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
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June 23, 2015

ARRIS Group, Inc.
3871 Lakefield Drive, Suite 300
Suwanee, GA 30024

Dear Tony Figueiredo,

Enclosed is the EMC Wireless test report for Class II Permissive Change compliance testing of the ARRIS Group, Inc., SGB6700 AC as tested to the requirements of Title 47 of the CFR, Ch. 1 (10-1-06 ed.), Title 47 of the CFR, Part 15.407 Subpart E 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: (\ARRIS Group, Inc.\EMC85104-FCC407 UNII 2 Rev. 1)

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Electromagnetic Compatibility Criteria
Class II Permissive Change Test Report

for the

ARRIS Group, Inc.
Model SGB6700 AC

Tested under
the Certification Rules
contained in
Title 47 of the CFR, Part 15.407 Subpart E
for Intentional Radiators

MET Report: EMC85104-FCC407 UNII 2 Rev. 1

June 23, 2015

Prepared For:

ARRIS Group, Inc.
3871 Lakefield Drive, Suite 300
Suwanee, GA 30024

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

Electromagnetic Compatibility Criteria
Class II Permissive Change Test Report

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ARRIS Group, Inc.
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Tested under
the Certification Rules
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Title 47 of the CFR, Part 15.407 Subpart E
for Intentional Radiators

Surinder Singh, Project Engineer
Electromagnetic Compatibility Lab

Jennifer Warnell
Documentation Department

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

Asad Bajwa,
Director, Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	June 11, 2015	Initial Issue.
1	June 23, 2015	Engineer corrections.

Table of Contents

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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 ARRIS Group, Inc. SGB6700 AC, 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 SGB6700 AC. ARRIS Group, Inc. should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the SGB6700 AC, 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 ARRIS Group, Inc., purchase order number AR1056767. All tests were conducted using measurement procedure ANSI C63.4-2009.

FCC Reference	Description	Results
Title 47 of the CFR, Part 15 §15.203	Antenna Requirement	Compliant
Title 47 of the CFR, Part 15 §15.207(a)	Conducted Emission Limits	Compliant
Title 47 of the CFR, Part 15 §15.403 (i)	26dB Occupied Bandwidth	Compliant
Title 47 of the CFR, Part 15 §15.407 (a)(2)	Conducted Transmitter Output Power	Compliant
Title 47 of the CFR, Part 15 §15.407 (a)(2)	Power Spectral Density	Compliant
Title 47 of the CFR, Part 15 §15.407 (b)(2), (3), (5), (6)	Out of Band Undesirable Emissions	Compliant
Title 47 of the CFR, Part 15 §15.407(f)	RF Exposure	Compliant
15.407(g)	Frequency Stability	Compliant

Table 1. Executive Summary of EMC Part 15.407 ComplianceTesting

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by ARRIS Group, Inc. to perform testing on the SGB6700 AC, under ARRIS Group, Inc.'s purchase order number AR1056767.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the ARRIS Group, Inc. SGB6700 AC.

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

Model(s) Tested:	SGB6700 AC	
Model(s) Covered:	SGB6700 AC	
EUT Specifications:	Primary Power: 120 VAC, 60 Hz	
	Class II Permissive Change FCC ID: UIDSBG6700	
	Type of Modulations:	CCK, OFDM, MCS
	Equipment Code:	NII
	Peak RF Output Power:	21.22dBm, 23.87 dBm
	EUT Frequency Ranges:	5260-5320MHz & 5500-5720MHz
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:	Surinder Singh	
Report Date(s):	June 23, 2015	

Table 2. EUT Summary

B. References

CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
ANSI C63.4:2009	Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical And Electronic Equipment in the Range of 9 kHz to 40 GHz
ISO/IEC 17025:2005	General Requirements for the Competence of Testing and Calibration Laboratories
ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices

Table 3. References

C. Test Site

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

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

D. Description of Test Sample

The Arris Group Inc. SBG 6700AC, Equipment Under Test (EUT), is an indoor 5G indoor data gateway.

E. Equipment Configuration

Ref. ID	Name / Description	Model Number	Serial Number	Rev. #
NA	SBG6700	SBG6700	NA	NA

Table 4. Equipment Configuration

F. Support Equipment

Ref. ID	Name / Description	Manufacturer	Model Number
NA	Laptop	Dell	Vostro
NA	Laptop Mouse	Logitech	NA
NA	RF Cable	NA	NA
NA	Ethernet cable	NA	NA
NA	12 Vdc PS	Asian Power Devices	WA-24I12FU
NA	CMTS	ARRIS C4	NA

Table 5. Support Equipment

G. Ports and Cabling Information

Ref. ID	Port name on EUT	Cable Description or reason for no cable	Qty	Length as tested (m)	Max Length (m)	Shielded? (Y/N)	Termination Box ID & Port Name
1	RF	RG6 Coax	1	8	NA	Yes	NA
2	DC	12Vdc, 22 AWG x 2C	1	2	NA	No	NA
3	Ethernet	Cat 5E 24AWG/4P	1	2	NA	No	NA

Table 6. Ports and Cabling Information

H. Mode of Operation

The provided test tool will configure the SBG6700 for operation at each required test mode. Test modes have been previously supplied. See Configuration – Wireless – SBG6700.

I. Method of Monitoring EUT Operation

The measured emission value is over the specified FCC limits.

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 ARRIS Group, Inc. upon completion of testing.

III. 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 to the criteria of §15.203. EUT employs internal antennas.

Test Engineer(s): Surinder Pal Singh

Test Date(s): 03/04/15

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.207 Conducted Emissions Limits

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

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

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

Test Procedure: The EUT was placed on a 0.8 m-high wooden table above a ground plane, and 40 cm from a vertical gound plane. 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 C63.4-2009 "Methods and Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz"*. The measurements were performed over the frequency range of 0.15 MHz to 30 MHz using a 50 Ω/50 μH LISN as the input transducer to an EMC/field intensity meter. For the purpose of this testing, the transmitter was turned on. Scans were performed with the transmitter on.

Results: The EUT as tested is Compliant to the criteria of §15.207.

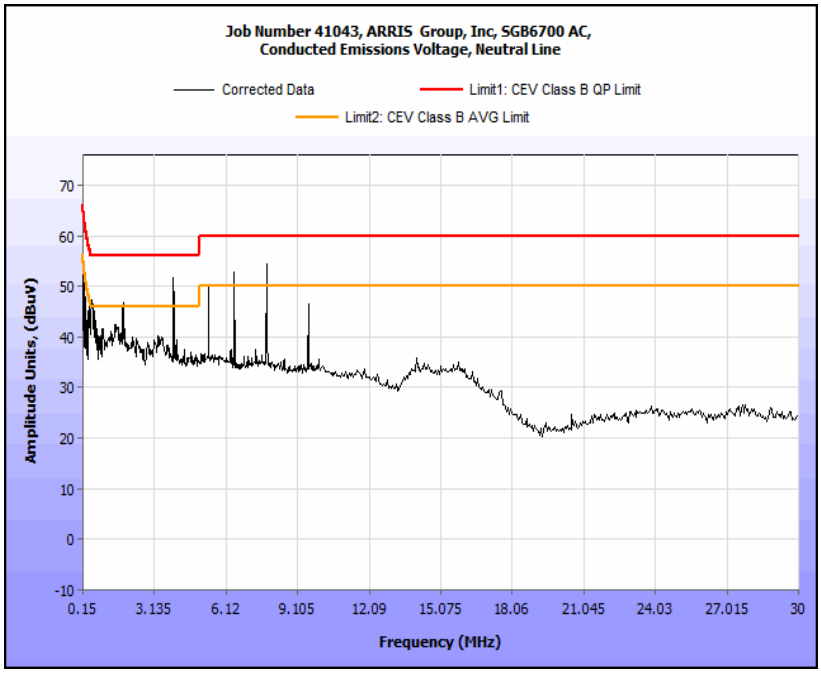
Test Engineer(s): Surinder Pal Singh

Test Date(s): 03/04/15

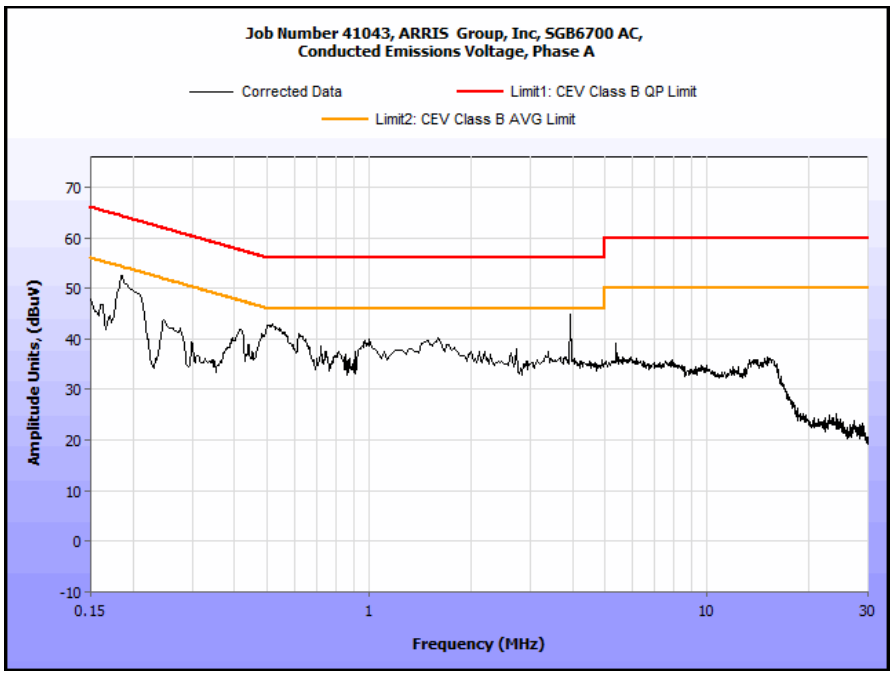
15.207(a) Conducted Emissions Test Results

Frequency (MHz)	Uncorrected Meter Reading (dBµV) QP	Cable Loss (dB)	Corrected Measurement (dBµV) QP	Limit (dBµV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBµV) Avg.	Cable Loss (dB)	Corrected Measurement (dBµV) AVG	Limit (dBµV) AVG	Margin (dB) AVG
0.186	47.76	0	47.76	64.21	-16.45	34.2	0	34.2	54.21	-20.01
0.512	40.09	0	40.09	56	-15.91	29.03	0	29.03	46	-16.97
1.492	35.82	0	35.82	56	-20.18	23.46	0	23.46	46	-22.54
3.926	35.5	0.11	35.61	56	-20.39	20.27	0.11	20.38	46	-25.62
7.775	30.49	0.17	30.66	60	-29.34	22.76	0.17	22.93	50	-27.07
24.892	27.38	0.17	27.55	60	-32.45	19.03	0.17	19.2	50	-30.8

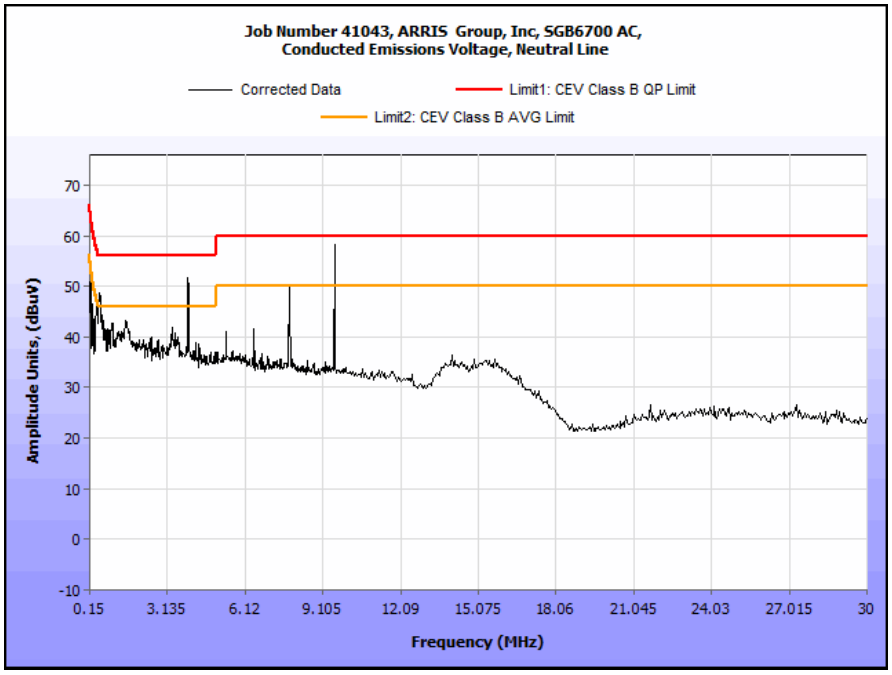
Table 8. Conducted Emissions, 15.207(a), Phase Line, Test Results



Plot 1. Conducted Emissions, 15.207(a), Phase Line, Low Channel



Plot 2. Conducted Emissions, 15.207(a), Phase Line, Mid Channel

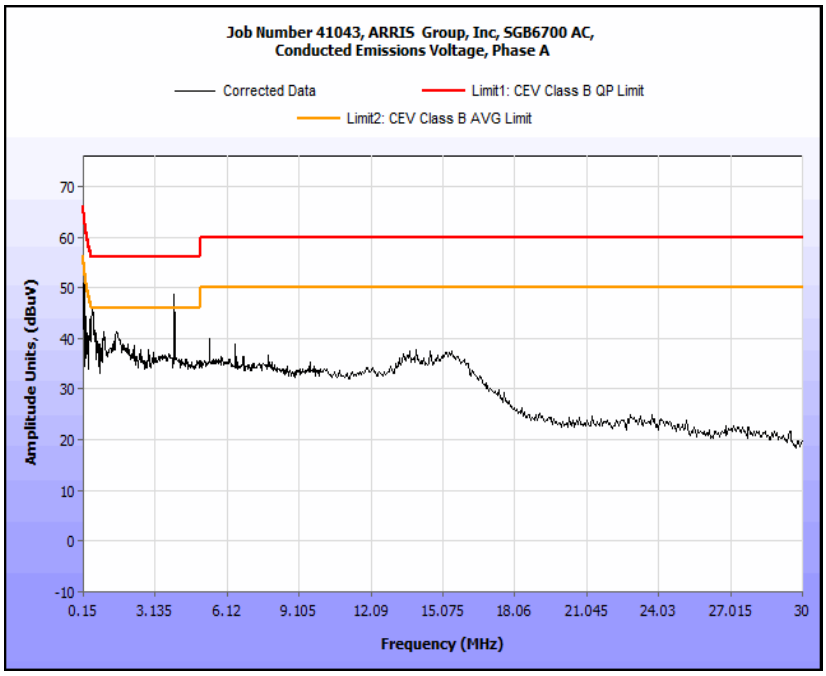


Plot 3. Conducted Emissions, 15.207(a), Phase Line, High Channel

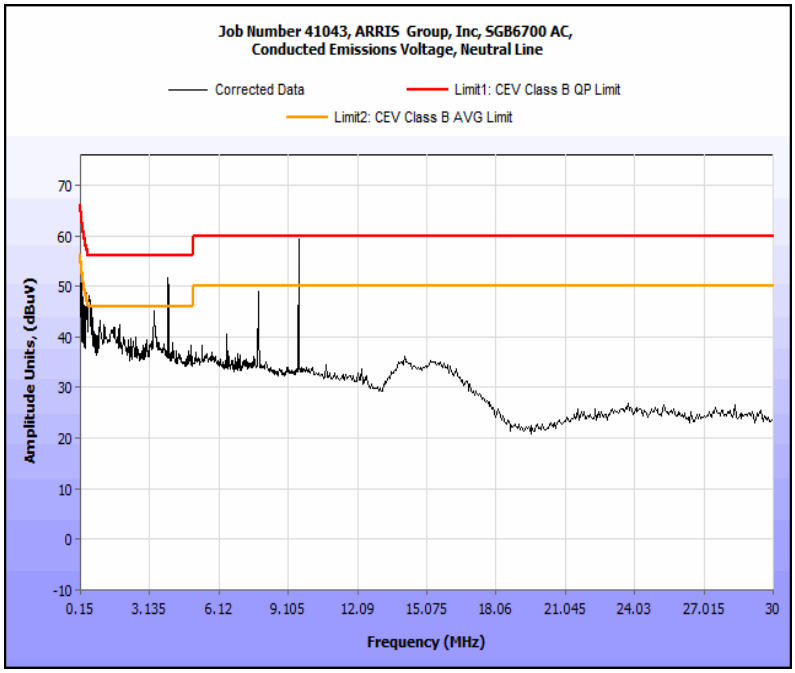
15.207(a) Conducted Emissions Test Results

Frequency (MHz)	Uncorrected Meter Reading (dBuV) QP	Cable Loss (dB)	Corrected Measurement (dBuV) QP	Limit (dBuV) QP	Margin (dB) QP	Uncorrected Meter Reading (dBuV) Avg.	Cable Loss (dB)	Corrected Measurement (dBuV) AVG	Limit (dBuV) AVG	Margin (dB) AVG
0.154	50.69	0	50.69	65.78	-15.09	41.14	0	41.14	55.78	-14.64
0.418	45.64	0	45.64	57.49	-11.85	32.65	0	32.65	47.49	-14.84
1.232	35.57	0	35.57	56	-20.43	24.42	0	24.42	46	-21.58
3.927	49.41	0.11	49.52	56	-6.48	24.9	0.11	25.01	46	-20.99
7.818	48.48	0.17	48.65	60	-11.35	26	0.17	26.17	50	-23.83
25.16	20.29	0.17	20.46	60	-39.54	15.57	0.17	15.74	50	-34.26

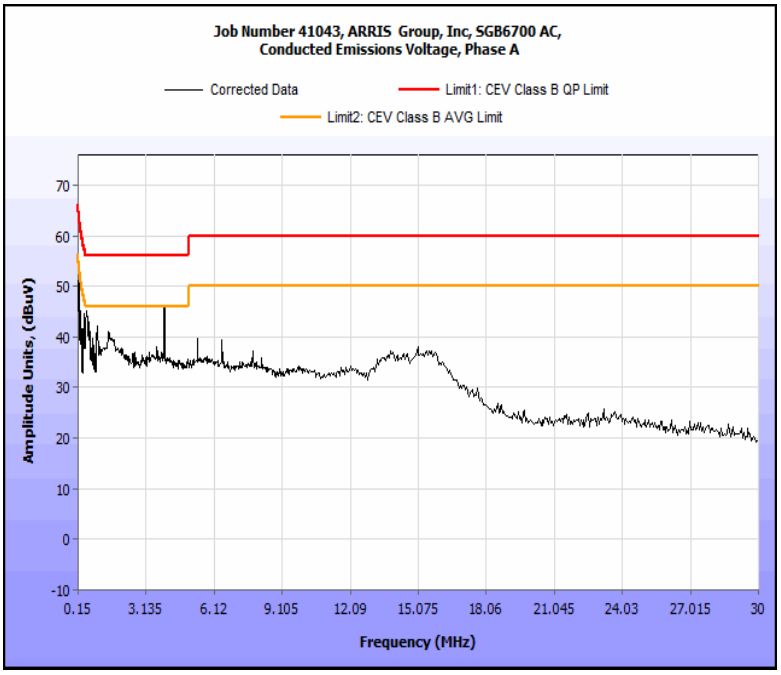
Table 9. Conducted Emissions, 15.207(a), Neutral Line, Test Results



Plot 4. Conducted Emissions, 15.207(a), Neutral Line, Low Channel



Plot 5. Conducted Emissions, 15.207(a), Neutral Line, Mid Channel



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

15.207(a) Conducted Emissions Test Setup

Photograph 1. Conducted Emissions, 15.207(a), Test Setup

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 403(c) 26dB Bandwidth

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

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

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

Test Engineer(s): Surinder Singh

Test Date(s): 03/04/15

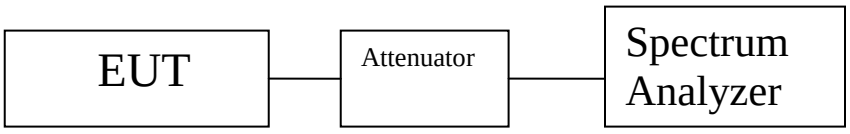


Figure 1. Occupied Bandwidth, Test Setup

26 dB Occupied Bandwidth Test Results

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	19.966
Channel 60	5300	20.052
Channel 64	5320	19.864
Channel 100	5500	20.381
Channel 116	5580	20.354
Channel 140	5700	21.132

Table 10. 26 dB Occupied Bandwidth, Test Results, 802.11a 20 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	19.728
Channel 60	5300	20.196
Channel 64	5320	20.115
Channel 100	5500	20.171
Channel 116	5580	19.957
Channel 140	5700	20.149

Table 11. 26 dB Occupied Bandwidth, Test Results, 802.11a 20 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.058
Channel 60	5300	20.087
Channel 64	5320	20.159
Channel 100	5500	20.006
Channel 116	5580	19.854
Channel 140	5700	19.853

Table 12. 26 dB Occupied Bandwidth, Test Results, 802.11a 20 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.307
Channel 60	5300	20.490
Channel 64	5320	20.184
Channel 100	5500	20.482
Channel 116	5580	20.420
Channel 140	5700	22.457

Table 13. 26 dB Occupied Bandwidth, Test Results, 802.11ac 20 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.313
Channel 60	5300	19.974
Channel 64	5320	20.427
Channel 100	5500	20.397
Channel 116	5580	20.591
Channel 140	5700	20.328

Table 14. 26 dB Occupied Bandwidth, Test Results, 802.11ac 20 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.336
Channel 60	5300	20.133
Channel 64	5320	20.253
Channel 100	5500	20.329
Channel 116	5580	20.290
Channel 140	5700	20.137

Table 15. 26 dB Occupied Bandwidth, Test Results, 802.11ac 20 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.266
Channel 60	5300	20.259
Channel 64	5320	20.891
Channel 100	5500	20.484
Channel 116	5580	20.333
Channel 140	5700	21.046

Table 16. 26 dB Occupied Bandwidth, Test Results, 802.11n 20 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.246
Channel 60	5300	20.268
Channel 64	5320	20.345
Channel 100	5500	20.446
Channel 116	5580	20.325
Channel 140	5700	20.323

Table 17. 26 dB Occupied Bandwidth, Test Results, 802.11n 20 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.135
Channel 60	5300	20.367
Channel 64	5320	20.012
Channel 100	5500	20.260
Channel 116	5580	20.463
Channel 140	5700	20.361

Table 18. 26 dB Occupied Bandwidth, Test Results, 802.11n 20 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.366
Channel 60	5310	39.362
Channel 100	5510	41.504
Channel 108	5550	38.917
Channel 132	5670	39.659

Table 19. 26 dB Occupied Bandwidth, Test Results, 802.11a 40 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.929
Channel 60	5310	41.204
Channel 100	5510	39.513
Channel 108	5550	39.393
Channel 132	5670	39.574

Table 20. 26 dB Occupied Bandwidth, Test Results, 802.11a 40 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.638
Channel 60	5310	39.894
Channel 100	5510	39.273
Channel 108	5550	39.344
Channel 132	5670	39.396

Table 21. 26 dB Occupied Bandwidth, Test Results, 802.11a 40 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.921
Channel 60	5310	39.797
Channel 100	5510	39.746
Channel 108	5550	39.862
Channel 132	5670	39.864

Table 22. 26 dB Occupied Bandwidth, Test Results, 802.11ac 40 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.655
Channel 60	5310	39.646
Channel 100	5510	39.543
Channel 108	5550	39.293
Channel 132	5670	39.870

Table 23. 26 dB Occupied Bandwidth, Test Results, 802.11ac 40 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	40.274
Channel 60	5310	41.519
Channel 100	5510	39.427
Channel 108	5550	39.459
Channel 132	5670	39.824

Table 24. 26 dB Occupied Bandwidth, Test Results, 802.11ac 40 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	40.192
Channel 60	5310	40.175
Channel 100	5510	44.169
Channel 108	5550	40.343
Channel 132	5670	39.765

Table 25. 26 dB Occupied Bandwidth, Test Results, 802.11n 40 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.525
Channel 60	5310	39.520
Channel 100	5510	39.814
Channel 108	5550	39.707
Channel 132	5670	40.030

Table 26. 26 dB Occupied Bandwidth, Test Results, 802.11n 40 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	40.624
Channel 60	5310	40.048
Channel 100	5510	39.908
Channel 108	5550	39.826
Channel 132	5670	39.684

Table 27. 26 dB Occupied Bandwidth, Test Results, 802.11n 40 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	82.037
Channel 100	5530	81.759
Channel 132	5690	82.071

Table 28. 26 dB Occupied Bandwidth, Test Results, 802.11a 80 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	91.674
Channel 100	5530	81.518
Channel 132	5690	81.744

Table 29. 26 dB Occupied Bandwidth, Test Results, 802.11a 80 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	81.729
Channel 100	5530	81.962
Channel 132	5690	81.156

Table 30. 26 dB Occupied Bandwidth, Test Results, 802.11a 80 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	82.032
Channel 100	5530	82.293
Channel 132	5690	82.025

Table 31. 26 dB Occupied Bandwidth, Test Results, 802.11ac 80 MHz, Ant. 0

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	83.164
Channel 100	5530	82.491
Channel 132	5690	82.467

Table 32. 26 dB Occupied Bandwidth, Test Results, 802.11ac 80 MHz, Ant. 1

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	82.195
Channel 100	5530	80.907
Channel 132	5690	81.883

Table 33. 26 dB Occupied Bandwidth, Test Results, 802.11ac 80 MHz, Ant. 2

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.307
Channel 60	5300	20.133
Channel 64	5320	20.427
Channel 100	5500	20.329
Channel 116	5580	20.420
Channel 140	5700	20.328

Table 34. 26 dB Occupied Bandwidth, Test Results, 802.11ac 20 MHz, Transmit Beam-Forming

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5260	20.135
Channel 60	5300	20.259
Channel 64	5320	20.012
Channel 100	5500	20.446
Channel 116	5580	20.325
Channel 140	5700	21.046

Table 35. 26 dB Occupied Bandwidth, Test Results, 802.11n 20 MHz, Transmit Beam-Forming

Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	39.655
Channel 60	5310	39.797
Channel 100	5510	39.746
Channel 132	5670	39.864

Table 36. 26 dB Occupied Bandwidth, Test Results, 802.11ac 40 MHz, Transmit Beam-Forming

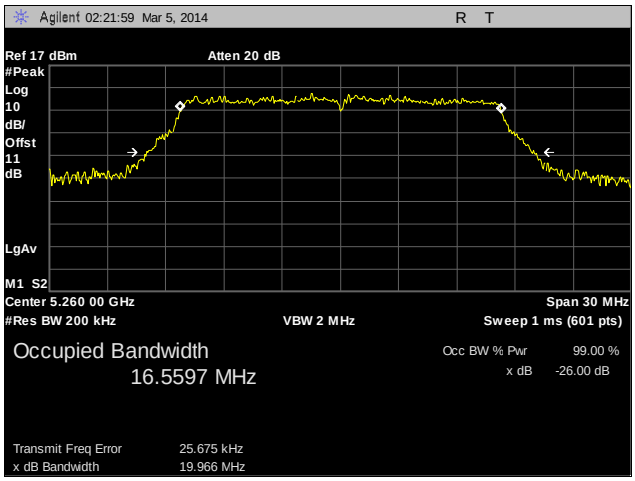
Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5270	40.192
Channel 60	5310	39.520
Channel 100	5510	44.169
Channel 132	5670	39.684

