



**ELEMENT MATERIALS TECHNOLOGY,
Columbia MD**

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MEASUREMENT REPORT

FCC Part 15.407 802.11a/ax/be WiFi 6GHz (OFDM)

Applicant Name:

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

Date of Testing:

9/2/2025-10/31/2025

Test Report Issue Date:

11/19/2025

Test Site/Location:

Element Lab., Columbia, MD, USA

Test Report Serial No.:

1M2508250079-20.A3L

FCC ID:

A3LSMS948B

APPLICANT:

Samsung Electronics Co., Ltd.

Application Type:

Certification

Model:

SM-S948B/DS

Additional Model(s):

SM-S948B

EUT Type:

Portable Handset

Frequency Range:

5935 – 7115MHz

Modulation Type:

OFDM

FCC Classification:

15E 6GHz Low Power Dual Client (6CD)

FCC Rule Part(s):

Part 15 Subpart E (15.407)

Test Procedure(s):

ANSI C63.10:2020, KDB 987594 D02 v03,
KDB 648474 D03 v01r04, KDB 484596 D01 v03

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 C63.10:2020. 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.

R.J. Ortanez
Executive Vice President



FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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TEST REPORT REVISION HISTORY

Rev. No.	Report S/N	Description	Issue Date
-	1M2508250079-20.A3L	Initial Release	11/19/2025

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Channel Bandwidth [MHz]	UNII Band	Tx Frequency [MHz]	MIMO	
			Max. Power [mW]	Max. Power [dBm]
20	5	5935 - 6415	62.81	17.98
	6	6435 - 6515	11.01	10.42
	7	6535 - 6875	54.33	17.35
	8	6895 - 7115	11.54	10.62
40	5	5965 - 6405	62.09	17.93
	6	6445 - 6525	23.10	13.64
	7	6565 - 6845	56.23	17.50
	8	6885 - 7085	22.71	13.56
80	5	5985 - 6385	63.24	18.01
	6	6465	40.42	16.07
	7	6545 - 6865	56.49	17.52
	8	6945 - 7025	41.80	16.21
160	5	6025 - 6345	63.83	18.05
	6	6505	50.77	17.06
	7	6665 - 6825	57.94	17.63
	8	6985	55.10	17.41
320	5	6105 - 6265	61.22	17.87
	6	6425	57.50	17.60
	7	6585 - 6745	54.45	17.36
	8	6905	57.54	17.60

EUT Overview - EIRP

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1.0 INTRODUCTION

1.1 Scope

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

1.2 Element Test Location

Measurements were conducted at the Element laboratory(ies) indicated in Section 1.3 below. All measurement facilities are compliant with the test site requirements specified in ANSI C63.4:2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC 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.
- Element Washington DC LLC 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).
- Element Washington DC LLC facility is a registered test laboratory with the site description on file with ISED (Wireless Test Lab number 2451B) and FCC (Designation Number US1113).
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Electronics Co., Ltd. Portable Handset FCC ID: A3LSMS948B**. 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.

The authorization for these models (SM-S948B, SM-S948B/DS) utilize data referencing from FCC ID: A3LSMS948U (Model SM-S948U) as permitted per KDB 484596 D01 v03. Data referencing data test results are included in Appendix A of this report.

Test Device Serial No.: 0500M, 0527M, 0529M, 0550M, 0520M

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 (FR1), 802.11b/g/n/ac/ax/be WLAN, 802.11a/n/ac/ax/be 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/be (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

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

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Band 5

Ch.	Frequency (MHz)
7	5985
:	:
39	6145
:	:
87	6385

Band 6

Ch.	Frequency (MHz)
103	6465

Band 7

Ch.	Frequency (MHz)
119	6545
:	:
151	6705
:	:
183	6865

Band 8

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

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

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

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

Band 5		Band 6		Band 7		Band 8	
Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
31	6105	95	6425	127	6585	191	6905
63	6265			159	6745		

Table 2-5. 802.11be (320MHz BW) Frequency / Channel Operations

Notes:

- 6GHz NII operation is possible in 20MHz, 40MHz, 80MHz, 160MHz, and 320MHz 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 C63.10:2020. 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:

802.11 Mode/Band		ANT1		ANT2		MIMO (1+2)	
		Duty Cycle [%]	Radiated DCCF [dB]	Duty Cycle [%]	Radiated DCCF [dB]	Duty Cycle [%]	Radiated DCCF [dB]
6GHz	a	93.73	0.28	93.73	0.28	93.73	0.28
	ax (HE20)	99.65	N/A	99.69	N/A	99.65	N/A
	be (EHT20)	99.67	N/A	99.67	N/A	99.67	N/A
	ax (HE40)	99.69	N/A	99.69	N/A	99.67	N/A
	be (EHT40)	99.69	N/A	99.85	N/A	99.65	N/A
	ax (HE80)	99.65	N/A	99.67	N/A	99.73	N/A
	be (EHT80)	99.67	N/A	99.69	N/A	99.67	N/A
	be (EHT80, 20MHz Puncture)	99.69	N/A	99.84	N/A	99.65	N/A
	ax (HE160)	99.69	N/A	99.60	N/A	99.63	N/A
	be (EHT160)	99.87	N/A	99.69	N/A	99.65	N/A
	be (EHT160, 20MHz Puncture)	99.71	N/A	99.69	N/A	99.62	N/A
	be (EHT160, 40MHz Puncture)	99.65	N/A	99.63	N/A	99.65	N/A
	be (EHT320)	99.67	N/A	99.65	N/A	99.63	N/A
	be (EHT320, 40MHz Puncture)	99.67	N/A	99.67	N/A	99.67	N/A
	be (EHT320, 80MHz Puncture)	99.67	N/A	99.69	N/A	99.65	N/A
	be (EHT320, 120MHz Puncture)	99.67	N/A	99.69	N/A	99.65	N/A

Table 2-6. Measured Duty Cycles

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

WiFi Configurations		SISO		CDD		SDM	
		ANT1	ANT2	ANT1	ANT2	ANT1	ANT2
6GHz	11a	✓	✓	✓	✓	✗	✗
	11ax	✓	✓	✓	✓	✓	✓
	11be	✓	✓	✓	✓	✓	✓

Table 2-7. Antenna / Technology Configurations

✓ = Support; ✗ = NOT Support

SISO = Single Input Single Output

SDM = Spatial Diversity Multiplexing – MIMO function

CDD = Cyclic Delay Diversity – 2Tx Function

3. The device supports the following data rates (shown in Mbps):

802.11a	MCS Index		Spatial Stream	OFDM (802.11ax/be)														
				20MHz			40MHz			80MHz			160MHz			320MHz		
				0.8μs GI	1.6μs GI	3.2μs GI	0.8μs GI	1.6μs GI	3.2μs GI	0.8μs GI	1.6μs GI	3.2μs GI	0.8μs GI	1.6μs GI	3.2μs GI	0.8μs GI	1.6μs GI	3.2μs GI
6	0	0	1	8.6	8.1	7.3	17.2	16.3	14.6	36	34	30.6	72.1	68.1	61.3	144.1	136.1	122.5
9	1	1	1	17.2	16.3	14.6	34.4	32.5	29.3	72.1	68.1	61.3	144.1	136.1	122.5	288.2	272.2	245
12	2	2	1	25.8	24.4	21.9	51.6	48.8	43.9	108.1	102.1	91.9	216.2	204.2	183.8	432.4	408.3	367.5
18	3	3	1	34.4	32.5	29.3	68.8	65	58.5	144.1	136.1	122.5	288.2	272.2	245	576.5	544.4	490
24	4	4	1	51.6	48.8	43.9	103.2	97.5	87.8	216.2	204.2	183.8	432.4	408.3	367.5	864.7	816.7	735
36	5	5	1	68.8	65	58.5	137.6	130	117	288.2	272.2	245	576.5	544.4	490	1152.9	1088.9	980
48	7	6	1	77.4	73.1	65.8	154.9	146.3	131.6	324.3	306.3	275.6	648.5	612.5	551.3	1297.1	1225	1102.5
54		7	1	86	81.3	73.1	172.1	162.5	146.3	360.3	340.3	306.3	720.6	680.6	612.5	1441.2	1361.1	1225
		8	1	103.2	97.5	87.8	206.5	195	175.5	432.4	408.3	367.5	864.7	816.7	735	1729.4	1633.3	1470
		9	1	114.7	108.3	97.5	229.4	216.7	195	480.4	453.7	408.3	960.8	907.4	816.7	1921.6	1814.8	1633.3
		10	1	129	121.9	109.7	258.1	243.8	219.4	540.4	510.4	459.4	1080.9	1020.8	918.8	2161.8	2041.7	1837.5
		11	1	143.4	135.4	121.9	286.8	270.8	243.8	600.5	567.1	510.4	1201	1134.3	1020.8	2402	2268.5	2041.7
		12	1	154.9	146.3	131.6	309.7	292.5	263.3	648.5	612.5	551.3	1297.1	1225	1102.5	2594.1	2450	2205
		13	1	172.1	162.5	146.3	344.1	325	292.5	720.6	680.6	612.5	1441.2	1361.1	1225	2882.4	2722.2	2450
6	8	0	2	17.2	16.3	14.6	34.4	32.5	29.3	72.1	68.1	61.3	144.1	136.1	122.5	288.2	272.2	245
9	9	1	2	34.4	32.5	29.3	68.8	65	58.5	144.1	136.1	122.5	288.2	272.2	245	576.5	544.4	490
12	10	2	2	51.6	48.8	43.9	103.2	97.5	87.8	216.2	204.2	183.8	432.4	408.3	367.5	864.7	816.7	735
18	11	3	2	68.8	65	58.5	137.6	130	117	288.2	272.2	245	576.5	544.4	490	1152.9	1088.9	980
24	12	4	2	103.2	97.5	87.8	206.5	195	175.5	432.4	408.3	367.5	864.7	816.7	735	1729.4	1633.3	1470
36	13	5	2	137.6	130	117	275.3	260	234	576.5	544.4	490	1152.9	1088.9	980	2305.9	2177.8	1960
48	14	6	2	154.9	146.3	131.6	309.7	292.5	263.3	648.5	612.5	551.3	1297.1	1225	1102.5	2594.1	2450	2205
54	15	7	2	172.1	162.5	146.3	344.1	325	292.5	720.6	680.6	612.5	1441.2	1361.1	1225	2882.4	2722.2	2450
		8	2	206.5	195	175.5	412.9	390	351	864.7	816.7	735	1729.4	1633.3	1470	3458.8	3266.7	2940
		9	2	229.4	216.7	195	458.8	433.3	390	960.8	907.4	816.7	1921.6	1814.8	1633.3	3843.1	3629.6	3266.7
		10	2	258.1	243.8	219.4	516.2	487.5	438.8	1080.9	1020.8	918.8	2161.8	2041.7	1837.5	4323.5	4083.3	3675
		11	2	286.8	270.8	243.8	573.5	541.7	487.5	1201	1134.3	1020.8	2402	2268.5	2041.7	4803.9	4537	4083.3
		12	2	309.7	292.5	263.3	619.4	585	526.5	1297.1	1225	1102.5	2594.1	2450	2205	5188.2	4900	4410
		13	2	344.1	325	292.5	688.2	650	585	1441.2	1361.1	1225	2882.4	2722.2	2450	5764.7	5444.4	4900

Table 2-8. Supported Data Rates

4. The device supports either Standard Power (SP) or Low Power Indoor (LPI) operation in the following UNII bands:

UNII Band	Standard Power (SP)	Low Power Indoor (LPI)	Very Low Power (VLP)
UNII 5	✓	✓	✓
UNII 6	✗	✓	✓
UNII 7	✓	✓	✓
UNII 8	✗	✓	✓

Table 2-9. Power Operation

✓ = Support; ✗ = NOT Support

5. The device supports channel puncturing for 802.11be with 80MHz, 160MHz, and 320MHz.

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2.3 Antenna Description

The following antenna gains are used in this device per the "Unlicensed Band Antenna Gain" document provided by the client. This document is also included in the filing as a public exhibit.

Frequency	Ant1 Peak Gain [dBi]	Ant2 Peak Gain [dBi]
5925 MHz	-5.10	-6.68
6025 MHz	-6.25	-5.86
6125 MHz	-4.86	-5.98
6225 MHz	-6.81	-6.82
6325 MHz	-5.26	-4.97
6425 MHz	-6.11	-5.84
6525 MHz	-5.12	-5.35
6625MHz	-6.35	-6.33
6725MHz	-6.34	-6.19
6825MHz	-5.71	-6.86
6925MHz	-5.32	-6.20
7025MHz	-6.35	-5.28
7125MHz	-5.02	-6.89

Table 2-10 Antenna Peak Gain per Frequency

	Ant1 Peak Gain [dBi]	Ant2 Peak Gain [dBi]	Directional Gain [dBi]
5925 – 6425 MHz	-4.86	-4.97	-1.90
6425 – 6525 MHz	-5.12	-5.35	-2.22
6525 – 6875 MHz	-5.12	-5.35	-2.22
6875 – 7125 MHz	-5.02	-5.28	-2.14

Table 2-11. Antenna Peak Gain

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2.4 Test Configuration

The EUT was tested per the guidance of ANSI C63.10:2020 and KDB 987594 D02 v03. ANSI C63.10:2020 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 operation under control of either a low-power indoor access point or standard power access point or very low power access point

This device operates in the 5.925-7.125 GHz band when under control of an indoor access point or very lower power access point. Additionally, the device may operate in the 5.925-6.425 GHz and 6.525-6.875 GHz bands when under control of a standard power access point.

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: NQ-WC-06 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 S948USQU0AYIB 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 C63.10:2020) and the guidance provided in KDB 987594 D02 v03 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, 50Ω/50μH 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.

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 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 precautions were 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 were noted for each frequency found.

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

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

3.4 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 C63.10:2020. 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 ($\pm$ dB)
Contention Based Protocol Conducted Measurements	0.86
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

Table 5-1. Measurement Uncertainty Budget

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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
-	MD 1M 40	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	MD 1M 40
-	AP1-002	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP1-002
-	AP2-001	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP2-001
-	ETS-001	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-001
-	WL25-1	Conducted Cable Set (25GHz)	2/25/2025	Annual	2/25/2026	WL25-1
-	WL25-2	Conducted Cable Set (25GHz)	2/25/2025	Annual	2/25/2026	WL25-2
-	WL40-1	Conducted Cable Set (40GHz)	2/25/2025	Annual	2/25/2026	WL40-1
-	NMLC-2	Line Conducted Emissions Cable (NM)	3/25/2025	Annual	3/25/2026	NMLC-2
Agilent	N9038A	MXE EMI Receiver	9/16/2024	Annual	11/22/2025	MY51210133
Anritsu	MA24408A	8GHz Microwave Peak Power Sensor	10/2/2024	Annual	10/2/2025	11675
ETS-Lindgren	3116C	DRG Horn Antenna	4/22/2025	Biennial	4/22/2027	218893
Keysight Technologies	N9020A	MXA Signal Analyzer	5/7/2025	Annual	5/7/2026	US46470561
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	9/15/2025	Annual	9/15/2026	MY49430494
Rohde & Schwarz	TC-TA18	Vivaldi Antenna	12/10/2024	Biennial	12/10/2026	101073
Rohde & Schwarz	TC-TA18	Vivaldi Antenna	4/15/2024	Biennial	4/15/2026	101058
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	10/16/2024	Annual	10/16/2025	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	11/25/2024	Annual	11/25/2025	100348
Rohde & Schwarz	CMX500	5G Radio Communication Tester	N/A			101202
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	3/25/2025	Annual	3/25/2026	101716
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107
Sunol	JB6	Bi-Log Antenna (30M - 5GHz)	3/24/2025	Biennial	3/24/2027	A082816

Table 6-1. Test Equipment Calibration Table

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.

Equipment listed with "N/A under calibration information was not used to make calibrated measurements.

Component	Serial Number
MegaPhase Cable TM26-S1S1-36	18160103 003
Pasternack 6dB Attenuator PE7005-6	N/A

Table 6-2. WL25-1 Conducted Cable Set Components

Component	Serial Number
MiniCircuits Cable CBL-2FT-SMSM+	77743
MCL 6dB Attenuator BW-S6W2+	1314

Table 6-3. WL25-2 Conducted Cable Set Components

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Component	Serial Number
MegaPhase Cable TM40K1K1-36	18160102 001
MCL 10dB Attenuator BW-K10 2W44+	1902

Table 6-4. WL40-1 Conducted Cable Set Components

Component	Serial Number
Pasternak Cable RG214/U	111815
Sucoflex Cable 106A	246420-001
Rohde & Schwarz SF Unit	102134

Table 6-5. ETS-001 EMC Cable and Switch System Components

Component	Serial Number
MiniCircuits Cable CBL-0.5M-SMNM+	47261
Micro-Coax Utiflex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-001
Micro-Coax Utiflex Cable UFB311A-1-0629-50U50U MFR 64639	231986-002
MegaPhase Cable NC29-N1N1-324	19046401 001
MegaPhase Flex Cable 10511-1	15044701-006
Micro-Coas Utiflex Cable UFB311A-Q-3446-50U50U MFR 64639	231978-002
Micro-Coas Utiflex Cable UFB311A-1-0629-50U50U MFR 64639	231986-001
Micro-Coas Utiflex Cable UFB142A-0-0659-50U50U MFR 64639	232069-001
Rohde & Schwarz SF Unit	102138

Table 6-6. AP2-001 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase Cable TM40-K1K1-30	20233002-004
UTIPLEX Cable	64639 232063-001
Rohde & Schwarz Pre-amp RS-PR1840 18G-40G	9037.7670.02

Table 6-7. MD 1M 18-40 EMC Cable and Switch System Components

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7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.
 FCC ID: A3LSMS948B
 FCC Classification: 15E 6GHz Low Power Dual Client (6CD)

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference	Data Referencing
2.1046, 15.407(a)(12)	Maximum Conducted Output Power	N/A	CONDUCTED	PASS	Section 7.3	Yes
15.407(a)(8), 15.407(a)(7)	Maximum Radiated Output Power	< 24dBm over the frequency band of operation <30dBm over the frequency band of operation when connecting to a standard power access point		PASS	Section 7.3	Yes
2.1049, 15.407(a)(11)	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	Yes
15.407(a)(8), 15.407(a)(7)	Maximum Power Spectral Density	< -1dBm/MHz e.i.r.p. <17dBm/MHz when operating with a standard power access point		PASS	Section 7.4	Yes
15.407(b)(7)	In-Band Emissions	EUT must meet the limits detailed in 15.407(b)(7)		PASS	Section 7.5	Yes
15.407(d)(6)	Contention Based Protocol	EUT must detect AWGN signal with 90% (or better) certainty		PASS	Section 7.6	Yes
15.407(a)(7)	Power Reduction Verification	EUT must limit its power to no more than 6dB below its associated standard power access point's authorized transmit power. EUT must distinguish its associated access point as standard or low power and control its power levels accordingly.		PASS	Section 7.7	No
15.407(b)(6)	Undesirable Emissions	< -27dBm/MHz e.i.r.p. outside of the 5.925 – 7.125GHz band	RADIATED	PASS	Section 7.8	Yes
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		PASS	Section 7.8	Yes
15.407(b)(9)	AC Conducted Emissions (150kHz – 30MHz)	< FCC 15.207 limits	LINE CONDUCTED	PASS	Section 7.9	No

Table 7-1. Summary of Test Results

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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) Per 15.407(a)(7), a device operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands must not have the maximum power spectral density exceed 17 dBm/MHz e.i.r.p., must limit the maximum e.i.r.p. over the frequency band of operation does not exceed 30 dBm, and must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power. Compliance to this clause is addressed via submission of an attestation following Appendix B of KDB 987594 D01 v03.
- 5) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "EMC Software Tool" Version 2.3.0.
- 6) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 1.3.1.
- 7) Data was referenced from model SM-S948U for the certification of SM-S948B/DS. See Section 9.0 for spot-check results.

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7.2 26dB Bandwidth Measurement

Test Overview and Limit

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

Test Procedure Used

ANSI C63.10:2020 – Section 12.5

Test Settings

1. 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. $VBW \geq 3 \times RBW$
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

1. All cases were investigated; a subset of the plots taken were included to represent relevant settings and measurements.
2. In case of 320MHz operation, an occupied bandwidth measurement is used to demonstrate compliance.
3. SP 160/320MHz BW share the same target as LPI 160/320MHz BW, and only the emissions from worst-case have been reported.

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	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 26dB Bandwidth [MHz]	Antenna-2 26dB Bandwidth [MHz]	Antenna-1 Occupied Bandwidth [MHz]	Antenna-2 Occupied Bandwidth [MHz]
Band 5	5935	2	a	24.02	22.41	17.53	17.01
	6175	45	a	24.42	22.58	17.50	17.04
	6415	93	a	23.85	22.57	17.43	17.08
	5935	2	be (20MHz)	23.84	24.07	19.53	19.42
	6175	45	be (20MHz)	23.83	23.70	19.47	19.38
	6415	93	be (20MHz)	24.13	23.34	19.46	19.37
	5695	3	be (40MHz)	45.81	44.19	38.58	38.45
	6165	43	be (40MHz)	45.30	44.41	38.51	38.52
	6405	91	be (40MHz)	44.79	45.57	38.61	38.43
	5985	7	be (80MHz)	90.92	91.14	78.50	78.38
	6145	39	be (80MHz)	91.35	90.64	78.53	78.38
	6385	87	be (80MHz)	90.37	89.97	78.68	78.57
	6025	15	be (160MHz)	179.95	176.20	158.00	157.77
	6185	47	be (160MHz)	178.64	178.29	157.72	157.89
	6345	79	be (160MHz)	176.37	176.01	157.79	157.57
	6105	31	be (320MHz)	-	-	316.96	316.23
Band 6	6265	63	be (320MHz)	-	-	317.10	315.19
	6435	97	a	24.19	22.55	17.44	17.12
	6475	105	a	24.52	22.86	17.47	17.18
	6515	113	a	24.07	22.26	17.40	17.15
	6435	97	be (20MHz)	24.11	24.08	19.46	19.37
	6475	105	be (20MHz)	23.51	22.89	17.44	17.16
	6515	113	be (20MHz)	24.02	23.65	19.42	19.43
	6445	99	be (40MHz)	45.08	45.68	38.49	38.56
	6485	107	be (40MHz)	45.42	44.28	38.63	38.48
	6525	115	be (40MHz)	44.79	44.78	38.71	38.53
Band 5/6/7	6465	103	be (80MHz)	91.56	91.92	78.47	78.48
	6505	111	be (160MHz)	176.98	177.09	157.51	157.65
Band 7	6425	95	be (320MHz)	-	-	314.98	314.39
	6535	117	a	23.60	22.48	17.45	17.20
	6695	149	a	23.90	22.89	17.43	17.21
	6875	185	a	23.62	22.80	17.42	17.22
	6535	117	be (20MHz)	23.88	22.54	17.45	17.19
	6695	149	be (20MHz)	23.84	23.28	19.44	19.43
	6875	185	be (20MHz)	23.95	24.15	19.43	19.36
	6565	123	be (40MHz)	45.84	44.54	38.54	38.49
	6725	155	be (40MHz)	45.69	45.47	38.54	38.49
	6885	179	be (40MHz)	45.29	45.58	38.63	38.48
	6545	119	be (80MHz)	88.68	90.01	78.53	78.54
	6705	151	be (80MHz)	89.91	90.85	78.43	78.40
	6865	183	be (80MHz)	90.67	89.54	78.59	78.35
	6665	143	be (160MHz)	177.60	176.45	157.58	157.71
	6825	175	be (160MHz)	178.77	176.03	157.88	157.77
	6585	127	be (320MHz)	-	-	315.58	315.58
Band 6/7	6745	159	be (320MHz)	-	-	315.19	315.18
Band 7/8	6895	189	a	24.61	22.79	17.46	17.22
	6995	209	a	23.85	22.90	17.46	17.22
	7115	233	a	24.18	22.89	17.56	17.27
	6895	189	be (20MHz)	24.17	23.73	19.48	19.38
	6995	209	be (20MHz)	23.97	24.22	19.47	19.37
	7115	233	be (20MHz)	23.68	24.22	19.36	19.34
	6945	199	be (80MHz)	91.42	90.83	78.40	78.44
	7025	215	be (80MHz)	91.15	89.79	78.52	78.42
Band 8	6985	207	be (160MHz)	175.58	175.08	157.76	157.05
	6905	191	be (320MHz)	-	-	315.32	316.45

Table 7-2. 26dB Bandwidth Results - LPI

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	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 26dB Bandwidth [MHz]	Antenna-2 26dB Bandwidth [MHz]	Antenna-1 Occupied Bandwidth [MHz]	Antenna-2 Occupied Bandwidth [MHz]
Band 5	6145	39	be (80MHz)	20MHz	90.08	91.99	78.62	78.61
	6185	47	be (160MHz)	20MHz	179.41	174.69	157.62	157.69
	6185	47	be (160MHz)	40MHz	171.17	176.70	158.10	157.97
	6105	31	be (320MHz)	40MHz	-	-	316.89	315.58
	6105	31	be (320MHz)	80MHz	-	-	316.52	316.30
	6105	31	be (320MHz)	120MHz	316.07	312.31	238.20	237.65
Band 6	6465	103	be (80MHz)	20MHz	91.35	89.00	78.89	78.74
	6505	111	be (160MHz)	20MHz	174.38	173.07	157.39	157.62
	6505	111	be (160MHz)	40MHz	172.46	173.26	157.93	158.25
Band 5/6/7	6425	95	be (320MHz)	40MHz	315.34	314.44	315.34	314.44
	6425	95	be (320MHz)	80MHz	316.11	315.79	316.11	315.79
	6425	95	be (320MHz)	120MHz	238.11	236.96	238.11	236.96
Band 7	6705	151	be (80MHz)	20MHz	88.01	88.49	78.81	78.52
	6665	143	be (160MHz)	20MHz	176.52	175.23	157.46	157.54
	6665	143	be (160MHz)	40MHz	174.50	175.05	157.93	158.00
Band 7/8	6745	159	be (320MHz)	40MHz	315.57	315.34	315.57	315.34
	6745	159	be (320MHz)	80MHz	317.03	315.88	317.03	315.88
	6745	159	be (320MHz)	120MHz	239.34	238.48	239.34	238.48
Band 8	7025	215	be (80MHz)	20MHz	89.39	89.87	78.92	78.79
	6985	207	be (160MHz)	20MHz	173.61	175.93	157.84	157.70
	6985	207	be (160MHz)	40MHz	175.43	174.30	157.97	158.20
Band 7/8	6905	191	be (320MHz)	40MHz	315.08	314.84	315.08	314.84
	6905	191	be (320MHz)	80MHz	316.46	316.10	316.46	316.10
	6905	191	be (320MHz)	120MHz	237.58	237.05	237.58	237.05

Table 7-3. 26dB Bandwidth Results – Punctured Cases - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 23 of 148

	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 26dB Bandwidth [MHz]	Antenna-2 26dB Bandwidth [MHz]	Antenna-1 Occupied Bandwidth [MHz]	Antenna-2 Occupied Bandwidth [MHz]
Band 5	5935	2	a	23.98	21.81	17.28	16.99
	6175	45	a	23.24	22.37	17.37	17.00
	6415	93	a	23.30	22.40	17.20	17.06
	5935	2	be (20MHz)	23.89	23.76	19.47	19.36
	6175	45	be (20MHz)	24.18	23.67	19.51	19.38
	6415	93	be (20MHz)	23.68	23.69	19.47	19.39
	5695	3	be (40MHz)	44.00	44.98	38.38	38.52
	6165	43	be (40MHz)	45.62	45.01	38.68	38.36
	6405	91	be (40MHz)	45.12	45.15	38.62	38.48
	5985	7	be (80MHz)	91.14	90.28	78.69	78.37
	6145	39	be (80MHz)	91.90	91.05	78.87	78.56
	6385	87	be (80MHz)	92.67	90.35	78.43	78.38
Band 7	6535	117	a	23.42	22.40	17.26	17.14
	6695	149	a	23.56	22.78	17.24	17.24
	6855	181	a	23.33	22.60	17.31	17.12
	6535	117	be (20MHz)	23.84	23.62	19.30	19.29
	6695	149	be (20MHz)	24.11	23.48	19.45	19.32
	6855	181	be (20MHz)	24.43	23.57	19.36	19.28
	6565	123	be (40MHz)	44.37	45.68	38.45	38.45
	6725	155	be (40MHz)	44.09	44.32	38.43	38.38
	6885	179	be (40MHz)	45.81	45.21	38.41	38.52
	6625	135	be (80MHz)	89.47	89.06	78.35	78.41
	6705	151	be (80MHz)	89.87	89.92	78.34	78.48
	6785	167	be (80MHz)	90.15	89.74	78.23	78.32

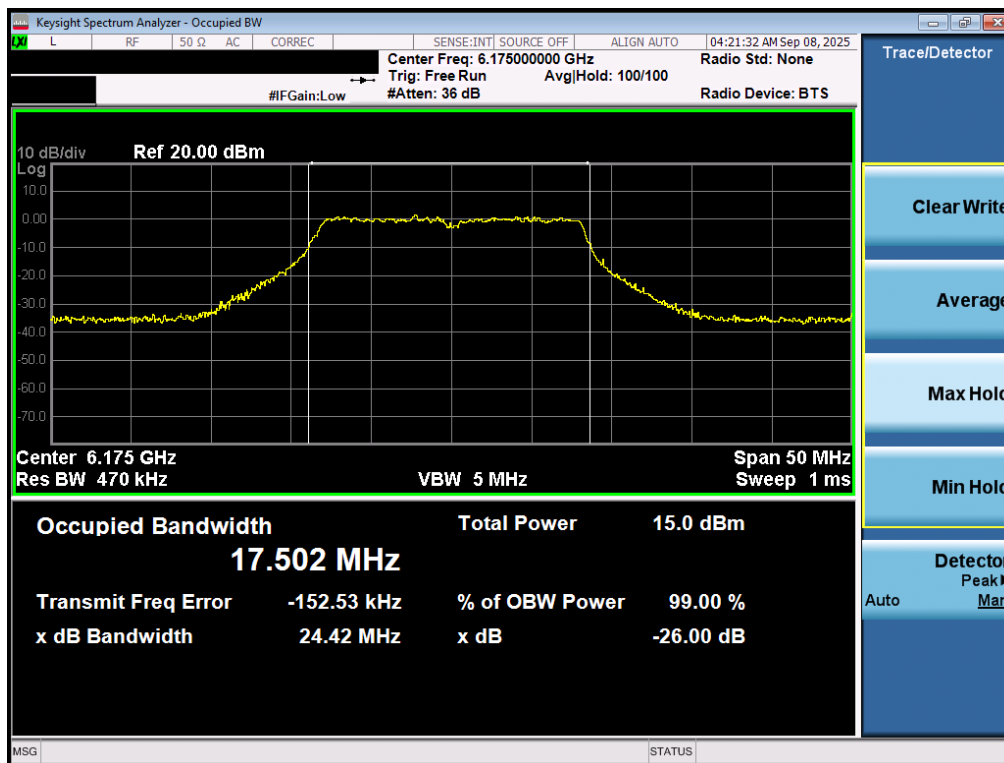
Table 7-4. 26dB Bandwidth Results – SP

	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 26dB Bandwidth [MHz]	Antenna-2 26dB Bandwidth [MHz]	Antenna-1 Occupied Bandwidth [MHz]	Antenna-2 Occupied Bandwidth [MHz]
Band 5	6145	39	be (80MHz)	20MHz	90.33	90.58	79.24	78.77
	6185	47	be (160MHz)	20MHz	175.35	178.59	157.98	158.26
	6185	47	be (160MHz)	40MHz	176.72	176.54	158.73	157.97
Band 7	6705	151	be (80MHz)	20MHz	90.76	91.64	79.16	78.85
	6665	143	be (160MHz)	20MHz	176.80	174.96	158.09	157.99
	6665	143	be (160MHz)	40MHz	176.50	176.08	158.35	158.35

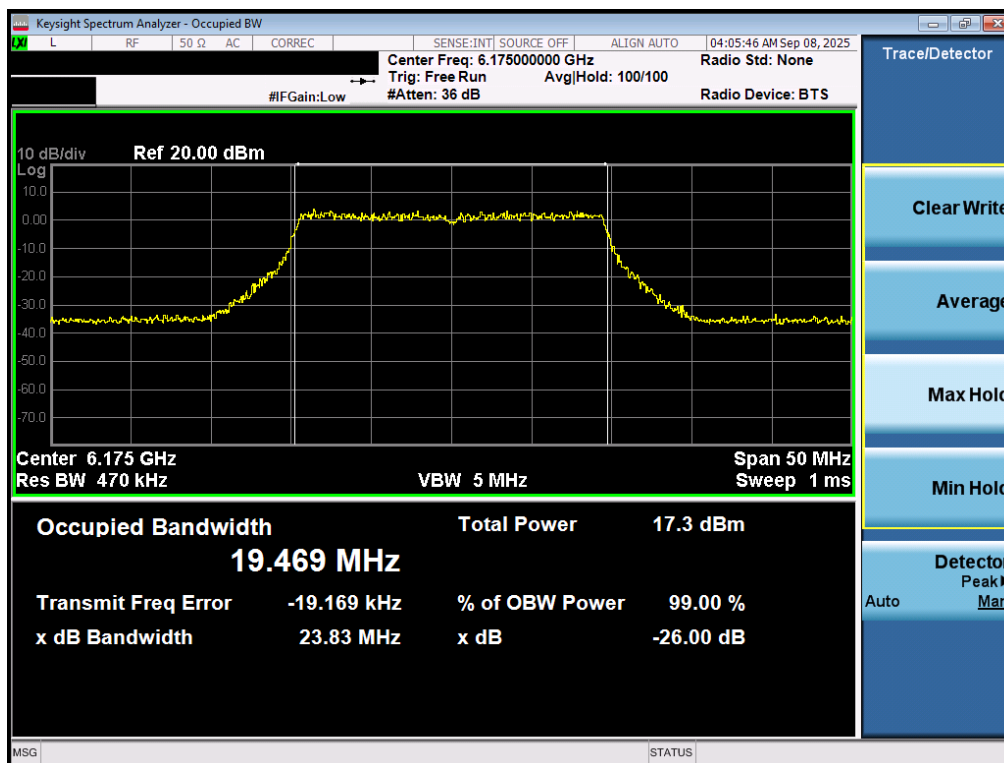
Table 7-5. 26dB Bandwidth Results – Punctured Cases - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset		Page 24 of 148

7.2.1 MIMO Antenna-1 26 dB Bandwidth Measurements - (UNII Band 5)

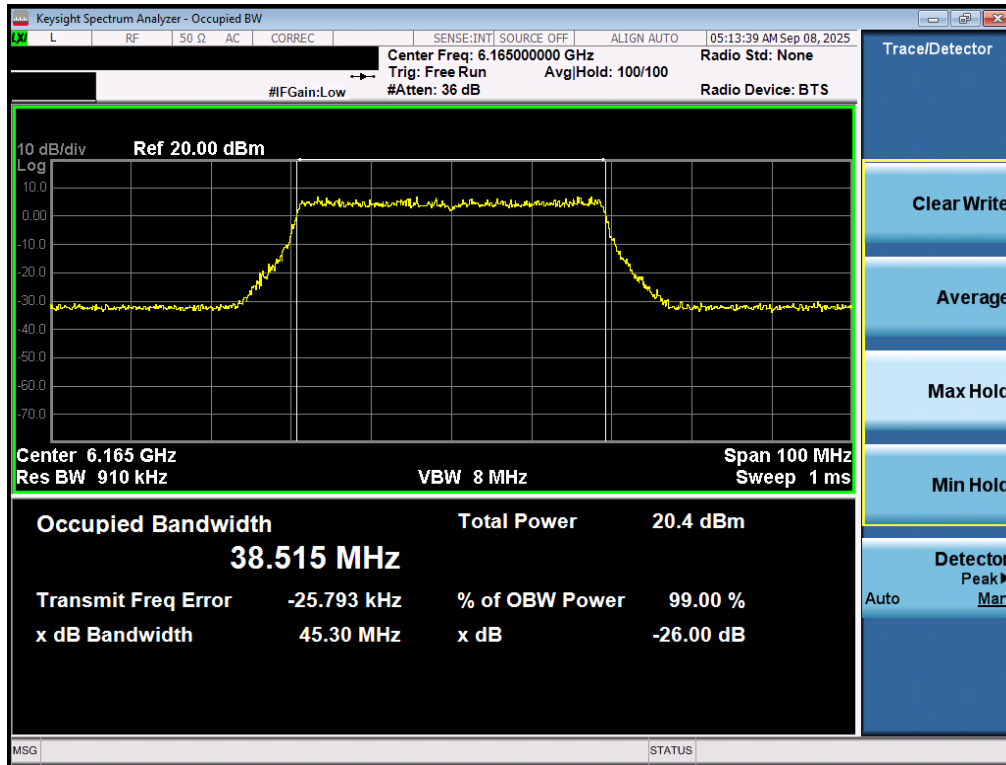


Plot 7-1. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

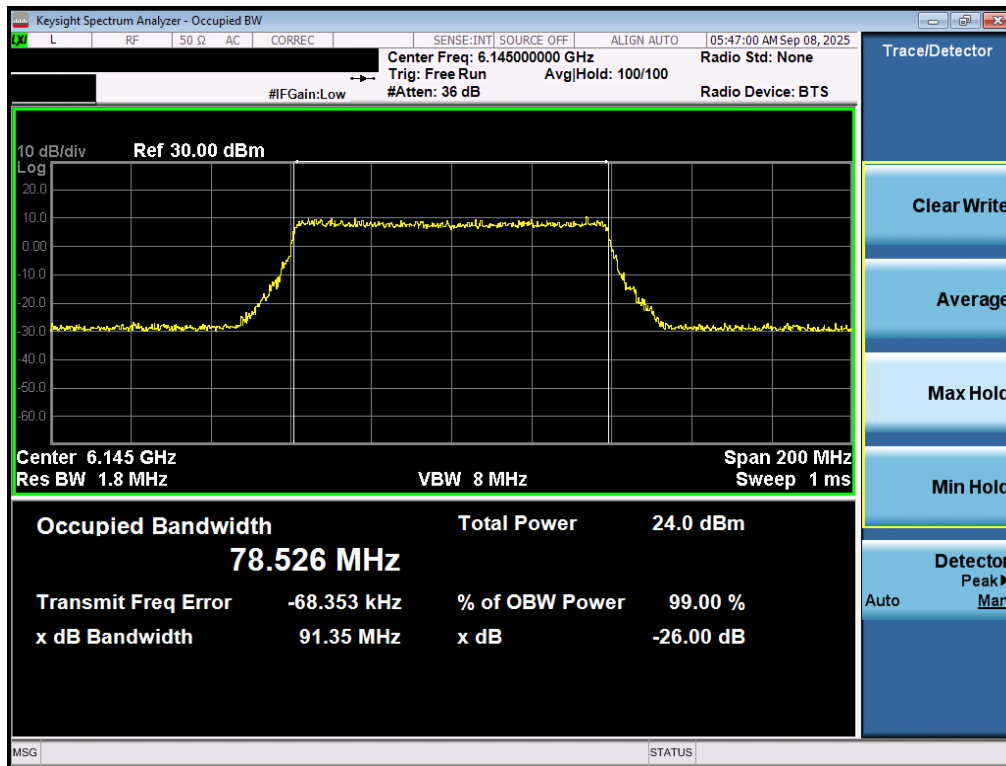


Plot 7-2. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 25 of 148

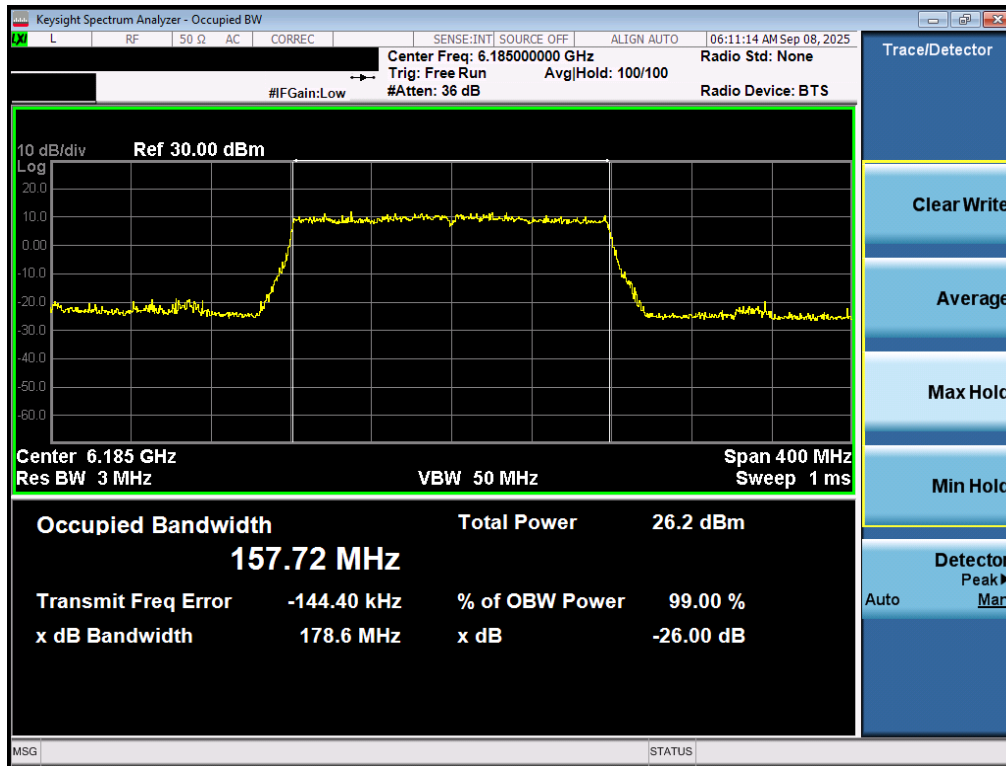


Plot 7-3. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI

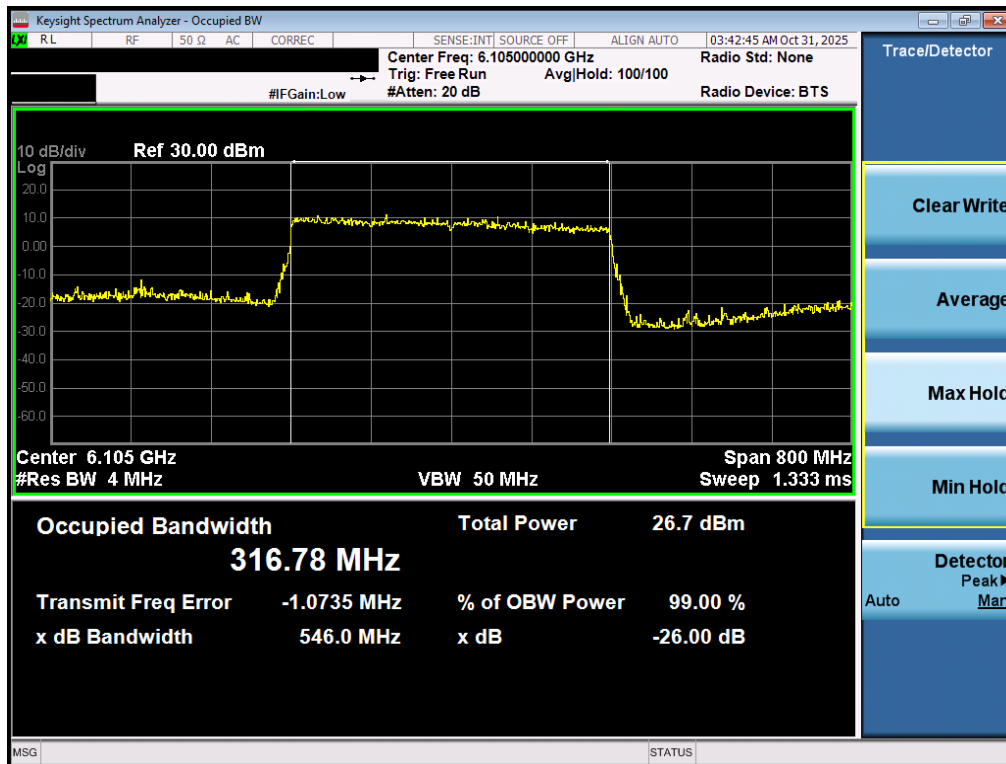


Plot 7-4. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 26 of 148

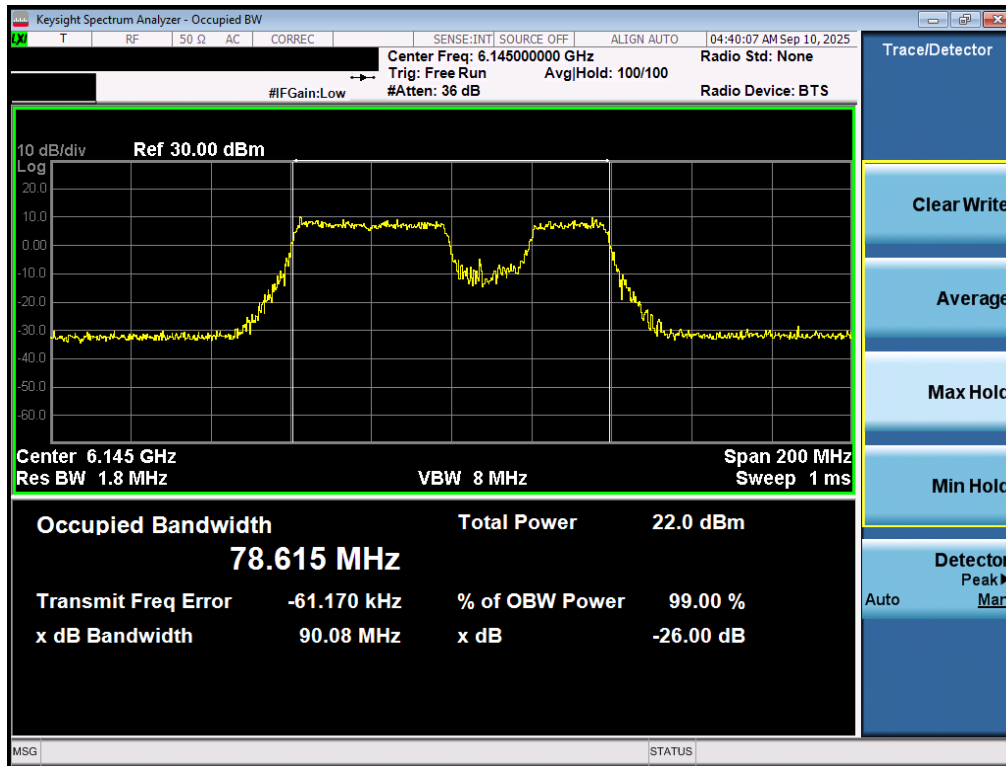


Plot 7-5. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11ax/be (UNII Band 5) – Ch. 47) - LPI/SP

