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

May 31, 2011

Firetide, Inc.
16795 Lark Ave. Suite 200
Los Gatos, CA 95032

Dear Steve Gu,

Enclosed is the EMC Wireless test report for compliance testing of the Firetide, Inc., 7200/7020 Outdoor Unit as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Title 47 of the CFR, Part 15, Subpart B, Industry Canada ICES-003 Issue 4 February 2004 for Unintentional Radiators and Part 15.407, Industry Canada RSS-210, Issue 7, June 2007 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: (\Firetide, Inc.\EMCS81748B-FCC407 Rev. 4)

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Electromagnetic Compatibility Criteria Test Report

for the

Firetide, Inc.
Model 7200/7020 Outdoor Unit

Tested under
the Certification Rules
contained in
Title 47 of the CFR, Part 15, Subpart B and
ICES-003 Issue 4 February 2004
for Unintentional Radiators
and
Title 47 of the CFR, Part 15.407 and
Industry Canada RSS-210, Issue 7, June 2007
for Intentional Radiators

MET Report: EMCS81748B-FCC407 Rev. 4

May 31, 2011

Prepared For:

Firetide, Inc.
16795 Lark Ave. Suite 200
Los Gatos, CA 95032

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

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Industry Canada RSS-210, Issue 7, June 2007
for Intentional Radiators

Minh Ly, 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 Parts 15B, 15.407, of the FCC Rules and ICES-003 and RSS-210 of the Industry Canada rules under normal use and maintenance.

Shawn McMillen, Wireless Manager
Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	October 28, 2009	Initial Issue.
1	January 13, 2010	Revised to incorporate various engineer corrections.
2	January 29, 2010	Rev 2
3	August 30, 2010	Rev 3
4	May 31, 2011	Revised to reflect engineer corrections.

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List of Terms and Abbreviations

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

I. Executive Summary

A. Purpose of Test

An EMC evaluation was performed to determine compliance of the Firetide, Inc. 7200 Outdoor Unit, with the requirements of Part 15, §15.407. All references are to the most current version of Title 47 of the Code of Federal Regulations in effect. In accordance with §2.1033, the following data is presented in support of the Certification of the 7200 Outdoor Unit. Firetide, Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the 7200 Outdoor Unit, has been **permanently** discontinued.

B. Executive Summary

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, §15.407, in accordance with Firetide, Inc., purchase order number 2475. All tests were conducted using measurement procedure ANSI C63.4-2003.

FCC Reference	Industry Canada Reference	Description	Results
15.107	ICES-003 Issue 4 February 2004	Conducted Emissions	Compliant
15.109		Radiated Emissions	Compliant
15.203	RSS-GEN 7.1.4	Antenna Requirements	Compliant
15.205/15.209	2.2	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Compliant
15.207	RSS-GEN 7.2.2; RSS-210 2.2	AC Conducted Emissions 150KHz – 30MHz	Compliant
15.403 (c)	A8.2	26dB Occupied Bandwidth	Compliant
15.407 (a)(1), (2), (3)	A9.2(3)	Conducted Transmitter Output Power	Compliant
15.407 (a)(1), (2), (3), (5)	A9.2(3)	Power Spectral Density	Compliant
15.407 (a)(6)	A8.2	Peak Excursion	Compliant
15.407 (b)(1), (2), (5), (6)	A9.3(4)	Undesirable Emissions	Compliant
15.407(f)	RSS-GEN	RF Exposure	Compliant
15.407(g)	2.1	Frequency Stability	Compliant
15.407 (h)(1)	A9.4	Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS)	Compliant
15.407 (h)(2)	A9.4	Channel Availability Check Time	Compliant
15.407 (h)(2)(ii)	A9.4	Channel Move Time and Channel Closing Time	Compliant
15.407 (h)(2)(iii)	A9.4	Non-Occupancy Period	Compliant
15.407 (h)(2)(iv)	A9.4	Radar Detection Function of Dynamic Frequency Selection (DFS)	Compliant

Table 1. Executive Summary of EMC Part 15.407 ComplianceTesting

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by Firetide, Inc. to perform testing on the 7200 Outdoor Unit, under Firetide, Inc.'s purchase order number 2475.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Firetide, Inc. 7200 Outdoor Unit.

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

Model(s) Tested:	7200 Outdoor Unit		
Model(s) Covered:	7200, 7020		
EUT Specifications:	Primary Power: 120 VDC		
	FCC ID: REP-7200-1		
	Type of Modulations:	OFDM	
	Emission Designators:	802.11a – 16M9D7D 802.11n 20 MHz – 17M9D7D 802.11n 40 MHz – 36M9D7D	
	Equipment Code:	NII	
	Peak RF Output Power:	**MHz**	**Power**
		5260-5320	20.21dBm (0.105W)
		5270-5310	20.14dBm (0.103W)
		5500-5700	20.21dBm (0.105W)
		5510-5690	20.00dBm (0.100W)
	EUT Frequency Ranges:	802.11a and 802.11n 20MHz BW 5260 MHz – 5320 MHz 5500 MHz – 5580 MHz 5660 MHz – 5700 MHz 40MHz BW 5270 MHz – 5310 MHz 5510 MHz – 5550 MHz 5670MHz	
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:	Minh Ly		
Report Date(s):	May 31, 2011		

Table 2. EUT Summary

B. References

CFR 47, Part 15, Subpart B	Electromagnetic Compatibility: Criteria for Radio Frequency Devices
CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
RSS-210, Issue 7, June 2007	Low-power License-exempt Radiocommunications Devices (All Frequency Bands): Category I Equipment
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
ANSI/NCSL Z540-1-1994	Calibration Laboratories and Measuring and Test Equipment - General Requirements
ANSI/ISO/IEC 17025:2000	General Requirements for the Competence of Testing and Calibration Laboratories

Table 3. References

C. Test Site

All testing was performed at MET Laboratories, Inc., 3162 Belick Street, Santa Clara, CA 95054. 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 10 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 Firetide, Inc. 7200/7020 Outdoor Unit, is a Dual Radio Wireless Mesh Node.

Photograph 1. Firetide, Inc. 7200/7020 Outdoor Unit

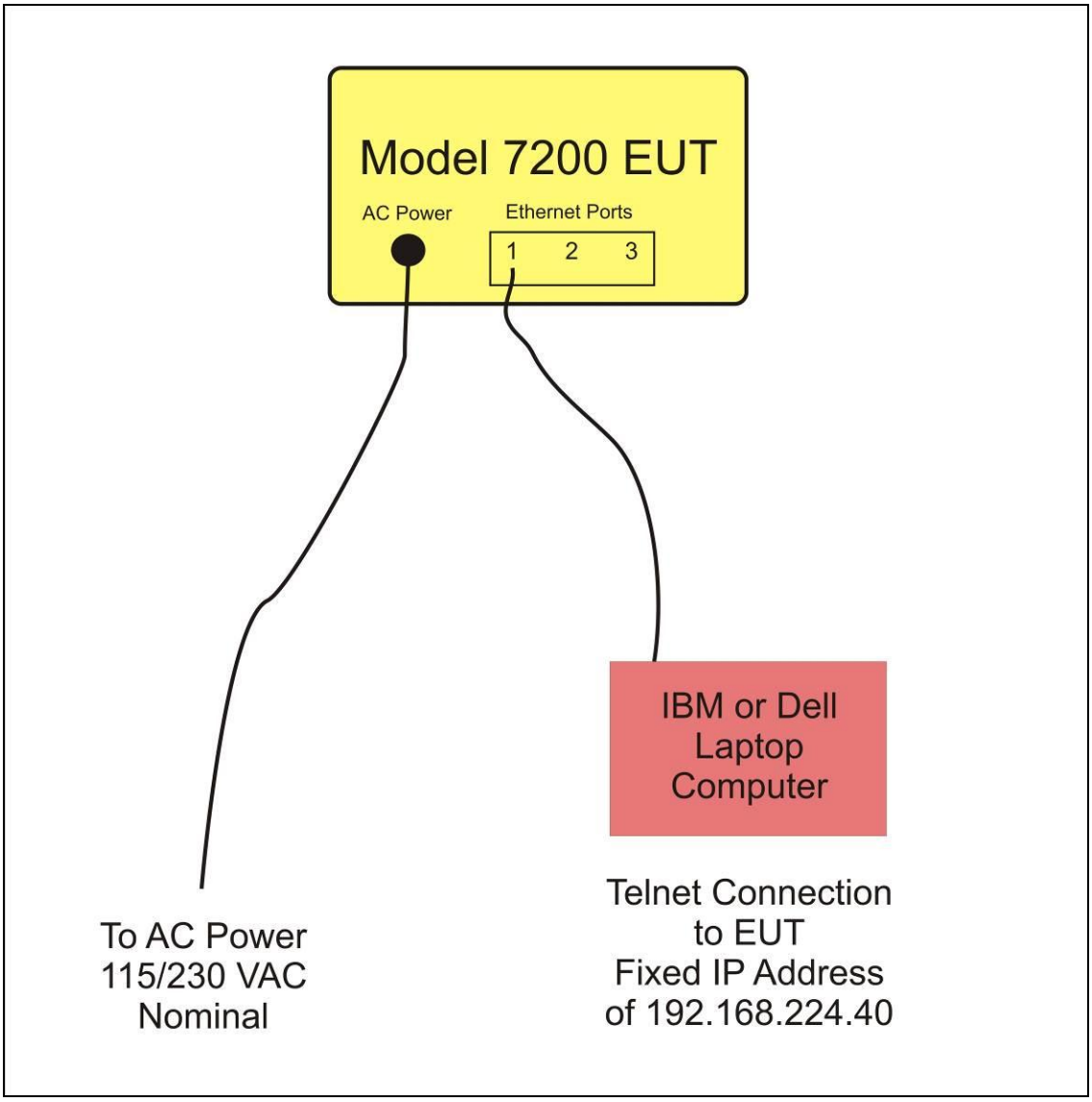


Figure 1. Block Diagram of Test Configuration

E. Equipment Configuration

The EUT was set up as outlined in Figure 1, Block Diagram of Test Setup. All cards, racks, etc., incorporated as part of the EUT is included in the following list.

Ref. ID	Slot #	Name / Description	Model Number	Part Number	Serial Number	Rev. #
N/A	N/A	HOTPORT INDOOR MESH NODE	7200	7200	N/A	1

Table 4. Equipment Configuration

F. Support Equipment

Firetide, Inc. supplied support equipment necessary for the operation and testing of the 7200 Outdoor Unit. All support equipment supplied is listed in the following Support Equipment List.

Ref. ID	Name / Description	Manufacturer	Model Number
N/A	LAPTOP COMPUTER	IBM	T42
N/A	LAPTOP COMPUTER	DELL	S300

Table 5. Support Equipment

G. Ports and Cabling Information

Ref. ID	Port name on EUT	Cable Description or reason for no cable	Qty.	Length (m)	Shielded (Y/N)	Termination Box ID & Port Name
N/A	PORT 1	ETHERNET	1	18	N	N/A
N/A	PORT 2 – 3	NOT CONNECTED; ONLY 1 ETHERNET CONNECTION IS NECESSARY TO COMMUNICATE WITH EUT	N/A	N/A	N/A	N/A
N/A	AC POWER	3 PIN CIRCULAR CONNECTOR	1	5	N	N/A
N/A	USB	NOT USED; DISABLED	N/A	N/A	N/A	N/A

Table 6. Ports and Cabling Information

H. Mode of Operation

The UUT has the Atheros Radio Test (ART) software loaded. The UUT can be put into continuous TX or RX using ART. The Mesh Node has a default IP address of 192.168.224.150. An external computer can ping this address to verify the Ethernet PHY and processor are running.

I. Method of Monitoring EUT Operation

An external computer can ping this address to verify the Ethernet PHY and processor are running.

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 Firetide, 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.

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 found compliant with the Class B requirement(s) of this section. Measured emissions were below applicable limits.

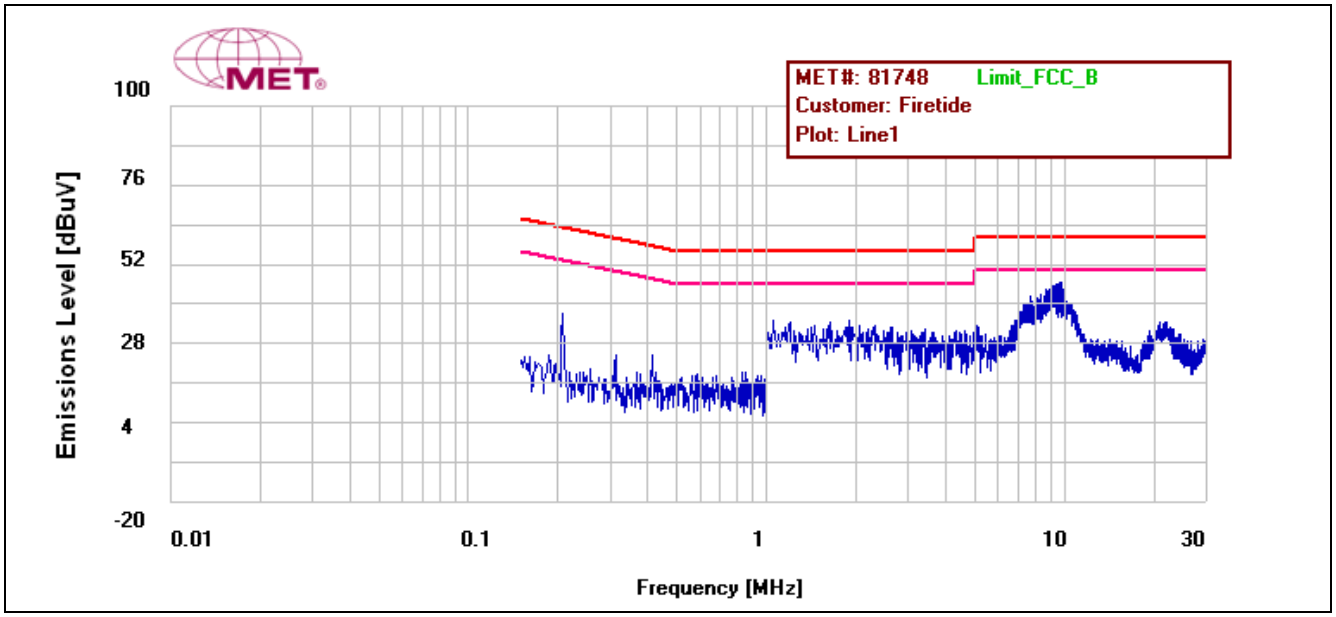
Test Engineer(s): Minh Ly

Test Date(s): 08/06/09

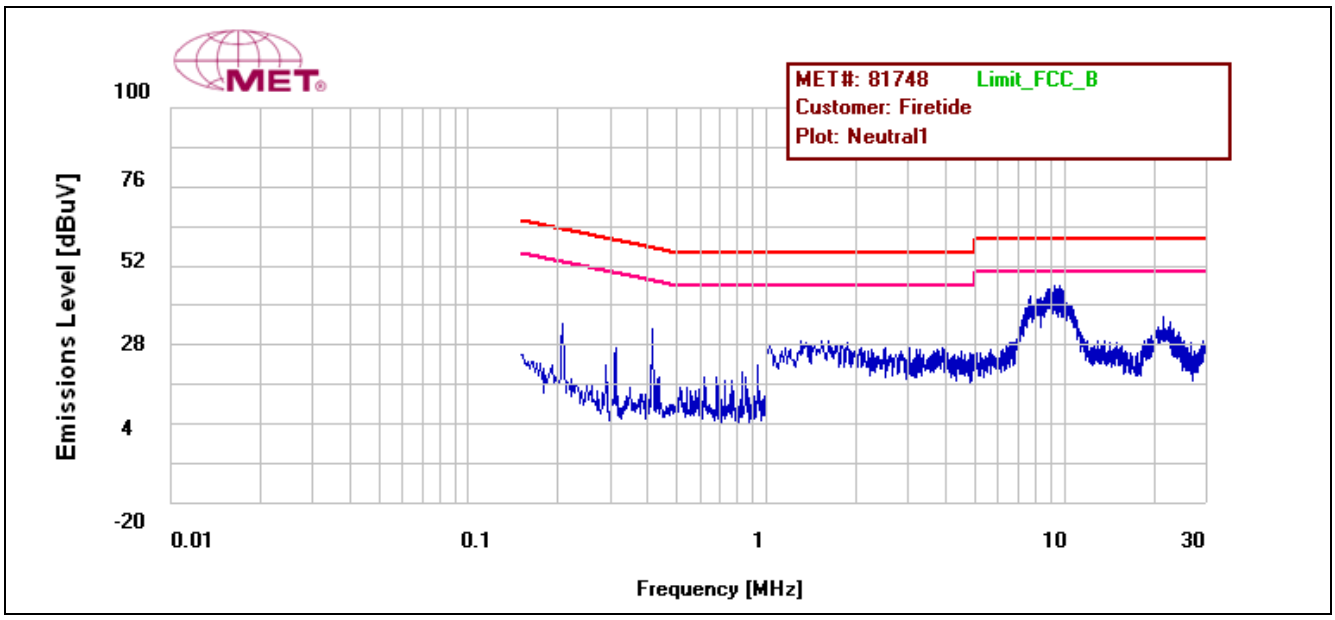
Conducted Emissions - Voltage, AC Power

Line	Freq (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Line	0.207	36.87	63.332	-26.462	Pass	32.02	53.332	-21.312	Pass
Line	9.56	36.79	60	-23.21	Pass	30.65	50	-19.35	Pass
Line	23.14	20.97	60	-39.03	Pass	15.998	50	-34.002	Pass
Neutral	0.207	34.76	63.332	-28.572	Pass	31.85	53.332	-21.482	Pass
Neutral	0.414	32.71	57.591	-24.881	Pass	31.52	47.591	-16.071	Pass
Neutral	9.562	37.77	60	-22.23	Pass	30.47	50	-19.53	Pass

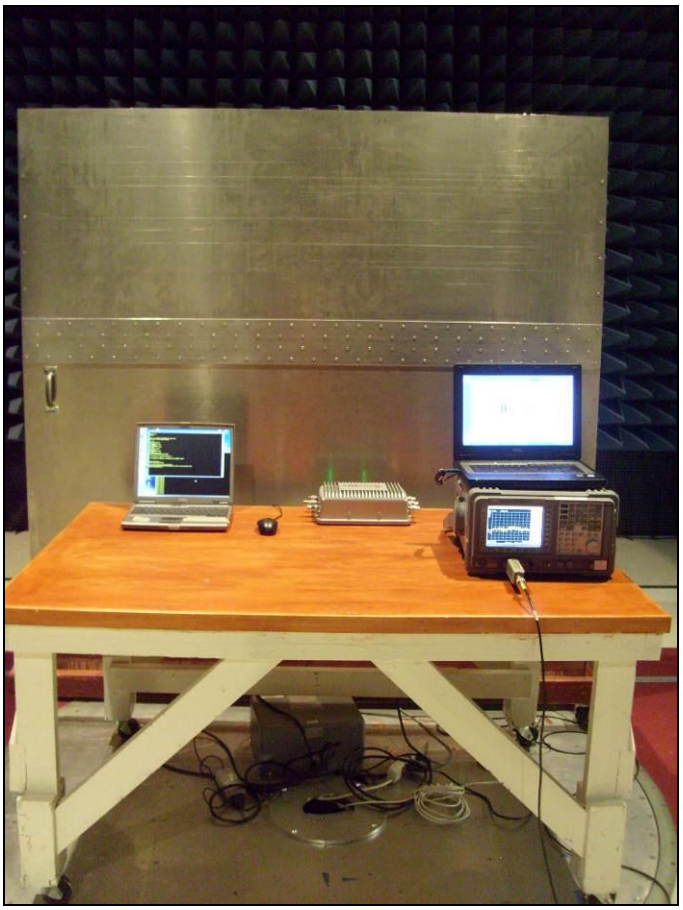
Table 8. Conducted Emissions - Voltage, AC Power, Test Results



Plot 1. Conducted Emission, Phase Line Plot



Plot 2. Conducted Emission, Neutral Line Plot



Photograph 2. Conducted Emissions, Test Setup

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 9.

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 9.

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

Test Procedures: The EUT was placed on a 0.8m-high wooden table inside a semi-anechoic chamber. The method of testing and test conditions of ANSI C63.4 were used. An antenna was located 3 m 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 found to comply with the Class A requirement(s) of this section. Measured emissions were below applicable limits.

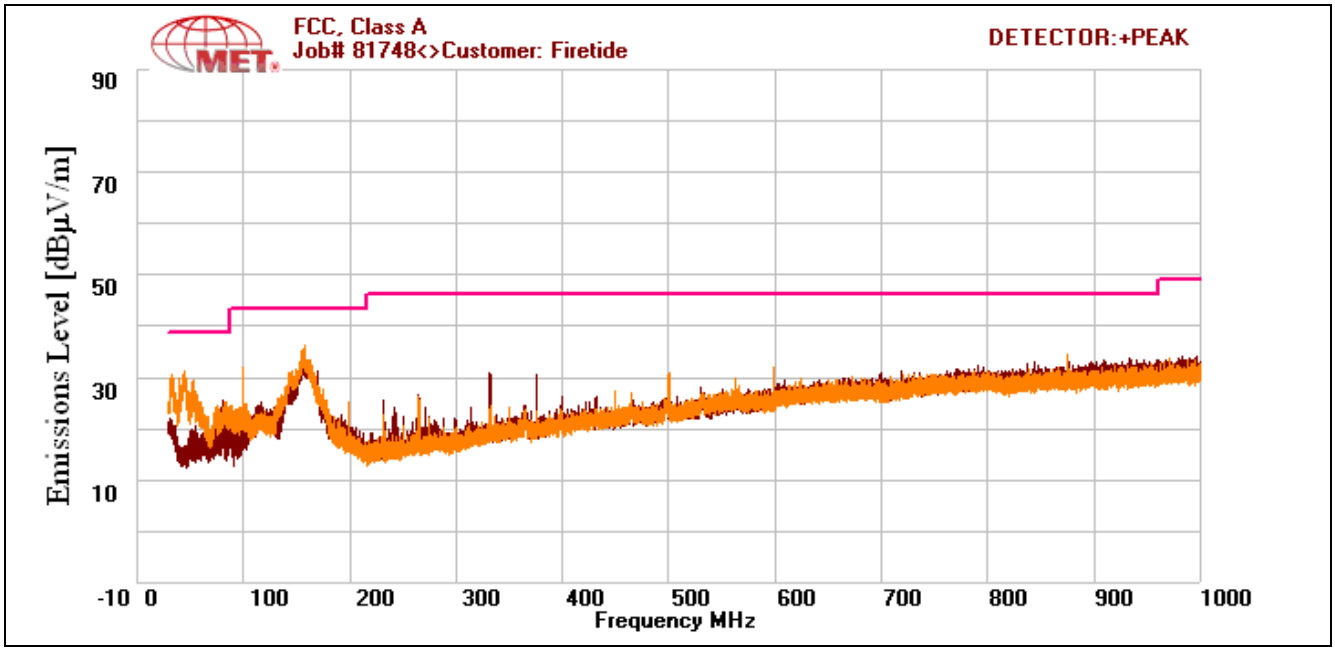
Test Engineer(s): Minh Ly

Test Date(s): 08/10/09

Radiated Emissions Limits Test Results, Class A

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
45.84	V	278	100	26.74	9.164	0	1.644	-10.46	27.088	39	-11.912
100	V	0	100	20.3	12.7	0	2.47	-10.46	25.01	43.5	-18.49
100	H	237	190	21.32	11.1	0	2.47	-10.46	24.43	43.5	-19.07
157.52	H	106	202	29.59	10.898	0	3.178	-10.46	33.206	43.5	-10.294
157.6	V	213	100	28.96	11.292	0	3.178	-10.46	32.97	43.5	-10.53
332.48	H	206	109	20.96	14.75	0	4.64	-10.46	29.89	46.4	-16.51

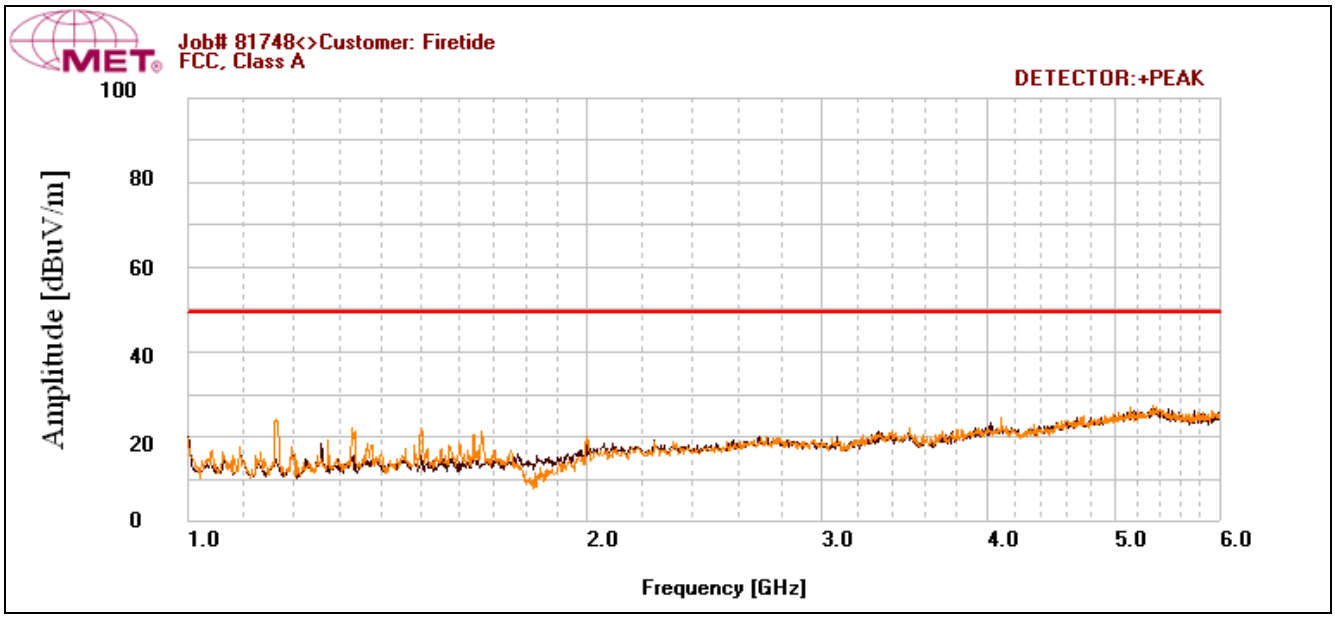
Table 10. Radiated Emissions, Test Results, FCC Limits, 30 MHz – 1 GHz



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

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1332	V	360	100	54.58	-1.641	35.149	1.726	-10.46	9.056	49.5	-40.444
1500	V	326	100	52.75	-1.848	34.894	1.82	-10.46	7.368	49.5	-42.132
4000	H	125	100	46.9	3.795	34.456	3.35	-10.46	9.129	49.5	-40.371
6000	V	0	100	44.09	8.972	34.372	4.61	-10.46	12.84	49.5	-36.66
6000	H	0	100	43.72	8.972	34.372	4.61	-10.46	12.47	49.5	-37.03

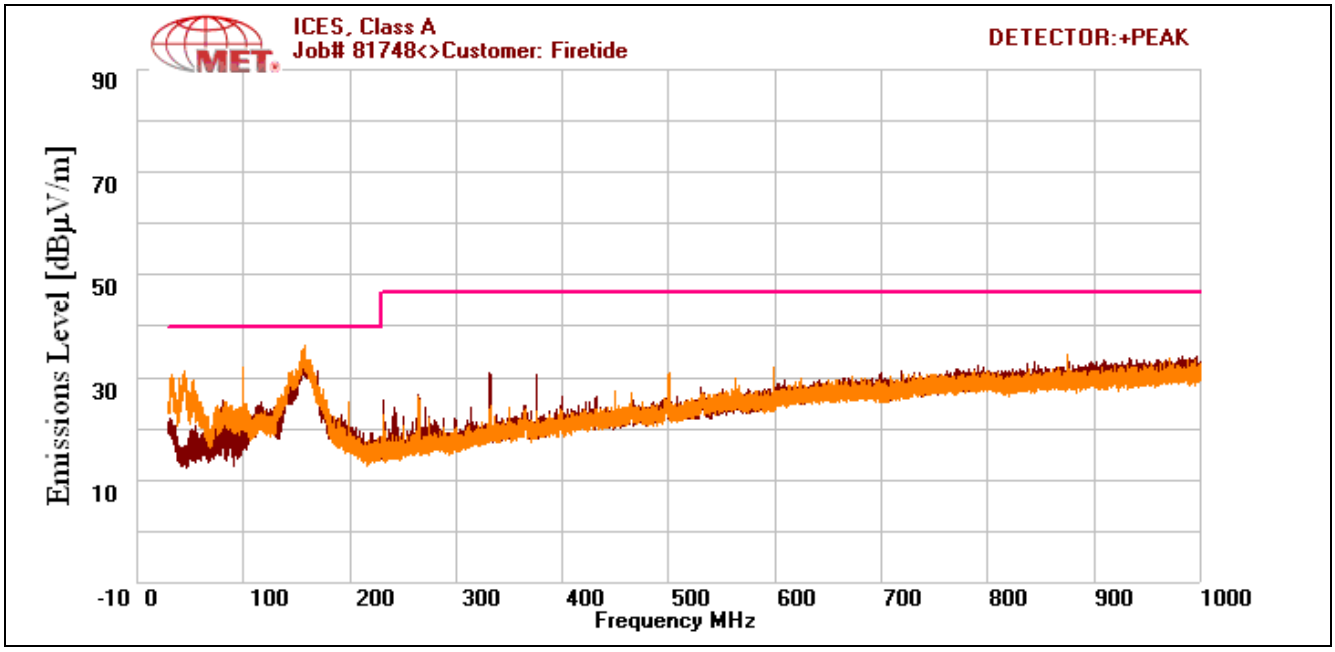
Table 11. Radiated Emissions, Test Results, FCC Limits, 1GHz – 6GHz



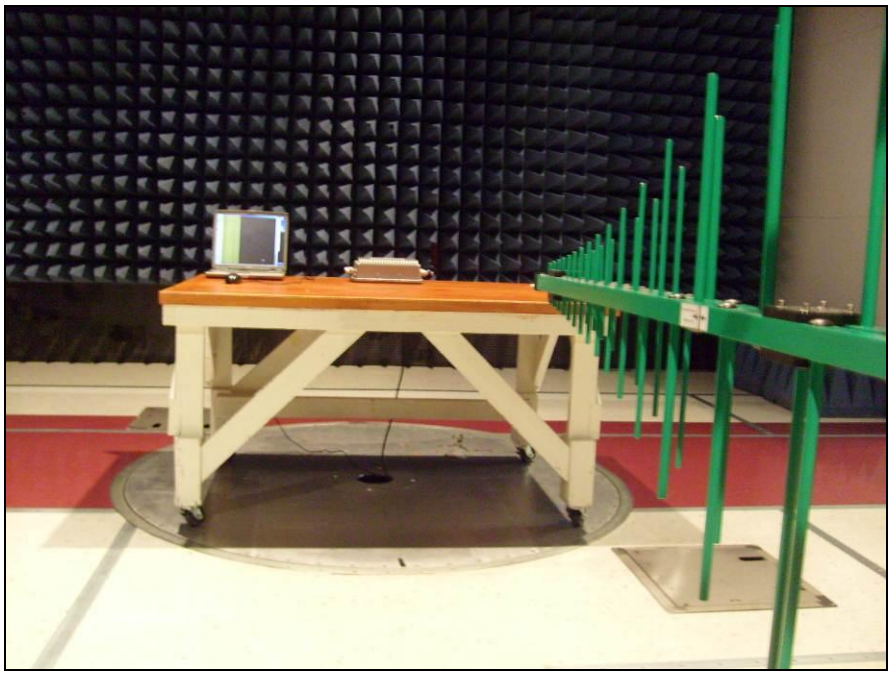
Plot 4. Radiated Emissions, Pre-Scan, FCC Limits, 1 GHz – 6 GHz

Frequency (MHz)	Antenna Polarity	EUT Azimuth (Degrees)	Antenna Height (cm)	Uncorrected Amplitude (dBuV)	ACF (dB/m)	Pre Amp Gain (dB)	CBL (dB)	DCF (dB)	Corrected Amplitude (dBuV/m)	Limit (dBuV/m)	Margin (dB)
45.84	V	278	100	26.74	9.164	0	1.644	-10.46	27.088	40	-12.912
100	V	0	100	20.3	12.7	0	2.47	-10.46	25.01	40	-14.99
157.6	V	213	100	28.96	11.292	0	3.178	-10.46	32.97	40	-7.03
100	H	237	190	21.32	11.1	0	2.47	-10.46	24.43	40	-15.57
157.52	H	106	202	29.59	10.898	0	3.178	-10.46	33.206	40	-6.794
332.48	H	206	109	20.96	14.75	0	4.64	-10.46	29.89	47	-17.11

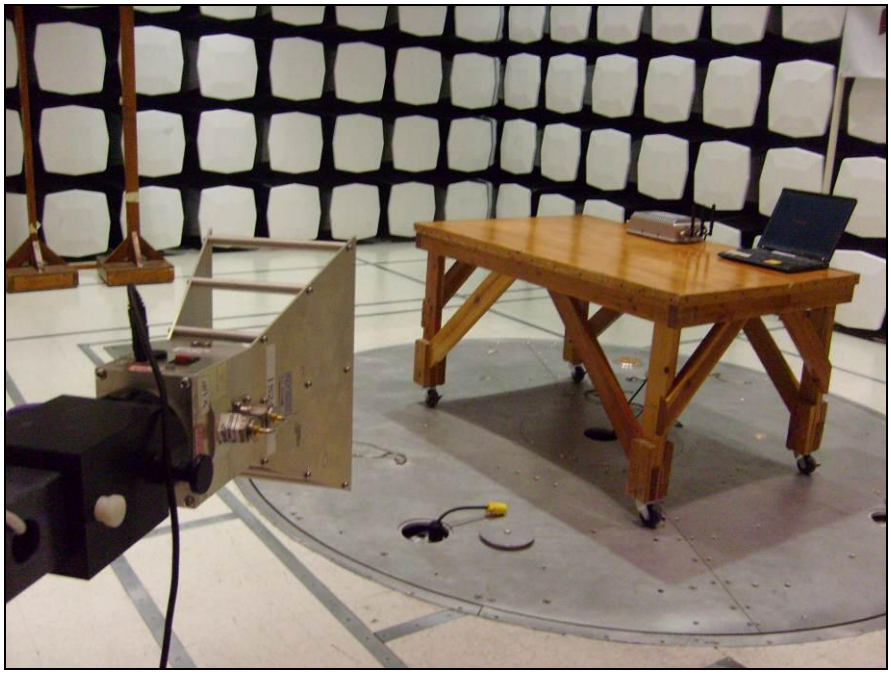
Table 12. Radiated Emissions, Test Results, ICES-003 Limits, 30 MHz – 1 GHz



Plot 5. Radiated Emissions, Pre-Scan, ICES-003 Limits, 30 MHz – 1 GHz



Photograph 3 Radiated Emission Test Setup 30 MHz – 1 GHz



Photograph 4. Radiated Emission Test Setup 1 GHz – 6 GHz

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. The unit will be professionally installed.

Gain/Type	Model	Manufacturer
5dBi Omni (5GHz)	C812-510012-A	Wha Yu
9dBi Omni (5GHz)	MA-W055-MIMONHFT9	MARS ANTENNAS & RF Systems LTD
16dBi Sector (5GHz)	MA-WD55-MIMOFT16	MARS ANTENNAS & RF Systems LTD
19dBi Panel (5GHz)	MA-WA55-MIMO	MARS ANTENNAS & RF Systems LTD

Table 13. Antenna Information

Test Engineer(s): Minh Ly

Test Date(s): 09/02/09

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

Test Procedure: The EUT was placed on a 0.8 m-high wooden table inside a 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 found to comply with the requirement(s) of this section. Measured emissions were below applicable limits.

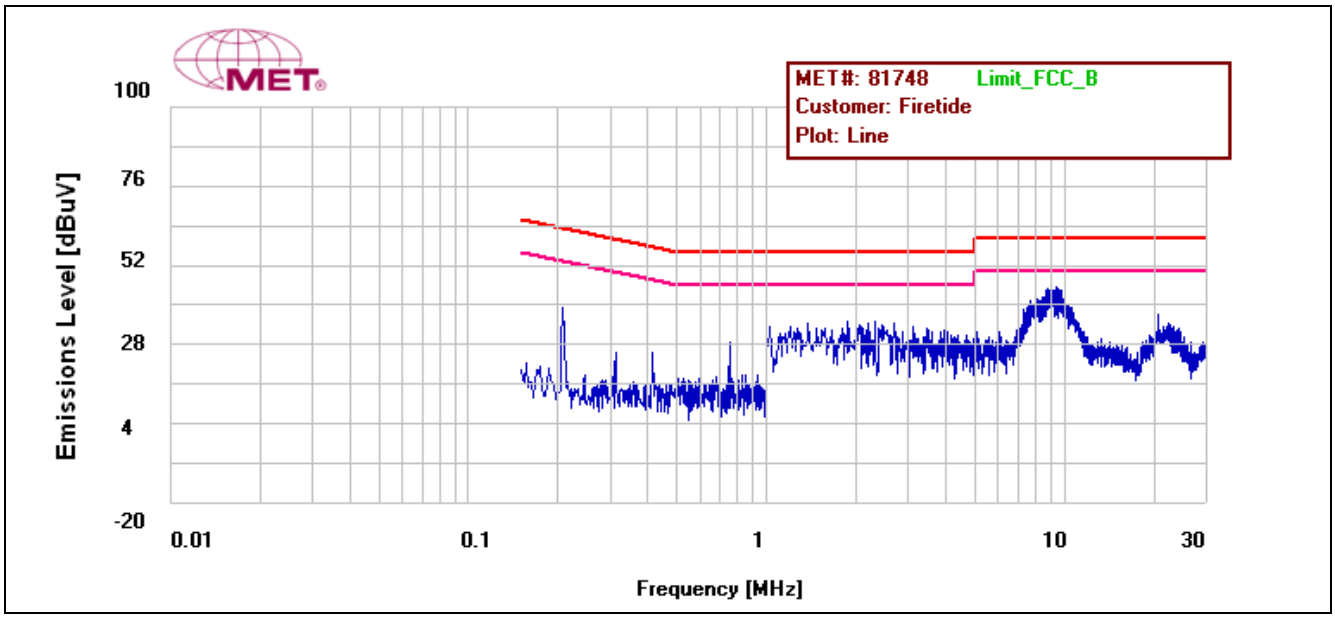
Test Engineer(s): Minh Ly

Test Date(s): 08/17/09

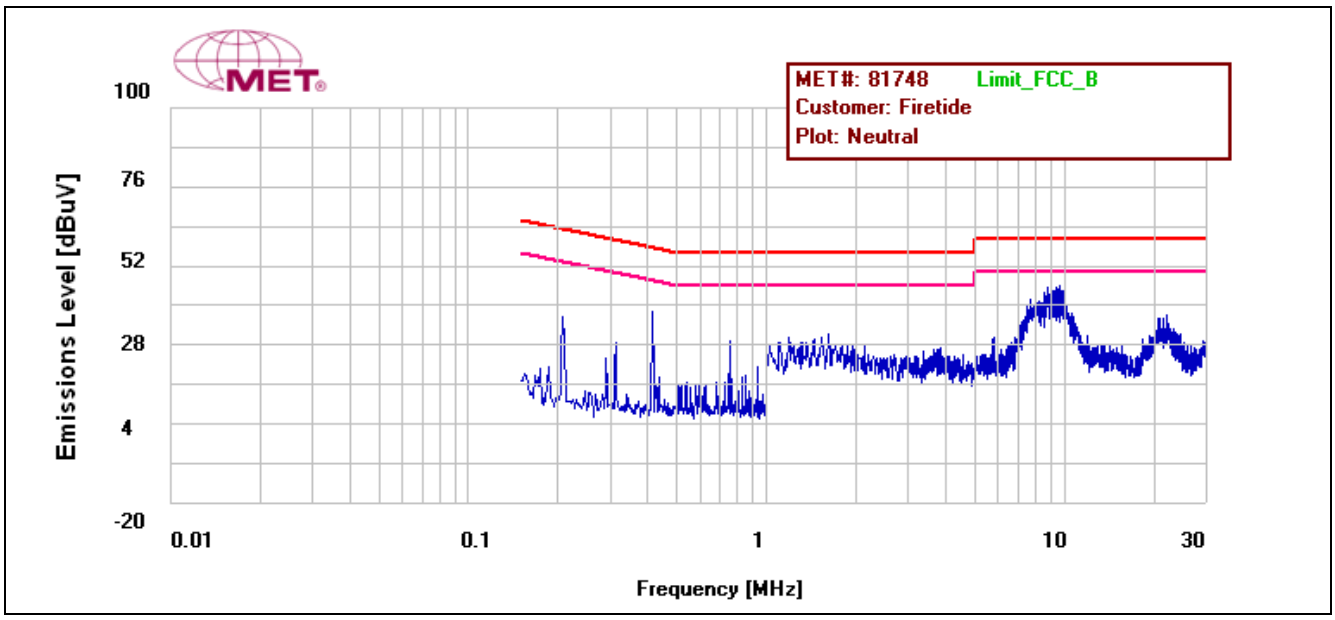
Conducted Emissions - Voltage, AC Power

Line	Freq (MHz)	QP Amplitude	QP Limit	Delta	Pass	Average Amplitude	Average Limit	Delta	Pass
Line	0.206	38.73	63.372	-24.642	Pass	33.83	53.372	-19.542	Pass
Line	0.76	21.03	56	-34.97	Pass	16.023	46	-29.977	Pass
Line	9.45	37.95	60	-22.05	Pass	31.47	50	-18.53	Pass
Neutral	0.207	36.5	63.332	-26.832	Pass	33.9	53.332	-19.432	Pass
Neutral	0.414	33.77	57.591	-23.821	Pass	32.7	47.591	-14.891	Pass
Neutral	9.117	38.87	60	-21.13	Pass	32.33	50	-17.67	Pass

Table 15. Conducted Emissions - Voltage, AC Power, Test Results



Plot 6. §15.207 Conducted Emissions, Phase Line Plot, 7200 Outdoor Unit



Plot 7. §15.207 Conducted Emissions, Neutral Line Plot, 7200 Outdoor Unit

Photograph 5. Conducted Emissions, Test Setup

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 403(c) 26dB Bandwidth

Test Requirements: **§ 15.403 (c):** Operation under the provisions of this section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

Test Procedure: The transmitter was set to the mid channel 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. The measurements were repeated at the low and high channels.

Test Results Equipment complies with § 15.407 (c). The 26 dB Bandwidth was determined from the plots on the following pages.

Test Engineer(s): Minh Ly

Test Date(s): 07/28/09 – 08/11/09

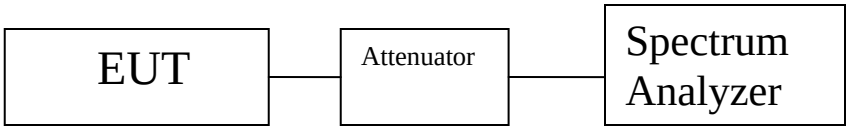


Figure 2. Occupied Bandwidth Test Setup

Occupied Bandwidth, Port 1			
Mode	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**	**99 % Bandwidth (MHz)**
802.11a	5260	16.6051	16.2574
	5320	16.5974	16.4561
	5500	16.8858	16.2905
	5580	16.5369	16.4007
	5700	16.5889	16.3513
802.11n 20MHz	5260	17.8775	17.6328
	5320	17.7002	17.5481
	5500	17.7966	17.6993
	5580	17.6172	17.4919
	5700	17.7173	17.3338
802.11n 40MHz	5270	36.9057	36.7638
	5310	36.9001	36.6566
	5510	36.6398	36.4100
	5550	36.5579	36.5839
	5670	36.6412	36.6333

Table 16. Occupied Bandwidth, Port 1, Test Results

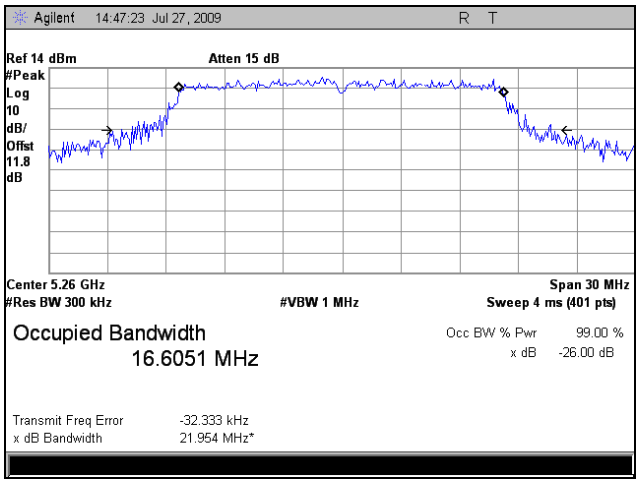
Occupied Bandwidth, Port 2			
Mode	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**	**99 % Bandwidth (MHz)**
802.11n 20MHz	5260	17.7306	17.5789
	5320	17.7836	17.6254
	5500	17.8179	17.5414
	5580	17.5533	17.6765
	5700	17.6525	17.5882
802.11n 40MHz	5270	36.8372	36.6803
	5310	36.7184	36.2819
	5510	36.8367	36.5567
	5550	36.7273	36.4103
	5670	36.7982	36.7017

Table 17. Occupied Bandwidth, Port 2, Test Results

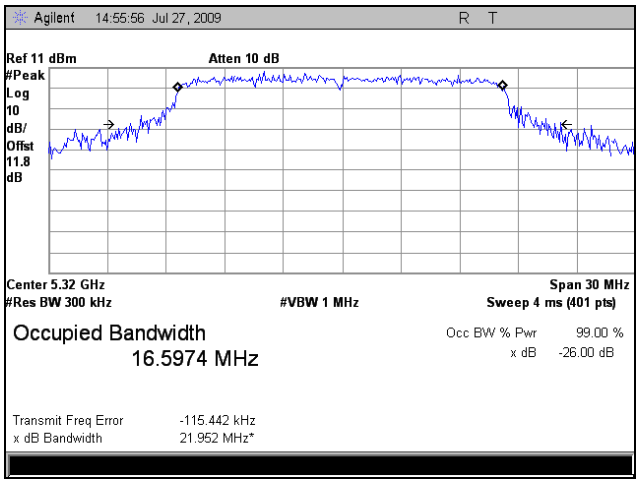
Occupied Bandwidth, Port 3			
Mode	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**	**99 % Bandwidth (MHz)**
802.11n 20MHz	5260	17.8378	17.6291
	5320	17.7333	17.5672
	5500	17.7594	17.5506
	5580	17.6137	17.5337
	5700	17.8288	17.5724
802.11n 40MHz	5270	36.8721	36.2576
	5310	36.8101	36.8722
	5510	37.0056	36.8653
	5550	36.5107	36.6691
	5670	36.9159	36.4767

Table 18. Occupied Bandwidth, Port 3, Test Results

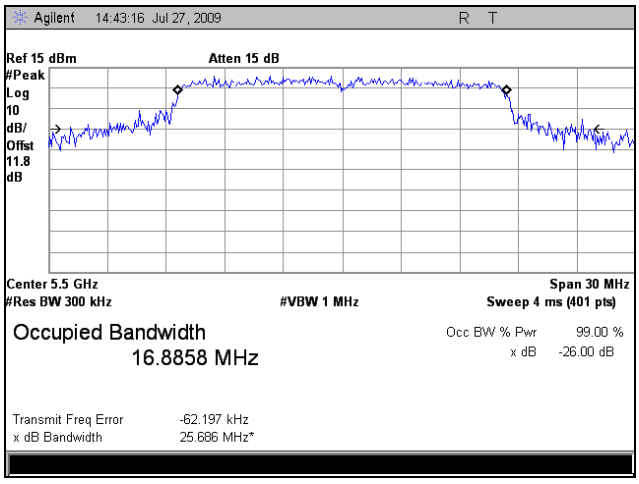
Occupied Bandwidth, Port 1



Plot 8. Occupied Bandwidth, Port 1, 802.11a, 5260 MHz

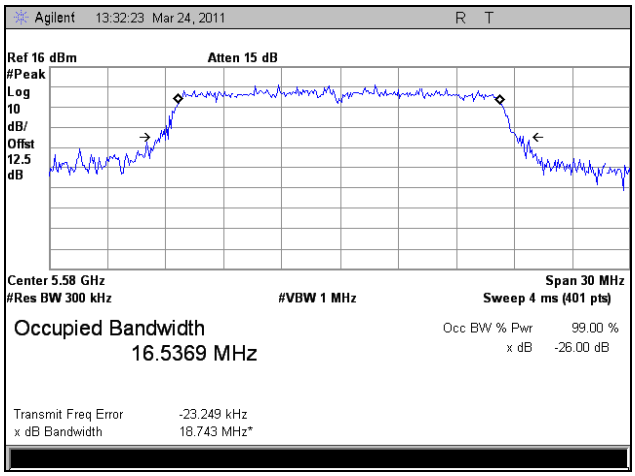


Plot 9. Occupied Bandwidth, Port 1, 802.11a, 5320 MHz

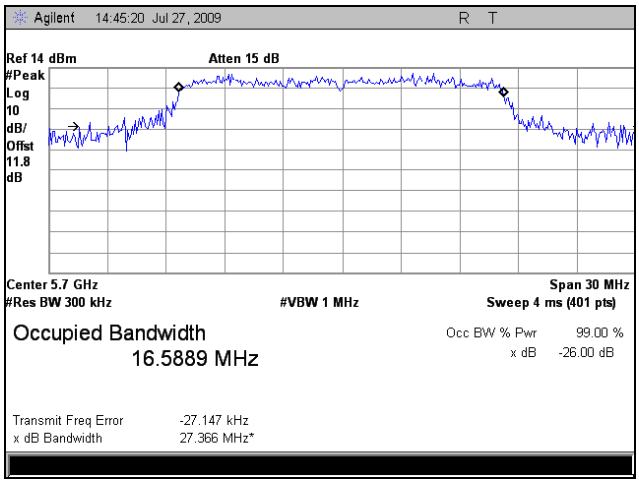


Plot 10. Occupied Bandwidth, Port 1, 802.11a, 5500 MHz

Occupied Bandwidth, Port 1

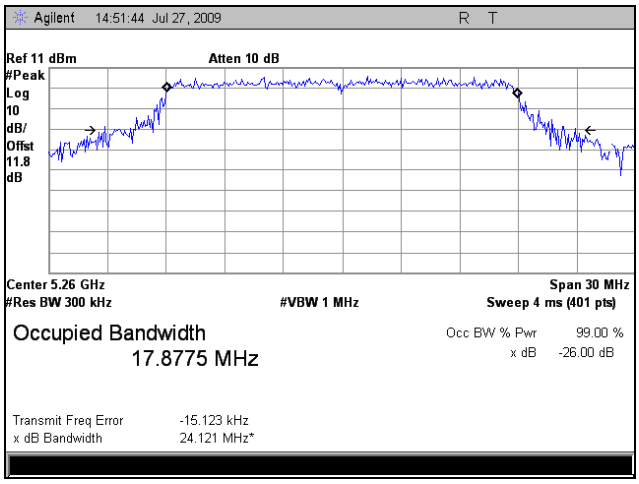


Plot 11. Occupied Bandwidth, Port 1, 802.11a, 5580 MHz

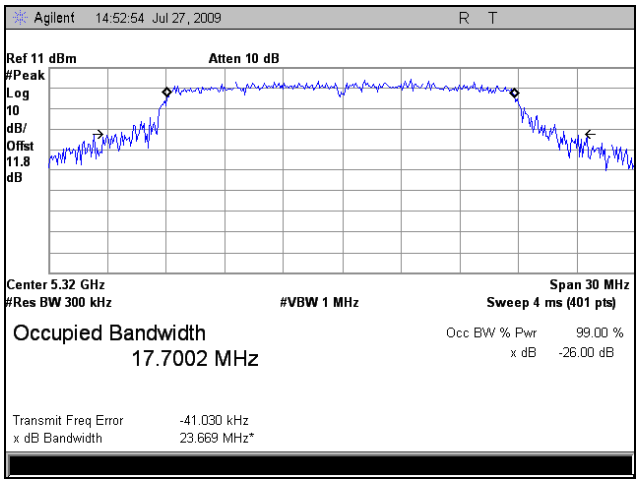


Plot 12. Occupied Bandwidth, Port 1, 802.11a, 5700 MHz

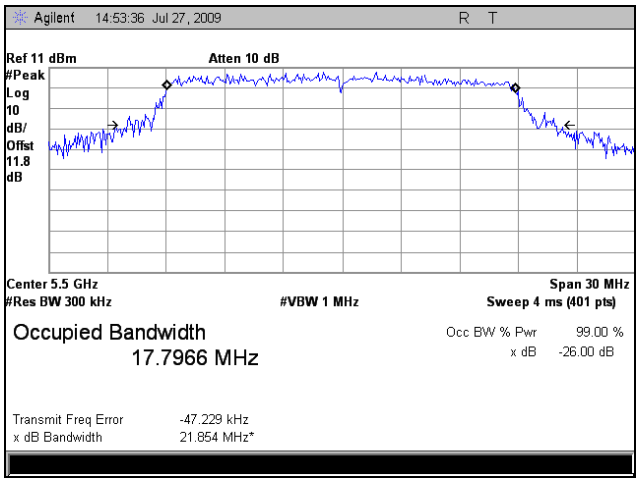
Occupied Bandwidth, Port 1, 802.11n 20MHz



