



ELEMENT WASHINGTON DC LLC

7185 Oakland Mills Road, Columbia, MD 21046 USA

Tel. 410.290.6652 / Fax 410.290.6654

<http://www.element.com>

PART 27 MEASUREMENT REPORT

Applicant Name:

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

Date of Testing:

2/24/2025 - 4/30/2025

Test Report Issue Date:

5/12/2025

Test Site/Location:

Element Lab., Columbia, MD, USA
Element Lab., Yongin-Si, Gyeonggi-do, South Korea

Test Report Serial No.:

1M2502270019-04.A3L

FCC ID:

A3LSMF966B

APPLICANT:

Samsung Electronics Co., Ltd.

Application Type:

Certification

Model:

SM-F966B

Additional Model(s):

SM-F966B/DS

EUT Type:

Portable Handset

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

FCC Rule Part:

27

Test Procedure(s):

ANSI C63.26-2015, 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 §2.947. 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.

RJ Ortanez
Executive Vice President



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Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 41(PC3)	20 MHz	QPSK	2506.0 - 2680.0	0.109	20.36	18M0G7D
		16QAM	2506.0 - 2680.0	0.081	19.08	18M0W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.106	20.26	13M6G7D
		16QAM	2503.5 - 2682.5	0.083	19.18	13M5W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.105	20.23	9M04G7D
		16QAM	2501.0 - 2685.0	0.083	19.19	9M01W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.106	20.26	4M53G7D
		16QAM	2498.5 - 2687.5	0.088	19.45	4M53W7D

Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 41(PC2)	20 MHz	QPSK	2506.0 - 2680.0	0.259	24.13	17M9G7D
		16QAM	2506.0 - 2680.0	0.210	23.21	18M0W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.270	24.31	13M5G7D
		16QAM	2503.5 - 2682.5	0.228	23.58	13M5W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.252	24.01	9M01G7D
		16QAM	2501.0 - 2685.0	0.240	23.80	9M02W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.263	24.20	4M52G7D
		16QAM	2498.5 - 2687.5	0.250	23.98	4M51W7D

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Antenna-1 - Default						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	100 MHz	$\pi/2$ BPSK	2546.0 - 2640.0	0.322	25.08	97M3G7D
		QPSK	2546.0 - 2640.0	0.299	24.76	98M1G7D
		16QAM	2546.0 - 2640.0	0.232	23.66	98M1W7D
	90 MHz	$\pi/2$ BPSK	2541.0 - 2645.0	0.330	25.19	87M4G7D
		QPSK	2541.0 - 2645.0	0.302	24.80	88M2G7D
		16QAM	2541.0 - 2645.0	0.220	23.42	88M1W7D
	80 MHz	$\pi/2$ BPSK	2536.0 - 2650.0	0.330	25.18	77M5G7D
		QPSK	2536.0 - 2650.0	0.320	25.05	77M8G7D
		16QAM	2536.0 - 2650.0	0.218	23.39	77M9W7D
	70 MHz	$\pi/2$ BPSK	2531.0 - 2655.0	0.330	25.19	64M7G7D
		QPSK	2531.0 - 2655.0	0.323	25.09	67M8G7D
		16QAM	2531.0 - 2655.0	0.241	23.83	67M9W7D
	60 MHz	$\pi/2$ BPSK	2526.0 - 2660.0	0.327	25.15	58M3G7D
		QPSK	2526.0 - 2660.0	0.329	25.17	58M2G7D
		16QAM	2526.0 - 2660.0	0.247	23.93	58M1W7D
	50 MHz	$\pi/2$ BPSK	2521.0 - 2665.0	0.347	25.40	46M1G7D
		QPSK	2521.0 - 2665.0	0.333	25.22	47M8G7D
		16QAM	2521.0 - 2665.0	0.247	23.93	47M8W7D
	45 MHz	$\pi/2$ BPSK	2518.5 - 2667.5	0.346	25.39	38M7G7D
		QPSK	2518.5 - 2667.5	0.354	25.49	42M6G7D
		16QAM	2518.5 - 2667.5	0.261	24.16	42M6W7D
	40 MHz	$\pi/2$ BPSK	2516.0 - 2670.0	0.337	25.27	36M0G7D
		QPSK	2516.0 - 2670.0	0.340	25.31	38M0G7D
		16QAM	2516.0 - 2670.0	0.264	24.22	38M1W7D
	35 MHz	$\pi/2$ BPSK	2513.5 - 2672.5	0.344	25.36	32M3G7D
		QPSK	2513.5 - 2672.5	0.331	25.20	32M9G7D
		16QAM	2513.5 - 2672.5	0.269	24.29	32M9W7D
	30 MHz	$\pi/2$ BPSK	2511.0 - 2675.0	0.344	25.36	27M0G7D
		QPSK	2511.0 - 2675.0	0.350	25.44	28M0G7D
		16QAM	2511.0 - 2675.0	0.261	24.17	28M0W7D
	25 MHz	$\pi/2$ BPSK	2508.5 - 2677.5	0.337	25.27	23M0G7D
		QPSK	2508.5 - 2677.5	0.349	25.43	23M3G7D
		16QAM	2508.5 - 2677.5	0.265	24.23	23M3W7D
	20 MHz	$\pi/2$ BPSK	2506.0 - 2680.0	0.322	25.08	18M0G7D
		QPSK	2506.0 - 2680.0	0.352	25.46	18M3G7D
		16QAM	2506.0 - 2680.0	0.248	23.94	18M4W7D
	15 MHz	$\pi/2$ BPSK	2503.5 - 2682.5	0.335	25.25	13M0G7D
		QPSK	2503.5 - 2682.5	0.329	25.17	13M7G7D
		16QAM	2503.5 - 2682.5	0.239	23.79	13M7W7D
	10 MHz	$\pi/2$ BPSK	2501.0 - 2685.0	0.322	25.08	8M69G7D
		QPSK	2501.0 - 2685.0	0.304	24.83	8M67G7D
		16QAM	2501.0 - 2685.0	0.231	23.63	8M68W7D

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Antenna-1 - Switch						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	100 MHz	TT/2 BPSK	2546.0 - 2640.0	0.348	25.42	96M8G7D
		QPSK	2546.0 - 2640.0	0.344	25.37	97M6G7D
		16QAM	2546.0 - 2640.0	0.305	24.84	97M7W7D
	90 MHz	TT/2 BPSK	2541.0 - 2645.0	0.374	25.73	87M1G7D
		QPSK	2541.0 - 2645.0	0.385	25.85	87M9G7D
		16QAM	2541.0 - 2645.0	0.331	25.20	87M7W7D
	80 MHz	TT/2 BPSK	2536.0 - 2650.0	0.363	25.60	77M3G7D
		QPSK	2536.0 - 2650.0	0.364	25.61	77M6G7D
		16QAM	2536.0 - 2650.0	0.312	24.94	77M6W7D
	70 MHz	TT/2 BPSK	2531.0 - 2655.0	0.366	25.64	64M6G7D
		QPSK	2531.0 - 2655.0	0.376	25.75	67M6G7D
		16QAM	2531.0 - 2655.0	0.324	25.11	67M7W7D
	60 MHz	TT/2 BPSK	2526.0 - 2660.0	0.352	25.47	58M1G7D
		QPSK	2526.0 - 2660.0	0.350	25.44	58M0G7D
		16QAM	2526.0 - 2660.0	0.314	24.97	58M3W7D
	50 MHz	TT/2 BPSK	2521.0 - 2665.0	0.376	25.75	45M9G7D
		QPSK	2521.0 - 2665.0	0.368	25.66	47M7G7D
		16QAM	2521.0 - 2665.0	0.303	24.82	47M7W7D
	45 MHz	TT/2 BPSK	2518.5 - 2667.5	0.374	25.73	38M8G7D
		QPSK	2518.5 - 2667.5	0.371	25.69	42M7G7D
		16QAM	2518.5 - 2667.5	0.329	25.17	42M6W7D
	40 MHz	TT/2 BPSK	2516.0 - 2670.0	0.343	25.36	35M9G7D
		QPSK	2516.0 - 2670.0	0.348	25.41	38M1G7D
		16QAM	2516.0 - 2670.0	0.279	24.45	38M1W7D
	35 MHz	TT/2 BPSK	2513.5 - 2672.5	0.373	25.72	32M2G7D
		QPSK	2513.5 - 2672.5	0.390	25.91	32M9G7D
		16QAM	2513.5 - 2672.5	0.331	25.20	32M9W7D
	30 MHz	TT/2 BPSK	2511.0 - 2675.0	0.360	25.56	26M9G7D
		QPSK	2511.0 - 2675.0	0.367	25.64	28M0G7D
		16QAM	2511.0 - 2675.0	0.319	25.03	28M0W7D
	25 MHz	TT/2 BPSK	2508.5 - 2677.5	0.351	25.45	23M0G7D
		QPSK	2508.5 - 2677.5	0.356	25.51	23M3G7D
		16QAM	2508.5 - 2677.5	0.279	24.45	23M3W7D
	20 MHz	TT/2 BPSK	2506.0 - 2680.0	0.352	25.46	18M0G7D
		QPSK	2506.0 - 2680.0	0.365	25.62	18M3G7D
		16QAM	2506.0 - 2680.0	0.317	25.01	18M3W7D
	15 MHz	TT/2 BPSK	2503.5 - 2682.5	0.352	25.46	13M0G7D
		QPSK	2503.5 - 2682.5	0.347	25.40	13M7G7D
		16QAM	2503.5 - 2682.5	0.304	24.83	13M7W7D
	10 MHz	TT/2 BPSK	2501.0 - 2685.0	0.372	25.71	8M70G7D
		QPSK	2501.0 - 2685.0	0.380	25.80	8M70G7D
		16QAM	2501.0 - 2685.0	0.330	25.18	8M71W7D

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Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 41(PC3)	20 MHz	QPSK	2506.0 - 2680.0	0.207	23.16	18M1G7D
		16QAM	2506.0 - 2680.0	0.151	21.80	18M0W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.199	22.99	13M5G7D
		16QAM	2503.5 - 2682.5	0.154	21.88	13M6W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.206	23.13	9M03G7D
		16QAM	2501.0 - 2685.0	0.149	21.73	9M04W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.207	23.16	4M53G7D
		16QAM	2498.5 - 2687.5	0.145	21.60	4M53W7D

Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 41(PC2)	20 MHz	QPSK	2506.0 - 2680.0	0.454	26.57	18M0G7D
		16QAM	2506.0 - 2680.0	0.380	25.79	18M1W7D
	15 MHz	QPSK	2503.5 - 2682.5	0.456	26.59	13M5G7D
		16QAM	2503.5 - 2682.5	0.385	25.85	13M5W7D
	10 MHz	QPSK	2501.0 - 2685.0	0.449	26.52	9M03G7D
		16QAM	2501.0 - 2685.0	0.381	25.81	9M04W7D
	5 MHz	QPSK	2498.5 - 2687.5	0.434	26.37	4M53G7D
		16QAM	2498.5 - 2687.5	0.385	25.85	4M53W7D

Antenna-2 - Default					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.076	18.80	470KG7D
	QPSK	2546.0 - 2640.0	0.059	17.74	617KG7D
	16QAM	2546.0 - 2640.0	0.046	16.60	585KW7D

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Antenna-2 - Switch					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.063	18.02	488KG7D
	QPSK	2546.0 - 2640.0	0.064	18.04	658KG7D
	16QAM	2546.0 - 2640.0	0.051	17.10	640KW7D

Antenna-3 - Default					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.057	17.52	457KG7D
	QPSK	2546.0 - 2640.0	0.045	16.54	627KG7D
	16QAM	2546.0 - 2640.0	0.036	15.56	584KW7D

Antenna-3 - Switch					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.103	20.12	489KG7D
	QPSK	2546.0 - 2640.0	0.105	20.22	681KG7D
	16QAM	2546.0 - 2640.0	0.082	19.14	602KW7D

Antenna-4 - Default					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.102	20.07	465KG7D
	QPSK	2546.0 - 2640.0	0.094	19.73	616KG7D
	16QAM	2546.0 - 2640.0	0.076	18.78	560KW7D

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Antenna-4 - Switch					
Mode	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
			Max. Power [W]	Max. Power [dBm]	
NR Band n41(PC2)	$\pi/2$ BPSK	2546.0 - 2640.0	0.011	10.29	487KG7D
	QPSK	2546.0 - 2640.0	0.011	10.43	674KG7D
	16QAM	2546.0 - 2640.0	0.009	9.43	622KW7D

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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. ("MD")

- 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 ISSED Standards (RSS).
- Element Washington DC LLC facility is a registered (2451B) test laboratory with the site description on file with ISSED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISSED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

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

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

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMF966B**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part 27.

The authorization for these models (SM-F966B and SM-F966B/DS) utilize data referencing from FCC ID: A3LSMF966U (Model SM-F966U) as permitted per KDB 484596 v03. Data referencing data test results are included in Appendix A of this report. Data pertaining to operations within LTE Band 41 and NR Band n41 was fully leveraged from the Referenced Model (A3LSMF966U) in cases where the target Output Power was identical with the Variant Model (A3LSMF966B). In cases where the target Output Power differed full testing was performed. This has resulted in the complete test for the LTE Band 41 PC2 operation and NR Band n41 Ant1 cases. All other data was referenced for compliance.

Test Device Serial No.: 2203R, 0173M, 0164R, 1929R, 0127M, 0324M, 0354M, 0151M, 0156M, 0170M, 1028M, 0574M, 0157R, 0150M, 0567M

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

This device uses a tuner circuit that dynamically updates the antenna impedance parameters to optimize antenna performance for certain bands and modes of operation. The tuner for this device was set to simulate a "free space" condition where the transmit antenna is matched to the medium into which it is transmitting and, thus, the power is at its maximum level.

This device supports Tx Device Hopping (ANT Switching) for the multiple 5G NR Bands and can operate on two distinct paths. The paths are labeled as either Main or Switching paths. Testing was done on both paths and is included in this report.

This device can transmit in the 5G NR Band n41 band over four separate antennas labelled SRS-1, SRS-2, SRS-3, and SRS-4. SRS operation can occur on either the main or switching path. With SRS operations, any of these four antennas can transmit an SRS signal to check the channel quality for transmission in the n41 Band. However, these antennas cannot simultaneously transmit and only the SRS-1 antenna is capable of data transmission. The test data is marked to indicate the specific antenna transmitting in the n41 band.

Band	Ant1	Ant2
LTE Band 41 PC2	Ant B	Ant G
LTE Band 41 PC3	Ant B	Ant G

Table 2-1. Antenna Report Naming Convention

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Antenna SRS-Label	Alternate Label
NR Band n41 – Default – SRS-1	Ant G
NR Band n41 – Default – SRS-2	Ant B
NR Band n41 – Default – SRS-3	Ant H
NR Band n41 – Default – SRS-4	Ant D
NR Band n41 – Switch – SRS-1	Ant B
NR Band n41 – Switch – SRS-2	Ant G
NR Band n41 – Switch – SRS-3	Ant D
NR Band n41 – Switch – SRS-4	Ant H

Table 2-2. Antenna Labelling Scheme Correlation

Band	Ant1	Ant2	Ant3	Ant4
NR Band n41 - Default	Ant G	Ant B	Ant H	Ant D
NR Band n41 - Switch	Ant B	Ant G	Ant D	Ant H

Table 2-3. Antenna Report Naming Convention

2.3 Test Configuration

The EUT was tested per the guidance of ANSI C63.26-2015. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad (WCP) Model: EP-2400 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

This device supports three folder configurations: one is with folder fully open, one is where the folder is half open (90 degrees), and one is with folder closed. All configurations are tested, and the worst case radiated emissions data is shown in this report.

2.4 Software and Firmware

Testing was performed on device(s) using software/firmware version FAV0_F966UFAU0AYB3 installed on the EUT.

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2.5 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and 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 for Compliance Testing of Transmitters Used in Licensed Radio Services” (ANSI C63.26-2015) were used in the measurement of the EUT.

Deviation from Measurement Procedure.....None

3.2 Radiated Power and Radiated Spurious 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. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

For radiated power measurements, substitution method is used per the guidance of ANSI C63.26-2015. For emissions below 1GHz, a half-wave dipole is substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]};$$

where P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to $P_g \text{ [dBm]} - \text{cable loss [dB]}$.

