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

June 26, 2018

Harris Corp- Communication Systems
1680 University Avenue
Rochester, NY 14610

Dear Thomas Camper, Jr,

Enclosed is the EMC Wireless test report for compliance testing of the Harris Corp- Communication Systems, Harris RF-7800W Broadband Ethernet Radio 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 (UNII 2).

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.

Joel Huna
Documentation Department

Reference: (\Harris Corp- Communication Systems\EMC93979-FCC407 UNII 2 Rev. 4)

ACCREDITED
TESTING CERT #0591.01

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Electromagnetic Compatibility Criteria
Test Report

for the

Harris Corp- Communication Systems
Model Harris RF-7800W Broadband Ethernet Radio

Tested under
the FCC Certification Rules
contained in
Title 47 of the CFR
15.407 Subpart E

MET Report: EMC93979-FCC407 UNII 2 Rev. 4

June 26, 2018

Prepared For:

Harris Corp- Communication Systems
1680 University Avenue
Rochester, NY 14610

Prepared By:
MET Laboratories, Inc.
914 West Patapsco Avenue,
Baltimore, MD 21230

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Title 47 of the CFR
15.407 Subpart E

Bradley Jones, Project Engineer
Electromagnetic Compatibility Lab

Joel Huna
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 15.407 of the FCC Rules under normal use and maintenance.

John Mason,
Director, Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
∅	March 19, 2018	Initial Issue.
1	May 22, 2018	TCB Corrections.
2	June 7, 2018	TCB Corrections.
3	June 14, 2018	Addition of Duty Cycle Information.
4	June 26, 2018	TCB Corrections to Conducted Output Power.

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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
µ**s**	**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 Harris Corp- Communication Systems Harris RF-7800W Broadband Ethernet Radio, 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 Harris RF-7800W Broadband Ethernet Radio. Harris Corp- Communication Systems should retain a copy of this document which should be kept on file for at least two years after the manufacturing of the Harris RF-7800W Broadband Ethernet Radio, 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 Harris Corp- Communication Systems, purchase order number 57121. All tests were conducted using measurement procedure ANSI C63.4-2014.

FCC Reference	Description	Results
§15.203	Antenna Requirement	Compliant
§15.403(i)	26 dB Occupied Bandwidth	Compliant
§15.407 (a)(2)	Maximum Conducted Output Power	Compliant
§15.407 (a)(2)	Maximum Power Spectral Density	Compliant
§15.407 (b)(2 – 3)& (6 - 7)	Undesirable Emissions	Compliant
§15.407(b)(6)	Conducted Emission	Compliant
§15.407(f)	RF Exposure	Compliant

Table 1. Executive Summary of EMC Part 15.407 ComplianceTesting

II. Equipment Configuration

A. Overview

MET Laboratories, Inc. was contracted by Harris Corp- Communication Systems to perform testing on the Harris RF-7800W Broadband Ethernet Radio, under Harris Corp- Communication Systems's purchase order number 57121.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the Harris Corp- Communication Systems Harris RF-7800W Broadband Ethernet Radio.

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

Model(s) Tested:	Harris RF-7800W Broadband Ethernet Radio	
Model(s) Covered:	Harris RF-7800W Broadband Ethernet Radio	
EUT Specifications:	Primary Power: 52 VDC	
	FCC ID: AQZ-RF-7800W-G2	
	Type of Modulations:	QPSK, 16-QAM, 64-QAM, 256-QAM
	Equipment Code:	NII
	Peak RF Output Power:	23.44 dBm
	EUT Frequency Ranges:	5250-5350 and 5470-5725 MHz
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35º C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Type of Filing:	Original	
Evaluated by:	Bradley Jones	
Report Date(s):	June 26, 2018	

Table 2. EUT Summary

B. References

CFR 47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices (UNII)
ANSI C63.4:2014	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 C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices
789033 D02 General UNII Test Procedures New Rules v01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
905462 DO2 UNII DFS Compliance Procedures New Rules v01r02	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5250-5350 MHz and 5470-5725 MHz Bands Incorporating Dynamic Frequency Selection

Table 3. References

C. Test Site

All testing was performed at MET Laboratories, Inc., 914 West Patapsco Avenue, 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. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Table 4. Uncertainty Calculations Summary

E. Description of Test Sample

The Harris Corp- Communication Systems Harris RF-7800W Broadband Ethernet Radio, Equipment Under Test (EUT), is used to provide long-range, high-throughput Ethernet network backhaul in outdoor point-to-point and point-to-multipoint scenarios.

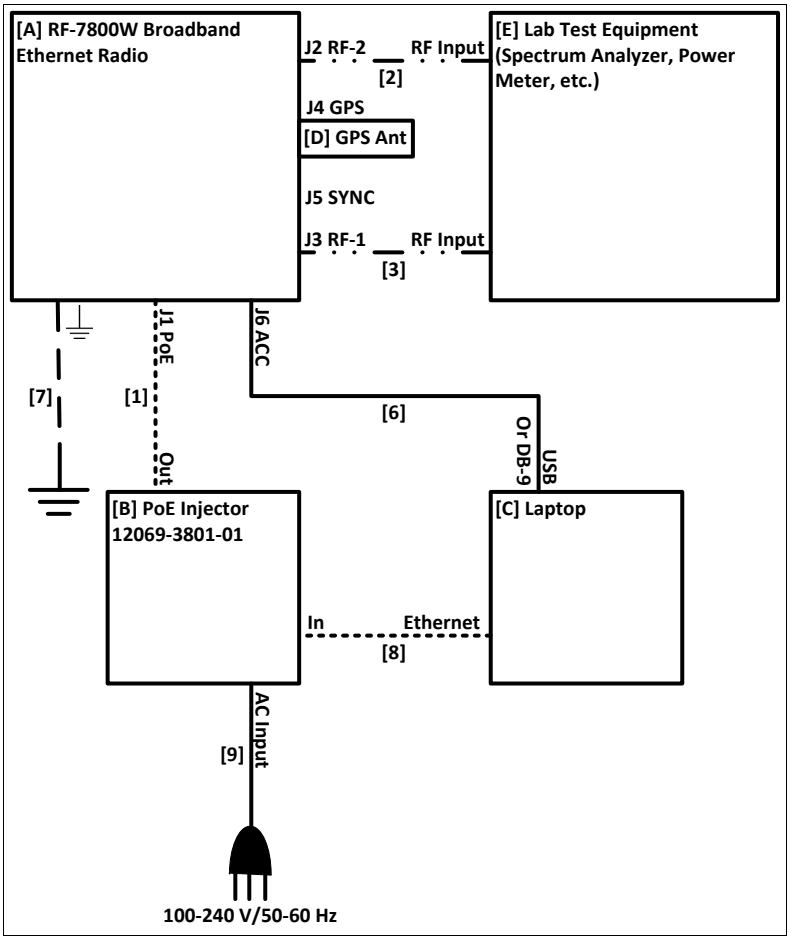


Figure 1. Block Diagram of Test Configuration

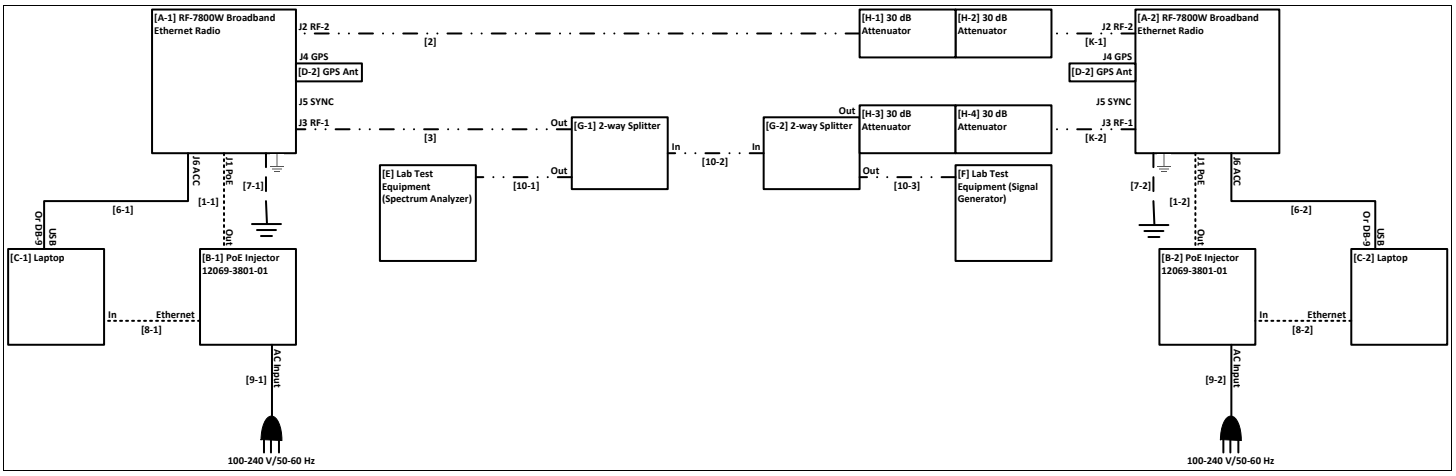


Figure 2: DFS Test Setup

F. 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. #
A		Broadband Ethernet Radio	RF-7800W-OU501	12069-3010-02	A03392 or A03393	T502C

Table 5. Equipment Configuration

G. Support Equipment

Support equipment necessary for the operation and testing of the EUT is included in the following list.

Ref. ID	Name / Description	Manufacturer	Model Number	*Customer Supplied Calibration Data
B	PoE Injector	Black Box	LPJ001-T	Not Applicable
C	Laptop	Panasonic	CF-29/CF-31	Not Applicable
D	GPS Antenna	Harris	12069-3160-01	Not Applicable
E	Lab Test Equipment (Spectrum Analyzer)			
F	Lab Test Equipment (Signal Generator)			
G	2-way Splitter	Narda	4314B-2	Not Available
H	30 dB Attenuator	Narda	Micro-Pad 4779-30	Not Available
K	N-to-SMA Adaptor			Not Available
The 'Customer Supplied Calibration Data' column will be marked as either not applicable, not available, or will contain the calibration date supplied by the customer.				

Table 6. Support Equipment

H. 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	J1 PoE	Power over Ethernet (Cat6)	1	~30	90	Yes	B.Out
2	J2 RF-2	Coaxial RF (N-to-SMA)	1	12	0.5	Yes	E.RF Input
3	J3 RF-1	Coaxial RF (N-to-SMA)	1	12	0.5	Yes	E.RF Input
4	J4 GPS	Direct connection to GPS Antenna (refer to Ref ID *D*)	1	N/A	N/A	N/A	D
5	J5 SYNC	Unused, future use	-	N/A	N/A	N/A	N/A
6	J6 ACC	Configuration/Monitoring (Serial Communications)	1	15	90	Yes	C.USB Or C.DB-9
7	⏚	Ground Strap	1	0.5	0.5	N/A	Ground
8	In	Ethernet (Cat6)	1	3	100 minus length of Ref ID *1*	Yes	C.Ethernet
9	N/A	AC Input	1	1.8	2	No	100-240 V/50-60 Hz
10	N/A	Coaxial RF (SMA-to-SMA)	3	1	N/A	Yes	N/A

Table 7. Ports and Cabling Information

I. Mode of Operation

Emissions:
The RF-7800W Broadband Ethernet Radio will be put into constant transmit mode and its RF transmissions will be measured on the lab test equipment (Spectrum Analyzer, Power Meter, etc.).
DFS:
One RF-7800W Broadband Ethernet Radio will be put into Master mode (SPTP SC) and the other will be put into Client mode (SPTP SS).

J. Method of Monitoring EUT Operation

Emissions:

1. RF transmissions will be present on the lab test equipment (Spectrum Analyzer, Power Meter, etc.).

2. RF transmissions will not be present on the lab test equipment (Spectrum Analyzer, Power Meter, etc.).

DFS:

1. RF transmissions will not be present on the lab test equipment (Spectrum Analyzer) for the prescribed Non-Occupancy Period, etc., or change to a new operating RF frequency, depending on the configured DFS Action.

2. RF transmissions continue to be present on the lab test equipment (Spectrum Analyzer) during the prescribed Non-Occupancy Period, etc., or do not change to a new operating RF frequency, depending on the configured DFS Action.

K. 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.

L. Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to Harris Corp- Communication Systems 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 the criteria of §15.203. The antenna will be professionally installed.

Test Engineer(s): Bradley Jones

Test Date(s): December 19, 2017

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15. 403(i) 26dB Bandwidth

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

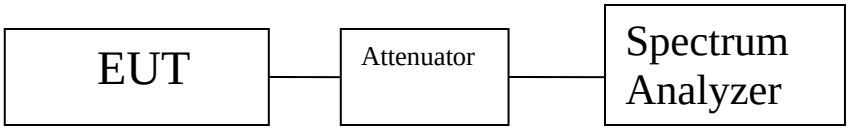
Test Procedure: The transmitter was set to low, mid, and high operating frequencies at the highest output power and connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using a RBW approximately equal to 1% of the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

Test Results The 26 dB Bandwidth was compliant with the requirements of this section.

No anomalies detected.

Test Engineer(s): Bradley Jones

Test Date(s): November 21, 2017



Note: All testing was performed using QPSK 1/16 modulation.

Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
20	5260	22.166
20	5300	25.089
20	5330	21.244
20	5490	20.69
20	5595	20.781
20	5700	21.129
40	5270	42.479
40	5300	42.06
40	5330	42.213
40	5490	42.498
40	5595	42.140
40	5700	42.034

Table 8. 3ft Para, 26 dB Occupied Bandwidth, Test Results

Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
10	5255	10.649
10	5300	10.627
10	5330	10.646
10	5490	10.502
10	5595	10.587
10	5700	10.714
20	5260	20.818
20	5300	20.704
20	5330	20.618
20	5490	20.599
20	5595	20.719
20	5700	20.646
40	5270	41.786
40	5300	42.203
40	5329	59.022
40	5491	41.945
40	5595	41.892
40	5700	42.008

Table 9. 2ft Panel, 26 dB Occupied Bandwidth, Test Results

Note: All testing was performed using QPSK 1/16 modulation.

Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
5	5252.5	5.163
5	5300	5.167
5	5330	5.128
5	5490	5.263
5	5595	5.161
5	5700	5.166
10	5255	10.633
10	5300	10.618
10	5330	10.532
10	5490	10.496
10	5595	10.606
10	5700	10.616
20	5260	20.581
20	5300	20.509
20	5330	20.467
20	5490	20.605
20	5595	20.442
20	5700	20.441
40	5270	41.866
40	5300	42.083
40	5329	59.462
40	5491	58.896
40	5595	41.724
40	5700	41.672

Table 10. 1ft Panel, 26 dB Occupied Bandwidth, Test Results

Note: All testing was performed using QPSK 1/16 modulation.

Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
5	5252.5	5.221
5	5300	5.112
5	5330	5.216
5	5490	5.135
5	5595	5.197
5	5700	5.202
10	5255	10.573
10	5300	10.581
10	5330	10.544
10	5490	10.699
10	5595	10.606
10	5700	10.555
20	5260	20.571
20	5300	20.424
20	5330	20.526
20	5490	20.35
20	5595	20.56
20	5700	20.459
40	5270	42.152
40	5300	41.637
40	5329	41.46
40	5491	41.899
40	5595	41.836
40	5700	42.269

Table 11. 90 Sector, 26 dB Occupied Bandwidth, Test Results

Note: All testing was performed using QPSK 1/16 modulation.

Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
5	5252.5	5.113
5	5300	5.109
5	5330	5.195
5	5490	5.159
5	5595	5.178
5	5700	5.174
10	5255	10.524
10	5300	10.512
10	5330	10.6
10	5490	10.651
10	5595	10.566
10	5700	10.519
20	5260	20.647
20	5300	20.521
20	5330	20.372
20	5490	20.468
20	5595	20.513
20	5700	20.435
40	5270	41.825
40	5300	42.169
40	5330	42.869
40	5490	47.725
40	5595	42.164
40	5700	41.797

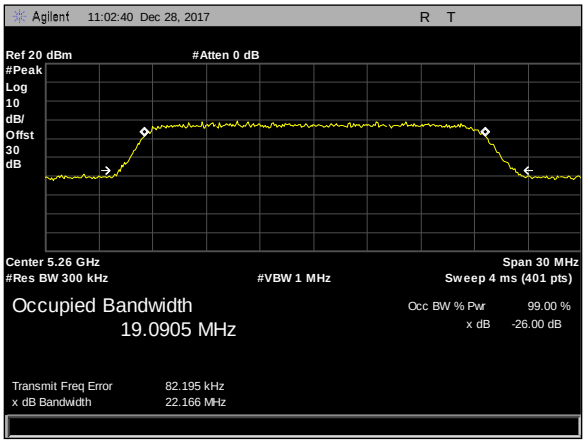
Table 12. 8 Omni, 26 dB Occupied Bandwidth, Test Results

Note: All testing was performed using QPSK 1/16 modulation.

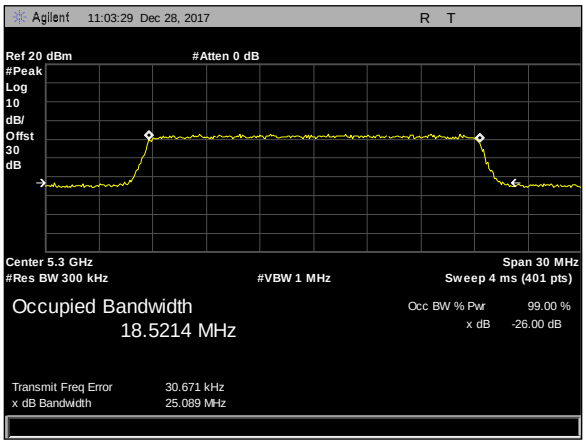
Nominal bandwidth(MHz)	Test frequency (MHz)	RF2
		26 dB Bandwidth(MHz)
5	5252.5	5.135
5	5300	5.174
5	5330	5.175
5	5490	5.168
5	5595	5.195
5	5700	5.244
10	5255	10.533
10	5300	10.775
10	5330	10.588
10	5490	10.602
10	5595	10.548
10	5700	10.692
20	5260	20.365
20	5300	20.57
20	5330	20.579
20	5490	20.29
20	5595	20.639
20	5700	20.429
40	5270	42.271
40	5300	41.882
40	5330	42.021
40	5490	42.542
40	5595	42.222
40	5700	41.758

Table 13. 5 Omni, 26 dB Occupied Bandwidth, Test Results

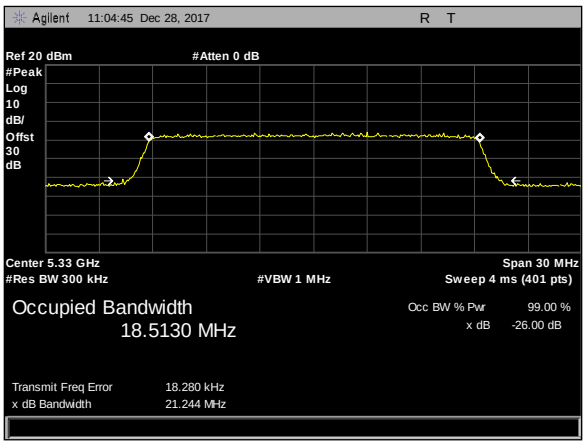
Note: All testing was performed using QPSK 1/16 modulation.



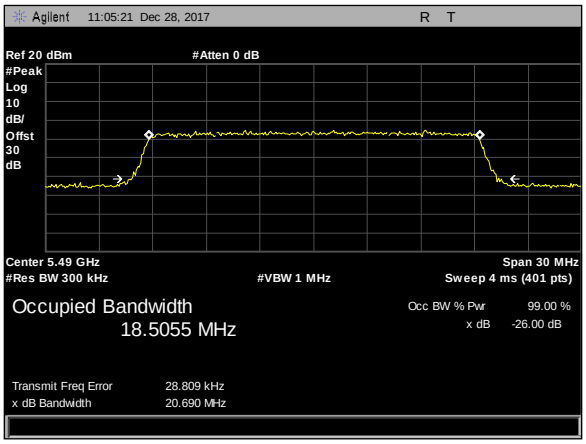
Plot 1. 26 dB Occupied Bandwidth, 3Para, 20M, 5260M, rf2



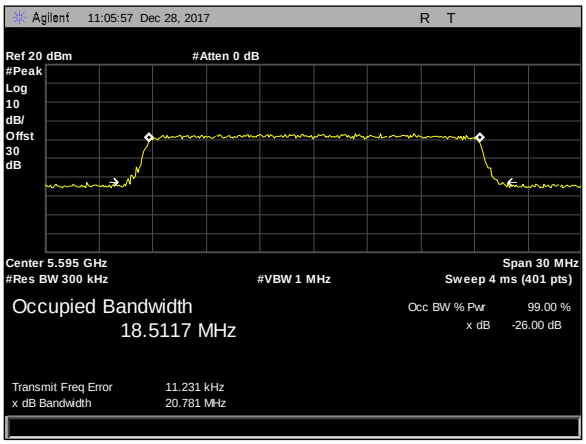
Plot 2. 26 dB Occupied Bandwidth, 3Para, 20M, 5300M, rf2



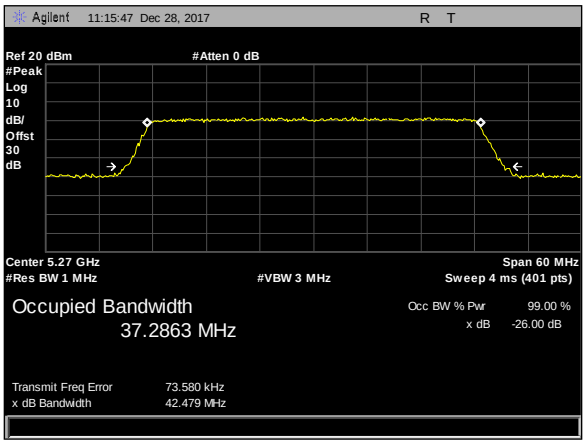
Plot 3. 26 dB Occupied Bandwidth, 3Para, 20M, 5330M, rf2



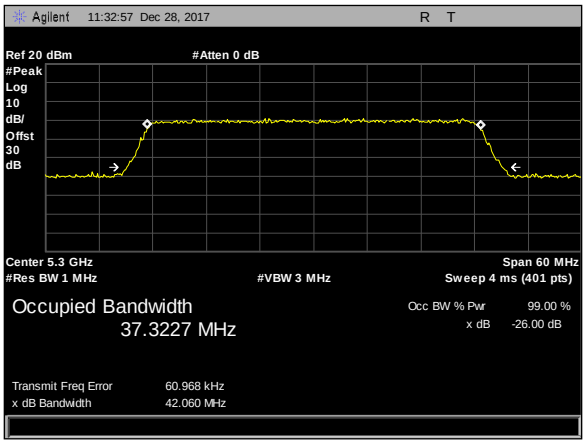
Plot 4. 26 dB Occupied Bandwidth, 3Para, 20M, 5490M, rf2



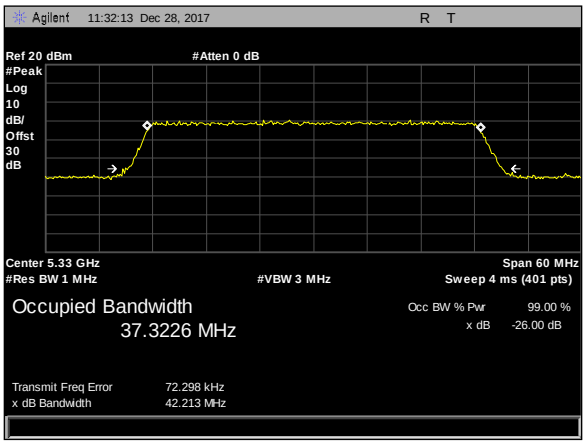
Plot 5. 26 dB Occupied Bandwidth, 3Para, 20M, 5595M, rf2



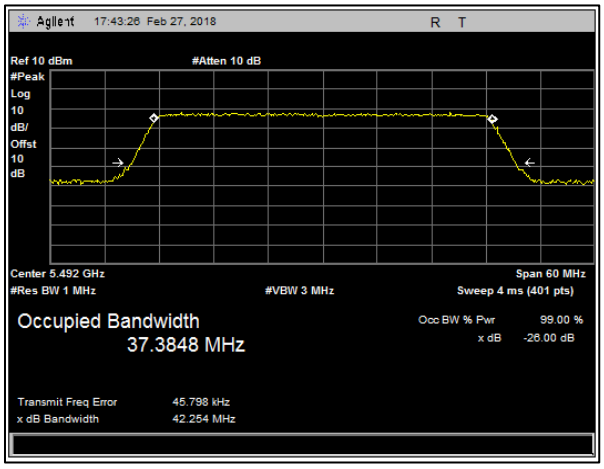
Plot 6. 26 dB Occupied Bandwidth, 3Para, 40M, 5270M, rf2



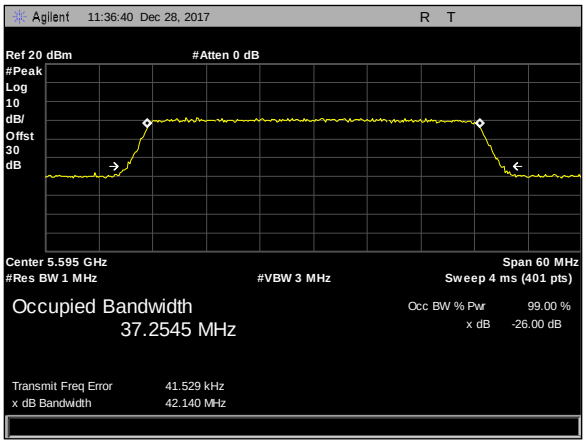
Plot 7. 26 dB Occupied Bandwidth, 3Para, 40M, 5300M, rf2



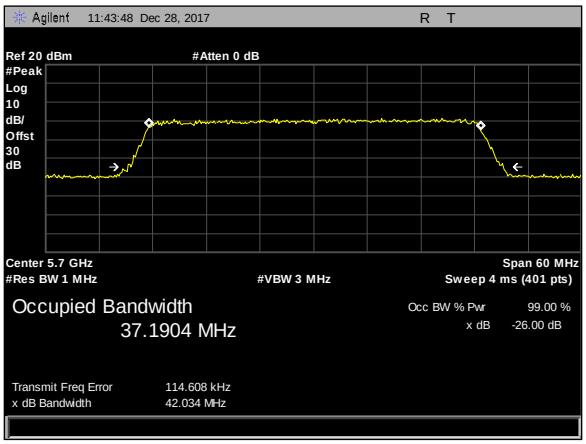
Plot 8. 26 dB Occupied Bandwidth, 3Para, 40M, 5330M, rf2



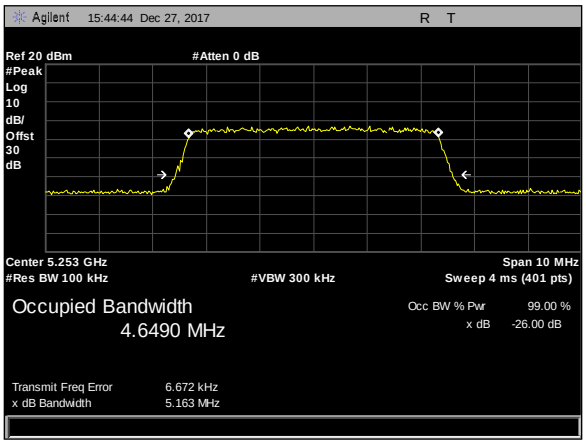
Plot 9. 26 dB Occupied Bandwidth, 3Para, 40M, 5492M, rf2



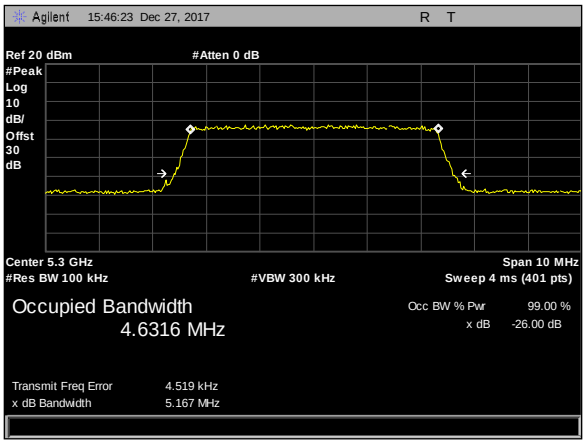
Plot 10. 26 dB Occupied Bandwidth, 3Para, 40M, 5595M, rf2



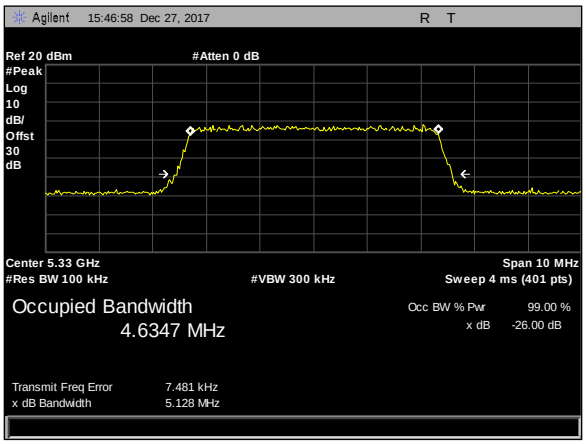
Plot 11. 26 dB Occupied Bandwidth, 3Para, 40M, 5700M, rf2



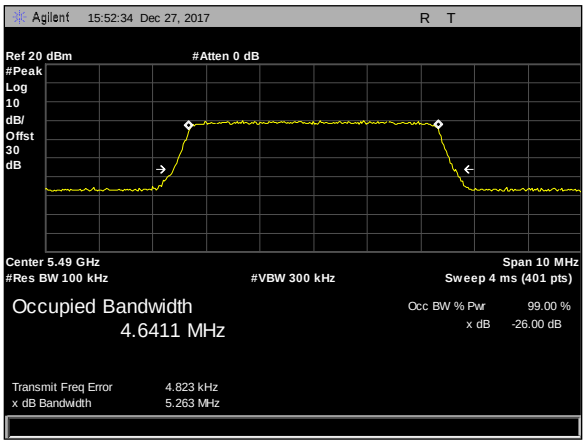
Plot 12. 26 dB Occupied Bandwidth, 1Panel, 5M, 5252.5M, rf2



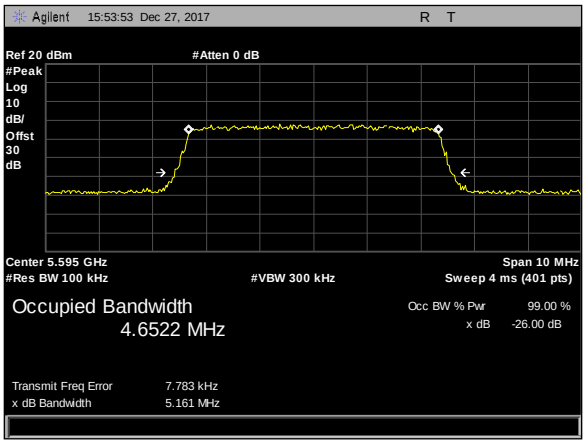
Plot 13. 26 dB Occupied Bandwidth, 1Panel, 5M, 5300M, rf2



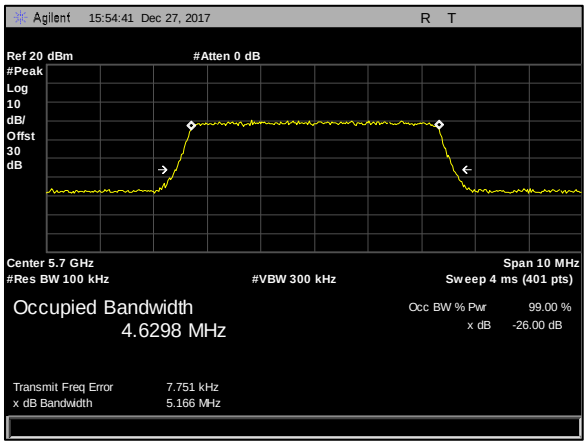
Plot 14. 26 dB Occupied Bandwidth, 1Panel, 5M, 5330M, rf2



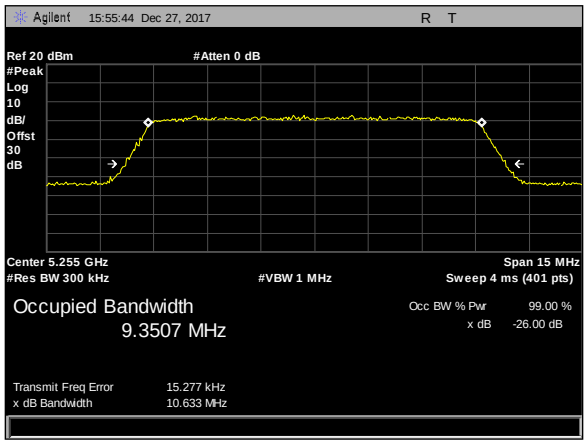
Plot 15. 26 dB Occupied Bandwidth, 1Panel, 5M, 5490M, rf2



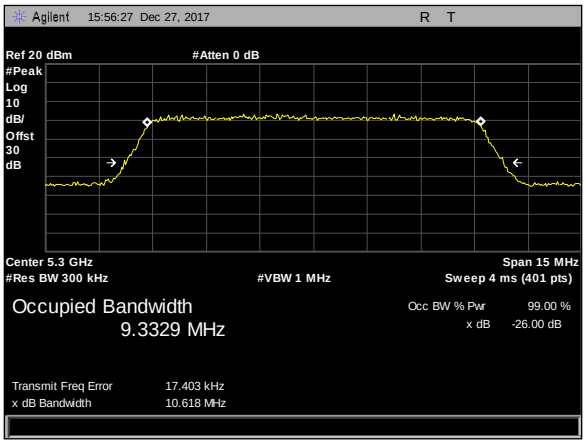
Plot 16. 26 dB Occupied Bandwidth, 1Panel, 5M, 5595M, rf2



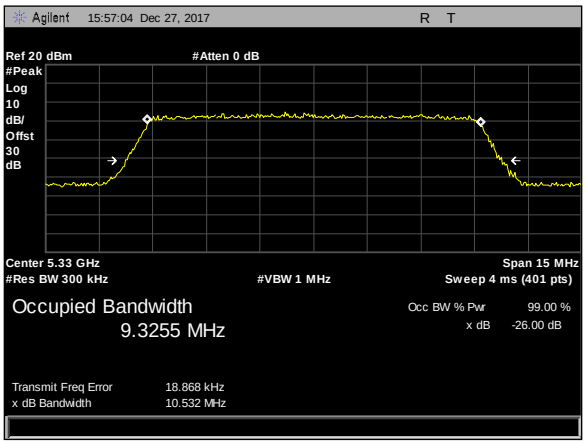
Plot 17. 26 dB Occupied Bandwidth, 1Panel, 5M, 5700M, rf2



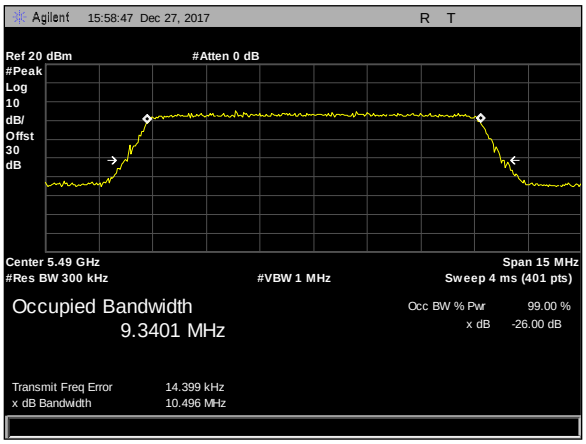
Plot 18. 26 dB Occupied Bandwidth, 1Panel, 10M, 5255M, rf2



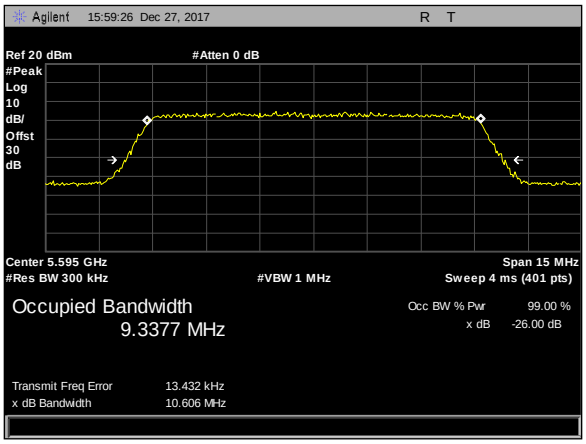
Plot 19. 26 dB Occupied Bandwidth, 1Panel, 10M, 5300M, rf2



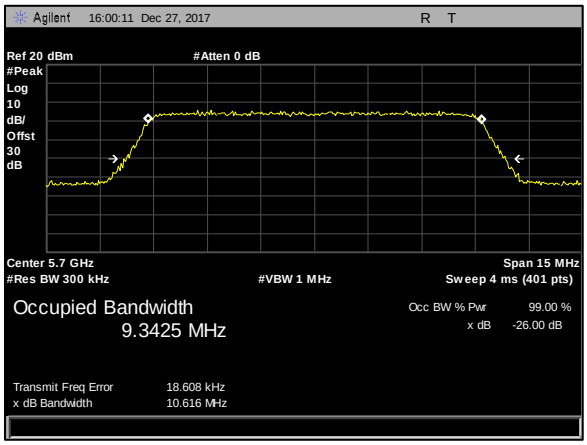
Plot 20. 26 dB Occupied Bandwidth, 1Panel, 10M, 5330M, rf2



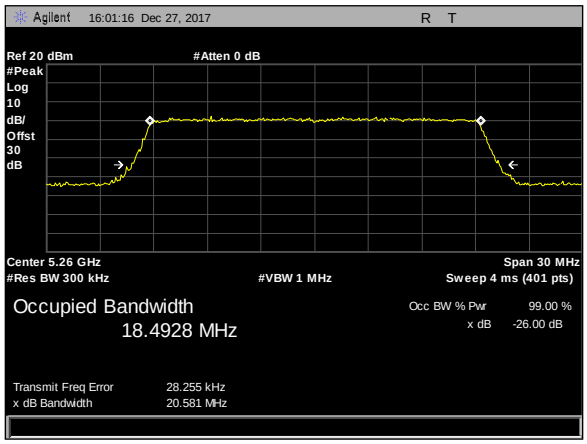
Plot 21. 26 dB Occupied Bandwidth, 1Panel, 10M, 5490M, rf2



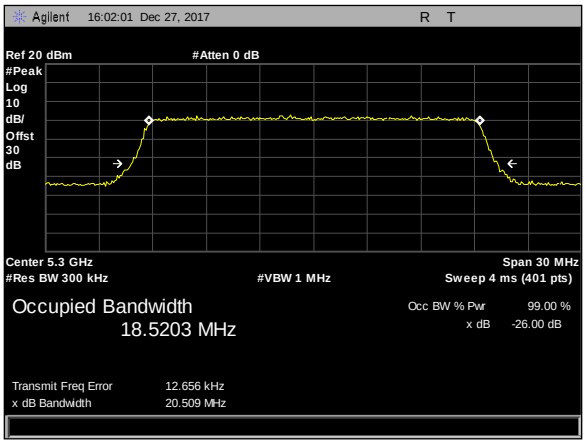
Plot 22. 26 dB Occupied Bandwidth, 1Panel, 10M, 5595M, rf2



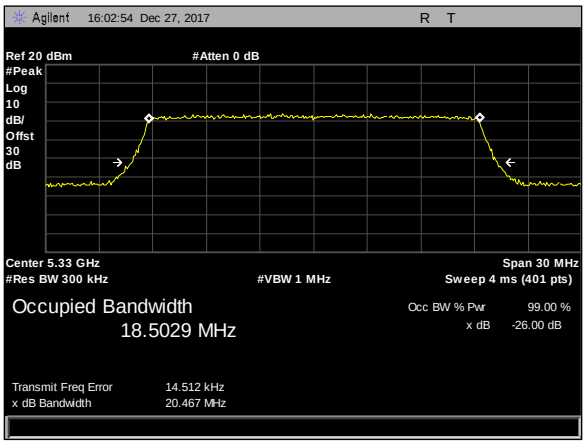
Plot 23. 26 dB Occupied Bandwidth, 1Panel, 10M, 5700M, rf2



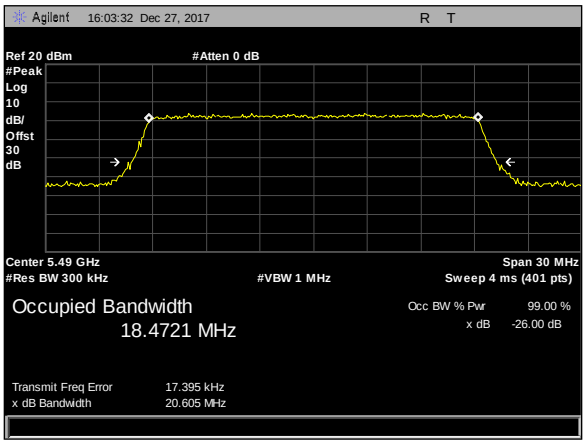
Plot 24. 26 dB Occupied Bandwidth, 1Panel, 20M, 5260M, rf2



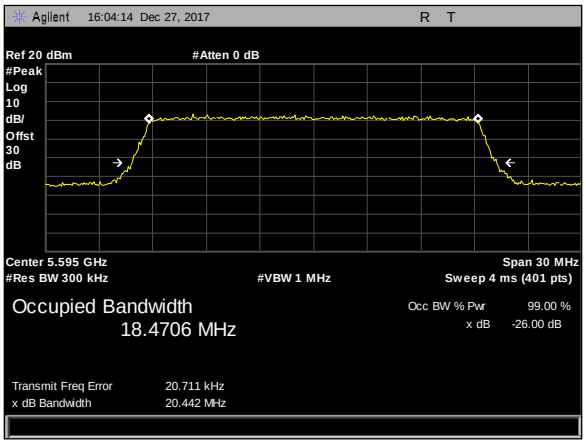
Plot 25. 26 dB Occupied Bandwidth, 1Panel, 20M, 5300M, rf2



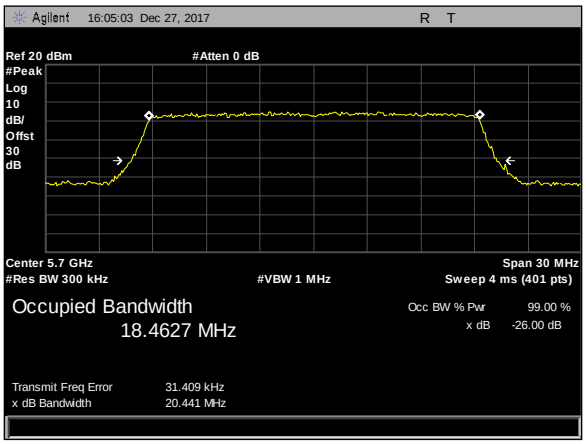
Plot 26. 26 dB Occupied Bandwidth, 1Panel, 20M, 5330M, rf2



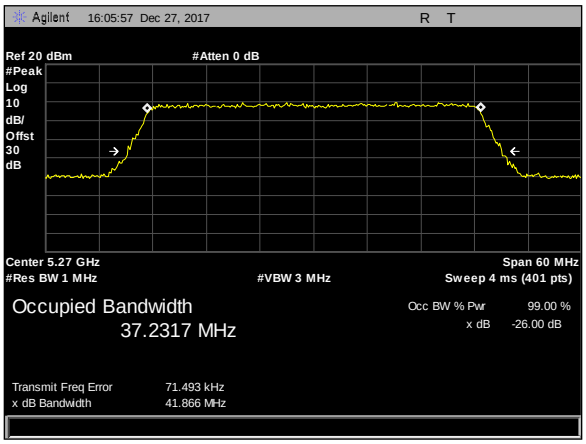
Plot 27. 26 dB Occupied Bandwidth, 1Panel, 20M, 5490M, rf2



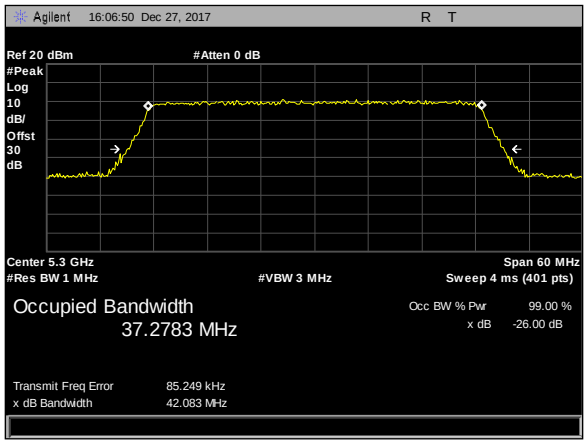
Plot 28. 26 dB Occupied Bandwidth, 1Panel, 20M, 5595M, rf2



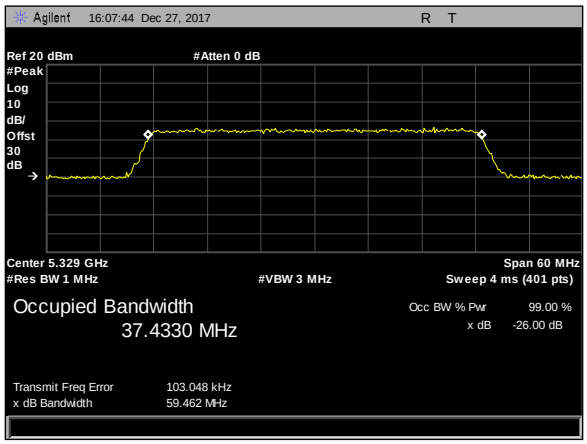
Plot 29. 26 dB Occupied Bandwidth, 1Panel, 20M, 5700M, rf2



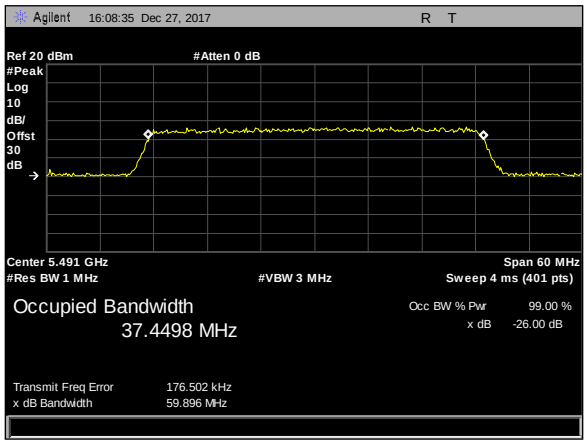
Plot 30. 26 dB Occupied Bandwidth, 1Panel, 40M, 5270M, rf2



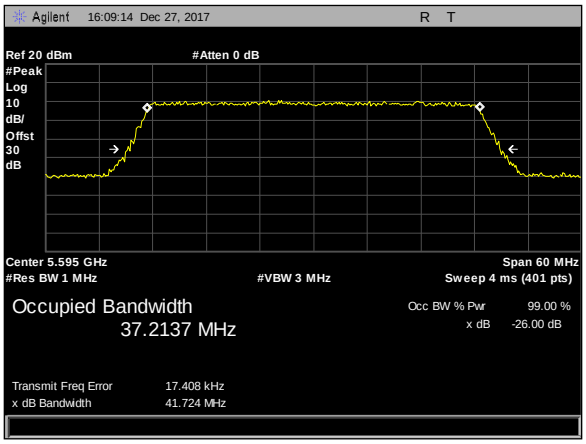
Plot 31. 26 dB Occupied Bandwidth, 1Panel, 40M, 5300M, rf2



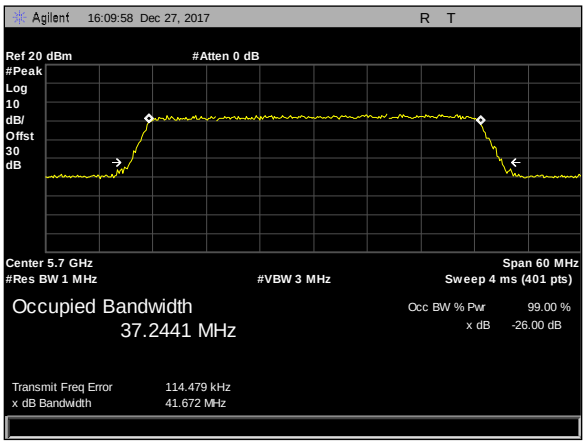
Plot 32. 26 dB Occupied Bandwidth, 1Panel, 40M, 5329M, rf2



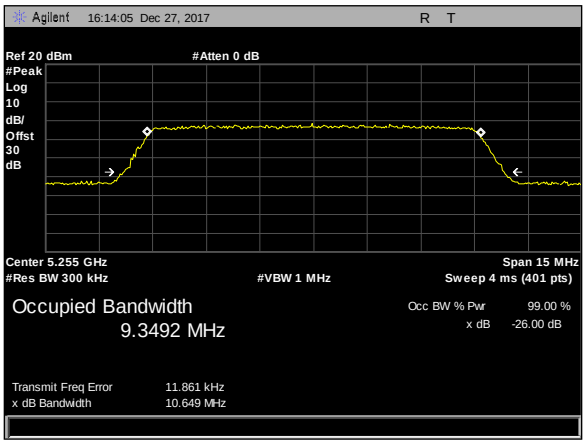
Plot 33. 26 dB Occupied Bandwidth, 1Panel, 40M, 5491M, rf2



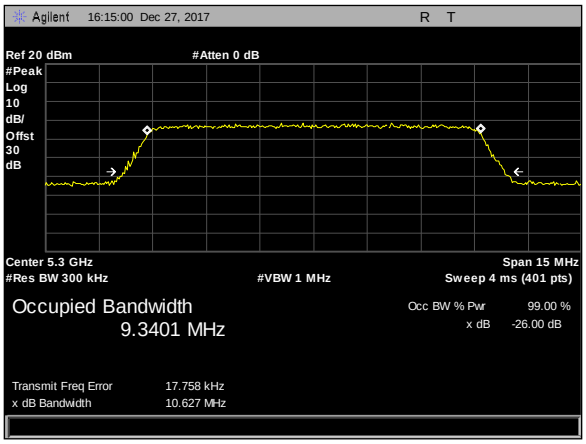
Plot 34. 26 dB Occupied Bandwidth, 1Panel, 40M, 5595M, rf2



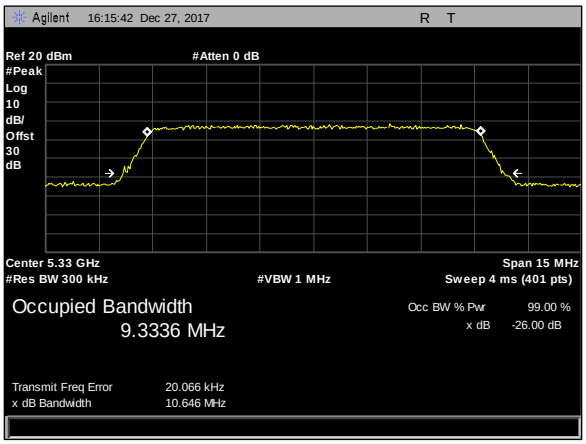
Plot 35. 26 dB Occupied Bandwidth, 1Panel, 40M, 5700M, rf2



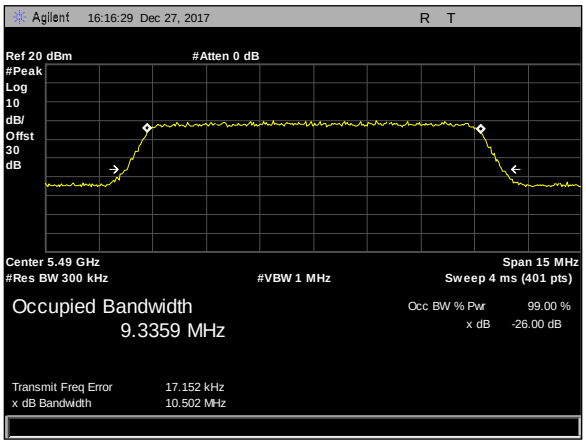
Plot 36. 26 dB Occupied Bandwidth, 2Panel, 10M, 5255M, rf2