Plot 13. Occupied Bandwidth, Port 1, 802.11n 20MHz, 5260 MHz

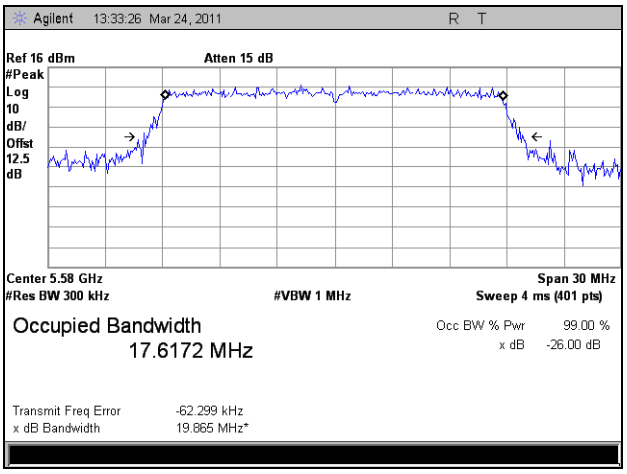


Plot 14. Occupied Bandwidth, Port 1, 802.11n 20MHz, 5320 MHz

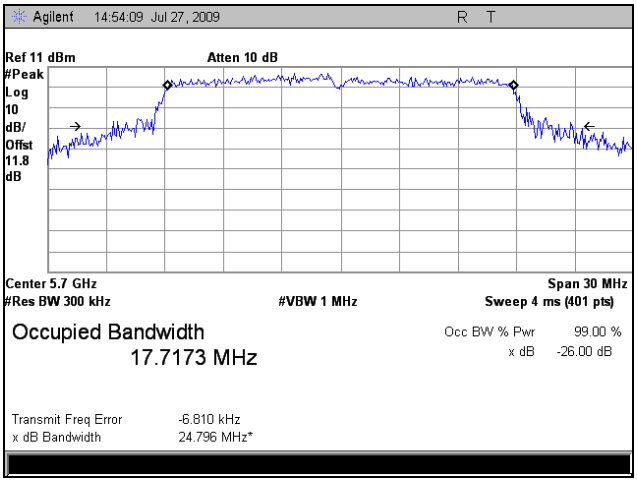


Plot 15. Occupied Bandwidth, Port 1, 802.11n 20MHz, 5500 MHz

Occupied Bandwidth, Port 1, 802.11n 20MHz

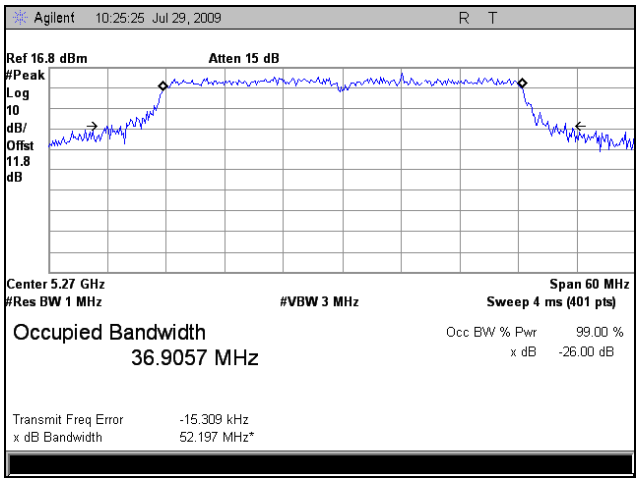


Plot 16. Occupied Bandwidth, Port 1, 802.11n 20MHz, 5580 MHz

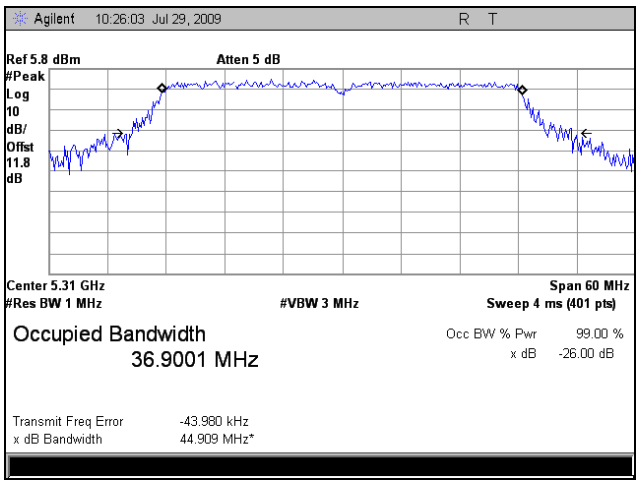


Plot 17. Occupied Bandwidth, Port 1, 802.11n 20MHz, 5700 MHz

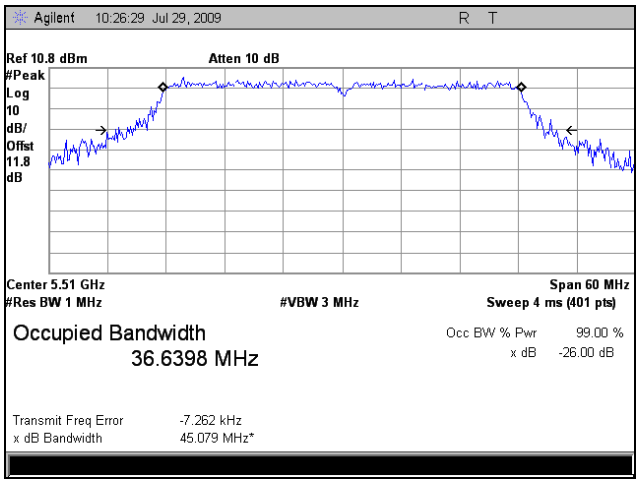
Occupied Bandwidth, Port 1, 802.11n 40MHz



Plot 18. Occupied Bandwidth, Port 1, 802.11n 40MHz, 5270 MHz

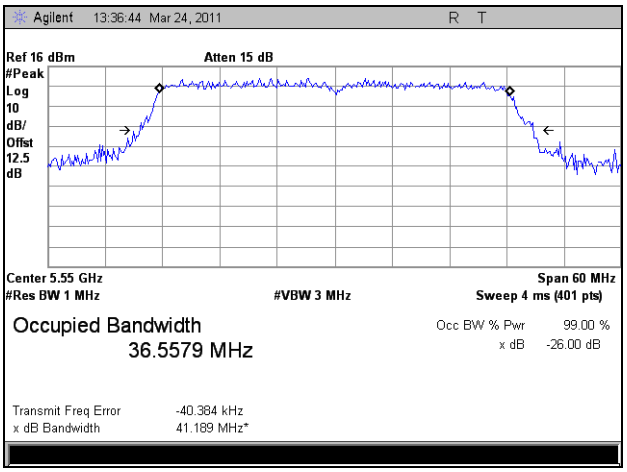


Plot 19. Occupied Bandwidth, Port 1, 802.11n 40MHz, 5310 MHz

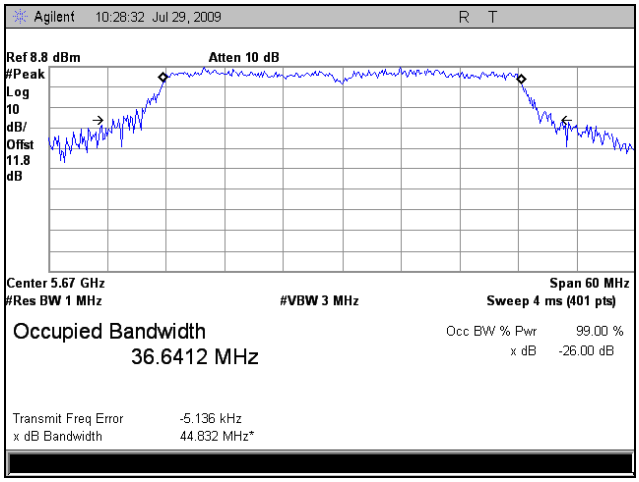


Plot 20. Occupied Bandwidth, Port 1, 802.11n 40MHz, 5510 MHz

Occupied Bandwidth, Port 1, 802.11n 40MHz

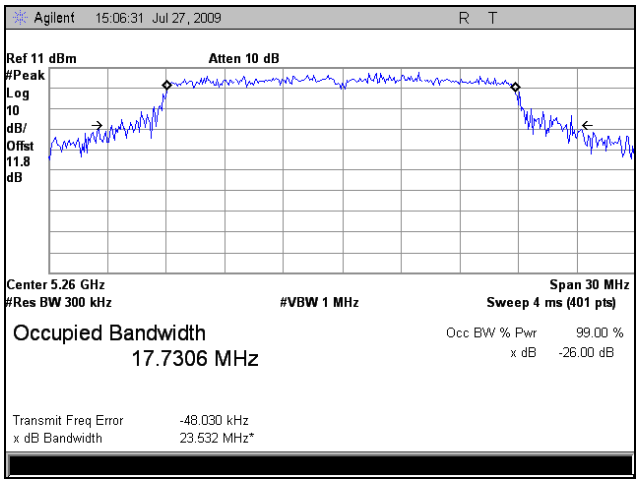


Plot 21. Occupied Bandwidth, Port 1, 802.11n 40MHz, 5550 MHz

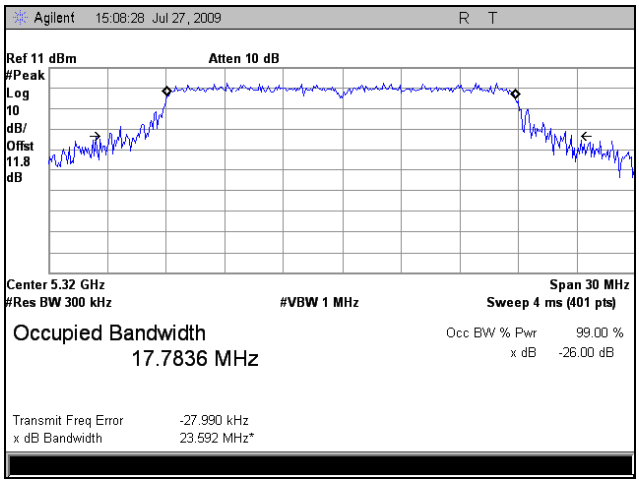


Plot 22. Occupied Bandwidth, Port 1, 802.11n 40MHz, 5670 MHz

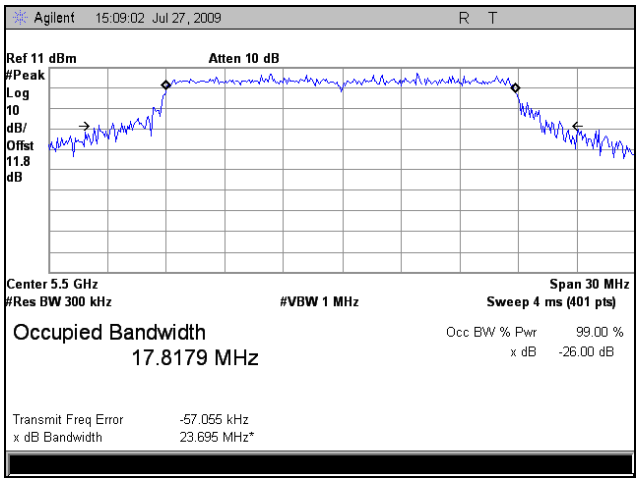
Occupied Bandwidth, Port 2, 802.11n 20MHz



Plot 23. Occupied Bandwidth, Port 2, 802.11n 20MHz, 5260 MHz

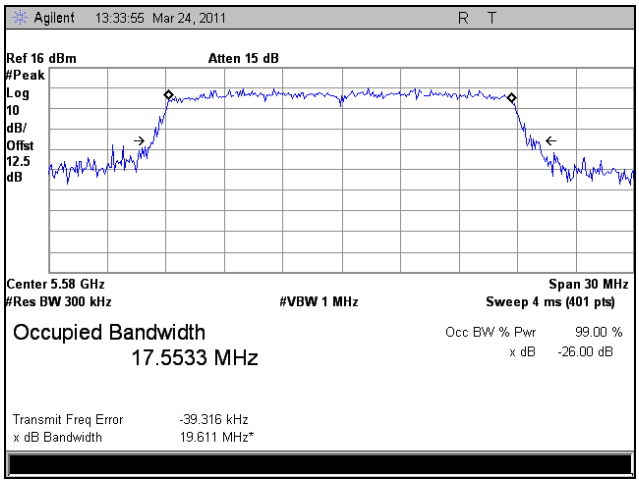


Plot 24. Occupied Bandwidth, Port 2, 802.11n 20MHz, 5320 MHz

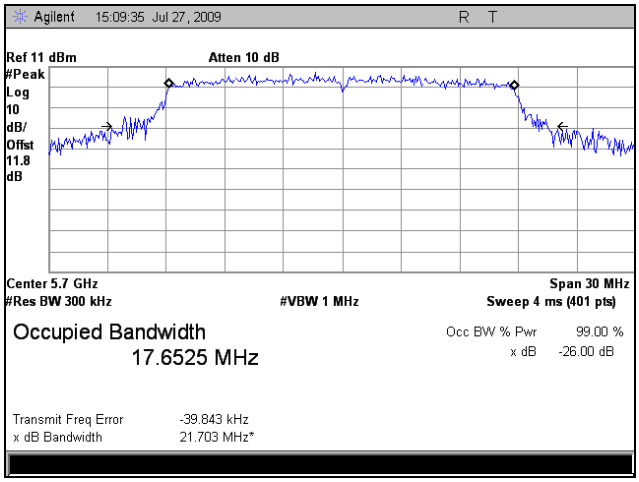


Plot 25. Occupied Bandwidth, Port 2, 802.11n 20MHz, 5500 MHz

Occupied Bandwidth, Port 2, 802.11n 20MHz

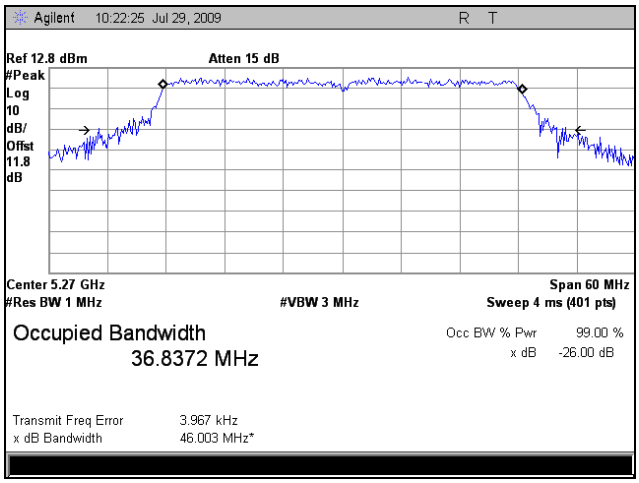


Plot 26. Occupied Bandwidth, Port 2, 802.11n 20MHz, 5580 MHz

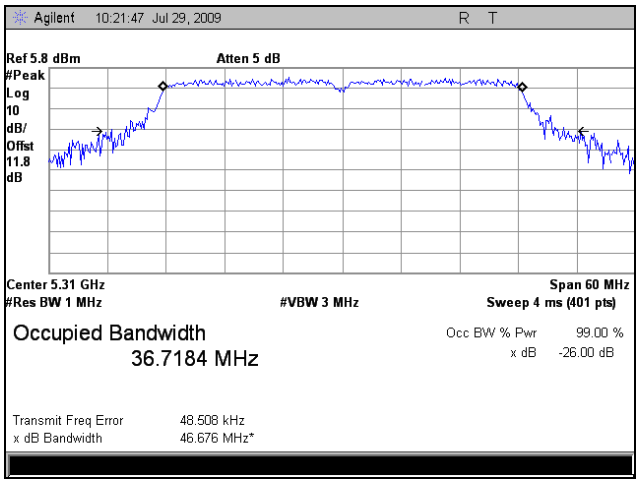


Plot 27. Occupied Bandwidth, Port 2, 802.11n 20MHz, 5700 MHz

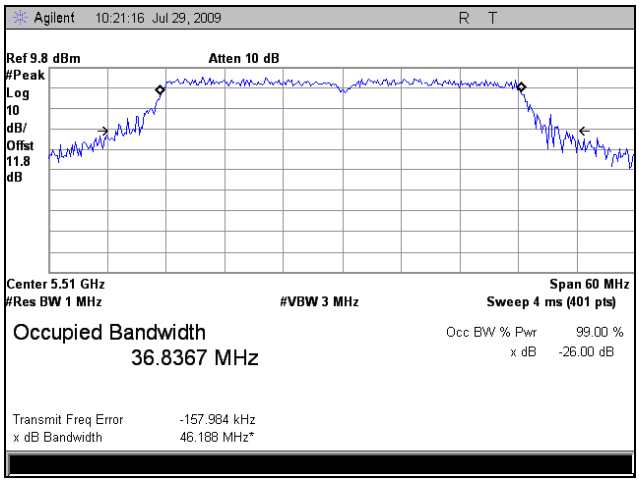
Occupied Bandwidth, Port 2, 802.11n 40MHz



Plot 28. Occupied Bandwidth, Port 2, 802.11n 40MHz, 5270 MHz

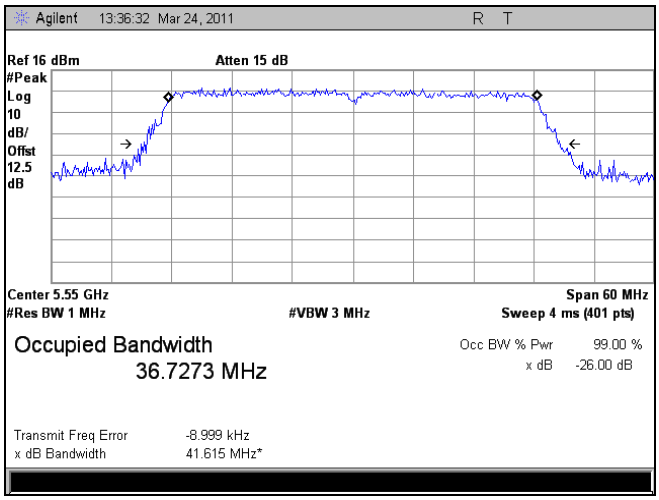


Plot 29. Occupied Bandwidth, Port 2, 802.11n 40MHz, 5310 MHz

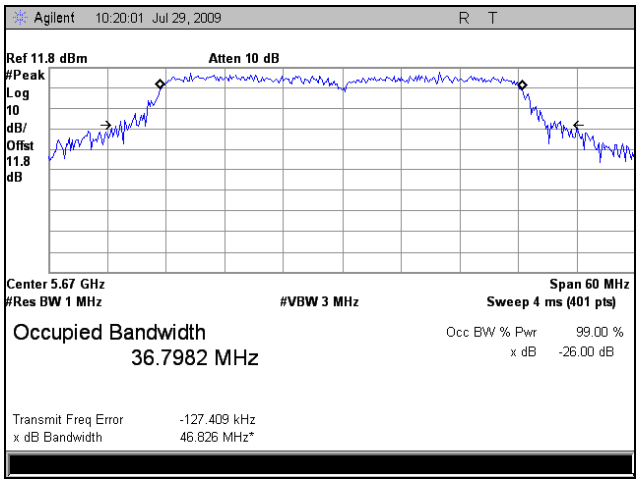


Plot 30. Occupied Bandwidth, Port 2, 802.11n 40MHz, 5510 MHz

Occupied Bandwidth, Port 2, 802.11n 40MHz

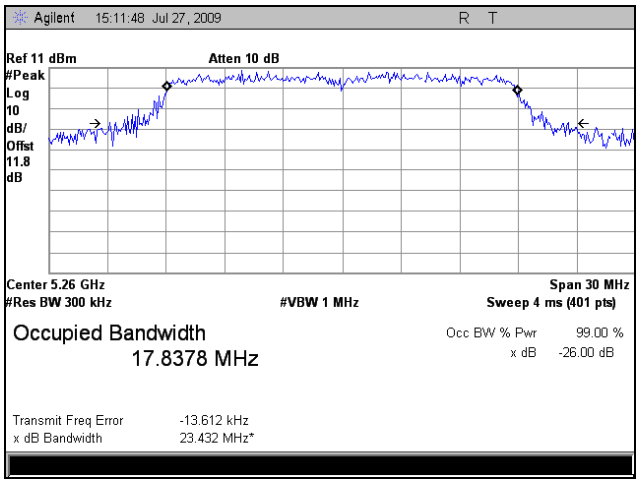


Plot 31. Occupied Bandwidth, Port 2, 802.11n 40MHz, 5550 MHz

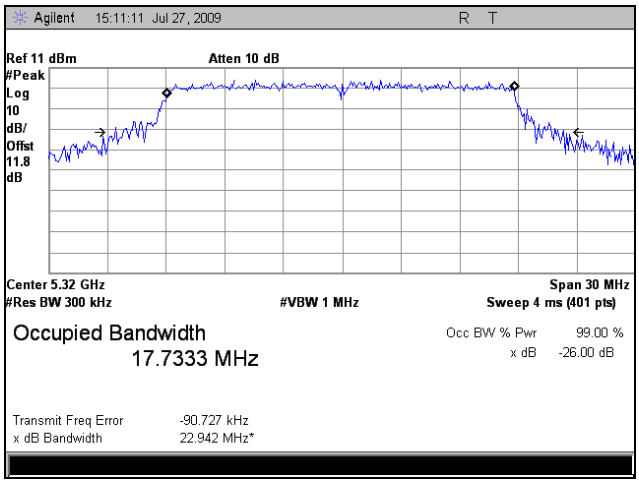


Plot 32. Occupied Bandwidth, Port 2, 802.11n 40MHz, 5670 MHz

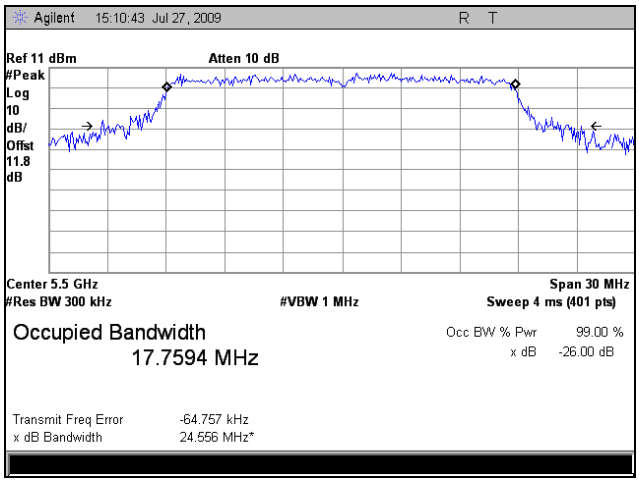
Occupied Bandwidth, Port 3, 802.11n 20MHz



Plot 33. Occupied Bandwidth, Port 3, 802.11n 20MHz, 5260 MHz

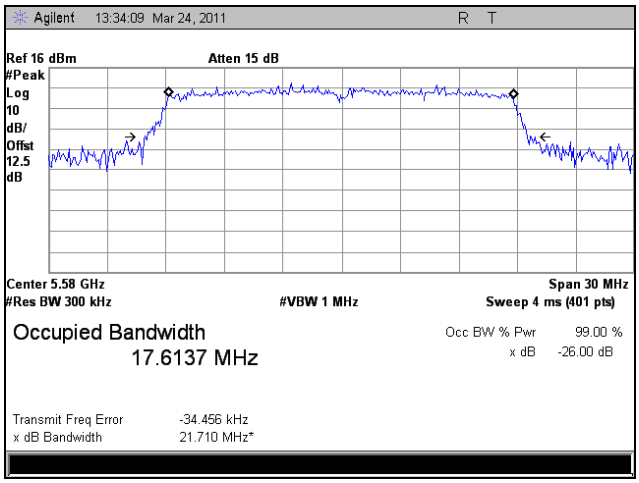


Plot 34. Occupied Bandwidth, Port 3, 802.11n 20MHz, 5320 MHz

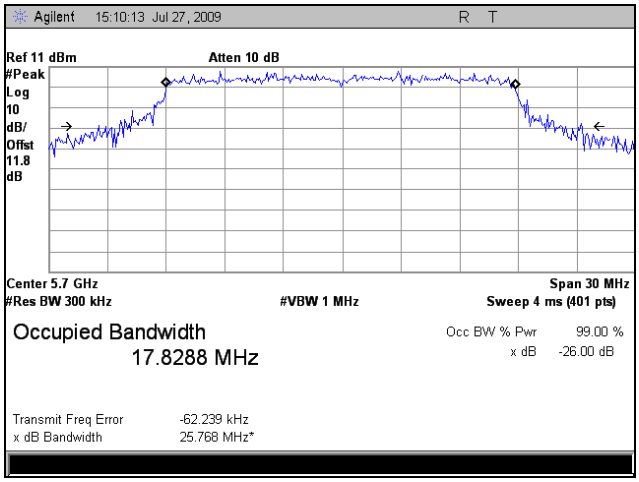


Plot 35. Occupied Bandwidth, Port 3, 802.11n 20MHz, 5500 MHz

Occupied Bandwidth, Port 3, 802.11n 20MHz

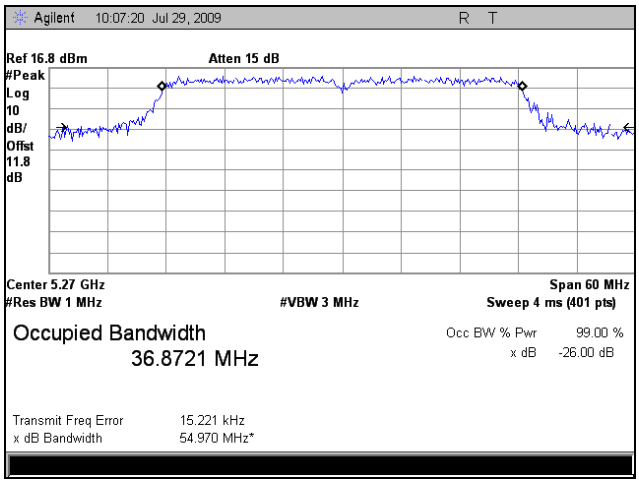


Plot 36. Occupied Bandwidth, Port 3, 802.11n 20MHz, 5580 MHz

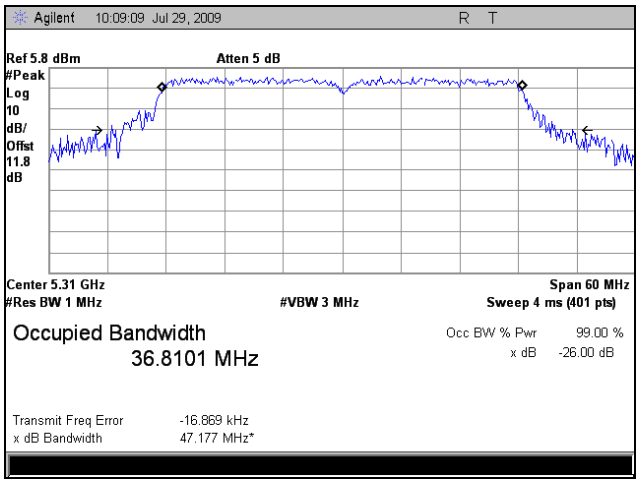


Plot 37. Occupied Bandwidth, Port 3, 802.11n 20MHz, 5700 MHz

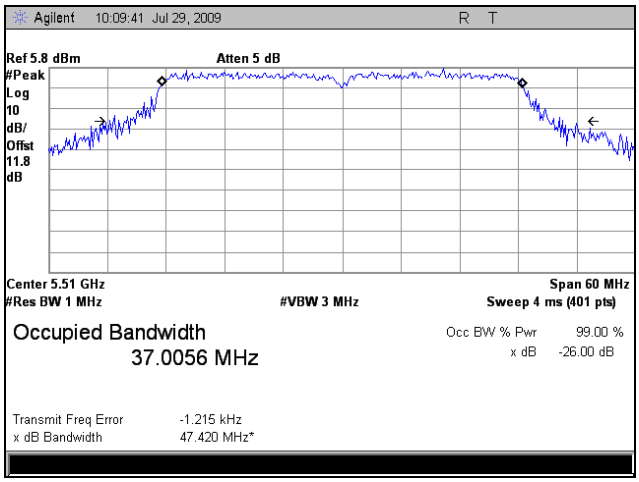
Occupied Bandwidth, Port 3, 802.11n 40MHz



Plot 38. Occupied Bandwidth, Port 3, 802.11n 40MHz, 5270 MHz

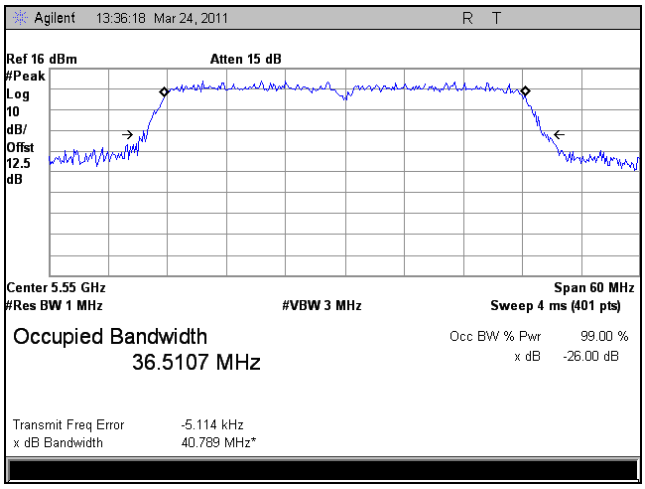


Plot 39. Occupied Bandwidth, Port 3, 802.11n 40MHz, 5310 MHz

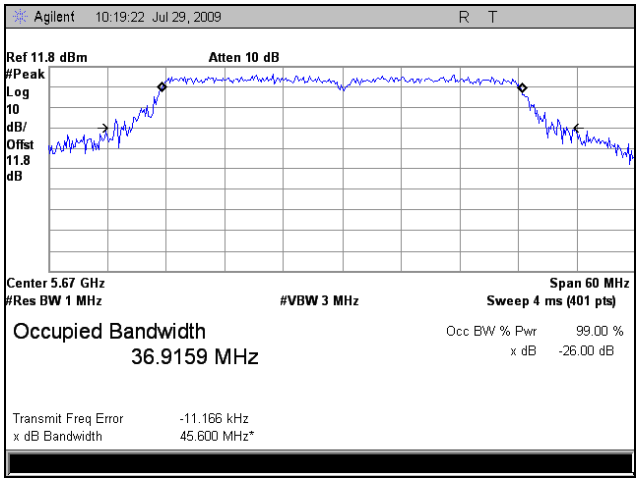


Plot 40. Occupied Bandwidth, Port 3, 802.11n 40MHz, 5510 MHz

Occupied Bandwidth, Port 3, 802.11n 40MHz

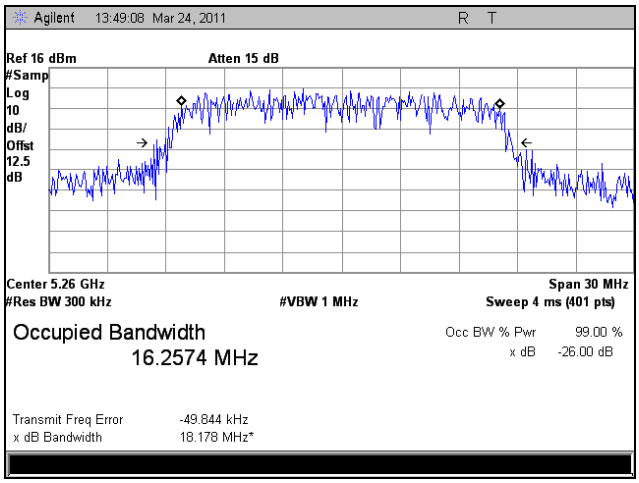


Plot 41. Occupied Bandwidth, Port 3, 802.11n 40MHz, 5550 MHz

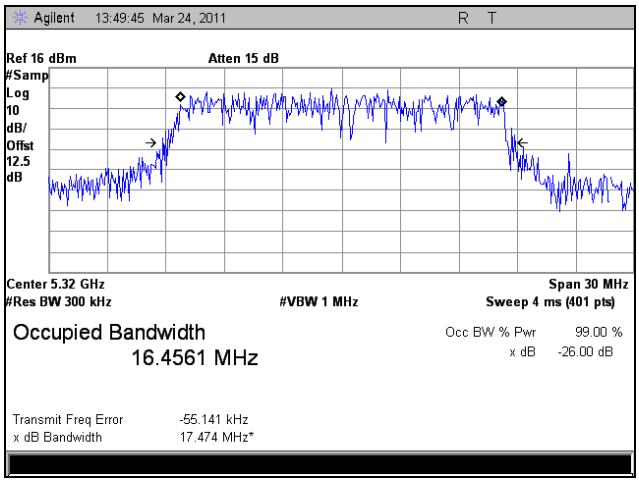


Plot 42. Occupied Bandwidth, Port 3, 802.11n 40MHz, 5670 MHz

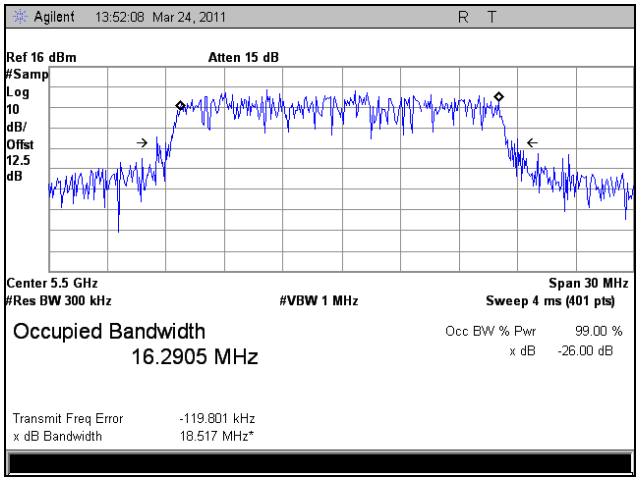
99% Occupied Bandwidth, Port 1



Plot 43. 99% Occupied Bandwidth, Port 1, 802.11a, 5260 MHz

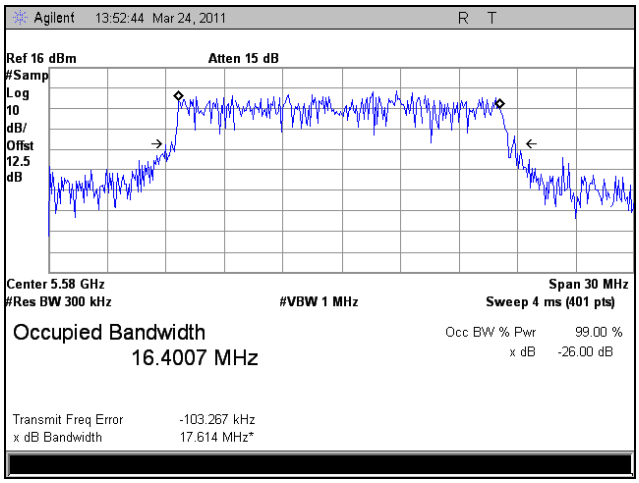


Plot 44. 99% Occupied Bandwidth, Port 1, 802.11a, 5320 MHz

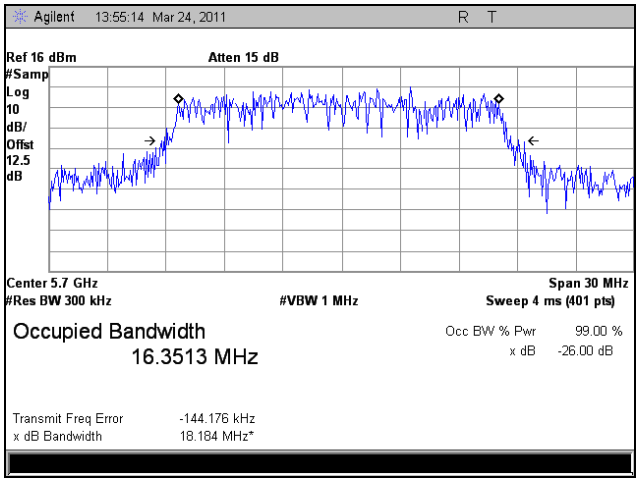


Plot 45. 99% Occupied Bandwidth, Port 1, 802.11a, 5500 MHz

99% Occupied Bandwidth, Port 1

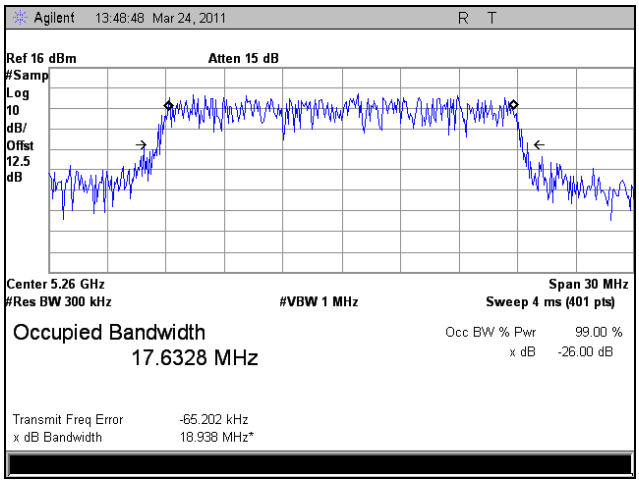


Plot 46. 99% Occupied Bandwidth, Port 1, 802.11a, 5580 MHz

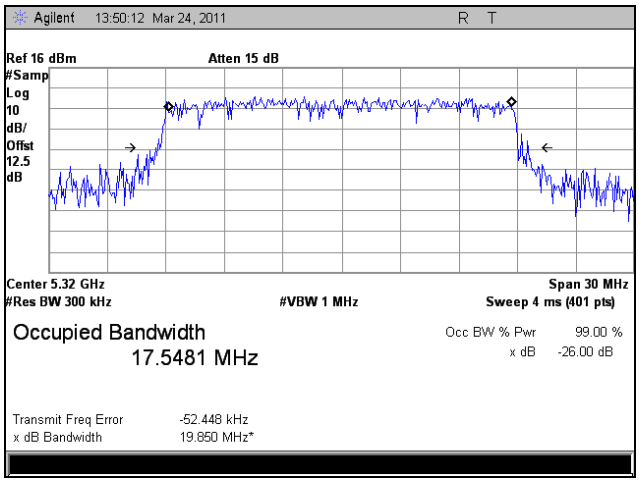


Plot 47. 99% Occupied Bandwidth, Port 1, 802.11a, 5700 MHz

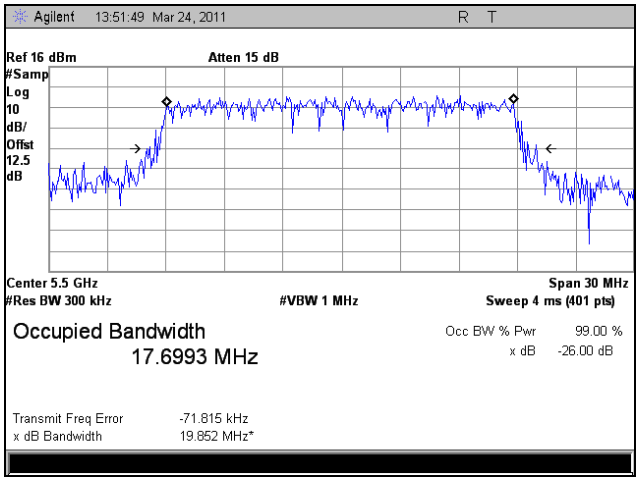
99% Occupied Bandwidth, Port 1, 802.11n 20MHz



Plot 48. 99% Occupied Bandwidth, Port 1, 802.11n 20MHz, 5260 MHz

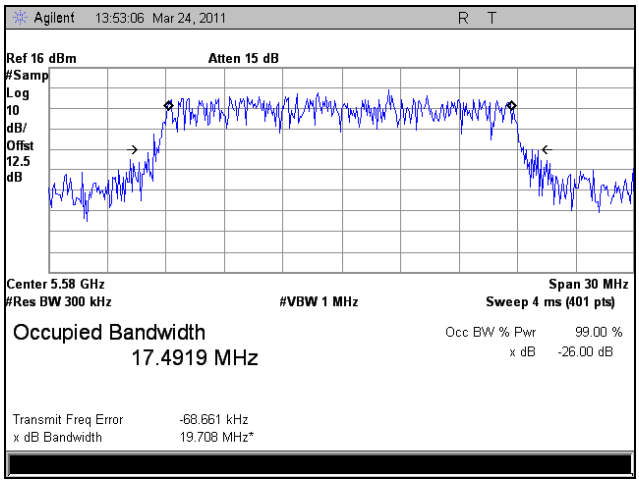


Plot 49. 99% Occupied Bandwidth, Port 1, 802.11n 20MHz, 5320 MHz

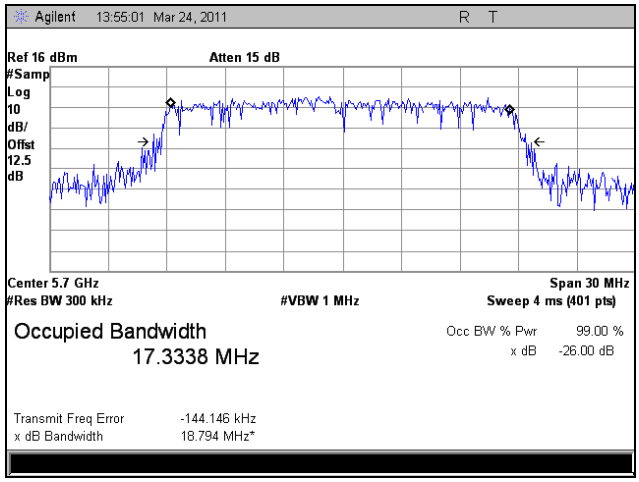


Plot 50. 99% Occupied Bandwidth, Port 1, 802.11n 20MHz, 5500 MHz

99% Occupied Bandwidth, Port 1, 802.11n 20MHz

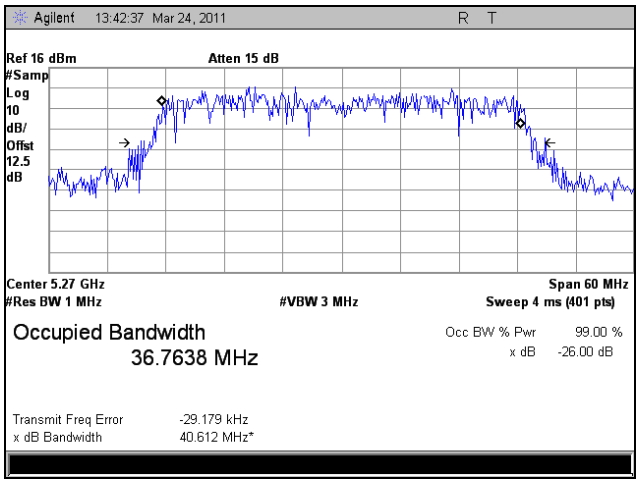


Plot 51. 99% Occupied Bandwidth, Port 1, 802.11n 20MHz, 5580 MHz

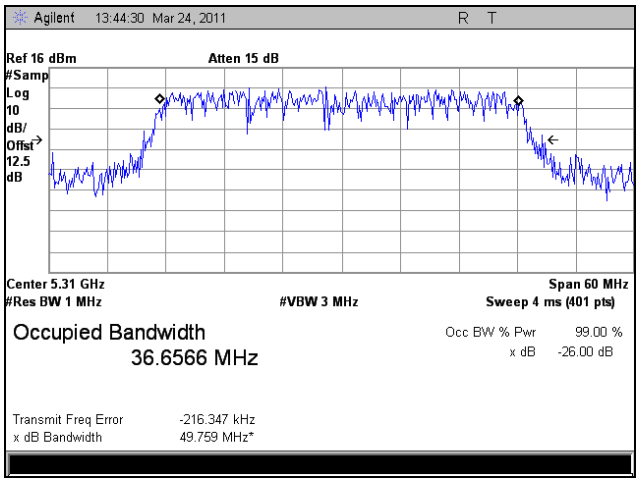


Plot 52. 99% Occupied Bandwidth, Port 1, 802.11n 20MHz, 5700 MHz

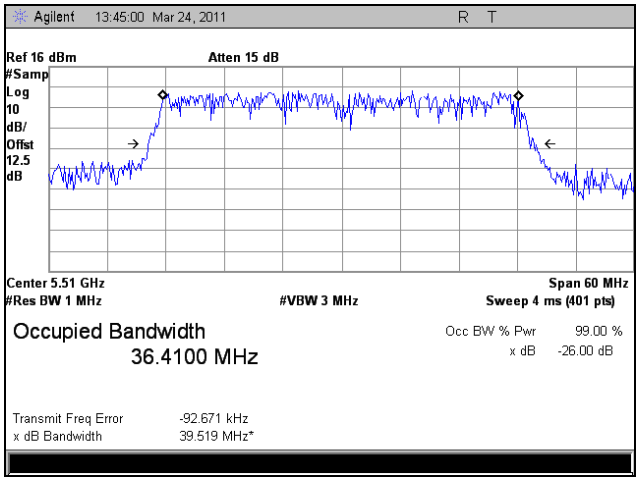
99% Occupied Bandwidth, Port 1, 802.11n 40MHz



Plot 53. 99% Occupied Bandwidth, Port 1, 802.11n 40MHz, 5270 MHz

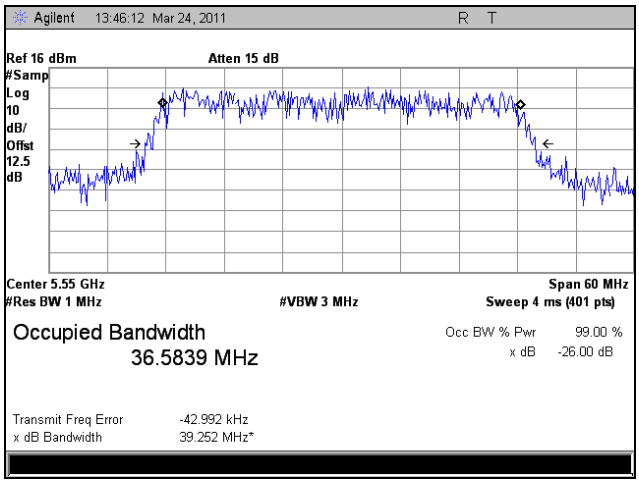


Plot 54. 99% Occupied Bandwidth, Port 1, 802.11n 40MHz, 5310 MHz

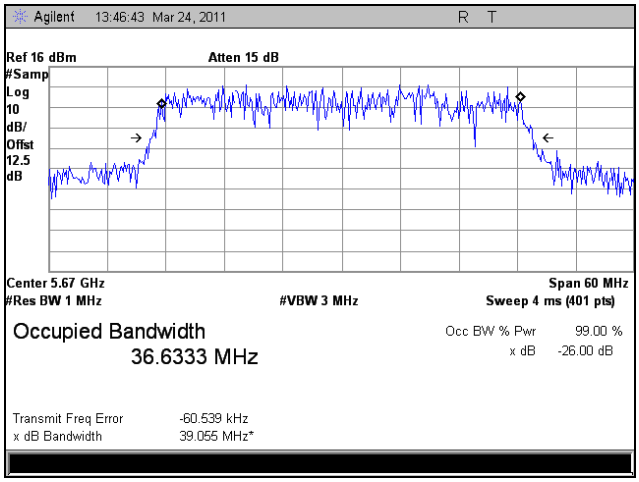


Plot 55. 99% Occupied Bandwidth, Port 1, 802.11n 40MHz, 5510 MHz

99% Occupied Bandwidth, Port 1, 802.11n 40MHz

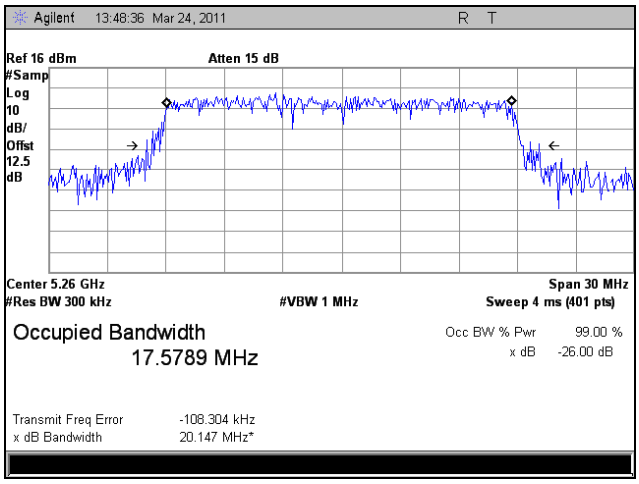


Plot 56. 99% Occupied Bandwidth, Port 1, 802.11n 40MHz, 5550 MHz

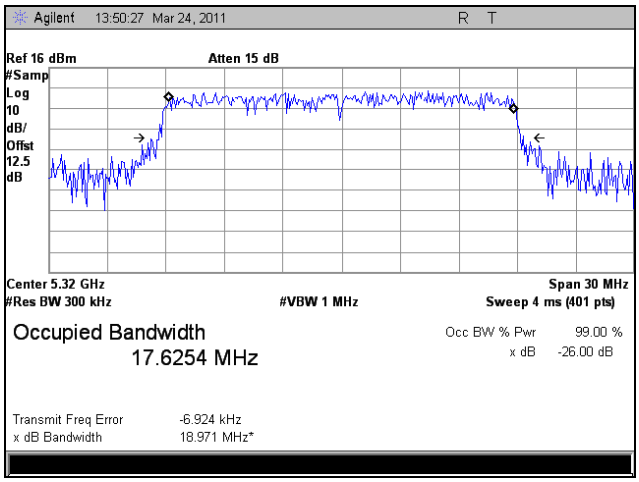


Plot 57. 99% Occupied Bandwidth, Port 1, 802.11n 40MHz, 5670 MHz

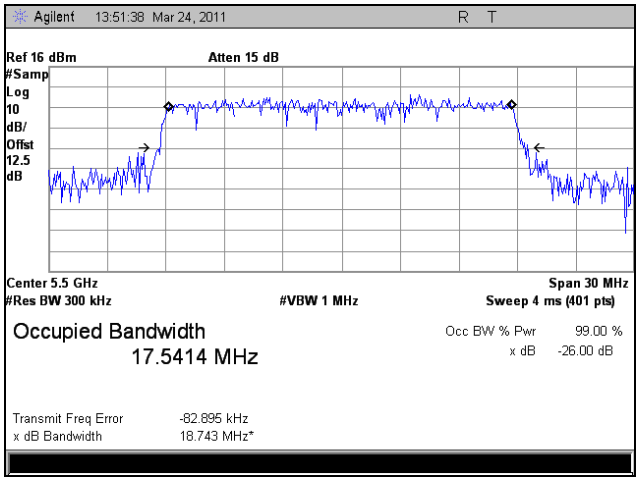
99% Occupied Bandwidth, Port 2, 802.11n 20MHz



