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PART 24 MEASUREMENT REPORT

Applicant Name:
Samsung Electronics Co., Ltd.
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Date of Testing:
04/11/2026 - 04/16/2026
Test Report Issue Date:
5/22/2026
Test Site/Location:
Element Lab., Yongin-Si, Gyeonggi-do, South Korea
Test Report Serial No.:
1M2603110020-06-R4.A3L

FCC ID:	**A3LSMF776B**
APPLICANT:	**Samsung Electronics Co., Ltd.**

Application Type:	Certification
Model:	SM-F776B
EUT Type:	Portable Handset
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part:	24
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.

This revised Test Report (S/N: 1M2603110020-06-R4.A3L) supersedes and replaces the previously issued test report (S/N: 1M2603110020-06-R3.A3L) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Prepared by

Reviewed by

TEST REPORT REVISION HISTORY

Rev. No.	Description	Issue Date	Revised By
-	Initial Release	4/30/2026	WKR0000024214
1	Addressed comments made by TCB reviewer	5/20/2026	WKR0000024214
2	Addressed comments made by TCB reviewer	5/22/2026	WKR0000024214
3	Addressed comments made by TCB reviewer	5/22/2026	WKR0000005826
4	Addressed comments made by TCB reviewer	5/22/2026	WKR0000005826

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Antenna-1						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
GSM/GPRS	N/A	GMSK	1850.2 - 1909.8	0.733	28.65	247KGXW
EDGE	N/A	8-PSK	1850.2 - 1909.8	0.203	23.08	236KG7W
WCDMA	N/A	Spread Spectrum	1852.4 - 1907.6	0.186	22.69	4M20F9W
LTE Band 25/2	20 MHz	QPSK	1860 - 1905	0.194	22.88	18M0G7D
		16QAM	1860 - 1905	0.127	21.05	18M1W7D
	15 MHz	QPSK	1857.5 - 1907.5	0.191	22.82	13M5G7D
		16QAM	1857.5 - 1907.5	0.120	20.79	13M6W7D
	10 MHz	QPSK	1855 - 1910	0.184	22.65	9M06G7D
		16QAM	1855 - 1910	0.125	20.98	9M07W7D
	5 MHz	QPSK	1852.5 - 1912.5	0.186	22.69	4M58G7D
		16QAM	1852.5 - 1912.5	0.121	20.84	4M56W7D
	3 MHz	QPSK	1851.5 - 1913.5	0.193	22.86	2M73G7D
		16QAM	1851.5 - 1913.5	0.117	20.70	2M74W7D
	1.4 MHz	QPSK	1850.7 - 1914.3	0.191	22.81	1M12G7D
		16QAM	1850.7 - 1914.3	0.120	20.78	1M10W7D
NR Band n25/2	40 MHz	π/2 BPSK	1870 - 1895	0.159	22.01	38M9G7D
		QPSK	1870 - 1895	0.160	22.03	38M9G7D
		16QAM	1870 - 1895	0.123	20.89	38M9W7D
	30 MHz	π/2 BPSK	1865 - 1900	0.163	22.13	34M3G7D
		QPSK	1865 - 1900	0.160	22.04	33M9G7D
		16QAM	1865 - 1900	0.113	20.52	34M0W7D
	25 MHz	π/2 BPSK	1862.5 - 1902.5	0.161	22.07	28M9G7D
		QPSK	1862.5 - 1902.5	0.160	22.05	28M9G7D
		16QAM	1862.5 - 1902.5	0.107	20.28	29M0W7D
	20 MHz	π/2 BPSK	1860 - 1905	0.170	22.30	23M1G7D
		QPSK	1860 - 1905	0.167	22.24	24M0G7D
		16QAM	1860 - 1905	0.117	20.69	23M9W7D
	15 MHz	π/2 BPSK	1857.5 - 1907.5	0.169	22.29	18M0G7D
		QPSK	1857.5 - 1907.5	0.160	22.05	19M0G7D
		16QAM	1857.5 - 1907.5	0.115	20.61	19M1W7D
	10 MHz	π/2 BPSK	1855 - 1910	0.169	22.28	13M5G7D
		QPSK	1855 - 1910	0.160	22.03	14M2G7D
		16QAM	1855 - 1910	0.137	21.38	14M3W7D
	5 MHz	π/2 BPSK	1852.5 - 1912.5	0.169	22.27	9M03G7D
		QPSK	1852.5 - 1912.5	0.160	22.05	9M35G7D
		16QAM	1852.5 - 1912.5	0.138	21.40	9M37W7D

Antenna-2						
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
WCDMA	N/A	Spread Spectrum	1852.4 - 1907.6	0.075	18.74	4M20F9W
LTE Band 25/2	20 MHz	QPSK	1860 - 1905	0.124	20.93	18M1G7D
		16QAM	1860 - 1905	0.103	20.14	18M0W7D
	15 MHz	QPSK	1857.5 - 1907.5	0.137	21.37	13M5G7D
		16QAM	1857.5 - 1907.5	0.114	20.58	13M5W7D
	10 MHz	QPSK	1855 - 1910	0.130	21.14	9M05G7D
		16QAM	1855 - 1910	0.106	20.24	9M06W7D
	5 MHz	QPSK	1852.5 - 1912.5	0.134	21.26	4M58G7D
		16QAM	1852.5 - 1912.5	0.109	20.36	4M55W7D
	3 MHz	QPSK	1851.5 - 1913.5	0.138	21.41	2M74G7D
		16QAM	1851.5 - 1913.5	0.119	20.77	2M74W7D
	1.4 MHz	QPSK	1850.7 - 1914.3	0.132	21.22	1M12G7D
		16QAM	1850.7 - 1914.3	0.106	20.27	1M10W7D
NR Band n25/2	40 MHz	π/2 BPSK	1870 - 1895	0.070	18.44	39M0G7D
		QPSK	1870 - 1895	0.067	18.27	38M9G7D
		16QAM	1870 - 1895	0.055	17.44	38M9W7D
	30 MHz	π/2 BPSK	1865 - 1900	0.073	18.61	32M5G7D
		QPSK	1865 - 1900	0.062	17.96	33M9G7D
		16QAM	1865 - 1900	0.047	16.72	33M8W7D
	25 MHz	π/2 BPSK	1862.5 - 1902.5	0.071	18.54	28M8G7D
		QPSK	1862.5 - 1902.5	0.063	17.98	28M9G7D
		16QAM	1862.5 - 1902.5	0.045	16.51	28M8W7D
	20 MHz	π/2 BPSK	1860 - 1905	0.073	18.63	23M0G7D
		QPSK	1860 - 1905	0.064	18.07	23M9G7D
		16QAM	1860 - 1905	0.049	16.89	23M9W7D
	15 MHz	π/2 BPSK	1857.5 - 1907.5	0.071	18.49	18M0G7D
		QPSK	1857.5 - 1907.5	0.062	17.90	19M1G7D
		16QAM	1857.5 - 1907.5	0.045	16.53	19M0W7D
	10 MHz	π/2 BPSK	1855 - 1910	0.069	18.41	13M5G7D
		QPSK	1855 - 1910	0.062	17.90	14M2G7D
		16QAM	1855 - 1910	0.048	16.78	14M2W7D
	5 MHz	π/2 BPSK	1852.5 - 1912.5	0.073	18.66	9M01G7D
		QPSK	1852.5 - 1912.5	0.069	18.40	9M33G7D
		16QAM	1852.5 - 1912.5	0.058	17.60	9M34W7D

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 Materials Technology Suwon, Ltd. located in Yongin-si, Gyeonggi-do, 16954, South Korea.

- 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 ISED: 26168

2.0 DESCRIPTION OF TESTS

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMF776B**. 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 24.

Test Device Serial No.: 1501M, 1502M, 1508M, 1497M, 1498M

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), Wireless Power Transfer, NFC

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 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.

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: 0 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
GSM 1900	Ant B	-
WCDMA 1900	Ant B	Ant H
LTE 25/2	Ant B	Ant H
NR 25/2	Ant B	Ant H

Table 2-1. Antenna Naming Convention

2.4 Duty Cycle Information

For all 5G NR and LTE operations in FDD mode, the EUT duty cycle was set to 100%.

2.5 Software and Firmware

Testing was performed on device(s) using software/firmware version F776BXXU0AZDB installed on the EUT.

2.6 EMI Suppression Device(s)/Modifications

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

3.0 DESCRIPTION OF TEST

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	1.95
Radiated Disturbance (<1GHz)	4.10
Radiated Disturbance (>1GHz)	4.82
Radiated Disturbance (>18GHz)	4.96

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
Agilent	N9030A	PXA Signal Analyzer	05/23/2025	Annual	05/22/2026	MY49432391
Anritsu	S820E	Cable and Antenna Analyzer	06/13/2025	Annual	06/12/2026	1839097
Rohde & Schwarz	NRP-Z81	Power Sensor	05/23/2025	Annual	05/22/2026	101499
Anritsu	MT8000A	Radio Communication Test Station	11/10/2025	Annual	11/09/2026	6272337405
Com-Power	AL-130R	Active Loop Antenna	10/10/2024	Biennial	10/09/2026	10160045
Espec	SH-242	Environmental Chamber	09/17/2025	Annual	09/16/2026	93011064
Keysight Technologies	N9030B	PXA Signal Analyzer (44GHz)	07/07/2025	Annual	07/06/2026	MY57143276
NARDA	180-442A-KF	Horn Antenna (Small)	01/14/2026	Annual	01/13/2027	T058701-03
Rohde & Schwarz	CMW500	Radio Communication Tester	10/24/2025	Annual	10/23/2026	171075
Rohde & Schwarz	SMF100A	signal Generator	07/03/2025	Annual	07/02/2026	104154
Rohde & Schwarz	FSW	Signal / Spectrum Analyzer	09/15/2025	Annual	09/14/2026	101955
schwarzbeck	VULB9162	Broadband TRILOG Antenna	06/05/2025	Biennial	06/04/2027	9162-217
Sunol Sciences	DRH-118	Horn Antenna	06/04/2025	Annual	06/03/2026	A102416-1
-	UEK1	EMC Cable and Switch System	01/28/2026	Annual	01/27/2027	UEK1
-	KLTx1	Licensed Transmitter Cable Set	07/17/2025	Annual	07/16/2026	KLTx1
-	KLTx2	Licensed Transmitter Cable Set	07/17/2025	Annual	07/16/2026	KLTx2

Table 5-1. Test Equipment Calibration Table

Component	Serial Number
2.92mm Directional Coupler, Model: FM2CP1122-10	1946
10 dB Attenuator, Model: MA-18G10-5W-NMF	ESR10-1
Cable	CL-RF-40G-01

Table 5-2. KLTx1 Licensed Transmitter Cable Set Components

Component	Serial Number
Directional Coupler, Model: UDC	TEMPNO.09-898
10 dB Attenuator, Model: MA-18G10-5W-NMF	ESR10-2
Cable	CL-RF-40G-02

Table 5-3. KLTx2 Licensed Transmitter Cable Set Components

Component	Serial Number
Rohde & Schwarz SF Unit	102151
ALPHA WIRE H1	6340
HUBER+SUHNER, Inc. SUCOFLEX_104_PE Cable	305916
HUBER+SUHNER, Inc. SUCOFLEX_100	803242-6

Table 5-4. UEK1 EMC Cable and Switch System Components

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.