Table 37. 26 dB Occupied Bandwidth, Test Results, 802.11n 40 MHz, Transmit Beam-Forming

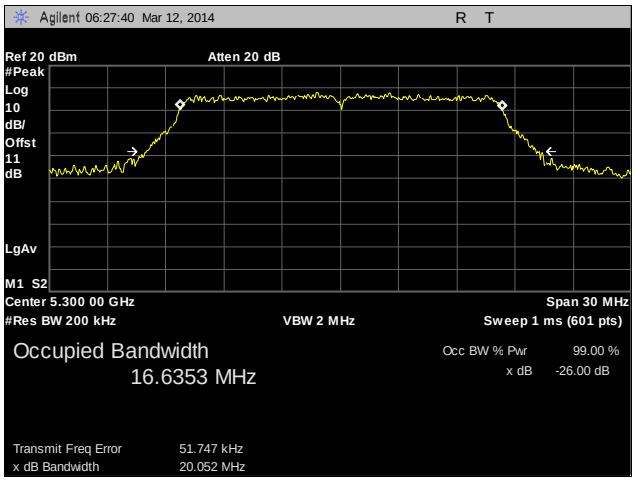
Occupied Bandwidth		
Carrier Channel	**Frequency (MHz)**	**Measured 26 dB Bandwidth (MHz)**
Channel 52	5290	82.195
Channel 100	5530	80.907
Channel 132	5690	82.467

Table 38. 26 dB Occupied Bandwidth, Test Results, 802.11ac 80 MHz, Transmit Beam-Forming

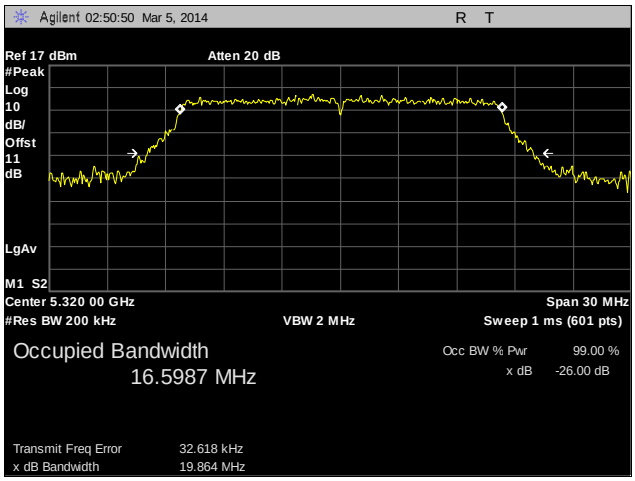
26 dB Occupied Bandwidth Test Results, 802.11a 20 MHz, Ant. 0



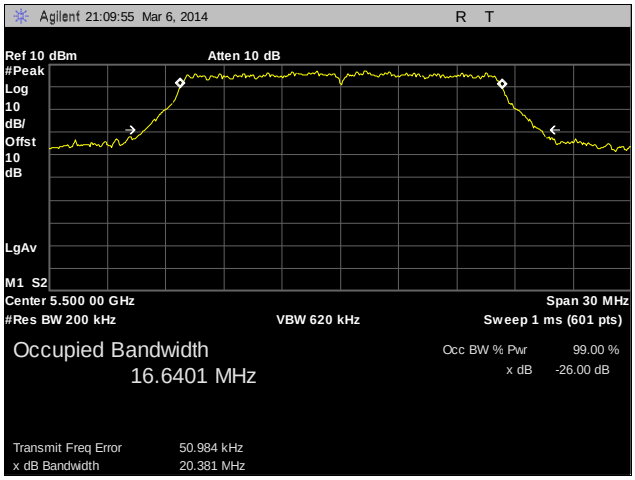
Plot 7. 26 dB Occupied Bandwidth, Channel 52, 802.11a 20 MHz, Ant. 0



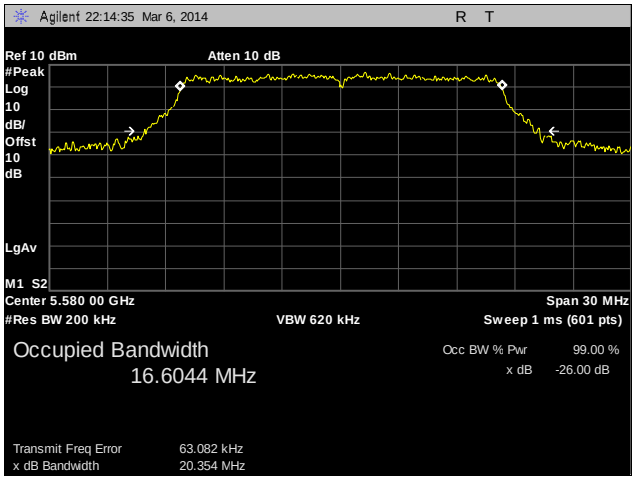
Plot 8. 26 dB Occupied Bandwidth, Channel 60, 802.11a 20 MHz, Ant. 0



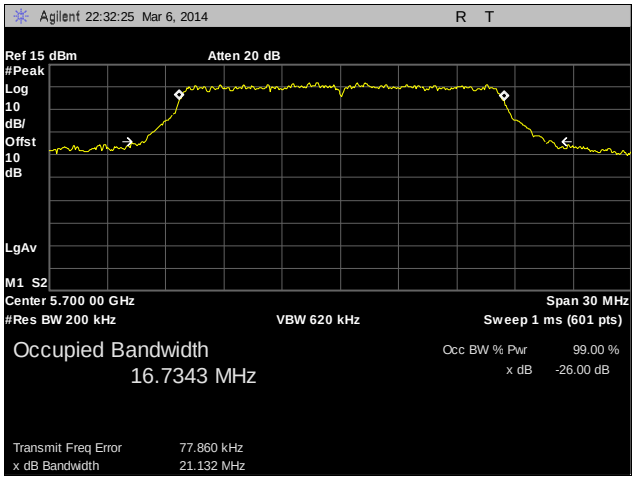
Plot 9. 26 dB Occupied Bandwidth, Channel 64, 802.11a 20 MHz, Ant. 0



Plot 10. 26 dB Occupied Bandwidth, Channel 100, 802.11a 20 MHz, Ant. 0

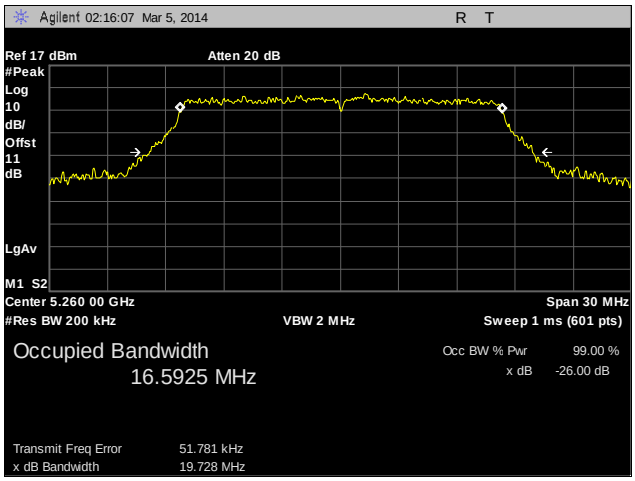


Plot 11. 26 dB Occupied Bandwidth, Channel 116, 802.11a 20 MHz, Ant. 0

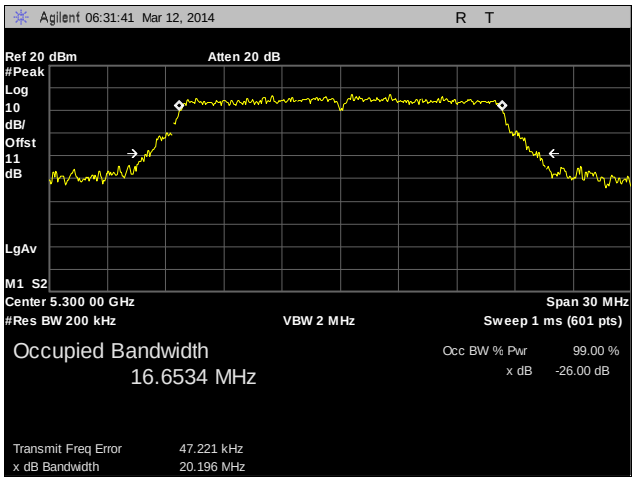


Plot 12. 26 dB Occupied Bandwidth, Channel 140, 802.11a 20 MHz, Ant. 0

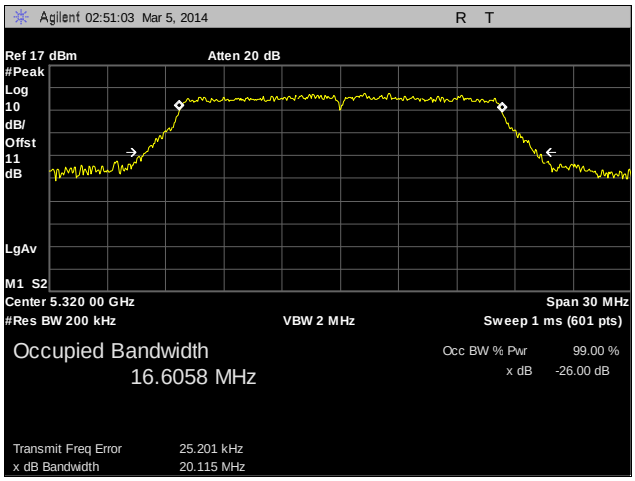
26 dB Occupied Bandwidth Test Results, 802.11a 20 MHz, Ant. 1



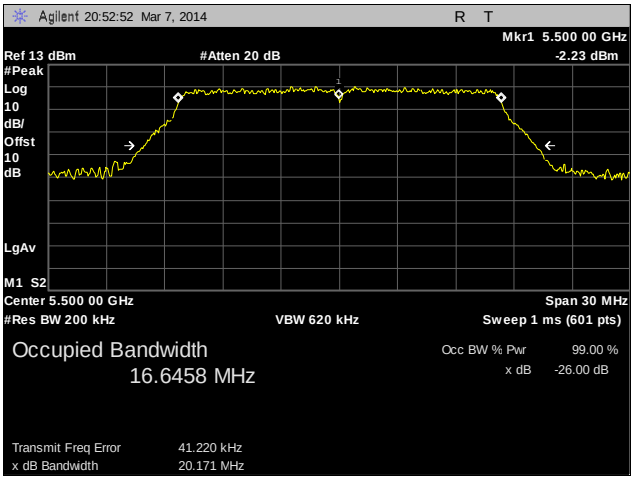
Plot 13. 26 dB Occupied Bandwidth, Channel 52, 802.11a 20 MHz, Ant. 1



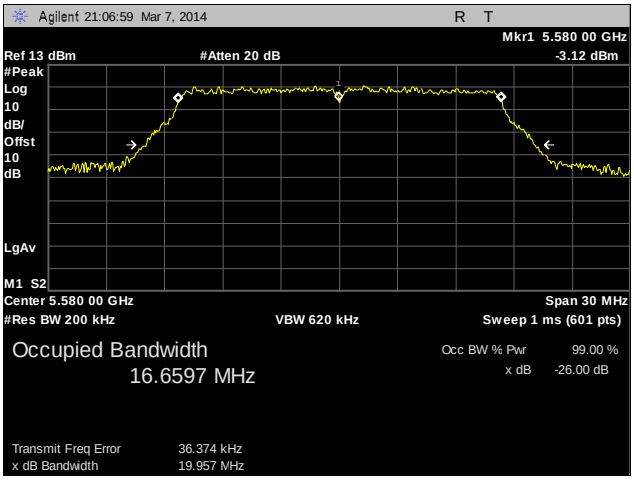
Plot 14. 26 dB Occupied Bandwidth, Channel 60, 802.11a 20 MHz, Ant. 1



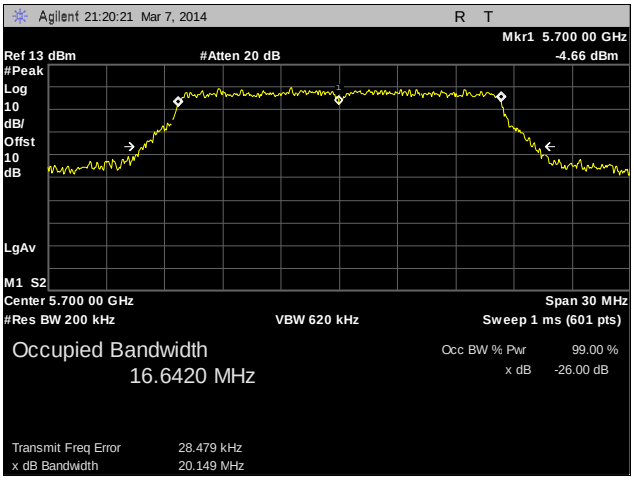
Plot 15. 26 dB Occupied Bandwidth, Channel 64, 802.11a 20 MHz, Ant. 1



Plot 16. 26 dB Occupied Bandwidth, Channel 100, 802.11a 20 MHz, Ant. 1

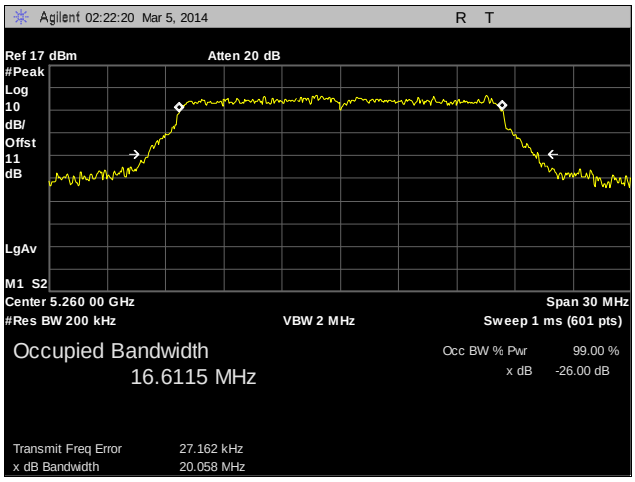


Plot 17. 26 dB Occupied Bandwidth, Channel 116, 802.11a 20 MHz, Ant. 1

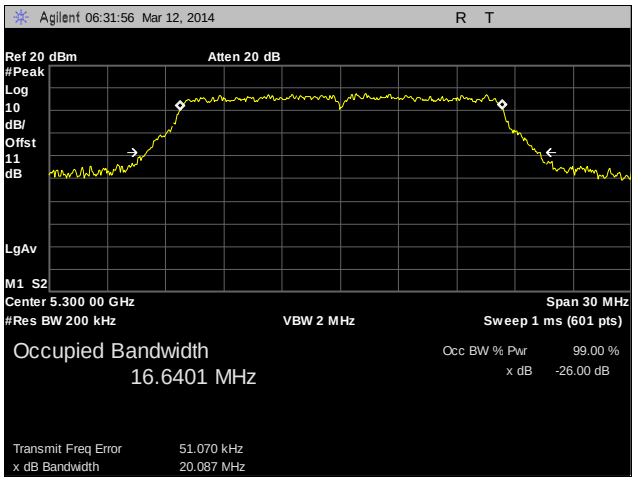


Plot 18. 26 dB Occupied Bandwidth, Channel 140, 802.11a 20 MHz, Ant. 1

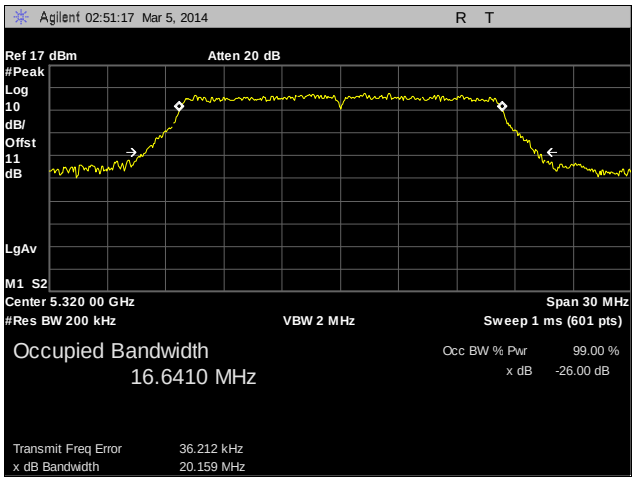
26 dB Occupied Bandwidth Test Results, 802.11a 20 MHz, Ant. 2



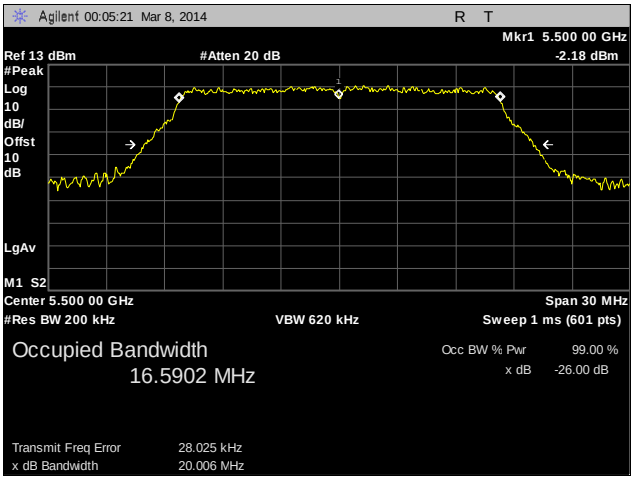
Plot 19. 26 dB Occupied Bandwidth, Channel 52, 802.11a 20 MHz, Ant. 2



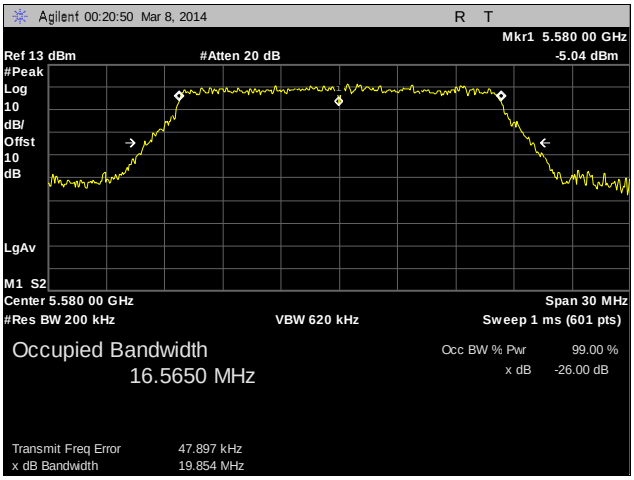
Plot 20. 26 dB Occupied Bandwidth, Channel 60, 802.11a 20 MHz, Ant. 2



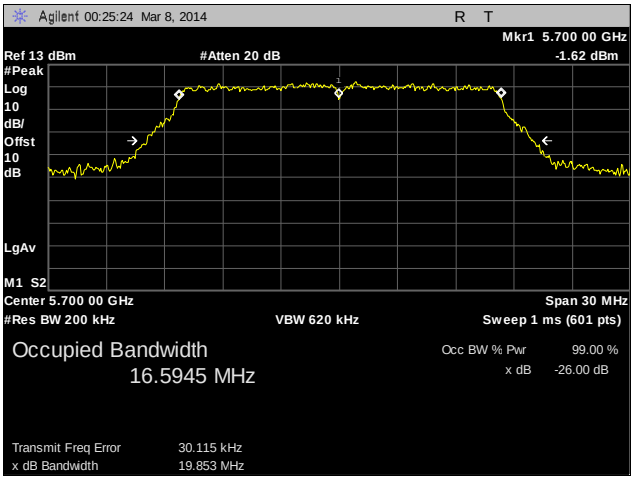
Plot 21. 26 dB Occupied Bandwidth, Channel 64, 802.11a 20 MHz, Ant. 2



Plot 22. 26 dB Occupied Bandwidth, Channel 100, 802.11a 20 MHz, Ant. 2

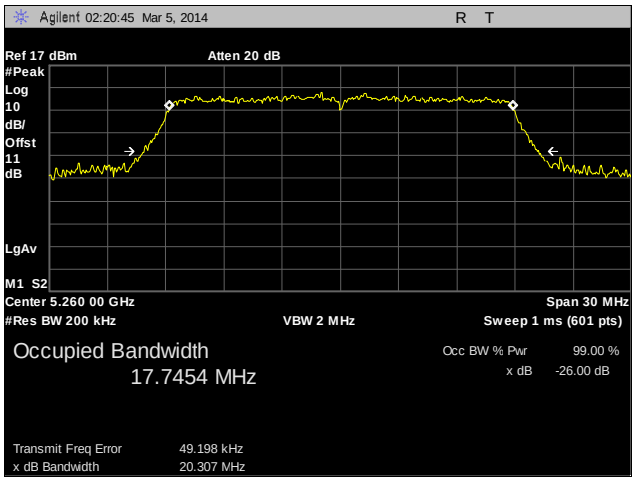


Plot 23. 26 dB Occupied Bandwidth, Channel 116, 802.11a 20 MHz, Ant. 2

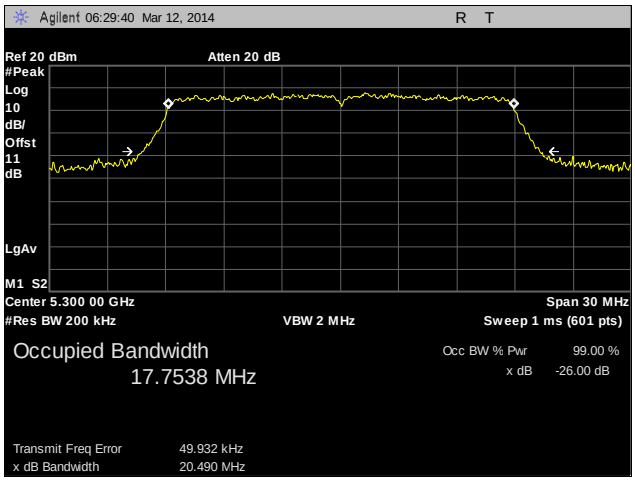


Plot 24. 26 dB Occupied Bandwidth, Channel 140, 802.11a 20 MHz, Ant. 2

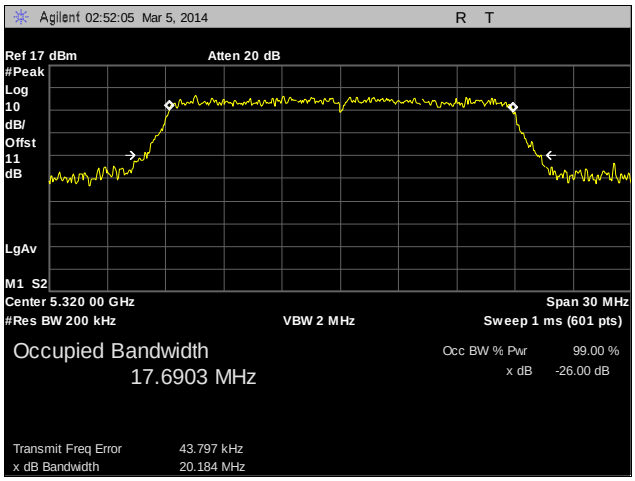
26 dB Occupied Bandwidth Test Results, 802.11ac 20 MHz, Ant. 0



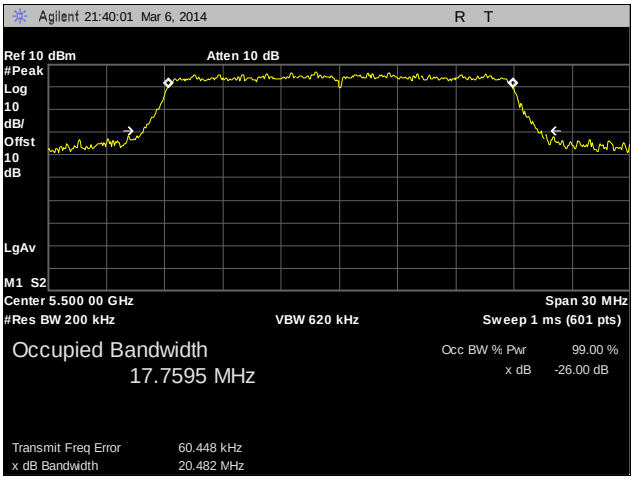
Plot 25. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 20 MHz, Ant. 0



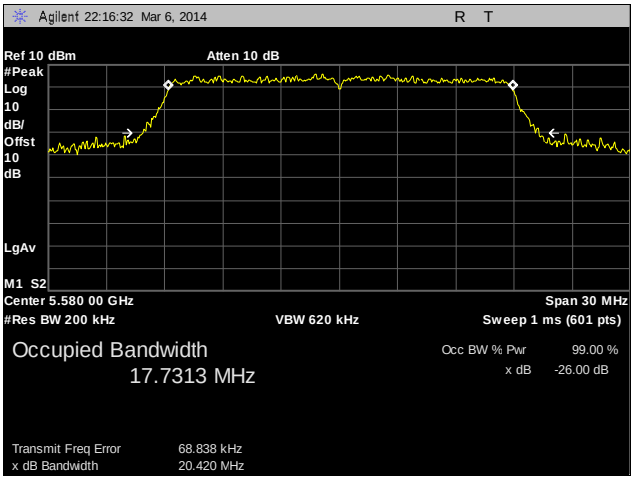
Plot 26. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 20 MHz, Ant. 0



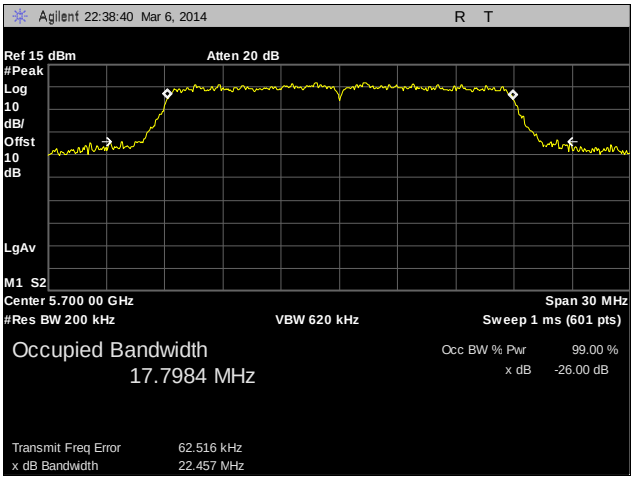
Plot 27. 26 dB Occupied Bandwidth, Channel 64, 802.11ac 20 MHz, Ant. 0



