



ELEMENT WASHINGTON DC LLC

7185 Oakland Mills Road, Columbia, MD 21046 USA
Tel. 410.290.6652 / Fax 410.290.6654
<http://www.element.com>

PART 27 MEASUREMENT REPORT

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

Date of Testing:
11/30/2023 - 12/12/2023
Test Report Issue Date:
1/3/2024
Test Site/Location:
Element lab., Columbia, MD, USA
Test Report Serial No.:
1M2310260110-06.A3L

FCC ID:	A3LSMA356E
Applicant Name:	Samsung Electronics Co., Ltd.

Application Type:	Certification
Model:	SM-A356E/DS
Additional Model(s):	SM-A356E
EUT Type:	Portable Handset
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part:	27
Test Procedure(s):	ANSI C63.26-2015

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

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

RJ Ortanez
Executive Vice President



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Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n77 PC2 (3700 - 3980MHz)	100 MHz	$\pi/2$ BPSK	3750.0 - 3930.0	0.658	28.18	96M9G7D
		QPSK	3750.0 - 3930.0	0.636	28.03	9M79G7D
		16QAM	3750.0 - 3930.0	0.522	27.17	97M9W7D
	90 MHz	$\pi/2$ BPSK	3745.0 - 3935.0	0.640	28.06	87M4G7D
		QPSK	3745.0 - 3935.0	0.623	27.94	88M1G7D
		16QAM	3745.0 - 3935.0	0.523	27.18	87M9W7D
	80 MHz	$\pi/2$ BPSK	3740.0 - 3940.0	0.682	28.33	77M5G7D
		QPSK	3740.0 - 3940.0	0.661	28.20	77M9G7D
		16QAM	3740.0 - 3940.0	0.549	27.39	78M0W7D
	70 MHz	$\pi/2$ BPSK	3735.0 - 3945.0	0.693	28.40	64M8G7D
		QPSK	3735.0 - 3945.0	0.672	28.27	67M9G7D
		16QAM	3735.0 - 3945.0	0.558	27.46	67M8W7D
	60 MHz	$\pi/2$ BPSK	3730.0 - 3950.0	0.678	28.31	58M2G7D
		QPSK	3730.0 - 3950.0	0.658	28.18	58M2G7D
		16QAM	3730.0 - 3950.0	0.545	27.36	58M1W7D
	50 MHz	$\pi/2$ BPSK	3725.0 - 3955.0	0.627	27.97	46M0G7D
		QPSK	3725.0 - 3955.0	0.620	27.92	47M8G7D
		16QAM	3725.0 - 3955.0	0.509	27.06	47M7W7D
	40 MHz	$\pi/2$ BPSK	3720.0 - 3960.0	0.617	27.90	36M0G7D
		QPSK	3720.0 - 3960.0	0.626	27.96	38M1G7D
		16QAM	3720.0 - 3960.0	0.488	26.88	38M2W7D
	30 MHz	$\pi/2$ BPSK	3715.0 - 3965.0	0.610	27.85	27M1G7D
		QPSK	3715.0 - 3965.0	0.620	27.92	28M1G7D
		16QAM	3715.0 - 3965.0	0.484	26.84	28M1W7D
	25 MHz	$\pi/2$ BPSK	3712.5 - 3967.5	0.619	27.92	23M0W7D
		QPSK	3712.5 - 3967.5	0.618	27.91	23M3W7D
		16QAM	3712.5 - 3967.5	0.502	27.01	23M3W7D
	20 MHz	$\pi/2$ BPSK	3710.0 - 3970.0	0.617	27.90	18M0G7D
		QPSK	3710.0 - 3970.0	0.606	27.82	18M4G7D
		16QAM	3710.0 - 3970.0	0.486	26.86	18M4W7D
	15 MHz	$\pi/2$ BPSK	3707.5 - 3972.5	0.613	27.87	13M0G7D
		QPSK	3707.5 - 3972.5	0.600	27.78	13M7G7D
		16QAM	3707.5 - 3972.5	0.487	26.87	13M8W7D
	10 MHz	$\pi/2$ BPSK	3705.0 - 3975.0	0.613	27.87	8M72G7D
		QPSK	3705.0 - 3975.0	0.598	27.76	8M69G7D
		16QAM	3705.0 - 3975.0	0.475	26.76	8M69W7D

EUT Overview

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Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	EIRP		Emission Designator
				Max. Power [W]	Max. Power [dBm]	
NR Band n77 PC2 (3450 - 3550MHz)	100 MHz	$\pi/2$ BPSK	3500.0	0.478	26.79	96M9G7D
		QPSK	3500.0	0.515	27.11	97M7G7D
		16QAM	3500.0	0.394	25.95	97M8W7D
	90 MHz	$\pi/2$ BPSK	3495.0 - 3505.0	0.484	26.84	87M5G7D
		QPSK	3495.0 - 3505.0	0.517	27.13	87M8G7D
		16QAM	3495.0 - 3505.0	0.386	25.86	87M9W7D
	80 MHz	$\pi/2$ BPSK	3490.0 - 3510.0	0.496	26.95	77M5G7D
		QPSK	3490.0 - 3510.0	0.530	27.24	77M9G7D
		16QAM	3490.0 - 3510.0	0.400	26.02	77M8W7D
	70 MHz	$\pi/2$ BPSK	3485.0 - 3515.0	0.497	26.96	64M8G7D
		QPSK	3485.0 - 3515.0	0.531	27.25	67M9G7D
		16QAM	3485.0 - 3515.0	0.400	26.02	67M8W7D
	60 MHz	$\pi/2$ BPSK	3480.0 - 3520.0	0.508	27.05	58M2G7D
		QPSK	3480.0 - 3520.0	0.548	27.38	58M4G7D
		16QAM	3480.0 - 3520.0	0.404	26.06	58M2W7D
	50 MHz	$\pi/2$ BPSK	3475.0 - 3525.0	0.512	27.09	46M1G7D
		QPSK	3475.0 - 3525.0	0.545	27.36	47M8G7D
		16QAM	3475.0 - 3525.0	0.411	26.13	47M7W7D
	40 MHz	$\pi/2$ BPSK	3470.0 - 3530.0	0.523	27.18	36M0G7D
		QPSK	3470.0 - 3530.0	0.553	27.42	38M1G7D
		16QAM	3470.0 - 3530.0	0.421	26.24	38M2W7D
	30 MHz	$\pi/2$ BPSK	3465.0 - 3535.0	0.524	27.19	27M1G7D
		QPSK	3465.0 - 3535.0	0.554	27.43	28M1G7D
		16QAM	3465.0 - 3535.0	0.431	26.34	28M1W7D
	25 MHz	$\pi/2$ BPSK	3712.5 - 3967.5	0.502	27.01	23M0W7D
		QPSK	3712.5 - 3967.5	0.537	27.30	23M3W7D
		16QAM	3712.5 - 3967.5	0.398	26.00	23M3W7D
	20 MHz	$\pi/2$ BPSK	3460.0 - 3540.0	0.509	27.06	18M0G7D
		QPSK	3460.0 - 3540.0	0.545	27.36	18M3G7D
		16QAM	3460.0 - 3540.0	0.401	26.03	18M3W7D
	15 MHz	$\pi/2$ BPSK	3457.5 - 3542.5	0.508	27.05	13M1G7D
		QPSK	3457.5 - 3542.5	0.560	27.48	13M7G7D
		16QAM	3457.5 - 3542.5	0.412	26.14	13M8W7D
	10 MHz	$\pi/2$ BPSK	3455.0 - 3545.0	0.515	27.11	8M69G7D
		QPSK	3455.0 - 3545.0	0.544	27.35	8M72G7D
		16QAM	3455.0 - 3545.0	0.405	26.07	8M68W7D

EUT Overview

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1.0 INTRODUCTION

1.1 Scope

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

1.2 Element Test Location

These measurement tests were conducted at the Element laboratory located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at 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 Agreement.

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSMA356E**. 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.

Test Device Serial No.: 1025M, 1111M, 1146M

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/ax WLAN, 802.11a/n/ac/ax UNII (5GHz), Bluetooth (1x, EDR, LE), 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.

2.4 Software and Firmware

Testing was performed on device(s) using software/firmware version A356BXXU0AWJ3 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.

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3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the “American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services” (ANSI C63.26-2015) were used in the measurement of the EUT.

Deviation from Measurement Procedure.....None

3.2 Radiated Power and Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3-meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way 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 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 $P_g [dBm] - \text{cable loss} [dB]$.

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

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

And

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

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

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

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4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (\pm dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	AP2-001	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	AP2-001
-	ETS-001	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	ETS-001
-	ETS-002	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	ETS-002
-	MD 1M 18-40	EMC Cable and Switch System	1/11/2023	Annual	1/11/2024	MD 1M 18-40
-	WL40-1	Conducted Cable Set (40GHz)	1/12/2023	Annual	1/12/2024	WL40-1
-	WL25-1	Conducted Cable Set (25GHz)	1/12/2023	Annual	1/12/2024	WL25-1
Anritsu	MA24406A	Microwave Peak Power Sensor	9/7/2023	Annual	9/7/2024	11240
Emco	3115	Horn Antenna (1-18GHz)	8/8/2022	Biennial	8/8/2024	9704-5182
Emco	3116	Horn Antenna (18 - 40GHz)	7/5/2022	Biennial	7/5/2024	9203-2178
Pastermack	MNLC-2	Line Conducted Emission Cable (NM)	1/11/2023	Annual	1/11/2024	MNLC-2
ETS-Lindgren	3816/2NM	Line Impedance Stabilization Network	8/11/2022	Biennial	8/11/2024	114451
ETS Lindgren	3116C	1-18 GHz DRG Horn Antenna	2/27/2023	Biennial	2/27/2024	00218893
ETS Lindgren	3115	Double Ridged Guide Horn	4/12/2022	Biennial	4/12/2024	82333
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	4/13/2022	Biennial	4/13/2025	121034
Keysight Technologies	N9020A	MXA Signal Analyzer	3/15/2023	Annual	3/15/2024	MY54500644
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	3/15/2023	Annual	3/15/2024	MY52350166
Keysight Technologies	N9030A	PXA Signal Analyzer	1/31/2023	Annual	1/31/2024	MY55410501
Keysight Technologies	N9030B	PXA Signal Analyzer, Multi-touch	9/7/2023	Annual	9/7/2024	MY57141001
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	9/25/2023	Annual	9/25/2024	100342
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	9/11/2023	Annual	9/11/2024	100348
Rohde & Schwarz	ESW44	EMI Test Receiver 2Hz to 44 GHz	3/1/2023	Annual	3/1/2024	101716
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	1/13/2023	Annual	1/13/2024	103200
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	2/21/2023	Biennial	2/21/2025	A051107
Sunol	JB6	LB6 Antenna	3/2/2023	Biennial	3/2/2025	A082816

Table 5-1. Test Equipment

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.

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6.0 SAMPLE CALCULATIONS

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

Spurious Radiated Emission

Example: Spurious emission at 3700.40 MHz

The receive spectrum analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3700.40 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.50 dBm so this harmonic was 25.50 dBm $- (-24.80) = 50.3$ dBc.

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7.0 TEST RESULTS

7.1 Summary

Company Name: Samsung Electronics Co., Ltd.
 FCC ID: A3LSMA356E
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
 Mode(s): 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 (NR Band n77)	2.1051, 27.53(l), 27.53(n)	≤ -13 dBm / MHz	PASS	Sections 7.4, 7.5
	Peak-to-Average Ratio (NR Band n77)	27.50(j)(4), 27.50(k)(4)	≤ 13 dB	PASS	Section 7.6
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block.	PASS	Section 7.9
RADIATED	Effective Radiated Power / Equivalent Isotropic Radiated Power (NR Band n77)	27.50(j)(3), 27.50(k)(3)	≤ 1 Watt EIRP	PASS	Section 7.7
	Radiated Spurious Emissions (NR Band n77)	2.1053, 27.53(l), 27.53(n)	≤ -13 dBm / MHz	PASS	Section 7.8

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 v1.2.2.

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7.2 Conducted Output Power Data

Test Overview

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

Test Procedure Used

ANSI C63.26-2015 – Section 5.2

Test Settings

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

Test Setup

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

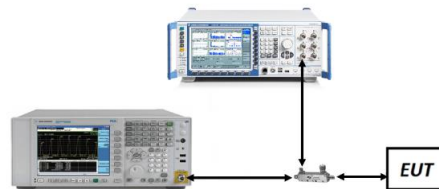


Figure 7-1. Test Instrument & Measurement Setup

Test Notes

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

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Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	m/2 BPSK	650000	3750.00	1 / 136	24.99
		656000	3840.00	1 / 1	24.80
		662000	3930.00	1 / 136	25.14
	QPSK	650000	3750.00	1 / 136	24.96
		656000	3840.00	1 / 1	24.75
		662000	3930.00	1 / 136	24.98
16-QAM	650000	3750.00	1 / 136	24.00	
	656000	3840.00	1 / 1	23.88	
	662000	3930.00	1 / 136	24.02	
90 MHz	m/2 BPSK	648668	3745.02	1 / 243	24.87
		662332	3934.98	1 / 1	24.71
		648668	3745.02	1 / 122	25.24
	QPSK	656000	3840.00	1 / 243	24.87
		662332	3934.98	1 / 1	24.74
		648668	3745.02	1 / 243	24.01
16-QAM	656000	3840.00	1 / 1	23.95	
	662332	3934.98	1 / 122	24.14	
	648668	3745.02	1 / 243	24.87	
80 MHz	m/2 BPSK	649334	3740.01	1 / 215	25.14
		656000	3840.00	1 / 215	24.74
		662666	3939.99	1 / 108	25.19
	QPSK	649334	3740.01	1 / 215	25.13
		656000	3840.00	1 / 215	24.74
		662666	3939.99	1 / 108	25.15
16-QAM	649334	3740.01	1 / 215	24.22	
	656000	3840.00	1 / 215	23.67	
	662666	3939.99	1 / 108	24.26	
70 MHz	m/2 BPSK	649000	3735.00	1 / 187	25.21
		656000	3840.00	1 / 1	24.72
		663000	3945.00	1 / 94	24.98
	QPSK	649000	3735.00	1 / 187	25.20
		656000	3840.00	1 / 1	24.74
		663000	3945.00	1 / 94	24.94
16-QAM	649000	3735.00	1 / 187	24.29	
	656000	3840.00	1 / 1	23.72	
	663000	3945.00	1 / 94	24.14	
60 MHz	m/2 BPSK	648668	3730.02	1 / 160	25.12
		656000	3840.00	1 / 1	24.73
		663332	3949.98	1 / 81	25.08
	QPSK	648668	3730.02	1 / 160	25.11
		656000	3840.00	1 / 1	24.77
		663332	3949.98	1 / 81	24.98
16-QAM	648668	3730.02	1 / 160	24.19	
	656000	3840.00	1 / 1	23.62	
	663332	3949.98	1 / 81	23.93	
50 MHz	m/2 BPSK	648334	3725.01	1 / 131	24.78
		656000	3840.00	1 / 1	24.80
		663666	3954.99	1 / 1	25.02
	QPSK	648334	3725.01	1 / 131	24.76
		656000	3840.00	1 / 1	24.83
		663666	3954.99	1 / 1	25.00
16-QAM	648334	3725.01	1 / 131	23.89	
	656000	3840.00	1 / 1	23.75	
	663666	3954.99	1 / 1	23.98	
40 MHz	m/2 BPSK	648000	3720.00	1 / 53	24.71
		656000	3840.00	1 / 1	24.81
		664000	3960.00	1 / 1	25.04
	QPSK	648000	3720.00	1 / 53	24.66
		656000	3840.00	1 / 1	24.87
		664000	3960.00	1 / 1	25.03
16-QAM	648000	3720.00	1 / 53	23.61	
	656000	3840.00	1 / 1	23.88	
	664000	3960.00	1 / 1	24.12	
30 MHz	m/2 BPSK	647668	3715.02	1 / 39	24.64
		656000	3840.00	1 / 1	24.80
		664332	3964.98	1 / 1	24.89
	QPSK	647668	3715.02	1 / 39	24.62
		656000	3840.00	1 / 1	24.83
		664332	3964.98	1 / 1	24.91
16-QAM	647668	3715.02	1 / 39	23.67	
	656000	3840.00	1 / 1	23.86	
	664332	3964.98	1 / 1	23.91	
25 MHz	m/2 BPSK	647500	3712.50	1 / 32	24.73
		656000	3840.00	1 / 1	24.78
		664500	3967.50	1 / 1	24.67
	QPSK	647500	3712.50	1 / 32	24.84
		656000	3840.00	1 / 1	24.81
		664500	3967.50	1 / 1	24.70
16-QAM	647500	3712.50	1 / 32	23.84	
	656000	3840.00	1 / 1	23.90	
	664500	3967.50	1 / 1	23.67	
20 MHz	m/2 BPSK	647334	3710.01	1 / 25	24.71
		656000	3840.00	1 / 1	24.73
		664666	3969.99	1 / 49	24.67
	QPSK	647334	3710.01	1 / 25	24.74
		656000	3840.00	1 / 1	24.73
		664666	3969.99	1 / 49	24.67
16-QAM	647334	3710.01	1 / 25	23.69	
	656000	3840.00	1 / 1	23.77	
	664666	3969.99	1 / 49	23.77	
15 MHz	m/2 BPSK	647168	3707.52	1 / 36	24.68
		656000	3840.00	1 / 1	24.69
		664832	3972.48	1 / 36	24.71
	QPSK	647168	3707.52	1 / 36	24.71
		656000	3840.00	1 / 1	24.64
		664832	3972.48	1 / 36	24.71
16-QAM	647168	3707.52	1 / 36	23.70	
	656000	3840.00	1 / 1	23.83	
	664832	3972.48	1 / 36	23.76	
10 MHz	m/2 BPSK	647000	3705.00	1 / 12	24.68
		656000	3840.00	1 / 1	24.61
		665000	3975.00	1 / 22	24.63
	QPSK	647000	3705.00	1 / 12	24.69
		656000	3840.00	1 / 1	24.58
		665000	3975.00	1 / 22	24.64
16-QAM	647000	3705.00	1 / 12	23.59	
	656000	3840.00	1 / 1	23.71	
	665000	3975.00	1 / 22	23.69	

Table 7-2. Conducted Power Measurement (NR n77 PC2 C-Band)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 13 of 87



Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]
100 MHz	n/2 BPSK	633334	3500.01	1 / 271	24.70
		633334	3500.01	1 / 271	24.73
		633334	3500.01	1 / 271	23.83
90 MHz	n/2 BPSK	633000	3495.00	1 / 243	24.70
		633334	3500.01	1 / 243	24.74
		633666	3504.99	1 / 243	24.75
	QPSK	633000	3495.00	1 / 243	24.69
		633334	3500.01	1 / 243	24.72
		633666	3504.99	1 / 243	24.75
	16-QAM	633000	3495.00	1 / 243	23.74
		633334	3500.01	1 / 243	23.74
		633666	3504.99	1 / 243	23.66
80 MHz	n/2 BPSK	632668	3490.02	1 / 215	24.86
		633334	3500.01	1 / 215	24.79
		634000	3510.00	1 / 215	24.72
	QPSK	632668	3490.02	1 / 215	24.86
		633334	3500.01	1 / 215	24.85
		634000	3510.00	1 / 215	24.73
	16-QAM	632668	3490.02	1 / 215	23.89
		633334	3500.01	1 / 215	23.90
		634000	3510.00	1 / 215	23.77
70 MHz	n/2 BPSK	632334	3485.01	1 / 187	24.70
		633334	3500.01	1 / 187	24.87
		634332	3514.98	1 / 187	24.85
	QPSK	632334	3485.01	1 / 187	24.63
		633334	3500.01	1 / 187	24.87
		634332	3514.98	1 / 187	24.87
	16-QAM	632334	3485.01	1 / 187	23.72
		633334	3500.01	1 / 187	23.88
		634332	3514.98	1 / 187	23.90
60 MHz	n/2 BPSK	632000	3480.00	1 / 160	24.51
		633334	3500.01	1 / 160	24.91
		634666	3519.99	1 / 81	24.96
	QPSK	632000	3480.00	1 / 160	24.49
		633334	3500.01	1 / 160	24.92
		634666	3519.99	1 / 81	25.00
	16-QAM	632000	3480.00	1 / 160	23.60
		633334	3500.01	1 / 160	23.76
		634666	3519.99	1 / 81	23.94
50 MHz	n/2 BPSK	631668	3475.02	1 / 66	24.52
		633334	3500.01	1 / 131	24.85
		635000	3525.00	1 / 66	25.00
	QPSK	631668	3475.02	1 / 66	24.48
		633334	3500.01	1 / 131	24.84
		635000	3525.00	1 / 66	24.98
	16-QAM	631668	3475.02	1 / 66	23.40
		633334	3500.01	1 / 131	23.84
		635000	3525.00	1 / 66	24.01
40 MHz	n/2 BPSK	631334	3470.01	1 / 53	24.47
		633334	3500.01	1 / 104	24.76
		635332	3529.98	1 / 53	25.09
	QPSK	631334	3470.01	1 / 53	24.50
		633334	3500.01	1 / 104	24.80
		635332	3529.98	1 / 53	25.04
	16-QAM	631334	3470.01	1 / 53	23.49
		633334	3500.01	1 / 104	23.78
		635332	3529.98	1 / 53	24.12
30 MHz	n/2 BPSK	631000	3465.00	1 / 39	24.42
		633334	3500.01	1 / 76	24.68
		635666	3534.99	1 / 39	25.10
	QPSK	631000	3465.00	1 / 39	24.43
		633334	3500.01	1 / 76	24.71
		635666	3534.99	1 / 39	25.05
	16-QAM	631000	3465.00	1 / 39	23.52
		633334	3500.01	1 / 76	23.66
		635666	3534.99	1 / 39	24.22
25 MHz	n/2 BPSK	630834	3462.51	1 / 32	24.44
		633334	3500.01	1 / 63	24.62
		635832	3537.48	1 / 32	24.92
	QPSK	630834	3462.51	1 / 32	24.51
		633334	3500.01	1 / 63	24.65
		635832	3537.48	1 / 32	24.92
	16-QAM	630834	3462.51	1 / 32	23.47
		633334	3500.01	1 / 63	23.62
		635832	3537.48	1 / 32	23.88
20 MHz	n/2 BPSK	630668	3460.02	1 / 49	24.48
		633334	3500.01	1 / 49	24.58
		636000	3540.00	1 / 1	24.98
	QPSK	630668	3460.02	1 / 49	24.48
		633334	3500.01	1 / 49	24.58
		636000	3540.00	1 / 1	24.98
	16-QAM	630668	3460.02	1 / 49	23.49
		633334	3500.01	1 / 49	23.65
		636000	3540.00	1 / 1	23.91
15 MHz	n/2 BPSK	630500	3457.50	1 / 36	24.39
		633334	3500.01	1 / 36	24.54
		636166	3542.49	1 / 19	24.96
	QPSK	630500	3457.50	1 / 36	24.42
		633334	3500.01	1 / 36	24.58
		636166	3542.49	1 / 19	25.10
	16-QAM	630500	3457.50	1 / 36	23.43
		633334	3500.01	1 / 36	23.49
		636166	3542.49	1 / 19	24.02
10 MHz	n/2 BPSK	630334	3455.01	1 / 1	24.42
		633334	3500.01	1 / 22	24.51
		636332	3544.98	1 / 12	25.02
	QPSK	630334	3455.01	1 / 1	24.41
		633334	3500.01	1 / 22	24.51
		636332	3544.98	1 / 12	24.97
	16-QAM	630334	3455.01	1 / 1	23.41
		633334	3500.01	1 / 22	23.49
		636332	3544.98	1 / 12	23.95

Table 7-3. Conducted Power Measurement (NR n77 PC2 DoD Band)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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7.3 Occupied Bandwidth

Test Overview

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

Test Procedure Used

ANSI C63.26-2015 – Section 5.4.4

Test Settings

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

Test Setup

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

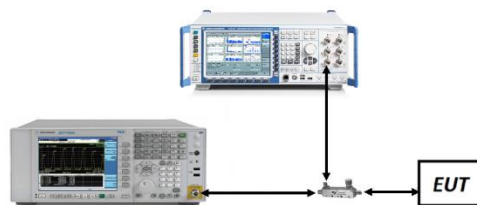


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

None.

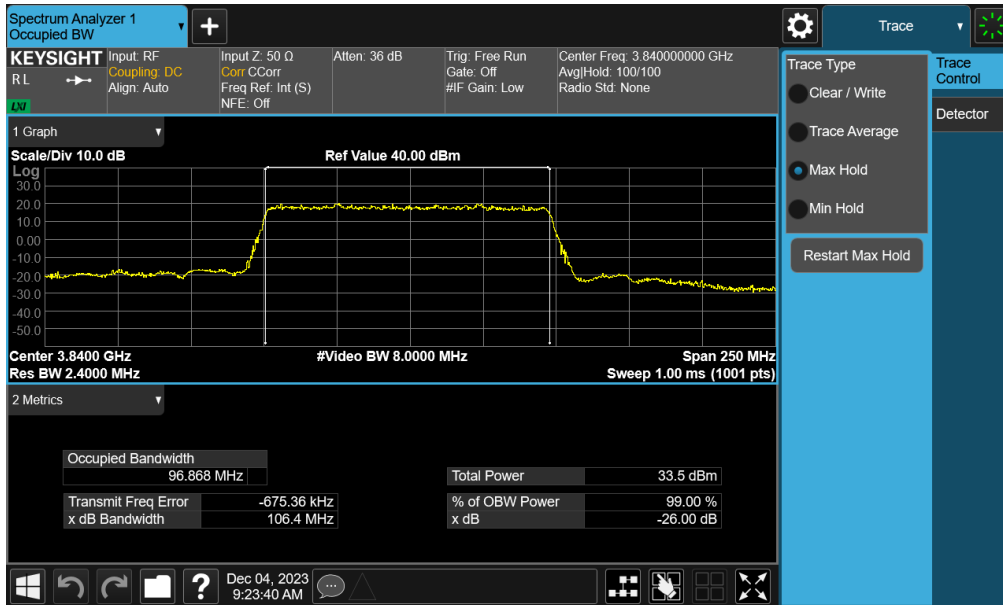
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n77 PC2 C-Band	100MHz	$\pi/2$ BPSK	96.87
		QPSK	97.85
		16QAM	97.89
	90MHz	$\pi/2$ BPSK	87.41
		QPSK	88.06
		16QAM	87.91
	80MHz	$\pi/2$ BPSK	77.50
		QPSK	77.89
		16QAM	77.99
	70MHz	$\pi/2$ BPSK	64.79
		QPSK	67.86
		16QAM	67.79
	60MHz	$\pi/2$ BPSK	58.21
		QPSK	58.24
		16QAM	58.12
	50MHz	$\pi/2$ BPSK	46.03
		QPSK	47.83
		16QAM	47.74
	40MHz	$\pi/2$ BPSK	36.01
		QPSK	38.14
		16QAM	38.15
	30MHz	$\pi/2$ BPSK	27.13
		QPSK	28.12
		16QAM	28.07
25MHz	$\pi/2$ BPSK	23.03	
	QPSK	23.28	
	16QAM	23.35	
20MHz	$\pi/2$ BPSK	18.04	
	QPSK	18.37	
	16QAM	18.37	
15MHz	$\pi/2$ BPSK	12.99	
	QPSK	13.73	
	16QAM	13.77	
10MHz	$\pi/2$ BPSK	8.72	
	QPSK	8.69	
	16QAM	8.69	

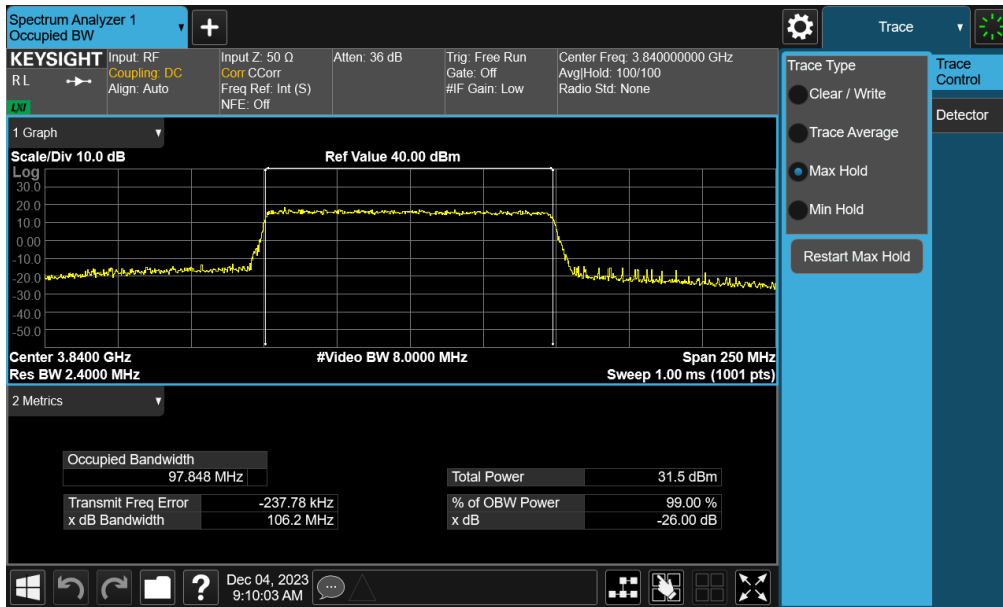
Table 7-4. Occupied Bandwidth Test Results – NR Band n77 PC2 C-Band

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 16 of 87

NR Band n77 PC2 C-Band

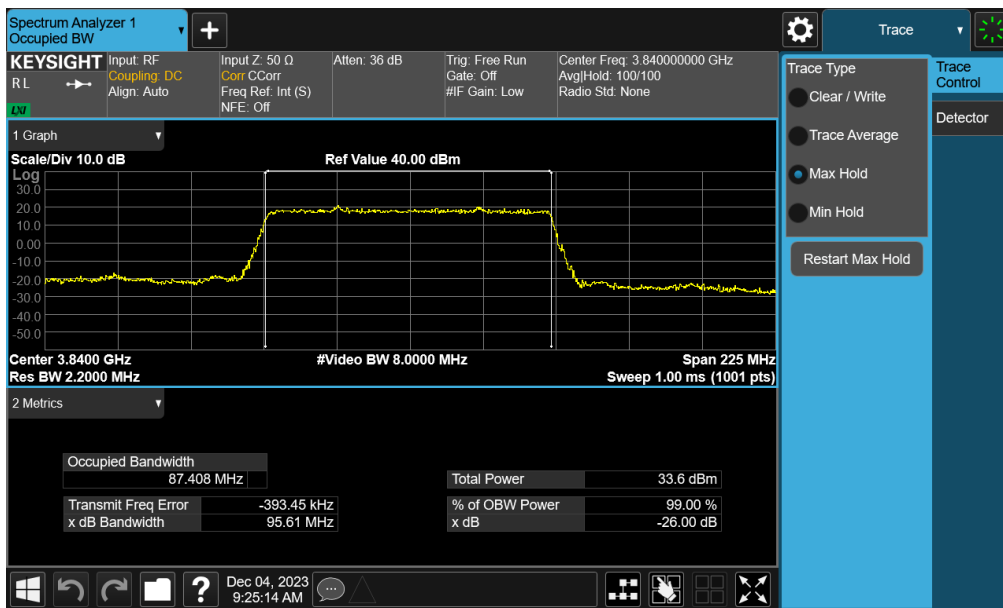
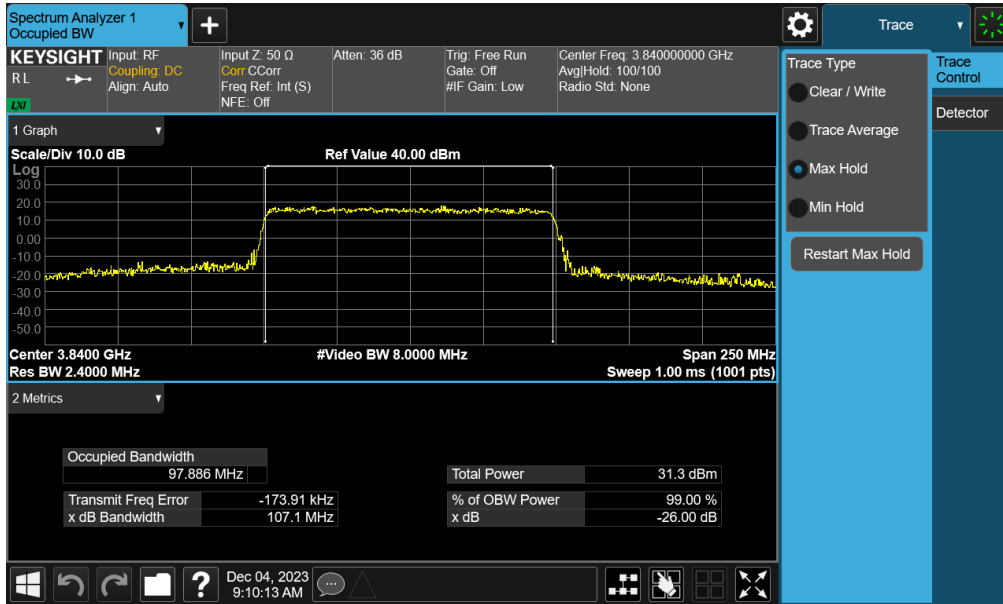


Plot 7-1. Occupied Bandwidth Plot (NR Band n77 - 100MHz $\pi/2$ BPSK - Full RB)

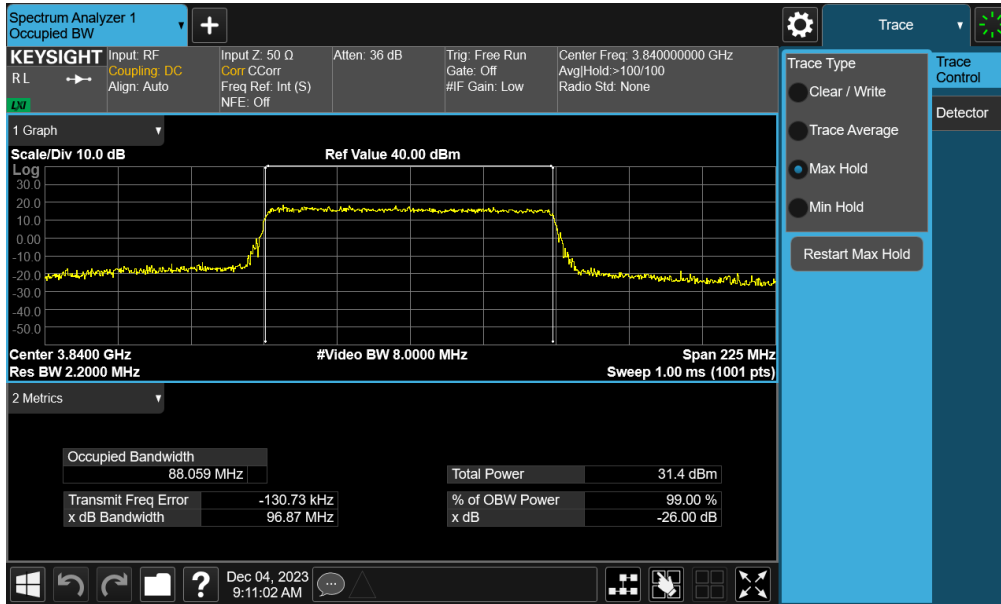


Plot 7-2. Occupied Bandwidth Plot (NR Band n77 - 100MHz QPSK - Full RB)

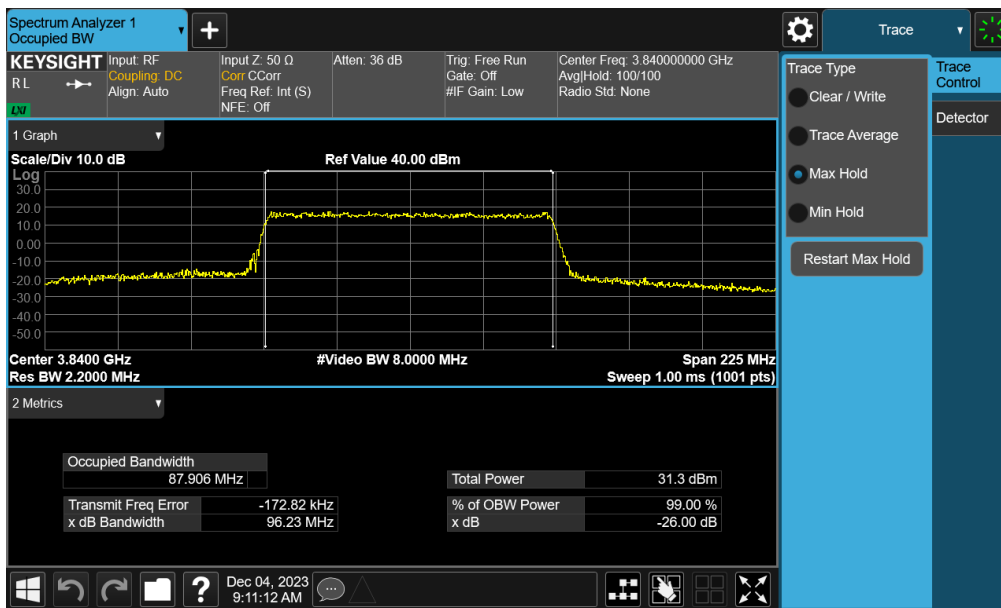
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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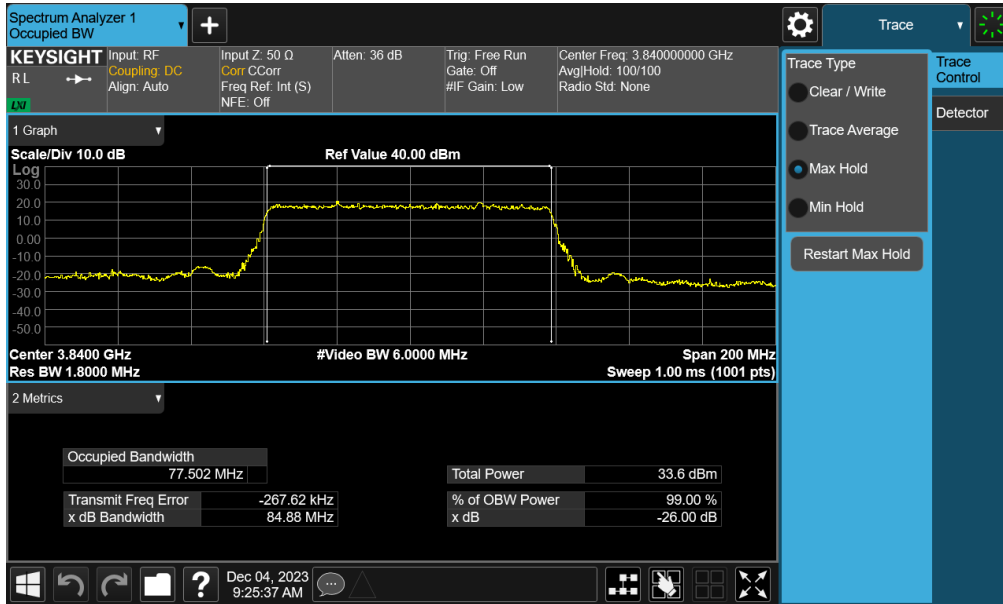


