

Report on the FCC and IC Testing of the: Apple Inc. Model A1932

In accordance with FCC 47 CFR Part 15E and
Industry Canada RSS-247 and Industry Canada
RSS-GEN

Prepared for: Apple Inc.
One Apple Park Way
Cupertino, California 95014, USA

FCC ID: BCGA1932

IC: 579C-A1932



Product Service

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Document Number: 75942371-13 | Issue: 01

SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Matthew Russell	RF Team Leader	Authorised Signatory	19 October 2018
Simon Bennett	Chief Engineer	Authorised Signatory	19 October 2018

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 and Industry Canada RSS-247 and Industry Canada RSS-GEN. The sample tested was found to comply with the requirements defined in the applied rules.

SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
Graeme Lawler	Test Engineer	Testing	19 October 2018
Tony Hubbard	Test Engineer	Testing	19 October 2018
Cristian Onaca	Engineer	Testing	19 October 2018
Sharif Sendagire	Shift Engineer	Testing	19 October 2018
Phillip Harrison	Senior Engineer	Testing	19 October 2018
Matthew Russell	RF Team Leader	Testing	19 October 2018
Nandhini Mathivanan	Engineer	Testing	19 October 2018

FCC Accreditation

90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation

IC2932B-1 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

A sample of this product was tested and found to be compliant with FCC 47 CFR Part 15E: 2017, Industry Canada RSS-247: Issue 2 (2017-02) and Industry Canada RSS-GEN: Issue 5 (2018-04).



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Contents

1 Report Summary2

1.1 Report Modification Record.....2

1.2 Introduction.....2

1.3 Brief Summary of Results3

1.4 Product Information4

1.5 Deviations from the Standard.....7

1.6 EUT Modification Record7

1.7 Test Location.....8

2 Test Details9

2.1 Maximum Conducted Output Power9

2.2 Maximum Conducted Power Spectral Density.....33

2.3 Emission Bandwidth.....55

2.4 Authorised Band Edges251

2.5 Spurious Radiated Emissions267

2.6 Restricted Band Edges295

2.7 Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period304

3 Measurement Uncertainty318



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	19 October 2018

Table 1

1.2 Introduction

Applicant	Apple Inc.
Manufacturer	Apple Inc.
Model Number(s)	A1932
Serial Number(s)	C02X5003L3J3, C02X5003JL8Y, C02X5003L3J0 & C02X5003JL93
Hardware Version(s)	EVT2
Software Version(s)	18B2034
Number of Samples Tested	4
Test Specification/Issue/Date	FCC 47 CFR Part 15E: 2017 Industry Canada RSS-247: Issue 2 (2017-02) Industry Canada RSS-GEN: Issue 5 (2018-04)
Order Number	0540058293
Date	18-May-2018
Date of Receipt of EUT	07-September-2018
Start of Test	28-August-2018
Finish of Test	17-October-2018
Name of Engineer(s)	Sharifu Sendagire, Graeme Lawler, Tony Hubbard, Cristian Onaca, Nandhini Mathivanan, Phillip Harrison and Matthew Russell
Related Document(s)	ANSI C63.10 (2013) KDB 789033 D02 v02r01 KDB 662911 D01 v02r01 KDB 905462 D02 v02



1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC 47 CFR Part 15E and Industry Canada RSS-247 and Industry Canada RSS-GEN is shown below.

Section	Specification Clause			Test Description	Result	Comments/Base Standard
	Part 15E	RSS-247	RSS-GEN			
Configuration and Mode: 802.11 a/n/ac						
2.1	15.407 (a)	6.2	6.12	Maximum Conducted Output Power	Pass	ANSI C63.10 (2013), KDB 662911 D01
2.2	15.407 (a)	6.2	6.12	Maximum Conducted Power Spectral Density	Pass	ANSI C63.10 (2013), KDB 662911 D01
2.3	15.407 (a)(e)	6.2	6.7	Emission Bandwidth	Pass	ANSI C63.10 (2013)
2.4	15.407 (b)	6.2	-	Authorised Band Edges	Pass	ANSI C63.10 (2013)
2.5	15.407 (b), 15.205	6.2	6.13	Spurious Radiated Emissions	Pass	ANSI C63.10 (2013)
2.6	15.205	-	8.10	Restricted Band Edges	Pass	ANSI C63.10 (2013)
2.7	15.407(h)(2)(iii) (iv)	6.3.2 (c)(d)(e)	-	Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Pass	KDB 905462 D02

Table 2



1.4 Product Information

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Laptop computer, with Bluetooth, Bluetooth Low Energy and 802.11 b/g/a/n/ac capabilities in the 2.4GHz and 5GHz bands.

The EUT featured a 2x2 MIMO IEEE 802.11 radio (cores 0, 1) transmitting on 2 antennas. The EUT also featured a Bluetooth radio.

US and CA country codes changed the power table for U-NII band 1. Therefore U-NII-1 was tested to both powers. The CA country code also disabled any channels in the 5600-5650 MHz band.

1.4.2 Test Modes

The EUT's radio supports SISO modes only for 802.11a operation, and SISO / 2x2 MIMO in 802.11n and ac modes, with 20 MHz, 40 MHz, and 80 MHz channel bandwidths.

The EUT uses different output powers per core dependent on how many cores are used. The EUT also used different power tables for Cyclic Delay Diversity (CDD), Space Division Multiplexing (SDM), and transmit beamforming (TxBF) modes. It uses the same conducted power per core in any given mode, but due to the different antenna gains the radiated powers per core differs.

After preliminary investigations were performed, the EUT was therefore tested in the following worst-case modes:

- SISO Modes:
 - Main 802.11a (Core 0 for U-NII-1 and Core 1 for U-NII-2A / 2C / 3)
 - Main 802.11n HT20 (Core 0 for U-NII-1 and Core 1 for U-NII-2A / 2C / 3)
 - Main 802.11n HT40 (Core 0 for U-NII-1 and Core 1 for U-NII-2A / 2C / 3)
 - Main 802.11ac VHT80 (Core 0 for U-NII-1 and Core 1 for U-NII-2A / 2C / 3)
- 2x2 MIMO Modes:
 - Main 802.11n/ac (V)HT20*
 - Main 802.11n/ac (V)HT40*
 - Main 802.11ac VHT80

* = 802.11n HT modes were used for CDD and SDM and 802.11ac VHT modes were used for TxBF modes.



1.4.3 Test Set-up

For conducted tests the EUT antennas were disconnected and replaced with U.FL to SMA test cables to enable conducted testing on each core. The loss of these test cables were known and compensated for in any conducted measurements.

For transmit beamforming (TxBF) modes the EUT was set up communicating with a support notebook computer provided by the applicant, configured with custom commands to act as an access point. The test laptop was also set to a low output power (approximately 0 dBm) so in conjunction with the rest of the set-up configuration, would give negligible power at the measuring equipment and would not affect the test result. The support laptop's test network set the channel and bandwidth to which the EUT could connect. The EUT then set up a communications link to the support laptop, operating in normal communications mode but with beamforming modes forced on, with auto rate and TPC disabled via terminal commands so the EUT could be limited to worst-case modes. The EUT transmit duty cycle was then maximized by using iPerf bandwidth testing software to keep the transmit output buffer full and generate more traffic from the EUT to the support laptop than the link could sustain. The EUT therefore could fully operate its beamforming mode but with strictly controlled test parameters.

For all other testing except DFS the EUT was put into a continuous transmit test mode with the chipset manufacturer's test commands via a script running in the EUTs terminal application. The EUT then transmitted the required type of packeted 802.11 data frames of fixed length, containing the standard headers and with pseudo-random data content, ensuring the measured signals were representative and contained all the symbols at the highest power control level.

For DFS testing the EUT was connected to a test access point as shown in section 2.7. The iPerf data throughput test application was ran from the terminal to send UDP data packets from the EUT to the access point. The iPerf throughput rate was then adjusted to give >17 % duty cycle for each test mode.



1.4.4 Antenna Gain Table

Core 0 (WF1)

Frequency (MHz)	Peak Gain (dBi)	Conducted Cable Loss (dB)
5150 – 5250	2.8	1.50
5250 – 5350	1.8	1.75
5470 – 5725	2.6	1.60
5725 – 5850	3.0	1.70

Table 3

Core 1 (WF2)

Frequency (MHz)	Peak Gain (dBi)	Conducted Cable Loss (dB)
5150 – 5250	1.5	1.50
5250 – 5350	1.9	1.75
5470 – 5725	4.0	1.60
5725 – 5850	3.9	1.70

Table 4



1.5 Deviations from the Standard

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

1.6 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: C02X5003JL8Y			
0	As supplied by the customer	Not Applicable	Not Applicable
Serial Number: C02X5003L3J3			
0	As supplied by the customer	Not Applicable	Not Applicable
1	Maximum conducted output power and PSD tests repeated at reduced powers.	Not Applicable	15 October 2018
Serial Number: C02X5003L3J0			
0	As supplied by the customer	Not Applicable	Not Applicable
Serial Number: C02X5003JL93			
0	As supplied by the customer	Not Applicable	Not Applicable

Table 5



Product Service

1.7 Test Location

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

Test Name	Name of Engineer(s)	Accreditation
Maximum Conducted Output Power	Philip Harrison	UKAS
Maximum Conducted Power Spectral Density	Philip Harrison	UKAS
Emission Bandwidth	Philip Harrison	UKAS
Authorised Band Edges	Sharifu Sendagire, Graeme Lawler, Tony Hubbard, Cristian Onaca, Nandhini Mathivanan	UKAS
Spurious Radiated Emissions		UKAS
Restricted Band Edges		UKAS
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period	Matthew Russell	UKAS

Table 6

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)
Industry Canada RSS-247, Clause 6.2
Industry Canada RSS-GEN, Clause 6.12.

2.1.2 Equipment Under Test and Modification State

A1932, S/N: C02X5003L3J3 - Modification State 0
A1932, S/N: C02X5003L3J3 - Modification State 1
A1932, S/N: C02X5003JL8Y - Modification State 0

2.1.3 Date of Test

26-September-2018 to 17-October-2018

2.1.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 12.3.3.2 and KDB 789033 D02 using method PM-G.

Since the gated power meter was used for method PM-G the EUT was measured only while transmitting and hence no duty cycle correction was necessary.

MIMO output port summing was performed in accordance with KDB 662911 D01.

The EUT has equal conducted powers on all ports for each mode of operation, but unequal antenna gains. Therefore for SISO modes the EUT was tested on the port with the highest antenna gain which would result in the highest EIRP output power.

MIMO output port summing was performed in accordance with KDB 662911 D01. Cyclic delay diversity (CDD) modes had the output cores summed using clause F)2)f)(i) with an array gain of 0 dB (802.11 devices with ≤ 4 antennas). Space-division multiplexing (SDM) modes were summed in accordance with F)2)d)(ii). Transmit beamforming (TxBF) modes were summed as per F)2)d)(i).

2.1.5 Environmental Conditions

Ambient Temperature	21 to 24°C
Relative Humidity	36 to 68%

2.1.6 Test Results: U-NII-1

802.11a / 6 Mbps / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Antenna Directional Gain (dBi)	2.80	2.80	2.80
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
Conducted Power (dBm)	15.09	15.08	15.17

Table 7

802.11a / 6 Mbps / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power (dBm)	14.99	15.11	15.14
Antenna Directional Gain (dBi)	2.80	2.80	2.80
RSS-247 EIRP Power Limit (dBm)	22.18	22.19	22.19
Total EIRP (dBm)	17.79	17.91	17.94

Table 8

802.11n / HT20 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Antenna Directional Gain (dBi)	2.80	2.80	2.80
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
Conducted Power (dBm)	15.06	15.02	15.04

Table 9

802.11n / HT20 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power (dBm)	15.19	15.04	15.01
Antenna Directional Gain (dBi)	2.80	2.80	2.80
RSS-247 EIRP Power Limit (dBm)	22.48	22.49	22.49
Total EIRP (dBm)	17.99	17.84	17.81

Table 10

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	13.82	14.99	15.02
Conducted Power Core 1 (dBm)	13.81	15.19	15.14
Antenna Directional Gain (dBi)	2.80	2.80	2.80
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.83	18.10	18.09

Table 11



802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	10.16	10.41	10.39
Conducted Power Core 1 (dBm)	10.37	10.28	10.22
Total Conducted Power (dBm)	13.28	13.36	13.32
Antenna Directional Gain (dBi)	2.80	2.80	2.80
RSS-247 EIRP Power Limit (dBm)	22.50	22.49	22.50
Total EIRP (dBm)	16.08	16.16	16.12

Table 12

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	13.72	15.03	15.04
Conducted Power Core 1 (dBm)	13.89	15.02	14.99
Antenna Directional Gain (dBi)	2.20	2.20	2.20
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.82	18.04	18.03

Table 13

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	13.49	13.29	13.24
Conducted Power Core 1 (dBm)	13.36	13.18	13.29
Total Conducted Power (dBm)	16.44	16.25	16.28
Antenna Directional Gain (dBi)	2.20	2.20	2.20
RSS-247 EIRP Power Limit (dBm)	22.49	22.49	22.49
Total EIRP (dBm)	18.63	18.44	18.47

Table 14

802.11n / HT40 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Antenna Directional Gain (dBi)	2.80	2.80
15.407 Conducted Power Limit (dBm)	24.00	24.00
Conducted Power (dBm)	13.26	15.04

Table 15

802.11n / HT40 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power (dBm)	13.26	13.27
Antenna Directional Gain (dBi)	2.80	2.80
RSS-247 EIRP Power Limit (dBm)	23.00	23.00
Total EIRP (dBm)	16.06	16.07

Table 16



802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	11.81	15.09
Conducted Power Core 1 (dBm)	11.73	15.10
Antenna Directional Gain (dBi)	2.80	2.80
15.407 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	14.78	18.11

Table 17

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	11.82	13.76
Conducted Power Core 1 (dBm)	11.78	13.82
Total Conducted Power (dBm)	14.81	16.80
Antenna Directional Gain (dBi)	2.80	2.80
RSS-247 EIRP Power Limit (dBm)	23.00	23.00
Total EIRP (dBm)	17.61	19.60

Table 18

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	11.88	14.94
Conducted Power Core 1 (dBm)	11.73	15.19
Antenna Directional Gain (dBi)	2.20	2.20
15.407 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	14.82	18.08

Table 19

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	11.94	14.98
Conducted Power Core 1 (dBm)	11.87	15.16
Total Conducted Power (dBm)	14.92	18.08
Antenna Directional Gain (dBi)	2.20	2.20
RSS-247 EIRP Power Limit (dBm)	23.00	23.00
Total EIRP (dBm)	17.11	20.28

Table 20



802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	13.84	15.10	14.92
Conducted Power Core 1 (dBm)	13.81	14.94	14.94
Antenna Directional Gain (dBi)	5.18	5.18	5.18
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.84	18.03	17.94

Table 21

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted Power Core 0 (dBm)	10.39	10.27	10.46
Conducted Power Core 1 (dBm)	10.26	10.38	10.39
Total Conducted Power (dBm)	13.34	13.34	13.44
Antenna Directional Gain (dBi)	5.18	5.18	5.18
RSS-247 EIRP Power Limit (dBm)	22.50	22.48	22.49
Total EIRP (dBm)	18.52	18.52	18.62

Table 22

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	10.87	15.01
Conducted Power Core 1 (dBm)	10.73	14.99
Antenna Directional Gain (dBi)	5.18	5.18
15.407 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	13.81	18.01

Table 23

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted Power Core 0 (dBm)	10.80	13.61
Conducted Power Core 1 (dBm)	10.81	13.67
Total Conducted Power (dBm)	13.82	16.65
Antenna Directional Gain (dBi)	5.18	5.18
RSS-247 EIRP Power Limit (dBm)	23.00	23.00
Total EIRP (dBm)	19.00	21.84

Table 24



802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Antenna Directional Gain (dBi)	2.80
15.407 Conducted Power Limit (dBm)	24.00
Conducted Power (dBm)	12.88

Table 25

802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted Power (dBm)	12.97
Antenna Directional Gain (dBi)	2.80
RSS-247 EIRP Power Limit (dBm)	23.00
Total EIRP (dBm)	15.77

Table 26

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	11.26
Conducted Power Core 1 (dBm)	11.38
Antenna Directional Gain (dBi)	2.80
15.407 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	14.33

Table 27

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	11.25
Conducted Power Core 1 (dBm)	11.37
Total Conducted Power (dBm)	14.32
Antenna Directional Gain (dBi)	2.80
RSS-247 EIRP Power Limit (dBm)	23.00
Total EIRP (dBm)	17.12

Table 28

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	11.40
Conducted Power Core 1 (dBm)	11.32
Antenna Directional Gain (dBi)	2.20
15.407 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	14.37

Table 29



802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	11.44
Conducted Power Core 1 (dBm)	11.24
Total Conducted Power (dBm)	14.35
Antenna Directional Gain (dBi)	2.20
RSS-247 EIRP Power Limit (dBm)	23.00
Total EIRP (dBm)	16.55

Table 30

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	10.71
Conducted Power Core 1 (dBm)	10.87
Antenna Directional Gain (dBi)	5.18
15.407 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	13.80

Table 31

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted Power Core 0 (dBm)	10.67
Conducted Power Core 1 (dBm)	10.88
Total Conducted Power (dBm)	13.79
Antenna Directional Gain (dBi)	5.18
RSS-247 EIRP Power Limit (dBm)	23.00
Total EIRP (dBm)	18.97

Table 32



2.1.7 Test Results: U-NII-2A

802.11a / 6 Mbps / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Antenna Directional Gain (dBi)	1.90	1.90	1.90
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	23.18	23.17	23.19
Conducted Power (dBm)	15.40	15.38	15.45
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	29.18	29.17	29.19
EIRP Power (dBm)	17.30	17.28	17.35

Table 33

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Antenna Directional Gain (dBi)	1.90	1.90	1.90
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	23.49	23.48	23.48
Conducted Power (dBm)	15.44	15.49	15.50
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	29.49	29.48	29.48
EIRP Power (dBm)	17.34	17.39	17.40

Table 34

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted Power Core 0 (dBm)	15.15	15.41	14.98
Conducted Power Core 1 (dBm)	15.46	15.42	14.89
Antenna Directional Gain (dBi)	1.90	1.90	1.90
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	23.48	23.49	23.49
Total Conducted Power (dBm)	18.32	18.43	17.95
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	29.48	29.49	29.49
EIRP Power (dBm)	20.22	20.33	19.85

Table 35



802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted Power Core 0 (dBm)	15.32	15.37	15.49
Conducted Power Core 1 (dBm)	15.22	15.47	15.39
Antenna Directional Gain (dBi)	1.85	1.85	1.85
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	23.48	23.48	23.48
Total Conducted Power (dBm)	18.28	18.43	18.45
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	29.48	29.48	29.48
EIRP Power (dBm)	20.13	20.28	20.30

Table 36

802.11n / HT40 MCS0 / SISO / Core 1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Antenna Directional Gain (dBi)	1.90	1.90
15.407 Conducted Power Limit (dBm)	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00
Conducted Power (dBm)	15.22	15.36
15.407 TPC EIRP Limit (dBm)	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00
EIRP Power (dBm)	17.12	17.26

Table 37

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted Power Core 0 (dBm)	15.38	14.70
Conducted Power Core 1 (dBm)	15.35	14.66
Antenna Directional Gain (dBi)	1.90	1.90
15.407 Conducted Power Limit (dBm)	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	18.38	17.69
15.407 TPC EIRP Limit (dBm)	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00
EIRP Power (dBm)	20.28	19.59

Table 38



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted Power Core 0 (dBm)	15.33	14.71
Conducted Power Core 1 (dBm)	15.32	14.66
Antenna Directional Gain (dBi)	1.85	1.85
15.407 Conducted Power Limit (dBm)	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	18.34	17.70
15.407 TPC EIRP Limit (dBm)	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00
EIRP Power (dBm)	20.19	19.55

Table 39

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted Power Core 0 (dBm)	15.16	15.24	14.71
Conducted Power Core 1 (dBm)	15.23	15.46	14.99
Antenna Directional Gain (dBi)	4.86	4.86	4.86
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	23.49	23.49	23.49
Total Conducted Power (dBm)	18.21	18.36	17.86
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	29.49	29.49	29.49
EIRP Power (dBm)	23.07	23.22	22.72

Table 40

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted Power Core 0 (dBm)	15.19	14.40
Conducted Power Core 1 (dBm)	15.34	14.43
Antenna Directional Gain (dBi)	4.86	4.86
15.407 Conducted Power Limit (dBm)	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00
Total Conducted Power (dBm)	18.28	17.43
15.407 TPC EIRP Limit (dBm)	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00
EIRP Power (dBm)	23.14	22.29

Table 41



802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Middle
Frequency (MHz)	5290
Antenna Directional Gain (dBi)	1.90
15.407 Conducted Power Limit (dBm)	24.00
RSS-247 Conducted Power Limit (dBm)	24.00
Conducted Power (dBm)	15.21
15.407 TPC EIRP Limit (dBm)	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00
EIRP Power (dBm)	17.11

Table 42

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted Power Core 0 (dBm)	14.41
Conducted Power Core 1 (dBm)	14.42
Antenna Directional Gain (dBi)	1.90
15.407 Conducted Power Limit (dBm)	24.00
RSS-247 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	17.43
15.407 TPC EIRP Limit (dBm)	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00
EIRP Power (dBm)	19.33

Table 43

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted Power Core 0 (dBm)	14.22
Conducted Power Core 1 (dBm)	14.36
Antenna Directional Gain (dBi)	1.85
15.407 Conducted Power Limit (dBm)	24.00
RSS-247 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	17.30
15.407 TPC EIRP Limit (dBm)	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00
EIRP Power (dBm)	19.15

Table 44



Product Service

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted Power Core 0 (dBm)	13.79
Conducted Power Core 1 (dBm)	13.72
Antenna Directional Gain (dBi)	4.86
15.407 Conducted Power Limit (dBm)	24.00
RSS-247 Conducted Power Limit (dBm)	24.00
Total Conducted Power (dBm)	16.77
15.407 TPC EIRP Limit (dBm)	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00
EIRP Power (dBm)	21.63

Table 45



2.1.8 Test Results: U-NII-2C

802.11a / 6 Mbps / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	22.92
RSS-247 Conducted Power Limit (dBm)	23.19	23.19	23.18	23.19
Conducted Power (dBm)	14.15	14.28	14.34	14.37
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	28.92
RSS-247 TPC EIRP Limit (dBm)	29.19	29.19	29.18	29.19
EIRP Power (dBm)	18.15	18.28	18.34	18.37

Table 46

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	22.97
RSS-247 Conducted Power Limit (dBm)	23.48	23.48	23.49	23.48
Conducted Power (dBm)	14.27	14.26	14.28	14.32
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	28.97
RSS-247 TPC EIRP Limit (dBm)	29.48	29.48	29.49	29.48
EIRP Power (dBm)	18.27	18.26	18.28	18.32

Table 47

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted Power Core 0 (dBm)	14.46	14.21	14.48	14.40
Conducted Power Core 1 (dBm)	14.15	14.20	14.33	14.17
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	23.00
RSS-247 Conducted Power Limit (dBm)	23.48	23.49	23.49	23.50
Total Conducted Power (dBm)	17.32	17.22	17.42	17.30
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	29.00
RSS-247 TPC EIRP Limit (dBm)	29.48	29.49	29.49	29.50
EIRP Power (dBm)	21.32	21.22	21.42	21.30

Table 48



802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted Power Core 0 (dBm)	14.34	14.20	14.44	14.35
Conducted Power Core 1 (dBm)	14.23	14.34	14.36	14.19
Antenna Directional Gain (dBi)	3.36	3.36	3.36	3.36
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	22.99
RSS-247 Conducted Power Limit (dBm)	23.48	23.48	23.49	23.49
Total Conducted Power (dBm)	17.30	17.28	17.41	17.28
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	28.99
RSS-247 TPC EIRP Limit (dBm)	29.48	29.48	29.49	29.49
EIRP Power (dBm)	20.65	20.64	20.77	20.64

Table 49

802.11n / HT40 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
Conducted Power (dBm)	14.26	14.42	14.33	14.28
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
EIRP Power (dBm)	18.26	18.42	18.33	18.28

Table 50

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Conducted Power Core 0 (dBm)	14.37	14.24	14.33	14.23
Conducted Power Core 1 (dBm)	14.33	14.29	14.43	14.37
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
Total Conducted Power (dBm)	17.36	17.28	17.39	17.31
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
EIRP Power (dBm)	21.36	21.28	21.39	21.31

Table 51



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Conducted Power Core 0 (dBm)	14.32	14.21	14.33	14.25
Conducted Power Core 1 (dBm)	14.31	14.25	14.36	14.18
Antenna Directional Gain (dBi)	3.36	3.36	3.36	3.36
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00	24.00
Total Conducted Power (dBm)	17.33	17.24	17.36	17.23
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00	30.00
EIRP Power (dBm)	20.68	20.60	20.71	20.58

Table 52

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted Power Core 0 (dBm)	14.32	14.25	14.50	14.46
Conducted Power Core 1 (dBm)	14.25	14.22	14.18	14.37
Antenna Directional Gain (dBi)	6.34	6.34	6.34	6.34
15.407 Conducted Power Limit (dBm)	23.66	23.66	23.66	22.68
RSS-247 Conducted Power Limit (dBm)	23.50	23.49	23.48	23.49
Total Conducted Power (dBm)	17.30	17.25	17.35	17.43
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00	29.02
RSS-247 TPC EIRP Limit (dBm)	29.50	29.49	29.48	29.49
EIRP Power (dBm)	23.63	23.58	23.69	23.76

Table 53

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5510	5670	5710
Conducted Power Core 0 (dBm)	13.32	14.23	14.25
Conducted Power Core 1 (dBm)	13.37	14.32	14.36
Antenna Directional Gain (dBi)	6.34	6.34	6.34
15.407 Conducted Power Limit (dBm)	23.66	23.66	23.66
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.36	17.29	17.32
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00
EIRP Power (dBm)	22.69	23.62	23.65

Table 54

802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Antenna Directional Gain (dBi)	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00
Conducted Power (dBm)	14.31	14.33	14.35
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00
EIRP Power (dBm)	18.31	18.33	18.35

Table 55

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted Power Core 0 (dBm)	13.83	14.30	14.25
Conducted Power Core 1 (dBm)	13.81	14.35	14.28
Antenna Directional Gain (dBi)	4.00	4.00	4.00
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.83	17.34	17.28
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00
EIRP Power (dBm)	20.83	21.34	21.28

Table 56

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted Power Core 0 (dBm)	13.86	14.42	14.38
Conducted Power Core 1 (dBm)	13.68	14.24	14.17
Antenna Directional Gain (dBi)	3.36	3.36	3.36
15.407 Conducted Power Limit (dBm)	24.00	24.00	24.00
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	16.78	17.34	17.29
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00
EIRP Power (dBm)	20.14	20.70	20.64

Table 57



802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted Power Core 0 (dBm)	12.15	14.26	14.37
Conducted Power Core 1 (dBm)	12.30	14.44	14.35
Antenna Directional Gain (dBi)	6.34	6.34	6.34
15.407 Conducted Power Limit (dBm)	23.66	23.66	23.66
RSS-247 Conducted Power Limit (dBm)	24.00	24.00	24.00
Total Conducted Power (dBm)	15.24	17.36	17.37
15.407 TPC EIRP Limit (dBm)	30.00	30.00	30.00
RSS-247 TPC EIRP Limit (dBm)	30.00	30.00	30.00
EIRP Power (dBm)	21.57	23.70	23.71

Table 58



2.1.9 Test Results: U-NII-3

802.11a / 6 Mbps / SISO / Core 1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Antenna Directional Gain (dBi)	3.90	3.90	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
Conducted Power (dBm)	14.24	13.35	13.34	13.29
15.407 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
EIRP Power (dBm)	18.14	17.25	17.24	17.19

Table 59

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Antenna Directional Gain (dBi)	3.90	3.90	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
Conducted Power (dBm)	14.30	13.47	13.38	13.47
15.407 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
EIRP Power (dBm)	18.20	17.37	17.28	17.37

Table 60

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted Power Core 0 (dBm)	14.23	13.42	13.25	13.29
Conducted Power Core 1 (dBm)	14.24	13.36	13.48	13.33
Antenna Directional Gain (dBi)	3.90	3.90	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
Total Conducted Power (dBm)	17.25	16.40	16.38	16.32
15.407 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
EIRP Power (dBm)	21.15	20.30	20.28	20.22

Table 61



802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted Power Core 0 (dBm)	14.22	13.24	13.24	13.48
Conducted Power Core 1 (dBm)	14.33	13.39	13.31	13.26
Antenna Directional Gain (dBi)	3.47	3.47	3.47	3.47
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00	30.00
Total Conducted Power (dBm)	17.29	16.33	16.29	16.38
15.407 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
EIRP Power (dBm)	20.76	19.80	19.76	19.85

Table 62

802.11n / HT40 MCS0 / SISO / Core 1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Antenna Directional Gain (dBi)	3.90	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00
Conducted Power (dBm)	14.50	13.36	13.45
15.407 EIRP Limit (dBm)	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00
EIRP Power (dBm)	18.40	17.26	17.35

Table 63

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted Power Core 0 (dBm)	14.38	13.37	13.46
Conducted Power Core 1 (dBm)	14.49	13.46	13.45
Antenna Directional Gain (dBi)	3.90	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00
Total Conducted Power (dBm)	17.45	16.43	16.47
15.407 EIRP Limit (dBm)	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00
EIRP Power (dBm)	21.35	20.33	20.37

Table 64



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted Power Core 0 (dBm)	14.31	13.43	13.42
Conducted Power Core 1 (dBm)	14.47	13.50	13.40
Antenna Directional Gain (dBi)	3.47	3.47	3.47
15.407 Conducted Power Limit (dBm)	30.00	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00	30.00
Total Conducted Power (dBm)	17.40	16.48	16.42
15.407 EIRP Limit (dBm)	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00
EIRP Power (dBm)	20.87	19.95	19.89

Table 65

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted Power Core 0 (dBm)	14.32	13.18	13.41	13.50
Conducted Power Core 1 (dBm)	14.31	13.21	13.33	13.34
Antenna Directional Gain (dBi)	6.47	6.47	6.47	6.47
15.407 Conducted Power Limit (dBm)	29.53	29.53	29.53	29.53
RSS-247 Conducted Power Limit (dBm)	29.53	29.53	29.53	29.53
Total Conducted Power (dBm)	17.33	16.21	16.38	16.43
15.407 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00	36.00
EIRP Power (dBm)	23.80	22.68	22.85	22.90

Table 66

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted Power Core 0 (dBm)	14.29	13.30	13.22
Conducted Power Core 1 (dBm)	14.30	13.20	13.40
Antenna Directional Gain (dBi)	6.47	6.47	6.47
15.407 Conducted Power Limit (dBm)	29.53	29.53	29.53
RSS-247 Conducted Power Limit (dBm)	29.53	29.53	29.53
Total Conducted Power (dBm)	17.31	16.26	16.32
15.407 EIRP Limit (dBm)	36.00	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00	36.00
EIRP Power (dBm)	23.78	22.73	22.79

Table 67



802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Antenna Directional Gain (dBi)	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00
Conducted Power (dBm)	14.37	13.45
15.407 EIRP Limit (dBm)	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00
EIRP Power (dBm)	18.27	17.35

Table 68

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted Power Core 0 (dBm)	14.27	13.29
Conducted Power Core 1 (dBm)	14.43	13.50
Antenna Directional Gain (dBi)	3.90	3.90
15.407 Conducted Power Limit (dBm)	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00
Total Conducted Power (dBm)	17.36	16.41
15.407 EIRP Limit (dBm)	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00
EIRP Power (dBm)	21.26	20.31

Table 69

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted Power Core 0 (dBm)	14.32	13.30
Conducted Power Core 1 (dBm)	14.31	13.50
Antenna Directional Gain (dBi)	3.47	3.47
15.407 Conducted Power Limit (dBm)	30.00	30.00
RSS-247 Conducted Power Limit (dBm)	30.00	30.00
Total Conducted Power (dBm)	17.33	16.41
15.407 EIRP Limit (dBm)	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00
EIRP Power (dBm)	20.80	19.88

Table 70



Product Service

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted Power Core 0 (dBm)	14.16	13.34
Conducted Power Core 1 (dBm)	14.46	13.21
Antenna Directional Gain (dBi)	6.47	6.47
15.407 Conducted Power Limit (dBm)	29.53	29.53
RSS-247 Conducted Power Limit (dBm)	29.53	29.53
Total Conducted Power (dBm)	17.32	16.29
15.407 EIRP Limit (dBm)	36.00	36.00
RSS-247 EIRP Limit (dBm)	36.00	36.00
EIRP Power (dBm)	23.79	22.76

Table 71



2.1.10 Limits

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)

Table 72

Industry Canada RSS-247, Limit Clause 6.2.1.1, 6.2.2.1, 6.2.3.1 and 6.2.4.1

Device	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
OEM installed in vehicles	30 mW or $1.76 + 10 \log_{10}B$, dBm (EIRP); whichever is less	30 mW or $1.76 + 10 \log_{10}B$, dBm (EIRP); whichever is less	-	-
Other	200 mW or $10 + 10 \log_{10}B$ dBm (EIRP); whichever is less	250 mW or $11 + 10 \log_{10}B$; whichever is less $1.0 \text{ W or } 17 + 10 \log_{10}B$ dBm EIRP; whichever is less	250 mW or $11 + 10 \log_{10}B$; whichever is less $1.0 \text{ W or } 17 + 10 \log_{10}B$ dBm EIRP; whichever is less	1W 4W EIRP

Table 73



2.1.11 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 3.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
20dB/2W Attenuator	Narda	4772-20	462	-	O/P Mon
Hygrometer	Rotronic	I-1000	2891	12	18-Sept-2019
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	06-Mar-2019
Directional Coupler	Hewlett Packard	11692D	451	12	O/P Mon
Attenuator (20dB, 2W)	Pasternack	PE7004-20	2943	12	18-Jul-2019
Attenuator (20dB, 150W)	Narda	769-20	3367	12	17-Jul-2019
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	09-Oct-2018
DC - 12.4 GHz 10 dB Attenuator	Suhner	6810.17.A	3965	12	18-Jul-2019
PXA Signal Analyser	Keysight Technologies	N9030A	4653	12	5-Feb-2019
Power splitter - 4 port	Mini-Circuits	ZN4PD1-63-S+	4744	12	29-Sep-2019
Attenuator (10dB, 150W)	Narda	769-10	3368	12	17-Jul-2019
P-Series Power Meter	Agilent Technologies;	N1911A	3981	12	29-Sep-2019
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies;	N1921A	3983	12	29-Sep-2019
PXA Signal Analyser	Keysight Technologies;	N9030A	4653	12	05-Feb-2019
Power splitter - 2 port	Mini-Circuits	ZN2PD-63-S+	4742	12	29-Sep-2019
Power splitter - 2 port	Mini-Circuits	ZN2PD-63-S+	4743	12	29-Sep-2019
EMI Receiver	Keysight Technologies	N9038A MXE	4628	12	4-July-2019

Table 74

All test equipment was in calibration at the time of use.

O/P Mon – Output Monitored using Calibrated Equipment.



2.2 Maximum Conducted Power Spectral Density

2.2.1 Specification Reference

FCC 47 CFR Part 15E, Clause 15.407 (a)
Industry Canada RSS-247, Clause 6.2
Industry Canada RSS-GEN, Clause 6.12

2.2.2 Equipment Under Test and Modification State

A1932, S/N: C02X5003L3J3 - Modification State 0
A1932, S/N: C02X5003L3J3 - Modification State 1
A1932, S/N: C02X5003JL8Y - Modification State 0

2.2.3 Date of Test

26-September-2018 to 17-October-2018

2.2.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 12.5 and KDB 789033 D02.

Results shown in the table with a duty cycle correction factor were tested with the SA-2 method (duty cycle corrected). Other results showing duty cycle is not applicable state which method was used on a per measurement basis (SA-1 or SA-3).

Results for the U-NII-3 band were measured in a narrower bandwidth and integrated over 500 kHz using the spectrum analyzers channel power integration function.

MIMO output port summing was performed in accordance with KDB 662911 D01. Cyclic delay diversity (CDD) modes had the output cores summed using clause F)2)f)(ii). Space-division multiplexing (SDM) modes were summed in accordance with F)2)d)(ii). Transmit beamforming (TxBF) modes were summed as per F)2)d)(i).

Antenna gain has been calculated and recorded in all cases even where only Conducted limits apply. This shows that the Conducted limits are not required to be reduced in cases where directional gain is <6 dBi.