6.0 SAMPLE EMISSION DESIGNATORS

GSM Emission Designator

Emission Designator = 250KGXW
GSM BW = 250 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 250KG7W
EDGE BW = 250 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M16F9W
WCDMA BW = 4.16 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

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: A3LSMF776B

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

Mode(s): GSM/GPRS/EDGE/WCDMA/LTE/NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
CONDUCTED	Transmitter Conducted Output Power*	2.1046(a), 2.1046(c)	N/A	PASS	Section 7.2
	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3
	Conducted Band Edge / Spurious Emissions	2.1051, 24.238(a)	> 43 + 10log10(P[Watts]) at Band Edge and for all out-of-band emissions	PASS	Sections 7.4, 7.5
	Peak-to-Average Ratio	24.232(d)	≤ 13 dB	PASS	Section 7.6
	Frequency Stability	2.1055, 24.235	Fundamental emissions stay within authorized frequency block	PASS	Section 7.9
RADIATED	Equivalent Isotropic Radiated Power	24.232(c)	< 2 Watts max. EIRP	PASS	Section 7.7
	Radiated Spurious Emissions	2.1053, 24.238(a)	≥ 43 + 10 log (P[Watts]) dB of attenuation below transmitter power	PASS	Section 7.8

* 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 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 v2.4.0.

7.2 Conducted Output Power Data

Test Overview

All emissions are measured with a call box 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.

Mode	Channel	Frequency [MHz]	Conducted Power [dBm]
GSM PCS	512	1850.2	29.24
	661	1880.0	29.64
	810	1909.8	30.45
WCDMA PCS	9262	1852.4	24.58
	9400	1880.0	24.79
	9538	1907.6	24.89

Table 7-2. Max Conducted Power Test Results – GSM, WCDMA 1900 – Ant1

Mode	Channel	Frequency [MHz]	Conducted Power [dBm]
WCDMA PCS	9262	1852.4	24.57
	9400	1880.0	24.47
	9538	1907.6	24.84

Table 7-3. Max Conducted Power Test Results – WCDMA 1900 – Ant2

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	26140	1860.0	1 / 50	24.80
		26365	1882.5	1 / 0	24.90
		26590	1905.0	1 / 99	24.98
	16-QAM	26590	1905.0	1 / 99	23.58
15 MHz	QPSK	26115	1857.5	1 / 37	24.76
		26365	1882.5	1 / 37	24.84
		26615	1907.5	1 / 37	25.09
	16-QAM	26115	1857.5	1 / 37	23.57
10 MHz	QPSK	26090	1855.0	1 / 25	24.76
		26365	1882.5	1 / 49	24.67
		26640	1910.0	1 / 0	24.91
	16-QAM	26640	1910.0	1 / 0	23.51
5 MHz	QPSK	26065	1852.5	1 / 12	24.94
		26365	1882.5	1 / 0	24.71
		26665	1912.5	1 / 12	24.99
	16-QAM	26665	1912.5	1 / 12	23.56
3 MHz	QPSK	26055	1851.5	1 / 7	24.66
		26365	1882.5	1 / 7	24.88
		26675	1913.5	1 / 7	25.04
	16-QAM	26675	1913.5	1 / 7	23.39
1.4 MHz	QPSK	26047	1850.7	1 / 3	24.73
		26365	1882.5	1 / 3	24.83
		26683	1914.3	1 / 5	24.97
	16-QAM	26683	1914.3	1 / 5	23.52

Table 7-4. Max Conducted Power Test Results (LTE Band 25/2 – Ant1)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
20 MHz	QPSK	26140	1860.0	1 / 99	24.84
		26365	1882.5	1 / 0	24.86
		26590	1905.0	1 / 50	25.02
	16-QAM	26140	1860.0	1 / 99	23.89
15 MHz	QPSK	26115	1857.5	1 / 37	25.28
		26615	1907.5	1 / 37	25.40
	16-QAM	26115	1857.5	1 / 37	24.33
10 MHz	QPSK	26090	1855.0	1 / 0	25.05
		26365	1882.5	1 / 0	24.83
		26640	1910.0	1 / 25	25.03
	16-QAM	26640	1910.0	1 / 25	24.07
5 MHz	QPSK	26065	1852.5	1 / 12	25.17
		26365	1882.5	1 / 24	24.84
		26665	1912.5	1 / 12	25.28
	16-QAM	26665	1912.5	1 / 12	24.28
3 MHz	QPSK	26055	1851.5	1 / 7	25.32
		26365	1882.5	1 / 7	25.18
		26675	1913.5	1 / 7	25.37
	16-QAM	26055	1851.5	1 / 7	24.52
1.4 MHz	QPSK	26047	1850.7	1 / 0	25.13
		26365	1882.5	1 / 5	24.95
		26683	1914.3	1 / 3	25.16
	16-QAM	26047	1850.7	1 / 0	24.02

Table 7-5. Max Conducted Power Test Results (LTE Band 25/2 – Ant2)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
40 MHz	π/2 BPSK	374000	1870.0	1 / 108	24.44
		376500	1882.5	1 / 214	24.25
		379000	1895.0	1 / 108	24.41
	QPSK	374000	1870.0	1 / 108	24.42
		376500	1882.5	1 / 214	24.31
		379000	1895.0	1 / 108	24.38
	16-QAM	379000	1895.0	1 / 108	23.64
30 MHz	π/2 BPSK	372000	1865.0	1 / 80	24.41
		376500	1882.5	1 / 158	24.37
		381000	1900.0	1 / 80	24.57
	QPSK	372000	1865.0	1 / 80	24.43
		376500	1882.5	1 / 158	24.32
		381000	1900.0	1 / 80	24.56
	16-QAM	372000	1865.0	1 / 80	23.37
25 MHz	π/2 BPSK	372000	1862.5	1 / 66	24.44
		376500	1882.5	1 / 131	24.31
		381000	1902.5	1 / 131	24.51
	QPSK	372000	1862.5	1 / 66	24.32
		376500	1882.5	1 / 131	24.33
		381000	1902.5	1 / 131	24.36
	16-QAM	372000	1862.5	1 / 66	23.48
20 MHz	π/2 BPSK	372000	1860.0	1 / 104	24.74
		376500	1882.5	1 / 1	24.54
		381000	1905.0	1 / 104	24.51
	QPSK	372000	1860.0	1 / 104	24.67
		376500	1882.5	1 / 1	24.52
		381000	1905.0	1 / 104	24.54
	16-QAM	372000	1860.0	1 / 104	23.66
15 MHz	π/2 BPSK	371500	1857.5	1 / 39	24.47
		376500	1882.5	1 / 1	24.53
		381500	1907.5	1 / 39	24.57
	QPSK	371500	1857.5	1 / 39	24.27
		376500	1882.5	1 / 1	24.33
		381500	1907.5	1 / 39	24.43
	16-QAM	381500	1907.5	1 / 39	23.41
10 MHz	π/2 BPSK	371000	1855.0	1 / 26	24.45
		376500	1882.5	1 / 1	24.52
		382000	1910.0	1 / 50	24.72
	QPSK	371000	1855.0	1 / 26	24.38
		376500	1882.5	1 / 1	24.31
		382000	1910.0	1 / 50	24.67
	16-QAM	382000	1910.0	1 / 50	23.63
5 MHz	π/2 BPSK	370500	1852.5	1 / 23	24.62
		376500	1882.5	1 / 12	24.51
		382500	1912.5	1 / 12	24.69
	QPSK	370500	1852.5	1 / 23	24.57
		376500	1882.5	1 / 12	24.33
		382500	1912.5	1 / 12	24.63
	16-QAM	376500	1882.5	1 / 12	23.43

Table 7-6. Max Conducted Power Test Results (NR Band n25/2 – Ant1)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
40 MHz	π/2 BPSK	374000	1870.0	1 / 108	24.66
		376500	1882.5	1 / 108	24.54
		379000	1895.0	1 / 108	24.67
	QPSK	374000	1870.0	1 / 108	24.43
		376500	1882.5	1 / 108	24.42
		379000	1895.0	1 / 108	24.57
	16-QAM	379000	1895.0	1 / 108	23.49
30 MHz	π/2 BPSK	372000	1865.0	1 / 80	24.73
		376500	1882.5	1 / 158	24.71
		381000	1900.0	1 / 80	24.62
	QPSK	372000	1865.0	1 / 80	24.59
		376500	1882.5	1 / 158	24.11
		381000	1900.0	1 / 80	24.55
	16-QAM	381000	1900.0	1 / 80	23.27
25 MHz	π/2 BPSK	372000	1862.5	1 / 66	24.65
		376500	1882.5	1 / 1	24.64
		381000	1902.5	1 / 66	24.80
	QPSK	372000	1862.5	1 / 66	24.55
		376500	1882.5	1 / 1	24.13
		381000	1902.5	1 / 66	24.73
	16-QAM	381000	1902.5	1 / 66	23.19
20 MHz	π/2 BPSK	372000	1860.0	1 / 104	24.93
		376500	1882.5	1 / 1	24.72
		381000	1905.0	1 / 53	24.70
	QPSK	372000	1860.0	1 / 104	24.69
		376500	1882.5	1 / 1	24.22
		381000	1905.0	1 / 53	24.68
	16-QAM	372000	1860.0	1 / 104	23.28
15 MHz	π/2 BPSK	371500	1857.5	1 / 39	24.78
		376500	1882.5	1 / 1	24.59
		381500	1907.5	1 / 39	24.68
	QPSK	371500	1857.5	1 / 39	24.52
		376500	1882.5	1 / 1	24.05
		381500	1907.5	1 / 39	24.04
	16-QAM	381500	1907.5	1 / 39	22.44
10 MHz	π/2 BPSK	371000	1855.0	1 / 1	24.63
		376500	1882.5	1 / 1	24.51
		382000	1910.0	1 / 1	24.71
	QPSK	371000	1855.0	1 / 1	24.51
		376500	1882.5	1 / 1	24.05
		382000	1910.0	1 / 1	24.26
	16-QAM	371000	1855.0	1 / 1	23.17
5 MHz	π/2 BPSK	370500	1852.5	1 / 23	24.88
		376500	1882.5	1 / 1	24.76
		382500	1912.5	1 / 1	24.83
	QPSK	370500	1852.5	1 / 23	24.69
		376500	1882.5	1 / 1	24.55
		382500	1912.5	1 / 1	24.70
	16-QAM	370500	1852.5	1 / 23	23.52

Table 7-7. Max Conducted Power Test Results (NR Band n25/2 – 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.

