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MEASUREMENT REPORT FCC Part 15.407 802.11a/ax WIFI 6E

Applicant Name:

Samsung Electronics Co., Ltd. 129, Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, 16677, Korea

Date of Testing: 03/26 - 06/08/2021

Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M2104190044-15-R2.A3L

FCC ID:

A3LSMF926B

APPLICANT:

Samsung Electronics Co., Ltd.

Application Type: Model: Additional Model(s): EUT Type: Frequency Range: Modulation Type: FCC Classification: Test Procedure(s): Certification SM-F926B SM-F926B/DS Portable Handset 5935 – 7115MHz OFDM 15E 6GHz Low Power Indoor Client (6XD) ANSI C63.10-2013, KDB 789033 D02 v02r01, KDB 648474 D03 v01r04, KDB 662911 D01 v02r01, KDB 987594 D02

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 and KDB 789033 D02 v02r01. Test results reported herein relate only to the item(s) tested.

Note: This revised Test Report (S/N: 1M2104190044-15-R2.A3L) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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.

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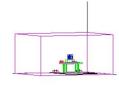


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			MI	мо
Channel Bandwidth [MHz]	UNII Band	Tx Frequency [MHz]	Max. Power [mW]	Max. Power [dBm]
	5	5935 - 6415	22.284	13.48
20	6	6435 - 6515	22.284	13.48
20	7	6535 - 6875	22.336	13.49
	8	6895 - 7115	21.928	13.41
	5	5965 - 6405	19.907	12.99
40	6	6445 - 6525	19.679	12.94
40	7	6565 - 6845	19.861	12.98
	8	6885 - 7085	19.364	12.87
	5	5985 - 6385	19.454	12.89
80	6	6465	19.275	12.85
80	7	6545 - 6865	19.770	12.96
	8	6945 - 7025	19.679	12.94
	5	6025 - 6345	19.320	12.86
160	6	6505	19.320	12.86
100	7	6665 - 6825	19.320	12.86
	8	6985	18.281	12.62

EUT Overview

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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 PCTEST Test Location

These measurement tests were conducted at the PCTEST facility located at 7185 Oakland Mills Road, Columbia, MD 21046. 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 PCTEST located in Columbia, MD 21046, U.S.A.

- PCTEST is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- PCTEST facility is a registered (2451B) test laboratory with the site description on file with ISED.

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PRODUCT INFORMATION 2.0

2.1 **Equipment Description**

The Equipment Under Test (EUT) is the Samsung Portable Handset FCC ID: A3LSMF926B. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter while operating in the 6GHz band.

Test Device Serial No.: 1580M, 2004M, 1571M, 2024M, 1578M, 2007M

2.2 **Device Capabilities**

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (n5, n66), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII (5GHz and 6GHz), Bluetooth (1x, EDR, LE), NFC, Wireless Power Transfer, UWB

	Band 5		Band 6			Band 7		Band 8
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)		Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
2	5935	97	6435		117	6535	189	6895
:	:	:	:		:	:	:	:
45	6175	105	6475		149	6695	209	6995
:	:	:	:		:	:	:	:
93	6415	113	6515		185	6875	233	7115
Table 2-1 802 11a / 802 11ax (20MHz) Frequency / Channel Operations								

•1. 802.11a / 802.11ax (20MHz) Frequency / Channel Operations

	Band 5		Band 6		Band 7		Band 8
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
3	5695	99	6445	123	6565	187	6885
:	:	:	:	1 :	:	:	:
43	6165	107	6485	155	6725	211	7005
:	:	:	:	1 :	:	:	:
91	6405	115	6525	179	6845	227	7085
	Tab	ole 2-2, 802	.11ax (40MHz B	W) Frequenc	v / Channel Operation	ations	

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

Ch.

119

:

151

:

183

Band	5
Frequency	(MHz)

5985

2

6145

1

6385

Ch.

103

Ch.

7

:

39

:

87

Band 6

Frequency (MHz)

6465

Dallu I
Frequency (MHz)
6545

6705

÷

6865

Band 7

Band	8
Frequency	/\/

Ch.	Frequency (MHz)
199	6945
:	•
215	7025

Table 2-3. 802.11ax (80MHz BW) Frequency / Channel Operations

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	Band 5		Band 6		6 Band 7		Band 8
Ch.	Frequency (MHz)						
15	6025	111	6505	143	6665	207	6985
:	:			:	:		
47	6185			175	6825		
:	:						
79	6345						

Table 2-4. 802.11ax (160MHz BW) Frequency / Channel Operations

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Notes:

6GHz NII operation is possible in 20MHz, and 40MHz, and 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 and KDB 789033 D02 v02r01. 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:

Target Maximum Average Conducted				
	ANT1	ΜΙΜΟ		
lode/Band	Duty	Duty		
		Cycle [%]		
а	93.7	93.7		
ax (HT20)	N/A	99.7		
ax (HT40)	N/A	99.7		
ax (HT80)	N/A	99.7		
ax (HT160)	N/A	99.7		
	a ax (HT20) ax (HT40) ax (HT80)	ANT1 Iode/Band Duty Cycle [%] 3 a 93.7 ax (HT20) N/A ax (HT40) N/A ax (HT80) N/A		

Table 2-5. Measured Duty Cycles

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

WiEi Configurationa		SISO		CDD		SDM	
	WiFi Configurations		ANT2	ANT1	ANT2	ANT1	ANT2
	11a	✓	×	✓	✓	×	×
	11ax (20MHz)	×	×	✓	✓	✓	✓
6GHz	11ax (40MHz)	×	×	✓	✓	✓	✓
	11ax (80MHz)	×	×	✓	✓	✓	✓
	11ax (160MHz)	×	×	✓	✓	✓	✓

Table 2-6. Frequency / Channel Operations

 \checkmark = Support ; = NOT Support

SDM = Spatial Diversity Multiplexing – MIMO function

CDD = Cyclic Delay Diversity - 2Tx Function

3. This device supports simultaneous transmission operation, which allows for two SISO channels to operate independent of one another in the 2.4GHz (WLAN & BT), 5GHz, and 6GHz bands simultaneously on each antenna.

2.3 Antenna Description

Following antenna was used for the testing.

Frequency Band	Antenna 1 Gain (dBi)	Antenna 2 Gain (dBi)
5	-8.61	-4.57
6	-14.66	-11.76
7	-10.19	-7.84
8	-9.69	-12.65

Table 2-7. Antenna Peak Gain

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2.4 Test Configuration

The EUT was tested per the guidance of KDB 987594 D02 and KDB 789033 D02 v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2 for AC line conducted emissions test setups, 3.3 for radiated emissions test setups, and 7.2, 7.3, 7.4, 7.5 and 7.6 for antenna port conducted emissions test setups.

This device supports two configurations: one is with screen open, and one is with screen closed. Both configurations are tested, and the worst case radiated emissions data is shown in this report.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad (WCP) EP-N5100 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

2.5 Software and Firmware

The test was conducted with firmware version F926USQ0AUCE 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) and the guidance provided in KDB 789033 D02 v02r01 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 10'x16'x9' shielded enclosure. The shielded enclosure is manufactured by ETS Lindgren RF Enclosures. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-5. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, $50\Omega/50\mu$ H Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is an ETS Lindgren Model LPRX-4X30 (100dB Attenuation, 14kHz-18GHz) and the two EMI/RFI filters are ETS Lindgren Model LRW-2030-S1 (100dB Minimum Insertion Loss, 14kHz – 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference groundplane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

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 RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasipeak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 7.9. The EMI Receiver mode of the Agilent MXE was used to perform AC line conducted emissions testing.

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3.3 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 474788 D01.

3.4 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	1.13
Line Conducted Disturbance	3.09
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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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	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	WL25-1	Conducted Cable Set (25GHz)	2/23/2021	Annual	2/23/2022	WL25-1
-	WL40-1	WLAN Cable Set (40GHz)	2/23/2021	Annual	2/23/2022	WL40-1
-	WL25-2	WLAN Cable Set (25GHz)	2/23/2021	Annual	2/23/2022	WL25-2
-	WL25-3	Conducted Cable Set (25GHz)	3/12/2021	Annual	3/12/2022	WL25-3
-	WL40-2	WLAN Cable Set (40GHz)	3/12/2021	Annual	3/12/2022	WL40-2
Anritsu	ML2495A	Power Meter	3/4/2021	Annual	3/4/2022	1328004
Anritsu	MA2411B	Pulse Power Sensor	10/19/2020	Annual	10/19/2021	1339026
Anritsu	MS46322A	Vector Network Analyzer	11/6/2020	Annual	11/6/2021	1521001
Anritsu	36585K-2F	Precision Autocal 2-Port	10/24/2020	Annual	10/24/2021	1628014
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2019	Biennial	10/10/2021	121034
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
Emco	3116	Horn Antenna (18 - 40GHz)	8/7/2018	Triennial	8/7/2021	9203-2178
Espec	ESX-2CA	Environmental Chamber	8/27/2020	Biennial	8/27/2022	17620
ETS-Lindgren	3816/2NM	LISN	7/9/2020	Biennial	7/9/2022	114451
ETS-Lindgren	3115	Double Ridged Guide Horn 750MHz - 18GHz	3/12/2020	Biennial	3/12/2022	150693
Keysight Technologies	N9020A	MXA Signal Analyzer	8/14/2020	Annual	8/14/2021	US46470561
Keysight Technologies	N9038A	MXE EMI Receiver	8/11/2020	Annual	8/11/2021	MY51210133
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	8/17/2020	Annual	8/17/2021	MY52350166
Keysight Technologies	N9020A	MXA Signal Analyzer	9/22/2020	Annual	9/22/2021	MY54500644
Pasternack	NMLC-2	Line Conducted Emissions Cable (NM)	2/25/2021	Annual	2/25/2022	NMLC-2
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	7/15/2020	Annual	7/15/2021	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	5/25/2021	Annual	5/25/2022	100348
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	8/10/2020	Annual	8/10/2021	103200
Solar Electronics	8012-50-R-24-BNC	Line Impedance Stabilization Network	10/1/2019	Biennial	10/1/2021	310233
Sunol	DRH-118	Horn Antenna (1-18 GHz)	8/27/2019	Biennial	8/27/2021	A042511
Sunol Science	JB5	Bi-Log Antenna (30M - 5GHz)	7/27/2020	Biennial	7/27/2022	A051107

Table 6-1. Annual Test Equipment Calibration Schedule

Note:

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.

