ELEMENT MATERIALS TECHNOLOGY,
Columbia MD
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:
9/2/2025 - 10/10/2025
Test Report Issue Date:
11/18/2025
Test Site/Location:
Element Lab., Columbia, MD, USA
Test Report Serial No.:
1M2508250079-08.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
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part:	27
Test Procedure(s):	ANSI C63.26-2015, KDB 648474 D03 v01r04

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

ACCREDITED
CERT #2041.01

TEST REPORT REVISION HISTORY

Rev. No.	Report S/N	Description	Issue Date
-	1M2508250079-08.A3L	Initial Release	11/18/2025

TABLE OF CONTENTS

MEASUREMENT REPORT
FCC Part 27

Antenna-1								
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	ERP		EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	
LTE Band 12/17	10 MHz	QPSK	704.0 - 711.0	0.106	20.27	0.174	22.42	8M99G7D
		16QAM	704.0 - 711.0	0.085	19.32	0.140	21.47	9M01W7D
	5 MHz	QPSK	701.5 - 713.5	0.110	20.42	0.181	22.57	4M55G7D
		16QAM	701.5 - 713.5	0.087	19.42	0.143	21.57	4M57W7D
	3 MHz	QPSK	700.5 - 714.5	0.112	20.47	0.183	22.62	2M74G7D
		16QAM	700.5 - 714.5	0.088	19.47	0.145	21.62	2M74W7D
	1.4 MHz	QPSK	699.7 - 715.3	0.107	20.28	0.175	22.43	1M11G7D
		16QAM	699.7 - 715.3	0.083	19.18	0.106	20.25	1M12W7D
LTE Band 13	10 MHz	QPSK	782.0	0.078	18.90	0.127	21.05	9M06G7D
		16QAM	782.0	0.065	18.11	0.106	20.26	9M05W7D
	5 MHz	QPSK	779.5 - 784.5	0.086	19.34	0.141	21.49	4M54G7D
		16QAM	779.5 - 784.5	0.069	18.40	0.114	20.55	4M54W7D

Overview Table – LTE Antenna 1

Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
WCDMA1700	N/A	Spread Spectrum	1712.4 - 1752.6	0.257	24.10	4M18F9W
LTE Band 66/4	20 MHz	QPSK	1720.0 - 1770.0	0.277	24.42	18M0G7D
		16QAM	1720.0 - 1770.0	0.229	23.59	18M1W7D
	15 MHz	QPSK	1717.5 - 1772.5	0.273	24.36	13M5G7D
		16QAM	1717.5 - 1772.5	0.237	23.75	13M6W7D
	10 MHz	QPSK	1715.0 - 1775.0	0.270	24.32	9M04G7D
		16QAM	1715.0 - 1775.0	0.233	23.67	9M03W7D
	5 MHz	QPSK	1712.5 - 1777.5	0.279	24.45	4M53G7D
		16QAM	1712.5 - 1777.5	0.240	23.80	4M55W7D
	3 MHz	QPSK	1711.5 - 1778.5	0.278	24.44	2M72G7D
		16QAM	1711.5 - 1778.5	0.229	23.59	2M72W7D
	1.4 MHz	QPSK	1710.7 - 1779.3	0.261	24.17	1M11G7D
		16QAM	1710.7 - 1779.3	0.234	23.69	1M12W7D

Overview Table – LTE Antenna 1

Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n66	40 MHz	π/2 BPSK	1730.0 - 1760.0	0.273	24.36	38M7G7D
		QPSK	1730.0 - 1760.0	0.271	24.33	38M8G7D
		16QAM	1730.0 - 1760.0	0.212	23.26	38M7W7D
	30 MHz	π/2 BPSK	1725.0 - 1765.0	0.278	24.43	28M8G7D
		QPSK	1725.0 - 1765.0	0.275	24.39	28M8G7D
		16QAM	1725.0 - 1765.0	0.215	23.33	28M8W7D
	25 MHz	π/2 BPSK	1722.5 - 1767.5	0.276	24.41	23M1W7D
		QPSK	1722.5 - 1767.5	0.277	24.42	23M9W7D
		16QAM	1722.5 - 1767.5	0.215	23.32	23M9W7D
	20 MHz	π/2 BPSK	1720.0 - 1770.0	0.269	24.29	18M0G7D
		QPSK	1720.0 - 1770.0	0.279	24.46	19M0G7D
		16QAM	1720.0 - 1770.0	0.213	23.28	19M1W7D
	15 MHz	π/2 BPSK	1717.5 - 1772.5	0.276	24.40	13M5G7D
		QPSK	1717.5 - 1772.5	0.276	24.40	14M2G7D
		16QAM	1717.5 - 1772.5	0.213	23.27	14M2W7D
	10 MHz	π/2 BPSK	1715.0 - 1775.0	0.275	24.39	9M01G7D
		QPSK	1715.0 - 1775.0	0.273	24.35	9M35G7D
		16QAM	1715.0 - 1775.0	0.214	23.30	9M36W7D
	5 MHz	π/2 BPSK	1712.5 - 1777.5	0.271	24.32	4M53G7D
		QPSK	1712.5 - 1777.5	0.274	24.38	4M53G7D
		16QAM	1712.5 - 1777.5	0.208	23.18	4M53W7D

Overview Table – NR Antenna 1

Antenna-2								
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	ERP		EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	
LTE Band 12/17	10 MHz	QPSK	704.0 - 711.0	0.050	16.97	0.082	19.12	9M04G7D
		16QAM	704.0 - 711.0	0.041	16.14	0.068	18.29	9M03W7D
	5 MHz	QPSK	701.5 - 713.5	0.053	17.26	0.087	19.41	4M54G7D
		16QAM	701.5 - 713.5	0.041	16.16	0.068	18.31	4M53W7D
	3 MHz	QPSK	700.5 - 714.5	0.051	17.07	0.084	19.22	2M73G7D
		16QAM	700.5 - 714.5	0.043	16.35	0.071	18.50	2M73W7D
	1.4 MHz	QPSK	699.7 - 715.3	0.050	17.01	0.082	19.16	1M11G7D
		16QAM	699.7 - 715.3	0.041	16.14	0.067	18.29	1M11W7D
LTE Band 13	10 MHz	QPSK	782.0	0.047	16.77	0.078	18.92	9M04G7D
		16QAM	782.0	0.040	15.98	0.065	18.13	9M04W7D
	5 MHz	QPSK	779.5 - 784.5	0.053	17.24	0.087	19.39	4M55G7D
		16QAM	779.5 - 784.5	0.044	16.44	0.072	18.59	4M55W7D

Overview Table – LTE Antenna 2

Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
LTE Band 66/4	20 MHz	QPSK	1720.0 - 1770.0	0.146	21.64	18M1G7D
		16QAM	1720.0 - 1770.0	0.117	20.69	18M0W7D
	15 MHz	QPSK	1717.5 - 1772.5	0.151	21.79	13M6G7D
		16QAM	1717.5 - 1772.5	0.108	20.33	13M5W7D
	10 MHz	QPSK	1715.0 - 1775.0	0.145	21.62	9M03G7D
		16QAM	1715.0 - 1775.0	0.108	20.33	9M06W7D
	5 MHz	QPSK	1712.5 - 1777.5	0.153	21.85	4M55G7D
		16QAM	1712.5 - 1777.5	0.123	20.89	4M53W7D
	3 MHz	QPSK	1711.5 - 1778.5	0.152	21.82	2M72G7D
		16QAM	1711.5 - 1778.5	0.120	20.80	2M72W7D
	1.4 MHz	QPSK	1710.7 - 1779.3	0.140	21.45	1M11G7D
		16QAM	1710.7 - 1779.3	0.113	20.54	1M10W7D

Overview Table – LTE Antenna 2

Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n66	40 MHz	π/2 BPSK	1730.0 - 1760.0	0.148	21.69	38M8G7D
		QPSK	1730.0 - 1760.0	0.145	21.60	39M0G7D
		16QAM	1730.0 - 1760.0	0.111	20.45	38M9W7D
	30 MHz	π/2 BPSK	1725.0 - 1765.0	0.145	21.62	28M8G7D
		QPSK	1725.0 - 1765.0	0.144	21.59	28M8G7D
		16QAM	1725.0 - 1765.0	0.112	20.48	28M9W7D
	25 MHz	π/2 BPSK	1722.5 - 1767.5	0.143	21.54	23M1W7D
		QPSK	1722.5 - 1767.5	0.136	21.34	23M9W7D
		16QAM	1722.5 - 1767.5	0.104	20.16	23M9W7D
	20 MHz	π/2 BPSK	1720.0 - 1770.0	0.141	21.50	18M0G7D
		QPSK	1720.0 - 1770.0	0.133	21.23	19M0G7D
		16QAM	1720.0 - 1770.0	0.101	20.03	19M1W7D
	15 MHz	π/2 BPSK	1717.5 - 1772.5	0.144	21.57	13M5G7D
		QPSK	1717.5 - 1772.5	0.140	21.47	14M2G7D
		16QAM	1717.5 - 1772.5	0.103	20.11	14M2W7D
	10 MHz	π/2 BPSK	1715.0 - 1775.0	0.144	21.59	9M02G7D
		QPSK	1715.0 - 1775.0	0.138	21.38	9M37G7D
		16QAM	1715.0 - 1775.0	0.103	20.13	9M35W7D
	5 MHz	π/2 BPSK	1712.5 - 1777.5	0.153	21.84	4M52G7D
		QPSK	1712.5 - 1777.5	0.145	21.62	4M54G7D
		16QAM	1712.5 - 1777.5	0.111	20.43	4M54W7D

Overview Table – NR Antenna

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 (2451B) test laboratory with the site description on file with ISED.

- 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).

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMS948B**. 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, RSS-130 & RSS-139.

The authorization for this device utilize data referencing from FCC ID: A3LSMS948U as permitted per KDB 484596 D01 v03. Data referencing data test results are included in Appendix A of this report.

Test Device Serial No.: 0532M, 0545M, 0533M, 0502M, 0789M, 0490M, 0267M

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

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-N2400 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

Band	Ant1	Ant2
WCDMA1700	Ant A	-
LTE Band 66/4	Ant A	Ant F
LTE Band B12/17, B13	Ant A	Ant E
NR Band n66	Ant A	Ant F

Table 2-1. Antenna Naming Convention

2.4 Software and Firmware

Testing was performed on device(s) using software/firmware version S948USQU0AYIB installed on the EUT.

2.5 EMI Suppression Device(s)/Modifications

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

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:

$$P_{d\ [dBm]} = P_{g\ [dBm]} - \text{cable loss}_{\ [dB]} + \text{antenna gain}_{\ [dBd/dBi]};$$

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 $P_{g\ [dBm]}$ – 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:

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

And

$$EIRP_{[dBm]} = E_{[dB\mu V/m]} + 20\log D - 104.8;$$ where D 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.

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 (±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

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
-	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
-	AP2-002	EMC Cable and Switch System	2/25/2025	Annual	2/25/2026	AP2-002
-	ETS-001	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-001
-	ETS-002	EMC Cable and Switch System	12/11/2024	Annual	12/11/2025	ETS-002
-	LTx1	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx1
-	LTx2	Licensed Transmitter Cable Set	2/25/2025	Annual	2/25/2026	LTx2
Agilent	N9038A	MXE EMI Receiver	9/16/2024	Annual	11/22/2025	MY51210133
Anritsu	MT8000A	Radio Communication Test Station	6/4/2025	Annual	6/4/2026	6261914237
Anritsu	MT8000A	Radio Communication Test Station	3/11/2025	Annual	3/11/2026	6272337439
Anritsu	MT8000A	Radio Communication Test Station	11/12/2024	Annual	11/12/2025	6272337405
Anritsu	MT8821C	Radio Communication Analyze	9/15/2025	Annual	9/15/2026	6201381794
Anritsu	MT8821C	Radio Communication Analyze	3/14/2025	Annual	3/14/2026	6262044715
EMCO	3115	Horn Antenna (1-18GHz)	9/6/2024	Biennial	9/6/2026	9704-5182
Espec	ESX-2CA	Environmental Chamber	11/20/2024	Biennial	11/20/2026	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	6/4/2025	Biennial	6/4/2027	125518
ETS-Lindgren	3116C	DRG Horn Antenna	4/22/2025	Biennial	4/22/2027	218893
Keysight Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	9/15/2025	Annual	9/15/2026	MY49430494
Keysight Technologies	N9030B	PXA Signal Analyzer, Multi-touch	9/19/2024	Annual	11/22/2025	MY57141001
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	6/6/2025	Annual	6/6/2026	MY52350166
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	10/16/2024	Annual	11/22/2025	100342
Keysight Technologies	N9020A	MXA Signal Analyzer	6/4/2025	Annual	6/4/2026	MY54500644
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	5/12/2025	Annual	5/12/2026	103200
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	11/25/2024	Annual	11/25/2025	100348
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	3/25/2025	Annual	3/25/2026	101716
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	6/18/2025	Annual	6/18/2026	140148
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107
Sunol Sciences	DRH-118	Horn (Small)	2/13/2024	Biennial	2/13/2026	A042511

Table 5-1. Test Equipment Calibration Table

Notes:

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

2. Equipment with a calibration date of “N/A” shown in this list was not used to make direct calibrated measurements.

Component	Serial Number
Sucoflex 106A Cable	501992
MegaPhase Cable N29-N1N1-324	20335606 001
Rohde & Schwarz SF Unit	102133
MiniCircuits Cable CBL-2FT-SMSM+	77745
MegaPhase Cable 10511-1	15034701 001
MiniCircuits Switch RC 2SPDT-A18	11703270 041
Sucoflex 104 Cable	320259/4
Sucoflex 104 Cable	321999/4
Sucoflex 104 Cable	321995/4

Table 5-2. AP1 EMC Cable and Switch System Components

Component	Serial Number
Flex Cable	P2A-0001
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-003
Chamber Passthrough	CP4/X12
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-003
Micro-Coax Utiflex Cable UFB142A-0-0629-5GU200 MFR 6463	232069-001
Rohde & Schwarz TS-PR8 Pre-Amplifier	102335
Rohde & Schwarz OSP130 Open Switch and Control Unit	101181

Table 5-3. AP2-001 EMC Cable and Switch System Components

Component	Serial Number
MiniCircuits Cable CBL-0.5M-SMNM+	47261
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-001
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-002
MegaPhase (CAGE 1GVT4) Cable NC29-N1N1-324	19046401 001
Megaphase (CAGE 1GVT4) Flex Cable 10511-1	15044701-006
Micro-Coax Utiflex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-002
Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-004
Micro-Coax Utiflex Cable UFB142A-0-0629-5GU200 MFR 64639	232069-001
Rohde & Schwarz SF Unit	102138
Rohde & Schwarz OSP130 Open Switch and Control Unit	101181
Micro-Coax Utilfex Cable UFB311A-Q-3346-50U50U MFR 64639	231978-003
· Micro-Coax Utilfex Cable UFB311A-1-0629-50U50U MFR 64639	231986-003
Rohde & Schwarz TS-PR8 Pre-Amplifier	102335

Table 5-4. AP2-002 EMC Cable and Switch System Components

Component	Serial Number
Pasternack Cable RG214/U	111815
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001

Table 5-5. AP2-002 EMC Cable and Switch System Components

Component	Serial Number
MegaPhase (CAGE 1GVT4) Cable GR18-N5N5-24	14042714 001
MegaPhase (CAGE 1GVT4) Cable NC29-N1N1-324	20502201 001
Rohde & Schwarz SF Unit	102134
Minicircuits Cable CBL=0.5M-NMNM+	15440

Table 5-6. ETS-002 EMC Cable and Switch System Components

Component	Serial Number
Keysight Directional Coupler, Model: 87300C	55300398
Mini Circuits 6dB Attenuator, BW S6 2W263+	2105
MegaPhase Cable, Model: TM26-S1S1-30	20233001 004

Table 5-7. LTx1 Licensed Transmitter Cable Set

Component	Serial Number
Keysight Directional Coupler, Model: 87300C	55300391
Mini Circuits 6dB Attenuator, Model: BW S6 2W263+	1845
MegaPhase Cable, Model: TM26-S1S1-30	20233001 006

Table 5-8. LTx2 Licensed Transmitter Cable Set

6.0 SAMPLE EMISSION DESIGNATORS

Emission Designator

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

7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.

FCC ID: A3LSMS948B

FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)

Mode(s): WCDMA/LTE/NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference	Test Lab Location	Data Reference
CONDUCTED	Transmitter Conducted Output Power*	2.1046(a), 2.1046(c)	N/A	PASS	Section 7.2	MD	Yes
	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3	MD	Yes
	Conducted Band Edge / Spurious Emissions (LTE Band 13)	2.1051, 27.53(c), 27.53(f)	Undesirable emissions must meet the limits detailed in sections 27.53(c) and 27.53(f)	PASS	Sections 7.4, 7.5	MD	Yes
	Conducted Band Edge / Spurious Emissions (LTE Band 12, 17)	2.1051, 27.53(g)	≥ 43 + 10 log (P[Watts]) dB of attenuation below transmitter power	PASS	Sections 7.4, 7.5	MD	Yes
	Conducted Band Edge / Spurious Emissions (WCDMA AWS; LTE Band 4, 66; NR Band n66)	2.1051, 27.53(h)	≥ 43 + 10 log (P[Watts]) dB of attenuation below transmitter power	PASS	Sections 7.4, 7.5	MD	Yes
	Peak-to-Average Ratio (WCDMA AWS; LTE Band 4, 66; NR Band n66)	27.50(d)(5)	≤ 13 dB	PASS	Section 7.6	MD	Yes
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block	PASS	Section 7.9	MD	Yes
RADIATED	Effective Radiated Power (LTE Band 13)	27.50(b)(10)	≤ 3 Watts max. ERP	PASS	Section 7.7	MD	Yes
	Effective Radiated Power (LTE Band 12, 17)	27.50(c)(10)	≤ 3 Watts max. ERP	PASS	Section 7.7	MD	Yes
	Equivalent Isotropic Radiated Power (WCDMA AWS; LTE Band 4, 66; NR Band n66)	27.50(d)(4)	≤ 1 Watt max. EIRP	PASS	Section 7.7	MD	Yes
	Radiated Spurious Emissions (LTE Band 13)	2.1053, 27.53(c), 27.53(f)	Undesirable emissions must meet the limits detailed in sections 27.53(c) and 27.53(f)	PASS	Section 7.8	MD	Yes
	Radiated Spurious Emissions (LTE Band 12, 17)	2.1053, 27.53(g)	≥ 43 + 10 log (P[Watts]) dB of attenuation below transmitter power	PASS	Section 7.8	MD	Yes
	Radiated Spurious Emissions (WCDMA AWS; LTE Band 4, 66; NR Band n66)	2.1053, 27.53(h)(1)	≥ 43 + 10 log (P[Watts]) dB of attenuation below transmitter power	PASS	Section 7.8	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**.

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 shown in Section 7.0 were 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) 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 EMC Software Tool v2.3.0 .
5) Data was referenced from model SM-S948U for the certification of SM-S948B/DS. See Section 9.0 for spotcheck results.

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.

Test Procedure Used

ANSI C63.26-2015 – Section 5.2

Test Settings

1. Detector = RMS
2. Trace mode = trace average for continuous emissions, max hold for pulse emissions
3. Sweep time = auto couple
4. The trace was allowed to stabilize
5. 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.

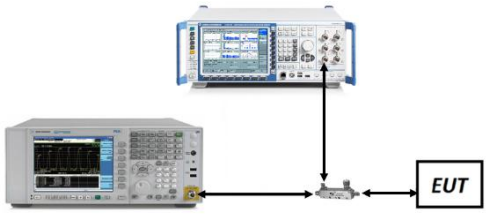


Figure 7-1. Test Instrument & Measurement Setup

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.

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	132072	1720.0	1 / 99	23.92
		132322	1745.0	1 / 50	24.16
		132572	1770.0	1 / 0	23.92
	16-QAM	132072	1720.0	1 / 99	23.29
		132322	1745.0	1 / 50	23.56
		132572	1770.0	1 / 0	23.26
15 MHz	QPSK	132047	1717.5	1 / 74	23.96
		132322	1745.0	1 / 0	24.31
		132597	1772.5	1 / 0	24.10
	16-QAM	132047	1717.5	1 / 74	22.97
		132322	1745.0	1 / 0	23.19
		132597	1772.5	1 / 0	23.25
10 MHz	QPSK	132022	1715.0	1 / 25	23.97
		132322	1745.0	1 / 25	24.13
		132622	1775.0	1 / 0	23.92
	16-QAM	132022	1715.0	1 / 25	22.88
		132322	1745.0	1 / 25	23.19
		132622	1775.0	1 / 0	23.09
5 MHz	QPSK	131997	1712.5	1 / 0	23.97
		132322	1745.0	1 / 24	24.36
		132647	1777.5	1 / 0	24.08
	16-QAM	131997	1712.5	1 / 0	23.23
		132322	1745.0	1 / 24	23.75
		132647	1777.5	1 / 0	23.50
3 MHz	QPSK	131987	1711.5	1 / 7	24.11
		132322	1745.0	1 / 7	24.34
		132657	1778.5	1 / 7	23.95
	16-QAM	131987	1711.5	1 / 7	23.32
		132322	1745.0	1 / 7	23.66
		132657	1778.5	1 / 7	23.37
1.4 MHz	QPSK	131979	1710.7	1 / 5	23.78
		132322	1745.0	1 / 0	23.96
		132665	1779.3	1 / 5	23.96
	16-QAM	131979	1710.7	1 / 5	23.10
		132322	1745.0	1 / 0	23.40
		132665	1779.3	1 / 5	23.41

Table 7-2. Max Conducted Power Test Results - LTE 66/4 - Ant2

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
40 MHz	π/2 BPSK	346000	1730.0	1 / 214	22.92
		349000	1745.0	1 / 108	23.28
		352000	1760.0	1 / 108	23.10
	QPSK	346000	1730.0	1 / 214	22.92
		349000	1745.0	1 / 108	23.33
		352000	1760.0	1 / 108	23.08
	16-QAM	346000	1730.0	1 / 214	21.75
		349000	1745.0	1 / 108	22.15
		352000	1760.0	1 / 108	21.93
30 MHz	π/2 BPSK	345000	1725.0	1 / 158	22.81
		349000	1745.0	1 / 80	23.10
		353000	1765.0	1 / 80	22.81
	QPSK	345000	1725.0	1 / 158	22.81
		349000	1745.0	1 / 80	23.14
		353000	1765.0	1 / 1	22.67
	16-QAM	345000	1725.0	1 / 80	21.72
		349000	1745.0	1 / 158	21.96
		353000	1765.0	1 / 158	21.65
25 MHz	π/2 BPSK	344500	1722.5	1 / 1	22.52
		349000	1745.0	1 / 66	22.95
		353500	1767.5	1 / 66	22.60
	QPSK	344500	1722.5	1 / 1	22.46
		349000	1745.0	1 / 66	22.93
		353500	1767.5	1 / 1	22.77
	16-QAM	344500	1722.5	1 / 1	21.33
		349000	1745.0	1 / 66	21.80
		353500	1767.5	1 / 1	21.56
20 MHz	π/2 BPSK	344000	1720.0	1 / 53	22.29
		349000	1745.0	1 / 53	22.91
		354000	1770.0	1 / 1	22.44
	QPSK	344000	1720.0	1 / 53	22.37
		349000	1745.0	1 / 53	22.82
		354000	1770.0	1 / 1	22.48
	16-QAM	344000	1720.0	1 / 104	21.20
		349000	1745.0	1 / 53	21.75
		354000	1770.0	1 / 1	21.18
15 MHz	π/2 BPSK	343500	1717.5	1 / 1	22.33
		349000	1745.0	1 / 77	22.98
		354500	1772.5	1 / 1	22.55
	QPSK	343500	1717.5	1 / 1	22.39
		349000	1745.0	1 / 1	23.06
		354500	1772.5	1 / 1	22.64
	16-QAM	343500	1717.5	1 / 1	21.28
		349000	1745.0	1 / 77	21.85
		354500	1772.5	1 / 39	21.28
10 MHz	π/2 BPSK	343000	1715.0	1 / 50	22.42
		349000	1745.0	1 / 50	23.00
		355000	1775.0	1 / 1	22.83
	QPSK	343000	1715.0	1 / 1	22.30
		349000	1745.0	1 / 50	22.97
		355000	1775.0	1 / 26	22.83
	16-QAM	343000	1715.0	1 / 50	21.21
		349000	1745.0	1 / 26	21.87
		355000	1775.0	1 / 50	21.73
5 MHz	π/2 BPSK	342500	1712.5	1 / 12	22.73
		349000	1745.0	1 / 12	23.25
		355500	1777.5	1 / 1	22.78
	QPSK	342500	1712.5	1 / 1	22.71
		349000	1745.0	1 / 12	23.21
		355500	1777.5	1 / 12	22.85
	16-QAM	342500	1712.5	1 / 1	21.60
		349000	1745.0	1 / 1	22.08
		355500	1777.5	1 / 12	21.83

Table 7-3. Max Conducted Power Test Results - NR n66 - Ant2

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 ≥ 3 x 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.

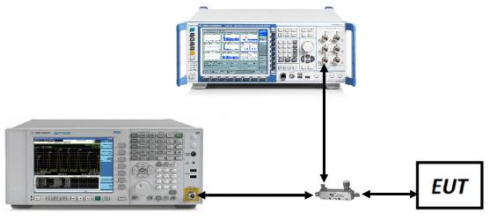


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

None.

