

# **Element Suwon**

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# MEASUREMENT REPORT FCC PART 15.407 802.11ax (OFDMA)

#### **Applicant Name:**

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea Date of Testing: 04/03/2023 - 05/12/2023 Test Report Issue Date: 05/17/2023 Test Site/Location: Element Lab. Yongin-Si, Gyeonggi-do, South Korea Test Report Serial No.: 1M2303200036-07.A3L

# FCC ID: APPLICANT:

#### A3LSMX910

### Samsung Electronics Co., Ltd.

Application Type:	Certification
Model:	SM-X910
EUT Type:	Portable Tablet
Frequency Range:	5180 – 5885MHz
Modulation Type:	OFDMA
FCC Equipment Class:	Unlicensed National Information Infrastructure TX (NII)
FCC Rule Part(s):	Part 15 Subpart E (15.407)
Test Procedure(s):	ANSI C63.10-2013

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Prepared by

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Reviewed by

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# **MEASUREMENT REPORT**

	Channel		MI	MO
UNII Band	Channel Bandwidth (MHz)	Tx Frequency (MHz)	Max. Power (mW)	Max. Power (dBm)
1		5180 - 5240	113.240	20.54
2A		5260 - 5320	113.560	20.55
2C	20	5500 - 5720	114.551	20.59
3		5745 - 5825	123.310	20.91
4		5845 - 5885	51.168	17.09
1		5190 - 5230	87.498	19.42
2A		5270 - 5310	92.257	19.65
2C	40	5510 - 5710	97.724	19.90
3		5755 - 5795	91.411	19.61
4		5835 - 5875	38.815	15.89
1		5210	75.336	18.77
2A		5290	73.552	18.67
2C	80	5530 - 5690	75.683	18.79
3		5775	72.111	18.58
3/4		5855	32.285	15.09
1/2A		5250	62.661	17.97
2C	160	5570	62.661	17.97
3/4		5815	25.645	14.09
EUT Overview				

**Note:** The UNII Band 4 max power values shown in the above table are e.i.r.p values.

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# **1.0 INTRODUCTION**

# 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

# **1.2 Element Test Location**

These measurement tests were conducted at the Element Suwon Laboratory located at 13, Heungdeok 1-ro, Giheung-gu, Yongin-si, Gyeonggi-do, 16954, South Korea. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

### 1.3 Test Facility / Accreditations

# Measurements were performed at Element Materials Technology Suwon, Ltd. located in Yongin-si, Gyeonggi-do, 16954, South Korea.

- Element Materials Technology Suwon, Ltd. is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation(A2LA) with Certificate number 2041.04 for Specific Absorption Rate (SAR), and Electromagnetic Compatibility (EMC) & Telecommunications testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Materials Technology Suwon, Ltd. facility is accredited, designated, and recognized in accordance with the provision of Radio Wave Act and International Standard ISO/IEC 17025:2017 under the National Radio Research Agency.
  - Designation Number / CABID: KR0169
  - Test Firm Registration Number of FCC: 417945
  - Test Firm Registration Number of ISED: 26168

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#### **PRODUCT INFORMATION** 2.0

#### 2.1 **Equipment Description**

The Equipment Under Test (EUT) is the Samsung Portable Tablet FCC ID: A3LSMX910. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter.

Test Device Serial No.: 0155M, 3657M, 4157M, 4174M

#### 2.2 **Device Capabilities**

This device contains the following capabilities:

Ch 54 : 62

802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII (5 and 6 GHz), Bluetooth (1x, EDR, LE), Wireless Power Transfer

	Band 1		Band 2A		Band 2C		Band 3
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
36	5180	52	5260	100	5500	149	5745
:	:	:	:		:	:	:
40	5200	56	5280	120	5600	157	5785
:	:	:	:		:	:	:
48	5240	64	5320	144	5720	165	5825
		Ť	able 2-1. 802.11	ax (20MHz)	) Frequency / Ch	annel Oper	rations

Frequency Ch. (MHz) 169 5845 : : 173 5865 : ÷ 177 5885

Band 3/4

	Band 1
Ch.	Frequency (MHz)
20	F100

Cn.	(MHz)
38	5190
:	:
46	5230

	Band 2A
•	Frequency (MHz)
	5270
	•
	5310

	Band 2C
Ch.	Frequency (MHz)
102	5510
:	•••
118	5590
:	:
142	5710

	Band 3
Ch.	Frequency (MHz)
151	5755
:	:
159	5795

Band 3/4

	Dallu 3/4
Ch.	Frequency (MHz)
167	5835
:	:
175	5875

Table 2-2. 802.11ax (40MHz BW) Frequency / Channel Operations

	Band 1		Band 2A		Band 2C			Band 3		Band 3/4
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)		Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
42	5210	58	5290	106	5530		155	5775	171	5855
				:	•					
				122	5610					
				:	:					
				138	5690					
	Table 2-3. 802.11ax (80MHz BW) Frequency / Channel Operations									

Band 1/2A		Band 2C			Band 3/4		
Ch.	Frequency (MHz)		Ch.	Frequency (MHz)		Ch.	Frequency (MHz)
50	5250		114	5570		163	5815
Table 2-4. 802.11ax (160MHz BW) Frequency / Channel Operations							

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Notes:

5GHz NII operation is possible in 20MHz, 40MHz, 80MHz, and 160MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) of ANSI C63.10-2013. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

Mode	Antenna	Bandwidth [MHz]	Tone	Duty Cycle
			26T	99.1
802.11ax	MIMO CDD	20	52T	99.1
NII RU		20	106T	98.6
			242T	97.4
			26T	99.4
802.11ax			52T	99.1
NII RU	MIMO CDD	40	106T	99.0
			242T	97.4
			484T	95.5
			26T	99.4
			52T	99.4
802.11ax	MIMO CDD	80	106T	99.0
NII RU			242T	97.4
			484T	95.5
			996T	95.5
	MIMO CDD		26T	99.2
			52T	99.2
802.11ax		160	106T	98.7
NII RU		1st	242T	97.1
			484T	95.8
			996T	96.1
			26T	99.4
			52T	99.4
802.11ax	MIMO CDD	160	106T	98.7
NII RU		2nd	242T	97.5
			484T	95.8
			996T	95.8
802.11ax NII RU	MIMO CDD	160	996T x 2	98.2

Table 2-5. Measured Duty Cycles

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2. The device employs MIMO technology. Below are the possible configurations.

WiFi Configurations		SISO		SDM		CDD	
WIFI CO	WiFi Configurations		ANT2	ANT1	ANT2	ANT1	ANT2
	11a	×	×	✓	$\checkmark$	✓	✓
FOU-	11n	×	×	✓	$\checkmark$	✓	✓
5GHz	11ac	×	×	✓	$\checkmark$	✓	✓
	11ax	×	×	✓	✓	✓	$\checkmark$

Table 2-6. Frequency / Channel Operations

 $\checkmark$  = Support;  $\times$  = NOT Support

**SISO** = Single Input Single Output

**SDM** = Spatial Diversity Multiplexing – MIMO function

**CDD** = Cyclic Delay Diversity – 2Tx Function

# 2.3 Antenna Description

The following antenna gains were used for the testing.

Frequency [GHz]	Antenna 1 Gain [dBi]	Antenna 2 Gain [dBi]	Directional Ant. Gain [dBi]
5.20	-5.65	-6.89	-3.24
5.30	-5.26	-6.16	-2.69
5.50	-5.35	-5.80	-2.56
5.80	-5.86	-6.92	-3.36
5.85	-5.91	-7.06	-3.46
0.00			0.10

Table 2-7. Antenna Peak Gain

# 2.4 Test Configuration

The EUT was tested per the guidance of KDB 789033 D02 v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing.

# 2.5 Software and Firmware

The test was conducted with software/firmware version X910XXU0AWD5 installed on the EUT.

# 2.6 EMI Suppression Device(s) / Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

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# 3.0 DESCRIPTION OF TESTS

# 3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) was used in the measurement of the EUT.

Deviation from measurement procedure......None

# 3.2 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 414788 D01 v01r01.

# 3.3 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

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# 4.0 ANTENNA REQUIREMENTS

#### Excerpt from §15.203 of the FCC Rules/Regulations:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- The antennas of the EUT are permanently attached.
- There are no provisions for connection to an external antenna.

#### **Conclusion:**

The EUT complies with the requirement of §15.203.

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# 5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.37
Line Conducted Disturbance	3.09
Radiated Disturbance (<1GHz)	3.94
Radiated Disturbance (>1GHz)	4.75
Radiated Disturbance (>18GHz)	4.84

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# 6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Dual Directional Coupler	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	N9030A	PXA Signal Analyzer(3Hz-26.5GHz)	7/4/2022	Annual	7/3/2023	MY49432391
Anritsu	S820E	Cable and Antenna Analyzer	7/6/2022	Annual	7/5/2023	1839097
Anritsu	TOSLKF50A-40	Calibration Kit	N/A	-	N/A	1825024
Anritsu	MA24106A	USB Power Sensor	1/13/2023	Annual	1/12/2024	1344557
COM-Power Corporatior	AL-130R	Active Loop Antenna	10/21/2022	Biennial	10/20/2024	10160045
MINI-CIRCUITS	BW-N10W5+	ATTENUATOR(DC-18GHz)	4/6/2023	Annual	4/5/2024	2106
NARDA	180-442A-KF	Horn Antenna(18GHz-40GHz)	11/23/2022	Biennial	11/22/2024	T058701-03
Rohde & Schwarz	ESW	EMI Test Receiver(2Hz-44GHz)	7/4/2022	Annual	7/3/2023	101761
Rohde & Schwarz	FSW43	Signal and Spectrum Analyzer(2Hz-43.5GHz)	1/13/2023	Annual	1/12/2024	101955
Rohde & Schwarz	TS-SFUNIT-Rx	Shielded Filter Unit	1/13/2023	Annual	1/12/2024	102131
Rohde & Schwarz	TS-PR1840	Preamplifier(18GHz-40GHz)	7/6/2022	Annual	7/5/2023	100049
Rohde & Schwarz	ENV216	Two-Line V-Network	4/7/2023	Annual	4/6/2024	101319
Schwarzbeck	VULB9162	Broadband TRILOG Antenna(30MHz-1GHz)	7/13/2021	Biennial	7/12/2023	9162-217
Sunol Sciences	DRH-118	Horn Antenna(1GHz-18GHz)	1/26/2023	Biennial	1/25/2025	A102416-1
TESTEK	-	LISN Extension Cord	4/7/2023	Annual	4/6/2024	N/A

