

PART 22 & 90 MEASUREMENT REPORT

Applicant Name:
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
United States

Date of Testing:
12/3/2024 - 2/14/2025
Test Report Issue Date:
4/17/2025
Test Site/Location:
Element Lab., Columbia, MD, USA
Test Report Serial No.:
1M2411190103-06-R1.C3K

FCC ID:	C3K2114
APPLICANT:	Microsoft Corporation

Application Type:	Certification
Model:	2114
EUT Type:	Full Modular
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part:	§22(H), §90(S), §90(R)
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.

This revised Test Report (S/N: 1M2411190103-06-R1.C3K) supersedes and replaces the previously issued test report (S/N: 1M2411190103-06.C3K) 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.



RJ Ortanez
Executive Vice President



FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 1 of 120

T A B L E O F C O N T E N T S

1.0	INTRODUCTION	5
1.1	Scope	5
1.2	Element Test Location.....	5
1.3	Test Facility / Accreditations.....	5
2.0	PRODUCT INFORMATION.....	6
2.1	Equipment Description	6
2.2	Device Capabilities.....	6
2.3	Test Configuration	6
2.4	Software and Firmware	6
2.5	EMI Suppression Device(s)/Modifications	6
3.0	DESCRIPTION OF TESTS	7
3.1	Evaluation Procedure	7
3.2	Radiated Spurious Emissions	7
4.0	MEASUREMENT UNCERTAINTY	8
5.0	TEST EQUIPMENT CALIBRATION DATA	9
6.0	SAMPLE EMISSION DESIGNATORS	10
7.0	TEST RESULTS.....	11
7.1	Summary.....	11
7.2	Conducted Output Power Data and ERP	12
7.3	Occupied Bandwidth	16
7.4	Spurious and Harmonic Emissions at Antenna Terminal	61
7.5	Band Edge Emissions at Antenna Terminal	80
7.6	Radiated Spurious Emissions Measurements	96
7.7	Frequency Stability / Temperature Variation	115
8.0	CONCLUSION.....	120

FCC ID: C3K2114		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 2 of 120

MEASUREMENT REPORT

FCC Part 22 & 90

Antenna-5							
Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	Measurement	Max. Power [W]	Max. Power [dBm]	Emission Designator
LTE Band 14	10 MHz	QPSK	793.0	ERP	1.882	32.75	9M05G7D
		16QAM	793.0	ERP	1.473	31.68	9M04W7D
	5 MHz	QPSK	790.5 - 795.5	ERP	1.892	32.77	4M54G7D
		16QAM	790.5 - 795.5	ERP	1.587	32.01	4M54W7D
LTE Band 26	15 MHz	QPSK	821.5	ERP	0.925	29.66	13M5G7D
		16QAM	821.5	ERP	0.754	28.77	13M5W7D
	15 MHz	QPSK	821.5	Conducted	0.227	23.56	13M5G7D
		16QAM	821.5	Conducted	0.185	22.67	13M5W7D
	10 MHz	QPSK	819.0	Conducted	0.264	24.22	9M03G7D
		16QAM	819.0	Conducted	0.222	23.47	9M02W7D
	5 MHz	QPSK	816.5 - 821.5	Conducted	0.267	24.26	4M53G7D
		16QAM	816.5 - 821.5	Conducted	0.234	23.69	4M54W7D
	3 MHz	QPSK	815.5 - 822.5	Conducted	0.261	24.16	2M72G7D
		16QAM	815.5 - 822.5	Conducted	0.223	23.49	2M72W7D
	1.4 MHz	QPSK	814.7 - 823.3	Conducted	0.267	24.27	1M11G7D
		16QAM	814.7 - 823.3	Conducted	0.220	23.42	1M11W7D
NR Band n14	10 MHz	$\pi/2$ BPSK	793.0	ERP	2.199	33.42	9M02G7D
		QPSK	793.0	ERP	2.124	33.27	9M02G7D
		16QAM	793.0	ERP	1.755	32.44	9M01W7D
	5 MHz	$\pi/2$ BPSK	790.5 - 795.5	ERP	2.205	33.43	4M52G7D
		QPSK	790.5 - 795.5	ERP	2.219	33.46	4M51G7D
		16QAM	790.5 - 795.5	ERP	1.766	32.47	4M53W7D
NR Band n26	20 MHz	$\pi/2$ BPSK	824.0	ERP	1.039	30.17	17M9G7D
		QPSK	824.0	ERP	1.041	30.17	19M0G7D
		16QAM	824.0	ERP	0.818	29.13	19M0W7D
	15 MHz	$\pi/2$ BPSK	821.5	ERP	1.044	30.19	13M5G7D
		QPSK	821.5	ERP	1.036	30.15	13M5G7D
		16QAM	821.5	ERP	0.854	29.32	13M6W7D
	20 MHz	$\pi/2$ BPSK	824.0	Conducted	0.255	24.07	17M9G7D
		QPSK	824.0	Conducted	0.256	24.07	19M0G7D
		16QAM	824.0	Conducted	0.201	23.03	19M0W7D
	15 MHz	$\pi/2$ BPSK	821.5	Conducted	0.256	24.09	13M5G7D
		QPSK	821.5	Conducted	0.254	24.05	13M5G7D
		16QAM	821.5	Conducted	0.210	23.22	13M6W7D
	10 MHz	$\pi/2$ BPSK	819.0	Conducted	0.249	23.96	9M00G7D
		QPSK	819.0	Conducted	0.246	23.90	9M34G7D
		16QAM	819.0	Conducted	0.193	22.86	9M34W7D
	5 MHz	$\pi/2$ BPSK	816.5 - 821.5	Conducted	0.268	24.28	4M53G7D
		QPSK	816.5 - 821.5	Conducted	0.265	24.23	4M52G7D
		16QAM	816.5 - 821.5	Conducted	0.212	23.26	4M56W7D

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)				Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular			Page 3 of 120

Antenna-2

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	Measurement	Max. Power [W]	Max. Power [dBm]	Emission Designator
LTE Band 14	10 MHz	QPSK	793.0	ERP	1.730	32.38	9M00G7D
		16QAM	793.0	ERP	1.476	31.69	9M03W7D
	5 MHz	QPSK	790.5 - 795.5	ERP	1.787	32.52	4M52G7D
		16QAM	790.5 - 795.5	ERP	1.545	31.89	4M52W7D
LTE Band 26	15 MHz	QPSK	821.5	ERP	0.886	29.48	13M5G7D
		16QAM	821.5	ERP	0.758	28.80	13M5W7D
	15 MHz	QPSK	821.5	Conducted	0.218	23.38	13M5G7D
		16QAM	821.5	Conducted	0.186	22.70	13M5W7D
	10 MHz	QPSK	819.0	Conducted	0.220	23.43	8M98G7D
		16QAM	819.0	Conducted	0.177	22.47	9M01W7D
	5 MHz	QPSK	816.5 - 821.5	Conducted	0.220	23.42	4M54G7D
		16QAM	816.5 - 821.5	Conducted	0.181	22.58	4M53W7D
	3 MHz	QPSK	815.5 - 822.5	Conducted	0.211	23.24	2M72G7D
		16QAM	815.5 - 822.5	Conducted	0.183	22.63	2M72W7D
	1.4 MHz	QPSK	814.7 - 823.3	Conducted	0.214	23.31	1M10G7D
		16QAM	814.7 - 823.3	Conducted	0.178	22.50	1M11W7D
NR Band n14	10 MHz	π/2 BPSK	793.0	ERP	1.731	32.38	9M01G7D
		QPSK	793.0	ERP	1.661	32.20	9M36G7D
		16QAM	793.0	ERP	1.299	31.14	9M36W7D
	5 MHz	π/2 BPSK	790.5 - 795.5	ERP	1.745	32.42	4M52G7D
		QPSK	790.5 - 795.5	ERP	1.705	32.32	4M54G7D
		16QAM	790.5 - 795.5	ERP	1.371	31.37	4M57W7D
NR Band n26	20 MHz	π/2 BPSK	824.0	ERP	0.946	29.76	17M9G7D
		QPSK	824.0	ERP	0.937	29.72	19M0G7D
		16QAM	824.0	ERP	0.757	28.79	19M0W7D
	15 MHz	π/2 BPSK	821.5	ERP	0.976	29.90	13M5G7D
		QPSK	821.5	ERP	0.985	29.93	14M2G7D
		16QAM	821.5	ERP	0.757	28.79	14M2W7D
	20 MHz	π/2 BPSK	824.0	Conducted	0.232	23.66	17M9G7D
		QPSK	824.0	Conducted	0.230	23.62	19M0G7D
		16QAM	824.0	Conducted	0.186	22.69	19M0W7D
	15 MHz	π/2 BPSK	821.5	Conducted	0.240	23.80	13M5G7D
		QPSK	821.5	Conducted	0.242	23.83	14M2G7D
		16QAM	821.5	Conducted	0.186	22.69	14M2W7D
	10 MHz	π/2 BPSK	819.0	Conducted	0.233	23.67	9M02G7D
		QPSK	819.0	Conducted	0.227	23.56	9M35G7D
		16QAM	819.0	Conducted	0.183	22.63	9M34W7D
	5 MHz	π/2 BPSK	816.5 - 821.5	Conducted	0.233	23.67	4M55G7D
		QPSK	816.5 - 821.5	Conducted	0.227	23.55	4M52G7D
		16QAM	816.5 - 821.5	Conducted	0.185	22.67	4M62W7D

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)				Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular			Page 4 of 120

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).

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 5 of 120

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Microsoft Corporation Full Modular FCC ID: C3K2114**. 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 90 and 22H.

Test Device Serial No.: (004400152020002) EV2#48, EV2#37, EV2#41, EV2#47

2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (FR1)

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 250129-XXX-de2e260-00452-1 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.

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 6 of 120

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

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

And

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

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

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

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 7 of 120

4.0 MEASUREMENT UNCERTAINTY

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

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

Table 4-1. Measurement Uncertainty Budget

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 8 of 120

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
-	LTx1	Licensed Transmitter Cable Set	4/2/2024	Annual	4/2/2025	LTx1
-	LTx2	Licensed Transmitter Cable Set	4/2/2024	Annual	4/2/2025	LTx2
-	LTx3	Licensed Transmitter Cable Set	4/2/2024	Annual	4/2/2025	LTx3
-	WL25-1	Conducted Cable Set (25GHz)	4/2/2024	Annual	4/2/2025	WL25-1
-	WL40-1	Conducted Cable Set (40GHz)	4/2/2024	Annual	4/2/2025	WL40-1
Agilent	N9020A	MXA Signal Analyzer	3/22/2024	Annual	3/22/2025	US46470561
Agilent	N9038A	MXE EMI Receiver	9/16/2024	Annual	9/16/2025	MY51210133
Agilent	N9030A	PXA Signal Analyzer (44GHz)	4/9/2024	Annual	4/9/2025	MY52350166
Anritsu	MT8821C	Radio Communication Analyzer			N/A	6201381794
Anritsu	MT8821C	Radio Communication Analyzer			N/A	6200901190
Emco	3115	Horn Antenna (1-18GHz)	6/7/2024	Biennial	6/7/2026	150693
Espec	ESX-2CA	Environmental Chamber	7/5/2023	Annual	7/5/2025	17620
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	3/29/2023	Biennial	3/29/2025	128337
Keysight Technologies	N9030A	PXA Signal Analyzer (3Hz-26.5GHz)	8/26/2024	Annual	8/26/2025	MY54490576
Keysight Technologies	N9020A	MXA Signal Analyzer	4/11/2024	Annual	4/11/2025	MY54500644
Rohde & Schwarz	CMW500	Radio Communication Tester			N/A	100976
Rohde & Schwarz	CMW500	Radio Communication Tester			N/A	112347
Rohde & Schwarz	CMW500	Radio Communication Tester			N/A	102060
Rohde & Schwarz	ESU26	EMI Test Receiver (26.5GHz)	10/16/2024	Annual	10/16/2025	100342
Rohde & Schwarz	FSW67	Signal / Spectrum Analyzer	2/15/2024	Annual	2/15/2025	103200
Sunol	DRH-118	Horn Antenna (1-18GHz)	2/21/2024	Biennial	2/21/2026	A050307
Sunol	DRH-118	Horn Antenna (1-18 GHz)	2/13/2024	Biennial	2/13/2026	A042511
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	9/11/2024	Biennial	9/11/2026	A051107

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.

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		

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

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 10 of 120

7.0 TEST RESULTS

7.1 Summary

Company Name: Microsoft Corporation
 FCC ID: C3K2114
 FCC Classification: PCS Licensed Transmitter (PCB)
 Mode(s): LTE/NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
CONDUCTED	Transmitter Conducted Output Power	2.1046(a), 90.635(b)	< 100 Watts	PASS	Section 7.2
	Effective Radiated Power (LTE Band 14; NR Band n14)	90.542(a)(6)	< 30 Watts max. ERP	PASS	Section 7.2
	Effective Radiated Power (LTE Band 26; NR Band n26)	22.913(a)(2)	< 7 Watts max. ERP	PASS	Section 7.2
	Occupied Bandwidth	2.1049(h)	N/A	PASS	Section 7.3
	Conducted Band Edge / Spurious Emissions (LTE Band 14; NR Band n14)	2.1051, 90.543(c)(e)	On all frequencies between 769-775 MHz and 799-805 MHz, attenuation by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations. On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, attenuation by at least $43 + 10 \log(P)$ dB $> 43 + 10 \log_{10}(P[\text{Watts}])$ for all out-of-band emissions outside of those specified in 90.543(e)	PASS	Sections 7.4, 7.5
	Conducted Band Edge / Spurious Emissions (LTE Band 26; NR Band n26)	2.1051, 90.691(a)	$> 43 + 10 \log_{10}(P[\text{Watts}])$ for all out-of-band emissions except emissions beyond 37.5kHz from the block edge $> 50 + 10 \log_{10}(P[\text{Watts}])$ at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge	PASS	Sections 7.4, 7.5
	Frequency Stability	2.1055, 90.213	$< 2.5 \text{ ppm}$ **Fundamental emissions stay within authorized frequency block	PASS	Section 7.7
RADIATED	Radiated Spurious Emissions (LTE Band 14; NR Band n14)	2.1053, 90.543(e)(f)	$> 43 + 10 \log_{10}(P[\text{Watts}])$ for all out-of-band emissions except emissions in the 1559 - 1610MHz band are subject to a limit of -40dBm/MHz for wideband signals	PASS	Section 7.6
	Radiated Spurious Emissions (LTE Band 26; NR Band n26)	2.1053, 90.691(a)	$> 43 + 10 \log_{10}(P[\text{Watts}])$ for all out-of-band emissions except emissions beyond 37.5kHz from the block edge $> 50 + 10 \log_{10}(P[\text{Watts}])$ at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge	PASS	Section 7.6

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) 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.

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 11 of 120

7.2 Conducted Output Power Data and ERP

Test Overview

All emissions are measured with callbox 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 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. For LTE mode, the device was tested under all modulations, RB sizes and offsets, and channel bandwidth configurations and the worst case emissions are reported with 1 RB.
2. 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.
3. ERP is calculated using conducted power and antenna gain.
4. 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.
5. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) 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.

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 12 of 120

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
15 MHz	QPSK	26765	821.5	1 / 0	23.38	6.10	29.48	0.886	38.45	-8.98
	16-QAM	26765	821.5	1 / 37	22.70	6.10	28.80	0.758	38.45	-9.65
10 MHz	QPSK	26740	819.0	1 / 49	23.43	6.10	29.53	0.898	38.45	-8.92
	16-QAM	26740	819.0	1 / 25	22.47	6.10	28.57	0.719	38.45	-9.88
5 MHz	QPSK	26715	816.5	1 / 12	23.42	6.10	29.52	0.896	38.45	-8.93
		26765	821.5	1 / 0	23.29	6.10	29.39	0.869	38.45	-9.06
3 MHz	16-QAM	26715	816.5	1 / 12	22.40	6.10	28.50	0.708	38.45	-9.95
		26765	821.5	1 / 12	22.58	6.10	28.68	0.738	38.45	-9.77
1.4 MHz	QPSK	26705	815.5	1 / 7	23.24	6.10	29.34	0.858	38.45	-9.11
		26775	822.5	1 / 7	23.18	6.10	29.28	0.847	38.45	-9.17
1.4 MHz	16-QAM	26705	815.5	1 / 7	22.52	6.10	28.62	0.727	38.45	-9.83
		26775	822.5	1 / 7	22.63	6.10	28.73	0.747	38.45	-9.72
1.4 MHz	QPSK	26697	814.7	1 / 5	23.18	6.10	29.28	0.847	38.45	-9.17
		26783	823.3	1 / 5	23.31	6.10	29.41	0.872	38.45	-9.04
1.4 MHz	16-QAM	26697	814.7	1 / 0	22.40	6.10	28.50	0.708	38.45	-9.95
		26783	823.3	1 / 5	22.50	6.10	28.60	0.724	38.45	-9.85

Table 7-2. ERP Data (LTE Band 26 – Ant2)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
15 MHz	QPSK	26765	821.5	1 / 0	23.56	6.10	29.66	0.925	38.45	-8.79
	16-QAM	26765	821.5	1 / 0	22.67	6.10	28.77	0.754	38.45	-9.68
10 MHz	QPSK	26740	819.0	1 / 0	24.22	6.10	30.32	1.076	38.45	-8.13
	16-QAM	26740	819.0	1 / 0	23.47	6.10	29.57	0.905	38.45	-8.88
5 MHz	QPSK	26715	816.5	1 / 12	24.26	6.10	30.36	1.087	38.45	-8.09
		26765	821.5	1 / 12	24.09	6.10	30.19	1.046	38.45	-8.26
3 MHz	16-QAM	26715	816.5	1 / 12	23.21	6.10	29.31	0.852	38.45	-9.15
		26765	821.5	1 / 12	23.69	6.10	29.79	0.953	38.45	-8.66
3 MHz	QPSK	26705	815.5	1 / 14	24.03	6.10	30.13	1.031	38.45	-8.32
		26775	822.5	1 / 14	24.16	6.10	30.26	1.062	38.45	-8.19
1.4 MHz	16-QAM	26705	815.5	1 / 0	23.49	6.10	29.59	0.910	38.45	-8.86
		26775	822.5	1 / 14	23.31	6.10	29.41	0.872	38.45	-9.04
1.4 MHz	QPSK	26697	814.7	1 / 3	24.12	6.10	30.22	1.052	38.45	-8.23
		26783	823.3	1 / 3	24.27	6.10	30.37	1.088	38.45	-8.09
1.4 MHz	16-QAM	26697	814.7	1 / 3	23.26	6.10	29.36	0.863	38.45	-9.09
		26783	823.3	1 / 3	23.42	6.10	29.52	0.896	38.45	-8.93