Plot 7-5. Occupied Bandwidth Plot (NR Band n77 - 90MHz QPSK - Full RB)

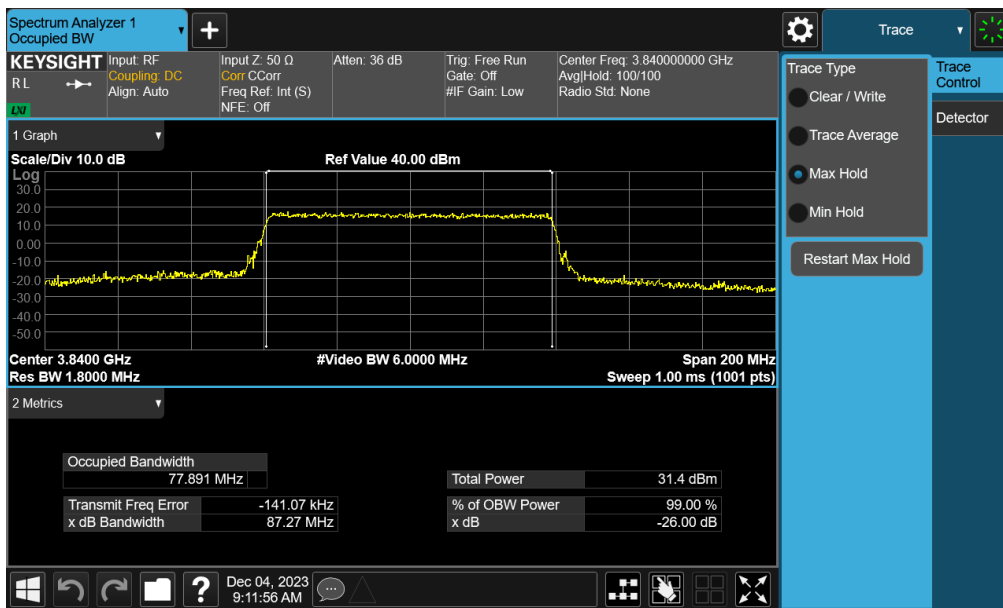


Plot 7-6. Occupied Bandwidth Plot (NR Band n77 - 90MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 19 of 87

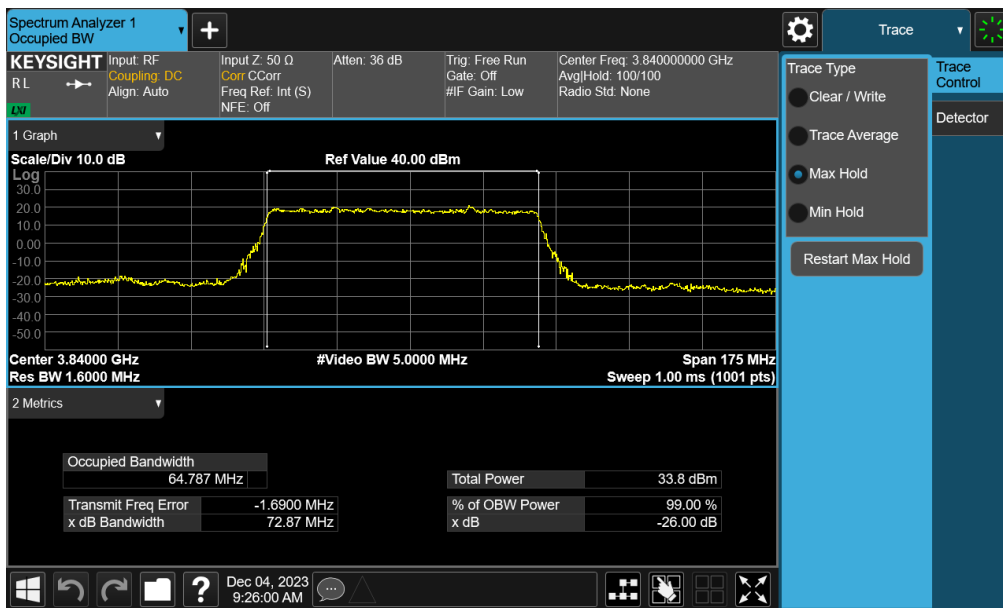
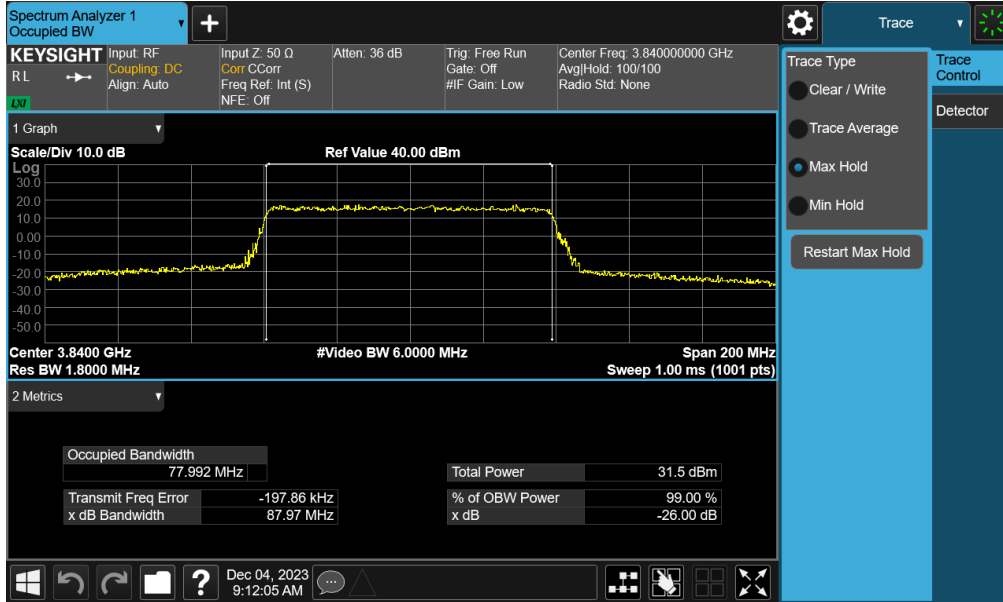


Plot 7-7. Occupied Bandwidth Plot (NR Band n77 - 80MHz $\pi/2$ BPSK - Full RB)

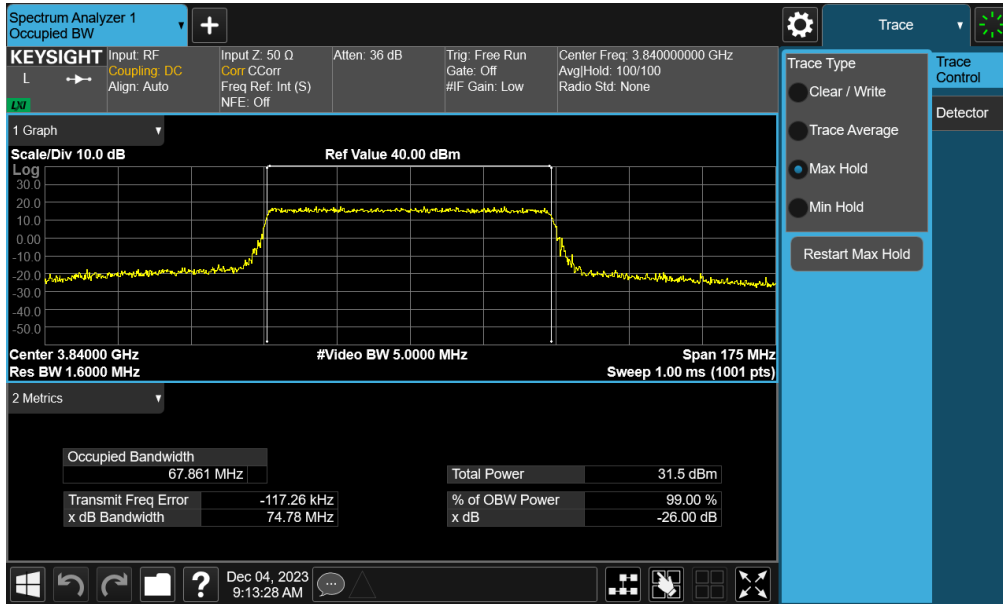


Plot 7-8. Occupied Bandwidth Plot (NR Band n77 - 80MHz QPSK - Full RB)

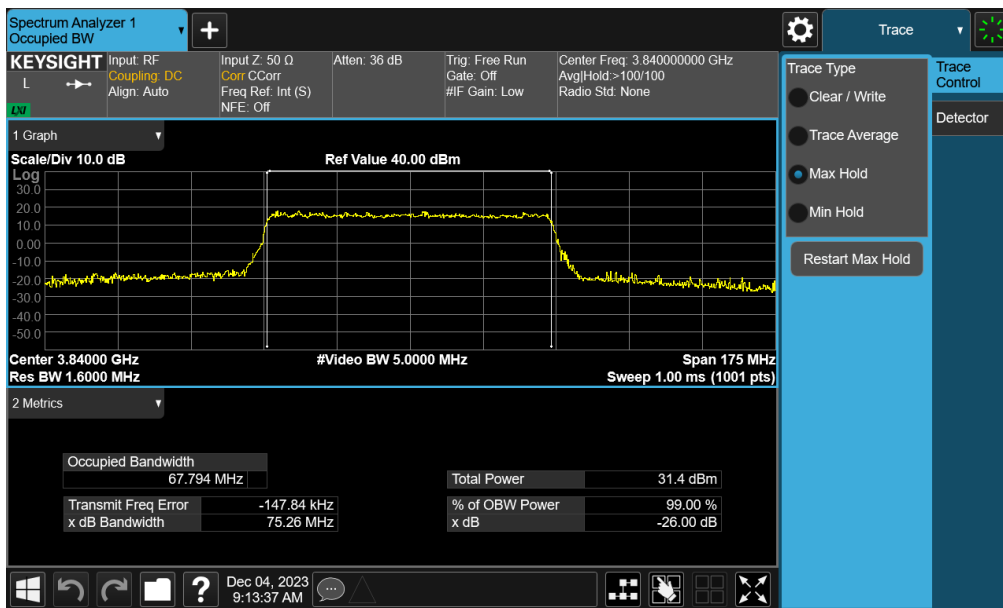
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 20 of 87



FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 21 of 87

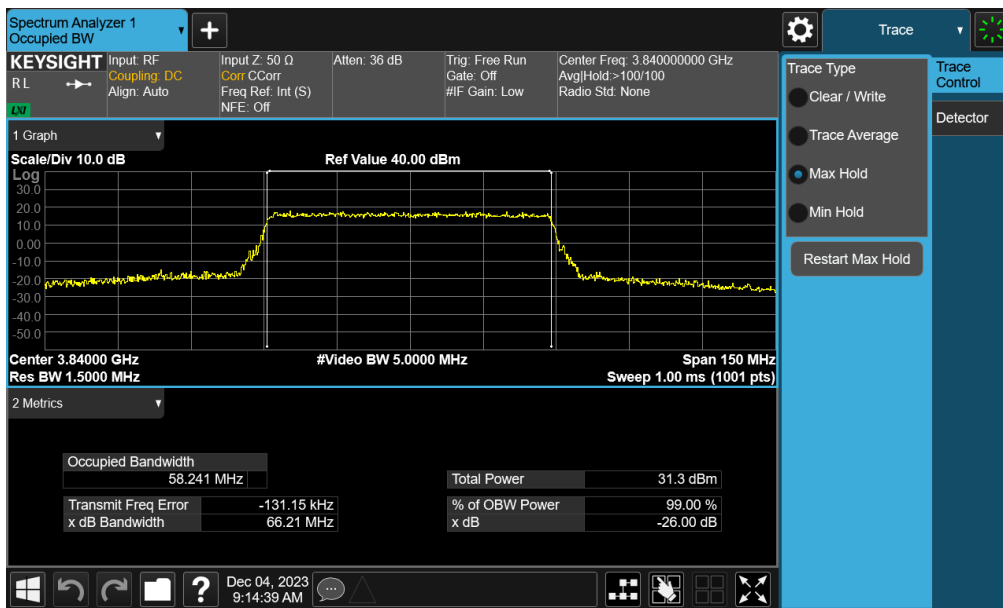
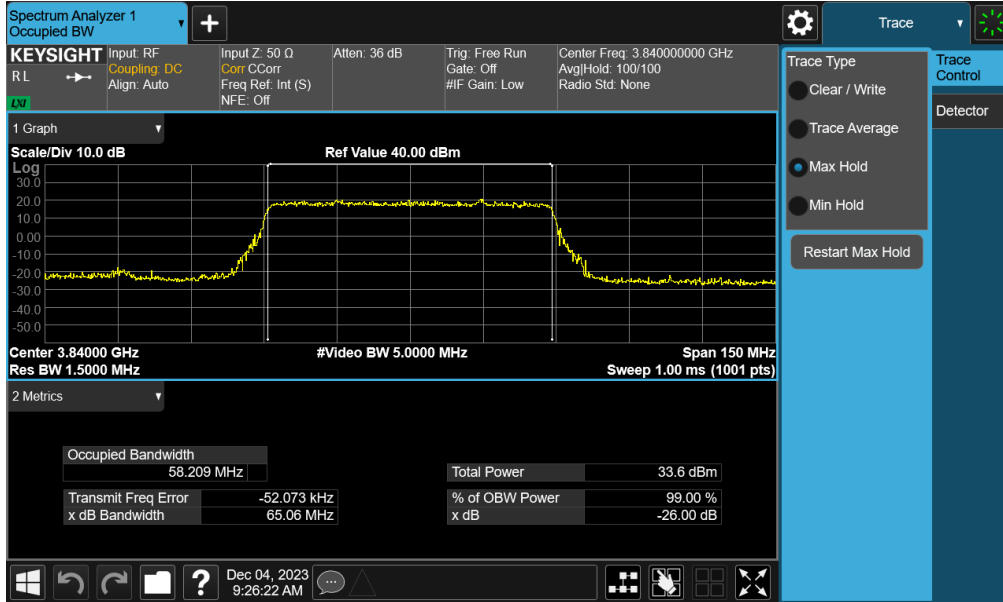


Plot 7-11. Occupied Bandwidth Plot (NR Band n77 - 70MHz QPSK - Full RB)

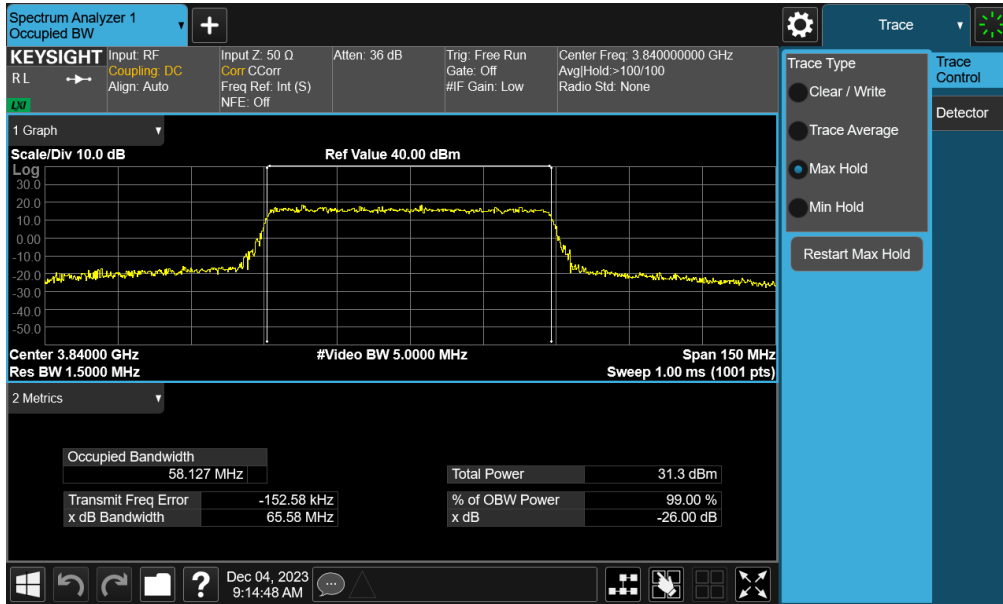


Plot 7-12. Occupied Bandwidth Plot (NR Band n77 - 70MHz 16-QAM - Full RB)

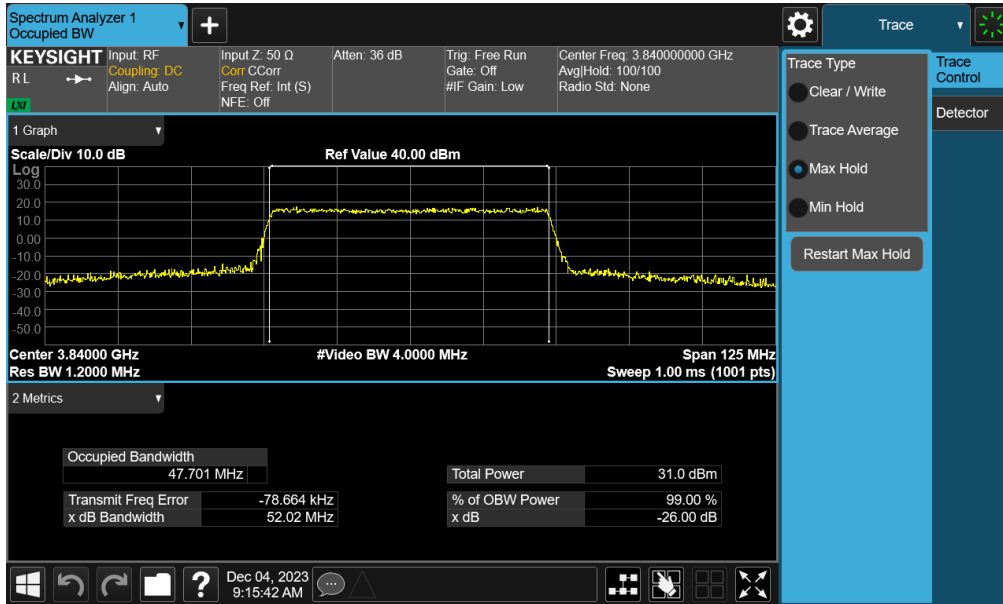
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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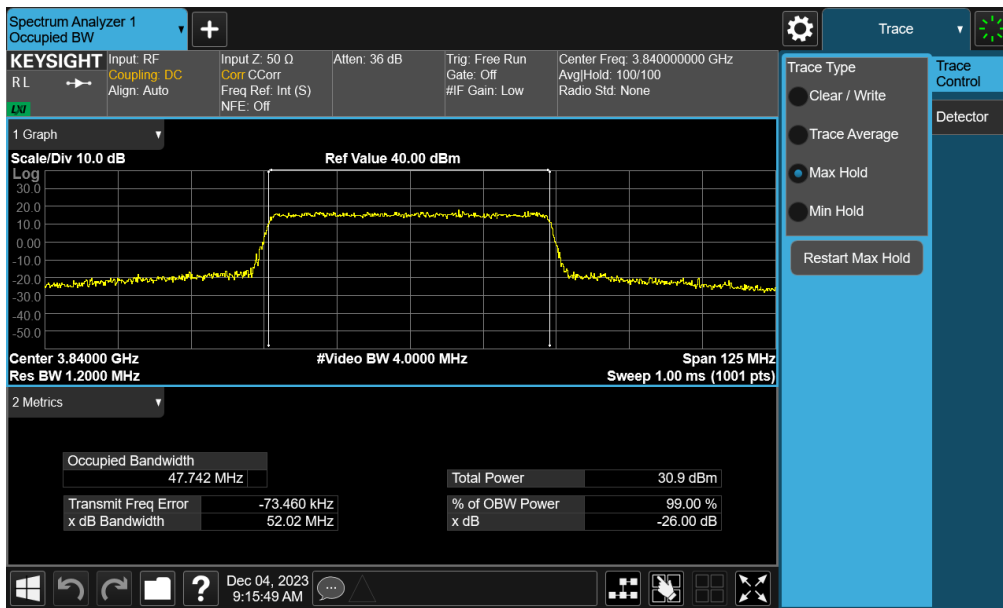
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 23 of 87