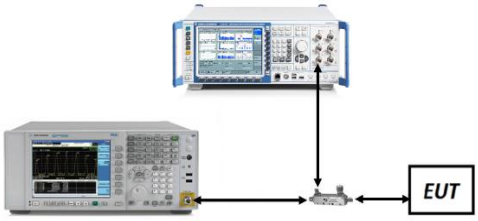


Figure 7-3. Test Instrument & Measurement Setup

Test Notes

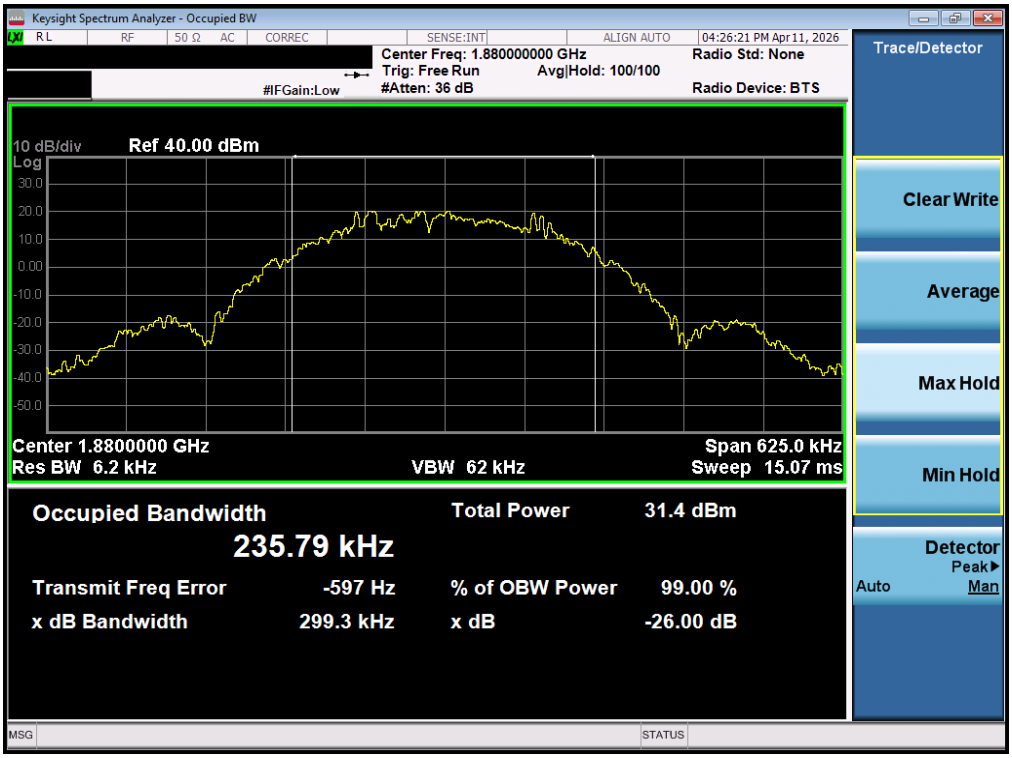
None.

Mode	Bandwidth	Modulation	OBW [MHz]
GSM-PCS	N/A	GSMK	0.247
GSM-PCS Edge		8-PSK	0.236
WCDMA-PCS		Spead Spectrum	4.20
LTE-B25-2	20 MHz	QPSK	18.04
		16QAM	18.06
	15 MHz	QPSK	13.54
		16QAM	13.57
	10 MHz	QPSK	9.06
		16QAM	9.07
	5 MHz	QPSK	4.58
		16QAM	4.56
	3 MHz	QPSK	2.73
		16QAM	2.74
	1.4 MHz	QPSK	1.12
		16QAM	1.10
NR-n25-2	40 MHz	π/2 BPSK	38.90
		QPSK	38.93
		16QAM	38.92
	30 MHz	π/2 BPSK	28.85
		QPSK	28.88
		16QAM	29.00
	25 MHz	π/2 BPSK	23.07
		QPSK	23.97
		16QAM	23.94
	20 MHz	π/2 BPSK	18.02
		QPSK	19.04
		16QAM	19.12
	15 MHz	π/2 BPSK	13.48
		QPSK	14.18
		16QAM	14.26
	10 MHz	π/2 BPSK	9.03
		QPSK	9.35
		16QAM	9.37
	5 MHz	π/2 BPSK	4.56
		QPSK	4.61
		16QAM	4.52

Table 7-8. Occupied Bandwidth Results – Ant1

GPRS PCS – Ant1

Plot 7-1. Occupied Bandwidth Plot (GPRS, Ch. 661 – Ant1)



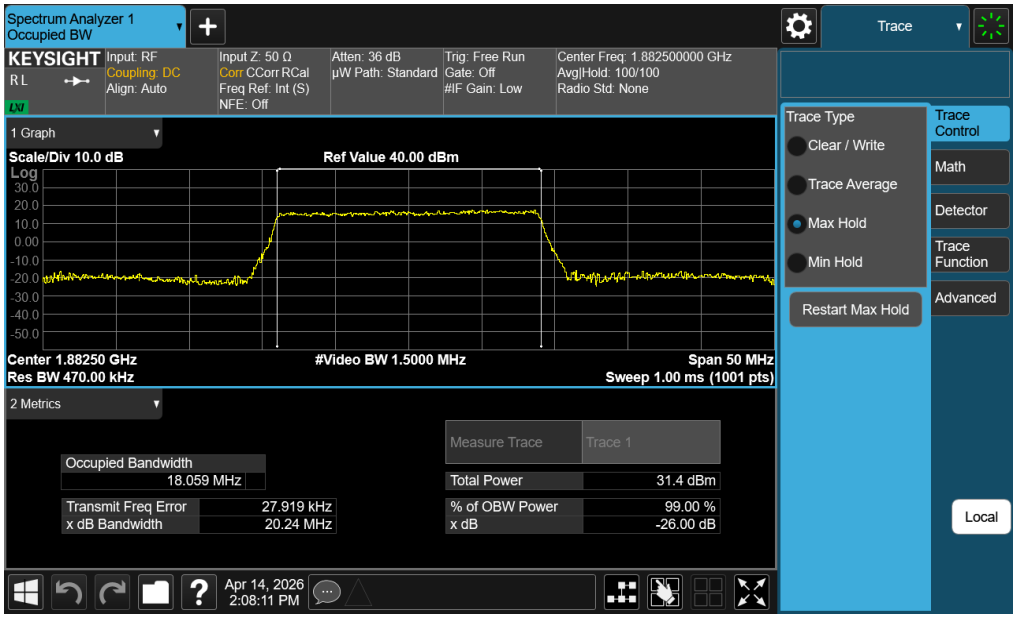
Plot 7-2. Occupied Bandwidth Plot (EDGE, Ch. 661 – Ant1)

WCDMA PCS – Ant1

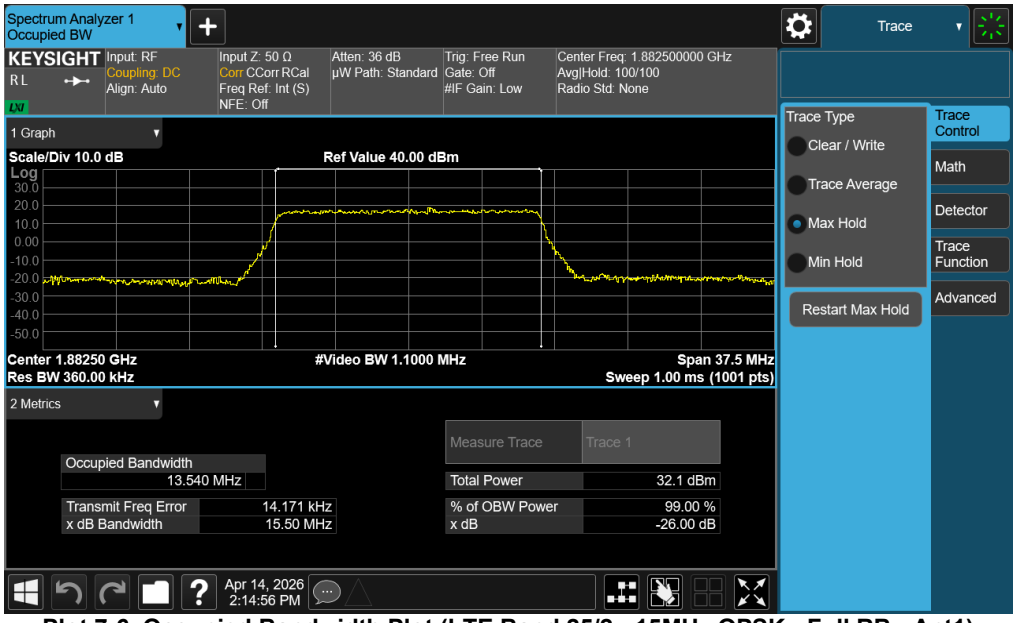
Plot 7-3. Occupied Bandwidth Plot (WCDMA, Ch. 9400 – Ant1)

LTE Band 25/2 – Ant1

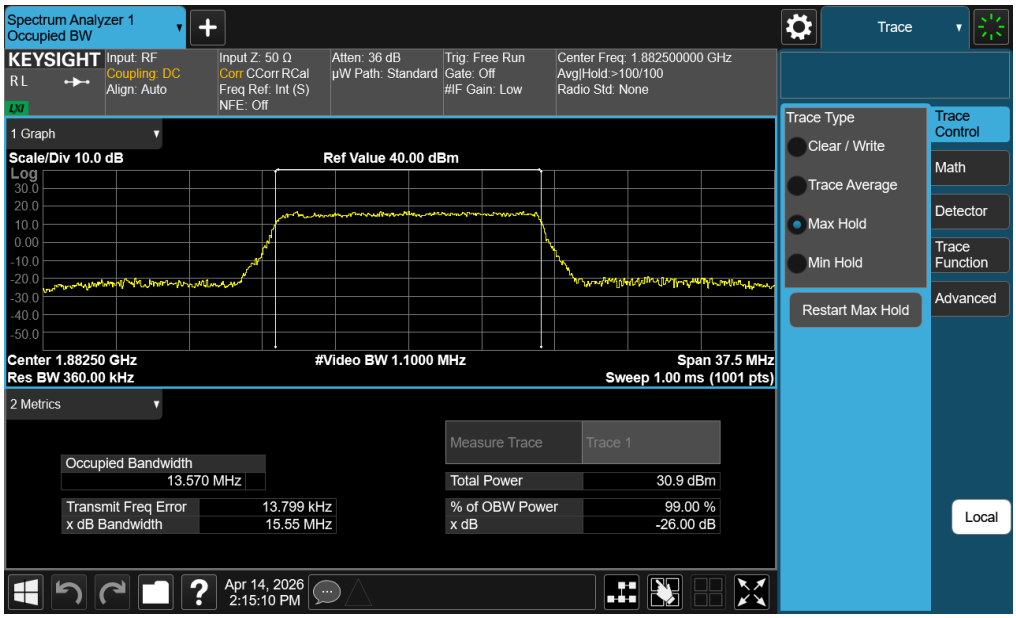
Plot 7-4. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz QPSK - Full RB - Ant1)