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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7.0 TEST RESULTS

7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
FCC ID:	A3LSMF926B
FCC Classification:	15E 6GHz Low Power Indoor Client (6XD)

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Referenc e
2.1046, 15.407(a)(11)	Maximum Conducted Output Power	N/A		PASS	Section 7.3
2.1049, 15.407(a)(10)	Occupied Bandwidth/ 26dB Bandwidth	99% of the occupied bandwidth of any channel must be contained within each of its respective U-NII sub bands The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.		PASS	Section 7.2
15.407(a)(8)	Maximum Power Spectral Density	< -1dBm/MHz e.i.r.p.	CONDUCTED	PASS	Section 7.4
15.407(a)(8)	Maximum Radiated Output Power	< 24dBm over the frequency band of operation		PASS	Section 7.3
15.407(b)(6)	In-Band Emissions	EUT must meet the limits detailed in 15.407(b)(6)		PASS	Section 7.5
15.407(d)(6)	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty		PASS	Section 7.6
15.407(b)(5)	Undesirable Emissions	< -27dBm/MHz e.i.r.p. outside of the 5.925 – 7.125GHz band		PASS	Section 7.7
15.205, 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	RADIATED	PASS	Section 7.7, 7.8
15.407(b)(8)	AC Conducted Emissions (150kHz – 30MHz)	< FCC 15.207 limits	LINE CONDUCTED	PASS	Section 7.9

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 PCTEST "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 PCTEST "Chamber Automation," Version 1.3.1.

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7.2 26dB Bandwidth Measurement – 802.11a/ax

<u>2.1049, 15.407(a)(10)</u>

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 KDB 789033 D02 v02r01, 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 KDB 789033 D02 v02r01 – Section C KDB 987594 D02

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 \geq 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

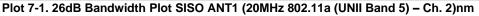
None.

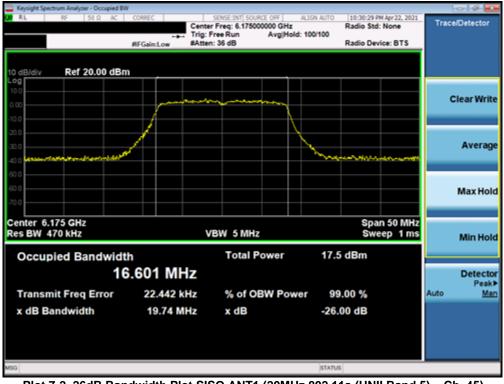
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 15 of 201
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SISO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 5)





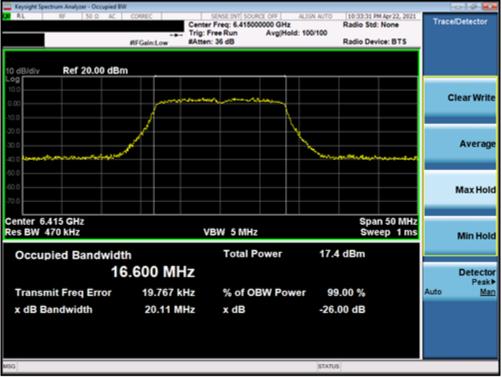


Plot 7-2. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 5) - Ch. 45)

FCC ID: A3LSMF926B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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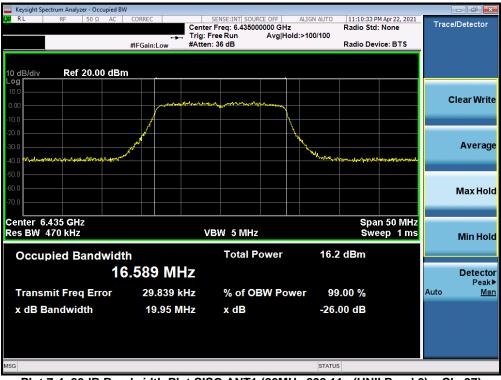


Plot 7-3. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 5) - Ch. 93

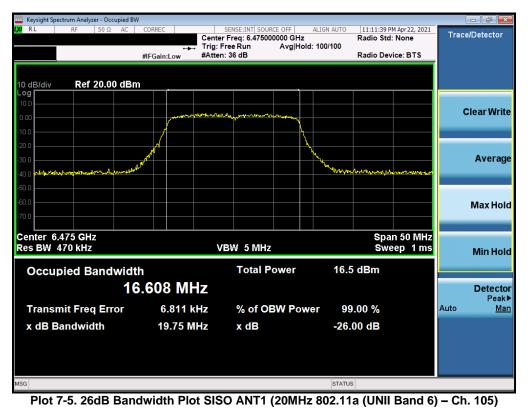
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 17 of 201	
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SISO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 6)







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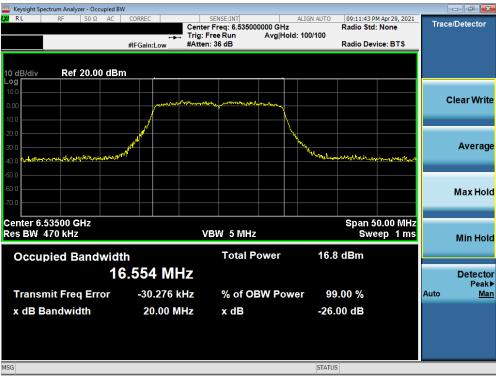


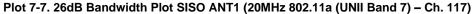
Plot 7-6. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 6) – Ch. 113)

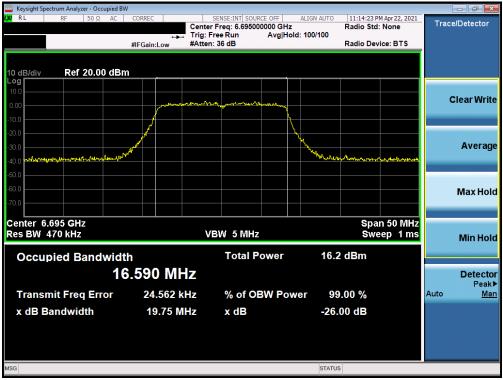
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 10 of 201
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SISO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 7)







Plot 7-8. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 7) – Ch. 149)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 20 of 201
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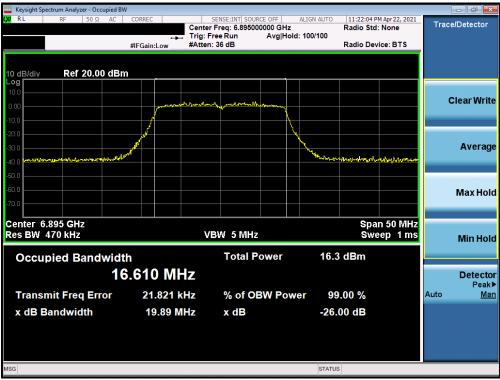


Plot 7-9. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 7) – Ch. 185)

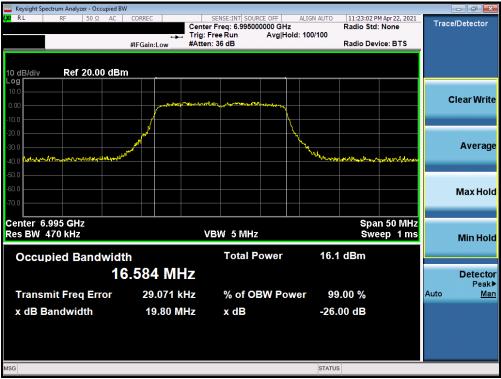
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 24 of 261
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SISO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 8)



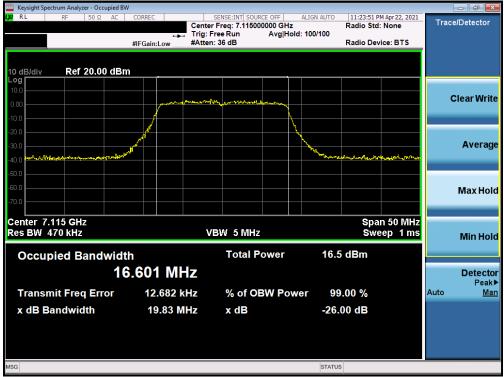
Plot 7-10. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 189)



Plot 7-11. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 8) – Ch. 209)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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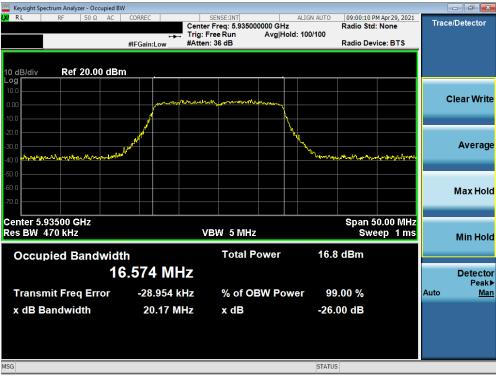


Plot 7-12. 26dB Bandwidth Plot SISO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 233)

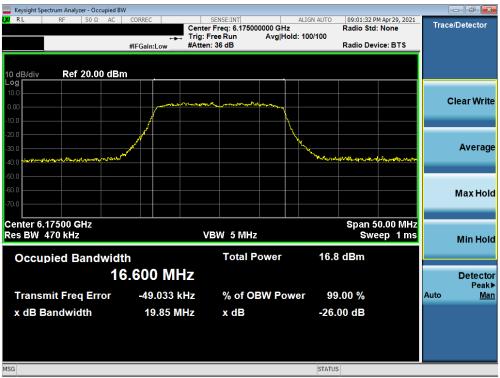
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 261
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MIMO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 5)







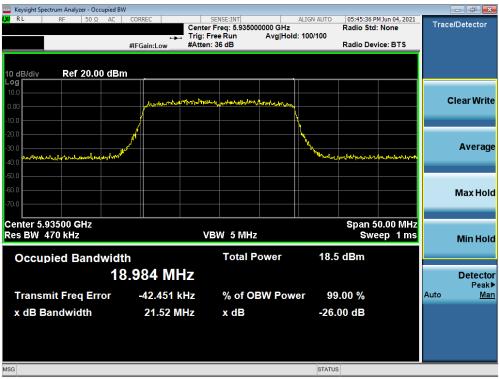
Plot 7-14. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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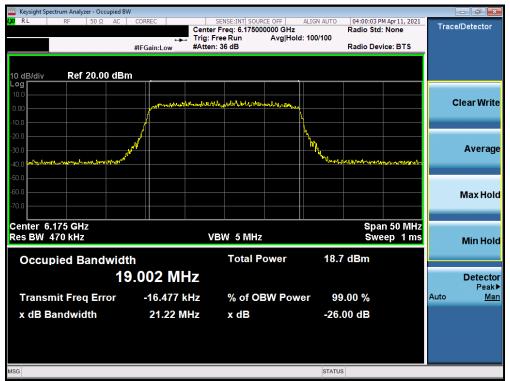
Plot 7-15. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) - Ch. 93