Plot 58. 99% Occupied Bandwidth, Port 2, 802.11n 20MHz, 5260 MHz

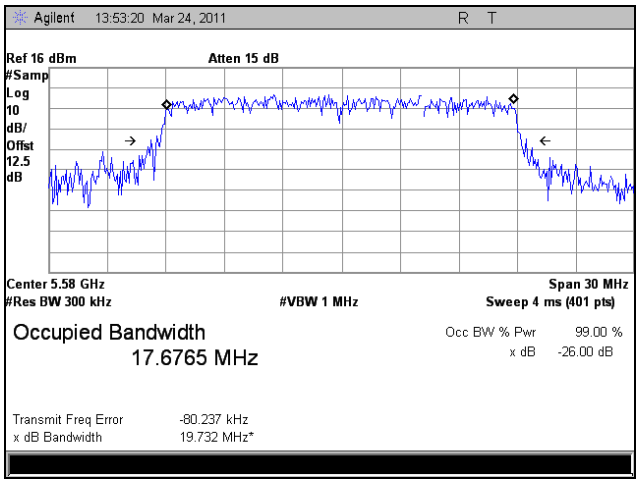


Plot 59. 99% Occupied Bandwidth, Port 2, 802.11n 20MHz, 5320 MHz

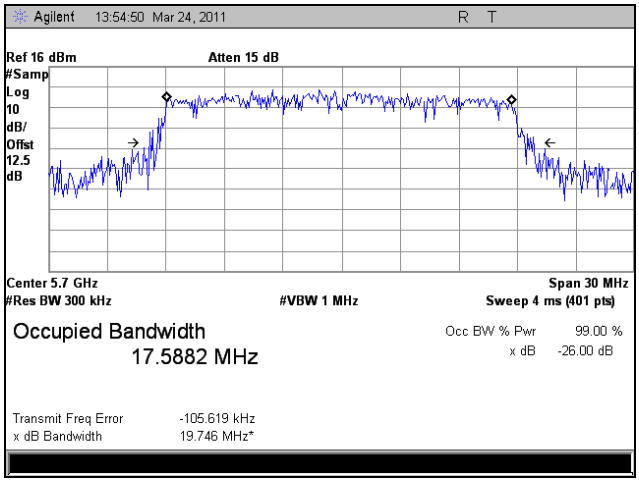


Plot 60. 99% Occupied Bandwidth, Port 2, 802.11n 20MHz, 5500 MHz

99% Occupied Bandwidth, Port 2, 802.11n 20MHz

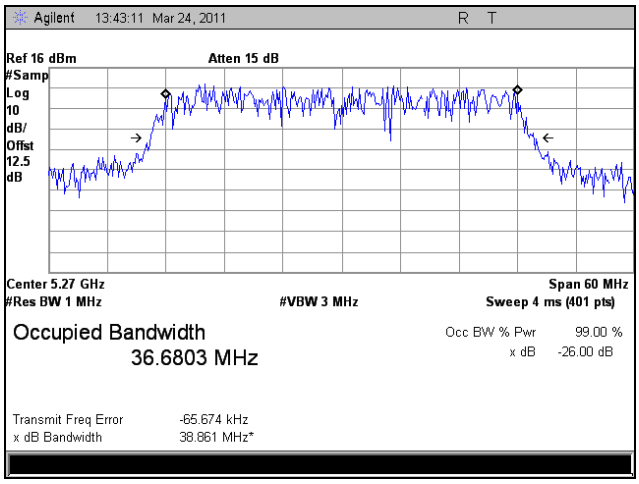


Plot 61. 99% Occupied Bandwidth, Port 2, 802.11n 20MHz, 5580 MHz

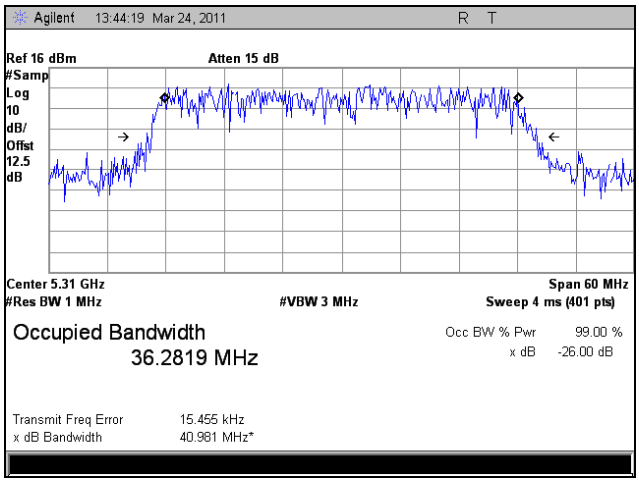


Plot 62. 99% Occupied Bandwidth, Port 2, 802.11n 20MHz, 5700 MHz

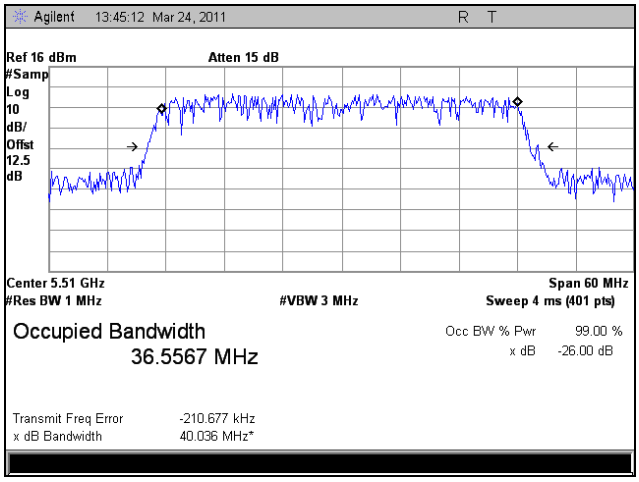
99% Occupied Bandwidth, Port 2, 802.11n 40MHz



Plot 63. 99% Occupied Bandwidth, Port 2, 802.11n 40MHz, 5270 MHz

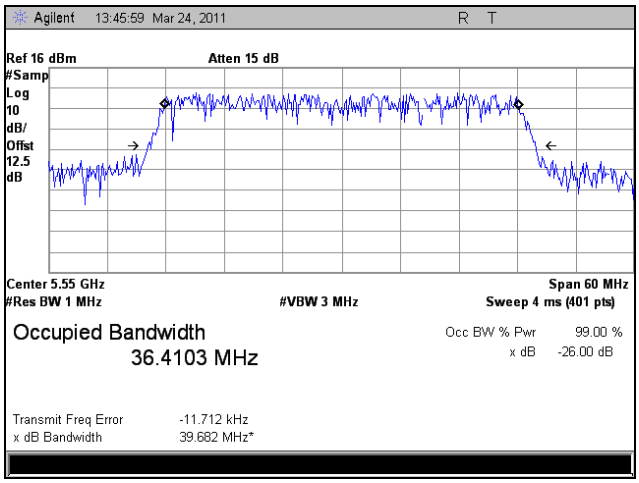


Plot 64. 99% Occupied Bandwidth, Port 2, 802.11n 40MHz, 5310 MHz

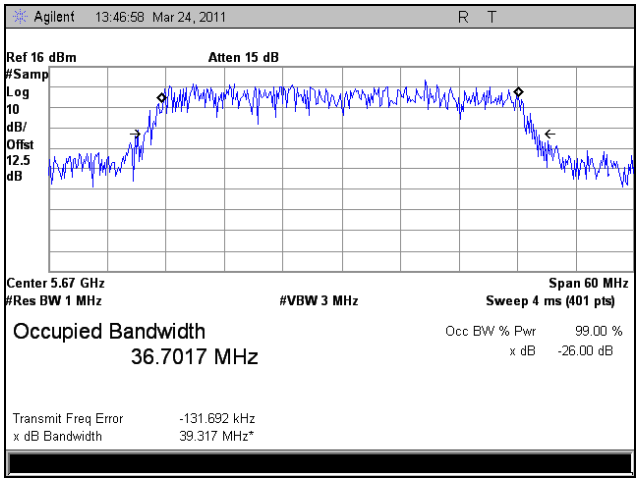


Plot 65. 99% Occupied Bandwidth, Port 2, 802.11n 40MHz, 5510 MHz

99% Occupied Bandwidth, Port 2, 802.11n 40MHz

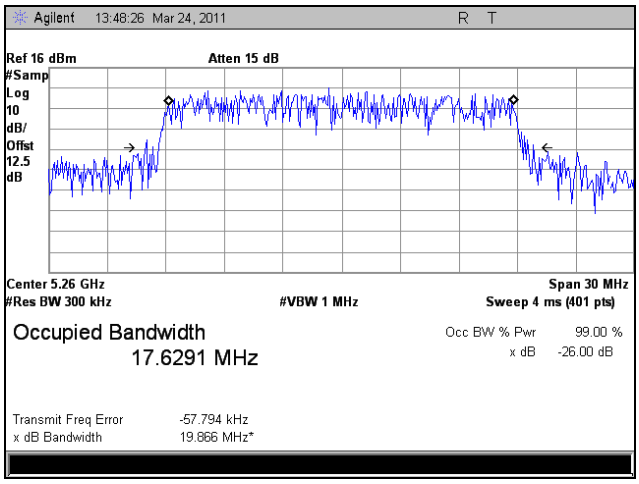


Plot 66. 99% Occupied Bandwidth, Port 2, 802.11n 40MHz, 5550 MHz

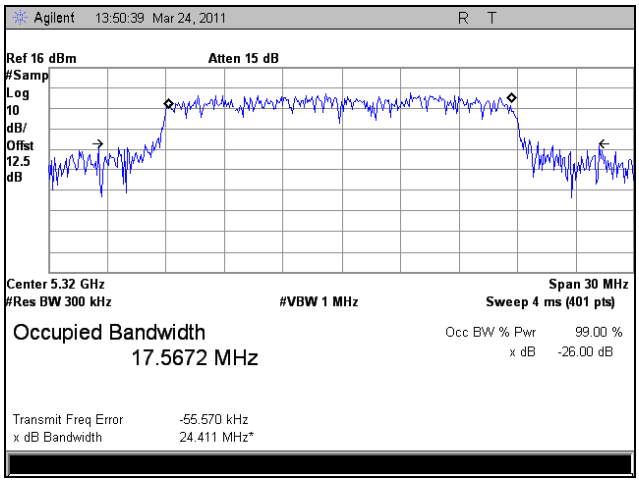


Plot 67. 99% Occupied Bandwidth, Port 2, 802.11n 40MHz, 5670 MHz

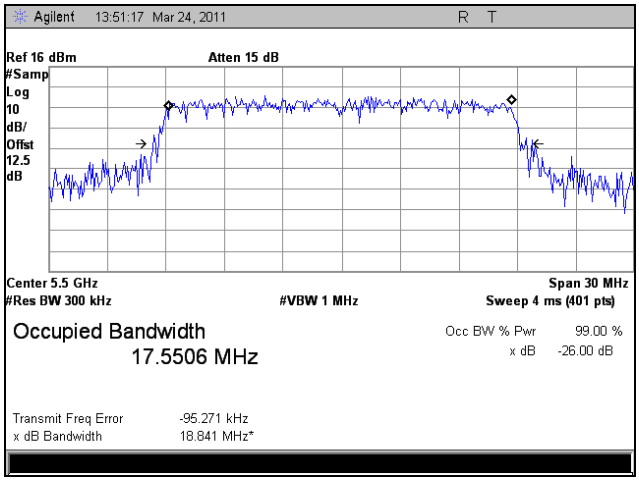
99% Occupied Bandwidth, Port 3, 802.11n 20MHz



Plot 68. 99% Occupied Bandwidth, Port 3, 802.11n 20MHz, 5260 MHz

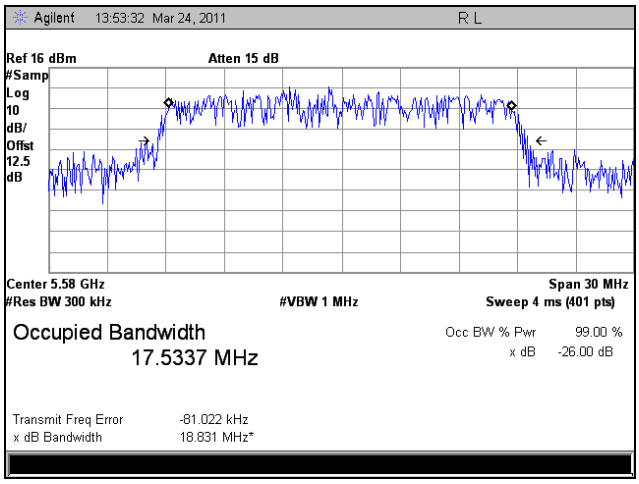


Plot 69. 99% Occupied Bandwidth, Port 3, 802.11n 20MHz, 5320 MHz

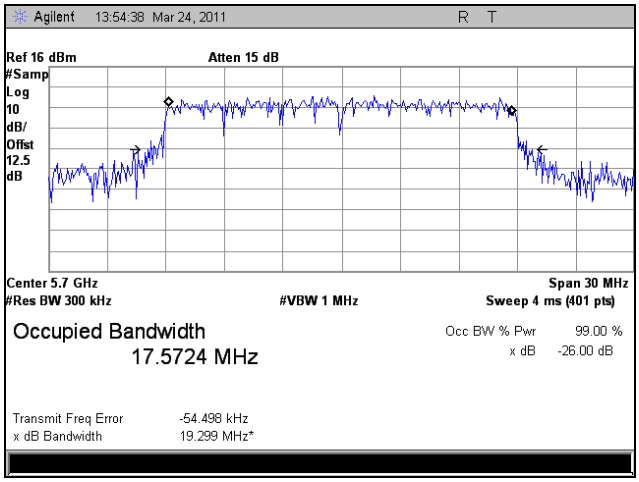


Plot 70. 99% Occupied Bandwidth, Port 3, 802.11n 20MHz, 5500 MHz

99% Occupied Bandwidth, Port 3, 802.11n 20MHz

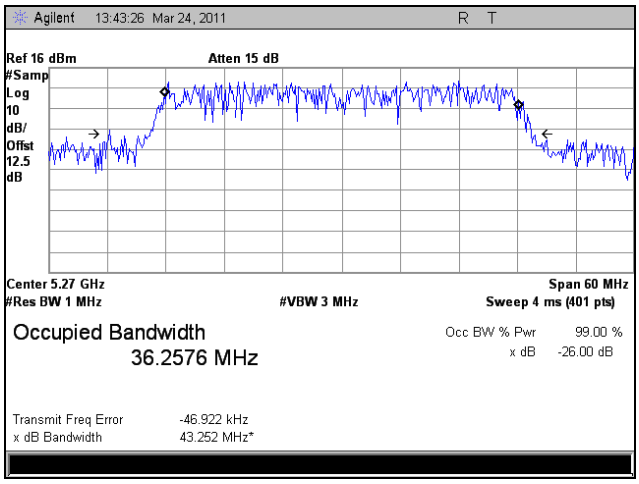


Plot 71. 99% Occupied Bandwidth, Port 3, 802.11n 20MHz, 5580 MHz

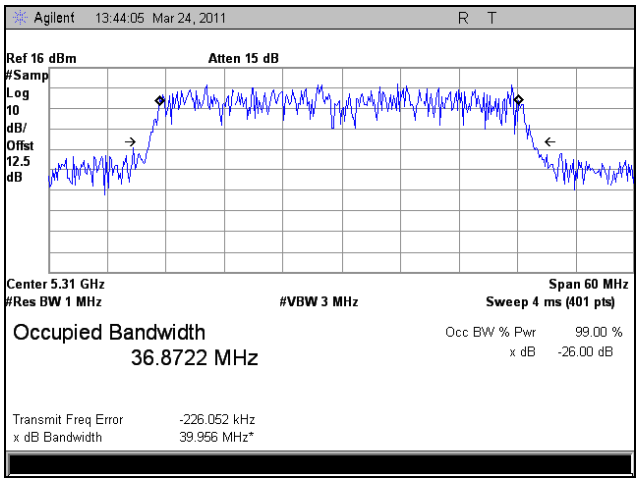


Plot 72. 99% Occupied Bandwidth, Port 3, 802.11n 20MHz, 5700 MHz

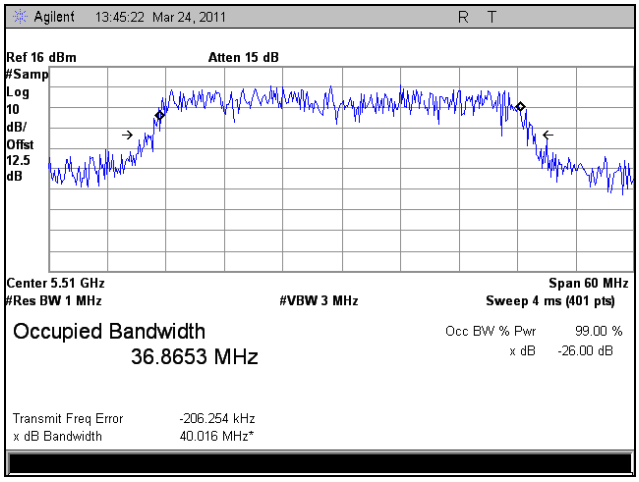
99% Occupied Bandwidth, Port 3, 802.11n 40MHz



Plot 73. 99% Occupied Bandwidth, Port 3, 802.11n 40MHz, 5270 MHz

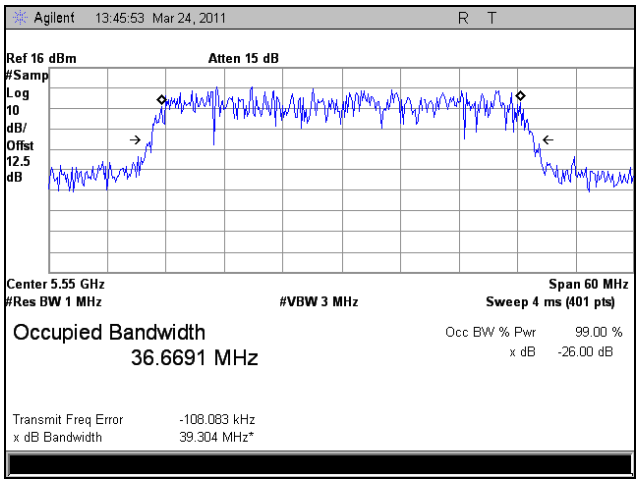


Plot 74. 99% Occupied Bandwidth, Port 3, 802.11n 40MHz, 5310 MHz

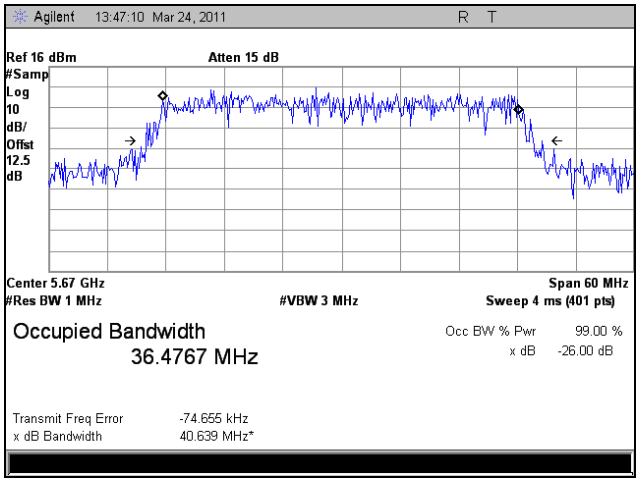


Plot 75. 99% Occupied Bandwidth, Port 3, 802.11n 40MHz, 5510 MHz

99% Occupied Bandwidth, Port 3, 802.11n 40MHz



Plot 76. 99% Occupied Bandwidth, Port 3, 802.11n 40MHz, 5550 MHz



Plot 77. 99% Occupied Bandwidth, Port 3, 802.11n 40MHz, 5670 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 407(a) (1), (2) RF Power Output

Test Requirements: **§15.407(a) (1), (2):** The maximum output power of the intentional radiator shall not exceed the following:

Digital Transmission Systems (MHz)	Output Limit (mW)
5150-5250	50
5250-5350	250

Table 19. Output Power Requirements from §15.407

§15.407(a) (1): For the band 5.15-5.25 GHz the peak transmit power over the frequency band of operation shall not exceed the lesser 50mW or 4dBm + 10logB, where B is the 26-dB emission bandwidth in MHz.

§15.407(a) (2): For the band 5.25-5.35GHz & 5.470-5.72GHz the peak transmit power over the frequency band of operation shall not exceed the lesser of 250mW or 11dBm + 10logB, where B is the 26-dB emission bandwidth in MHz.

Test Procedure: The transmitter was connected to a calibrated Spectrum analyzer. The EUT was measured at the low, mid and high channels of each band with the data rate that produced the highest output power.

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

Test Engineer(s): Minh Ly

Test Date(s): 07/28/09 - 08/11/09

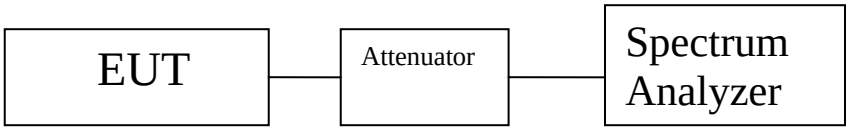


Figure 3. Peak Power Output Test Setup

7200 Outdoor 802.11a			
Mode	**Frequency (MHz)**		**Measured Output Power (dBm)**
802.11a	UNII-2 Lower Band	5260	15.59
		5320	16.85
	UNII-2 Upper Band	5500	19.55
		5580	20.21
		5700	19.35

7200 Outdoor, Summed Power (n mode)						
Mode	**Frequency (MHz)**		**Port 1**	**Port 2**	**Port 3**	**Summed Power (dBm)**
802.11n 20MHz	UNII-2 Lower Band	5260	15.91	15.06	15.31	20.21
		5320	14.74	13.11	14.65	19.00
	UNII-2 Upper Band	5500	15.57	15.14	15.02	20.02
		5580	15.34	15.22	15.65	20.18
		5700	15.20	15.07	15.49	20.03
802.11n 40MHz	UNII-2 Lower Band	5270	15.11	15.12	15.83	20.14
		5310	6.43	7.07	7.61	11.83
	UNII-2 Upper Band	5510	11.02	10.18	10.80	15.45
		5550	15.21	15.41	15.05	20.00
		5670	11.39	14.42	13.82	18.17

Table 20. RF Power Output, Test Results, Summed Power

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(a)(1), (a)(2) 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 CA 02-2138 was used.

Test Results: Equipment complies with the peak power spectral density limits of **§ 15.407(a)(1), (a)(2).** The peak power spectral density was determined from plots on the following page(s).

Test Engineer(s): Minh Ly

Test Date(s): 07/28/09 – 08/11/09

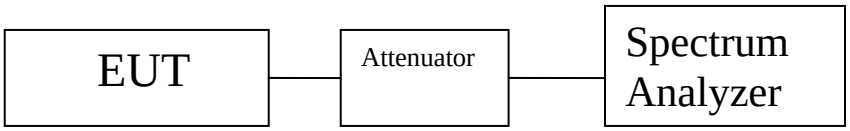


Figure 4. Peak Power Spectral Density Test Setup

7200 Outdoor Unit a Mode				
Mode	Frequency	Measured PPSD	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
802.11a	5260	4.342	11	6.658
	5320	4.682	11	6.318
	5500	8.358	11	2.642
	5580	8.253	11	2.747
	5700	8.450	11	2.550

Table 21. Power Spectral Density, 802.11a, Test Results

7200 Outdoor Unit n Mode							
Mode	Frequency	Port 1	Port 2	Port 3	Summed	Limit*	Margin
	(MHz)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dB)
802.11n 20MHz	5270	1.569	1.873	1.970	6.579	7.22	-0.641
	5310	1.874	2.003	2.033	6.742	7.22	-0.478
	5510	1.828	1.631	1.418	6.400	7.22	-0.820
	5550	1.943	1.930	1.540	6.580	7.22	-0.640
	5670	1.975	1.603	1.925	6.609	7.22	-0.611
802.11n 40MHz	5270	1.224	1.988	1.440	6.334	7.22	-0.886
	5310	-7.480	-7.634	-6.795	-2.516	7.22	-9.736
	5510	-4.089	-4.152	-4.110	0.654	7.22	-6.566
	5550	1.785	0.189	1.845	6.109	7.22	-1.111
	5670	-2.097	-0.142	1.043	4.558	7.22	-2.662

Table 22. Power Spectral Density, 802.11n, Test Results, Port 1-3 & Summed

*Note Limit was corrected for the use of three 5dBi Antennas. Sum of three 5dBi Antennas is equal to 9.77dBi Gain.

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(a)(6) Peak Excursion Ratio

Test Requirements: **§ 15.407(a)(6):** For digitally modulated systems, the peak excursion of the modulation envelope to the peak transmit power shall not exceed 13dB across any 1MHz bandwidth of the emission bandwidth whichever is less.

Test Procedure: The method of measurement #2 from the FCC Public Notice CA 02-2138 was used. 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 to a RBW=1MHz, VBW=30 KHz. The detector mode was set to sample detector.

The Peak Excursion Ratio was determined from the difference between the maximum found in each trace.

Test Results: Equipment complies 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): Minh Ly

Test Date(s): 07/28/09 - 08/11/09

7200 Outdoor Unit, Port 1				
Mode	**Frequency (MHz)**	**Excursion Ratio (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11a	5260	9.087	13	3.913
	5320	9.009	13	3.991
	5500	9.613	13	3.387
	5580	11.37	13	1.63
	5700	9.827	13	3.173
802.11n 20MHz	5260	10.32	13	2.68
	5320	11.53	13	1.47
	5500	10.65	13	2.35
	5580	10.26	13	2.74
	5700	10.79	13	2.21
802.11n 40MHz	5270	12.71	13	0.29
	5310	12.65	13	0.35
	5510	12.59	13	0.41
	5550	10.68	13	2.32
	5670	11.73	13	1.27

Table 23. Peak Excursion Ration, Test Results, Port 1

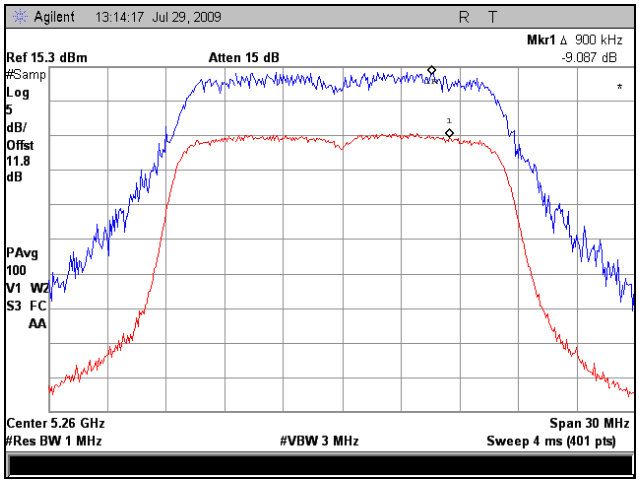
7200 Outdoor Unit, Port 2				
Mode	**Frequency (MHz)**	**Excursion Ratio (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11n 20MHz	5260	10.33	13	2.67
	5320	9.634	13	3.366
	5500	11.02	13	1.98
	5580	11.27	13	1.73
	5700	10.63	13	2.37
802.11n 40MHz	5270	12.95	13	0.05
	5310	11.98	13	1.02
	5510	11.73	13	1.27
	5550	10.52	13	2.48
	5670	9.8	13	3.2

Table 24. Peak Excursion Ration, Test Results, Port 2

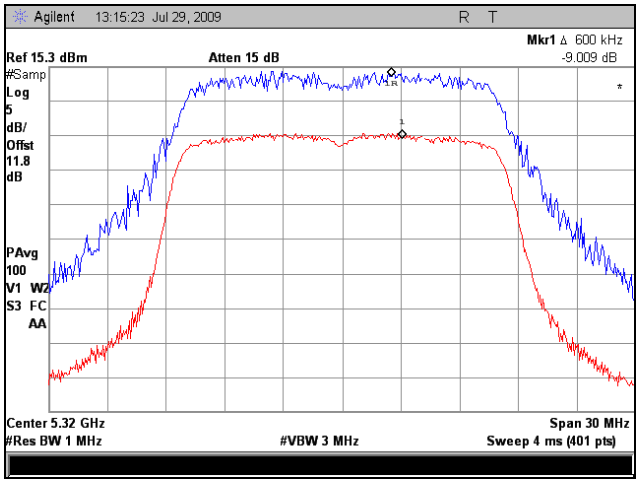
7200 Outdoor Unit, Port 3				
Mode	**Frequency (MHz)**	**Excursion Ratio (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11n 20MHz	5260	11.96	13	1.04
	5320	9.529	13	3.471
	5500	10.11	13	2.89
	5580	10.24	13	2.76
	5700	8.677	13	4.323
802.11n 40MHz	5270	12.86	13	0.14
	5310	12.17	13	0.83
	5510	12.6	13	0.4
	5550	11.2	13	1.8
	5670	12	13	1

Table 25. Peak Excursion Ration, Test Results, Port 3

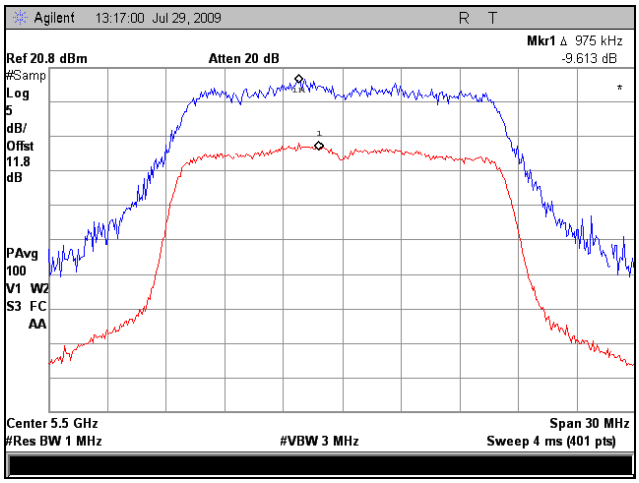
Peak Excursion Ratio, Port 1, 802.11a



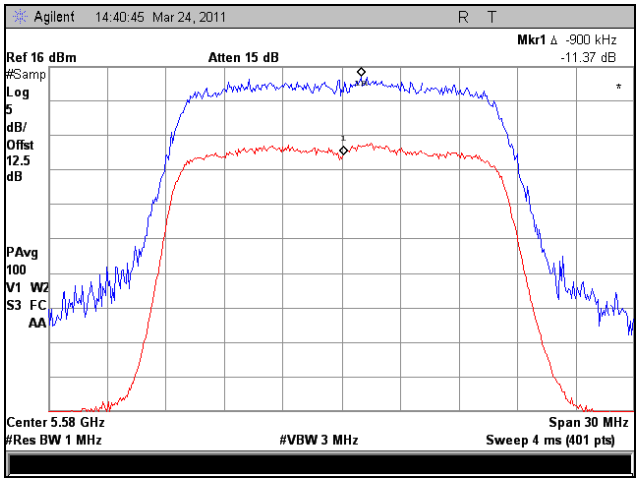
Plot 78. Peak Excursion, Port 1, 802.11a, 5260 MHz



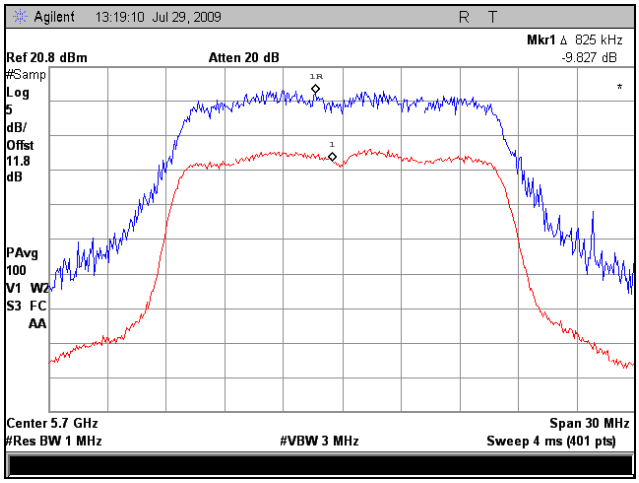
Plot 79. Peak Excursion, Port 1, 802.11a, 5320 MHz



Plot 80. Peak Excursion, Port 1, 802.11a, 5500 MHz

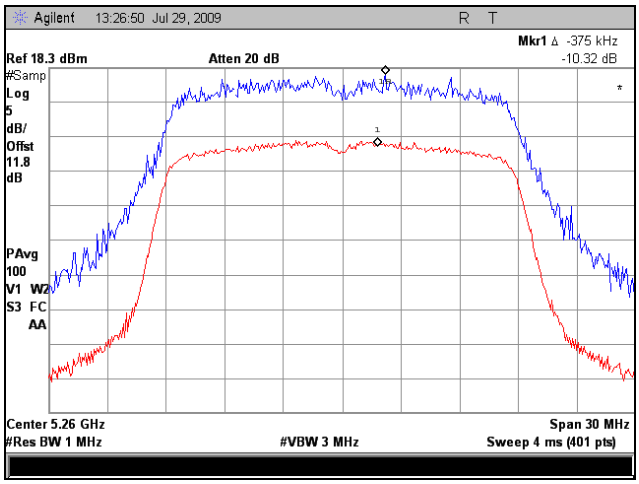


Plot 81. Peak Excursion, Port 1, 802.11a, 5580 MHz

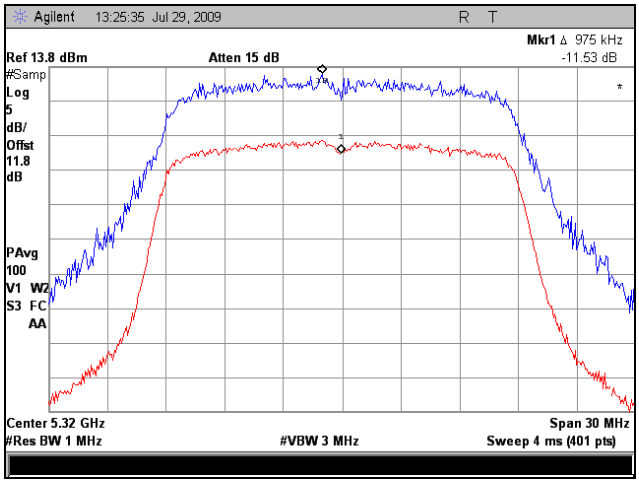


Plot 82. Peak Excursion, Port 1, 802.11a, 5700 MHz

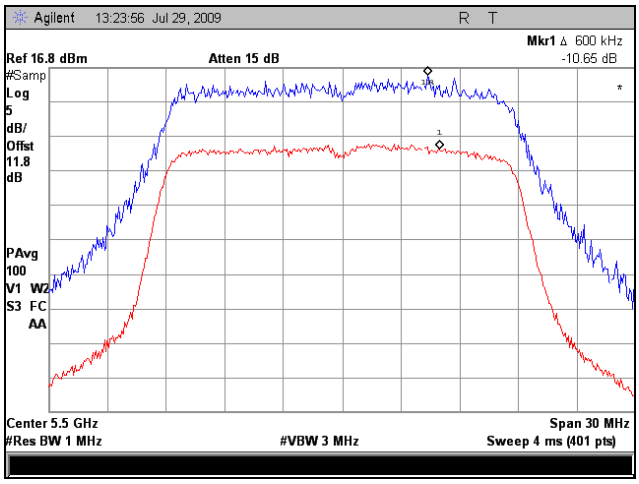
Peak Excursion Ratio, 7200 Outdoor, Port 1, 802.11n 20MHz



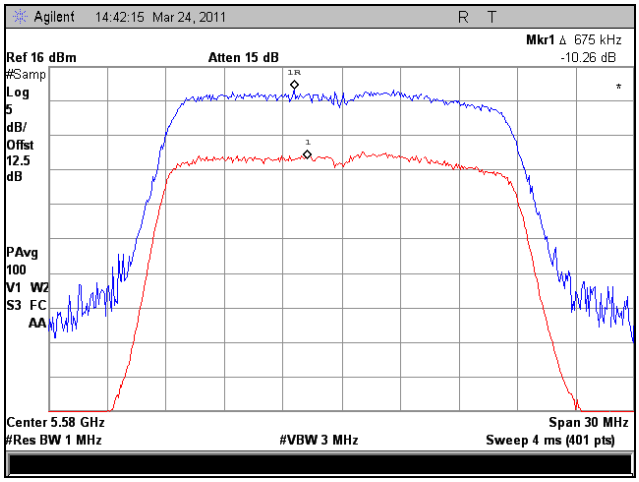
Plot 83. Peak Excursion, Port 1, 802.11n 20MHz, 5260 MHz



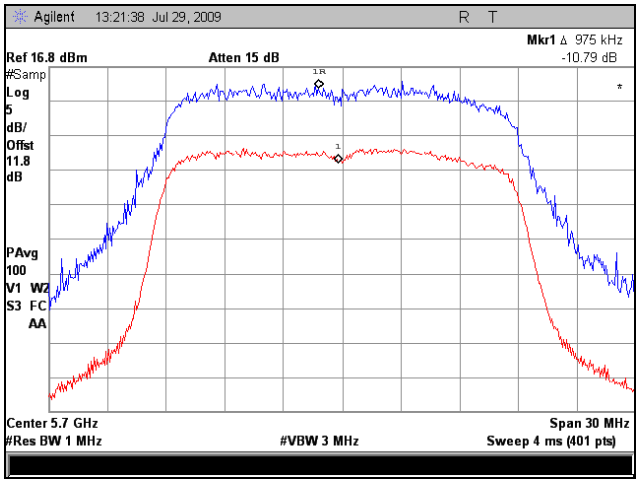
Plot 84. Peak Excursion, Port 1, 802.11n 20MHz, 5320 MHz



Plot 85. Peak Excursion, Port 1, 802.11n 20MHz, 5500 MHz

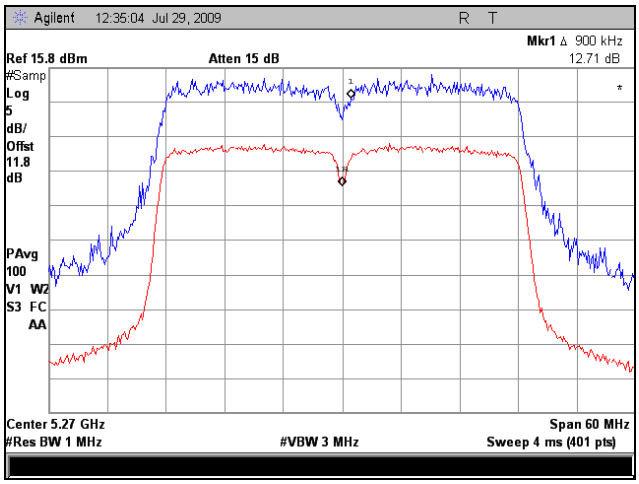


Plot 86. Peak Excursion, Port 1, 802.11n 20MHz, 5580 MHz

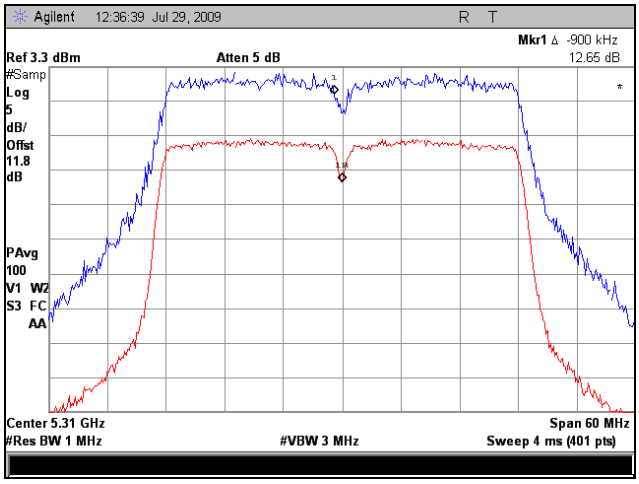


Plot 87. Peak Excursion, Port 1, 802.11n 20MHz, 5700 MHz

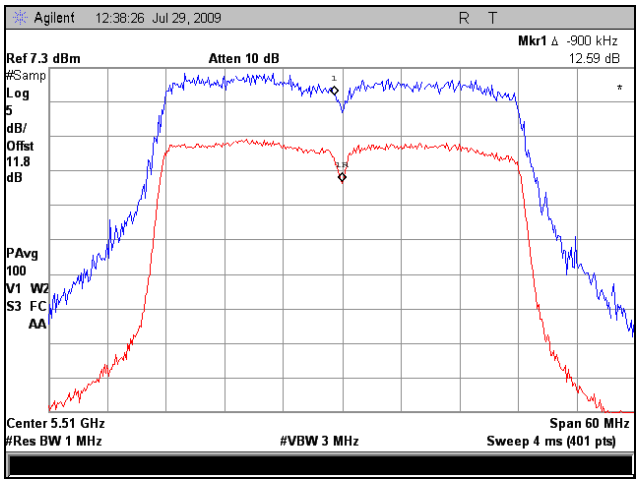
Peak Excursion Ratio, Port 1, 802.11n 40MHz



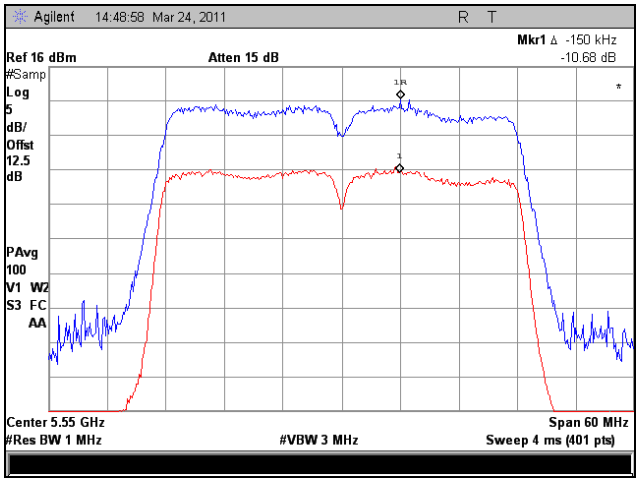
Plot 88. Peak Excursion, Port 1, 802.11n 40MHz, 5270 MHz



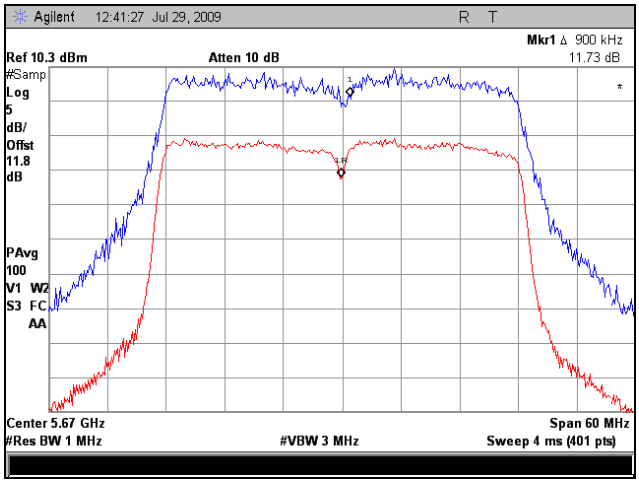
Plot 89. Peak Excursion, Port 1, 802.11n 40MHz, 5310 MHz



Plot 90. Peak Excursion, Port 1, 802.11n 40MHz, 5510 MHz

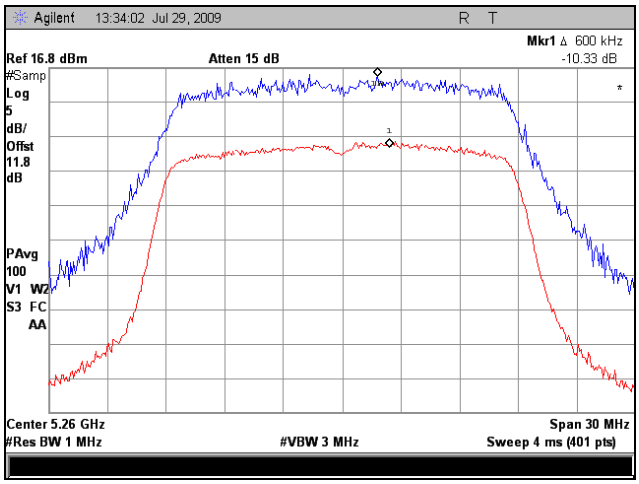


Plot 91. Peak Excursion, Port 1, 802.11n 40MHz, 5550 MHz

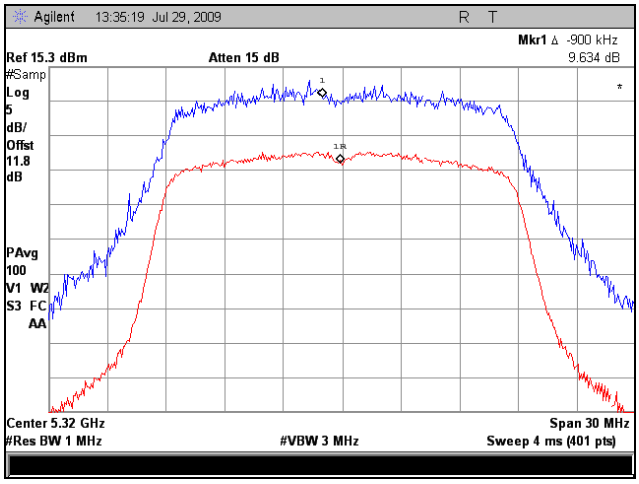


Plot 92. Peak Excursion Ratio, Port 1, 802.11n 40MHz, 5670 MHz

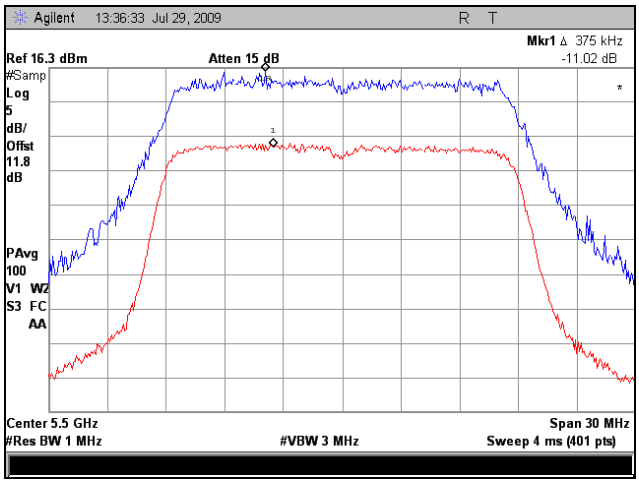
Peak Excursion Ratio, Port 2, 802.11n 20MHz



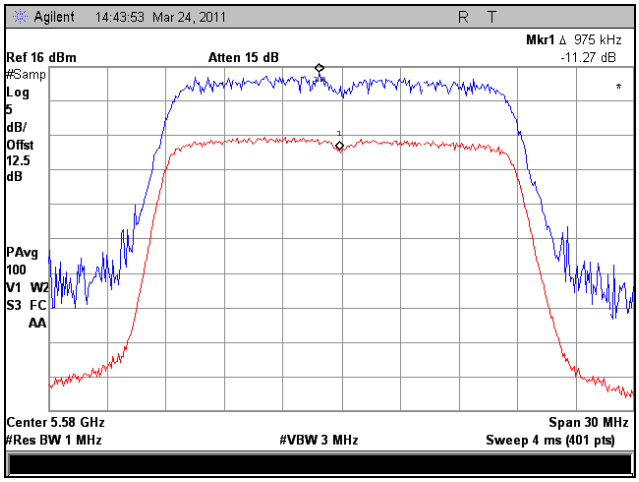
Plot 93. Peak Excursion, Port 2, 802.11n 20MHz, 5260 MHz



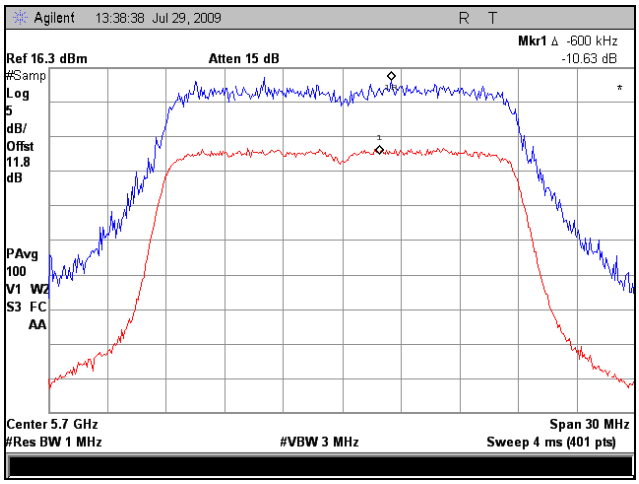
Plot 94. Peak Excursion, Port 2, 802.11n 20MHz, 5320 MHz



