

FCC Testing of the
DAQRI International Ltd
Model: DAQRI Smart Helmet
In accordance with FCC 47 CFR Part 15E

Prepared for: DAQRI LLC
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California
90017
United States

FCC ID: 2AEWMDQR001001

COMMERCIAL-IN-CONFIDENCE

Date: March 2017
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Product Service

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RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Project Management	Steven White	24 March 2017	
Authorised Signatory	Matthew Russell	24 March 2017	

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service document control rules.

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC 47 CFR Part 15E. The sample tested was found to comply with the requirements defined in the applied rules.

RESPONSIBLE FOR	NAME	DATE	SIGNATURE
Testing	Dan Ralley	24 March 2017	
Testing	Jack Tuckwell	24 March 2017	

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be in compliance with FCC 47 CFR Part 15E (2015).



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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	24 March 2017

Table 1

1.2 Introduction

Applicant	DAQRI LLC
Manufacturer	DAQRI International Ltd
Model Number(s)	DAQRI Smart Helmet
Serial Number(s)	1) 106 2) 1829C-DC8-6UPN9XJWJW
Hardware Version(s)	DAQRI Thor DE
Software Version(s)	V16
Number of Samples Tested	2
Test Specification/Issue/Date	FCC 47 CFR Part 15E: (2015)
Order Number	107133
Date	25-November-2016
Date of Receipt of EUT	28-November-2016
Start of Test	13-December-2016
Finish of Test	07-March-2017
Name of Engineer(s)	Dan Ralley and Jack Tuckwell
Related Document(s)	ANSI C63.10 (2013) KDB 662911 D01 v02 r01



Product Service

1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15E.

Section	Specification Clause	Test Description	Result	Comments/Base Standard
Configuration Mode: 802.11a				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a)(e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10
2.6	15.407 (b) and 15.205	Spurious Radiated Emissions	Pass	ANSI C63.10
Configuration Mode: 802.11n (20 MHz Bandwidth)				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a) (e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10
2.6	15.407 (b) and 15.205	Spurious Radiated Emissions	Pass	ANSI C63.10



Configuration Mode: 802.11n (40 MHz Bandwidth)				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a) (e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10
Configuration Mode: 802.11ac (20 MHz Bandwidth)				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a) (e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10
2.6	15.407 (b) and 15.205	Spurious Radiated Emissions	Pass	ANSI C63.10
Configuration Mode: 802.11ac (40 MHz Bandwidth)				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a) (e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10



Product Service

Configuration Mode: 802.11ac (80 MHz Bandwidth)				
2.1	15.407 (a)	Maximum Conducted Output Power	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.2	15.407 (a)	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 KDB 662911 D01 v02 r01
2.3	15.407 (a) (e)	Emission Bandwidth	Pass	ANSI C63.10
2.4	15.407 (b)	Authorised Band Edges	Pass	ANSI C63.10
2.5	15.205	Restricted Band Edges	Pass	ANSI C63.10

Table 2

1.4 Application Form

EQUIPMENT DESCRIPTION	
Model Name/Number	DAQRI Smart Helmet
Part Number	THR5002101
Hardware Version	DAQRI Thor DE
Software Version	V16
FCC ID (if applicable)	2AEWMDQR001001
Industry Canada ID (if applicable)	N/A
Technical Description (Please provide a brief description of the intended use of the equipment)	DAQRI Smart Helmet is a wearable human-machine interface that connects workers in a variety of industries and environments to real time information and augmented work instructions.

INFORMATION REQUIRED	
Modes:	
☒ 802.11(a)	☐ 802.11(ac)
☒ 802.11(n)	
a) The occupied channel bandwidth(s): ☐ Channel Bandwidth 1: MHz ☐ Channel Bandwidth 2: MHz ☐ Channel Bandwidth 3: MHz NOTE: Add more lines if the equipment has more channel Bandwidths.	
b) The DFS related operating mode(s) of the equipment: ☐ Master ☐ Slave with radar detection ☒ Slave without radar detection NOTE: If the equipment has more than 1 operating mode, tick all that apply.	
c) The equipment can operate in ad-hoc mode: ☐ no ad-hoc operation ☐ ad-hoc operation in the frequency range 5150MHz to 5250MHz without DFS ☒ ad-hoc operation with DFS NOTE: If more than 1 is applicable, tick all that apply	
d) Operating Frequency Range(s):	
☒	Range 1: 5150MHz to 5250MHz
☒	Range 2: 5250MHz to 5350MHz
☒	Range 3: 5470MHz to 5725MHz
☒	Range 4: 5725MHz to 5825MHz
NOTE: If the equipment has more than 1 Operating Frequency Range, tick all that apply.	
e) TPC feature available: ☐ Yes ☒ No	



INFORMATION REQUIRED			
f) If the equipment has a TPC range, the lowest and highest power level (or lowest and highest EIRP level in case of integrated antenna equipment), intended antenna assemblies and corresponding operating frequency range for the TPC range (or for each of the TPC ranges if more than one is implemented).			
TPC range: Applicable Frequency Range:			
☐	5250MHz to 5350MHz		
☐	5470 MHz to 5725 MHz		
☐	A TPC mechanism is not required for systems with an e.i.r.p of less than 500 mW		
DFS Threshold level:		dBm	
☐	at the antenna connector	☐	in front of the antenna
NOTE: For equipment with a maximum EIRP below 200 mW, the DFS threshold level shall be -62 dBm or less, for equipment with an EIRP of 200 mW or above, the DFS threshold level shall be -64 dBm or less. These levels assume a 0 dBi antenna gain. To define the applicable threshold level at the (temporary) antenna connector, the gain of the antenna (in dBi) shall be added to the threshold level. If more than one antenna is intended for this TPC range or power setting, the antenna gain of the antenna with the lowest gain shall be used.			
Power Setting 1: Applicable Frequency Range: 5150 MHz to 5250 MHz			
Conducted Average Power		Average EIRP	
Power Setting 2: Applicable Frequency Range: 5250 MHz to 5350 MHz			
Conducted Average Power		Average EIRP	
Power Setting 3: Applicable Frequency Range: 5470 MHz to 5725MHz			
Conducted Average Power		Average EIRP	
Power Setting 4: Applicable Frequency Range: 5725 MHz to 5825MHz			
Conducted Average Power		Average EIRP	
Table 3: Intended Antenna Assemblies			
Antenna Assembly name		Antenna Gain (dBi)	
Taoglas FXP840 x 2		2.4GHz 2dBi / 5.8 GHz 2.5 dBi	



INFORMATION REQUIRED	
h) The extreme operating temperature range that apply to the equipment:	
Please state conditions of normal operation as specified in the users manual:	
<u>Supply Voltage:</u>	
☐	AC mains. State AC voltage
☒	DC. State DC voltage
☒	State DC current
In case of DC, indicate the type of power source:	
☐	Internal Power Supply
☐	External Power Supply or AC/DC adapter
☐	Battery Nickel Cadmium
☐	Alkaline
☐	Nickel-Metal Hydride
☒	Lithium-Ion
☐	Lead acid (Vehicle regulated)
☐	Other (please specify):

ADDITIONAL INFORMATION PROVIDED BY THE SUBMITTER				
a) Modulation:				
Continuous duty	☐	Yes	☐	No
Can the transmitter operate un-modulated?	☐	Yes	☒	No
b) Duty Cycle				
Is transmitter intended for :				
Continuous duty	☐	Yes	☐	No
Intermittent duty only	☐	Yes	☐	No
If intermittent duty state DUTY CYCLE				
Transmitter ON	Seconds	Transmitter OFF	Seconds	
☐ Continuous operation possible for testing purposes				
Details:				

I hereby declare that that the information supplied is correct and complete.

Name: Dave Williams

Position held: Certification Test Manager

Date: 1st March 2017

1.5 Product Information

1.5.1 Technical Description

DAQRI Smart Helmet is a wearable human-machine interface that connects workers in a variety of industries and environments to real time information and augmented work instructions.

1.6 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test programme.
The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
Serial Number: 106			
0	As supplied by the customer	Not Applicable	Not Applicable
Serial Number: 1829C-DC8-6UPN9XJWJW			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 3

1.8 Test Location

TÜV SÜD Product Service conducted the following tests at our Fareham Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Configuration Mode: 802.11a		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS
Spurious Radiated Emissions	Jack Tuckwell	UKAS
Configuration Mode: 802.11n (20 MHz Bandwidth)		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS
Spurious Radiated Emissions	Jack Tuckwell	UKAS



Test Name	Name of Engineer(s)	Accreditation
Configuration Mode: 802.11n (40 MHz Bandwidth)		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS
Configuration Mode: 802.11ac (20 MHz Bandwidth)		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS
Spurious Radiated Emissions	Jack Tuckwell	UKAS
Configuration Mode: 802.11ac (40 MHz Bandwidth)		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS
Configuration Mode: 802.11ac (80 MHz Bandwidth)		
Maximum Conducted Output Power	Dan Ralley	UKAS
Maximum Conducted Power Spectral Density	Dan Ralley	UKAS
Emission Bandwidth	Dan Ralley	UKAS
Authorised Band Edges	Jack Tuckwell	UKAS
Restricted Band Edges	Jack Tuckwell	UKAS

Table 4

Office Address:

Octagon House
 Concorde Way
 Segensworth North
 Fareham
 Hampshire
 PO15 5RL
 United Kingdom

2 Test Details

2.1 Maximum Conducted Output Power

2.1.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (a)

2.1.2 Equipment Under Test and Modification State

DAQRI Smart Helmet, S/N: 106 - Modification State 0

2.1.3 Date of Test

13-December-2016 to 19-December-2016

2.1.4 Test Method

The test was performed in accordance with ANSI C63.10, Clause 12.3.2.2.

For configuration supporting MiMo, the total power was calculated in accordance with KDB 662911 D01; part E; subpart 2b.

2.1.5 Environmental Conditions

Ambient Temperature 20.7 - 22.9 °C
Relative Humidity 32.6 - 50.2 %

2.1.6 Test Results

802.11a

Testing was performed on the data rate which resulted in the highest conducted output power. The data rate used during testing was 6 Mbps.

The antenna gain was declared by the manufacturer as 5 dBi.

The duty cycle of the EUT was measured as 99%

Port	Maximum Conducted Output Power (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	15.36	15.20	14.98
2	14.62	14.56	14.73

Table 5 - U-NII-1

Port	Maximum Conducted Output Power (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	15.54	15.52	15.36
2	14.94	15.04	14.87

Table 6 - U-NII-2a



Port	Maximum Conducted Output Power (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	16.55	16.57	15.86
2	16.11	15.60	15.57

Table 7 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)		
	5745MHz	5785 MHz	5825 MHz
1	14.76	14.76	14.70
2	13.89	13.83	13.78

Table 8 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

802.11n (20 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS8.

The antenna gain was declared by the manufacturer as 5.0 dBi.

The duty cycle of the EUT was measured as 98%

Port	Maximum Conducted Output Power (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	13.52	13.28	13.36
2	12.91	12.54	12.92
Total Power	16.24	15.94	16.16

Table 9 - U-NII-1

Port	Maximum Conducted Output Power (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	12.74	12.55	12.62
2	12.13	11.88	12.03
Total Power	15.46	15.24	15.35

Table 10 - U-NII-2a

Port	Maximum Conducted Output Power (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	13.93	13.77	14.09
2	13.31	12.71	13.41
Total Power	16.64	16.28	16.77

Table 11 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)		
	5745MHz	MHz	5825 MHz
1	11.86	11.91	11.85
2	10.99	10.84	10.93
Total Power	14.46	14.42	14.42

Table 12 - U-NII-3



Product Service

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

802.11n (40 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS14.

The antenna gain was declared by the manufacturer as 5.0 dBi.

The duty cycle of the EUT was measured as 98%

Port	Maximum Conducted Output Power (dBm)	
	5190 MHz	5230 MHz
1	12.98	12.82
2	12.16	11.84
Total Power	15.60	15.37

Table 13 - U-NII-1

Port	Maximum Conducted Output Power (dBm)	
	5270 MHz	5310 MHz
1	13.85	11.94
2	13.12	10.97
Total Power	16.51	14.49

Table 14 - U-NII-2a

Port	Maximum Conducted Output Power (dBm)		
	5510 MHz	5590 MHz	5700 MHz
1	13.22	14.02	13.99
2	12.51	12.91	13.34
Total Power	15.89	16.51	16.69

Table 15 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)	
	5755 MHz	5795 MHz
1	11.74	11.28
2	10.68	10.43
Total Power	14.25	13.89

Table 16 - U-NII-3



Product Service

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

802.11ac (20 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS0.

The antenna gain was declared by the manufacturer as 5.0 dBi.

The duty cycle of the EUT was measured as 98%

Port	Maximum Conducted Output Power (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	13.49	13.63	13.25
2	12.81	12.68	12.78
Total Power	16.17	16.19	16.03

Table 17 - U-NII-1

Port	Maximum Conducted Output Power (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	12.80	12.82	12.56
2	12.01	12.02	11.92
Total Power	15.43	15.45	15.26

Table 18 - U-NII-2a

Port	Maximum Conducted Output Power (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	13.84	13.95	13.91
2	13.28	12.74	13.22
Total Power	16.58	16.40	16.59

Table 19 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)		
	5745 MHz	5785 MHz	5825 MHz
1	11.87	12.13	11.73
2	11.01	11.02	10.95
Total Power	14.47	14.62	14.37

Table 20 - U-NII-3



Product Service

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

802.11ac (40 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS6.

The antenna gain was declared by the manufacturer as 5.0 dBi.

The duty cycle of the EUT was measured as 98%

Port	Maximum Conducted Output Power (dBm)	
	5190 MHz	5230 MHz
1	12.93	12.79
2	12.22	11.89
Total Power	15.60	15.37

Table 21 - U-NII-1

Port	Maximum Conducted Output Power (dBm)	
	5270 MHz	5310 MHz
1	13.77	11.95
2	13.05	10.94
Total Power	16.44	14.48

Table 22 - U-NII-2a

Port	Maximum Conducted Output Power (dBm)		
	5510 MHz	5590 MHz	5670 MHz
1	13.20	13.99	14.08
2	12.49	13.07	13.24
Total Power	15.87	16.56	16.69

Table 23 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)	
	5755MHz	5795 MHz
1	11.77	11.30
2	10.47	10.26
Total Power	14.18	13.82

Table 24 - U-NII-3



FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

802.11ac (80 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS5.

The antenna gain was declared by the manufacturer as 5.0 dBi.

The duty cycle of the EUT was measured as 98%

Port	Maximum Conducted Output Power (dBm)		
	5210 MHz	5210 MHz	5210 MHz
1	11.92	11.92	11.92
2	10.87	10.87	10.87
Total Power	14.44	14.44	14.44

Table 25 - U-NII-1

Port	Maximum Conducted Output Power (dBm)		
	5290 MHz	5290 MHz	5290 MHz
1	10.36	10.36	10.36
2	8.99	8.99	8.99
Total Power	12.74	12.74	12.74

Table 26 - U-NII-2a

Port	Maximum Conducted Output Power (dBm)		
	5530 MHz	5610 MHz	5610 MHz
1	11.96	14.05	14.05
2	11.19	12.99	12.99
Total Power	14.60	16.56	16.56

Table 27 - U-NII-2c

Port	Maximum Conducted Output Power (dBm)		
	5775MHz	5775 MHz	5775 MHz
1	11.35	11.35	11.35
2	10.19	10.19	10.19
Total Power	13.82	13.82	13.82

Table 28 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted TX Power	30 dBm (1W) for master device 24 dBm (250 mW) for client device	24 dBm (250 mW) or 11 dBm + 10 Log B, whichever is lower (B = 26 dB emission BW)		30 dBm (1 W)
Max EIRP	4W (36 dBm) with 6 dBi antenna 200 W (53 dBm) for fixed P-t-P application with 23 dBi antenna Additional rule for outdoor operation: Max_EIRP < 125 mW (21 dBm) at any elevation angle > 30° from horizon.	1 W (30 dBm) with 6 dBi antenna		4 W (36 dBm) with 6 dBi antenna. No EIRP limit for fixed P-t-P application (i.e. no antenna gain limit)

2.1.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	05-Mar-2017
Attenuator (20dB, 1W)	Sealectro	60-674-1020-89	1520	12	30-Jun-2017
Multimeter	Iso-tech	IDM101	2419	12	14-Nov-2017
Hygrometer	Rotronic	I-1000	3220	12	23-Aug-2017
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	15-Sep-2017
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	08-Sep-2017
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	05-Mar-2017
PXA Signal Analyser	KeysigMCSTechnologies	N9030A	4654	12	06-Oct-2017
4 Channel PSU	Rohde & Schwarz	HMP4040	4736	-	TU

Table 29

TU - Traceability Unscheduled



2.2 Maximum Conducted Power Spectral Density

2.2.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407(a)

2.2.2 Equipment Under Test and Modification State

DAQRI Smart Helmet, S/N: 106 - Modification State 0

2.2.3 Date of Test

13-December-2016 to 19-December-2016

2.2.4 Test Method

The test was performed in accordance with ANSI C63.10, Clause 12.5.

Combined PSD calculations were conducted in accordance with KDB 662911 D01; part E; subpart 2c. Therefore, $10\log(2)$ was added to the highest spectrum value, on each channel, and compared with the limit.

2.2.5 Environmental Conditions

Ambient Temperature 21.4 - 24.2 °C
Relative Humidity 31.8 - 46.4 %

2.2.6 Test Results

Testing was performed on the data rate which resulted in the highest conducted output power. The data rate used during testing was 6 Mbps.

Port	Maximum Conducted Power Spectral Density (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	4.9425	4.7268	4.5481
2	4.1824	4.3354	4.4497

Table 30 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	5.1107	5.2503	4.9054
2	4.5493	4.6426	4.4765

Table 31 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	6.1282	6.2880	5.5133
2	5.7405	5.1908	5.2870

Table 32 - U-NII-2c



Port	Maximum Conducted Power Spectral Density (dBm)		
	5745 MHz	5785 MHz	5825 MHz
1	1.3989	1.5480	1.3909
2	0.8129	0.6489	0.7295

Table 33 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

802.11n (20 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS8.