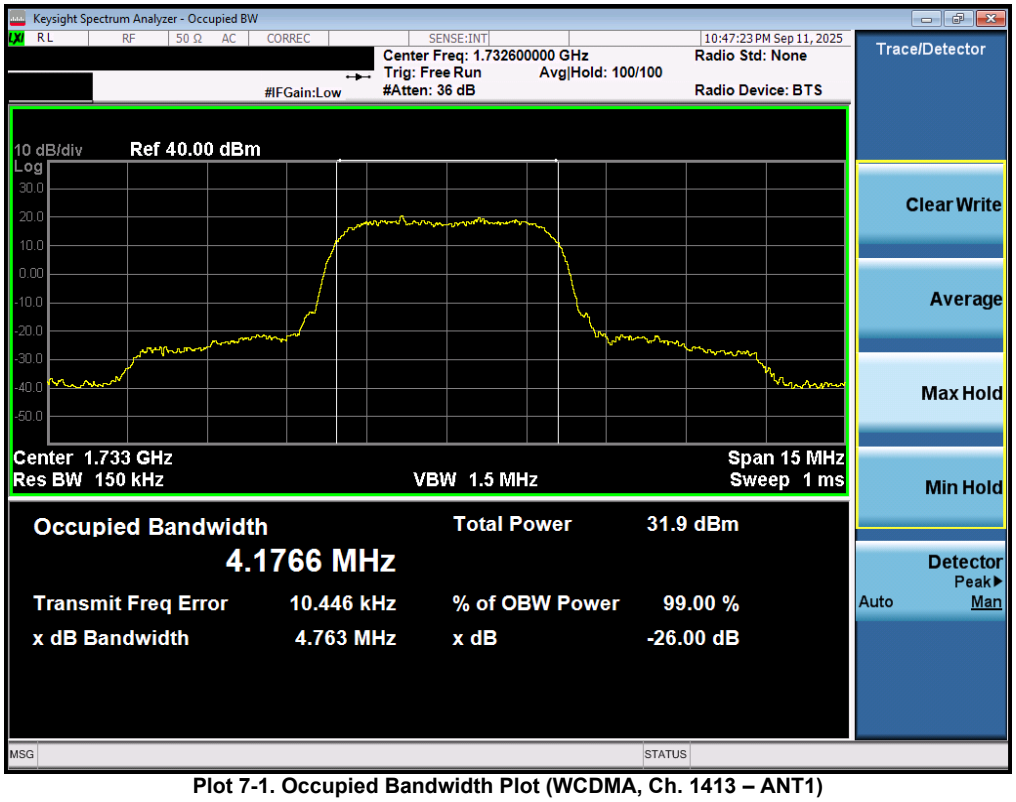
Mode	Bandwidth	Modulation	OBW [MHz]
WCDMA-AWS	5MHz	GMSK	4.18
LTE-B12/17	10MHz	QPSK	#N/A
		16QAM	9.01
	5MHz	QPSK	4.55
		16QAM	4.57
	3MHz	QPSK	2.74
		16QAM	2.74
	1.4MHz	QPSK	1.11
		16QAM	1.12
LTE-B13	10MHz	QPSK	9.06
		16QAM	9.05
	5MHz	QPSK	4.54
		16QAM	4.54
LTE-B66-4	20MHz	QPSK	18.05
		16QAM	18.05
	15MHz	QPSK	13.54
		16QAM	13.56
	10MHz	QPSK	9.04
		16QAM	9.03
	5MHz	QPSK	4.53
		16QAM	4.55
	3MHz	QPSK	2.72
		16QAM	2.72
	1.4MHz	QPSK	1.11
		16QAM	1.12

Table 7-4. Occupied Bandwidth Results – LTE - Ant1

Mode	Bandwidth	Modulation	OBW [MHz]
NR-n66	40MHz	π/2 BPSK	38.73
		QPSK	38.78
		16QAM	38.72
	30MHz	π/2 BPSK	28.76
		QPSK	28.81
		16QAM	28.80
	25MHz	π/2 BPSK	23.09
		QPSK	23.90
		16QAM	23.90
	20MHz	π/2 BPSK	18.00
		QPSK	19.02
		16QAM	19.10
	15MHz	π/2 BPSK	13.52
		QPSK	14.20
		16QAM	14.22
	10MHz	π/2 BPSK	9.01
		QPSK	9.35
		16QAM	9.36
	5MHz	π/2 BPSK	4.53
		QPSK	4.53
		16QAM	4.53

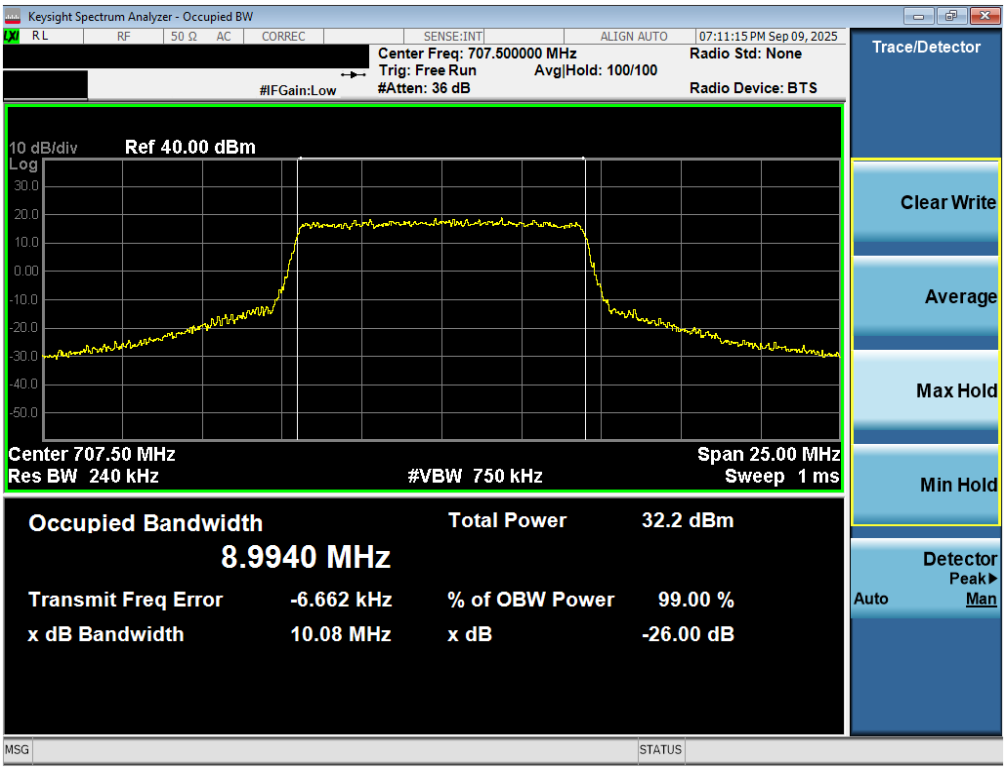
Table 7-5. Occupied Bandwidth Results – NR - Ant1

WCDMA AWS – ANT1

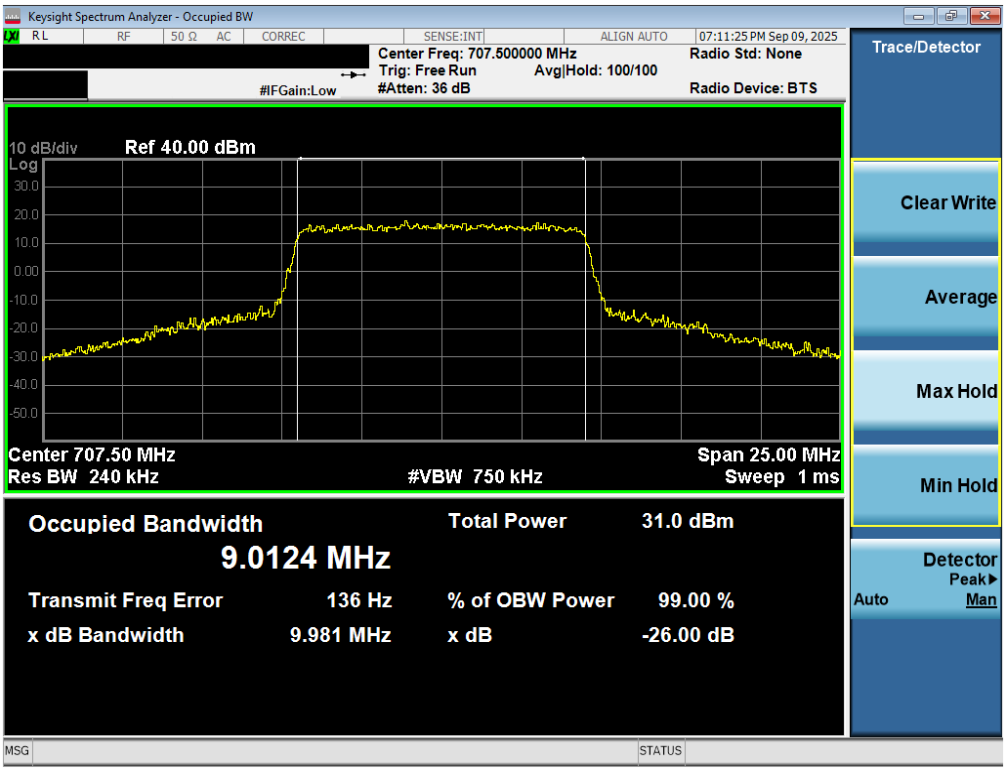


Plot 7-1. Occupied Bandwidth Plot (WCDMA, Ch. 1413 – ANT1)

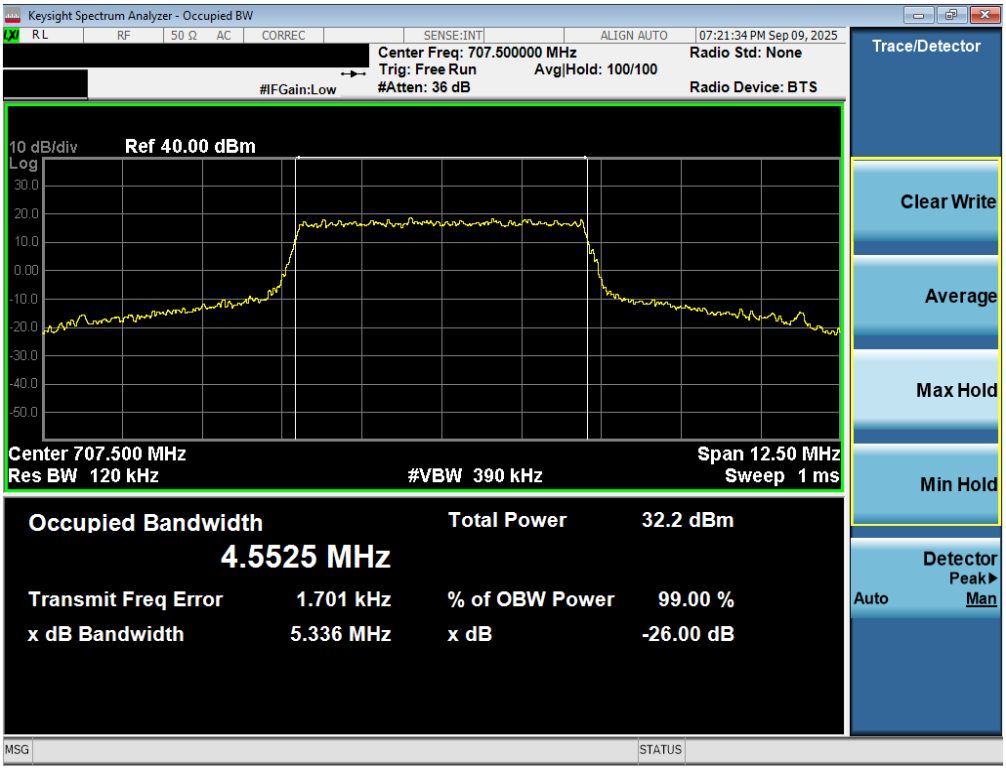
LTE Band 12/17 – ANT1



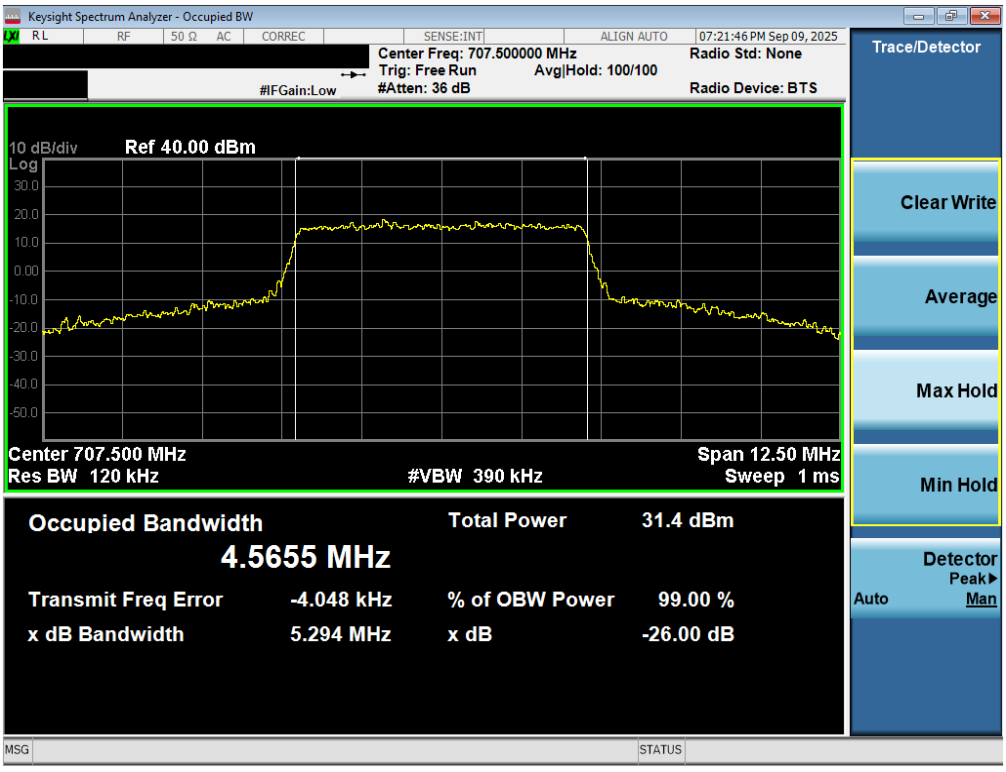
Plot 7-2. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz QPSK - Full RB – ANT1)



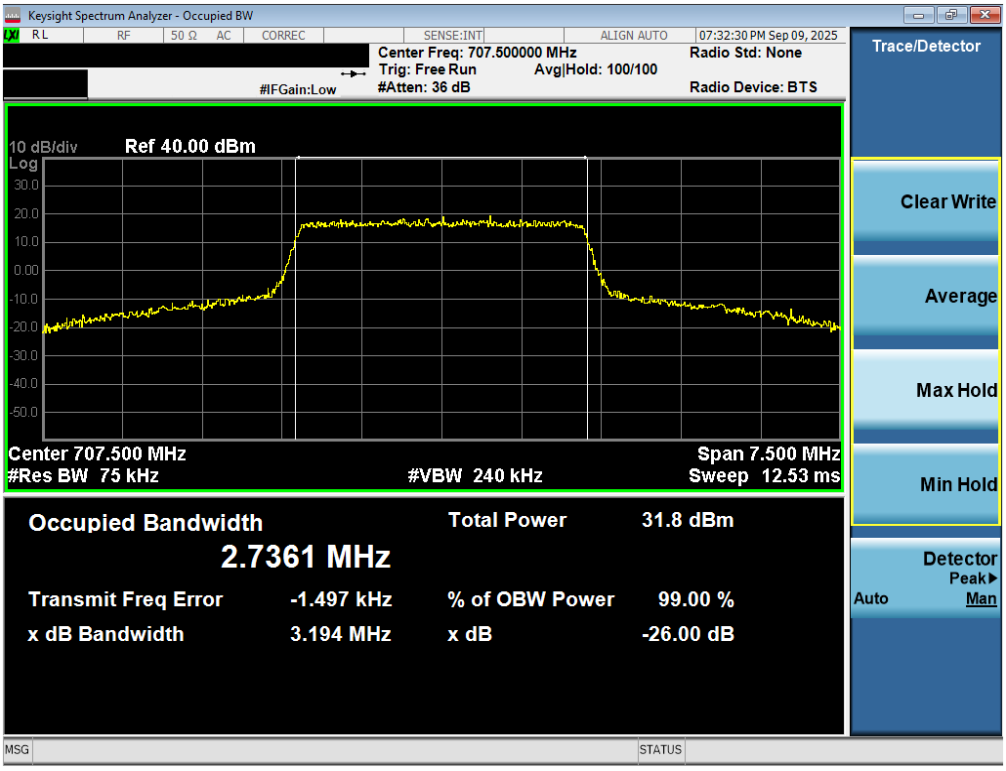
Plot 7-3. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz 16-QAM - Full RB – ANT1)



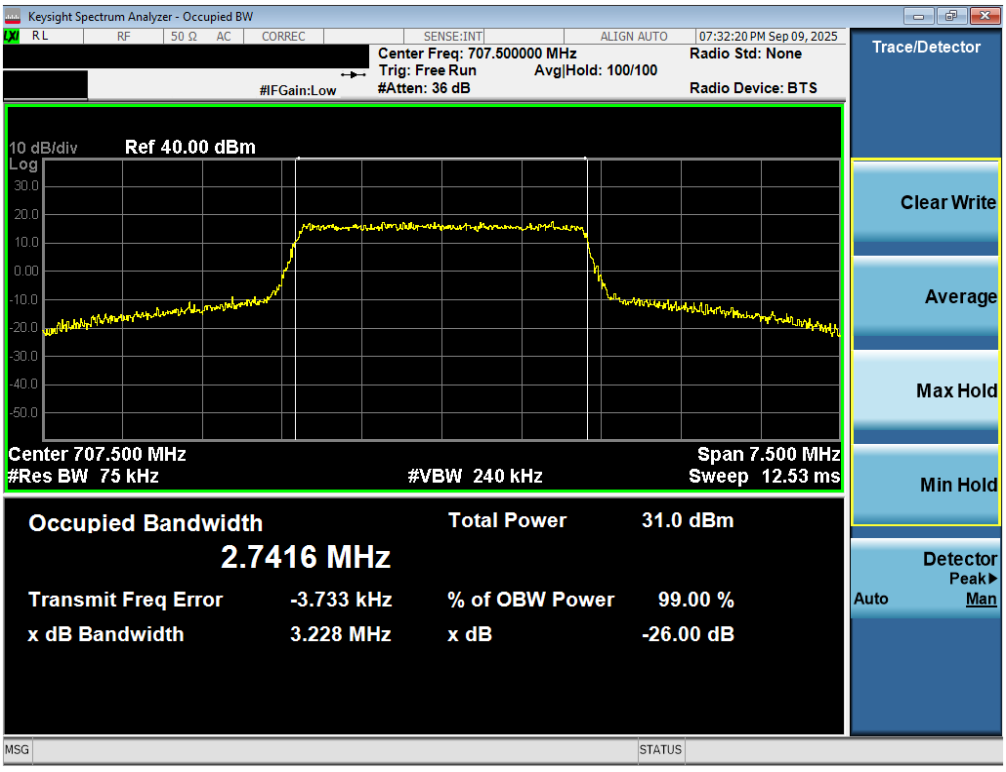
Plot 7-4. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz QPSK - Full RB – ANT1)



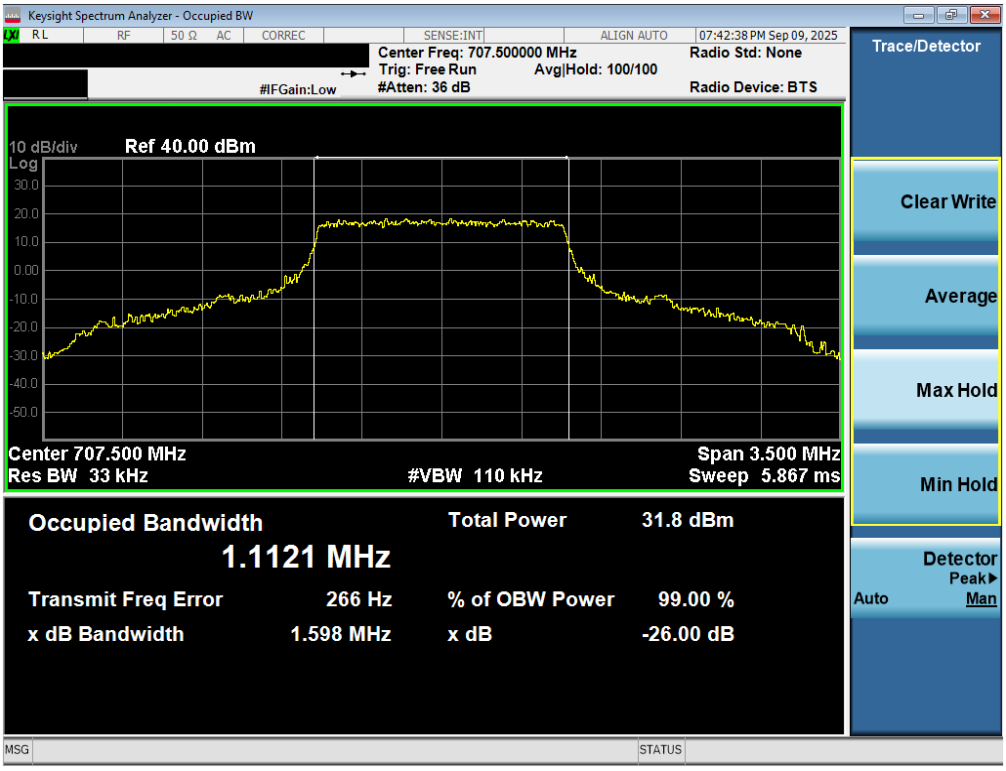
Plot 7-5. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz 16-QAM - Full RB – ANT1)



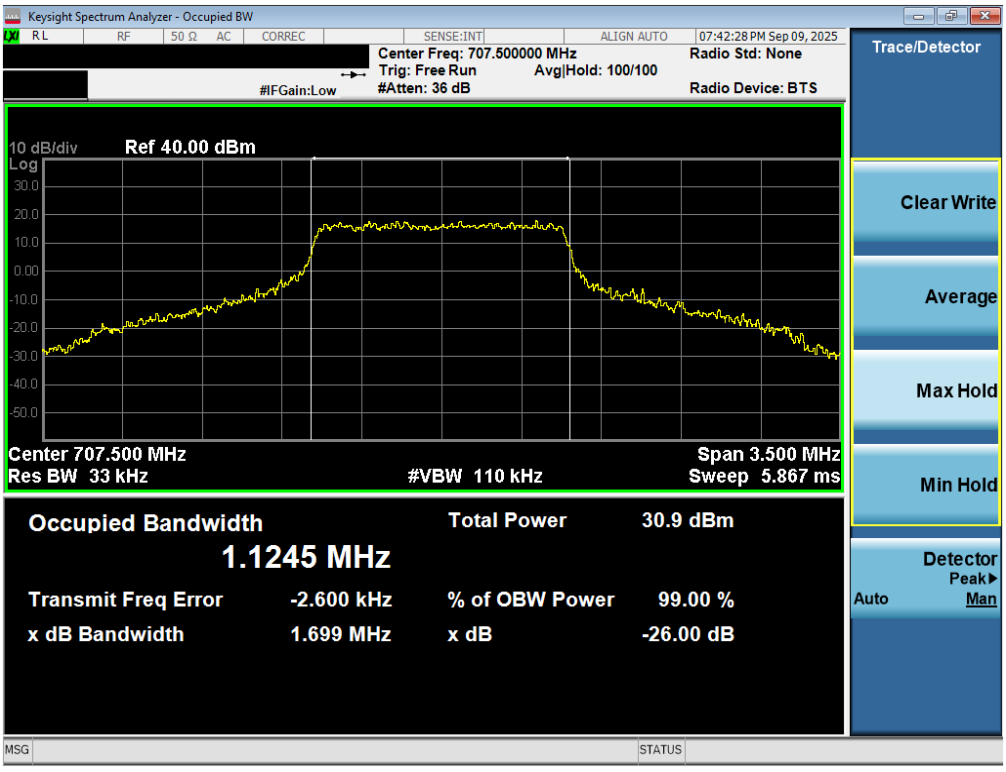
Plot 7-6. Occupied Bandwidth Plot (LTE Band 12/17 - 3MHz QPSK - Full RB – ANT1)



Plot 7-7. Occupied Bandwidth Plot (LTE Band 12/17 - 3MHz 16-QAM - Full RB – ANT1)

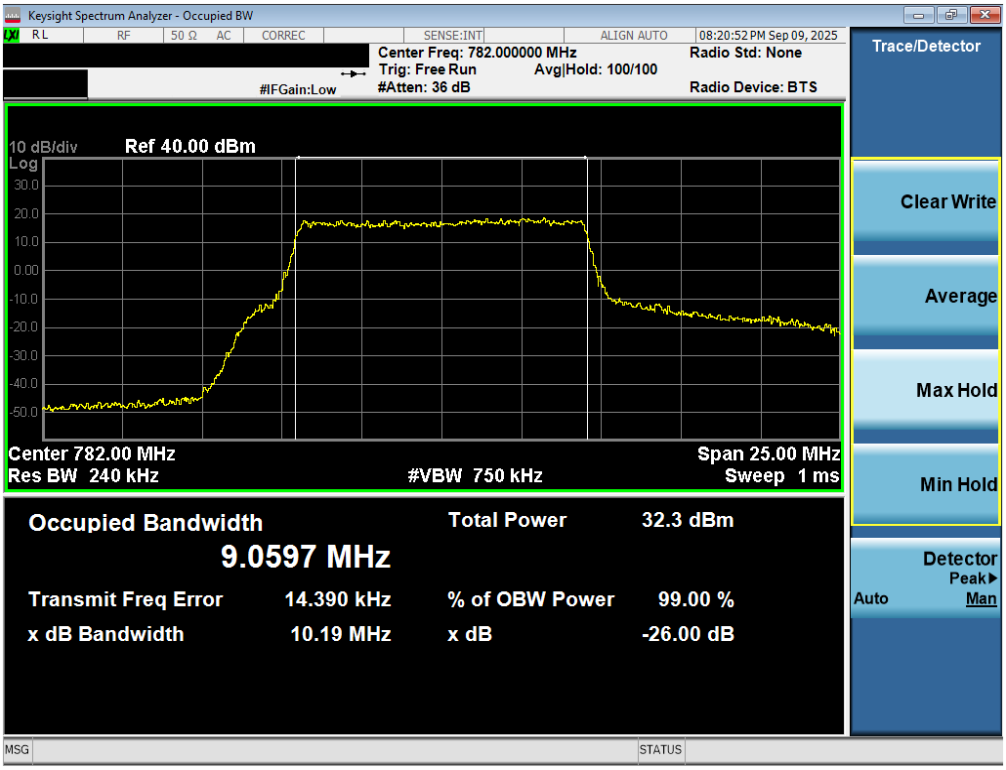


Plot 7-8. Occupied Bandwidth Plot (LTE Band 12/17 – 1.4MHz QPSK - Full RB – ANT1)

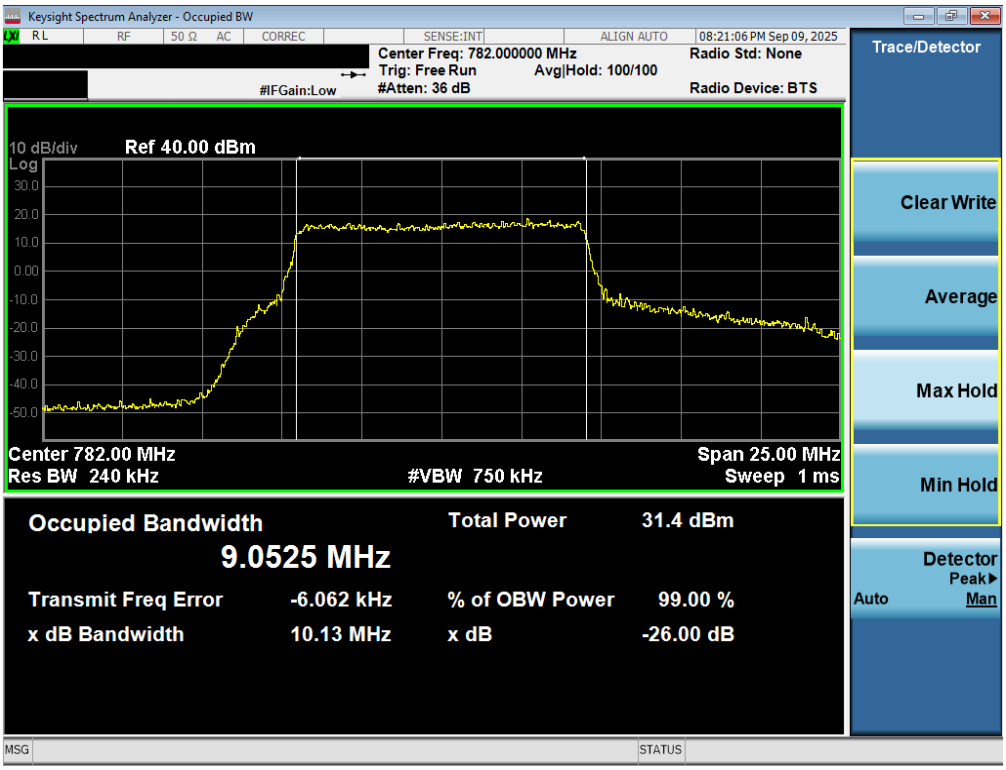


Plot 7-9. Occupied Bandwidth Plot (LTE Band 12/17 – 1.4MHz 16-QAM - Full RB – ANT1)

