MET Laboratories, Inc. *Safety Certification - EMI - Telecom Environmental Simulation*
914 WEST PATAPSCO AVENUE ● BALTIMORE, MARYLAND 21230-3432 ● PHONE (410) 354-3300 ● FAX (410) 354-3313
33439 WESTERN AVENUE ● UNION CITY, CALIFORNIA 94587 ● PHONE (510) 489-6300 ● FAX (510) 489-6372
3162 BELICK STREET ● SANTA CLARA, CALIFORNIA 95054 ● PHONE (408 748-3585 ● FAX (510) 489-6372

February 19, 2013

Boyce Technologies, Inc.
40 Wall Street, Floor 25
New York, NY 10005

Dear Charles Boyce,

Enclosed is the EMC Wireless test report for compliance testing of the Boyce Technologies, Inc., BTI-HPU-7161 as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Part 15, Subpart B, ICES-003, Issue 4 February 2004 for a Class B Digital Device, and FCC Part 15.407 and Industry Canada RSS-210, Annex 9, Issue 8, Dec. 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: (\Boyce Technologies, Inc.\EMC34855-FCC407 (UNII 2) Rev. 3)

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Electromagnetic Compatibility Criteria Test Report

for the

Boyce Technologies, Inc.
BTI-HPU-7161

Tested under
the FCC Certification Rules
contained in
Title 47 of the CFR, Parts 15 Subpart B & ICES-003
for Class B Digital Devices
&
FCC Part 15.407 & RSS-210, Annex 9
for Intentional Radiators

MET Report: EMC34855-FCC407 (UNII 2) Rev. 3

February 19, 2013

Prepared For:

Boyce Technologies, Inc.
40 Wall Street, Floor 25
New York, NY 10005

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

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for Intentional Radiators

Benjamin Taylor, 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 FCC Rules Parts 15B, Part 15.407 and Industry Canada standards ICES-003, Issue 4 February 2004, RSS-210 Annex 9 under normal use and maintenance.

Asad Bajwa, Director
Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	July 22, 2012	Initial Issue.
1	December 4, 2012	Revised to reflect engineer corrections.
2	December 11, 2012	Revised to reflect engineer corrections.
3	February 19, 2013	Revised to reflect engineer corrections.

Table of Contents

List of Tables

List of Figures

List of Plots

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

I. Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Boyce Technologies, Inc. BTI-HPU-7161, with the requirements of FCC Part 15, §15.407 and Industry Canada RSS-210 Annex 9. 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 BTI-HPU-7161. Boyce Technologies, Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the BTI-HPU-7161, 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 FCC Part 15, §15.407 and Industry Canada RSS-210, Annex 9, in accordance with Boyce Technologies, Inc., purchase order number 1059. All tests were conducted using measurement procedure ANSI C63.4-2003.

FCC Reference	Industry Canada Reference	Description	Results
47 CFR Part 15.107 (a)	ICES-003 Issue 4 February 2004	Conducted Emission Limits for a Class B Digital Device	Compliant
47 CFR Part 15.109 (a)	ICES-003 Issue 4 February 2004	Radiated Emission Limits for a Class B Digital Device	Compliant
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)(3)	A9.2(3)	Conducted Transmitter Output Power	Compliant
15.407 (a)(3)	A9.2(3)	Power Spectral Density	Compliant
15.407 (a)(6)	N/A	Peak Excursion	Compliant
15.407 (b)(4), (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
N/A	RSS-Gen(4.8)	Receiver Spurious Emissions	Compliant

Table 1. Executive Summary of EMC Part 15.407 & RSS-210 Annex 9 ComplianceTesting

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by Boyce Technologies, Inc. to perform testing on the BTI-HPU-7161, under Boyce Technologies, Inc.' purchase order number 1059.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Boyce Technologies, Inc. BTI-HPU-7161.

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

Model(s) Tested:	BTI-HPU-7161	
Model(s) Covered:	BTI-HPU-7161	
EUT Specifications:	Primary Power: 120 VAC, 60 Hz	
	FCC ID: OEXBTIAP716101	
	Type of Modulations:	OFDM
	Frequency Range:	5260 – 5700 MHz
	RF Output Power:	16.69 dBm
	Equipment Code:	NII
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:	Ben Taylor	
Report Date(s):	February 19, 2013	

Table 2. EUT Summary

B. References

RSS-210, Issue 8, Dec. 2010	Low-power License-exempt Radiocommunications Devices (All Frequency Bands): Category I Equipment
CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
CFR 47, Part 15, Subpart B	Electromagnetic Compatibility: Criteria for Radio Frequency Devices
ICES-003, Issue 4 February 2004	Electromagnetic Compatibility: Criteria for Radio Frequency Devices
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.

D. Description of Test Sample

The Boyce Technologies, Inc. BTI-HPU-7161, Equipment Under Test (EUT), is Wireless Access Point.

E. Equipment Configuration

All cards, racks, etc., incorporated as part of the EUT is included in the following list.

Name / Description	Model Number	Serial Number
Boyce Wireless Radio	BTI-HPU-7161	000002

Table 4. Equipment Configuration

F. Support Equipment

Ref. ID	Name / Description	Manufacturer	Model Number
--	Laptop	--	--
--	PoE Injector	--	--

Table 5. Support Equipment

G. Ports and Cabling Information

Port Name on EUT	Cable Description	Qty.	Length (m)	Shielded (Y/N)	Termination Point
--	GE1/PoE	--	--	--	--
--	Console	--	--	--	--

Table 6. Ports and Cabling Information

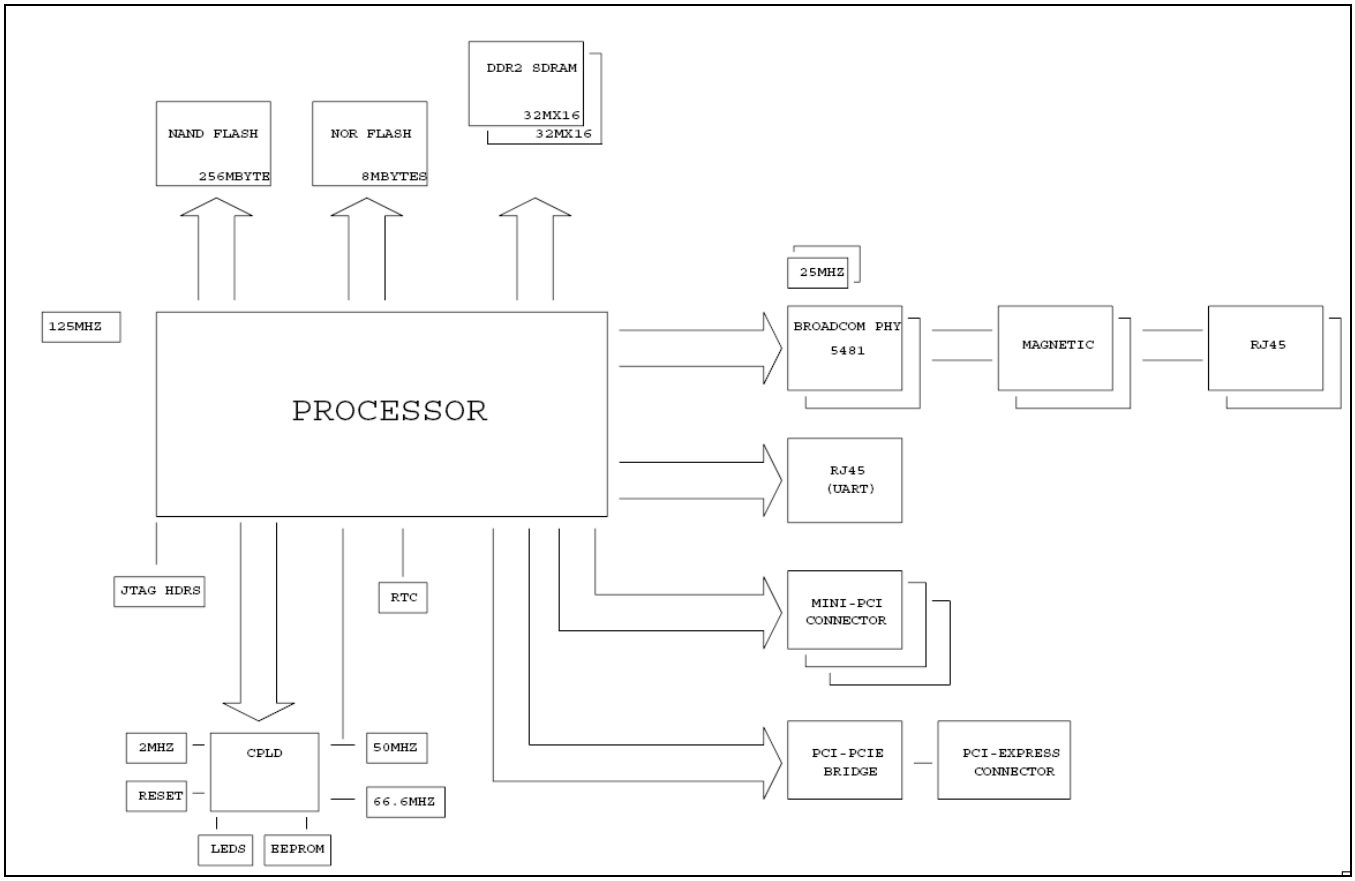


Figure 1. Block Diagram of Test Configuration

H. Mode of Operation

Laptop connected through Ethernet runs Winprius software. Commands are entered to control channel, power and data rate on all radios.

I. Method of Monitoring

Spectrum Analyzer.

J. 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.

K. Disposition of EUT

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

III. Electromagnetic Compatibility Criteria for Unintentional Radiators

Electromagnetic Compatibility Criteria

§ 15.107 Conducted Emissions Limits

Test Requirement(s):

15.107 (a) Except for Class A digital devices, for equipment 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 30 MHz shall not exceed the limits in Table 7. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

15.107 (b) For a Class A digital device 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 30 MHz shall not exceed the limits in Table 7. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals. The lower limit applies at the band edges.

15.207(a), Except as shown in paragraphs (b) and (c) of this section*, charging, AC adapters or battery eliminators the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the Table 7, as measured using a 50 μH/50 ohms 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 frequencies ranges.

Frequency range (MHz)	Class A Conducted Limits (dBμV)		*Class B Conducted Limits (dBμV)	
	Quasi-Peak	Average	Quasi-Peak	Average
* 0.15- 0.45	79	66	66 - 56	56 - 46
0.45 - 0.5	79	66	56	46
0.5 - 30	73	60	60	50
Note 1 — The lower limit shall apply at the transition frequencies. Note 2 — The limit decreases linearly with the logarithm if the frequency in the range 0.15 MHz to 0.5 MHz. * -- Limits per Subsection 15.207(a).				

Table 7. Conducted Limits for Radio Frequency Devices calculated from FCC Part 15 Subsections 15.107(a) (b) and 15.207(a)

Test Results: The EUT was compliant with the Class B requirement(s) of this section. Measured emissions were below applicable limits.

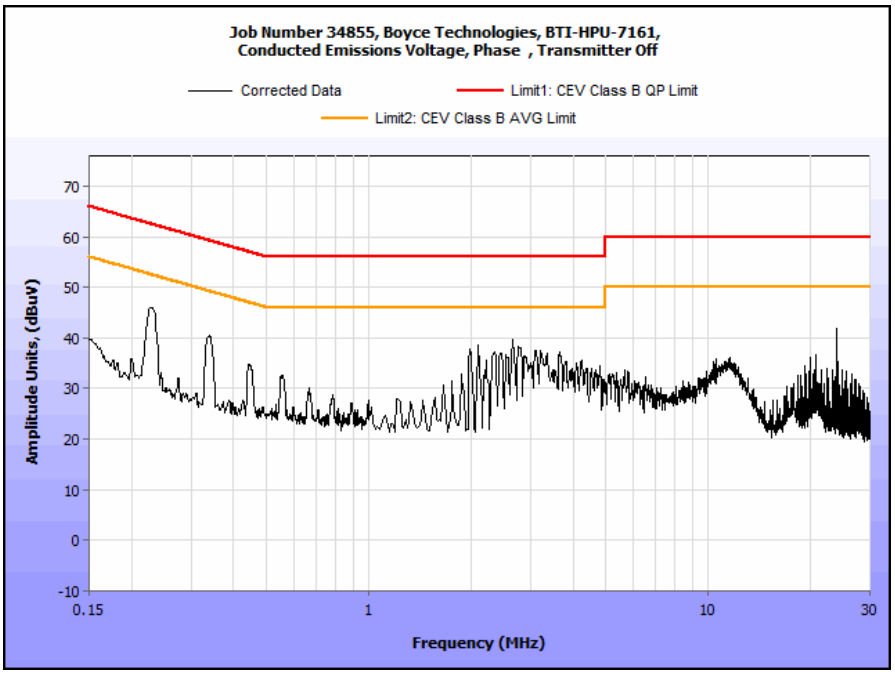
Test Engineer(s): Ben Taylor

Test Date(s): 04/20/12

Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz)

Frequency (MHz)	Uncorrected Meter Reading (dBuV) QP	Cable Loss (dB)	Corrected Measurement (dBuV) QP	Limit (dBuV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBuV) Avg.	Cable Loss (dB)	Corrected Measurement (dBuV) AVG	Limit (dBuV) AVG	Margin (dB) AVG
0.2188	43.64	0.02	43.66	62.86	-19.2	30.76	0.02	30.78	52.86	-22.08
0.3335	38.71	0.04	38.75	59.36	-20.61	34.61	0.04	34.65	49.36	-14.71
0.442	33.31	0.03	33.34	57.02	-23.68	30.52	0.03	30.55	47.02	-16.47
1.972	31.89	0.15	32.04	56	-23.96	16.73	0.15	16.88	46	-29.12
11.866	30.22	0.43	30.65	60	-29.35	22.36	0.43	22.79	50	-27.21
23.923	40.93	0.61	41.54	60	-18.46	40.26	0.61	40.87	50	-9.13

Table 8. Conducted Emissions - Voltage, AC Power, Phase Line (120 VAC, 60 Hz)

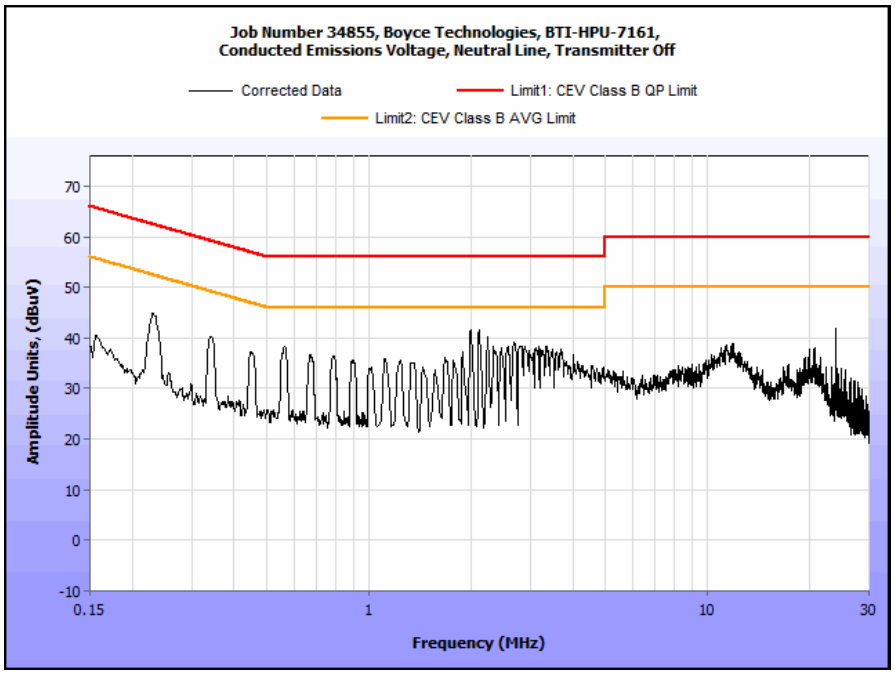


Plot 1. Conducted Emission, Phase Line Plot

Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz)

Frequency (MHz)	Uncorrected Meter Reading (dBuV) QP	Cable Loss (dB)	Corrected Measurement (dBuV) QP	Limit (dBuV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBuV) Avg.	Cable Loss (dB)	Corrected Measurement (dBuV) AVG	Limit (dBuV) AVG	Margin (dB) AVG
0.223	42.98	0.03	43.01	62.71	-19.7	37.22	0.03	37.25	52.71	-15.46
0.3355	38.52	0.04	38.56	59.31	-20.75	34.54	0.04	34.58	49.31	-14.73
0.5602	36.9	0.03	36.93	56	-19.07	33.9	0.03	33.93	46	-12.07
2.112	33.34	0.16	33.5	56	-22.5	22.12	0.16	22.28	46	-23.72
11.833	33.98	0.43	34.41	60	-25.59	24.65	0.43	25.08	50	-24.92
23.938	40.65	0.61	41.26	60	-18.74	40.11	0.61	40.72	50	-9.28

Table 9. Conducted Emissions - Voltage, AC Power, Neutral Line (120 VAC, 60 Hz)



Plot 2. Conducted Emission, Neutral Line Plot, FSP040-DGAA5

Radiated Emission Limits

§ 15.109 Radiated Emissions Limits

Test Requirement(s): **15.109 (a)** Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the Class B limits expressed in Table 10.

15.109 (b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the Class A limits expressed in Table 10.

Frequency (MHz)	Field Strength (dBµV/m)	
	§15.109 (b), Class A Limit (dBµV) @ 10m	§15.109 (a),Class B Limit (dBµV) @ 3m
30 - 88	39.00	40.00
88 - 216	43.50	43.50
216 - 960	46.40	46.00
Above 960	49.50	54.00

Table 10. Radiated Emissions Limits calculated from FCC Part 15, §15.109 (a) (b)

Test Procedures: The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. The method of testing and test conditions of ANSI C63.4 were used. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. Unless otherwise specified, measurements were made using a quasi-peak detector with a 120 kHz bandwidth.

Test Results: The EUT was compliant with the Class B requirement(s) of this section. Measured emissions were below applicable limits.

Test Engineer(s): Ben Taylor

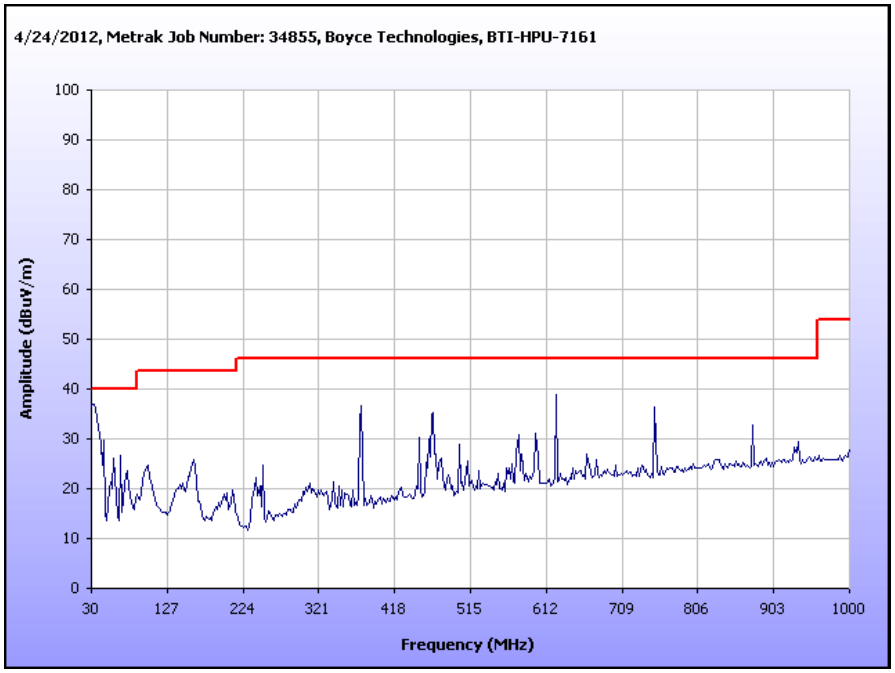
Test Date(s): 04/24/12

Radiated Emissions Limits Test Results, Class B

Frequency (MHz)	EUT Azimuth (Degrees)	Antenna Polarity (H/V)	Antenna HEIGHT (m)	Uncorrected Amplitude (dBuV)	Antenna Correction Factor (dB) (+)	Cable Loss (dB) (+)	Distance Correction Factor (dB) (-)	Corrected Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
38.777555	280	H	1.12	5.10	15.18	0.42	0.00	20.70	40.00	-19.30
38.777555	329	V	1.01	17.08	15.18	0.42	0.00	32.68	40.00	-7.32
374.9953	295	H	1.01	13.25	15.60	1.54	0.00	30.39	46.00	-15.61
374.9953	357	V	1.03	10.50	15.60	1.54	0.00	27.64	46.00	-18.36
465.63126	65	H	1.02	12.80	17.63	1.78	0.00	32.21	46.00	-13.79
465.63126	56	V	1.02	9.30	17.63	1.78	0.00	28.71	46.00	-17.29
624.97839	187	H	1.02	11.04	19.80	2.09	0.00	32.93	46.00	-13.07
624.97839	175	V	1.03	14.03	19.80	2.09	0.00	35.92	46.00	-10.08
752.24637	15	H	1.01	5.21	21.30	2.41	0.00	28.92	46.00	-17.08
752.24637	25	V	1.03	5.26	21.30	2.41	0.00	28.97	46.00	-17.03
875.8694	11	H	1.03	5.65	22.70	2.51	0.00	30.86	46.00	-15.14
875.8694	21	V	1.01	5.57	22.70	2.51	0.00	30.78	46.00	-15.22

Table 11. Radiated Emissions Limits, Test Results, FCC Limits

Note: The EUT was tested at 3 m.

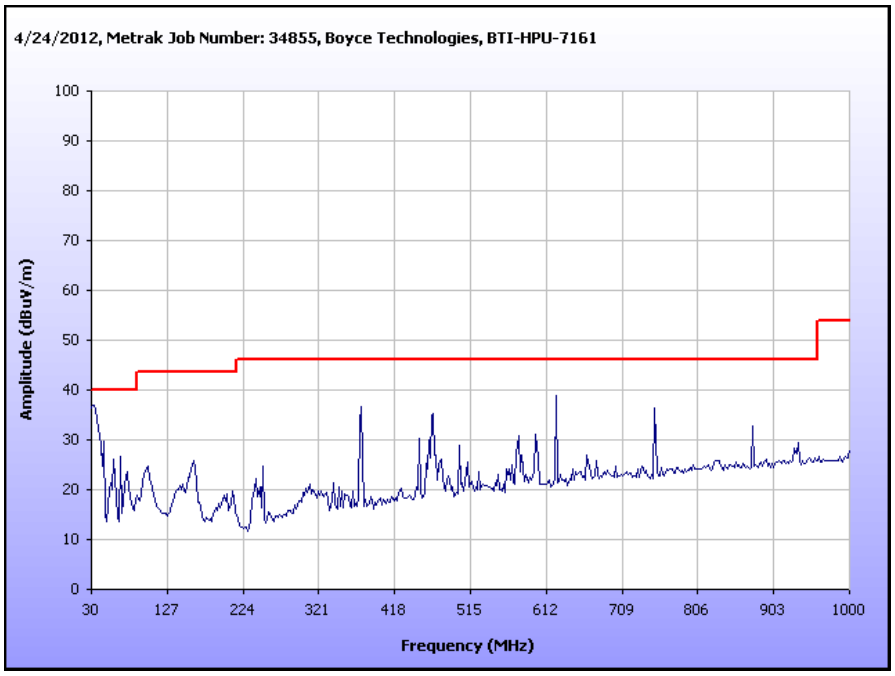


Plot 3. Radiated Emissions, 30 MHz - 1 GHz, FCC Limits

Radiated Emissions Limits Test Results, Class B

Frequency (MHz)	EUT Azimuth (Degrees)	Antenna Polarity (H/V)	Antenna HEIGHT (m)	Uncorrected Amplitude (dBuV)	Antenna Correction Factor (dB) (+)	Cable Loss (dB) (+)	Distance Correction Factor (dB) (-)	Corrected Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
38.777555	280	H	1.12	5.10	15.18	0.42	10.46	10.24	30.00	-19.76
38.777555	329	V	1.01	17.08	15.18	0.42	10.46	22.22	30.00	-7.78
374.9953	295	H	1.01	13.25	15.60	1.54	10.46	19.93	37.00	-17.07
374.9953	357	V	1.03	10.50	15.60	1.54	10.46	17.18	37.00	-19.82
465.63126	65	H	1.02	12.80	17.63	1.78	10.46	21.75	37.00	-15.25
465.63126	56	V	1.02	9.30	17.63	1.78	10.46	18.25	37.00	-18.75
624.97839	187	H	1.02	11.04	19.80	2.09	10.46	22.47	37.00	-14.53
624.97839	175	V	1.03	14.03	19.80	2.09	10.46	25.46	37.00	-11.54
752.24637	15	H	1.01	5.21	21.30	2.41	10.46	18.46	37.00	-18.54
752.24637	25	V	1.03	5.26	21.30	2.41	10.46	18.51	37.00	-18.49
875.8694	11	H	1.03	5.65	22.70	2.51	10.46	20.40	37.00	-16.60
875.8694	21	V	1.01	5.57	22.70	2.51	10.46	20.32	37.00	-16.68

Table 12. Radiated Emissions Limits, Test Results, ICES-003 Limits



Plot 4. Radiated Emissions Limits, ICES-003 Limits

IV. Electromagnetic Compatibility Criteria for Intentional Radiators

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. This EUT is compliant as it has an integrated antenna.

Test Engineer(s): Ben Taylor

Test Date(s): 04/18/12

taoglas
antenna solutions

I. Introduction

FXP.503 is a 3-in-1 MIMO antenna. The three identical 2.4/5GHz antenna elements on the FPCB can be separately be used as either transmit antenna or receive antenna. Having three antenna integrated in one FPCB can greatly reduce the antenna assembly time.

II. Antenna Specification

ELECTRICAL						
Band	2.4 ~ 2.5GHz			4.9 ~ 5.9GHz		
Antenna	Left	Center	Right	Left	Center	Right
Peak Gain (Free Space)	1.3dBi	0.8dBi	0.0dBi	7.2dBi	6.3dBi	4.9dBi
Peak Gain (ABS)	4.2dBi	1.6dBi	2.7dBi	7.5dBi	6.8dBi	7.3dBi
Average Gain (Free Space)	-5.3dBi	-6.0dBi	-6.2dBi	-3.2dBi	-3.2dBi	-5.0dBi
Average Gain (ABS)	-2.6dBi	-3.9dBi	-3.1dBi	-1.5dBi	-1.8dBi	-1.4dBi
Efficiency (Free Space)	31%	26%	24%	52%	50%	34%
Efficiency (ABS)	55%	41%	50%	71%	66%	73%
Polarization	Linear					
Impedance	50 ohms					
Max Input Power	10 watts					
VSWR	<2.5:1					
MECHANICAL						
Dimensions	61 x 41 mm					
Cable	70mm 1.37 co-axial					
Connector	IPEX MHFHT					
ENVIRONMENTAL						
Temperature Range	-40°C to +85°C					
Humidity	Non-condensing 65°C 95% RH					

13-Dec-11 Page 2 of 14

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 Ω 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 13. Conducted Limits for Intentional Radiators from FCC Part 15 § 15.207(a)

Test Procedure: The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. 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 C63.4-1992 "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.

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

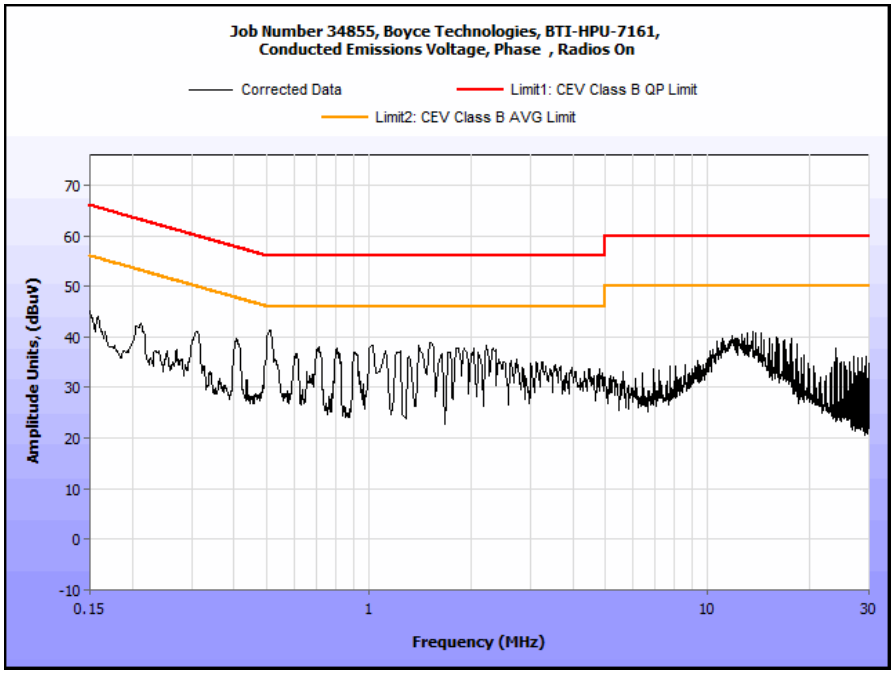
Test Engineer(s): Ben Taylor

Test Date(s): 04/23/12

15.207(a) Conducted Emissions Test Results

Frequency (MHz)	Uncorrected Meter Reading (dBuV) QP	Cable Loss (dB)	Corrected Measurement (dBuV) QP	Limit (dBuV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBuV) Avg.	Cable Loss (dB)	Corrected Measurement (dBuV) AVG	Limit (dBuV) AVG	Margin (dB) AVG
0.2024	41.26	0.01	41.27	63.51	-22.24	36.58	0.01	36.59	53.51	-16.92
0.3047	39.59	0.05	39.64	60.11	-20.47	35.69	0.05	35.74	50.11	-14.37
0.5074	39.89	0.02	39.91	56	-16.09	36.98	0.02	37	46	-9
1.521	36.89	0.13	37.02	56	-18.98	30.34	0.13	30.47	46	-15.53
2.333	35.15	0.16	35.31	56	-20.69	27.35	0.16	27.51	46	-18.49
13.106	39.95	0.44	40.39	60	-19.61	36.37	0.44	36.81	50	-13.19

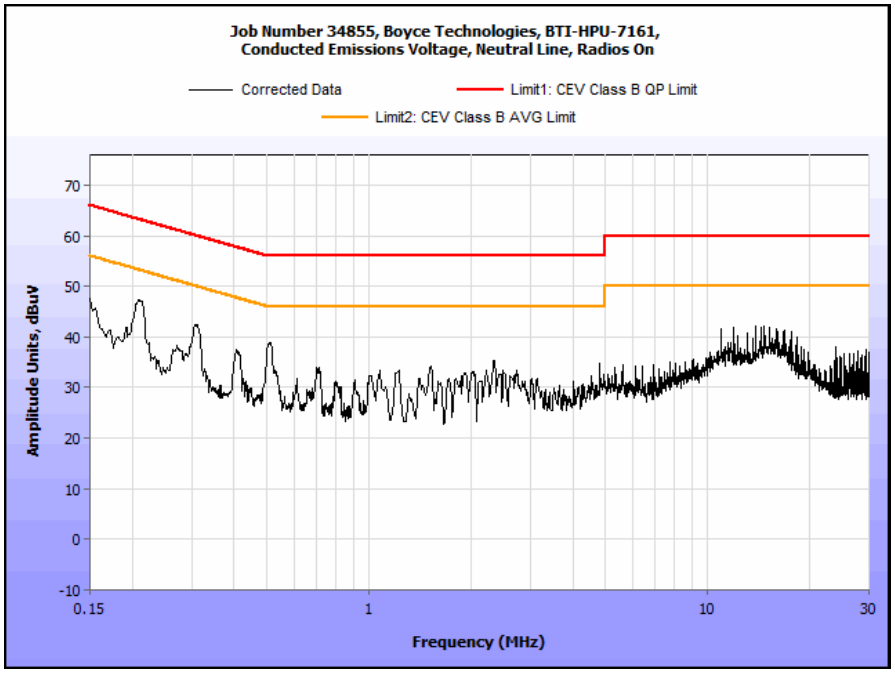
Table 14. Conducted Emissions, 15.207, Test Results, Phase Line



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

Frequency (MHz)	Uncorrected Meter Reading (dBuV) QP	Cable Loss (dB)	Corrected Measurement (dBuV) QP	Limit (dBuV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBuV) Avg.	Cable Loss (dB)	Corrected Measurement (dBuV) AVG	Limit (dBuV) AVG	Margin (dB) AVG
0.201	44.67	0.01	44.68	63.57	-18.89	33.62	0.01	33.63	53.57	-19.94
0.3076	39.16	0.05	39.21	60.04	-20.83	33.91	0.05	33.96	50.04	-16.08
0.504	36.53	0.02	36.55	56	-19.45	32.46	0.02	32.48	46	-13.52
2.3235	31.35	0.16	31.51	56	-24.49	24.44	0.16	24.6	46	-21.4
12.001	40.68	0.43	41.11	60	-18.89	37.82	0.43	38.25	50	-11.75
23.909	37.09	0.61	37.7	60	-22.3	35.46	0.61	36.07	50	-13.93

Table 15. Conducted Emissions, 15.207, Test Results, Neutral Line



Plot 6. Conducted Emissions, 15.207(a), Neutral Line

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 low, mid and high 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): 03/07/11

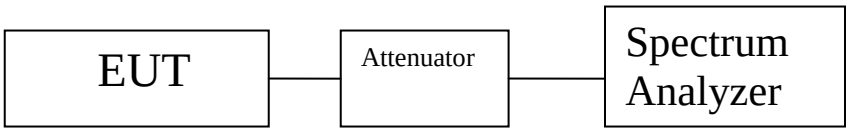


Figure 2. Occupied Bandwidth, Test Setup

Occupied Bandwidth				
Frequency (MHz)	Mode	Measured 26 dB Bandwidth (MHz)		
		A	B	C
5260	802.11a	23.181	24.880	23.322
5300	802.11a	24.624	23.229	25.553
5320	802.11a	22.456	23.726	26.556
5500	802.11a	25.412	23.890	26.882
5580	802.11a	20.797	21.729	23.874
5660	802.11a	20.054	20.983	20.730
5700	802.11a	22.342	22.137	20.244

Table 16. 26 dB Occupied Bandwidth, Test Results, 802.11a

Occupied Bandwidth				
Frequency (MHz)	Mode	Measured 26 dB Bandwidth (MHz)		
		A	B	C
5260	802.11n HT20	21.700	24.510	23.103
5300	802.11n HT20	22.807	21.860	25.440
5320	802.11n HT20	20.743	23.224	22.827
5500	802.11n HT20	26.285	24.351	24.160
5580	802.11n HT20	20.744	22.045	23.212
5660	802.11n HT20	21.955	21.029	21.828
5700	802.11n HT20	20.994	27.586	23.115

Table 17. 26 dB Occupied Bandwidth, Test Results, 802.11n HT20

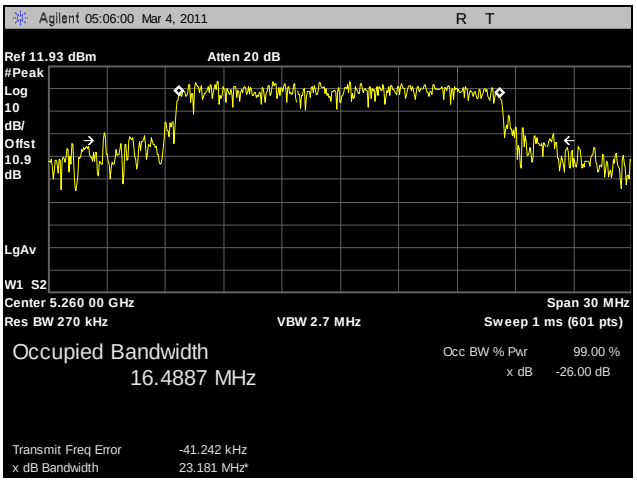
Occupied Bandwidth				
Frequency (MHz)	Mode	Measured 26 dB Bandwidth (MHz)		
		A	B	C
5280	802.11n HT40	41.916	43.556	44.564
5310	802.11n HT40	44.783	42.214	44.700
5320	802.11n HT40	44.096	41.375	45.743
5510	802.11n HT40	43.336	47.383	44.631
5580	802.11n HT40	43.555	44.797	43.196
5670	802.11n HT40	42.070	42.202	43.737
5680	802.11n HT40	41.894	42.724	40.737

Table 18. 26 dB Occupied Bandwidth, Test Results, 802.11n HT40

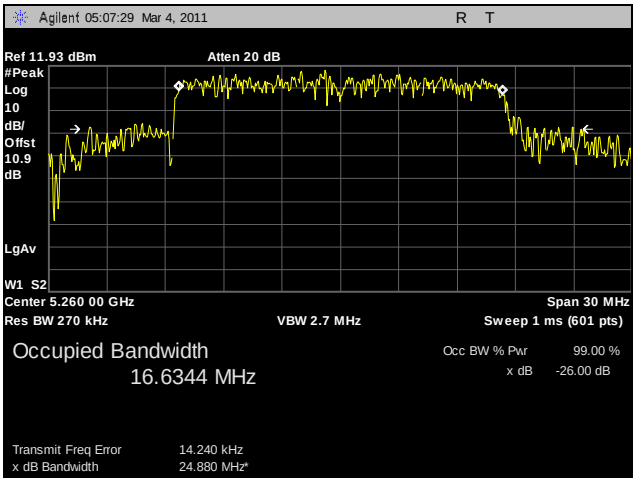
Occupied Bandwidth				
Frequency (MHz)	Mode	Measured 99% Bandwidth (MHz)		
		A	B	C
5260	802.11a	16.4708	16.5578	16.5033
5260	802.11n HT20	17.6308	17.7245	17.6919
5280	802.11n HT40	36.2431	36.2243	36.2763
5300	802.11a	16.5375	16.5626	16.6250
5300	802.11n HT20	17.7144	17.6887	17.6798
5310	802.11n HT40	36.2635	36.3319	36.2636
5320	802.11a	16.5140	16.4252	16.4341
5320	802.11n HT20	17.6675	17.7527	17.2755
5320	802.11n HT40	36.3351	36.2262	36.2940
5500	802.11a	16.5065	16.4448	16.5848
5500	802.11n HT20	17.7439	17.4497	17.6257
5510	802.11n HT40	36.1163	36.2551	36.2684
5580	802.11a	16.5765	16.4868	16.4958
5580	802.11n HT20	17.6924	17.6816	17.5951
5670	802.11n HT40	36.3675	36.3159	36.1024
5700	802.11a	16.3852	16.6111	16.4459
5700	802.11n HT20	17.6526	17.8140	17.7083

Table 19. 99% Occupied Bandwidth, Test Results, Port 1

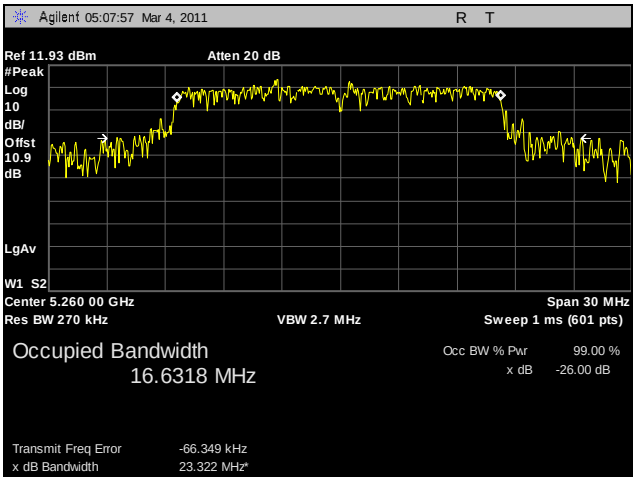
26 dB Occupied Bandwidth Test Results, 802.11a, 5260 MHz



Plot 7. 26 dB Occupied Bandwidth, 802.11a, 5260 MHz, A

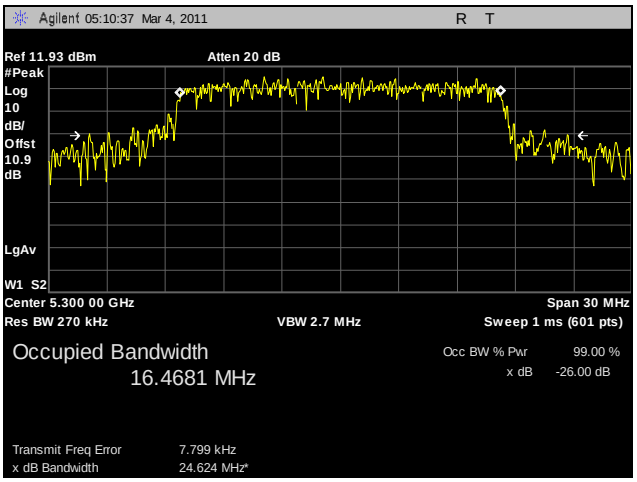


Plot 8. 26 dB Occupied Bandwidth, 802.11a, 5260 MHz, B

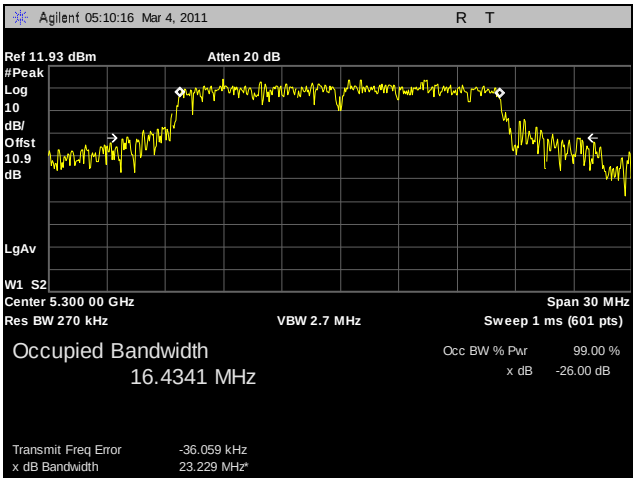


Plot 9. 26 dB Occupied Bandwidth, 802.11a, 5260 MHz, C

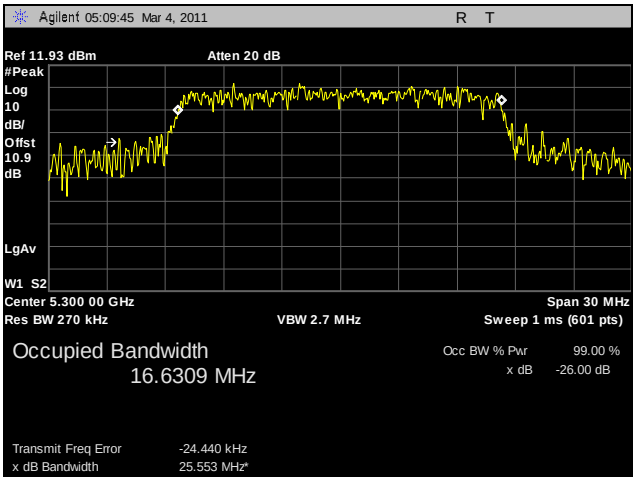
26 dB Occupied Bandwidth Test Results, 802.11a, 5300 MHz



Plot 10. 26 dB Occupied Bandwidth, 802.11a, 5300 MHz, A

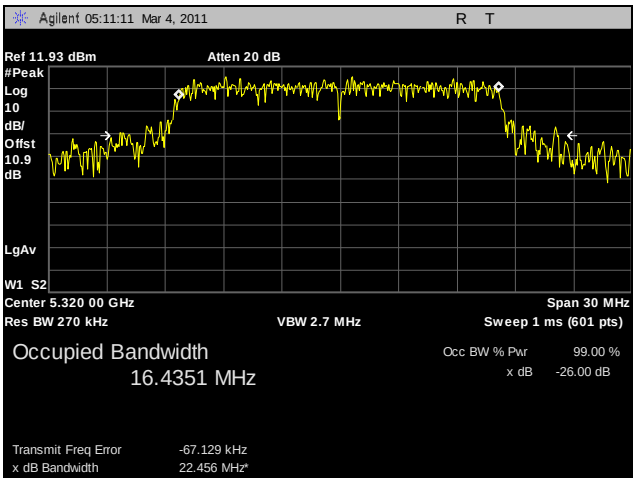


Plot 11. 26 dB Occupied Bandwidth, 802.11a, 5300 MHz, B

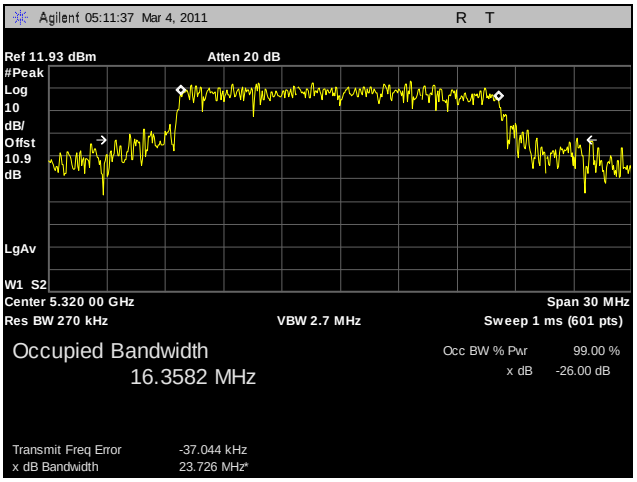


Plot 12. 26 dB Occupied Bandwidth, 802.11a, 5300 MHz, C

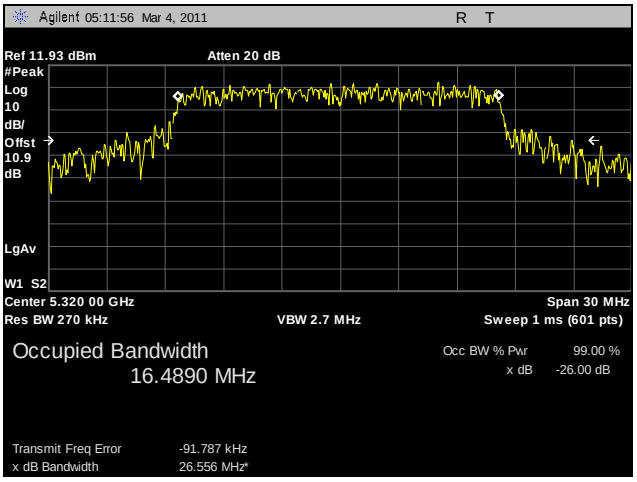
26 dB Occupied Bandwidth Test Results, 802.11a, 5320 MHz



Plot 13. 26 dB Occupied Bandwidth, 802.11a, 5320 MHz, A

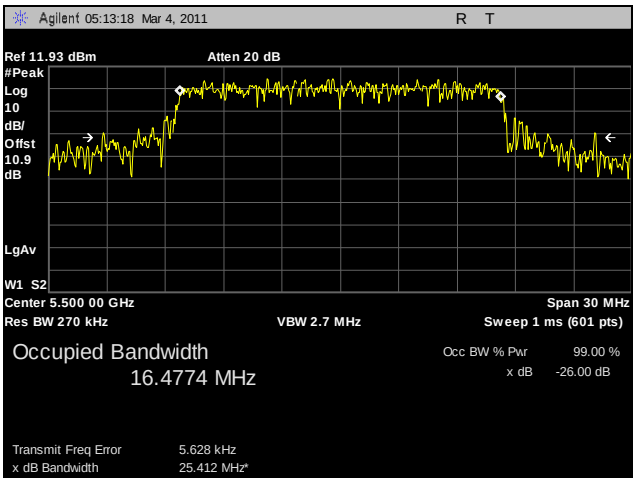


Plot 14. 26 dB Occupied Bandwidth, 802.11a, 5320 MHz, B

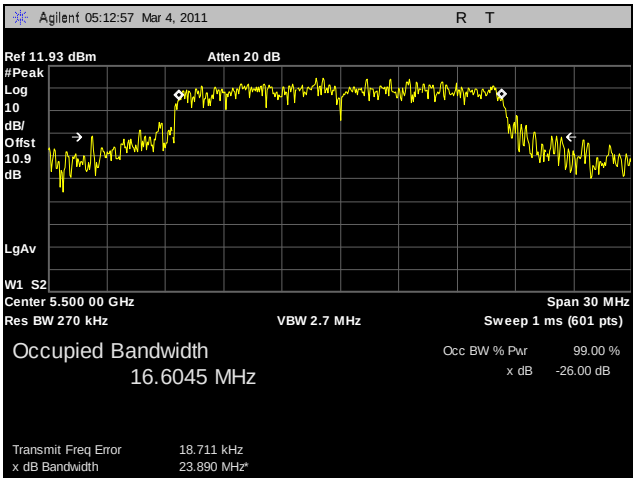


Plot 15. 26 dB Occupied Bandwidth, 802.11a, 5320 MHz, C

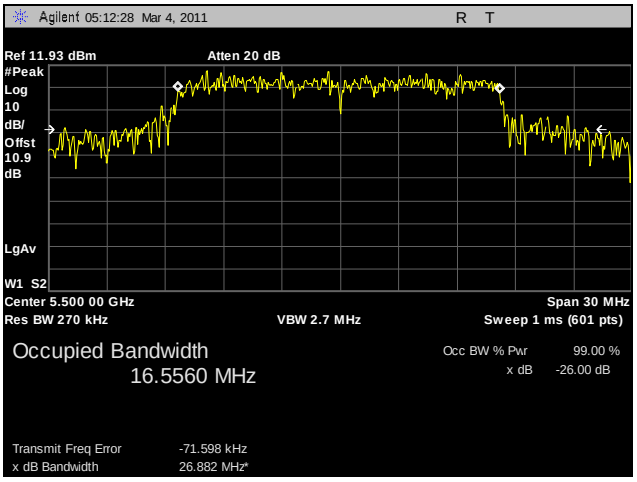
26 dB Occupied Bandwidth Test Results, 802.11a, 5500 MHz



Plot 16. 26 dB Occupied Bandwidth, 802.11a, 5500 MHz, A

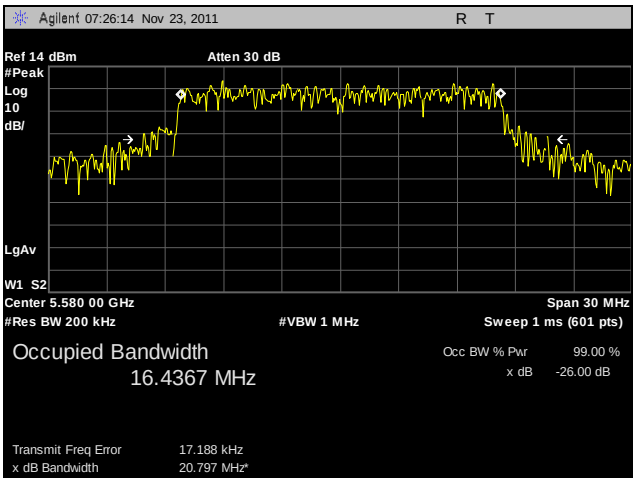


Plot 17. 26 dB Occupied Bandwidth, 802.11a, 5500 MHz, B

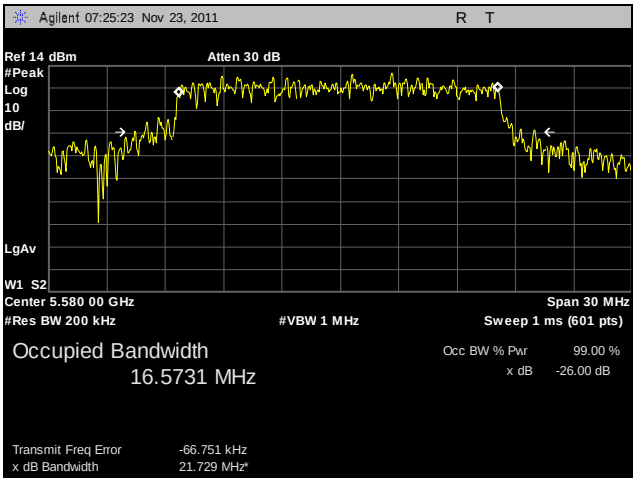


Plot 18. 26 dB Occupied Bandwidth, 802.11a, 5500 MHz, C

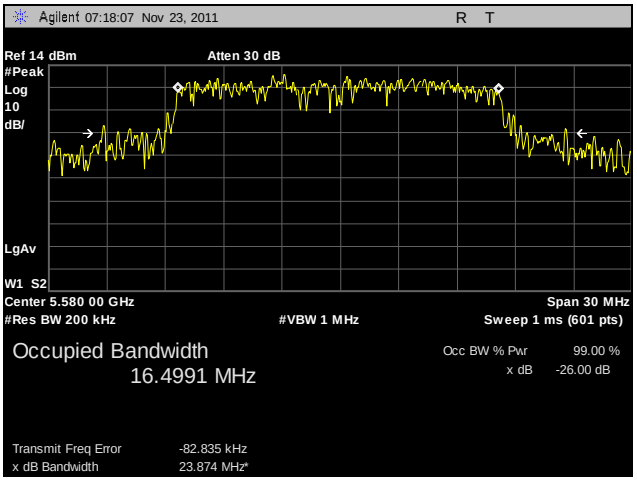
26 dB Occupied Bandwidth Test Results, 802.11a, 5580 MHz



Plot 19. 26 dB Occupied Bandwidth, 802.11a, 5580 MHz, A

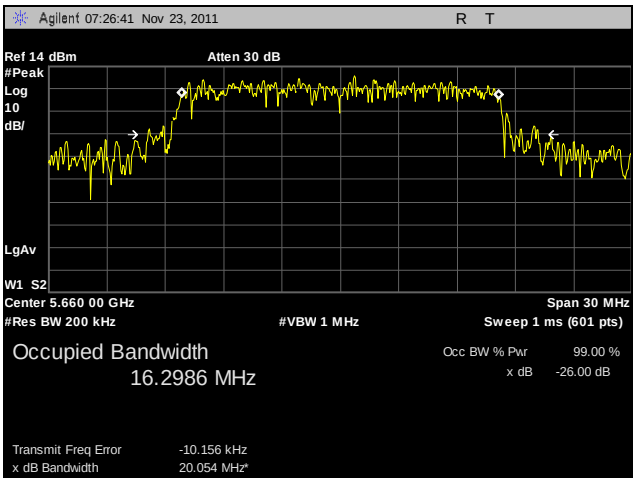


Plot 20. 26 dB Occupied Bandwidth, 802.11a, 5580 MHz, B

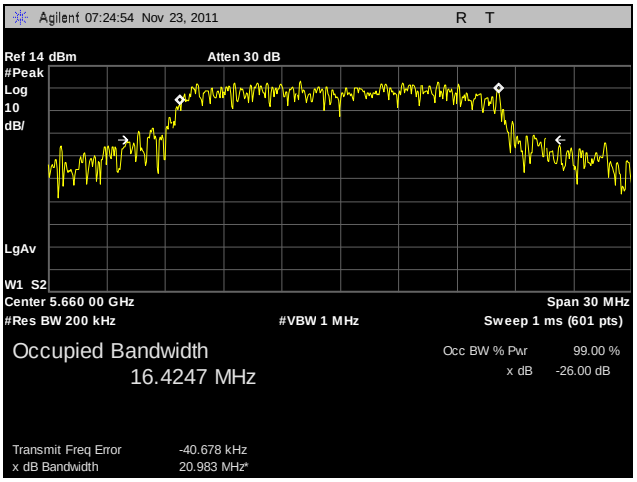


Plot 21. 26 dB Occupied Bandwidth, 802.11a, 5580 MHz, C

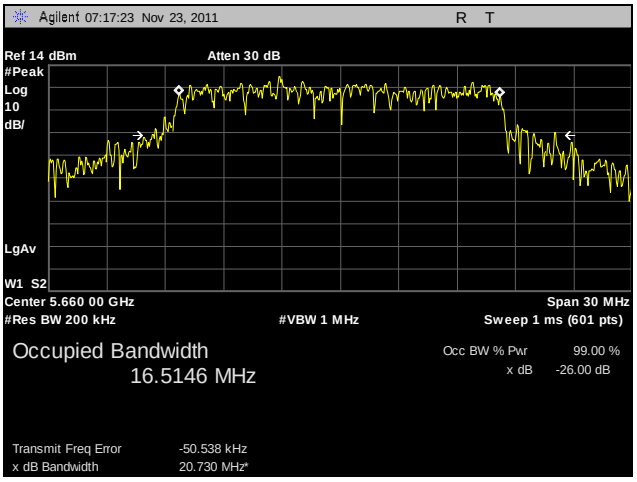
26 dB Occupied Bandwidth Test Results, 802.11a, 5660 MHz



Plot 22. 26 dB Occupied Bandwidth, 802.11a, 5660 MHz, A

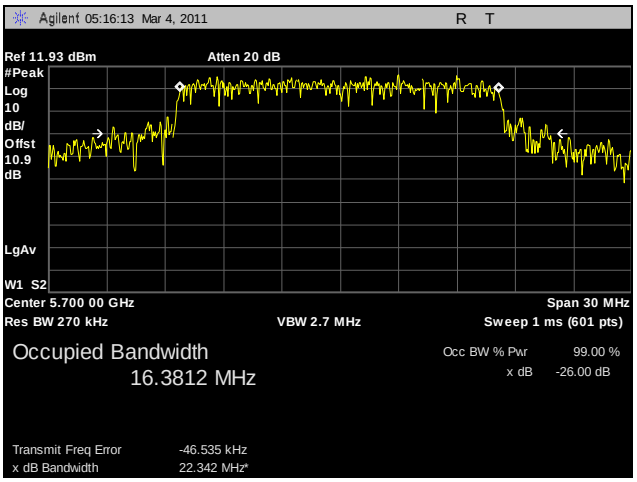


Plot 23. 26 dB Occupied Bandwidth, 802.11a, 5660 MHz, B

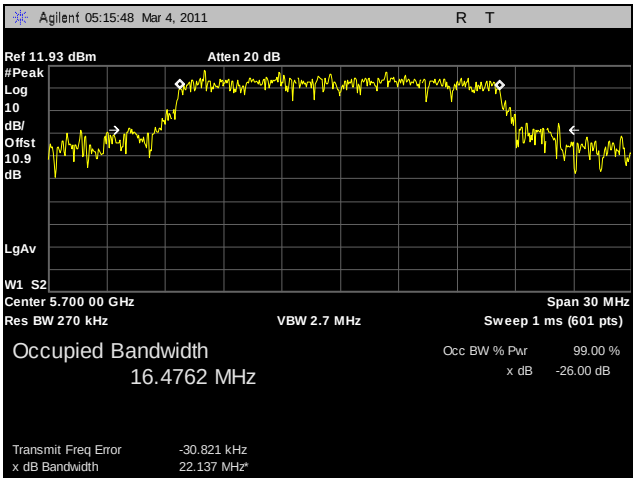


Plot 24. 26 dB Occupied Bandwidth, 802.11a, 5660 MHz, C

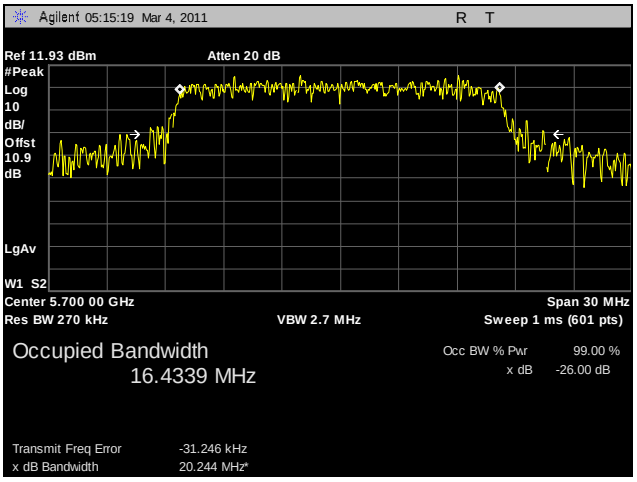
26 dB Occupied Bandwidth Test Results, 802.11a, 5700 MHz