Plot 28. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 20 MHz, Ant. 0

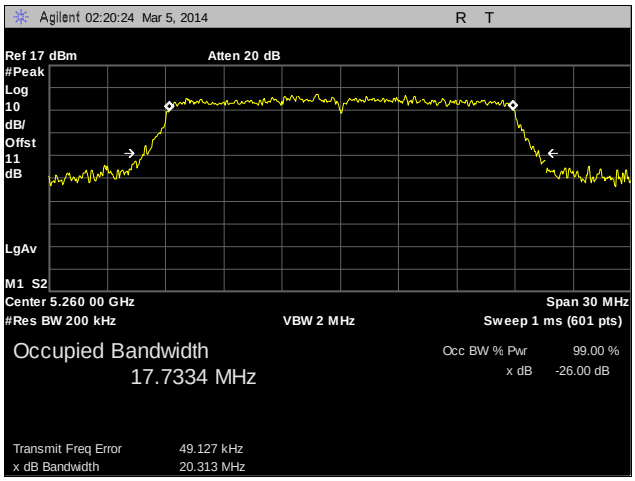


Plot 29. 26 dB Occupied Bandwidth, Channel 116, 802.11ac 20 MHz, Ant. 0

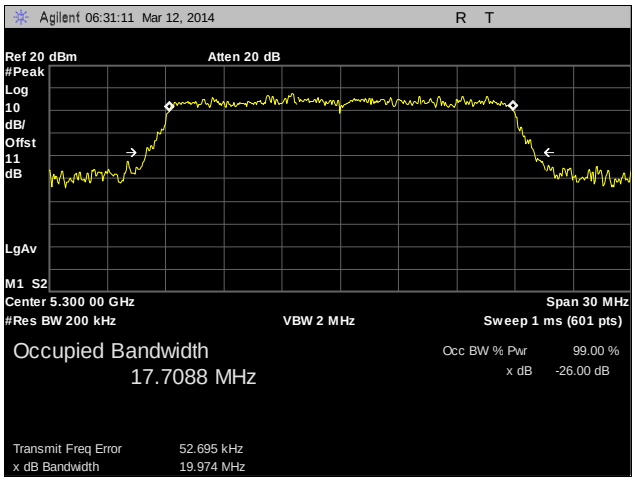


Plot 30. 26 dB Occupied Bandwidth, Channel 140, 802.11ac 20 MHz, Ant. 0

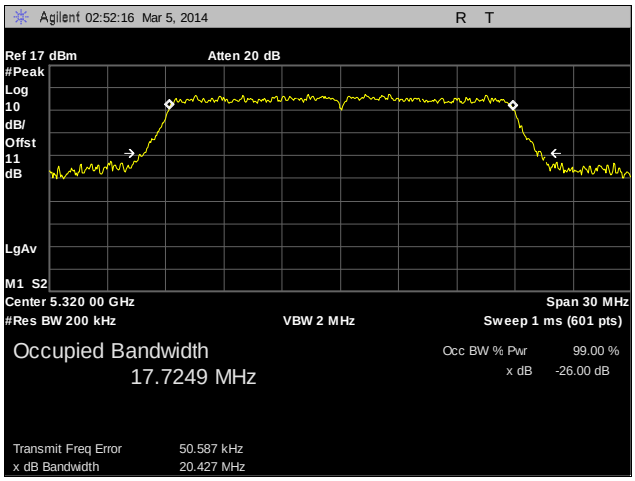
26 dB Occupied Bandwidth Test Results, 802.11ac 20 MHz, Ant. 1



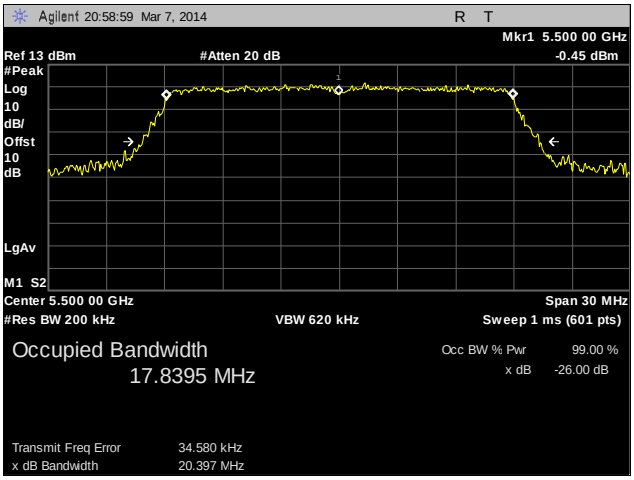
Plot 31. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 20 MHz, Ant. 1



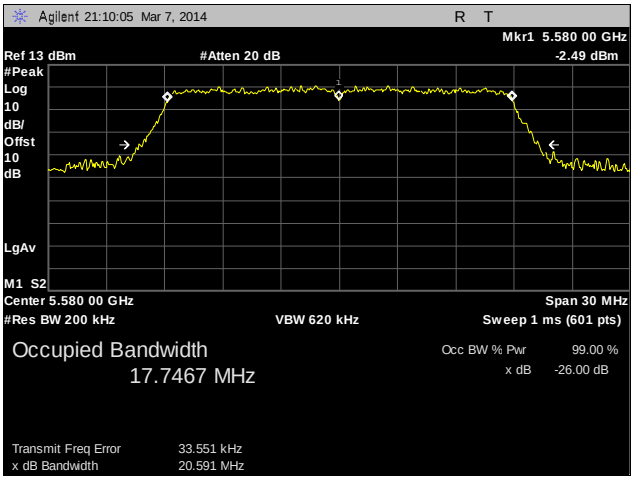
Plot 32. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 20 MHz, Ant. 1



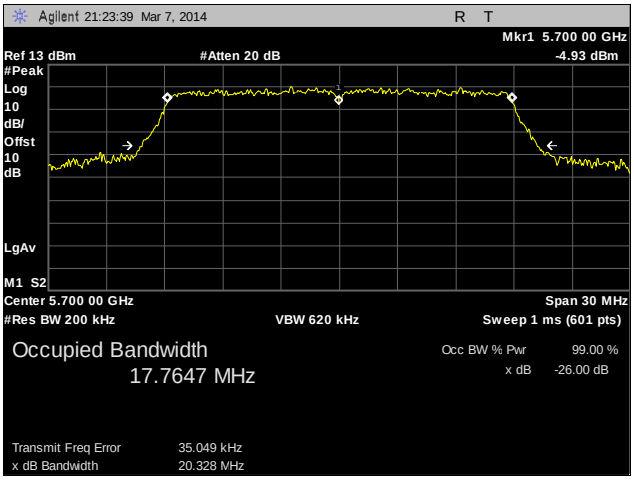
Plot 33. 26 dB Occupied Bandwidth, Channel 64, 802.11ac 20 MHz, Ant. 1



Plot 34. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 20 MHz, Ant. 1

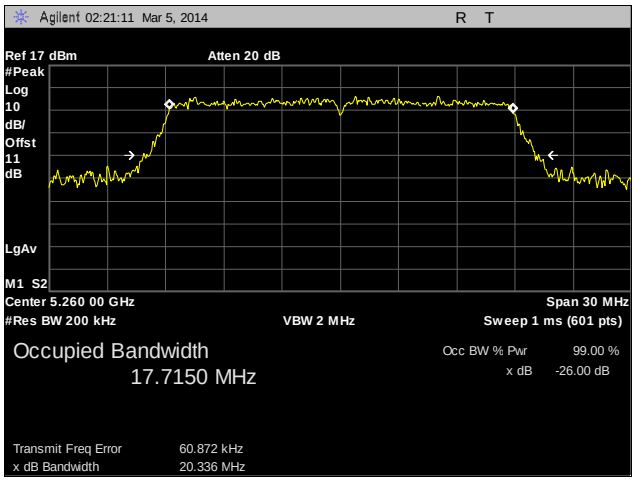


Plot 35. 26 dB Occupied Bandwidth, Channel 116, 802.11ac 20 MHz, Ant. 1

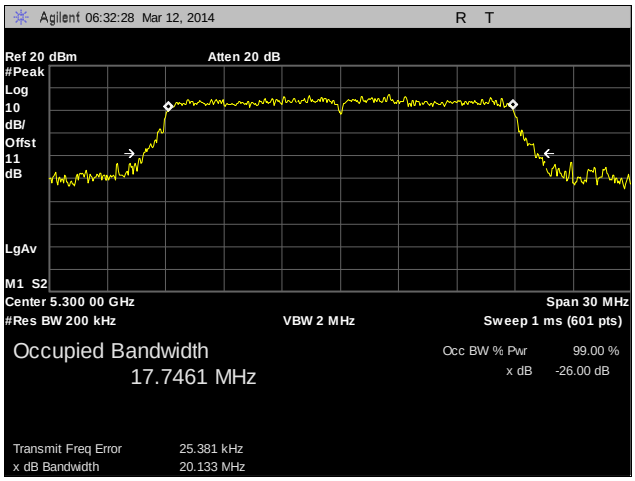


Plot 36. 26 dB Occupied Bandwidth, Channel 140, 802.11ac 20 MHz, Ant. 1

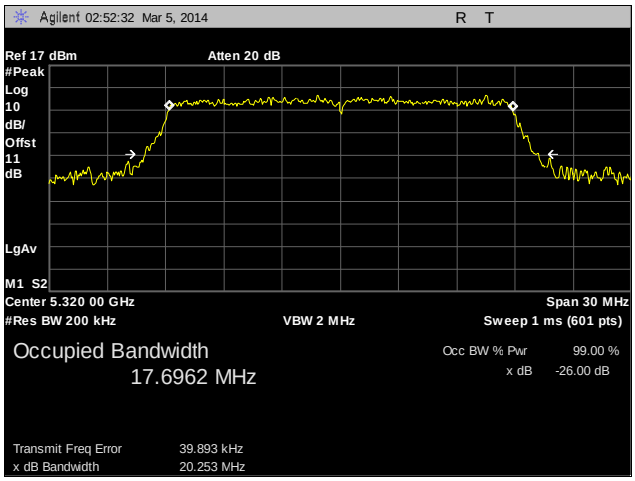
26 dB Occupied Bandwidth Test Results, 802.11ac 20 MHz, Ant. 2



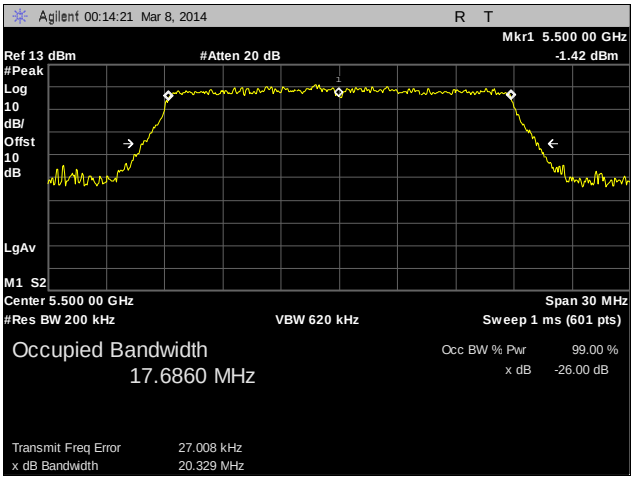
Plot 37. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 20 MHz, Ant. 2



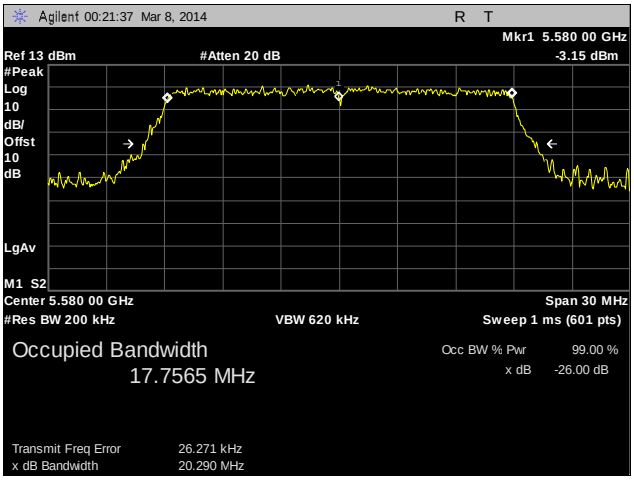
Plot 38. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 20 MHz, Ant. 2



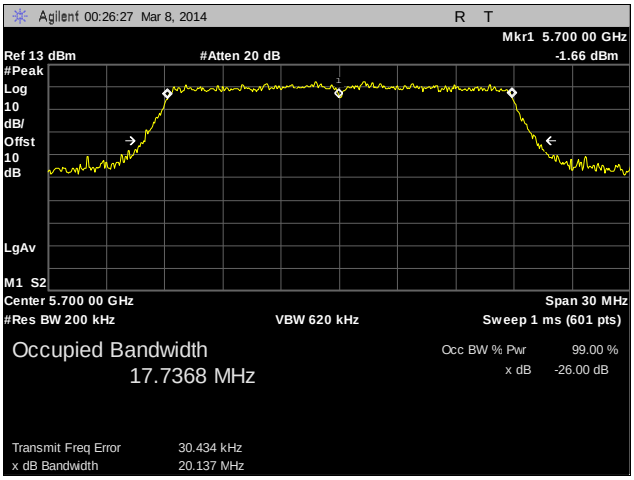
Plot 39. 26 dB Occupied Bandwidth, Channel 64, 802.11ac 20 MHz, Ant. 2



Plot 40. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 20 MHz, Ant. 2

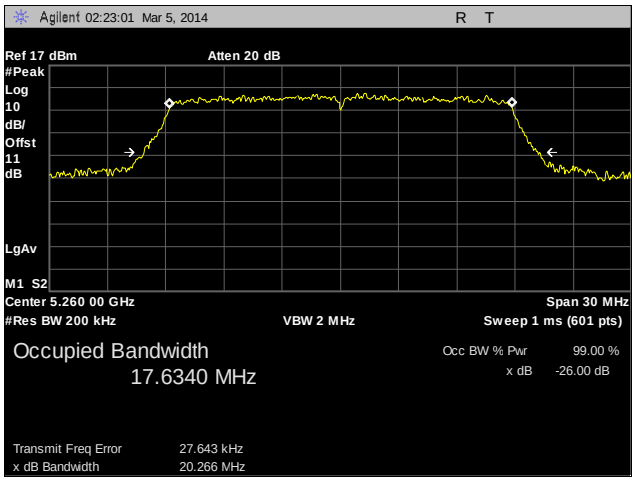


Plot 41. 26 dB Occupied Bandwidth, Channel 116, 802.11ac 20 MHz, Ant. 2

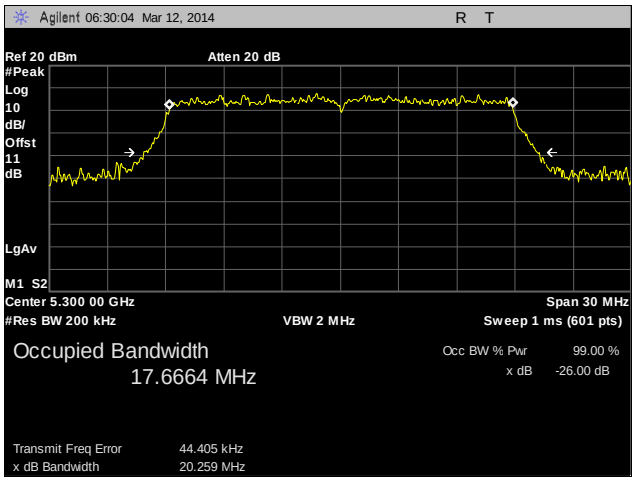


Plot 42. 26 dB Occupied Bandwidth, Channel 140, 802.11ac 20 MHz, Ant. 2

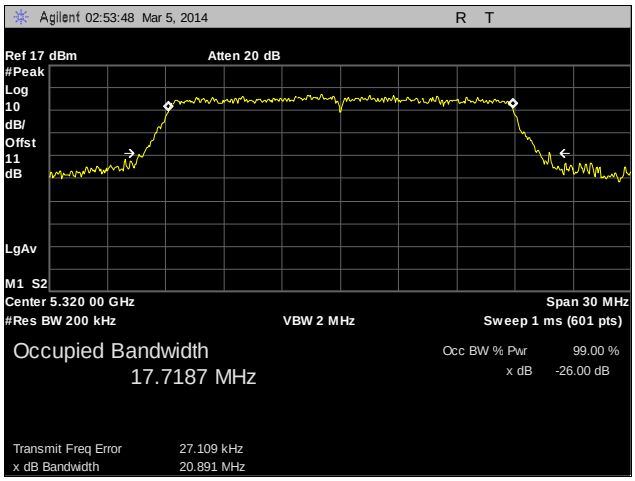
26 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Ant. 0



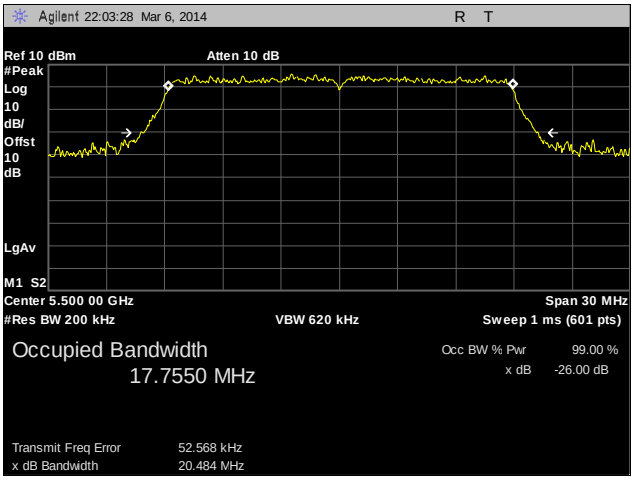
Plot 43. 26 dB Occupied Bandwidth, Channel 52, 802.11n 20 MHz, Ant. 0



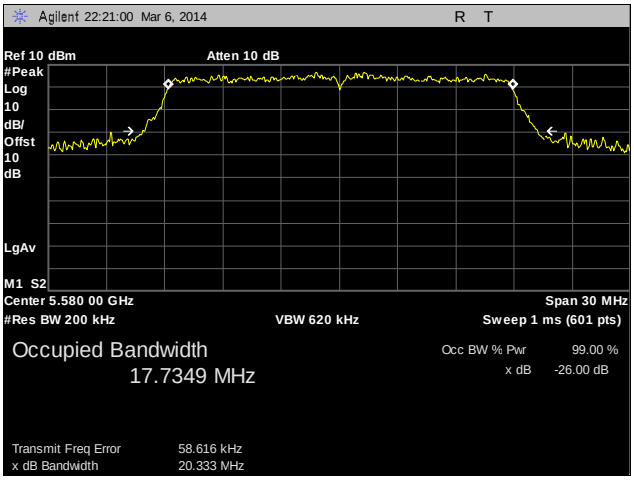
Plot 44. 26 dB Occupied Bandwidth, Channel 60, 802.11n 20 MHz, Ant. 0



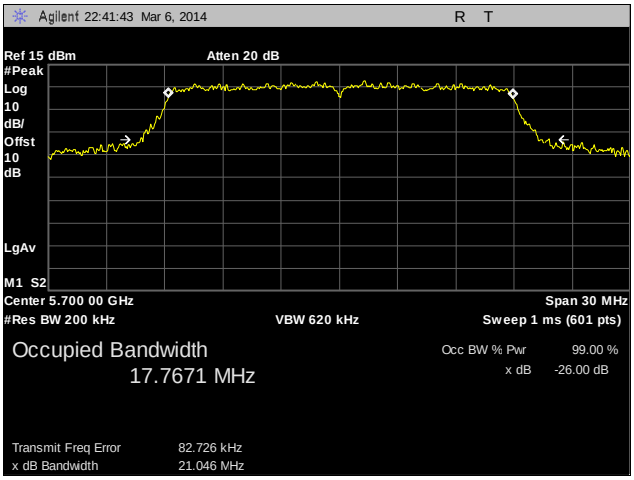
Plot 45. 26 dB Occupied Bandwidth, Channel 64, 802.11n 20 MHz, Ant. 0



Plot 46. 26 dB Occupied Bandwidth, Channel 100, 802.11n 20 MHz, Ant. 0

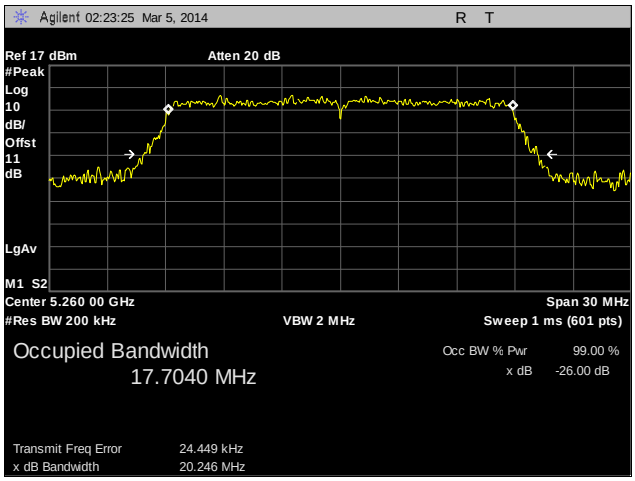


Plot 47. 26 dB Occupied Bandwidth, Channel 116, 802.11n 20 MHz, Ant. 0

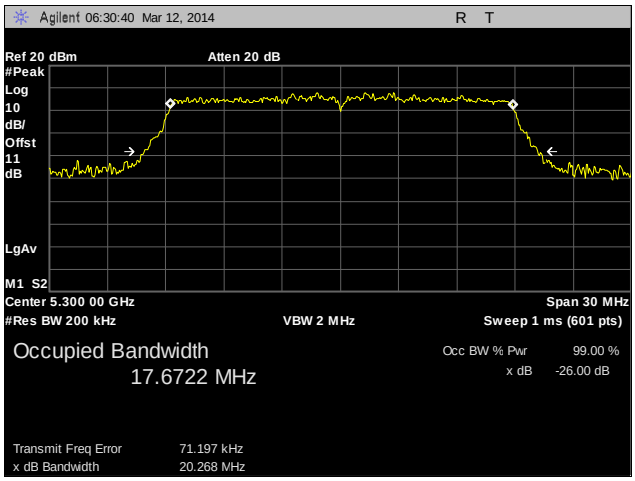


Plot 48. 26 dB Occupied Bandwidth, Channel 140, 802.11n 20 MHz, Ant. 0

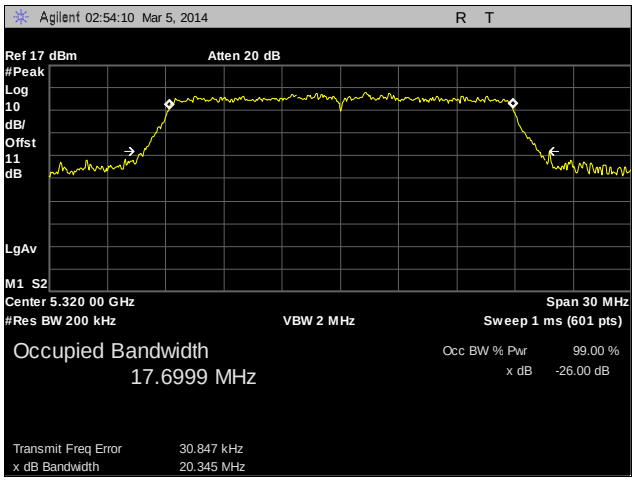
26 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Ant. 1



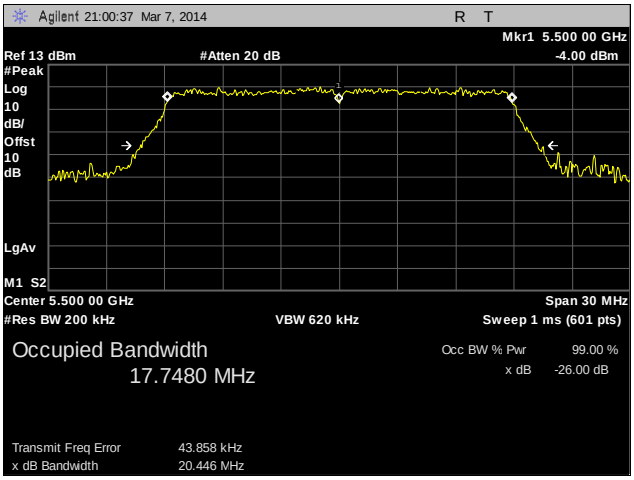
Plot 49. 26 dB Occupied Bandwidth, Channel 52, 802.11n 20 MHz, Ant. 1



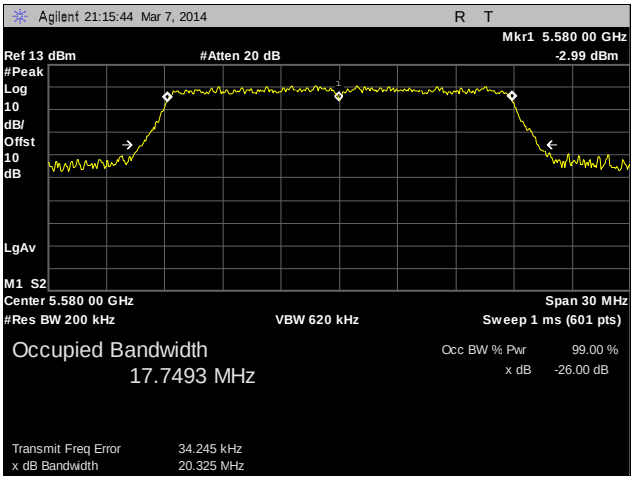
Plot 50. 26 dB Occupied Bandwidth, Channel 60, 802.11n 20 MHz, Ant. 1



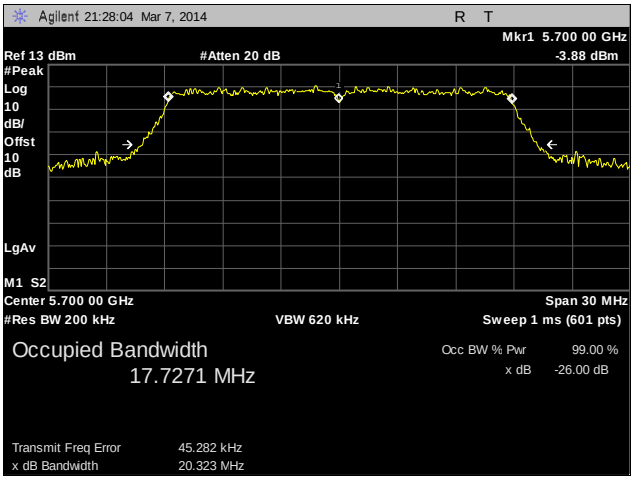
Plot 51. 26 dB Occupied Bandwidth, Channel 64, 802.11n 20 MHz, Ant. 1