Plot 95. Peak Excursion, Port 2, 802.11n 20MHz, 5500 MHz

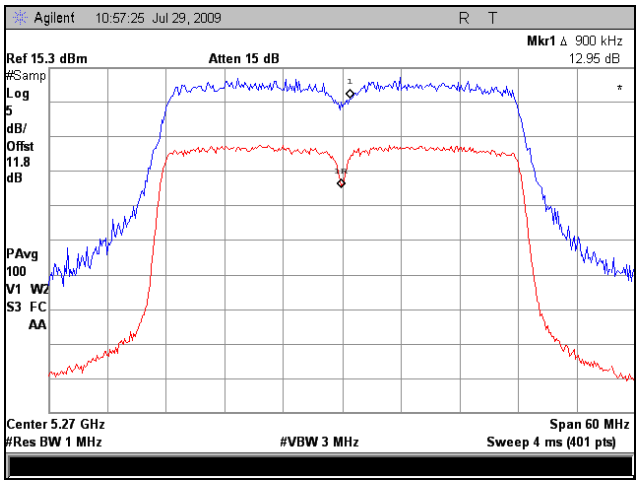


Plot 96. Peak Excursion, Port 2, 802.11n 20MHz, 5580 MHz

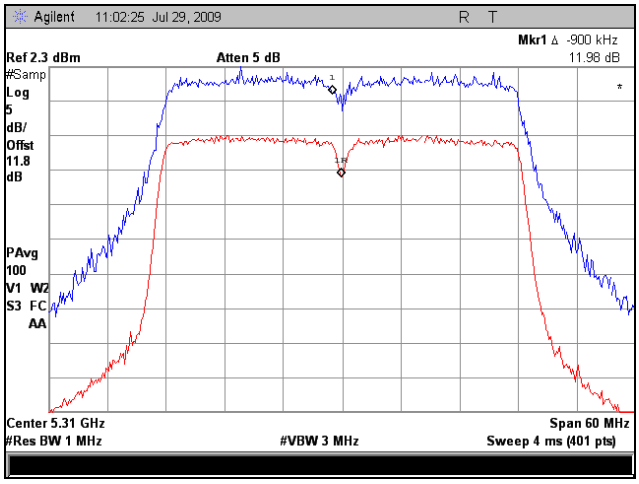


Plot 97. Peak Excursion Ratio, Port 2, 802.11n 20MHz, 5700 MHz

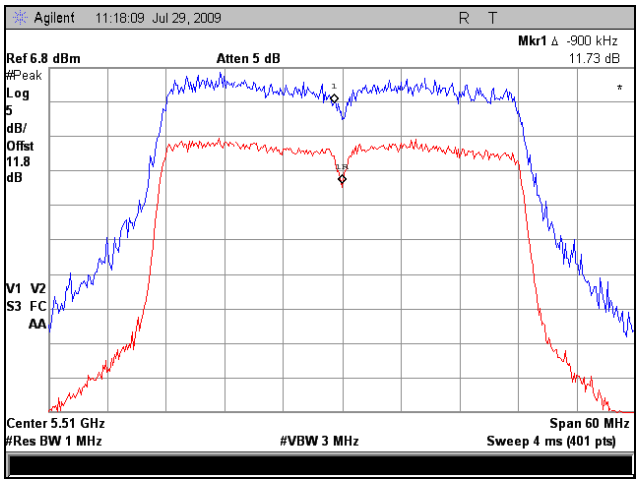
Peak Excursion Ratio, Port 2, 802.11n 40MHz



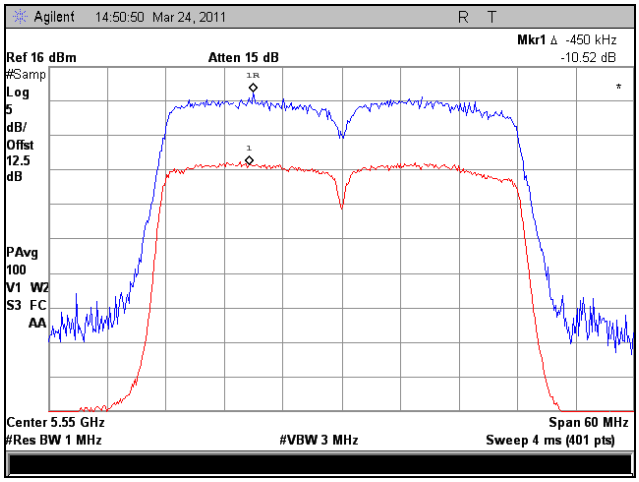
Plot 98. Peak Excursion, Port 2, 802.11n 40MHz, 5270 MHz



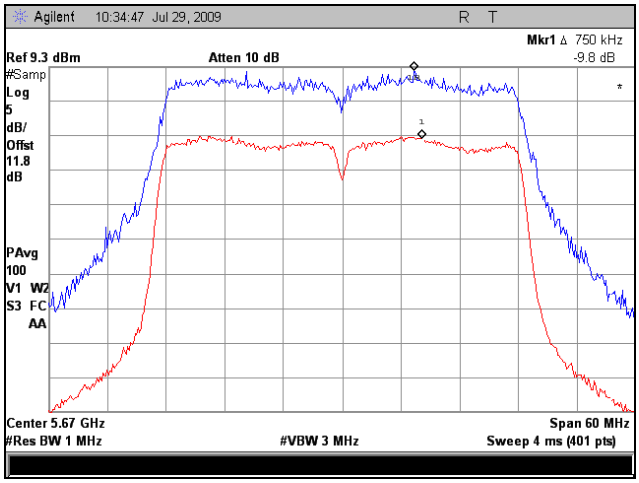
Plot 99. Peak Excursion, Port 2, 802.11n 40MHz, 5310 MHz



Plot 100. Peak Excursion, Port 2, 802.11n 40MHz, 5510 MHz

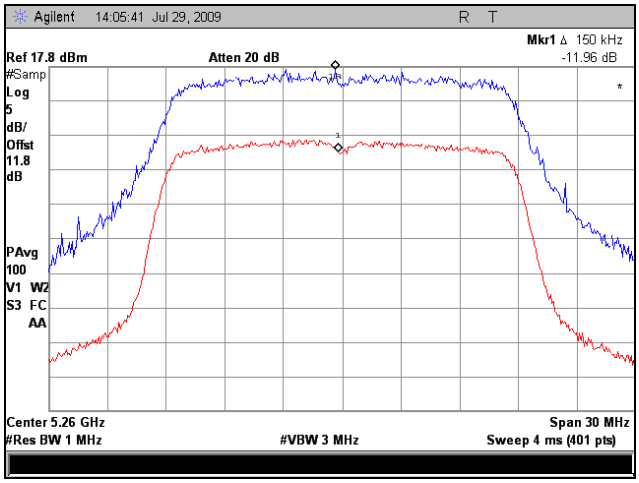


Plot 101. Peak Excursion, Port 2, 802.11n 40MHz, 5550 MHz

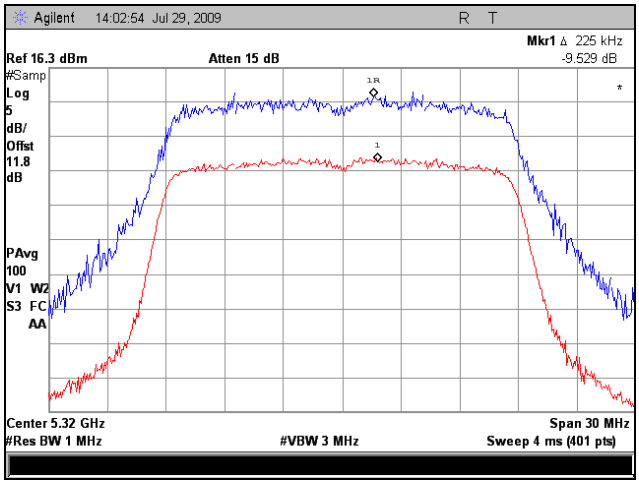


Plot 102. Peak Excursion, Port 2, 802.11n 40MHz, 5670 MHz

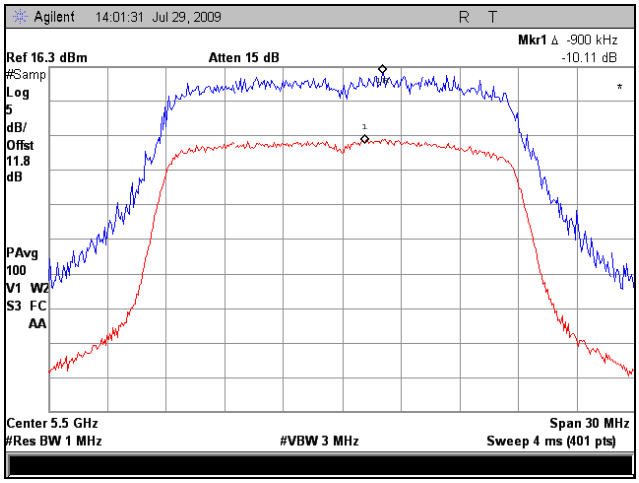
Peak Excursion Ratio, Port 3, 802.11n 20MHz



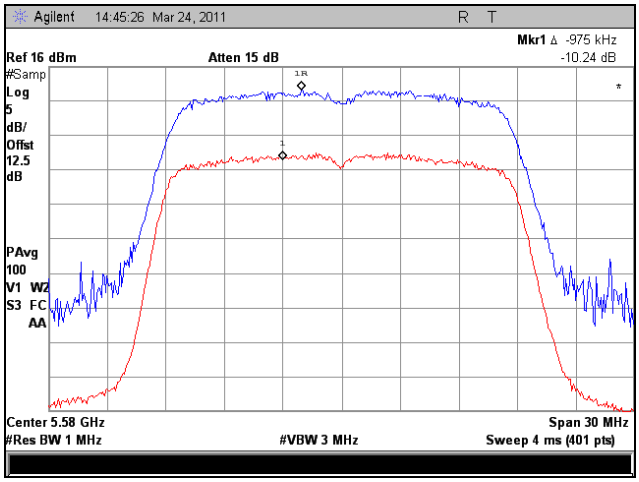
Plot 103. Peak Excursion, Port 3, 802.11n 20MHz, 5260 MHz



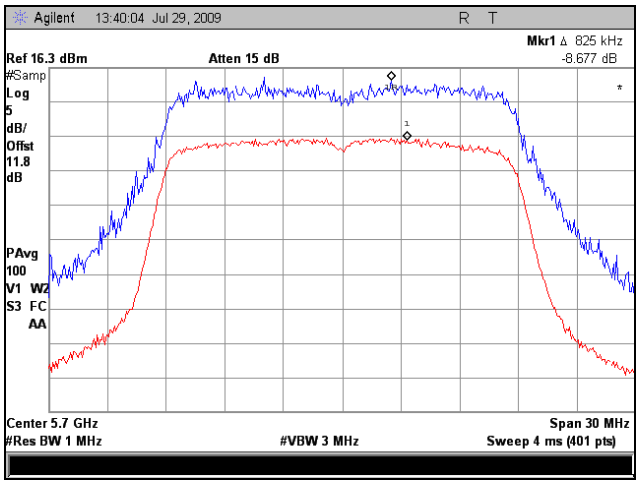
Plot 104. Peak Excursion, Port 3, 802.11n 20MHz, 5320 MHz



Plot 105. Peak Excursion, Port 3, 802.11n 20MHz, 5500 MHz

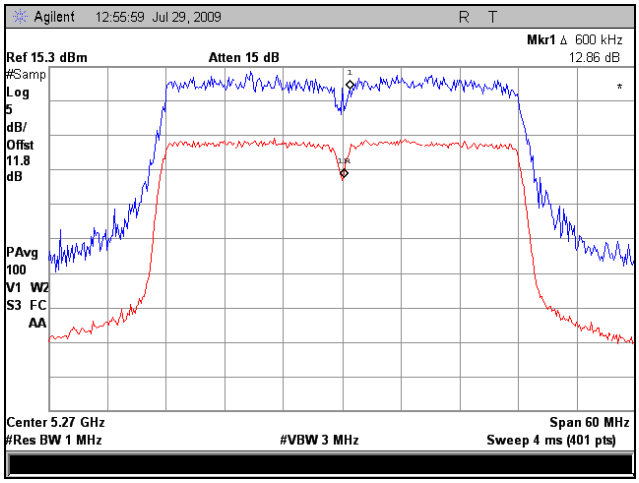


Plot 106. Peak Excursion, Port 3, 802.11n 20MHz, 5580 MHz

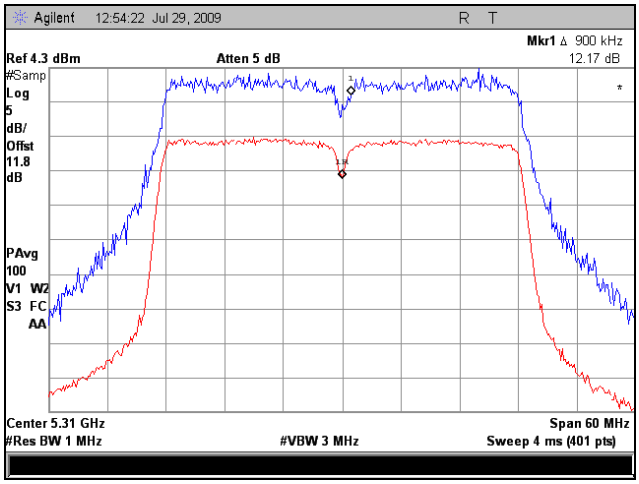


Plot 107. Peak Excursion Ratio, Port 3, 802.11n 20MHz, 5700 MHz

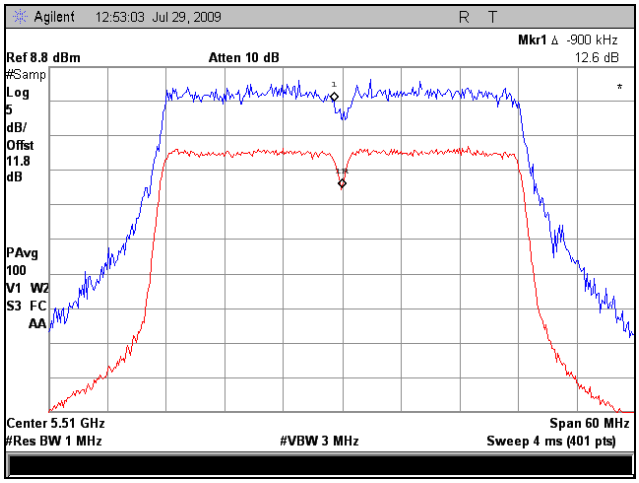
Peak Excursion Ratio, Port 3, 802.11n 40MHz



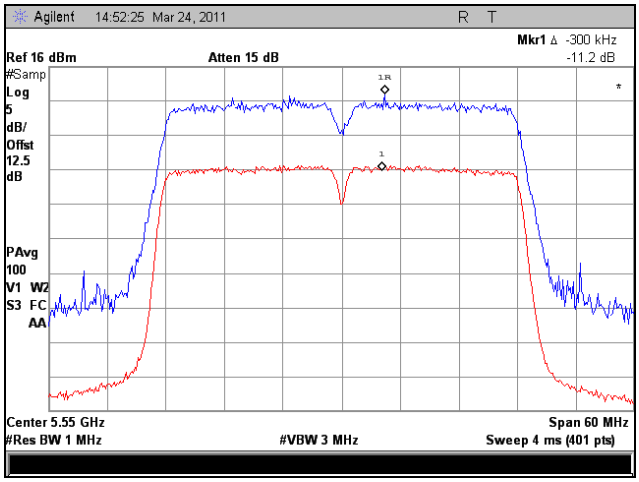
Plot 108. Peak Excursion, Port 3, 802.11n 40MHz, 5270 MHz



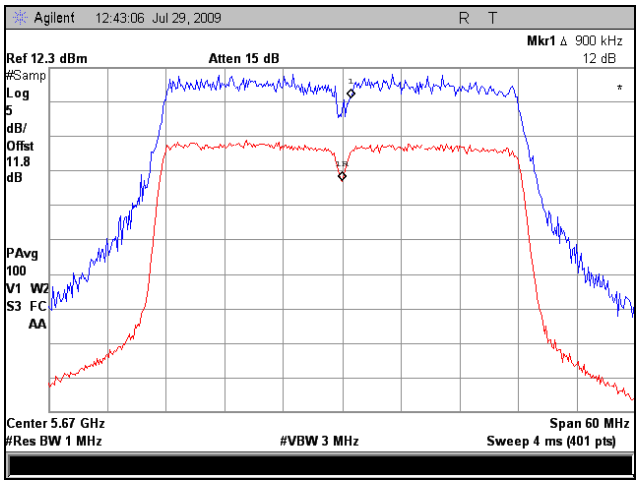
Plot 109. Peak Excursion, Port 3, 802.11n 40MHz, 5310 MHz



Plot 110. Peak Excursion, Port 3, 802.11n 40MHz, 5510 MHz



Plot 111. Peak Excursion, Port 3, 802.11n 40MHz, 5550 MHz



Plot 112. Peak Excursion, Port 3, 802.11n 40MHz, 5670 MHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.407(b)(1),(2), (5), (6) Undesirable Emissions

Test Requirements: **§ 15.407(b)(1),(2), (5), (6)**; **§15.205:** Emissions outside the frequency band.

§ 15.407(b)(1): In any 1MHz bandwidth outside the frequency band 5.15-5.25GHz in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power shall not exceed -27dBm.

§ 15.407(b)(2): In any 1MHz bandwidth outside the frequency band 5.25-5.35GHz in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power shall not exceed -27dBm.

§ 15.407(b)(6): Radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a).

§15.205(a): Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090–0.110----------	16.42–16.423	399.9–410	4.5–5.15
[1] 0.495–0.505----------	16.69475–16.69525	608–614	5.35–5.46
2.1735–2.1905----------	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128----------	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775----------	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775----------	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218----------	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825----------	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225----------	123–138	2200–2300	14.47–14.5
8.291–8.294----------	149.9–150.05	2310–2390	15.35–16.2
8.362–8.366----------	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675----------	156.7–156.9	2655–2900	22.01–23.12
8.41425–8.41475----------	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293----------	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025----------	240–285	3345.8–3358 36.	43–36.5
12.57675–12.57725----------	322–335.4	3600–4400	([2])

Table 26. Restricted Bands of Operation

Test Procedure: The EUT was installed placed on a 0.8m-high wooden table inside a semi-anechoic chamber. The harmonic frequencies the carriers were recorded for reference for final measurements. A receiving horn antenna was placed 3m away from the EUT. Unless otherwise specified, measurements were made using 1MHz RBW & 1MHz VBW for peak measurements and 1MHz RBW & 10Hz VBW for average measurements on a spectrum analyzer.

For each harmonic of the carrier frequency, the turntable was rotated, the positions of the interface cables were varied, and the antenna height was varied between 1 m and 4 m, in order to find the maximum radiated emissions.

The equipment isotropic radiated power (EIRP) at -27dBm/MHz was converted to field strength at 68.23dBuV/m. At the band edge of each band, the EIRP energy measurement is integrated to show the total power over 1MHz.

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

Test Engineer(s): Minh Ly

Test Date(s): 07/28/09 - 08/11/09

Electromagnetic Compatibility Criteria for Intentional Radiators

Harmonic Emissions Requirements – Radiated, 802.11a, (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	45.77	35.19	38.21	6.84	55.63	Peak	74	-18.37
10.52	V	33.41	35.19	38.21	6.84	43.27	Avg.	54	-10.73
15.78	V	44.97	34.97	37.68	8.86	56.55	Peak	74	-17.45
15.78	V	32..41	34.97	37.68	8.86	43.99	Avg.	54	-10.01

Table 27. Radiated Harmonics, 802.11a, 9 dBi Omni, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	50.07	35.03	38.29	6.83	60.16	Peak	74	-13.84
10.64	V	39.24	35.03	38.29	6.83	49.33	Avg.	54	-4.67
15.96	V	44.3	35.09	37.68	8.87	55.76	Peak	74	-18.24
15.96	V	31.43	35.09	37.68	8.87	42.89	Avg.	54	-11.11

Table 28. Radiated Harmonics, 802.11a, 9 dBi Omni, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11a (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	44.41	34.81	38.70	6.98	55.28	Peak	74	-18.72
11	V	30.33	34.81	38.70	6.98	41.20	Avg.	54	-12.80
16.5	V	44.61	34.60	38.80	9.70	58.51	Peak	74	-15.49
16.5	V	30.91	34.60	38.80	9.70	44.81	Avg.	54	-9.19

Table 29. Radiated Harmonics, 802.11a, 9 dBi Omni, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	45.41	34.76	39.14	7.30	57.09	Peak	74	-16.91
11.16	V	30.38	34.76	39.14	7.30	42.06	Avg.	54	-11.94
16.74	V	45.04	34.36	40.73	9.66	61.07	Peak	74	-12.93
16.74	V	30.75	34.36	40.73	9.66	46.78	Avg.	54	-7.22

Table 30. Radiated Harmonics, 802.11a, 9 dBi Omni, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	43.41	34.81	39.63	7.63	55.86	Peak	74	-18.14
11.4	V	33.27	34.81	39.63	7.63	45.72	Avg.	54	-8.28
17.1	V	44.7	34.15	42.41	9.77	62.73	Peak	74	-11.27
17.1	V	30.18	34.15	42.41	9.77	48.21	Avg.	54	-5.79

Table 31. Radiated Harmonics, 802.11a, 9 dBi Omni, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11a (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	44.46	35.19	38.21	6.84	54.32	Peak	74	-19.68
10.52	V	31.24	35.19	38.21	6.84	41.10	Avg.	54	-12.90
15.78	V	45.09	34.97	37.68	8.86	56.67	Peak	74	-17.33
15.78	V	32.22	34.97	37.68	8.86	43.80	Avg.	54	-10.20

Table 32. Radiated Harmonics, 802.11a, 16 dBi Sector, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	48.24	35.03	38.29	6.83	58.33	Peak	74	-15.67
10.64	V	31.04	35.03	38.29	6.83	41.13	Avg.	54	-12.87
15.96	V	46.02	35.09	37.68	8.87	57.48	Peak	74	-16.52
15.96	V	31.75	35.09	37.68	8.87	43.21	Avg.	54	-10.79

Table 33. Radiated Harmonics, 802.11a, 16 dBi Sector, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11a (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	45.84	34.81	38.70	6.98	56.71	Peak	74	-17.29
11	V	31.52	34.81	38.70	6.98	42.39	Avg.	54	-11.61
16.5	V	47.38	34.60	38.80	9.70	61.28	Peak	74	-12.72
16.5	V	31.4	34.60	38.80	9.70	45.30	Avg.	54	-8.70

Table 34. Radiated Harmonics, 802.11a, 16 dBi Sector, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	44.65	34.76	39.14	7.30	56.33	Peak	74	-17.67
11.16	V	31.22	34.76	39.14	7.30	42.90	Avg.	54	-11.10
16.74	V	43.73	34.36	40.73	9.66	59.76	Peak	74	-14.24
16.74	V	31.2	34.36	40.73	9.66	47.23	Avg.	54	-6.77

Table 35. Radiated Harmonics, 802.11a, 16 dBi Sector, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	47.97	34.81	39.63	7.63	60.42	Peak	74	-13.58
11.4	V	31.92	34.81	39.63	7.63	44.37	Avg.	54	-9.63
17.1	V	45.44	34.15	42.41	9.77	63.47	Peak	74	-10.53
17.1	V	30.72	34.15	42.41	9.77	48.75	Avg.	54	-5.25

Table 36. Radiated Harmonics, 802.11a, 16 dBi Sector, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11a (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	44.52	35.19	38.21	6.84	54.38	Peak	74	-19.62
10.52	V	30.81	35.19	38.21	6.84	40.67	Avg.	54	-13.33
15.78	V	44.7	34.97	37.68	8.86	56.28	Peak	74	-17.72
15.78	V	32.27	34.97	37.68	8.86	43.85	Avg.	54	-10.15

Table 37. Radiated Harmonics, 802.11a, 19 dBi Panel, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	50	35.03	38.29	6.83	60.09	Peak	74	-13.91
10.64	V	38.06	35.03	38.29	6.83	48.15	Avg.	54	-5.85
15.96	V	44.6	35.09	37.68	8.87	56.06	Peak	74	-17.94
15.96	V	31.77	35.09	37.68	8.87	43.23	Avg.	54	-10.77

Table 38. Radiated Harmonics, 802.11a, 19 dBi Panel, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11a (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	43.83	34.81	38.70	6.98	54.70	Peak	74	-19.30
11	V	31.55	34.81	38.70	6.98	42.42	Avg.	54	-11.58
16.5	V	45.44	34.60	38.80	9.70	59.34	Peak	74	-14.66
16.5	V	31.58	34.60	38.80	9.70	45.48	Avg.	54	-8.52

Table 39. Radiated Harmonics, 802.11a, 19 dBi Panel, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	44.48	34.76	39.14	7.30	56.16	Peak	74	-17.84
11.16	V	33.22	34.76	39.14	7.30	44.90	Avg.	54	-9.10
16.74	V	45.56	34.36	40.73	9.66	61.59	Peak	74	-12.41
16.74	V	31.93	34.36	40.73	9.66	47.96	Avg.	54	-6.04

Table 40. Radiated Harmonics, 802.11a, 19 dBi Panel, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	47.42	34.81	39.63	7.63	59.87	Peak	74	-14.13
11.4	V	31.72	34.81	39.63	7.63	44.17	Avg.	54	-9.83
17.1	V	45.42	34.15	42.41	9.77	63.45	Peak	74	-10.55
17.1	V	30.62	34.15	42.41	9.77	48.65	Avg.	54	-5.35

Table 41. Radiated Harmonics, 802.11a, 19 dBi Panel, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	46.44	35.19	38.21	6.84	56.30	Peak	74	-17.70
10.52	V	31.01	35.19	38.21	6.84	40.87	Avg.	54	-13.13
15.78	V	46.01	34.97	37.68	8.86	57.59	Peak	74	-16.41
15.78	V	32.79	34.97	37.68	8.86	44.37	Avg.	54	-9.63

Table 42. Radiated Harmonics, 802.11n 20MHz, 9 dBi Omni, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	49.96	35.03	38.29	6.83	60.05	Peak	74	-13.95
10.64	V	37.59	35.03	38.29	6.83	47.68	Avg.	54	-6.32
15.96	V	45.23	35.09	37.68	8.87	56.69	Peak	74	-17.31
15.96	V	32.92	35.09	37.68	8.87	44.38	Avg.	54	-9.62

Table 43. Radiated Harmonics, 802.11n 20MHz, 9 dBi Omni, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	44.05	34.81	38.70	6.98	54.92	Peak	74	-19.08
11	V	31.19	34.81	38.70	6.98	42.06	Avg.	54	-11.94
16.5	V	45.88	34.60	38.80	9.70	59.78	Peak	74	-14.22
16.5	V	30.84	34.60	38.80	9.70	44.74	Avg.	54	-9.26

Table 44. Radiated Harmonics, 802.11n 20MHz, 9 dBi Omni, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	45.1	34.76	39.14	7.30	56.78	Peak	74	-17.22
11.16	V	30.04	34.76	39.14	7.30	41.72	Avg.	54	-12.28
16.74	V	44.39	34.36	40.73	9.66	60.42	Peak	74	-13.58
16.74	V	32.24	34.36	40.73	9.66	48.27	Avg.	54	-5.73

Table 45. Radiated Harmonics, 802.11n 20MHz, 9 dBi Omni, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	46.04	34.81	39.63	7.63	58.49	Peak	74	-15.51
11.4	V	31.76	34.81	39.63	7.63	44.21	Avg.	54	-9.79
17.1	V	44.71	34.15	42.41	9.77	62.74	Peak	74	-11.26
17.1	V	32.72	34.15	42.41	9.77	50.75	Avg.	54	-3.25

Table 46. Radiated Harmonics, 802.11n 20MHz, 9 dBi Omni, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	46.65	35.19	38.21	6.84	56.51	Peak	74	-17.49
10.52	V	31.28	35.19	38.21	6.84	41.14	Avg.	54	-12.86
15.78	V	44.99	34.97	37.68	8.86	56.57	Peak	74	-17.43
15.78	V	32.09	34.97	37.68	8.86	43.67	Avg.	54	-10.33

Table 47. Radiated Harmonics, 802.11n 20MHz, 16 dBi Sector, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	49.72	35.03	38.29	6.83	59.81	Peak	74	-14.19
10.64	V	31.84	35.03	38.29	6.83	41.93	Avg.	54	-12.07
15.96	V	44.69	35.09	37.68	8.87	56.15	Peak	74	-17.85
15.96	V	31.9	35.09	37.68	8.87	43.36	Avg.	54	-10.64

Table 48. Radiated Harmonics, 802.11n 20MHz, 16 dBi Sector, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	47.2	34.81	38.70	6.98	58.07	Peak	74	-15.93
11	V	32.23	34.81	38.70	6.98	43.10	Avg.	54	-10.90
16.5	V	45.86	34.60	38.80	9.70	59.76	Peak	74	-14.24
16.5	V	31.59	34.60	38.80	9.70	45.49	Avg.	54	-8.51

Table 49. Radiated Harmonics, 802.11n 20MHz, 16 dBi Sector, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	45.21	34.76	39.14	7.30	56.89	Peak	74	-17.11
11.16	V	31.73	34.76	39.14	7.30	43.41	Avg.	54	-10.59
16.74	V	44.38	34.36	40.73	9.66	60.41	Peak	74	-13.59
16.74	V	31.23	34.36	40.73	9.66	47.26	Avg.	54	-6.74

Table 50. Radiated Harmonics, 802.11n 20MHz, 16 dBi Sector, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	48.56	34.81	39.63	7.63	61.01	Peak	74	-12.99
11.4	V	32.75	34.81	39.63	7.63	45.20	Avg.	54	-8.80
17.1	V	43.15	34.15	42.41	9.77	61.18	Peak	74	-12.82
17.1	V	30.56	34.15	42.41	9.77	48.59	Avg.	54	-5.41

Table 51. Radiated Harmonics, 802.11n 20MHz, 16 dBi Sector, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.52	V	45.37	35.19	38.21	6.84	55.23	Peak	74	-18.77
10.52	V	35.22	35.19	38.21	6.84	45.08	Avg.	54	-8.92
15.78	V	48.09	34.97	37.68	8.86	59.67	Peak	74	-14.33
15.78	V	33.41	34.97	37.68	8.86	44.99	Avg.	54	-9.01

Table 52. Radiated Harmonics, 802.11n 20MHz, 19 dBi Panel, 5260 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.64	V	48.99	35.03	38.29	6.83	59.08	Peak	74	-14.92
10.64	V	35.77	35.03	38.29	6.83	45.86	Avg.	54	-8.14
15.96	V	44.88	35.09	37.68	8.87	56.34	Peak	74	-17.66
15.96	V	32.98	35.09	37.68	8.87	44.44	Avg.	54	-9.56

Table 53. Radiated Harmonics, 802.11n 20MHz, 19 dBi Panel, 5320 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 20MHz (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11	V	45.93	34.81	38.70	6.98	56.80	Peak	74	-17.20
11	V	30.47	34.81	38.70	6.98	41.34	Avg.	54	-12.66
16.5	V	47.04	34.60	38.80	9.70	60.94	Peak	74	-13.06
16.5	V	35.65	34.60	38.80	9.70	49.55	Avg.	54	-4.45

Table 54. Radiated Harmonics, 802.11n 20MHz, 19 dBi Panel, 5500 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.16	V	44.29	34.76	39.14	7.30	55.97	Peak	74	-18.03
11.16	V	32.48	34.76	39.14	7.30	44.16	Avg.	54	-9.84
16.74	V	45.49	34.36	40.73	9.66	61.52	Peak	74	-12.48
16.74	V	33.72	34.36	40.73	9.66	49.75	Avg.	54	-4.25

Table 55. Radiated Harmonics, 802.11n 20MHz, 19 dBi Panel, 5580 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.4	V	45.52	34.81	39.63	7.63	57.97	Peak	74	-16.03
11.4	V	34.2	34.81	39.63	7.63	46.65	Avg.	54	-7.35
17.1	V	45.12	34.15	42.41	9.77	63.15	Peak	74	-10.85
17.1	V	30.63	34.15	42.41	9.77	48.66	Avg.	54	-5.34

Table 56. Radiated Harmonics, 802.11n 20MHz, 19 dBi Panel, 5700 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.54	V	44.39	35.16	38.22	6.83	54.28	Peak	74	-19.72
10.54	V	30.52	35.16	38.22	6.83	40.41	Avg.	54	-13.59
15.81	V	45.51	34.99	37.67	8.85	57.05	Peak	74	-16.95
15.81	V	32.39	34.99	37.67	8.85	43.93	Avg.	54	-10.07

Table 57. Radiated Harmonics, 802.11n 40MHz, 9 dBi Omni, 5270 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.62	V	48.5	35.06	38.27	6.83	58.54	Peak	74	-15.46
10.62	V	34.55	35.06	38.27	6.83	44.59	Avg.	54	-9.41
15.93	V	44.46	35.07	37.67	8.86	55.91	Peak	74	-18.09
15.93	V	32.27	35.07	37.67	8.86	43.72	Avg.	54	-10.28

Table 58. Radiated Harmonics, 802.11n 40MHz, 9 dBi Omni, 5310 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (9dBi Omni Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.02	V	45.02	34.80	38.73	7.00	55.95	Peak	74	-18.05
11.02	V	31.09	34.80	38.73	7.00	42.02	Avg.	54	-11.98
16.53	V	43.69	34.55	38.94	9.72	57.79	Peak	74	-16.21
16.53	V	30.96	34.55	38.94	9.72	45.06	Avg.	54	-8.94

Table 59. Radiated Harmonics, 802.11n 40MHz, 9 dBi Omni, 5510 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.1	V	44.27	34.76	39.09	7.26	55.86	Peak	74	-18.14
11.1	V	30.1	34.76	39.09	7.26	41.69	Avg.	54	-12.31
16.65	V	46.58	34.37	40.51	9.67	62.40	Peak	74	-11.60
16.65	V	32.47	34.37	40.51	9.67	48.29	Avg.	54	-5.71

Table 60. Radiated Harmonics, 802.11n 40MHz, 9 dBi Omni, 5550 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.34	V	44.78	34.78	39.50	7.56	57.05	Peak	74	-16.95
11.34	V	31.98	34.78	39.50	7.56	44.25	Avg.	54	-9.75
17.01	V	43.4	34.24	42.05	9.68	60.89	Peak	74	-13.11
17.01	V	31.11	34.24	42.05	9.68	48.60	Avg.	54	-5.40

Table 61. Radiated Harmonics, 802.11n 40MHz, 9 dBi Omni, 5670 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.54	V	46.67	35.16	38.22	6.83	56.56	Peak	74	-17.44
10.54	V	30.73	35.16	38.22	6.83	40.62	Avg.	54	-13.38
15.81	V	44.68	34.99	37.67	8.85	56.22	Peak	74	-17.78
15.81	V	31.99	34.99	37.67	8.85	43.53	Avg.	54	-10.47

Table 62. Radiated Harmonics, 802.11n 40MHz, 16 dBi Sector, 5270 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.62	V	48.24	35.06	38.27	6.83	58.28	Peak	74	-15.72
10.62	V	31.65	35.06	38.27	6.83	41.69	Avg.	54	-12.31
15.93	V	44.49	35.07	37.67	8.86	55.94	Peak	74	-18.06
15.93	V	31.76	35.07	37.67	8.86	43.21	Avg.	54	-10.79

Table 63. Radiated Harmonics, 802.11n 40MHz, 16 dBi Sector, 5310 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (16dBi Sector Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.02	V	47.93	34.80	38.73	7.00	58.86	Peak	74	-15.14
11.02	V	31.13	34.80	38.73	7.00	42.06	Avg.	54	-11.94
16.53	V	44.92	34.55	38.94	9.72	59.02	Peak	74	-14.98
16.53	V	32.03	34.55	38.94	9.72	46.13	Avg.	54	-7.87

Table 64. Radiated Harmonics, 802.11n 40MHz, 16 dBi Sector, 5510 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.1	V	45.12	34.76	39.09	7.26	56.71	Peak	74	-17.29
11.1	V	30.96	34.76	39.09	7.26	42.55	Avg.	54	-11.45
16.65	V	44.05	34.37	40.51	9.67	59.87	Peak	74	-14.13
16.65	V	30.98	34.37	40.51	9.67	46.80	Avg.	54	-7.20

Table 65. Radiated Harmonics, 802.11n 40MHz, 16 dBi Sector, 5550 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.34	V	44.19	34.78	39.50	7.56	56.46	Peak	74	-17.54
11.34	V	31.52	34.78	39.50	7.56	43.79	Avg.	54	-10.21
17.01	V	43.67	34.24	42.05	9.68	61.16	Peak	74	-12.84
17.01	V	31.24	34.24	42.05	9.68	48.73	Avg.	54	-5.27

Table 66. Radiated Harmonics, 802.11n 40MHz, 16 dBi Sector, 5670 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.54	V	44.29	35.16	38.22	6.83	54.18	Peak	74	-19.82
10.54	V	34.06	35.16	38.22	6.83	43.95	Avg.	54	-10.05
15.81	V	45.29	34.99	37.67	8.85	56.83	Peak	74	-17.17
15.81	V	32.3	34.99	37.67	8.85	43.84	Avg.	54	-10.16

Table 67. Radiated Harmonics, 802.11n 40MHz, 19 dBi Panel, 5270 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
10.62	V	47.11	35.06	38.27	6.83	57.15	Peak	74	-16.85
10.62	V	34.53	35.06	38.27	6.83	44.57	Avg.	54	-9.43
15.93	V	44.63	35.07	37.67	8.86	56.08	Peak	74	-17.92
15.93	V	31.72	35.07	37.67	8.86	43.17	Avg.	54	-10.83

Table 68. Radiated Harmonics, 802.11n 40MHz, 19 dBi Panel, 5310 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Harmonic Emissions Requirements – Radiated, 802.11n 40MHz (19dBi Panel Antenna)

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.02	V	43.13	34.80	38.73	7.00	54.06	Peak	74	-19.94
11.02	V	30.57	34.80	38.73	7.00	41.50	Avg.	54	-12.50
16.53	V	43.63	34.55	38.94	9.72	57.73	Peak	74	-16.27
16.53	V	31.37	34.55	38.94	9.72	45.47	Avg.	54	-8.53

Table 69. Radiated Harmonics, 802.11n 40MHz, 19 dBi Panel, 5510 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.1	V	44.71	34.76	39.09	7.26	56.30	Peak	74	-17.70
11.1	V	30.91	34.76	39.09	7.26	42.50	Avg.	54	-11.50
16.65	V	43.91	34.37	40.51	9.67	59.73	Peak	74	-14.27
16.65	V	31.58	34.37	40.51	9.67	47.40	Avg.	54	-6.60

Table 70. Radiated Harmonics, 802.11n 40MHz, 19 dBi Panel, 5550 MHz

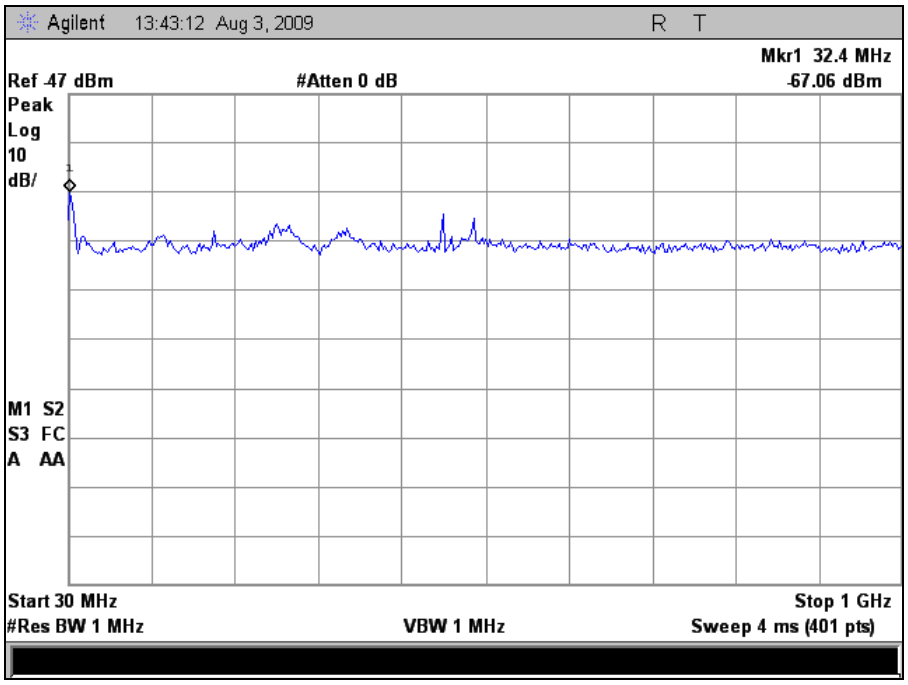
Note: All other emissions were measured at the noise floor of the spectrum analyzer.

Freq. (GHz)	Antenna Polarity (H/V)	Raw Amp. @ 3 m (Peak) / (Avg.)	P. Amp. (dB)	Ant. Cor. Factor (dB/m)	Cable Loss (dB)	EUT Field Strength Final Amp. (dBuV/m)	Limit Detector Peak / Avg. (Peak) / (Avg.)	Limit @ 3 m (dBuV/m)	Delta (dB)
11.34	V	44.62	34.78	39.50	7.56	56.89	Peak	74	-17.11
11.34	V	32.29	34.78	39.50	7.56	44.56	Avg.	54	-9.44
17.01	V	43.31	34.24	42.05	9.68	60.80	Peak	74	-13.20
17.01	V	30.98	34.24	42.05	9.68	48.47	Avg.	54	-5.53

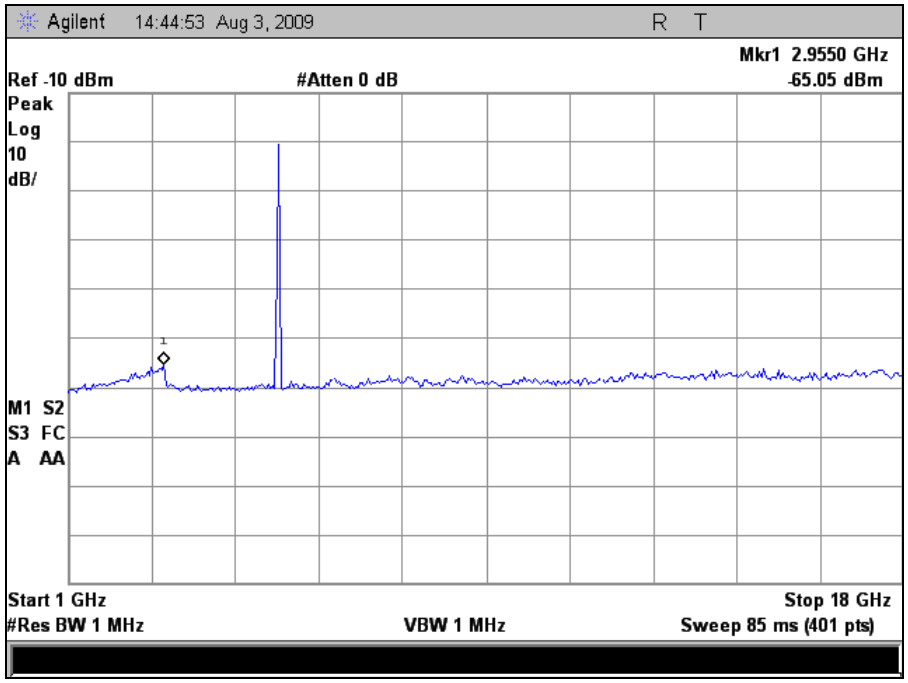
Table 71. Radiated Harmonics, 802.11n 40MHz, 19 dBi Panel, 5670 MHz

Note: All other emissions were measured at the noise floor of the spectrum analyzer.

§ 15.209 Radiated Spurious Emissions Limits, 802.11a

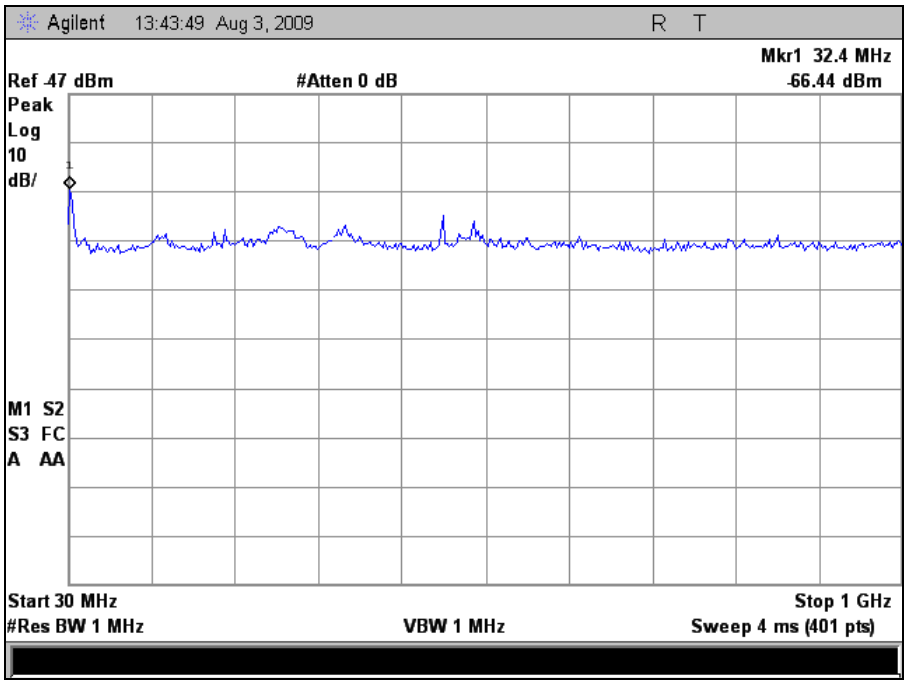


Plot 113. Radiated Spurious, 802.11a, 5260 MHz, 30 MHz – 1 GHz, 9 dBi Omni

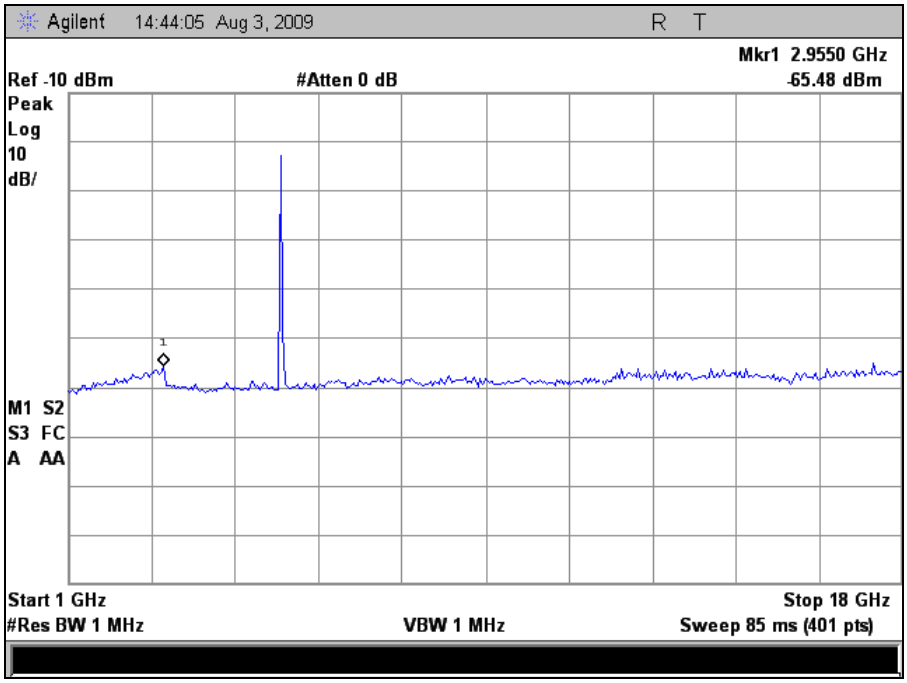


Plot 114. Radiated Spurious, 802.11a, 5260 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11a (9dBi Omni Antenna)

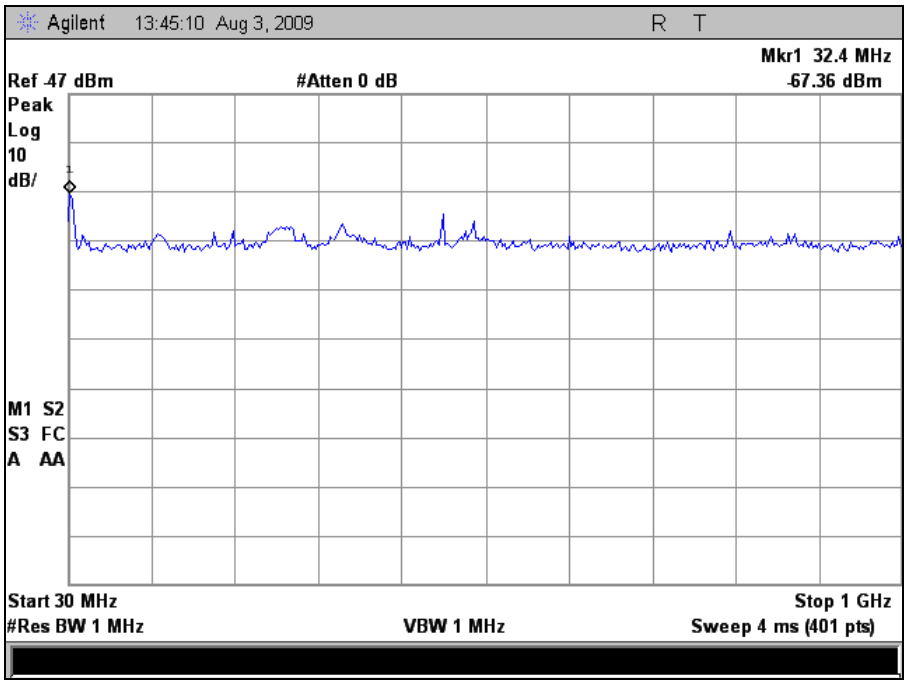


Plot 115. Radiated Spurious, 802.11a, 5320 MHz, 30 MHz – 1 GHz, 9 dBi Omni

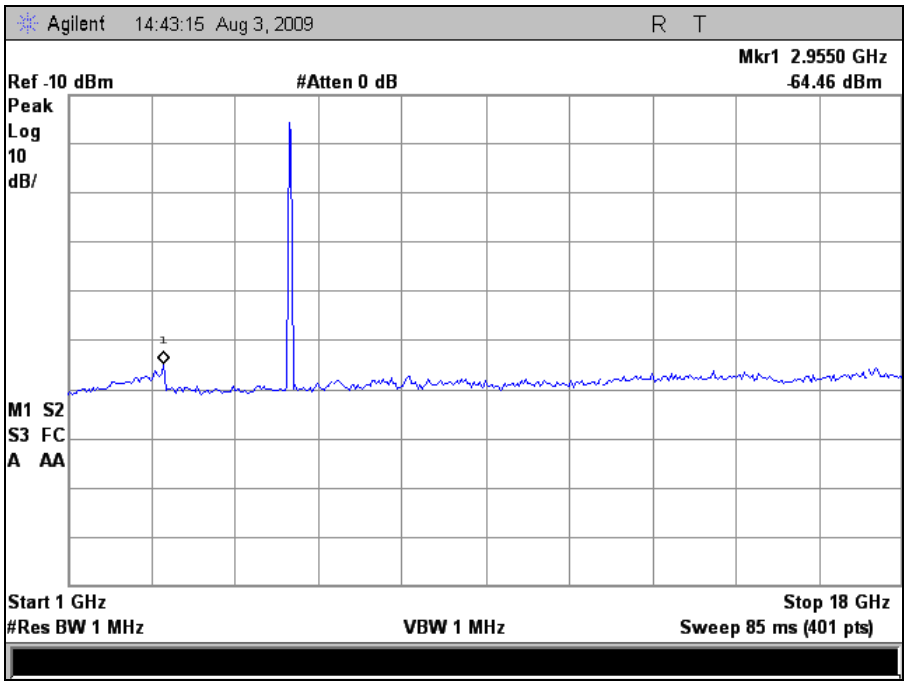


Plot 116. Radiated Spurious, 802.11a, 5320 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11a (9dBi Omni Antenna)