Port	Maximum Conducted Power Spectral Density (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	2.8653	2.6508	2.9057
2	2.3280	2.0895	2.4475
Total Power	5.8653	5.6508	5.9057

Table 34 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	2.0310	1.9857	1.9489
2	1.0832	1.2306	1.4977
Total Power	5.0310	4.9857	4.9489

Table 35 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	3.4067	3.0283	3.4800
2	2.7337	2.1267	2.9232
Total Power	6.4067	6.0283	6.480

Table 36 - U-NII-2c

Port	Maximum Conducted Power Spectral Density (dBm)		
	5745 MHz	5785 MHz	5825 MHz
1	-1.5899	-1.1896	-1.3787
2	-2.3956	-2.7860	-2.5363
Total Power	1.4101	1.8104	1.6213

Table 37 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

802.11n (40 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS14.

Port	Maximum Conducted Power Spectral Density (dBm)	
	5190 MHz	5230 MHz
1	-0.8252	-0.8738
2	-1.5179	-1.9798
Total Power	2.1748	2.1262

Table 38 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)	
	5270 MHz	5310 MHz
1	0.0115	-1.8638
2	-0.6705	-2.8801
Total Power	3.0115	1.1362

Table 39 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)		
	5510 MHz	5590 MHz	5700 MHz
1	-0.6342	0.1238	0.2853
2	-1.2172	-0.9843	-0.5051
Total Power	2.3658	3.1238	3.2853

Table 40 - U-NII-2c

Port	Maximum Conducted Power Spectral Density (dBm)	
	5755 MHz	5795 MHz
1	-4.6540	-5.3183
2	-6.0520	-6.1059
Total Power	-1.6540	-2.3183

Table 41 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

802.11ac (20 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS0.

Port	Maximum Conducted Power Spectral Density (dBm)		
	5180 MHz	5220 MHz	5240 MHz
1	2.7943	2.9805	2.6797
2	2.0958	2.0636	2.0795
Total Power	5.7943	5.9805	5.6797

Table 42 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)		
	5260 MHz	5280 MHz	5320 MHz
1	2.3054	2.2071	1.9320
2	1.4374	1.4368	1.3624
Total Power	5.3054	5.2071	4.9320

Table 43 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)		
	5500 MHz	5600 MHz	5700 MHz
1	3.2714	3.3188	3.4047
2	2.7831	2.1807	2.6053
Total Power	6.2714	6.3188	6.4047

Table 44 - U-NII-2c

Port	Maximum Conducted Power Spectral Density (dBm)		
	5745MHz	5785 MHz	5825 MHz
1	-1.4749	-1.2147	-1.8157
2	-2.3876	-2.3892	-2.5859
Total Power	1.5251	1.7853	1.1843

Table 45 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

802.11ac (40 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS6.

Port	Maximum Conducted Power Spectral Density (dBm)	
	5190 MHz	5230 MHz
1	-1.0097	-0.95981
2	-1.6294	-1.9506
Total Power	1.9903	2.04019

Table 46 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)	
	5270 MHz	5310 MHz
1	-0.0549	-1.9128
2	-0.6486	-2.8138
Total Power	2.9451	1.0872

Table 47 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)		
	5510 MHz	5590 MHz	5670 MHz
1	-0.3509	0.1087	0.1878
2	-1.3038	-0.7812	-0.6584
Total Power	2.6491	3.1087	3.1878

Table 48 - U-NII-2c

Port	Maximum Conducted Power Spectral Density (dBm)	
	5755MHz	5795 MHz
1	-4.9590	-5.3067
2	-6.1191	-6.4827
Total Power	-1.9590	-2.3067

Table 49 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

802.11ac (80 MHz Bandwidth)

Testing was performed on the modulation coding scheme which resulted in the highest conducted output power. The modulation coding scheme used during testing was MCS5.

Port	Maximum Conducted Output Power (dBm)
	5210 MHz
1	-4.6792
2	-5.4742
Total Power	-1.6792

Table 50 - U-NII-1

Port	Maximum Conducted Power Spectral Density (dBm)
	5290 MHz
1	-6.2342
2	-7.7053
Total Power	-3.2342

Table 51 - U-NII-2a

Port	Maximum Conducted Power Spectral Density (dBm)	
	5530 MHz	5610 MHz
1	-4.6756	-2.7205
2	-5.1642	-3.5553
Total Power	-1.6756	0.2795

Table 52 - U-NII-2c

Port	Maximum Conducted Power Spectral Density (dBm)
	5775 MHz
1	-7.6784
2	-9.2344
Total Power	-4.6784

Table 53 - U-NII-3

FCC 47 CFR Part 15E, Limit Clause 15.407(a)

Condition of Operation	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
Max Conducted Power Spectral Density	17 dBm/MHz for master device 11 dBm/MHz for mobile/portable client device	11 dBm/MHz		30 dBm/500 kHz

2.2.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
20dB SMA Attenuator dc - 18GHz	Sealectro	60-674-1020-89	345	12	30-Jun-2017
20dB/2W Attenuator	Narda	4772-20	462	-	TU
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	05-Mar-2017
Attenuator (20dB, 1W)	Sealectro	60-674-1020-89	1506	-	O/P Mon
Hygrometer	Rotronic	I-1000	3220	12	23-Aug-2017
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	15-Sep-2017
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	08-Sep-2017
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	05-Mar-2017
PXA Signal Analyser	KeysigMCSTechnologies	N9030A	4654	12	06-Oct-2017
1 metre K type Cable	IW Microwave	KPS-1501LC-394-KPS-R	4727	12	03-Aug-2017

Table 54

TU - Traceability Unscheduled

O/P Mon – Output Monitored using calibrated equipment



2.3 Emission Bandwidth

2.3.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407(a)(e)

2.3.2 Equipment Under Test and Modification State

DAQRI Smart Helmet, S/N: 106 - Modification State 0

2.3.3 Date of Test

13-December-2016 to 19-December-2016

2.3.4 Test Method

The test was performed in accordance with ANSI C63.10, Clause 12.4.1.

2.3.5 Environmental Conditions

Ambient Temperature 21.2 - 24.3 °C

Relative Humidity 30.0 - 46.9 %

2.3.6 Test Results

802.11a

The data rate used during testing was 6 Mbps.

26 dB Bandwidth		
5180 MHz	5220 MHz	5240 MHz
20.79	21.67	21.27

Table 55 - U-NII 1

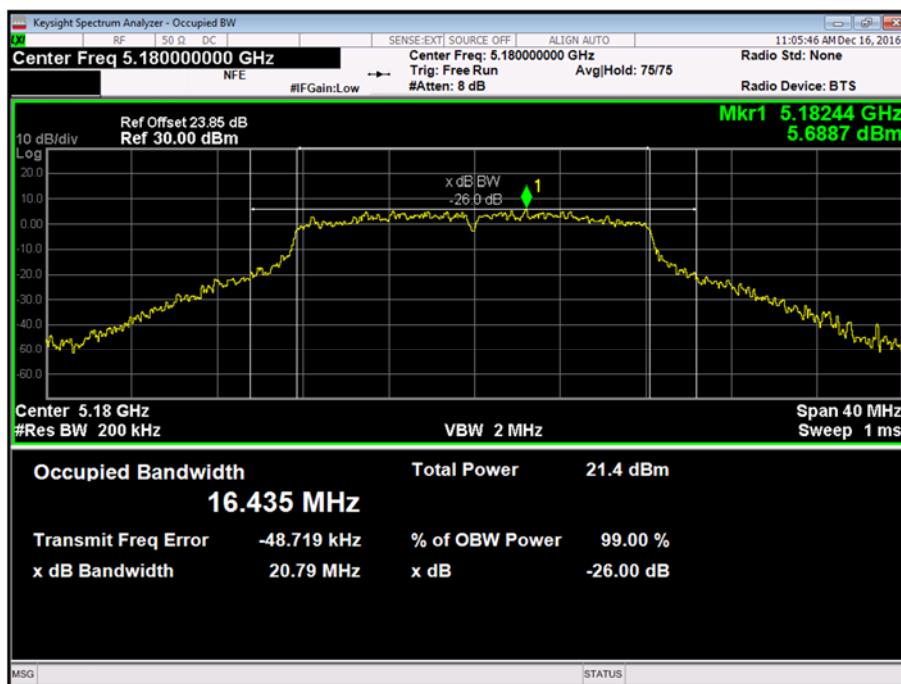


Figure 1 - U-NII 1 - 5180 MHz - 26 dB Bandwidth

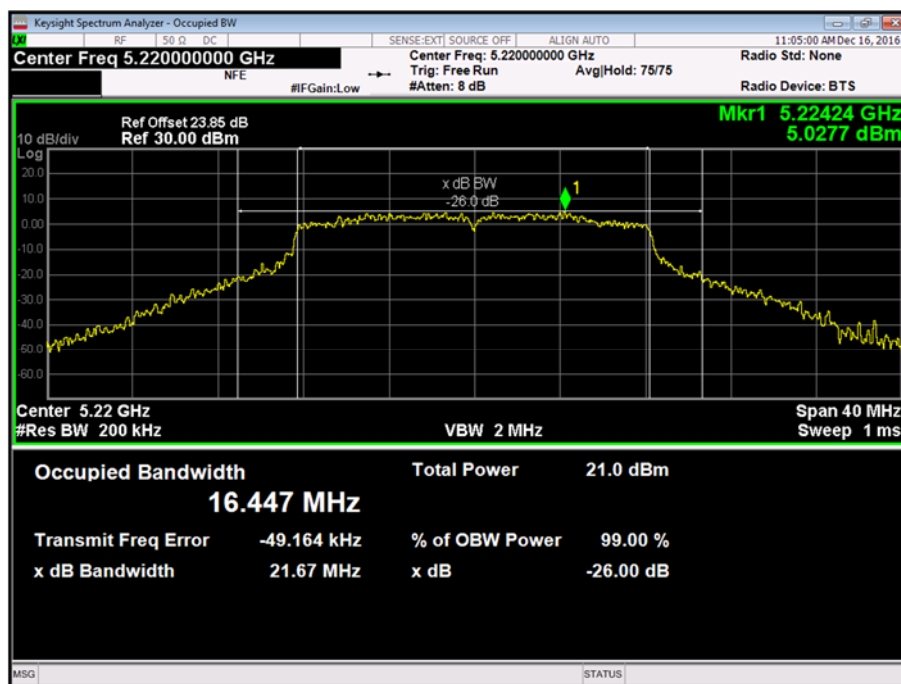


Figure 2 - U-NII 1 - 5220 MHz - 26 dB Bandwidth



Product Service

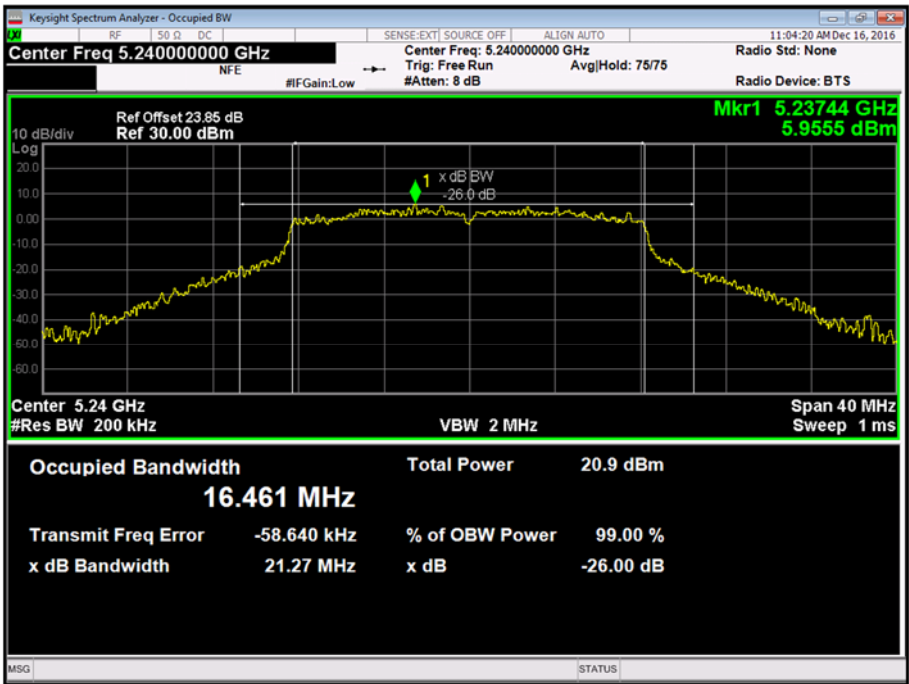


Figure 3 - U-NII 1 - 5240 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5260 MHz	5280 MHz	5320 MHz
21.86	20.74	21.98

Table 56- U-NII 2a - 26 dB Bandwidth

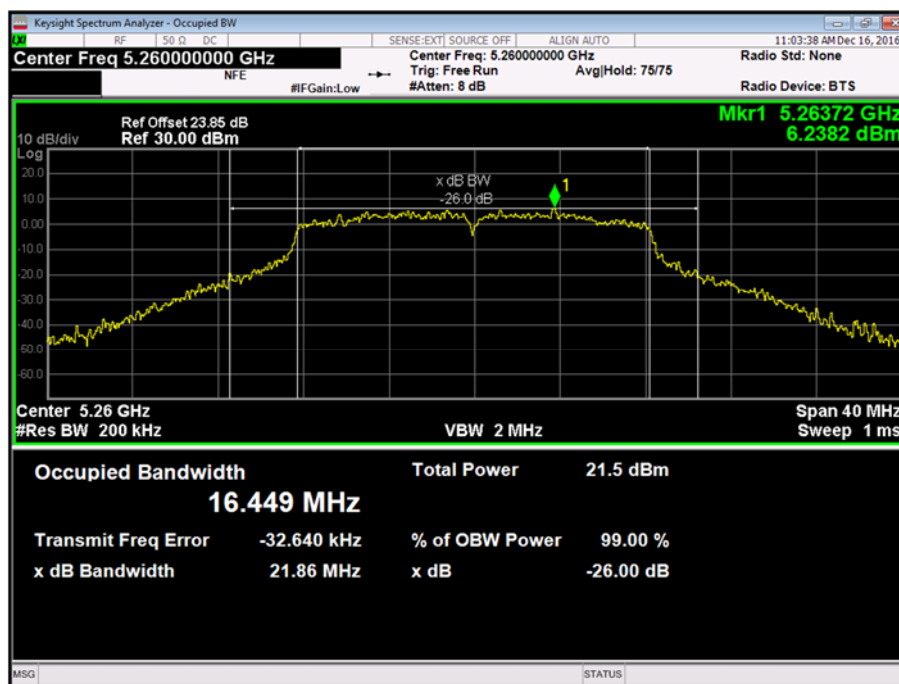


Figure 4 - U-NII 2a - 5260 MHz - 26 dB Bandwidth

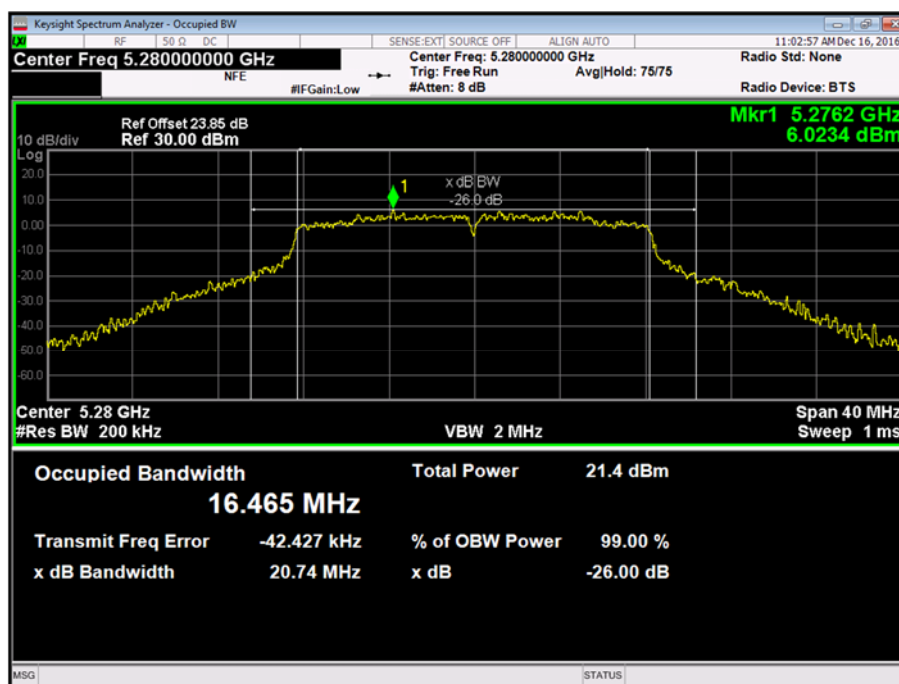


Figure 5 - U-NII 2a - 5280 MHz - 26 dB Bandwidth



Product Service

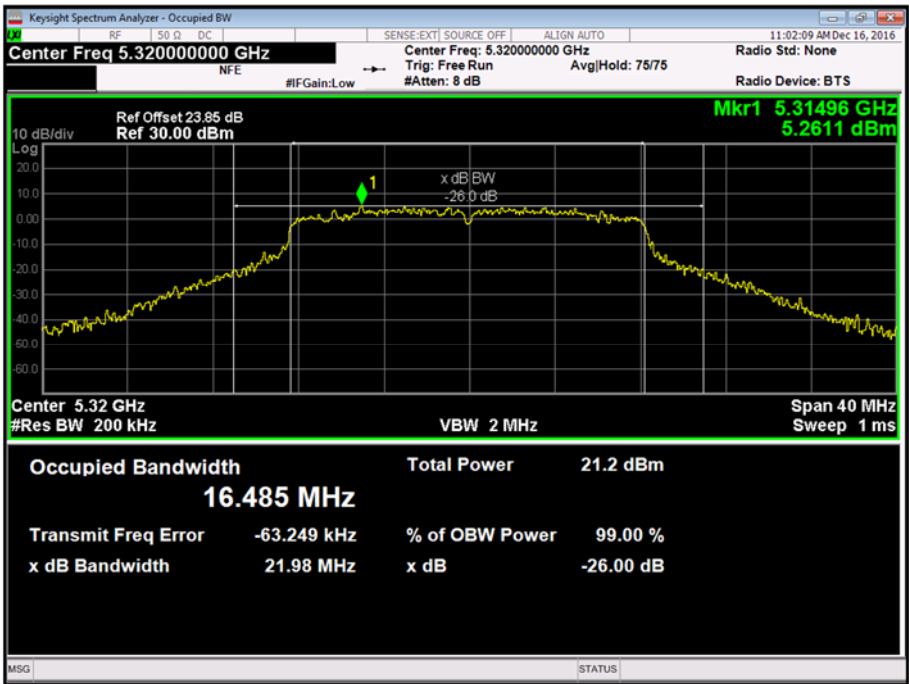


Figure 6 - U-NII 2a - 5320 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5500 MHz	5600 MHz	5700 MHz
20.60	21.89	21.11