Plot 25. 26 dB Occupied Bandwidth, 802.11a, 5700 MHz, A

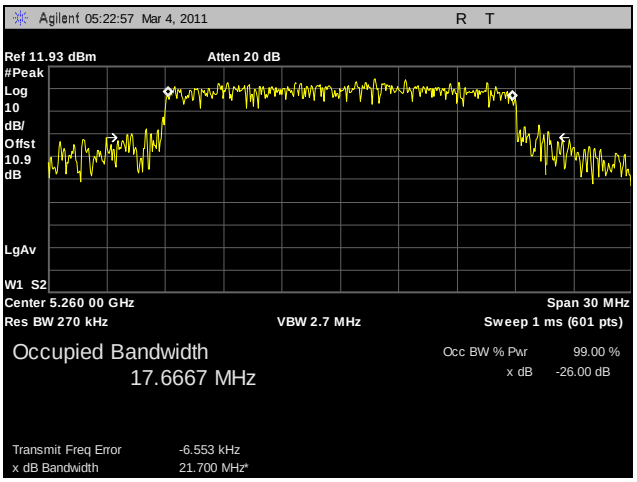


Plot 26. 26 dB Occupied Bandwidth, 802.11a, 5700 MHz, B

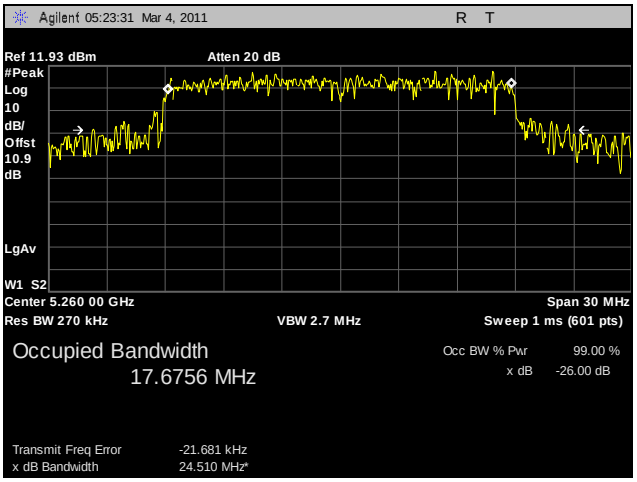


Plot 27. 26 dB Occupied Bandwidth, 802.11a, 5700 MHz, C

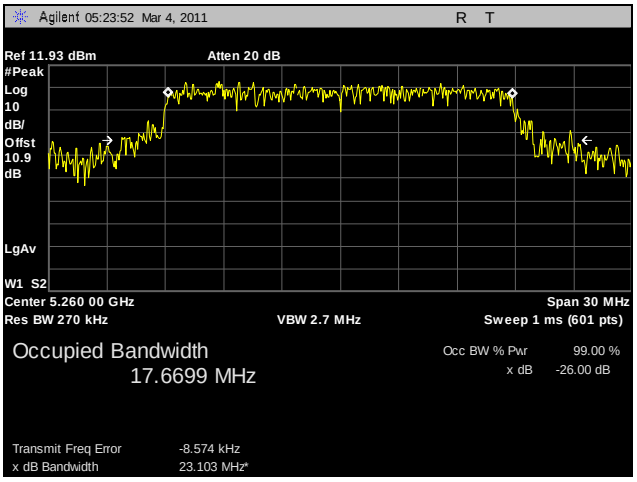
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5260 MHz



Plot 28. 26 dB Occupied Bandwidth, 802.11n HT20, 5260 MHz, A

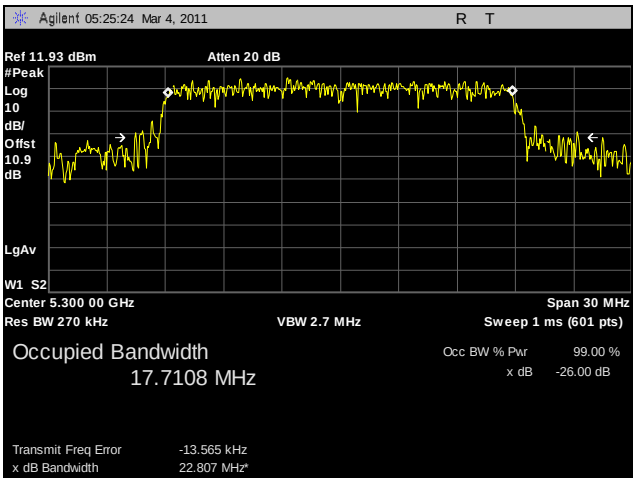


Plot 29. 26 dB Occupied Bandwidth, 802.11n HT20, 5260 MHz, B

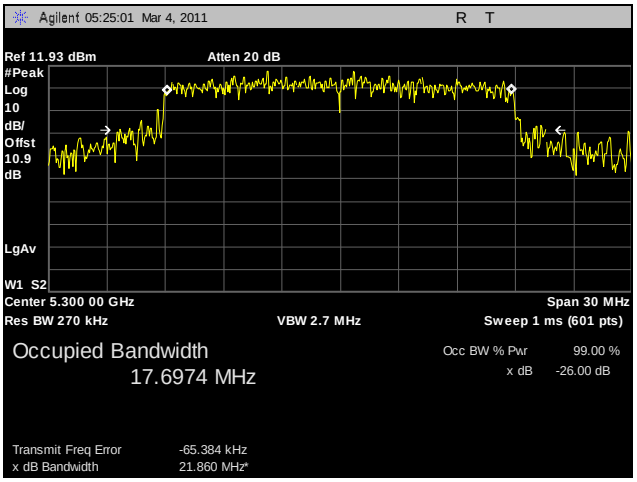


Plot 30. 26 dB Occupied Bandwidth, 802.11n HT20, 5260 MHz, C

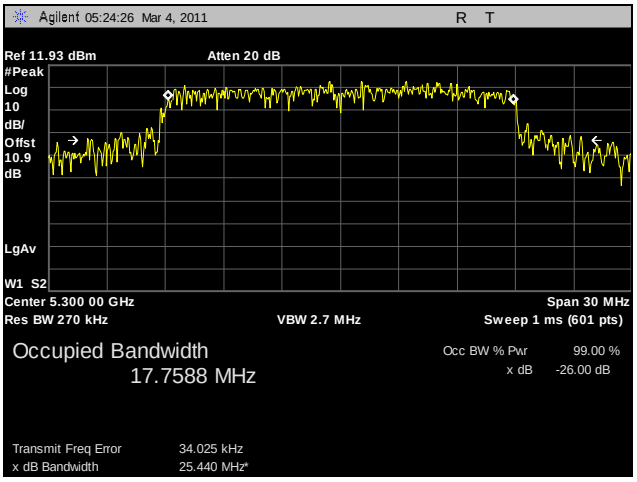
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5300 MHz



Plot 31. 26 dB Occupied Bandwidth, 802.11n HT20, 5300 MHz, A

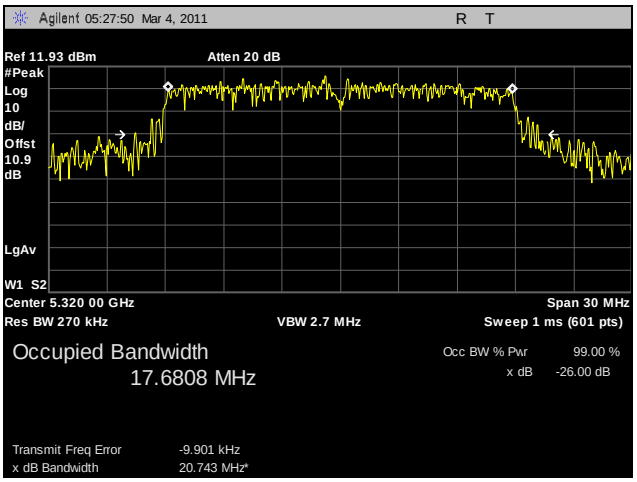


Plot 32. 26 dB Occupied Bandwidth, 802.11n HT20, 5300 MHz, B

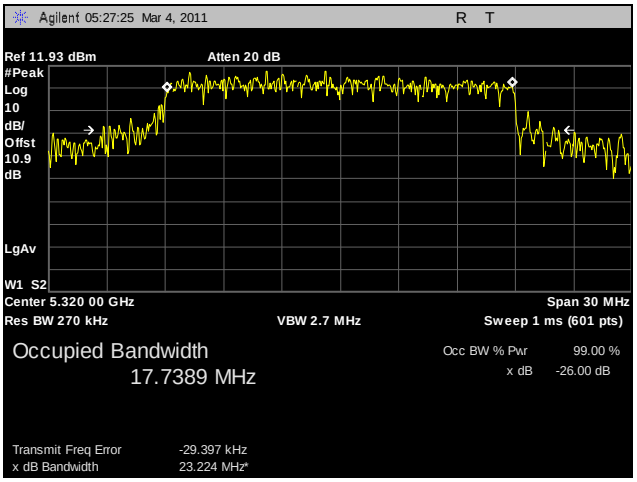


Plot 33. 26 dB Occupied Bandwidth, 802.11n HT20, 5300 MHz, C

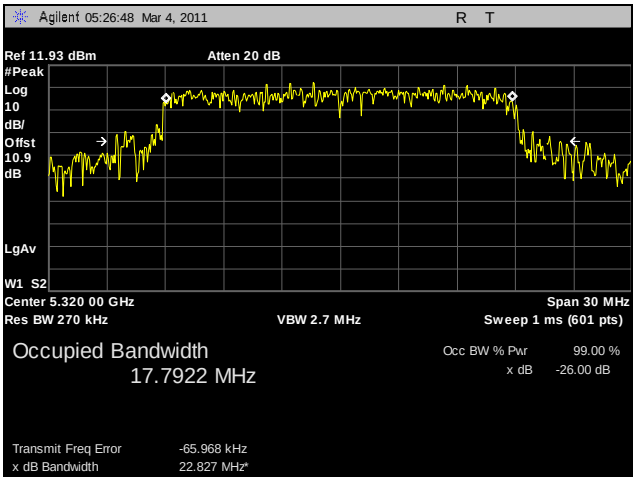
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5320 MHz



Plot 34. 26 dB Occupied Bandwidth, 802.11n HT20, 5320 MHz, A

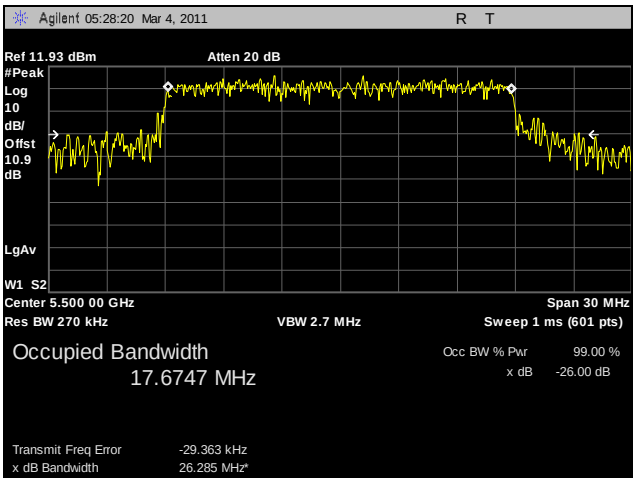


Plot 35. 26 dB Occupied Bandwidth, 802.11n HT20, 5320 MHz, B

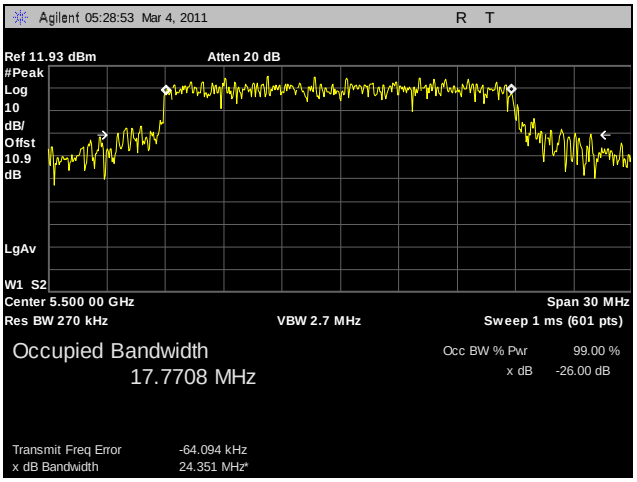


Plot 36. 26 dB Occupied Bandwidth, 802.11n HT20, 5320 MHz, C

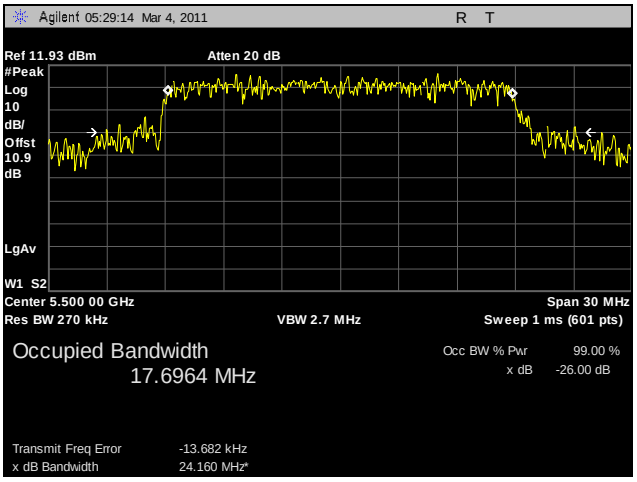
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5500 MHz



Plot 37. 26 dB Occupied Bandwidth, 802.11n HT20, 5500 MHz, A

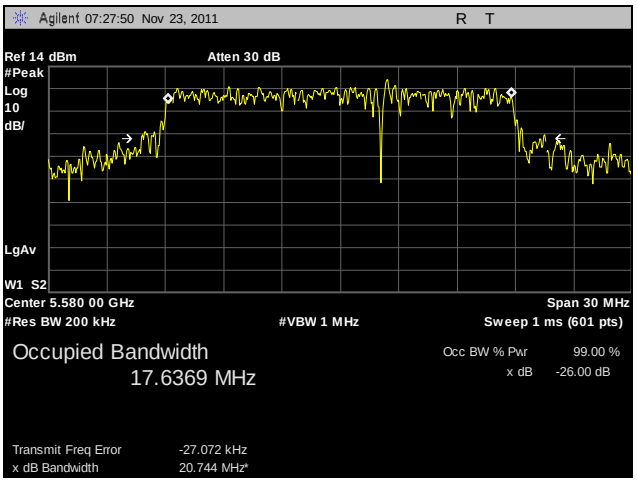


Plot 38. 26 dB Occupied Bandwidth, 802.11n HT20, 5500 MHz, B

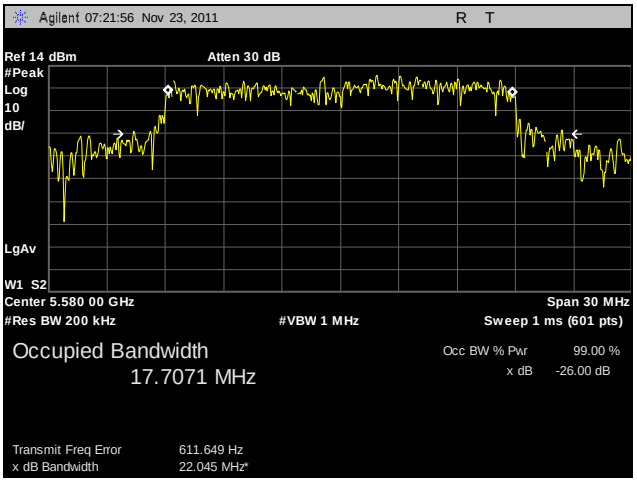


Plot 39. 26 dB Occupied Bandwidth, 802.11n HT20, 5500 MHz, C

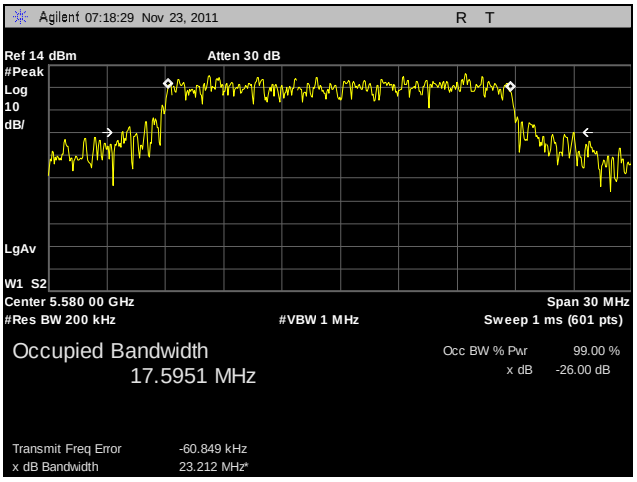
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5580 MHz



Plot 40. 26 dB Occupied Bandwidth, 802.11n HT20, 5580 MHz, A

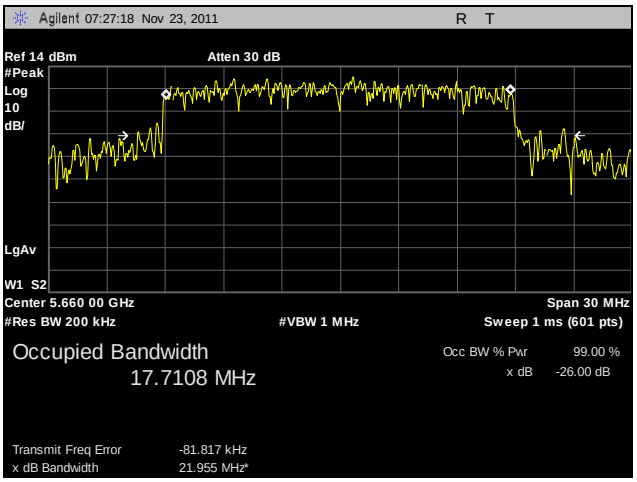


Plot 41. 26 dB Occupied Bandwidth, 802.11n HT20, 5580 MHz, B

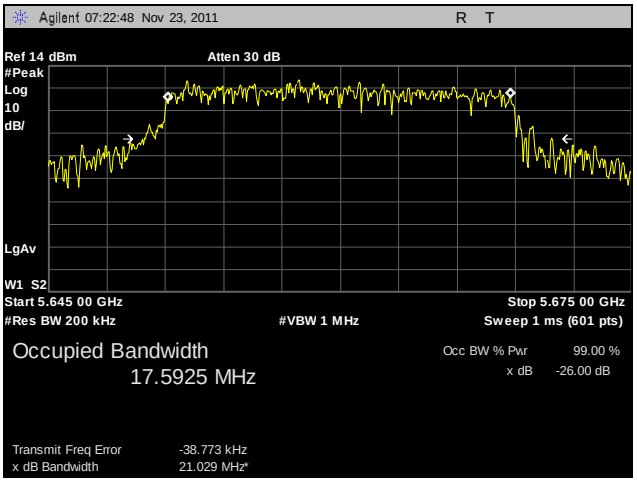


Plot 42. 26 dB Occupied Bandwidth, 802.11n HT20, 5580 MHz, C

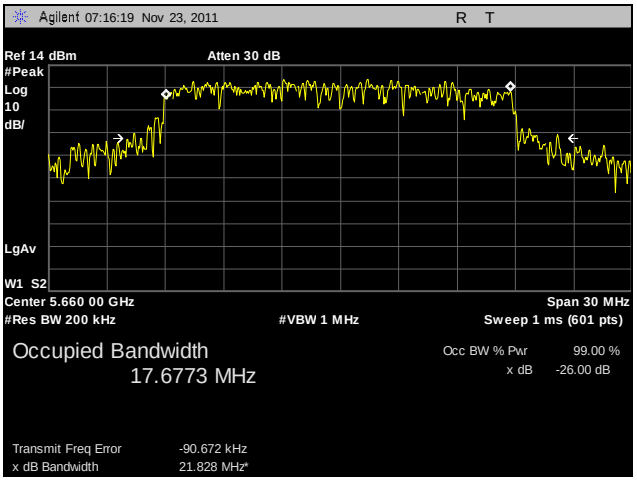
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5660 MHz



Plot 43. 26 dB Occupied Bandwidth, 802.11n HT20, 5660 MHz, A

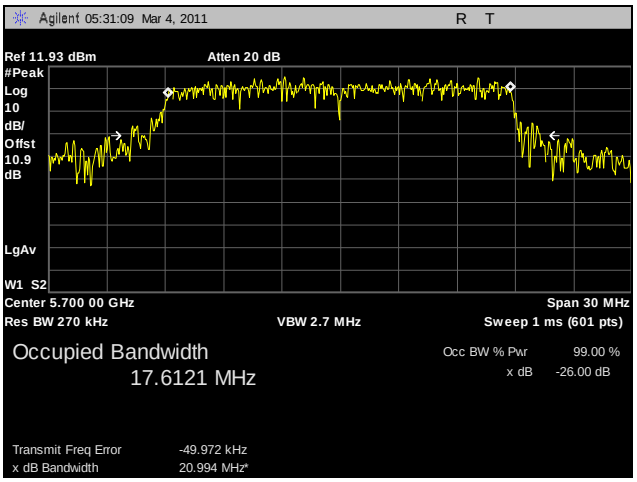


Plot 44. 26 dB Occupied Bandwidth, 802.11n HT20, 5660 MHz, B

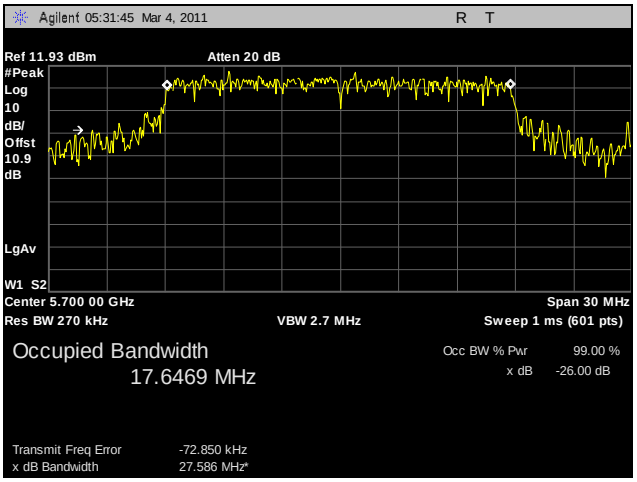


Plot 45. 26 dB Occupied Bandwidth, 802.11n HT20, 5660 MHz, C

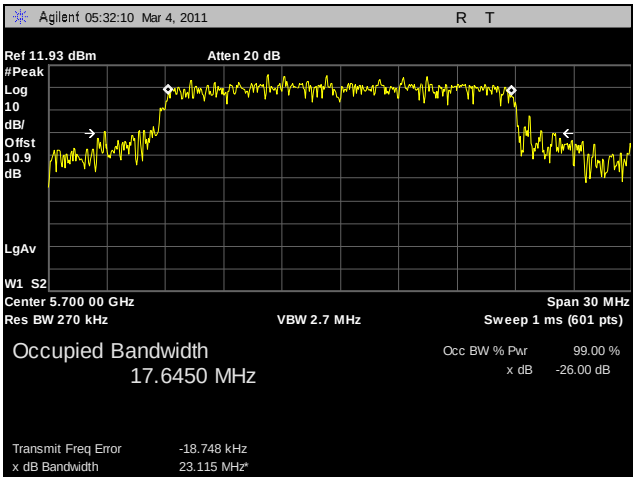
26 dB Occupied Bandwidth Test Results, 802.11n HT20, 5700 MHz



Plot 46. 26 dB Occupied Bandwidth, 802.11n HT20, 5700 MHz, A

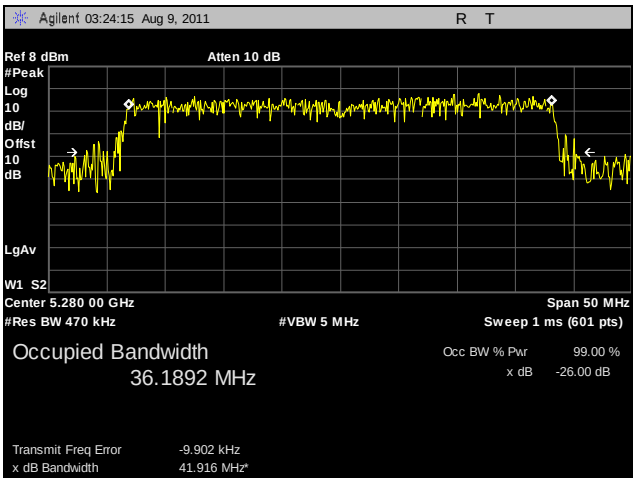


Plot 47. 26 dB Occupied Bandwidth, 802.11n HT20, 5700 MHz, B

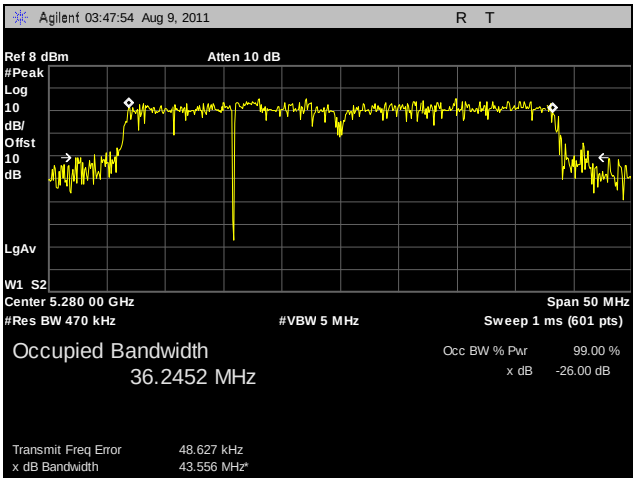


Plot 48. 26 dB Occupied Bandwidth, 802.11n HT20, 5700 MHz, C

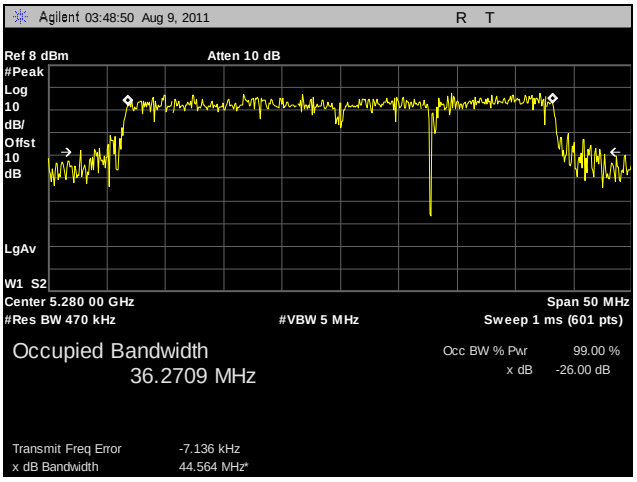
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5280 MHz



Plot 49. 26 dB Occupied Bandwidth, 802.11n HT40, 5280 MHz, A

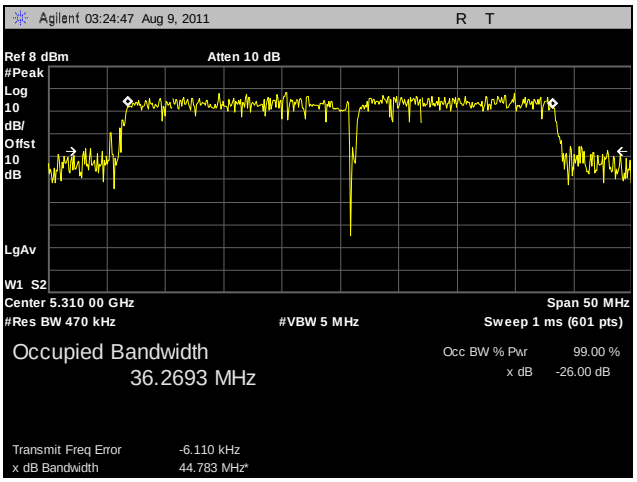


Plot 50. 26 dB Occupied Bandwidth, 802.11n HT40, 5280 MHz, B

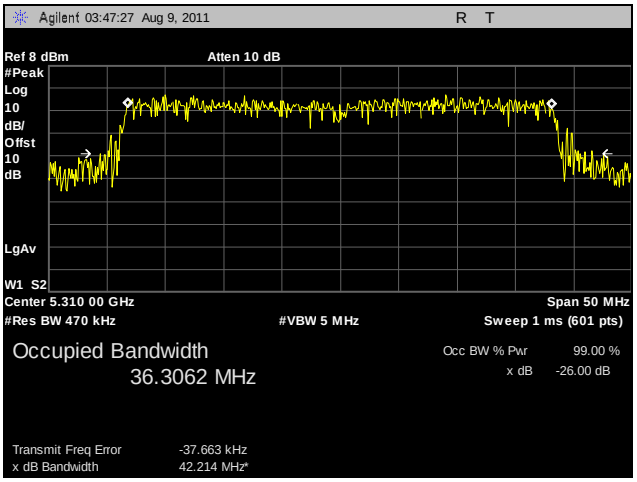


Plot 51. 26 dB Occupied Bandwidth, 802.11n HT40, 5280 MHz, C

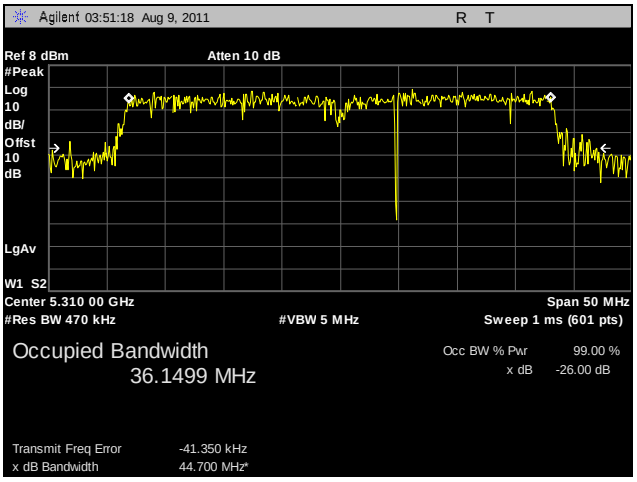
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5310 MHz



Plot 52. 26 dB Occupied Bandwidth, 802.11n HT40, 5310 MHz, A

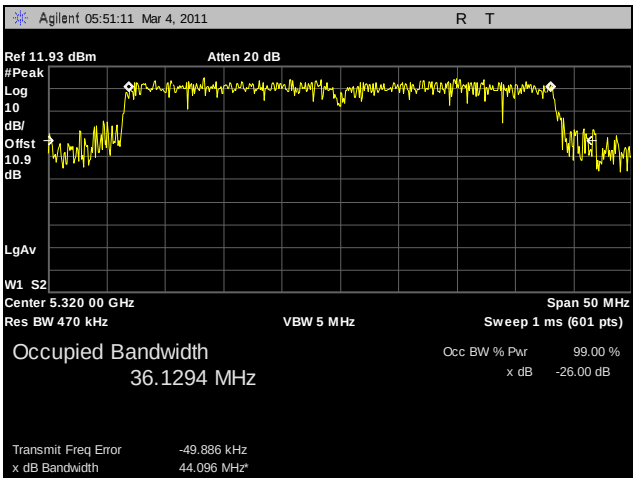


Plot 53. 26 dB Occupied Bandwidth, 802.11n HT40, 5310 MHz, B

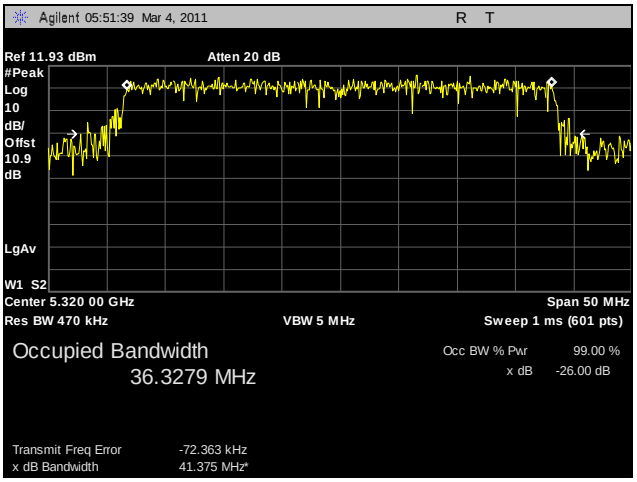


Plot 54. 26 dB Occupied Bandwidth, 802.11n HT40, 5310 MHz, C

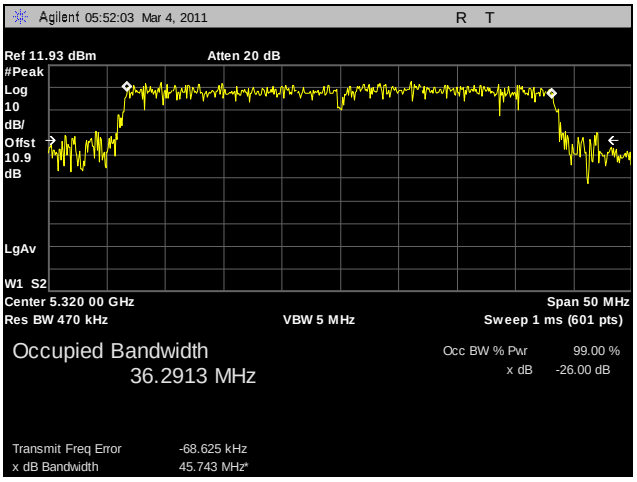
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5320 MHz



Plot 55. 26 dB Occupied Bandwidth, 802.11n HT40, 5320 MHz, A

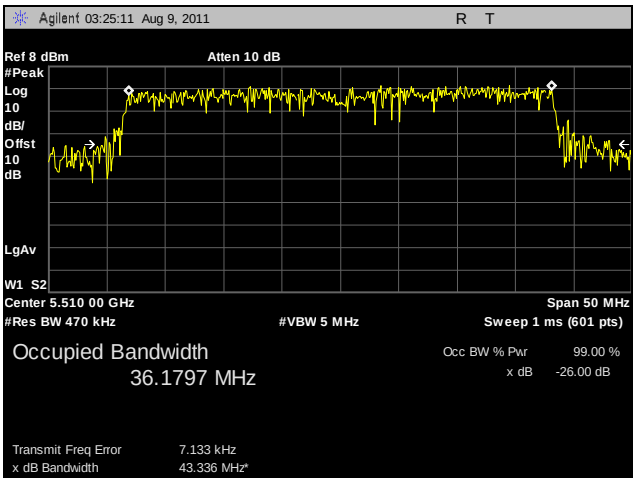


Plot 56. 26 dB Occupied Bandwidth, 802.11n HT40, 5320 MHz, B

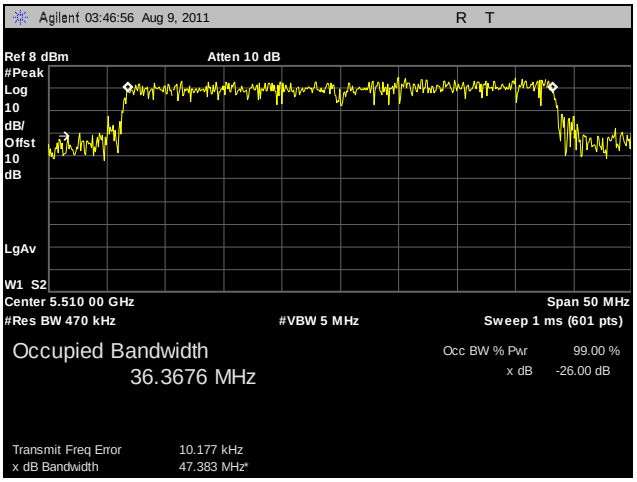


Plot 57. 26 dB Occupied Bandwidth, 802.11n HT40, 5320 MHz, C

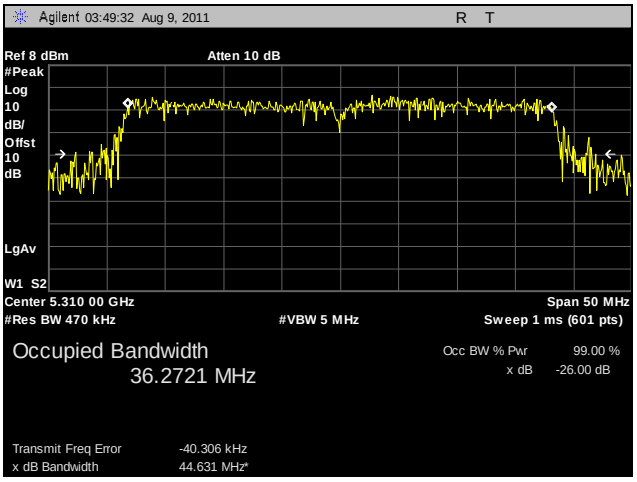
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5510 MHz



Plot 58. 26 dB Occupied Bandwidth, 802.11n HT40, 5510 MHz, A

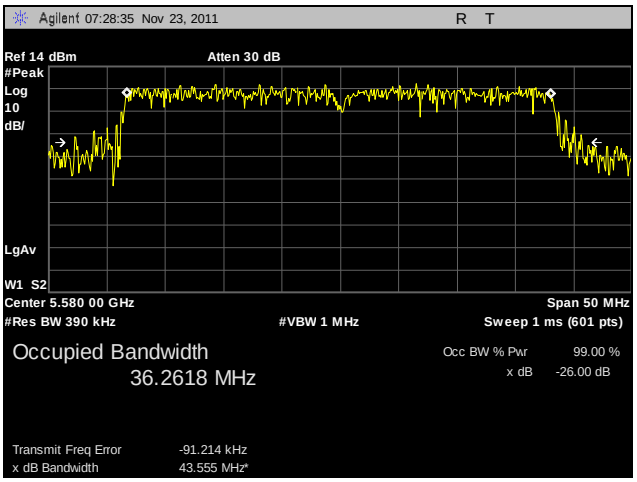


Plot 59. 26 dB Occupied Bandwidth, 802.11n HT40, 5510 MHz, B

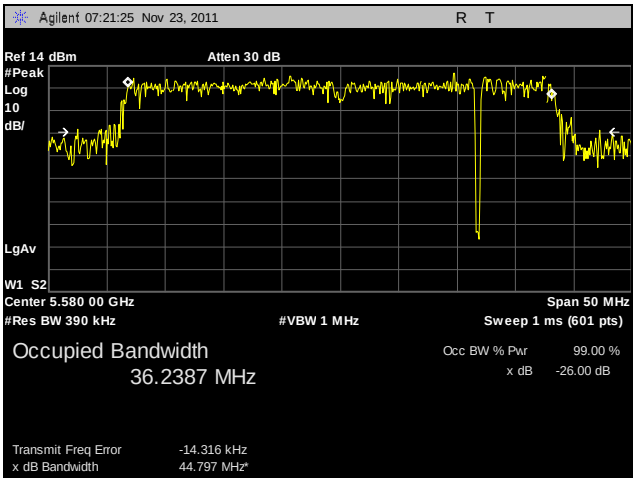


Plot 60. 26 dB Occupied Bandwidth, 802.11n HT40, 5510 MHz, C

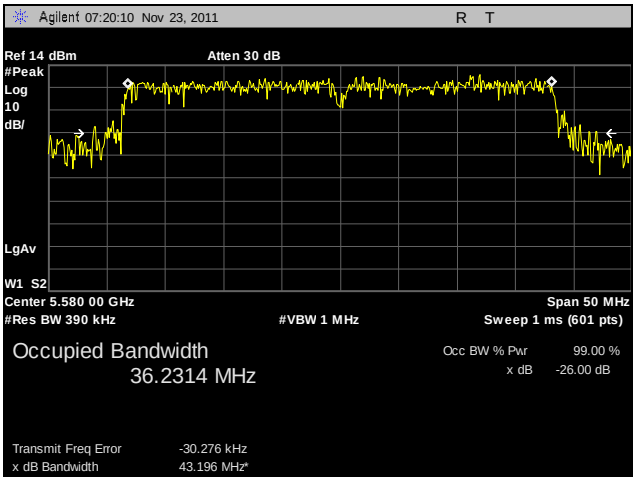
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5580 MHz



Plot 61. 26 dB Occupied Bandwidth, 802.11n HT40, 5580 MHz, A

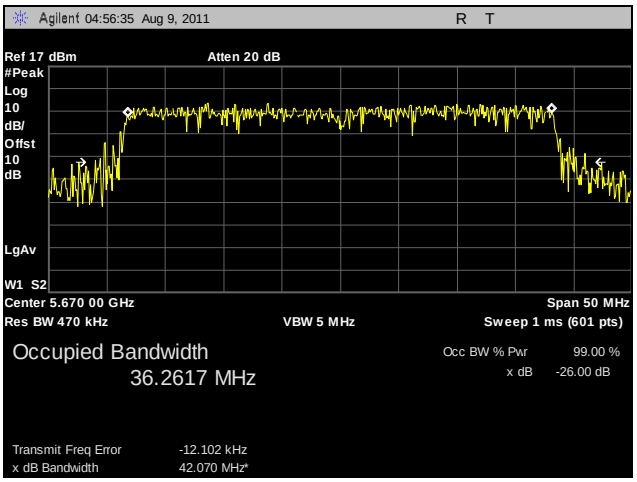


Plot 62. 26 dB Occupied Bandwidth, 802.11n HT40, 5580 MHz, B

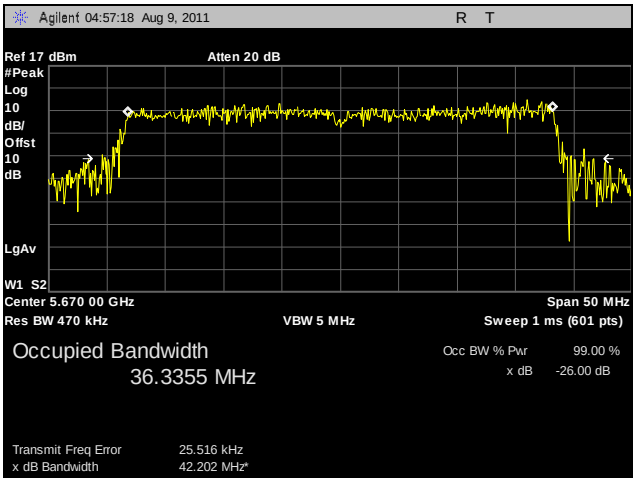


Plot 63. 26 dB Occupied Bandwidth, 802.11n HT40, 5580 MHz, C

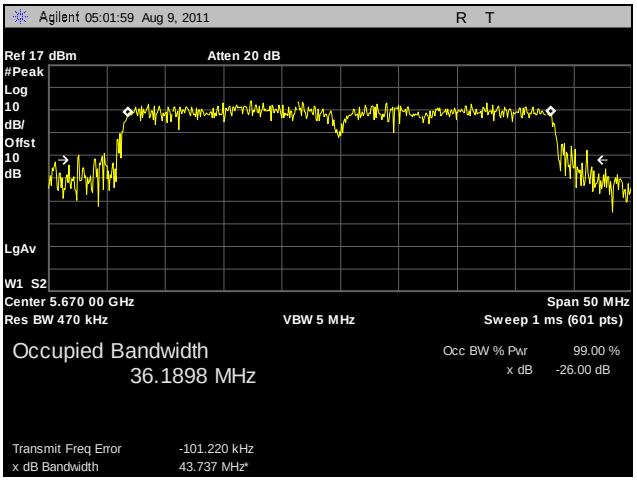
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5670 MHz



Plot 64. 26 dB Occupied Bandwidth, 802.11n HT40, 5670 MHz, A

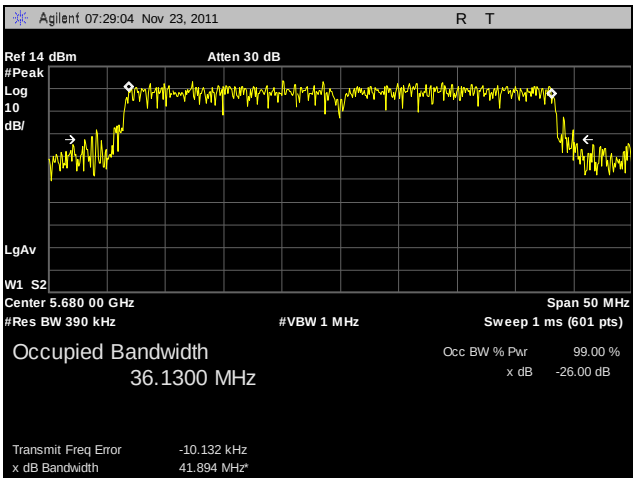


Plot 65. 26 dB Occupied Bandwidth, 802.11n HT40, 5670 MHz, B

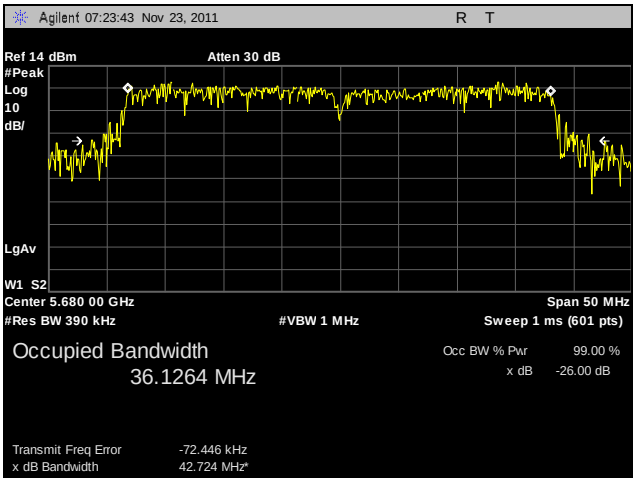


Plot 66. 26 dB Occupied Bandwidth, 802.11n HT40, 5670 MHz, C

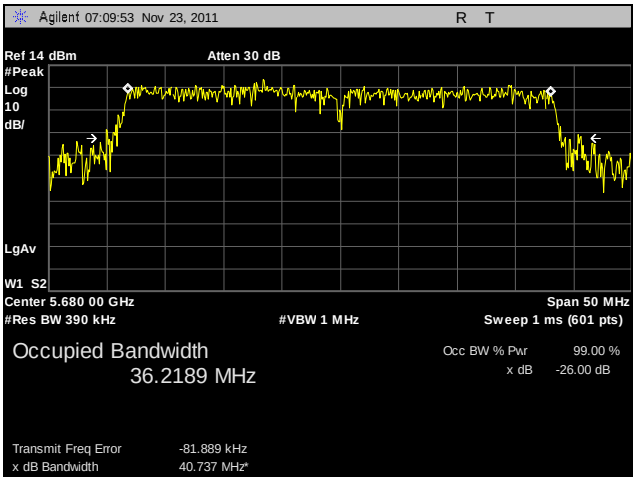
26 dB Occupied Bandwidth Test Results, 802.11n HT40, 5680 MHz



Plot 67. 26 dB Occupied Bandwidth, 802.11n HT40, 5680 MHz, A

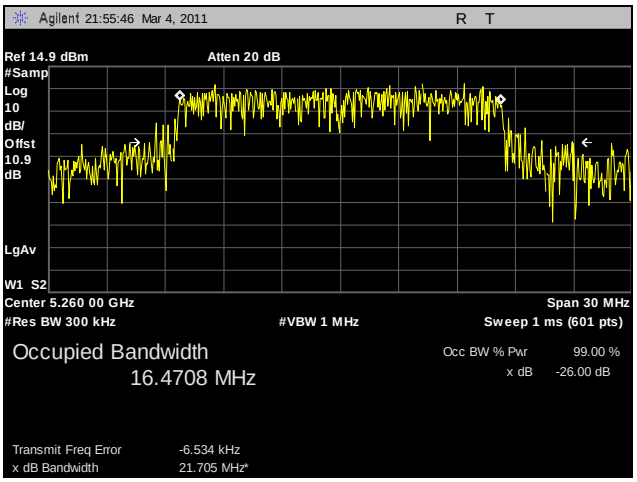


Plot 68. 26 dB Occupied Bandwidth, 802.11n HT40, 5680 MHz, B

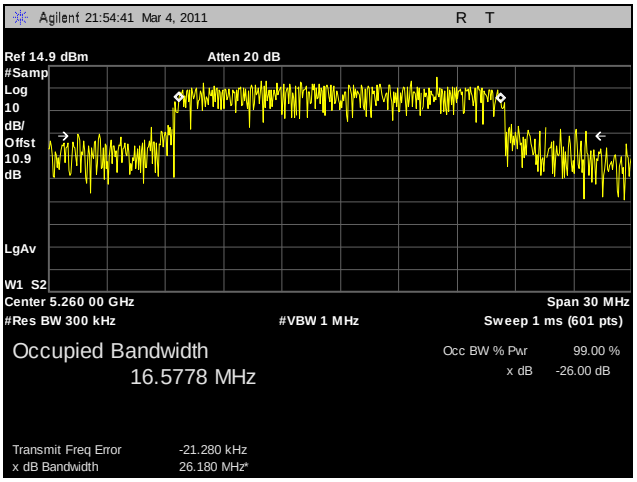


Plot 69. 26 dB Occupied Bandwidth, 802.11n HT40, 5680 MHz, C

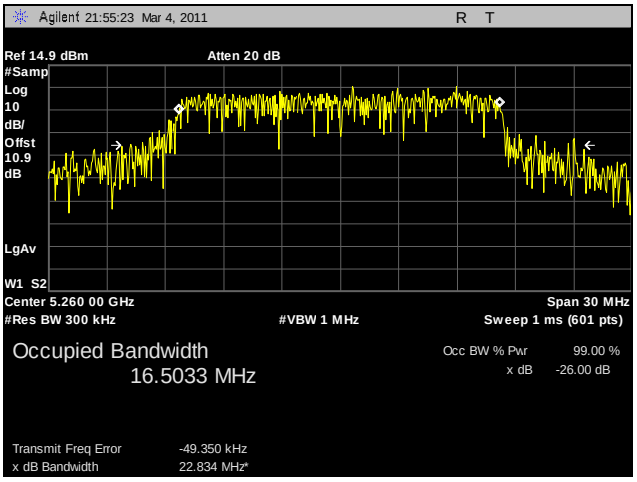
99% Occupied Bandwidth Test Results, 802.11a, 5260 MHz



Plot 70. 99% Occupied Bandwidth, 802.11a, 5260 MHz, A

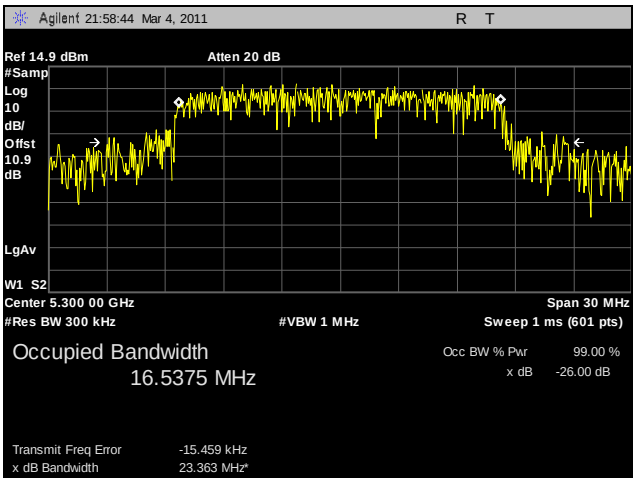


Plot 71. 99% Occupied Bandwidth, 802.11a, 5260 MHz, B

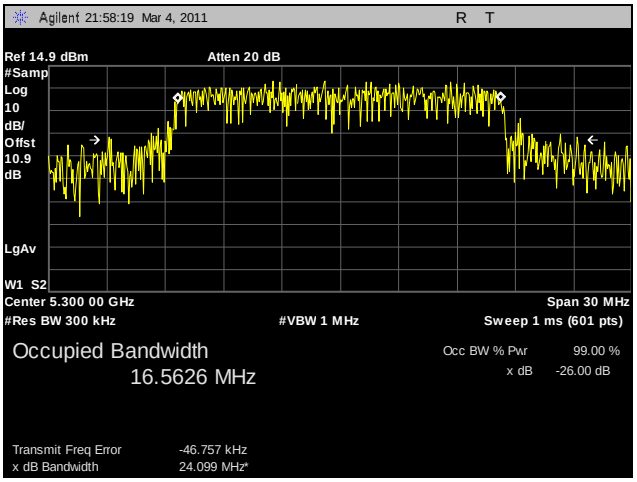


Plot 72. 99% Occupied Bandwidth, 802.11a, 5260 MHz, C

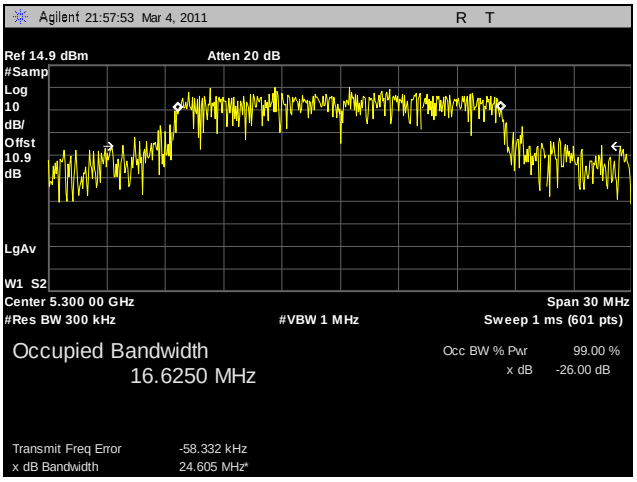
99% Occupied Bandwidth Test Results, 802.11a, 5300 MHz



Plot 73. 99% Occupied Bandwidth, 802.11a, 5300 MHz, A

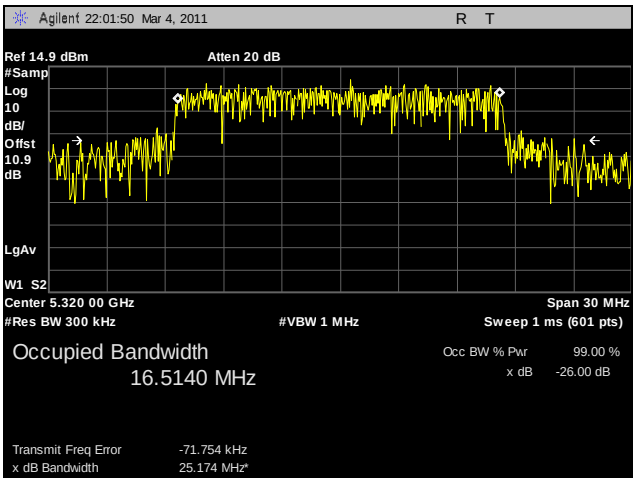


Plot 74. 99% Occupied Bandwidth, 802.11a, 5300 MHz, B

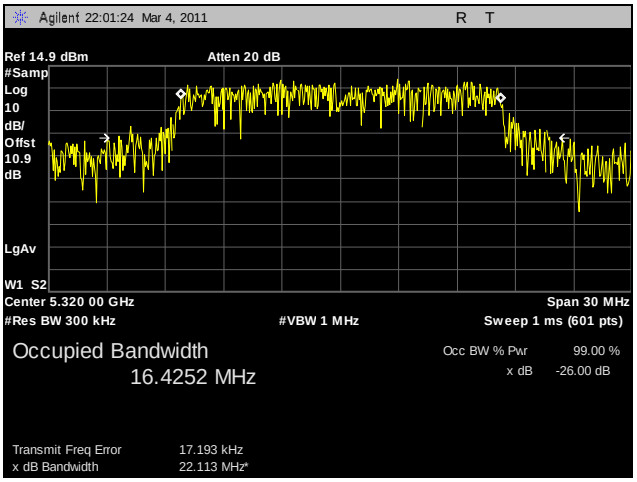


Plot 75. 99% Occupied Bandwidth, 802.11a, 5300 MHz, C

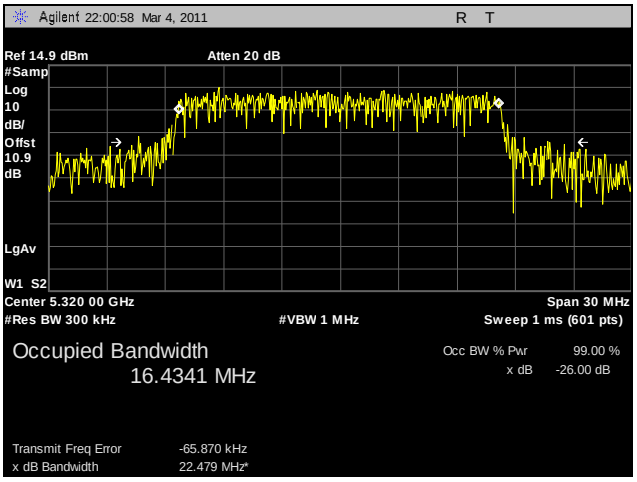
99% Occupied Bandwidth Test Results, 802.11a, 5320 MHz



Plot 76. 99% Occupied Bandwidth, 802.11a, 5320 MHz, A

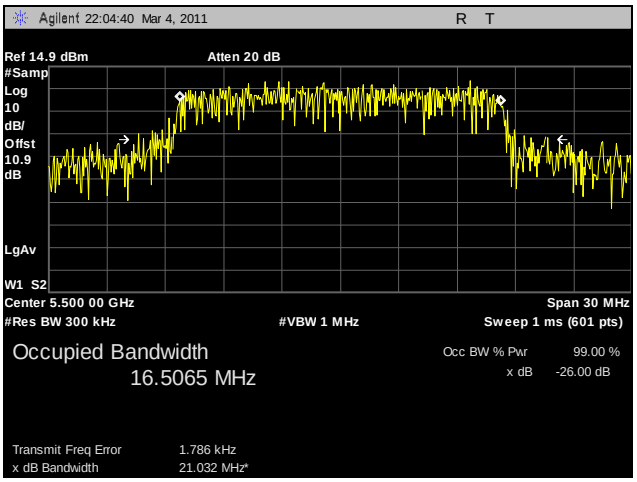


Plot 77. 99% Occupied Bandwidth, 802.11a, 5320 MHz, B

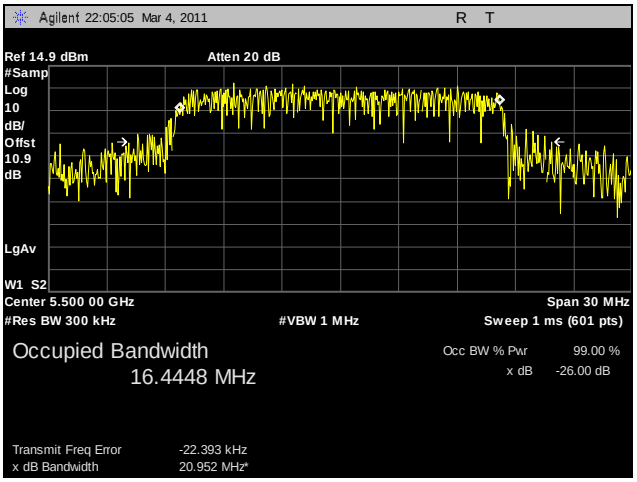


Plot 78. 99% Occupied Bandwidth, 802.11a, 5320 MHz, C

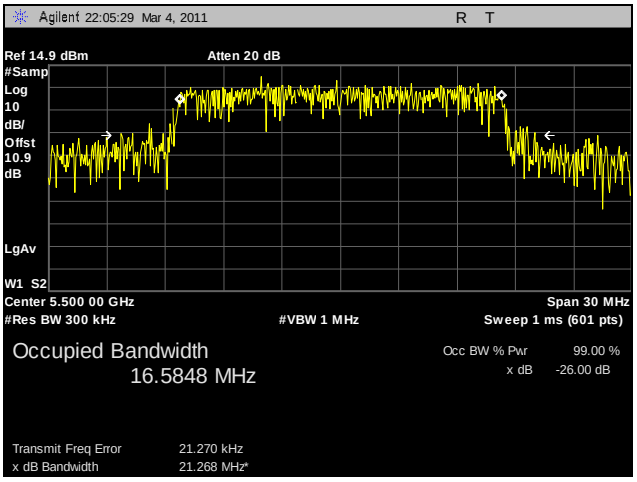
99% Occupied Bandwidth Test Results, 802.11a, 5500 MHz