Table 7-3. ERP Data (LTE Band 26 – Ant5)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	23330	793.0	1 / 25	23.18	9.20	32.38	1.730	44.77	-12.39
	16-QAM	23330	793.0	1 / 49	22.49	9.20	31.69	1.476	44.77	-13.08
5 MHz	QPSK	23305	790.5	1 / 24	23.08	9.20	32.28	1.691	44.77	-12.49
		23330	793.0	1 / 12	23.32	9.20	32.52	1.787	44.77	-12.25
5 MHz	16-QAM	23355	795.5	1 / 0	23.19	9.20	32.39	1.736	44.77	-12.38
		23355	795.5	1 / 12	22.69	9.20	31.89	1.545	44.77	-12.88

Table 7-4. ERP Data (LTE Band 14 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)					Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular				Page 13 of 120

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	QPSK	23330	793.0	1 / 25	23.55	9.20	32.75	1.882	44.77	-12.02
	16-QAM	23330	793.0	1 / 25	22.48	9.20	31.68	1.473	44.77	-13.09
5 MHz	QPSK	23305	790.5	1 / 12	23.47	9.20	32.67	1.847	44.77	-12.10
		23330	793.0	1 / 12	23.49	9.20	32.69	1.859	44.77	-12.08
	16-QAM	23355	795.5	1 / 12	23.57	9.20	32.77	1.892	44.77	-12.00
		23355	795.5	1 / 12	22.81	9.20	32.01	1.587	44.77	-12.76

Table 7-5. ERP Data (LTE Band 14 – Ant5)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
20 MHz	$\pi/2$ BPSK	164800	824.0	1 / 53	23.66	6.10	29.76	0.946	38.45	-8.69
	QPSK	164800	824.0	1 / 53	23.62	6.10	29.72	0.937	38.45	-8.73
	16-QAM	164800	824.0	1 / 53	22.69	6.10	28.79	0.757	38.45	-9.66
15 MHz	$\pi/2$ BPSK	164300	821.5	1 / 77	23.80	6.10	29.90	0.976	38.45	-8.56
	QPSK	164300	821.5	1 / 77	23.83	6.10	29.93	0.985	38.45	-8.52
	16-QAM	164300	821.5	1 / 77	22.69	6.10	28.79	0.757	38.45	-9.66
	$\pi/2$ BPSK	163800	819.0	1 / 50	23.67	6.10	29.77	0.949	38.45	-8.68
10 MHz	QPSK	163800	819.0	1 / 50	23.56	6.10	29.66	0.925	38.45	-8.79
	16-QAM	163800	819.0	1 / 50	22.63	6.10	28.73	0.746	38.45	-9.72
	$\pi/2$ BPSK	163300	816.5	1 / 12	23.67	6.10	29.77	0.949	38.45	-8.68
5 MHz		164300	821.5	1 / 12	23.55	6.10	29.65	0.922	38.45	-8.80
	QPSK	163300	816.5	1 / 12	23.55	6.10	29.65	0.923	38.45	-8.80
	16-QAM	164300	821.5	1 / 12	23.46	6.10	29.56	0.903	38.45	-8.89
		163300	816.5	1 / 12	22.67	6.10	28.77	0.753	38.45	-9.68

Table 7-6. ERP Data (NR Band n26 – Ant2)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
20 MHz	$\pi/2$ BPSK	164800	824.0	1 / 53	24.07	6.10	30.17	1.039	38.45	-8.28
	QPSK	164800	824.0	1 / 53	24.07	6.10	30.17	1.041	38.45	-8.28
	16-QAM	164800	824.0	1 / 53	23.03	6.10	29.13	0.818	38.45	-9.32
15 MHz	$\pi/2$ BPSK	164300	821.5	1 / 77	24.09	6.10	30.19	1.044	38.45	-8.26
	QPSK	164300	821.5	1 / 77	24.05	6.10	30.15	1.036	38.45	-8.30
	16-QAM	164300	821.5	1 / 77	23.22	6.10	29.32	0.854	38.45	-9.13
10 MHz	$\pi/2$ BPSK	163800	819.0	1 / 26	23.96	6.10	30.06	1.015	38.45	-8.39
	QPSK	163800	819.0	1 / 26	23.90	6.10	30.00	1.001	38.45	-8.45
	16-QAM	163800	819.0	1 / 26	22.86	6.10	28.96	0.786	38.45	-9.50
5 MHz	$\pi/2$ BPSK	163300	816.5	1 / 23	24.19	6.10	30.29	1.069	38.45	-8.16
		164300	821.5	1 / 1	24.28	6.10	30.38	1.092	38.45	-8.07
	QPSK	163300	816.5	1 / 23	23.23	6.10	29.33	0.857	38.45	-9.12
	16-QAM	164300	821.5	1 / 1	24.23	6.10	30.33	1.079	38.45	-8.12

Table 7-7. ERP Data (NR Band n26 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)					Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular				Page 14 of 120

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	π/2 BPSK	23330	793.0	1 / 1	23.18	9.20	32.38	1.731	44.77	-12.39
	QPSK	23330	793.0	1 / 1	23.00	9.20	32.20	1.661	44.77	-12.57
	16-QAM	23330	793.0	1 / 1	21.94	9.20	31.14	1.299	44.77	-13.63
5 MHz	π/2 BPSK	23305	790.5	1 / 1	23.22	9.20	32.42	1.745	44.77	-12.35
		23330	793.0	1 / 12	23.18	9.20	32.38	1.731	44.77	-12.39
	QPSK	23355	795.5	1 / 12	23.20	9.20	32.40	1.737	44.77	-12.37
		23305	790.5	1 / 1	23.02	9.20	32.22	1.669	44.77	-12.55
		23330	793.0	1 / 12	22.94	9.20	32.14	1.638	44.77	-12.63
		23355	795.5	1 / 12	23.12	9.20	32.32	1.705	44.77	-12.45
		16-QAM	23305	790.5	1 / 1	22.17	9.20	31.37	1.371	44.77

Table 7-8. ERP Data (NR Band n14 – Ant2)

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Ant Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
10 MHz	π/2 BPSK	23330	793.0	1 / 26	24.22	9.20	33.42	2.199	44.77	-11.35
	QPSK	23330	793.0	1 / 26	24.07	9.20	33.27	2.124	44.77	-11.50
	16-QAM	23330	793.0	1 / 26	23.24	9.20	32.44	1.755	44.77	-12.33
5 MHz	π/2 BPSK	23305	790.5	1 / 1	24.14	9.20	33.34	2.156	44.77	-11.43
		23330	793.0	1 / 12	24.23	9.20	33.43	2.205	44.77	-11.34
		23355	795.5	1 / 1	24.17	9.20	33.37	2.174	44.77	-11.40
	QPSK	23305	790.5	1 / 1	24.21	9.20	33.41	2.190	44.77	-11.36
		23330	793.0	1 / 12	24.26	9.20	33.46	2.219	44.77	-11.31
		23355	795.5	1 / 1	24.22	9.20	33.42	2.200	44.77	-11.35
		16-QAM	23355	795.5	1 / 1	23.27	9.20	32.47	1.766	44.77

Table 7-9. ERP Data (NR Band n14 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)					Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular				Page 15 of 120

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 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.

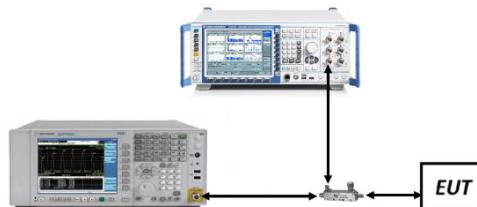


Figure 7-2. Test Instrument & Measurement Setup

Test Notes

None

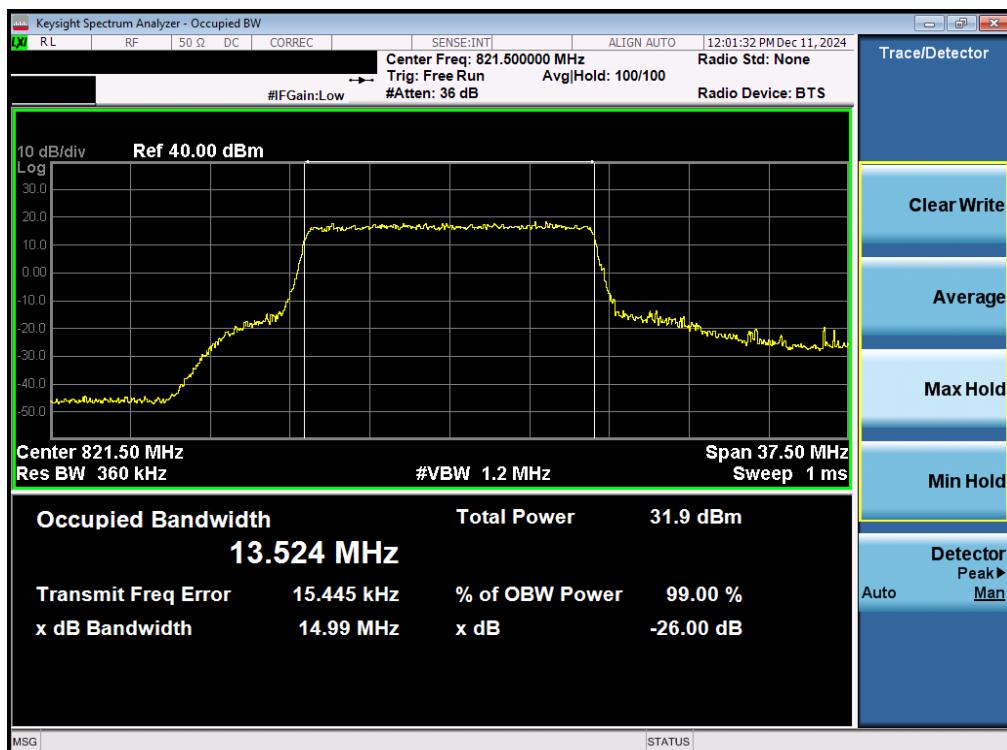
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 16 of 120

Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B14	10 MHz	QPSK	9.05
		16QAM	9.04
	5 MHz	QPSK	4.54
		16QAM	4.54
LTE-B26	15 MHz	QPSK	13.52
		16QAM	13.53
	10 MHz	QPSK	9.03
		16QAM	9.02
	5 MHz	QPSK	4.53
		QPSK	4.53
		16QAM	4.53
		16QAM	4.54
	3 MHz	QPSK	2.72
		QPSK	2.71
		16QAM	2.72
		16QAM	2.71
	1.4 MHz	QPSK	1.11
		QPSK	1.11
		16QAM	1.11
		16QAM	1.11
NR-n14	10 MHz	$\pi/2$ BPSK	9.02
		QPSK	9.02
		16QAM	9.01
	5 MHz	$\pi/2$ BPSK	4.52
		QPSK	4.51
		16QAM	4.53
NR-n26	20 MHz	$\pi/2$ BPSK	17.94
		QPSK	18.97
		16QAM	19.00
	15 MHz	$\pi/2$ BPSK	13.47
		QPSK	13.53
		16QAM	13.56
	10 MHz	$\pi/2$ BPSK	9.00
		QPSK	9.34
		16QAM	9.34
	5 MHz	$\pi/2$ BPSK	4.51
		$\pi/2$ BPSK	4.53
		QPSK	4.52
		QPSK	4.52
		16QAM	4.53
		16QAM	4.56

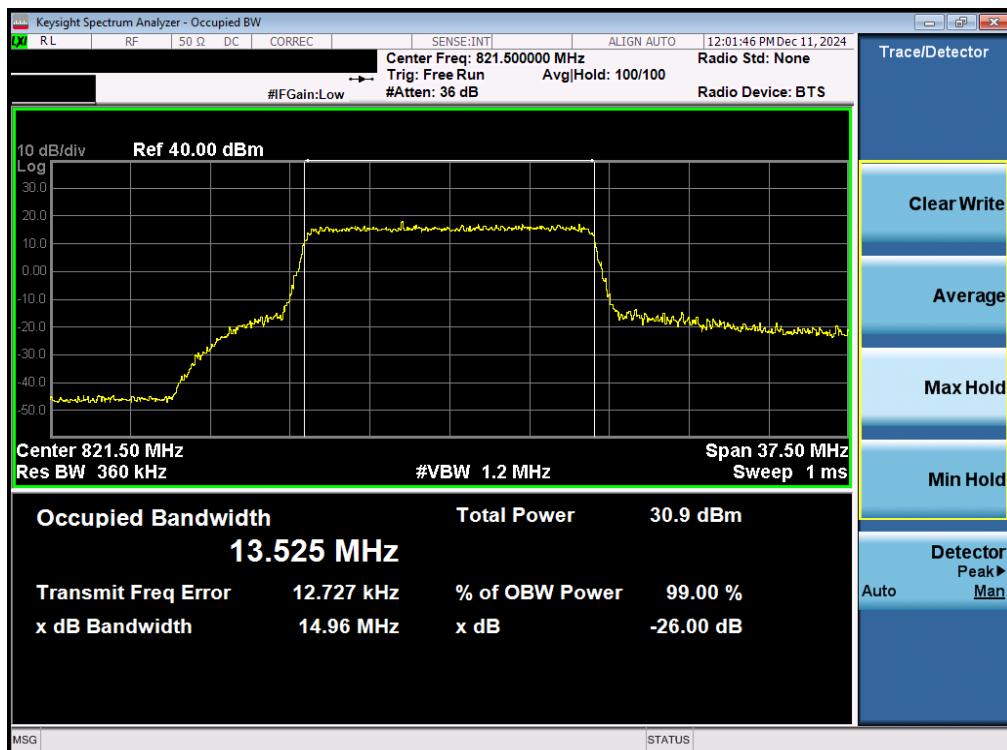
Table 7-10. Occupied Bandwidth Test Results – Ant5

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 17 of 120	

LTE Band 26 – Ant5



Plot 7-1. Occupied Bandwidth Plot (LTE Band 26 - 15MHz QPSK - Full RB - Ant5)



Plot 7-2. Occupied Bandwidth Plot (LTE Band 26 - 15MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 18 of 120

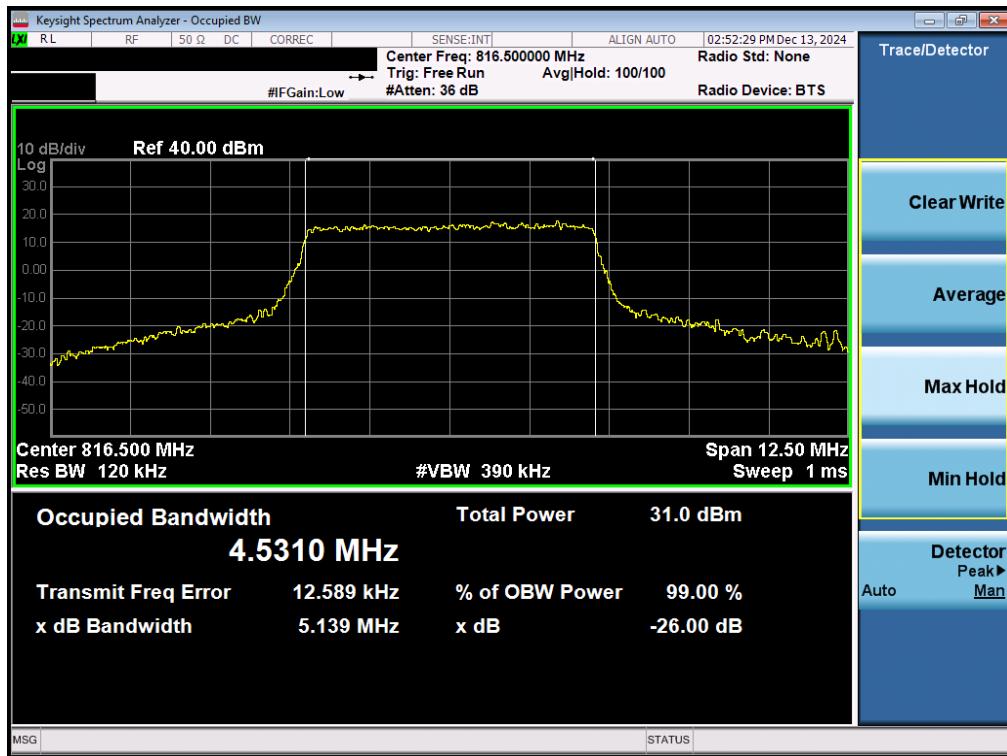


Plot 7-3. Occupied Bandwidth Plot (LTE Band 26 - 10MHz QPSK - Full RB - Ant5)