Table 57 - U-NII 2c

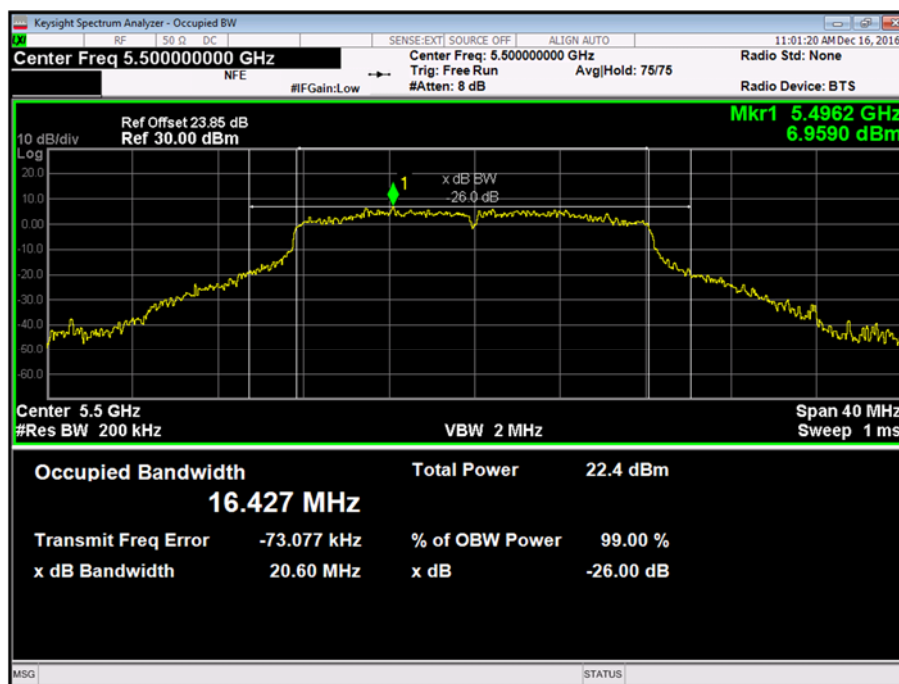


Figure 7 - U-NII 2c - 5500 MHz - 26 dB Bandwidth

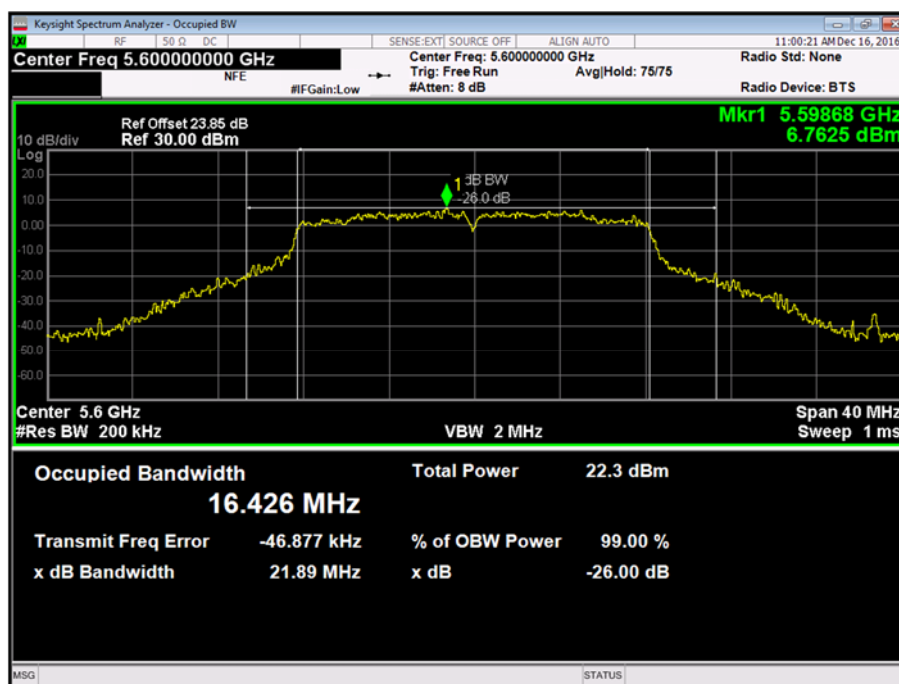


Figure 8 - U-NII 2c - 5600 MHz - 26 dB Bandwidth



Product Service

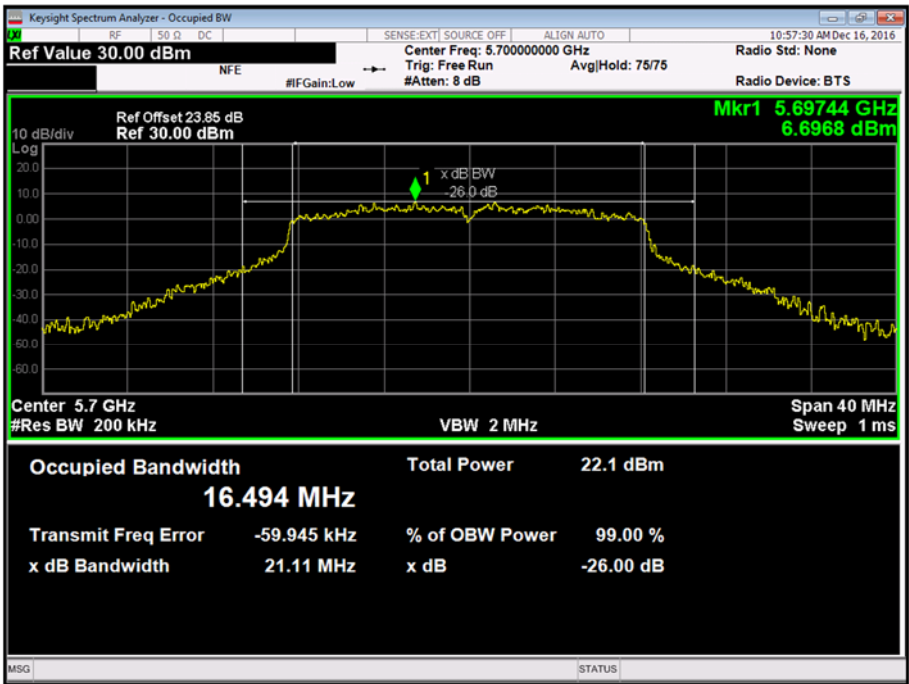


Figure 9 - U-NII 2c - 5700 MHz - 26 dB Bandwidth



Product Service

6 dB Bandwidth		
5745 MHz	5785 MHz	5825 MHz
15.79	16.20	15.26

Table 58 – U-NII 3

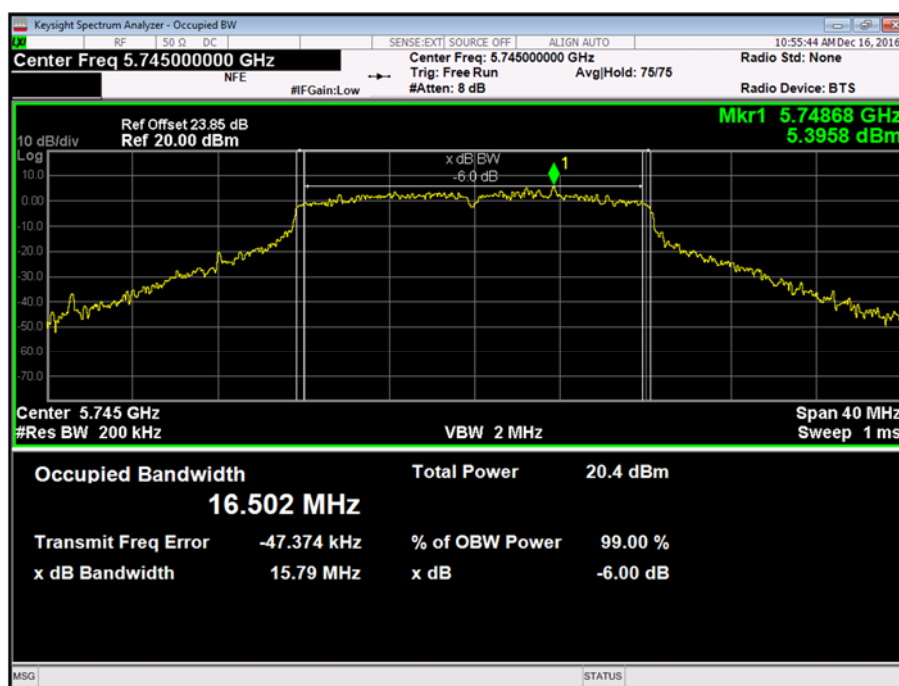


Figure 10 - U-NII3 - 5745 MHz - 6 dB Bandwidth

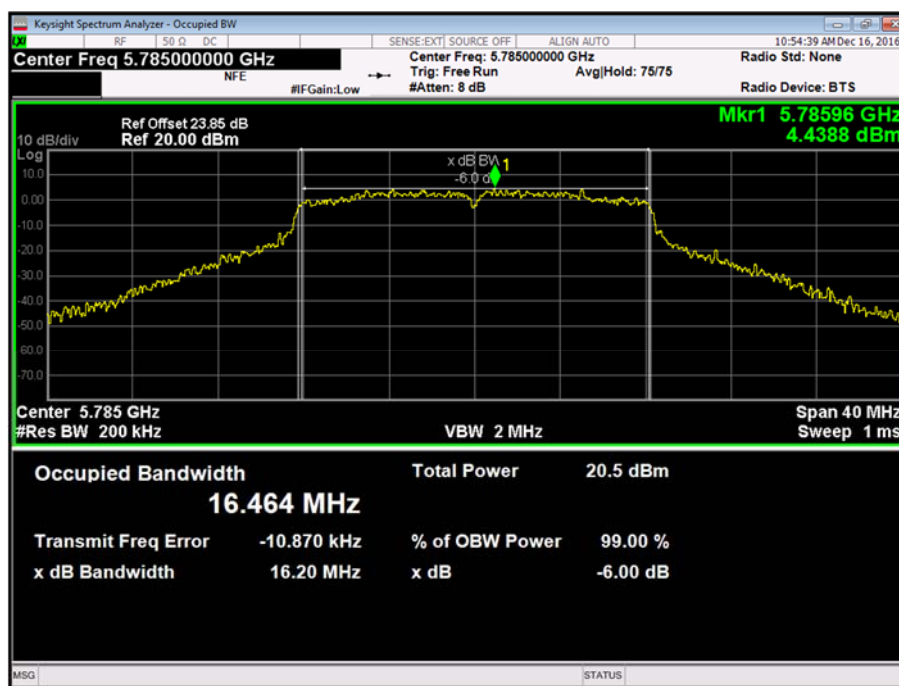


Figure 11 - U-NII 3 - 5745 MHz - 6 dB Bandwidth



Product Service

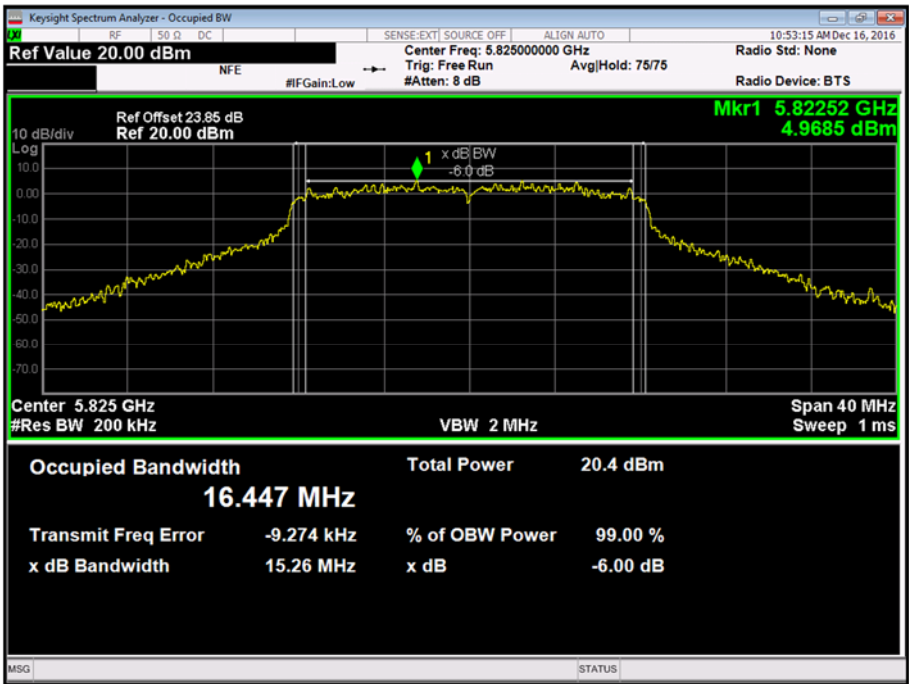


Figure 12 - U-NII 3 - 5745 MHz - 6 dB Bandwidth

FCC 47 CFR Part 15E, Limit Clause 15.407

- 5150 MHz to 5250 MHz: None specified.
- 5250 MHz to 5350 MHz: None specified.
- 5470 MHz to 5725 MHz: None specified.
- 5725 MHz to 5850 MHz: > 500 kHz.



802.11n (20 MHz Bandwidth)

26 dB Bandwidth		
5180 MHz	5220 MHz	5240 MHz
22.68	22.66	22.43

Table 59 - U-NII 1

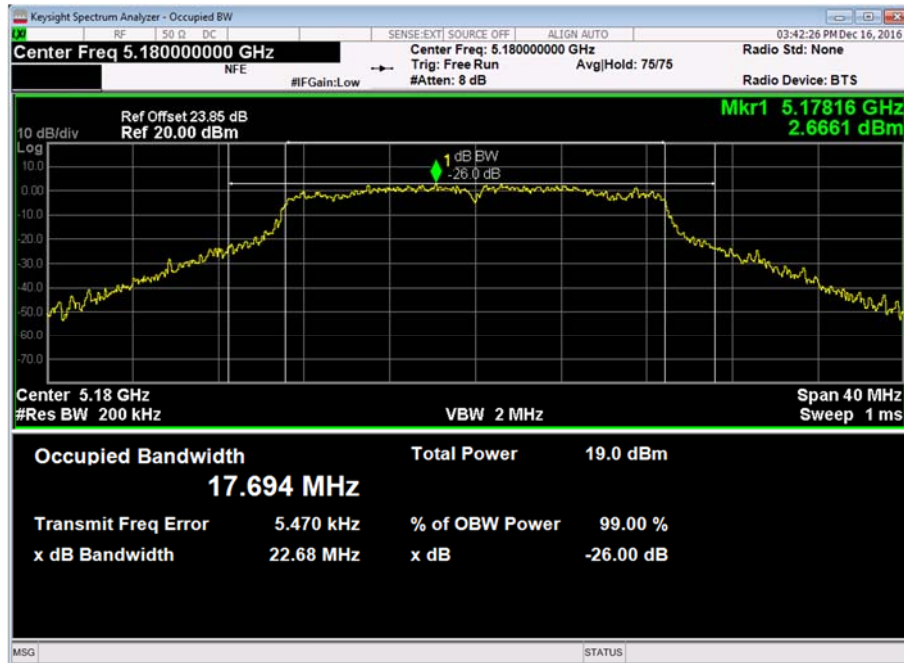


Figure 13 - U-NII 1 - 5180 MHz - 26 dB Bandwidth

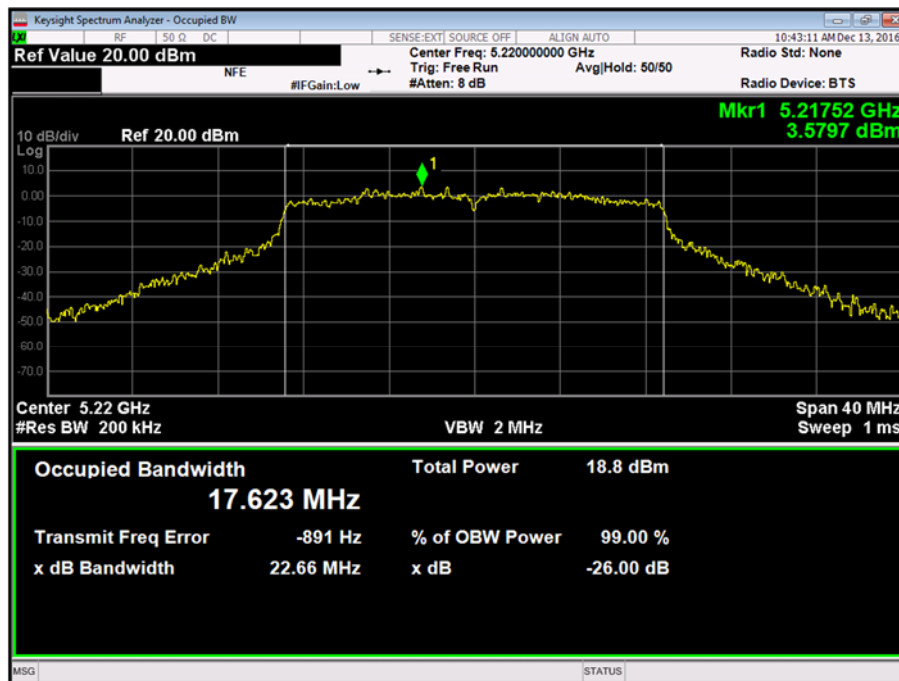


Figure 14 - U-NII 1 - 5220 MHz - 26 dB Bandwidth

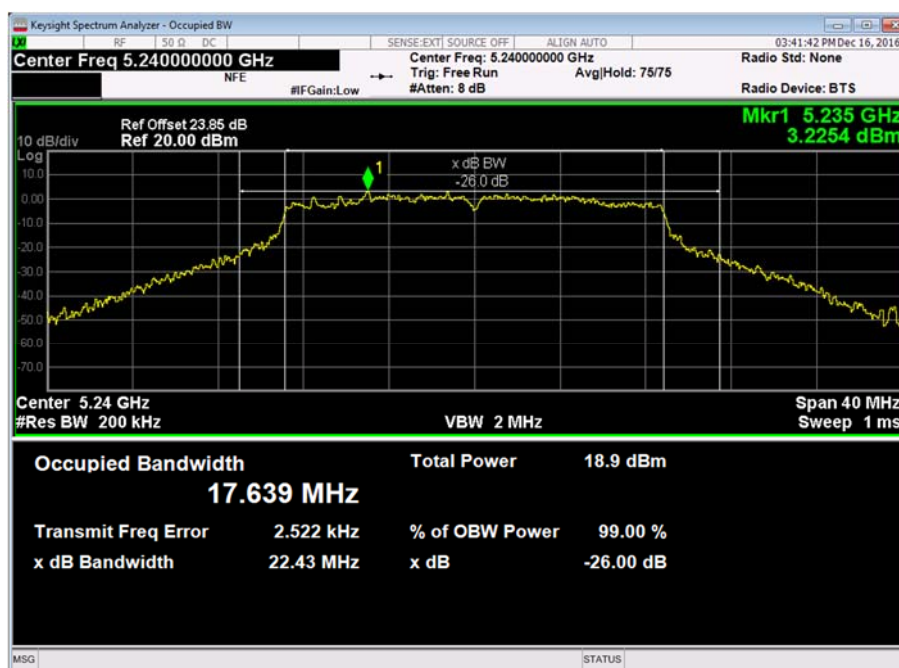


Figure 15 - U-NII 1 - 5240 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5260 MHz	5280 MHz	5320 MHz
21.97	21.60	21.48