For radiated spurious emissions measurements, the field strength conversion method is used per the formulas in Section 5.2.7 of ANSI C63.26-2015. Field Strength (EIRP) is calculated using the following formulas:

$$E_{\text{[dB}\mu\text{V/m]}} = \text{Measured amplitude level}_{\text{[dBm]}} + 107 + \text{Cable Loss}_{\text{[dB]}} + \text{Antenna Factor}_{\text{[dB/m]}}$$

And

$$\text{EIRP}_{\text{[dBm]}} = E_{\text{[dB}\mu\text{V/m]}} + 20\log D - 104.8; \text{ where } D \text{ is the measurement distance in meters.}$$

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.

Radiated power and radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI C63.26-2015.

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4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. 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)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

Table 4-1. Measurement Uncertainty Budget – MD

Contribution	Expanded Uncertainty ($\pm$ dB)
Conducted Bench Top Measurements	1.95
Radiated Disturbance (<1GHz)	4.10
Radiated Disturbance (>1GHz)	4.82
Radiated Disturbance (>18GHz)	4.96

Table 4-2. Measurement Uncertainty Budget – KR

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5.0 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
-	AP2	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP2
-	AP1	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP1
-	ETS	EMC Cable and Switch System	12/11/2024	Annual	12/11/2026	ETS
-	LTx4	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx4
-	LTx5	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx5
Espec	ESX-2CA	Environmental Chamber	11/20/2024	Biennial	11/20/2026	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	5/3/2023	Biennial	5/3/2025	00125518
Keysight Technologies	N9020A	MXA Signal Analyzer	4/11/2024	Annual	4/11/2025	MY54500644
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	4/9/2024	Annual	4/9/2025	MY52350166
Keysight Technologies	N9038A	MXE EMI Receiver	9/16/2024	Annual	9/16/2025	MY51210133
Rohde & Schwarz	CMW500	Radio Communication Tester		N/A		100976
Rohde & Schwarz	CMW500	Radio Communication Tester		N/A		112347
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	10/16/2024	Annual	10/16/2025	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	10/16/2024	Annual	10/16/2025	100348
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107

Table 5-1. Test Equipment Calibration Table – MD

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	N9030A	PXA Signal Analyzer	7/8/2024	Annual	7/7/2025	MY49432391
Anritsu	S820E	Cable and Antenna Analyzer	7/9/2024	Annual	7/8/2025	1839097
Anritsu	MA24106A	USB Power Sensor	7/9/2024	Annual	7/8/2025	1244512
Anritsu	MT8000A	Radio Communicatino Test Station	9/5/2024	Annual	9/4/2025	6272337405
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2024	Annual	10/9/2026	10160045
Espec	SH-242	Environmental Chamber	7/9/2024	Annual	7/8/2025	93011064
Fairview Microwave	FM2CP1122-10	2.92mm Directional Coupler	7/9/2024	Annual	7/8/2025	1946
Keysight Technologies	N9030B	PXA Signal Analyzer	7/8/2024	Annual	7/7/2025	MY57143278
Mini-Circuits	BW-N10W5+	Attenuator	7/9/2024	Annual	7/8/2025	1507
Mini-Circuits	BW-N10W5+	Attenuator	7/9/2024	Annual	7/8/2025	1607
NARDA	180-442A-KF	Horn Antenna (small)	1/13/2025	Annual	1/12/2026	180-442A-KF
Rohde & Schwarz	SMF100A	Signal Generator	7/8/2024	Annual	7/7/2025	104154
Rohde & Schwarz	CMW500	Wideband Radio Communicatino Tester	1/6/2025	Annual	1/5/2026	171075
Rohde & Schwarz	FSW43	Signal and Spectrum Analyzer	1/6/2025	Annual	1/5/2026	101955
Rohde & Schwarz	SFUNIT-Rx	Shielded Filter Unit	1/6/2025	Annual	1/5/2026	102131
Schwarzbeck	VULB9162	Broadband TRILOG Antenna	6/1/2023	Biennial	5/31/2025	9162-217
Sunol	DRH-118	Horn Antenna	1/13/2025	Annual	1/12/2026	A060215

Table 5-2. Test Equipment Calibration Table – KR

Notes:

- 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 with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

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6.0 SAMPLE EMISSION DESIGNATORS

QPSK Modulation

Emission Designator = 8M62G7D

LTE BW = 8.62 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

QAM Modulation

Emission Designator = 8M45W7D

LTE BW = 8.45 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

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7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.
 FCC ID: A3LSMF966B
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
 Mode(s): LTE/NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference	Test Lab Location	Data Referencing?
CONDUCTED	Transmitter Conducted Output Power*	2.1046(a), 2.1046(c)	N/A	PASS	Section 7.2	KR	Yes**
	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3	KR	Yes**
	Conducted Band Edge / Spurious Emissions (LTE Band 41; NR Band n41)	2.1051, 27.53(m)(4)	Undesirable emissions must meet the limits detailed in 27.53(m)(4)	PASS	Sections 7.4, 7.5	KR	Yes**
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block	PASS	Section 7.8	MD	Yes**
RADIATED	Equivalent Isotropic Radiated Power (LTE Band 41; NR Band n41)	27.50(h)(2)	≤ 2 Watts max. EIRP	PASS	Section 7.6	MD	Yes**
	Radiated Spurious Emissions (LTE Band 41; NR Band n41)	2.1053, 27.53(m)	Undesirable emissions must meet the limits detailed in 27.53(m)	PASS	Section 7.7	MD	Yes**

* The only transmitter output conducted powers included in this report are those where the Pmax value, per the tune-up document, is higher than any of the DSI power levels. For the remaining conducted power measurements, see the **RF Exposure Report**.

**Data pertaining to operations within LTE Band 41 and NR Band n41 was fully leveraged from the Referenced Model (A3LSMF966U) in cases where the target Output Power was identical with the Variant Model (A3LSMF966B). In cases where the target Output Power differed full testing was performed. This has resulted in the complete test for the LTE Band 41 PC2 operation and NR Band n41 Ant1 cases.

Table 7-1. Summary of Test Results

Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT 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, attenuators, and couplers.
- 4) All conducted emissions measurements are performed with automated test software to capture the corresponding plots necessary to show compliance. The measurement software utilized is EMC Software Tool v2.3.0.
- 5) Data was leveraged from model SM-F966U for the certification of SM-F966B/DS. See Section 9.0 for spot-check results.

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7.2 Conducted Output Power Data

Test Overview

All emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

A-MPR is implemented in this device when operating at Power Class 2 in LTE Band 41 per the A-MPR specification in 3GPP TS 36.101. The conducted powers are shown herein to cover the different A-MPR levels specified in the standard. Measurement equipment was set up with triggering/gating on the spectrum analyzer such that powers were measured only during the on-time of the signal.

Test Procedure Used

ANSI C63.26-2015 – Section 5.2

Test Settings

1. Span = 2 x OBW to 3 x OBW
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

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

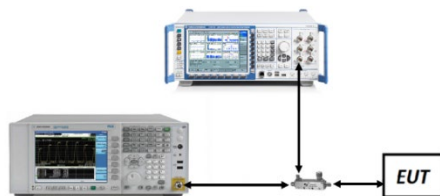


Figure 7-1. Test Instrument & Measurement Setup

Test Notes

1. Conducted power measurements were evaluated using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device.
2. All other conducted power measurements are contained in the RF exposure report for this filing.
3. Conducted power was found to reduce for the higher order QAM modulations when compared to 16QAM. Due to this trend, only the worst-case QAM (16QAM) powers are included in this section.

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]		
100 MHz	π/2 BPSK		509202	2546.01	1 / 136	26.56	
			518598	2592.99	1 / 271	26.51	
			528000	2640.00	1 / 136	26.31	
	QPSK		509202	2546.01	1 / 136	25.67	
			518598	2592.99	1 / 271	26.11	
			528000	2640.00	1 / 136	25.52	
	16-QAM	518598	2592.99	1 / 271	25.12		
	π/2 BPSK		508200	2541.00	1 / 122	26.68	
			518598	2592.99	1 / 243	26.56	
		528996	2644.98	1 / 122	26.49		
QPSK			508200	2541.00	1 / 122	25.72	
			518598	2592.99	1 / 243	25.76	
			528996	2644.98	1 / 122	25.60	
16-QAM	518598	2592.99	1 / 243	24.89			
80 MHz	π/2 BPSK		507204	2536.02	1 / 215	26.67	
			518598	2592.99	1 / 215	26.51	
			529998	2649.99	1 / 1	26.58	
	QPSK		507204	2536.02	1 / 108	25.96	
			518598	2592.99	1 / 215	25.79	
			529998	2649.99	1 / 108	25.65	
	16-QAM	518598	2592.99	1 / 215	24.86		
	70 MHz	π/2 BPSK		506202	2531.01	1 / 94	26.65
				518598	2592.99	1 / 187	26.67
			531000	2655.00	1 / 187	26.64	
QPSK			506202	2531.01	1 / 94	26.00	
			518598	2592.99	1 / 187	25.77	
			531000	2655.00	1 / 1	26.32	
16-QAM		506202	2531.01	1 / 94	25.01		
π/2 BPSK			505200	2526.00	1 / 160	26.64	
			518598	2592.99	1 / 1	26.54	
		531996	2659.98	1 / 1	26.62		
	QPSK		505200	2526.00	1 / 81	26.09	
			518598	2592.99	1 / 160	25.60	
			531996	2659.98	1 / 1	25.80	
16-QAM	505200	2526.00	1 / 160	25.12			
60 MHz	π/2 BPSK		504204	2521.02	1 / 131	26.89	
			518598	2592.99	1 / 1	26.63	
			532998	2664.99	1 / 1	26.88	
	QPSK		504204	2521.02	1 / 131	26.13	
			518598	2592.99	1 / 131	25.65	
			532998	2664.99	1 / 1	25.96	
	16-QAM	504204	2521.02	1 / 131	25.12		
	50 MHz	π/2 BPSK		503703	2518.50	1 / 117	26.88
				518598	2592.99	1 / 1	26.58
			533449	2667.50	1 / 1	26.92	
QPSK			503703	2518.50	1 / 117	26.41	
			518598	2592.99	1 / 1	25.48	
			533449	2667.50	1 / 1	26.03	
16-QAM		503703	2518.50	1 / 117	25.35		
45 MHz		π/2 BPSK		503202	2516.01	1 / 104	26.76
				518598	2592.99	1 / 1	26.55
			534000	2670.00	1 / 1	26.70	
	QPSK		503202	2516.01	1 / 104	26.22	
			518598	2592.99	1 / 104	25.57	
			534000	2670.00	1 / 1	25.91	
16-QAM	503202	2516.01	1 / 104	25.40			
40 MHz	π/2 BPSK		502701	2513.50	1 / 90	26.85	
			518598	2592.99	1 / 1	26.59	
			534448	2672.50	1 / 1	26.57	
	QPSK		502701	2513.50	1 / 90	26.11	
			518598	2592.99	1 / 90	25.57	
			534448	2672.50	1 / 1	25.80	
	16-QAM	502701	2513.50	1 / 90	25.47		
	35 MHz	π/2 BPSK		502200	2511.00	1 / 76	26.85
				518598	2592.99	1 / 76	26.68
			534996	2674.98	1 / 1	26.79	
QPSK			502200	2511.00	1 / 76	26.35	
			518598	2592.99	1 / 76	25.50	
			534996	2674.98	1 / 1	25.85	
16-QAM	502200	2511.00	1 / 76	25.35			
30 MHz	π/2 BPSK		501702	2508.50	1 / 63	26.76	
			518598	2592.99	1 / 63	26.58	
			535497	2677.50	1 / 1	26.79	
	QPSK		501702	2508.50	1 / 63	26.35	
			518598	2592.99	1 / 63	25.43	
			535497	2677.50	1 / 1	25.72	
	16-QAM	501702	2508.50	1 / 63	25.41		
	25 MHz	π/2 BPSK		501204	2506.02	1 / 25	26.57
				518598	2592.99	1 / 49	26.48
			535998	2679.99	1 / 1	26.72	
QPSK			501204	2506.02	1 / 49	26.37	
			518598	2592.99	1 / 49	25.56	
			535998	2679.99	1 / 1	25.94	
16-QAM	501204	2506.02	1 / 25	25.12			
20 MHz	π/2 BPSK		500706	2503.50	1 / 1	26.74	
			518598	2592.99	1 / 36	26.41	
			536449	2682.50	1 / 1	26.57	
	QPSK		500706	2503.50	1 / 36	26.08	
			518598	2592.99	1 / 36	25.56	
			536449	2682.50	1 / 36	25.54	
	16-QAM	500706	2503.50	1 / 1	24.97		
	15 MHz	π/2 BPSK		500208	2501.00	1 / 12	26.56
				518598	2592.99	1 / 12	26.01
			537000	2685.00	1 / 22	26.35	
QPSK			500208	2501.00	1 / 22	25.74	
			518598	2592.99	1 / 12	25.09	
			537000	2685.00	1 / 12	25.32	
16-QAM	500208	2501.00	1 / 12	24.82			

Table 7-2. Conducted Power Results – NR Band n41 PC2 – Main – Ant1

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 136	25.86
		518598	2592.99	1 / 136	26.18
		528000	2640.00	1 / 136	26.32
		509202	2546.01	1 / 136	25.54
	QPSK	518598	2592.99	1 / 136	26.23
		528000	2640.00	1 / 136	26.12
		528000	2640.00	1 / 136	25.32
		508200	2541.00	1 / 122	26.18
90 MHz	π/2 BPSK	518598	2592.99	1 / 122	26.35
		528996	2644.98	1 / 122	26.52
		508200	2541.00	1 / 122	26.03
		518598	2592.99	1 / 122	26.18
	QPSK	528996	2644.98	1 / 1	26.16
		518598	2592.99	1 / 122	25.15
		507204	2536.02	1 / 108	26.04
		518598	2592.99	1 / 215	26.43
80 MHz	π/2 BPSK	529998	2649.99	1 / 108	26.53
		507204	2536.02	1 / 108	25.78
		518598	2592.99	1 / 215	26.30
		529998	2649.99	1 / 1	26.37
	QPSK	518598	2592.99	1 / 215	25.32
		506202	2531.01	1 / 94	26.08
		518598	2592.99	1 / 187	26.63
		531000	2655.00	1 / 1	26.49
70 MHz	π/2 BPSK	506202	2531.01	1 / 94	25.93
		518598	2592.99	1 / 187	26.65
		531000	2655.00	1 / 1	26.48
		531000	2655.00	1 / 1	25.56
	QPSK	505200	2526.00	1 / 81	25.81
		518598	2592.99	1 / 160	26.54
		531996	2659.98	1 / 1	26.37
		505200	2526.00	1 / 81	25.62
60 MHz	π/2 BPSK	518598	2592.99	1 / 160	26.51
		531996	2659.98	1 / 1	26.21
		518598	2592.99	1 / 160	25.55
		504204	2521.02	1 / 131	25.73
	QPSK	518598	2592.99	1 / 131	26.82
		532998	2664.99	1 / 1	26.68
		504204	2521.02	1 / 131	25.56
		518598	2592.99	1 / 131	26.75
50 MHz	π/2 BPSK	532998	2664.99	1 / 1	26.18
		518598	2592.99	1 / 131	25.94
		503703	2518.50	1 / 117	25.68
		518598	2592.99	1 / 117	26.80
	QPSK	533449	2667.50	1 / 1	26.20
		503703	2518.50	1 / 117	25.86
		518598	2592.99	1 / 117	26.76
		533449	2667.50	1 / 1	25.69
45 MHz	π/2 BPSK	518598	2592.99	1 / 117	25.83
		503202	2516.01	1 / 104	25.63
		518598	2592.99	1 / 104	26.43
		534000	2670.00	1 / 1	26.40
	QPSK	503202	2516.01	1 / 104	25.48
		518598	2592.99	1 / 104	26.50
		534000	2670.00	1 / 1	26.17
		518598	2592.99	1 / 104	25.44
40 MHz	π/2 BPSK	502701	2513.50	1 / 90	26.16
		518598	2592.99	1 / 90	26.51
		534448	2672.50	1 / 1	26.49
		502701	2513.50	1 / 90	26.09
	QPSK	518598	2592.99	1 / 90	26.58
		534448	2672.50	1 / 1	26.02
		518598	2592.99	1 / 90	25.47
		502200	2511.00	1 / 76	26.00
30 MHz	π/2 BPSK	518598	2592.99	1 / 76	26.59
		534996	2674.98	1 / 1	26.52
		502200	2511.00	1 / 76	25.82
		518598	2592.99	1 / 76	26.53
	QPSK	534996	2674.98	1 / 1	26.04
		518598	2592.99	1 / 76	25.55
		501702	2508.50	1 / 63	25.90
		518598	2592.99	1 / 32	26.49
25 MHz	π/2 BPSK	535497	2677.50	1 / 1	26.00
		501702	2508.50	1 / 63	25.35
		518598	2592.99	1 / 63	26.60
		535497	2677.50	1 / 1	25.96
	QPSK	518598	2592.99	1 / 63	25.30
		501204	2506.02	1 / 49	25.91
		518598	2592.99	1 / 25	26.34
		535998	2679.99	1 / 1	26.26
20 MHz	π/2 BPSK	501204	2506.02	1 / 49	25.80
		518598	2592.99	1 / 49	26.25
		535998	2679.99	1 / 49	26.05
		518598	2592.99	1 / 25	25.10
	QPSK	500706	2503.50	1 / 36	25.91
		518598	2592.99	1 / 36	26.39
		536449	2682.50	1 / 1	25.97
		500706	2503.50	1 / 36	25.57
15 MHz	π/2 BPSK	518598	2592.99	1 / 36	26.42
		536449	2682.50	1 / 18	25.83
		518598	2592.99	1 / 36	25.58
		500208	2501.00	1 / 22	26.15
	QPSK	518598	2592.99	1 / 12	26.47
		537000	2685.00	1 / 22	26.73
		500208	2501.00	1 / 22	25.90
		518598	2592.99	1 / 22	26.52
10 MHz	π/2 BPSK	537000	2685.00	1 / 12	26.68
		518598	2592.99	1 / 22	25.68
	QPSK	537000	2685.00	1 / 22	25.68
		518598	2592.99	1 / 22	25.68