Table 6-1. Annual Test Equipment Calibration Schedule

#### Note:

- 1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
- 2. Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

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# 7.0 TEST RESULTS

# 7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
FCC ID:	<u>A3LSMX910</u>
FCC Classification:	Unlicensed National Information Infrastructure (UNII)

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
N/A	RSS-Gen [6.7]	26dB Bandwidth	N/A		PASS	Section 7.2
15.407(e)	RSS-Gen [6.7]	6dB Bandwidth	>500kHz (5725-5850MHz and 5850 – 5895MHz)		PASS	Section 7.3
15.407 (a)(1)(iv), (a)(2), (a)(3)	RSS-247 [6.2]	Maximum Conducted Output Power	Maximum conducted powers must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])	CONDUCTED	PASS	Section 7.4
15.407 (a)(1)(iv), (a)(2), (a)(3)	RSS-247 [6.2]	Maximum Power Spectral Density	Maximum power spectral density must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])		PASS	Section 7.5
15.407(h)	RSS-247 [6.3]	Dynamic Frequency Selection	See DFS Test Report		PASS	See DFS Test Report
15.407(b)(1), (b)(2), (b)(3), (b)(4)	RSS-247 [6.2]	Undesirable Emissions	Undesirable emissions must meet the limits detailed in 15.407(b) (RSS-247 [6.2])		PASS	Section 7.6
15.205, 15.407(b)(1), (b)(4), (b)(5), (b)(6)	RSS-Gen [8.9]	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9])	RADIATED	PASS	Section 7.6, 7.7

Table 7-1. Summary of Test Results

### Notes:

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "UNII Automation," Version 4.7.
- 5) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 1.5.0.
- 802.11ax OFDMA testing was performed for all signal tone configurations as specified by the 802.11ax standard. Worst case results are determined and reported per the guidance provided at the October 2018 TCB Workshop.
- 7) Only one RU index could be selected at a time, so no contiguous or non-contiguous RUs were considered for testing.

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# 7.2 26dB Bandwidth Measurement

#### Test Overview and Limit

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

#### The 26dB bandwidth is used to determine the conducted power limits.

#### Test Procedure Used

ANSI C63.10-2013 - Section 12.4

#### **Test Settings**

- The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = approximately 1% of the emission bandwidth
- 3. VBW <u>></u> 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-1. Test Instrument & Measurement Setup

#### Test Notes

The 26dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

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# 7.2.1 MIMO Antenna-1 26dB Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	26T	MCS0	20.14
	5200	40	ax (20MHz)	26T	MCS0	20.28
P P	5240	48	ax (20MHz)	26T	MCS0	20.11
Band 1	5190	38	ax (40MHz)	26T	MCS0	20.43
	5230	46	ax (40MHz)	26T	MCS0	19.93
	5210	42	ax (80MHz)	26T	MCS0	78.13
Band 1/2A	5250	50	ax (160MHz L)	26T	MCS0	78.84
Ba 1/;	5250	50	ax (160MHz U)	26T	MCS0	20.99
	5260	52	ax (20MHz)	26T	MCS0	20.28
4	5280	56	ax (20MHz)	26T	MCS0	20.44
d 2	5320	64	ax (20MHz)	26T	MCS0	20.43
Band 2A	5270	54	ax (40MHz)	26T	MCS0	20.15
ш	5310	62	ax (40MHz)	26T	MCS0	20.06
	5290	58	ax (80MHz)	26T	MCS0	20.78
	5500	100	ax (20MHz)	26T	MCS0	20.32
	5600	120	ax (20MHz)	26T	MCS0	20.16
	5720	144	ax (20MHz)	26T	MCS0	20.40
	5510	102	ax (40MHz)	26T	MCS0	20.31
SC	5590	118	ax (40MHz)	26T	MCS0	20.35
Band 2C	5710	142	ax (40MHz)	26T	MCS0	20.28
Ba	5530	106	ax (80MHz)	26T	MCS0	20.19
	5610	122	ax (80MHz)	26T	MCS0	21.45
	5690	138	ax (80MHz)	26T	MCS0	20.81
	5570	114	ax (160MHz L)	26T	MCS0	21.35
	5570	114	ax (160MHz U)	26T	MCS0	21.87

Table 7-2. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT1 (26 Tones)

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	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	242T	MCS0	21.64
	5200	40	ax (20MHz)	242T	MCS0	21.74
Band 1	5240	48	ax (20MHz)	242T	MCS0	21.72
Bar	5190	38	ax (40MHz)	484T	MCS0	42.83
	5230	46	ax (40MHz)	484T	MCS0	43.48
	5210	42	ax (80MHz)	996T	MCS0	86.54
Ba nd 1/2 A	5250	50	ax (160MHz)	996T	MCS0	173.50
	5260	52	ax (20MHz)	242T	MCS0	21.71
	5280	56	ax (20MHz)	242T	MCS0	21.49
Band 2A	5320	64	ax (20MHz)	242T	MCS0	21.53
Ban	5270	54	ax (40MHz)	484T	MCS0	43.56
	5310	62	ax (40MHz)	484T	MCS0	42.77
	5290	58	ax (80MHz)	996T	MCS0	86.95
	5500	100	ax (20MHz)	242T	MCS0	21.60
	5600	120	ax (20MHz)	242T	MCS0	21.51
	5720	144	ax (20MHz)	242T	MCS0	21.60
	5510	102	ax (40MHz)	484T	MCS0	42.50
Band 2C	5590	118	ax (40MHz)	484T	MCS0	42.56
Ban	5710	142	ax (40MHz)	484T	MCS0	42.48
	5530	106	ax (80MHz)	996T	MCS0	86.90
	5610	122	ax (80MHz)	996T	MCS0	86.49
	5690	138	ax (80MHz)	996T	MCS0	86.19
	5570	114	ax (160MHz)	996T	MCS0	172.00

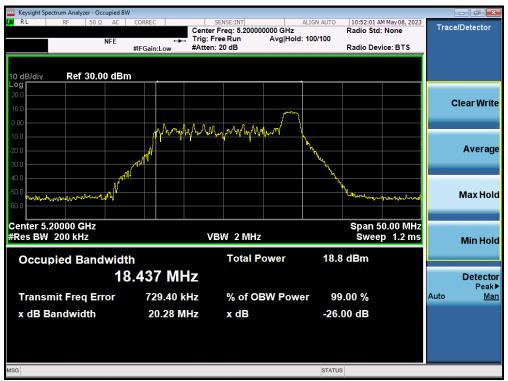
Table 7-3. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT1 (Full Tones)

FCC ID: A3LSMX910	MEASUREMENT REPORT		MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	Dates: EUT Type:			
1M2303200036-07.A3L	04/03/2023 - 05/12/2023	Portable Tablet	Page 15 of 235		
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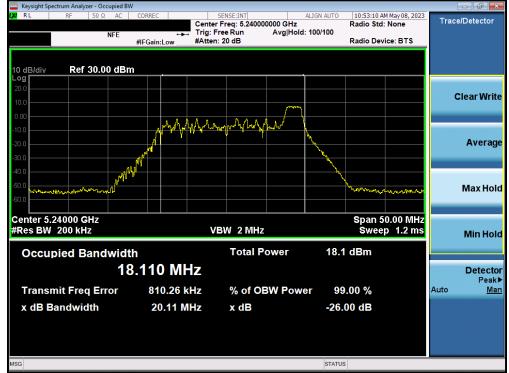
Plot 7-1. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



Plot 7-2. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

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Plot 7-3. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



Plot 7-4. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	Test Dates: EUT Type:   04/03/2023 - 05/12/2023 Portable Tablet	
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Plot 7-5. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



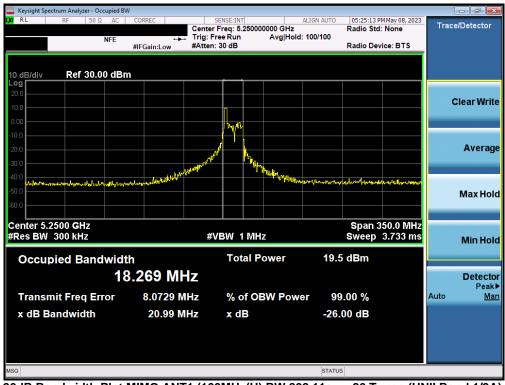
Plot 7-6. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:   04/03/2023 - 05/12/2023 Portable Tablet	
1M2303200036-07.A3L	04/03/2023 - 05/12/2023		
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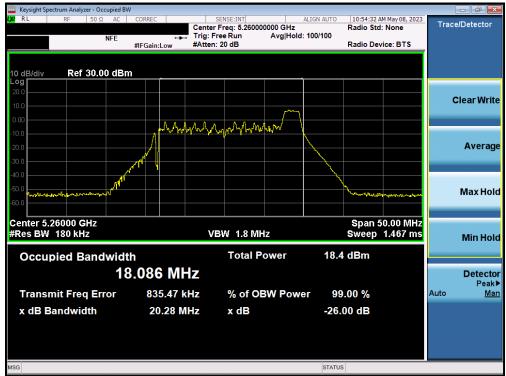
Plot 7-7. 26dB Bandwidth Plot MIMO ANT1 (160MHz(L) BW 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)