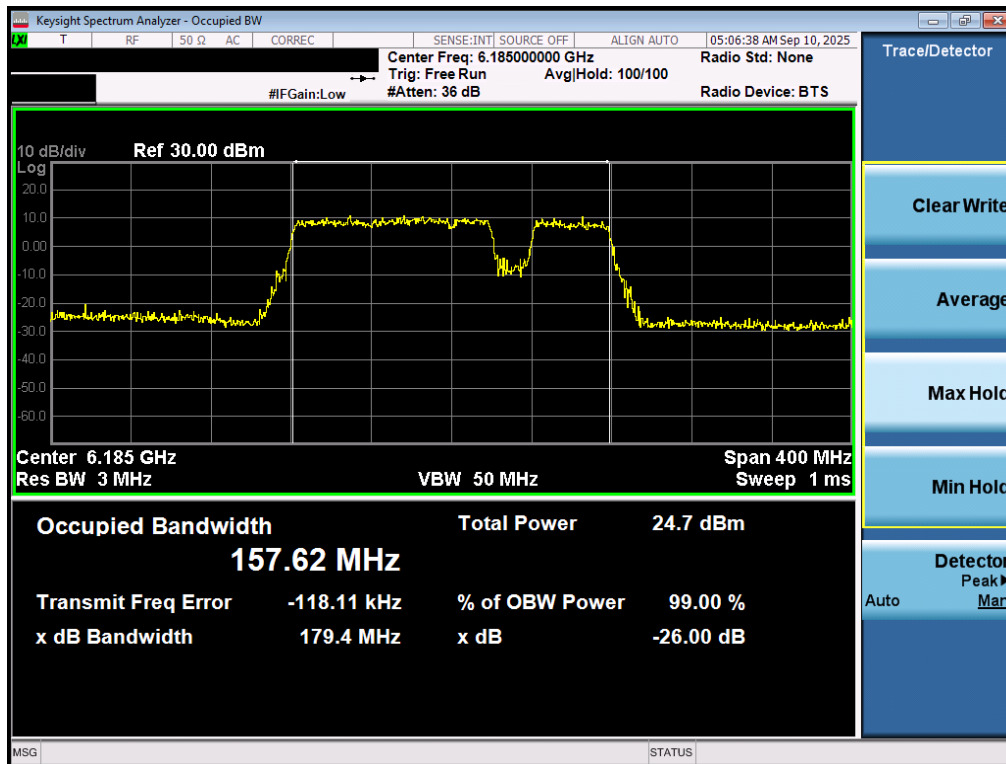


Plot 7-6. 26dB Bandwidth Plot MIMO ANT1 (320MHz 802.11ax/be (UNII Band 5) – Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 27 of 148

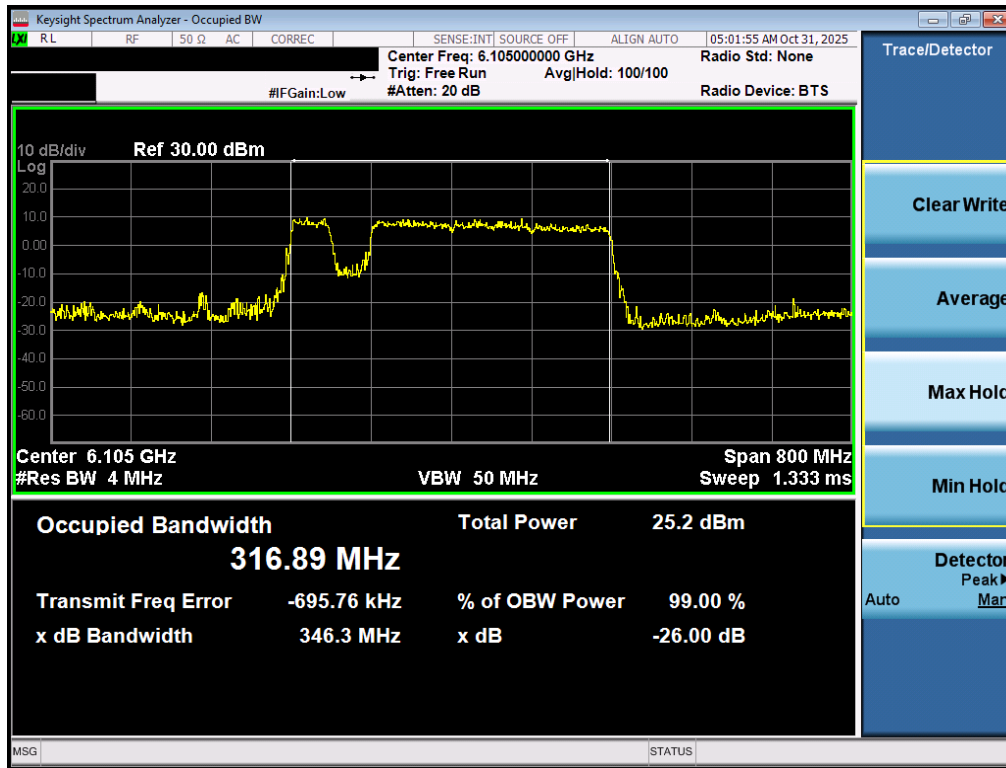


Plot 7-7. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI



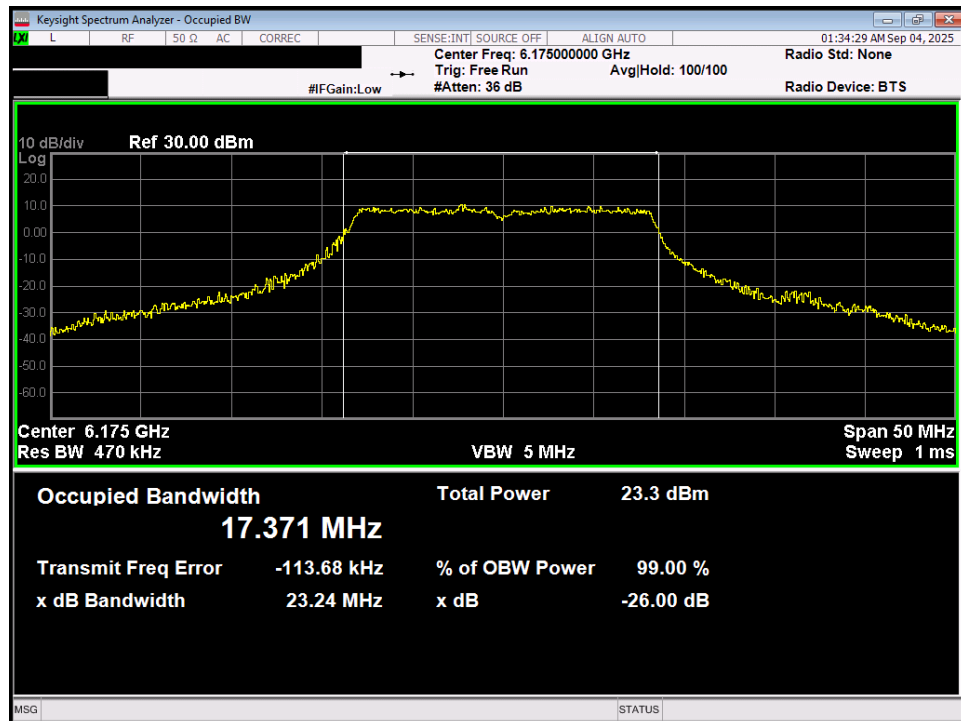
Plot 7-8. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 28 of 148

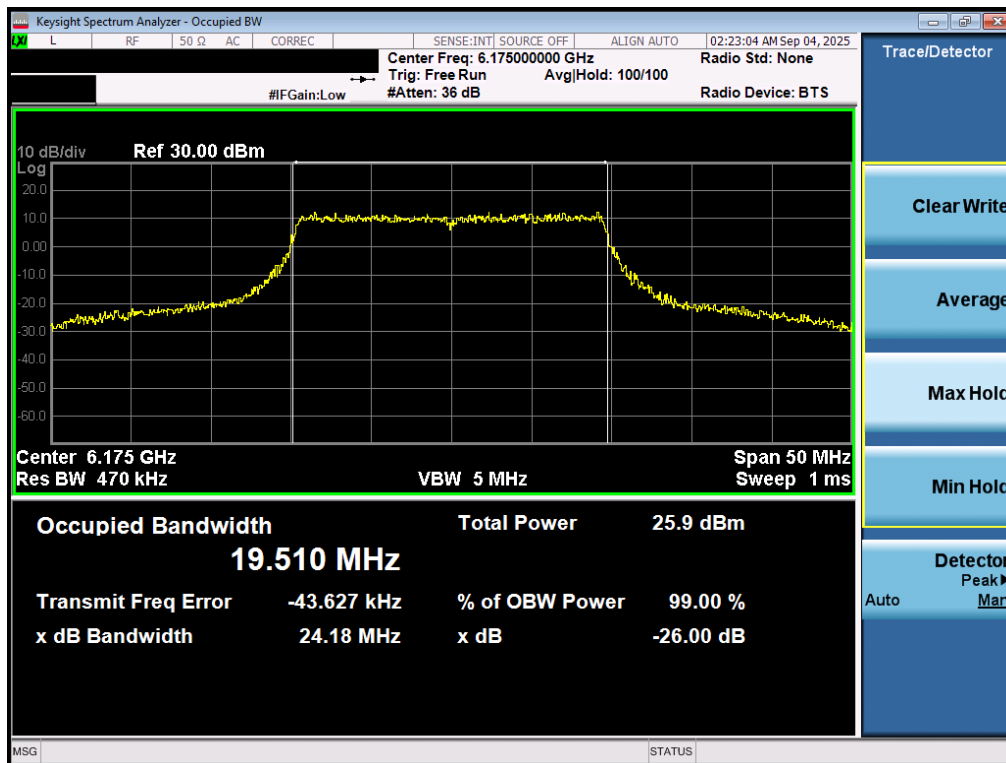


Plot 7-9. 26dB Bandwidth Plot MIMO ANT1 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 40MHz Punctured – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 29 of 148

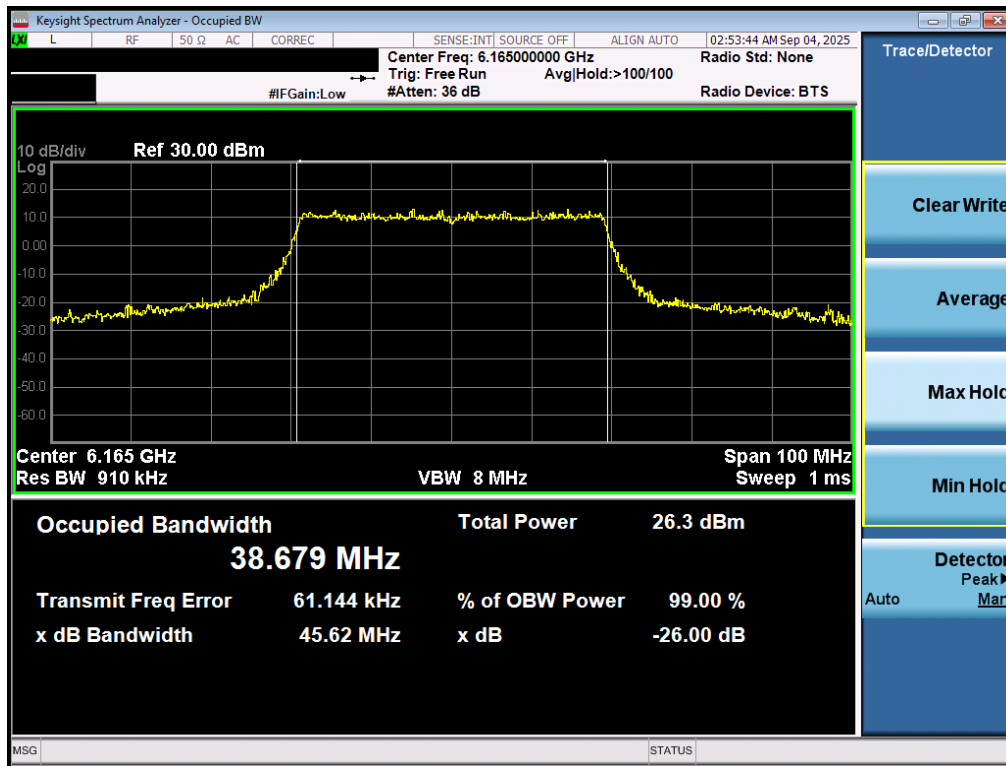


Plot 7-10. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - SP

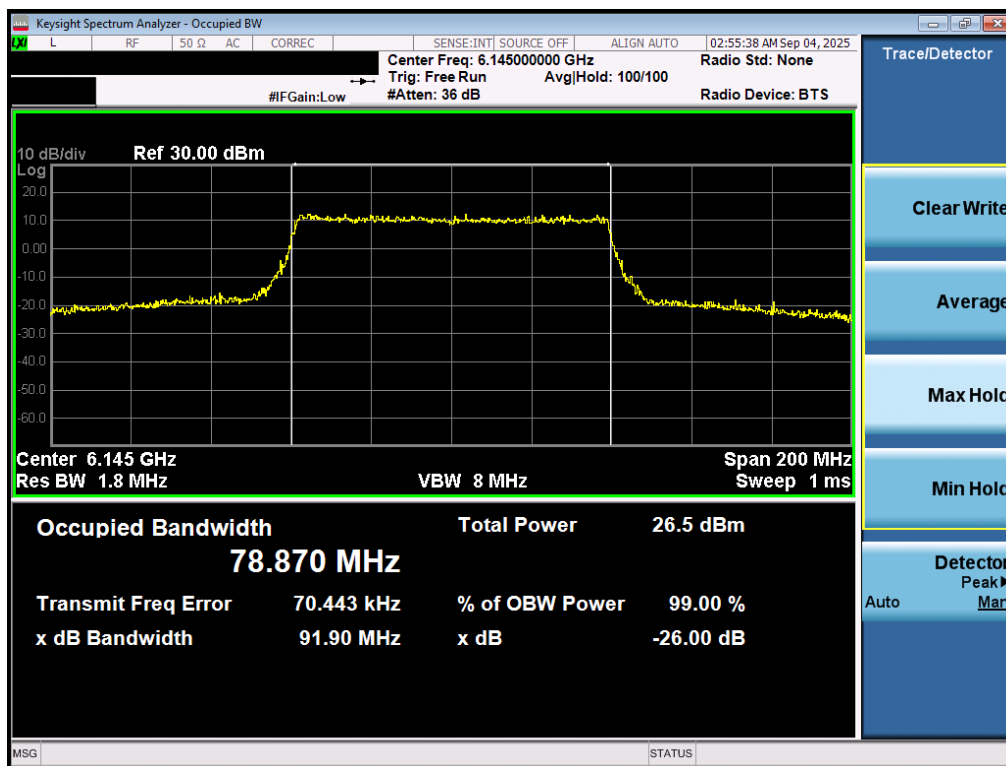


Plot 7-11. 26dB Bandwidth Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 30 of 148

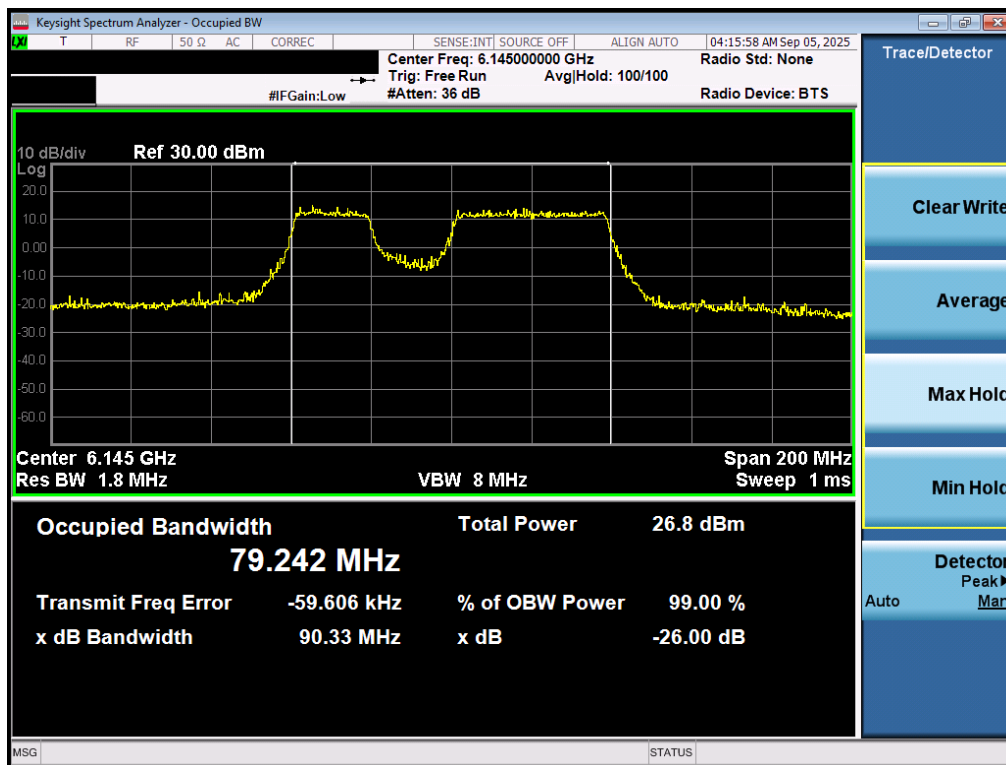


Plot 7-12. 26dB Bandwidth Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

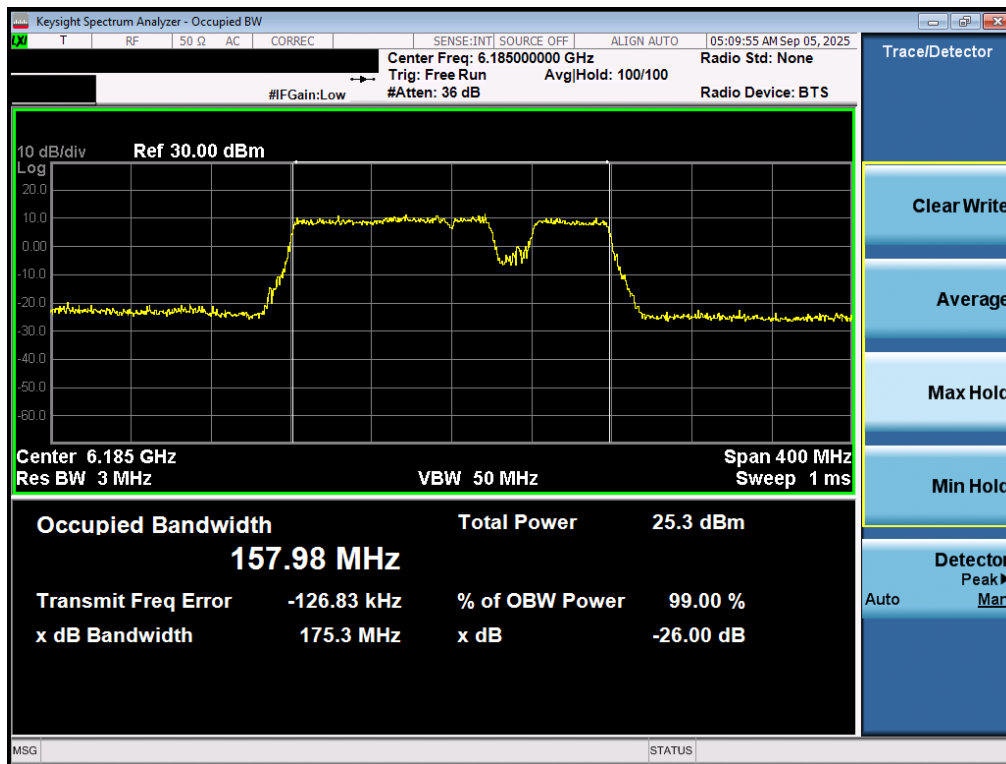


Plot 7-13. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 31 of 148



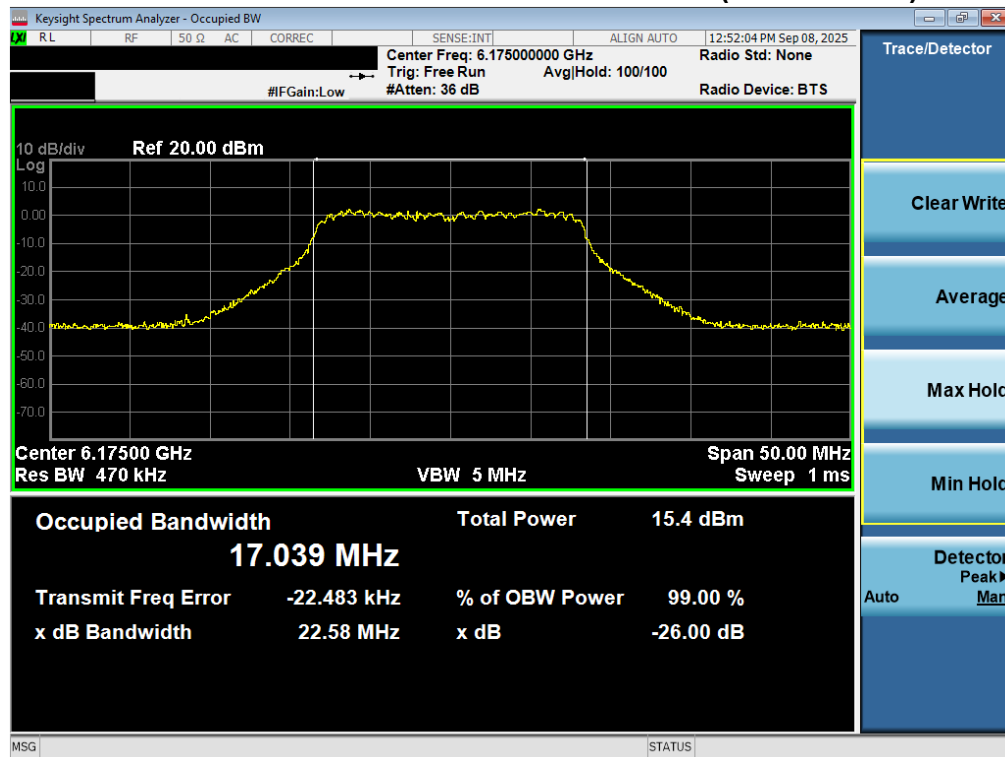
Plot 7-14. 26dB Bandwidth Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP



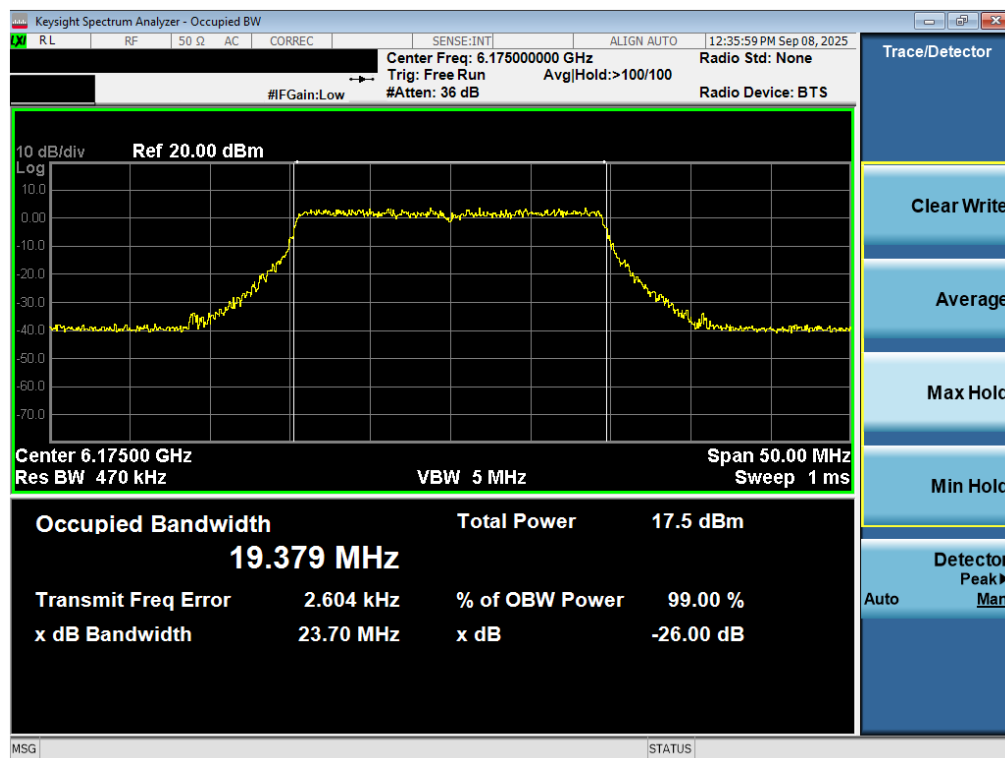
Plot 7-15. 26dB Bandwidth Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 32 of 148

7.2.2 MIMO Antenna-2 26 dB Bandwidth Measurements - (UNII Band 5)

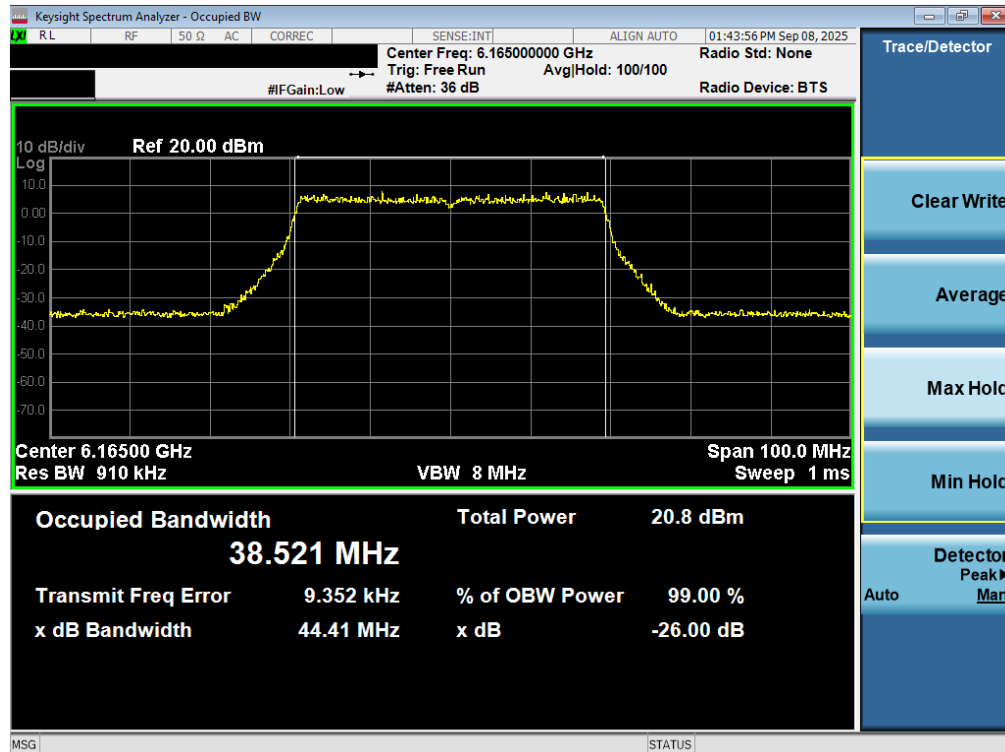


Plot 7-16. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

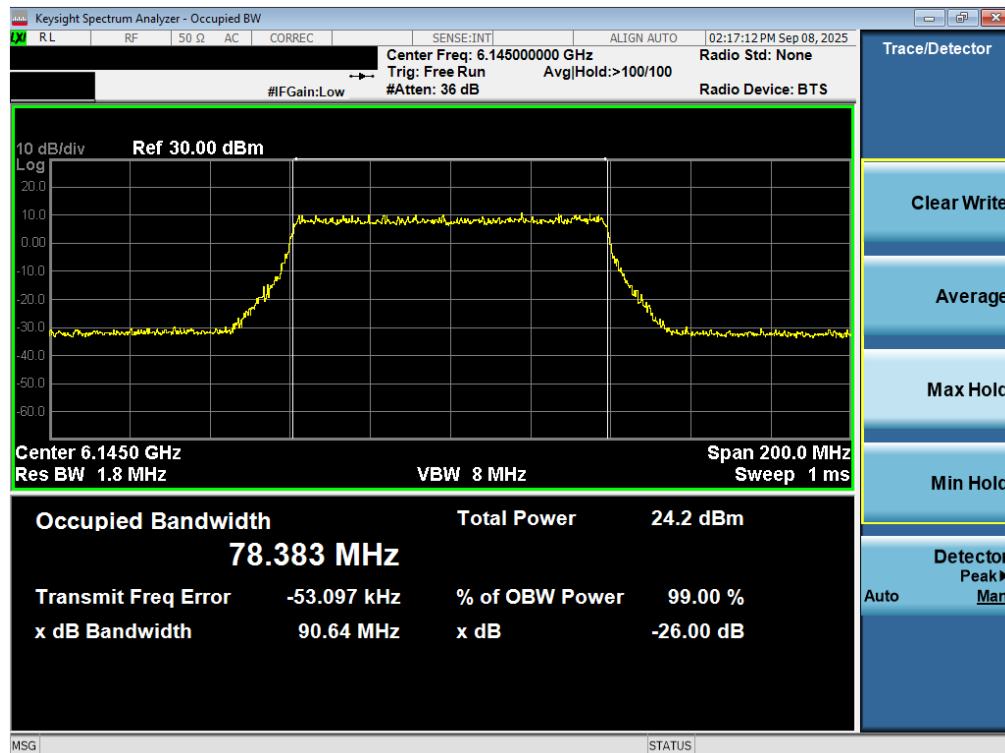


Plot 7-17. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 33 of 148

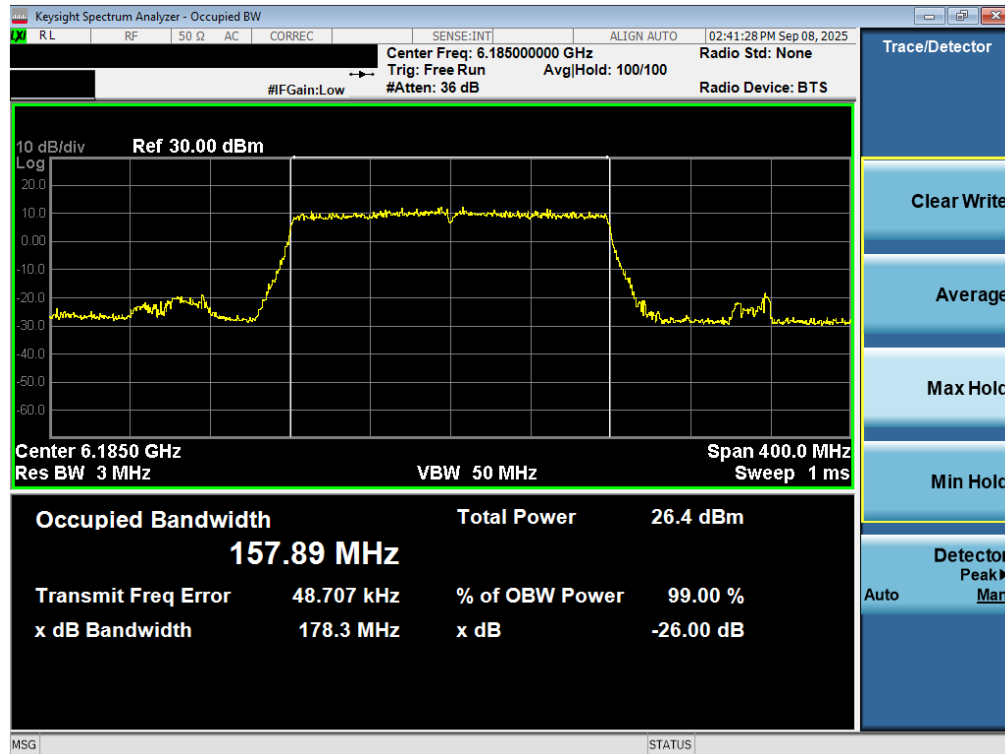


Plot 7-18. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI

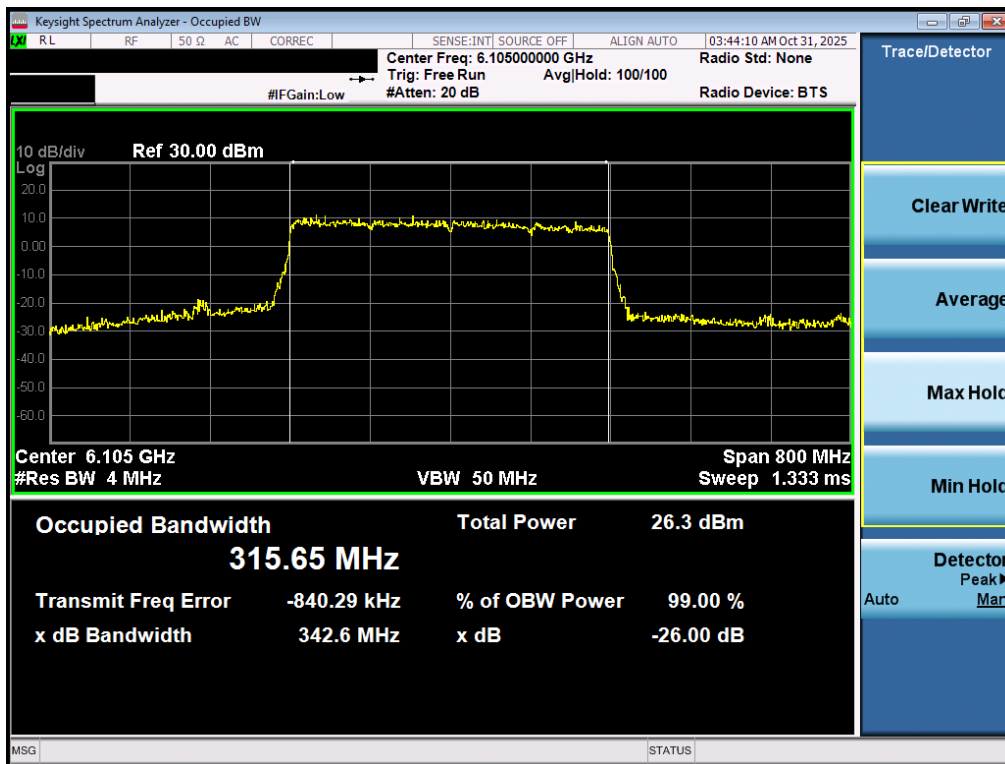


Plot 7-19. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 34 of 148

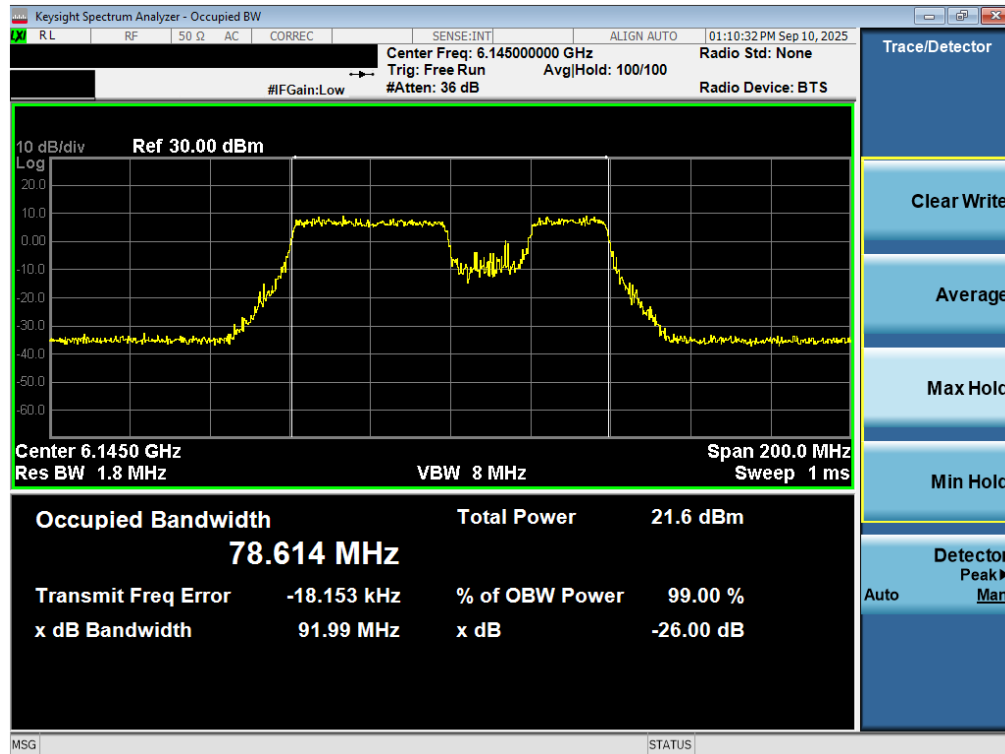


Plot 7-20. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11ax/be (UNII Band 5) – Ch. 47) - LPI/SP