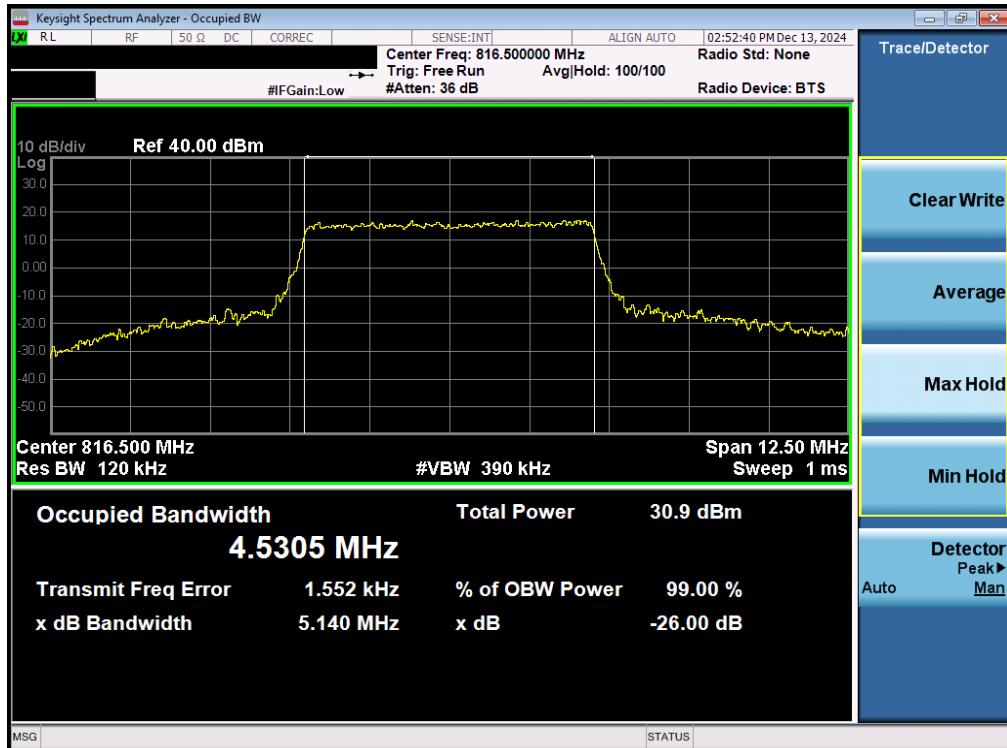


Plot 7-4. Occupied Bandwidth Plot (LTE Band 26 - 10MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		



Plot 7-5. Occupied Bandwidth Plot (LTE Band 26 - 5MHz QPSK - Full RB – Low Channel - Ant5)



Plot 7-6. Occupied Bandwidth Plot (LTE Band 26 - 5MHz 16-QAM - Full RB – Low Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 20 of 120



Plot 7-7. Occupied Bandwidth Plot (LTE Band 26 - 5MHz QPSK - Full RB – High Channel - Ant5)

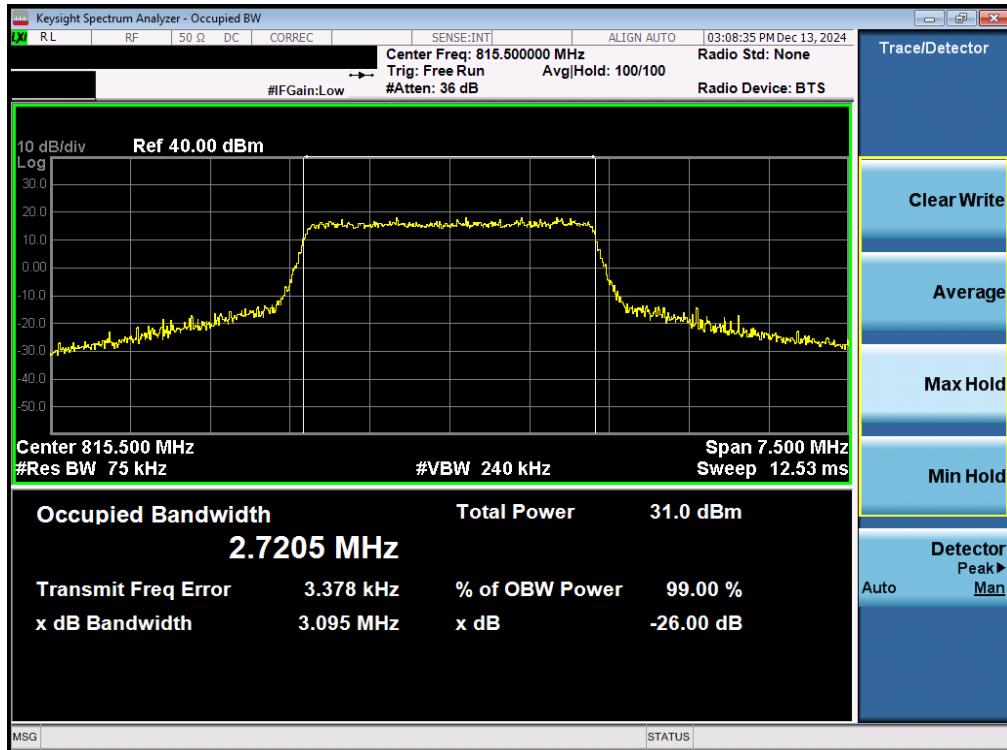


Plot 7-8. Occupied Bandwidth Plot (LTE Band 26 - 5MHz 16-QAM - Full RB – High Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 21 of 120

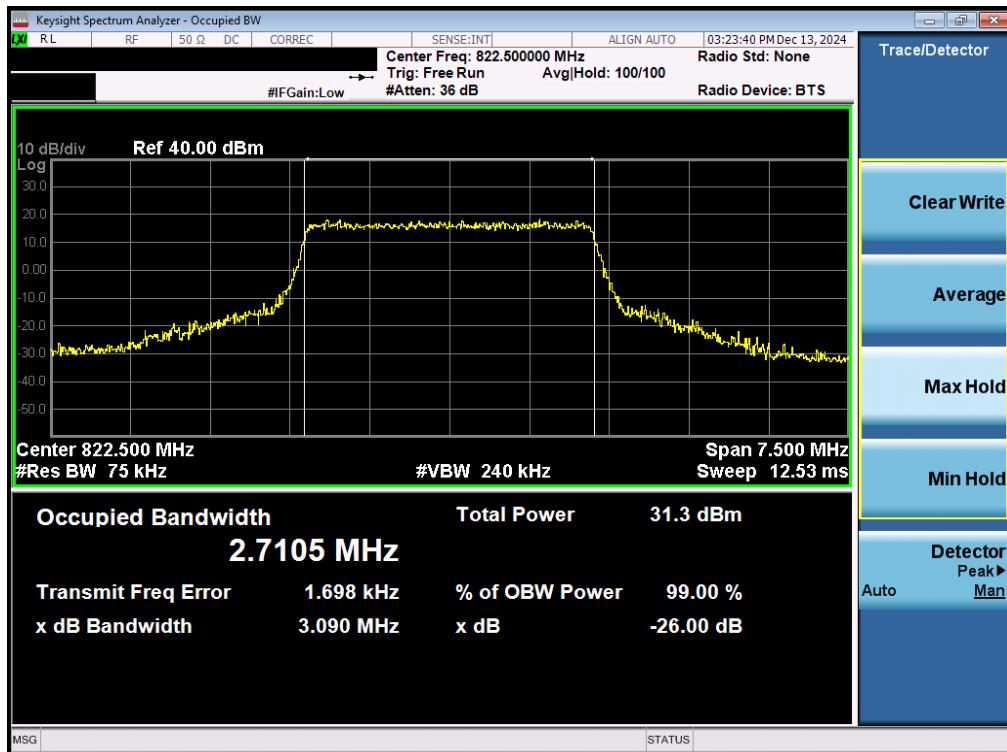


Plot 7-9. Occupied Bandwidth Plot (LTE Band 26 - 3MHz QPSK - Full RB – Low Channe; - Ant5)

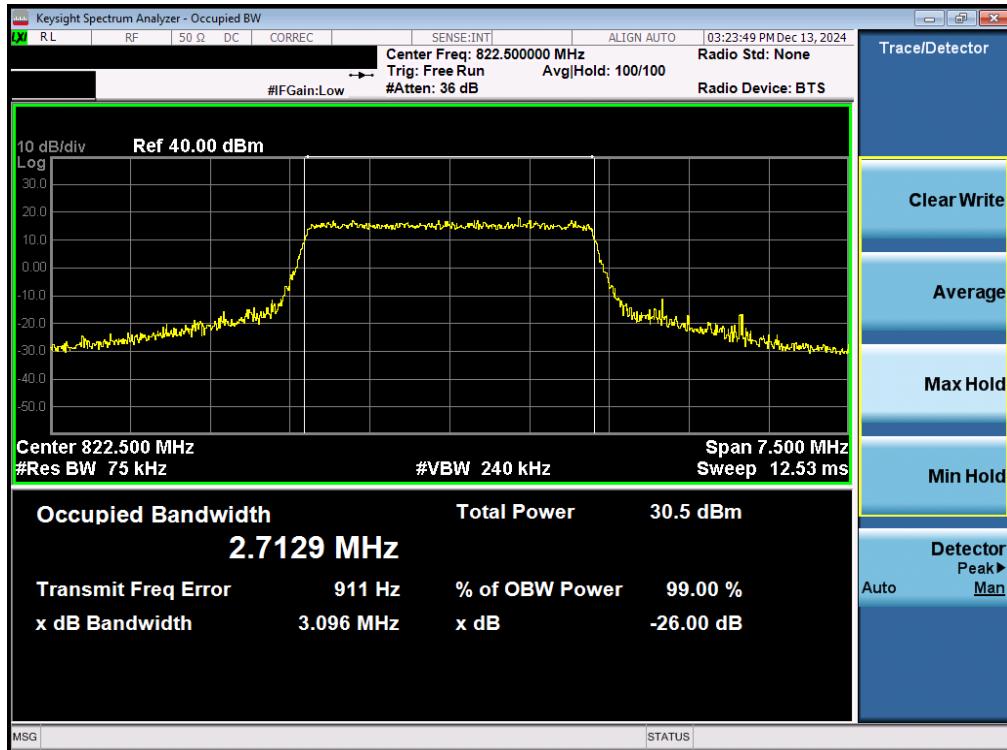


Plot 7-10. Occupied Bandwidth Plot (LTE Band 26 - 3MHz 16-QAM - Full RB – Low Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 22 of 120

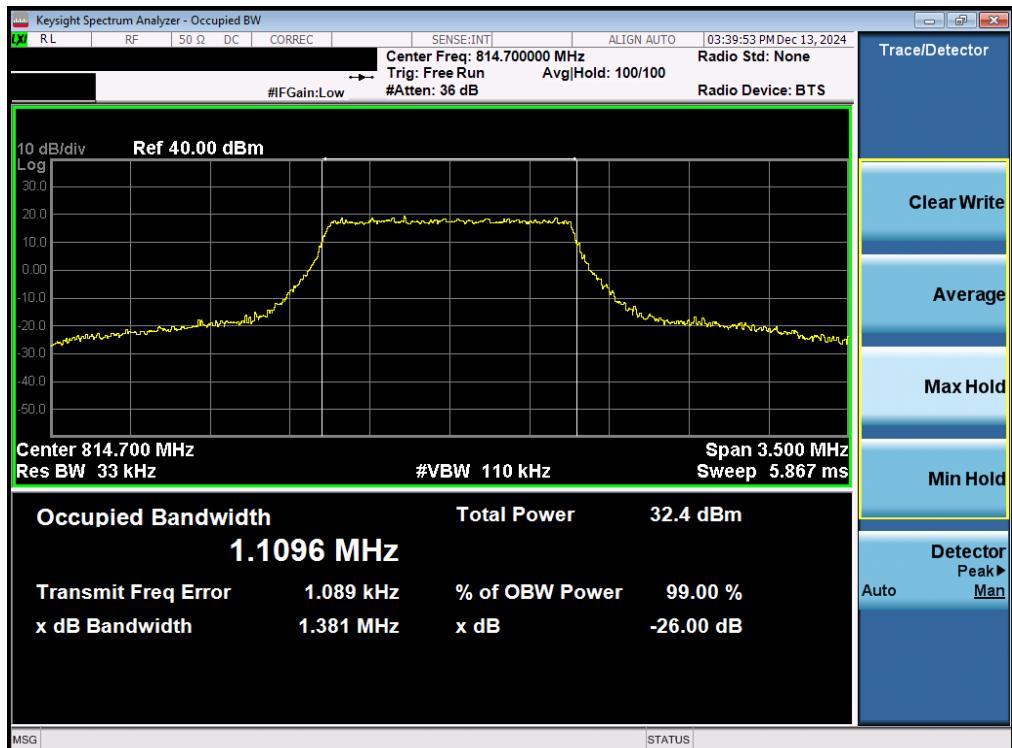


Plot 7-11. Occupied Bandwidth Plot (LTE Band 26 - 3MHz QPSK - Full RB – High Channel - Ant5)

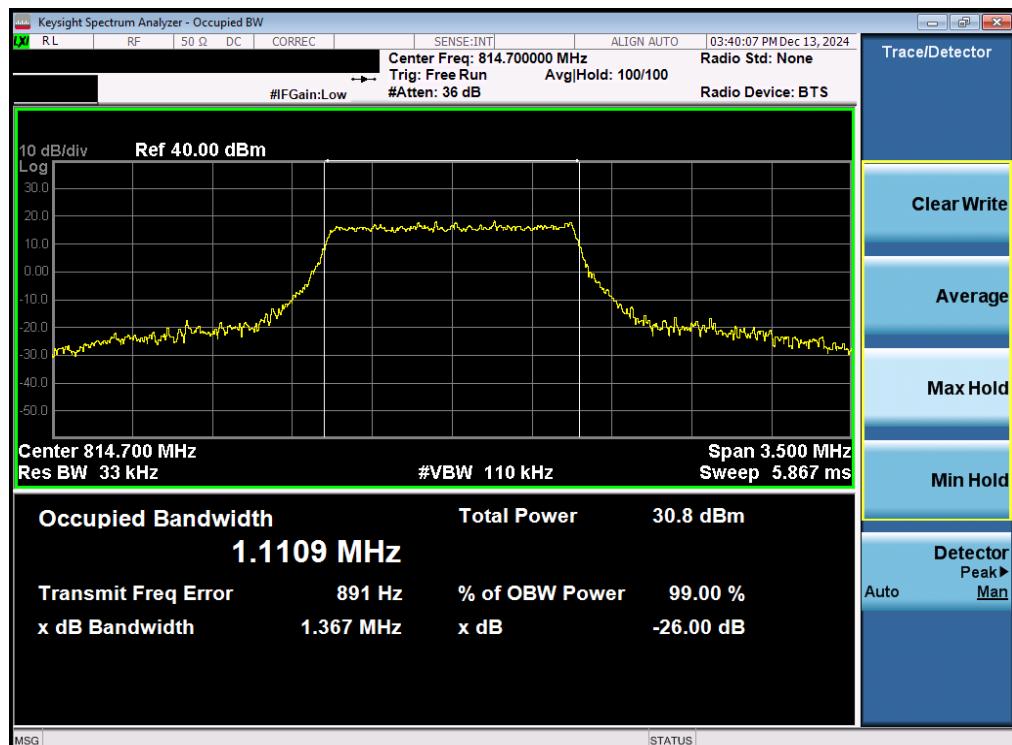


Plot 7-12. Occupied Bandwidth Plot (LTE Band 26 - 3MHz 16-QAM - Full RB – High Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 23 of 120

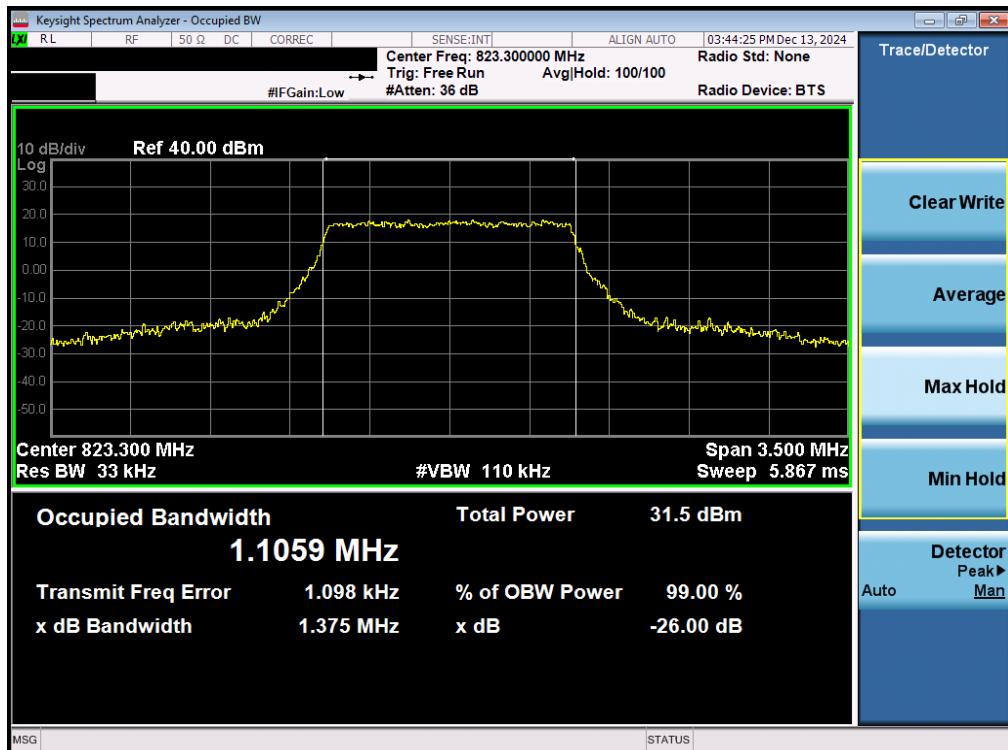


Plot 7-13. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz QPSK - Full RB – Low Channel - Ant5)

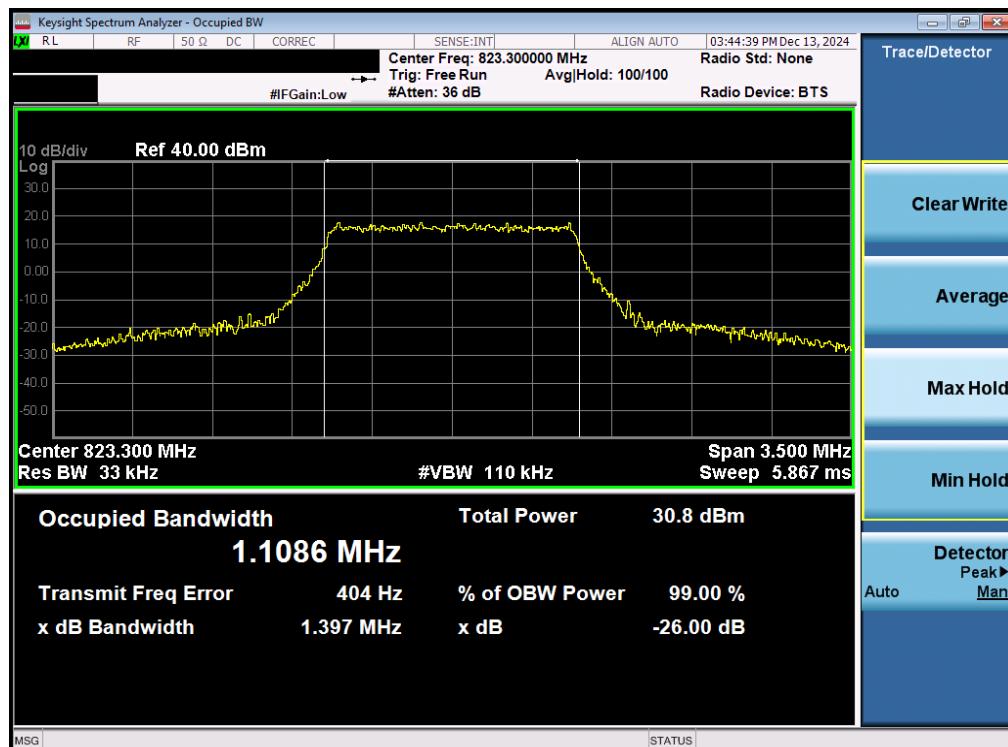


Plot 7-14. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz 16-QAM - Full RB - Low Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 24 of 120



