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MEASUREMENT REPORT FCC Part 15.407 802.11ax WIFI 6E

Applicant Name:

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

Date of Testing: 9/9 – 11/18/2021 Report Release Date: 11/18/2021 Test Site/Location: PCTEST Lab. Columbia, MD, USA Test Report Serial No.: 1M2109090102-14.A3L

FCC ID:

A3LSMS908U

Certification

APPLICANT:

Samsung Electronics Co., Ltd.

Application Type: Model: Additional Model(s): EUT Type: Frequency Range: Modulation Type: FCC Classification: Test Procedure(s):

SM-S908U SM-S908U1 Portable Handset 5935 – 7115MHz OFDMA 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 V01R01

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.

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.

Randy Ortanez President



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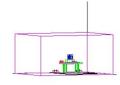


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Channel			ΜΙΜΟ		
Channel Bandwidth [MHz]	UNII Band	Tx Frequency [MHz]	Max. Power [mW]	Max. Power [dBm]	
	5	5935 - 6415	19.377	12.87	
20	6	6435 - 6515	31.470	14.98	
20	7	6535 - 6875	30.190	14.80	
	8	6895 - 7115	31.328	14.96	
	5	5965 - 6405	36.736	15.65	
40	6	6445 - 6525	38.712	15.88	
40	7	6565 - 6845	39.716	15.99	
	8	6885 - 7085	36.405	15.61	
	5	5985 - 6385	39.621	15.98	
80	6	6465	38.078	15.81	
80	7	6545 - 6865	39.056	15.92	
	8	6945 - 7025	38.391	15.84	
	5	6025 - 6345	39.727	15.99	
160	6	6505	39.742	15.99	
100	7	6665 - 6825	39.489	15.96	
	8	6985	38.791	15.89	
	2				

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: A3LSMS908U. 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.: 0501M, 0579M, 3922M, 0299M, 0545M

2.2 **Device Capabilities**

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, 5G NR (FR1 and FR2), 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 0	4 000 44	- / 000 44 /00141		anay / Channel On		

Table 2-1. 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	5965	99	6445	123	6565	187	6885
:	:		:	:	:	:	:
43	6165	107	6485	155	6725	211	7005
:	:		:	:	:	:	:
91	6405	115	6525	179	6845	227	7085
•	Tah	le 2-2 802	11ax (40MHz B)	N) Frequency	v / Channel Oner	ations	

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

Band	5
Frequency	(MHz)

Band 6

Band 8

7	5985	10
	:	
39	6145	
:	:	
87	6385	

Ch.

Ch.	Frequency (MHz)
103	6465

	Band 7
Ch.	Frequency (MHz
119	6545
	•••
151	6705
	•••
183	6865

Frequency (MHz)
6945
:
7025

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

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

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:

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

802.11 Mode	Bandwidth [MHz]	Tone	Duty Cycle
		26T	99.0
	20	52T	98.2
	20	106T	96.1
		242T	96.8
		26T	99.0
		52T	98.0
	40	106T	98.2
		242T	96.7
		484T	94.3
		26T	98.9
	80	52T	97.9
		106T	95.4
		242T	96.6
6GHz		484T	93.5
		996T	90.8
		26T	98.9
		52T	97.9
	160	106T	97.9
	1st	242T	96.7
		484T	94.2
		996T	90.6
		26T	99.6
		52T	97.9
	160	106T	95.9
	2nd	242T	96.6
		484T	94.1
		996T	90.4

Table 2-5. Measured Duty Cycles

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

WiFi Configurations		DD	SE	DM
		ANT2	ANT1	ANT2
11ax (20MHz)	✓	✓	✓	✓
11ax (40MHz)	✓	✓	✓	✓
11ax (80MHz)	✓	✓	✓	✓
11ax (160MHz)	✓	✓	✓	✓
	11ax (20MHz) 11ax (40MHz) 11ax (80MHz)	Configurations ANT1 11ax (20MHz) ✓ 11ax (40MHz) ✓ 11ax (80MHz) ✓	ANT1 ANT2 11ax (20MHz) ✓ ✓ 11ax (40MHz) ✓ ✓ 11ax (80MHz) ✓ ✓	ANT1 ANT2 ANT1 11ax (20MHz) ✓ ✓ ✓ 11ax (40MHz) ✓ ✓ ✓ 11ax (80MHz) ✓ ✓ ✓

Table 2-6. Frequency / Channel Operations

✓ = 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 gain was used for the testing.

Antenna-1 Gain [dBi]	Antenna-2 Gain [dBi]	Directional Gain [dBi]
-6.31	-5.56	-2.92
-11.39	-6.32	-5.48
-7.00	-7.37	-4.17
-7.00	-10.56	-5.59
	[dBi] -6.31 -11.39 -7.00	[dBi] [dBi] -6.31 -5.56 -11.39 -6.32 -7.00 -7.37

Table 2-7. Antenna Peak Gain

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 0, 7.3, 7.4, 7.5 and 7.6 for antenna port conducted emissions test setups.

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) Model: 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 quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

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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)	9/7/2021	Annual	9/7/2022	WL25-1
-	WL25-2	Conducted Cable Set (25GHz)	9/7/2021	Annual	9/7/2022	WL25-2
-	WL25-3	Conducted Cable Set (25GHz)	9/7/2021	Annual	9/7/2022	WL25-3
-	WL40-1	Conducted Cable Set (40GHz)	9/10/2021	Annual	9/10/2022	WL40-1
Agilent	N9038A	MXE EMI Receiver	8/11/2020	Annual	12/1/2021	MY51210133
Agilent	N9030A	PXA Signal Analyzer (44GHz)	7/21/2021	Annual	7/21/2022	MY49430494
Anritsu	ML2495A	Power Meter	1/18/2021	Annual	1/18/2022	941001
Anritsu	MA2411B	Pulse Power Sensor	3/8/2021	Annual	3/8/2022	1339007
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
Emco	3116C	Horn Antenna (18 - 40GHz)	5/112021	Biennial	5/11/2023	218893
ETS-Lindgren	3816/2NM	Line Impedance Stabilization Network	7/9/2020	Biennial	7/9/2022	114451
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	8/17/2020	Annual	12/17/2021	MY52350166
Pasternack	NMLC-2	Line Conducted Emissions Cable (NM)	9/10/2021	Annual	9/10/2022	NMLC-2
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	7/21/2021	Annual	7/12/2022	MY49430494
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	8/3/2021	Annual	8/3/2022	100342
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44GHz	1/21/2021	Annual	1/21/2022	101716
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	8/25/2021	Annual	8/25/2022	103200
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	9/3/2021	Annual	9/3/2022	102138
Solar Electronics	8012-50-R-24-BNC	Line Impedance Stabilization Network	9/21/2021	Biennial	9/21/2023	310233
Schwarzbeck	VULB9162	Bilog Antenna	4/17/2020	Biennial	4/17/2022	00301

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.

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7.0 TEST RESULTS

7.1 Summary

Company Name:	Samsung Electronics Co., Ltd.
FCC ID:	A3LSMS908U
FCC Classification:	15E 6 GHz Low Power Indoor Client (6XD)

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
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

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 – 802.11ax

<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 V01R01

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.

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MIMO Antenna-1 26dB Bandwidth Measurements (26 Tones)

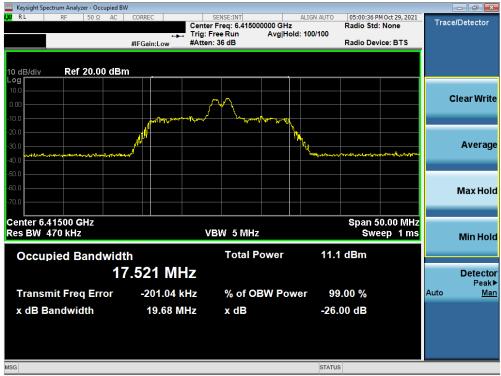
Plot 7-1. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 2)



Plot 7-2. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 45)

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Plot 7-3. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) UNII Band 5) - Ch. 93)



Plot 7-4. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 3)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Keysight Spectrum Analyzer - Occupied BW	r .				
LX RL RF 50Ω AC	CORREC	SENSE:INT		7:21 PM Oct 29, 2021	Trace/Detector
		er Freq: 6.165000000 G Free Run Avg	Hz Radio Hold: 100/100	o Std: None	Trace/Delector
		n: 36 dB		Device: BTS	
	#IFGaIII:LOW #/ttte		Ruun	Bevice: B10	
10 dB/div Ref 20.00 dBm	h				
Log					
10.0		10-			01
0.00					Clear Write
-10.0	manushan	/ / / / /			
		Y.,			
-20.0		When we			
-30.0		- market	4m/h.y.		Average
-40.0			"Yuman the harvester bearing	www.minersub-www.mineshi	
-50.0					
-60.0					Max Hold
-70.0					maxiloid
10.0					
Center 6.16500 GHz			Sp	an 100.0 MHz	
Res BW 910 kHz	1	VBW 8 MHz	-6	Sweep 1 ms	
				on op i no	Min Hold
Occupied Bandwidt	h	Total Power	10.5 dBn	n	
			10.0 001		
24	.446 MHz				Detector
					Peak▶
Transmit Freq Error	-5.9962 MHz	% of OBW P	ower 99.00 %	6	Auto <u>Man</u>
	04 74 MUL		20.00		
x dB Bandwidth	24.71 MHz	x dB	-26.00 dl	3	
MSG			STATUS		