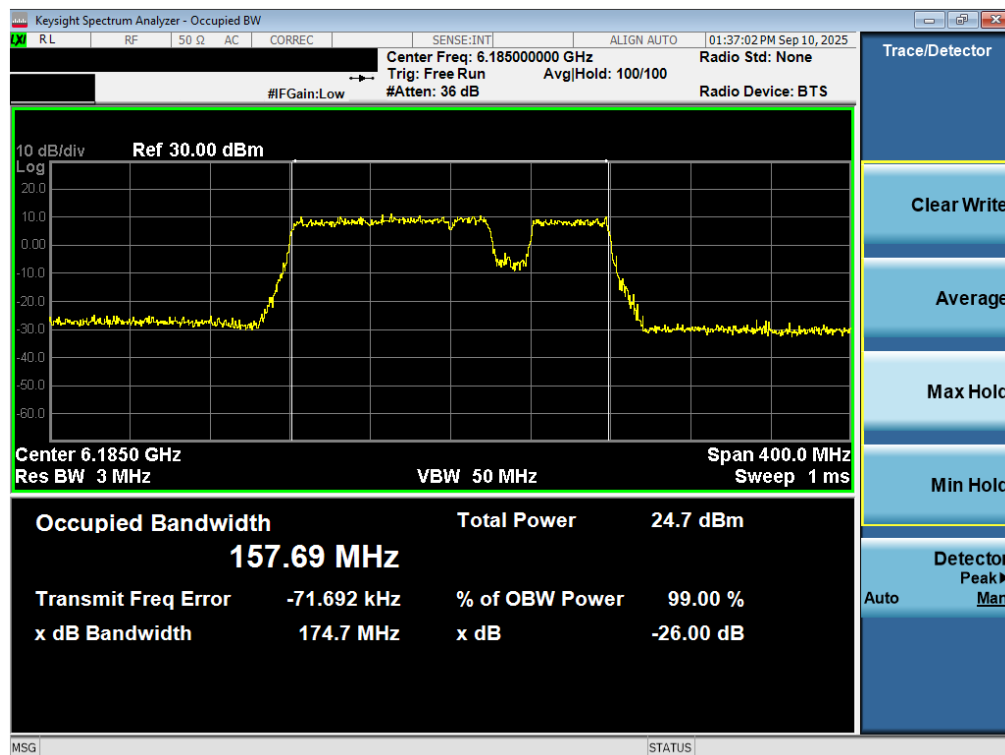


Plot 7-21. 26dB Bandwidth Plot MIMO ANT2 (320MHz 802.11ax/be (UNII Band 5) – Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 35 of 148

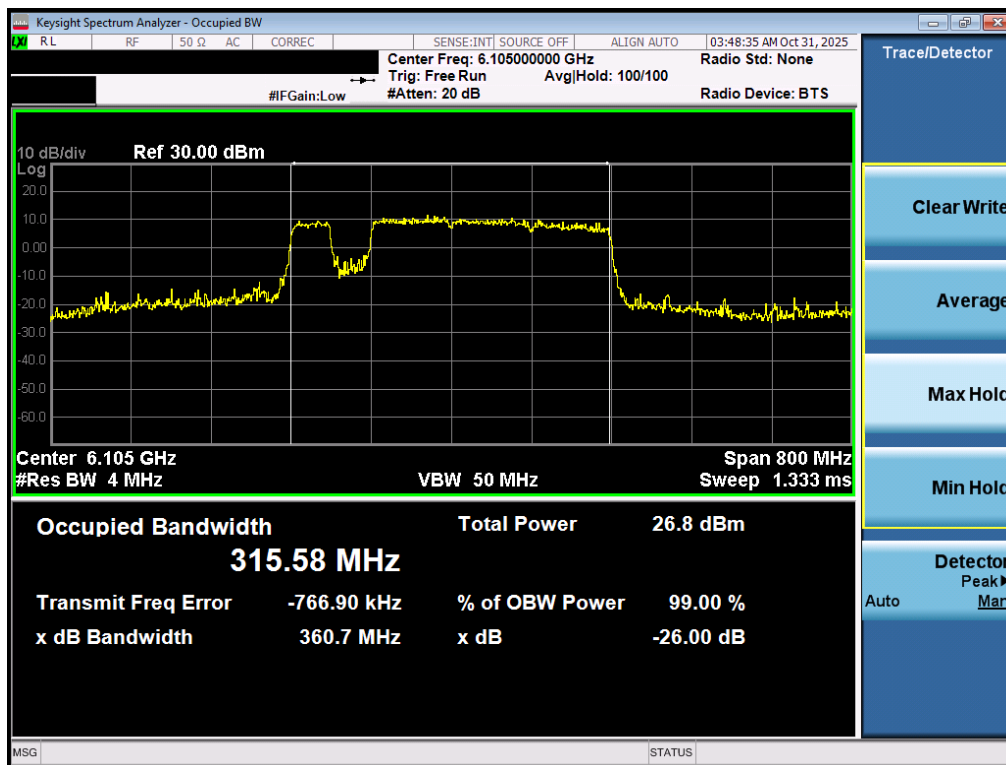


Plot 7-22. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI



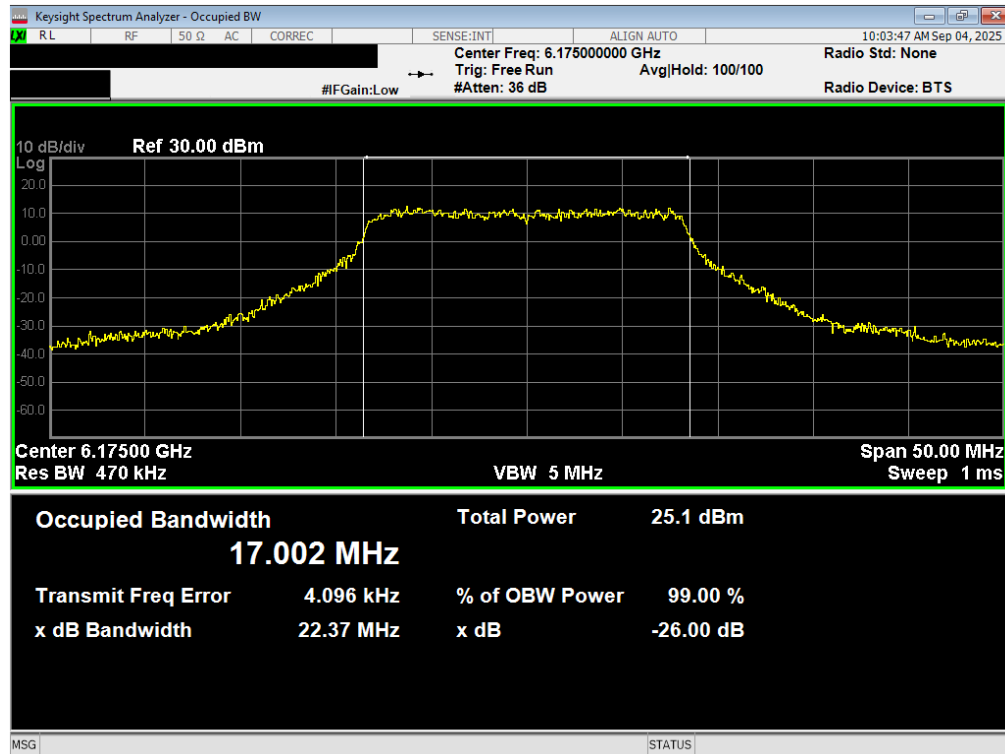
Plot 7-23. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 36 of 148

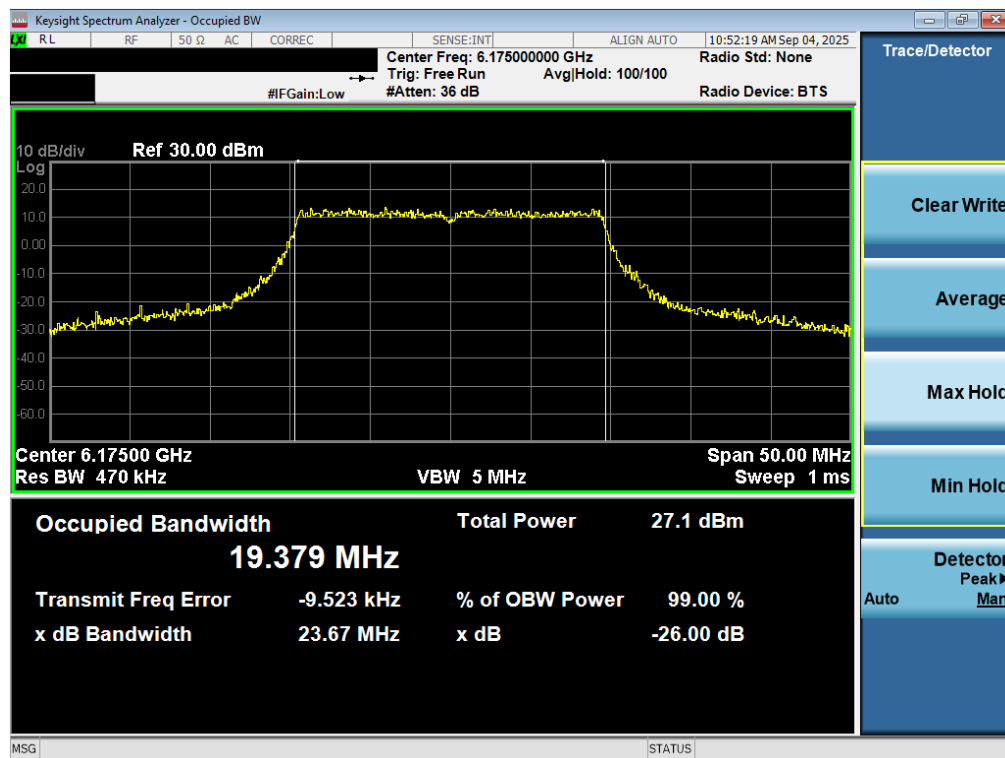


Plot 7-24. 26dB Bandwidth Plot MIMO ANT2 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 40MHz Punctured – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 37 of 148

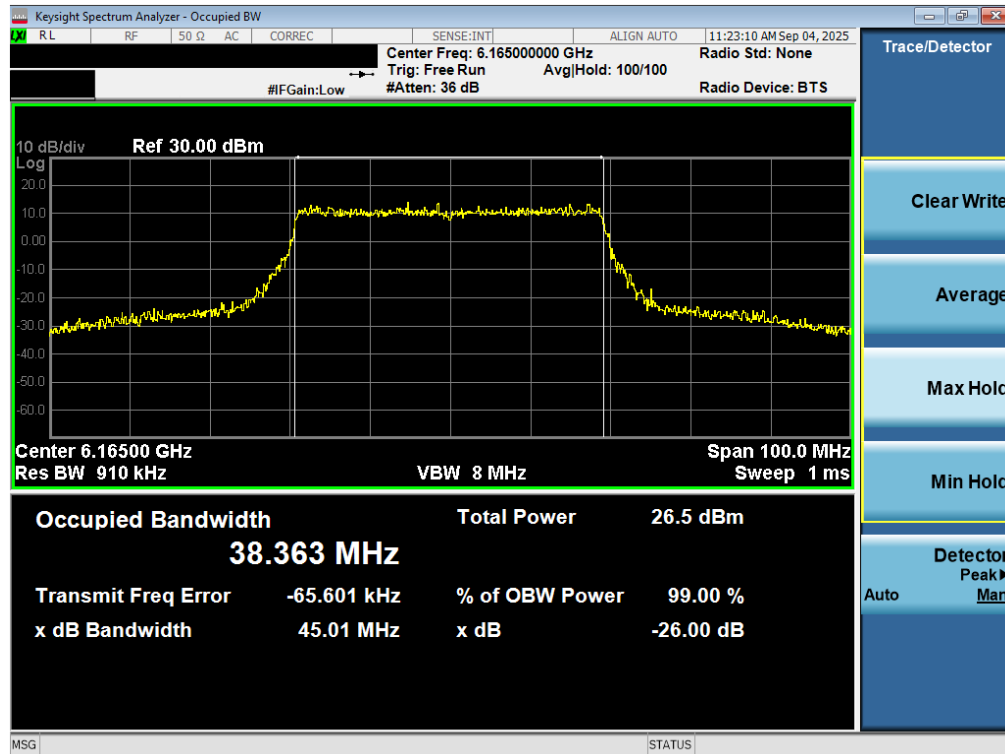


Plot 7-25. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) - SP

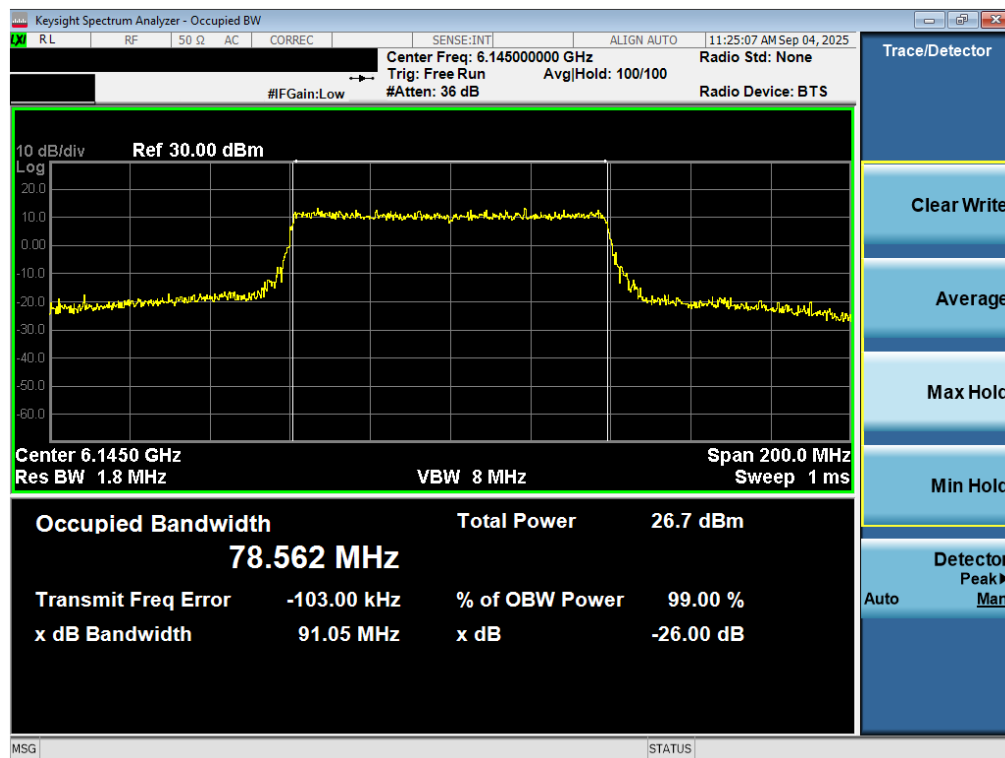


Plot 7-26. 26dB Bandwidth Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 38 of 148

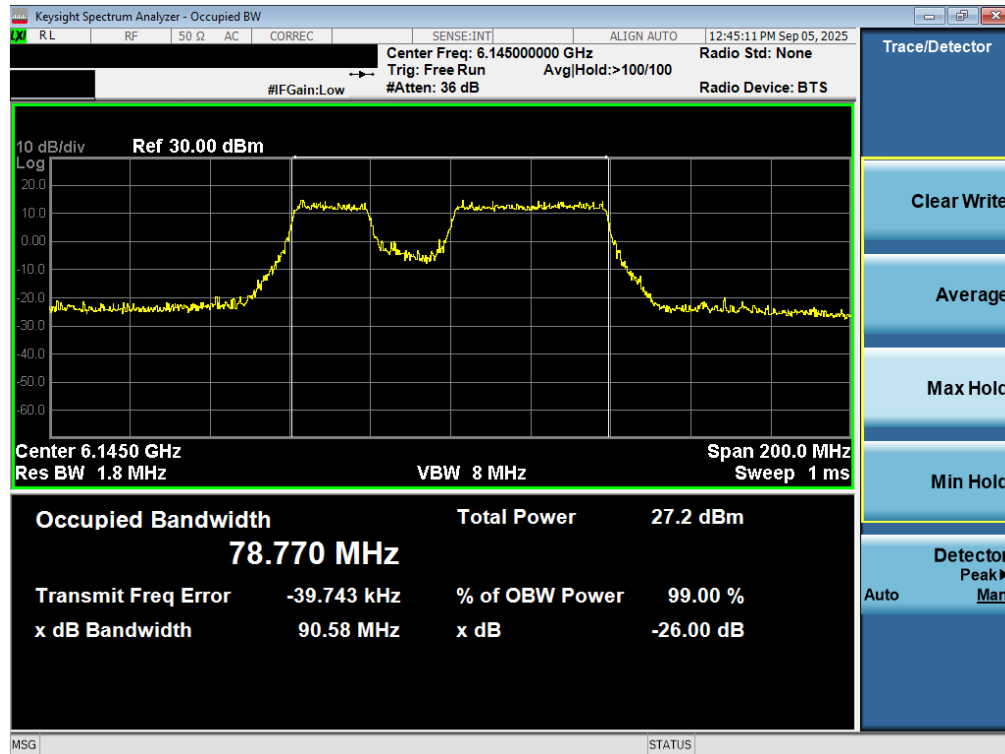


Plot 7-27. 26dB Bandwidth Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

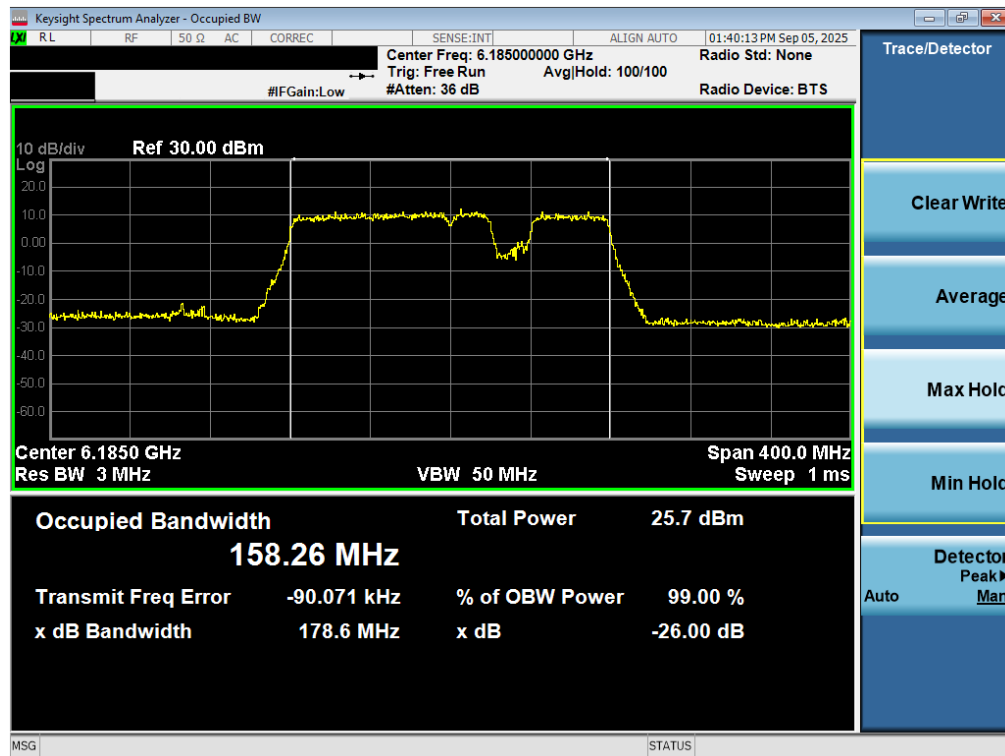


Plot 7-28. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 39 of 148



Plot 7-29. 26dB Bandwidth Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP



Plot 7-30. 26dB Bandwidth Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 40 of 148

7.3 UNII Output Power Measurement

Test Overview and Limits

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020, and at the appropriate frequencies.

For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm. For client devices operating under the control of a standard power access point, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm and the device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.

Test Procedure Used

ANSI C63.10:2020 – Section 12.4.3.2 Method PM-G
ANSI C63.10:2020 – Section 14.5.2.3 Measure-and-Sum Technique

Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

Test Setup

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

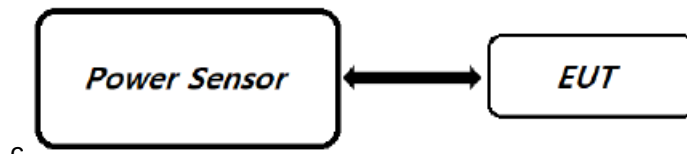


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

1. Compliance for this device while operating under the control of either an indoor low power access point or a standard power access point is demonstrated by applying the tighter low power indoor access point limit of 24dBm e.i.r.p. where LPI and SP power targets are identical.
2. Power targets for punctured test cases match the next smallest bandwidth. E.g. 80MHz punctured target = 40MHz full bandwidth target, 160MHz punctured target = 80MHz full bandwidth target, etc.

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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MIMO Maximum Conducted Output Power Measurements

6GHz WIFI (20MHz 802.11a MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	7.08	7.28	10.19	-1.90	8.29	24.00	-15.71
	5955	1	8.47	8.56	11.53	-1.90	9.63	24.00	-14.37
	6175	45	8.54	8.47	11.52	-1.90	9.62	24.00	-14.38
	6415	93	8.69	7.80	11.28	-1.90	9.38	24.00	-14.62
UNII-6	6435	97	8.65	7.26	11.02	-2.22	8.80	24.00	-15.20
	6475	105	8.89	7.92	11.44	-2.22	9.22	24.00	-14.78
	6515	113	8.69	8.52	11.62	-2.22	9.40	24.00	-14.60
UNII-7	6535	117	8.70	8.50	11.61	-2.22	9.39	24.00	-14.61
	6675	145	8.89	8.11	11.53	-2.22	9.31	24.00	-14.69
	6695	149	8.79	8.13	11.48	-2.22	9.26	24.00	-14.74
	6875	185	8.78	8.48	11.64	-2.14	9.50	24.00	-14.50
UNII-8	6895	189	8.84	8.60	11.73	-2.14	9.59	24.00	-14.41
	6995	209	8.77	8.12	11.47	-2.14	9.33	24.00	-14.67
	7115	233	8.54	7.86	11.22	-2.14	9.08	24.00	-14.92

Table 7-6. MIMO 20MHz BW 802.11a (UNII) Maximum Conducted Output Power – LPI

6GHz WIFI (20MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	7.24	7.45	10.36	-1.90	8.46	24.00	-15.54
	5955	1	8.99	9.16	12.09	-1.90	10.19	24.00	-13.81
	6175	45	8.90	9.12	12.02	-1.90	10.12	24.00	-13.88
	6415	93	9.27	8.35	11.84	-1.90	9.94	24.00	-14.06
UNII-6	6435	97	9.65	8.35	12.06	-2.22	9.84	24.00	-14.16
	6475	105	9.79	8.88	12.37	-2.22	10.15	24.00	-13.85
	6515	113	9.69	9.49	12.60	-2.22	10.38	24.00	-13.62
UNII-7	6535	117	9.72	9.49	12.62	-2.22	10.40	24.00	-13.60
	6675	145	9.96	9.05	12.54	-2.22	10.32	24.00	-13.68
	6695	149	9.88	9.05	12.50	-2.22	10.28	24.00	-13.72
	6875	185	9.76	9.50	12.64	-2.14	10.50	24.00	-13.50
UNII-8	6895	189	9.85	9.35	12.62	-2.14	10.48	24.00	-13.52
	6995	209	9.99	9.50	12.76	-2.14	10.62	24.00	-13.38
	7115	233	9.98	9.16	12.60	-2.14	10.46	24.00	-13.54

Table 7-7. MIMO 20MHz BW 802.11ax (UNII) Maximum Conducted Output Power– LPI

6GHz WIFI (20MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	7.19	7.41	10.31	-1.90	8.41	24.00	-15.59
	5955	1	8.89	9.14	12.03	-1.90	10.13	24.00	-13.87
	6175	45	9.00	9.09	12.06	-1.90	10.16	24.00	-13.84
	6415	93	9.23	8.30	11.80	-1.90	9.90	24.00	-14.10
UNII-6	6435	97	9.65	8.27	12.02	-2.22	9.80	24.00	-14.20
	6475	105	9.76	8.89	12.36	-2.22	10.14	24.00	-13.86
	6515	113	9.78	9.48	12.64	-2.22	10.42	24.00	-13.58
UNII-7	6535	117	9.75	9.43	12.60	-2.22	10.38	24.00	-13.62
	6675	145	9.95	9.02	12.52	-2.22	10.30	24.00	-13.70
	6695	149	9.85	9.10	12.50	-2.22	10.28	24.00	-13.72
	6875	185	9.77	9.45	12.62	-2.14	10.48	24.00	-13.52
UNII-8	6895	189	9.85	9.50	12.69	-2.14	10.55	24.00	-13.45
	6995	209	9.98	9.50	12.76	-2.14	10.62	24.00	-13.38
	7115	233	9.96	9.16	12.59	-2.14	10.45	24.00	-13.55

Table 7-8. MIMO 20MHz BW 802.11be (UNII) Maximum Conducted Output Power– LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset		Page 42 of 148

6GHz WIFI (40MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5965	3	11.64	11.88	14.77	-1.90	12.87	24.00	-11.13
	6165	43	11.84	11.78	14.82	-1.90	12.92	24.00	-11.08
	6285	67	11.83	11.01	14.45	-1.90	12.55	24.00	-11.45
	6405	91	11.62	10.75	14.22	-1.90	12.32	24.00	-11.68
UNII-6	6445	99	12.99	11.75	15.42	-2.22	13.20	24.00	-10.80
	6485	107	12.59	12.03	15.33	-2.22	13.11	24.00	-10.89
	6525	115	12.56	12.33	15.46	-2.22	13.24	24.00	-10.76
UNII-7	6565	123	12.60	12.24	15.43	-2.22	13.21	24.00	-10.79
	6685	147	12.66	11.88	15.30	-2.22	13.08	24.00	-10.92
	6725	155	12.95	12.01	15.52	-2.22	13.30	24.00	-10.70
	6845	179	12.53	12.31	15.43	-2.22	13.21	24.00	-10.79
UNII-8	6885	187	12.96	12.41	15.70	-2.14	13.56	24.00	-10.44
	7005	211	12.99	12.16	15.61	-2.14	13.47	24.00	-10.53
	7085	227	12.69	11.84	15.30	-2.14	13.16	24.00	-10.84

Table 7-9. MIMO 40MHz BW 802.11ax (UNII) Maximum Conducted Output Power– LPI

6GHz WIFI (40MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5965	3	11.62	11.87	14.76	-1.90	12.86	24.00	-11.14
	6165	43	11.89	11.86	14.89	-1.90	12.99	24.00	-11.01
	6285	67	11.80	10.96	14.41	-1.90	12.51	24.00	-11.49
	6405	91	11.69	10.56	14.17	-1.90	12.27	24.00	-11.73
UNII-6	6445	99	12.97	11.79	15.43	-2.22	13.21	24.00	-10.79
	6485	107	12.68	11.97	15.35	-2.22	13.13	24.00	-10.87
	6525	115	12.93	12.77	15.86	-2.22	13.64	24.00	-10.36
UNII-7	6565	123	12.50	12.19	15.36	-2.22	13.14	24.00	-10.86
	6685	147	12.91	11.93	15.46	-2.22	13.24	24.00	-10.76
	6725	155	12.98	11.97	15.51	-2.22	13.29	24.00	-10.71
	6845	179	12.96	12.23	15.62	-2.22	13.40	24.00	-10.60
UNII-8	6885	187	12.96	12.41	15.70	-2.14	13.56	24.00	-10.44
	7005	211	12.99	12.14	15.60	-2.14	13.46	24.00	-10.54
	7085	227	12.88	12.45	15.68	-2.14	13.54	24.00	-10.46

Table 7-10. MIMO 40MHz BW 802.11be (UNII) Maximum Conducted Output Power– LPI

6GHz WIFI (80MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5985	7	14.97	14.88	17.94	-1.90	16.04	24.00	-7.96
	6145	39	14.92	15.00	17.97	-1.90	16.07	24.00	-7.93
	6305	71	15.40	14.50	17.98	-1.90	16.08	24.00	-7.92
	6385	87	15.08	14.20	17.67	-1.90	15.77	24.00	-8.23
UNII-6	6465	103	15.64	14.89	18.29	-2.22	16.07	24.00	-7.93
UNII-7	6545	119	15.56	15.50	18.54	-2.22	16.32	24.00	-7.68
	6705	151	15.70	15.31	18.52	-2.22	16.30	24.00	-7.70
	6785	167	15.43	15.35	18.40	-2.22	16.18	24.00	-7.82
	6865	183	15.46	15.31	18.40	-2.14	16.26	24.00	-7.74
UNII-8	6945	199	15.28	15.39	18.35	-2.14	16.21	24.00	-7.79
	7025	215	15.16	14.89	18.04	-2.14	15.90	24.00	-8.10

Table 7-11. MIMO 80MHz BW 802.11ax (UNII) Maximum Conducted Output Power – LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 43 of 148

6GHz WIFI (80MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5985	7	14.95	14.93	17.95	-1.90	16.05	24.00	-7.95
	6145	39	14.88	15.03	17.97	-1.90	16.07	24.00	-7.93
	6305	71	15.05	14.00	17.57	-1.90	15.67	24.00	-8.33
	6385	87	15.13	14.12	17.66	-1.90	15.76	24.00	-8.24
UNII-6	6465	103	15.63	14.85	18.27	-2.22	16.05	24.00	-7.95
UNII-7	6545	119	15.23	15.72	18.49	-2.22	16.27	24.00	-7.73
	6705	151	15.70	15.12	18.43	-2.22	16.21	24.00	-7.79
	6785	167	15.47	15.57	18.53	-2.22	16.31	24.00	-7.69
	6865	183	15.55	15.81	18.69	-2.14	16.55	24.00	-7.45
UNII-8	6945	199	15.24	15.42	18.34	-2.14	16.20	24.00	-7.80
	7025	215	15.18	14.59	17.91	-2.14	15.77	24.00	-8.23

Table 7-12. MIMO 80MHz BW 802.11be (UNII) Maximum Conducted Output Power – LPI

6GHz WIFI (20MHz 802.11a MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	6.60	7.10	9.87	-1.90	7.97	30.00	-22.03
	5955	1	16.50	16.61	19.57	-1.90	17.67	30.00	-12.33
	6175	45	16.89	16.65	19.78	-1.90	17.88	30.00	-12.12
	6415	93	16.48	16.02	19.27	-1.90	17.37	30.00	-12.63
UNII-7	6535	117	16.09	16.99	19.57	-2.22	17.35	30.00	-12.65
	6675	145	16.22	16.64	19.45	-2.22	17.23	30.00	-12.77
	6695	149	16.06	16.59	19.34	-2.22	17.12	30.00	-12.88
	6875	185	15.99	16.79	19.42	-2.14	17.28	24.00	-6.72

Table 7-13. MIMO 20MHz BW 802.11a (UNII) Maximum Conducted Output Power– SP

6GHz WIFI (20MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	7.17	7.37	10.28	-1.90	8.38	30.00	-21.62
	5955	1	16.33	16.77	19.57	-1.90	17.67	30.00	-12.33
	6175	45	16.95	16.78	19.88	-1.90	17.98	30.00	-12.02
	6415	93	16.93	16.58	19.77	-1.90	17.87	30.00	-12.13
UNII-7	6535	117	16.02	16.89	19.49	-2.22	17.27	30.00	-12.73
	6675	145	16.19	16.55	19.38	-2.22	17.16	30.00	-12.84
	6695	149	16.08	16.65	19.38	-2.22	17.16	30.00	-12.84
	6875	185	15.96	16.70	19.36	-2.14	17.22	24.00	-6.78

Table 7-14. MIMO 20MHz BW 802.11ax (UNII) Maximum Conducted Output Power– SP

6GHz WIFI (20MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5935	2	7.16	7.43	10.31	-1.90	8.41	30.00	-21.59
	5955	1	16.25	16.76	19.52	-1.90	17.62	30.00	-12.38
	6175	45	16.89	16.72	19.82	-1.90	17.92	30.00	-12.08
	6415	93	16.96	16.62	19.80	-1.90	17.90	30.00	-12.10
UNII-7	6535	117	16.06	16.80	19.46	-2.22	17.24	30.00	-12.76
	6675	145	16.12	16.55	19.35	-2.22	17.13	30.00	-12.87
	6695	149	16.02	16.63	19.35	-2.22	17.13	30.00	-12.87
	6875	185	15.89	16.65	19.30	-2.14	17.16	24.00	-6.84

Table 7-15. MIMO 20MHz BW 802.11be (UNII) Maximum Conducted Output Power– SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT			Approved by: Technical Manager
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6GHz WIFI (40MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5965	3	16.62	16.88	19.76	-1.90	17.86	30.00	-12.14
	6165	43	16.93	16.71	19.83	-1.90	17.93	30.00	-12.07
	6285	67	16.85	16.10	19.50	-1.90	17.60	30.00	-12.40
	6405	91	16.87	16.30	19.60	-1.90	17.70	30.00	-12.30
UNII-7	6565	123	15.89	16.65	19.30	-2.22	17.08	30.00	-12.92
	6685	147	16.40	16.88	19.66	-2.22	17.44	30.00	-12.56
	6725	155	16.46	16.87	19.68	-2.22	17.46	30.00	-12.54
	6845	179	16.29	16.98	19.66	-2.22	17.44	30.00	-12.56

Table 7-16. MIMO 40MHz BW 802.11ax (UNII) Maximum Conducted Output Power– SP

6GHz WIFI (40MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5965	3	16.62	16.95	19.80	-1.90	17.90	30.00	-12.10
	6165	43	16.66	16.44	19.56	-1.90	17.66	30.00	-12.34
	6285	67	16.83	16.08	19.48	-1.90	17.58	30.00	-12.42
	6405	91	16.88	16.20	19.56	-1.90	17.66	30.00	-12.34
UNII-7	6565	123	15.89	16.63	19.29	-2.22	17.07	30.00	-12.93
	6685	147	16.44	16.89	19.68	-2.22	17.46	30.00	-12.54
	6725	155	16.55	16.87	19.72	-2.22	17.50	30.00	-12.50
	6845	179	16.28	16.94	19.63	-2.22	17.41	30.00	-12.59

Table 7-17. MIMO 40MHz BW 802.11be (UNII) Maximum Conducted Output Power– SP

6GHz WIFI (80MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5985	7	16.62	16.77	19.71	-1.90	17.81	30.00	-12.19
	6145	39	16.87	16.85	19.87	-1.90	17.97	30.00	-12.03
	6305	71	16.94	16.09	19.55	-1.90	17.65	30.00	-12.35
	6385	87	16.56	16.01	19.30	-1.90	17.40	30.00	-12.60
UNII-7	6545	119	15.65	16.52	19.12	-2.22	16.90	30.00	-13.10
	6705	151	16.20	16.84	19.54	-2.22	17.32	30.00	-12.68
	6785	167	16.05	16.73	19.41	-2.22	17.19	30.00	-12.81
	6865	183	16.00	16.94	19.51	-2.14	17.37	30.00	-12.63

Table 7-18. MIMO 80MHz BW 802.11ax (UNII) Maximum Conducted Output Power – SP

6GHz WIFI (80MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	5985	7	16.60	16.74	19.68	-1.90	17.78	30.00	-12.22
	6145	39	16.90	16.83	19.88	-1.90	17.98	30.00	-12.02
	6305	71	16.98	16.12	19.58	-1.90	17.68	30.00	-12.32
	6385	87	16.65	16.01	19.35	-1.90	17.45	30.00	-12.55
UNII-7	6545	119	15.60	16.52	19.09	-2.22	16.87	30.00	-13.13
	6705	151	16.32	16.82	19.59	-2.22	17.37	30.00	-12.63
	6785	167	16.03	16.75	19.42	-2.22	17.20	30.00	-12.80
	6865	183	16.09	16.95	19.55	-2.14	17.41	30.00	-12.59

Table 7-19. MIMO 80MHz BW 802.11be (UNII) Maximum Conducted Output Power – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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6GHz WIFI (160MHz 802.11ax MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	6025	15	16.22	15.74	19.00	-1.90	17.10	24.00	-6.90
	6185	47	16.52	16.38	19.46	-1.90	17.56	24.00	-6.44
	6345	79	16.29	15.43	18.89	-1.90	16.99	24.00	-7.01
UNII-6	6505	111	15.82	16.18	19.01	-2.22	16.79	24.00	-7.21
UNII-7	6665	143	16.03	15.26	18.67	-2.22	16.45	24.00	-7.55
	6825	175	15.98	15.50	18.76	-2.14	16.62	24.00	-7.38
UNII-8	6985	207	16.64	16.43	19.55	-2.14	17.41	24.00	-6.59

Table 7-20. MIMO 160MHz BW 802.11ax (UNII) Maximum Conducted Output Power – LPI / SP

6GHz WIFI (160MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	6025	15	16.30	16.41	19.37	-1.90	17.47	24.00	-6.53
	6185	47	16.02	16.40	19.22	-1.90	17.32	24.00	-6.68
	6345	79	16.00	15.32	18.68	-1.90	16.78	24.00	-7.22
UNII-6	6505	111	16.11	16.42	19.28	-2.22	17.06	24.00	-6.94
UNII-7	6665	143	16.05	15.78	18.93	-2.22	16.71	24.00	-7.29
	6825	175	15.90	15.95	18.94	-2.14	16.80	24.00	-7.20
UNII-8	6985	207	16.26	16.45	19.37	-2.14	17.23	24.00	-6.77

Table 7-21. MIMO 160MHz BW 802.11be (UNII) Maximum Conducted Output Power – LPI / SP

6GHz WIFI (320MHz 802.11be MIMO)						Directional Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]						
			ANT1	ANT2	MIMO				
UNII-5	6105	31	16.22	15.80	19.03	-1.90	17.13	24.00	-6.87
UNII-5	6265	63	16.20	15.23	18.75	-1.90	16.85	24.00	-7.15
UNII-6	6425	95	16.02	16.28	19.16	-2.22	16.94	24.00	-7.06
UNII-7	6585	127	16.52	15.92	19.24	-2.22	17.02	24.00	-6.98
UNII-7	6745	159	16.42	16.45	19.45	-2.22	17.23	24.00	-6.77
UNII-8	6905	191	16.00	16.65	19.35	-2.14	17.21	24.00	-6.79

Table 7-22. MIMO 320MHz BW 802.11be (UNII) Maximum Conducted Output Power – LPI / SP

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Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dB]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				90			91			93						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	5985	7	20MHz	11.48	11.93	14.72	11.08	11.60	14.36	11.26	11.72	14.51	-1.90	12.82	24.00	-11.18
	6145	39	20MHz	11.47	11.99	14.75	11.06	11.68	14.39	11.16	11.66	14.43	-1.90	12.84	24.00	-11.16
	6385	87	20MHz	11.69	10.90	14.32	11.75	11.01	14.41	11.69	11.08	14.41	-1.90	12.50	24.00	-11.50
6	6465	103	20MHz	12.70	12.16	15.45	12.70	12.21	15.47	12.76	12.32	15.56	-2.22	13.33	24.00	-10.67
	6545	119	20MHz	12.66	12.62	15.65	12.65	12.85	15.76	12.76	12.90	15.84	-2.22	13.62	24.00	-10.38
	6705	151	20MHz	12.73	12.26	15.51	12.32	11.90	15.13	12.95	12.34	15.67	-2.22	13.44	24.00	-10.56
7	6865	183	20MHz	12.63	12.48	15.57	12.65	12.69	15.68	12.66	12.85	15.77	-2.22	13.54	24.00	-10.46
	6945	199	20MHz	12.76	12.99	15.89	12.35	12.55	15.46	12.52	12.77	15.66	-2.14	13.75	24.00	-10.25
	7025	215	20MHz	12.76	12.45	15.62	12.39	12.04	15.23	12.55	12.15	15.36	-2.14	13.48	24.00	-10.52

Table 7-23. MIMO 80MHz BW 802.11be (UNII) Maximum Conducted Output Power – 20MHz Puncture – LPI

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]	
				Puncture Case													
				90			91			93							
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO					
5	5985	7	20MHz		16.88	16.92	19.91	16.54	16.66	19.61	16.82	16.90	19.87	-1.90	18.01	30.00	-11.99
	6145	39	20MHz		16.65	16.68	19.68	16.79	16.85	19.83	16.50	16.45	19.49	-1.90	17.93	30.00	-12.07
	6385	87	20MHz		16.53	16.02	19.29	16.68	16.00	19.36	16.76	16.14	19.47	-1.90	17.57	30.00	-12.43
7	6545	119	20MHz		16.05	16.84	19.47	16.06	16.99	19.56	15.85	16.75	19.33	-2.22	17.34	30.00	-12.66
	6705	151	20MHz		16.10	16.67	19.40	16.16	16.77	19.49	16.49	16.97	19.75	-2.22	17.52	30.00	-12.48
	6865	183	20MHz		15.89	16.65	19.30	16.01	16.97	19.53	15.72	16.75	19.28	-2.22	17.30	30.00	-12.70

Table 7-24. MIMO 80MHz BW 802.11be (UNII) Maximum Conducted Output Power – 20MHz Puncture – SP