2.2.5 Environmental Conditions

Ambient Temperature	21 to 24°C
Relative Humidity	36 to 68%



2.2.6 Test Results: U-NII-1

802.11a / 6 Mbps / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Raw Conducted PSD (dBm/MHz)	5.14	5.44	5.18
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80	2.80
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.14	5.44	5.18

Table 75

802.11a / 6 Mbps / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Raw Conducted PSD (dBm/MHz)	5.08	5.25	5.21
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80	2.80
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	7.88	8.05	8.01

Table 76

802.11n / HT20 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Raw Conducted PSD (dBm/MHz)	4.80	4.82	4.80
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80	2.80
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	4.80	4.82	4.80

Table 77

802.11n / HT20 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Raw Conducted PSD (dBm/MHz)	5.00	4.79	4.87
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80	2.80
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	7.80	7.59	7.67

Table 78



802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	3.76	4.80	4.74
Conducted PSD Core 1 (dBm/MHz)	3.33	4.97	4.81
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	5.18	5.18	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	6.56	7.90	7.79

Table 79

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	0.13	0.29	0.05
Conducted PSD Core 1 (dBm/MHz)	-0.28	-0.42	-0.23
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	5.18	5.18	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	8.13	8.14	8.11

Table 80

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	3.46	4.96	5.02
Conducted PSD Core 1 (dBm/MHz)	3.29	4.49	4.45
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.20	2.20	2.20
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	6.39	7.74	7.75

Table 81

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	3.08	3.17	3.14
Conducted PSD Core 1 (dBm/MHz)	2.73	2.50	3.08
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.20	2.20	2.20
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	8.12	8.06	8.32

Table 82



802.11n / HT40 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Raw Conducted PSD (dBm/MHz)	0.13	2.07
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	0.13	2.07

Table 83

802.11n / HT40 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Raw Conducted PSD (dBm/MHz)	0.15	0.46
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	2.80	2.80
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	2.95	3.26

Table 84

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-1.52	2.31
Conducted PSD Core 1 (dBm/MHz)	-1.67	1.81
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	5.18	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	1.41	5.07

Table 85

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-1.52	0.75
Conducted PSD Core 1 (dBm/MHz)	-1.68	0.56
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	5.18	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	6.60	8.85

Table 86



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-1.31	2.22
Conducted PSD Core 1 (dBm/MHz)	-1.78	1.69
Duty Cycle Correction (dB)	0.14	0.14
Antenna Directional Gain (dBi)	2.20	2.20
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	1.61	5.11

Table 87

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-1.35	2.06
Conducted PSD Core 1 (dBm/MHz)	-1.63	1.76
Duty Cycle Correction (dB)	0.14	0.14
Antenna Directional Gain (dBi)	2.20	2.20
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	3.86	7.26

Table 88

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	3.78	5.07	4.78
Conducted PSD Core 1 (dBm/MHz)	3.90	4.85	4.57
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	5.18	5.18	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	6.85	7.97	7.69

Table 89

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
Conducted PSD Core 0 (dBm/MHz)	0.38	0.36	6.71
Conducted PSD Core 1 (dBm/MHz)	-0.62	0.21	0.32
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	5.18	5.18	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	8.11	8.48	12.79

Table 90



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-1.86	1.80
Conducted PSD Core 1 (dBm/MHz)	-2.17	1.94
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	5.18	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	1.00	4.88

Table 91

802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
Conducted PSD Core 0 (dBm/MHz)	-2.21	0.79
Conducted PSD Core 1 (dBm/MHz)	-3.10	1.05
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	5.18	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00	10.00
EIRP Spectral Density Result (dBm/MHz)	5.57	9.12

Table 92

802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Raw Conducted PSD (dBm/MHz)	-3.43
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	2.80
15.407 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	-3.28

Table 93

802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Raw Conducted PSD (dBm/MHz)	-3.05
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	2.80
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00
EIRP Spectral Density Result (dBm/MHz)	-0.10

Table 94



802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-4.78
Conducted PSD Core 1 (dBm/MHz)	-4.99
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	-1.72

Table 95

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-4.80
Conducted PSD Core 1 (dBm/MHz)	-5.04
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00
EIRP Spectral Density Result (dBm/MHz)	3.43

Table 96

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-4.38
Conducted PSD Core 1 (dBm/MHz)	-4.74
Duty Cycle Correction (dB)	0.26
Antenna Directional Gain (dBi)	2.20
15.407 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	-1.28

Table 97

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-4.40
Conducted PSD Core 1 (dBm/MHz)	-5.07
Duty Cycle Correction (dB)	N/A SA-1
Antenna Directional Gain (dBi)	2.20
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00
EIRP Spectral Density Result (dBm/MHz)	0.48

Table 98



802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-5.48
Conducted PSD Core 1 (dBm/MHz)	-5.07
Duty Cycle Correction (dB)	N/A SA-3
Antenna Directional Gain (dBi)	5.18
15.407 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	-2.26

Table 99

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
Conducted PSD Core 0 (dBm/MHz)	-5.57
Conducted PSD Core 1 (dBm/MHz)	-5.01
Duty Cycle Correction (dB)	N/A SA-3
Antenna Directional Gain (dBi)	5.18
RSS-247 EIRP Spectral Density Limit (dBm/MHz)	10.00
EIRP Spectral Density Result (dBm/MHz)	2.91

Table 100



2.2.7 Test Results: U-NII-2A

802.11a / 6 Mbps / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Raw Conducted PSD (dBm/MHz)	5.48	5.56	5.42
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	1.90	1.90	1.90
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.48	5.56	5.42

Table 101

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Raw Conducted PSD (dBm/MHz)	5.38	5.06	4.91
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	1.90	1.90	1.90
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.38	5.06	4.91

Table 102

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted PSD Core 0 (dBm/MHz)	5.13	5.34	4.83
Conducted PSD Core 1 (dBm/MHz)	5.31	5.18	4.50
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	4.86	4.86	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	8.23	8.27	7.68

Table 103

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted PSD Core 0 (dBm/MHz)	5.15	5.51	5.48
Conducted PSD Core 1 (dBm/MHz)	4.84	5.06	4.95
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	1.85	1.85	1.85
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	8.01	8.30	8.23

Table 104



802.11n / HT40 MCS0 / SISO / Core 1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Raw Conducted PSD (dBm/MHz)	1.98	1.92
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	1.90	1.90
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	1.98	1.92

Table 105

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted PSD Core 0 (dBm/MHz)	2.51	1.74
Conducted PSD Core 1 (dBm/MHz)	1.80	1.12
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	4.86	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.18	4.45

Table 106

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted PSD Core 0 (dBm/MHz)	2.42	1.56
Conducted PSD Core 1 (dBm/MHz)	1.96	1.27
Duty Cycle Correction (dB)	0.14	0.14
Antenna Directional Gain (dBi)	1.85	1.85
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.34	4.57

Table 107

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
Conducted PSD Core 0 (dBm/MHz)	5.14	5.18	4.63
Conducted PSD Core 1 (dBm/MHz)	5.38	5.52	5.11
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	4.86	4.86	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	8.27	8.36	7.88

Table 108



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top
Frequency (MHz)	5270	5310
Conducted PSD Core 0 (dBm/MHz)	2.33	1.45
Conducted PSD Core 1 (dBm/MHz)	2.46	1.51
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	4.86	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00
Conducted PSD Result (dBm/MHz)	5.41	4.49

Table 109

802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Middle
Frequency (MHz)	5290
Raw Conducted PSD (dBm/MHz)	-1.17
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	1.90
15.407 Conducted PSD Limit (dBm/MHz)	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	-1.02

Table 110

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted PSD Core 0 (dBm/MHz)	-1.71
Conducted PSD Core 1 (dBm/MHz)	-1.74
Duty Cycle Correction (dB)	0.15
Antenna Directional Gain (dBi)	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	1.43

Table 111

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted PSD Core 0 (dBm/MHz)	-1.77
Conducted PSD Core 1 (dBm/MHz)	-1.62
Duty Cycle Correction (dB)	0.26
Antenna Directional Gain (dBi)	1.85
15.407 Conducted PSD Limit (dBm/MHz)	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	1.58

Table 112



Product Service

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Middle
Frequency (MHz)	5290
Conducted PSD Core 0 (dBm/MHz)	3.64
Conducted PSD Core 1 (dBm/MHz)	-2.69
Duty Cycle Correction (dB)	N/A SA-3
Antenna Directional Gain (dBi)	4.86
15.407 Conducted PSD Limit (dBm/MHz)	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00
Conducted PSD Result (dBm/MHz)	4.55

Table 113



2.2.8 Test Results: U-NII-2C

802.11a / 6 Mbps / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Raw Conducted PSD (dBm/MHz)	4.11	3.77	4.01	4.54
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	4.11	3.77	4.01	4.54

Table 114

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Raw Conducted PSD (dBm/MHz)	4.11	3.20	3.60	3.82
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	4.11	3.20	3.60	3.82

Table 115

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted PSD Core 0 (dBm/MHz)	4.20	4.01	4.34	4.18
Conducted PSD Core 1 (dBm/MHz)	3.74	3.61	4.26	3.70
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	6.34	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	6.99	6.83	7.31	6.96

Table 116

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted PSD Core 0 (dBm/MHz)	4.31	3.87	4.70	4.44
Conducted PSD Core 1 (dBm/MHz)	4.11	3.47	3.83	3.57
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	3.36	3.36	3.36	3.36
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	7.22	6.68	7.30	7.04

Table 117



802.11n / HT40 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Raw Conducted PSD (dBm/MHz)	0.73	0.40	0.50	0.68
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	4.00	4.00	4.00	4.00
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	0.73	0.40	0.50	0.68

Table 118

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Conducted PSD Core 0 (dBm/MHz)	1.26	0.99	1.06	1.16
Conducted PSD Core 1 (dBm/MHz)	0.64	0.30	0.47	0.83
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	6.34	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	3.97	3.67	3.78	4.01

Table 119

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5510	5590	5670	5710
Conducted PSD Core 0 (dBm/MHz)	1.14	0.94	0.98	1.09
Conducted PSD Core 1 (dBm/MHz)	0.75	0.37	0.34	0.70
Duty Cycle Correction (dB)	0.14	0.14	0.14	0.14
Antenna Directional Gain (dBi)	3.36	3.36	3.36	3.36
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	4.10	3.82	3.82	4.05

Table 120

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Middle	Top	Straddle
Frequency (MHz)	5500	5600	5700	5720
Conducted PSD Core 0 (dBm/MHz)	4.41	4.26	4.50	4.42
Conducted PSD Core 1 (dBm/MHz)	4.31	4.86	4.05	4.40
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.34	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	7.37	7.58	7.29	7.42

Table 121



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5510	5670	5710
Conducted PSD Core 0 (dBm/MHz)	0.41	1.08	1.26
Conducted PSD Core 1 (dBm/MHz)	0.60	1.68	1.45
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	3.51	4.40	4.37

Table 122

802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Raw Conducted PSD (dBm/MHz)	-2.44	-2.67	-2.16
Duty Cycle Correction (dB)	0.14	0.15	0.14
Antenna Directional Gain (dBi)	4.00	4.00	4.00
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	-2.30	-2.53	-2.02

Table 123

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted PSD Core 0 (dBm/MHz)	-2.35	-2.43	-1.81
Conducted PSD Core 1 (dBm/MHz)	-2.50	-2.61	-2.26
Duty Cycle Correction (dB)	0.15	0.15	0.15
Antenna Directional Gain (dBi)	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	0.73	0.64	1.13

Table 124

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted PSD Core 0 (dBm/MHz)	-2.44	-2.33	-1.91
Conducted PSD Core 1 (dBm/MHz)	-2.64	-2.69	-2.21
Duty Cycle Correction (dB)	0.26	0.27	0.27
Antenna Directional Gain (dBi)	3.36	3.36	3.36
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	0.73	0.77	1.22

Table 125



Product Service

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Bottom	Top	Straddle
Frequency (MHz)	5530	5610	5690
Conducted PSD Core 0 (dBm/MHz)	0.76	2.70	-1.50
Conducted PSD Core 1 (dBm/MHz)	1.31	-1.22	2.42
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.34	6.34	6.34
15.407 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
RSS-247 Conducted PSD Limit (dBm/MHz)	11.00	11.00	11.00
Conducted PSD Result (dBm/MHz)	4.05	4.18	3.90

Table 126

2.2.9 Test Results: U-NII-3

802.11a / 6 Mbps / SISO / Core 1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Raw Conducted PSD (dBm/500kHz)	-0.82	-0.73	-1.18	-0.63
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	3.90	3.90	3.90	3.90
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-0.82	-0.73	-1.18	-0.63

Table 127

802.11n / HT20 MCS0 / SISO / Core 1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Raw Conducted PSD (dBm/500kHz)	-1.28	-1.49	-1.22	-1.38
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	3.90	3.90	3.90	3.90
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-1.28	-1.49	-1.22	-1.38

Table 128

802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted PSD Core 0 (dBm/500kHz)	-1.03	-0.74	-0.88	-0.97
Conducted PSD Core 1 (dBm/500kHz)	-0.78	-1.14	-0.51	-1.41
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	6.47	6.47	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53	29.53
Conducted PSD Result (dBm/500kHz)	2.11	2.07	2.32	1.83

Table 129

802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted PSD Core 0 (dBm/500kHz)	-1.02	-1.23	-0.53	-0.39
Conducted PSD Core 1 (dBm/500kHz)	-1.07	-1.39	-1.03	-1.54
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	3.47	3.47	3.47	3.47
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00	30.00
Conducted PSD Result (dBm/500kHz)	1.97	1.70	2.24	2.08

Table 130

802.11n / HT40 MCS0 / SISO / Core 1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Raw Conducted PSD (dBm/500kHz)	-4.52	-4.11	-3.78
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	3.90	3.90	3.90
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-4.52	-4.11	-3.78

Table 131

802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted PSD Core 0 (dBm/500kHz)	-5.05	-3.76	-3.70
Conducted PSD Core 1 (dBm/500kHz)	-5.11	-4.35	-4.39
Duty Cycle Correction (dB)	N/A SA-1	N/A SA-1	N/A SA-1
Antenna Directional Gain (dBi)	6.47	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53
Conducted PSD Result (dBm/500kHz)	-2.07	-1.03	-1.02

Table 132

802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted PSD Core 0 (dBm/500kHz)	-4.46	-3.47	-4.06
Conducted PSD Core 1 (dBm/500kHz)	-4.81	-4.39	-3.98
Duty Cycle Correction (dB)	0.14	0.14	0.14
Antenna Directional Gain (dBi)	3.47	3.47	3.47
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-1.48	-0.76	-0.87

Table 133

802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Bottom	Middle	Top
Frequency (MHz)	5720	5745	5785	5825
Conducted PSD Core 0 (dBm/500kHz)	-0.54	-0.66	-1.06	-1.02
Conducted PSD Core 1 (dBm/500kHz)	-1.20	-0.58	-0.66	-1.10
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.47	6.47	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53	29.53
Conducted PSD Result (dBm/500kHz)	2.15	2.39	2.16	1.95

Table 134



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Bottom	Top
Frequency (MHz)	5710	5755	5795
Conducted PSD Core 0 (dBm/500kHz)	-5.08	-4.00	-4.32
Conducted PSD Core 1 (dBm/500kHz)	-5.42	-3.73	-4.05
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.47	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53	29.53
Conducted PSD Result (dBm/500kHz)	-2.24	-0.85	-1.17

Table 135

802.11ac / VHT80 MCS0x1 / SISO / Core 1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Raw Conducted PSD (dBm/500kHz)	-7.38	-7.16
Duty Cycle Correction (dB)	0.15	0.15
Antenna Directional Gain (dBi)	3.90	3.90
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-7.23	-7.01

Table 136

802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted PSD Core 0 (dBm/500kHz)	-7.76	-6.65
Conducted PSD Core 1 (dBm/500kHz)	-7.58	-7.15
Duty Cycle Correction (dB)	0.15	0.15
Antenna Directional Gain (dBi)	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53
Conducted PSD Result (dBm/500kHz)	-4.51	-3.73

Table 137

802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted PSD Core 0 (dBm/500kHz)	-7.44	-6.69
Conducted PSD Core 1 (dBm/500kHz)	-8.09	-6.01
Duty Cycle Correction (dB)	0.27	0.27
Antenna Directional Gain (dBi)	3.47	3.47
15.407 Conducted PSD Limit (dBm/500kHz)	30.00	30.00
RSS-247 Conducted PSD Limit (dBm/500kHz)	30.00	30.00
Conducted PSD Result (dBm/500kHz)	-4.48	-3.06

Table 138



Product Service

802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1

Channel	Straddle	Middle
Frequency (MHz)	5690	5775
Conducted PSD Core 0 (dBm/500kHz)	-8.42	-8.92
Conducted PSD Core 1 (dBm/500kHz)	-7.95	-9.49
Duty Cycle Correction (dB)	N/A SA-3	N/A SA-3
Antenna Directional Gain (dBi)	6.47	6.47
15.407 Conducted PSD Limit (dBm/500kHz)	29.53	29.53
RSS-247 Conducted PSD Limit (dBm/500kHz)	29.53	29.53
Conducted PSD Result (dBm/500kHz)	-5.17	-6.19

Table 139



2.2.10 Limits

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

Table 140

Industry Canada RSS-247, Limit Clause 6.2.1.1, 6.2.2.1, 6.2.3.1 and 6.2.4.1

Device	Frequency Range (MHz)			
	5150-5250	5250-5350	5470-5725	5725-5850
OEM installed in vehicles	-	-	-	-
Other	≤10 dBm/MHz EIRP	≤11 dBm/MHz	≤11 dBm/MHz	≤30 dBm/500kHz

Table 141



2.2.11 Test Location and Test Equipment Used

This test was carried out in RF Laboratory 3.

Instrument	Manufacturer	Type No	TE No	Calibration Period (months)	Calibration Due
20dB/2W Attenuator	Narda	4772-20	462	-	O/P Mon
Hygrometer	Rotronic	I-1000	2891	12	19-Sept-2019
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	09-Oct-2018
Calibration Unit	Rohde & Schwarz	ZV-Z54	4368	12	06-Mar-2019
Directional Coupler	Hewlett Packard	11692D	451	-	O/P Mon
Attenuator (20dB, 2W)	Pasternack	PE7004-20	2943	12	18-Jul-2019
Attenuator (20dB, 150W)	Narda	769-20	3367	12	17-Jul-2019
DC - 12.4 GHz 10 dB Attenuator	Suhner	6810.17.A	3965	12	18-Jul-2019
PXA Signal Analyser	Keysight Technologies	N9030A	4653	12	5-Feb-2019
Attenuator (10dB, 150W)	Narda	769-10	3368	12	17-Jul-2019
P-Series Power Meter	Agilent Technologies;	N1911A	3981	12	29-Sept-2019
50 MHz-18 GHz Wideband Power Sensor	Agilent Technologies;	N1921A	3983	12	29-Sept-2019
PXA Signal Analyser	Keysight Technologies;	N9030A	4653	12	05-Feb-2019
Power splitter - 2 port	Mini-Circuits	ZN2PD-63-S+	4742	12	19-Sept-2019
Power splitter - 2 port	Mini-Circuits	ZN2PD-63-S+	4743	12	19-Sept-2019
Power splitter - 4 port	Mini-Circuits	ZN4PD1-63-S+	4744	12	19-Sept-2019
EMI Receiver	Keysight Technologies;	N9038A MXE	4628	12	04-July-2019

Table 142

All test equipment was in calibration at the time of use.

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),
Industry Canada RSS-247, Clause 6.2
Industry Canada RSS-GEN, Clause 6.7

2.3.2 Equipment Under Test and Modification State

A1932, S/N: C02X5003L3J3 - Modification State 0
A1932, S/N: C02X5003JL8Y - Modification State 0

2.3.3 Date of Test

26-September-2018 to 08-October-2018

2.3.4 Test Method

The test was performed in accordance with ANSI C63.10 clause 12.4.1 & 12.4.2, KDB 789033 D02 section C, and RSS-GEN 4.6.1 and 4.6.2

For modes of operation using multiple cores, measurements were made on each core but only the worst case results are reported. Worst case was considered as the narrowest results for 6 dB bandwidth and the widest result for 26 dB bandwidth and 99% occupied bandwidth.

2.3.5 Environmental Conditions

Ambient Temperature	21 to 24°C
Relative Humidity	36 to 68%



2.3.6 Test Results: U-NII-1

802.11a / 6 Mbps / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.720	21.600	21.480
99% Bandwidth (MHz)	16.514	16.544	16.658

Table 143

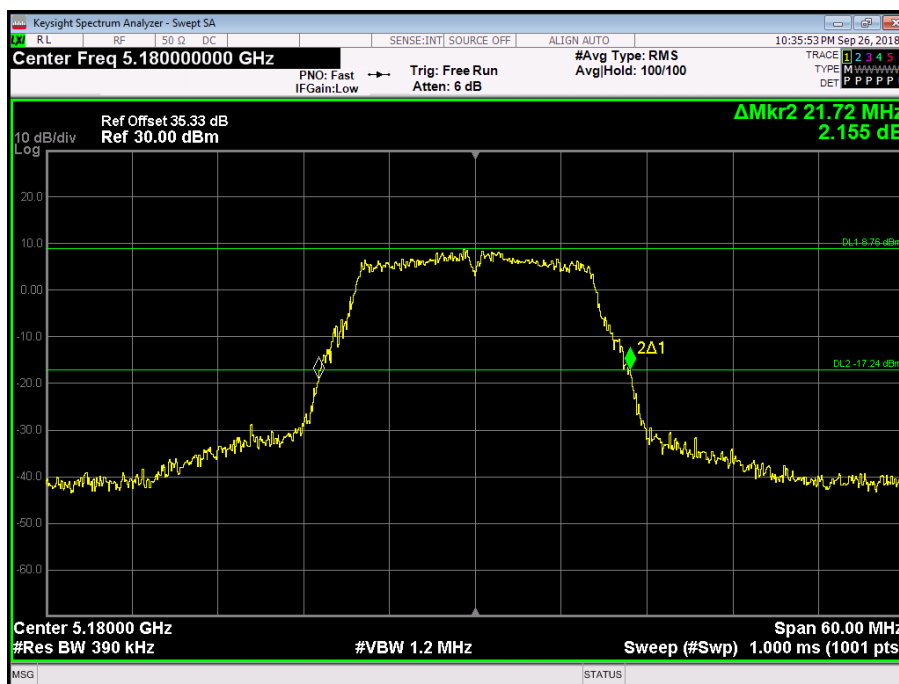


Figure 1 - 5180 MHz - 26 dB Emission Bandwidth

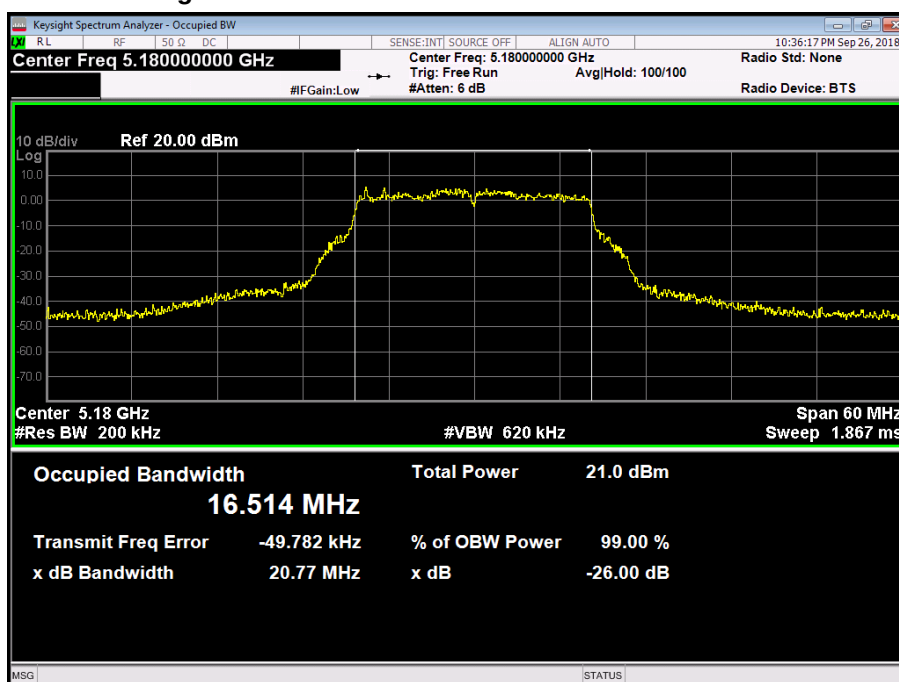




Figure 2 - 5180 MHz - 99% Occupied Bandwidth

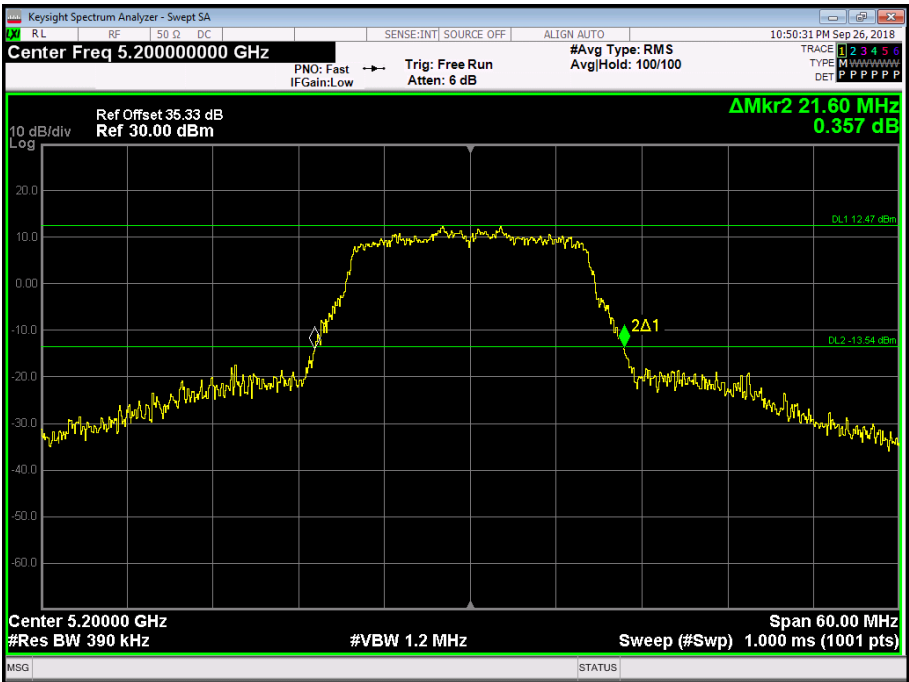


Figure 3 - 5200 MHz - 26 dB Emission Bandwidth

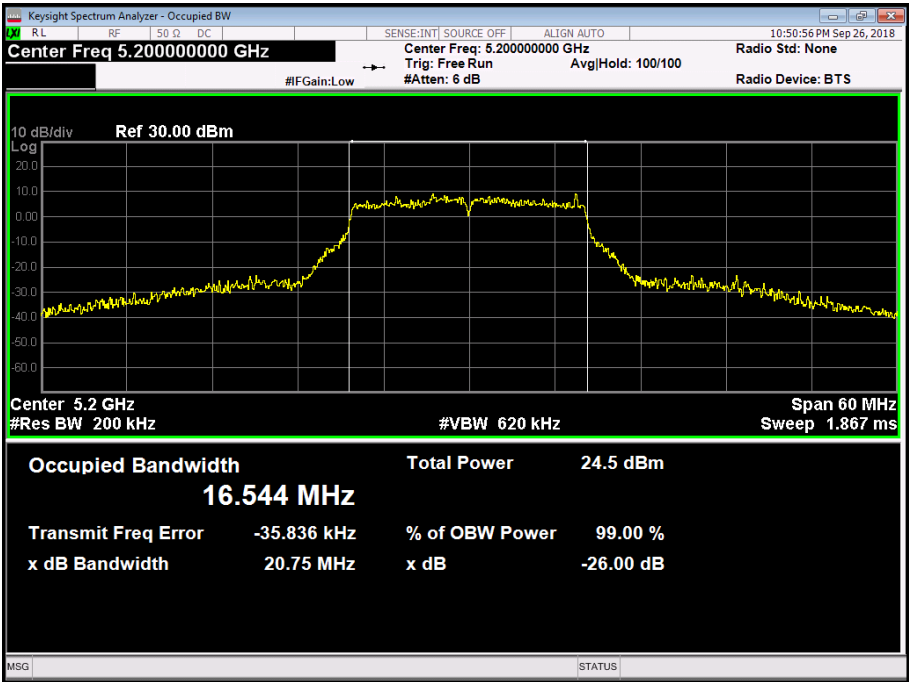


Figure 4 - 5200 MHz - 99% Occupied Bandwidth



Figure 5 - 5240 MHz - 26 dB Emission Bandwidth

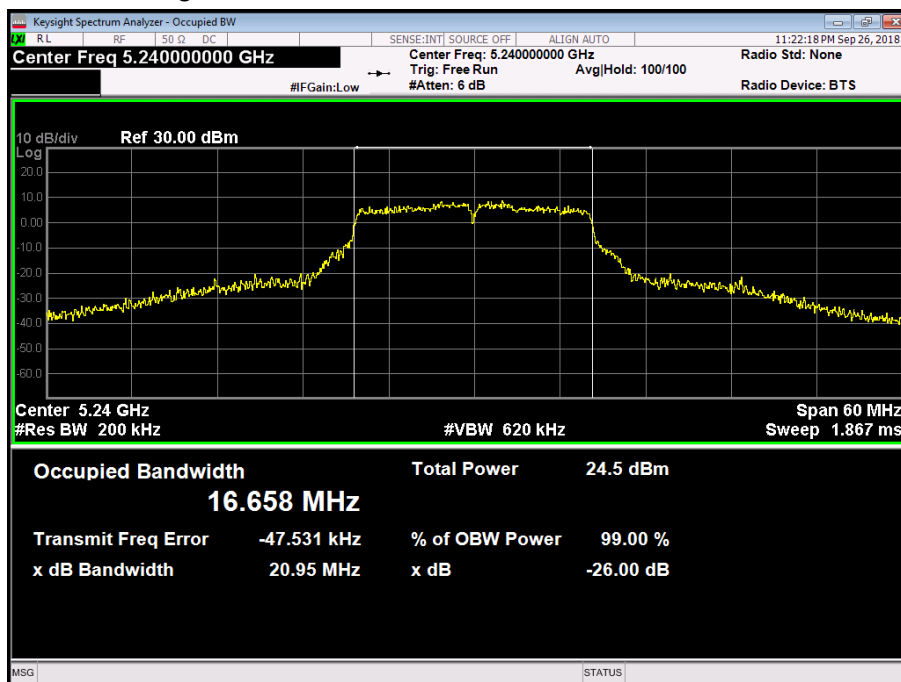


Figure 6 - 5240 MHz - 99% Occupied Bandwidth



802.11a / 6 Mbps / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.420	21.720	21.720
99% Bandwidth (MHz)	16.564	16.547	16.606

Table 144

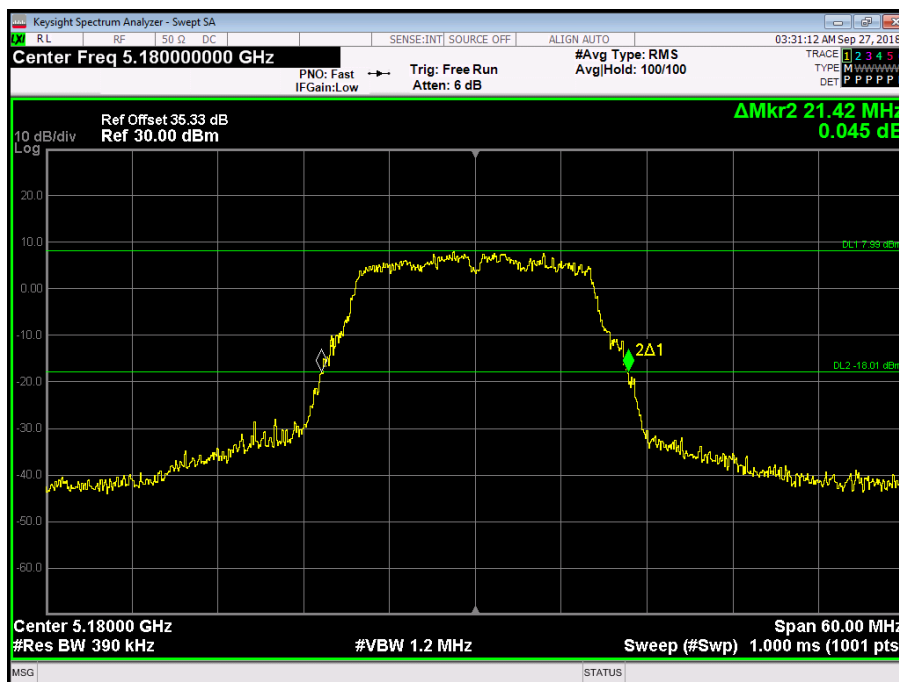


Figure 7 - 5180 MHz - 26 dB Emission Bandwidth

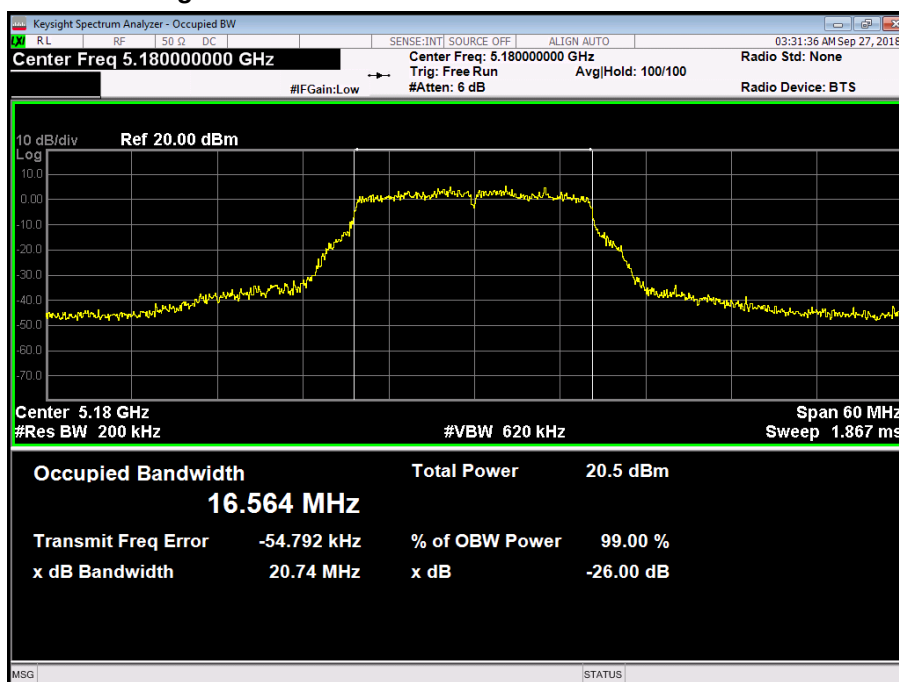


Figure 8 - 5180 MHz - 99% Occupied Bandwidth

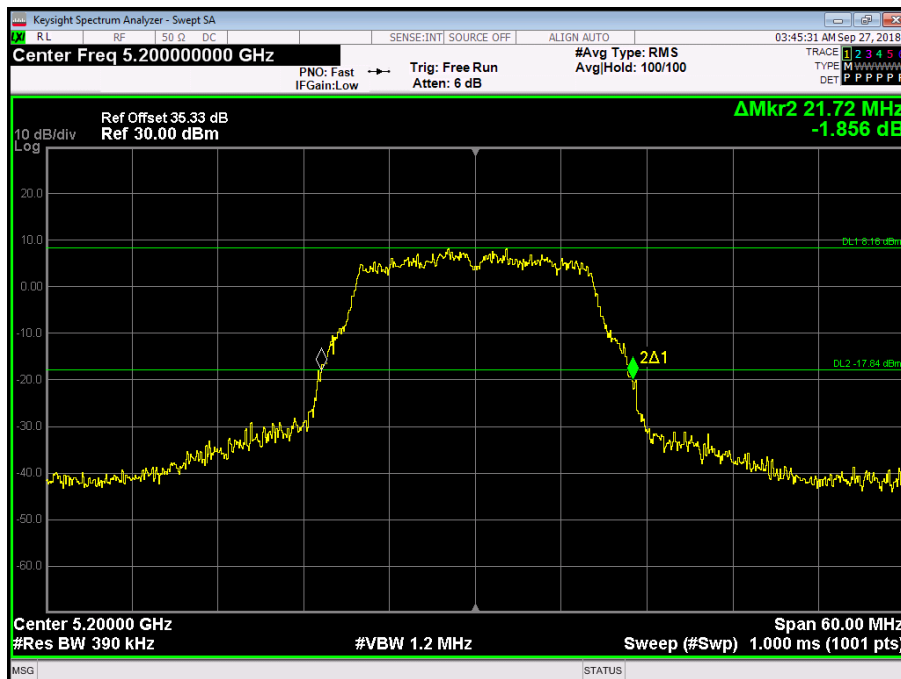


Figure 9 - 5200 MHz - 26 dB Emission Bandwidth

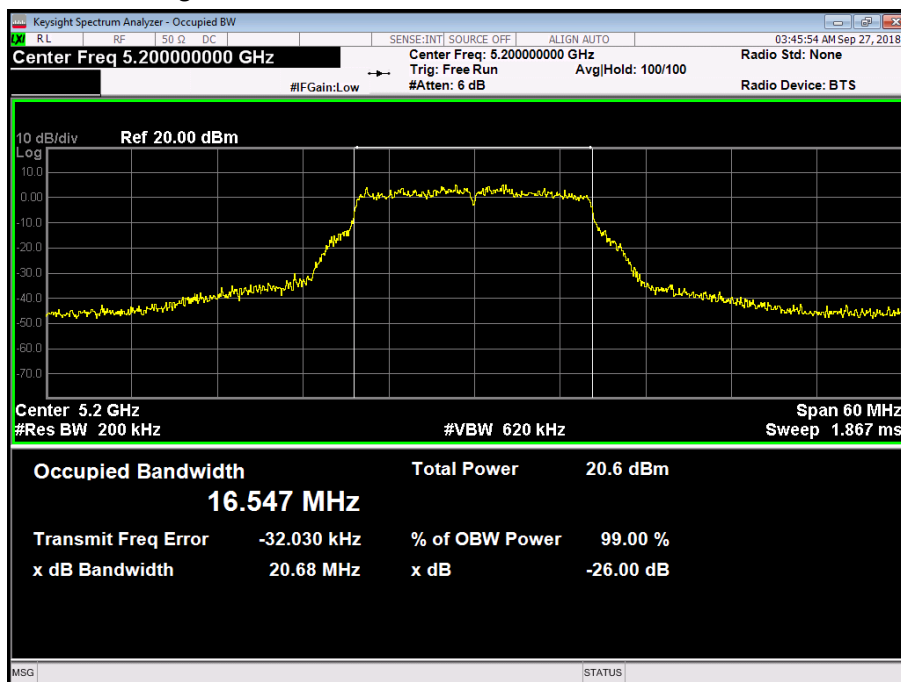


Figure 10 - 5200 MHz - 99% Occupied Bandwidth



Product Service

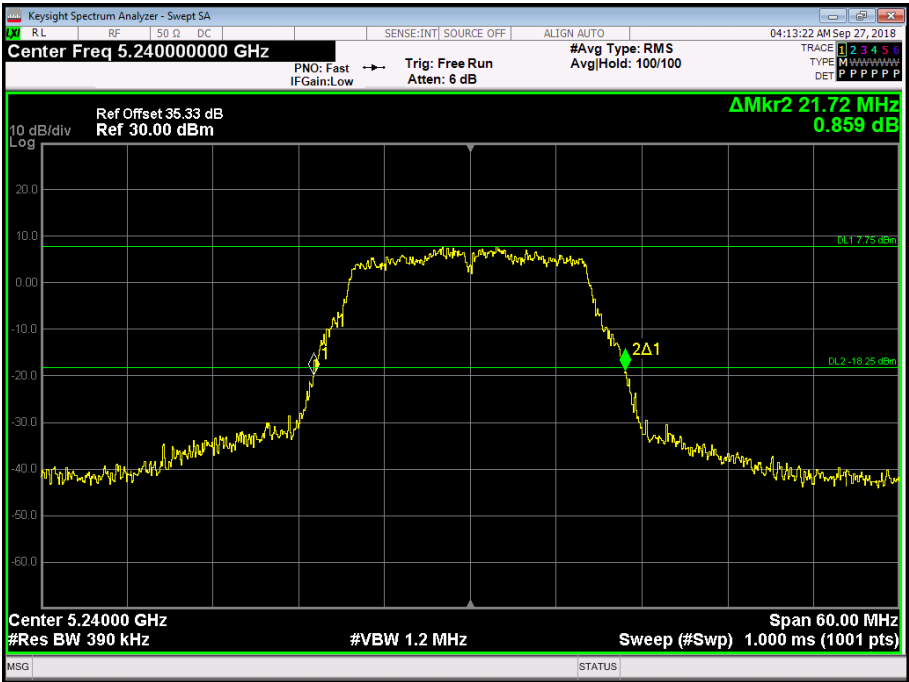


Figure 11 - 5240 MHz - 26 dB Emission Bandwidth

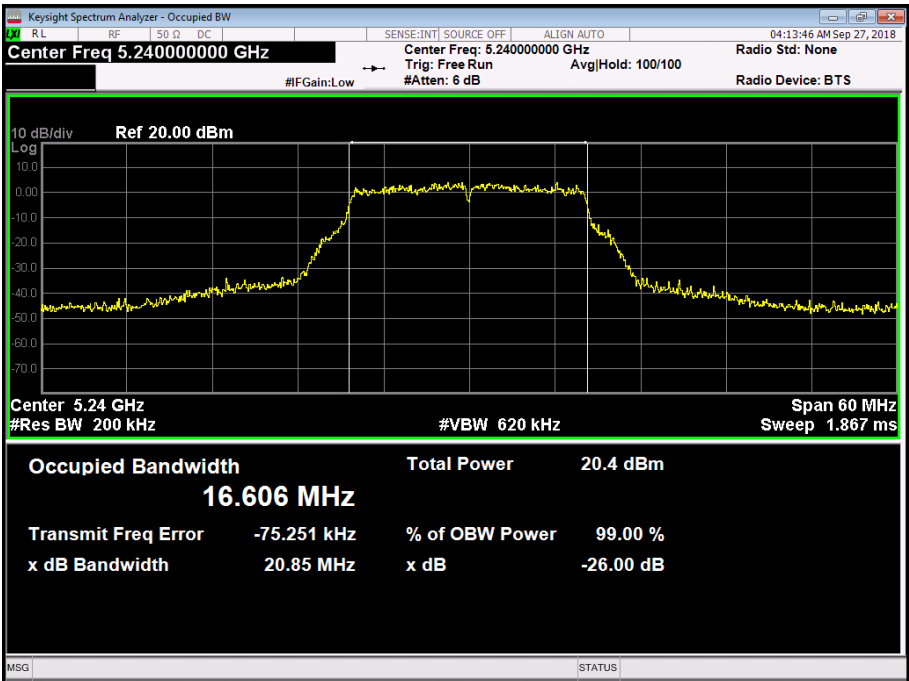


Figure 12 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.720	22.140	21.840
99% Bandwidth (MHz)	17.741	17.792	17.784

