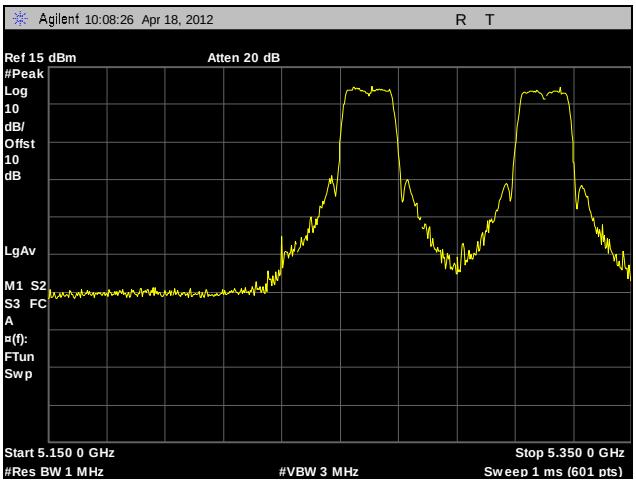
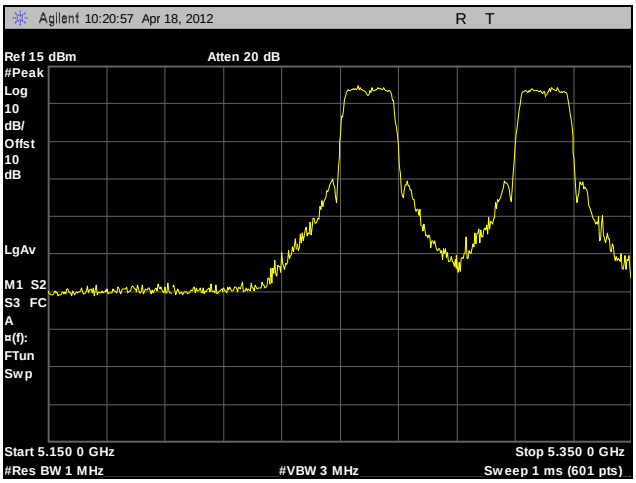
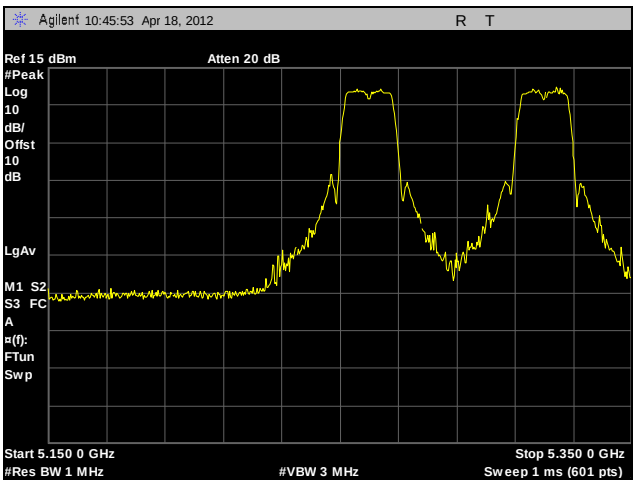