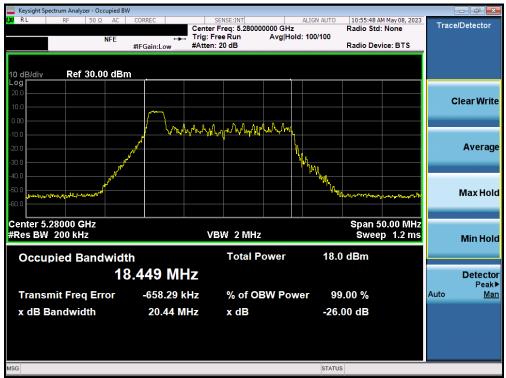
Plot 7-8. 26dB Bandwidth Plot MIMO ANT1 (160MHz(U) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Plot 7-9. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)



Plot 7-10. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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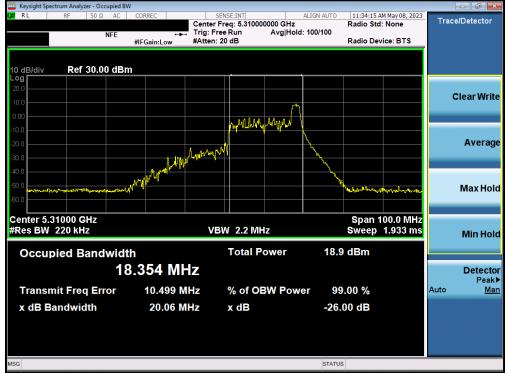
Plot 7-11. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



Plot 7-12. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

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Test Report S/N:	Test Dates:	EUT Type:	Page 21 of 235
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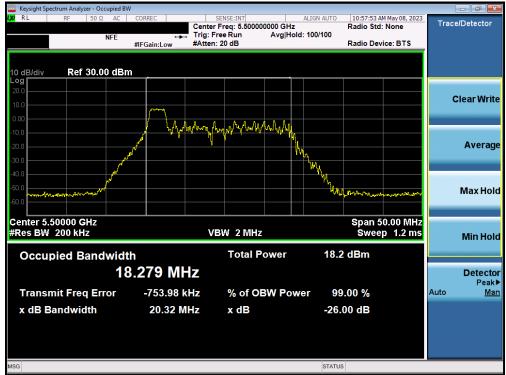
Plot 7-13. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-14. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

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Plot 7-15. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



Plot 7-16. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Plot 7-17. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



Plot 7-18. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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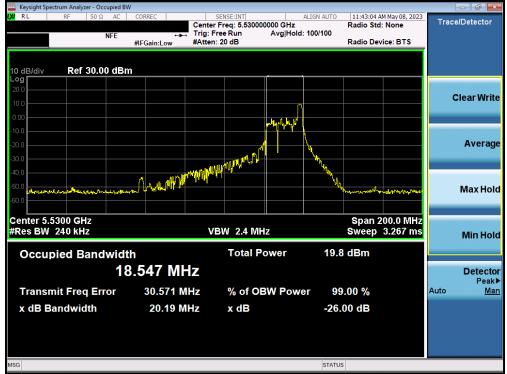
Plot 7-19. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



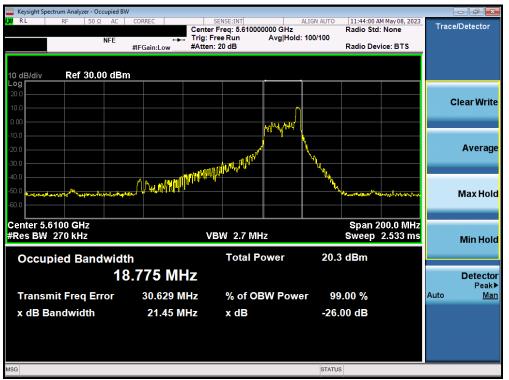
Plot 7-20. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 25 of 235
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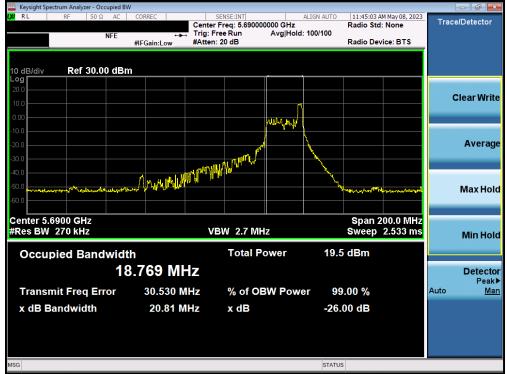
Plot 7-21. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-22. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 26 of 235
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Plot 7-23. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



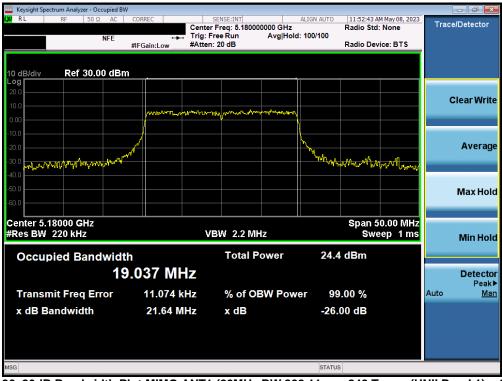
Plot 7-24. 26dB Bandwidth Plot MIMO ANT1 (160MHz(L) BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:   04/03/2023 - 05/12/2023 Portable Tablet	
1M2303200036-07.A3L	04/03/2023 - 05/12/2023		
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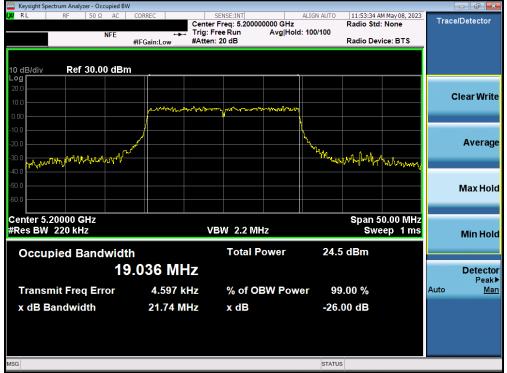
Plot 7-25. 26dB Bandwidth Plot MIMO ANT1 (160MHz(U) BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 114)



Plot 7-26. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Plot 7-27. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)



Plot 7-28. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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🔤 Keysight Spectrum Analyzer - Occu					
<mark>(X</mark> RL RF 50Ω	AC CORREC	SENSE:INT	ALIGN AUTO	12:01:50 PM May 08, 2023 Radio Std: None	Trace/Detector
N	NFE ++	Trig: Free Run	Avg Hold: 100/100	Radio Stu. None	
	#IFGain:Low	#Atten: 20 dB		Radio Device: BTS	
10 dB/div Ref 30.00	) dBm				
20.0					
					Clear Write
10.0	- Marthan	may the bar have been the	monthe		
0.00	Í				
-10.0	/				_
-20.0	1 10 M				Average
-30.0	Marty Mar		· · · · · · · · · · · · · · · · · · ·	pt	
-40.0				A set of bases	
-50.0					Max Hold
-60.0					
Center 5.19000 GHz				Span 100.0 MHz	
#Res BW 430 kHz		VBW 4 MHz		Sweep 1 ms	Min Hold
Occupied Bandy	width	Total P	ower 23.9	dBm	
		-			
	38.087 MI	12			Detector Peak▶
Transmit Freq Erro	or 34.205 k	Hz % of O	BW Power 99	.00 %	Auto <u>Man</u>
x dB Bandwidth	42.83 M	Hz xdB	-26.	00 dB	
1400					
MSG			STATUS	5	

Plot 7-29. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)



Plot 7-30. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 20 of 225	
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Keysight Spectrum Analyzer - Occupied BW						
LXI RL RF 50Ω AC	CORREC	SENSE:INT enter Freq: 5.210000	ALIGN AUTO	12:09:20 PM May 08, 202: Radio Std: None	Trace/D	etector
NFE	i i i i i i i i i i i i i i i i i i i	ig: Free Run	Avg Hold: 100/100			
	#IFGain:Low #A	Atten: 20 dB		Radio Device: BTS	-	
10 dB/div Ref 30.00 dBm						
20.0						
10.0					Cle	ear Write
0.00	Mohomen	net on the second se	and the state of t			
-10.0						
-20.0			<u> </u>			Average
	phen .		<b>H</b>		· · ·	Average
-30.0 -40.0			- Windy	My white my my where and	1	
-50.0					N	lax Hold
-60.0						
Center 5.2100 GHz				Span 200.0 MHz	,	
#Res BW 910 kHz		VBW 8 MHz		Sweep 1 ms		Min Hold
						AITHOID
Occupied Bandwidth	า	Total Po	ower 24.	0 dBm		
77	.632 MHz					Detector
						Peak▶
Transmit Freq Error	3.966 kHz	% of OE	SW Power 99	9.00 %	Auto	<u>Man</u>
x dB Bandwidth	86.54 MHz	x dB	-26	.00 dB		
MSG			STATU	IS		

Plot 7-31. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 1) - Ch. 42)