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dB]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				96			99			1099						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6025	15	20MHz	15.30	15.42	18.37	14.99	15.05	18.03	15.09	15.09	18.10	-1.90	16.47	24.00	-7.53
	6185	47	20MHz	15.02	15.47	18.26	14.80	15.11	17.97	14.84	15.13	18.00	-1.90	16.36	24.00	-7.64
	6345	79	20MHz	15.00	14.25	17.65	15.23	14.58	17.93	15.21	14.63	17.94	-1.90	16.04	24.00	-7.96
6	6505	111	20MHz	15.46	15.79	18.64	15.17	15.50	18.35	15.28	15.64	18.47	-2.22	16.41	24.00	-7.59
	6665	143	20MHz	15.60	15.02	18.33	15.26	14.75	18.02	15.44	14.82	18.15	-2.22	16.11	24.00	-7.89
	6825	175	20MHz	15.32	15.43	18.39	15.00	15.12	18.07	15.09	15.22	18.17	-2.22	16.16	24.00	-7.84
8	6985	207	20MHz	15.32	15.39	18.37	15.00	15.12	18.07	14.96	15.11	18.05	-2.14	16.23	24.00	-7.77

Table 7-25. MIMO 160MHz BW 802.11be (UNII) Maximum Conducted Output Power – 20MHz Puncture – LPI

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				94			95			1094						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6025	15	40MHz	15.07	15.28	18.19	14.80	14.96	17.89	15.03	15.00	18.03	-1.90	16.28	24.00	-7.72
	6185	47	40MHz	14.93	15.37	18.17	14.64	15.00	17.83	14.72	15.00	17.87	-1.90	16.26	24.00	-7.74
	6345	79	40MHz	14.90	14.20	17.57	14.59	13.90	17.27	15.01	14.45	17.75	-1.90	15.84	24.00	-8.16
6	6505	111	40MHz	15.36	15.63	18.51	15.05	15.36	18.22	15.06	15.48	18.29	-2.22	16.28	24.00	-7.72
	6665	143	40MHz	15.45	14.96	18.22	15.61	15.03	18.34	15.70	15.10	18.42	-2.22	16.20	24.00	-7.80
7	6825	175	40MHz	15.12	15.28	18.21	15.39	15.45	18.43	15.40	15.65	18.54	-2.22	16.31	24.00	-7.69
	6985	207	40MHz	15.16	15.25	18.22	14.85	14.96	17.92	15.06	15.09	18.09	-2.14	16.08	24.00	-7.92

Table 7-26. MIMO 160MHz BW 802.11be (UNII) Maximum Conducted Output Power – 40MHz Puncture – LPI

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				96			99			1099						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6025	15	20MHz	16.52	16.55	19.55	16.72	16.65	19.70	16.94	16.73	19.85	-1.90	17.94	30.00	-12.06
	6185	47	20MHz	16.81	16.72	19.78	16.90	16.82	19.87	16.99	16.89	19.95	-1.90	18.05	30.00	-11.95
	6345	79	20MHz	16.85	16.12	19.51	16.92	16.22	19.59	16.97	16.26	19.64	-1.90	17.74	30.00	-12.26
7	6665	143	20MHz	16.32	16.72	19.53	16.02	16.42	19.23	16.23	16.51	19.38	-2.22	17.31	30.00	-12.69
	6825	175	20MHz	16.22	16.90	19.58	16.02	16.75	19.41	16.90	16.78	19.85	-2.22	17.63	30.00	-12.37

Table 7-27. MIMO 160MHz BW 802.11be (UNII) Maximum Conducted Output Power – 20MHz Puncture – SP

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dB]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				94			95			1094						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6025	15	40MHz	16.90	16.71	19.82	16.58	16.51	19.56	16.76	16.55	19.67	-1.90	17.91	30.00	-12.09
	6185	47	40MHz	16.59	16.47	19.54	16.83	16.78	19.82	16.78	16.68	19.74	-1.90	17.91	30.00	-12.09
	6345	79	40MHz	16.75	16.02	19.41	16.89	16.12	19.53	16.76	16.10	19.45	-1.90	17.63	30.00	-12.37
7	6665	143	40MHz	16.25	16.65	19.46	16.27	16.80	19.55	16.47	16.83	19.66	-2.22	17.44	30.00	-12.56
	6825	175	40MHz	16.22	16.99	19.63	16.29	16.99	19.66	15.92	16.65	19.31	-2.22	17.44	30.00	-12.56

Table 7-28. MIMO 160MHz BW 802.11be (UNII) Maximum Conducted Output Power – 40MHz Puncture – SP

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain [dBi]	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				100			1101			11103						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6105	31	40MHz	16.85	16.57	19.72	16.92	16.60	19.77	16.83	16.44	19.65	-1.90	17.87	24.00	-6.13
	6265	63	40MHz	16.11	15.90	19.02	16.22	15.55	18.91	16.58	15.99	19.31	-1.90	17.40	24.00	-6.60
6	6425	95	40MHz	16.21	16.56	19.40	16.32	16.33	19.34	16.24	16.23	19.25	-2.22	17.17	24.00	-6.83
7	6585	127	40MHz	16.83	15.92	19.41	16.75	16.28	19.53	16.49	15.90	19.22	-2.22	17.31	24.00	-6.61
	6745	159	40MHz	16.05	16.55	19.32	16.09	16.60	19.36	16.15	16.64	19.41	-2.22	17.19	24.00	-6.89
8	6905	40	40MHz	16.30	16.30	19.37	16.37	16.18	19.54	16.27	16.26	19.37	-2.22	17.18	24.00	-6.50

Band	Freq [MHz]	Channel	Puncture Size	Average Conducted Power (dBm)									Dir. Ant. Gain	Max e.i.r.p [dBm]	e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
				Puncture Case												
				105			1106			11106						
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO				
5	6105	31	120MHz	16.46	15.86	19.18	16.18	15.70	18.96	16.12	15.90	19.02	-1.90	17.28	24.00	-6.72
	6265	63	120MHz	16.43	15.40	18.96	16.02	15.04	18.57	16.00	15.12	18.59	-1.90	17.05	24.00	-6.95
6	6425	95	120MHz	16.48	16.69	19.60	16.15	16.43	19.30	16.57	16.76	19.68	-2.22	17.45	24.00	-6.55
7	6585	127	120MHz	16.52	16.45	19.50	16.01	15.78	18.91	16.37	16.00	19.20	-2.22	17.27	24.00	-6.73
	6745	159	120MHz	16.00	16.50	19.27	16.00	16.65	19.35	16.22	16.90	19.58	-2.22	17.36	24.00	-6.64
8	6905	191	120MHz	15.89	16.75	19.35	15.90	16.45	19.19	16.00	16.75	19.40	-2.14	17.26	24.00	-6.74

Table 7-31. MIMO 320MHz BW 802.11be (UNII) Maximum Conducted Output Power – 120MHz Puncture – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 48 of 148



Sample MIMO Calculation:

At 5935MHz in 802.11a (20MHz BW) mode, the average conducted output power was measured to be 7.08 dBm for Antenna-1 and 7.28 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(7.08 \text{ dBm} + 7.28 \text{ dBm}) = (5.105 \text{ mW} + 5.346 \text{ mW}) = 10.451 \text{ mW} = 10.19 \text{ dBm}$$

Sample Directional Gain Calculation:

Per ANSI C63.10:2020 Section 14.6.3, the directional gain is calculated using the following formula, where G_N is the gain of the nth antenna and N_{ANT} , the total number of antennas used.

$$\text{Directional gain} = 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi}$$

Sample e.i.r.p. Calculation:

At 5935MHz in 802.11a (20MHz BW) mode, the average MIMO conducted power was calculated to be 10.19 dBm with directional gain of -1.90 dBi.

$$\text{e.i.r.p. (dBm)} = \text{Conducted Power (dBm)} + \text{Ant gain (dBi)}$$

$$10.19 \text{ dBm} + -1.90 \text{ dBi} = 8.29 \text{ dBm}$$

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 49 of 148

7.4 Maximum Power Spectral Density

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020, and at the appropriate frequencies. Method SA-1, as defined in ANSI C63.10:2020, was used to measure the power spectral density for 802.11a/ax.

In the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed -1 dBm e.i.r.p. in any 1-megahertz band. For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum power spectral density must not exceed 17 dBm/MHz e.i.r.p.

Test Procedure Used

ANSI C63.10:2020 – Section 12.4.2.2

ANSI C63.10:2020 – Section 14.5.2.3 Measure-and-Sum Technique

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation.
2. Span was set to encompass the entire emission bandwidth of the signal.
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span}/\text{RBW})$
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes.
9. Trace was averaged over 100 sweeps.
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

Test Setup

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



Figure 7-3. Test Instrument & Measurement Setup

Test Notes

SP 160/320MHz BW share the same target as LPI 160/320MHz BW, and only the emissions from worst-case have been reported.

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MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Antenna-1 Gain [dBi]	Antenna-2 Gain [dBi]	Summed MIMO Power Density [dBm/MHz]	Directional Gain [dBi]	DCCF [dB]	EIRP Density [dBm/MHz]	EIRP Density Limit [dBm/MHz]	Margin [dB]
Band 5	5935	2	a	-2.99	-3.40	-4.86	-4.97	-0.18	-1.90	0.28	-1.80	-1	-0.80
	6175	45	a	-3.25	-2.88	-4.86	-4.97	-0.05	-1.90	0.28	-1.67	-1	-0.67
	6415	93	a	-2.37	-2.97	-4.86	-4.97	0.35	-1.90	0.28	-1.27	-1	-0.27
	5935	2	be (20MHz)	-2.51	-2.59	-4.86	-4.97	0.46	-1.90	0.00	-1.44	-1	-0.44
	6175	45	be (20MHz)	-2.72	-2.84	-4.86	-4.97	0.23	-1.90	0.00	-1.67	-1	-0.67
	6415	93	be (20MHz)	-2.49	-3.57	-4.86	-4.97	0.02	-1.90	0.00	-1.89	-1	-0.89
	5965	3	be (40MHz)	-2.55	-3.02	-4.86	-4.97	0.23	-1.90	0.00	-1.67	-1	-0.67
	6165	43	be (40MHz)	-2.65	-2.88	-4.86	-4.97	0.24	-1.90	0.00	-1.66	-1	-0.66
	6405	91	be (40MHz)	-2.26	-3.53	-4.86	-4.97	0.16	-1.90	0.00	-1.75	-1	-0.75
	5985	7	be (80MHz)	-2.19	-2.84	-4.86	-4.97	0.51	-1.90	0.00	-1.40	-1	-0.40
	6145	39	be (80MHz)	-2.67	-2.84	-4.86	-4.97	0.26	-1.90	0.00	-1.65	-1	-0.65
	6385	87	be (80MHz)	-2.45	-3.78	-4.86	-4.97	-0.06	-1.90	0.00	-1.96	-1	-0.96
	6025	15	be (160MHz)	-3.30	-3.81	-4.86	-4.97	-0.54	-1.90	0.00	-2.44	-1	-1.44
	6185	47	be (160MHz)	-3.81	-3.87	-4.86	-4.97	-0.83	-1.90	0.00	-2.74	-1	-1.74
	6345	79	be (160MHz)	-3.09	-4.84	-4.86	-4.97	-0.86	-1.90	0.00	-2.77	-1	-1.77
Band 6	6105	31	be (320MHz)	-6.06	-6.95	-4.86	-4.97	-3.47	-1.90	0.00	-5.37	-1	-4.37
	6265	63	be (320MHz)	-6.78	-6.85	-4.86	-4.97	-3.81	-1.90	0.00	-5.71	-1	-4.71
	6435	97	a	-2.06	-2.97	-5.12	-5.35	0.52	-2.22	0.28	-1.42	-1	-0.42
	6475	105	a	-2.00	-2.46	-5.12	-5.35	0.79	-2.22	0.28	-1.16	-1	-0.16
	6515	113	a	-2.29	-2.27	-5.12	-5.35	0.73	-2.22	0.28	-1.22	-1	-0.22
	6435	97	be (20MHz)	-1.49	-2.31	-5.12	-5.35	1.13	-2.22	0.00	-1.10	-1	-0.10
	6475	105	be (20MHz)	-1.61	-2.51	-5.12	-5.35	0.97	-2.22	0.00	-1.25	-1	-0.25
	6515	113	be (20MHz)	-1.61	-2.41	-5.12	-5.35	1.02	-2.22	0.00	-1.21	-1	-0.21
	6445	99	be (40MHz)	-3.00	-2.79	-5.12	-5.35	0.12	-2.22	0.00	-2.11	-1	-1.11
	6485	107	be (40MHz)	-1.91	-2.77	-5.12	-5.35	0.69	-2.22	0.00	-1.53	-1	-0.53
	6525	115	be (40MHz)	-1.86	-2.18	-5.12	-5.35	0.99	-2.22	0.00	-1.23	-1	-0.23
	6465	103	be (80MHz)	-1.85	-2.88	-5.12	-5.35	0.68	-2.22	0.00	-1.55	-1	-0.55
	6505	111	be (160MHz)	-2.95	-3.22	-5.12	-5.35	-0.07	-2.22	0.00	-2.29	-1	-1.29
	6425	95	be (320MHz)	-5.55	-6.34	-4.86	-4.97	-2.92	-1.90	0.00	-4.82	-1	-3.82
	6535	117	a	-2.16	-2.45	-5.12	-5.35	0.71	-2.22	0.28	-1.24	-1	-0.24
Band 7	6695	149	a	-2.24	-2.63	-5.12	-5.35	0.58	-2.22	0.28	-1.36	-1	-0.36
	6875	185	a	-1.97	-2.36	-5.12	-5.35	0.85	-2.22	0.28	-1.09	-1	-0.09
	6535	117	be (20MHz)	-2.07	-2.44	-5.12	-5.35	0.76	-2.22	0.00	-1.46	-1	-0.46
	6695	149	be (20MHz)	-1.76	-2.53	-5.12	-5.35	0.88	-2.22	0.00	-1.34	-1	-0.34
	6875	185	be (20MHz)	-1.87	-2.26	-5.12	-5.35	0.95	-2.22	0.00	-1.28	-1	-0.28
	6565	123	be (40MHz)	-2.50	-3.10	-5.12	-5.35	0.22	-2.22	0.00	-2.00	-1	-1.00
	6725	155	be (40MHz)	-2.55	-2.43	-5.12	-5.35	0.52	-2.22	0.00	-1.70	-1	-0.70
	6885	179	be (40MHz)	-2.96	-2.09	-5.12	-5.35	0.51	-2.22	0.00	-1.72	-1	-0.72
	6545	119	be (80MHz)	-1.95	-2.04	-5.12	-5.35	1.01	-2.22	0.00	-1.21	-1	-0.21
	6705	151	be (80MHz)	-1.77	-2.53	-5.12	-5.35	0.88	-2.22	0.00	-1.34	-1	-0.34
	6865	183	be (80MHz)	-2.35	-2.32	-5.12	-5.35	0.68	-2.22	0.00	-1.54	-1	-0.54
	6665	143	be (160MHz)	-3.27	-3.76	-5.12	-5.35	-0.50	-2.22	0.00	-2.72	-1	-1.72
	6825	175	be (160MHz)	-3.02	-3.19	-5.12	-5.35	-0.10	-2.22	0.00	-2.32	-1	-1.32
	6585	127	be (320MHz)	-6.30	-5.95	-5.12	-5.35	-3.11	-2.22	0.00	-5.33	-1	-4.33
	6745	159	be (320MHz)	-5.53	-5.57	-5.02	-5.28	-2.54	-2.14	0.00	-4.68	-1	-3.68
Band 8	6895	189	a	-2.33	-2.24	-5.02	-5.28	0.73	-2.14	0.28	-1.13	-1	-0.13
	6995	209	a	-2.18	-2.32	-5.02	-5.28	0.76	-2.14	0.28	-1.10	-1	-0.10
	7115	233	a	-2.90	-2.80	-5.02	-5.28	0.16	-2.14	0.28	-1.70	-1	-0.70
	6895	189	be (20MHz)	-1.95	-2.74	-5.02	-5.28	0.68	-2.14	0.00	-1.46	-1	-0.46
	6995	209	be (20MHz)	-1.87	-2.46	-5.02	-5.28	0.86	-2.14	0.00	-1.28	-1	-0.28
	7115	233	be (20MHz)	-1.78	-3.09	-5.02	-5.28	0.63	-2.14	0.00	-1.51	-1	-0.51
	6945	199	be (80MHz)	-2.27	-2.20	-5.02	-5.28	0.77	-2.14	0.00	-1.37	-1	-0.37
	7025	215	be (80MHz)	-2.37	-2.77	-5.02	-5.28	0.45	-2.14	0.00	-1.69	-1	-0.69
	6985	207	be (160MHz)	-3.20	-3.35	-5.02	-5.28	-0.27	-2.14	0.00	-2.40	-1	-1.40
	6905	191	be (320MHz)	-5.95	-4.52	-5.02	-5.28	-2.16	-2.14	0.00	-4.30	-1	-3.30

Table 7-32. MIMO e.i.r.p. Conducted Power Spectral Density Measurements LPI (160MHz and 320MHz Bandwidth LPI/SP)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 51 of 148

	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 Power Density [dBm/MHz]	Antenna-2 Power Density [dBm/MHz]	Antenna-1 Gain [dBi]	Antenna-2 Gain [dBi]	Summed MIMO Power Density [dBm/MHz]	Directional Gain [dBi]	EIRP Density [dBm/MHz]	EIRP Density Limit [dBm/MHz]	Margin [dB]
Band 5	5935	2	a	5.62	7.08	-4.86	-4.97	9.42	-1.90	7.52	17	-9.48
	6175	45	a	5.42	6.91	-4.86	-4.97	9.24	-1.90	7.33	17	-9.67
	6415	93	a	5.80	6.90	-4.86	-4.97	9.40	-1.90	7.49	17	-9.51
	5935	2	be (20MHz)	5.80	6.81	-4.86	-4.97	9.34	-1.90	7.44	17	-9.56
	6175	45	be (20MHz)	5.46	6.63	-4.86	-4.97	9.09	-1.90	7.19	17	-9.81
	6415	93	be (20MHz)	5.72	5.76	-4.86	-4.97	8.75	-1.90	6.85	17	-10.15
	5965	3	be (40MHz)	2.11	3.53	-4.86	-4.97	5.89	-1.90	3.98	17	-13.02
	6165	43	be (40MHz)	2.60	3.54	-4.86	-4.97	6.10	-1.90	4.20	17	-12.80
	6405	91	be (40MHz)	2.89	2.63	-4.86	-4.97	5.77	-1.90	3.87	17	-13.13
	5985	7	be (80MHz)	-0.51	0.27	-4.86	-4.97	2.91	-1.90	1.01	17	-15.99
	6145	39	be (80MHz)	-0.54	0.35	-4.86	-4.97	2.94	-1.90	1.03	17	-15.97
	6385	87	be (80MHz)	-0.44	-0.77	-4.86	-4.97	2.41	-1.90	0.50	17	-16.50
	6535	117	a	5.94	7.29	-5.12	-5.35	9.68	-2.22	7.45	17	-9.55
	6695	149	a	5.62	7.23	-5.12	-5.35	9.51	-2.22	7.28	17	-9.72
	6855	181	a	5.74	7.12	-5.12	-5.35	9.49	-2.22	7.27	17	-9.73
Band 7	6535	117	be (20MHz)	5.23	6.89	-5.12	-5.35	9.15	-2.22	6.92	17	-10.08
	6695	149	be (20MHz)	5.04	7.12	-5.12	-5.35	9.21	-2.22	6.99	17	-10.01
	6855	181	be (20MHz)	5.42	6.81	-5.12	-5.35	9.18	-2.22	6.96	17	-10.04
	6565	123	be (40MHz)	2.34	4.09	-5.12	-5.35	6.31	-2.22	4.09	17	-12.91
	6725	155	be (40MHz)	2.60	3.74	-5.12	-5.35	6.22	-2.22	3.99	17	-13.01
	6885	179	be (40MHz)	2.38	3.81	-5.12	-5.35	6.16	-2.22	3.94	17	-13.06
	6625	135	be (80MHz)	-0.68	0.04	-5.12	-5.35	2.70	-2.22	0.48	17	-16.52
	6705	151	be (80MHz)	-0.51	0.49	-5.12	-5.35	3.03	-2.22	0.81	17	-16.19
	6785	167	be (80MHz)	-0.74	0.45	-5.12	-5.35	2.91	-2.22	0.68	17	-16.32

Table 7-33. MIMO e.i.r.p. Conducted Power Spectral Density Measurements SP

	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Antenna-1 Gain [dBi]	Antenna-2 Gain [dBi]	Summed MIMO Power Density [dBm/MHz]	Directional Gain [dBi]	EIRP Density [dBm/MHz]	EIRP Density Limit [dBm/MHz]	Margin [dB]
Band 5	6145	39	be (80MHz)	20MHz	-2.96	-3.54	-4.86	-4.97	-0.23	-1.90	-2.13	-1	-1.13
	6185	47	be (160MHz)	20MHz	-4.02	-3.89	-4.86	-4.97	-0.95	-1.90	-2.85	-1	-1.85
	6185	47	be (160MHz)	40MHz	-3.28	-3.49	-4.86	-4.97	-0.38	-1.90	-2.28	-1	-1.28
	6105	31	be (320MHz)	40MHz	-5.42	-6.83	-5.12	-5.35	-3.06	-2.22	-5.28	-1	-4.28
	6105	31	be (320MHz)	80MHz	-6.14	-6.42	-5.12	-5.35	-3.27	-2.22	-5.49	-1	-4.49
	6105	31	be (320MHz)	120MHz	-4.26	-4.96	-5.12	-5.35	-1.59	-2.22	-3.81	-1	-2.81
Band 6	6465	103	be (80MHz)	20MHz	-3.53	-3.53	-5.12	-5.35	-0.52	-2.22	-2.74	-1	-1.74
	6505	111	be (160MHz)	20MHz	-4.07	-3.62	-5.12	-5.35	-0.83	-2.22	-3.05	-1	-2.05
	6505	111	be (160MHz)	40MHz	-3.84	-3.14	-5.12	-5.35	-0.46	-2.22	-2.69	-1	-1.69
Band 5/6/7	6425	95	be (320MHz)	40MHz	-6.65	-6.87	-4.86	-4.97	-3.75	-1.90	-5.66	-1	-4.66
	6425	95	be (320MHz)	80MHz	-6.14	-5.88	-4.86	-4.97	-2.99	-1.90	-4.90	-1	-3.90
	6425	95	be (320MHz)	120MHz	-5.20	-5.39	-4.86	-4.97	-2.28	-1.90	-4.19	-1	-3.19
Band 7	6705	151	be (80MHz)	20MHz	-3.24	-3.49	-5.12	-5.35	-0.35	-2.22	-2.58	-1	-1.58
	6665	143	be (160MHz)	20MHz	-3.97	-3.63	-5.12	-5.35	-0.79	-2.22	-3.01	-1	-2.01
	6665	143	be (160MHz)	40MHz	-3.30	-2.92	-5.12	-5.35	-0.10	-2.22	-2.32	-1	-1.32
Band 7/8	6745	159	be (320MHz)	40MHz	-5.87	-6.44	-5.02	-5.28	-3.14	-2.14	-5.27	-1	-4.27
	6745	159	be (320MHz)	80MHz	-5.23	-5.78	-5.02	-5.28	-2.49	-2.14	-4.62	-1	-3.62
	6745	159	be (320MHz)	120MHz	-5.04	-4.78	-5.02	-5.28	-1.90	-2.14	-4.04	-1	-3.04
Band 8	7025	215	be (80MHz)	20MHz	-2.93	-4.09	-5.02	-5.28	-0.46	-2.14	-2.60	-1	-1.60
	6985	207	be (160MHz)	20MHz	-3.76	-3.77	-5.02	-5.28	-0.76	-2.14	-2.89	-1	-1.89
	6985	207	be (160MHz)	40MHz	-3.44	-2.93	-5.02	-5.28	-0.16	-2.14	-2.30	-1	-1.30
Band 7/8	6905	191	be (320MHz)	40MHz	-5.73	-5.69	-5.02	-5.28	-2.70	-2.14	-4.84	-1	-3.84
	6905	191	be (320MHz)	80MHz	-5.07	-4.75	-5.02	-5.28	-1.90	-2.14	-4.04	-1	-3.04
	6905	191	be (320MHz)	120MHz	-4.68	-4.53	-5.02	-5.28	-1.60	-2.14	-3.73	-1	-2.73

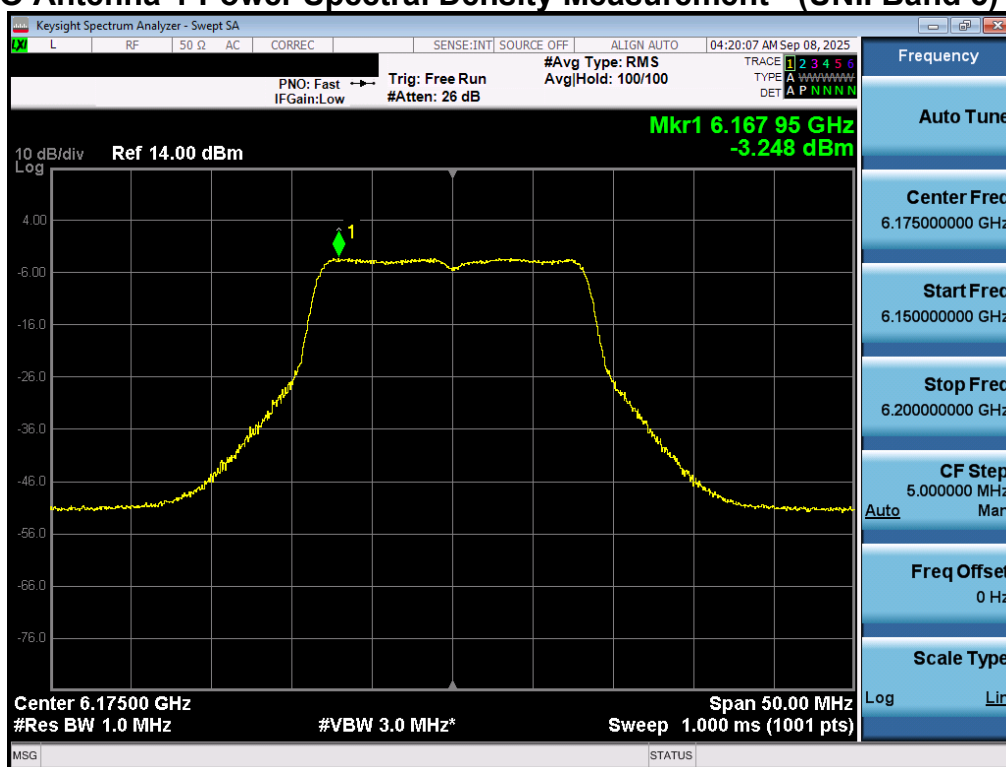
Table 7-34. MIMO e.i.r.p. Conducted Power Spectral Density Measurements LPI (320MHz Bandwidth LPI/SP) – Punctured

	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 Power Density [dBm/MHz]	Antenna-2 Power Density [dBm/MHz]	Antenna-1 Gain [dBi]	Antenna-2 Gain [dBi]	Summed MIMO Power Density [dBm/MHz]	Directional Gain [dBi]	EIRP Density [dBm/MHz]	EIRP Density Limit [dBm/MHz]	Margin [dB]
Band 5	6145	39	be (80MHz)	20MHz	0.74	0.91	-4.86	-4.97	3.84	-1.90	1.93	17	-15.07
	6185	47	be (160MHz)	40MHz	-0.79	-1.31	-4.86	-4.97	1.97	-1.90	0.06	17	-16.94
	6185	47	be (160MHz)	20MHz	-2.18	-1.36	-4.86	-4.97	1.26	-1.90	-0.64	17	-17.64
Band 7	6705	151	be (80MHz)	20MHz	0.62	0.94	-5.12	-5.35	3.79	-2.22	1.57	17	-15.43
	6665	143	be (160MHz)	40MHz	-3.07	-3.43	-5.12	-5.35	-0.23	-2.22	-2.46	17	-19.46
	6665	143	be (160MHz)	20MHz	-3.86	-3.93	-5.12	-5.35	-0.88	-2.22	-3.11	17	-20.11

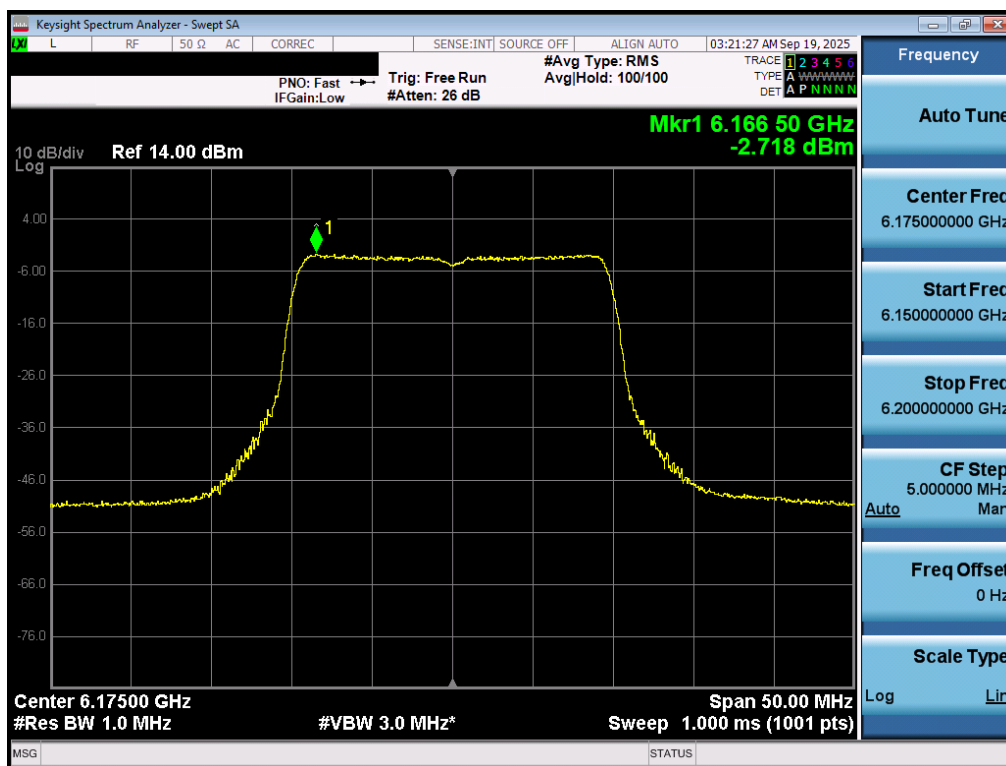
Table 7-35. MIMO e.i.r.p. Conducted Power Spectral Density Measurements SP – Punctured

FCC ID: A3LSMS948B	MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset		Page 52 of 148

7.4.1 MIMO Antenna-1 Power Spectral Density Measurement - (UNII Band 5)

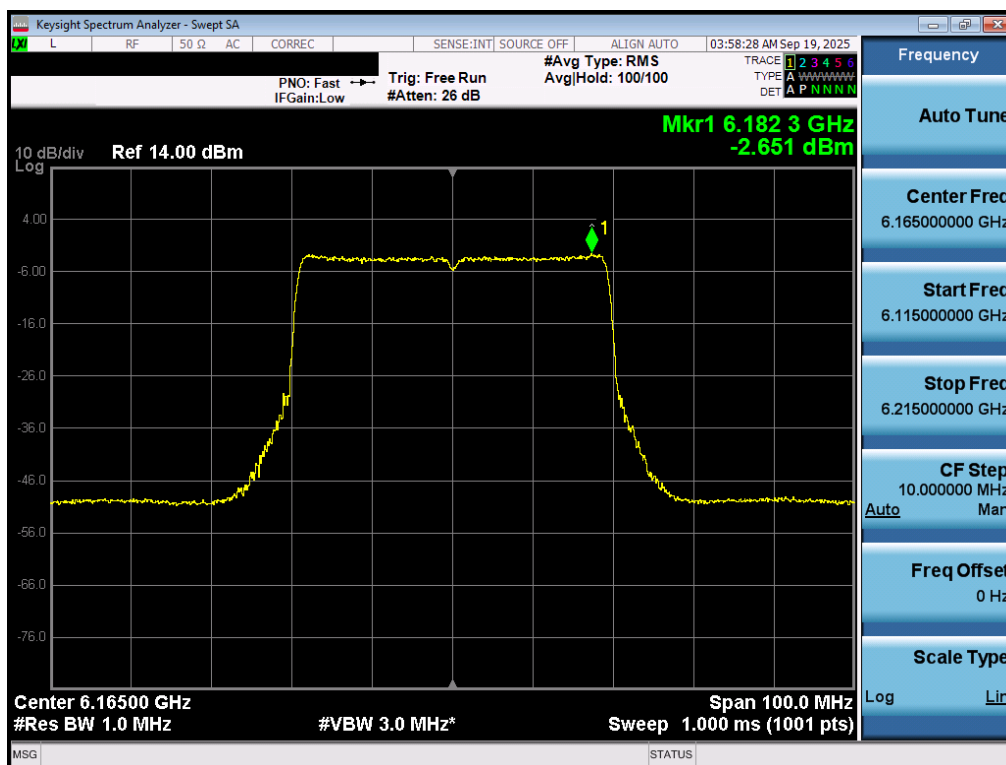


Plot 7-31. Power Spectral Density Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

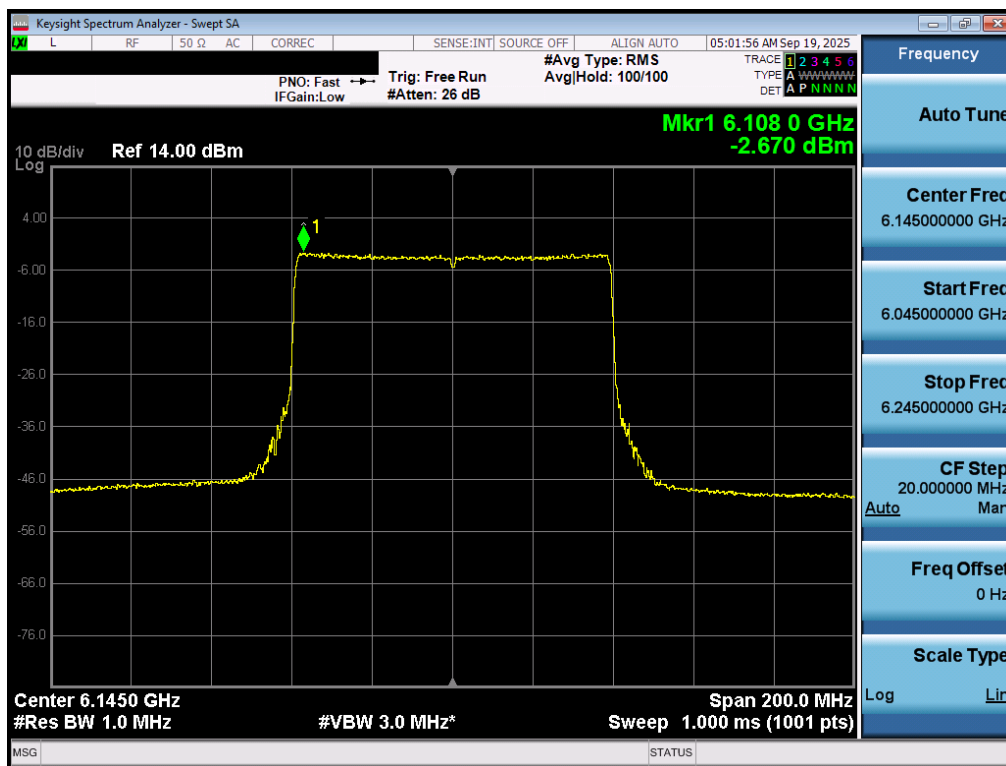


Plot 7-32. Power Spectral Density Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 53 of 148

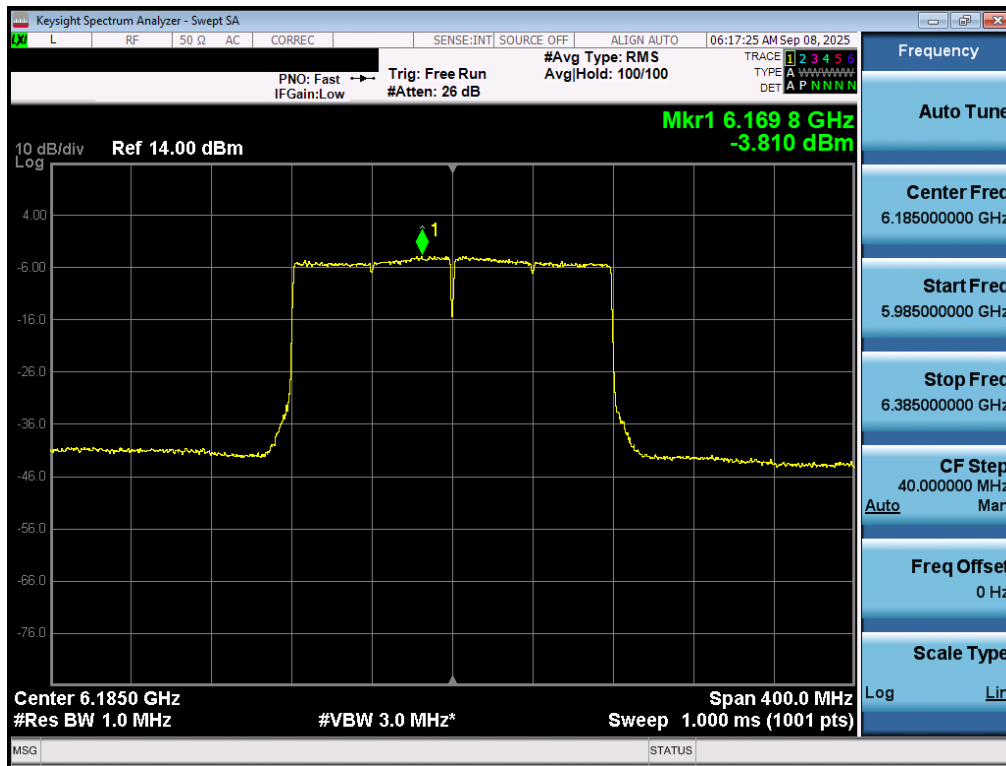


Plot 7-33. Power Spectral Density Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI

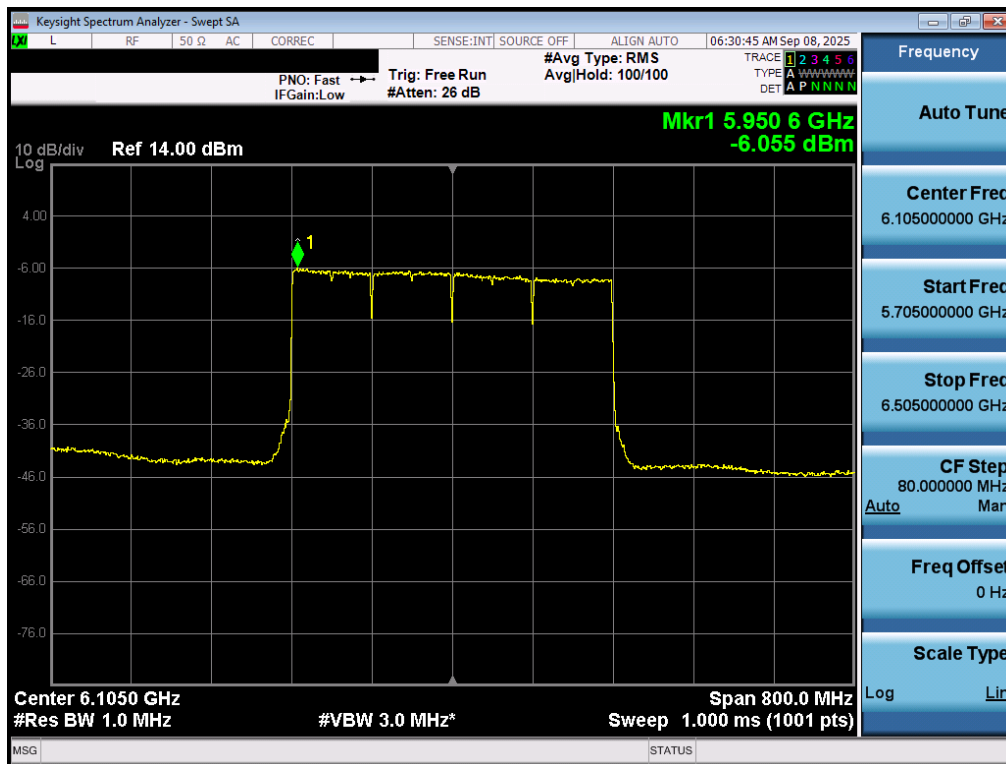


Plot 7-34. Power Spectral Density Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 54 of 148