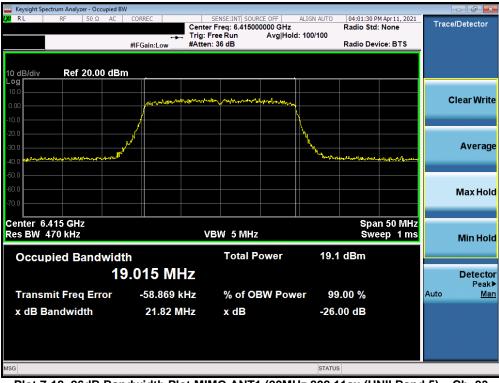
Plot 7-16. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 5) - Ch. 2)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-17. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 5) – Ch. 45)



Plot 7-18. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 5) – Ch. 93

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BV	v		_		- 6 -
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 04:03:06 P Radio Std	M Apr 11, 2021	Trace/Detector
	🛶 Trig	g:Free Run Avg Holo	d: 100/100		
	#IFGain:Low #At	ten: 36 dB	Radio Dev	/ice: BTS	
10 dB/div Ref 20.00 dBn	n				
10.0					
0.00	and all all and a second	were sold an area ward			Clear Write
-10.0	<u> </u>		\		
-20.0					
-30.0			<u>\</u>		Average
-40.0	کو		hutophinaliumationaliumation	almandane.	J
-50.0					
-60.0					
-70.0					Max Hold
-70.0					
Center 5.965 GHz				100 MHz	
Res BW 910 kHz		VBW 8 MHz	Swe	eep 1 ms	Min Hold
Occupied Bandwidt	b	Total Power	19.4 dBm		
37	7.749 MHz				Detector Peak▶
Transmit Freq Error	-82.159 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	41.10 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-19. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 5) – Ch. 3)



Plot 7-20. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 5) - Ch. 43)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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🧱 Keysight Spectrum Analyzer - Occupied BW									
LX RL RF 50Ω AC (CORREC		ISE:INT SOUR eq: 6.40500		ALIGN AUTO	04:06:08 P Radio Std	M Apr 11, 2021 None	Trac	ce/Detector
	⊶ IFGain:Low	Trig: Free #Atten: 36		Avg Hold	d: 100/100	Radio Dev	ice: BTS		
	IFGain:Low	#Atten. or	5 U D			Radio Dev	ice. DT3		
10 dB/div Ref 20.00 dBm									
Log									
10.0			بسمر المهار المعرم	THERE .					Clear Write
-10.0	Part of the second seco				l				
-20.0					\				
-30.0					N.				Average
-40.0					Ulputerone	en warden vien	ah yayaya tan		
-50.0									
-60.0									Max Hold
-70.0									Max noiu
Center 6.405 GHz Res BW 910 kHz		VBV	V 8 MHz				100 MHz ep 1 ms		
		100	¥ 0 I¥II 12			OW	ср тшэ		Min Hold
Occupied Bandwidth			Total P	ower	18.1	dBm			
37.	793 MH	Z							Detector
			0/ - f OI			00.0/		Auto	Peak▶ Man
Transmit Freq Error	-73.597 kl		% of OE	SW POW		.00 %		Auto	<u>Ivian</u>
x dB Bandwidth	40.96 MI	Hz	x dB		-26.	00 dB			
MSG					STATUS				

Plot 7-21. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 5) – Ch. 91)



Plot 7-22. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 5) – Ch. 7)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied							
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOUR		N AUTO 04:13:10 PN Radio Std:	Apr11, 2021	Trace/D	etector
	- -	Trig: Free Run	Avg Hold: 100	0/100			
	#IFGain:Low	#Atten: 36 dB		Radio Devi	ice: BTS		
10 dB/div Ref 20.00 dl	3m						
Log 10.0							
0.00	Indugliour	www.makerran	montman			Cle	ear Write
-10.0							
-20.0							_
-30.0 manuster and from the along the second	Malala .		N _u	hlan terrapakating harakan	whetheretlapeld		Average
-40.0							
-50.0							
-60.0						Ν	lax Hold
-70.0							
Center 6.145 GHz Res BW 1.8 MHz		VBW 8 MHz			200 MHz ep 1 ms		
				Swe	ep mis	1	Min Hold
Occupied Bandwi	dth	Total P	ower	18.4 dBm			
		l					
	77.260 MF	12					Detector Peak▶
Transmit Freq Error	-143.43 k	Hz % of O	BW Power	99.00 %		Auto	Man
x dB Bandwidth	82.73 M			-26.00 dB			
	02.15 M			-20.00 08			
,							
MSG				STATUS			

Plot 7-23. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 5) – Ch. 39)



Plot 7-24. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 5) - Ch. 87)

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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🔤 Keysight Spectrum Analyzer - Occu									
L <mark>X/</mark> RL RF 50 Ω	AC CORREC		NSE:INT SOURC		ALIGN AUTO	04:18:15 PM Radio Std:	Apr11, 2021	Trac	e/Detector
		Trig: Free	e Run	Avg Hold	: 100/100				
	#IFGain:L	Low #Atten: 3	6 dB			Radio Devi	ice: BTS		
10 dB/div Ref 20.00	dBm								
Log 10.0									
0.00	بطرس وي	updates and marketing	Howeverstand	ANY AR BANN					Clear Write
-10.0									
-20.0					\				Average
-30.0 and the manufacture	and and a second second				he lift of the state of the second state of th	19-19-19-19-19-19-19-19-19-19-19-19-19-1	May Barland		Average
-40.0									
-50.0									
-60.0									Max Hold
-70.0								_	
Center 6.025 GHz						Span	400 MHz		
Res BW 3 MHz		VB	N 50 MHz	z			ep 1 ms		Min Hold
									WIITTIOIG
Occupied Bandy	width		Total Po	ower	19.2	dBm			
	156.36	MHz							Detector
									Peak►
Transmit Freq Erro	or 51.	718 kHz	% of OE	W Powe	er 99	.00 %		Auto	Man
x dB Bandwidth	16	7.1 MHz	x dB		-26.	00 dB			
MSG					STATUS				

Plot 7-25. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 5) – Ch. 15)



Plot 7-26. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 5) - Ch. 47)

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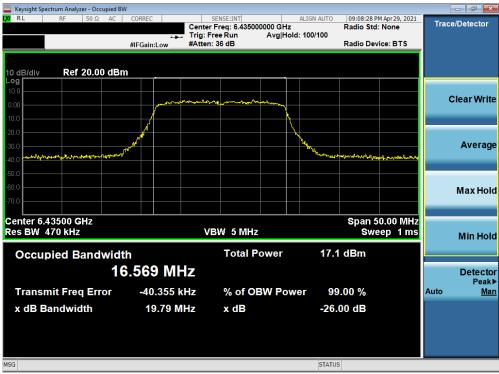
Keysight Spectrum Analyzer - Occupied BW					
	🛶 Trig		Radio Radio	51 PM Apr11, 2021	Trace/Detector
	#IFGain:Low #At	ten: 36 dB	Radio	Device: BTS	
10 dB/div Ref 20.00 dBm			_		
Log 10.0					
0.00	algo de some man la gula	www.almmanshillereen	%h		Clear Write
-10.0					
-20.0					
20.0 -30.0	w.		here and the second	AL OF A ALLEY & A SHOLD	Average
-40.0					monugo
-50.0					
-60.0					
					Max Hold
-70.0					
Center 6.345 GHz				pan 400 MHz	
Res BW 3 MHz		VBW 50 MHz		Sweep 1 ms	Min Hold
Occupied Bandwidth		Total Power	19.2 dBn	า	
	5.96 MHz				Detector
10	5.50 WIT12				Peak►
Transmit Freq Error	-191.04 kHz	% of OBW Po	wer 99.00 %	6	Auto <u>Man</u>
x dB Bandwidth	167.2 MHz	x dB	-26.00 dE	3	
MSG			STATUS		

Plot 7-27. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 5) - Ch. 79)

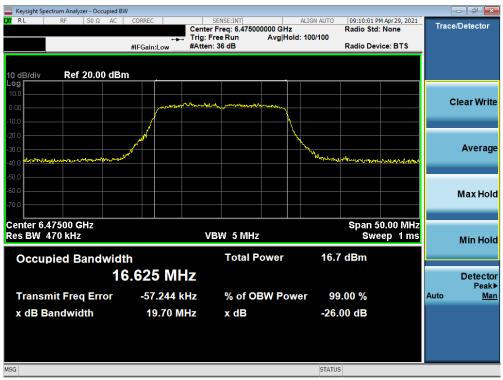
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 21 of 201
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MIMO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 6)



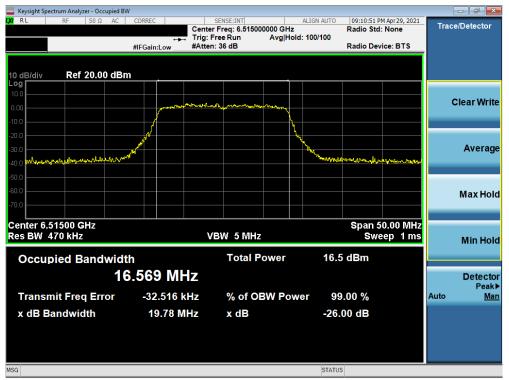
Plot 7-28. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 6) - Ch. 97)



Plot 7-29. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 6) - Ch. 105)

FCC ID: A3LSMF926B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 22 of 261
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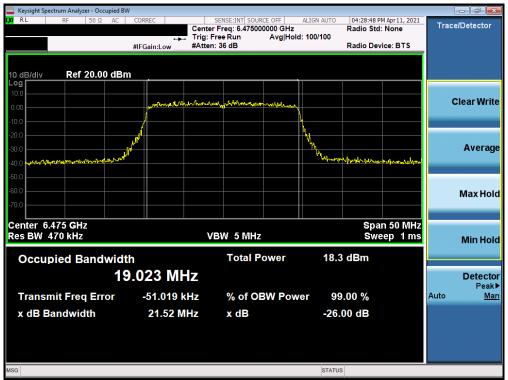
Plot 7-30. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 6) - Ch. 113)