Plot 52. 26 dB Occupied Bandwidth, Channel 100, 802.11n 20 MHz, Ant. 1

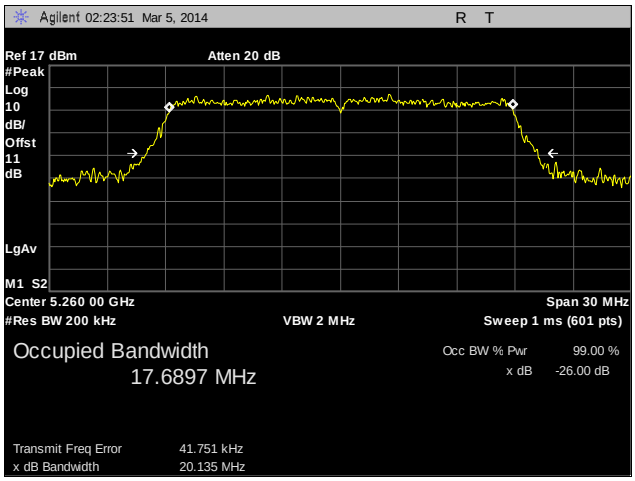


Plot 53. 26 dB Occupied Bandwidth, Channel 116, 802.11n 20 MHz, Ant. 1

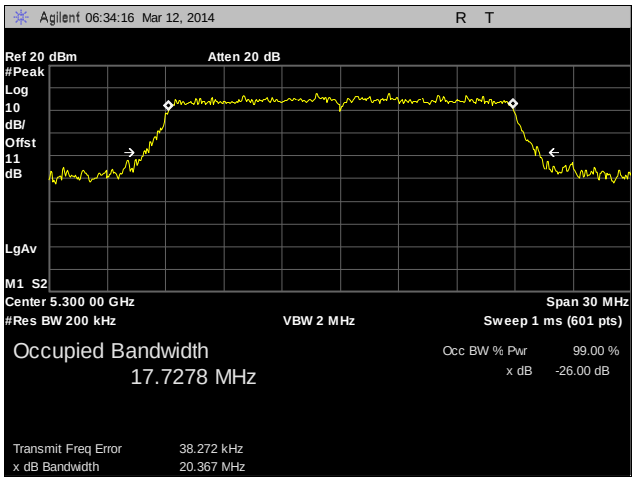


Plot 54. 26 dB Occupied Bandwidth, Channel 140, 802.11n 20 MHz, Ant. 1

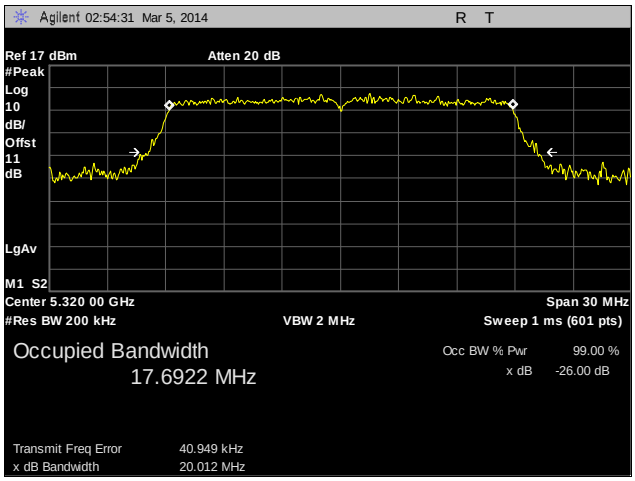
26 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Ant. 2



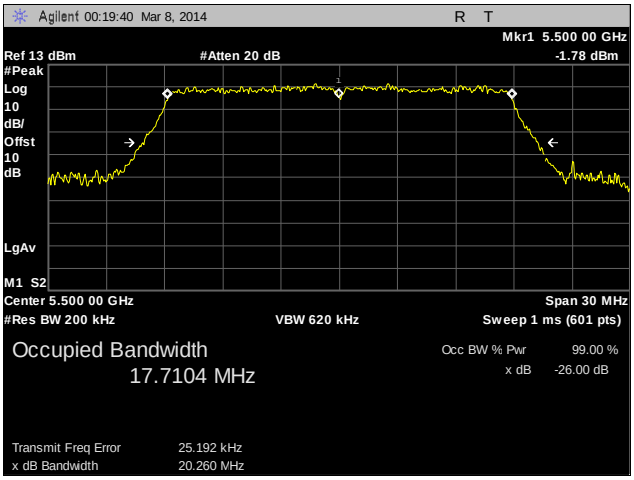
Plot 55. 26 dB Occupied Bandwidth, Channel 52, 802.11n 20 MHz, Ant. 2



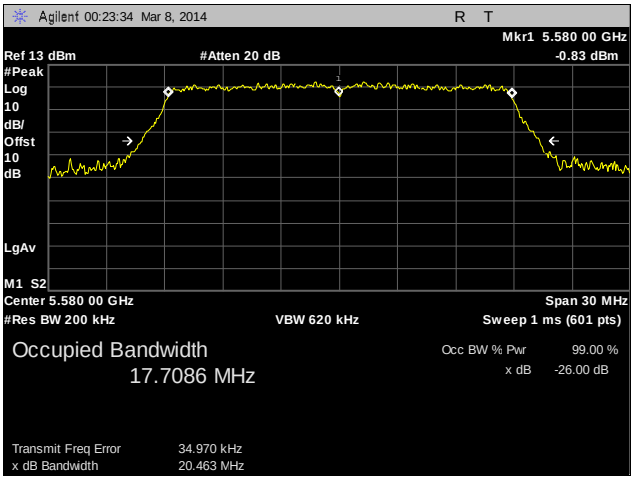
Plot 56. 26 dB Occupied Bandwidth, Channel 60, 802.11n 20 MHz, Ant. 2



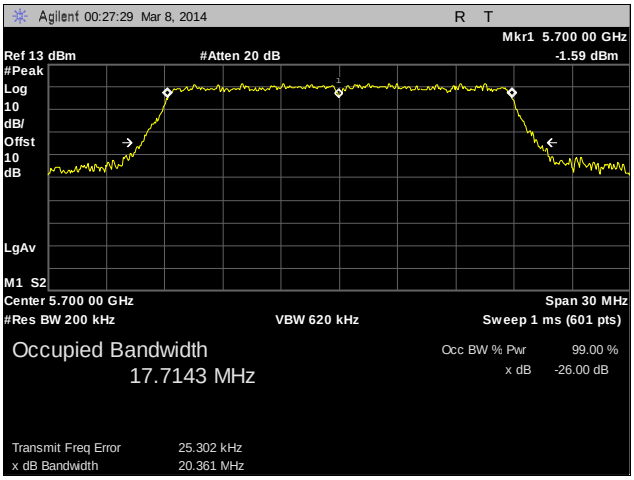
Plot 57. 26 dB Occupied Bandwidth, Channel 64, 802.11n 20 MHz, Ant. 2



Plot 58. 26 dB Occupied Bandwidth, Channel 100, 802.11n 20 MHz, Ant. 2

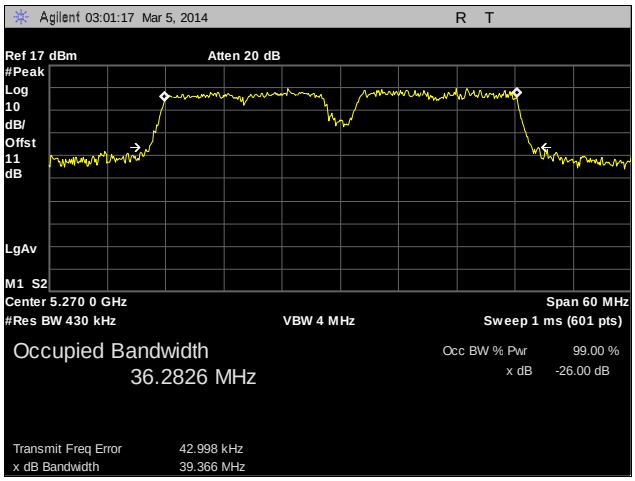


Plot 59. 26 dB Occupied Bandwidth, Channel 116, 802.11n 20 MHz, Ant. 2

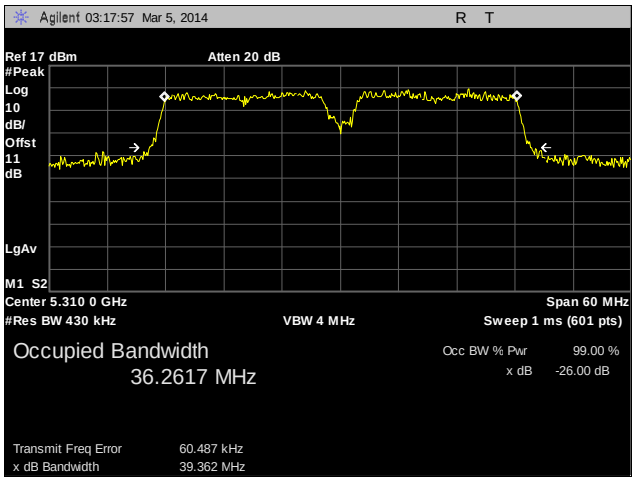


Plot 60. 26 dB Occupied Bandwidth, Channel 140, 802.11n 20 MHz, Ant. 2

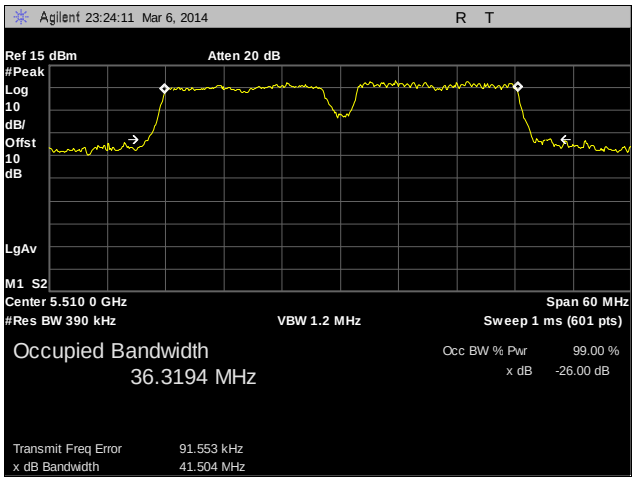
26 dB Occupied Bandwidth Test Results, 802.11a 40 MHz, Ant. 0



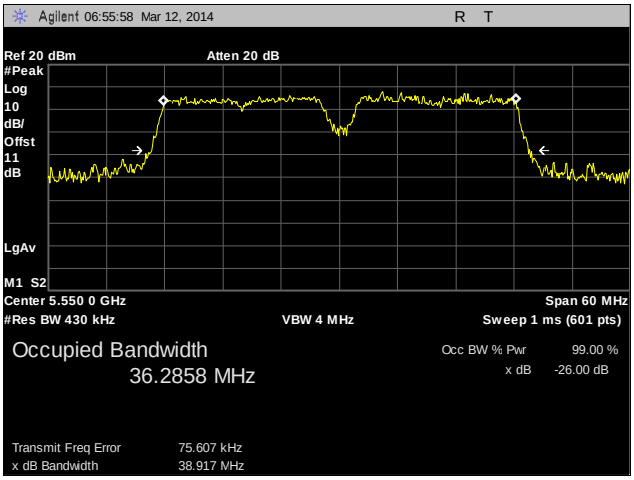
Plot 61. 26 dB Occupied Bandwidth, Channel 52, 802.11a 40 MHz, Ant. 0



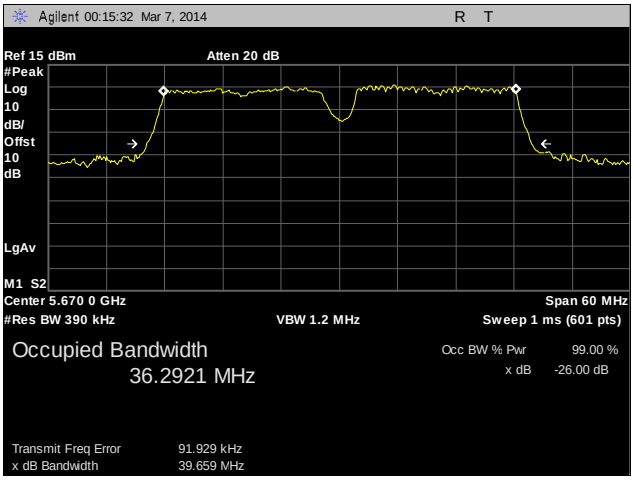
Plot 62. 26 dB Occupied Bandwidth, Channel 60, 802.11a 40 MHz, Ant. 0



Plot 63. 26 dB Occupied Bandwidth, Channel 100, 802.11a 40 MHz, Ant. 0

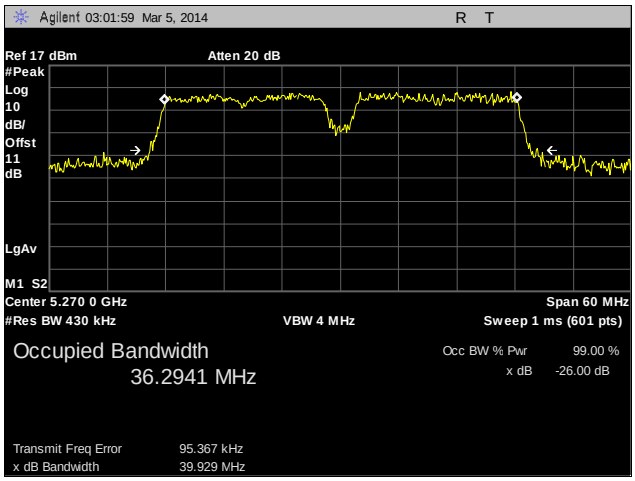


Plot 64. 26 dB Occupied Bandwidth, Channel 108, 802.11a 40 MHz, Ant. 0

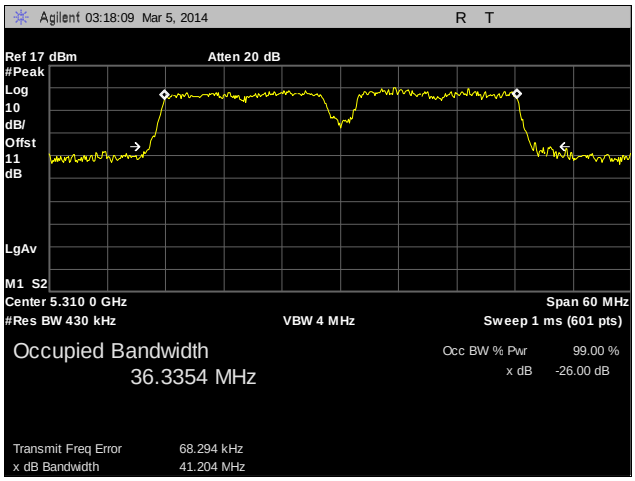


Plot 65. 26 dB Occupied Bandwidth, Channel 132, 802.11a 40 MHz, Ant. 0

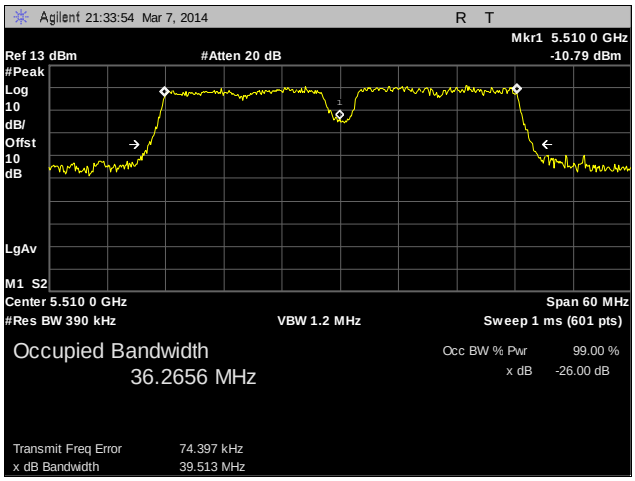
26 dB Occupied Bandwidth Test Results, 802.11a 40 MHz, Ant. 1



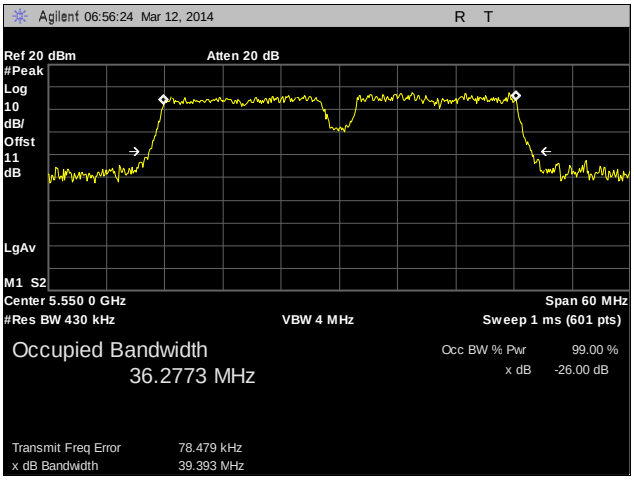
Plot 66. 26 dB Occupied Bandwidth, Channel 52, 802.11a 40 MHz, Ant. 1



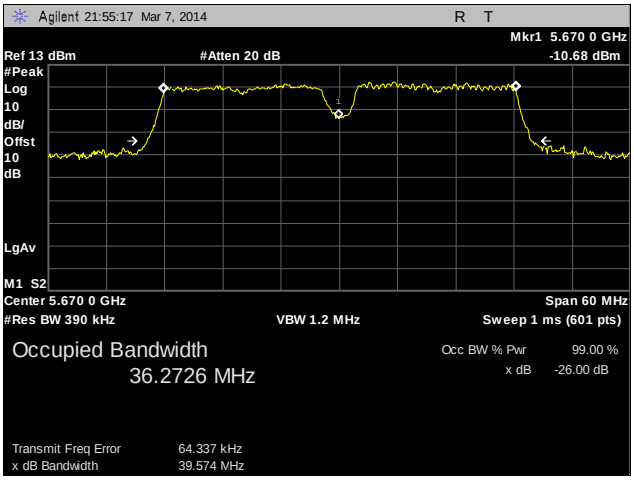
Plot 67. 26 dB Occupied Bandwidth, Channel 60, 802.11a 40 MHz, Ant. 1



Plot 68. 26 dB Occupied Bandwidth, Channel 100, 802.11a 40 MHz, Ant. 1

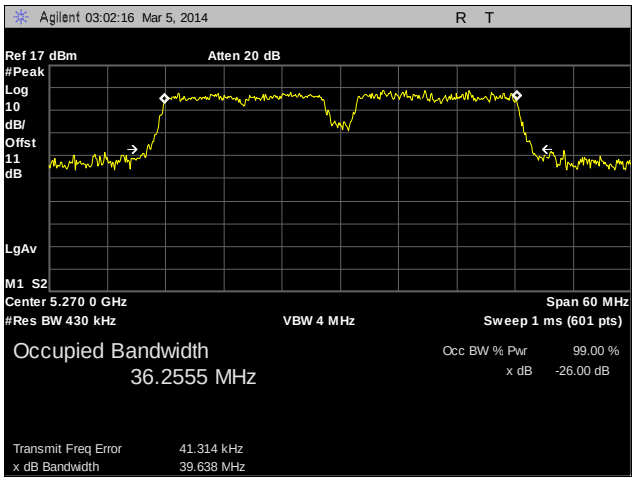


Plot 69. 26 dB Occupied Bandwidth, Channel 108, 802.11a 40 MHz, Ant. 1

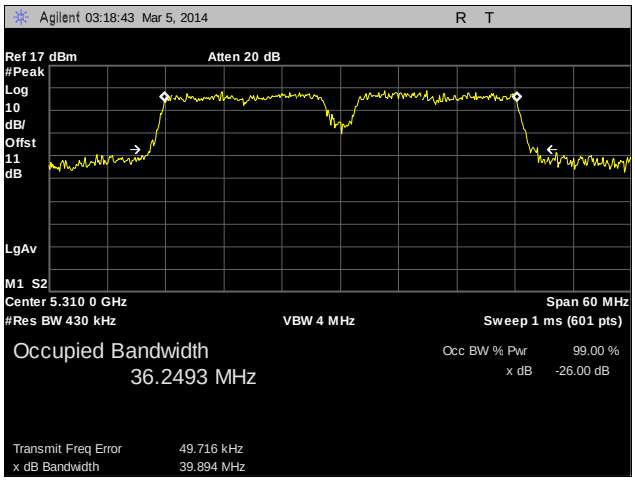


Plot 70. 26 dB Occupied Bandwidth, Channel 132, 802.11a 40 MHz, Ant. 1

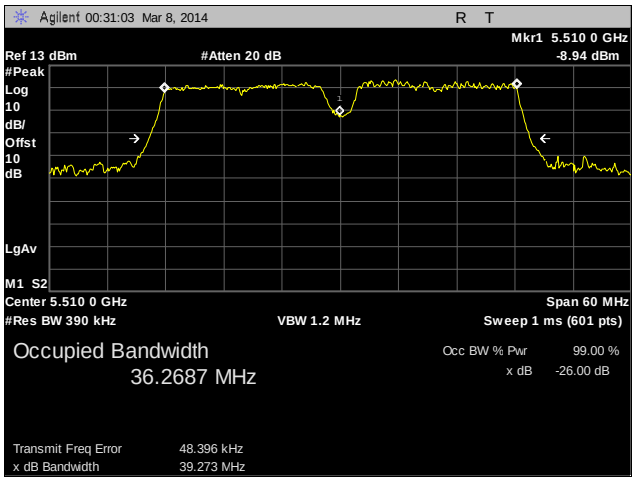
26 dB Occupied Bandwidth Test Results, 802.11a 40 MHz, Ant. 2



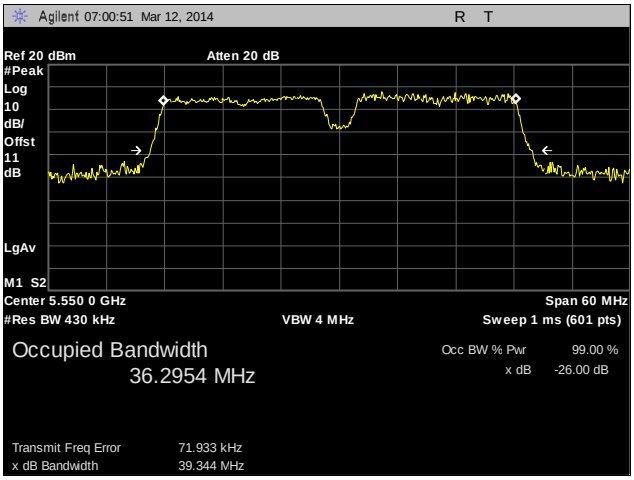
Plot 71. 26 dB Occupied Bandwidth, Channel 52, 802.11a 40 MHz, Ant. 2



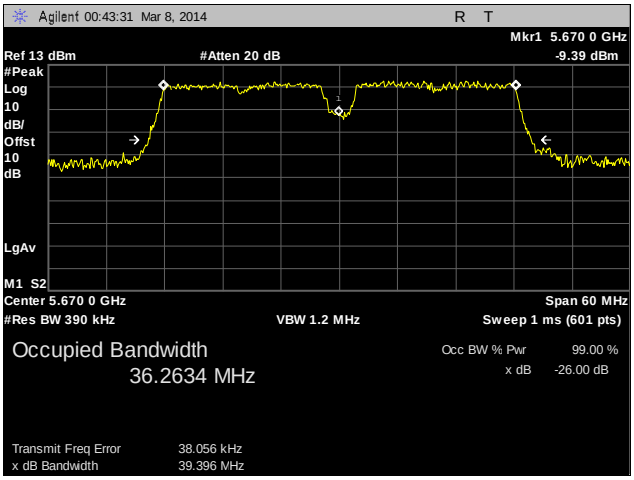
Plot 72. 26 dB Occupied Bandwidth, Channel 60, 802.11a 40 MHz, Ant. 2



Plot 73. 26 dB Occupied Bandwidth, Channel 100, 802.11a 40 MHz, Ant. 2

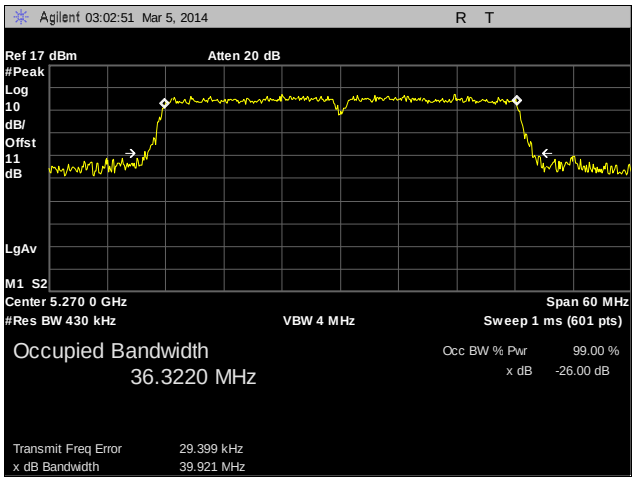


Plot 74. 26 dB Occupied Bandwidth, Channel 108, 802.11a 40 MHz, Ant. 2

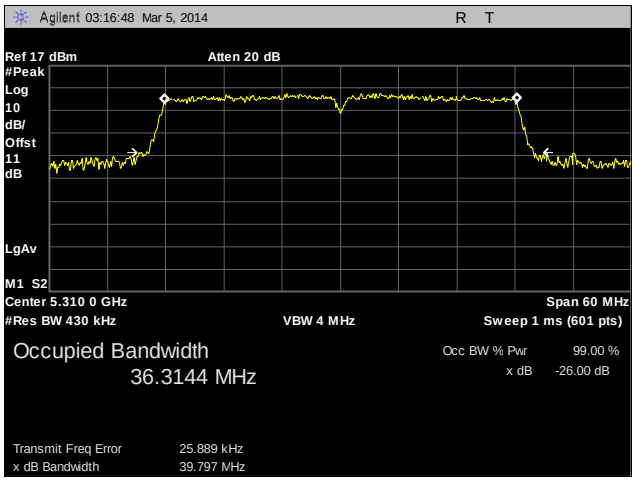


Plot 75. 26 dB Occupied Bandwidth, Channel 132, 802.11a 40 MHz, Ant. 2

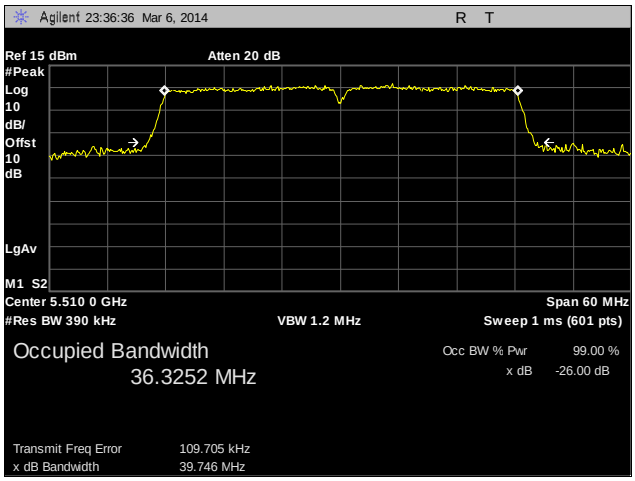
26 dB Occupied Bandwidth Test Results, 802.11ac 40 MHz, Ant. 0



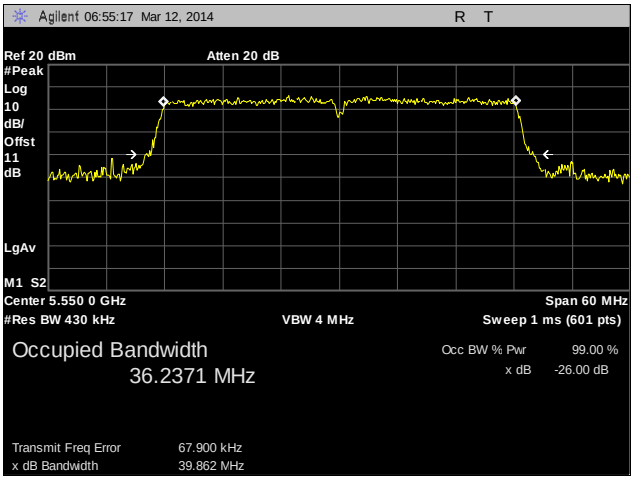
Plot 76. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 40 MHz, Ant. 0