Table 7-3. Conducted Power Results – NR Band n41 PC2 – Switch – Ant1

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 20 of 276

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	39750	2506.0	1 / 0	24.55
		40620	2593.0	1 / 0	24.55
		41490	2680.0	1 / 0	24.88
	16-QAM	40620	2593.0	1 / 0	24.22
15 MHz	QPSK	39725	2503.5	1 / 37	24.62
		40620	2593.0	1 / 0	24.72
		41515	2682.5	1 / 0	24.98
	16-QAM	41515	2682.5	1 / 0	24.27
10 MHz	QPSK	39700	2501.0	1 / 0	24.61
		40620	2593.0	1 / 0	24.86
		41540	2685.0	1 / 25	24.93
	16-QAM	41540	2685.0	1 / 25	24.12
5 MHz	QPSK	39675	2498.5	1 / 0	24.52
		40620	2593.0	1 / 0	24.89
		41565	2687.5	1 / 12	24.77
	16-QAM	41565	2687.5	1 / 12	23.99

Table 7-4. Conducted Power Results – LTE Band 41 PC3 – Ant2

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 21 of 276

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 271	20.94
		518598	2592.99	1 / 136	20.43
		528000	2640.00	1 / 1	20.28
	QPSK	509202	2546.01	1 / 271	19.88
		518598	2592.99	1 / 136	19.46
		528000	2640.00	1 / 1	19.12
	16-QAM	509202	2546.01	1 / 271	18.77

Table 7-5. Conducted Power Results – NR Band n41 PC2 – Main – Ant2

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 271	21.82
		518598	2592.99	1 / 136	22.03
		528000	2640.00	1 / 1	21.85
	QPSK	509202	2546.01	1 / 271	21.65
		518598	2592.99	1 / 136	21.80
		528000	2640.00	1 / 136	21.39
	16-QAM	518598	2592.99	1 / 136	21.14

Table 7-6. Conducted Power Results – NR Band n41 PC2 – Switch – Ant2

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 22 of 276

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
50 MHz	π/2 BPSK	505000	2525.0	1 / 268	23.32
		507000	2535.0	1 / 268	23.47
		509000	2545.0	1 / 135	23.36
	QPSK	505000	2525.0	1 / 268	23.17
		507000	2535.0	1 / 268	23.35
		509000	2545.0	1 / 135	23.24
	16-QAM	509000	2545.0	1 / 135	22.05
40 MHz	π/2 BPSK	504000	2520.0	1 / 214	23.11
		507000	2535.0	1 / 214	23.24
		510000	2550.0	1 / 108	23.22
	QPSK	504000	2520.0	1 / 214	23.07
		507000	2535.0	1 / 214	23.05
		510000	2550.0	1 / 108	23.21
	16-QAM	504000	2520.0	1 / 214	21.93
		507000	2535.0	1 / 214	22.53
		510000	2550.0	1 / 108	21.97
35 MHz	π/2 BPSK	503500	2517.5	1 / 1	23.43
		507000	2535.0	1 / 94	23.50
		510500	2552.5	1 / 1	23.34
	QPSK	503500	2517.5	1 / 1	23.56
		507000	2535.0	1 / 94	23.51
		510500	2552.5	1 / 1	23.35
	16-QAM	503500	2517.5	1 / 1	22.47
		507000	2535.0	1 / 94	22.36
		510500	2552.5	1 / 1	22.39
30 MHz	π/2 BPSK	503000	2515.0	1 / 158	23.29
		507000	2535.0	1 / 80	23.28
		511000	2555.0	1 / 80	23.38
	QPSK	503000	2515.0	1 / 158	23.18
		507000	2535.0	1 / 80	22.81
		511000	2555.0	1 / 80	23.24
	16-QAM	511000	2555.0	1 / 80	22.04
25 MHz	π/2 BPSK	502500	2512.5	1 / 131	23.46
		507000	2535.0	1 / 66	23.27
		511500	2557.5	1 / 66	23.54
	QPSK	502500	2512.5	1 / 131	23.45
		507000	2535.0	1 / 66	23.16
		511500	2557.5	1 / 66	23.28
	16-QAM	511500	2557.5	1 / 66	22.31
20 MHz	π/2 BPSK	502000	2510.0	1 / 1	23.35
		507000	2535.0	1 / 53	23.31
		512000	2560.0	1 / 1	23.41
	QPSK	502000	2510.0	1 / 1	23.27
		507000	2535.0	1 / 53	23.27
		512000	2560.0	1 / 1	23.27
	16-QAM	512000	2560.0	1 / 1	22.25
15 MHz	π/2 BPSK	501500	2507.5	1 / 1	23.39
		507000	2535.0	1 / 39	23.44
		512500	2562.5	1 / 1	23.37
	QPSK	501500	2507.5	1 / 1	23.17
		507000	2535.0	1 / 39	23.37
		512500	2562.5	1 / 1	23.31
	16-QAM	512500	2562.5	1 / 1	22.35
10 MHz	π/2 BPSK	501000	2505.0	1 / 26	23.38
		507000	2535.0	1 / 26	23.46
		513000	2565.0	1 / 1	23.41
	QPSK	501000	2505.0	1 / 26	23.31
		507000	2535.0	1 / 26	23.38
		513000	2565.0	1 / 1	23.30
	16-QAM	513000	2565.0	1 / 1	22.14
5 MHz	π/2 BPSK	500500	2502.5	1 / 23	23.39
		507000	2535.0	1 / 1	23.50
		513500	2567.5	1 / 12	23.34
	QPSK	500500	2502.5	1 / 23	23.22
		507000	2535.0	1 / 1	23.45
		513500	2567.5	1 / 12	23.06
	16-QAM	513500	2567.5	1 / 12	22.26

Table 7-7. Conducted Power Results – NR Band n7 – Ant2

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 23 of 276

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	$\pi/2$ BPSK	509202	2546.01	1 / 271	21.25
		518598	2592.99	1 / 136	20.30
		528000	2640.00	1 / 1	20.53
	QPSK	509202	2546.01	1 / 271	20.08
		518598	2592.99	1 / 136	19.48
		528000	2640.00	1 / 1	19.53
	16-QAM	509202	2546.01	1 / 271	19.34

Table 7-8. Conducted Power Results – NR Band n41 PC2 – Main – Ant3

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	$\pi/2$ BPSK	509202	2546.01	1 / 136	24.38
		518598	2592.99	1 / 271	24.35
		528000	2640.00	1 / 271	24.34
	QPSK	509202	2546.01	1 / 136	24.33
		518598	2592.99	1 / 136	24.30
		528000	2640.00	1 / 136	24.33
	16-QAM	509202	2546.01	1 / 136	23.33

Table 7-9. Conducted Power Results – NR Band n41 PC2 – Switch – Ant3

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	$\pi/2$ BPSK	509202	2546.01	1 / 271	19.32
		518598	2592.99	1 / 271	19.27
		528000	2640.00	1 / 136	19.47
	QPSK	509202	2546.01	1 / 271	18.99
		518598	2592.99	1 / 271	18.49
		528000	2640.00	1 / 271	18.86
	16-QAM	509202	2546.01	1 / 271	18.04

Table 7-10. Conducted Power Results – NR Band n41 PC2 – Main – Ant4

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 24 of 276

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	π/2 BPSK	509202	2546.01	1 / 271	16.15
		518598	2592.99	1 / 136	16.64
		528000	2640.00	1 / 1	16.11
	QPSK	509202	2546.01	1 / 271	15.92
		518598	2592.99	1 / 136	16.19
		528000	2640.00	1 / 271	15.77
	16-QAM	518598	2592.99	1 / 136	15.57

Table 7-11. Conducted Power Results – NR Band n41 PC2 – Switch – Ant4

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.3 Occupied Bandwidth

Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Procedure Used

ANSI C63.26-2015 – Section 5.4.4

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

Test Setup

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

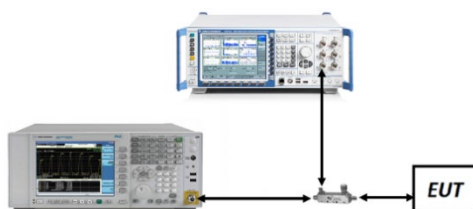


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

None.

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B41PC3	20MHz	QPSK	18.02
		16QAM	18.00
	15MHz	QPSK	13.57
		16QAM	13.53
	10MHz	QPSK	9.04
		16QAM	9.01
	5MHz	QPSK	4.53
		16QAM	4.53

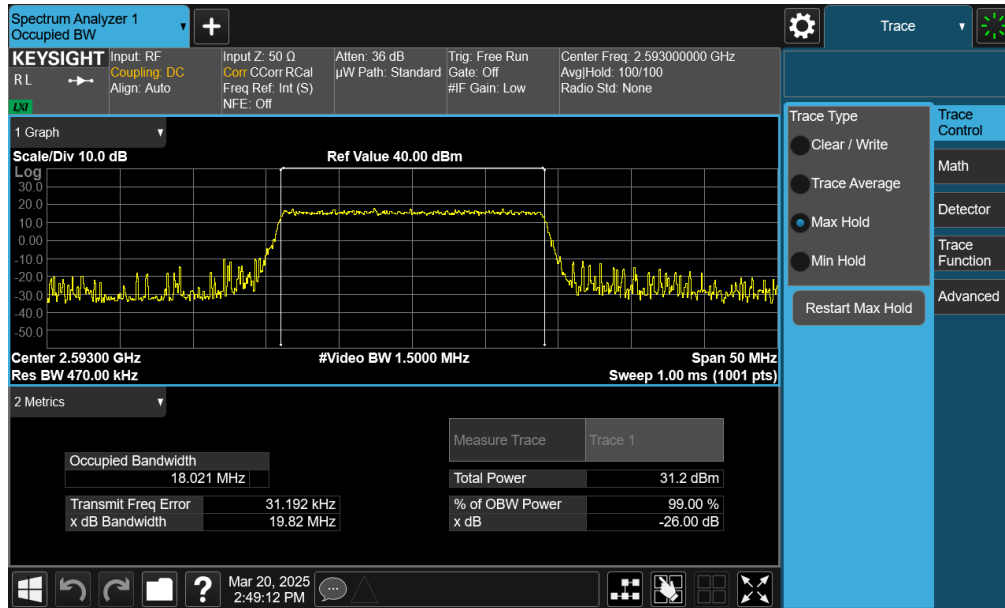
Table 7-12. Occupied Bandwidth Test Results – LTE – Ant 1

Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B41PC2	20MHz	QPSK	17.95
		16QAM	18.05
	15MHz	QPSK	13.51
		16QAM	13.48
	10MHz	QPSK	9.01
		16QAM	9.02
	5MHz	QPSK	4.52
		16QAM	4.51

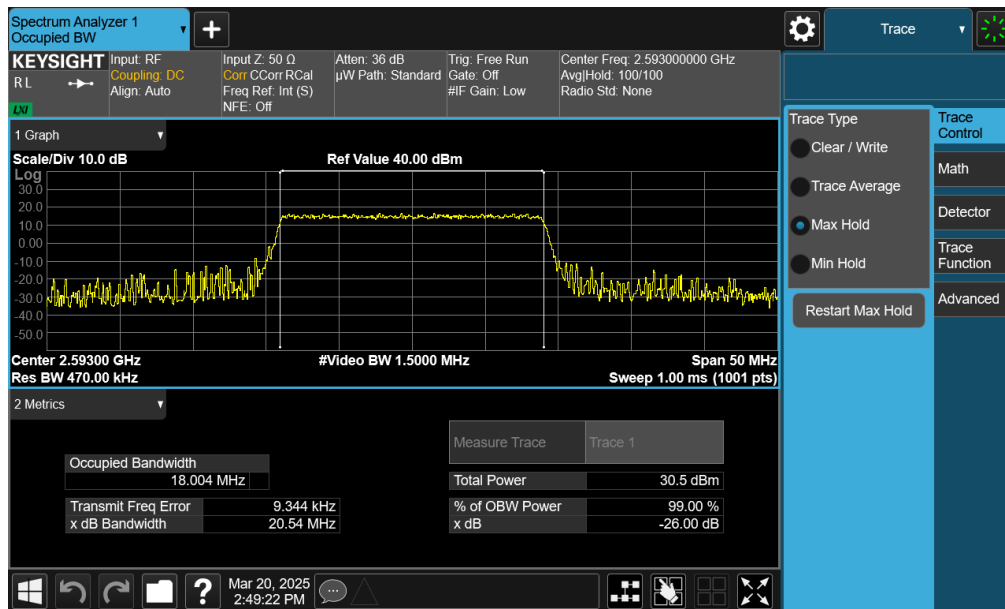
Table 7-13. Occupied Bandwidth Test Results – LTE – Ant 1

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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LTE Band 41(PC3) – Ant1