Plot 79. 99% Occupied Bandwidth, 802.11a, 5500 MHz, A

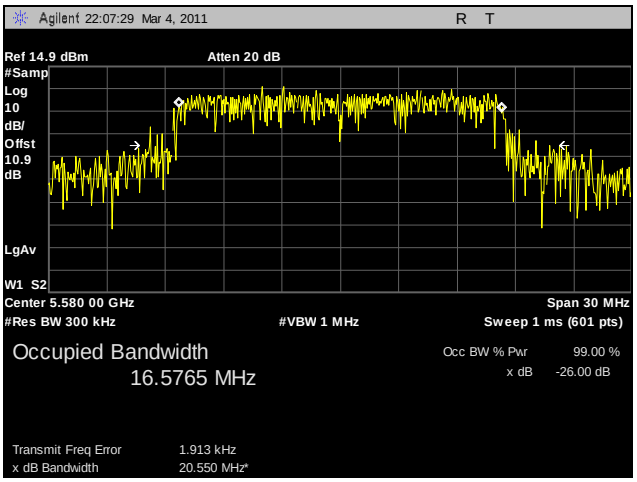


Plot 80. 99% Occupied Bandwidth, 802.11a, 5500 MHz, B

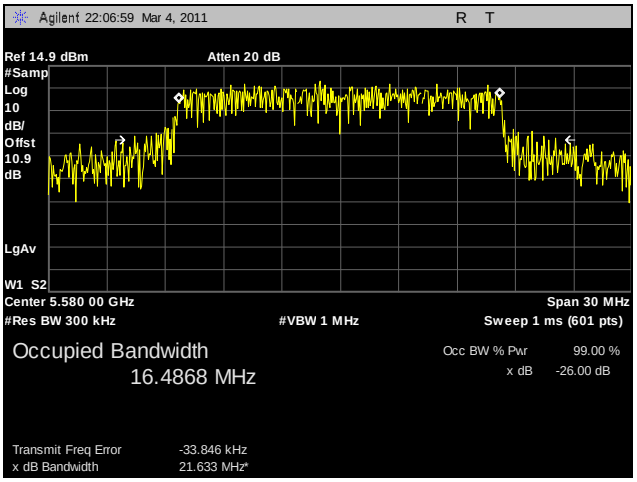


Plot 81. 99% Occupied Bandwidth, 802.11a, 5500 MHz, C

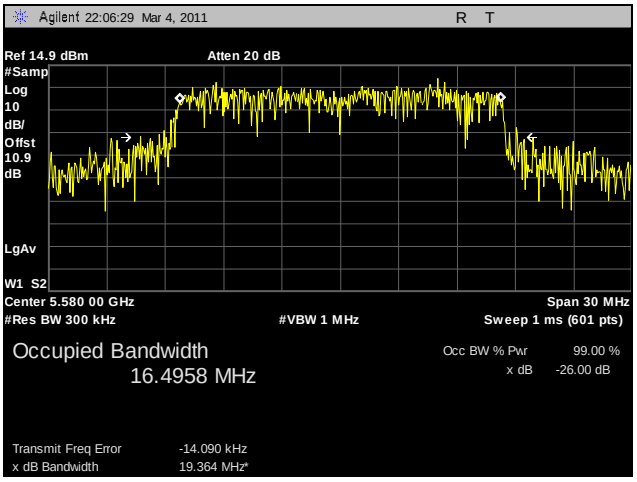
99% Occupied Bandwidth Test Results, 802.11a, 5580 MHz



Plot 82. 99% Occupied Bandwidth, 802.11a, 5580 MHz, A

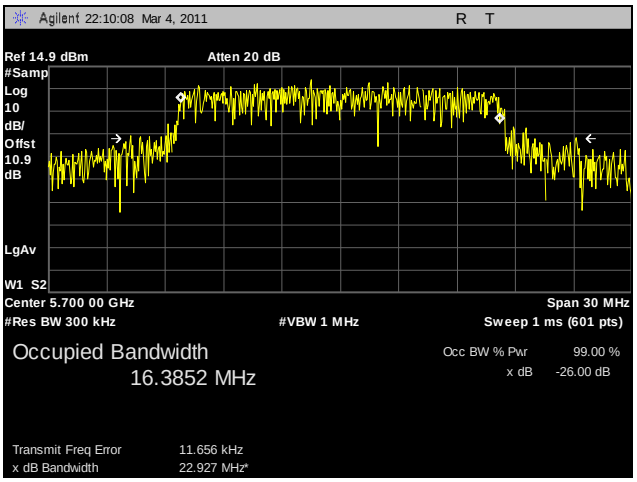


Plot 83. 99% Occupied Bandwidth, 802.11a, 5580 MHz, B

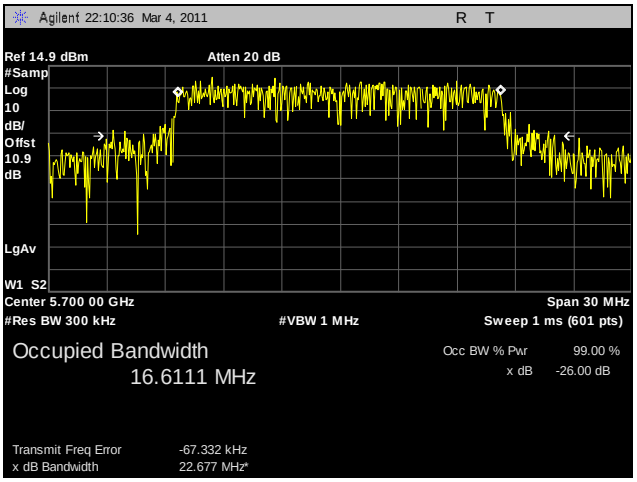


Plot 84. 99% Occupied Bandwidth, 802.11a, 5580 MHz, C

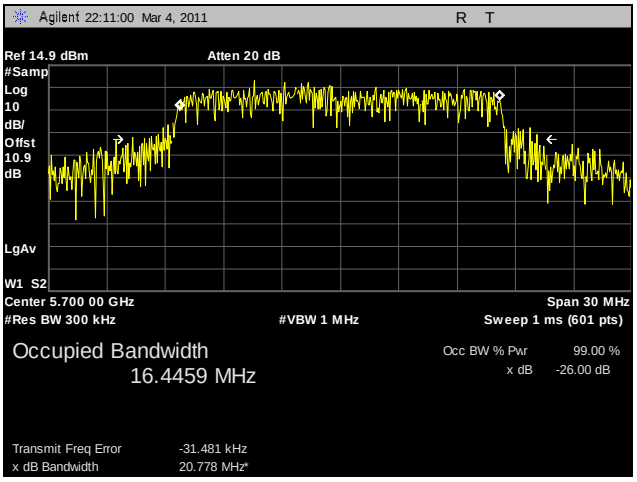
99% Occupied Bandwidth Test Results, 802.11a, 5700 MHz



Plot 85. 99% Occupied Bandwidth, 802.11a, 5700 MHz, A

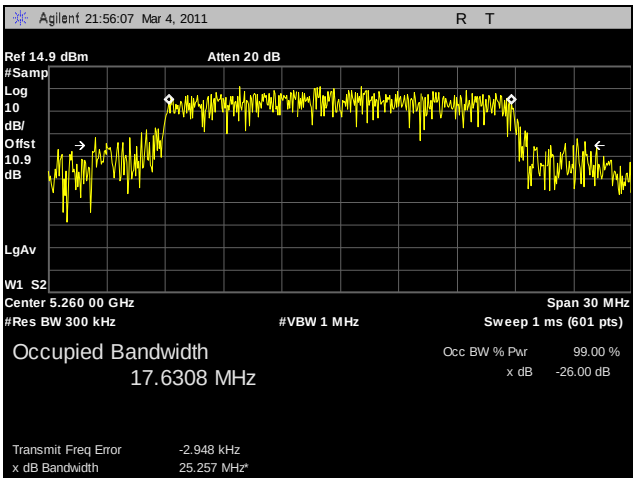


Plot 86. 99% Occupied Bandwidth, 802.11a, 5700 MHz, B

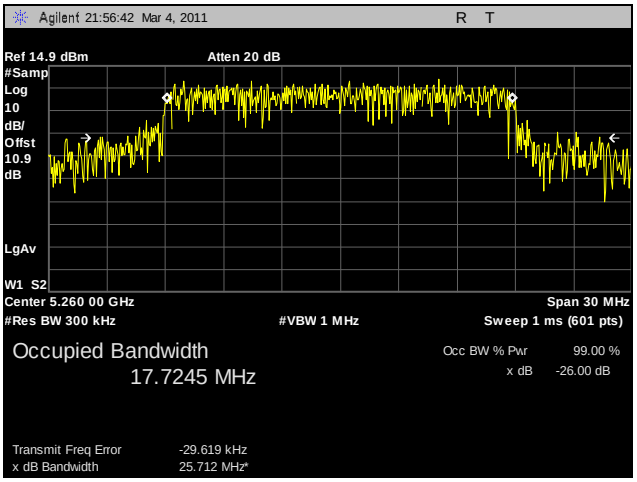


Plot 87. 99% Occupied Bandwidth, 802.11a, 5700 MHz, C

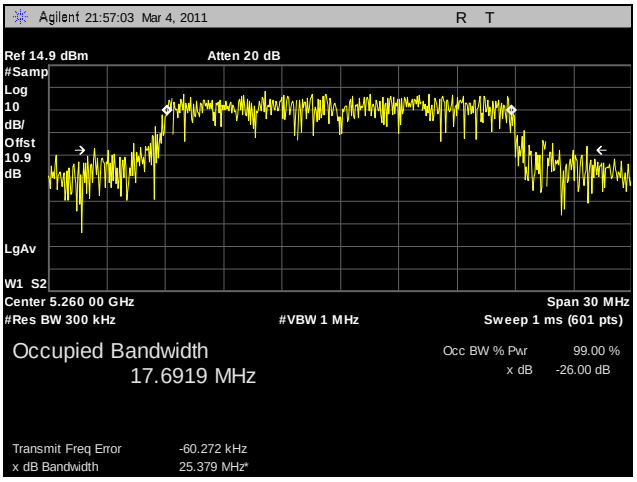
99% Occupied Bandwidth Test Results, 802.11n HT20, 5260 MHz



Plot 88. 99% Occupied Bandwidth, 802.11n HT20, 5260 MHz, A

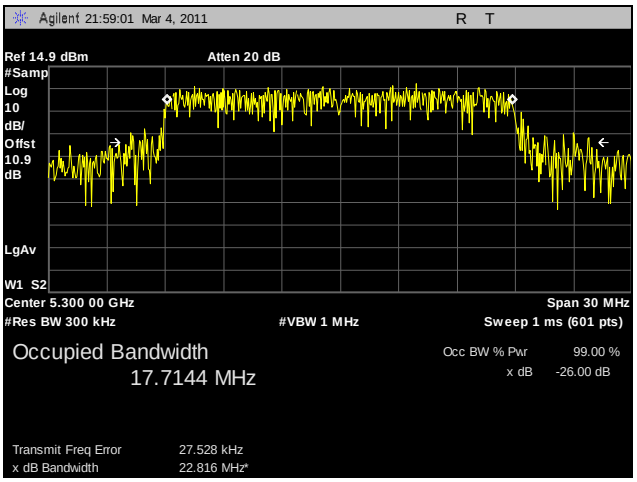


Plot 89. 99% Occupied Bandwidth, 802.11n HT20, 5260 MHz, B

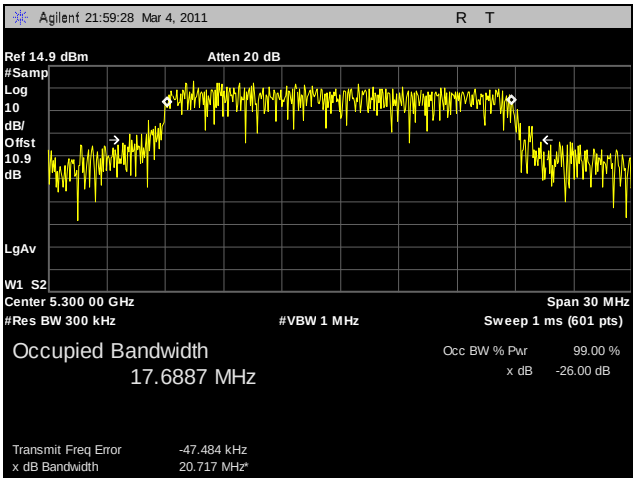


Plot 90. 99% Occupied Bandwidth, 802.11n HT20, 5260 MHz, C

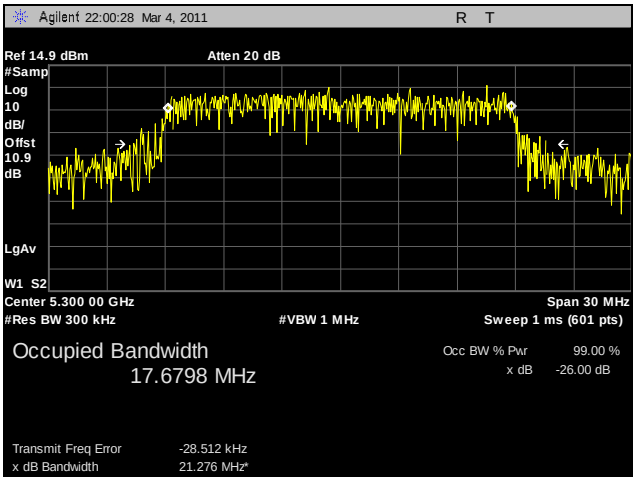
99% Occupied Bandwidth Test Results, 802.11n HT20, 5300 MHz



Plot 91. 99% Occupied Bandwidth, 802.11n HT20, 5300 MHz, A

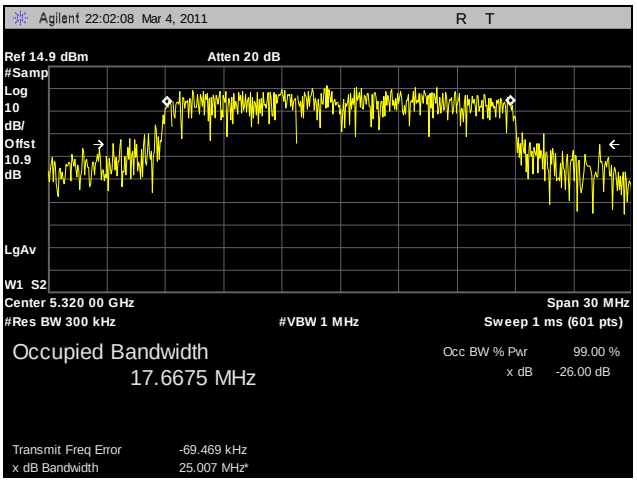


Plot 92. 99% Occupied Bandwidth, 802.11n HT20, 5300 MHz, B

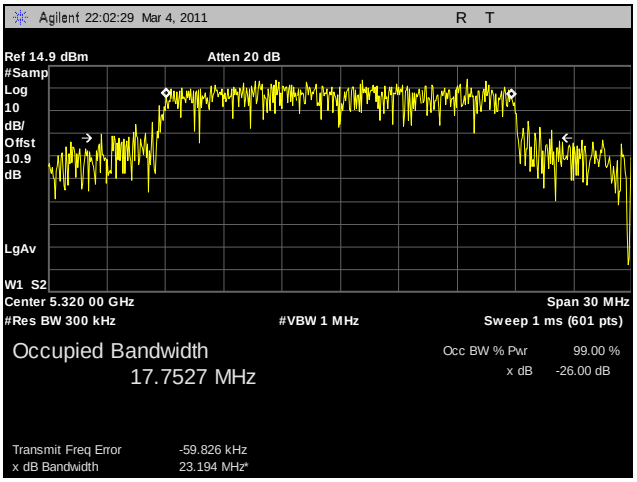


Plot 93. 99% Occupied Bandwidth, 802.11n HT20, 5300 MHz, C

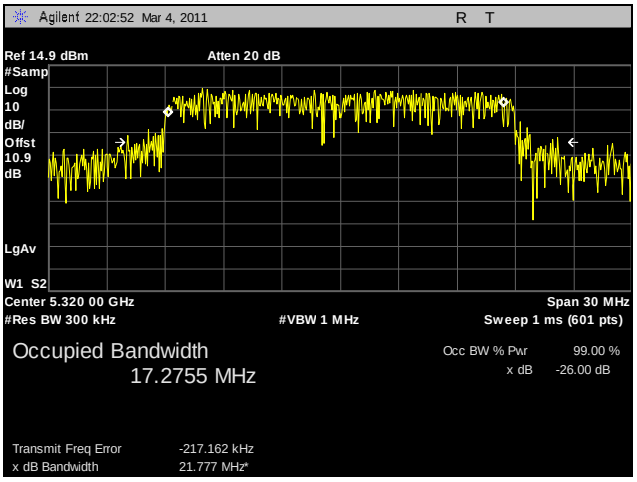
99% Occupied Bandwidth Test Results, 802.11n HT20, 5320 MHz



Plot 94. 99% Occupied Bandwidth, 802.11n HT20, 5320 MHz, A

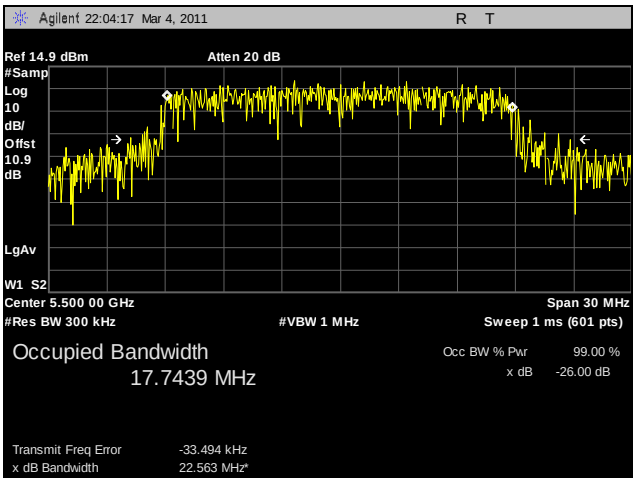


Plot 95. 99% Occupied Bandwidth, 802.11n HT20, 5320 MHz, B

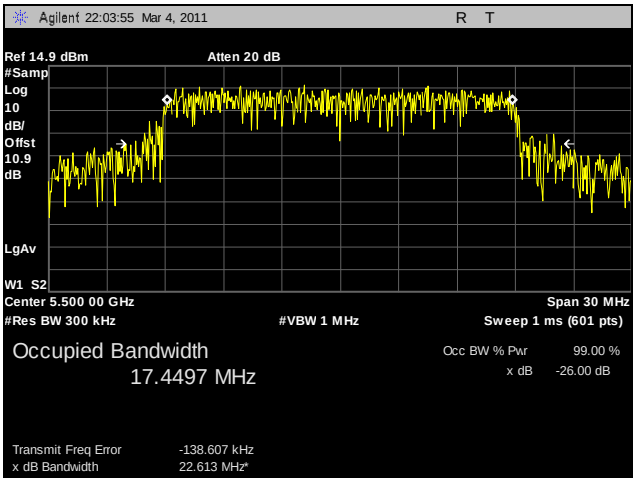


Plot 96. 99% Occupied Bandwidth, 802.11n HT20, 5320 MHz, C

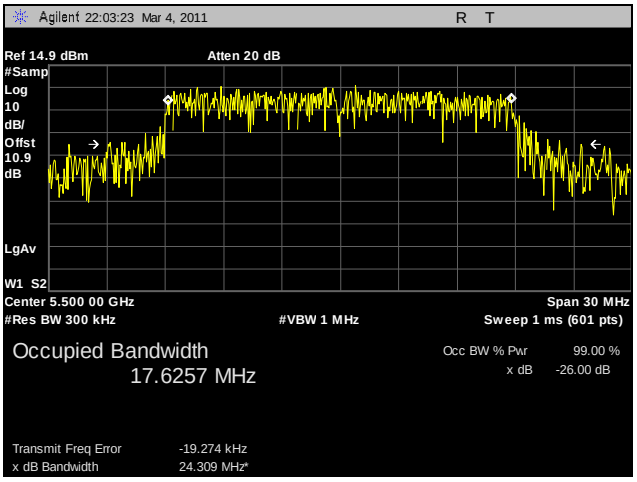
99% Occupied Bandwidth Test Results, 802.11n HT20, 5500 MHz



Plot 97. 99% Occupied Bandwidth, 802.11n HT20, 5500 MHz, A

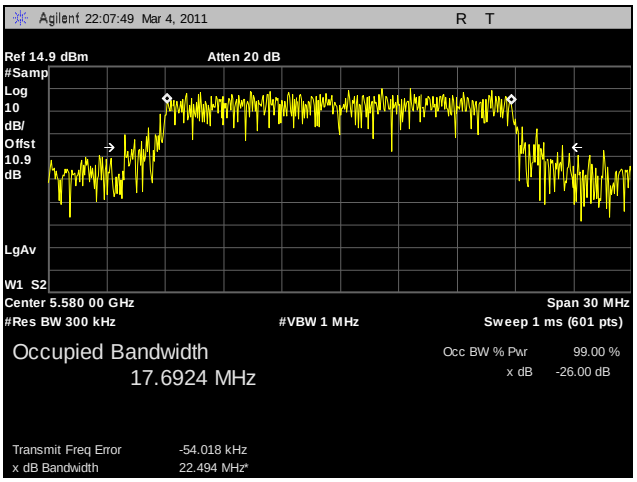


Plot 98. 99% Occupied Bandwidth, 802.11n HT20, 5500 MHz, B

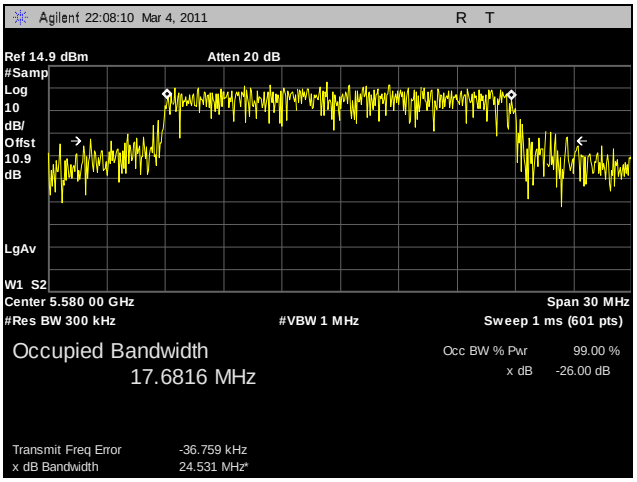


Plot 99. 99% Occupied Bandwidth, 802.11n HT20, 5500 MHz, C

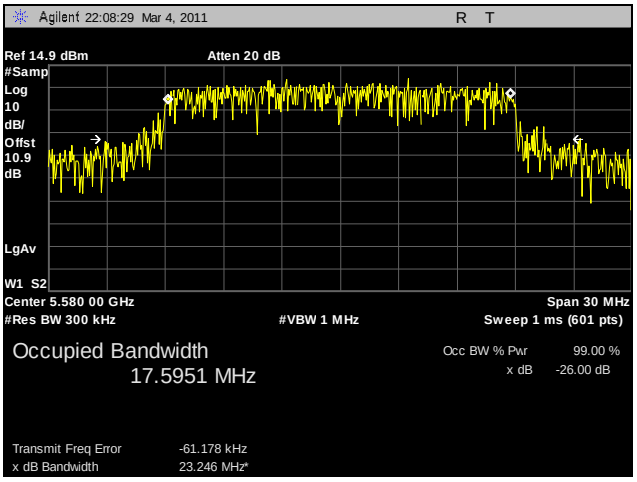
99% Occupied Bandwidth Test Results, 802.11n HT20, 5580 MHz



Plot 100. 99% Occupied Bandwidth, 802.11n HT20, 5580 MHz, A

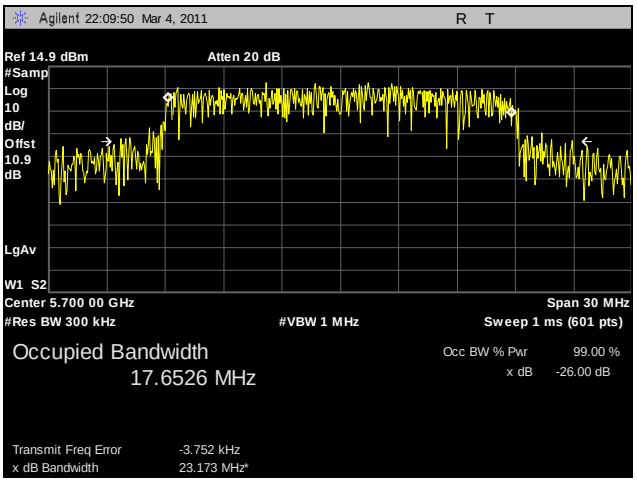


Plot 101. 99% Occupied Bandwidth, 802.11n HT20, 5580 MHz, B

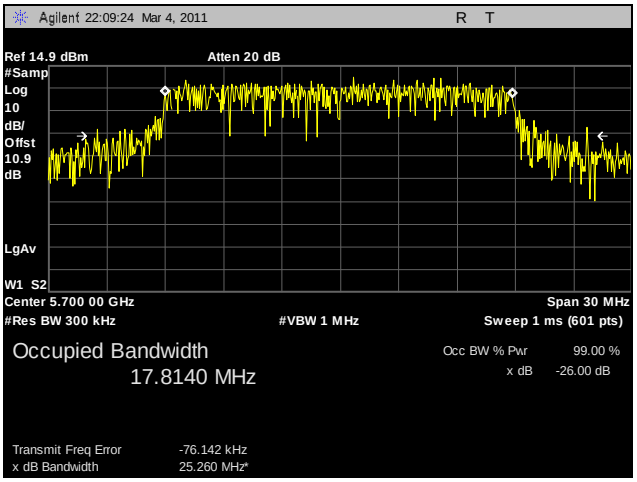


Plot 102. 99% Occupied Bandwidth, 802.11n HT20, 5580 MHz, C

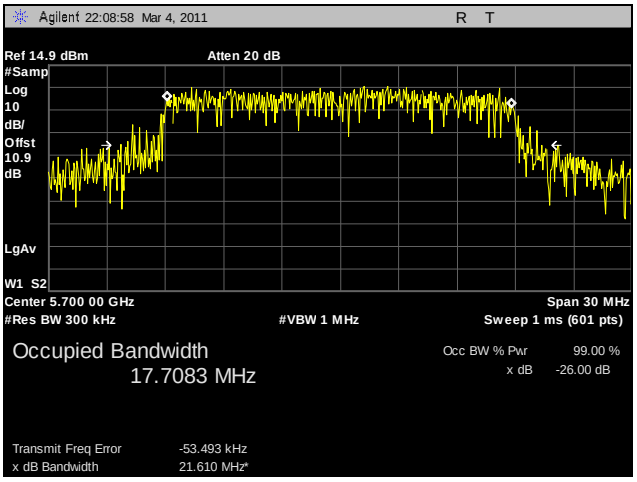
99% Occupied Bandwidth Test Results, 802.11n HT20, 5700 MHz



Plot 103. 99% Occupied Bandwidth, 802.11n HT20, 5700 MHz, A

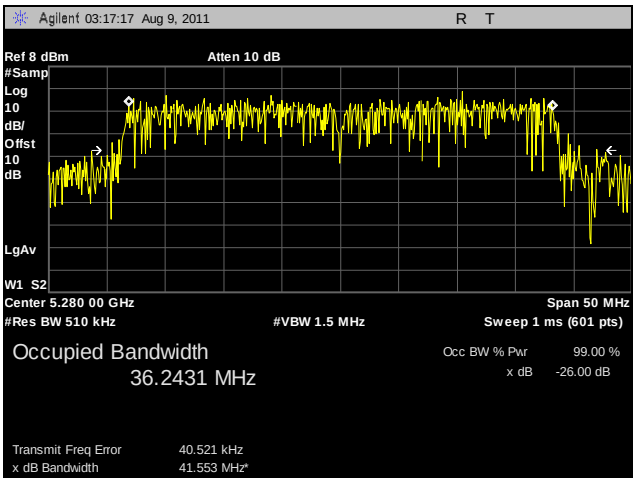


Plot 104. 99% Occupied Bandwidth, 802.11n HT20, 5700 MHz, B

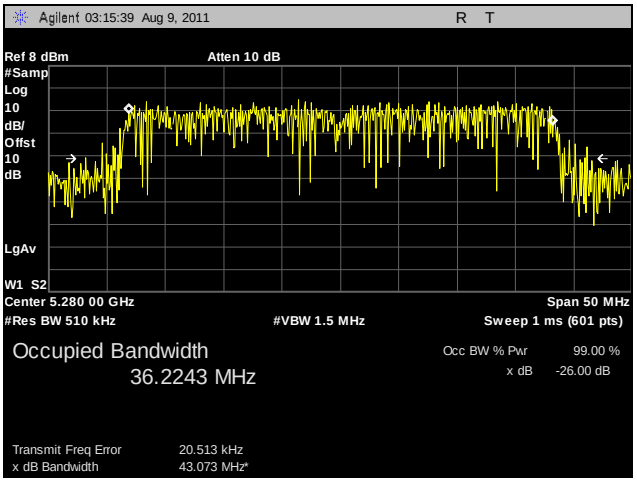


Plot 105. 99% Occupied Bandwidth, 802.11n HT20, 5700 MHz, C

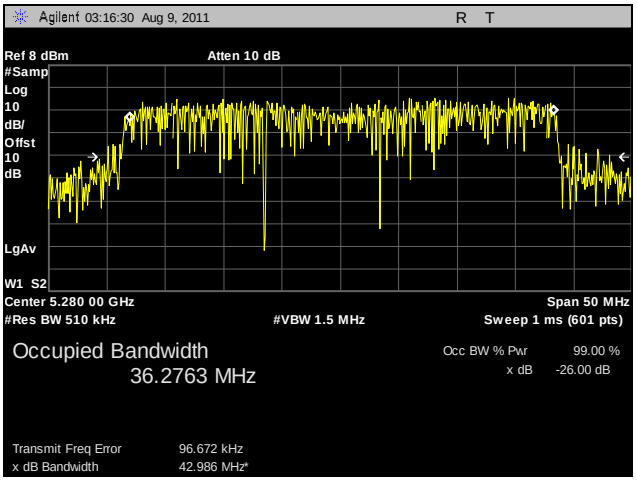
99% Occupied Bandwidth Test Results, 802.11n HT40, 5280 MHz



Plot 106. 99% Occupied Bandwidth, 802.11n HT40, 5280 MHz, A

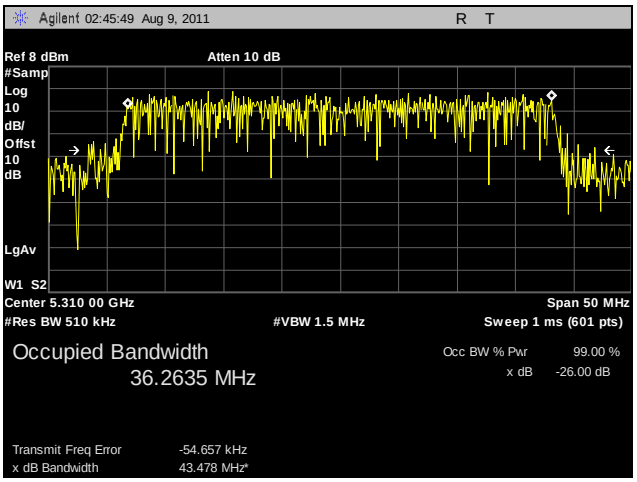


Plot 107. 99% Occupied Bandwidth, 802.11n HT40, 5280 MHz, B

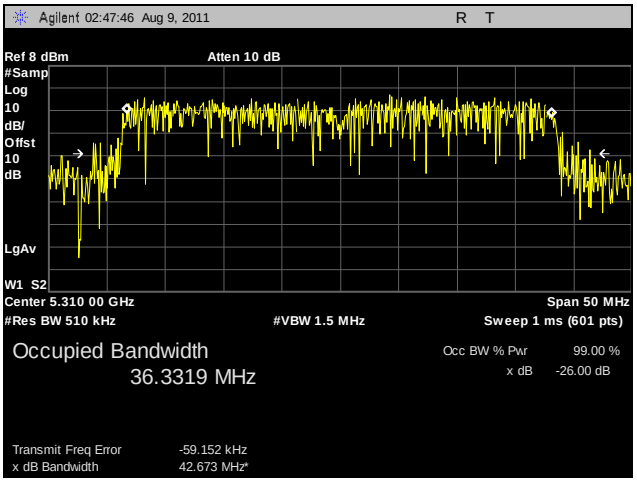


Plot 108. 99% Occupied Bandwidth, 802.11n HT40, 5280 MHz, C

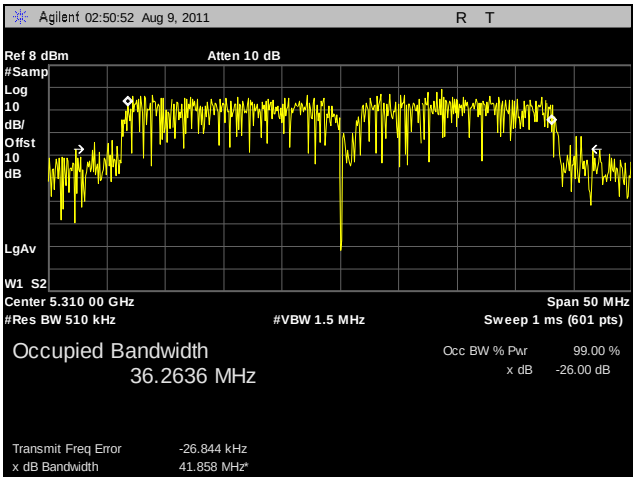
99% Occupied Bandwidth Test Results, 802.11n HT40, 5310 MHz



Plot 109. 99% Occupied Bandwidth, 802.11n HT40, 5310 MHz, A

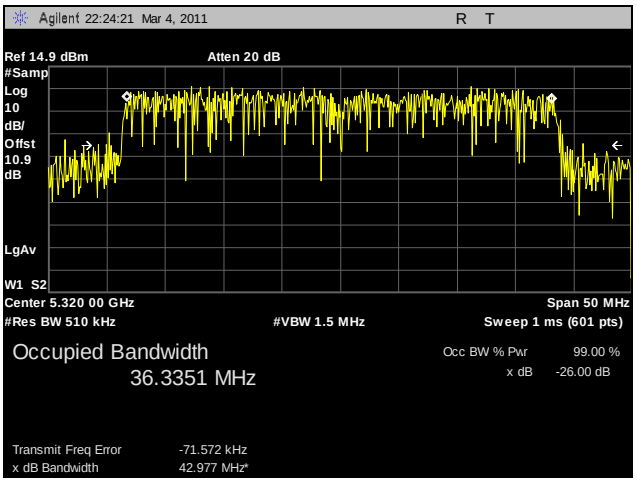


Plot 110. 99% Occupied Bandwidth, 802.11n HT40, 5310 MHz, B

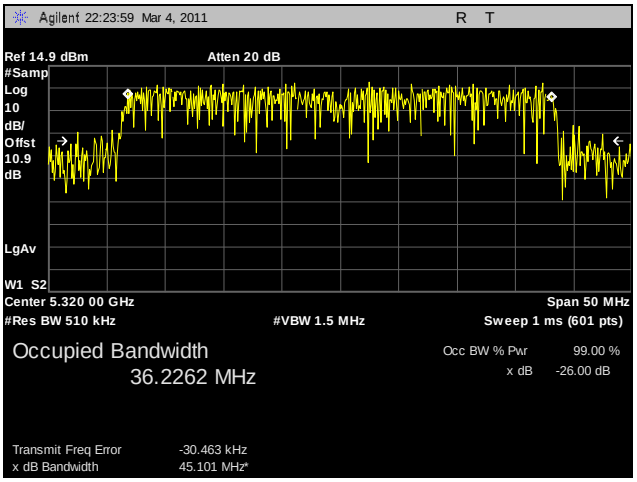


Plot 111. 99% Occupied Bandwidth, 802.11n HT40, 5310 MHz, C

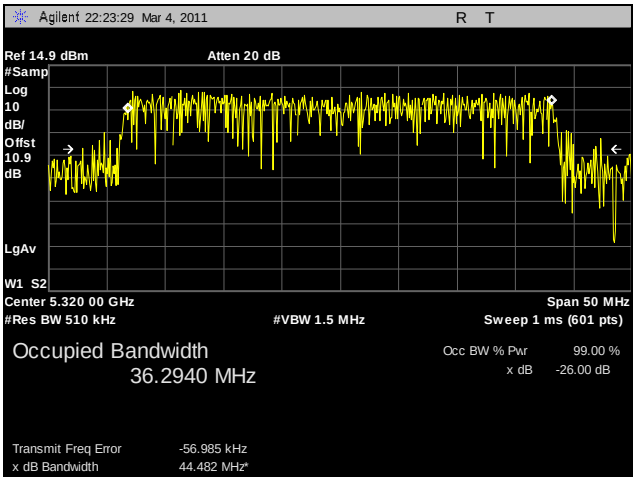
99% Occupied Bandwidth Test Results, 802.11n HT40, 5320 MHz



Plot 112. 99% Occupied Bandwidth, 802.11n HT40, 5320 MHz, A

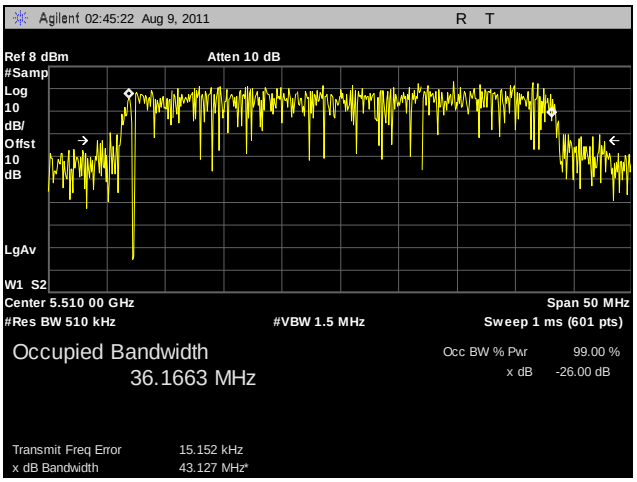


Plot 113. 99% Occupied Bandwidth, 802.11n HT40, 5320 MHz, B

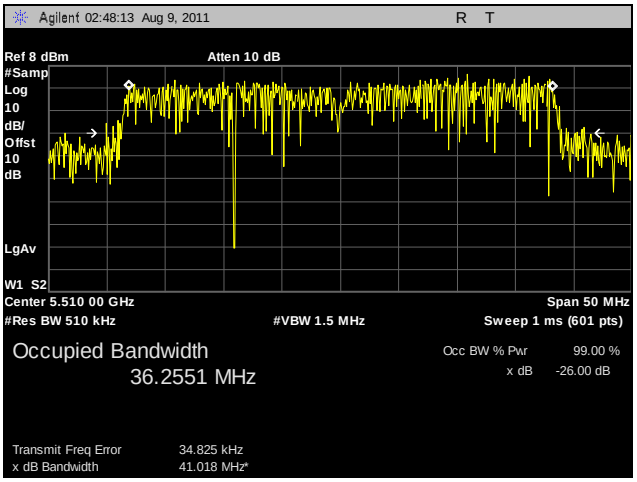


Plot 114. 99% Occupied Bandwidth, 802.11n HT40, 5320 MHz, C

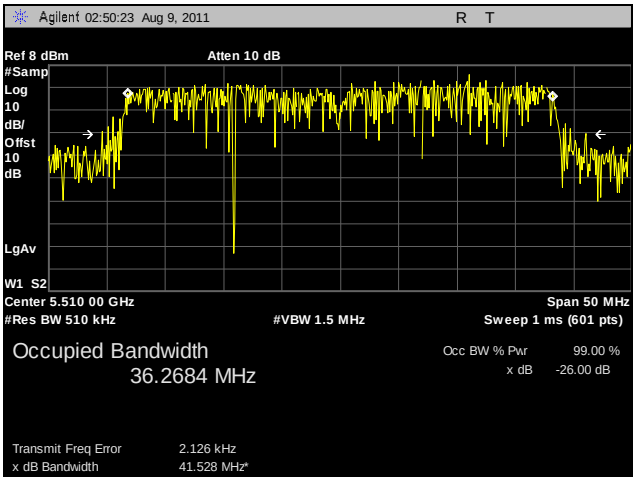
99% Occupied Bandwidth Test Results, 802.11n HT40, 5510 MHz



Plot 115. 99% Occupied Bandwidth, 802.11n HT40, 5510 MHz, A

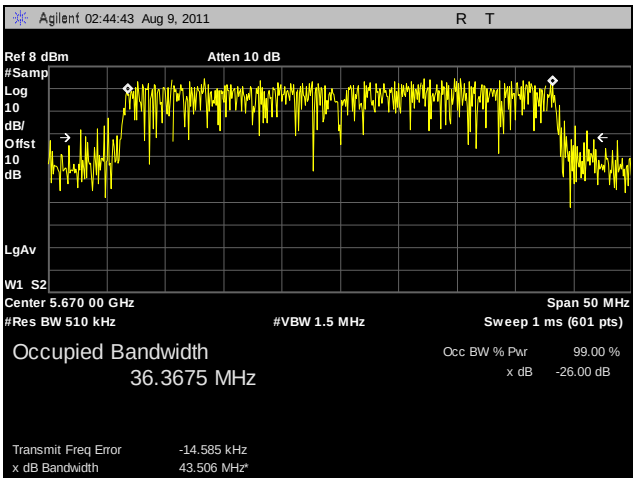


Plot 116. 99% Occupied Bandwidth, 802.11n HT40, 5510 MHz, B

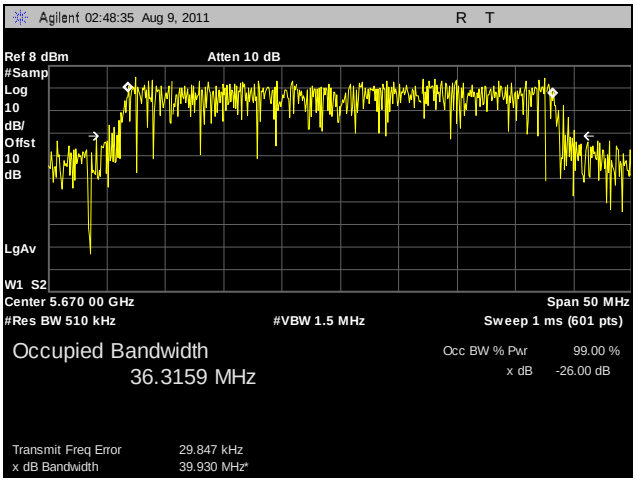


Plot 117. 99% Occupied Bandwidth, 802.11n HT40, 5510 MHz, C

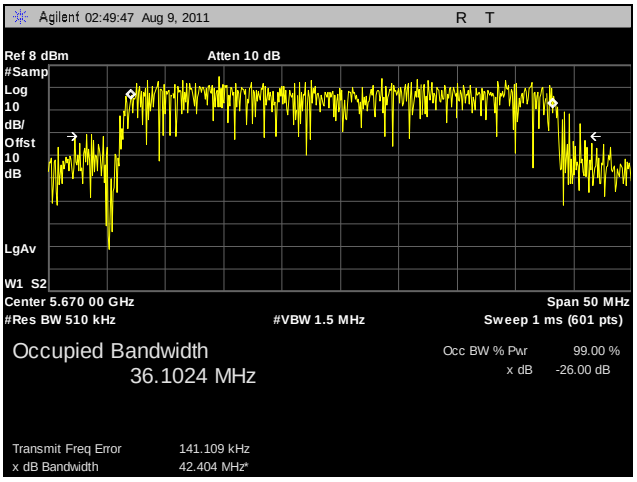
99% Occupied Bandwidth Test Results, 802.11n HT40, 5670 MHz



Plot 118. 99% Occupied Bandwidth, 802.11n HT40, 5670 MHz, A



Plot 119. 99% Occupied Bandwidth, 802.11n HT40, 5670 MHz, B



Plot 120. 99% Occupied Bandwidth, 802.11n HT40, 5670 MHz, C

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 407(a)(3) RF Power Output

Test Requirements: **§15.407(a) (3):** The maximum output power of the intentional radiator shall not exceed the following:

Digital Transmission Systems (MHz)	Output Limit
5150-5250	50mW
5250-5350	250mW
5470–5725	250mW
5725–5825	1W

Table 20. Output Power Requirements from §15.407

§15.407(a) (3): For the band 5.725–5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26-dB emission bandwidth in MHz.

Test Procedure: The EUT was connected to a Spectrum Analyzer. The power was measured on three channels.

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

Test Engineer(s): Ben Taylor

Test Date(s): 05/25/12

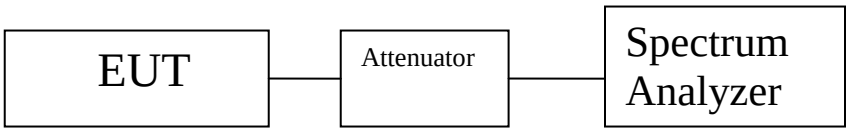


Figure 3. Power Output Test Setup

Freq. (MHz)	Mode / Modulation Type	Max. Antenna Gain (dBi)	Port A Conducted Power (dBm)	Port A Conducted Power (mW)	Port B Conducted Power (dBm)	Port B Conducted Power (mW)	Port C Conducted Power (dBm)	Port C Conducted Power (mW)	Summed Conducted Power (mW)	Summed Conducted Power (dBm)	Max. Conducted Power (dBm)	Margin (dB)
5260	802.11a	12.27	7.06	5.08	7.64	5.81	7.44	5.55	16.44	12.16	17.73	-5.57
5300	802.11a	12.27	8.03	6.35	7.74	5.94	5.77	3.78	16.07	12.06	17.73	-5.67
5320	802.11a	12.27	9.37	8.65	7.81	6.04	7.96	6.25	20.94	13.21	17.73	-4.52
5500	802.11a	12.27	8.14	6.52	7.51	5.64	7.12	5.15	17.30	12.38	17.73	-5.35
5580	802.11a	12.27	9.02	7.98	9.41	8.73	10.15	10.35	27.06	14.32	17.73	-3.41
5700	802.11a	12.27	7.96	6.25	9.05	8.04	12.75	18.84	33.12	15.20	17.73	-2.53
5260	802.11n HT20	12.27	7.01	5.02	8.23	6.65	7.39	5.48	17.16	12.34	17.73	-5.39
5300	802.11n HT20	12.27	8.24	6.67	8.11	6.47	6.06	4.04	17.18	12.35	17.73	-5.38
5320	802.11n HT20	12.27	10.13	10.30	8.21	6.62	8.02	6.34	23.26	13.67	17.73	-4.06
5500	802.11n HT20	12.27	8.48	7.05	8.17	6.56	7.03	5.05	18.65	12.71	17.73	-5.02
5580	802.11n HT20	12.27	9.22	8.36	9.84	9.64	10.23	10.54	28.54	14.55	17.73	-3.18
5700	802.11n HT20	12.27	8.01	6.32	9.56	9.04	12.57	18.07	33.43	15.24	17.73	-2.49
5280	802.11n HT40	12.27	8.3	6.76	9.58	9.08	8.55	7.16	23.00	13.62	17.73	-4.11
5300	802.11n HT40	12.27	10	10.00	9.80	9.55	7.33	5.41	24.96	13.97	17.73	-3.76
5320	802.11n HT40	12.27	10.25	10.59	9.35	8.61	9.01	7.96	27.16	14.34	17.73	-3.39
5510	802.11n HT40	12.27	9.44	8.79	8.29	6.75	8.20	6.61	22.14	13.45	17.73	-4.28
5580	802.11n HT40	12.27	10.48	11.17	10.91	12.33	11.67	14.69	38.19	15.82	17.73	-1.91
5670	802.11n HT40	12.27	9.06	8.05	11.29	13.46	14.00	25.12	46.63	16.69	17.73	-1.04

Table 21. RF Power Output, Test Results

§ 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 frequencies @ 5250-5350MHz and 5470-5725MHz; highest conducted power = *16.69dBm* (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Gain of Antenna Elements @ 5.8GHz = 7.5 dBi
# of Antenna Elements = 3
EUT maximum antenna gain = 7.5dBi + 10*log(3)dBi = *12.27 dBi.*

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

$$S = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{PG / 4\pi S}$$

where, S = Power Density (1 mW/cm^2)
P = Power Input to antenna (46.67mW)
G = Antenna Gain (16.87 numeric)

$R = (46.67*16.87 / 4*3.14*1.0)^{1/2} = (787.32/12.56)^{1/2} = 7.92$ cm

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(a)(3) Peak Power Spectral Density

Test Requirements: **§ 15.407(a)(1), (a)(2):** For digitally modulated systems, the conducted peak power spectral density from the intentional radiator to the antenna shall not be greater than 4dBm/MHz in the frequency band 5.15-5.25 GHz and 11dBm/MHz in the frequency band 5.25-5.35GHz.

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. The method of measurement #2 from the FCC Public Notice DA 02-2138 was used. A combiner was used to measure spectral density in MIMO mode.