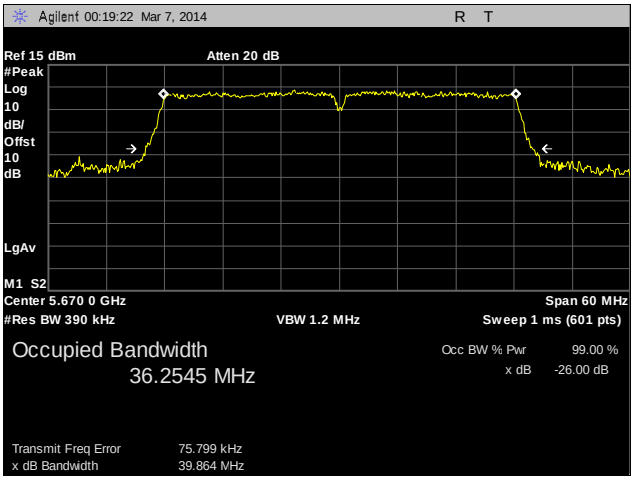
Plot 77. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 40 MHz, Ant. 0



Plot 78. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 40 MHz, Ant. 0

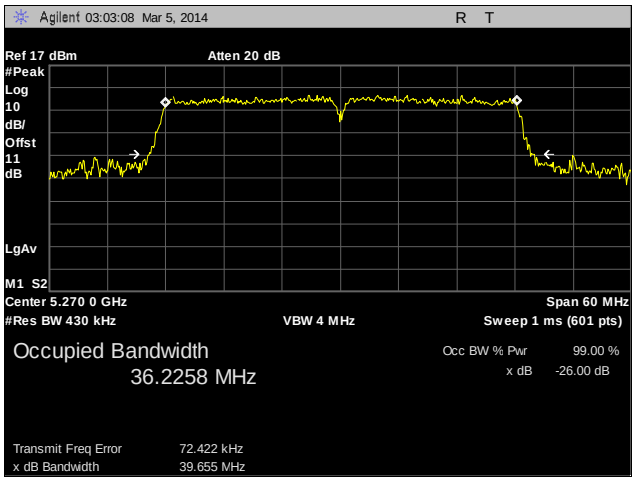


Plot 79. 26 dB Occupied Bandwidth, Channel 108, 802.11ac 40 MHz, Ant. 0

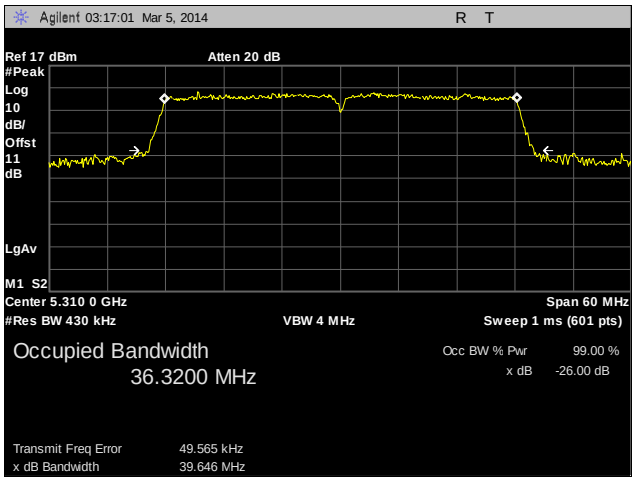


Plot 80. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 40 MHz, Ant. 0

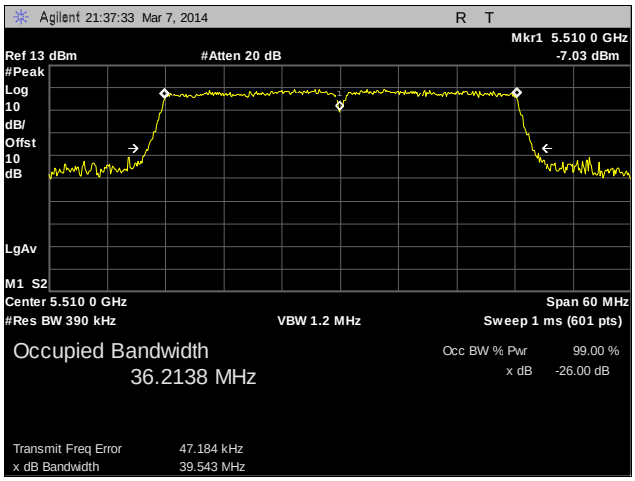
26 dB Occupied Bandwidth Test Results, 802.11ac 40 MHz, Ant. 1



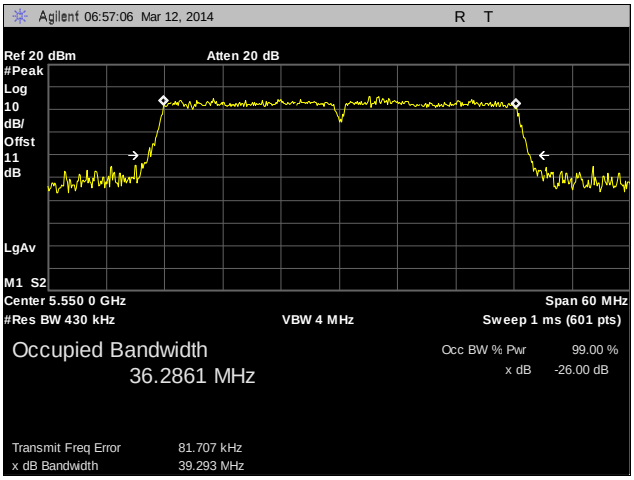
Plot 81. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 40 MHz, Ant. 1



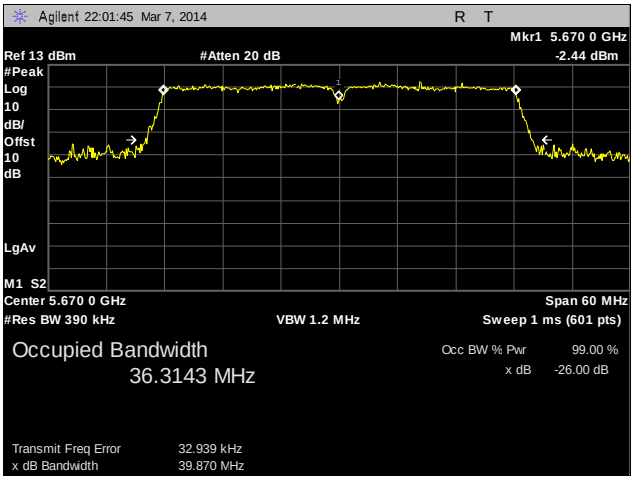
Plot 82. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 40 MHz, Ant. 1



Plot 83. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 40 MHz, Ant. 1

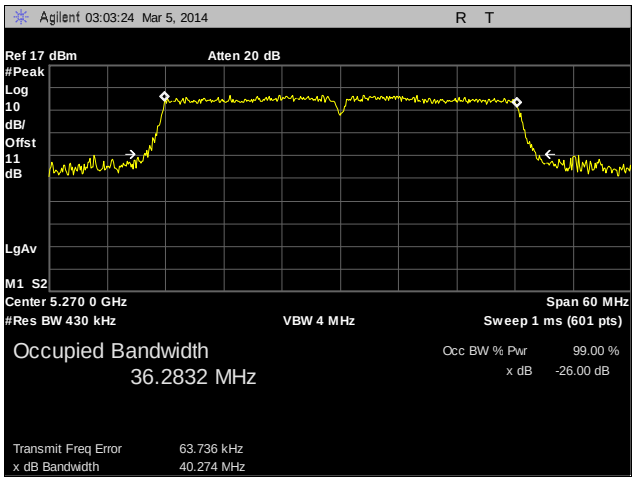


Plot 84. 26 dB Occupied Bandwidth, Channel 108, 802.11ac 40 MHz, Ant. 1

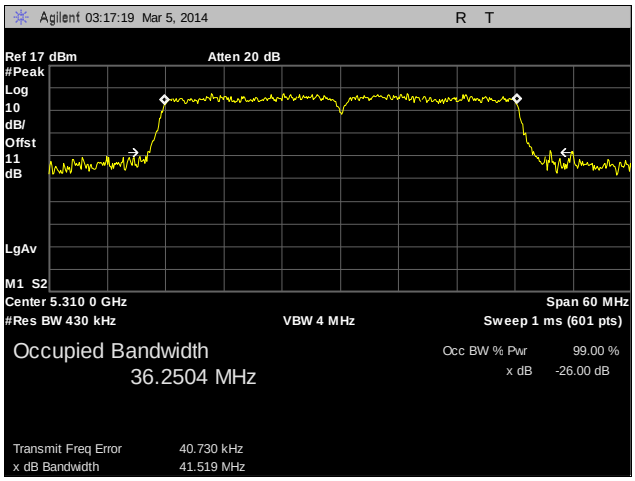


Plot 85. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 40 MHz, Ant. 1

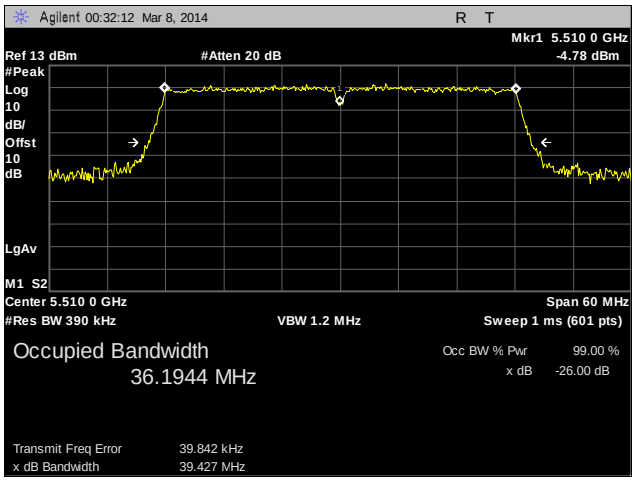
26 dB Occupied Bandwidth Test Results, 802.11ac 40 MHz, Ant. 2



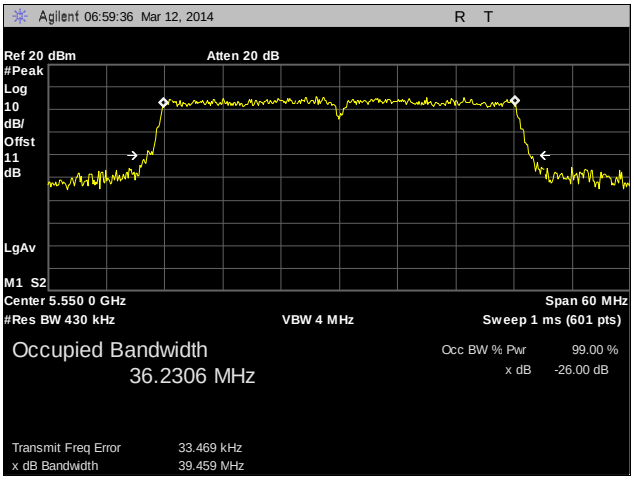
Plot 86. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 40 MHz, Ant. 2



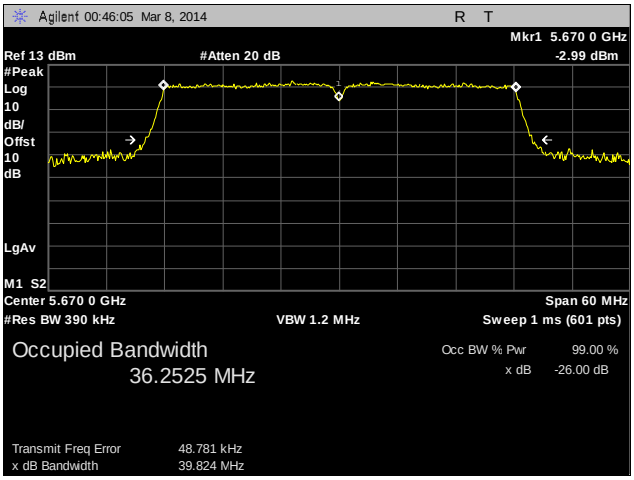
Plot 87. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 40 MHz, Ant. 2



Plot 88. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 40 MHz, Ant. 2

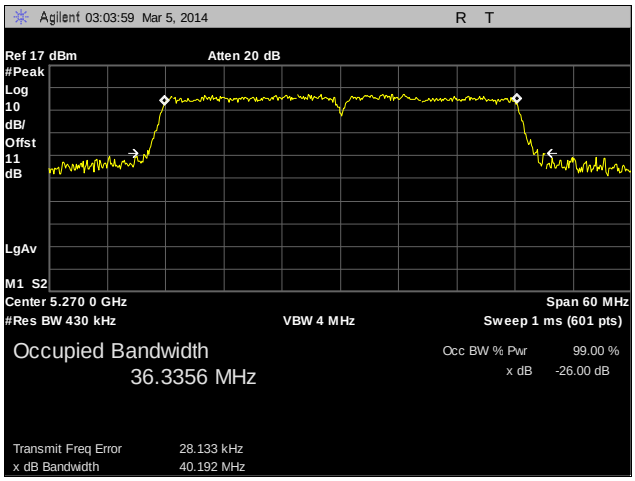


Plot 89. 26 dB Occupied Bandwidth, Channel 108, 802.11ac 40 MHz, Ant. 2

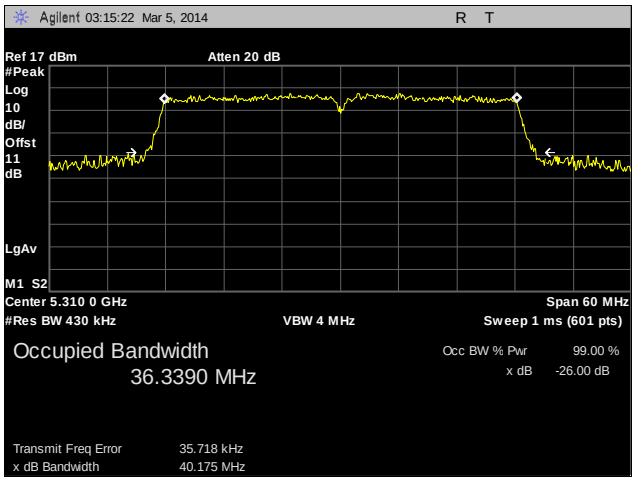


Plot 90. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 40 MHz, Ant. 2

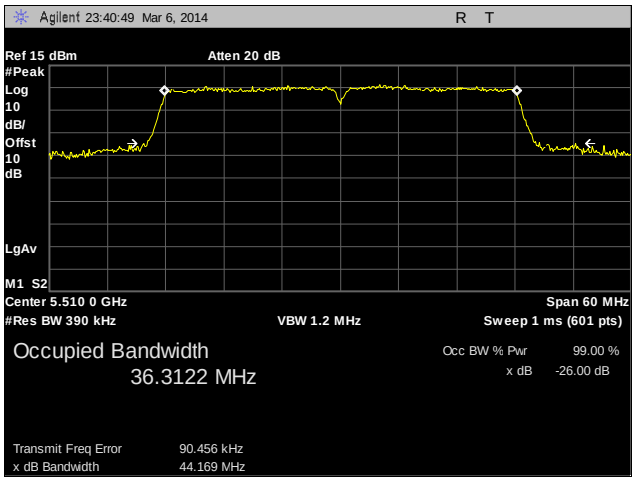
26 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Ant. 0



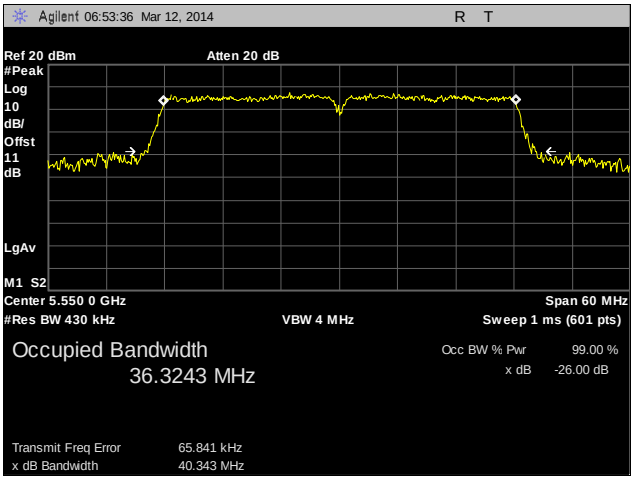
Plot 91. 26 dB Occupied Bandwidth, Channel 52, 802.11n 40 MHz, Ant. 0



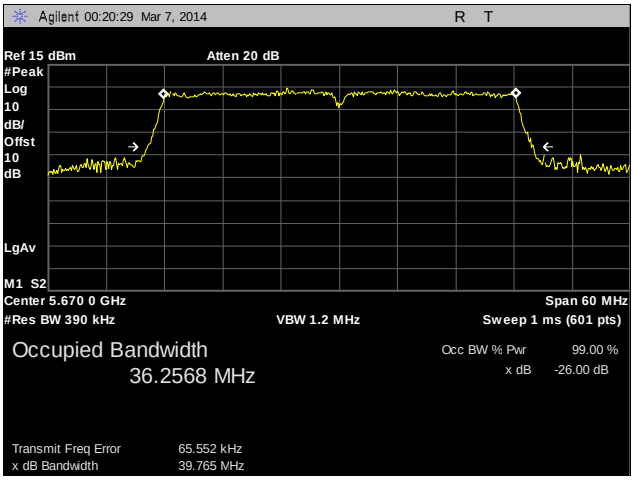
Plot 92. 26 dB Occupied Bandwidth, Channel 60, 802.11n 40 MHz, Ant. 0



Plot 93. 26 dB Occupied Bandwidth, Channel 100, 802.11n 40 MHz, Ant. 0

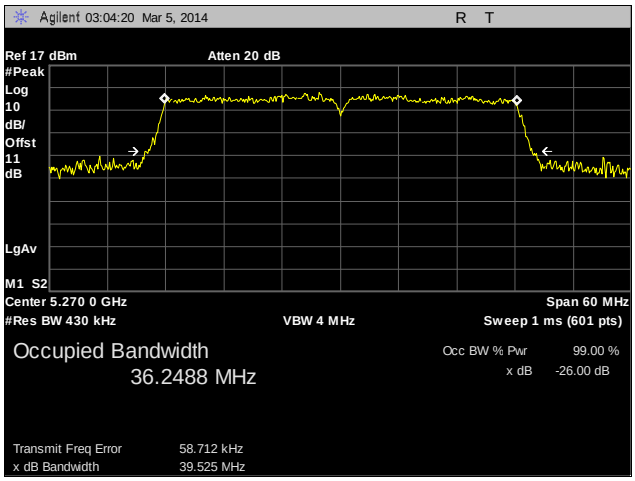


Plot 94. 26 dB Occupied Bandwidth, Channel 108, 802.11n 40 MHz, Ant. 0

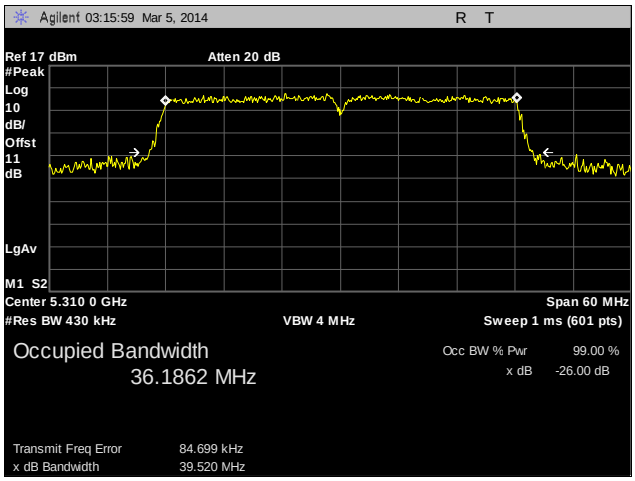


Plot 95. 26 dB Occupied Bandwidth, Channel 132, 802.11n 40 MHz, Ant. 0

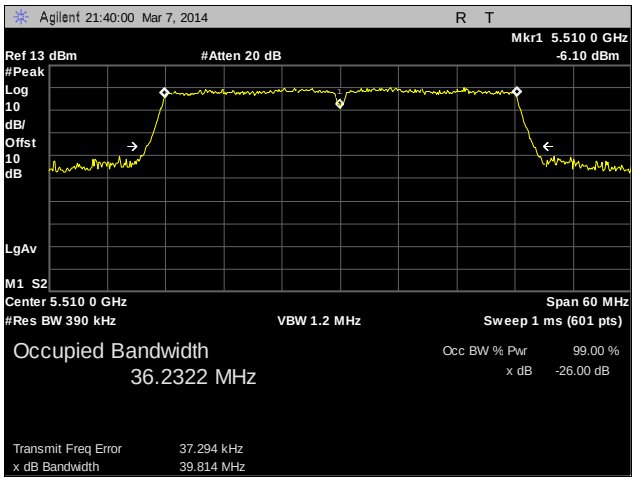
26 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Ant. 1



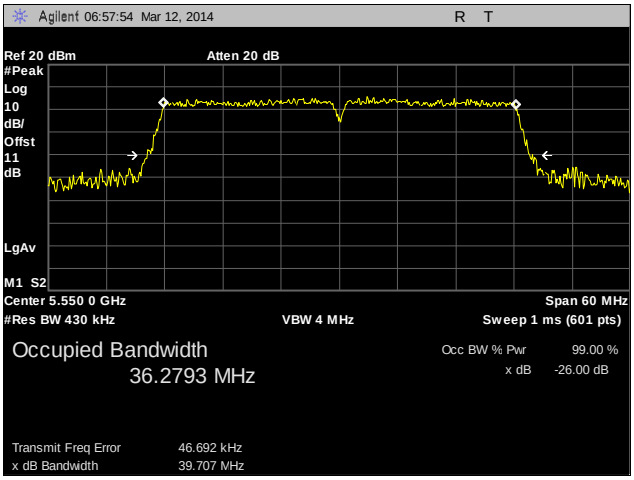
Plot 96. 26 dB Occupied Bandwidth, Channel 52, 802.11n 40 MHz, Ant. 1



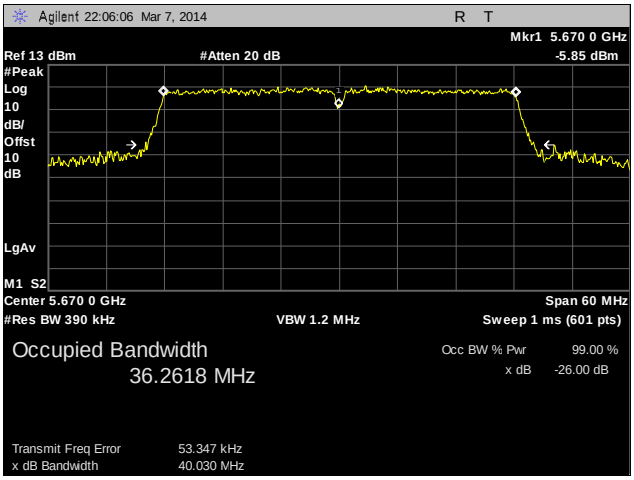
Plot 97. 26 dB Occupied Bandwidth, Channel 60, 802.11n 40 MHz, Ant. 1



Plot 98. 26 dB Occupied Bandwidth, Channel 100, 802.11n 40 MHz, Ant. 1

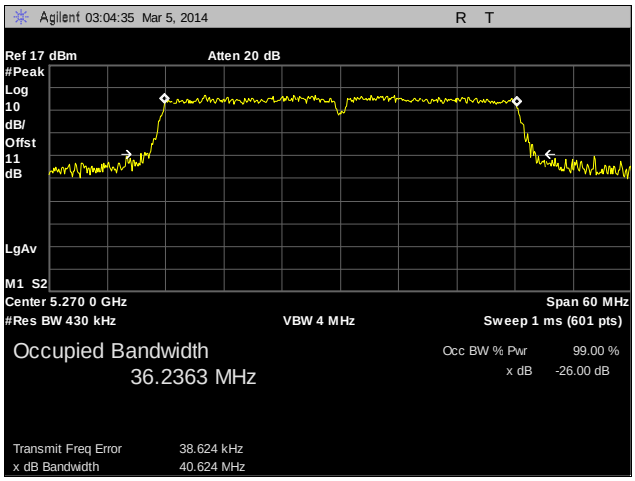


Plot 99. 26 dB Occupied Bandwidth, Channel 108, 802.11n 40 MHz, Ant. 1

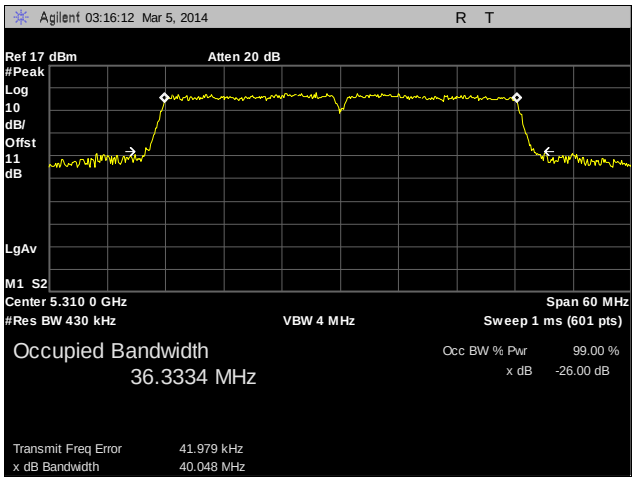


Plot 100. 26 dB Occupied Bandwidth, Channel 132, 802.11n 40 MHz, Ant. 1

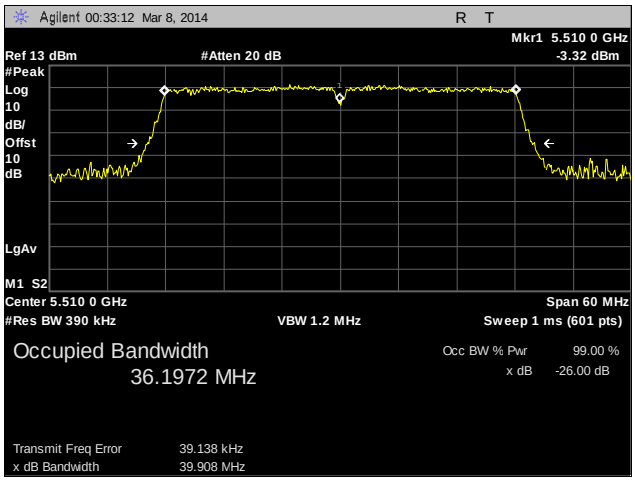
26 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Ant. 2