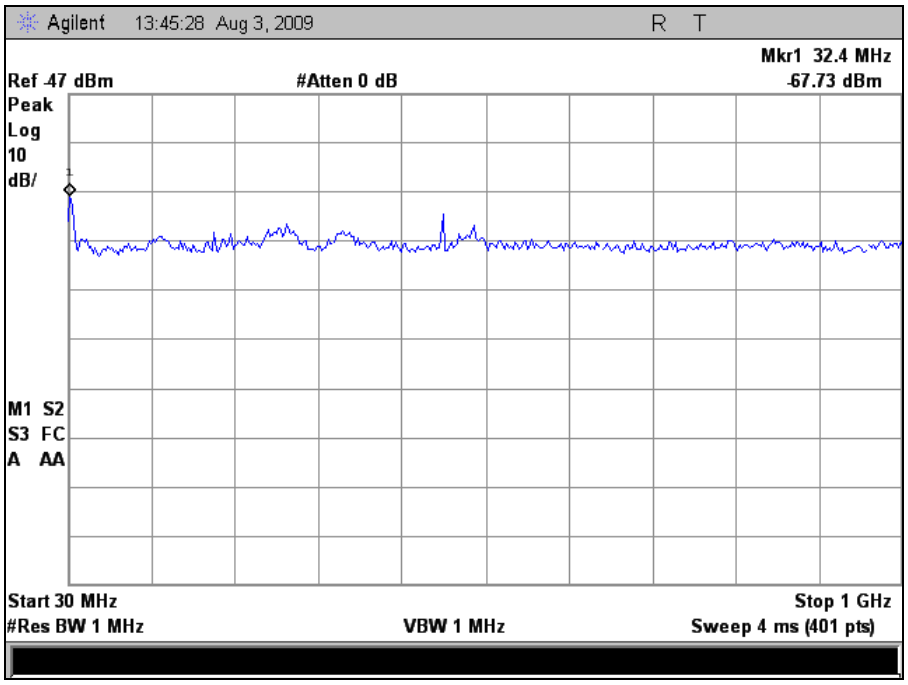


Plot 117. Radiated Spurious, 802.11a, 5500 MHz, 30 MHz – 1 GHz, 9 dBi Omni

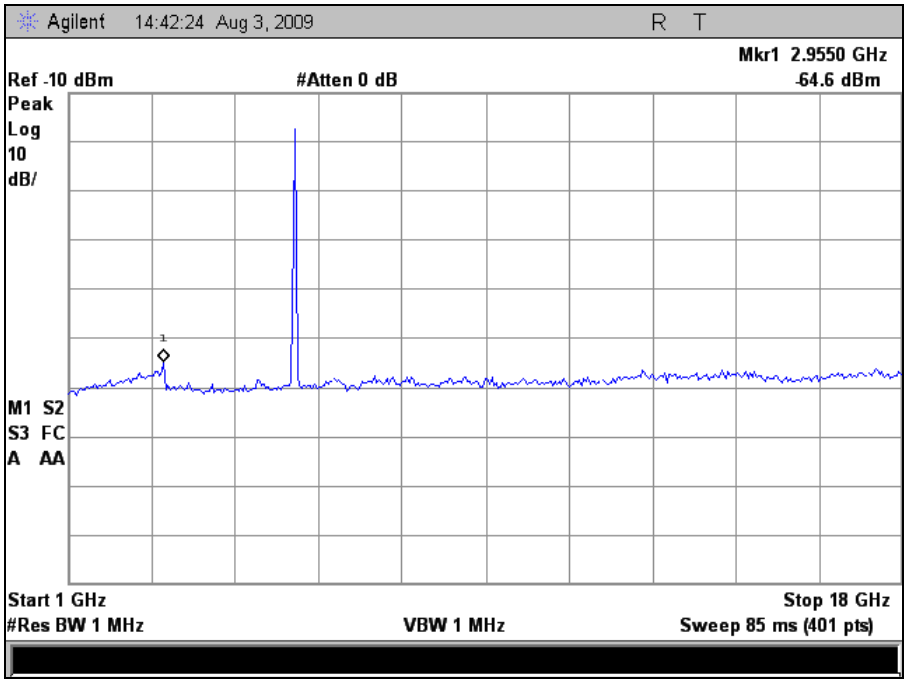


Plot 118. Radiated Spurious, 802.11a, 5500 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11a (9dBi Omni Antenna)

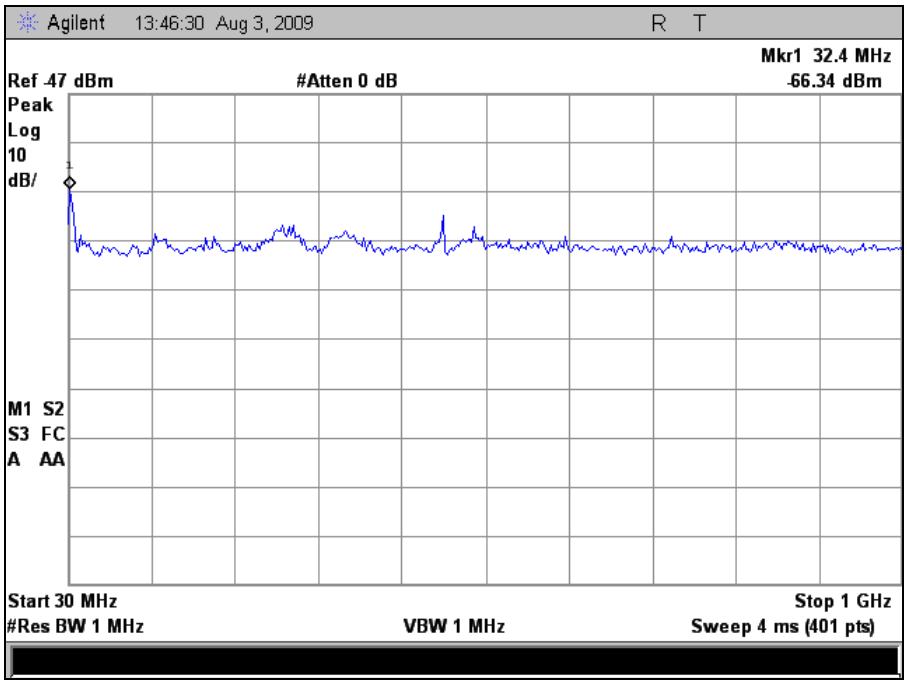


Plot 119. Radiated Spurious, 802.11a, 5580 MHz, 30 MHz – 1 GHz, 9 dBi Omni

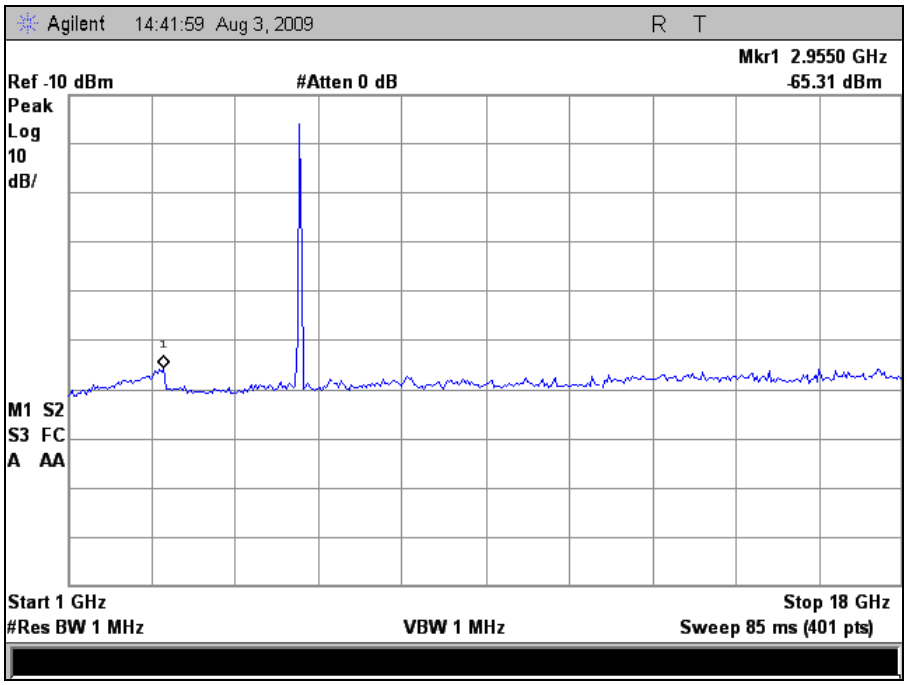


Plot 120. Radiated Spurious, 802.11a, 5580 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11a (9dBi Omni Antenna)

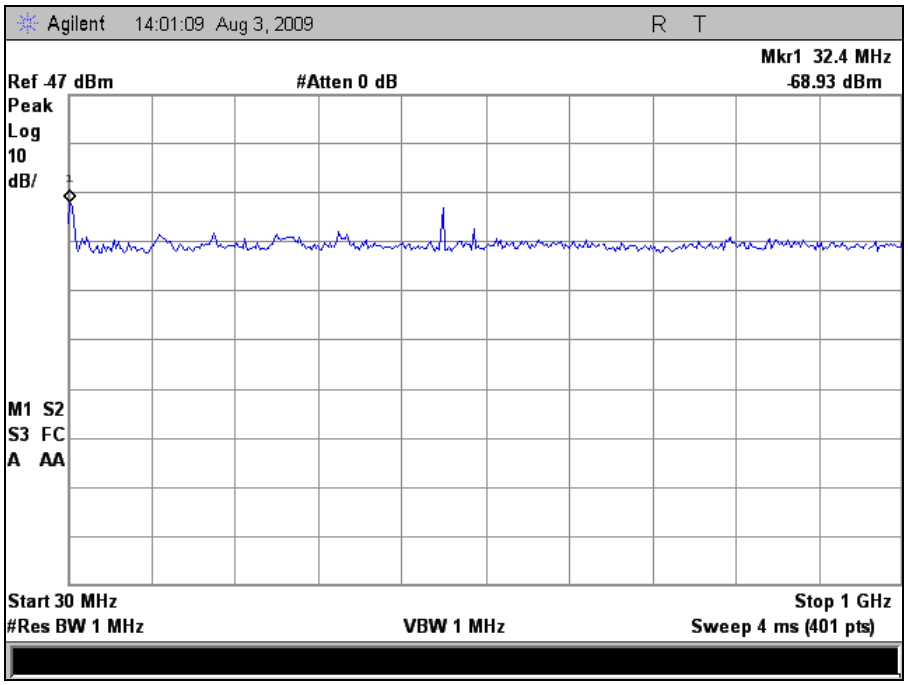


Plot 121. Radiated Spurious, 802.11a, 5700 MHz, 30 MHz – 1 GHz, 9 dBi Omni

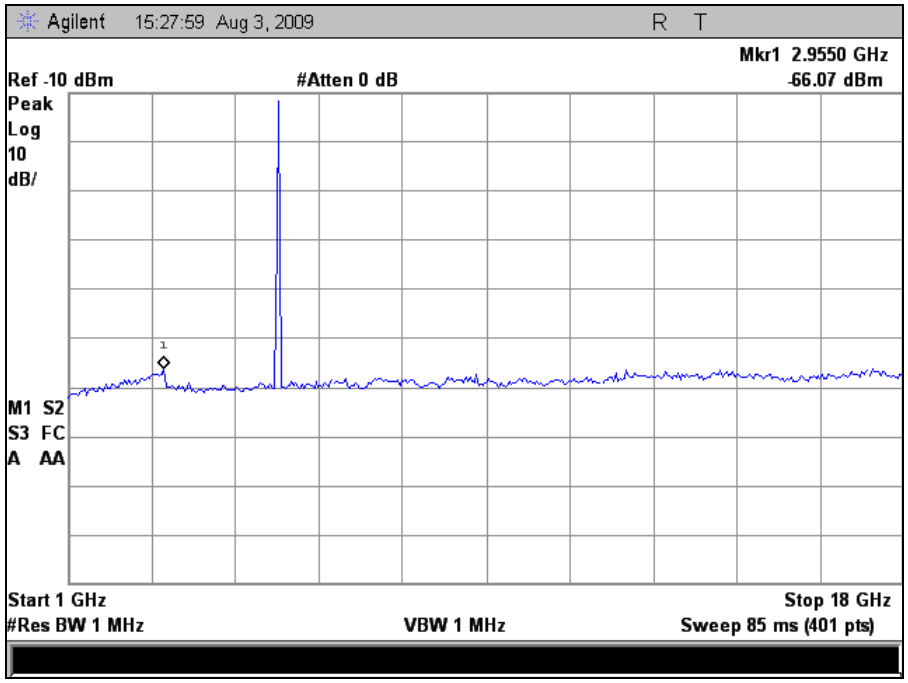


Plot 122. Radiated Spurious, 802.11a, 5700 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11a (16dBi Sector Antenna)

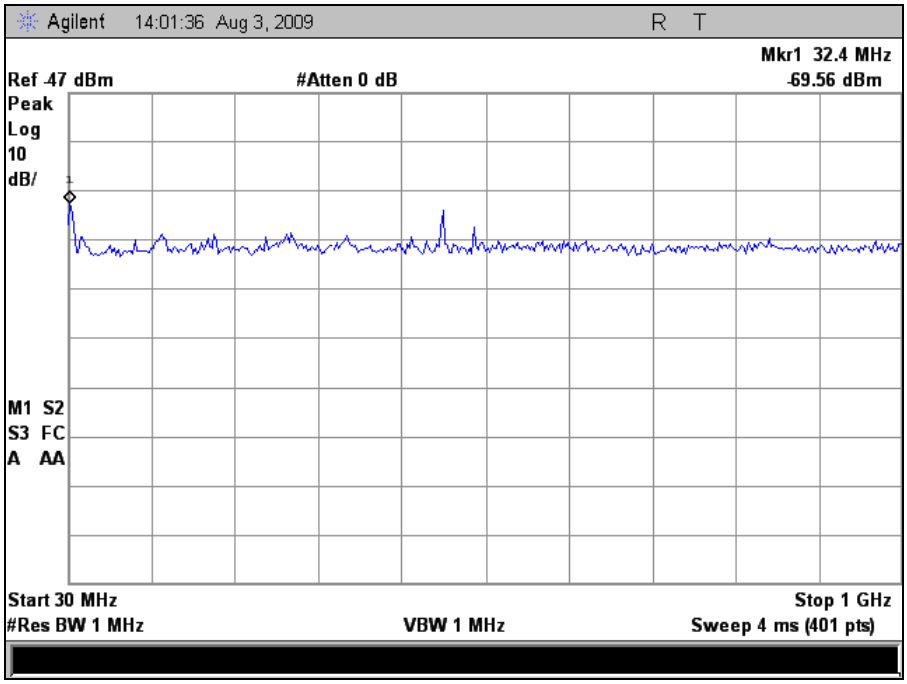


Plot 123. Radiated Spurious, 802.11a, 5260 MHz, 30 MHz – 1 GHz, 16 dBi Sector

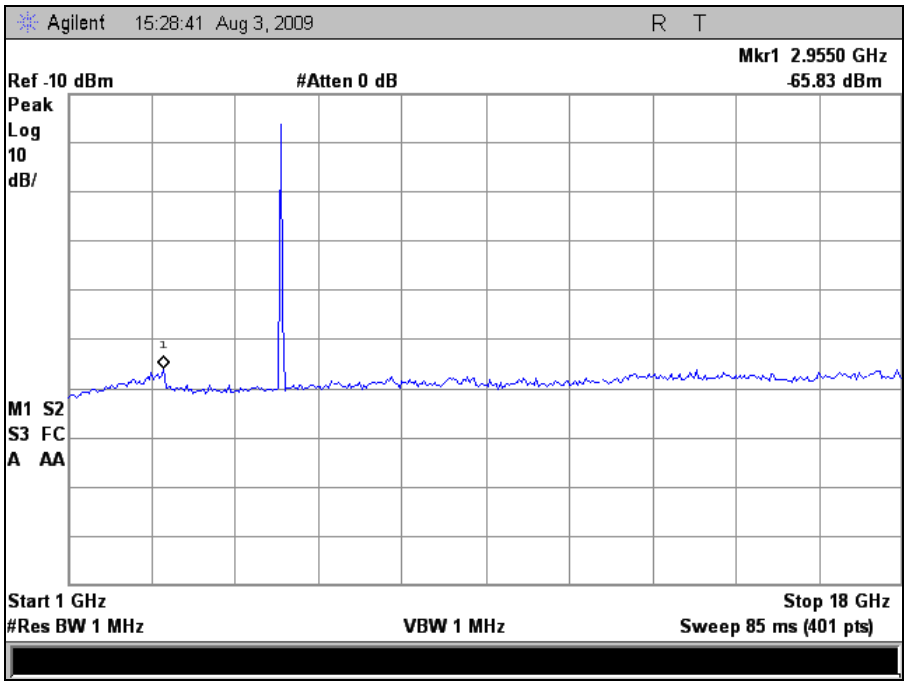


Plot 124. Radiated Spurious, 802.11a, 5260 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11a (16dBi Sector Antenna)

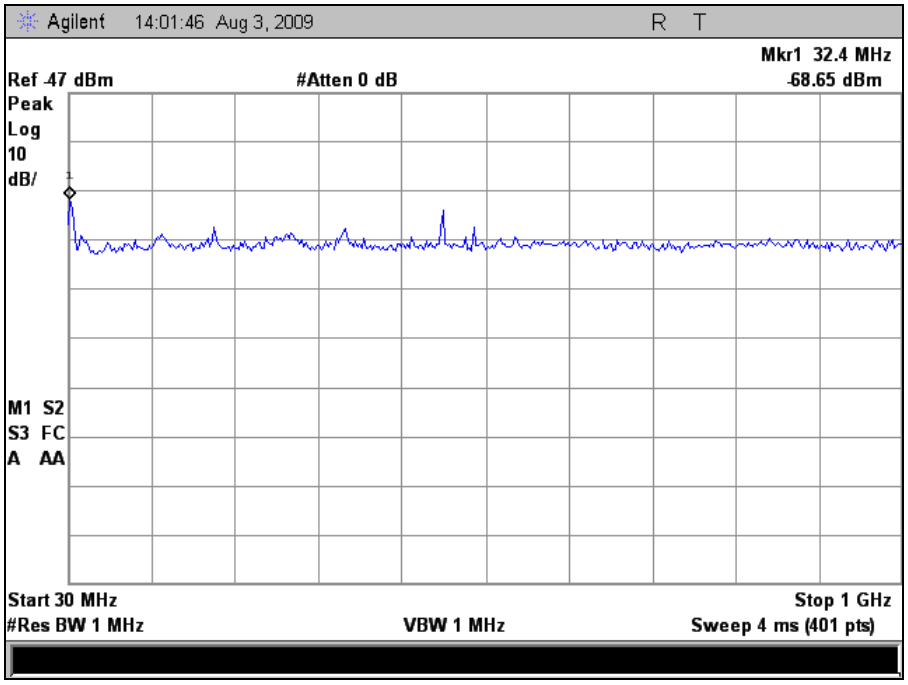


Plot 125. Radiated Spurious, 802.11a, 5320 MHz, 30 MHz – 1 GHz, 16 dBi Sector

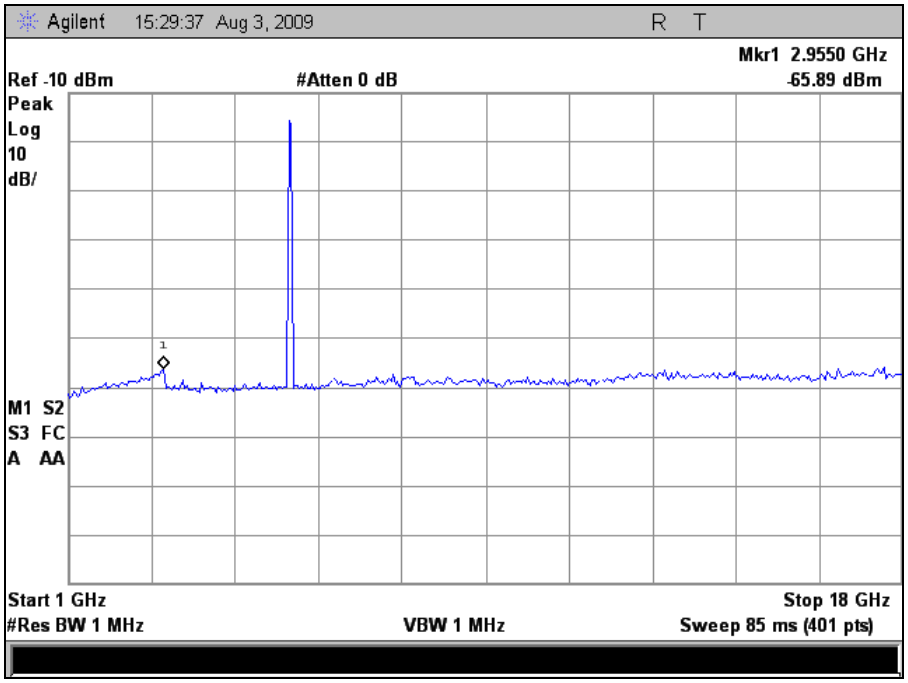


Plot 126. Radiated Spurious, 802.11a, 5320 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11a (16dBi Sector Antenna)

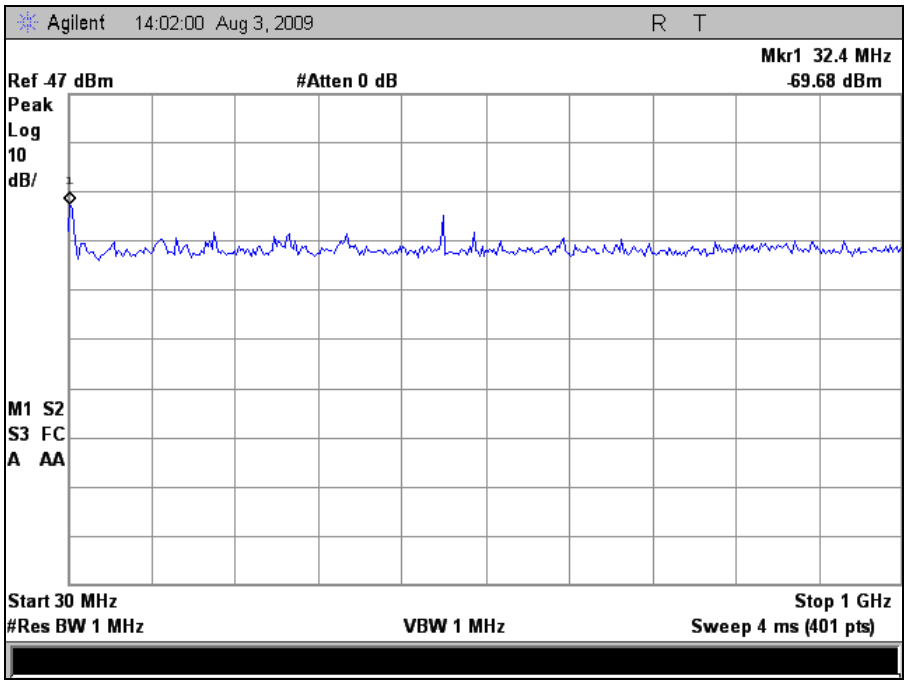


Plot 127. Radiated Spurious, 802.11a, 5500 MHz, 30 MHz – 1 GHz, 16 dBi Sector

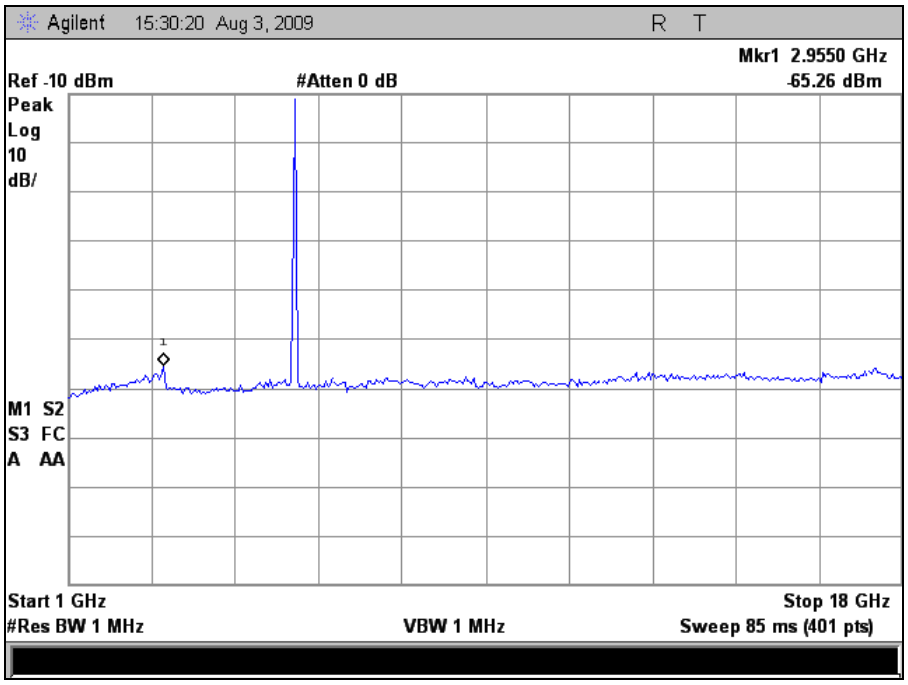


Plot 128. Radiated Spurious, 802.11a, 5500 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11a (16dBi Sector Antenna)

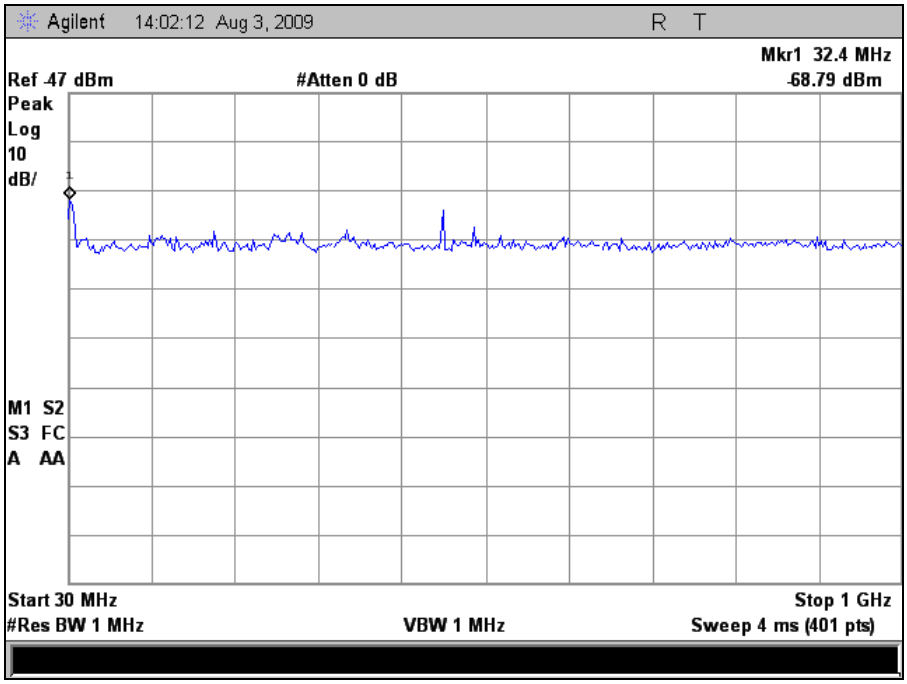


Plot 129. Radiated Spurious, 802.11a, 5580 MHz, 30 MHz – 1 GHz, 16 dBi Sector

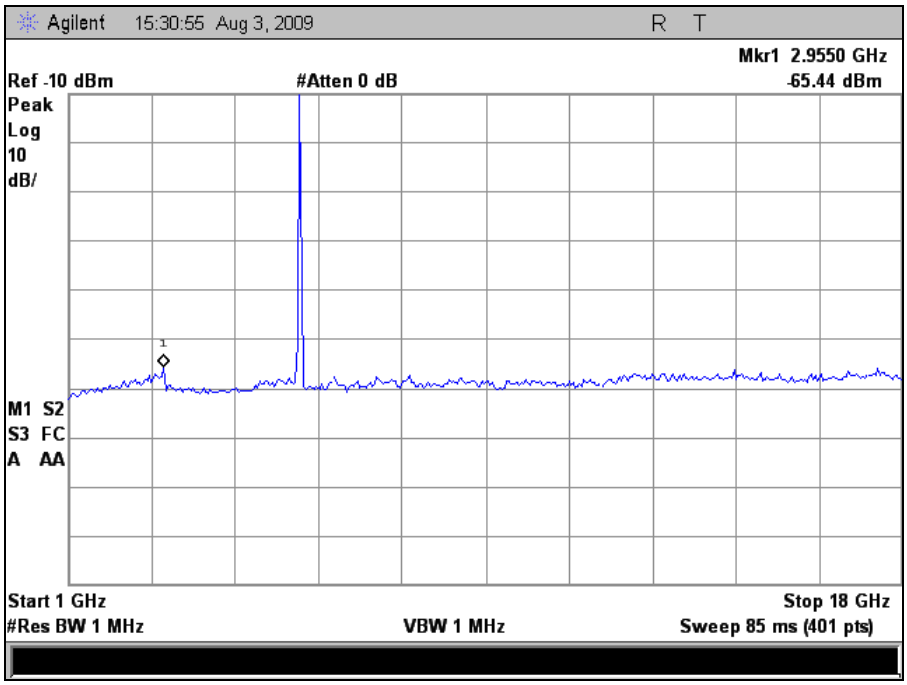


Plot 130. Radiated Spurious, 802.11a, 5580 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11a (16dBi Sector Antenna)

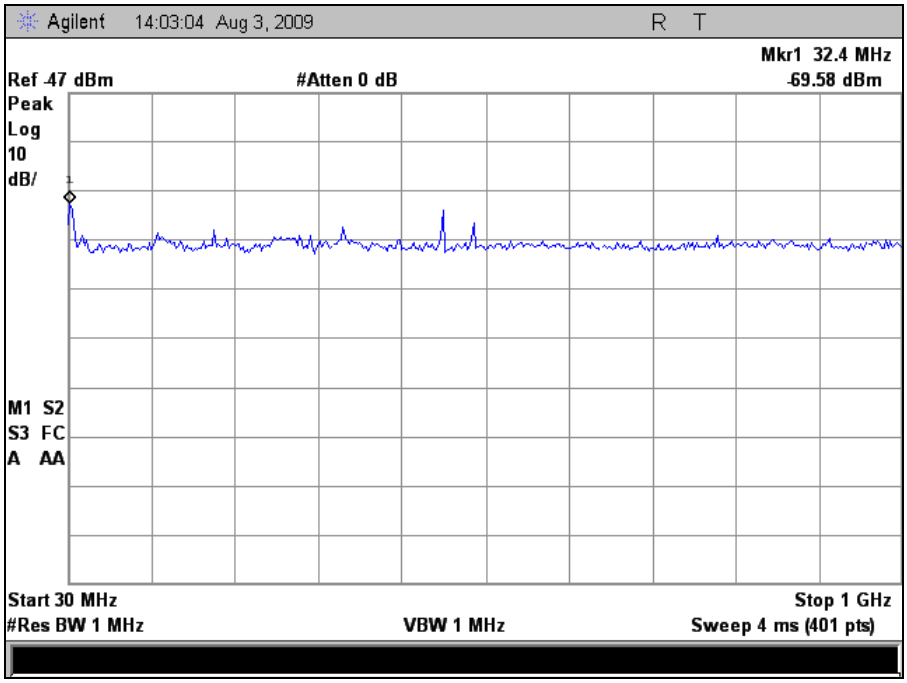


Plot 131. Radiated Spurious, 802.11a, 5700 MHz, 30 MHz – 1 GHz, 16 dBi Sector

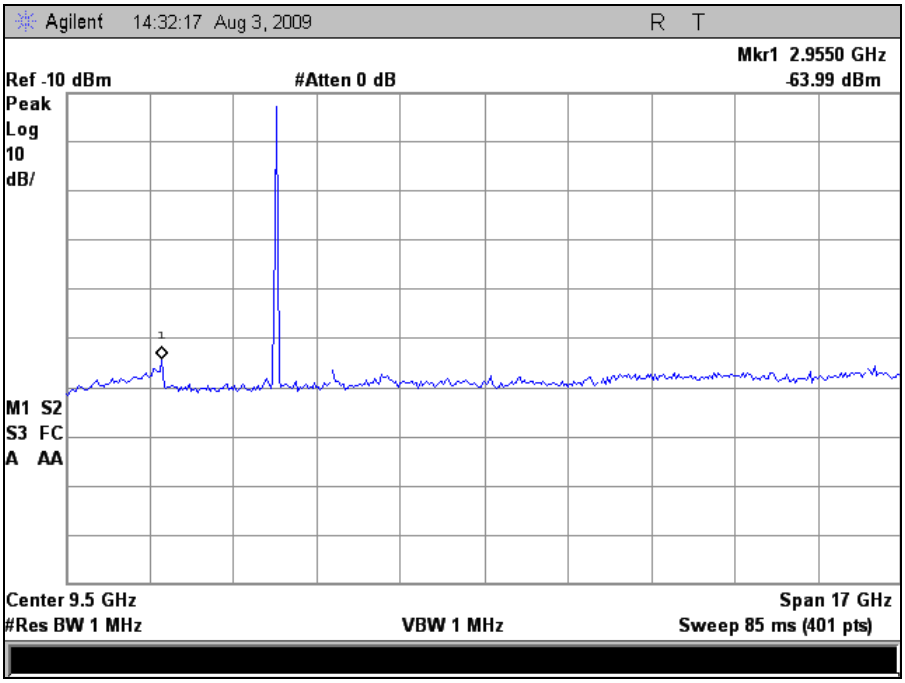


Plot 132. Radiated Spurious, 802.11a, 5700 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11a (19dBi Panel Antenna)

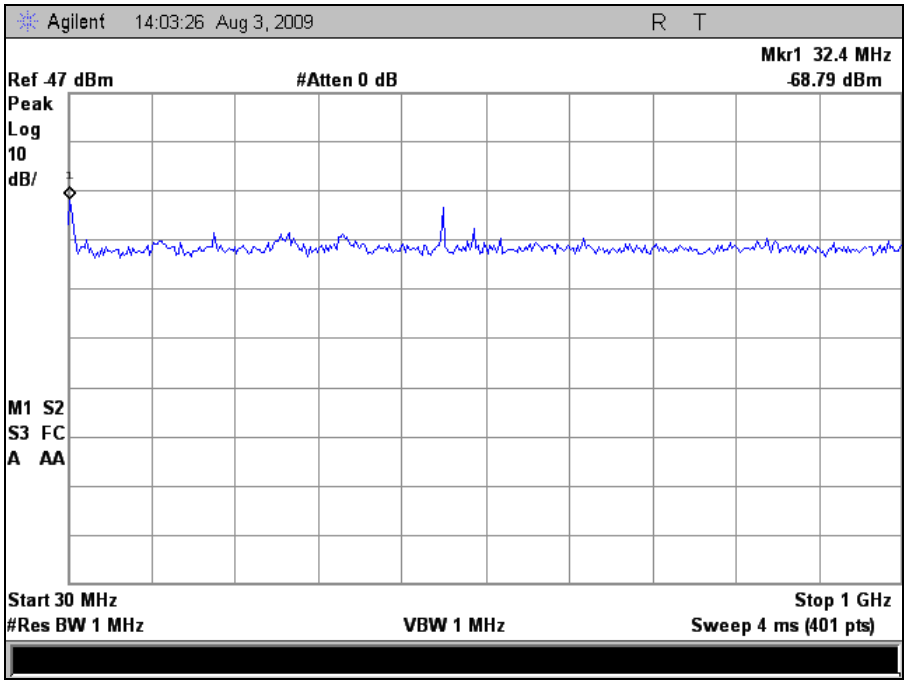


Plot 133. Radiated Spurious, 802.11a, 5260 MHz, 30 MHz – 1 GHz, 19 dBi Panel

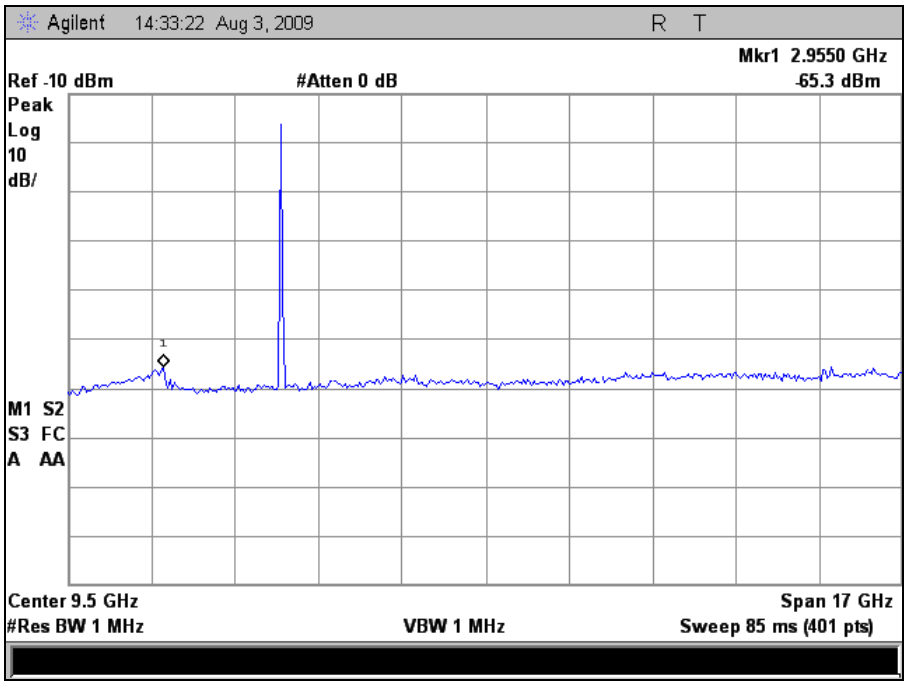


Plot 134. Radiated Spurious, 802.11a, 5260 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11a (19dBi Panel Antenna)

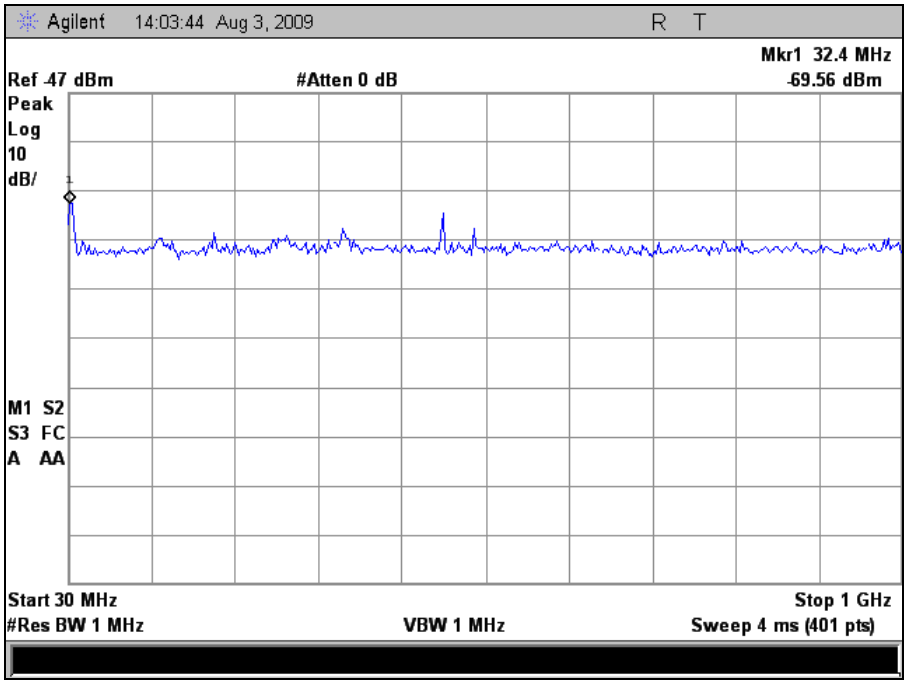


Plot 135. Radiated Spurious, 802.11a, 5320 MHz, 30 MHz – 1 GHz, 19 dBi Panel

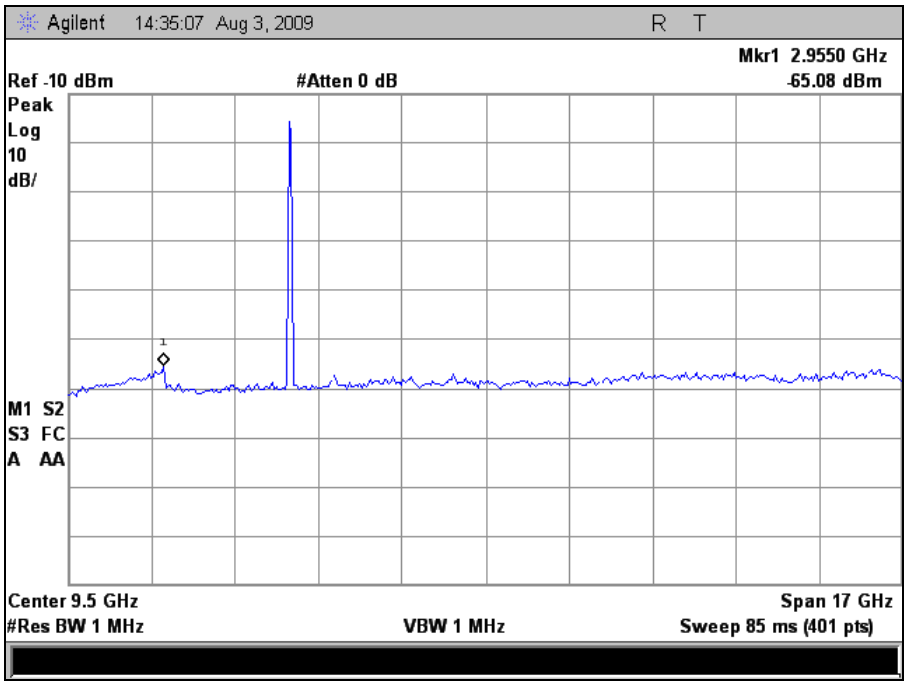


Plot 136. Radiated Spurious, 802.11a, 5320 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11a (19dBi Panel Antenna)

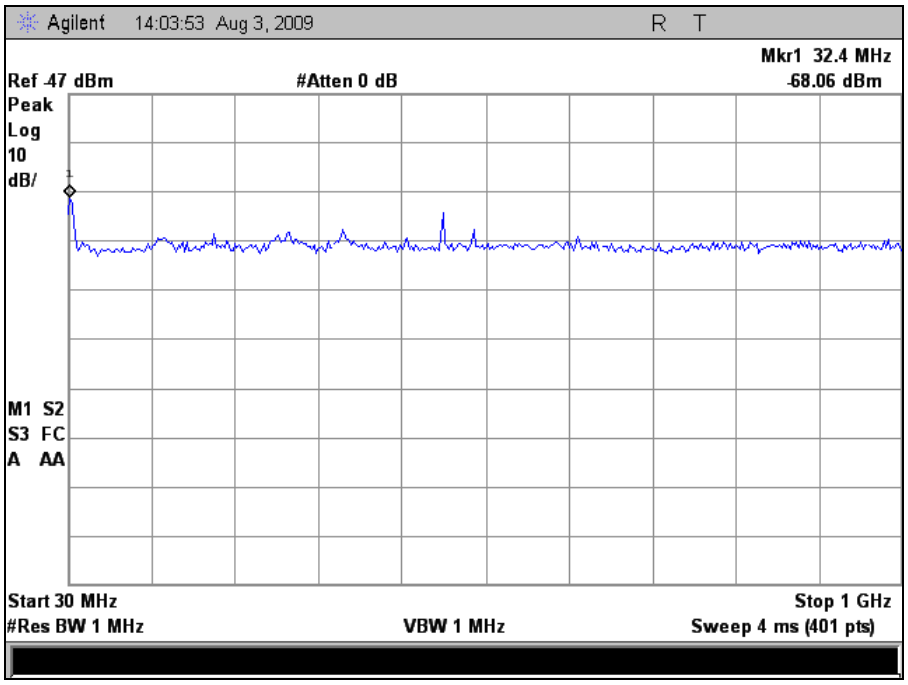


Plot 137. Radiated Spurious, 802.11a, 5500 MHz, 30 MHz – 1 GHz, 19 dBi Panel

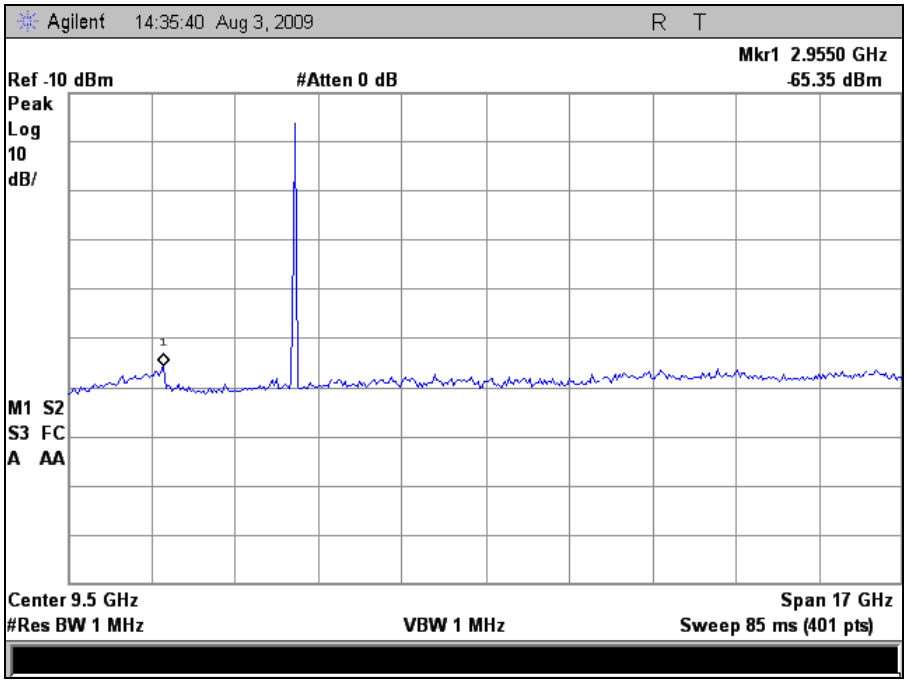


Plot 138. Radiated Spurious, 802.11a, 5500 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11a (19dBi Panel Antenna)

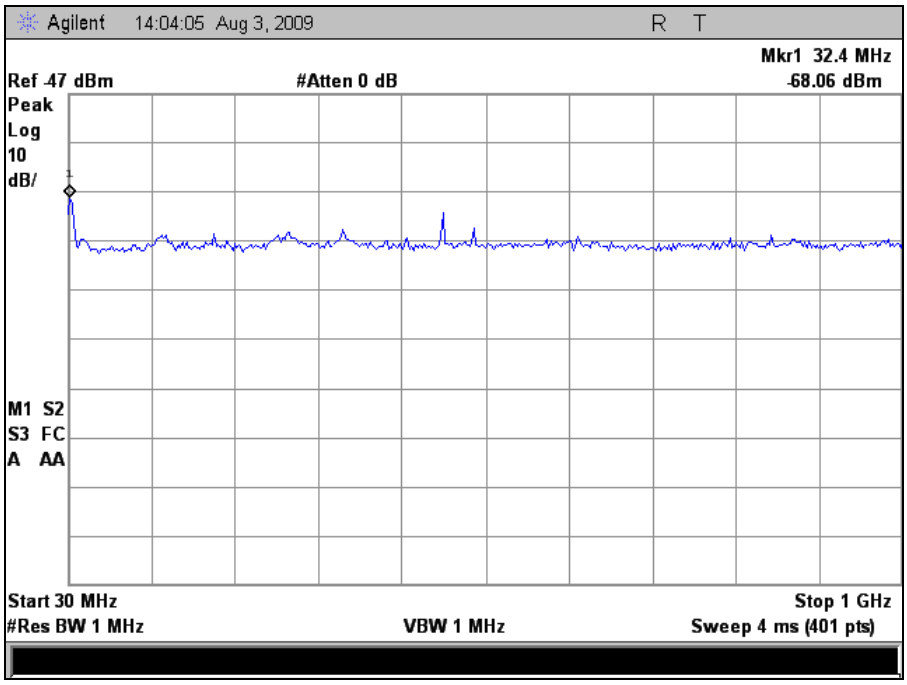


Plot 139. Radiated Spurious, 802.11a, 5580 MHz, 30 MHz – 1 GHz, 19 dBi Panel

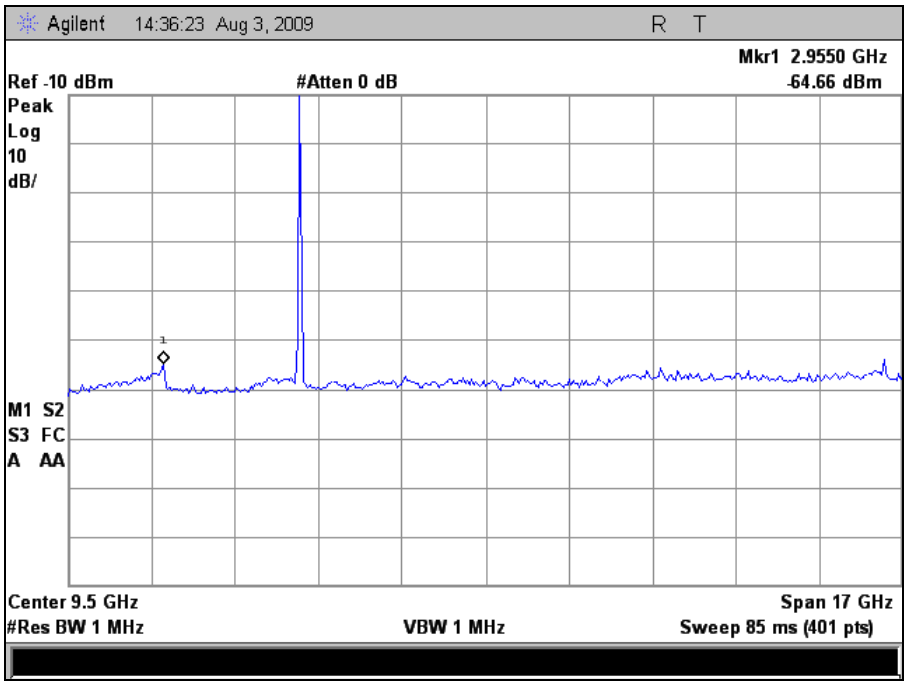


Plot 140. Radiated Spurious, 802.11a, 5580 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11a (19dBi Panel Antenna)