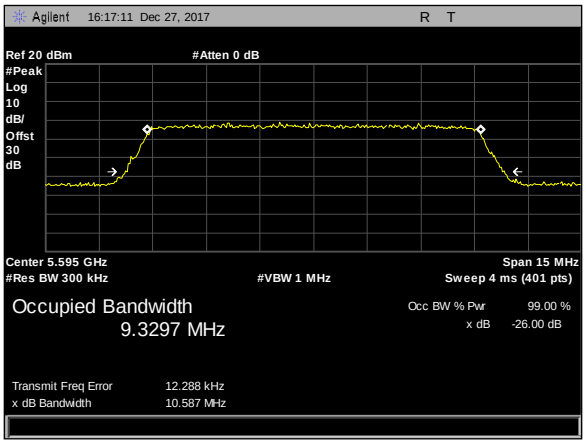
Plot 37. 26 dB Occupied Bandwidth, 2Panel, 10M, 5300M, rf2



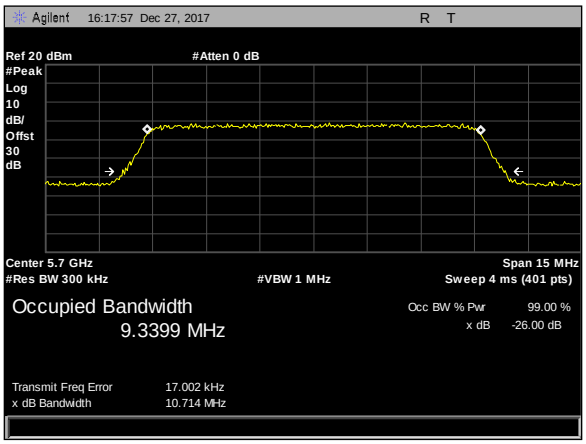
Plot 38. 26 dB Occupied Bandwidth, 2Panel, 10M, 5330M, rf2



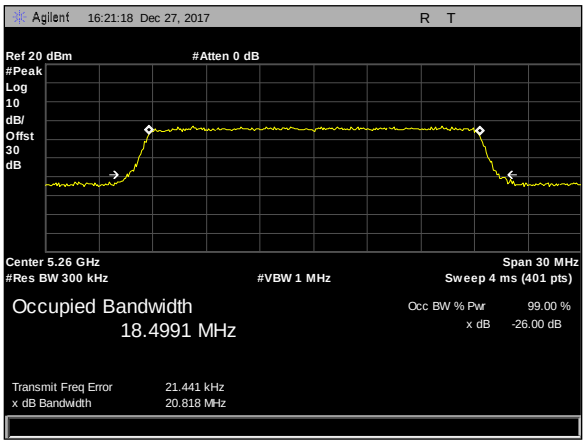
Plot 39. 26 dB Occupied Bandwidth, 2Panel, 10M, 5490M, rf2



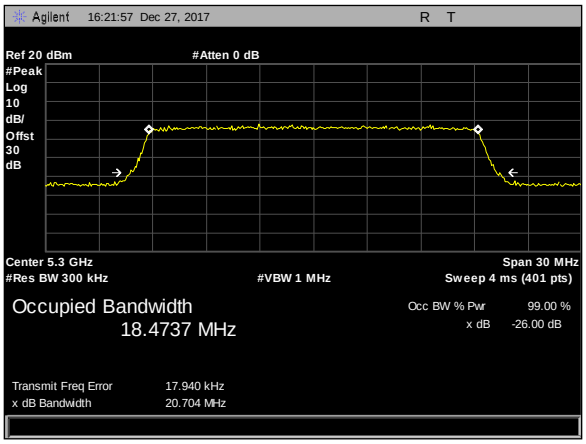
Plot 40. 26 dB Occupied Bandwidth, 2Panel, 10M, 5595M, rf2



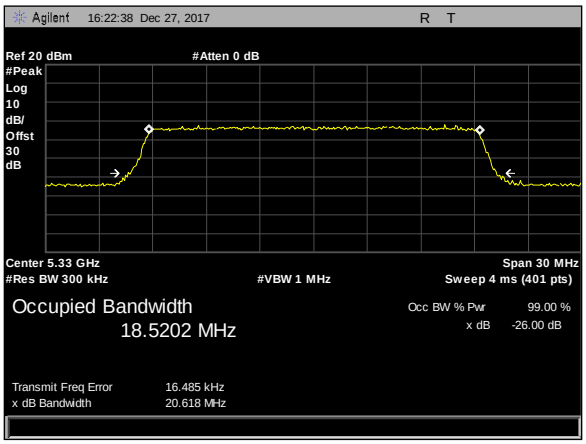
Plot 41. 26 dB Occupied Bandwidth, 2Panel, 10M, 5700M, rf2



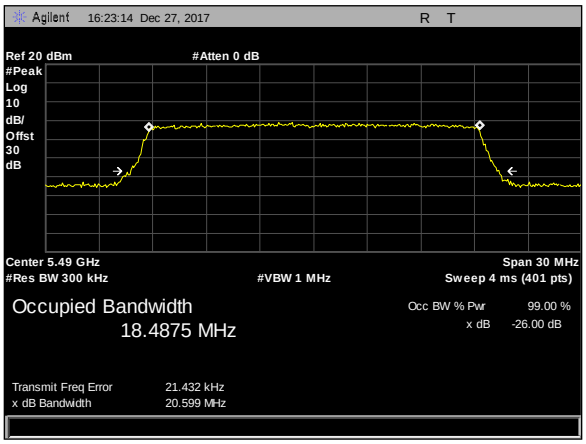
Plot 42. 26 dB Occupied Bandwidth, 2Panel, 20M, 5260M, rf2



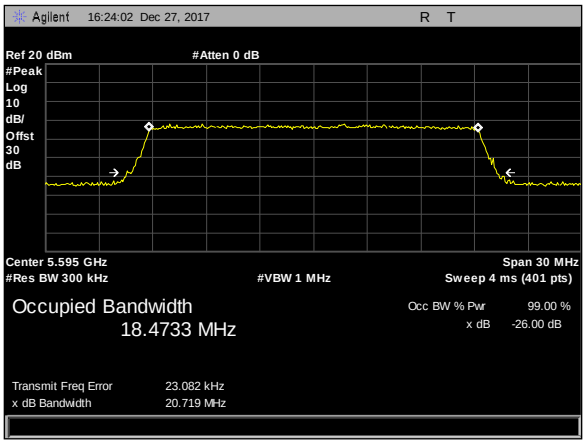
Plot 43. 26 dB Occupied Bandwidth, 2Panel, 20M, 5300M, rf2



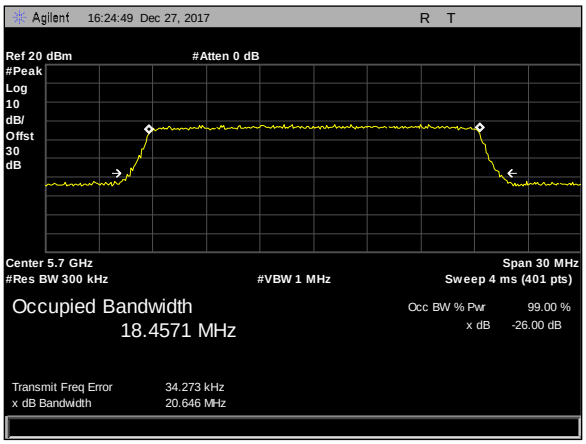
Plot 44. 26 dB Occupied Bandwidth, 2Panel, 20M, 5330M, rf2



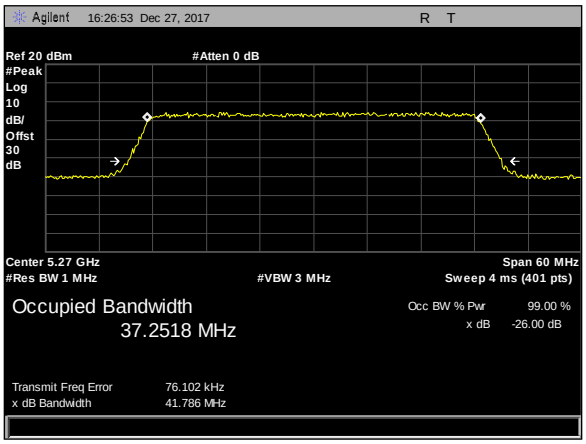
Plot 45. 26 dB Occupied Bandwidth, 2Panel, 20M, 5490M, rf2



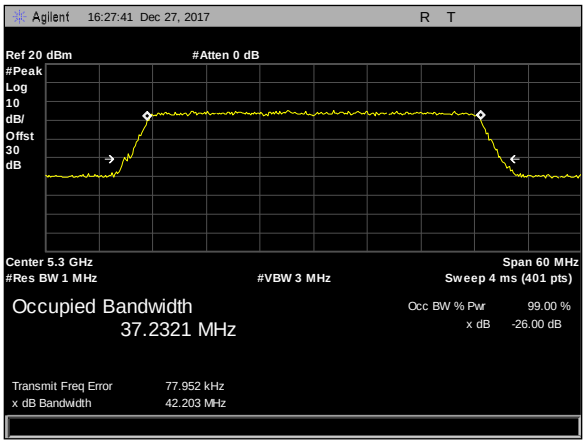
Plot 46. 26 dB Occupied Bandwidth, 2Panel, 20M, 5595M, rf2



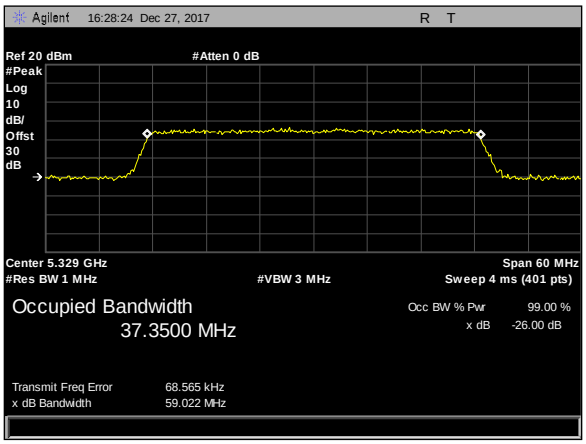
Plot 47. 26 dB Occupied Bandwidth, 2Panel, 20M, 5700M, rf2



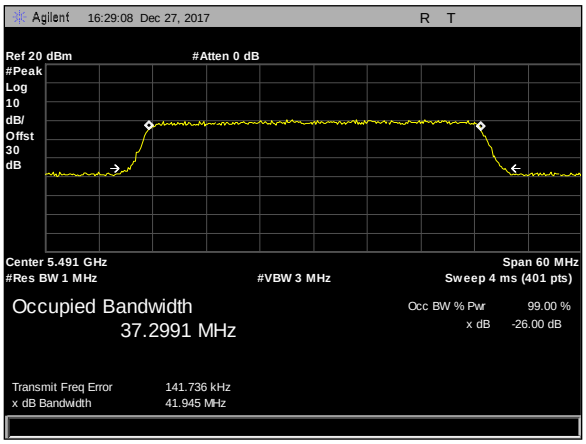
Plot 48. 26 dB Occupied Bandwidth, 2Panel, 40M, 5270M, rf2



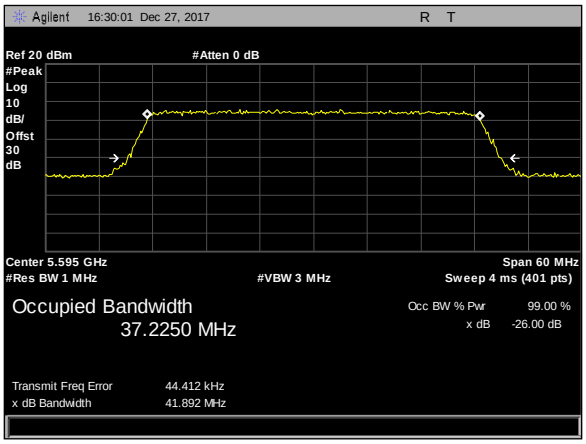
Plot 49. 26 dB Occupied Bandwidth, 2Panel, 40M, 5300M, rf2



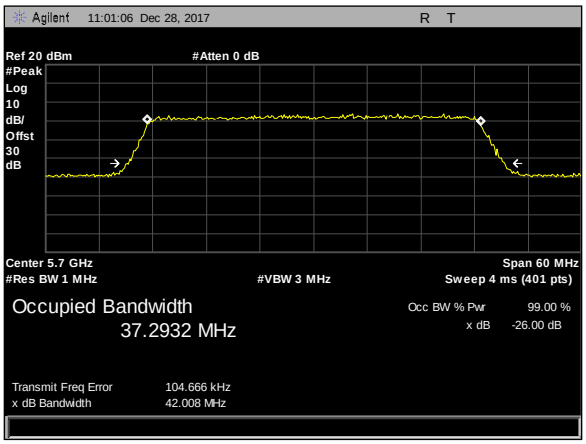
Plot 50. 26 dB Occupied Bandwidth, 2Panel, 40M, 5329M, rf2



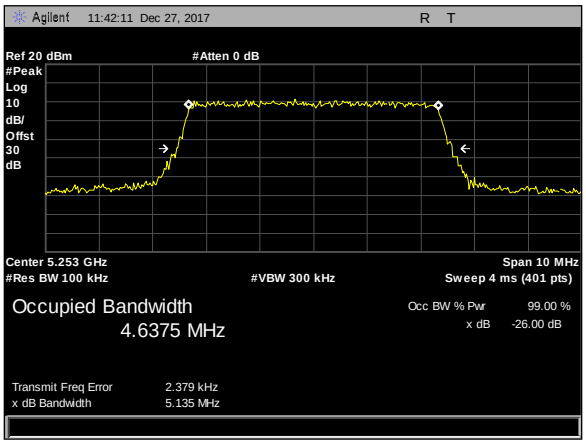
Plot 51. 26 dB Occupied Bandwidth, 2Panel, 40M, 5491M, rf2



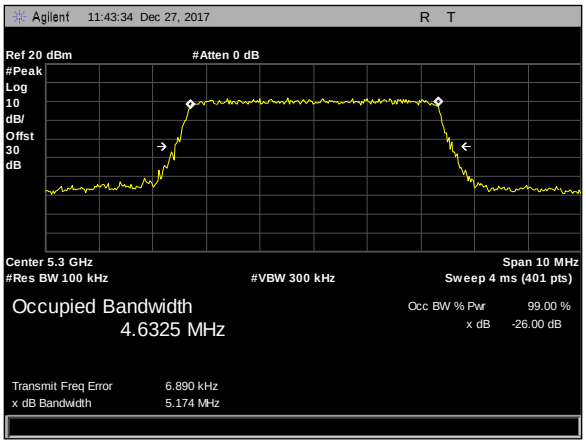
Plot 52. 26 dB Occupied Bandwidth, 2Panel, 40M, 5595M, rf2



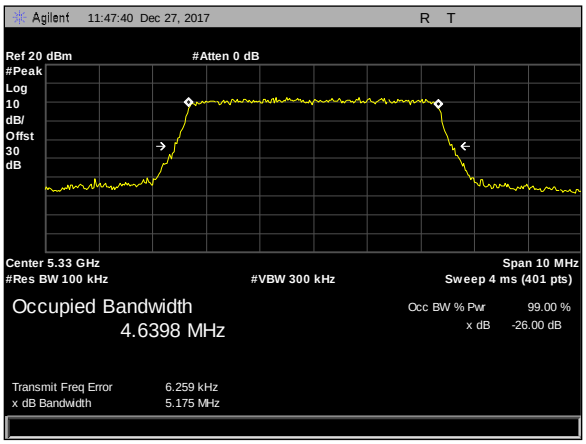
Plot 53. 26 dB Occupied Bandwidth, 2Panel, 40M, 5700M, rf2



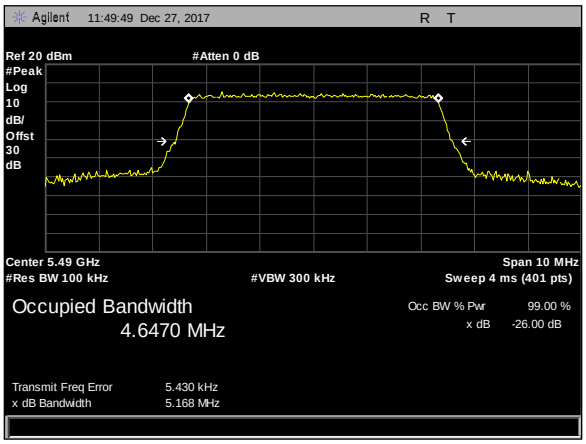
Plot 54. 26 dB Occupied Bandwidth, 5Omni, 5M, 5252.5M, rf2



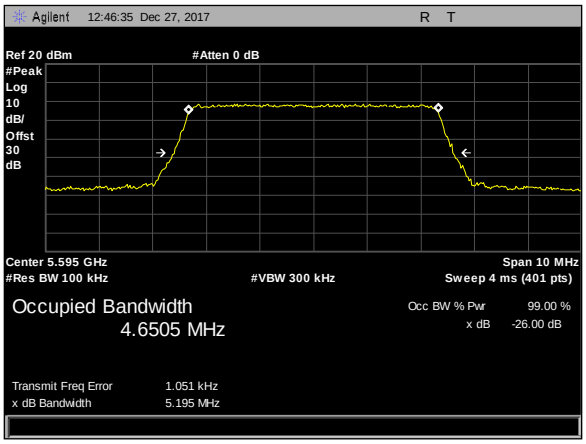
Plot 55. 26 dB Occupied Bandwidth, 5Omni, 5M, 5300M, rf2



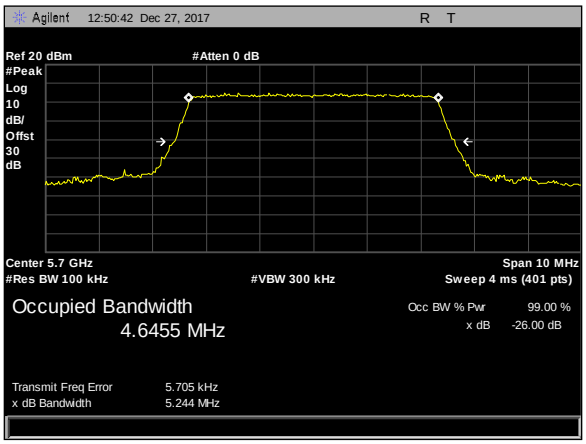
Plot 56. 26 dB Occupied Bandwidth, 5Omni, 5M, 5330M, rf2



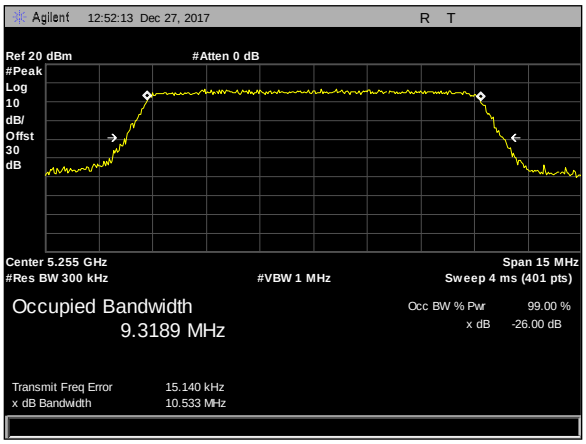
Plot 57. 26 dB Occupied Bandwidth, 5Omni, 5M, 5490M, rf2



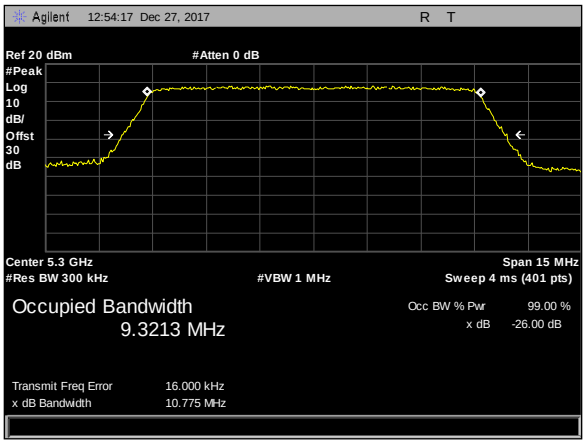
Plot 58. 26 dB Occupied Bandwidth, 5Omni, 5M, 5595M, rf2



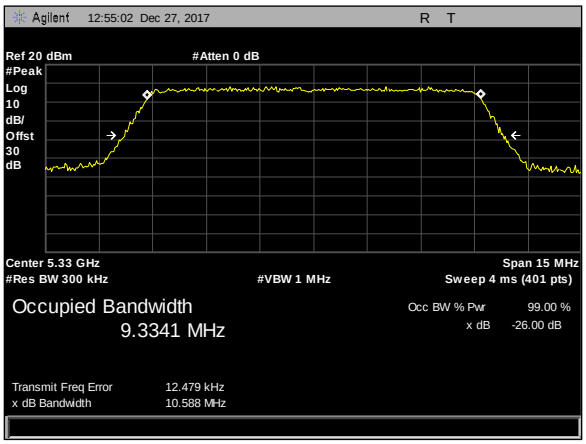
Plot 59. 26 dB Occupied Bandwidth, 5Omni, 5M, 5700M, rf2



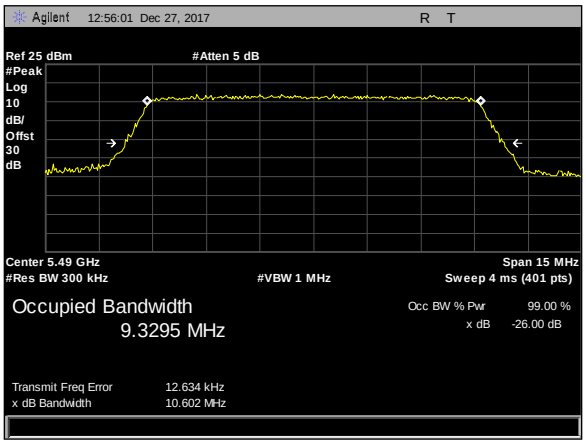
Plot 60. 26 dB Occupied Bandwidth, 5Omni, 10M, 5255M, rf2



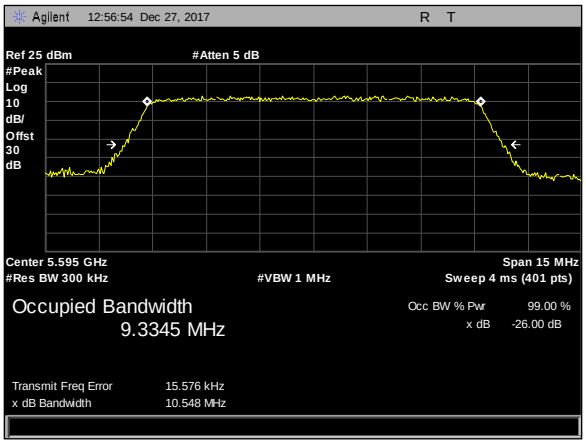
Plot 61. 26 dB Occupied Bandwidth, 5Omni, 10M, 5300M, rf2



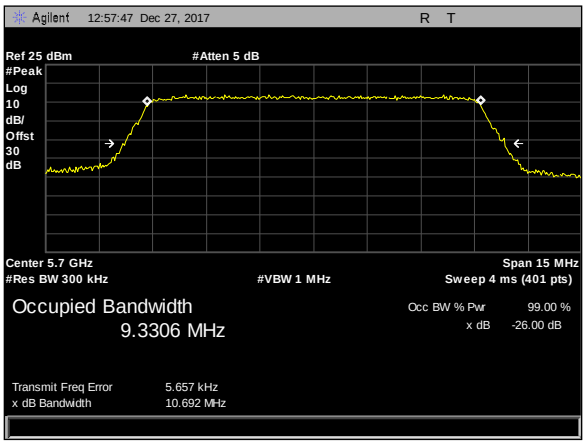
Plot 62. 26 dB Occupied Bandwidth, 5Omni, 10M, 5330M, rf2



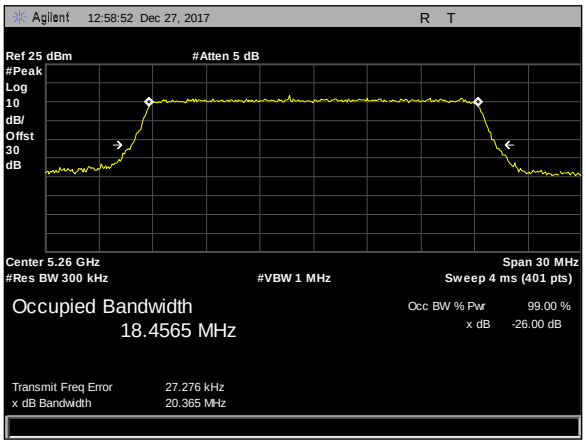
Plot 63. 26 dB Occupied Bandwidth, 5Omni, 10M, 5490M, rf2



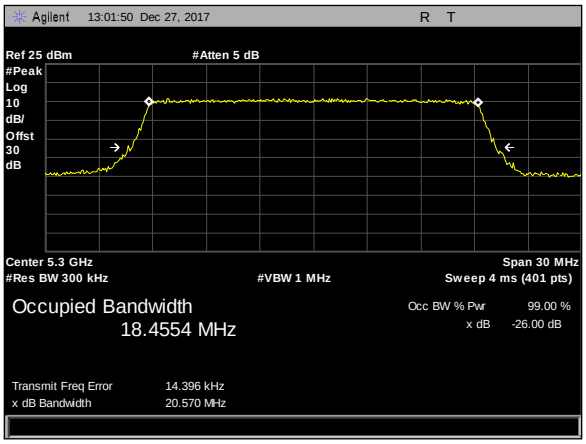
Plot 64. 26 dB Occupied Bandwidth, 5Omni, 10M, 5595M, rf2



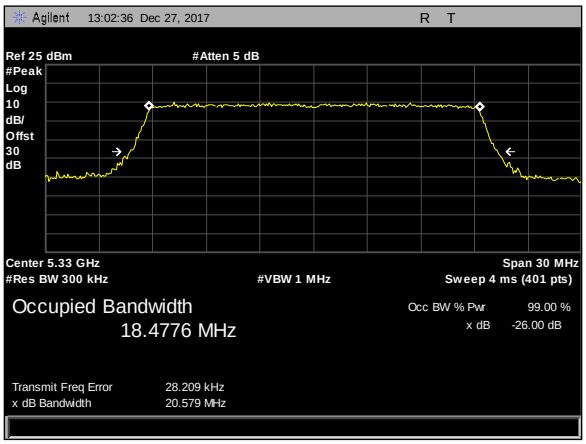
Plot 65. 26 dB Occupied Bandwidth, 5Omni, 10M, 5700M, rf2



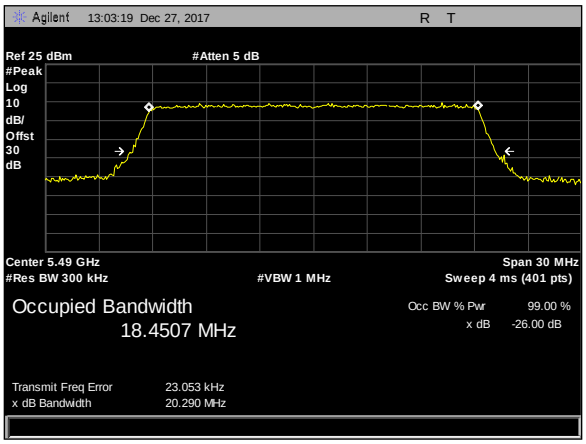
Plot 66. **26 dB Occupied Bandwidth, 5Omni, 20M, 5260M, rf2**



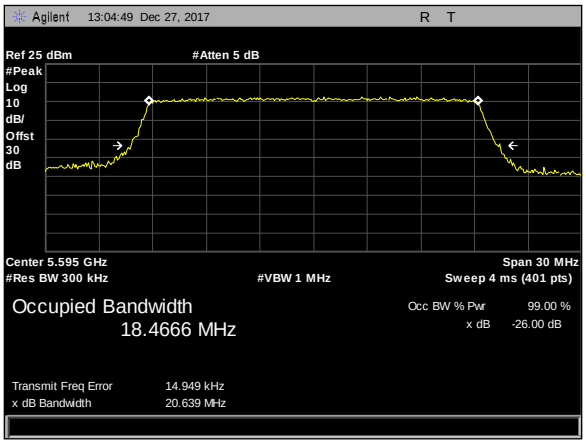
Plot 67. 26 dB Occupied Bandwidth, 5Omni, 20M, 5300M, rf2



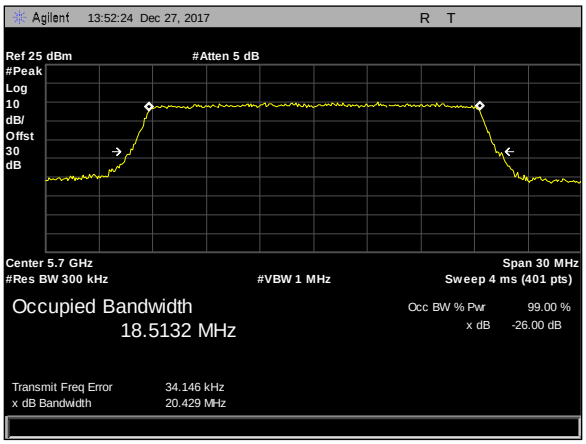
Plot 68. 26 dB Occupied Bandwidth, 5Omni, 20M, 5330M, rf2



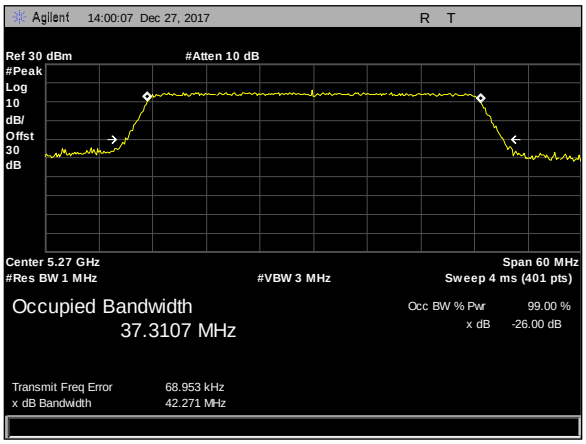
Plot 69. 26 dB Occupied Bandwidth, 5Omni, 20M, 5490M, rf2



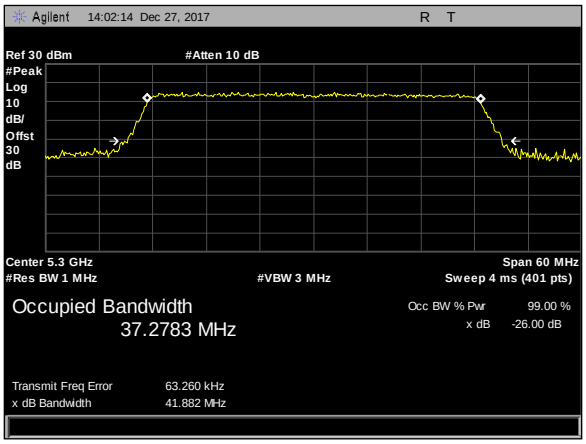
Plot 70. 26 dB Occupied Bandwidth, 5Omni, 20M, 5595M, rf2



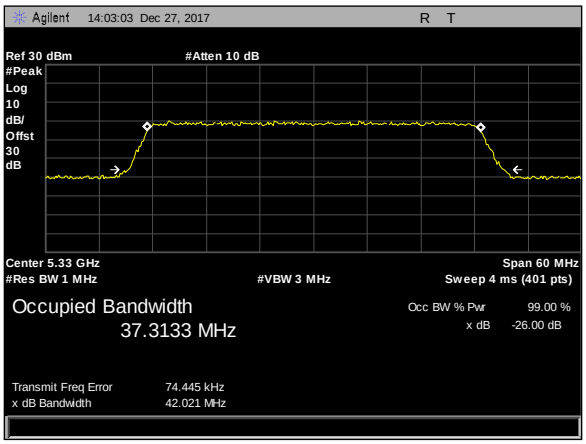
Plot 71. 26 dB Occupied Bandwidth, 5Omni, 20M, 5700M, rf2



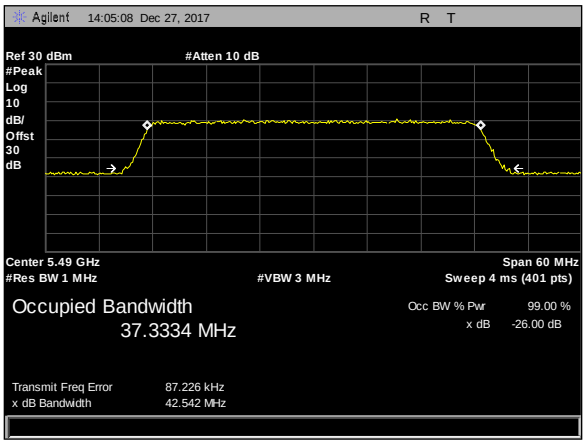
Plot 72. 26 dB Occupied Bandwidth, 5Omni, 40M, 5270M, rf2



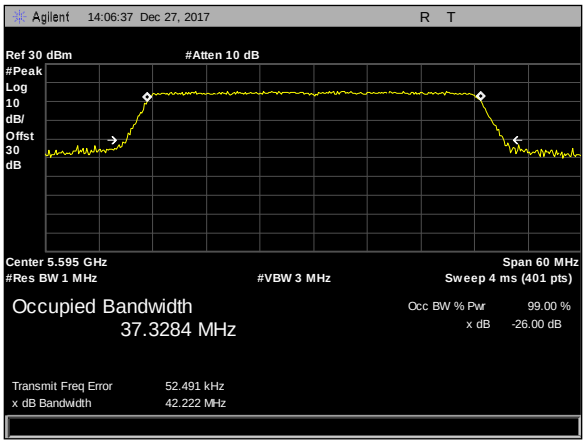
Plot 73. 26 dB Occupied Bandwidth, 5Omni, 40M, 5300M, rf2



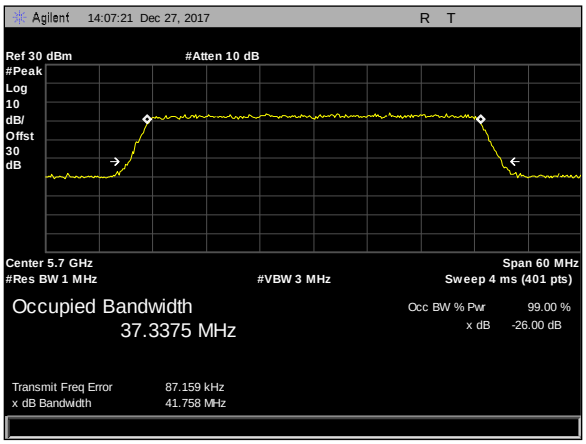
Plot 74. 26 dB Occupied Bandwidth, 5Omni, 40M, 5330M, rf2



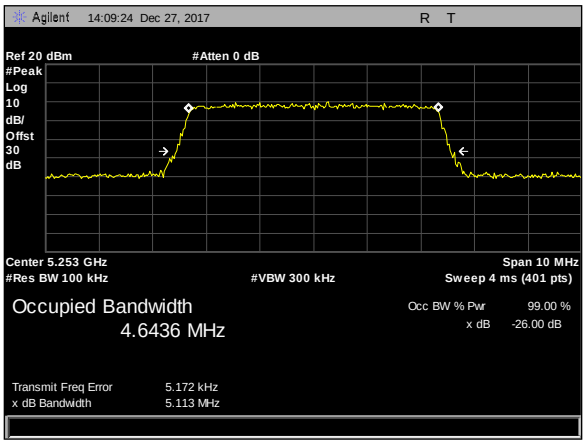
Plot 75. 26 dB Occupied Bandwidth, 5Omni, 40M, 5490M, rf2



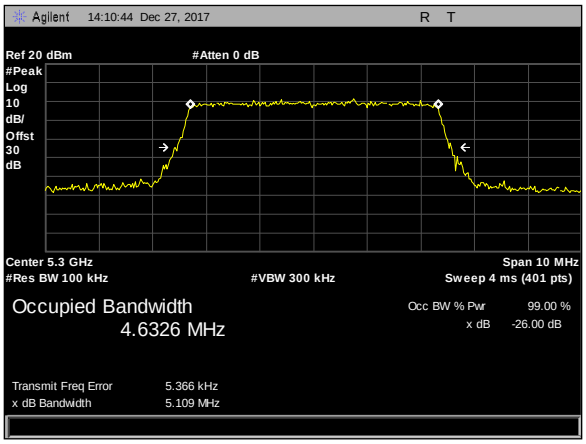
Plot 76. 26 dB Occupied Bandwidth, 5Omni, 40M, 5595M, rf2



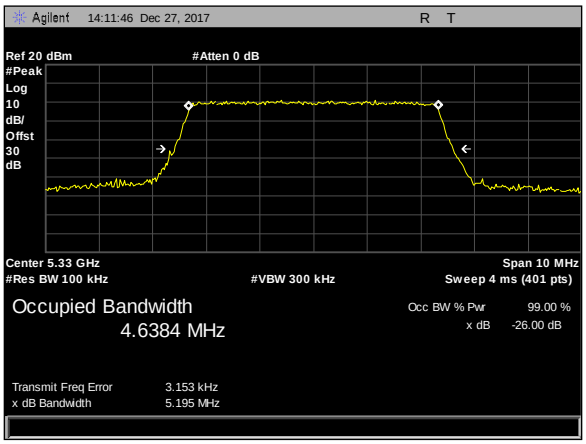
Plot 77. 26 dB Occupied Bandwidth, 5Omni, 40M, 5700M, rf2



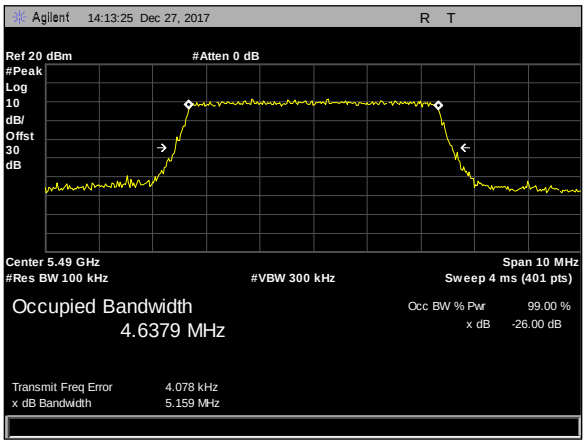
Plot 78. 26 dB Occupied Bandwidth, 8Omni, 5M, 5252.5M, rf2



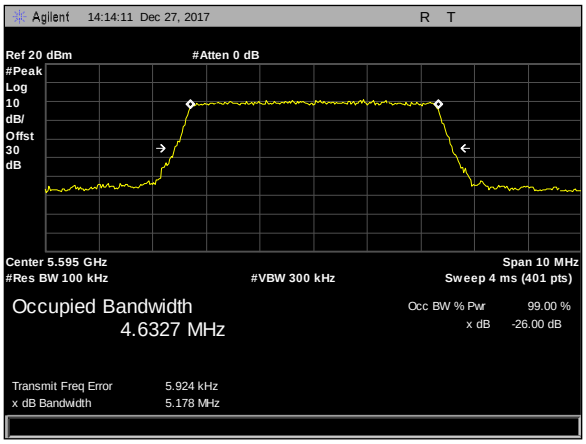
Plot 79. 26 dB Occupied Bandwidth, 8Omni, 5M, 5300M, rf2



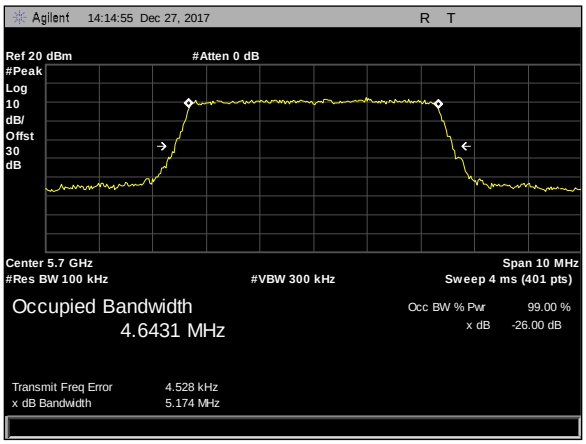
Plot 80. 26 dB Occupied Bandwidth, 8Omni, 5M, 5330M, rf2



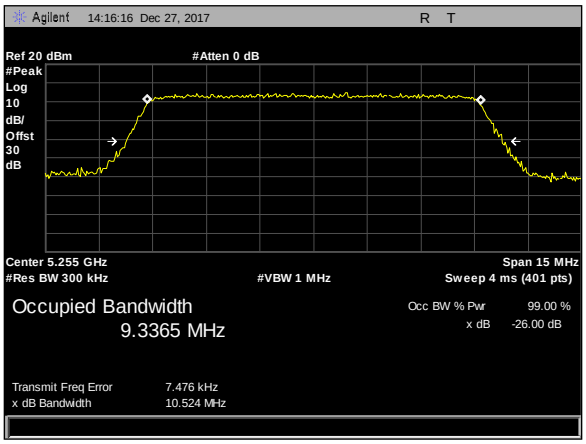
Plot 81. 26 dB Occupied Bandwidth, 8Omni, 5M, 5490M, rf2



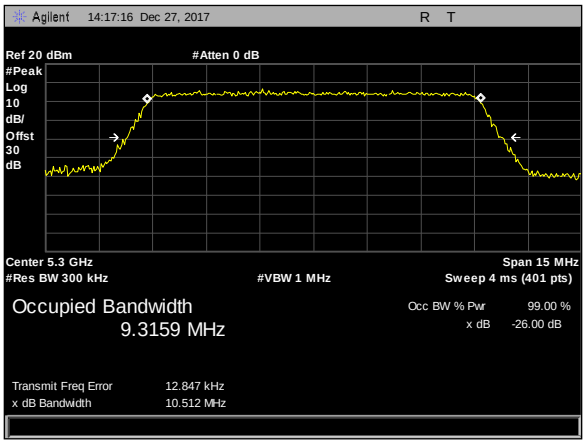
Plot 82. 26 dB Occupied Bandwidth, 8Omni, 5M, 5595M, rf2



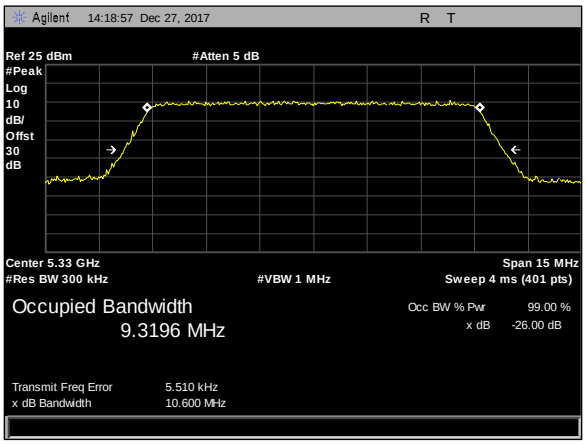
Plot 83. 26 dB Occupied Bandwidth, 8Omni, 5M, 5700M, rf2



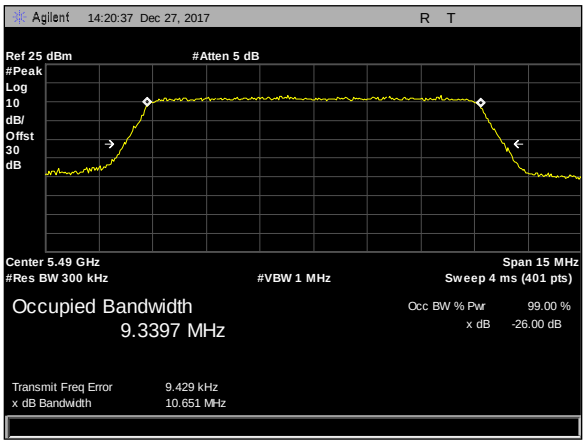
Plot 84. 26 dB Occupied Bandwidth, 8Omni, 10M, 5255M, rf2



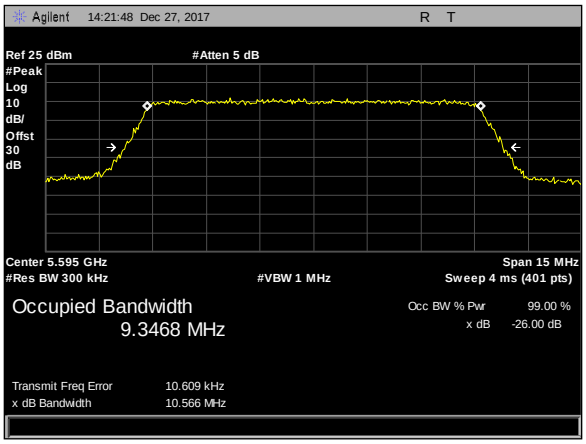
Plot 85. 26 dB Occupied Bandwidth, 8Omni, 10M, 5300M, rf2



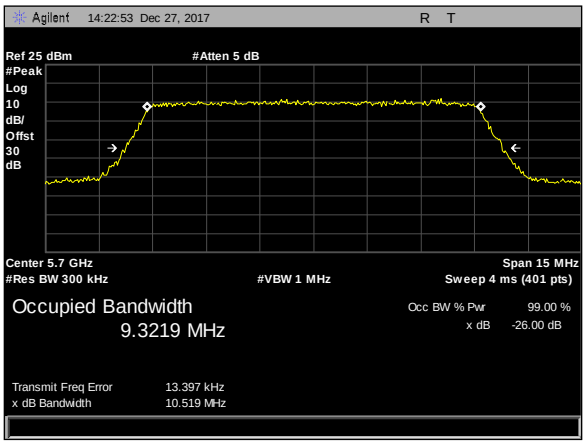
Plot 86. 26 dB Occupied Bandwidth, 8Omni, 10M, 5330M, rf2



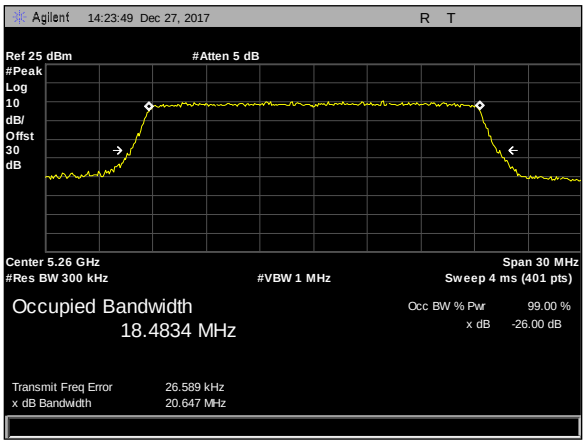
Plot 87. 26 dB Occupied Bandwidth, 8Omni, 10M, 5490M, rf2



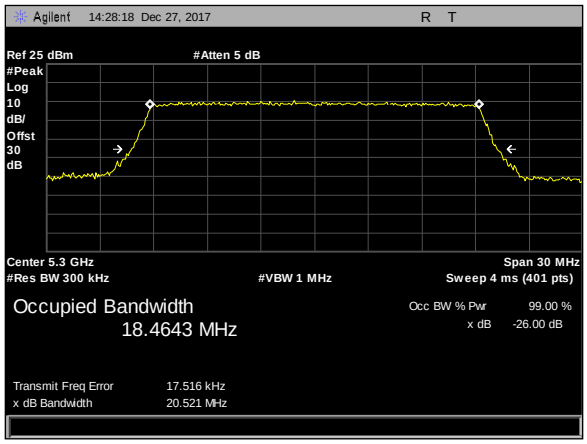
Plot 88. 26 dB Occupied Bandwidth, 8Omni, 10M, 5595M, rf2



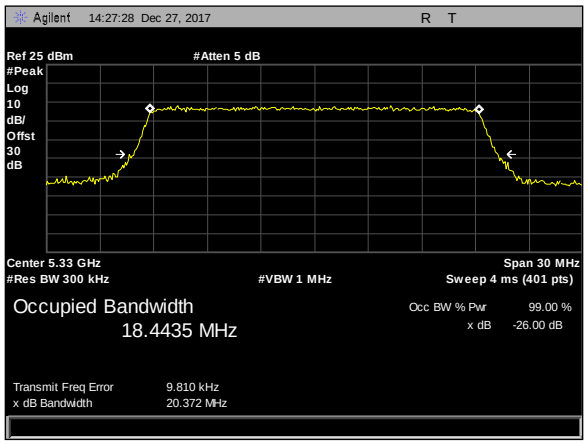
Plot 89. 26 dB Occupied Bandwidth, 8Omni, 10M, 5700M, rf2



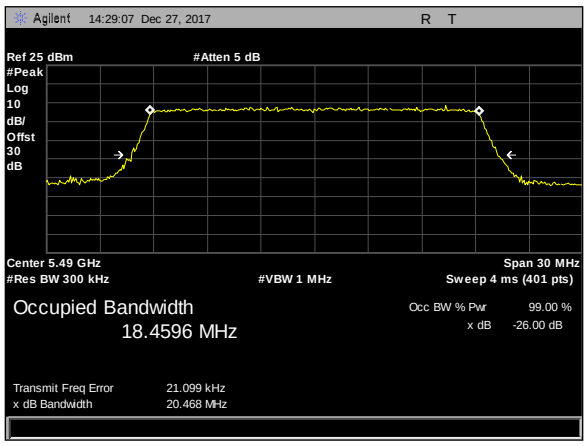
Plot 90. 26 dB Occupied Bandwidth, 8Omni, 20M, 5260M, rf2



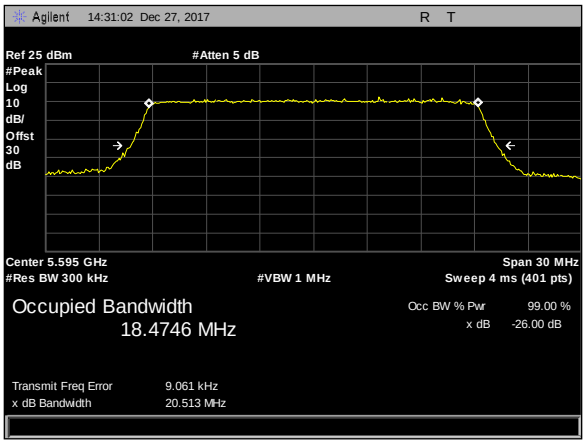
Plot 91. 26 dB Occupied Bandwidth, 8Omni, 20M, 5300M, rf2



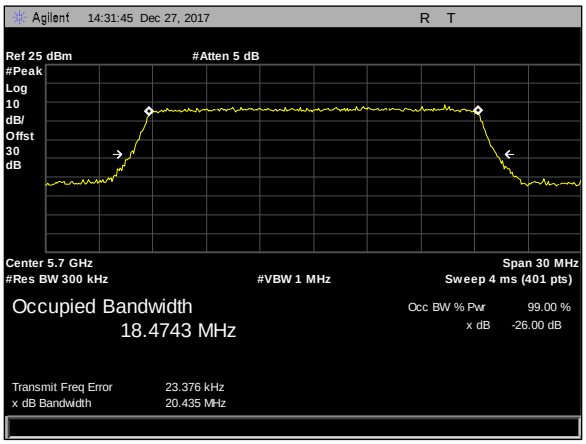
Plot 92. 26 dB Occupied Bandwidth, 8Omni, 20M, 5330M, rf2



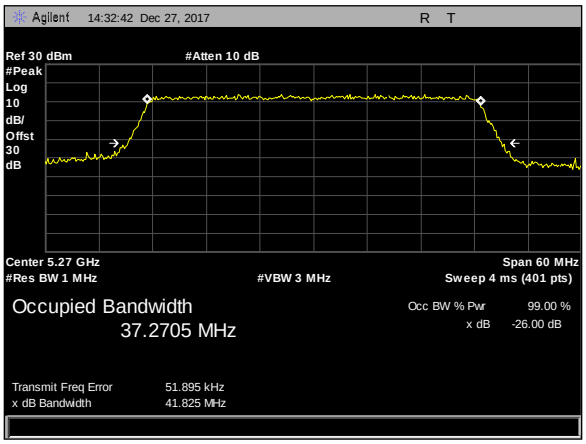
Plot 93. 26 dB Occupied Bandwidth, 8Omni, 20M, 5490M, rf2



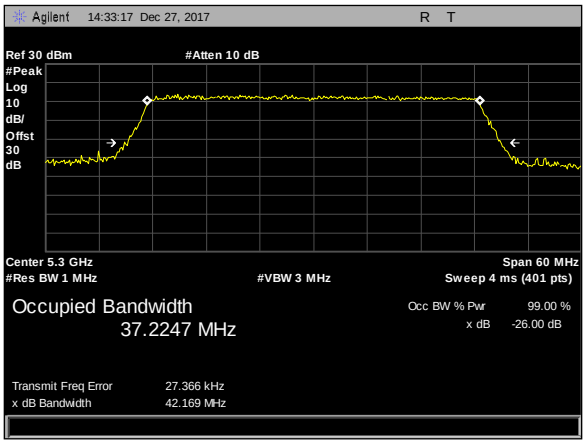
Plot 94. 26 dB Occupied Bandwidth, 8Omni, 20M, 5595M, rf2