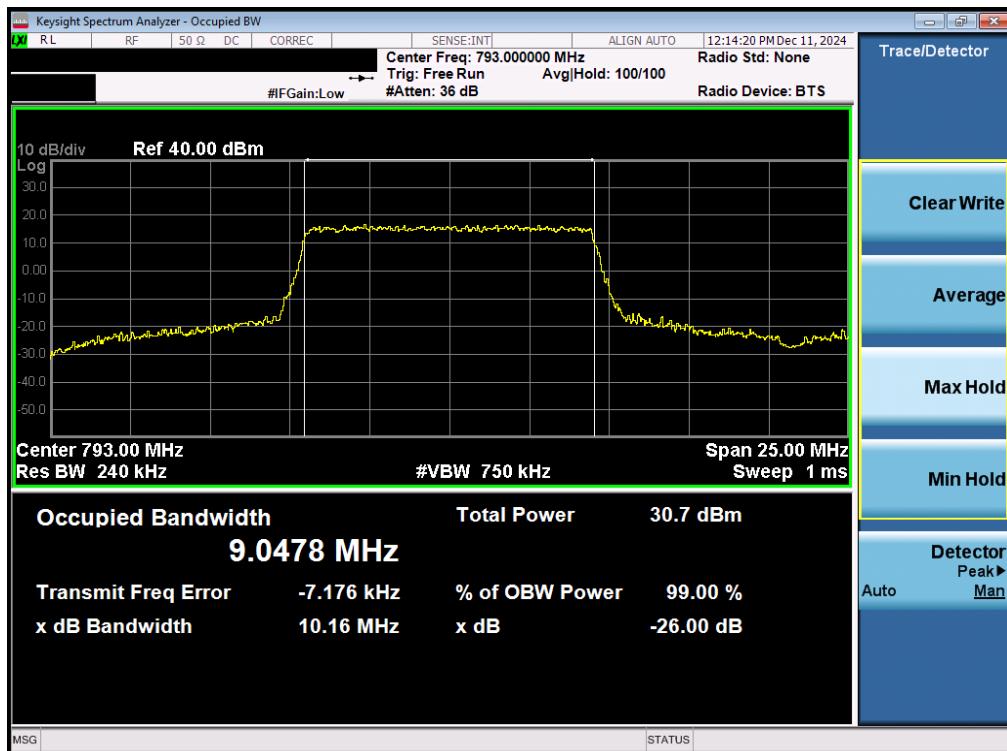
Plot 7-15. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz QPSK - Full RB – High Channel- Ant5)



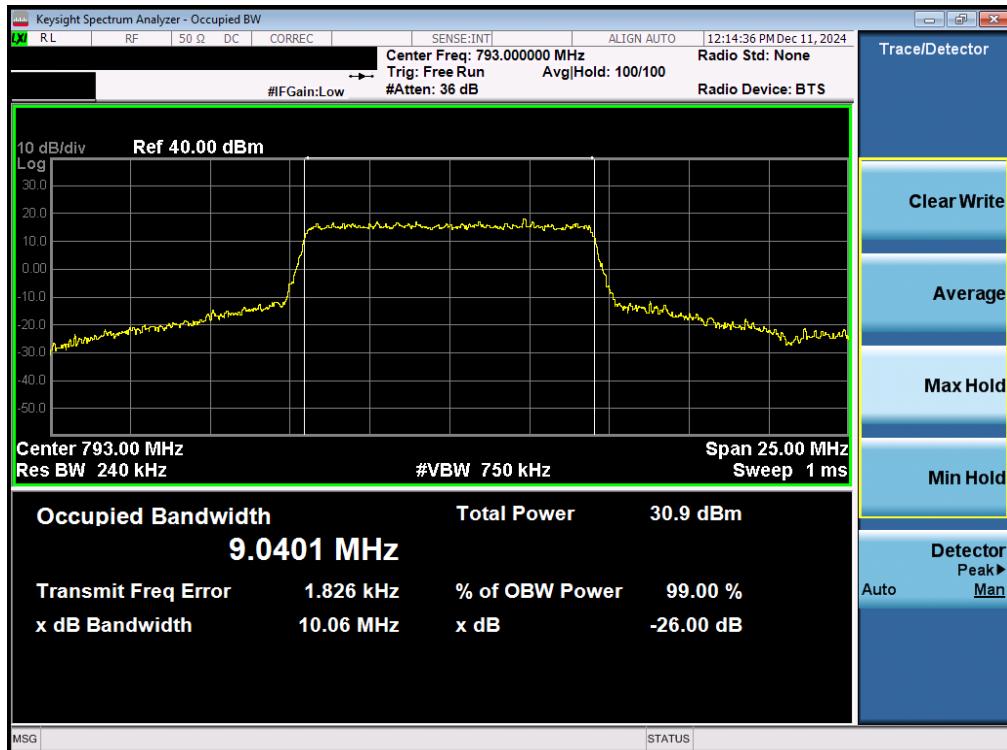
Plot 7-16. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz 16-QAM - Full RB – High Channel - Ant5)

LTE Band 14 – Ant5

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 25 of 120



Plot 7-17. Occupied Bandwidth Plot (LTE Band 14 - 10MHz QPSK - Full RB - Ant5)

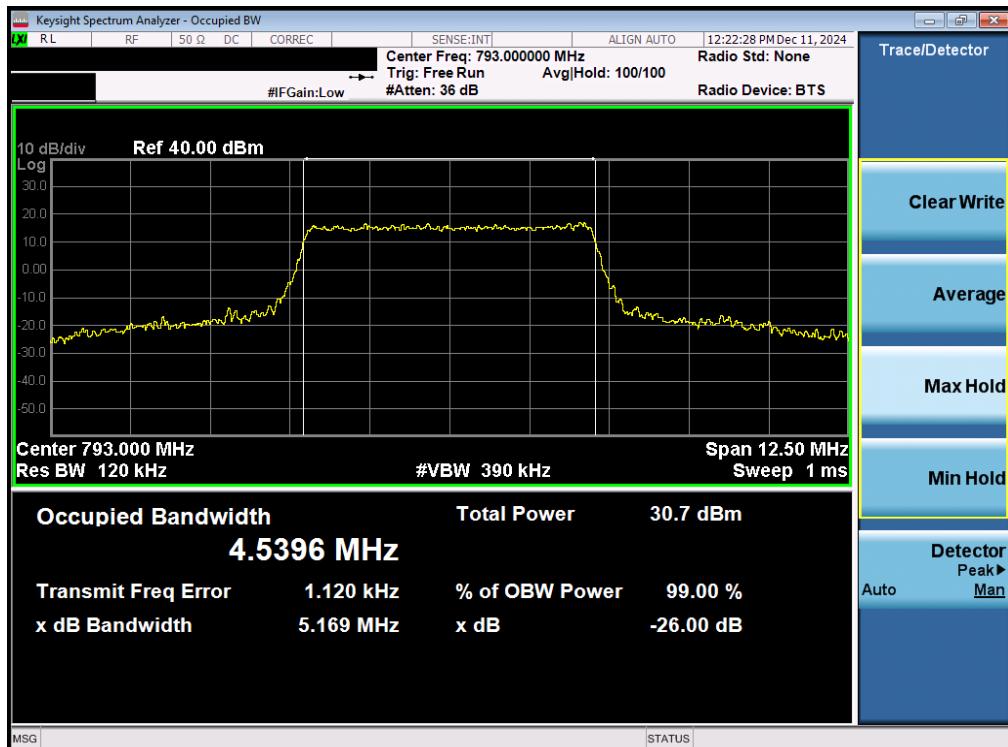


Plot 7-18. Occupied Bandwidth Plot (LTE Band 14 - 10MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 26 of 120



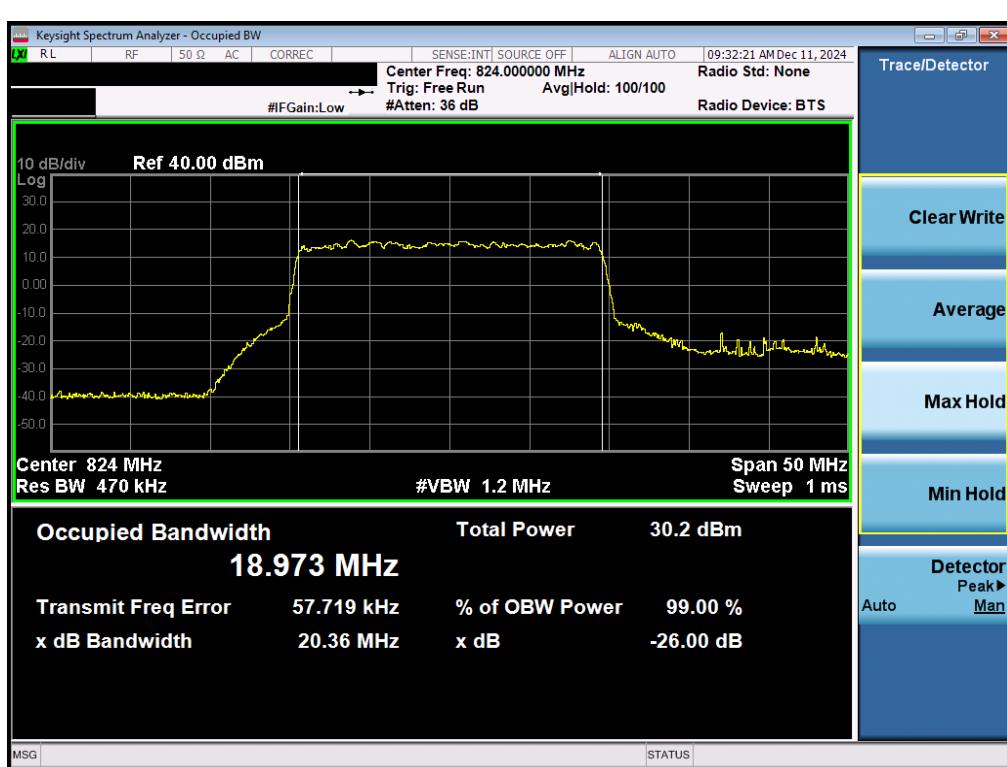
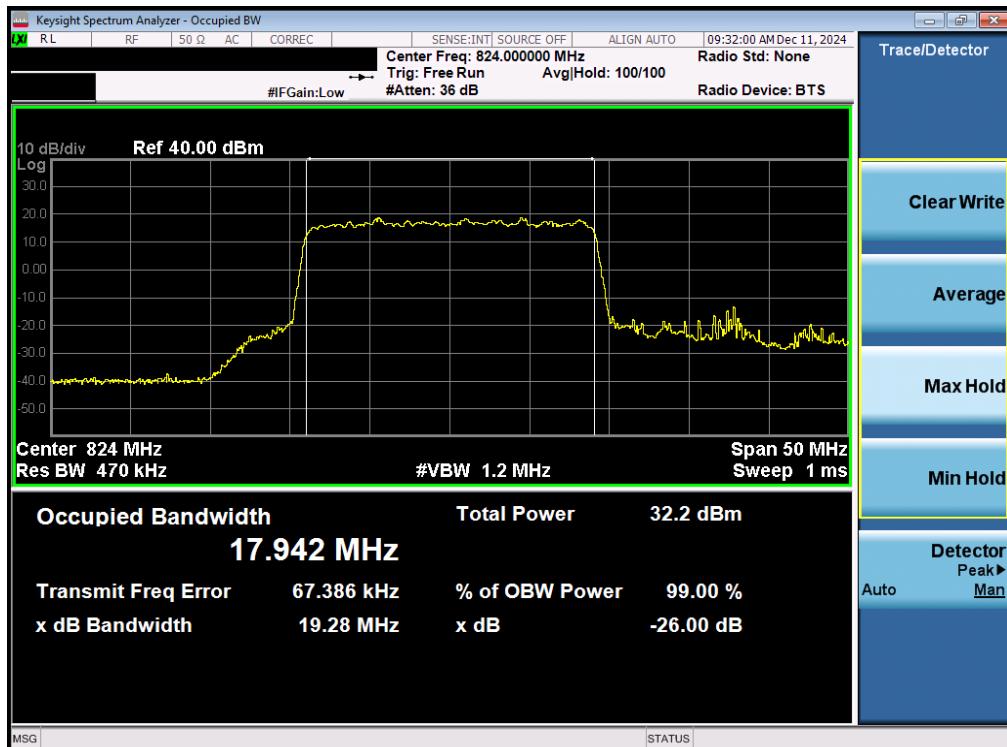
Plot 7-19. Occupied Bandwidth Plot (LTE Band 14 - 5MHz QPSK - Full RB - Ant5)



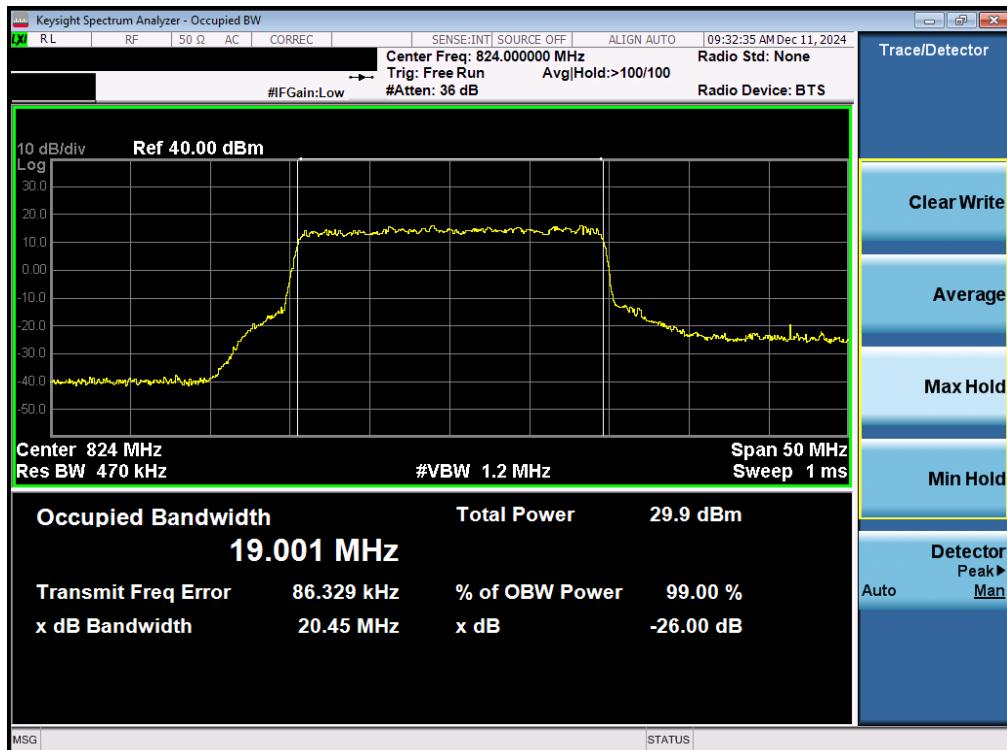
Plot 7-20. Occupied Bandwidth Plot (LTE Band 14 - 5MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 27 of 120