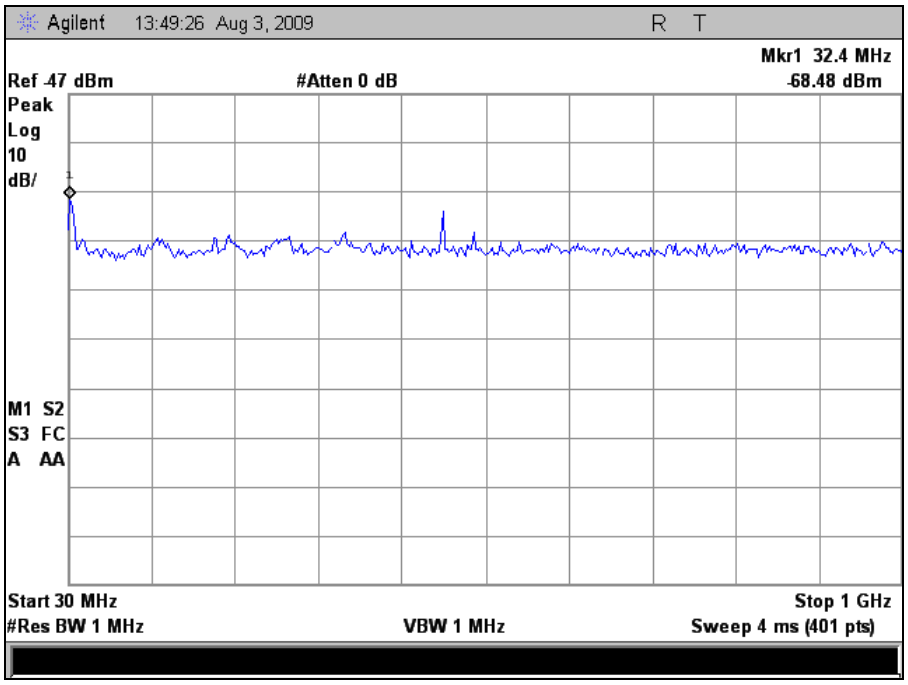


Plot 141. Radiated Spurious, 802.11a, 5700 MHz, 30 MHz – 1 GHz, 19 dBi Panel

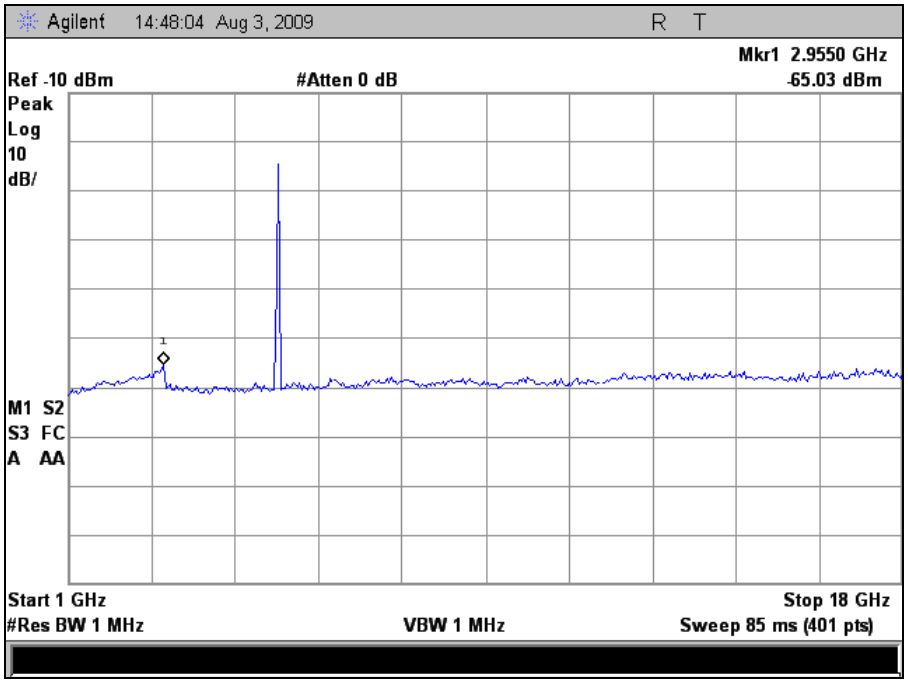


Plot 142. Radiated Spurious, 802.11a, 5700 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 20MHz (9dBi Omni Antenna)

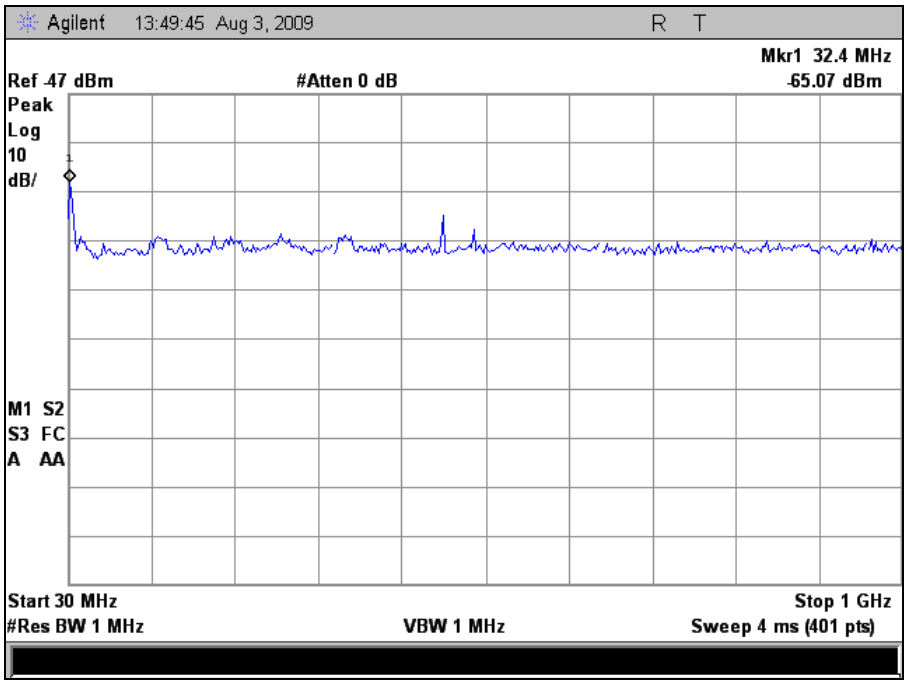


Plot 143. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 30 MHz – 1 GHz, 9 dBi Omni

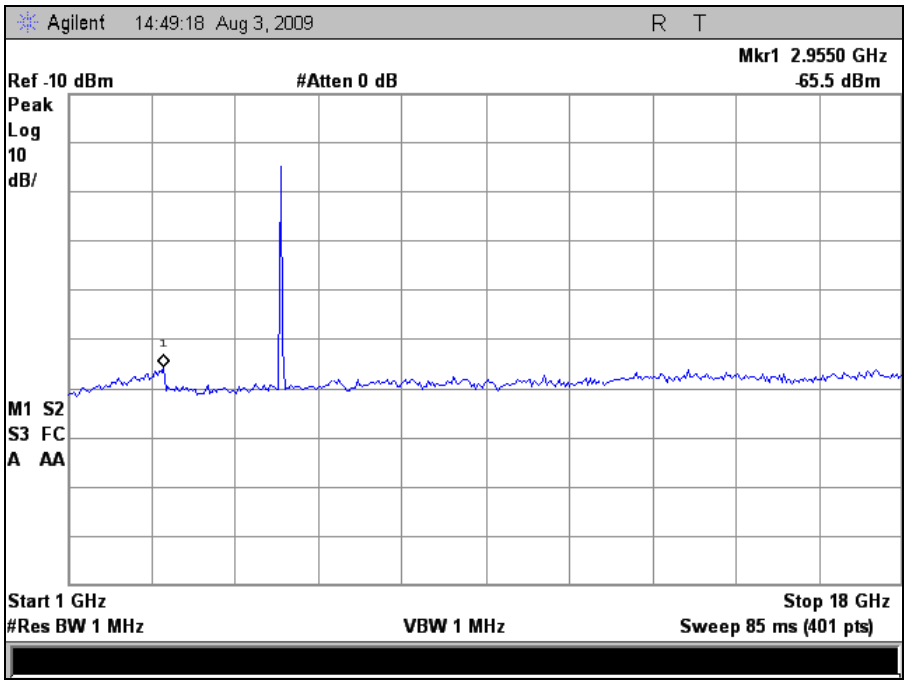


Plot 144. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 20MHz (9dBi Omni Antenna)

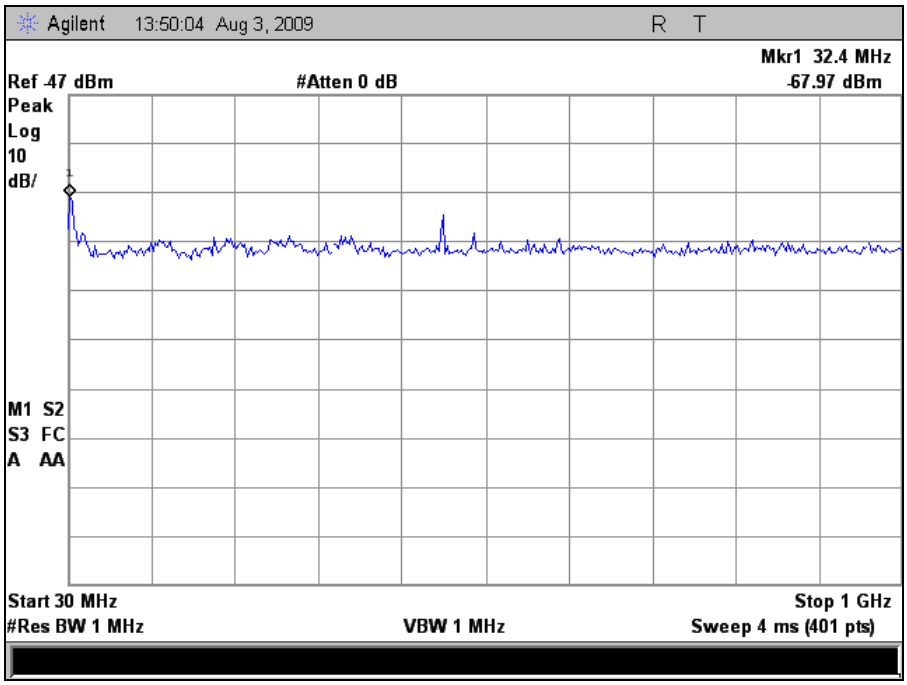


Plot 145. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 30 MHz – 1 GHz, 9 dBi Omni

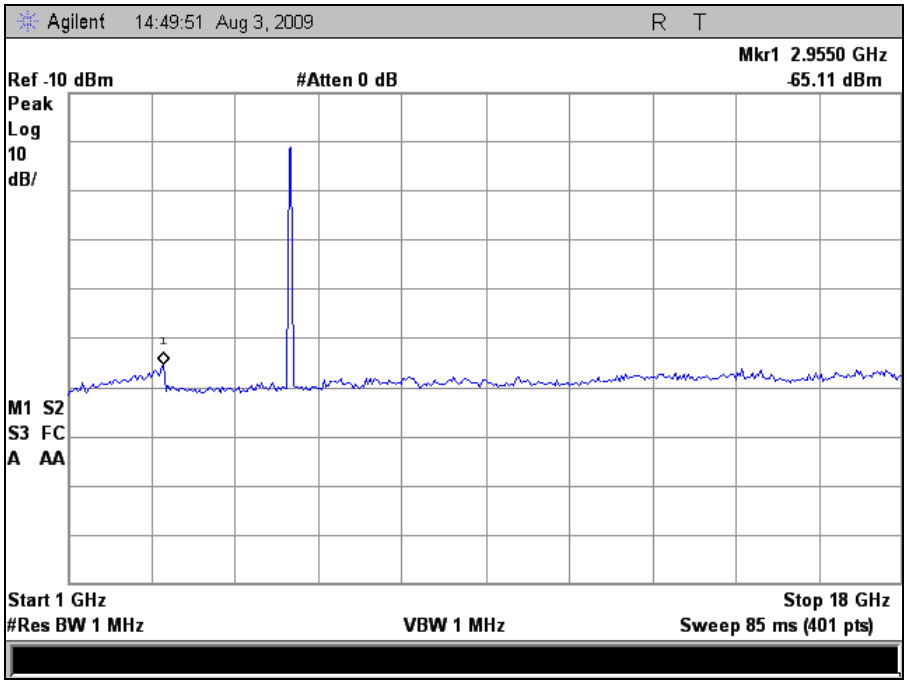


Plot 146. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 20MHz (9dBi Omni Antenna)

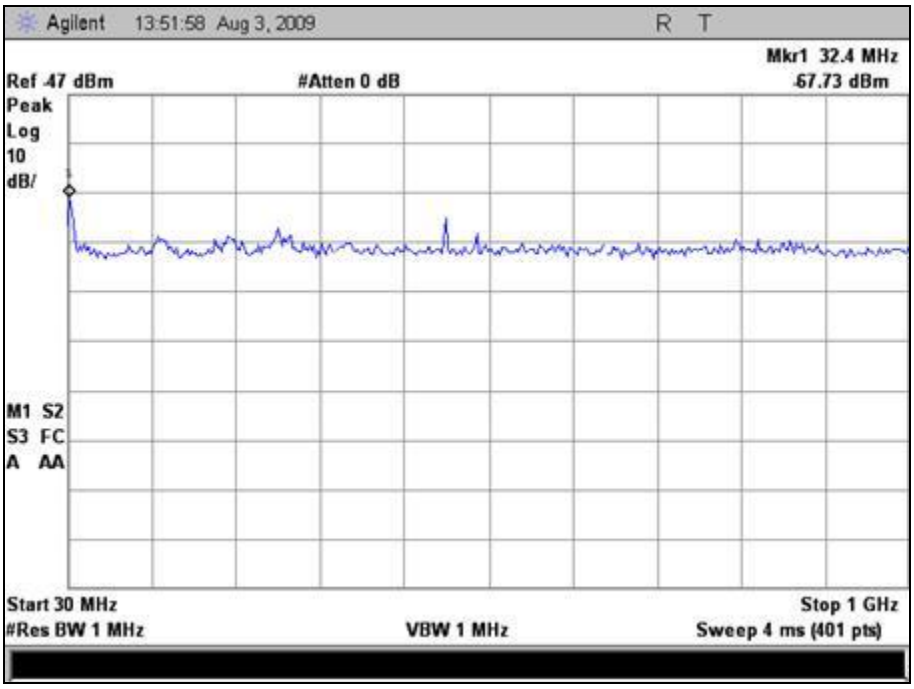


Plot 147. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 30 MHz – 1 GHz, 9 dBi Omni

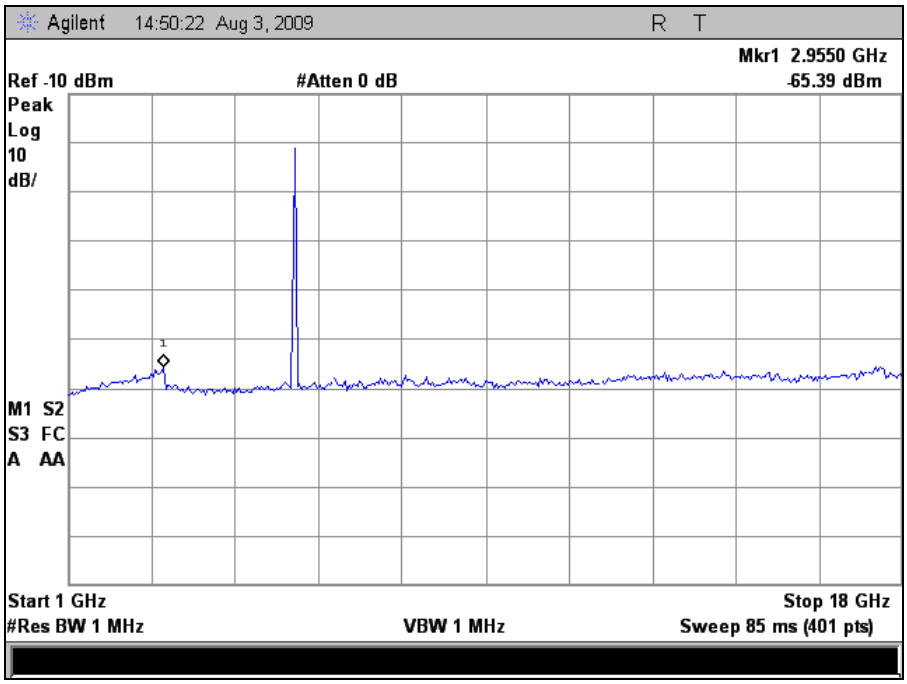


Plot 148. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 20MHz (9dBi Omni Antenna)

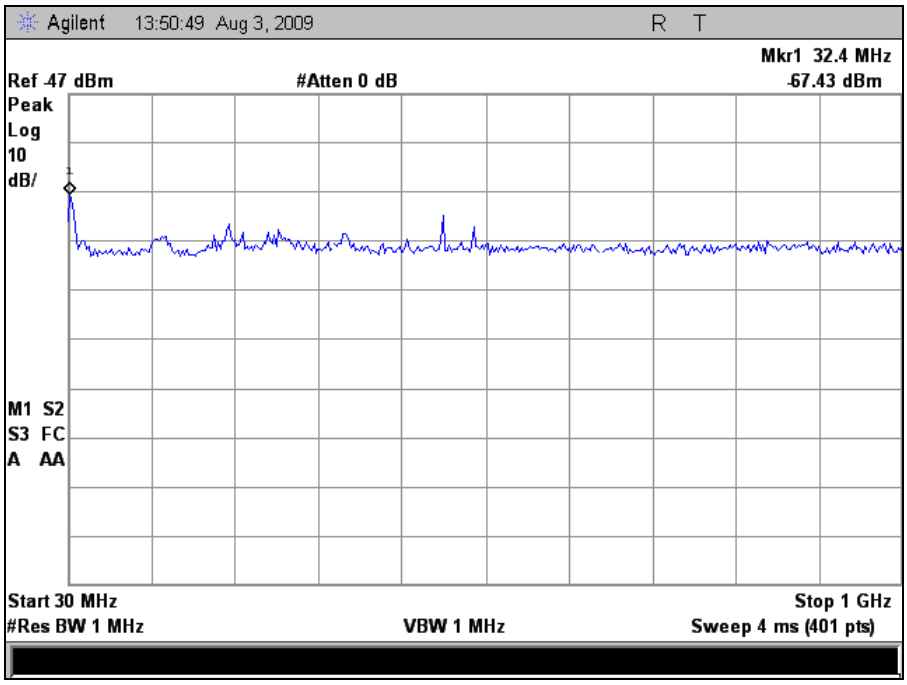


Plot 149. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 30 MHz – 1 GHz, 9 dBi Omni

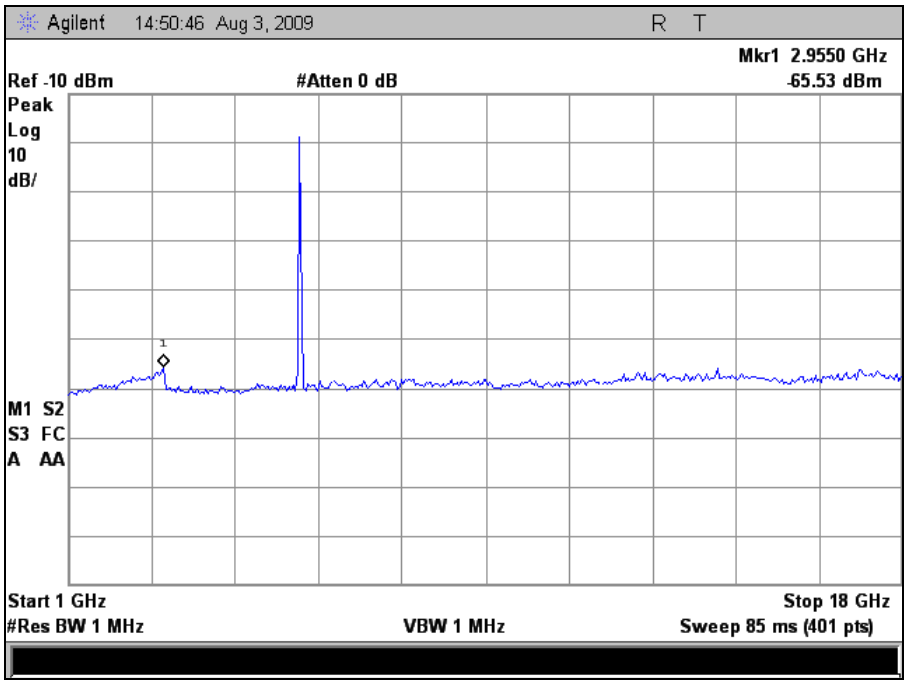


Plot 150. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 20MHz (9dBi Omni Antenna)

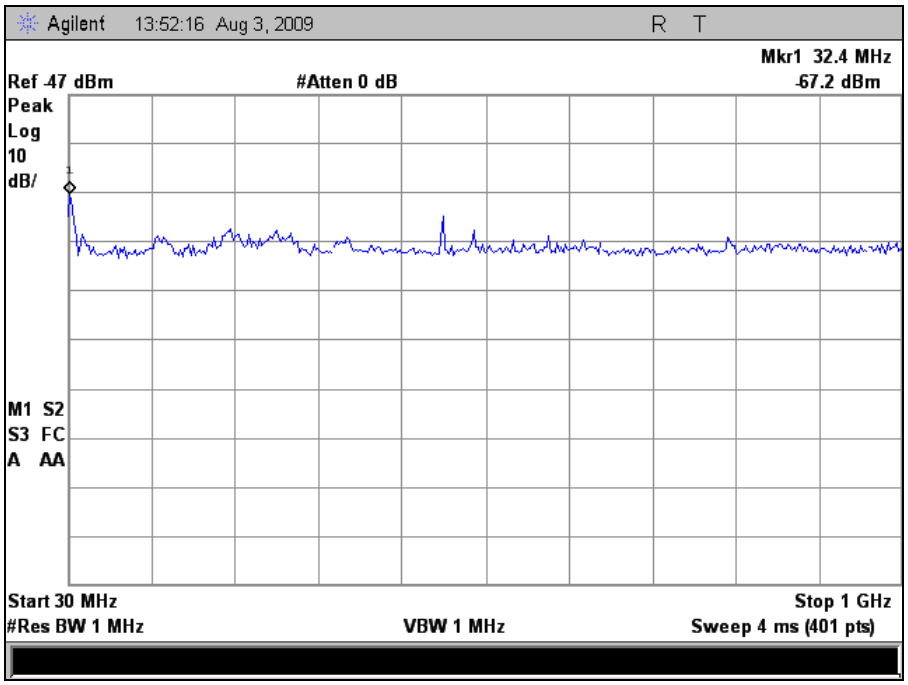


Plot 151. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 30 MHz – 1 GHz, 9 dBi Omni

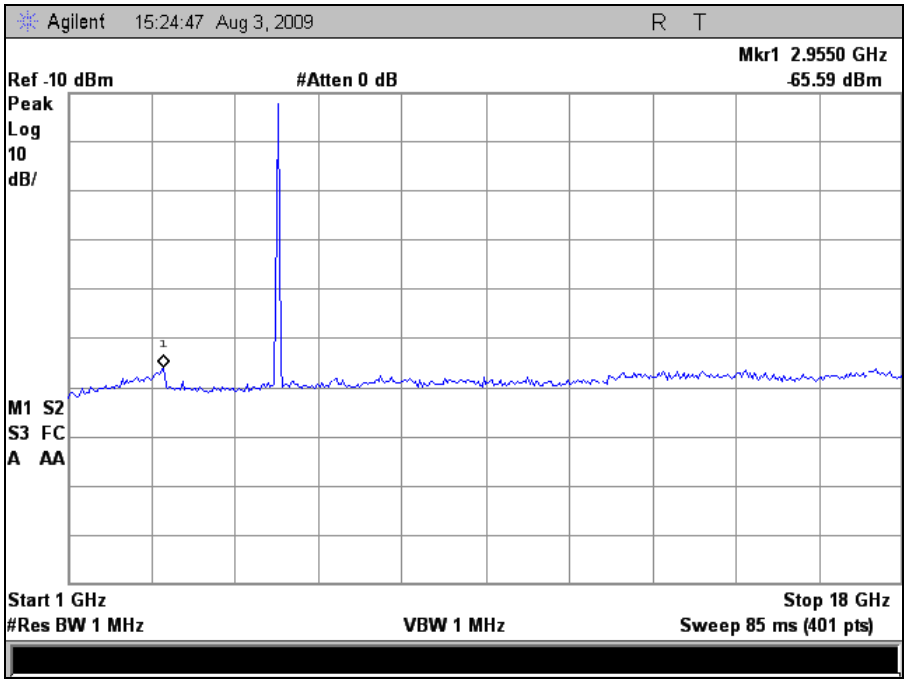


Plot 152. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 20MHz (16dBi Sector Antenna)

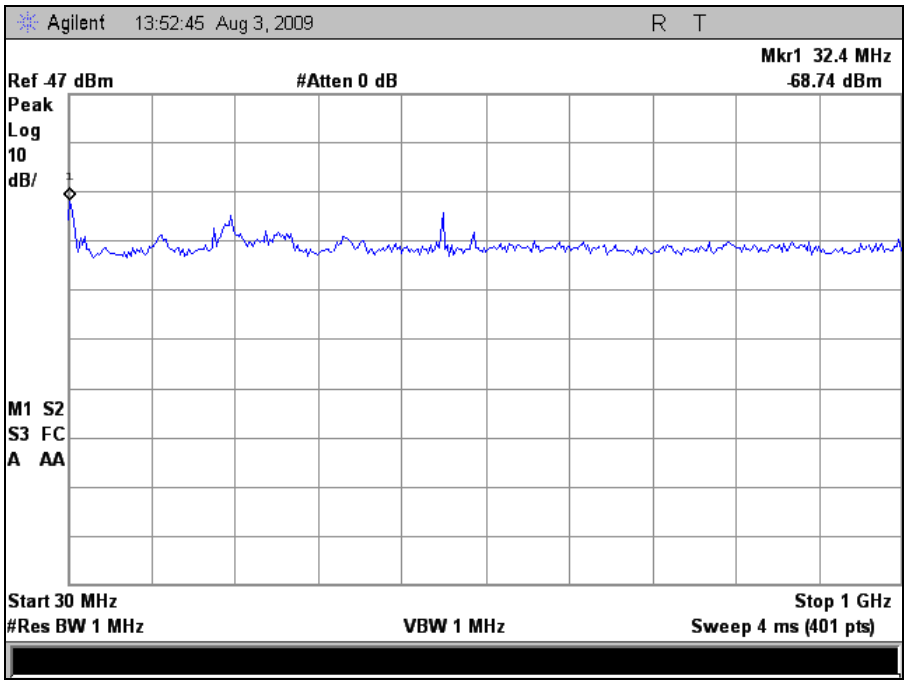


Plot 153. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 30 MHz – 1 GHz, 16 dBi Sector

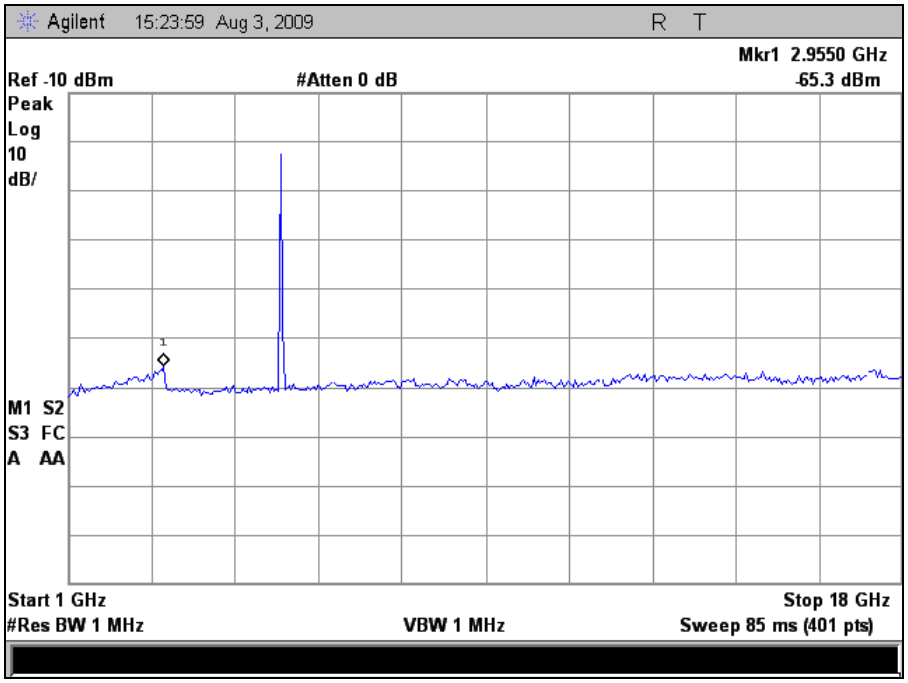


Plot 154. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 20MHz (16dBi Sector Antenna)

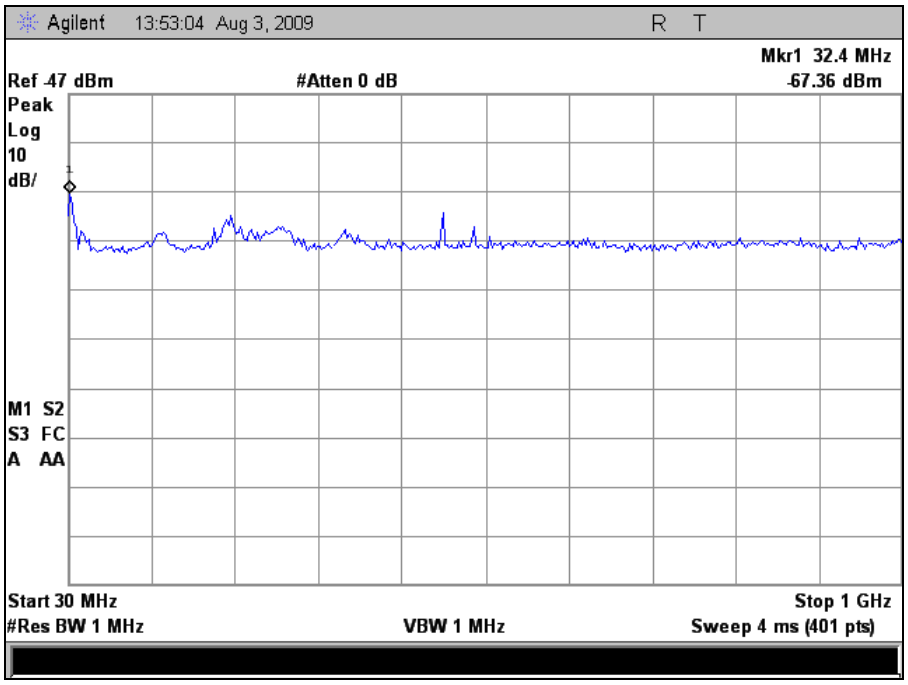


Plot 155. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 30 MHz – 1 GHz, 16 dBi Sector

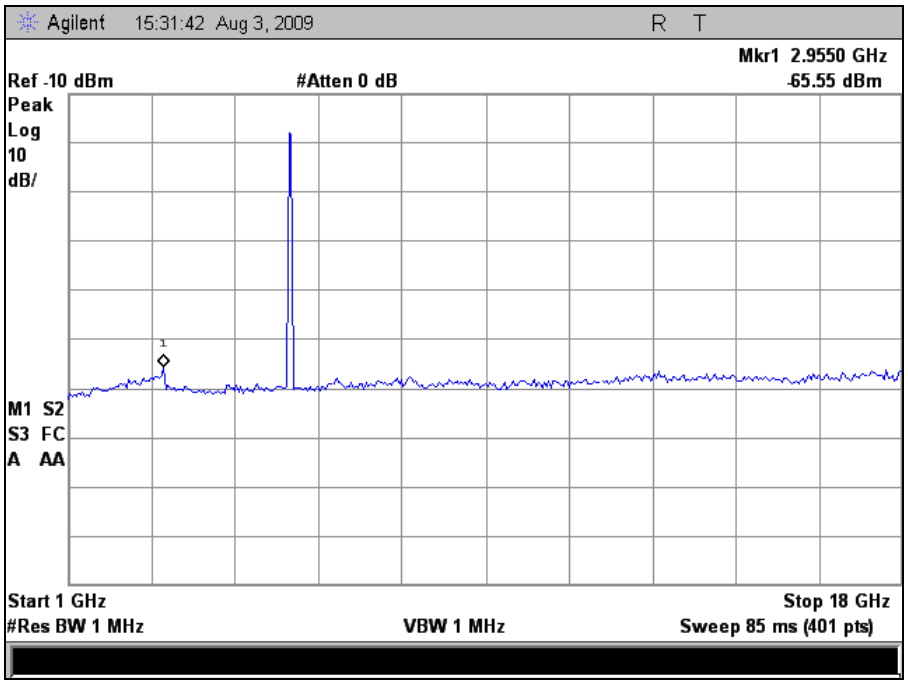


Plot 156. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 20MHz (16dBi Sector Antenna)

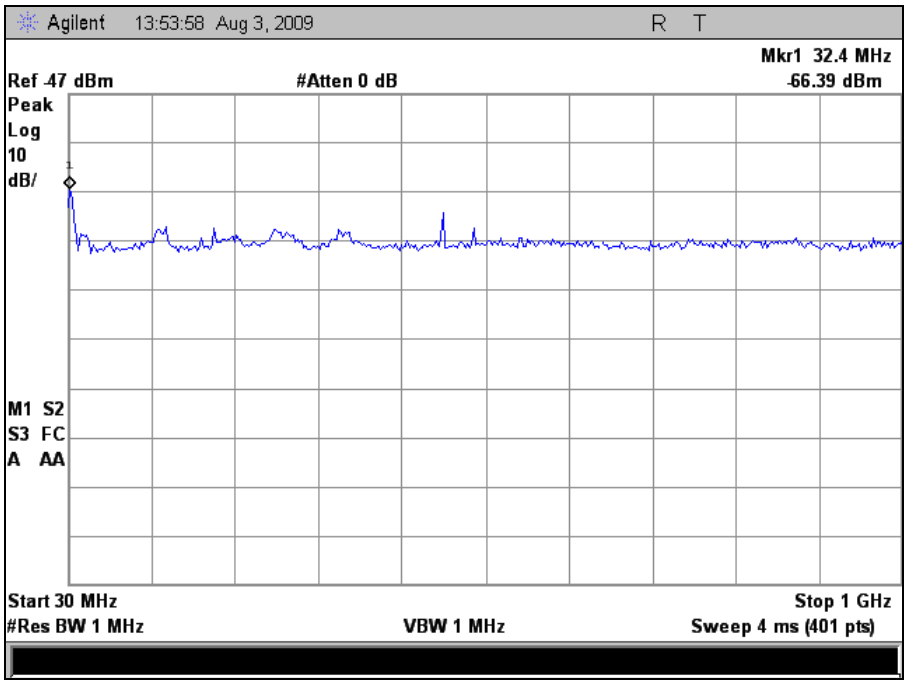


Plot 157. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 30 MHz – 1 GHz, 16 dBi Sector

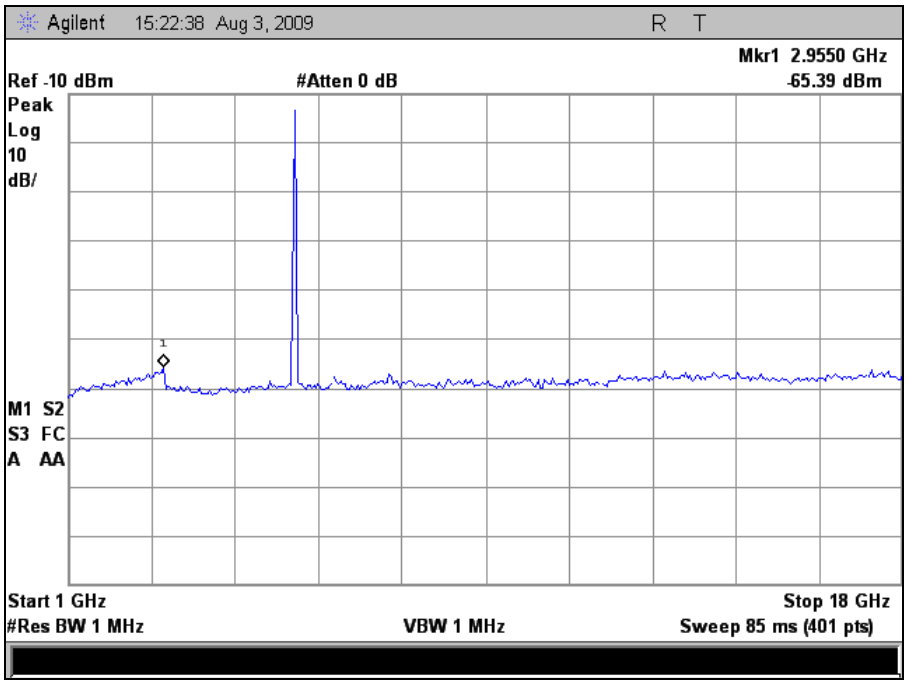


Plot 158. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 20MHz (16dBi Sector Antenna)

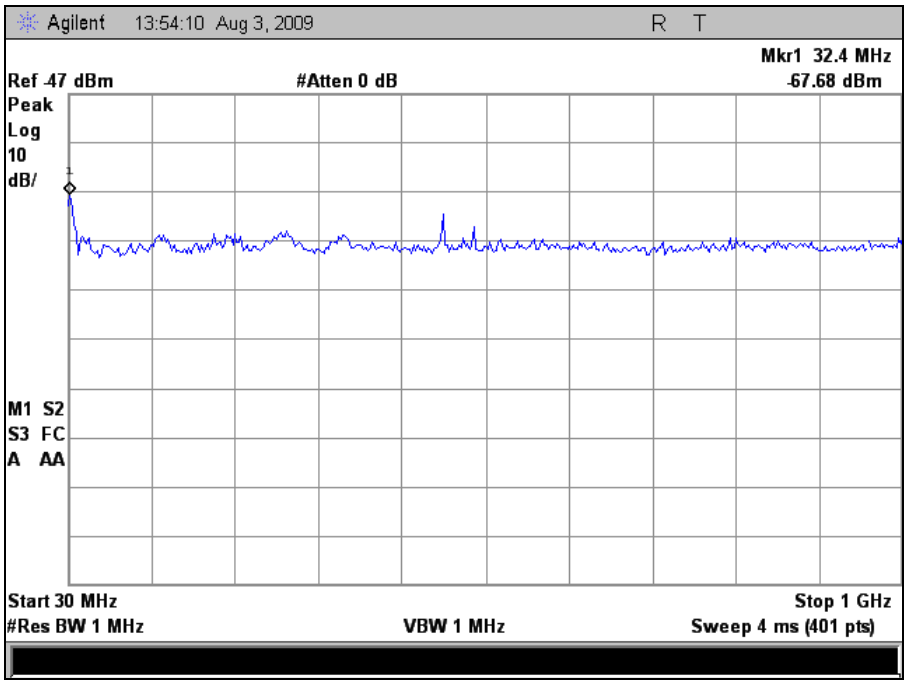


Plot 159. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 30 MHz – 1 GHz, 16 dBi Sector

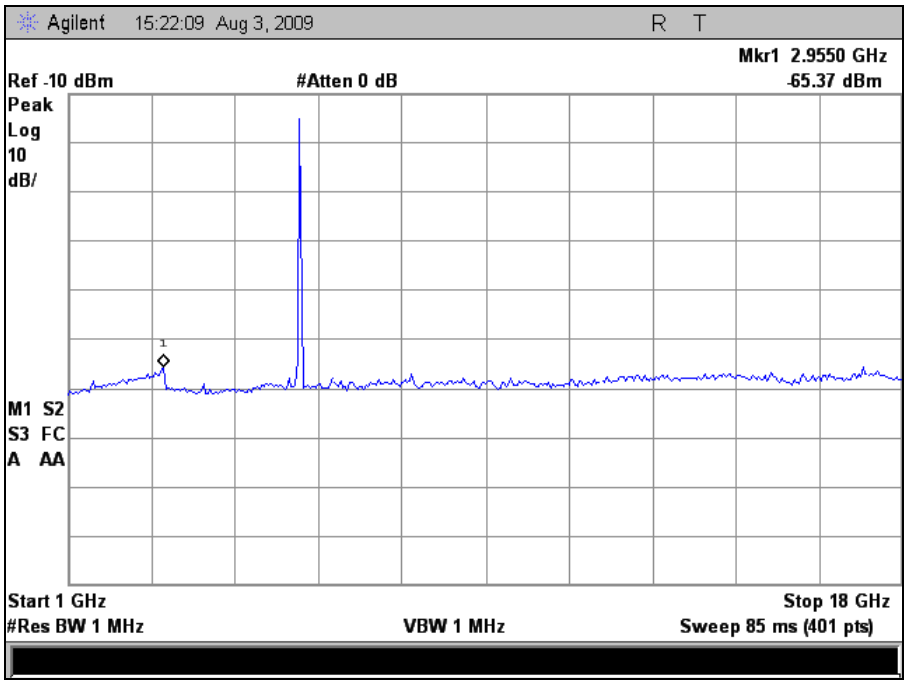


Plot 160. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 20MHz (16dBi Sector Antenna)

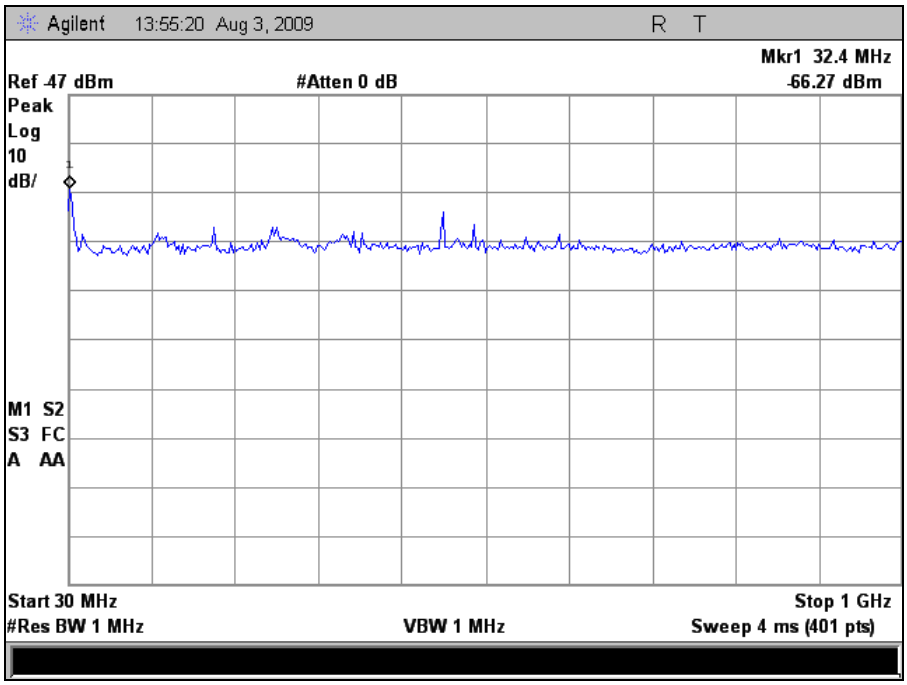


Plot 161. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 30 MHz – 1 GHz, 16 dBi Sector

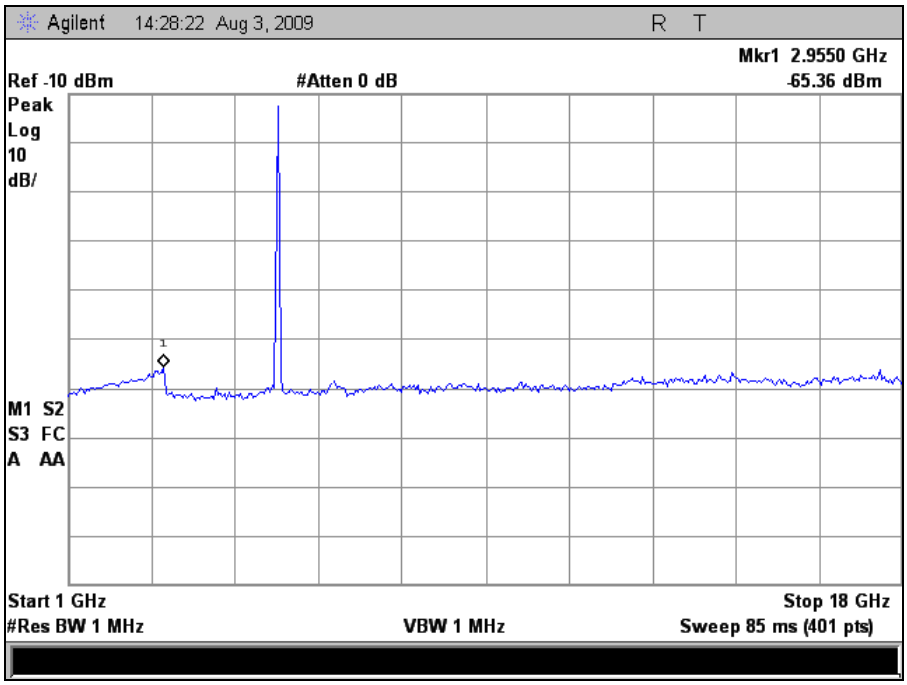


Plot 162. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 20MHz (19dBi Panel Antenna)

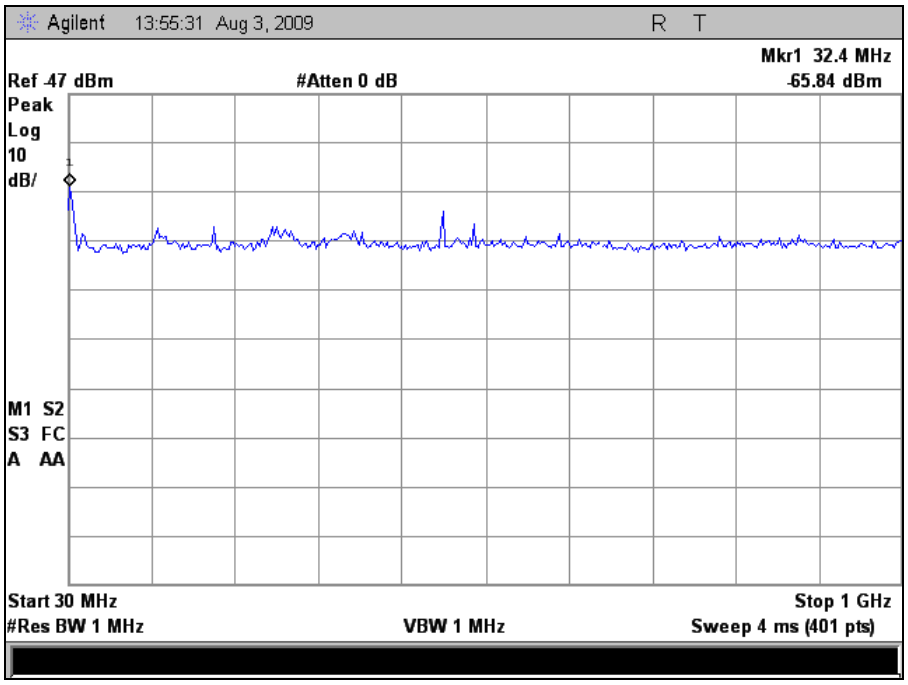


Plot 163. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 30 MHz – 1 GHz, 19 dBi Panel

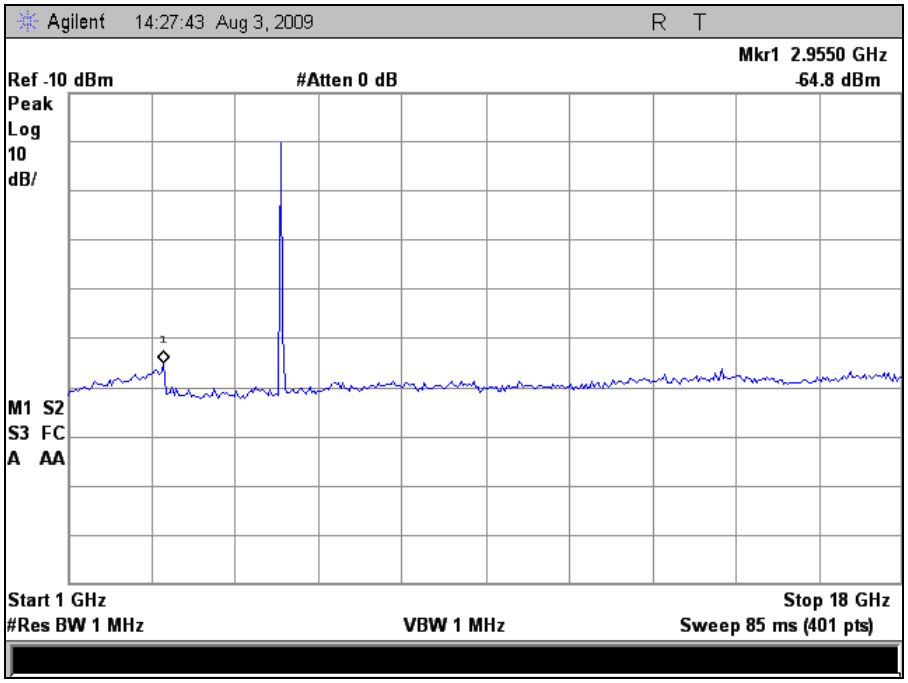


Plot 164. Radiated Spurious, 802.11n 20MHz, 5260 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 20MHz (19dBi Panel Antenna)

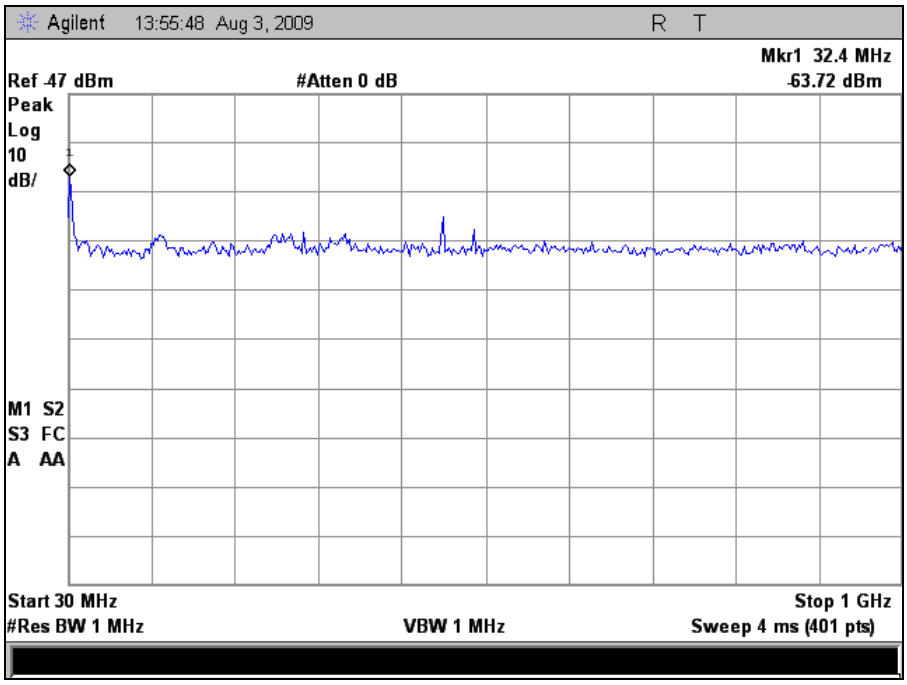


Plot 165. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 30 MHz – 1 GHz, 19 dBi Panel