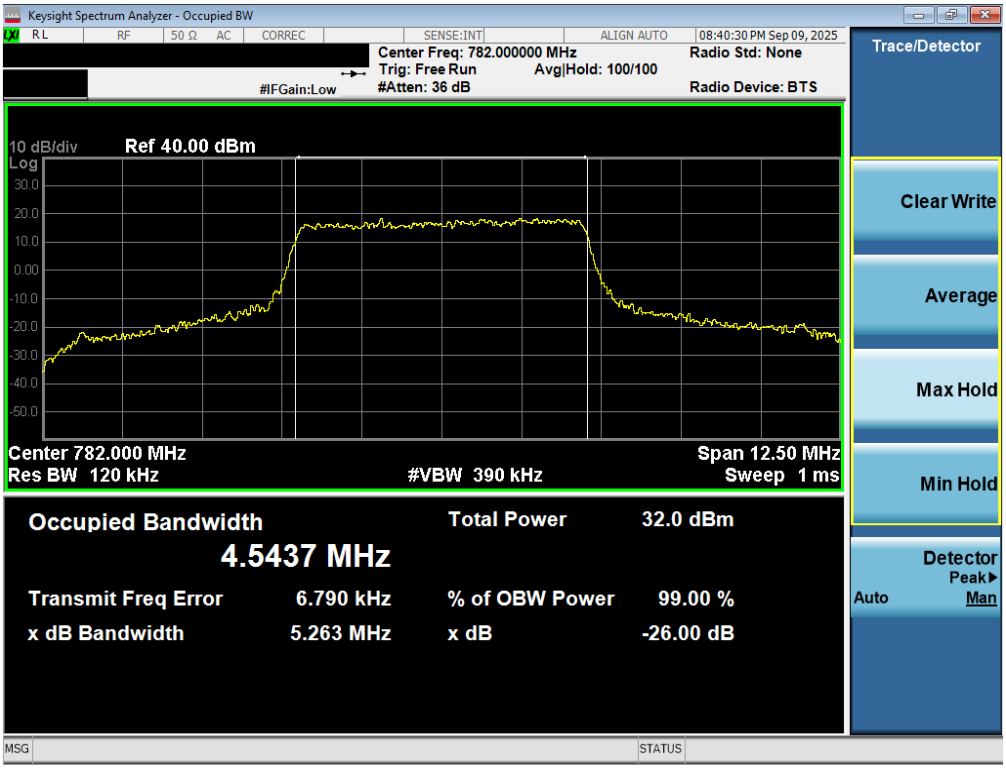
LTE Band 13 – ANT1



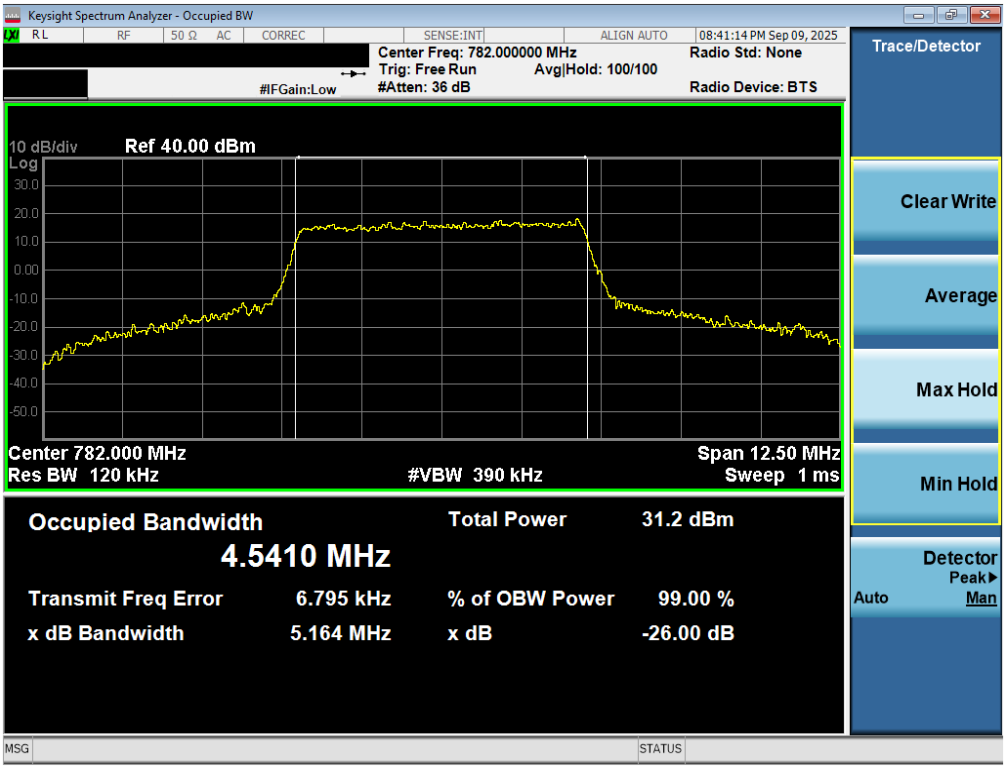
Plot 7-10. Occupied Bandwidth Plot (LTE Band 13 - 10MHz QPSK - Full RB – ANT1)



Plot 7-11. Occupied Bandwidth Plot (LTE Band 13 - 10MHz 16-QAM - Full RB – ANT1)

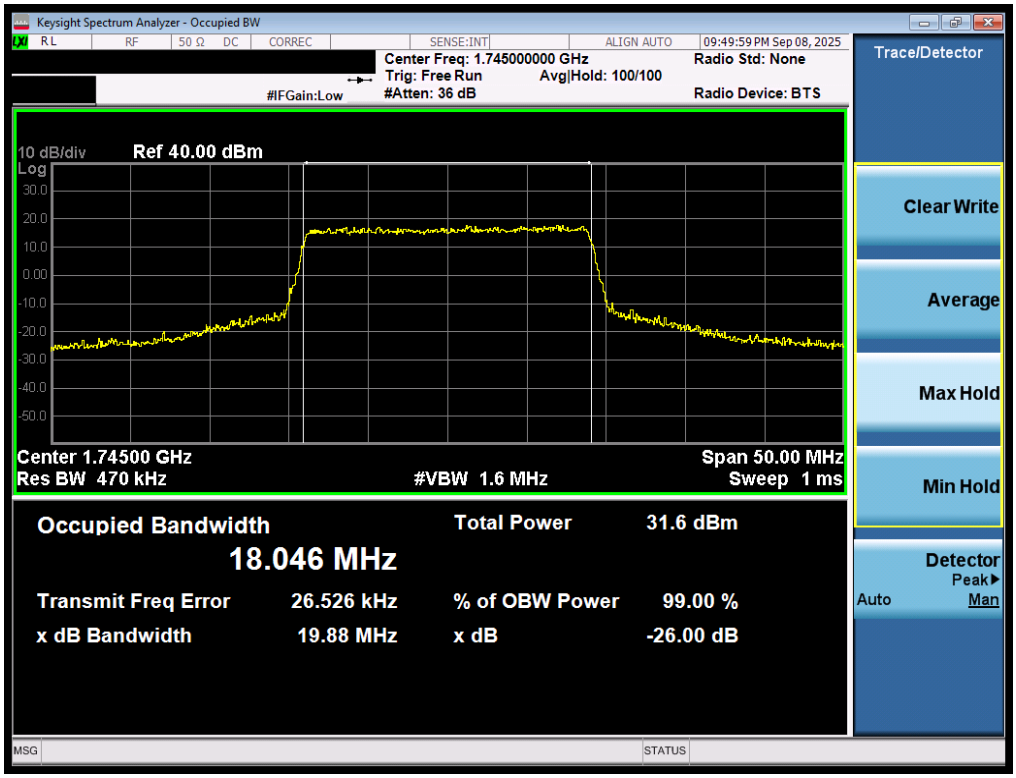


Plot 7-12. Occupied Bandwidth Plot (LTE Band 13 - 5MHz QPSK - Full RB – ANT1)

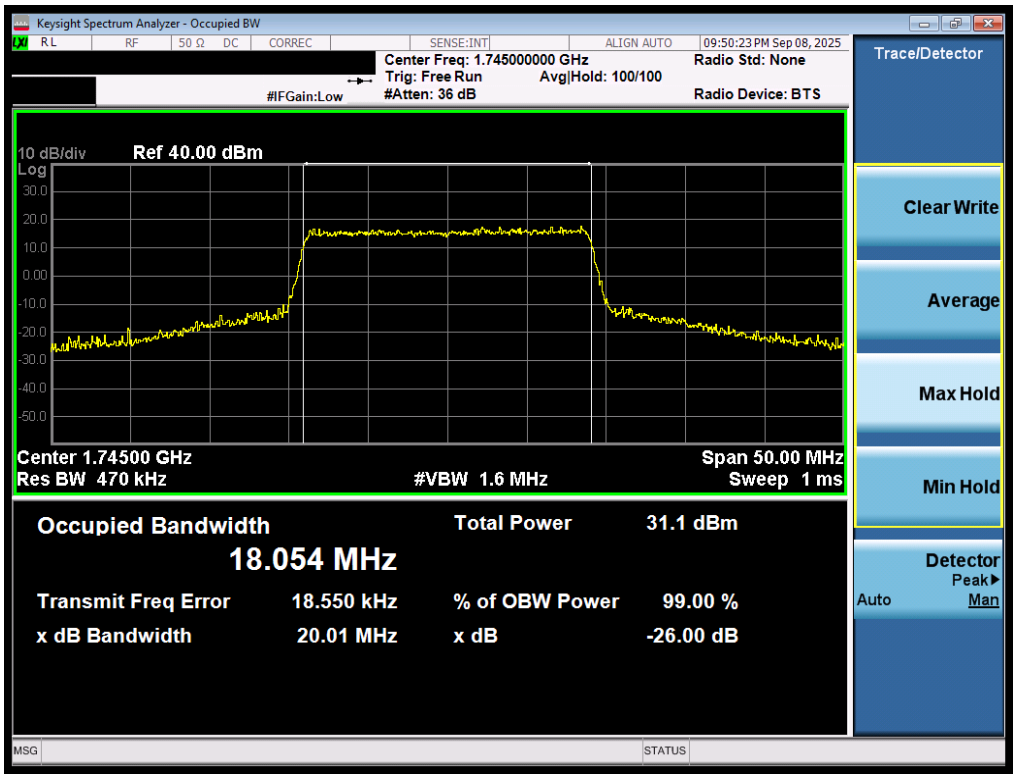


Plot 7-13. Occupied Bandwidth Plot (LTE Band 13 - 5MHz 16-QAM - Full RB – ANT1)

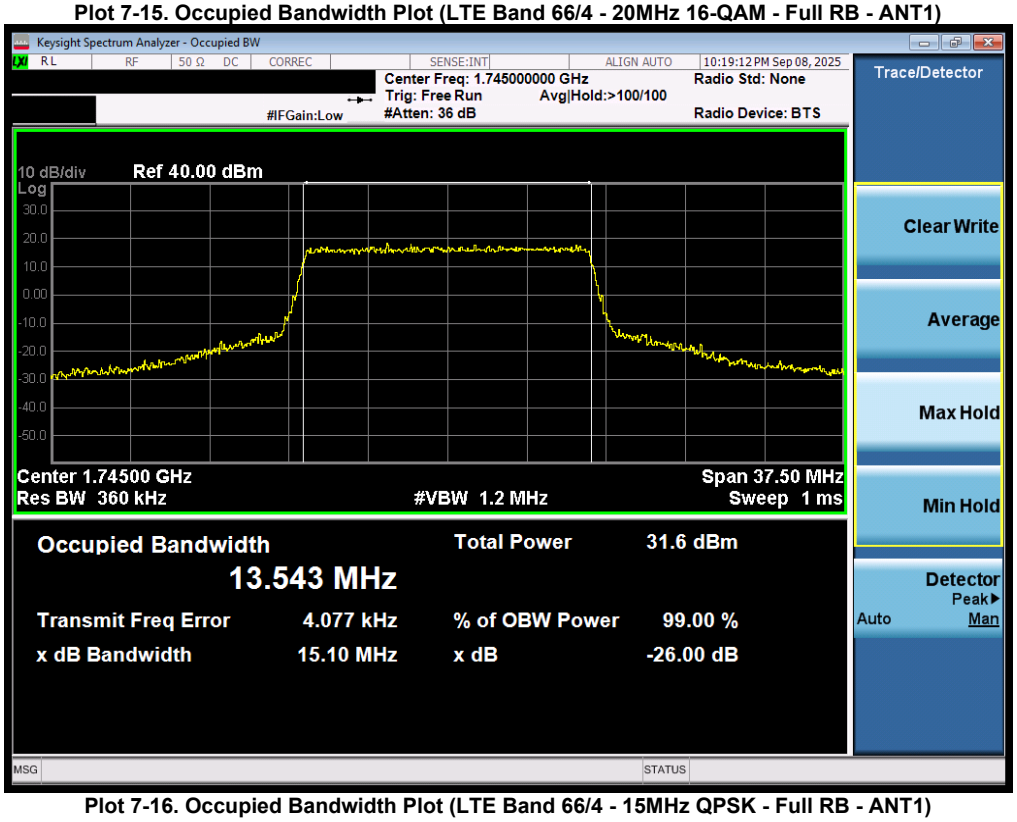
LTE Band 66/4 - ANT1



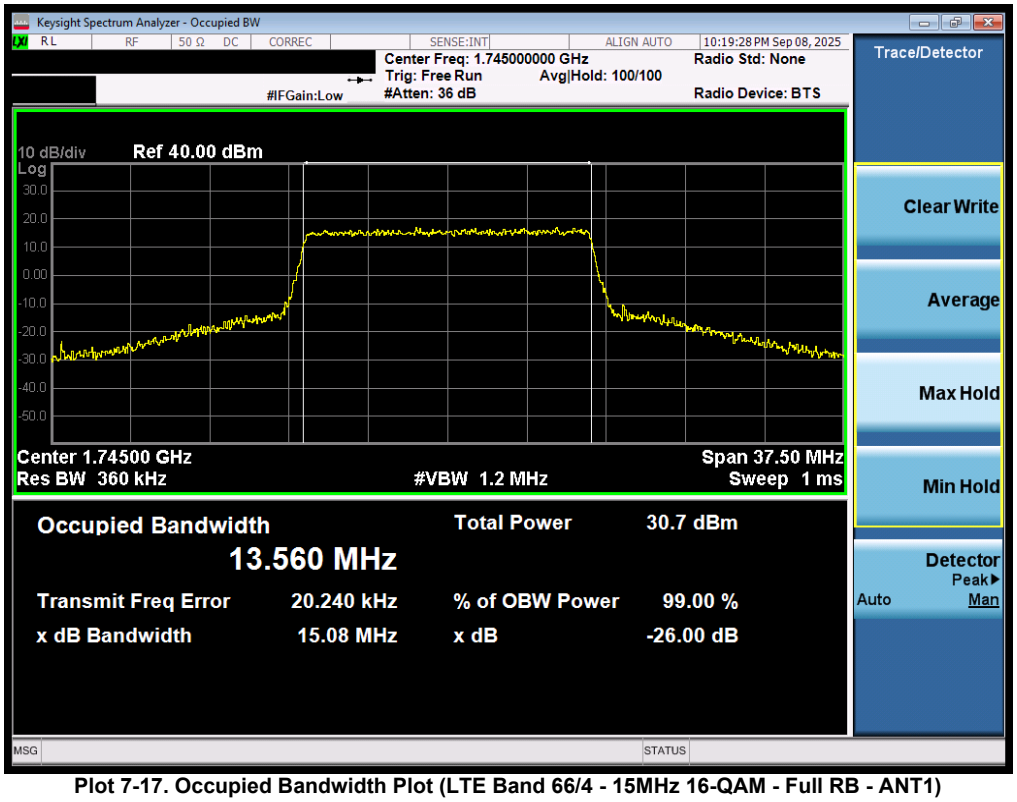
Plot 7-14. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz QPSK - Full RB - ANT1)



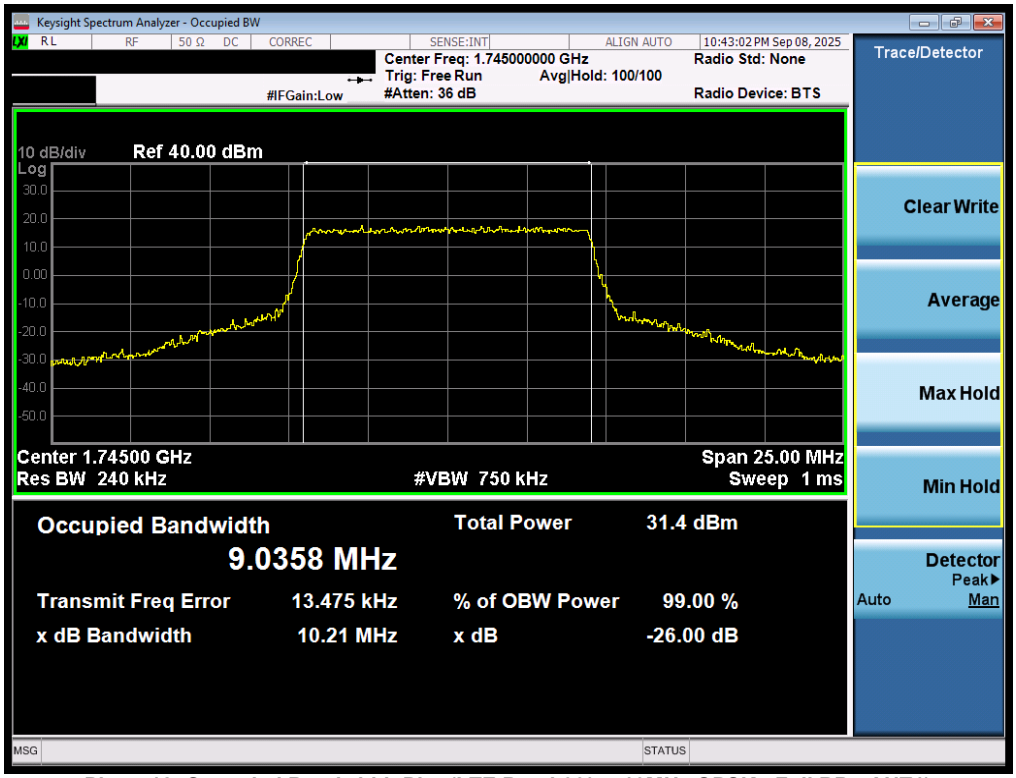
Plot 7-15. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB - ANT1)



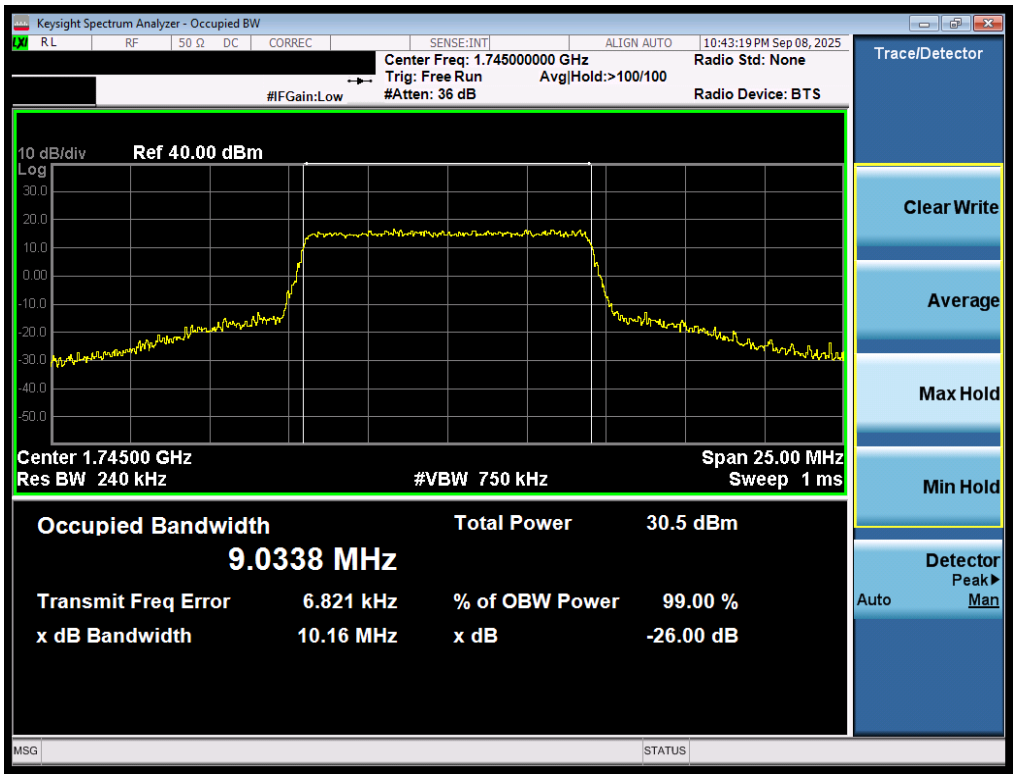
Plot 7-16. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz QPSK - Full RB - ANT1)



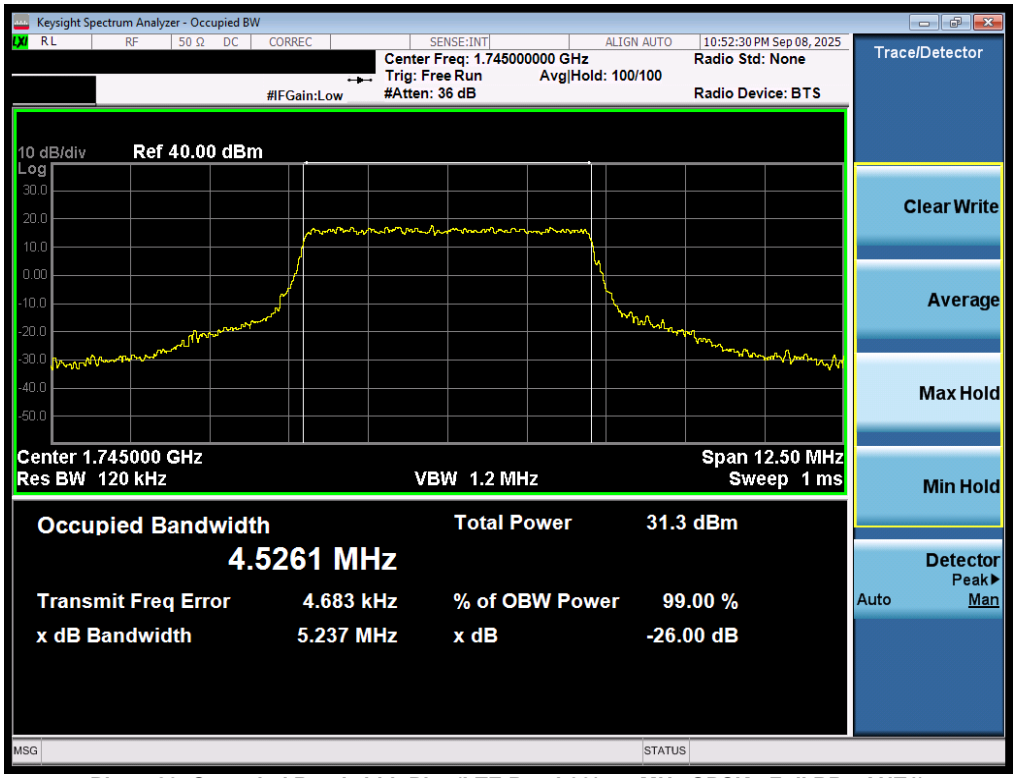
Plot 7-17. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB - ANT1)



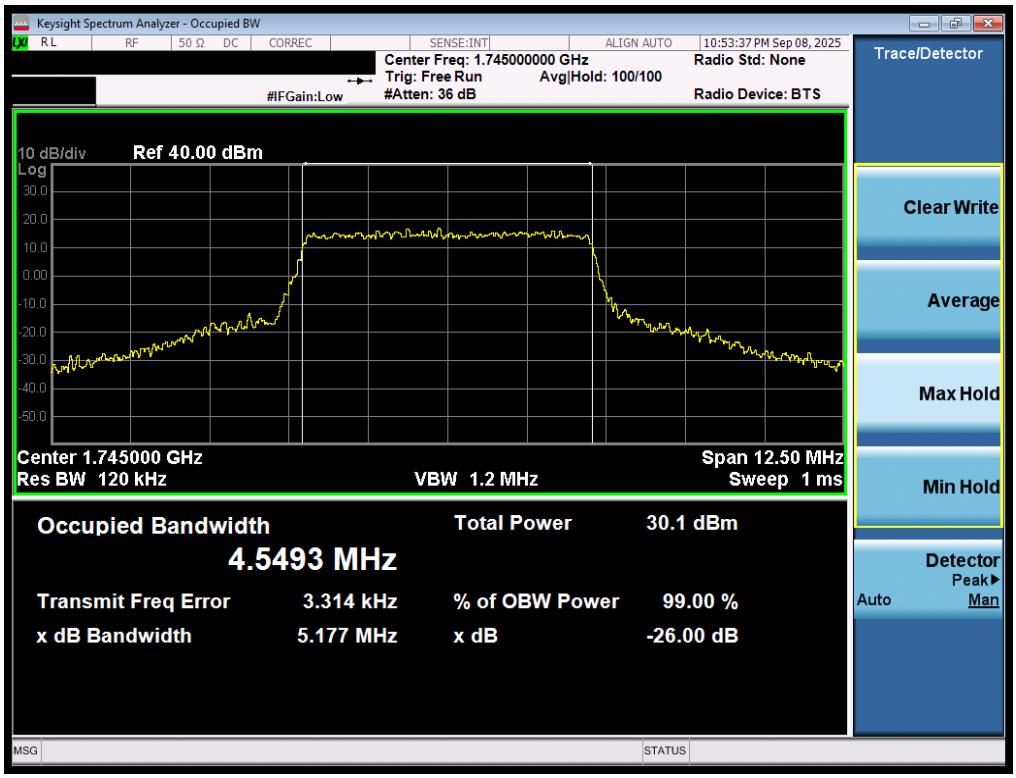
Plot 7-18. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz QPSK - Full RB - ANT1)



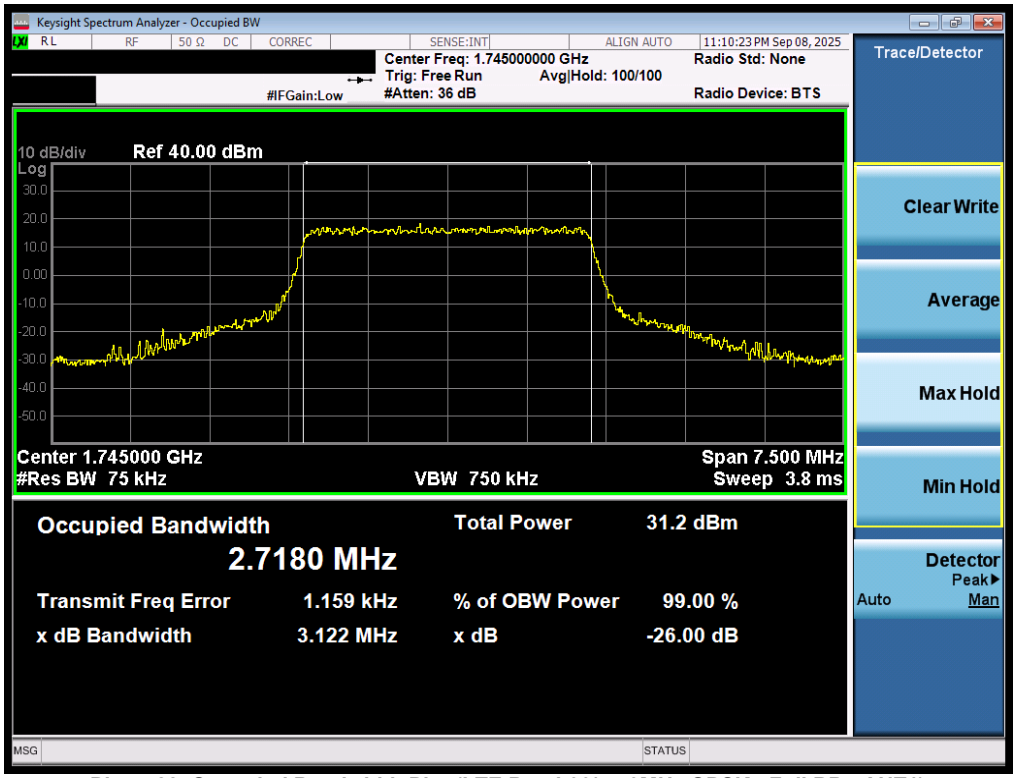
Plot 7-19. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB - ANT1)