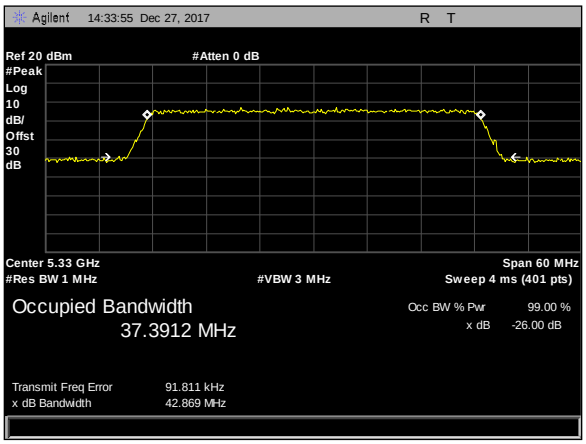
Plot 95. 26 dB Occupied Bandwidth, 8Omni, 20M, 5700M, rf2



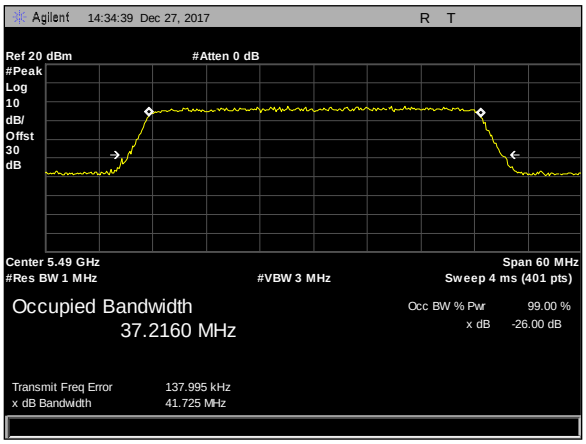
Plot 96. 26 dB Occupied Bandwidth, 8Omni, 40M, 5270M, rf2



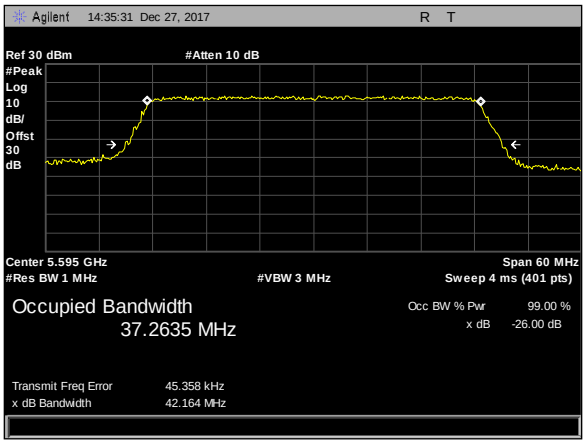
Plot 97. 26 dB Occupied Bandwidth, 8Omni, 40M, 5300M, rf2



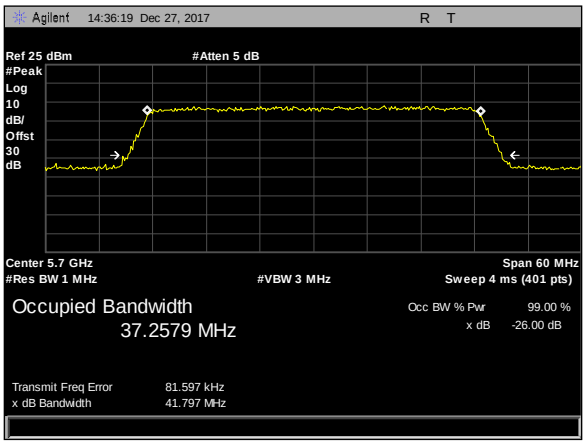
Plot 98. 26 dB Occupied Bandwidth, 8Omni, 40M, 5330M, rf2



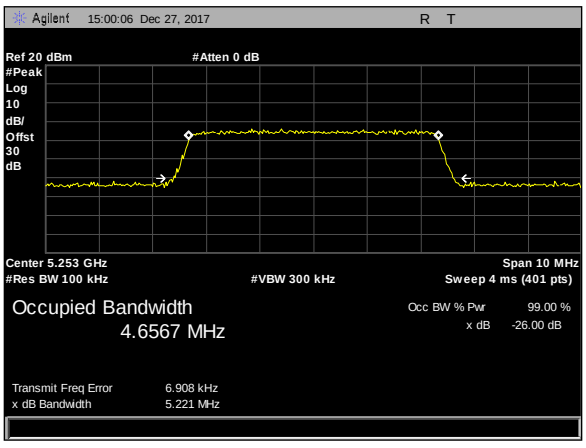
Plot 99. 26 dB Occupied Bandwidth, 8Omni, 40M, 5490M, rf2



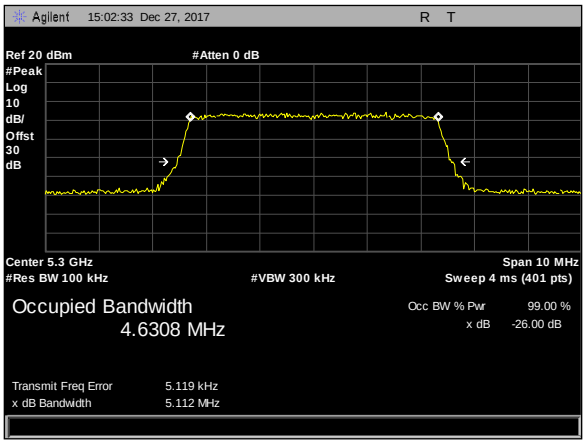
Plot 100. 26 dB Occupied Bandwidth, 8Omni, 40M, 5595M, rf2



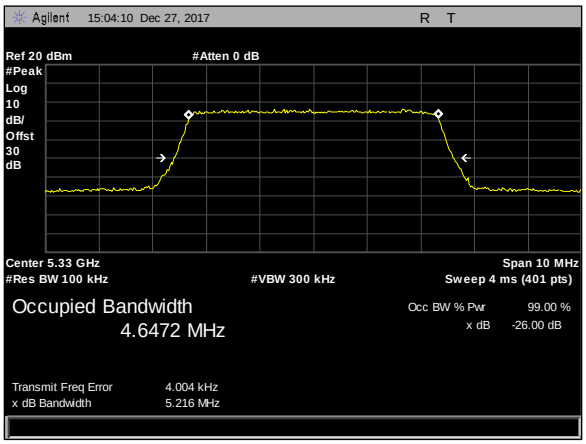
Plot 101. 26 dB Occupied Bandwidth, 8Omni, 40M, 5700M, rf2



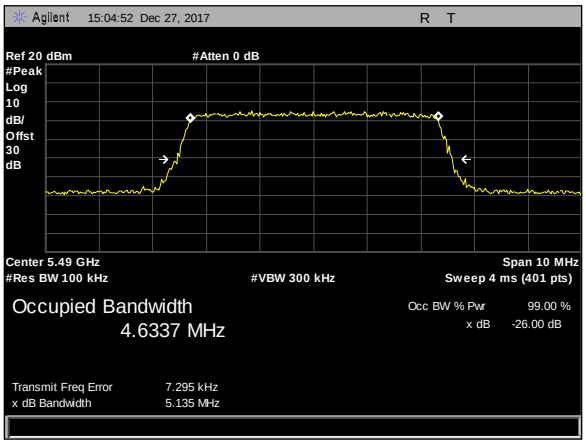
Plot 102. 26 dB Occupied Bandwidth, 90Sector, 5M, 5252.5M, rf2



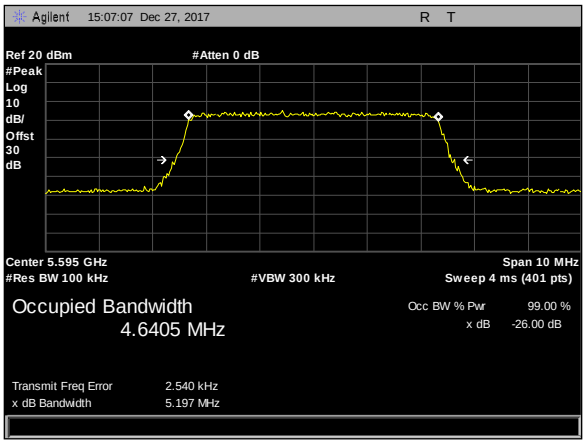
Plot 103. 26 dB Occupied Bandwidth, 90Sector, 5M, 5300M, rf2



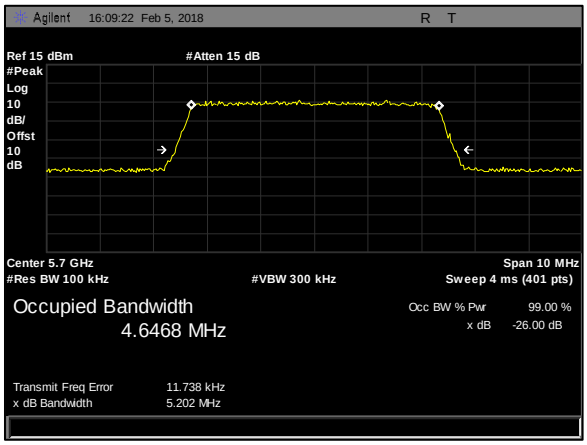
Plot 104. 26 dB Occupied Bandwidth, 90Sector, 5M, 5330M, rf2



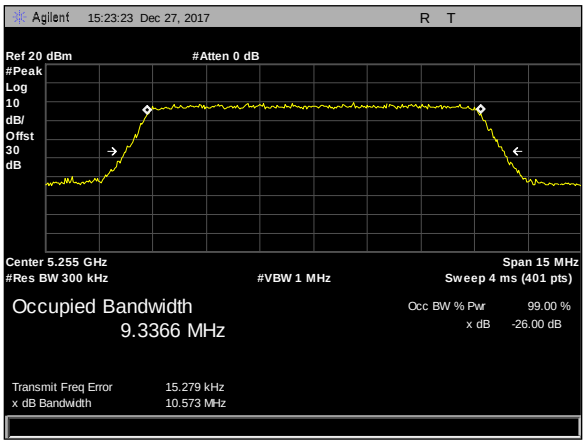
Plot 105. 26 dB Occupied Bandwidth, 90Sector, 5M, 5490M, rf2



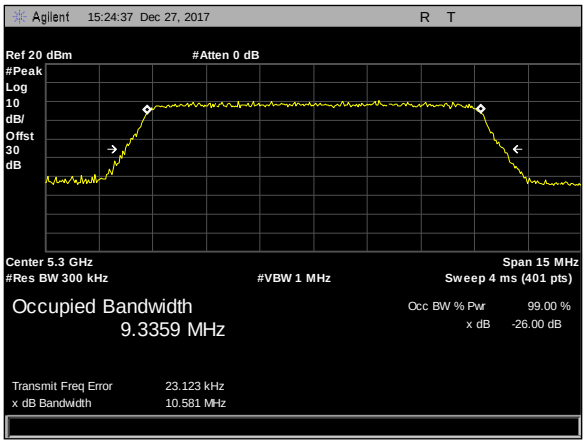
Plot 106. 26 dB Occupied Bandwidth, 90Sector, 5M, 5595M, rf2



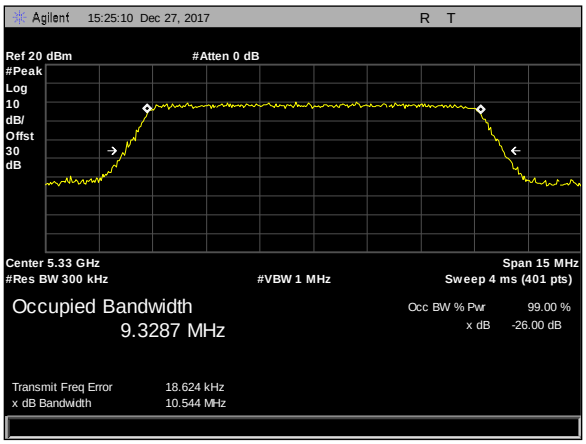
Plot 107. 26 dB Occupied Bandwidth, 90 Sector, 5M, 5700 MHz, rf2



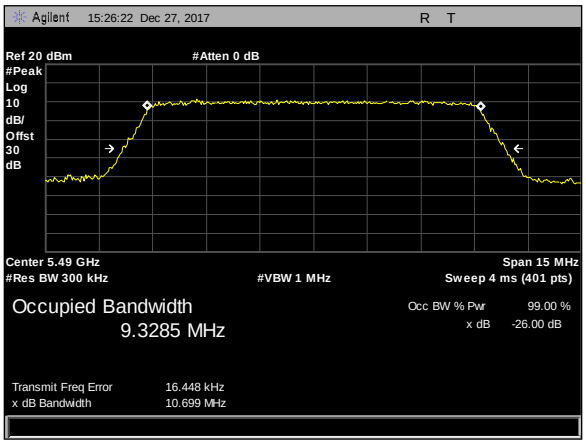
Plot 108. 26 dB Occupied Bandwidth, 90Sector, 10M, 5255M, rf2



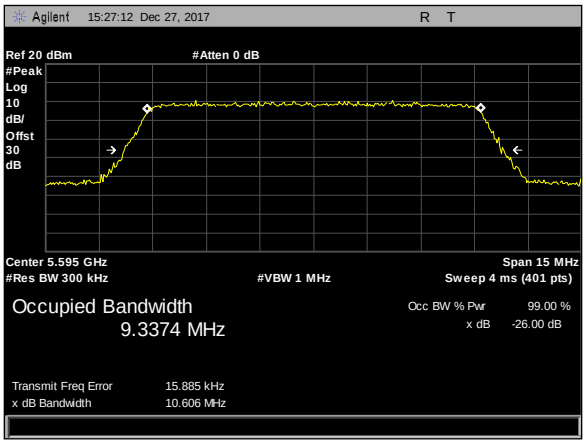
Plot 109. 26 dB Occupied Bandwidth, 90Sector, 10M, 5300M, rf2



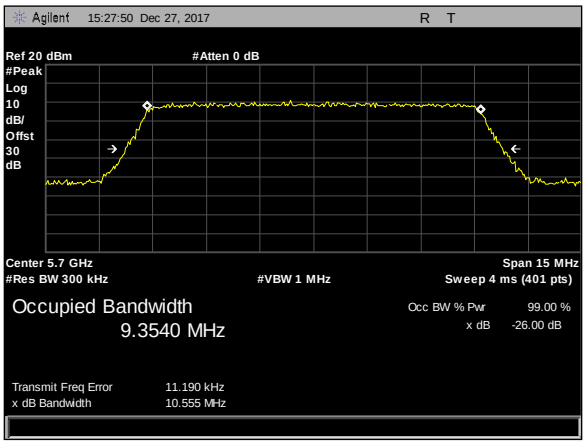
Plot 110. 26 dB Occupied Bandwidth, 90Sector, 10M, 5330M, rf2



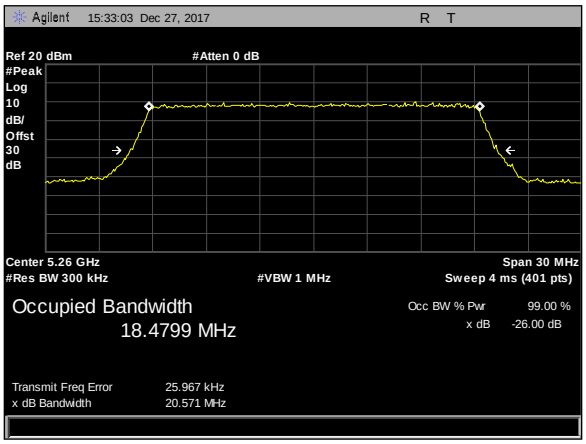
Plot 111. 26 dB Occupied Bandwidth, 90Sector, 10M, 5490M, rf2



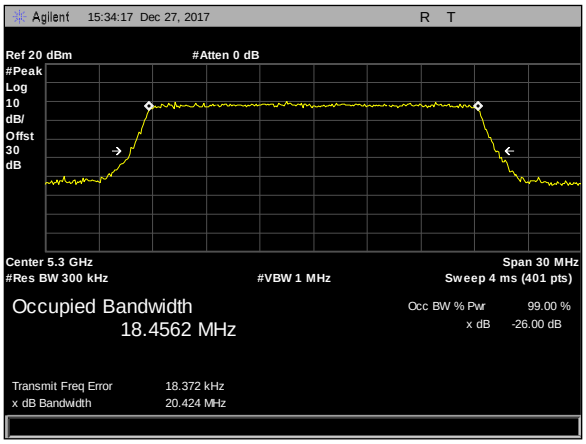
Plot 112. 26 dB Occupied Bandwidth, 90Sector, 10M, 5595M, rf2



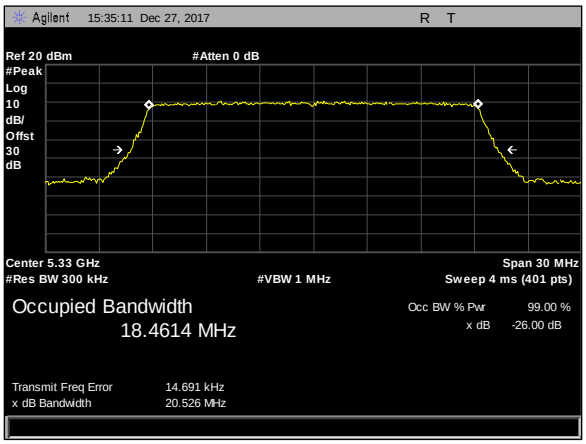
Plot 113. 26 dB Occupied Bandwidth, 90Sector, 10M, 5700M, rf2



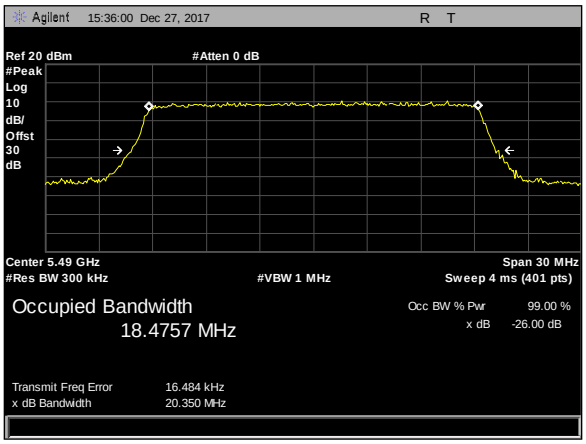
Plot 114. 26 dB Occupied Bandwidth, 90Sector, 20M, 5260M, rf2



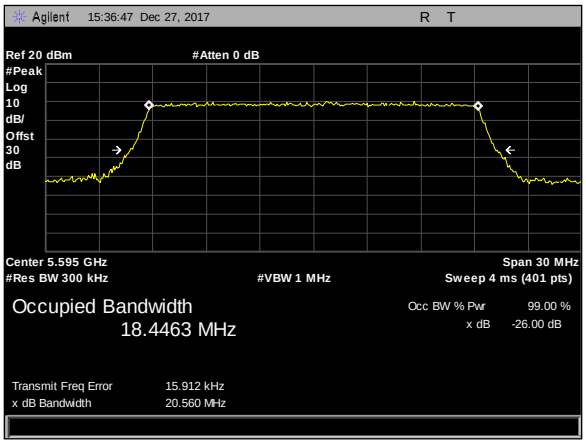
Plot 115. 26 dB Occupied Bandwidth, 90Sector, 20M, 5300M, rf2



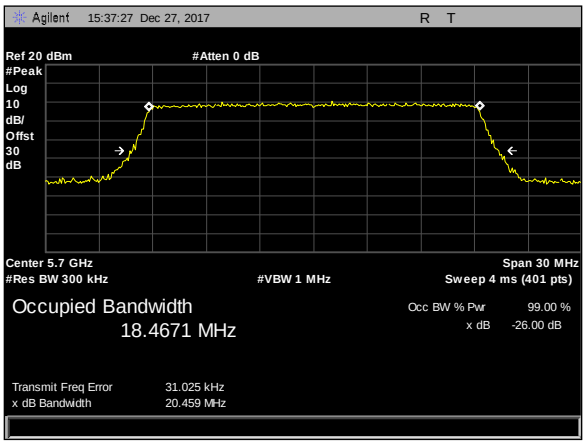
Plot 116. 26 dB Occupied Bandwidth, 90Sector, 20M, 5330M, rf2



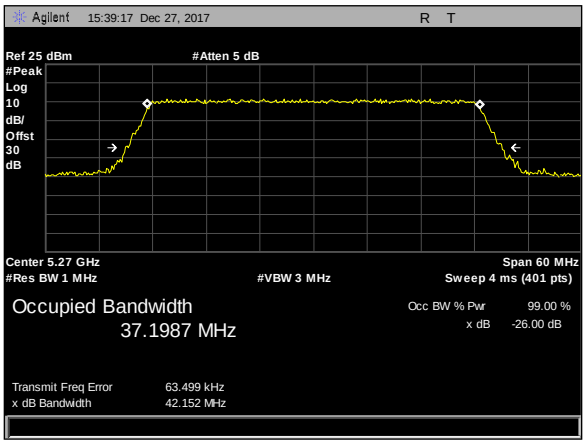
Plot 117. 26 dB Occupied Bandwidth, 90Sector, 20M, 5490M, rf2



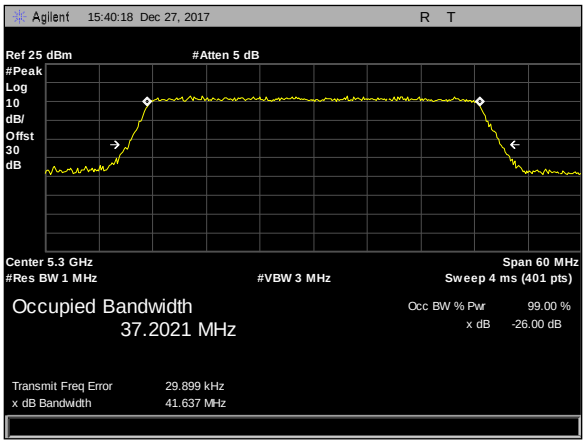
Plot 118. 26 dB Occupied Bandwidth, 90Sector, 20M, 5595M, rf2



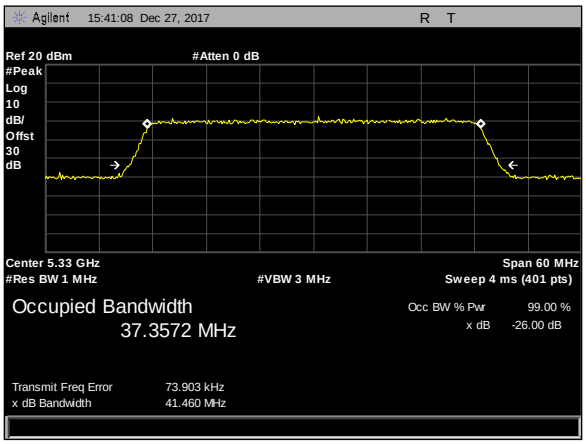
Plot 119. 26 dB Occupied Bandwidth, 90Sector, 20M, 5700M, rf2



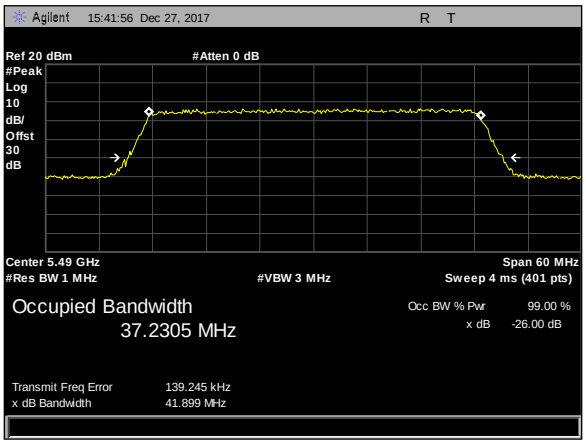
Plot 120. 26 dB Occupied Bandwidth, 90Sector, 40M, 5270M, rf2



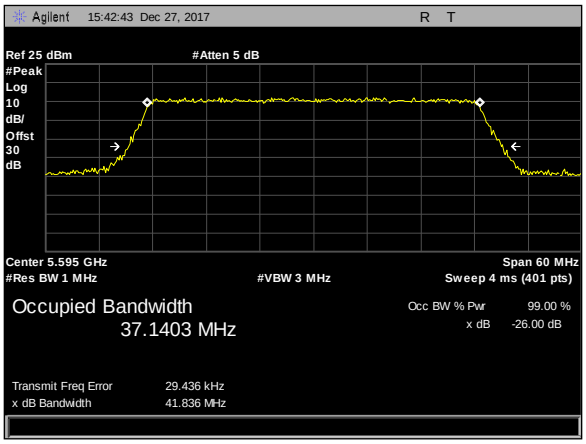
Plot 121. 26 dB Occupied Bandwidth, 90Sector, 40M, 5300M, rf2



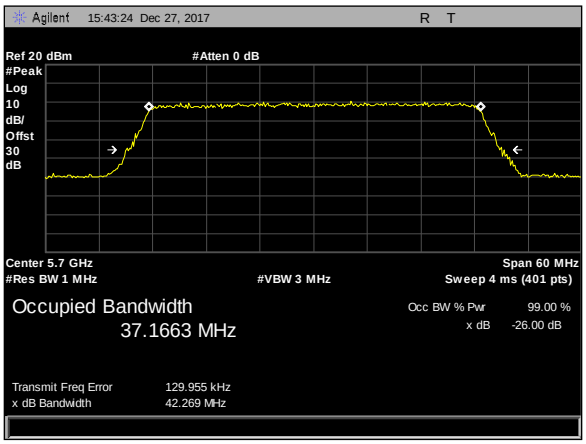
Plot 122. 26 dB Occupied Bandwidth, 90Sector, 40M, 5329M, rf2



Plot 123. 26 dB Occupied Bandwidth, 90Sector, 40M, 5491M, rf2



Plot 124. 26 dB Occupied Bandwidth, 90Sector, 40M, 5595M, rf2



Plot 125. 26 dB Occupied Bandwidth, 90Sector, 40M, 5700M, rf2

Electromagnetic Compatibility Criteria for Intentional Radiators

§15. 407(a)(2) Maximum Conducted Output Power

Test Requirements:

§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 + 10 log B, where B is the 26 dB emission bandwidth in megahertz.
If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§15.407(h)(1): Transmit power control (TPC). U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

Test Procedure:

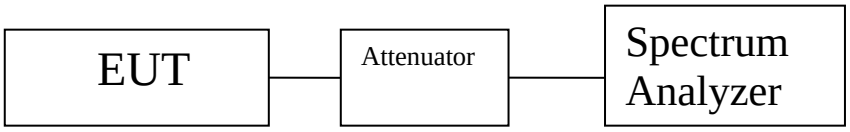
The EUT was connected to a spectrum analyzer through a cable and attenuator. Measurements were taken with the EUT set to transmit continuously on its low, mid, and high channels. Its power was measured according to measurement method SA-1, as described in 789033 D02 General UNII Test Procedures v01.

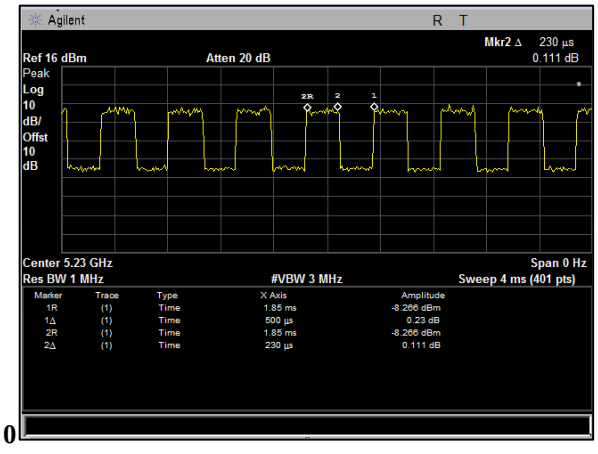
To verify the TPC requirement of the rule part, observations using the same measurement method were made with the EUT set to a lower power setting.

Test Results: The EUT as tested is compliant with the requirements of this section. No anomalies detected.

Test Engineer(s): Bradley Jones

Test Date(s): November 21, 2017





Plot 126. Duty Cycle

Note: Device is not capable of continuous transmission. The duty cycle was measured, and a correction factor was applied. The correction factor was calculated as 10log(1/230/500))=3.372 dB.

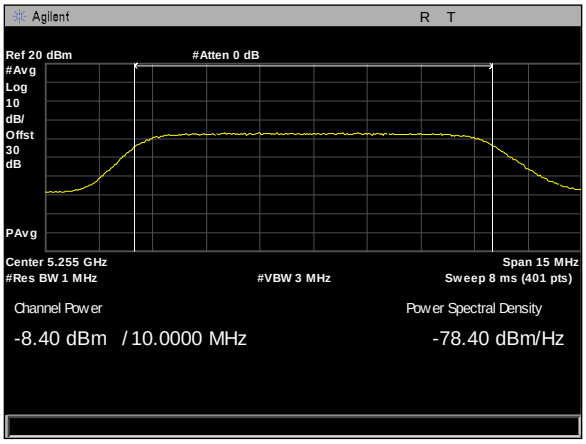
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
10 MHz						
5255	-8.4	-8.01	-1.817902	26	2	-3.81790204
5300	-8.61	-8.22	-2.027902	26	2	-4.02790204
5330	-8.92	-8.31	-2.2215773	26	2	-4.221577253
20 MHz						
5260	-4.77	-5.24	1.38407655	26	4	-2.615923447
5300	-5.36	-5.08	1.16497778	26	4	-2.835022217
5330	-5.95	-5.18	0.83476437	26	4	-3.165235631
40MHz						
5270	-2.94	-3.11	3.3585534	26	4	-0.641446604
5300	-3.08	-3.01	3.33786267	26	4	-0.662137328
5329	-12.16	-11.92	-5.6556207	26	4	-9.65562071

Table 14. Maximum Conducted Output Power, UNII 2A, 2' Panel, Test Results

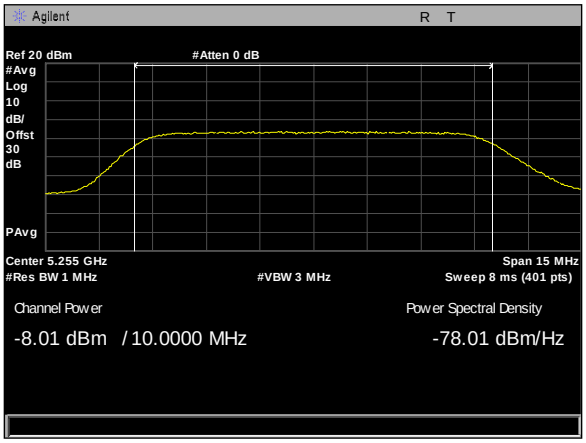
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
10 MHz						
5490	-8.01	-8.18	-1.7114466	26	2	-3.711446604
5595	-7.4	-7.74	-1.183952	26	2	-3.183951974
5700	-7.64	-8.1	-1.4811909	26	2	-3.481190867
20 MHz						
5490	-4.99	-5.01	1.38273315	26	4	-2.617266847
5595	-5.21	-5.64	0.96304132	26	4	-3.036958683
5700	-4.4	-5.1	1.64680973	26	4	-2.353190267
40MHz						
5491	-8.28	-8.8	-2.1495003	26	4	-6.149500267
5595	-3.38	-2.58	3.42111634	26	4	-0.578883665
5700	-5.44	-6.92	0.2654637	26	4	-3.734536304

Table 15. Maximum Conducted Output Power, UNII 2C, 2' Panel, Test Results

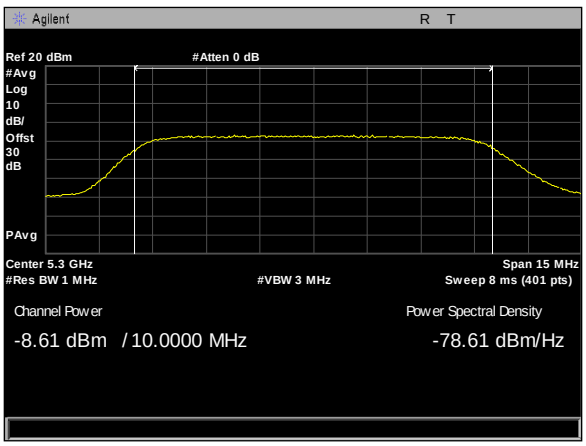
Note: All testing was performed using QPSK 1/16 modulation.



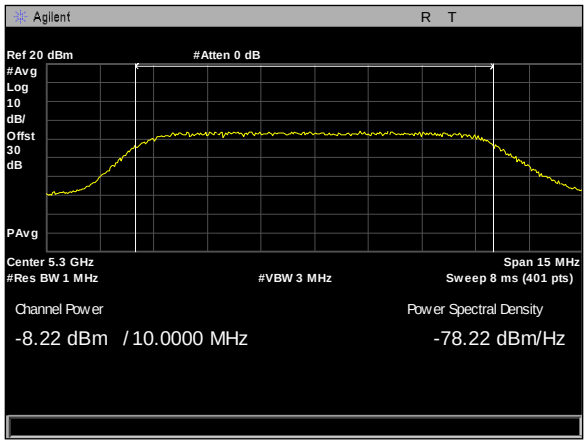
Plot 127. Maximum Conducted Output Power, 2Panel, 10M, 5255M, rf1



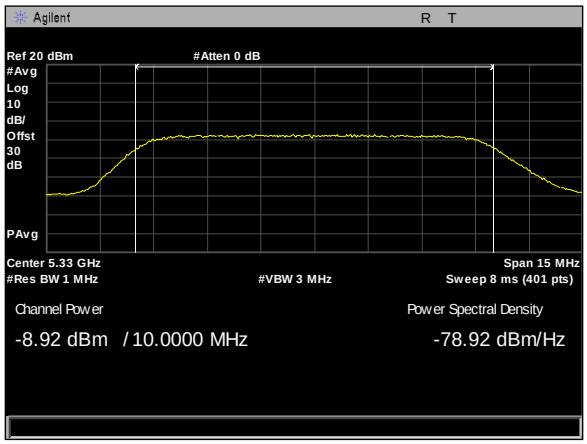
Plot 128. Maximum Conducted Output Power, 2Panel, 10M, 5255M, rf2



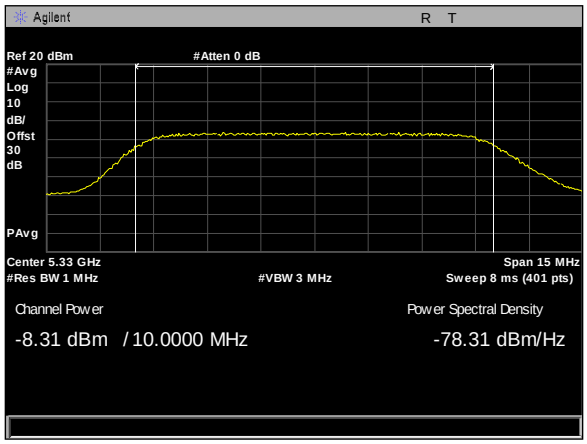
Plot 129. Maximum Conducted Output Power, 2Panel, 10M, 5300M, rf1



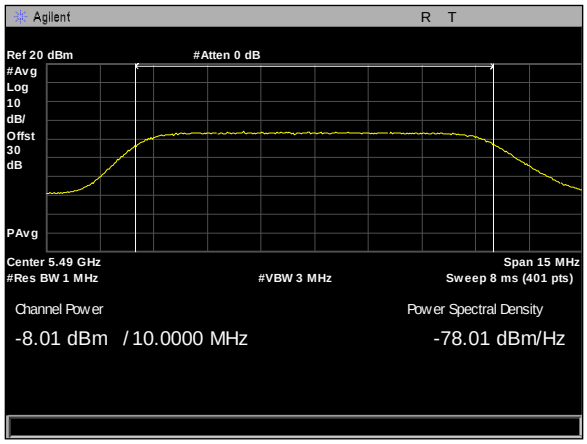
Plot 130. Maximum Conducted Output Power, 2Panel, 10M, 5300M, rf2



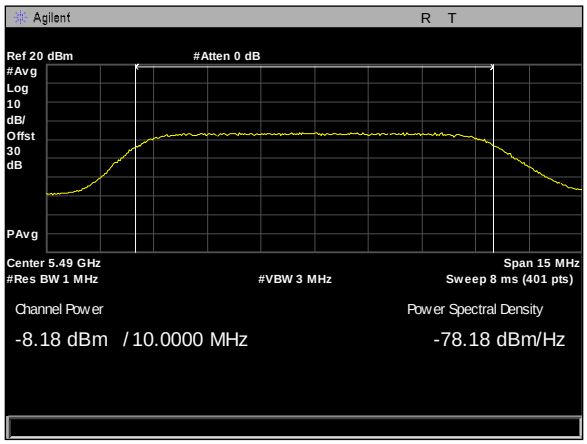
Plot 131. Maximum Conducted Output Power, 2Panel, 10M, 5330M, rf1



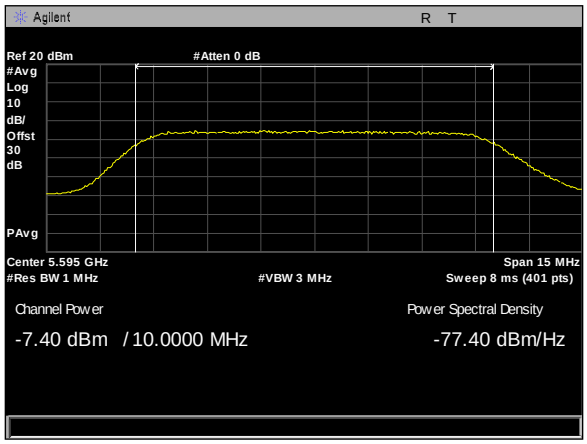
Plot 132. Maximum Conducted Output Power, 2Panel, 10M, 5330M, rf2



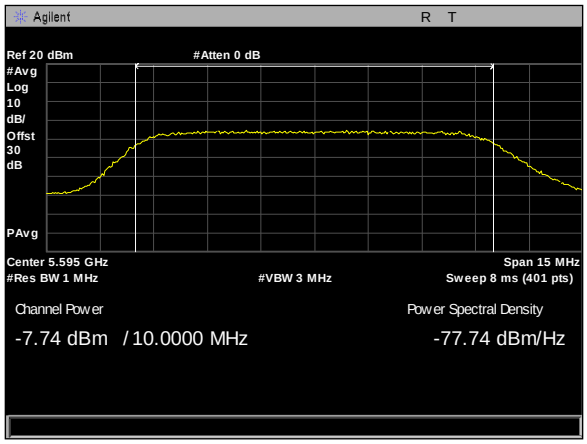
Plot 133. Maximum Conducted Output Power, 2Panel, 10M, 5490M, rf1



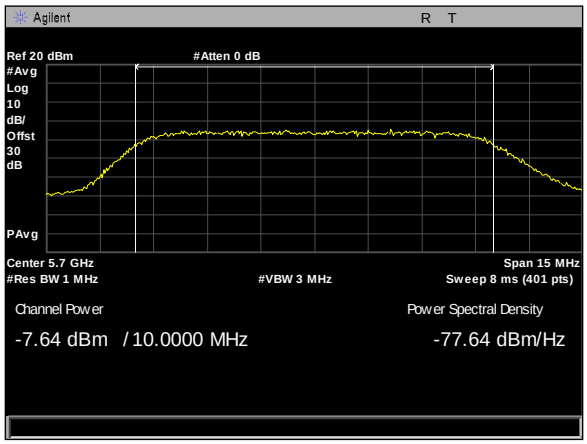
Plot 134. Maximum Conducted Output Power, 2Panel, 10M, 5490M, rf2



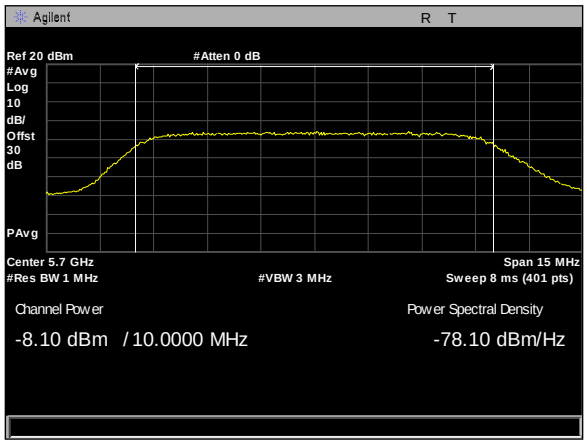
Plot 135. Maximum Conducted Output Power, 2Panel, 10M, 5595M, rf1



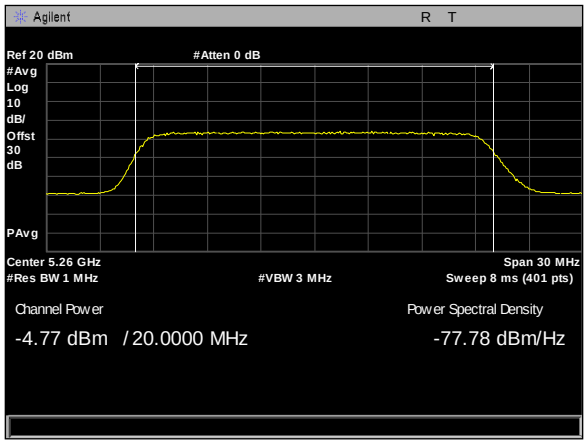
Plot 136. Maximum Conducted Output Power, 2Panel, 10M, 5595M, rf2



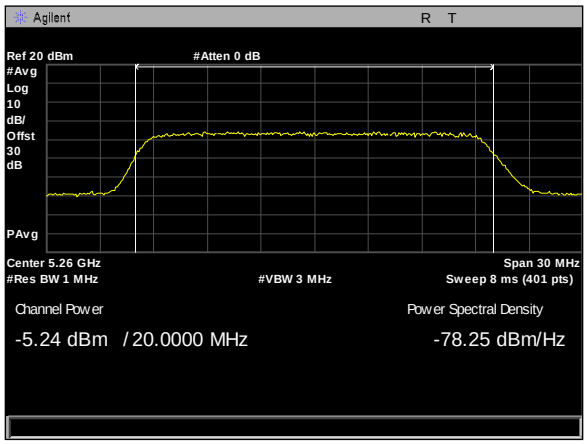
Plot 137. Maximum Conducted Output Power, 2Panel, 10M, 5700M, rf1



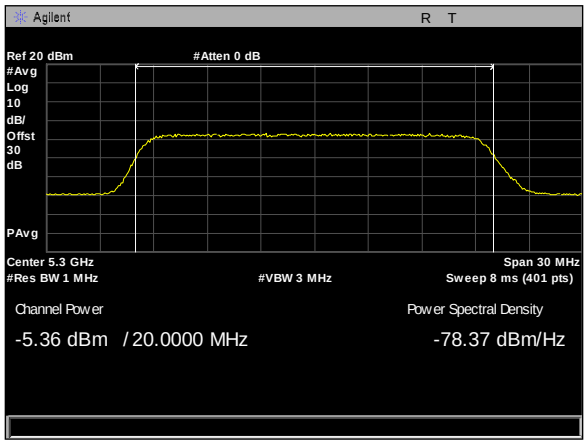
Plot 138. Maximum Conducted Output Power, 2Panel, 10M, 5700M, rf2



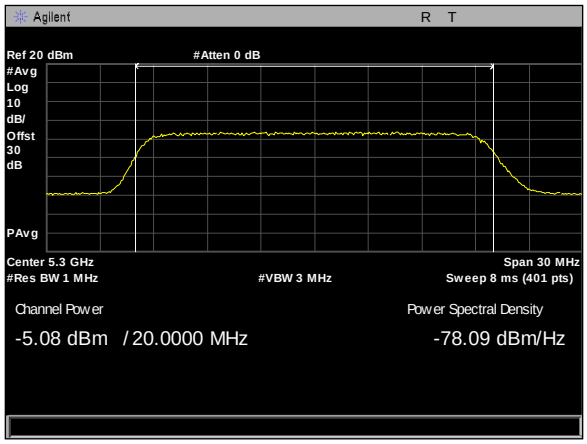
Plot 139. Maximum Conducted Output Power, 2Panel, 20M, 5260M, rf1



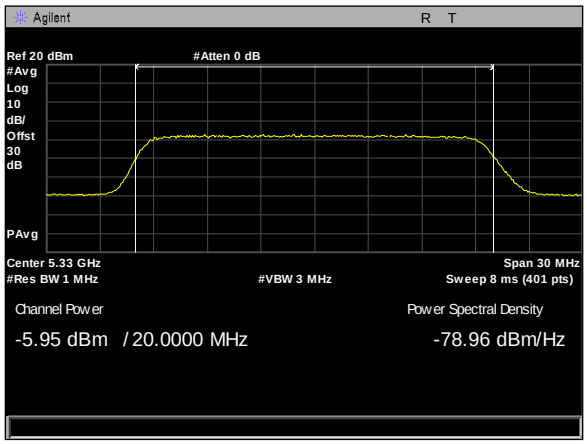
Plot 140. Maximum Conducted Output Power, 2Panel, 20M, 5260M, rf2



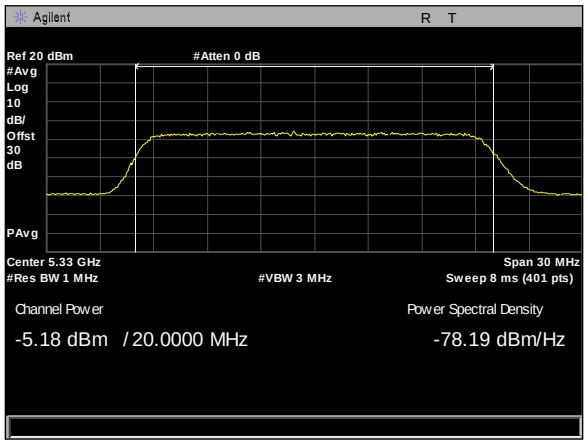
Plot 141. Maximum Conducted Output Power, 2Panel, 20M, 5300M, rf1



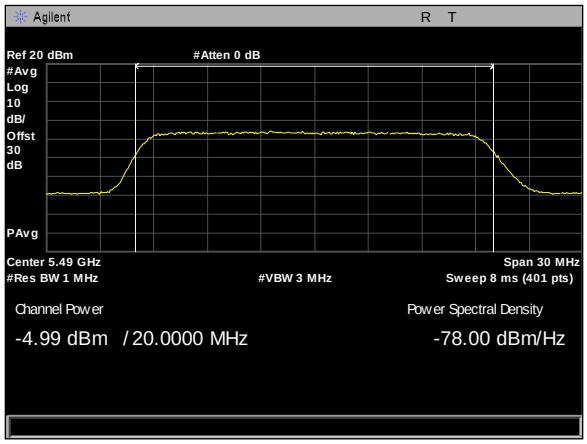
Plot 142. Maximum Conducted Output Power, 2Panel, 20M, 5300M, rf2



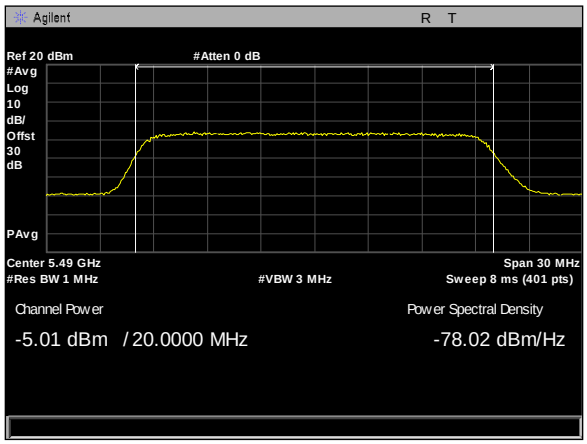
Plot 143. Maximum Conducted Output Power, 2Panel, 20M, 5330M, rf1



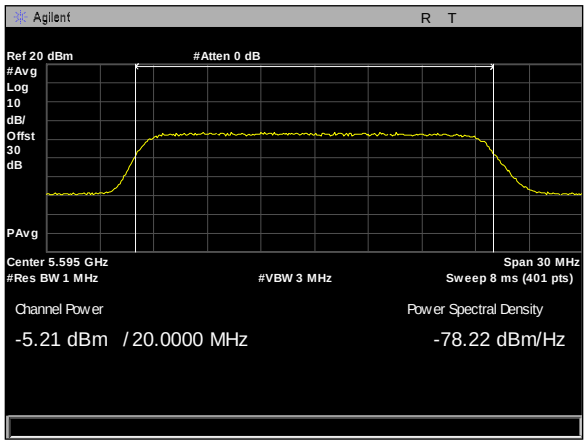
Plot 144. Maximum Conducted Output Power, 2Panel, 20M, 5330M, rf2



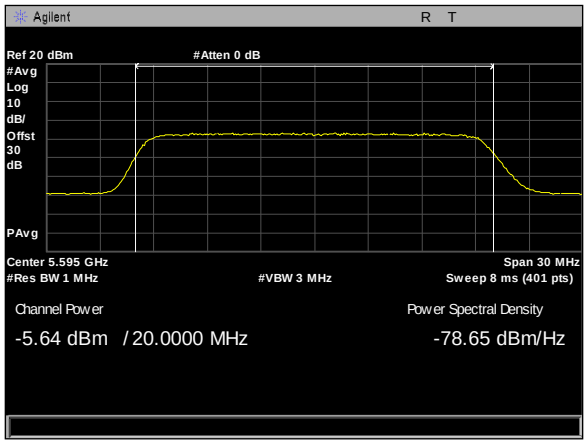
Plot 145. Maximum Conducted Output Power, 2Panel, 20M, 5490M, rf1



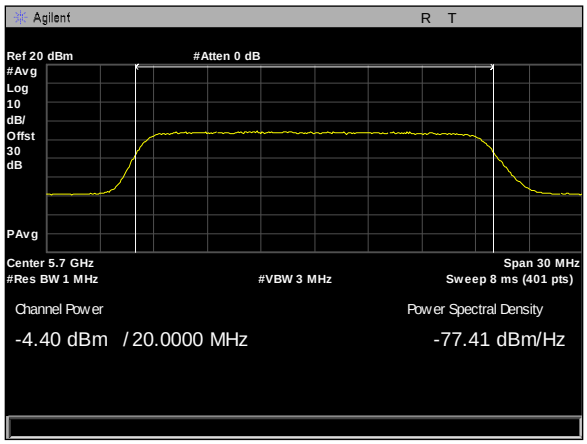
Plot 146. Maximum Conducted Output Power, 2Panel, 20M, 5490M, rf2



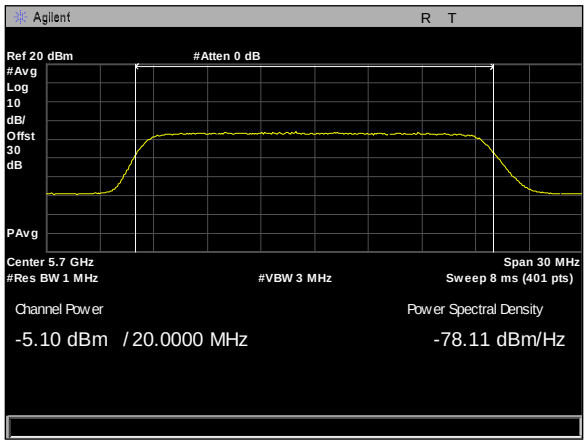
Plot 147. Maximum Conducted Output Power, 2Panel, 20M, 5595M, rf1



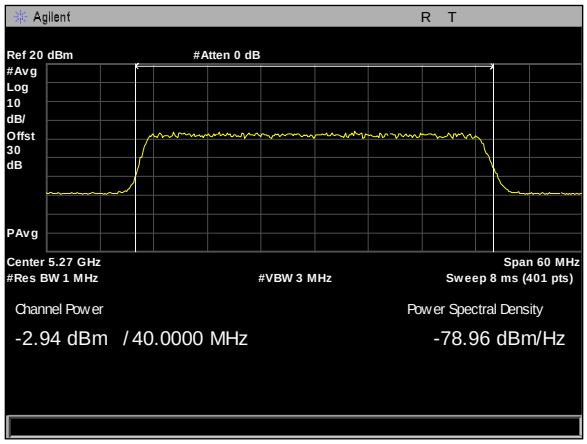
Plot 148. Maximum Conducted Output Power, 2Panel, 20M, 5595M, rf2