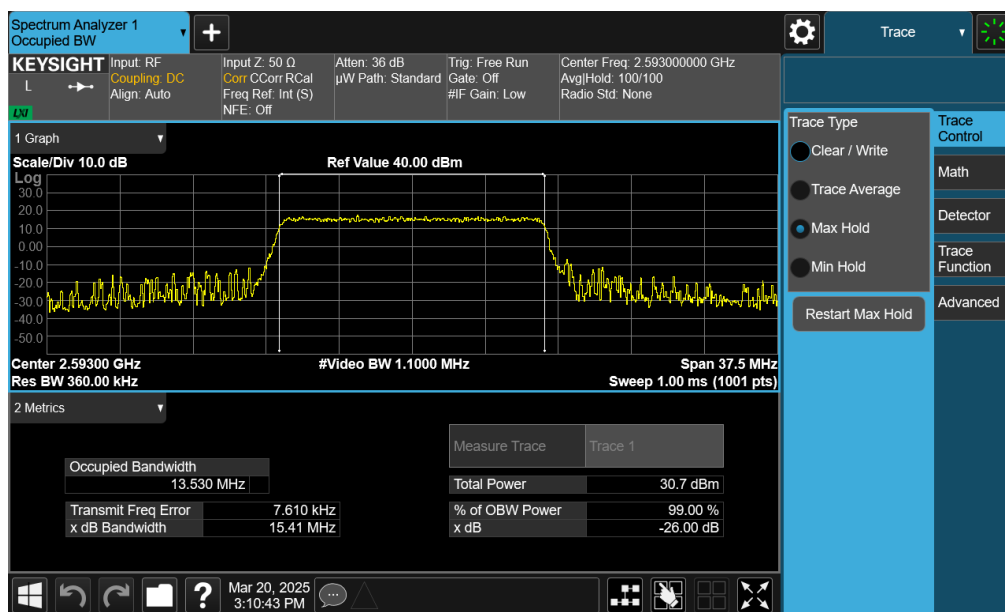
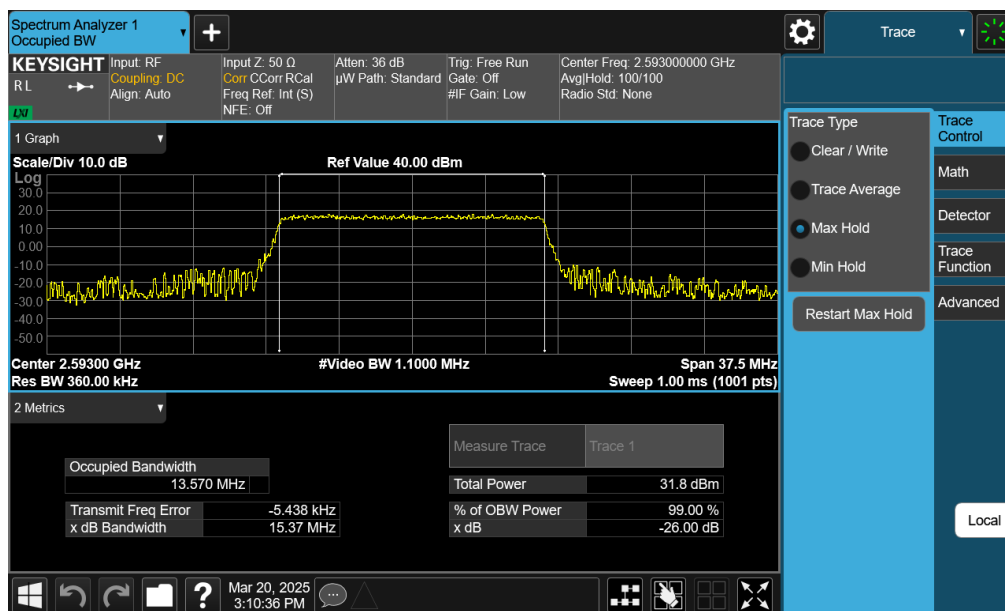


Plot 7-1. Occupied Bandwidth Plot (LTE Band 41(PC3) - 20MHz QPSK - Full RB - Ant1)

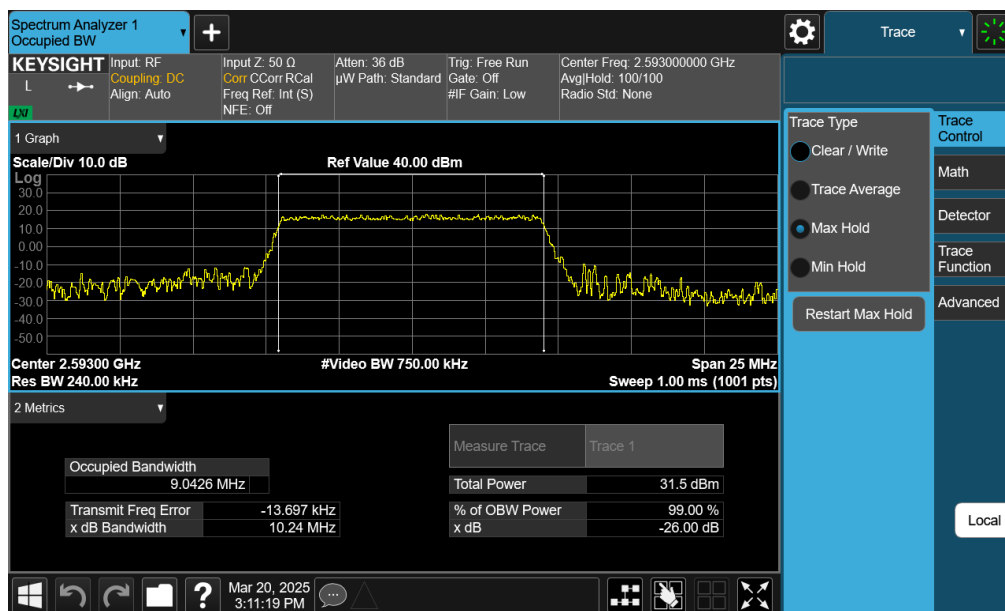


Plot 7-2. Occupied Bandwidth Plot (LTE Band 41(PC3) - 20MHz 16-QAM - Full RB - Ant1)

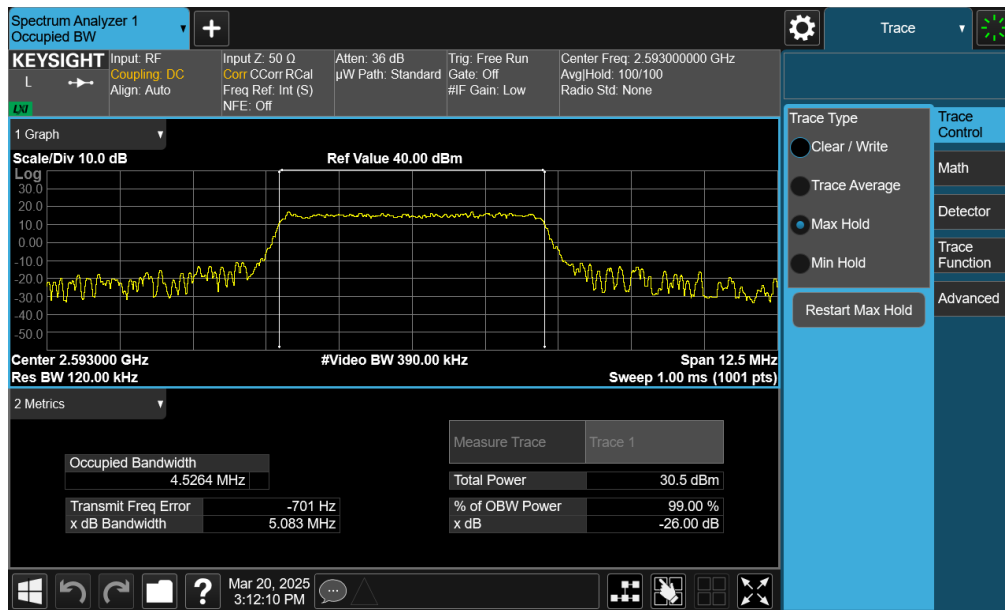
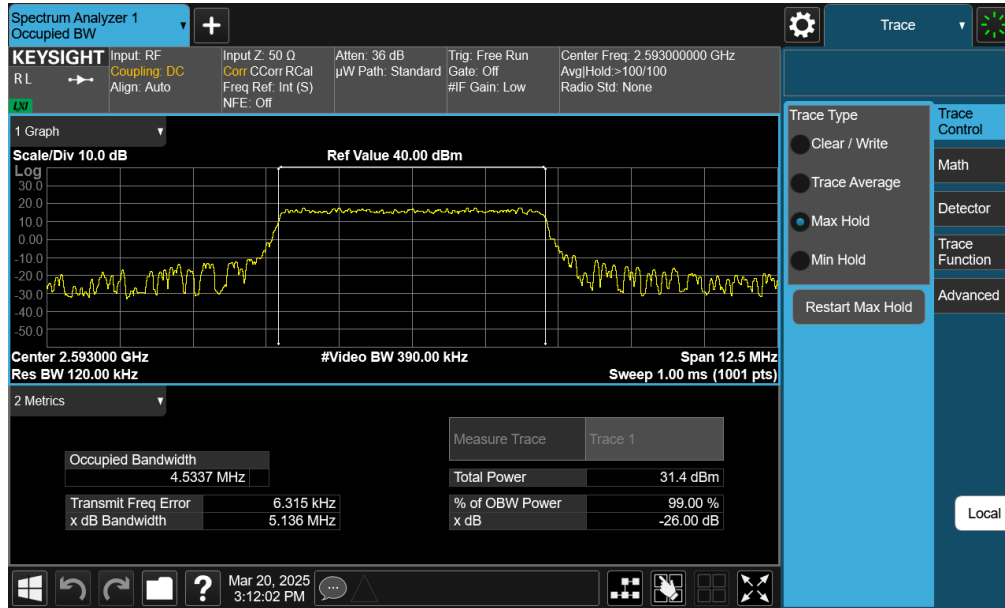
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 28 of 276



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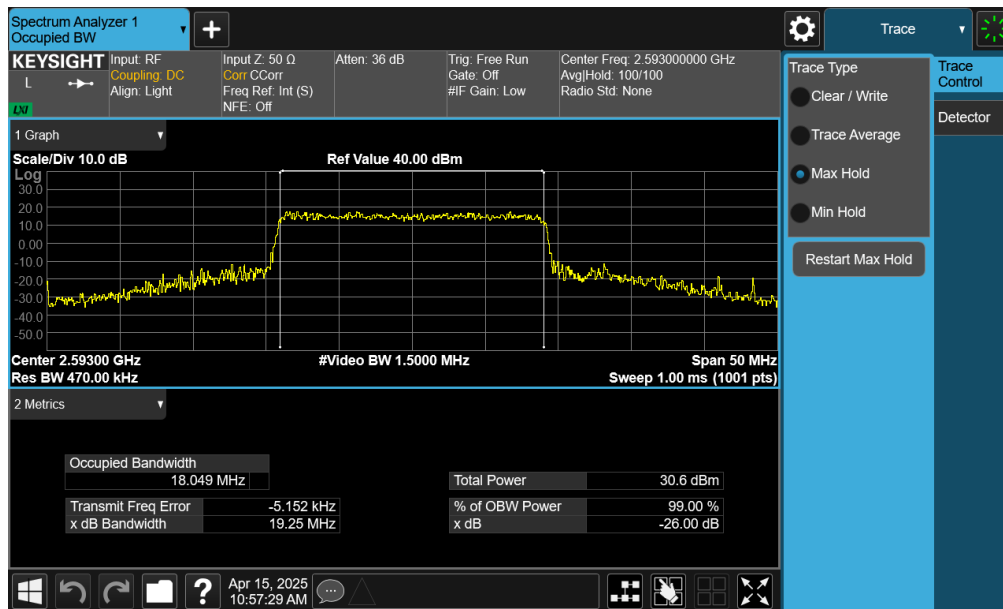
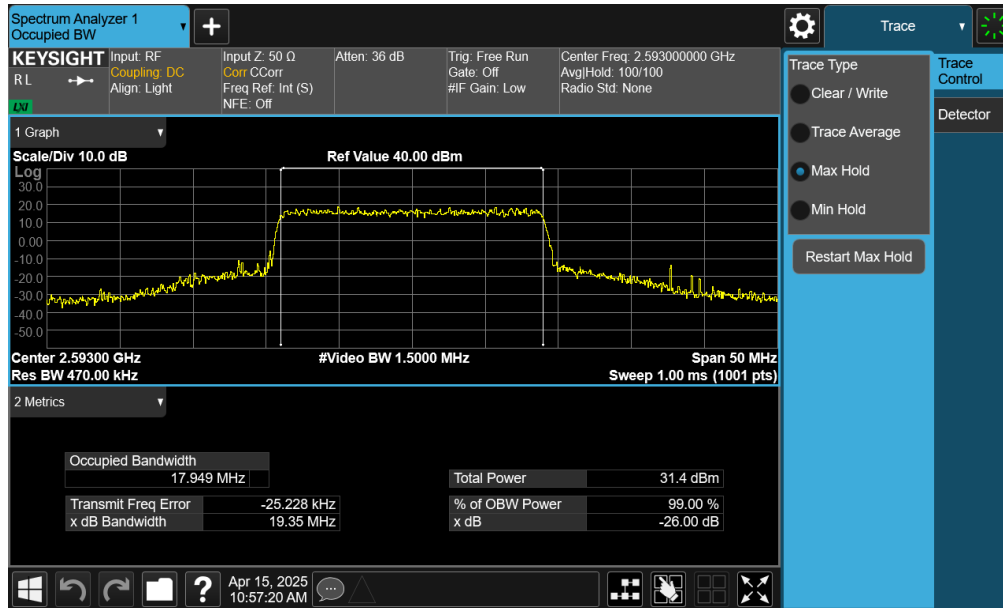


FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 30 of 276

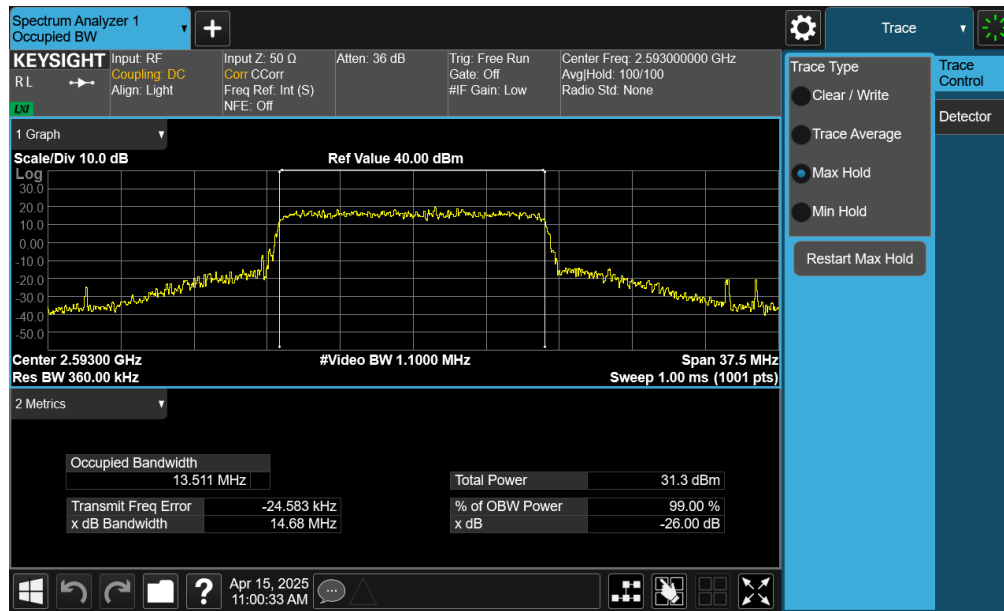


FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 31 of 276

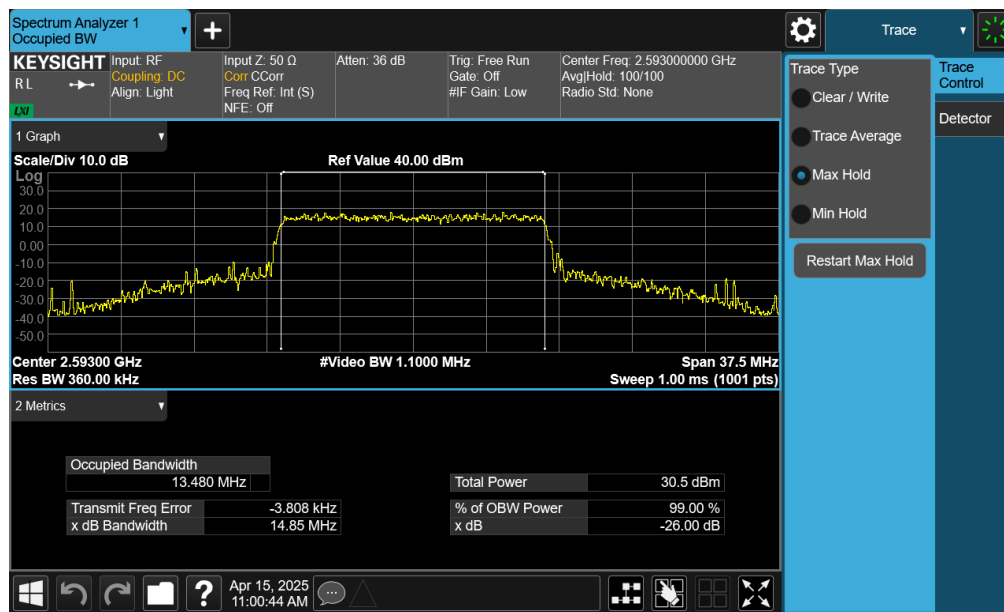
LTE Band 41(PC2) – Ant1



FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 32 of 276

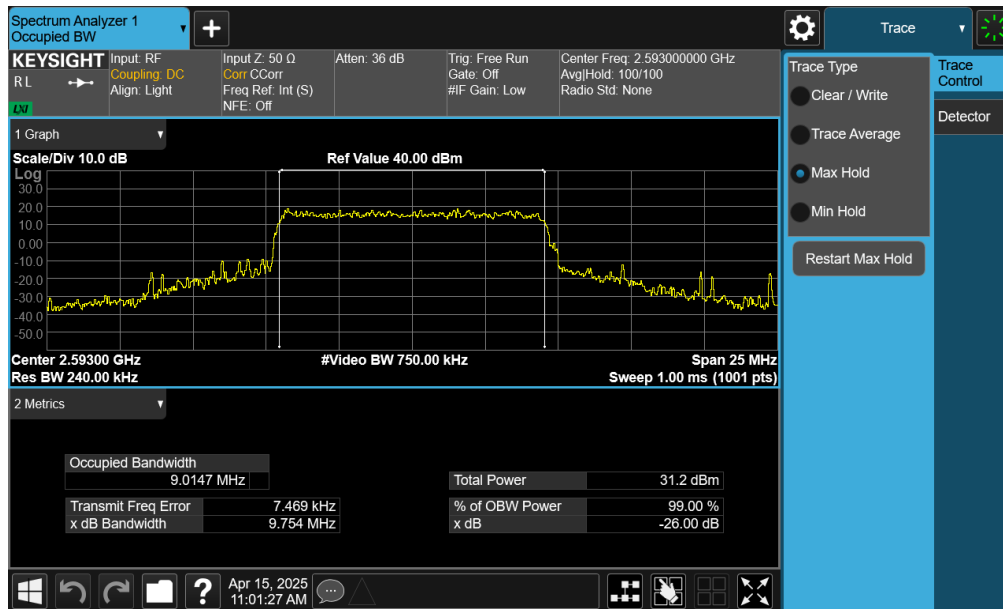


Plot 7-11. Occupied Bandwidth Plot (LTE Band 41(PC2) - 15MHz QPSK - Full RB - Ant1)