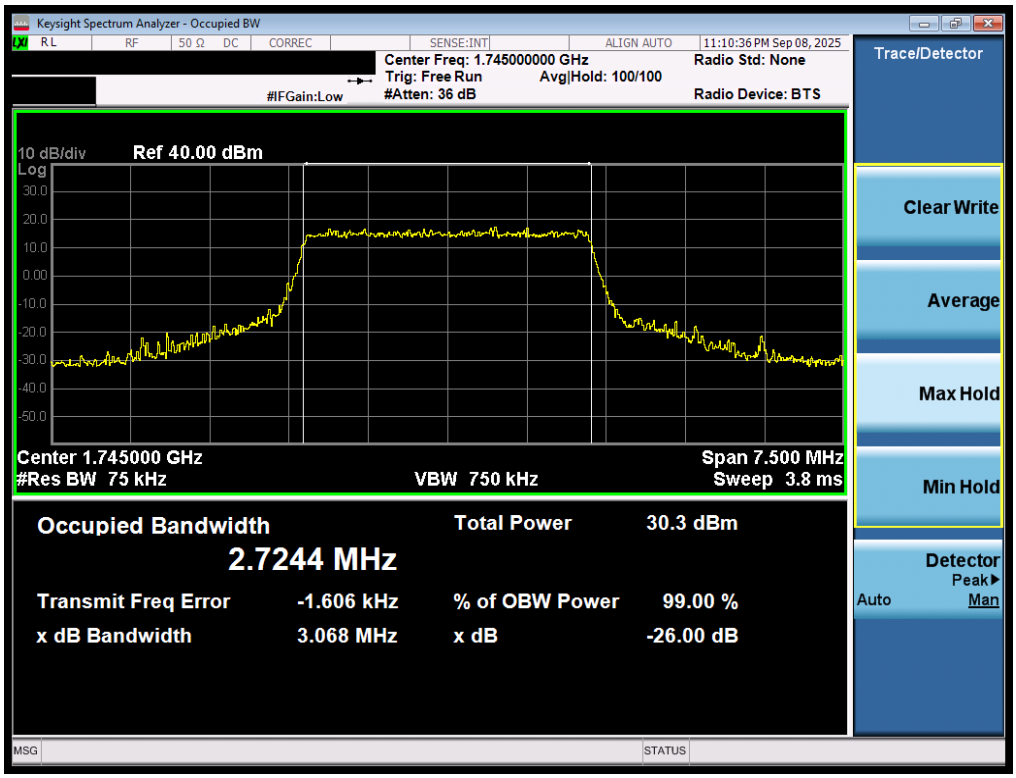
Plot 7-20. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz QPSK - Full RB - ANT1)



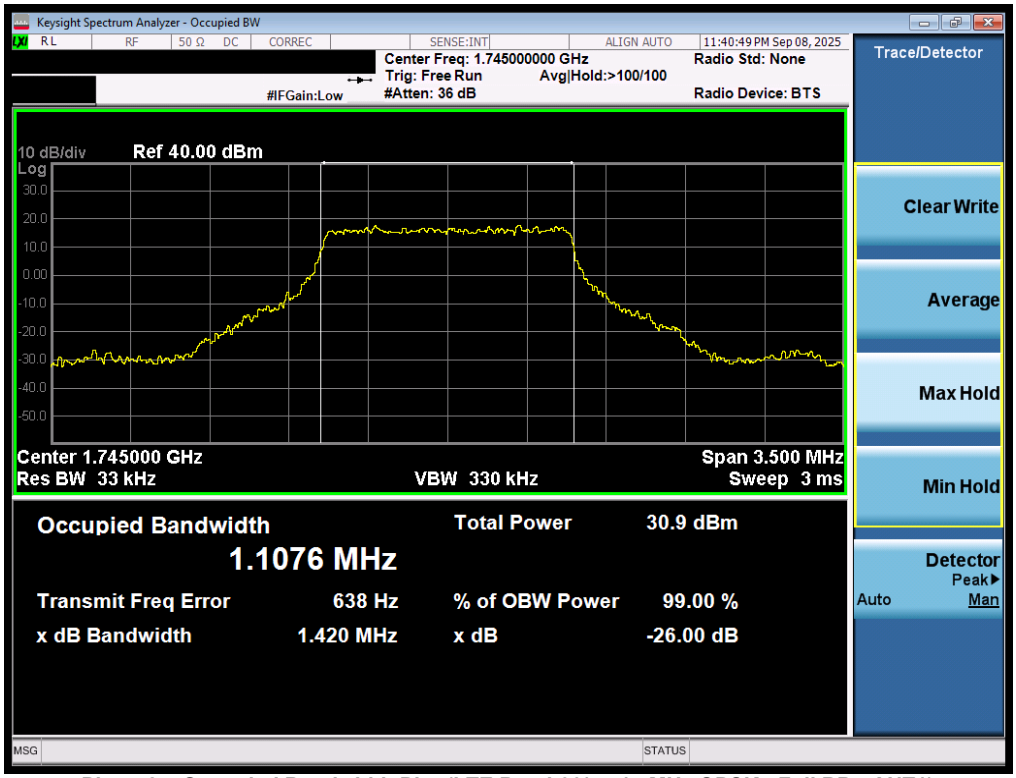
Plot 7-21. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz 16-QAM - Full RB - ANT1)



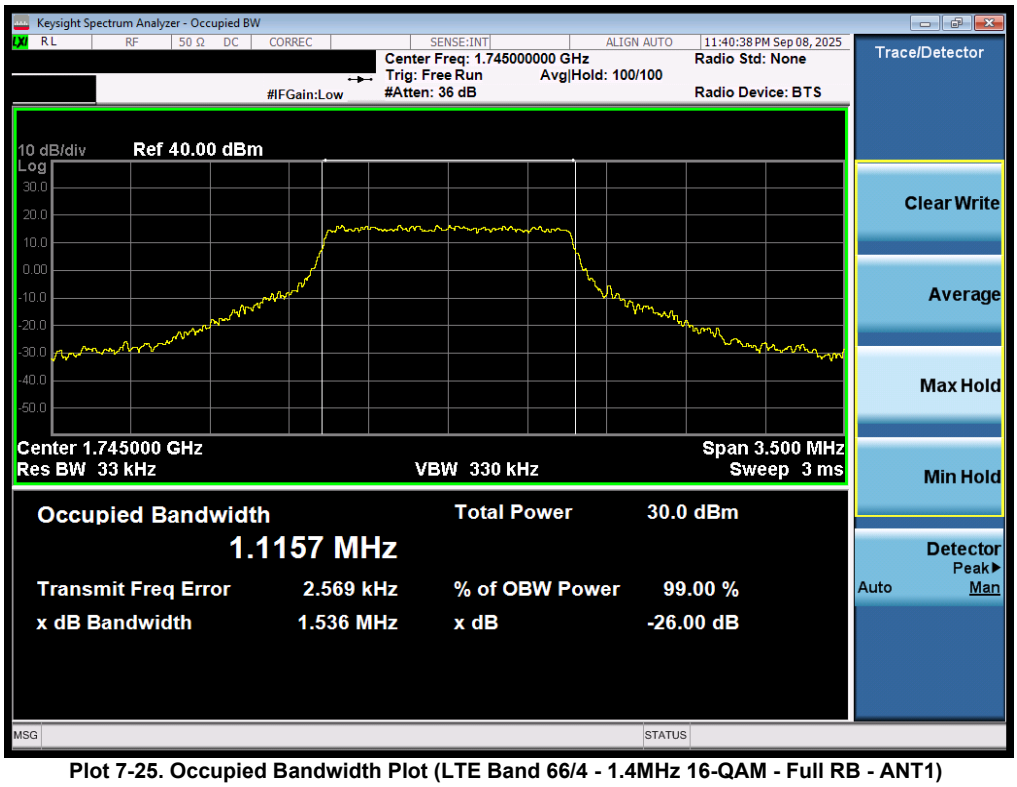
Plot 7-22. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz QPSK - Full RB - ANT1)



Plot 7-23. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz 16-QAM - Full RB - ANT1)

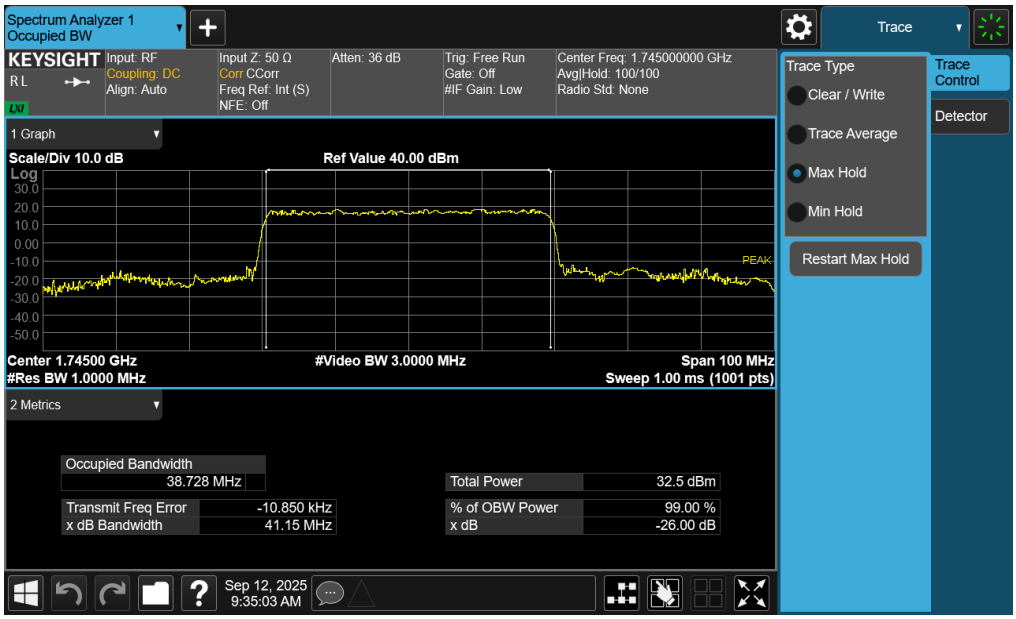


Plot 7-24. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz QPSK - Full RB - ANT1)



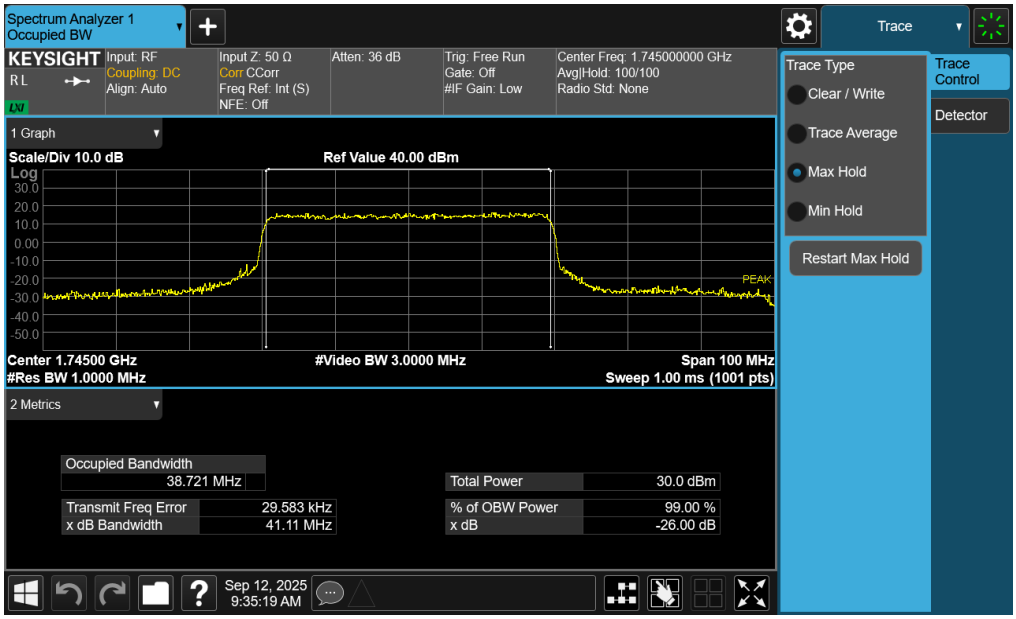
Plot 7-25. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz 16-QAM - Full RB - ANT1)

NR Band n66 – ANT1

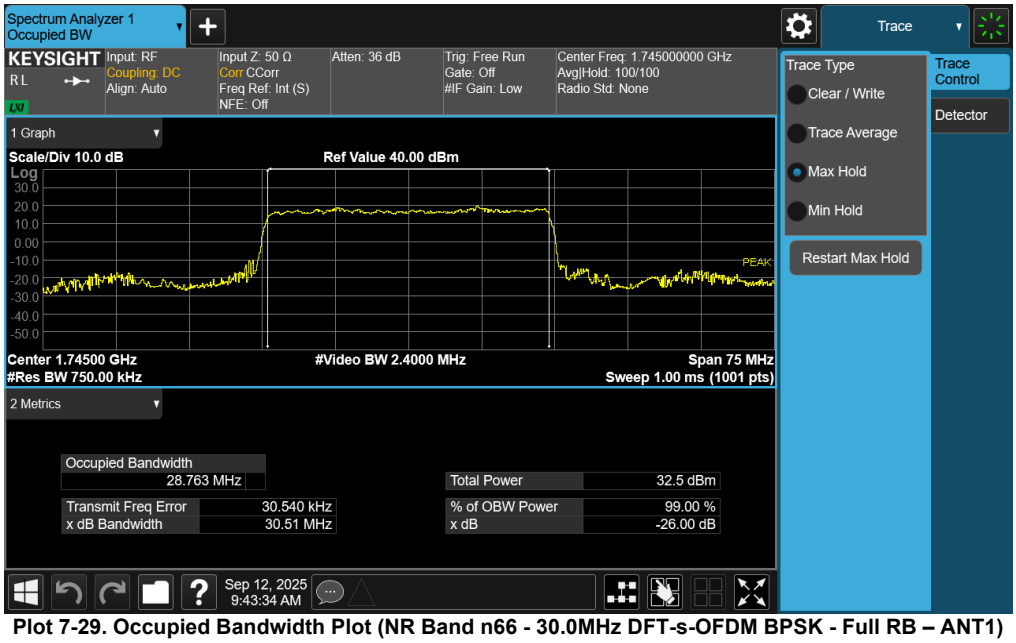


Plot 7-26. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)

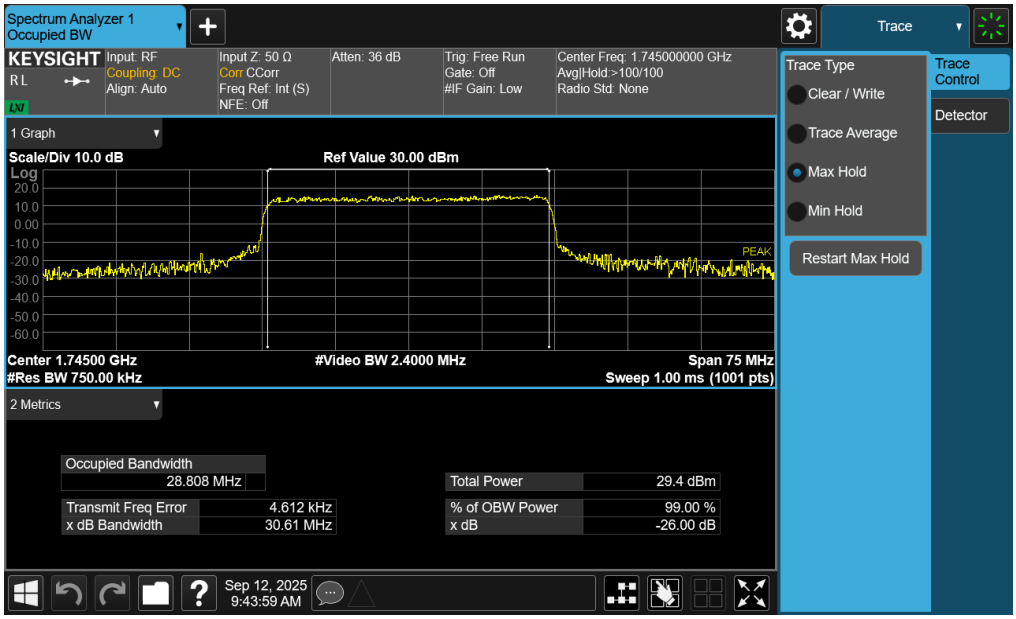
Plot 7-27. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz CP-OFDM QPSK - Full RB – ANT1)



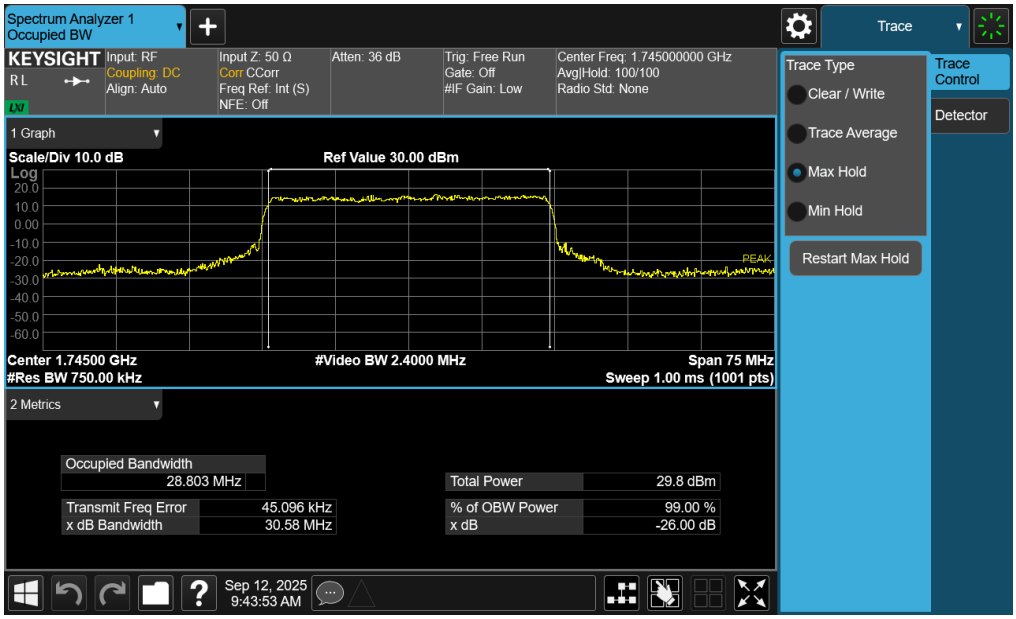
Plot 7-28. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz CP-OFDM 16QAM - Full RB – ANT1)



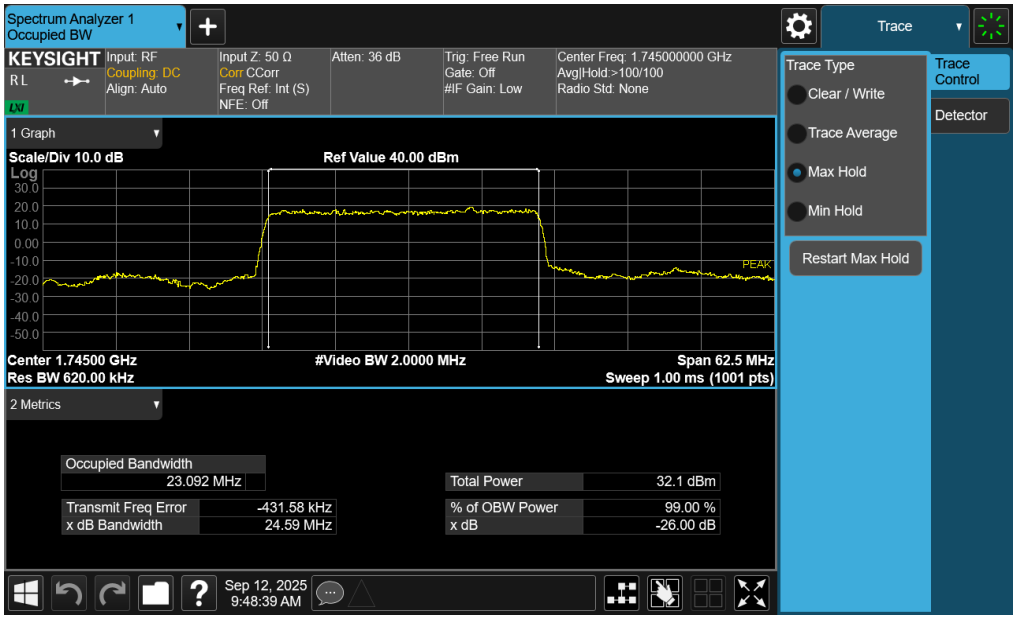
Plot 7-29. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)



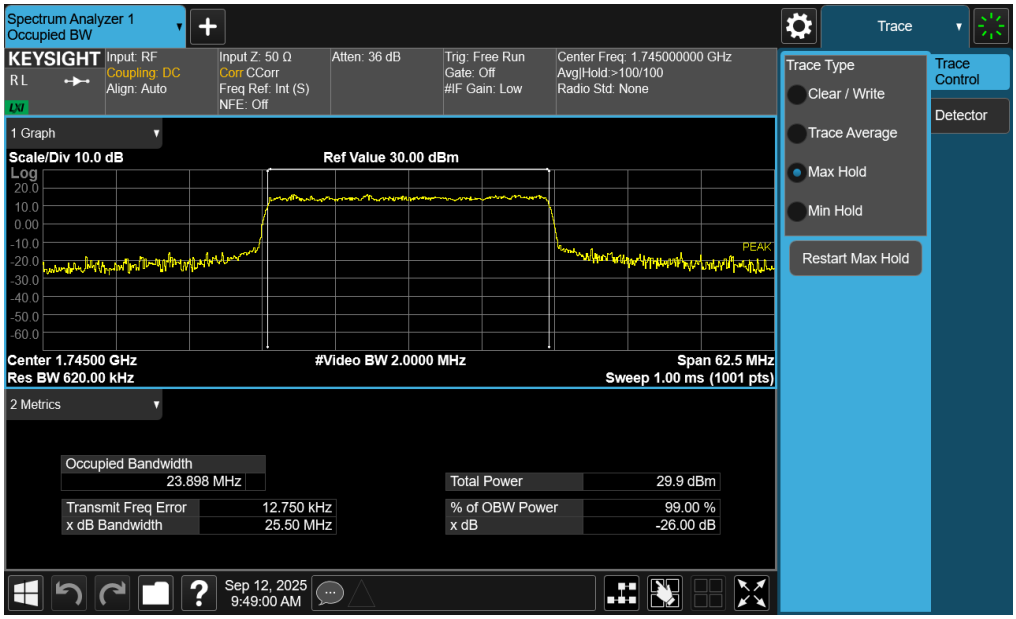
Plot 7-30. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz CP-OFDM QPSK - Full RB – ANT1)



Plot 7-31. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz CP-OFDM 16QAM - Full RB – ANT1)

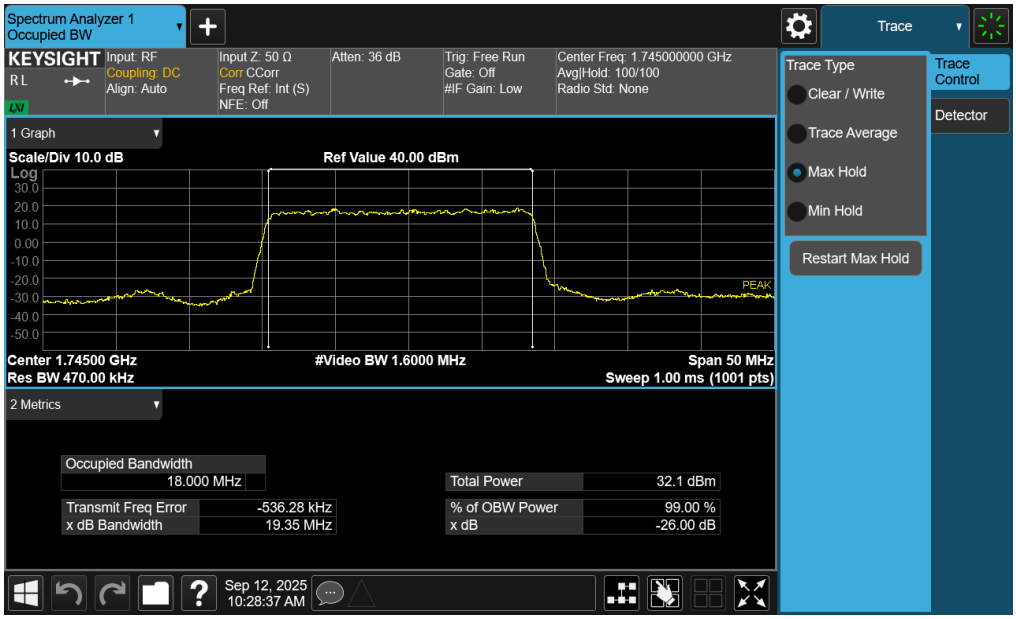


Plot 7-32. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)



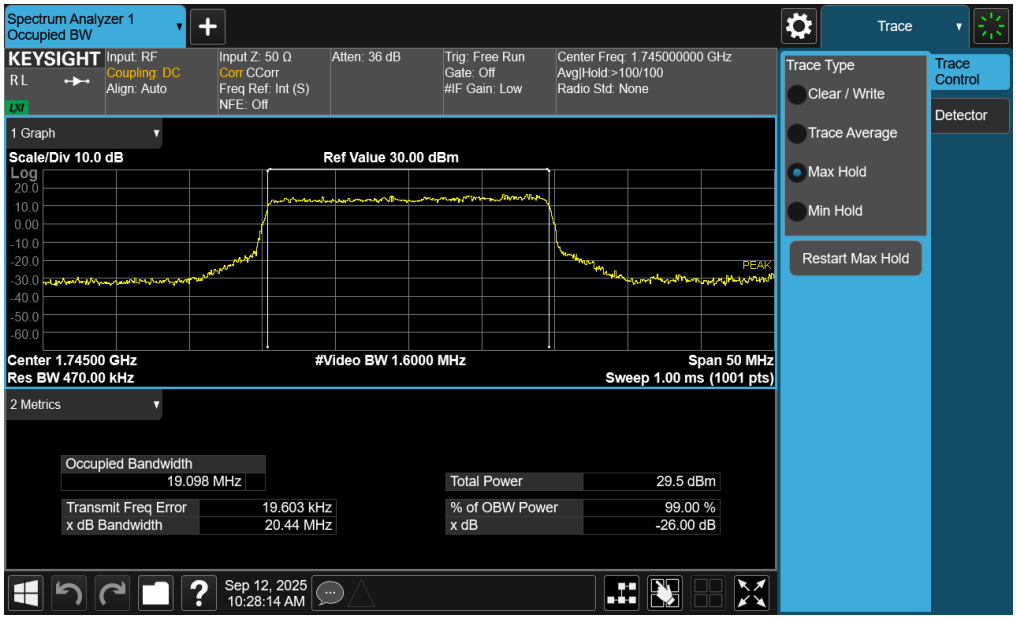
Plot 7-33. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM QPSK - Full RB – ANT1)