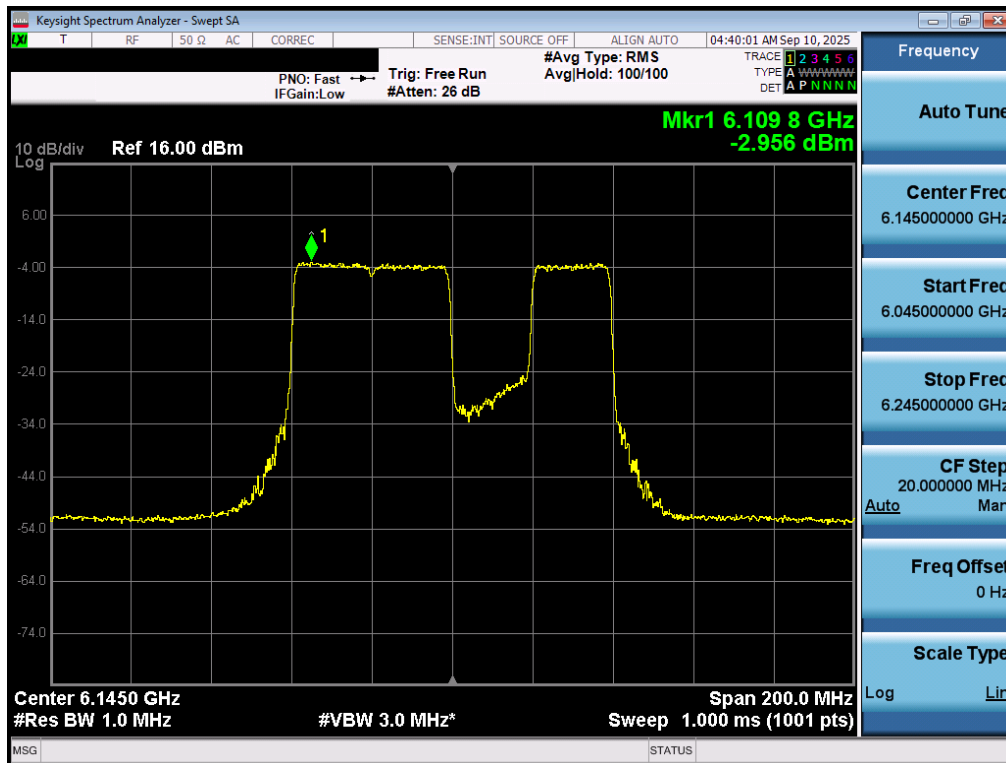


Plot 7-35. Power Spectral Density Plot MIMO ANT1 (160MHz 802.11ax/be (UNII Band 5) – Ch. 47) - LPI/SP

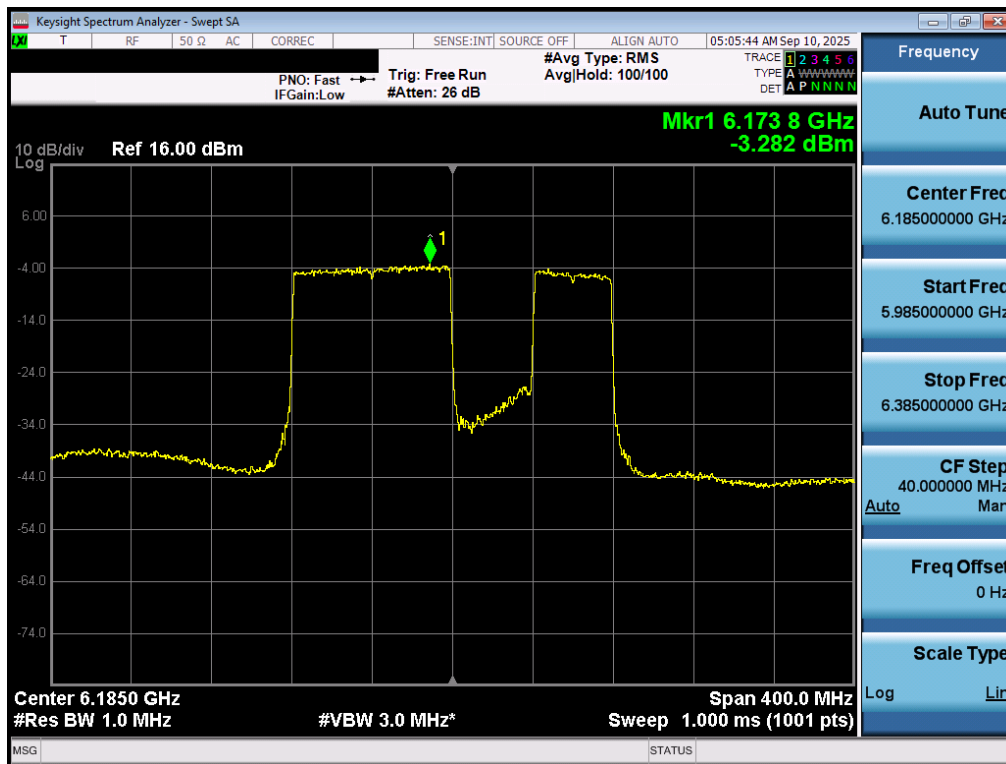


Plot 7-36. Power Spectral Density Plot MIMO ANT1 (320MHz 802.11ax/be (UNII Band 5) – Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 55 of 148

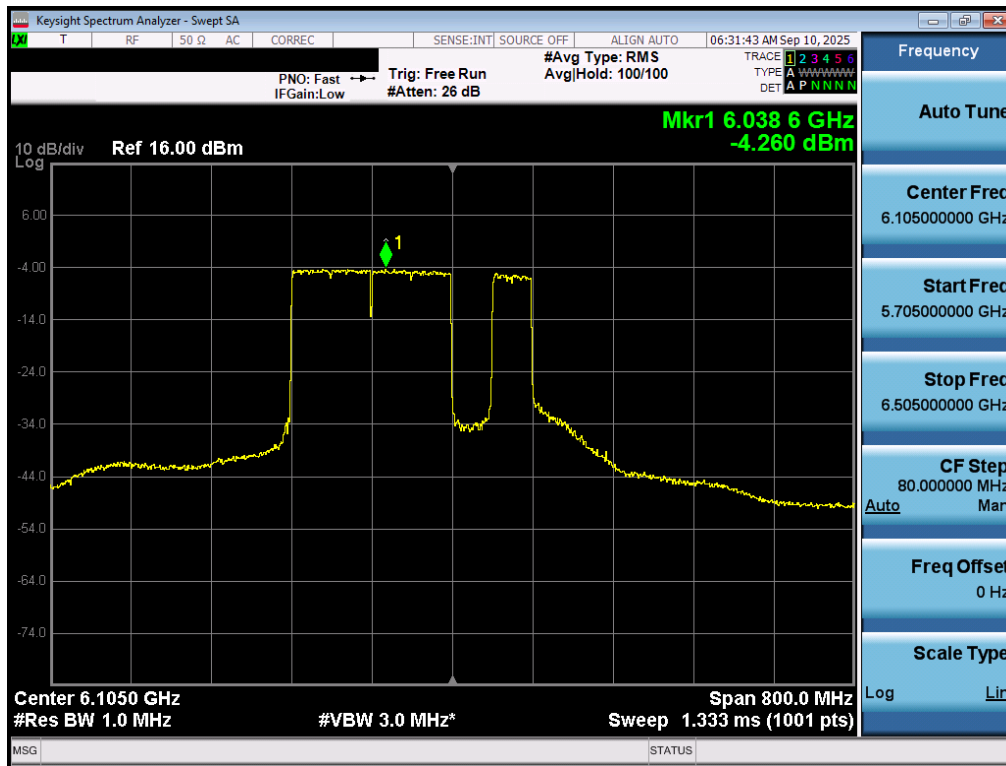


Plot 7-37. Power Spectral Density Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI



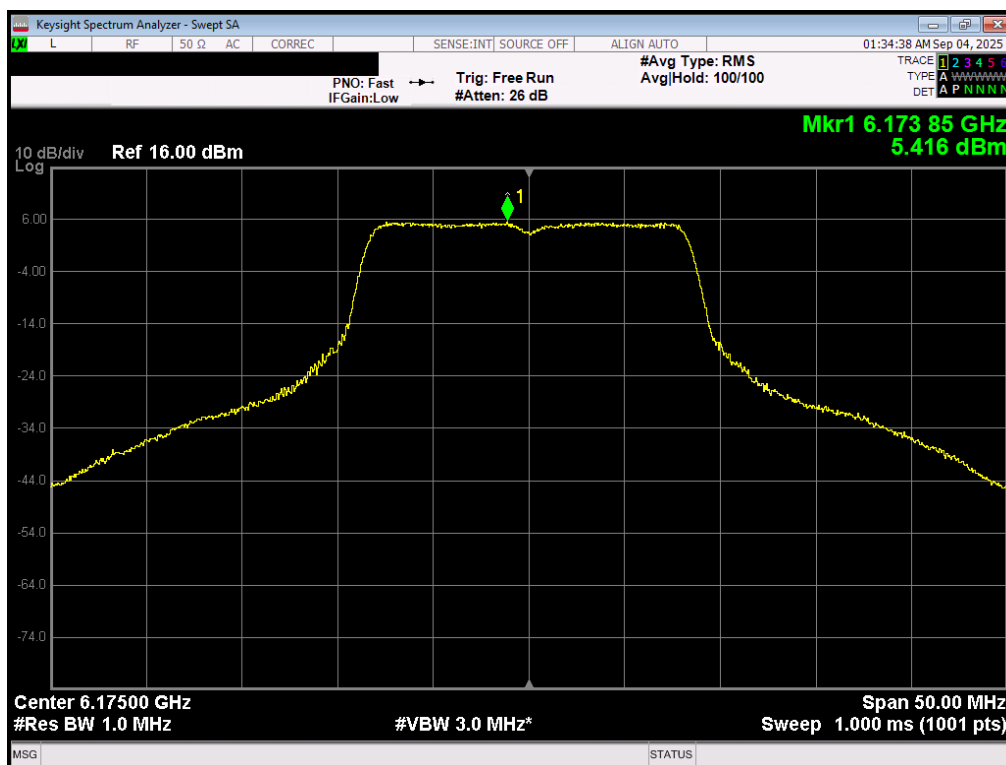
Plot 7-38. Power Spectral Density Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 40MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 56 of 148

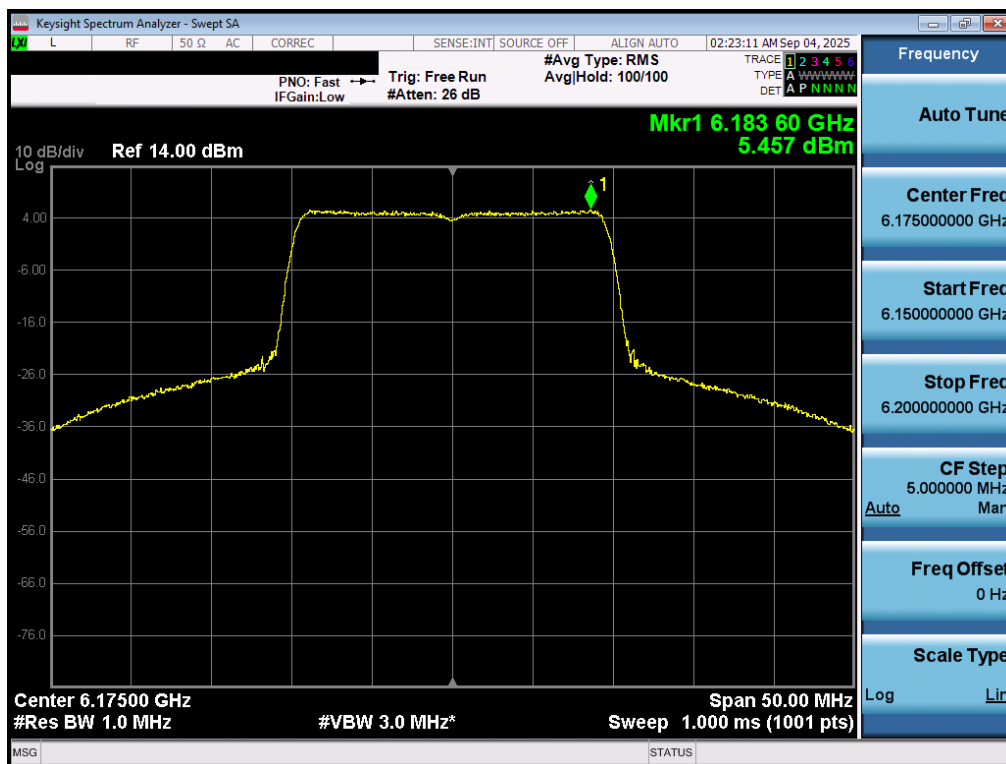


Plot 7-39. Power Spectral Density Plot MIMO ANT1 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 120MHz Punctured – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 57 of 148

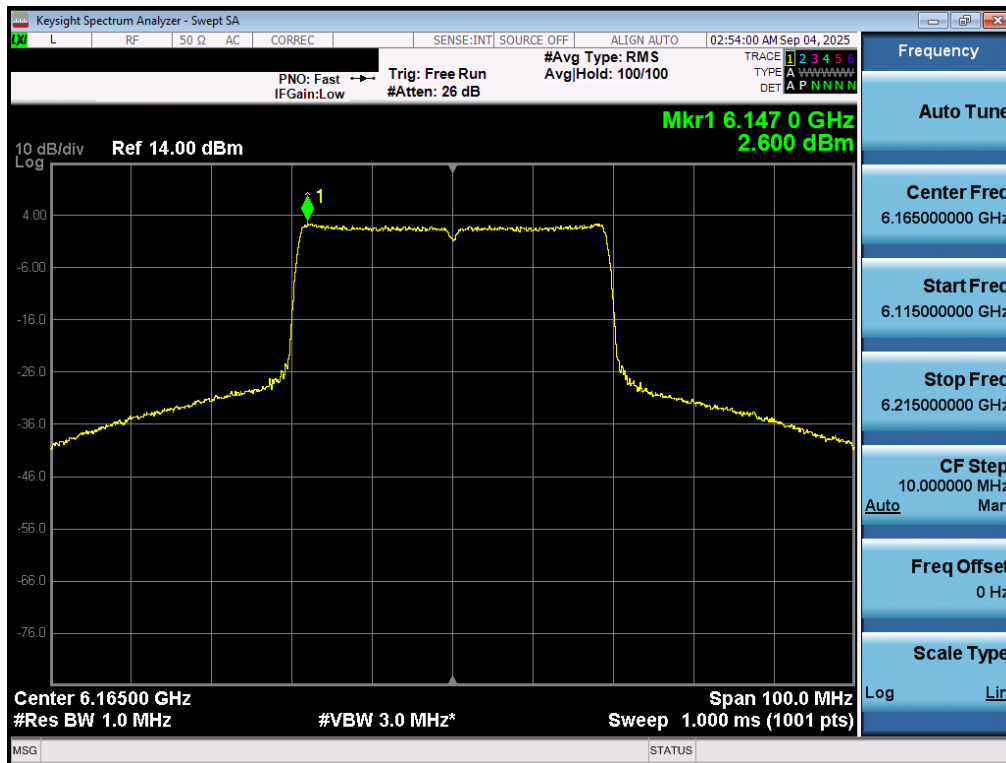


Plot 7-40. Power Spectral Density Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - SP

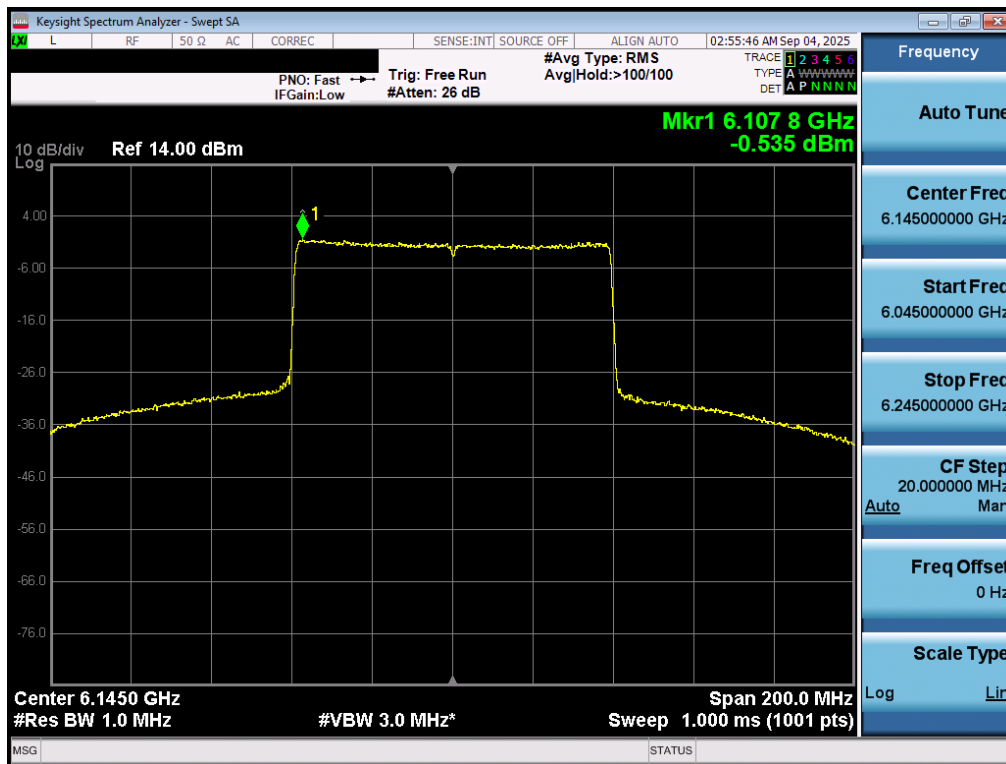


Plot 7-41. Power Spectral Density Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 58 of 148

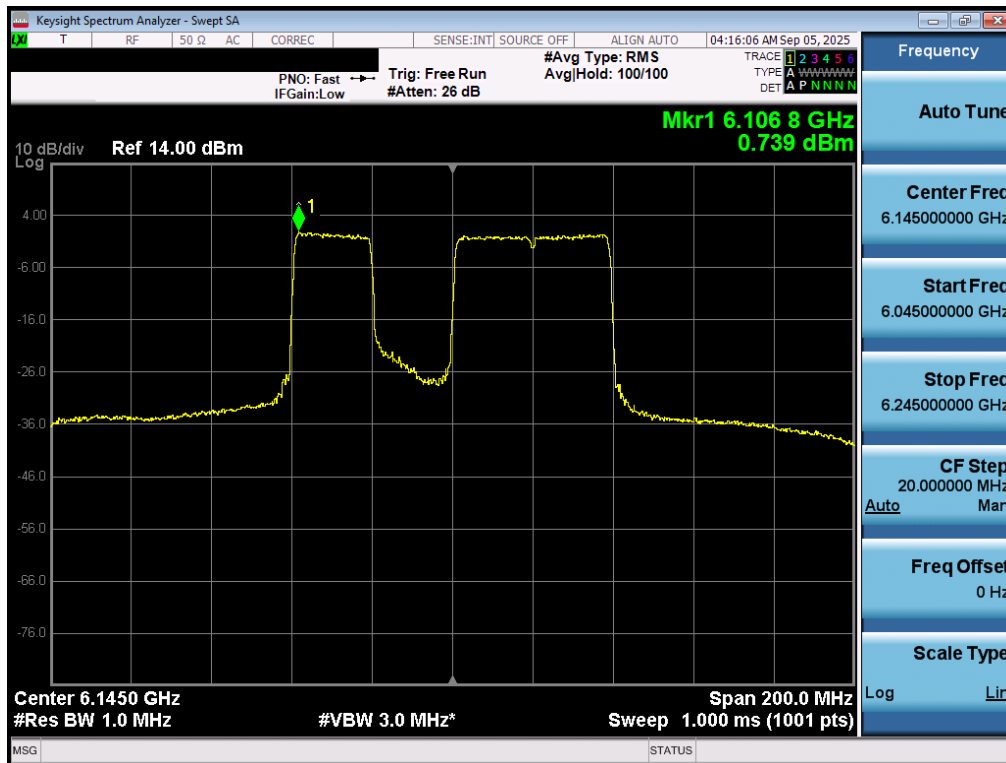


Plot 7-42. Power Spectral Density Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

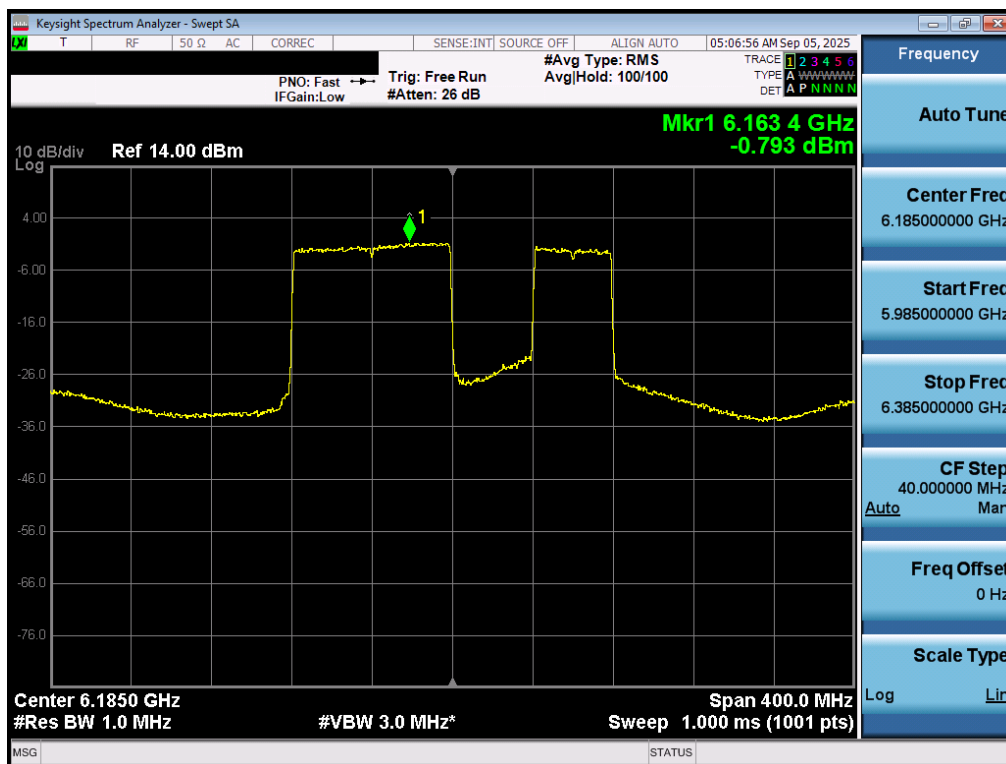


Plot 7-43. Power Spectral Density Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 59 of 148



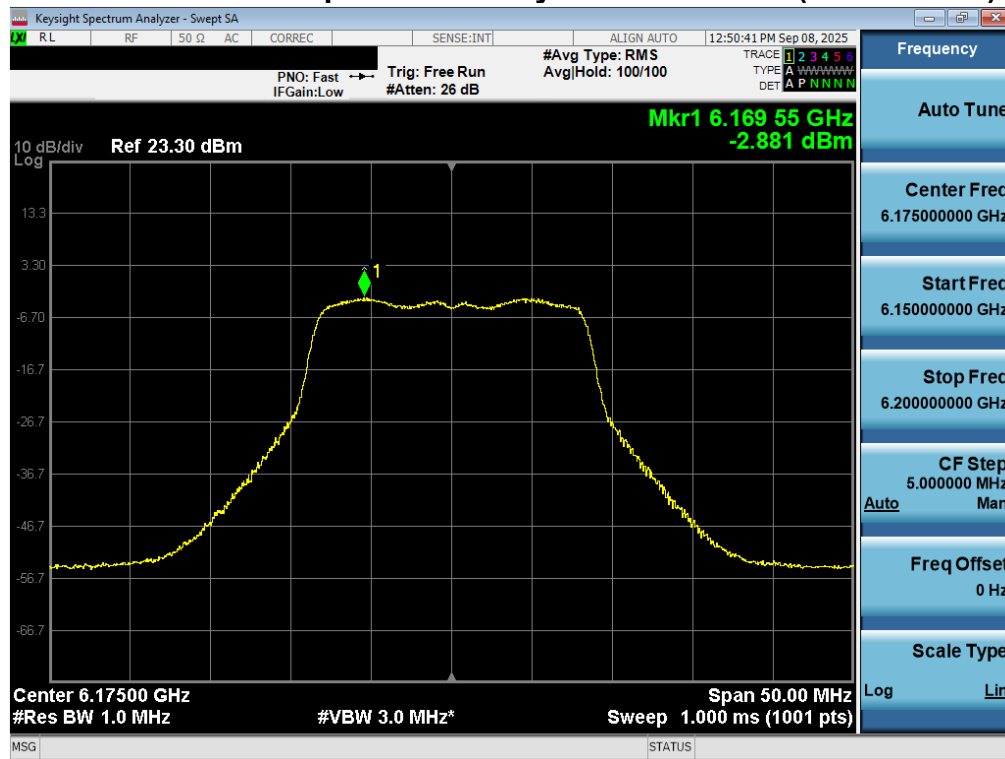
Plot 7-44. Power Spectral Density Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP



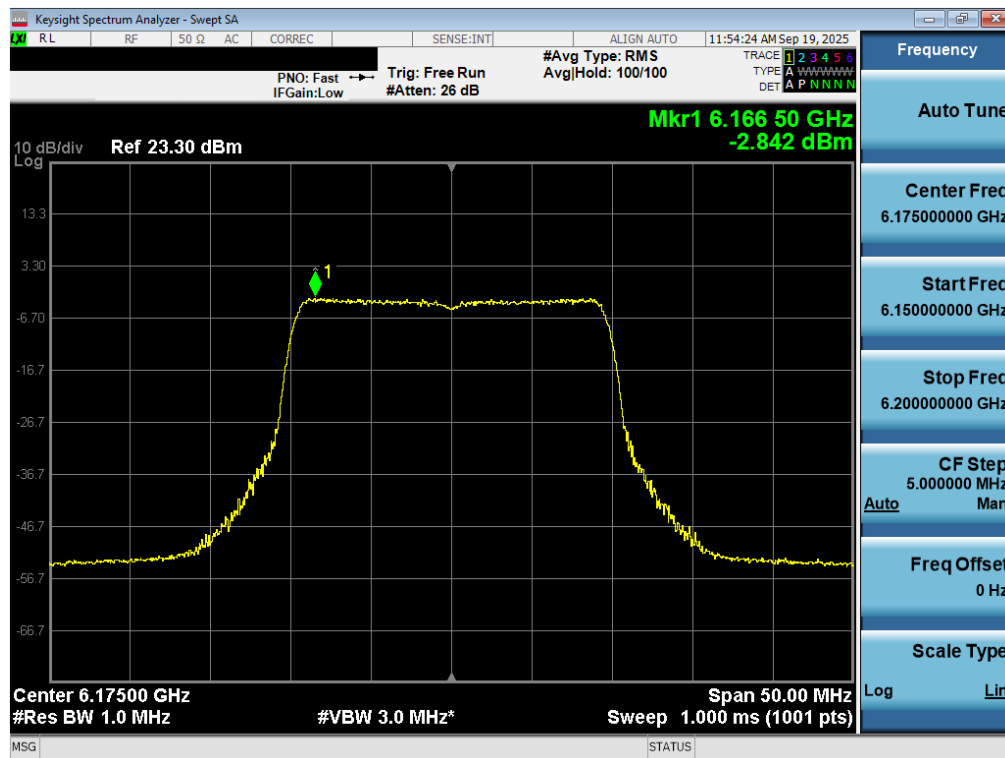
Plot 7-45. Power Spectral Density Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 40MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 60 of 148

7.4.2 MIMO Antenna-2 Power Spectral Density Measurement - (UNII Band 5)

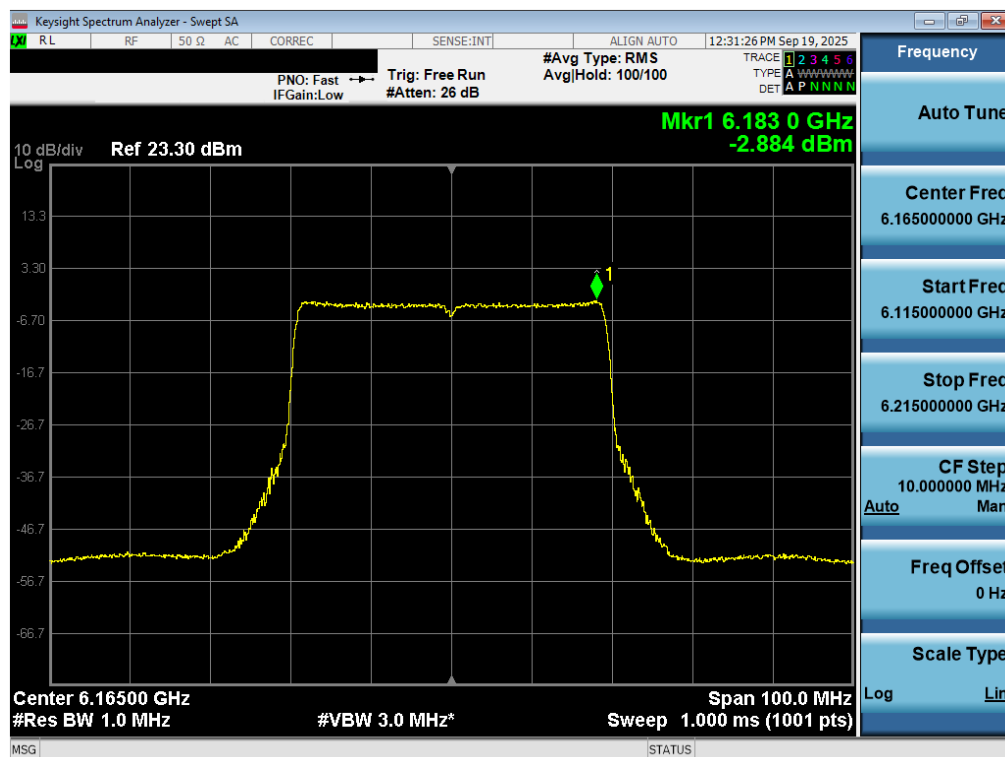


Plot 7-46. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

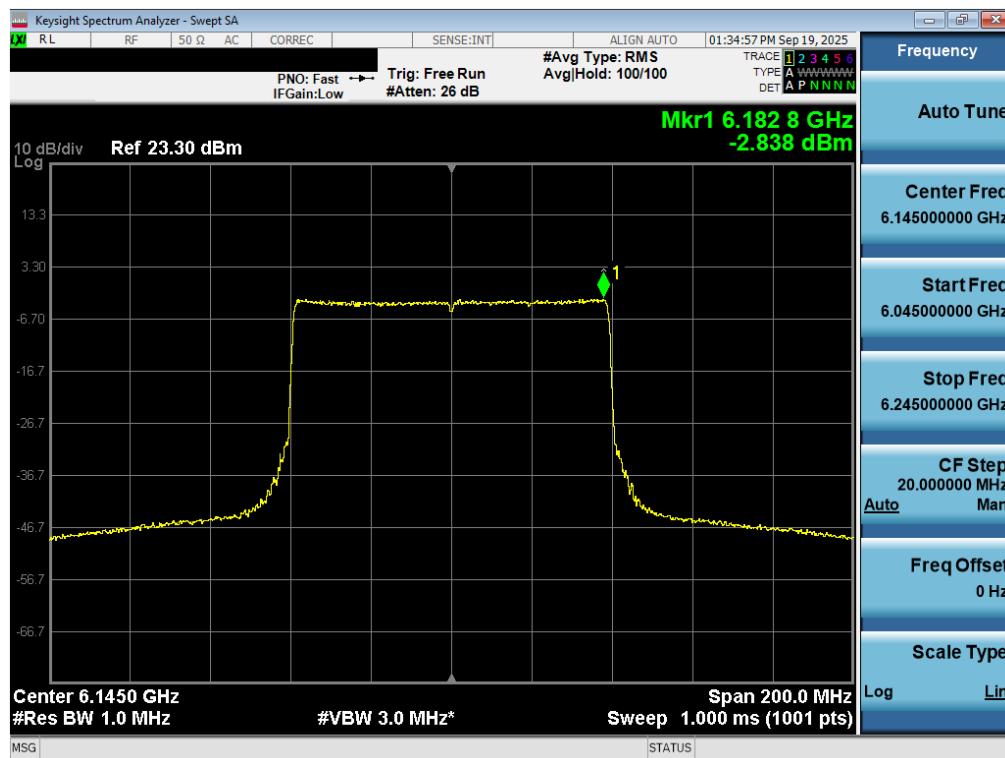


Plot 7-47. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 61 of 148

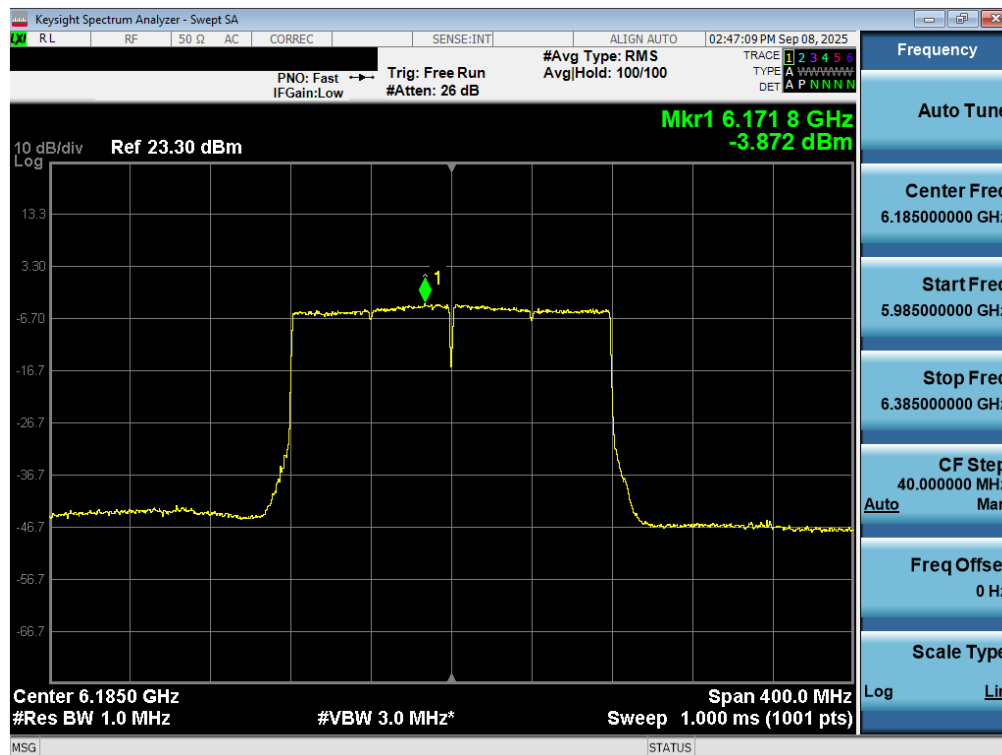


Plot 7-48. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI



Plot 7-49. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 62 of 148

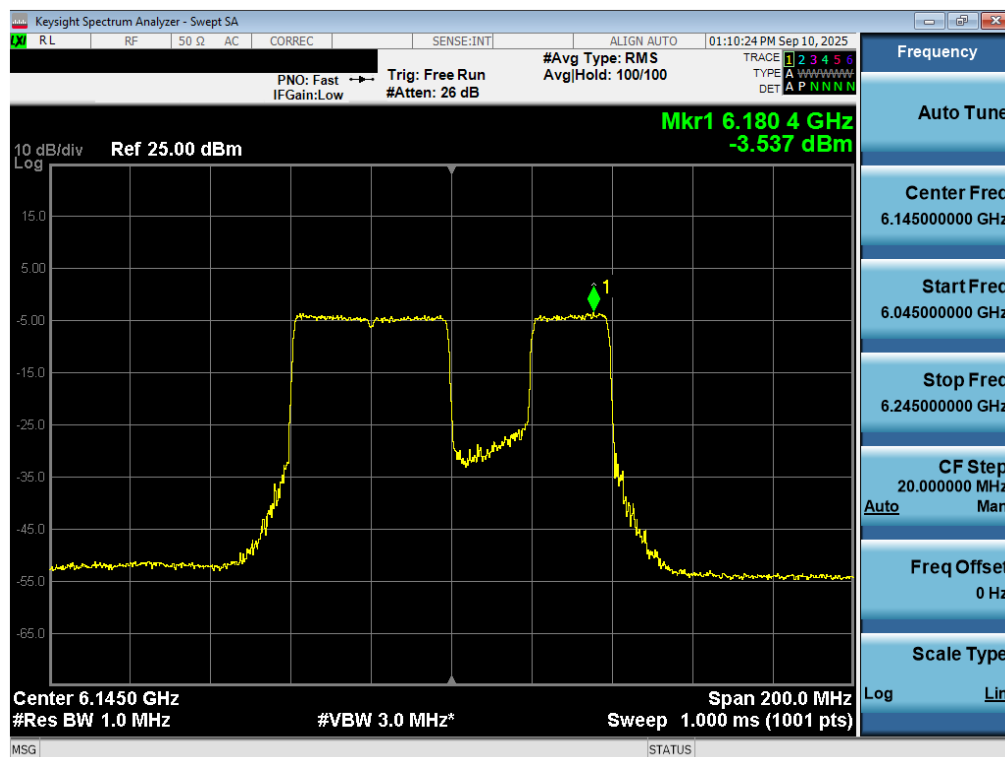


Plot 7-50. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11ax/be (UNII Band 5) - Ch. 47) - LPI/SP

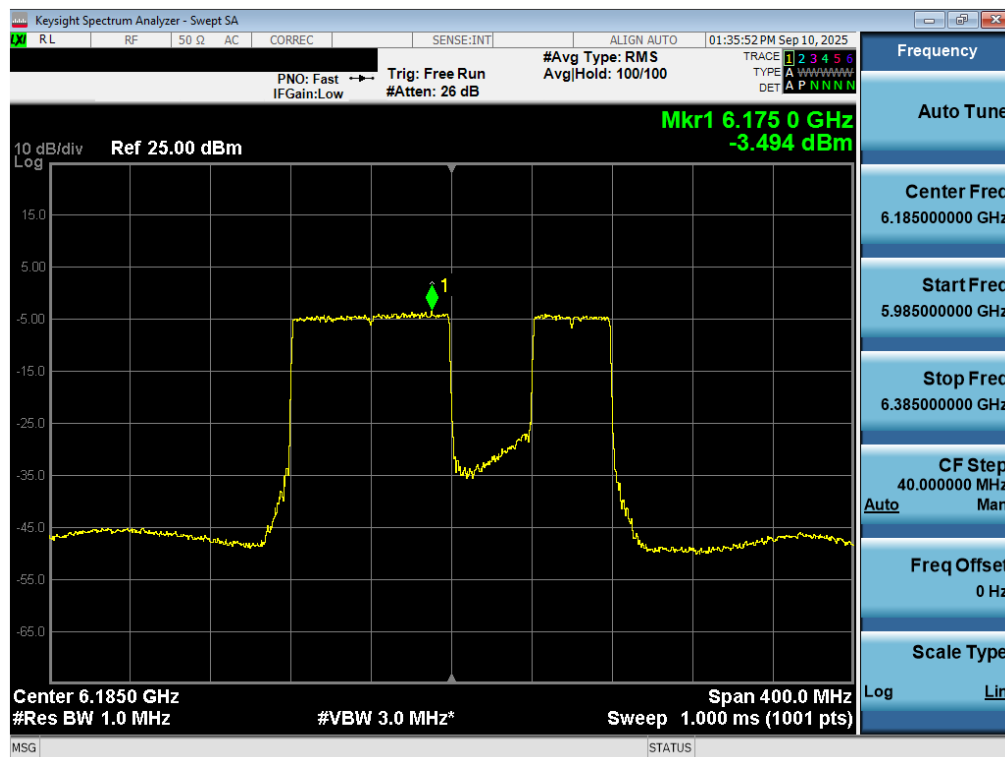


Plot 7-51. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11ax/be (UNII Band 5) - Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 63 of 148