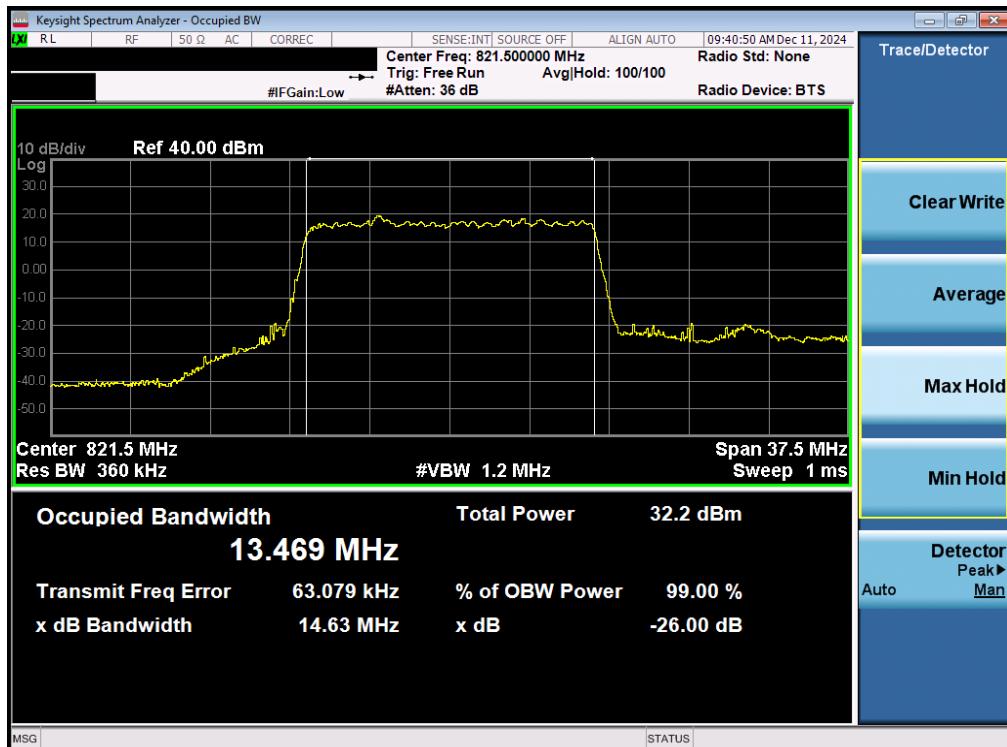
NR Band n26 – Ant5



FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 28 of 120

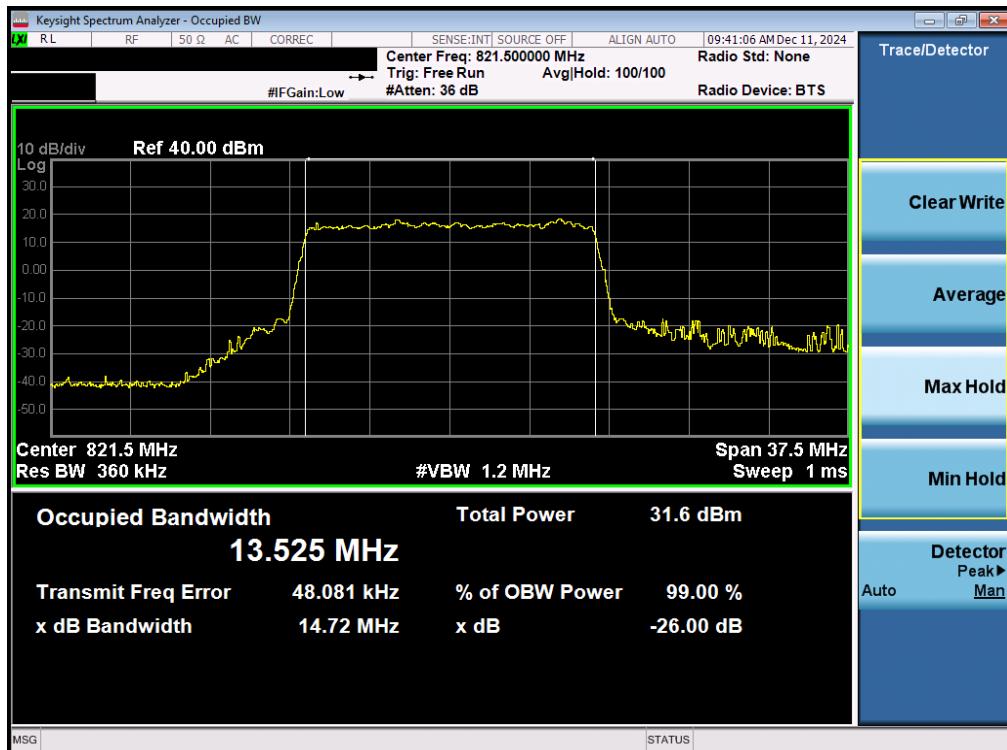


Plot 7-23. Occupied Bandwidth Plot (NR Band n26 - 20MHz 16-QAM - Full RB - Ant5)

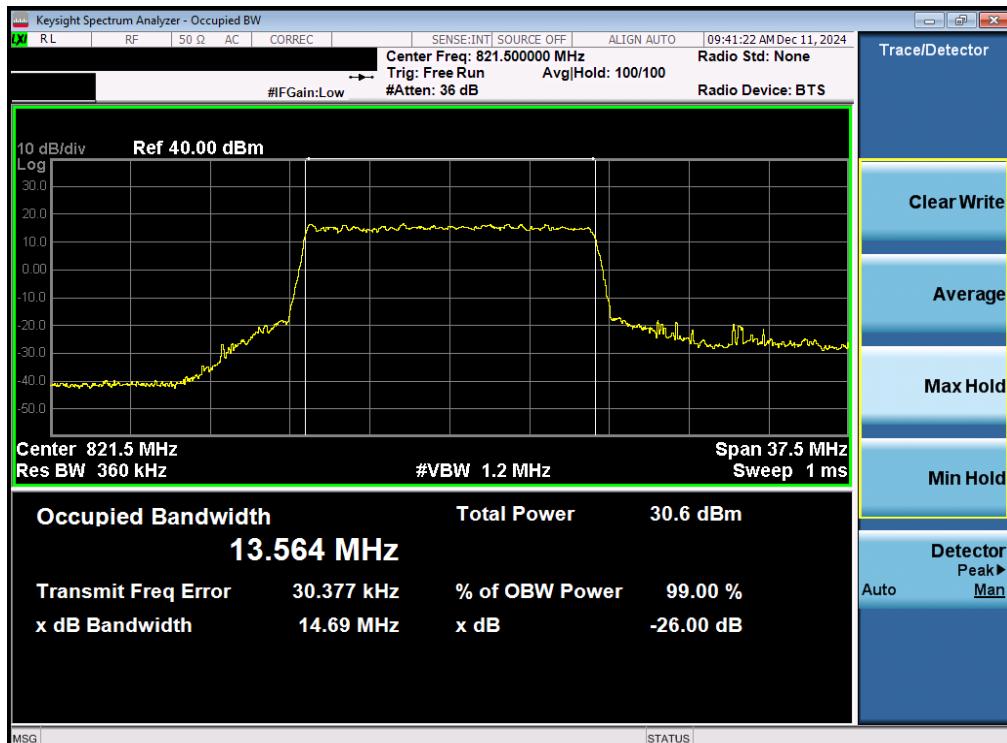


Plot 7-24. Occupied Bandwidth Plot (NR Band n26 - 15MHz BPSK - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 29 of 120

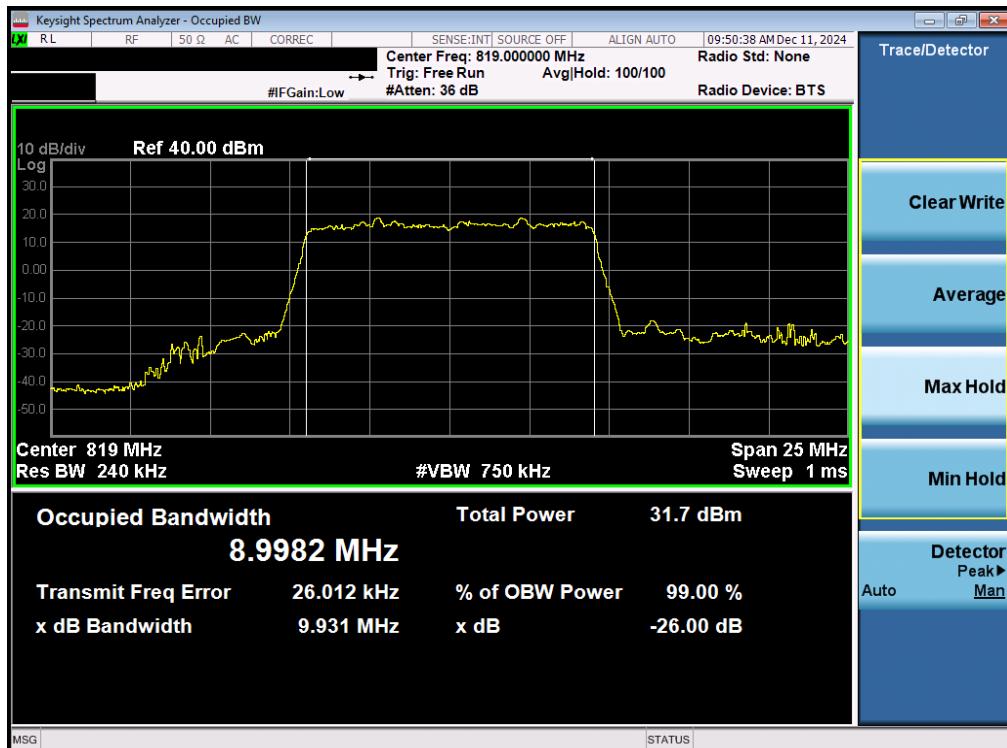


Plot 7-25. Occupied Bandwidth Plot (NR Band n26 - 15MHz QPSK - Full RB - Ant5)

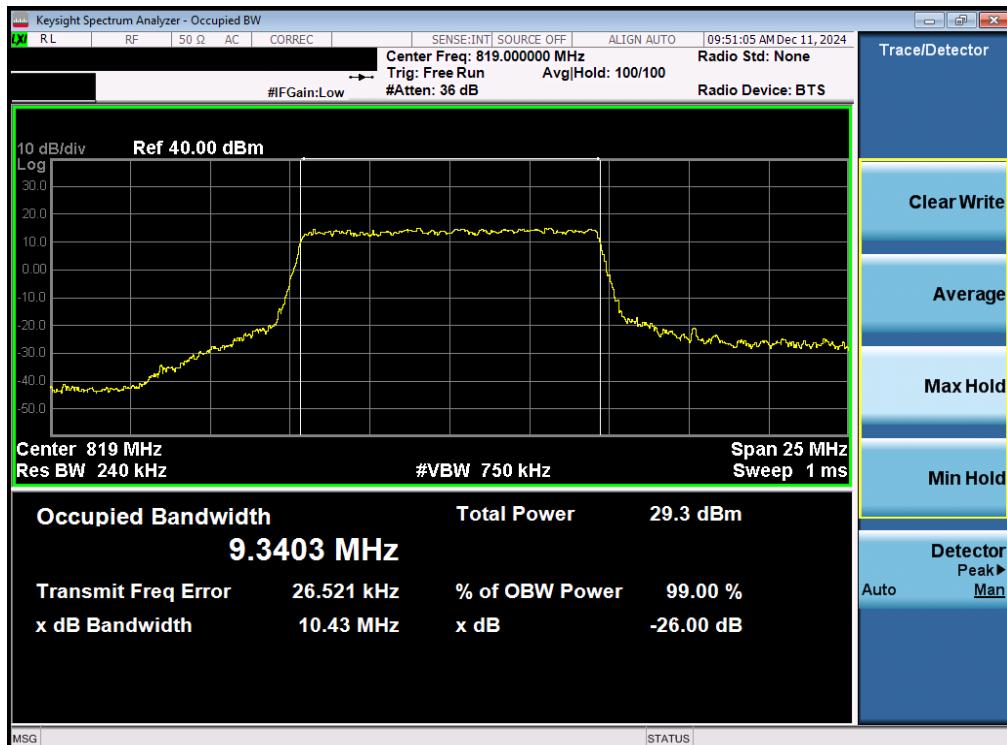


Plot 7-26. Occupied Bandwidth Plot (NR Band n26 - 15MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 30 of 120

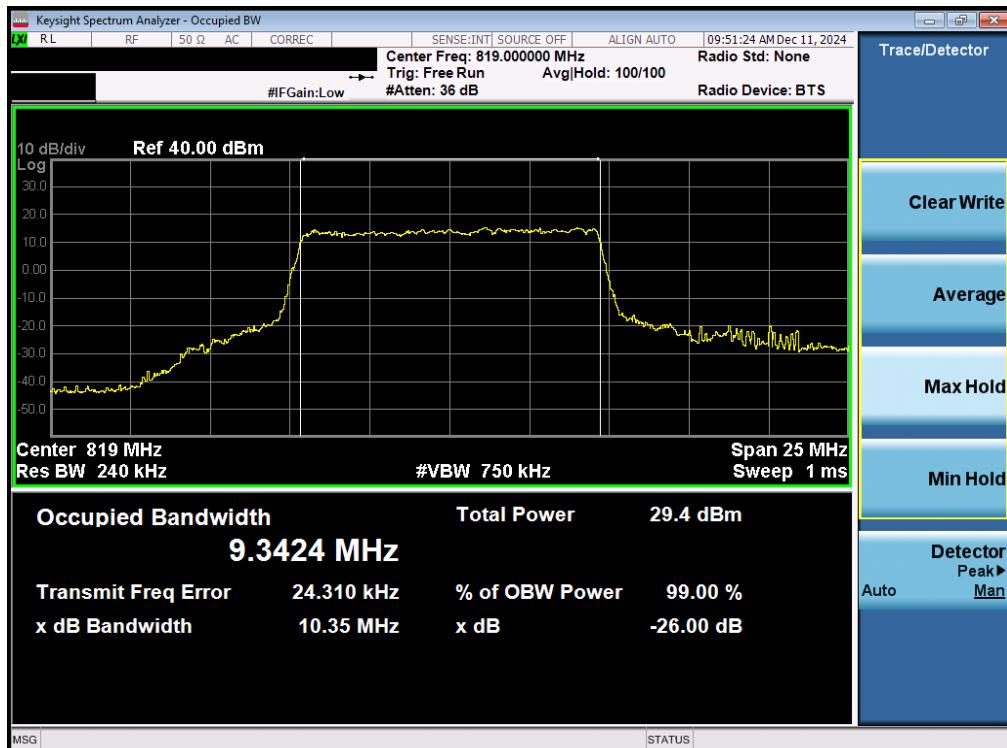


Plot 7-27. Occupied Bandwidth Plot (NR Band n26 - 10MHz BPSK - Full RB - Ant5)

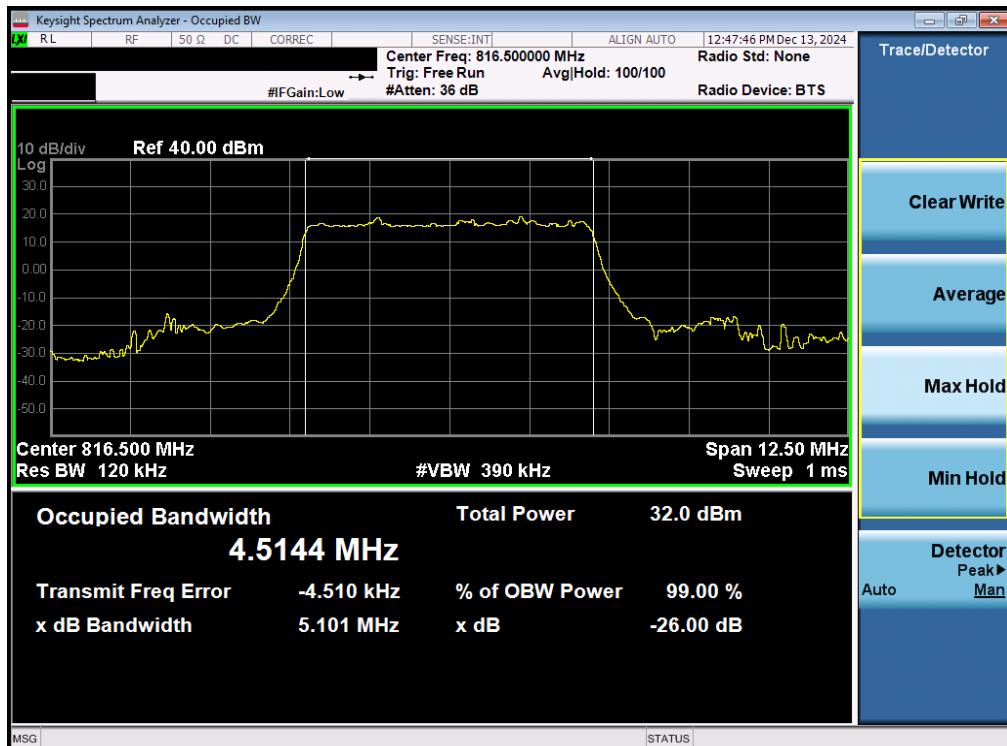


Plot 7-28. Occupied Bandwidth Plot (NR Band n26 - 10MHz QPSK - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 31 of 120

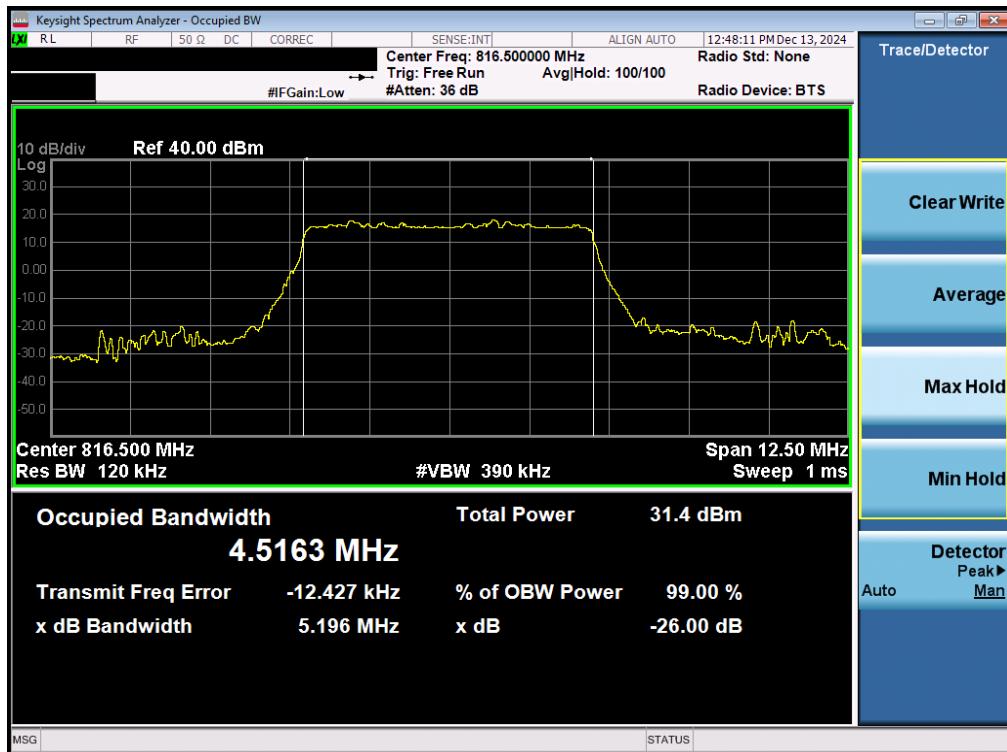


Plot 7-29. Occupied Bandwidth Plot (NR Band n26 - 10MHz 16-QAM - Full RB - Ant5)