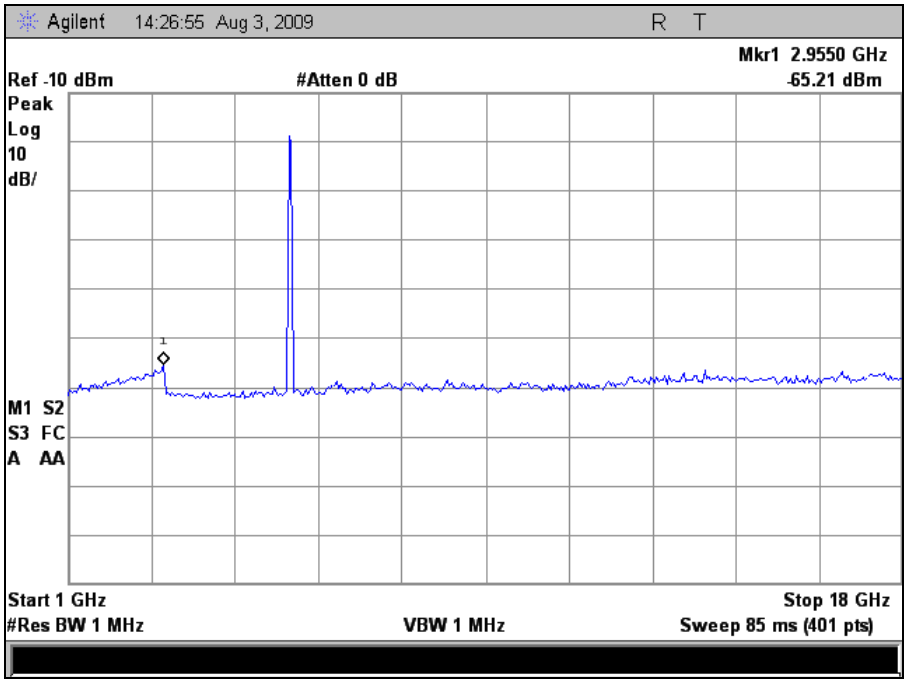


Plot 166. Radiated Spurious, 802.11n 20MHz, 5320 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 20MHz (19dBi Panel Antenna)

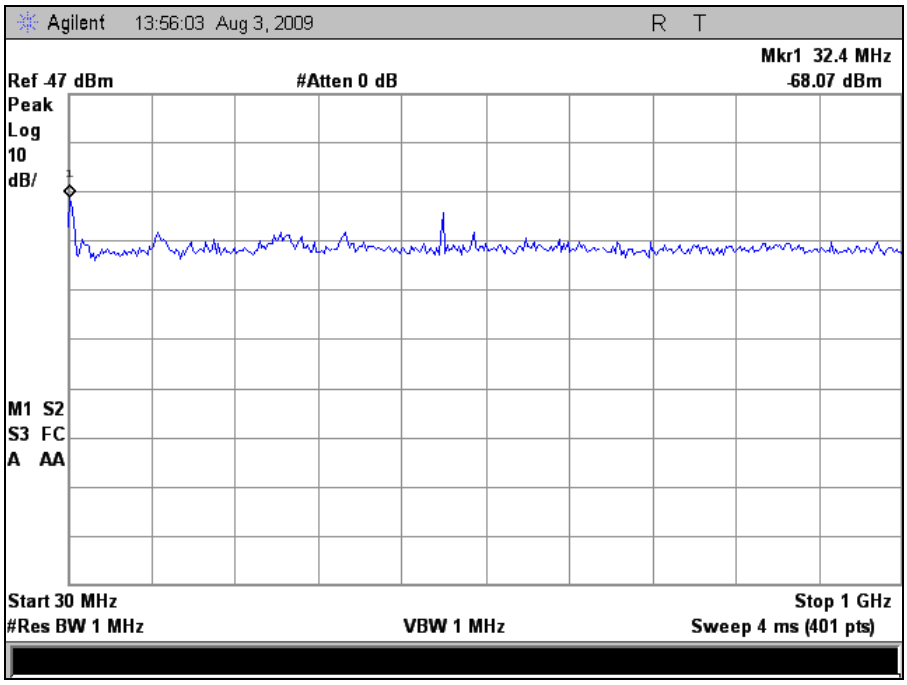


Plot 167. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 30 MHz – 1 GHz, 19 dBi Panel

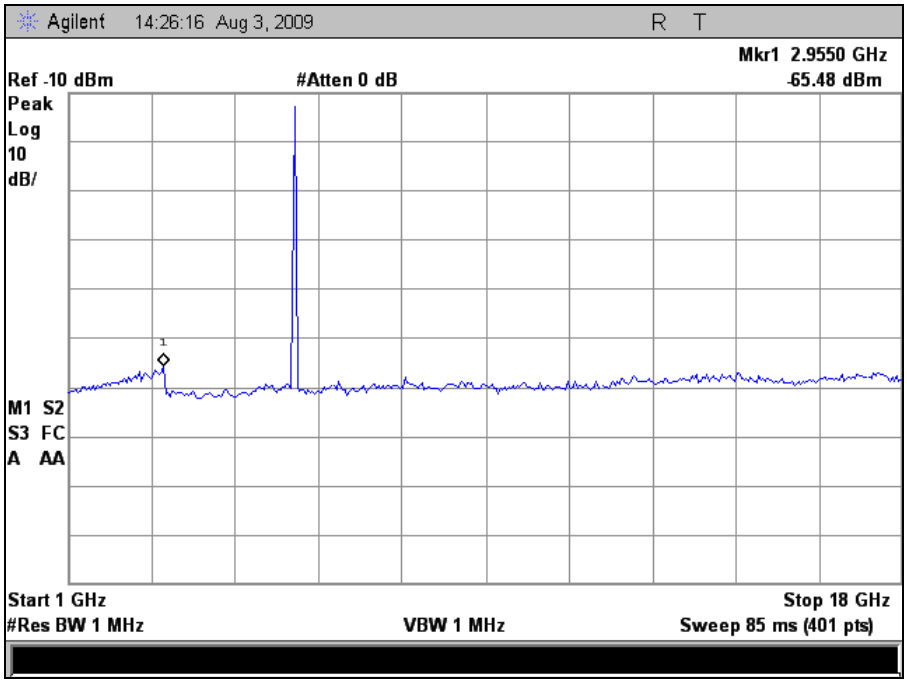


Plot 168. Radiated Spurious, 802.11n 20MHz, 5500 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 20MHz (19dBi Panel Antenna)

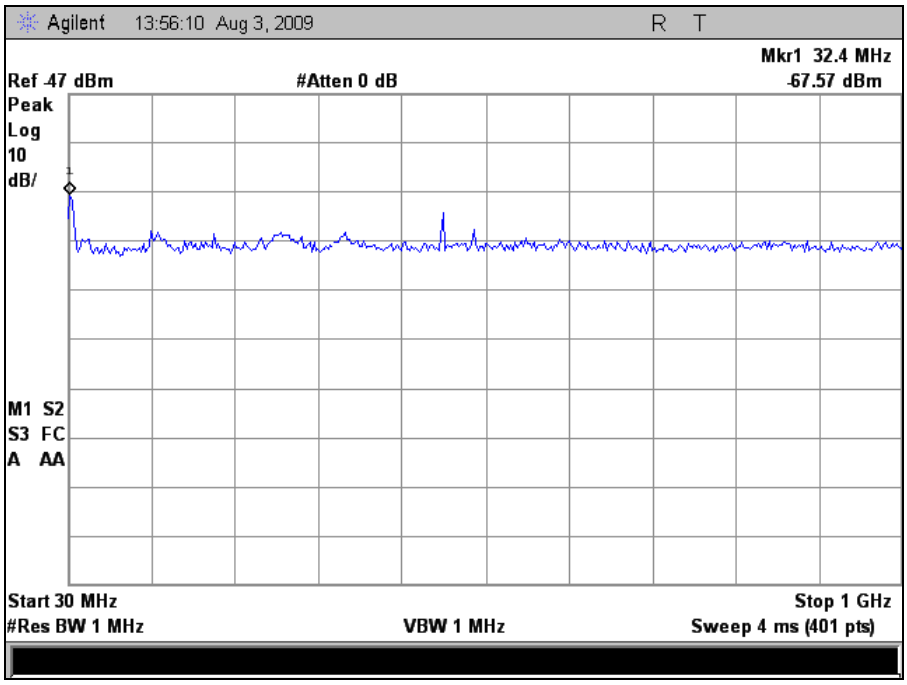


Plot 169. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 30 MHz – 1 GHz, 19 dBi Panel

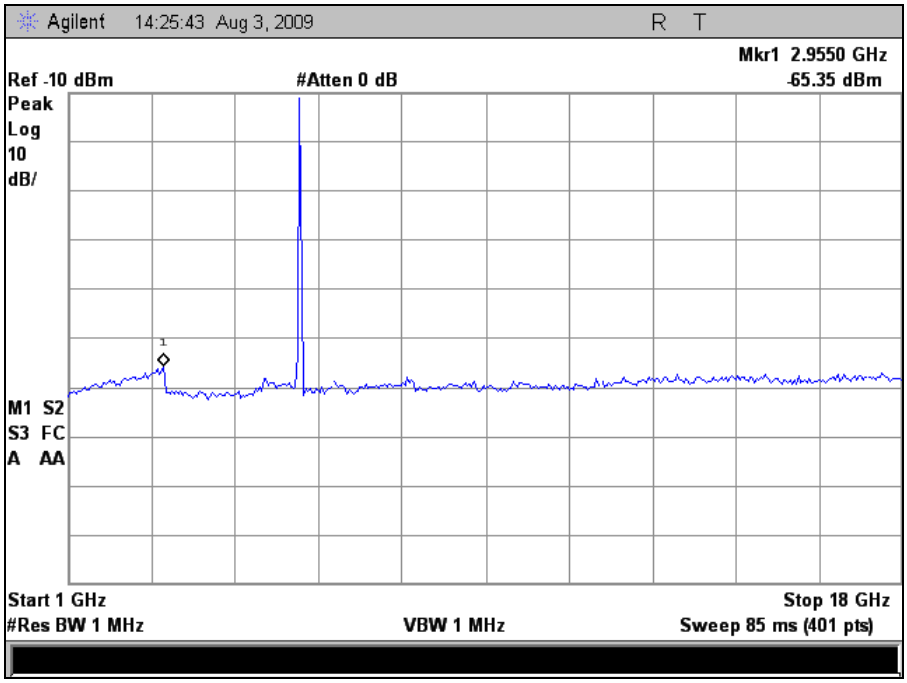


Plot 170. Radiated Spurious, 802.11n 20MHz, 5580 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 20MHz (19dBi Panel Antenna)

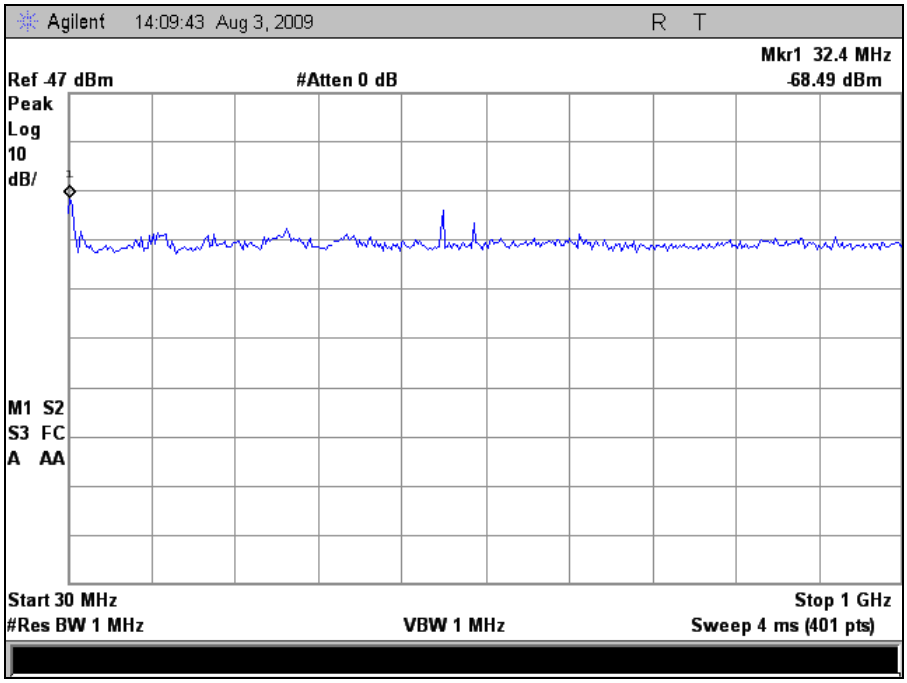


Plot 171. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 30 MHz – 1 GHz, 19 dBi Panel

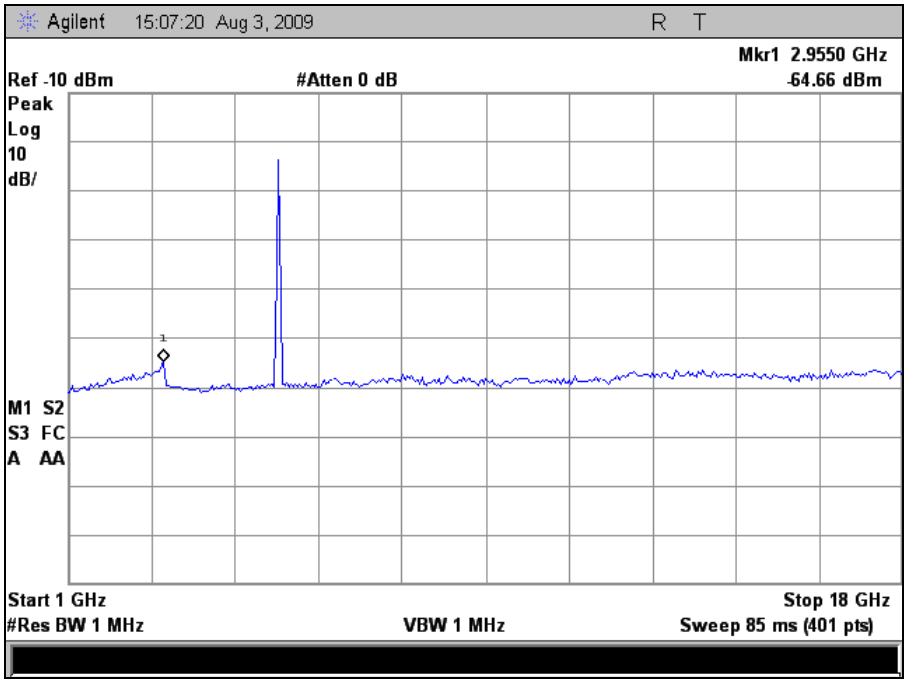


Plot 172. Radiated Spurious, 802.11n 20MHz, 5700 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 40MHz (9dBi Omni Antenna)

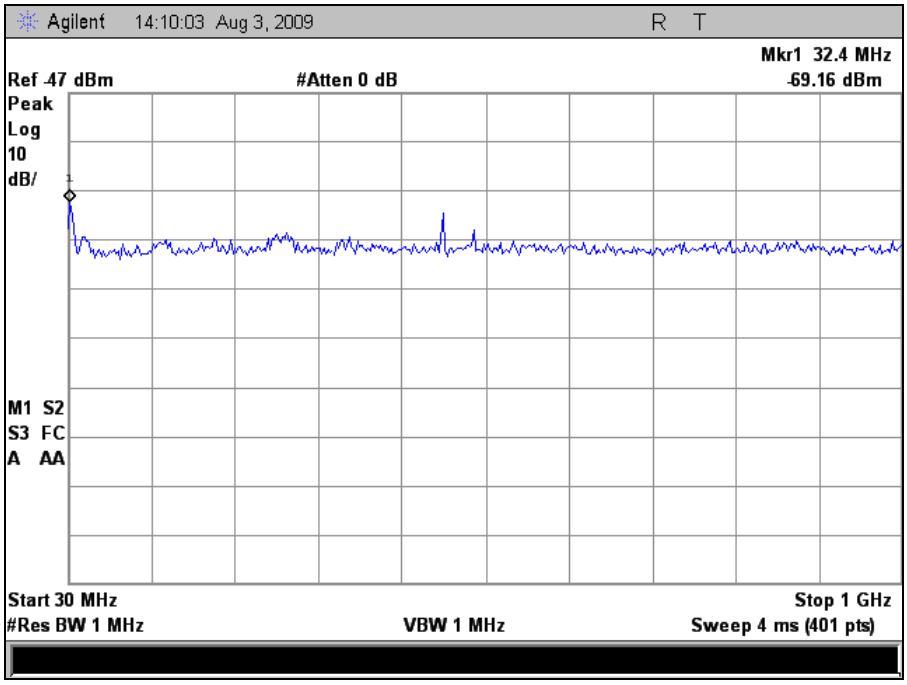


Plot 173. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 30 MHz – 1 GHz, 9 dBi Omni

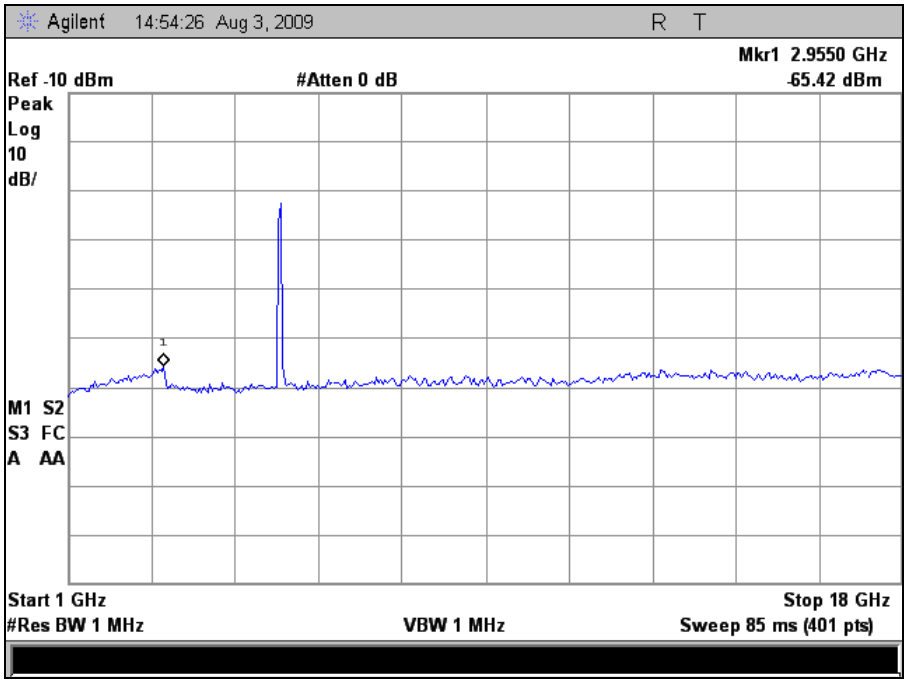


Plot 174. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 40MHz (9dBi Omni Antenna)

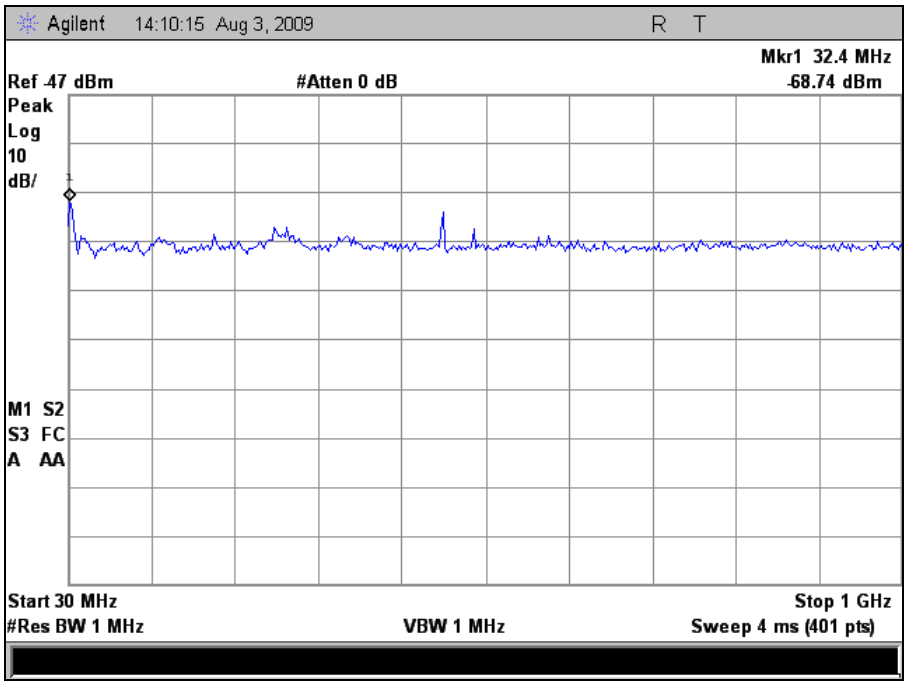


Plot 175. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 30 MHz – 1 GHz, 9 dBi Omni

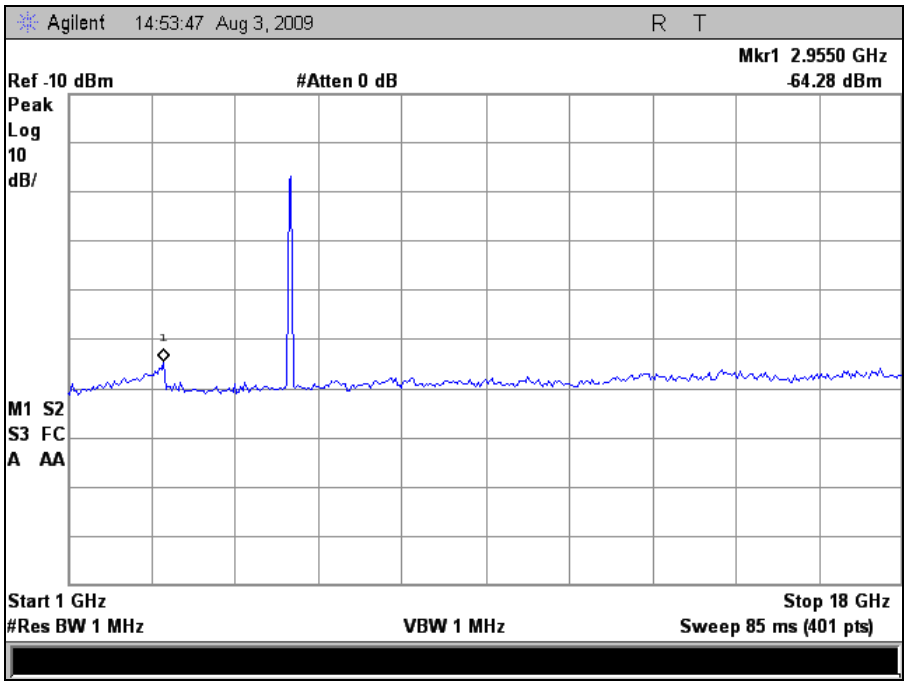


Plot 176. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 40MHz (9dBi Omni Antenna)

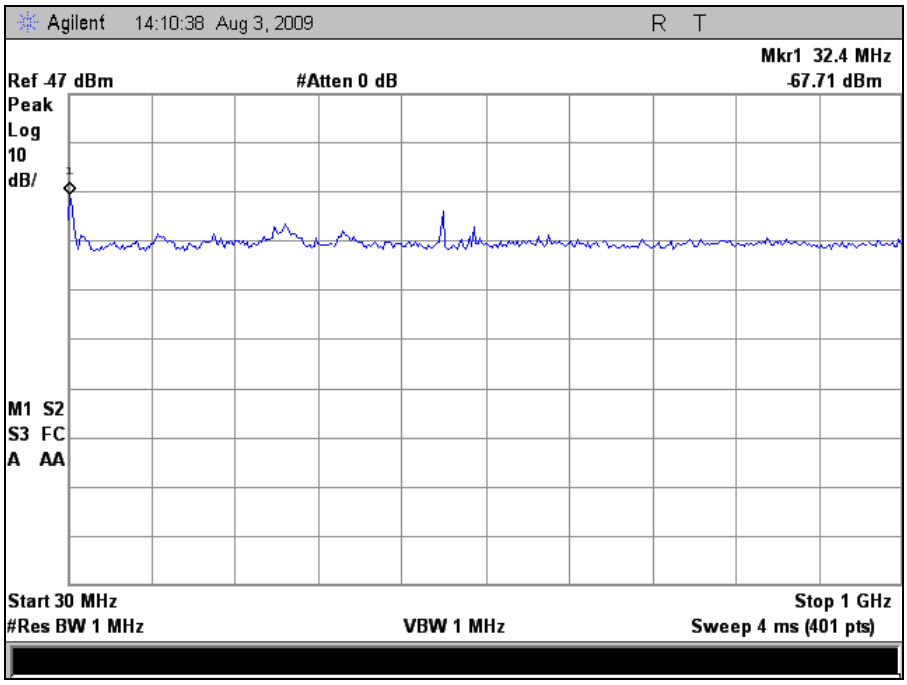


Plot 177. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 30 MHz – 1 GHz, 9 dBi Omni

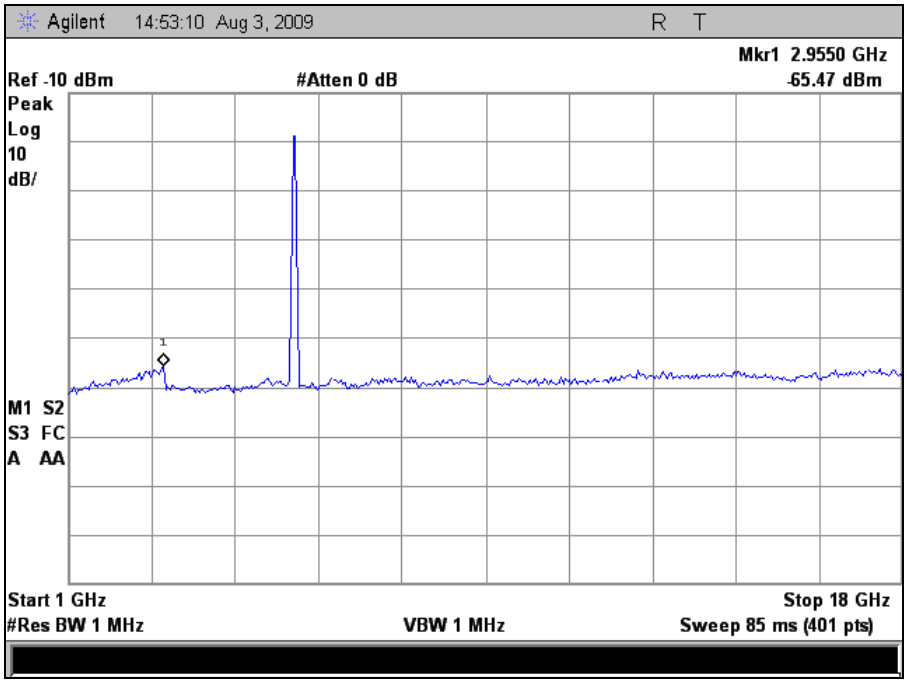


Plot 178. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 40MHz (9dBi Omni Antenna)

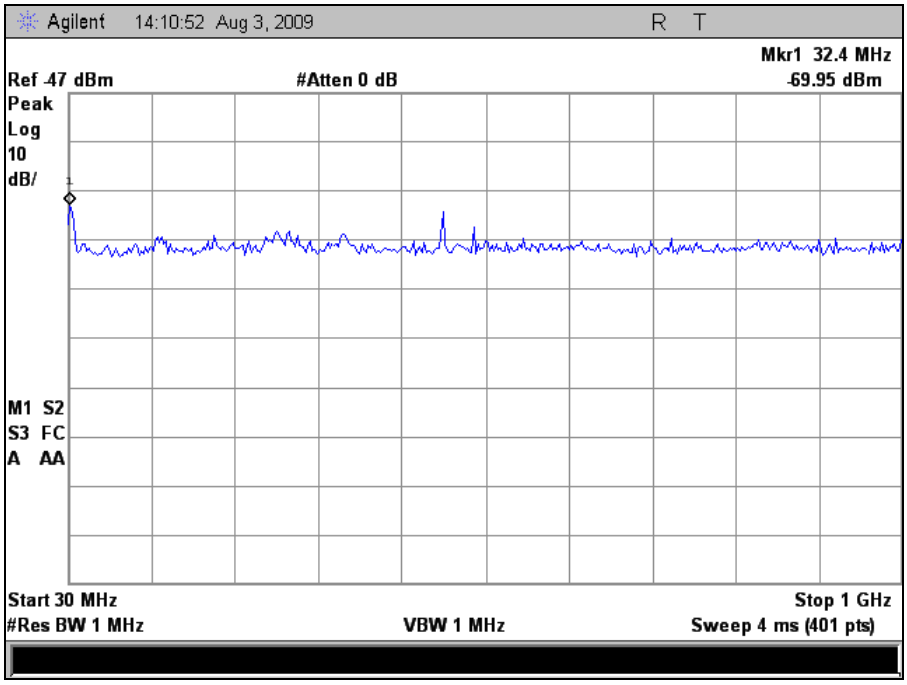


Plot 179. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 30 MHz – 1 GHz, 9 dBi Omni

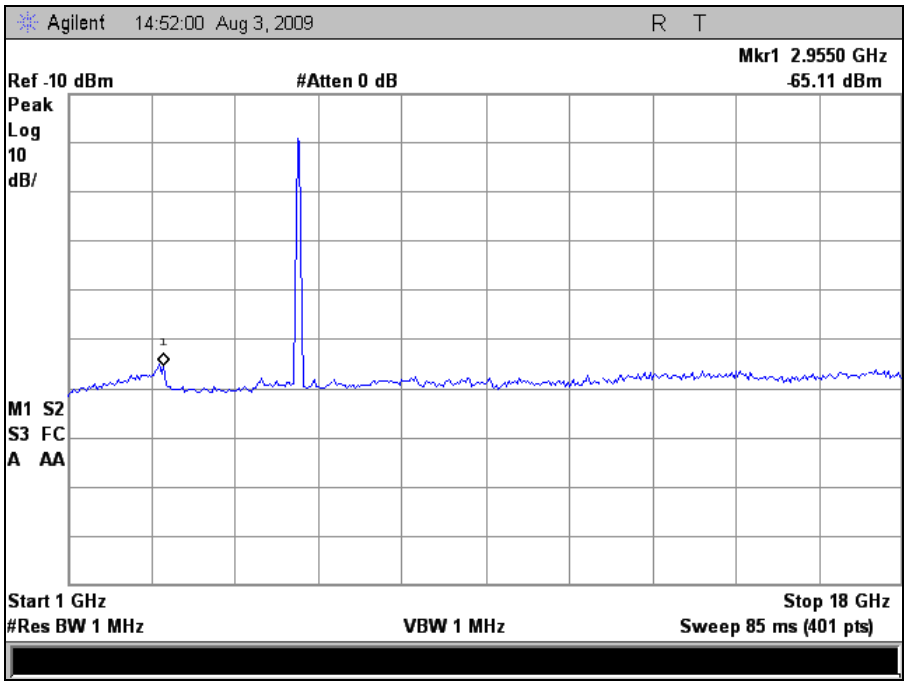


Plot 180. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 40MHz (9dBi Omni Antenna)

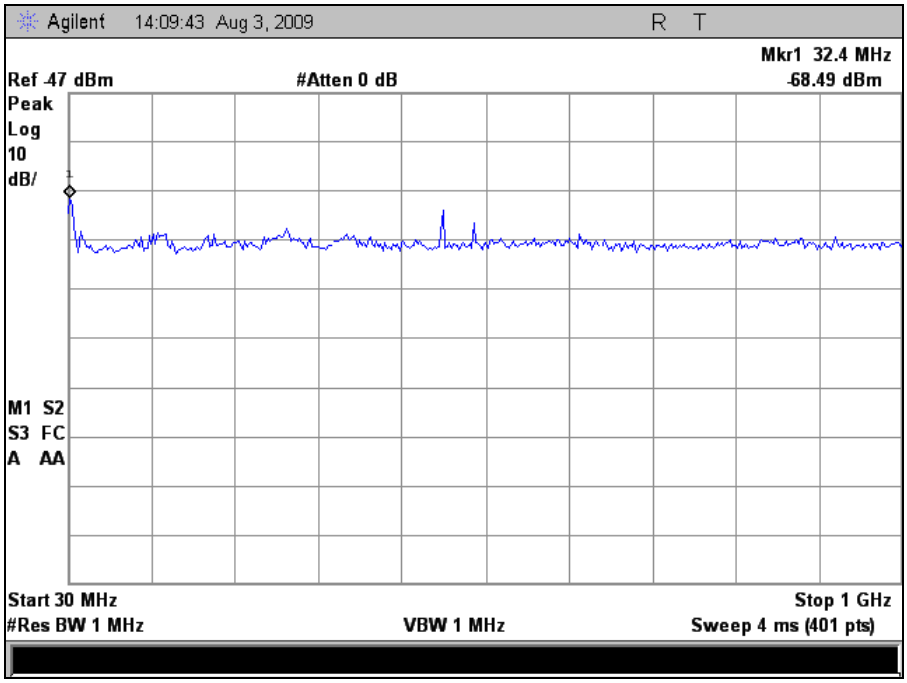


Plot 181. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 30 MHz – 1 GHz, 9 dBi Omni

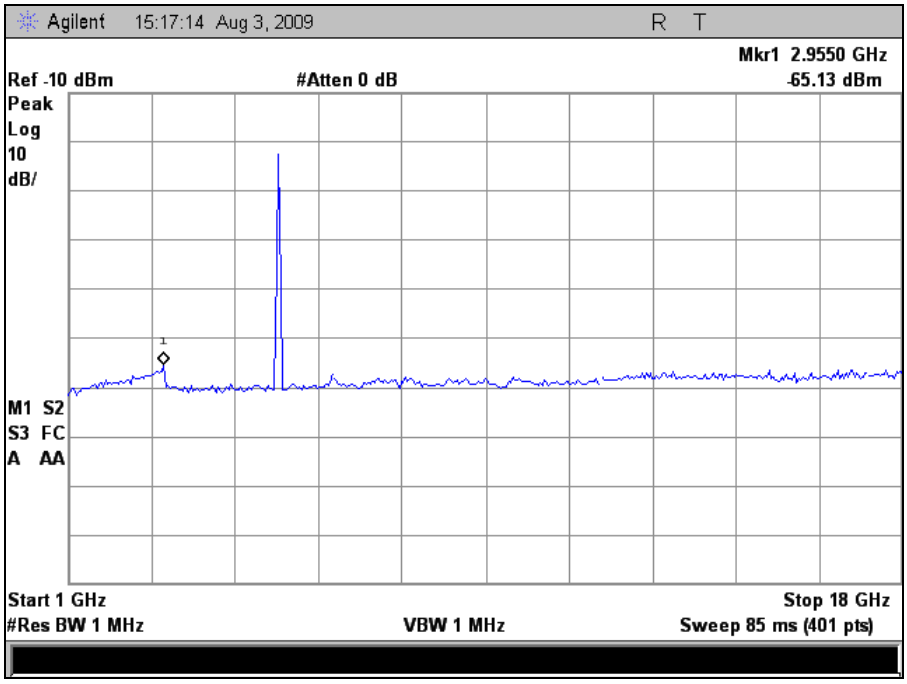


Plot 182. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 1 GHz – 18 GHz, 9 dBi Omni

Radiated Spurious Emissions Test Results, 802.11n 40MHz (16dBi Sector Antenna)

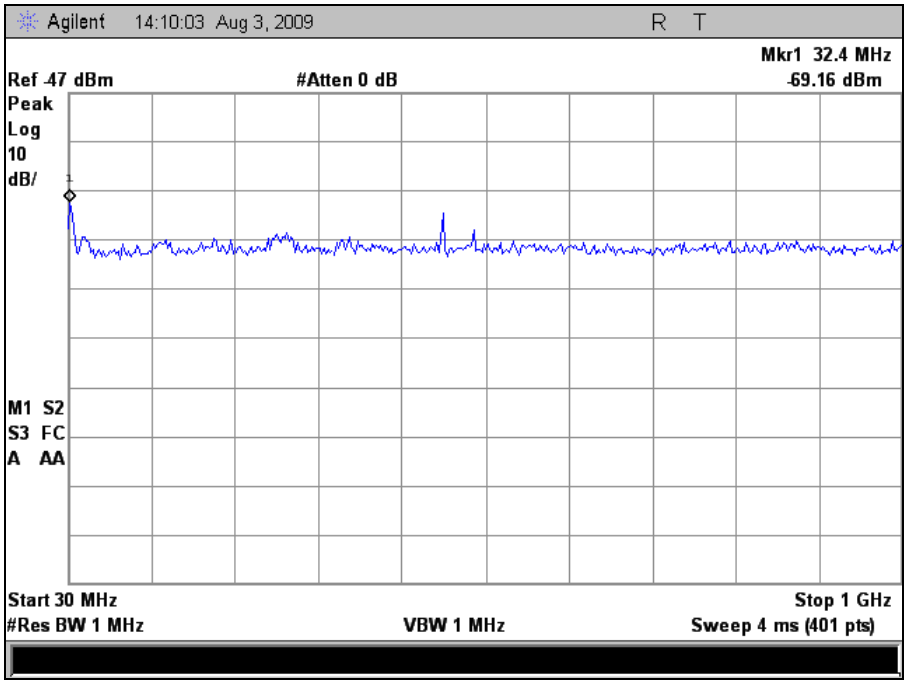


Plot 183. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 30 MHz – 1 GHz, 16 dBi Sector

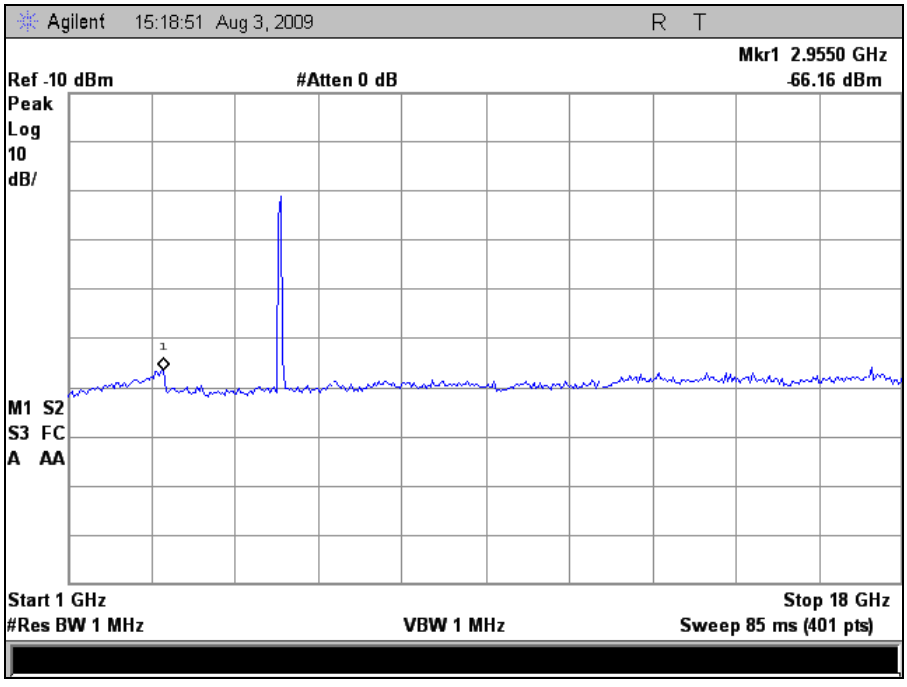


Plot 184. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 40MHz (16dBi Sector Antenna)

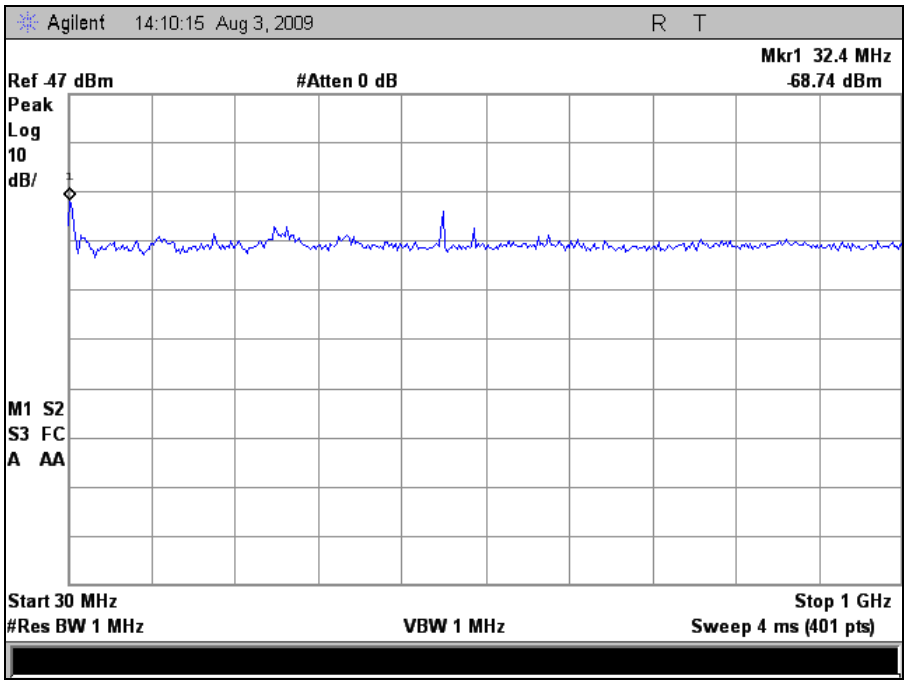


Plot 185. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 30 MHz – 1 GHz, 16 dBi Sector

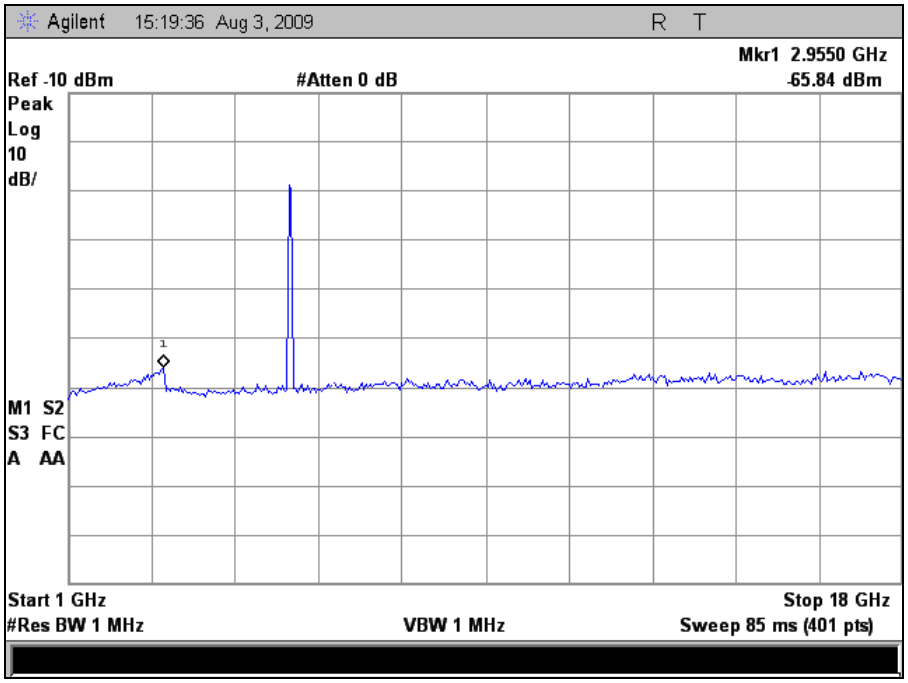


Plot 186. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 40MHz (16dBi Sector Antenna)

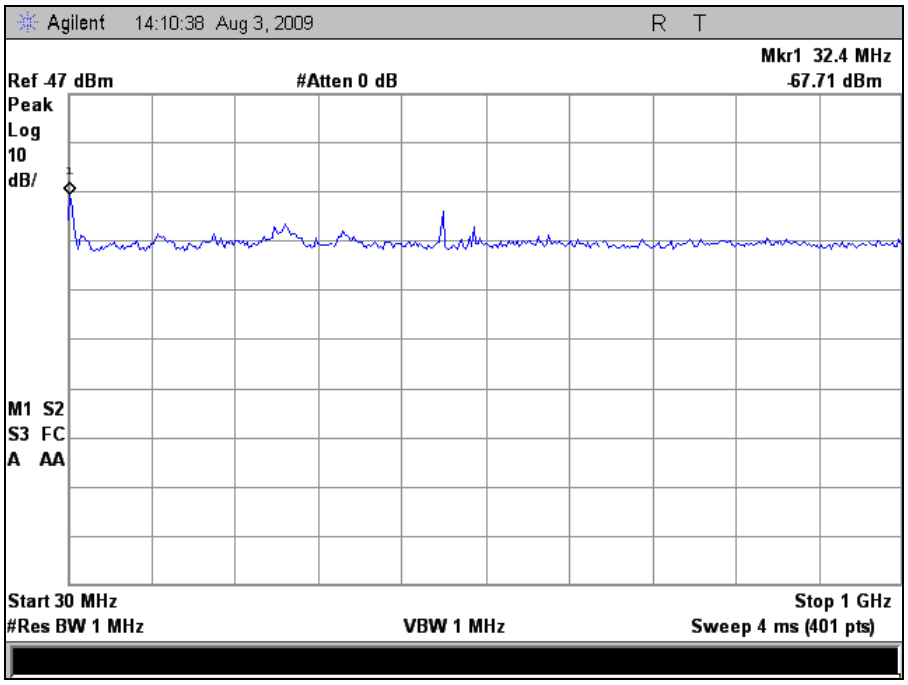


Plot 187. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 30 MHz – 1 GHz, 16 dBi Sector

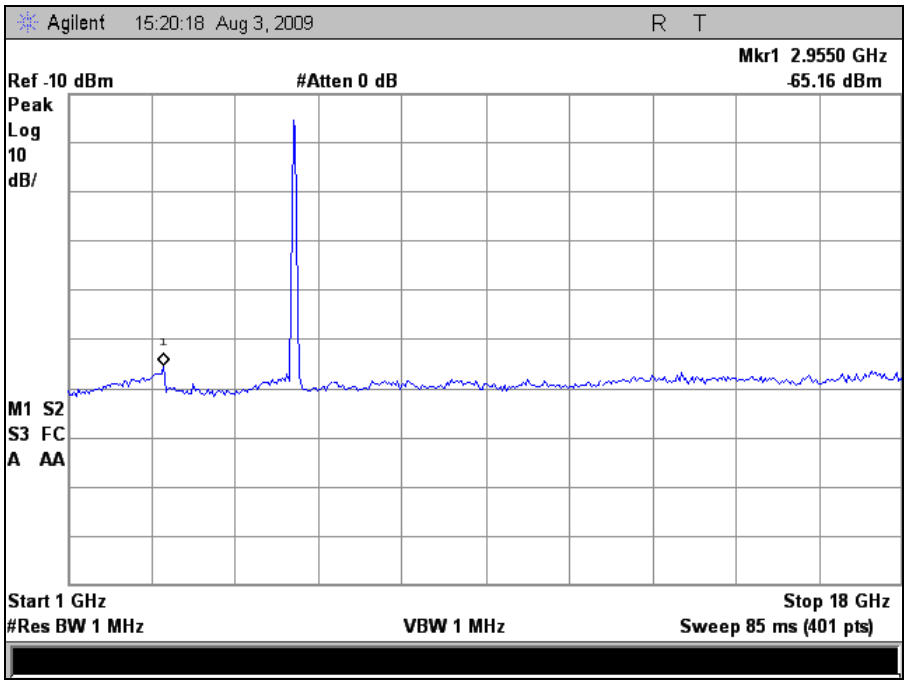


Plot 188. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 40MHz (16dBi Sector Antenna)

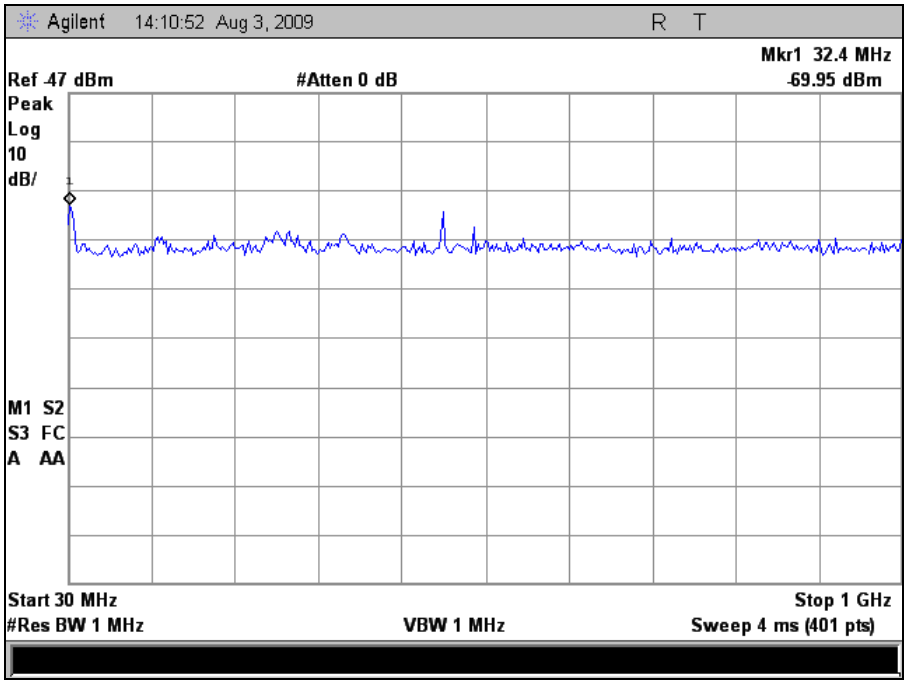


Plot 189. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 30 MHz – 1 GHz, 16 dBi Sector