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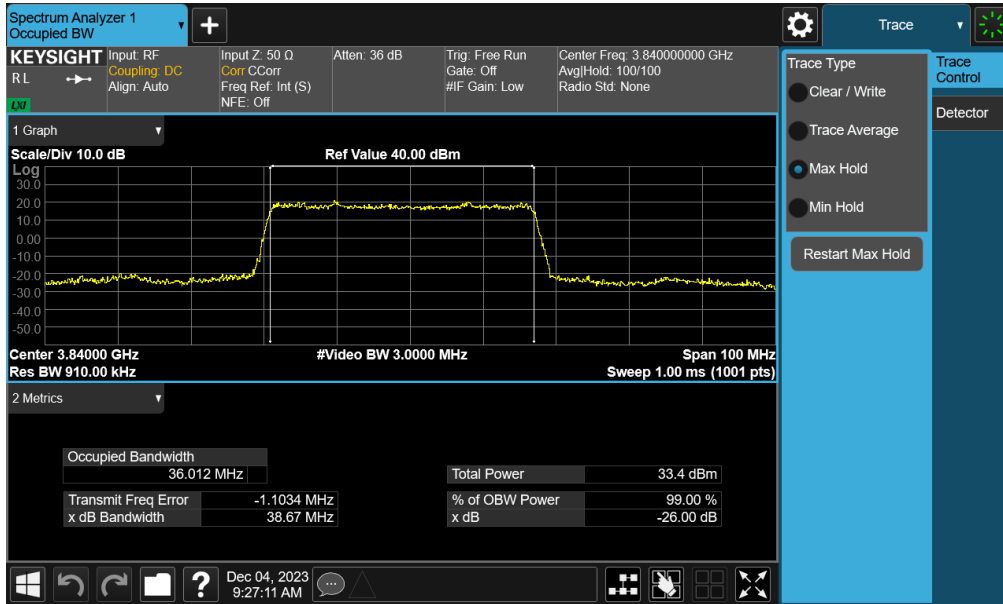


Plot 7-17. Occupied Bandwidth Plot (NR Band n77 - 50MHz QPSK - Full RB)

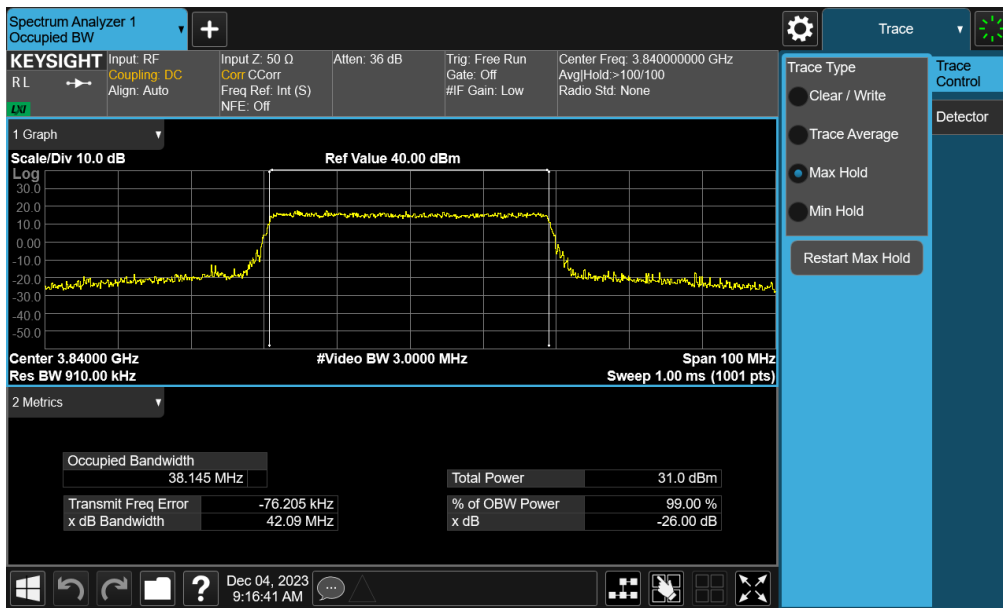


Plot 7-18. Occupied Bandwidth Plot (NR Band n77 - 50MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 25 of 87

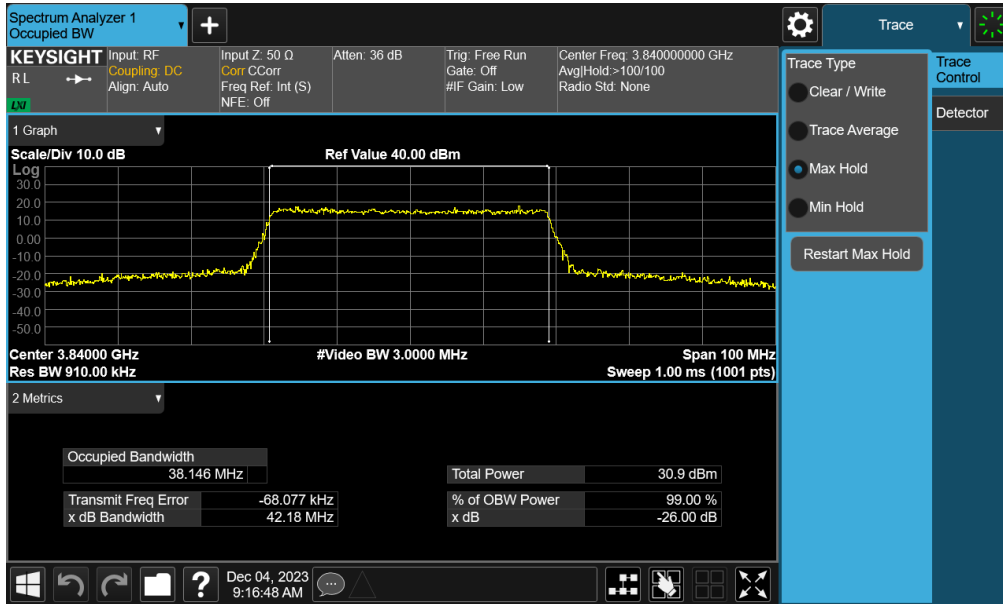


Plot 7-19. Occupied Bandwidth Plot (NR Band n77 - 40MHz $\pi/2$ BPSK - Full RB)

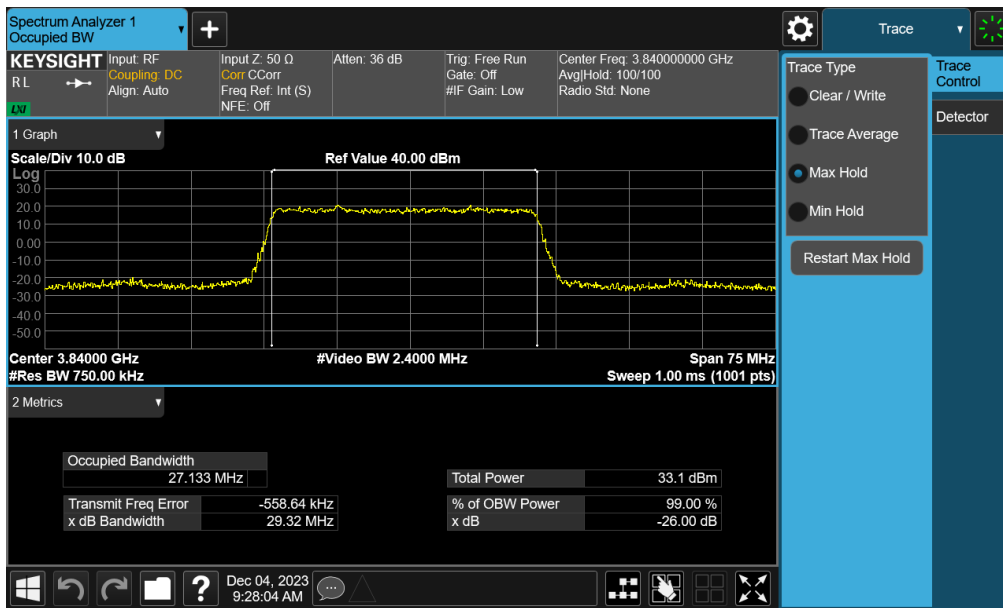


Plot 7-20. Occupied Bandwidth Plot (NR Band n77 - 40MHz QPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 26 of 87

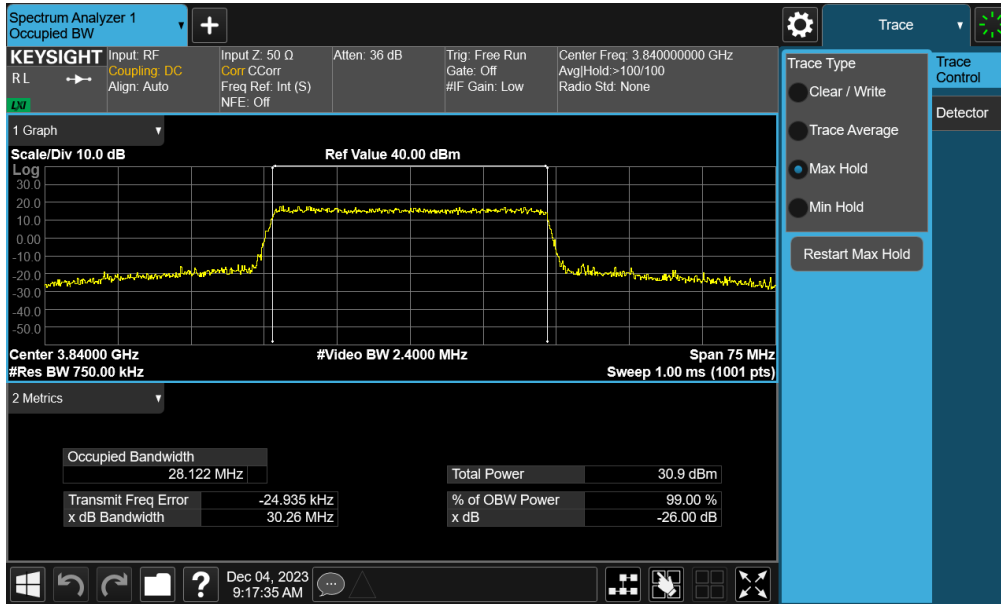


Plot 7-21. Occupied Bandwidth Plot (NR Band n77 - 40MHz 16-QAM - Full RB)

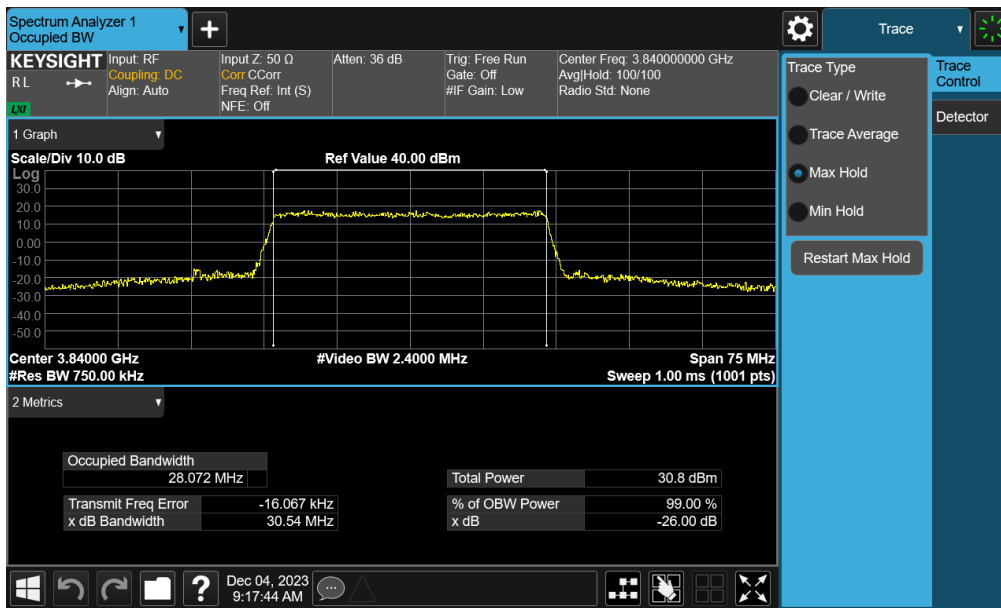


Plot 7-22. Occupied Bandwidth Plot (NR Band n77 - 30MHz $\pi/2$ BPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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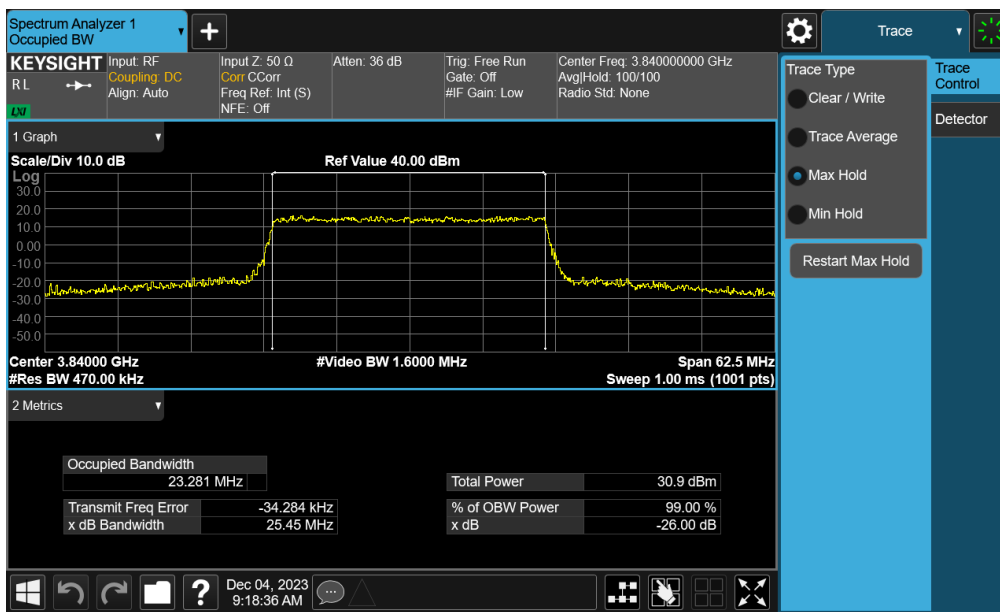
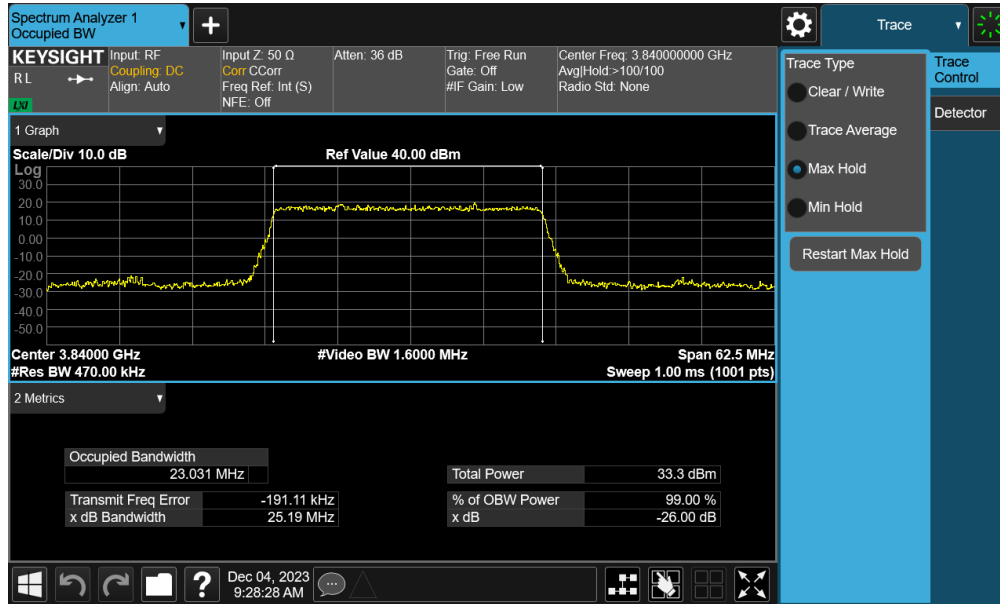


Plot 7-23. Occupied Bandwidth Plot (NR Band n77 - 30MHz QPSK - Full RB)

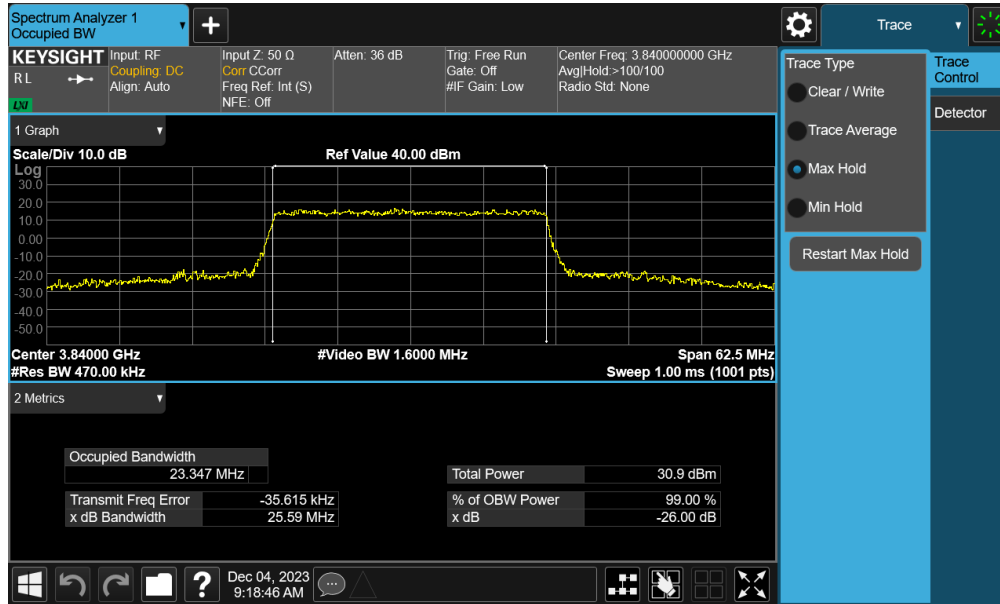


Plot 7-24. Occupied Bandwidth Plot (NR Band n77 - 30MHz 16-QAM - Full RB)