Table 145

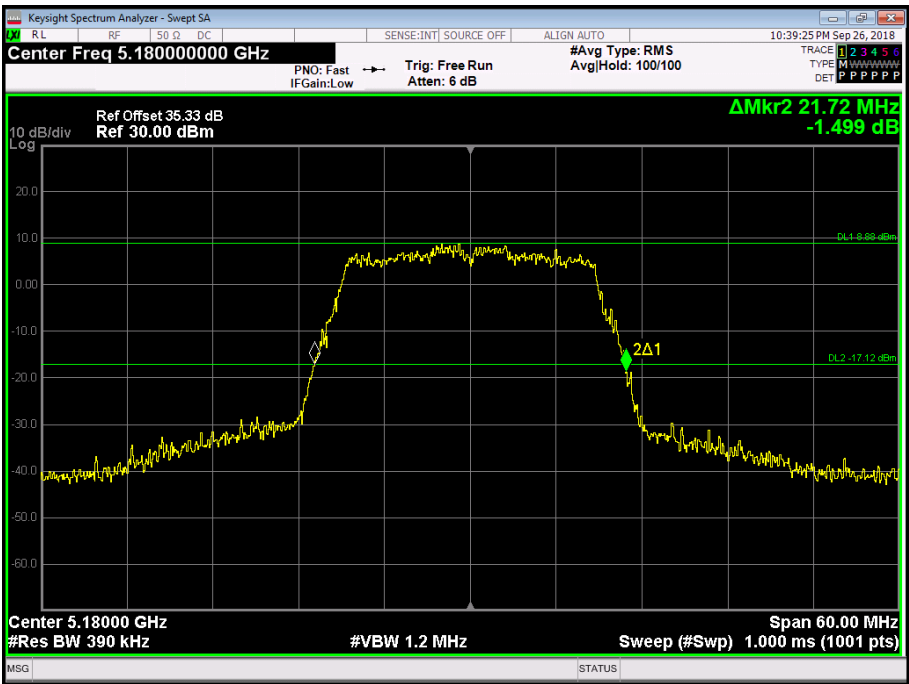


Figure 13 - 5180 MHz - 26 dB Emission Bandwidth

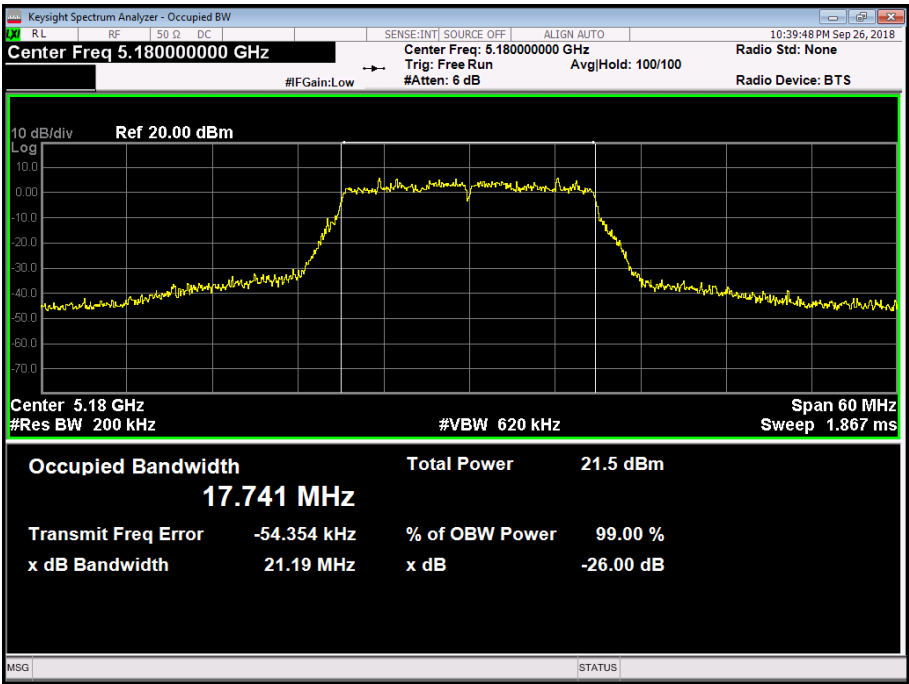


Figure 14 - 5180 MHz - 99% Occupied Bandwidth



Product Service



Figure 15 - 5200 MHz - 26 dB Emission Bandwidth

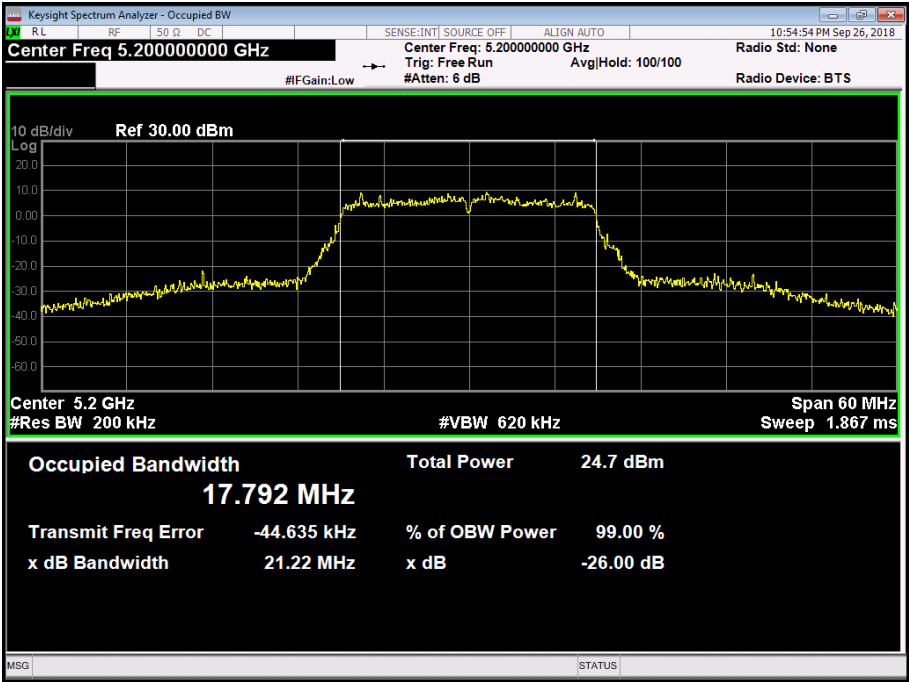


Figure 16 - 5200 MHz - 99% Occupied Bandwidth



Figure 17 - 5240 MHz - 26 dB Emission Bandwidth

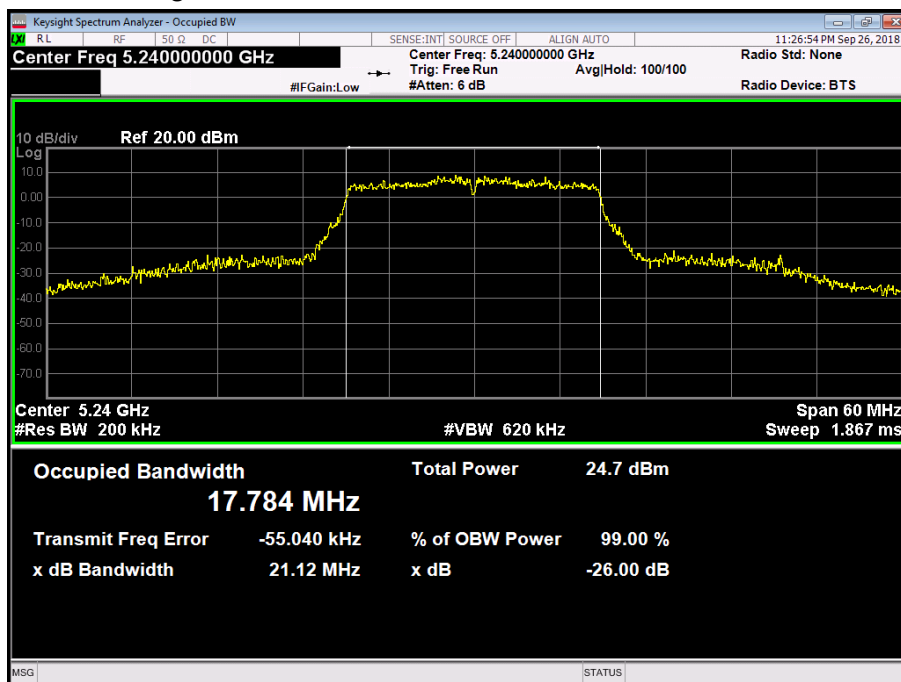


Figure 18 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.840	21.840	21.900
99% Bandwidth (MHz)	17.706	17.718	17.728

Table 146

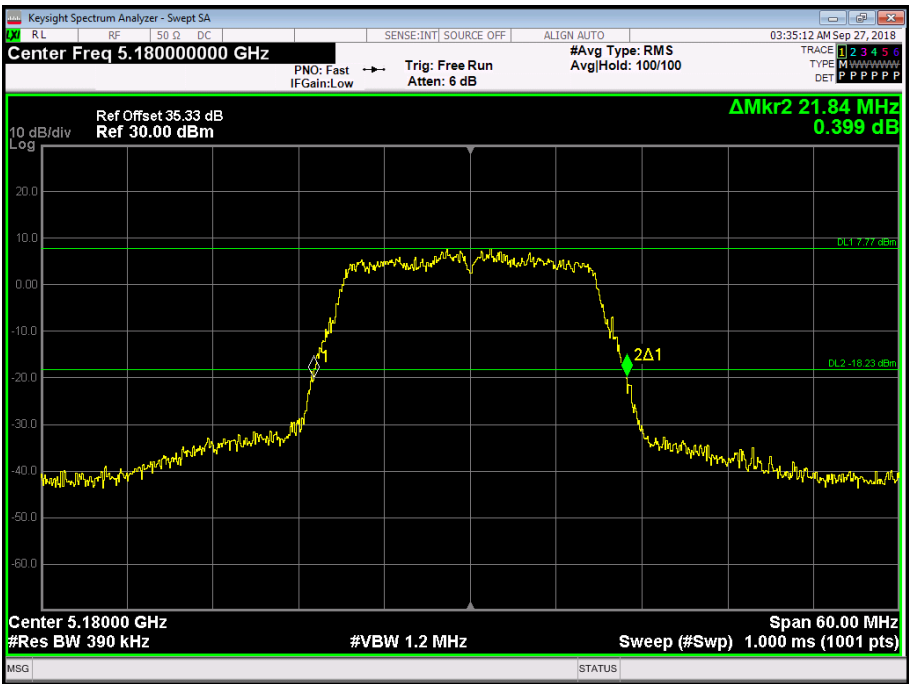


Figure 19 - 5180 MHz - 26 dB Emission Bandwidth

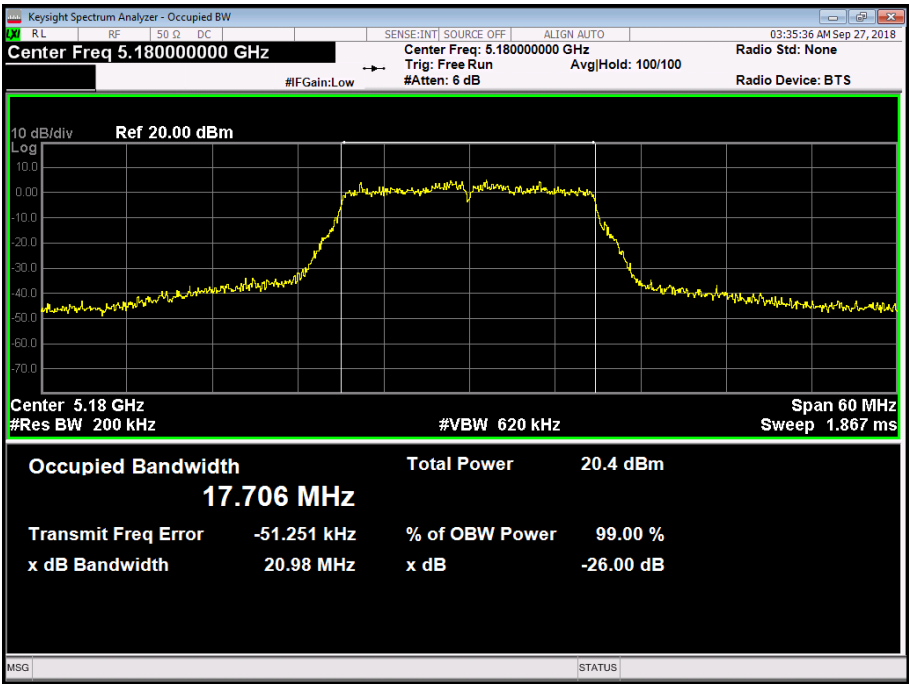


Figure 20 - 5180 MHz - 99% Occupied Bandwidth



Product Service

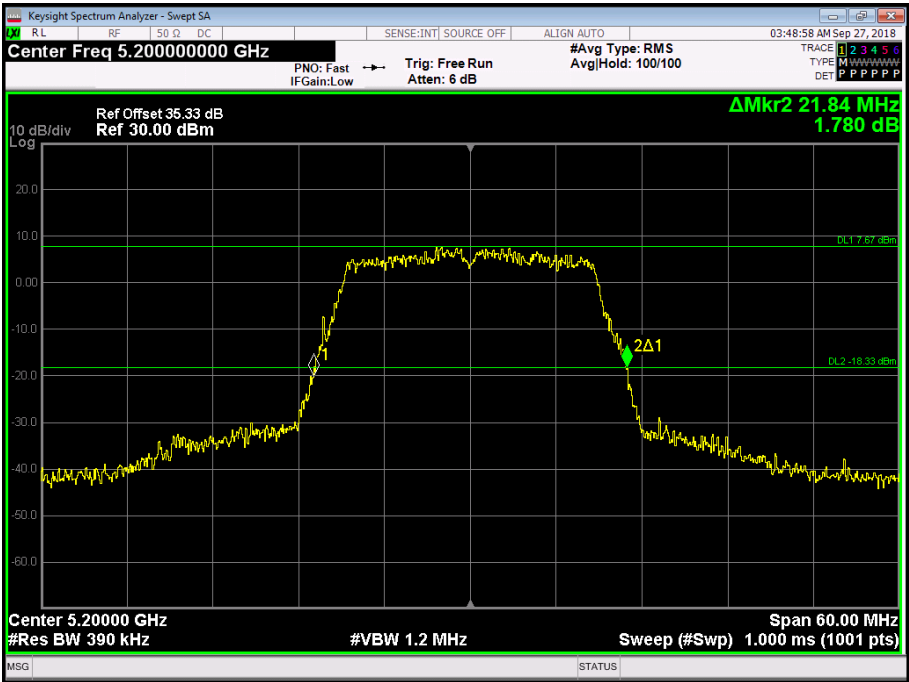


Figure 21 - 5200 MHz - 26 dB Emission Bandwidth

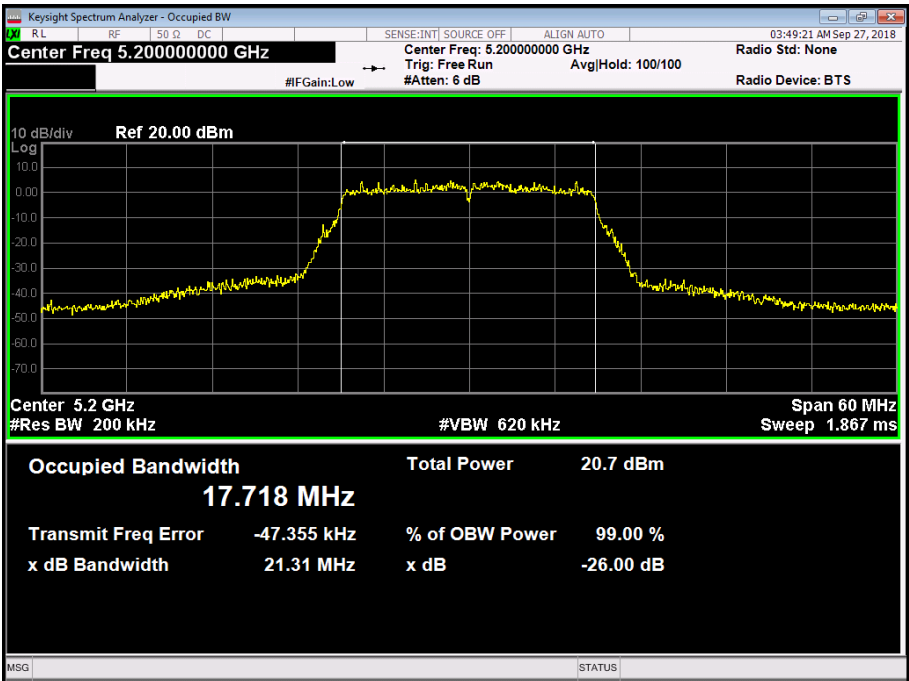


Figure 22 - 5200 MHz - 99% Occupied Bandwidth



Product Service



Figure 23 - 5240 MHz - 26 dB Emission Bandwidth

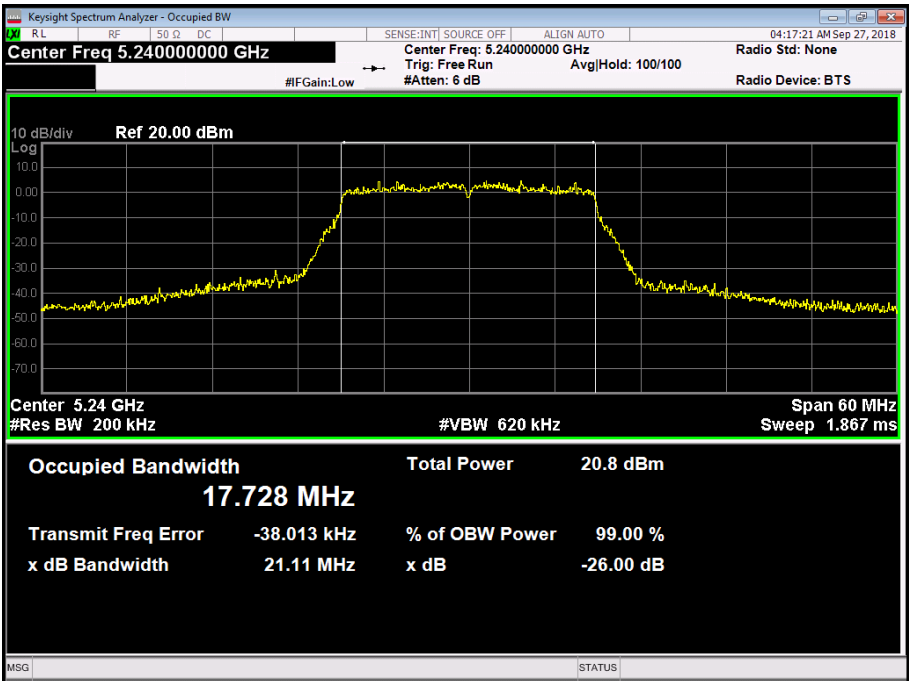


Figure 24 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.720	21.900	21.720
99% Bandwidth (MHz)	17.789	17.782	17.782

Table 147

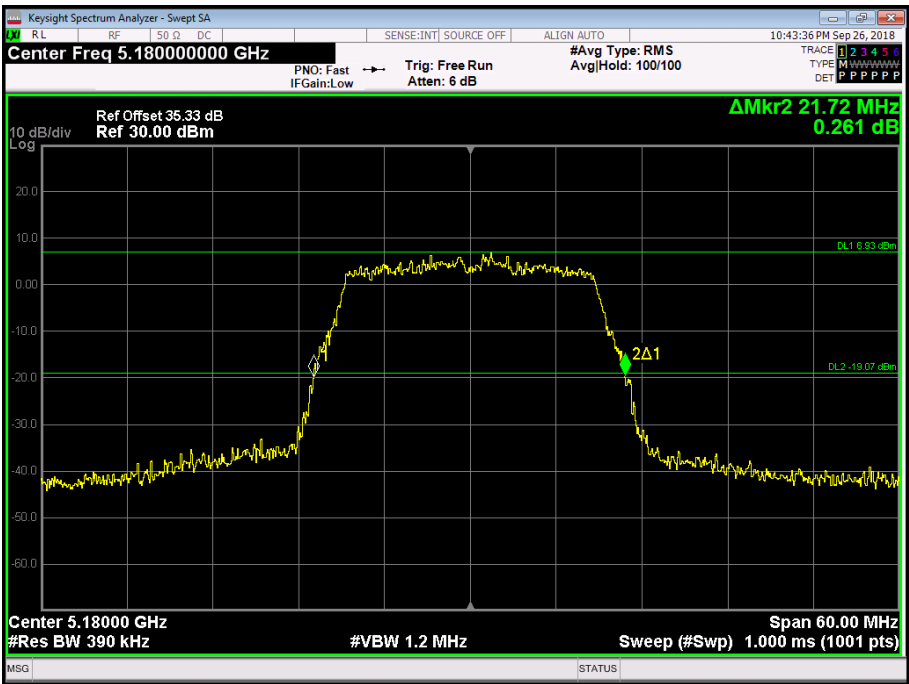


Figure 25 - 5180 MHz - 26 dB Emission Bandwidth

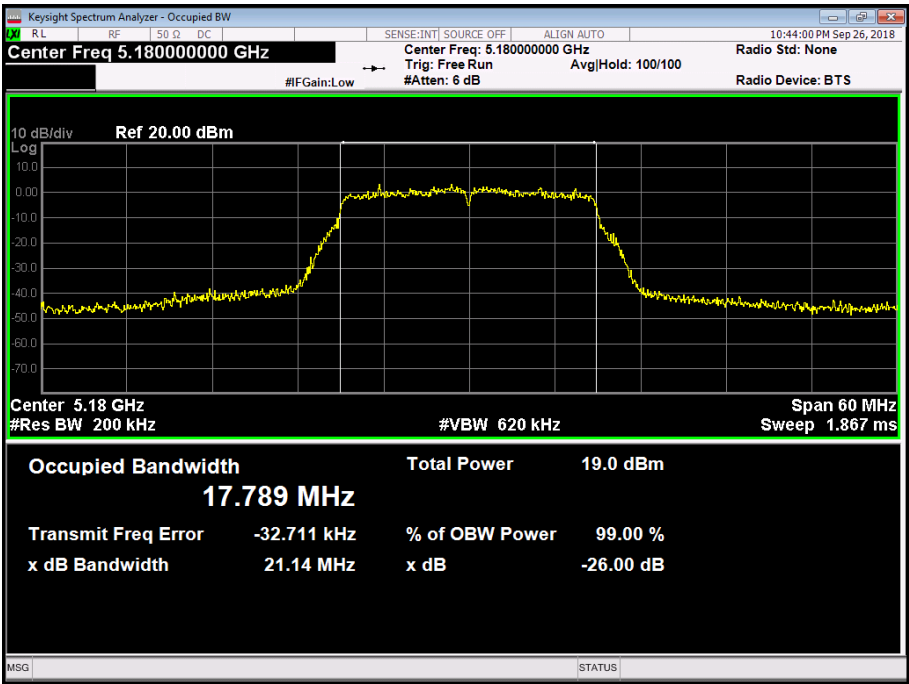


Figure 26 - 5180 MHz - 99% Occupied Bandwidth



Product Service

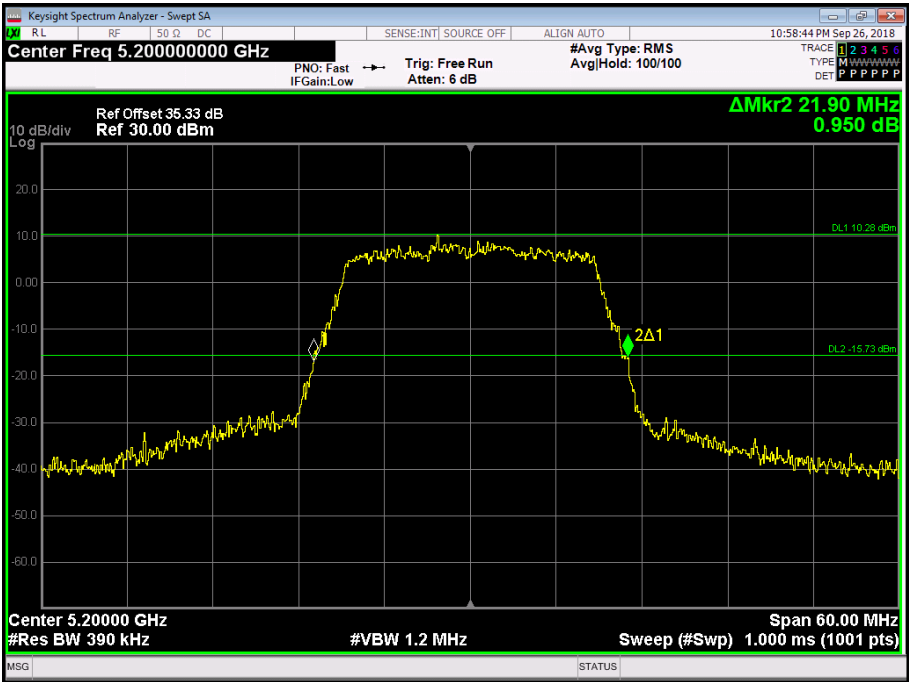


Figure 27 - 5200 MHz - 26 dB Emission Bandwidth

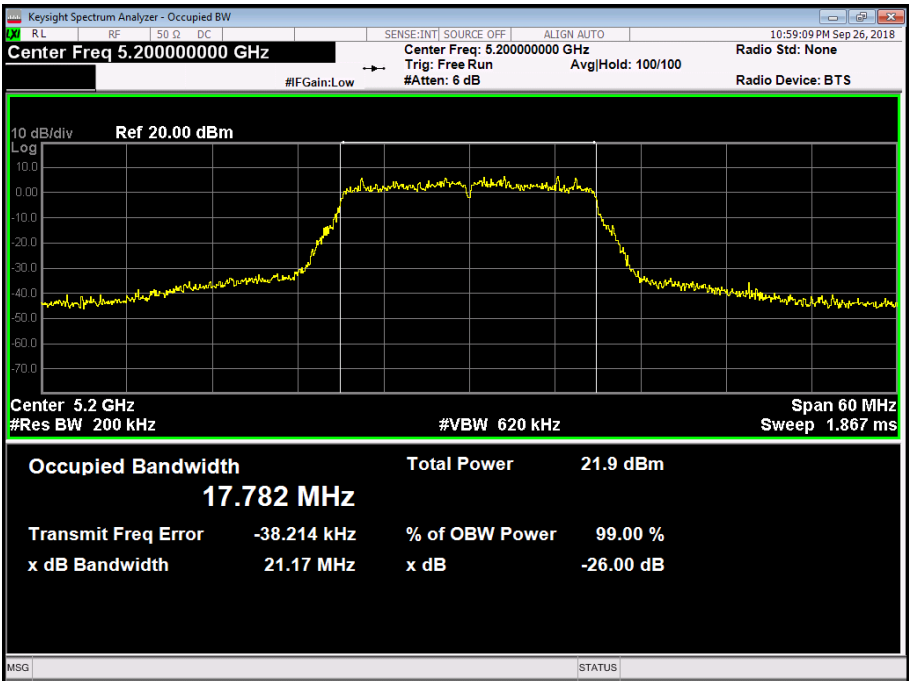


Figure 28 - 5200 MHz - 99% Occupied Bandwidth

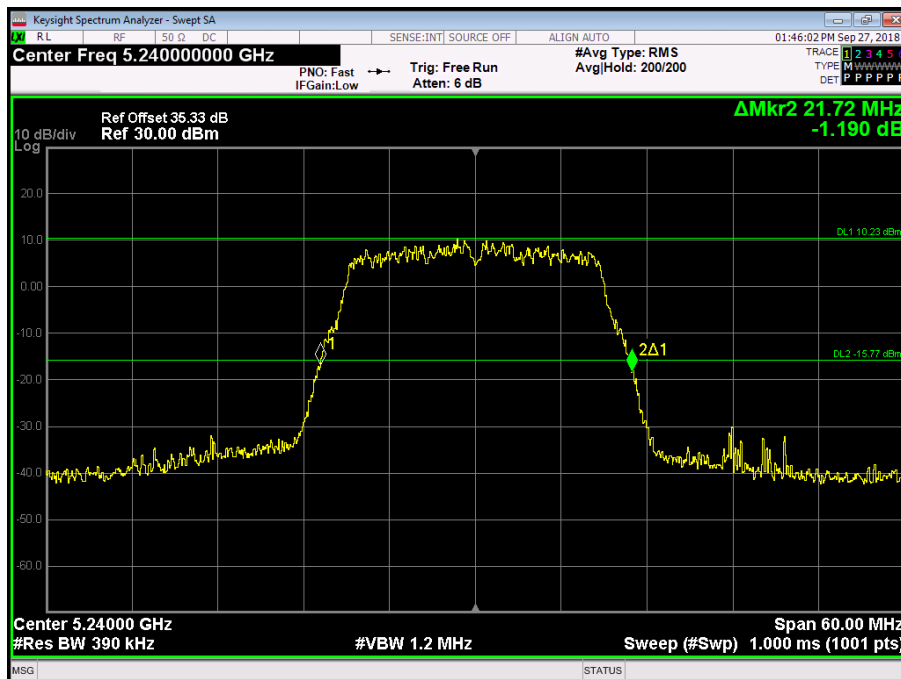


Figure 29 - 5240 MHz - 26 dB Emission Bandwidth

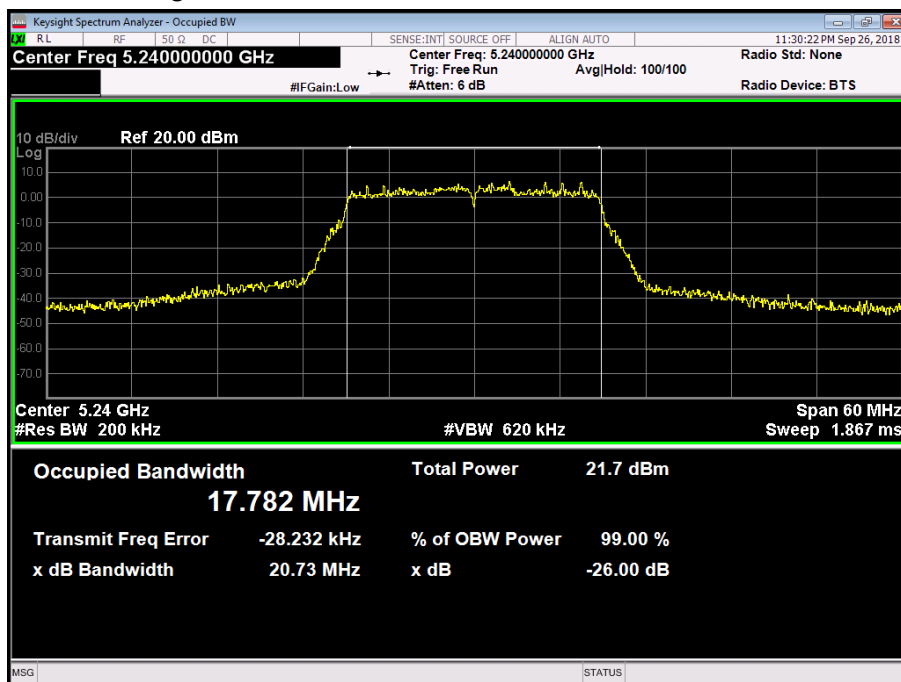


Figure 30 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.720	21.780	21.780
99% Bandwidth (MHz)	17.714	17.736	17.722