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): 03/07/11

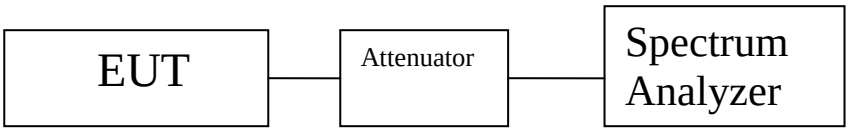


Figure 4. Power Spectral Density Test Setup

Freq. (MHz)	Mode / Modulation Type	Max. Antenna Gain (dBi)	Maximum Allowable Spectral Density (dBm)	Port A Spectral Density (dBm)	Port A Spectral Density (mW)	Port B Spectral Density (dBm)	Port B Spectral Density (mW)	Port C Spectral Density (dBm)	Port C Spectral Density (mW)	Summed Spectral Density (mW)	Summed Spectral Density (dBm)	Margin (dB)
5260	802.11a	12.27	4.73	-2.28	0.59	-3.48	0.45	-3.15	0.48	1.52	1.83	-2.90
5300	802.11a	12.27	4.73	-2.83	0.52	-3.69	0.43	-3.08	0.49	1.44	1.59	-3.14
5320	802.11a	12.27	4.73	-3.28	0.47	-3.14	0.49	-2.54	0.56	1.51	1.80	-2.93
5500	802.11a	12.27	4.73	-2.97	0.50	-4.73	0.34	-1.25	0.75	1.59	2.02	-2.71
5580	802.11a	12.27	4.73	-2.16	0.61	-3.84	0.41	-2.68	0.54	1.56	1.93	-2.80
5700	802.11a	12.27	4.73	-2.57	0.55	-1.72	0.67	-3.87	0.41	1.64	2.14	-2.59
5260	802.11n HT20	12.27	4.73	-2.09	0.62	-3.16	0.48	-2.62	0.55	1.65	2.17	-2.56
5300	802.11n HT20	12.27	4.73	-2.78	0.53	-3.25	0.47	-2.44	0.57	1.57	1.96	-2.77
5320	802.11n HT20	12.27	4.73	-3.17	0.48	-2.65	0.54	-2.03	0.63	1.65	2.18	-2.55
5500	802.11n HT20	12.27	4.73	-2.72	0.53	-4.52	0.35	-1.15	0.77	1.66	2.19	-2.54
5580	802.11n HT20	12.27	4.73	-2.15	0.61	-3.86	0.41	-2.44	0.57	1.59	2.02	-2.71
5700	802.11n HT20	12.27	4.73	-2.71	0.54	-2.36	0.58	-4.12	0.39	1.50	1.77	-2.96
5280	802.11n HT40	12.27	4.73	-3.81	0.42	-4.34	0.37	-4.37	0.37	1.15	0.61	-4.12
5300	802.11n HT40	12.27	4.73	-4.19	0.38	-4.07	0.39	-3.80	0.42	1.19	0.75	-3.98
5320	802.11n HT40	12.27	4.73	-4.63	0.34	-3.83	0.41	-3.97	0.40	1.16	0.64	-4.09
5510	802.11n HT40	12.27	4.73	-4.76	0.33	-6.31	0.23	-2.53	0.56	1.13	0.52	-4.21
5580	802.11n HT40	12.27	4.73	-3.89	0.41	-4.96	0.32	-3.74	0.42	1.15	0.61	-4.12
5670	802.11n HT40	12.27	4.73	-4.84	0.33	-4.53	0.35	-5.75	0.27	0.95	-0.24	-4.97

Table 22. Power Spectral Density, Test Results

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 #1 from the FCC Public Notice DA 02-2138 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): Dan Youngcourt

Test Date(s): 04/04/11

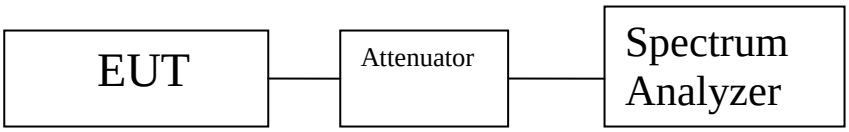
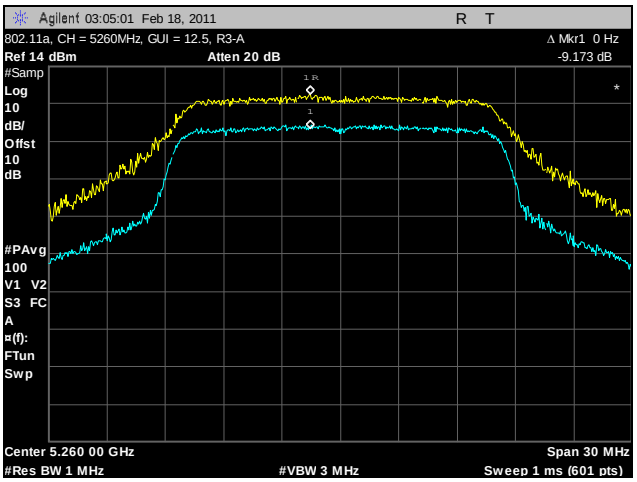
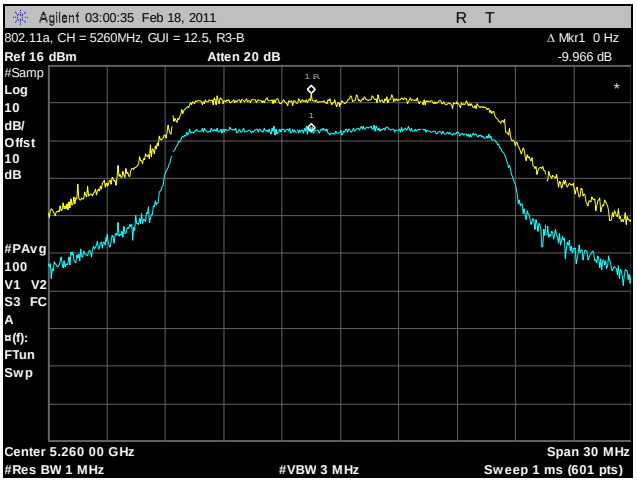


Figure 5. Peak Excursion Ration Test Setup

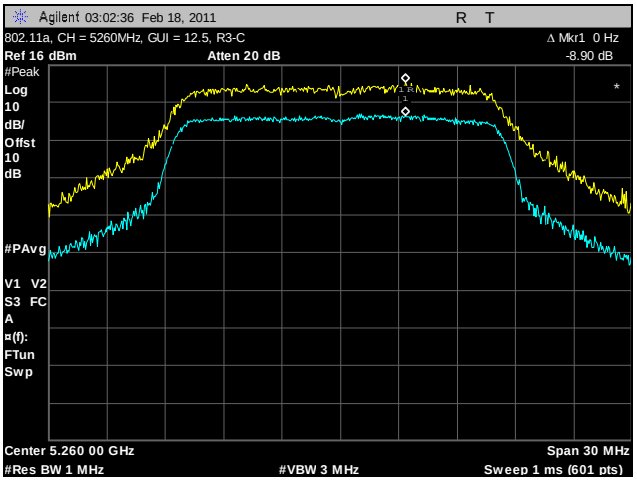
Peak Excursion Test Results, 802.11a, 5260 MHz



Plot 121. Peak Excursion Ratio, 802.11a, 5260 MHz, A

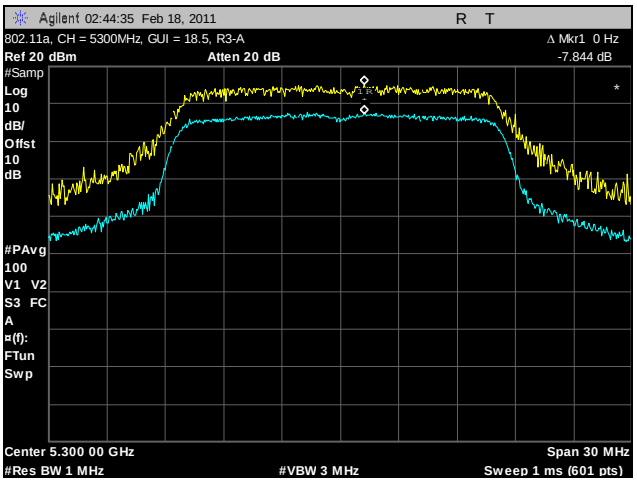


Plot 122. Peak Excursion Ratio, 802.11a, 5260 MHz, B

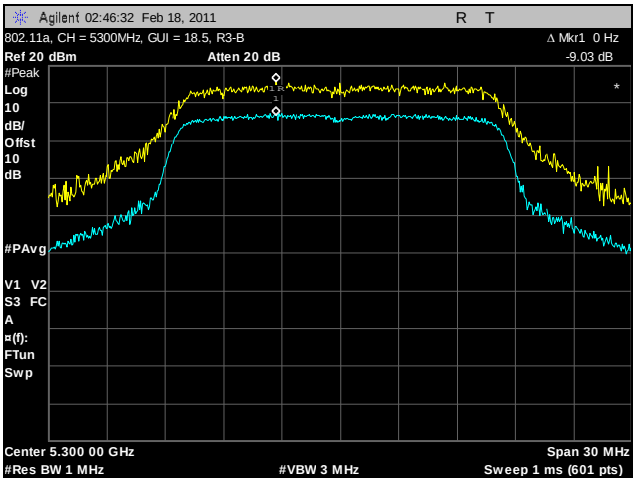


Plot 123. Peak Excursion Ratio, 802.11a, 5260 MHz, C

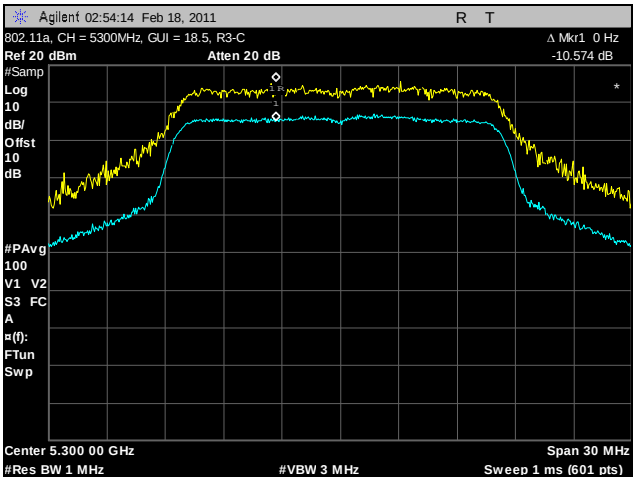
Peak Excursion Test Results, 802.11a, 5300 MHz



Plot 124. Peak Excursion Ratio, 802.11a, 5300 MHz, A

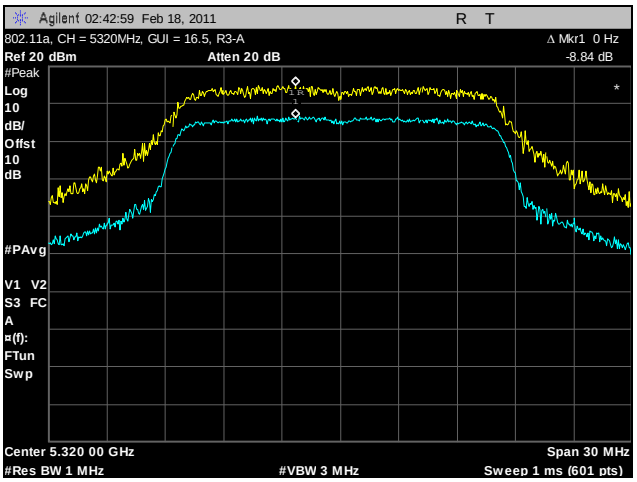


Plot 125. Peak Excursion Ratio, 802.11a, 5300 MHz, B

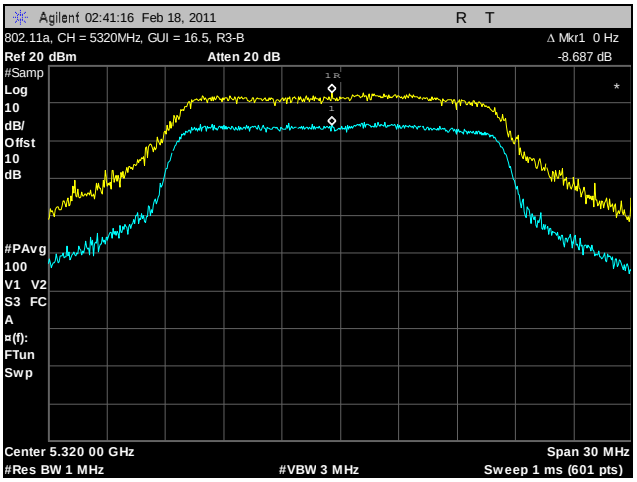


Plot 126. Peak Excursion Ratio, 802.11a, 5300 MHz, C

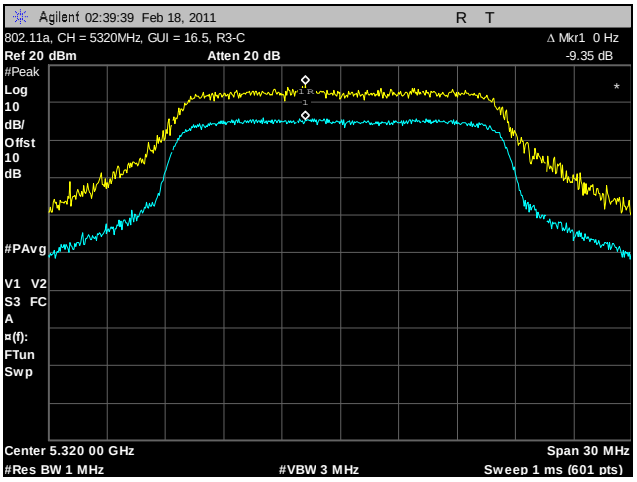
Peak Excursion Test Results, 802.11a, 5320 MHz



Plot 127. Peak Excursion Ratio, 802.11a, 5320 MHz, A

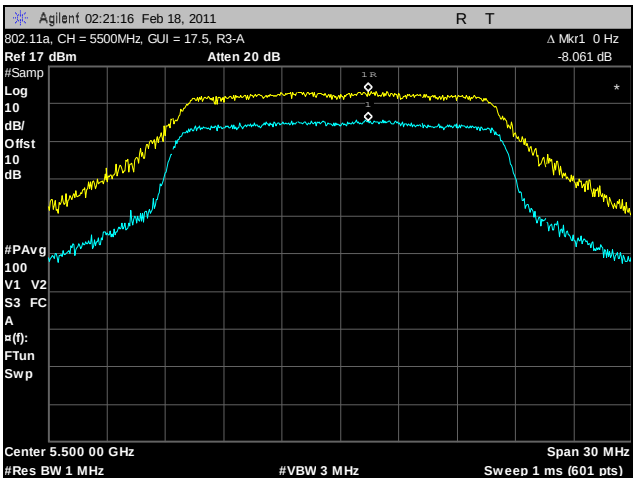


Plot 128. Peak Excursion Ratio, 802.11a, 5320 MHz, B

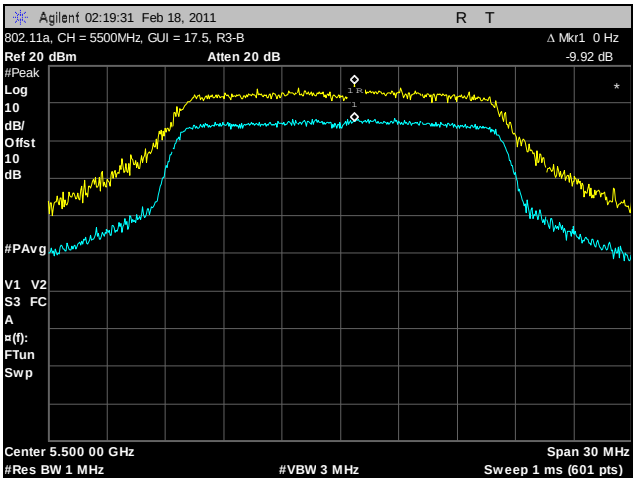


Plot 129. Peak Excursion Ratio, 802.11a, 5320 MHz, C

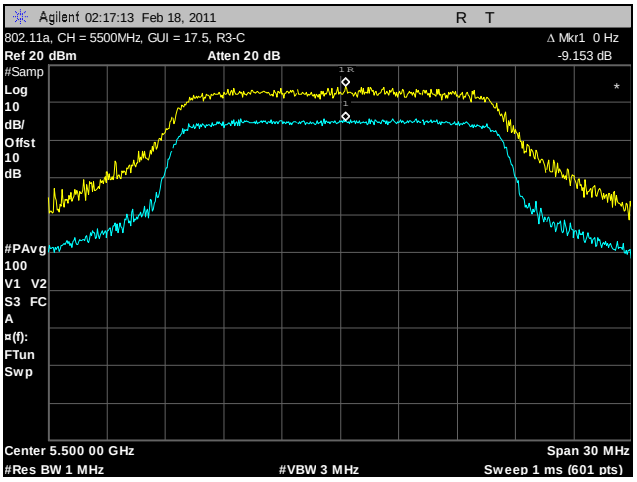
Peak Excursion Test Results, 802.11a, 5500 MHz



Plot 130. Peak Excursion Ratio, 802.11a, 5500 MHz, A

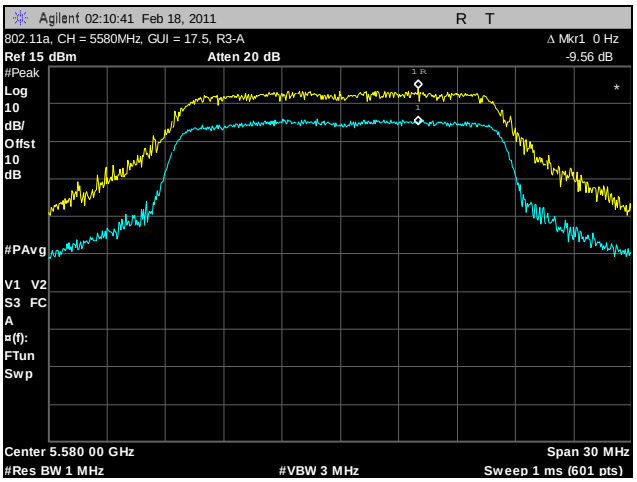


Plot 131. Peak Excursion Ratio, 802.11a, 5500 MHz, B

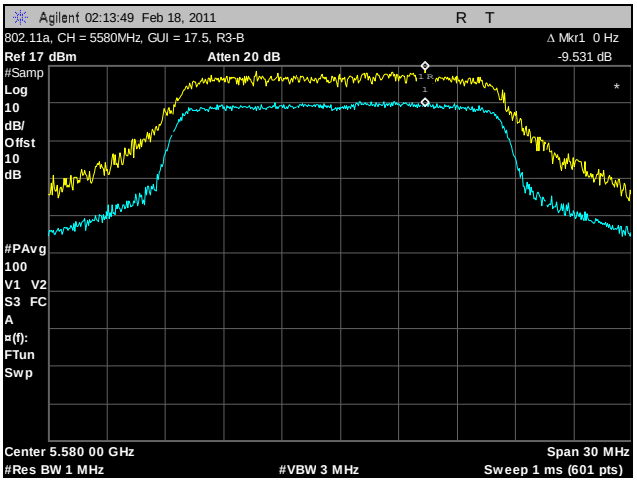


Plot 132. Peak Excursion Ratio, 802.11a, 5500 MHz, C

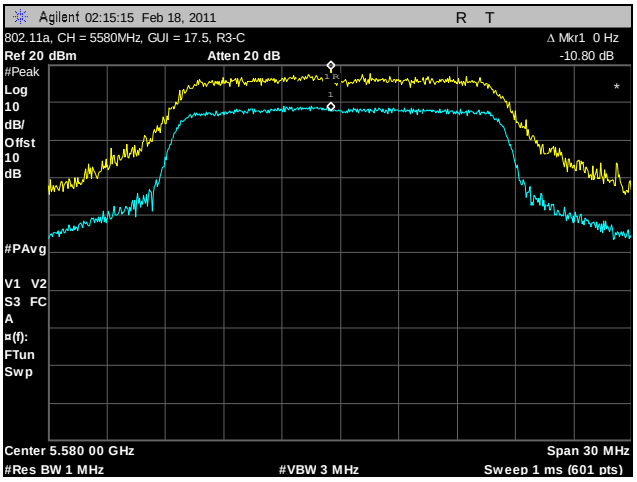
Peak Excursion Test Results, 802.11a, 5580 MHz



Plot 133. Peak Excursion Ratio, 802.11a, 5580 MHz, A

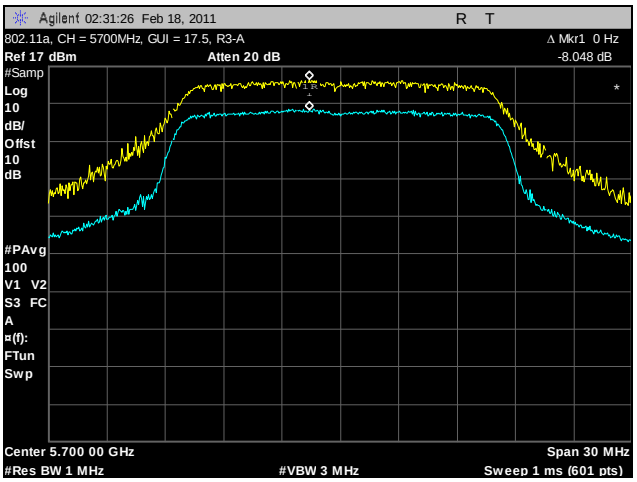


Plot 134. Peak Excursion Ratio, 802.11a, 5580 MHz, B

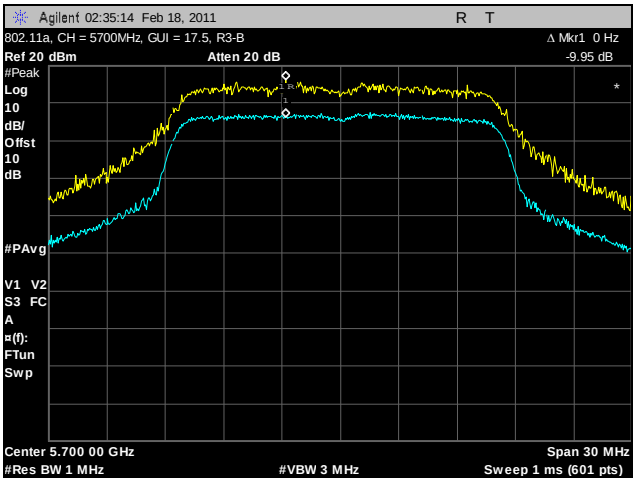


Plot 135. Peak Excursion Ratio, 802.11a, 5580 MHz, C

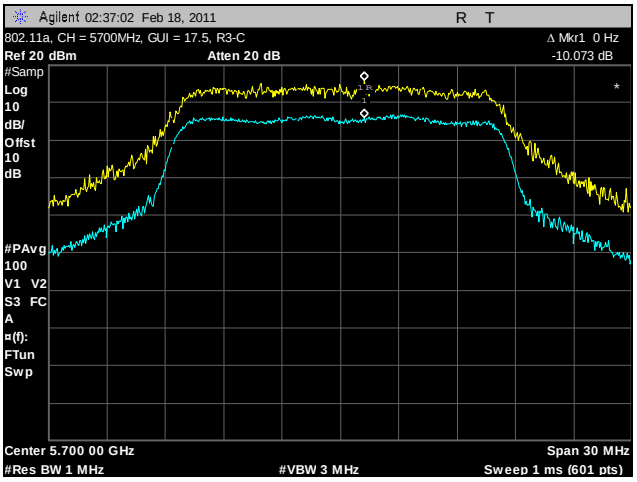
Peak Excursion Test Results, 802.11a, 5700 MHz



Plot 136. Peak Excursion Ratio, 802.11a, 5700 MHz, A

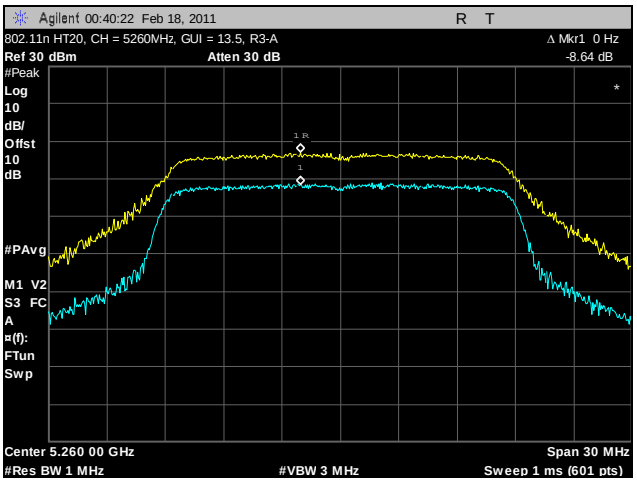


Plot 137. Peak Excursion Ratio, 802.11a, 5700 MHz, B

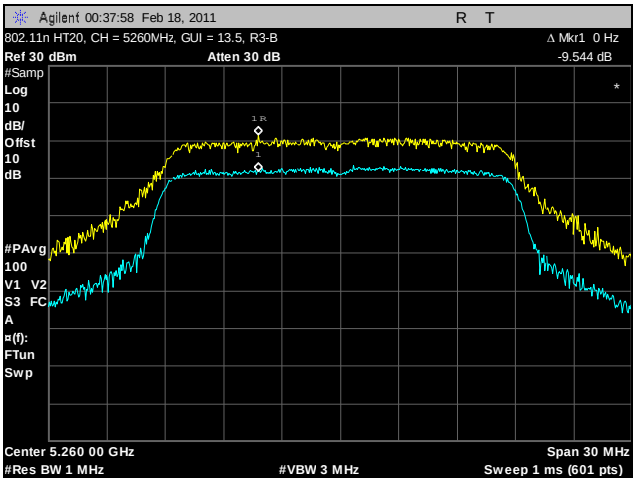


Plot 138. Peak Excursion Ratio, 802.11a, 5700 MHz, C

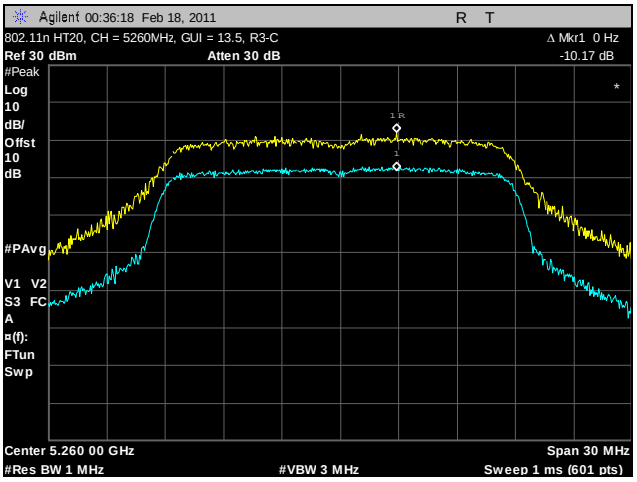
Peak Excursion Test Results, 802.11n HT20, 5260 MHz



Plot 139. Peak Excursion Ratio, 802.11n HT20, 5260 MHz, A

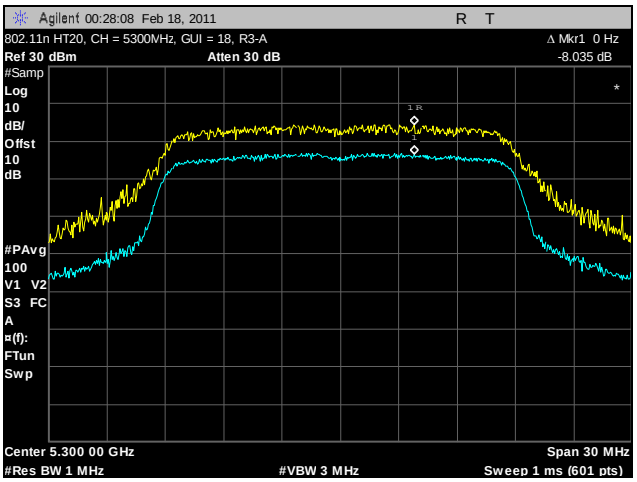


Plot 140. Peak Excursion Ratio, 802.11n HT20, 5260 MHz, B

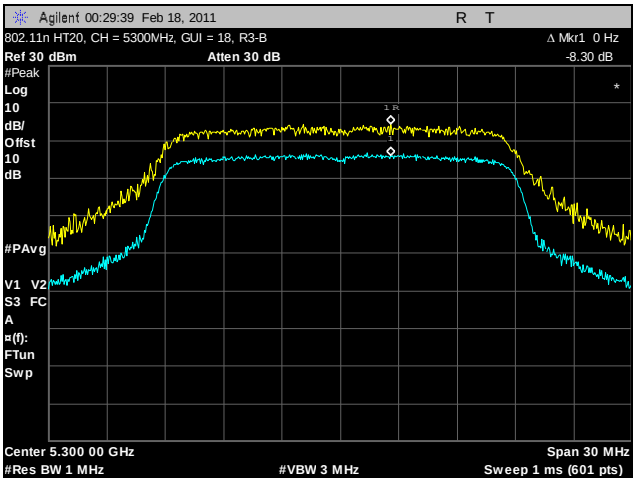


Plot 141. Peak Excursion Ratio, 802.11n HT20, 5260 MHz, C

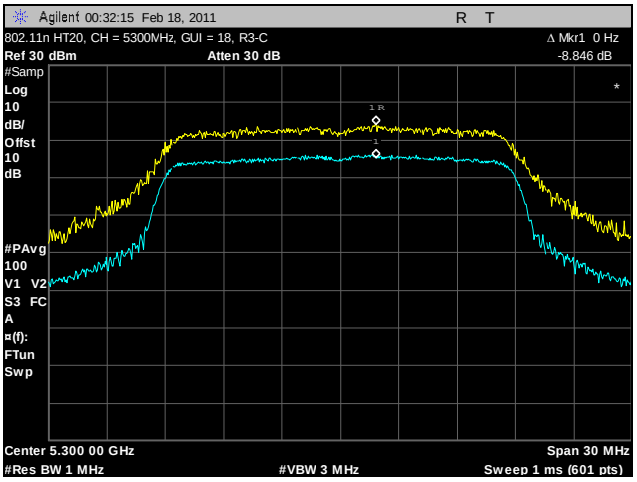
Peak Excursion Test Results, 802.11n HT20, 5300 MHz



Plot 142. Peak Excursion Ratio, 802.11n HT20, 5300 MHz, A

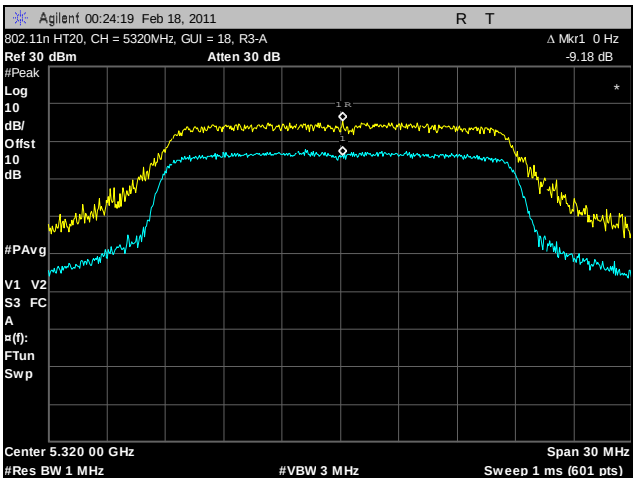


Plot 143. Peak Excursion Ratio, 802.11n HT20, 5300 MHz, B

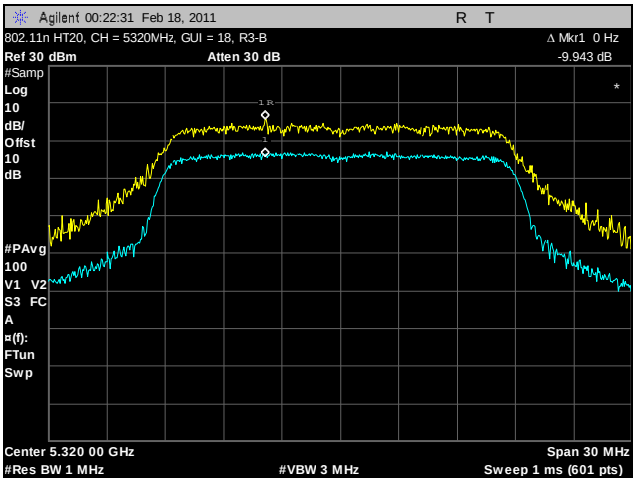


Plot 144. Peak Excursion Ratio, 802.11n HT20, 5300 MHz, C

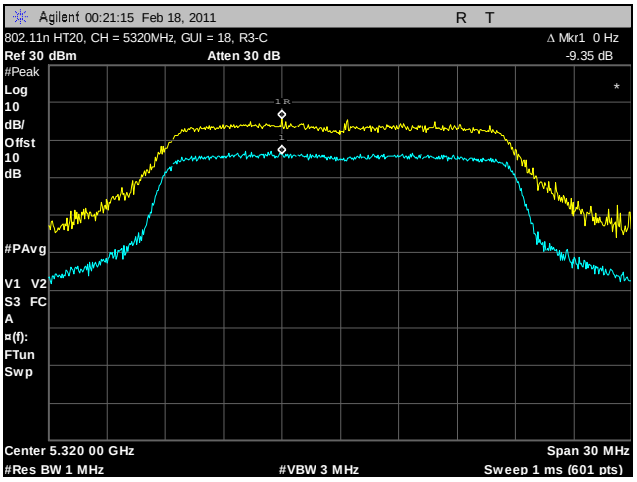
Peak Excursion Test Results, 802.11n HT20, 5320 MHz



Plot 145. Peak Excursion Ratio, 802.11n HT20, 5320 MHz, A

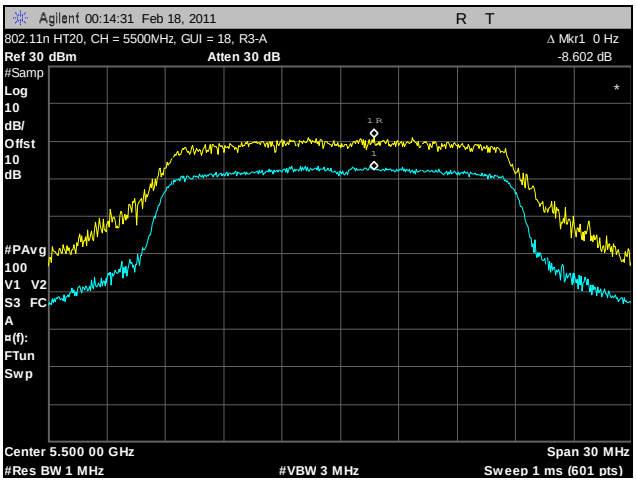


Plot 146. Peak Excursion Ratio, 802.11n HT20, 5320 MHz, B

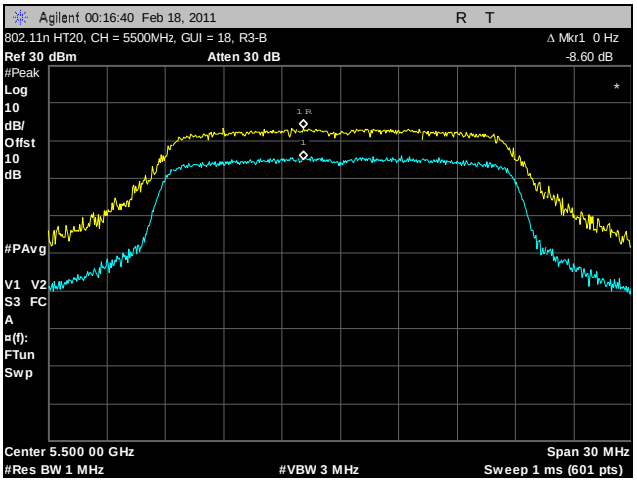


Plot 147. Peak Excursion Ratio, 802.11n HT20, 5320 MHz, C

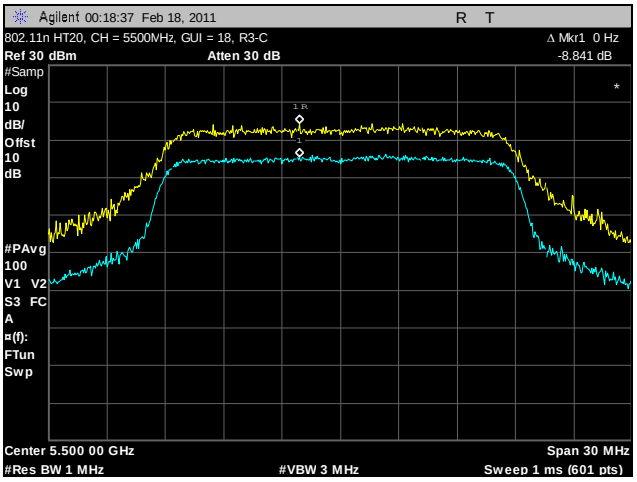
Peak Excursion Test Results, 802.11n HT20, 5500 MHz



Plot 148. Peak Excursion Ratio, 802.11n HT20, 5500 MHz, A

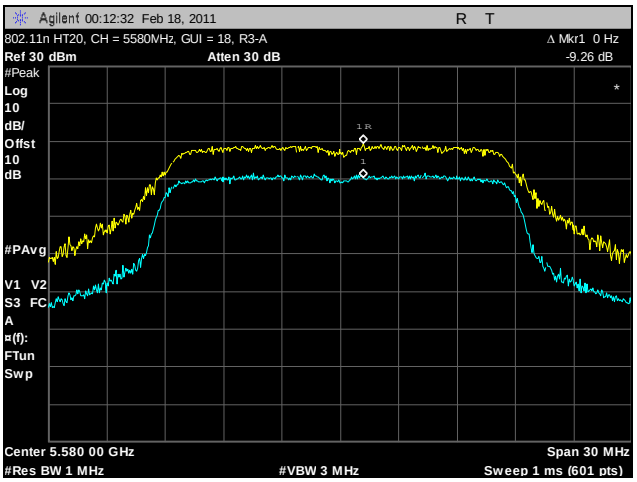


Plot 149. Peak Excursion Ratio, 802.11n HT20, 5500 MHz, B

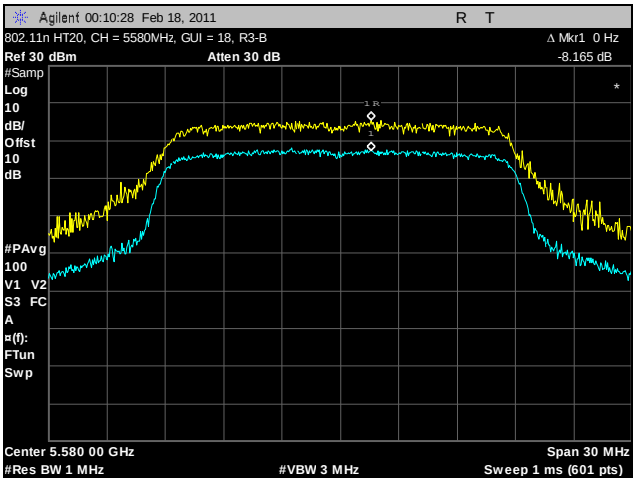


Plot 150. Peak Excursion Ratio, 802.11n HT20, 5500 MHz, C

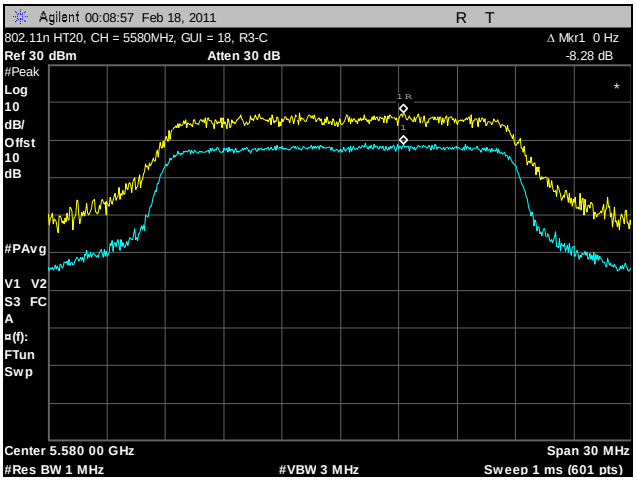
Peak Excursion Test Results, 802.11n HT20, 5580 MHz



Plot 151. Peak Excursion Ratio, 802.11n HT20, 5580 MHz, A

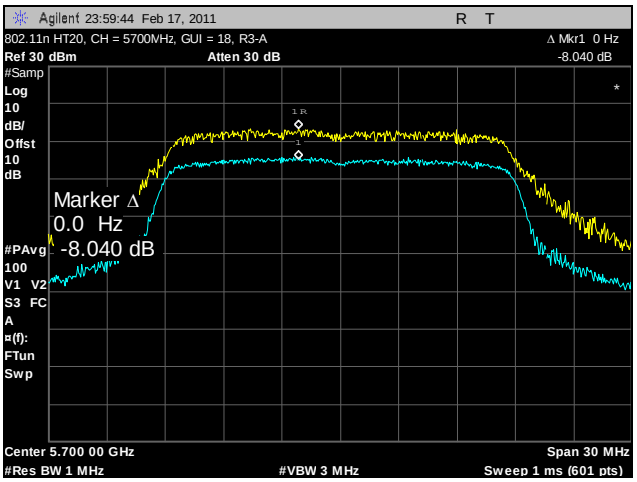


Plot 152. Peak Excursion Ratio, 802.11n HT20, 5580 MHz, B

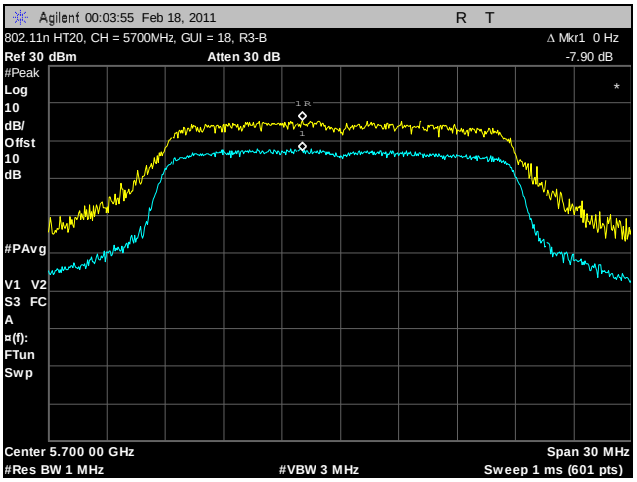


Plot 153. Peak Excursion Ratio, 802.11n HT20, 5580 MHz, C

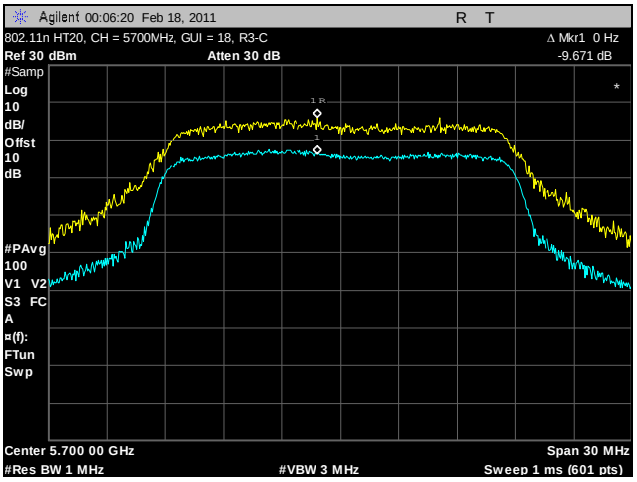
Peak Excursion Test Results, 802.11n HT20, 5700 MHz



Plot 154. Peak Excursion Ratio, 802.11n HT20, 5700 MHz, A

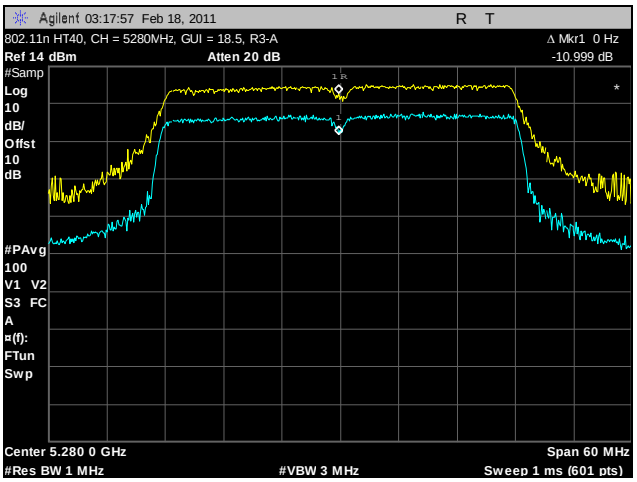


Plot 155. Peak Excursion Ratio, 802.11n HT20, 5700 MHz, B

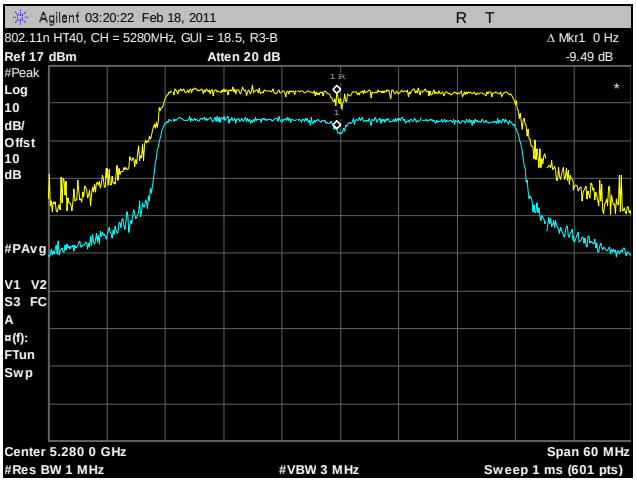


Plot 156. Peak Excursion Ratio, 802.11n HT20, 5700 MHz, C

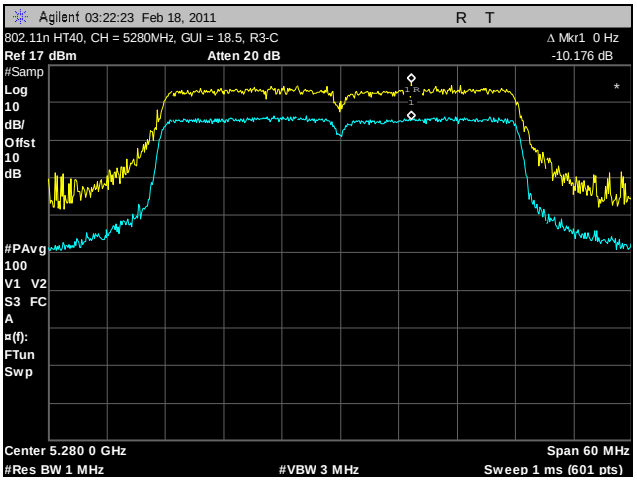
Peak Excursion Test Results, 802.11n HT40, 5280 MHz



Plot 157. Peak Excursion Ratio, 802.11n HT40, 5280 MHz, A

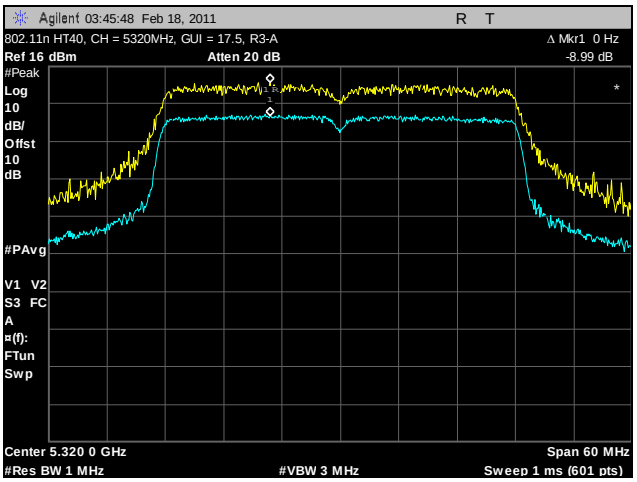


Plot 158. Peak Excursion Ratio, 802.11n HT40, 5280 MHz, B

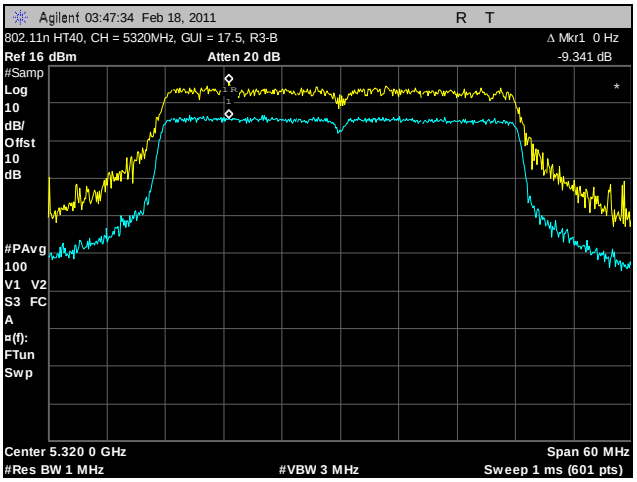


Plot 159. Peak Excursion Ratio, 802.11n HT40, 5280 MHz, C

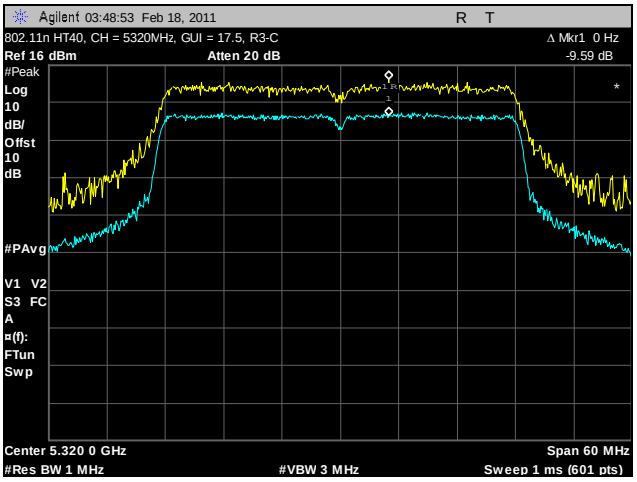
Peak Excursion Test Results, 802.11n HT40, 5320 MHz



Plot 160. Peak Excursion Ratio, 802.11n HT40, 5320 MHz, A

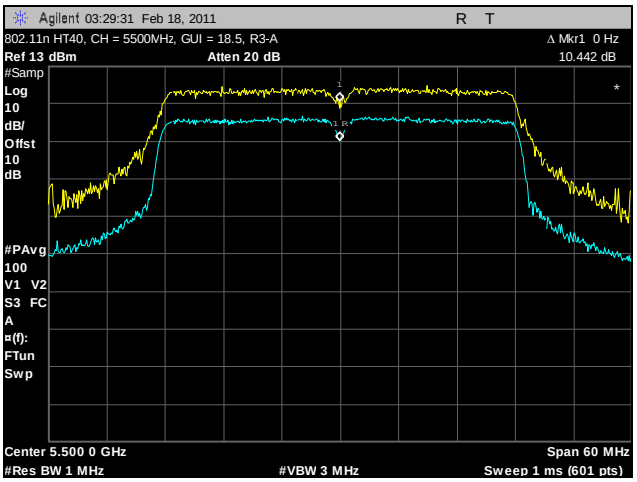


Plot 161. Peak Excursion Ratio, 802.11n HT40, 5320 MHz, B

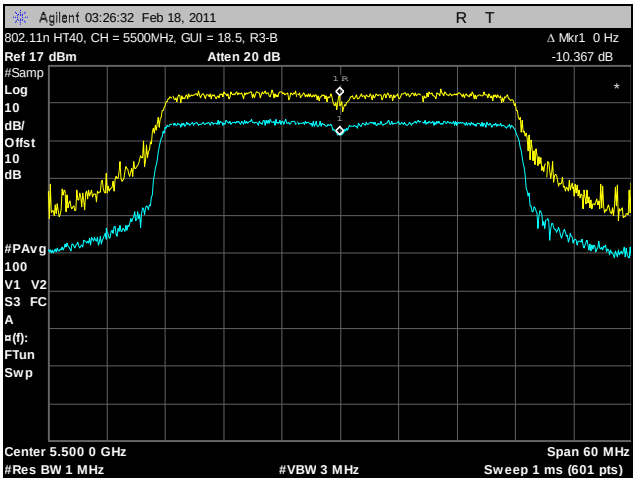


Plot 162. Peak Excursion Ratio, 802.11n HT40, 5320 MHz, C

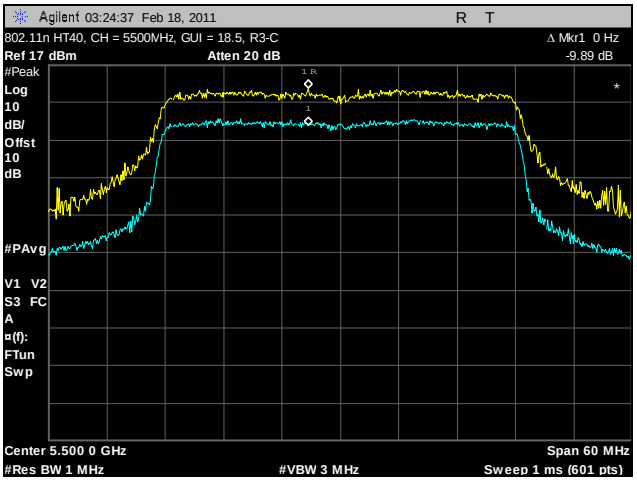
Peak Excursion Test Results, 802.11n HT40, 5510 MHz



Plot 163. Peak Excursion Ratio, 802.11n HT40, 5510 MHz, A

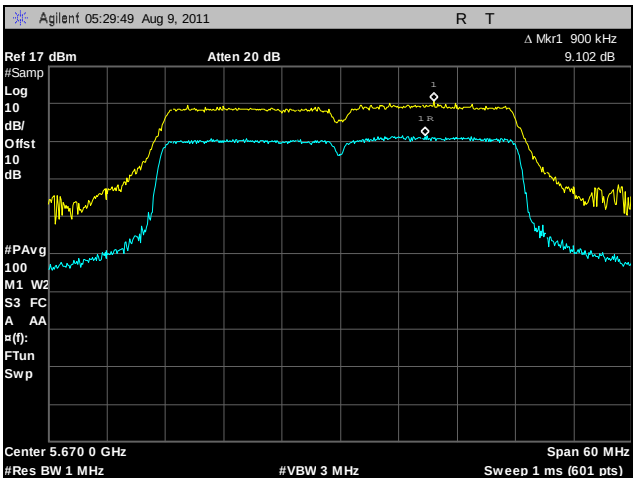


Plot 164. Peak Excursion Ratio, 802.11n HT40, 5510 MHz, B

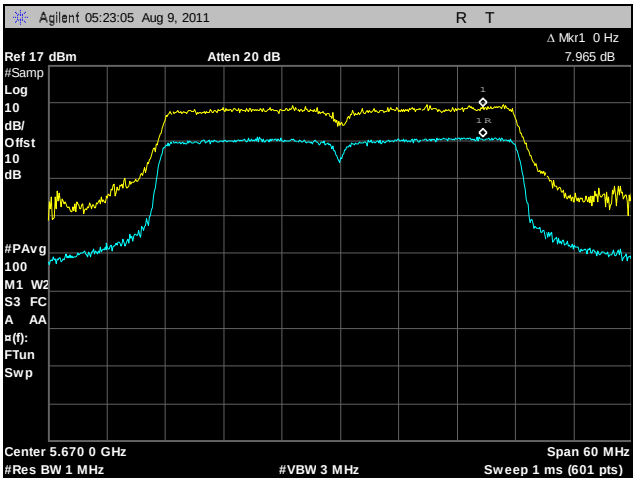


Plot 165. Peak Excursion Ratio, 802.11n HT40, 5510 MHz, C

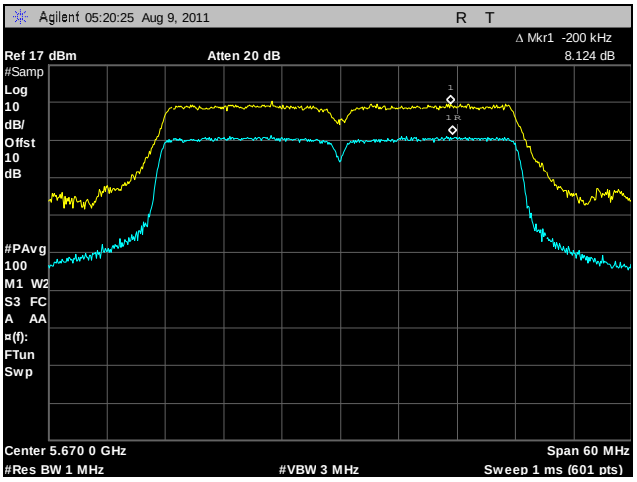
Peak Excursion Test Results, 802.11n HT40, 5670 MHz



Plot 166. Peak Excursion Ratio, 802.11n HT40, 5670 MHz, A



Plot 167. Peak Excursion Ratio, 802.11n HT40, 5670 MHz, B



Plot 168. Peak Excursion Ratio, 802.11n HT40, 5670 MHz, C

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(b) Undesirable Emissions

Test Requirements: **§ 15.407(b)(4), (b)(6), (b)(7), §15.205:** Emissions outside the frequency band.

§ 15.407(b)(4): For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions 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 a wooden 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. Only noise floor was measured above 18GHz.

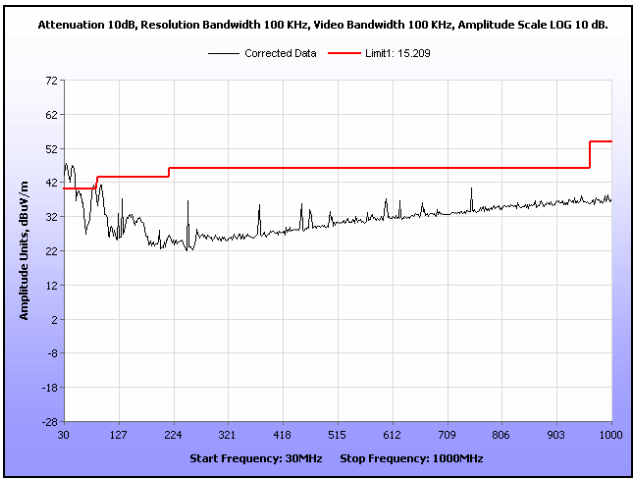
For measurements above 1 GHz, measurements were made with a Peak detector with 1 MHz resolution bandwidth. Where the spurious emissions fell into a restricted band, measurements were also made with an average detector to make sure they complied with 15.209 limits. Emissions were explored up to 40 GHz.
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 (m)

Test Results: The EUT was compliant with the Radiated Emission limits for Intentional Radiators. See following pages for detailed test results. The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

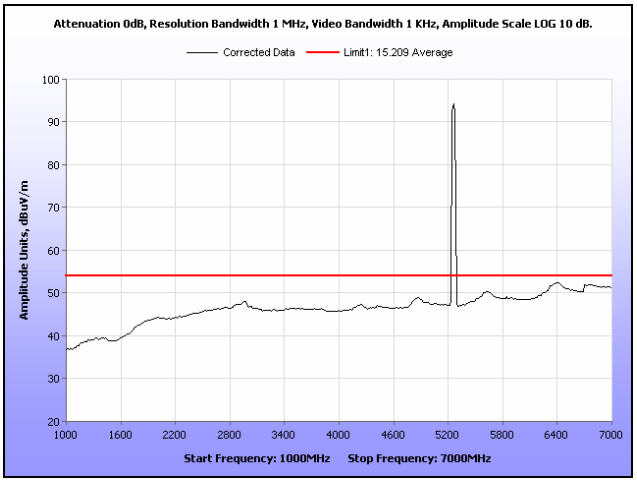
Test Engineer(s): Ben Taylor

Test Date(s): 05/22/12

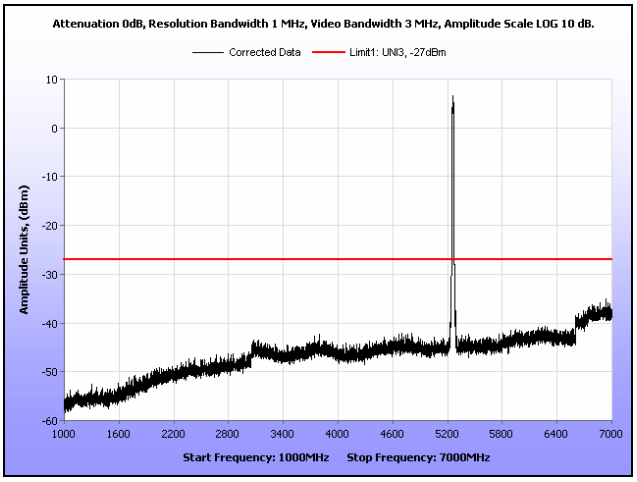
Radiated Spurious Emissions Test Results, 802.11a



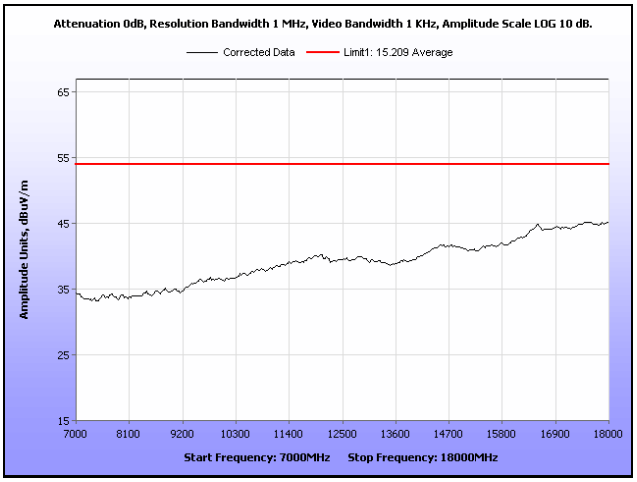
Plot 169. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5260 MHz



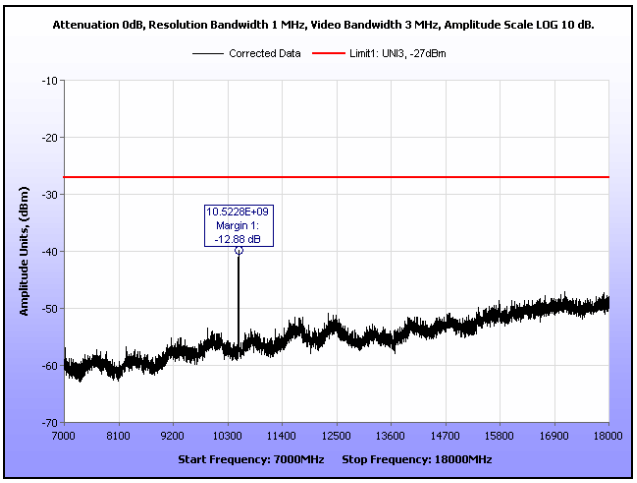
Plot 170. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5260 MHz, Average



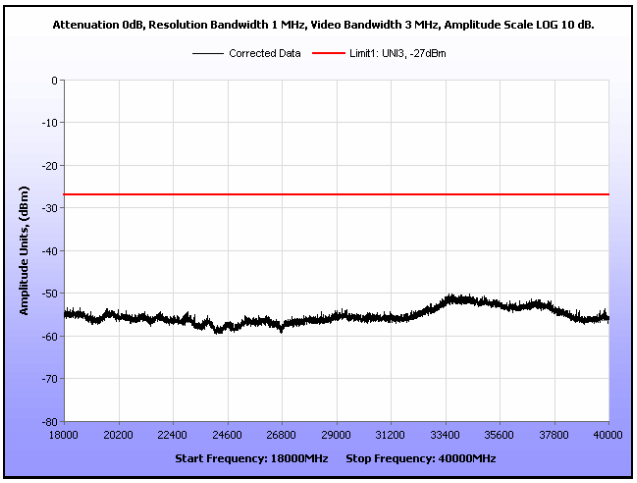
Plot 171. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5260 MHz



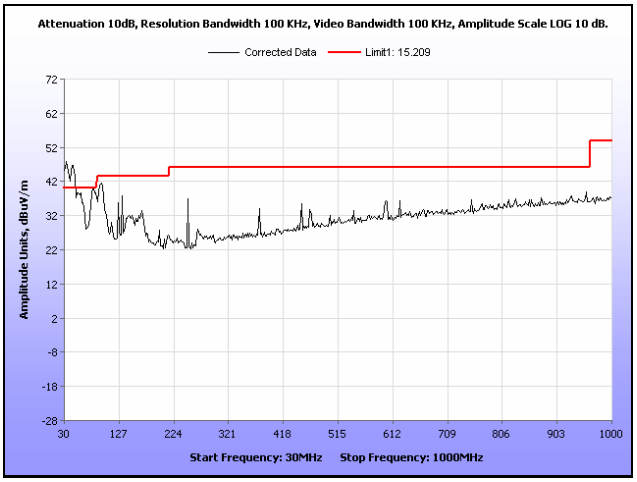
Plot 172. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5260 MHz, Average



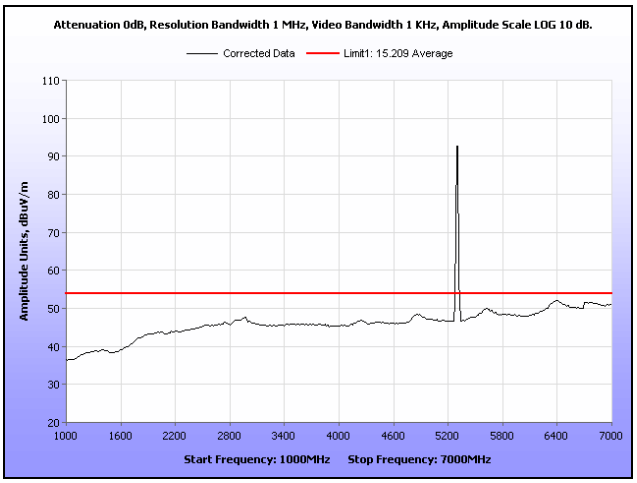
Plot 173. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5260 MHz



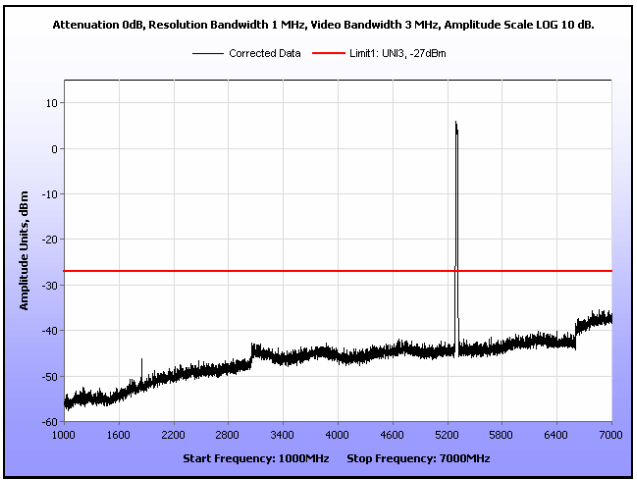
Plot 174. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5260 MHz