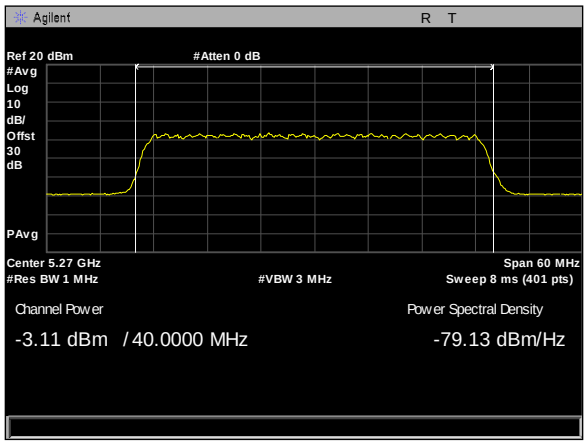
Plot 149. Maximum Conducted Output Power, 2Panel, 20M, 5700M, rf1



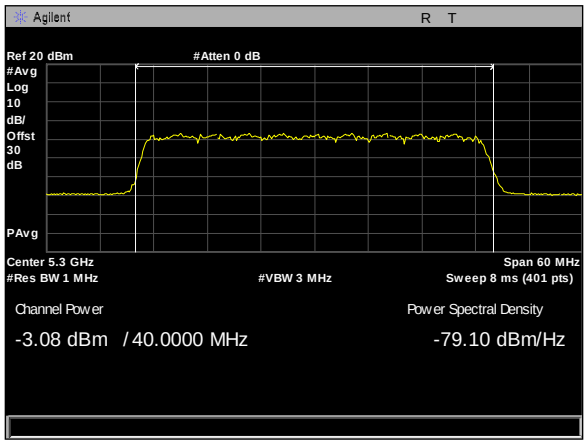
Plot 150. Maximum Conducted Output Power, 2Panel, 20M, 5700M, rf2



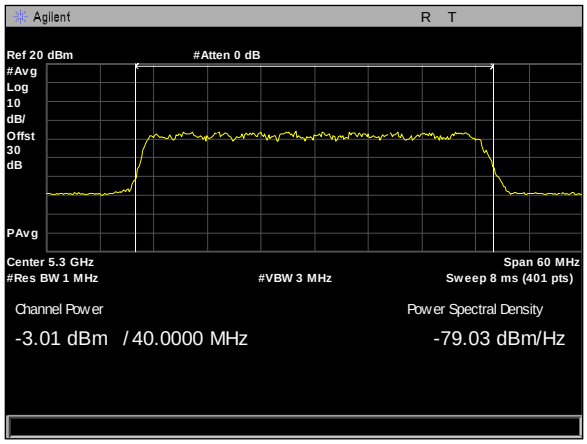
Plot 151. Maximum Conducted Output Power, 2Panel, 40M, 5270M, rf1



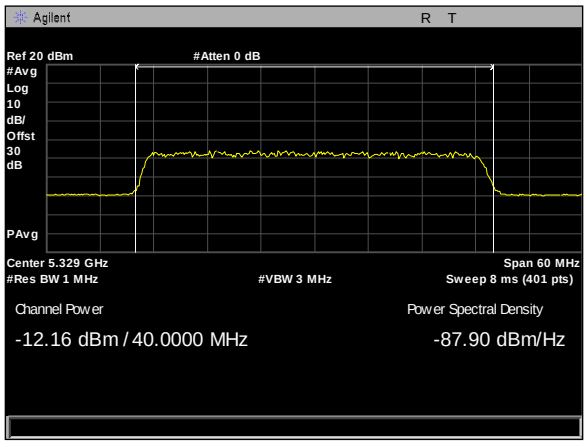
Plot 152. Maximum Conducted Output Power, 2Panel, 40M, 5270M, rf2



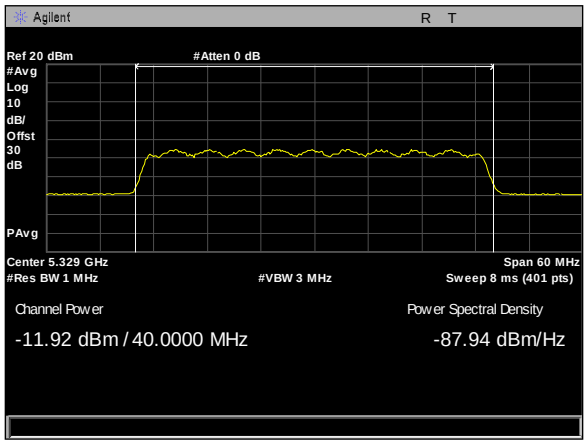
Plot 153. Maximum Conducted Output Power, 2Panel, 40M, 5300M, rf1



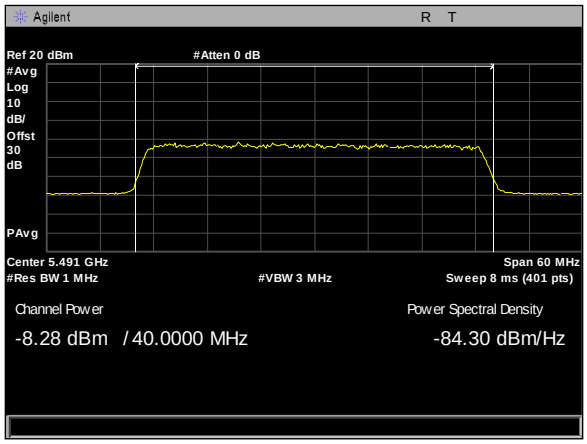
Plot 154. Maximum Conducted Output Power, 2Panel, 40M, 5300M, rf2



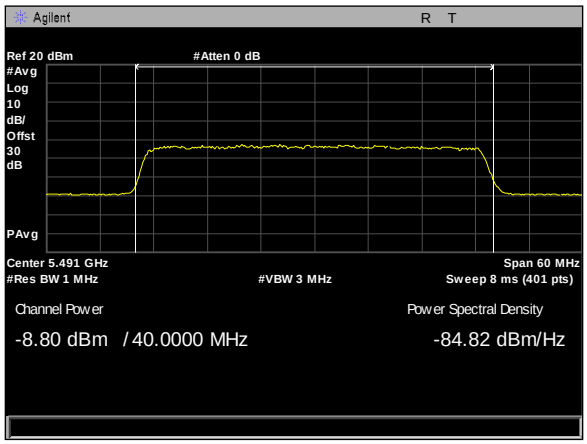
Plot 155. Maximum Conducted Output Power, 2Panel, 40M, 5329M, rf1



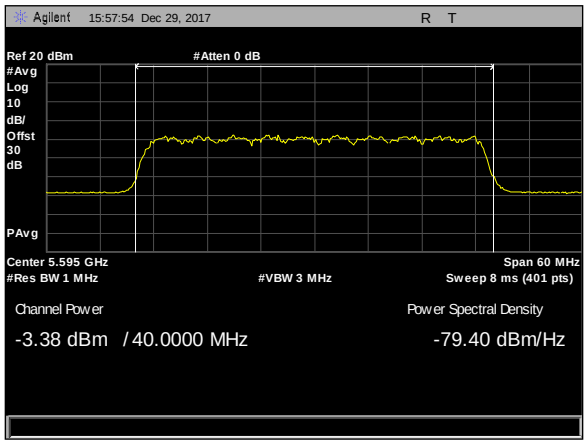
Plot 156. Maximum Conducted Output Power, 2Panel, 40M, 5329M, rf2



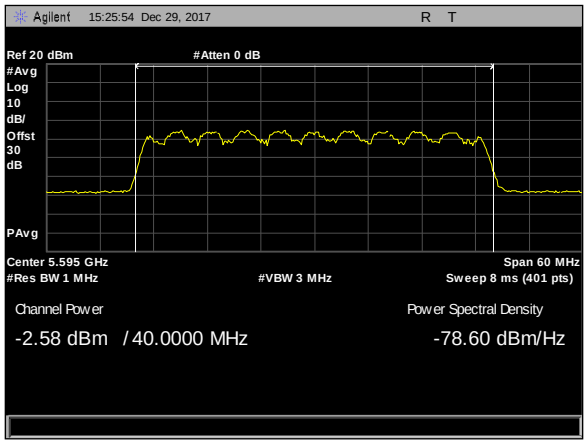
Plot 157. Maximum Conducted Output Power, 2Panel, 40M, 5491M, rf1



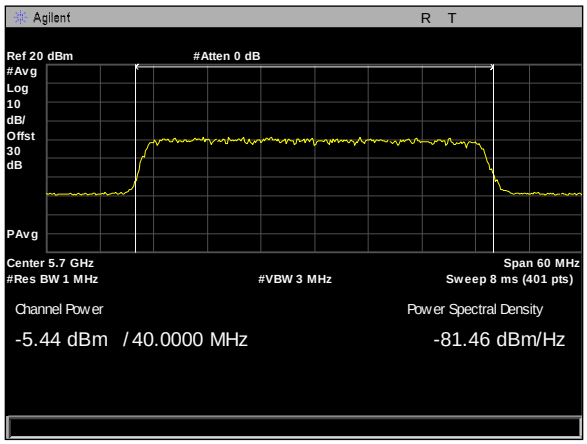
Plot 158. Maximum Conducted Output Power, 2Panel, 40M, 5491M, rf2



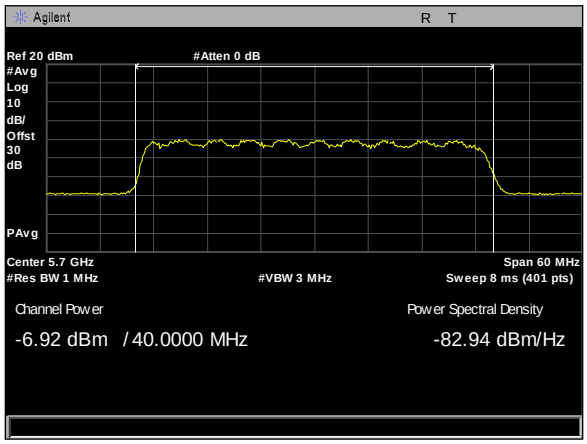
Plot 159. Maximum Conducted Output Power, 2Panel, 40M, 5595M, rf1



Plot 160. Maximum Conducted Output Power, 2Panel, 40M, 5595M, rf2



Plot 161. Maximum Conducted Output Power, 2Panel, 40M, 5700M, rf1



Plot 162. Maximum Conducted Output Power, 2Panel, 40M, 5700M, rf2

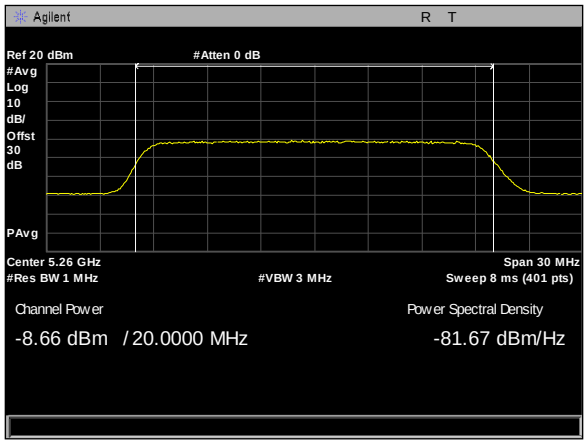
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
20 MHz						
5260	-8.66	-9.06	-2.4726748	30	0	-2.472674817
5300	-9.39	-9.34	-2.9822064	30	0	-2.982206405
5330	-9.75	-9.34	-3.1574418	30	0	-3.157441849
40MHz						
5270	-7	-6.17	-0.1824803	30	0	-0.182480327
5300	-6.75	-6.24	-0.1047964	30	0	-0.104796378
5328	-8.25	-9.18	-2.307432	30	0	-2.307431956

Table 16. Maximum Conducted Output Power, UNII 2A, 3' Para, Test Results

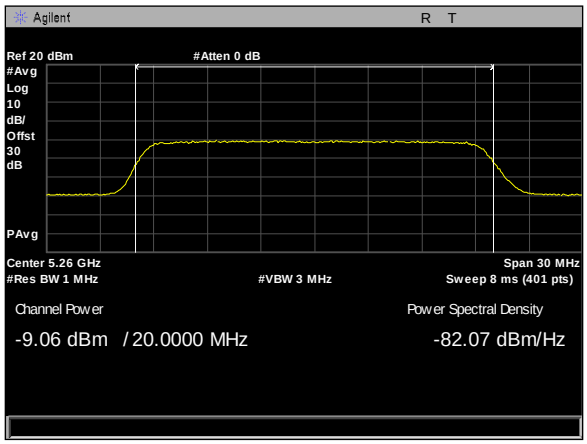
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
20 MHz						
5490	-8.63	-9.11	-2.4806503	30	0	-2.480650288
5595	-8.46	-8.25	-1.9710092	30	0	-1.971009184
40MHz						
5492	-8.94	-8.91	-2.5422525	30	0	-2.542252456
5595	-7.49	-7.56	-1.1421373	30	0	-1.142137328
5700	-7.93	-8.86	-1.987432	30	0	-1.987431956

Table 17. Maximum Conducted Output Power, UNII 2C, 3' Para, Test Results

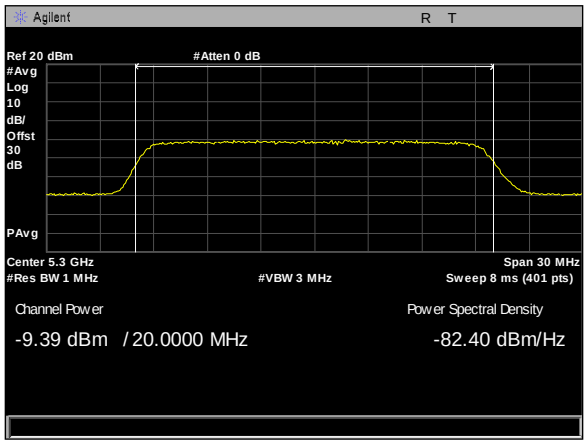
Note: All testing was performed using QPSK 1/16 modulation.



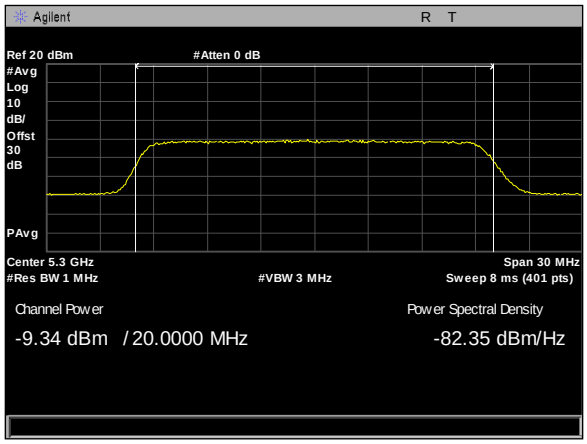
Plot 163. Maximum Conducted Output Power, 3Para, 20M, 5260M, rf1



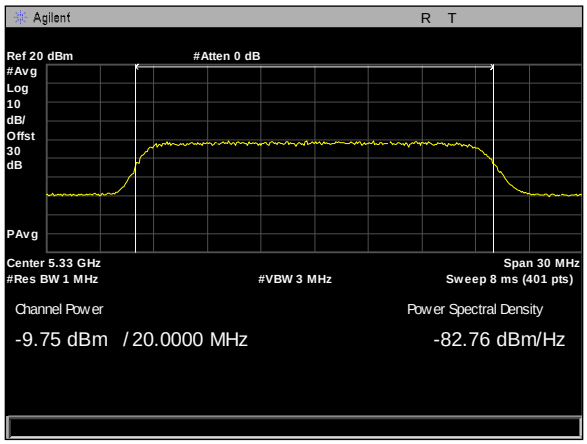
Plot 164. Maximum Conducted Output Power, 3Para, 20M, 5260M, rf2



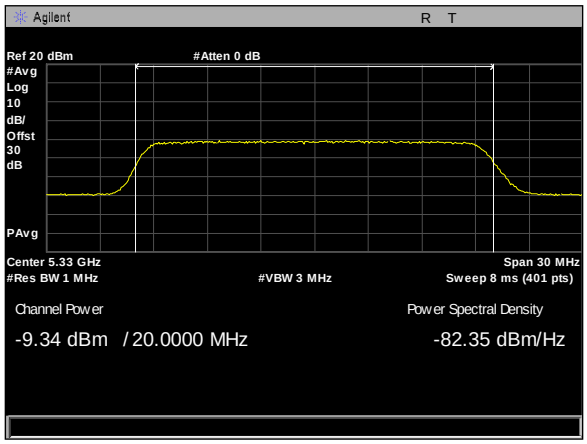
Plot 165. Maximum Conducted Output Power, 3Para, 20M, 5300M, rf1



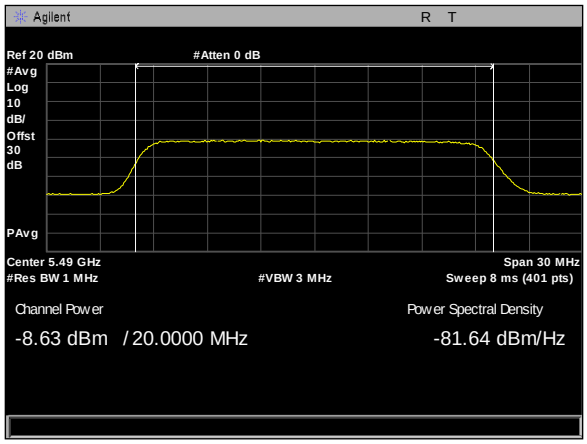
Plot 166. Maximum Conducted Output Power, 3Para, 20M, 5300M, rf2



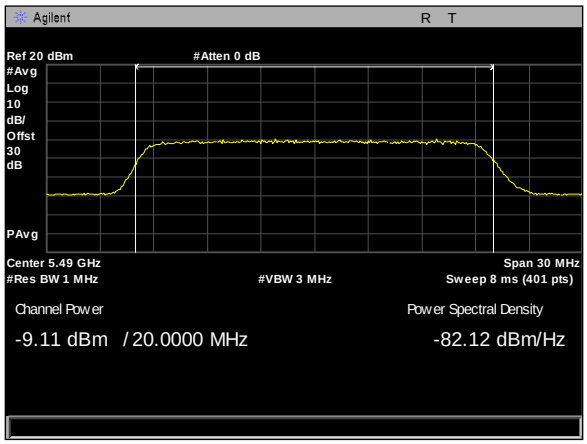
Plot 167. Maximum Conducted Output Power, 3Para, 20M, 5330M, rf1



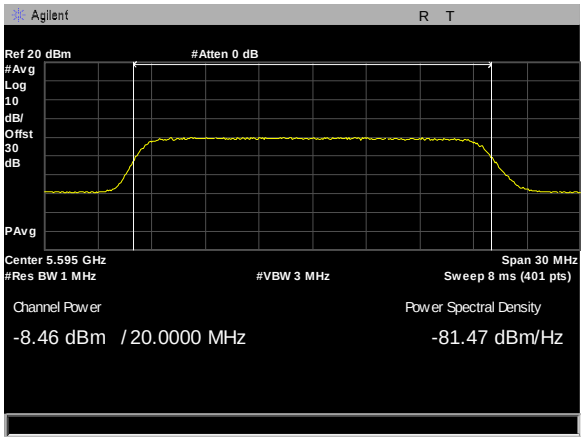
Plot 168. Maximum Conducted Output Power, 3Para, 20M, 5330M, rf2



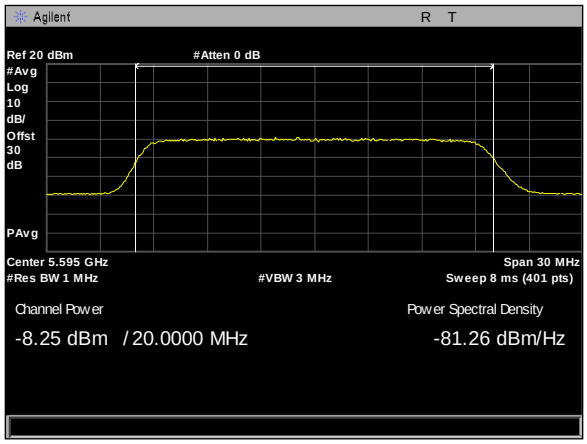
Plot 169. Maximum Conducted Output Power, 3Para, 20M, 5490M, rf1



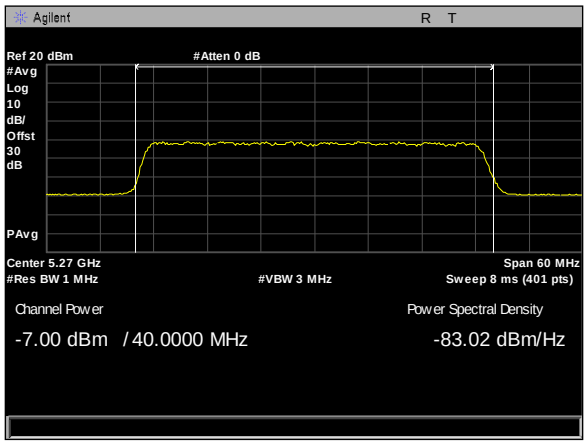
Plot 170. Maximum Conducted Output Power, 3Para, 20M, 5490M, rf2



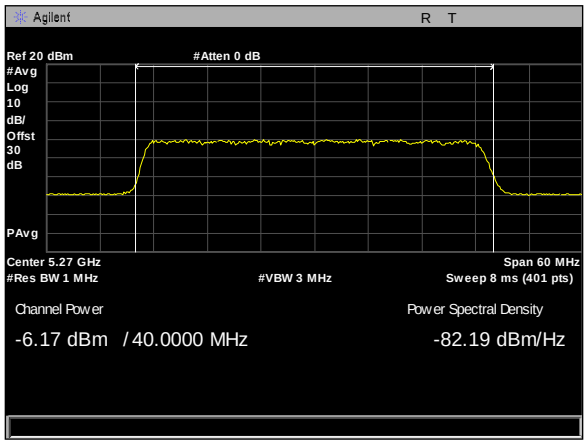
Plot 171. Maximum Conducted Output Power, 3Para, 20M, 5595M, rf1



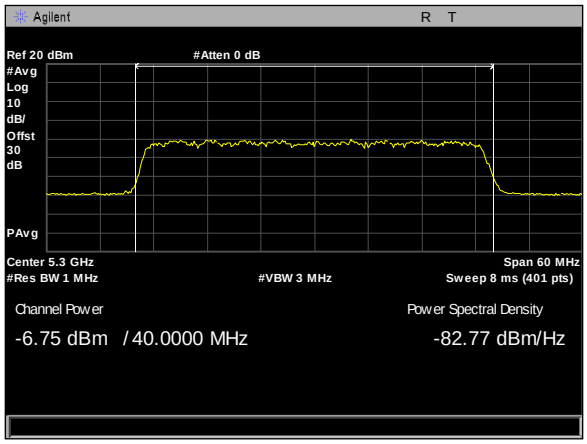
Plot 172. Maximum Conducted Output Power, 3Para, 20M, 5595M, rf2



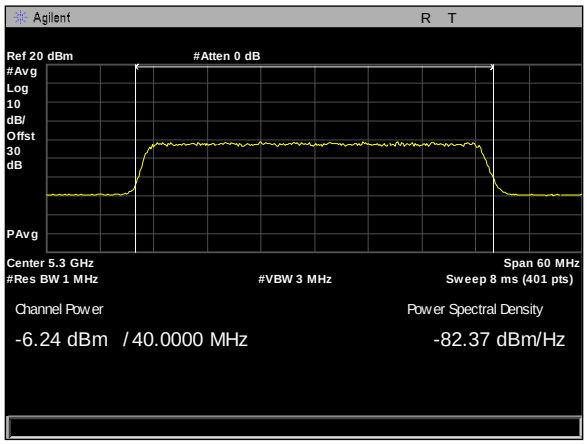
Plot 173. Maximum Conducted Output Power, 3Para, 40M, 5270M, rf1



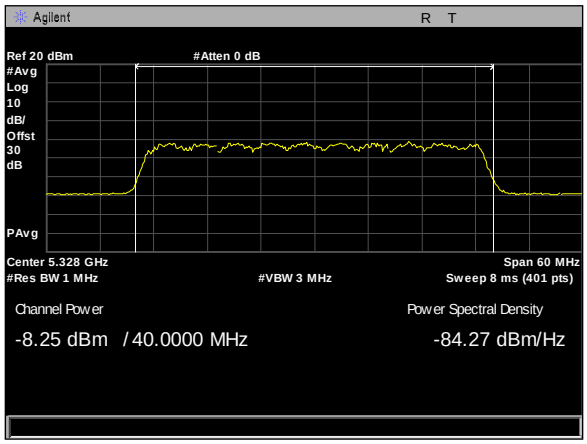
Plot 174. Maximum Conducted Output Power, 3Para, 40M, 5270M, rf2



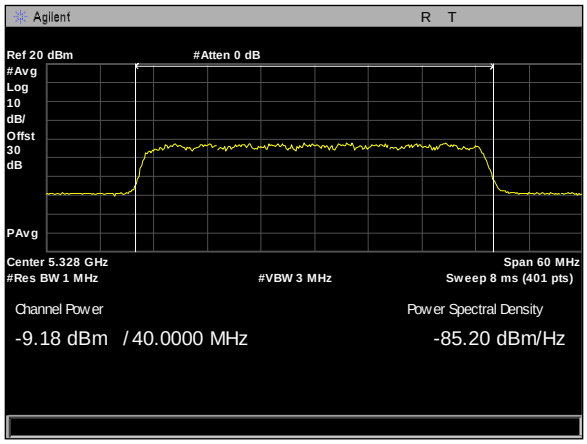
Plot 175. Maximum Conducted Output Power, 3Para, 40M, 5300M, rf1



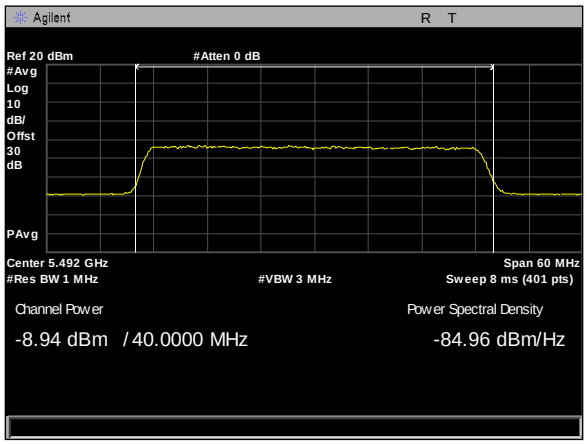
Plot 176. Maximum Conducted Output Power, 3Para, 40M, 5300M, rf2



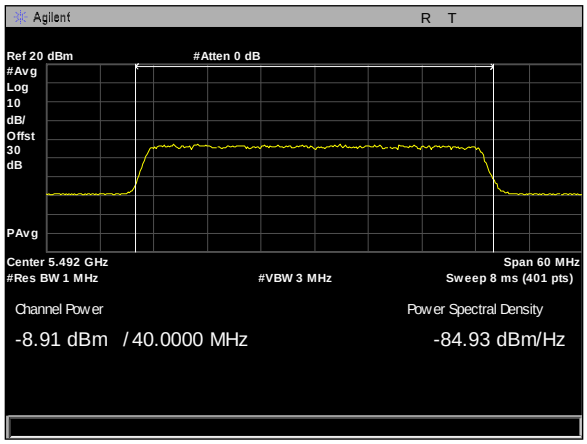
Plot 177. Maximum Conducted Output Power, 3Para, 40M, 5328M, rf1



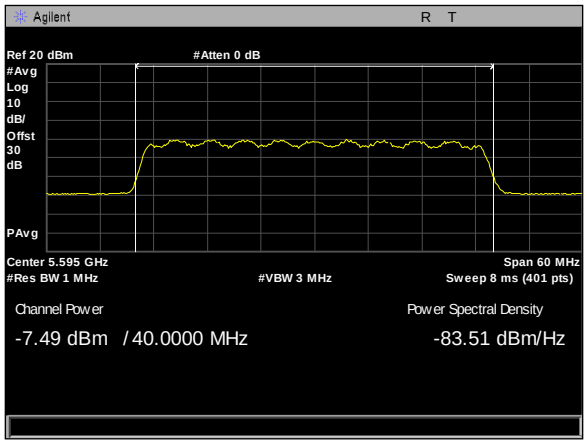
Plot 178. Maximum Conducted Output Power, 3Para, 40M, 5328M, rf2



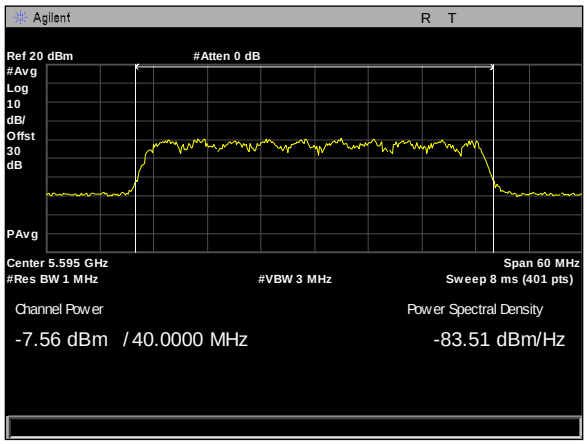
Plot 179. Maximum Conducted Output Power, 3Para, 40M, 5492M, rf1



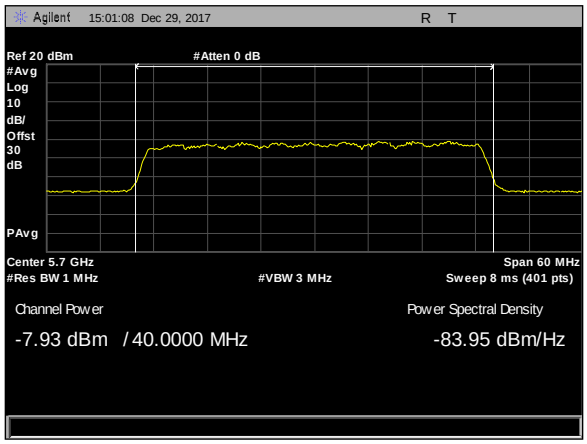
Plot 180. Maximum Conducted Output Power, 3Para, 40M, 5492M, rf2



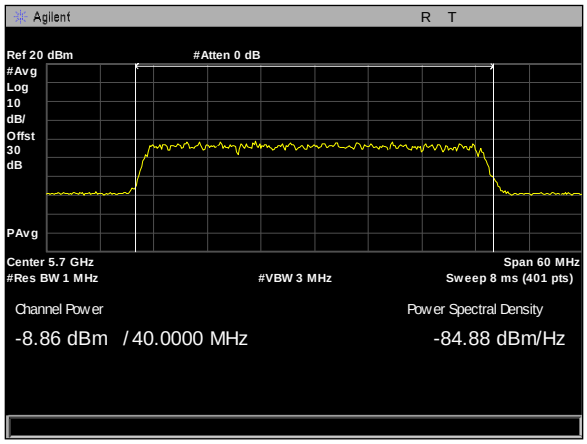
Plot 181. Maximum Conducted Output Power, 3Para, 40M, 5595M, rf1



Plot 182. Maximum Conducted Output Power, 3Para, 40M, 5595M, rf2



Plot 183. Maximum Conducted Output Power, 3Para, 40M, 5700M, rf1



Plot 184. Maximum Conducted Output Power, 3Para, 40M, 5700M, rf2

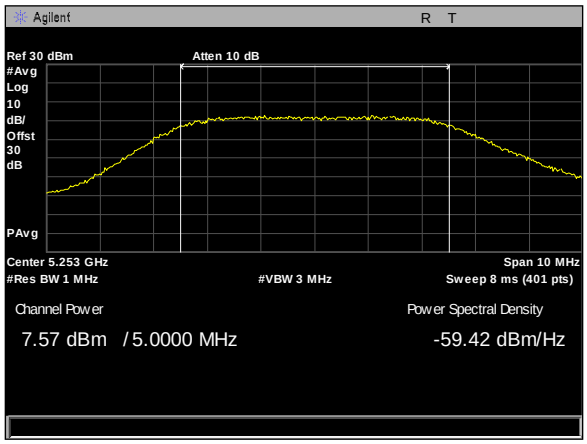
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5252.5	7.57	8.15	14.2523968	5	20	-5.747603177
5300	8.05	8.27	14.5441146	5	20	-5.455885445
5330	7.3	8.26	14.1891936	5	20	-5.810806409
10 MHz						
5255	10.99	11.57	17.6723968	5	22	-4.327603177
5300	10.56	11.26	17.3068097	5	22	-4.693190267
5330	10.59	11.2	17.2884227	5	22	-4.711577253
20 MHz						
5260	13.81	14.33	20.4604997	5	24	-3.539500267
5300	14.14	14.63	20.7746286	5	24	-3.225371389
5330	13.87	14.31	20.4782915	5	24	-3.521708486
40MHz						
5270	15.62	16.2	22.3023968	5	24	-1.697603177
5300	15.66	16.45	22.45566	5	24	-1.54434003
5330	1.13	0.95	7.23221468	5	24	-16.76778532

Table 18. Maximum Conducted Output Power, UNII 2A, 5 Omni, Test Results

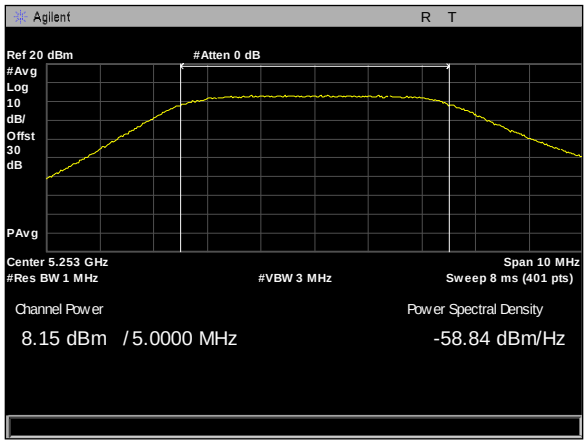
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5490	8.69	8.99	15.2253115	5	20	-4.774688467
5595	8.95	9.31	15.5164508	5	20	-4.48354924
5700	9.07	9.71	15.7845002	5	20	-4.215499777
10 MHz						
5490	11.16	11.9	17.9284638	5	22	-4.071536195
5595	11.98	12.32	18.536048	5	22	-3.463951974
5700	12.26	12.45	18.7387606	5	22	-3.261239402
20 MHz						
5490	10.03	10.93	16.8859937	5	24	-7.114006284
5595	14.97	15.53	21.6417415	5	24	-2.358258473
5700	11	11.27	17.5198195	5	24	-6.480180467
40MHz						
5490	0.48	1.23	7.25389161	5	24	-16.74610839
5595	17.31	16.8	23.4452036	5	24	-0.554796378
5700	4.32	5.14	11.1320462	5	24	-12.86795381

Table 19. Maximum Conducted Output Power, UNII 2C, 5 Omni, Test Results

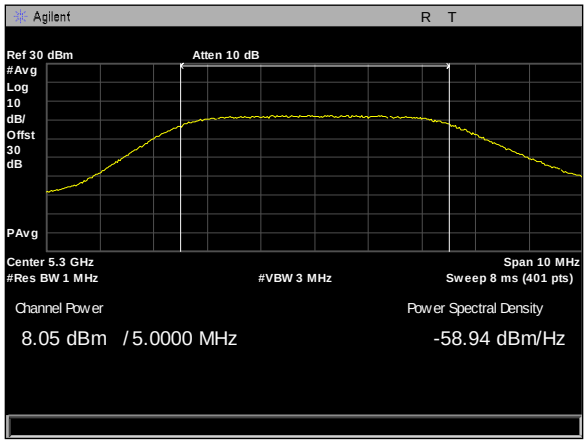
Note: All testing was performed using QPSK 1/16 modulation.



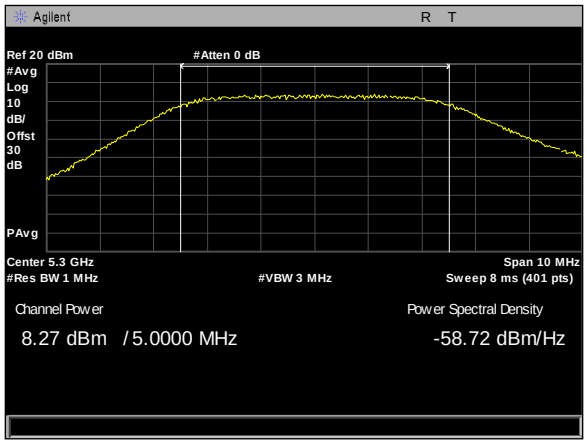
Plot 185. Maximum Conducted Output Power, 5Omni, 5M, 5252.5M, rf1



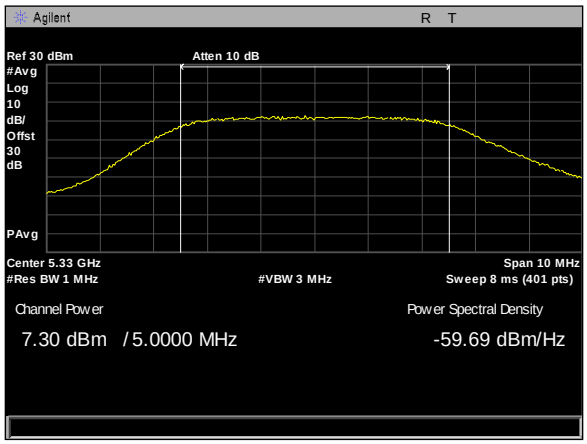
Plot 186. Maximum Conducted Output Power, 5Omni, 5M, 5252.5M, rf2



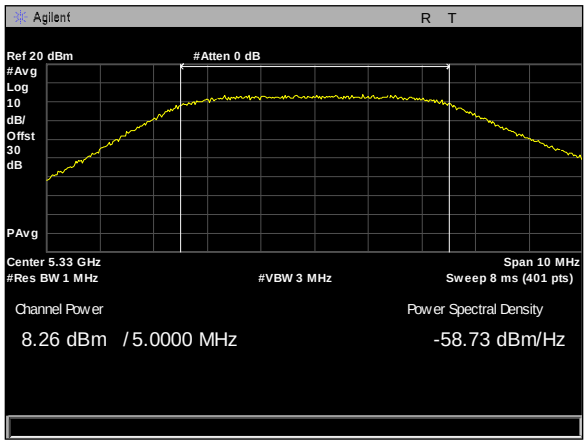
Plot 187. Maximum Conducted Output Power, 5Omni, 5M, 5300M, rf1



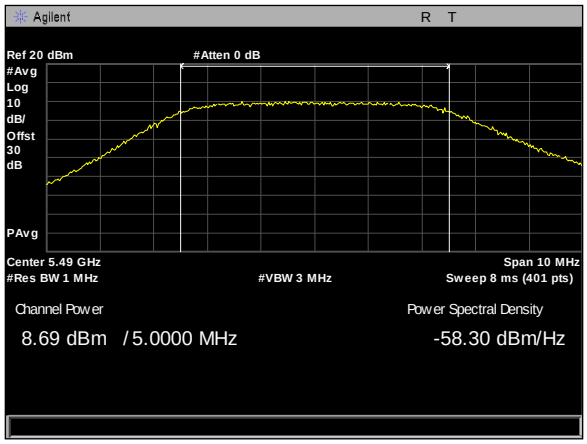
Plot 188. Maximum Conducted Output Power, 5Omni, 5M, 5300M, rf2



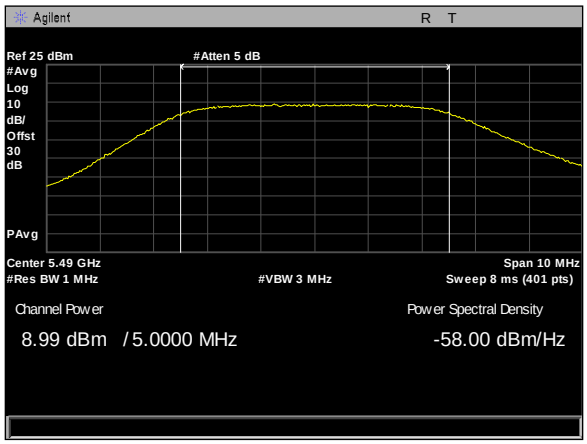
Plot 189. Maximum Conducted Output Power, 5Omni, 5M, 5330M, rf1



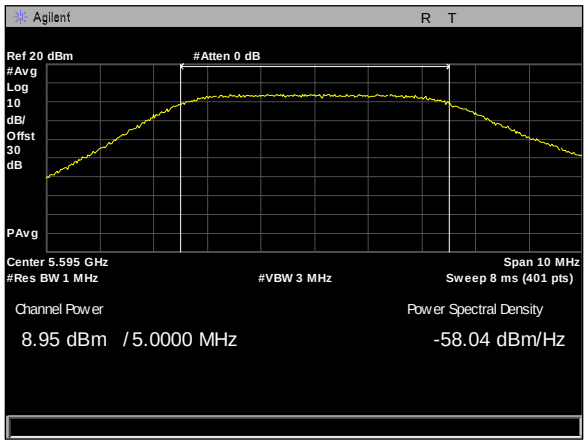
Plot 190. Maximum Conducted Output Power, 5Omni, 5M, 5330M, rf2



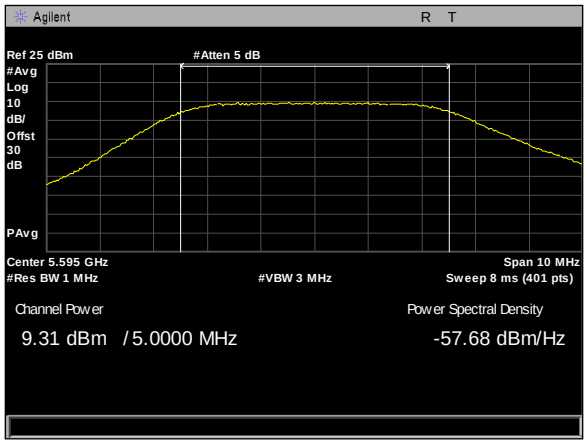
Plot 191. Maximum Conducted Output Power, 5Omni, 5M, 5490M, rf1



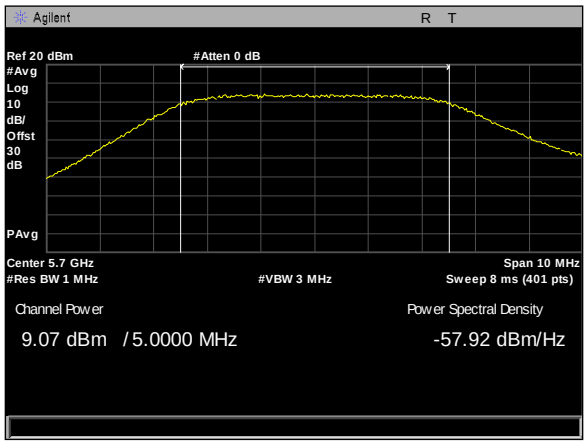
Plot 192. Maximum Conducted Output Power, 5Omni, 5M, 5490M, rf2



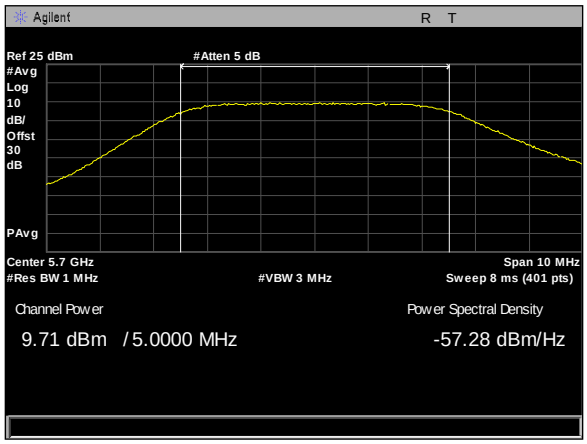
Plot 193. Maximum Conducted Output Power, 5Omni, 5M, 5595M, rf1



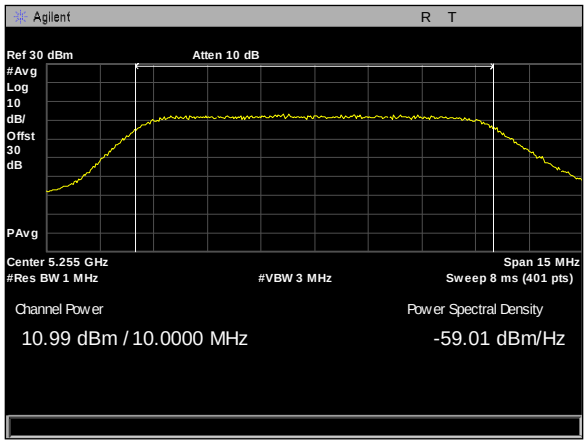
Plot 194. Maximum Conducted Output Power, 5Omni, 5M, 5595M, rf2



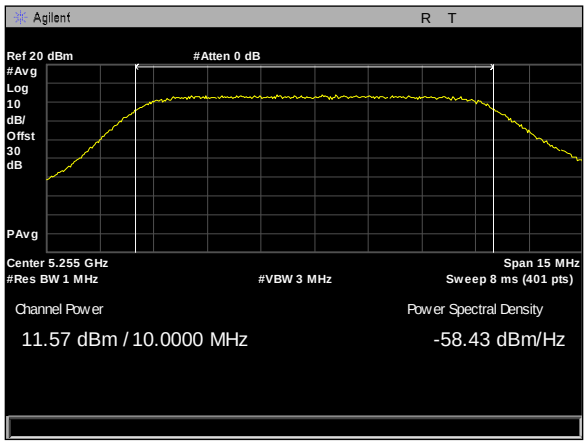
Plot 195. Maximum Conducted Output Power, 5Omni, 5M, 5700M, rf1



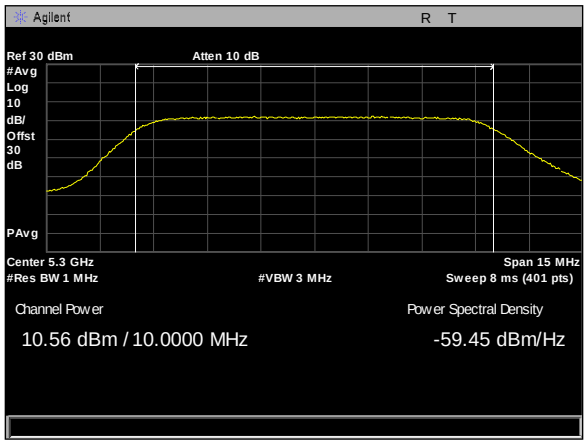
Plot 196. Maximum Conducted Output Power, 5Omni, 5M, 5700M, rf2



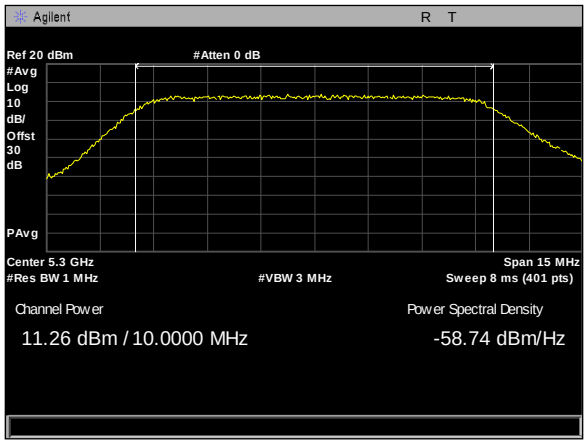
Plot 197. Maximum Conducted Output Power, 5Omni, 10M, 5255M, rf1



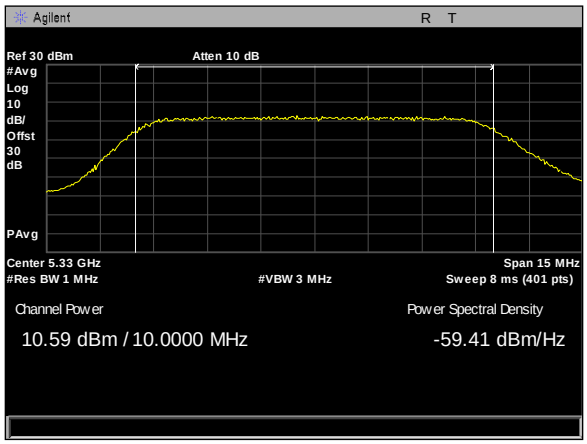
Plot 198. Maximum Conducted Output Power, 5Omni, 10M, 5255M, rf2



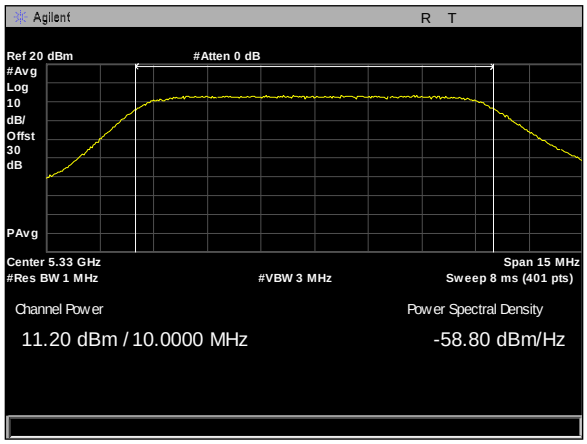
Plot 199. Maximum Conducted Output Power, 5Omni, 10M, 5300M, rf1



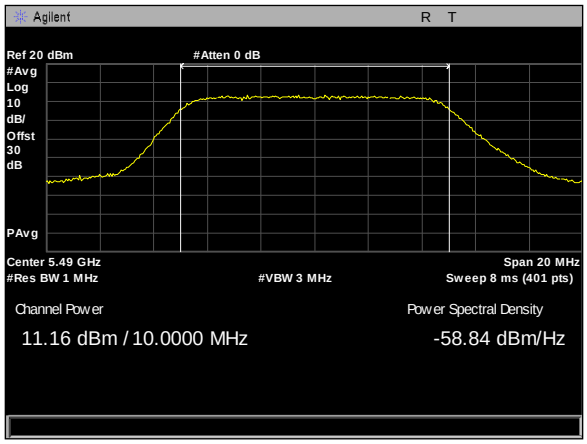
Plot 200. Maximum Conducted Output Power, 5Omni, 10M, 5300M, rf2



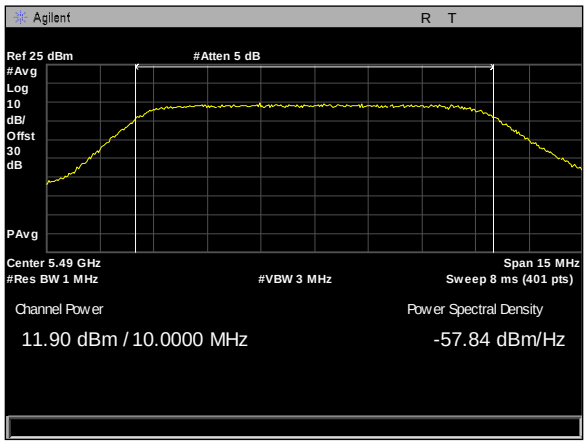
Plot 201. Maximum Conducted Output Power, 5Omni, 10M, 5330M, rf1



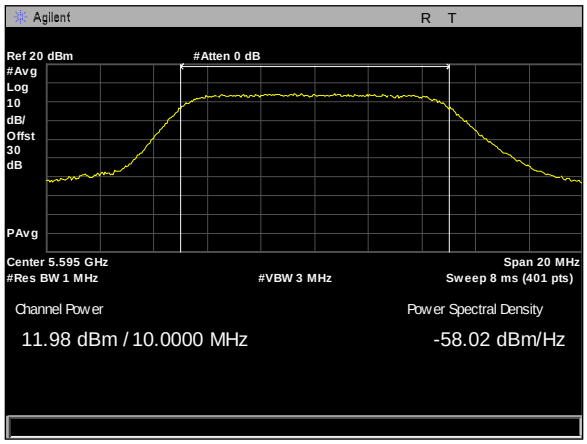
Plot 202. Maximum Conducted Output Power, 5Omni, 10M, 5330M, rf2