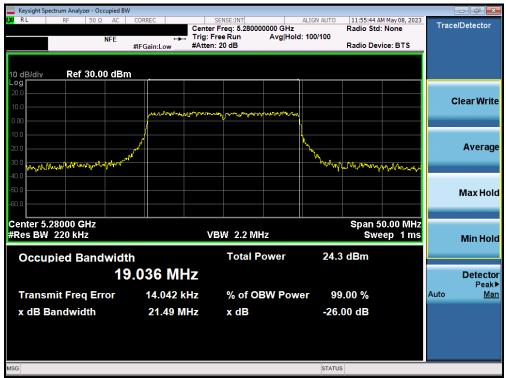
Plot 7-32. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11ax - 2x996 Tones (UNII Band 1/2A) - Ch. 50)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Keysight Spectrum Analyzer - O										
Center Freq 5.2600		REC		NSE:INT reg: 5.26000	0000 GHz	ALIGN AUTO	11:55:01 A Radio Std	M May 08, 2023	Trac	e/Detector
Center Freq 5.2000	NFE	+	Trig: Free	e Run		i: 100/100				
	#IF(	Gain:Low	#Atten: 2	0 dB			Radio Dev	ice: BTS		
10 dB/div Ref 30.0	00 dBm							1		
20.0										
10.0										Clear Write
0.00		M. M. W. W.	and second with	and a star	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					
-10.0		/								
-20.0	الم کلیر					N				Average
-30.0 mr. And may progra with	a hora					white the second	nor when	No. 41 -11		
-40.0							el. a fil des	^^.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
-50.0										Max Hold
-60.0										Μάλ Ποιά
Center 5.26000 GHz					-			0.00 MHz		
#Res BW 220 kHz			VBI	N 2.2 MH	1Z		SWe	ep 1ms		Min Hold
Occupied Ban	dwidth			Total P	ower	24.6	i dBm			
		21 MI	<b>J</b> - <b>7</b>							Detector
	19.0		72							Detector Peak▶
Transmit Freq E	rror	11.870	κHz	% of O	<b>3W Pow</b>	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth		21.71 N	IHz	x dB		-26.	00 dB			
MSG						STATUS	5			
MSG						STATUS				

Plot 7-33. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 52)



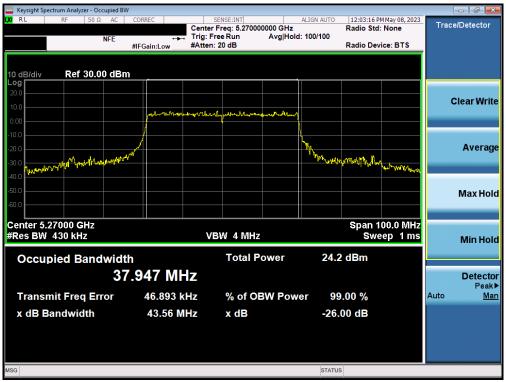
Plot 7-34. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dega 22 of 225	
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Keysight Spectrum Analyzer - Occupied BW								- 6
XX RL RF 50Ω AC	CORREC	SENSE:INT Center Freq: 5.3200		IGN AUTO	11:56:26 A	M May 08, 2023	Trac	e/Detector
NFE		Trig: Free Run	Avg Hold: 10	00/100				
	#IFGain:Low	#Atten: 20 dB			Radio Dev	ice: BTS		
10 dB/div Ref 30.00 dBm								
20.0								
10.0							(	Clear Write
0.00	manning	an and when a we want of the	where have been by					
-10.0	<u>ار</u>							
	/							Average
-20.0	M.			Why .	- 0 -			Average
-30.0 when the share when				- What we	ᠬ᠕ᠰᡧ᠘ᡔᡪᢔ᠕ᠰ	whilenan		
-40.0								
-50.0								Max Hold
-60.0							_	
Center 5.32000 GHz					Snan 5	0.00 MHz		
#Res BW 220 kHz		VBW 2.2 M	Hz			ep 1 ms		Min Hold
Occupied Bandwidt	h	Total F	Power	24.3	dBm			
19	.071 MF	7						Detector
							_	Peak►
Transmit Freq Error	7.444 k	Hz % of O	BW Power	99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	21.53 M	Hz x dB		-26.0	00 dB			
MSG				STATUS				

Plot 7-35. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)



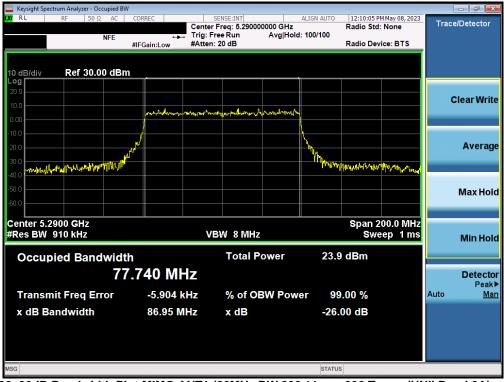
Plot 7-36. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Plot 7-37. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 62)



Plot 7-38. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Keysight Spectrum Analyzer - Occupied BW							
		SENSE:INT		Radio Std:	May 08, 2023 None	Trace	Detector
NFE #I		Trig: Free Run ≉Atten: 20 dB	Avg Hold: 100/1	Radio Devi	ice: BTS		
10 dB/div Ref 30.00 dBm							
20.0							
10.0						C	lear Write
0.00	ma hours of the	warman warming	Two and a state of the second				
-10.0							
-20.0	<u>۲</u>		- Nul				Average
-30.0 -40.0 -40.0				www.with.org.	march - all and - al		
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
-50.0							Max Hold
-60.0							
Center 5.50000 GHz			_		0.00 MHz		
#Res BW 220 kHz		VBW 2.2 MH	Z	Swe	ep 1ms		Min Hold
Occupied Bandwidth		Total P	ower	24.2 dBm			
19.0	027 MHz	Z					Detector
			W Power	99.00 %		Auto	Peak▶ Man
Transmit Freq Error	10.079 kH		SW Power			Auto	IVIAII
x dB Bandwidth	21.60 MH	z xdB		-26.00 dB			
MSG				STATUS			

Plot 7-39. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



Plot 7-40. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Keysight Spectrum Analyzer - Occupied B <sup>1</sup>	N						- • ×
LXIRL RF 50Ω AC	CORREC	SENSE:INT enter Freg: 5.72000000	ALIGN AUTO	11:58:45 AM Radio Std:	May 08, 2023	Trac	e/Detector
NFE	ter Ti	rig: Free Run Av	g Hold: 100/100				
	#IFGain:Low #/	Atten: 20 dB		Radio Devi	ice: BTS		
10 dB/div Ref 30.00 dBr	n						
20.0							
10.0						(	Clear Write
0.00	- Maler and	warran warrant	APril Second				
-10.0			}				
-20.0	we have a second		h.				Average
-30.0 parter Marthand Word hor grand	V"		" working	ᡰᢦᠳᡁ᠈᠆ᡪᡁᠬᠯ᠋᠋ᡧᡀᢧᡟ			
-40.0				. L. Idan Jakk	ซนิเมนุ/ <sub>ไหน</sub>		
-50.0							
-60.0							Max Hold
-00.0							
Center 5.72000 GHz							
#Res BW 220 kHz		VBW 2.2 MHz		Swe	ep 1 ms		Min Hold
Occupied Bandwid	th	Total Powe	er 25.9	5 dBm			
1	9.011 MHz						Detector Peak▶
Transmit Freq Error	4.660 kHz	% of OBW	Power 99	9.00 %		Auto	Man
x dB Bandwidth	21.60 MHz	x dB	-26.	00 dB			
MSG			STATU	s			

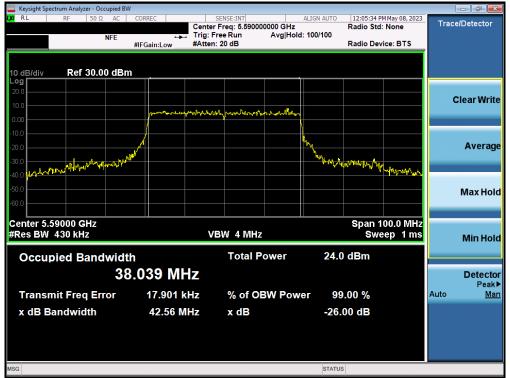
Plot 7-41. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 144)



Plot 7-42. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Page 36 of 235	
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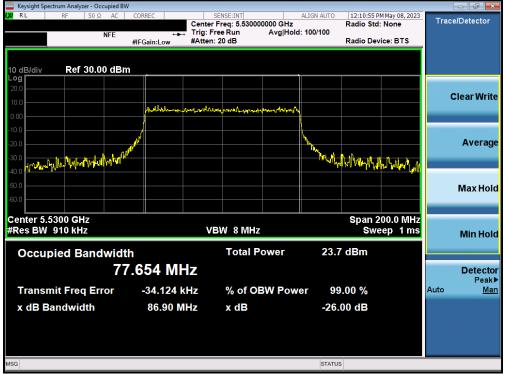
Plot 7-43. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 118)



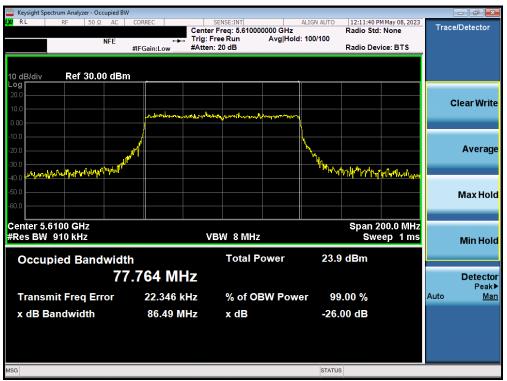
Plot 7-44. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 27 of 225
1M2303200036-07.A3L	04/03/2023 - 05/12/2023	Portable Tablet	Page 37 of 235
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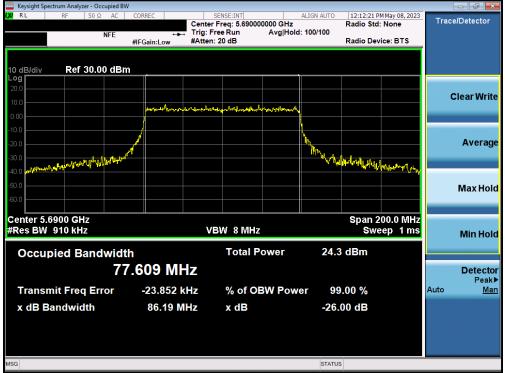
Plot 7-45. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 106)



Plot 7-46. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Page 38 of 235	
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Plot 7-47. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)