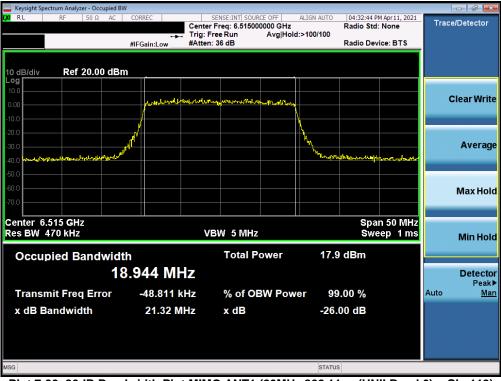
Plot 7-31. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 6) - Ch. 97)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 22 of 261
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Plot 7-32. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 6) – Ch. 105)



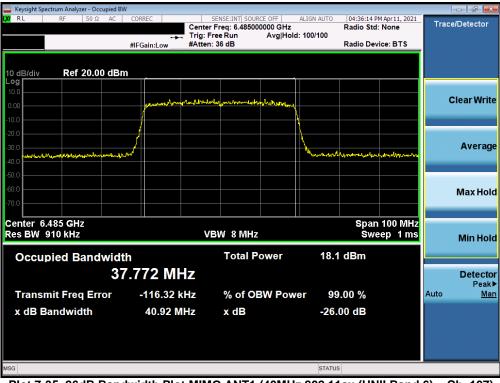
Plot 7-33. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 6) - Ch. 113)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 24 of 261
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Keysight Spectrum Analyzer - Occupied BW						-	
LXXIRL RF 50Ω AC		SENSE:INT SOUR enter Freq: 6.445000 ig: Free Run		Radio Std:	Apr 11, 2021 None	Trace	Detector
		Atten: 36 dB		Radio Devi	ce: BTS		
10 dB/div Ref 20.00 dBm							
0.00	p you bar for the	with my more many	home have			с	lear Write
-10.0 -20.0 -30.0 -40.0	/		Ma Ma	แหละเกาะ	af mass front start strate		Average
-50.0							Max Hold
Center 6.445 GHz Res BW 910 kHz		VBW 8 MHz			100 MHz ep 1 ms		Min Hold
Occupied Bandwidth		Total Po	ower 17	7.9 dBm			
37 Transmit Freq Error	-3.252 kHz		W Power	99.00 %		Auto	Detector Peak► <u>Man</u>
x dB Bandwidth	40.89 MHz	x dB	-2	6.00 dB			
MSG			STA	TUS			

Plot 7-34. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 6) – Ch. 99)



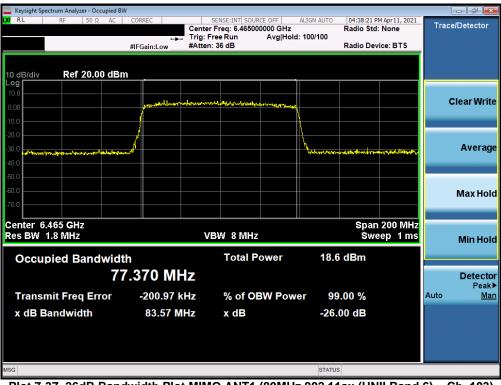
Plot 7-35. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 6) - Ch. 107)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 25 of 201
1M2104190044-15-R2.A3L	03/26 - 06/08/2021	Portable Handset	Page 35 of 261
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Keysight Spectrum Analyzer - Occupied							
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOUR		04:37:20 PI Radio Std:	4 Apr11, 2021	Trace	Detector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 36 dB		Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dE	3m						
10.0							
0.00	Mensolworsh	upperformental	mannen			С	lear Write
-10.0	/		<u> </u>				
-20.0							
-30.0	1						Average
-40.0	Without		Landshiller	we proved and	have person and a		/ Workgo
-50.0							
-60.0							Max Hold
-70.0						_	
Center 6.525 GHz				Span	100 MHz		
Res BW 910 kHz		VBW 8 MHz			ep 1ms		Min Hold
		T-4-1 D					
Occupied Bandwic		Total P	ower 17.	9 dBm			
3	7.799 M⊦	Z					Detector
	-37.599 k	W = f O	3W Power 99	9.00 %		Auto	Peak▶ Man
Transmit Freq Error						Auto	IVIAII
x dB Bandwidth	40.88 M	Hz xdB	-26	.00 dB			
MSG			STATU	s			

Plot 7-36. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 6) – Ch. 115)



Plot 7-37. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 6) - Ch. 103)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 26 of 264			
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Keysight Spectrum Analyzer - Occupied BV					
X RL RF 50Ω AC	Center F		Radi : 100/100	9:20 PM Apr 11, 2021 o Std: None	Trace/Detector
	#IFGain:Low #Atten:	36 dB	Radi	o Device: BTS	
10 dB/div Ref 20.00 dBn	n				
10.0 0.00	man and a stand a stand and a stand a stand a stand a stand a st	a martineterestictures a horse a product			Clear Write
-10.0					
-30.0 beets and seen as seen of seen and seen a			and all provident and the souther has	مېرولوان د مېرورو د مېرولواند د د د ولواند د د د	Average
-50.0					Max Hold
-70.0					Max Hold
Center 6.505 GHz Res BW 3 MHz	VB	W 50 MHz		span 400 MHz Sweep 1 ms	Min Hold
Occupied Bandwidt	h	Total Power	19.0 dBr	n	
	56.32 MHz				Detector Peak▶
Transmit Freq Error	-535.32 kHz	% of OBW Pow	er 99.00 ^o	%	Auto <u>Man</u>
x dB Bandwidth	166.2 MHz	x dB	-26.00 d	В	
MSG			STATUS		

Plot 7-38. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 6) - Ch. 111)

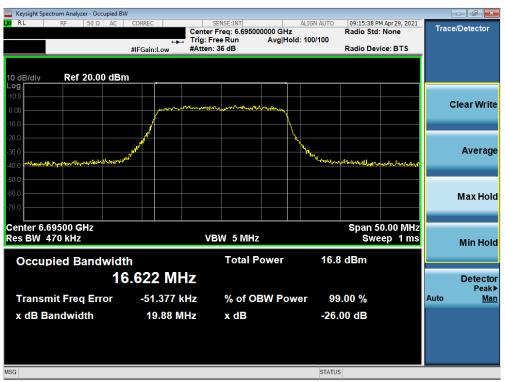
FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 37 of 264
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MIMO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 7)



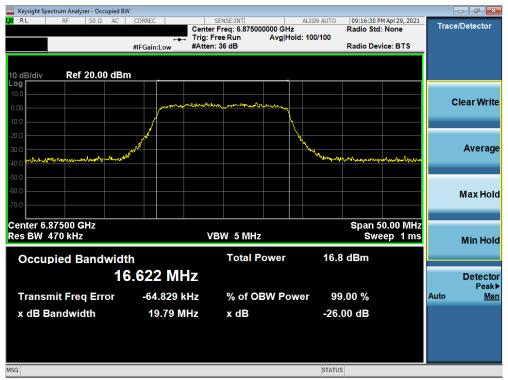
Plot 7-39. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 7) - Ch. 117)



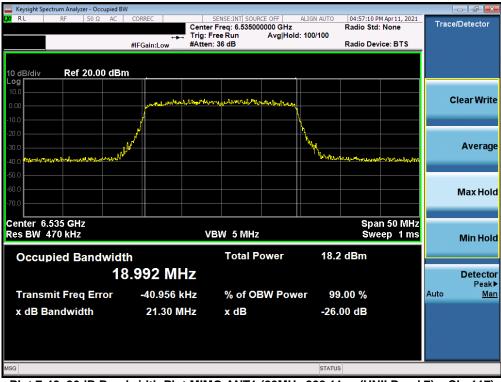
Plot 7-40. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 7) - Ch. 149)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Daga 28 of 261
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Plot 7-41. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 7) - Ch. 185)



Plot 7-42. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 7) - Ch. 117)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 20 of 201
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Plot 7-43. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 7) – Ch. 149)



Plot 7-44. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 7) - Ch. 185)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dage 40 of 201	
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Keysight Spectrum Analyzer - Occupied B ¹	W				
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 05:01:35 F Radio Std	M Apr 11, 2021	Trace/Detector
	i pi Tri	g:FreeRun Avg Hol	d: 100/100	None	
	#IFGain:Low #At	tten: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBr	n				
Log					
0.00	A COMPANY AND A STRATE	mandy bern Mapund more and			Clear Write
-10.0					
-20.0					_
-30.0 when we wanted and the second	کلیں		1 The work of the second second	and the last has	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 6.565 GHz Res BW 910 kHz		VBW 8 MHz		100 MHz	
Res BW 910 KHZ			SW	eep 1 ms	Min Hold
Occupied Bandwid	th	Total Power	18.2 dBm		
3	7.915 MHz				Detector Peak►
Transmit Freq Error	-28.947 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	40.90 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-45. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 7) – Ch. 123)



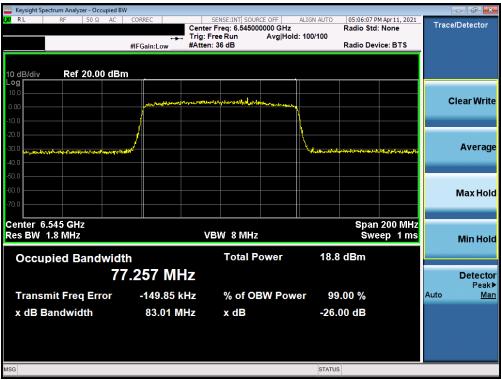
Plot 7-46. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 7) - Ch. 155)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dame 41 of 201	
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Keysight Spectrum Analyzer - Occupied E						d ×
(XIRL RF 50Ω DC	CORREC	SENSE:INT Freg: 6.845000000 GHz	ALIGN AUTO 07:00:10 Radio Sto	PM May 28, 2021	Trace/Det	ector
	Trig:	Free Run Avg Hold	d: 100/100			
	#IFGain:Low #Atte	n: 36 dB	Radio De	vice: BTS		
10 dB/div Ref 20.00 dB	m					
Log 10.0						
0.00	manhanderson	her wont monore trapped and			Clear	Write
-10.0						
-20.0			1			
			h		Δ.	erage
-30.0			Mannanana	and and and and the Dates	A	eraye
-40.0						
-50.0						
-60.0					Ma	x Hold
-70.0						
Center 6.84500 GHz			Snan	100.0 MHz		
Res BW 910 kHz	V	/BW 8 MHz		eep 1 ms	Mi	n Hold
					IVIII	ΠΟΙά
Occupied Bandwid	th	Total Power	17.5 dBm			
3	7.851 MHz				De	tector
						Peak▶
Transmit Freq Error	-78.774 kHz	% of OBW Pow	ver 99.00 %		Auto	Man
x dB Bandwidth	41.04 MHz	x dB	-26.00 dB			
MSG			STATUS			
mod			314103			