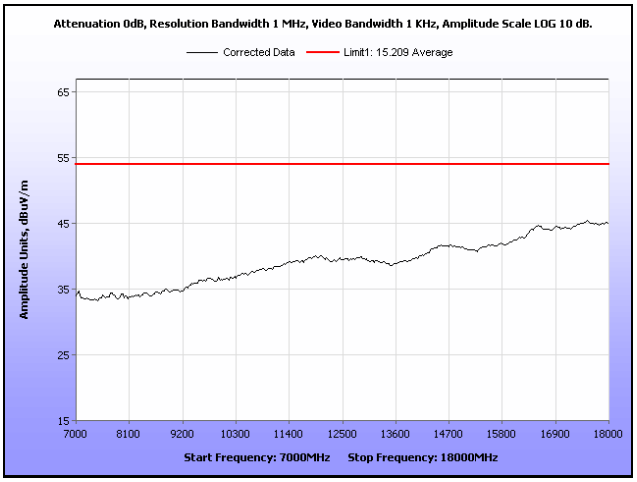
Plot 175. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5300 MHz



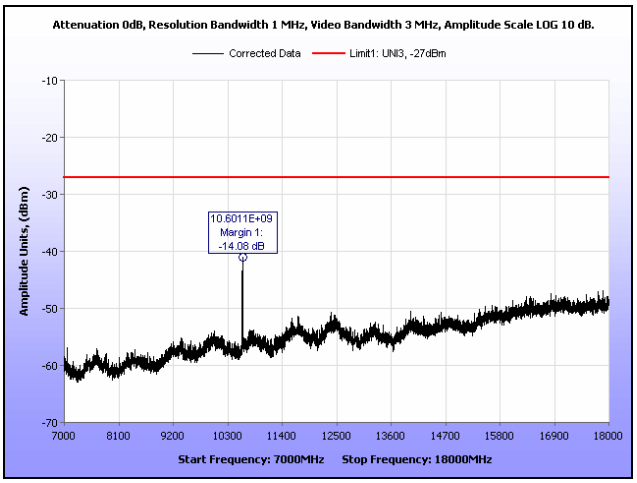
Plot 176. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5300 MHz, Average



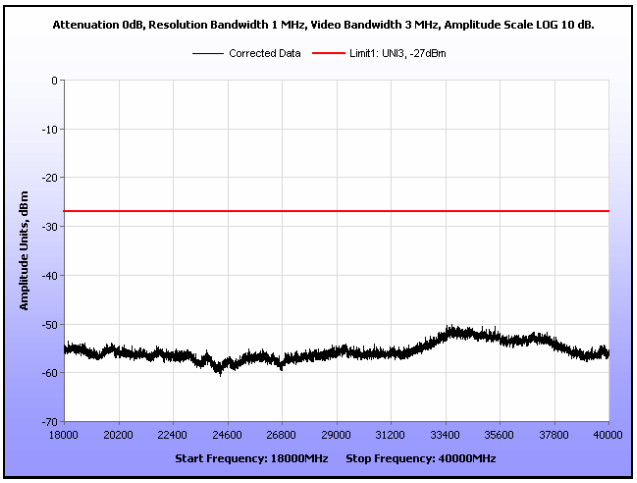
Plot 177. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5300 MHz



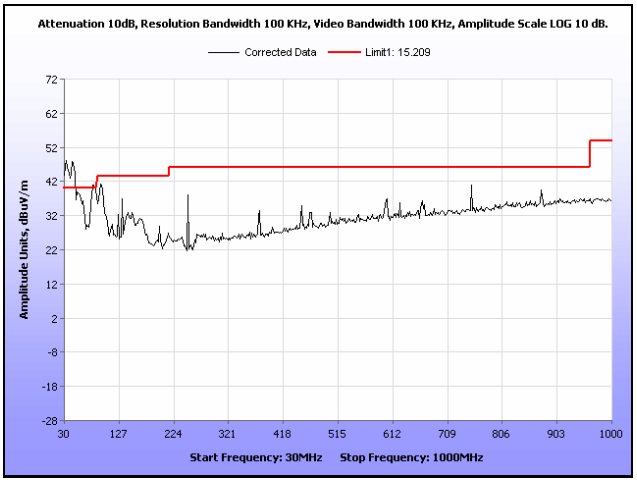
Plot 178. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5300 MHz, Average



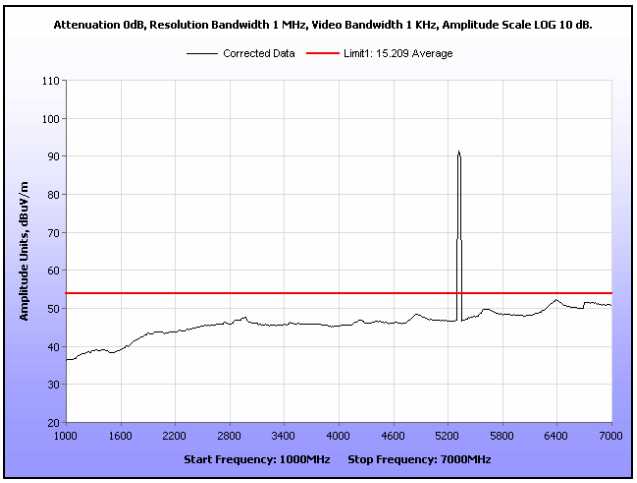
Plot 179. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5300 MHz



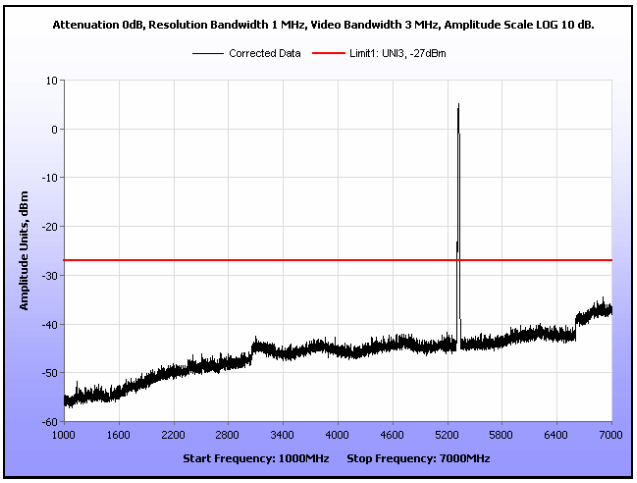
Plot 180. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5300 MHz



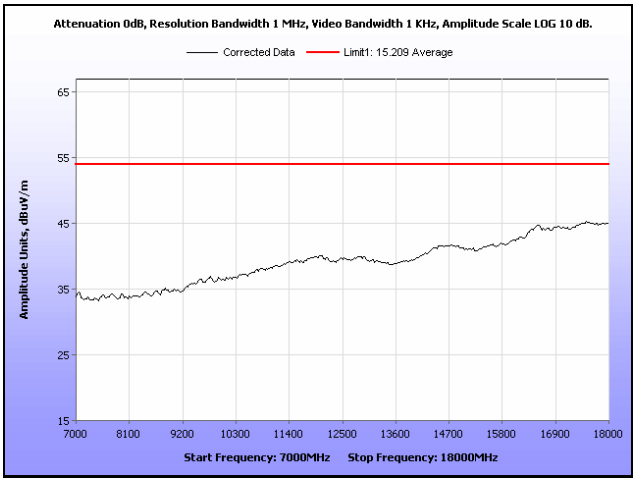
Plot 181. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5320 MHz



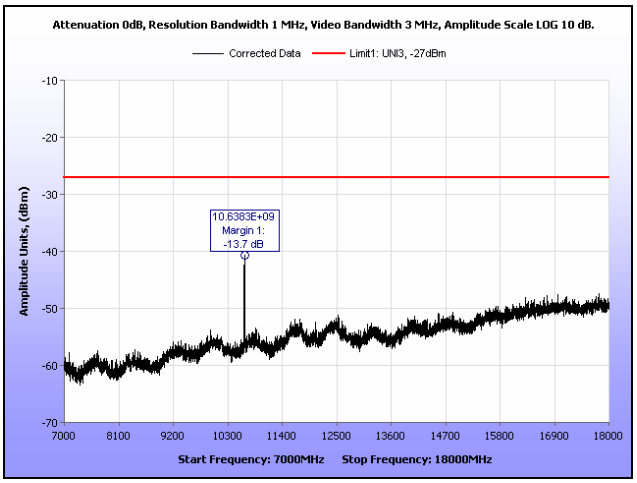
Plot 182. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5320 MHz, Average



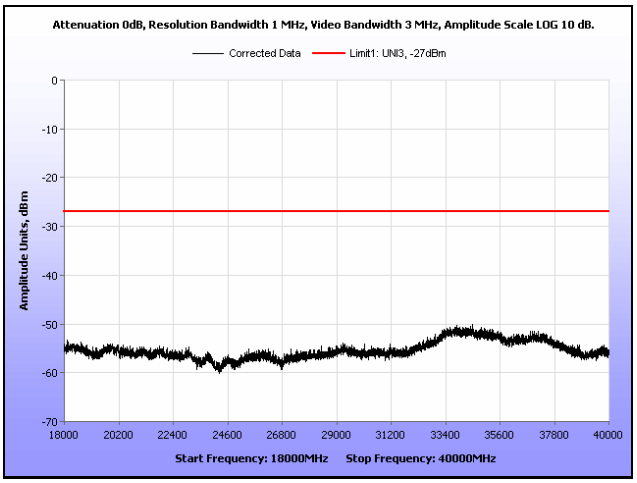
Plot 183. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5320 MHz



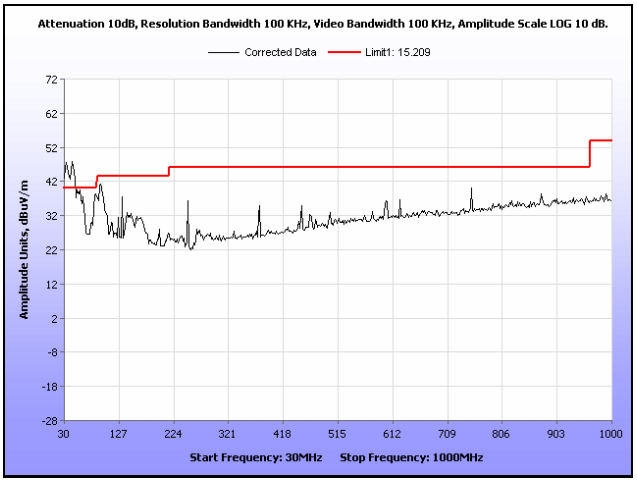
Plot 184. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5320 MHz, Average



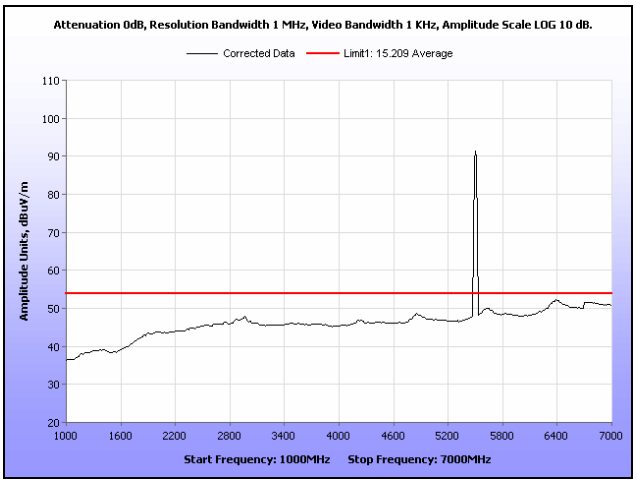
Plot 185. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5320 MHz



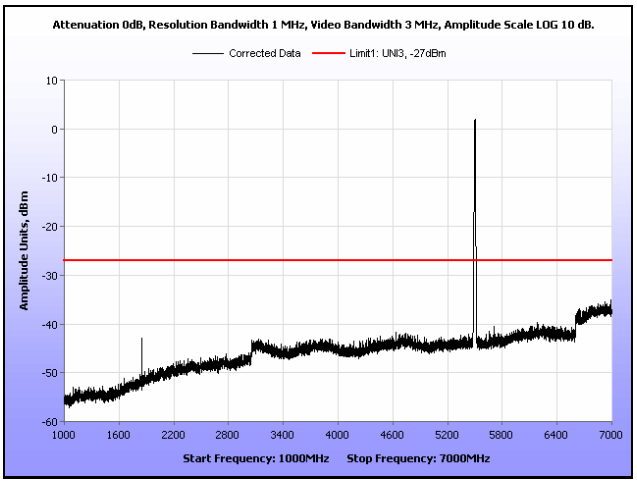
Plot 186. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5320 MHz



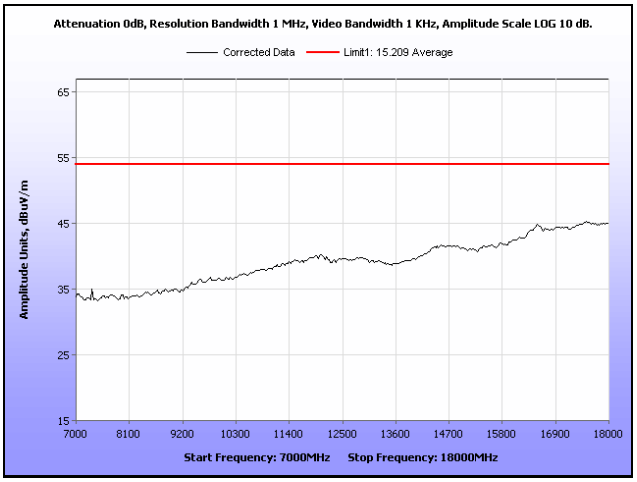
Plot 187. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5500 MHz



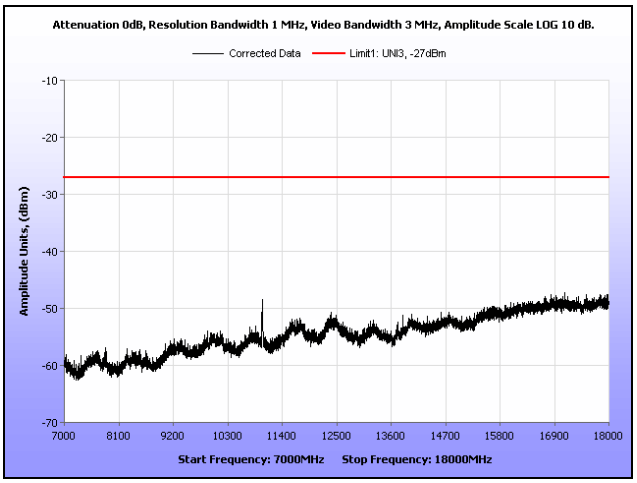
Plot 188. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5500 MHz, Average



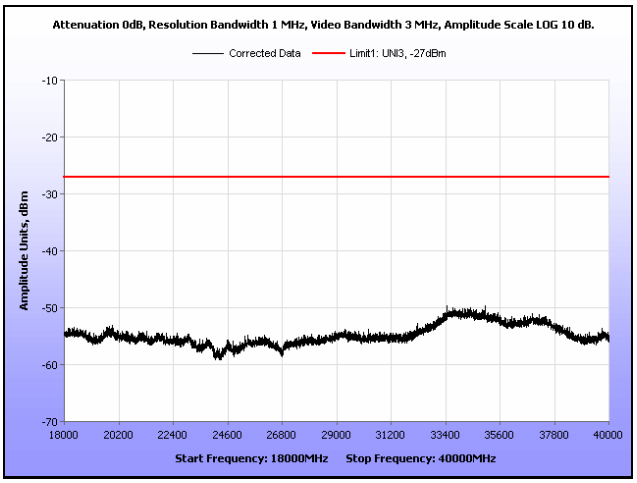
Plot 189. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5500 MHz



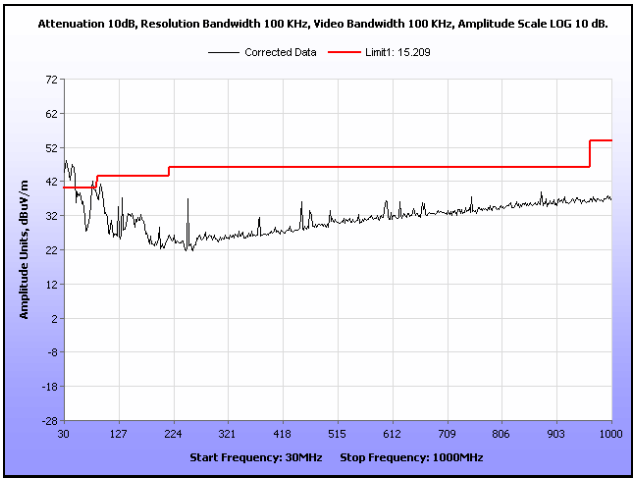
Plot 190. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5500 MHz, Average



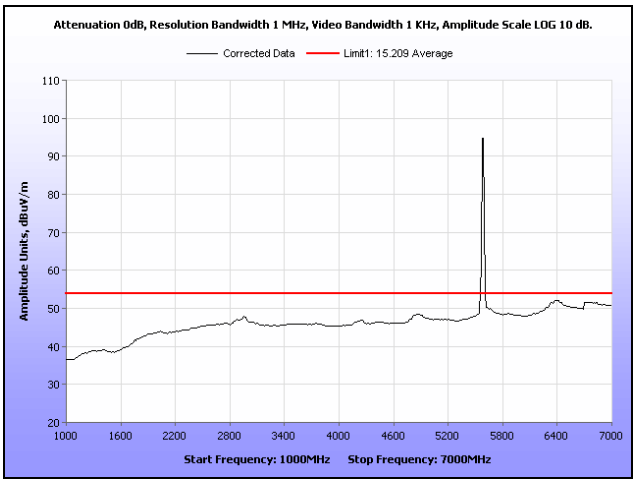
Plot 191. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5500 MHz



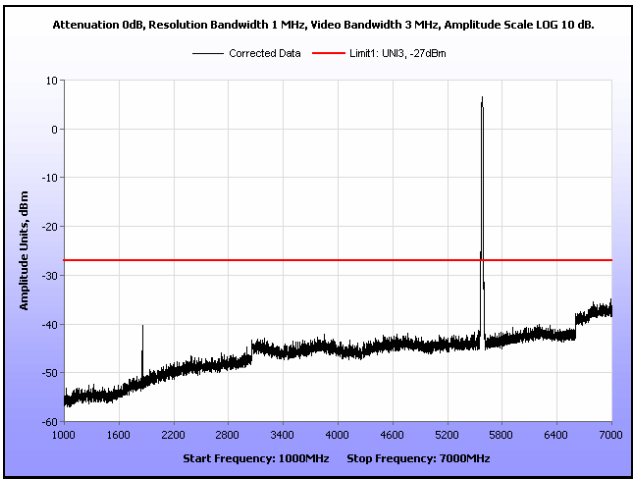
Plot 192. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5500 MHz



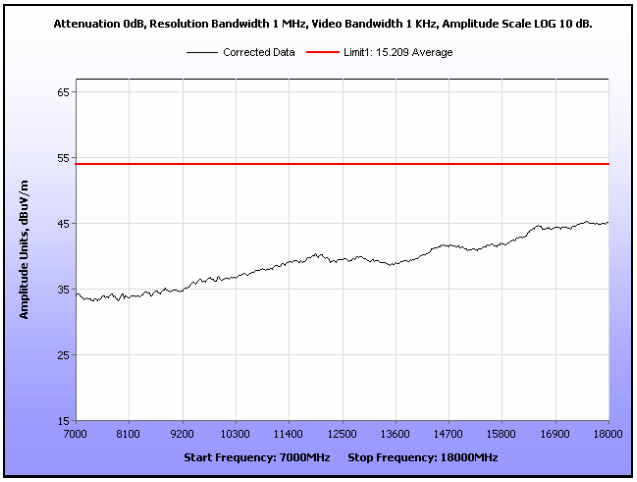
Plot 193. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5580 MHz



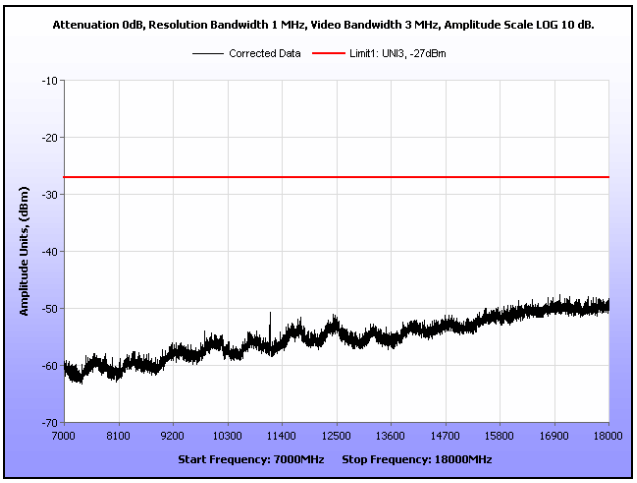
Plot 194. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5800 MHz, Average



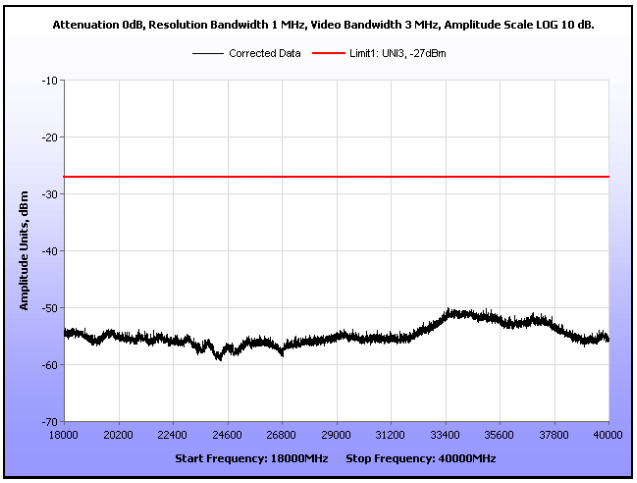
Plot 195. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5600 MHz



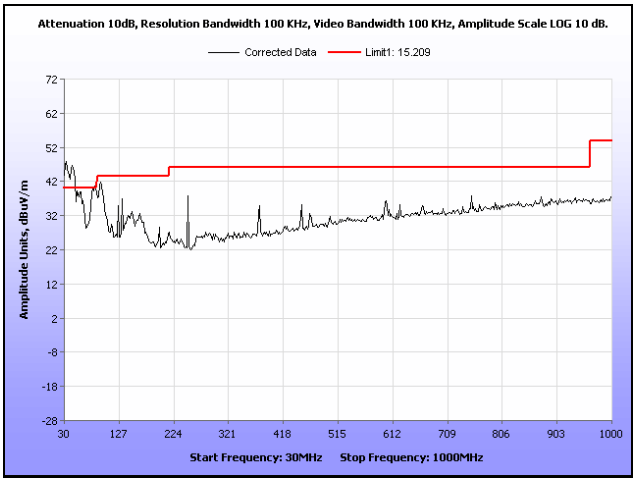
Plot 196. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5800 MHz, Average



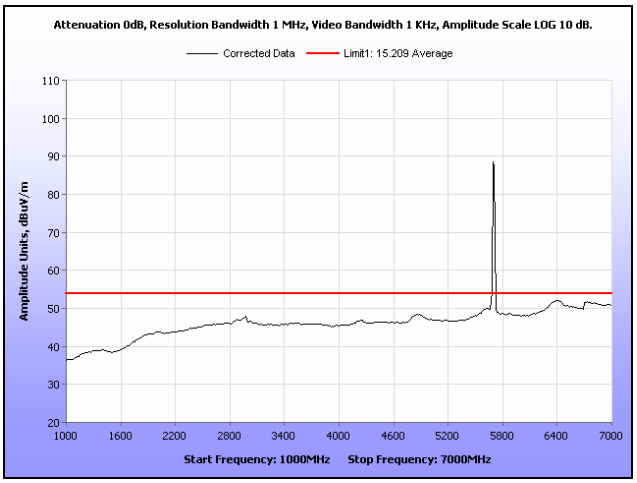
Plot 197. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5600 MHz



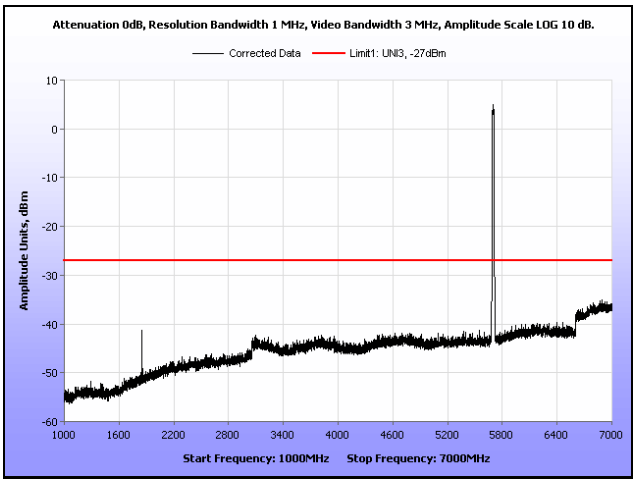
Plot 198. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5600 MHz



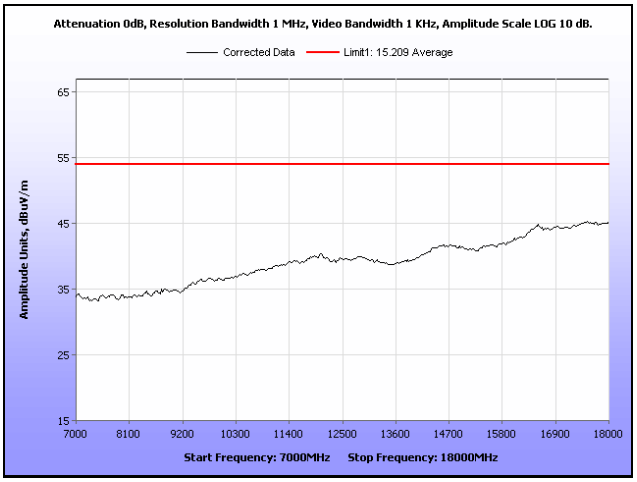
Plot 199. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11a, 5700 MHz



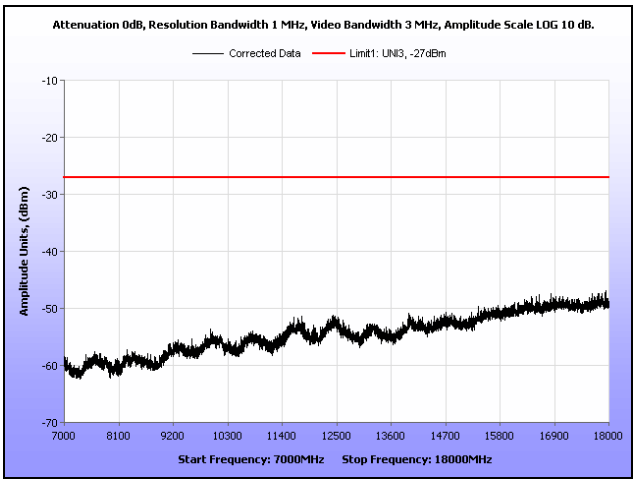
Plot 200. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5700 MHz, Average



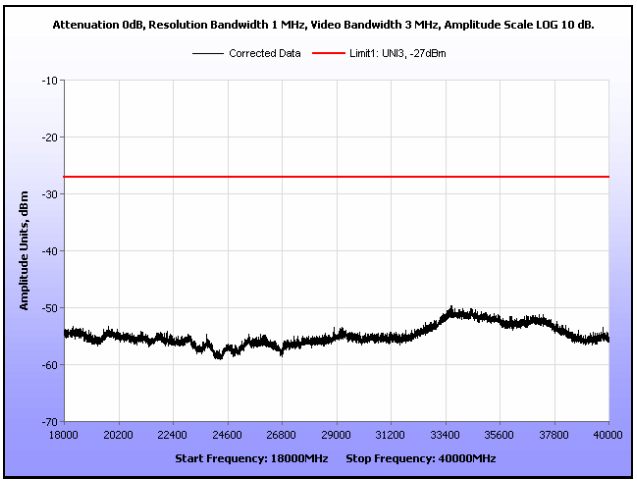
Plot 201. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11a, 5700 MHz



Plot 202. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5700 MHz, Average

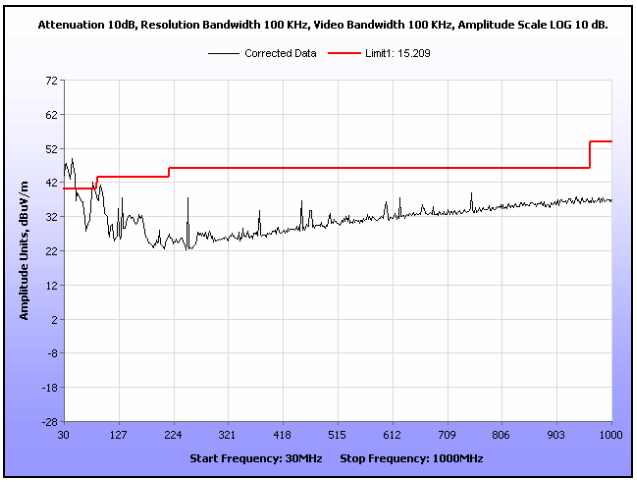


Plot 203. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11a, 5700 MHz

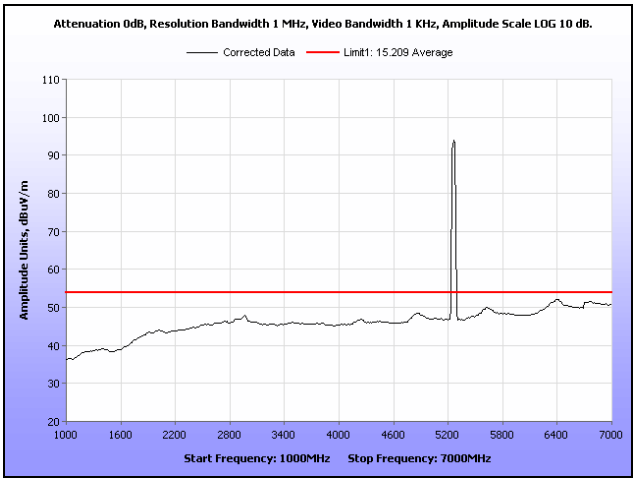


Plot 204. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11a, 5700 MHz

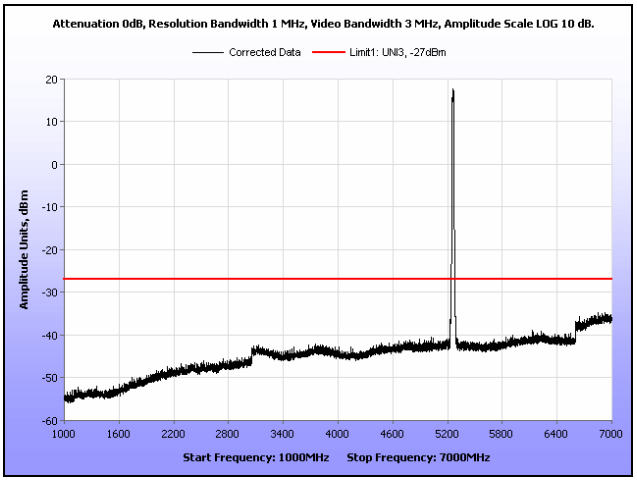
Radiated Spurious Emissions Test Results, 802.11n HT20



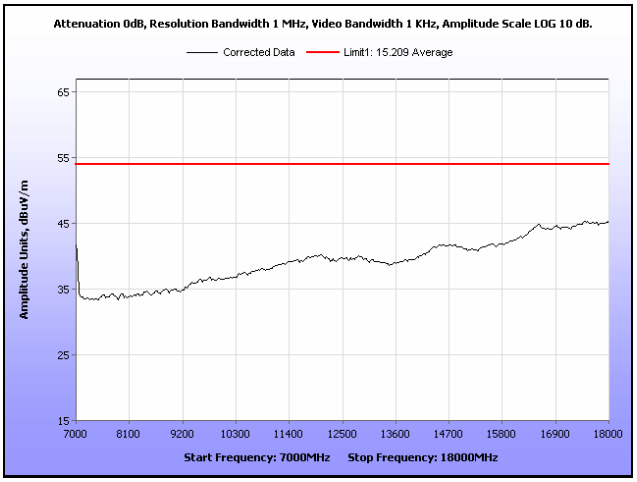
Plot 205. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5260 MHz



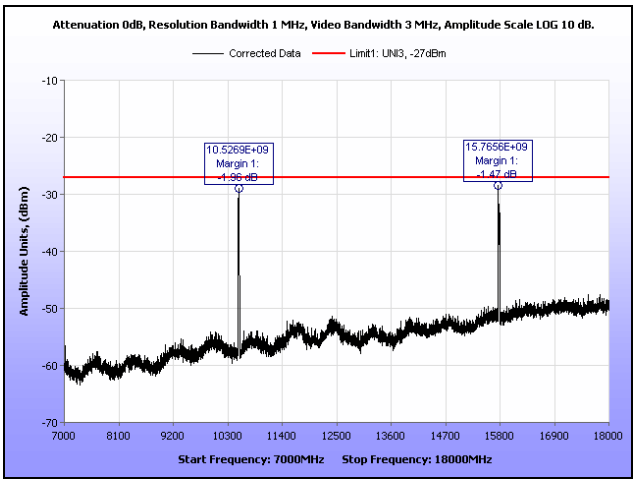
Plot 206. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5260 MHz, Average



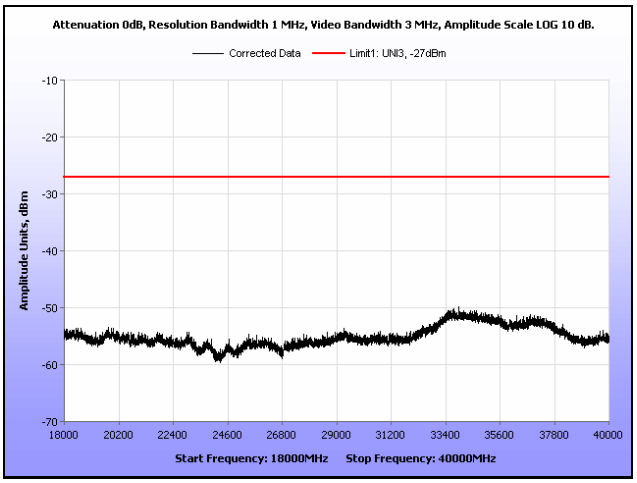
Plot 207. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5260 MHz



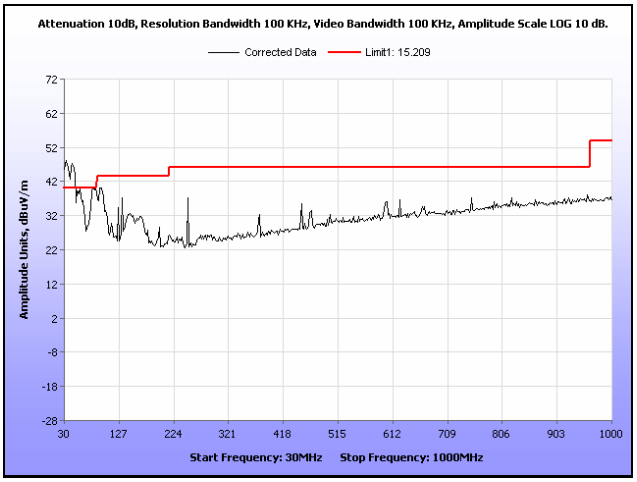
Plot 208. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5260 MHz, Average



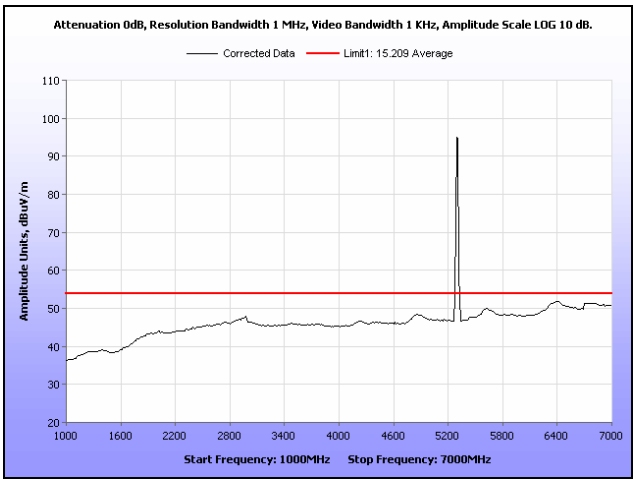
Plot 209. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5260 MHz



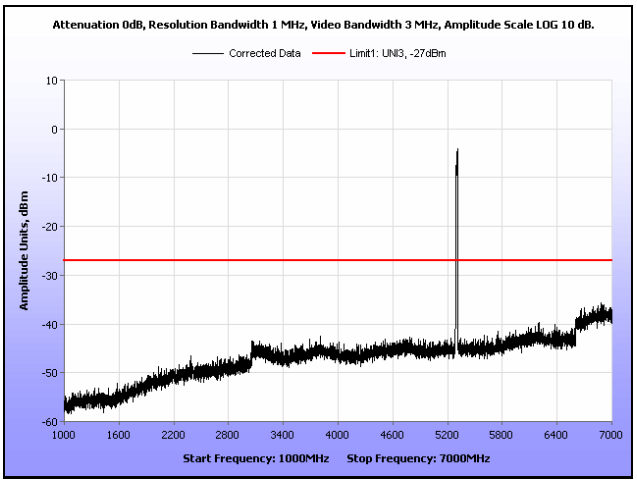
Plot 210. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5260 MHz



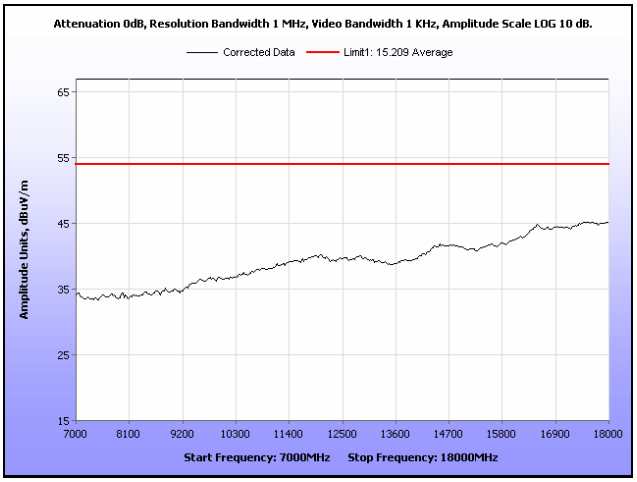
Plot 211. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5300 MHz, Average



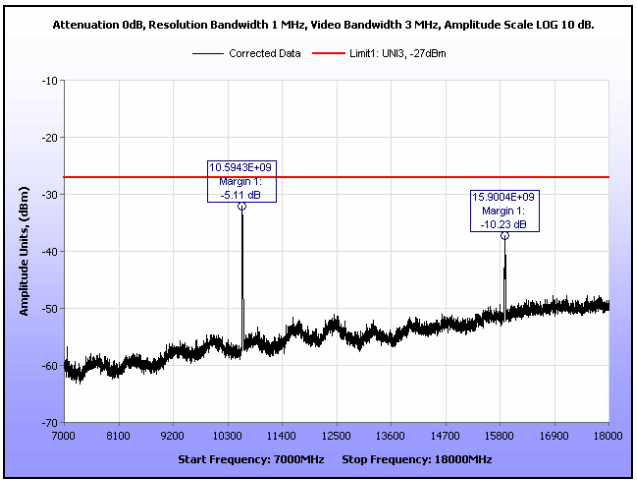
Plot 212. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5300 MHz, Average



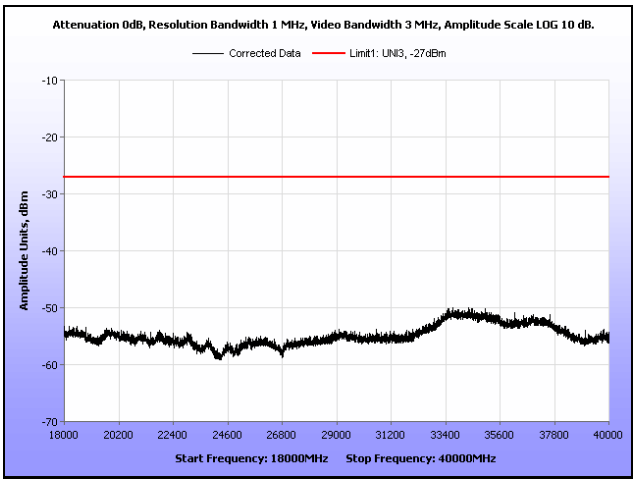
Plot 213. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5300 MHz



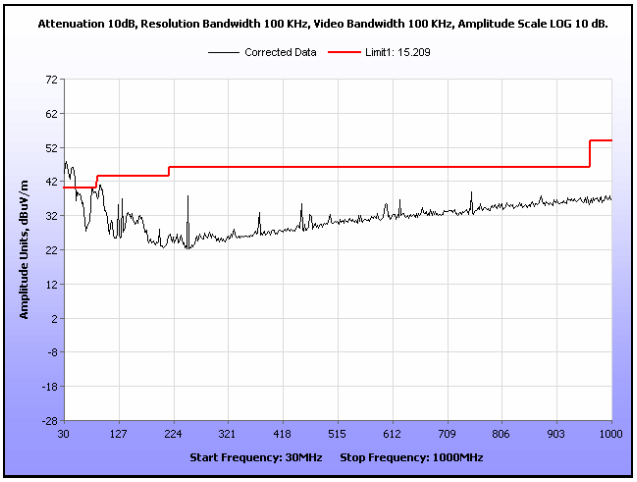
Plot 214. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5300 MHz, Average



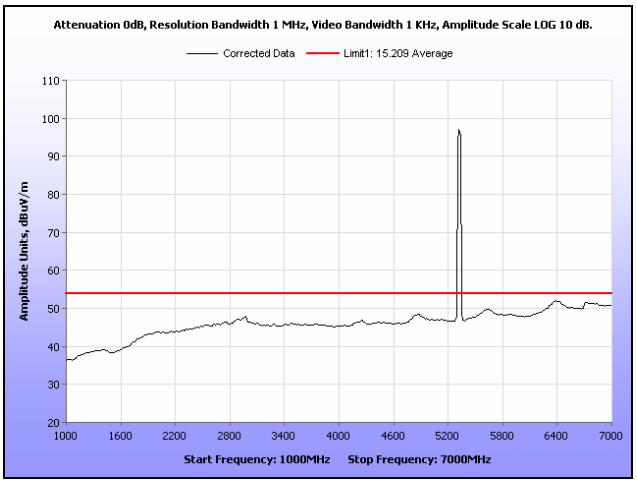
Plot 215. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5300 MHz



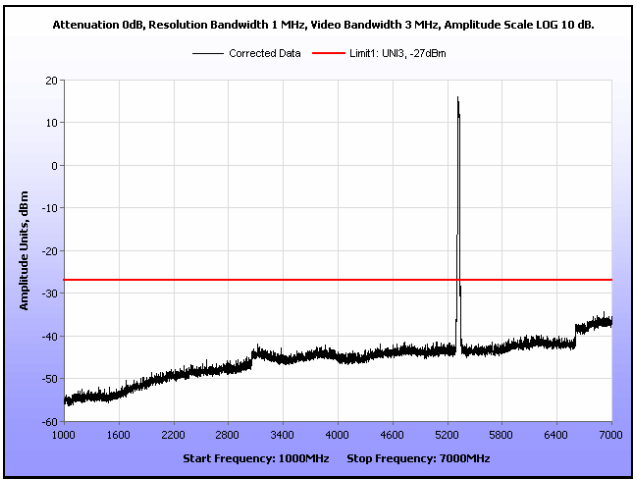
Plot 216. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5300 MHz



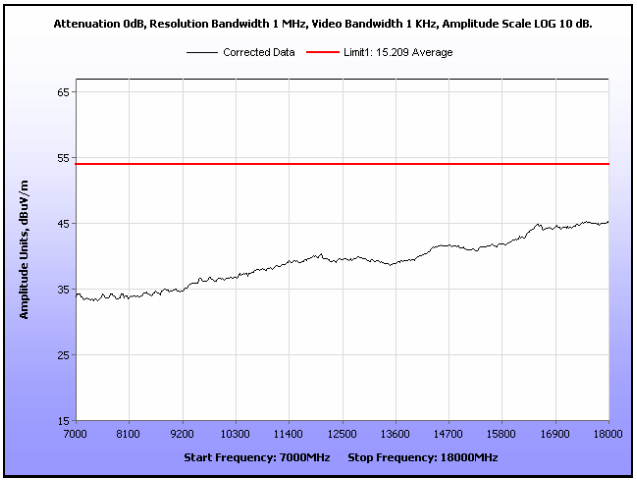
Plot 217. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5320 MHz



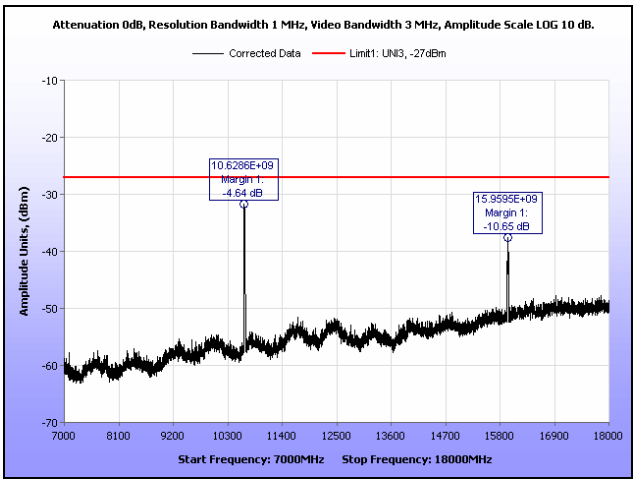
Plot 218. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5320 MHz, Average



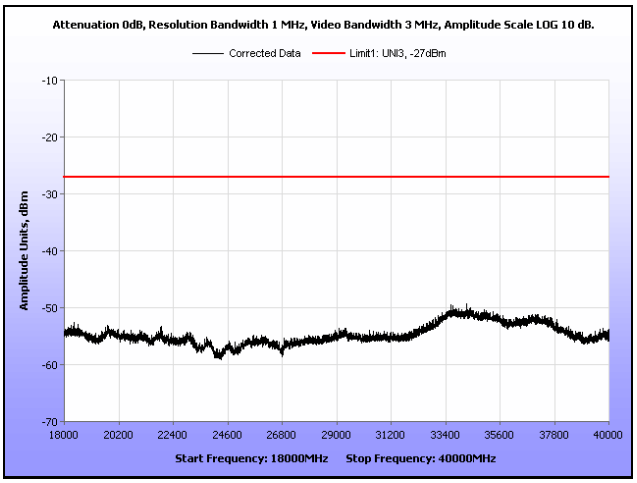
Plot 219. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5320 MHz



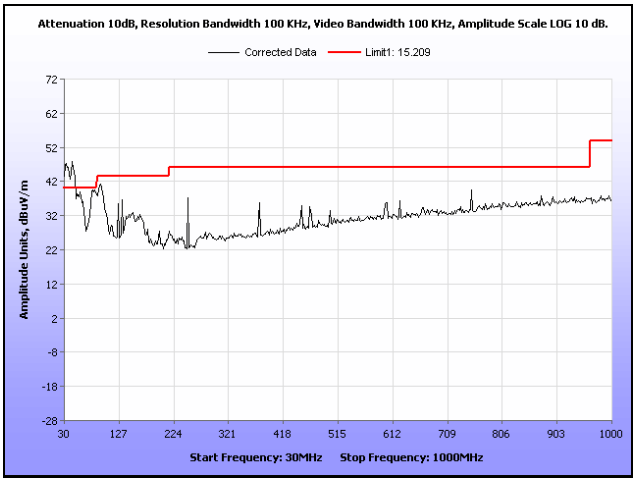
Plot 220. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5320 MHz, Average



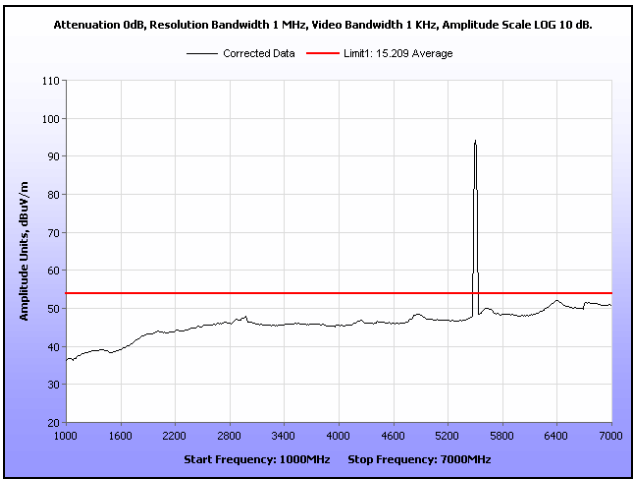
Plot 221. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5320 MHz



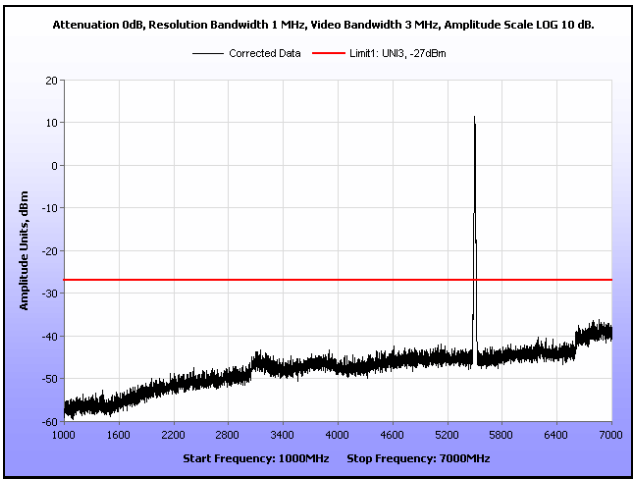
Plot 222. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5320 MHz



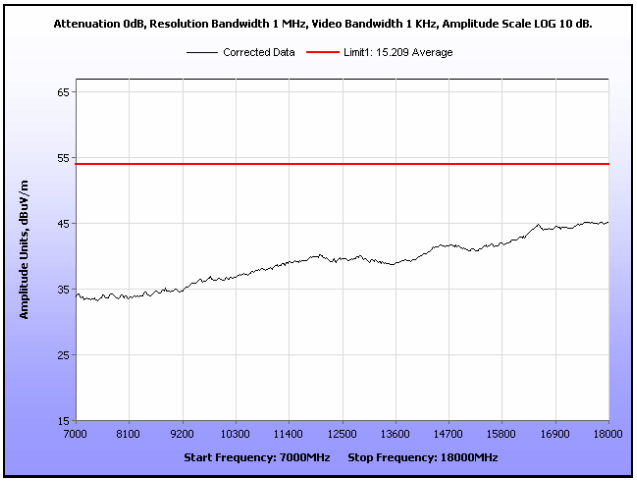
Plot 223. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5500 MHz



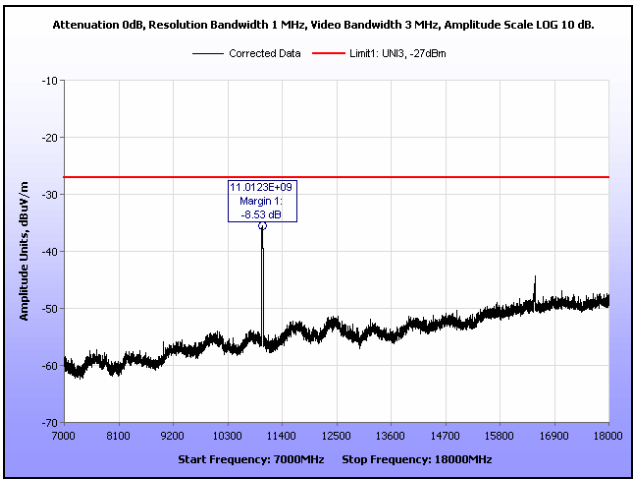
Plot 224. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5500 MHz, Average



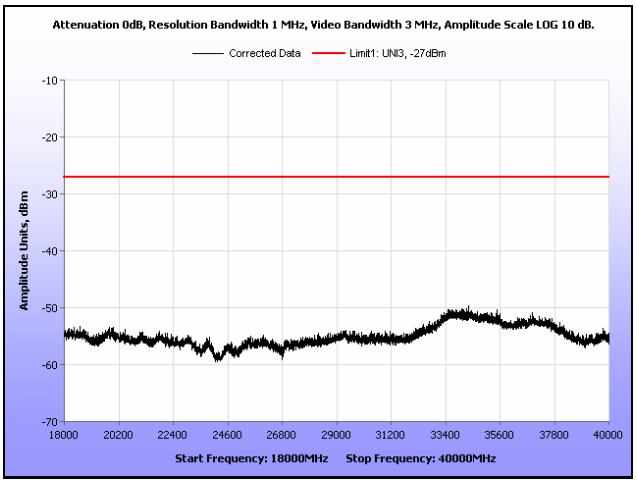
Plot 225. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5500 MHz



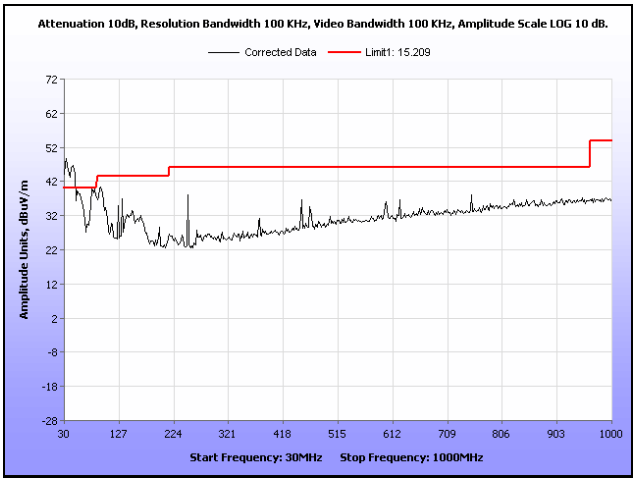
Plot 226. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5500 MHz, Average



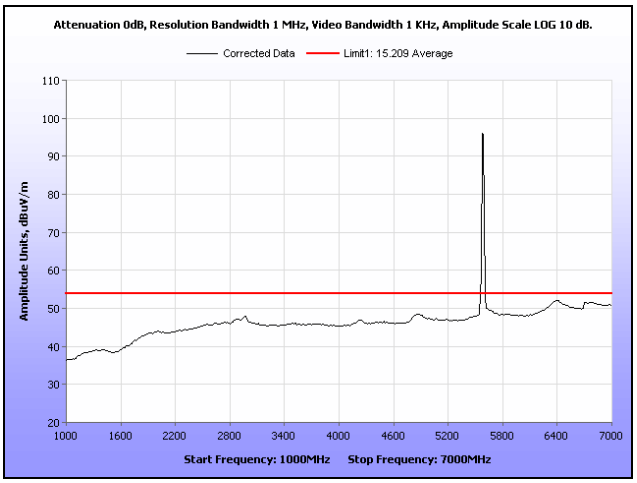
Plot 227. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5500 MHz



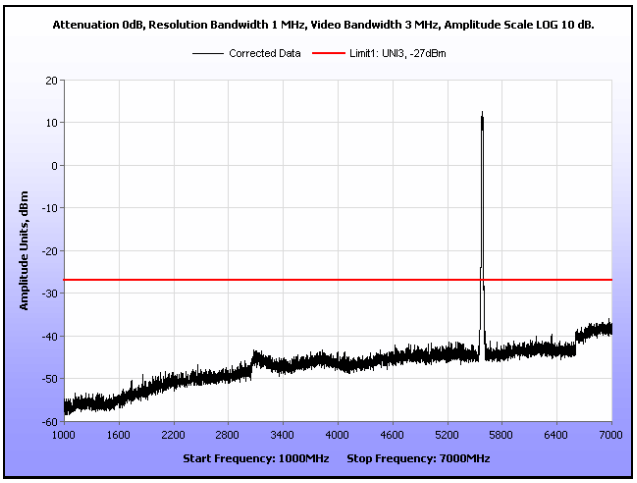
Plot 228. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5500 MHz



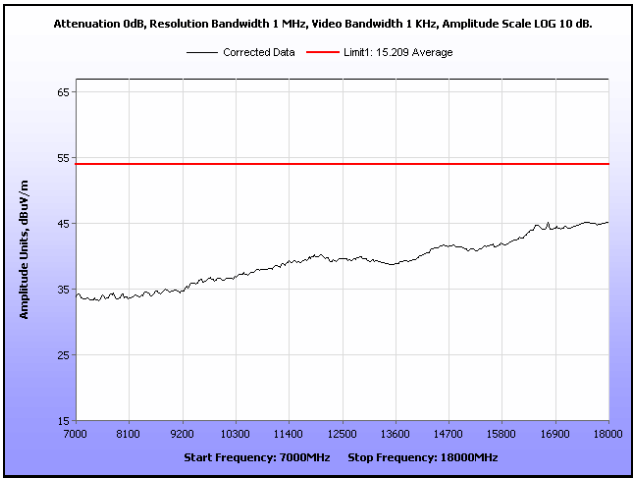
Plot 229. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5580 MHz



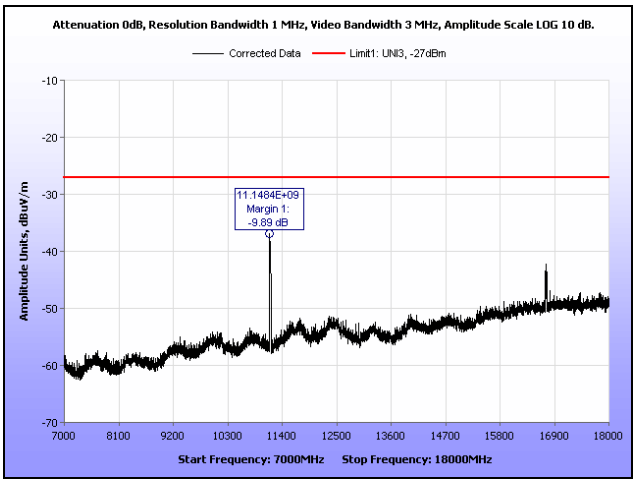
Plot 230. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5580 MHz, Average



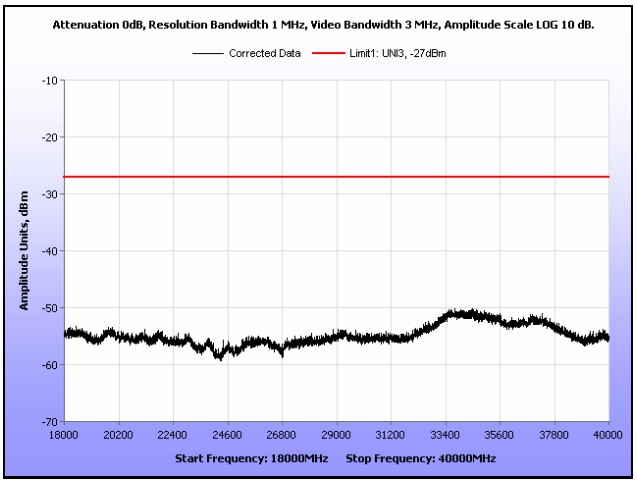
Plot 231. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5580 MHz



