RF TEST REPORT

Report No.: FCC_RF_SL18091002-RUC-050_U-NII-1-3 Rev_1.0
Supersede Report No.: FCC_RF_SL18091002-RUC-050_U-NII-1-3

Applicant	:	Ruckus Wireless, Inc.
Product Name	:	R750 Access Point
Model No.	:	R750
Test Standard	:	47 CFR 15.407
Test Method	:	ANSI C63.10:2013 789033 D02 General U-NII Test Procedures New Rules v02r01 662911 D01 Multiple Transmitter Output v02r01
FCC ID	:	S9GR750
IC	:	5912A-R750
Dates of test	:	02/14/2019-04/08/2019
Issue Date	:	06/03/2019
Test Result	:	☒ Pass ☐ Fail
Equipment complied with the specification [X] Equipment did not comply with the specification [ ]		

This Test Report is Issued Under the Authority of:	
Deon	
Deon Dai	**Chen Ge**
Test Engineer	Engineer Reviewer
This test report may be reproduced in full only **Test result presented in this test report is applicable to the tested sample only**	

Issued By:
SIEMIC Laboratories
775 Montague Expressway, Milpitas, 95035 CA

ACCREDITED
TESTING CERT # 2742-01

Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC, RF/Wireless, Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless, Telecom
Taiwan	BSMI, NCC, NIST	EMC, RF, Telecom, Safety
Hong Kong	OFTA, NIST	RF/Wireless, Telecom
Australia	NATA, NIST	EMC, RF, Telecom, Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF, Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC, RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom, Safety
Israel	MOC, NIST	EMC, RF, Telecom, Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC, RF, Telecom
Canada	IC FCB, NIST	EMC, RF, Telecom
Singapore	iDA, NIST	EMC, RF, Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

CONTENTS

1 REPORT REVISION HISTORY 4
2 EXECUTIVE SUMMARY 5
3 CUSTOMER INFORMATION 5
4 TEST SITE INFORMATION 5
5 MODIFICATION 5
6 EUT INFORMATION 6
6.1 EUT Description 6
6.2 Radio Description 6
7 SUPPORTING EQUIPMENT/SOFTWARE AND CABLING DESCRIPTION 8
7.1 Supporting Equipment 8
7.2 Cabling Description 8
7.3 Test Software Description 8
8 TEST SUMMARY 9
9 MEASUREMENT UNCERTAINTY 10
10 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS 11
10.1 Antenna Requirement 11
10.2 Conducted Emissions 12
10.3 26 dB Bandwidth & 6 dB Bandwidth 15
10.4 Maximun Conducted Output Power 27
10.5 Maximum Power Spectral Density 69
10.6 Band Edge and Emission Mask Measurement 112
10.7 Radiated Emissions below 1GHz 149
10.8 Radiated Spurious Emissions above 1GHz 151
ANNEX A. TEST INSTRUMENT 160
ANNEX B. SIEMIC ACCREDITATION 161

1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_RF_SL18091002-RUC-050_U-NII-1-3	None	Original	04/09/2019
FCC_RF_SL18091002-RUC-050_U-NII-1-3 Rev_1.0	Rev_1.0	Update Per Reivew	06/03/2019

2 Executive Summary

The purpose of this test program was to demonstrate compliance of following product

Company:	Ruckus Wireless, Inc.
Product:	R750 Access Point
Model:	R750

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	:	Ruckus Wireless, Inc.
Applicant Address	:	350 West Java Drive, Sunnyvale, California 94089 U.S.A
Manufacturer Name	:	Ruckus Wireless, Inc.
Manufacturer Address	:	350 West Java Drive, Sunnyvale, California 94089 U.S.A

4 Test site information

Lab performing tests	SIEMIC Laboratories
Lab Address	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	540430
IC Test Site No.	4842D
VCCI Test Site No.	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name	R750 Access Point
Model No.	R750
Trade Name	Ruckus
Serial No.	431806000043
Host Model No.	N/A
Input Power	Power Adapter: 48VDC 0.75A, or 48VDC (PoE)
Power Adapter Manu/Model	Ruckus / 740-64277-001
Power Adapter SN	N/A
Date of EUT received	02/18/2019
Equipment Class/ Category	DTS, UNII
Port/Connectors	Power Port, Ethernet*2, USB

6.2 Radio Description

Radio Type	802.11a/n (20MHz)	802.11ac/ax (20MHz)	802.11n(40MHz)	802.11ac/ax (40MHz)	802.11ac/ax (80MHz)
Operating Frequency	5180-5240MHz 5745-5825MHz		5190-5230MHz 5755-5795MHz		5210MHz 5775MHz
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM,256QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM,256QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Channel Spacing	20MHz		40MHz		80MHz
Number of Channels	9		4		2
Antenna Type	PCB Antenna				
Antenna Gain (Peak)	5GHz: 3dBi				
Antenna Connector Type	I-pex				
Note	2.4GHz and 5GHz Radio transmit simultaneously				

Note: EUT has 4 antennas, 2 antennas are in horizontal polarity, and 2 antennas in vertical polarity. The 802.11b/g/a is in CDD mode with all 4 antenna transmit simultaneously.

Band	Antenna Port/Antenna Polarity			
	Chain 0	Chain 1	Chain 2	Chain 3
2.4G	V	H	H	V
5G	V	H	V	H

662911 D01 Multiple Transmitter Output v02r01

Since they're in 90 deg phase shift between the horizontal and vertical antennas, for radiated limit, the result from different polarization antenna will not be combined. So only the result for 2 vertical poparity antennas and 2 horizontal poparity antennas will be combined for MIMO mode separately.For Cross-polarized antenna, the total gain—including array gain—is computed separately for each of polarizations using the procedures presented in this document. The highest of the total gains shall apply. For this case, the highest of the total gain will be the directional gain of 2 antennas.
For conducted limit like power and psd, the result from all 4 chains will be summed.

EUT Power level setting

Band	Mode	Frequency	Power Setting	Band	Mode	Frequency	Power Setting
U-NII-1 BAND	802.11-a	5180	21.5	U-NII-3 BAND	802.11-a	5745	22.0
	802.11-a	5200	21.5		802.11-a	5785	22.0
	802.11-a	5240	22.0		802.11-a	5825	22.0
	802.11-n-20	5180	22.0		802.11-n-20	5745	22.0
	802.11-n-20	5200	21.5		802.11-n-20	5785	22.0
	802.11-n-20	5240	21.5		802.11-n-20	5825	22.0
	802.11-n-40	5190	21.0		802.11-n-40	5755	22.0
	802.11-n-40	5230	22.0		802.11-n-40	5795	22.0
	802.11-ac-80	5210	20.5		802.11-ac-80	5775	22.0

Note: All data rate has been verified and worst case was used for all test items.

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	Laptop	PP01L Latitude E5440	F1WPF12	Dell	-
2	POE Adapter	740-64211-001	133279963	Ruckus	-

7.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
RJ45	EUT	RJ45	POE	RJ45	2	Unshielded	-
RJ45	POE	RJ45	Laptop	RJ45	2	Unshielded	-

7.3 Test Software Description

Test Item	Software	Description
RF Testing	Putty	Set the EUT to transmit continuously in diferent test modes and channels

8 Test Summary

Test Item	Test standard		Test Method/Procedure	Pass / Fail
Antenna Requirement	FCC	15.203	ANSI C63.10:2013	☒ Pass ☐ N/A
Restricted Band of Operation	FCC	15.205	ANSI C63.10:2013 789033 D02 General U-NII Test Procedures New Rules v02r01	☒ Pass ☐ N/A
AC Conducted Emissions Voltage	FCC	15.207(a)	ANSI C63.10:2013	☒ Pass ☐ N/A

Test Item	Test standard		Test Method/Procedure	Pass / Fail
26 & 6 dB Emission Bandwidth	FCC	15.407 (a) (2)	789033 D02 General U-NII Test Procedures New Rules v02r01	☒ Pass ☐ N/A
Maximum conducted Output Power	FCC	15.407 (a) (2)	789033 D02 General U-NII Test Procedures New Rules v02r01	☒ Pass ☐ N/A
Power reduction (Antenna Gain > 6 dBi)	FCC	15.407 (a) (2)	-	☐ Pass ☒ N/A
Band Edge and Radiated Spurious Emissions	FCC	15.407(b)(2), 15.407(b)(6)	ANSI C63.10:2013 789033 D02 General U-NII Test Procedures New Rules v02r01	☒ Pass ☐ N/A
Power Spectral Density	FCC	15.407 (a) (2)	789033 D02 General U-NII Test Procedures New Rules v02r01	☒ Pass ☐ N/A
Frequency Stability	FCC	15.407 (g)	-	☐ Pass ☒ N/A
Transmit Power Control (TPC)	FCC	15.407 (h)(1)	-	☐ Pass ☒ N/A
User Manual	FCC	-	-	☒ Pass ☐ N/A
Remark	1. All measurement uncertainties are not taken into consideration for all presented test result. 2. The applicant shall ensure frequency stability by showing that an emission is maintained within the band of operation under all normal operating conditions as specified in the user's manual.			

9 Measurement Uncertainty

Emissions			
Test Item	**Frequency Range**	**Description**	**Uncertainty**
AC Conducted Emissions	150KHz – 30MHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2	±3.5dB
RF conducted measurement	150KHz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2	±0.95dB
Radiated Spurious Emissions	30MHz – 1GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	±6dB
Radiated Spurious Emissions	1GHz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	±6dB

10 Measurements, Examination and Derived Results

10.1 Antenna Requirement

Spec	Requirement	Applicable
§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. Antenna requirement must meet at least one of the following: a) Antenna must be permanently attached to the device. b) The antenna must use a unique type of connector to attach to the device. c) Device must be professionally installed. The installer shall be responsible for ensuring that the correct antenna is employed by the device.	☒
Remark	The EUT uses a I-PEX connector for antenna connection which meet the requirement.	
Result	☒ PASS ☐ FAIL	

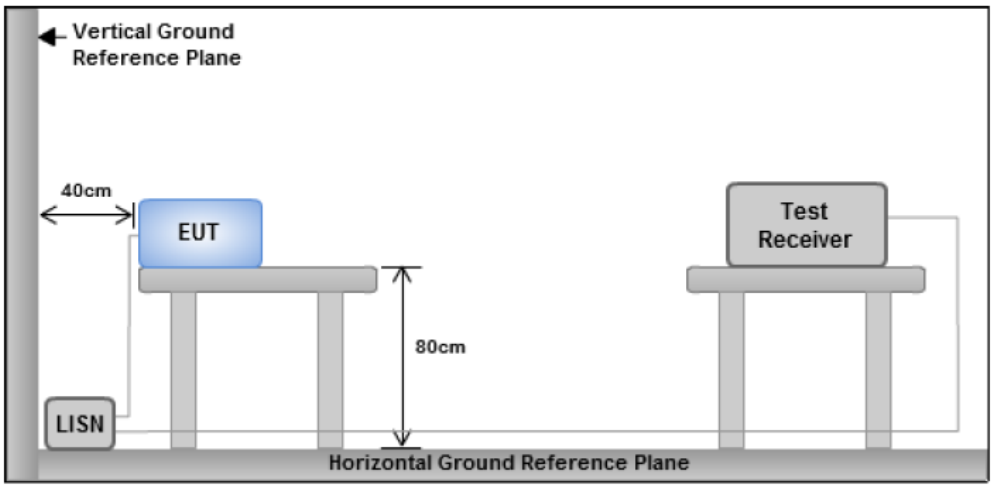
10.2 Conducted Emissions

Conducted Emission Limit

Frequency ranges (MHz)	Limit (dBuV)	
	QP	Average
0.15 ~ 0.5	66 – 56	56 – 46
0.5 ~ 5	56	46
5 ~ 30	60	50

Spec	Item	Requirement	Applicable
§15.207	a)	For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequency ranges.	☒

Test Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

Procedure

- The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B.
- The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains.
- The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
- All other supporting equipment was powered separately from another main supply.

Remark	EUT was tested at 120VAC, 60Hz
Result	☒ Pass ☐ Fail

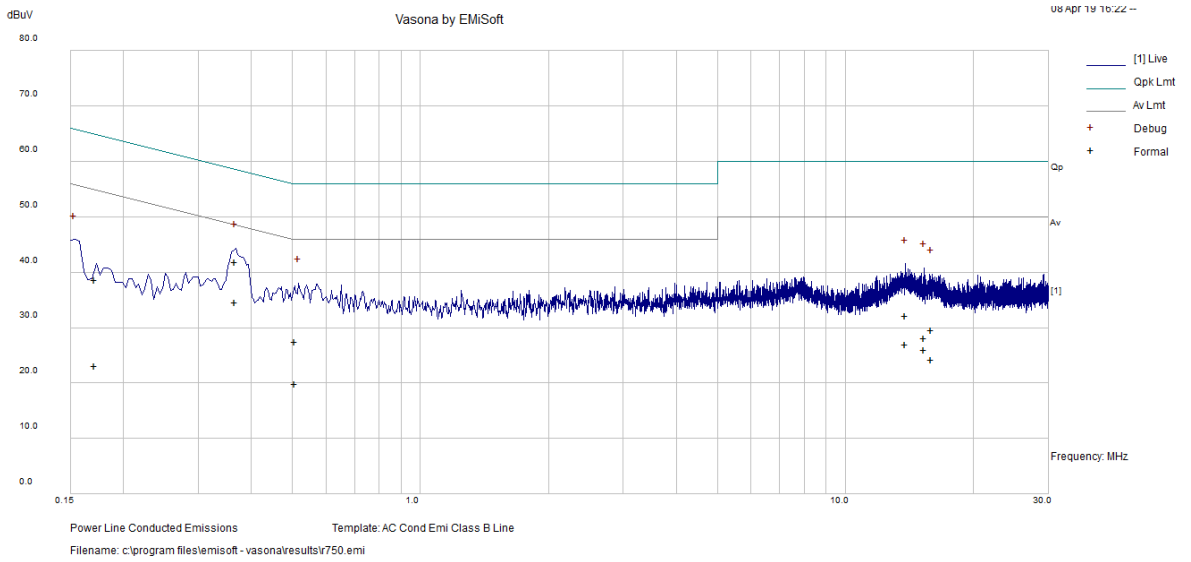
Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Deon Dai at Conducted Emission test site.

Conducted Emission Test Results

Test specification:	Conducted Emissions			
Environmental Conditions:	Temp(°C):	21	Result:	☒ Pass ☐ Fail
	Humidity (%):	42		
	Atmospheric(mbar):	1021		
Mains Power:	120Vac, 60Hz			
Tested by:	Deon Dai			
Test Date:	04/08/2019			
Remarks	POE, Live			

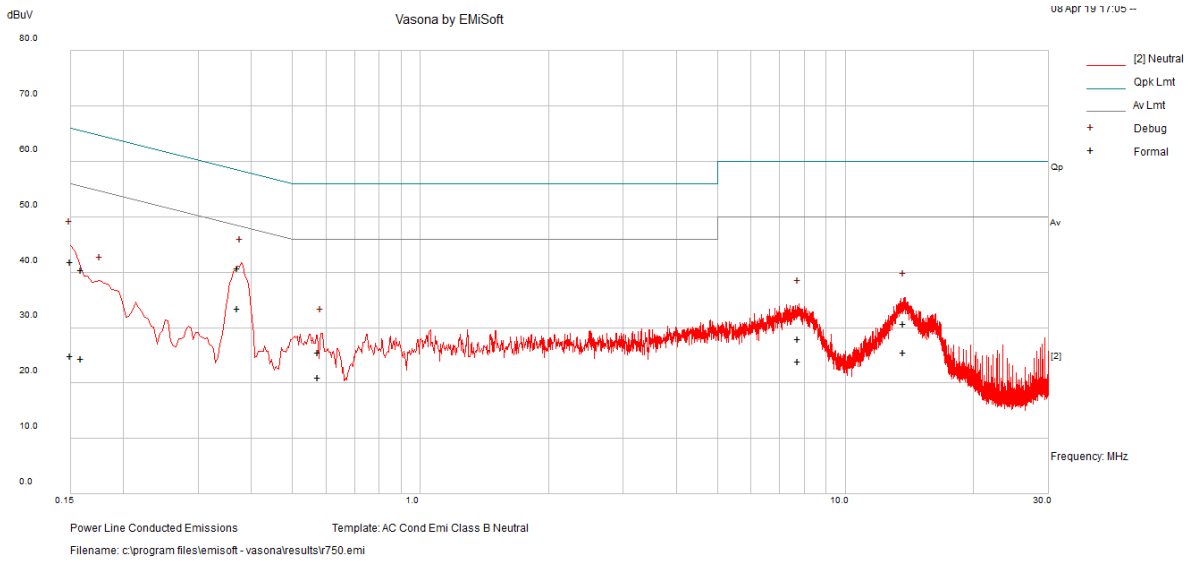


Live Plot at 120Vac, 60Hz

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Measurement Type	Line / Neutral	Limit (dBuV)	Margin (dB)	Pass /Fail
0.37	34.54	7.29	0.04	41.87	Quasi Peak	Live	58.58	-16.7	Pass
0.51	20.11	7.36	0.04	27.51	Quasi Peak	Live	56	-28.49	Pass
13.87	22.95	8.84	0.33	32.12	Quasi Peak	Live	60	-27.88	Pass
15.35	18.91	8.92	0.37	28.19	Quasi Peak	Live	60	-31.81	Pass
0.17	31.42	7.14	0.05	38.61	Quasi Peak	Live	64.88	-26.27	Pass
16.00	20.2	8.95	0.38	29.54	Quasi Peak	Live	60	-30.46	Pass
0.37	27.32	7.29	0.04	34.64	Average	Live	48.58	-13.93	Pass
0.51	12.51	7.36	0.04	19.91	Average	Live	46	-26.09	Pass
13.87	17.8	8.84	0.33	26.97	Average	Live	50	-23.03	Pass
15.35	16.66	8.92	0.37	25.95	Average	Live	50	-24.05	Pass
0.17	15.88	7.14	0.05	23.07	Average	Live	54.88	-31.81	Pass
16.00	14.99	8.95	0.38	24.32	Average	Live	50	-25.68	Pass

Conducted Emission Test Results

Test specification:	Conducted Emissions			
Environmental Conditions:	Temp(°C):	21	Result:	☒ Pass ☐ Fail
	Humidity (%):	42		
	Atmospheric(mbar):	1021		
Mains Power:	120Vac, 60Hz			
Tested by:	Rachana Khanduri			
Test Date:	08/25/2017			
Remarks	Conducted @ Neutral			



Neutral Plot at 120Vac, 60Hz

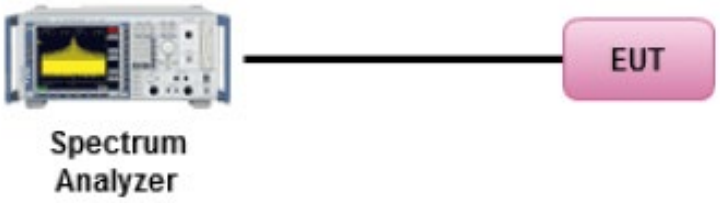
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	Factors (dB)	Level (dBuV)	Measurement Type	Line / Neutral	Limit (dBuV)	Margin (dB)	Pass /Fail
0.37	33.37	7.29	0.03	40.69	Quasi Peak	Neutral	58.45	-17.76	Pass
0.15	34.73	7.11	0.04	41.88	Quasi Peak	Neutral	65.98	-24.1	Pass
13.76	21.6	8.83	0.33	30.77	Quasi Peak	Neutral	60	-29.23	Pass
7.75	19.46	8.27	0.16	27.89	Quasi Peak	Neutral	60	-32.11	Pass
0.16	33.26	7.12	0.04	40.43	Quasi Peak	Neutral	65.51	-25.08	Pass
0.57	18.04	7.42	0.03	25.49	Quasi Peak	Neutral	56	-30.51	Pass
0.37	26.08	7.29	0.03	33.4	Average	Neutral	48.45	-15.05	Pass
0.15	17.77	7.11	0.04	24.92	Average	Neutral	55.98	-31.06	Pass
13.76	16.45	8.83	0.33	25.62	Average	Neutral	50	-24.38	Pass
7.75	15.46	8.27	0.16	23.9	Average	Neutral	50	-26.1	Pass
0.16	17.2	7.12	0.04	24.37	Average	Neutral	55.51	-31.14	Pass
0.57	13.64	7.42	0.03	21.09	Average	Neutral	46	-24.91	Pass

10.3 26 dB Bandwidth & 6 dB Bandwidth

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	-	26 dB Emission BW: Report only for reference.	☒
	a) (2)	26 dB Emission BW: Report only for power limit calculation.	☐
	e)	Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.	☒

Test Setup



Test Procedure

789033 D02 General U-NII Test Procedures New Rules v02r01

26dB Emission bandwidth measurement procedure (Other than 5.725-5.85 GHz)

a. Set RBW = approximately 1% of the emission bandwidth.
b. Set the VBW > RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6 dB Minimum emission bandwidth measurement procedure (for 5.725-5.85 GHz)

a. Set RBW = 100 kHz.
b. Set the video bandwidth (VBW) ⩾ 3 □BW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Sweep = auto couple.
f. Allow the trace to stabilize.
g. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Test Date	02/15/2019-02/16/2019	Environmental condition	Temperature 22°C Relative Humidity 38% Atmospheric Pressure 1020mbar

Remark	99% BW result is presented here to show the channels in 5.1GHz is not crossing to DFS channel since the 26 dB BW is too wide.
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes ☐ N/A

Test was done by Deon Dai at RF test site.