Table 148

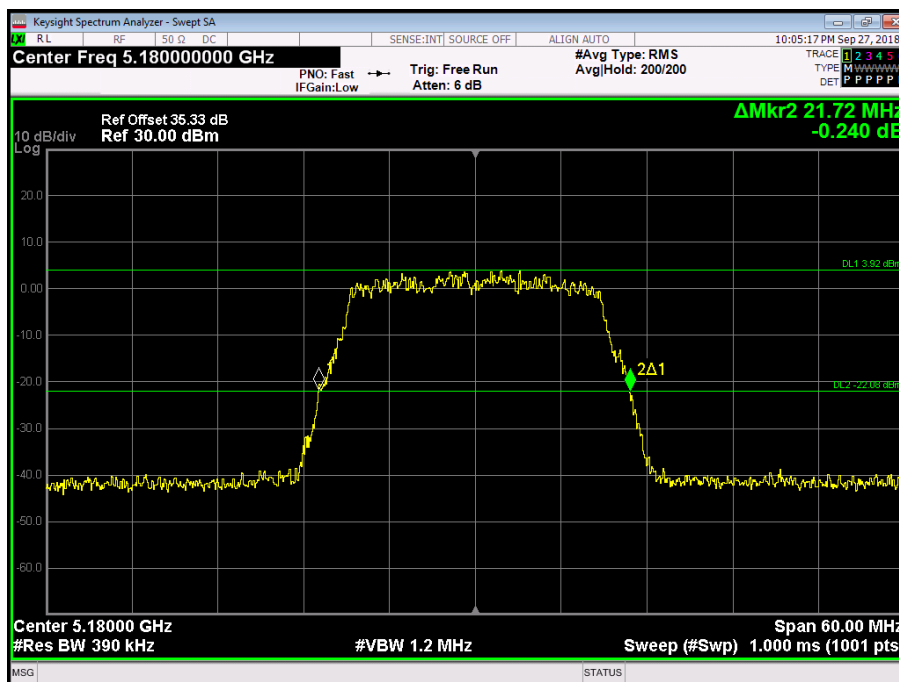


Figure 31 - 5180 MHz - 26 dB Emission Bandwidth

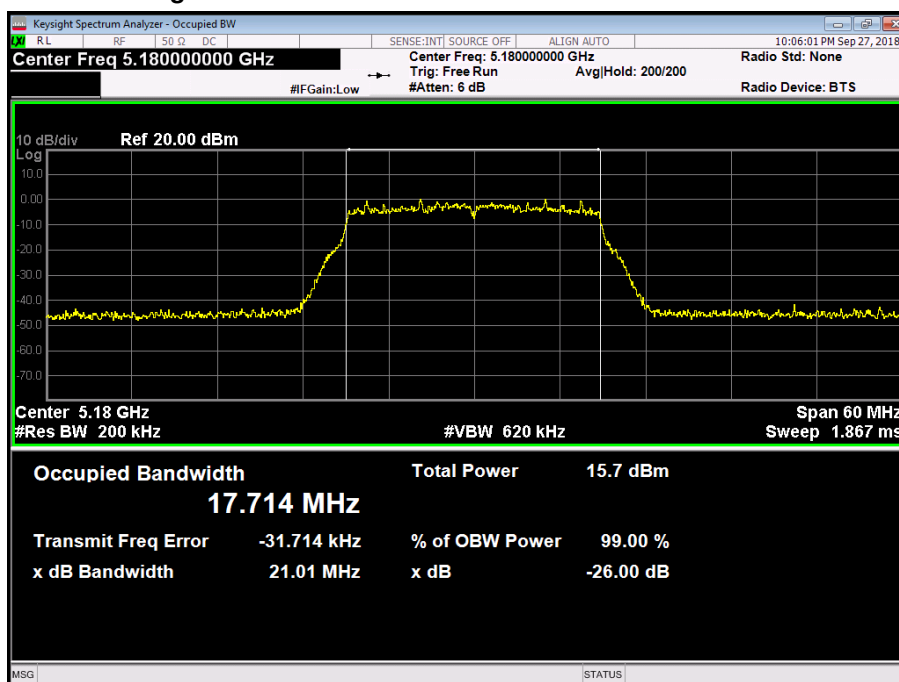


Figure 32 - 5180 MHz - 99% Occupied Bandwidth

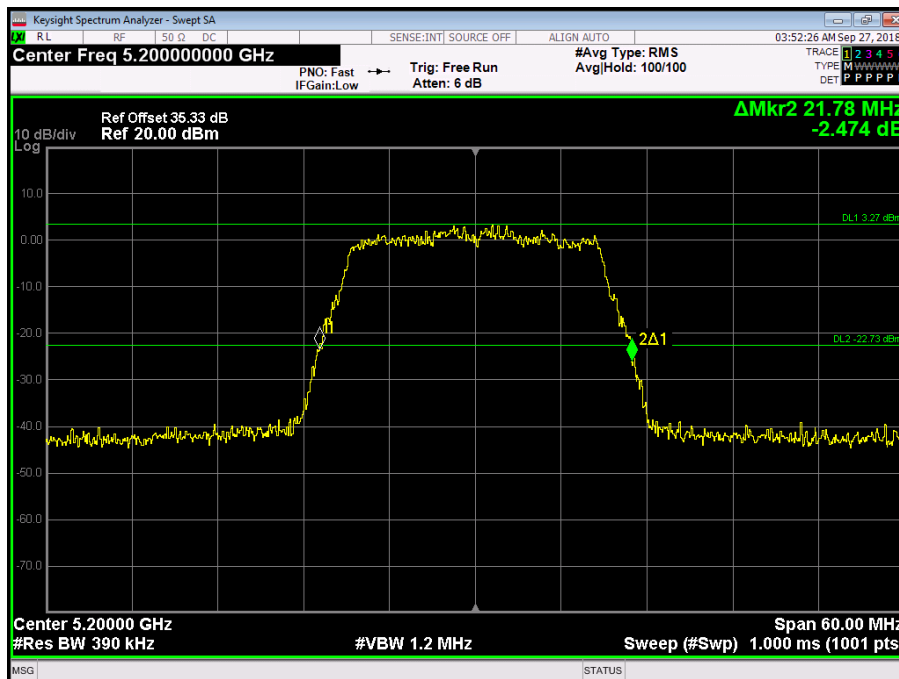


Figure 33 - 5200 MHz - 26 dB Emission Bandwidth

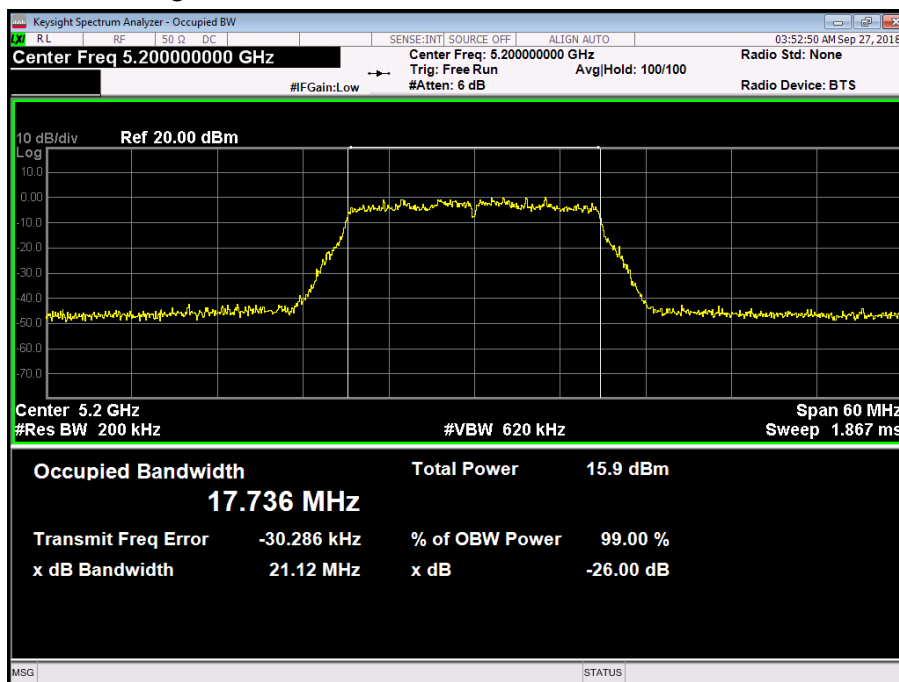


Figure 34 - 5200 MHz - 99% Occupied Bandwidth



Product Service

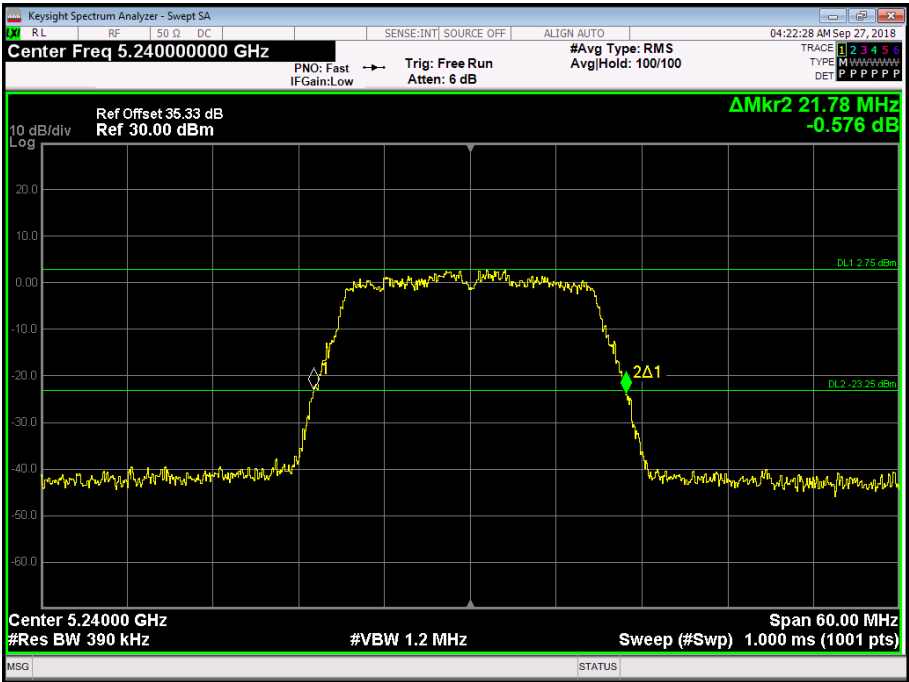


Figure 35 - 5240 MHz - 26 dB Emission Bandwidth

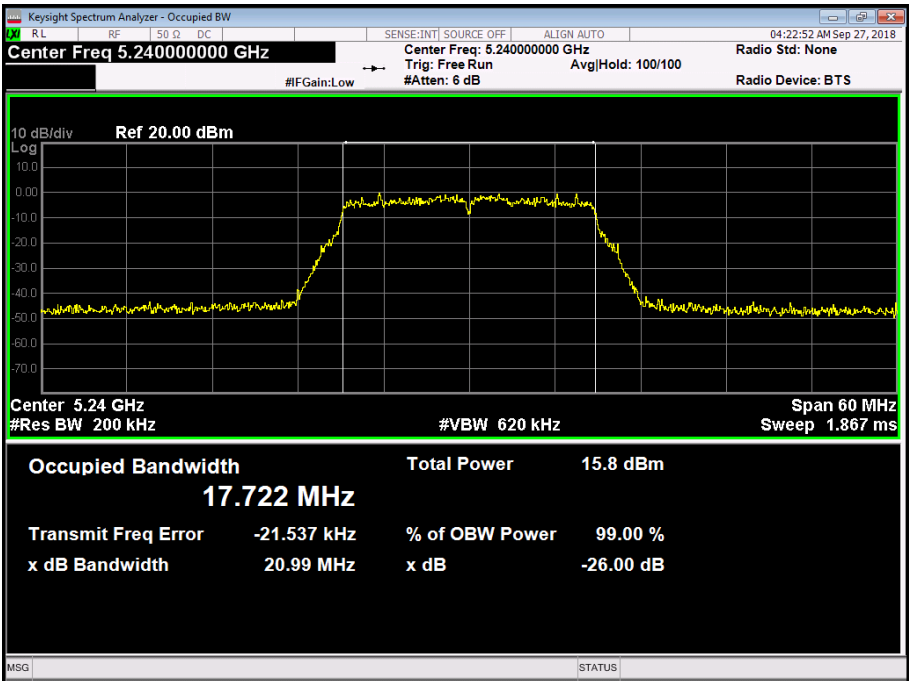


Figure 36 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.900	21.720	21.600
99% Bandwidth (MHz)	17.713	17.768	17.713

Table 149

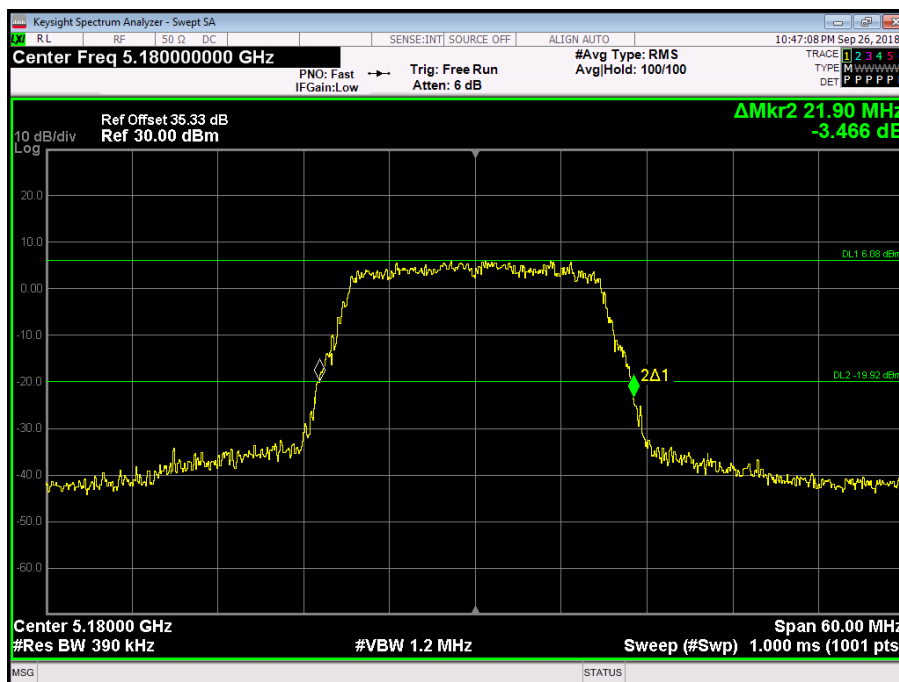


Figure 37 - 5180 MHz - 26 dB Emission Bandwidth

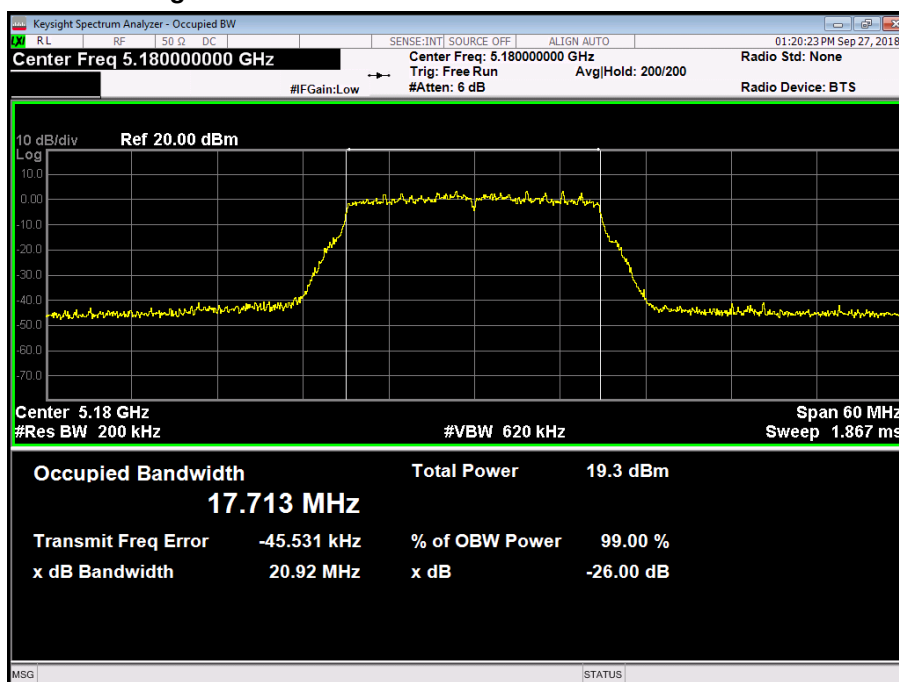


Figure 38 - 5180 MHz - 99% Occupied Bandwidth



Product Service

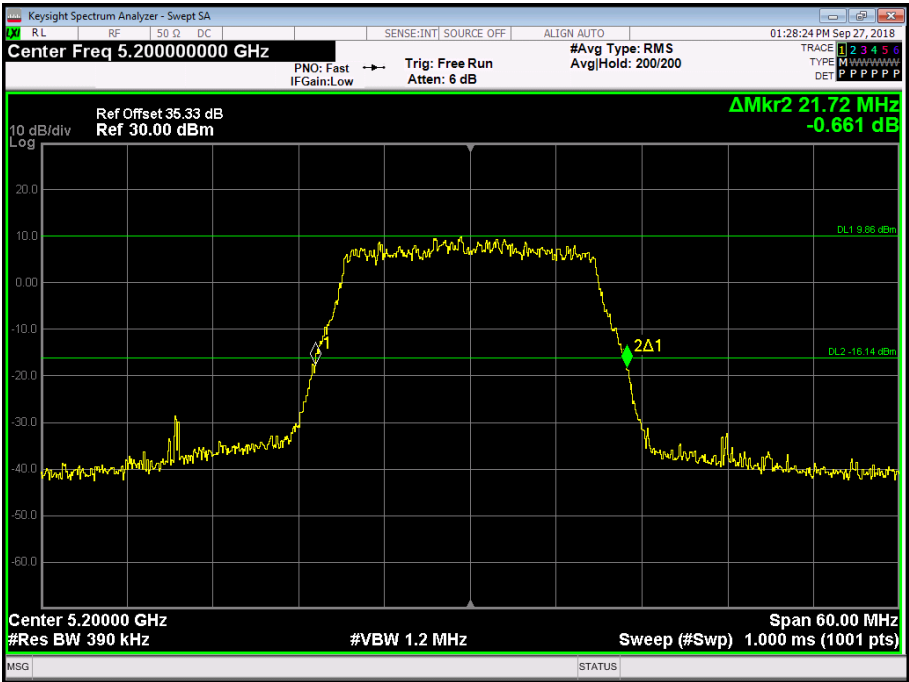


Figure 39 - 5200 MHz - 26 dB Emission Bandwidth

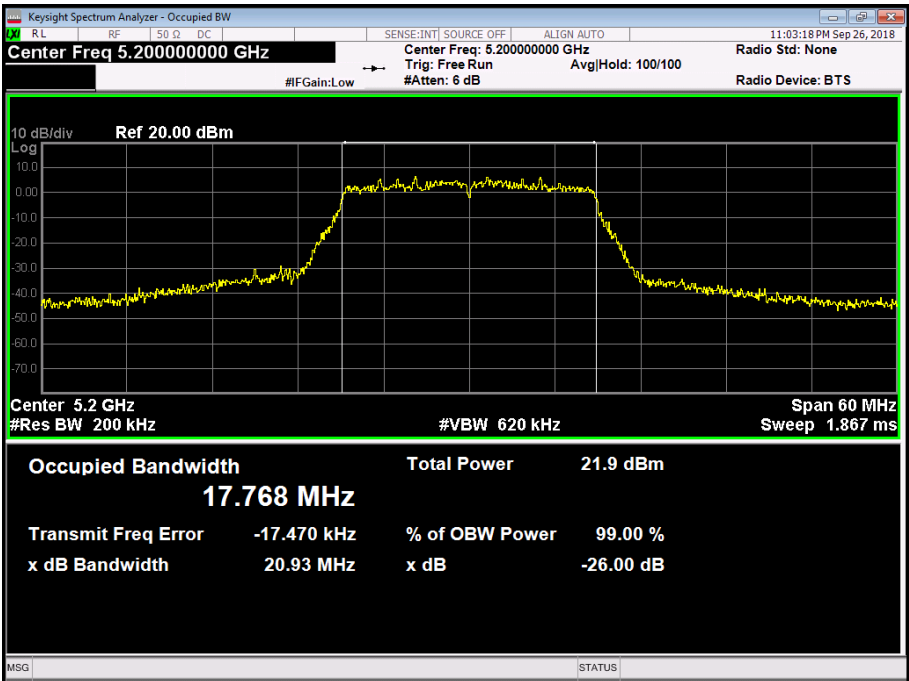


Figure 40 - 5200 MHz - 99% Occupied Bandwidth



Product Service



Figure 41 - 5240 MHz - 26 dB Emission Bandwidth

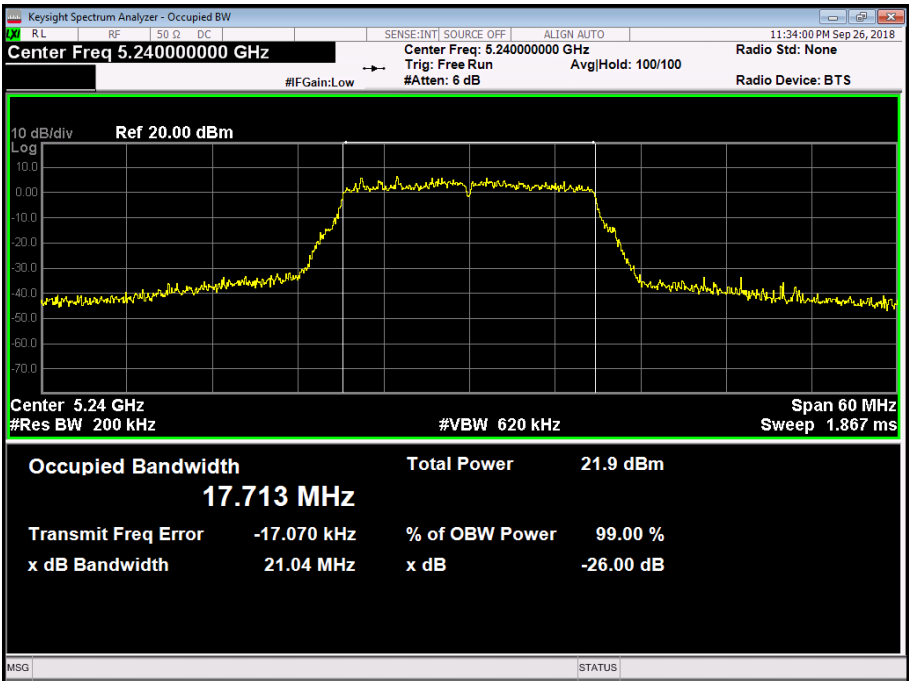


Figure 42 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.960	21.900	21.960
99% Bandwidth (MHz)	17.724	17.706	17.747

Table 150

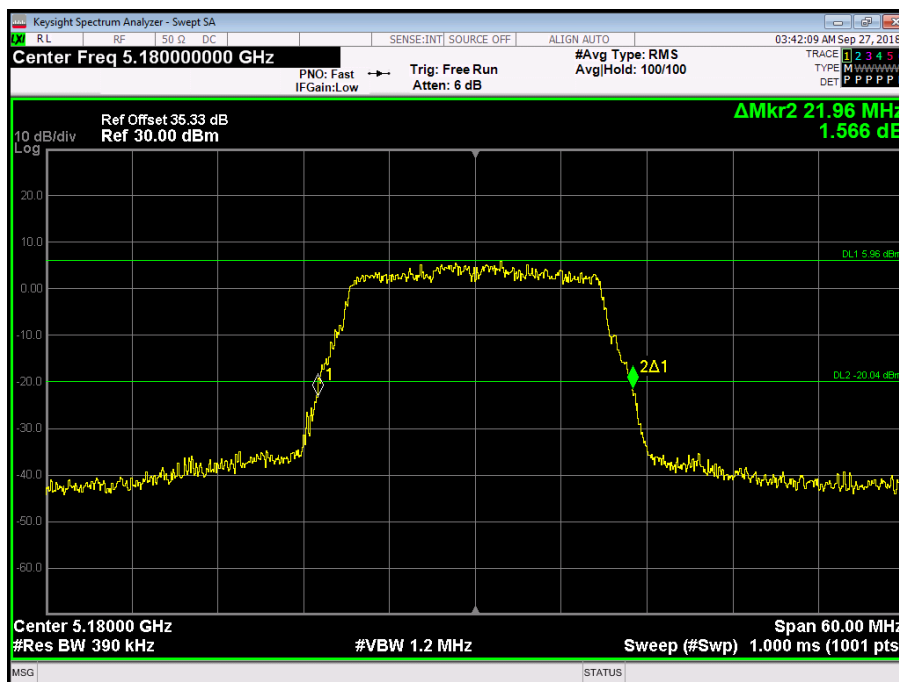


Figure 43 - 5180 MHz - 26 dB Emission Bandwidth

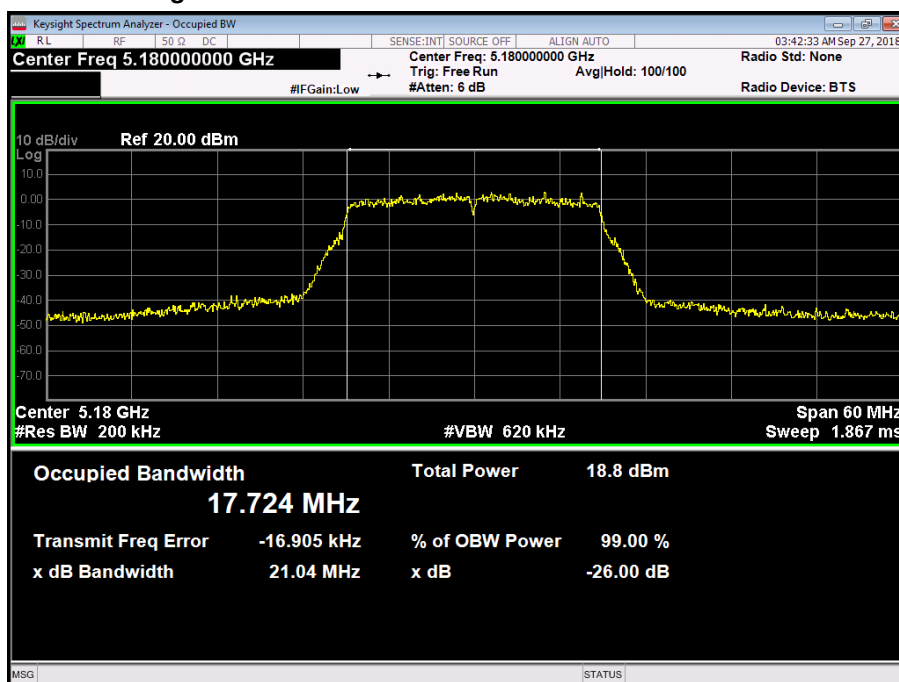


Figure 44 - 5180 MHz - 99% Occupied Bandwidth



Product Service

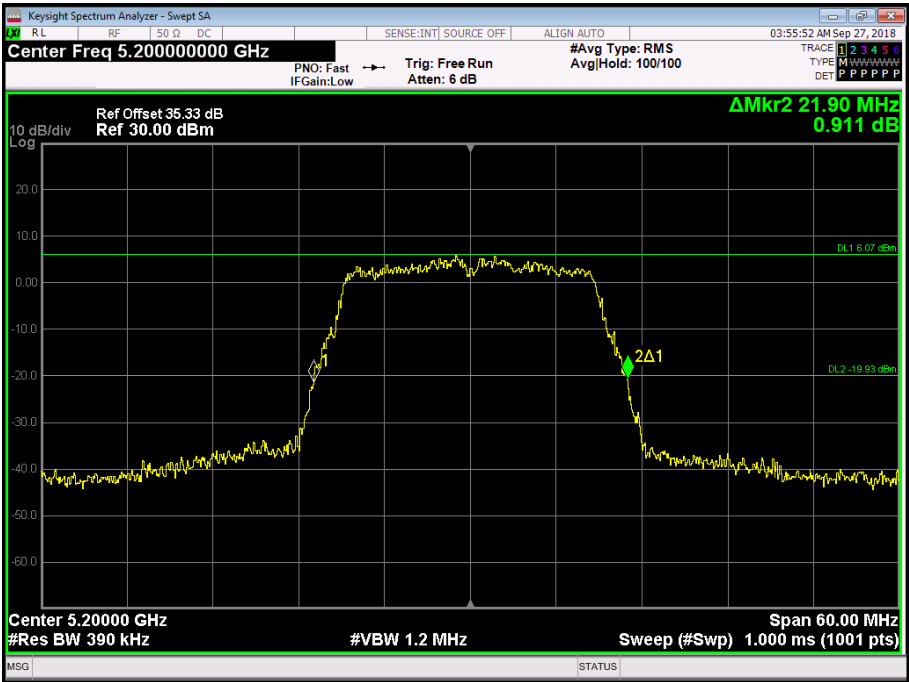


Figure 45 - 5200 MHz - 26 dB Emission Bandwidth

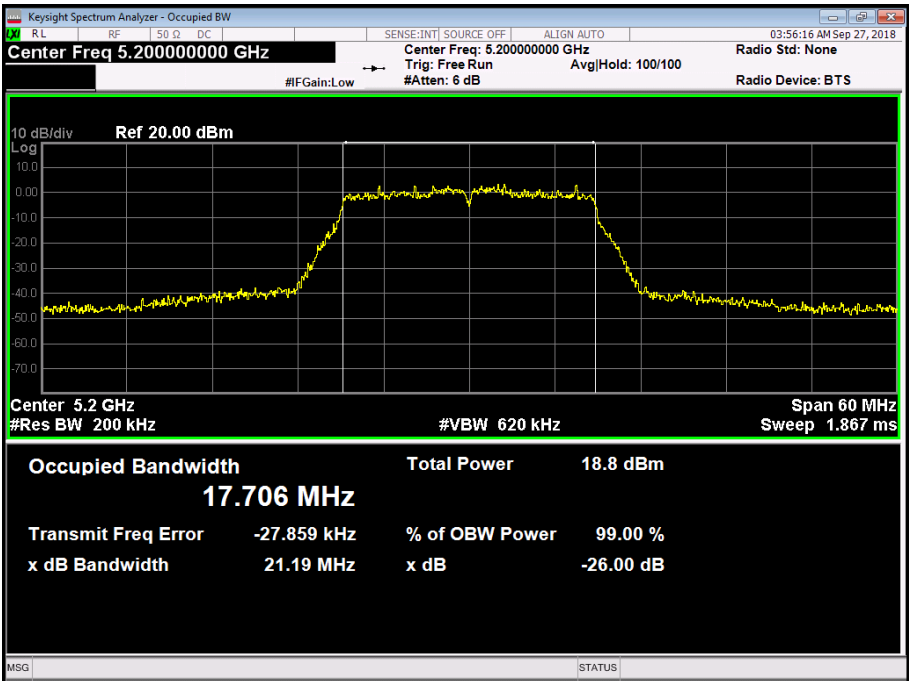


Figure 46 - 5200 MHz - 99% Occupied Bandwidth



Product Service

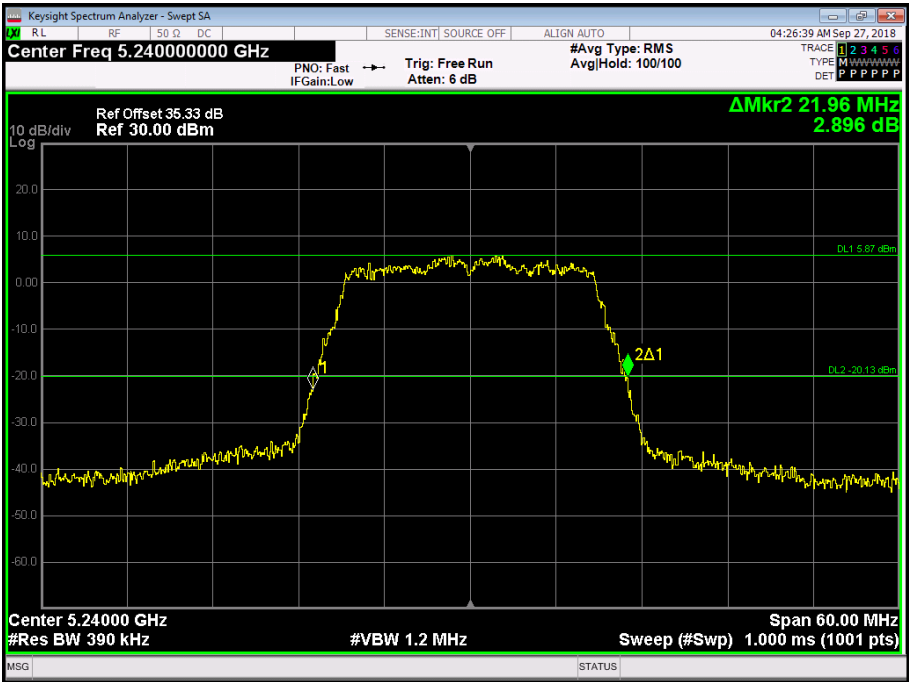


Figure 47 - 5240 MHz - 26 dB Emission Bandwidth

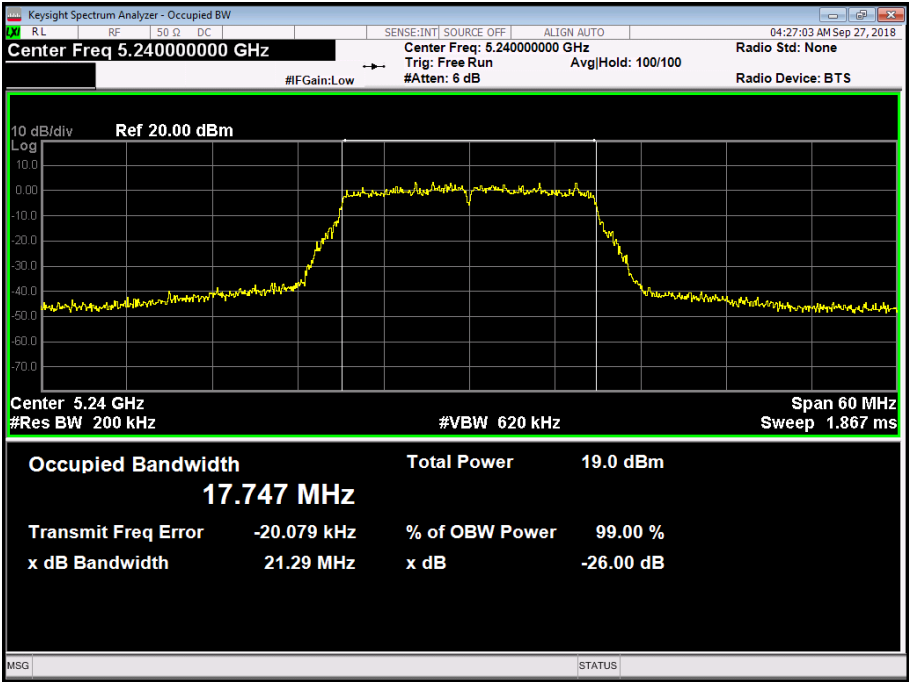


Figure 48 - 5240 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS0 / SISO / Core 0 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.680	40.560
99% Bandwidth (MHz)	36.224	36.223