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



Plot 7-6. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 91)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied B	w.				
LXI R L RF 50 Ω AC				M Oct 29, 2021	Trace/Detector
		Freq: 5.985000000 GHz ree Run Avg Hold: 1	Radio Std:	None	TracerDetector
	#IFGain:Low #Atten:		Radio Dev	ice: BTS	
	#IFGdIII:LOW #/ttell.		Rudio Dev	ICC. DTG	
10 dB/div Ref 20.00 dB	m				
Log					
10.0					01.0
0.00					Clear Write
-10.0	Jon the second second	montherne			
		N			
-20.0	. MARAN	MUMPLICAN			
-30.0 allow of the way when when the more	man	Internal	والبارسود وفاعلوه باستحارها ومعاولون المسرهو	to a contract of the second	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					maxinora
Center 5.9850 GHz			Span 2	00.0 MHz	
Res BW 1.8 MHz	V	BW 8 MHz		ep 1 ms	Min Hold
					ΜΙΠΗΟΙά
Occupied Bandwid	th	Total Power	11.5 dBm		
4	2.979 MHz				Detector
					Peak►
Transmit Freq Error	-1.2136 MHz	% of OBW Power	r 99.00 %		Auto <u>Man</u>
x dB Bandwidth	45.55 MHz	x dB	-26.00 dB		
	45.55 MITZ	A UD	-20.00 ub		
MSG			STATUS		

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



Plot 7-8. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 39)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-9. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 87)



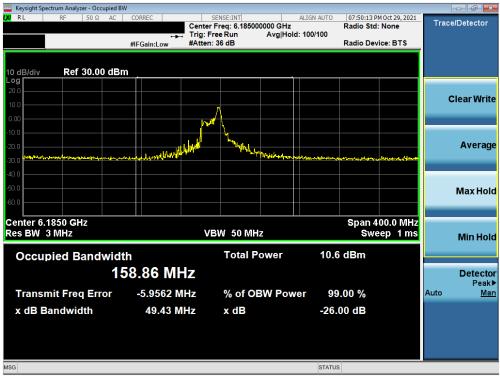
Plot 7-10. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 15)

FCC ID: A3LSMS908U	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 10 of 205			
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Keysight Spectrum Analyzer - Occupied BW					
LXI RE 50Ω AC	CORREC	SENSE:INT		2 PM Oct 29, 2021	Trace/Detector
		er Freq: 6.025000000 GHz Free Run Avg Hol	d: 100/100	td: None	11400120100101
		en: 36 dB		evice: BTS	
10 dB/div Ref 20.00 dBm					
Log 10.0					
		Λ			Clear Write
0.00		10-10			Cical Millo
-10.0					
-20.0		w hill,			
	men un and with with	" " " " " " " " " " " " " " " " " " "	under on mark another war and	mounter	Average
5010					Average
-40.0					
-50.0					
-60.0					Maxilald
					Max Hold
-70.0					
Center 6.0250 GHz			Snan	400.0 MHz	
Res BW 3 MHz		VBW 50 MHz		veep 1 ms	
				reep 1115	Min Hold
Occupied Bandwidt	•	Total Power	10.9 dBm		
			TOTO GENT		
13	3.92 MHz				Detector
					Peak►
Transmit Freq Error	1.4272 MHz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	47.36 MHz	x dB	-26.00 dB		
	41.00 11112		20.00 48		
MSG			STATUS		

Plot 7-11. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 15)



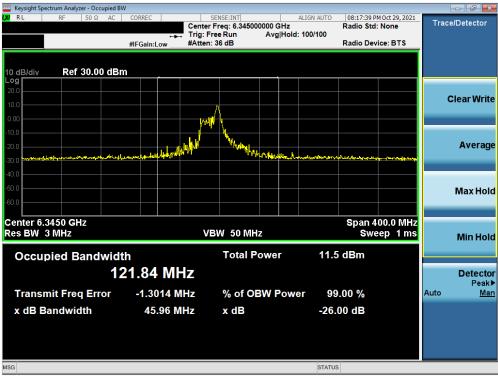
Plot 7-12. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 47)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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Keysight Spectrum Analyzer - Occupied BV	N				
LXU RL RF 50Ω AC	CORREC			M Oct 29, 2021	Trace/Detector
		er Freq: 6.185000000 GHz Free Run Avg Hold:	Radio Std	: None	Theorem
		n: 36 dB	Radio Dev	ice: BTS	
	WI Gam. LOW				
10 dB/div Ref 20.00 dBr	n				
Log					
		Λ			Clear Write
0.00		- WA			cical mile
-10.0					
-20.0	المالي	" hhite			
-30.0 anonesthing open hundred hundred	mina maralist stilled and	" Wild ghow of what was	والمنظر والمتلك المنافعة المنافعة المنافعة المنافعة	and the second	Average
					Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					wax noid
-70.0					
Center 6.1850 GHz			Snan 4	00.0 MHz	
Res BW 3 MHz	١	/BW 50 MHz	Swe	eep 1 ms	Min Hald
					Min Hold
Occupied Bandwidt	th	Total Power	11.0 dBm		
14	48.46 MHz				Detector
	5 0000 MIL	0/ CODM(D	00 00 0/		Peak►
Transmit Freq Error	-5.9228 MHz	% of OBW Powe	r 99.00 %		Auto <u>Man</u>
x dB Bandwidth	45.70 MHz	x dB	-26.00 dB		
MSG			STATUS		

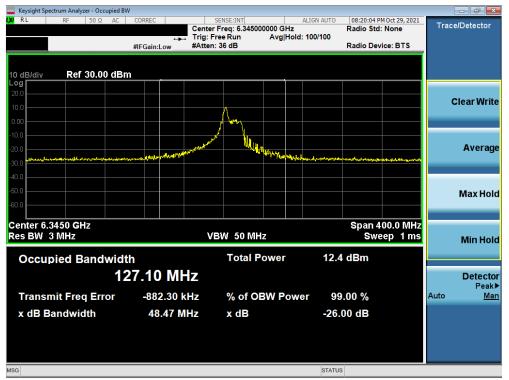
Plot 7-13. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 47)



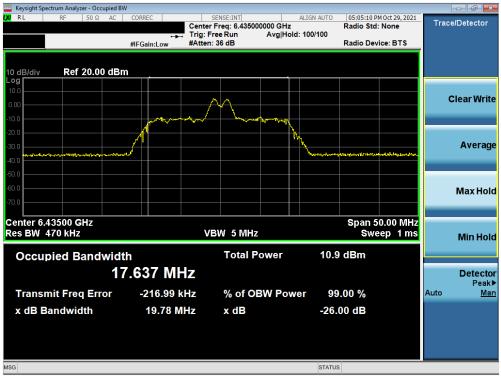
Plot 7-14. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 79)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 01 of 205	
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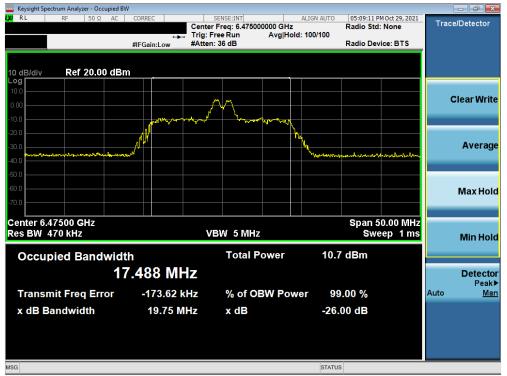
Plot 7-15. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 79)



Plot 7-16. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 97)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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Plot 7-17. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 105)



Plot 7-18. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 113)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-19. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 99)



Plot 7-20. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 107)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-21. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 115)



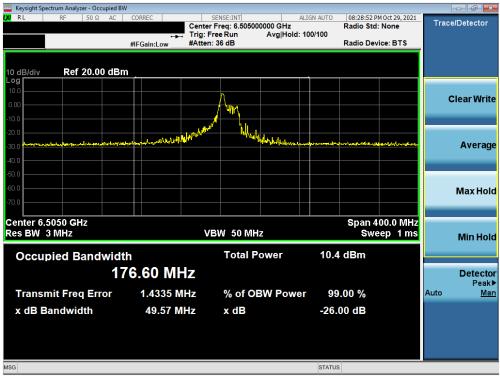
Plot 7-22. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 103)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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Keysight Spectrum Analyzer - Occupied B\	N							
LXI RL RF 50Ω AC	CORREC	SENSE:INT		ALIGN AUTO		4 Oct 29, 2021	Trac	e/Detector
		nter Freq: 6.50500 g: Free Run	0000 GHz Avg Hold:	400/400	Radio Std:	None	mac	CIDECECTO
		ten: 36 dB	Avginoid.	100/100	Radio Dev	ice: BTS		
,	WI Gam. Low							
10 dB/div Ref 20.00 dBr	n							
Log								
10.0		Λ						Clear Write
0.00		than 1						
-10.0	,							
-20.0		When.						
	onione render returned	and the second se	W work was	المسالية عداريده	Mana dala	ele ministra una		Average
-30.0								Average
-40.0								
-50.0								
-60.0								
								Max Hold
-70.0							_	
Center 6.5050 GHz					Snan /	00.0 MHz		
Res BW 3 MHz		VBW 50 MH	7			ep 1 ms		
Res Dw 5 Milz			2		3000	ep ma		Min Hold
Occupied Bandwid	t la	Total P	ower	11 0	dBm			
		roturr		11.0	abiii			
1	56.71 MHz							Detector
								Peak▶
Transmit Freq Error	-977.19 kHz	% of O	3W Powe	er 99.	00 %		Auto	<u>Man</u>
x dB Bandwidth	47.28 MHz	x dB		-26.0	0 dB			
	-11.20 MILL2	A GD		-20.0				
MSG				STATUS				

Plot 7-23. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 6) - Ch. 111)



Plot 7-24. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 6) - Ch. 111)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-25. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 117)



Plot 7-26. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 149)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-27. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 185)



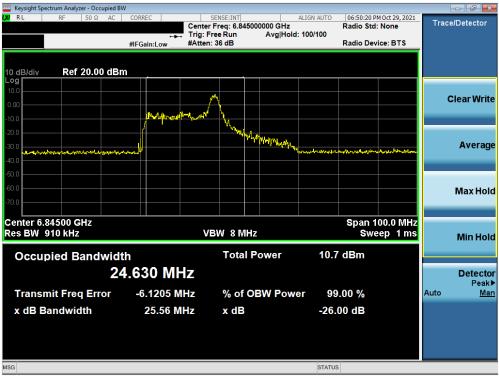
Plot 7-28. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 123)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-29. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 155)