Plot 7-47. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 7) – Ch. 179)



Plot 7-48. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 7) - Ch. 119)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 261
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🗳 Keysight Spectrum Analyzer - Occupied BW							
LX RL RF 50Ω AC CO		SENSE:INT SOURCE OFF Freq: 6.705000000 GHz	ALIGN AUTO	05:08:25 PM Radio Std:	Apr 11, 2021	Trace	e/Detector
	+++ Trig: Fr	ree Run Avg Ho	old: 100/100				
#IF	Gain:Low #Atten:	36 dB		Radio Devi	ce: BTS		
10 dB/div Ref 20.00 dBm							
10.0							
0.00	- mar man and a start washing	mlestorante and mentality of the	~			C	Clear Write
-10.0							
-20.0			<u> </u>				
							Average
-30.0			"Unplastering of the	for the second	low-sylwaydate		
-50.0							
-50.0							
							Max Hold
-70.0							
Center 6.705 GHz				Span	200 MHz		
Res BW 1.8 MHz	VE	BW 8 MHz			ep 1 ms		Min Hold
		Total Power	18.7	dDm			
Occupied Bandwidth		Total Power	10.7	abm			
77.4	48 MHz						Detector
Transmit Freq Error	-50.912 kHz	% of OBW Po	wer 99.	00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth	83.15 MHz	x dB	-26.0	0 dB			
MSG			STATUS				

Plot 7-49. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 7) – Ch. 151)



Plot 7-50. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 7) - Ch. 183)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:	Dage 42 of 261	
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		🖕 Keysight Spectrum Analyzer - Occupied BW 💦 👘 💽					
<mark>LX/</mark> RL RF 50Ω A	AC CORREC	SENSE:INT SOUR		05:16:44 PM Apr 11, 202 Radio Std: None	Trace/Detector		
	- + -	Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 36 dB		Radio Device: BTS	_		
10 dB/div Ref 20.00 c	dBm						
10.0							
0.00	مار المراجع ال	handrongman	and man		Clear Write		
-10.0							
-20.0							
-30.0 مىلىرىرى بىلىلىرىرى بىلىدى بىلىدى بىلىدى -30.0			August 1997	he and the state of the state of the state	Average		
			New Yorkson		Average		
-40.0							
-50.0							
-60.0					Max Hold		
-70.0							
Center 6.665 GHz				Span 400 MH	z		
Res BW 3 MHz		VBW 50 MH	Z	Sweep 1 m			
Occupied Bandw	idth	Total Po	ower 18.6	dBm			
	156.29 MH	z			Detector		
				00.0/	Peak▶		
Transmit Freq Error	r -144.53 k	Hz % of OE	SW Power 99	.00 %	Auto <u>Man</u>		
x dB Bandwidth	165.9 M	Hz x dB	-26.	00 dB			
MSG			STATUS		_		

Plot 7-51. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 7) - Ch. 143)



Plot 7-52. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 7) - Ch. 175)

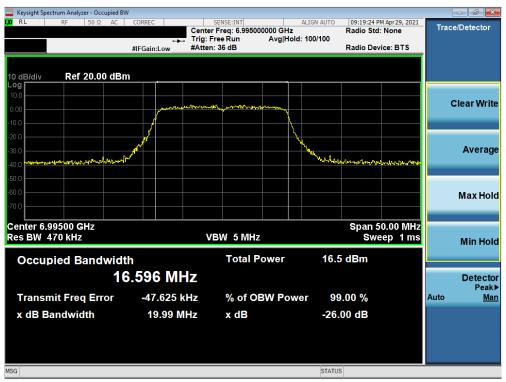
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 44 of 264
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MIMO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 8)



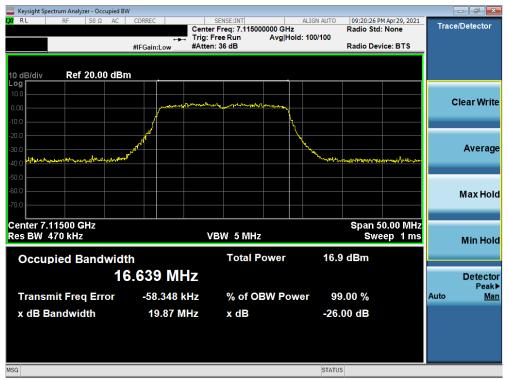
Plot 7-53. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 189)



Plot 7-54. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 209)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 45 of 264
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Plot 7-55. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 8) - Ch. 233)



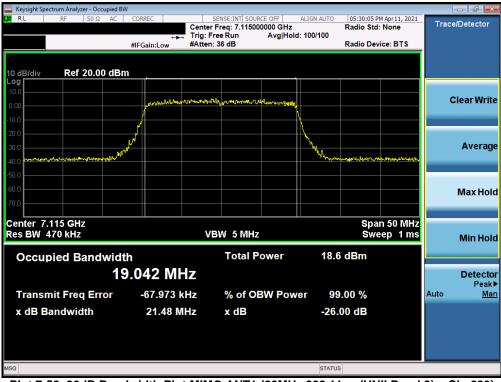
Plot 7-56. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 8) - Ch. 189)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 46 of 261	
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Plot 7-57. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 8) – Ch. 209)



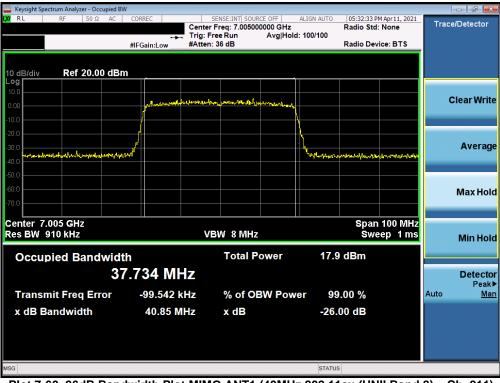
Plot 7-58. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (UNII Band 8) - Ch. 233)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 47 of 264
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Keysight Spectrum Analyzer - Occupied BW					- 6 -
LXX RL RF 50Ω AC	CORREC Cen	SENSE:INT SOURCE OFF		58 PM Apr 11, 2021 Std: None	Trace/Detector
	🛶 Trig		old: 100/100	Device: BTS	
	#IFGain:Low #Ou	ten. 36 dB	Radio	Device. Birs	
10 dB/div Ref 20.00 dBm					
Log					
10.0	In Baseline and the	ور و والدر و الدر و الدر الدور و الدور و الدور و			Clear Write
0.00			γ		
-10.0					
-20.0					Average
-30.0	P ⁴		how but how along the second	walawinnan	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 6.885 GHz			Sp	an 100 MHz	
Res BW 910 kHz		VBW 8 MHz	Ś	weep 1ms	Min Hold
Occupied Bandwidth		Total Power	18.1 dBm		
		Total Tower	TO: T dBill		
37.	.715 MHz				Detector Peak▶
Transmit Freq Error	-96.230 kHz	% of OBW Po	wer 99.00 %		Auto <u>Man</u>
x dB Bandwidth	40.98 MHz	x dB	-26.00 dB		
			Loloo al		
MSG			STATUS		

Plot 7-59. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 8) – Ch. 187)



Plot 7-60. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 8) - Ch. 211)

FCC ID: A3LSMF926B	PCTEST [•] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 49 of 264	
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Keysight Spectrum Analyzer - Occupied B ¹	N				- F	×
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOURCE OFF	ALIGN AUTO 05:35:26 P Radio Std	M Apr 11, 2021	Trace/Detecto	or
	Trig:	Free Run Avg Hold	d: 100/100			
	#IFGain:Low #Atte	n: 36 dB	Radio Dev	vice: BTS		
10 dB/div Ref 20.00 dBr	n					
Log 10.0						
0.00	under monthe and	and of march to mark the			Clear Wi	rite
-10.0						
-20.0						
-30.0			here the Material was now from	advanter of the source	Avera	age
-40.0						
-50.0						
-60.0					Max H	old
-70.0						_
Center 7.085 GHz			Enar	100 MHz		
Res BW 910 kHz	١	/BW 8 MHz		eep 1 ms		- 1 -1
					Min H	oia
Occupied Bandwid	th	Total Power	17.9 dBm			
3	7.680 MHz				Detec	tor
						ak▶
Transmit Freq Error	-90.141 kHz	% of OBW Pow	er 99.00 %		Auto <u>N</u>	Man
x dB Bandwidth	41.16 MHz	x dB	-26.00 dB			
			OTATIO			
MSG			STATUS			

Plot 7-61. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax (UNII Band 8) - Ch. 227)



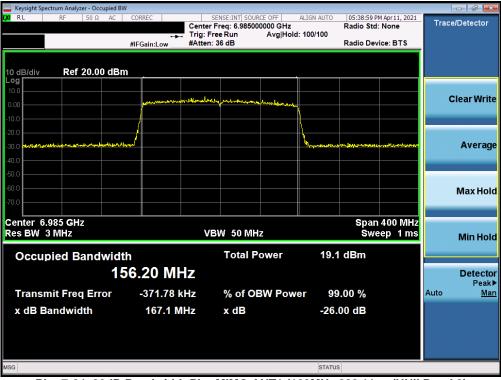
Plot 7-62. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 8) - Ch. 199)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied									
L <mark>X/</mark> R L RF 50 Ω AC	CORREC	SENSE Center Fred	E:INT SOUR		ALIGN AUTO	05:37:50 P	M Apr 11, 2021	Trac	e/Detector
	- +	Trig: Free F	Run	Avg Hold	I: 100/100				
	#IFGain:Low	#Atten: 36 d	dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dE	3m								
10.0									
0.00	montheast	monortenage	www.	handrung				(Clear Write
-10.0					\				
-20.0	<u> </u>								
22.0					Ч.				Average
-30.0 องรูโนกไฟลาสูกให้และเครื่องของและเปล่าสุดไห -40.0	Arrent N				Survey de strategie	ana na katan na da	helverellef ^{el} traustar		Average
-50.0									
-60.0									Max Hold
-70.0								_	
Center 7.025 GHz						Span	200 MHz		
Res BW 1.8 MHz		VBW	8 MHz				ep 1ms		Min Hold
					10.0				
Occupied Bandwig			Fotal P	ower	18.8	dBm			
7	7.351 MH	Z							Detector
Tronomit From Frees	444 04 6			W Pow	00	.00 %		Auto	Peak▶ Man
Transmit Freq Error	-111.84 k			SVV POW				Auto	IVIAII
x dB Bandwidth	83.84 M	Hz x	(dB		-26.0)0 dB			
MSG					STATUS				