Plot 7-48. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11ax - 2x996 Tones (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 at 005
1M2303200036-07.A3L	04/03/2023 - 05/12/2023	Portable Tablet	Page 39 of 235
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# 7.2.2 MIMO Antenna-2 26dB Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	26T	MCS0	19.91
_	5200	40	ax (20MHz)	26T	MCS0	19.89
L br	5240	48	ax (20MHz)	26T	MCS0	19.72
Band 1	5190	38	ax (40MHz)	26T	MCS0	19.90
	5230	46	ax (40MHz)	26T	MCS0	20.00
	5210	42	ax (80MHz)	26T	MCS0	78.11
Band 1/2A	5250	50	ax (160MHz L)	26T	MCS0	78.19
Ba 1/	5250	50	ax (160MHz U)	26T	MCS0	20.87
	5260	52	ax (20MHz)	26T	MCS0	19.79
۷	5280	56	ax (20MHz)	26T	MCS0	20.00
d 2	5320	64	ax (20MHz)	26T	MCS0	19.72
Band 2A	5270	54	ax (40MHz)	26T	MCS0	20.67
ш	5310	62	ax (40MHz)	26T	MCS0	20.37
	5290	58	ax (80MHz)	26T	MCS0	20.78
	5500	100	ax (20MHz)	26T	MCS0	19.86
	5600	120	ax (20MHz)	26T	MCS0	19.96
	5720	144	ax (20MHz)	26T	MCS0	20.07
	5510	102	ax (40MHz)	26T	MCS0	20.44
2C	5590	118	ax (40MHz)	26T	MCS0	19.79
Band 2C	5710	142	ax (40MHz)	26T	MCS0	19.62
Ba	5530	106	ax (80MHz)	26T	MCS0	20.79
	5610	122	ax (80MHz)	26T	MCS0	21.22
	5690	138	ax (80MHz)	26T	MCS0	20.60
	5570	114	ax (160MHz L)	26T	MCS0	20.20
	5570	114	ax (160MHz U)	26T	MCS0	20.47

Table 7-4. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT2 (26 Tones)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 40 of 235
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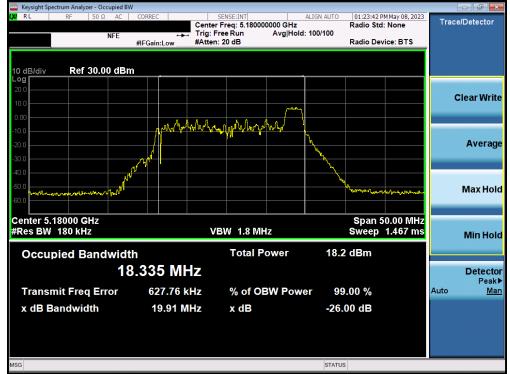


	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 26dB Bandwidth [MHz]
	5180	36	ax (20MHz)	242T	MCS0	22.15
	5200	40	ax (20MHz)	242T	MCS0	22.32
Band 1	5240	48	ax (20MHz)	242T	MCS0	22.24
Bar	5190	38	ax (40MHz)	484T	MCS0	43.01
	5230	46	ax (40MHz)	484T	MCS0	43.83
	5210	42	ax (80MHz)	996T	MCS0	87.83
Ba nd 1/2 A	5250	50	ax (160MHz)	996T	MCS0	172.90
	5260	52	ax (20MHz)	242T	MCS0	21.76
	5280	56	ax (20MHz)	242T	MCS0	21.97
Band 2A	5320	64	ax (20MHz)	242T	MCS0	21.97
Ban	5270	54	ax (40MHz)	484T	MCS0	42.19
	5310	62	ax (40MHz)	484T	MCS0	43.13
	5290	58	ax (80MHz)	996T	MCS0	88.89
	5500	100	ax (20MHz)	242T	MCS0	21.98
	5600	120	ax (20MHz)	242T	MCS0	22.32
	5720	144	ax (20MHz)	242T	MCS0	21.85
	5510	102	ax (40MHz)	484T	MCS0	42.71
Band 2C	5590	118	ax (40MHz)	484T	MCS0	42.64
Ban	5710	142	ax (40MHz)	484T	MCS0	43.22
	5530	106	ax (80MHz)	996T	MCS0	89.31
	5610	122	ax (80MHz)	996T	MCS0	89.14
	5690	138	ax (80MHz)	996T	MCS0	87.65
	5570	114	ax (160MHz)	996T	MCS0	172.20

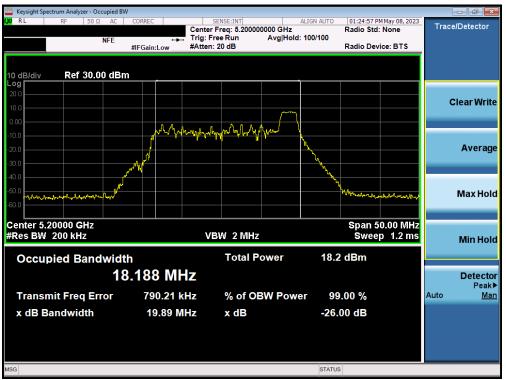
Table 7-5. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT2 (Full Tones)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 41 of 235
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Plot 7-49. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



Plot 7-50. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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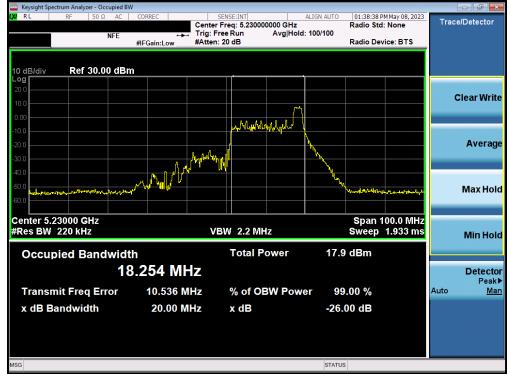
Plot 7-51. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



Plot 7-52. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 43 of 235
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Plot 7-53. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



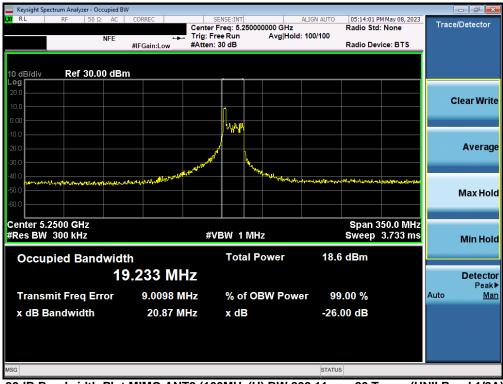
Plot 7-54. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Page 44 of 235
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🔤 Keysight Spectrum Analyzer - Occupie	ed BW				
LXX RL RF 50Ω A	Center	Freq: 5.250000000 GHz ree Run Avg Hold:	Radio Std:		Trace/Detector
10 dB/div Ref 30.00 d	Bm				
20.0	n n				Clear Write
-10.0 -20.0 -30.0	many part have for				Average
-40.0		PHAN MUMANINA AND AND AND AND AND AND AND AND AND A	interiorante desperientes	nataliyin dayi	Max Hold
Center 5.2500 GHz #Res BW 820 kHz		/BW 3 MHz	Swe	50.0 MHz ep 1 ms	Min Hold
Occupied Bandwi	<sup>idth</sup> 74.475 MHz	Total Power	18.5 dBm	I	Detector Peak►
Transmit Freq Error x dB Bandwidth	-39.745 MHz 78.19 MHz	% of OBW Powe x dB	ər 99.00 % -26.00 dB		Auto <u>Man</u>
MSG			STATUS		

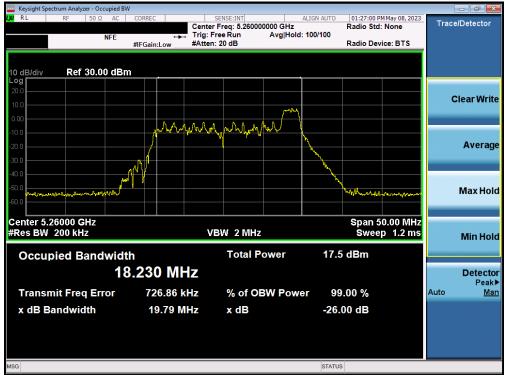
Plot 7-55. 26dB Bandwidth Plot MIMO ANT2 (160MHz(L) BW 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)



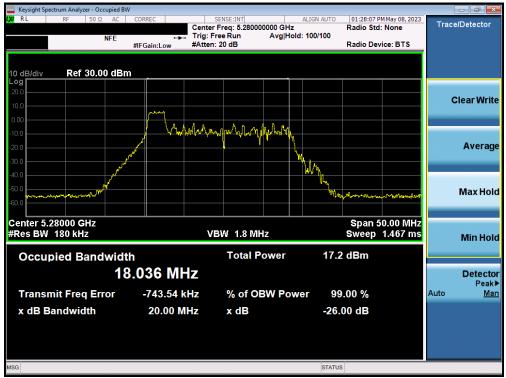
Plot 7-56. 26dB Bandwidth Plot MIMO ANT2 (160MHz(U) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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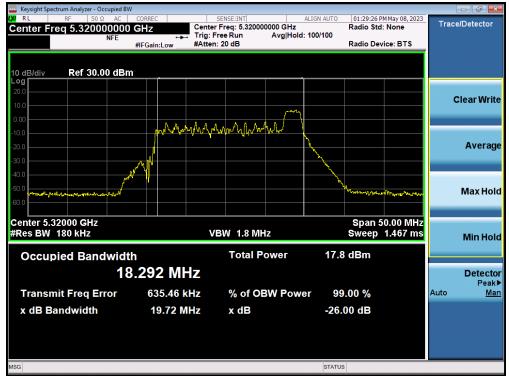
Plot 7-57. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