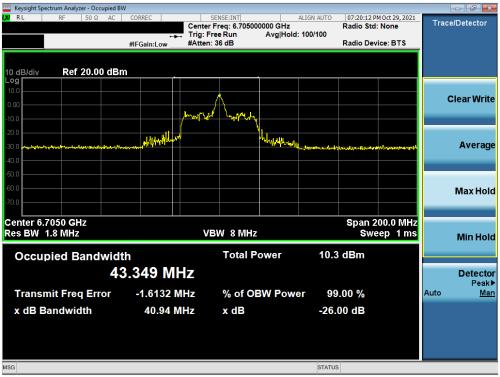
Plot 7-30. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 179)

FCC ID: A3LSMS908U	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 50 Ω AC		SENSE:INT AL	IGN AUTO 07:18:57 PM Radio Std:	Oct 29, 2021	Trace/Detector
		ree Run Avg Hold: 1		None	
	#IFGain:Low #Atten	: 36 dB	Radio Devid	ce: BTS	
10 dB/div Ref 20.00 dBm	1				
Log					
10.0		*			Clear Write
0.00					orear write
-10.0	J ^{MI} wy Mu	1 Mullation			
-20.0					
-30.0 American Antonia balandar ana	man for helder (1 apply to	hitherwar	وروحاله والمراجع والمراجع والمراجع	with the states of the states	Average
-40.0					-
-50.0					
-60.0					Max Hold
-70.0					
Center 6.5450 GHz			Snan 20	0.0 MHz	
Res BW 1.8 MHz	v	BW 8 MHz		ep 1 ms	Min Hald
					Min Hold
Occupied Bandwidt	h	Total Power	10.3 dBm		
	.752 MHz				Detector
50					Detector Peak▶
Transmit Freq Error	-1.0539 MHz	% of OBW Power	r 99.00 %		Auto <u>Man</u>
x dB Bandwidth	44.56 MHz	x dB	-26.00 dB		
	44.JU WITZ	X UD	-20.00 uB		
MSG			STATUS		

Plot 7-31. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 119)



Plot 7-32. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 151)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 20 at 205
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Keysight Spectrum Analyzer - Occupied BW					- ē 💌
KAL RF 50Ω AC				M Oct 29, 2021	Trace/Detector
		Freq: 6.865000000 GHz ree Run Avg Hold:	Radio Sto 100/100	: None	
	#IFGain:Low #Atten:		Radio De	vice: BTS	
,					
10 dB/div Ref 20.00 dBm					
Log					
10.0		∧ I			Clear Write
0.00	ليهري المراجع	Land willer			
-10.0					
-20.0	rister all the	William Marine			
-30.0	and the state of t	" " " " " " " " " " " " " " " " " " "	dfielastickan grant and an		Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 6.8650 GHz			Snan '	200.0 MHz	
Res BW 1.8 MHz	V	BW 8 MHz		eep 1 ms	
	VI	544 6 141112	000	сер ттіз	Min Hold
Occupied Bandwidt	h	Total Power	11.6 dBm		
43	.085 MHz				Detector Peak▶
Transmit Freq Error	-1.0702 MHz	% of OBW Powe	r 99.00 %		Auto <u>Man</u>
x dB Bandwidth	45.28 MHz	x dB	-26.00 dB		
	10120 11112		20.00 uB		
MSG			STATUS		

Plot 7-33. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 183)



Plot 7-34. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 7) - Ch. 143)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BW	/				
LXI RL RF 50Ω AC	CORREC			M Oct 29, 2021	Trace/Detector
		r Freq: 6.665000000 GHz Free Run Avg Hold:	Radio Std	: None	11400120100101
		n: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBm	n				
Log 10.0					
		Λ			Clear Write
0.00		- Willy			
-10.0		/ }. 			
-20.0		* hitke			
-30.0 Annon the second second	nounder and the matter of the	Hale Kale Ward Lander	warner warner warner warner	personal received and the	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					maxitora
Center 6.6650 GHz			Span 4	00.0 MHz	
Res BW/3 MHz	v	BW 50 MHz		eep 1 ms	Min Hold
				<u> </u>	WIIITHOID
Occupied Bandwidt	h	Total Power	10.9 dBm		
14	9.71 MHz				Detector Peak▶
Transmit Freq Error	-1.3436 MHz	% of OBW Powe	r 99.00 %		Auto <u>Man</u>
· · · ·					
x dB Bandwidth	48.17 MHz	x dB	-26.00 dB		
MSG			STATUS		

Plot 7-35. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 7) - Ch. 143)



Plot 7-36. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 7) - Ch. 175)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 205
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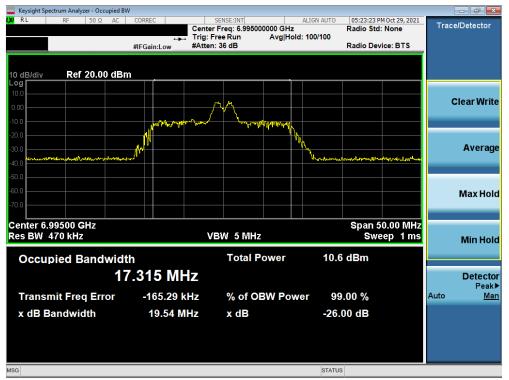
Plot 7-37. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 7) - Ch. 175)



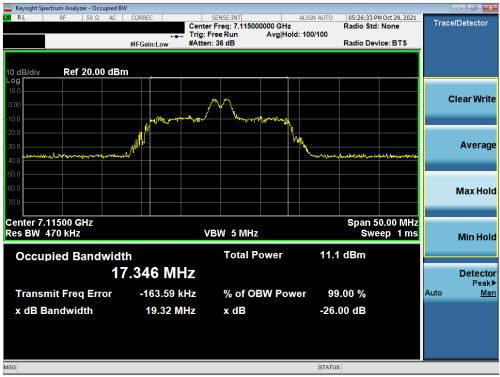
Plot 7-38. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 189)

FCC ID: A3LSMS908U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 22 of 205
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Plot 7-39. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 209)



Plot 7-40. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 233)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 24 of 205	
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Keysight Spectrum Analyzer - Occupied BW										
LX/RL RF 50Ω AC	CORREC		SE:INT			ALIGN AUTO		M Oct 29, 2021	Trac	e/Detector
		Center Fr Trig: Free		5000	000 GHz Avg Hold	. 400/400	Radio Std	: None	mac	CIDECECTO
	+→- #IFGain:Low	#Atten: 3			Avginoid	. 100/100	Radio Dev	vice: BTS		
	#IFGall.LOW						Itaalo Bet			
10 dB/div Ref 20.00 dBm										
Log										
10.0										01
0.00										Clear Write
-10.0	1 hope and	and a grade	k							
			n.							
-20.0				hina	monolognanty					
-30.0	<mark>/</mark>				. Murrallower	laters days have a	يا درمر روا میل	A		Average
-40.0						A demonstration of the party of				
-50.0										
-60.0										Max Hold
-70.0										maxinoia
Center 6.88500 GHz							Span 1	00.0 MHz		
Res BW 910 kHz		VBV	V 8 M	Ηz				eep 1 ms		Min Hald
										Min Hold
Occupied Bandwidth	•		Total	P	ower	11.2	2 dBm			
			Total							
25	.451 MF	Z								Detector
										Peak►
Transmit Freq Error	-5.9331 M	Hz	% of	OE	W Pow	er 99	0.00 %		Auto	<u>Man</u>
x dB Bandwidth	26.52 M	LI	x dB			26	00 dB			
	20.52 M	ΠZ	хав			-20.	00 aB			
MSG						STATUS	5			

Plot 7-41. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 187)



Plot 7-42. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 211)

FCC ID: A3LSMS908U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type: Portable Handset		Page 35 of 305	
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Plot 7-43. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 227)



Plot 7-44. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 199)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 36 of 305	
1M2109090102-14.A3L	9/9 - 11/18/2021	Portable Handset		
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Keysight Spectrum Analyzer - Occupied BW					
LX/ RL RF 50 Ω AC	CORREC	SENSE:INT Freq: 7.025000000 GHz	ALIGN AUTO 07:27:04 F Radio Std	M Oct 29, 2021	Trace/Detector
	Trig: I	Free Run Avg Hold		. None	
	#IFGain:Low #Atter	n: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBm	1				
Log					
10.0		*			Clear Write
0.00	at	1 A			orear write
-10.0		L ^I Landilladan			
-20.0					
-30.0 Martin and and and and and and and and and an	Lall production	Uniterstand system	hand a star and a star and a star and a star	الم المحمد ا	Average
-40.0					
-50.0					
-60.0					
					Max Hold
-70.0					
Center 7.0250 GHz			Span 2	200.0 MHz	
Res BW 1.8 MHz	V	/BW 8 MHz		eep 1 ms	Min Hold
					WIITTOIG
Occupied Bandwidt	h	Total Power	11.0 dBm		
42	.095 MHz				Detector
					Peak▶
Transmit Freq Error	-942.81 kHz	% of OBW Powe	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	48.63 MHz	x dB	-26.00 dB		
			, ,		
MSG			STATUS		

Plot 7-45. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 215)



Plot 7-46. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 8) - Ch. 207)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 27 of 205
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XX RL RF 50 Ω AC CORRE	C SENSE:INT Center Freg: 6.9850000		8:39:00 PM Oct 29, 2021 dio Std: None	Trace/Detector
	🛶 Trig: Free Run	Avg Hold: 100/100		
#IFGai	n:Low #Atten: 36 dB	Ra	dio Device: BTS	
10 dB/div Ref 30.00 dBm				
20.0				
10.0				Clear Write
0.00	A			
-10.0	<u>۲۳۱</u>			
20.0	م الما م			Average
-30.0 etalletingtonesserverterenterenterenterenterenterenteren	with the with the state of the	the and a marine water	and the second states of the	Avenuge
-40.0				
-50.0				Max Hold
-60.0				
Center 6.9850 GHz		S	pan 400.0 MHz	
Res BW 3 MHz	VBW 50 MHz		Sweep 1 ms	Min Hold
	Total Po	wer 11.6 dl	2	
Occupied Bandwidth		wer 11.0 di	∋m	
96.25	2 MHz			Detector
Transmit Freq Error -5.	3155 MHz % of OB	V Power 99.00	9/	Peak► Auto Man
				Auto <u>mari</u>
x dB Bandwidth 4	4.78 MHz x dB	-26.00	dB	
MSG		STATUS		