Table 151

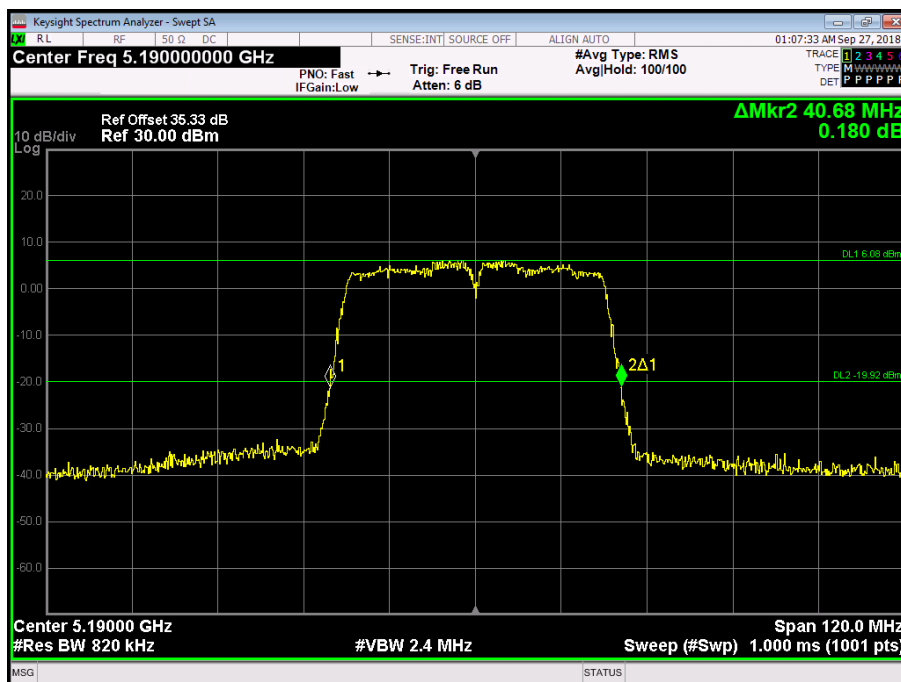


Figure 49 - 5190 MHz - 26 dB Emission Bandwidth

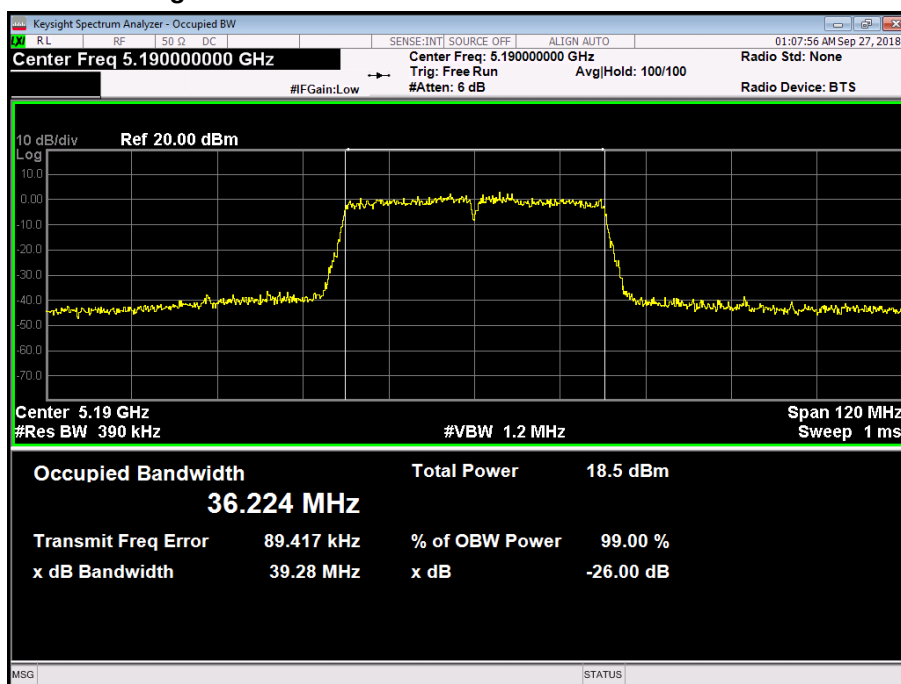


Figure 50 - 5190 MHz - 99% Occupied Bandwidth



Product Service

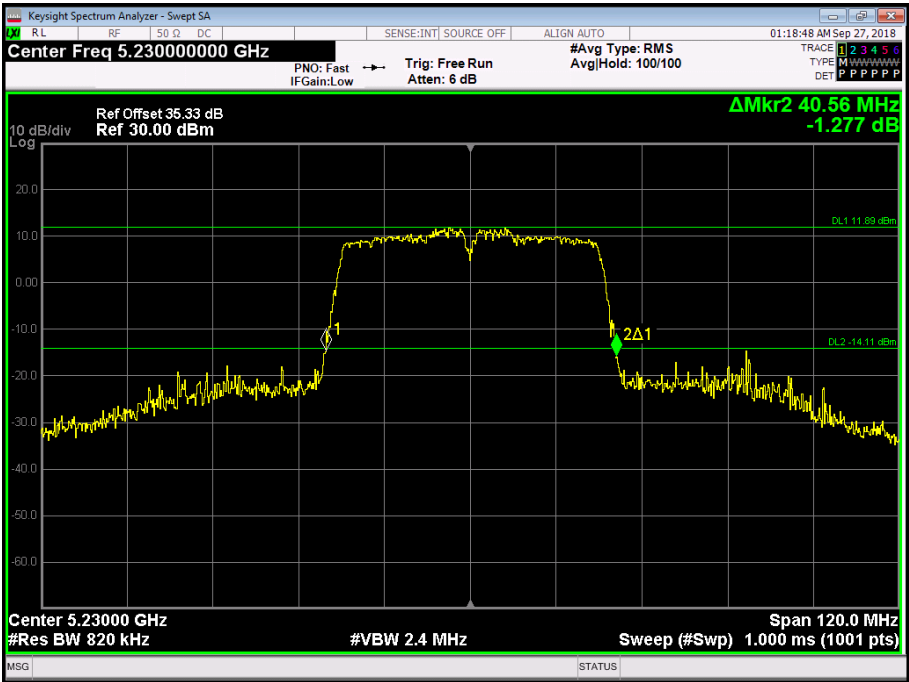


Figure 51 - 5230 MHz - 26 dB Emission Bandwidth

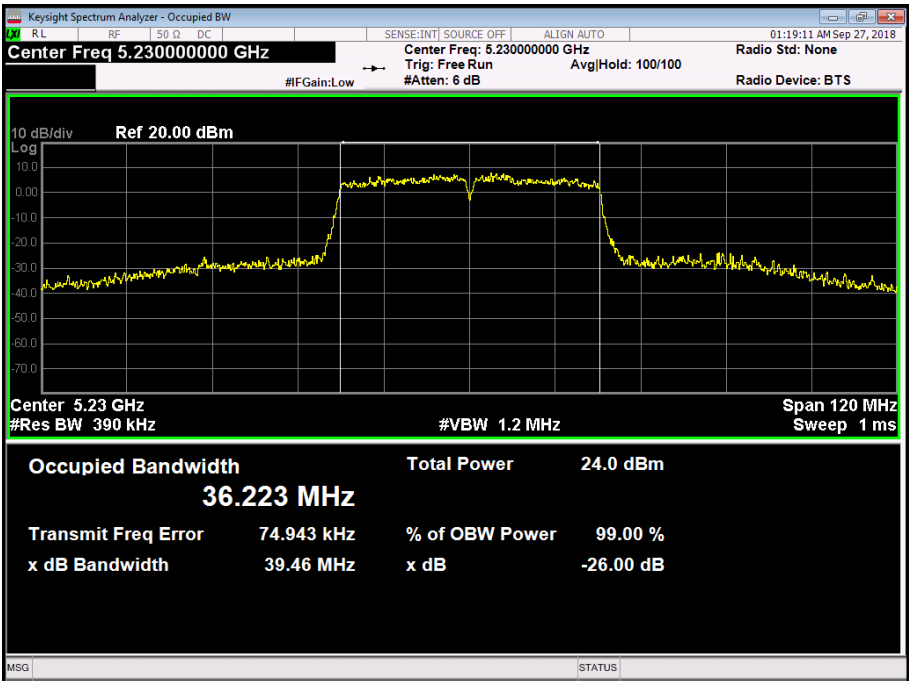


Figure 52 - 5230 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS0 / SISO / Core 0 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.320	40.560
99% Bandwidth (MHz)	36.131	36.194

Table 152

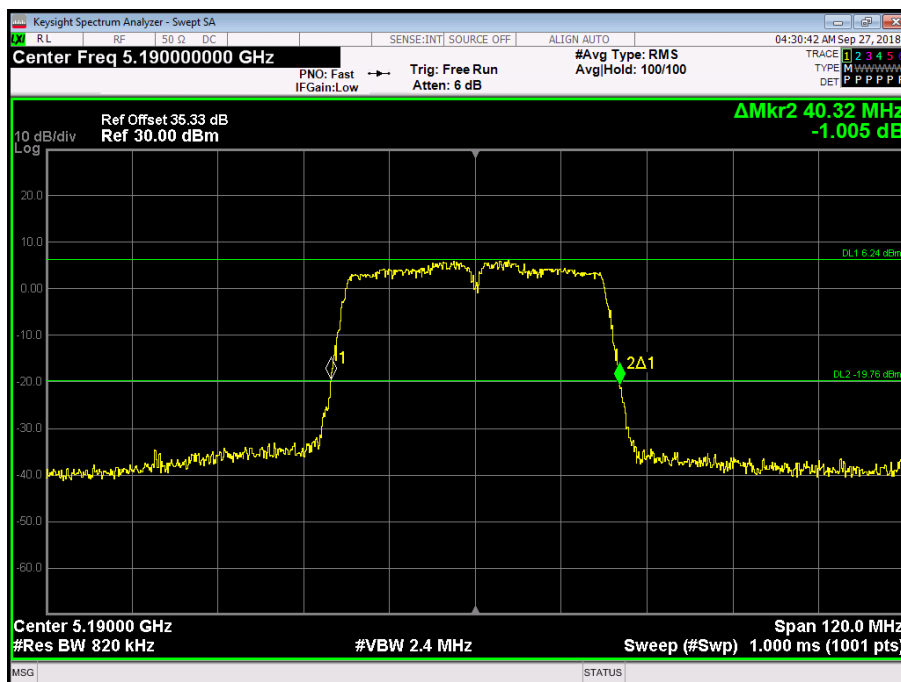


Figure 53 - 5190 MHz - 26 dB Emission Bandwidth

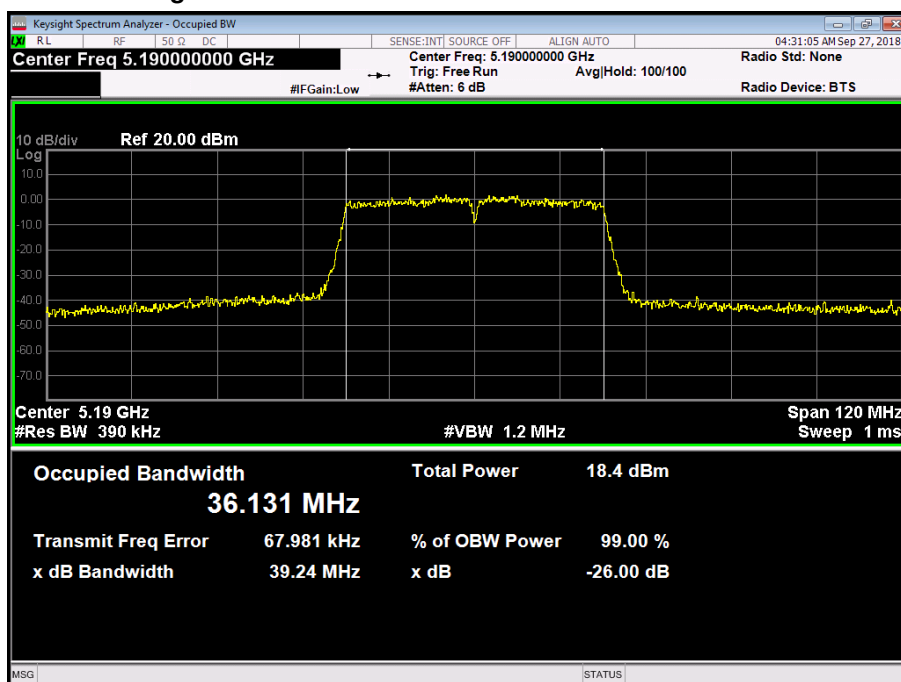


Figure 54 - 5190 MHz - 99% Occupied Bandwidth



Product Service

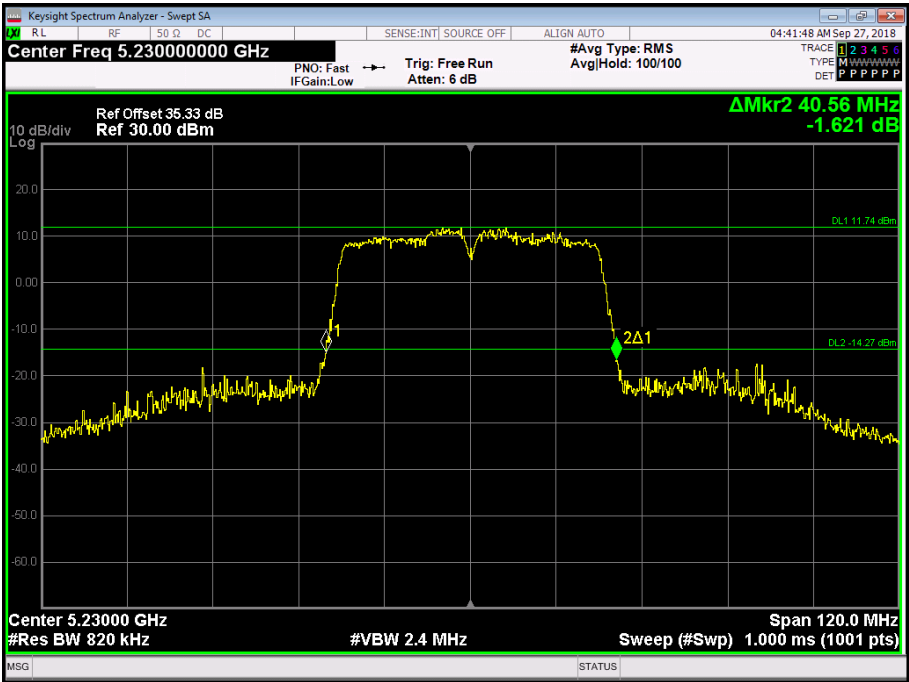


Figure 55 - 5230 MHz - 26 dB Emission Bandwidth

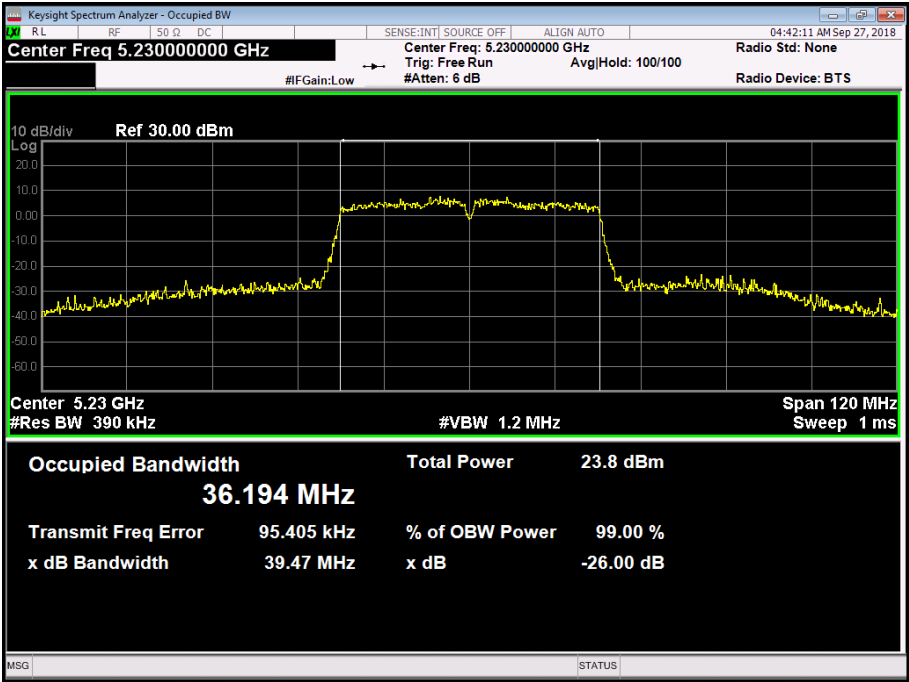


Figure 56 - 5230 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.680	40.320
99% Bandwidth (MHz)	36.203	36.179

Table 153

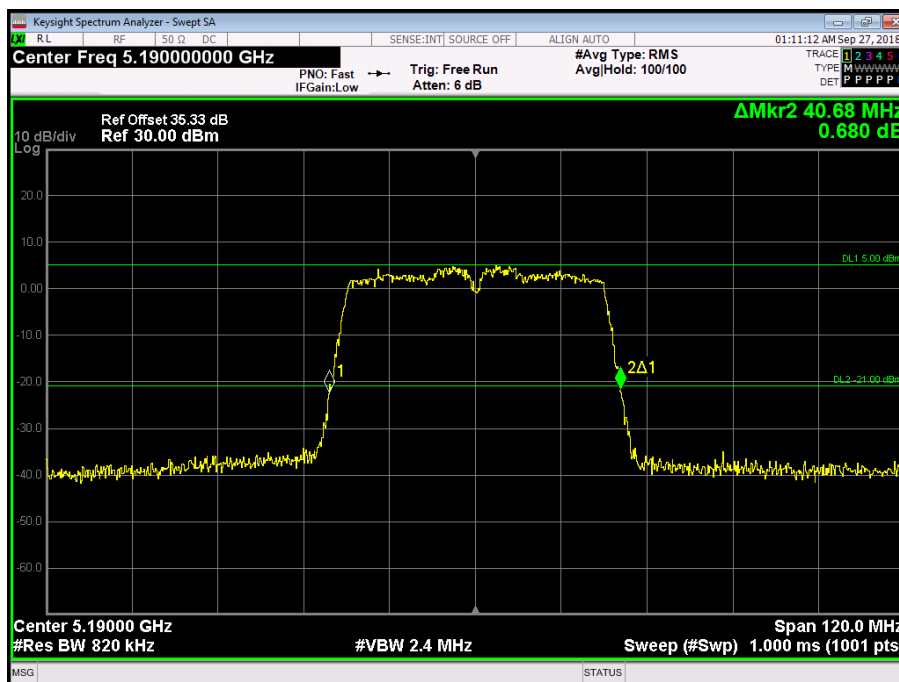


Figure 57 - 5190 MHz - 26 dB Emission Bandwidth

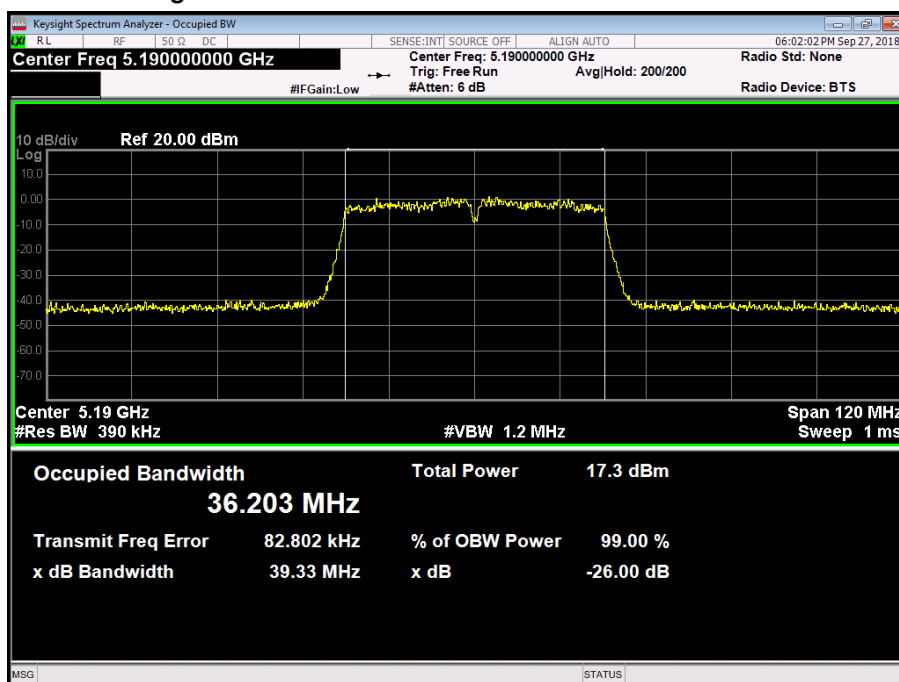


Figure 58 - 5190 MHz - 99% Occupied Bandwidth

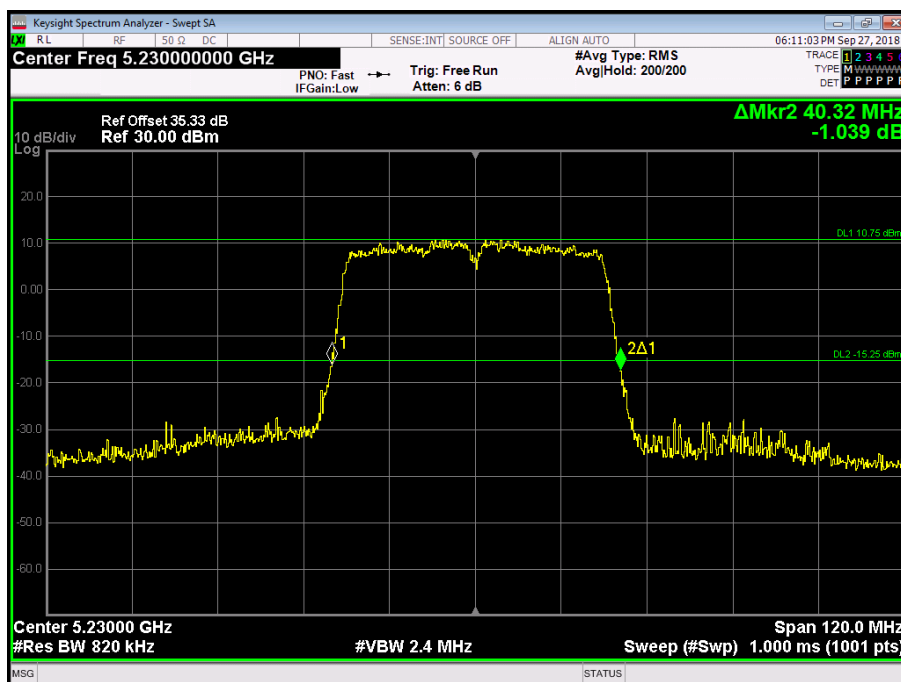


Figure 59 - 5230 MHz - 26 dB Emission Bandwidth

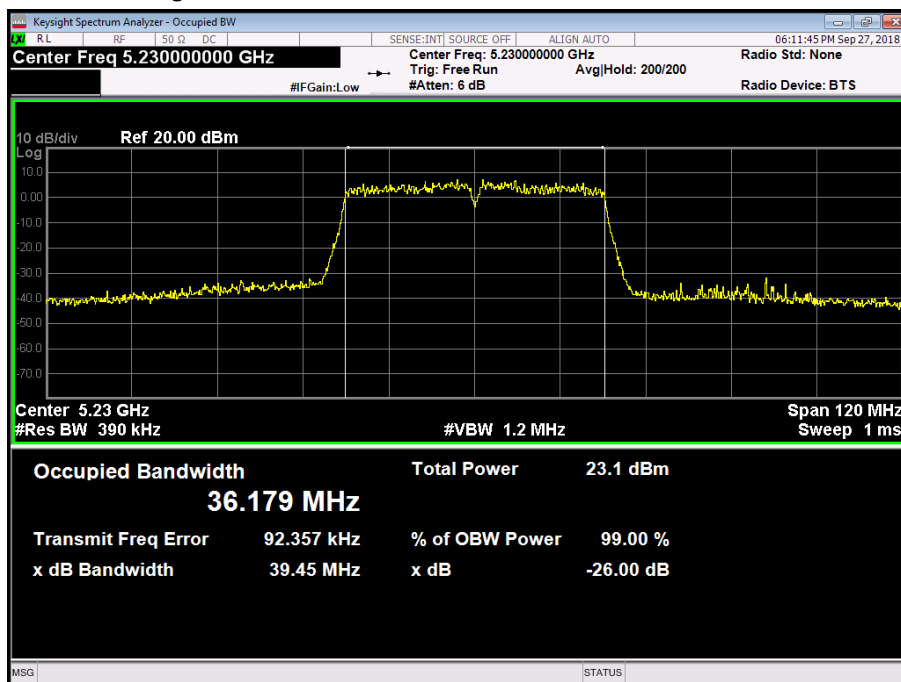


Figure 60 - 5230 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS0 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.440	40.680
99% Bandwidth (MHz)	36.189	36.168

Table 154

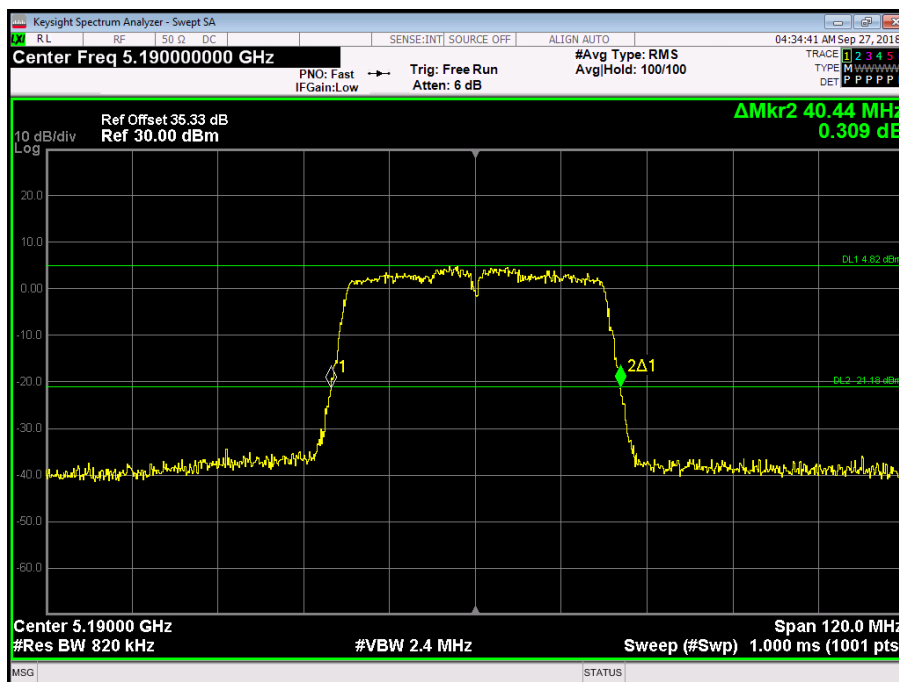


Figure 61 - 5190 MHz - 26 dB Emission Bandwidth

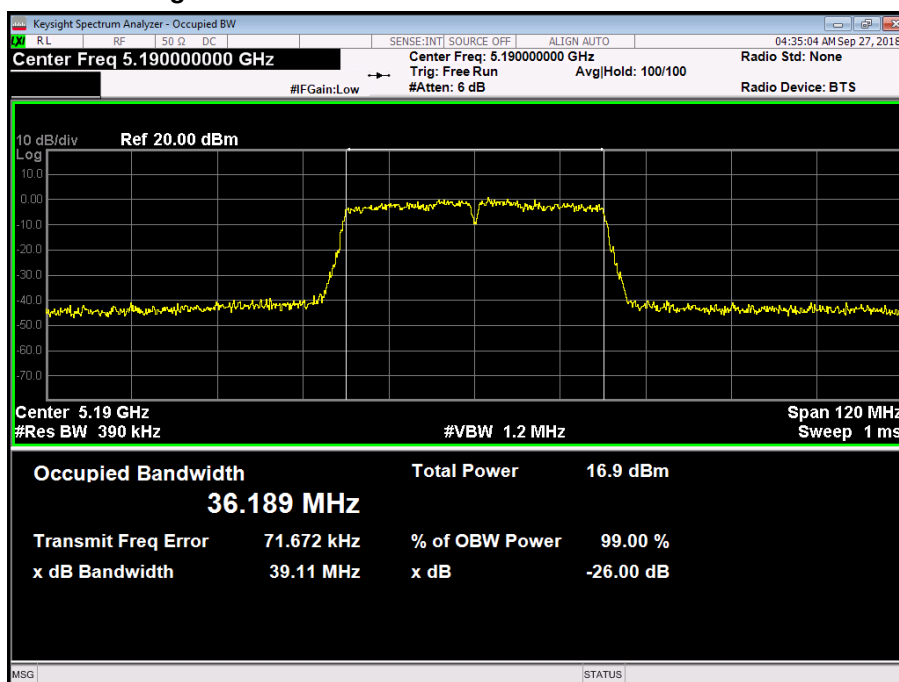


Figure 62 - 5190 MHz - 99% Occupied Bandwidth



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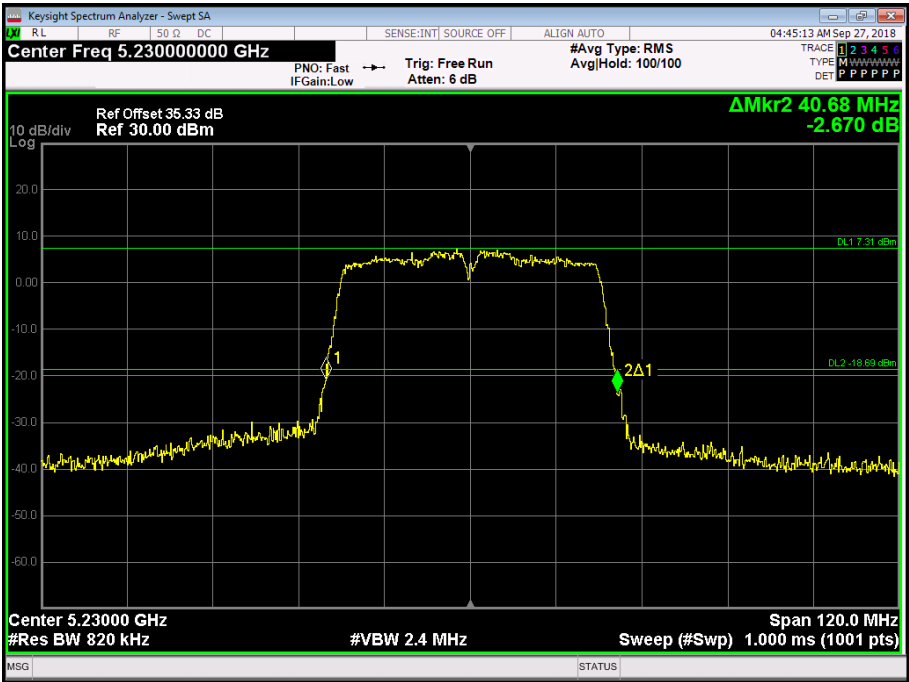


Figure 63 - 5230 MHz - 26 dB Emission Bandwidth

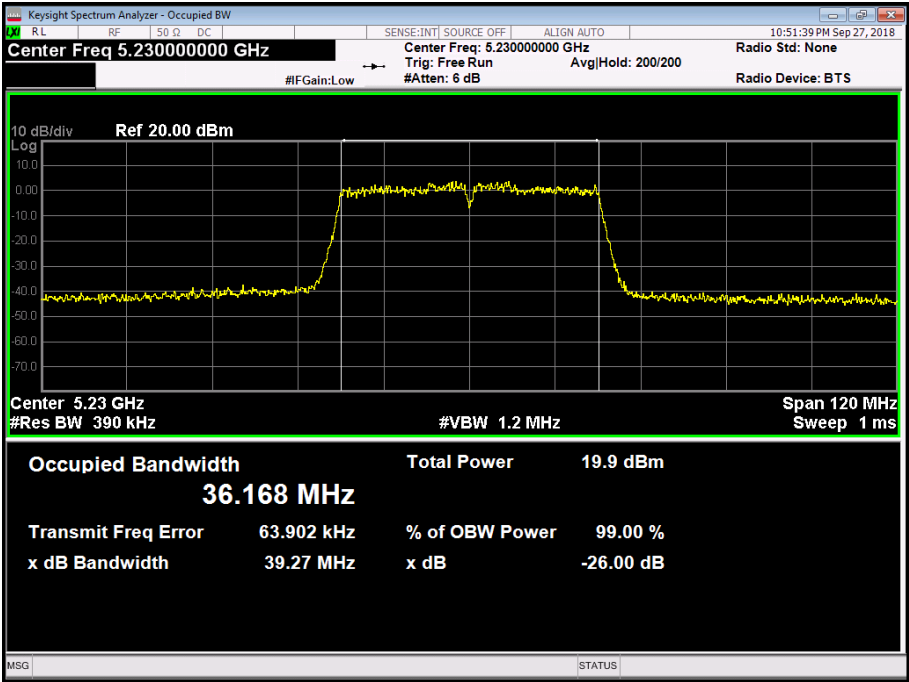


Figure 64 - 5230 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.440	40.680
99% Bandwidth (MHz)	36.156	36.282

Table 155

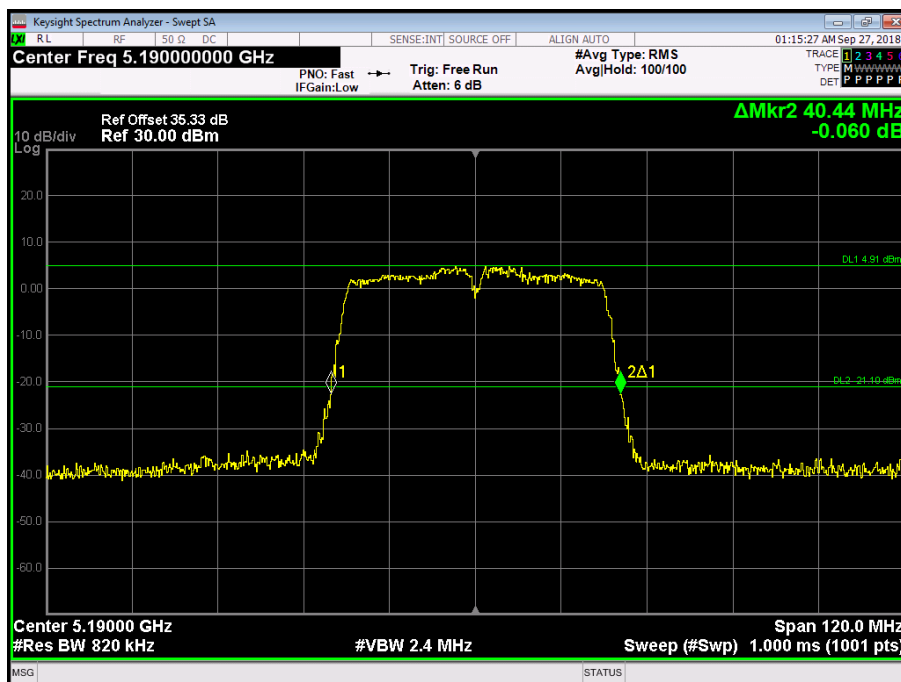


Figure 65 - 5190 MHz - 26 dB Emission Bandwidth

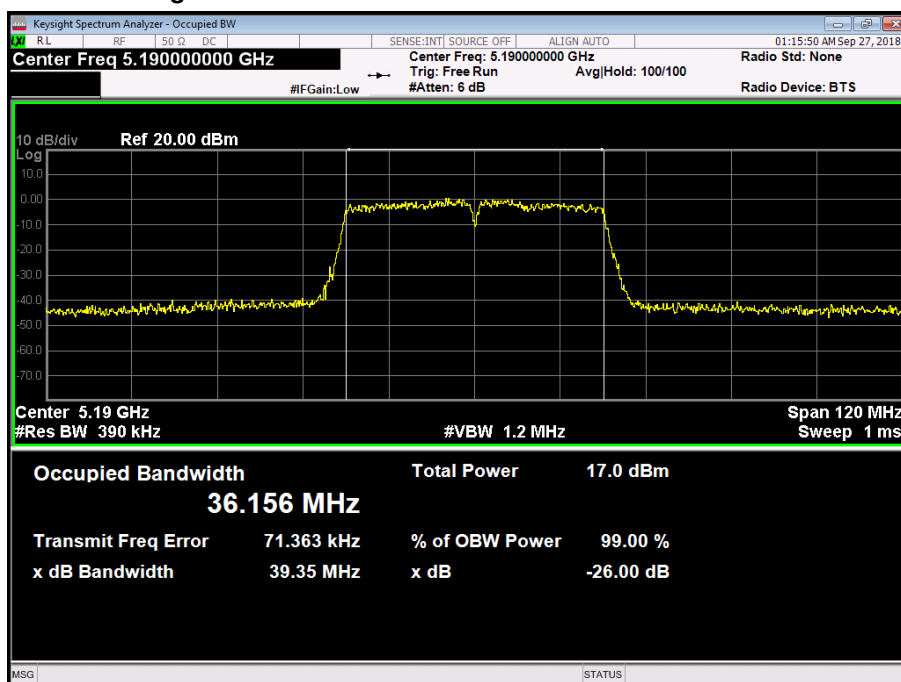


Figure 66 - 5190 MHz - 99% Occupied Bandwidth



Product Service

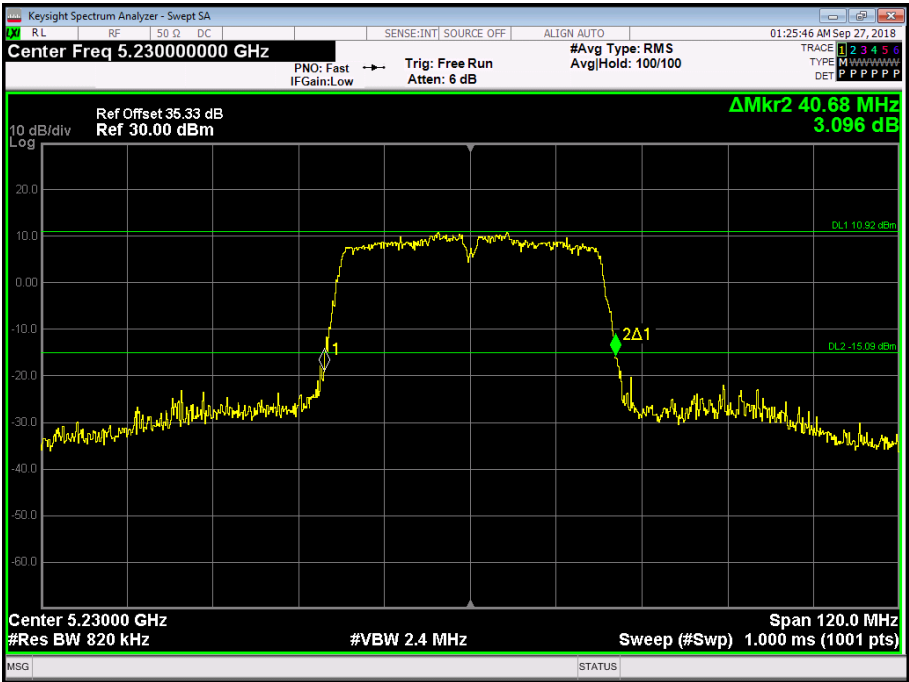


Figure 67 - 5230 MHz - 26 dB Emission Bandwidth

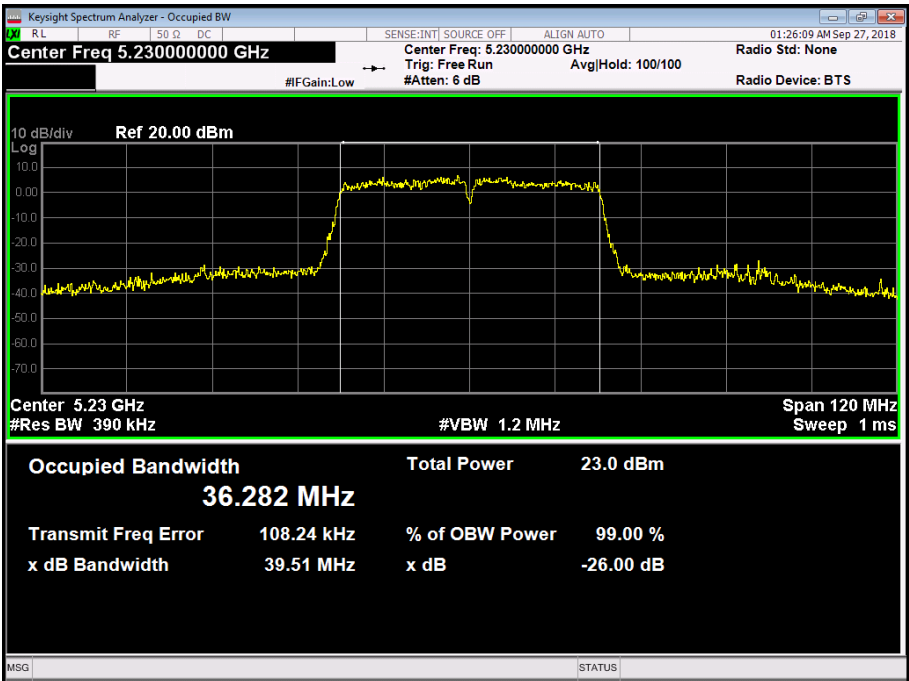


Figure 68 - 5230 MHz - 99% Occupied Bandwidth



802.11n / HT40 MCS8 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.440	40.800
99% Bandwidth (MHz)	36.221	36.172