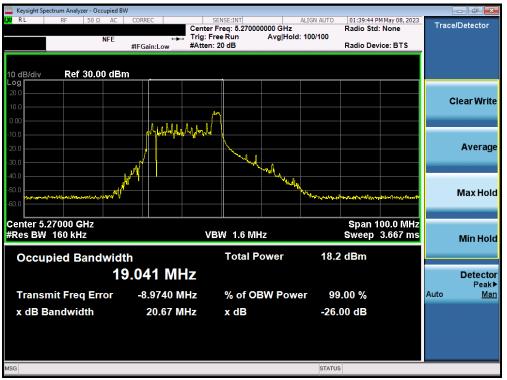
Plot 7-58. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMX910		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Page 46 of 235		
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Plot 7-59. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



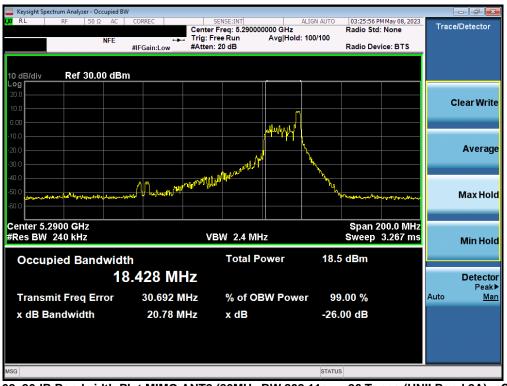
Plot 7-60. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dage 47 of 225	
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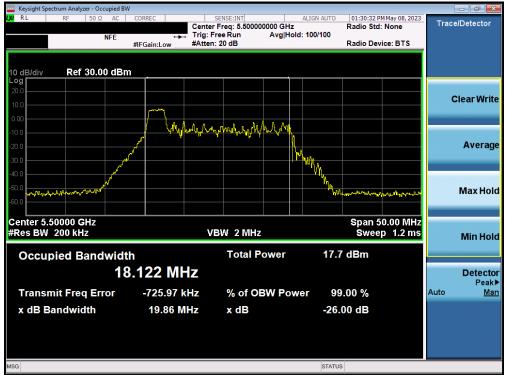
Plot 7-61. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



Plot 7-62. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 49 of 225
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Plot 7-63. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



Plot 7-64. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dage 40 of 225	
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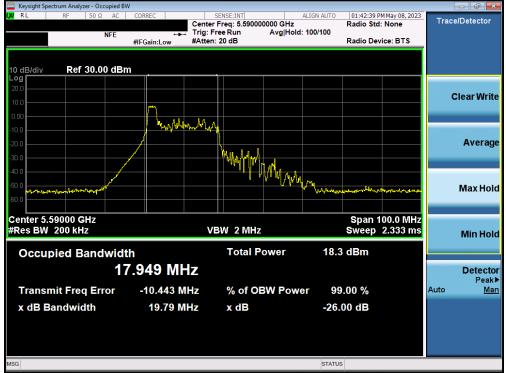
Plot 7-65. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



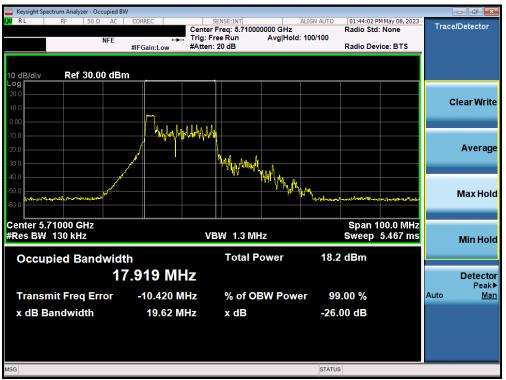
Plot 7-66. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Plot 7-67. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



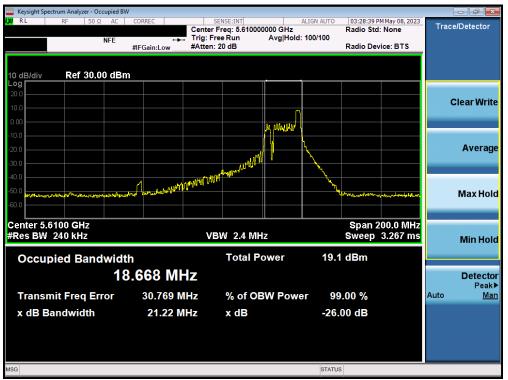
Plot 7-68. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dege 51 of 225	
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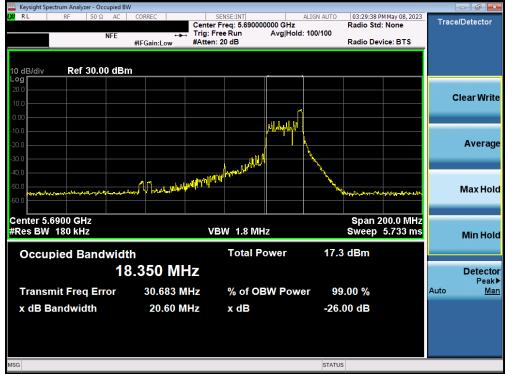
Plot 7-69. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



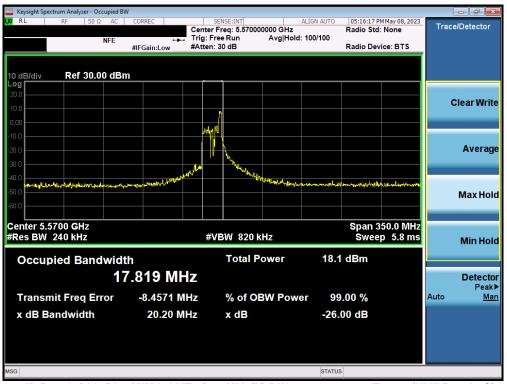
Plot 7-70. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dage 52 of 225	
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Plot 7-71. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



Plot 7-72. 26dB Bandwidth Plot MIMO ANT2 (160MHz(L) BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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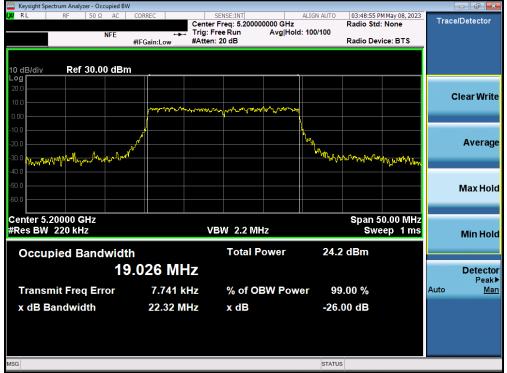
Plot 7-73. 26dB Bandwidth Plot MIMO ANT2 (160MHz(U) BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 114)



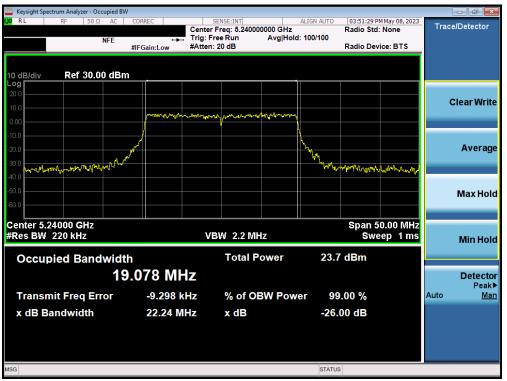
Plot 7-74. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 36)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Daga 54 of 225
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Plot 7-75. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 40)



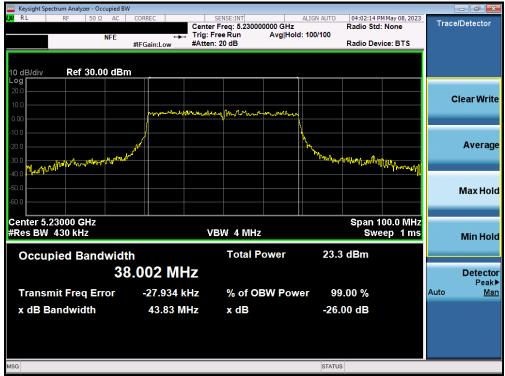
Plot 7-76. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 1) - Ch. 48)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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🔤 Keysight Spectrum Analyzer - Occu	upied BW									
<b>LX/</b> RL RF 50 Ω	AC COR	REC		ISE:INT eq: 5.19000	0000 GHz	ALIGN AUTO	04:01:29 P	M May 08, 2023	Trac	e/Detector
N	IFE	÷+-	Trig: Free	Run		d: 100/100				
	#IFC	Gain:Low	#Atten: 20	0 dB			Radio Dev	ice: BTS		
10 dB/div Ref 30.00	dBm									
20.0										
10.0										Clear Write
0.00		willindung	"hat walker	pequandulum	man the the second					
-10.0										
-20.0	1	1				L.				Average
	IL AND TO THE A					mun	was f			Average
-30.0 -40.0							www.www.	111 HWWWWW		
-50.0										Max Hold
-60.0									_	
Center 5.19000 GHz							Span 1	00.0 MHz		
#Res BW 430 kHz			VBV	V 4 MHz			Swe	ep 1 ms		Min Hold
				Total P		22.2	dBm			
Occupied Bandy			_	Total P	ower	25.5	a Billi			
	38.0	00 MH	Z							Detector
Transmit Freq Erro	or	-9.008 k	Hz	% of OF	3W Pow	or 00	.00 %		Auto	Peak▶ Man
	01				51110					111411
x dB Bandwidth		43.01 M	Hz	x dB		-26.	00 dB			
MSG						STATUS	3			

Plot 7-77. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 38)



Plot 7-78. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Plot 7-79. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 1) - Ch. 42)