Plot 7-47. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 8) - Ch. 207)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 28 of 205	
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Keysight Spectrum Analyzer - Occupied BW K RL RF S0 Ω AC - - - X 04:58:53 PM Oct 29, 2021 SENSE:INT ALIGN AUTO Trace/Detector Center Freq: 5.935000000 GHz Trig: Free Run Avg|Hol Radio Std: None Avg|Hold: 100/100 Radio Device: BTS #IFGain:Low #Atten: 36 dB Ref 20.00 dBm 0 dB/div og **Clear Write** Average Max Hold Center 5.93500 GHz Res BW 470 kHz Span 50.00 MHz VBW 5 MHz Sweep 1 ms Min Hold Total Power 20.2 dBm **Occupied Bandwidth** 19.222 MHz Detector Peak▶ -19.807 kHz **Transmit Freq Error** % of OBW Power 99.00 % Auto Man x dB Bandwidth 21.87 MHz -26.00 dB x dB STATUS

MIMO Antenna-1 26dB Bandwidth Measurements (FULL Tones)

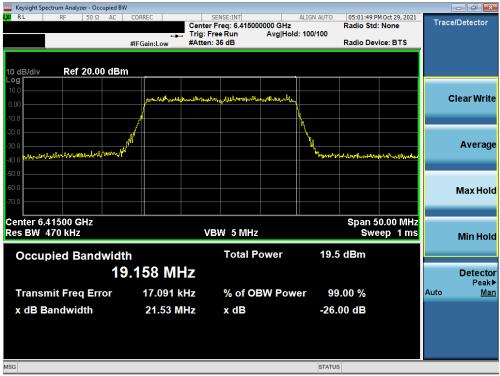
Plot 7-48. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax (FULL Tones) (UNII Band 5) - Ch. 2)



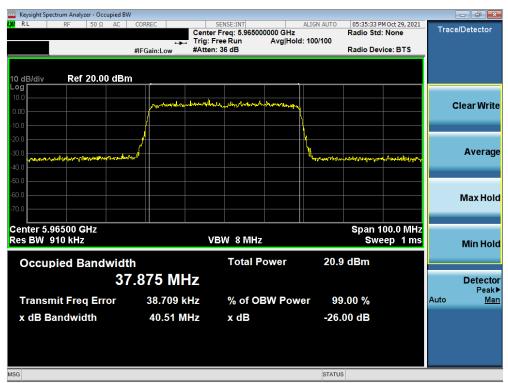
Plot 7-49. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 45)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-50. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) UNII Band 5) - Ch. 93)



Plot 7-51. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 3)

FCC ID: A3LSMS908U	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 40 of 205
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Keysight Spectrum Analyzer - Occupied BW								
LXI RE 50Ω AC	CORREC	SENSE:INT Center Freq: 6.1650		ALIGN AUTO	05:36:31 PI Radio Std:	M Oct 29, 2021	Trac	e/Detector
			Avg Hold:		Radio Std:	None		
	#IFGain:Low	#Atten: 36 dB			Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm								
10.0								
0.00	- Annahran	when when we was with the	who were work					Clear Write
	/		N					
-10.0								
-20.0								
-30.0								Average
-30.0 not and a second state of the second s	H**			bankrahan	hoplous	enter later		Ũ
-50.0								
-60.0								Max Hold
-70.0								
Center 6.16500 GHz					Span 1	00.0 MHz		
Res BW 910 kHz		VBW 8 MH:	z		Swe	ep 1 ms		Min Hold
								Millinoid
Occupied Bandwidt	า	Total F	ower	20.3	dBm			
	.780 MH	-						Detector
31								Detector Peak▶
Transmit Freq Error	36.707 k	Hz % of O	BW Powe	r 99	00 %		Auto	Man
· · · ·								
x dB Bandwidth	41.27 M	Hz xdB		-26.0	0 dB			
MSG				STATUS				

Plot 7-52. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 43)



Plot 7-53. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 91)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 44 at 205	
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Keysight Spectrum Analyzer - Occupied BW	1				
IX/ RL RF 50Ω AC	CORREC	SENSE:INT Freq: 5.985000000 GHz		07:08:21 PM Oct 29, 2021 adio Std: None	Trace/Detector
	+++ Trig:	Free Run Avg Hol	d: 100/100		
	#IFGain:Low #Atte	n: 36 dB	R	adio Device: BTS	
10 dB/div Ref 30.00 dBn	<u> </u>				
20.0					
					Clear Write
10.0	mulandulumanta	www.w.w.	n.		
0.00					
-10.0					
-20.0	-/				Average
-30.0 martingation of the second states of	/////////////////////////////////////		hander	nederskiperer transfilmenter	
-40.0					
-50.0					Max Hold
-60.0					maxitora
Center 5.9850 GHz				Span 200.0 MHz	
Res BW 1.8 MHz		/BW 8 MHz		Sweep 1 ms	Min Hold
Occupied Bandwidt	h	Total Power	22.7 d	Bm	
//	.445 MHz				Detector Peak▶
Transmit Freq Error	-61.172 kHz	% of OBW Pov	ver 99.0	0 %	Auto <u>Man</u>
x dB Bandwidth	83.40 MHz	x dB	-26.00	dB	
	03.40 10112	X UD	-20.00	ub	
MSG			STATUS		

Plot 7-54. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 7)



Plot 7-55. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 5) – Ch. 39)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG		Approved by: Quality Manager
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Plot 7-56. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 87)



Plot 7-57. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 97)

FCC ID: A3LSMS908U	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 42 of 205
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LXI RE 50 Ω AC	CORREC		SE:INT		ALIGN AUTO		M Oct 29, 2021	Trac	e/Detector
		Trig: Free	eq: 6.47500 Pup	0000 GHz Avg Hold	. 100/100	Radio Std	None		
	#IFGain:Low	#Atten: 36		Avginoid	. 100/100	Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm									
Log 10.0									
	Mundulum	when the start	Munitohan	adoon bloo -					Clear Write
0.00			and all a line	10 10 10 10 10 10 V	1				erear mile
-10.0					1				
-20.0	1				M				
	N I								Average
-30.0					 				Average
-40.0					(An inclusion)	whether a lifered from the orth	Contraction of the second		
-50.0									
-60.0									
									Max Hold
-70.0								_	
Center 6.47500 GHz						Snan 5	0.00 MHz		
Res BW 470 kHz		VRV	v/5 MHz				ep 1 ms		
Res DW 470 KHz		404	9 J 1911 12			300	ep mis		Min Hold
Occupied Bandwidth			Total P	ower	10 3	dBm			
Occupied Bandwidth			Total I	OWCI	10.0	u Biii			
19	.286 MH	Z							Detector
									Peak►
Transmit Freq Error	44.386 kl	z	% of OE	3W Pow	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	21.95 MI	47	x dB		-26	00 dB			
	21.55 WI	12	A UD		-20.				
MSG					STATUS				

Plot 7-58. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 105)



Plot 7-59. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 113)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-60. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 99)



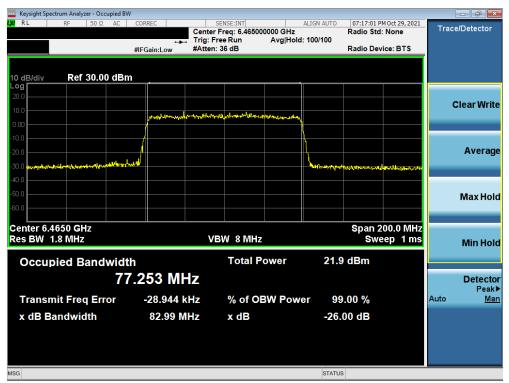
Plot 7-61. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 107)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-62. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 115)



Plot 7-63. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 6) - Ch. 103)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 46 of 205	
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LXI RE 50Ω AC	CORREC	SENSE:INT	ALIGN AUTO 05:15:06 F Radio Std	M Oct 29, 2021	Trace/Detector
		nter Freq: 6.535000000 GHz g: Free Run Avg Hol	d: 100/100	: None	
		ten: 36 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBm					
10.0					
0.00	derna monthing	with muthenside warder the work	.		Clear Write
-10.0	4				
	1		h l		
-20.0	<i>r</i> .				•
-30.0					Average
-40.0 Drysteler My Blat March and the day of			mon and the second	The surger and the	
-50.0					
-60.0					Max Hold
-70.0					Max Holu
10.0					
Center 6.53500 GHz			Span :	50.00 MHz	
Res BW 470 kHz		VBW 5 MHz	Sw	eep 1 ms	Min Hold
Occupied Bandwidth	1	Total Power	18.2 dBm		
19	.188 MHz				Detector
10	. 100 11112				Peak►
Transmit Freq Error	223 Hz	% of OBW Pow	/er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	21.72 MHz	x dB	-26.00 dB		
		A UD	-20.00 ub		
MSG			STATUS		

Plot 7-64. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 117)