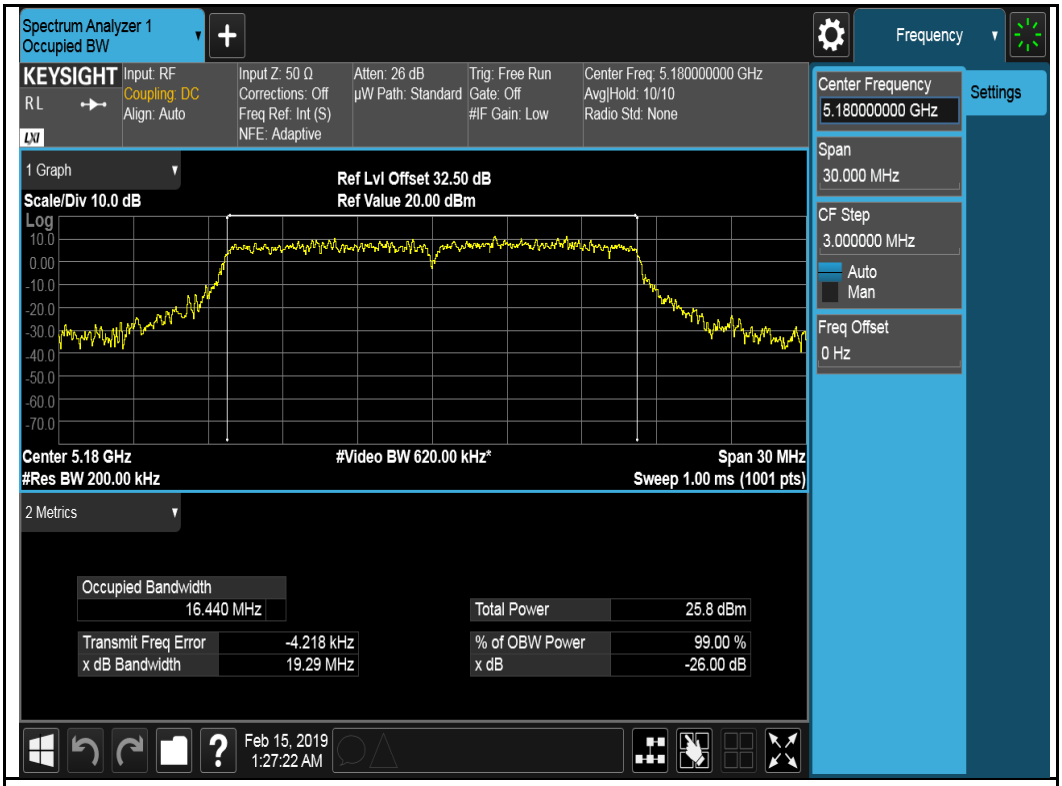
26dB Bandwidth measurement result for U-NII-1 BAND

Type	Test mode	Freq (MHz)	CH	Result (MHz)	Limit (MHz)
26dB BW	802.11a	5180	Low	19.29	-
		5200	Mid	18.41	-
		5240	High	18.59	-
	802.11ax-20	5180	Low	20.41	-
		5200	Mid	21.14	-
		5240	High	20.48	-
	802.11ax-40	5190	Low	39.83	-
		5230	High	39.86	-
	802.11ax-80	5210	Mid	79.79	-

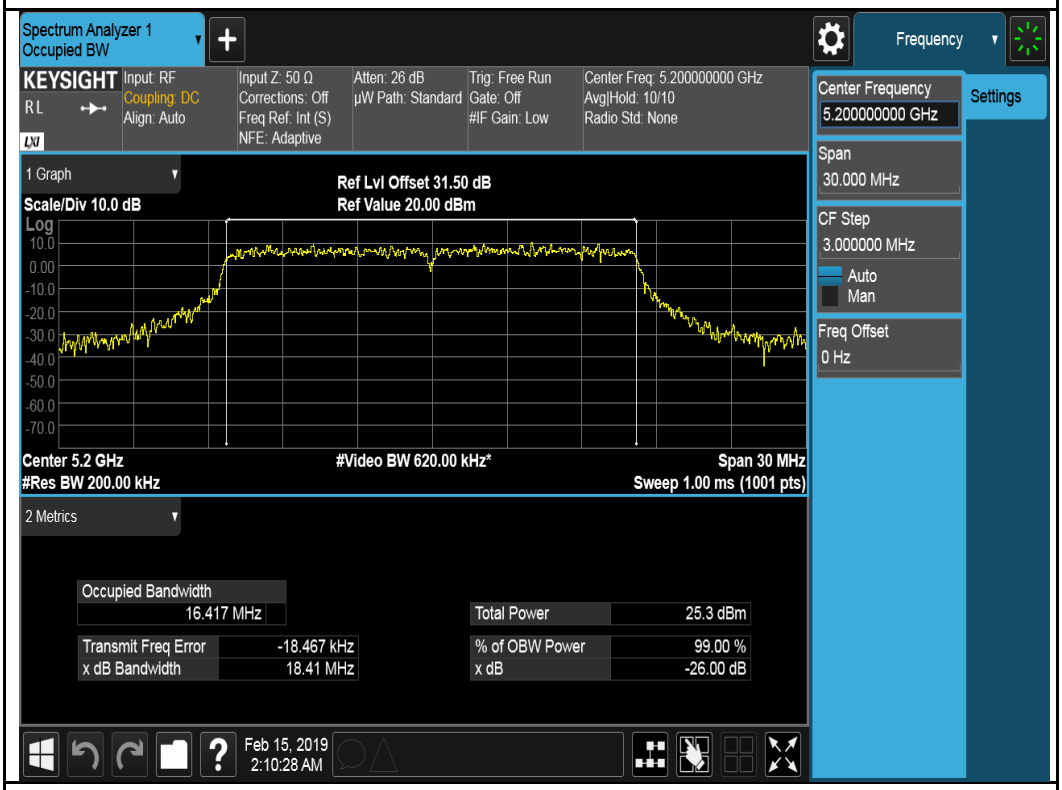
6dB Bandwidth measurement result for U-NII-3 BAND

Type	Test mode	Freq (MHz)	CH	Result (MHz)	Limit (MHz)	Result
6dB BW	802.11a	5745	Low	16.52	≥0.5	Pass
		5785	Mid	16.44	≥0.5	Pass
		5825	High	16.09	≥0.5	Pass
	802.11ax-20	5745	Low	19.03	≥0.5	Pass
		5785	Mid	19.07	≥0.5	Pass
		5825	High	18.69	≥0.5	Pass
	802.11ax-40	5755	Low	37.46	≥0.5	Pass
		5795	High	37.81	≥0.5	Pass
	802.11ax-80	5775	Mid	76.36	≥0.5	Pass

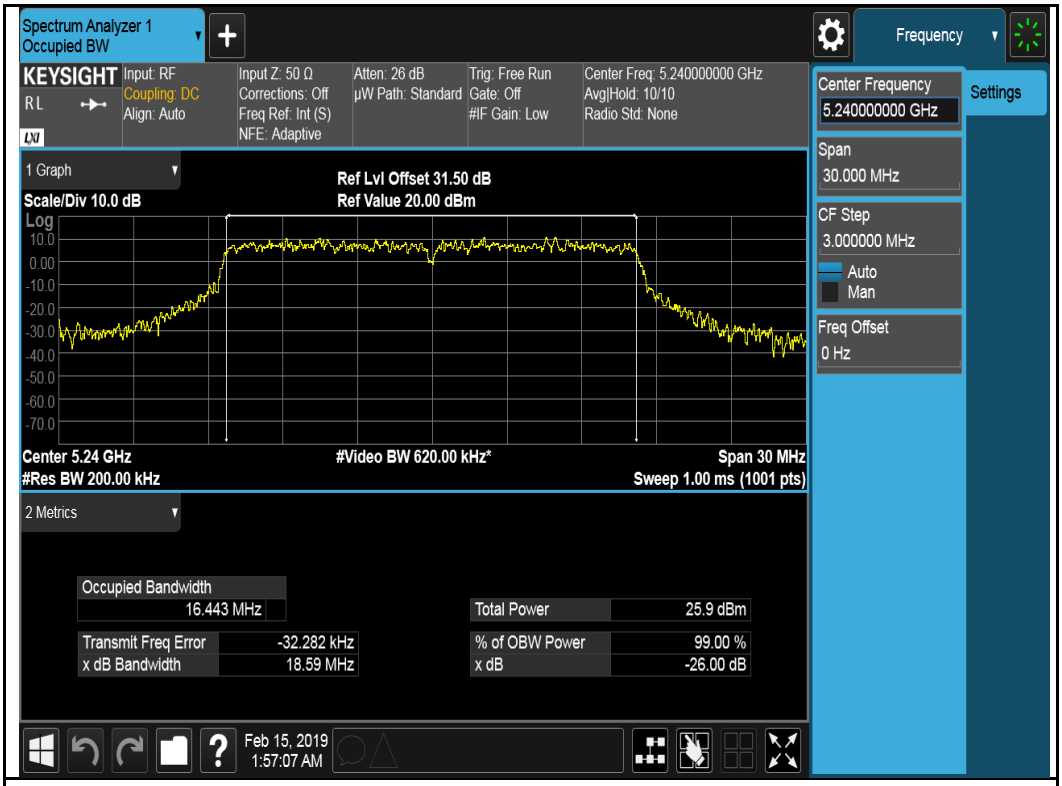
26dB Bandwidth Test Plots
U-NII-1 Band:



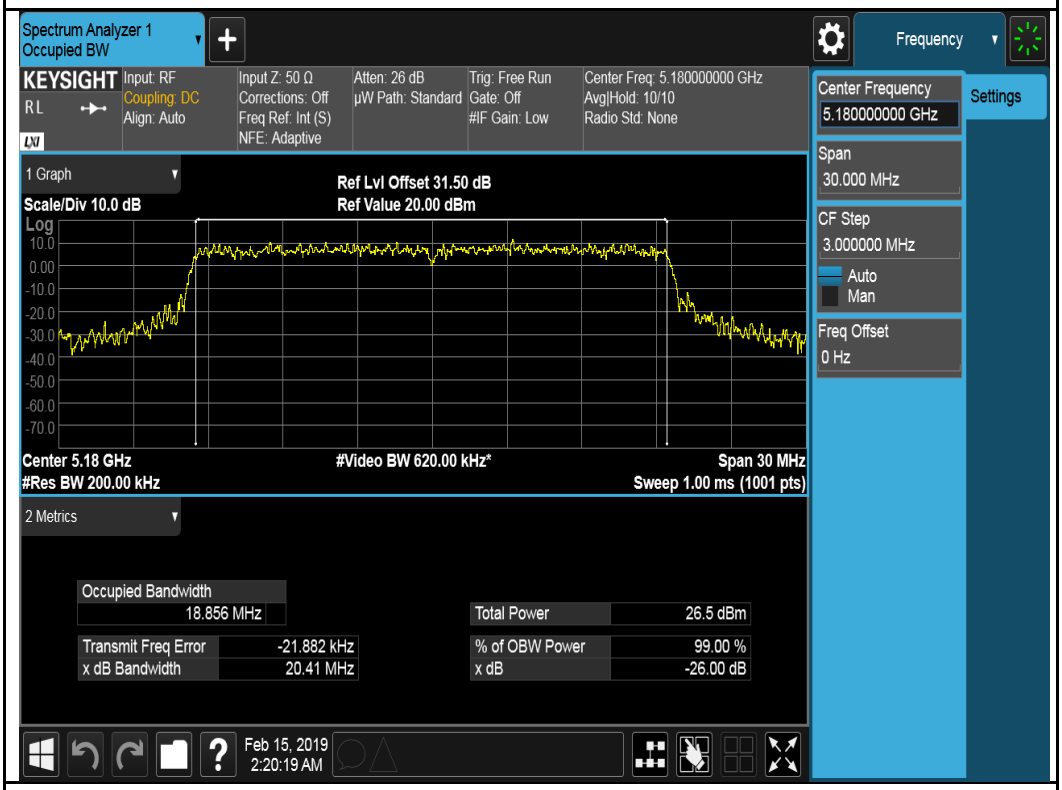
802.11a-5180MHz



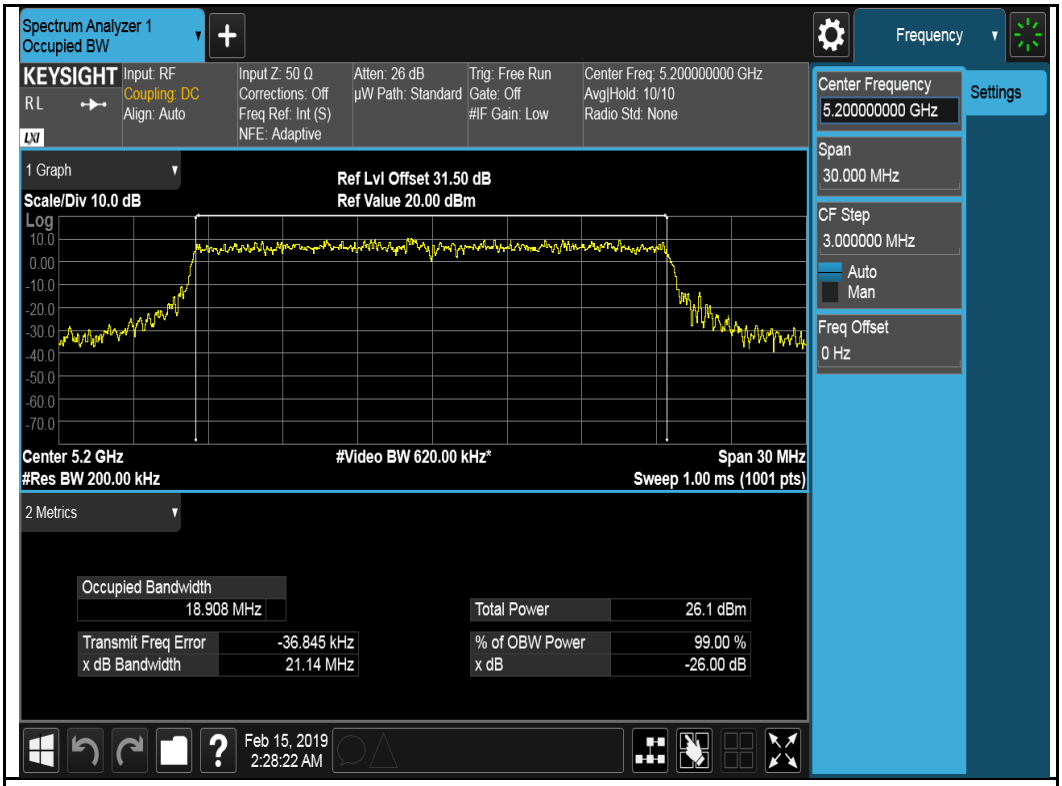
802.11a-5200MHz



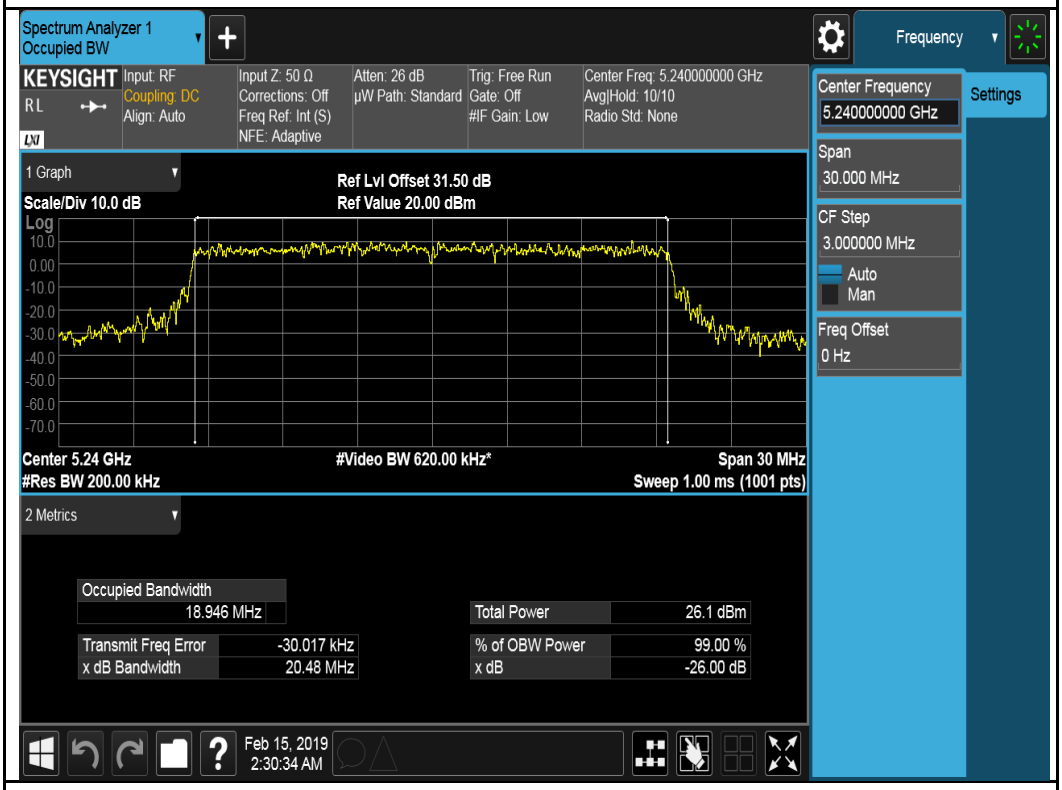
802.11a-5240MHz



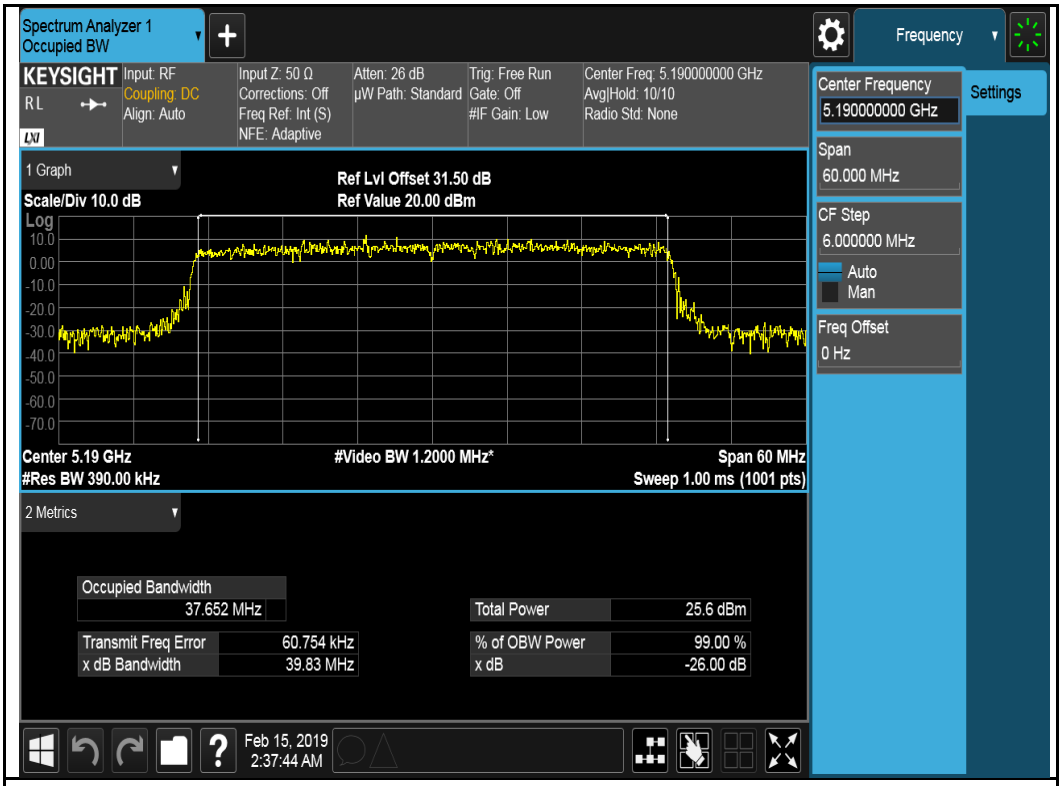
802.11ax-HT20-5180MHz



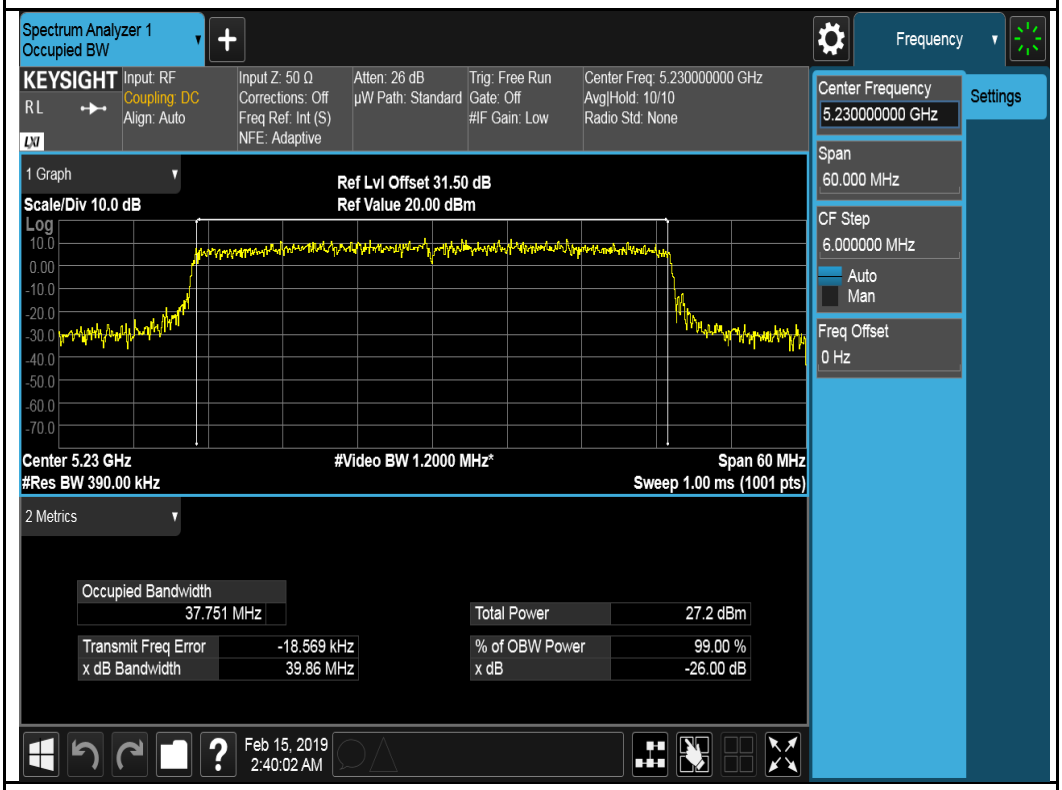
802.11ax-HT20-5200MHz



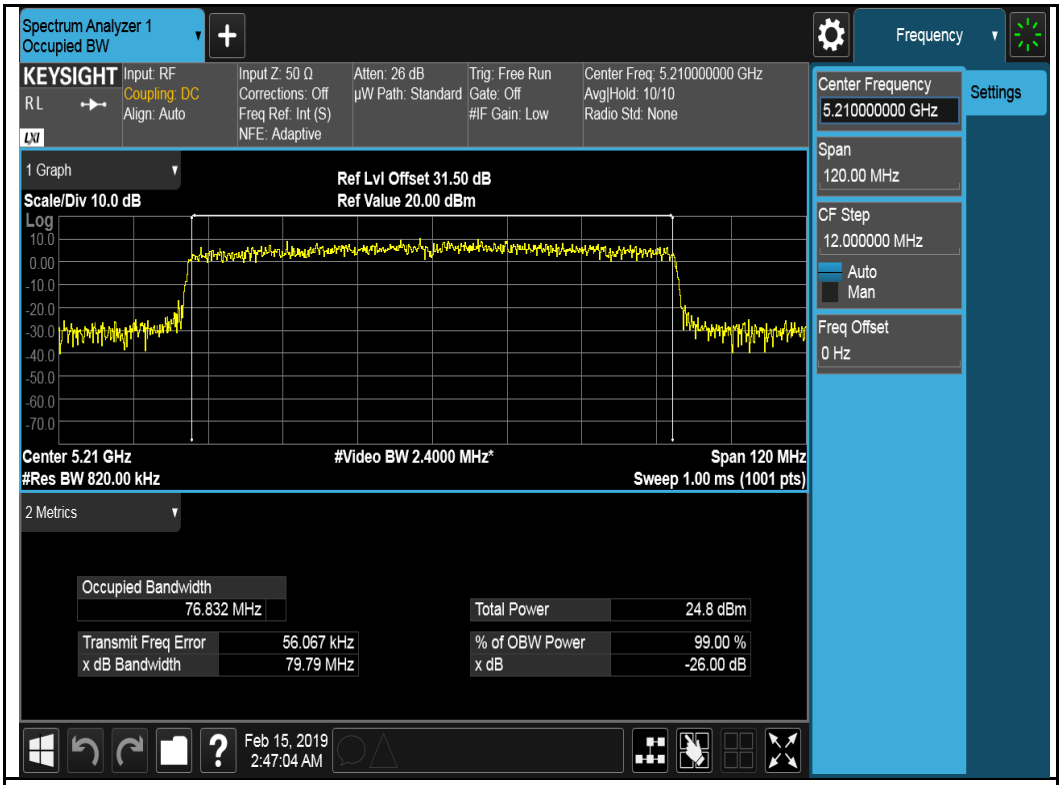
802.11ax-HT20-5240MHz



802.11ax-H420-5190MHz

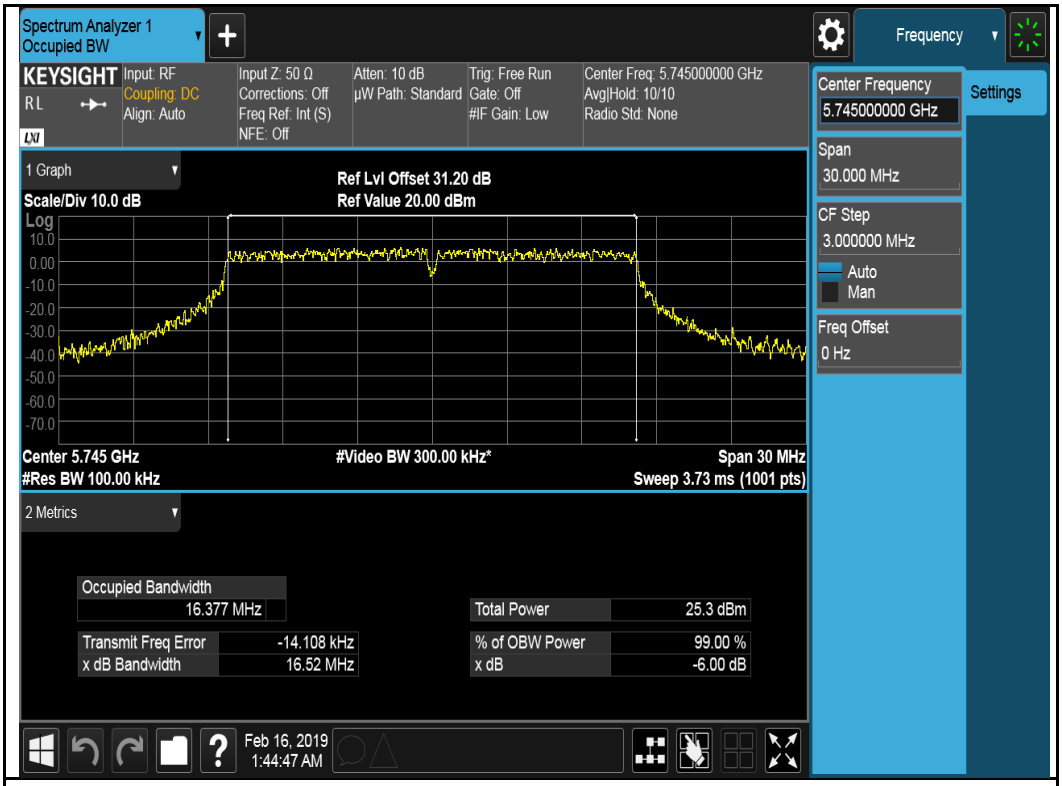


802.11ax-H420-5230MHz

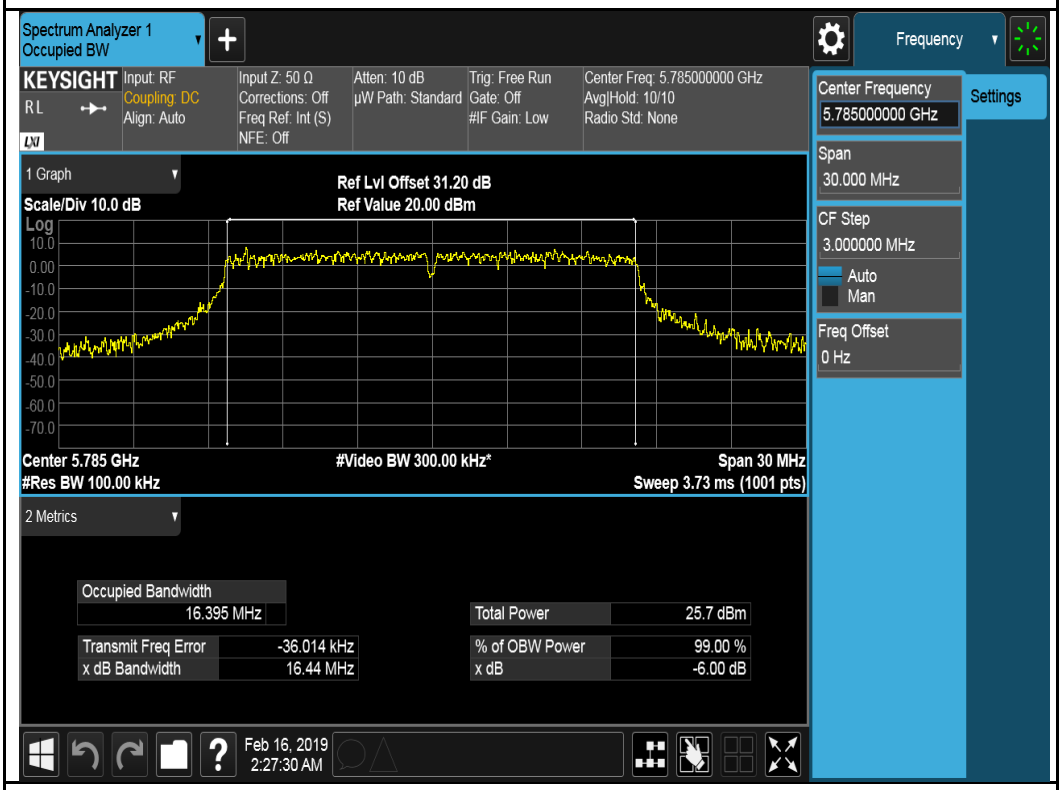


802.11ax-VHT80-5210MHz

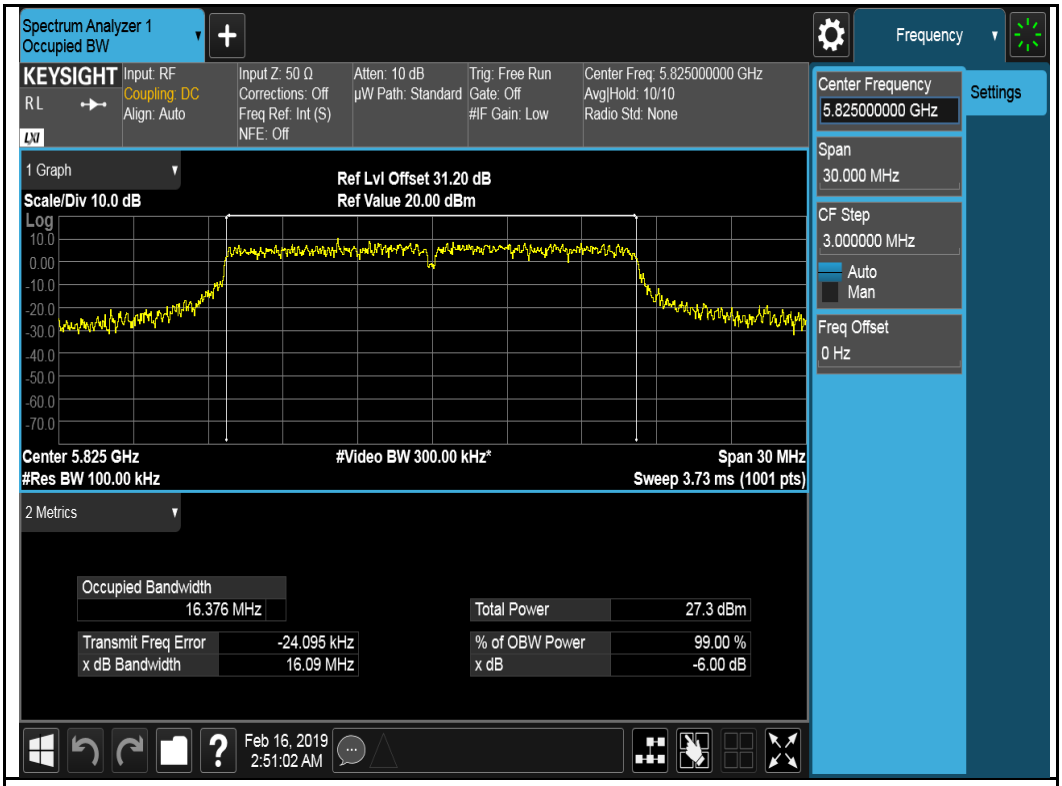
6dB Bandwidth Test Plots
U-NII-3 Band:



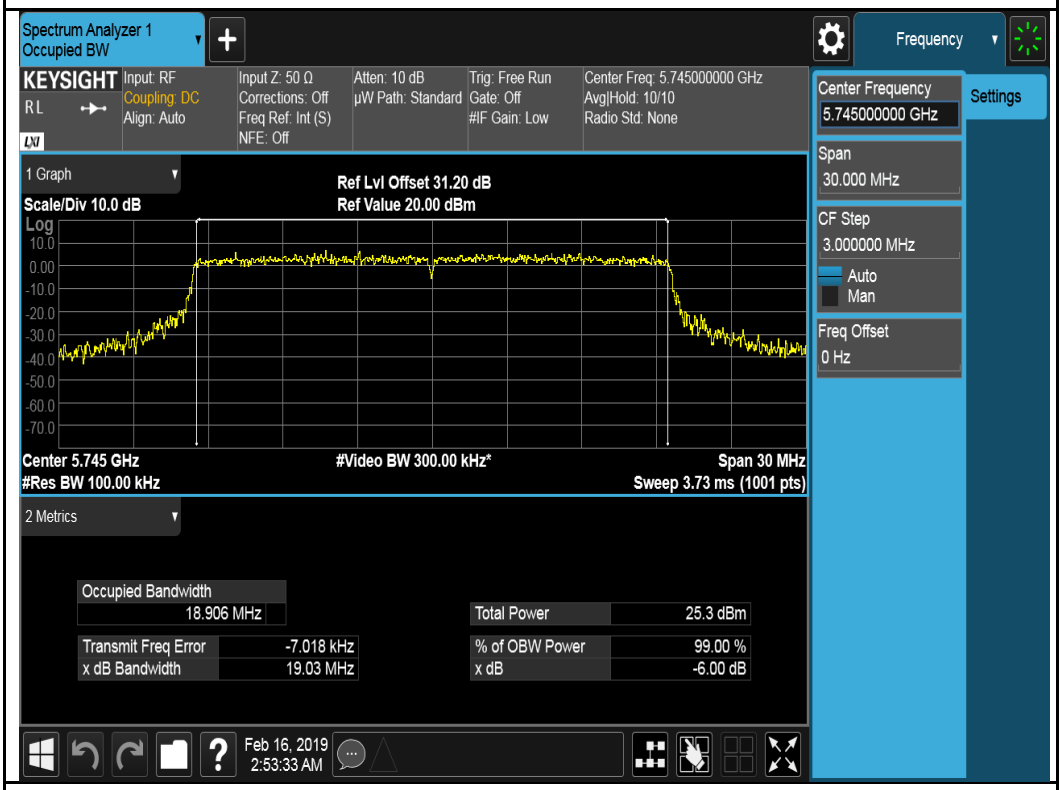
802.11a-5745MHz



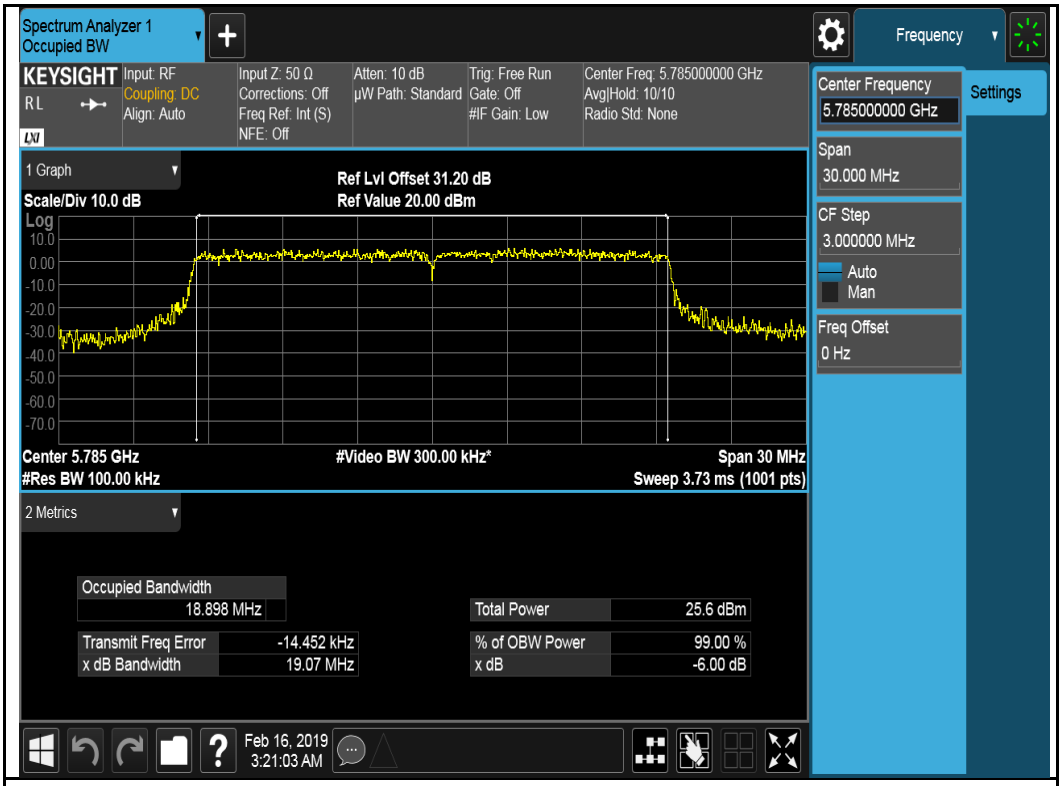
802.11a-5785MHz



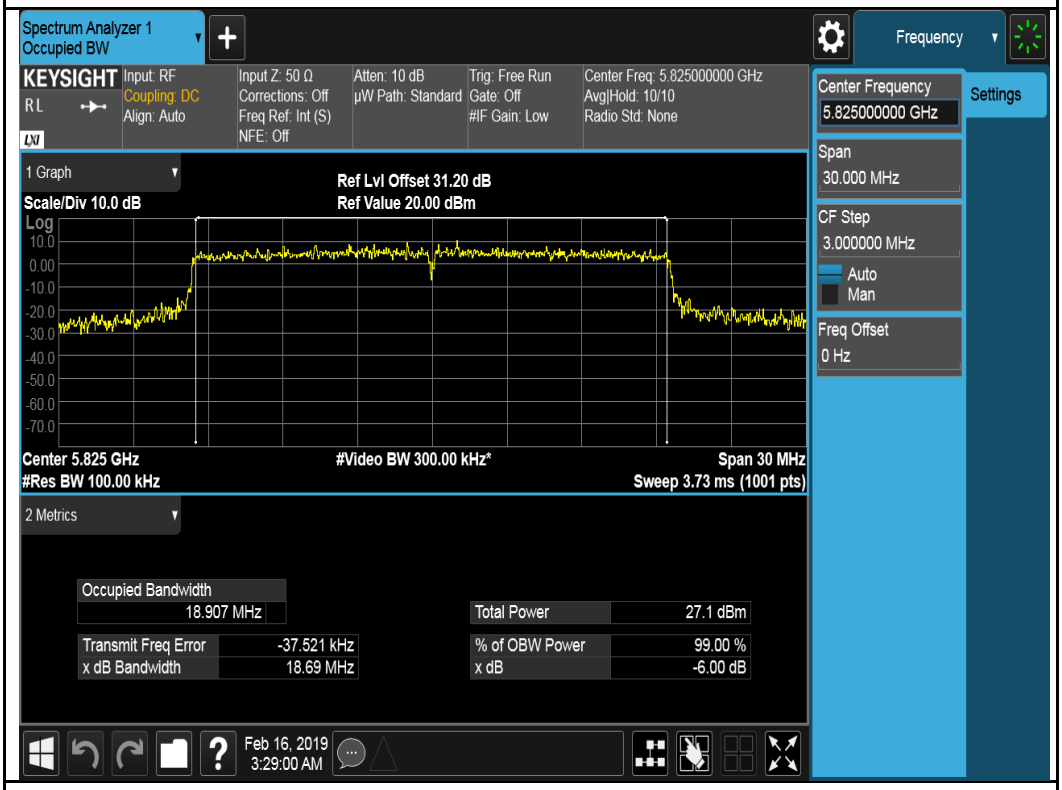
802.11a-5825MHz



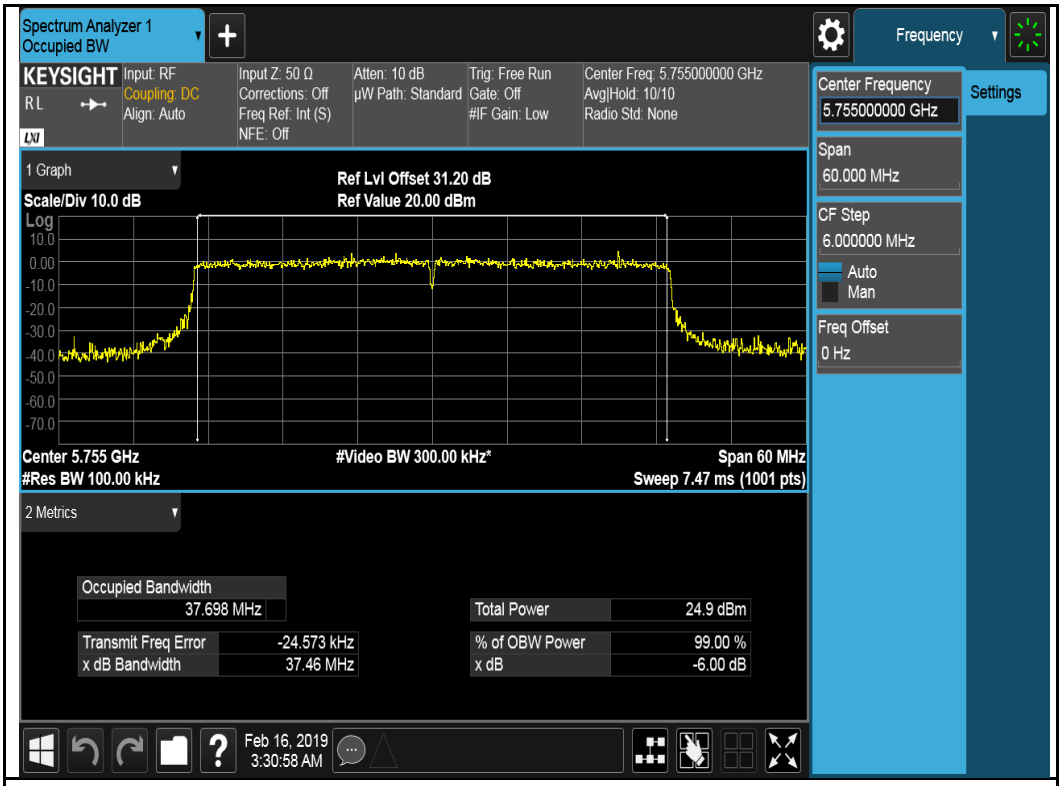
802.11ax-HT20-5745MHz



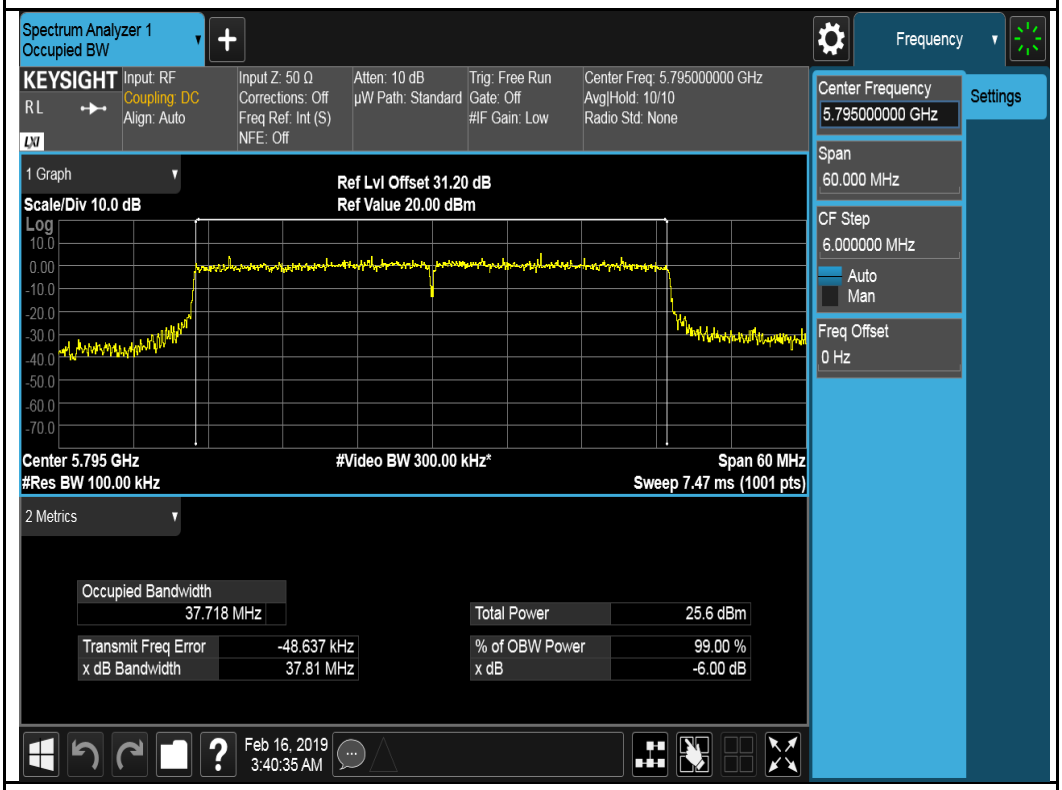
802.11ax-HT20-5785MHz



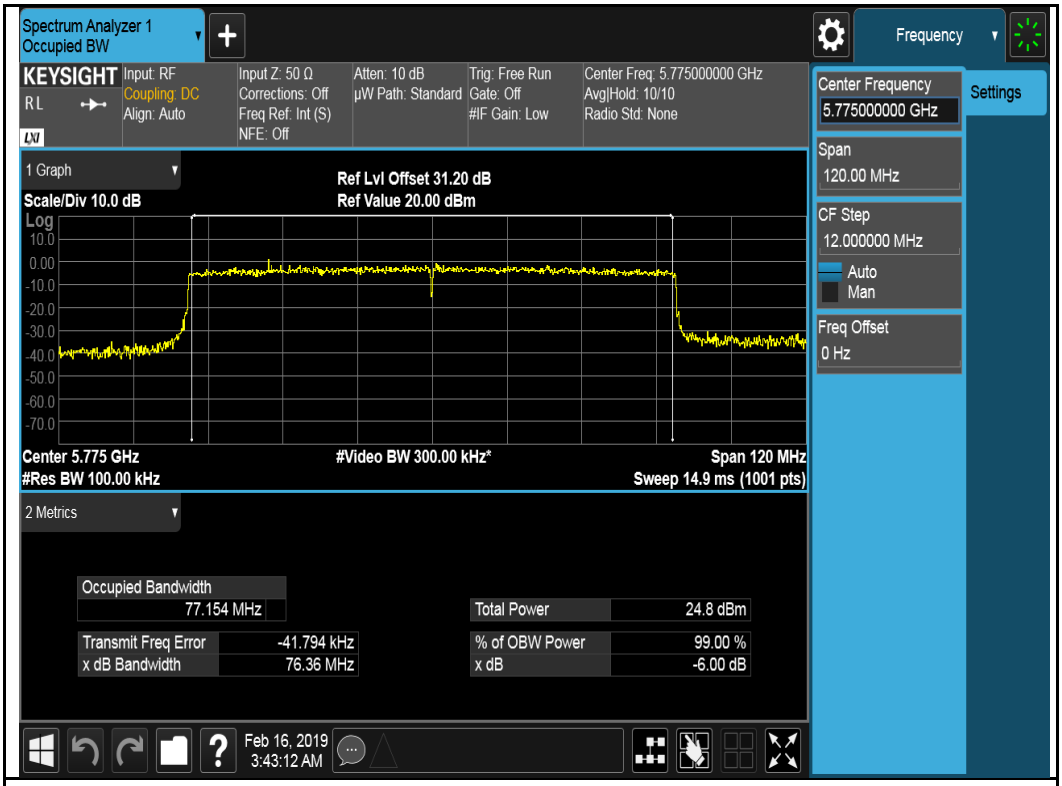
802.11ax-HT20-5825MHz



802.11ax-H420-5755MHz



802.11ax-H420-5795MHz

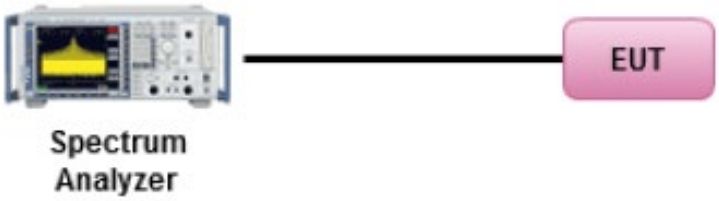


802.11ax-VHT80-5775MHz

10.4 Maximun Conducted Output Power

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.407	a)(1)(ii)	For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.	☒
	a)(3)	For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.	☒

Test Setup	
Test Procedure	789033 D02 General U-NII Test Procedures New Rules v02r01 Measurement using a Spectrum Analyzer or EMI Receiver (SA) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal. (ii) Set RBW = 1 MHz (iii) Set VBW = 3 MHz (iv) Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.) (v) Sweep time = auto. (vi) Detector = power averaging (rms), if available. Otherwise, use sample detector mode. (vii) If transmit duty cycle < 98%, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run." (viii) Trace average at least 100 traces in power averaging (rms) mode. (ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.
Test Date	02/14/2019-02/18/2019
Environmental condition	Temperature 21ºC Relative Humidity 40% Atmospheric Pressure 1019mbar
Remark	Per KDB 662911 D01 Multiple Transmitter Output v02r01, the direction gain for horizontal polarization and vertical polarization is calculated separately. For 5Ghz band, individual gain = 3 dBi, the directional gain = 3+10*log(2)= 6 dBi.Highest of totoal directional gain is 6 dBi. No limit adjustment is needed.
Result	☒ Pass ☐ Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Deon Dai at RF test site.

Output Power measurement result for U-NII-1 Band

Type	Test mode	Freq (MHz)	CH	Conducted Power (dBm)					Limit (dBm)	Result
				Chain 0	Chain 1	Chain 2	Chain 3	Combined Power		
Output Power	802.11a	5180	Low	21.91	22.13	21.79	22.75	28.18	30	Pass
		5200	Mid	21.48	22.23	21.73	22.67	28.07	30	Pass
		5240	High	22.05	23.11	21.28	22.83	28.40	30	Pass
	802.11ax-20	5180	Low	22.04	22.65	22.19	23.00	28.51	30	Pass
		5200	Mid	22.16	22.37	22.16	22.97	28.45	30	Pass
		5240	High	21.95	22.89	20.91	22.68	28.20	30	Pass
	802.11ax-40	5190	Low	21.12	21.50	21.23	22.24	27.57	30	Pass
		5230	High	22.89	23.55	21.84	23.68	29.07	30	Pass
	802.11ax-80	5210	Mid	21.19	21.52	21.28	22.18	27.58	30	Pass

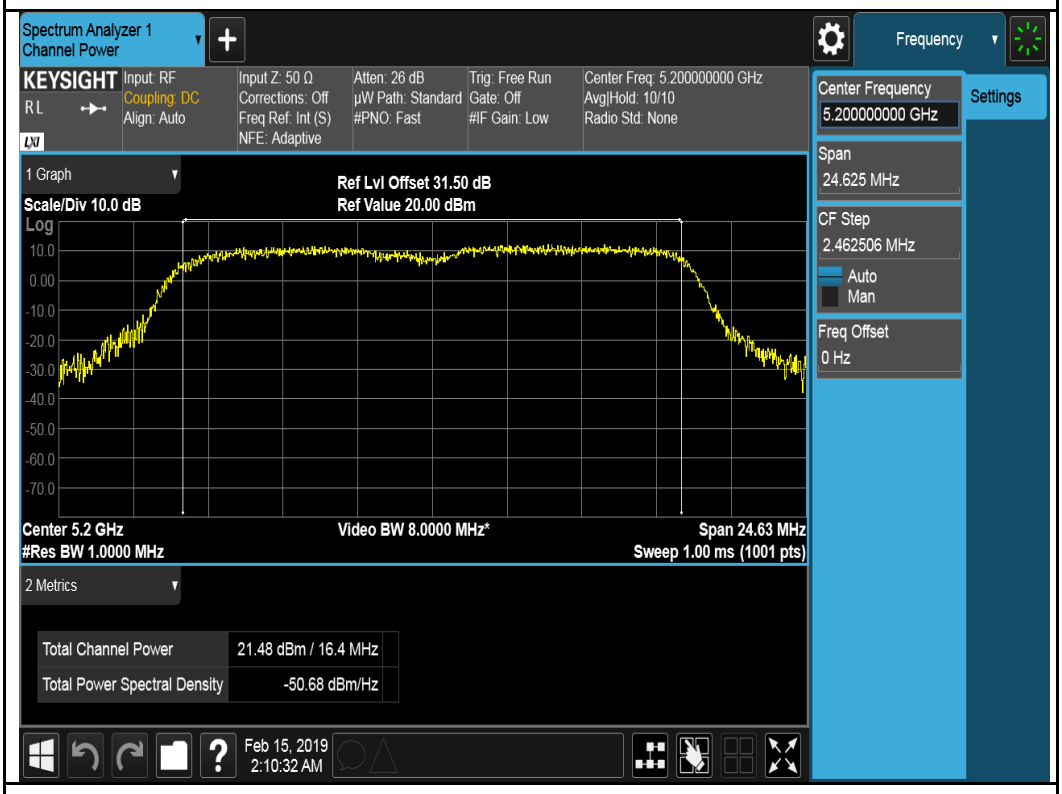
Output Power measurement result for U-NII-3 Band