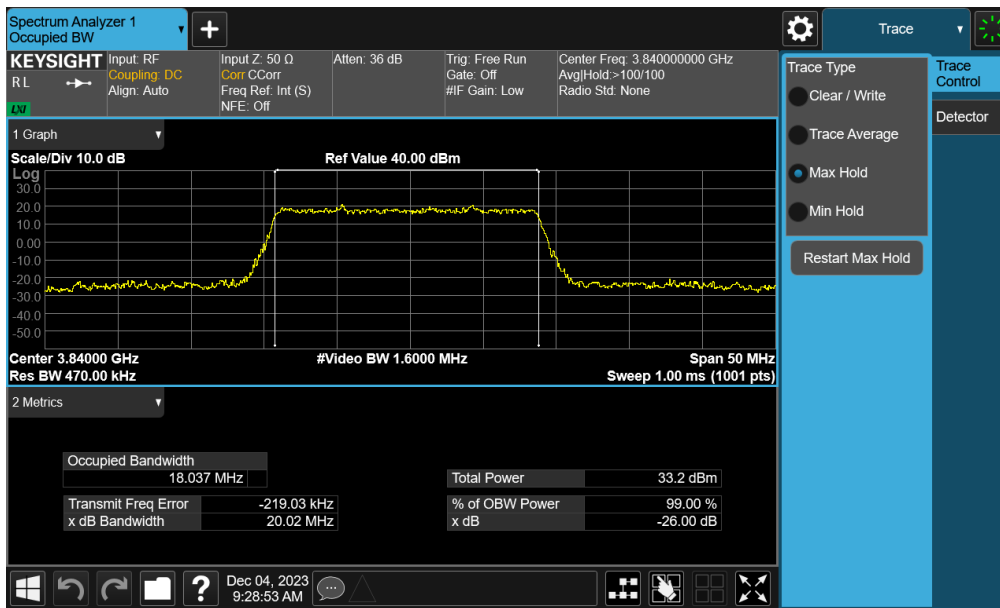
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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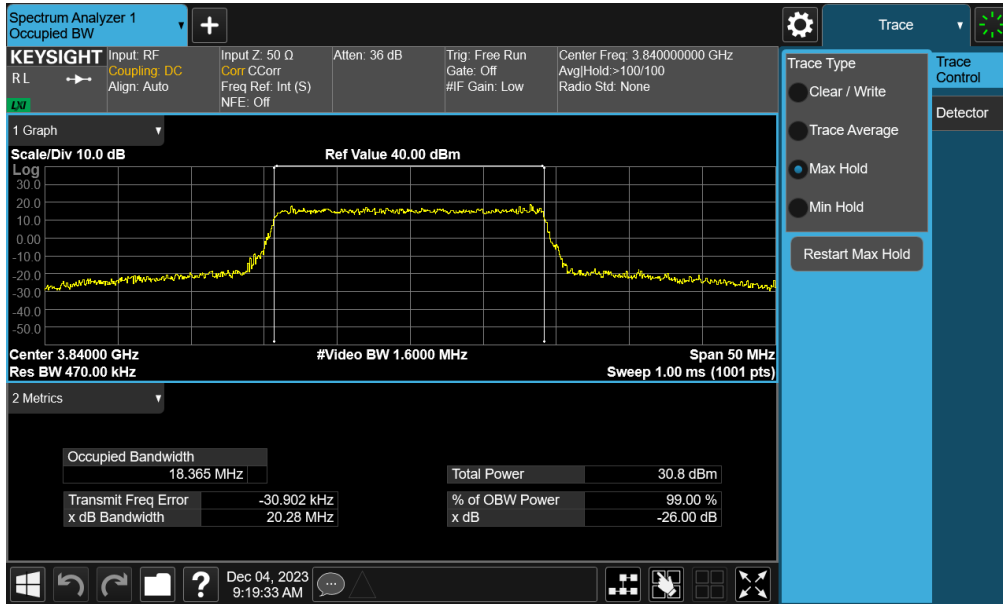


Plot 7-27. Occupied Bandwidth Plot (NR Band n77 - 25MHz 16-QAM - Full RB)

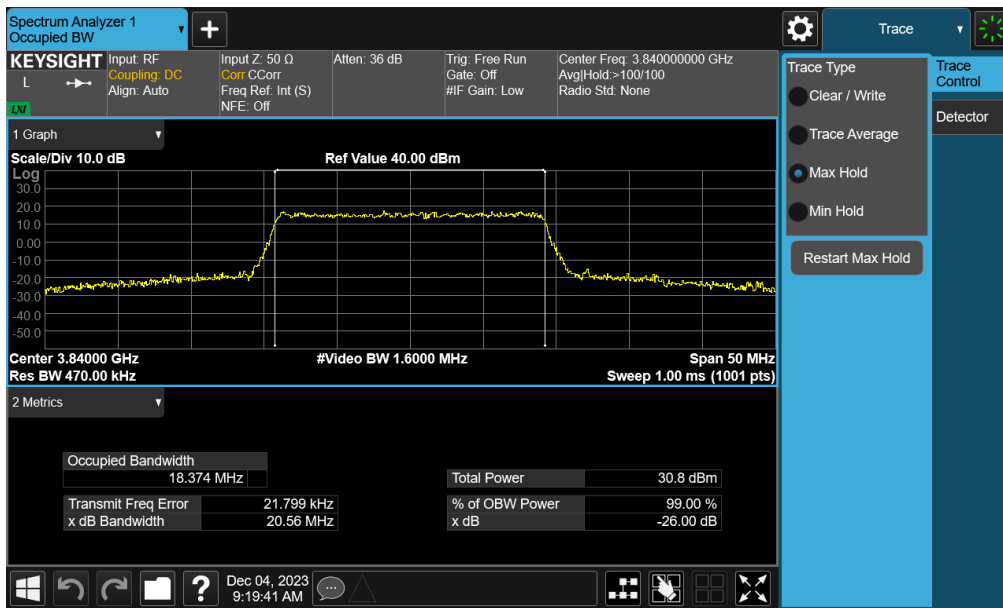


Plot 7-28. Occupied Bandwidth Plot (NR Band n77 - 20MHz $\pi/2$ BPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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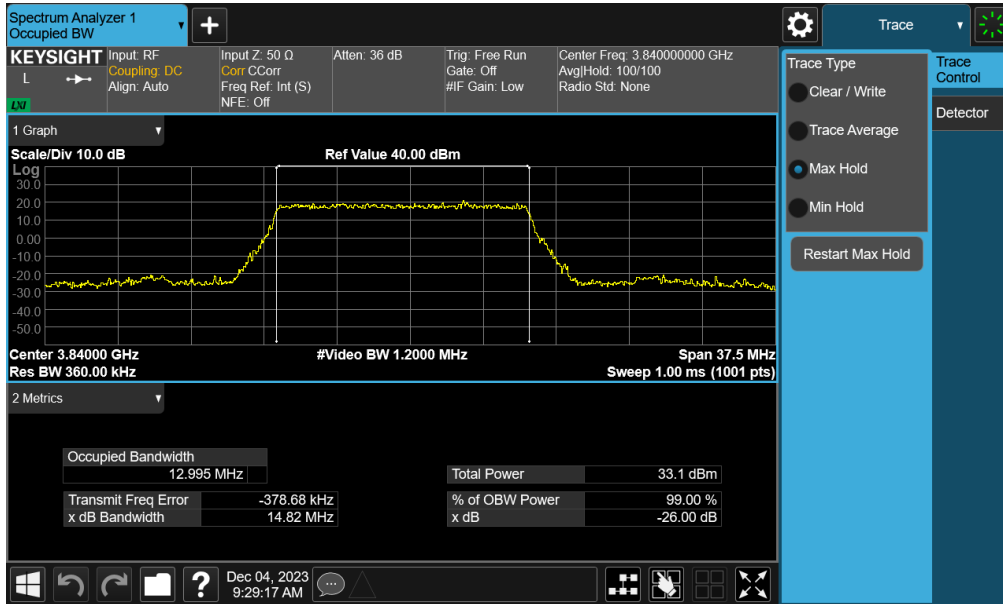


Plot 7-29. Occupied Bandwidth Plot (NR Band n77 - 20MHz QPSK - Full RB)

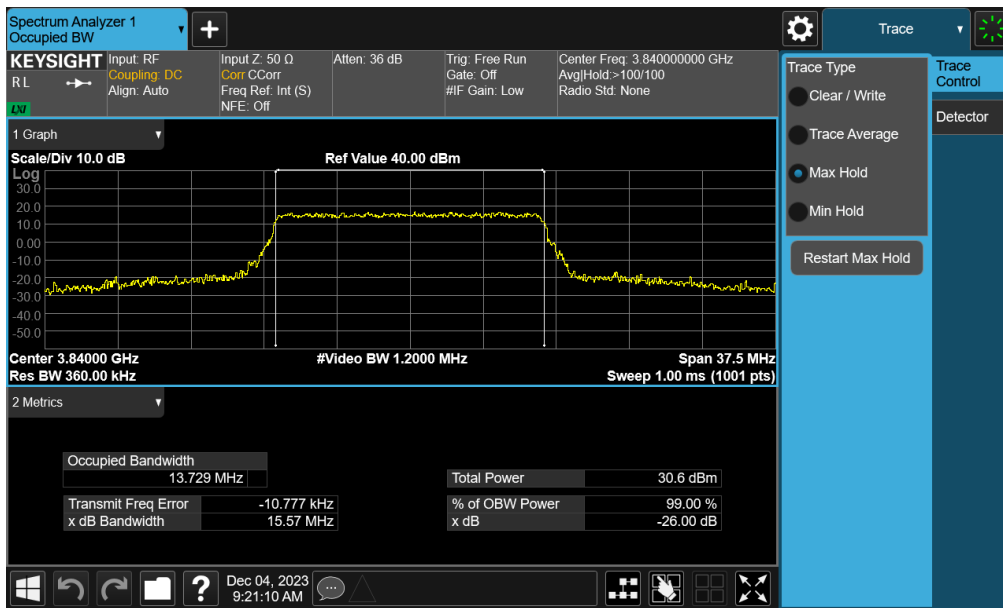


Plot 7-30. Occupied Bandwidth Plot (NR Band n77 - 20MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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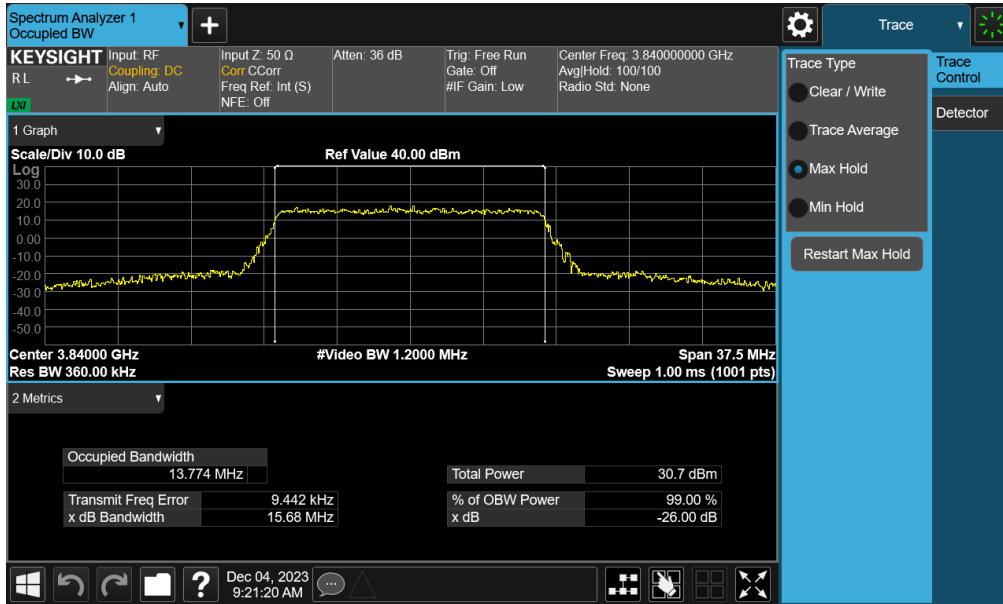


Plot 7-31. Occupied Bandwidth Plot (NR Band n77 - 15MHz $\pi/2$ BPSK - Full RB)



Plot 7-32. Occupied Bandwidth Plot (NR Band n77 - 15MHz QPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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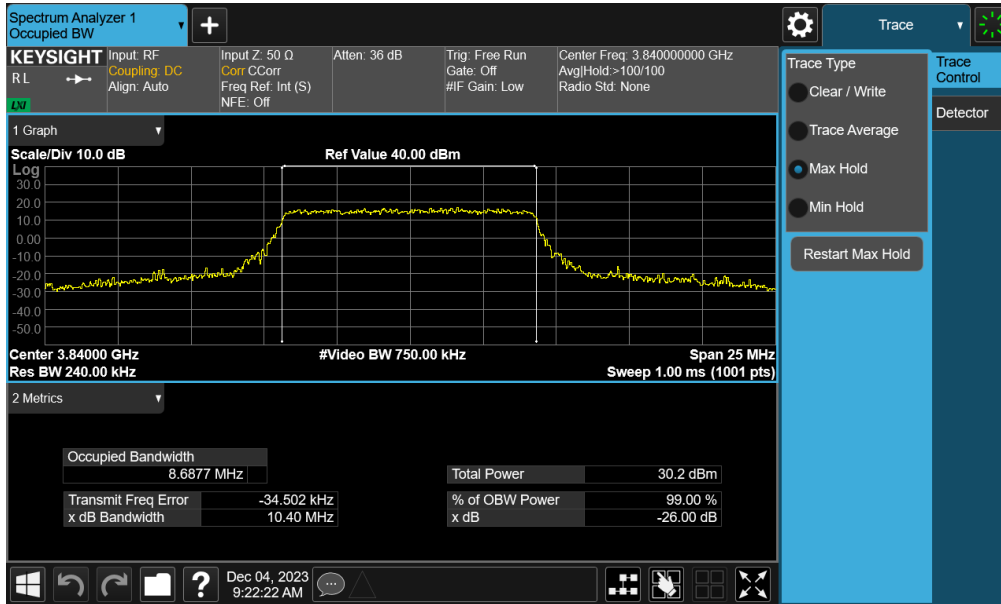


Plot 7-33. Occupied Bandwidth Plot (NR Band n77 - 15MHz 16-QAM - Full RB)

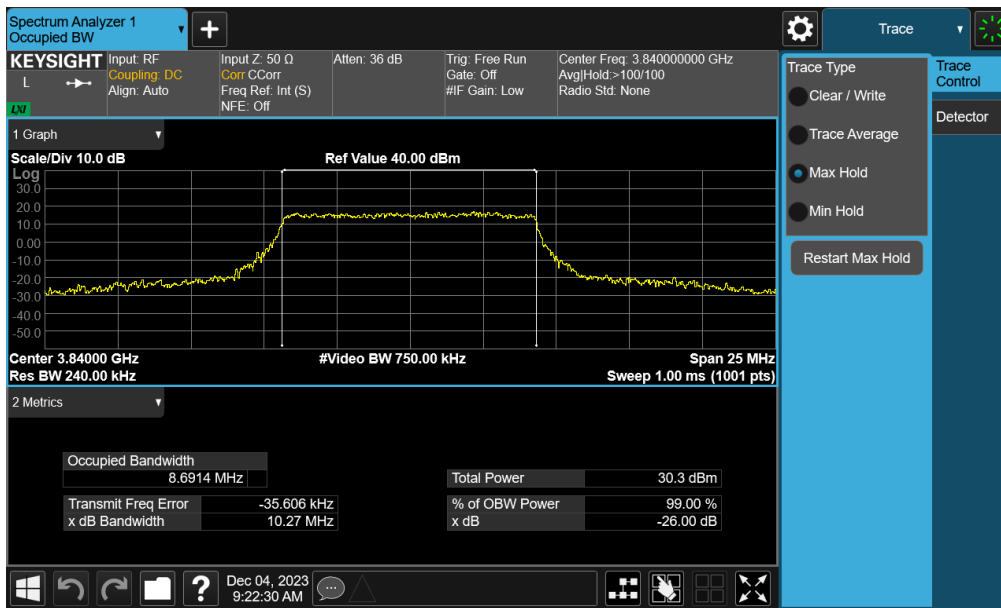


Plot 7-34. Occupied Bandwidth Plot (NR Band n77 - 10MHz $\pi/2$ BPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-35. Occupied Bandwidth Plot (NR Band n77 - 10MHz QPSK - Full RB)



Plot 7-36. Occupied Bandwidth Plot (NR Band n77 - 10MHz 16-QAM - Full RB)

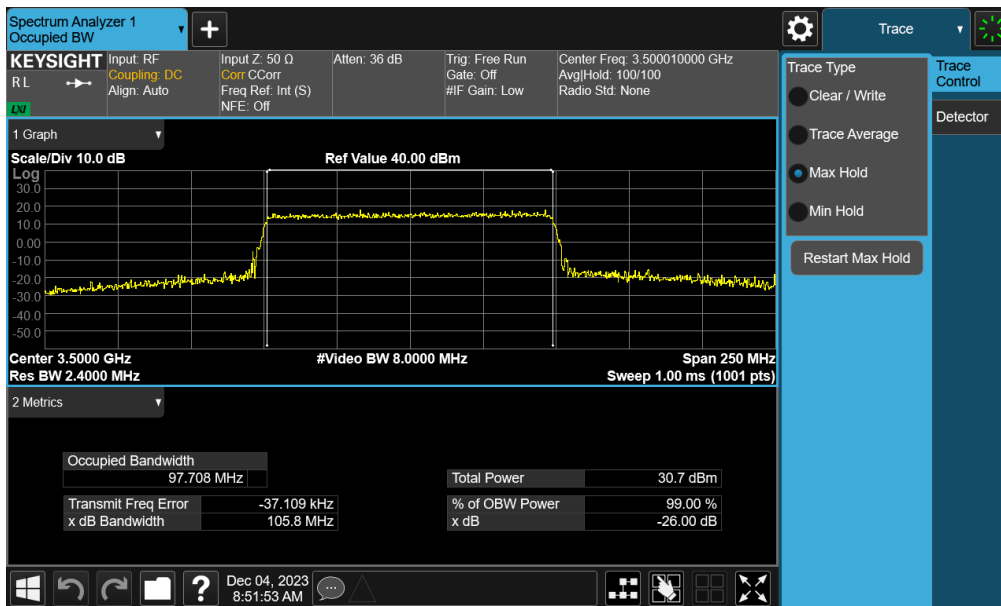
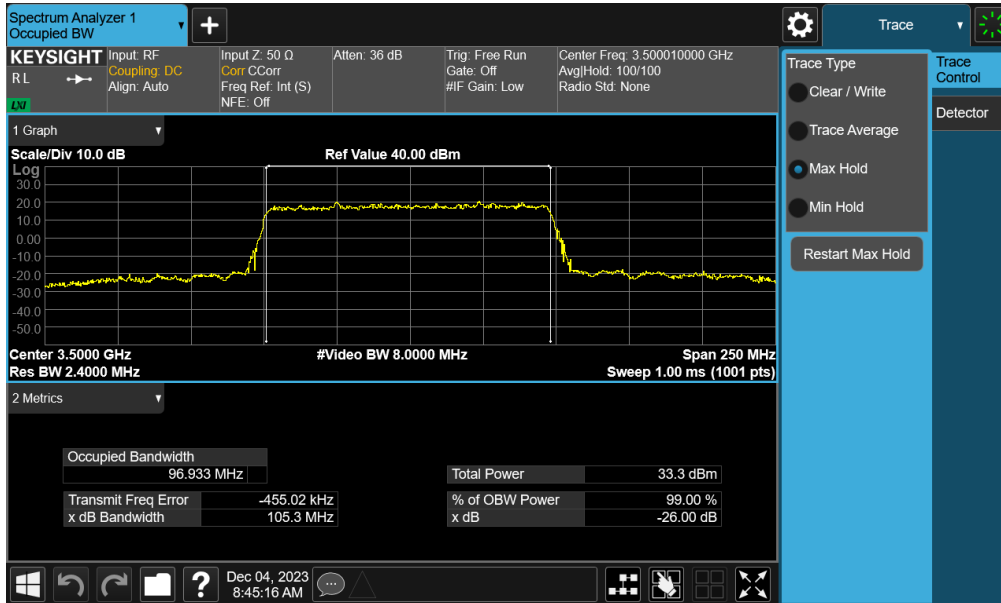
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Mode	Bandwidth	Modulation	OBW [MHz]
NR-n77 PC2 DoD	100MHz	$\pi/2$ BPSK	96.93
		QPSK	97.71
		16QAM	97.83
	90MHz	$\pi/2$ BPSK	87.45
		QPSK	87.76
		16QAM	87.92
	80MHz	$\pi/2$ BPSK	77.50
		QPSK	77.91
		16QAM	77.80
	70MHz	$\pi/2$ BPSK	64.75
		QPSK	67.86
		16QAM	67.79
	60MHz	$\pi/2$ BPSK	58.22
		QPSK	58.36
		16QAM	58.20
	50MHz	$\pi/2$ BPSK	46.08
		QPSK	47.83
		16QAM	47.67
	40MHz	$\pi/2$ BPSK	36.00
		QPSK	38.11
		16QAM	38.16
	30MHz	$\pi/2$ BPSK	27.06
		QPSK	28.08
		16QAM	28.06
	25MHz	$\pi/2$ BPSK	23.02
		QPSK	23.34
		16QAM	23.30
	20MHz	$\pi/2$ BPSK	18.03
		QPSK	18.33
		16QAM	18.35
15MHz	$\pi/2$ BPSK	13.08	
	QPSK	13.73	
	16QAM	13.82	
10MHz	$\pi/2$ BPSK	8.69	
	QPSK	8.72	
	16QAM	8.68	