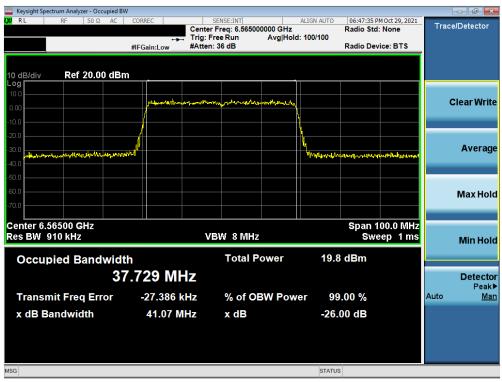
Plot 7-65. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 149)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BW							
LX/ RL RF 50Ω AC	CORREC	SENSE:INT	ALIGN AUT		M Oct 29, 2021	Trace	e/Detector
		Center Freq: 6.87500 Trig: Free Run	Avg Hold: 100/100	Radio Std:	None		
		#Atten: 36 dB	Arginola. 100/100	Radio Dev	ice: BTS		
10 dB/div Ref 20.00 dBm							
10.0							
	Monterin	mentrough here mersel	Muchar			C	Clear Write
0.00			N				
-10.0							
-20.0			<u> </u>				
-30.0			<u> </u>				Average
-40.0 May way maker market market			Kanto	who wow would be	mound		-
40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 6.87500 GHz					0.00 MHz		
Res BW/470 kHz		VBW 5 MHz		Swe	ep 1 ms		Min Hold
Occupied Bandwidth	1	Total P	ower 18	3.8 dBm			
19	.230 MHz	7					Detector
							Peak▶
Transmit Freq Error	-26.306 kH	z % of OE	3W Power	99.00 %		Auto	Man
x dB Bandwidth	21.89 MH	z xdB		6.00 dB		_	
	21.05 MIT		-2	0.00 08			
MSG			STA	TUS			

Plot 7-66. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 185)



Plot 7-67. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 123)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 49 of 205	
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LXX RL RF 50Ω AC CO	RREC	SENSE:INT	ALIGN AUTO	06:48:21 PM (Tracel	Detector
		er Freq: 6.725000000 Free Run Av	/g Hold: 100/100	Radio Std: N	ione		
#IF		en: 36 dB		Radio Devic	e: BTS		
10 dB/div Ref 30.00 dBm							
20.0							
10.0						C	ear Write
	المريعه بمريا مراجعه معروس	hour manuter bound	the brances				
0.00	1						
-10.0	/						
-20.0	/		k				Average
-30.0			14				-
deren all lenous to and by mound all			hunanna	www.and.	where we have		
-40.0							
-50.0							Max Hold
-60.0							
Center 6.72500 GHz				Span 10			
Res BW 910 kHz		VBW 8MHz		Swee	p 1 ms		Min Hold
		Tetel Deve					
Occupied Bandwidth		Total Pow	er 21.0	dBm			
37.7	72 MHz						Detector
0111							Peak▶
Transmit Freq Error	8.834 kHz	% of OBW	Power 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	41.03 MHz	x dB	26	00 dB			
	41.03 WINZ	X UB	-20.	00 UB			
MSG			STATUS				

Plot 7-68. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 155)



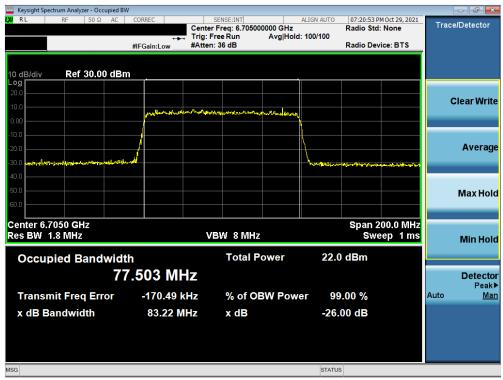
Plot 7-69. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 179)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 40 of 205		
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Keysight Spectrum Analyzer - Occupied BV	/					
LXI RL RF 50Ω AC	CORREC	SENSE:INT		AUTO 07:17:55 PM Radio Std:	Oct 29, 2021	Trace/Detector
		Center Freq: 6.54500 Trig: Free Run	Avg Hold: 100/		None	
	#IFGain:Low	#Atten: 36 dB		Radio Devi	ce: BTS	
10 dB/div Ref 30.00 dBn Log						
20.0						
10.0						Clear Write
	and a stranger	How way premounders	washing			
0.00						
-10.0						
-20.0			<u> </u>			Average
-30.0 Allower grand and any states of the second	w		\	Marriel and a strand store	A harada da	
-40.0						
-50.0						Max Hold
-60.0						
Center 6.5450 GHz				Enon 20		
Res BW 1.8 MHz		VBW 8 MHz			00.0 MHz ep 1 ms	
Res BW 1:8 INH2				Swei	ep i llis	Min Hold
Occupied Bandwidt	h	Total P	ower	21.5 dBm		
			01101	2110 4811		
77	7.532 MH	Ζ				Detector
Too o conside Frances F	CO 500-1	0/	NA(D	00.00.0/		Peak▶ Auto Man
Transmit Freq Error	-68.523 k	HZ % of OL	3W Power	99.00 %		Auto <u>Man</u>
x dB Bandwidth	83.08 MI	Hz xdB		-26.00 dB		
MSG				STATUS		

Plot 7-70. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 119)



Plot 7-71. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 151)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage E0 of 205		
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XI RL RF 50 Ω AC CORREC SENSE:INT ALIGN AUTO 07:21:41 PM Oct 2	
Center Freq: 6.865000000 GHz Radio Std: Non	e
#IFGain:Low #Atten: 36 dB Radio Device: B	зтя
10 dB/div Ref 30.00 dBm	
20 0	
	Clear Write
10.0	
-10.0	
20.0	Average
	J
-40.0	
-50.0	Max Hold
-60.0	
Center 6.8650 GHz Span 200.0	
Res BW 1.8 MHz Sweep	1 ms Min Hold
Occupied Bandwidth Total Power 21.4 dBm	
77.334 MHz	Detector
	Peak►
Transmit Freg Error -85.109 kHz % of OBW Power 99.00 %	Auto <u>Man</u>
x dB Bandwidth 83.24 MHz x dB -26.00 dB	
MSG STATUS	

Plot 7-72. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 7) - Ch. 183)



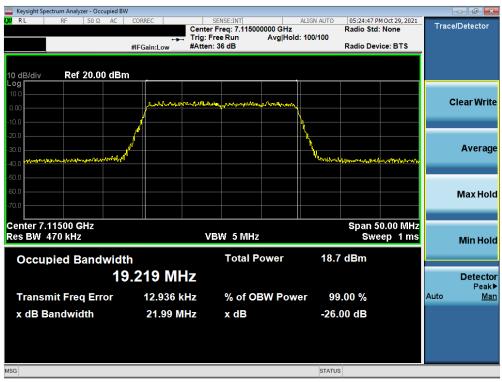
Plot 7-73. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 189)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 51 of 205
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Keysight Spectrum Analyzer - Occupied BW							
<mark>IX/</mark> RL RF 50Ω AC CO		INSE:INT		05:23:59 PM Oc		Trace	e/Detector
	Trig: Fre	Freq: 6.995000000 GHz	ка d: 100/100	adio Std: No	ne		
#1	FGain:Low #Atten:			adio Device:	BTS		
10 dB/div Ref 20.00 dBm			· · · · · · · · · · · · · · · · · · ·				
10.0							
0.00	mershight human lim laser that	h retrieven when retent the dear				C	Clear Write
-10.0	i 📶		4				
	/		\				
-20.0			1				
-30.0			h .				Average
-40.0 Uning any the many property of the of the			^พ ักษณ _ี เกิดที่พ	manager	marshyright		
-50.0							
-60.0							
							Max Hold
-70.0						_	
Center 6.99500 GHz			S	Span 50.0	0 MHz		
Res BW 470 kHz	VB	W 5 MHz		Sweep			Min Hold
							Will Hold
Occupied Bandwidth		Total Power	18.9 dl	Bm			
10 -	174 MHz						Detector
15.							Peak ►
Transmit Freq Error	-68 Hz	% of OBW Pow	ver 99.00	0 %		Auto	Man
x dB Bandwidth	22.08 MHz	x dB	-26.00	dB			
	22.00 MITIZ	A UD	-20.00	ub			
MSG			STATUS				

Plot 7-74. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 209)



Plot 7-75. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 233)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 50 at 205
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🔤 Keysight Spectrum Analyzer - Occupied BW 🚽							
<mark>IX/</mark> RL RF 50Ω AC C	ORREC	SENSE:INT	ALIGN AUTO	06:52:09 PM Radio Std: 1		Trace	/Detector
		Center Freq: 6.885000 Trig: Free Run	Avg Hold: 100/100	Radio Std: r	vone		
#		#Atten: 36 dB		Radio Devic	e: BTS		
,							
to apply Dof 20.00 dBm							
10 dB/div Ref 30.00 dBm							
20.0							
10.0						С	lear Write
	por portunality	encommented and the	warden the man				
0.00							
-10.0	/						
-20.0	/						Average
-30.0	·		<u> </u>				
-30.0 เป็นการมีทางให้การสำหรัฐภูมิสารณ์ไหกระโยการ -40.0			ี ไม่สี่งกับปฏิทัพ	Wenneth blanderigh	And an and a state of the		
-50.0							Max Hold
-60.0							
Center 6.88500 GHz				Enon 10			
Res BW 910 kHz		VBW 8 MHz		Span 10	2.0 10112 p 1 ms		
Res BW 910 Kitz				34466	p ms		Min Hold
Occupied Bandwidth		Total P	ower 20	.4 dBm			
			20				
37.	830 MH;	Ζ					Detector
Turn and it First a First						Auto	Peak►
Transmit Freq Error	44.257 kH	z % of OE	3W Power 9	9.00 %		Auto	<u>Man</u>
x dB Bandwidth	40.64 MH	z xdB	-26	6.00 dB			
MSG			STAT	US			

Plot 7-76. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 187)