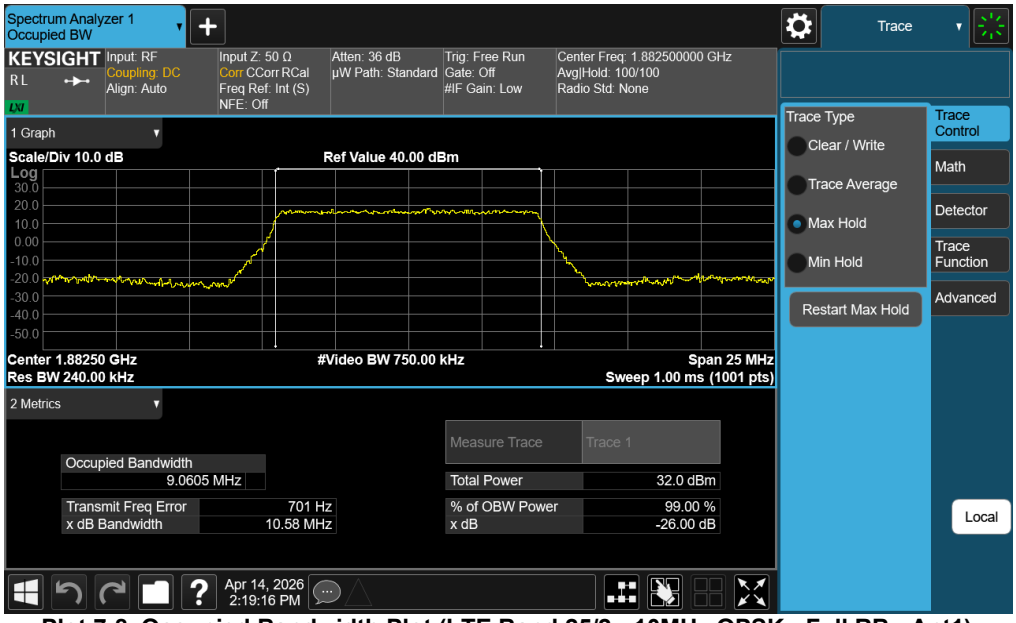
Plot 7-5. Occupied Bandwidth Plot (LTE Band 25/2 - 20MHz 16-QAM - Full RB - Ant1)



Plot 7-6. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz QPSK - Full RB - Ant1)



Plot 7-7. Occupied Bandwidth Plot (LTE Band 25/2 - 15MHz 16-QAM - Full RB - Ant1)

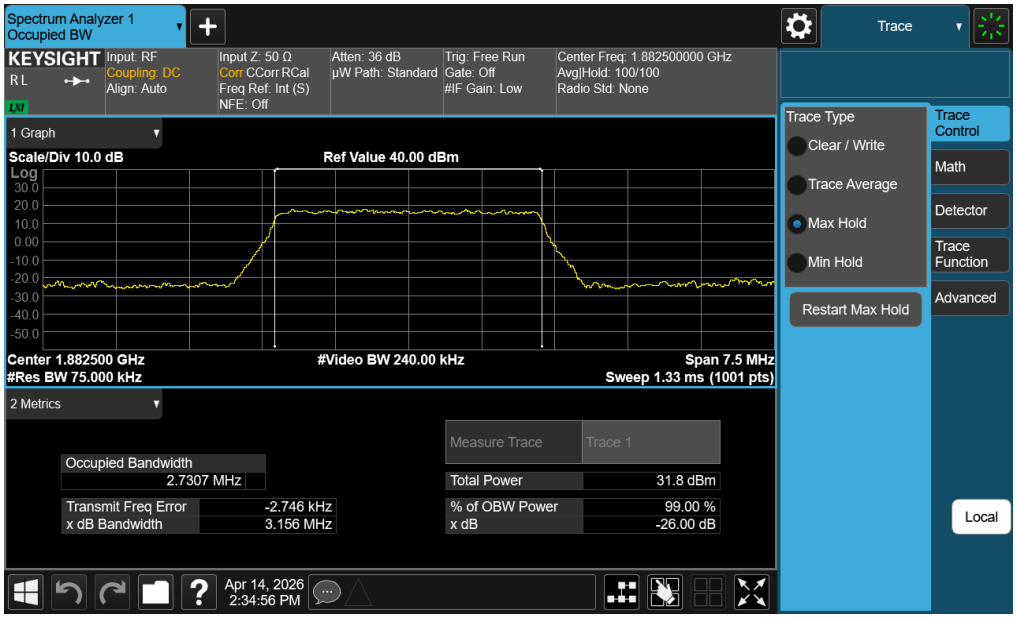


Plot 7-8. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz QPSK - Full RB - Ant1)

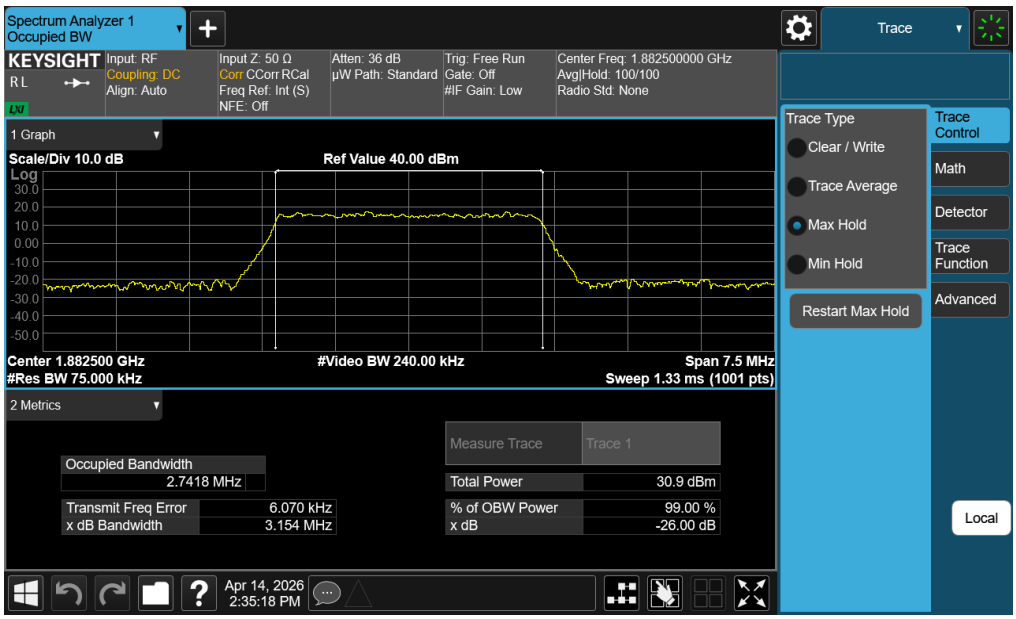
Plot 7-9. Occupied Bandwidth Plot (LTE Band 25/2 - 10MHz 16-QAM - Full RB - Ant1)

Plot 7-10. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz QPSK - Full RB - Ant1)

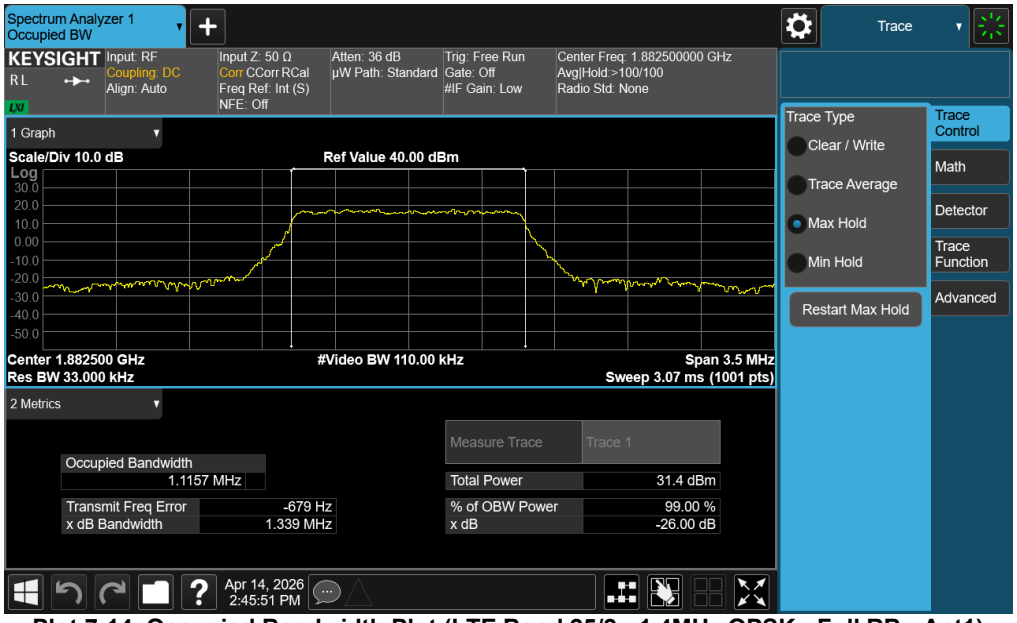
Plot 7-11. Occupied Bandwidth Plot (LTE Band 25/2 - 5MHz 16-QAM - Full RB - Ant1)



Plot 7-12. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz QPSK - Full RB - Ant1)



Plot 7-13. Occupied Bandwidth Plot (LTE Band 25/2 - 3MHz 16-QAM - Full RB - Ant1)



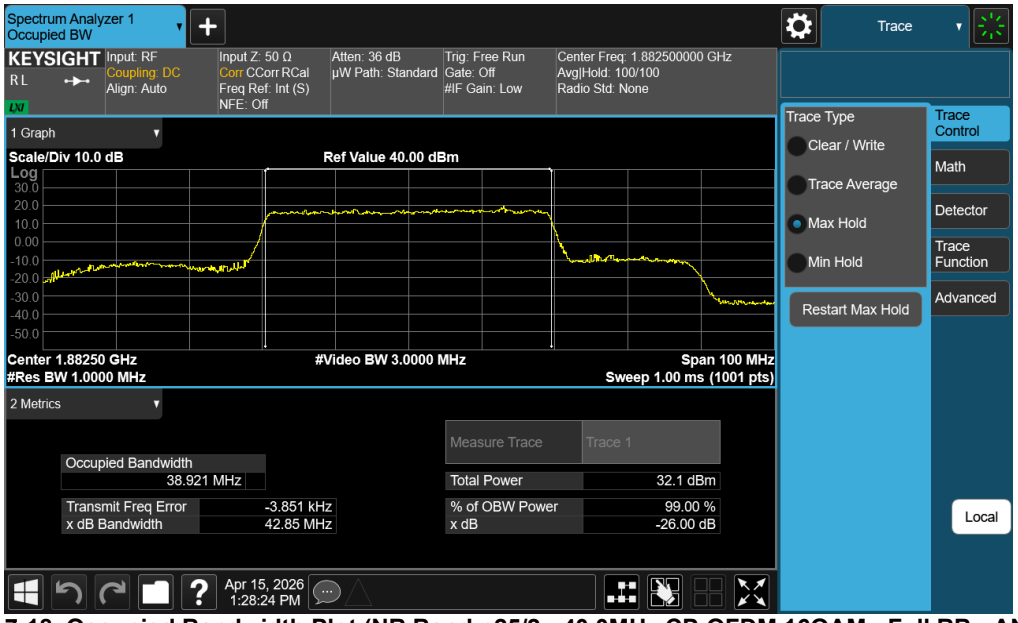
Plot 7-14. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz QPSK - Full RB - Ant1)