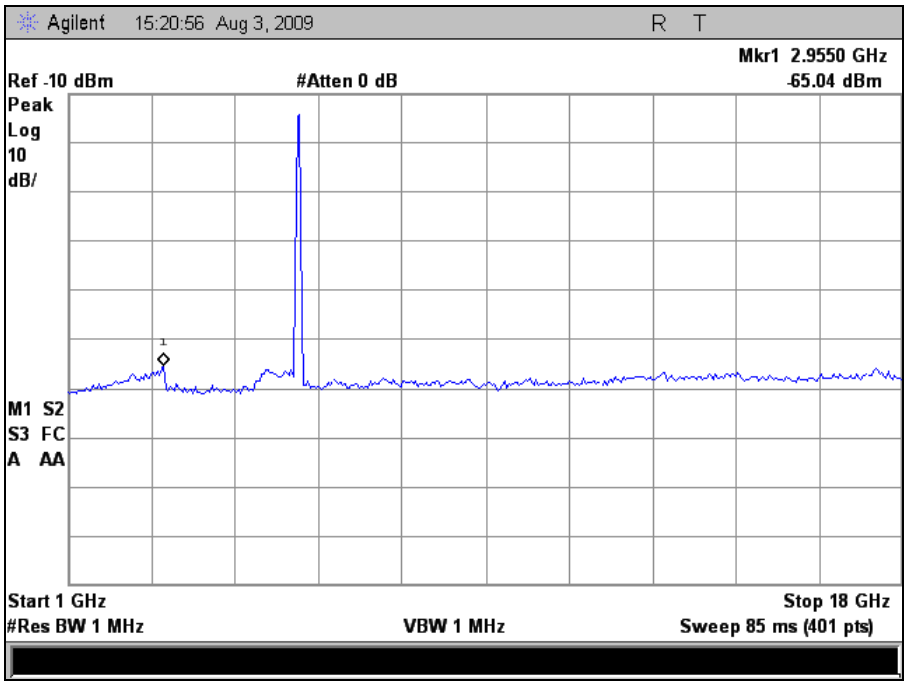


Plot 190. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 40MHz (16dBi Sector Antenna)

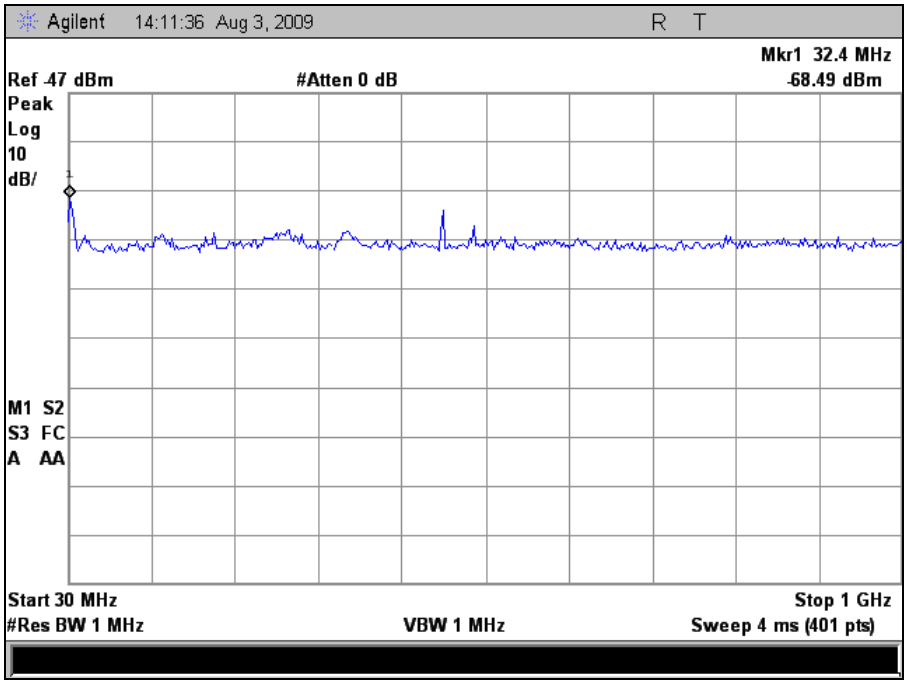


Plot 191. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 30 MHz – 1 GHz, 16 dBi Sector

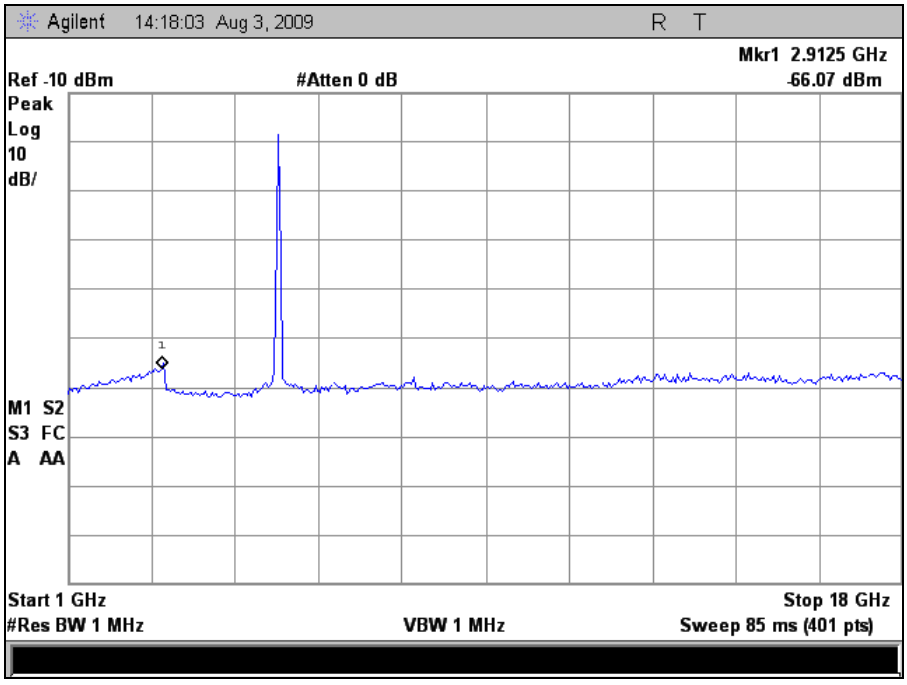


Plot 192. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 1 GHz – 18 GHz, 16 dBi Sector

Radiated Spurious Emissions Test Results, 802.11n 40MHz (19dBi Panel Antenna)

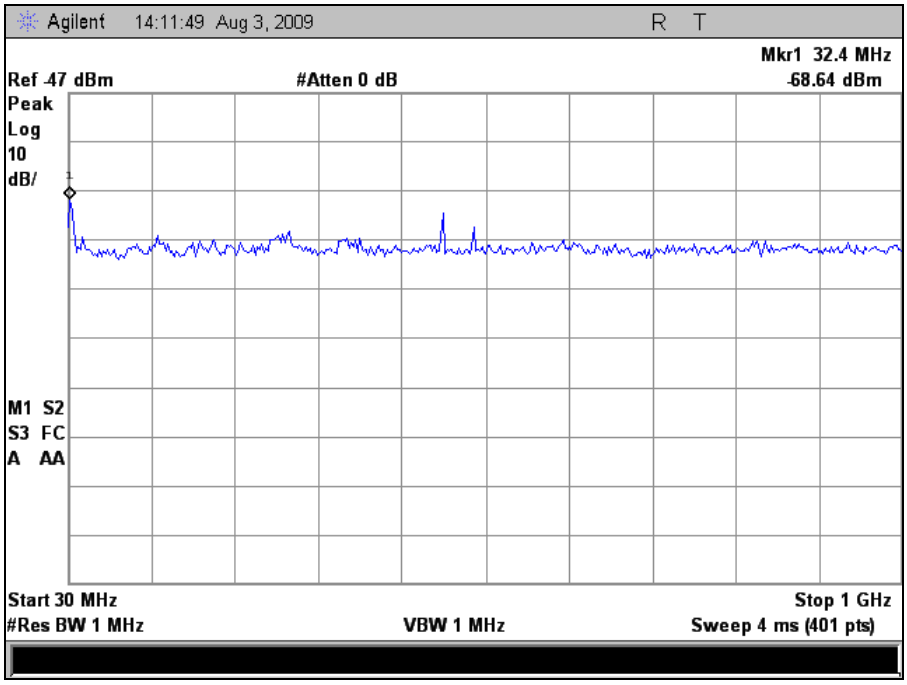


Plot 193. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 30 MHz – 1 GHz, 19 dBi Panel

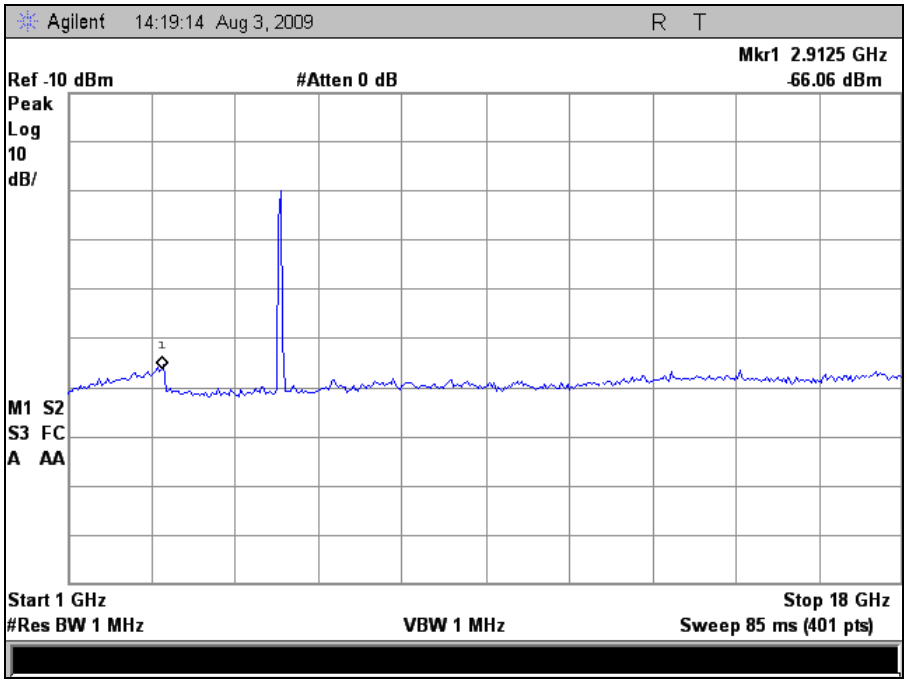


Plot 194. Radiated Spurious, 802.11n 40MHz, 5270 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 40MHz (19dBi Panel Antenna)

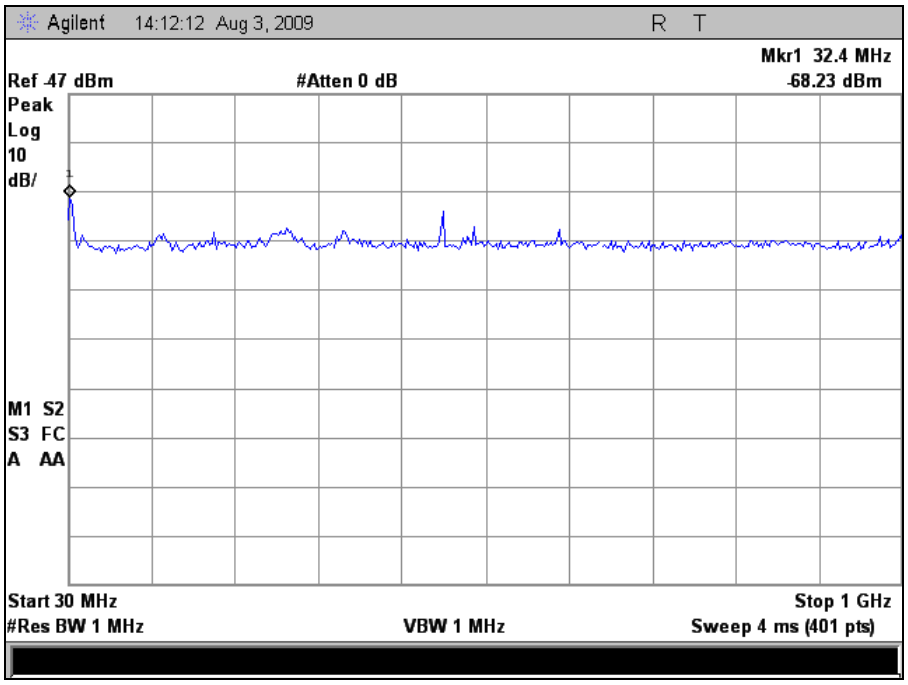


Plot 195. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 30 MHz – 1 GHz, 19 dBi Panel

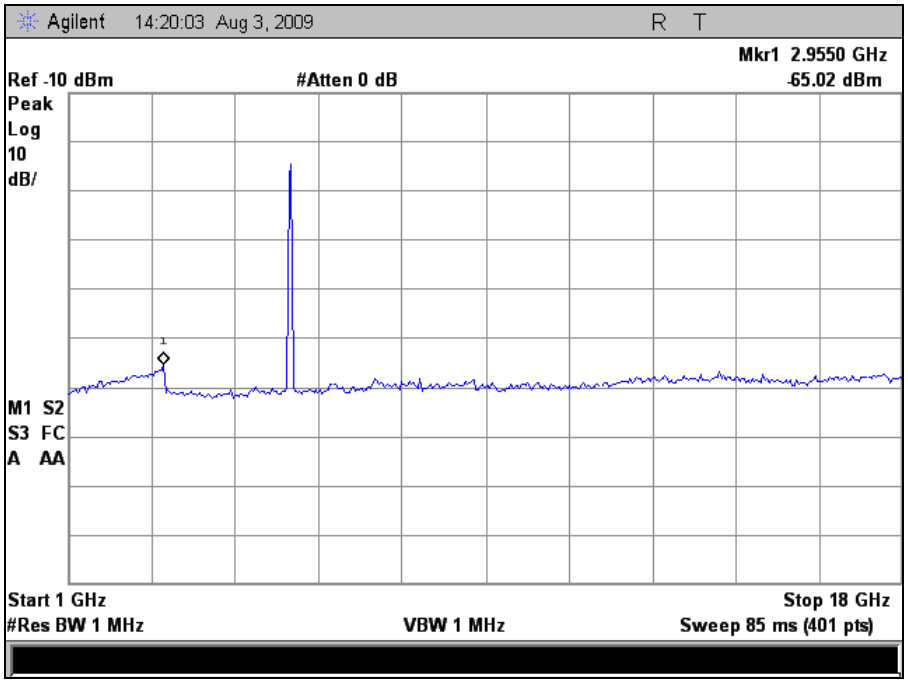


Plot 196. Radiated Spurious, 802.11n 40MHz, 5310 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 40MHz (19dBi Panel Antenna)

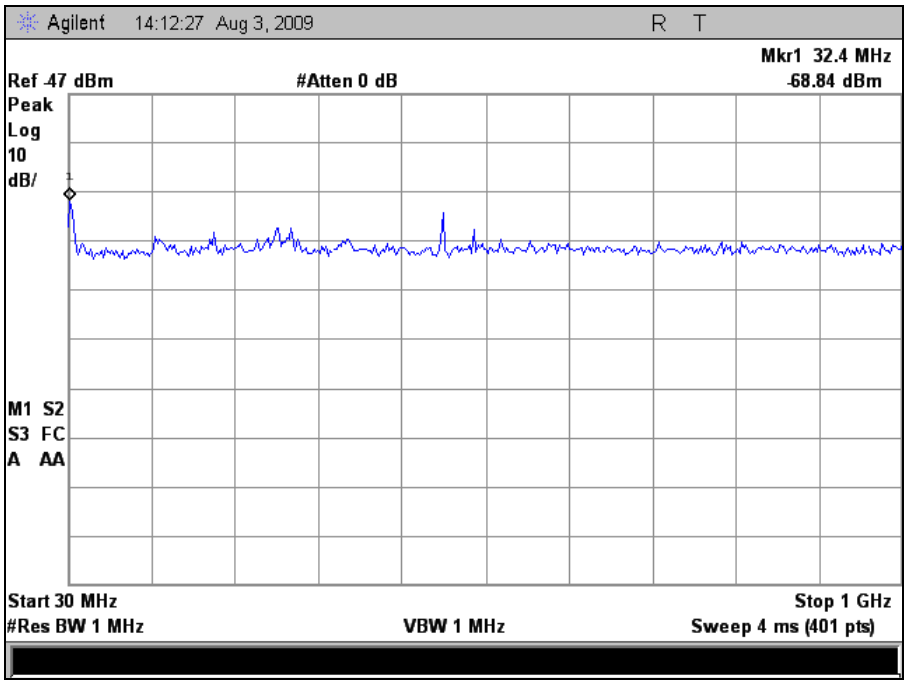


Plot 197. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 30 MHz – 1 GHz, 19 dBi Panel

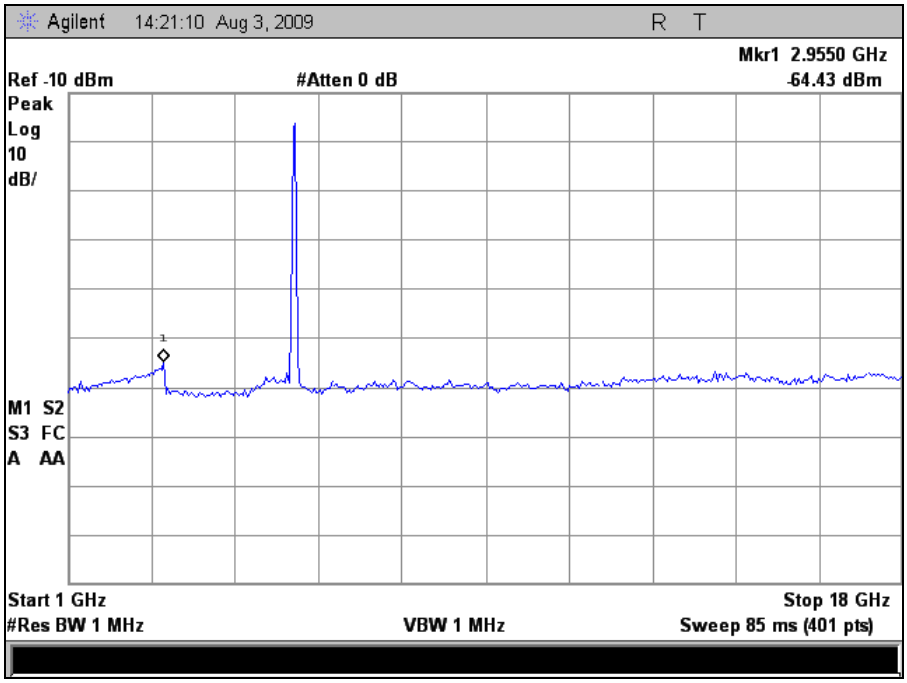


Plot 198. Radiated Spurious, 802.11n 40MHz, 5510 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 40MHz (19dBi Panel Antenna)

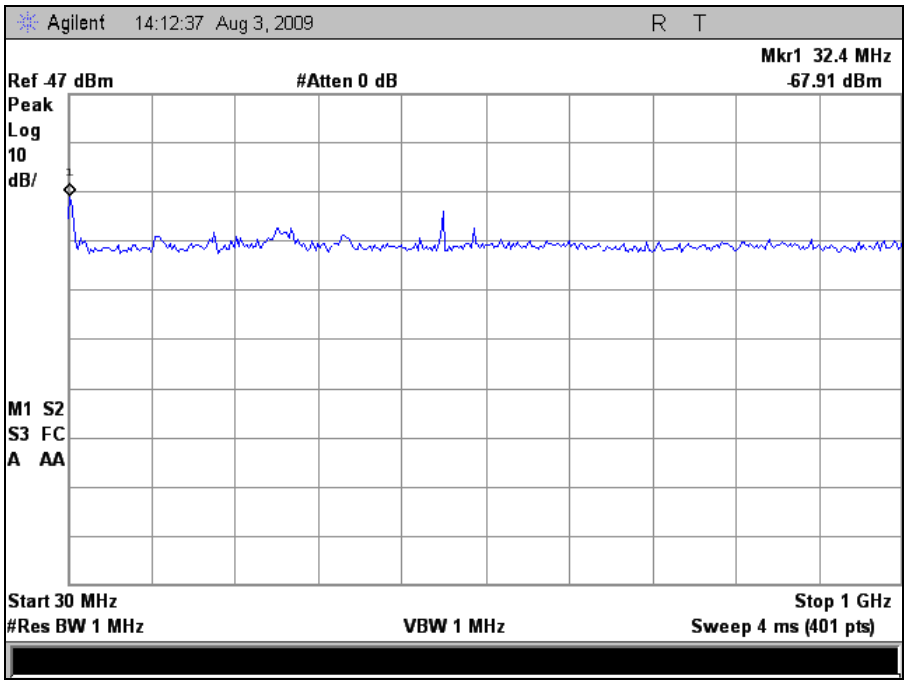


Plot 199. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 30 MHz – 1 GHz, 19 dBi Panel

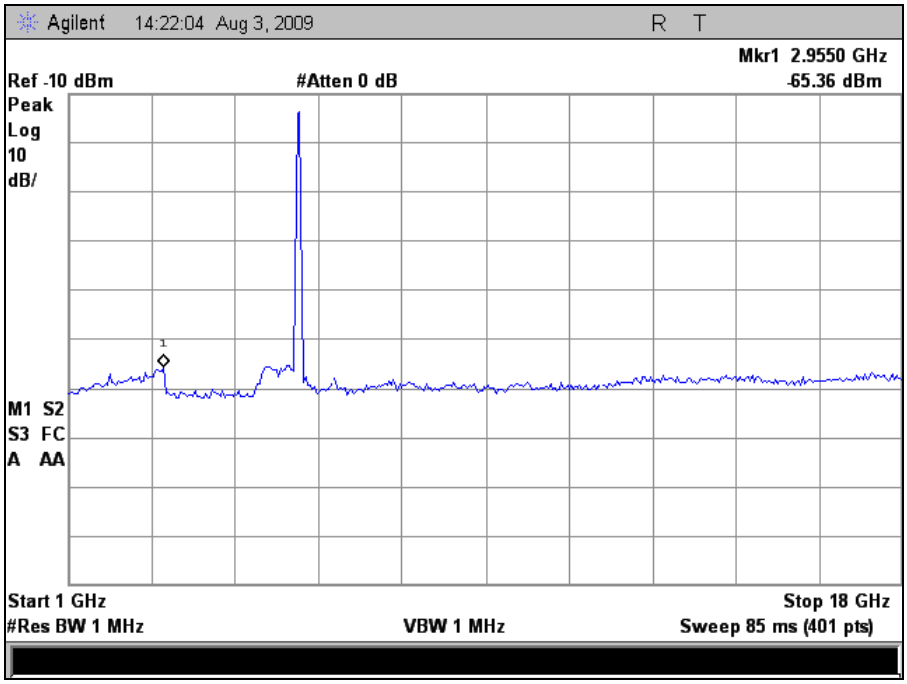


Plot 200. Radiated Spurious, 802.11n 40MHz, 5550 MHz, 1 GHz – 18 GHz, 19 dBi Panel

Radiated Spurious Emissions Test Results, 802.11n 40MHz (19dBi Panel Antenna)



Plot 201. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 30 MHz – 1 GHz, 19 dBi Panel



Plot 202. Radiated Spurious, 802.11n 40MHz, 5670 MHz, 1 GHz – 18 GHz, 19 dBi Panel

EIRP

9dBi Omni Antenna								
802.11a	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Loss**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	19.89	7.03	35	9.54	52.38	68.23	-15.85
	5470 MHz	24.31	7.03	35	9.54	56.8	68.23	-11.43
	5725 MHz	34.1	7.5	35	9.54	67.06	68.23	-1.17
802.11n 20MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	19.9	7.03	35	9.54	52.39	68.23	-15.84
	5470 MHz	22.93	7.03	35	9.54	55.42	68.23	-12.81
	5725 MHz	30.75	7.5	35	9.54	63.71	68.23	-4.52
802.11n 40MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m))**	**Margin**
	5350 MHz	21	7.03	35	9.54	53.49	68.23	-14.74
	5470 MHz	25.11	7.03	35	9.54	57.6	68.23	-10.63
	5725 MHz	31.66	7.5	35	9.54	64.62	68.23	-3.61

Table 72. EIRP Calculation, 9 dBi Omni

Note: EIRP Limit -27dBm/MHz = 68.23dBuV/m

16dBi Sector Antenna								
802.11a	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Loss**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	19.85	7.03	35	9.54	52.34	68.23	-15.89
	5470 MHz	21.42	7.03	35	9.54	53.91	68.23	-14.32
	5725 MHz	33.15	7.5	35	9.54	66.11	68.23	-2.12
802.11n 20MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	22.34	7.03	35	9.54	54.83	68.23	-13.4
	5470 MHz	22.15	7.03	35	9.54	54.64	68.23	-13.59
	5725 MHz	35.22	7.5	35	9.54	68.18	68.23	-0.05
802.11n 40MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m))**	**Margin**
	5350 MHz	21.61	7.03	35	9.54	54.1	68.23	-14.13
	5470 MHz	27.89	7.03	35	9.54	60.38	68.23	-7.85
	5725 MHz	34.12	7.5	35	9.54	67.08	68.23	-1.15

Table 73. EIRP Calculation, 16 dBi Sector

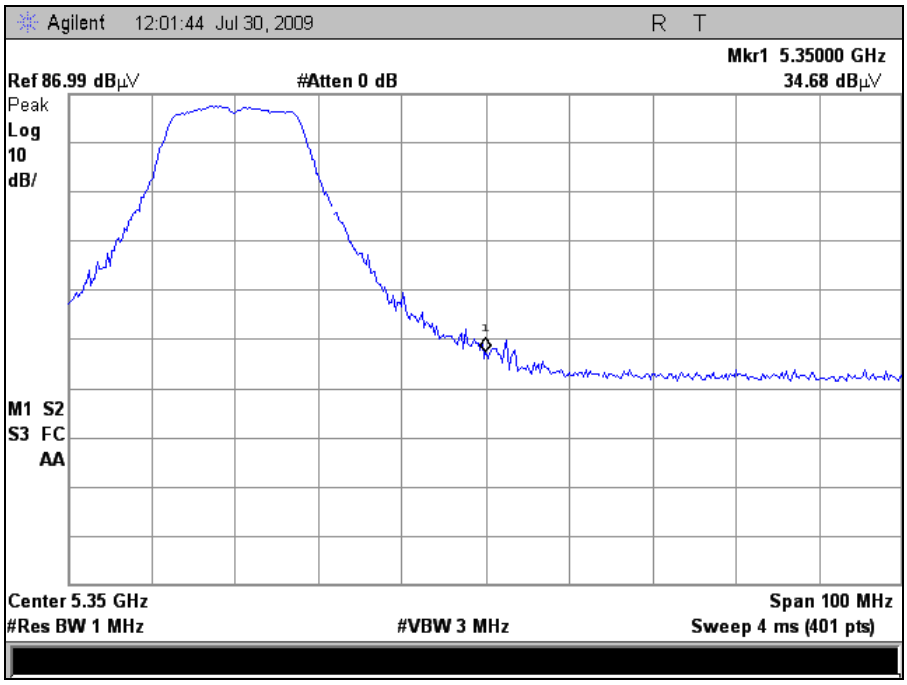
Note: EIRP Limit -27dBm/MHz = 68.23dBuV/m

19dBi Panel Antenna								
802.11a	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Loss**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	20.09	7.03	35	9.54	52.58	68.23	-15.65
	5470 MHz	21.92	7.03	35	9.54	54.41	68.23	-13.82
	5725 MHz	33.2	7.5	35	9.54	66.16	68.23	-2.07
802.11n 20MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m)**	**Margin**
	5350 MHz	19.03	7.03	35	9.54	51.52	68.23	-16.71
	5470 MHz	23.2	7.03	35	9.54	55.69	68.23	-12.54
	5725 MHz	34.25	7.5	35	9.54	67.21	68.23	-1.02
802.11n 40MHz	**Band Edge Freq**	**Uncorrected Peak (dBuV)**	**Cable Lost**	**ACF**	**DCF**	**Corrected**	**Limit (dBuV/m))**	**Margin**
	5350 MHz	20.83	7.03	35	9.54	53.32	68.23	-14.91
	5470 MHz	27.54	7.03	35	9.54	60.03	68.23	-8.2
	5725 MHz	34.83	7.5	35	9.54	67.79	68.23	-0.44

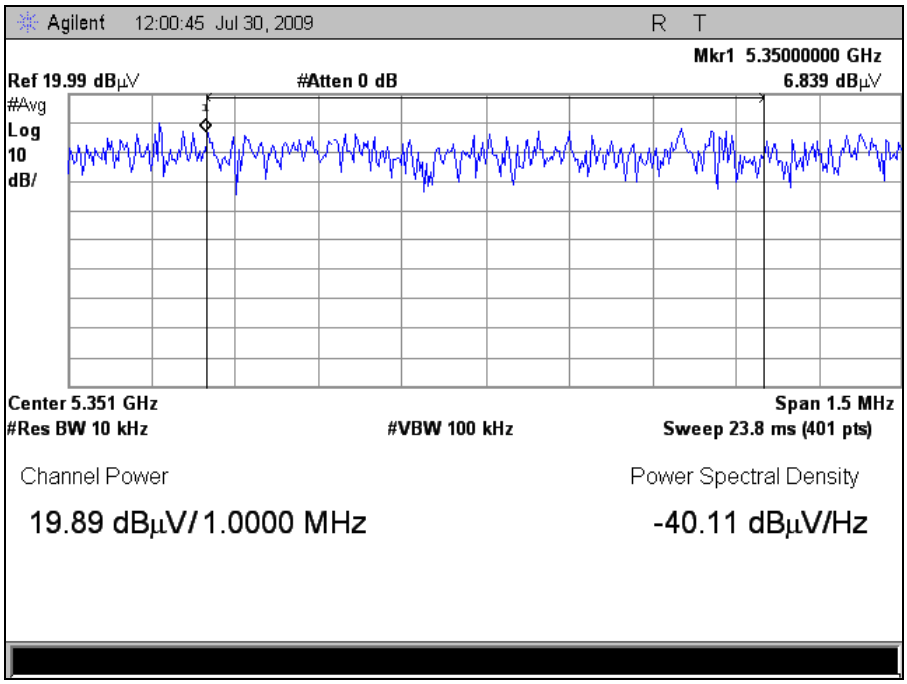
Table 74. EIRP Calculation, 19 dBi Panel

Note: EIRP Limit -27dBm/MHz = 68.23dBuV/m

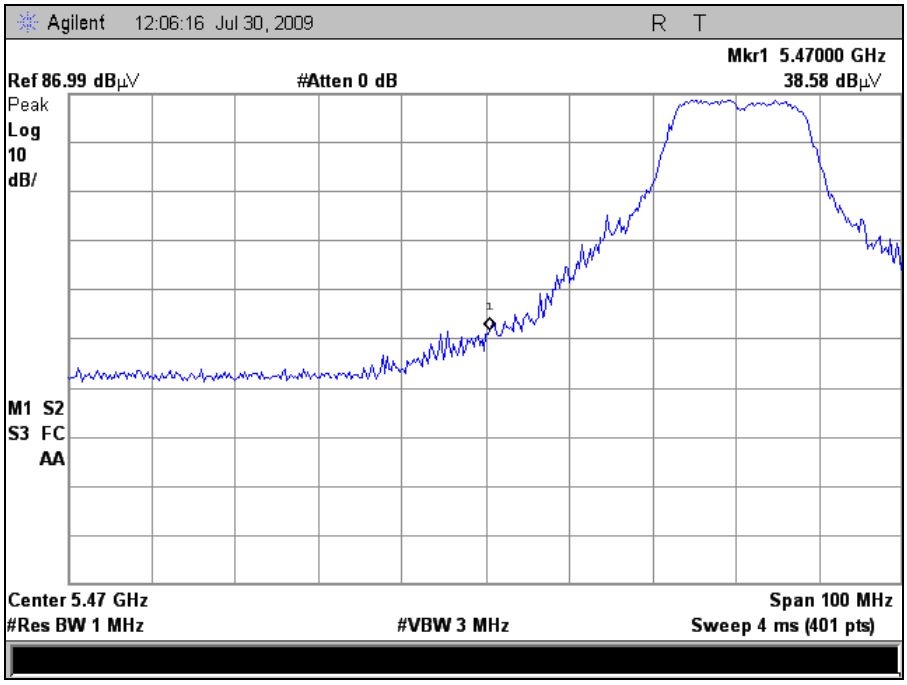
EIRP, Port 1, 802.11a



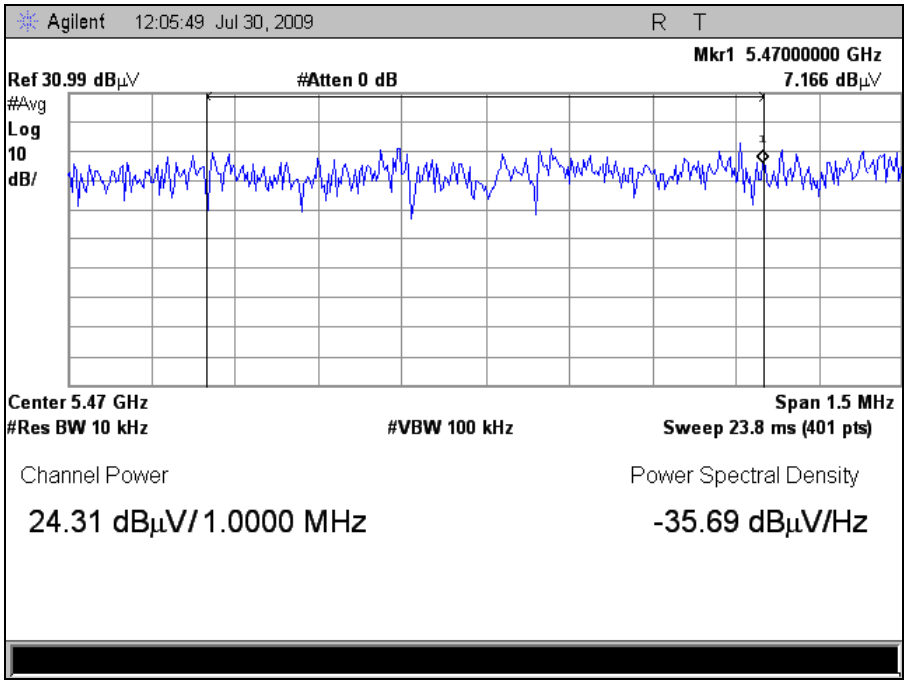
Plot 203. EIRP, Port 1, 802.11a, 5350 MHz Peak, 9 dBi Omni



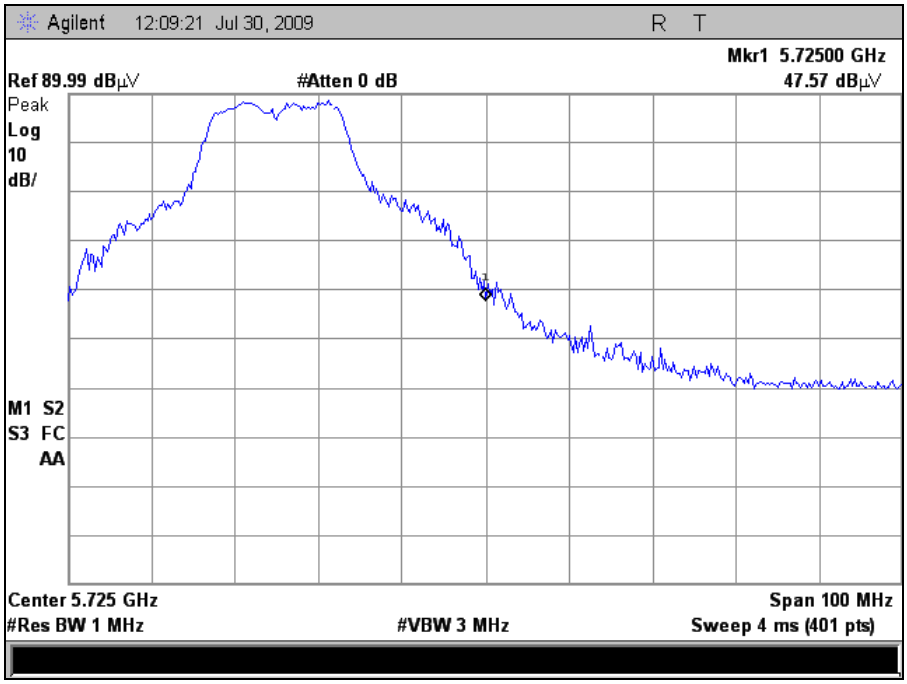
Plot 204. EIRP, Port 1, 802.11a, 5350 MHz Over 1 MHz, 9 dBi Omni



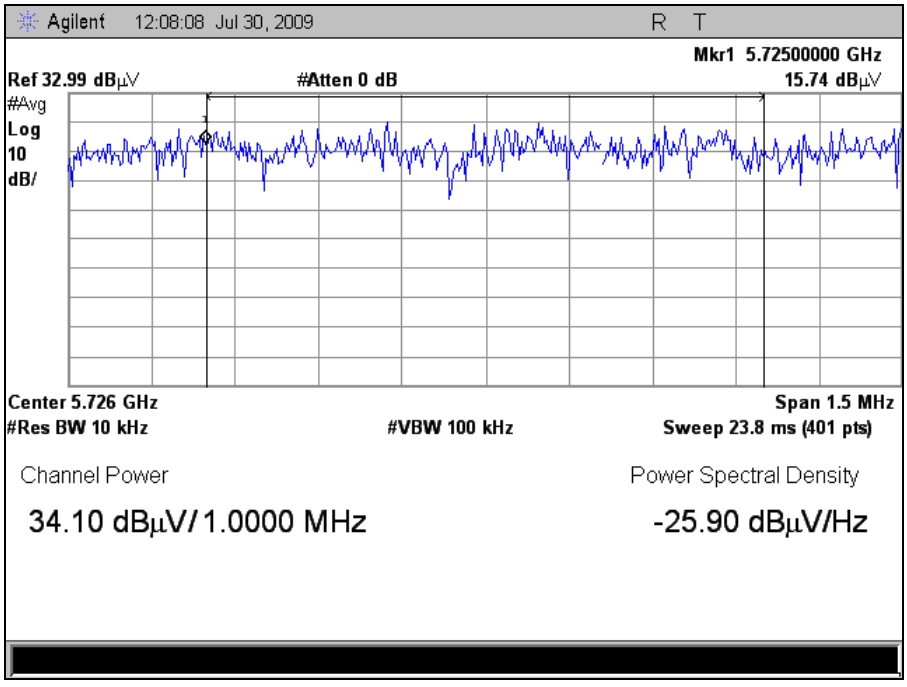
Plot 205. EIRP, Port 1, 802.11a, 5470 MHz Peak, 9 dBi Omni



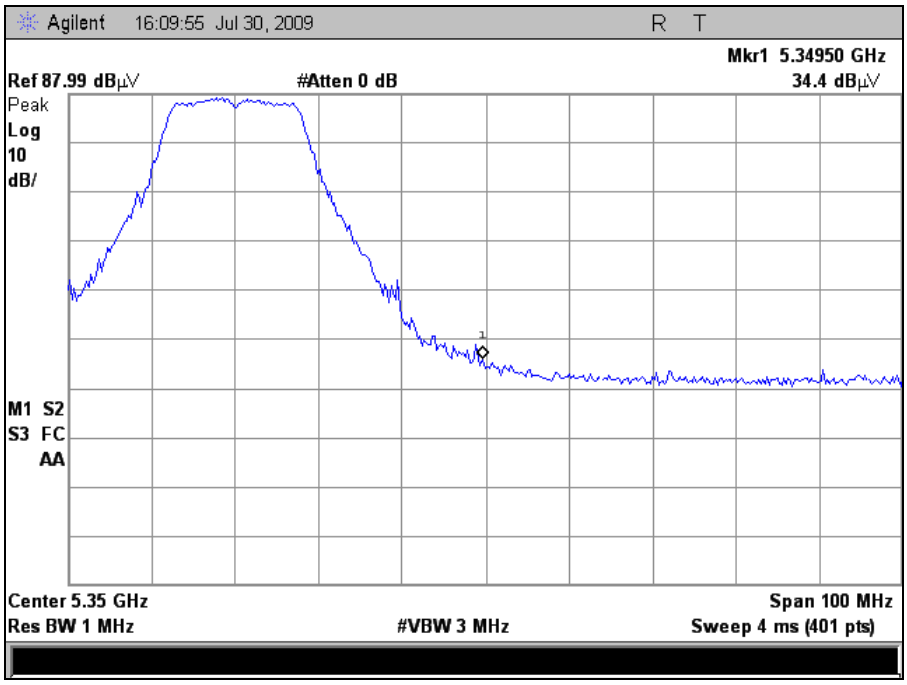
Plot 206. EIRP, Port 1, 802.11a, 5470 MHz Over 1 MHz, 9 dBi Omni



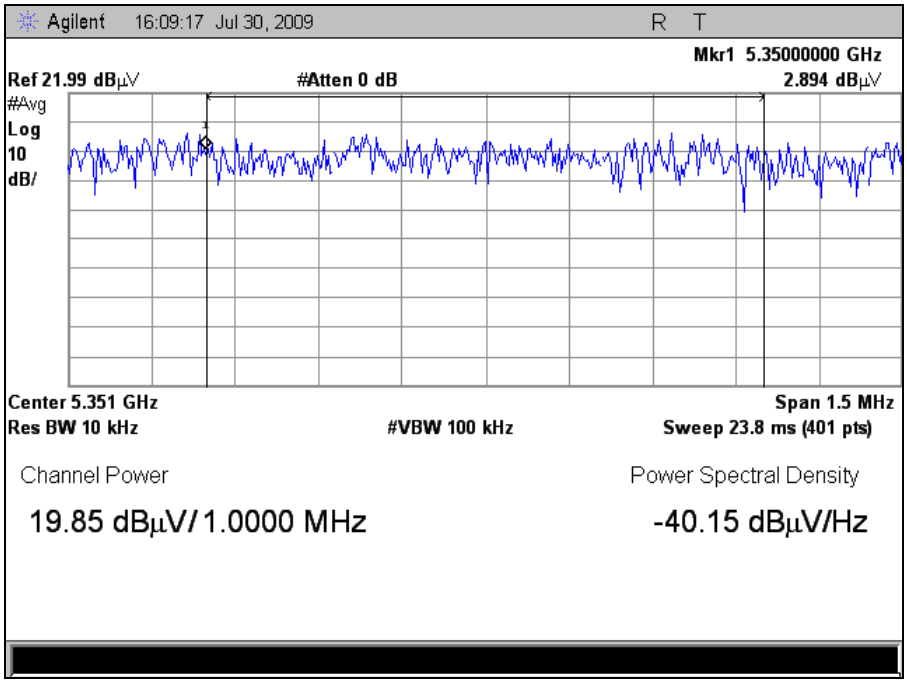
Plot 207. EIRP, Port 1, 802.11a, 5725 MHz Peak, 9 dBi Omni



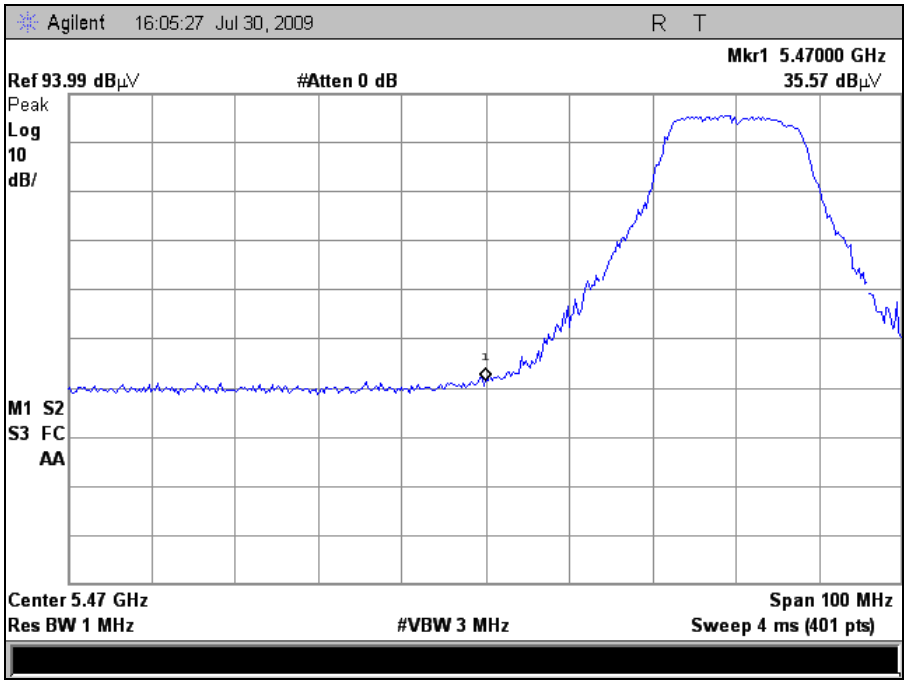
Plot 208. EIRP, Port 1, 802.11a, 5725 MHz Over 1 MHz, 9 dBi Omni



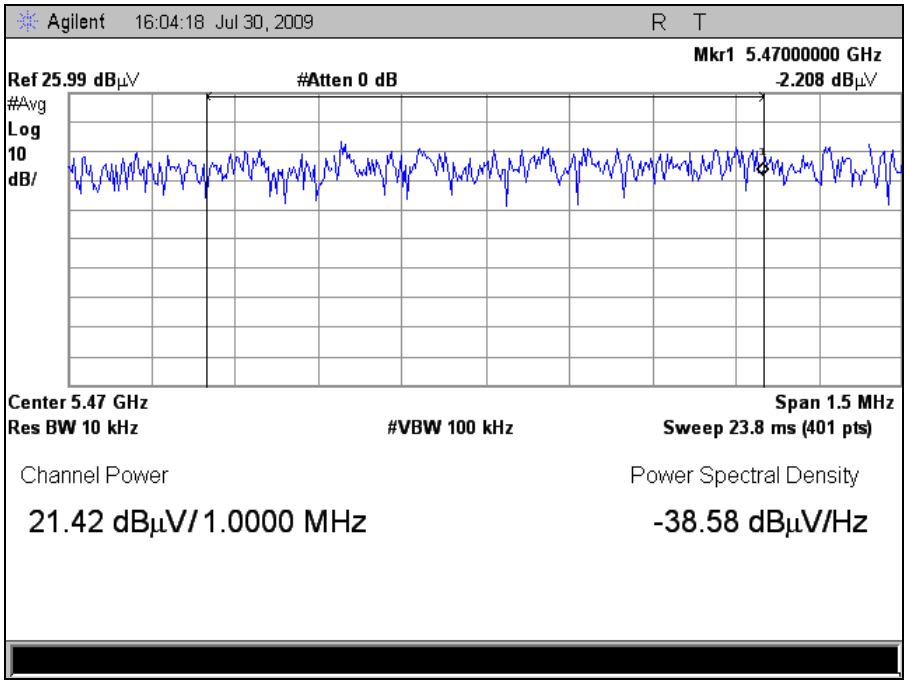
Plot 209. EIRP, Port 1, 802.11a, 5350 MHz Peak, 16 dBi Sector



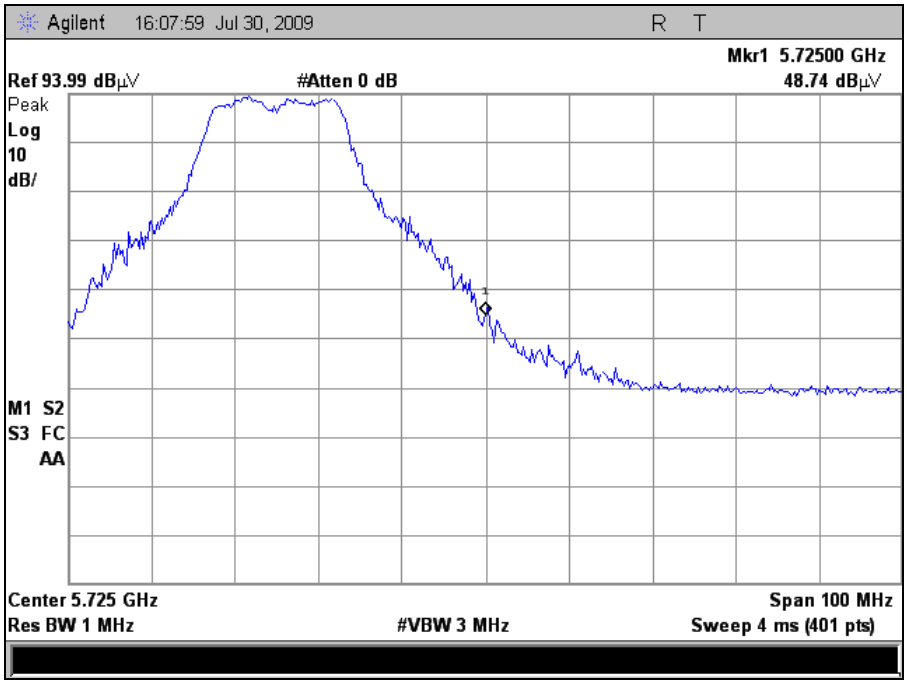
Plot 210. EIRP, Port 1, 802.11a, 5350 MHz Over 1 MHz, 16 dBi Sector



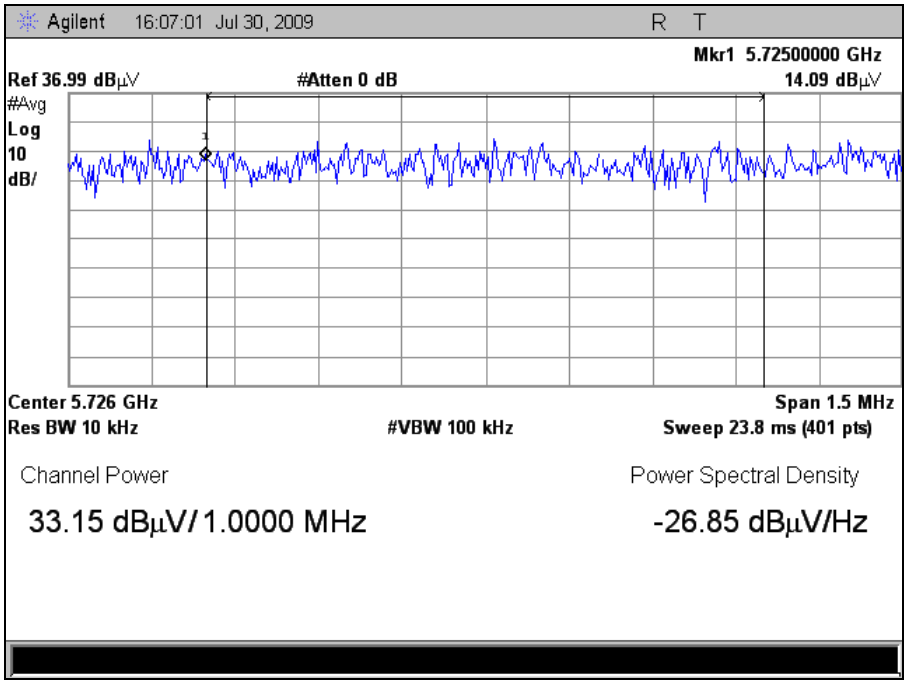
Plot 211. EIRP, Port 1, 802.11a, 5470 MHz Peak, 16 dBi Sector



Plot 212. EIRP, Port 1, 802.11a, 5470 MHz Over 1 MHz, 16 dBi Sector



Plot 213. EIRP, Port 1, 802.11a, 5725 MHz Peak, 16 dBi Sector



Plot 214. EIRP, Port 1, 802.11a, 5725 MHz Over 1 MHz, 16 dBi Sector