Plot 7-80. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ax - 2x996 Tones (UNII Band 1/2A) - Ch. 50)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 57 of 225
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🔤 Keysight Spectrum Analyzer - O					
<mark>(X</mark> RL RF 50 Ω	2 AC CORREC	SENSE:INT Center Freq: 5.26000	ALIGN AUTO	03:52:19 PM May 08, 2023 Radio Std: None	Trace/Detector
	NFE +	📕 Trig: Free Run	Avg Hold: 100/100	Raulo Sta. None	
	#IFGain:Low	#Atten: 20 dB		Radio Device: BTS	
10 dB/div Ref 30.0	00 dBm				
Log					
20.0					Clear Write
10.0	-1,70~16740	and and a second and	wh how me		
0.00			N N		
-10.0			├		
-20.0	- Martin -		- Vu		Average
-30.0	. Marth		- Williams		
-40.0 Normal March March	NLA .		WPD.	Murman war lay have all f	
-50.0					Max Hold
-60.0					Max Hold
-50.0					
Center 5.26000 GHz				Span 50.00 MHz	
#Res BW 220 kHz		VBW 2.2 M	łz	Sweep 1 ms	Min Hold
		T-4-LD		) dDm	
Occupied Band		Total P	ower 23.8	3 dBm	
	19.047 M	Hz			Detector
Terrer it From Fr		1.1.I 0/ - <b>5</b> O	DM D		Peak▶ Auto Man
Transmit Freq Er	ror 11.126	KHZ % OF OF	BW Power 99	.00 %	Auto <u>Man</u>
x dB Bandwidth	21.76	MHz xdB	-26.	00 dB	
MSG			STATUS	3	
			0.110		

Plot 7-81. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 52)



Plot 7-82. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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🔤 Keysight Spectrum Analyzer - Oc										
L <mark>X/</mark> RL RF 50Ω	AC CO	RREC	SENSE:I		CH7	ALIGN AUTO	03:53:53 P Radio Std	M May 08, 2023	Trac	e/Detector
	NFE		Trig: Free Ru	n Av		: 100/100				
,	#IF	Gain:Low	#Atten: 20 dB				Radio Dev	ice: BTS		
10 dB/div Ref 30.0	0 dBm									
20.0										
10.0										Clear Write
0.00		Mar marker	and the second second	manyyund	www.m					
-10.0		/								
-20.0	d					<b>N</b> 1				Average
	م م س					hora a				Average
-30.0 Jun plan Man Marine Marine	alar low						uun waa	Www.www.		
-50.0										Max Hold
-60.0									_	
Center 5.32000 GHz							Span 5	0.00 MHz		
#Res BW 220 kHz			VBW 2	2.2 MHz			Swe	ep 1ms		Min Hold
			Te	tal Pow	or	24.0	dBm			
Occupied Band				olar POW	er	24.0	uыш			
	19.0	90 MH	Z							Detector
Transmit Freq Er	ror	9.937 k	Hz %	of OBW	Powe	er 99	.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth		21.97 M		dB		-26	00 dB			
		21.97 101		JD		-20.	00 aB			
MSG						STATUS	5			

Plot 7-83. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2A) - Ch. 64)



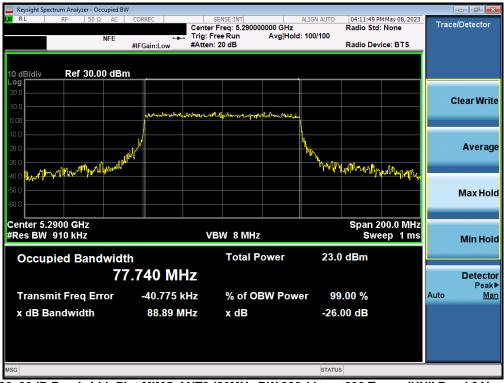
Plot 7-84. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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🔤 Keysight Spectrum Analyzer - Occu	upied BW				
<b>LXI</b> RL RF 50 Ω	AC CORREC		ALIGN AUTO 0 GHz vg Hold: 100/100	04:03:50 PM May 08 Radio Std: None	Trace/Detector
	#IFGain:Low	#Atten: 20 dB		Radio Device: B	TS
10 dB/div Ref 30.00	dBm				
20.0					Clear Write
0.00	portentering	at many enough a lara	พระในการ		
-10.0 -20.0 -30.0	J-with the second se		Mr.	MAN AND AND AND AND AND AND AND AND AND A	Average
-40.0 Mp/ Mp/ 0 14				I M A TH MAN	work
-50.0					Max Hold
Center 5.31000 GHz #Res BW 430 kHz		VBW 4 MHz		Span 100.0 Sweep 1	
Occupied Bandy	width	Total Pov	/er 23.4	dBm	
	38.026 MH	lz			Detector Peak►
Transmit Freq Erro	or 8.260 k	Hz % of OBV	Power 99	.00 %	Auto <u>Man</u>
x dB Bandwidth	43.13 M	Hz x dB	-26.0	00 dB	
MSG			STATUS		

Plot 7-85. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2A) - Ch. 62)



Plot 7-86. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage C0 of 225
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Keysight Spectrum Analyzer - Occupied BW							- • ×
LXI RL RF 50Ω AC	CORREC	SENSE:INT Center Freg: 5.50000		N AUTO 03:54:39 Radio Sto	M May 08, 2023	Trace	e/Detector
NFE		Trig: Free Run #Atten: 20 dB	Avg Hold: 100	0/100			
	#IFGain:Low	#Atten: 20 dB		Radio De	VICE: BIS		
10 dB/div Ref 30.00 dBm							
20.0							
10.0			0			C	Clear Write
0.00	why you way	Martin Conner	6440 <sup>++100</sup> 2-24				
-10.0							
-20.0	r		<u> </u>	-1			Average
-30.0				"In mary with all he	<u> </u>		
-40.0 V.M. Morth Walt and Stand				- 1 de 1-440 Ore	<sup>™</sup> \ <sub>2</sub> ^7"\. \[ <sup>1</sup> \ <sup>2</sup> \7\.		
-50.0							Max Hold
-60.0							
Center 5.50000 GHz				Snan f	50.00 MHz		
#Res BW 220 kHz		VBW 2.2 MH	z		eep 1 ms		Min Hold
		<b>T</b> ( ) D		00.5.10			minitiona
Occupied Bandwidth		Total P	ower	23.5 dBm			
19	.073 MH	Z					Detector
Transmit Freq Error	-7.622 kl	Iz % of OE	BW Power	99.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth	21.98 MF	z xdB		-26.00 dB			
	21.00 111			20.00 48			
MSG				STATUS			

Plot 7-87. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 100)



Plot 7-88. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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🔤 Keysight Spectrum Analyzer - Occupied BW	
X RL RF 50 Ω AC CORREC SENSE:INT ALIGN AUTO 03:56:05 PM May 08, 2023   Center Freq: 5.720000000 GHz Radio Std: None	e/Detector
NFE Trig: Free Run Avg Hold: 100/100	
#FGain:Low #Atten: 20 dB Radio Device: BTS	
10 dB/div Ref 30.00 dBm	
20.0	
	Clear Write
000 provide and the second sec	
10.0	
20.0	Average
-00 addinhan harman when a harman harman harman harman	
	Max Hold
Center 5.72000 GHz Span 50.00 MHz	
#Res BW 220 kHz VBW 2.2 MHz Sweep 1 ms	Min Hold
Occupied Bandwidth Total Power 24.1 dBm	
19.048 MHz	Detector Peak▶
Transmit Freq Error -14.841 kHz % of OBW Power 99.00 %	Man
x dB Bandwidth 21.85 MHz x dB -26.00 dB	
MSG	

Plot 7-89. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax - 242 Tones (UNII Band 2C) - Ch. 144)



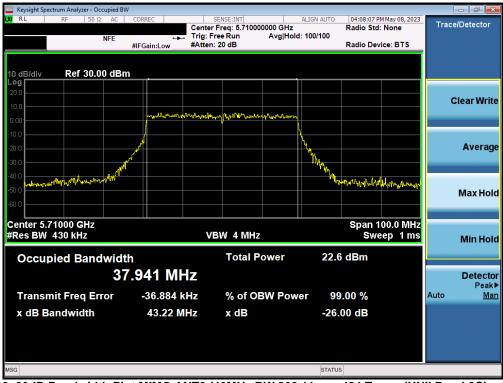
Plot 7-90. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Keysight Spectrum Analyzer - Occupied BW	1				
02 RL RF 50 A A NFE	, , , , , , , , , , , , , , , , , , ,	SENSE:INT r Freq: 5.590000000 GHz Free Run Avg Ho n: 20 dB	Ra ld: 100/100	4:07:19 PM May 08, 2023 idio Std: None idio Device: BTS	Trace/Detector
Log Image: Construction of the construction of		un por the water and			Clear Write
-10.0 -20.0 -30.0	Are a construction of the second s		how him a lost of	Andling My Philadelipson of	Average
-40.0 Min. mp. M. Mark Mark Mark Mark Mark Mark Mark Mark				Lofflord, Holdery Constants	Max Hold
Center 5.59000 GHz #Res BW 430 kHz		/BW 4 MHz		pan 100.0 MHz Sweep 1 ms	Min Hold
	8.003 MHz	Total Power	23.1 dl		Detector Peak►
Transmit Freq Error x dB Bandwidth	25.374 kHz 42.64 MHz	% of OBW Pov x dB	ver 99.00 -26.00		Auto <u>Man</u>
MSG			STATUS		

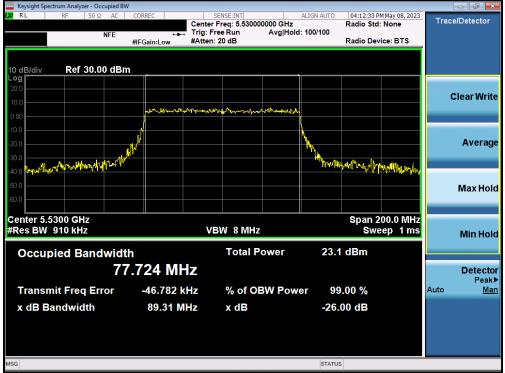
Plot 7-91. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax - 484 Tones (UNII Band 2C) - Ch. 118)