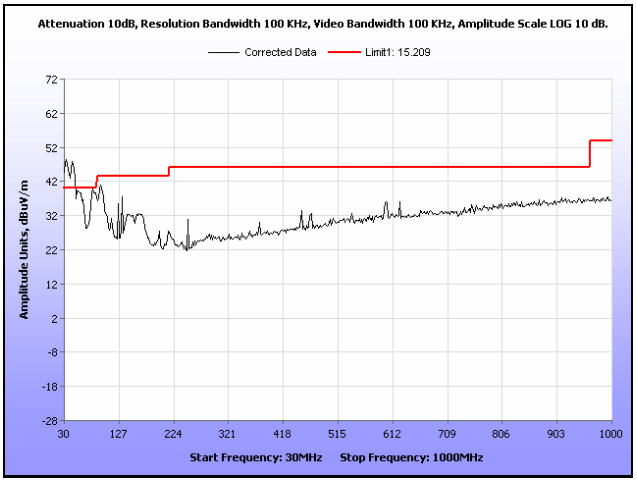
Plot 232. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5580 MHz, Average



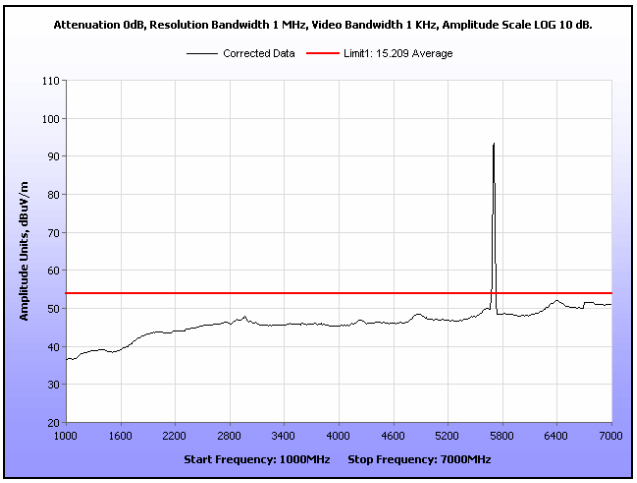
Plot 233. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5580 MHz



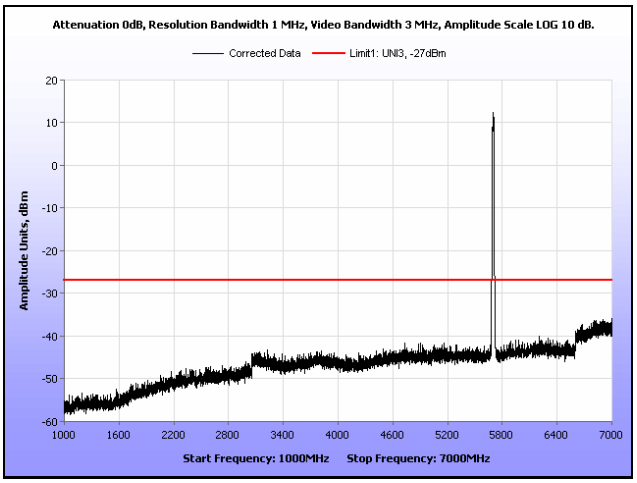
Plot 234. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5580 MHz



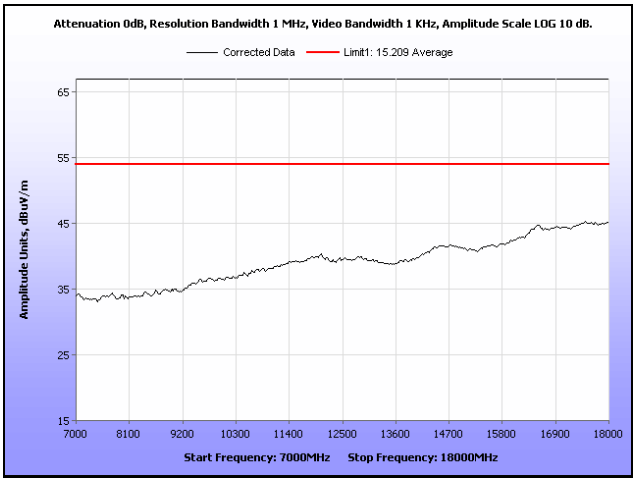
Plot 235. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT20, 5700 MHz



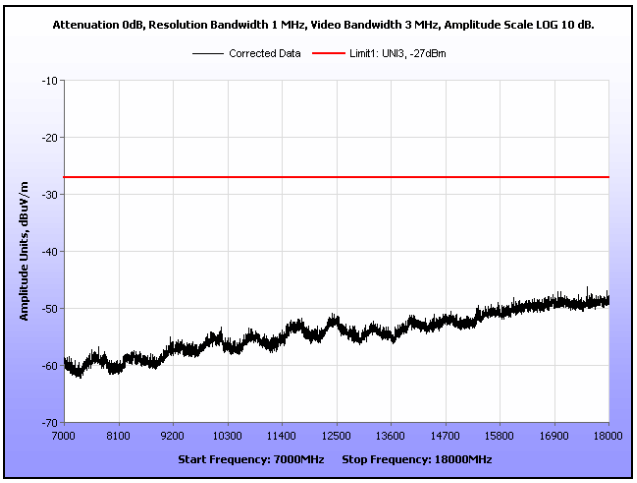
Plot 236. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5700 MHz, Average



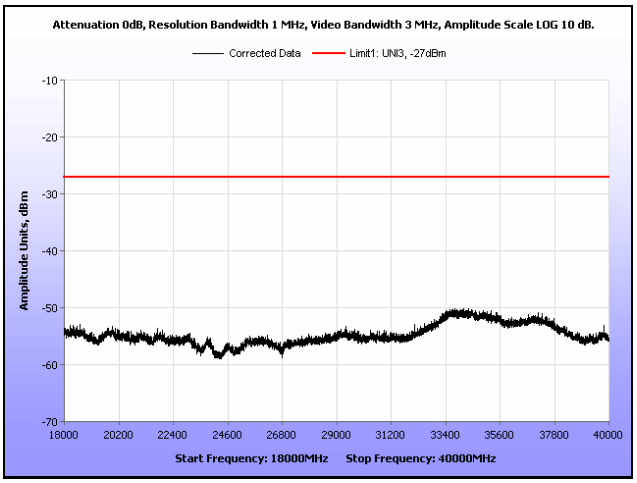
Plot 237. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT20, 5700 MHz



Plot 238. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5700 MHz, Average

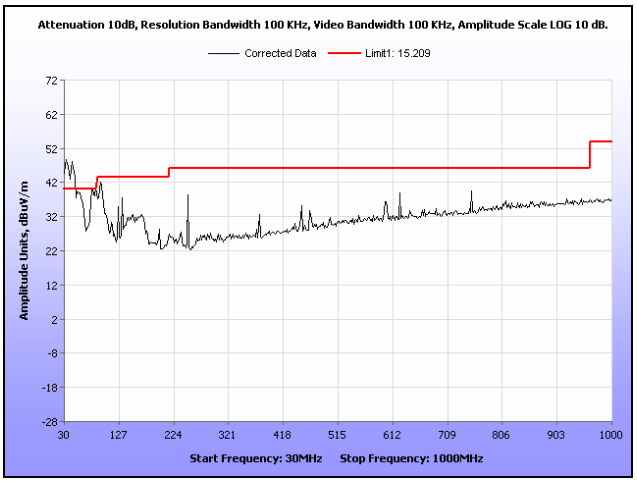


Plot 239. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT20, 5700 MHz

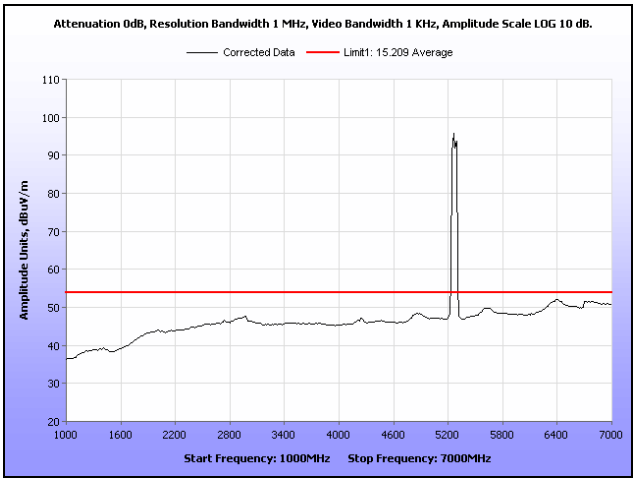


Plot 240. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT20, 5700 MHz

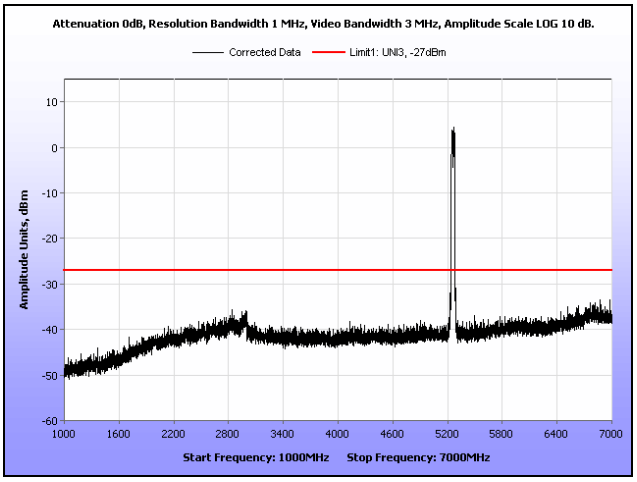
Radiated Spurious Emissions Test Results, 802.11n HT40



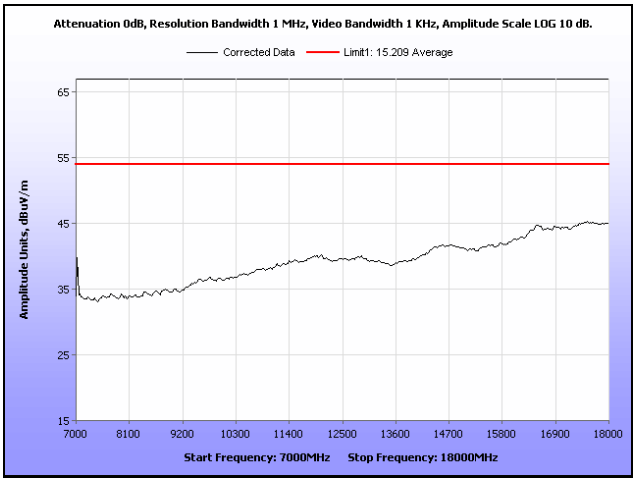
Plot 241. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5270 MHz



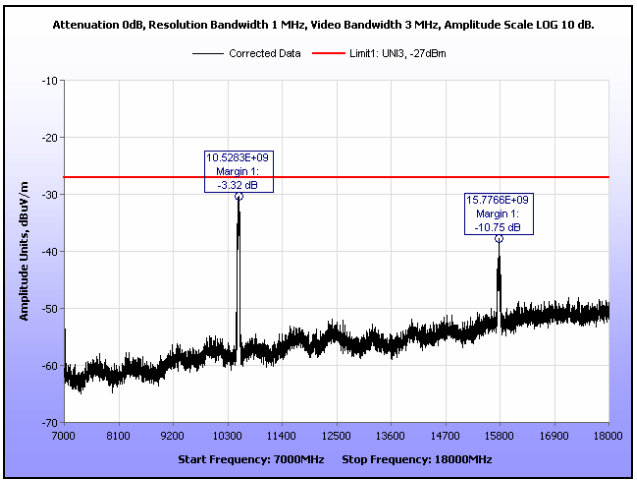
Plot 242. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5270 MHz, Average



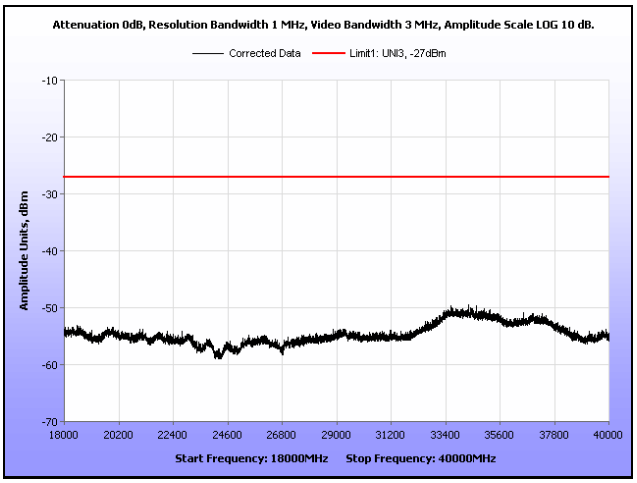
Plot 243. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5270 MHz



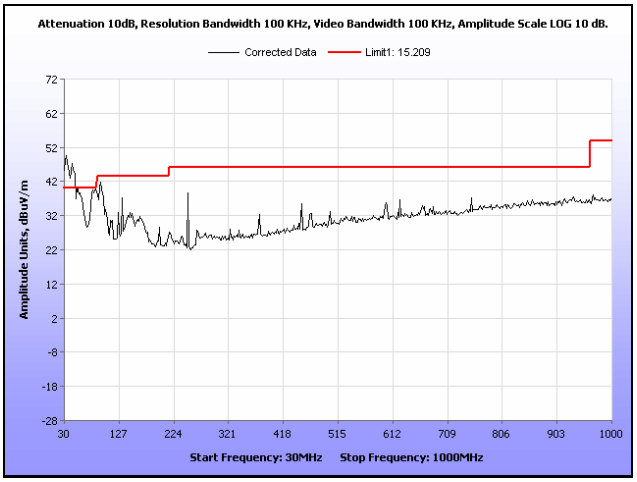
Plot 244. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5270 MHz, Average



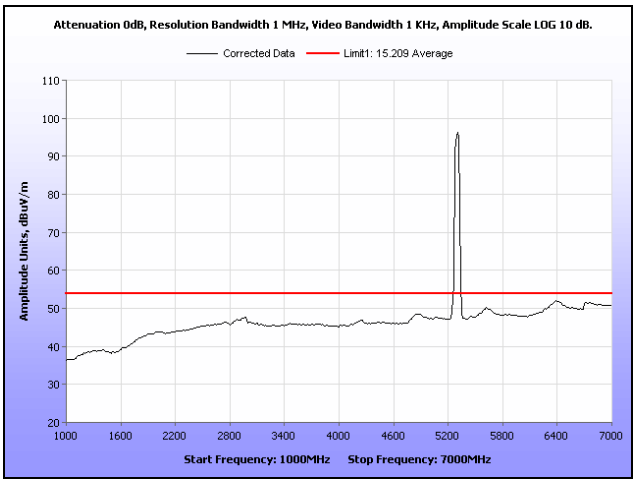
Plot 245. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5270 MHz



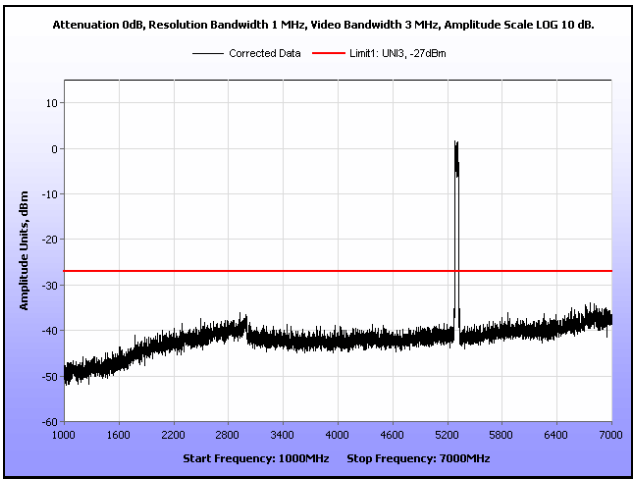
Plot 246. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5270 MHz



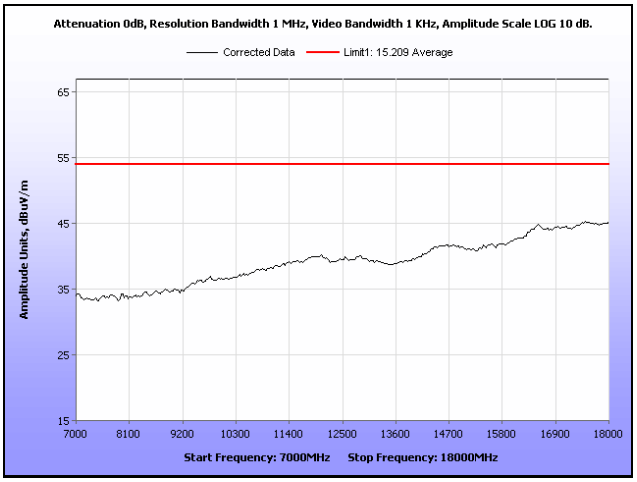
Plot 247. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5300 MHz



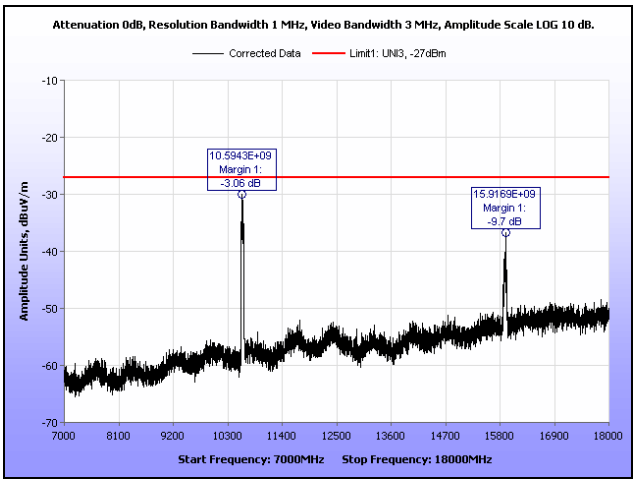
Plot 248. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5300 MHz, Average



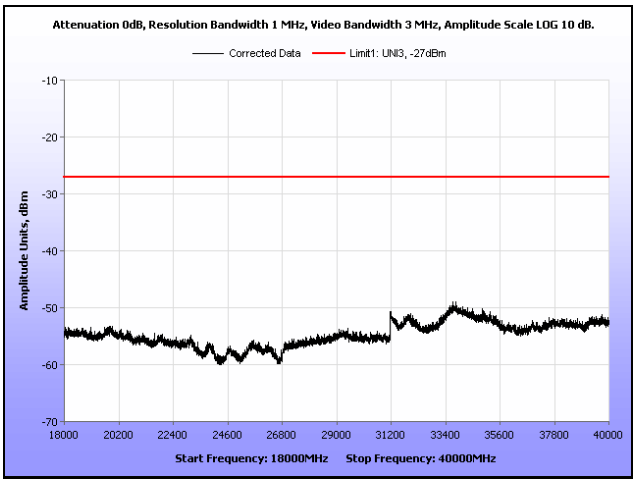
Plot 249. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5300 MHz



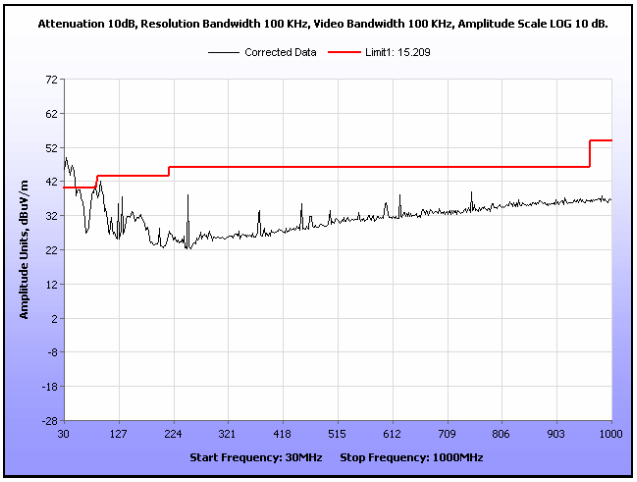
Plot 250. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5300 MHz, Average



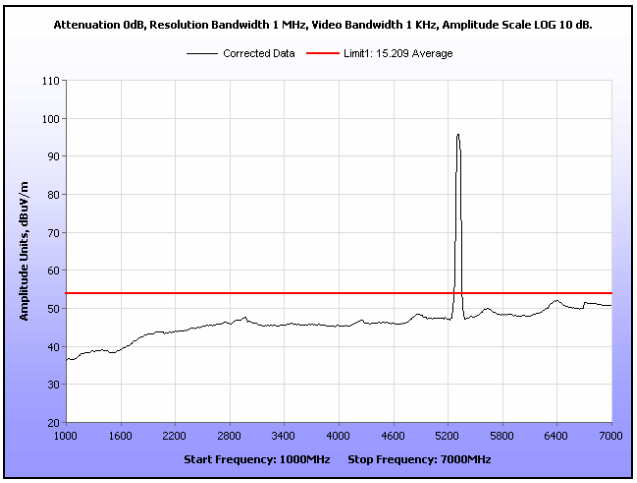
Plot 251. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5300 MHz



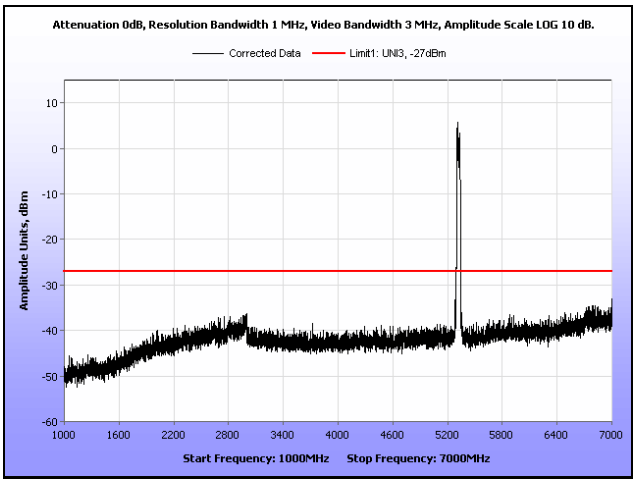
Plot 252. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5300 MHz



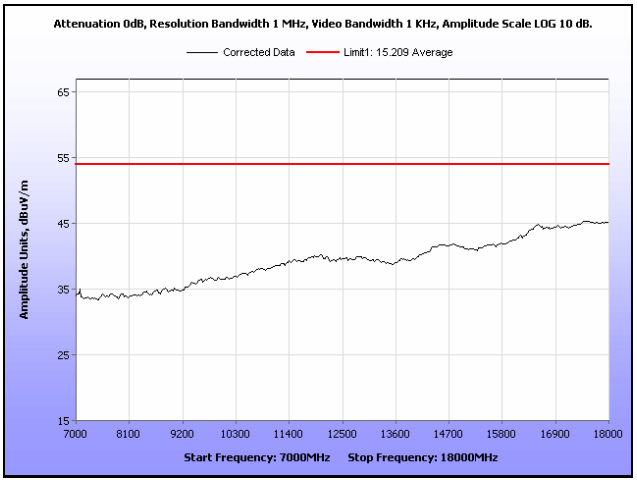
Plot 253. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5310 MHz



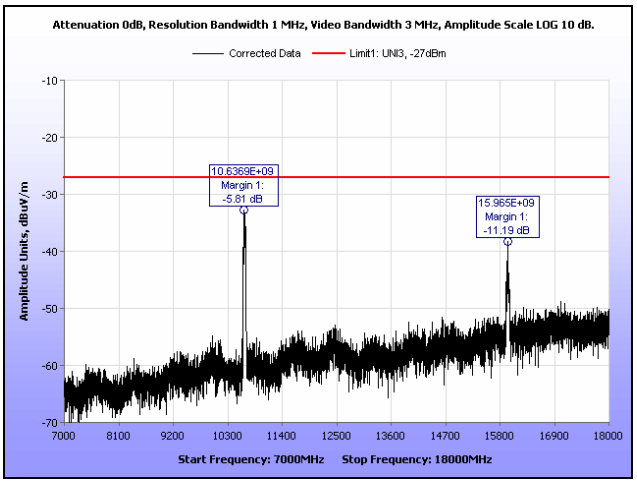
Plot 254. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5310 MHz, Average



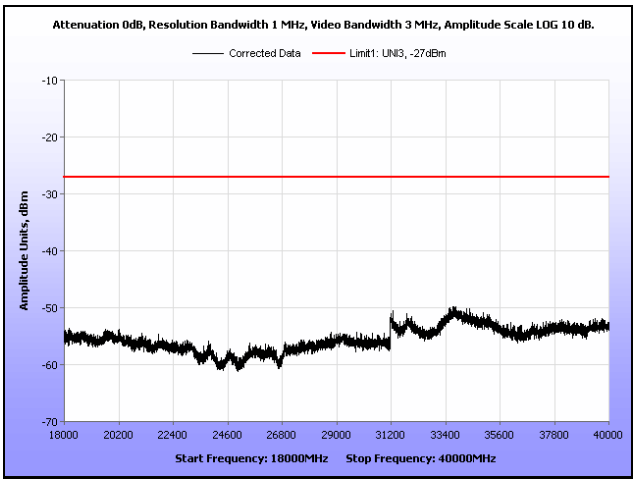
Plot 255. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5310 MHz



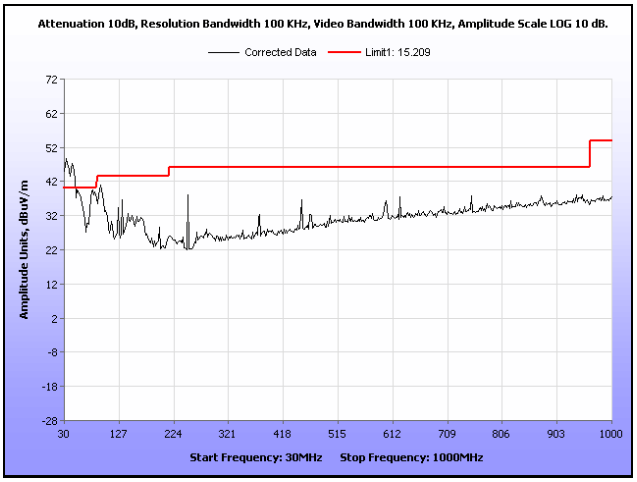
Plot 256. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5310 MHz, Average



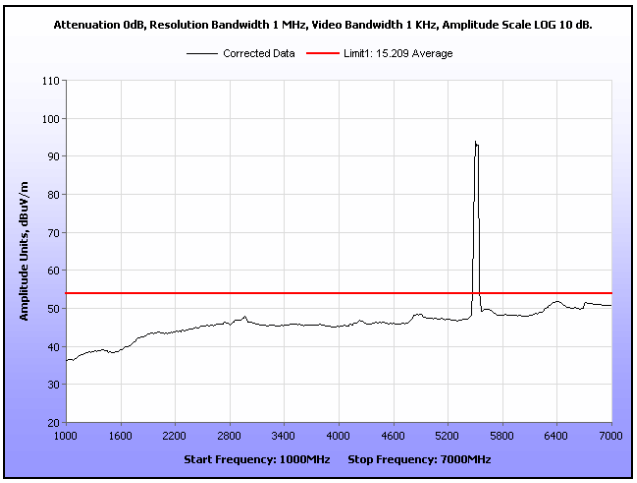
Plot 257. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5310 MHz



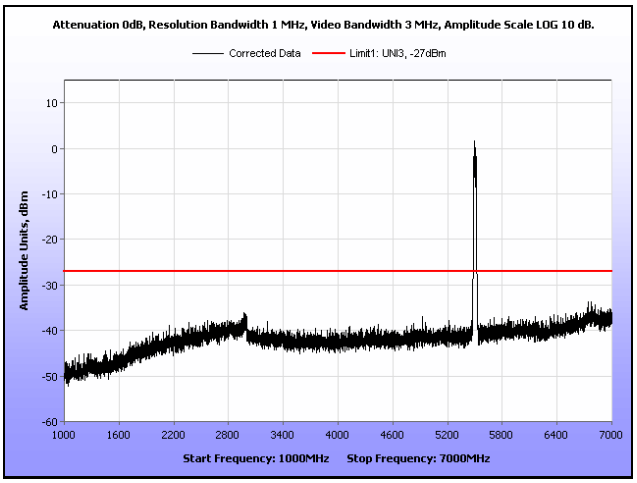
Plot 258. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5310 MHz



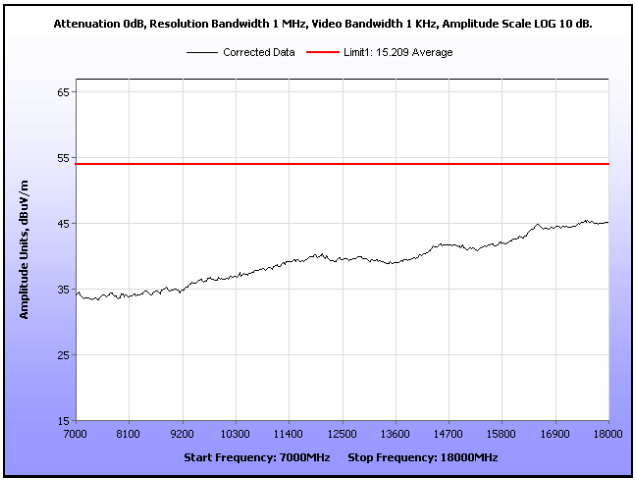
Plot 259. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5510 MHz



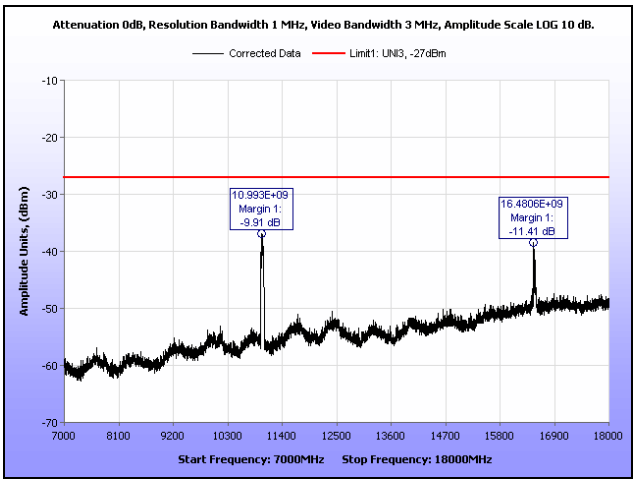
Plot 260. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5510 MHz, Average



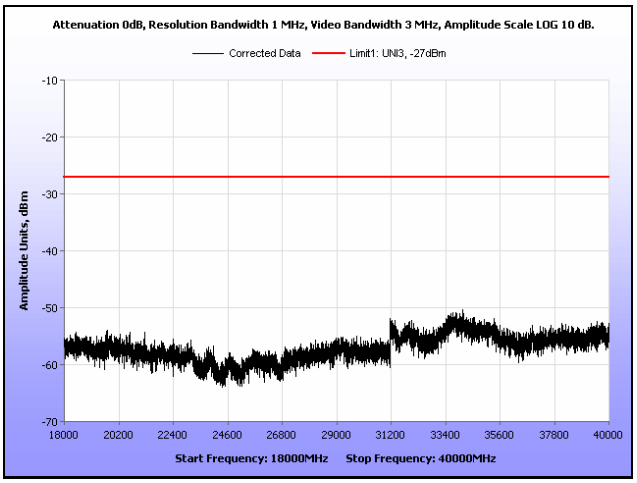
Plot 261. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5510 MHz



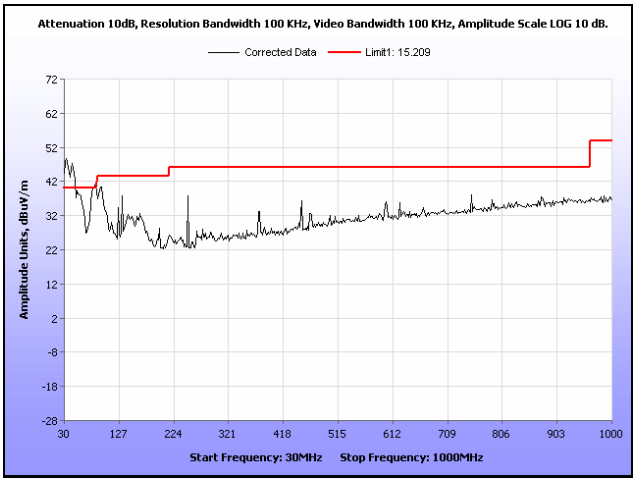
Plot 262. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5510 MHz, Average



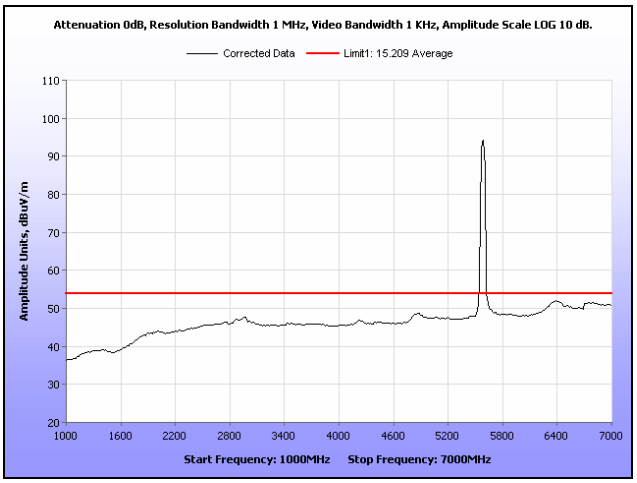
Plot 263. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5510 MHz



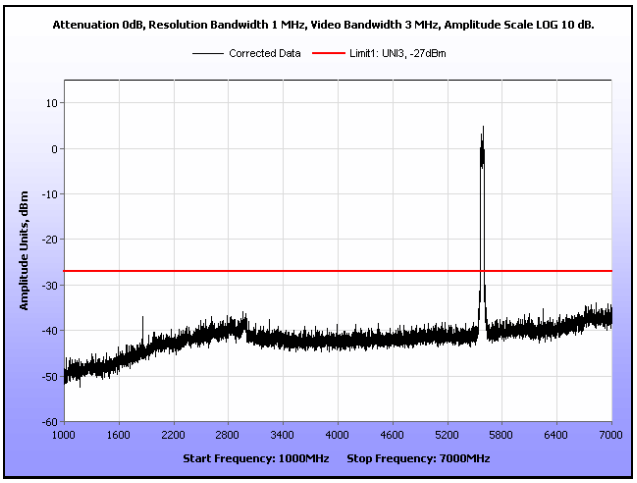
Plot 264. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5510 MHz



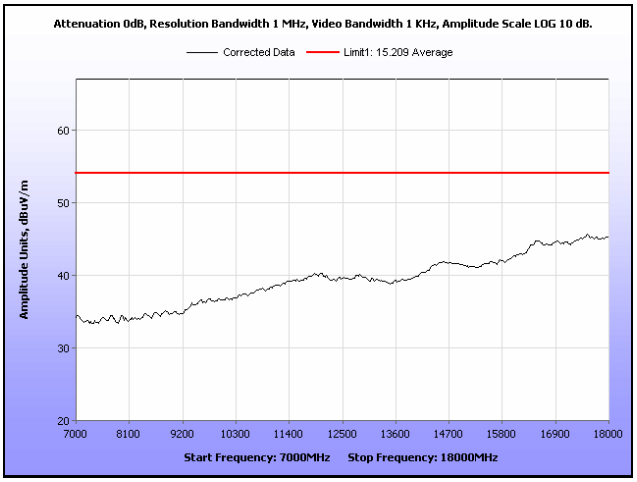
Plot 265. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5580 MHz



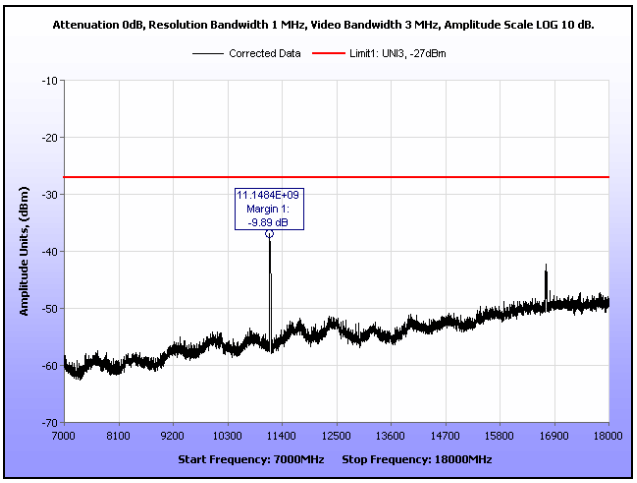
Plot 266. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5580 MHz, Average



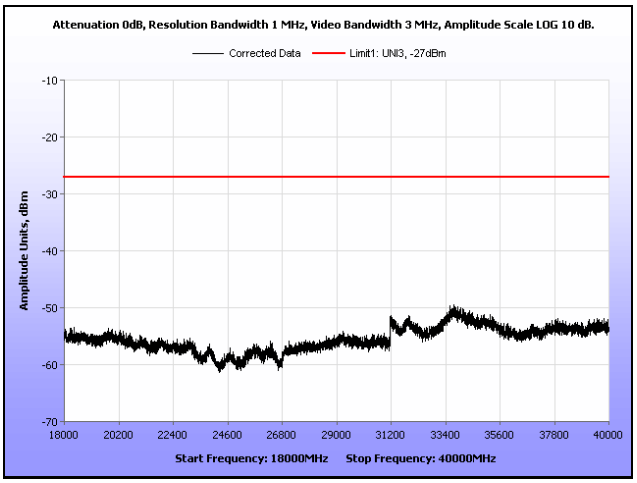
Plot 267. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5580 MHz



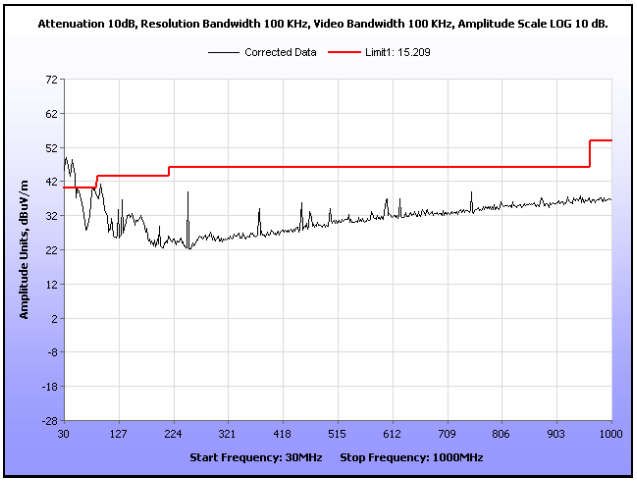
Plot 268. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5580 MHz, Average



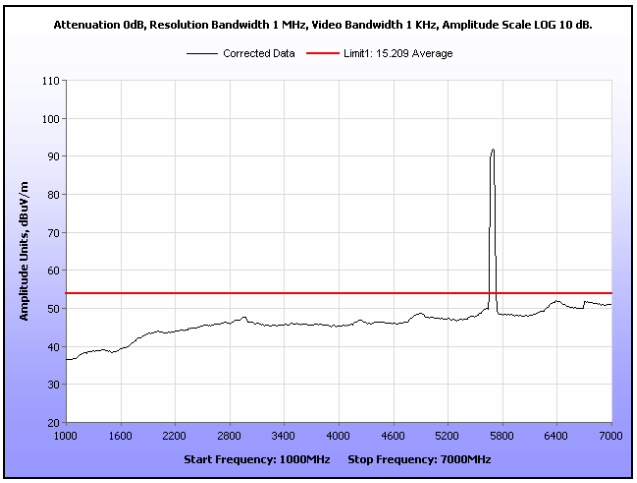
Plot 269. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5580 MHz



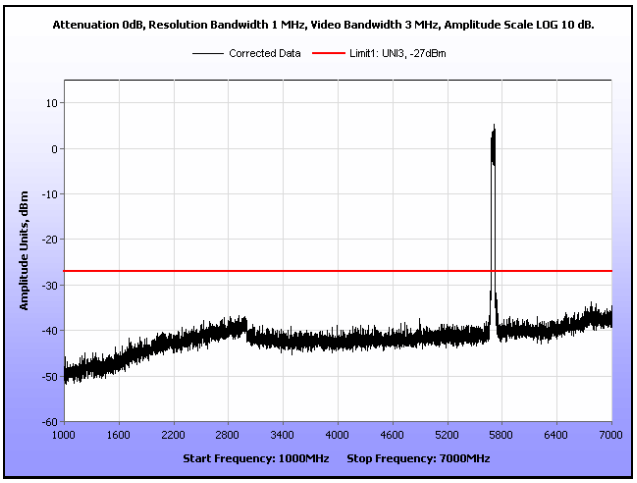
Plot 270. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5580 MHz



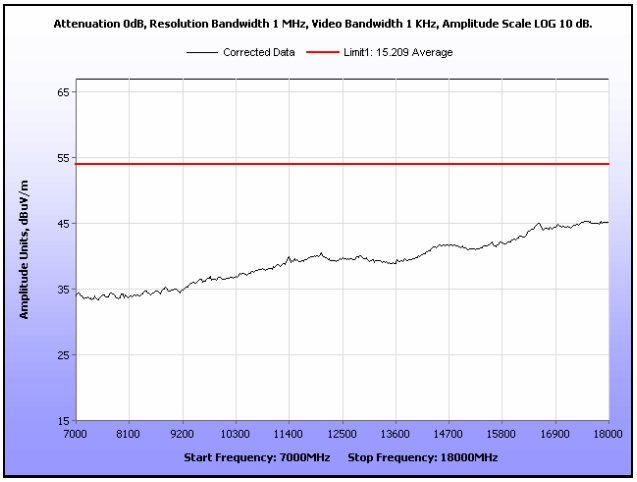
Plot 271. Radiated Spurious Emissions, 30 MHz – 1 GHz, 802.11n HT40, 5690 MHz



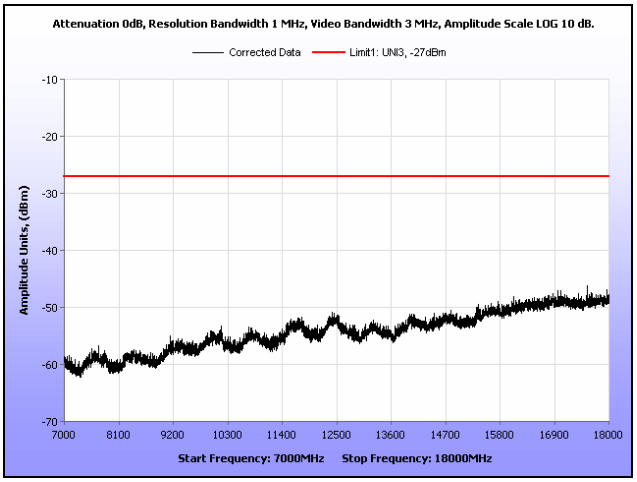
Plot 272. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5690 MHz, Average



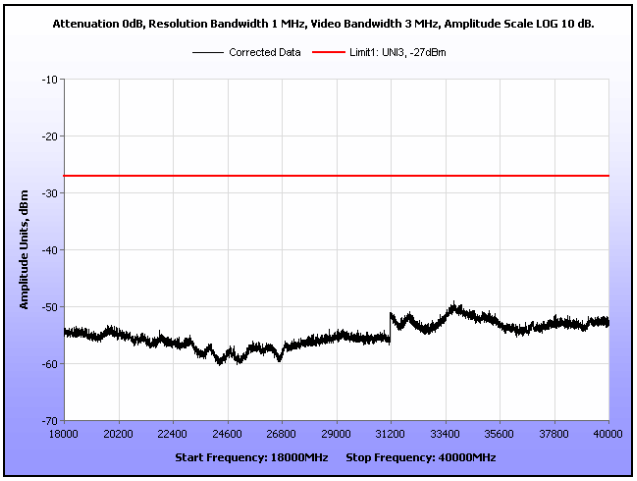
Plot 273. Radiated Spurious Emissions, 1 GHz – 7 GHz, 802.11n HT40, 5670 MHz



Plot 274. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5690 MHz, Average

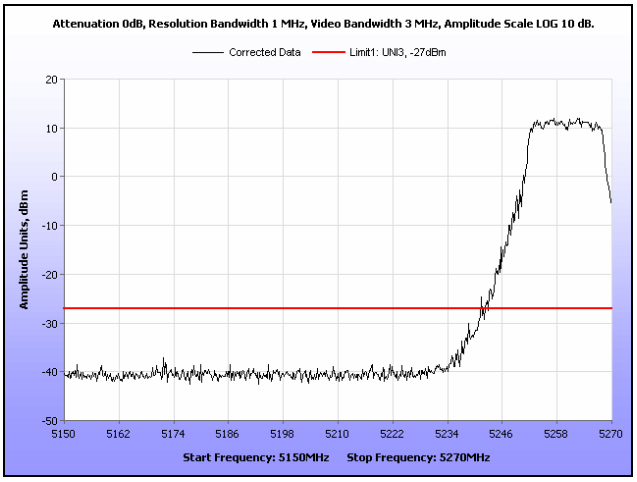


Plot 275. Radiated Spurious Emissions, 7 GHz – 18 GHz, 802.11n HT40, 5670 MHz

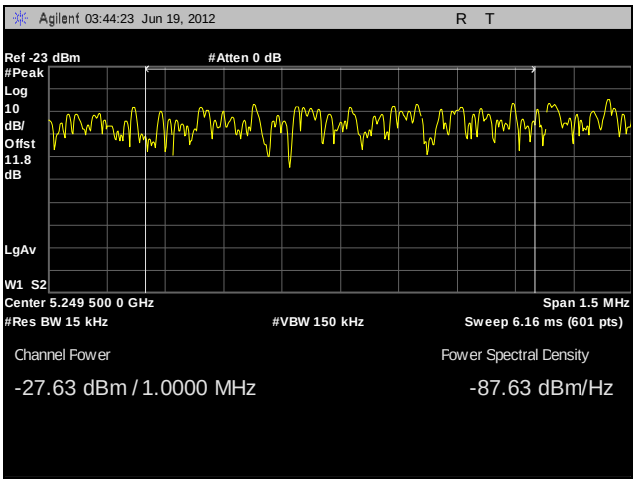


Plot 276. Radiated Spurious Emissions, 18 GHz – 40 GHz, 802.11n HT40, 5670 MHz

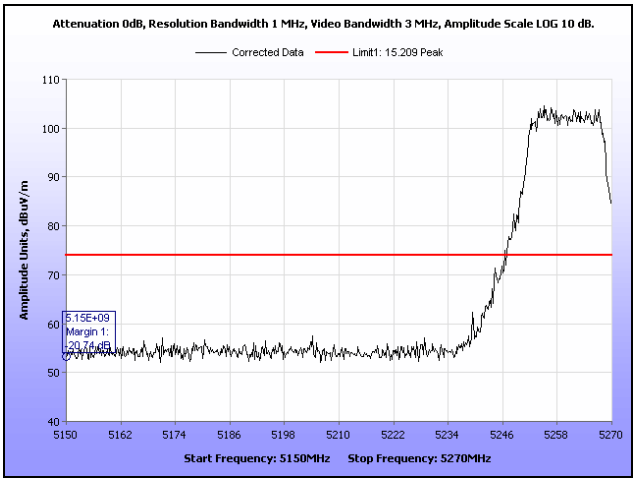
§15.407 (b)(3) Radiated Band Edge
Radiated Band Edge Test Results, 802.11a



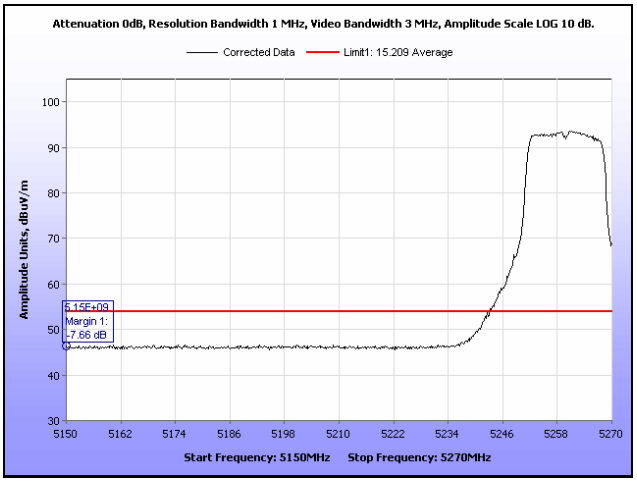
Plot 277. Radiated Band Edge, 802.11a, 5260 MHz



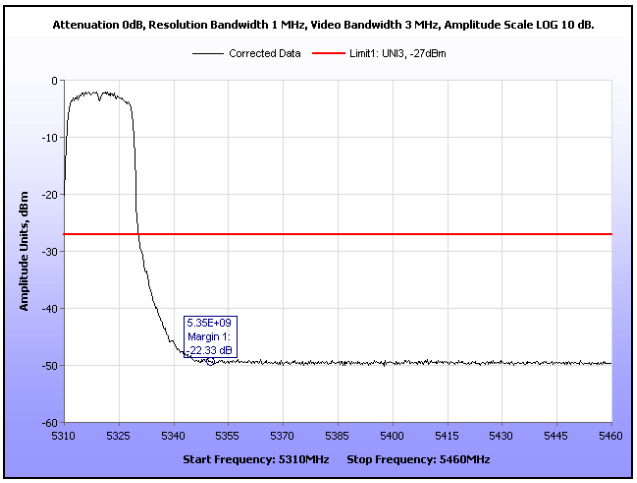
Plot 278. Radiated Band Edge, 802.11a, 5260 MHz, 1 MHz Itegration



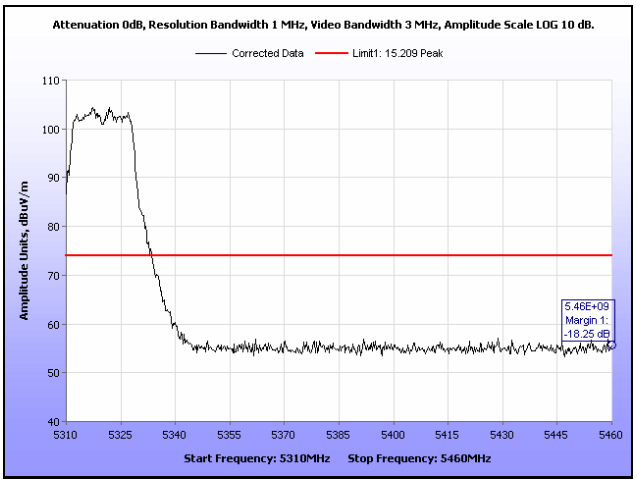
Plot 279. Radiated Band Edge, 802.11a, 5260 MHz, Peak



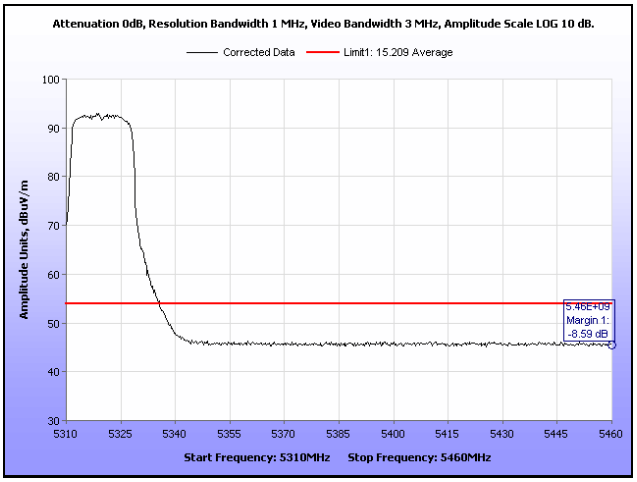
Plot 280. Radiated Band Edge, 802.11a, 5260 MHz, Average



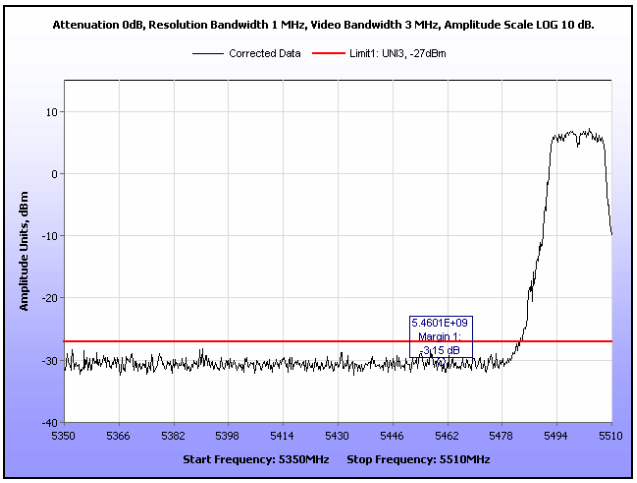
Plot 281. Radiated Band Edge, 802.11a, 5320 MHz



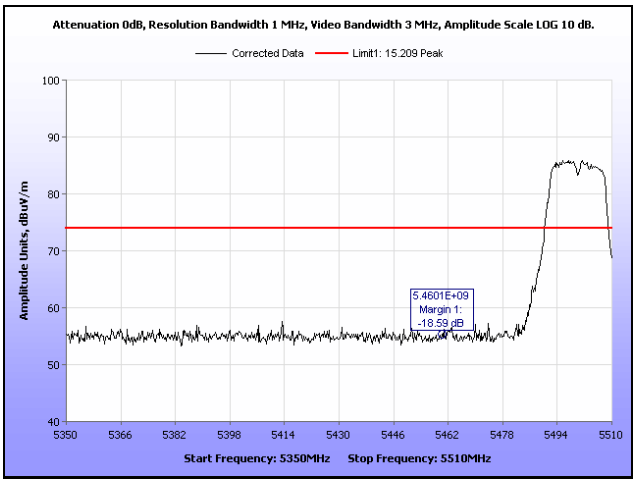
Plot 282. Radiated Restricted Band, 802.11a, 5320 MHz, Peak



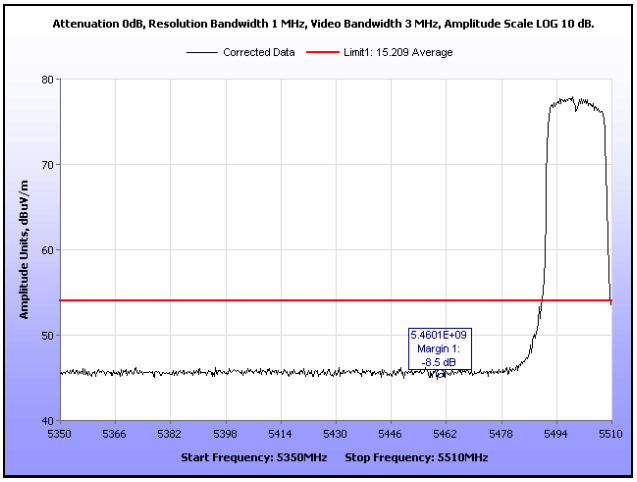
Plot 283. Radiated Restricted Band, 802.11a, 5320 MHz, Average



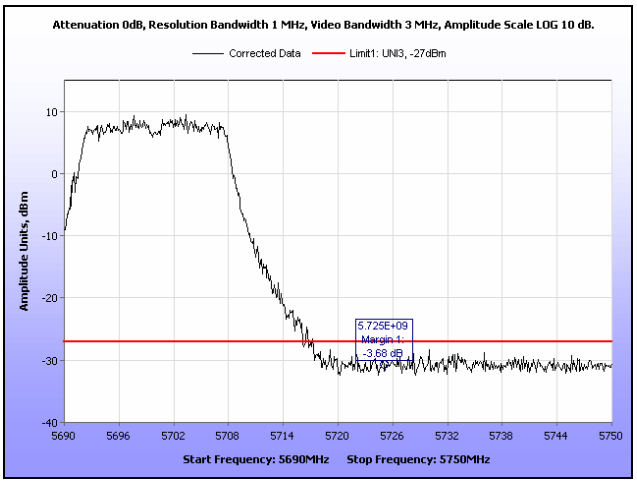
Plot 284. Radiated Band Edge, 802.11a, 5500 MHz



Plot 285. Radiated Restricted Band, 802.11a, 5500 MHz, Peak

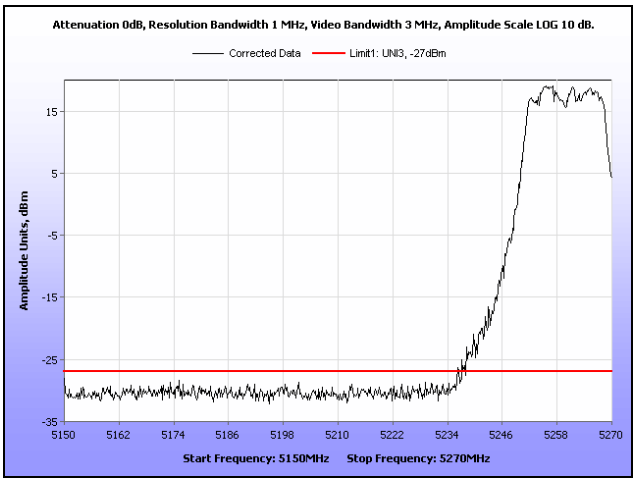


Plot 286. Radiated Restricted Band, 802.11a, 5500 MHz, Average

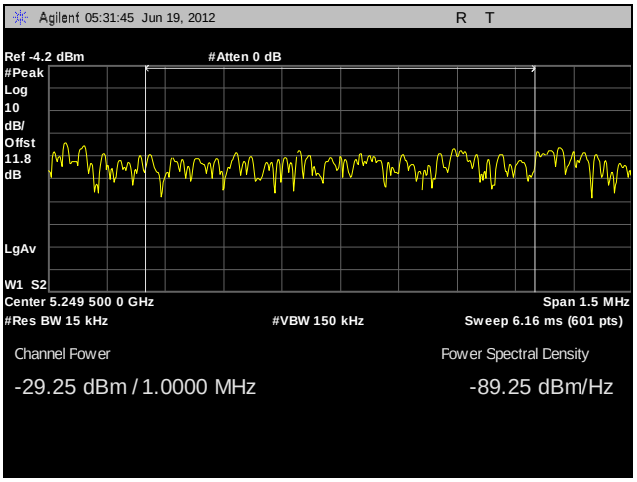


Plot 287. Radiated Band Edge, 802.11a, 5700 MHz

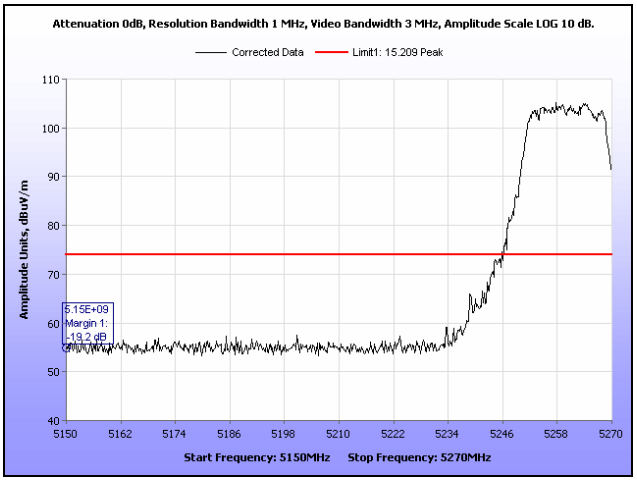
Radiated Band Edge Test Results, 802.11n HT20