Plot 482. Frequency Stability, 5250 MHz – 5350 MHz, 40°C, 120 V



Plot 483. Frequency Stability, 5250 MHz – 5350 MHz, 50°C, 120 V



Plot 484. Frequency Stability, 5250 MHz – 5350 MHz, 55°C, 120 V

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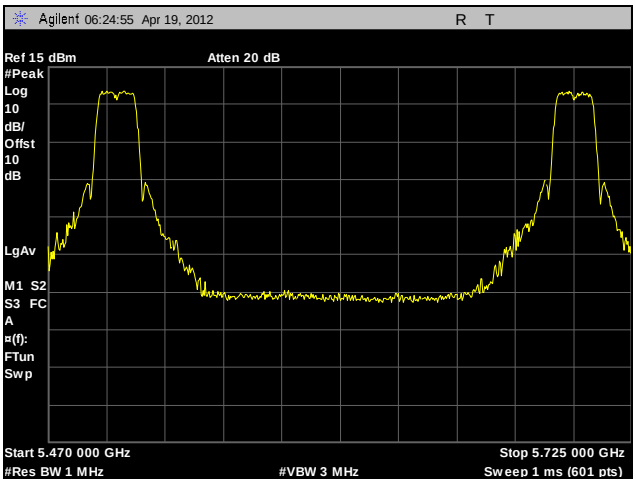
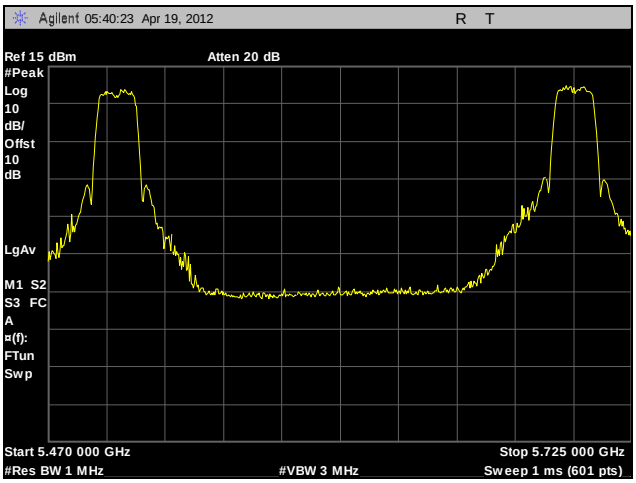
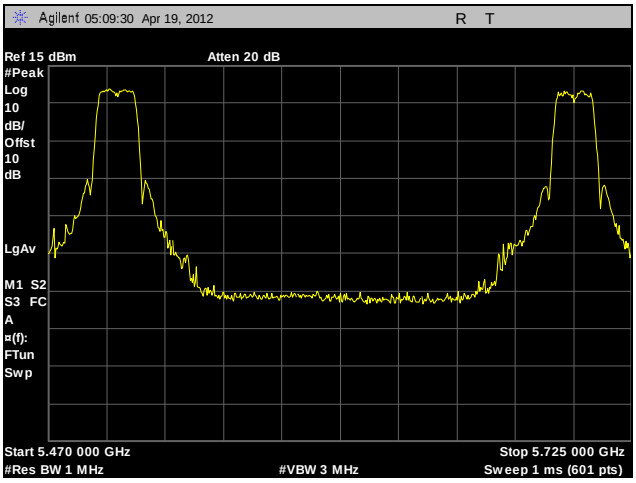


Plot 485. Frequency Stability, 5470 MHz – 5725 MHz, -30°C, 120 V



Plot 486. Frequency Stability, 5470 MHz – 5725 MHz, -20°C, 120 V



Plot 487. Frequency Stability, 5470 MHz – 5725 MHz, -10°C, 120 V

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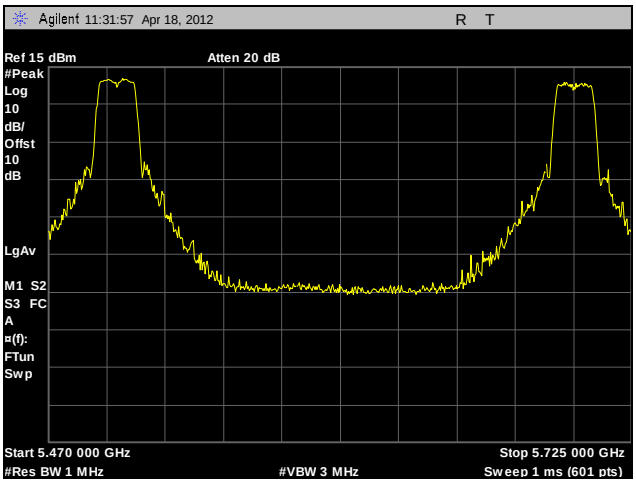
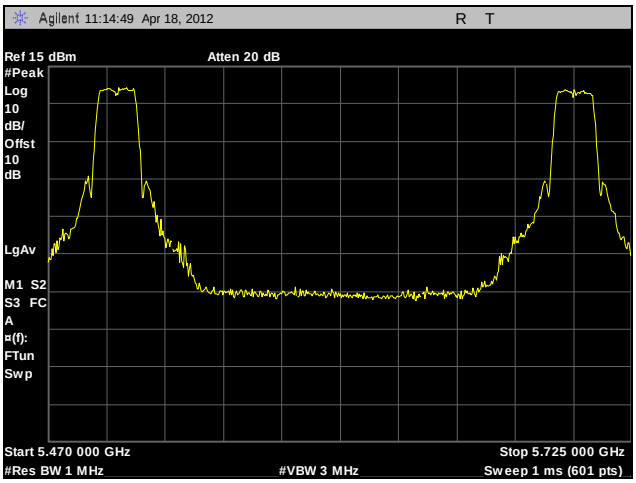
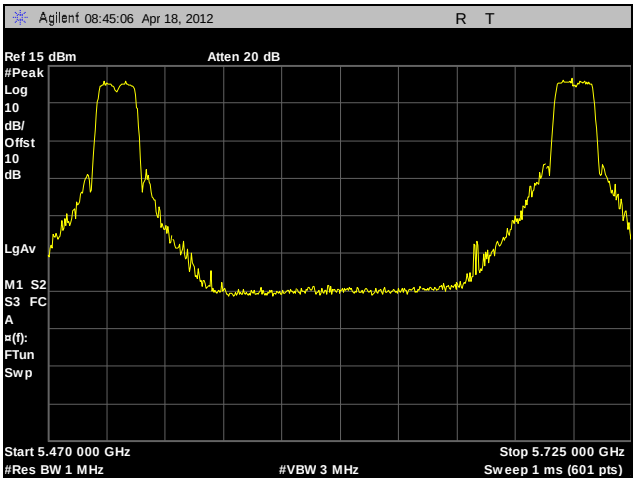