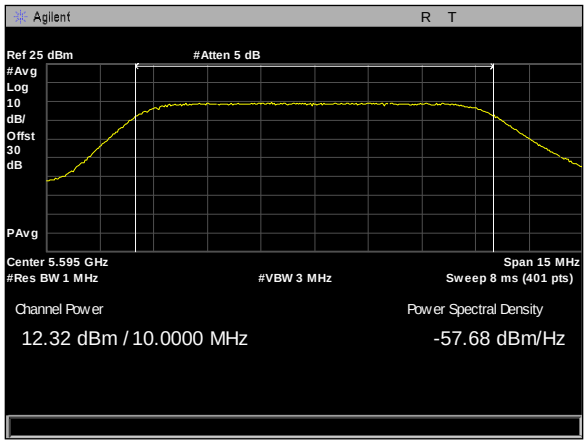
Plot 203. Maximum Conducted Output Power, 5Omni, 10M, 5490M, rf1



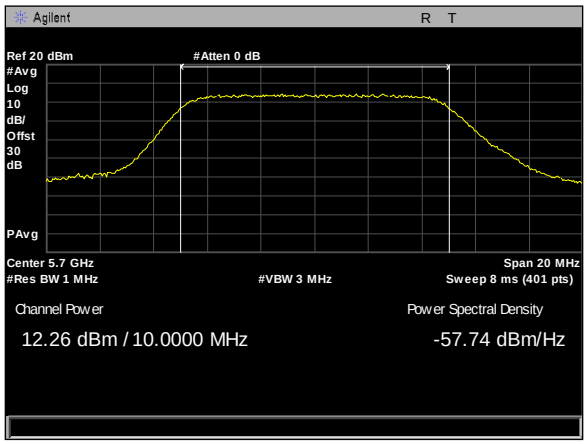
Plot 204. Maximum Conducted Output Power, 5Omni, 10M, 5490M, rf2



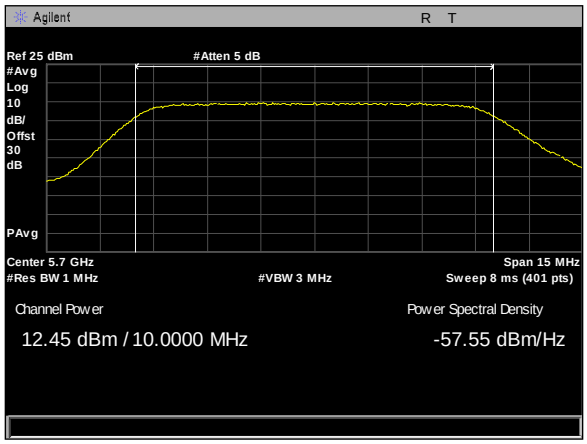
Plot 205. Maximum Conducted Output Power, 5Omni, 10M, 5595M, rf1



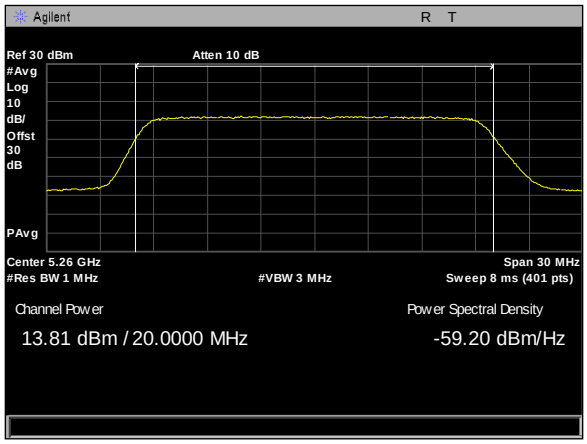
Plot 206. Maximum Conducted Output Power, 5Omni, 10M, 5595M, rf2



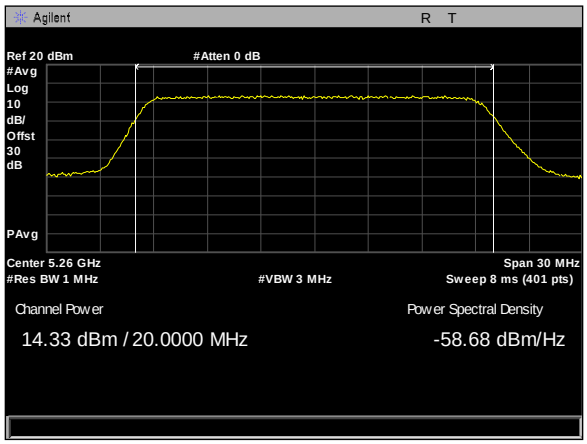
Plot 207. Maximum Conducted Output Power, 5Omni, 10M, 5700M, rf1



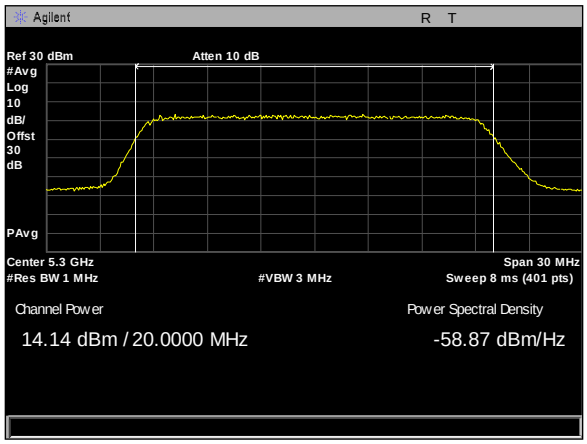
Plot 208. Maximum Conducted Output Power, 5Omni, 10M, 5700M, rf2



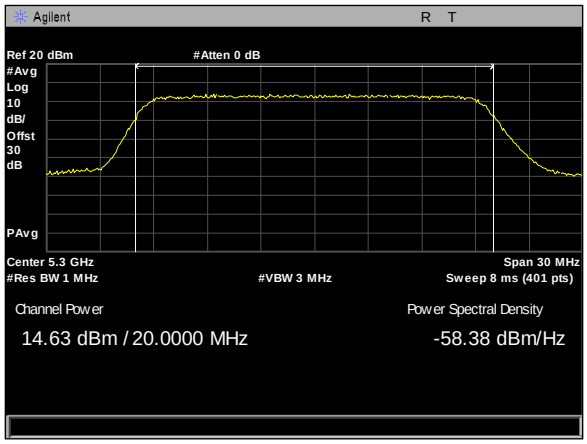
Plot 209. Maximum Conducted Output Power, 5Omni, 20M, 5260M, rf1



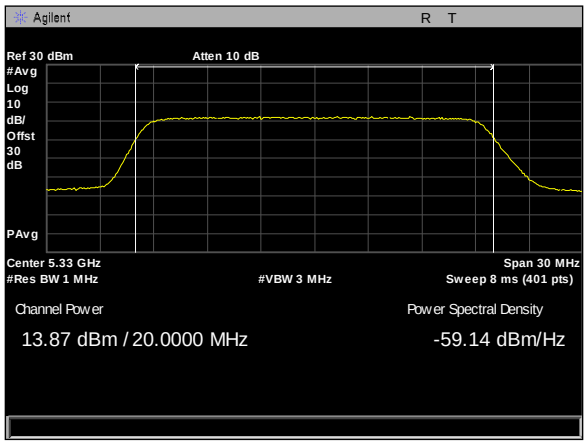
Plot 210. Maximum Conducted Output Power, 5Omni, 20M, 5260M, rf2



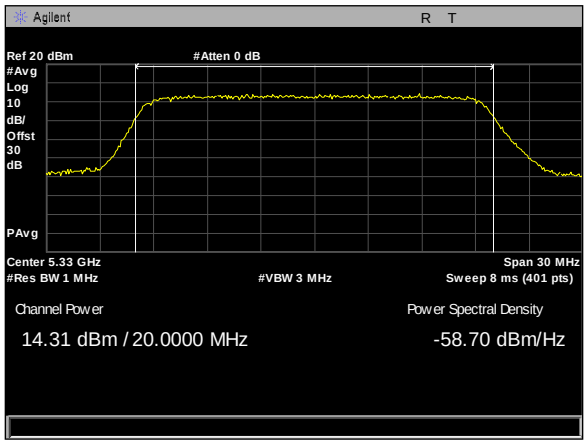
Plot 211. Maximum Conducted Output Power, 5Omni, 20M, 5300M, rf1



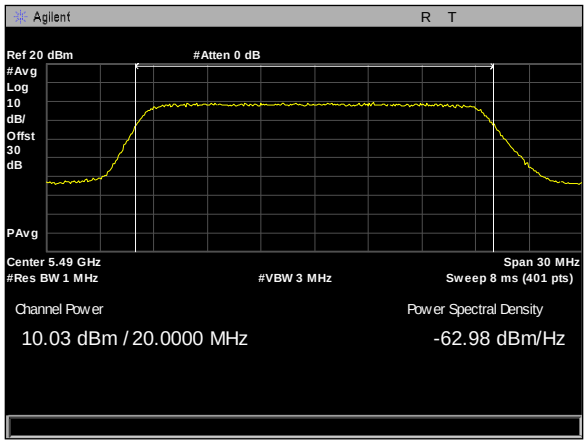
Plot 212. Maximum Conducted Output Power, 5Omni, 20M, 5300M, rf2



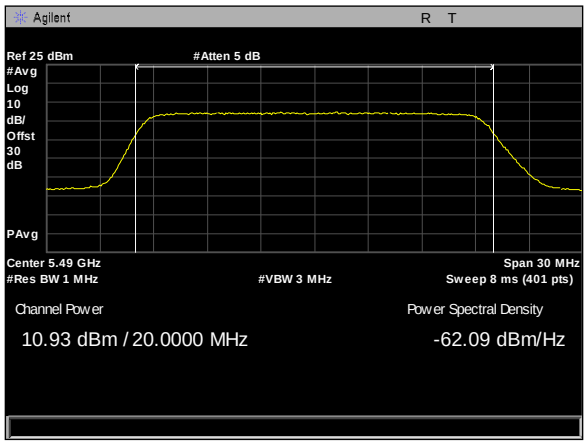
Plot 213. Maximum Conducted Output Power, 5Omni, 20M, 5330M, rf1



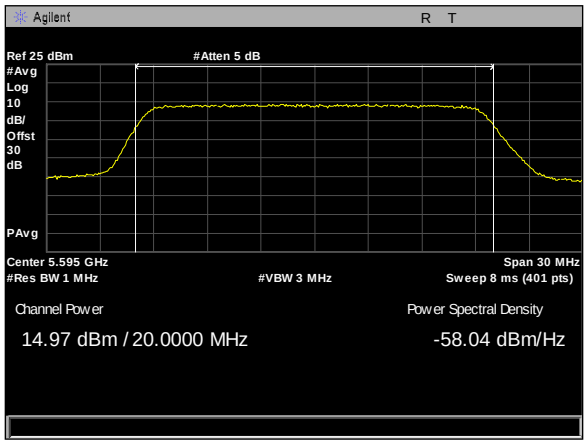
Plot 214. Maximum Conducted Output Power, 5Omni, 20M, 5330M, rf2



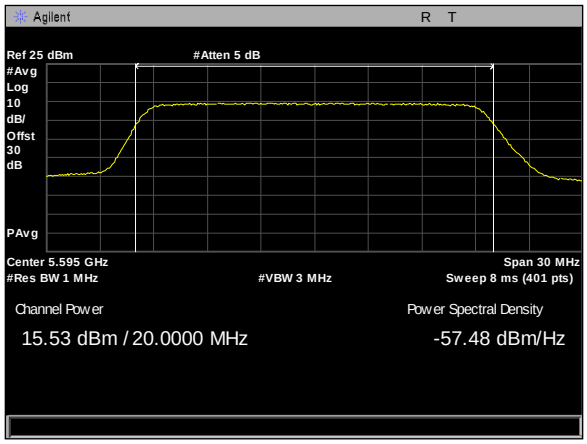
Plot 215. Maximum Conducted Output Power, 5Omni, 20M, 5490M, rf1



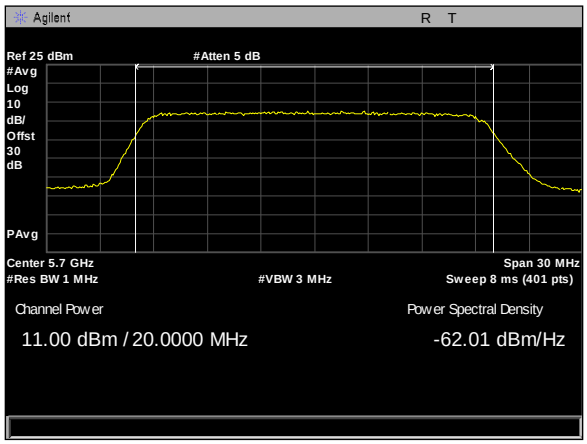
Plot 216. Maximum Conducted Output Power, 5Omni, 20M, 5490M, rf2



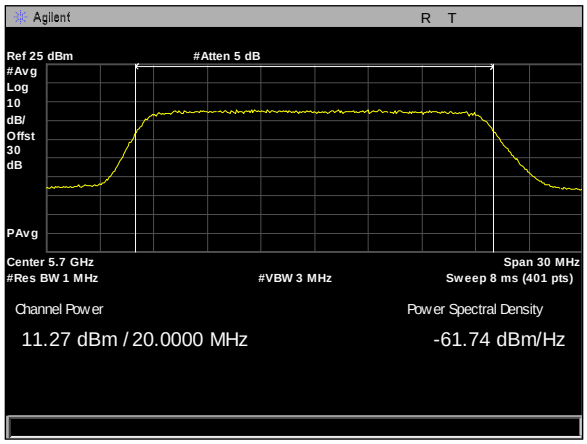
Plot 217. Maximum Conducted Output Power, 5Omni, 20M, 5595M, rf1



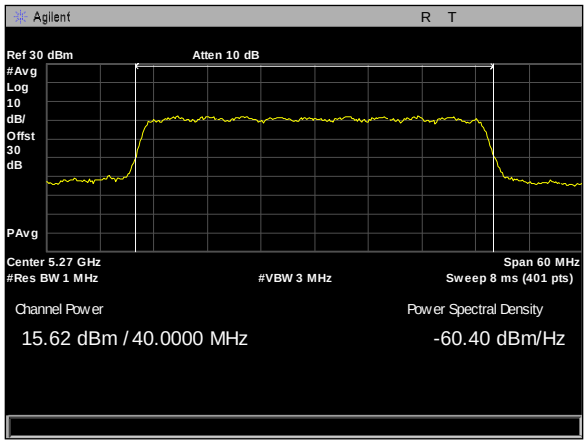
Plot 218. Maximum Conducted Output Power, 5Omni, 20M, 5595M, rf2



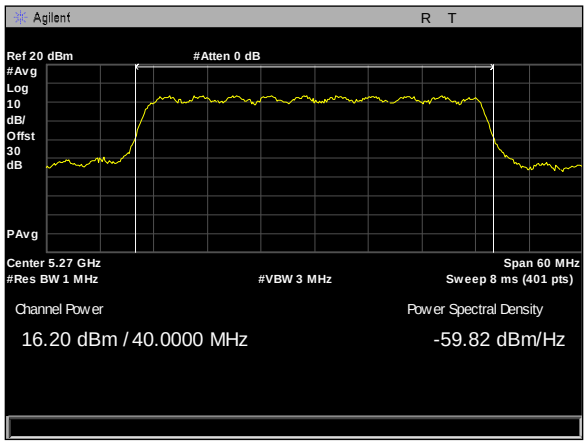
Plot 219. Maximum Conducted Output Power, 5Omni, 20M, 5700M, rf1



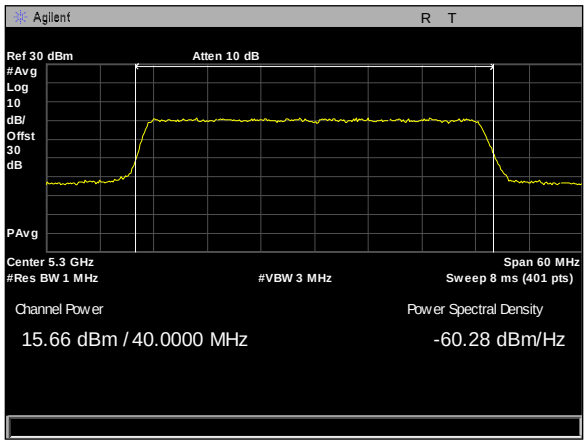
Plot 220. Maximum Conducted Output Power, 5Omni, 20M, 5700M, rf2



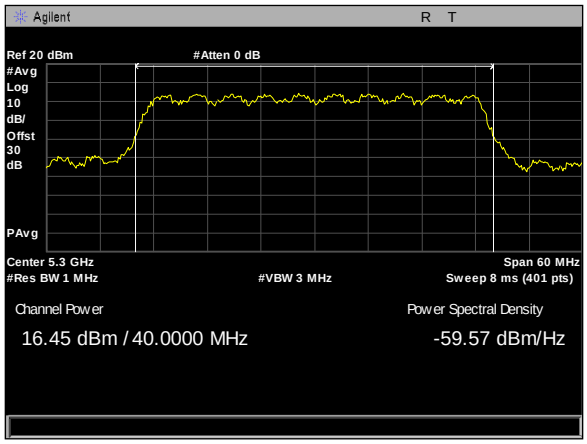
Plot 221. Maximum Conducted Output Power, 5Omni, 40M, 5270M, rf1



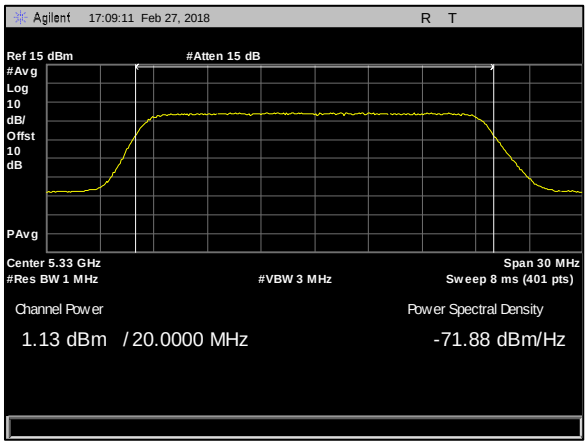
Plot 222. Maximum Conducted Output Power, 5Omni, 40M, 5270M, rf2



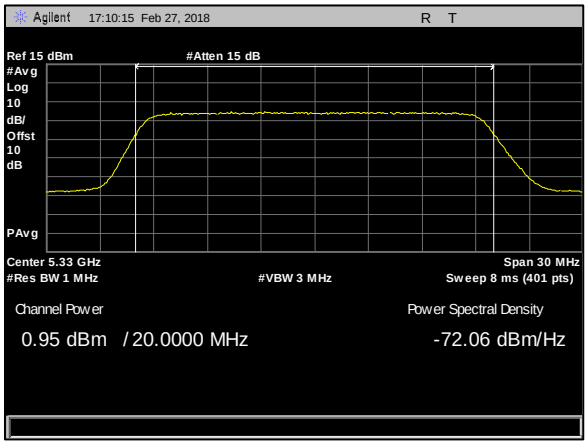
Plot 223. Maximum Conducted Output Power, 5Omni, 40M, 5300M, rf1



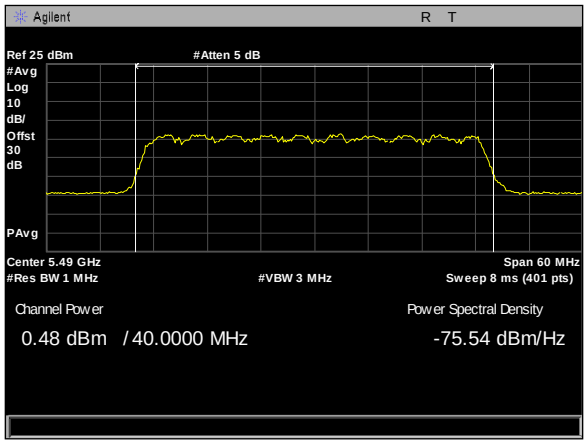
Plot 224. Maximum Conducted Output Power, 5Omni, 40M, 5300M, rf2



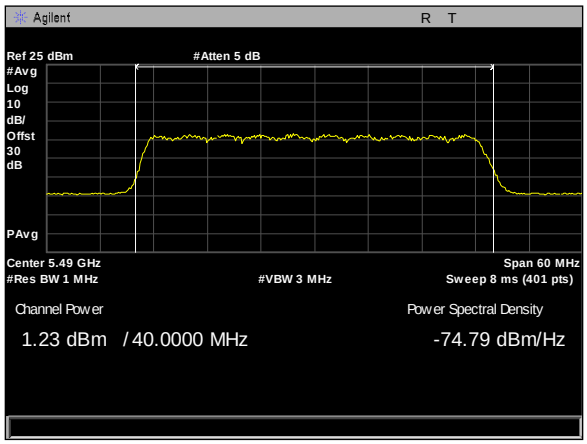
Plot 225. Maximum Conducted Output Power, 5Omni, 40M, 5330M, rf1



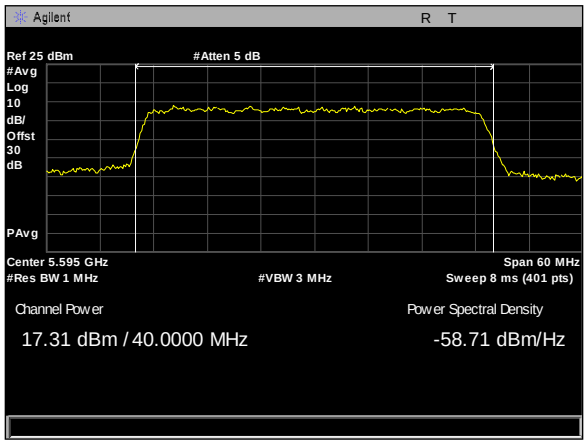
Plot 226. Maximum Conducted Output Power, 5Omni, 40M, 5330M, rf2



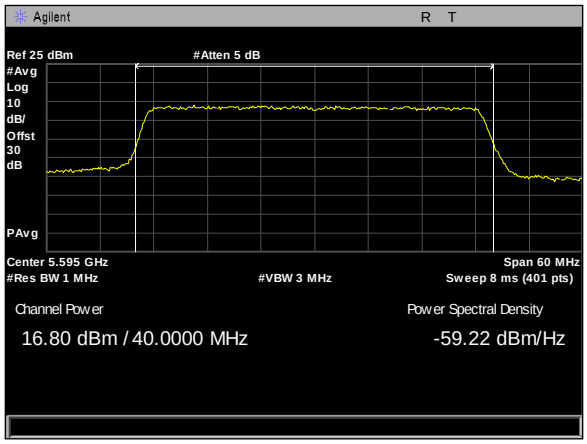
Plot 227. Maximum Conducted Output Power, 5Omni, 40M, 5490M, rf1



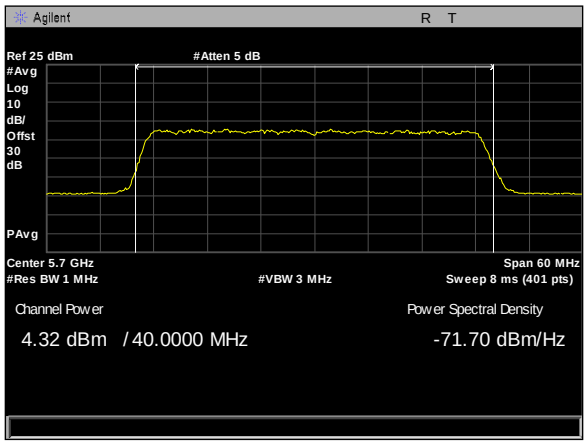
Plot 228. Maximum Conducted Output Power, 5Omni, 40M, 5490M, rf2



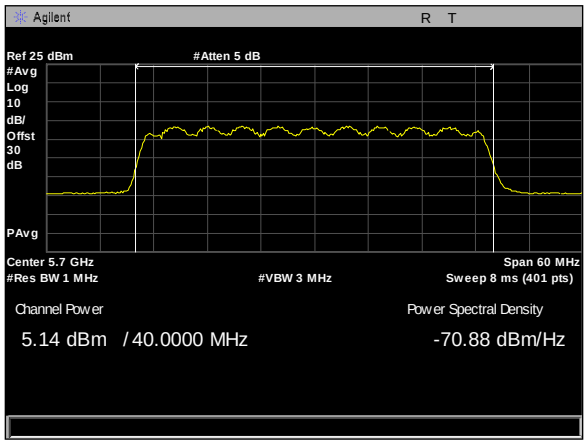
Plot 229. Maximum Conducted Output Power, 5Omni, 40M, 5595M, rf1



Plot 230. Maximum Conducted Output Power, 5Omni, 40M, 5595M, rf2



Plot 231. Maximum Conducted Output Power, 5Omni, 40M, 5700M, rf1



Plot 232. Maximum Conducted Output Power, 5Omni, 40M, 5700M, rf2

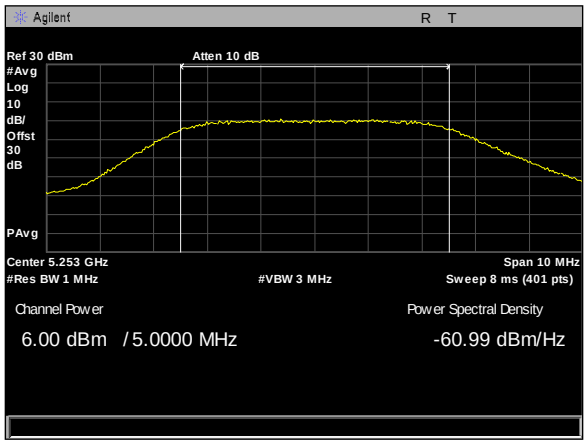
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5252.5	6	6.4	11.0993565	8	18	-6.900643486
5300	5.87	6.52	11.1217526	8	18	-6.878247363
5330	5.48	6.69	11.3883038	8	18	-6.611696221
10 MHz						
5255	9.23	9.16	13.2868484	8	20	-6.713151608
5300	9.18	9.47	13.5586946	8	20	-6.441305363
5330	8.93	9.77	13.7891843	8	20	-6.21081567
20 MHz						
5260	12.23	12.47	16.1870408	8	22	-5.812959158
5300	12.57	12.29	16.0259844	8	22	-5.974015576
5330	12.35	12.46	16.0085178	8	22	-5.99148221
40MHz						
5270	15.51	15.65	21.9632857	8	22	-.036714251
5300	15.44	15.71	21.9598195	8	22	-0.040180467
5330	-1.43	-1.70	1.82193042	8	22	-20.16806958

Table 20. Maximum Conducted Output Power, UNII 2A, 8 Omni, Test Results

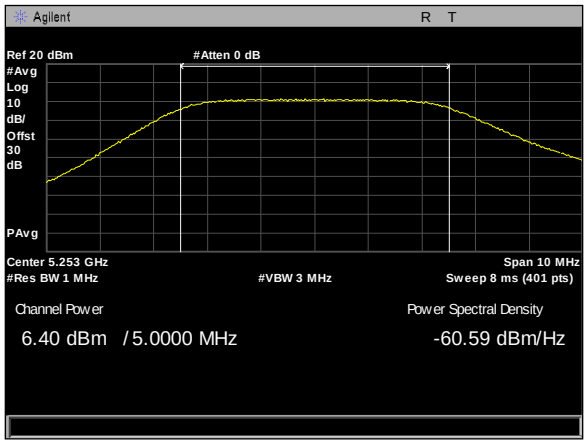
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5490	7.11	5.05	12.5837341	8	18	-5.416265872
5595	7.86	7.66	14.1438728	8	18	-3.856127169
5700	7.94	7.75	14.2287606	8	18	-3.771239402
10 MHz						
5490	11.09	10.92	17.3885534	8	20	-2.611446604
5595	10.71	10.67	17.0727677	8	20	-2.927232309
5700	9.09	8.62	15.2440766	8	20	-4.755923447
20 MHz						
5490	9.45	9.13	15.6756683	8	22	-6.324331718
5595	13.9	13.89	20.2777245	8	22	-1.722275482
5700	9.08	8.65	15.2530413	8	22	-6.746958683
40MHz						
5490	-1.55	-1.71	4.75345843	8	22	-17.24654157
5595	13.88	14.74	20.7139743	8	22	-1.286025651
5700	3.13	3.89	9.90932513	8	22	-12.09067487

Table 21. Maximum Conducted Output Power, UNII 2C, 8 Omni, Test Results

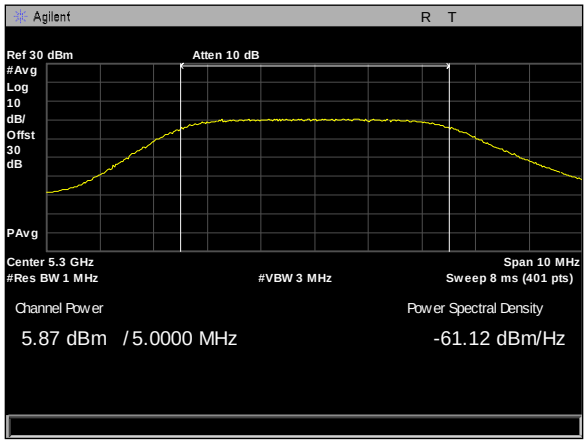
Note: All testing was performed using QPSK 1/16 modulation.



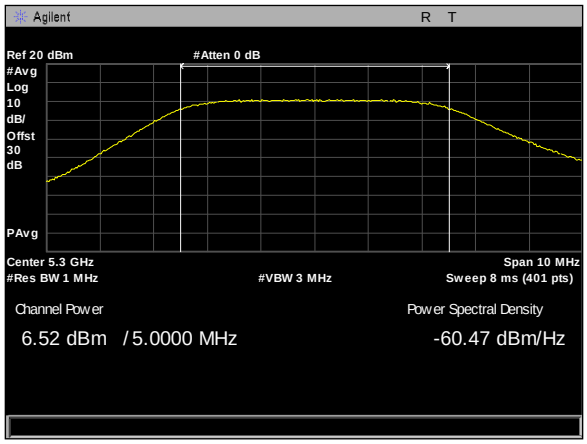
Plot 233. Maximum Conducted Output Power, 8Omni, 5M, 5252.5M, rf1



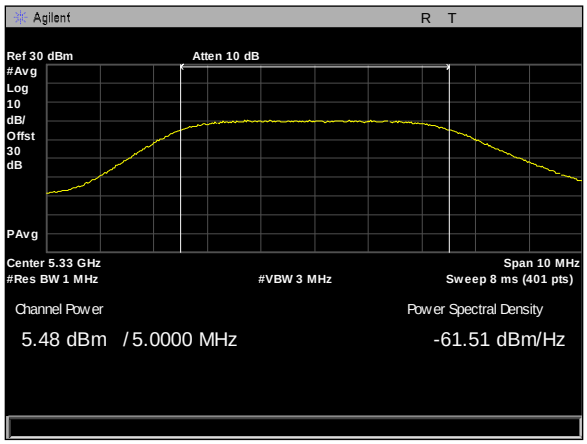
Plot 234. Maximum Conducted Output Power, 8Omni, 5M, 5252.5M, rf2



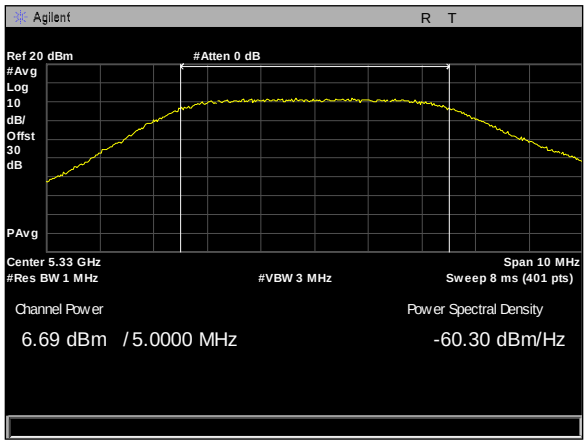
Plot 235. Maximum Conducted Output Power, 8Omni, 5M, 5300M, rf1



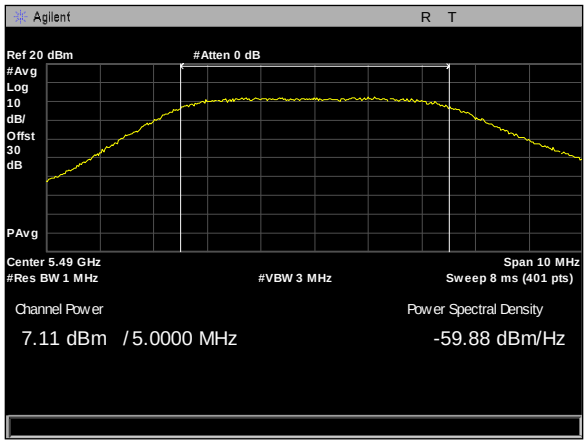
Plot 236. Maximum Conducted Output Power, 8Omni, 5M, 5300M, rf2



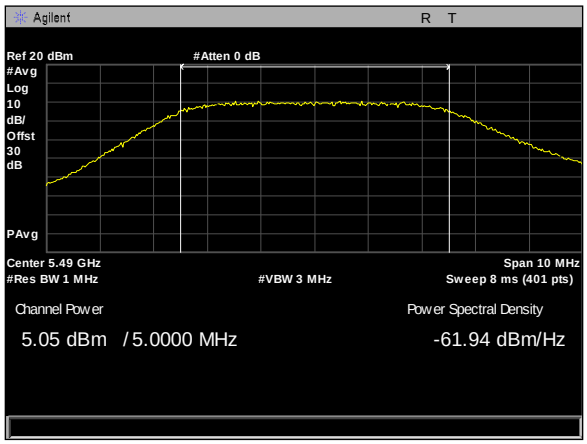
Plot 237. Maximum Conducted Output Power, 8Omni, 5M, 5330M, rf1



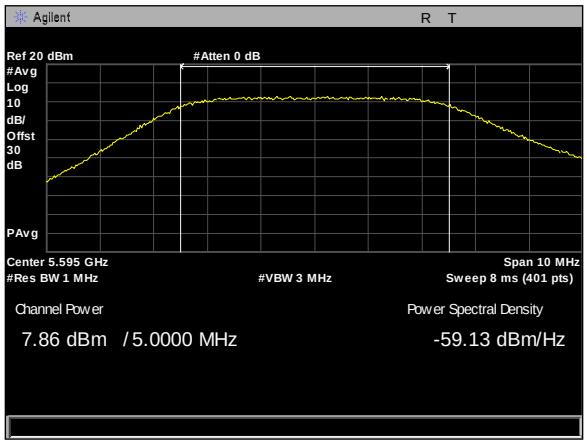
Plot 238. Maximum Conducted Output Power, 8Omni, 5M, 5330M, rf2



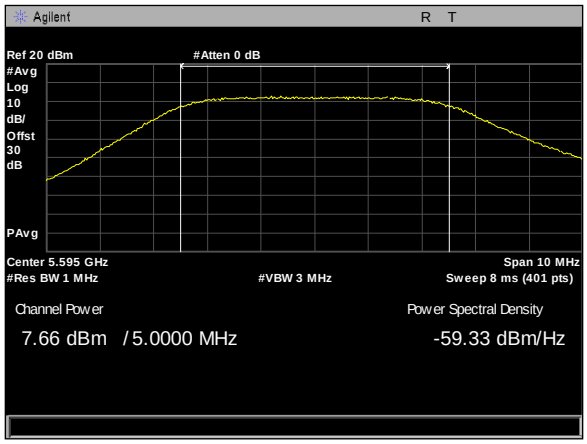
Plot 239. Maximum Conducted Output Power, 8Omni, 5M, 5490M, rf1



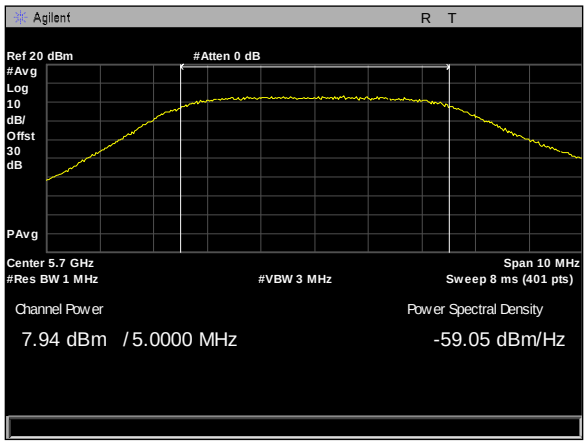
Plot 240. Maximum Conducted Output Power, 8Omni, 5M, 5490M, rf2



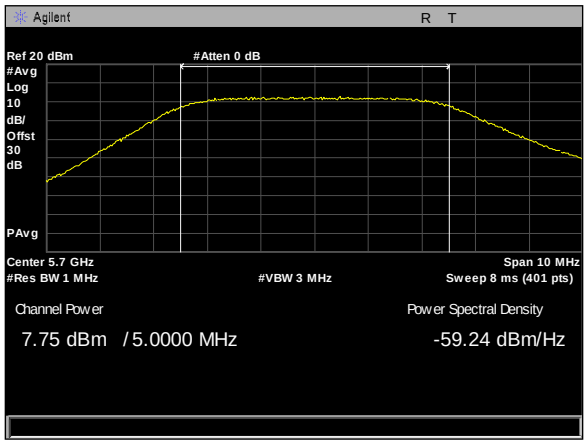
Plot 241. Maximum Conducted Output Power, 8Omni, 5M, 5595M, rf1



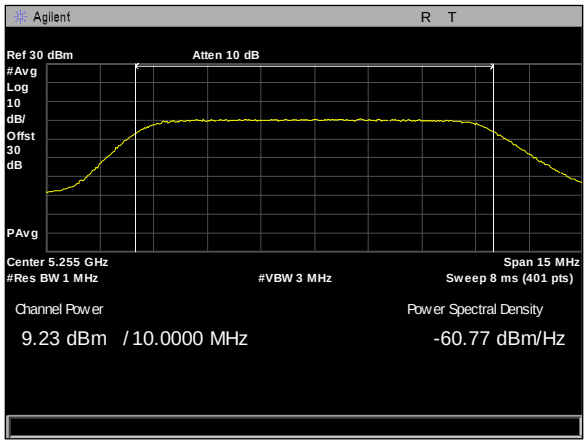
Plot 242. Maximum Conducted Output Power, 8Omni, 5M, 5595M, rf2



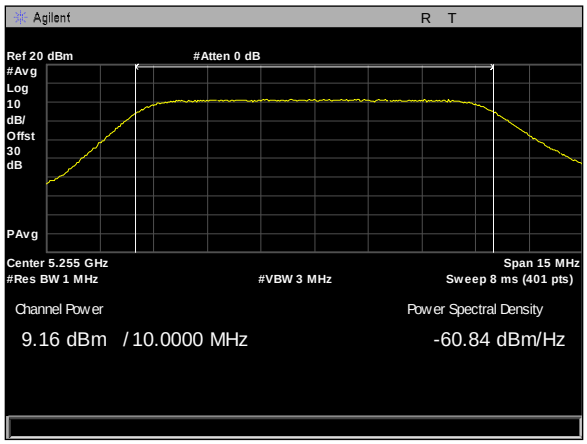
Plot 243. Maximum Conducted Output Power, 8Omni, 5M, 5700M, rf1



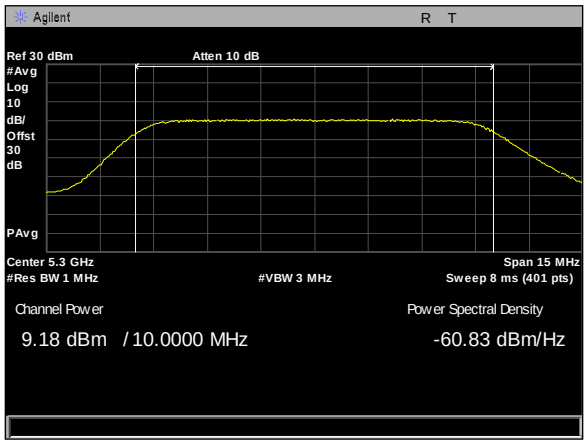
Plot 244. Maximum Conducted Output Power, 8Omni, 5M, 5700M, rf2



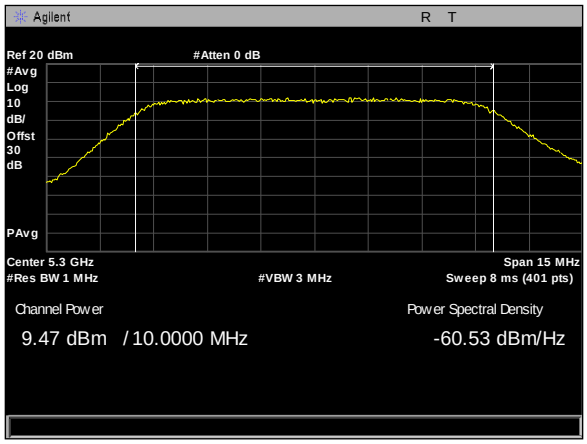
Plot 245. Maximum Conducted Output Power, 8Omni, 10M, 5255M, rf1



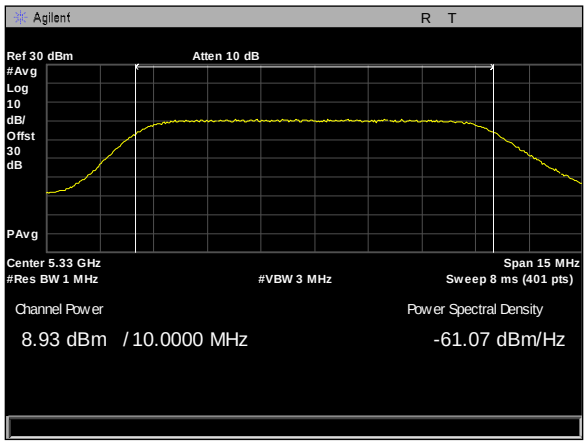
Plot 246. Maximum Conducted Output Power, 8Omni, 10M, 5255M, rf2



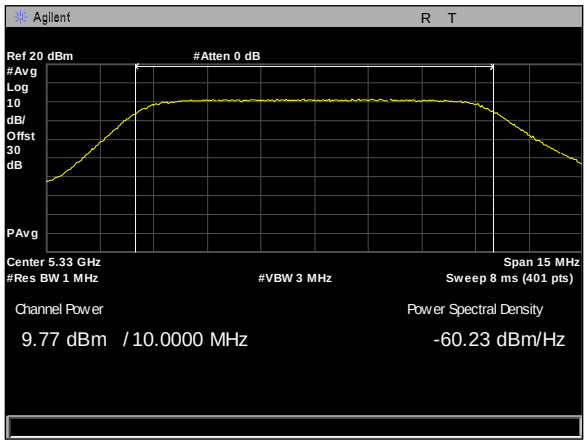
Plot 247. Maximum Conducted Output Power, 8Omni, 10M, 5300M, rf1



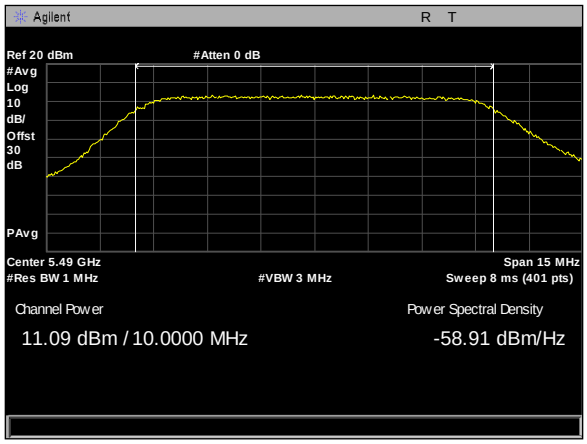
Plot 248. Maximum Conducted Output Power, 8Omni, 10M, 5300M, rf2



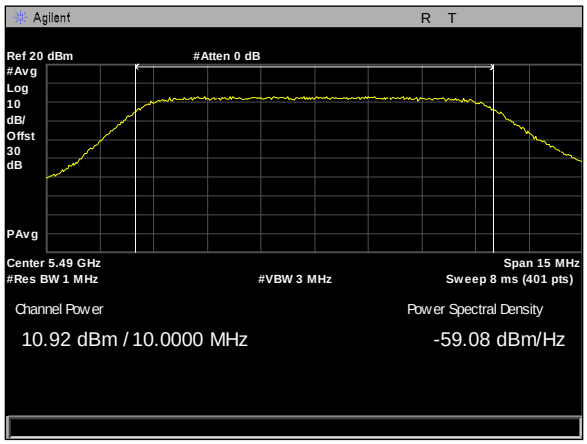
Plot 249. Maximum Conducted Output Power, 8Omni, 10M, 5330M, rf1



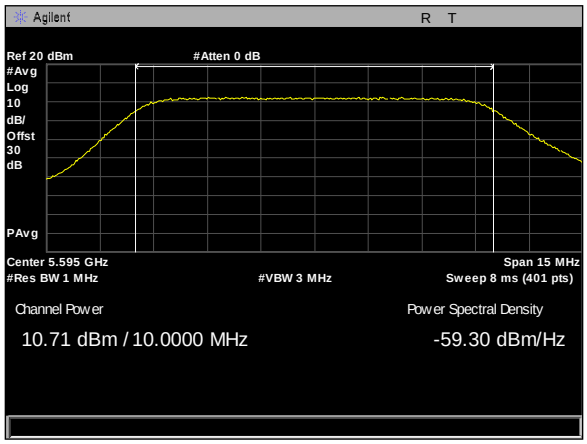
Plot 250. Maximum Conducted Output Power, 8Omni, 10M, 5330M, rf2



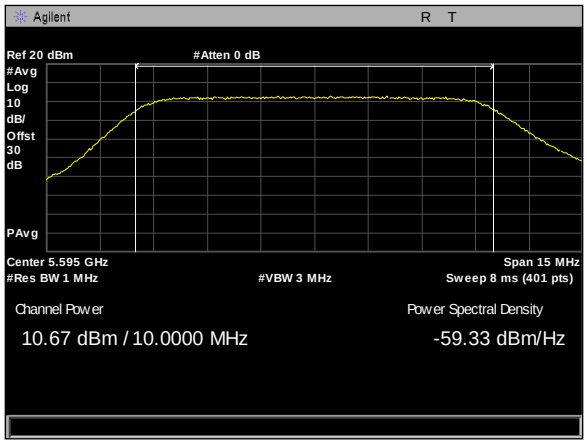
Plot 251. Maximum Conducted Output Power, 8Omni, 10M, 5490M, rf1



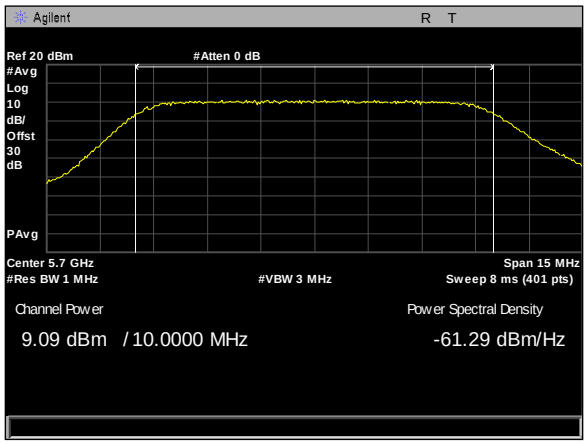
Plot 252. Maximum Conducted Output Power, 8Omni, 10M, 5490M, rf2



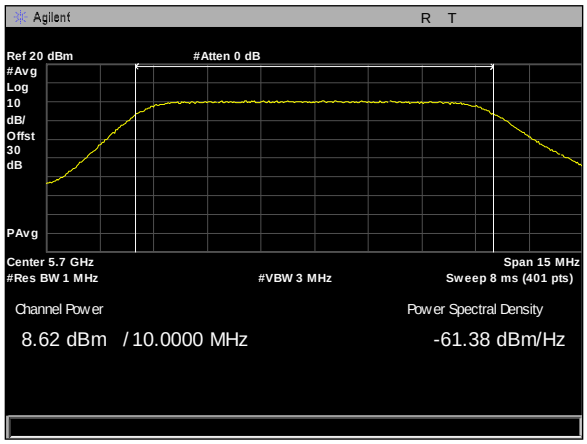
Plot 253. Maximum Conducted Output Power, 8Omni, 10M, 5595M, rf1



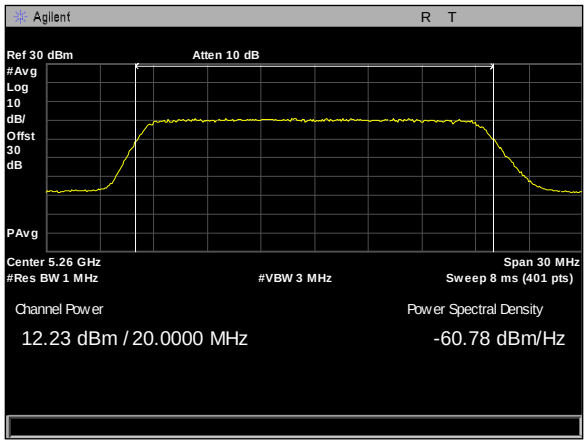
Plot 254. Maximum Conducted Output Power, 8Omni, 10M, 5595M, rf2



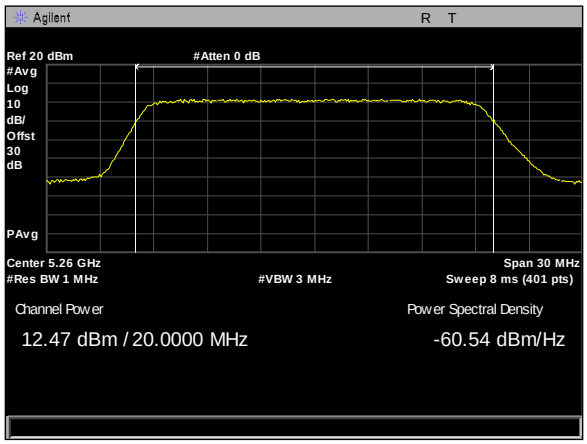
Plot 255. Maximum Conducted Output Power, 8Omni, 10M, 5700M, rf1



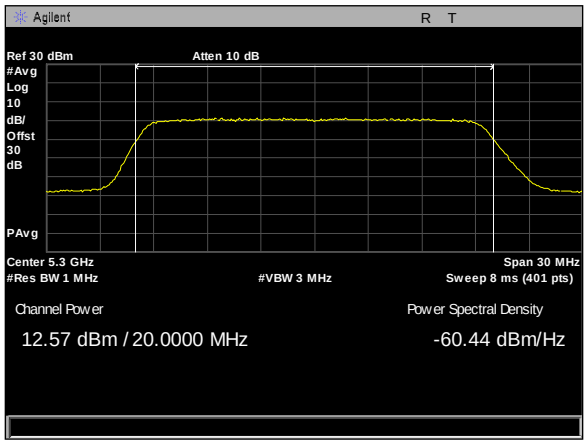
Plot 256. Maximum Conducted Output Power, 8Omni, 10M, 5700M, rf2



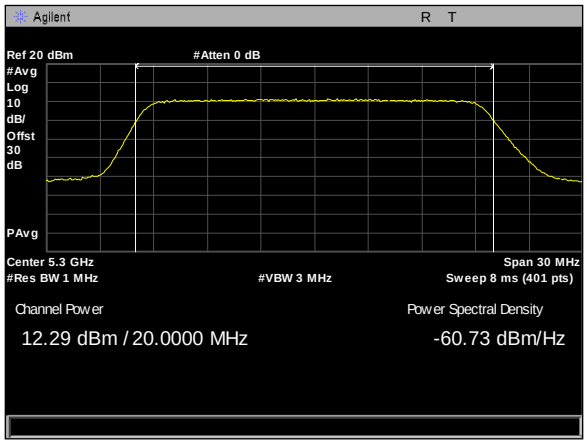
Plot 257. Maximum Conducted Output Power, 8Omni, 20M, 5260M, rf1



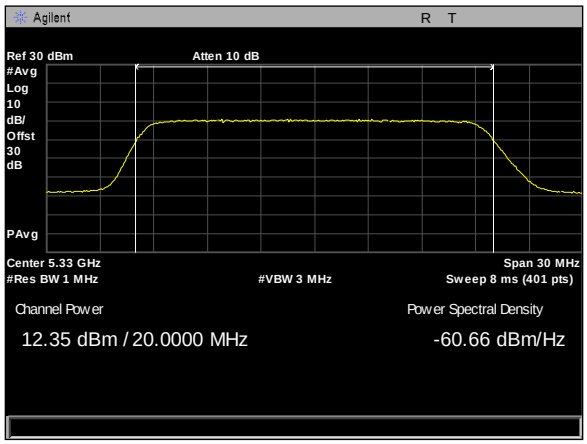
Plot 258. Maximum Conducted Output Power, 8Omni, 20M, 5260M, rf2