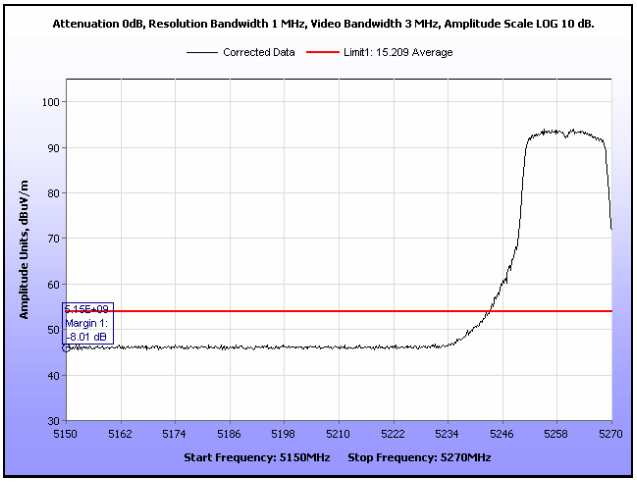
Plot 288. Radiated Band Edge, 802.11n HT20, 5260 MHz



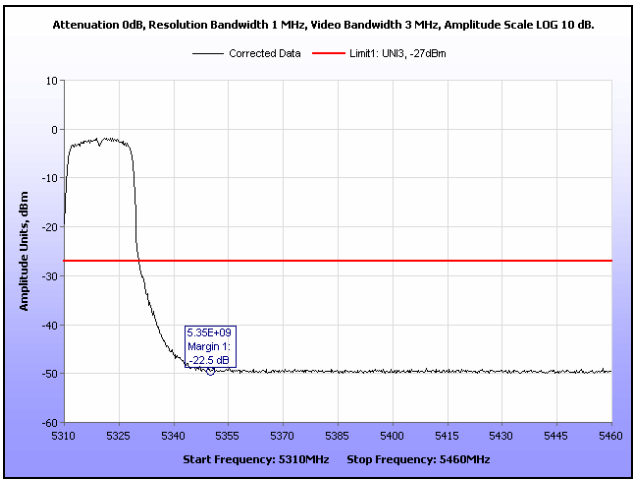
Plot 289. Radiated Band Edge, 802.11n HT20, 5260 MHz, 1 MHz Itegration



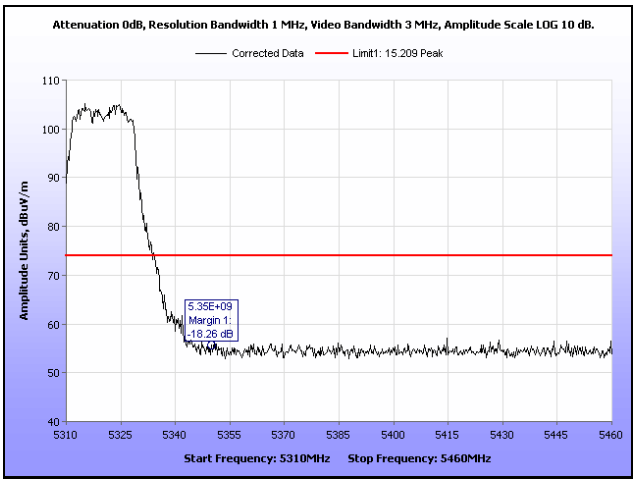
Plot 290. Radiated Band Edge, 802.11n HT20, 5260 MHz, Peak



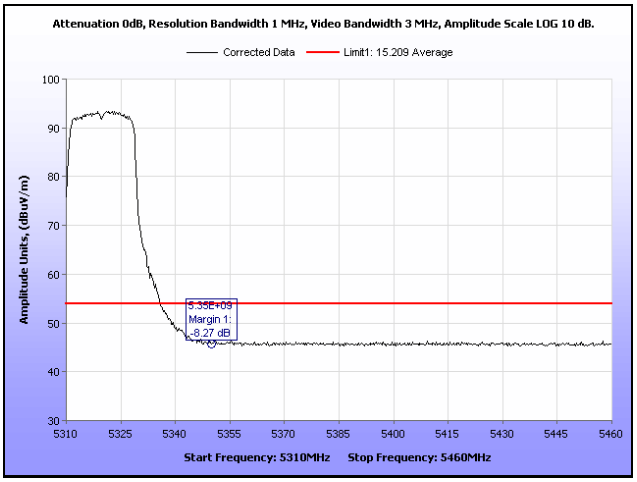
Plot 291. Radiated Band Edge, 802.11n HT20, 5260 MHz, Average



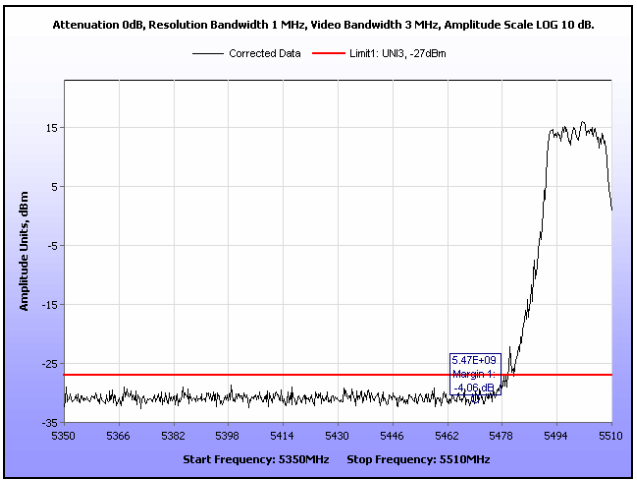
Plot 292. Radiated Band Edge, 802.11n HT20, 5320 MHz



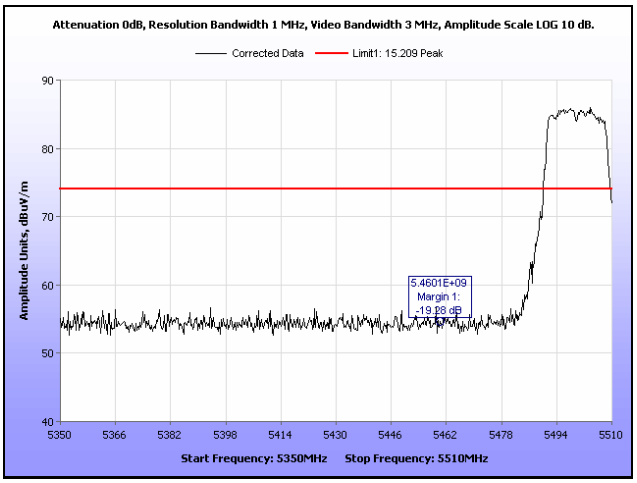
Plot 293. Radiated Restricted Band, 802.11n HT20, 5320 MHz, Peak



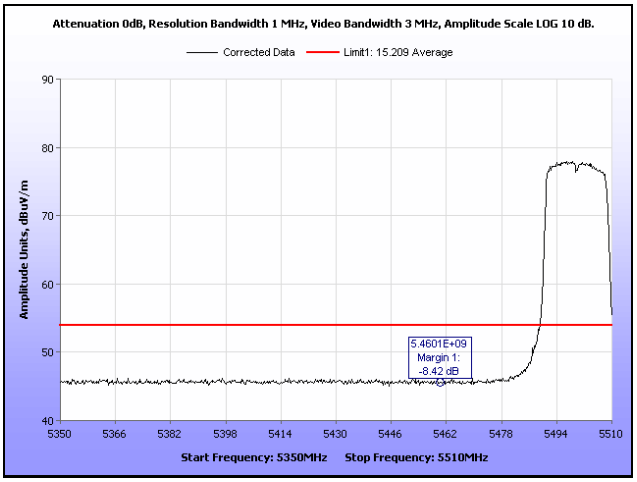
Plot 294. Radiated Restricted Band, 802.11n HT20, 5320 MHz, Average



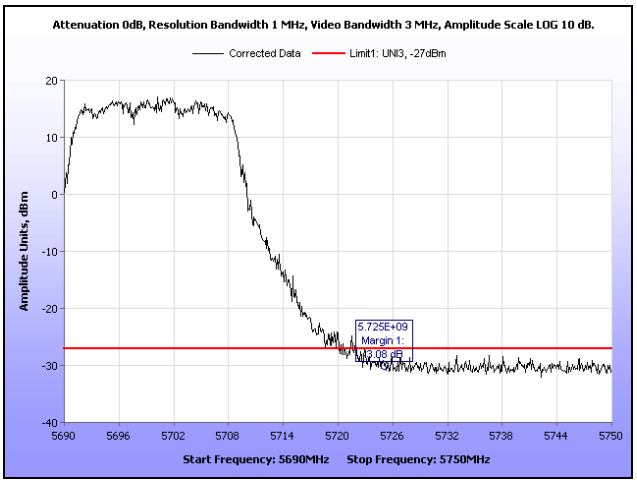
Plot 295. Radiated Band Edge, 802.11n HT20, 5500 MHz



Plot 296. Radiated Restricted Band, 802.11n HT20, 5500 MHz, Peak

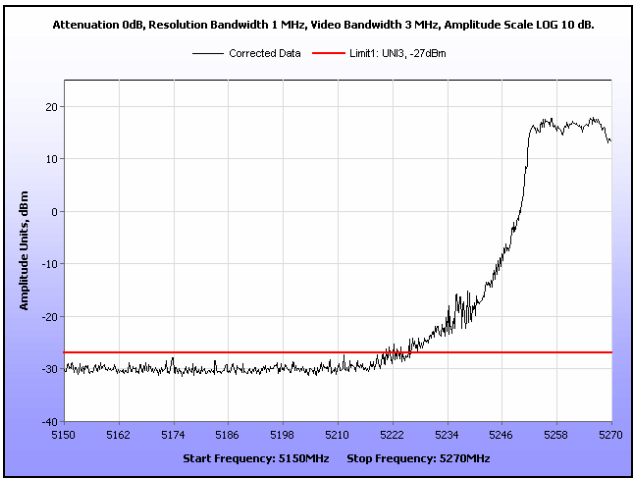


Plot 297. Radiated Restricted Band, 802.11n HT20, 5500 MHz, Average

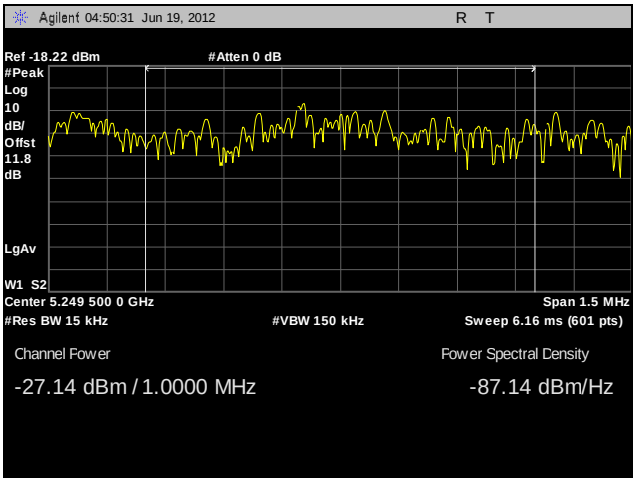


Plot 298. Radiated Band Edge, 802.11n HT20, 5700 MHz

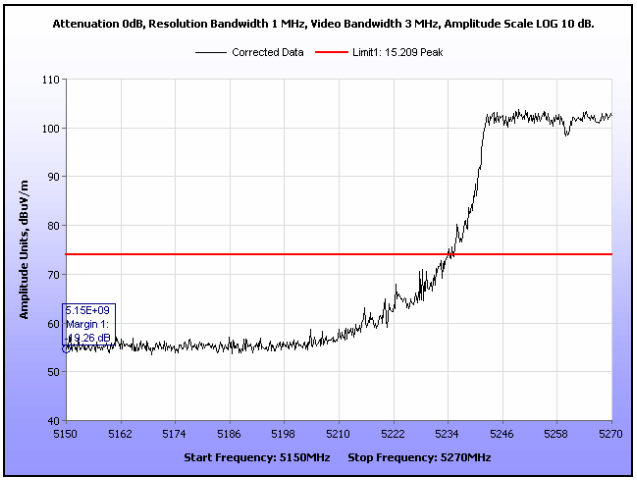
Radiated Band Edge Test Results, 802.11n HT40



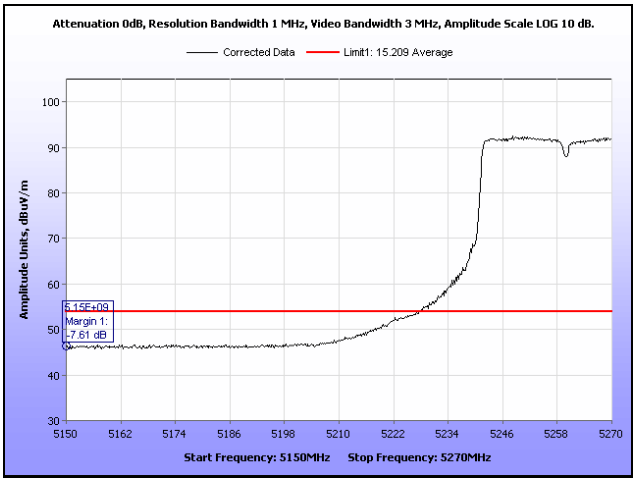
Plot 299. Radiated Band Edge, 802.11n HT40, 5270 MHz



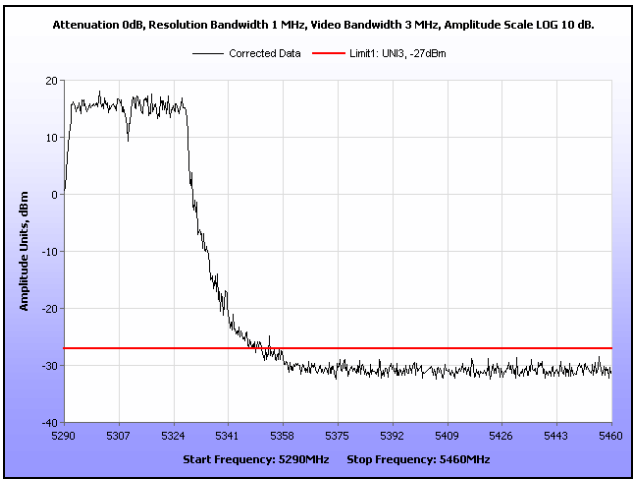
Plot 300. Radiated Band Edge, 802.11n HT40, 5270 MHz, 1 MHz Itegration



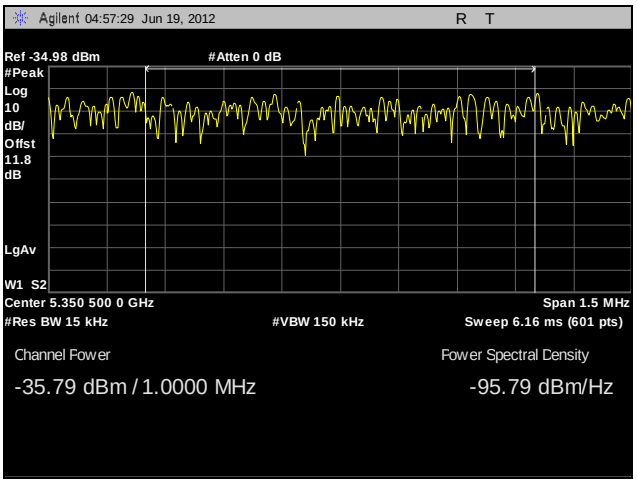
Plot 301. Radiated Band Edge, 802.11n HT40, 5270 MHz, Peak



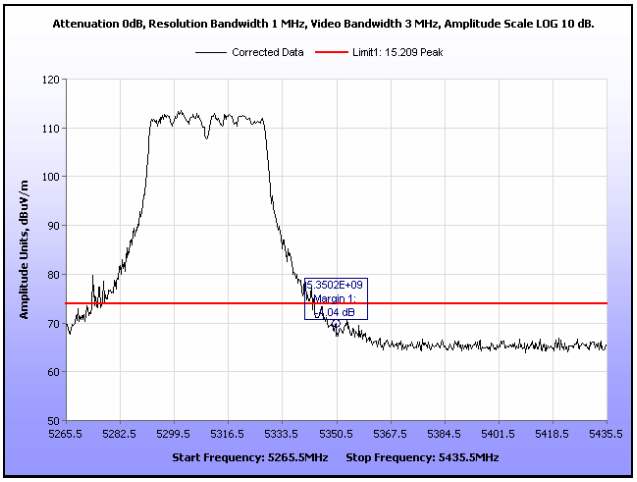
Plot 302. Radiated Band Edge, 802.11n HT40, 5270 MHz, Average



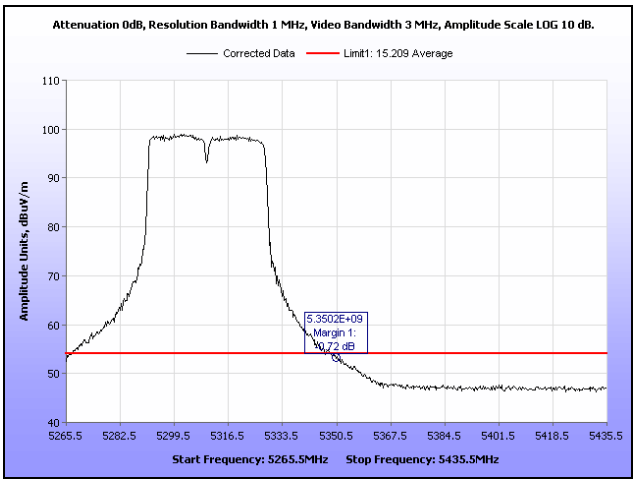
Plot 303. Radiated Band Edge, 802.11n HT40, 5310 MHz



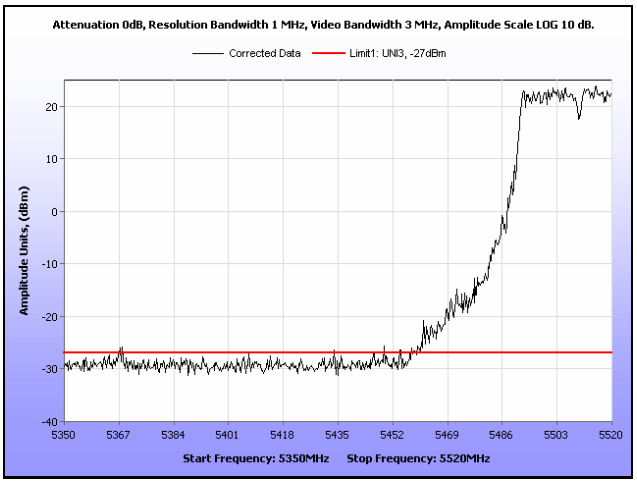
Plot 304. Radiated Band Edge, 802.11n HT40, 5310 MHz, 1 MHz Integration



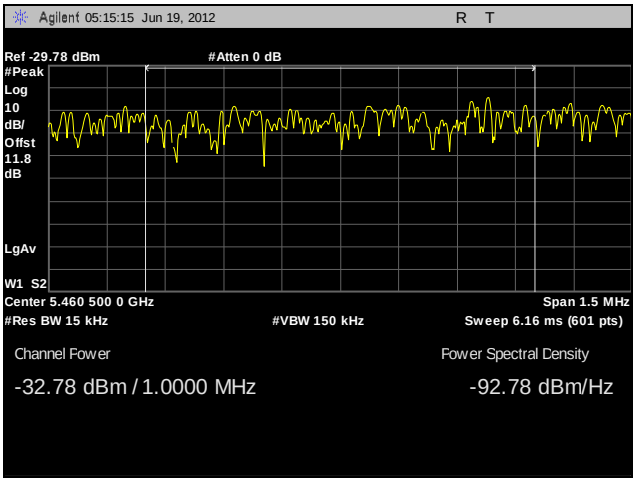
Plot 305. Radiated Restricted Band, 802.11n HT40, 5310 MHz, Peak



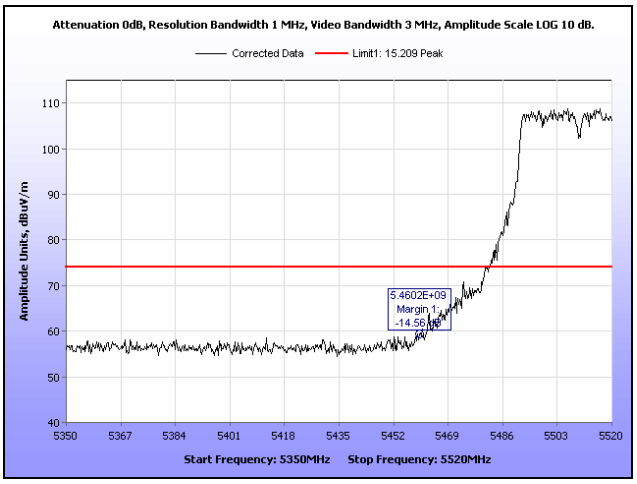
Plot 306. Radiated Restricted Band, 802.11n HT40, 5310 MHz, Average



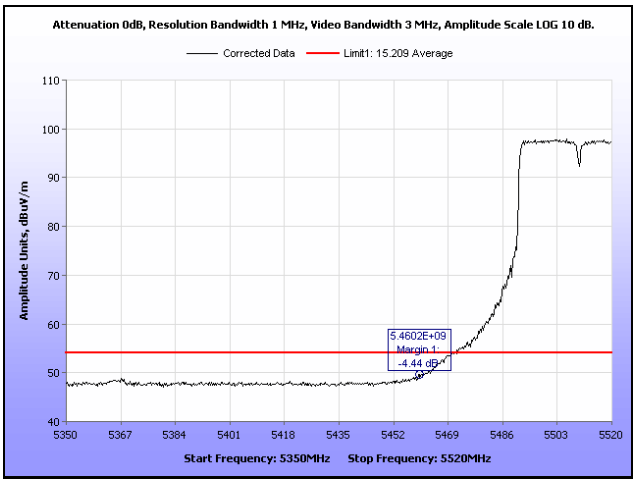
Plot 307. Radiated Band Edge, 802.11n HT40, 5510 MHz



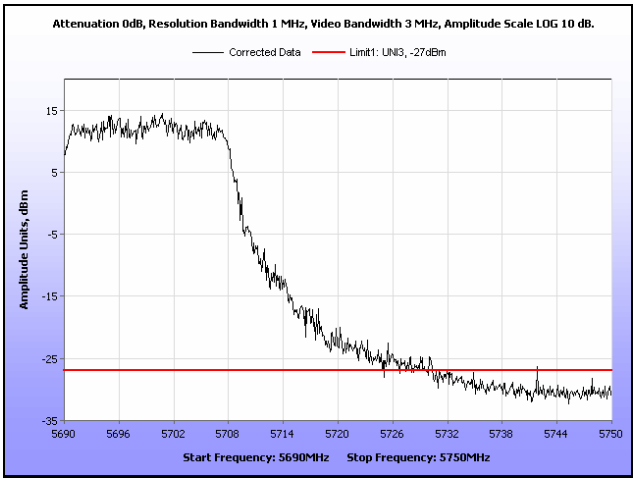
Plot 308. Radiated Band Edge, 802.11n HT40, 5510 MHz



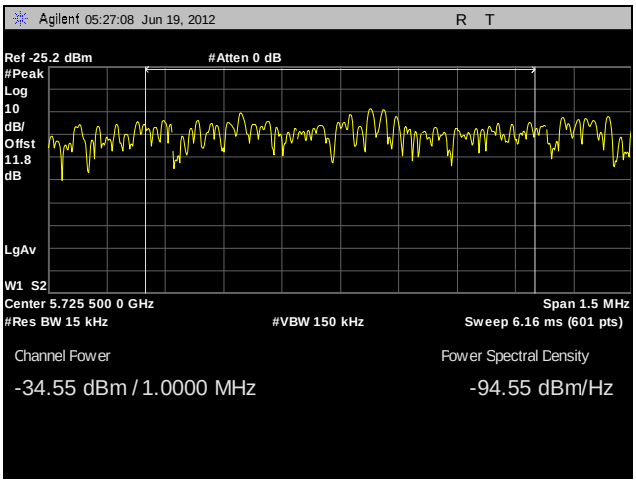
Plot 309. Radiated Restricted Band, 802.11n HT40, 5510 MHz, Peak



Plot 310. Radiated Restricted Band, 802.11n HT40, 5510 MHz, Average



Plot 311. Radiated Band Edge, 802.11n HT40, 5690 MHz



Plot 312. Radiated Band Edge, 802.11n HT40, 5690 MHz, 1 MHz Integration

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.

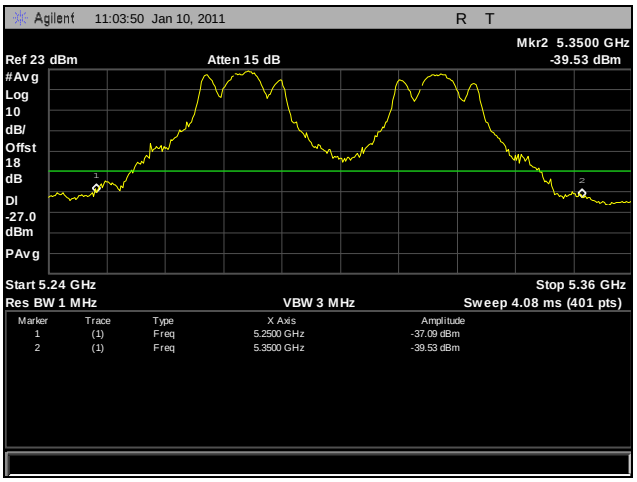
Test Procedure: The EUT was connected directly to a spectrum analyzer through a attenuator. The resolution band width of the spectrum analyzer was set to 100 KHz. A delta marker was used to verify that the carrier's peak to band edge remained at least 20dBc.

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

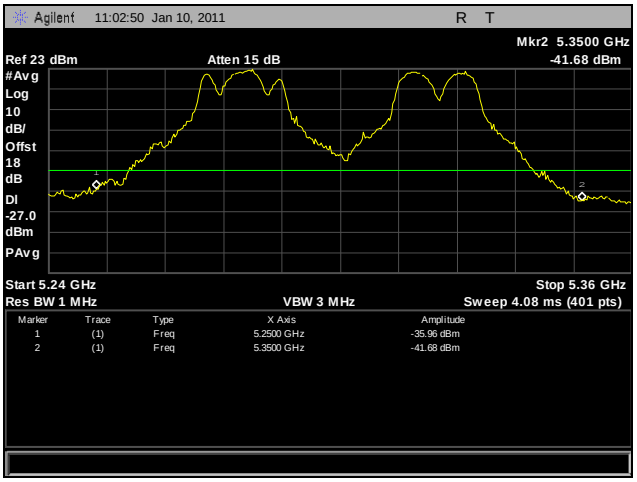
Test Engineer(s): Dan Youngcourt

Test Date(s): 01/11/11

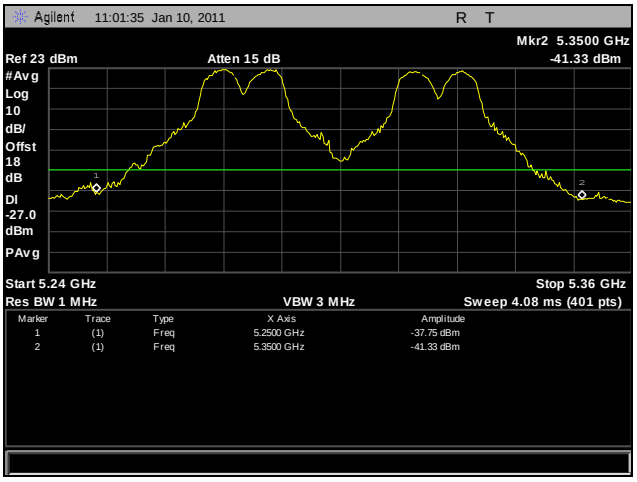
Frequency Stability Test Results



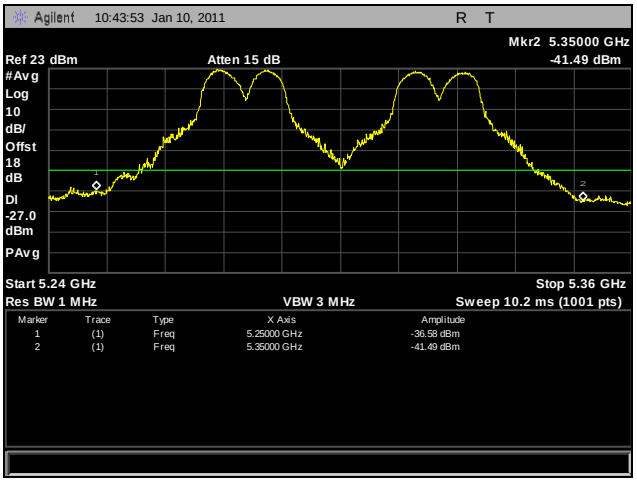
Plot 313. Frequency Stability, -40°C for 5250 MHz – 5350 MHz at 102 VAC



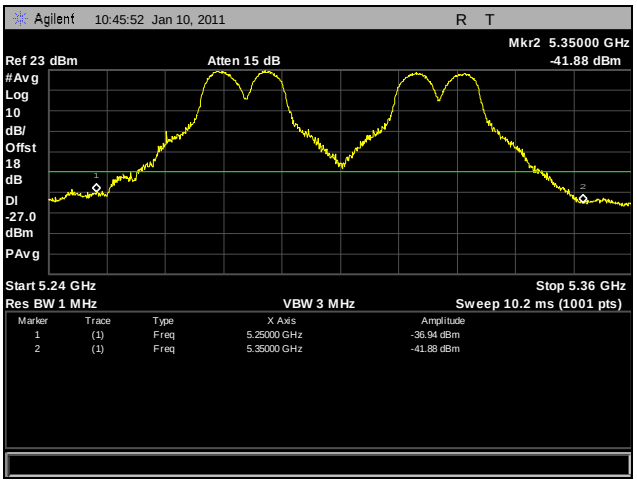
Plot 314. Frequency Stability, -40°C for 5250 MHz – 5350 MHz at 120 VAC



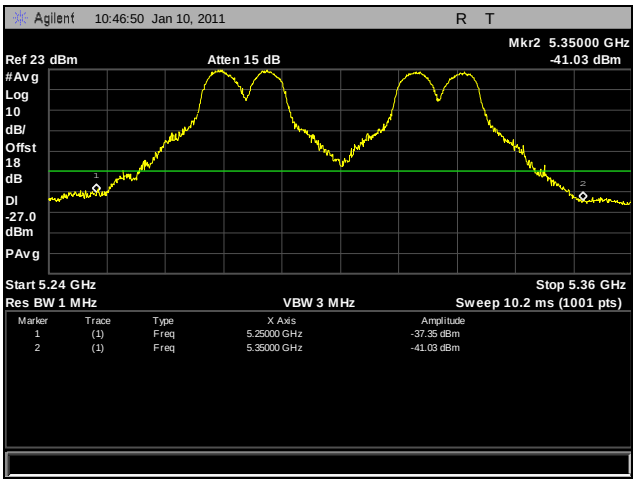
Plot 315. Frequency Stability, -40°C for 5250 MHz – 5350 MHz at 138 VAC



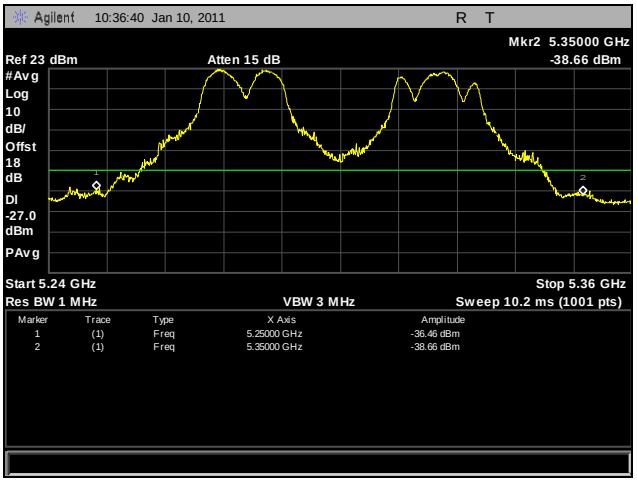
Plot 316. Frequency Stability, -30°C for 5250 MHz – 5350 MHz at 102 VAC



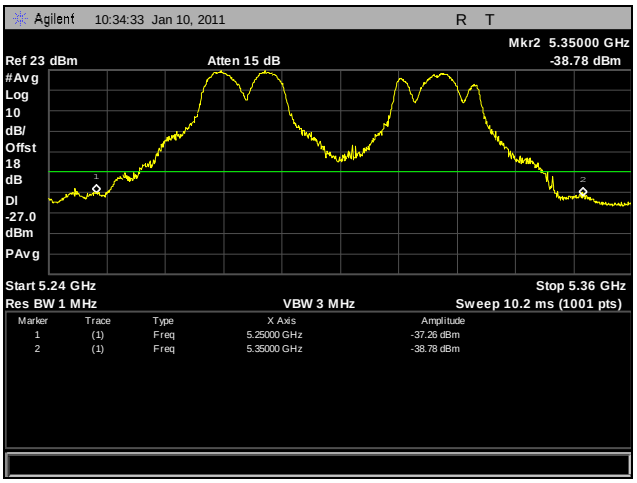
Plot 317. Frequency Stability, -30°C for 5250 MHz – 5350 MHz at 120 VAC



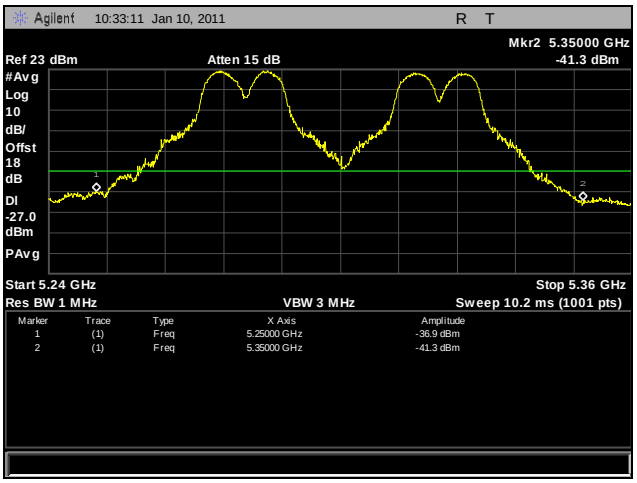
Plot 318. Frequency Stability, -30°C for 5250 MHz – 5350 MHz at 138 VAC



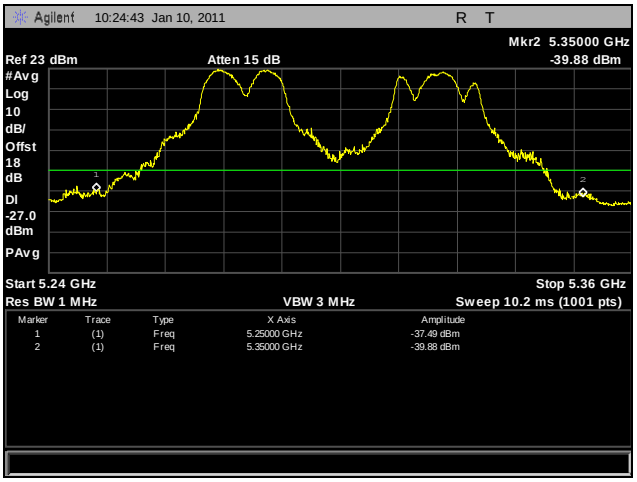
Plot 319. Frequency Stability, -20°C for 5250 MHz – 5350 MHz at 102 VAC



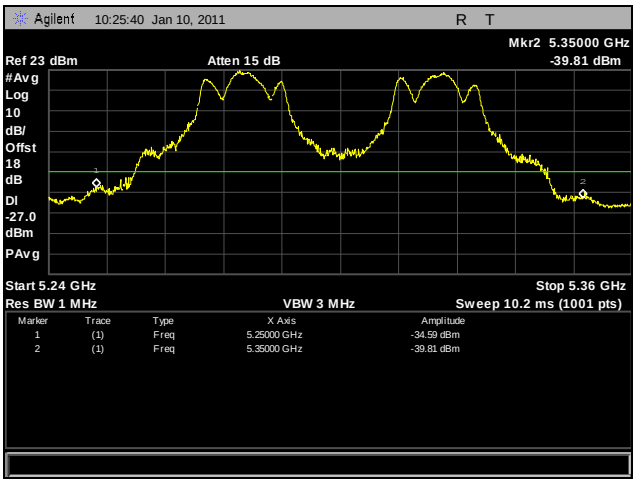
Plot 320. Frequency Stability, -20°C for 5250 MHz – 5350 MHz at 120 VAC



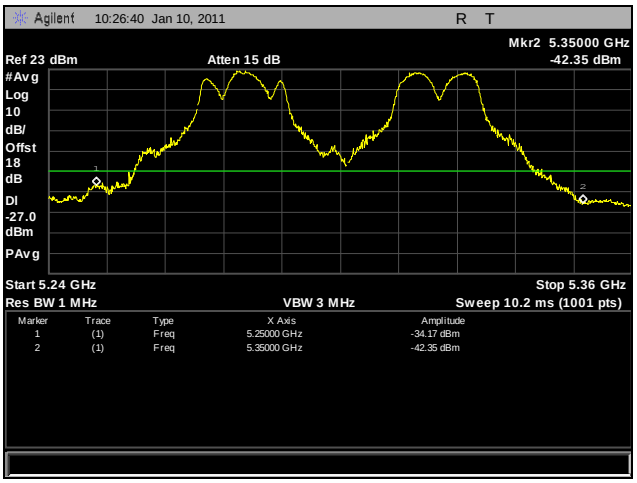
Plot 321. Frequency Stability, -20°C for 5250 MHz – 5350 MHz at 138 VAC



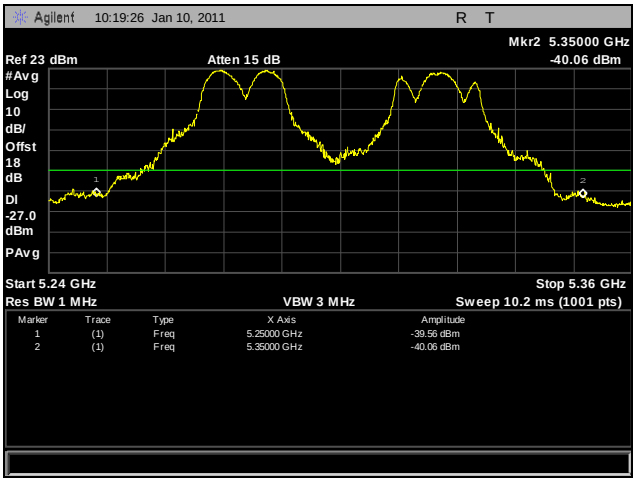
Plot 322. Frequency Stability, -10°C for 5250 MHz – 5350 MHz at 102 VAC



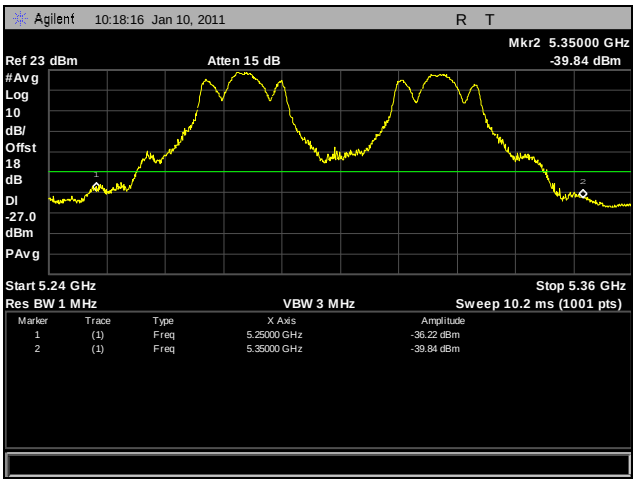
Plot 323. Frequency Stability, -10°C for 5250 MHz – 5350 MHz at 120 VAC



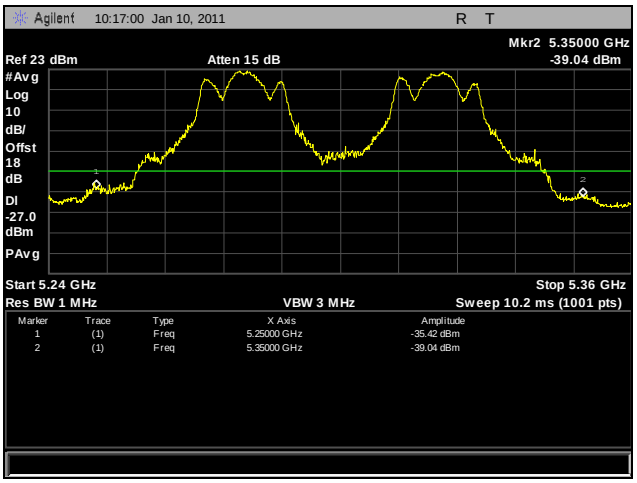
Plot 324. Frequency Stability, -10°C for 5250 MHz – 5350 MHz at 138 VAC



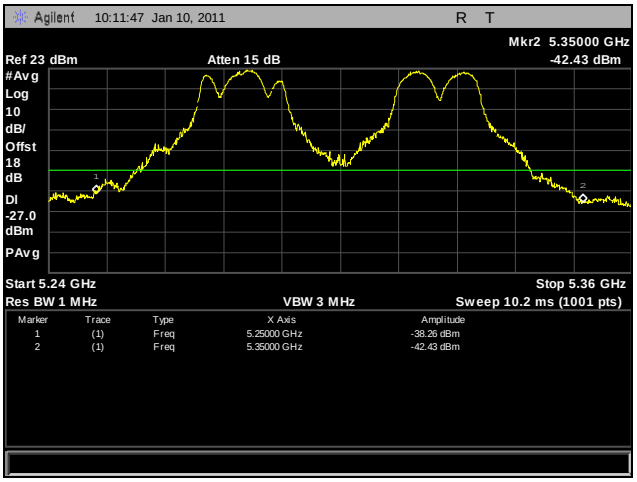
Plot 325. Frequency Stability, 0°C for 5250 MHz – 5350 MHz at 102 VAC



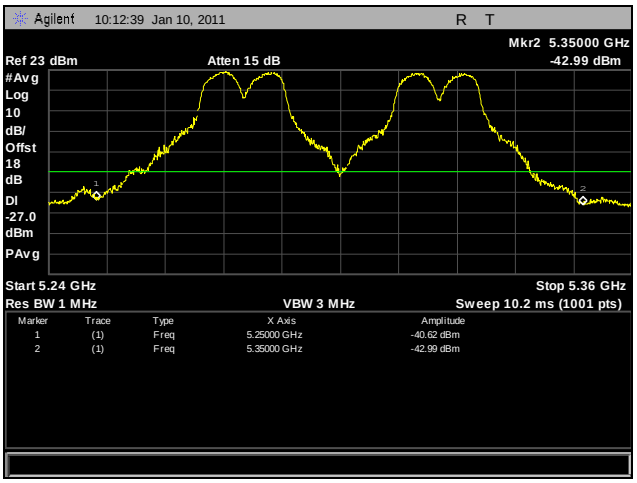
Plot 326. Frequency Stability, 0°C for 5250 MHz – 5350 MHz at 120 VAC



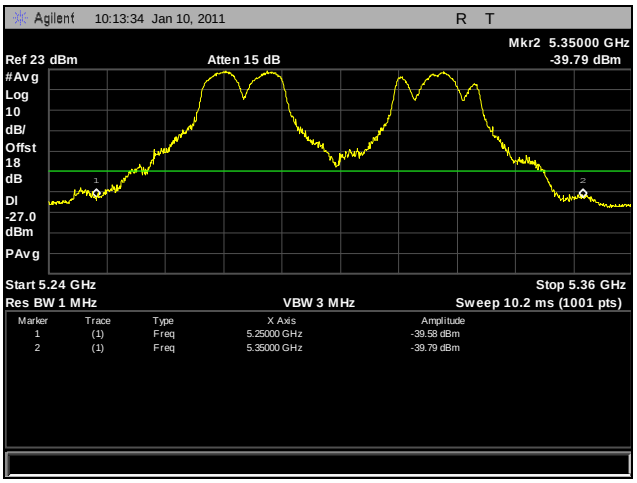
Plot 327. Frequency Stability, 0°C for 5250 MHz – 5350 MHz at 138 VAC



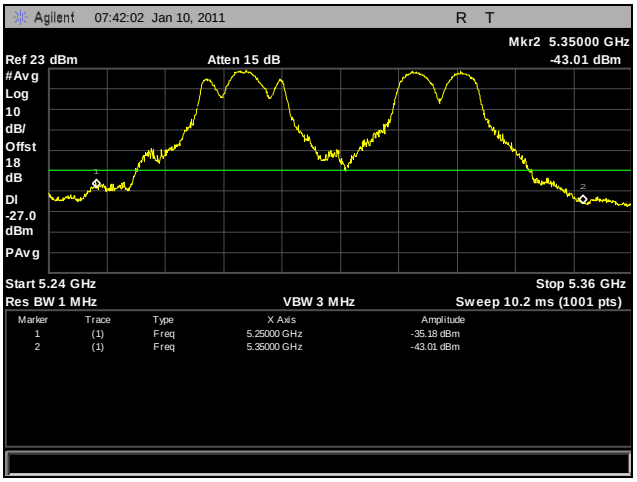
Plot 328. Frequency Stability, 10°C for 5250 MHz – 5350 MHz at 102 VAC



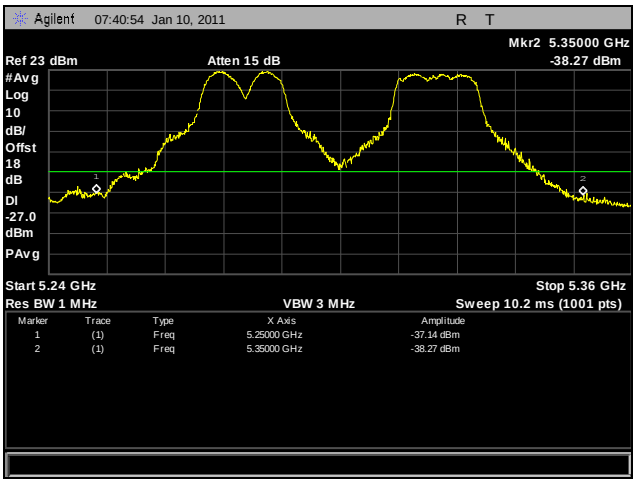
Plot 329. Frequency Stability, 10°C for 5250 MHz – 5350 MHz at 120 VAC



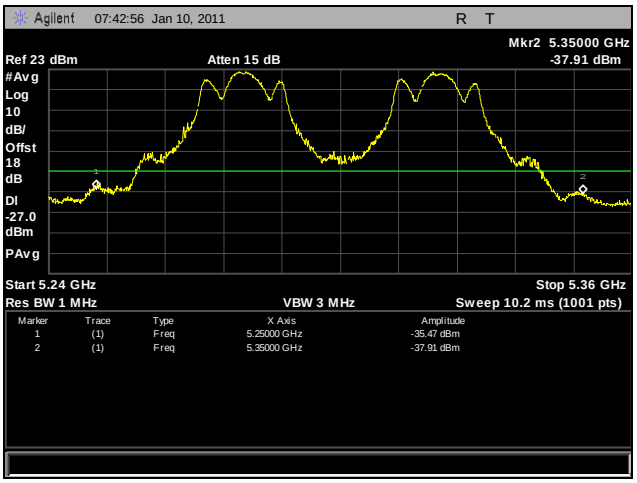
Plot 330. Frequency Stability, 10°C for 5250 MHz – 5350 MHz at 138 VAC



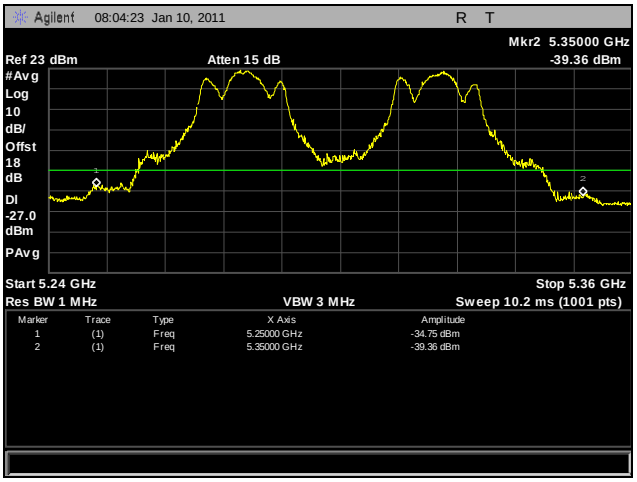
Plot 331. Frequency Stability, 20°C for 5250 MHz – 5350 MHz at 102 VAC



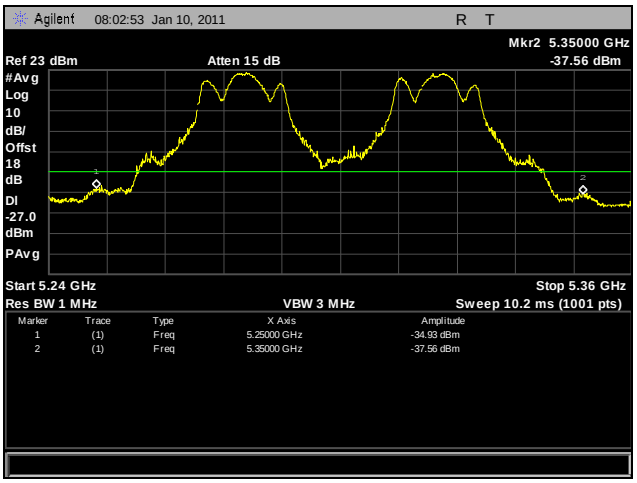
Plot 332. Frequency Stability, 20°C for 5250 MHz – 5350 MHz at 120 VAC



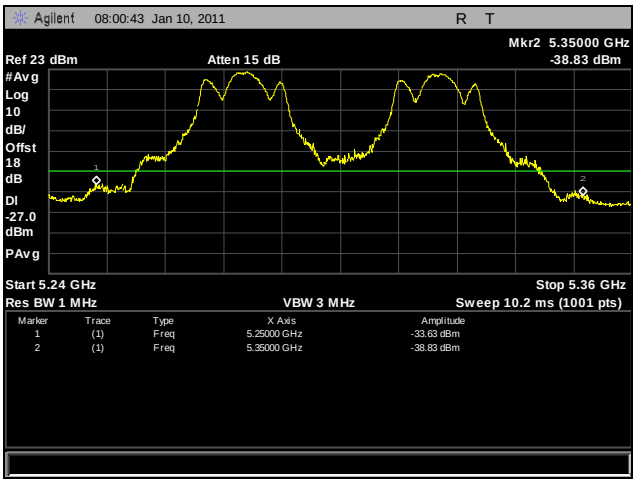
Plot 333. Frequency Stability, 20°C for 5250 MHz – 5350 MHz at 138 VAC



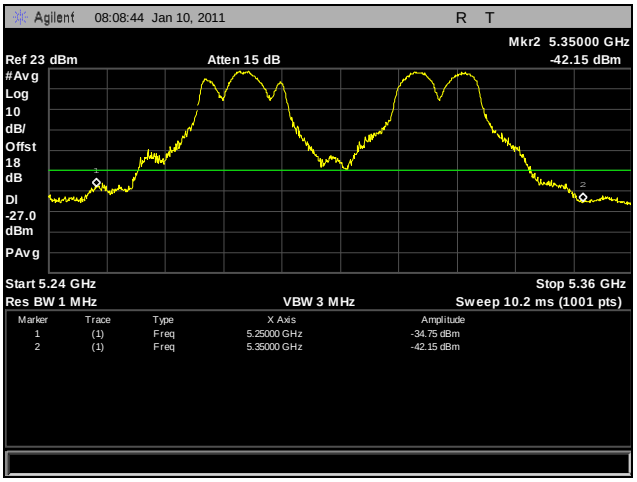
Plot 334. Frequency Stability, 30°C for 5250 MHz – 5350 MHz at 102 VAC



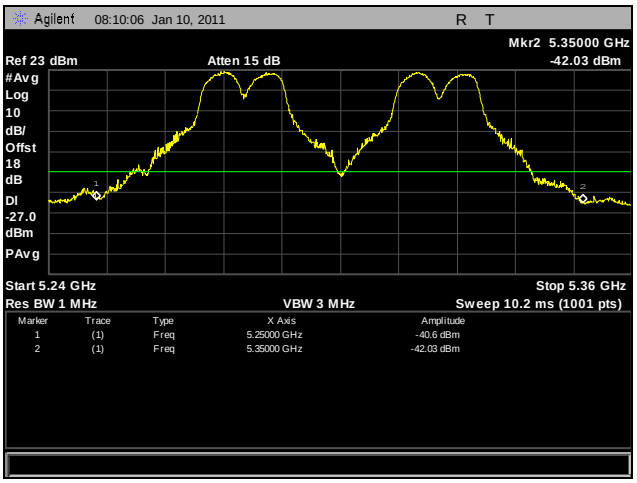
Plot 335. Frequency Stability, 30°C for 5250 MHz – 5350 MHz at 120 VAC



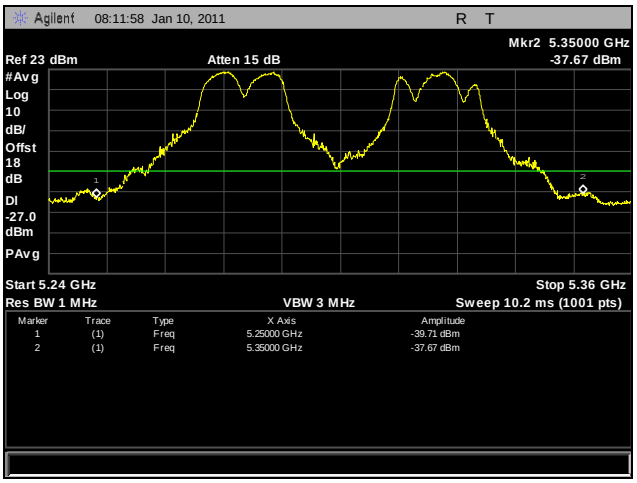
Plot 336. Frequency Stability, 30°C for 5250 MHz – 5350 MHz at 138 VAC



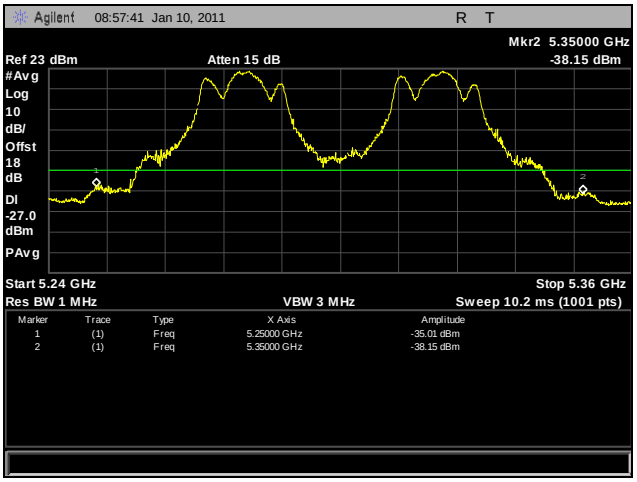
Plot 337. Frequency Stability, 40°C for 5250 MHz – 5350 MHz at 102 VAC



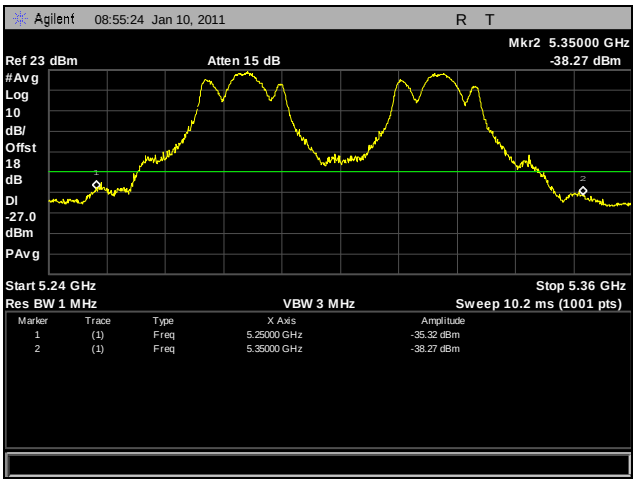
Plot 338. Frequency Stability, 40°C for 5250 MHz – 5350 MHz at 120 VAC



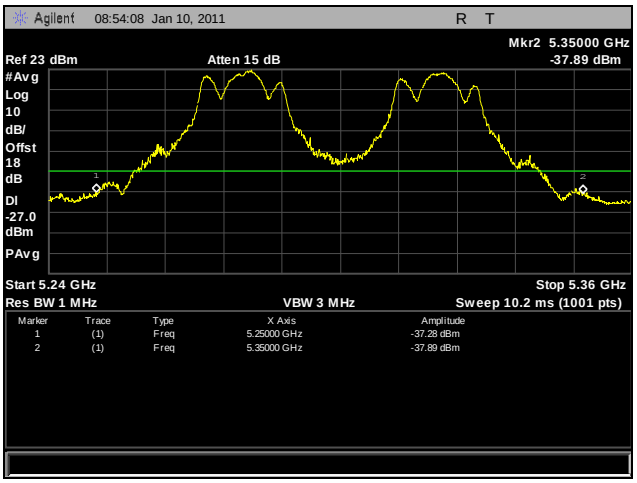
Plot 339. Frequency Stability, 40°C for 5250 MHz – 5350 MHz at 138 VAC



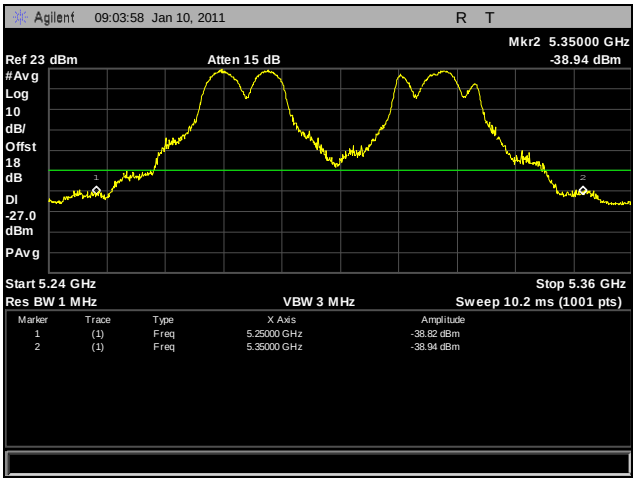
Plot 340. Frequency Stability, 50°C for 5250 MHz – 5350 MHz at 102 VAC



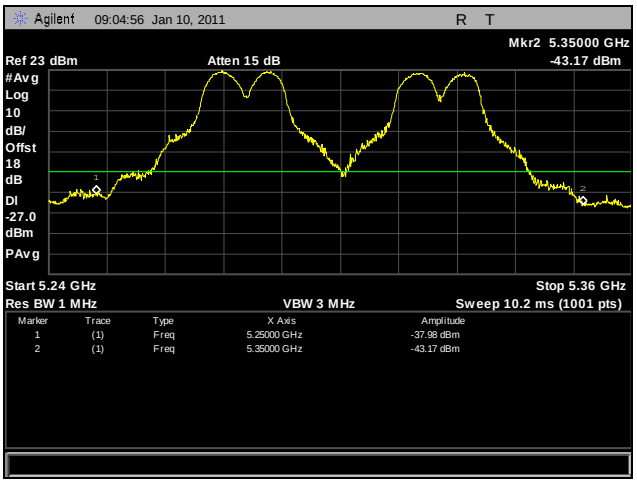
Plot 341. Frequency Stability, 50°C for 5250 MHz – 5350 MHz at 120 VAC