Plot 7-15. Occupied Bandwidth Plot (LTE Band 25/2 - 1.4MHz 16-QAM - Full RB - Ant1)

NR Band n25/2 – Ant1

Plot 7-16. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)

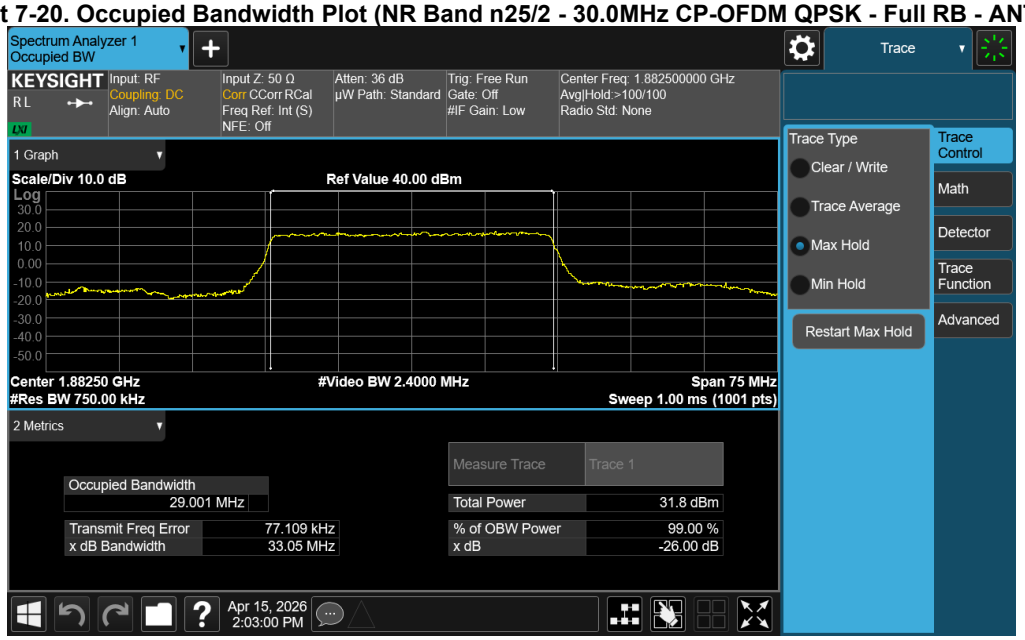
Plot 7-17. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz CP-OFDM QPSK - Full RB - ANT1)



Plot 7-18. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz CP-OFDM 16QAM - Full RB - ANT1)

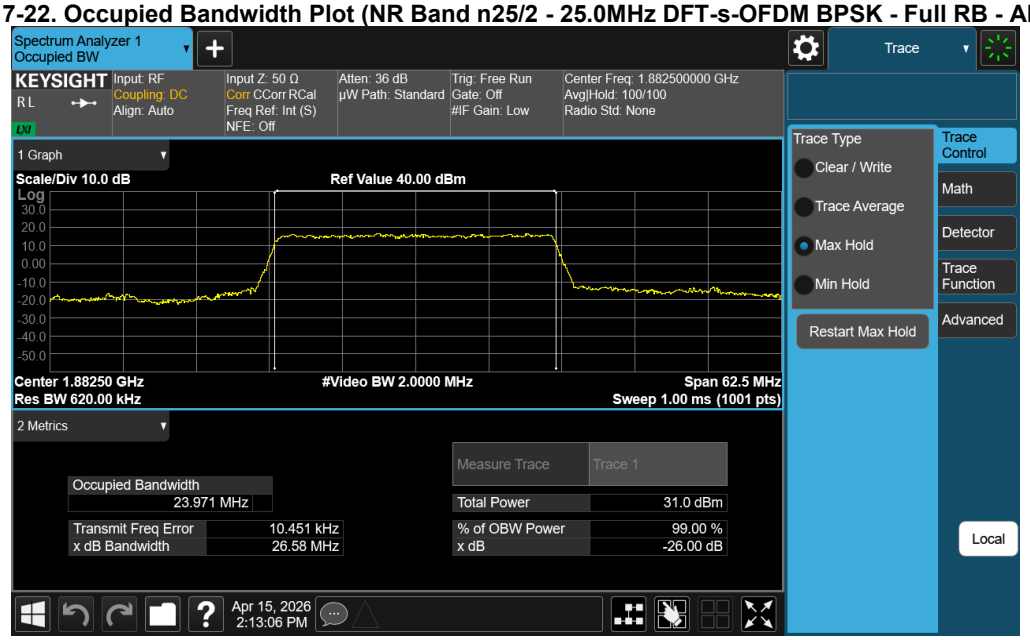
Plot 7-19. Occupied Bandwidth Plot (NR Band n25/2 - 30.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)

Plot 7-20. Occupied Bandwidth Plot (NR Band n25/2 - 30.0MHz CP-OFDM QPSK - Full RB - ANT1)



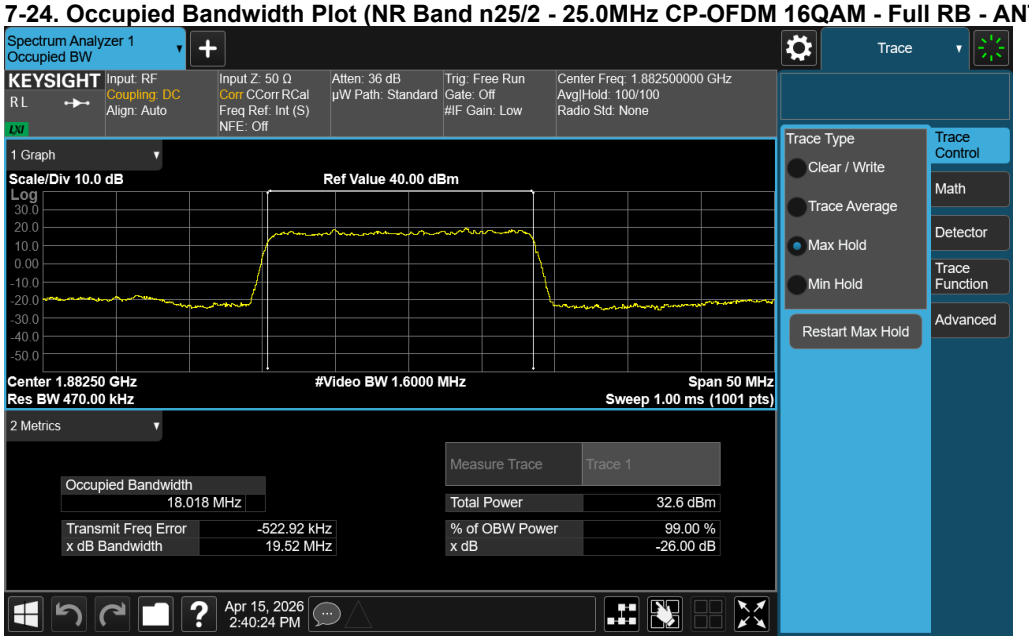
Plot 7-21. Occupied Bandwidth Plot (NR Band n25/2 - 30.0MHz CP-OFDM 16QAM - Full RB - ANT1)

Plot 7-22. Occupied Bandwidth Plot (NR Band n25/2 - 25.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)

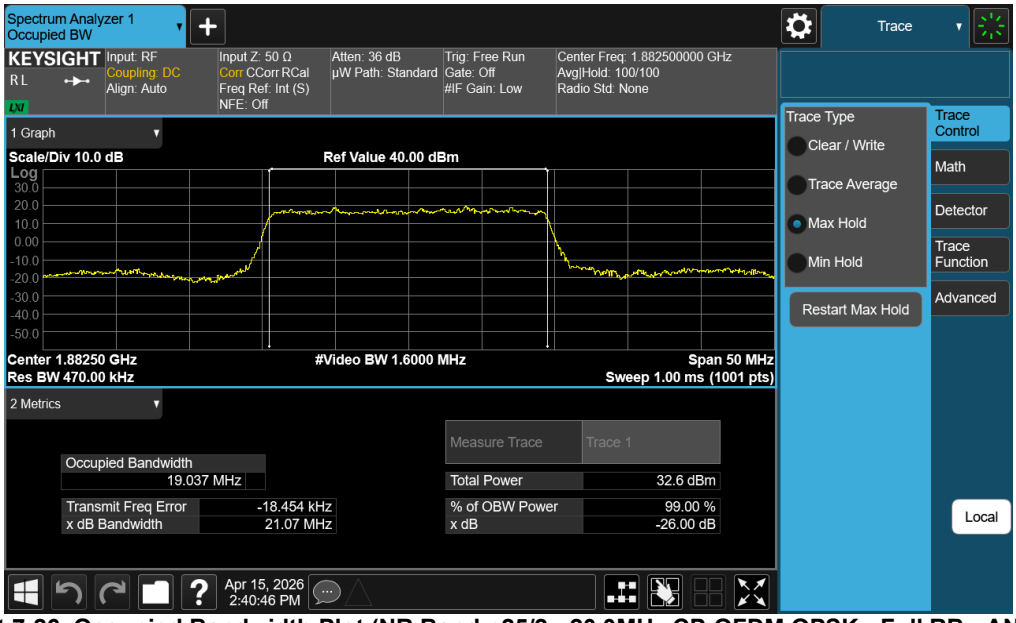


Plot 7-23. Occupied Bandwidth Plot (NR Band n25/2 - 25.0MHz CP-OFDM QPSK - Full RB - ANT1)

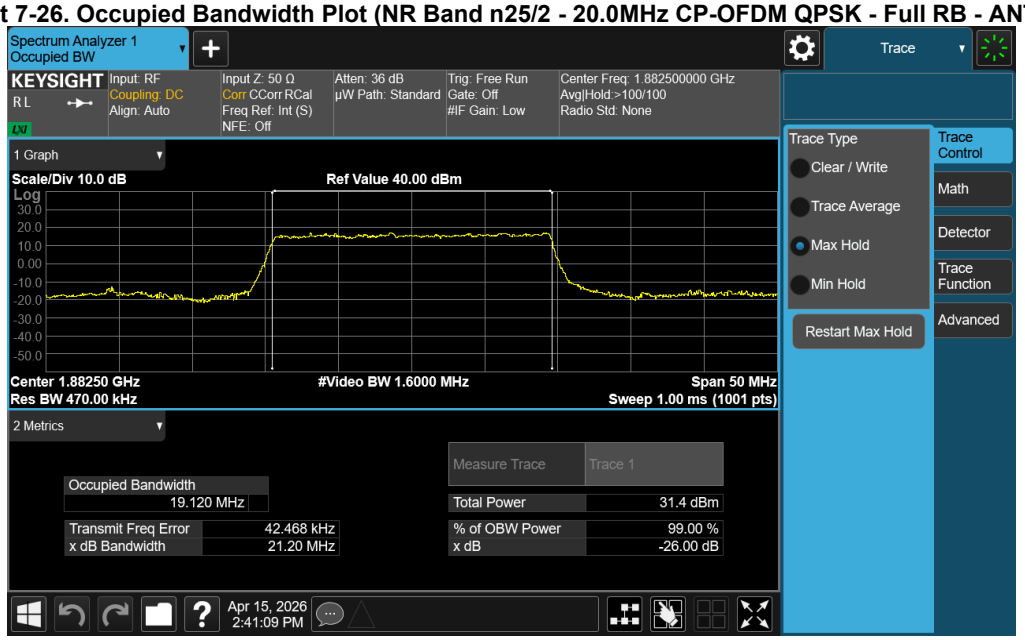
Plot 7-24. Occupied Bandwidth Plot (NR Band n25/2 - 25.0MHz CP-OFDM 16QAM - Full RB - ANT1)