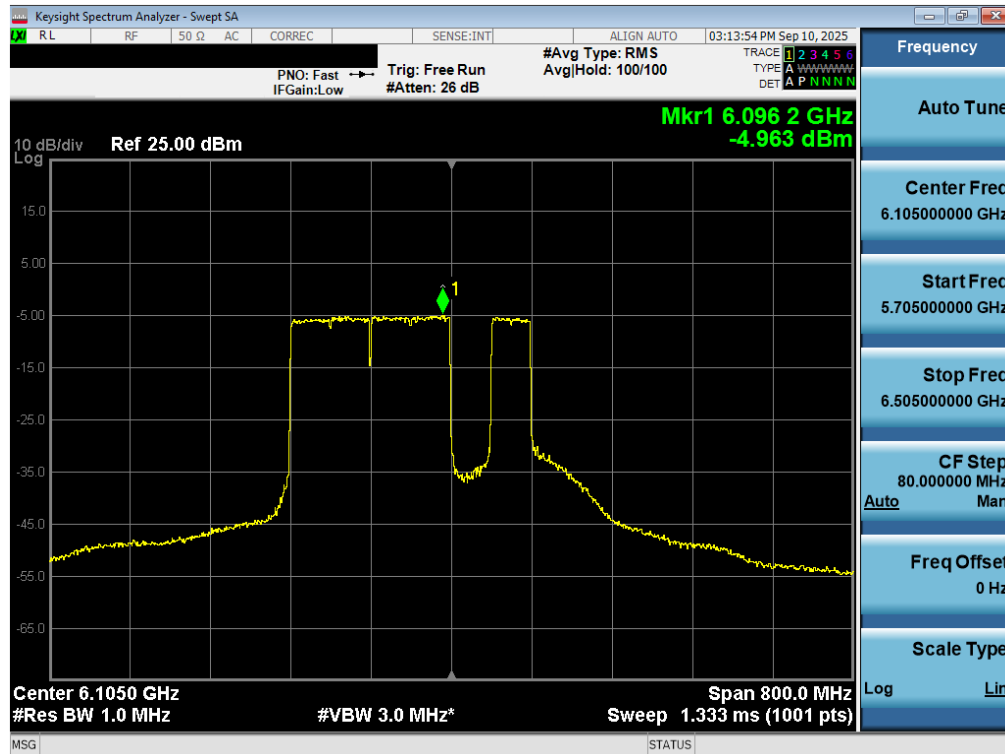


Plot 7-52. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI

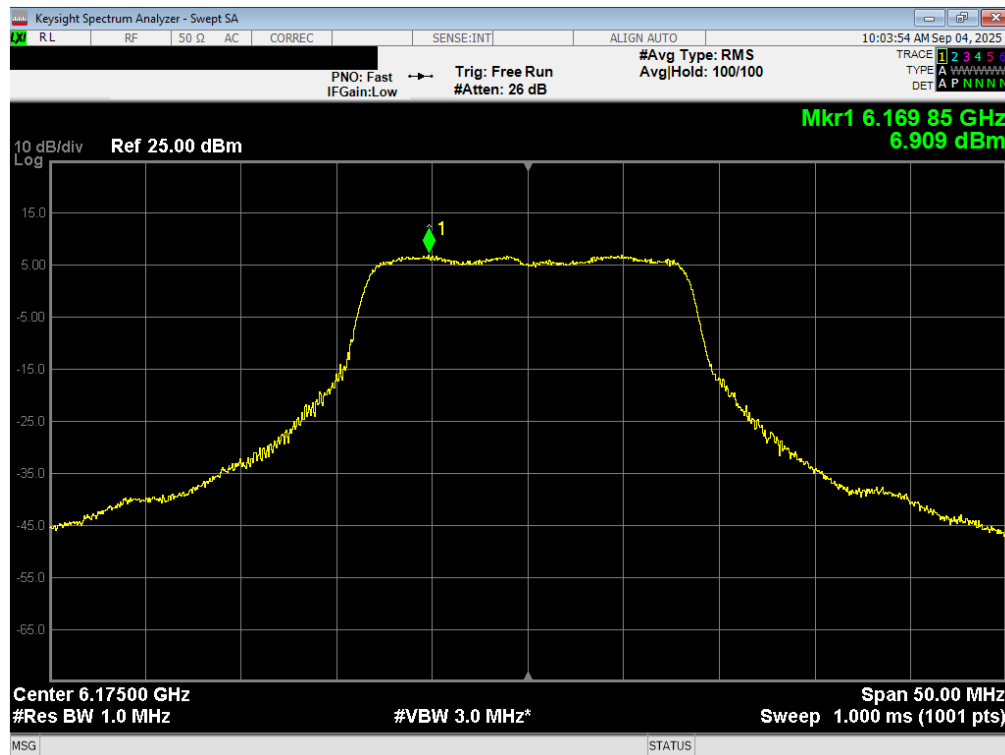


Plot 7-53. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 40MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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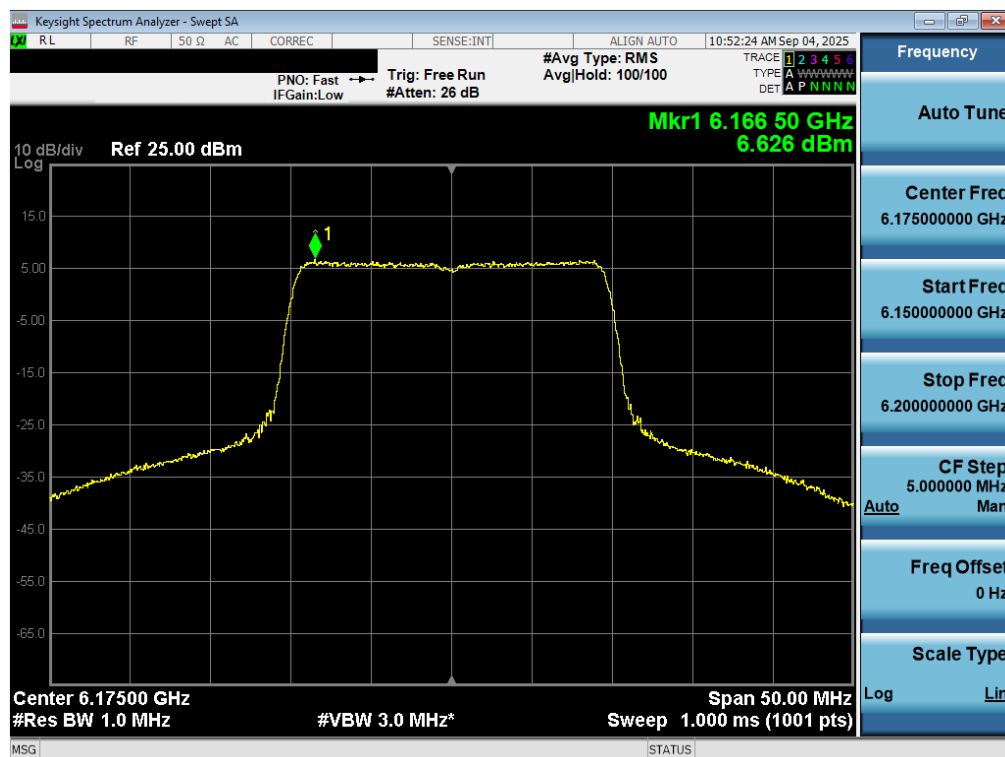


Plot 7-54. Power Spectral Density Plot MIMO ANT2 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 120MHz Punctured – LPI/SP

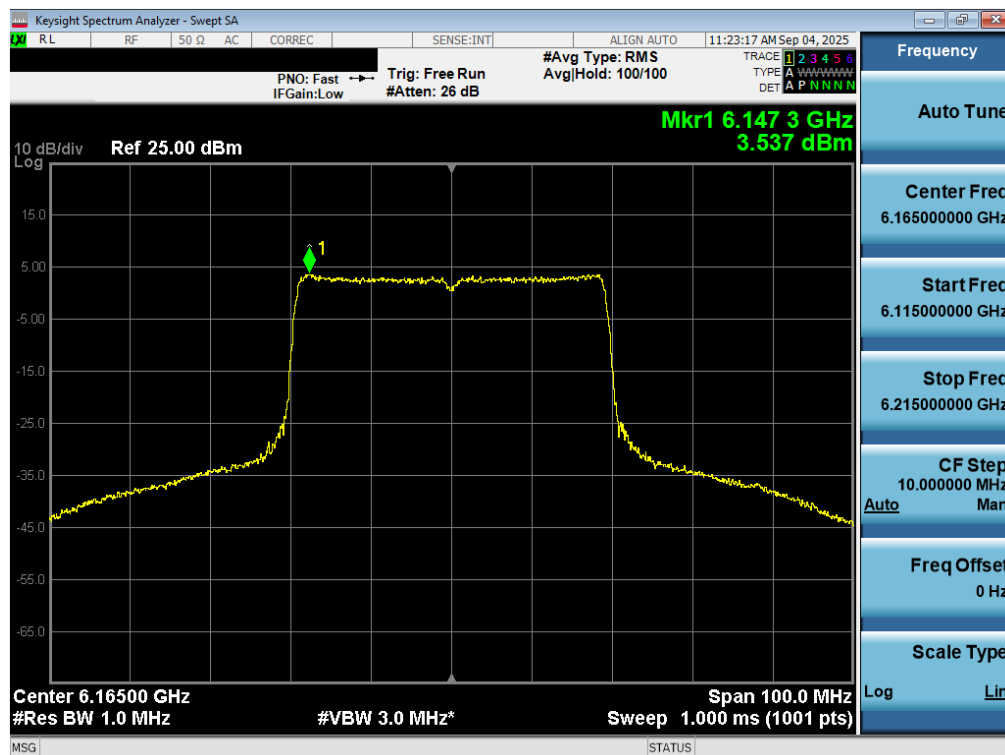


Plot 7-55. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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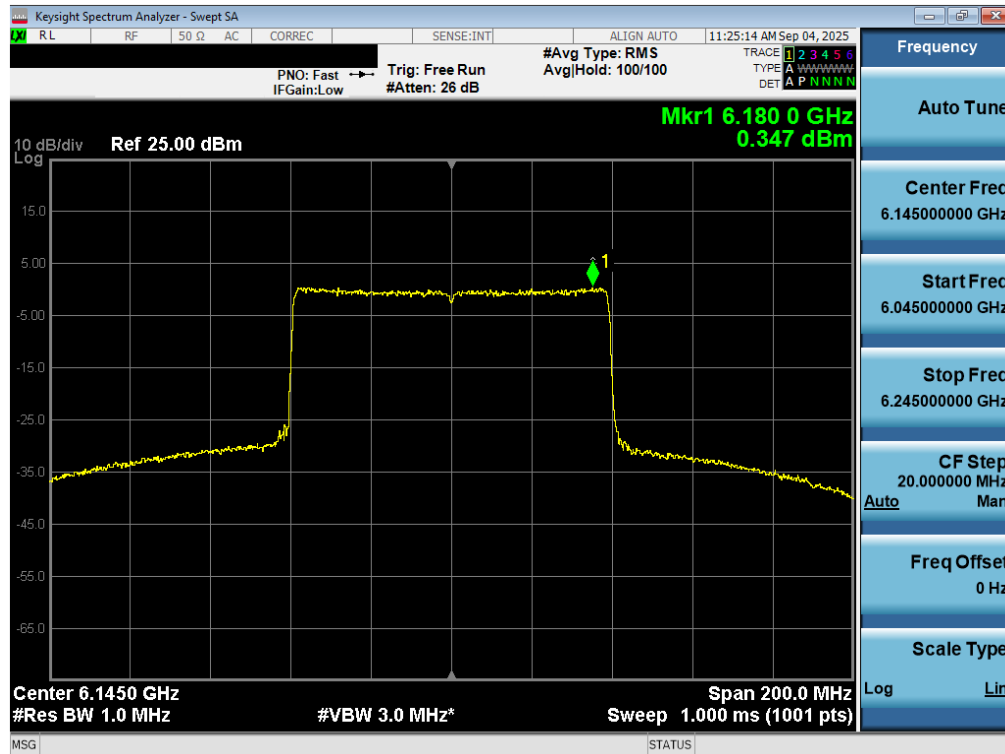


Plot 7-56. Power Spectral Density Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

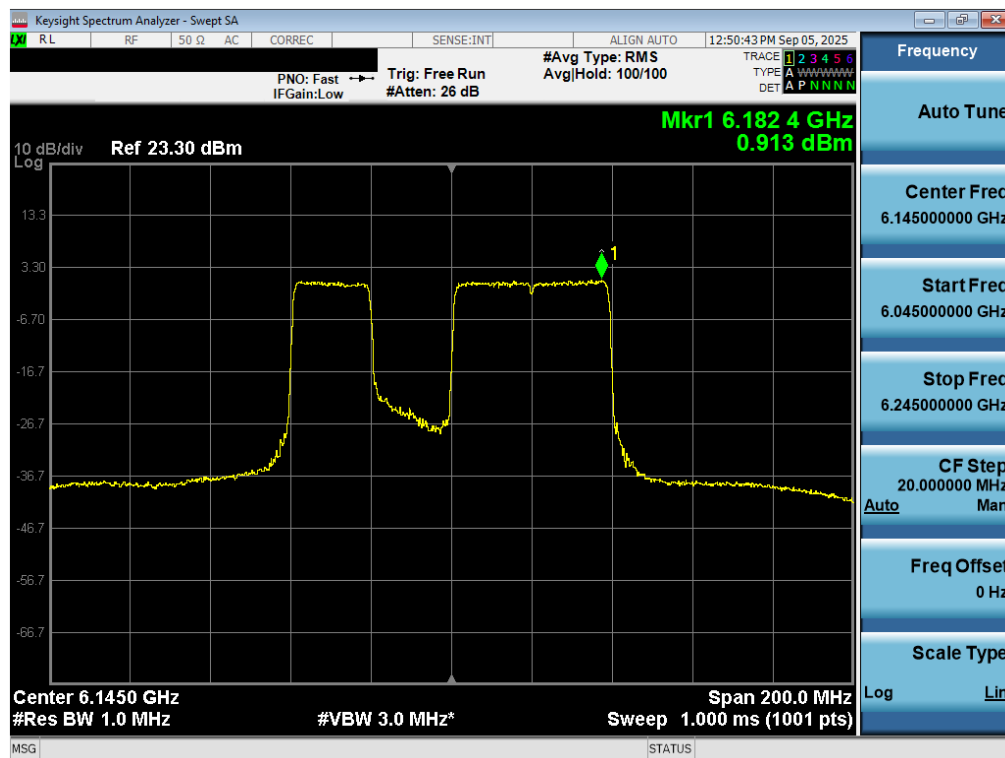


Plot 7-57. Power Spectral Density Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 66 of 148

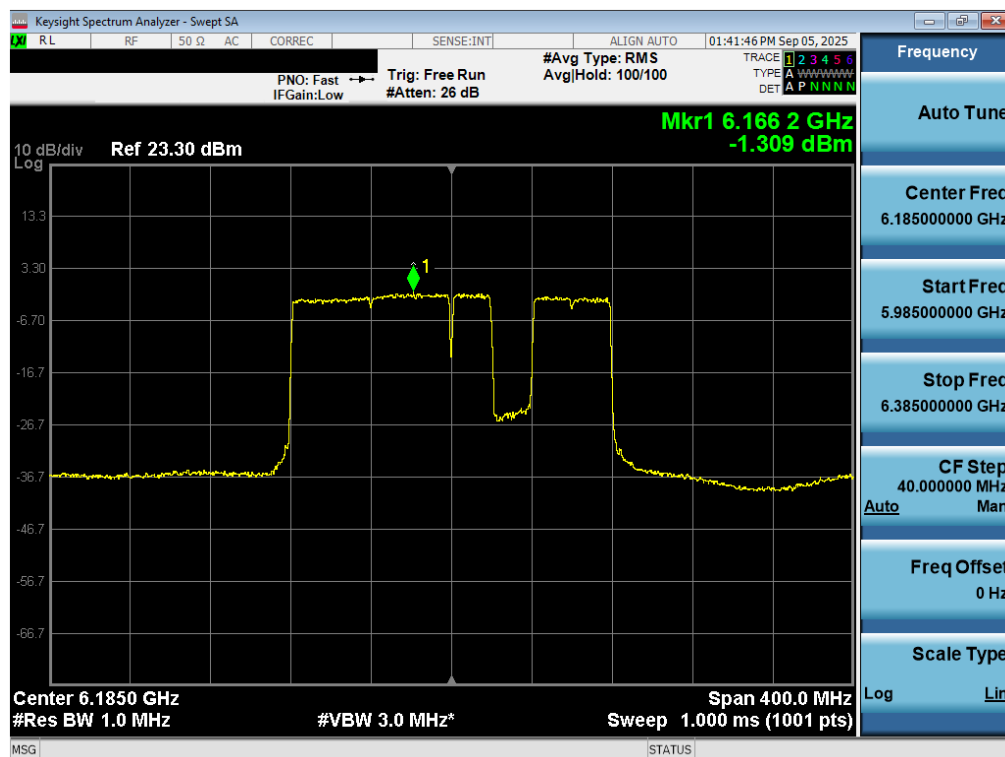


Plot 7-58. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP



Plot 7-59. Power Spectral Density Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 67 of 148



Plot 7-60. Power Spectral Density Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 40MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 68 of 148

Note:

Per ANSI C63.10:2020 Section 14.5.2.3 the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10:2020 Section 14.6.3, the directional gain is calculated using the following formula, where G_N is the gain of the nth antenna and N_{ANT} , the total number of antennas used.

$$\text{Directional gain} = 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi}$$

Sample MIMO Calculation:

At 5935MHz in 802.11a (20MHz BW) mode, the average conducted power spectral density was measured to be -2.99 dBm for Antenna-1 and -3.40 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(-2.99 \text{ dBm} + -3.40 \text{ dBm}) = (0.503 \text{ mW} + 0.457 \text{ mW}) = 0.960 \text{ mW} = -0.18 \text{ dBm}$$

Sample e.i.r.p Power Spectral Density Calculation:

At 5935 MHz in 802.11a (20MHz BW) mode, the average MIMO power density was calculated to be -0.18 dBm with directional gain of -1.90 dBi.

$$\text{e.i.r.p. Power Spectral Density(dBm)} = \text{Power Spectral Density (dBm)} + \text{Ant gain (dBi)} + \text{DCCF (dB)}$$

$$-0.18 \text{ dBm} + -1.90 \text{ dBi} + 0.28\text{dB} = -1.80 \text{ dBm}$$

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7.5 In-Band Emissions

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10:2020, and at the appropriate frequencies.

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

Test Procedure Used

KDB 987594 D02 v03

Test Settings

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.6.2 of ANSI C63.10:2020.
3. Measure the 26 dB EBW using the test procedure 12.5.2 of ANSI C63.10:2020. (This will be used to determine the channel edge.)
4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
 - i) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
 - j) Suppressed by 28 dB at one channel bandwidth from the channel center.
 - k) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
7. Adjust the span to encompass the entire mask as necessary.
8. Clear trace.
9. Trace average at least 100 traces in power averaging (rms) mode.
10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

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Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

Test Notes

None.

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	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
Band 5	5935	2	a	PASS	PASS
	6175	45	a	PASS	PASS
	6415	93	a	PASS	PASS
	5935	2	be (20MHz)	PASS	PASS
	6175	45	be (20MHz)	PASS	PASS
	6415	93	be (20MHz)	PASS	PASS
	5965	3	be (40MHz)	PASS	PASS
	6165	43	be (40MHz)	PASS	PASS
	6405	91	be (40MHz)	PASS	PASS
	5985	7	be (80MHz)	PASS	PASS
	6145	39	be (80MHz)	PASS	PASS
	6385	87	be (80MHz)	PASS	PASS
	6025	15	be (160MHz)	PASS	PASS
	6185	47	be (160MHz)	PASS	PASS
	6345	79	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
Band 6	6265	63	be (320MHz)	PASS	PASS
	6435	97	a	PASS	PASS
	6475	105	a	PASS	PASS
	6515	113	a	PASS	PASS
	6435	97	be (20MHz)	PASS	PASS
	6475	105	be (20MHz)	PASS	PASS
	6515	113	be (20MHz)	PASS	PASS
	6445	99	be (40MHz)	PASS	PASS
	6485	107	be (40MHz)	PASS	PASS
	6525	115	be (40MHz)	PASS	PASS
Band 5/6/7	6465	103	be (80MHz)	PASS	PASS
	6505	111	be (160MHz)	PASS	PASS
Band 7	6425	95	be (320MHz)	PASS	PASS
	6535	117	a	PASS	PASS
	6695	149	a	PASS	PASS
	6875	185	a	PASS	PASS
	6535	117	be (20MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
	6875	185	be (20MHz)	PASS	PASS
	6565	123	be (40MHz)	PASS	PASS
	6725	155	be (40MHz)	PASS	PASS
	6885	179	be (40MHz)	PASS	PASS
	6545	119	be (80MHz)	PASS	PASS
	6705	151	be (80MHz)	PASS	PASS
	6865	183	be (80MHz)	PASS	PASS
	6665	143	be (160MHz)	PASS	PASS
Band 6/7	6825	175	be (160MHz)	PASS	PASS
	6665	127	be (320MHz)	PASS	PASS
Band 7/8	6745	159	be (320MHz)	PASS	PASS
Band 8	6895	189	a	PASS	PASS
	6995	209	a	PASS	PASS
	7115	233	a	PASS	PASS
	6895	189	be (20MHz)	PASS	PASS
	6995	209	be (20MHz)	PASS	PASS
	7115	233	be (20MHz)	PASS	PASS
	6925	187	be (40MHz)	PASS	PASS
	7005	211	be (40MHz)	PASS	PASS
	7085	227	be (40MHz)	PASS	PASS
	6945	199	be (80MHz)	PASS	PASS
	7025	215	be (80MHz)	PASS	PASS
Band 7/8	6985	207	be (160MHz)	PASS	PASS
	6905	191	be (320MHz)	PASS	PASS

Table 7-36. MIMO In-Band Emissions Results – LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 72 of 148

	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
Band 5	6145	39	be (80MHz)	20MHz	PASS	PASS
	6185	47	be (160MHz)	20MHz	PASS	PASS
	6185	47	be (160MHz)	40MHz	PASS	PASS
	6105	31	be (320MHz)	40MHz	PASS	PASS
	6105	31	be (320MHz)	80MHz	PASS	PASS
	6105	31	be (320MHz)	120MHz	PASS	PASS
Band 6	6465	103	be (80MHz)	20MHz	PASS	PASS
	6505	111	be (160MHz)	20MHz	PASS	PASS
	6505	111	be (160MHz)	40MHz	PASS	PASS
Band 5/6/7	6425	95	be (320MHz)	40MHz	PASS	PASS
	6425	95	be (320MHz)	80MHz	PASS	PASS
	6425	95	be (320MHz)	120MHz	PASS	PASS
Band 7	6705	151	be (80MHz)	20MHz	PASS	PASS
	6665	143	be (160MHz)	20MHz	PASS	PASS
	6665	143	be (160MHz)	40MHz	PASS	PASS
Band 7/8	6745	159	be (320MHz)	40MHz	PASS	PASS
	6745	159	be (320MHz)	80MHz	PASS	PASS
	6745	159	be (320MHz)	120MHz	PASS	PASS
Band 8	7025	215	be (80MHz)	20MHz	PASS	PASS
	6985	207	be (160MHz)	20MHz	PASS	PASS
	6985	207	be (160MHz)	40MHz	PASS	PASS
Band 7/8	6905	191	be (320MHz)	40MHz	PASS	PASS
	6905	191	be (320MHz)	80MHz	PASS	PASS
	6905	191	be (320MHz)	120MHz	PASS	PASS

Table 7-37. MIMO In-Band Emissions Results – Punctured Cases – LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 73 of 148

	Frequency [MHz]	Channel	802.11 MODE	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
Band 5	5935	2	a	PASS	PASS
	6175	45	a	PASS	PASS
	6415	93	a	PASS	PASS
	5935	2	be (20MHz)	PASS	PASS
	6175	45	be (20MHz)	PASS	PASS
	6415	93	be (20MHz)	PASS	PASS
	5965	3	be (40MHz)	PASS	PASS
	6165	43	be (40MHz)	PASS	PASS
	6405	91	be (40MHz)	PASS	PASS
	5985	7	be (80MHz)	PASS	PASS
	6145	39	be (80MHz)	PASS	PASS
	6385	87	be (80MHz)	PASS	PASS
	6025	15	be (160MHz)	PASS	PASS
	6185	47	be (160MHz)	PASS	PASS
	6345	79	be (160MHz)	PASS	PASS
	6105	31	be (320MHz)	PASS	PASS
	6265	63	be (320MHz)	PASS	PASS
Band 7	6535	117	a	PASS	PASS
	6695	149	a	PASS	PASS
	6875	185	a	PASS	PASS
	6535	117	be (20MHz)	PASS	PASS
	6695	149	be (20MHz)	PASS	PASS
	6875	185	be (20MHz)	PASS	PASS
	6565	123	be (40MHz)	PASS	PASS
	6725	155	be (40MHz)	PASS	PASS
	6885	179	be (40MHz)	PASS	PASS
	6545	119	be (80MHz)	PASS	PASS
	6705	151	be (80MHz)	PASS	PASS
	6865	183	be (80MHz)	PASS	PASS
	6665	143	be (160MHz)	PASS	PASS
	6825	175	be (160MHz)	PASS	PASS

Table 7-38. MIMO In-Band Emissions Results – SP

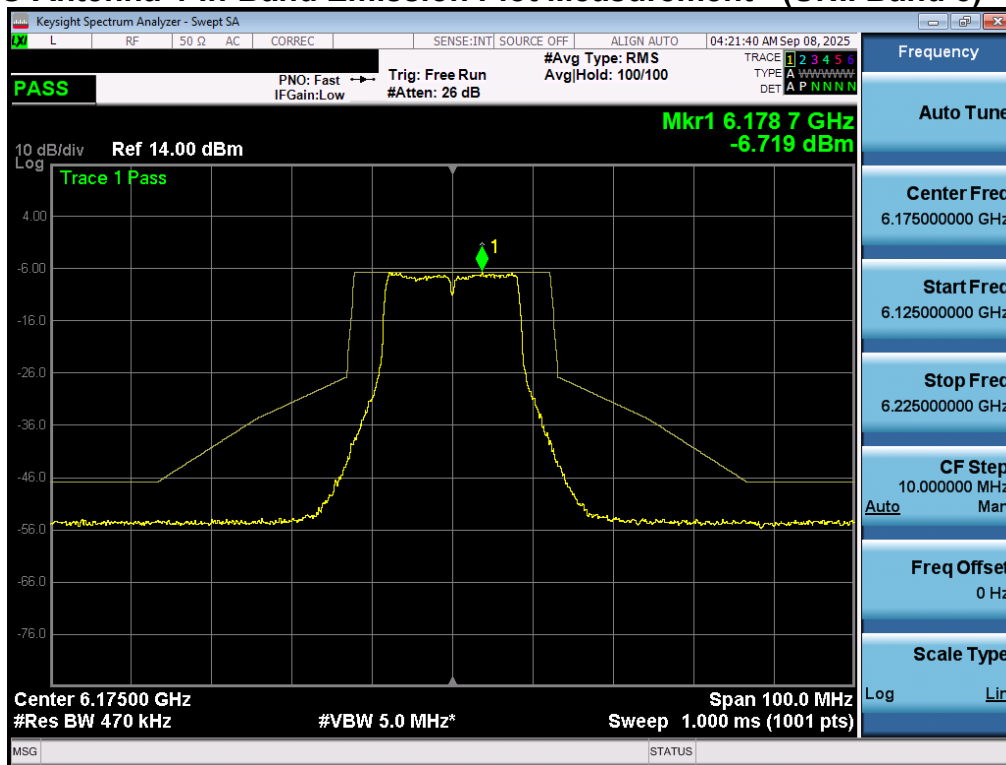
FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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	Frequency [MHz]	Channel	802.11 MODE	Puncture Size	Antenna-1 In-Band Emission	Antenna-2 In-Band Emission
Band 5	6145	39	be (80MHz)	20MHz	PASS	PASS
	6185	47	be (160MHz)	20MHz	PASS	PASS
	6185	47	be (160MHz)	40MHz	PASS	PASS
	6105	31	be (320MHz)	40MHz	PASS	PASS
	6105	31	be (320MHz)	80MHz	PASS	PASS
	6105	31	be (320MHz)	120MHz	PASS	PASS
Band 7	6705	151	be (80MHz)	20MHz	PASS	PASS
	6665	143	be (160MHz)	20MHz	PASS	PASS
	6665	143	be (160MHz)	40MHz	PASS	PASS
Band 7/8	6745	159	be (320MHz)	40MHz	PASS	PASS
	6745	159	be (320MHz)	80MHz	PASS	PASS
	6745	159	be (320MHz)	120MHz	PASS	PASS

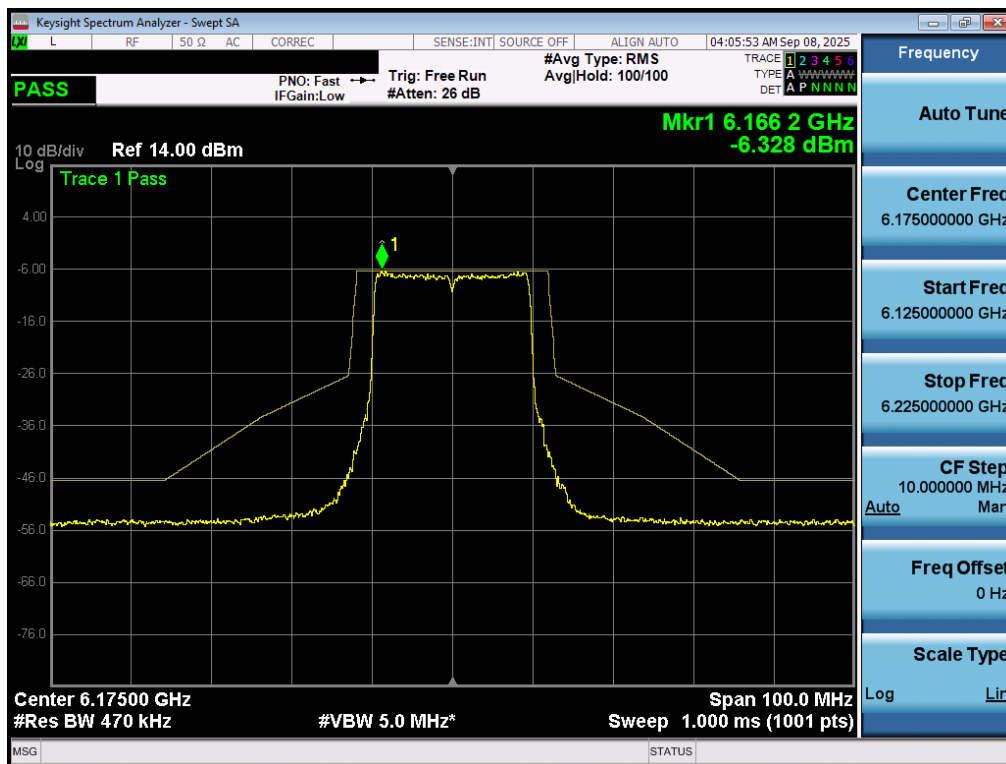
Table 7-39. MIMO In-Band Emissions Results – Punctured Cases – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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7.5.1 MIMO Antenna-1 In-Band Emission Plot Measurement - (UNII Band 5)

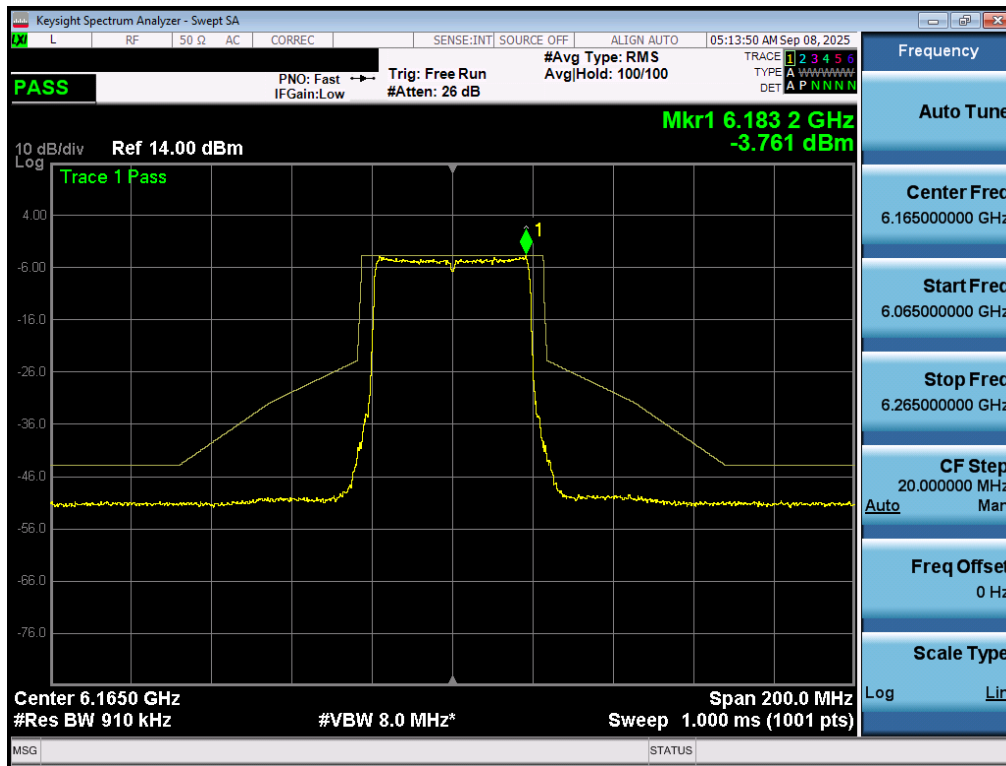


Plot 7-61. In Band Emissions Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

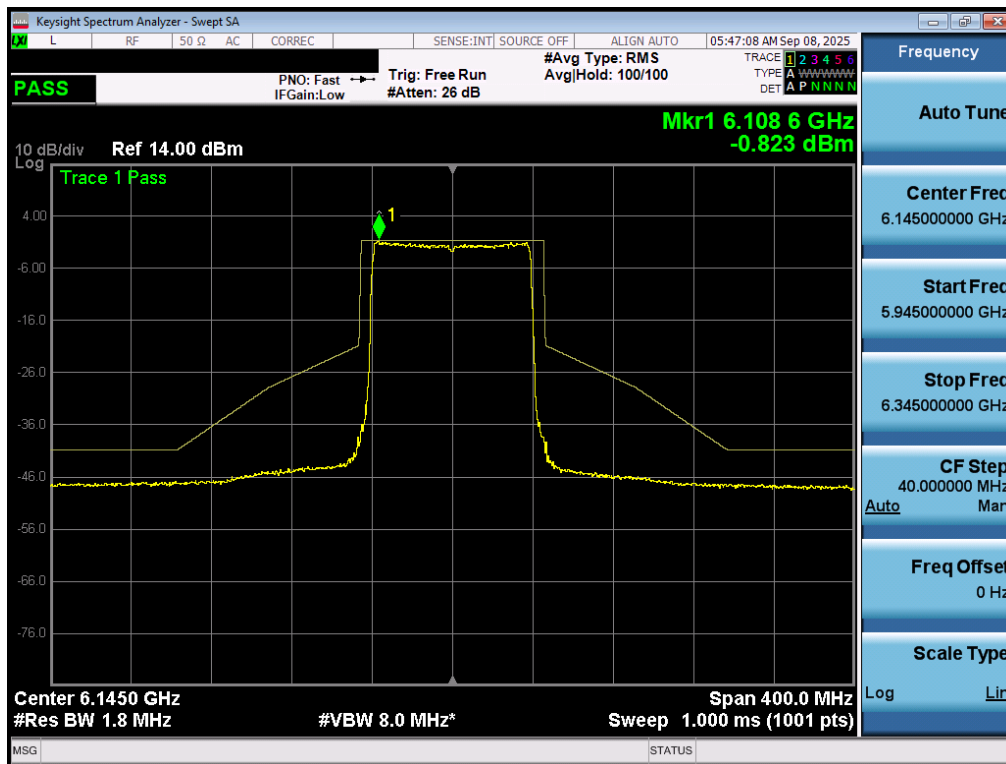


Plot 7-62. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 76 of 148

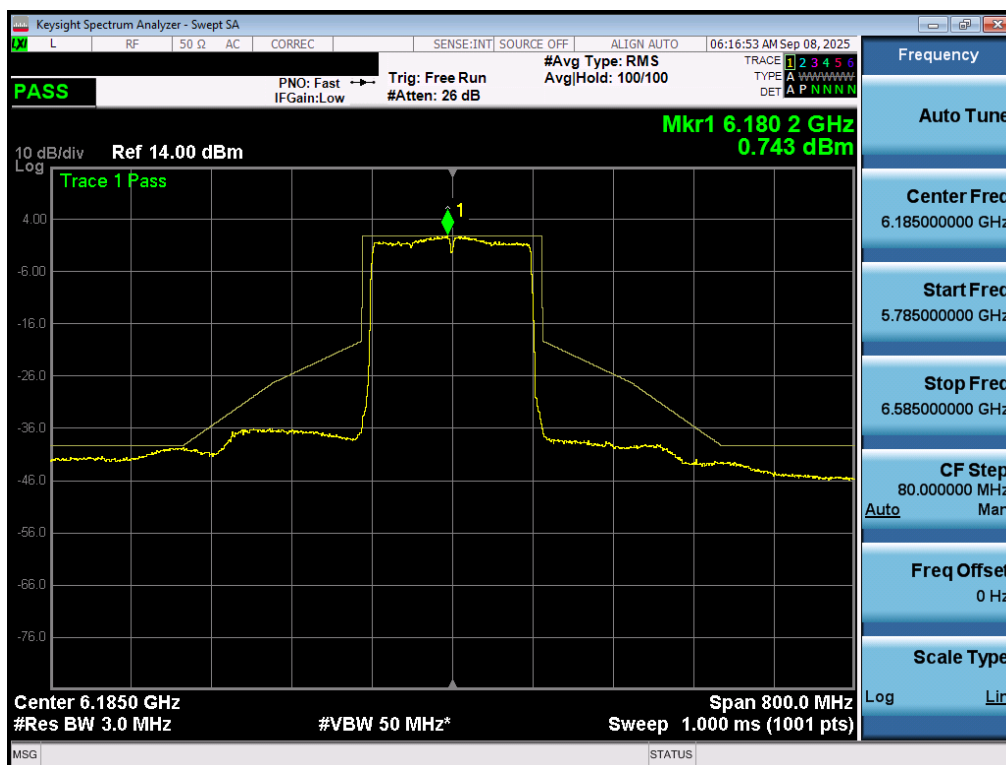


Plot 7-63. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI



Plot 7-64. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 77 of 148

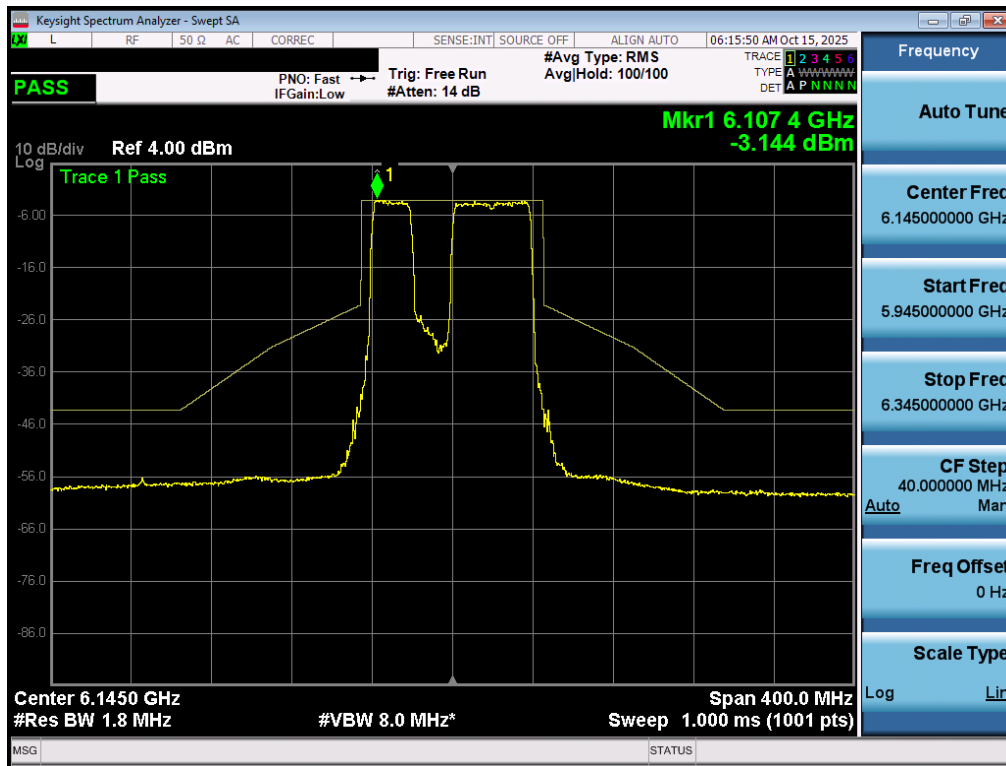


Plot 7-65. In Band Emissions Plot MIMO ANT1 (160MHz 802.11ax/be (UNII Band 5) – Ch. 47) - LPI/SP

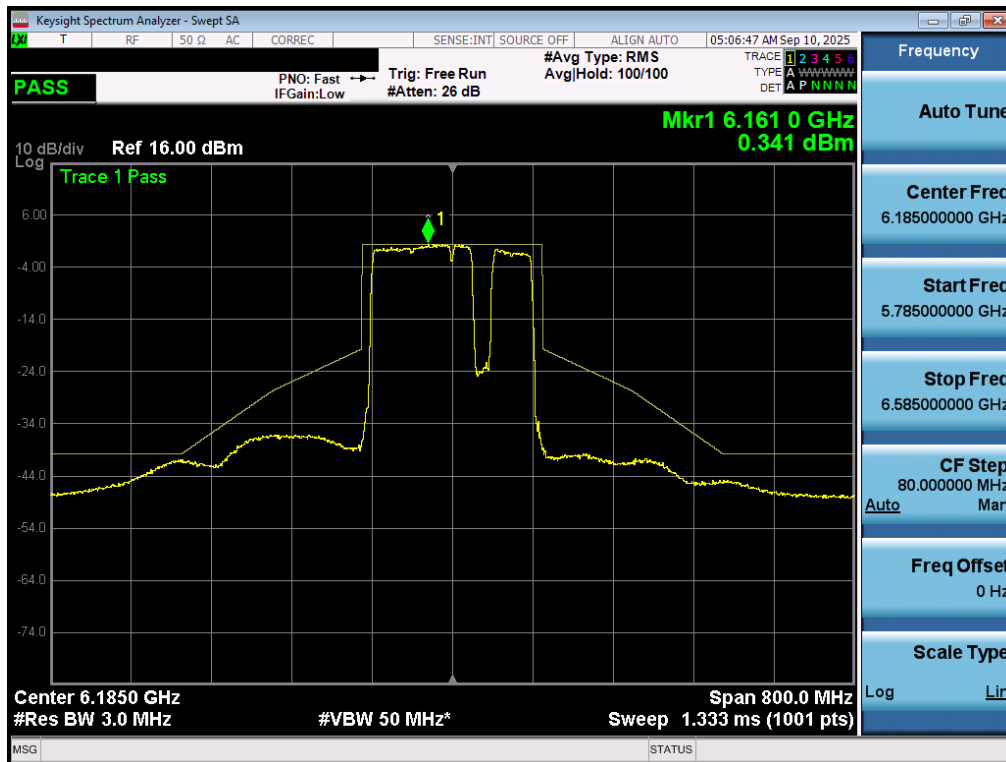


Plot 7-66. In Band Emissions Plot MIMO ANT1 (320MHz 802.11ax/be (UNII Band 5) – Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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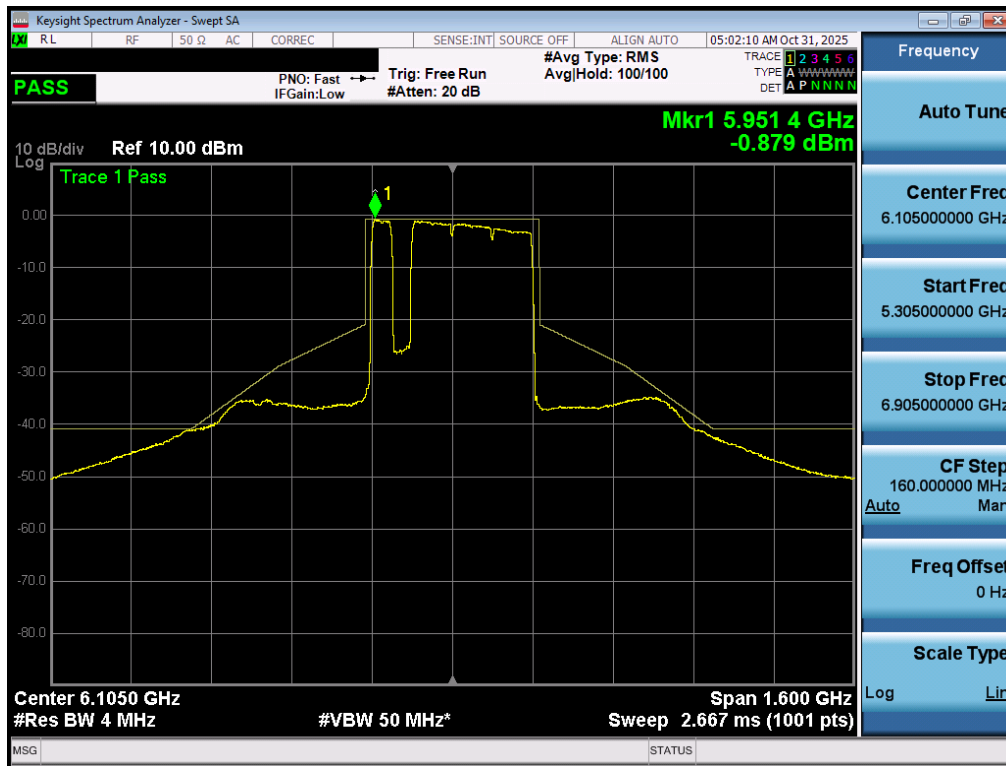