Plot 7-63. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax (UNII Band 8) – Ch. 215)

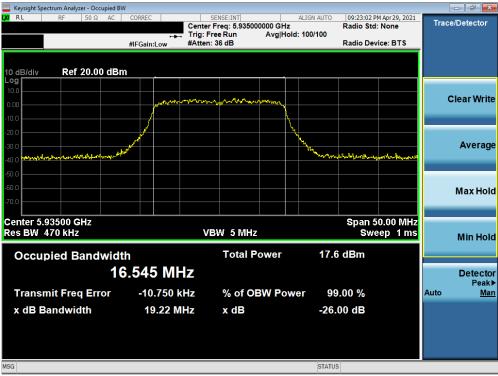


Plot 7-64. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax (UNII Band 8)

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 50 of 201	
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MIMO Antenna-2 26 dB Bandwidth Measurements - (UNII Band 5)



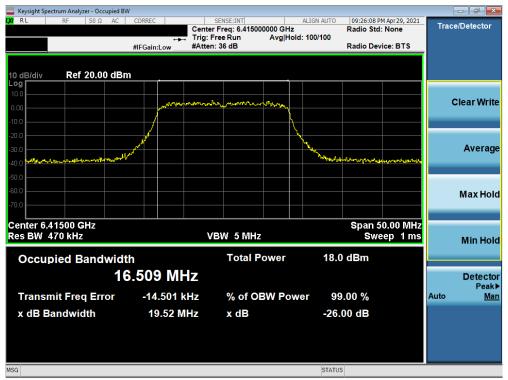
Plot 7-65. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) - Ch. 2)



Plot 7-66. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) - Ch. 45)

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 51 of 201
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Plot 7-67. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) - Ch. 93



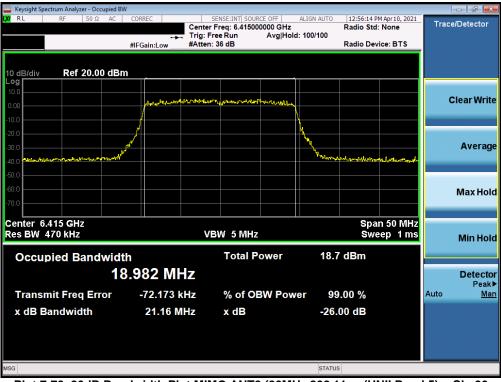
Plot 7-68. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 5) - Ch. 2)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 52 of 261	
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Plot 7-69. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 5) – Ch. 45)



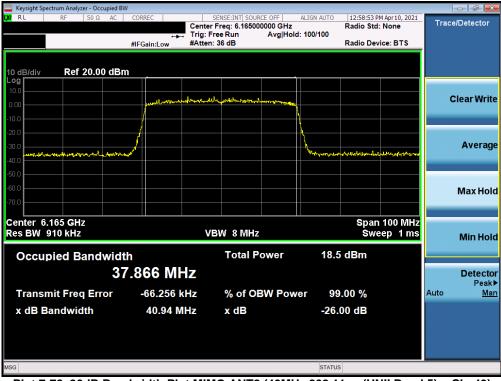
Plot 7-70. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 5) - Ch. 93

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 52 of 264
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www.www.com analyzer - Occupied BW	1				
LX1 RL RF 50Ω AC	Center Trig: Fi		Radio Sto d: 100/100		Trace/Detector
	#IFGain:Low #Atten:	: 36 dB	Radio De	vice: BTS	
10 dB/div Ref 20.00 dBn	1 <u>.</u>				
10.0 0.00	mangalitoration	marghelmleaderstranger			Clear Write
-10.0					
-30.0	1		The A Malla and Party and south	anortadoritor	Average
-40.0					
-60.0					Max Hold
Center 5.965 GHz Res BW 910 kHz		BW 8 MHz		n 100 MHz eep 1 ms	Min Hold
Occupied Bandwidt	h	Total Power	18.8 dBm		Mill Hold
	.769 MHz				Detector Peak▶
Transmit Freq Error	-48.505 kHz	% of OBW Pow	/er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	41.22 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-71. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 5) – Ch. 3)



Plot 7-72. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 5) - Ch. 43)

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Daga 54 of 264
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Keysight Spectrum Analyzer - Occupied BW				
LX/ RL RF 50 Ω AC CORREC	SENSE:INT SOURCE OFF		Apr 10, 2021	Trace/Detector
	🛶 Trig: Free Run 🛛 Avg	Hold: 100/100 Radio Devi		
#IFGain:L	ow #Atten: 36 dB	Radio Devi	Ce: BIS	
10 dB/div Ref 20.00 dBm				
10.0				
0.00	work was and the way was a second and the second	*n.		Clear Write
-10.0				
-20.0				
-30.0		\		Average
-40.0		Munutuma	unionmentica	
-50.0				
-60.0				Max Hold
-70.0				
Center 6.405 GHz			100 MHz	
Res BW 910 kHz	VBW 8 MHz	Swe	ep 1 ms	Min Hold
Occupied Bandwidth	Total Power	17.6 dBm		
	N411-			
37.860	MHZ			Detector Peak►
Transmit Freq Error -127	.24 kHz % of OBW P	ower 99.00 %		Auto <u>Man</u>
x dB Bandwidth 40.	98 MHz x dB	-26.00 dB		
		-20.00 00		
MSG		STATUS		

Plot 7-73. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 5) – Ch. 91)



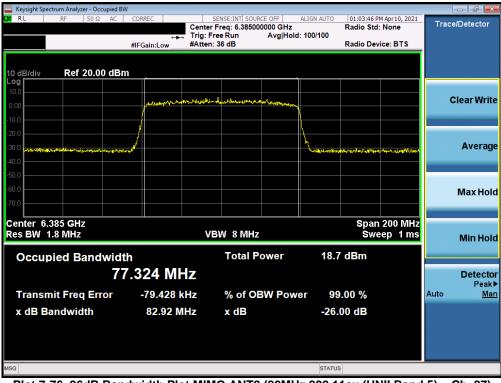
Plot 7-74. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 5) – Ch. 7)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage FE of 201
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Keysight Spectrum Analyzer - Occupied	BW						- 5
L <mark>XI</mark> RL RF 50Ω AC		SENSE:INT SOUR		01:02:24 PM Radio Std:	4 Apr 10, 2021	Trace	e/Detector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 36 dB		Radio Devi	ice: BTS		
10 dB/div Ref 20.00 dE	Bm						
Log 10.0							
	at a substantial state	and the second second second	Linderstood .			c	Clear Write
0.00							
-10.0			l.				
-20.0							
-30.0 all you with maintaine with a provint a low boy	Altre - Unit		- Martinero	water the solar to be	and toward		Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0							Muxmora
Center 6.145 GHz				Span	200 MHz		
Res BW 1.8 MHz		VBW 8 MHz		Swe	ep 1 ms		Min Hold
Occupied Bandwid	dth	Total P	ower 18	.2 dBm			
	77.327 MH	Z					Detector Peak▶
Transmit Freq Error	-185.16 kH	z % of OE	W Power	99.00 %		Auto	Peak ► <u>Man</u>
x dB Bandwidth	83.82 MH	z xdB	_2	6.00 dB			
	05.02 1111			0.00 00			
MSG			STA	TUS			

Plot 7-75. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 5) – Ch. 39)



Plot 7-76. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 5) - Ch. 87)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Daga EC of 201
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LX/RL RF 50Ω AC C	ORREC		ISE:INT SOUR		ALIGN AUTO	01:05:05 P	M Apr 10, 2021	Trac	e/Detector
		Trig: Free	Run	Avg Hold	: 100/100				
#	IFGain:Low	#Atten: 36	6 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm									
Log 10.0									
0.00	anterest and and	NANDALANA	manuter	-					Clear Write
-10.0									
-20.0	1				}				
					\				Average
-30.0 entry to determine the second of the 					All Andrew Control of the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-lough and the state of the second		Average
-40.0									
-50.0									
-60.0									Max Hold
-70.0									
Center 6.025 GHz						Snan	400 MHz		
Res BW 3 MHz		VBV	V 50 MH:	z		Swe	ep 1 ms		Min Hold
									win Hold
Occupied Bandwidth			Total P	ower	19.0) dBm			
156	.31 MH	7							Detector
									Peak▶
Transmit Freq Error	-57.083 kl	z	% of OE	SW Powe	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	166.7 MH	IZ	x dB		-26.	00 dB			
MSG					STATUS	2			

Plot 7-77. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 5) – Ch. 15)



Plot 7-78. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 5) - Ch. 47)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 57 of 261
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Keysight Spectrum Analyzer - Occupied BW						
IX RL RF 50 Ω AC CO		ENSE:INT SOURCE OFF		04:20:51 PM Apr11, 202 adio Std: None	Trac	e/Detector
	🛶 Trig: Fr	ee Run Avg Hold	d: 100/100			
#1	FGain:Low #Atten:	36 dB	Ri	adio Device: BTS	_	
10 dB/div Ref 20.00 dBm						
Log 10.0						
	In section of the sec	a show more thanks in				Clear Write
0.00						
-10.0						
-20.0						_
-30.0			Hayland Hote	والمعتبة والمحاجة والمترسا وراحية	•	Average
-40.0						
-50.0						
-60.0						Max Hold
-70.0						
				0		
Center 6.345 GHz Res BW 3 MHz	VE	SW 50 MHz		Span 400 MH Sweep 1 m		
Kes Day 5 miliz	VL	JWY 50 141112		aweep 1m	2	Min Hold
Occupied Bandwidth		Total Power	19.2 d	Bm		
	.96 MHz					Detector
155						Detector Peak▶
Transmit Freq Error	-191.04 kHz	% of OBW Pow	ver 99.00	0 %	Auto	Man
x dB Bandwidth	167.2 MHz	x dB	-26.00	dB		
X db Bandwiddi	107.2 10112	A dB	-20.00	чв		
MSG			STATUS			