Table 156

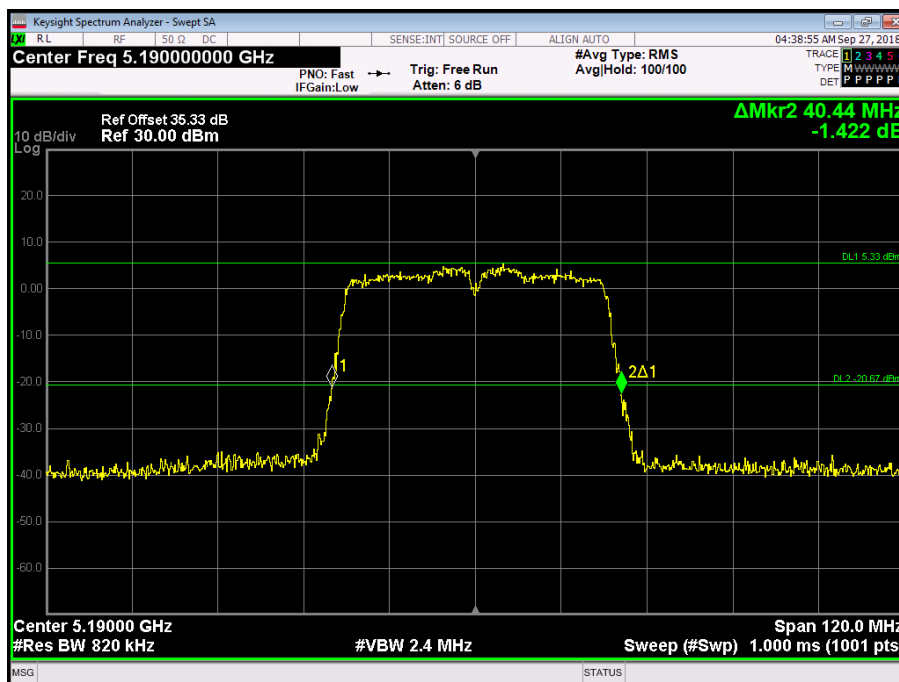


Figure 69 - 5190 MHz - 26 dB Emission Bandwidth

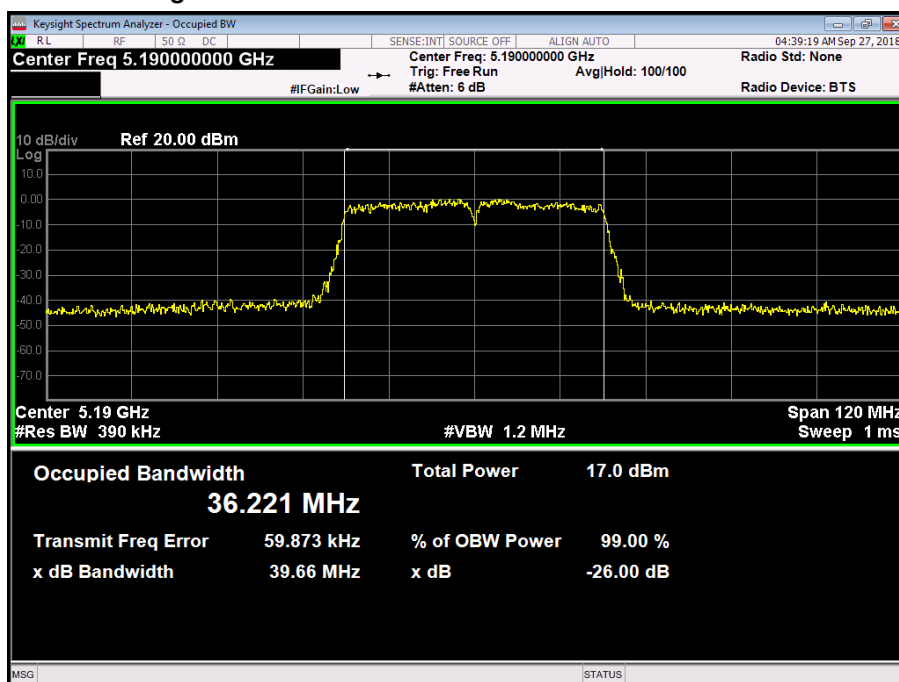


Figure 70 - 5190 MHz - 99% Occupied Bandwidth



Figure 71 - 5230 MHz - 26 dB Emission Bandwidth

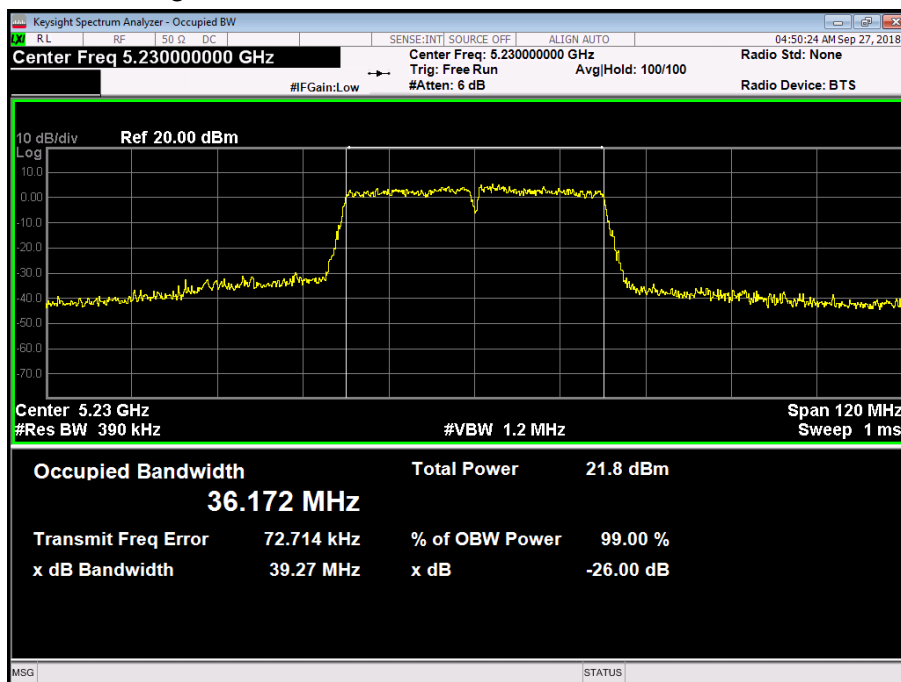


Figure 72 - 5230 MHz - 99% Occupied Bandwidth



802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.780	21.780	21.960
99% Bandwidth (MHz)	17.760	17.734	17.743

Table 157

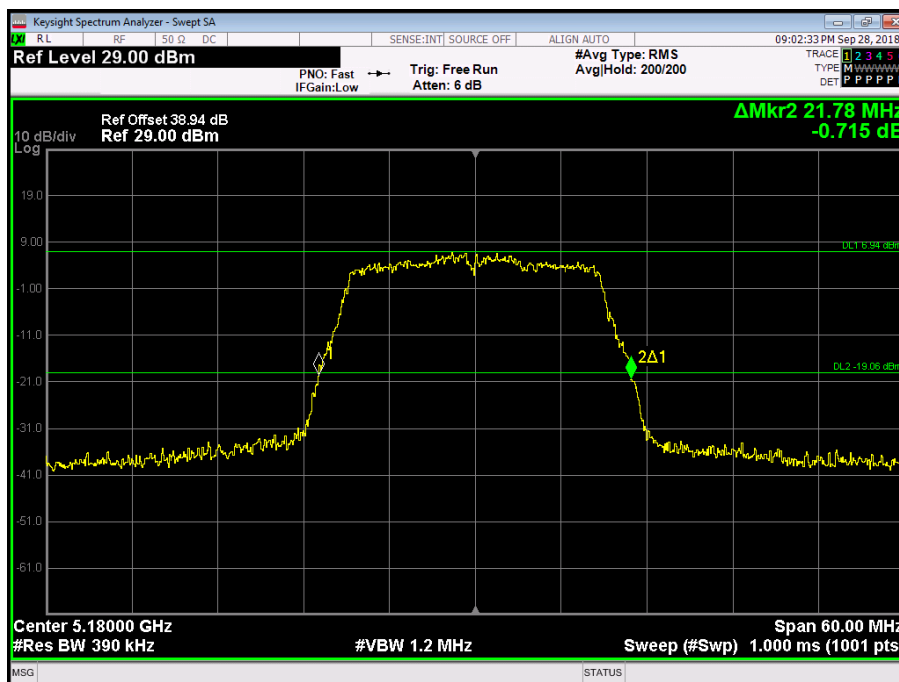


Figure 73 - 5180 MHz - 26 dB Emission Bandwidth

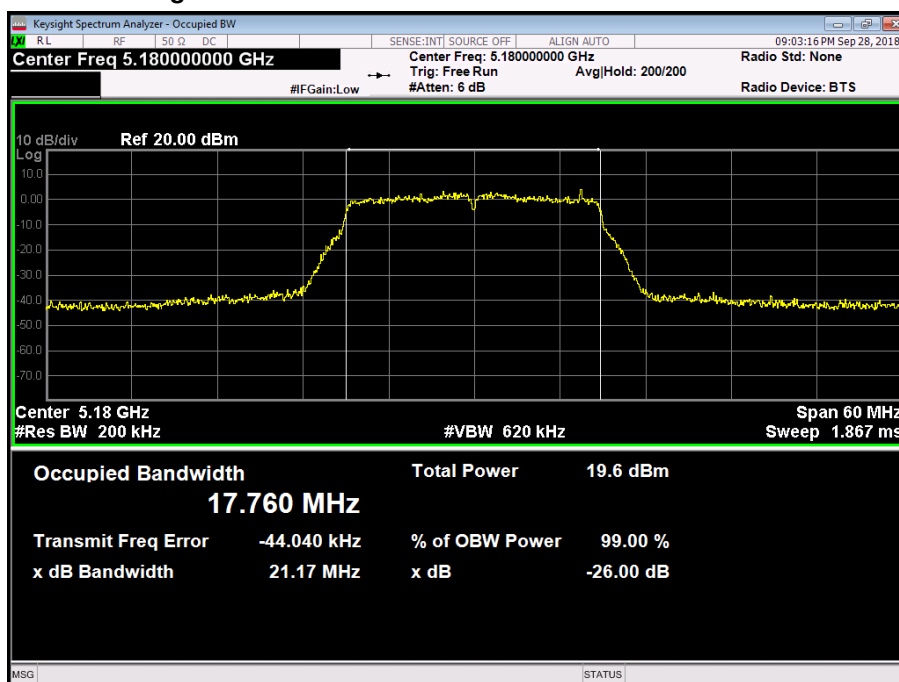


Figure 74 - 5180 MHz - 99% Occupied Bandwidth



Figure 75 - 5200 MHz - 26 dB Emission Bandwidth

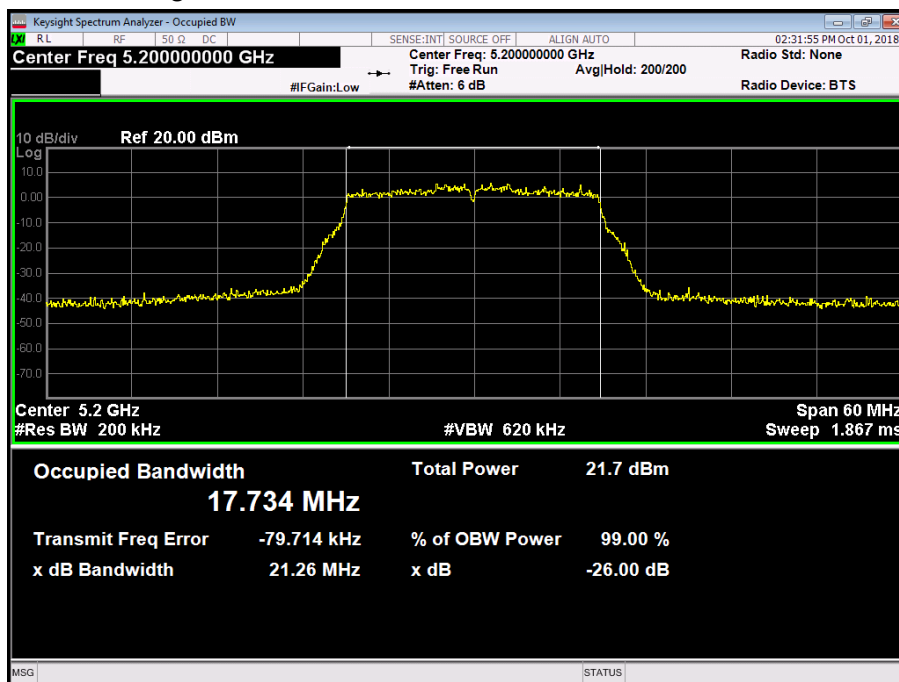


Figure 76 - 5200 MHz - 99% Occupied Bandwidth

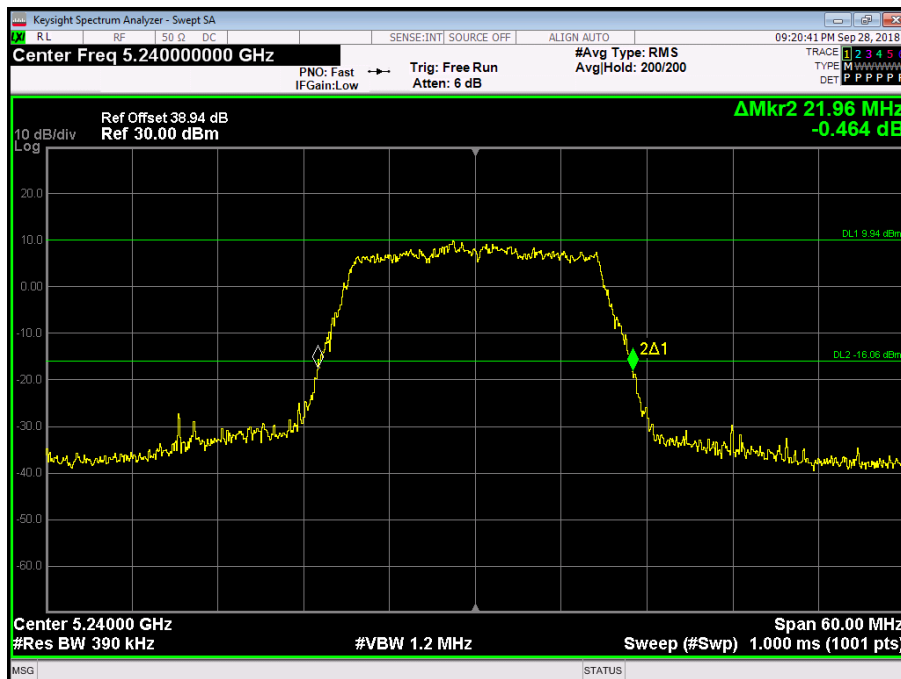


Figure 77 - 5240 MHz - 26 dB Emission Bandwidth

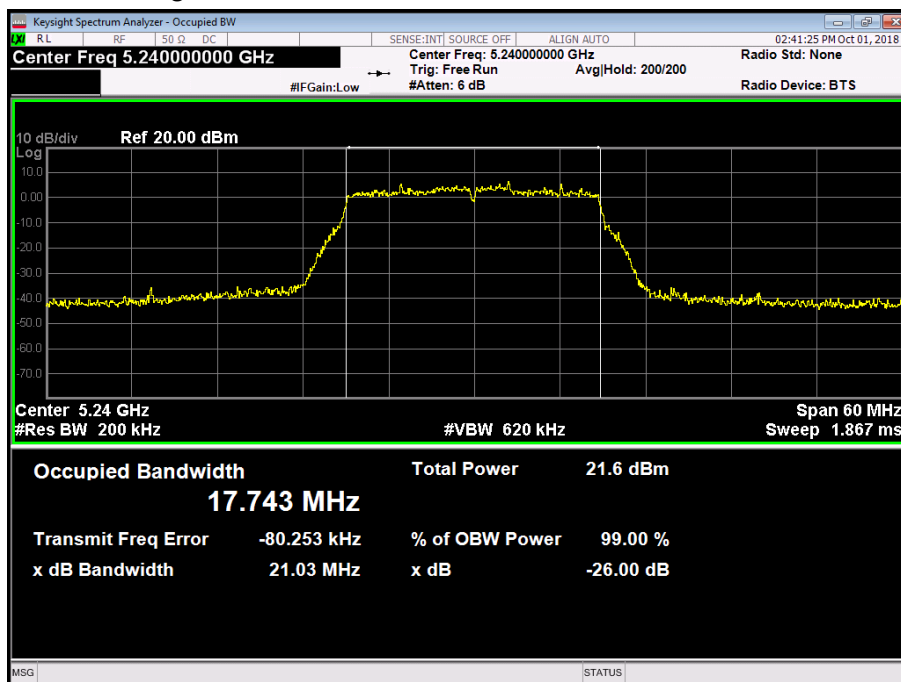


Figure 78 - 5240 MHz - 99% Occupied Bandwidth



802.11ac / VHT20 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Middle	Top
Frequency (MHz)	5180	5200	5240
26 dB Bandwidth (MHz)	21.840	21.900	21.780
99% Bandwidth (MHz)	17.747	17.778	17.731

Table 158

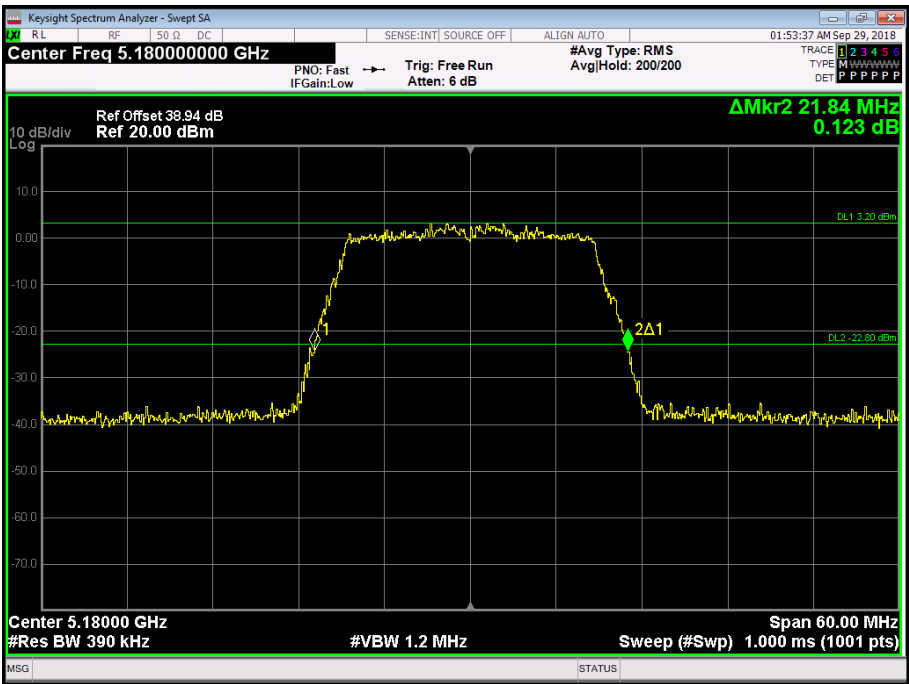


Figure 79 - 5180 MHz - 26 dB Emission Bandwidth

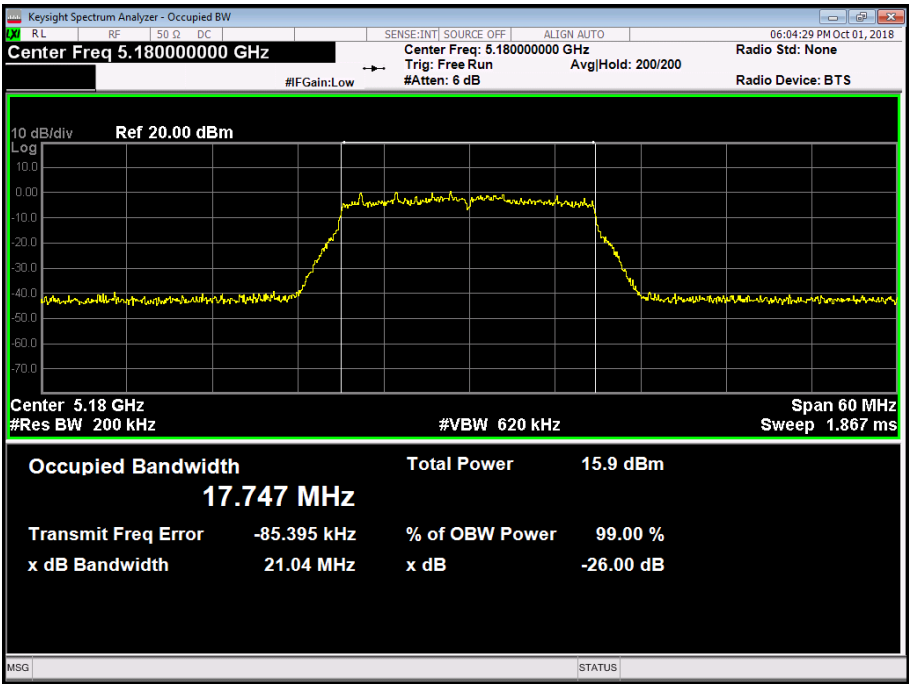


Figure 80 - 5180 MHz - 99% Occupied Bandwidth

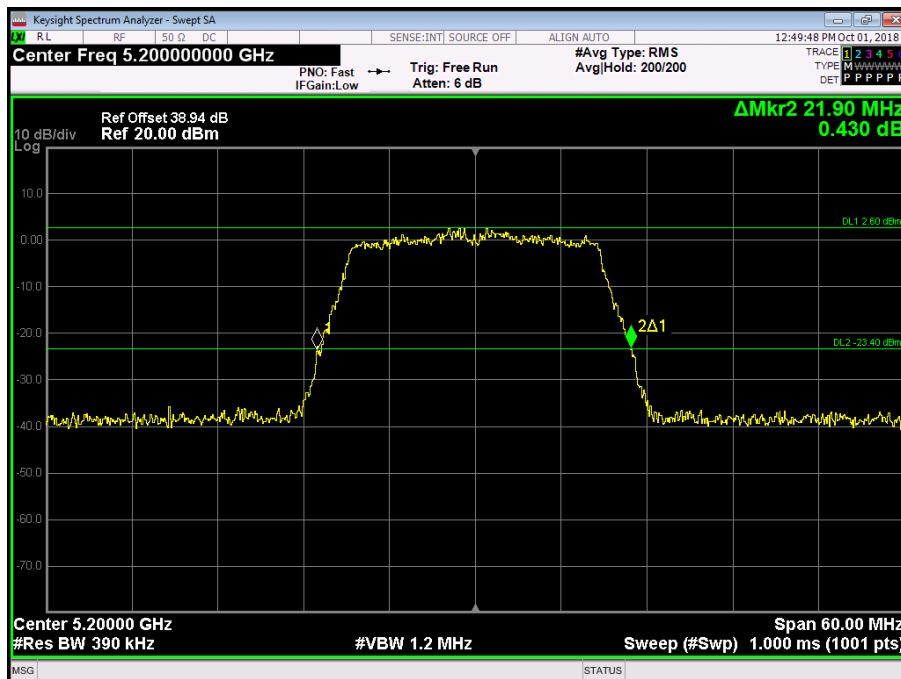


Figure 81 - 5200 MHz - 26 dB Emission Bandwidth

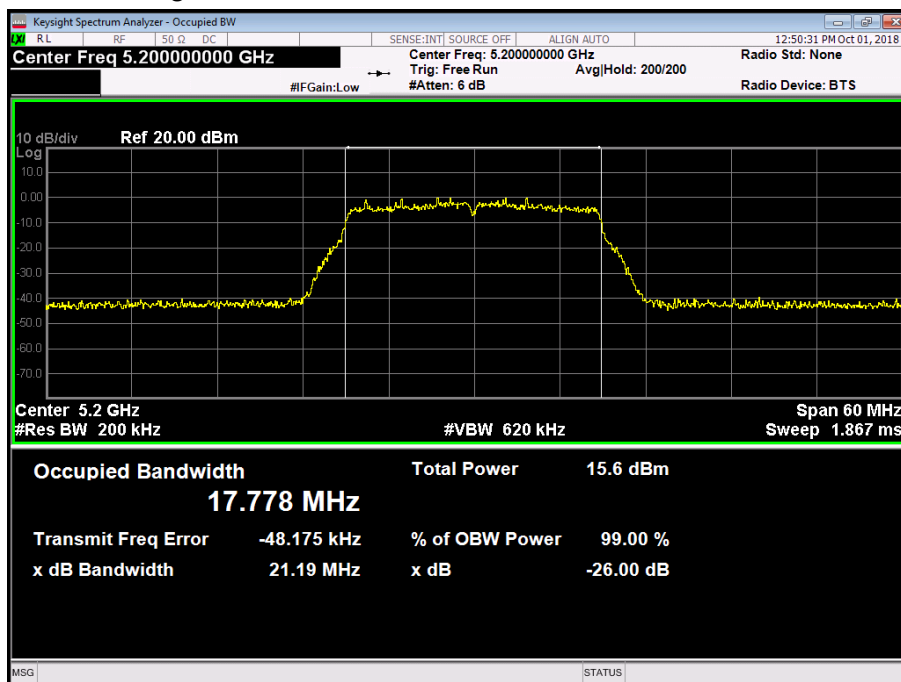


Figure 82 - 5200 MHz - 99% Occupied Bandwidth



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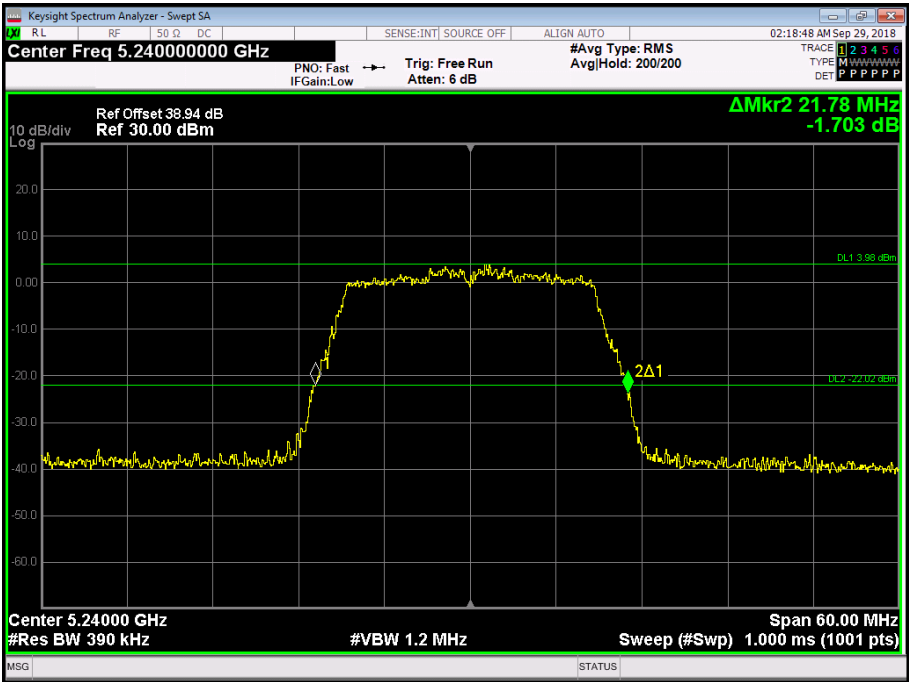


Figure 83 - 5240 MHz - 26 dB Emission Bandwidth

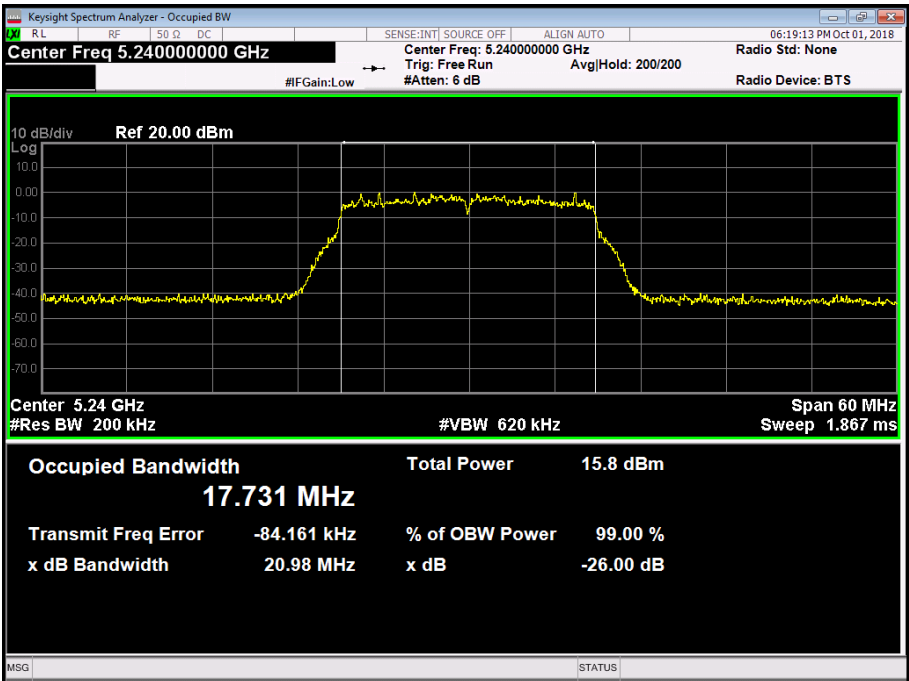


Figure 84 - 5240 MHz - 99% Occupied Bandwidth



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.320	40.200
99% Bandwidth (MHz)	36.199	36.206

Table 159

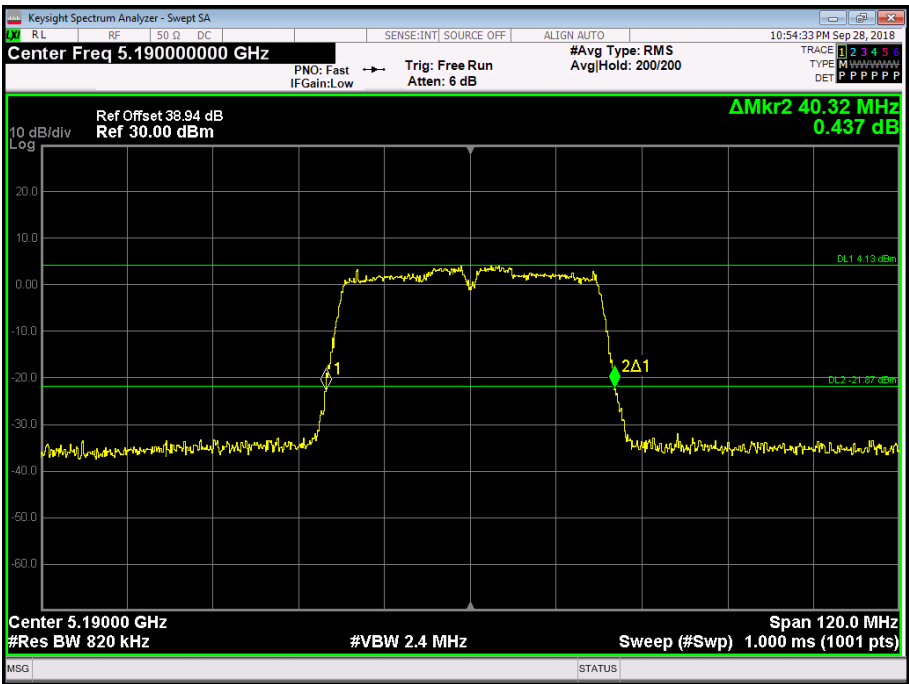


Figure 85 - 5190 MHz - 26 dB Emission Bandwidth

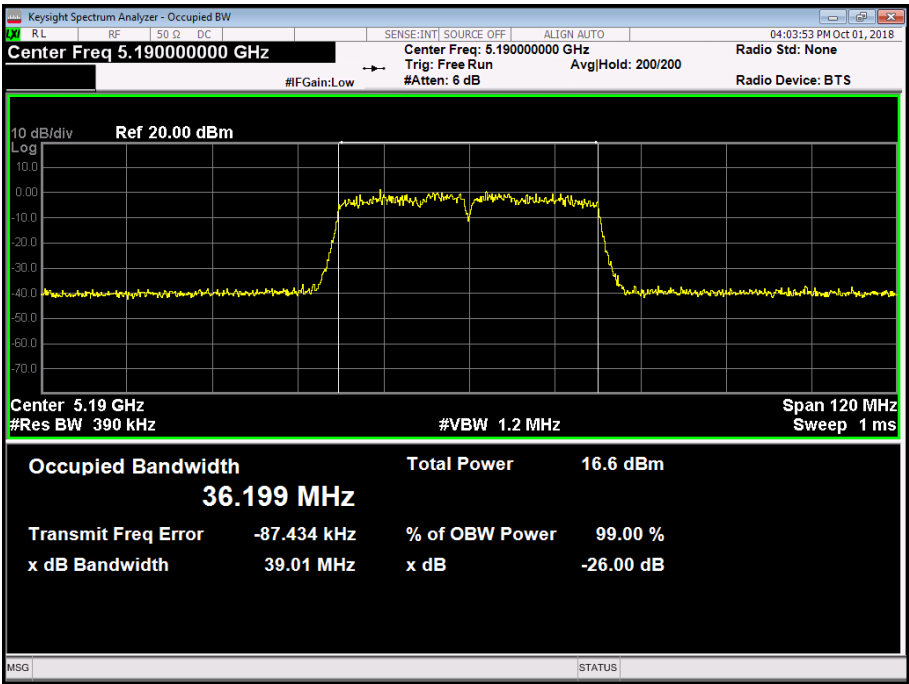


Figure 86 - 5190 MHz - 99% Occupied Bandwidth

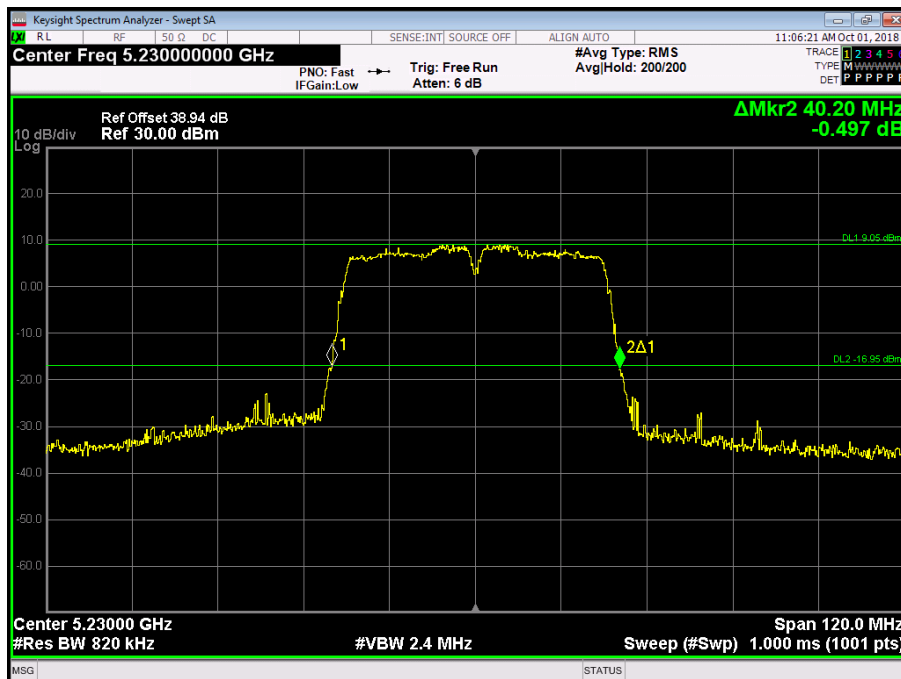


Figure 87 - 5230 MHz - 26 dB Emission Bandwidth

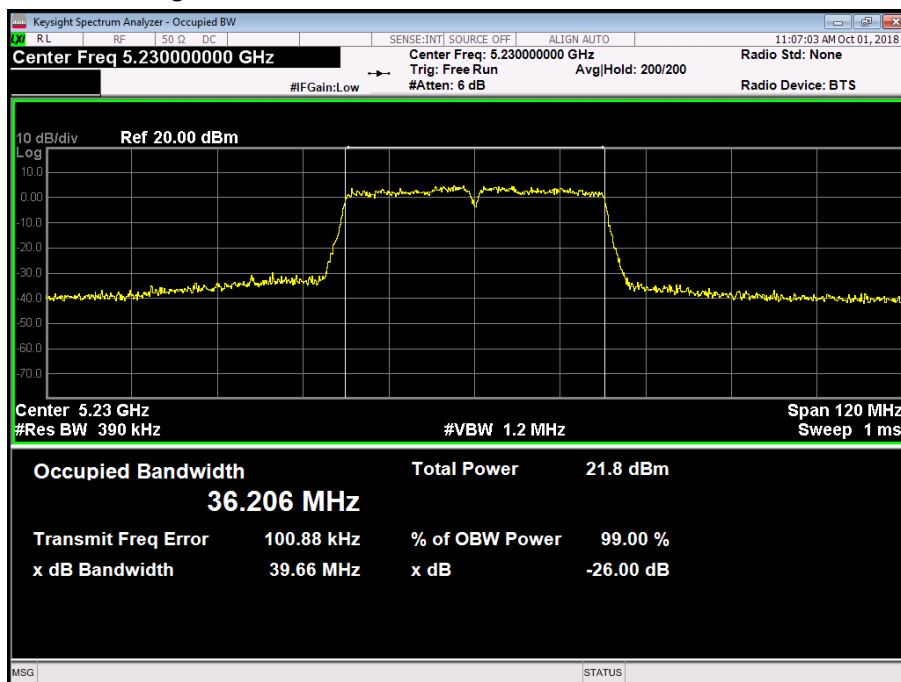


Figure 88 - 5230 MHz - 99% Occupied Bandwidth



802.11ac / VHT40 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Bottom	Top
Frequency (MHz)	5190	5230
26 dB Bandwidth (MHz)	40.560	40.200
99% Bandwidth (MHz)	36.274	36.173