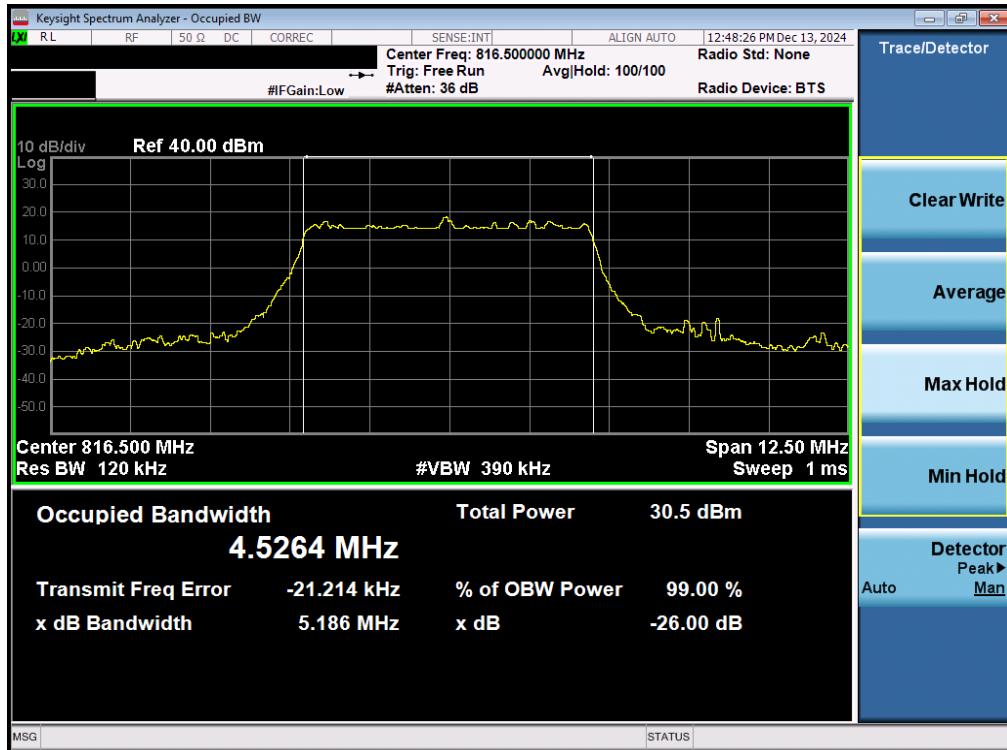


Plot 7-30. Occupied Bandwidth Plot (NR Band n26 - 5MHz BPSK - Full RB - Low Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 32 of 120

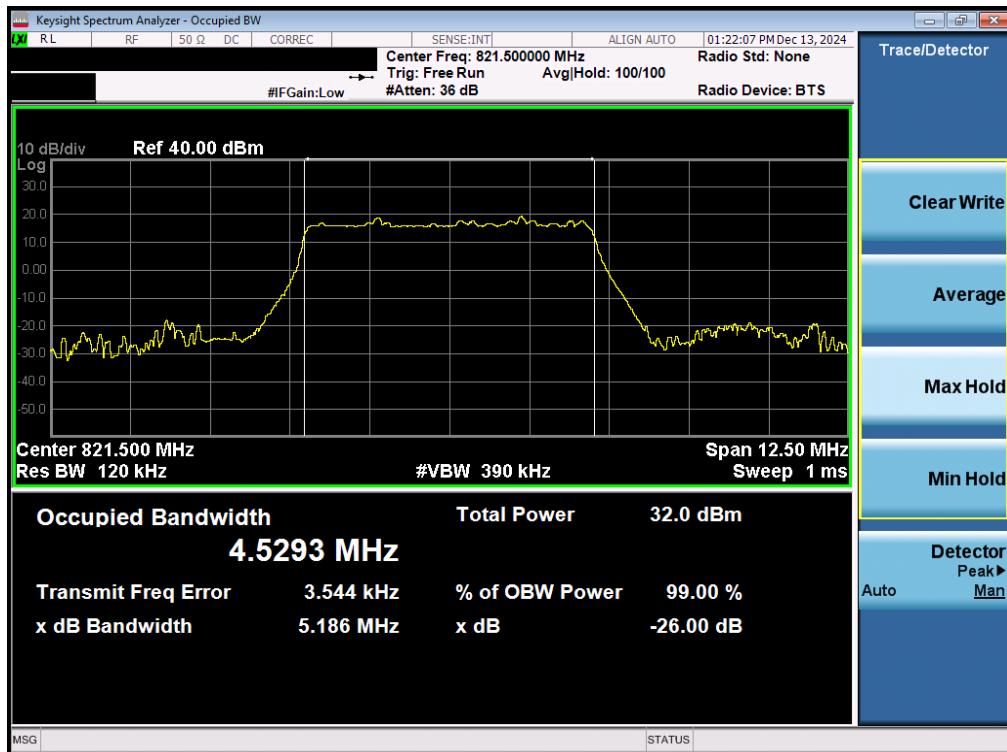


Plot 7-31. Occupied Bandwidth Plot (NR Band n26 - 5MHz QPSK - Full RB – Low Channel - Ant5)

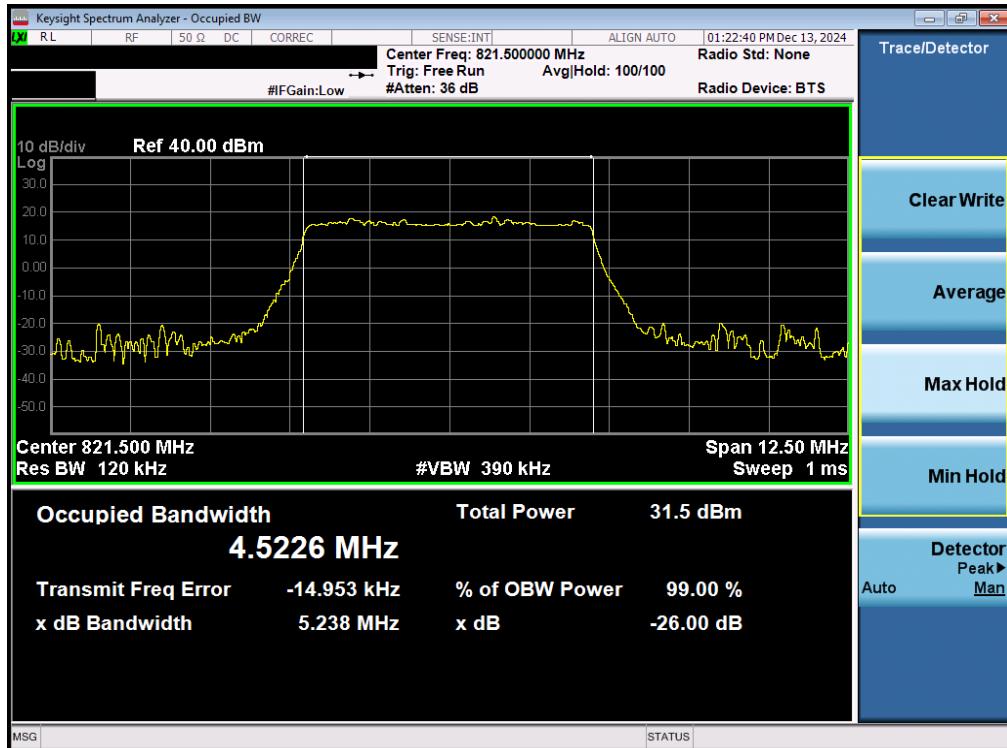


Plot 7-32. Occupied Bandwidth Plot (NR Band n26 - 5MHz 16-QAM - Full RB – Low Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 33 of 120

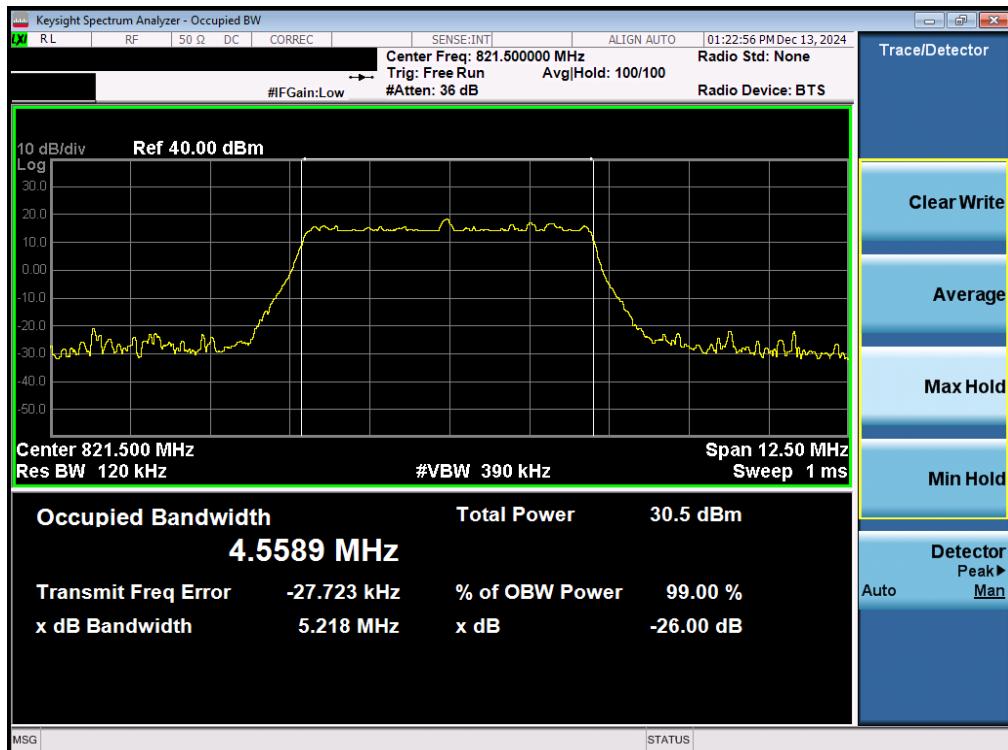


Plot 7-33. Occupied Bandwidth Plot (NR Band n26 - 5MHz BPSK - Full RB – High Channel - Ant5)



Plot 7-34. Occupied Bandwidth Plot (NR Band n26 - 5MHz QPSK - Full RB – High Channel - Ant5)

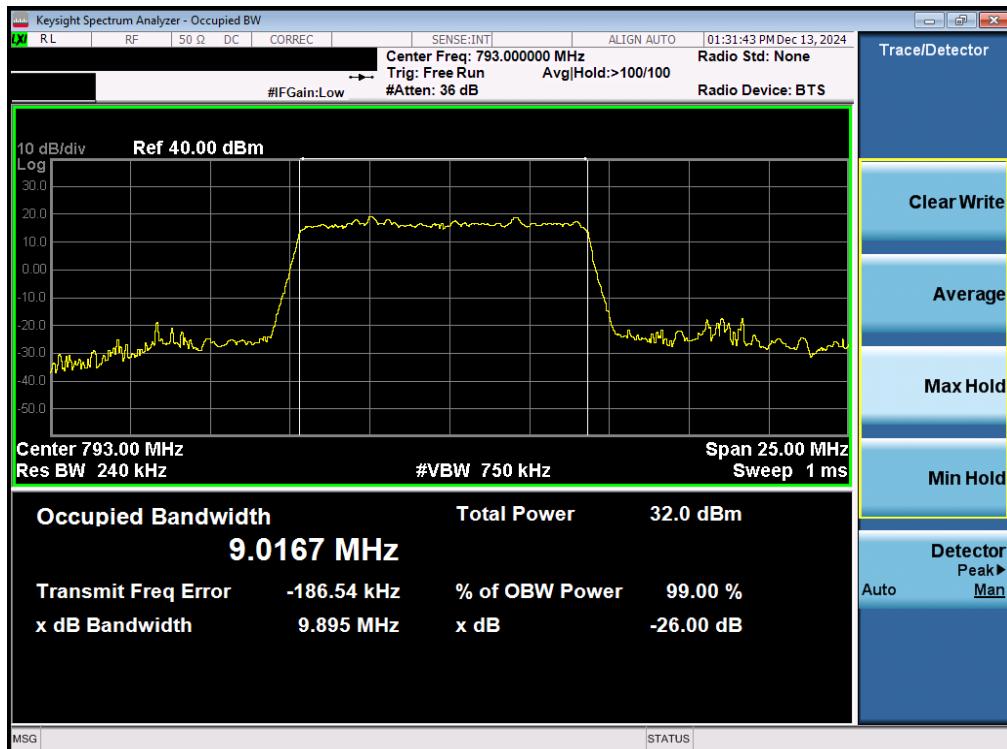
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 34 of 120



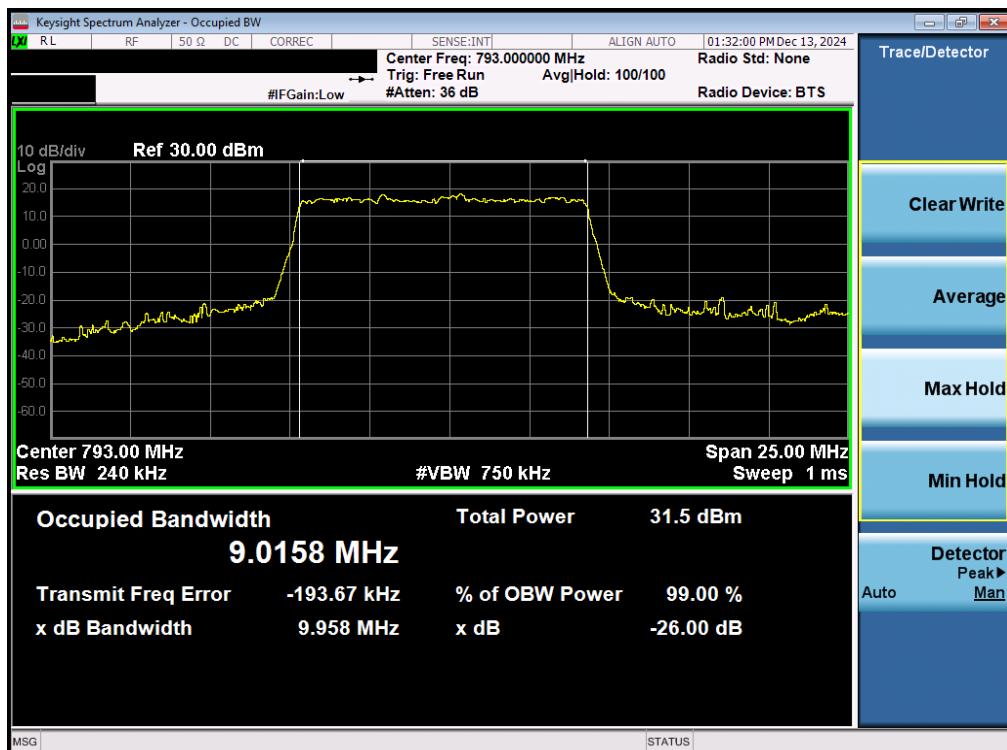
Plot 7-35. Occupied Bandwidth Plot (NR Band n26 - 5MHz 16-QAM - Full RB – High Channel - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 35 of 120

NR Band n14 – Ant5

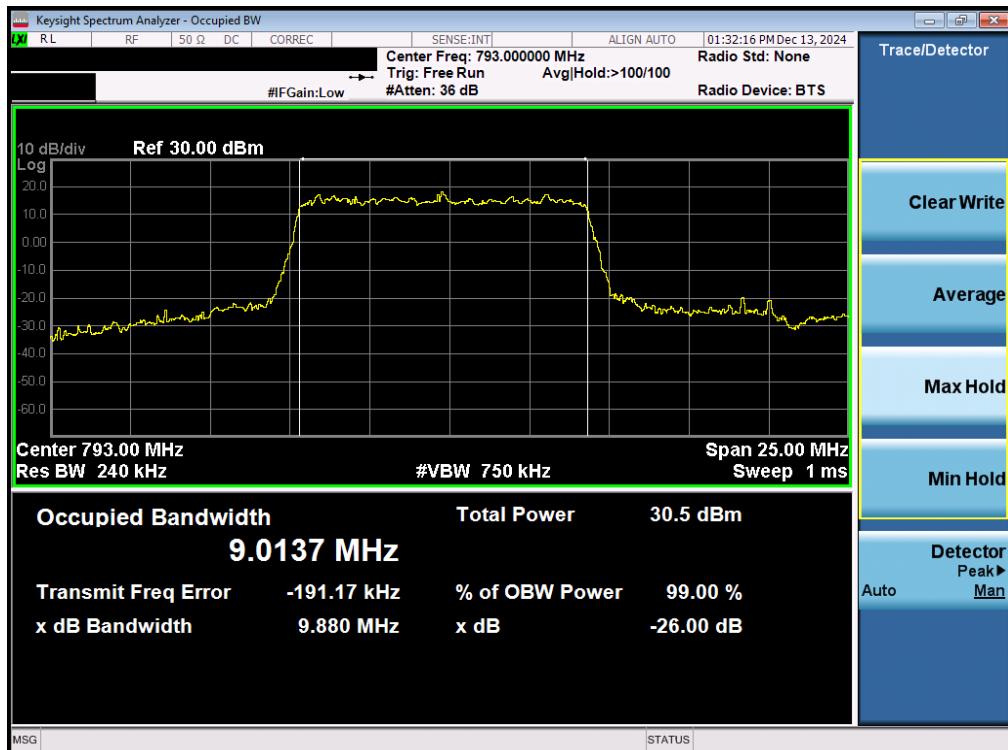


Plot 7-36. Occupied Bandwidth Plot (NR Band n14 - 10MHz $\pi/2$ BPSK - Full RB - Ant5)