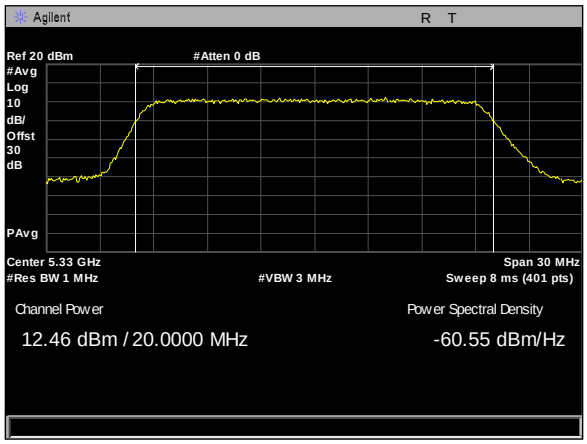
Plot 259. Maximum Conducted Output Power, 8Omni, 20M, 5300M, rf1



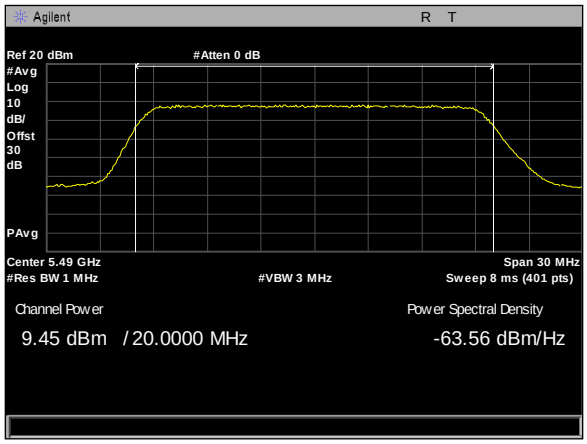
Plot 260. Maximum Conducted Output Power, 8Omni, 20M, 5300M, rf2



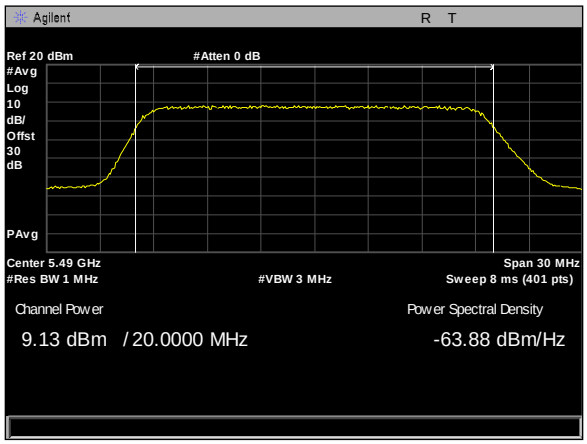
Plot 261. Maximum Conducted Output Power, 8Omni, 20M, 5330M, rf1



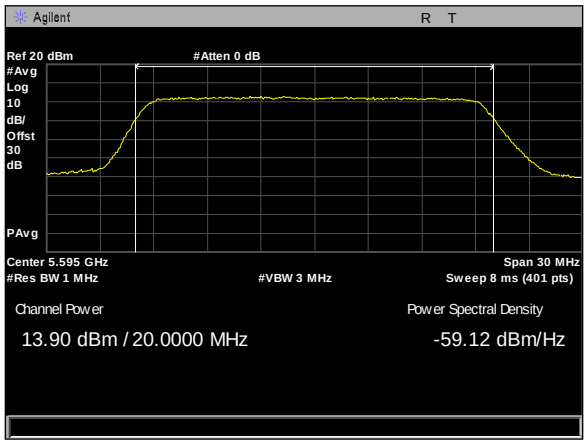
Plot 262. Maximum Conducted Output Power, 8Omni, 20M, 5330M, rf2



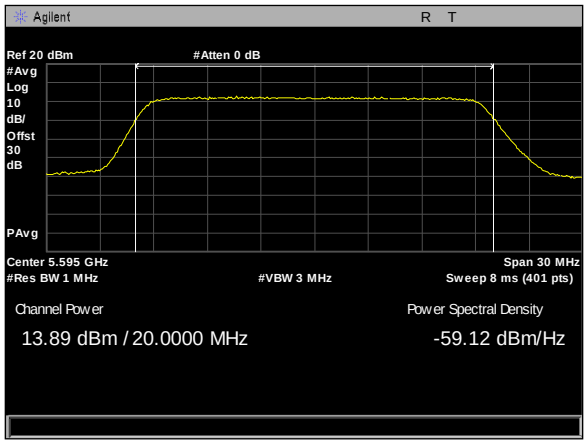
Plot 263. Maximum Conducted Output Power, 8Omni, 20M, 5490M, rf1



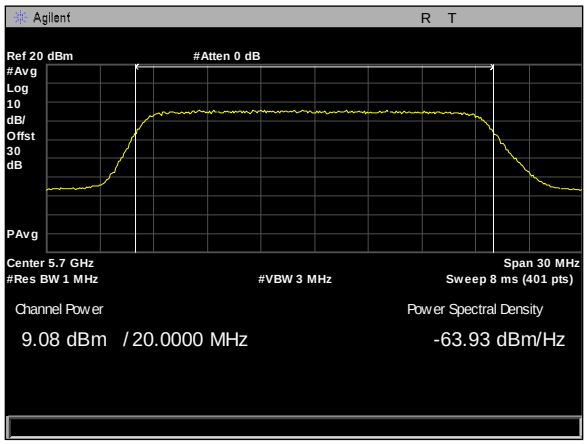
Plot 264. Maximum Conducted Output Power, 8Omni, 20M, 5490M, rf2



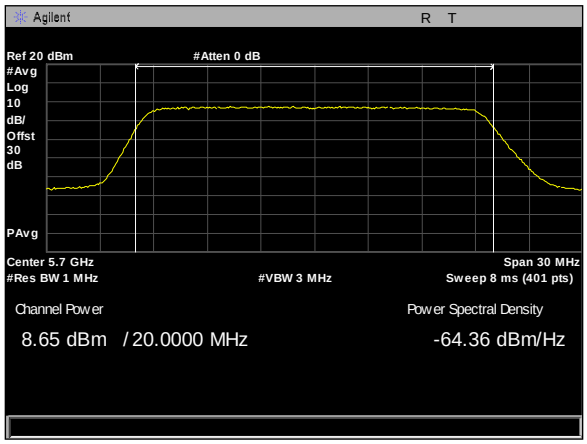
Plot 265. Maximum Conducted Output Power, 8Omni, 20M, 5595M, rf1



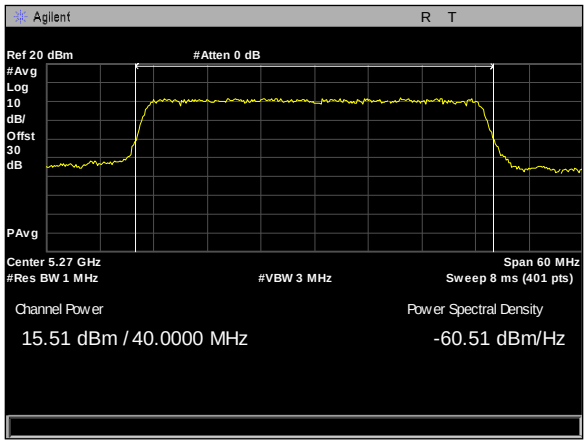
Plot 266. Maximum Conducted Output Power, 8Omni, 20M, 5595M, rf2



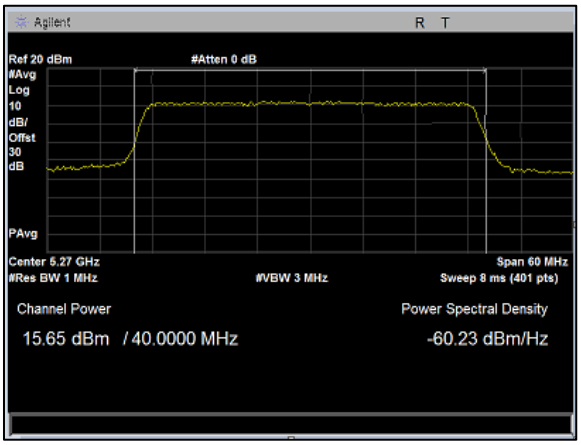
Plot 267. Maximum Conducted Output Power, 8Omni, 20M, 5700M, rf1



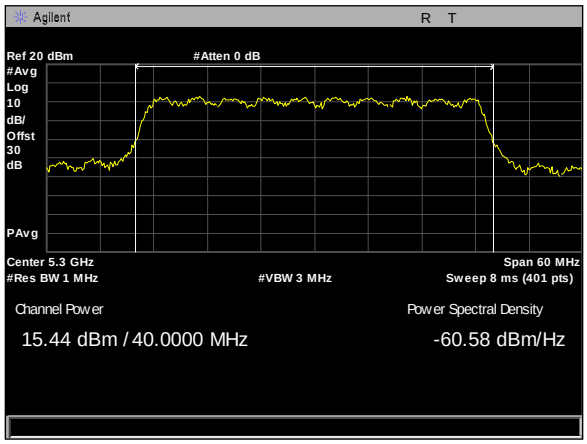
Plot 268. Maximum Conducted Output Power, 8Omni, 20M, 5700M, rf2



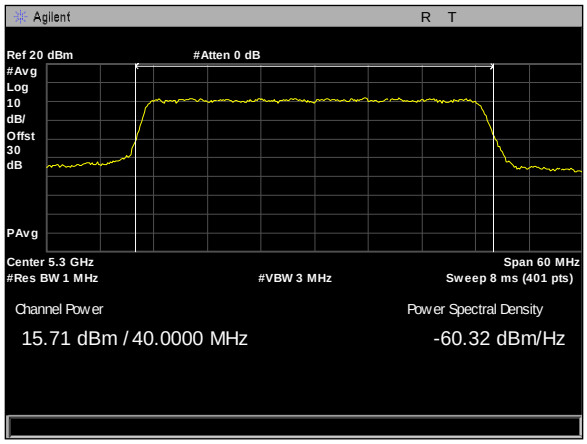
Plot 269. Maximum Conducted Output Power, 8Omni, 40M, 5270M, rf1



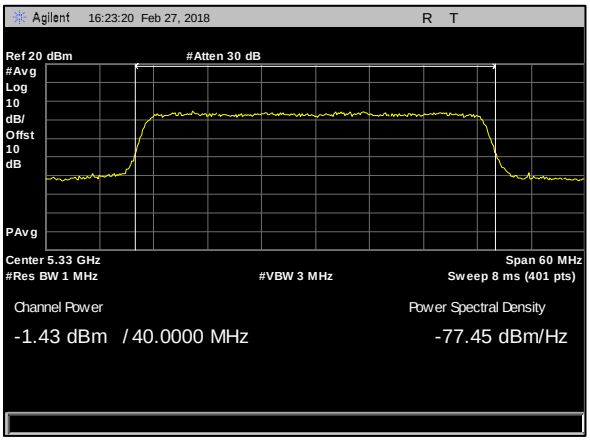
Plot 270. Maximum Conducted Output Power, 8Omni, 40M, 5270M, rf2



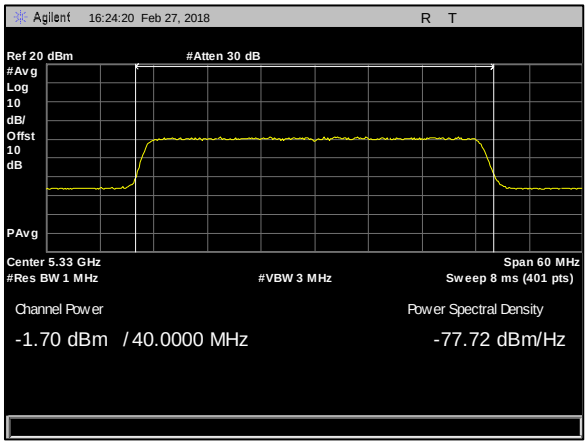
Plot 271. Maximum Conducted Output Power, 8Omni, 40M, 5300M, rf1



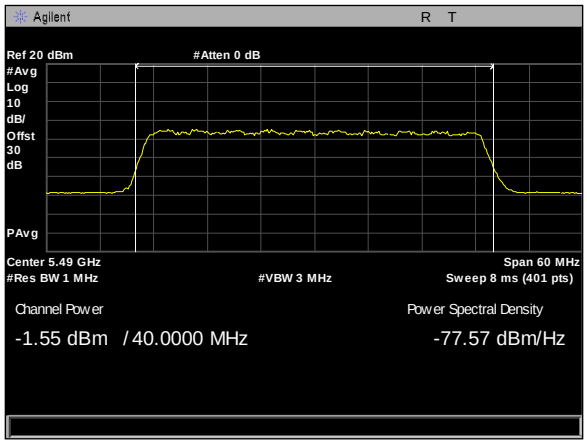
Plot 272. Maximum Conducted Output Power, 8Omni, 40M, 5300M, rf2



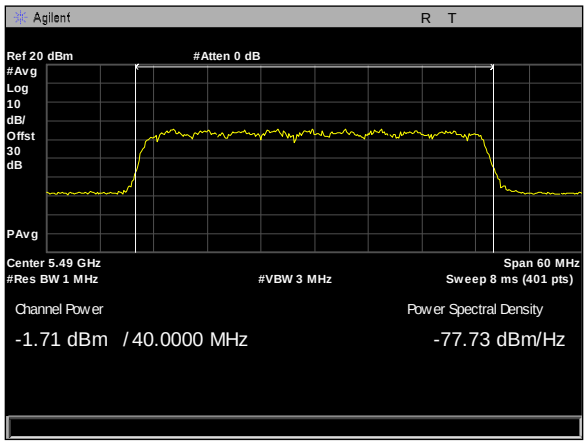
Plot 273. Maximum Conducted Output Power, 8Omni, 40M, 5330M, rf1



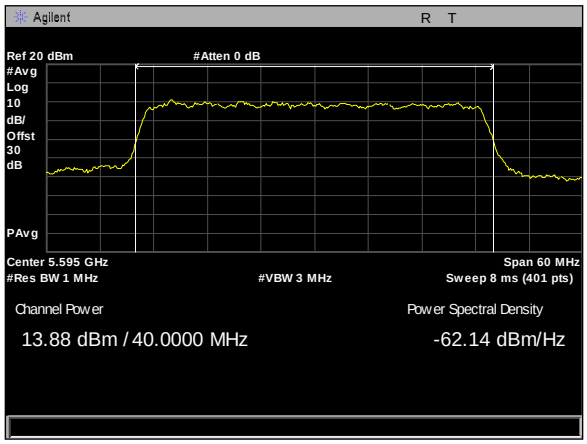
Plot 274. Maximum Conducted Output Power, 8Omni, 40M, 5330M, rf2



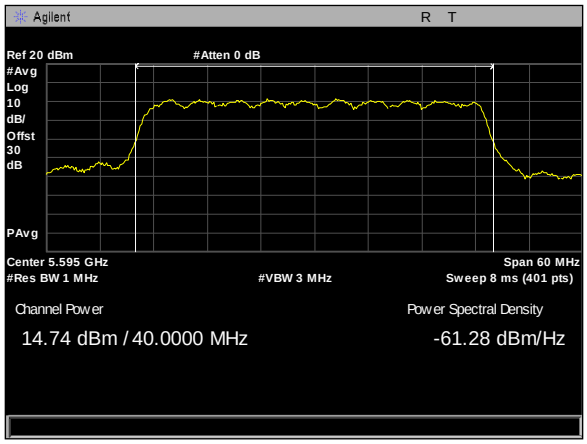
Plot 275. Maximum Conducted Output Power, 8Omni, 40M, 5490M, rf1



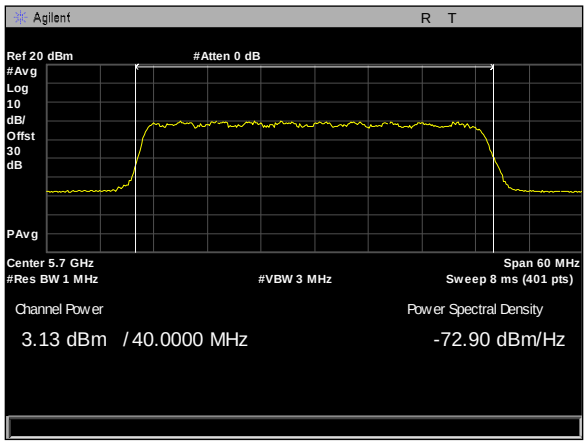
Plot 276. Maximum Conducted Output Power, 8Omni, 40M, 5490M, rf2



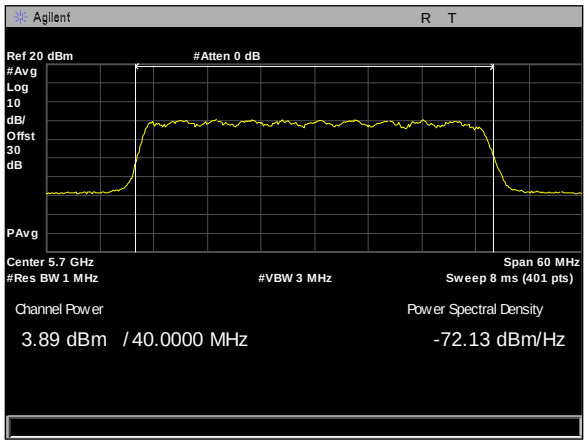
Plot 277. Maximum Conducted Output Power, 8Omni, 40M, 5595M, rf1



Plot 278. Maximum Conducted Output Power, 8Omni, 40M, 5595M, rf2



Plot 279. Maximum Conducted Output Power, 8Omni, 40M, 5700M, rf1



Plot 280. Maximum Conducted Output Power, 8Omni, 40M, 5700M, rf2

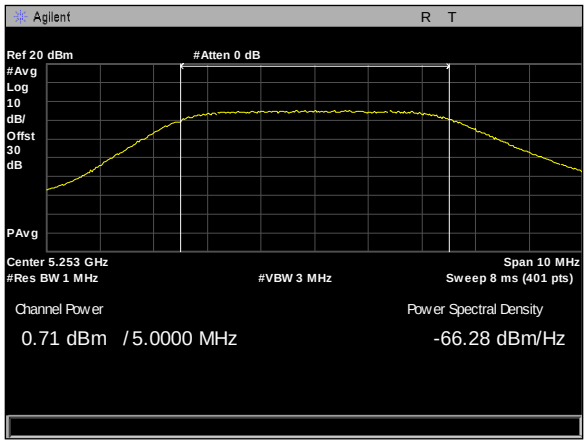
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5252.5	0.71	0.57	7.02328575	14	12	-4.976714251
5300	0.28	-0.14	6.45779686	14	12	-5.542203137
5330	0.83	0.62	7.10899082	14	12	-4.891009184
10 MHz						
5255	3.17	3.52	9.73124652	14	14	-4.26875348
5300	2.54	3.2	9.26524717	14	14	-4.734752831
5330	2.41	3.06	9.12987083	14	14	-4.870129166
20 MHz						
5260	6.07	6.22	12.5283692	14	16	-3.47163079
5300	5.87	6.27	12.4573252	14	16	-3.542674817
5330	6.63	7.48	13.4584838	14	16	-2.541516245
40MHz						
5270	7.94	8.63	14.6814105	14	16	-1.318589489
5300	8.75	9.39	15.4645002	14	16	-0.535499777
5330	-8.27	-6.89	-1.1426944	14	16	-17.14269438

Table 22. Maximum Conducted Output Power, UNII 2A, 90 Sector, Test Results

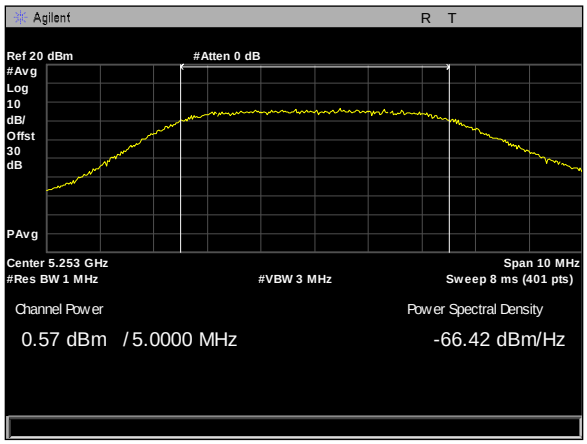
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5490	0.95	0.96	7.33772452	14	12	-4.662275482
5595	0.87	0.63	7.13437929	14	12	-4.86562071
5700	1.04	0.88	7.34345843	14	12	-4.656541575
10 MHz						
5490	4.13	4	10.448208	14	14	-3.551791957
5595	4.14	3.95	10.4287606	14	14	-3.571239402
5700	4	3.95	10.3577936	14	14	-3.642206405
20 MHz						
5490	7.17	6.98	13.4587606	14	16	-2.541239402
5595	6.57	6.86	13.1001418	14	16	-2.899858217
5700	6.87	6.94	13.2878627	14	16	-2.712137328
40MHz						
5490	-2.42	-2.53	3.9080699	14	16	-12.0919301
5595	8.96	8.83	15.278208	14	16	-0.721791957
5700	1.24	0.86	7.43687648	14	16	-8.563123519

Table 23. Maximum Conducted Output Power, UNII 2C, 90 Sector, Test Results

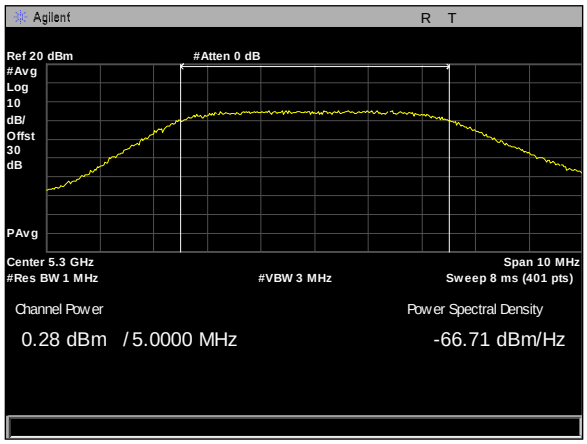
Note: All testing was performed using QPSK 1/16 modulation.



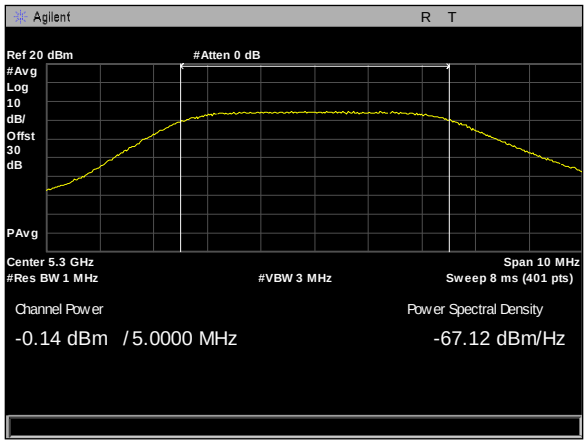
Plot 281. Maximum Conducted Output Power, 90Sector, 5M, 5252.5M, rf1



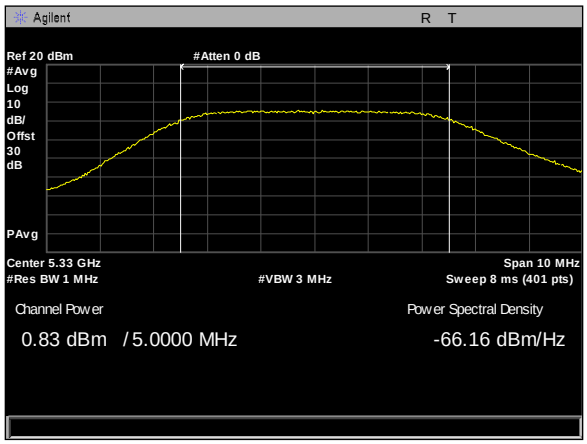
Plot 282. Maximum Conducted Output Power, 90Sector, 5M, 5252.5M, rf2



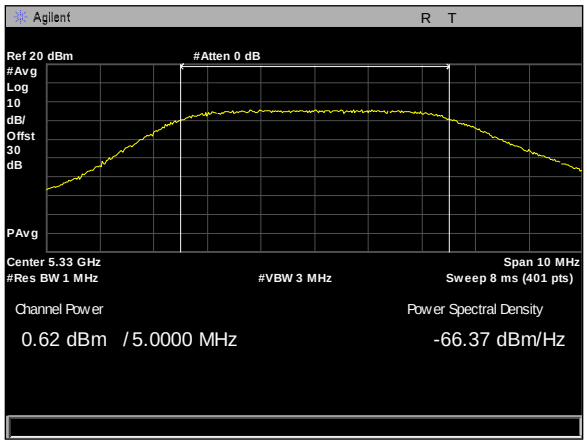
Plot 283. Maximum Conducted Output Power, 90Sector, 5M, 5300M, rf1



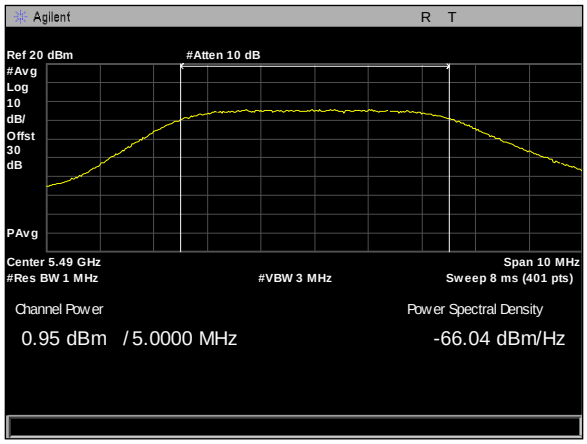
Plot 284. Maximum Conducted Output Power, 90Sector, 5M, 5300M, rf2



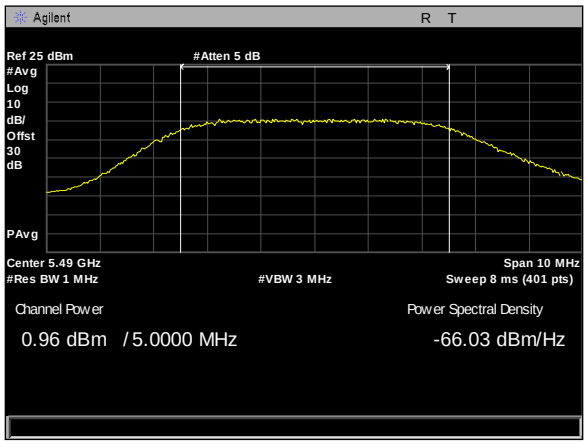
Plot 285. Maximum Conducted Output Power, 90Sector, 5M, 5330M, rf1



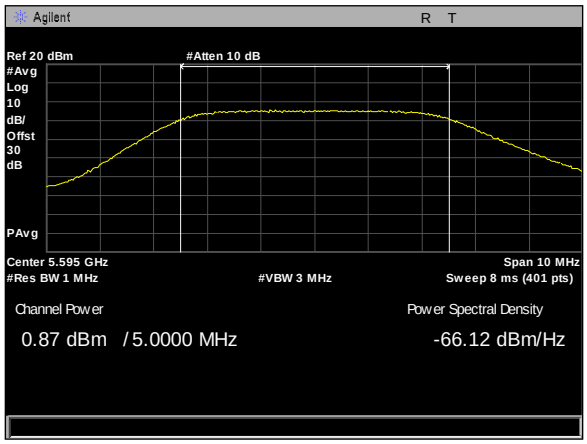
Plot 286. Maximum Conducted Output Power, 90Sector, 5M, 5330M, rf2



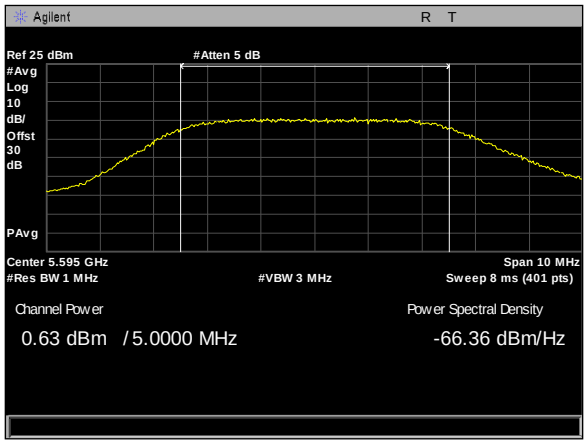
Plot 287. Maximum Conducted Output Power, 90Sector, 5M, 5490M, rf1



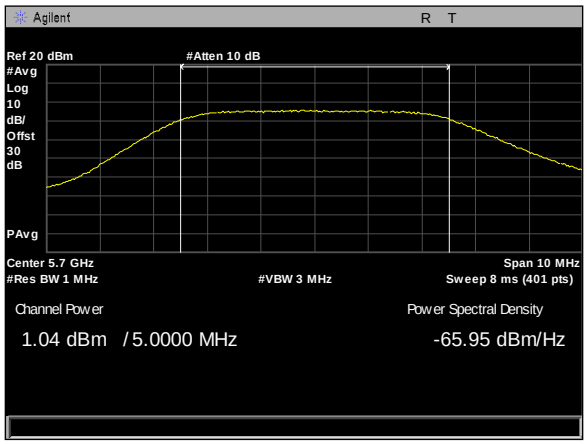
Plot 288. Maximum Conducted Output Power, 90Sector, 5M, 5490M, rf2



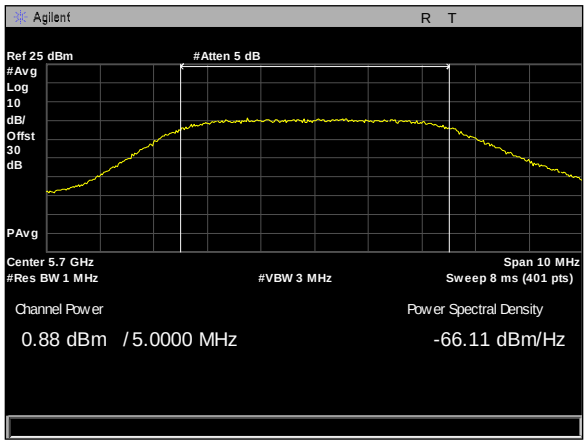
Plot 289. Maximum Conducted Output Power, 90Sector, 5M, 5595M, rf1



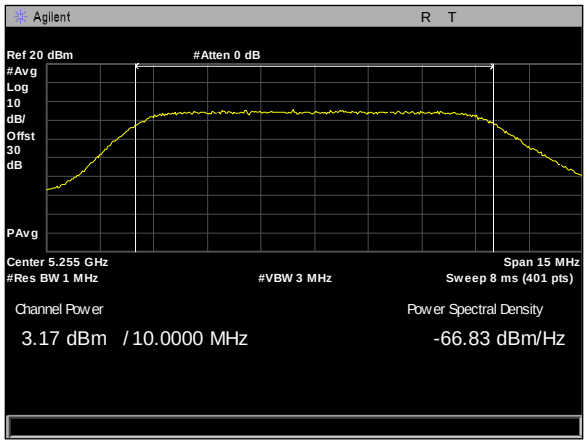
Plot 290. Maximum Conducted Output Power, 90Sector, 5M, 5595M, rf2



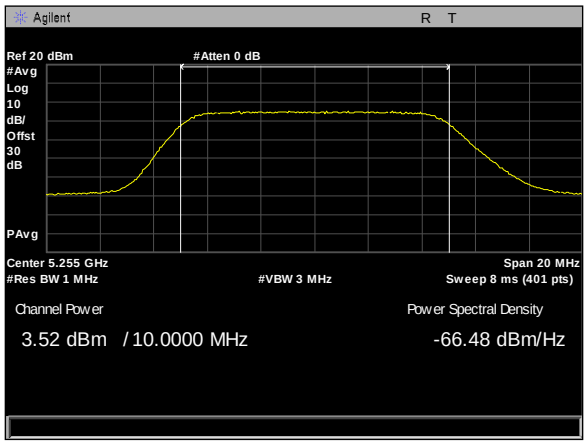
Plot 291. Maximum Conducted Output Power, 90Sector, 5M, 5700M, rf1



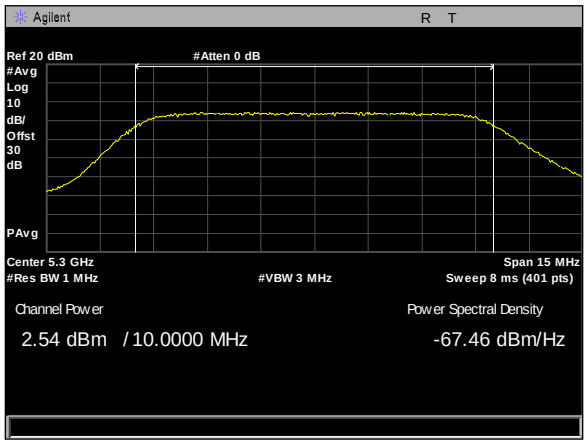
Plot 292. Maximum Conducted Output Power, 90Sector, 5M, 5700M, rf2



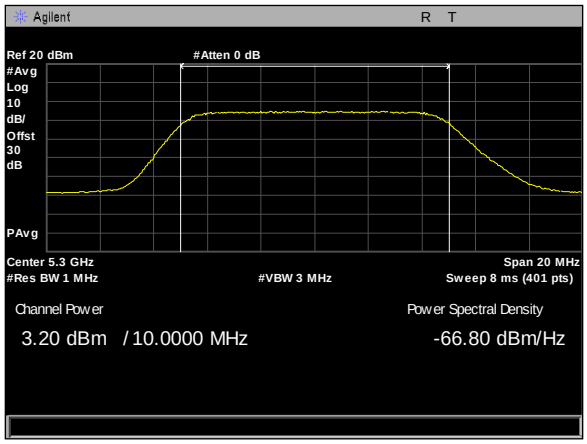
Plot 293. Maximum Conducted Output Power, 90Sector, 10M, 5255M, rf1



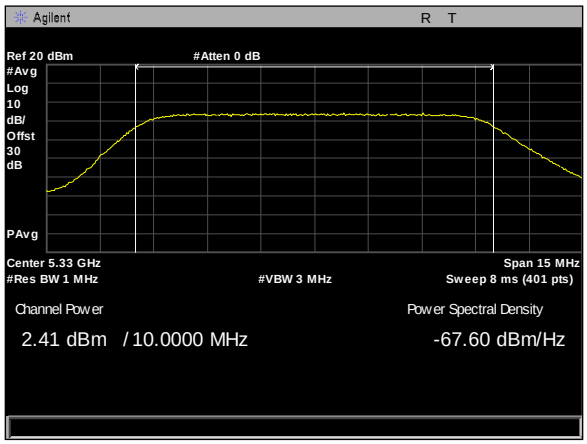
Plot 294. Maximum Conducted Output Power, 90Sector, 10M, 5255M, rf2



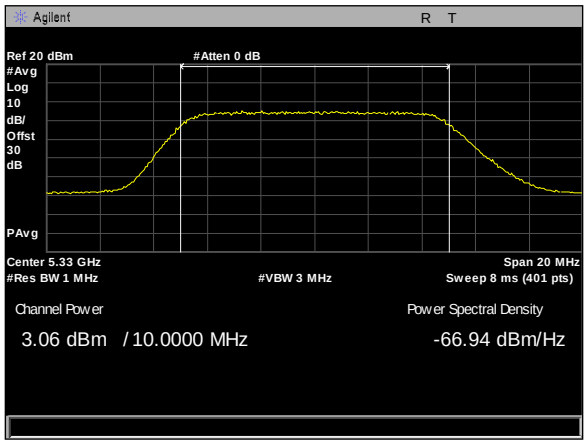
Plot 295. Maximum Conducted Output Power, 90Sector, 10M, 5300M, rf1



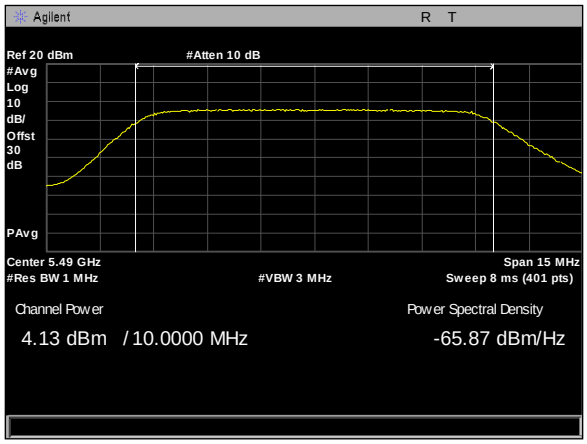
Plot 296. Maximum Conducted Output Power, 90Sector, 10M, 5300M, rf2



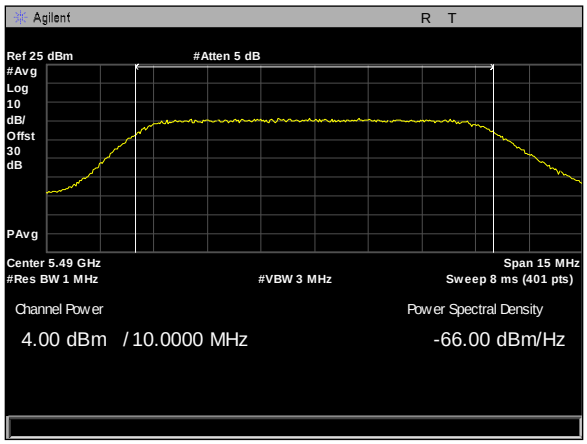
Plot 297. Maximum Conducted Output Power, 90Sector, 10M, 5330M, rf1



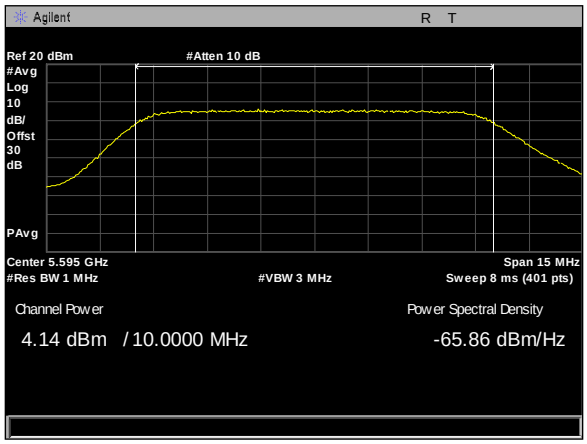
Plot 298. Maximum Conducted Output Power, 90Sector, 10M, 5330M, rf2



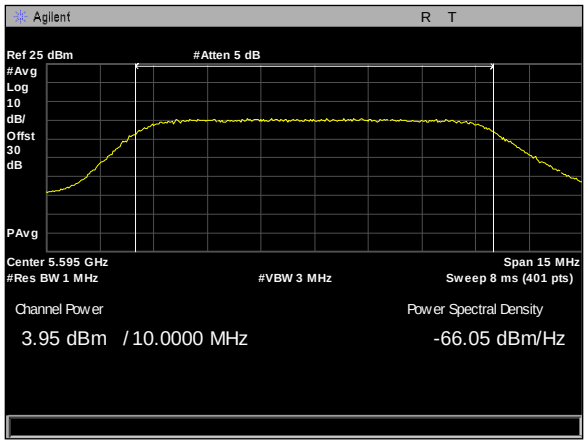
Plot 299. Maximum Conducted Output Power, 90Sector, 10M, 5490M, rf1



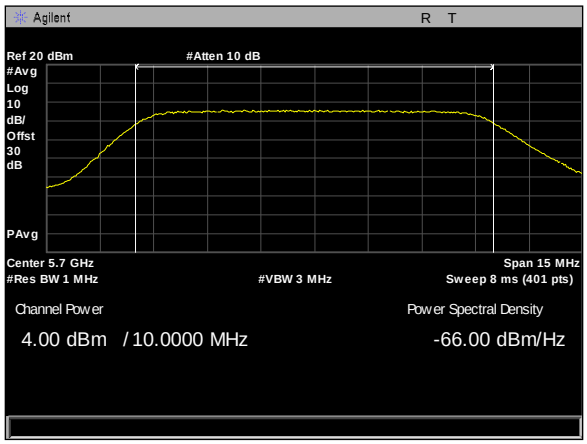
Plot 300. Maximum Conducted Output Power, 90Sector, 10M, 5490M, rf2



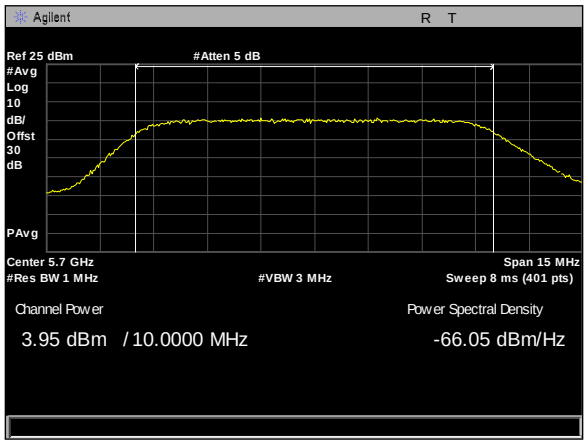
Plot 301. Maximum Conducted Output Power, 90Sector, 10M, 5595M, rf1



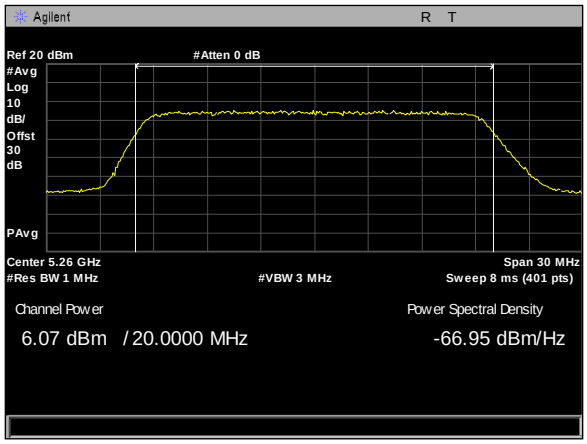
Plot 302. Maximum Conducted Output Power, 90Sector, 10M, 5595M, rf2



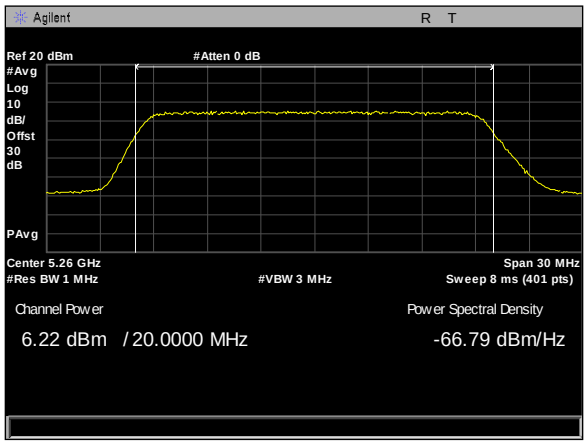
Plot 303. Maximum Conducted Output Power, 90Sector, 10M, 5700M, rf1



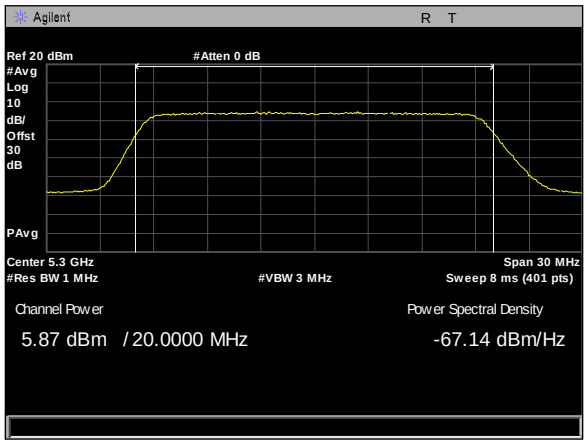
Plot 304. Maximum Conducted Output Power, 90Sector, 10M, 5700M, rf2



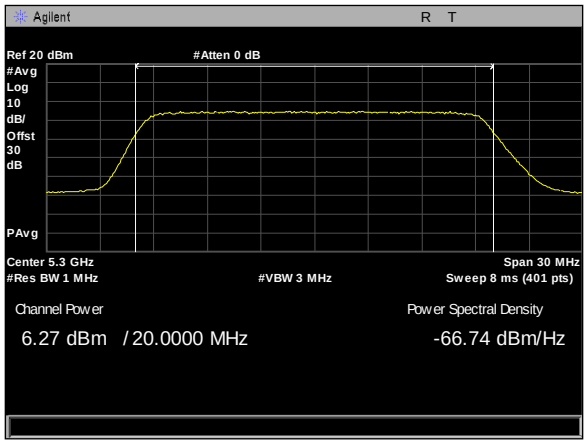
Plot 305. Maximum Conducted Output Power, 90Sector, 20M, 5260M, rf1



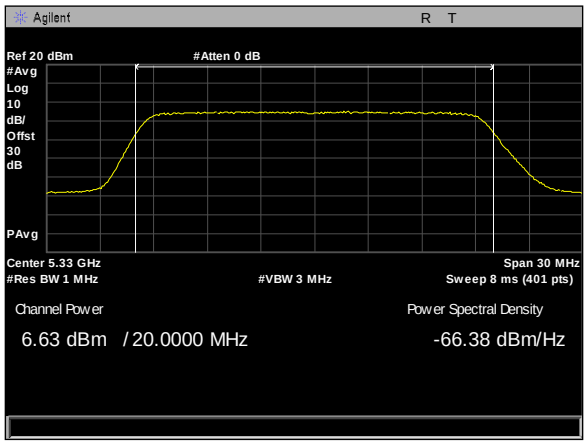
Plot 306. Maximum Conducted Output Power, 90Sector, 20M, 5260M, rf2



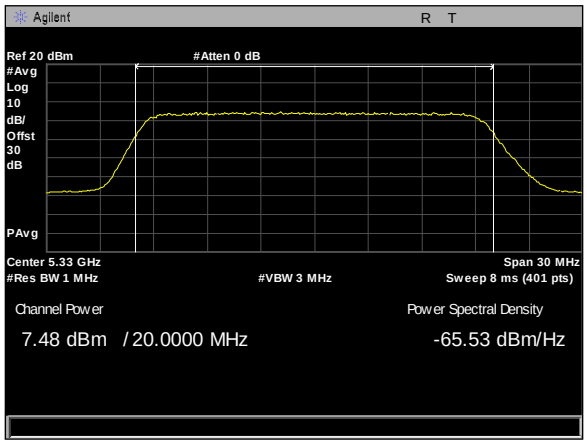
Plot 307. Maximum Conducted Output Power, 90Sector, 20M, 5300M, rf1



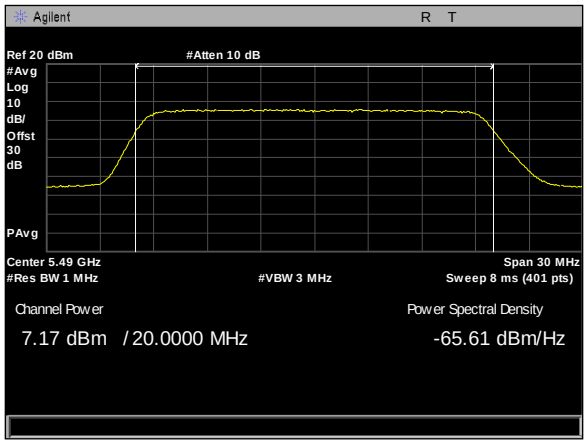
Plot 308. Maximum Conducted Output Power, 90Sector, 20M, 5300M, rf2



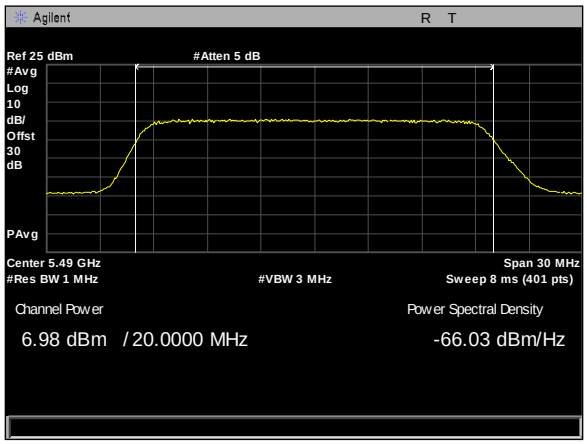
Plot 309. Maximum Conducted Output Power, 90Sector, 20M, 5330M, rf1



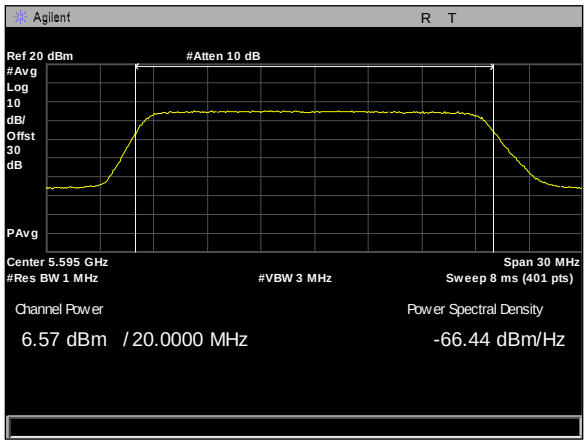
Plot 310. Maximum Conducted Output Power, 90Sector, 20M, 5330M, rf2



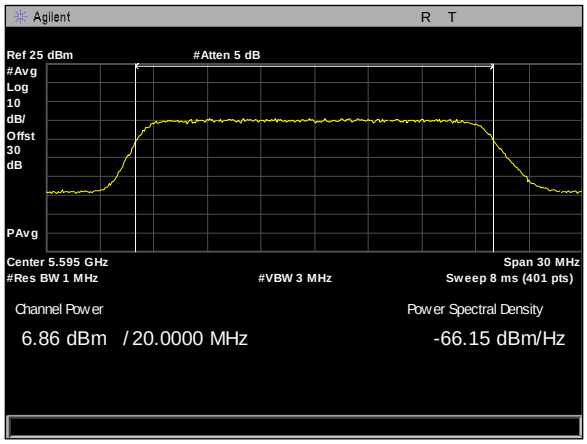
Plot 311. Maximum Conducted Output Power, 90Sector, 20M, 5490M, rf1



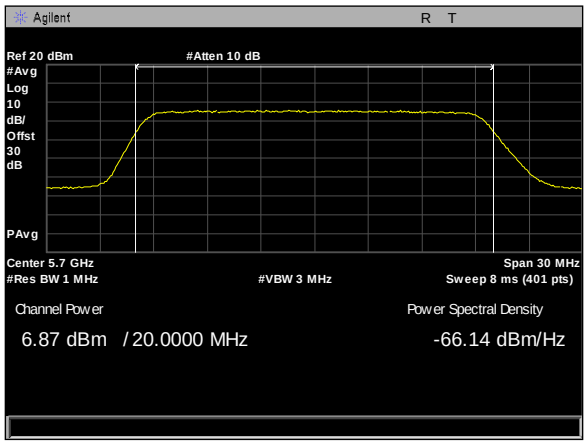
Plot 312. Maximum Conducted Output Power, 90Sector, 20M, 5490M, rf2



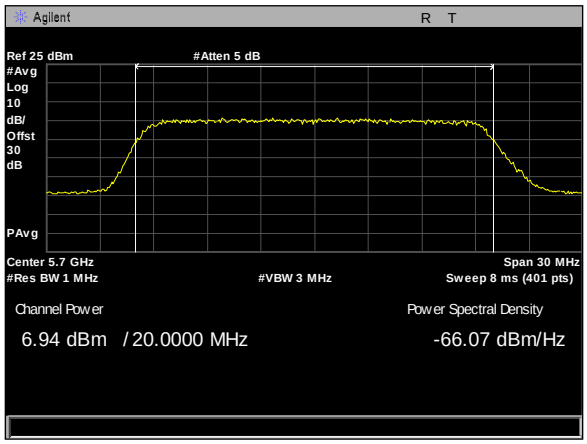
Plot 313. Maximum Conducted Output Power, 90Sector, 20M, 5595M, rf1