Plot 7-34. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM 16QAM - Full RB – ANT1)

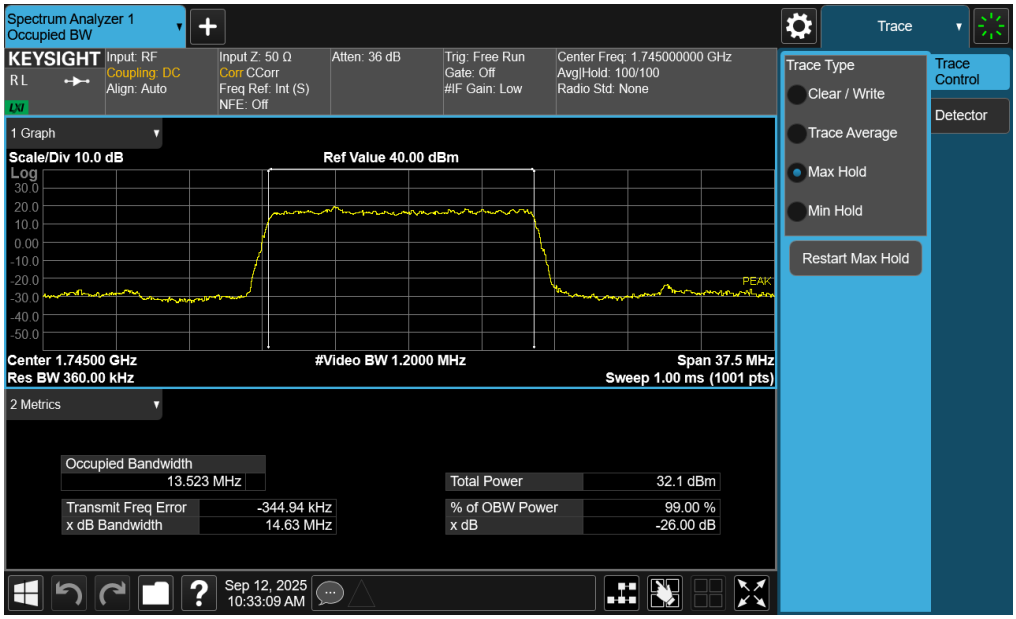


Plot 7-35. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)

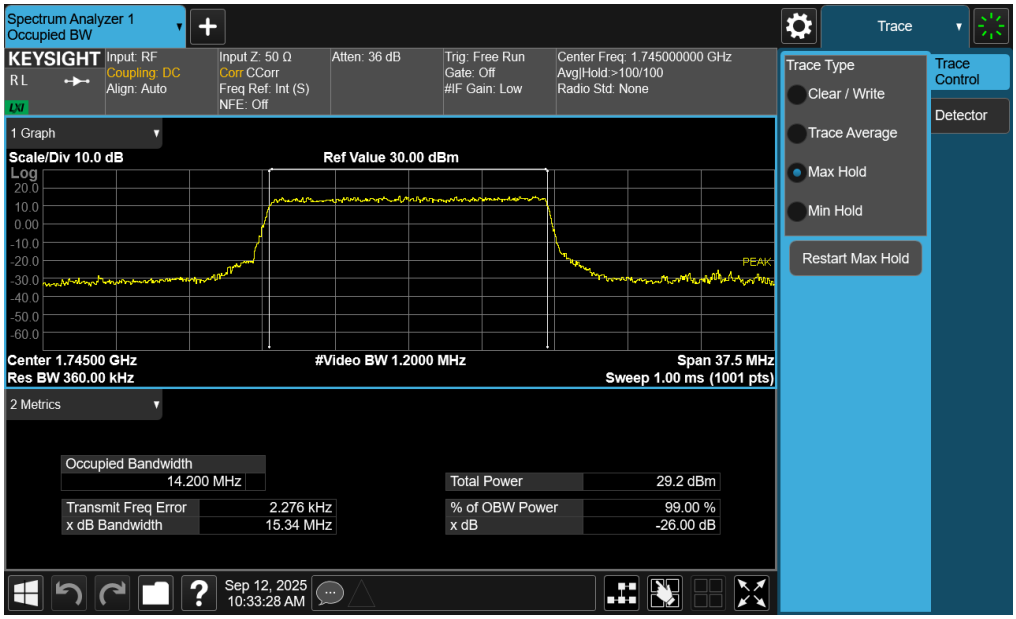
Plot 7-36. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM QPSK - Full RB – ANT1)



Plot 7-37. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM 16QAM - Full RB – ANT1)



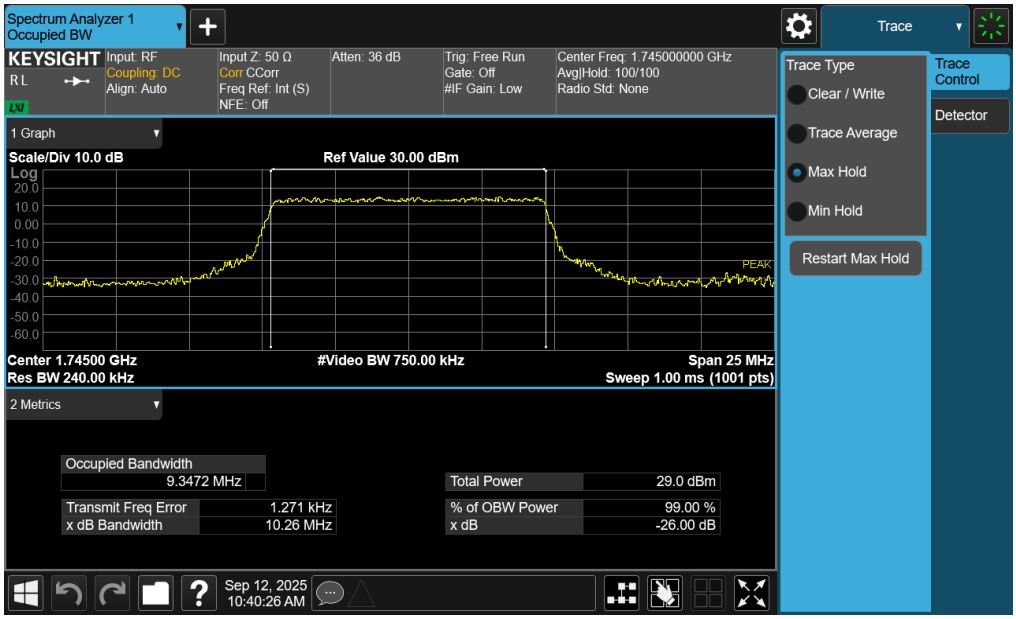
Plot 7-38. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)



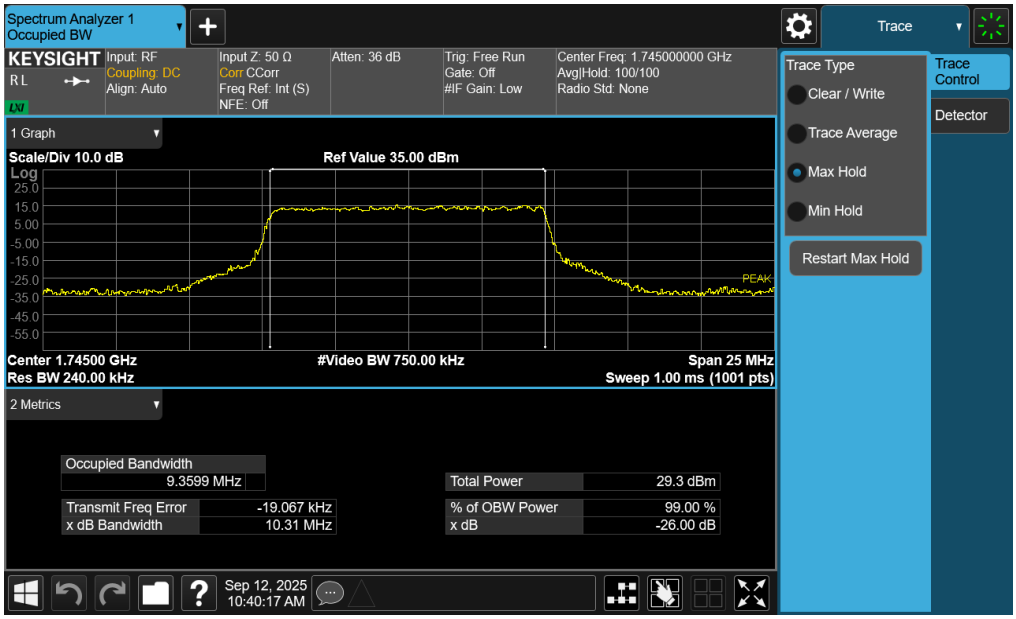
Plot 7-39. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM QPSK - Full RB – ANT1)

Plot 7-40. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM 16QAM - Full RB – ANT1)

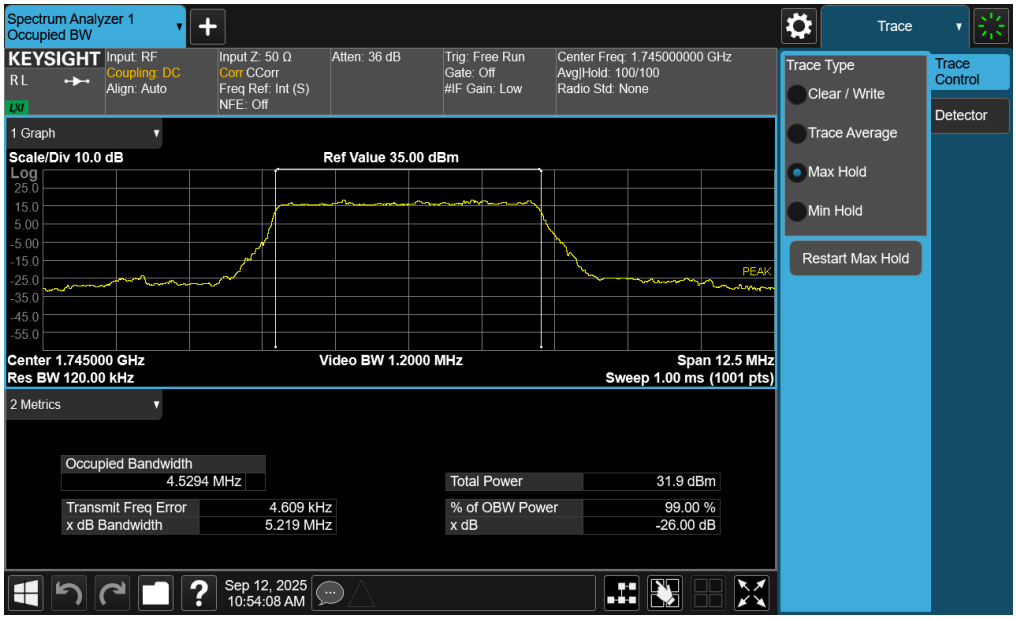
Plot 7-41. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)



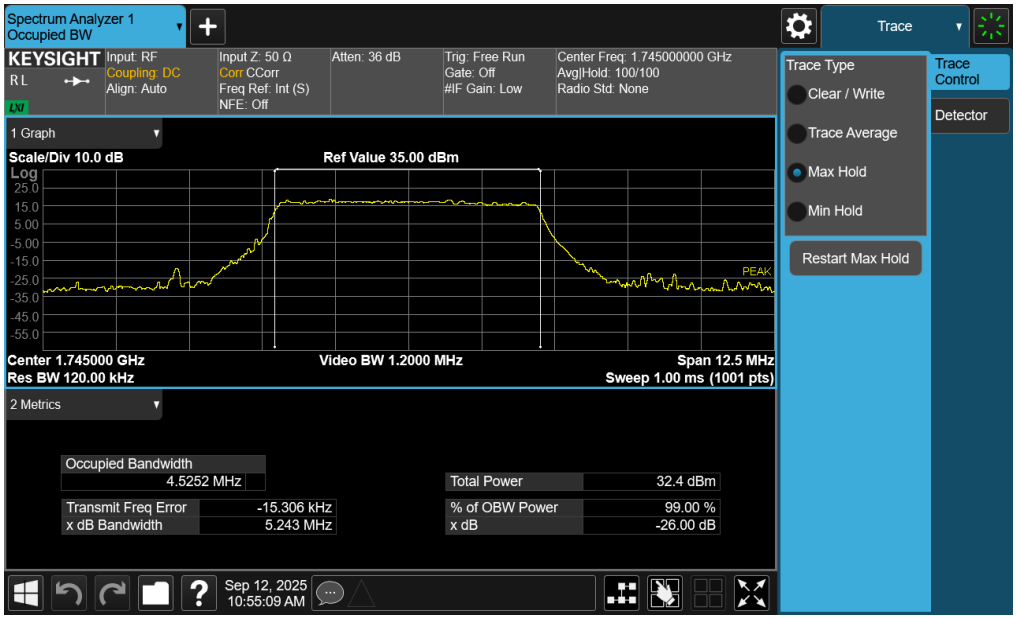
Plot 7-42. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB – ANT1)



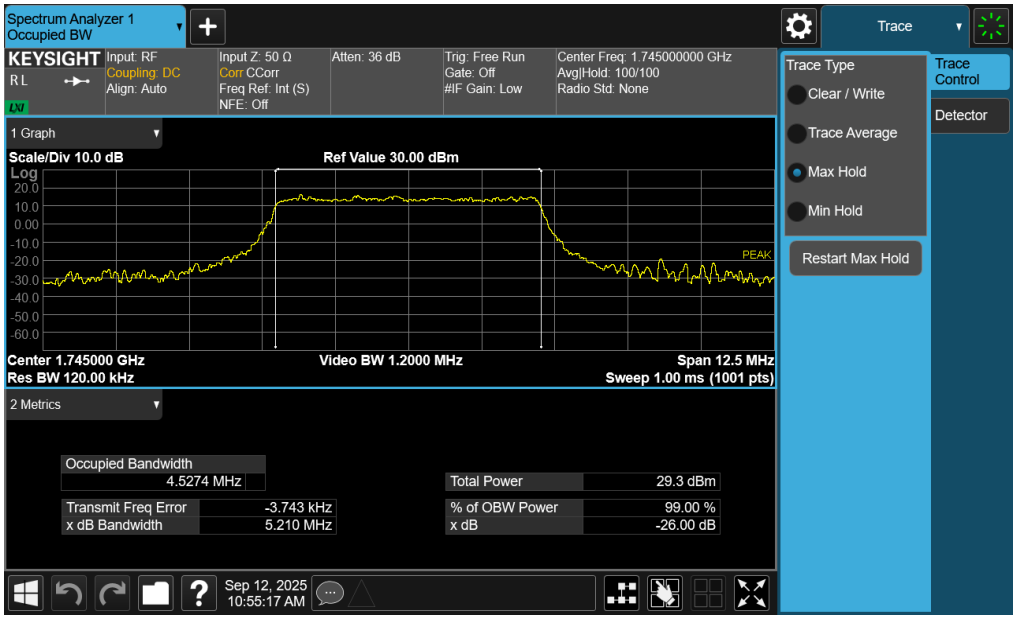
Plot 7-43. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM 16QAM - Full RB – ANT1)



Plot 7-44. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB – ANT1)



Plot 7-45. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – ANT1)



Plot 7-46. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM 16QAM - Full RB – ANT1)

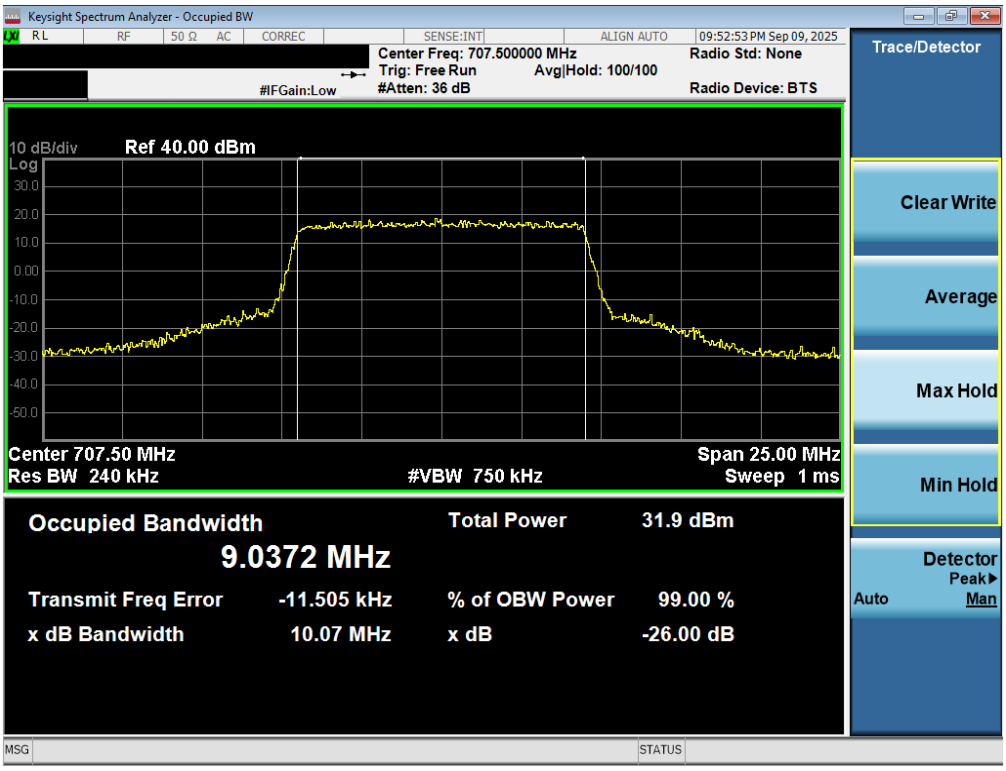
Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B12/17	10MHz	QPSK	9.04
		16QAM	9.03
	5MHz	QPSK	4.54
		16QAM	4.53
	3MHz	QPSK	2.73
		16QAM	2.73
	1.4MHz	QPSK	1.11
		16QAM	1.11
LTE-B13	10MHz	QPSK	9.04
		16QAM	9.04
	5MHz	QPSK	4.55
		16QAM	4.55
LTE-B66-4	20MHz	QPSK	18.10
		16QAM	18.05
	15MHz	QPSK	13.56
		16QAM	13.55
	10MHz	QPSK	9.03
		16QAM	9.06
	5MHz	QPSK	4.55
		16QAM	4.53
	3MHz	QPSK	2.72
		16QAM	2.72
	1.4MHz	QPSK	1.11
		16QAM	1.10

Table 7-6. Occupied Bandwidth Results – LTE – Ant2

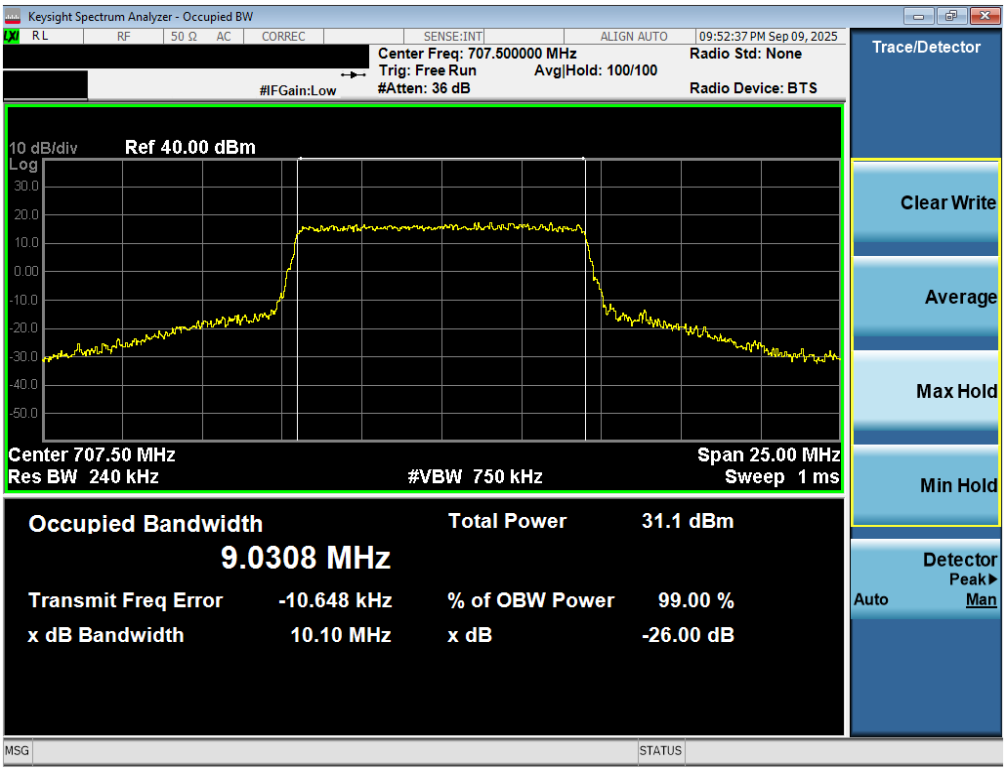
Mode	Bandwidth	Modulation	OBW [MHz]
NR-n66	40MHz	π/2 BPSK	38.79
		QPSK	38.99
		16QAM	38.90
	30MHz	π/2 BPSK	28.80
		QPSK	28.83
		16QAM	28.86
	25MHz	π/2 BPSK	23.09
		QPSK	23.92
		16QAM	23.94
	20MHz	π/2 BPSK	18.00
		QPSK	19.04
		16QAM	19.10
	15MHz	π/2 BPSK	13.51
		QPSK	14.22
		16QAM	14.22
	10MHz	π/2 BPSK	9.02
		QPSK	9.37
		16QAM	9.35
	5MHz	π/2 BPSK	4.52
		QPSK	4.54
		16QAM	4.54

Table 7-7. Occupied Bandwidth Results – NR – Ant2

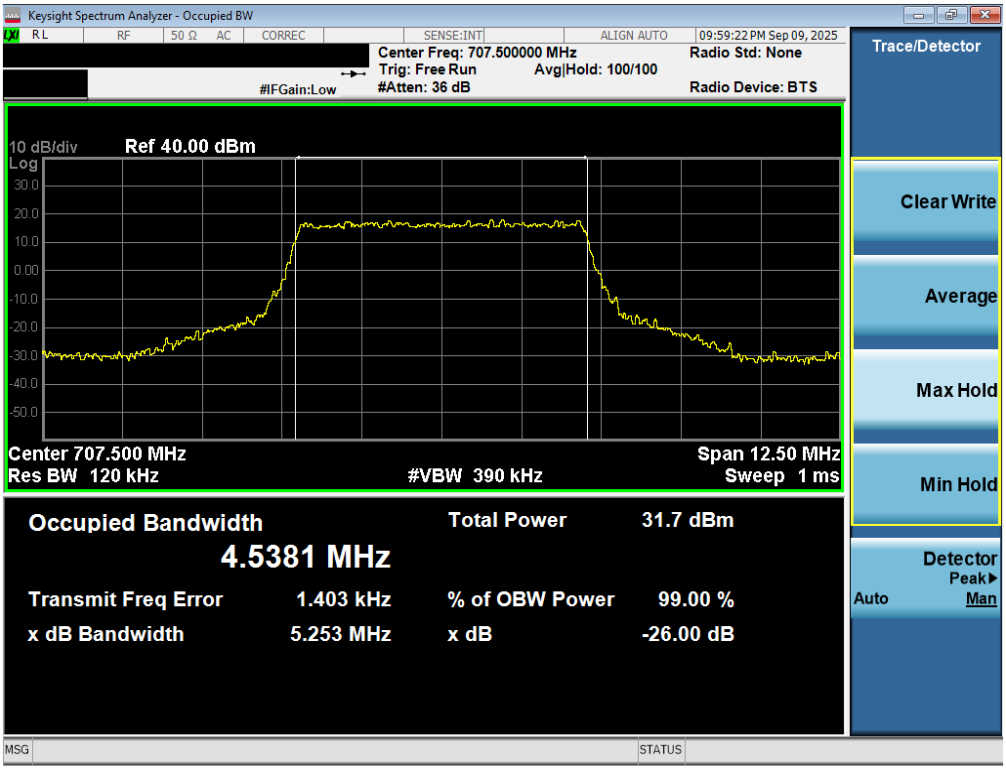
LTE Band 12/17 – ANT2



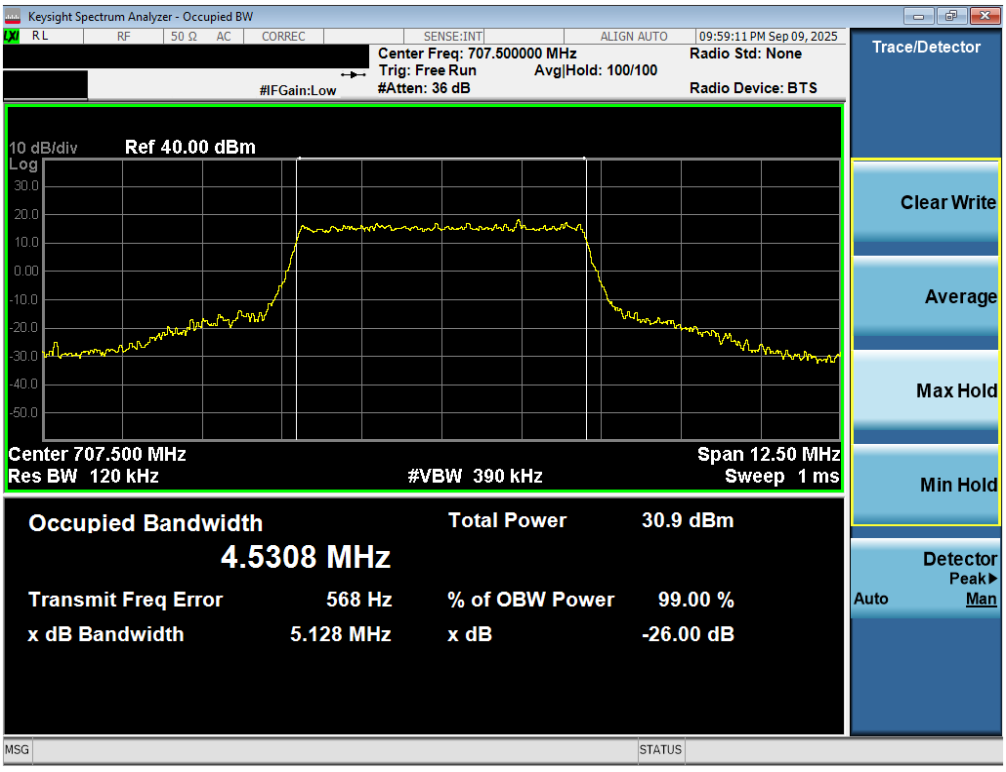
Plot 7-47. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz QPSK - Full RB – ANT2)