Plot 7-25. Occupied Bandwidth Plot (NR Band n25/2 - 20.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)

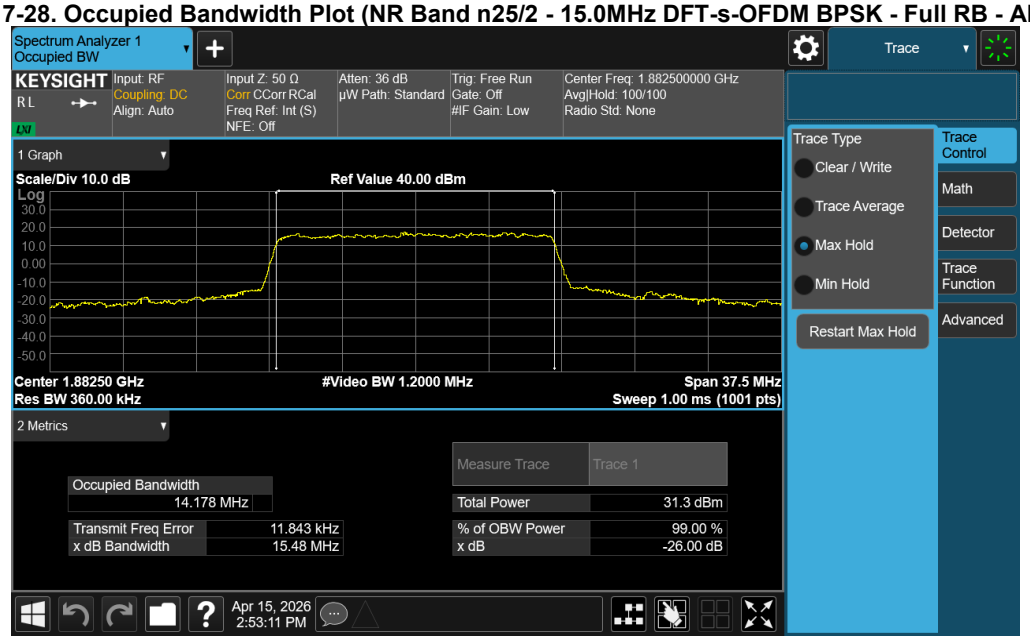


Plot 7-26. Occupied Bandwidth Plot (NR Band n25/2 - 20.0MHz CP-OFDM QPSK - Full RB - ANT1)



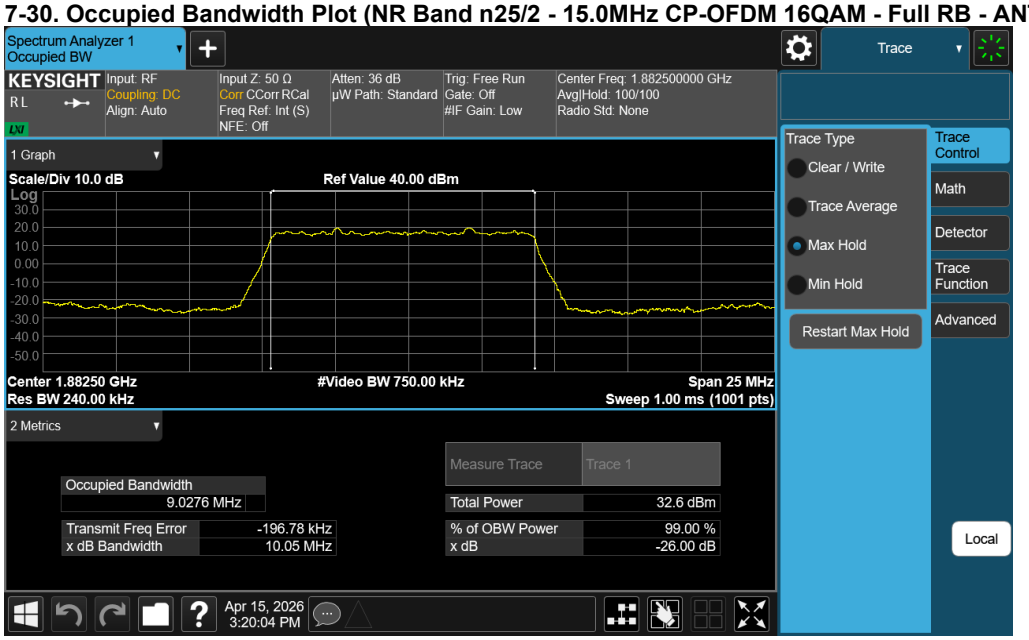
Plot 7-27. Occupied Bandwidth Plot (NR Band n25/2 - 20.0MHz CP-OFDM 16QAM - Full RB - ANT1)

Plot 7-28. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)



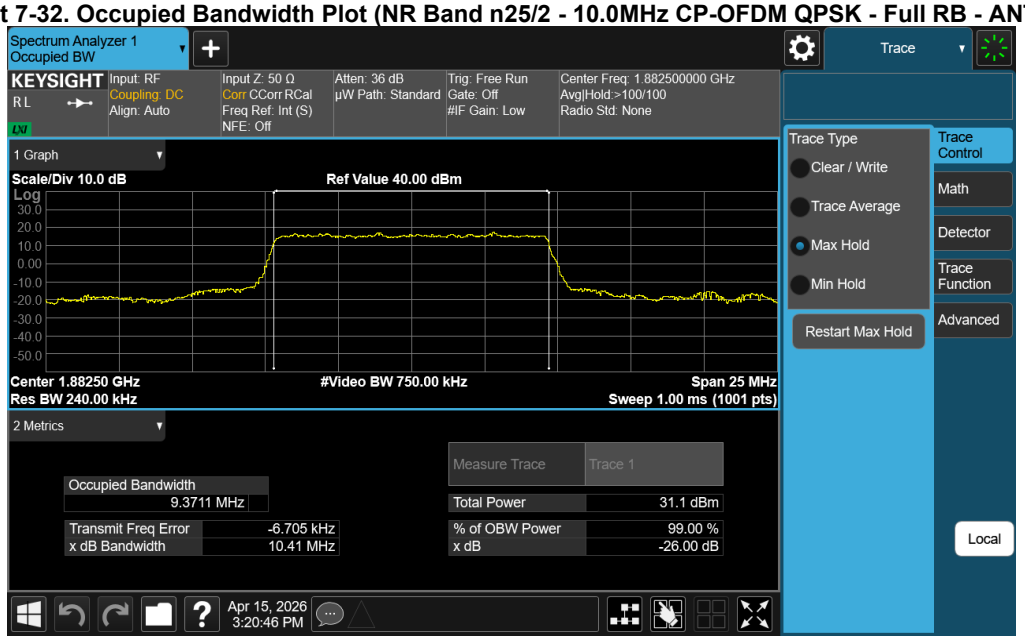
Plot 7-29. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz CP-OFDM QPSK - Full RB - ANT1)

Plot 7-30. Occupied Bandwidth Plot (NR Band n25/2 - 15.0MHz CP-OFDM 16QAM - Full RB - ANT1)



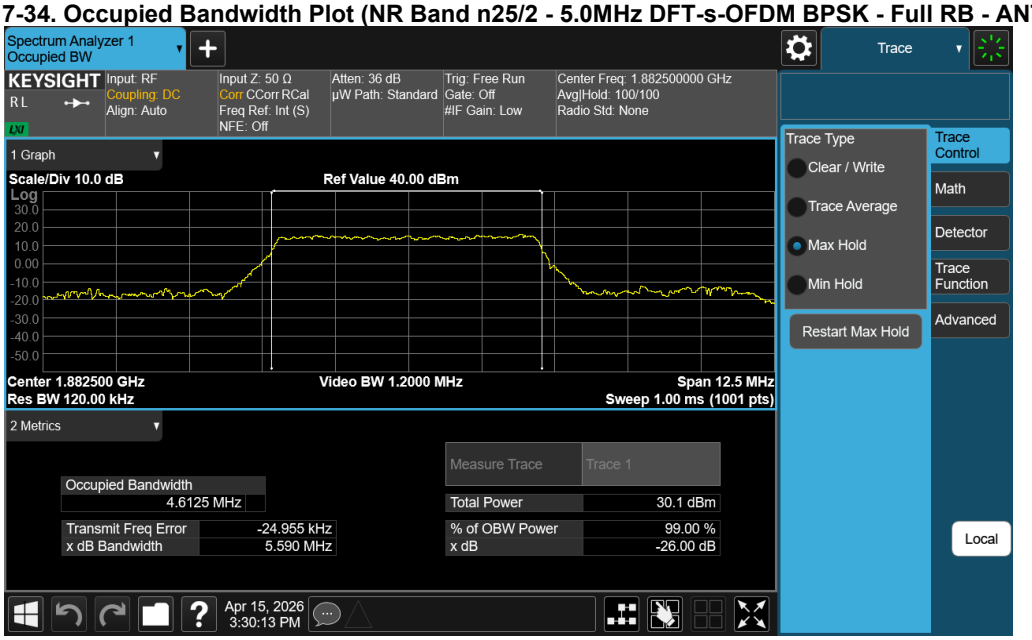
Plot 7-31. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)

Plot 7-32. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz CP-OFDM QPSK - Full RB - ANT1)



Plot 7-33. Occupied Bandwidth Plot (NR Band n25/2 - 10.0MHz CP-OFDM 16QAM - Full RB - ANT1)

Plot 7-34. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz DFT-s-OFDM BPSK - Full RB - ANT1)