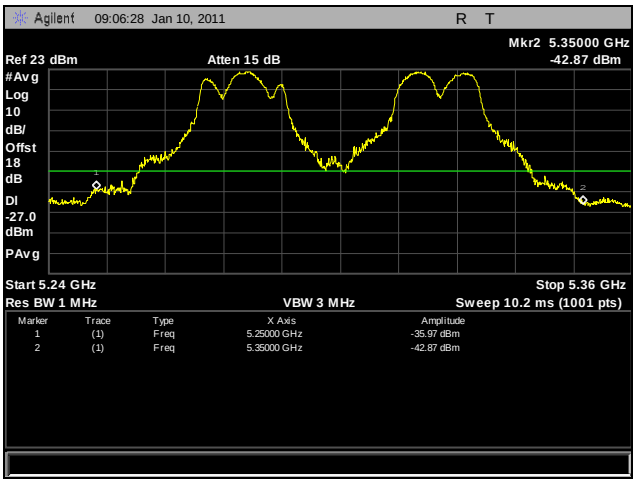
Plot 342. Frequency Stability, 50°C for 5250 MHz – 5350 MHz at 138 VAC



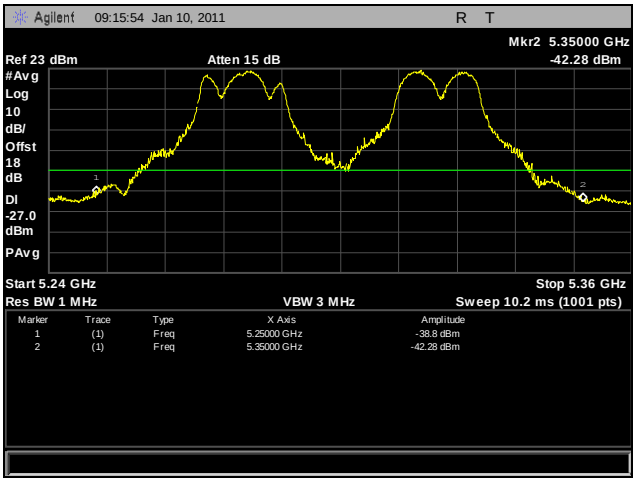
Plot 343. Frequency Stability, 60°C for 5250 MHz – 5350 MHz at 102 VAC



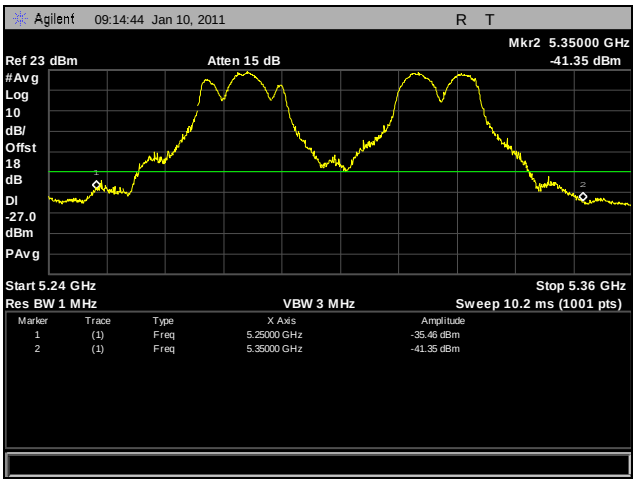
Plot 344. Frequency Stability, 60°C for 5250 MHz – 5350 MHz at 120 VAC



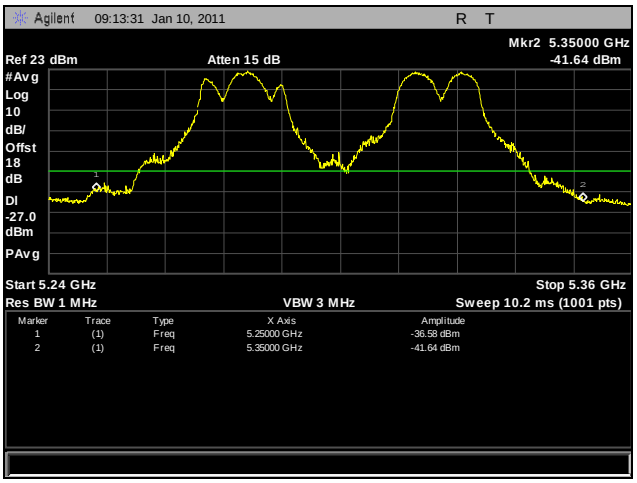
Plot 345. Frequency Stability, 60°C for 5250 MHz – 5350 MHz at 138 VAC



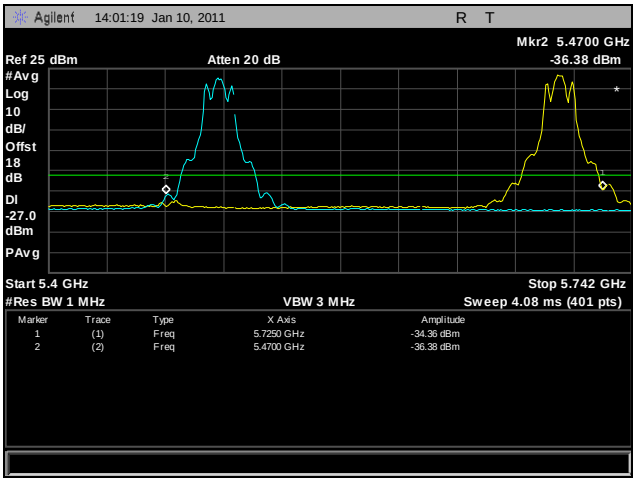
Plot 346. Frequency Stability, 70°C for 5250 MHz – 5350 MHz at 102 VAC



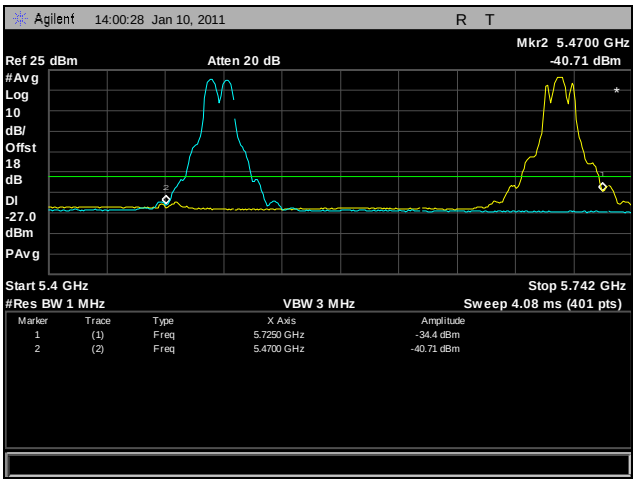
Plot 347. Frequency Stability, 70°C for 5250 MHz – 5350 MHz at 120 VAC



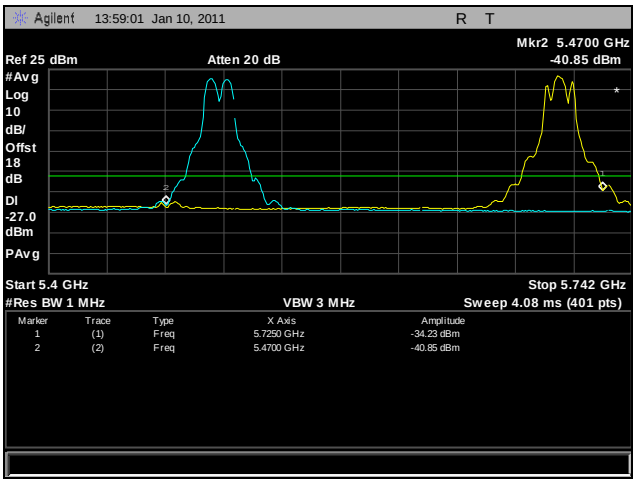
Plot 348. Frequency Stability, 70°C for 5250 MHz – 5350 MHz at 138 VAC



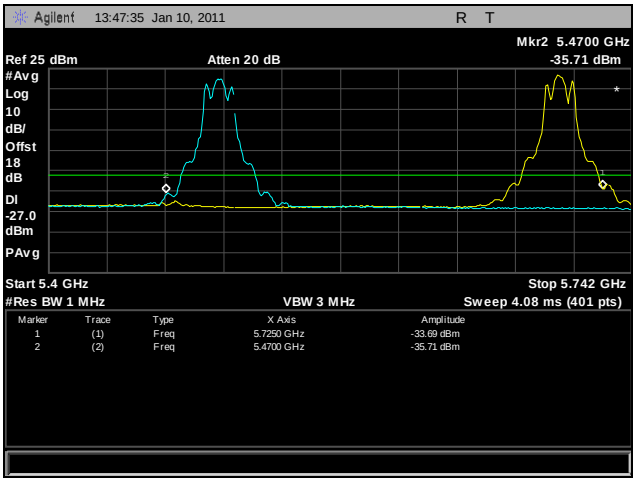
Plot 349. Frequency Stability, -40°C for 5470 MHz - 5725 MHz at 102 VAC



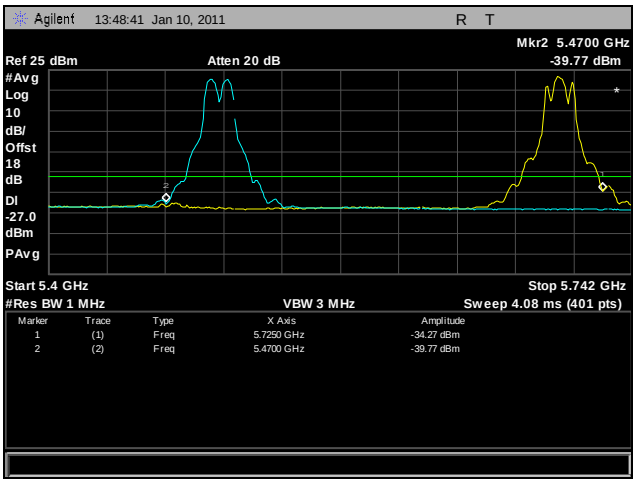
Plot 350. Frequency Stability, -40°C for 5470 MHz - 5725 MHz at 120 VAC



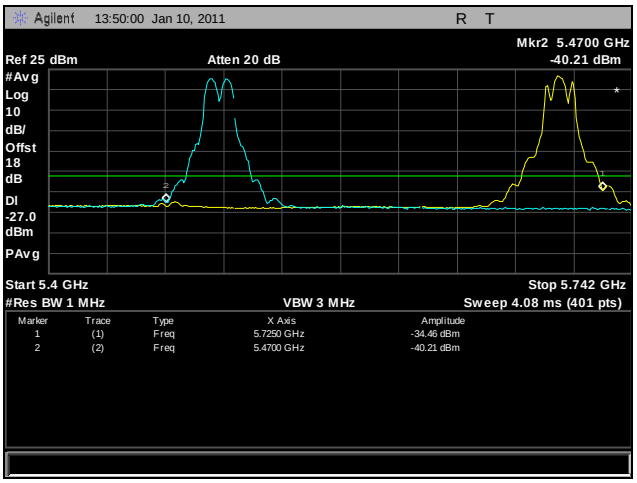
Plot 351. Frequency Stability, -40°C for 5470 MHz - 5725 MHz at 138 VAC



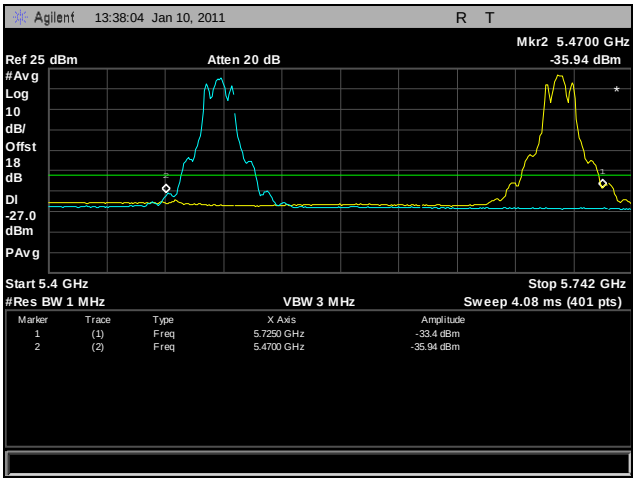
Plot 352. Frequency Stability, -30°C for 5470 MHz - 5725 MHz at 102 VAC



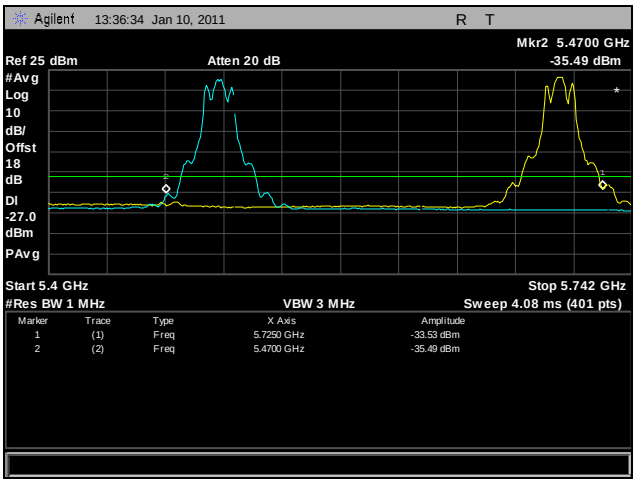
Plot 353. Frequency Stability, -30°C for 5470 MHz - 5725 MHz at 120 VAC



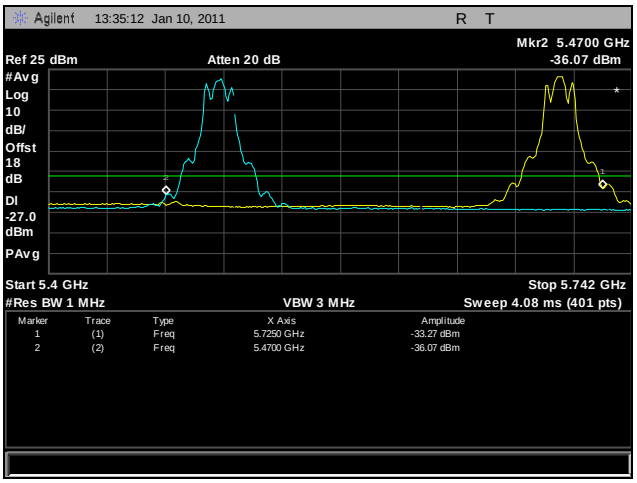
Plot 354. Frequency Stability, -30°C for 5470 MHz - 5725 MHz at 138 VAC



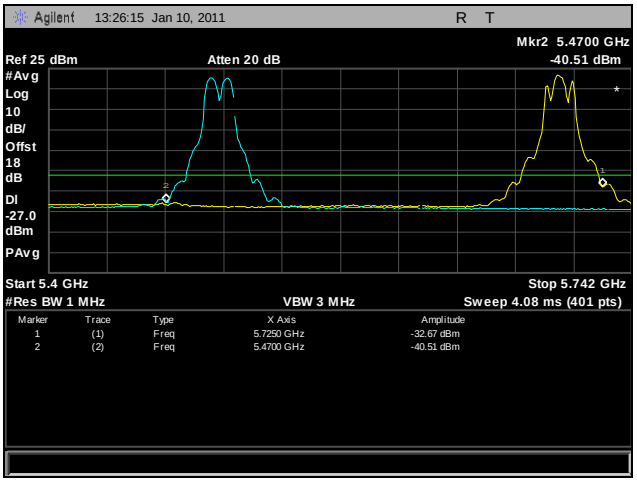
Plot 355. Frequency Stability, -20°C for 5470 MHz - 5725 MHz at 102 VAC



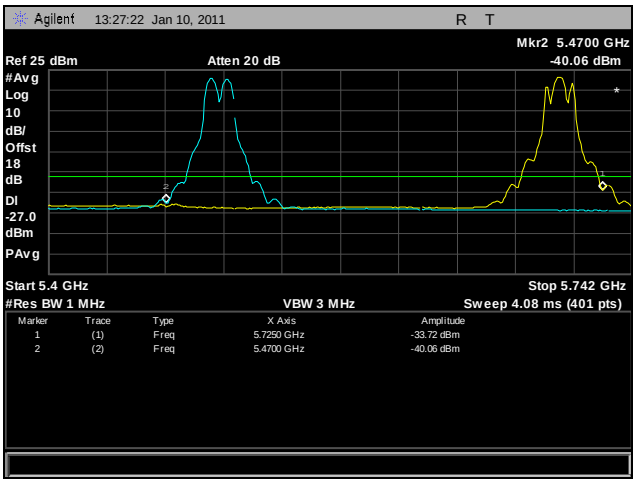
Plot 356. Frequency Stability, -20°C for 5470 MHz - 5725 MHz at 120 VAC



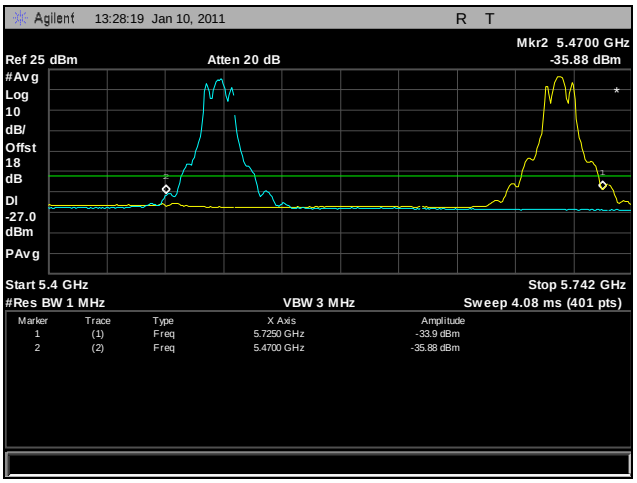
Plot 357. Frequency Stability, -20°C for 5470 MHz - 5725 MHz at 138 VAC



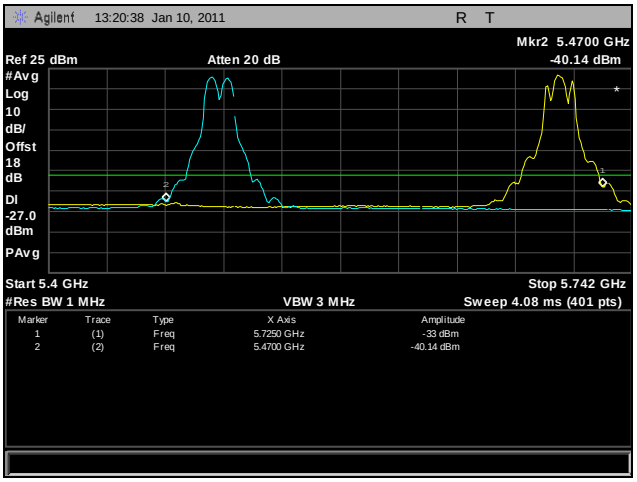
Plot 358. Frequency Stability, -10°C for 5470 MHz - 5725 MHz at 102 VAC



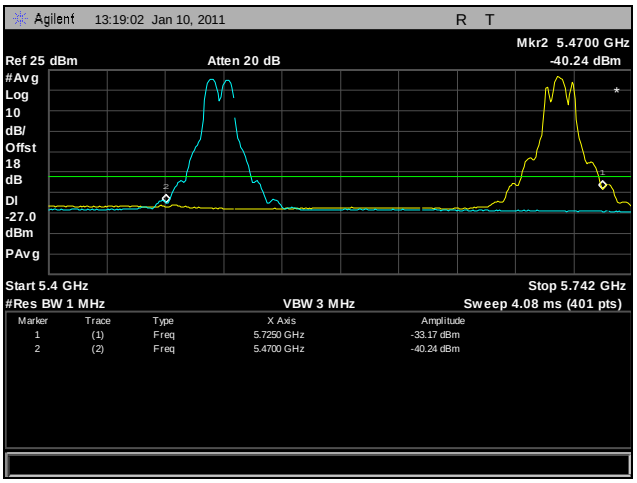
Plot 359. Frequency Stability, -10°C for 5470 MHz - 5725 MHz at 120 VAC



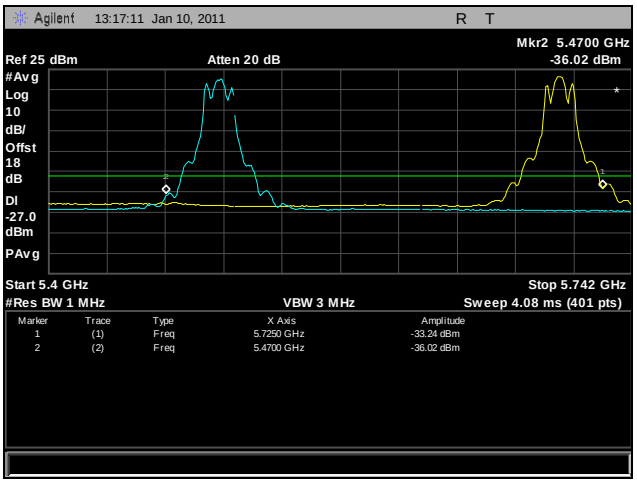
Plot 360. Frequency Stability, -10°C for 5470 MHz - 5725 MHz at 138 VAC



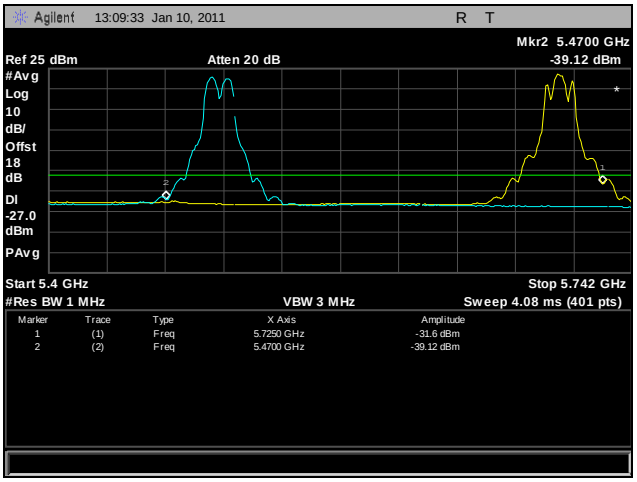
Plot 361. Frequency Stability, 0°C for 5470 MHz - 5725 MHz at 102 VAC



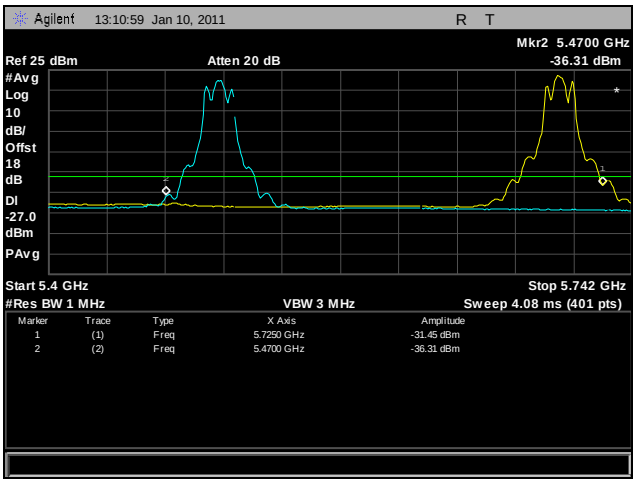
Plot 362. Frequency Stability, 0°C for 5470 MHz - 5725 MHz at 120 VAC



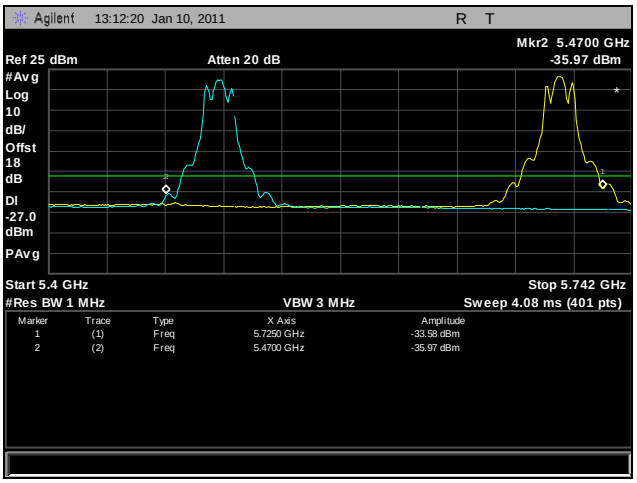
Plot 363. Frequency Stability, 0°C for 5470 MHz - 5725 MHz at 138 VAC



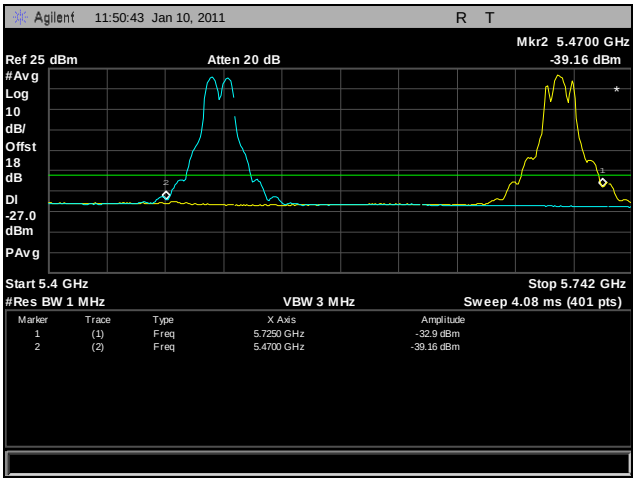
Plot 364. Frequency Stability, 10°C for 5470 MHz - 5725 MHz at 102 VAC



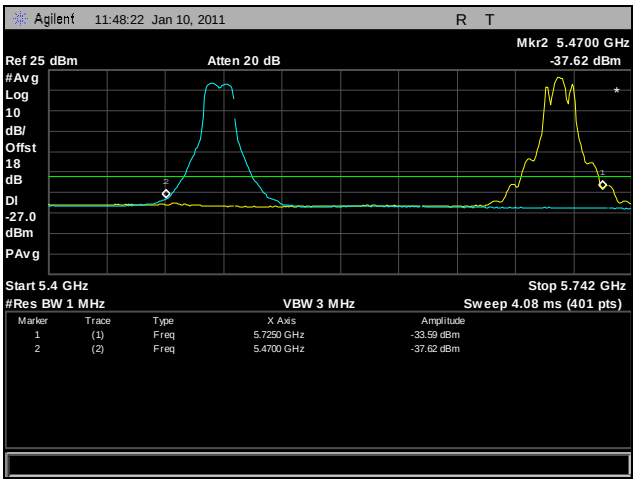
Plot 365. Frequency Stability, 10°C for 5470 MHz - 5725 MHz at 120 VAC



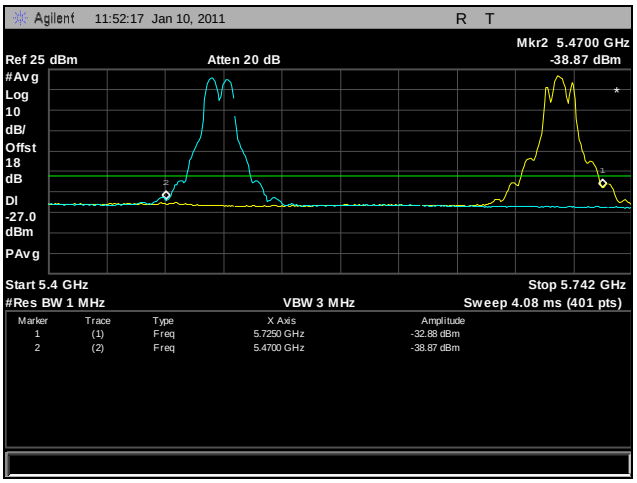
Plot 366. Frequency Stability, 10°C for 5470 MHz - 5725 MHz at 138 VAC



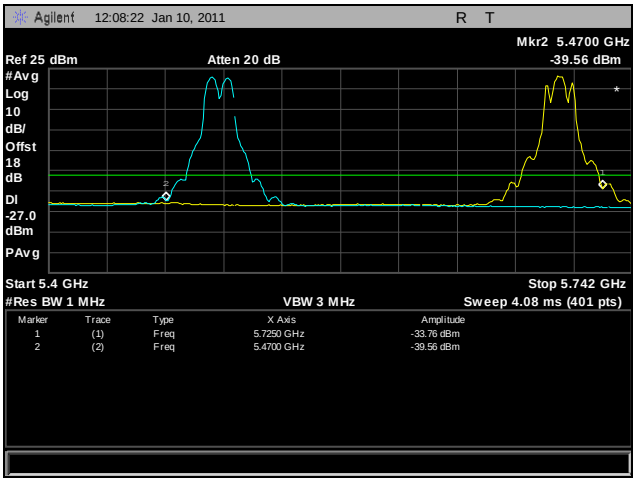
Plot 367. Frequency Stability, 20°C for 5470 MHz - 5725 MHz at 102 VAC



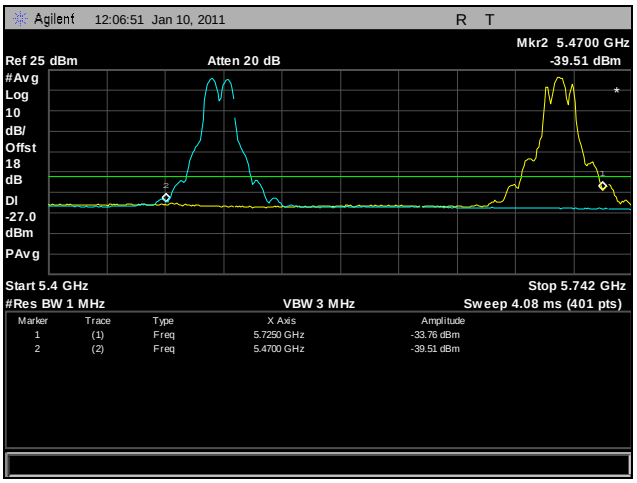
Plot 368. Frequency Stability, 20°C for 5470 MHz - 5725 MHz at 120 VAC



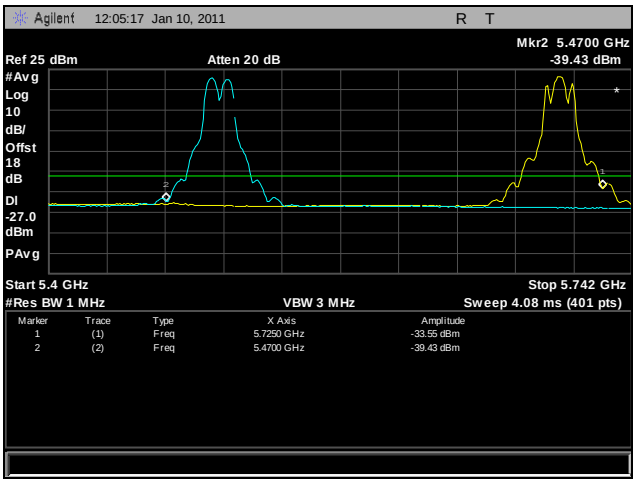
Plot 369. Frequency Stability, 20°C for 5470 MHz - 5725 MHz at 138 VAC



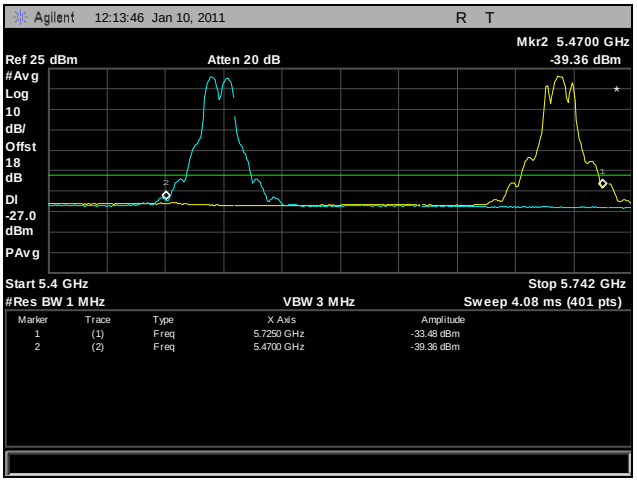
Plot 370. Frequency Stability, 30°C for 5470 MHz - 5725 MHz at 102 VAC



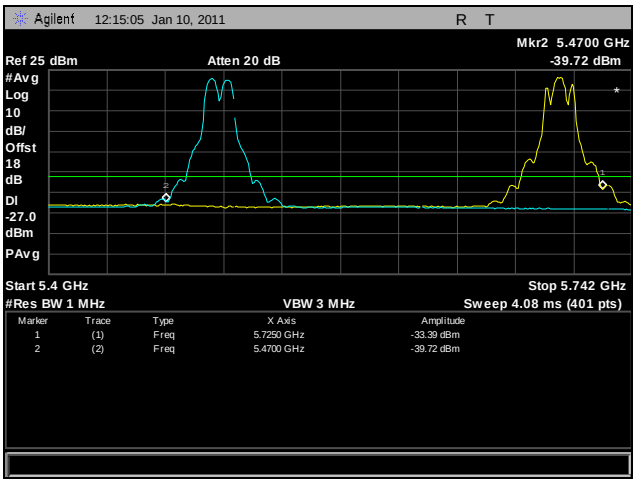
Plot 371. Frequency Stability, 30°C for 5470 MHz - 5725 MHz at 120 VAC



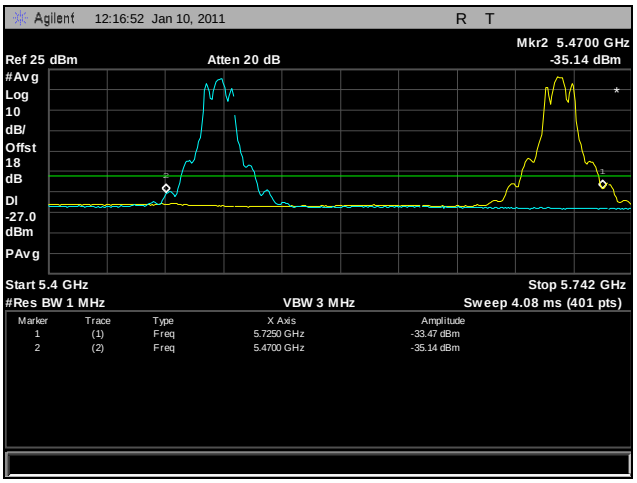
Plot 372. Frequency Stability, 30°C for 5470 MHz - 5725 MHz at 138 VAC



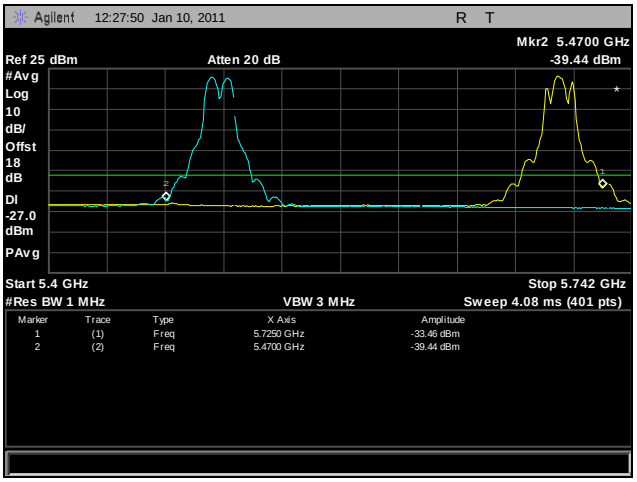
Plot 373. Frequency Stability, 40°C for 5470 MHz - 5725 MHz at 102 VAC



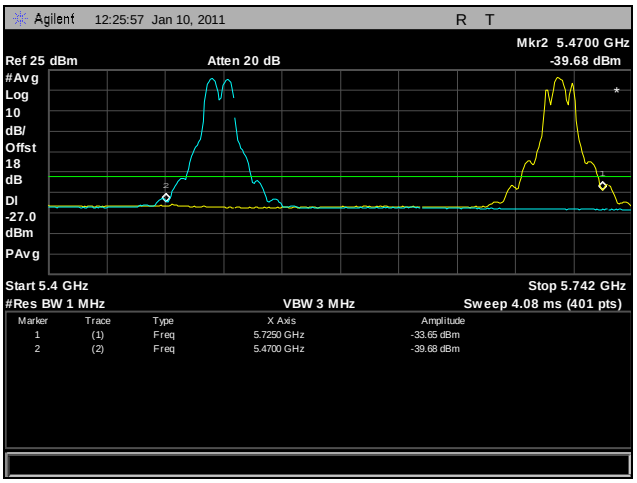
Plot 374. Frequency Stability, 40°C for 5470 MHz - 5725 MHz at 120 VAC



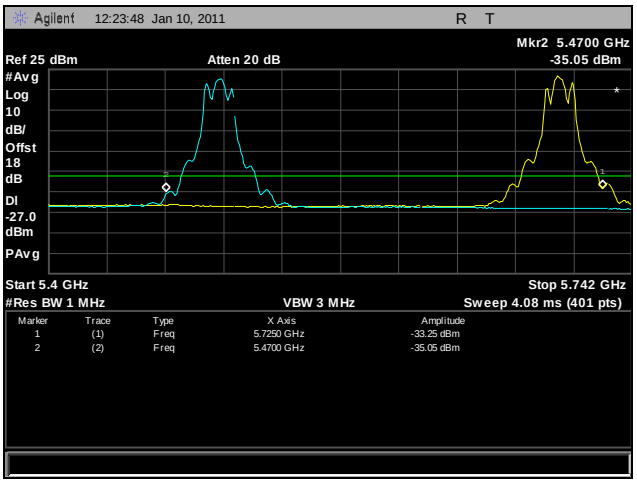
Plot 375. Frequency Stability, 40°C for 5470 MHz - 5725 MHz at 139 VAC



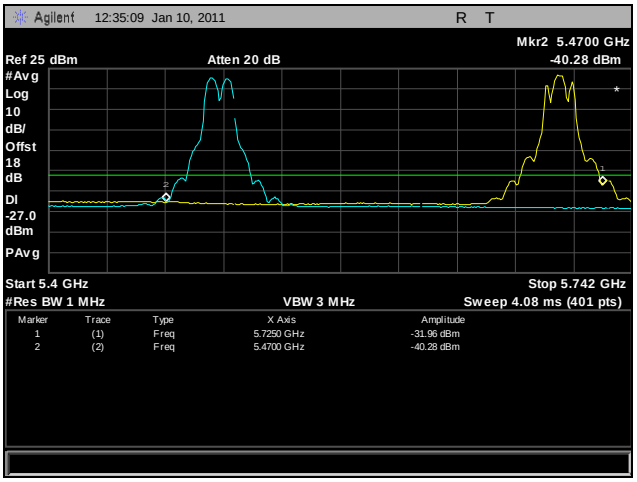
Plot 376. Frequency Stability, 50°C for 5470 MHz - 5725 MHz at 102 VAC



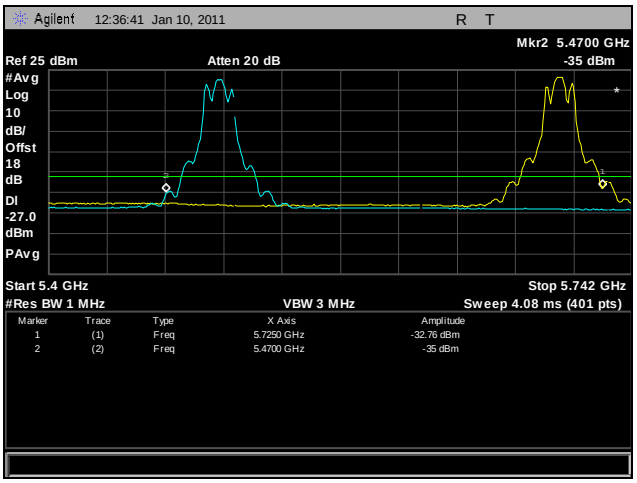
Plot 377. Frequency Stability, 50°C for 5470 MHz - 5725 MHz at 120 VAC



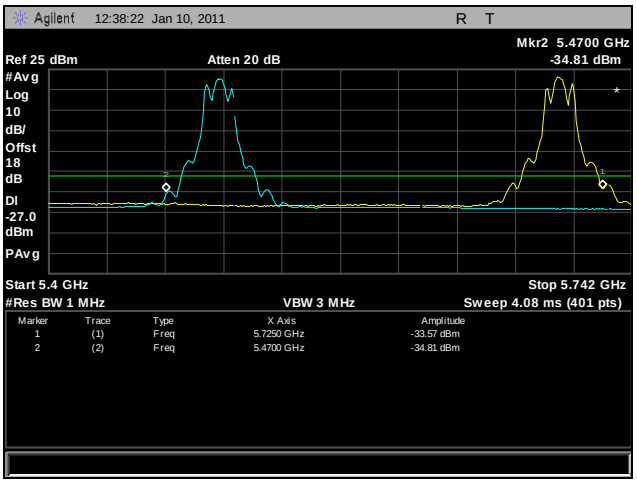
Plot 378. Frequency Stability, 50°C for 5470 MHz - 5725 MHz at 138 VAC



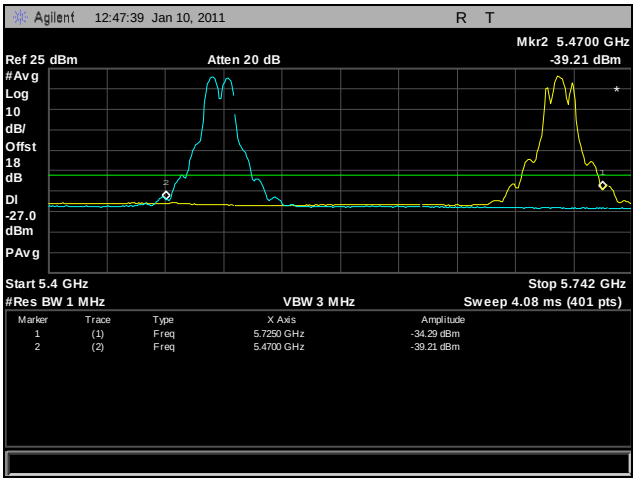
Plot 379. Frequency Stability, 60°C for 5470 MHz - 5725 MHz at 102 VAC



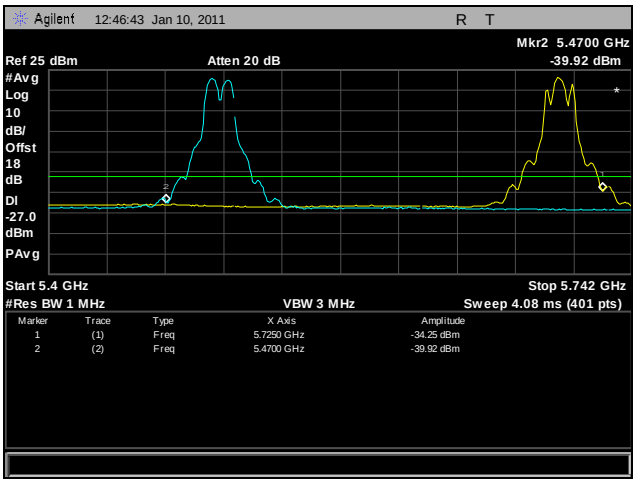
Plot 380. Frequency Stability, 60°C for 5470 MHz - 5725 MHz at 120 VAC



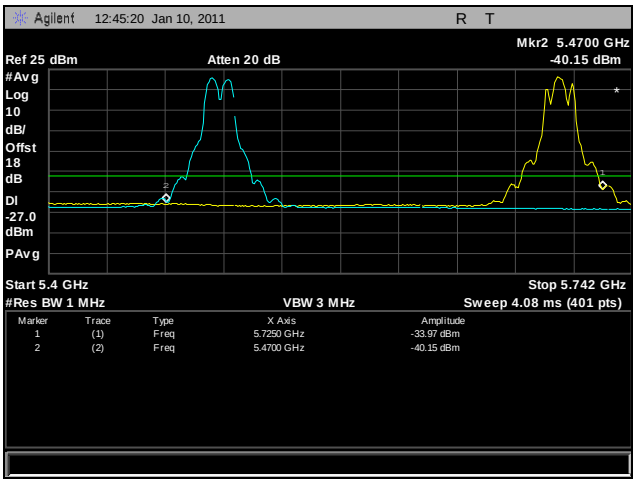
Plot 381. Frequency Stability, 60°C for 5470 MHz - 5725 MHz at 138 VAC



Plot 382. Frequency Stability, 70°C for 5470 MHz - 5725 MHz at 102 VAC



Plot 383. Frequency Stability, 70°C for 5470 MHz - 5725 MHz at 120 VAC



Plot 384. Frequency Stability, 70°C for 5470 MHz - 5725 MHz at 138 VAC

Electromagnetic Compatibility Criteria for Intentional Radiators

RSS-GEN Receiver Spurious

Test Requirements: The following receiver spurious emission limits shall be complied with:

(a) If a radiated measurement is made, all spurious emissions shall comply with the limits of Table 23.

Spurious Frequency (MHz)	Field Strength (microvolt/m at 3 metres)
30 – 88	100
88 – 216	150
216 – 960	200
Above 960	500

Table 23. Spurious Emission Limits for Receivers

(b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per any 4 kHz spurious frequency in the band 30-1000 MHz, or 5 nanowatts above 1 GHz.

Test Procedures: The EUT was programmed for receive mode only. Conducted measurements were taken at the antenna port of the EUT. 100 kHz resolution bandwidth was used from 30 MHz - 1 GHz and 300 kHz resolution was used for measurements done above 1 GHz. All plots are corrected for cable loss.

Test Results: Equipment is compliant with the Receiver Spurious Emissions Requirements of RSS-GEN.

Test Engineer(s): Jeff Pratt

Test Date(s): 03/07/11

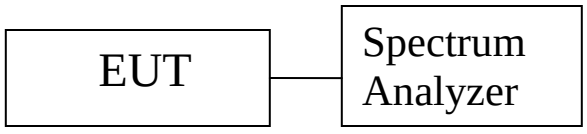
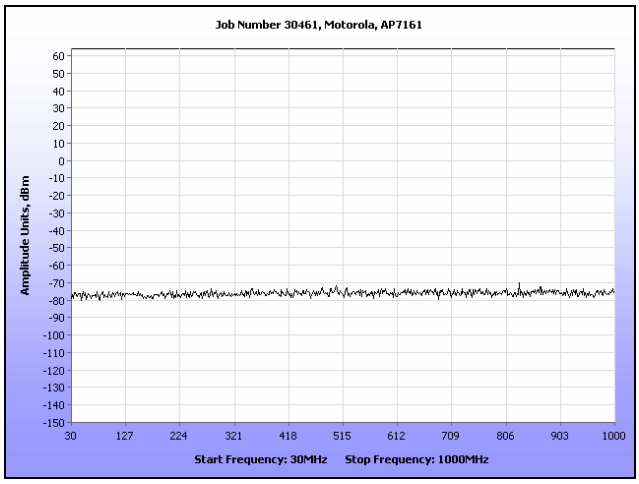
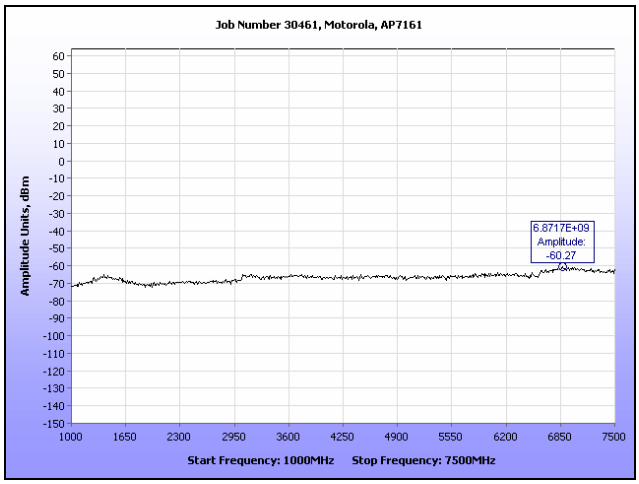


Figure 6. Block Diagram, Conducted Receiver Spurious Emissions Test Setup

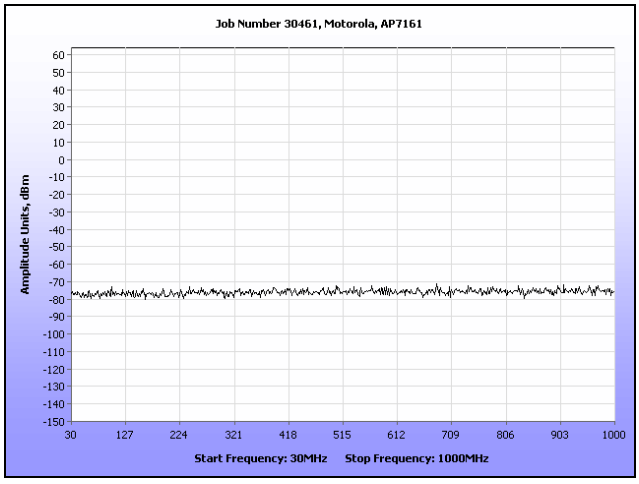
Conducted Receiver Spurious Emissions, 2.4 GHz



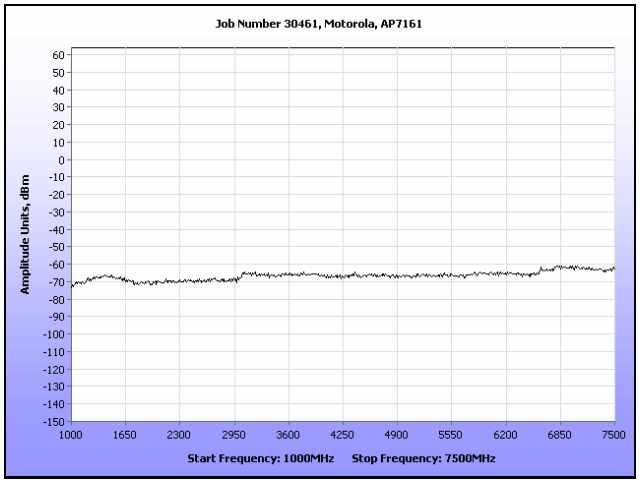
Plot 385. Receiver Spurious Emission, A, 30 MHz – 1 GHz



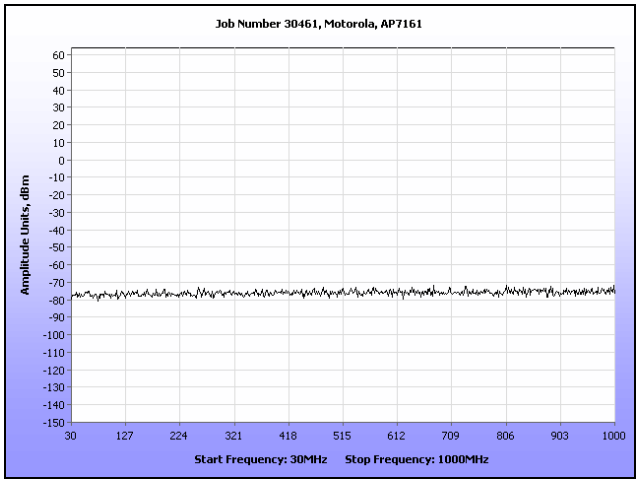
Plot 386. Receiver Spurious Emission, A, 1 GHz - 7.5 GHz



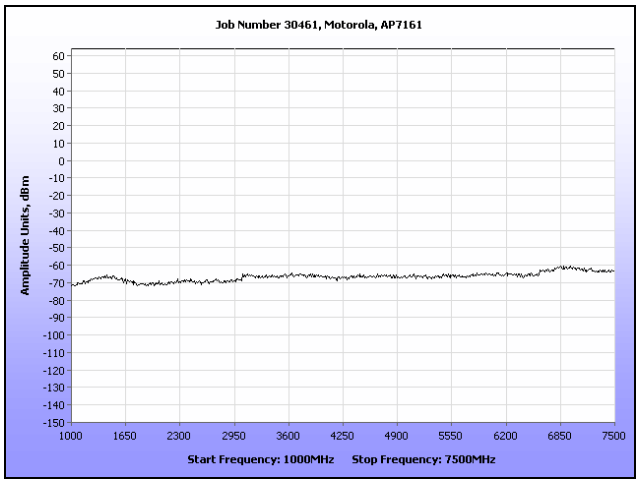
Plot 387. Receiver Spurious Emission, B, 30 MHz – 1 GHz



Plot 388. Receiver Spurious Emission, B, 1 GHz - 7.5 GHz

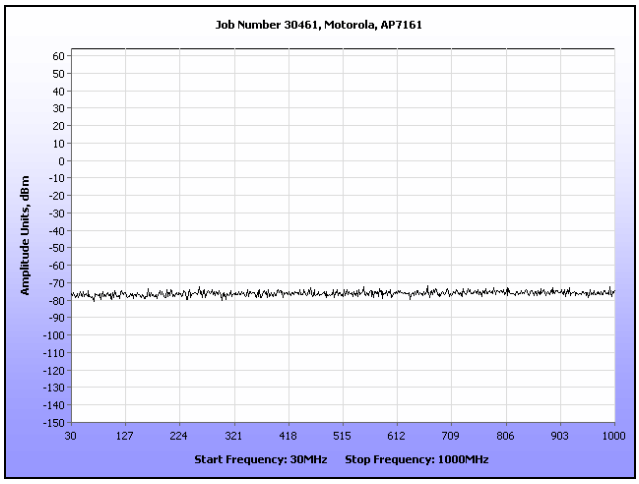


Plot 389. Receiver Spurious Emission, C, 30 MHz – 1 GHz

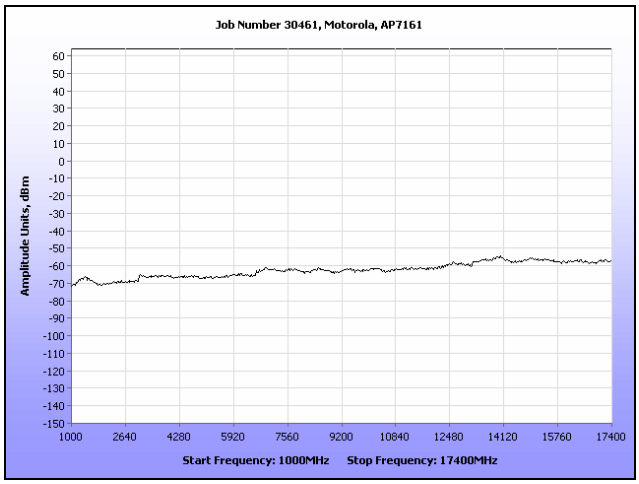


Plot 390. Receiver Spurious Emission, C, 1 - 7.5 GHz

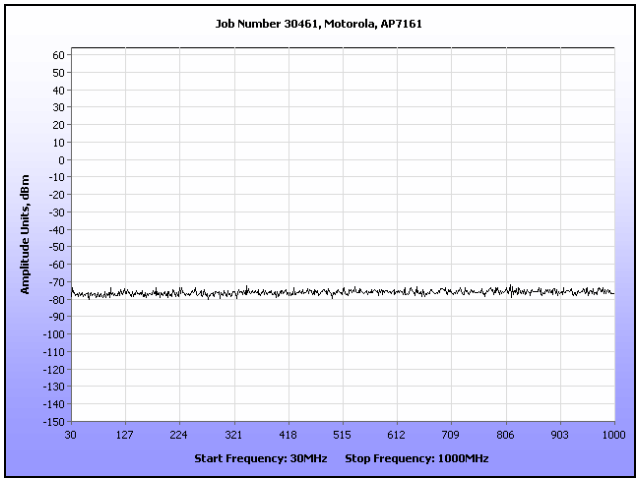
Conducted Receiver Spurious Emissions, 5.8 GHz



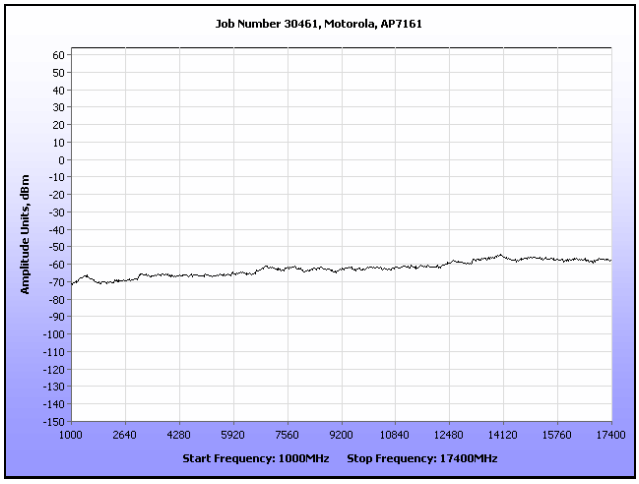
Plot 391. Receiver Spurious Emission, A, 30 MHz – 1 GHz



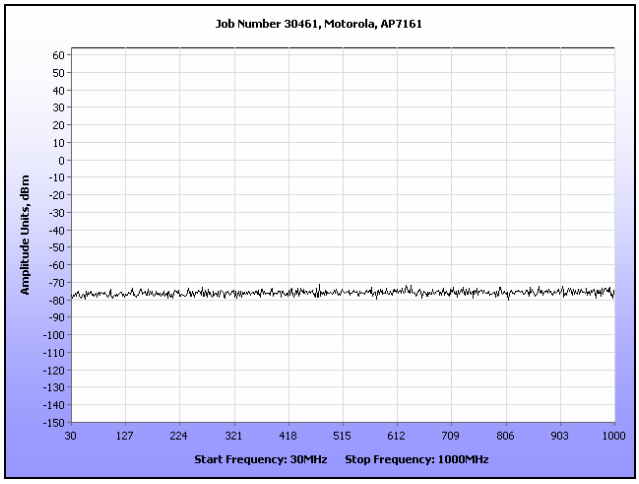
Plot 392. Receiver Spurious Emission, A, 1 GHz - 17.4 GHz



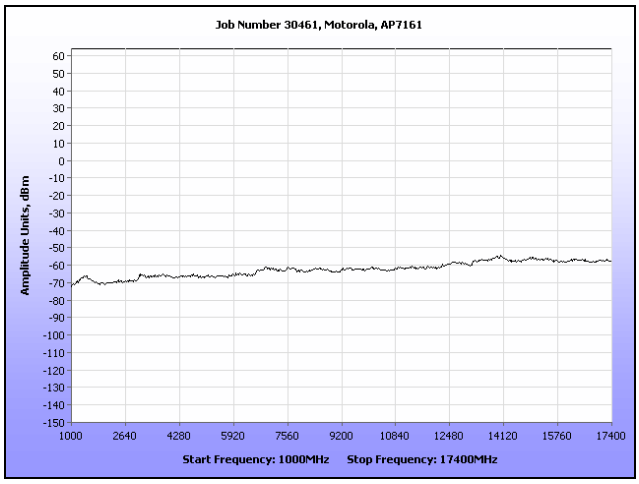
Plot 393. Receiver Spurious Emission, B, 30 MHz – 1 GHz



Plot 394. Receiver Spurious Emission, B, 1 GHz - 17.4 GHz



Plot 395. Receiver Spurious Emission, C, 30 MHz – 1 GHz



Plot 396. Receiver Spurious Emission, C, 1 GHz - 17.4 GHz