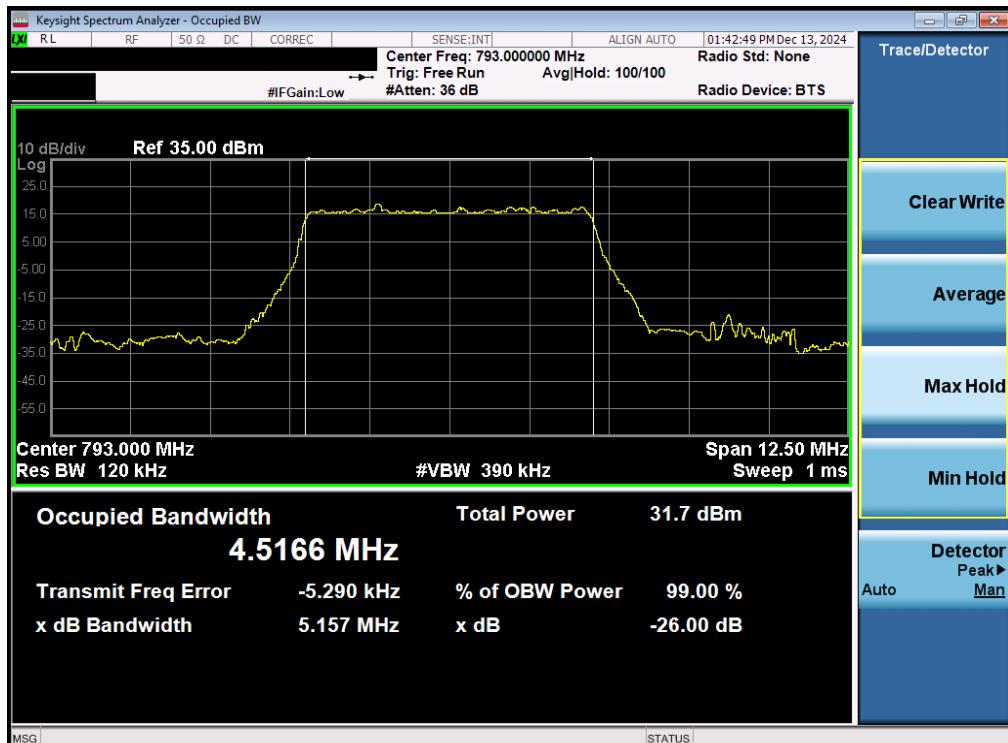


Plot 7-37. Occupied Bandwidth Plot (NR Band n14 - 10MHz QPSK - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 36 of 120



Plot 7-38. Occupied Bandwidth Plot (NR Band n14 - 10MHz 16-QAM - Full RB - Ant5)

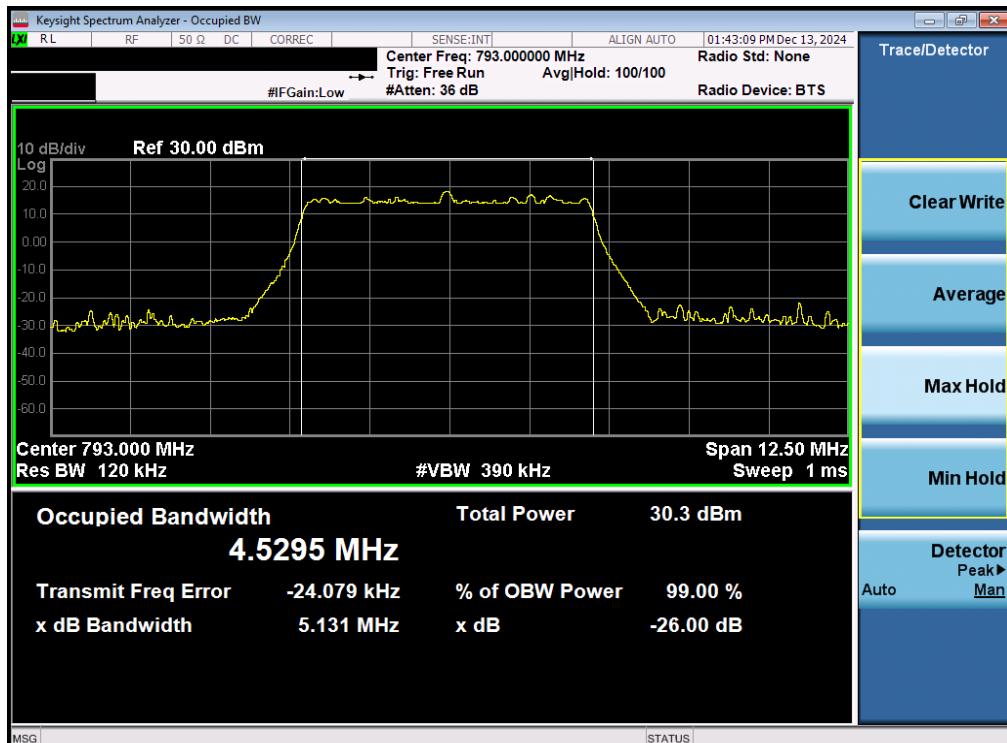


Plot 7-39. Occupied Bandwidth Plot (NR Band n14 - 5MHz π/2 BPSK - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 37 of 120



Plot 7-40. Occupied Bandwidth Plot (NR Band n14 - 5MHz QPSK - Full RB - Ant5)



Plot 7-41. Occupied Bandwidth Plot (NR Band n14 - 5MHz 16-QAM - Full RB - Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 38 of 120

Mode	Bandwidth	Modulation	OBW [MHz]
LTE-B14	10 MHz	QPSK	9.00
		16QAM	9.03
	5 MHz	QPSK	4.52
		16QAM	4.52
LTE-B26	15 MHz	QPSK	13.47
		16QAM	13.49
	10 MHz	QPSK	8.98
		16QAM	9.01
	5 MHz	QPSK	4.51
		QPSK	4.54
		16QAM	4.53
		16QAM	4.52
	3 MHz	QPSK	2.71
		QPSK	2.72
		16QAM	2.72
		16QAM	2.72
	1.4 MHz	QPSK	1.10
		QPSK	1.10
		16QAM	1.11
		16QAM	1.10
NR-n14	10 MHz	$\pi/2$ BPSK	9.01
		QPSK	9.36
		16QAM	9.36
	5 MHz	$\pi/2$ BPSK	4.52
		QPSK	4.54
		16QAM	4.57
NR-n26	20 MHz	$\pi/2$ BPSK	17.92
		QPSK	18.97
		16QAM	19.04
	15 MHz	$\pi/2$ BPSK	13.48
		QPSK	14.18
		16QAM	14.19
	10 MHz	$\pi/2$ BPSK	9.02
		QPSK	9.35
		16QAM	9.34
	5 MHz	$\pi/2$ BPSK	4.52
		$\pi/2$ BPSK	4.55
		QPSK	4.52
		QPSK	4.52
		16QAM	4.62
		16QAM	4.56

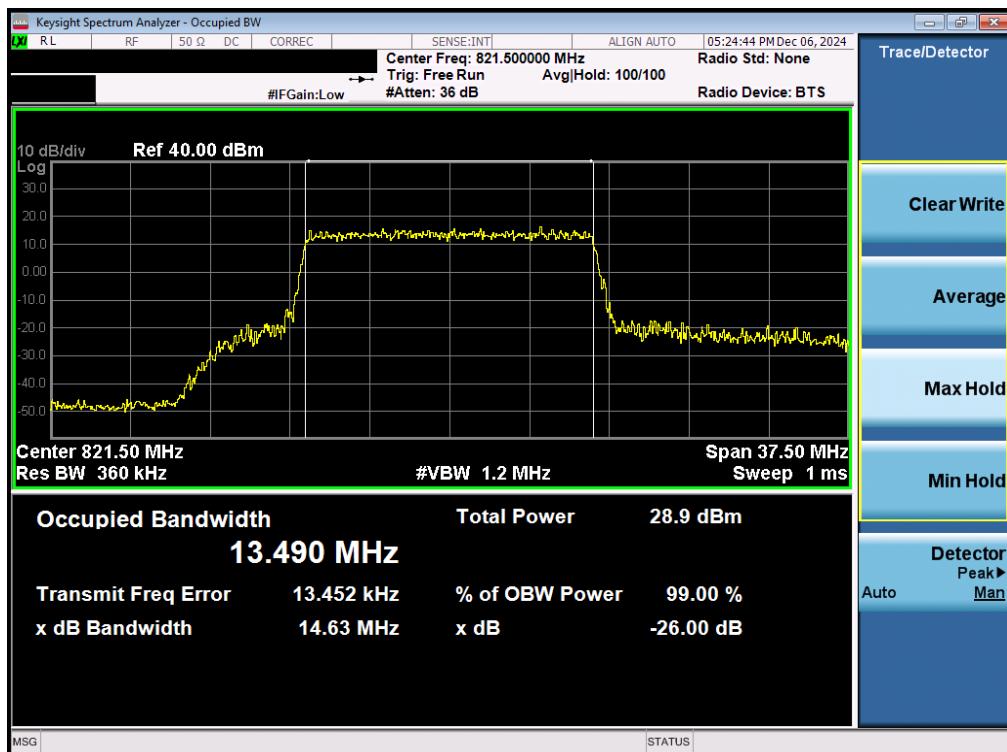
Table 7-11. Occupied Bandwidth Test Results – Ant2

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 39 of 120	

LTE Band 26 – Ant2



Plot 7-42. Occupied Bandwidth Plot (LTE Band 26 - 15MHz QPSK - Full RB - Ant2)

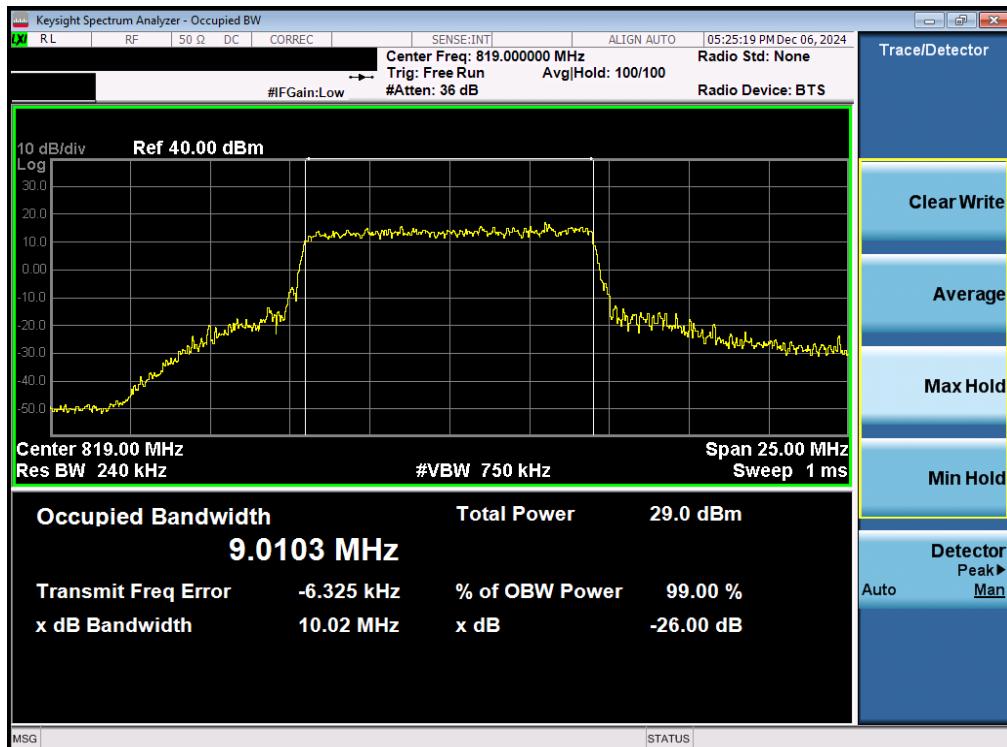


Plot 7-43. Occupied Bandwidth Plot (LTE Band 26 - 15MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 40 of 120

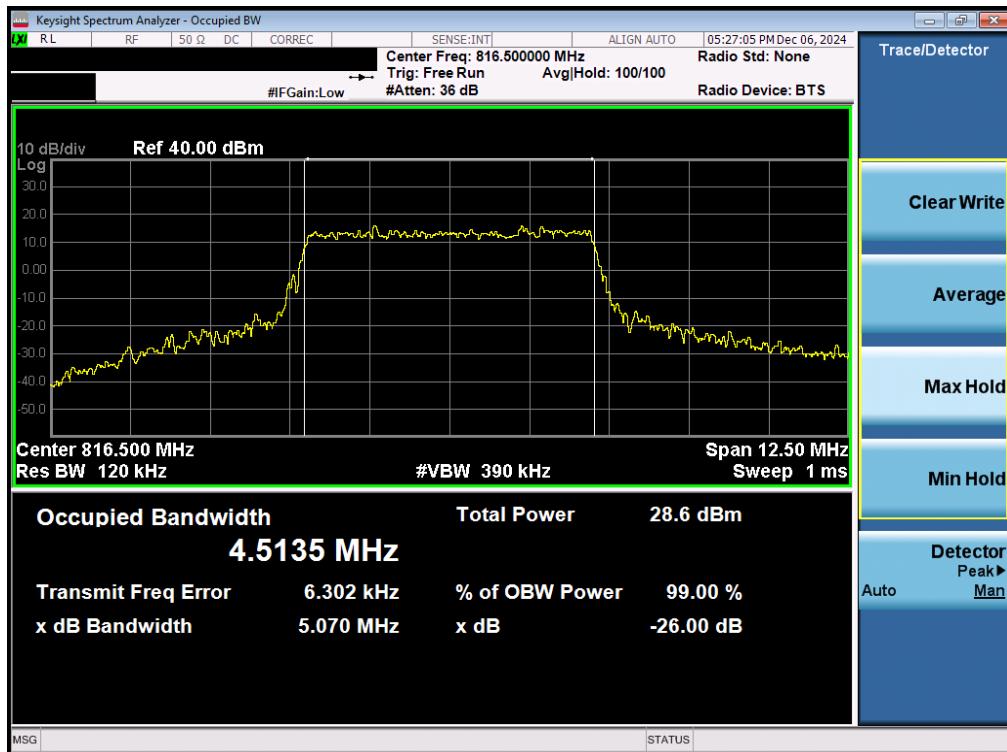


Plot 7-44. Occupied Bandwidth Plot (LTE Band 26 - 10MHz QPSK - Full RB - Ant2)

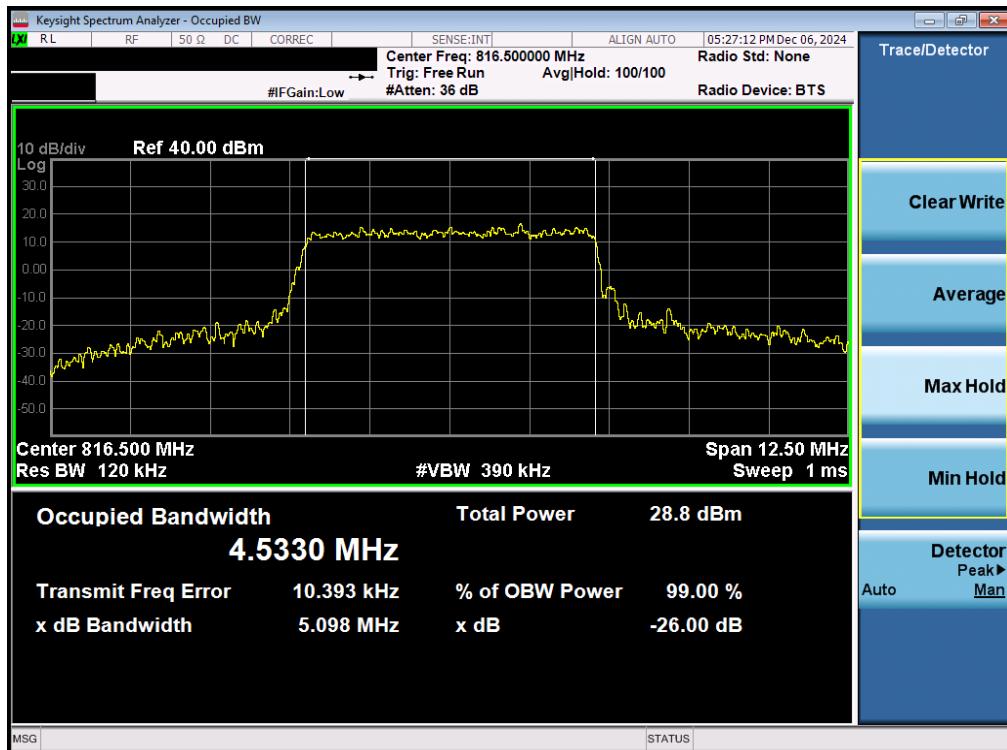


Plot 7-45. Occupied Bandwidth Plot (LTE Band 26 - 10MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 41 of 120

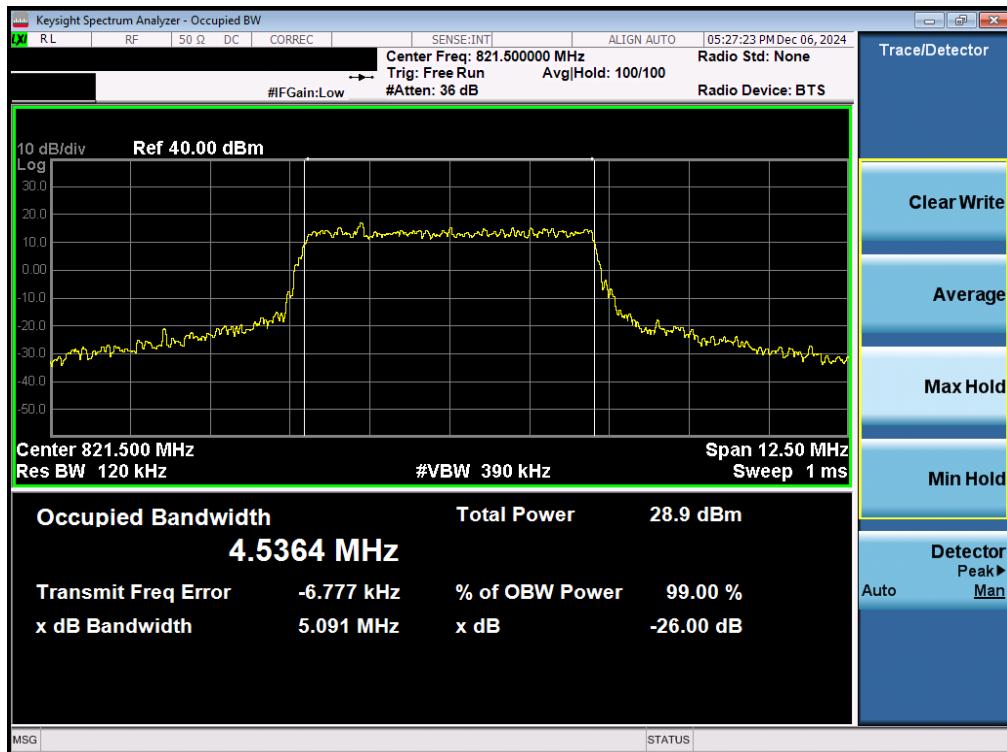


Plot 7-46. Occupied Bandwidth Plot (LTE Band 26 - 5MHz QPSK - Full RB – Low Channel - Ant2)