Table 160

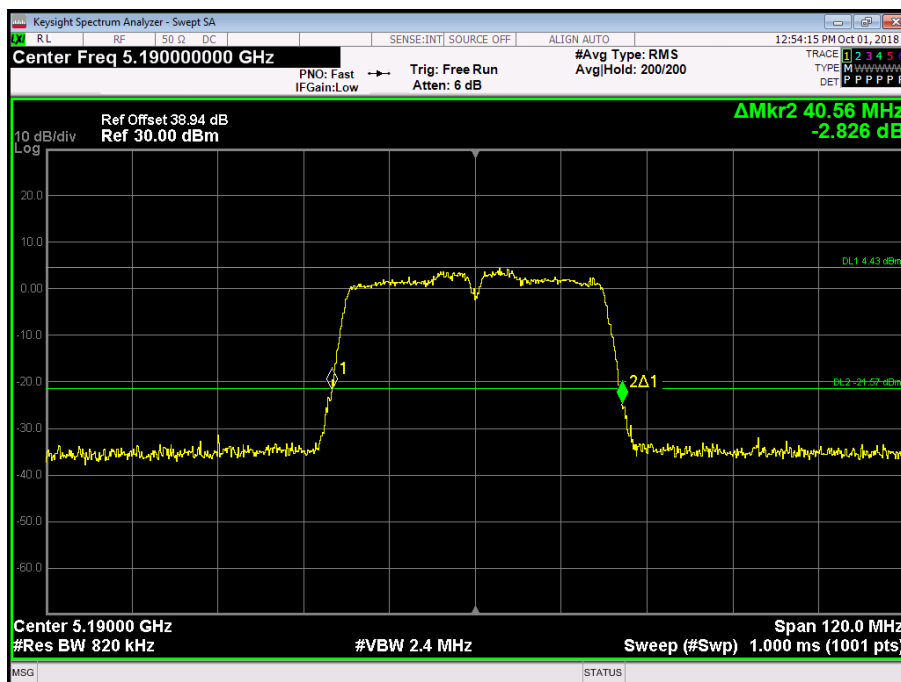


Figure 89 - 5190 MHz - 26 dB Emission Bandwidth

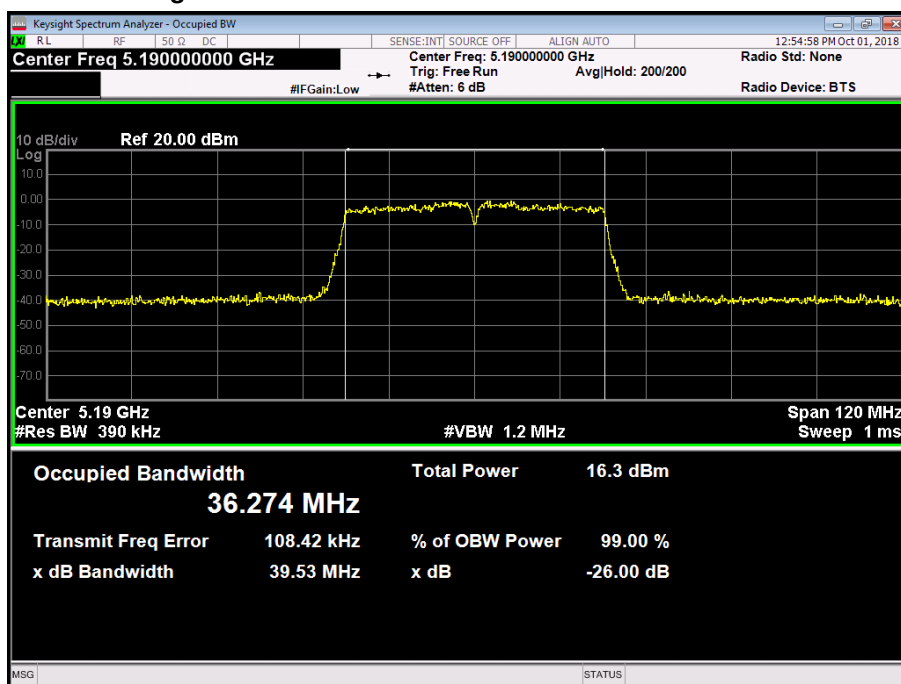


Figure 90 - 5190 MHz - 99% Occupied Bandwidth

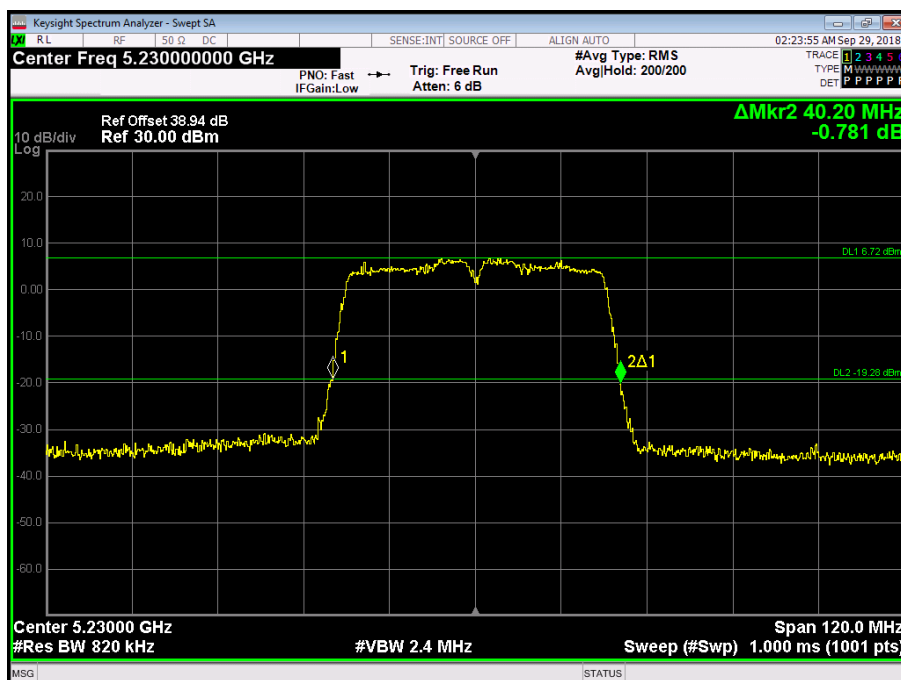


Figure 91 - 5230 MHz - 26 dB Emission Bandwidth

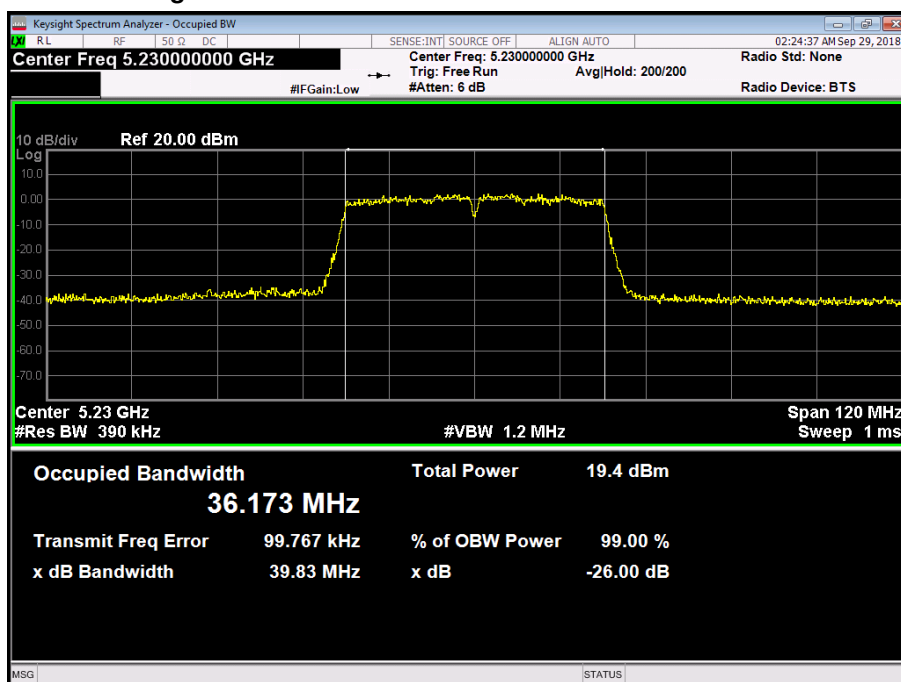


Figure 92 - 5230 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code US

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.120
99% Bandwidth (MHz)	75.615

Table 161

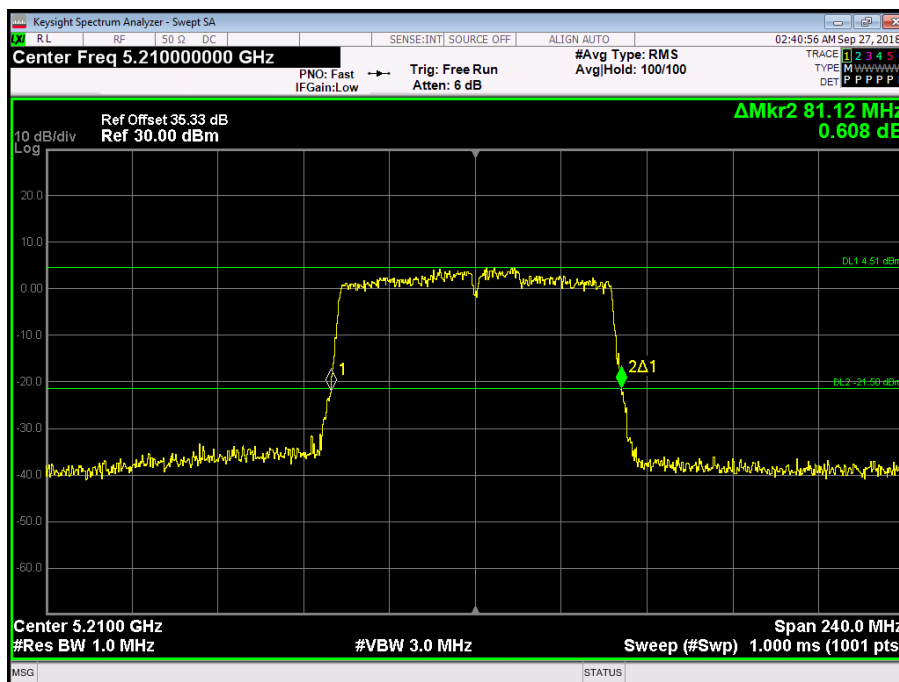


Figure 93 - 5210 MHz - 26 dB Emission Bandwidth

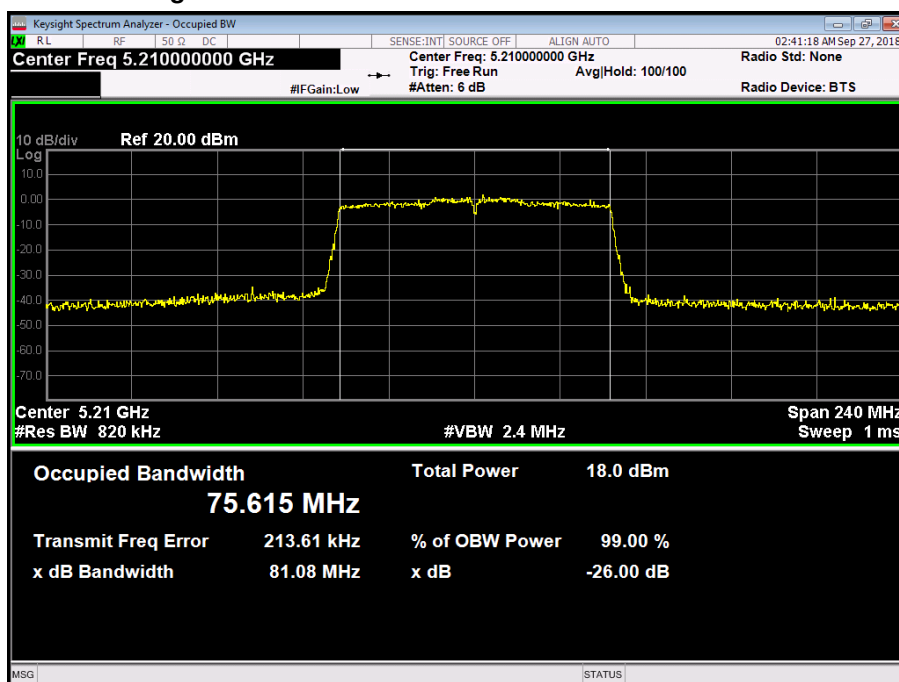


Figure 94 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / SISO / Core 0 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.360
99% Bandwidth (MHz)	75.795

Table 162



Figure 95 - 5210 MHz - 26 dB Emission Bandwidth

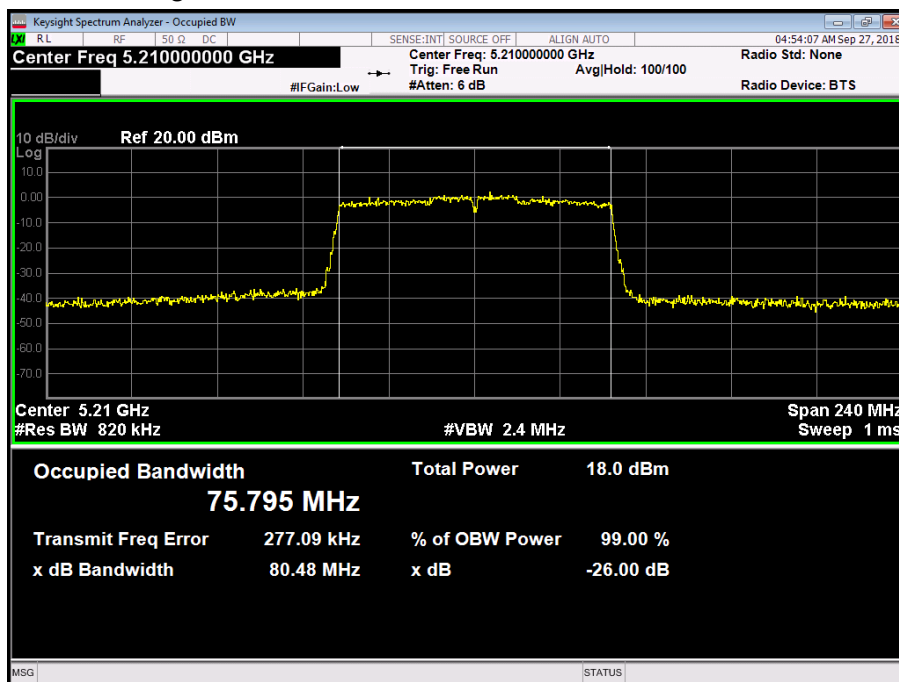


Figure 96 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.840
99% Bandwidth (MHz)	75.639

Table 163

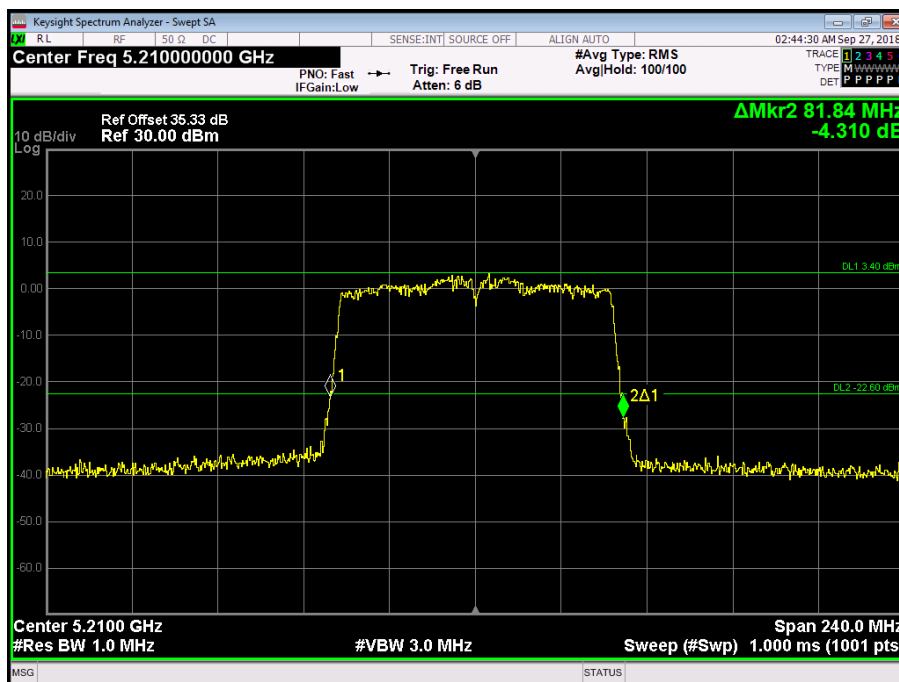


Figure 97 - 5210 MHz - 26 dB Emission Bandwidth

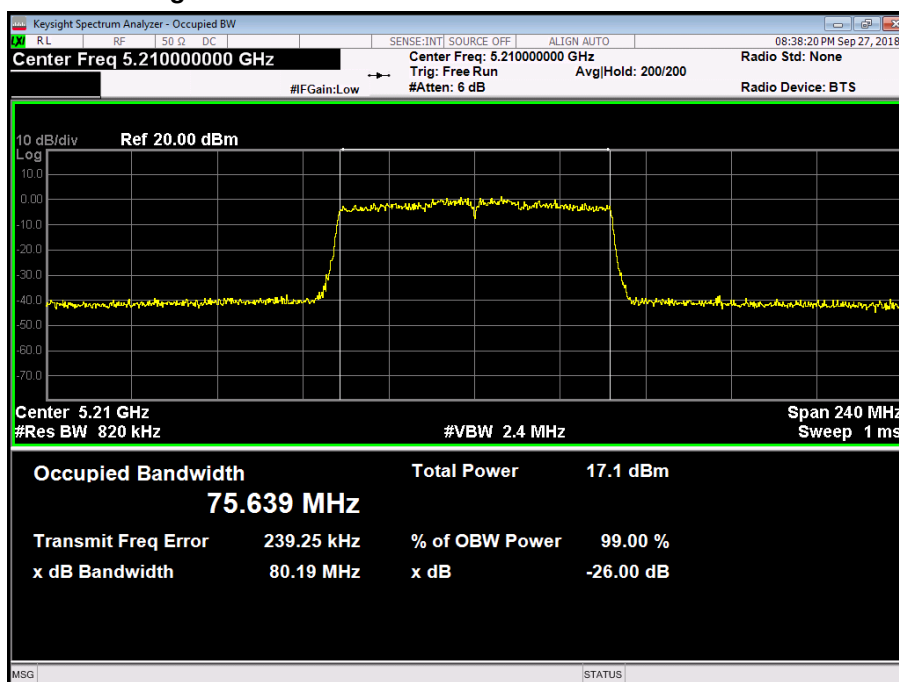


Figure 98 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / MIMO CDD / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.840
99% Bandwidth (MHz)	75.706

Table 164



Figure 99 - 5210 MHz - 26 dB Emission Bandwidth

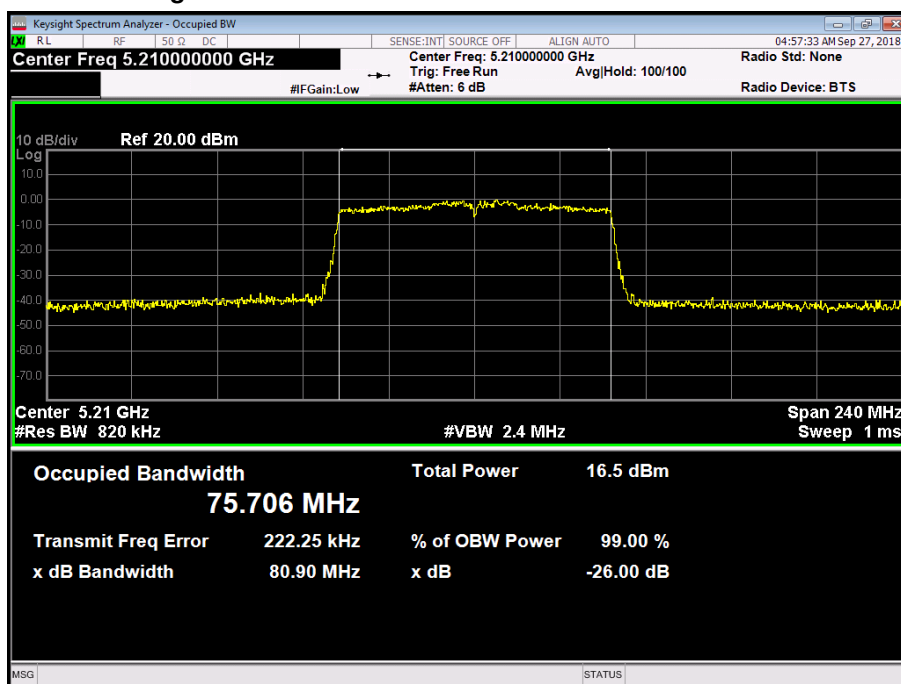


Figure 100 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.840
99% Bandwidth (MHz)	75.623

Table 165



Figure 101 - 5210 MHz - 26 dB Emission Bandwidth

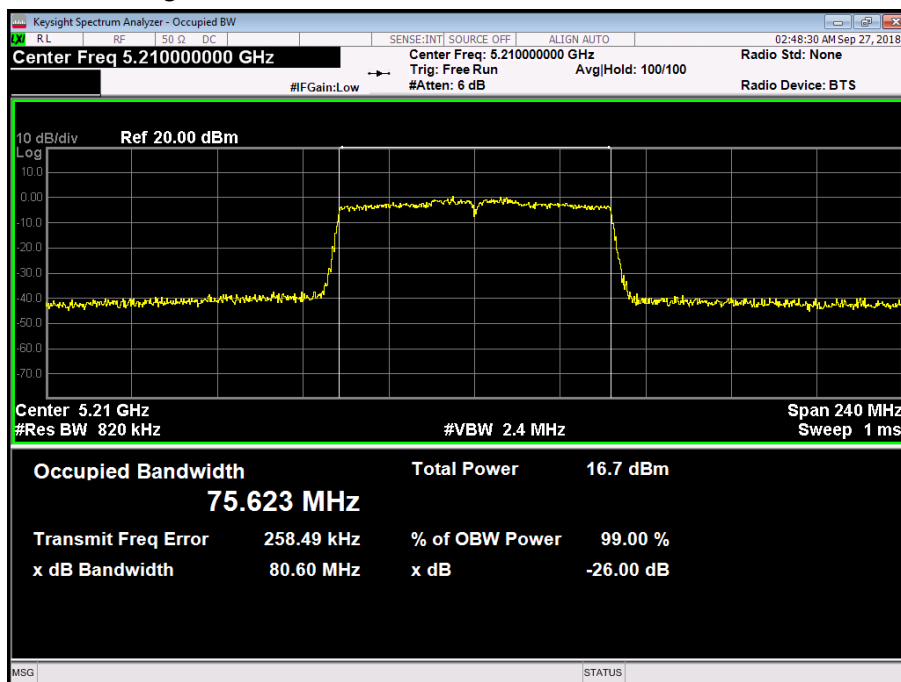


Figure 102 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x2 / MIMO SDM / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.360
99% Bandwidth (MHz)	75.684

Table 166

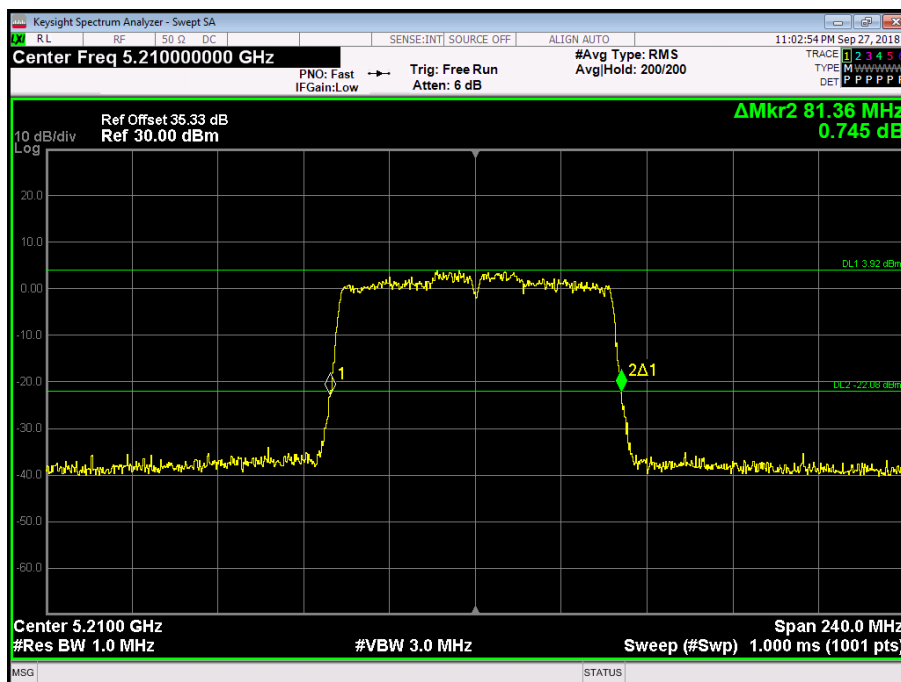


Figure 103 - 5210 MHz - 26 dB Emission Bandwidth

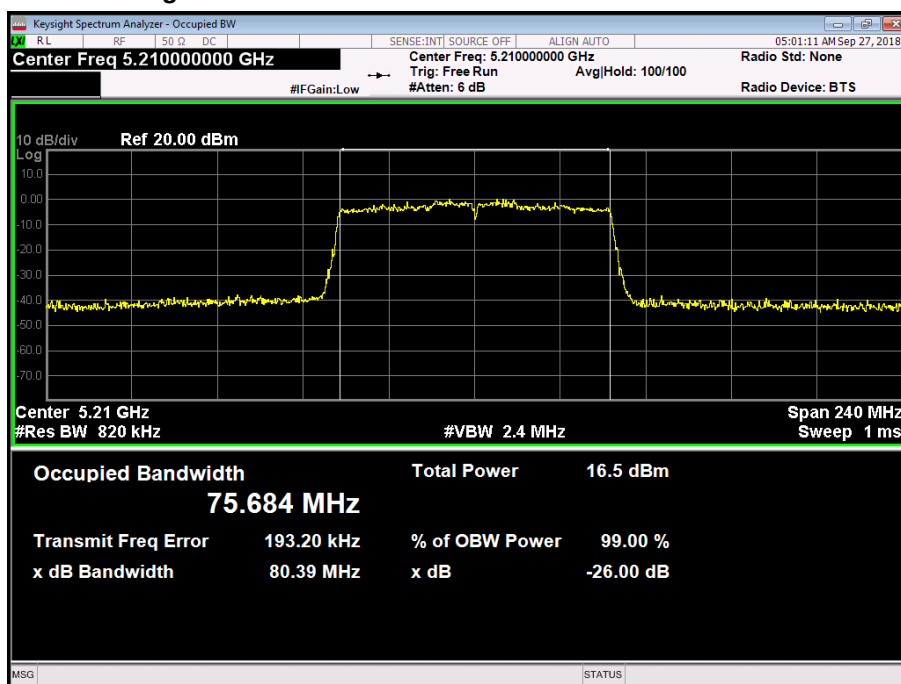


Figure 104 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code US

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	81.840
99% Bandwidth (MHz)	75.642

Table 167

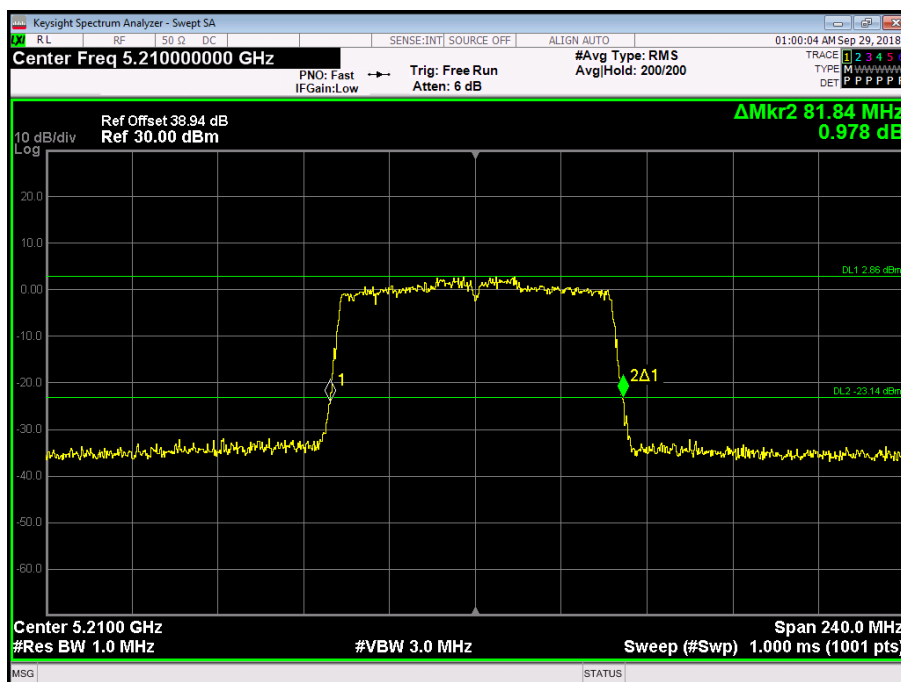


Figure 105 - 5210 MHz - 26 dB Emission Bandwidth

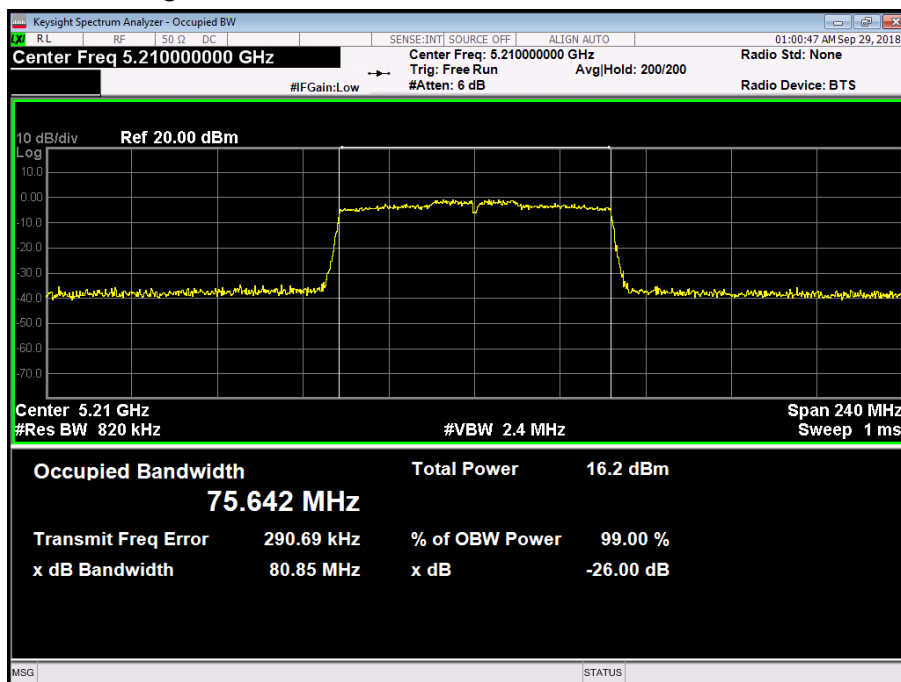


Figure 106 - 5210 MHz - 99% Occupied Bandwidth



802.11ac / VHT80 MCS0x1 / MIMO TxBF / Cores 0+1 / Country Code CA

Channel	Middle
Frequency (MHz)	5210
26 dB Bandwidth (MHz)	82.080
99% Bandwidth (MHz)	75.730

Table 168

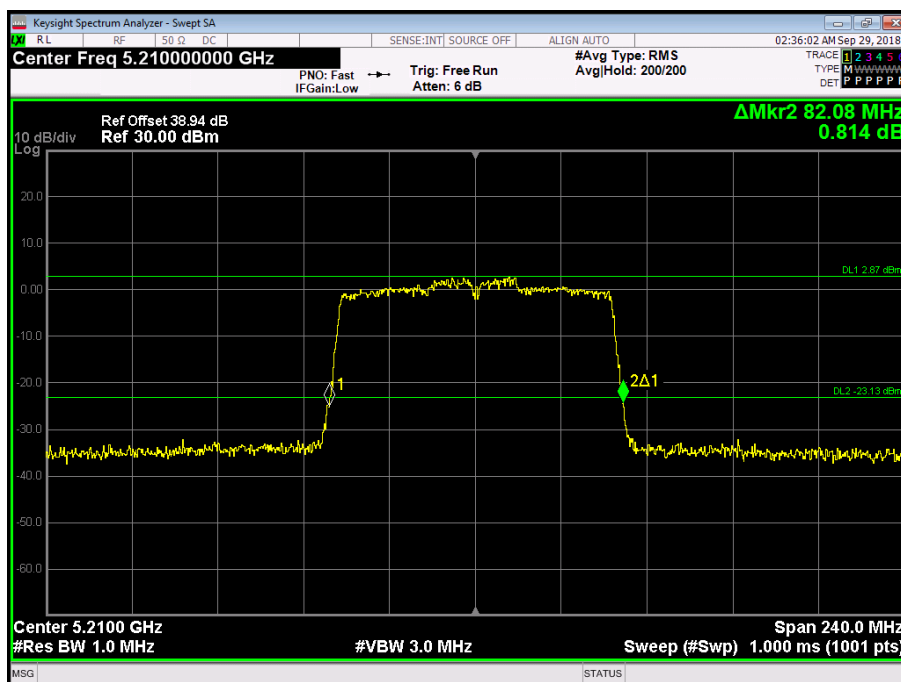


Figure 107 - 5210 MHz - 26 dB Emission Bandwidth

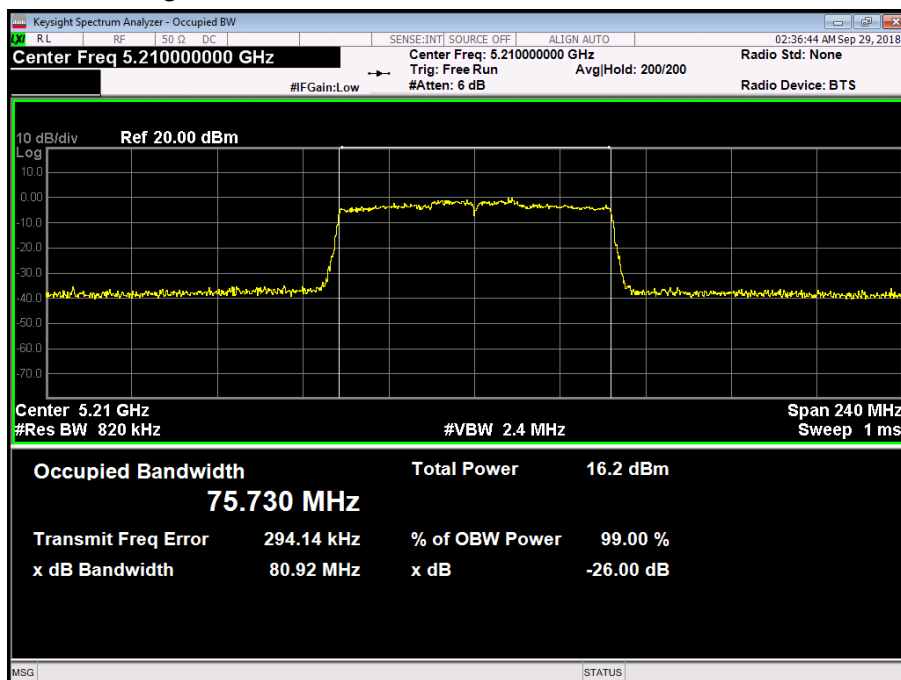


Figure 108 - 5210 MHz - 99% Occupied Bandwidth

2.3.7 Test Results: U-NII-2A

802.11a / 6 Mbps / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
26 dB Bandwidth (MHz)	21.780	21.540	21.840
99% Bandwidth (MHz)	16.552	16.574	16.566