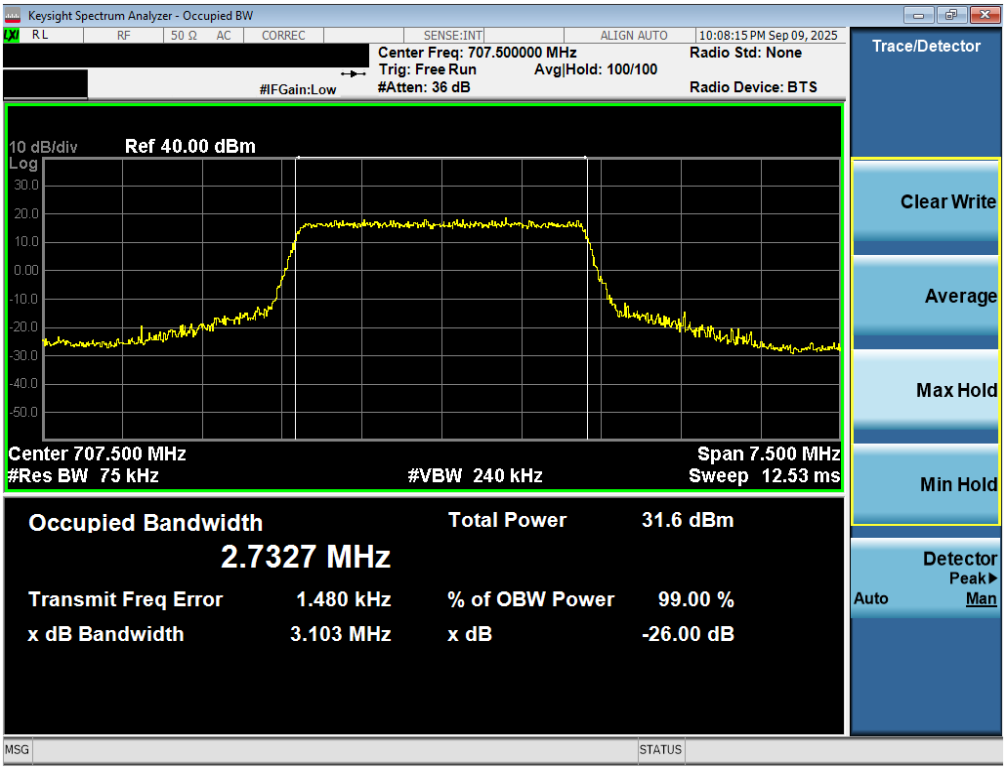
Plot 7-48. Occupied Bandwidth Plot (LTE Band 12/17 - 10MHz 16-QAM - Full RB – ANT2)



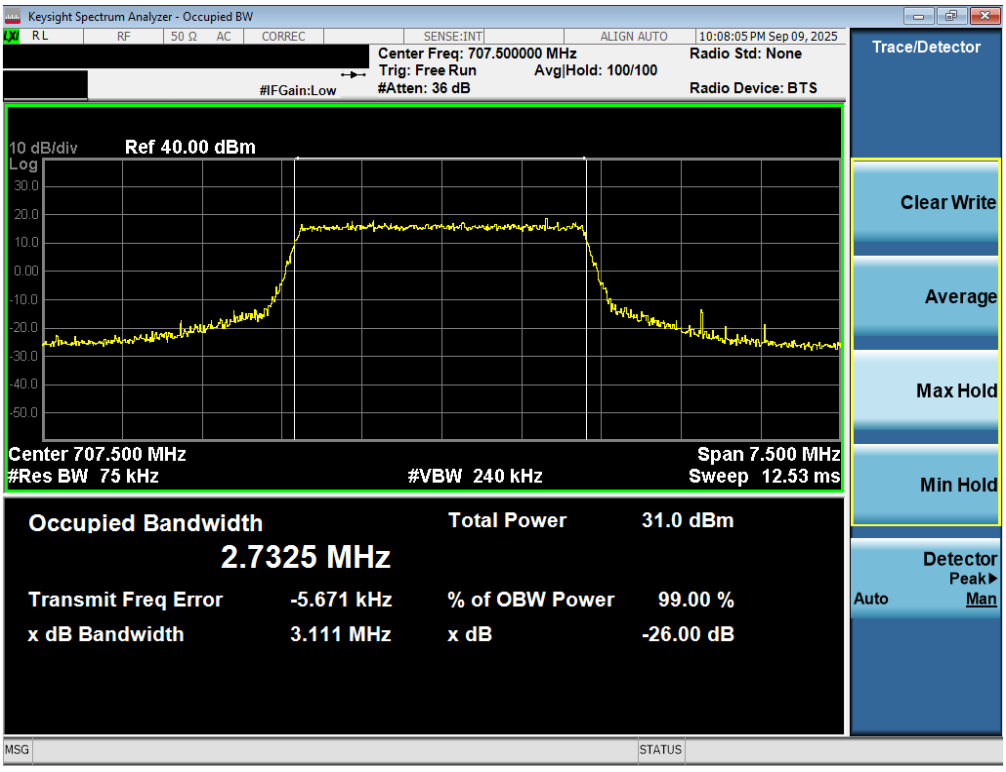
Plot 7-49. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz QPSK - Full RB – ANT2)



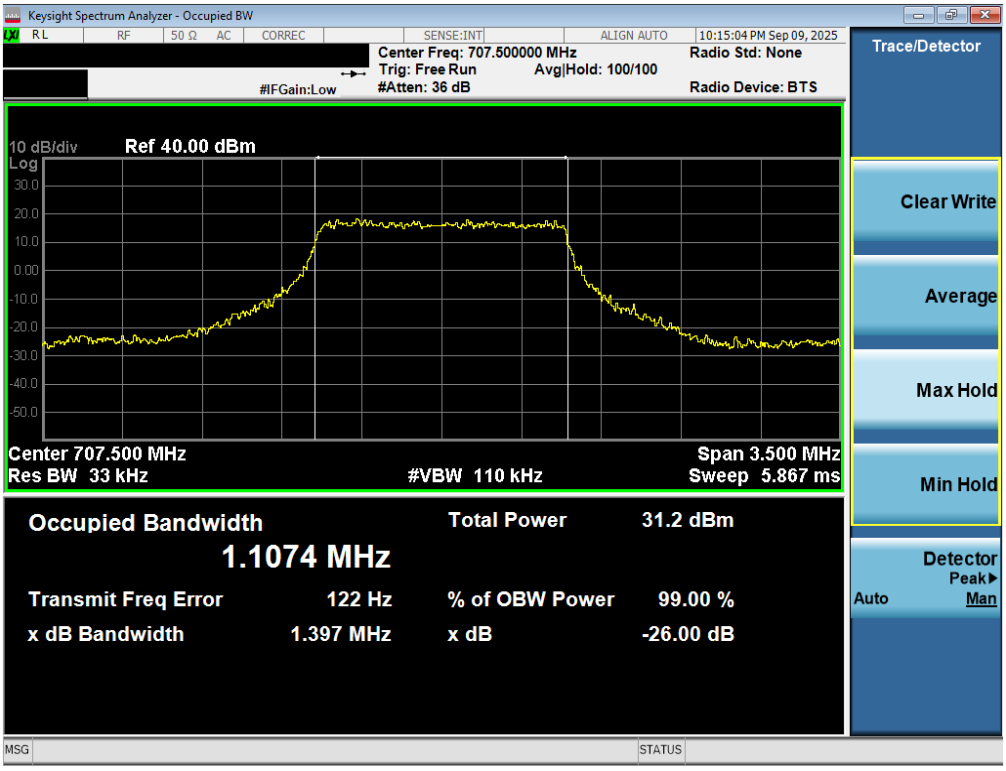
Plot 7-50. Occupied Bandwidth Plot (LTE Band 12/17 - 5MHz 16-QAM - Full RB – ANT2)



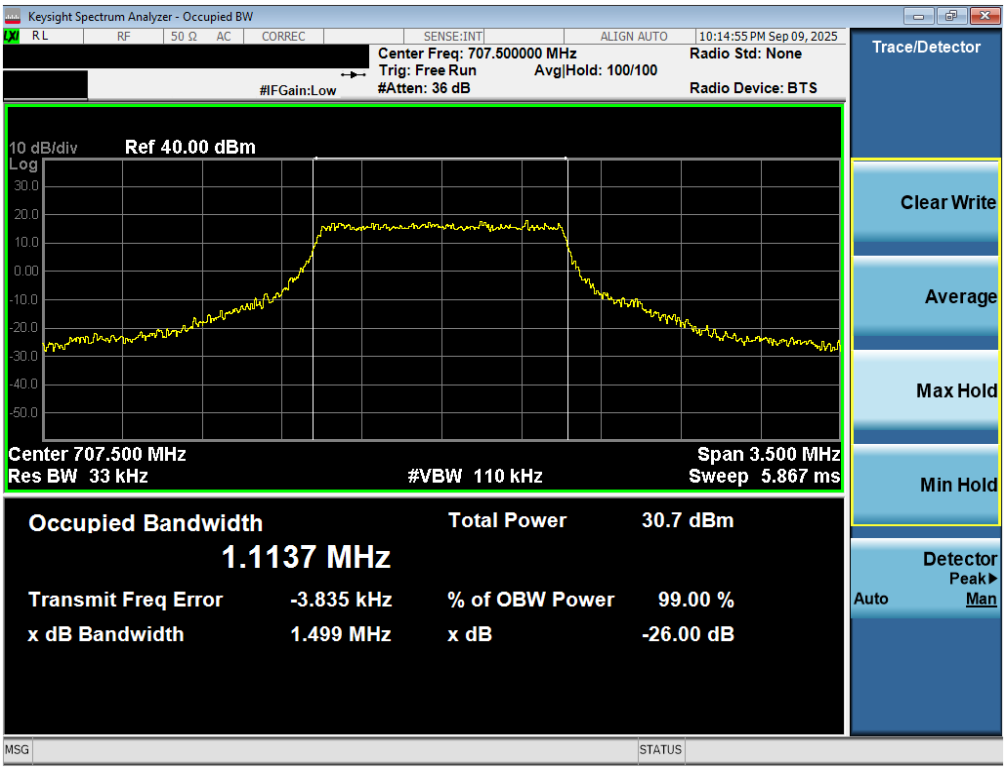
Plot 7-51. Occupied Bandwidth Plot (LTE Band 12/17 - 3MHz QPSK - Full RB – ANT2)



Plot 7-52. Occupied Bandwidth Plot (LTE Band 12/17 - 3MHz 16-QAM - Full RB – ANT2)

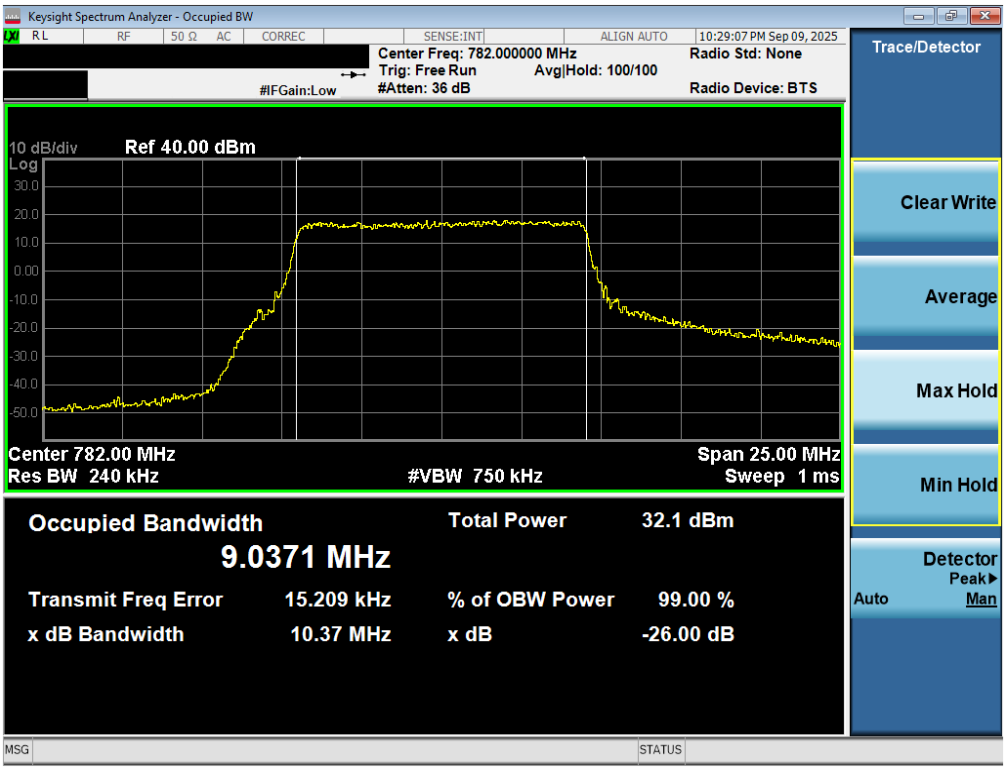


Plot 7-53. Occupied Bandwidth Plot (LTE Band 12/17 – 1.4MHz QPSK - Full RB – ANT2)

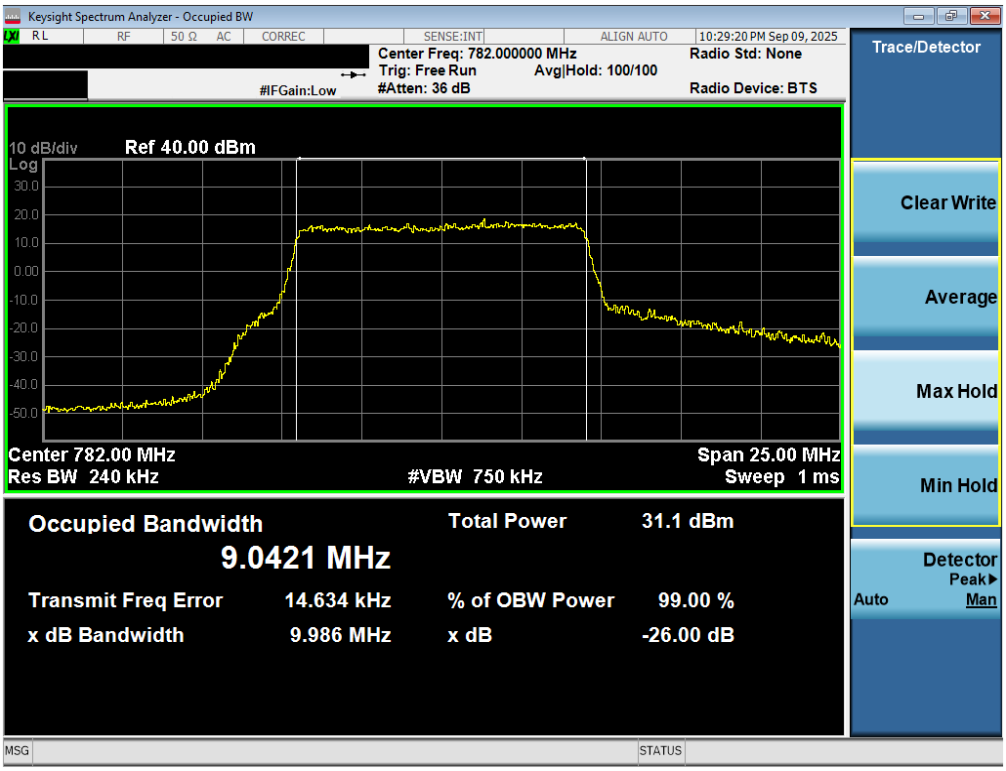


Plot 7-54. Occupied Bandwidth Plot (LTE Band 12/17 – 1.4MHz 16-QAM - Full RB – ANT2)

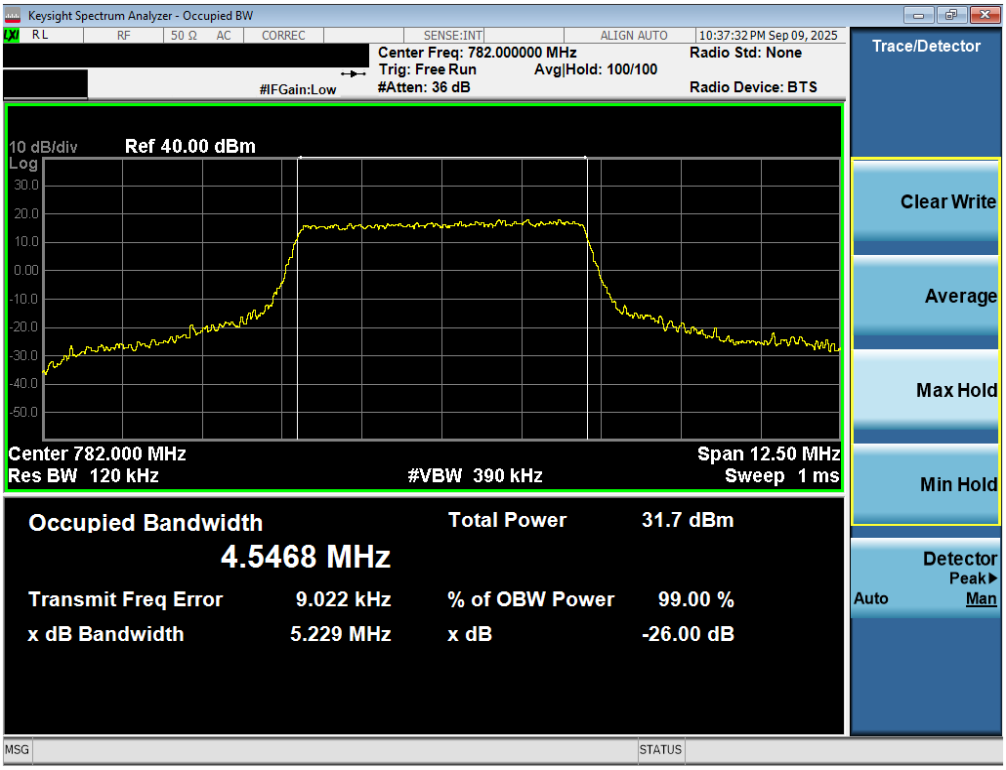
LTE Band 13 – ANT2



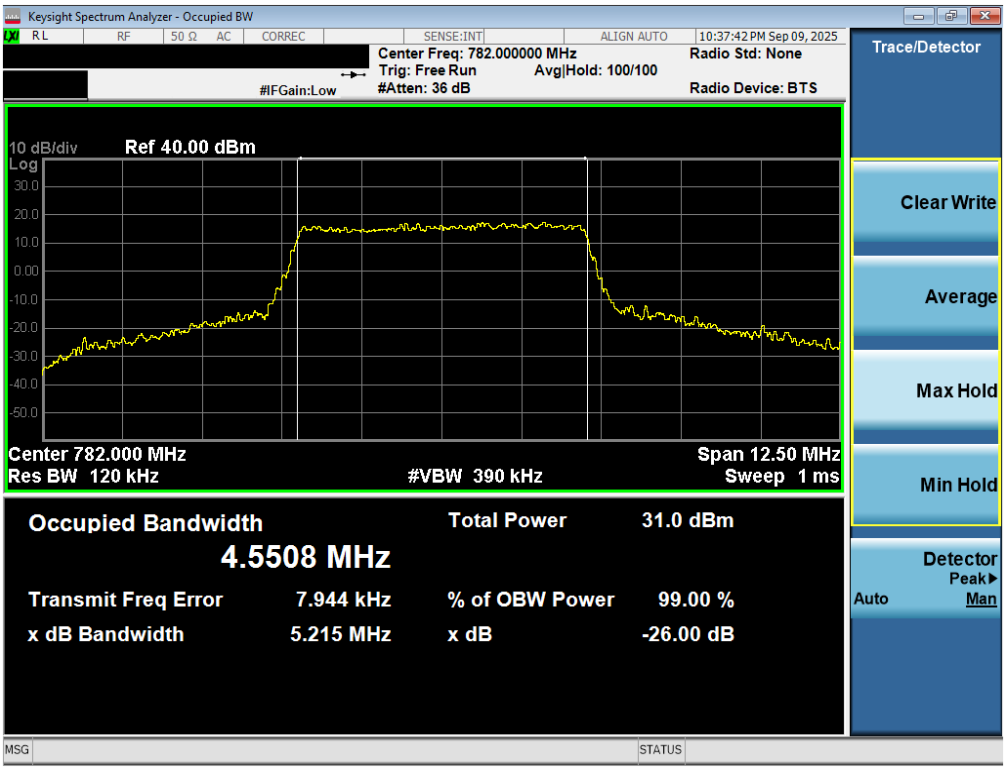
Plot 7-55. Occupied Bandwidth Plot (LTE Band 13 - 10MHz QPSK - Full RB – ANT2)



Plot 7-56. Occupied Bandwidth Plot (LTE Band 13 - 10MHz 16-QAM - Full RB – ANT2)

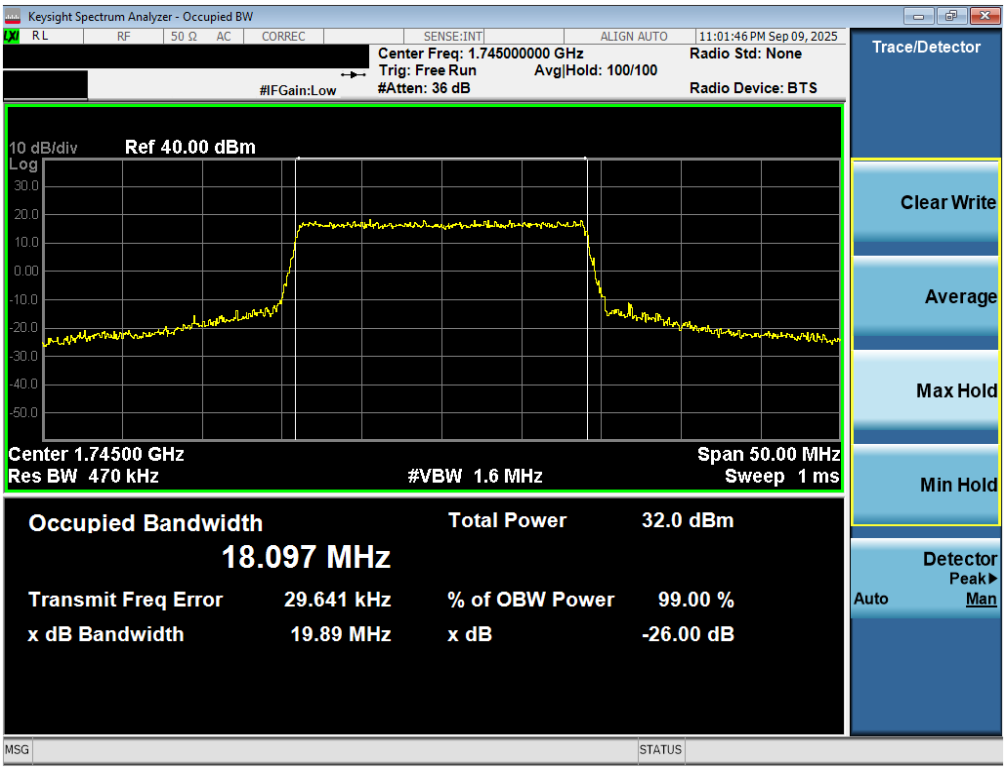


Plot 7-57. Occupied Bandwidth Plot (LTE Band 13 - 5MHz QPSK - Full RB – ANT2)

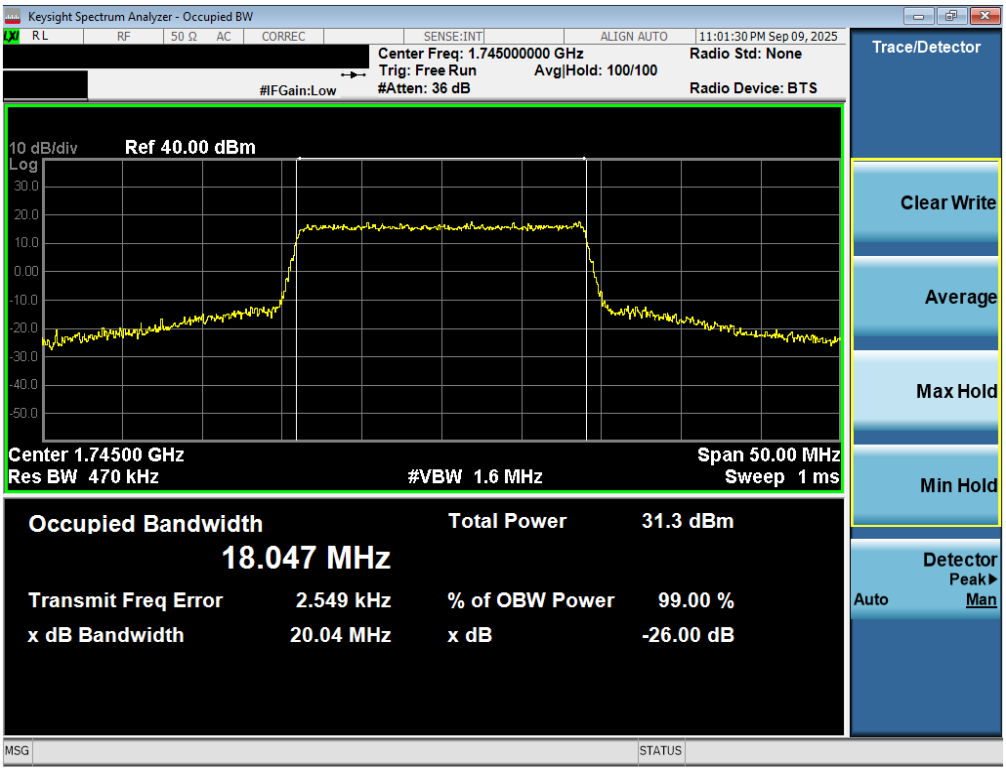


Plot 7-58. Occupied Bandwidth Plot (LTE Band 13 - 5MHz 16-QAM - Full RB – ANT2)

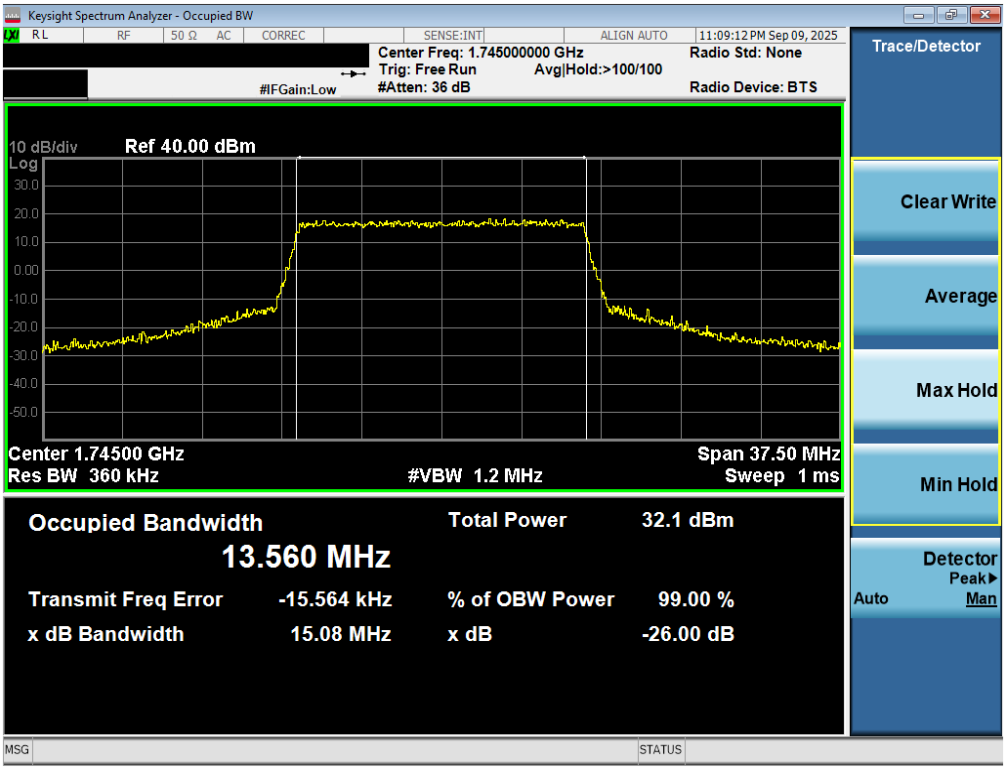
LTE Band 66/4 - ANT2



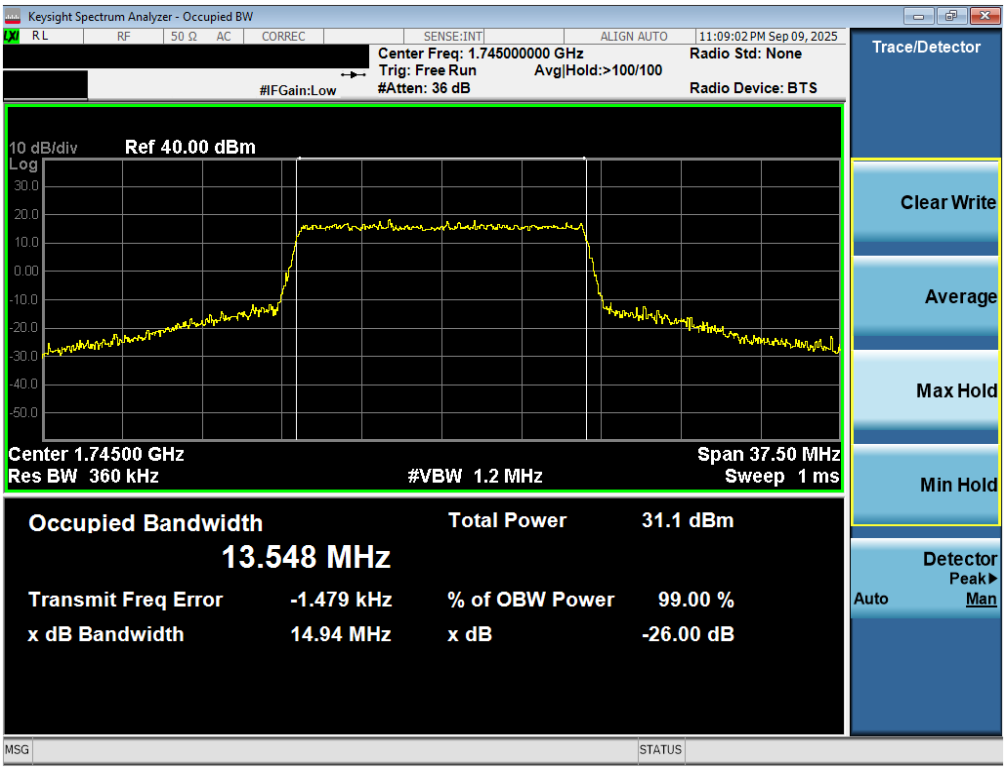
Plot 7-59. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz QPSK - Full RB - ANT2)