Plot 7-79. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 5) - Ch. 79)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:	Daga E9 of 261
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MIMO Antenna-2 26 dB Bandwidth Measurements - (UNII Band 6)



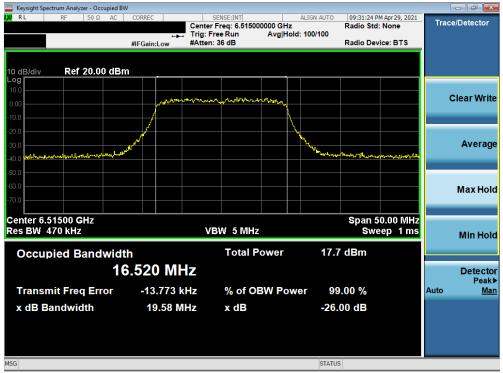




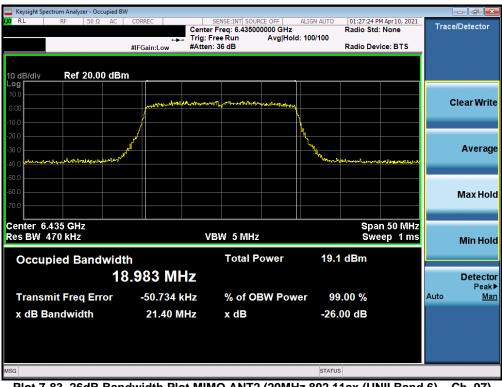
Plot 7-81. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 6) - Ch. 105)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:		Daga E0 of 201
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Plot 7-82. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 6) - Ch. 113)



Plot 7-83. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 6) – Ch. 97)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 60 of 261
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Plot 7-84. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 6) – Ch. 105)



Plot 7-85. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 6) - Ch. 113)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 61 of 261
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Keysight Spectrum Analyzer - Occupied B	BW					C	
L <mark>X/</mark> RL RF 50Ω AC	CORREC	SENSE:INT SOURC		01:37:35 PM A			etector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low #	Atten: 36 dB		Radio Device	BTS		
10 dB/div Ref 20.00 dB	m						
Log 10.0							
0.00	and the state of t	wardered wardered	allestere			Cle	ear Write
-10.0							
-20.0							_
-30.0 northelangermented			The life was and	a and the second and the second	waterpland		Average
-40.0							
-50.0							_
-60.0						Ν	lax Hold
-70.0							iux i i o i c
Center 6.445 GHz					00 MHz		
Res BW 910 kHz		VBW 8 MHz		Swee	p 1 ms	I	Min Hold
Occupied Bandwid	Ith	Total Po	ower 18.	3 dBm			
3	7.741 MHz						Detector Peak▶
Transmit Freq Error	-66.049 kHz	z % of OB	W Power 9	9.00 %		Auto	Man
x dB Bandwidth	41.15 MHz	z xdB	-26	.00 dB			
X ub balluwidui	41.15 10112		-20	.00 08			
MSG			STATU	JS			

Plot 7-86. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 6) – Ch. 99)



Plot 7-87. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 6) - Ch. 107)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied	d BW				
L <mark>X/</mark> R L RF 50 Ω AC	C CORREC	SENSE:INT SOUR		01:40:14 PM Apr 10, 2021 Radio Std: None	Trace/Detector
	- + -	Trig: Free Run	Avg Hold: 100/100		
	#IFGain:Low	#Atten: 36 dB		Radio Device: BTS	-
10 dB/div Ref 20.00 dl	Bm				
Log					
0.00	Malanterson	Miterry and and	houghton		Clear Write
-10.0	/				
-20.0	{				
-30.0			<u>\</u>		Average
man have all show the market and the have	longer		www.	hallen marke an and the second	v
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 6.525 GHz				Span 100 MH	z
Res BW 910 kHz		VBW 8 MHz		Sweep 1 ms	
		T -4-1 D			
Occupied Bandwi		Total P	ower 18.	2 dBm	
	37.808 MF	Z			Detector
Transmit Freq Error	-42.207 k	Hz % of OF	3W Power 99	9.00 %	Peak▶ Auto Man
					<u></u>
x dB Bandwidth	40.74 M	Hz x dB	-26.	00 dB	
MSG			STATU	S	

Plot 7-88. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 6) – Ch. 115)



Plot 7-89. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 6) - Ch. 103)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 62 of 261
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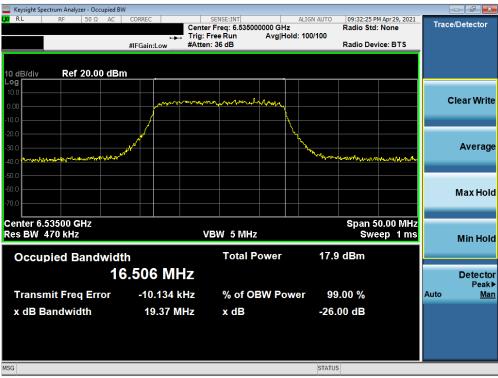
🤤 Keysight Spectrum Analyzer - Occupied BW							- 🗗 🗙
L RF 50Ω AC		SENSE:INT SOURCE OFF ter Freq: 6.505000000 G ; Free Run Avg	ALIGN AUTO Hz Hold: 100/100	01:43:04 PI Radio Std:	M Apr 10, 2021 None	Trace	Detector
		ten: 36 dB		Radio Dev	ice: BTS		
10 dB/div Ref 30.00 dBm	<u> </u>						
20.0							
10.0						C	lear Write
0.00	appendent and	more milestrations of a strength	www.ee				
-10.0							
-20.0			N				Average
-30.0 while help on providence of the last	~~ ~		hidgendan	al-Antonyana and and a star and a	a Materia and and the		
-40.0							
-50.0							Max Hold
-60.0							Max Holu
				_			
Center 6.505 GHz Res BW 3 MHz		VBW 50 MHz			400 MHz ep 1 ms		
				Swe	ep mis		Min Hold
Occupied Bandwidt	h	Total Power	18.9	dBm			
	6.43 MHz						Detector
							Peak▶
Transmit Freq Error	-203.17 kHz	% of OBW P	ower 99	9.00 %		Auto	Man
x dB Bandwidth	165.6 MHz	x dB	-26.	00 dB			
MSG			STATU	S			

Plot 7-90. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 6) - Ch. 111)

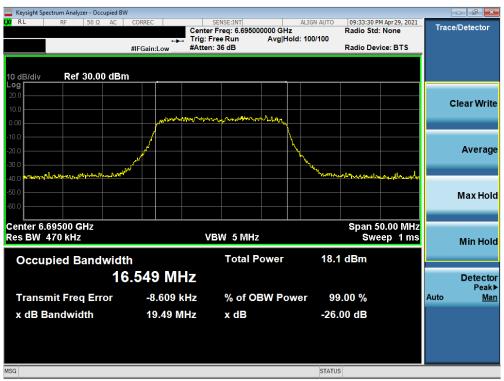
FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dome 64 of 261
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MIMO Antenna-2 26 dB Bandwidth Measurements - (UNII Band 7)



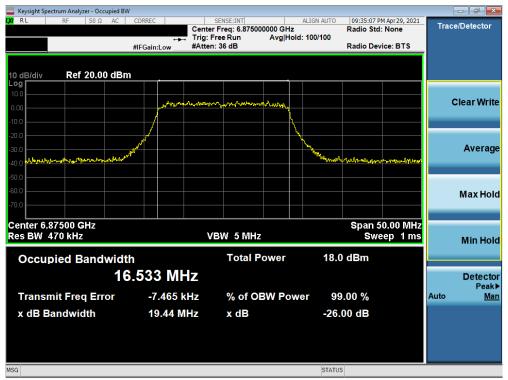
Plot 7-91. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 7) - Ch. 117)



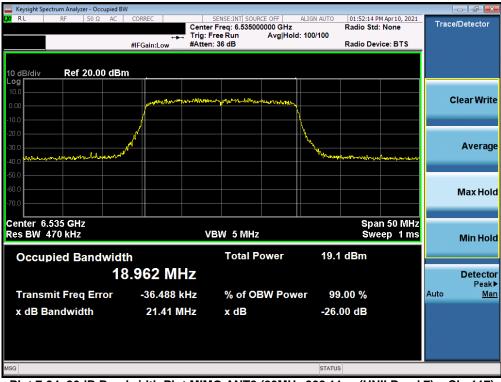
Plot 7-92. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 7) - Ch. 149)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage CE of 201
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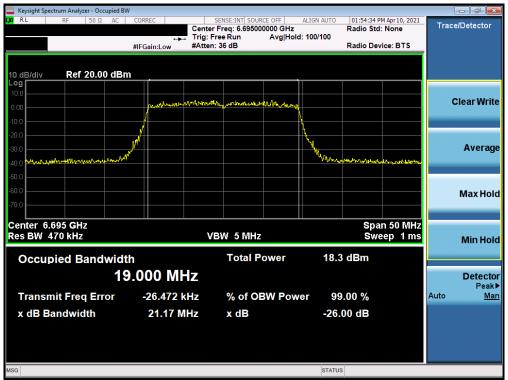
Plot 7-93. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 7) - Ch. 185)



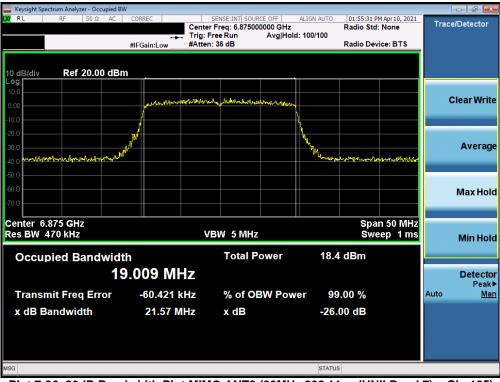
Plot 7-94. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 7) - Ch. 117)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-95. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 7) – Ch. 149)