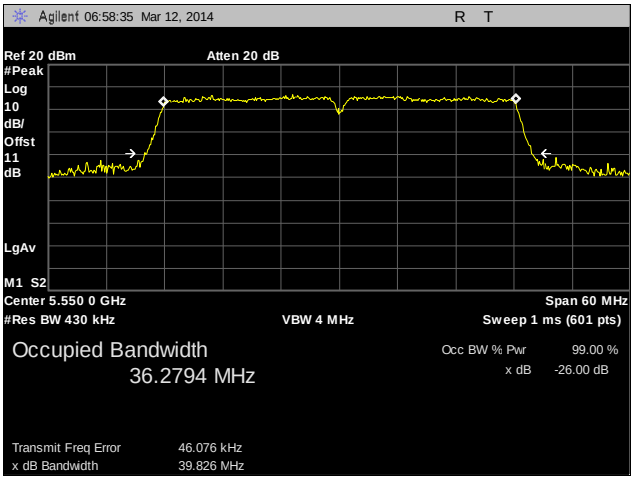
Plot 101. 26 dB Occupied Bandwidth, Channel 52, 802.11n 40 MHz, Ant. 2



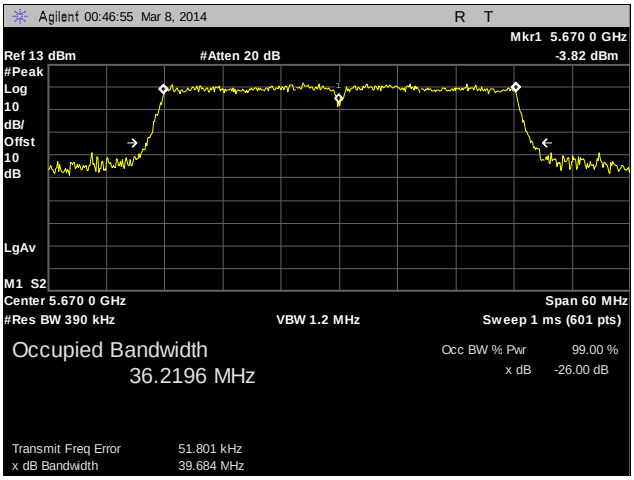
Plot 102. 26 dB Occupied Bandwidth, Channel 60, 802.11n 40 MHz, Ant. 2



Plot 103. 26 dB Occupied Bandwidth, Channel 100, 802.11n 40 MHz, Ant. 2

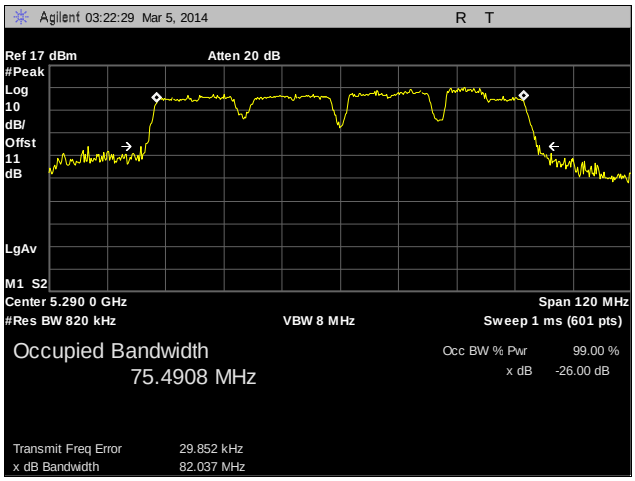


Plot 104. 26 dB Occupied Bandwidth, Channel 108, 802.11n 40 MHz, Ant. 2

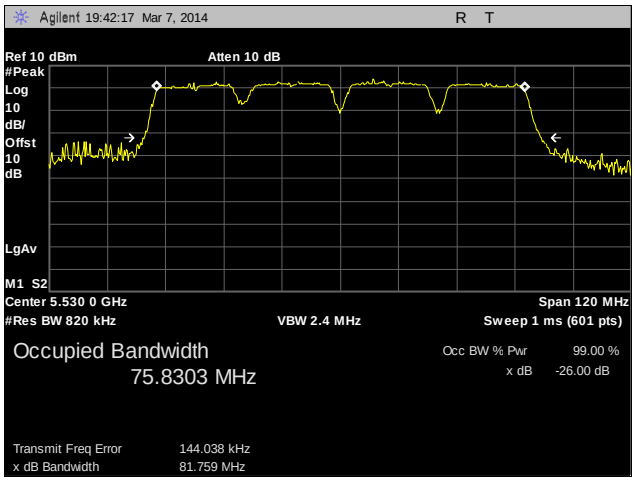


Plot 105. 26 dB Occupied Bandwidth, Channel 132, 802.11n 40 MHz, Ant. 2

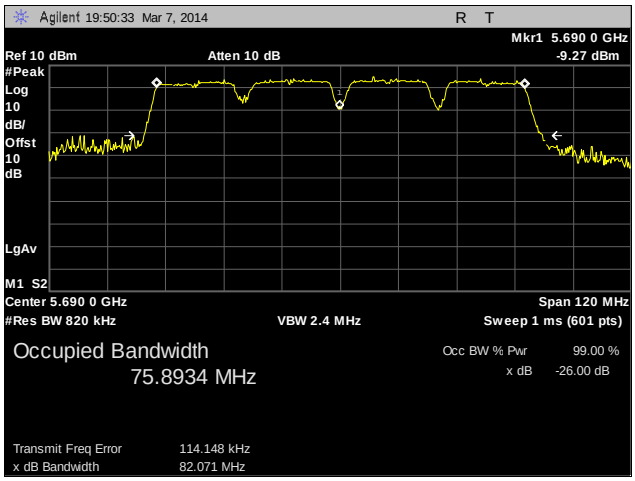
26 dB Occupied Bandwidth Test Results, 802.11a 80 MHz, Ant. 0



Plot 106. 26 dB Occupied Bandwidth, Channel 52, 802.11a 80 MHz, Ant. 0

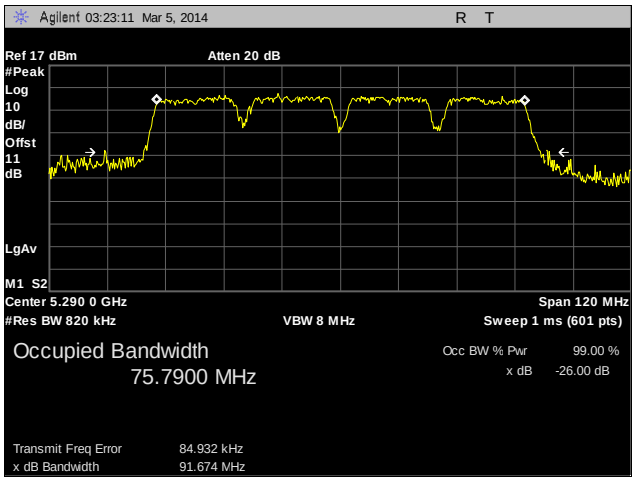


Plot 107. 26 dB Occupied Bandwidth, Channel 100, 802.11a 80 MHz, Ant. 0

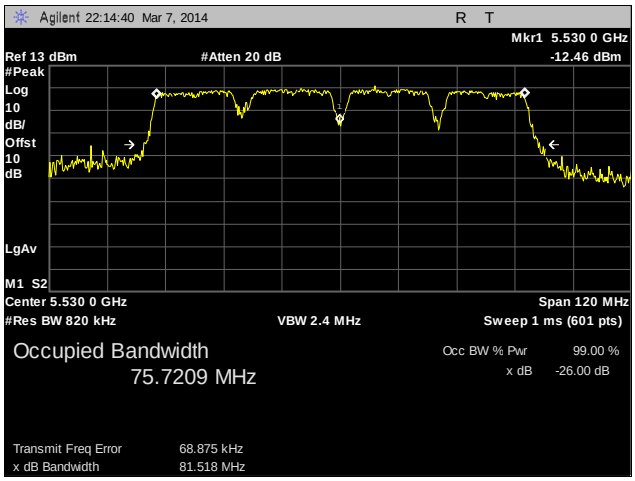


Plot 108. 26 dB Occupied Bandwidth, Channel 132, 802.11a 80 MHz, Ant. 0

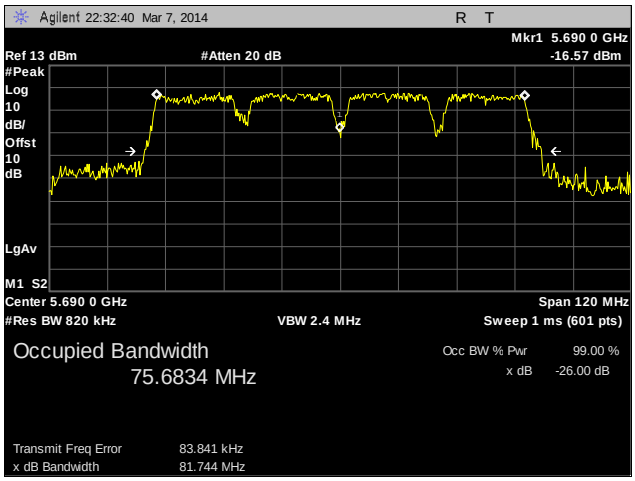
26 dB Occupied Bandwidth Test Results, 802.11a 80 MHz, Ant. 1



Plot 109. 26 dB Occupied Bandwidth, Channel 52, 802.11a 80 MHz, Ant. 1

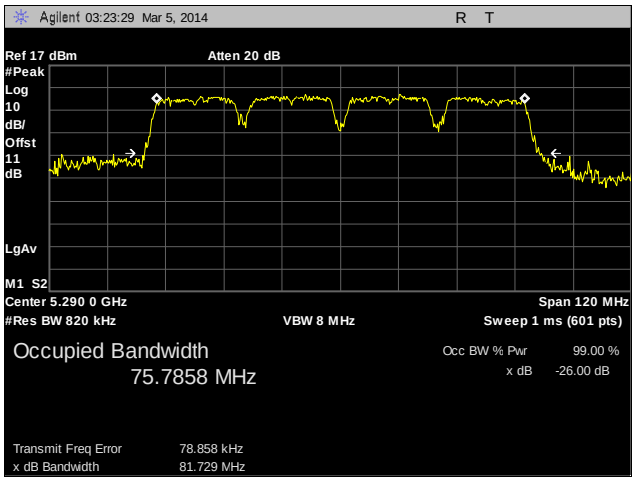


Plot 110. 26 dB Occupied Bandwidth, Channel 100, 802.11a 80 MHz, Ant. 1

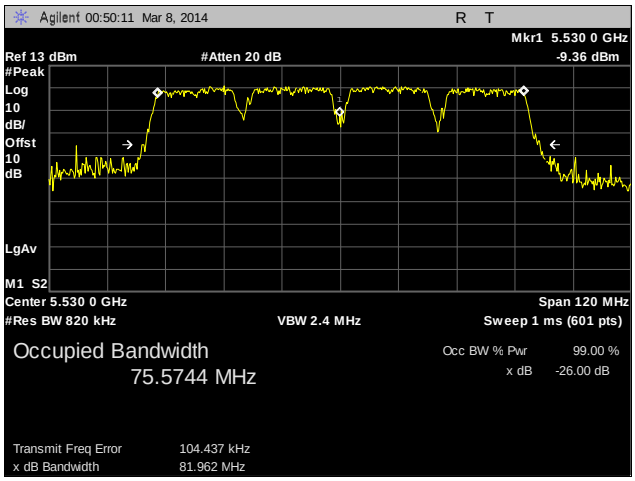


Plot 111. 26 dB Occupied Bandwidth, Channel 132, 802.11a 80 MHz, Ant. 1

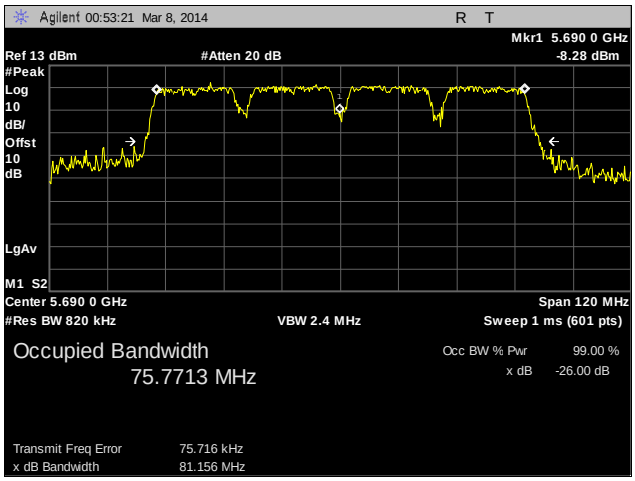
26 dB Occupied Bandwidth Test Results, 802.11a 80 MHz, Ant. 2



Plot 112. 26 dB Occupied Bandwidth, Channel 52, 802.11a 80 MHz, Ant. 2

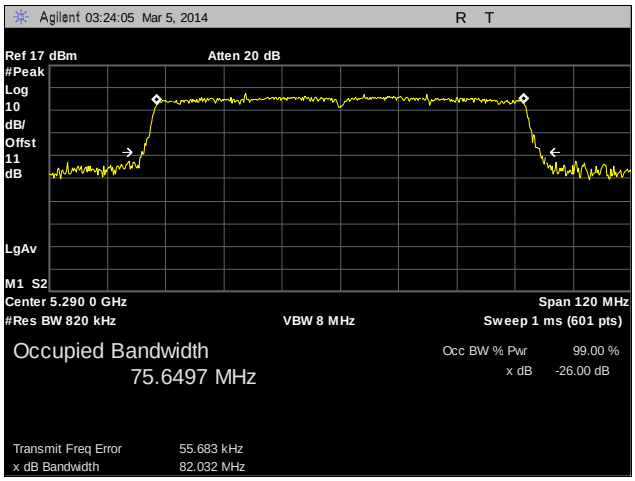


Plot 113. 26 dB Occupied Bandwidth, Channel 100, 802.11a 80 MHz, Ant. 2

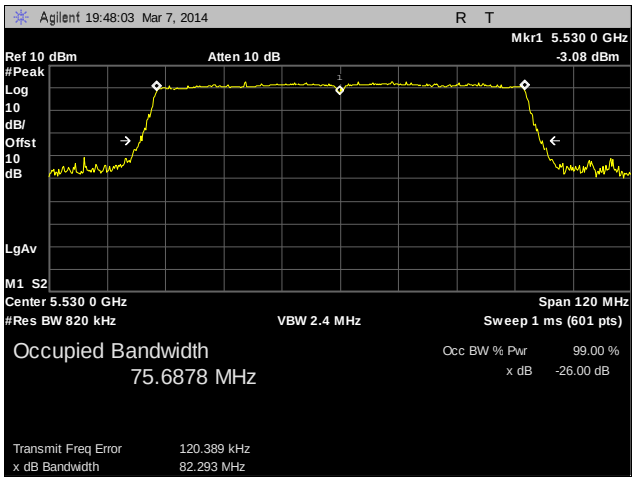


Plot 114. 26 dB Occupied Bandwidth, Channel 132, 802.11a 80 MHz, Ant. 2

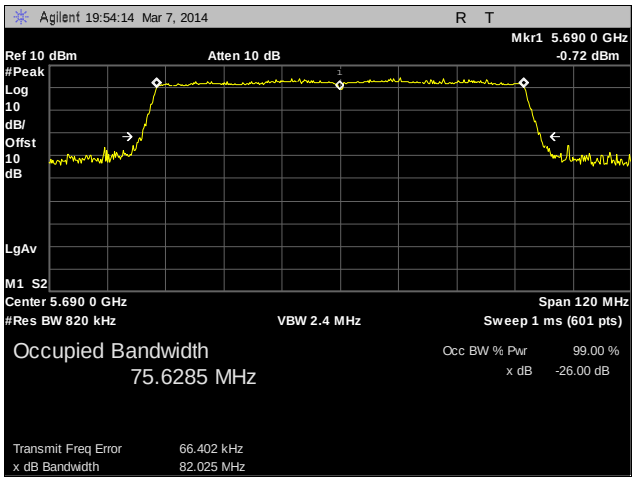
26 dB Occupied Bandwidth Test Results, 802.11ac 80 MHz, Ant. 0



Plot 115. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 80 MHz, Ant. 0

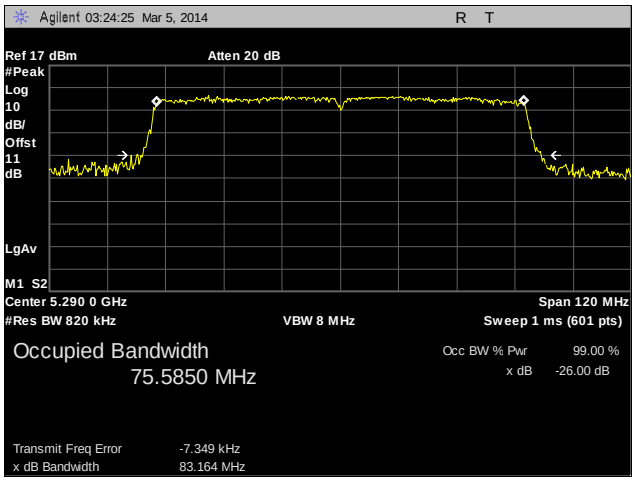


Plot 116. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 80 MHz, Ant. 0

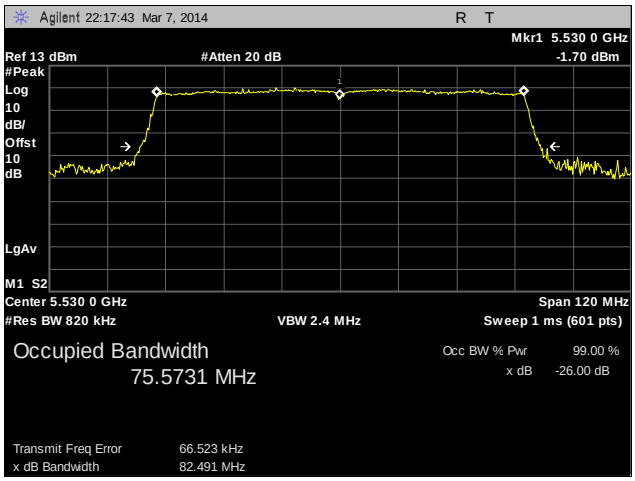


Plot 117. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 80 MHz, Ant. 0

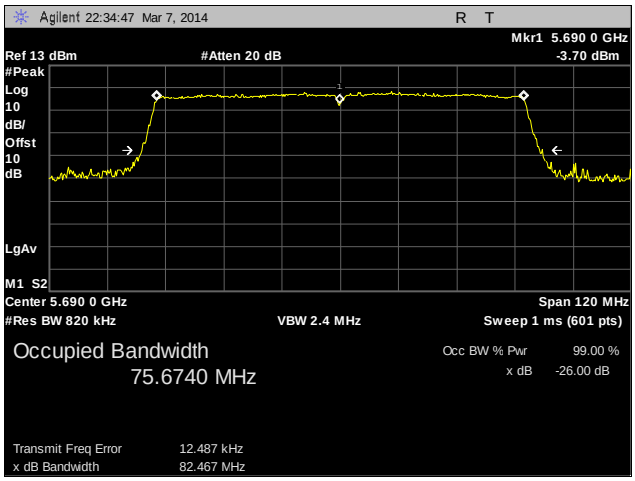
26 dB Occupied Bandwidth Test Results, 802.11ac 80 MHz, Ant. 1



Plot 118. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 80 MHz, Ant. 1

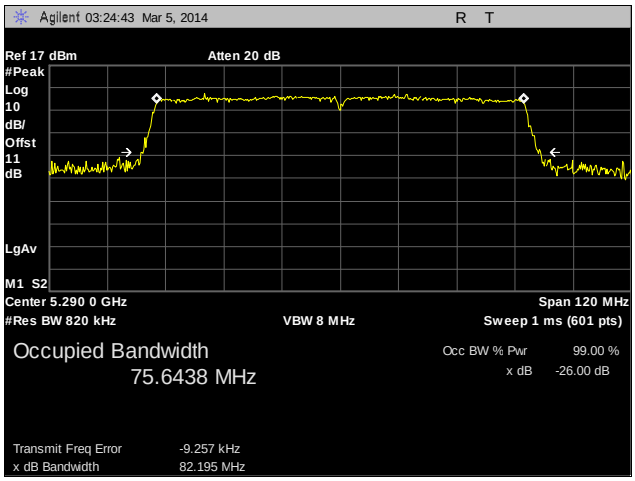


Plot 119. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 80 MHz, Ant. 1

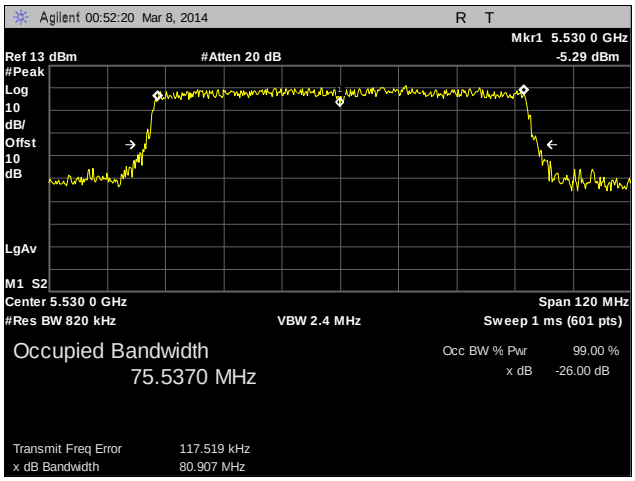


Plot 120. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 80 MHz, Ant. 1

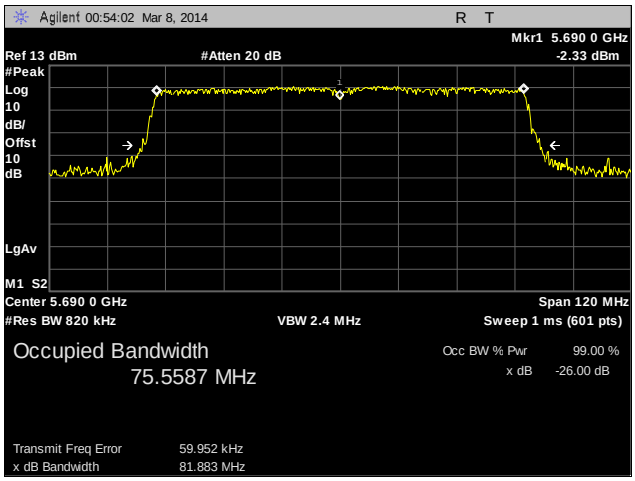
26 dB Occupied Bandwidth Test Results, 802.11ac 80 MHz, Ant. 2



Plot 121. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 80 MHz, Ant. 2

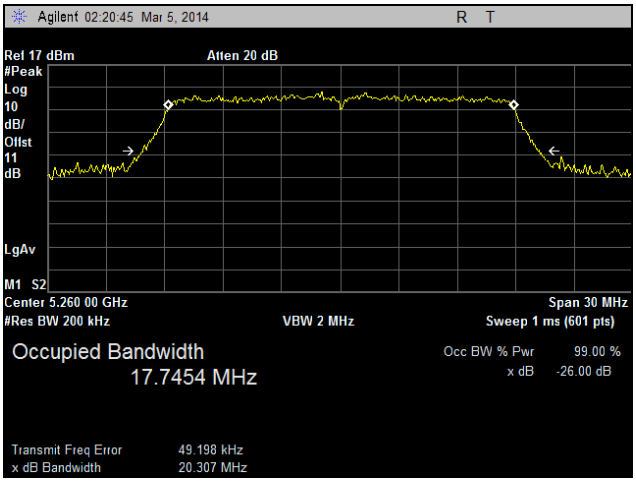


Plot 122. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 80 MHz, Ant. 2

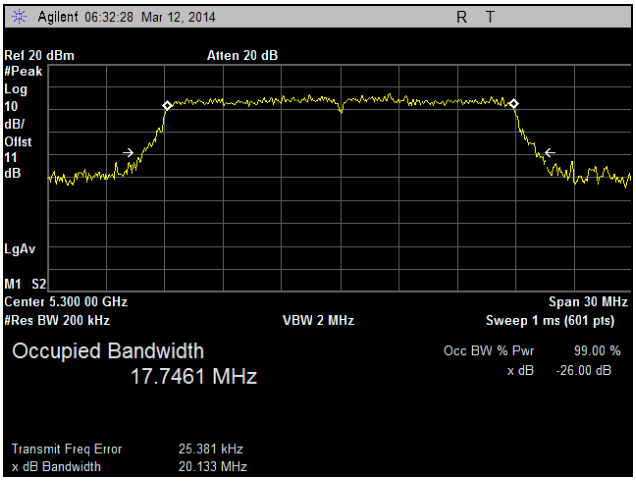


Plot 123. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 80 MHz, Ant. 2

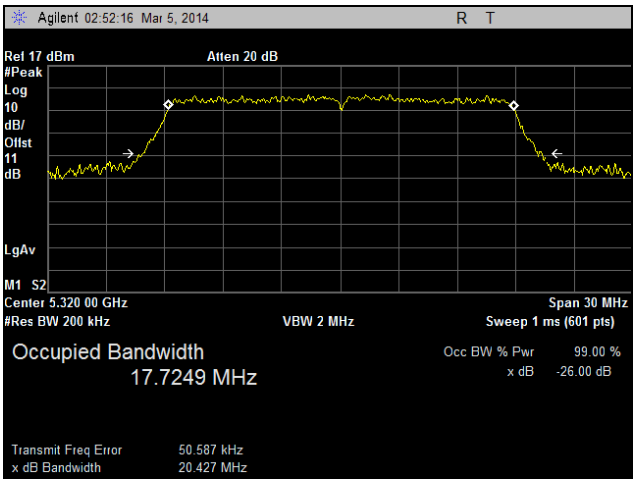
26 dB Occupied Bandwidth Test Results, 802.11ac 20 MHz, Transmit Beam-Forming



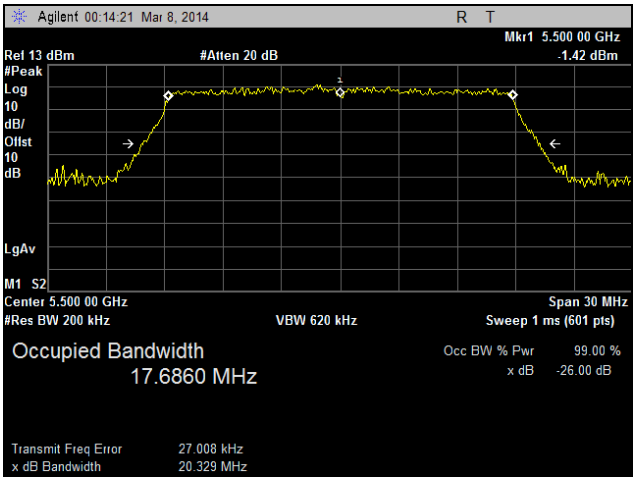
Plot 124. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 20 MHz, Transmit Beam-Forming



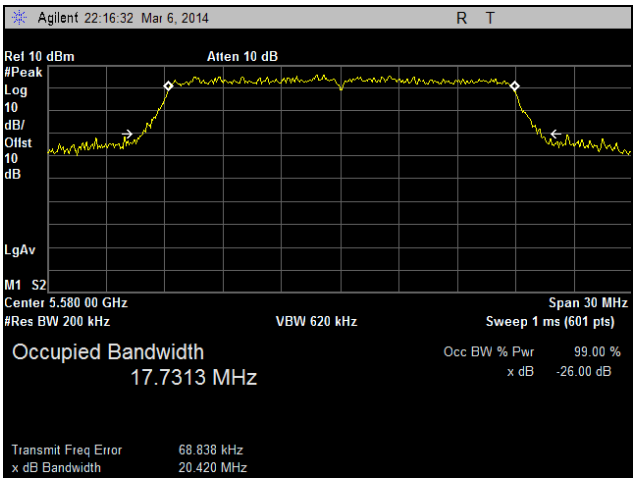
Plot 125. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 20 MHz, Transmit Beam-Forming