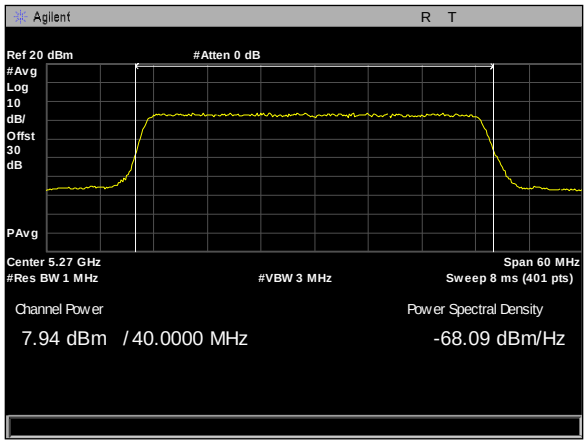
Plot 314. Maximum Conducted Output Power, 90Sector, 20M, 5595M, rf2



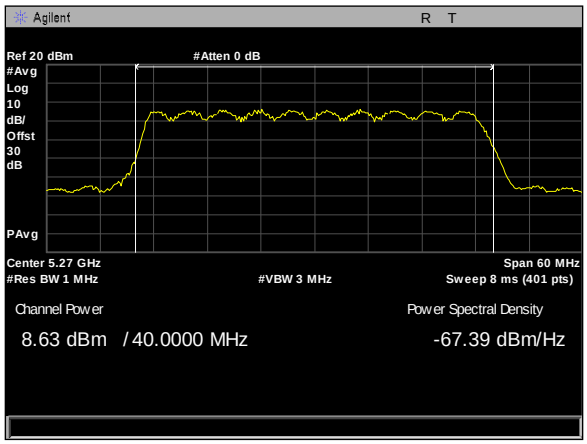
Plot 315. Maximum Conducted Output Power, 90Sector, 20M, 5700M, rf1



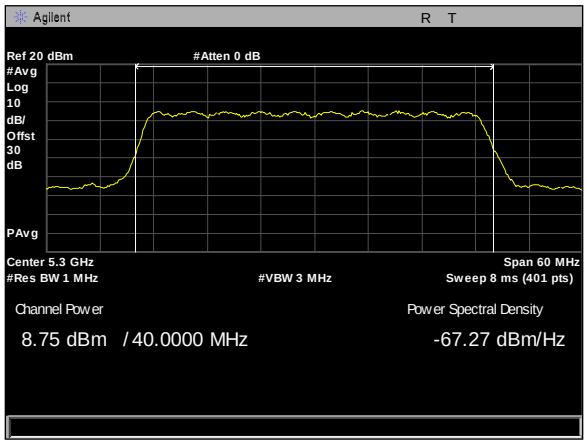
Plot 316. Maximum Conducted Output Power, 90Sector, 20M, 5700M, rf2



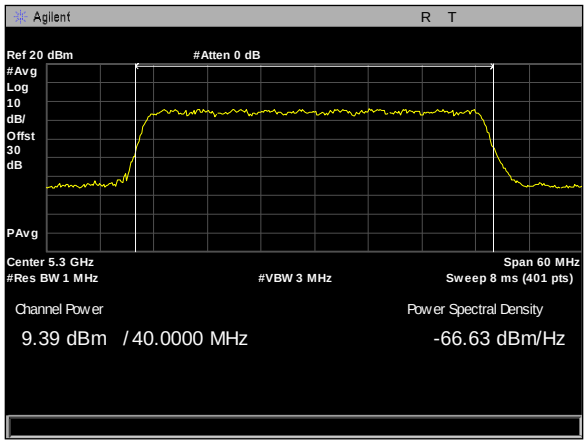
Plot 317. Maximum Conducted Output Power, 90Sector, 40M, 5270M, rf1



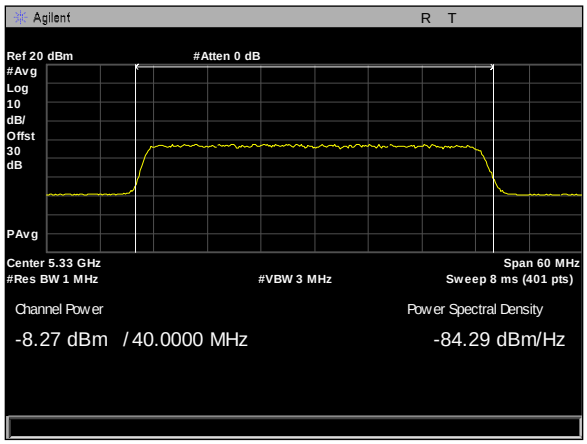
Plot 318. Maximum Conducted Output Power, 90Sector, 40M, 5270M, rf2



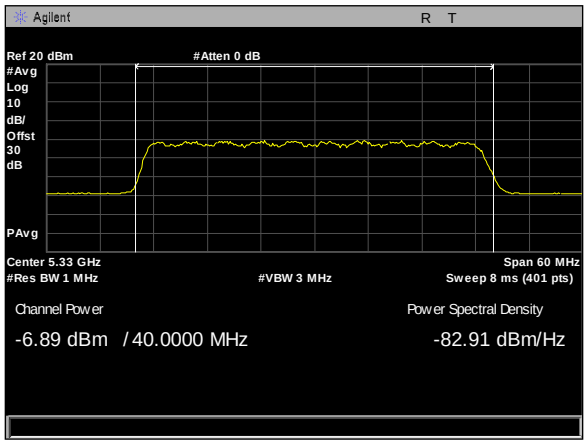
Plot 319. Maximum Conducted Output Power, 90Sector, 40M, 5300M, rf1



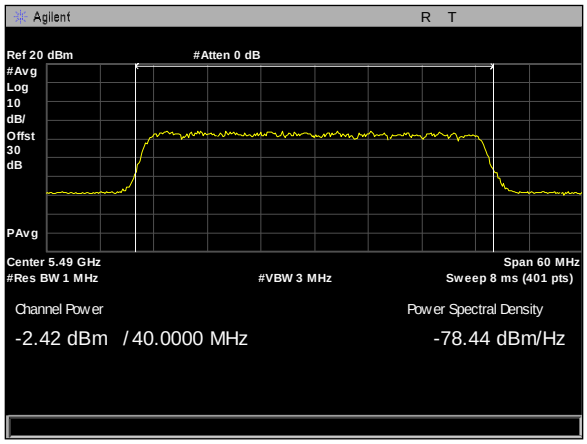
Plot 320. Maximum Conducted Output Power, 90Sector, 40M, 5300M, rf2



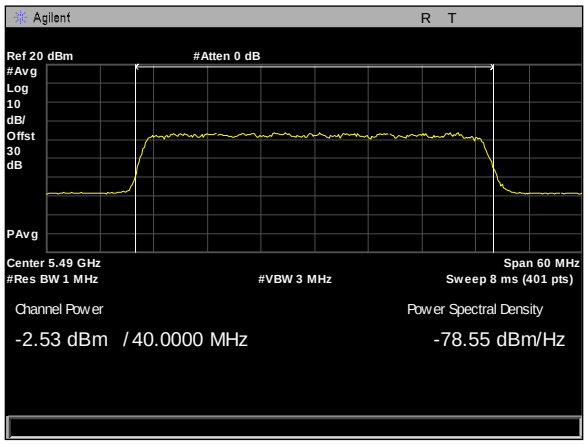
Plot 321. Maximum Conducted Output Power, 90Sector, 40M, 5330M, rf1



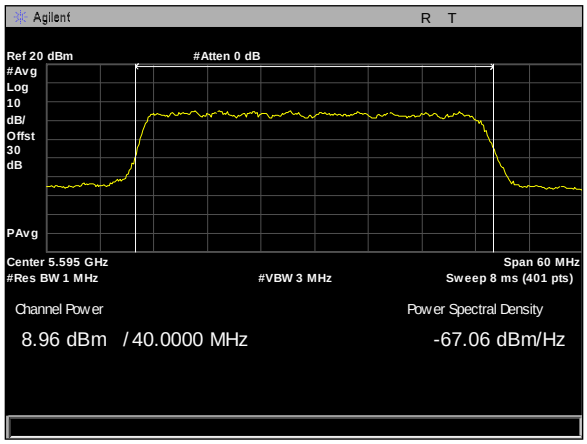
Plot 322. Maximum Conducted Output Power, 90Sector, 40M, 5330M, rf2



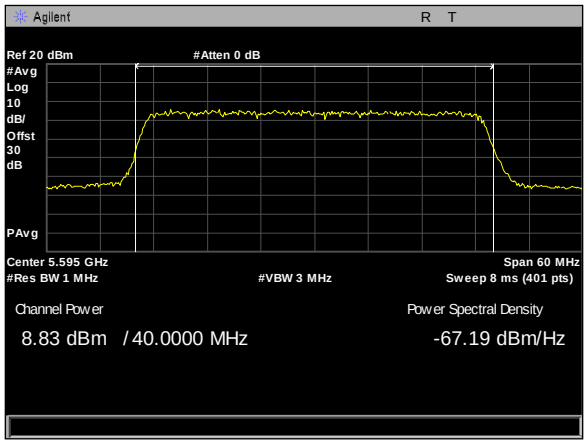
Plot 323. Maximum Conducted Output Power, 90Sector, 40M, 5490M, rf1



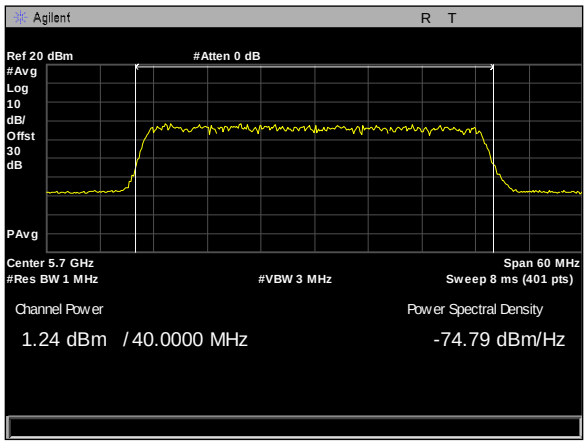
Plot 324. Maximum Conducted Output Power, 90Sector, 40M, 5490M, rf2



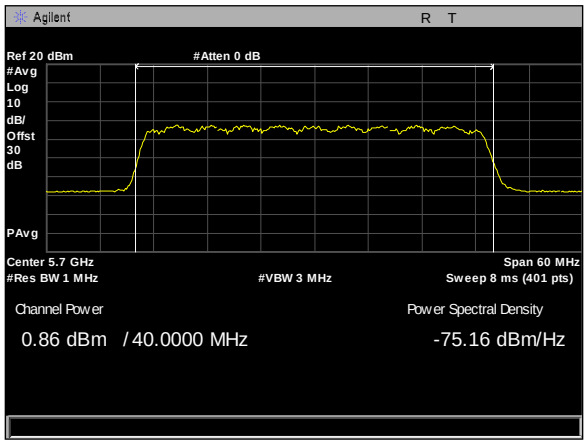
Plot 325. Maximum Conducted Output Power, 90Sector, 40M, 5595M, rf1



Plot 326. Maximum Conducted Output Power, 90Sector, 40M, 5595M, rf2



Plot 327. Maximum Conducted Output Power, 90Sector, 40M, 5700M, rf1



Plot 328. Maximum Conducted Output Power, 90Sector, 40M, 5700M, rf2

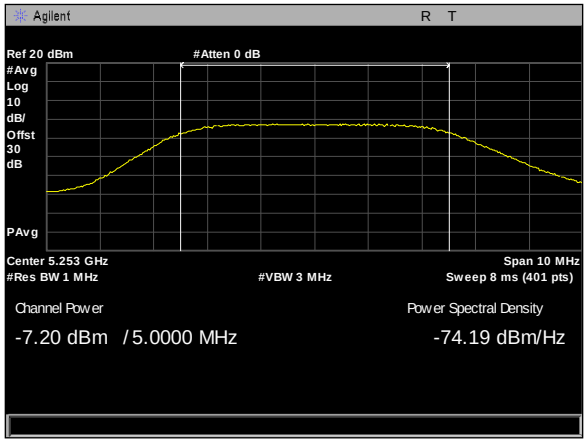
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5252.5	-7.2	-6.07	-0.2156294	21	5	-5.21562943
5300	-7.33	-6.36	-0.4352532	21	5	-5.435253185
5330	-6.92	-5.4	0.28888364	21	5	-4.711116363
10 MHz						
5255	-3.79	-3.37	2.80779686	21	7	-4.192203137
5300	-3.83	-2.98	2.99848375	21	7	-4.001516245
5330	-2.89	-2.3	3.79773307	21	7	-3.202266932
20 MHz						
5260	-0.8	-0.12	5.93601701	21	9	-3.063982991
5300	-1.08	-0.52	5.59174153	21	9	-3.408258473
5330	-0.12	0.53	6.59987083	21	9	-2.400129166
40MHz						
5270	2.41	2.13	8.65497778	21	9	-0.345022217
5300	1.03	1.68	7.74987083	21	9	-1.250129166
5329	-12.8	-12.65	-6.3465416	21	9	-15.34654157

Table 24. Maximum Conducted Output Power, UNII 2A, 1' Panel, Test Results

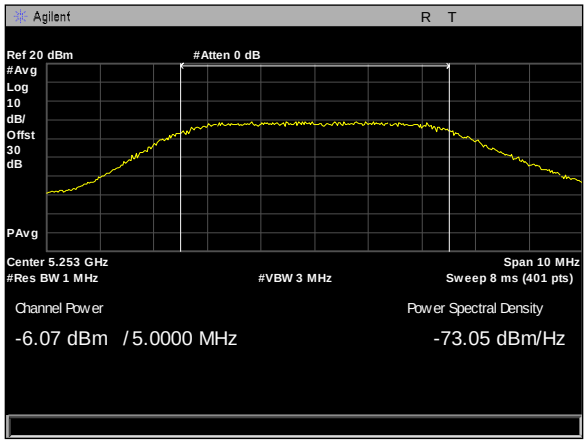
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
5 MHz						
5490	-7.83	-7.92	-1.4920452	21	5	-6.492045228
5595	-5.06	-5.29	1.20924405	21	5	-3.790755954
5700	-4.78	-4.99	1.49899082	21	5	-3.501009184
10 MHz						
5490	-2.89	-2.68	3.59899082	21	7	-3.401009184
5595	-1.89	-1.92	4.47774754	21	7	-2.522252456
5700	-1.65	-2	4.56124652	21	7	-2.43875348
20 MHz						
5490	-2.92	-2.45	3.70407655	21	9	-5.295923447
5595	0.76	1.23	7.38407655	21	9	-1.615923447
5700	-0.93	-1.01	5.41290584	21	9	-3.587094156
40MHz						
5491	-12.43	-12	-5.8269587	21	9	-14.82695868
5595	2.51	2.11	8.69732518	21	9	-0.302674817
5700	-5.72	-5.83	0.6080699	21	9	-8.391930103

Table 25. Maximum Conducted Output Power, UNII 2C, 1' Panel, Test Results

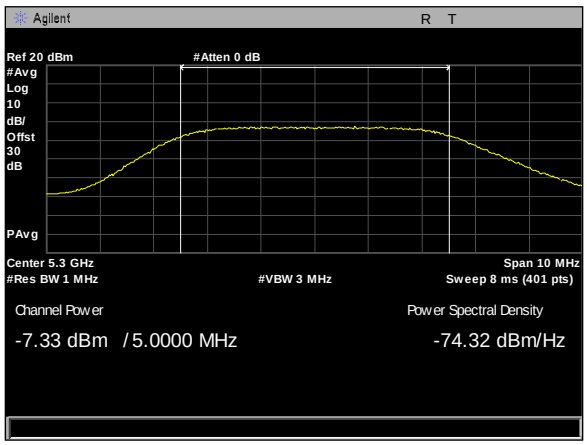
Note: All testing was performed using QPSK 1/16 modulation.



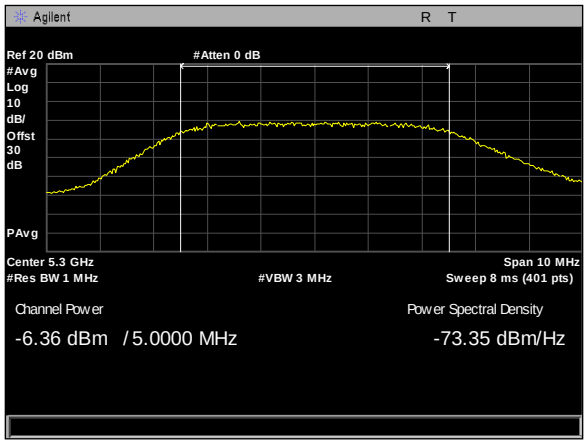
Plot 329. Maximum Conducted Output Power, 1Panel, 5M, 5252.5M, rf1



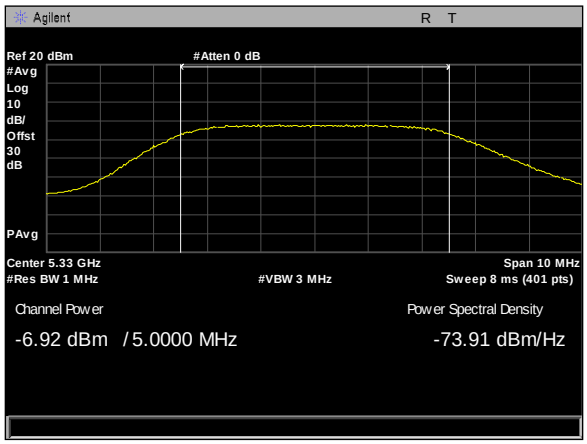
Plot 330. Maximum Conducted Output Power, 1Panel, 5M, 5252.5M, rf2



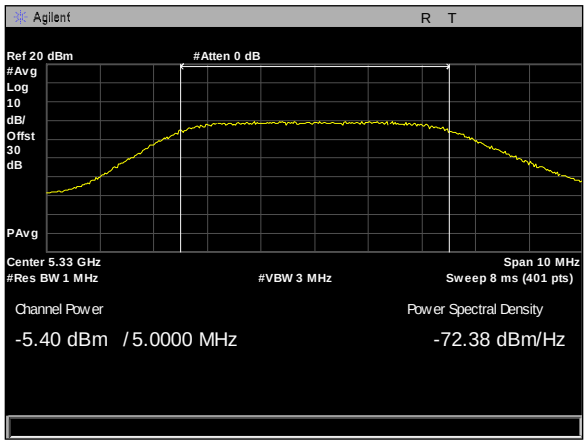
Plot 331. Maximum Conducted Output Power, 1Panel, 5M, 5300M, rf1



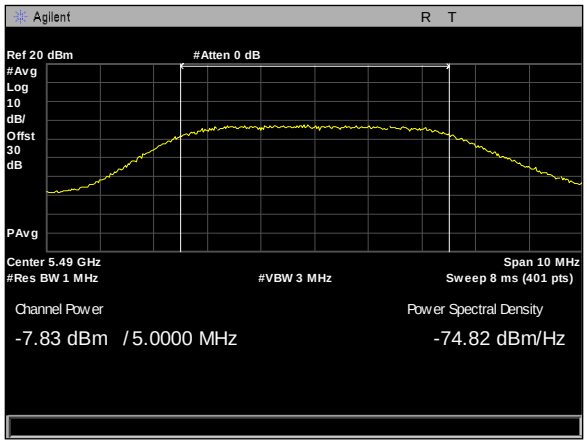
Plot 332. Maximum Conducted Output Power, 1Panel, 5M, 5300M, rf2



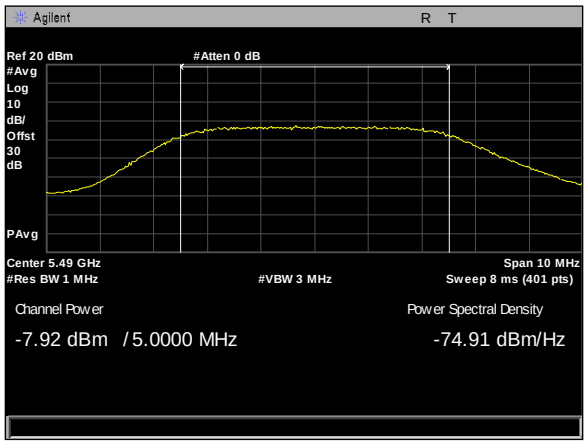
Plot 333. Maximum Conducted Output Power, 1Panel, 5M, 5330M, rf1



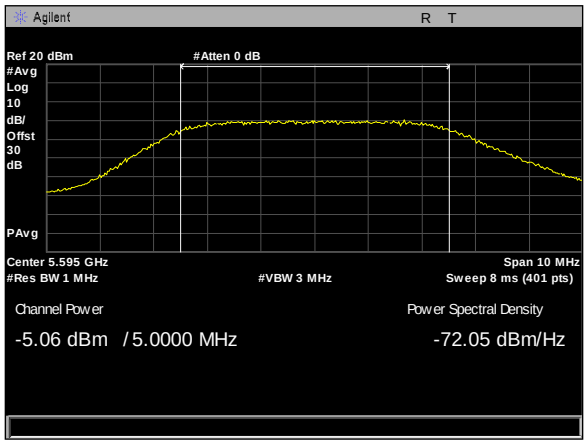
Plot 334. Maximum Conducted Output Power, 1Panel, 5M, 5330M, rf2



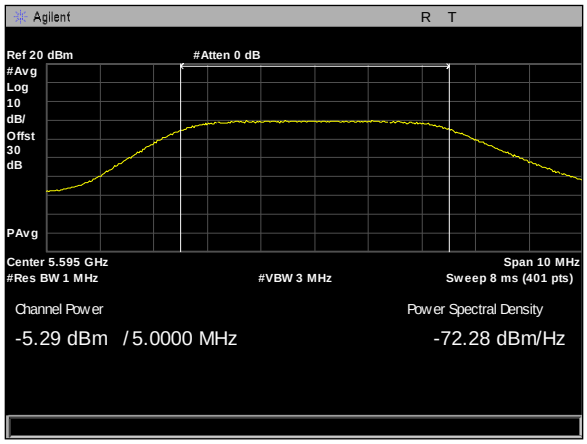
Plot 335. Maximum Conducted Output Power, 1Panel, 5M, 5490M, rf1



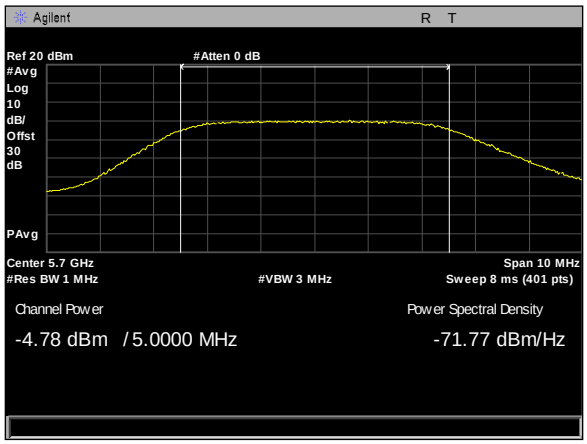
Plot 336. Maximum Conducted Output Power, 1Panel, 5M, 5490M, rf2



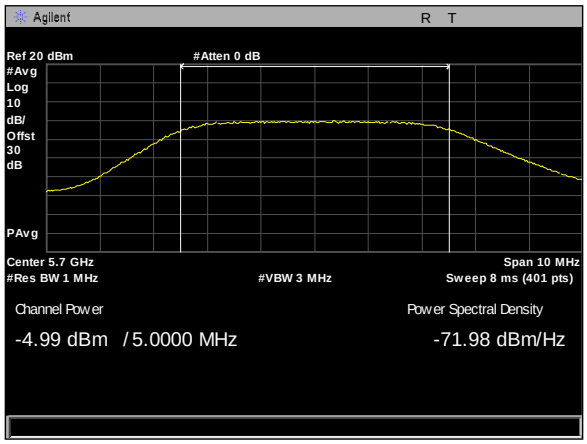
Plot 337. Maximum Conducted Output Power, 1Panel, 5M, 5595M, rf1



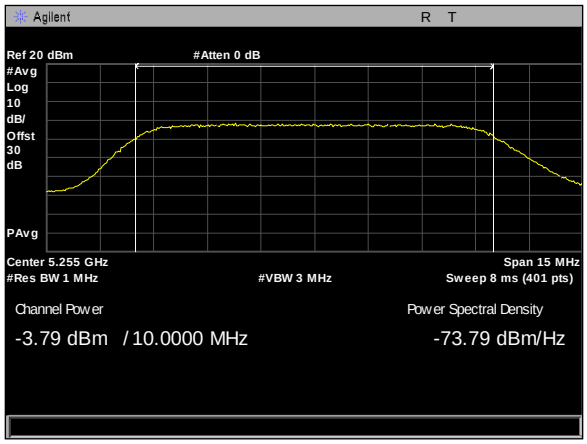
Plot 338. Maximum Conducted Output Power, 1Panel, 5M, 5595M, rf2



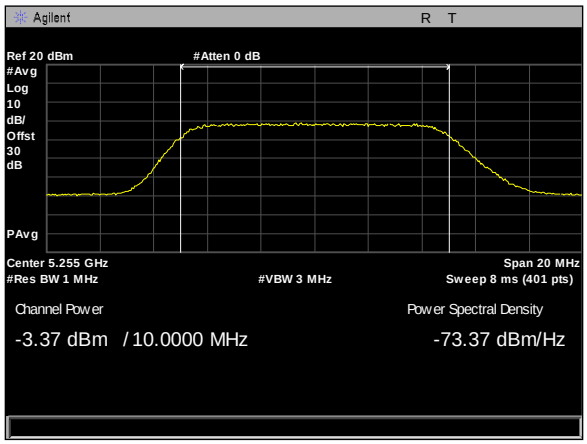
Plot 339. Maximum Conducted Output Power, 1Panel, 5M, 5700M, rf1



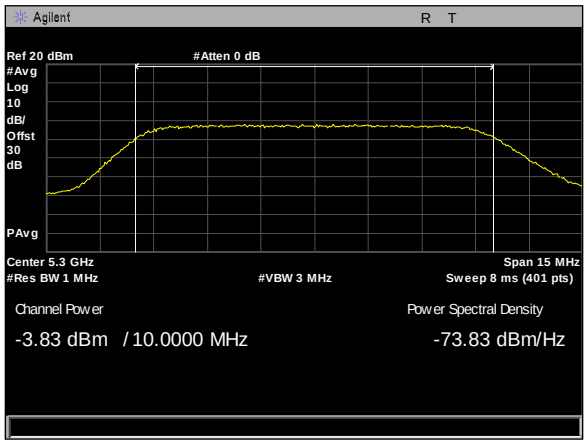
Plot 340. Maximum Conducted Output Power, 1Panel, 5M, 5700M, rf2



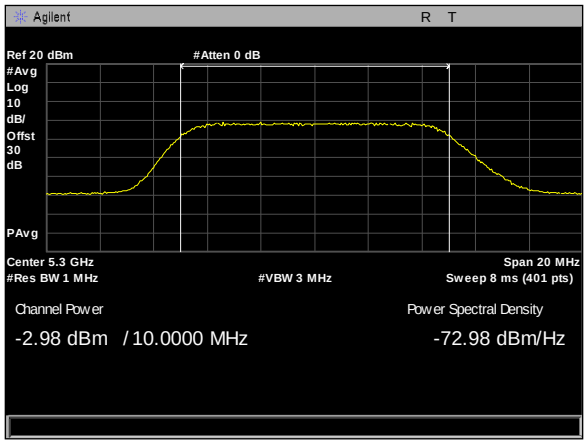
Plot 341. Maximum Conducted Output Power, 1Panel, 10M, 5255M, rf1



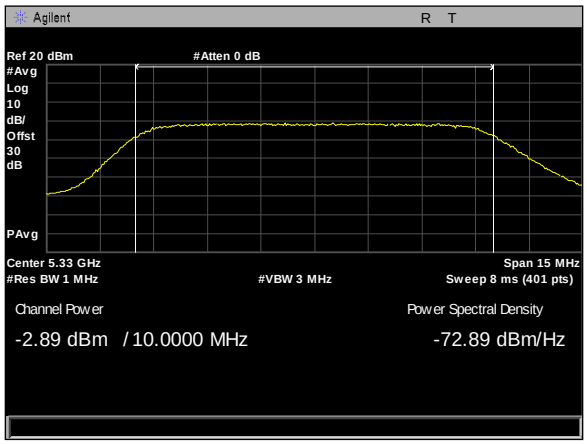
Plot 342. Maximum Conducted Output Power, 1Panel, 10M, 5255M, rf2



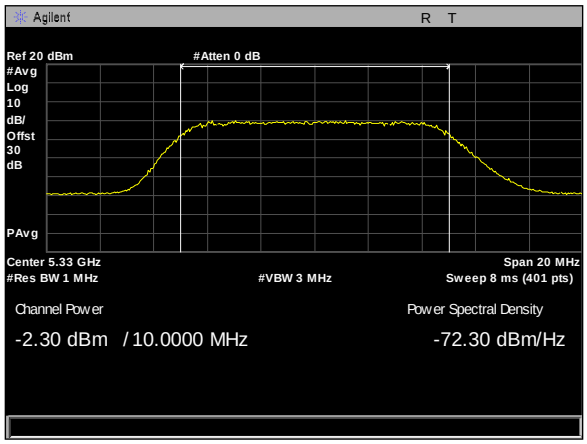
Plot 343. Maximum Conducted Output Power, 1Panel, 10M, 5300M, rf1



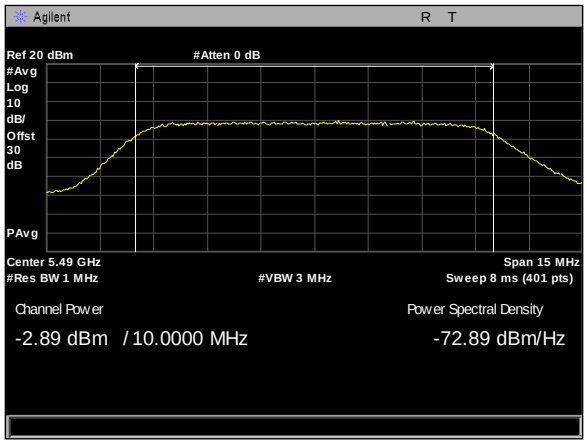
Plot 344. Maximum Conducted Output Power, 1Panel, 10M, 5300M, rf2



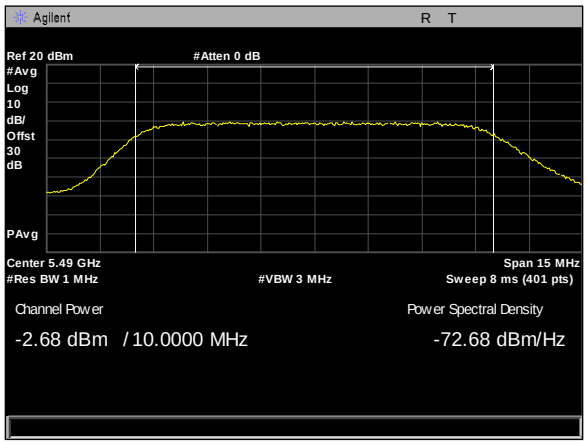
Plot 345. Maximum Conducted Output Power, 1Panel, 10M, 5330M, rf1



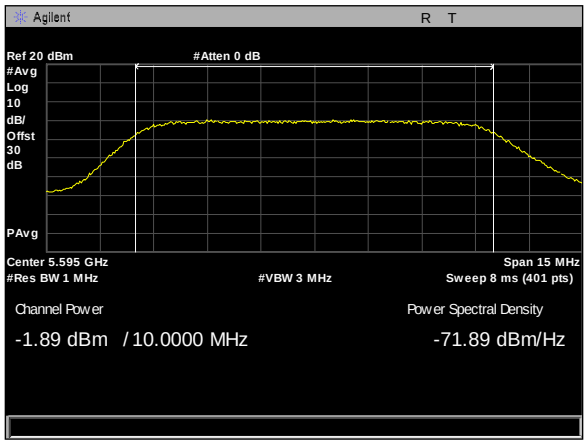
Plot 346. Maximum Conducted Output Power, 1Panel, 10M, 5330M, rf2



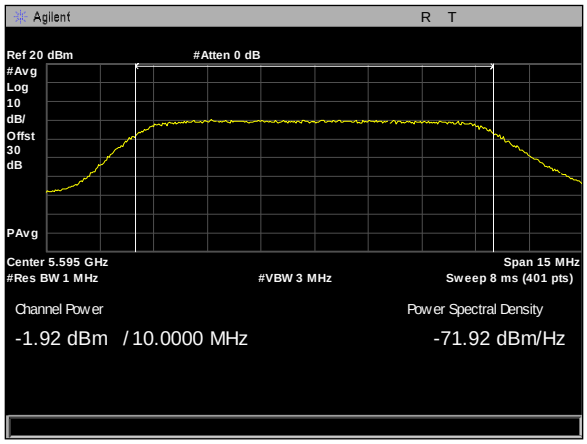
Plot 347. Maximum Conducted Output Power, 1Panel, 10M, 5490M, rf1



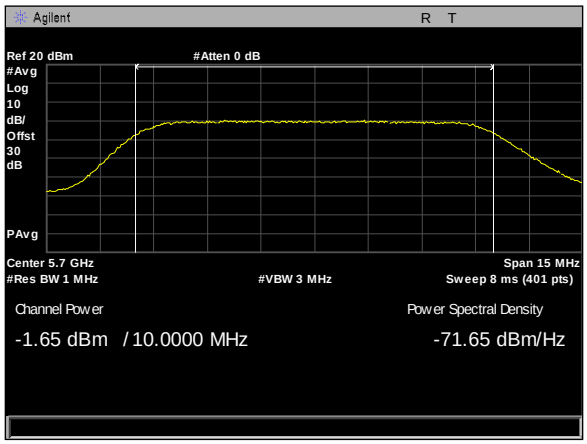
Plot 348. Maximum Conducted Output Power, 1Panel, 10M, 5490M, rf2



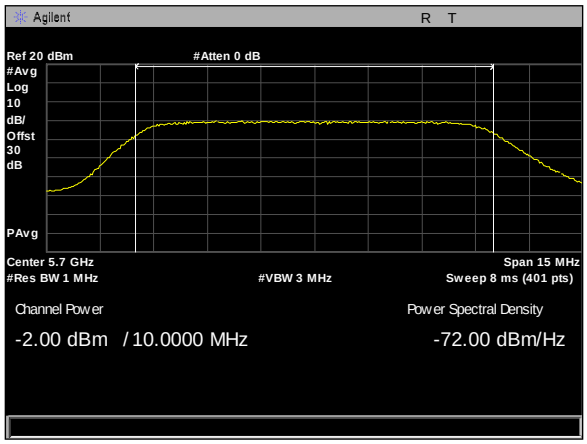
Plot 349. Maximum Conducted Output Power, 1Panel, 10M, 5595M, rf1



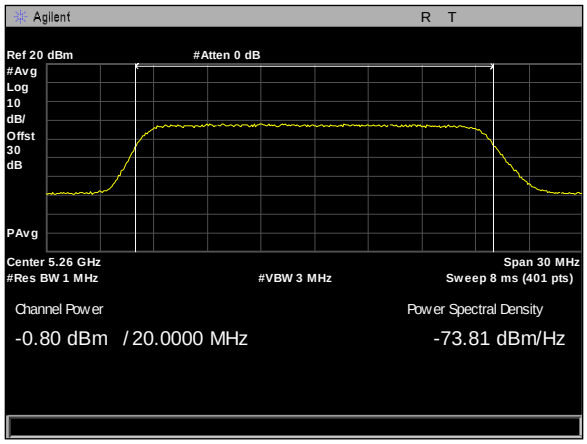
Plot 350. Maximum Conducted Output Power, 1Panel, 10M, 5595M, rf2



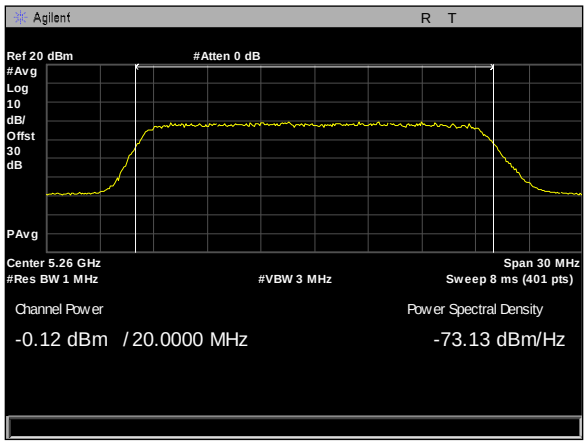
Plot 351. Maximum Conducted Output Power, 1Panel, 10M, 5700M, rf1



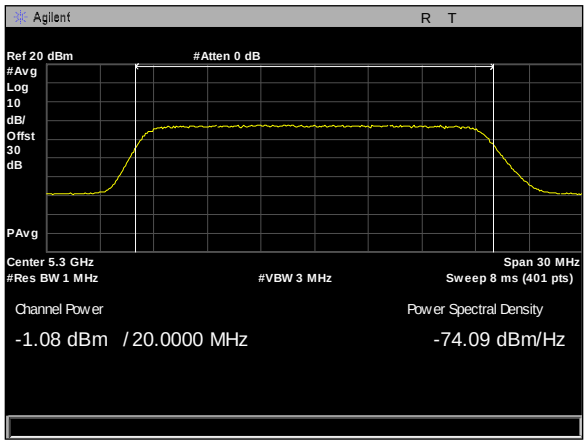
Plot 352. Maximum Conducted Output Power, 1Panel, 10M, 5700M, rf2



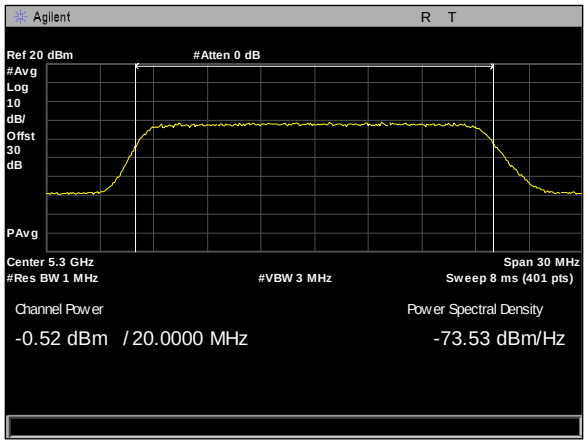
Plot 353. Maximum Conducted Output Power, 1Panel, 20M, 5260M, rf1



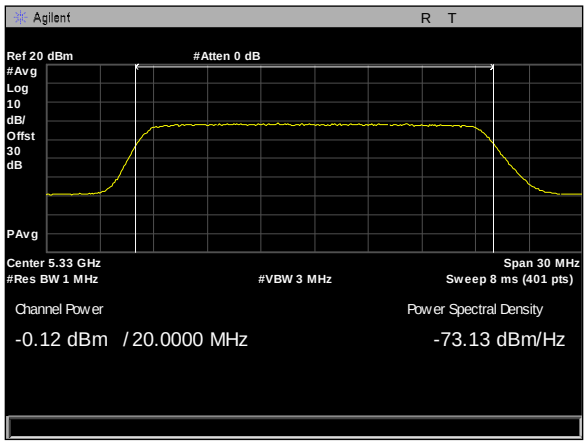
Plot 354. Maximum Conducted Output Power, 1Panel, 20M, 5260M, rf2



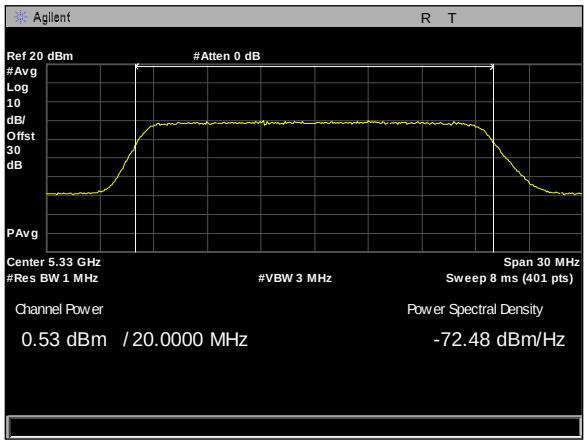
Plot 355. Maximum Conducted Output Power, 1Panel, 20M, 5300M, rf1



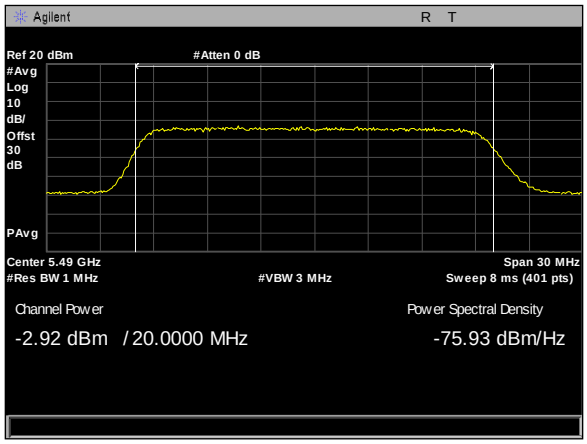
Plot 356. Maximum Conducted Output Power, 1Panel, 20M, 5300M, rf2



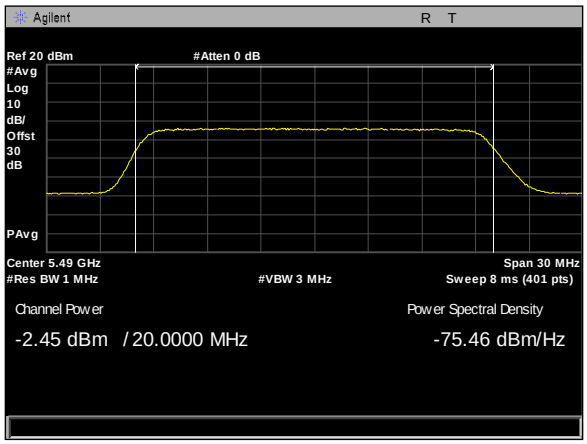
Plot 357. Maximum Conducted Output Power, 1Panel, 20M, 5330M, rf1



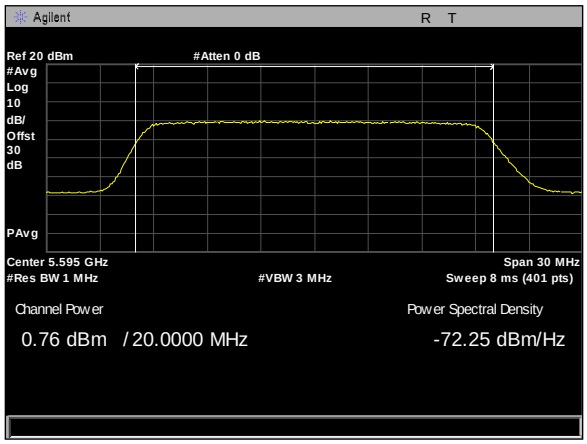
Plot 358. Maximum Conducted Output Power, 1Panel, 20M, 5330M, rf2



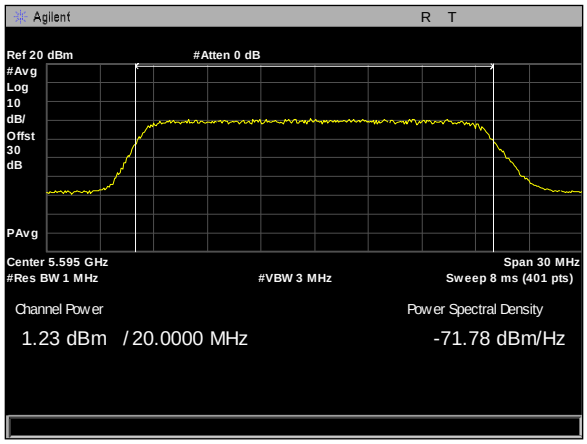
Plot 359. Maximum Conducted Output Power, 1Panel, 20M, 5490M, rf1



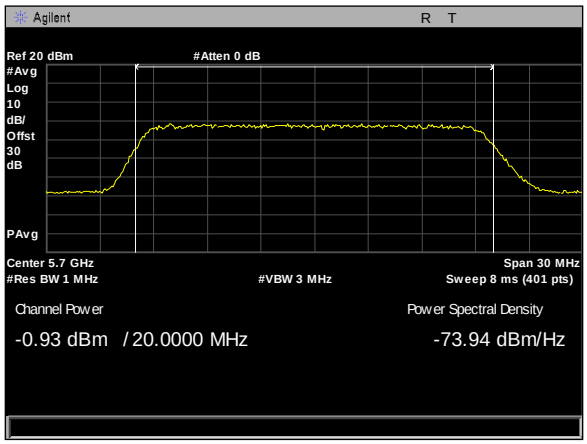
Plot 360. Maximum Conducted Output Power, 1Panel, 20M, 5490M, rf2



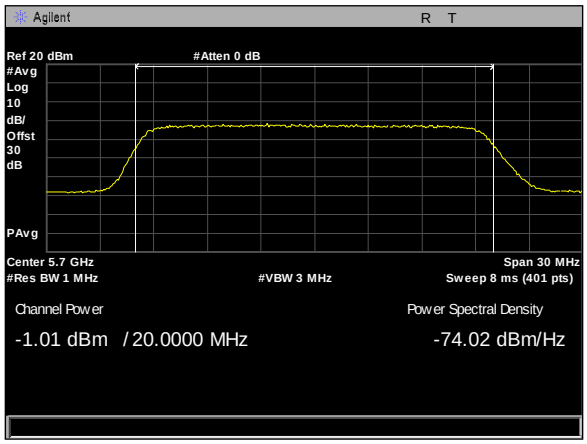
Plot 361. Maximum Conducted Output Power, 1Panel, 20M, 5595M, rf1



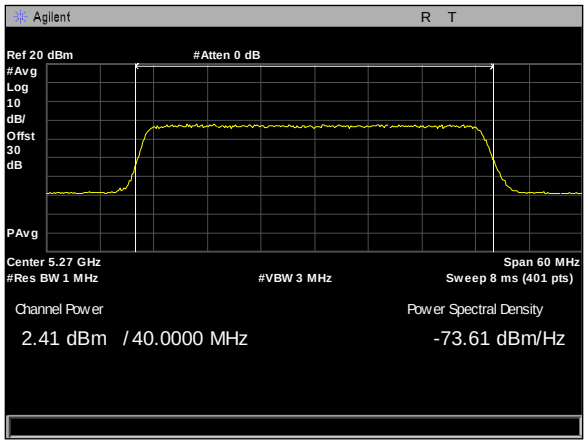
Plot 362. Maximum Conducted Output Power, 1Panel, 20M, 5595M, rf2



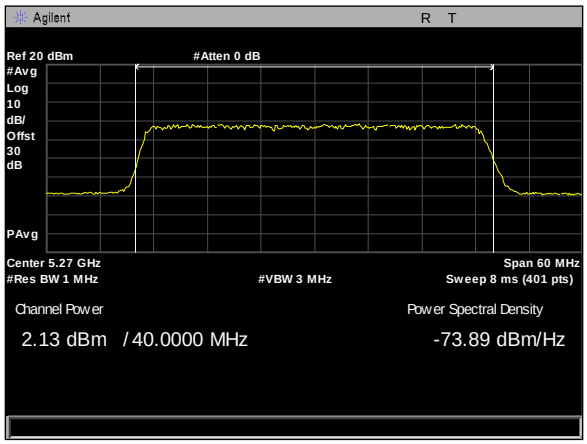
Plot 363. Maximum Conducted Output Power, 1Panel, 20M, 5700M, rf1



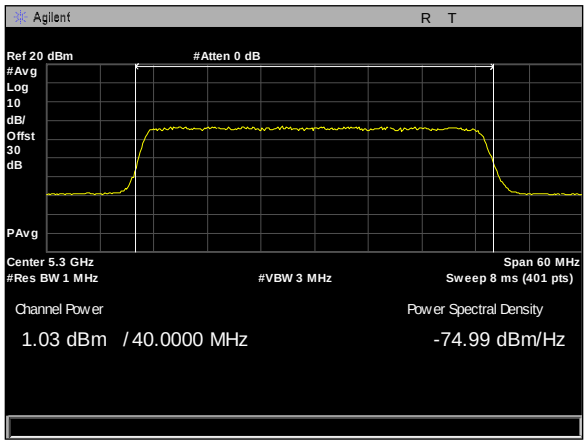
Plot 364. Maximum Conducted Output Power, 1Panel, 20M, 5700M, rf2



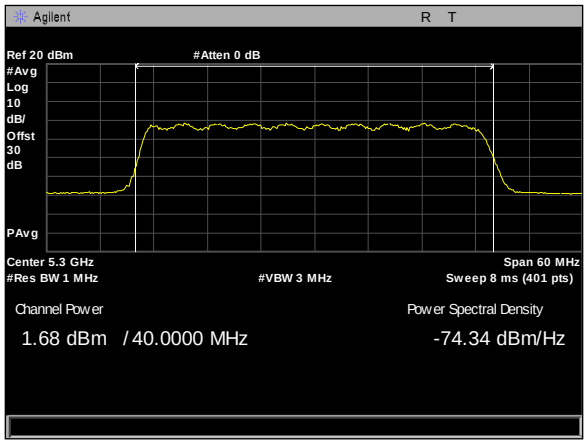
Plot 365. Maximum Conducted Output Power, 1Panel, 40M, 5270M, rf1



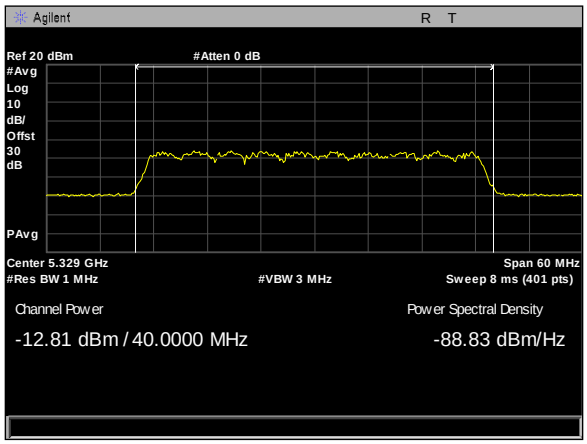
Plot 366. Maximum Conducted Output Power, 1Panel, 40M, 5270M, rf2



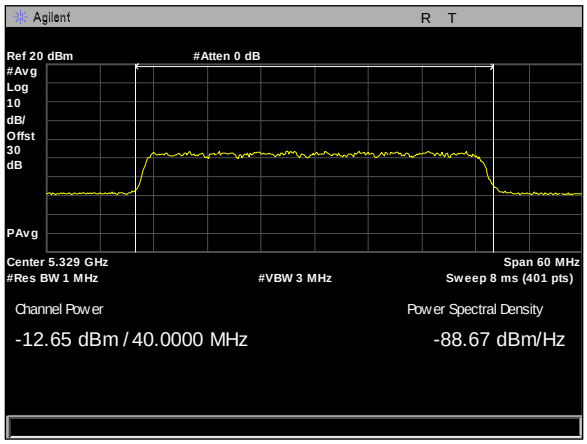
Plot 367. Maximum Conducted Output Power, 1Panel, 40M, 5300M, rf1



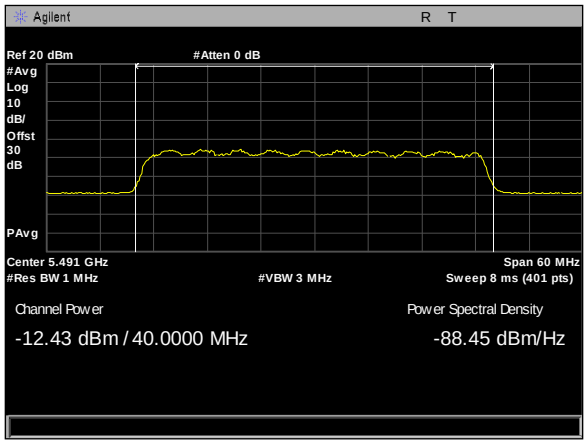
Plot 368. Maximum Conducted Output Power, 1Panel, 40M, 5300M, rf2



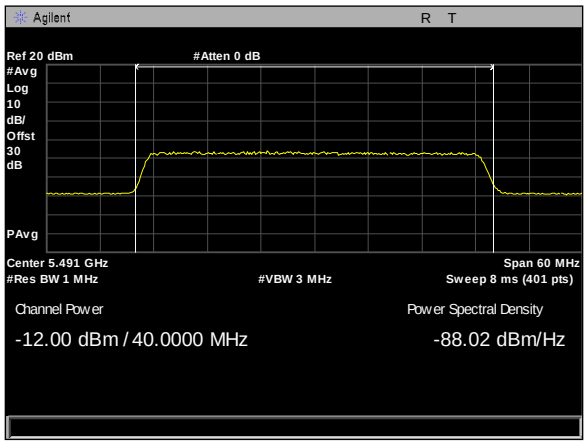
Plot 369. Maximum Conducted Output Power, 1Panel, 40M, 5329M, rf1



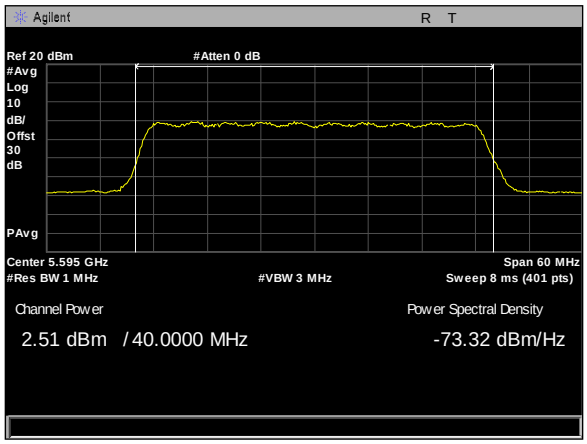
Plot 370. Maximum Conducted Output Power, 1Panel, 40M, 5329M, rf2



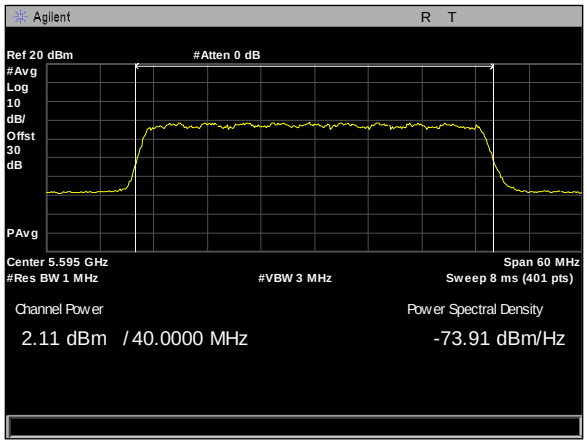
Plot 371. Maximum Conducted Output Power, 1Panel, 40M, 5491M, rf1



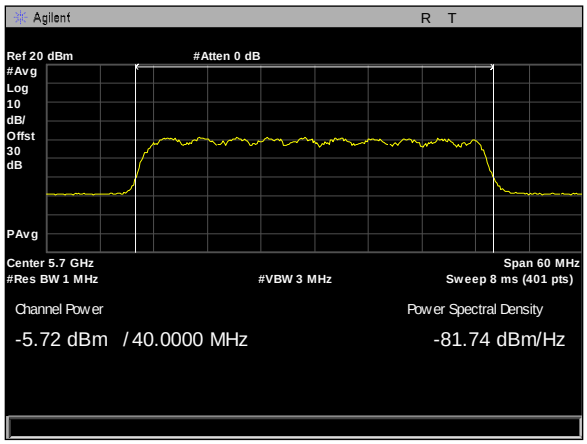
Plot 372. Maximum Conducted Output Power, 1Panel, 40M, 5491M, rf2



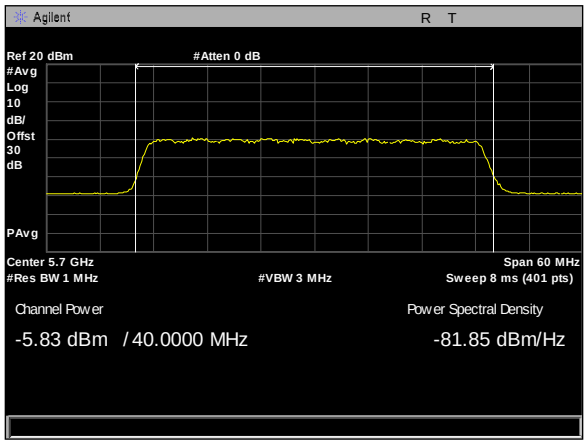
Plot 373. Maximum Conducted Output Power, 1Panel, 40M, 5595M, rf1



Plot 374. Maximum Conducted Output Power, 1Panel, 40M, 5595M, rf2



Plot 375. Maximum Conducted Output Power, 1Panel, 40M, 5700M, rf1



Plot 376. Maximum Conducted Output Power, 1Panel, 40M, 5700M, rf2

Electromagnetic Compatibility Criteria for Intentional Radiators

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

Test Requirements: **§15.407(a)(2):** In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

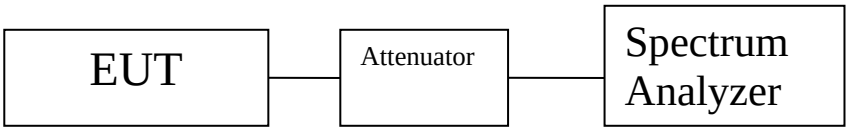
Test Procedure: The EUT was connected to a spectrum analyzer through a cable and attenuator. Measurements were taken with the EUT set to transmit continuously on its low, mid, and high channels. Its power was measured according KDB 789033 D02 General UNII Test Procedures v01.