Table 169

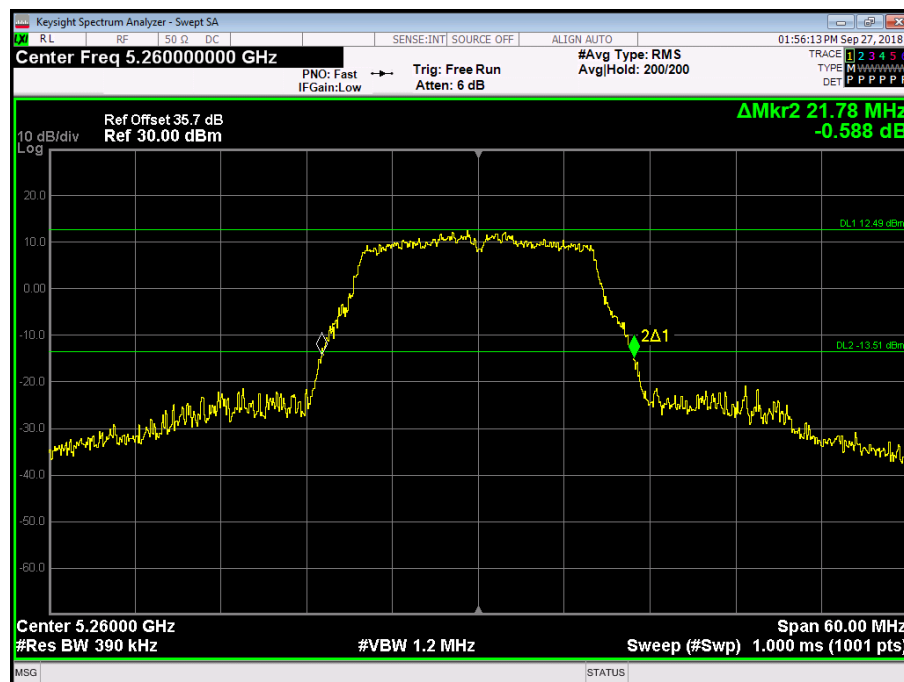


Figure 109 - 5260 MHz - 26 dB Emission Bandwidth



Product Service

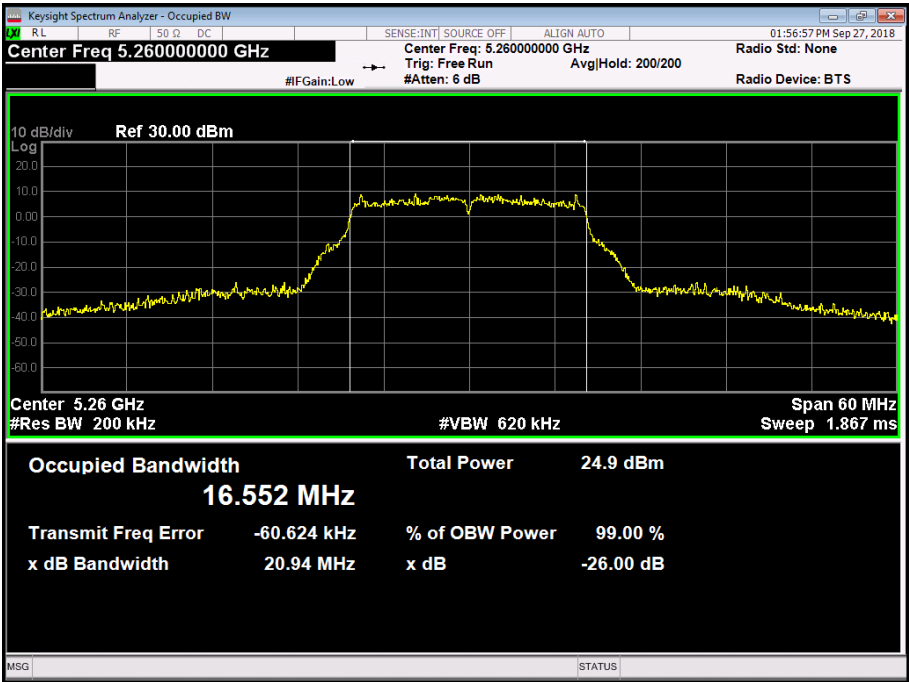


Figure 110 - 5260 MHz - 99% Occupied Bandwidth

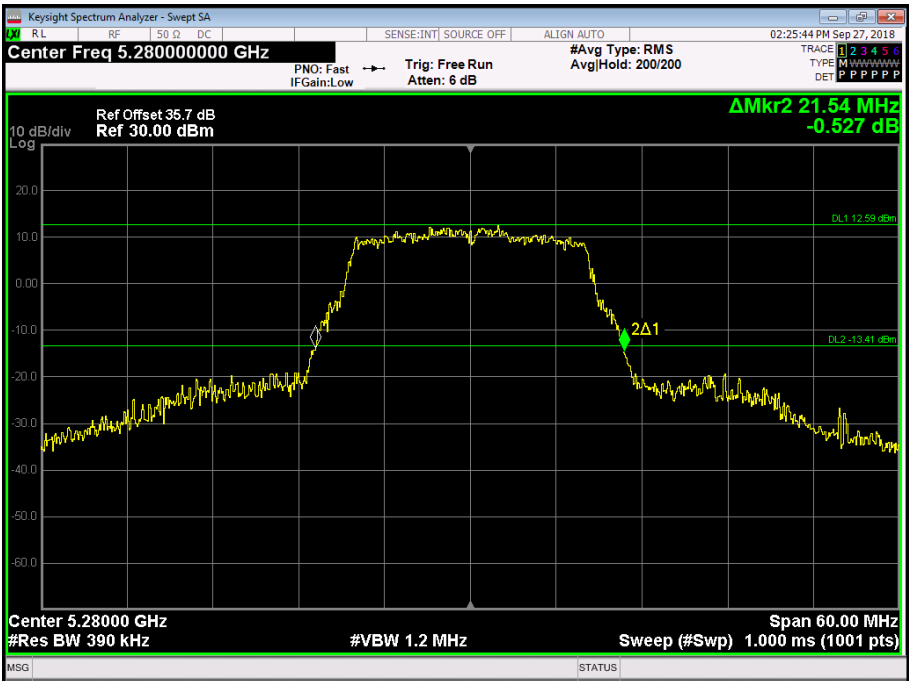


Figure 111 - 5280 MHz - 26 dB Emission Bandwidth

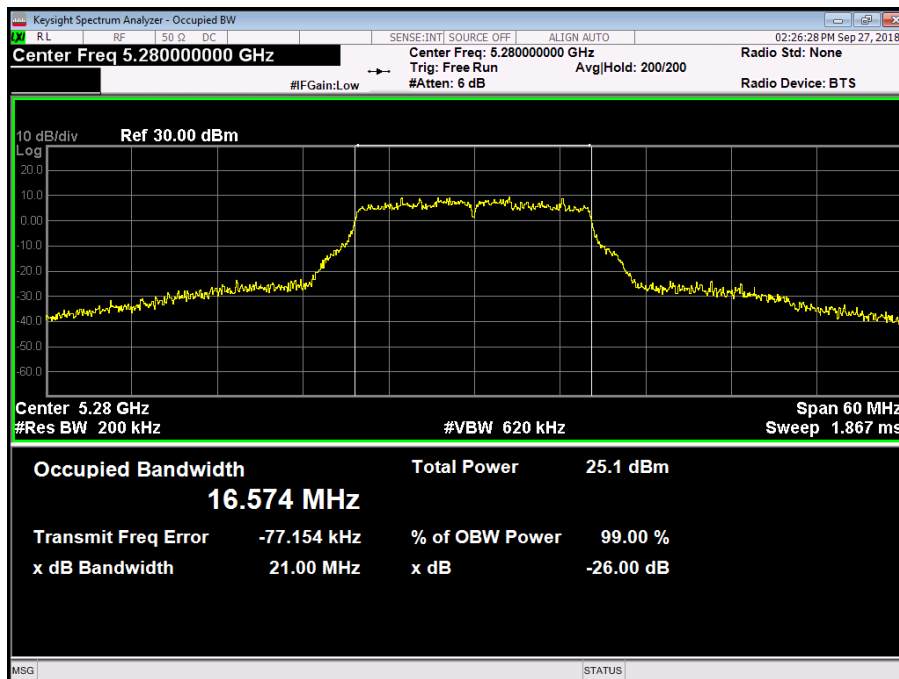


Figure 112 - 5280 MHz - 99% Occupied Bandwidth

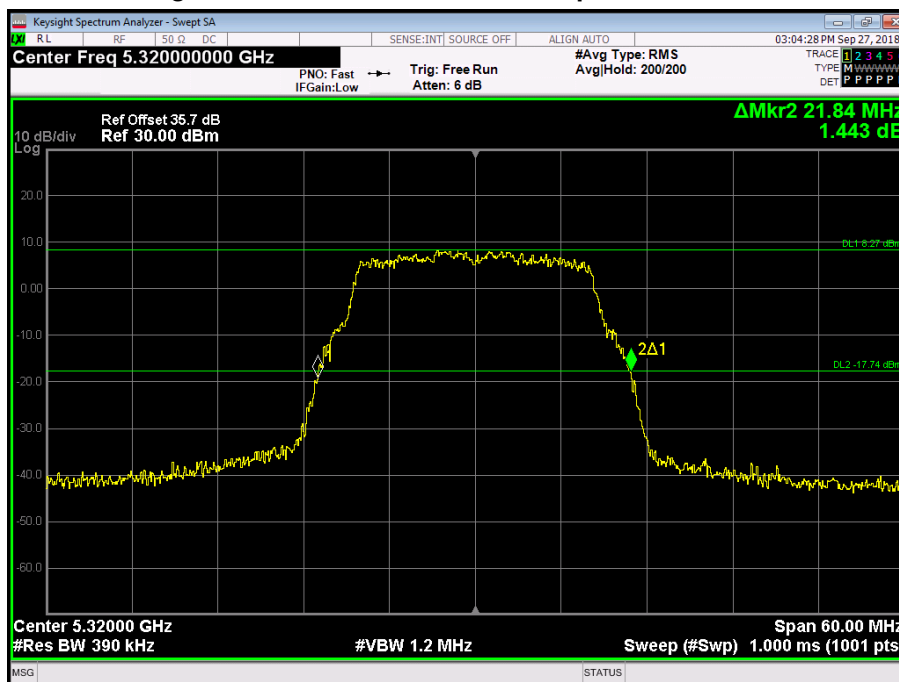


Figure 113 - 5320 MHz - 26 dB Emission Bandwidth



Product Service

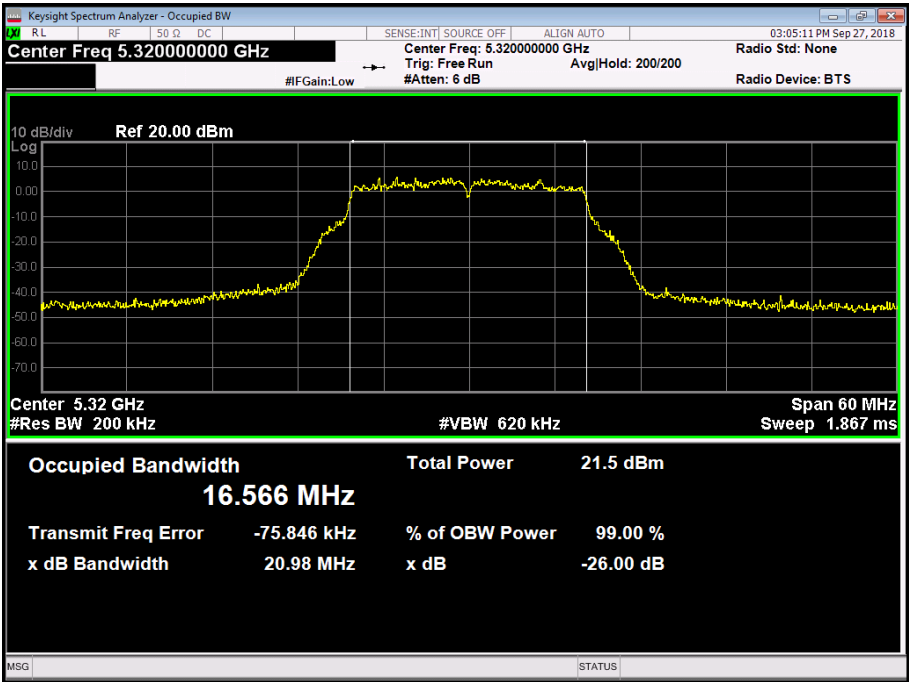


Figure 114 - 5320 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / SISO / Core 1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
26 dB Bandwidth (MHz)	21.960	21.900	21.720
99% Bandwidth (MHz)	17.782	17.772	17.728

Table 170

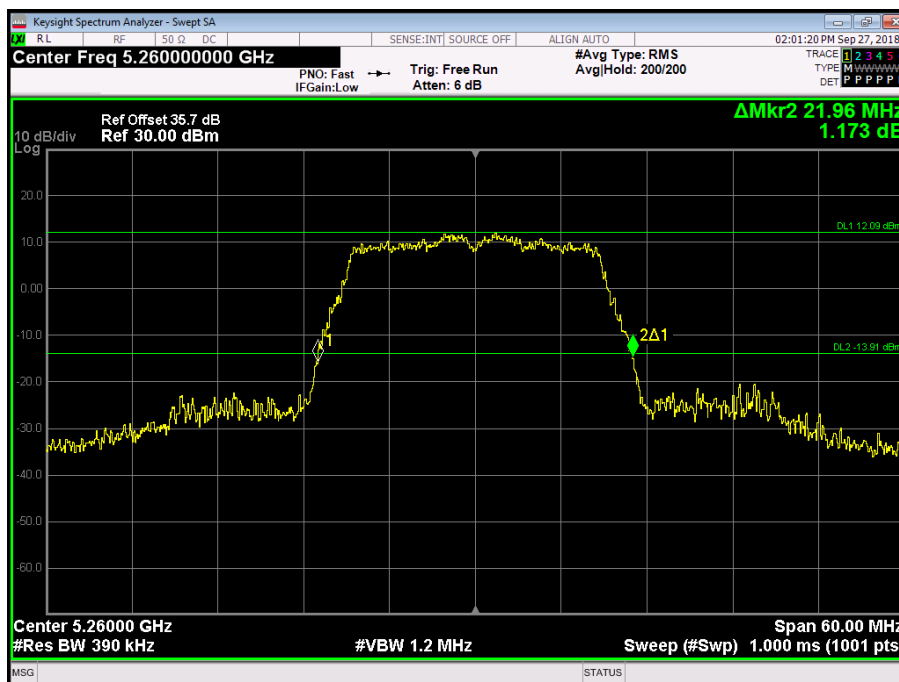


Figure 115 - 5260 MHz - 26 dB Emission Bandwidth

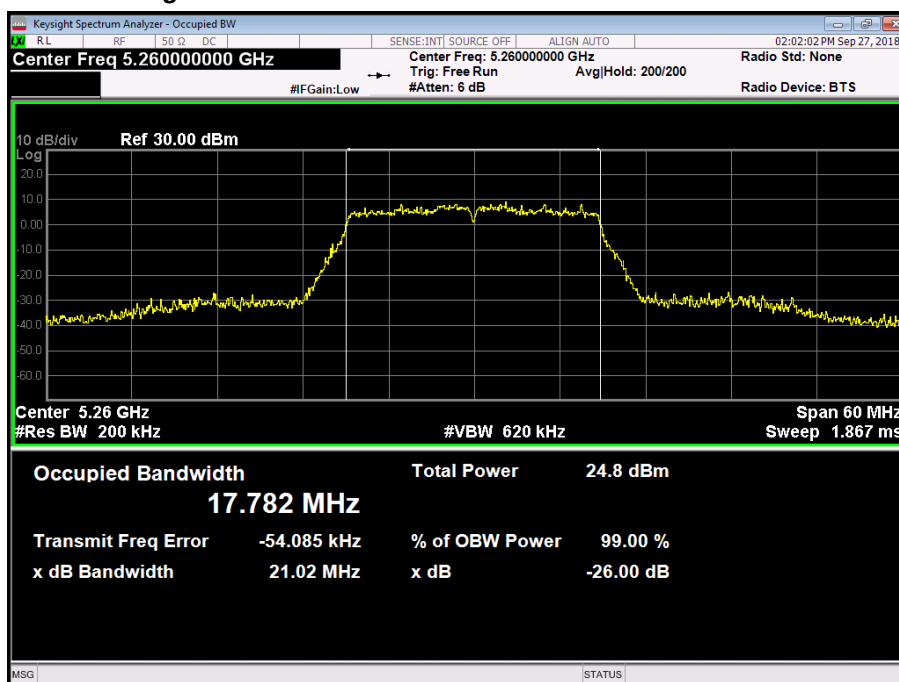


Figure 116 - 5260 MHz - 99% Occupied Bandwidth



Product Service



Figure 117 - 5280 MHz - 26 dB Emission Bandwidth

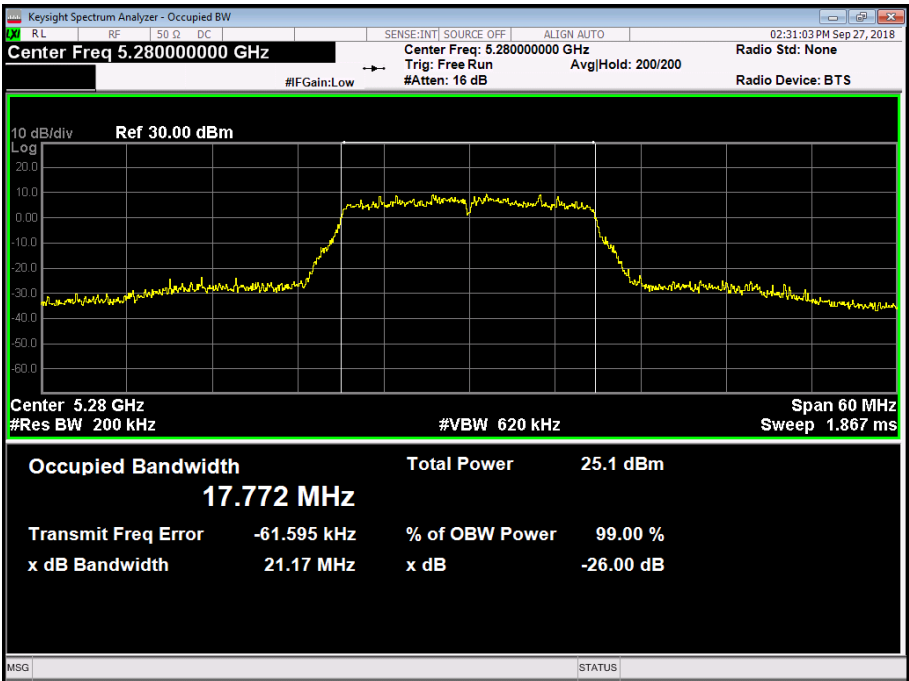


Figure 118 - 5280 MHz - 99% Occupied Bandwidth



Product Service

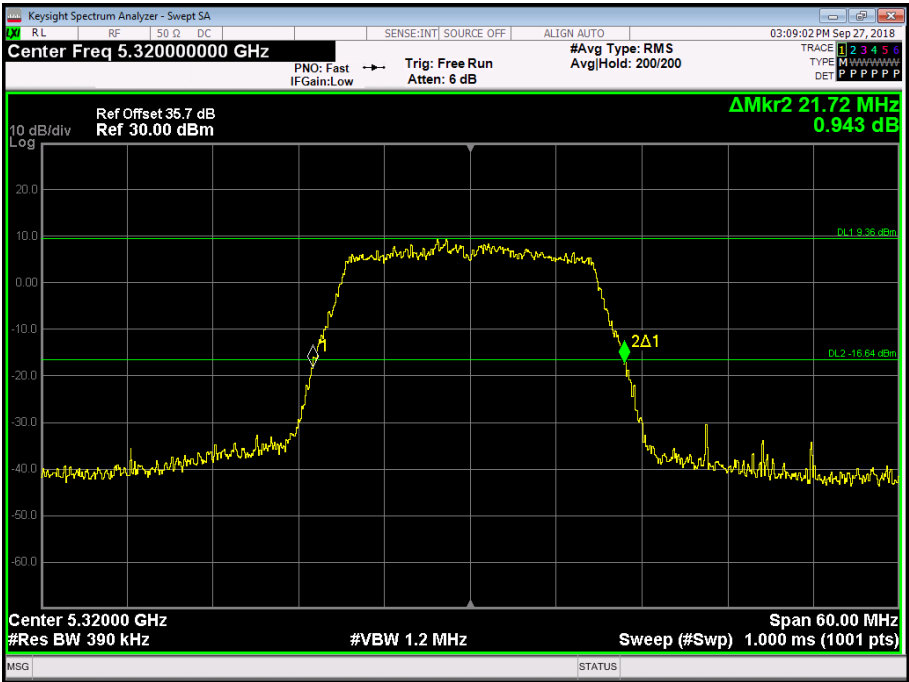


Figure 119 - 5320 MHz - 26 dB Emission Bandwidth

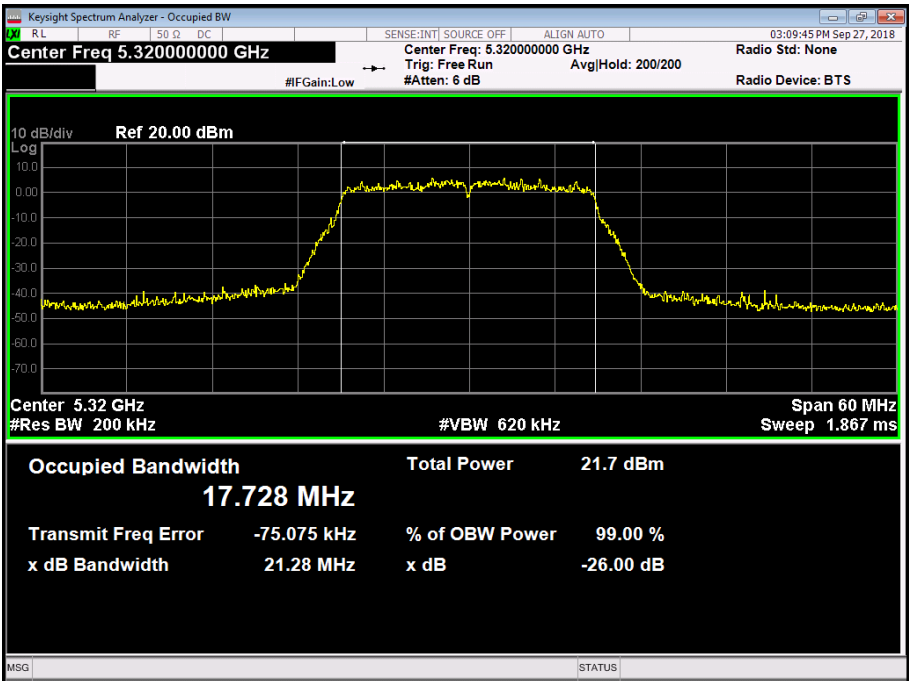


Figure 120 - 5320 MHz - 99% Occupied Bandwidth



802.11n / HT20 MCS0 / MIMO CDD / Cores 0+1

Channel	Bottom	Middle	Top
Frequency (MHz)	5260	5280	5320
26 dB Bandwidth (MHz)	21.720	21.840	21.900
99% Bandwidth (MHz)	17.714	17.743	17.733

Table 171

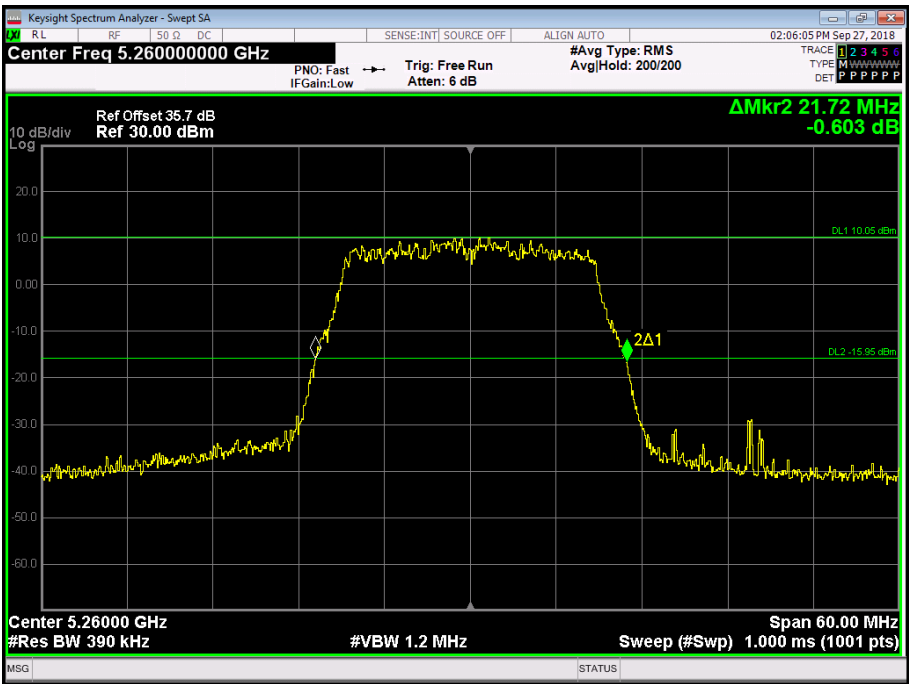


Figure 121 - 5260 MHz - 26 dB Emission Bandwidth

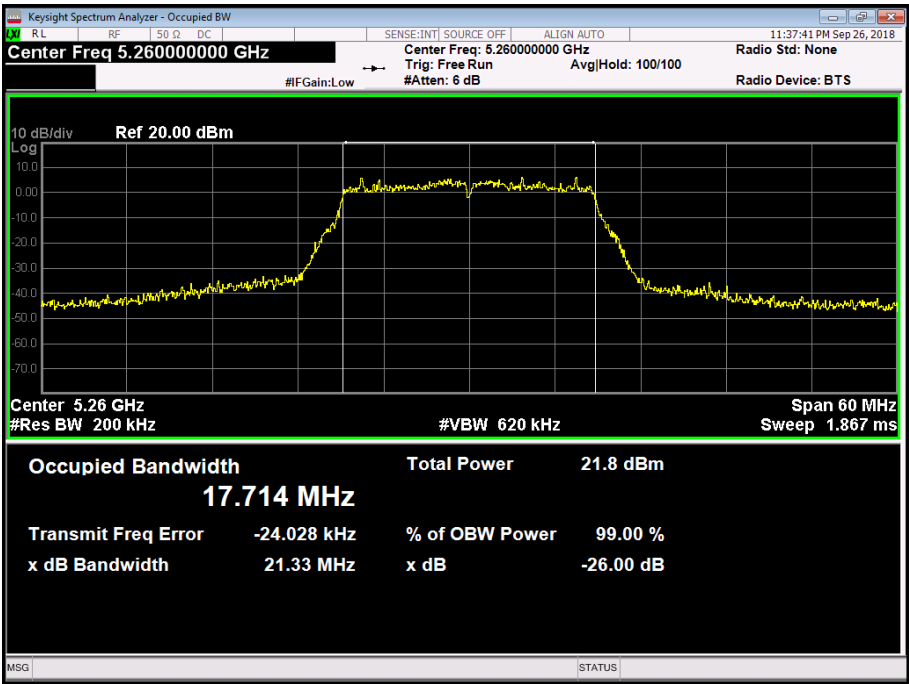


Figure 122 - 5260 MHz - 99% Occupied Bandwidth



Product Service

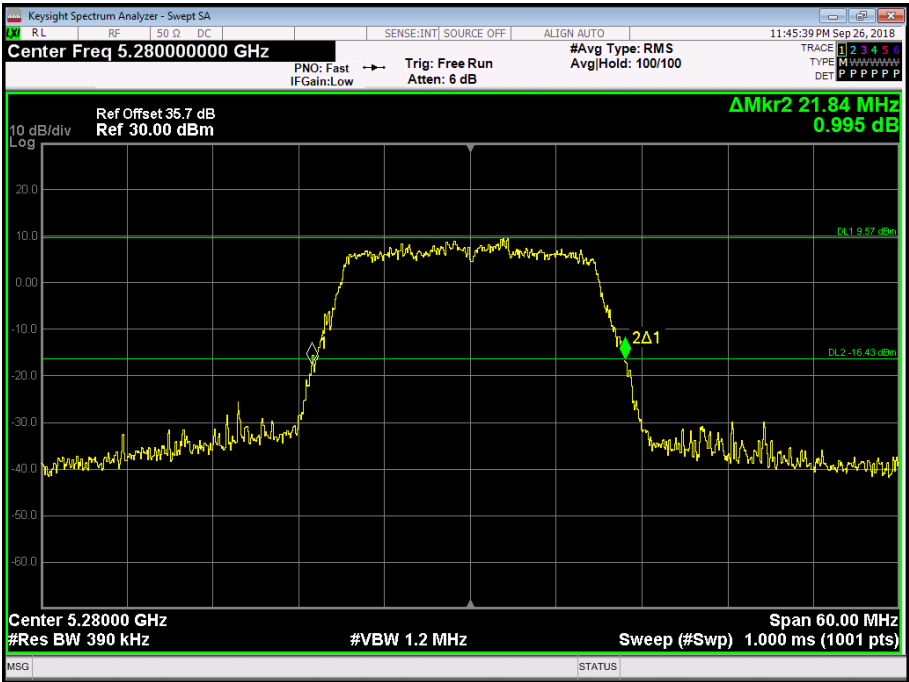


Figure 123 - 5280 MHz - 26 dB Emission Bandwidth

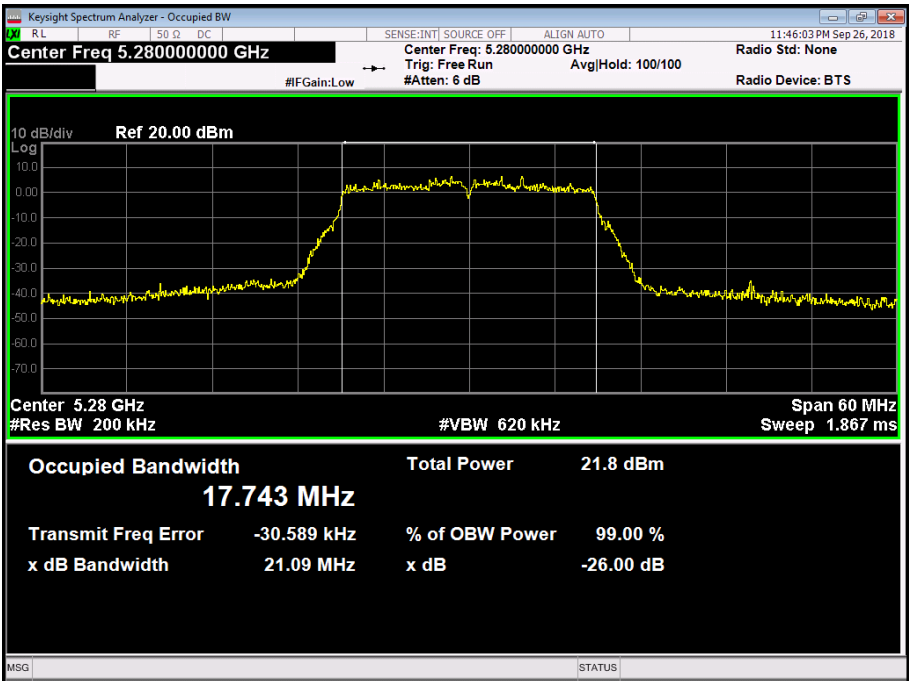


Figure 124 - 5280 MHz - 99% Occupied Bandwidth



Product Service

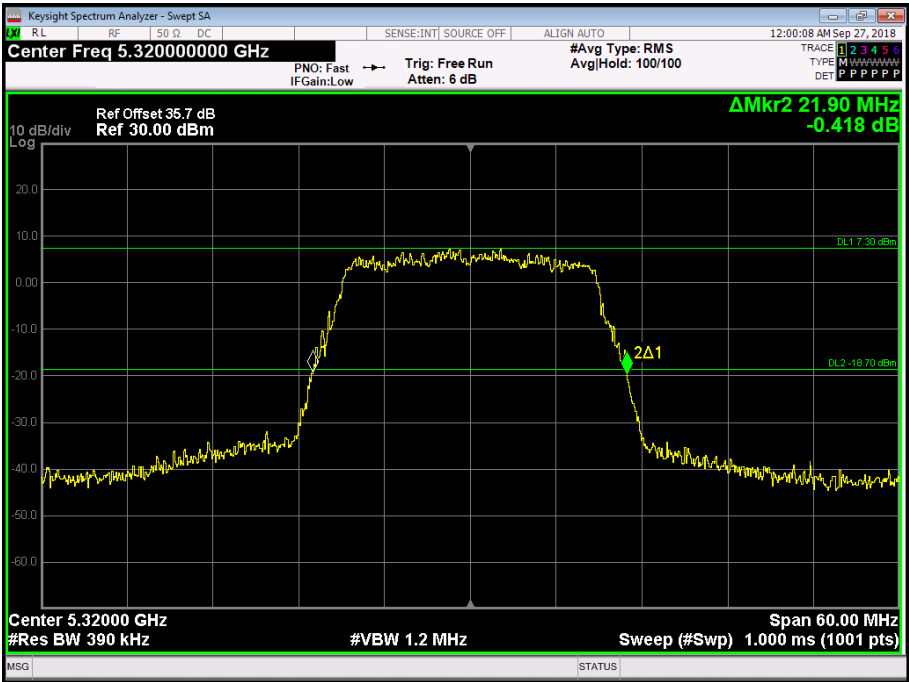


Figure 125 - 5320 MHz - 26 dB Emission Bandwidth

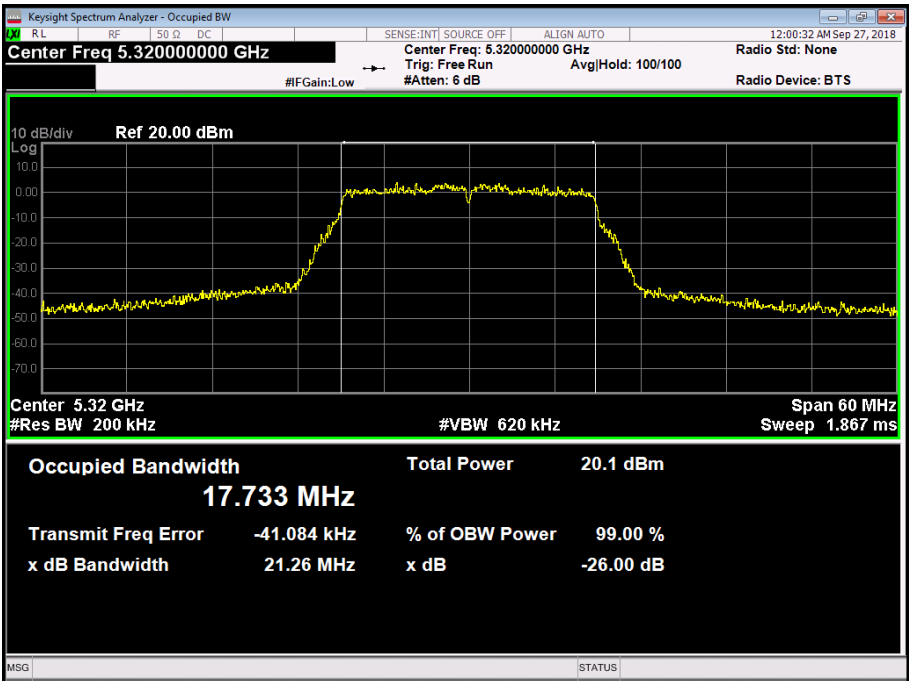


Figure 126 - 5320 MHz - 99% Occupied Bandwidth