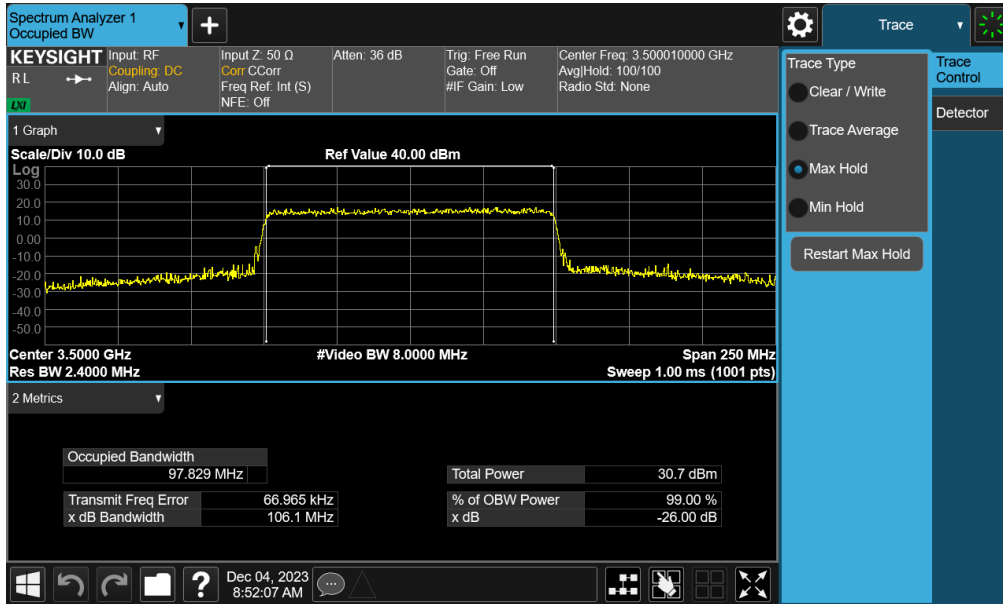
Table 7-5. Occupied Bandwidth Test Results – NR Band n77 DoD Band

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 35 of 87

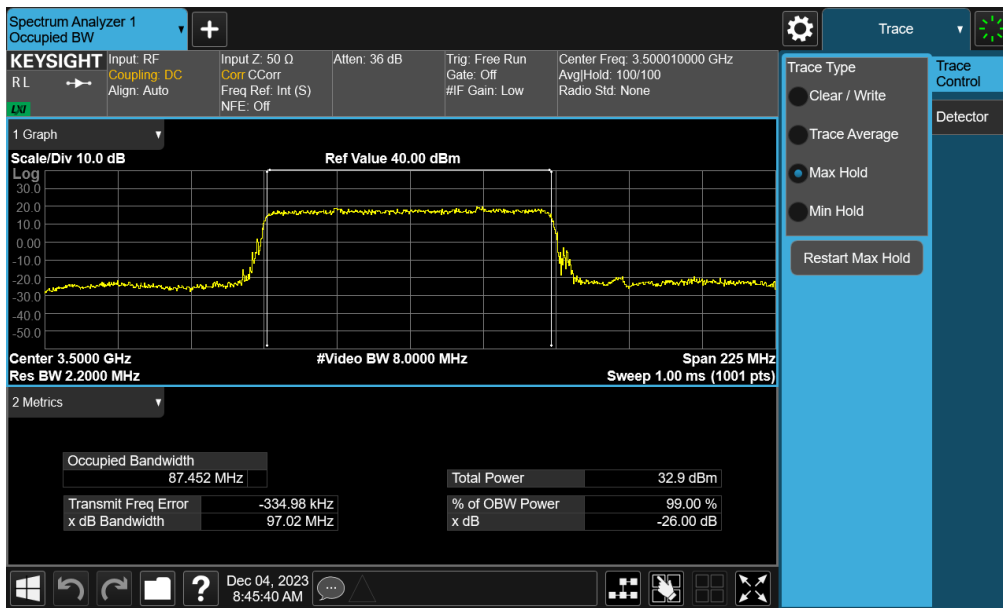
NR Band n77 PC2 DoD Band



FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2310260110-06.A3L	Test Dates: 11/30/2023 - 12/12/2023	EUT Type: Portable Handset	Page 36 of 87

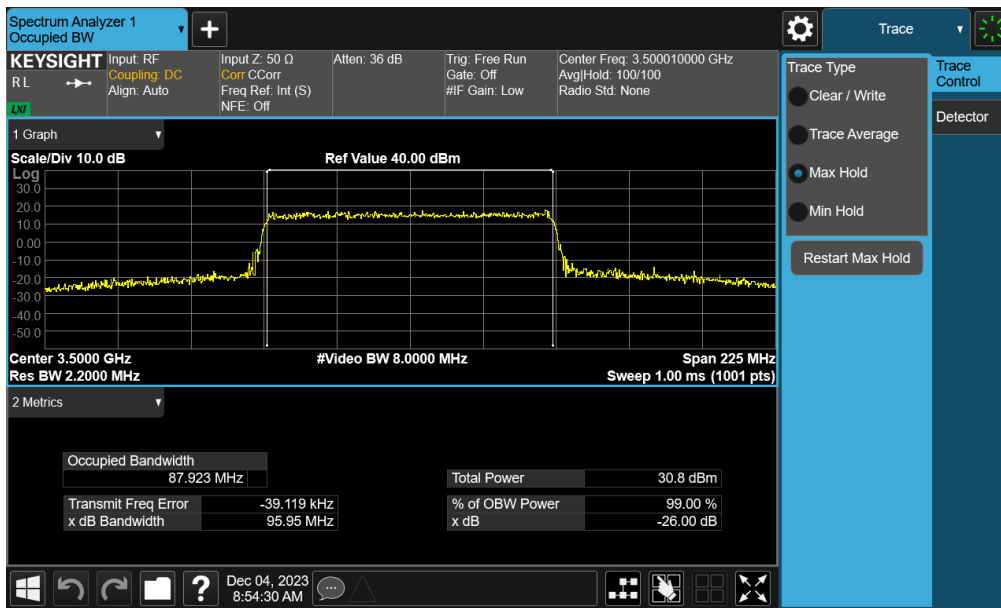
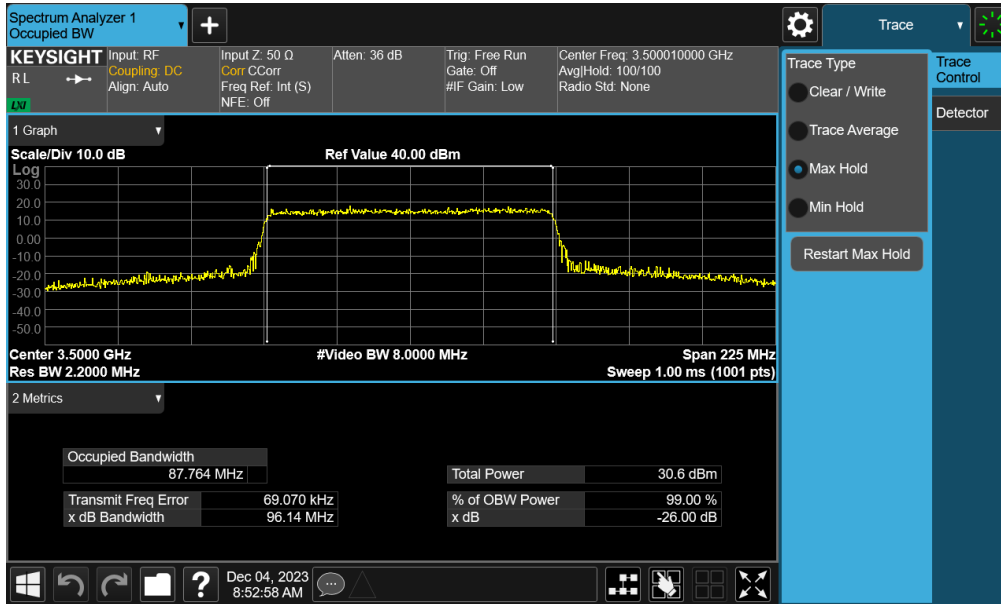


Plot 7-39. Occupied Bandwidth Plot (NR Band n77 DoD Band - 100MHz 16-QAM - Full RB)

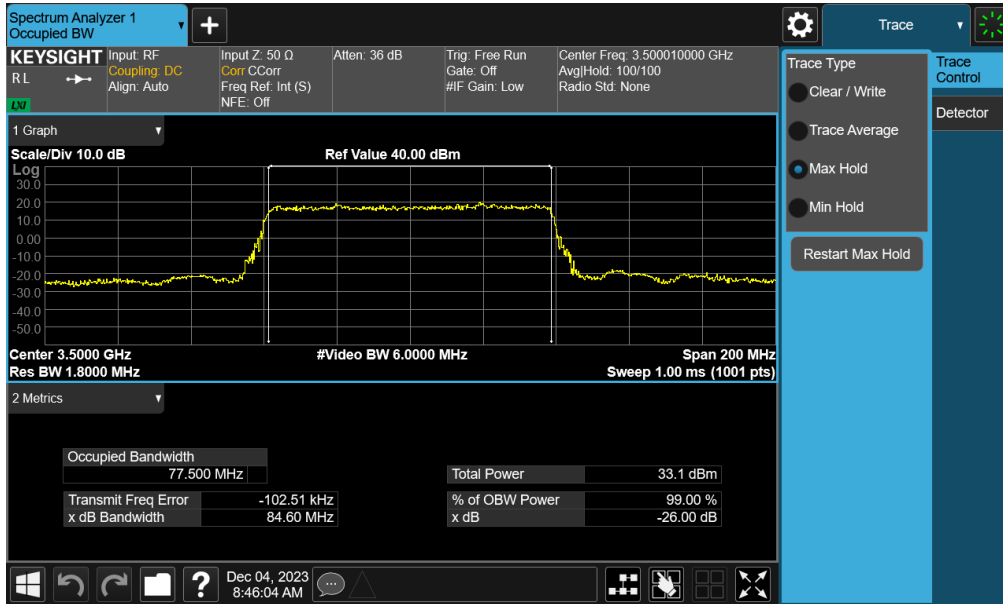


Plot 7-40. Occupied Bandwidth Plot (NR Band n77 DoD Band - 90MHz $\pi/2$ BPSK - Full RB)

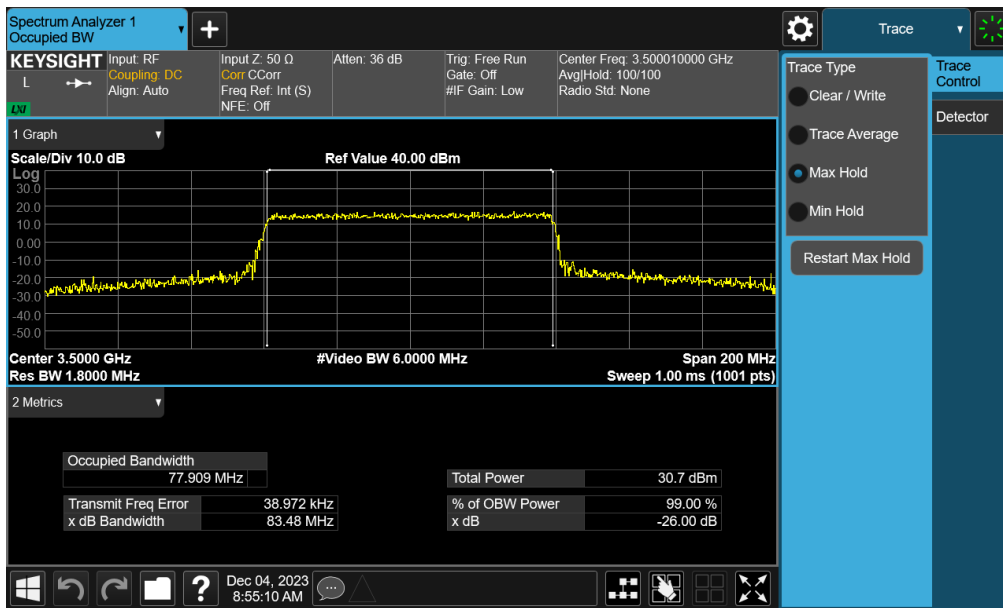
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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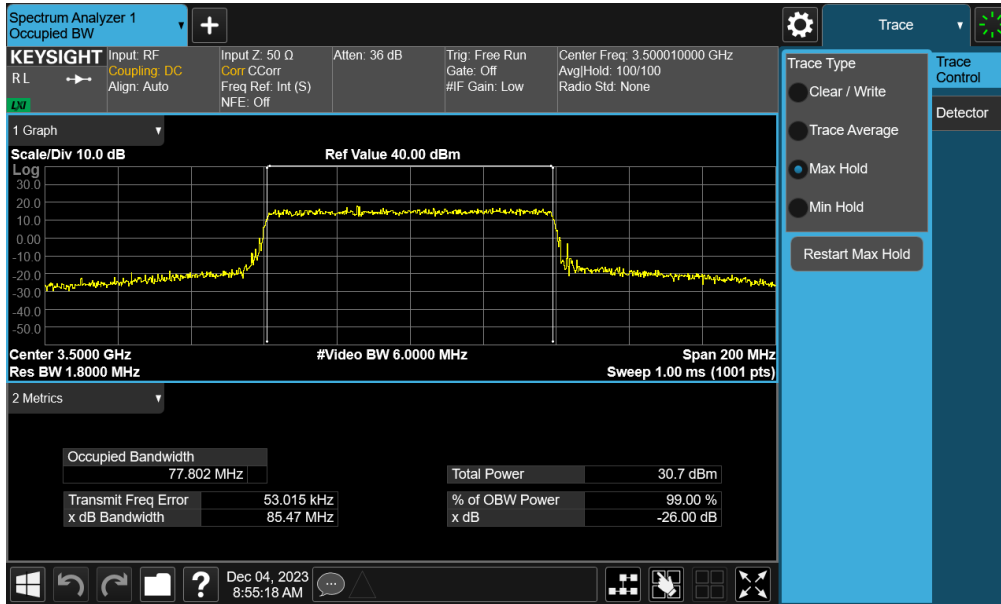


Plot 7-43. Occupied Bandwidth Plot (NR Band n77 DoD Band - 80MHz $\pi/2$ BPSK - Full RB)

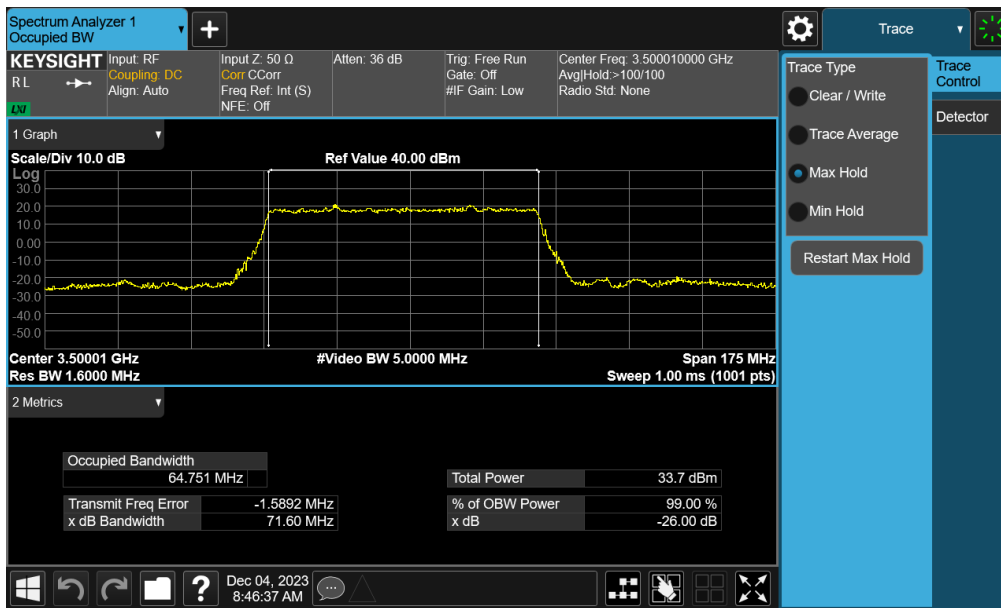


Plot 7-44. Occupied Bandwidth Plot (NR Band n77 DoD Band - 80MHz QPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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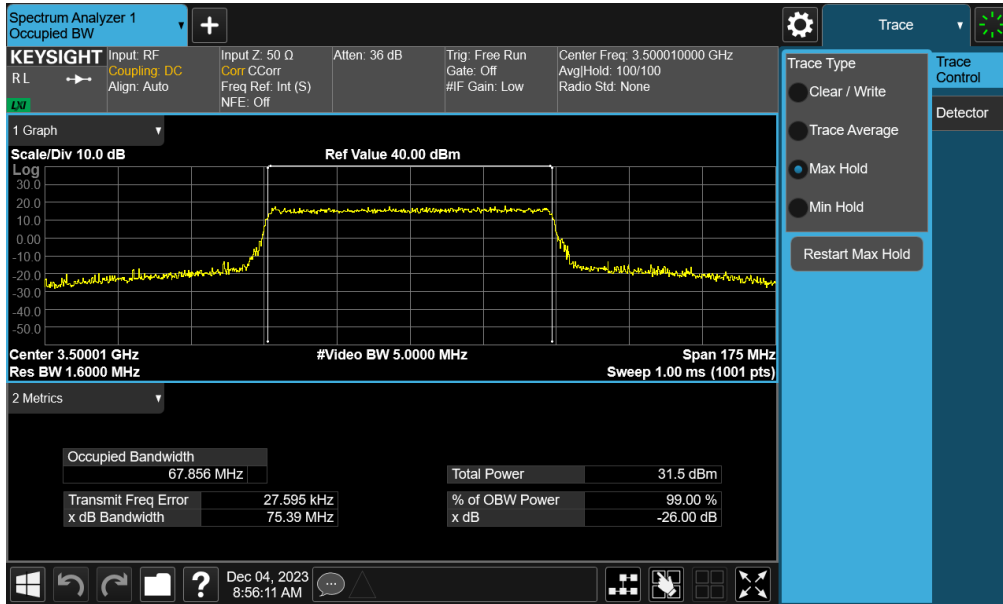