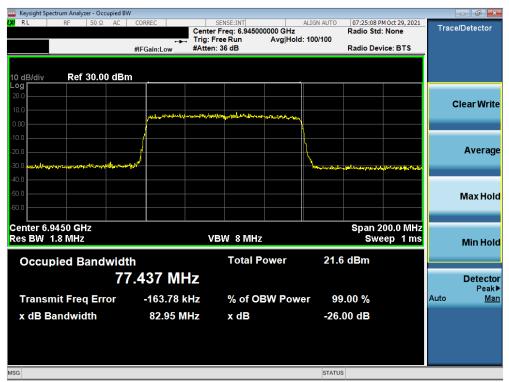
Plot 7-77. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 211)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:	Daga 52 of 205			
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www.www.com analyzer - Occupied	IBW					[- d ×
LX/ RL RF 50Ω AC		SENSE:INT	ALIGN AUTO	06:59:25 PM Radio Std:	Oct 29, 2021	Trace	Detector
		Trig: Free Run	Avg Hold: 100/100				
	#IFGain:Low	#Atten: 36 dB		Radio Devi	ce: BTS		
10 dB/div Ref 20.00 dB	Зm						
Log							
10.0	adama Maraha	Adress orthanser they	1mg minutes			c	lear Write
0.00	/						
-10.0							
-20.0			<u></u>				
-30.0	4			Marianta			Average
-40.0				a tha an the first in the second s		_	
-50.0							
-60.0							Max Hold
-70.0							Μάχ ποια
						-	
Center 7.08500 GHz				Span 10	0.0 MHz		
Res BW 910 kHz		VBW 8 MHz		Swe	ep 1 ms		Min Hold
		Tatal Da		3 dBm			
Occupied Bandwi		Total Po	wer 20.	s aBM			
3	37.651 MH	Z					Detector
	00 444		N/ D			A	Peak►
Transmit Freq Error	-26.114 k⊦	iz % of OB	W Power 99	9.00 %		Auto	<u>Man</u>
x dB Bandwidth	40.72 MF	z xdB	-26.	00 dB			
MSG			STATU	s			
			STATO				

Plot 7-78. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 227)



Plot 7-79. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (FULL Tones) (UNII Band 8) - Ch. 199)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BW					
🗶 RL RF 50Ω AC COR		e:INT / g: 7.025000000 GHz		:56 PM Oct 29, 2021 Std: None	Trace/Detector
	Trig: Free F			Sta: None	
#IFG	ain:Low #Atten: 36			Device: BTS	
10 dB/div Ref 30.00 dBm Log					
20.0					
10.0					Clear Write
	alison the and an all and a second	to public on the program block of			
0.00					
-10.0					
-20.0			L		Average
-30.0 mouth weather an enter Acceptant bitter			Latter and the second	t die gestie the testall.	
-40.0			control of a standard one		
-50.0					Max Hold
-60.0					
Center 7.0250 GHz Res BW 1.8 MHz	VDW	8 MHz		n 200.0 MHz	
Res BW 1.8 WHZ	VDVV	8 19112		Sweep 1 ms	Min Hold
Occupied Bandwidth		Total Power	21.6 dBm		
Occupied Bandwidth		loturi ower	21.0 0011		
77.3	06 MHz				Detector
					Peak▶
Transmit Freq Error -	63.523 kHz	% of OBW Powe	r 99.00 %		Auto <u>Man</u>
x dB Bandwidth	82.82 MHz	x dB	-26.00 dB		
MSG			STATUS		

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

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:		Dage EE of 20E
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MIMO Antenna-2 26dB Bandwidth Measurements (26 Tones)

Plot 7-81. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax (26 Tones) (UNII Band 5) - Ch. 2)



Plot 7-82. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 45)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-83. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) UNII Band 5) - Ch. 93)



Plot 7-84. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 3)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BV	V						
LXI RE 50Ω AC	CORREC	SENSE:INT	ALIGN AUTO		1 Oct 29, 2021	Trace	e/Detector
		er Freq: 6.165000000 Free Run Av	GHZ g Hold: 100/100	Radio Std:	None		
		en: 36 dB	ginera. ree, ree	Radio Devi	ice: BTS		
10 dB/div Ref 20.00 dBr	n						
Log 10.0							
		1				c	Clear Write
0.00							
-10.0	An And Hindley	<u> </u>					
-20.0	<mark>(</mark>	White the state					
-30.0		where the second	-A-market				Average
monorhout on an and some share the second	الايمحان		hand when a start when the	har war and the second	herman		3
-40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 6.16500 GHz				Span 1	00.0 MHz		
Res BW 910 kHz		VBW 8 MHz		Swe	ep 1 ms		Min Hold
							Millinioid
Occupied Bandwidt	h	Total Powe	er 10.7	dBm			
	1.873 MHz						Detector
24							Detector Peak►
Transmit Freq Error	-6.1206 MHz	% of OBW	Power 99	.00 %		Auto	Man
· · · ·	25.19 MHz	n dD	26				
x dB Bandwidth	25.19 MHZ	x dB	-20.	00 dB			
100							
MSG			STATUS				

Plot 7-85. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 43)



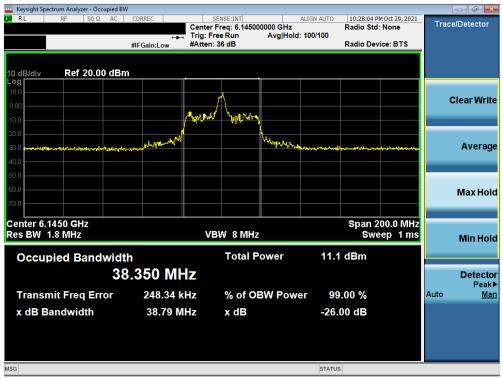
Plot 7-86. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 91)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 50 at 205
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Keysight Spectrum Analyzer - Occupied B						- ē 💌
KAL RF 50Ω AC	CORREC	SENSE:INT ter Freq: 5.985000000	ALIGN AUTO	10:21:41 PM Radio Std:	10ct 29, 2021	Trace/Detector
			g Hold: 100/100	Raulo Stu.	None	
	#IFGain:Low #Att	en: 36 dB		Radio Devi	ce: BTS	
10 dB/div Ref 30.00 dB	n					
20.0						
						Clear Write
10.0						
0.00		M man				
-10.0		· · · · · ·				
-20.0	and a strength of the state of the strength of		June of the second			Average
-30.0 -30.0	and all a street and		and the second second second	-	to the provident of the last o	
-40.0						
-50.0						Max Hold
-60.0						Max Hold
-80.0						
Center 5.9850 GHz			,	Span 20	00.0 MHz	
Res BW 1.8 MHz		VBW 8 MHz		Swe	ep 1 ms	Min Hold
Occupied Bandwid	th	Total Powe	er 12.8	3 dBm		
3	8.930 MHz					Detector
						Peak►
Transmit Freq Error	-106.52 kHz	% of OBW	Power 99	0.00 %		Auto <u>Man</u>
x dB Bandwidth	39.99 MHz	x dB	-26.	00 dB		
MSG			STATU	5		

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



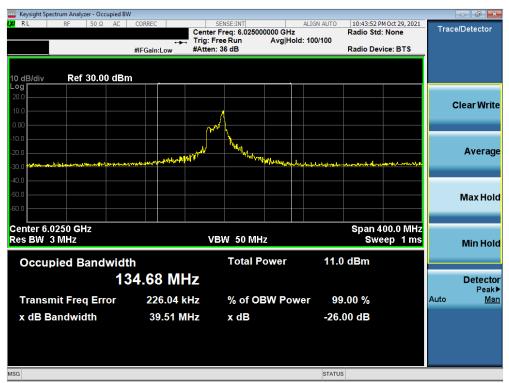
Plot 7-88. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 39)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-89. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) - Ch. 87)



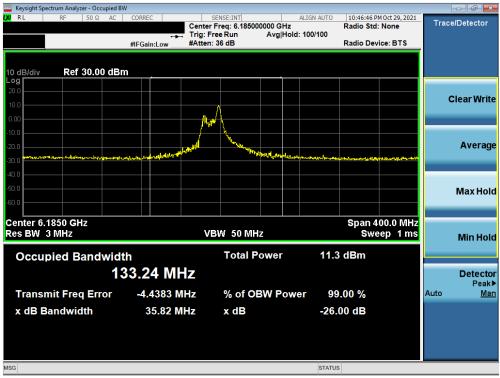
Plot 7-90. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 15)

FCC ID: A3LSMS908U	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 of 005
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🔤 Keysight Spectrum Analyzer - Occupied BW 👘						
LX RL RF 50Ω AC CO	ORREC	SENSE:INT	ALIGN AUTO	10:45:36 PM Oct 2		Trace/Detector
		nter Freq: 6.025000000 GH g: Free Run Avg H	1z i lold: 100/100	Radio Std: None	•	ind on Bottooton
#1		ten: 36 dB		Radio Device: B	тѕ	
10 dB/div Ref 20.00 dBm						
Log 10.0						
		Δ				Clear Write
0.00		1 444				
-10.0						
-20.0						
-30.0 and months and and and a second s	www.	W. Makittara	the Martin and a state	ومعصب والمراسل مراسل والمعا		Average
-40.0						J
-50.0						
-60.0						Max Hold
-70.0						
Center 6.0250 GHz				Span 400.0		
Res BW 3 MHz		VBW 50 MHz		Sweep	1 ms	Min Hold
Occupied Bandwidth		Total Power	10.9 0	dBm		
127	.79 MHz					Detector
						Peak►
Transmit Freq Error	619.30 kHz	% of OBW Po	ower 99.0	00 %	A	uto <u>Man</u>
x dB Bandwidth	40.46 MHz	x dB	-26.00			
	40.40 MINZ	X UD	-20.00	uв		
MSG			STATUS			

Plot 7-91. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 15)



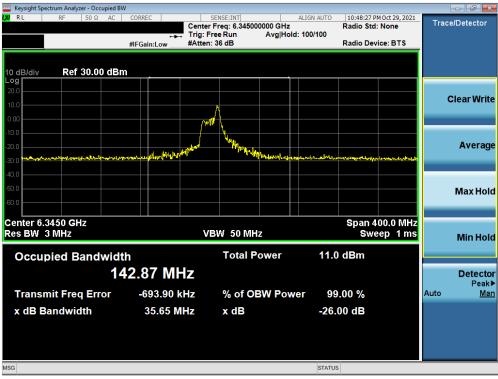
Plot 7-92. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 47)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BW							
LXI RL RF 50Ω AC		SENSE:INT	ALIGN AUTO	10:47:34 PM		Trac	e/Detector
		Freq: 6.185000000 GH ree Run Avg H	z old: 100/100	Radio Std: I	None		
	#IFGain:Low #Atten			Radio Devid	e: BTS		
10 dB/div Ref 20.00 dBm			.				
10.0							
0.00		Δ.				C	Clear Write
		/ http://					
-10.0	. 11	/					
-20.0	in the attended in the	This has been					
-30.0 providence of the standard and the standard	e we have the second of the	"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mether manuscreations	- In manual light	havenhave		Average
-40.0							
-50.0							
-60.0							Max Hold
-70.0							
Center 6.1850 GHz				Enon 40	0.0 MHz		
Res BW 3 MHz	V	BW 50 MHz			ep 1 ms		
Res BW 3 Wilz	v.	50 10112		Ower	p ms		Min Hold
Occupied Bandwidth		Total Power	10.7	dBm			
			1011				
154	4.50 MHz						Detector
Tronomit From France	E 6600 MU			00.0/		Auto	Peak▶ Man
Transmit Freq Error	-5.5692 MHz	% of OBW Po	wer 99	.00 %		Auto	ivian
x dB Bandwidth	37.91 MHz	x dB	-26.	00 dB			
MSG			STATUS				