Table 60 - U-NII 2a

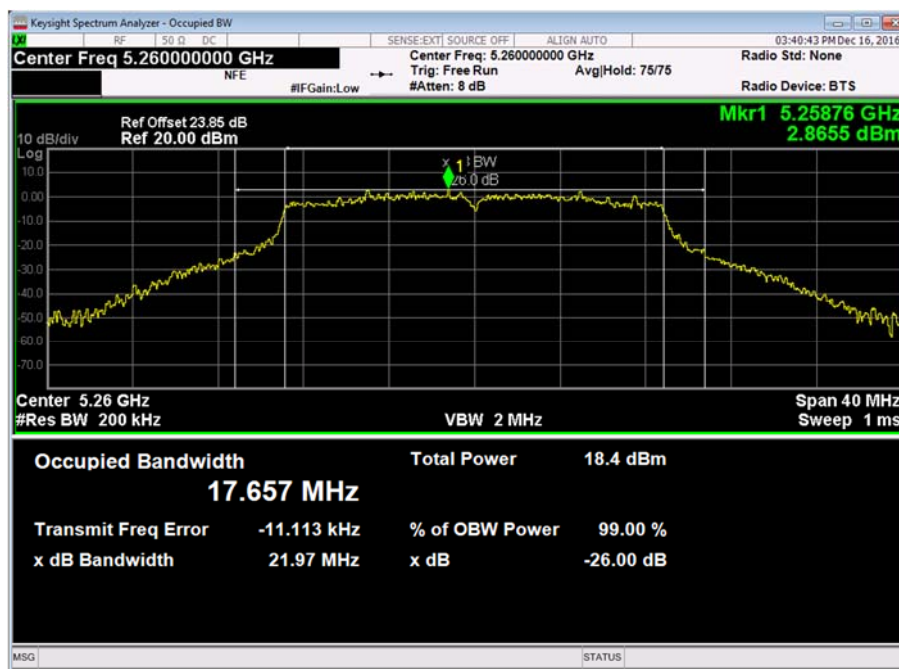


Figure 16 - U-NII 2a - 5260 MHz - 26 dB Bandwidth

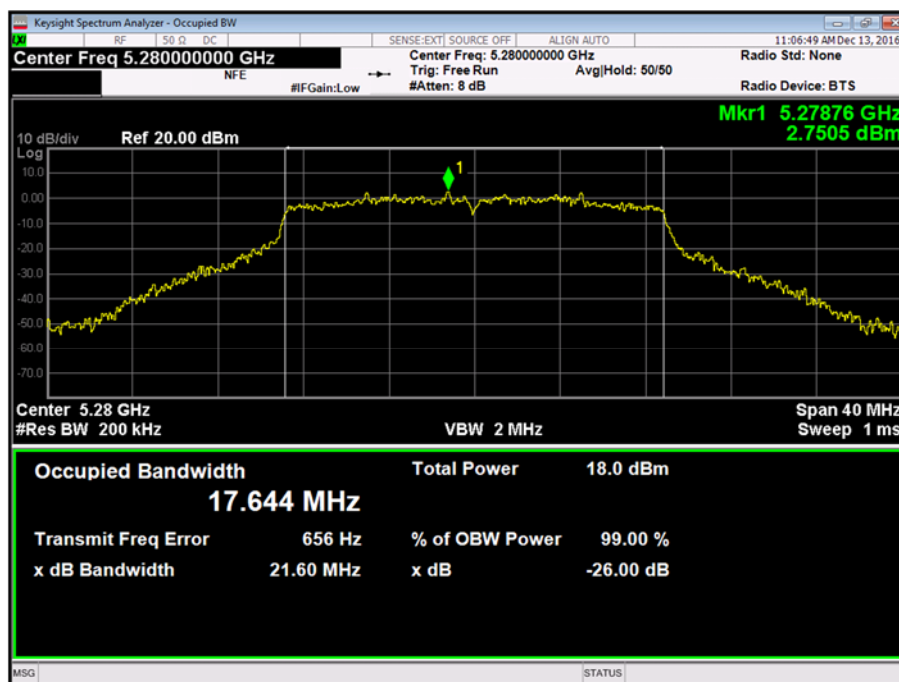


Figure 17 - U-NII 2a - 5280 MHz - 26 dB Bandwidth



Product Service

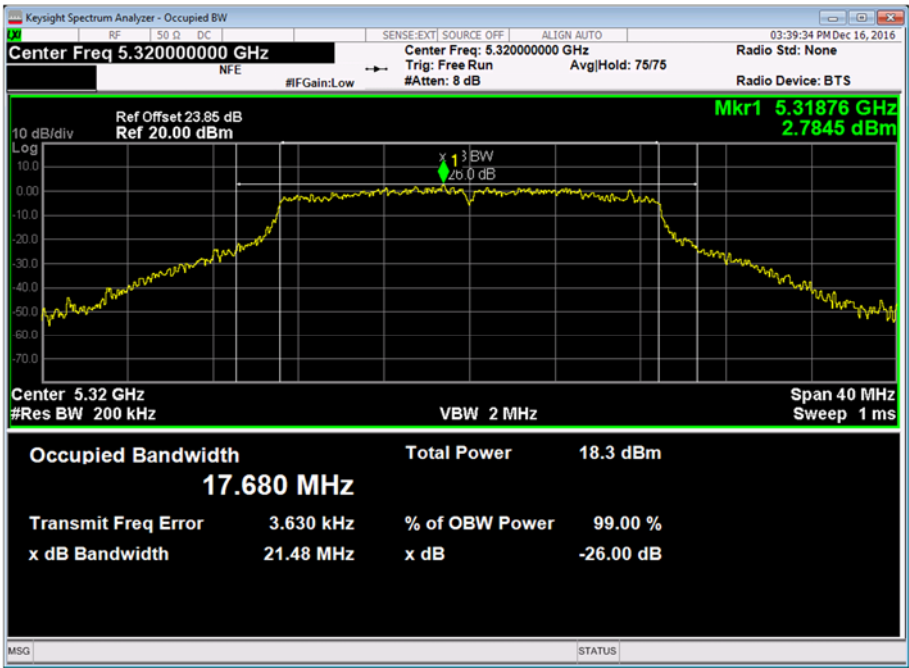


Figure 18 - U-NII 2a - 5320 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5500 MHz	5600 MHz	5700 MHz
21.63	22.85	21.97

Table 61 - U-NII 2c

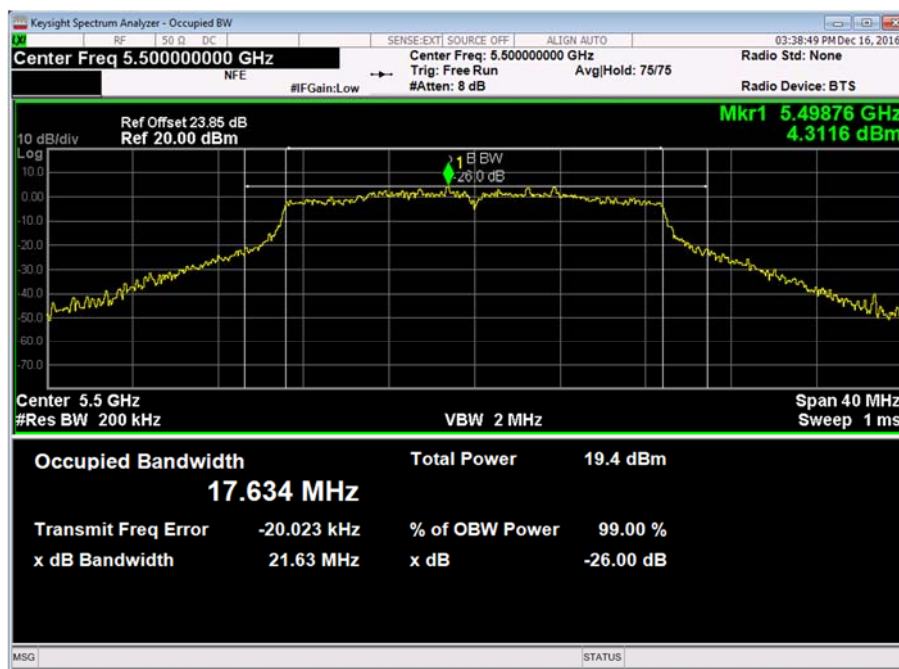


Figure 19 - U-NII 2c - 5500 MHz - 26 dB Bandwidth

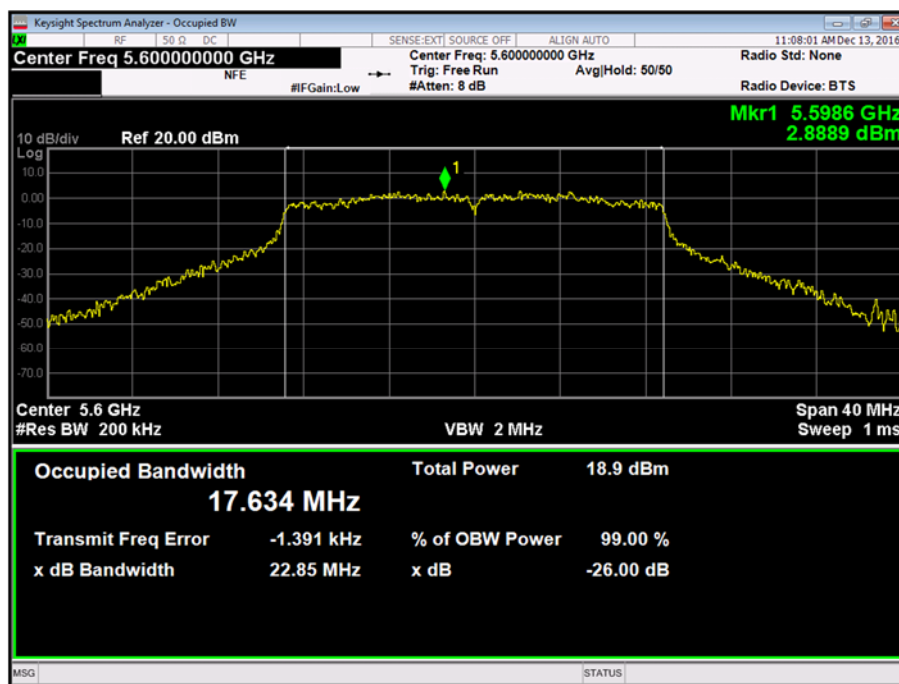


Figure 20 - U-NII 2c - 5600 MHz - 26 dB Bandwidth



Product Service

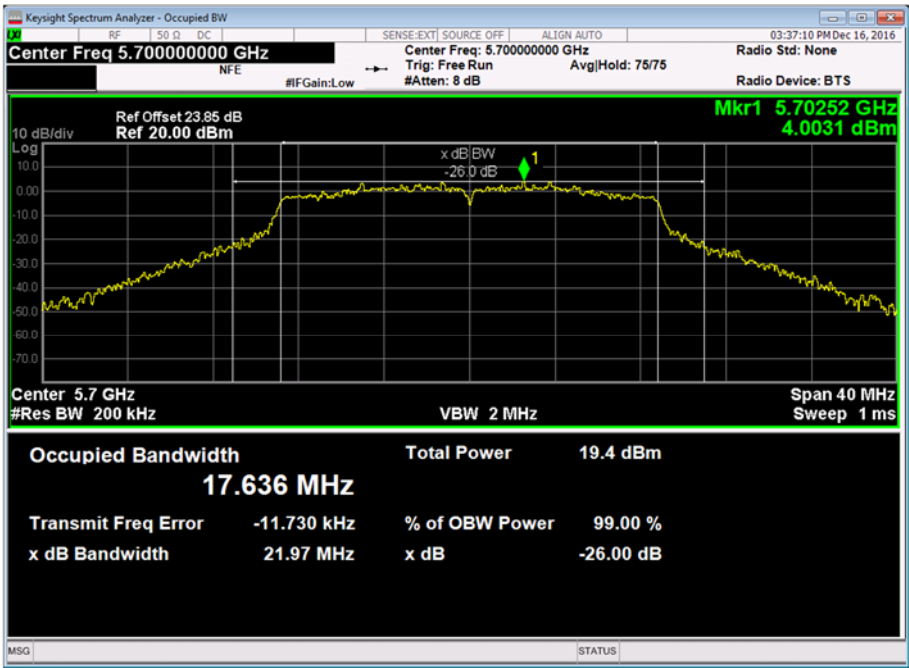


Figure 21 - U-NII 2c - 5700 MHz - 26 dB Bandwidth



6 dB Bandwidth		
5745 MHz	5785 MHz	5825 MHz
17.05	17.37	16.94

Table 62 - U-NII 3

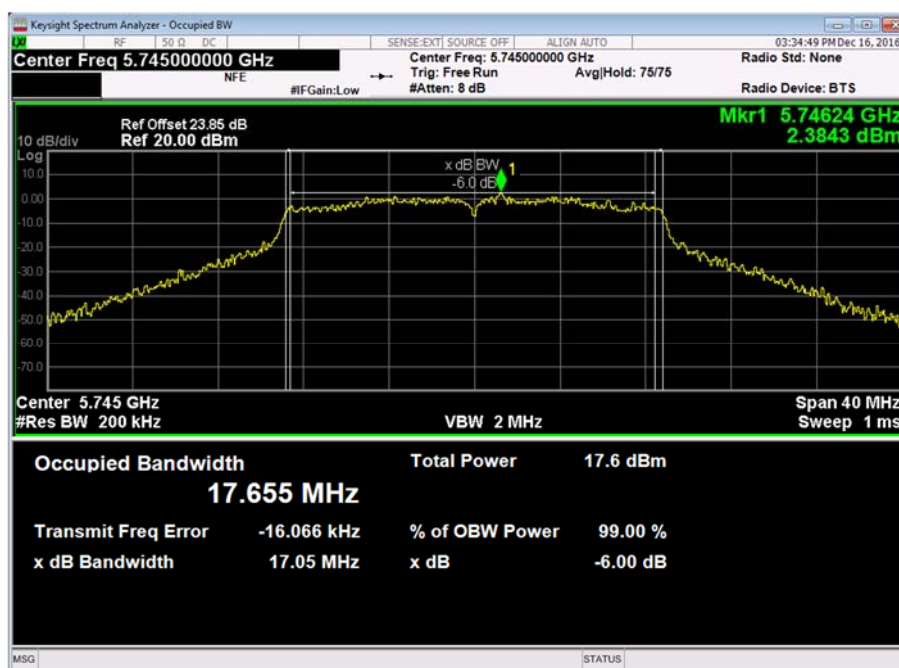


Figure 22 - U-NII3 - 5745 MHz - 6 dB Bandwidth

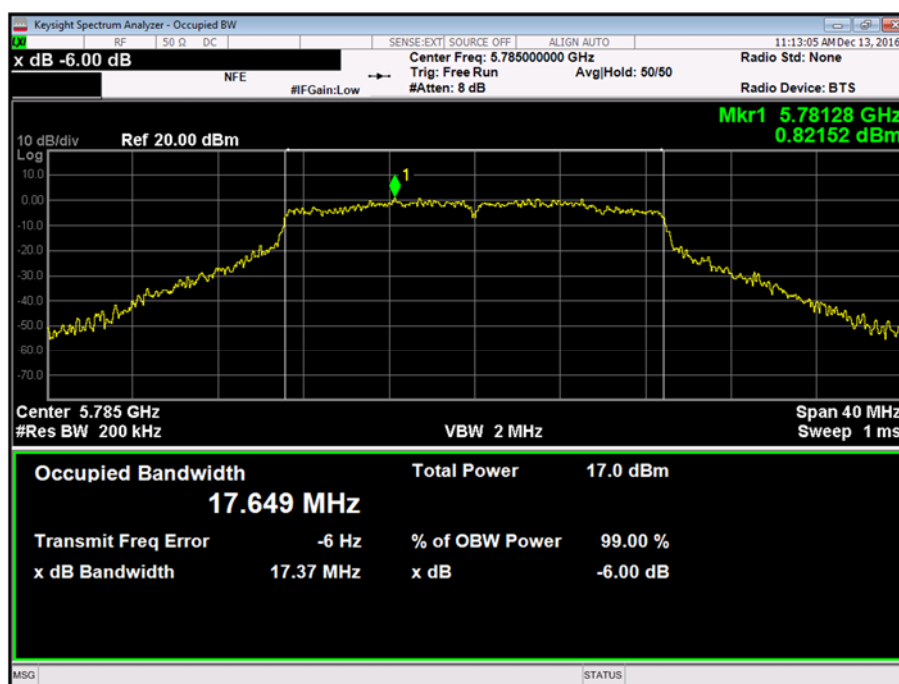


Figure 23 - U-NII 3 - 5745 MHz - 6 dB Bandwidth



Product Service

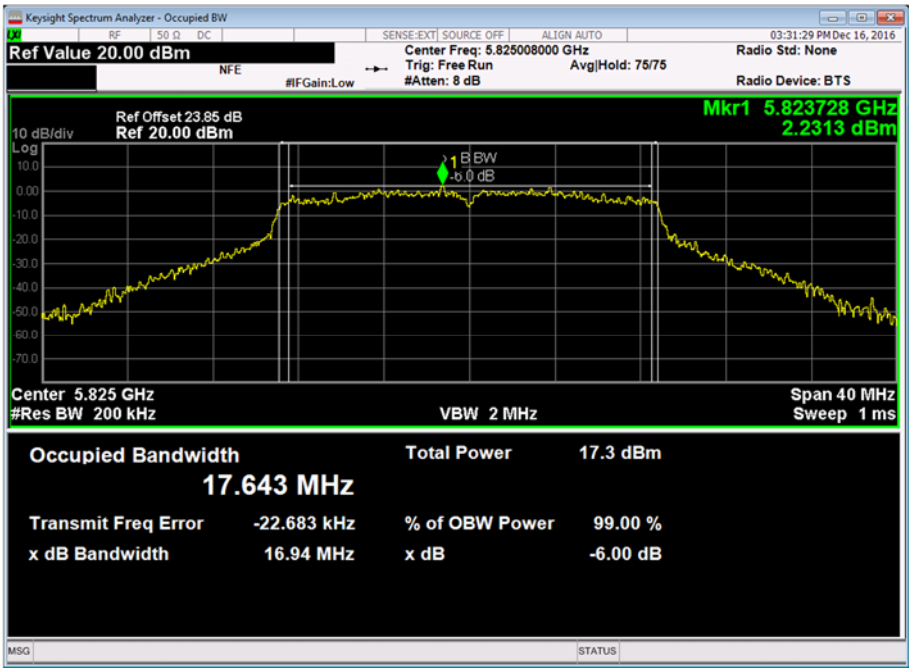


Figure 24 - U-NII 3 - 5745 MHz - 6 dB Bandwidth

FCC 47 CFR Part 15E, Limit Clause 15.407

- 5150 MHz to 5250 MHz: None specified.
- 5250 MHz to 5350 MHz: None specified.
- 5470 MHz to 5725 MHz: None specified.
- 5725 MHz to 5850 MHz: > 500 kHz.