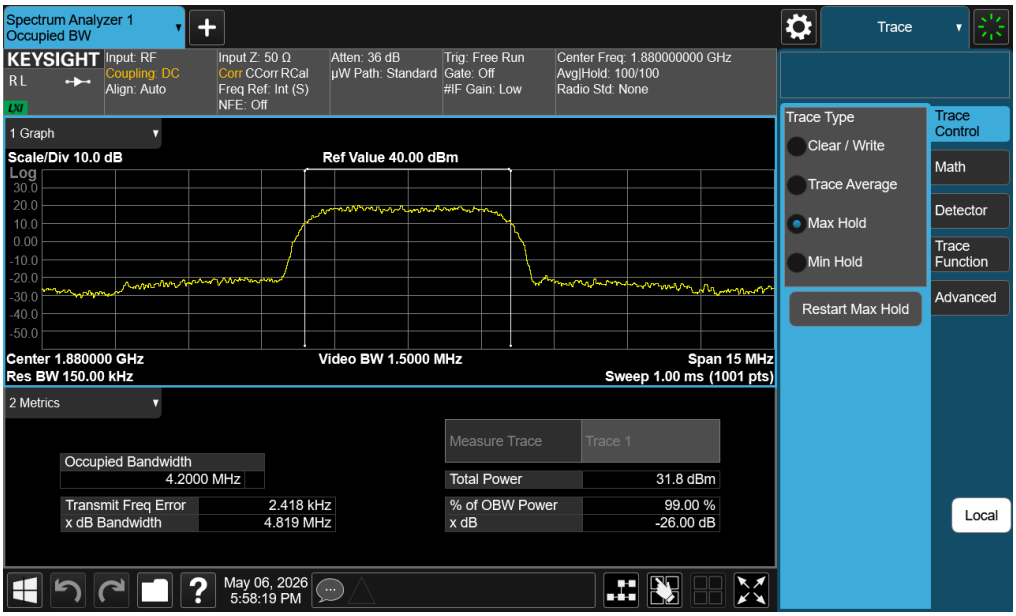
Plot 7-35. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz CP-OFDM QPSK - Full RB - ANT1)

Plot 7-36. Occupied Bandwidth Plot (NR Band n25/2 - 5.0MHz CP-OFDM 16QAM - Full RB - ANT1)

Mode	Bandwidth	Modulation	OBW [MHz]
WCDMA-PCS	N/A	Spead Spectrum	4.20
LTE-B25-2	20 MHz	QPSK	18.10
		16QAM	18.02
	15 MHz	QPSK	13.53
		16QAM	13.53
	10 MHz	QPSK	9.05
		16QAM	9.06
	5 MHz	QPSK	4.58
		16QAM	4.55
	3 MHz	QPSK	2.74
		16QAM	2.74
	1.4 MHz	QPSK	1.12
		16QAM	1.10
NR-n25-2	40 MHz	π/2 BPSK	39.03
		QPSK	38.86
		16QAM	38.90
	30 MHz	π/2 BPSK	28.83
		QPSK	28.87
		16QAM	28.80
	25 MHz	π/2 BPSK	23.04
		QPSK	23.94
		16QAM	23.89
	20 MHz	π/2 BPSK	18.03
		QPSK	19.12
		16QAM	19.04
	15 MHz	π/2 BPSK	13.51
		QPSK	14.21
		16QAM	14.23
	10 MHz	π/2 BPSK	9.01
		QPSK	9.33
		16QAM	9.34
	5 MHz	π/2 BPSK	4.57
		QPSK	4.58
		16QAM	4.53

Table 7-9. Occupied Bandwidth Results – Ant2

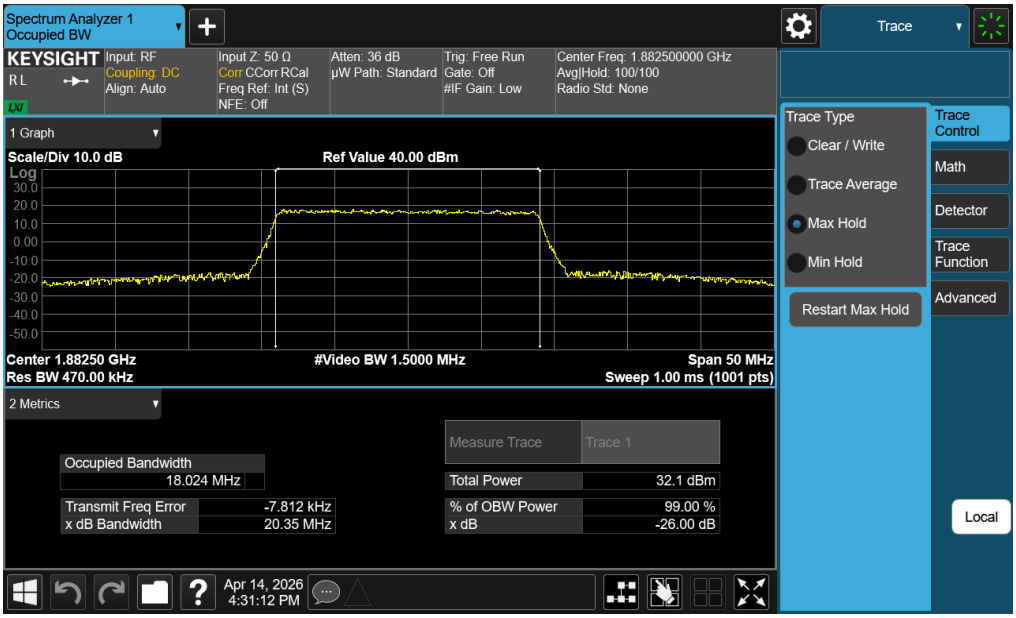
WCDMA PCS – Ant2



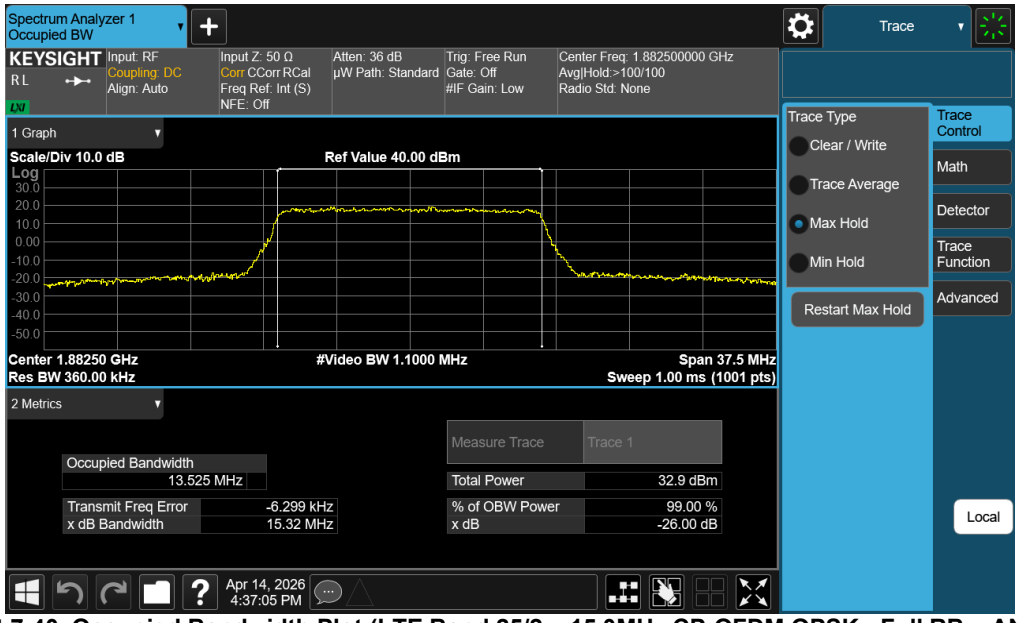
Plot 7-37. Occupied Bandwidth Plot (WCDMA, Ch. 9400 – Ant2)

LTE Band 25/2 – Ant2

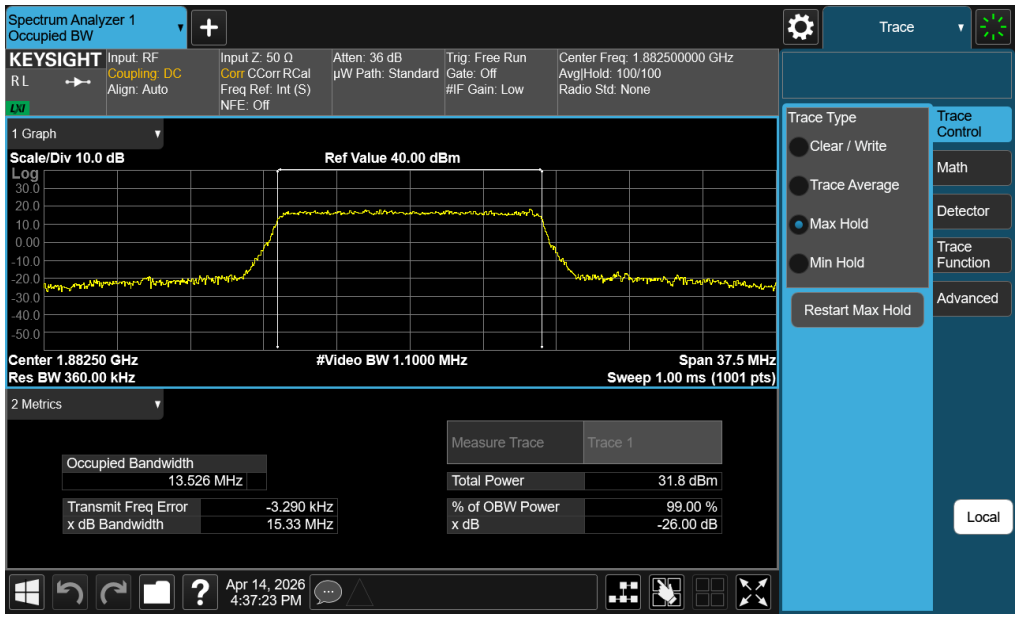
Plot 7-38. Occupied Bandwidth Plot (LTE Band 25/2 – 20.0MHz CP-OFDM QPSK - Full RB – ANT2)



Plot 7-39. Occupied Bandwidth Plot (LTE Band 25/2 – 20.0MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)



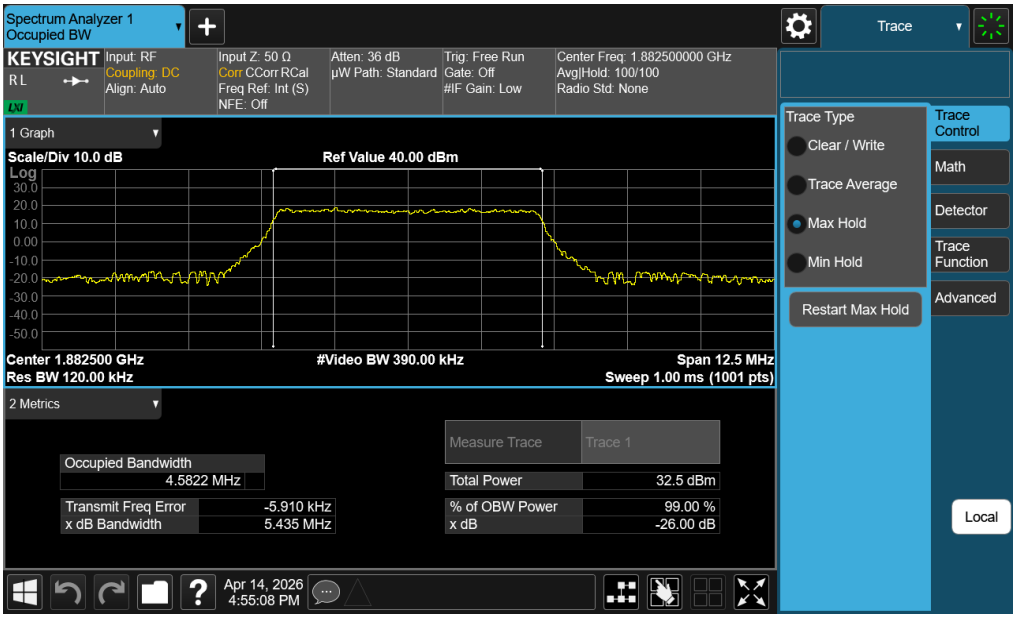
Plot 7-40. Occupied Bandwidth Plot (LTE Band 25/2 – 15.0MHz CP-OFDM QPSK - Full RB – ANT2)