Plot 7-45. Occupied Bandwidth Plot (NR Band n77 DoD Band - 80MHz 16-QAM - Full RB)

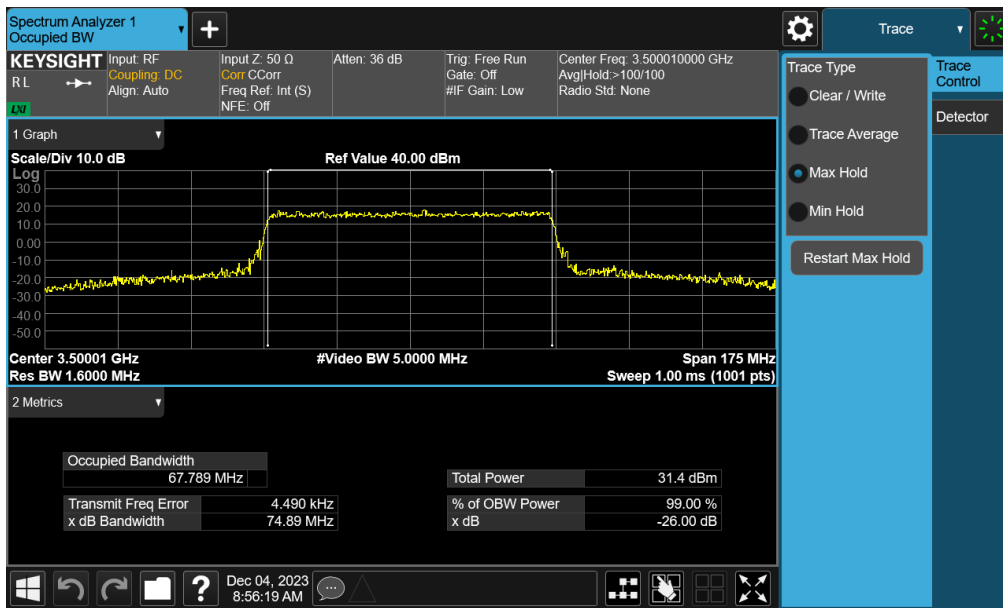


Plot 7-46. Occupied Bandwidth Plot (NR Band n77 DoD Band - 70MHz $\pi/2$ BPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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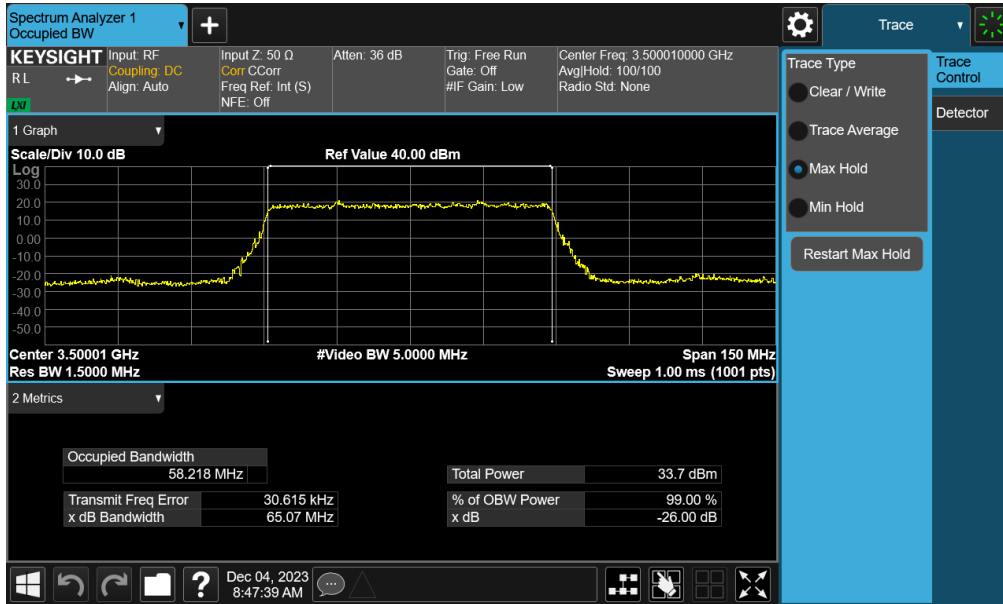


Plot 7-47. Occupied Bandwidth Plot (NR Band n77 DoD Band - 70MHz QPSK - Full RB)

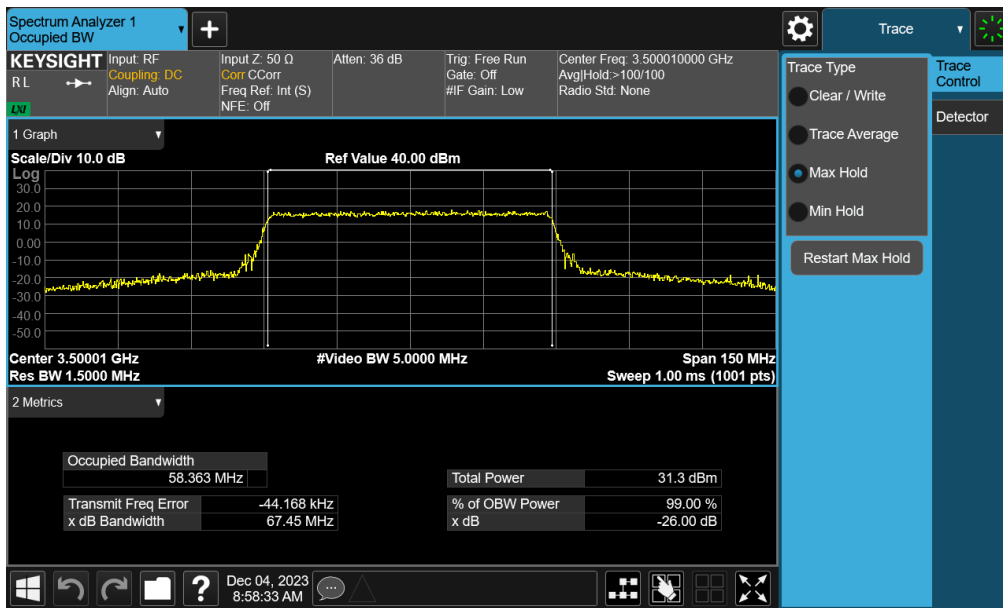


Plot 7-48. Occupied Bandwidth Plot (NR Band n77 DoD Band - 70MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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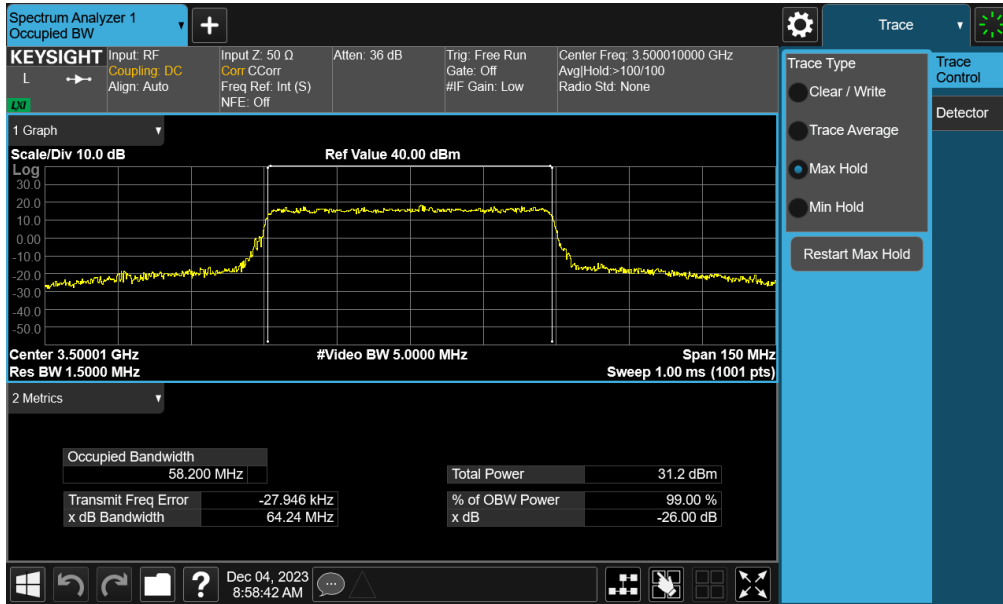


Plot 7-49. Occupied Bandwidth Plot (NR Band n77 DoD Band - 60MHz $\pi/2$ BPSK - Full RB)

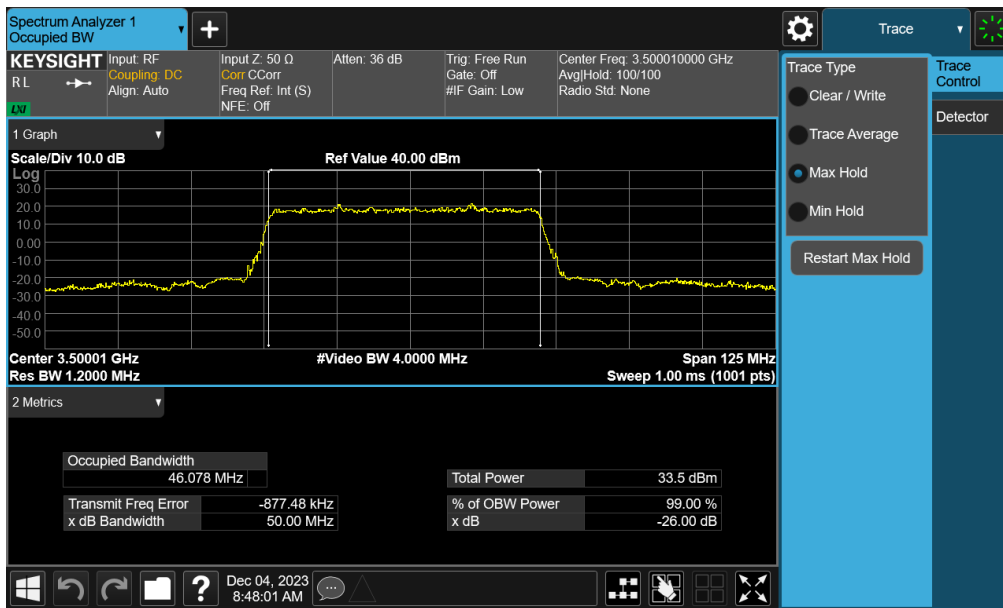


Plot 7-50. Occupied Bandwidth Plot (NR Band n77 DoD Band - 60MHz QPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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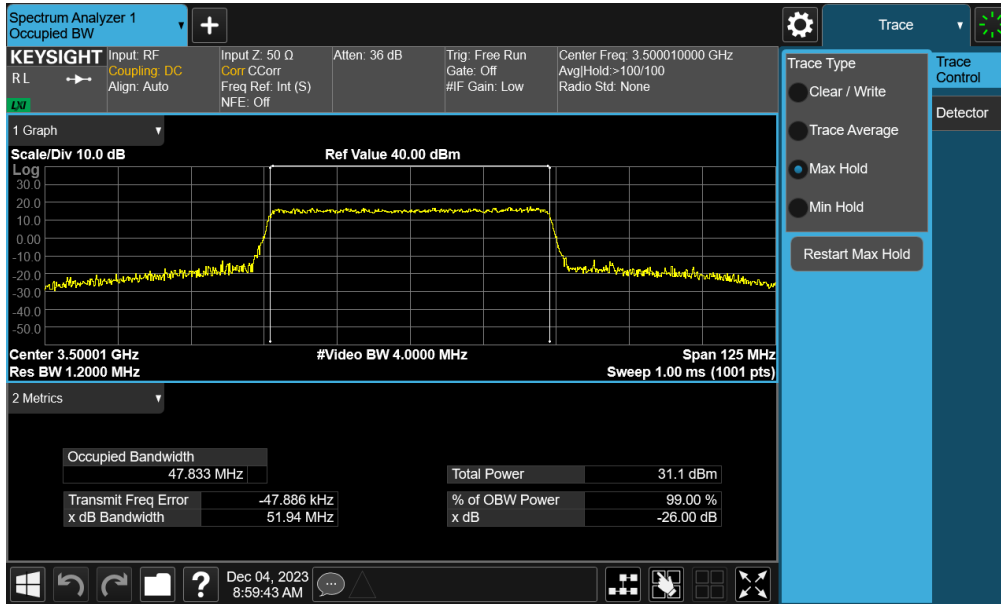


Plot 7-51. Occupied Bandwidth Plot (NR Band n77 DoD Band - 60MHz 16-QAM - Full RB)

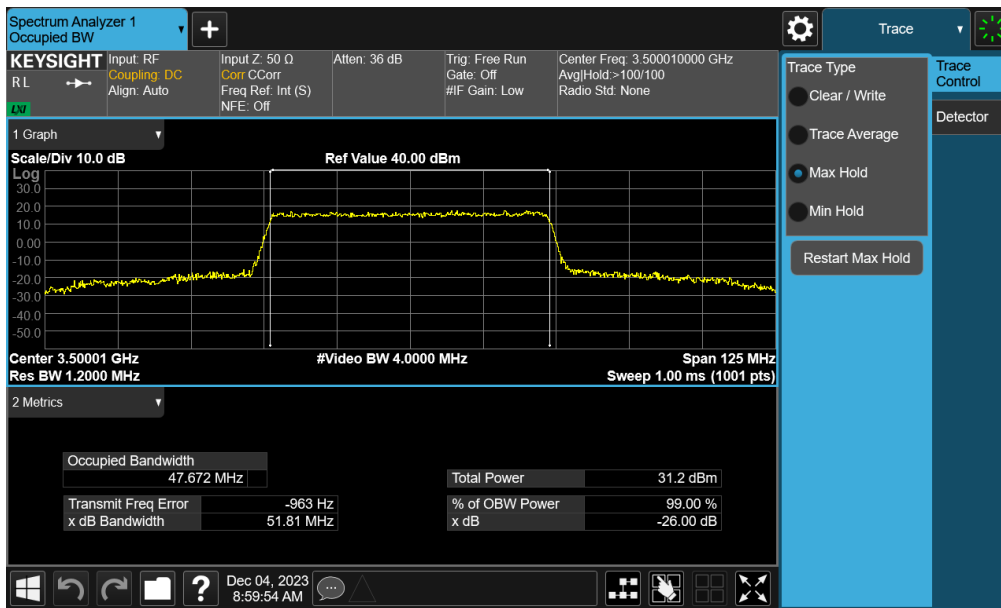


Plot 7-52. Occupied Bandwidth Plot (NR Band n77 DoD Band - 50MHz $\pi/2$ BPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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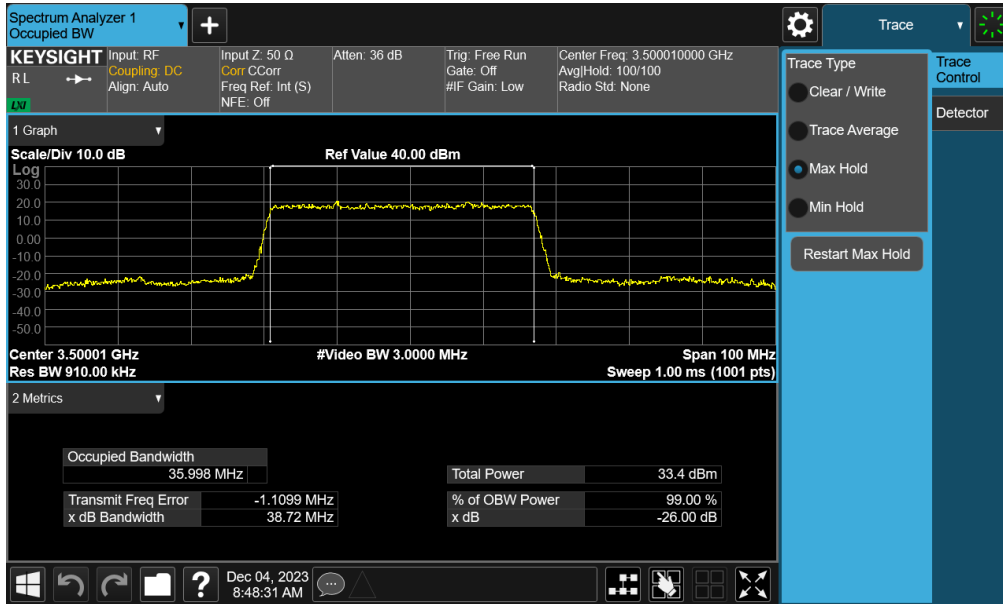


Plot 7-53. Occupied Bandwidth Plot (NR Band n77 DoD Band - 50MHz QPSK - Full RB)

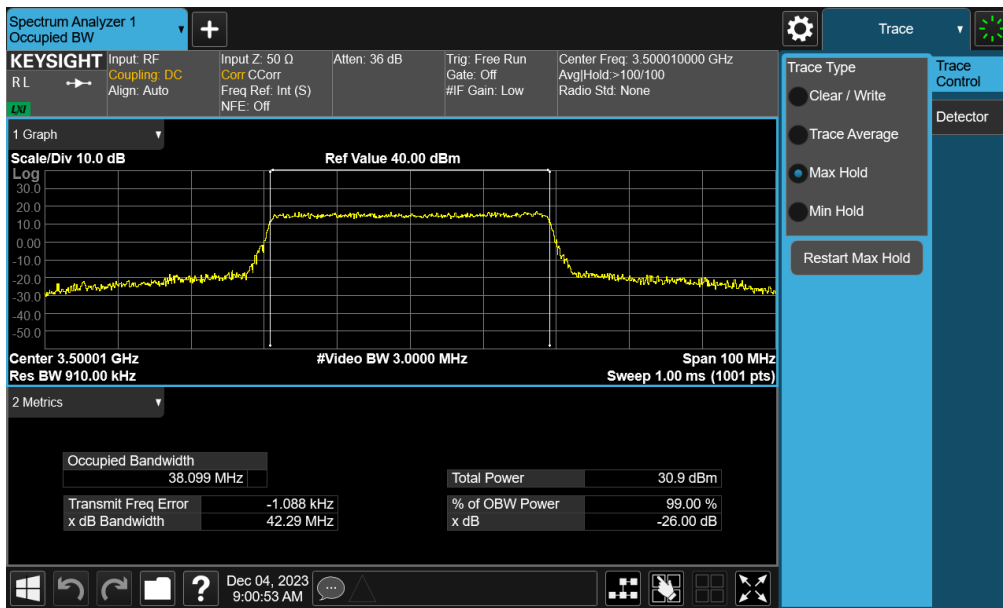


Plot 7-54. Occupied Bandwidth Plot (NR Band n77 DoD Band - 50MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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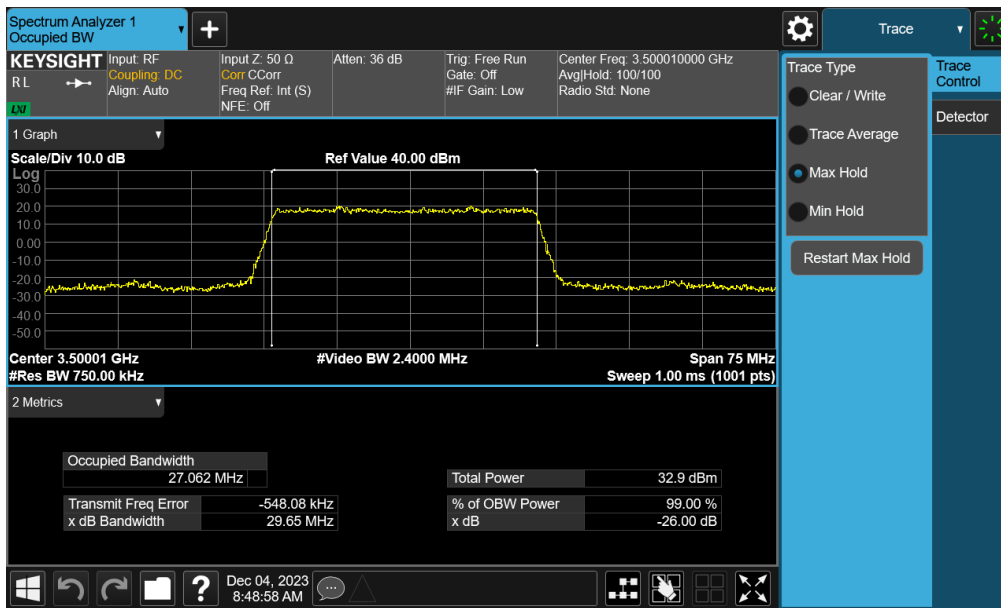
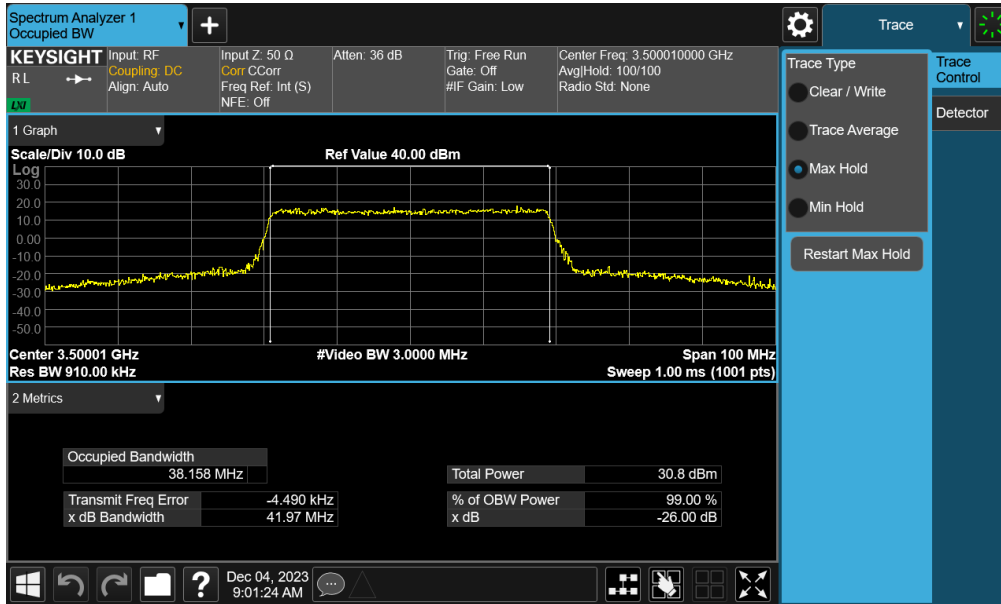