Type	Test mode	Freq (MHz)	CH	Conducted Power (dBm)					Limit (dBm)	Result
				Chain 0	Chain 1	Chain 2	Chain3	Combined Power		
Output Power	802.11a	5745	Low	22.37	22.57	21.22	21.03	27.87	30	Pass
		5785	Mid	22.37	22.06	20.68	20.38	27.48	30	Pass
		5825	High	23.22	22.69	21.01	21.56	28.23	30	Pass
	802.11ax-20	5745	Low	22.41	22.70	21.37	21.05	27.96	30	Pass
		5785	Mid	22.62	22.22	20.69	20.60	27.65	30	Pass
		5825	High	23.44	23.18	21.01	22.19	28.58	30	Pass
	802.11ax-40	5755	Low	23.06	22.86	21.19	21.18	28.18	30	Pass
		5795	High	23.30	23.12	21.37	21.78	28.49	30	Pass
	802.11ax-80	5775	Mid	23.54	22.89	21.79	21.38	28.51	30	Pass

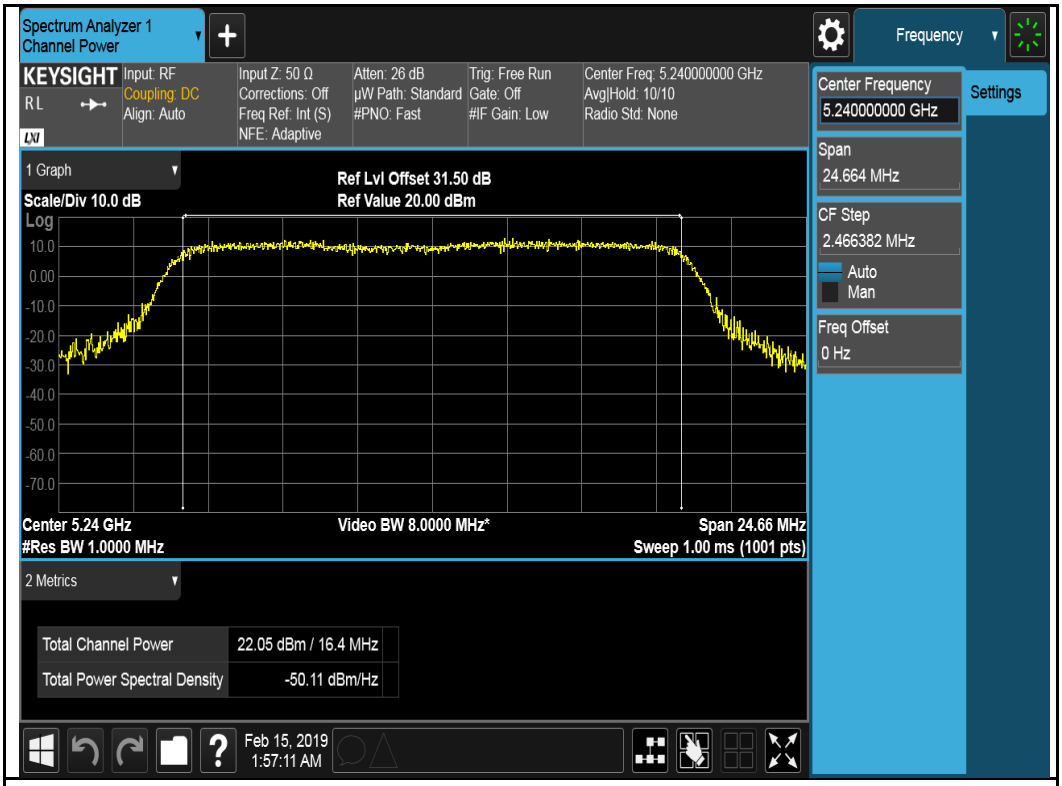
Test Plot for U-NII-1 Band:

Chain 0:

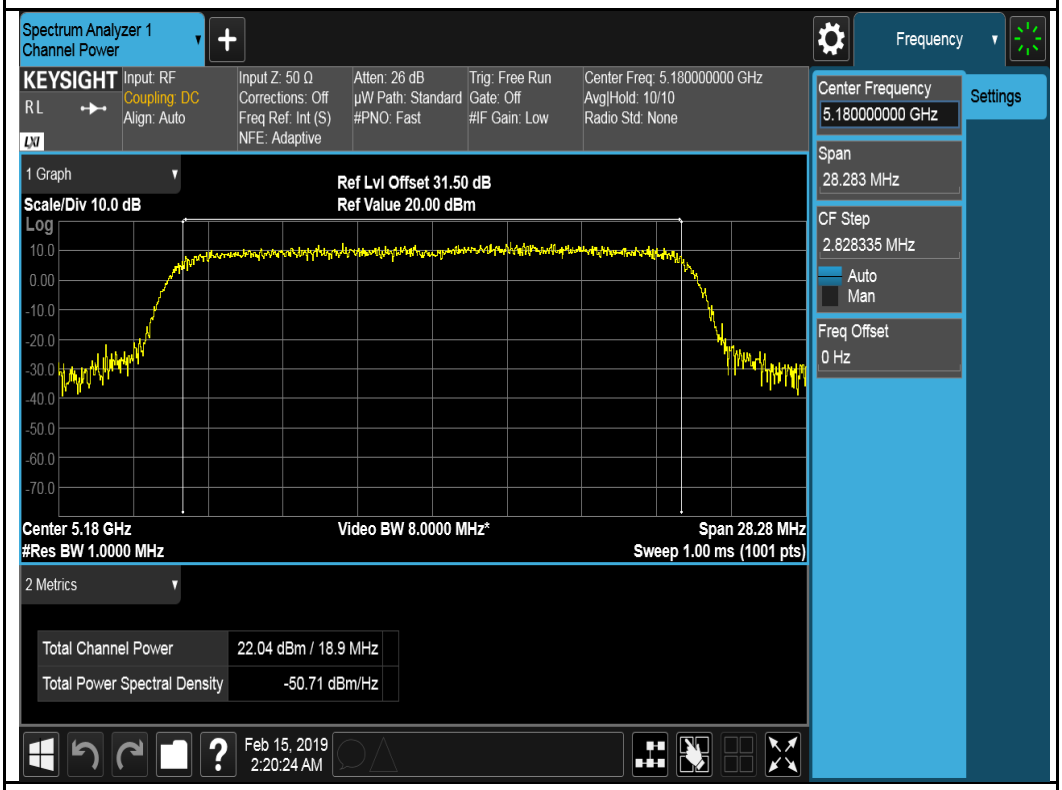
802.11a-5180MHz



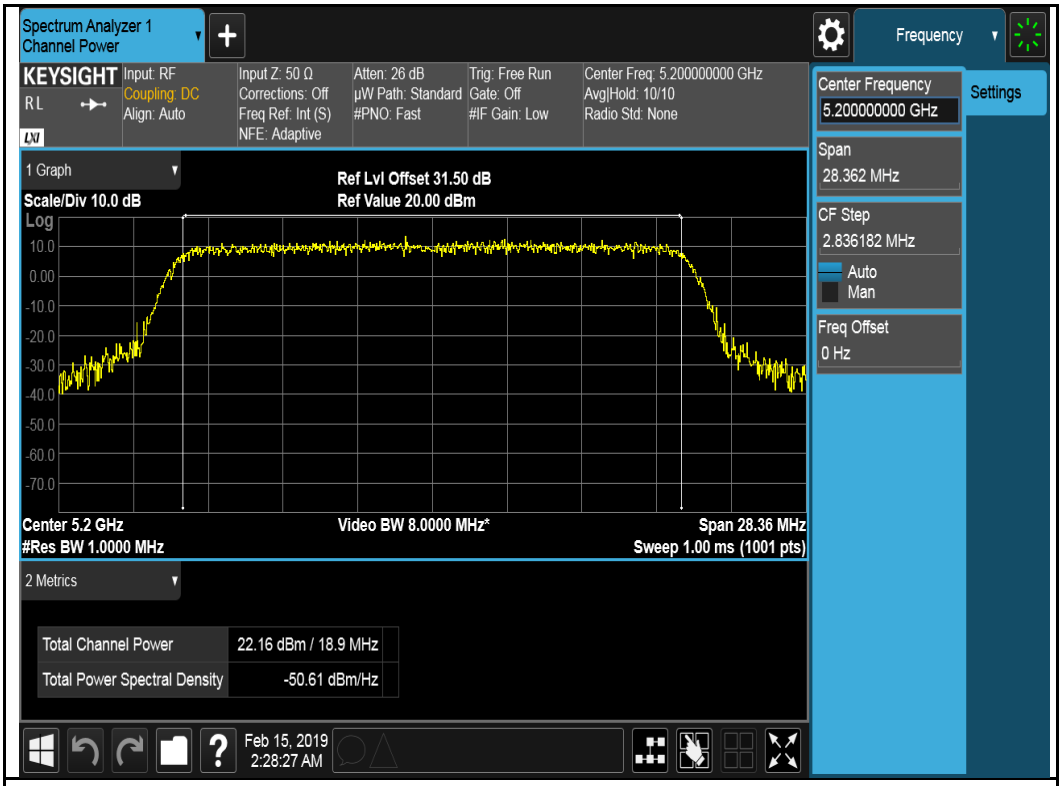
802.11a-5200MHz



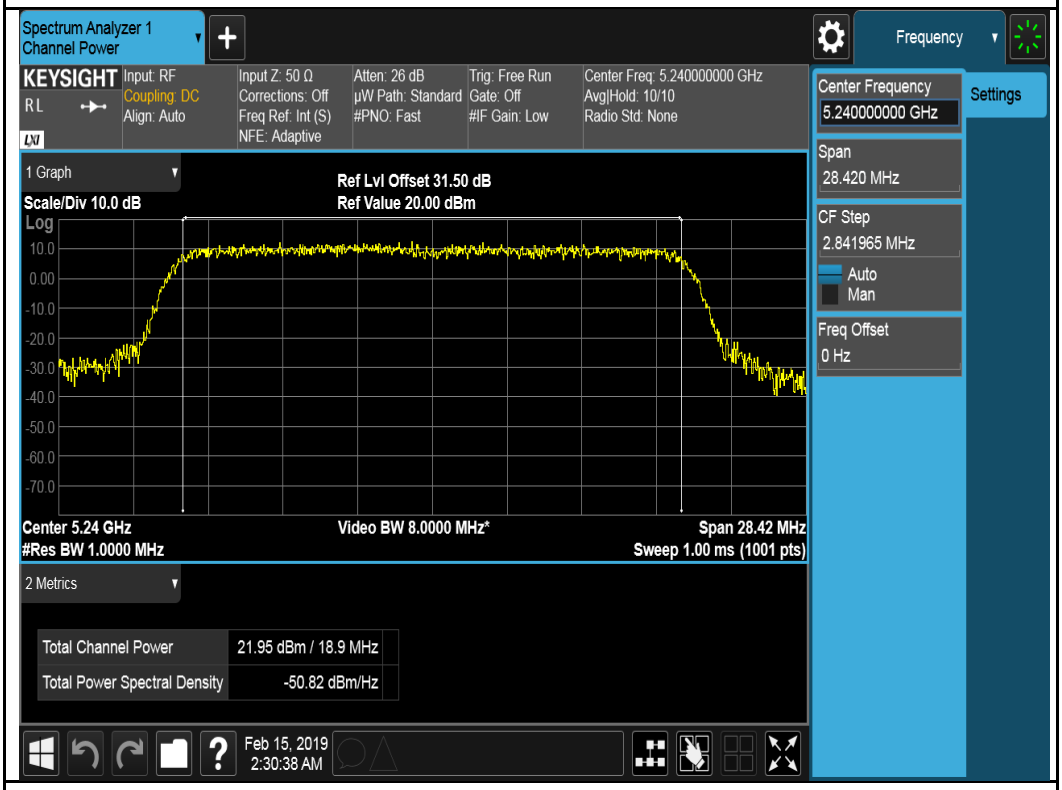
802.11a-5240MHz



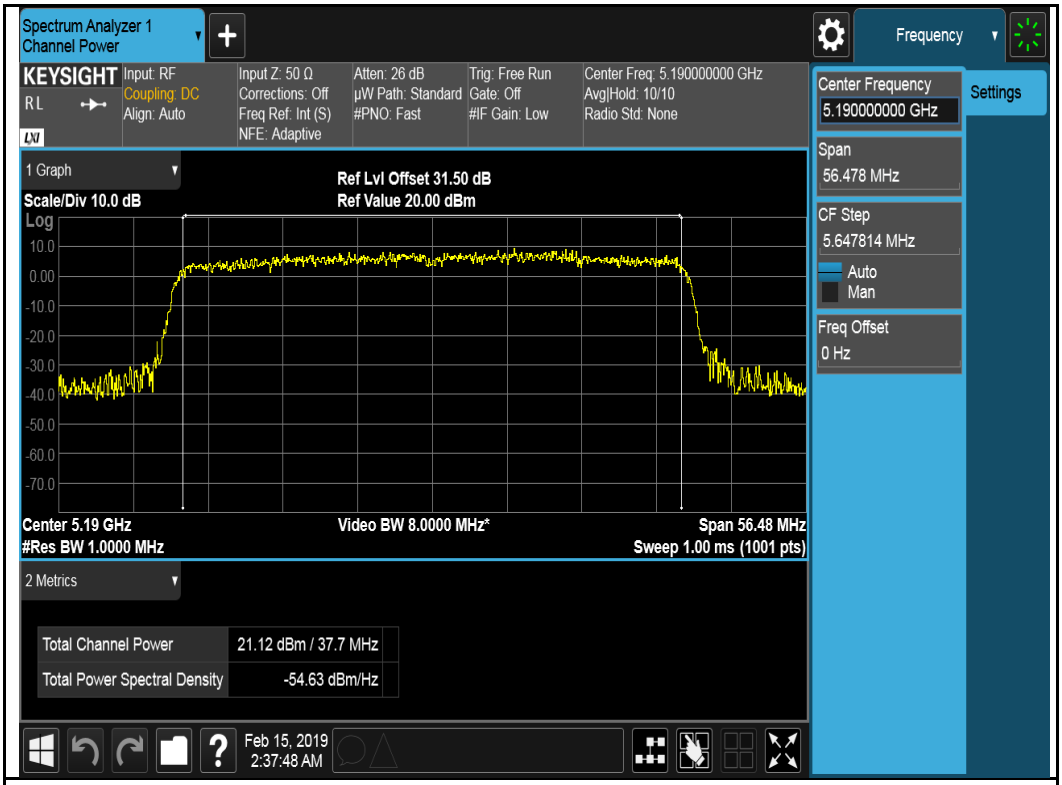
802.11ax-HT20-5180MHz



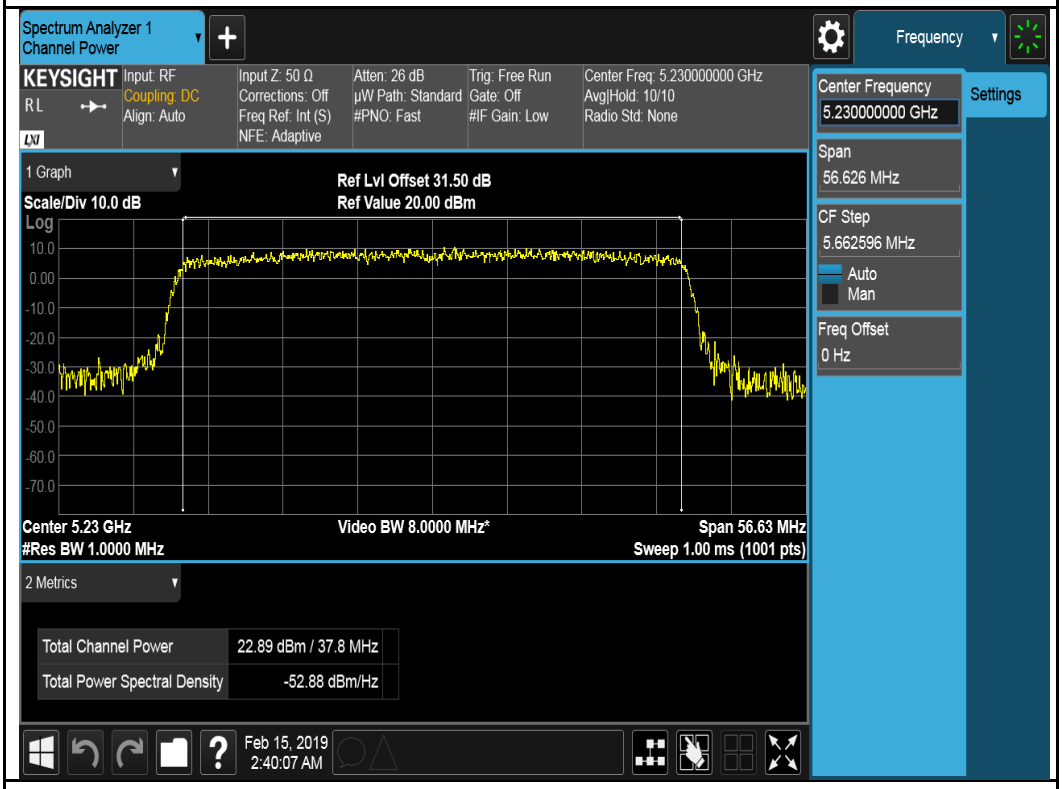
802.11ax-HT20-5200MHz



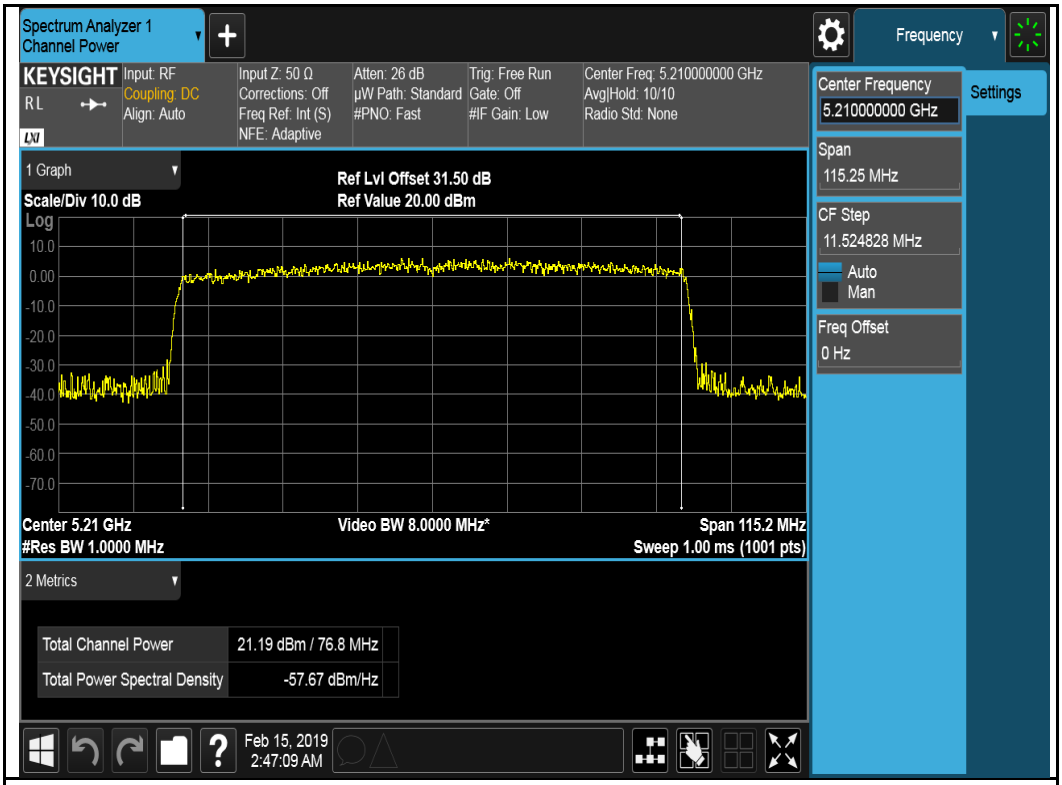
802.11ax-HT20-5240MHz



802.11ax-H420-5190MHz



802.11ax-H420-5230MHz



802.11ax-VHT80-5210MHz

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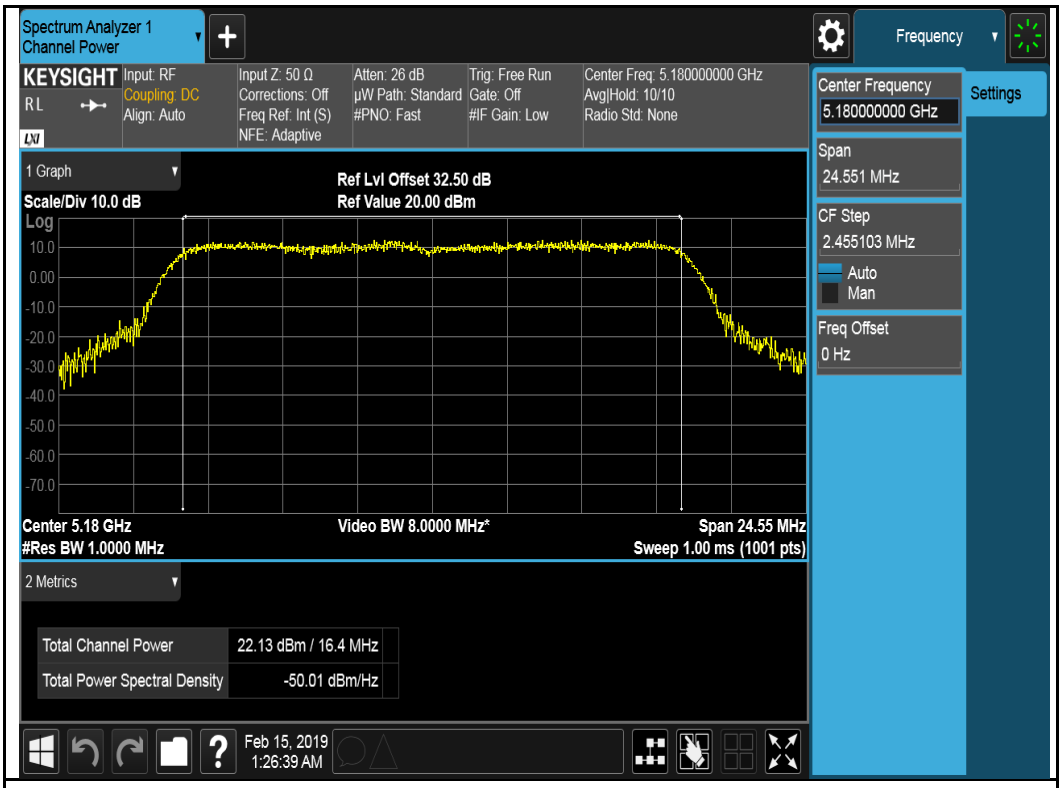
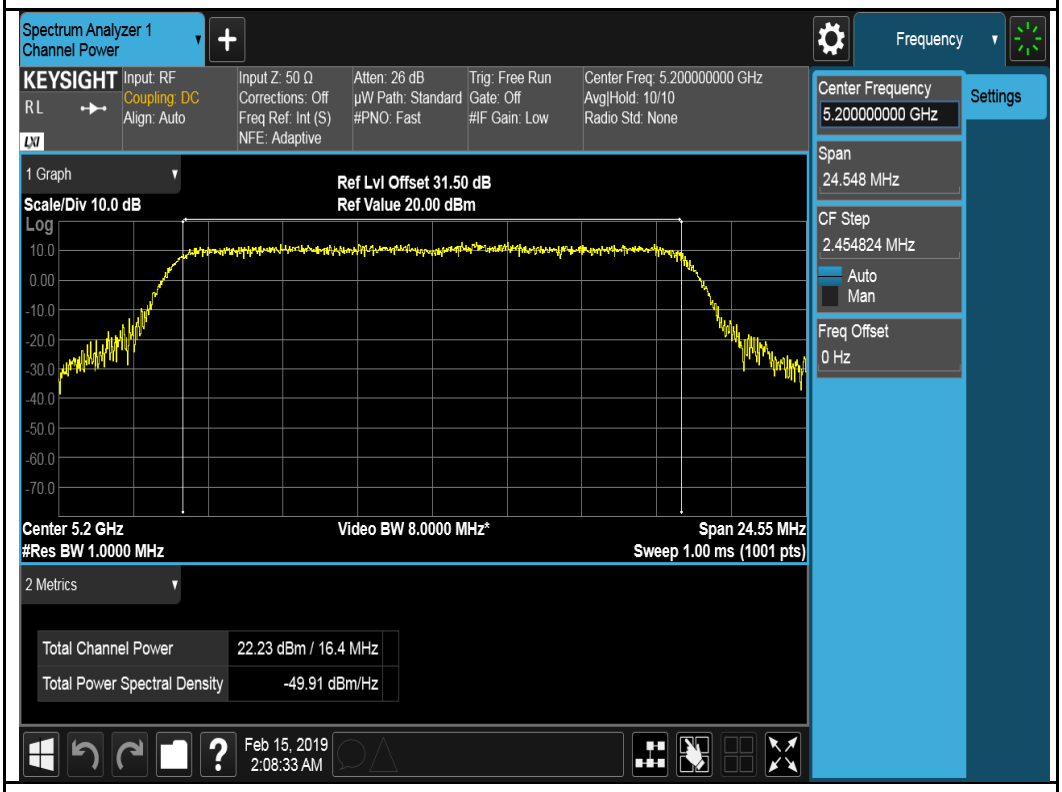
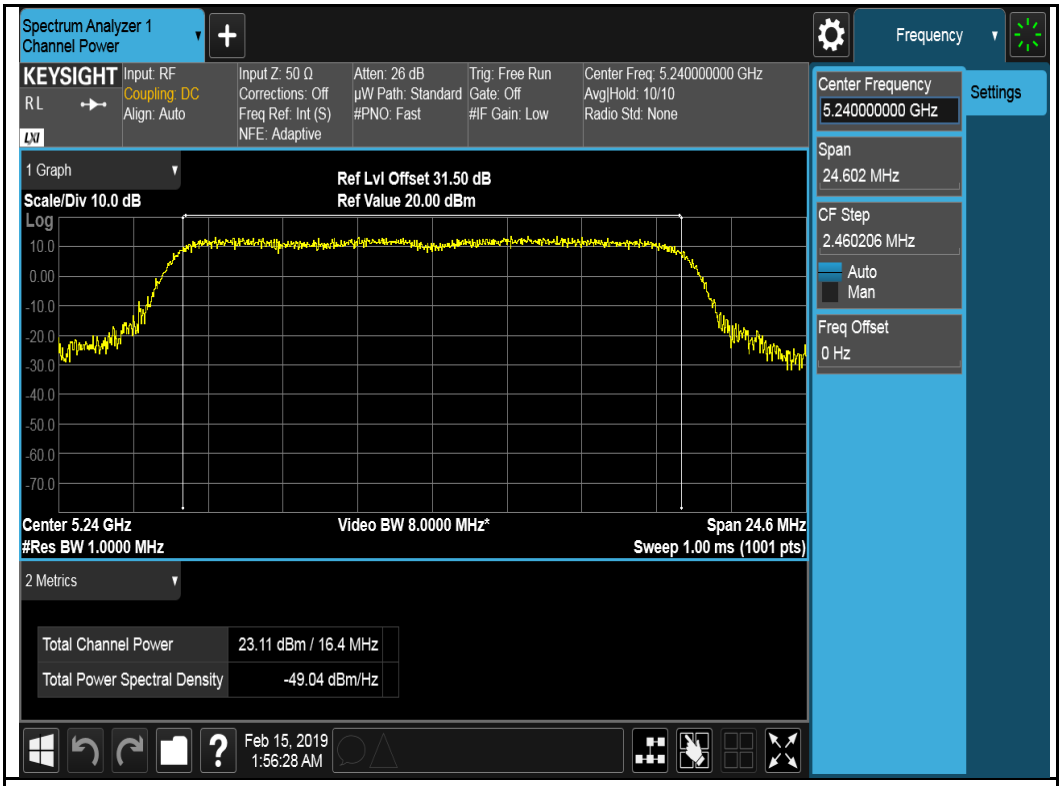