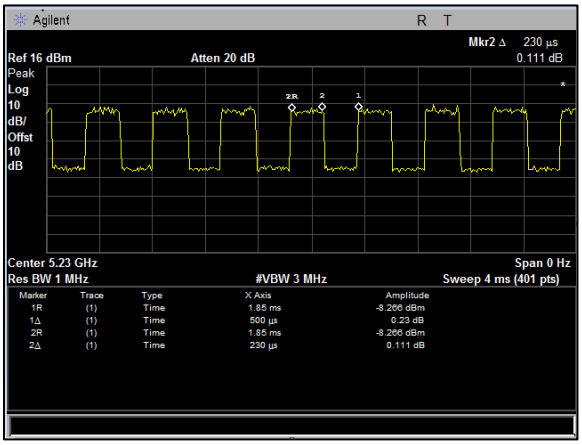
Test Results: The EUT as tested is compliant with the requirements of this section.

No anomalies detected.

Test Engineer(s): Bradley Jones

Test Date(s): December 29, 2017





Plot 377. Duty Cycle

Note: Device is not capable of continuous transmission. The duty cycle was measured, and a correction factor was applied. The correction factor was calculated as 10log(1/230/500))=3.372 dB.

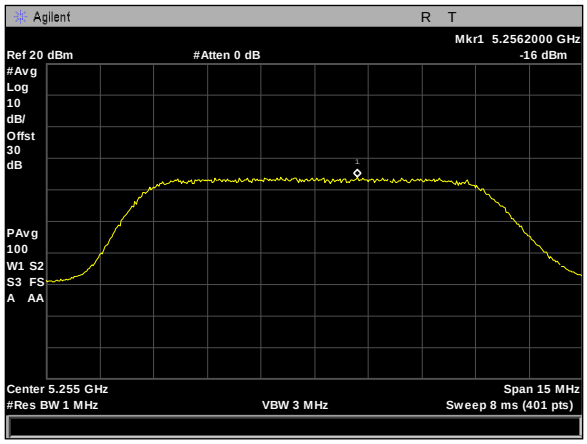
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	OP Margin
10 MHz						
5255	-16	-16.5	-9.86008675	26	-9	-0.860086752
5300	-16.1	-16.4	-9.87951297	26	-9	-0.879512967
5330	-16.5	-16.2	-9.97951297	26	-9	-0.979512967
20 MHz						
5260	-16.2	-16.5	-9.97502222	26	-9	-0.975022217
5300	-16.2	-16.6	-10.007902	26	-9	-1.00790204
5330	-16.2	-16.2	-9.82227548	26	-9	-0.822275482
40MHz						
5270	-16.8	-17.3	-10.6311909	26	-9	-1.631190867
5300	-16.6	-17.3	-10.5423747	26	-9	-1.542374665
5329	-26.1	-25.7	-19.5083393	26	-9	-10.50833925

Table 26. Maximum Power Spectral Density, UNII 2A, 2' Panel, Test Results

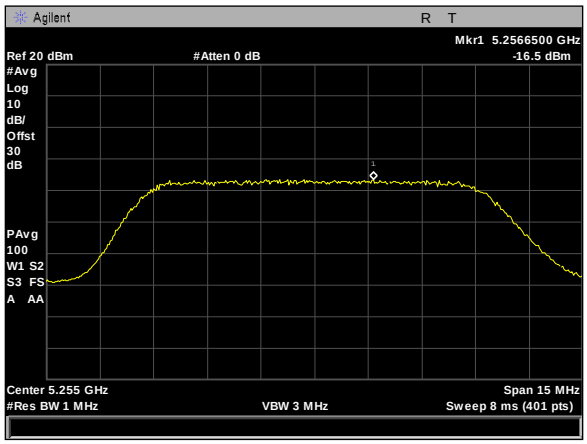
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	PSD Margin
10 MHz						
5490	-16.1	-15.3	-9.2724803	26	-9	-0.272480327
5595	-16.1	-15.6	-9.4582585	26	-9	-0.458258473
5700	-16.3	-15.7	-9.5782585	26	-9	-0.578258473
20 MHz						
5490	-15.7	-15.2	-9.0500868	26	-9	-0.050086752
5595	-16.4	-15.6	-9.5970011	26	-9	-0.597001137
5700	-16.3	-15.8	-9.6411909	26	-9	-0.641190867
40MHz						
5491	-21.3	-22.1	-15.277001	26	-9	-6.277001137
5595	-17	-15.9	-10.011273	26	-9	-1.011273435
5700	-18.1	-19.7	-12.449917	26	-9	-3.44991658

Table 27. Maximum Power Spectral Density, UNII2C, 2' Panel, Test Results

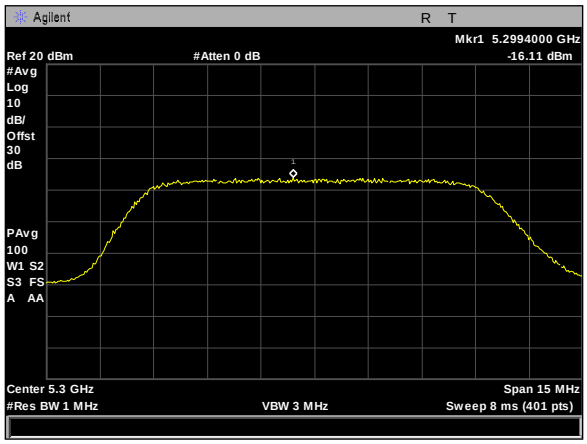
Note: All testing was performed using QPSK 1/16 modulation.



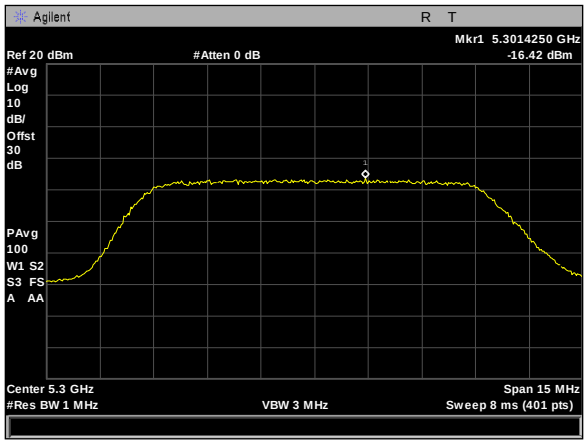
Plot 378. Power Spectral Density, 2Panel, 10M, 5255M, rf1



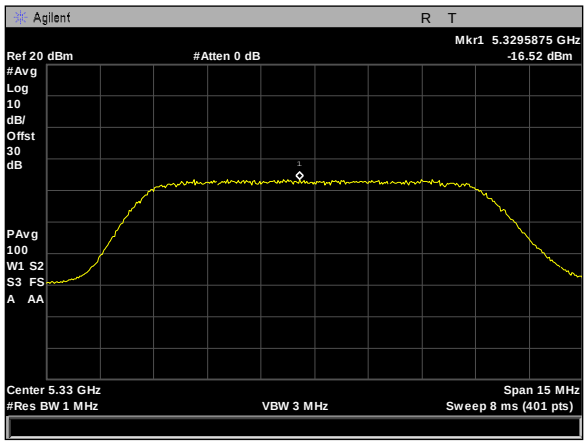
Plot 379. Power Spectral Density, 2Panel, 10M, 5255M, rf2



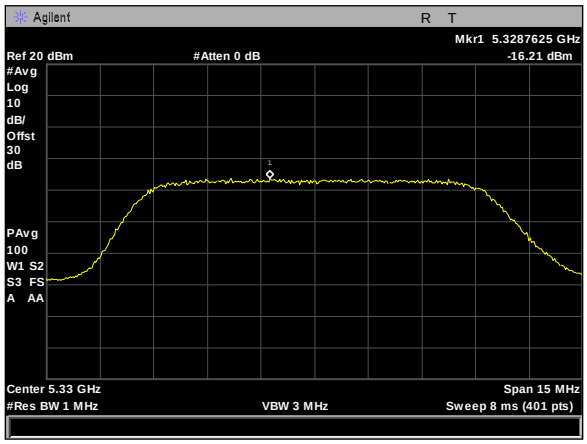
Plot 380. Power Spectral Density, 2Panel, 10M, 5300M, rf1



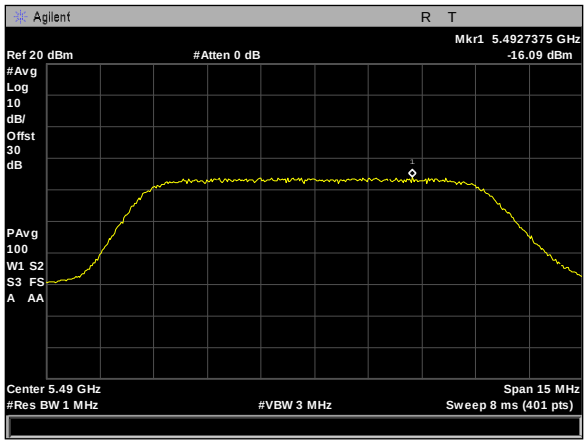
Plot 381. Power Spectral Density, 2Panel, 10M, 5300M, rf2



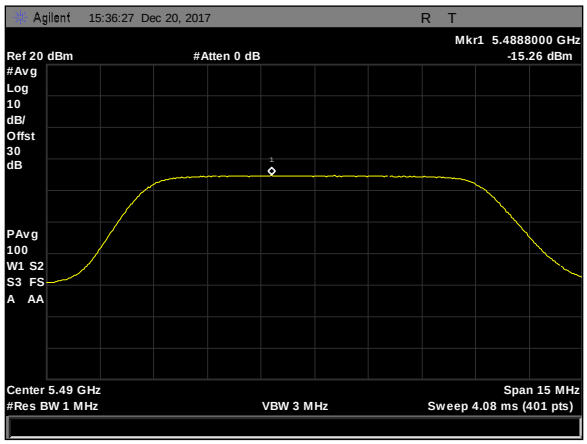
Plot 382. Power Spectral Density, 2Panel, 10M, 5330M, rf1



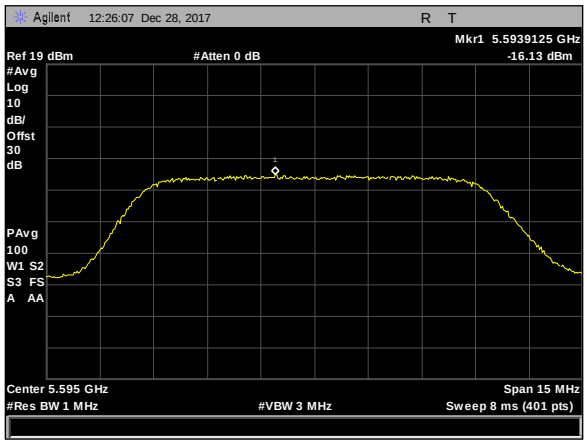
Plot 383. Power Spectral Density, 2Panel, 10M, 5330M, rf2



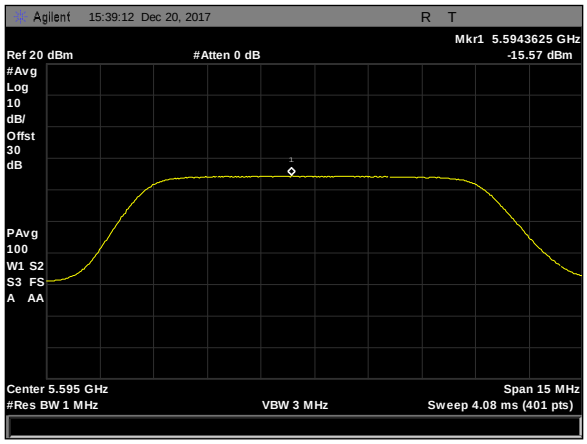
Plot 384. Power Spectral Density, 2Panel, 10M, 5490M, rf1



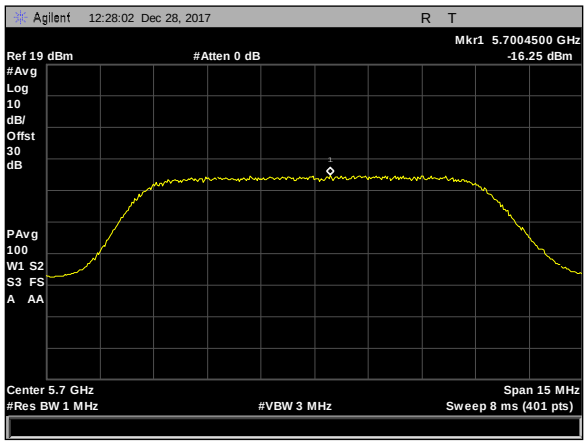
Plot 385. Power Spectral Density, 2Panel, 10M, 5490M, rf2



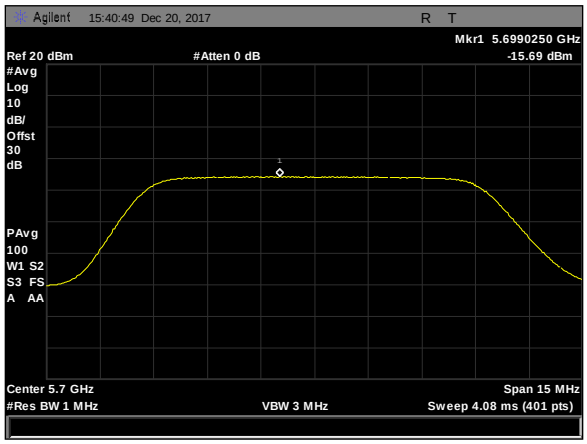
Plot 386. Power Spectral Density, 2Panel, 10M, 5595M, rf1



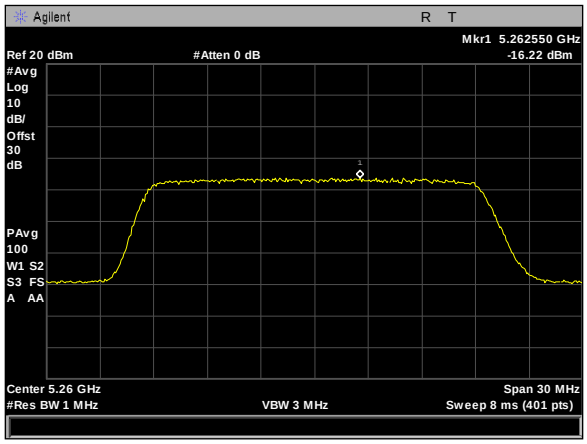
Plot 387. Power Spectral Density, 2Panel, 10M, 5595M, rf2



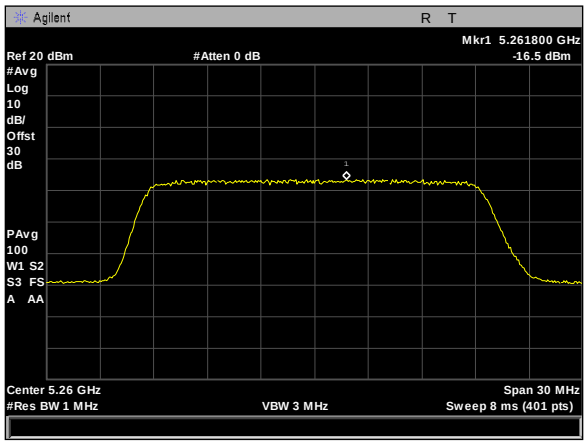
Plot 388. Power Spectral Density, 2Panel, 10M, 5700M, rf1



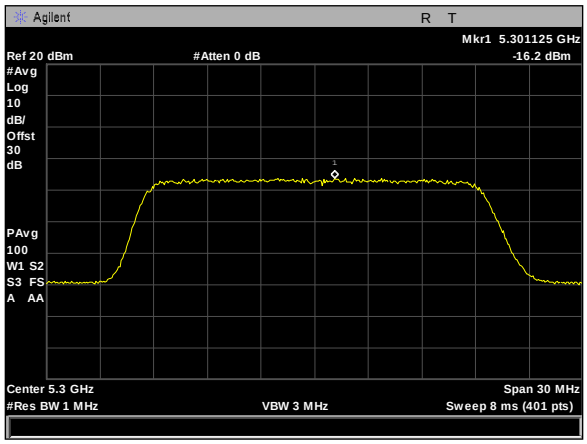
Plot 389. Power Spectral Density, 2Panel, 10M, 5700M, rf2



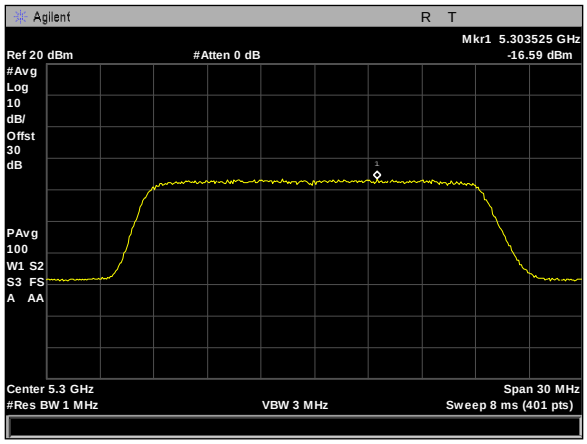
Plot 390. Power Spectral Density, 2Panel, 20M, 5260M, rf1



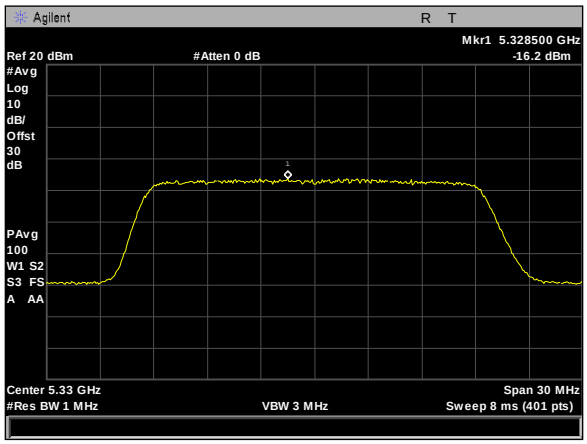
Plot 391. Power Spectral Density, 2Panel, 20M, 5260M, rf2



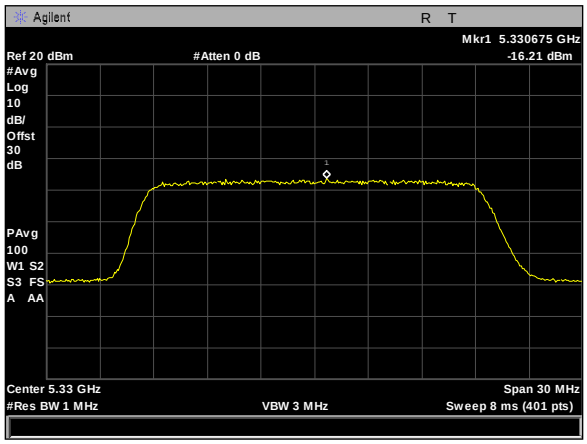
Plot 392. Power Spectral Density, 2Panel, 20M, 5300M, rf1



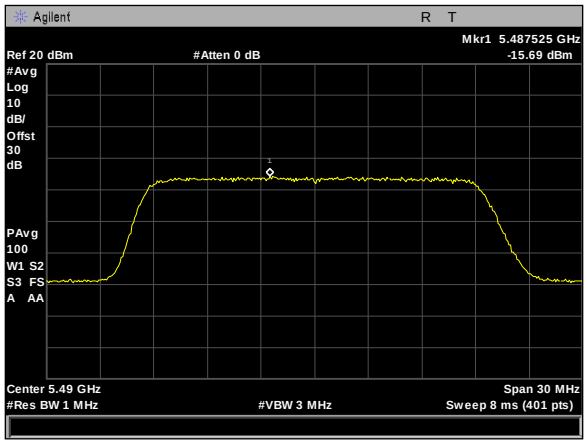
Plot 393. Power Spectral Density, 2Panel, 20M, 5300M, rf2



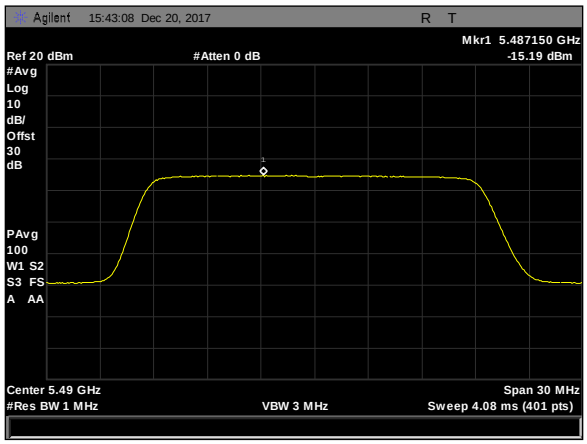
Plot 394. Power Spectral Density, 2Panel, 20M, 5330M, rf1



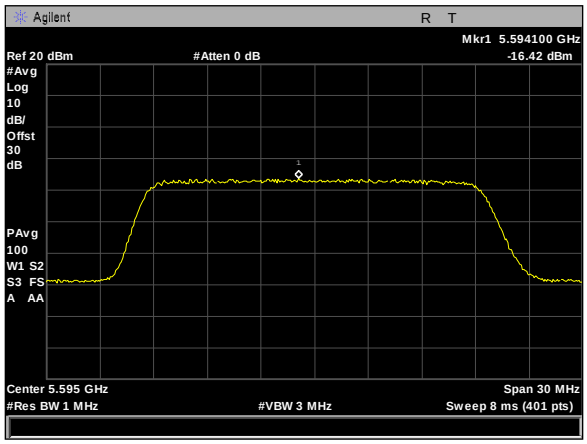
Plot 395. Power Spectral Density, 2Panel, 20M, 5330M, rf2



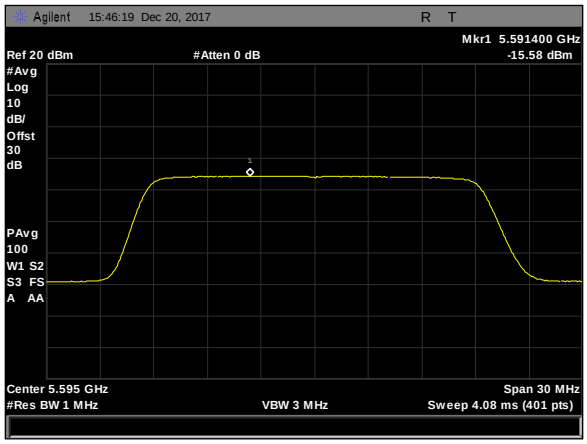
Plot 396. Power Spectral Density, 2Panel, 20M, 5490M, rf1



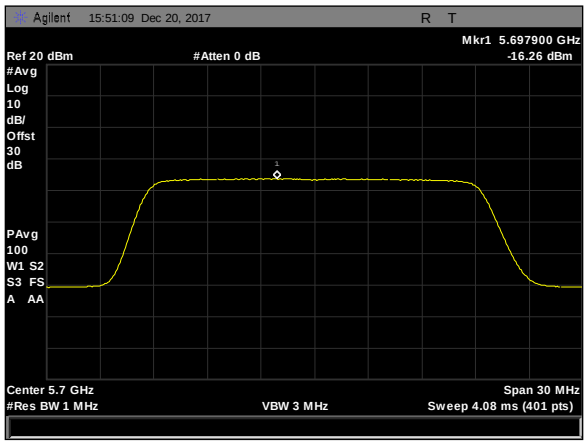
Plot 397. Power Spectral Density, 2Panel, 20M, 5490M, rf2



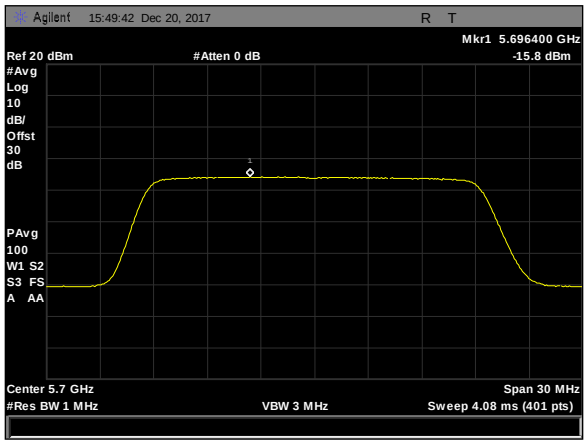
Plot 398. Power Spectral Density, 2Panel, 20M, 5595M, rf1



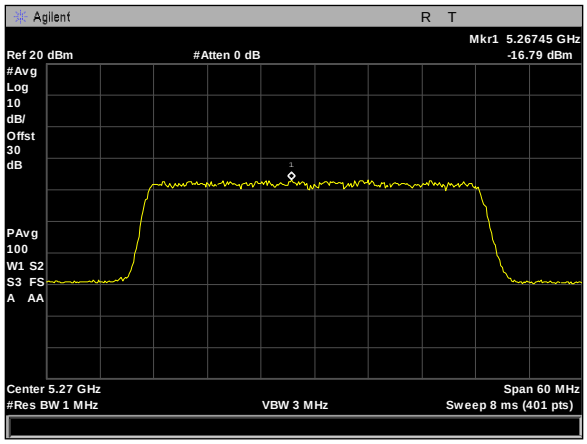
Plot 399. Power Spectral Density, 2Panel, 20M, 5595M, rf2



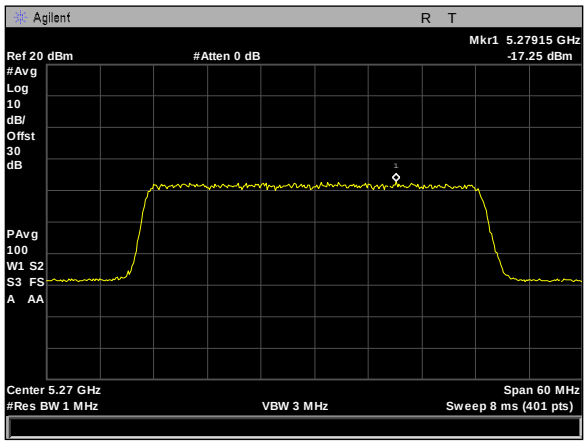
Plot 400. Power Spectral Density, 2Panel, 20M, 5700M, rf1



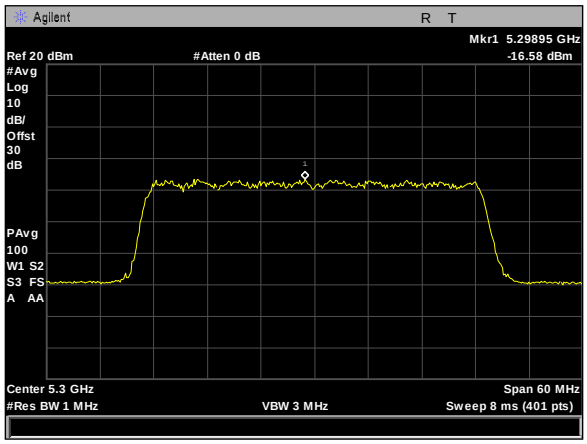
Plot 401. Power Spectral Density, 2Panel, 20M, 5700M, rf2



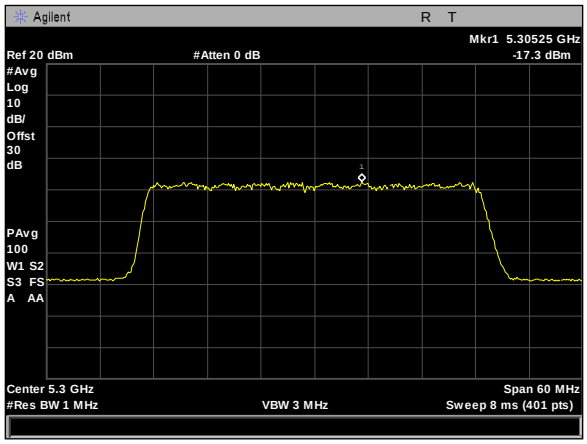
Plot 402. Power Spectral Density, 2Panel, 40M, 5270M, rf1



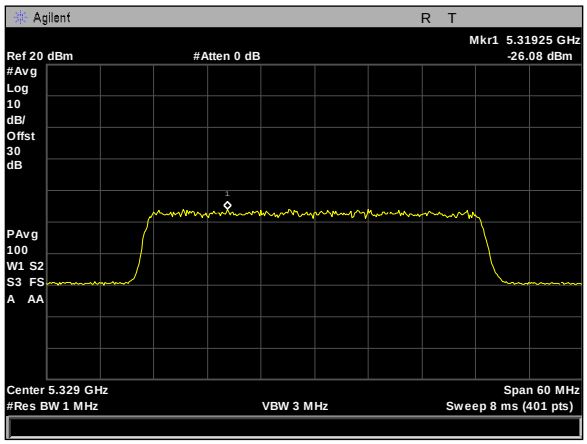
Plot 403. Power Spectral Density, 2Panel, 40M, 5270M, rf2



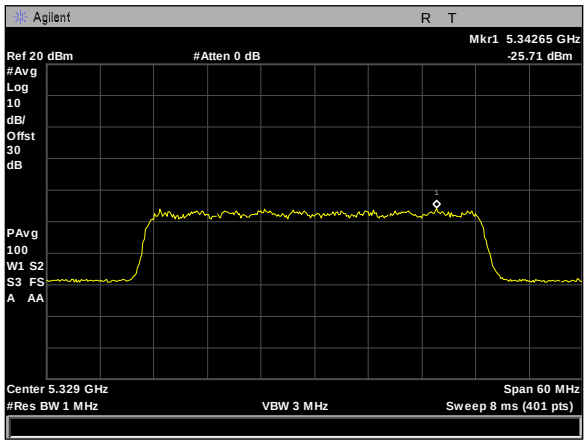
Plot 404. Power Spectral Density, 2Panel, 40M, 5300M, rf1



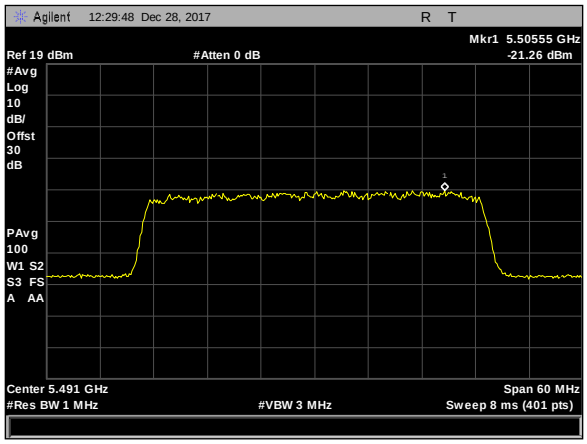
Plot 405. Power Spectral Density, 2Panel, 40M, 5300M, rf2



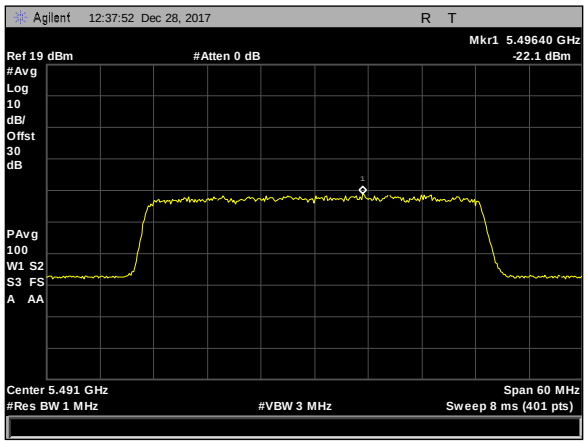
Plot 406. Power Spectral Density, 2Panel, 40M, 5329M, rf1



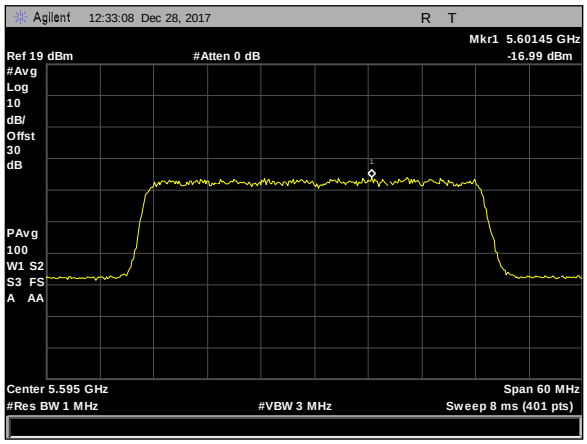
Plot 407. Power Spectral Density, 2Panel, 40M, 5329M, rf2



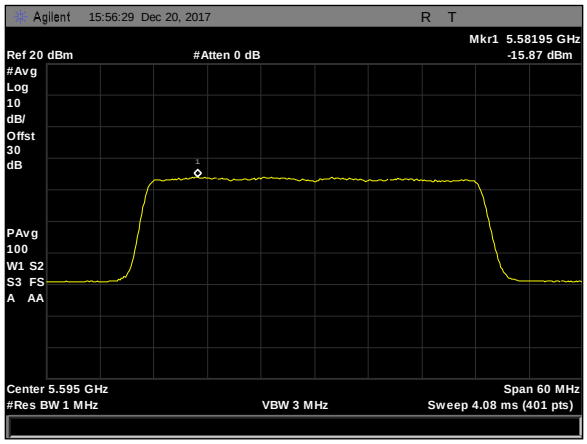
Plot 408. Power Spectral Density, 2Panel, 40M, 5491M, rf1



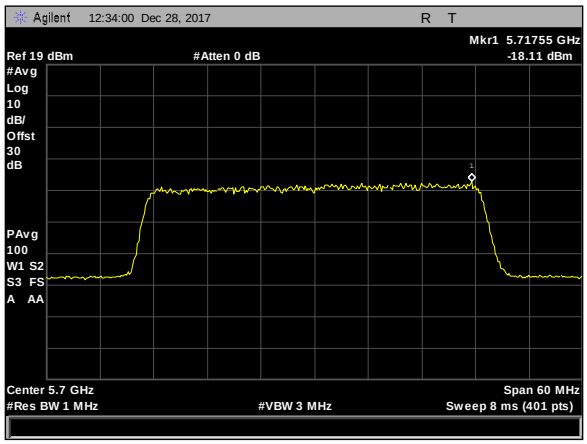
Plot 409. Power Spectral Density, 2Panel, 40M, 5491M, rf2



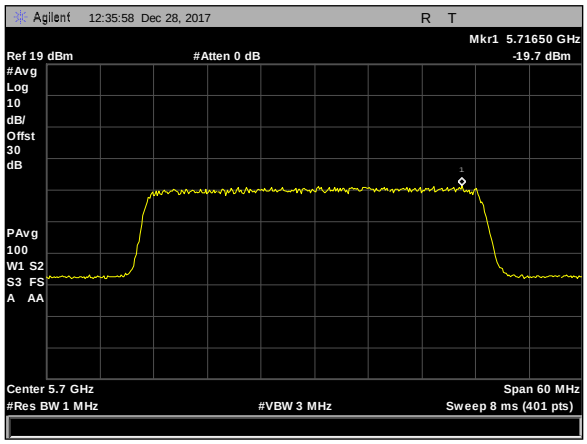
Plot 410. Power Spectral Density, 2Panel, 40M, 5595M, rf1



Plot 411. Power Spectral Density, 2Panel, 40M, 5595M, rf2



Plot 412. Power Spectral Density, 2Panel, 40M, 5700M, rf1



Plot 413. Power Spectral Density, 2Panel, 40M, 5700M, rf2

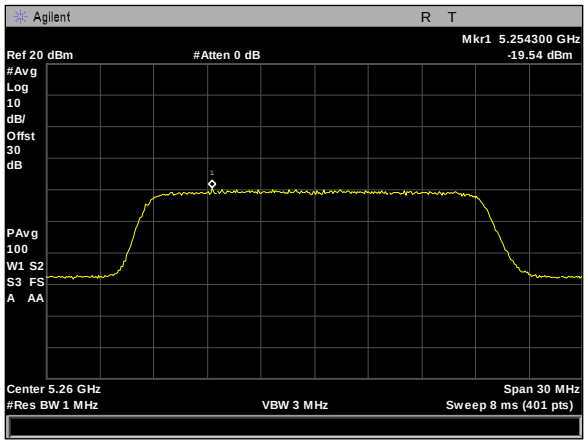
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	PSD Margin
20 MHz						
5260	-19.5	-20.9	-13.771563	30	-13	-0.771563044
5300	-19.8	-21.3	-14.0845363	30	-13	-1.084536304
5330	-20	-21.5	-14.2745363	30	-13	-1.274536304
40MHz						
5270	-19.7	-20.2	-13.5100868	30	-13	-0.510086752
5300	-20.1	-21.5	-14.3669038	30	-13	-1.366903802
5328	-22.8	-22.8	-16.4322755	30	-13	-3.432275482

Table 28. Power Spectral Density, 3' Parabolic, UNII 2A, Test Results

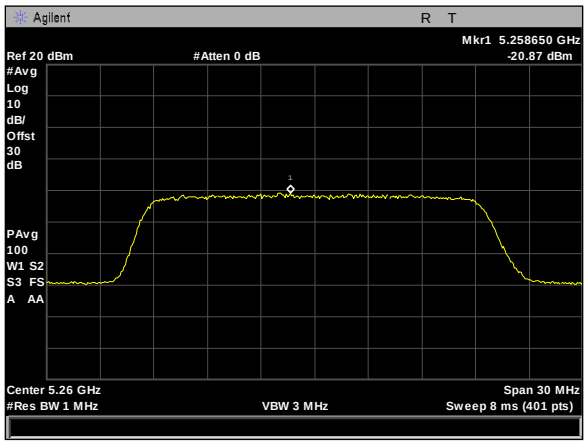
Frequency (MHz)	RF1	RF2	Total Power	Antenna Gain	Limit dBm	PSD Margin
20 MHz						
5490	-20.1	-19.8	-13.549513	30	-13	-0.549512967
5595	-20.7	-19.5	-13.6786635	30	-13	-0.678663461
40MHz						
5492	-20.8	-21	-14.5365416	30	-13	-1.536541575
5595	-20.8	-20.3	-13.7814466	30	-13	-0.781446604
5700	-20.5	-20.3	-14.0561272	30	-13	-1.056127169

Table 29. Power Spectral Density, UNII 2C, 3' Parabolic, Test Results

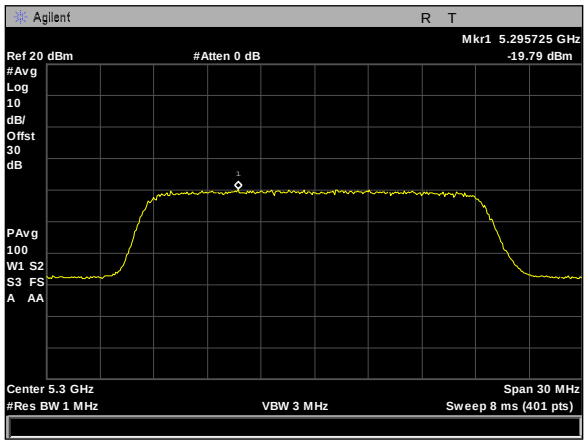
Note: All testing was performed using QPSK 1/16 modulation.



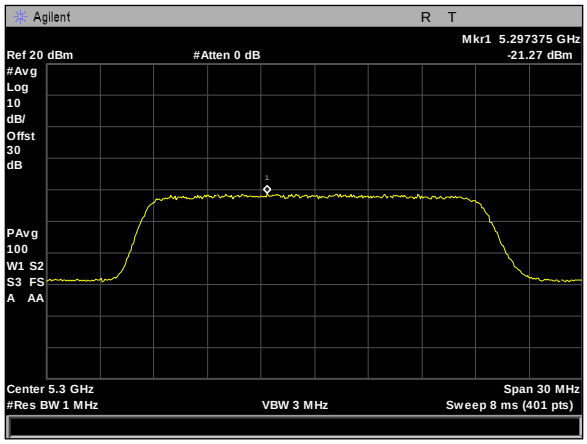
Plot 414. Power Spectral Density, 3Para, 20M, 5260M, rf1



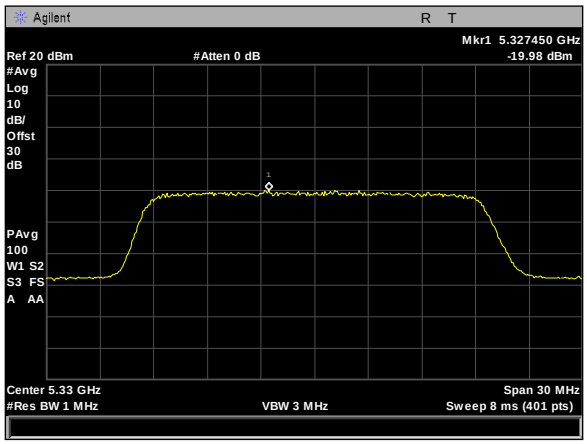
Plot 415. Power Spectral Density, 3Para, 20M, 5260M, rf2



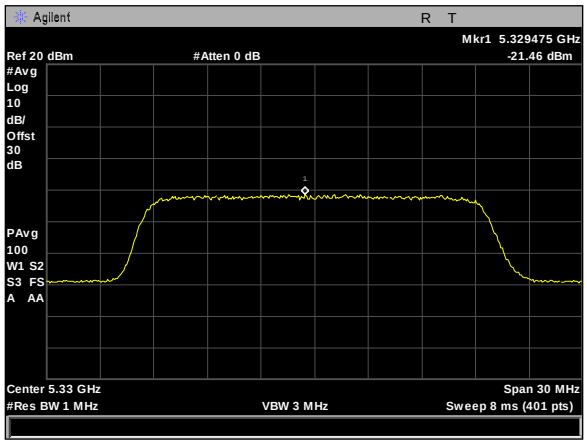
Plot 416. Power Spectral Density, 3Para, 20M, 5300M, rf1



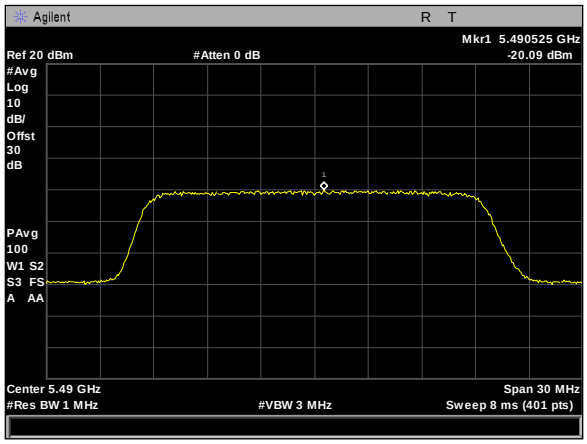
Plot 417. Power Spectral Density, 3Para, 20M, 5300M, rf2



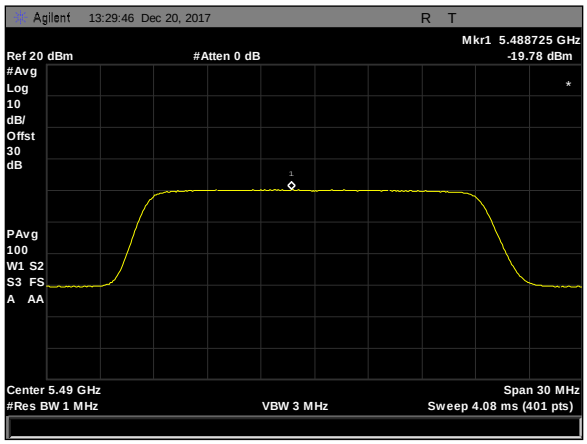
Plot 418. Power Spectral Density, 3Para, 20M, 5330M, rf1



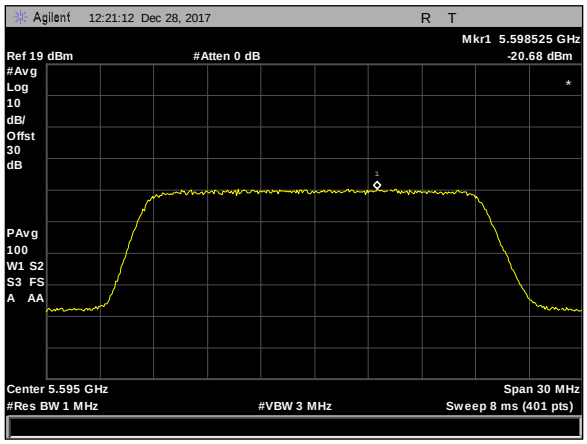
Plot 419. Power Spectral Density, 3Para, 20M, 5330M, rf2



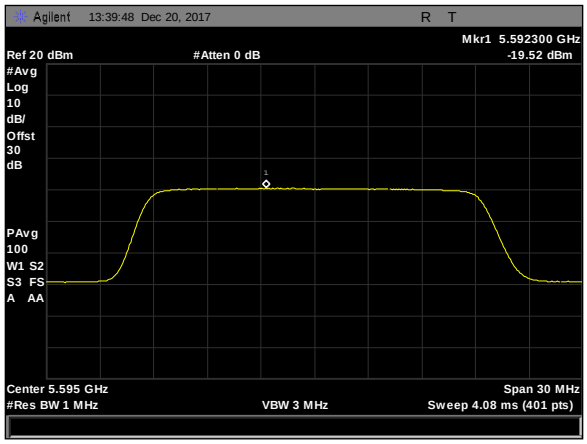
Plot 420. Power Spectral Density, 3Para, 20M, 5490M, rf1



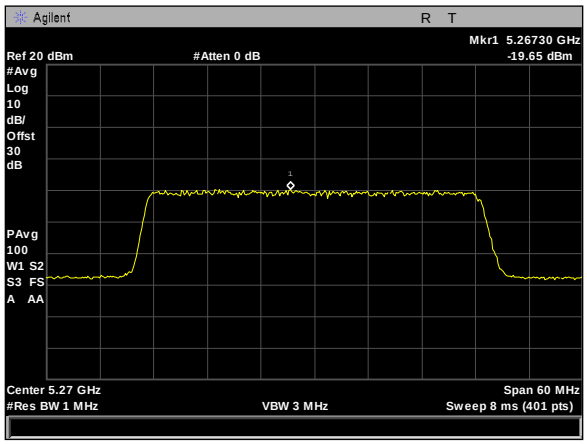
Plot 421. Power Spectral Density, 3Para, 20M, 5490M, rf2



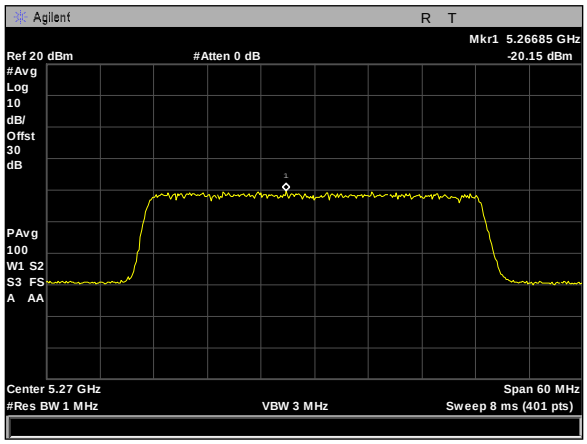
Plot 422. Power Spectral Density, 3Para, 20M, 5595M, rf1



Plot 423. Power Spectral Density, 3Para, 20M, 5595M, rf2



Plot 424. Power Spectral Density, 3Para, 40M, 5270M, rf1



Plot 425. Power Spectral Density, 3Para, 40M, 5270M, rf2