Plot 7-55. Occupied Bandwidth Plot (NR Band n77 DoD Band - 40MHz $\pi/2$ BPSK - Full RB)

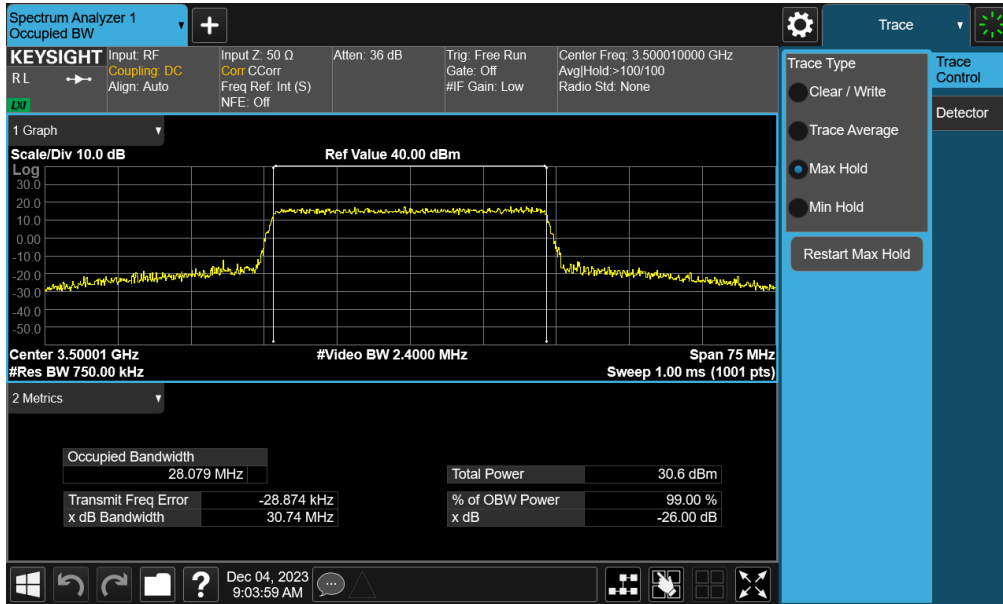


Plot 7-56. Occupied Bandwidth Plot (NR Band n77 DoD Band - 40MHz QPSK - Full RB)

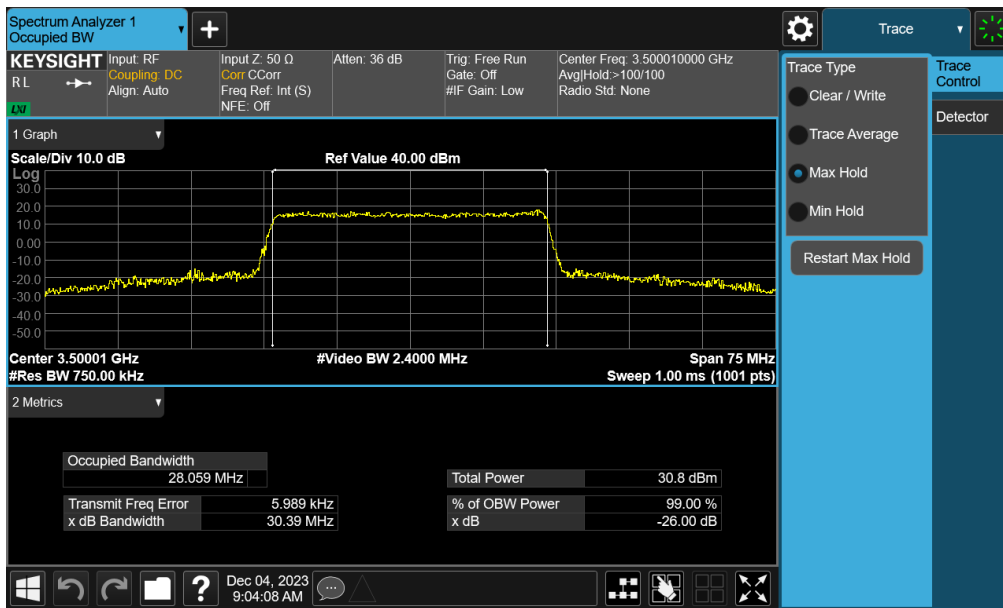
FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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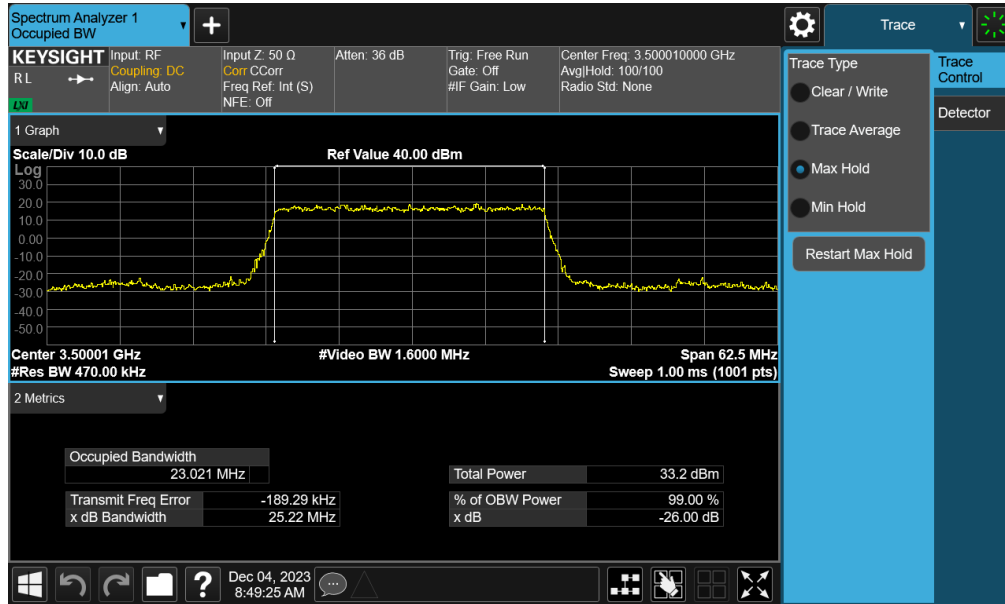


Plot 7-59. Occupied Bandwidth Plot (NR Band n77 DoD Band - 30MHz QPSK - Full RB)

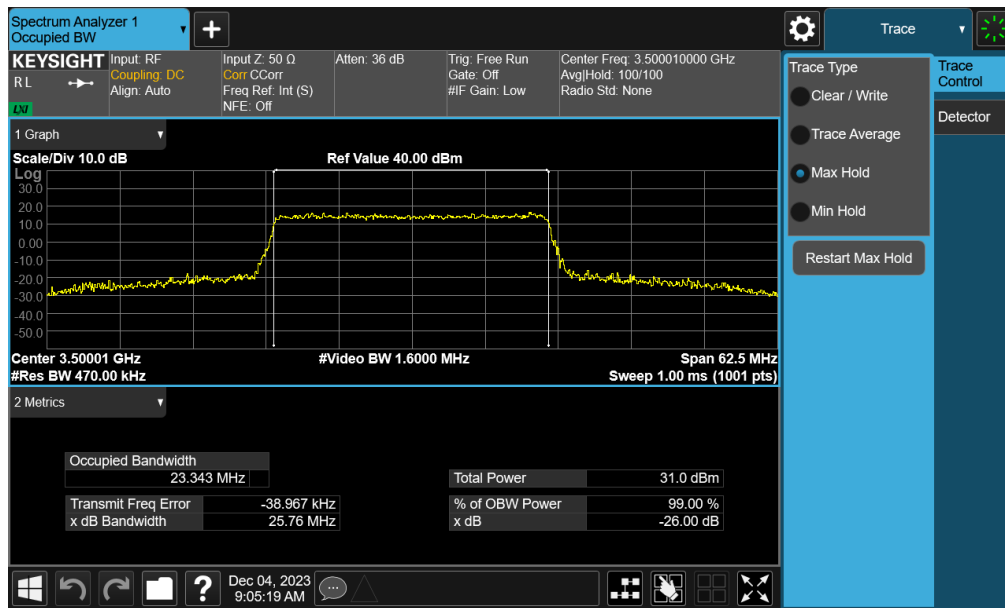


Plot 7-60. Occupied Bandwidth Plot (NR Band n77 DoD Band - 30MHz 16-QAM - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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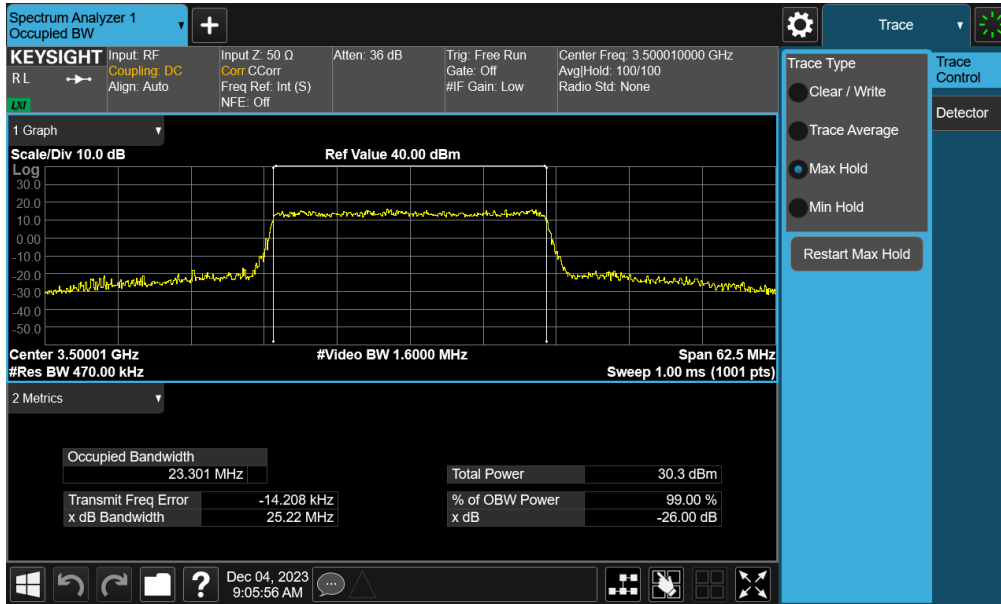


Plot 7-61. Occupied Bandwidth Plot (NR Band n77 DoD Band - 25MHz $\pi/2$ BPSK - Full RB)

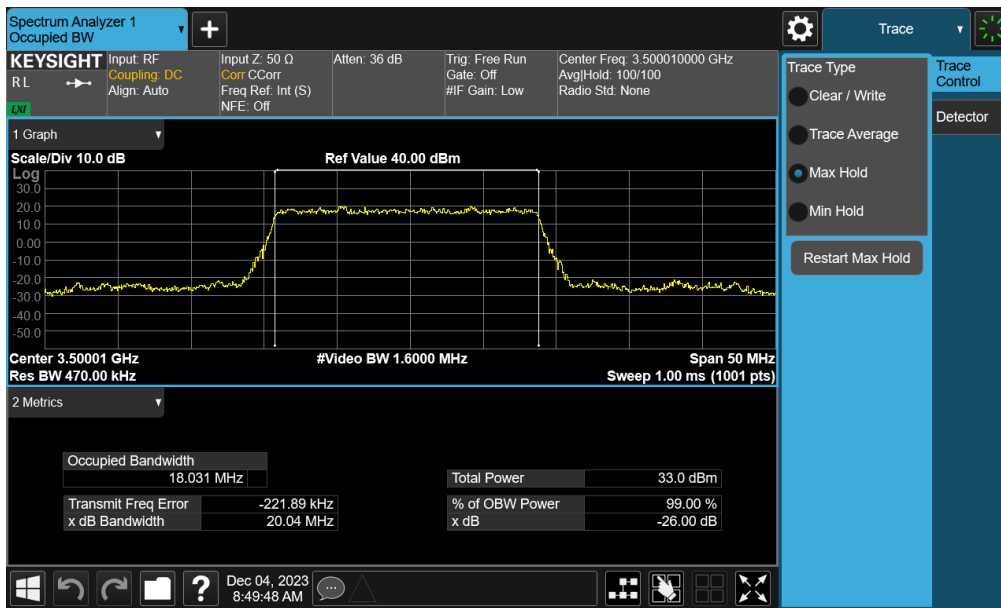


Plot 7-62. Occupied Bandwidth Plot (NR Band n77 DoD Band - 25MHz QPSK - Full RB)

FCC ID: A3LSMA356E	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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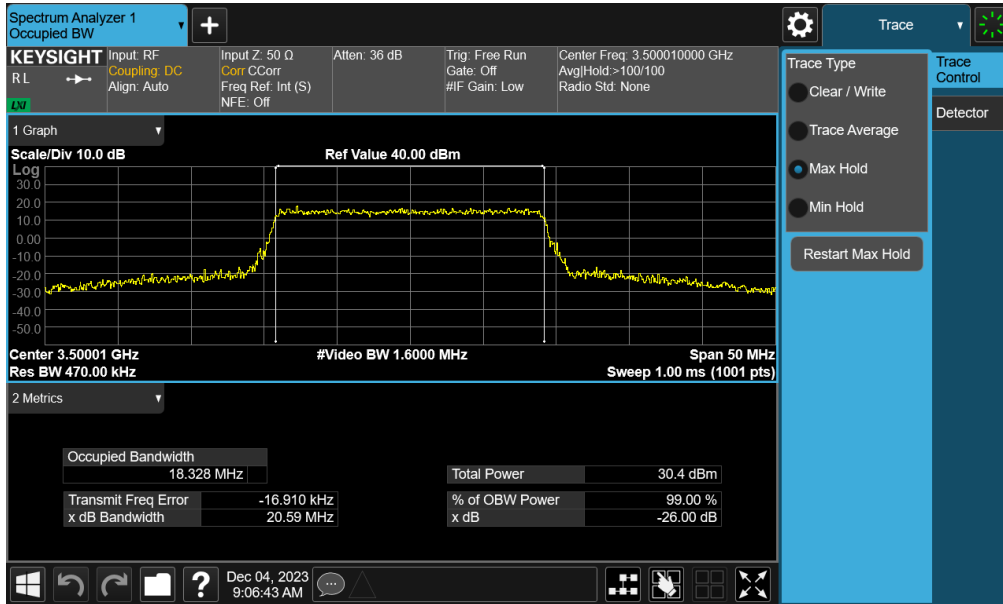


Plot 7-63. Occupied Bandwidth Plot (NR Band n77 DoD Band - 25MHz 16-QAM - Full RB)

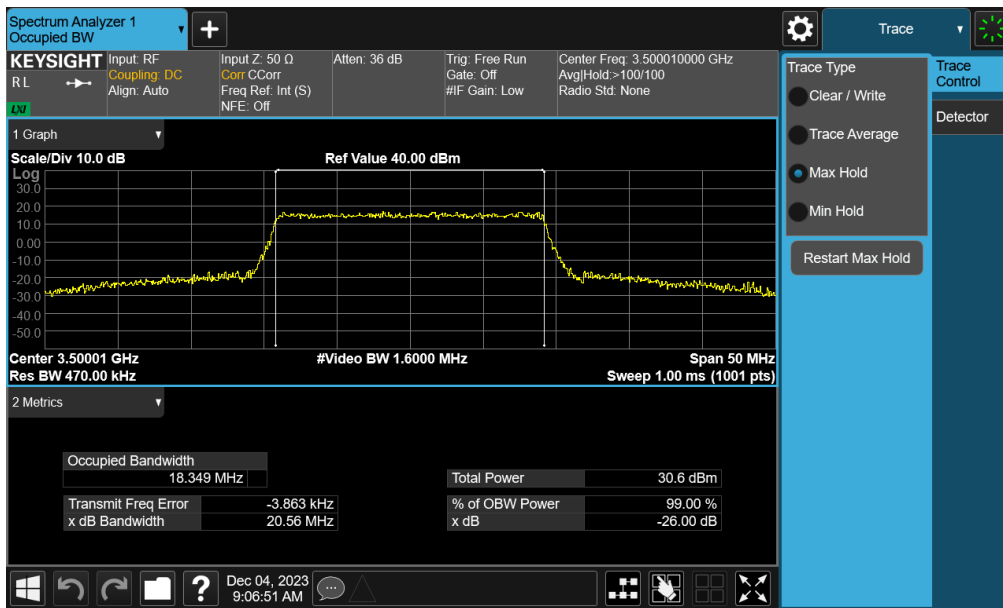


Plot 7-64. Occupied Bandwidth Plot (NR Band n77 DoD Band - 20MHz $\pi/2$ BPSK - Full RB)

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Plot 7-65. Occupied Bandwidth Plot (NR Band n77 DoD Band - 20MHz QPSK - Full RB)



Plot 7-66. Occupied Bandwidth Plot (NR Band n77 DoD Band - 20MHz 16-QAM - Full RB)

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