802.11n (40 MHz Bandwidth)

26 dB Bandwidth	
5190 MHz	5230 MHz
45.51	45.34

Table 63 - U-NII 1

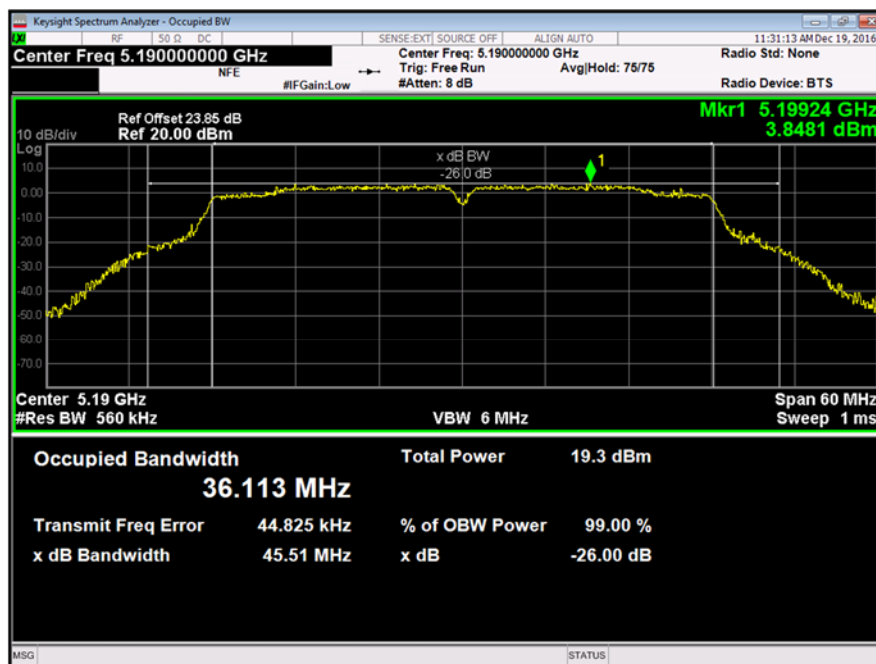


Figure 25 - U-NII 1 - 5190 MHz - 26 dB Bandwidth



Product Service

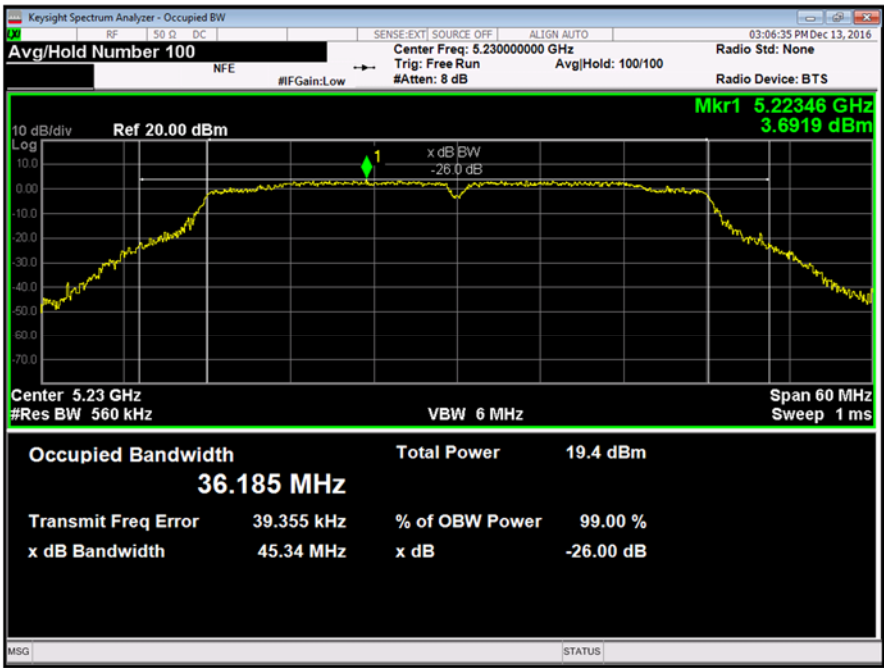


Figure 26 - U-NII 1 - 5230 MHz - 26 dB Bandwidth

26 dB Bandwidth	
5270 MHz	5310 MHz
40.16	45.15

Table 64 - U-NII 2a

Figure 27 - U-NII 2a - 5270 MHz - 26 dB Bandwidth

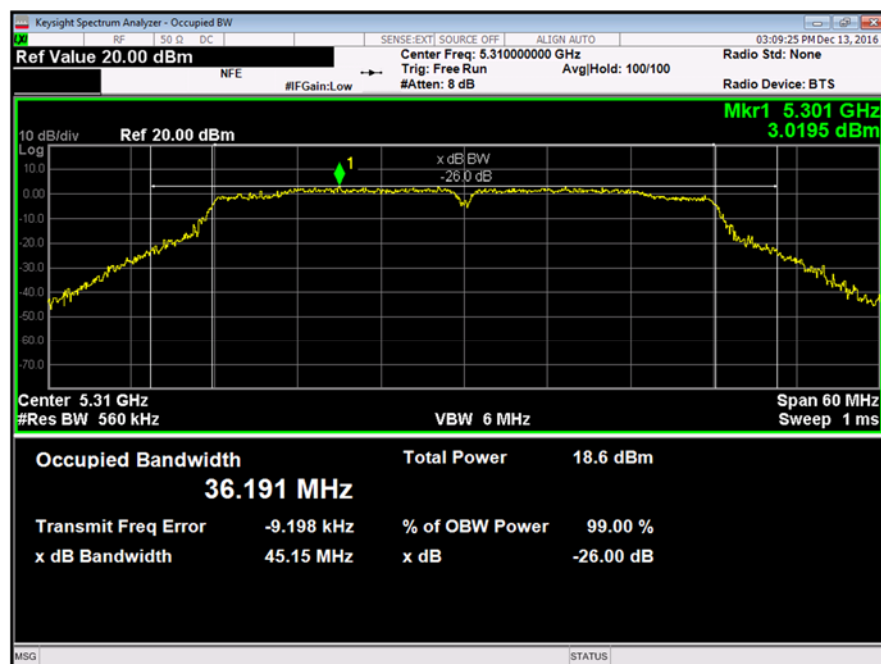


Figure 28 - U-NII 2a - 5310 MHz - 26 dB Bandwidth



Product Service

26 dB Bandwidth		
5510 MHz	5590 MHz	5700 MHz
44.65	45.33	45.57

Table 65 - U-NII 2c

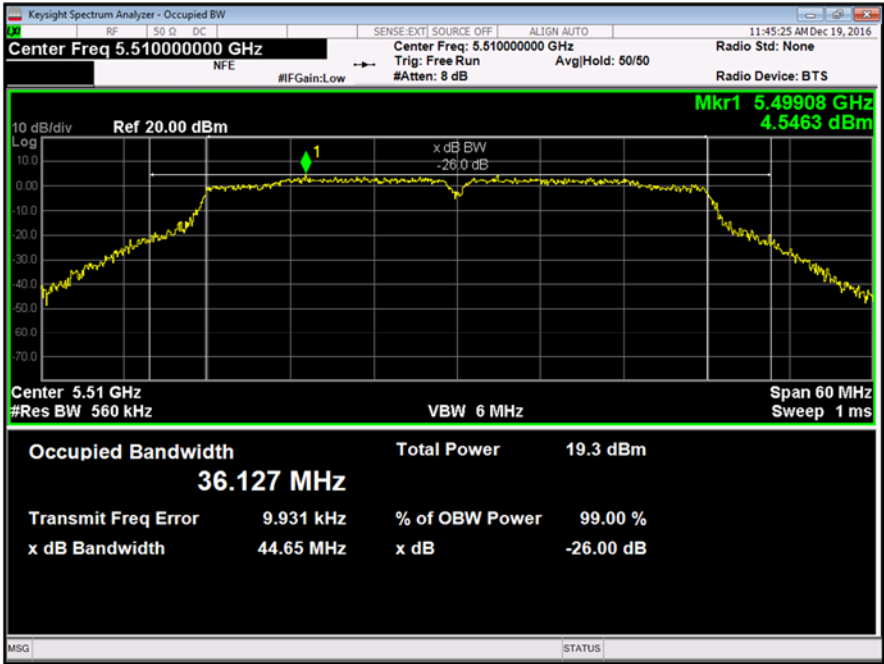


Figure 29 - U-NII 2c - 5510 MHz - 26 dB Bandwidth



Product Service

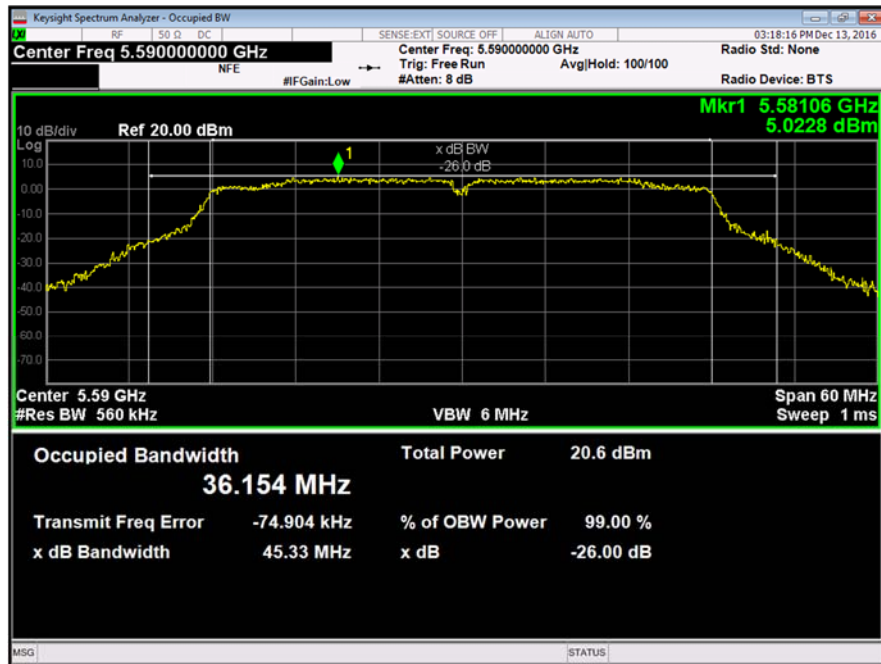


Figure 30 - U-NII 2c - 5590 MHz - 26 dB Bandwidth

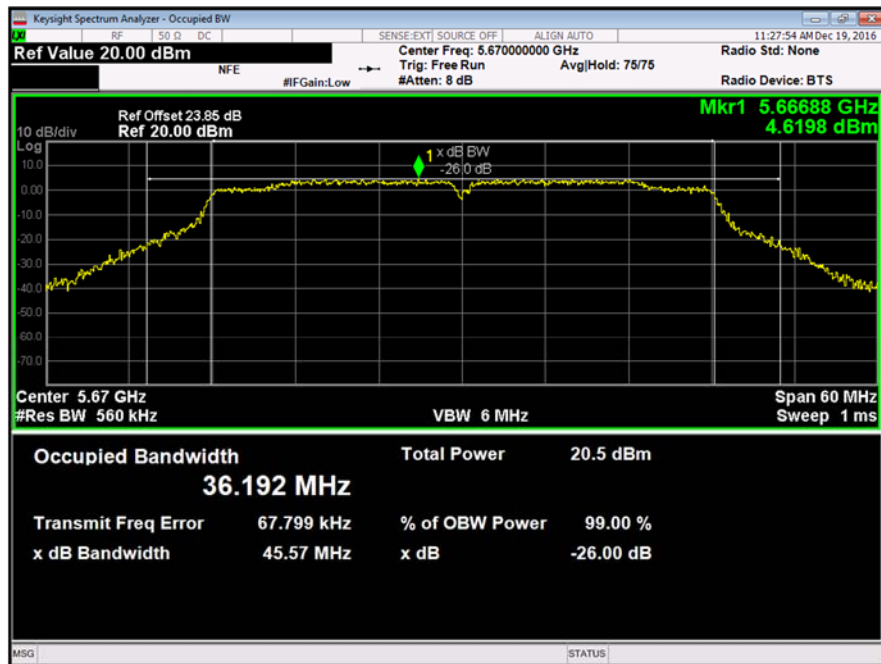


Figure 31 - U-NII 2c - 5670 MHz - 26 dB Bandwidth



6 dB Bandwidth	
5755 MHz	5795 MHz
35.98	35.53

Table 66 - U-NII 3

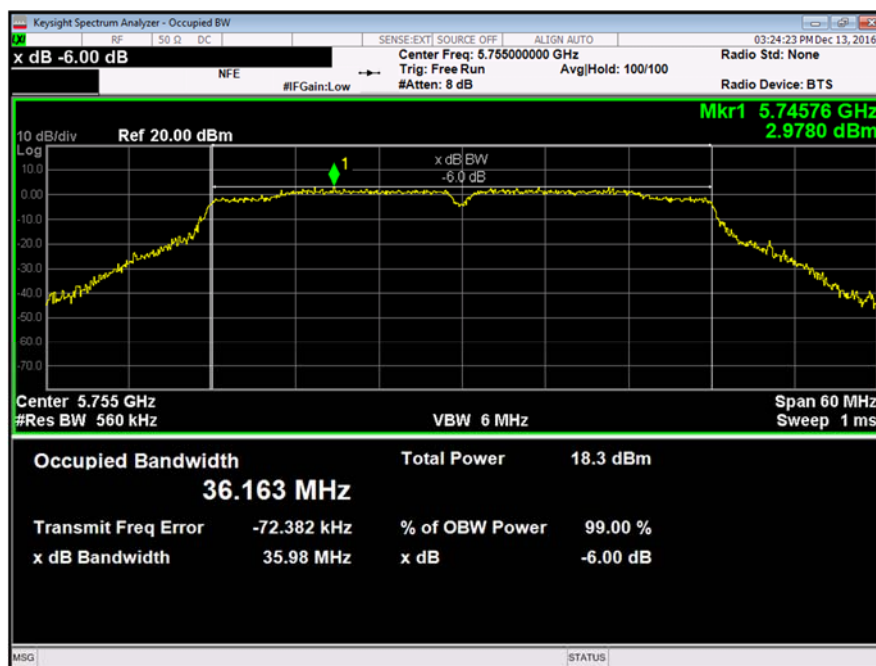


Figure 32 - U-NII 3 - 5755 MHz - 6 dB Bandwidth

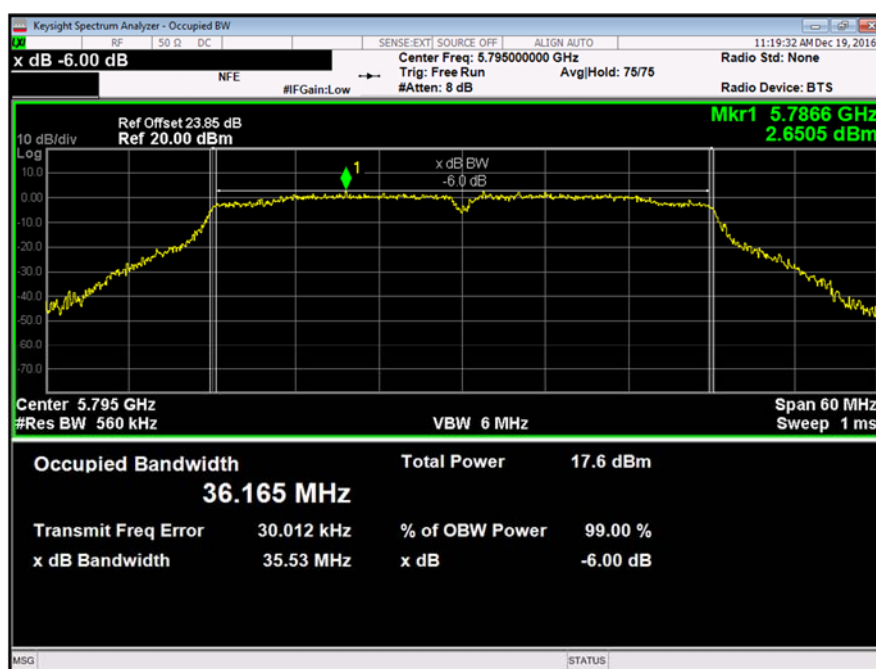


Figure 33 - U-NII 3 - 5795 MHz - 6 dB Bandwidth



Product Service

FCC 47 CFR Part 15E, Limit Clause 15.407

5150 MHz to 5250 MHz: None specified.
5250 MHz to 5350 MHz: None specified.
5470 MHz to 5725 MHz: None specified.
5725 MHz to 5850 MHz: > 500 kHz.