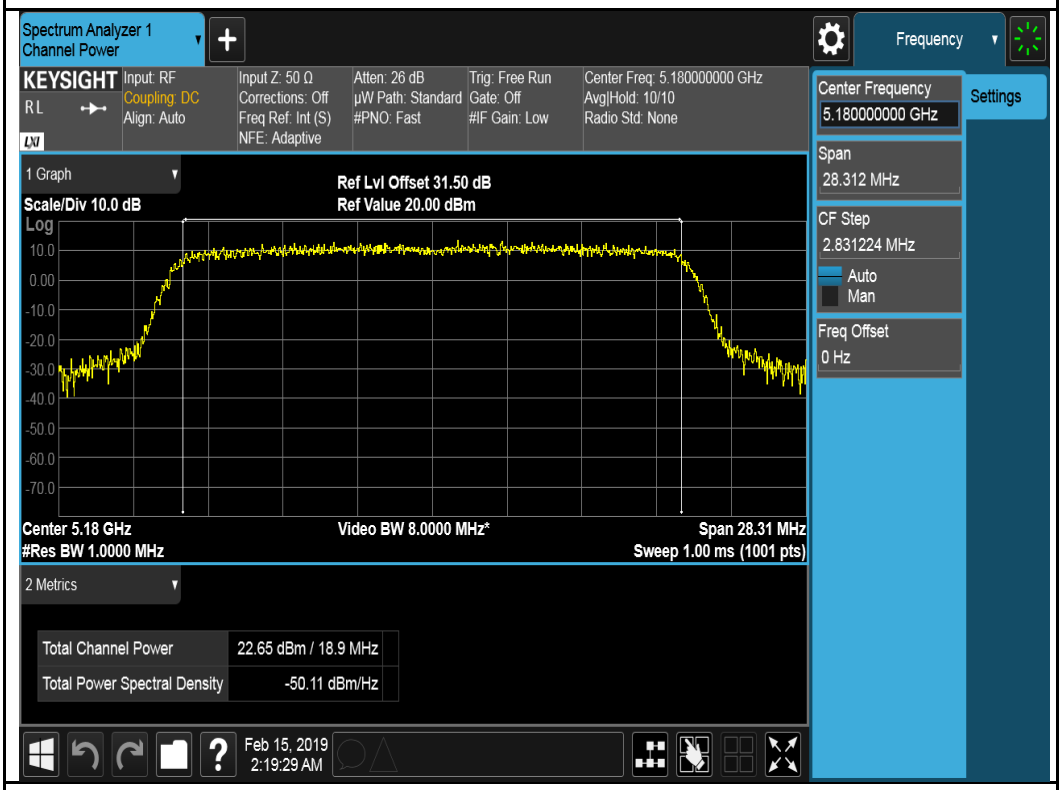
802.11a-5180MHz



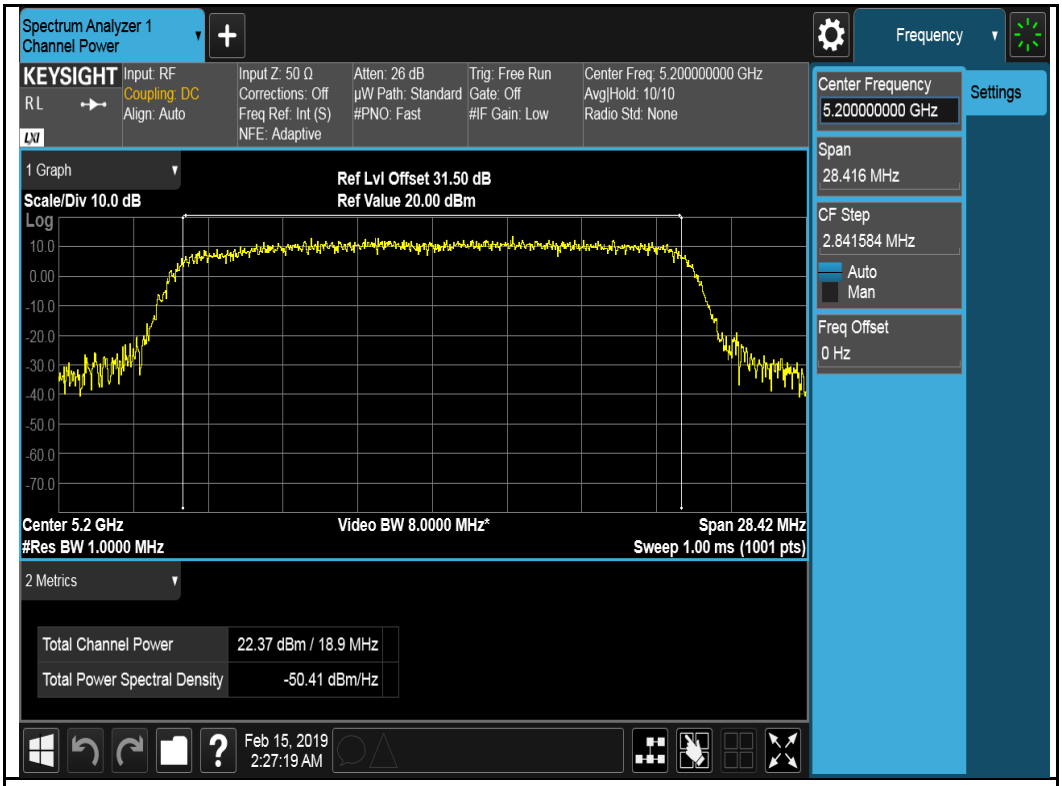
802.11a-5200MHz



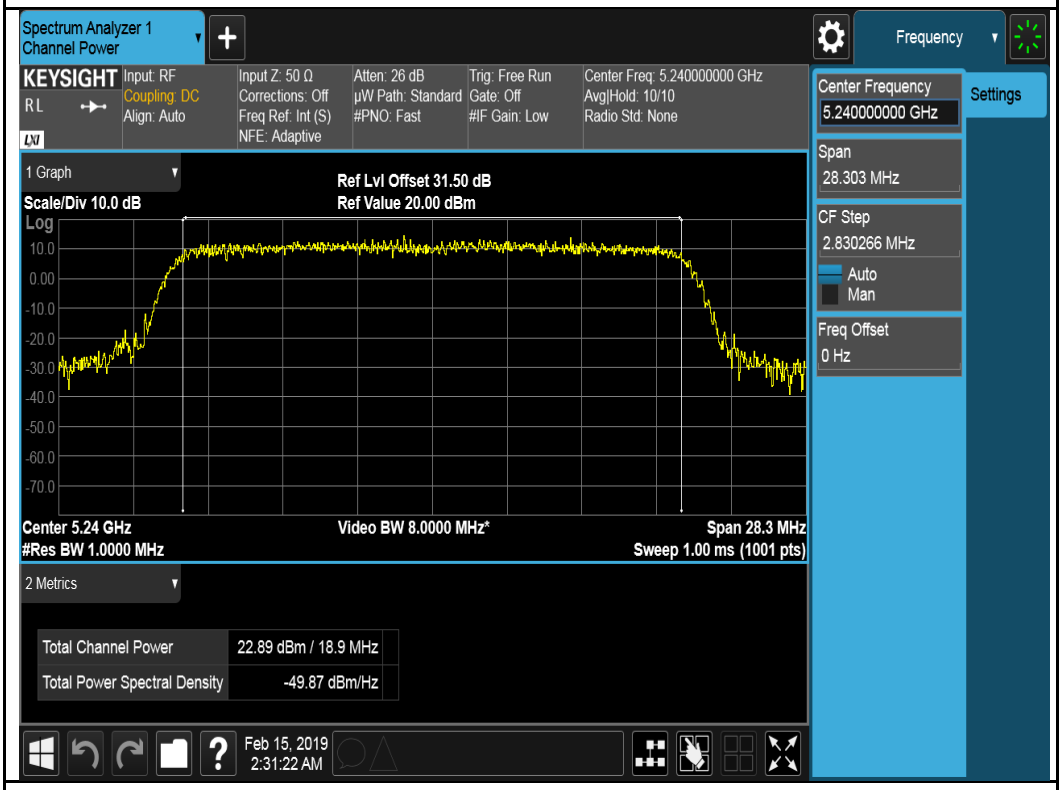
802.11a-5240MHz



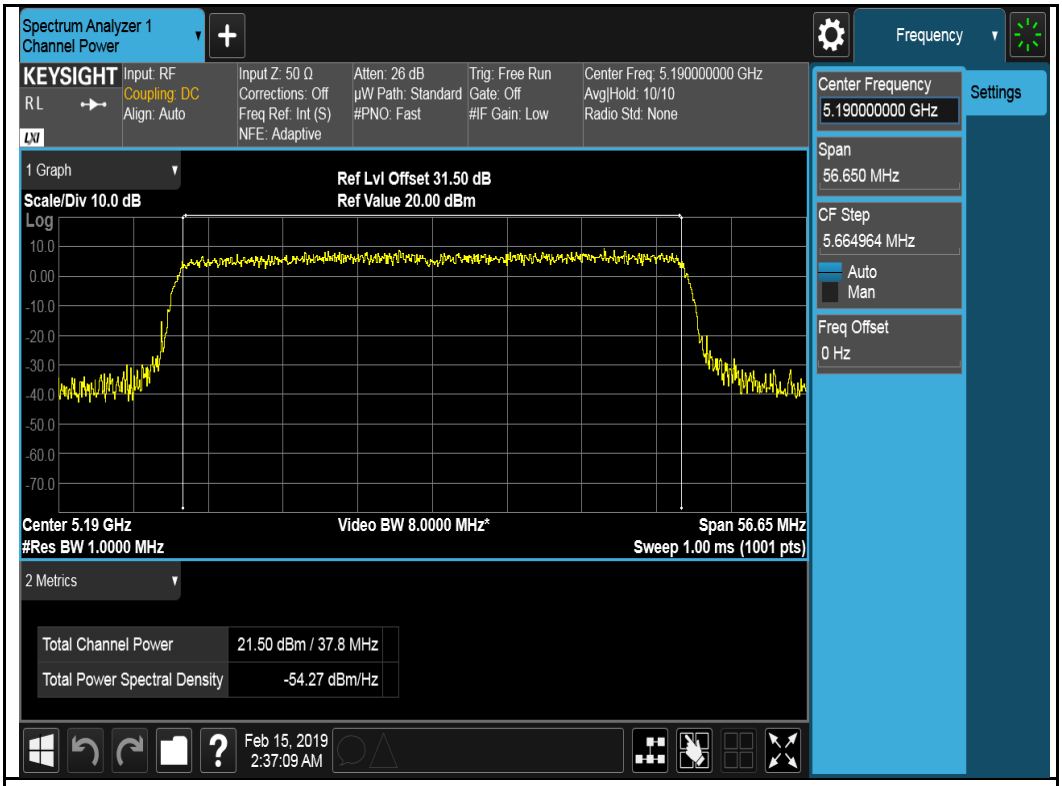
802.11ax-HT20-5180MHz



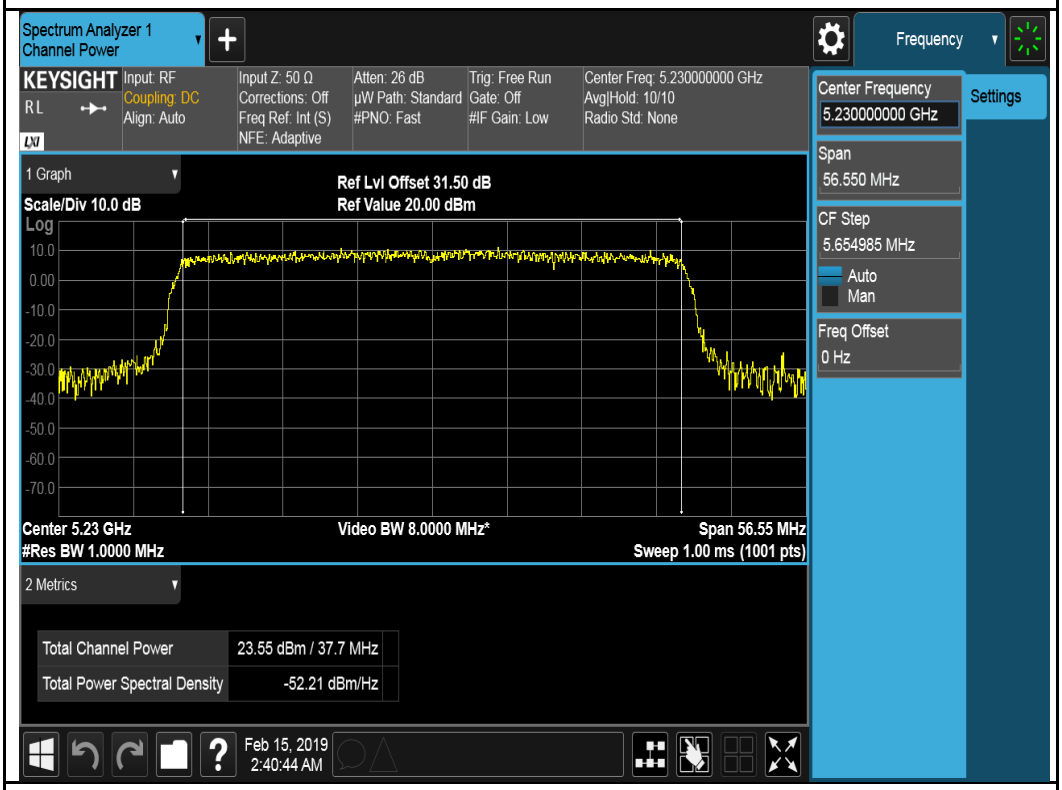
802.11ax-HT20-5200MHz



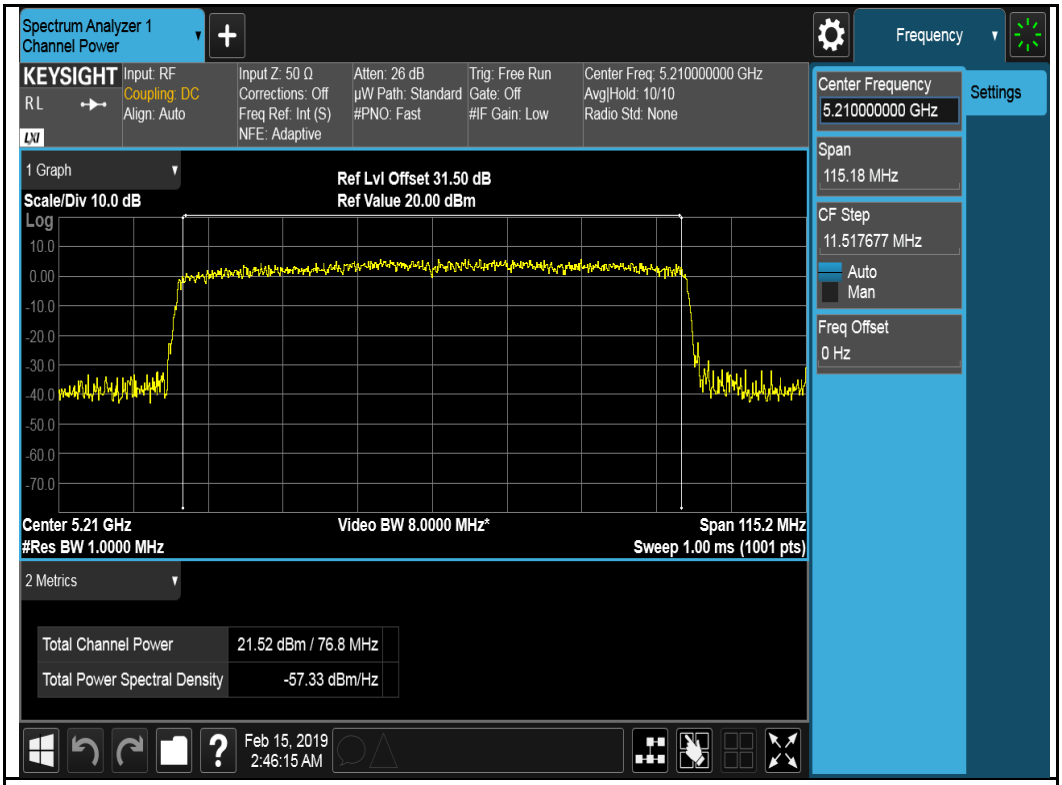
802.11ax-HT20-5240MHz



802.11ax-H420-5190MHz



802.11ax-H420-5230MHz



802.11ax-VHT80-5210MHz

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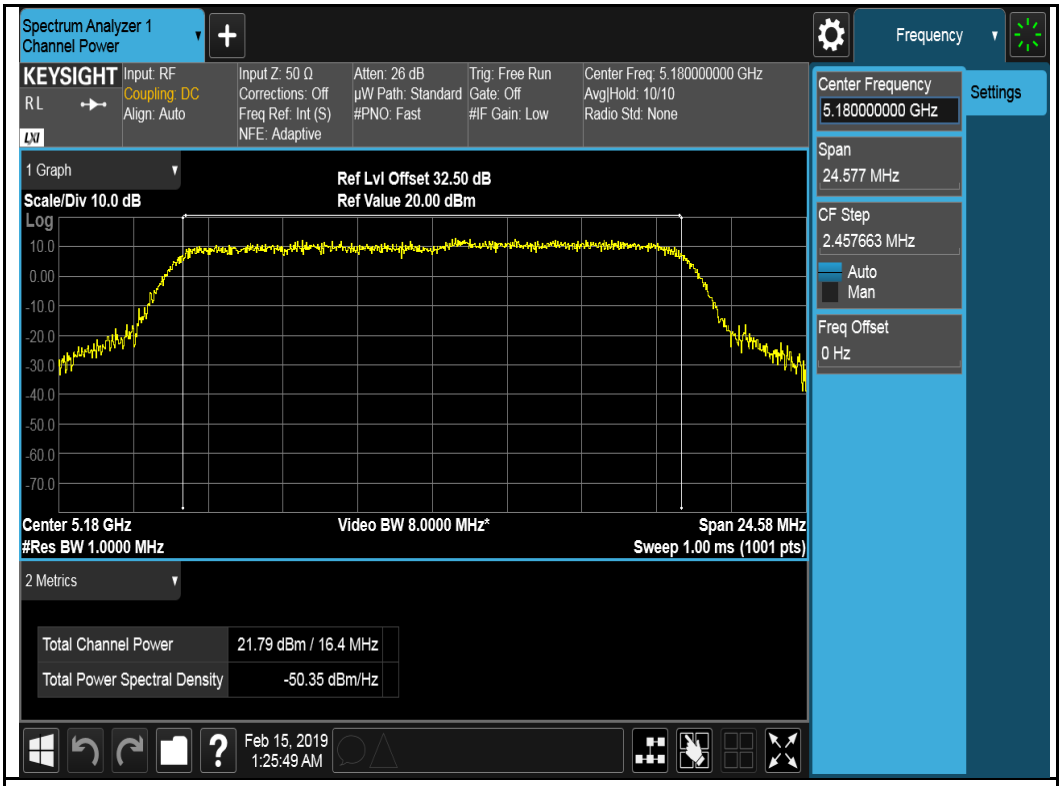
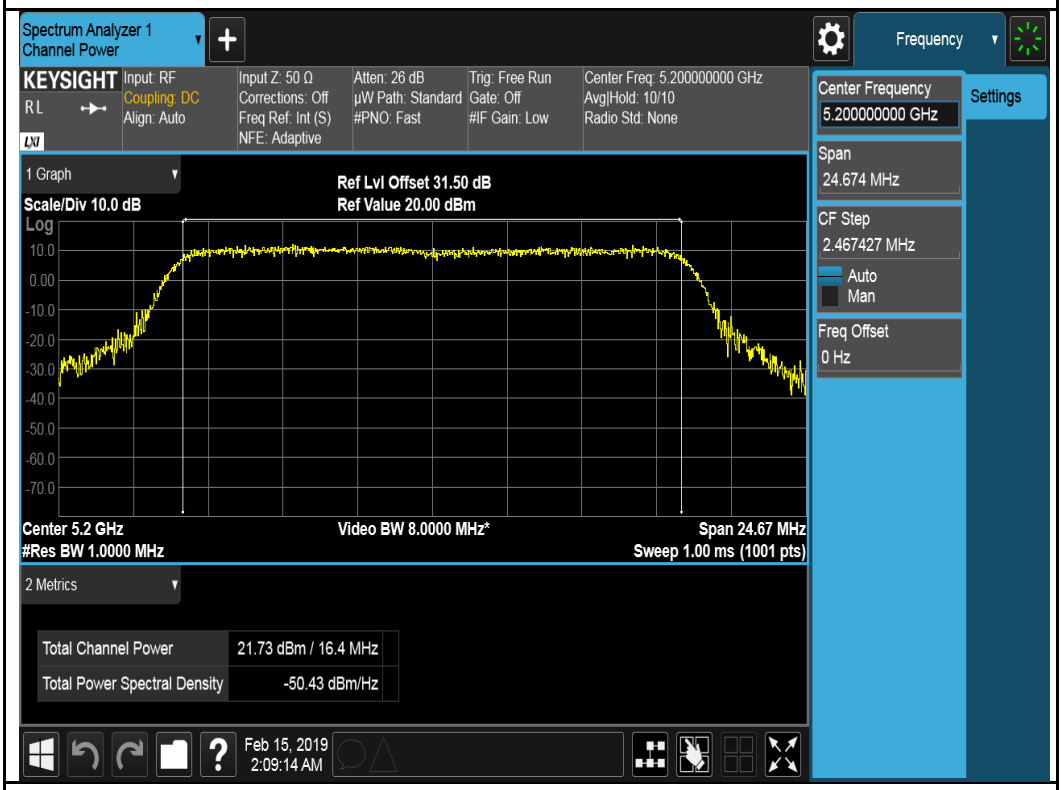
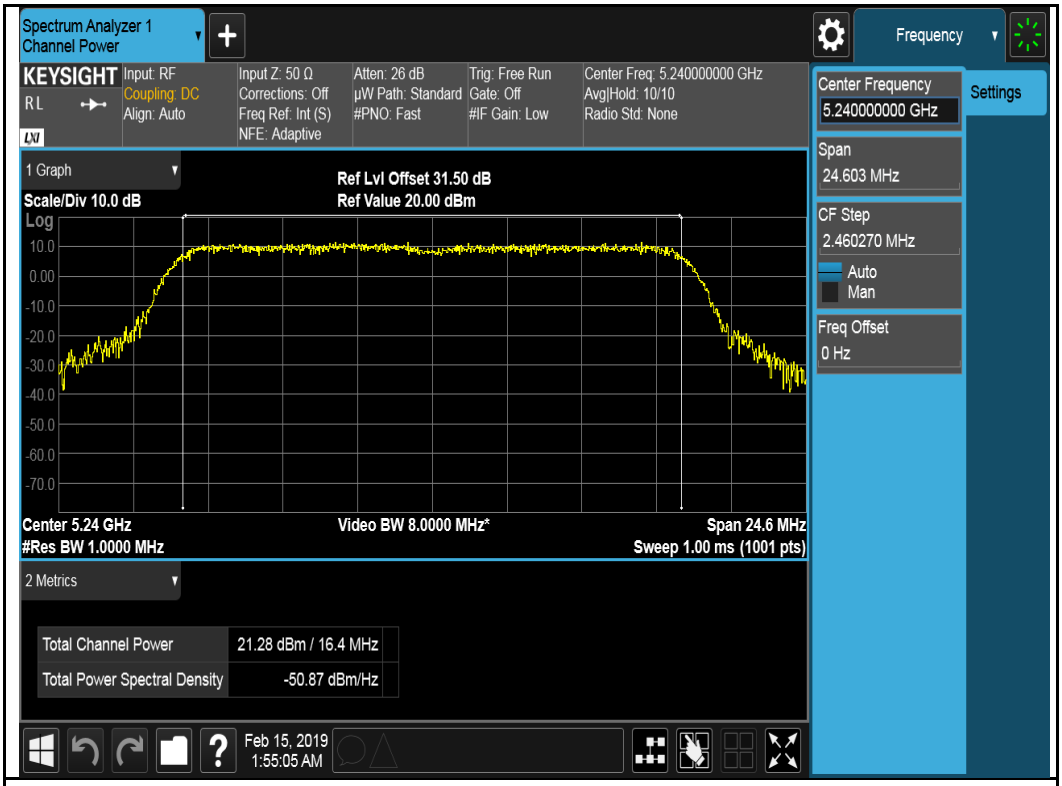