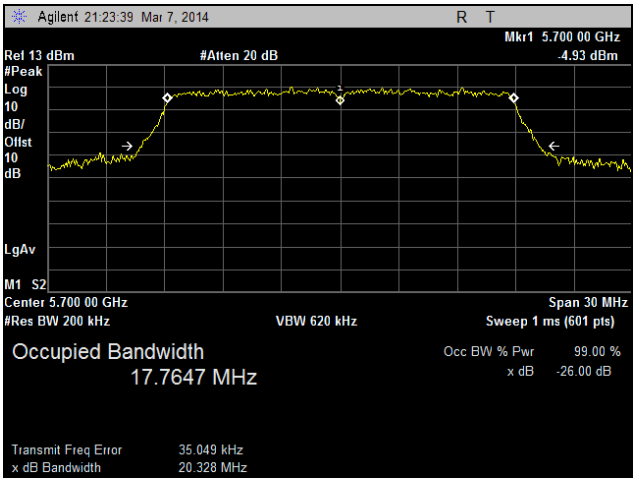
Plot 126. 26 dB Occupied Bandwidth, Channel 64, 802.11ac 20 MHz, Transmit Beam-Forming



Plot 127. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 20 MHz, Transmit Beam-Forming

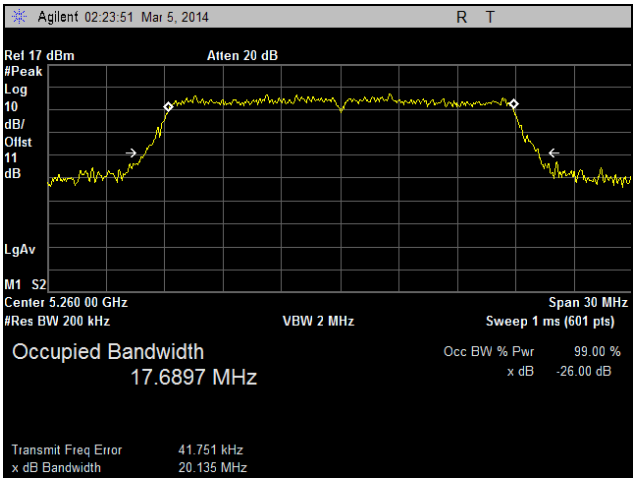


Plot 128. 26 dB Occupied Bandwidth, Channel 116, 802.11ac 20 MHz, Transmit Beam-Forming

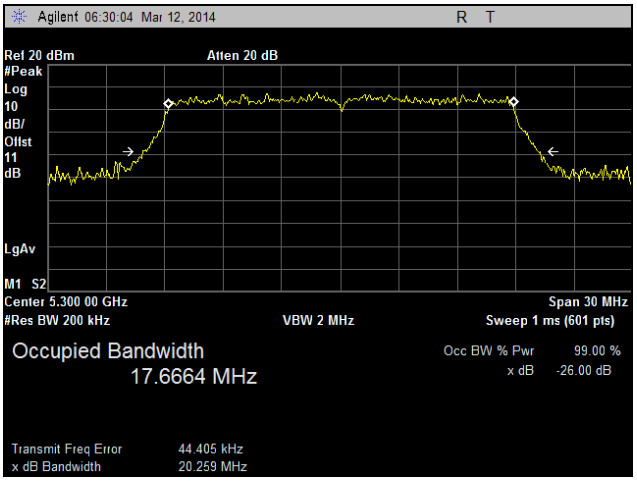


Plot 129. 26 dB Occupied Bandwidth, Channel 140, 802.11ac 20 MHz, Transmit Beam-Forming

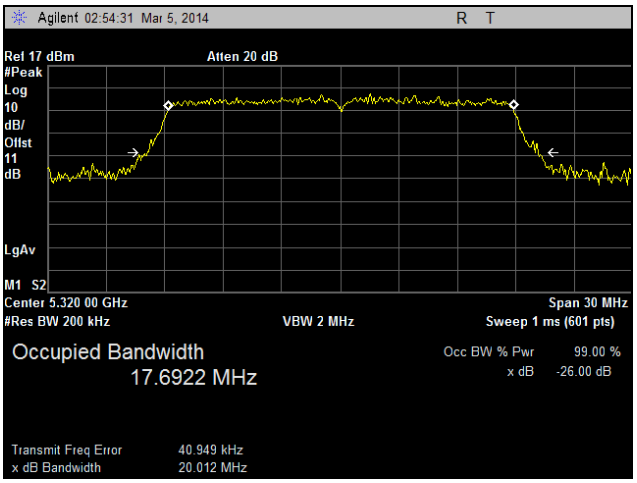
26 dB Occupied Bandwidth Test Results, 802.11n 20 MHz, Transmit Beam-Forming



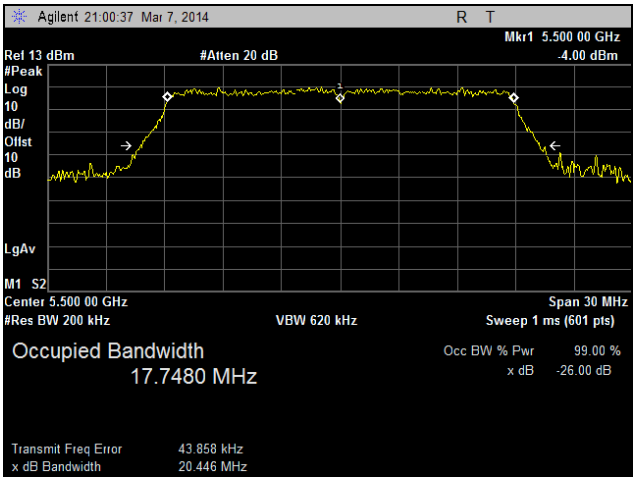
Plot 130. 26 dB Occupied Bandwidth, Channel 52, 802.11n 20 MHz, Transmit Beam-Forming



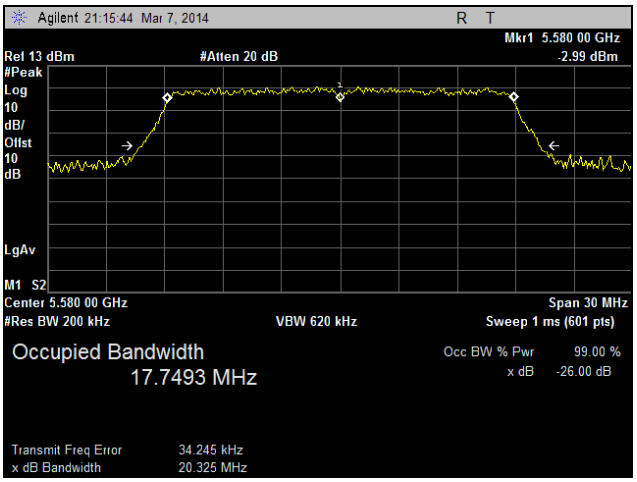
Plot 131. 26 dB Occupied Bandwidth, Channel 60, 802.11n 20 MHz, Transmit Beam-Forming



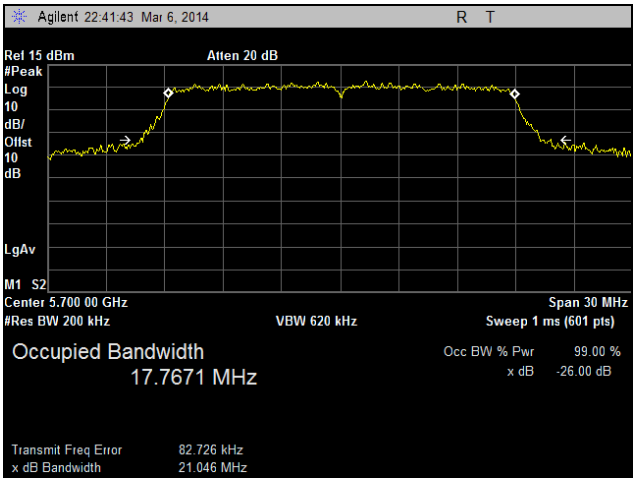
Plot 132. 26 dB Occupied Bandwidth, Channel 64, 802.11n 20 MHz, Transmit Beam-Forming



Plot 133. 26 dB Occupied Bandwidth, Channel 100, 802.11n 20 MHz, Transmit Beam-Forming

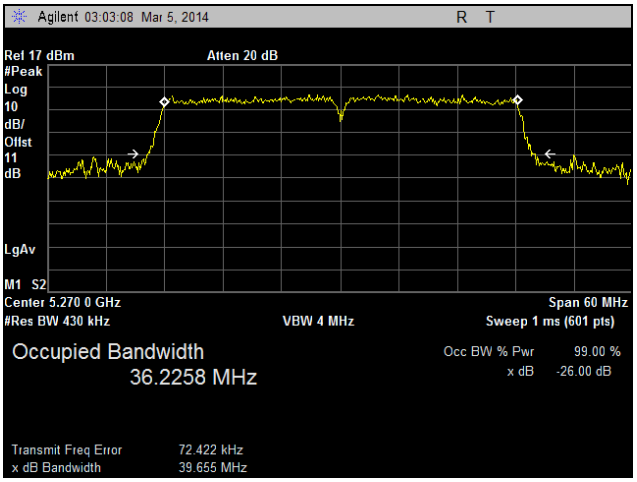


Plot 134. 26 dB Occupied Bandwidth, Channel 116, 802.11n 20 MHz, Transmit Beam-Forming

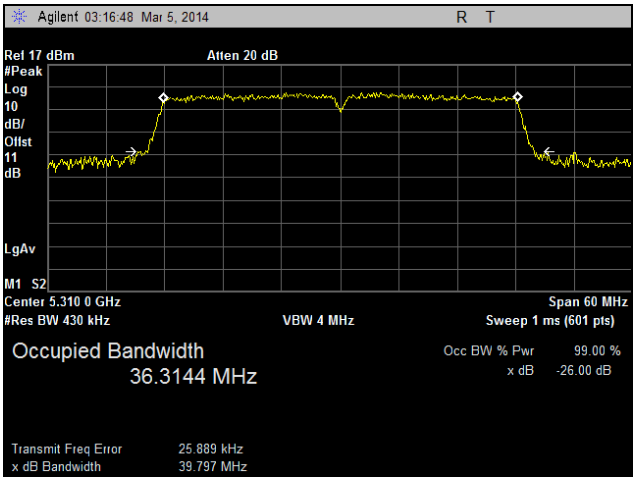


Plot 135. 26 dB Occupied Bandwidth, Channel 140, 802.11n 20 MHz, Transmit Beam-Forming

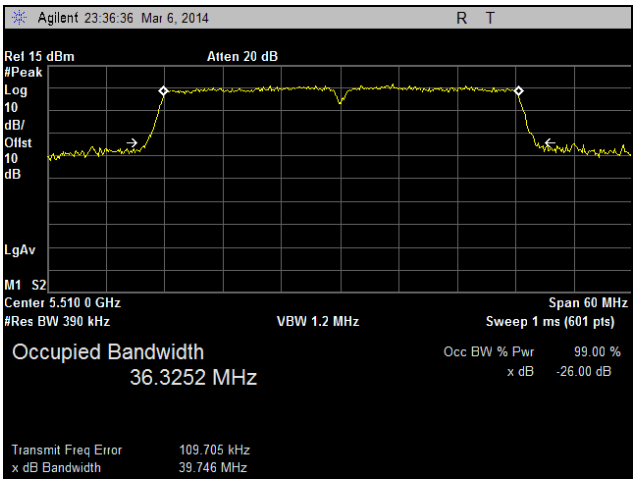
26 dB Occupied Bandwidth Test Results, 802.11ac 40 MHz, Transmit Beam-Forming



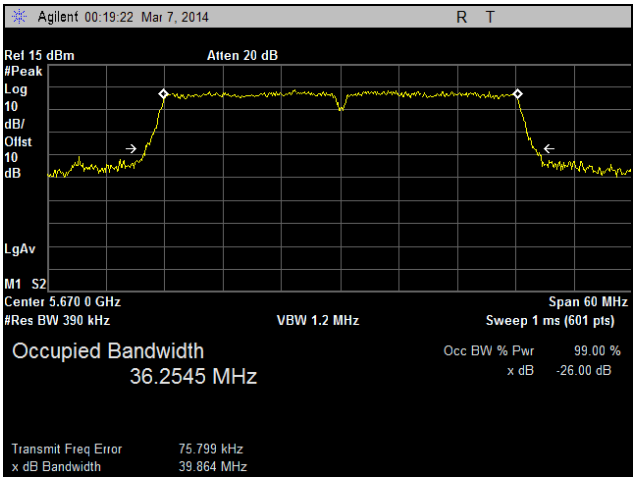
Plot 136. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 40 MHz, Transmit Beam-Forming



Plot 137. 26 dB Occupied Bandwidth, Channel 60, 802.11ac 40 MHz, Transmit Beam-Forming

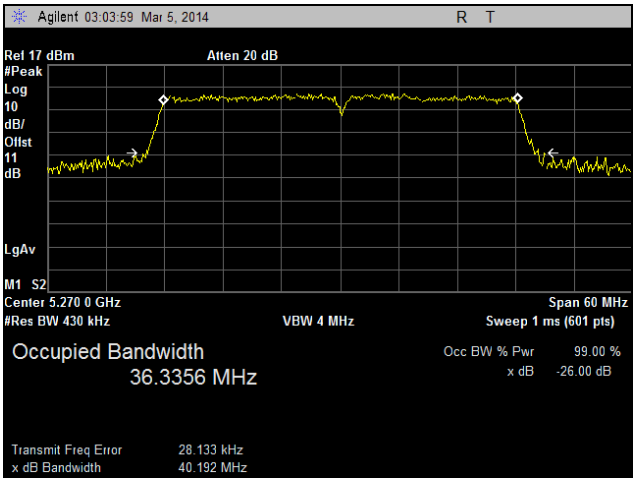


Plot 138. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 40 MHz, Transmit Beam-Forming

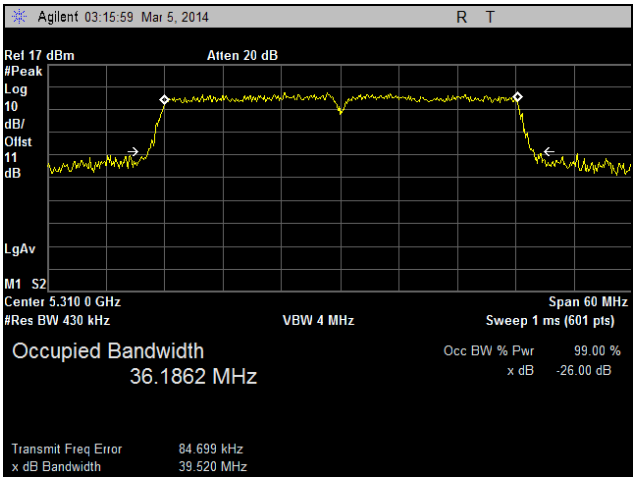


Plot 139. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 40 MHz, Transmit Beam-Forming

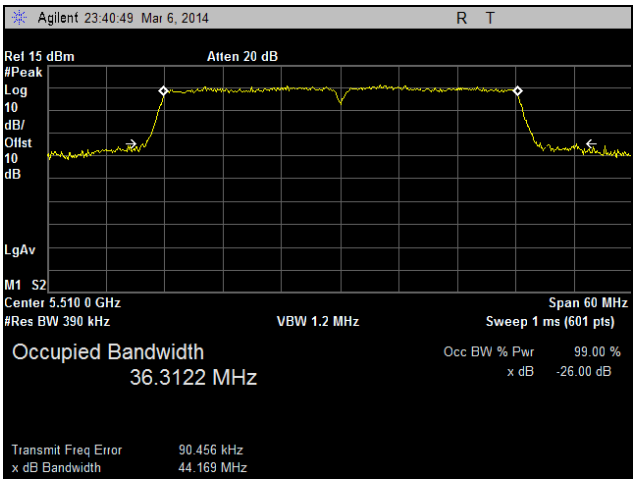
26 dB Occupied Bandwidth Test Results, 802.11n 40 MHz, Transmit Beam-Forming



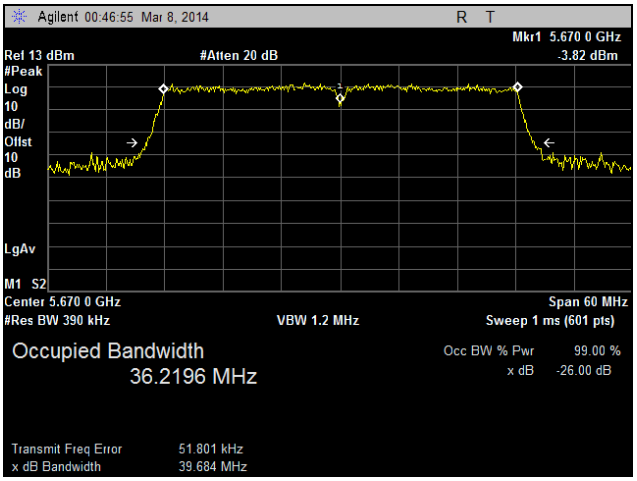
Plot 140. 26 dB Occupied Bandwidth, Channel 52, 802.11n 40 MHz, Transmit Beam-Forming



Plot 141. 26 dB Occupied Bandwidth, Channel 60, 802.11n 40 MHz, Transmit Beam-Forming

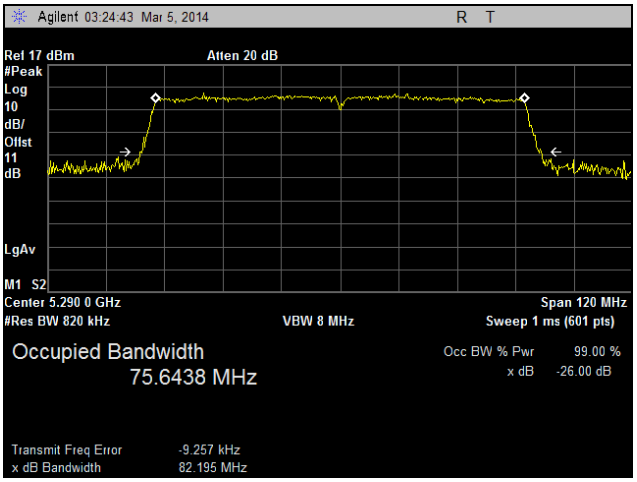


Plot 142. 26 dB Occupied Bandwidth, Channel 100, 802.11n 40 MHz, Transmit Beam-Forming

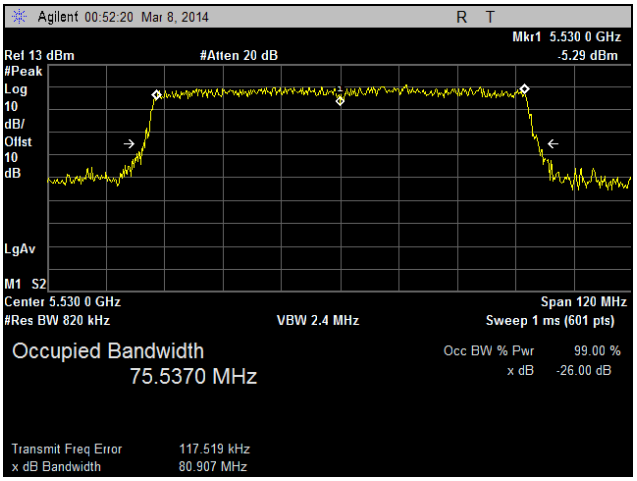


Plot 143. 26 dB Occupied Bandwidth, Channel 132, 802.11n 40 MHz, Transmit Beam-Forming

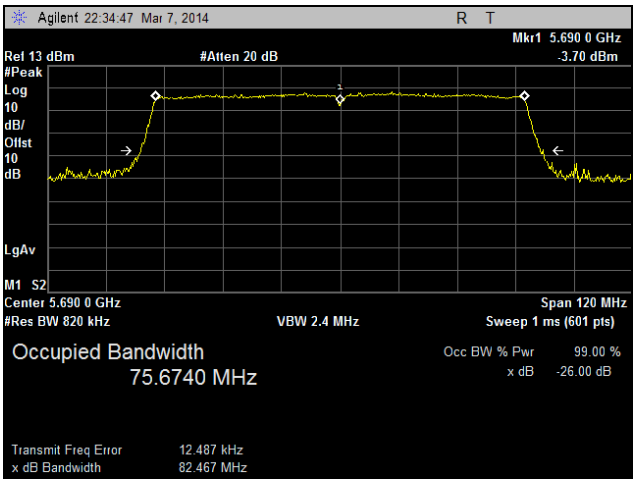
26 dB Occupied Bandwidth Test Results, 802.11ac 80 MHz, Transmit Beam-Forming



Plot 144. 26 dB Occupied Bandwidth, Channel 52, 802.11ac 80 MHz, Transmit Beam-Forming



Plot 145. 26 dB Occupied Bandwidth, Channel 100, 802.11ac 80 MHz, Transmit Beam-Forming



Plot 146. 26 dB Occupied Bandwidth, Channel 132, 802.11ac 80 MHz, Transmit Beam-Forming

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 407(a)(2) RF Power Output

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

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

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

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

Test Engineer(s): Surinder Singh

Test Date(s): 03/06/14 and 03/09/15

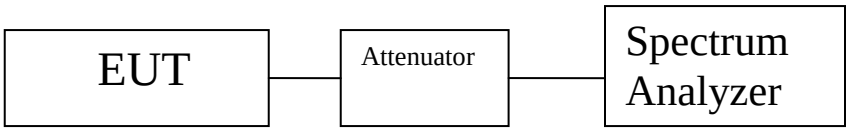


Figure 2. Power Output Test Setup

Power Output Test Results

Conducted Output Power 20MHz Band 802.11a/ac/n Mode (dBm)										
Channel	Frequency MHz	Measured Peak Output Power (dBm)/20MHz Ant 0	Measured Peak Output Power (dBm)/20MHz Ant 1	Measured Peak Output Power (dBm)/20MHz Ant 2	Mode	Power Limit (dBm)	Antenna Gain (dB)	Margin Ant0 (dB)	Margin Ant1 (dB)	Margin Ant2 (dB)
52	5260	20.23	19.76	19.19	a	24	4.1	-3.77	-4.24	-4.81
52	5260	20.23	19.97	19.15	ac	24	4.1	-3.77	-4.03	-4.85
52	5260	20.22	19.77	19.02	n	24	4.1	-3.78	-4.23	-4.98
60	5300	20.44	19.97	19.29	a	24	4.1	-3.56	-4.03	-4.71
60	5300	20.53	20.15	19.34	ac	24	4.1	-3.47	-3.85	-4.66
60	5300	19.93	20.05	19.38	n	24	4.1	-4.07	-3.95	-4.62
64	5320	20.44	19.97	19.29	a	24	4.1	-3.56	-4.03	-4.71
64	5320	20.53	20.15	19.34	ac	24	4.1	-3.47	-3.85	-4.66
64	5320	19.93	20.05	19.38	n	24	4.1	-4.07	-3.95	-4.62
100	5500	23.73	20.79	23.16	a	24	4.2	-0.27	-3.21	-0.84
100	5500	23.59	21.31	23.01	ac	24	4.2	-0.41	-2.69	-0.99
100	5500	23.59	21.56	23.11	n	24	4.2	-0.41	-2.44	-0.89
116	5580	23.41	20.87	23.33	a	24	4.2	-0.59	-3.13	-0.67
116	5580	23.54	20.79	23.15	ac	24	4.2	-0.46	-3.21	-0.85
116	5580	23.8	20.76	23.29	n	24	4.2	-0.2	-3.24	-0.71
140	5700	23.87	20.53	23.07	a	24	4.2	-0.13	-3.47	-0.93
140	5700	23.79	20.57	23.29	ac	24	4.2	-0.21	-3.43	-0.71
140	5700	23.83	20.83	23.3	n	24	4.2	-0.17	-3.17	-0.7

Conducted Output Power 20MHz Band 802.11n/ac Mode MIMO (3*3) (dBm)									
Chanel Carrier	Frequency MHz	Measured Peak Output Power (dBm)/20MHz Ant 0	Measured Peak Output Power (dBm)/20MHz Ant 1	Measured Peak Output Power (dBm)/20MHz Ant 2	Mode	Total Output Power (dBm)	Antenna Gain (dB)	Power Limit (dBm)	Margin (dB)
52	5260	14.61	14.74	14.94	ac	19.54	8.43	21.57	-2.03
52	5260	14.34	15.04	15.06	n	19.60	8.43	21.57	-1.97
60	5300	14.87	14.99	15.21	ac	19.80	8.43	21.57	-1.77
60	5300	14.72	14.76	14.95	n	19.58	8.43	21.57	-1.99
64	5320	14.87	14.99	15.21	ac	19.80	8.43	21.57	-1.77
64	5320	14.72	14.76	14.95	n	19.58	8.43	21.57	-1.99
100	5500	15.97	16.04	16.31	ac	20.88	8.72	21.28	-0.40
100	5500	15.97	16.46	16.27	n	21.01	8.72	21.28	-0.27
116	5580	16.44	16.24	16.4	ac	21.13	8.72	21.28	-0.15
116	5580	16.1	16.04	16.4	n	20.95	8.72	21.28	-0.33
140	5700	16.27	16.38	16.45	ac	21.14	8.72	21.28	-0.14
140	5700	16.06	16.27	16.39	n	21.01	8.72	21.28	-0.27

Table 39. Power Output, Test Results, 802.11 20 MHz

Maximum Conducted Output Power 40MHz Band 802.11a/ac/n Mode (dBm)										
Channel	Frequency MHz	Measured Peak Output Power (dBm)/40MHz Ant 0	Measured Peak Output Power (dBm)/40MHz Ant 1	Measured Peak Output Power (dBm)/40MHz Ant 2	Mode	Power Limit (dBm)	Antenna Gain (dB)	Margin Ant0 (dB)	Margin Ant1 (dB)	Margin Ant2 (dB)
52	5270	21.28	21.06	20.18	a	24	4.10	-2.72	-2.94	-3.82
52	5270	20.79	20.57	19.82	n	24	4.10	-3.21	-3.43	-4.18
60	5310	14.94	15.95	15.27	a	24	4.10	-9.06	-8.05	-8.73
60	5310	15.14	15.53	14.75	n	24	4.10	-8.86	-8.47	-9.25
100	5510	23.66	21.13	23.21	a	24	4.20	-0.34	-2.87	-0.79
100	5510	23.61	21.27	23.46	n	24	4.20	-0.39	-2.73	-0.54
108	5570	23.41	20.72	22.78	a	24	4.20	-0.59	-3.28	-1.22
108	5570	23.34	20.74	22.94	n	24	4.20	-0.66	-3.26	-1.06
132	5670	23.43	20.54	22.93	a	24	4.20	-0.57	-3.46	-1.07
132	5670	23.66	20.5	22.28	n	24	4.20	-0.34	-3.5	-1.72