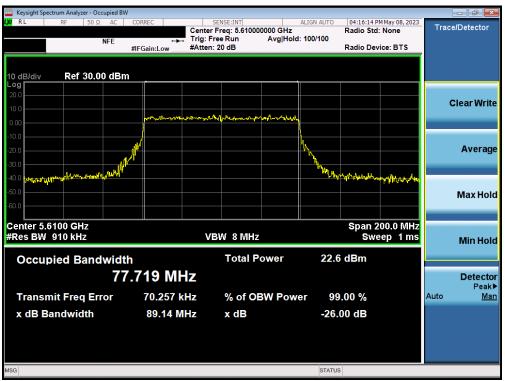
Plot 7-92. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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Plot 7-93. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 106)



Plot 7-94. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Plot 7-95. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax - 996 Tones (UNII Band 2C) - Ch. 138)



Plot 7-96. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ax - 2x996 Tones (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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### 7.3 6dB Bandwidth Measurement

#### **Test Overview and Limit**

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

#### In the 5.725 – 5.850GHz and 5.850-5.895GHz bands, the 6dB bandwidth must be $\geq$ 500 kHz.

#### Test Procedure Used

ANSI C63.10-2013 - Section 6.9.2

#### **Test Settings**

- The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 100 kHz
- 3. VBW  $\geq$  3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument & Measurement Setup

#### **Test Notes**

The 6dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

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## 7.3.1 MIMO Antenna-1 6dB Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	ax (20MHz)	26T	MCS0	2.10
e	5785	157	ax (20MHz)	26T	MCS0	2.11
	5825	165	ax (20MHz)	26T	MCS0	2.11
Band	5755	151	ax (40MHz)	26T	MCS0	2.18
	5795	159	ax (40MHz)	26T	MCS0	6.60
	5775	155	ax (80MHz)	26T	MCS0	2.85

Table 7-6. Band 3 Conducted 6dB Bandwidth Measurements MIMO ANT1 (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	ax (20MHz)	26T	MCS0	2.11
Band 4	5865	173	ax (20MHz)	26T	MCS0	2.15
Dallu 4	5885	177	ax (20MHz)	26T	MCS0	2.12
Band 3/4	5835	167	ax (40MHz)	26T	MCS0	2.18
Band 4	5875	175	ax (40MHz)	26T	MCS0	2.18
	5855	171	ax (80MHz)	26T	MCS0	2.27
Band 3/4	5815	163	ax (160MHz L)	26T	MCS0	3.07
	5815	163	ax (160MHz U)	26T	MCS0	2.59

Table 7-7. Bands 3/4 Conducted 6dB Bandwidth Measurements MIMO ANT1 (26 Tones)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	ax (20MHz)	242T	MCS0	18.94
	5785	157	ax (20MHz)	242T	MCS0	18.96
1d 3	5825	165	ax (20MHz)	242T	MCS0	18.94
Band	5755	151	ax (40MHz)	484T	MCS0	38.15
	5795	159	ax (40MHz)	484T	MCS0	37.94
	5775	155	ax (80MHz)	996T	MCS0	77.96

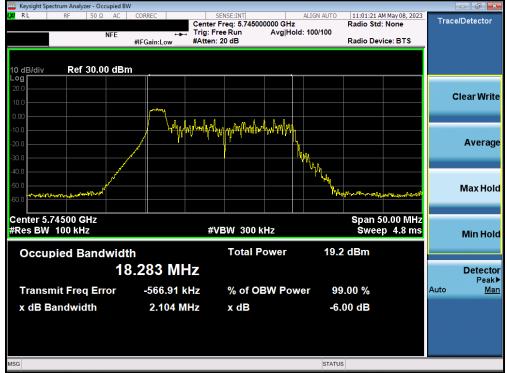
Table 7-8. Band 3 Conducted 6dB Bandwidth Measurements MIMO ANT1 (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	ax (20MHz)	242T	MCS0	18.93
Band 4	5865	173	ax (20MHz)	242T	MCS0	18.96
Dallu 4	5885	177	ax (20MHz)	242T	MCS0	19.03
Band 3/4	5835	167	ax (40MHz)	484T	MCS0	37.97
Band 4	5875	175	ax (40MHz)	484T	MCS0	38.00
Band 3/4	5855	171	ax (80MHz)	996T	MCS0	77.91
Dallu 5/4	5815	163	ax (160MHz)	996T	MCS0	158.20

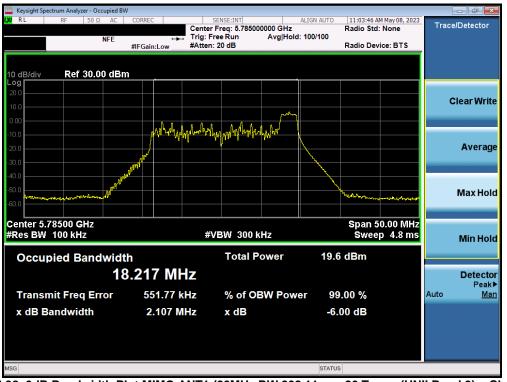
Table 7-9. Bands 3/4 Conducted 6dB Bandwidth Measurements MIMO ANT1 (Full Tones)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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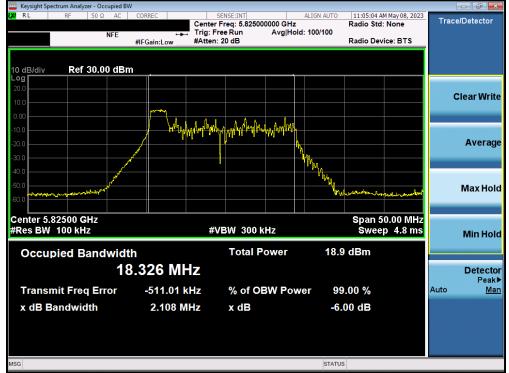
Plot 7-97. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)



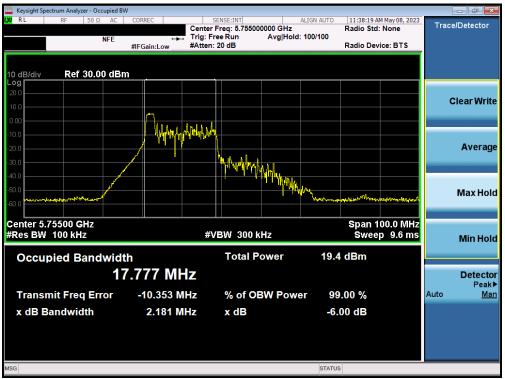
Plot 7-98. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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Plot 7-99. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)



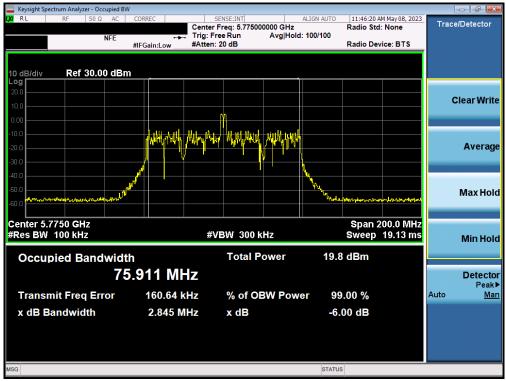
Plot 7-100. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMX910		MEASUREMENT REPORT		
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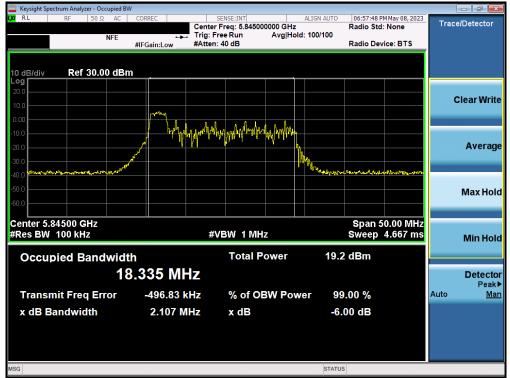
Plot 7-101. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)



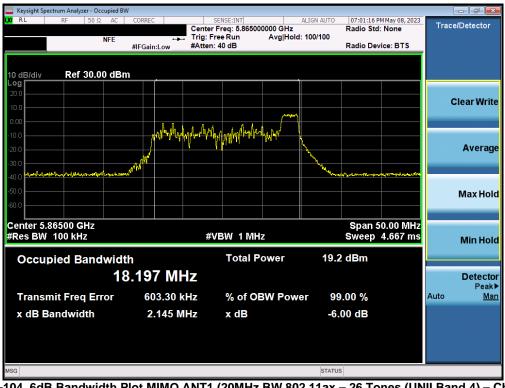
Plot 7-102. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UII Band 3) - Ch. 155)

FCC ID: A3LSMX910		MEASUREMENT REPORT	
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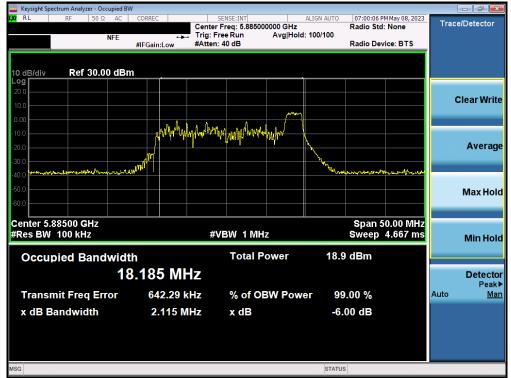
Plot 7-103. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3/4) - Ch. 169)



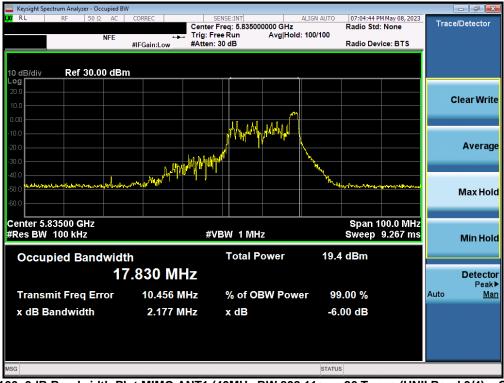
Plot 7-104. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)

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Plot 7-105. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 4) - Ch. 177)



Plot 7-106. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)

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