Plot 7-96. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 7) - Ch. 185)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied	BW								
μα RL RF 50 Ω AC	CORREC	Center Fr	SE:INT SOUR eq: 6.56500	0000 GHz	ALIGN AUTO	01:56:56 P	M Apr 10, 2021 None	Trac	e/Detector
	#IFGain:Low	#Atten: 36		Avginen	1. 100/100	Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dE	3m								
10.0									
0.00	mannon	ward the by	rident_Asperland	efendesmeller					Clear Write
-10.0	/								
-20.0									
-30.0					<u>k</u>				Average
-40.0	Lower L				wy were	ang the way and the	Montennest		
-50.0									
-60.0									Max Hold
-70.0									
Center 6.565 GHz						Snan	100 MHz		
Res BW 910 kHz		VBV	V 8 MHz				ep 1 ms		Min Hold
Occupied Bandwid			Total P	ower	18.6	dBm			
Occupied Bandwic				Ower	10.0	ubiii			
3	87.840 MH	Z							Detector Peak►
Transmit Freq Error	-62.679 k	Hz	% of OE	W Pow	er 99	.00 %		Auto	Man
x dB Bandwidth	41.06 M	Hz	x dB		-26.0	00 dB			
MSG					STATUS				

Plot 7-97. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 7) – Ch. 123)



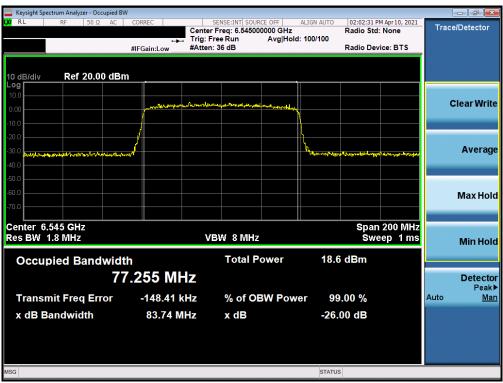
Plot 7-98. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 7) - Ch. 155)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Keysight Spectrum Analyzer - Occupie	ed BW				- ē 💌
<mark>LX/</mark> RL RF 50ΩD		SENSE:INT Center Freg: 6.84500	ALIGN AUTO	07:04:44 PM May 28 Radio Std: None	
		Trig: Free Run	Avg Hold: 100/100		
	#IFGain:Low	#Atten: 36 dB		Radio Device: B1	rs
10 dB/div Ref 20.00 d	IBm _				
Log 10.0					
0.00	. Harder	alman un homen de	nume.		Clear Write
	/				
-10.0					
-20.0					
-30.0	/		<u>├ </u>		Average
-40.0 Manufarour de provincio de la contractiona de la contraction de la contractio	www		Municip	martine water	ain the type
-50.0					
-60.0					Max Hold
-70.0					wiax holu
Center 6.84500 GHz				Span 100.0	
Res BW 910 kHz		VBW 8 MHz		Sweep 1	ms Min Hold
Occurried Dendud	déb	Total P	owor 19	7 dBm	
Occupied Bandwi			ower ro.	/ UBIII	
	37.824 MHz	Ζ			Detector
	40 706 1.11	- 0/ -5 0			Peak► Auto Man
Transmit Freq Error	-42.736 kH	z % of U	3W Power 99	9.00 %	Auto <u>Ivian</u>
x dB Bandwidth	40.84 MH	z xdB	-26	.00 dB	
MSG			STATU	is labeled and the second s	
mod			STATO		

Plot 7-99. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax (UNII Band 7) – Ch. 179)



Plot 7-100. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 7) - Ch. 119)

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🔤 Keysight Spectrum Analyzer - Occupi										
L <mark>X/</mark> RL RF 50Ω/	AC CORRE	C		ISE:INT SOUR eq: 6.70500		ALIGN AUTO	02:03:45 PI Radio Std:	4 Apr 10, 2021	Trac	e/Detector
		+ - -	Trig: Free	Run	Avg Hold	l: 100/100				
	#IFGai	in:Low	#Atten: 36	6 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 d	dBm									
10.0										
0.00	v	hiderpursion	an an air an	Arteshanter to a	mahanhan					Clear Write
-10.0	/					l				
-20.0						<u>\</u>				
-30.0						<u> </u>				Average
-40.0	dentar at					~ ll'a marger	where/provedures.	4419009964406-09-		J
-50.0										
-60.0										
-70.0										Max Hold
-70.0										
Center 6.705 GHz								200 MHz		
Res BW 1.8 MHz			VBV	V 8 MHz			Swe	ep 1 ms		Min Hold
Occupied Bandw	idth			Total P	ower	18.8	dBm			
				lotuiri		10.0	abiii			
	77.26	50 MF	IZ							Detector Peak▶
Transmit Freq Error	r -1	16.36 k	Hz	% of OE	SW Pow	er 99	.00 %		Auto	Man
x dB Bandwidth		33.35 M		x dB			00 dB			
	G	55.55 W	ΠZ	X UD		-20.0	JU UB			
MSG						STATUS				

Plot 7-101. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 7) - Ch. 151)



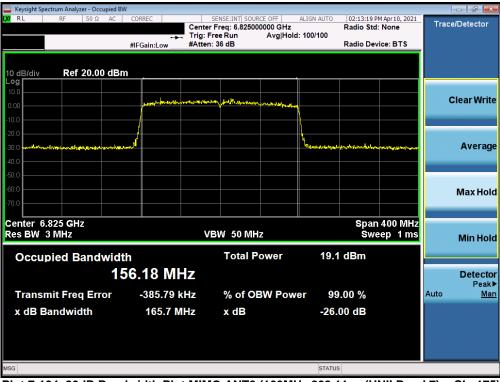
Plot 7-102. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax (UNII Band 7) - Ch. 183)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 70 of 261	
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Keysight Spectrum Analyzer - Occu									
LXU RL RF 50 Ω	AC CORREC		NSE:INT SOUR		ALIGN AUTO	02:12:11 PM Radio Std:	M Apr 10, 2021	Trac	ce/Detector
		Trig: Free	Run	Avg Hold	: 100/100	Radio Devi			
	#IFGain:Lo	W #Atten. 5				Radio Dev	ICE: DIS		
10 dB/div Ref 20.00	dBm								
10.0									
0.00	water and the second second	and the second states and	mhermon	polos lesson and for					Clear Write
-10.0									
-20.0					<u>\</u>				
-30.0	the second second				Lunder	a and an and a set	have a produced		Average
-40.0									Areg.
-50.0									
-60.0									Max Hold
-70.0								_	
Center 6.665 GHz						Span	400 MHz		
Res BW 3 MHz		VBV	V 50 MH:	z			ep 1 ms		Min Hold
			T -4-1 D		40.5	10			
Occupied Bandy			Total P	ower	18.5	dBm			
	156.55	MHz							Detector
Turner it Frank Frank			M - 6 OF		00	00.0/		Auto	Peak▶ Man
Transmit Freq Erro	or -232.	04 kHz	% of OE	SW POW	er 99	.00 %		Auto	ivian
x dB Bandwidth	165	.9 MHz	x dB		-26.0	00 dB			
MSG					STATUS				

Plot 7-103. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 7) - Ch. 143)



Plot 7-104. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax (UNII Band 7) - Ch. 175)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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MIMO Antenna-2 26 dB Bandwidth Measurements - (UNII Band 8)

Keysight Spectrum Analyzer - Occupied BW RL SENSE:INT ALIGN AUTO 09:36:49 PM Apr 29, 2021 Trace/Detector Center Freq: 6.895000000 GHz Trig: Free Run Avg|Hol #Atten: 36 dB Radio Std: None Avg|Hold: 100/100 #IFGain:Low Radio Device: BTS Ref 20.00 dBm 0 dB/div .og **Clear Write** Average Max Hold Center 6.89500 GHz Res BW 470 kHz Span 50.00 MHz Sweep 1 ms VBW 5 MHz **Min Hold** 17.7 dBm Occupied Bandwidth **Total Power** 16.536 MHz Detector Peak▶ -10.003 kHz **Transmit Freq Error** % of OBW Power Auto 99.00 % Man x dB Bandwidth 19.29 MHz -26.00 dB x dB MSG

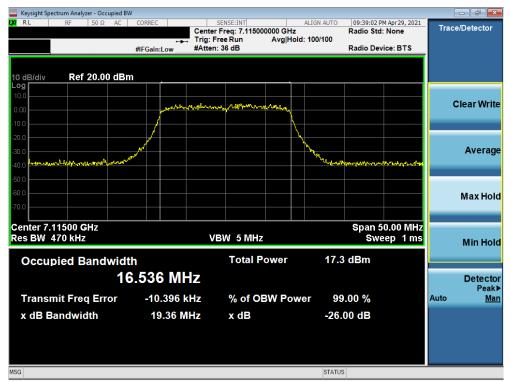
Plot 7-105. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 8) - Ch. 189)



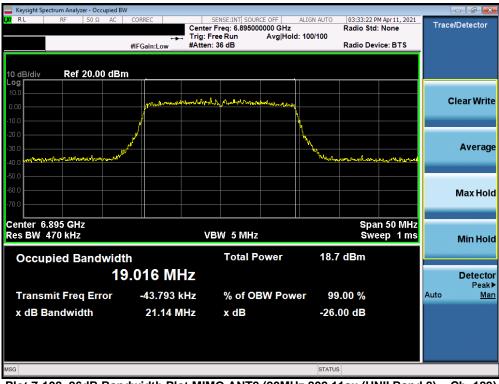
Plot 7-106. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 8) - Ch. 209)

FCC ID: A3LSMF926B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-107. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 8) - Ch. 233)



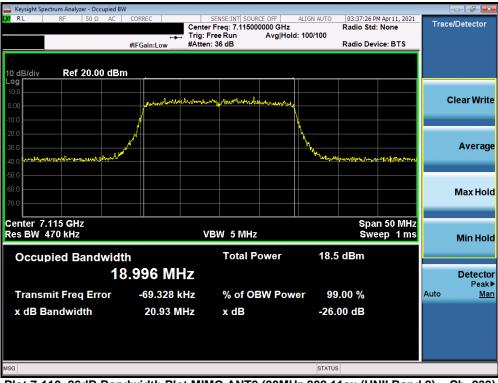
Plot 7-108. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 8) - Ch. 189)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-109. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 8) - Ch. 209)



Plot 7-110. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (UNII Band 8) - Ch. 233)

FCC ID: A3LSMF926B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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