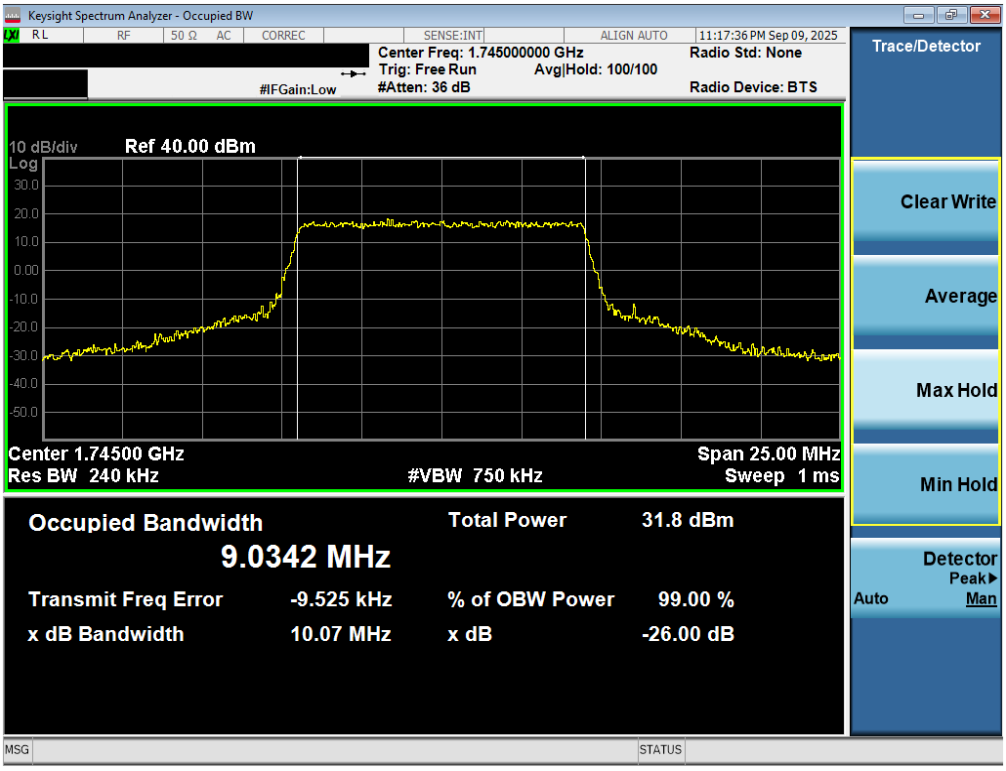
Plot 7-60. Occupied Bandwidth Plot (LTE Band 66/4 - 20MHz 16-QAM - Full RB - ANT2)



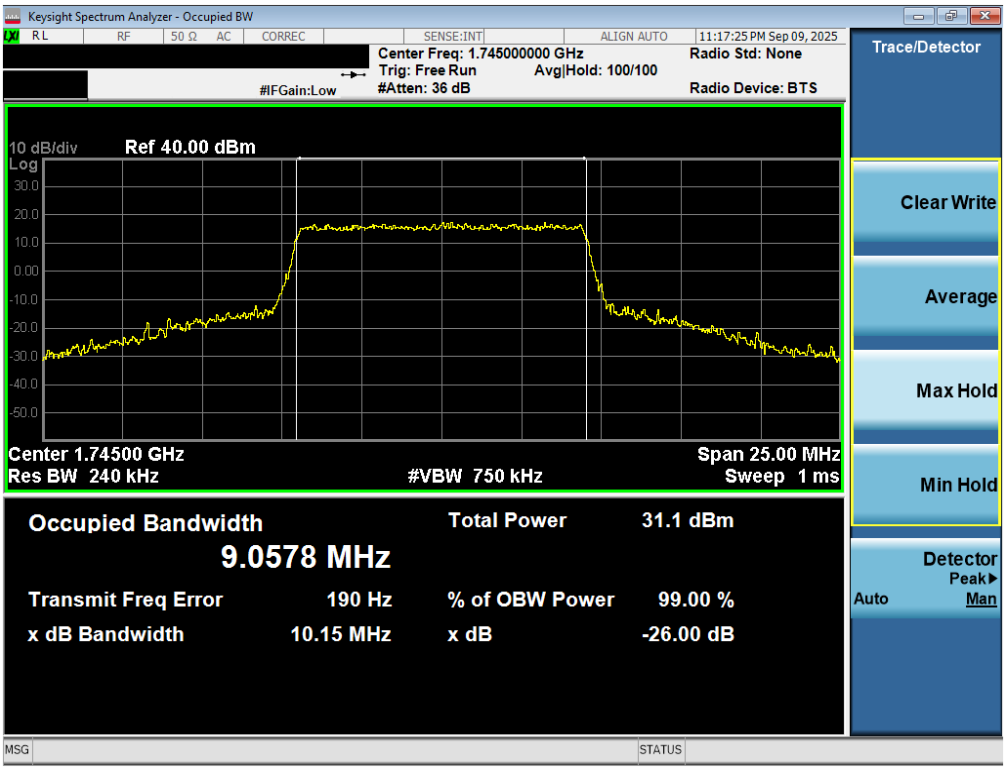
Plot 7-61. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz QPSK - Full RB - ANT2)



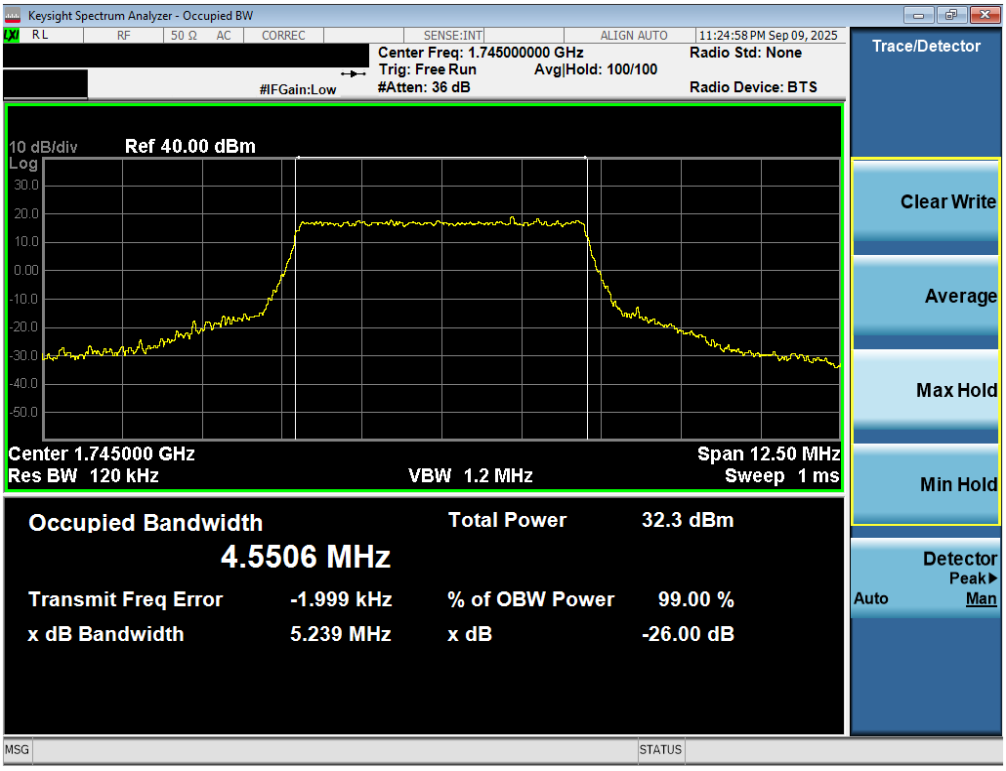
Plot 7-62. Occupied Bandwidth Plot (LTE Band 66/4 - 15MHz 16-QAM - Full RB - ANT2)



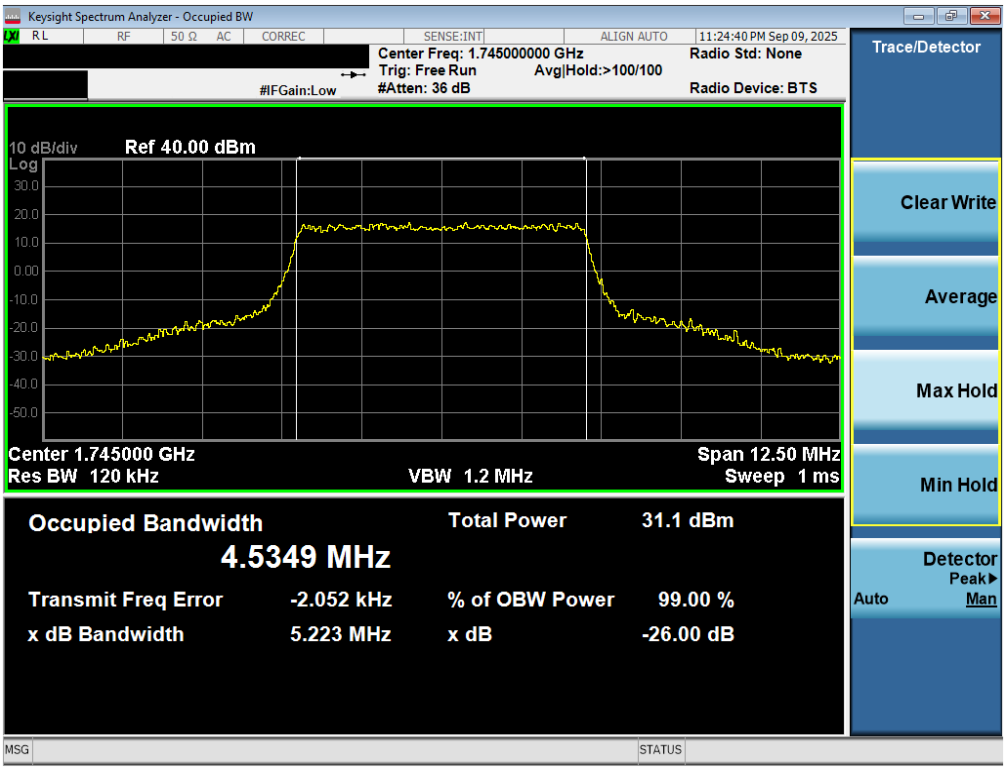
Plot 7-63. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz QPSK - Full RB - ANT2)



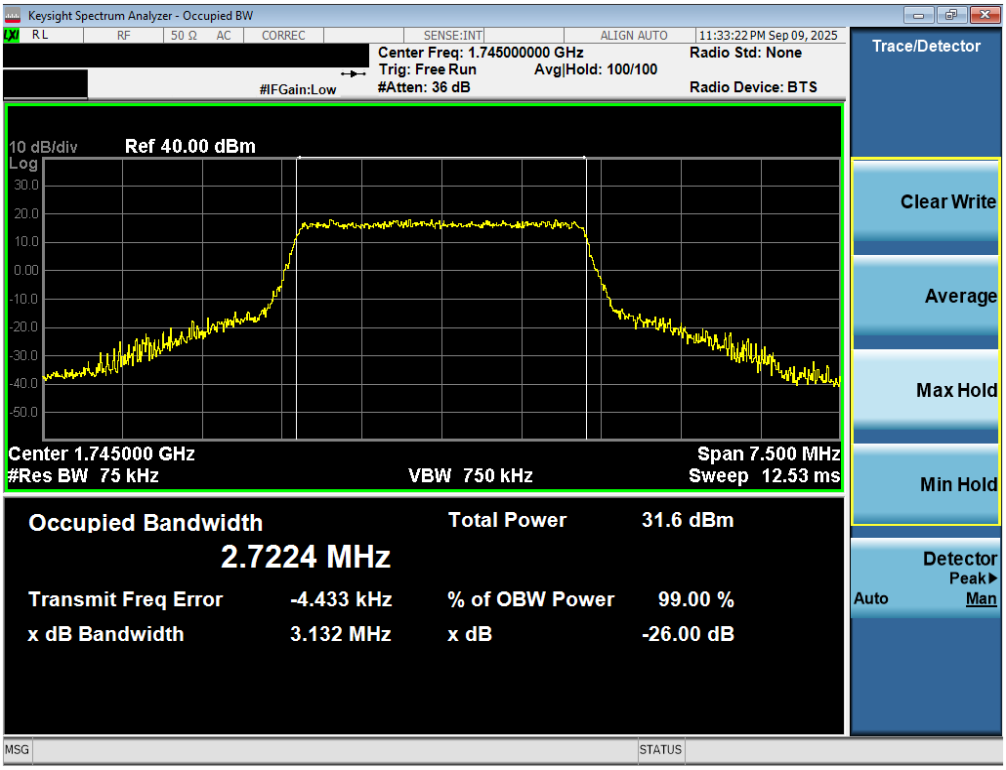
Plot 7-64. Occupied Bandwidth Plot (LTE Band 66/4 - 10MHz 16-QAM - Full RB - ANT2)



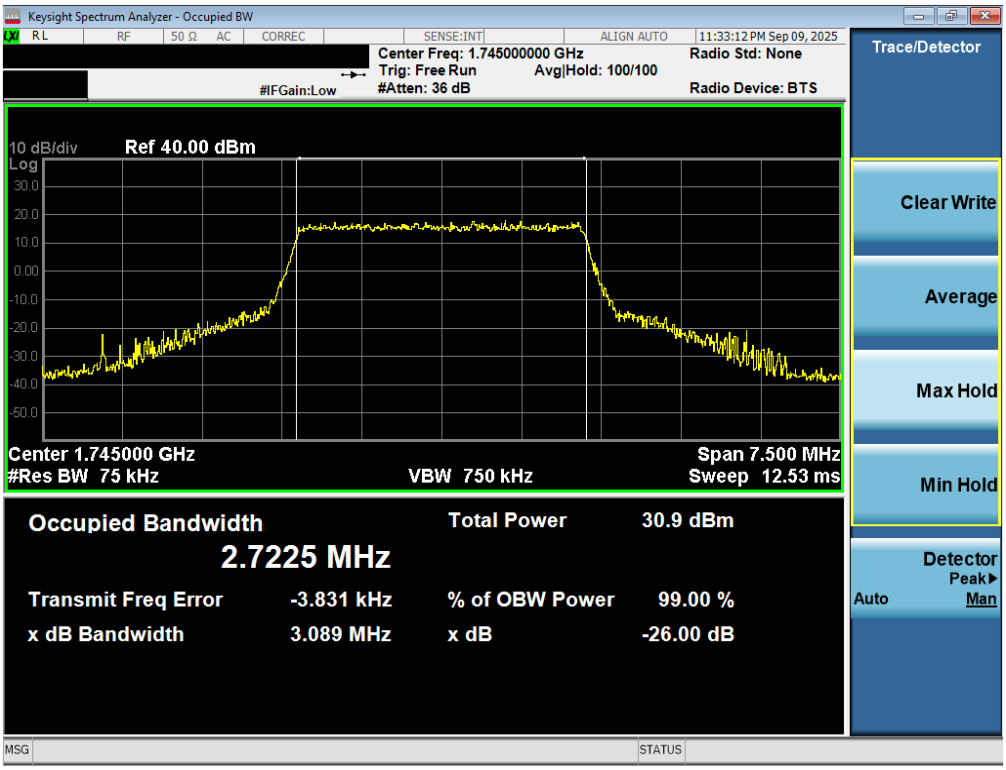
Plot 7-65. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz QPSK - Full RB - ANT2)



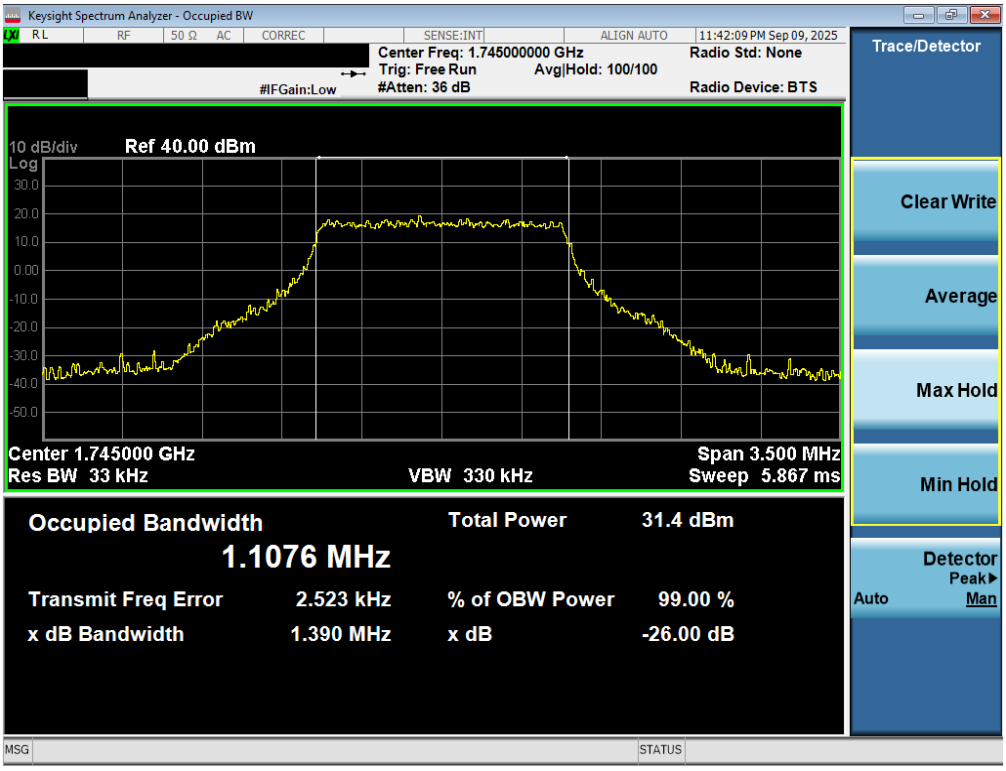
Plot 7-66. Occupied Bandwidth Plot (LTE Band 66/4 - 5MHz 16-QAM - Full RB - ANT2)



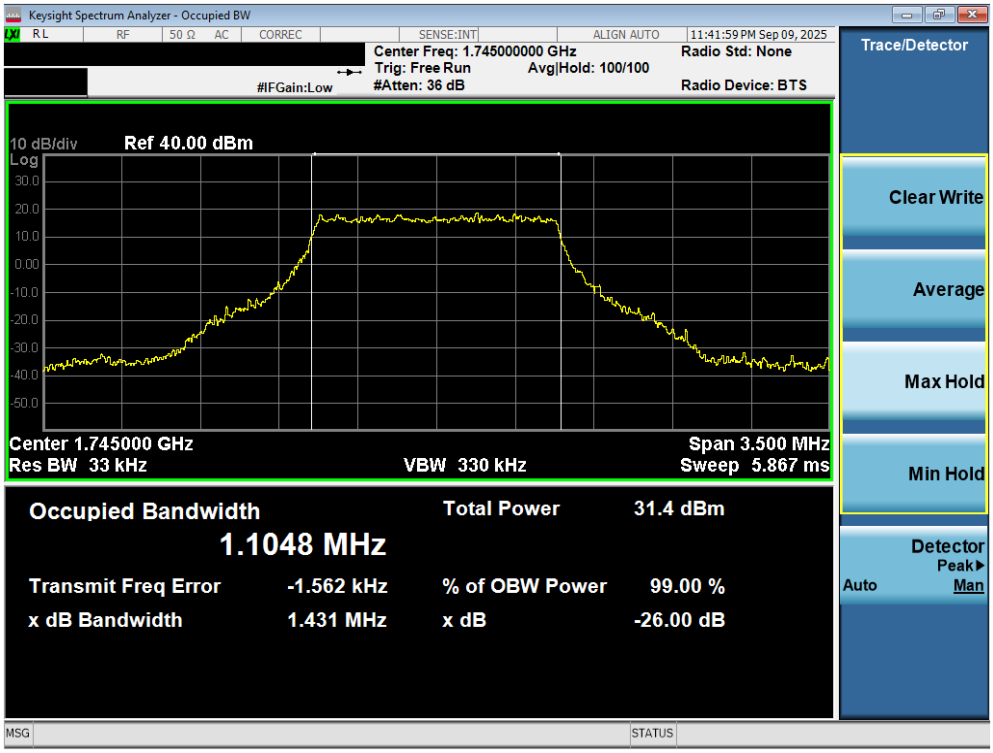
Plot 7-67. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz QPSK - Full RB - ANT2)



Plot 7-68. Occupied Bandwidth Plot (LTE Band 66/4 - 3MHz 16-QAM - Full RB - ANT2)

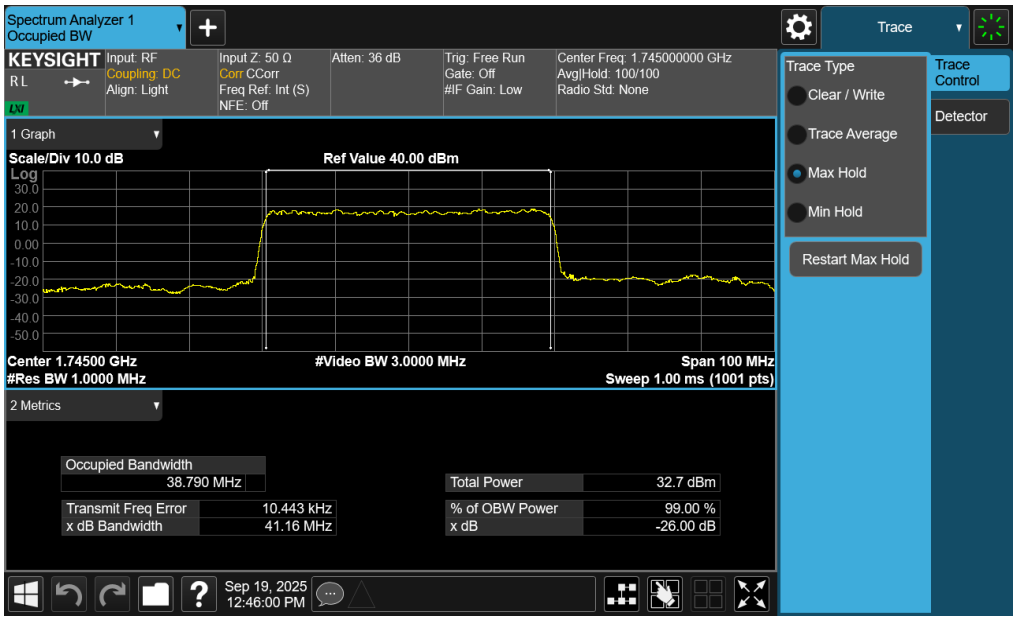


Plot 7-69. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz QPSK - Full RB - ANT2)

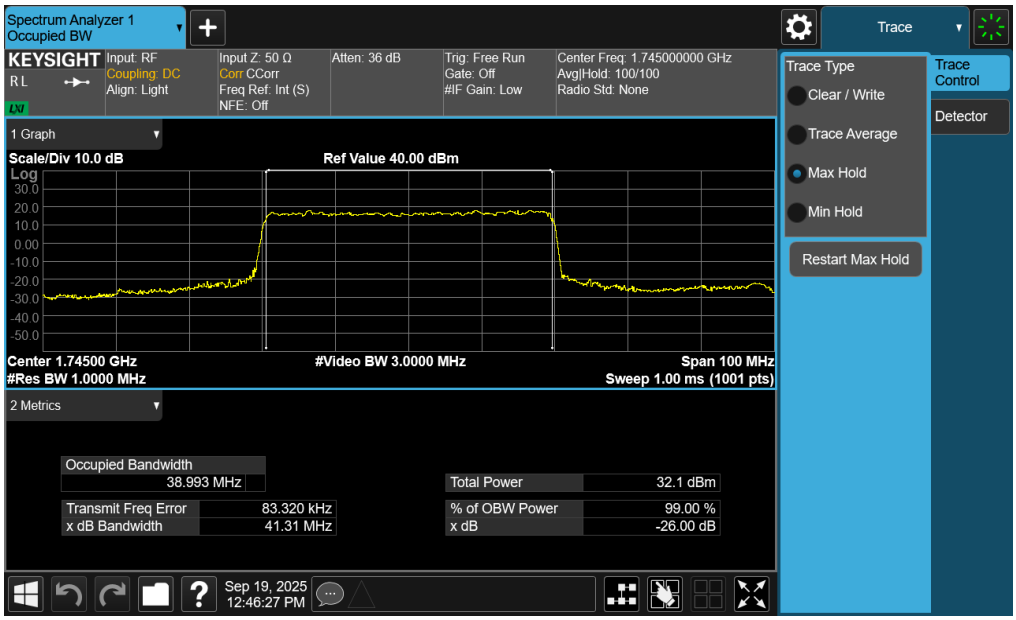


Plot 7-70. Occupied Bandwidth Plot (LTE Band 66/4 - 1.4MHz 16-QAM - Full RB - ANT2)