Plot 7-67. In Band Emissions Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI



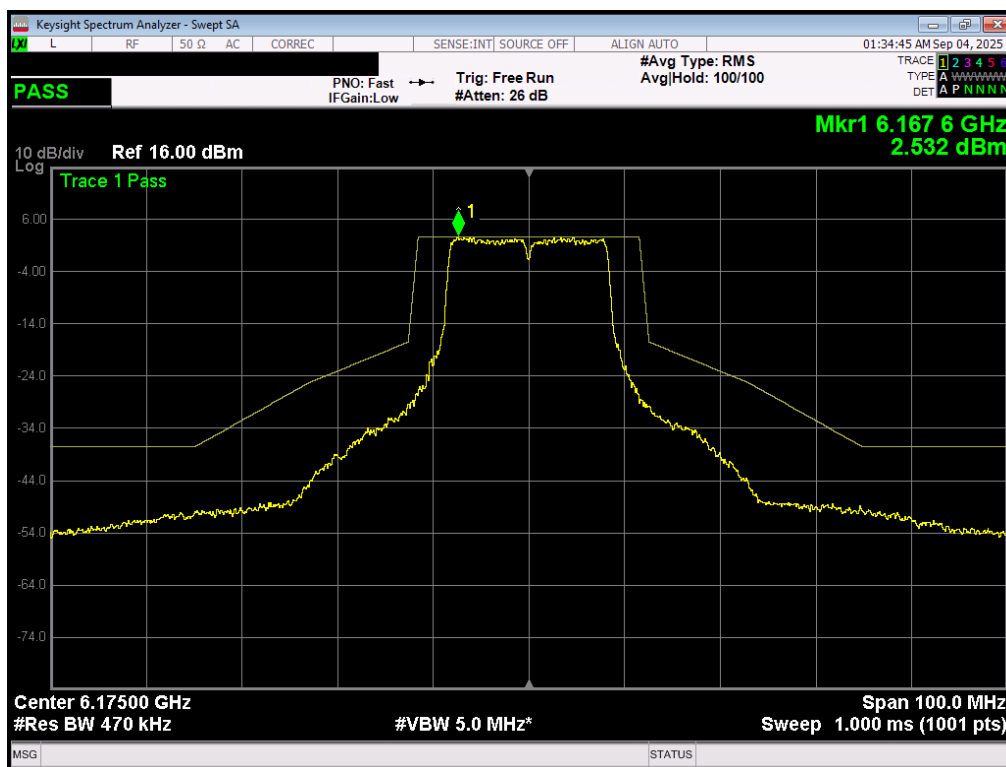
Plot 7-68. In Band Emissions Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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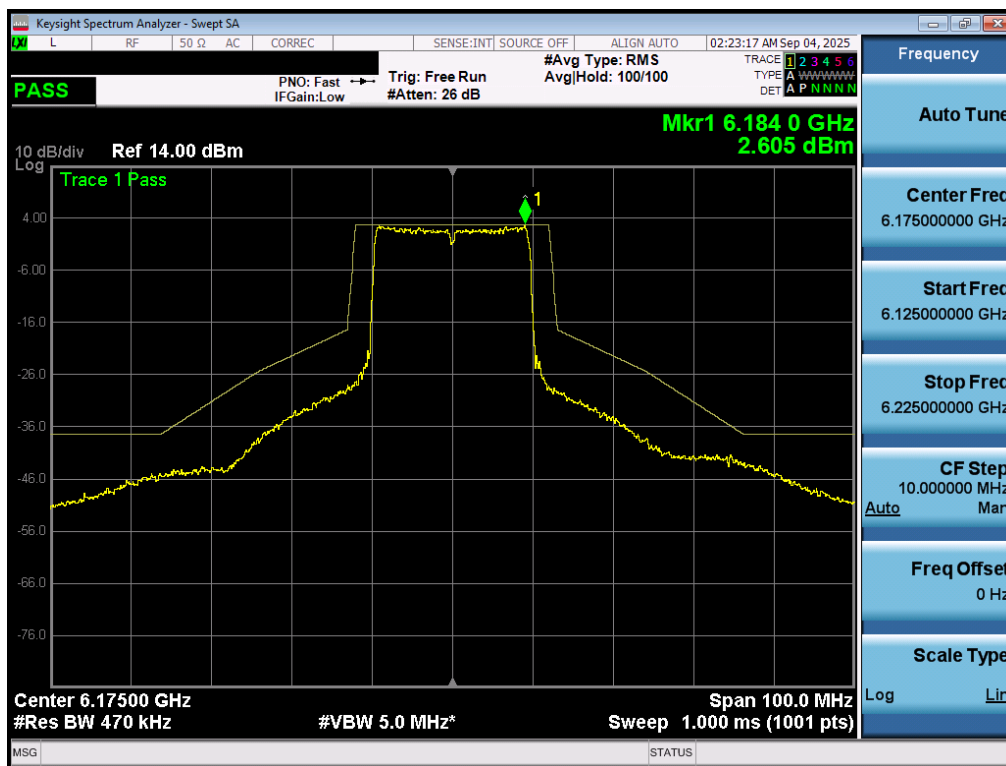


Plot 7-69. In Band Emissions Plot MIMO ANT1 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 40MHz Punctured – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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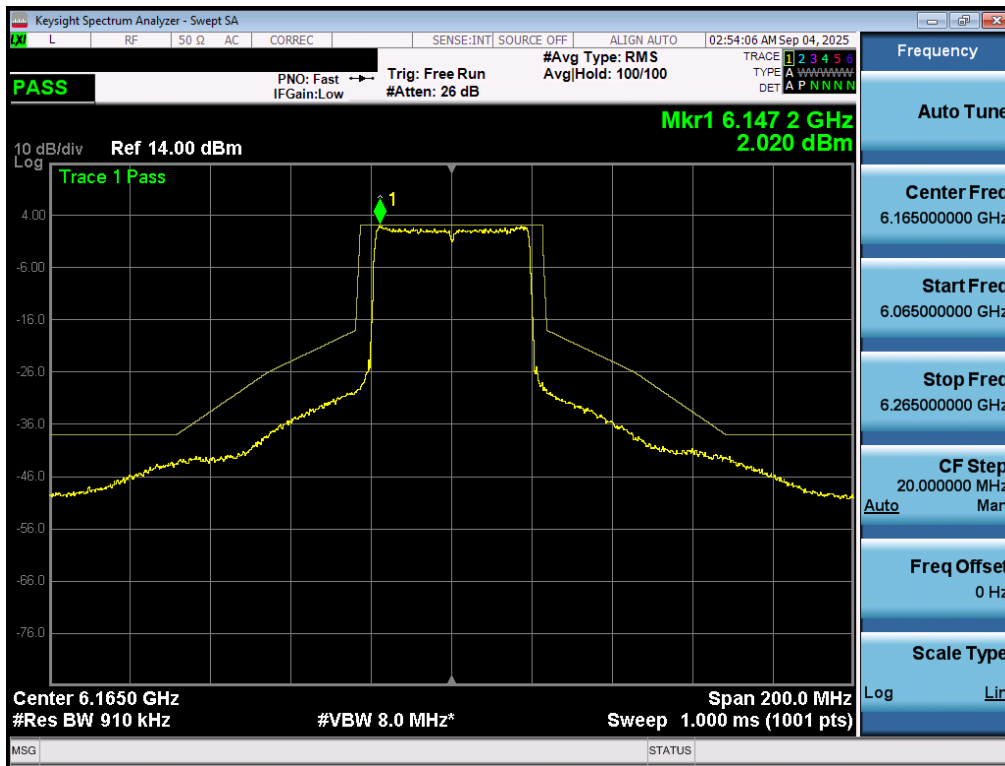


Plot 7-70. In Band Emissions Plot MIMO ANT1 (20MHz 802.11a (UNII Band 5) – Ch. 45) - SP



Plot 7-71. In Band Emissions Plot MIMO ANT1 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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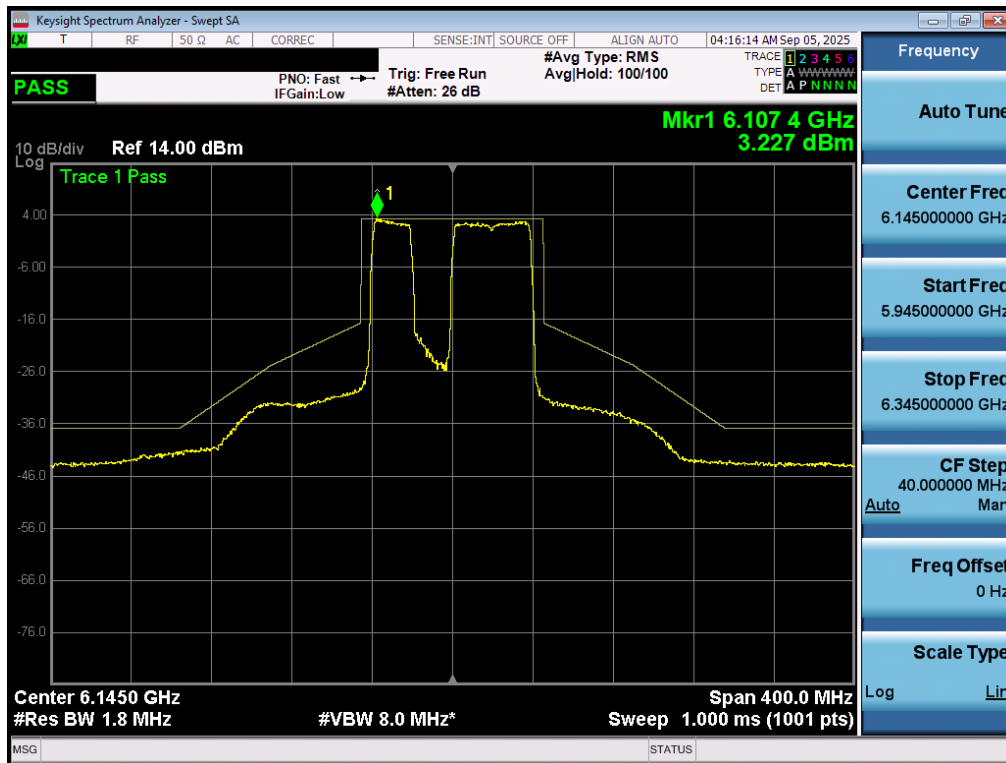


Plot 7-72. In Band Emissions Plot MIMO ANT1 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

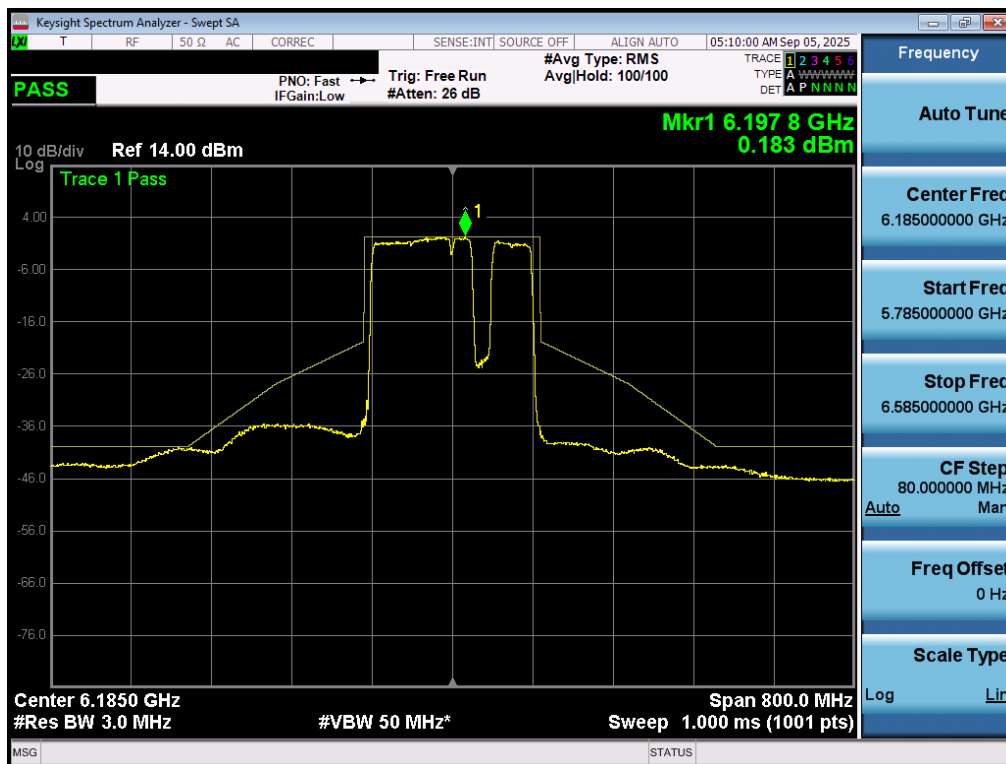


Plot 7-73. In Band Emissions Plot MIMO ANT1 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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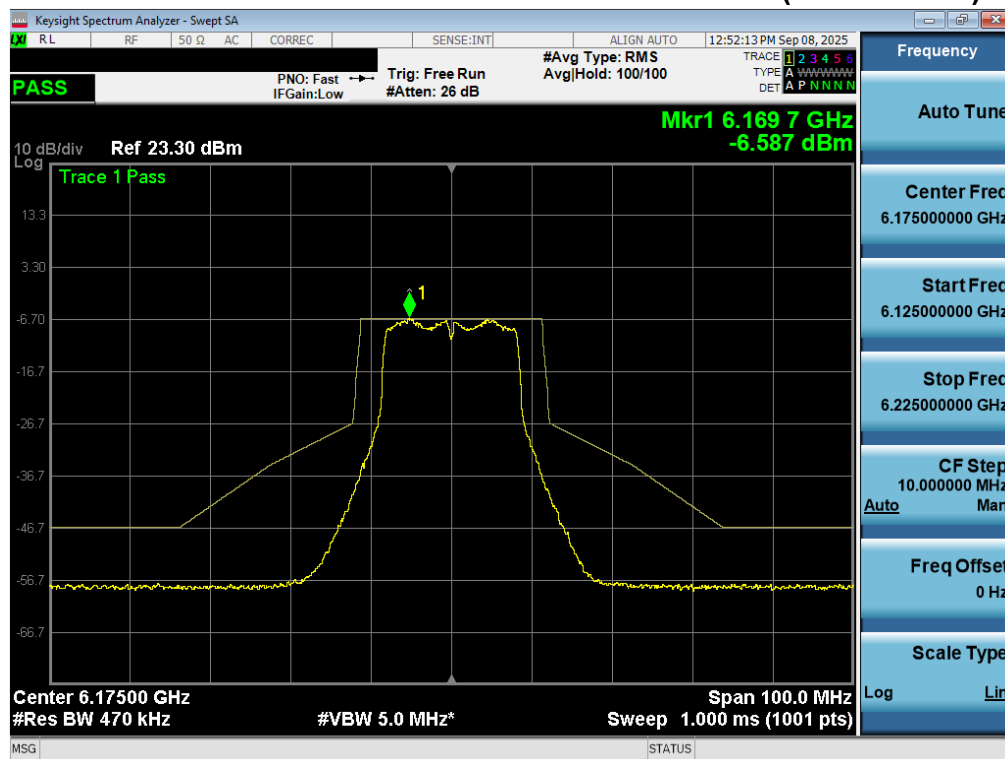
Plot 7-74. In Band Emissions Plot MIMO ANT1 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP



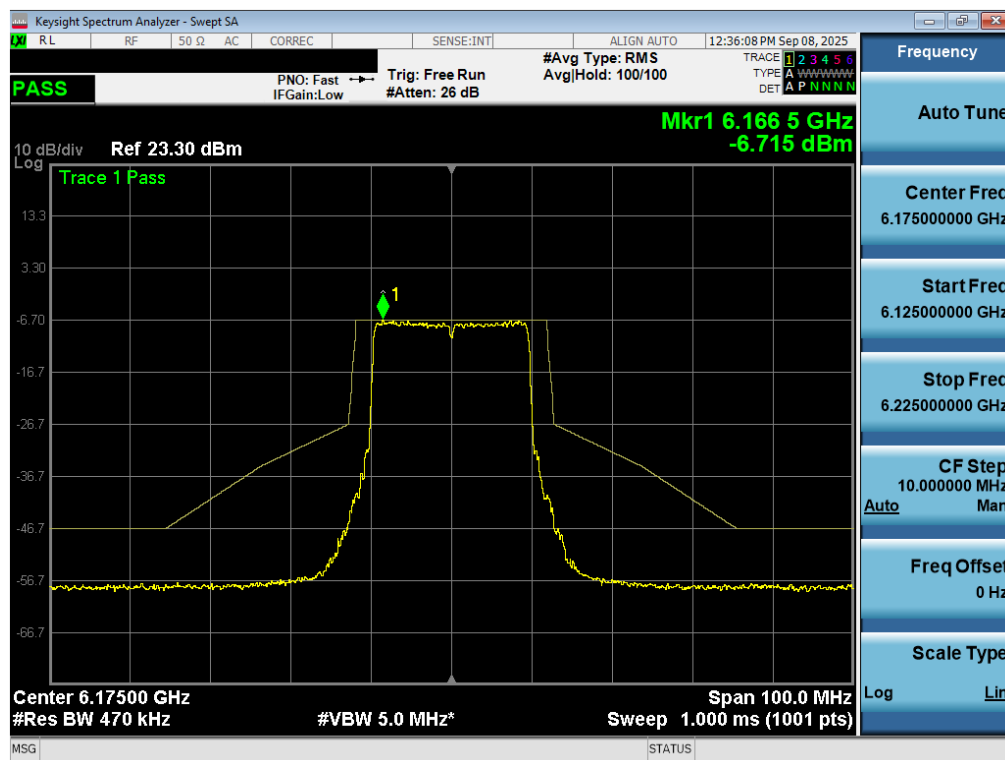
Plot 7-75. In Band Emissions Plot MIMO ANT1 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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7.5.2 MIMO Antenna-2 In-Band Emission Plot Measurement - (UNII Band 5)

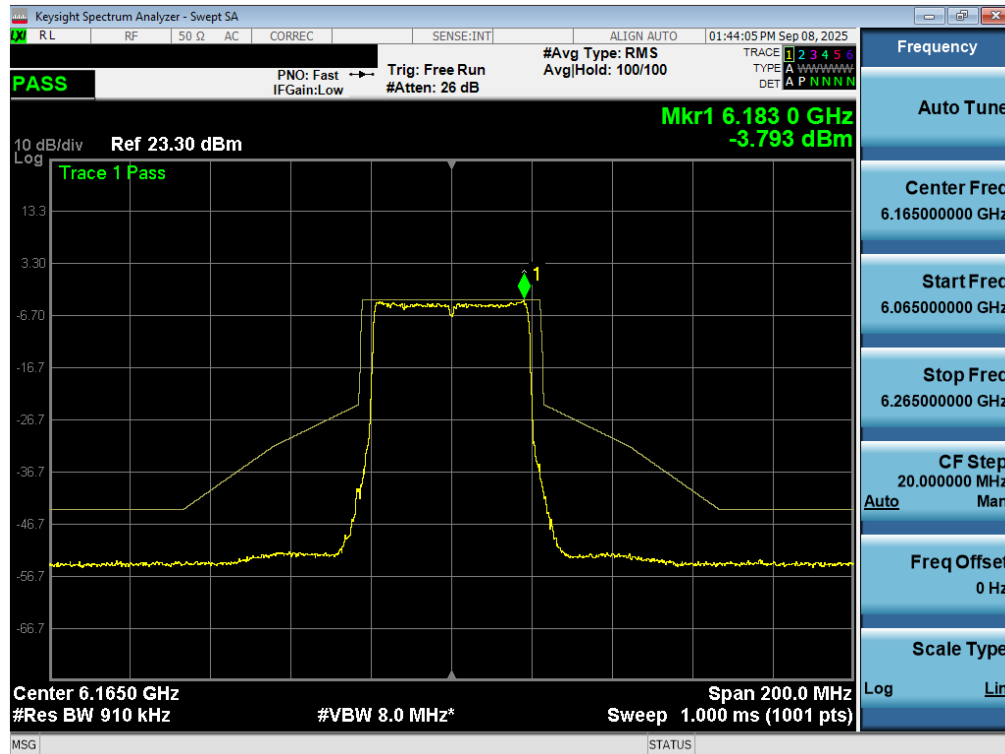


Plot 7-76. In Band Emissions Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) - LPI

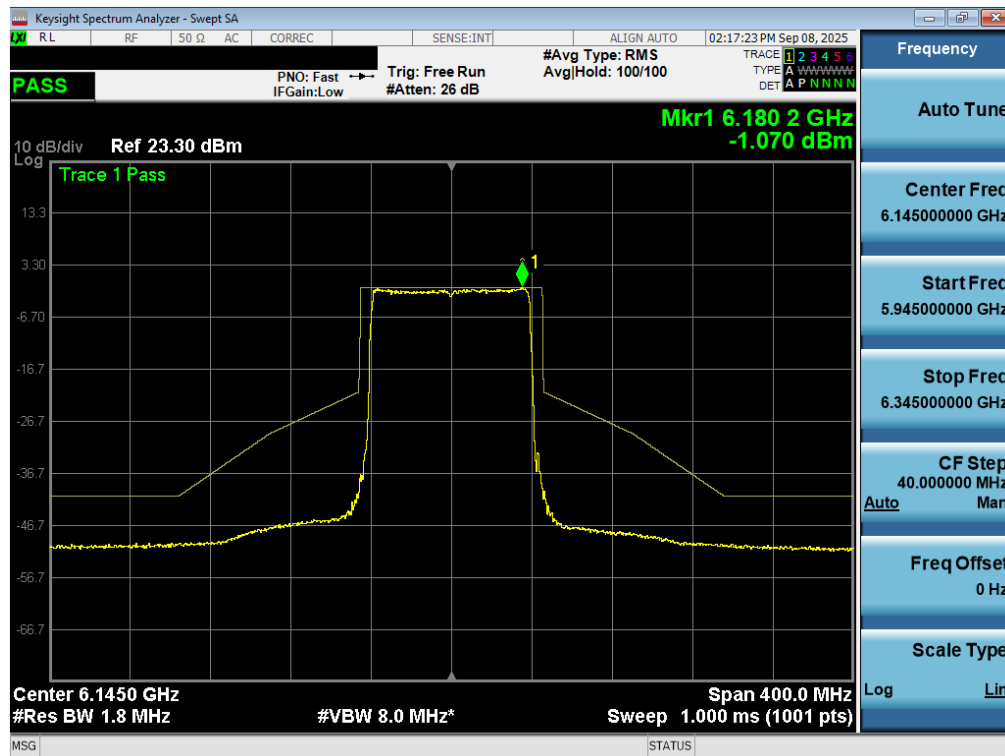


Plot 7-77. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 84 of 148

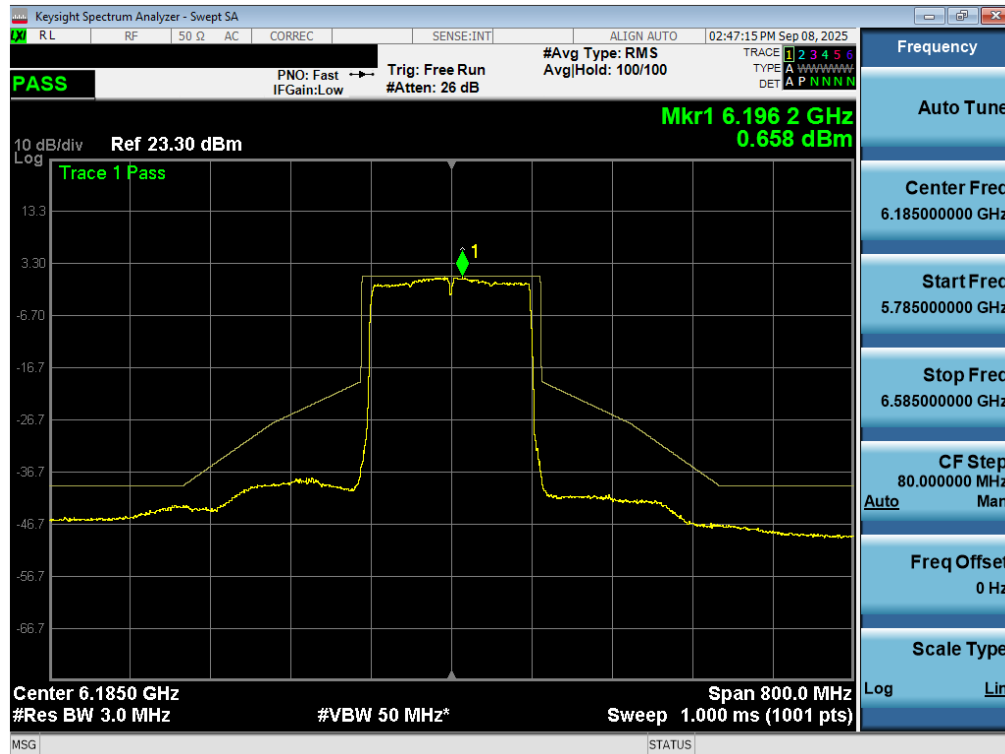


Plot 7-78. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) - LPI



Plot 7-79. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 85 of 148

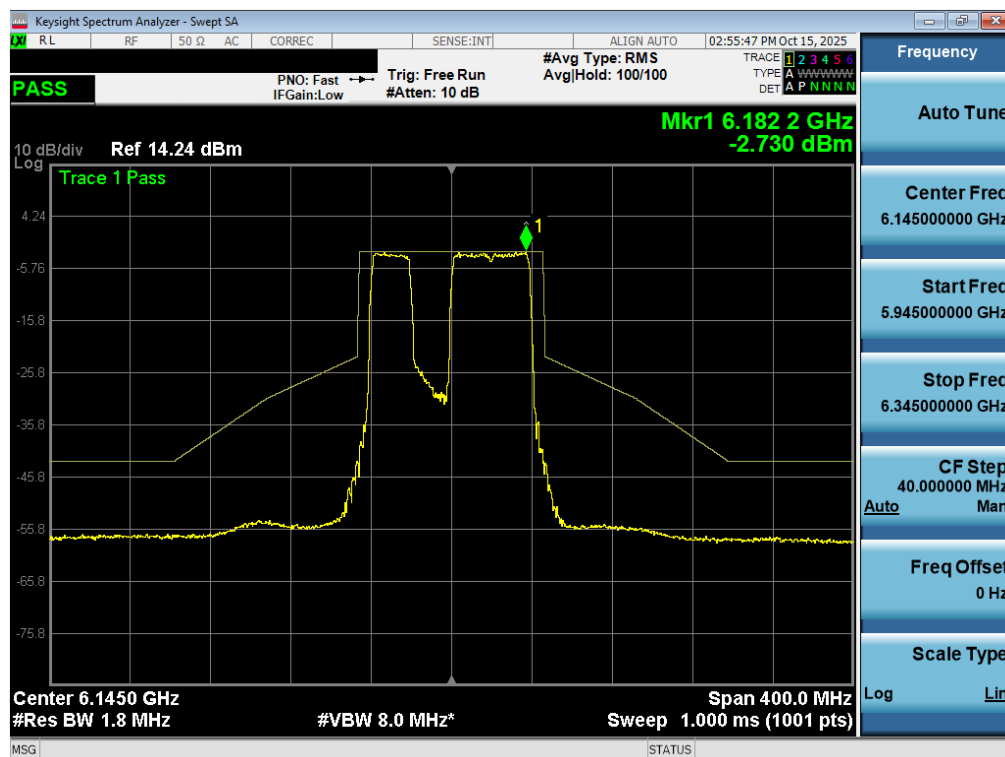


Plot 7-80. In Band Emissions Plot MIMO ANT2 (160MHz 802.11ax/be (UNII Band 5) – Ch. 47) - LPI/SP

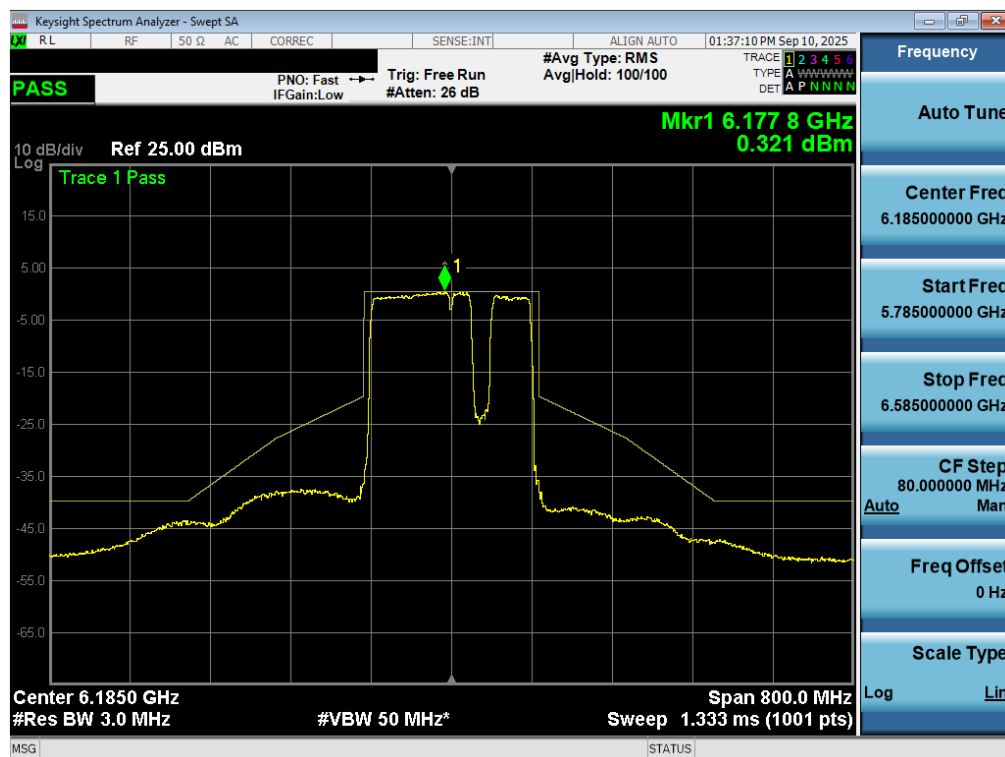


Plot 7-81. In Band Emissions Plot MIMO ANT2 (320MHz 802.11ax/be (UNII Band 5) – Ch. 31) - LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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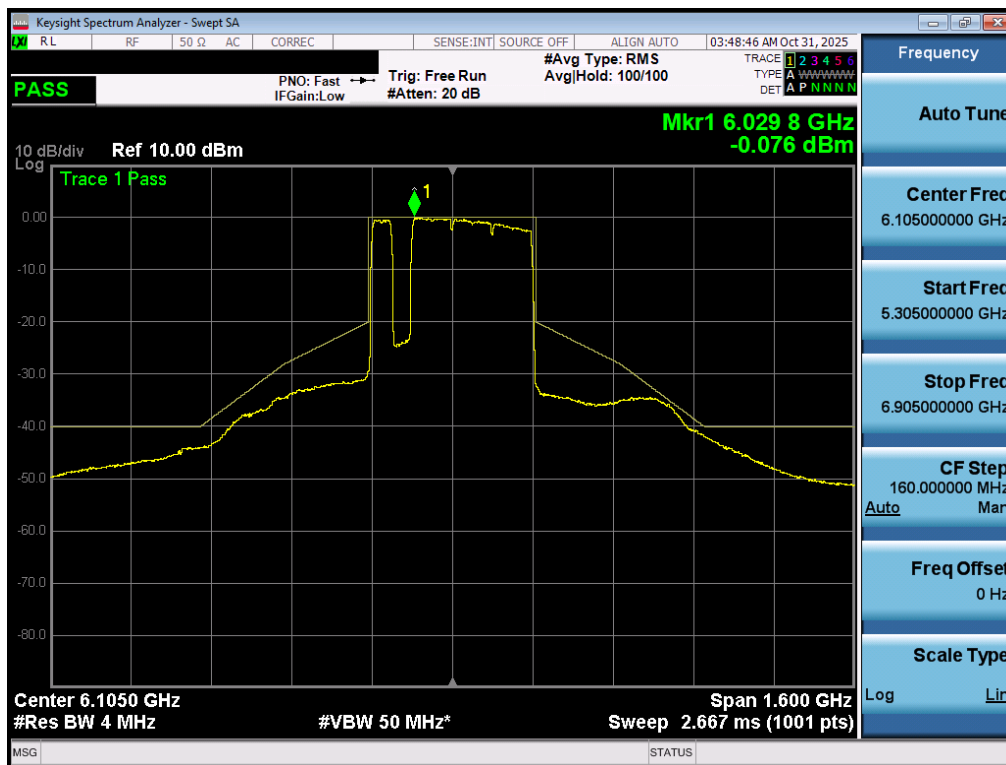


Plot 7-82. In Band Emissions Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - LPI



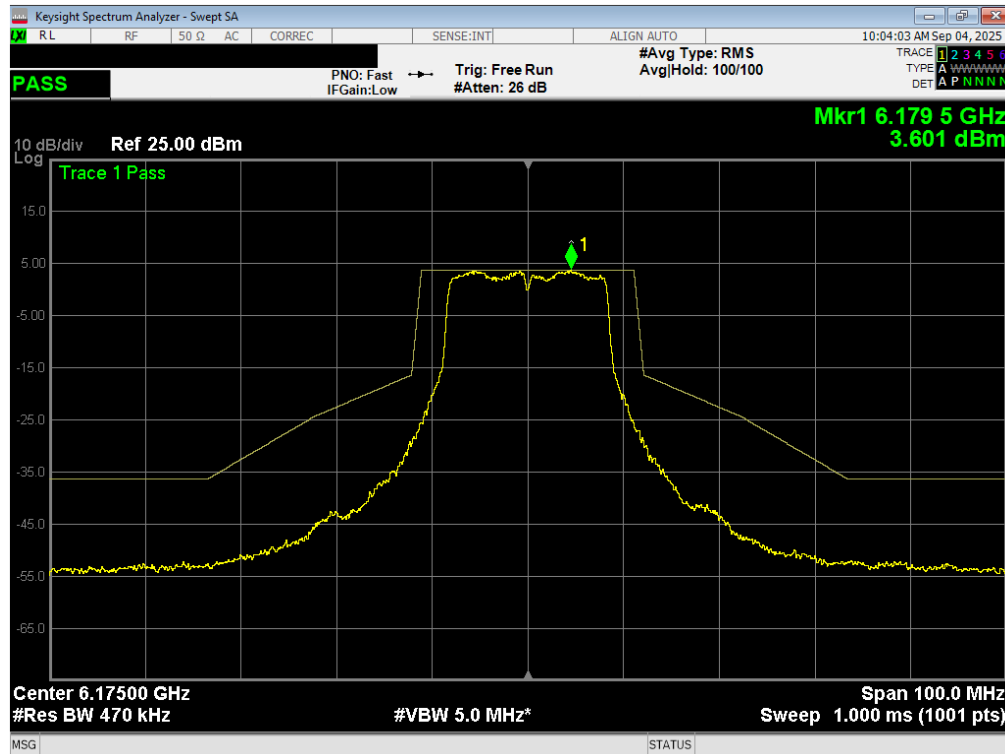
Plot 7-83. In Band Emissions Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - LPI

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 87 of 148

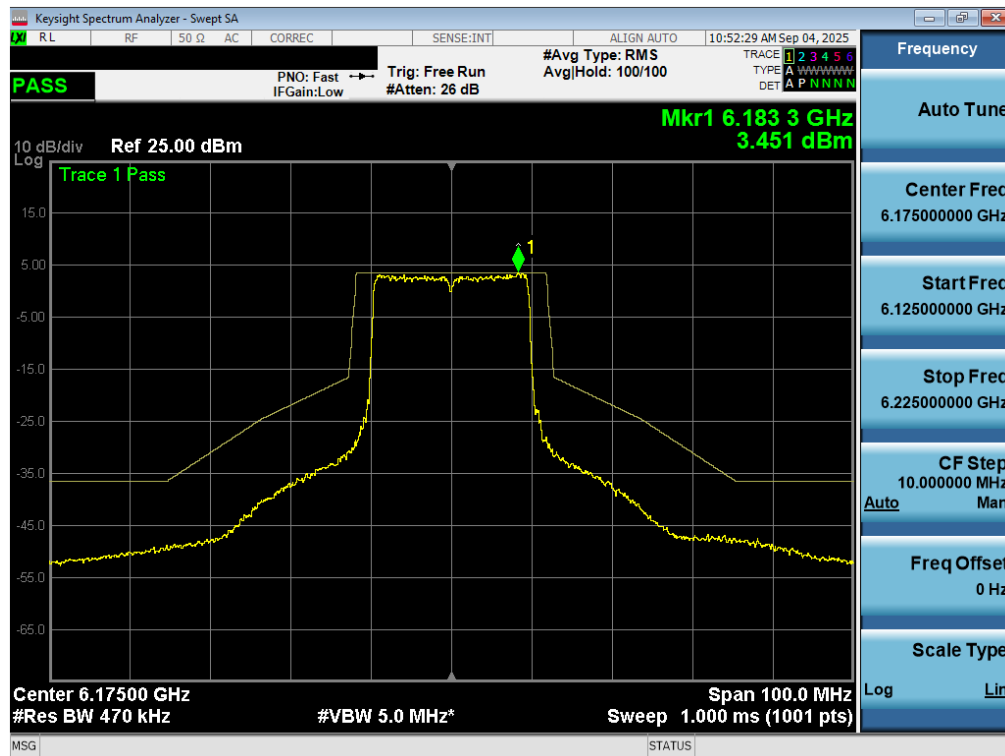


Plot 7-84. In Band Emissions Plot MIMO ANT2 (320MHz 802.11be (UNII Band 5) – Ch. 31) – 40MHz Punctured – LPI/SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 88 of 148

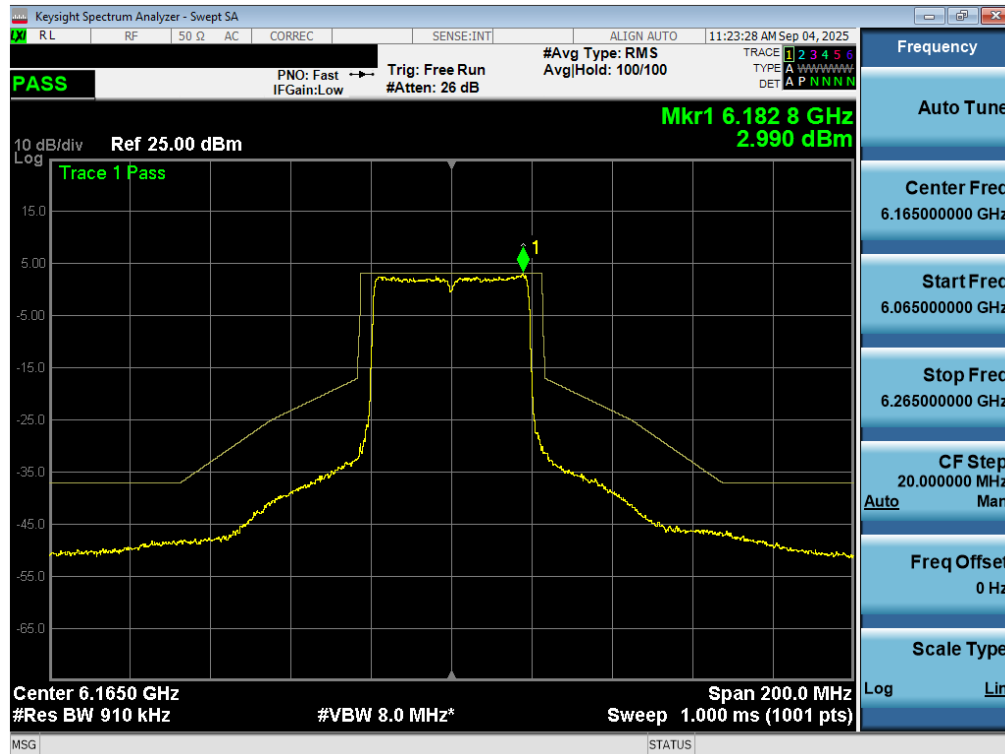


Plot 7-85. In Band Emissions Plot MIMO ANT2 (20MHz 802.11a (UNII Band 5) – Ch. 45) - SP