Product Service

802.11ac (20 MHz Bandwidth)

26 dB Bandwidth		
5180 MHz	5220 MHz	5240 MHz
21.54	23.22	22.48

Table 67 - U-NII 1

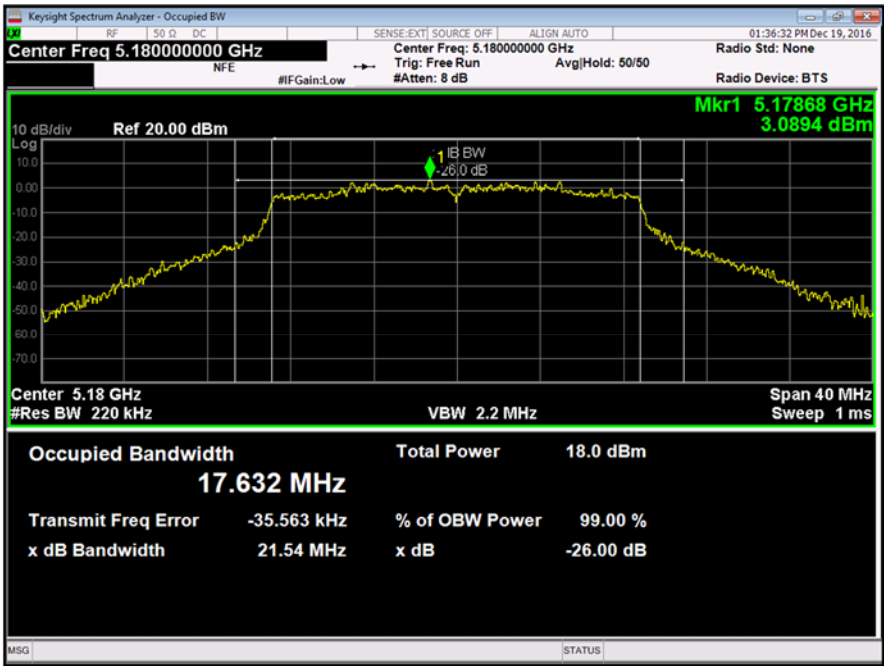


Figure 34 - U-NII 1 - 5180 MHz - 26 dB Bandwidth



Product Service

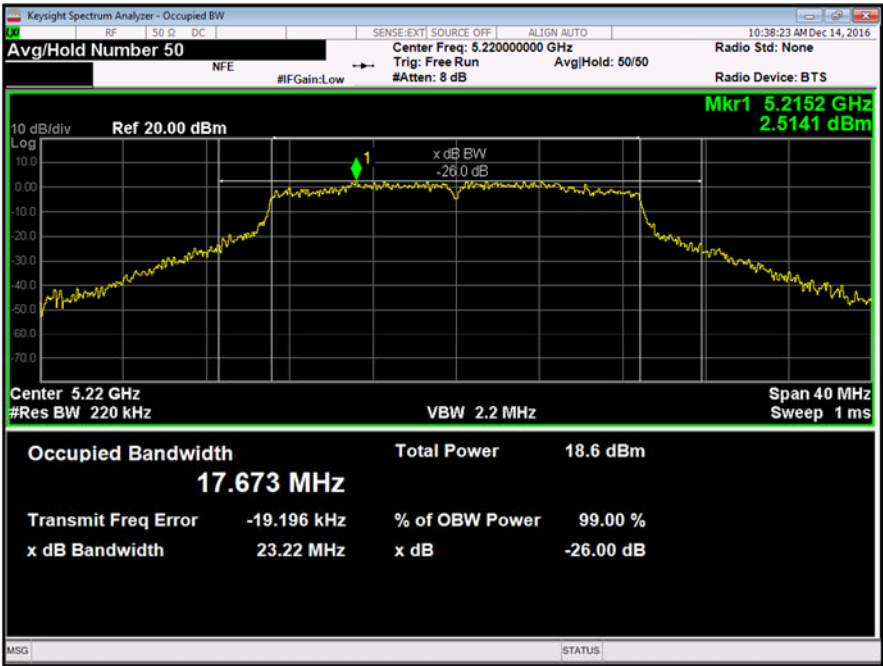


Figure 35 - U-NII 1 - 5220 MHz - 26 dB Bandwidth

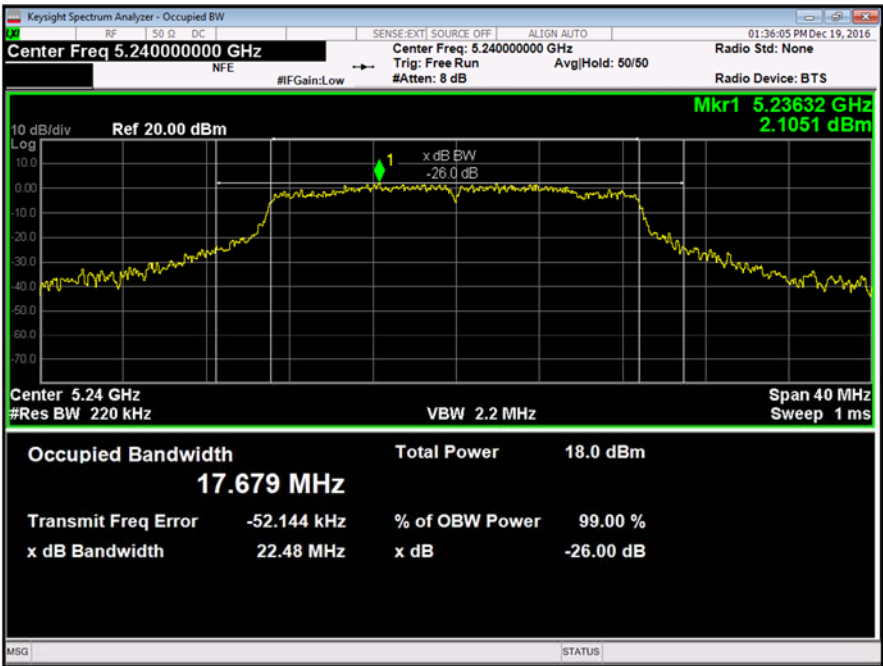


Figure 36 - U-NII 1 - 5240 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5260 MHz	5280 MHz	5320 MHz
23.04	21.48	22.41