Plot 7-93. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 47)



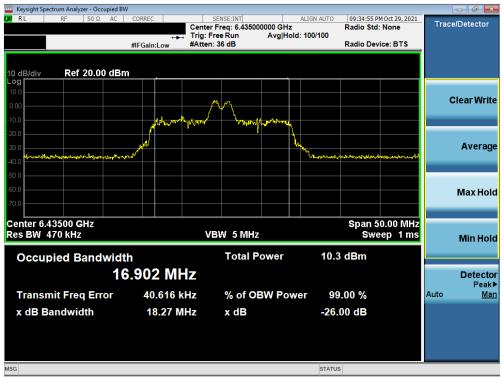
Plot 7-94. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 5) - Ch. 79)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied BW								- •
LXI RE 50Ω AC	CORREC	SENSE:INT enter Freg: 6.34500			0:49:17 PM dio Std:	Oct 29, 2021	Trac	e/Detector
		rig: Free Run	Avg Hold:		alo Sta:	None		
		Atten: 36 dB			dio Devi	ce: BTS		
10 JEAN Dof 20.00 dBm								
10 dB/div Ref 30.00 dBm								
20.0								
10.0							(Clear Write
0.00		Λ					_	
		1 North						
-10.0		AND I						
-20.0		h Marine Marine						Average
-30.0 martine-thermanical and a strategy and a strategy and	when a server a ser		Mphilleshyrillesen	whether the starting	meterson	Marganoor	_	
-40.0								
-50.0								
								Max Hold
-60.0							_	
Center 6.3450 GHz				8	nan 4f	00.0 MHz		
Res BW 3 MHz		VBW 50 MH	z			ep 1 ms		Min Hold
								win Hold
Occupied Bandwidth		Total P	ower	10.6 dE	3m		_	
16	6.46 MHz							Detector Peak▶
Transmit Freq Error	-480.56 kHz	% of O	3W Powe	r 99.00	%		Auto	Peak⊭ <u>Man</u>
x dB Bandwidth	39.45 MHz	x dB		-26.00	dB			
	55. 4 5 mm	A db		-20.00	uВ			
MSG				STATUS				

Plot 7-95. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 5) - Ch. 79)



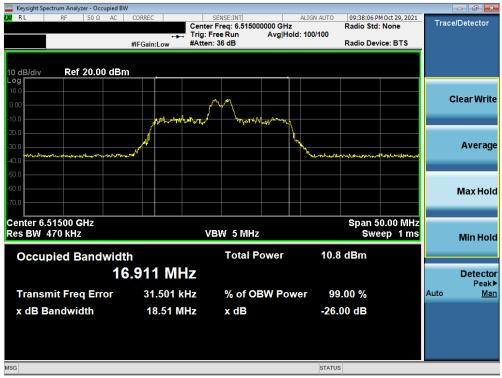
Plot 7-96. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 97)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-97. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 105)



Plot 7-98. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 113)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-99. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 99)



Plot 7-100. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 107)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-101. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 115)



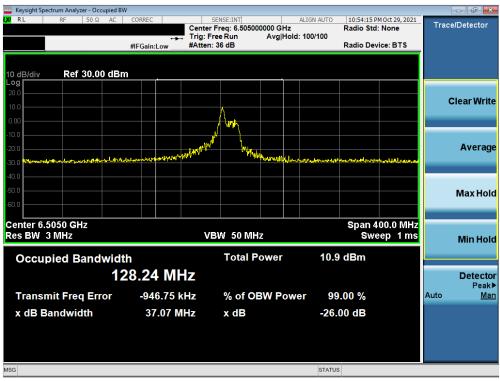
Plot 7-102. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 6) - Ch. 103)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Occupied B	W				
💢 RL RF 50Ω AC	CORREC	SENSE:INT		81 PM Oct 29, 2021	Trace/Detector
		iter Freq: 6.505000000 GH j: Free Run Avg	Hz Radio : Hold: 100/100	Std: None	Hacebeteetoi
		ten: 36 dB		Device: BTS	
	wir Gam.20w				
10 dB/div Ref 20.00 dB	m .				
Log					
10.0		π			Clear Write
0.00					Clear write
-10.0		· \			
		N			
-20.0	and the state of t	Waternin adde.			
-30.0	The second s		**************************************	and the second states	Average
-40.0					
-50.0					
-60.0					Max Hold
-70.0					
Center 6.5050 GHz			Spar	n 400.0 MHz	
ResBW/3MHz		VBW 50 MHz	S	weep 1ms	Min Hold
Occupied Bandwid	th	Total Power	12.2 dBm		
1	10.83 MHz				Detector
					Peak►
Transmit Freq Error	-1.0021 MHz	% of OBW P	ower 99.00 %		Auto <u>Man</u>
x dB Bandwidth	36.13 MHz	x dB	-26.00 dB		
	30.13 WINZ	X UD	-20.00 ub		
MSG			STATUS		

Plot 7-103. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 6) - Ch. 111)



Plot 7-104. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 6) - Ch. 111)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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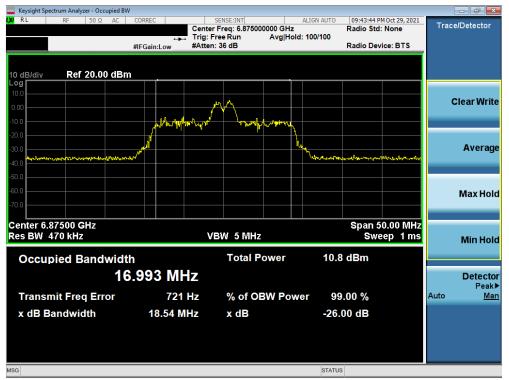
Plot 7-105. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 117)



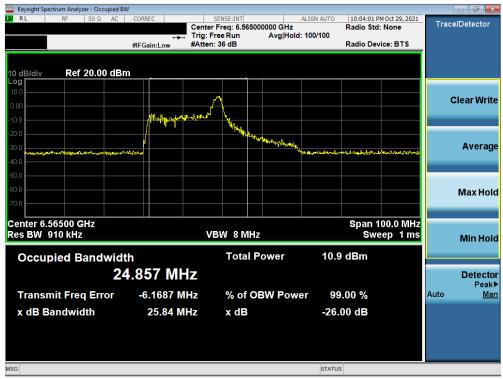
Plot 7-106. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 149)

FCC ID: A3LSMS908U	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 BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 185)



Plot 7-108. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 123)

FCC ID: A3LSMS908U	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 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 155)



Plot 7-110. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 179)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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	trum Analyzer - Oce	cupied BW									
LXI RL	RF 50 Ω	AC COF	RREC		NSE:INT req: 6.54500		ALIGN AUTO	10:32:29 P Radio Std	M Oct 29, 2021	Trac	e/Detector
						Avg Hold:	>100/100	Radio Std	None		
		#IF	Gain:Low	#Atten: 3				Radio Dev	rice: BTS		
	Ref 30.0	0 dBm									
10 dB/div Log	Rel 30.0	и авти									
20.0											
10.0											Clear Write
				ſ	h						
0.00				كماري بالمعالمة	hallyday						
-10.0				per thepp hald	N. P. Press						
-20.0			.			U I					Average
-30.0 - manipedant	hand and the second states and the second st	www.	New Works W			Murray Marine	manuster	monderstowner	Windowent		
-40.0											
-50.0											
											Max Hold
-60.0											
Center 6.5	450 CH-							Enon 2	00.0 MHz		
Res BW 1				VB	N 8 MHz				ep 1 ms		
ICC3 DVV	.0 141112			401				OW	seb i illa		Min Hold
Occup	ied Band	width			Total P	ower	11.0	dBm			
			~ ~ ~ ~								
		39.1	23 MI	ΗZ							Detector
-			100.001		N - 1 O	DIA/ D		00.0/		Auto	Peak▶ Man
Transm	nit Freq Err	or	-433.22	(HZ	% of O	BW Powe	er 99	.00 %		Auto	Man
x dB Ba	andwidth		39.48 N	IHz	x dB		-26.	00 dB			
MSG							STATUS	5			

Plot 7-111. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 119)



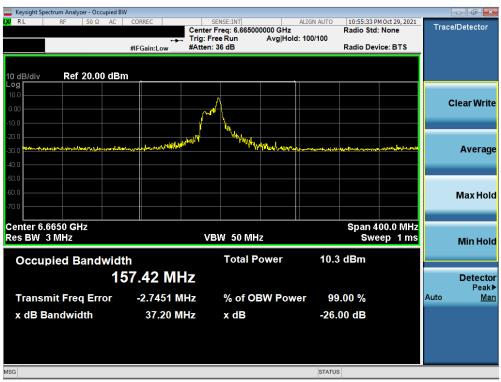
Plot 7-112. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 151)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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www.commonstream Keysight Spectrum Analyzer - Occupied BW						
IXIRL RF 50Ω AC	CORREC	SENSE:INT			M Oct 29, 2021	Trace/Detector
		enter Freq: 6.86500 ig: Free Run	Avg Hold: 10	Radio Std: 0/100	None	11400120100101
		tten: 36 dB	Anglitola. Io	Radio Dev	ice: BTS	
10 dB/div Ref 20.00 dBm						
10.0						
0.00		\wedge				Clear Write
	.MIN	nrun malada				
-10.0		in the set				
-20.0			levit et est est			
-30.0 colored and the management the management	and man what		low from the second	مروحيد والمرأوم وأوالع والعادور محدوقاته	monormanicali	Average
-40.0						
-50.0						
-60.0						Max Hold
-70.0						
Center 6.8650 GHz				Enon 2	00.0 MHz	
Res BW 1.8 MHz		VBW 8 MHz			ep 1 ms	
				000	ep mis	Min Hold
Occupied Bandwidth		Total P	ower	11.0 dBm		
			01101			
39	.048 MHz					Detector
Terrer it Farmer Fr		0/		00.00.00		Peak▶ Auto Man
Transmit Freq Error	-57.119 kHz	% of OI	BW Power	99.00 %		Auto <u>Man</u>
x dB Bandwidth	40.26 MHz	x dB		-26.00 dB		
MSG				STATUS		