NR Band n66 – ANT2

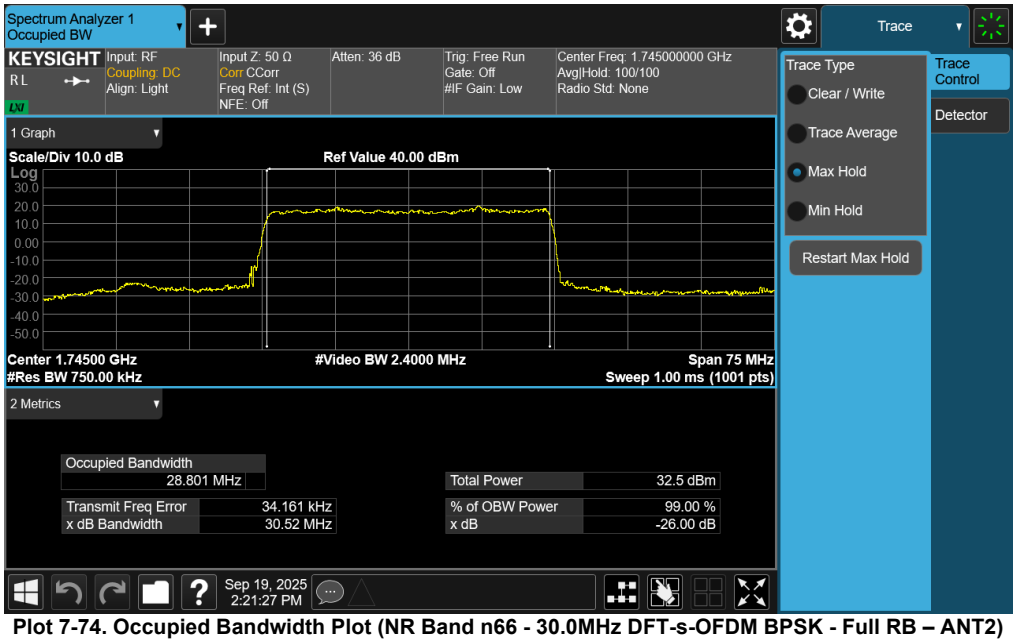


Plot 7-71. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

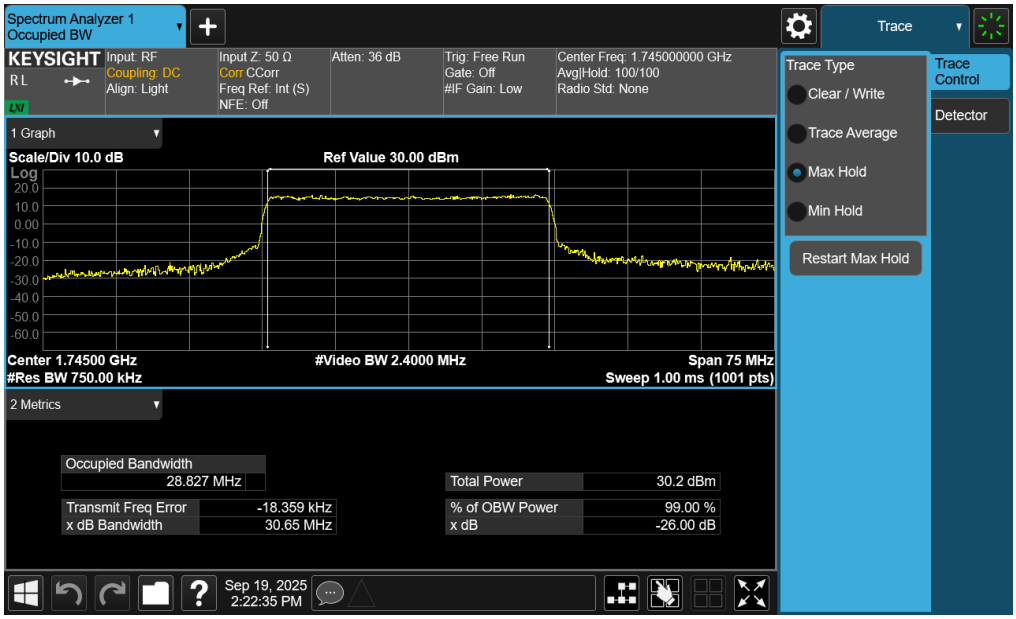


Plot 7-72. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz CP-OFDM QPSK - Full RB – ANT2)

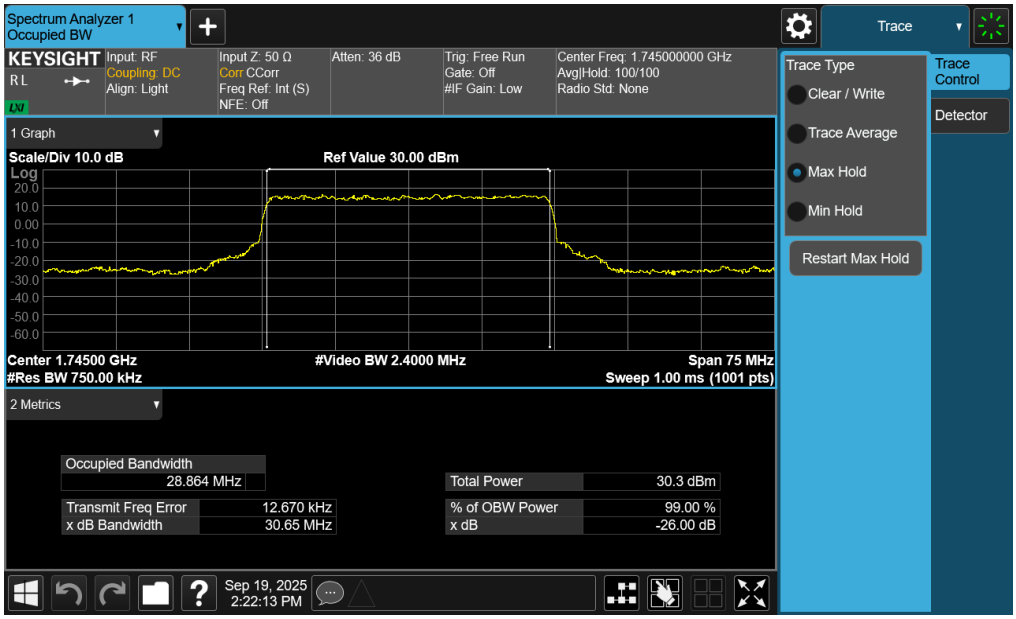
Plot 7-73. Occupied Bandwidth Plot (NR Band n66 - 40.0MHz CP-OFDM 16QAM - Full RB – ANT2)



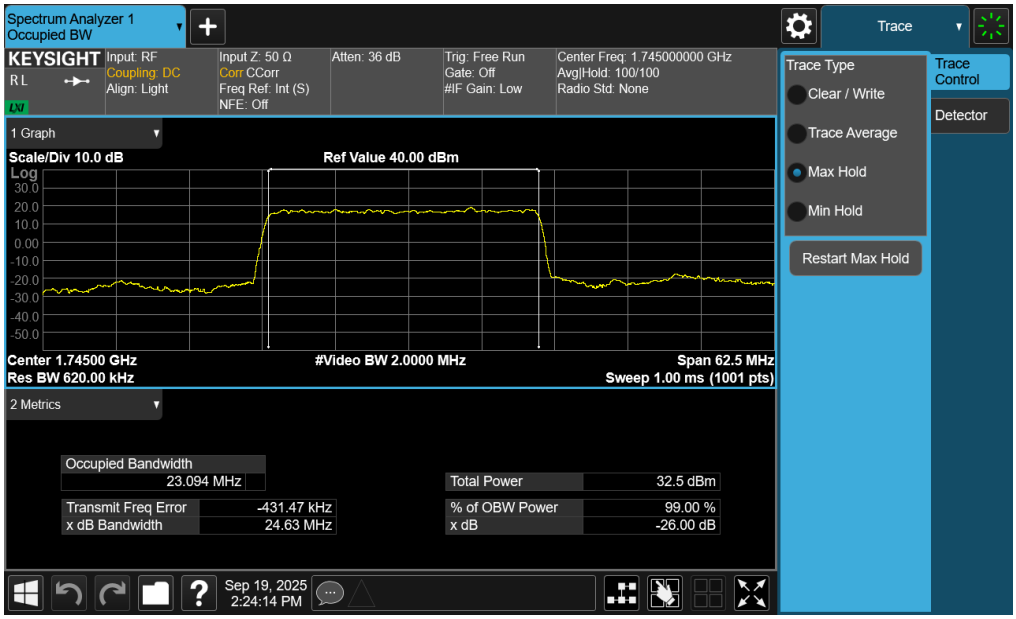
Plot 7-74. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)



Plot 7-75. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz CP-OFDM QPSK - Full RB – ANT2)



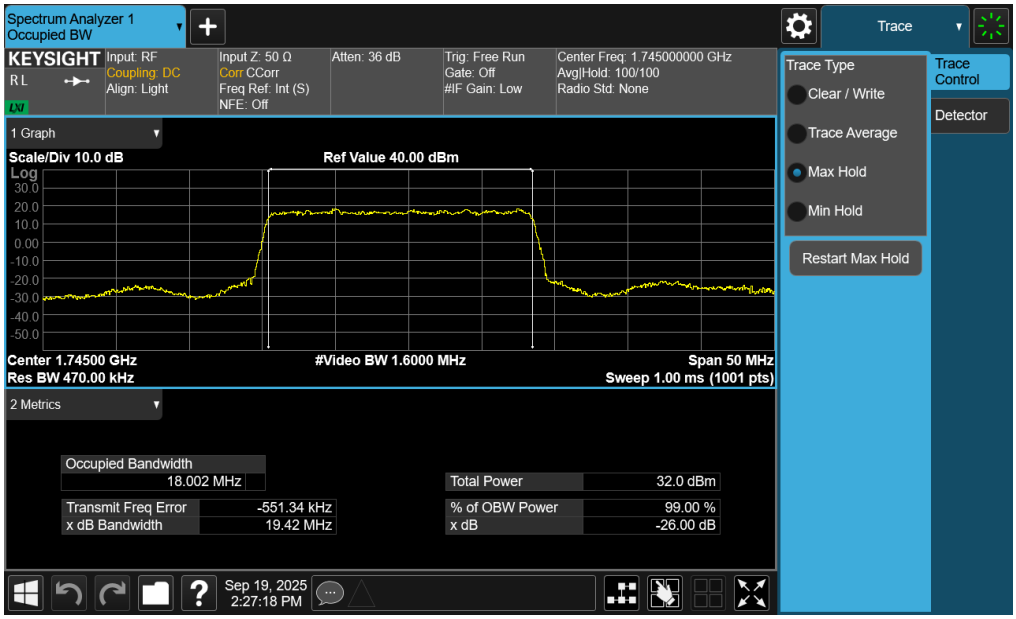
Plot 7-76. Occupied Bandwidth Plot (NR Band n66 - 30.0MHz CP-OFDM 16QAM - Full RB – ANT2)



Plot 7-77. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

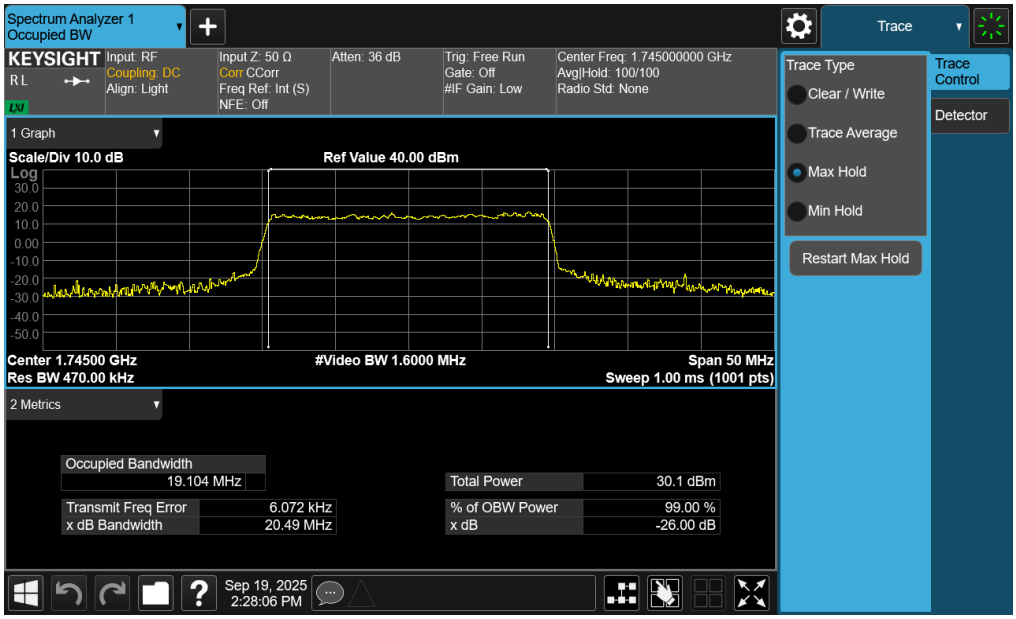
Plot 7-78. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM QPSK - Full RB – ANT2)

Plot 7-79. Occupied Bandwidth Plot (NR Band n66 - 25.0MHz CP-OFDM 16QAM - Full RB – ANT2)



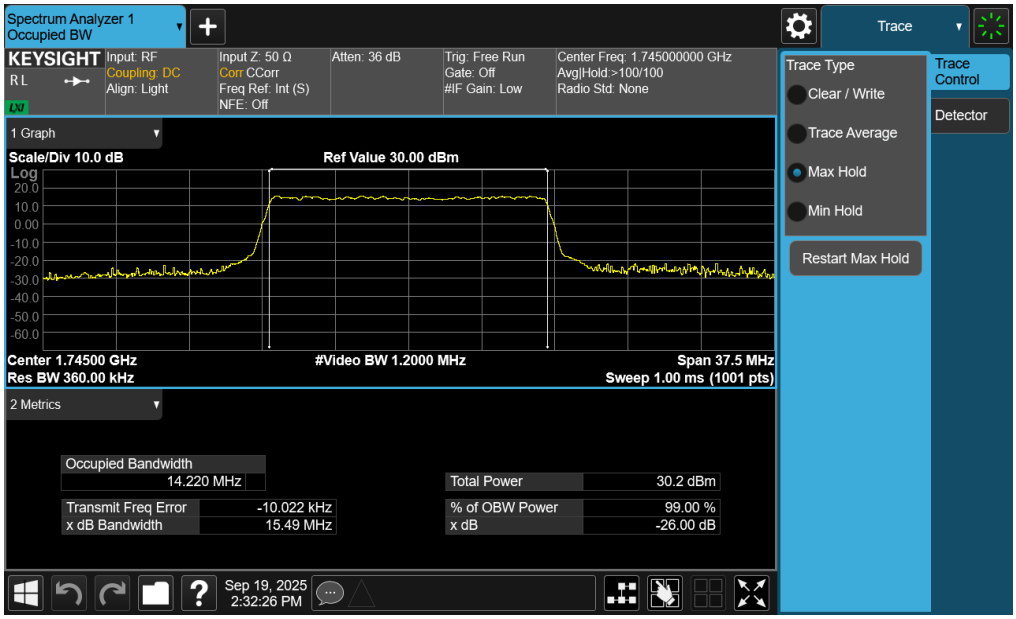
Plot 7-80. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

Plot 7-81. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM QPSK - Full RB – ANT2)



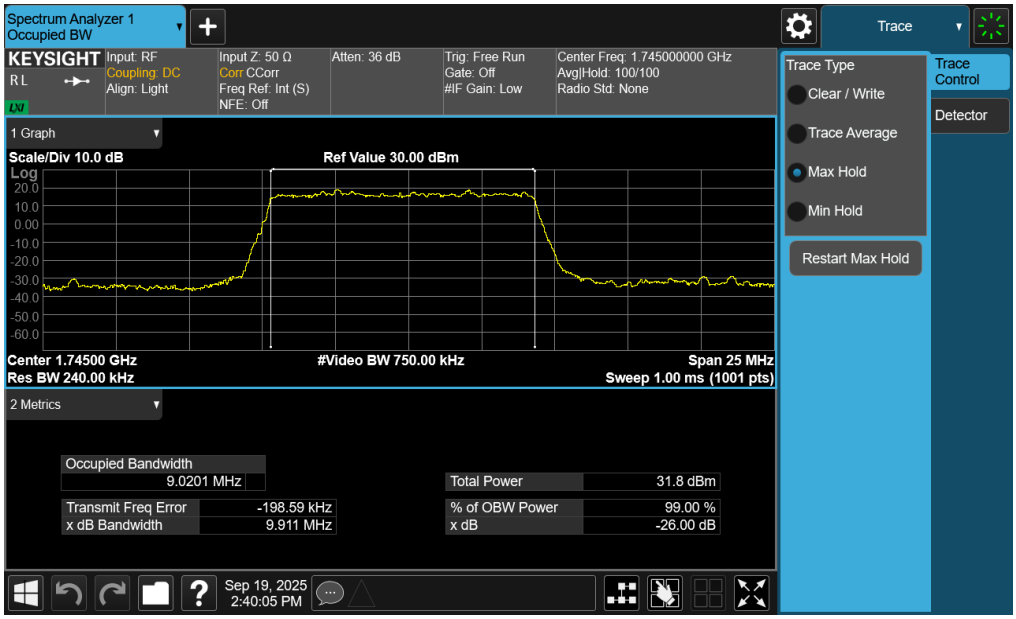
Plot 7-82. Occupied Bandwidth Plot (NR Band n66 - 20.0MHz CP-OFDM 16QAM - Full RB – ANT2)

Plot 7-83. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

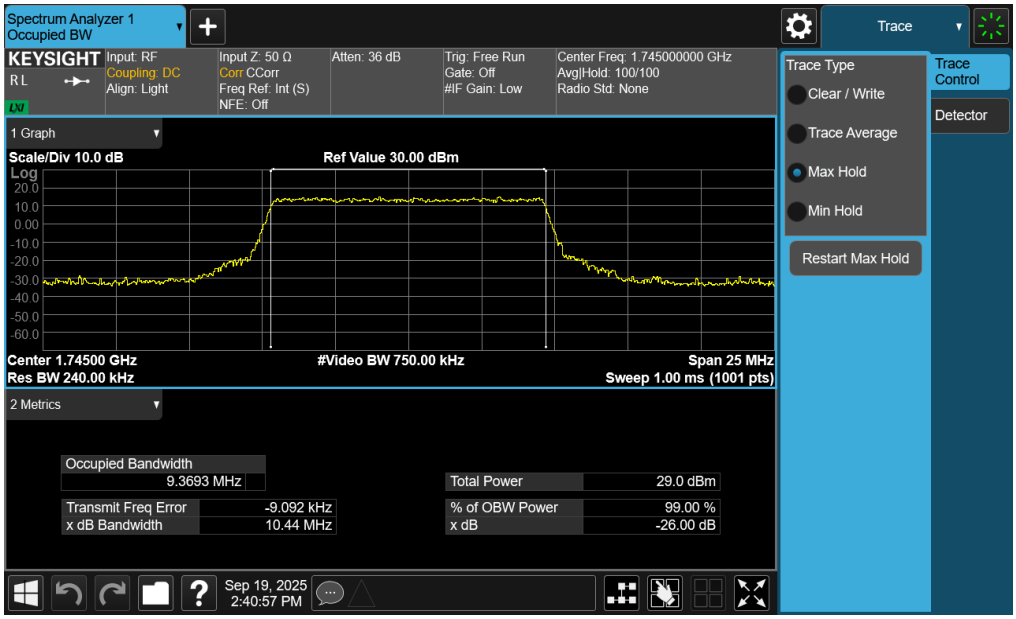


Plot 7-84. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM QPSK - Full RB – ANT2)

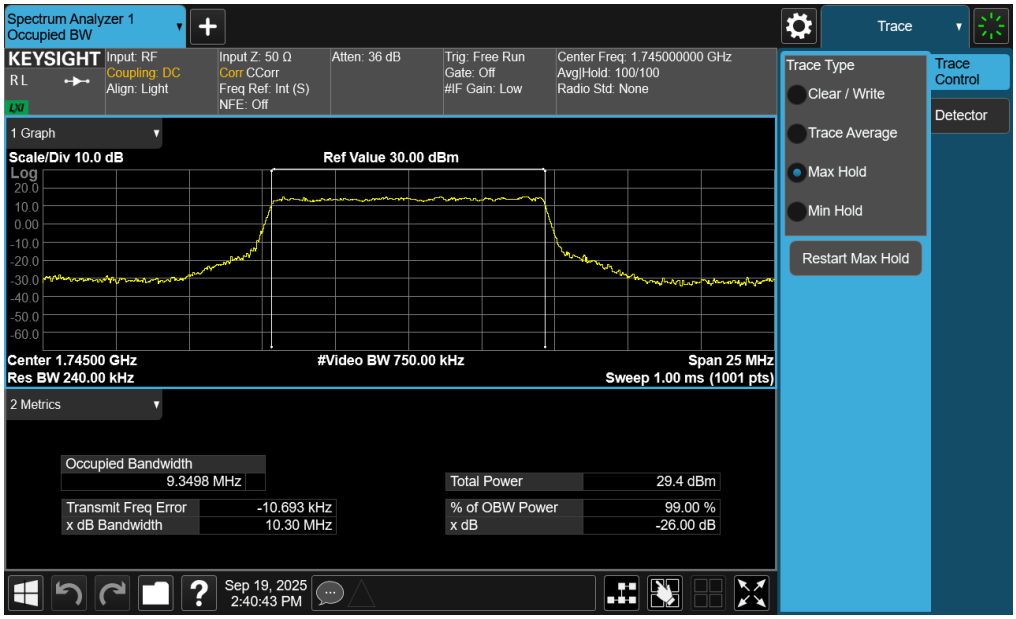
Plot 7-85. Occupied Bandwidth Plot (NR Band n66 - 15.0MHz CP-OFDM 16QAM - Full RB – ANT2)



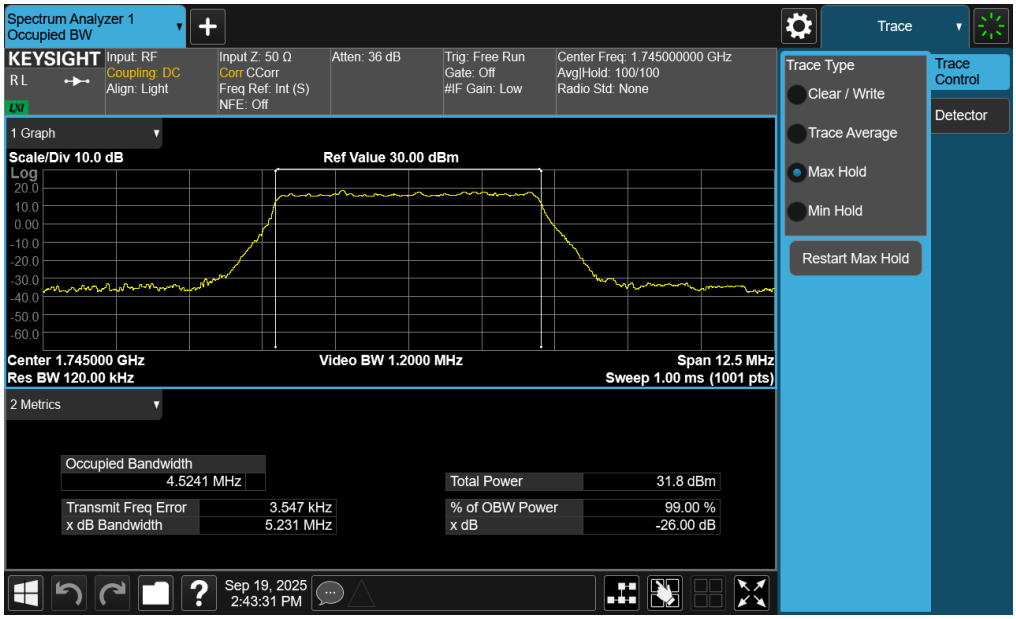
Plot 7-86. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)



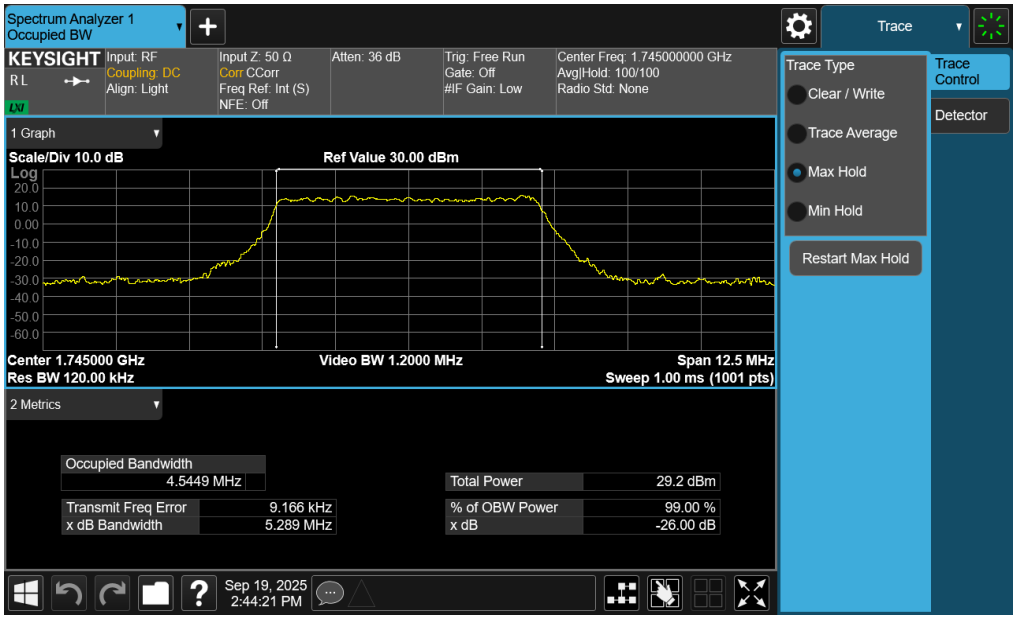
Plot 7-87. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM QPSK - Full RB – ANT2)



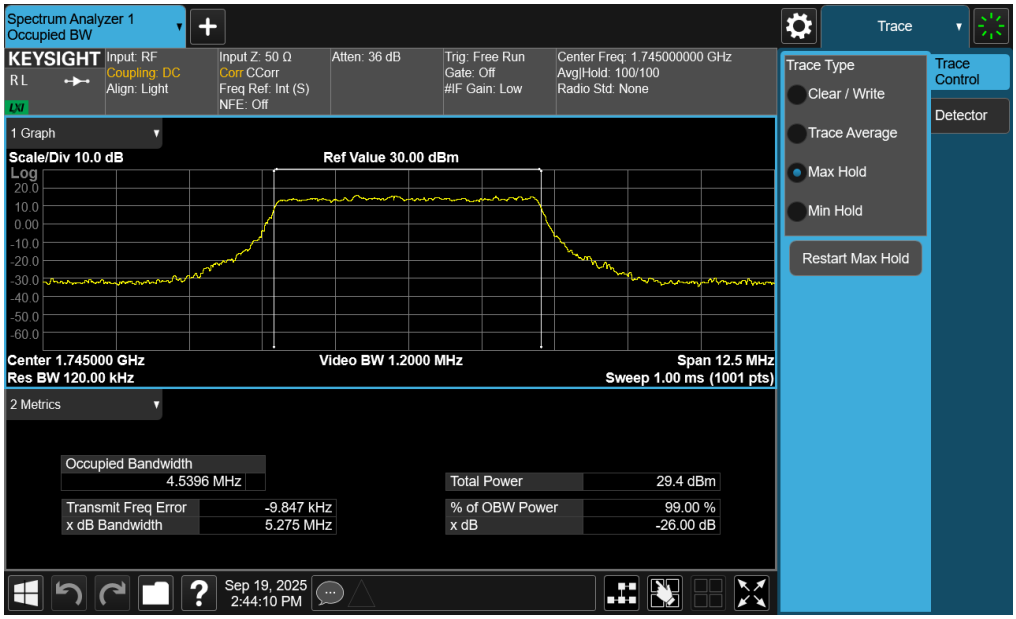
Plot 7-88. Occupied Bandwidth Plot (NR Band n66 - 10.0MHz CP-OFDM 16QAM - Full RB – ANT2)



Plot 7-89. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)



Plot 7-90. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM QPSK - Full RB – ANT2)



Plot 7-91. Occupied Bandwidth Plot (NR Band n66 - 5.0MHz CP-OFDM 16QAM - Full RB – ANT2)