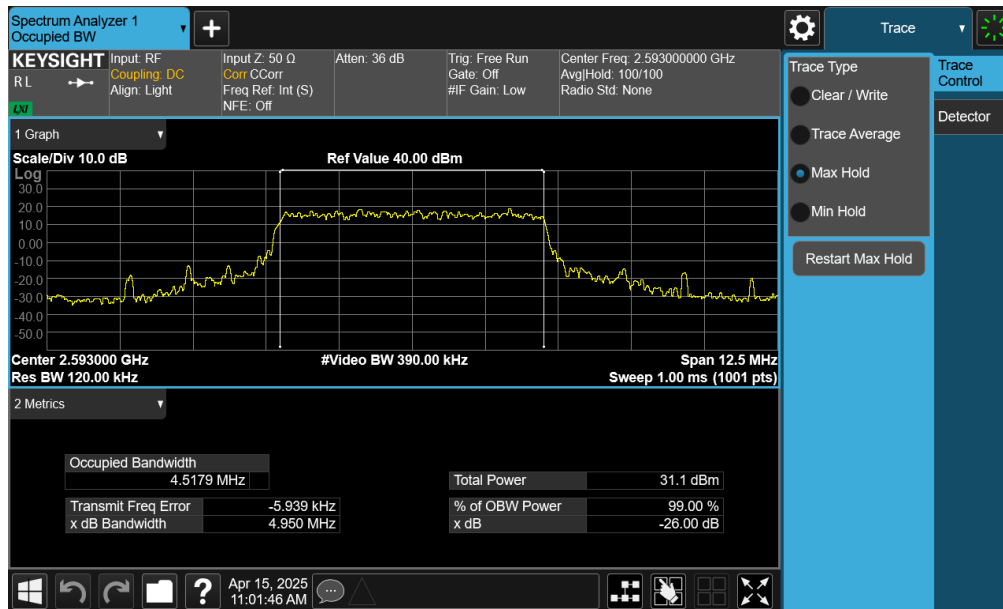


Plot 7-12. Occupied Bandwidth Plot (LTE Band 41(PC2) - 15MHz 16-QAM - Full RB - Ant1)

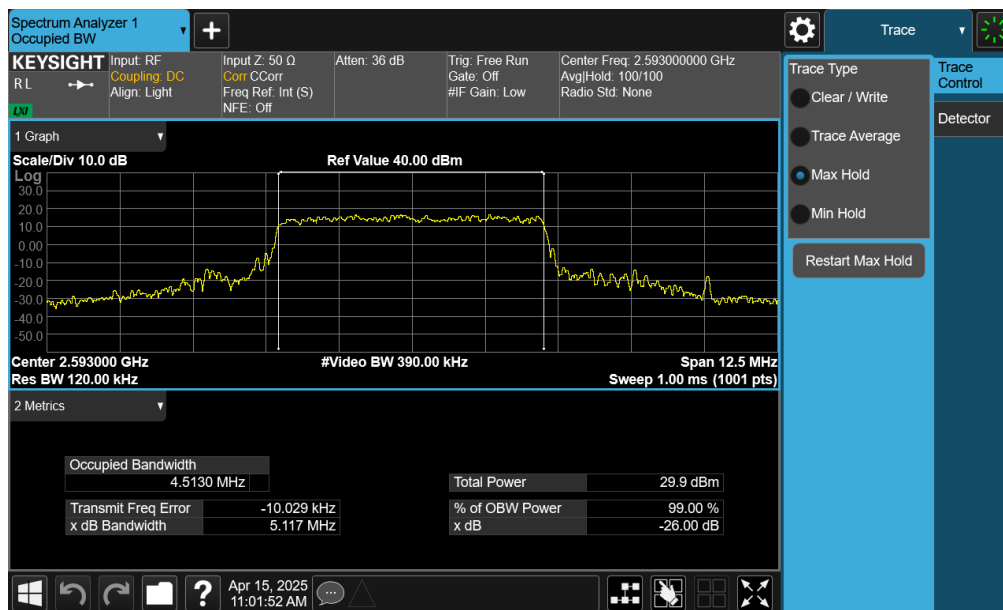
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 33 of 276



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Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 34 of 276



Plot 7-15. Occupied Bandwidth Plot (LTE Band 41(PC2) - 5MHz QPSK - Full RB - Ant1)



Plot 7-16. Occupied Bandwidth Plot (LTE Band 41(PC2) - 5MHz 16-QAM - Full RB - Ant1)

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2502270019-04.A3L	Test Dates: 2/24/2025 - 4/30/2025	EUT Type: Portable Handset	Page 35 of 276

Mode	Bandwidth	Modulation	OBW [MHz]
NR-n41PC2	100MHz	$\pi/2$ BPSK	97.26
		QPSK	98.11
		16QAM	98.15
	90MHz	$\pi/2$ BPSK	87.44
		QPSK	88.21
		16QAM	88.06
	80MHz	$\pi/2$ BPSK	77.53
		QPSK	77.80
		16QAM	77.91
	70MHz	$\pi/2$ BPSK	64.67
		QPSK	67.81
		16QAM	67.86
	60MHz	$\pi/2$ BPSK	58.25
		QPSK	58.21
		16QAM	58.11
	50MHz	$\pi/2$ BPSK	46.10
		QPSK	47.76
		16QAM	47.82
	45MHz	$\pi/2$ BPSK	38.66
		QPSK	42.63
		16QAM	42.65
	40MHz	$\pi/2$ BPSK	36.01
		QPSK	37.99
		16QAM	38.11
	35MHz	$\pi/2$ BPSK	32.27
		QPSK	32.92
		16QAM	32.95
	30MHz	$\pi/2$ BPSK	27.00
		QPSK	28.03
		16QAM	27.98
	25MHz	$\pi/2$ BPSK	22.99
		QPSK	23.29
		16QAM	23.31
	20MHz	$\pi/2$ BPSK	18.04
		QPSK	18.33
		16QAM	18.38
	15MHz	$\pi/2$ BPSK	13.02
		QPSK	13.69
		16QAM	13.74
	10MHz	$\pi/2$ BPSK	8.69
		QPSK	8.67
		16QAM	8.68

Table 7-14. Occupied Bandwidth Test Results – NR n41 default – Ant 1

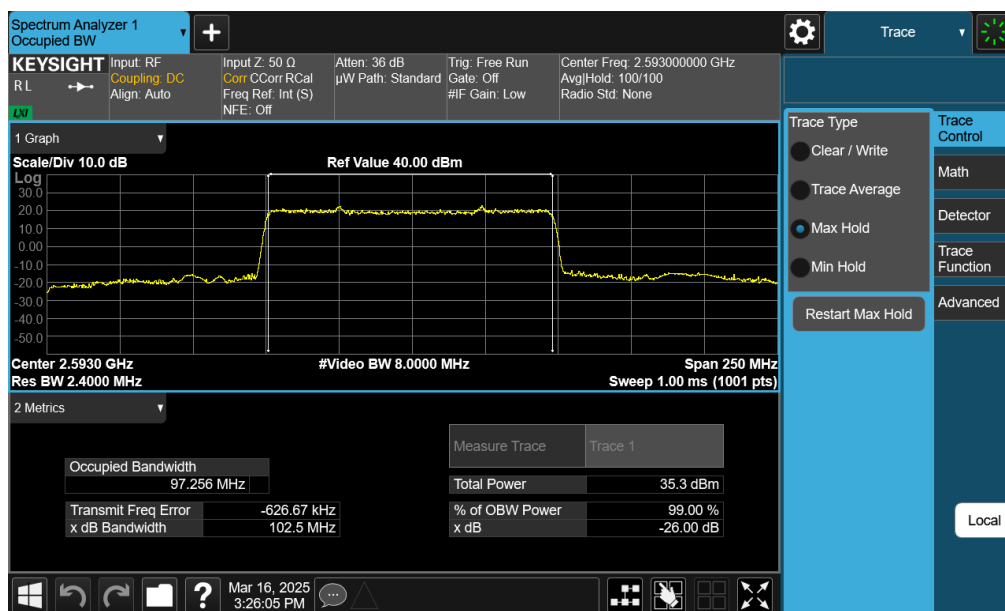
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n41PC2	100MHz	$\pi/2$ BPSK	96.80
		QPSK	97.61
		16QAM	97.69
	90MHz	$\pi/2$ BPSK	87.11
		QPSK	87.88
		16QAM	87.73
	80MHz	$\pi/2$ BPSK	77.31
		QPSK	77.58
		16QAM	77.55
	70MHz	$\pi/2$ BPSK	64.59
		QPSK	67.63
		16QAM	67.75
	60MHz	$\pi/2$ BPSK	58.13
		QPSK	57.97
		16QAM	58.30
	50MHz	$\pi/2$ BPSK	45.85
		QPSK	47.75
		16QAM	47.69
	45MHz	$\pi/2$ BPSK	38.76
		QPSK	42.67
		16QAM	42.61
	40MHz	$\pi/2$ BPSK	35.90
		QPSK	38.09
		16QAM	38.08
	35MHz	$\pi/2$ BPSK	32.25
		QPSK	32.95
		16QAM	32.94
	30MHz	$\pi/2$ BPSK	26.92
		QPSK	28.01
		16QAM	28.04
	25MHz	$\pi/2$ BPSK	23.00
		QPSK	23.30
		16QAM	23.32
	20MHz	$\pi/2$ BPSK	17.99
		QPSK	18.32
		16QAM	18.33
	15MHz	$\pi/2$ BPSK	12.99
		QPSK	13.71
		16QAM	13.71
	10MHz	$\pi/2$ BPSK	8.70
		QPSK	8.70
		16QAM	8.71

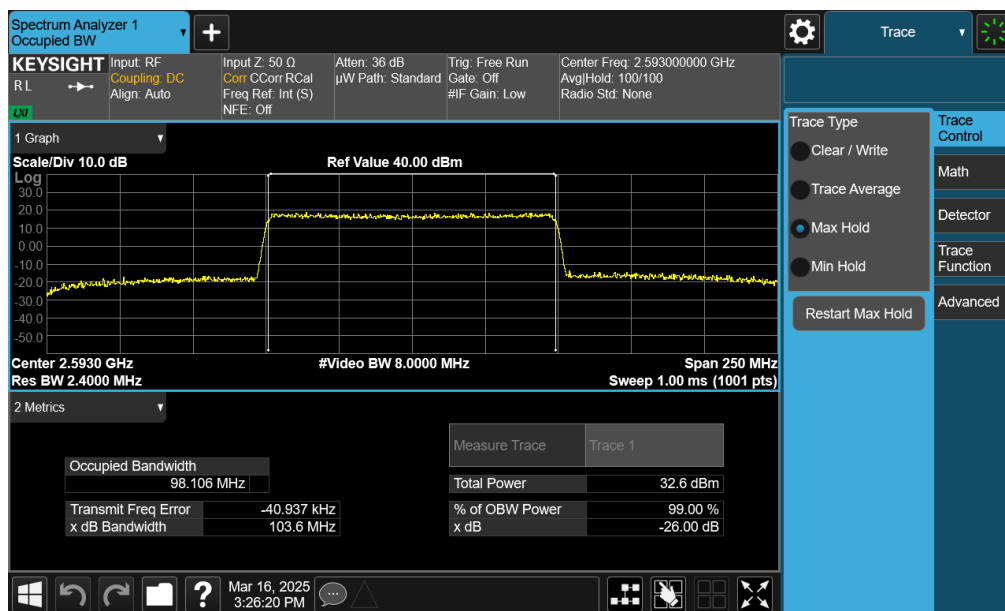
Table 7-15. Occupied Bandwidth Test Results – NR n41 switch – Ant 1

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NR Band n41 PC2 – Default – Ant1

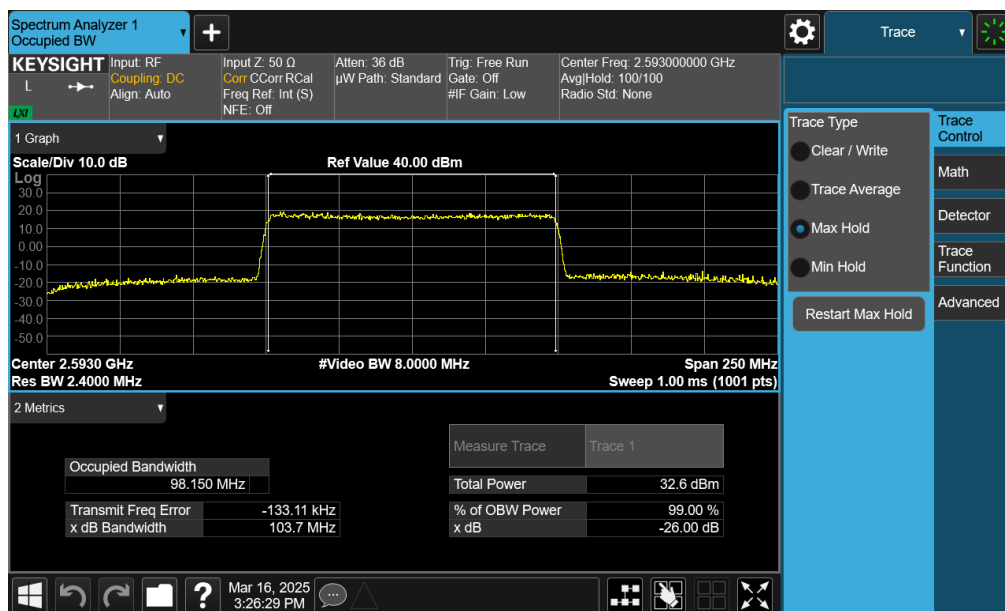


Plot 7-17. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz $\pi/2$ BPSK – Full RB – Default – Ant1)