MaximumConducted Output Power 40MHz Band 11n mode MIMO (3*3) (dBm)									
Chanel Carrier	Frequency MHz	Measured Peak Output Power (dBm)/40MHz Ant 0	Measured Peak Output Power (dBm)/40MHz Ant 1	Measured Peak Output Power (dBm)/40MHz Ant 2	Mode	Total Output Power (dBm)	Antenna Gain (dB)	Power Limit (dBm)	Margin (dB)
52	5270	16.46	16.43	16.41	ac	21.20	8.43	21.57	-0.37
52	5270	16.59	16.23	16.45	n	21.20	8.43	21.57	-0.37
60	5310	13.88	13.99	14.16	ac	18.78	8.43	21.57	-2.79
60	5310	13.81	13.37	14.04	n	18.52	8.43	21.57	-3.05
100	5510	16.21	16.34	16.46	ac	21.11	8.72	21.28	-0.17
100	5510	16.47	16.26	16.42	n	21.16	8.72	21.28	-0.12
108	5570	16.05	16.45	16.43	ac	21.09	8.72	21.28	-0.19
108	5570	16.24	16.24	16.54	n	21.11	8.72	21.28	-0.17
132	5670	16.42	16.25	16.22	ac	21.07	8.72	21.28	-0.21
132	5670	16.4	16.09	16.41	n	21.07	8.72	21.28	-0.21

Table 40. Power Output, Test Results, 802.11 40 MHz

MaximumConducted Output Power 80MHz Band 802.11a/ac Mode (dBm)										
Channel	Frequency MHz	Measured Peak Output Power (dBm)/80MHz Ant 0	Measured Peak Output Power (dBm)/80MHz Ant 1	Measured Peak Output Power (dBm)/80MHz Ant 2	Mode	Power Limit (dBm)	Antenna Gain (dB)	Margin Ant0 (dB)	Margin Ant1 (dB)	Margin Ant2 (dB)
52	5290	13.57	13.28	13.19	a	24	4.1	-10.43	-10.72	-10.81
52	5290	15.09	14.46	14.94	ac	24	4.1	-8.91	-9.54	-9.06
100	5530	22.82	20.07	21.55	a	24	4.2	-1.18	-3.93	-2.45
100	5530	22.78	20.15	21.9	ac	24	4.2	-1.22	-3.85	-2.1
132	5690	22.82	19.48	21.67	a	24	4.2	-1.18	-4.52	-2.33
132	5690	23.09	20.41	22.04	ac	24	4.2	-0.91	-3.59	-1.96

MaximumConducted Output Power 80MHz Band 802.11ac mode MIMO (3*3) (dBm)									
Chanel Carrier	Frequency MHz	Measured Peak Output Power (dBm)/80MHz Ant 0	Measured Peak Output Power (dBm)/80MHz Ant 1	Measured Peak Output Power (dBm)/80MHz Ant 2	Mode	Total Output Power (dBm)	Antenna Gain (dB)	Power Limit (dBm)	Margin (dB)
52	5290	14.87	14.26	14.19	ac	19.22	8.43	21.57	-2.35
100	5530	16.15	16.31	16.35	ac	21.04	8.72	21.28	-0.24
132	5690	16.46	16.17	16.33	ac	21.09	8.72	21.28	-0.19

Table 41. Power Output, Test Results, 802.11 80 MHz

Maximum Conducted Output Power 20MHz Band 802.11a/n/ac Mode MIMO									
Channel	Frequency MHz	Measured Maximum Output Power (dBm)/20MHz Ant 0	Measured Maximum Output Power (dBm)/20MHz Ant 1	Measured Maximum Output Power (dBm)/20MHz Ant 2	Mode	Total power dBm	Power Limit (dBm)	Antenna Gain dBi	Margin
52	5260	14.05	14.23	14.45	n	19.01	21.57	8.43	-2.55
52	5260	13.95	14.18	14.55	ac	19	21.57	8.43	-2.56
60	5300	14.84	15.02	15.11	n	19.76	21.57	8.43	-1.8
60	5300	14.49	14.85	15.23	ac	19.63	21.57	8.43	-1.93
64	5320	13.97	14.21	14.52	n	19.01	21.57	8.43	-2.55
64	5320	14.25	14.38	14.78	ac	19.24	21.57	8.43	-2.32
100	5500	13.12	13.56	13.8	n	18.27	21.28	8.72	-3
100	5500	13.41	13.39	14.03	ac	18.39	21.28	8.72	-2.88
116	5580	13.18	13.59	13.89	n	18.33	21.28	8.72	-2.94
116	5580	13.28	13.49	13.95	ac	18.35	21.28	8.72	-2.92
144	5720	13.59	13.62	13.98	n	18.5	21.28	8.72	-2.77
144	5720	13.89	14.12	14.32	ac	18.88	21.28	8.72	-2.39

Table 42. Power Output, Test Results, 802.11 20 MHz, Transmit Beam-Forming

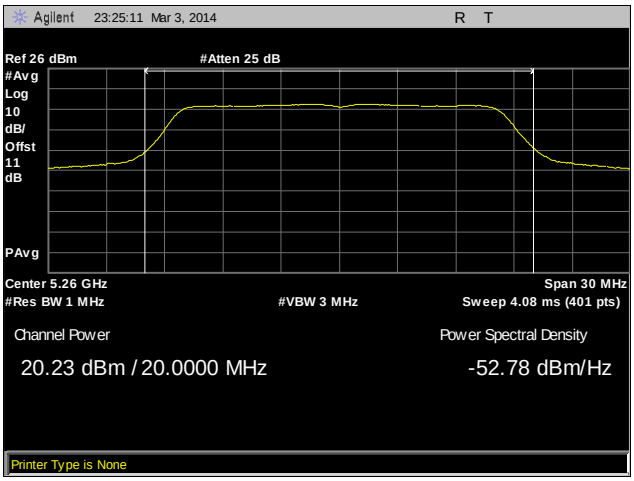
Maximum Conducted Output Power 40MHz Band n and ac Mode MIMO (3*3)									
Chanel Carrier	Frequency MHz	Measured Maximum Output Power (dBm)/40MHz Ant 0	Measured Maximum Output Power (dBm)/40MHz Ant 1	Measured Maximum Output Power (dBm)/40MHz Ant 2	mode	Total Output Power	Antenna Gain dBi	Power Limit (dBm)	Margin
52	5270	16.12	16.38	16.61	n	21.14	8.43	21.57	-0.42
52	5270	16.25	16.34	16.51	ac	21.13	8.43	21.57	-0.43
60	5310	11.88	12.06	12.03	n	16.76	8.43	21.57	-4.8
60	5310	11.45	11.68	11.85	ac	16.43	8.43	21.57	-5.13
100	5510	13.05	13.25	13.26	n	17.95	8.72	21.28	-3.32
100	5510	12.49	12.67	12.95	ac	17.47	8.72	21.28	-3.8
116	5590	15.95	16.02	16.77	n	21.03	8.72	21.28	-0.24
116	5590	15.88	16.11	16.57	ac	20.96	8.72	21.28	-0.31
140	5710	15.84	15.98	16.73	n	20.97	8.72	21.28	-0.3
140	5710	16.02	16.15	16.69	ac	21.06	8.72	21.28	-0.21

Table 43. Power Output, Test Results, 802.11 40 MHz, Transmit Beam-Forming

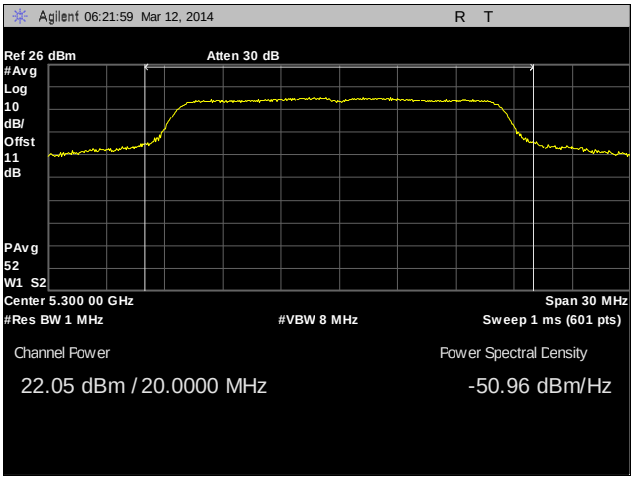
Maximum Conducted Output Power 80MHz Band n Mode MIMO (3*3)									
Chanel Carrier	**Frequency MHz**	**Measured Maximum Output Power (dBm)/80MHz Ant 0**	**Measured Maximum Output Power (dBm)/80MHz Ant 1**	**Measured Maximum Output Power (dBm)/80MHz Ant 2**	**mode**	**Total OutPut Power**	**Antenna Gain dBi**	**Power Limit (dBm)**	**Margin**
52	5290	11.33	11.65	11.95	ac	16.42	8.43	21.57	-5.14
100	5530	11.19	11.67	11.79	ac	16.32	8.72	21.28	-4.95
116	5610	16.11	16.23	16.58	ac	21.08	8.72	21.28	-0.19
132	5690	15.86	16.2	16.43	ac	20.94	8.72	21.28	-0.33

Table 44. Power Output, Test Results, 802.11 80 MHz, Transmit Beam-Forming

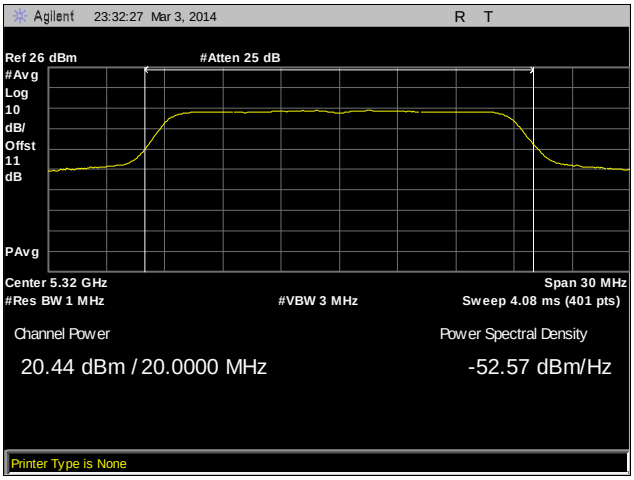
Maximum Power Output Test Results, 802.11a 20 MHz, Ant. 0



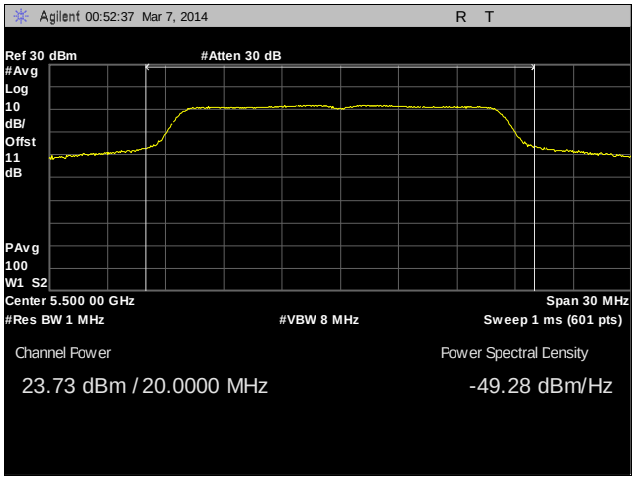
Plot 147. Power Output, Channel 52, 802.11a 20 MHz, Ant. 0



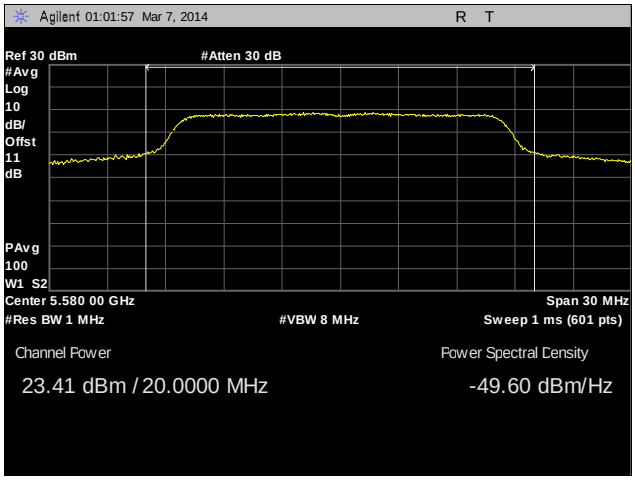
Plot 148. Power Output, Channel 60, 802.11a 20 MHz, Ant. 0



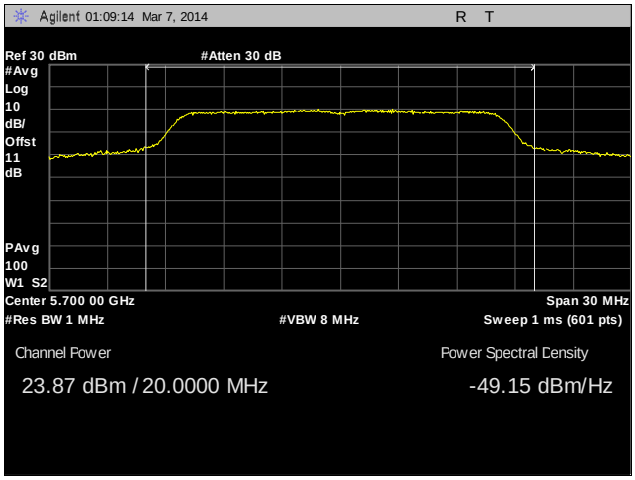
Plot 149. Power Output, Channel 64, 802.11a 20 MHz, Ant. 0



Plot 150. Power Output, Channel 100, 802.11a 20 MHz, Ant. 0

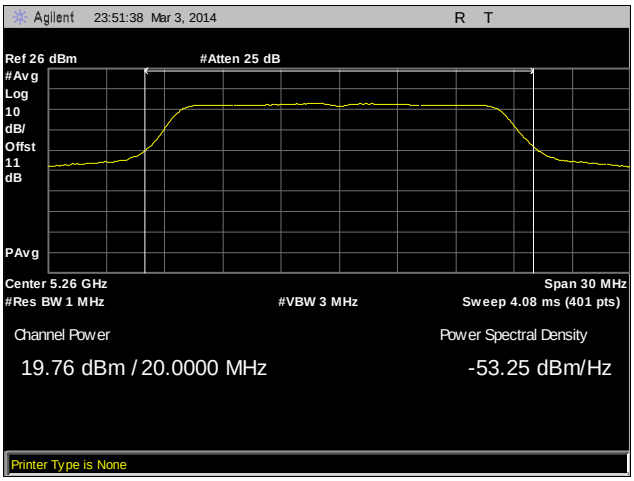


Plot 151. Power Output, Channel 116, 802.11a 20 MHz, Ant. 0

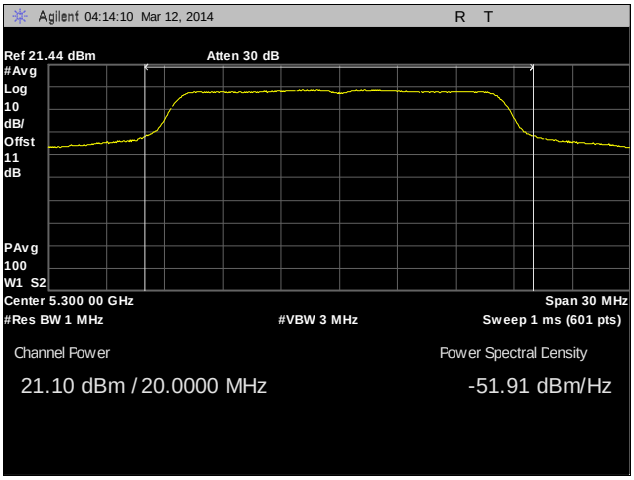


Plot 152. Power Output, Channel 140, 802.11a 20 MHz, Ant. 0

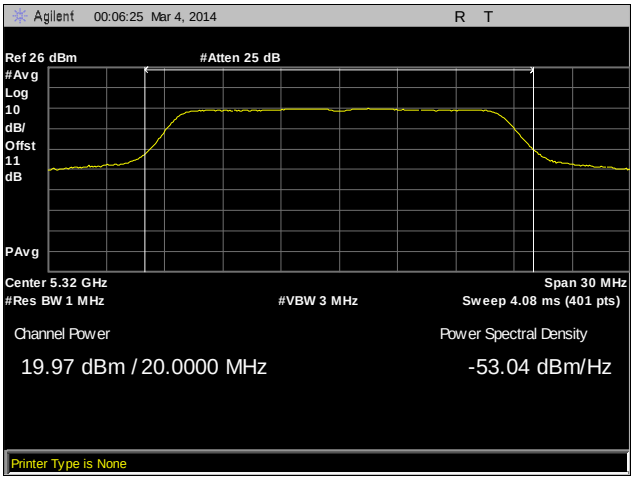
Maximum Power Output Test Results, 802.11a 20 MHz, Ant. 1



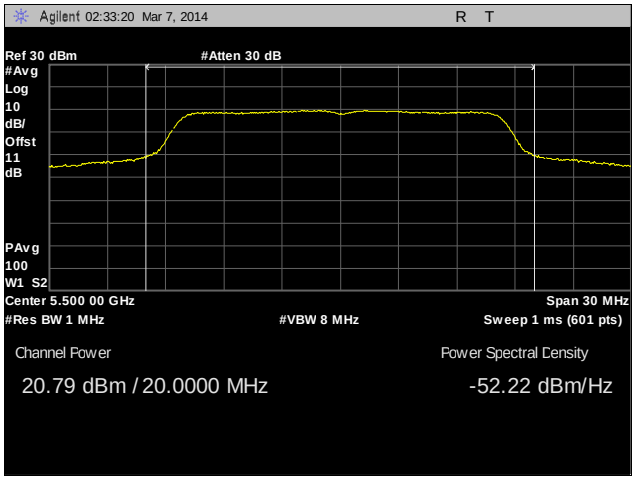
Plot 153. Power Output, Channel 52, 802.11a 20 MHz, Ant. 1



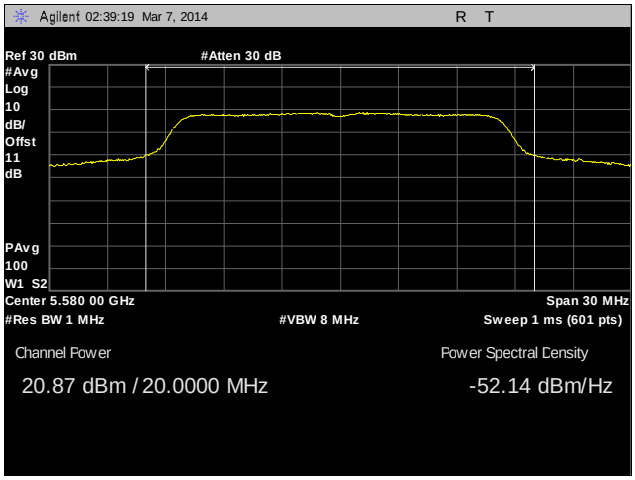
Plot 154. Power Output, Channel 60, 802.11a 20 MHz, Ant. 1



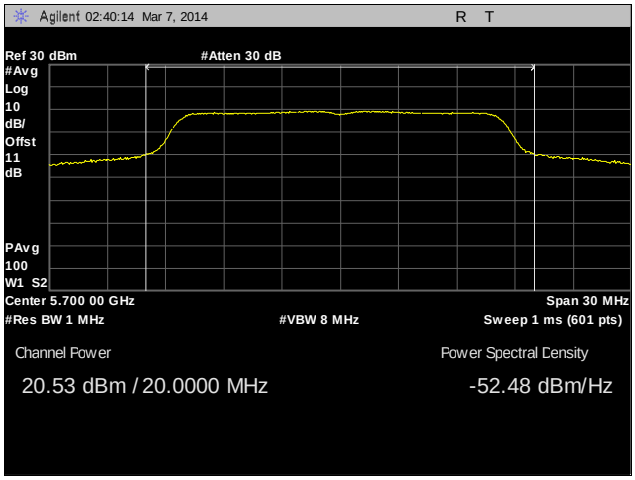
Plot 155. Power Output, Channel 64, 802.11a 20 MHz, Ant. 1



Plot 156. Power Output, Channel 100, 802.11a 20 MHz, Ant. 1

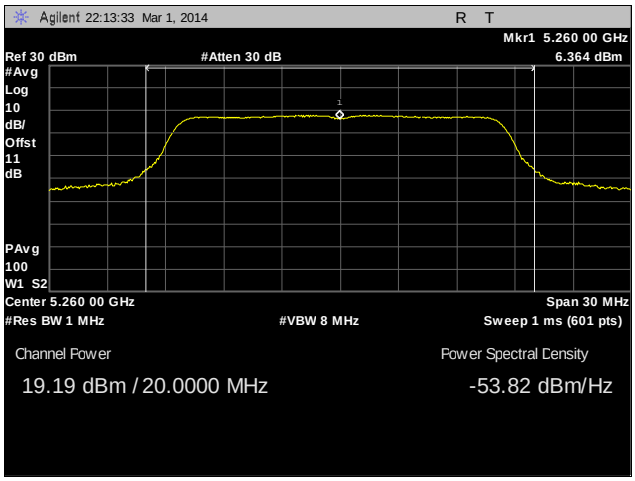


Plot 157. Power Output, Channel 116, 802.11a 20 MHz, Ant. 1

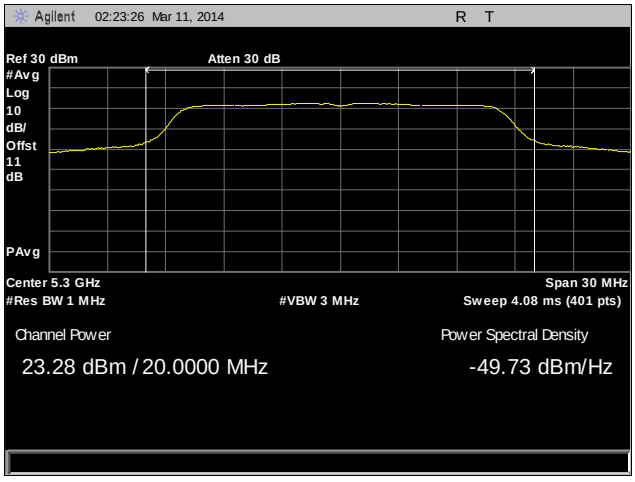


Plot 158. Power Output, Channel 140, 802.11a 20 MHz, Ant. 1

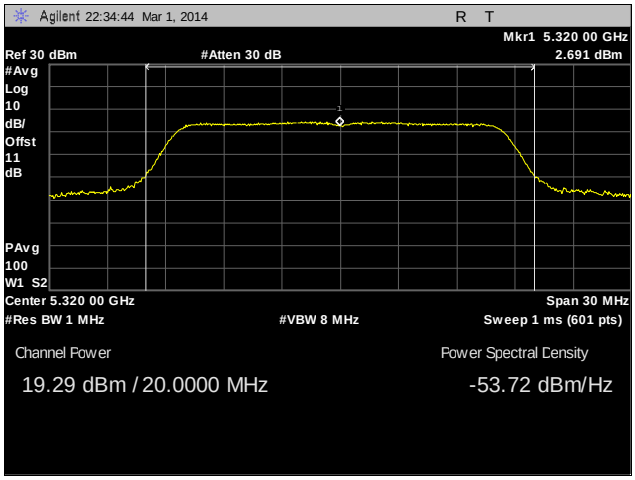
Maximum Power Output Test Results, 802.11a 20 MHz, Ant. 2



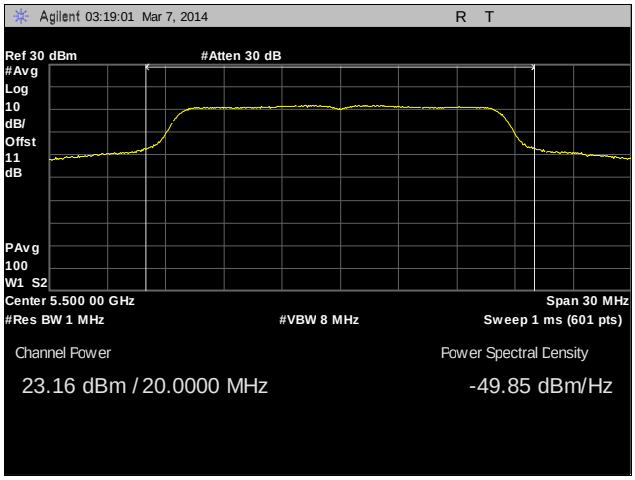
Plot 159. Power Output, Channel 52, 802.11a 20 MHz, Ant. 2



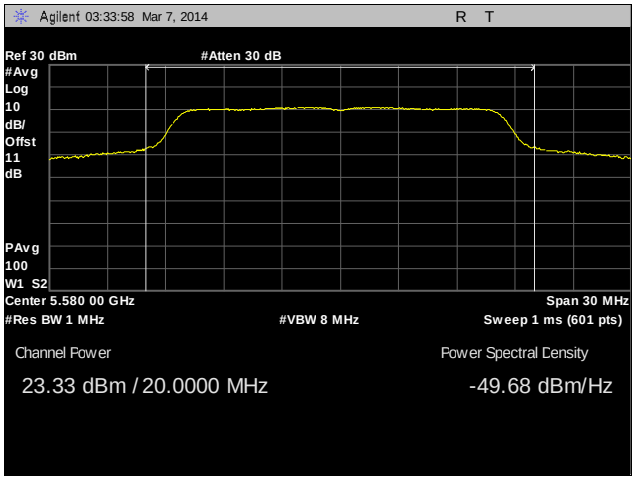
Plot 160. Power Output, Channel 60, 802.11a 20 MHz, Ant. 2



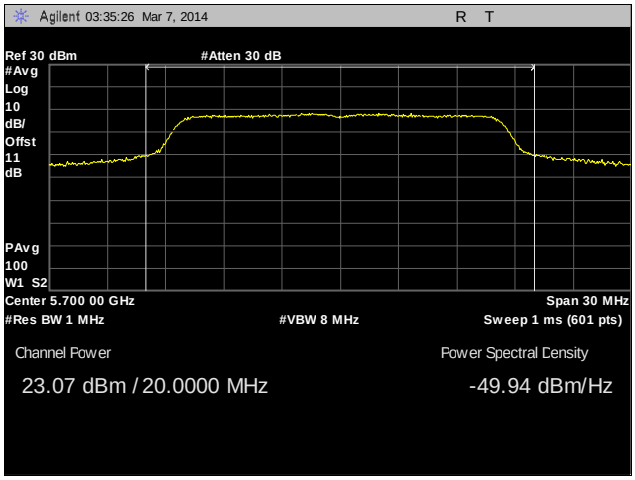
Plot 161. Power Output, Channel 64, 802.11a 20 MHz, Ant. 2



Plot 162. Power Output, Channel 100, 802.11a 20 MHz, Ant. 2



Plot 163. Power Output, Channel 116, 802.11a 20 MHz, Ant. 2



Plot 164. Power Output, Channel 140, 802.11a 20 MHz, Ant. 2