Plot 488. Frequency Stability, 5470 MHz – 5725 MHz, 0°C, 120 V



Plot 489. Frequency Stability, 5470 MHz – 5725 MHz, 10°C, 120 V



Plot 490. Frequency Stability, 5470 MHz – 5725 MHz, 20°C, 108 V

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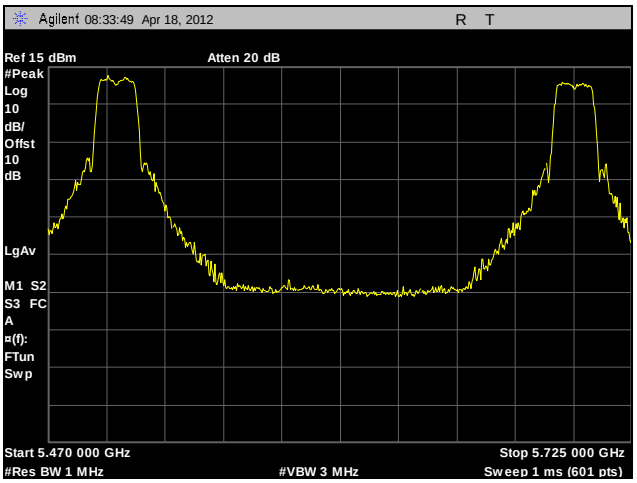
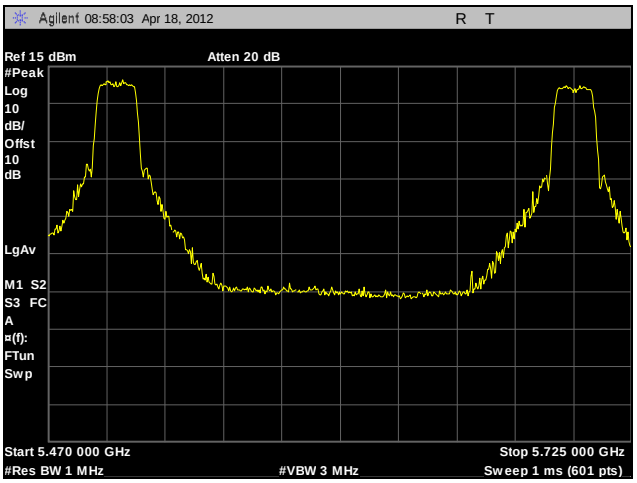
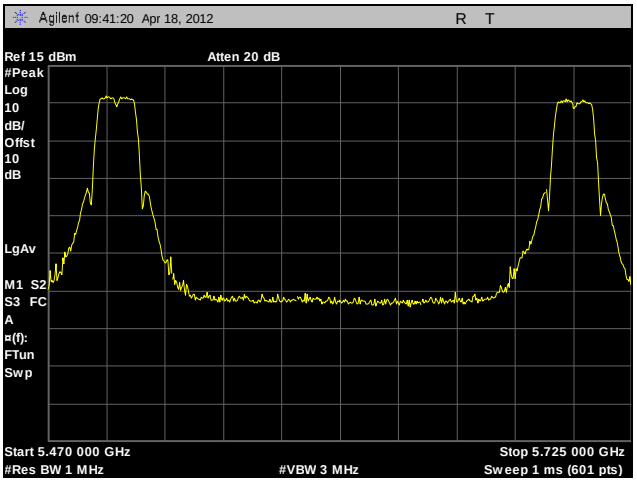