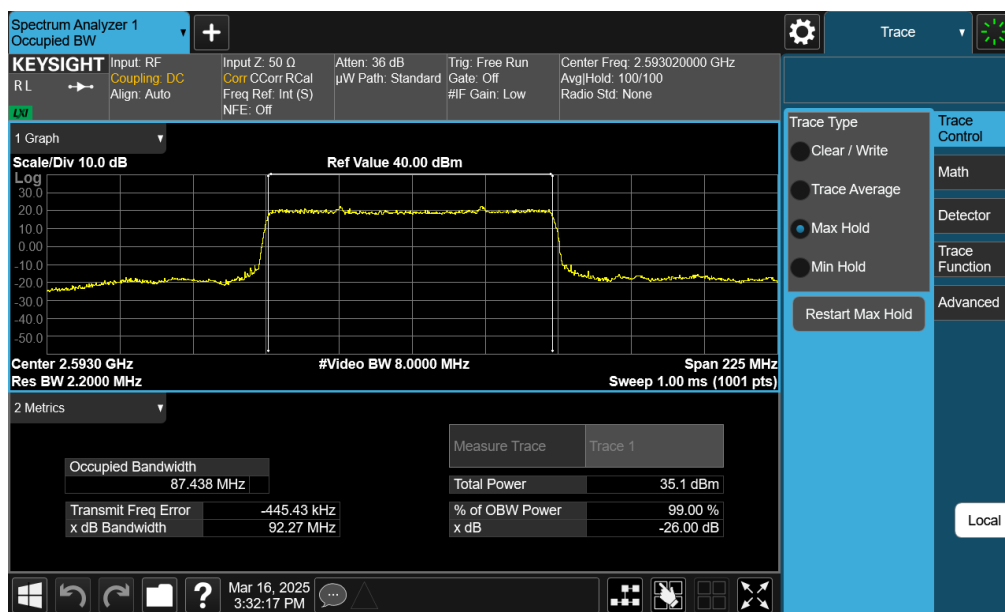


Plot 7-18. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz QPSK – Full RB – Default – Ant1)

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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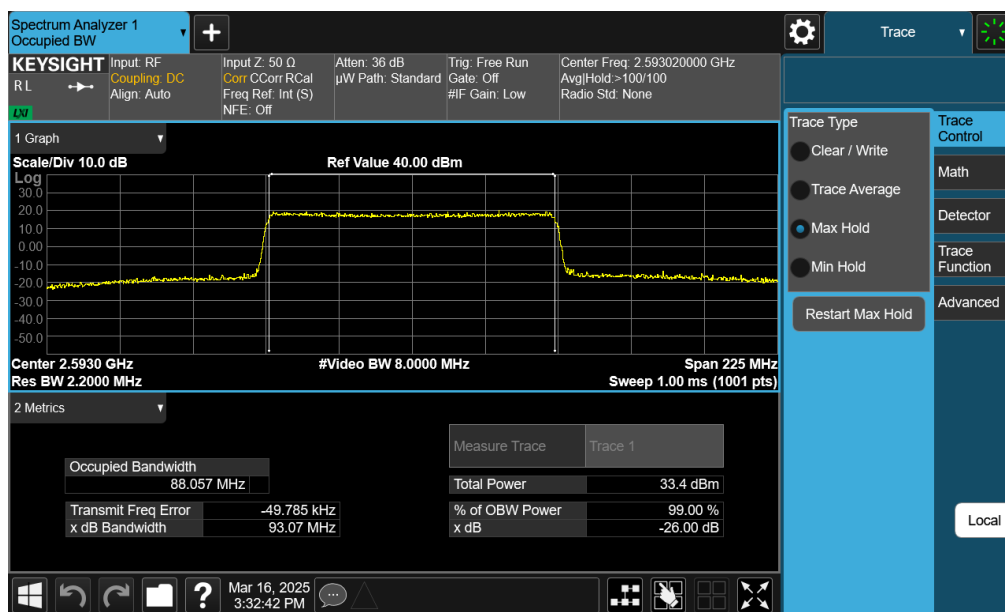
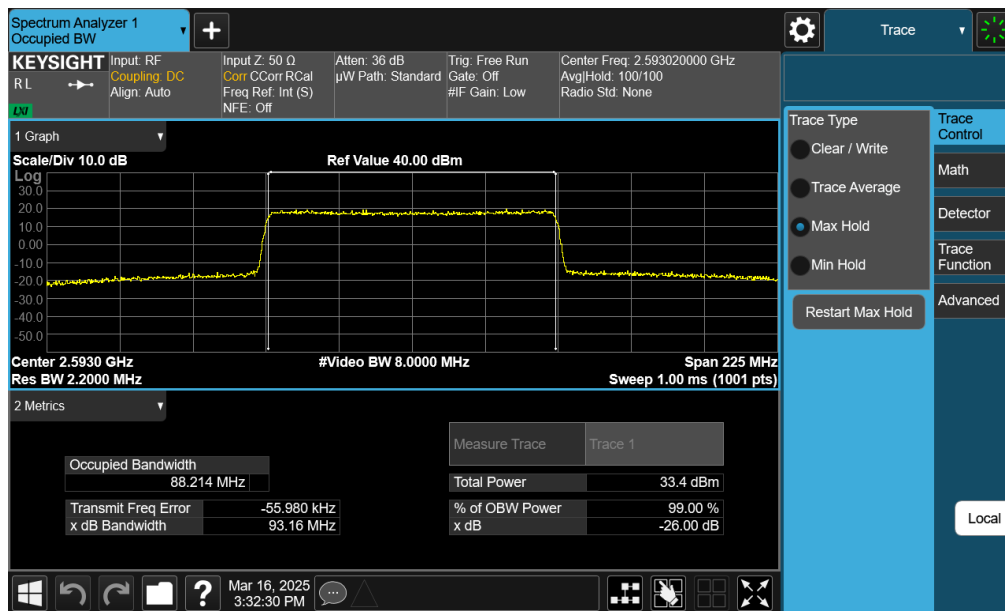


Plot 7-19. Occupied Bandwidth Plot (NR Band n41 PC2 – 100MHz 16-QAM – Full RB – Default – Ant1)

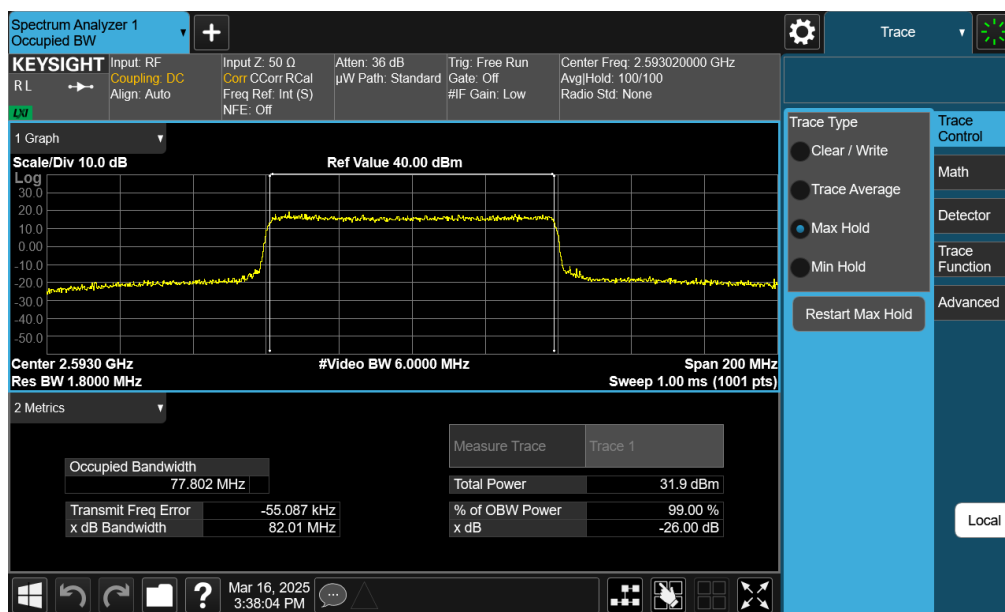
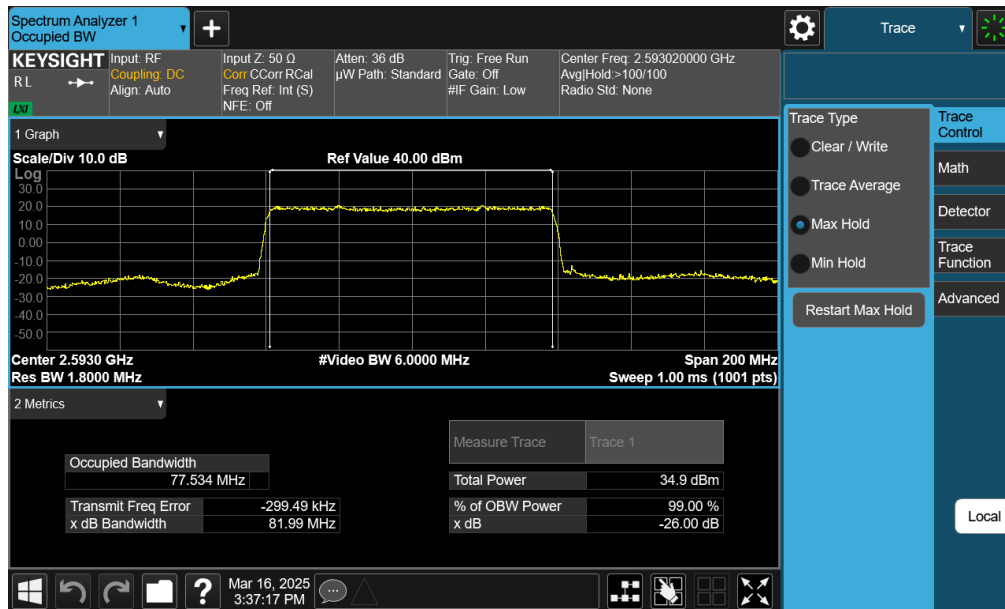


Plot 7-20. Occupied Bandwidth Plot (NR Band n41 PC2 – 90MHz $\pi/2$ BPSK – Full RB – Default – Ant1)

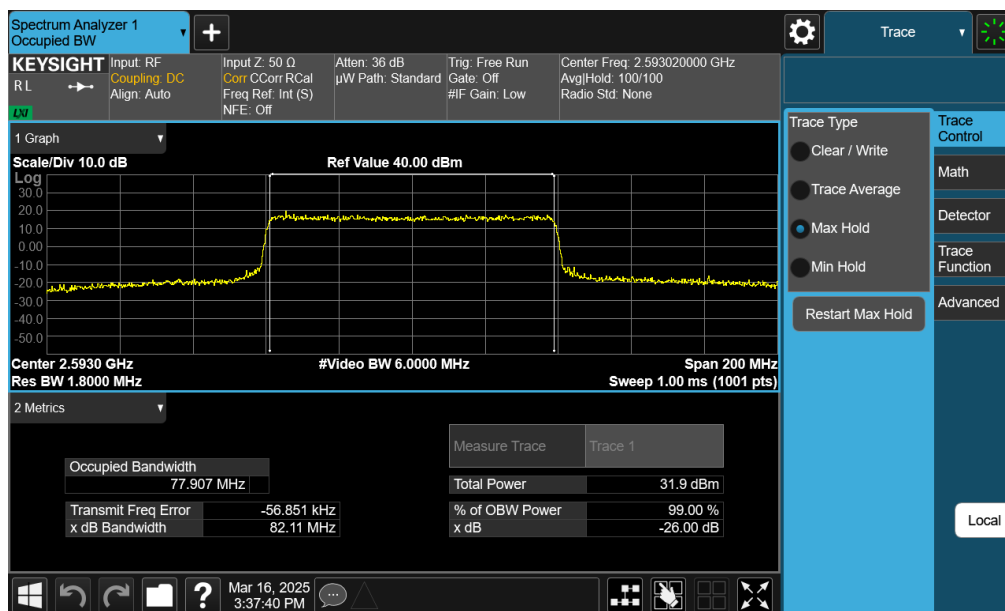
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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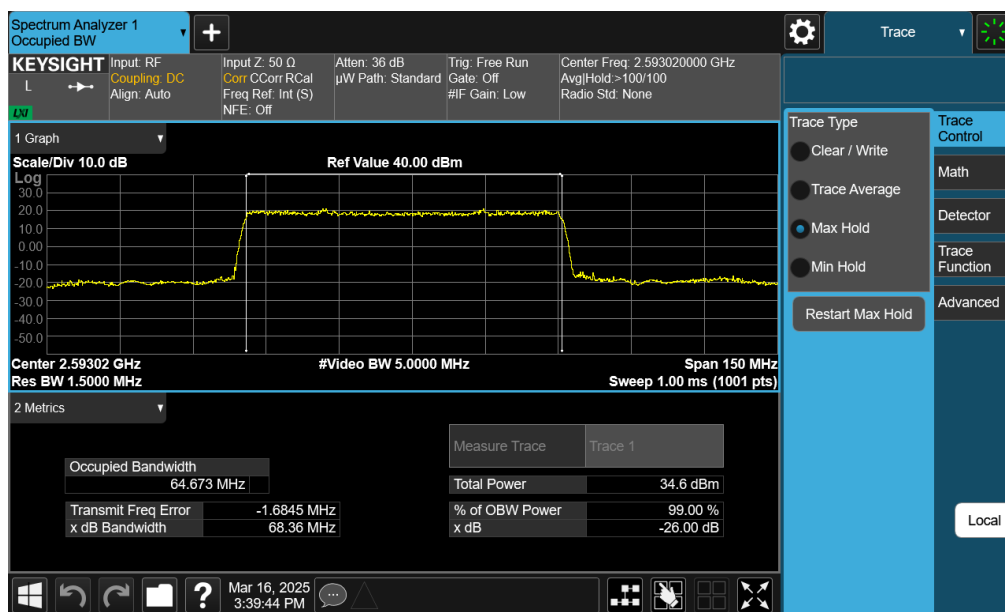
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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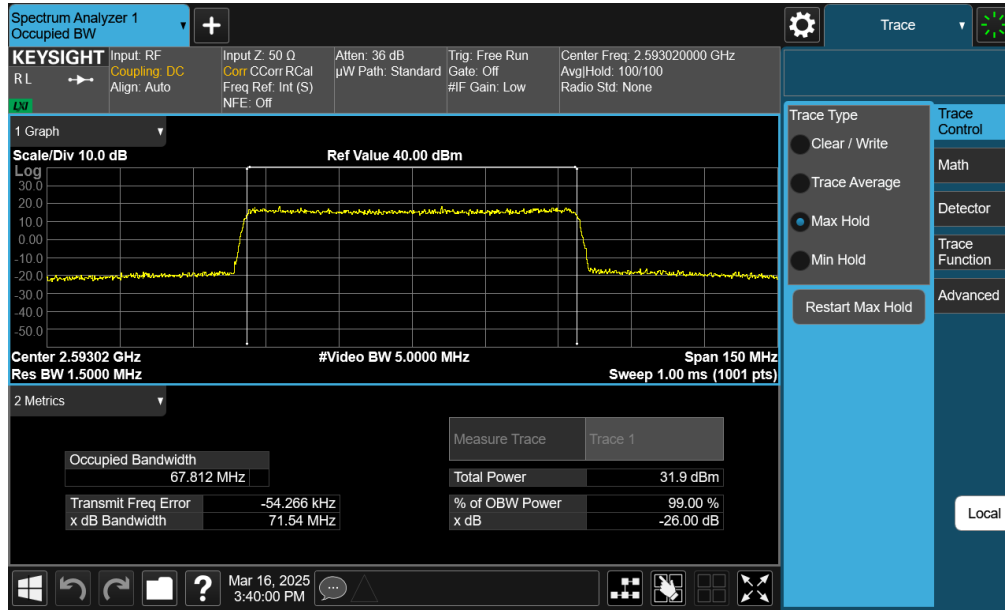


Plot 7-25. Occupied Bandwidth Plot (NR Band n41 PC2 – 80MHz 16-QAM – Full RB – Default – Ant1)

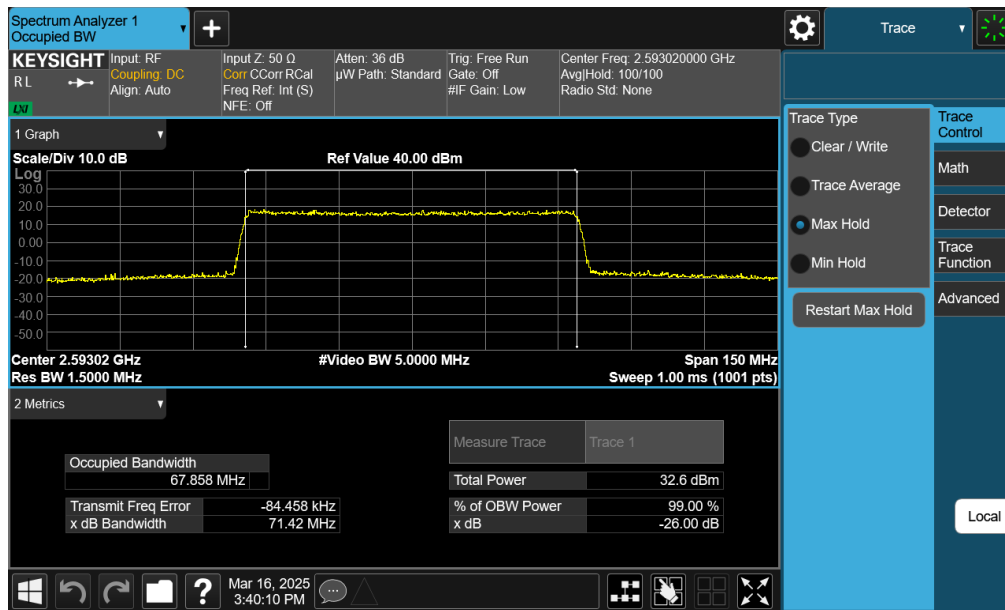


Plot 7-26. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz $\pi/2$ BPSK – Full RB – Default – Ant1)

FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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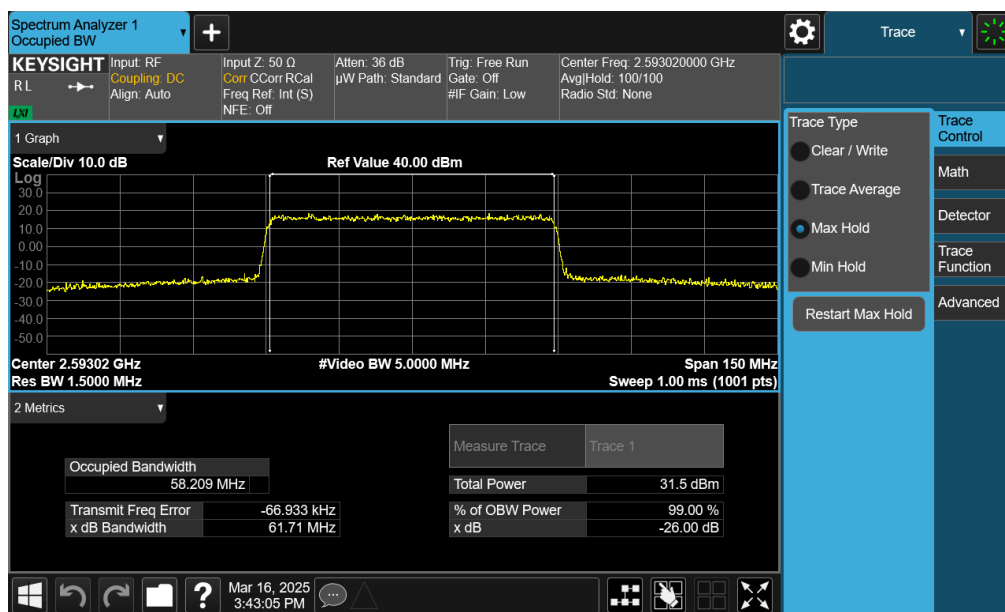
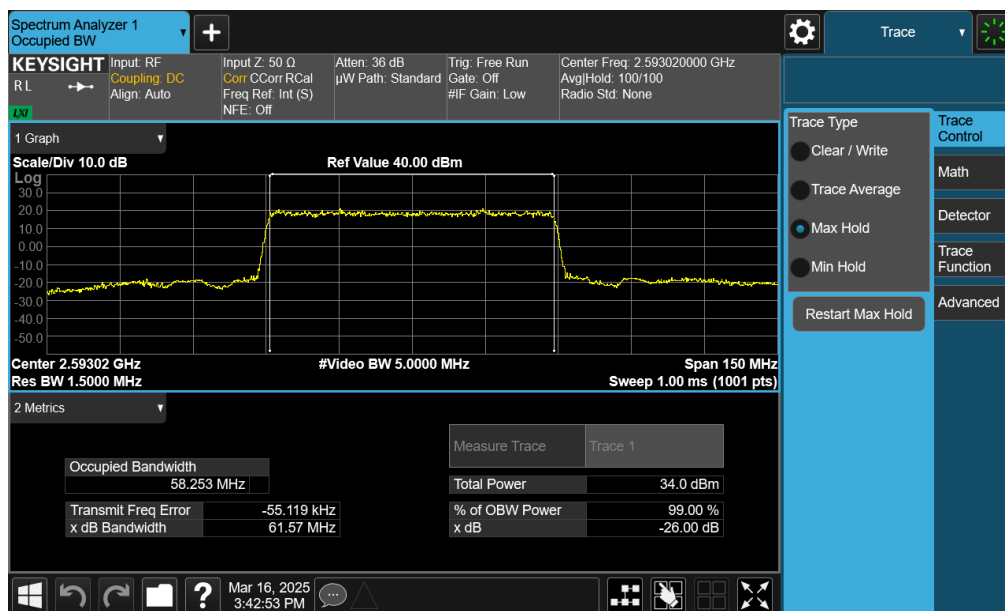


Plot 7-27. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz QPSK – Full RB – Default – Ant1)

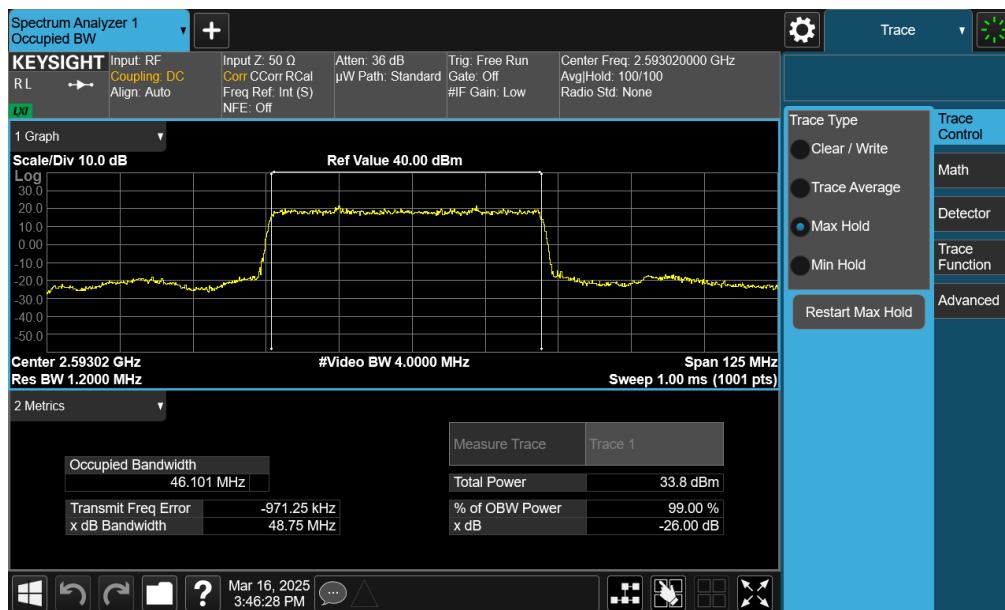
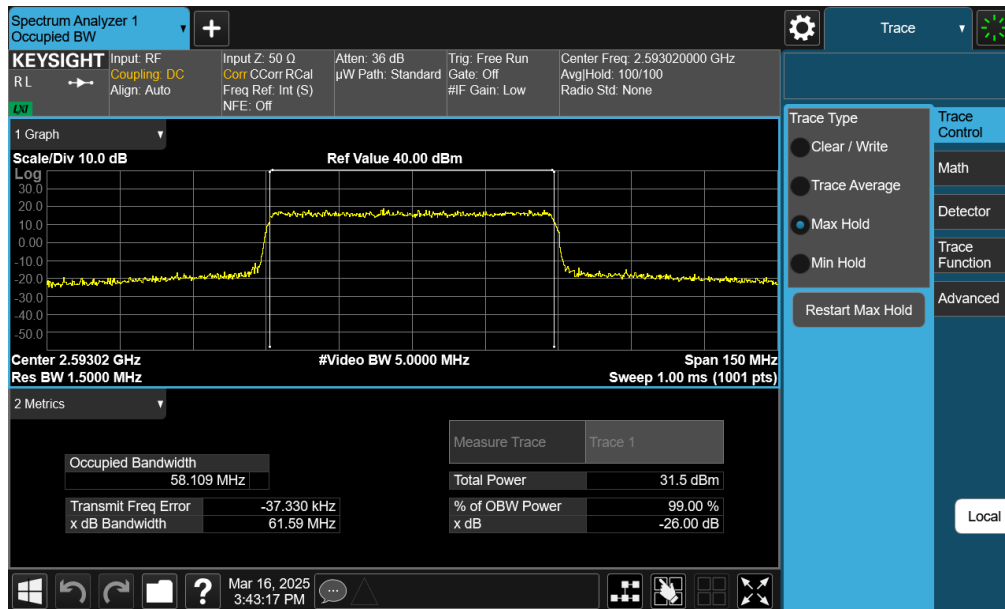


Plot 7-28. Occupied Bandwidth Plot (NR Band n41 PC2 – 70MHz 16-QAM – Full RB – Default – Ant1)

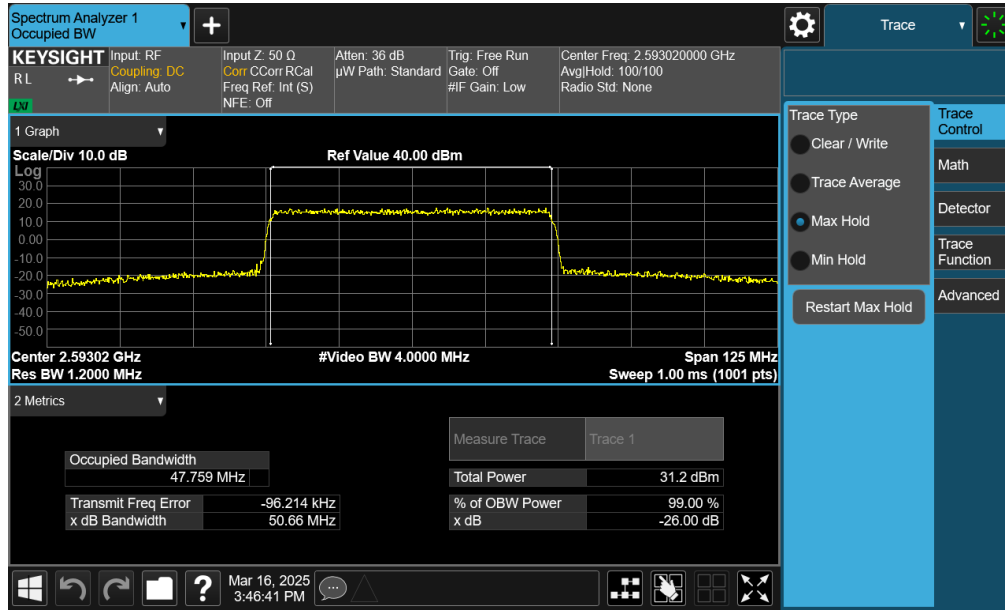
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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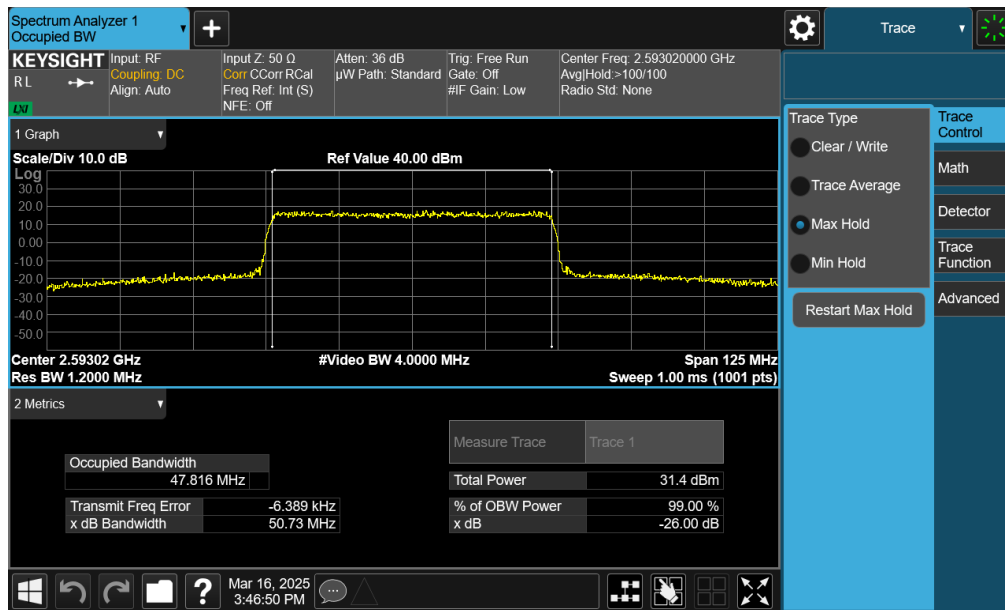
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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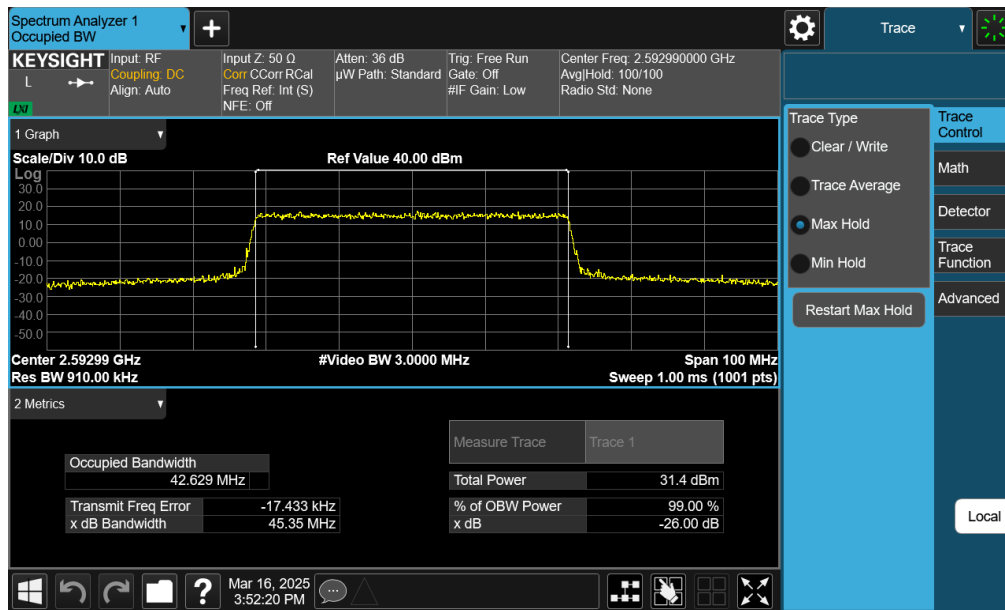
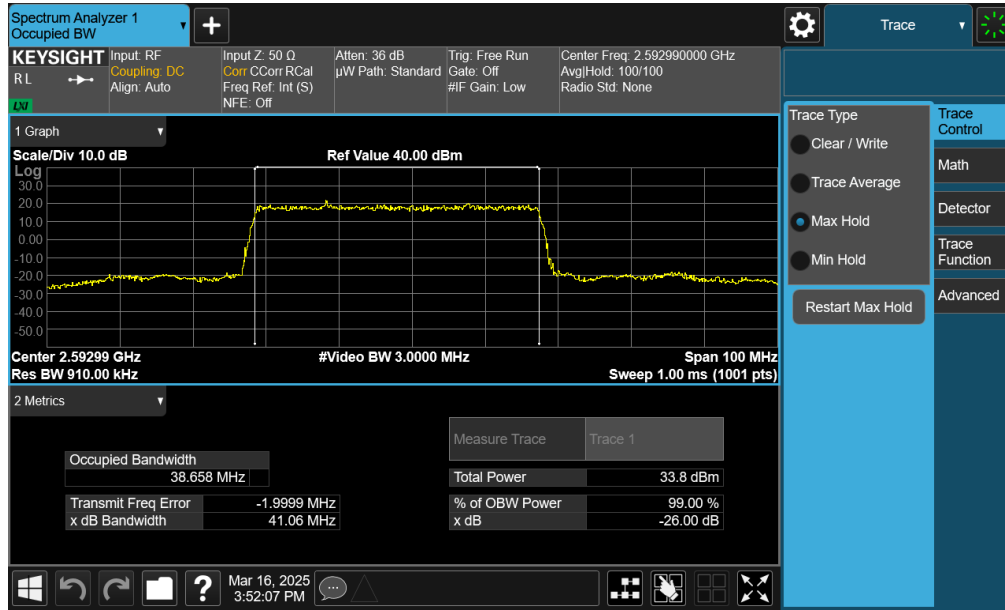