Table 68- U-NII 2a

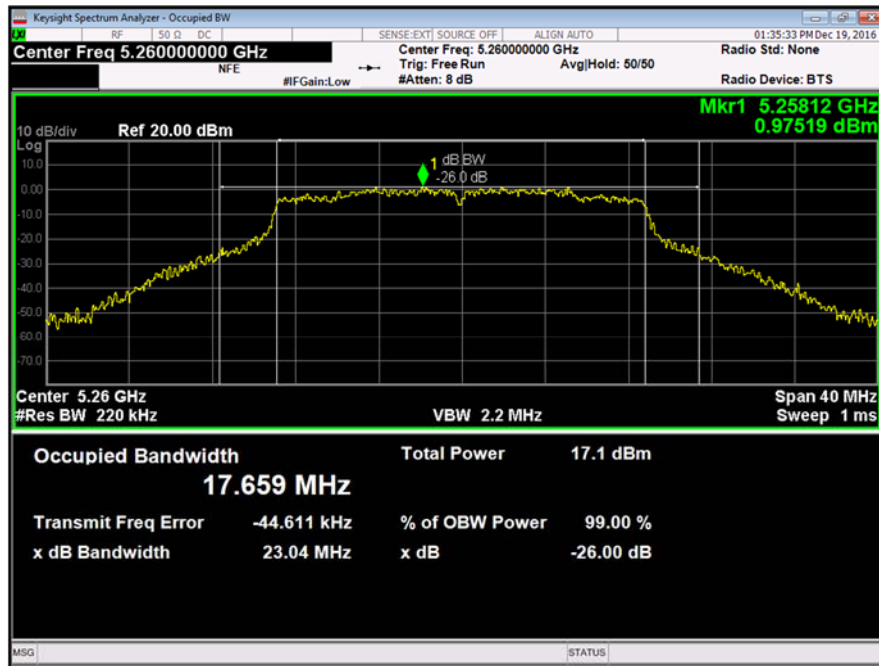


Figure 37 - U-NII 2a - 5260 MHz - 26 dB Bandwidth

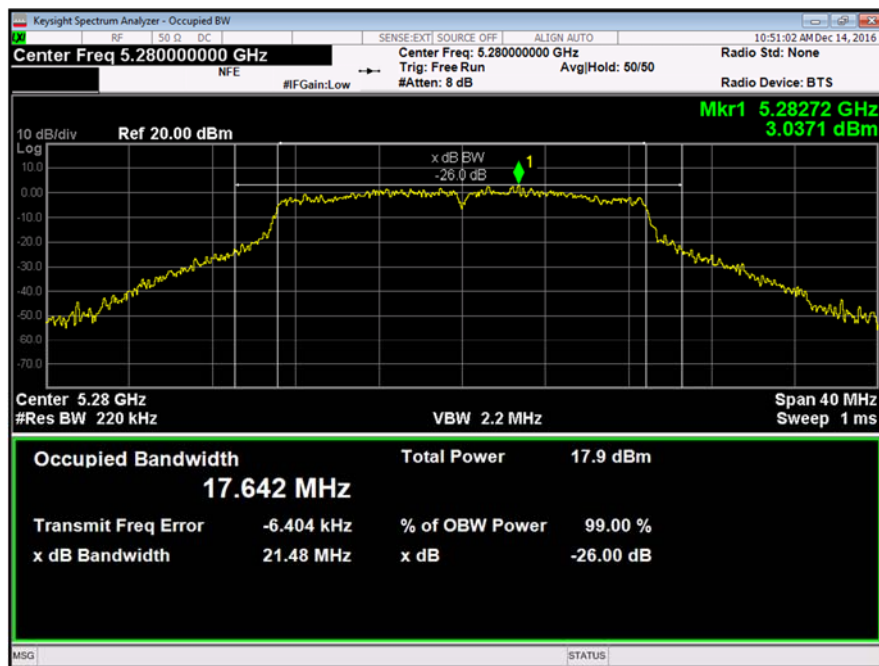


Figure 38 - U-NII 2a - 5260 MHz - 26 dB Bandwidth



Product Service

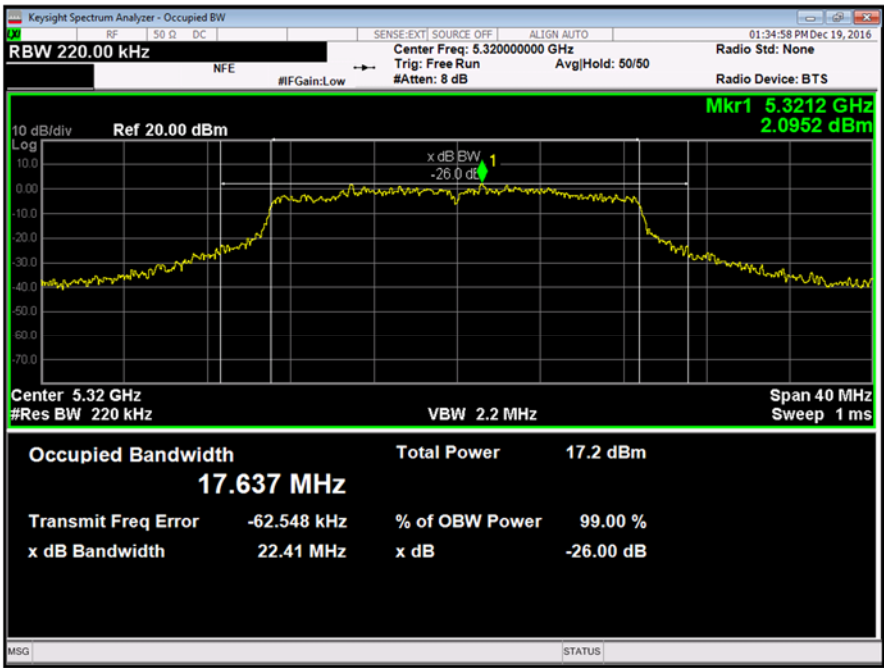


Figure 39 - U-NII 2a - 5320 MHz - 26 dB Bandwidth



26 dB Bandwidth		
5500 MHz	5600 MHz	5700 MHz
23.00	21.62	23.30

Table 69- U-NII 2c

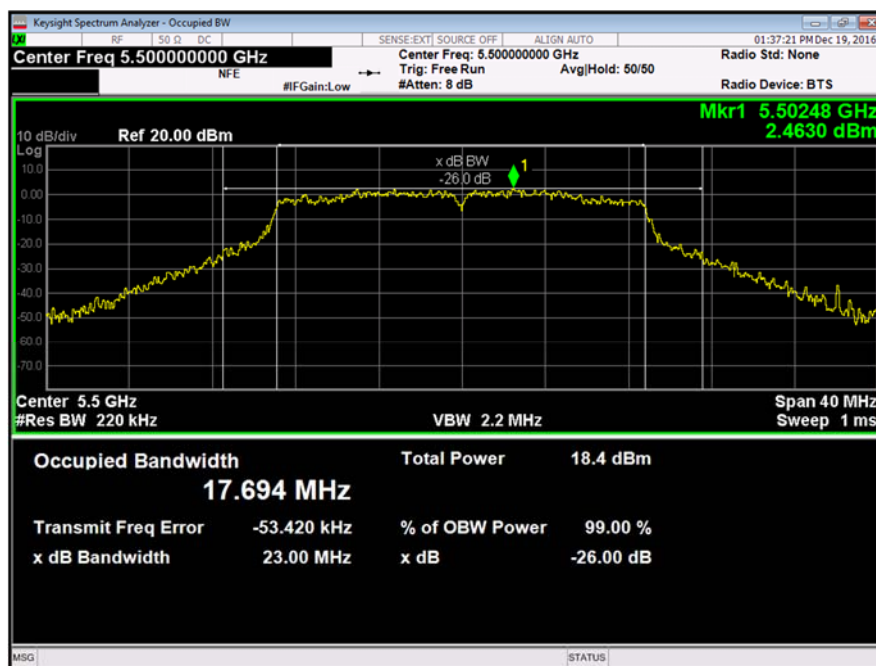


Figure 40 - U-NII 2c - 5500 MHz - 26 dB Bandwidth

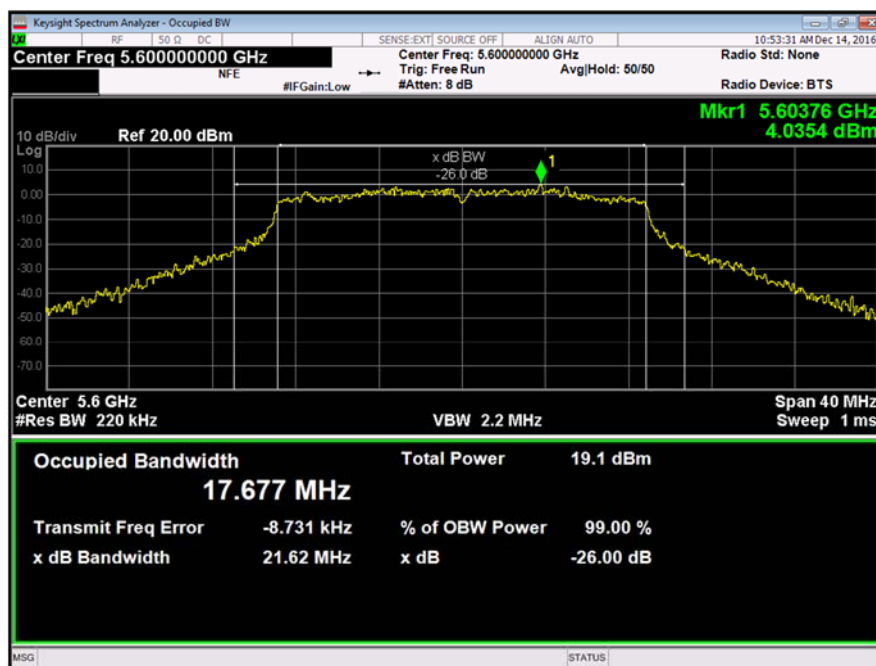


Figure 41 - U-NII 2c - 5600 MHz - 26 dB Bandwidth



Product Service

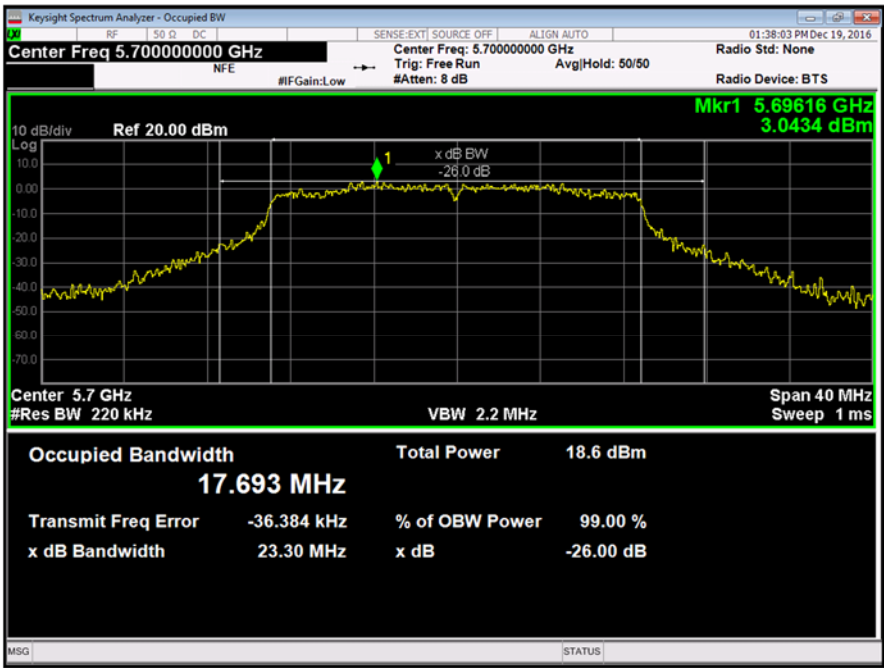


Figure 42 - U-NII 2c - 5700 MHz - 26 dB Bandwidth



6 dB Bandwidth		
5745 MHz	5785 MHz	5825 MHz
17.32	16.93	17.19

Table 70- U-NII 3

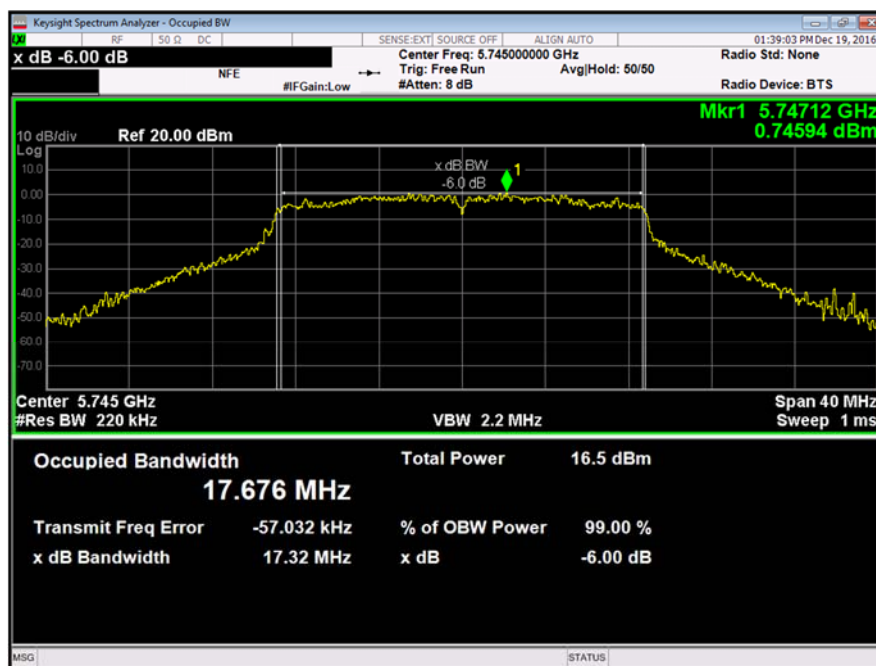


Figure 43 - U-NII 3 - 5745 MHz - 6 dB Bandwidth

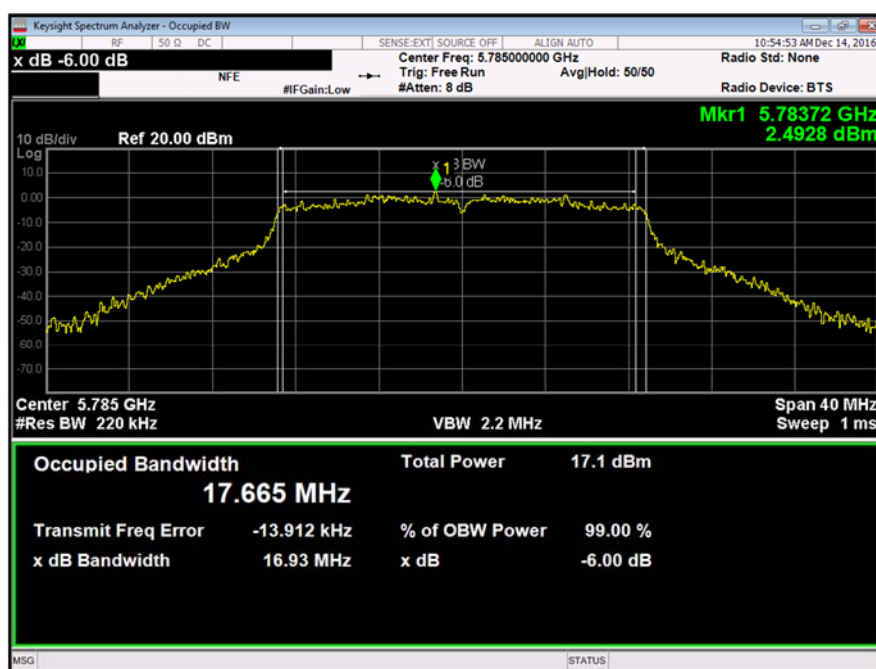


Figure 44 - U-NII 3 - 5785 MHz - 6 dB Bandwidth

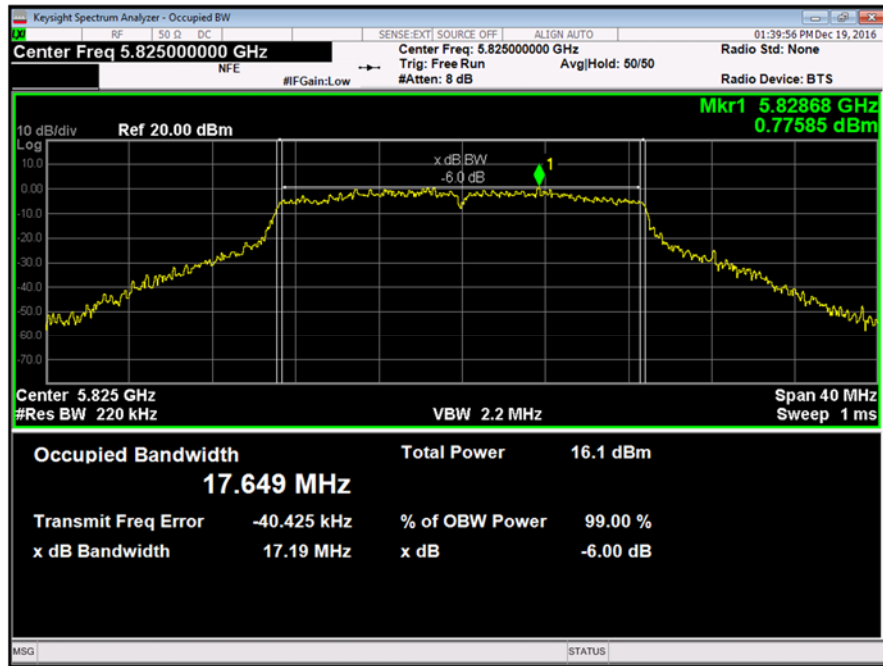


Figure 45 - U-NII 3 - 5825 MHz - 6 dB Bandwidth

FCC 47 CFR Part 15E, Limit Clause 15.407

5150 MHz to 5250 MHz: None specified.
5250 MHz to 5350 MHz: None specified.
5470 MHz to 5725 MHz: None specified.
5725 MHz to 5850 MHz: > 500 kHz.



Product Service

802.11ac (40 MHz Bandwidth)