Plot 491. Frequency Stability, 5470 MHz – 5725 MHz, 20°C, 120 V



Plot 492. Frequency Stability, 5470 MHz – 5725 MHz, 20°C, 132 V



Plot 493. Frequency Stability, 5470 MHz – 5725 MHz, 30°C, 120 V

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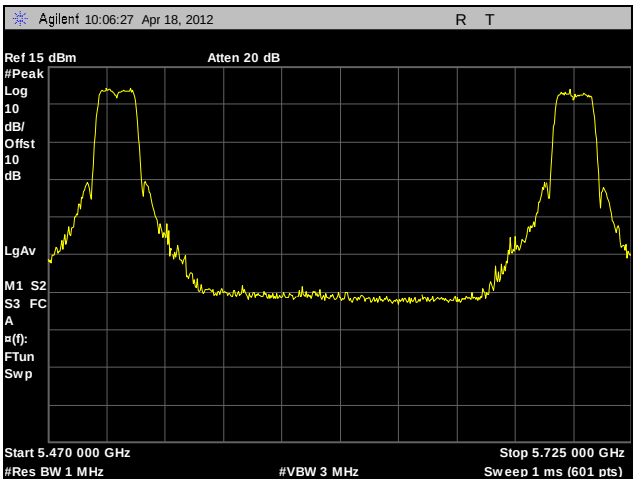
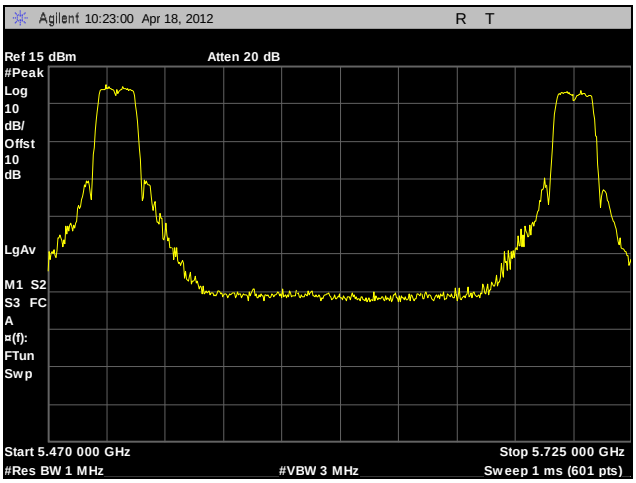
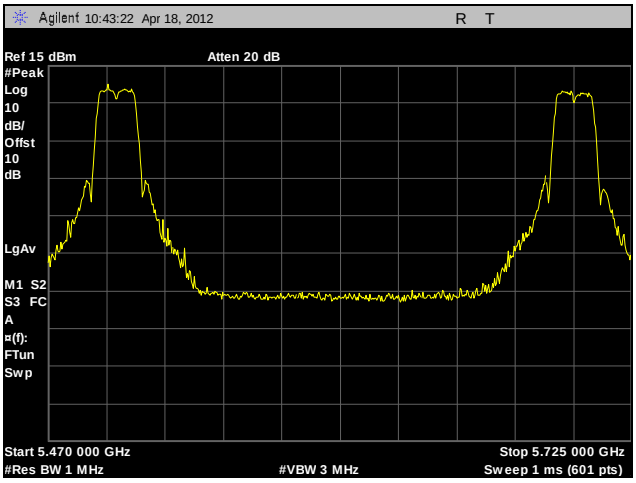


Plot 494. Frequency Stability, 5470 MHz – 5725 MHz, 40°C, 120 V



Plot 495. Frequency Stability, 5470 MHz – 5725 MHz, 50°C, 120 V



Plot 496. Frequency Stability, 5470 MHz – 5725 MHz, 55°C, 120 V

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