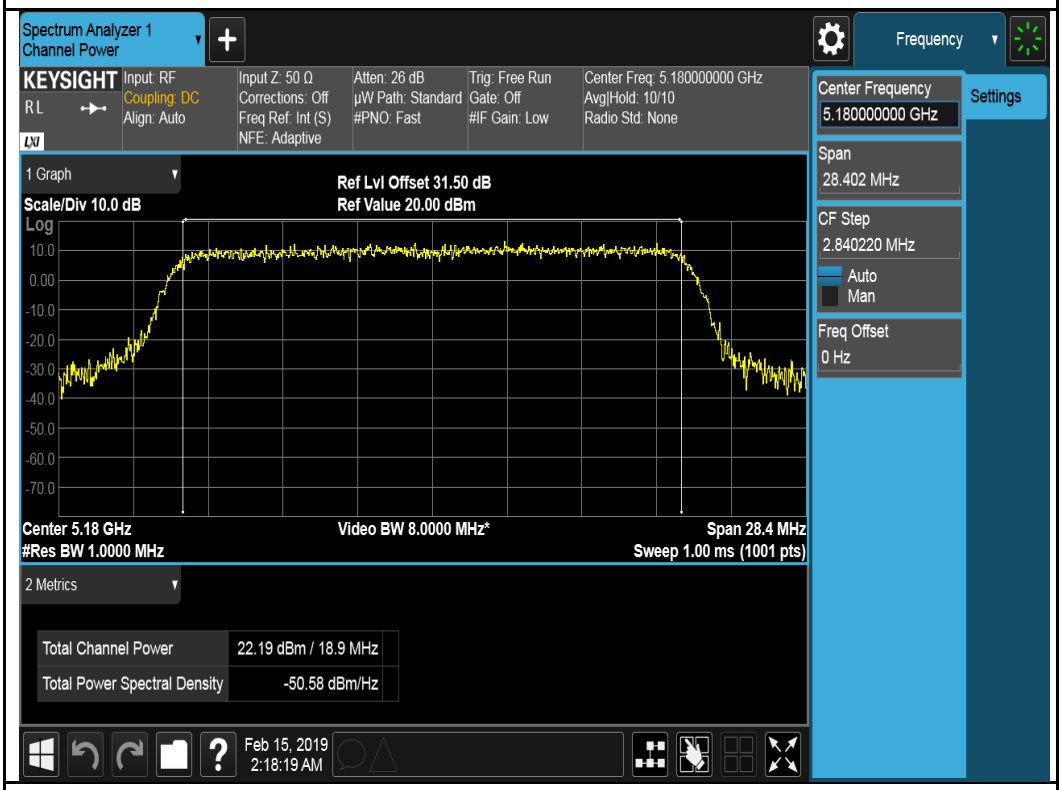
802.11a-5180MHz



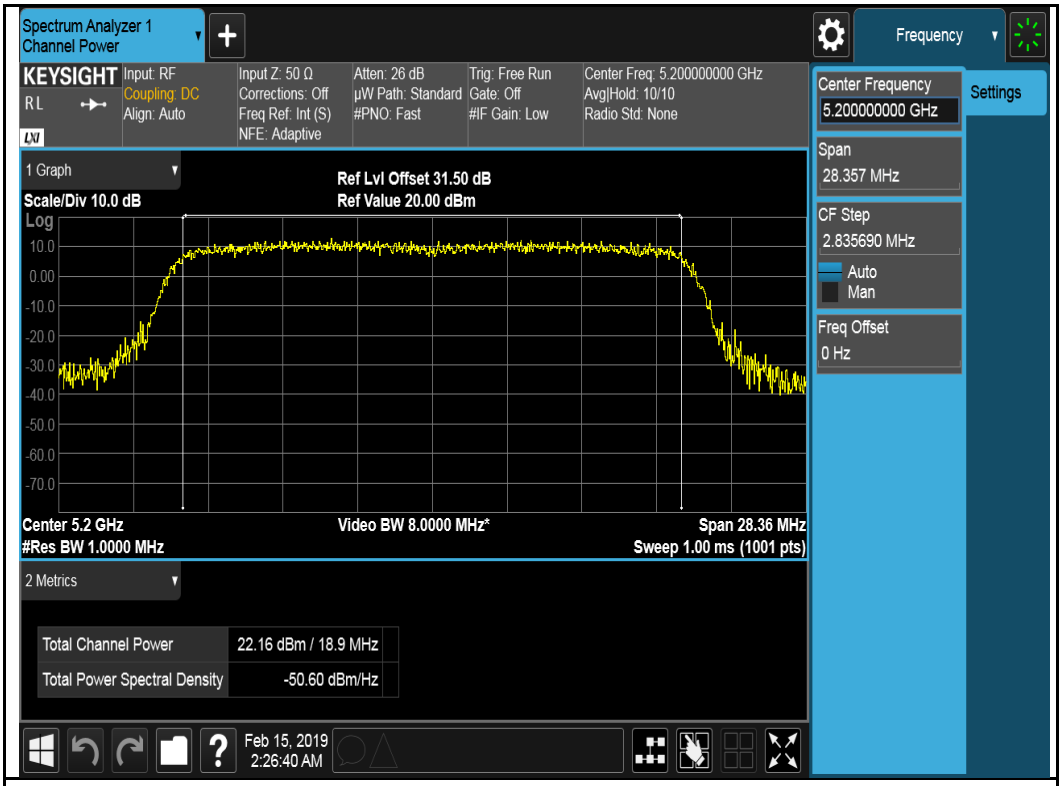
802.11a-5200MHz



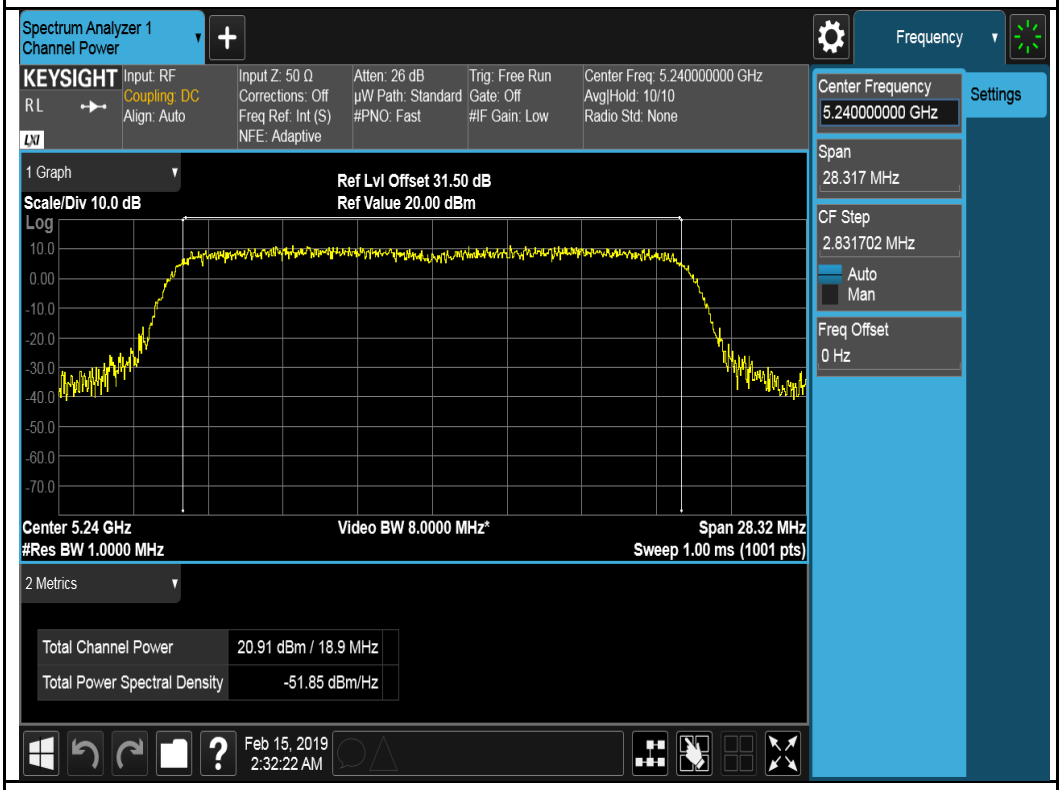
802.11a-5240MHz



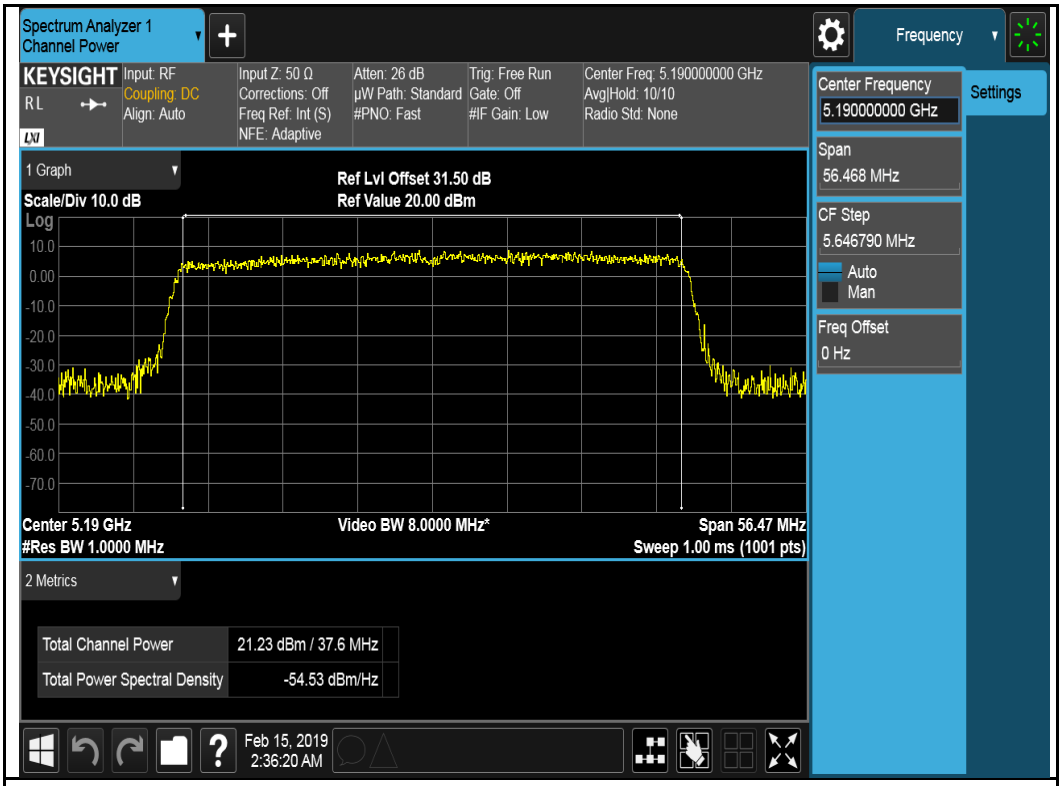
802.11ax-HT20-5180MHz



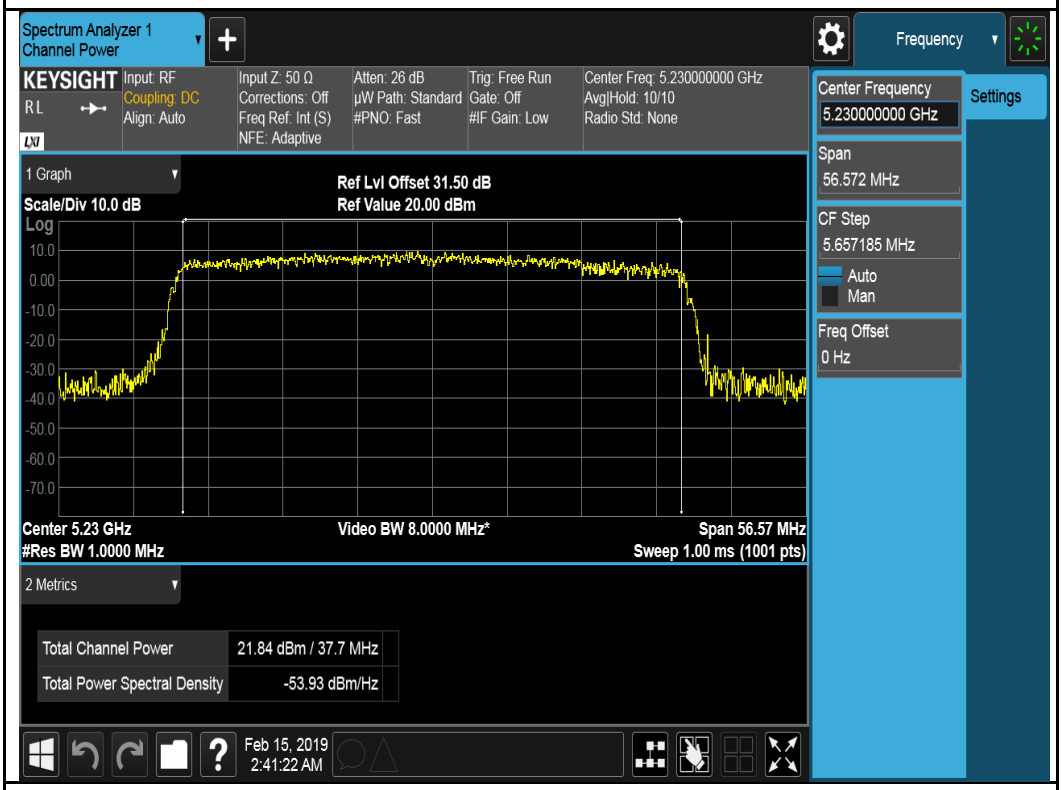
802.11ax-HT20-5200MHz



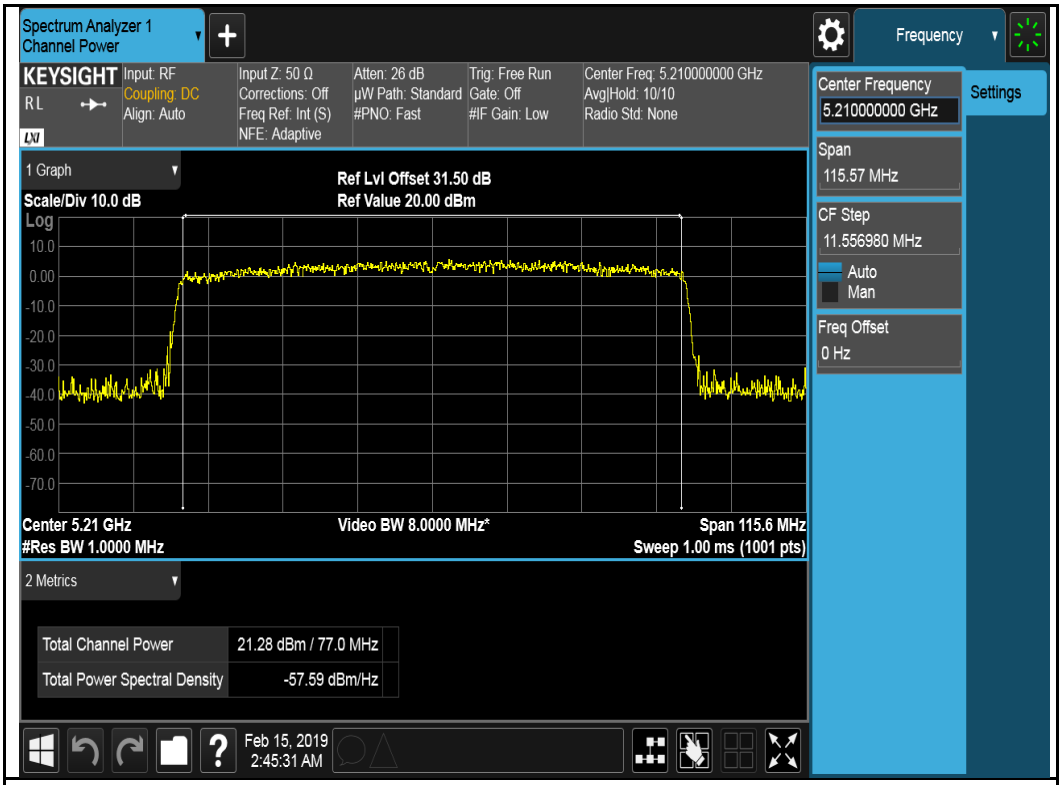
802.11ax-HT20-5240MHz



802.11ax-H420-5190MHz



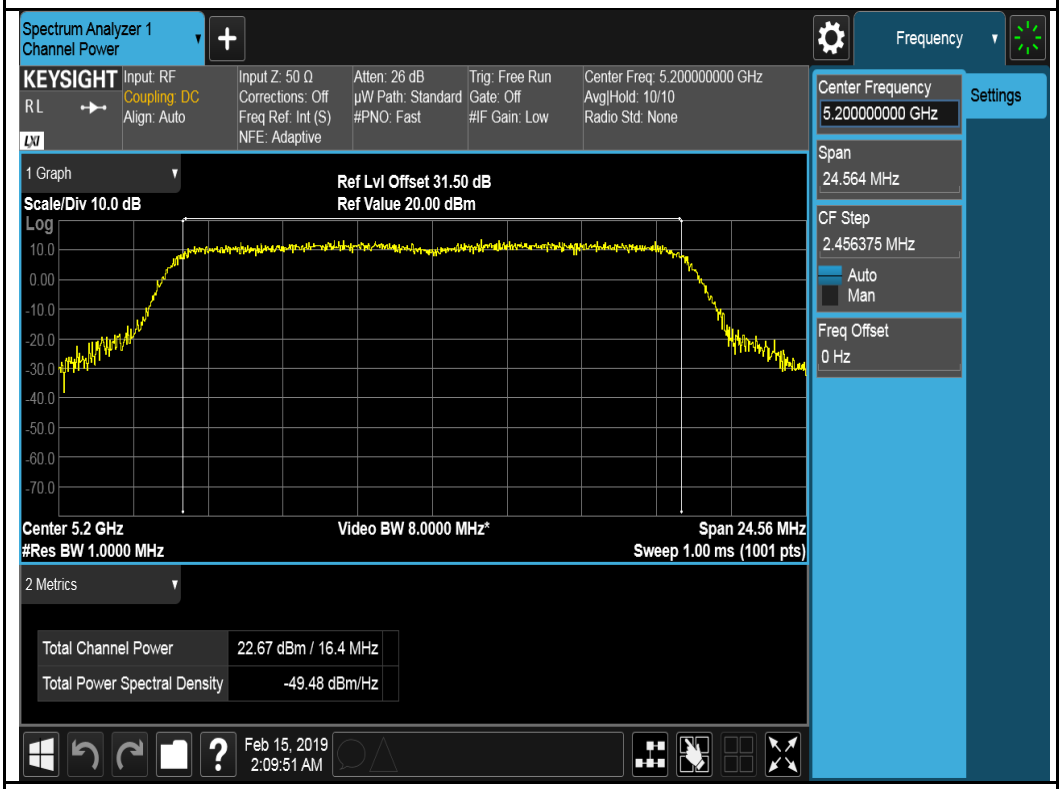
802.11ax-H420-5230MHz



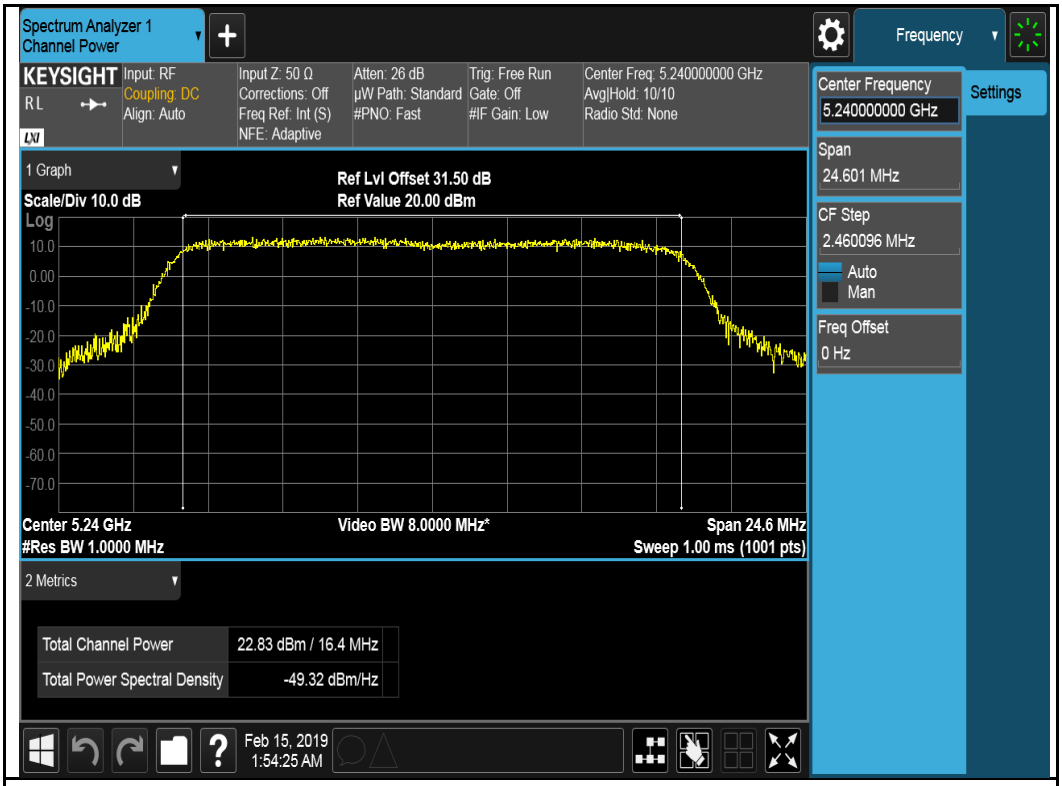
802.11ax-VHT80-5210MHz

Chain 3:

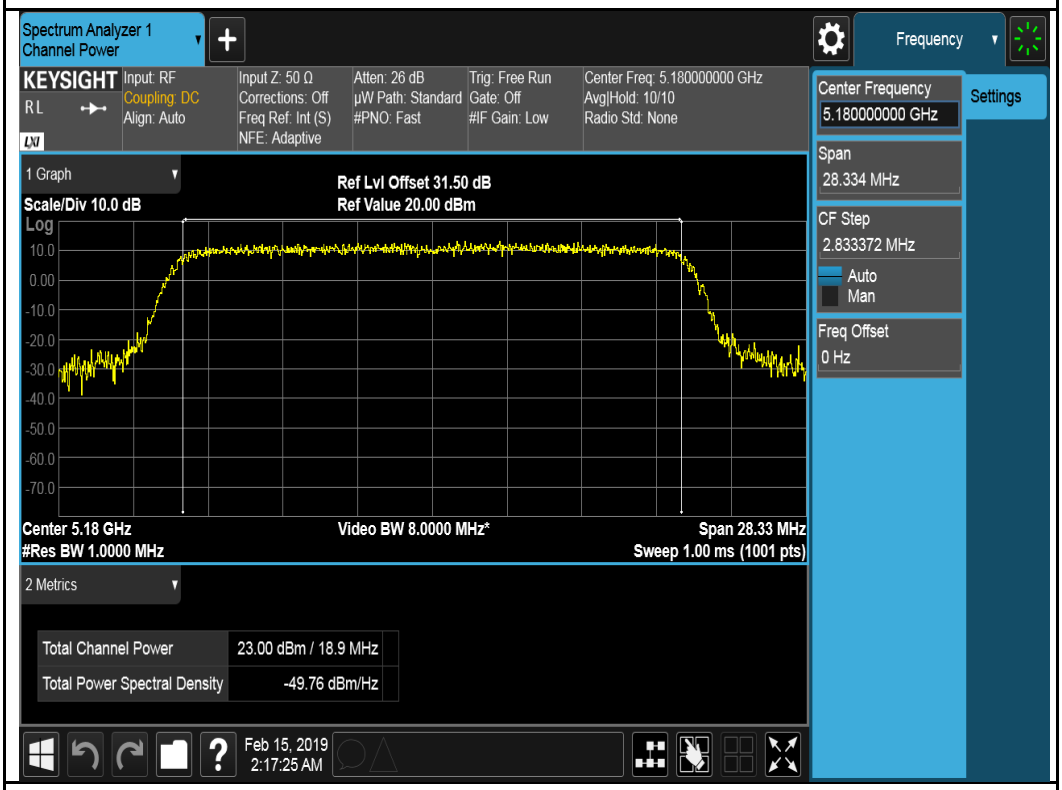
802.11a-5180MHz



802.11a-5200MHz



802.11a-5240MHz



802.11ax-HT20-5180MHz