Plot 7-113. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 7) - Ch. 183)



Plot 7-114. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 7) - Ch. 143)

FCC ID: A3LSMS908U	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 CO				10ct 29, 2021	Trace/Detector
	Center F	req: 6.665000000 GHz e Run Avg Hold: 1	Radio Std:	None	
#1	FGain:Low #Atten: 3		Radio Devi	ce: BTS	
10 dB/div Ref 20.00 dBm					
Log 10.0					
		Λ			Clear Write
0.00		(ในการการการการการการการการการการการการการก			
-10.0	/				
-20.0		- Marine			
-30.0 www.sectore.com.eng.organization	maintalite	May Mary Markellow rate	الاستورية موسوس مركز المركز	Ladorstrund	Average
					riverage
-40.0					
-50.0					
-60.0					Max Hold
-70.0					Maxilola
10.0					
Center 6.6650 GHz			Span 4	00.0 MHz	
Res BW 3 MHz	VB	W 50 MHz		ep 1 ms	Min Hold
				<u> </u>	MITHOU
Occupied Bandwidth		Total Power	10.8 dBm		
148	.81 MHz				Detector Peak▶
Transmit Freq Error	-1.1364 MHz	% of OBW Power	99.00 %		Auto <u>Man</u>
x dB Bandwidth	35.95 MHz	x dB	-26.00 dB		
	33.93 MITZ	XUD	-20.00 uB		
MSG			STATUS		

Plot 7-115. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 7) - Ch. 143)



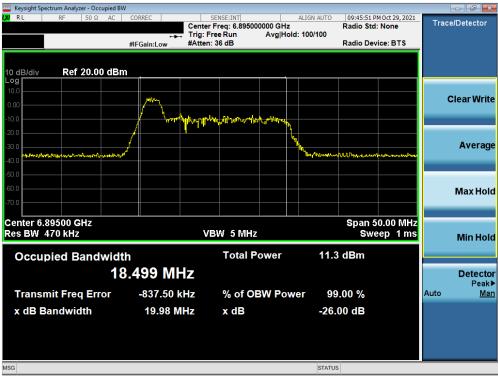
Plot 7-116. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 7) - Ch. 175)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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LXI RL RF 50Ω	AC CORREC	SENSE:INT Center Freq: 6.8250		IGN AUTO 10:58:13 F Radio Sto	M Oct 29, 2021	Trace/Detector
	••		Avg Hold: 1	00/100		
	#IFGain:Low	#Atten: 36 dB		Radio De	vice: BTS	
10 dB/div Ref 30.0	0 dBm					
20.0						
10.0		A				Clear Write
0.00		- Ant				
-10.0		/ [~] \				
-20.0		him half have	han			Average
-30.0 -30.0	man and the second s		and the source of the second	weather and the second states and the second states and the second states and the second states and the second	when the startes	
-40.0						
-50.0						Max Hold
-60.0						Muxitola
Center 6.8250 GHz Res BW 3 MHz		VBW 50 M	47		eep 1 ms	
		A DAA 20 MI	12	344	eep Tills	Min Hold
Occupied Band	lwidth	Total I	Power	11.9 dBm		
	96.097 MI	47				Detector
						Peak▶
Transmit Freq Er	ror 3.3635 N	IHz % of O	BW Power	99.00 %		Auto <u>Man</u>
x dB Bandwidth	39.00 M	lHz x dB		-26.00 dB		
MSG				STATUS		

Plot 7-117. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 7) - Ch. 175)



Plot 7-118. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 189)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-119. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 209)



Plot 7-120. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 233)

FCC ID: A3LSMS908U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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🔤 Keysight Spectrum Analyzer - Occupied BW									
LXIRL RF 50Ω AC	CORREC		E:INT		ALIGN AUTO		M Oct 29, 2021	Trac	e/Detector
				5000000 GHz Avg Hold	- 100/100	Radio Std	: None	mac	endereeton
	#IFGain:Low	#Atten: 36		Avginoid	. 100/100	Radio Dev	ice: BTS		
,	an ounicou								
10 dB/div Ref 20.00 dBm									
Log									
10.0		<u>_</u>							Clear Write
0.00									
-10.0	1 Mary	m land h	<u> </u>						
-20.0		•	monthal .						
				water and the second second					Average
-30.0	Mar .				manum	munhanna	infolition and a part		Average
-40.0									
-50.0									
-60.0									
									Max Hold
-70.0									
Center 6.88500 GHz						Cnon 4			
Res BW 910 kHz		1/014/	0.64	-			00.0 MHz		
Res BW 910 KHZ		VDVV	8 MI	12		SWG	eep 1 ms		Min Hold
			Total	Power	10.6	dBm			
Occupied Bandwidth	1		ισται	Fower	10.0	ubili			
24	.932 MH	7							Detector
									Peak▶
Transmit Freq Error	-5.9947 M	Hz (% of	OBW Pow	er 99	.00 %		Auto	<u>Man</u>
y dD Dan dwidth	24.64 MI		x dB		26				
x dB Bandwidth	24.04 MI	HZ)	хав		-20.	00 dB			
MSG					STATUS				

Plot 7-121. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 187)



Plot 7-122. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 211)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-123. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 227)



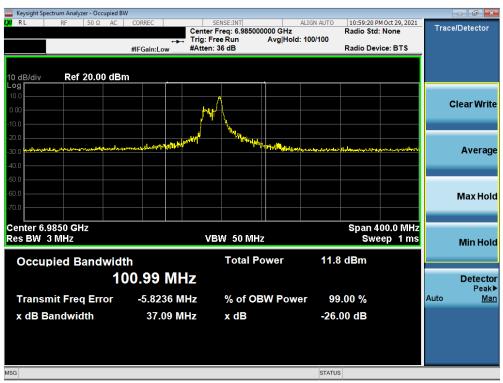
Plot 7-124. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 199)

FCC ID: A3LSMS908U	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-125. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) - Ch. 215)



Plot 7-126. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax (26 Tones) (UNII Band 8) - Ch. 207)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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🔤 Keysight Spectrum Analyzer - Occupied					
LXI RL RF 50Ω AC	CORREC	SENSE:INT Center Freg: 6.985000000 GHz	ALIGN AUTO	11:00:38 PM Oct 29, 2021 Radio Std: None	Trace/Detector
		Trig: Free Run Avg Hold	I: 100/100	Radio Sta. None	
	#IFGain:Low	#Atten: 36 dB		Radio Device: BTS	
10 dB/div Ref 30.00 dE	ßm				
Log					
20.0					Clear Write
10.0		Δ			
0.00		- Ant			
-10.0					
-20.0		mathd " Male			Average
-30.0 sun sugar and a survey of the survey o	maner wheel and the second	" " " " " " " " " " " " " " " " " " "	-	Advance man and a second	
-40.0					
-50.0					Max Hold
-60.0					
Center 6.9850 GHz				Span 400.0 MHz	
Res BW 3 MHz		VBW 50 MHz		Sweep 1 ms	Min Hold
					Min Hold
Occupied Bandwid	lth	Total Power	11.9	dBm	
	05.09 MH	7			Detector
	05.03 MIH	2			Peak►
Transmit Freq Error	-6.2946 MH	z % of OBW Pow	er 99.	00 %	Auto <u>Man</u>
x dB Bandwidth	35.61 MF	lz x dB	-26.0	0 dB	
	55.01 MF		-20.0	U U B	
MSG			STATUS		

Plot 7-127. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax (26 Tones) (UNII Band 8) - Ch. 207)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:		Daga 70 of 205
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MIMO Antenna-2 26dB Bandwidth Measurements (FULL Tones)

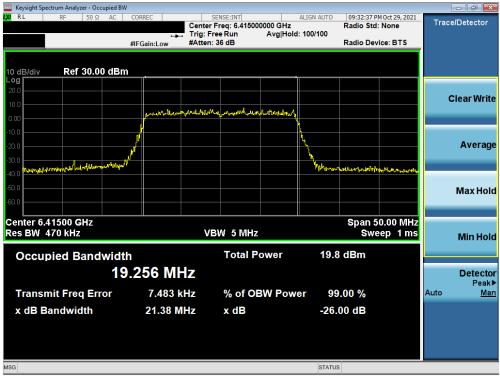




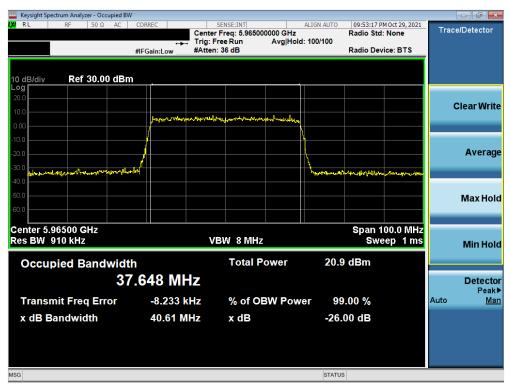
Plot 7-129. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 45)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 80 of 205
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Plot 7-130. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (FULL Tones) UNII Band 5) - Ch. 93)



Plot 7-131. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (FULL Tones) (UNII Band 5) - Ch. 3)

FCC ID: A3LSMS908U	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 91 of 205	
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