Plot 7-33. Occupied Bandwidth Plot (NR Band n41 PC2 – 50MHz QPSK – Full RB – Default – Ant1)

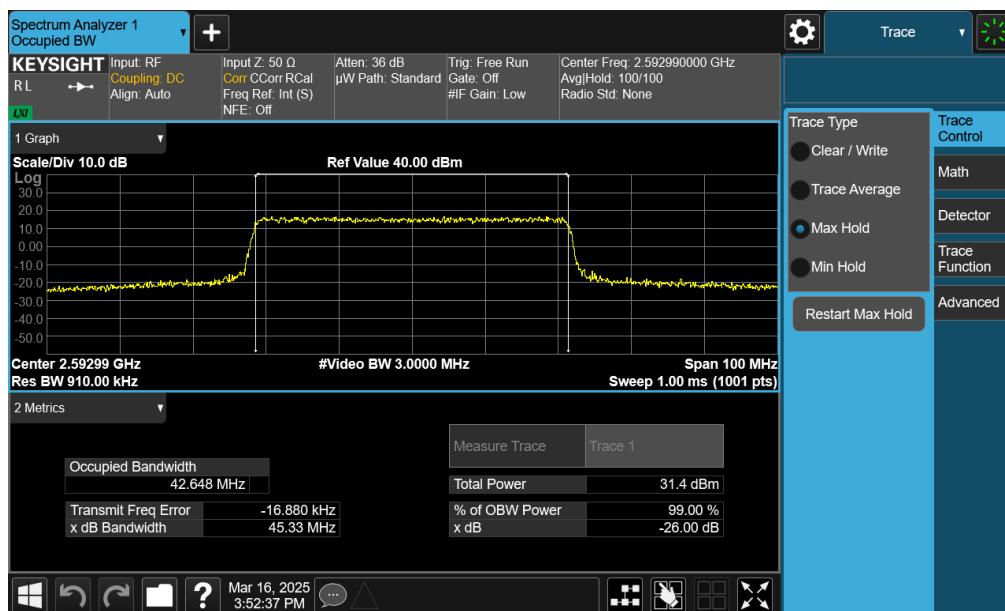


Plot 7-34. Occupied Bandwidth Plot (NR Band n41 PC2 – 50MHz 16-QAM – Full RB – Default – Ant1)

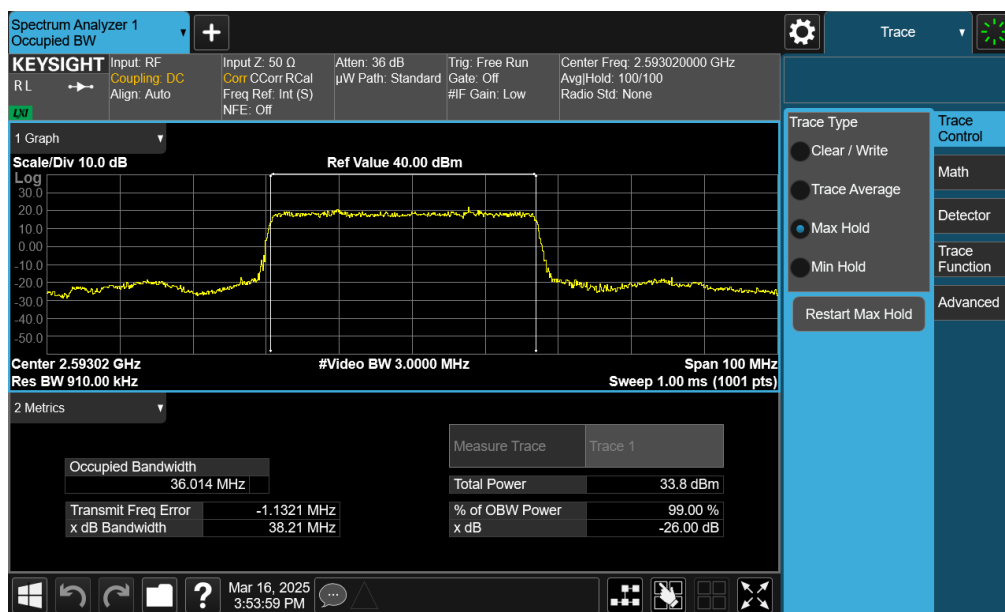
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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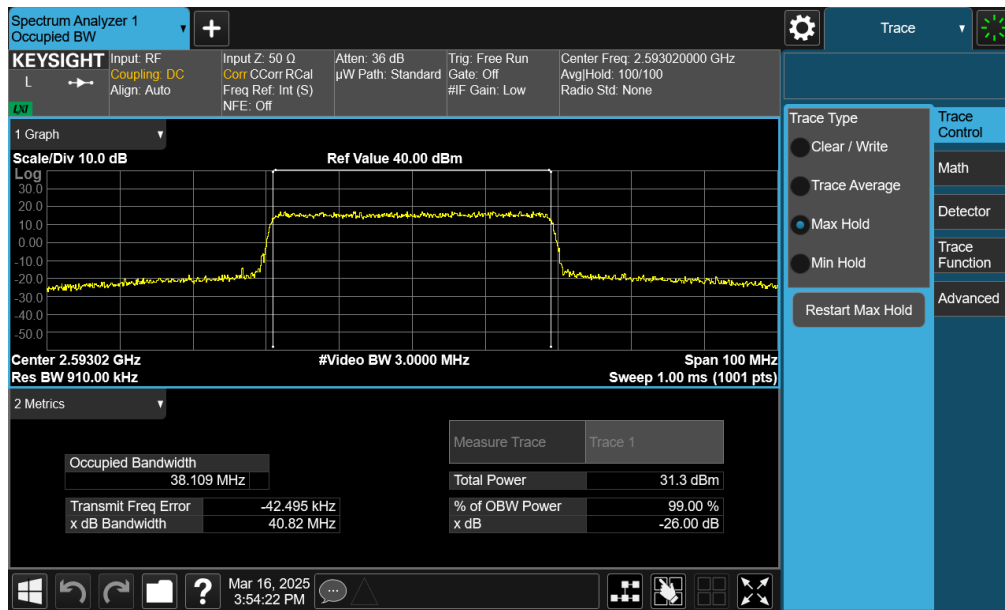
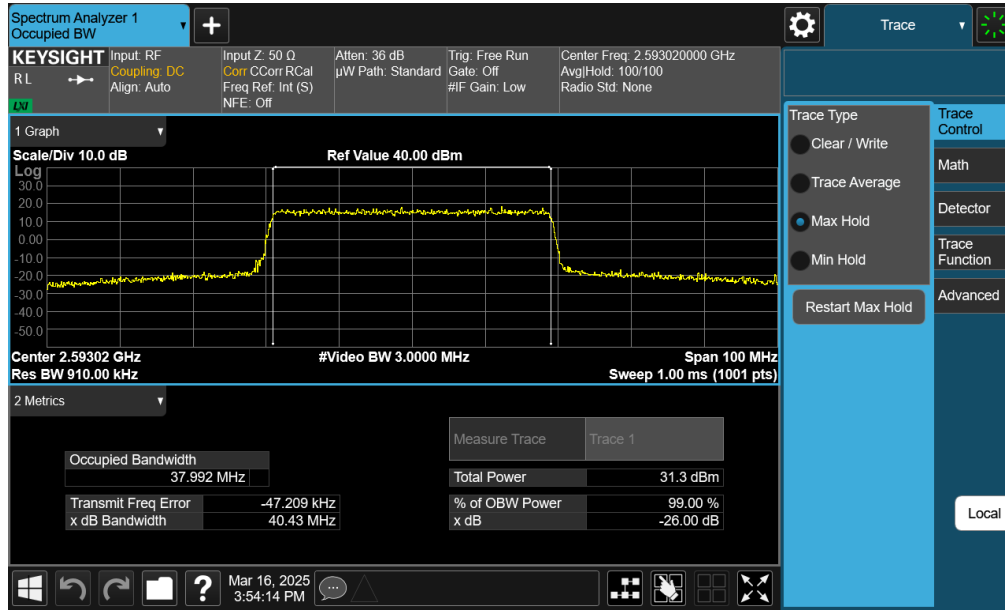


Plot 7-37. Occupied Bandwidth Plot (NR Band n41 PC2 – 45MHz 16-QAM – Full RB – Default – Ant1)

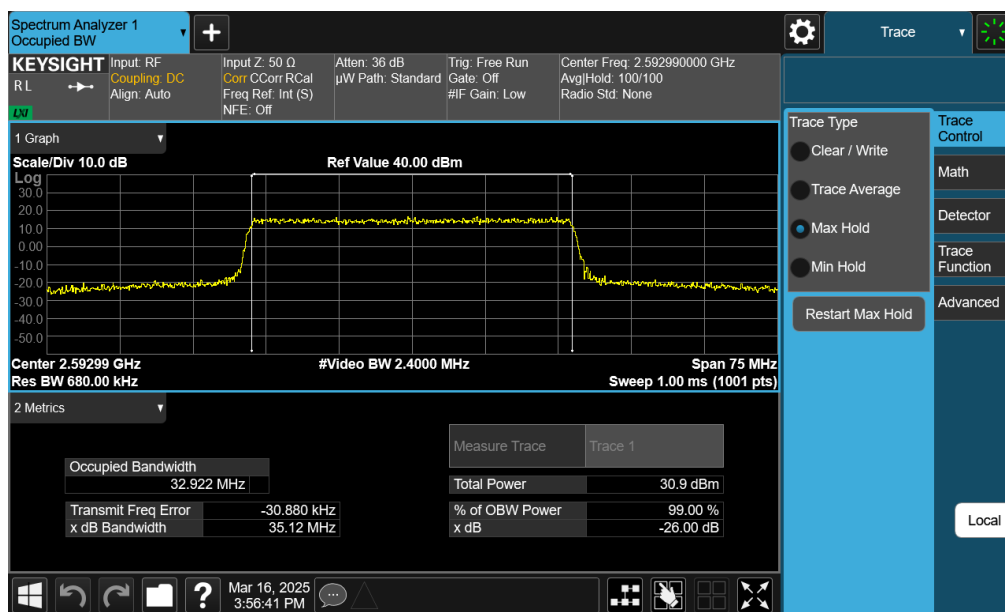
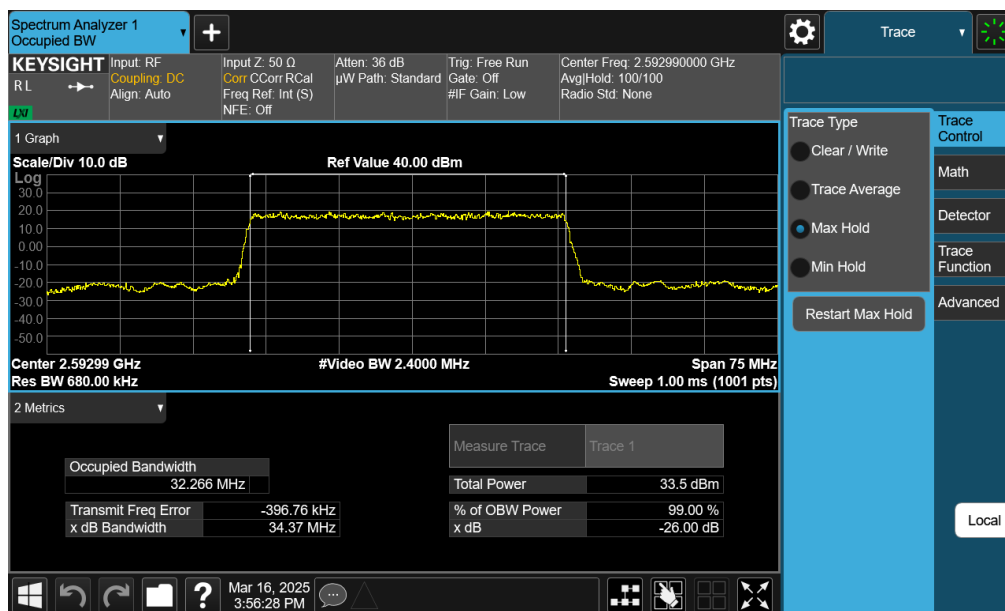


Plot 7-38. Occupied Bandwidth Plot (NR Band n41 PC2 – 40MHz $\pi/2$ BPSK – Full RB – Default – Ant1)

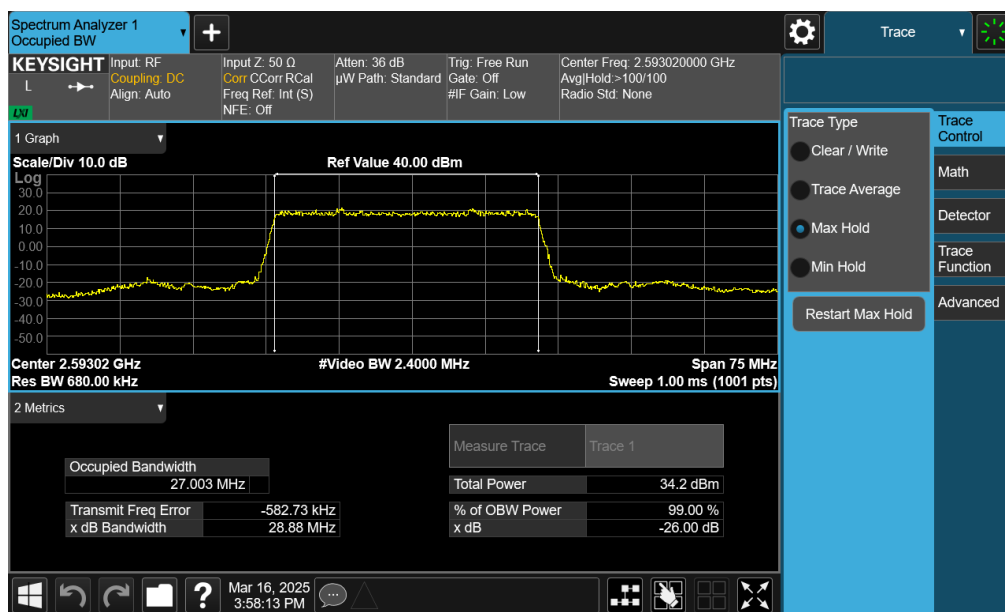
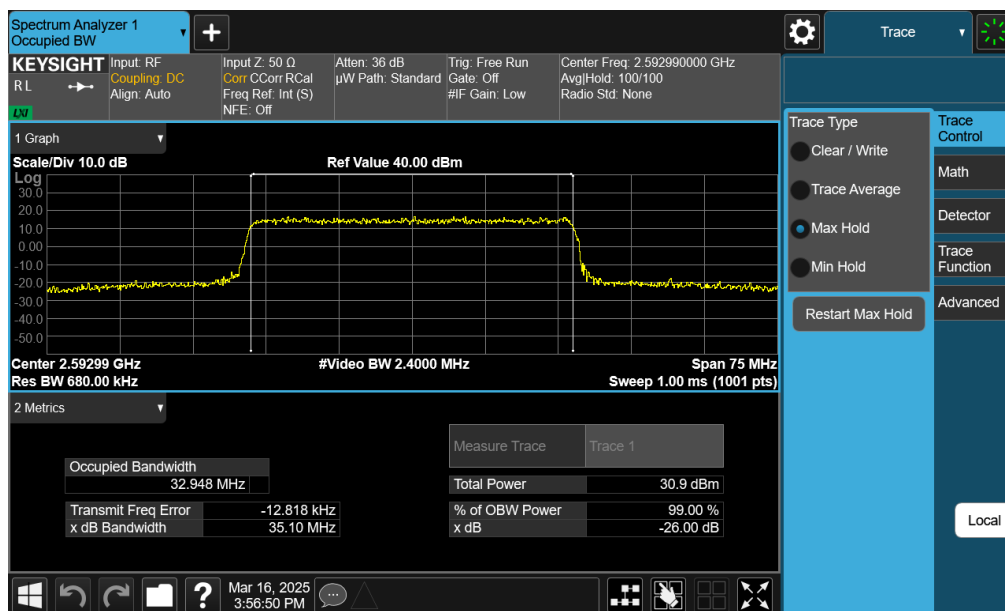
FCC ID: A3LSMF966B	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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