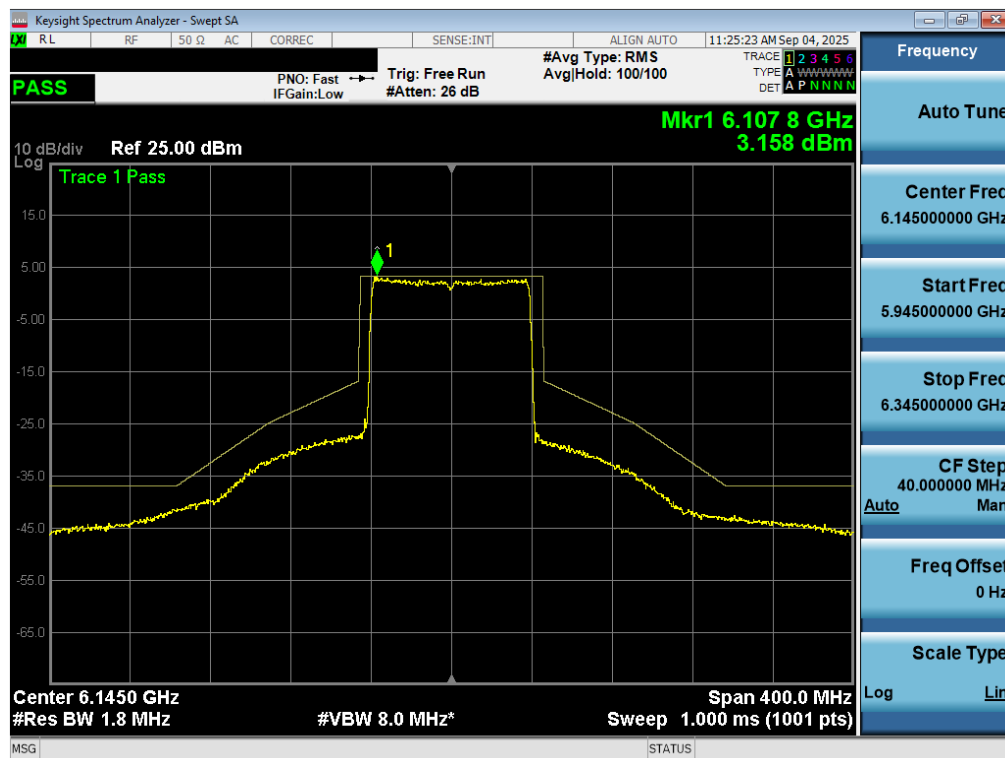


Plot 7-86. In Band Emissions Plot MIMO ANT2 (20MHz 802.11ax/be (UNII Band 5) – Ch. 45) - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 89 of 148

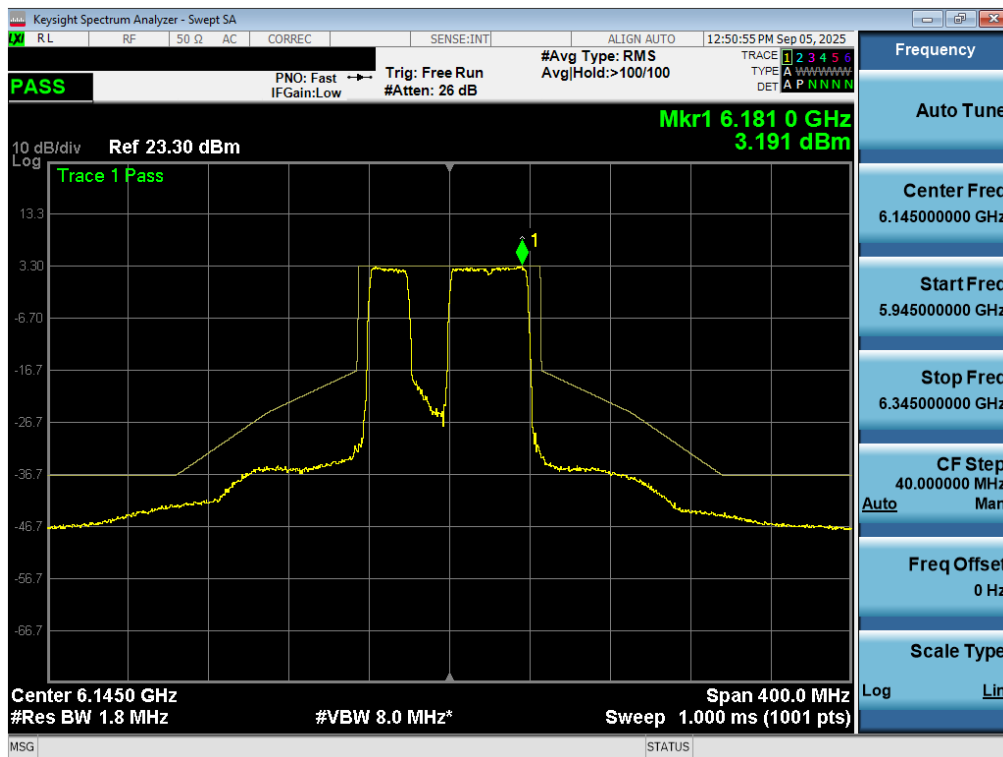


Plot 7-87. In Band Emissions Plot MIMO ANT2 (40MHz 802.11ax/be (UNII Band 5) – Ch. 43) – SP

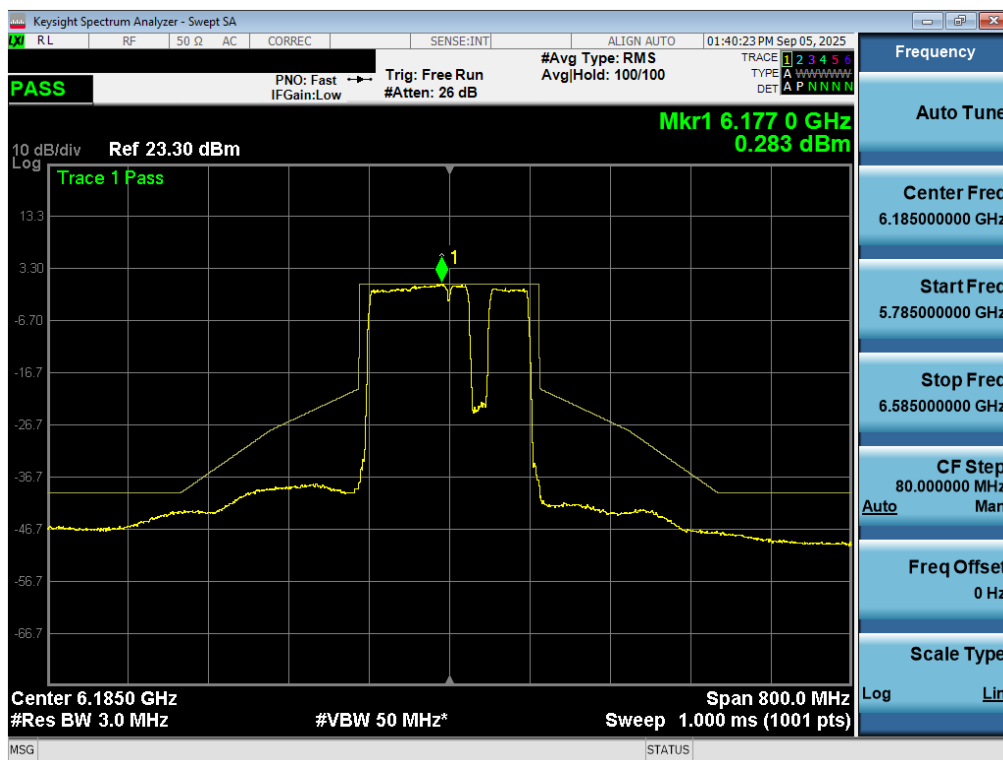


Plot 7-88. In Band Emissions Plot MIMO ANT2 (80MHz 802.11ax/be (UNII Band 5) – Ch. 39) – SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-89. In Band Emissions Plot MIMO ANT2 (80MHz 802.11be (UNII Band 5) – Ch. 39) – 20MHz Punctured - SP



Plot 7-90. In Band Emissions Plot MIMO ANT2 (160MHz 802.11be (UNII Band 5) – Ch. 47) – 20MHz Punctured - SP

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 91 of 148

7.6 Contention Based Protocol

Test Overview and Limit

Indoor access points, subordinate devices and client devices operating in the 5.925-7.125 GHz band (herein referred to as unlicensed devices) are required to use technologies that include a contention-based protocol to avoid co-channel interference with incumbent devices sharing the band. To ensure incumbent co-channel operations are detected in a technology-agnostic manner, unlicensed devices are required to detect co-channel radio frequency energy (energy detect) and avoid simultaneous transmission.

Unlicensed indoor low-power devices must detect co-channel radio frequency power that is at least -62 dBm or lower. Upon detection of energy in the band, unlicensed low power indoor devices must vacate the channel and stay off the channel if detected radio frequency power is equal to or greater than the threshold (-62 dBm). The -62 dBm (or lower) threshold is referenced to a 0 dBi antenna gain.

To ensure incumbent operations are reliably detected in the band, low power indoor devices must detect RF energy throughout their intended operating channel.

Test Procedure Used

KDB 987594 D02 v03

Test Settings

1. Configure the EUT to transmit with a constant duty cycle.
2. Set the operating parameters of the EUT including power level, operating frequency, modulation, and bandwidth.
3. Set the signal analyzer center frequency to the nominal EUT channel center frequency. The span range of the signal analyzer shall be between two times and five times the OBW of the EUT. Connect the output port of the EUT to the signal analyzer 2. Ensure that the attenuator 2 provides enough attenuation to not overload the signal analyzer 2 receiver.
4. Monitoring the signal analyzer 2, verify the EUT is operating and transmitting with the parameters set at step two.
5. Using an AWGN signal source, generate (but do not transmit, i.e., RF OFF) a 10 MHz-wide AWGN signal. Use Table 1 to determine the center frequency of the 10 MHz AWGN signal relative to the EUT's channel bandwidth and center frequency.
6. Set the AWGN signal power to an extremely low level (more than 20 dB below the -62 dBm threshold). Connect the AWGN signal source, via a 3-dB splitter, to the signal analyzer 1 and the EUT as shown in Figure 2.
7. Transmit the AWGN signal (RF ON) and verify its characteristics on the signal analyzer 1.
8. Monitor the signal analyzer 2 to verify if the AWGN signal has been detected and the EUT has ceased transmission. If the EUT continues to transmit, then incrementally increase the AWGN signal power level until the EUT stops transmitting.
9. (Including all losses in the RF paths) Determine and record the AWGN signal power level (at the EUT's antenna port) at which the EUT ceased transmission. Repeat the procedure at least 10 times to verify the EUT can detect an AWGN signal with 90% (or better) level of certainty.
10. Refer to Table 1 of KDB 987594 D02 v03 to determine the number of times the detection threshold testing needs to be repeated. If testing is required more than once, then go back to step 5, choose a different center frequency for the AWGN signal, and repeat the process.

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Test Setup

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

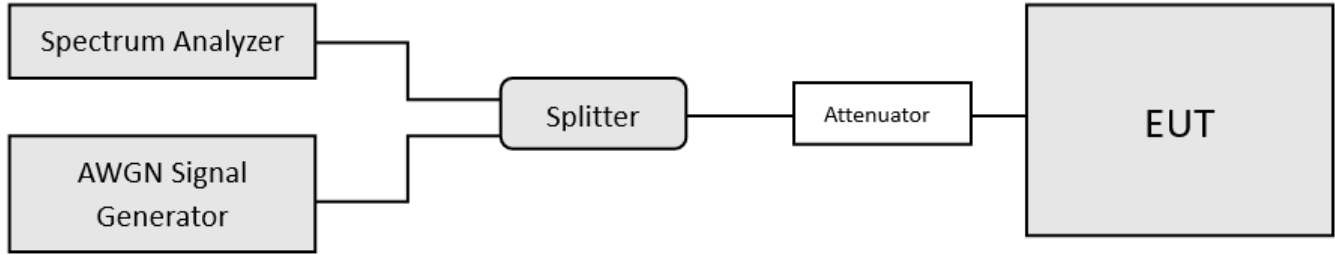


Figure 7-5. Contention-based protocol test setup conducted method.

Test Notes

1. Per guidance from KDB 987594 D02 v03, contention-based protocol was tested using an AWGN signal with a bandwidth of 10MHz as shown in this section. The amplitude of the signal was increased until detected by the EUT, signaled by the ceasing of transmission, M1 indicates the point at which the AWGN signal is introduced. D1 indicates where the AWGN signal is terminated, at least 10 seconds following M1.
2. 15 trials were run to ensure that at least 90% of certainty was met.
3. Per Guidance from KDB 987594 D04 v03, contention-based protocol was tested with receiver with the lowest antenna gain.
4. All CBP Timing Plots shown are for the ceased condition.
5. A Rohde & Schwarz CMX500 base station simulator was used as a WiFi AP for this test.

$$\text{Detection Level} = \text{Injected AWGN Power (dBm)} - \text{Antenna Gain (dBi)} + \text{Path Loss (dB)}$$

Equation 7-1. Detection Level Calculation

Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Injected (AWGN) [dBm]	Antenna Gain [dBi]	Path Loss (dB)	Adjusted Power Level [dBm]	Detection Limit [dBm]	Margin [dB]
UNII Band 5	53	6215	20	6215	-72.67	-6.82	0.58	-65.27	-62.0	-3.27
				6110	-71.10	-6.82	0.58	-63.70	-62.0	-1.70
	63	6265	320	6265	-70.39	-6.82	0.58	-62.99	-62.0	-0.99
				6420	-75.52	-6.82	0.58	-68.12	-62.0	-6.12
UNII Band 6	101	6455	20	6455	-72.17	-6.11	0.58	-65.48	-62.0	-3.48
				6270	-71.82	-6.11	0.58	-65.13	-62.0	-3.13
	95	6425	320	6425	-70.94	-6.11	0.58	-64.25	-62.0	-2.25
				6580	-72.76	-6.11	0.58	-66.07	-62.0	-4.07
UNII Band 7	149	6695	20	6695	-70.78	-6.86	0.58	-63.34	-62.0	-1.34
				6590	-70.61	-6.86	0.58	-63.17	-62.0	-1.17
	159	6745	320	6745	-70.58	-6.86	0.58	-63.14	-62.0	-1.14
				6900	-69.99	-6.86	0.58	-62.55	-62.0	-0.55
UNII Band 8	197	6935	20	6935	-71.55	-6.89	0.58	-64.08	-62.0	-2.08
				6750	-72.58	-6.89	0.58	-65.11	-62.0	-3.11
	191	6905	320	6905	-72.30	-6.89	0.58	-64.83	-62.0	-2.83
				7060	-74.44	-6.89	0.58	-66.97	-62.0	-4.97

Table 7-40. Contention Based Protocol – Incumbent Detection Results

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	Antenna Gain [dBi]	EUT Transmission Status			Detection Limit [dBm]	Margin [dB]
						Adjusted AWGN Power (dBm)				
						Normal	Minimal	Ceased		
UNII Band 5	53	6215	20	6215	-4.97	-73.66	-67.92	-65.27	-62.0	-3.27
	31	6105	320	5950	-4.97	-70.75	-65.53	-63.70	-62.0	-1.70
				6105	-4.97	-68.72	-63.08	-62.99	-62.0	-0.99
				6260	-4.97	-75.59	-70.48	-68.12	-62.0	-6.12
UNII Band 6	101	6455	20	6455	-5.35	-70.72	-66.04	-65.48	-62.0	-3.48
	95	6425	320	6270	-5.35	-68.41	-66.15	-65.13	-62.0	-3.13
				6425	-5.35	-67.83	-66.81	-64.25	-62.0	-2.25
				6580	-5.35	-71.62	-67.85	-66.07	-62.0	-4.07
UNII Band 7	149	6695	20	6695	-5.35	-72.03	-65.68	-63.34	-62.0	-1.34
	159	6745	320	6590	-5.35	-65.45	-63.96	-63.17	-62.0	-1.17
				6745	-5.35	-65.07	-65.07	-63.14	-62.0	-1.14
				6900	-5.35	-68.34	-62.87	-62.55	-62.0	-0.55
UNII Band 8	197	6935	20	6935	-5.28	-68.02	-64.91	-64.08	-62.0	-2.08
	191	6905	320	6750	-5.28	-67.86	-67.33	-65.11	-62.0	-3.11
				6905	-5.28	-74.13	-67.64	-64.83	-62.0	-2.83
				7060	-5.28	-74.60	-68.47	-66.97	-62.0	-4.97

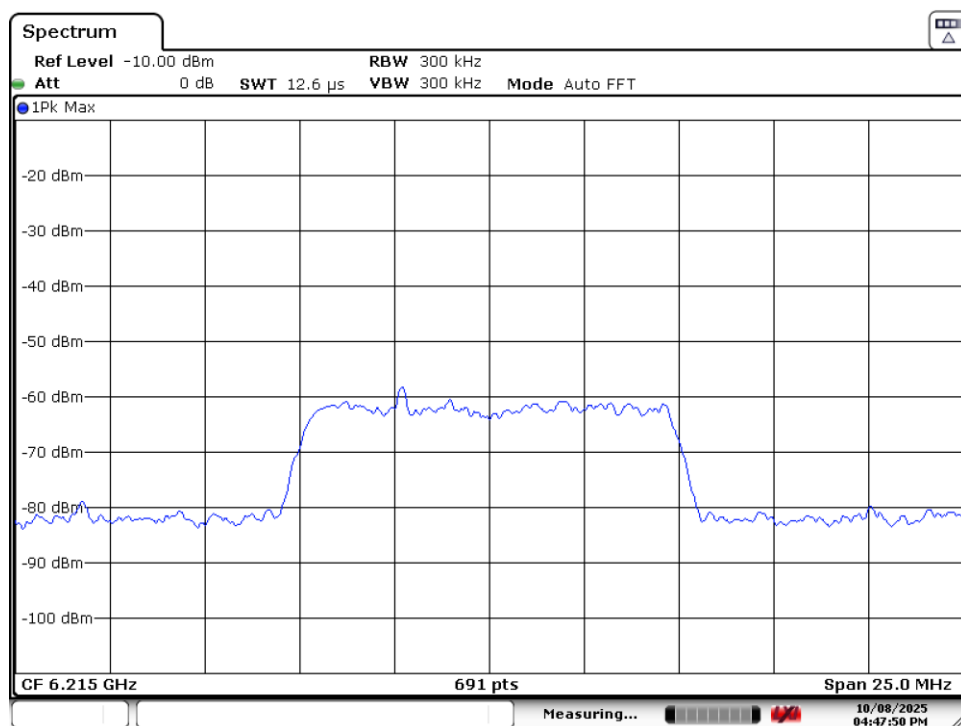
Table 7-41. Contention Based Protocol – Detection Results – All Tx Cases

CBP Detection (1 = Detection, Blank = No Detection)																				
Band	Channel	Channel Freq [MHz]	Channel BW [MHz]	Incumbent Freq [MHz]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Detection Rate (%)
UNII Band 5	53	6215	20	6215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	31	6105	320	5950	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6105	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6260	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 6	101	6455	20	6455	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	95	6425	320	6270	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6425	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6580	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 7	149	6695	20	6695	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	159	6745	320	6590	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6745	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
UNII Band 8	197	6935	20	6935	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
	191	6905	320	6750	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				6905	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100
				7060	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100

Table 7-42. Contention Based Protocol – Incumbent Detection Trial Results

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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7.6.1 AWGN Plots

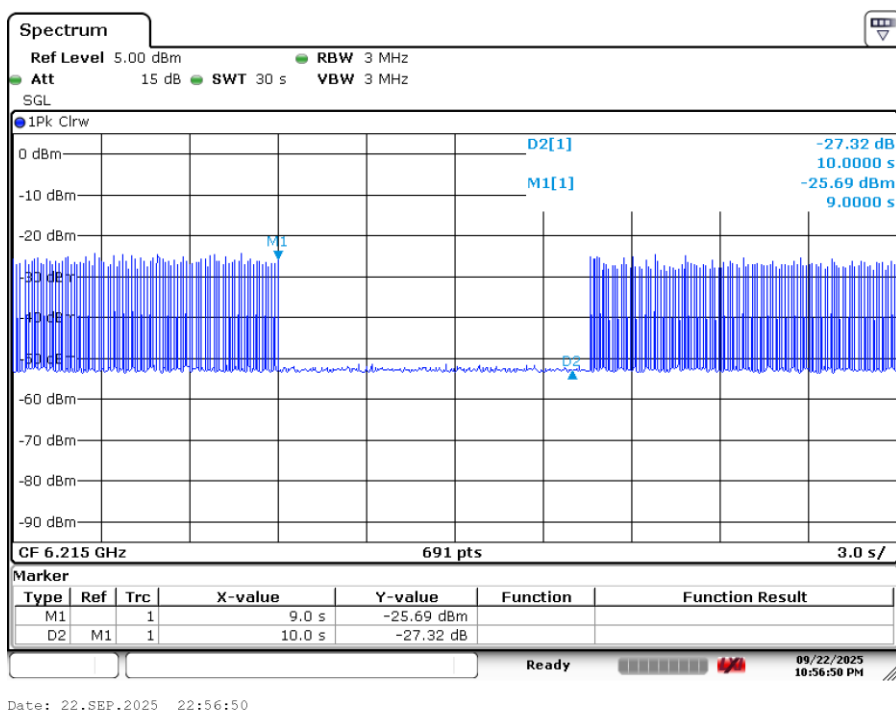


Date: 8.OCT.2025 16:47:50

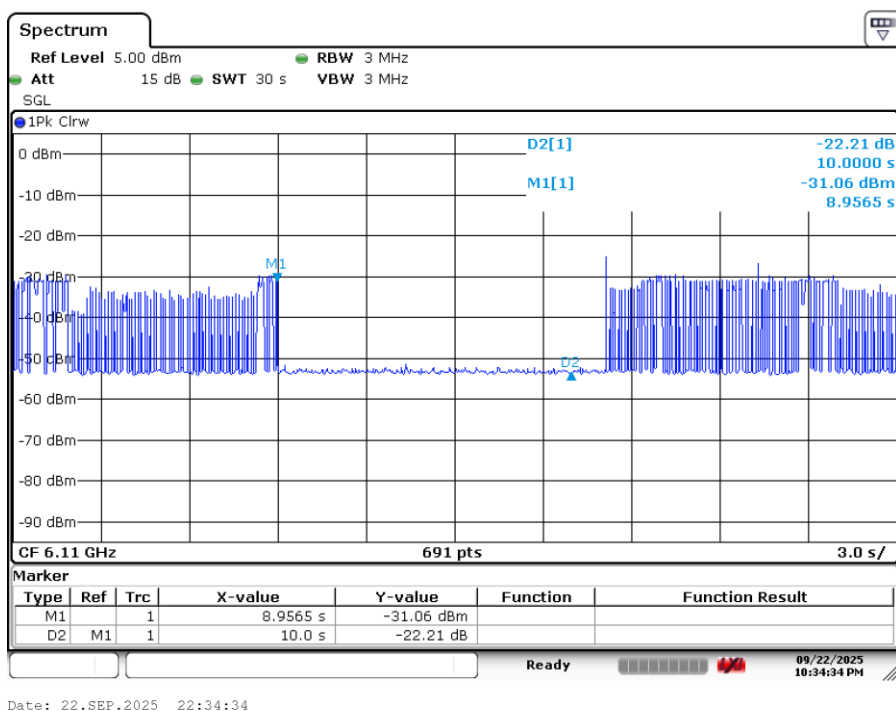
Plot 7-91. AWGN Signal (Demonstration)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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7.6.2 CBP Timing Plots

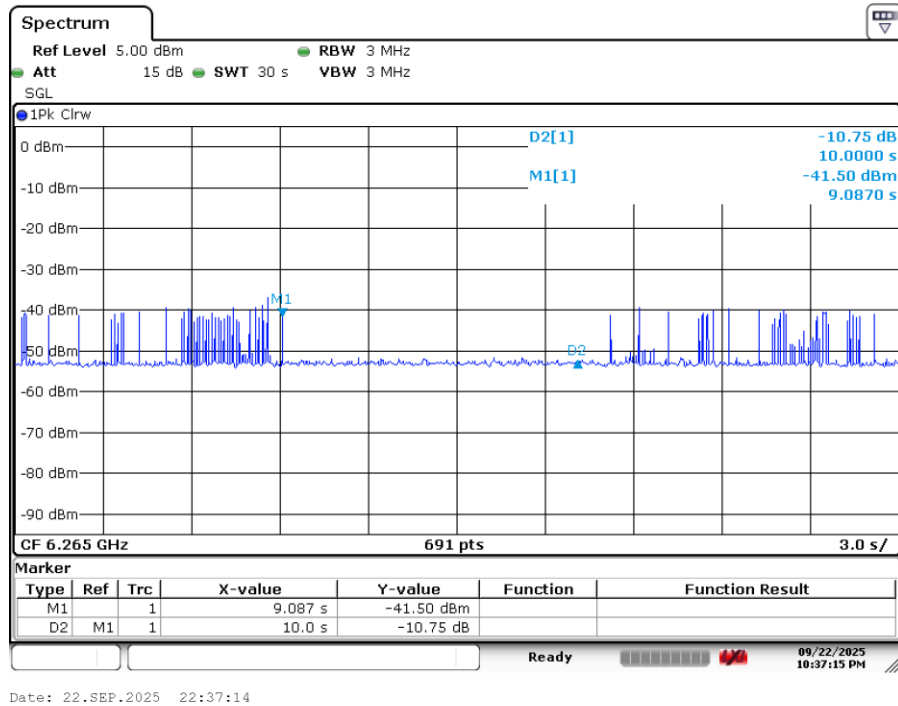


Plot 7-92. Contention Based Protocol Timing Plot (20MHz (UNII Band 5) – Ch. 53)

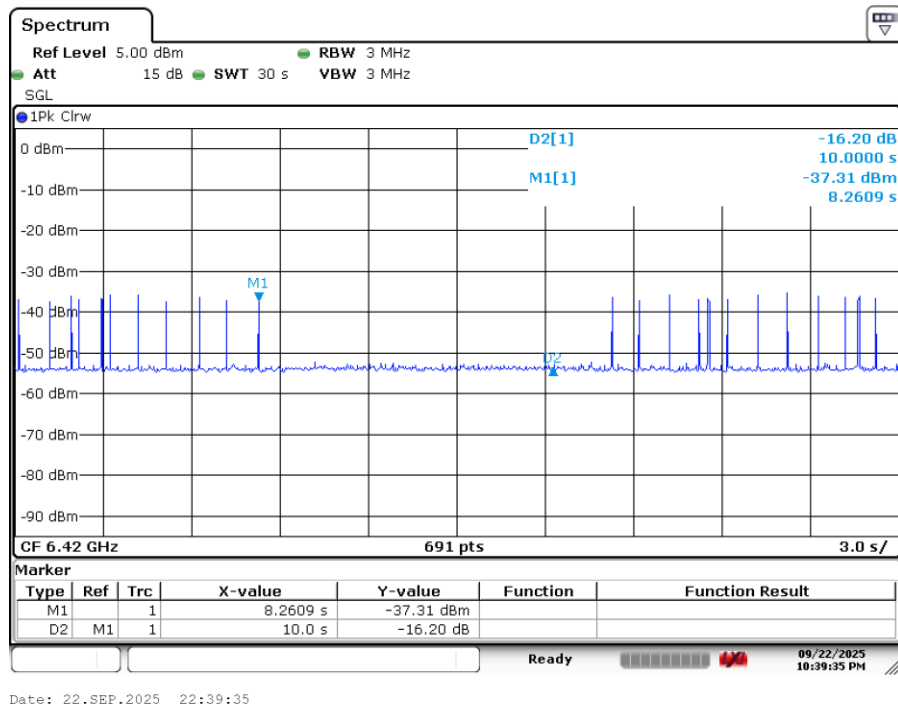


Plot 7-93. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 Low)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 96 of 148

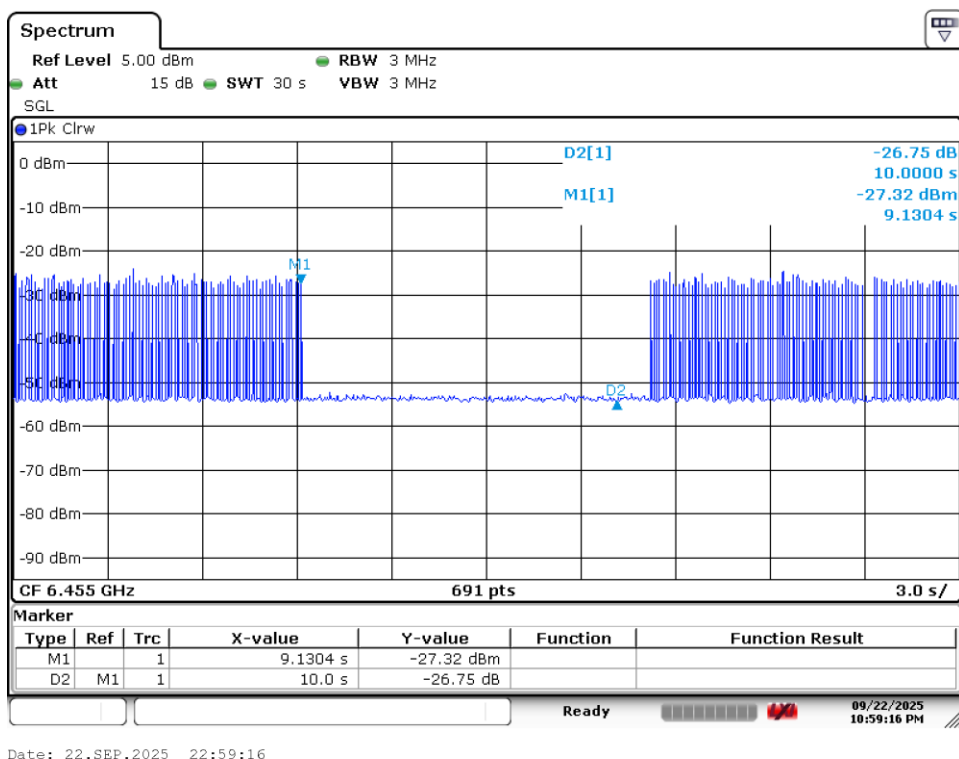


Plot 7-94. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 Mid)

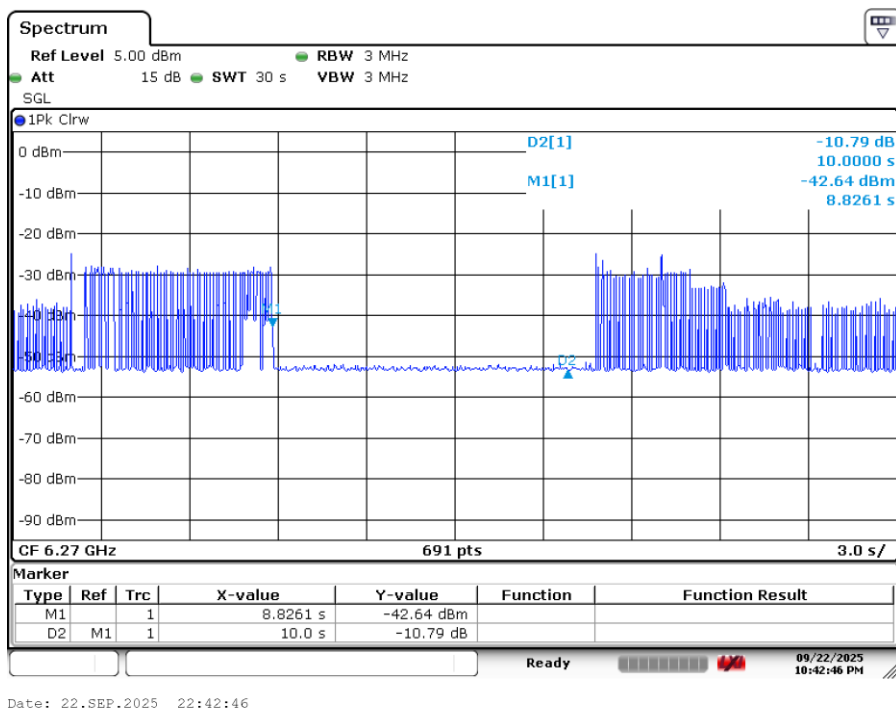


Plot 7-95. Contention Based Protocol Timing Plot (320MHz (UNII Band 5) – Ch. 31 High)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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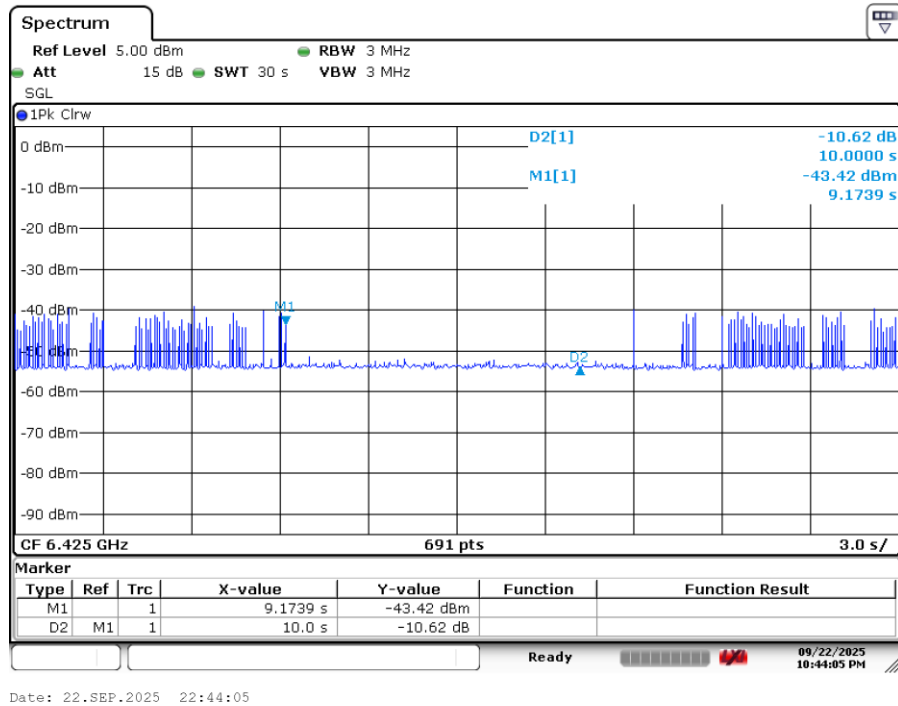


Plot 7-96. Contention Based Protocol Timing Plot (20MHz (UNII Band 6) – Ch. 101)

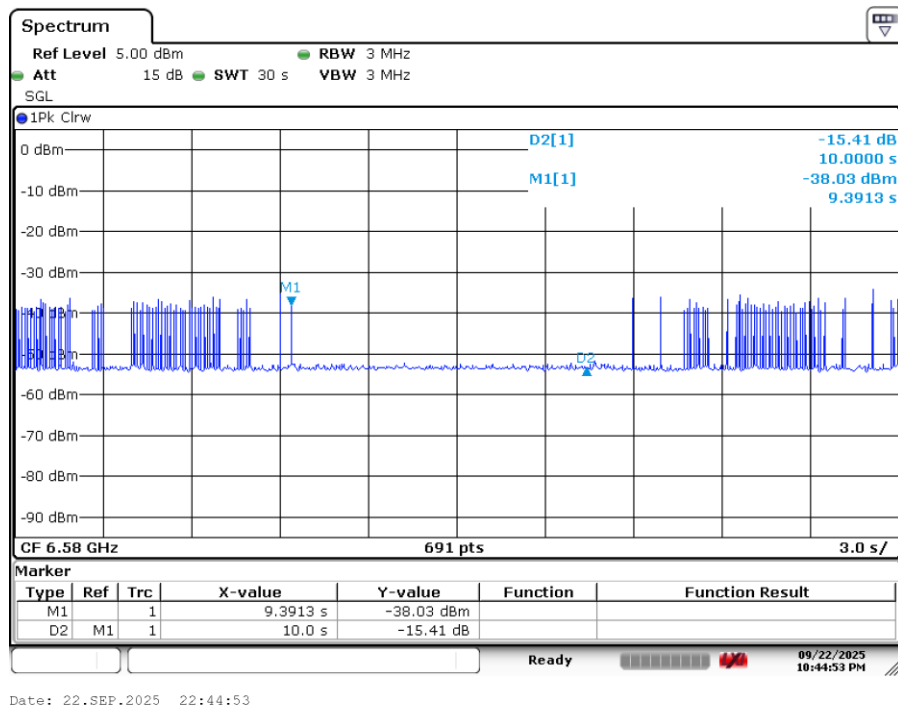


Plot 7-97. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Low)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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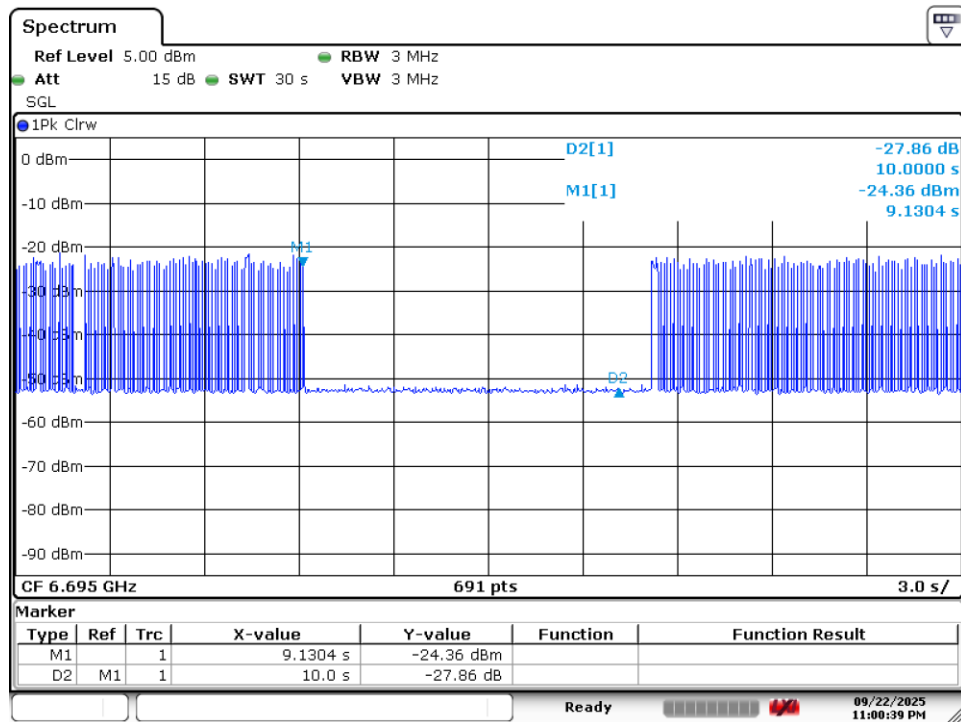


Plot 7-98. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 Mid)



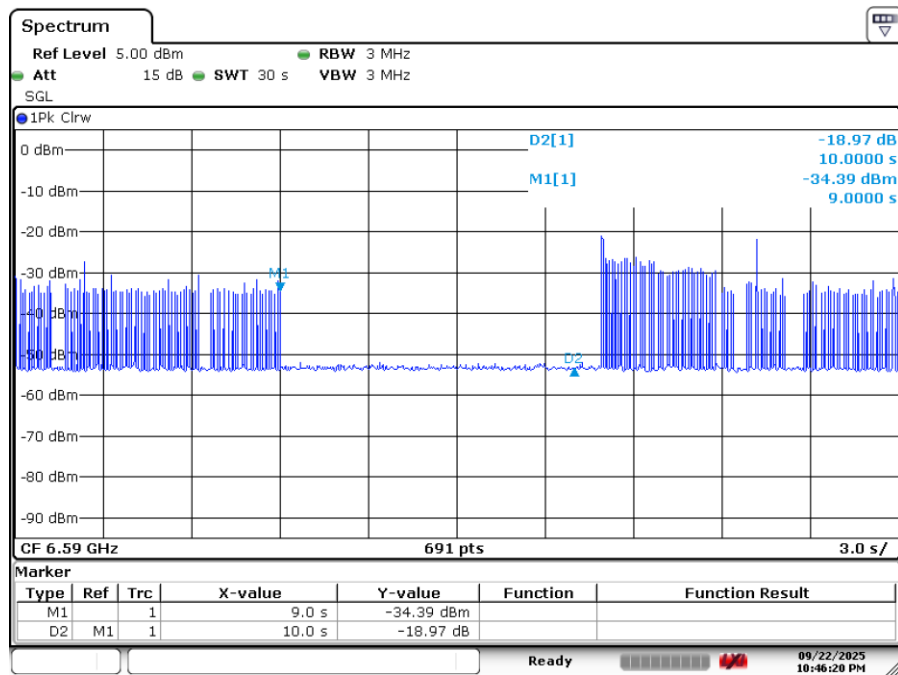
Plot 7-99. Contention Based Protocol Timing Plot (320MHz (UNII Band 6) – Ch. 95 High)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
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Date: 22.SEP.2025 23:00:38

Plot 7-100. Contention Based Protocol Timing Plot (20MHz (UNII Band 7) – Ch. 149)



Date: 22.SEP.2025 22:46:20

Plot 7-101. Contention Based Protocol Timing Plot (320MHz (UNII Band 7) – Ch. 159 Low)

FCC ID: A3LSMS948B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2508250079-20.A3L	Test Dates: 9/2/2025-10/31/2025	EUT Type: Portable Handset	Page 100 of 148