26 dB Bandwidth	
5190 MHz	5230 MHz
45.44	44.24

Table 71 - U-NII 1

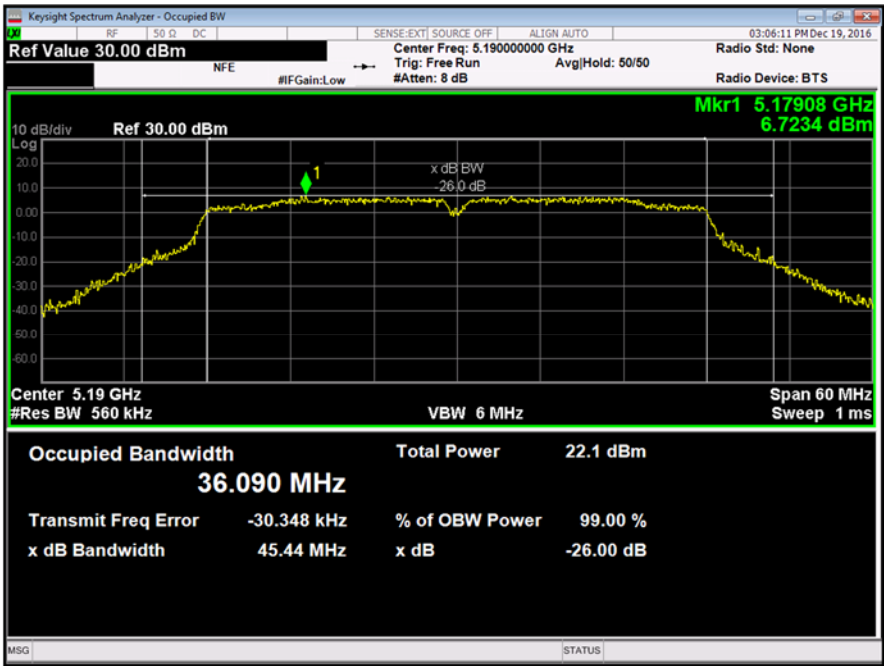


Figure 46 - U-NII 1 - 5190 MHz - 26 dB Bandwidth



Product Service

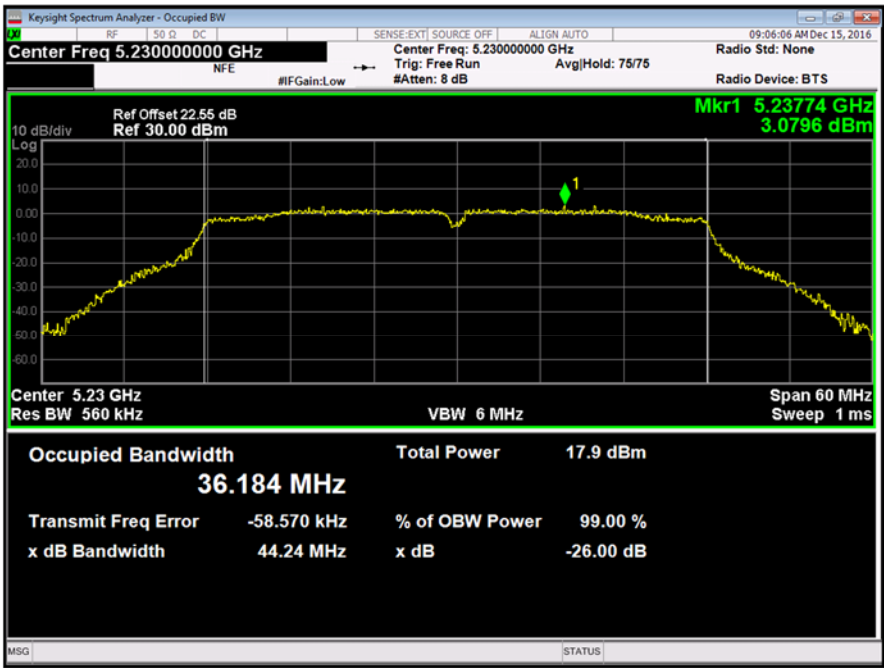


Figure 47 - U-NII 1 - 5230 MHz - 26 dB Bandwidth



Product Service

26 dB Bandwidth	
5270 MHz	5310 MHz
44.94	45.27

Table 72- U-NII 2a

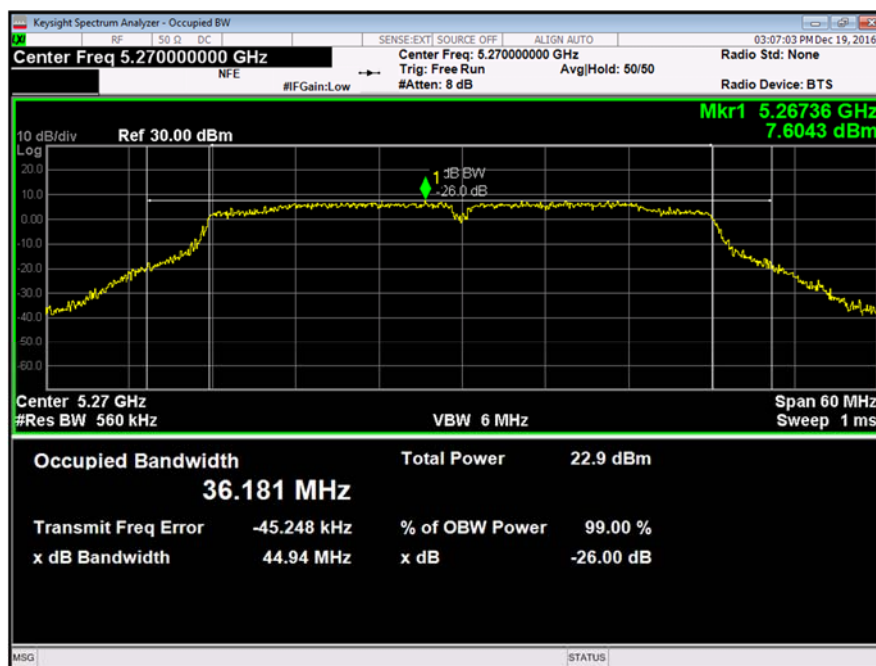


Figure 48 - U-NII 2a - 5270 MHz - 26 dB Bandwidth

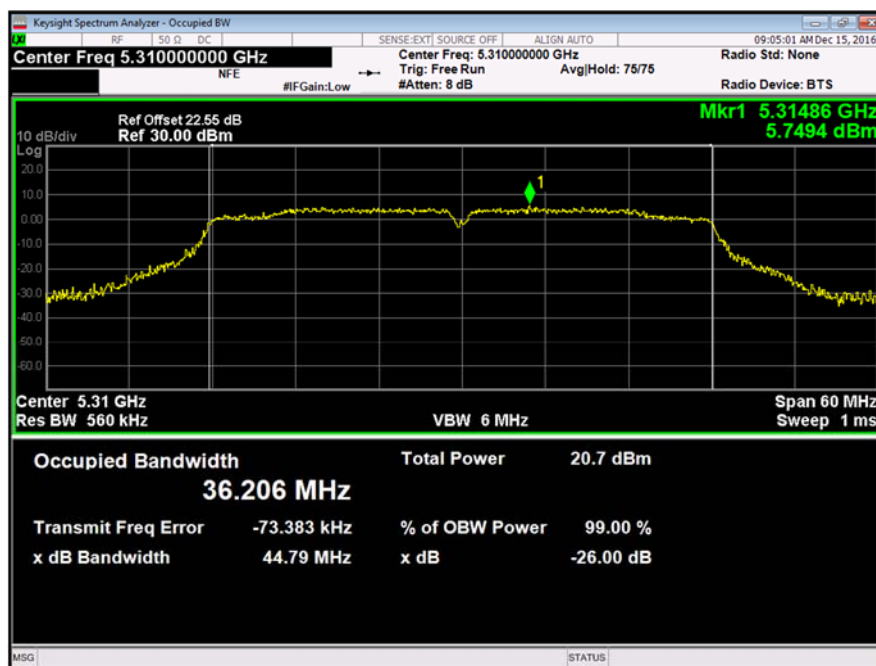


Figure 49 - U-NII 2a - 5310 MHz - 26 dB Bandwidth



Product Service

26 dB Bandwidth		
5510 MHz	5590 MHz	5670 MHz
43.87	44.70	43.56

Table 73- U-NII 2c

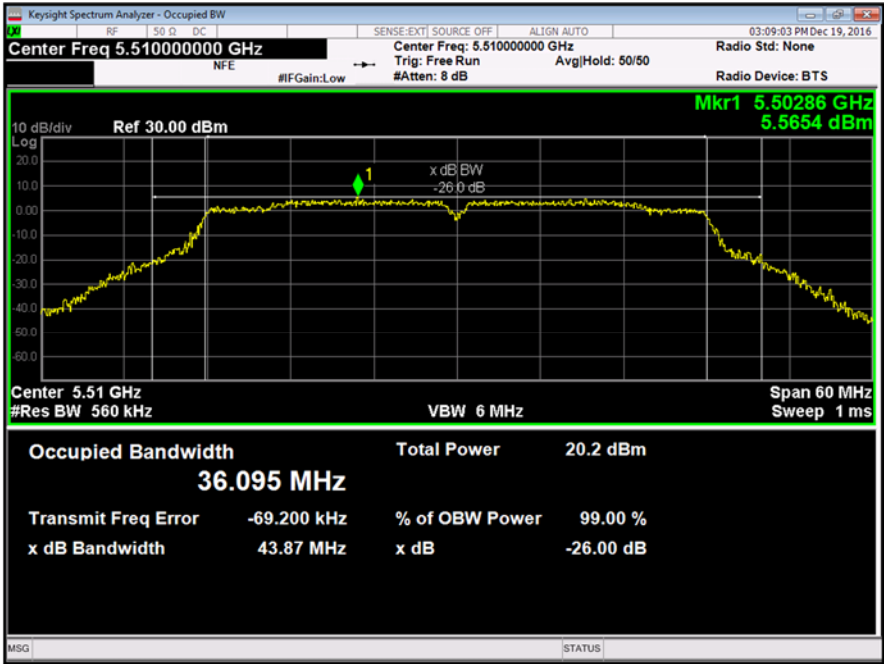


Figure 50 - U-NII 2c - 5510 MHz - 26 dB Bandwidth



Product Service

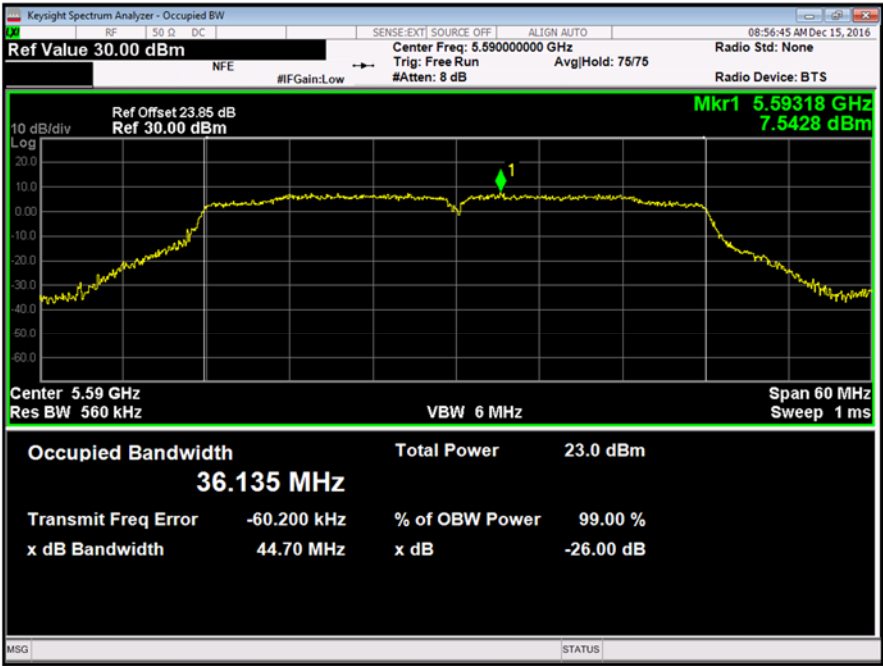


Figure 51 - U-NII 2c - 5590 MHz - 26 dB Bandwidth

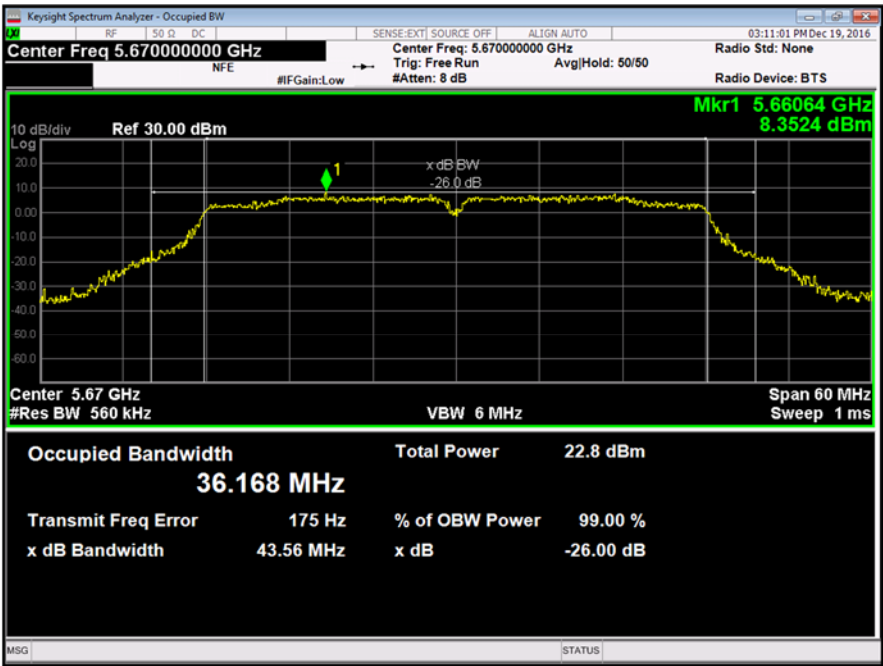


Figure 52 - U-NII 2c - 5670 MHz - 26 dB Bandwidth



6 dB Bandwidth	
5755 MHz	5795 MHz
35.91	30.81

Table 74- U-NII 3

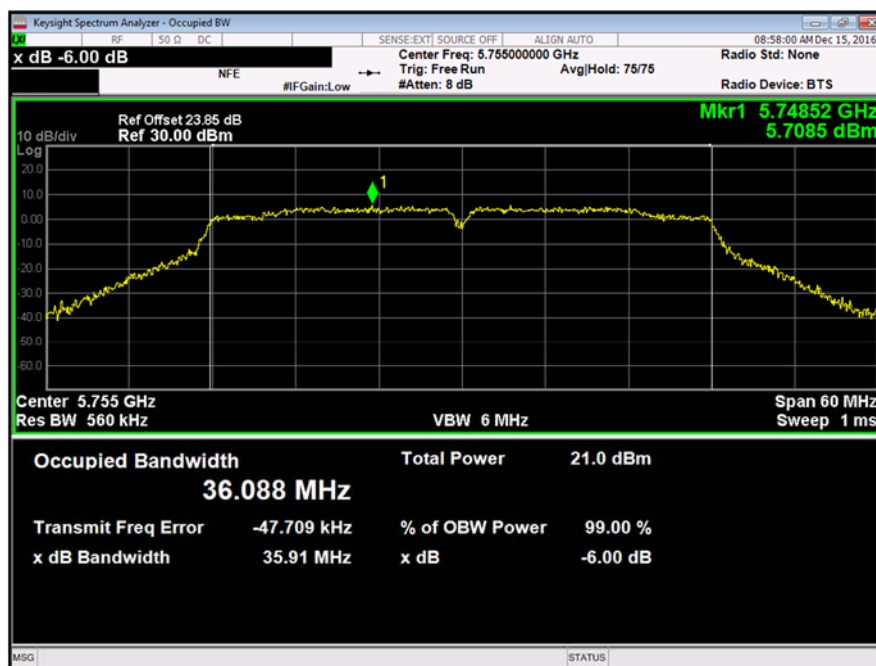


Figure 53 - U-NII 3 - 5755 MHz - 6 dB Bandwidth

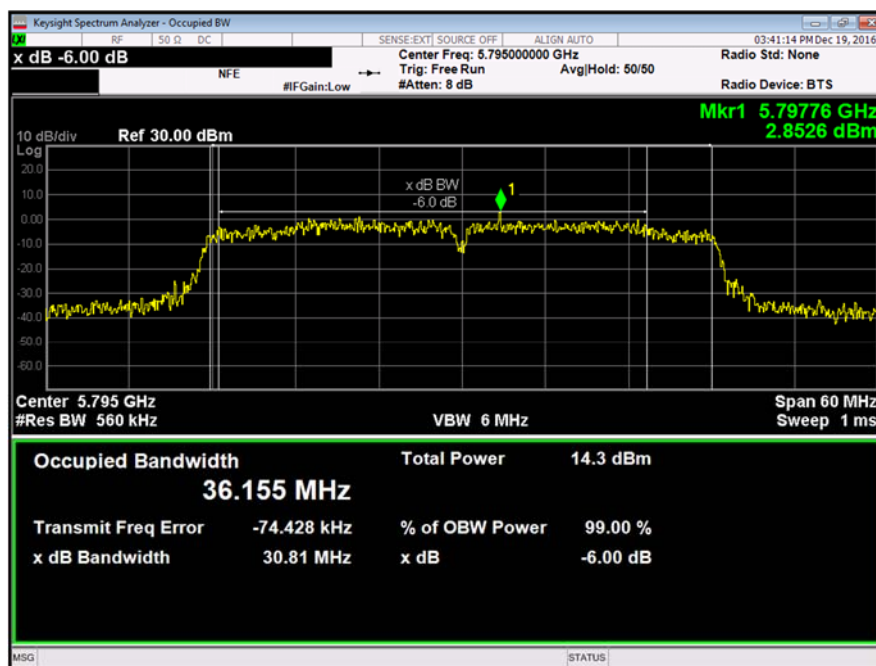


Figure 54 - U-NII 3 - 5795 MHz - 6 dB Bandwidth



Product Service

FCC 47 CFR Part 15E, Limit Clause 15.407

5150 MHz to 5250 MHz: None specified.

5250 MHz to 5350 MHz: None specified.

5470 MHz to 5725 MHz: None specified.

5725 MHz to 5850 MHz: > 500 kHz.



Product Service

802.11ac (80 MHz Bandwidth)

26 dB Bandwidth
5210 MHz
84.73

Table 75 - U-NII 1

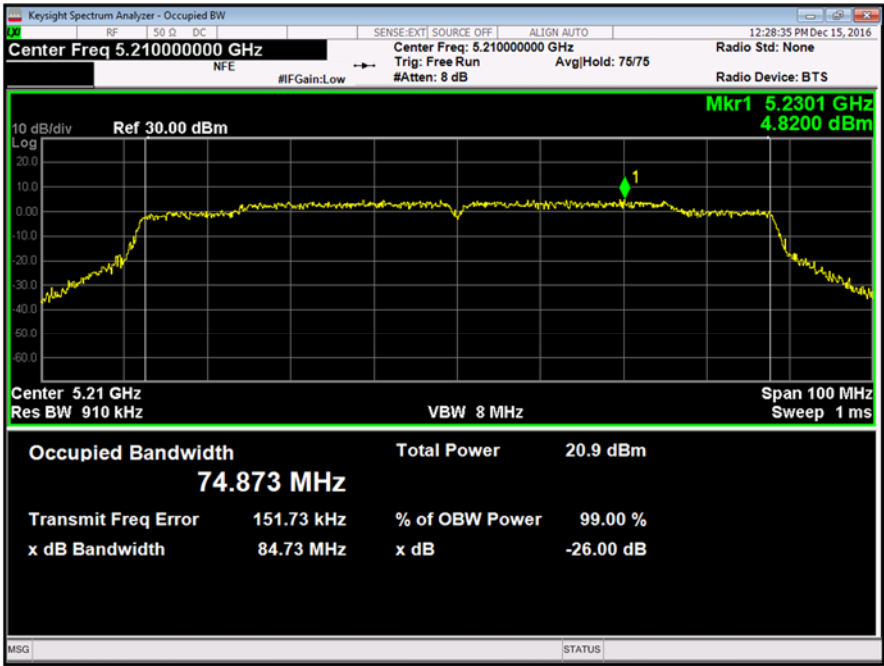


Figure 55 - U-NII 1 - 5210 MHz - 26 dB Bandwidth



Product Service

26 dB Bandwidth
5290 MHz
82.45

Table 76- U-NII 2a

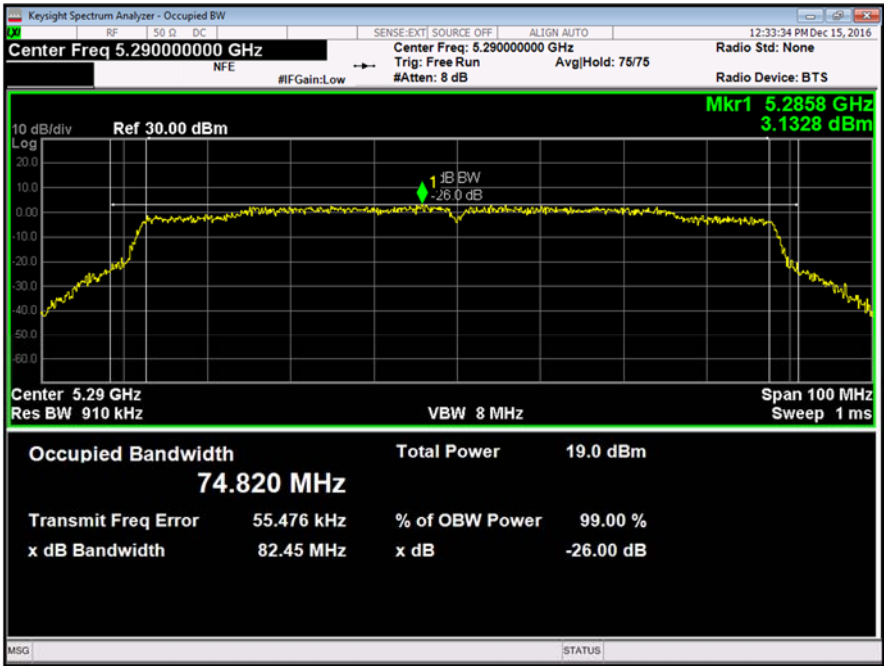


Figure 56 - U-NII 1 - 5290 MHz - 26 dB Bandwidth

26 dB Bandwidth	
5530 MHz	5610 MHz
83.48	85.33

Table 77- U-NII 2c

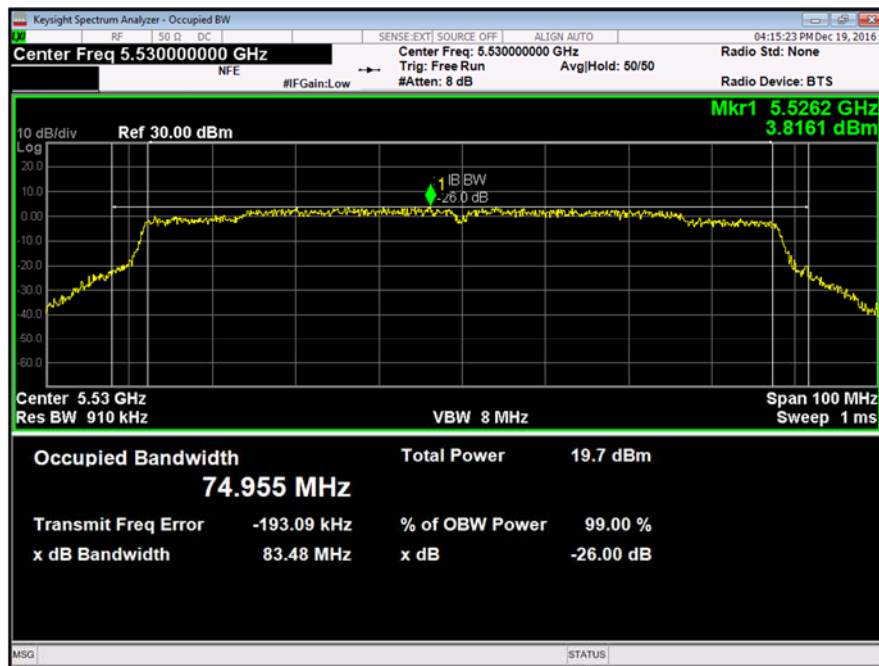


Figure 57 - U-NII 2c - 5530 MHz - 26 dB Bandwidth

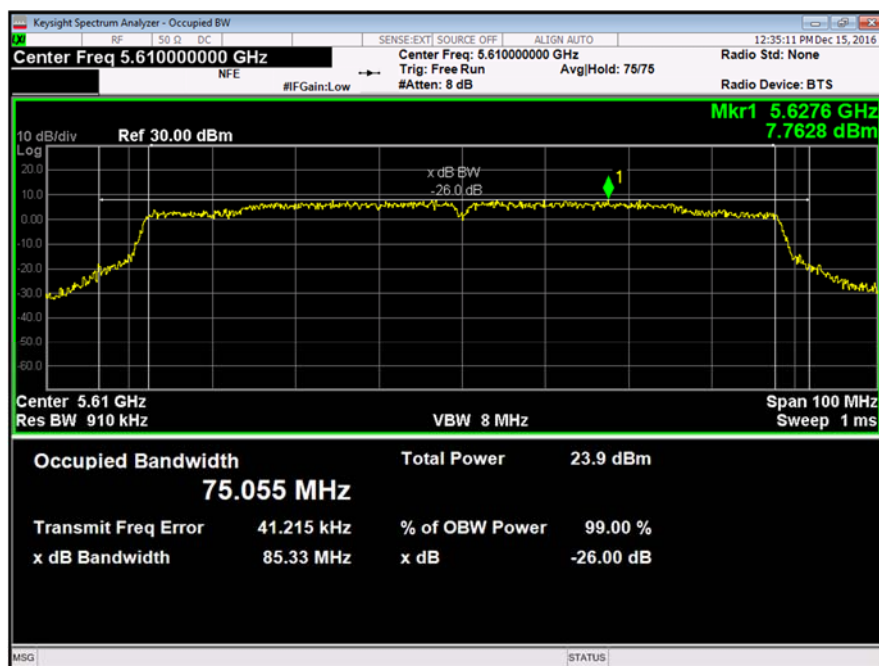


Figure 58 - U-NII 2c - 5610 MHz - 26 dB Bandwidth



26 dB Bandwidth
5775 MHz
74.39

Table 78- U-NII 3

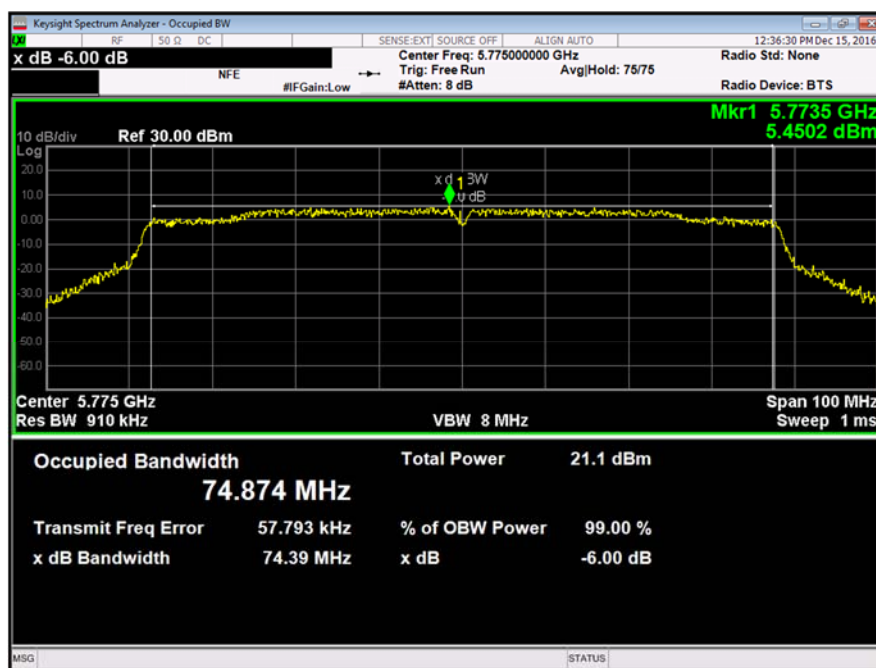


Figure 59 - U-NII 3 - 5775 MHz - 6 dB Bandwidth

FCC 47 CFR Part 15E, Limit Clause 15.407

5150 MHz to 5250 MHz: None specified.
5250 MHz to 5350 MHz: None specified.
5470 MHz to 5725 MHz: None specified.
5725 MHz to 5850 MHz: > 500 kHz.

2.3.7 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 1.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
Rubidium Standard	Rohde & Schwarz	XSRM	1316	6	05-Mar-2017
Hygrometer	Rotronic	I-1000	3220	12	23-Aug-2017
Frequency Standard	Spectracom	Secure Sync 1200-0408-0601	4393	6	05-Mar-2017
PXA Signal Analyser	KeysigMCSTechnologies	N9030A	4654	12	06-Oct-2017

Table 79



2.4 Authorised Band Edges

2.4.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407(b)

2.4.2 Equipment Under Test and Modification State

DAQRI Smart Helmet, S/N: 1829C-DC8-6UPN9XJWJW - Modification State 0

2.4.3 Date of Test

20-February-2017 to 25-February-2017

2.4.4 Test Method

The test was performed in accordance with ANSI C63.10, Clause 12.7.4.

Peak measurements were made in accordance with ANSI C63.10, Clause 12.7.6.

Average measurements were made in accordance with ANSI C63.10, Clause 12.7.7.3.

In the following plots the indicated limit line equated to -27dBm/MHz.

2.4.5 Environmental Conditions

Ambient Temperature	18.0 - 21.2 °C
Relative Humidity	31.0 - 49.8 %