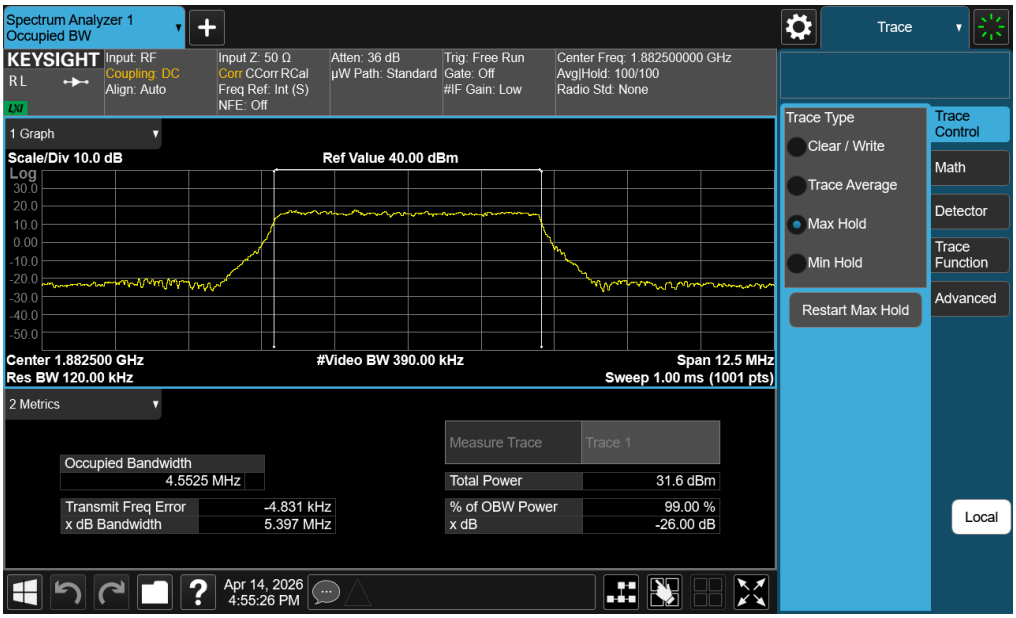
Plot 7-41. Occupied Bandwidth Plot (LTE Band 25/2 – 15.0MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)

Plot 7-42. Occupied Bandwidth Plot (LTE Band 25/2 – 10.0MHz CP-OFDM QPSK - Full RB – ANT2)

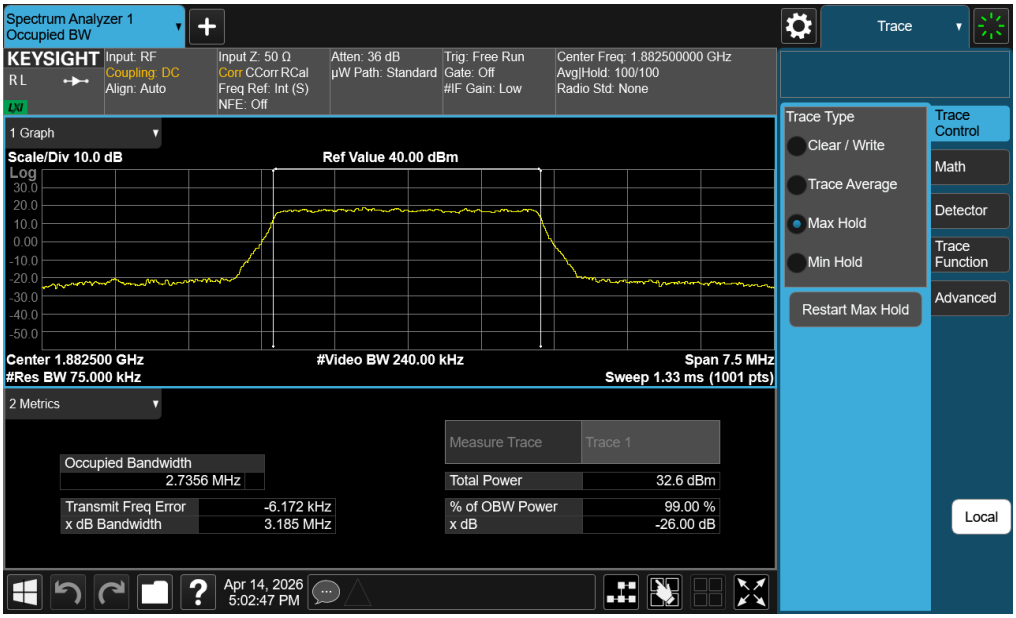
Plot 7-43. Occupied Bandwidth Plot (LTE Band 25/2 – 10.0MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)



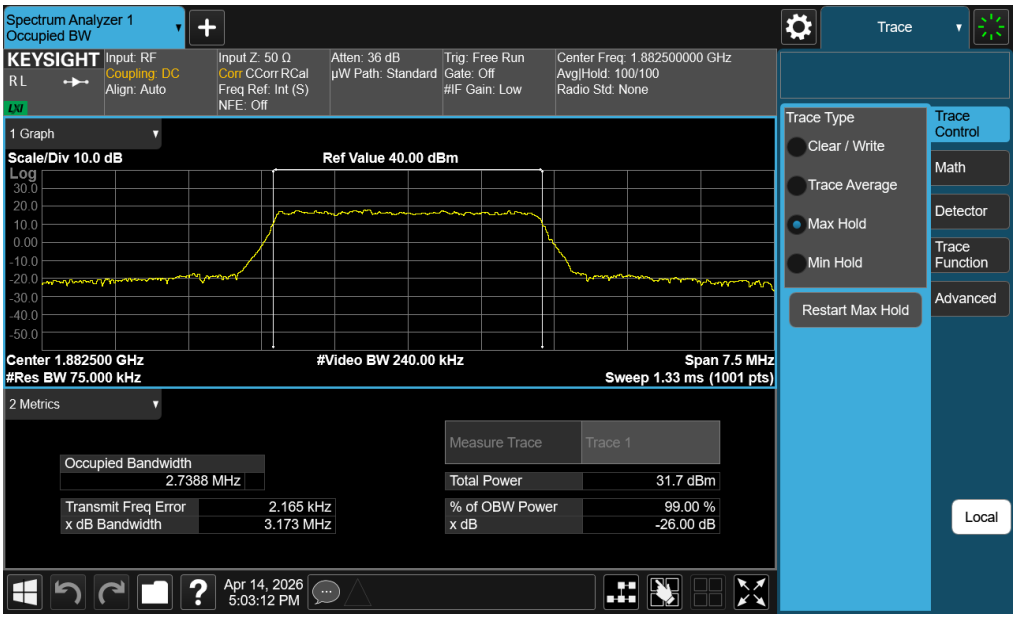
Plot 7-44. Occupied Bandwidth Plot (LTE Band 25/2 – 5.0MHz CP-OFDM QPSK - Full RB – ANT2)



Plot 7-45. Occupied Bandwidth Plot (LTE Band 25/2 – 5.0MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)

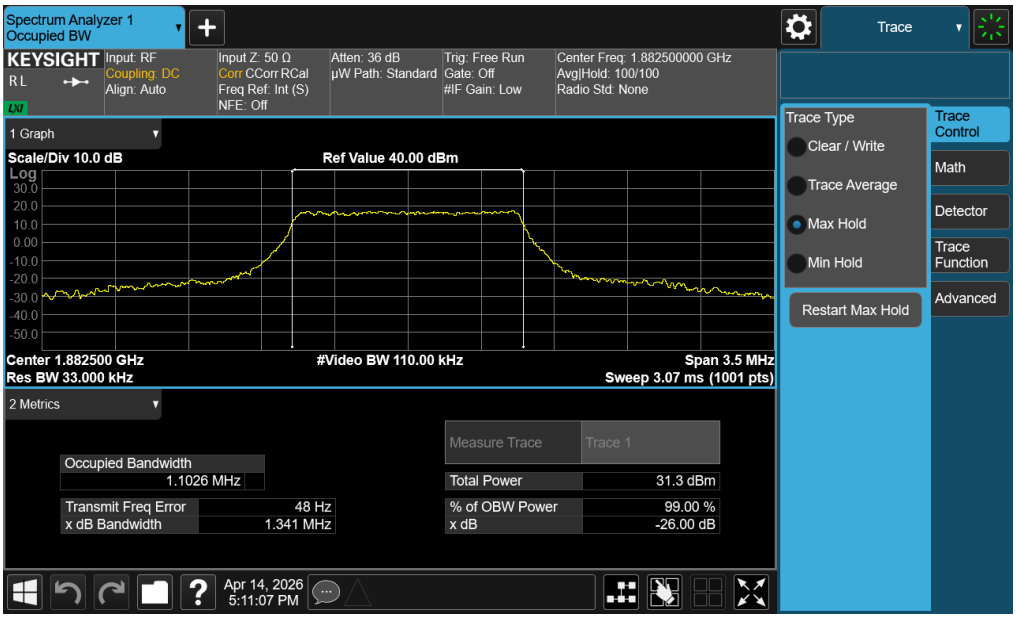


Plot 7-45. Occupied Bandwidth Plot (LTE Band 25/2 – 3.0MHz CP-OFDM QPSK - Full RB – ANT2)



Plot 7-47. Occupied Bandwidth Plot (LTE Band 25/2 – 3.0MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)

Plot 7-48. Occupied Bandwidth Plot (LTE Band 25/2 – 1.4MHz CP-OFDM QPSK - Full RB – ANT2)



Plot 7-49. Occupied Bandwidth Plot (LTE Band 25/2 – 1.4MHz CP-OFDM QPSK 16QAM - Full RB – ANT2)

NR Band n25/2 – Ant2

Plot 7-50. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

Plot 7-51. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz CP- OFDM QPSK - Full RB – ANT2)

Plot 7-52. Occupied Bandwidth Plot (NR Band n25/2 - 40.0MHz CP- OFDM 16QAM - Full RB – ANT2)

Plot 7-53. Occupied Bandwidth Plot (NR Band n25/2 – 30.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

Plot 7-54. Occupied Bandwidth Plot (NR Band n25/2 – 30.0MHz CP-OFDM QPSK - Full RB – ANT2)

Plot 7-55. Occupied Bandwidth Plot (NR Band n25/2 – 30.0MHz CP-OFDM 16QAM - Full RB – ANT2)

Plot 7-56. Occupied Bandwidth Plot (NR Band n25/2 – 25.0MHz DFT-s-OFDM BPSK - Full RB – ANT2)

Plot 7-57. Occupied Bandwidth Plot (NR Band n25/2 – 25.0MHz CP-OFDM QPSK - Full RB – ANT2)