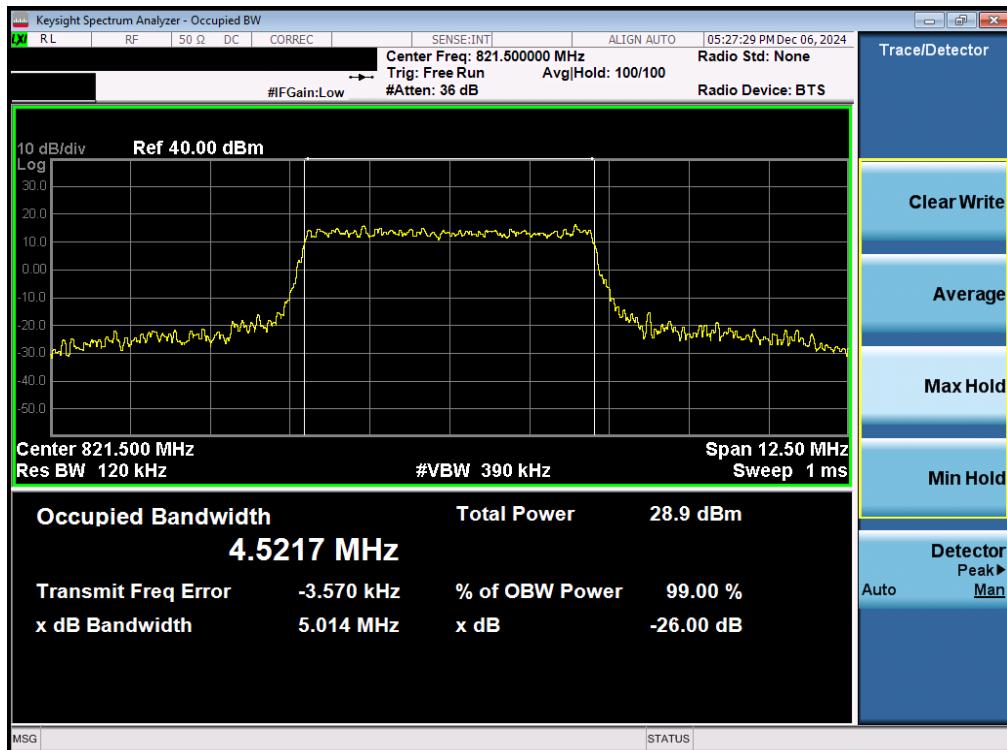


Plot 7-47. Occupied Bandwidth Plot (LTE Band 26 - 5MHz 16-QAM - Full RB – Low Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 42 of 120

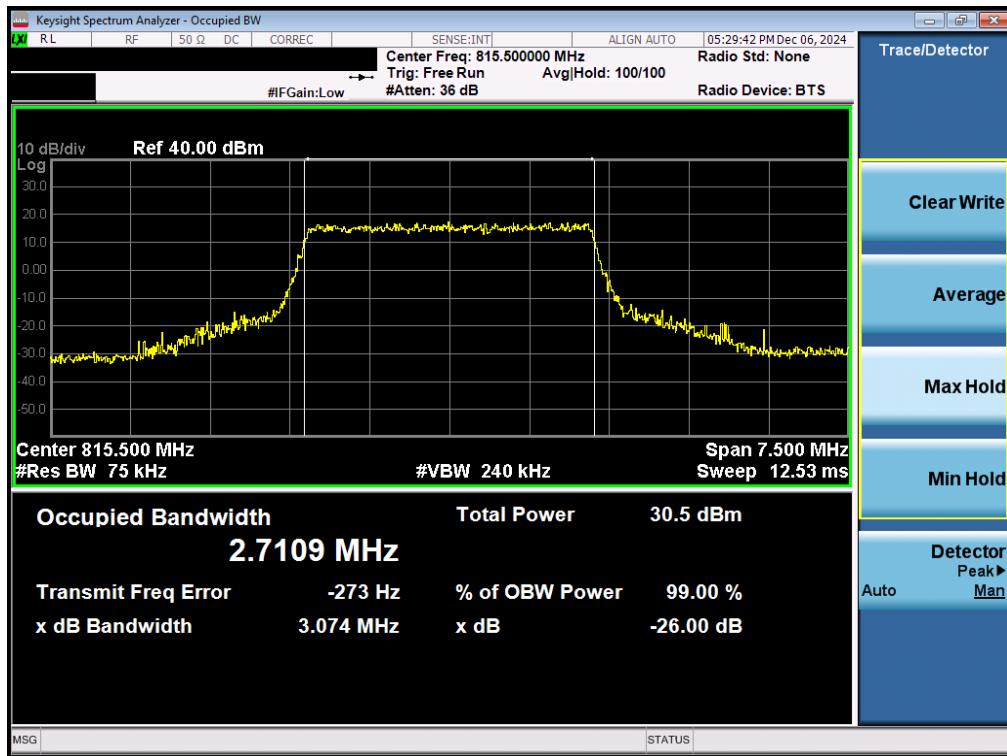


Plot 7-48. Occupied Bandwidth Plot (LTE Band 26 - 5MHz QPSK - Full RB – High Channel - Ant2)

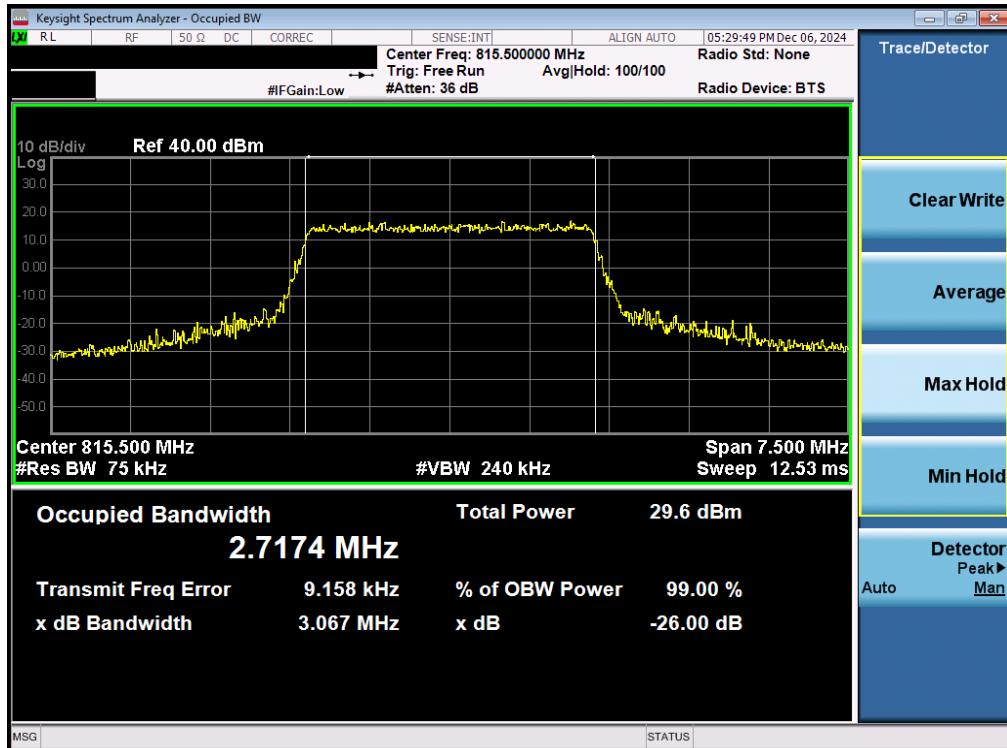


Plot 7-49. Occupied Bandwidth Plot (LTE Band 26 - 5MHz 16-QAM - Full RB – High Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 43 of 120



Plot 7-50. Occupied Bandwidth Plot (LTE Band 26 - 3MHz QPSK - Full RB – Low Channel - Ant2)



Plot 7-51. Occupied Bandwidth Plot (LTE Band 26 - 3MHz 16-QAM - Full RB – Low Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 44 of 120

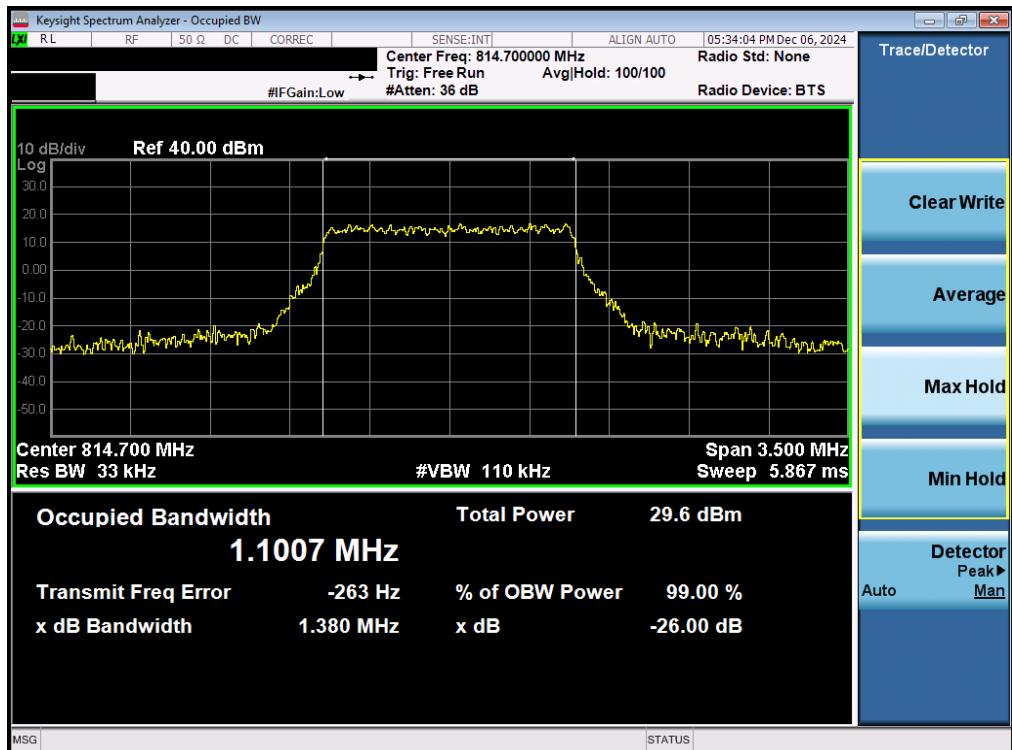


Plot 7-52. Occupied Bandwidth Plot (LTE Band 26 - 3MHz QPSK - Full RB – High Channel - Ant2)

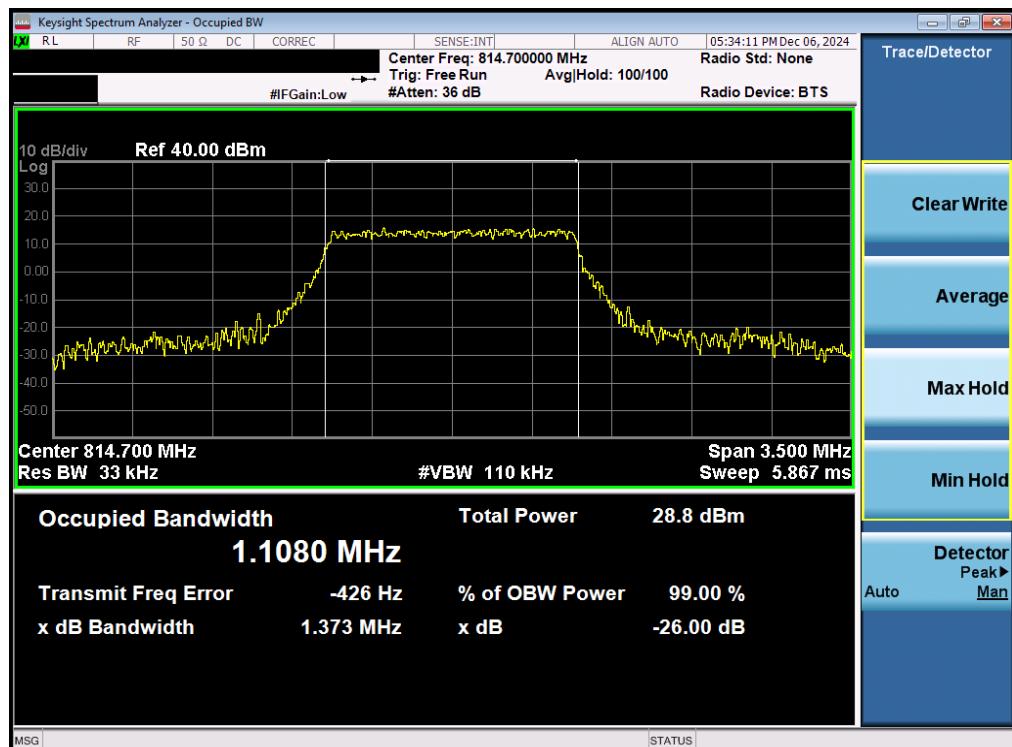


Plot 7-53. Occupied Bandwidth Plot (LTE Band 26 - 3MHz 16-QAM - Full RB – High Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 45 of 120

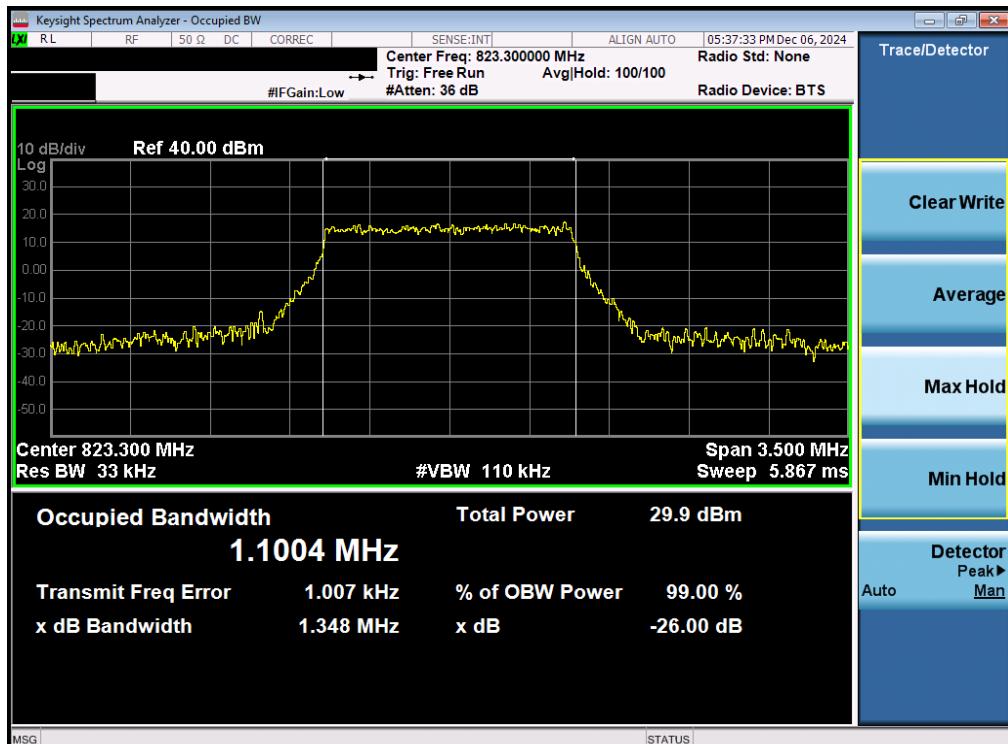


Plot 7-54. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz QPSK - Full RB – Low Channel - Ant2)

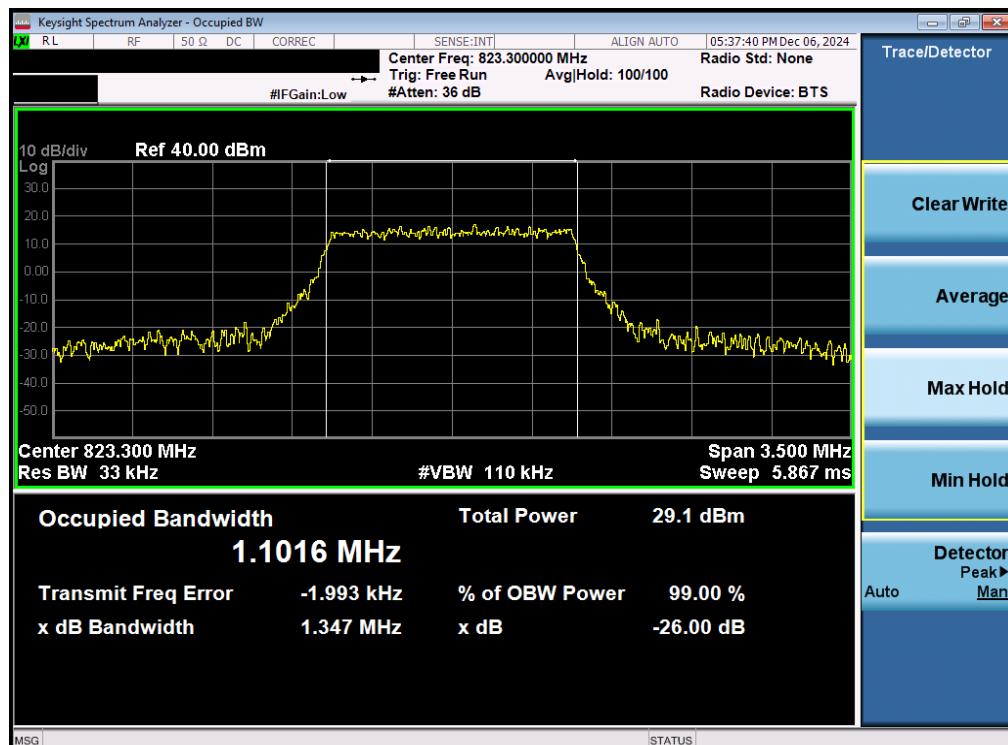


Plot 7-55. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz 16-QAM - Full RB – Low Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 46 of 120



Plot 7-56. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz QPSK - Full RB – High Channel - Ant2)



Plot 7-57. Occupied Bandwidth Plot (LTE Band 26 - 1.4MHz 16-QAM - Full RB – High Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 47 of 120

LTE Band 14 – Ant2

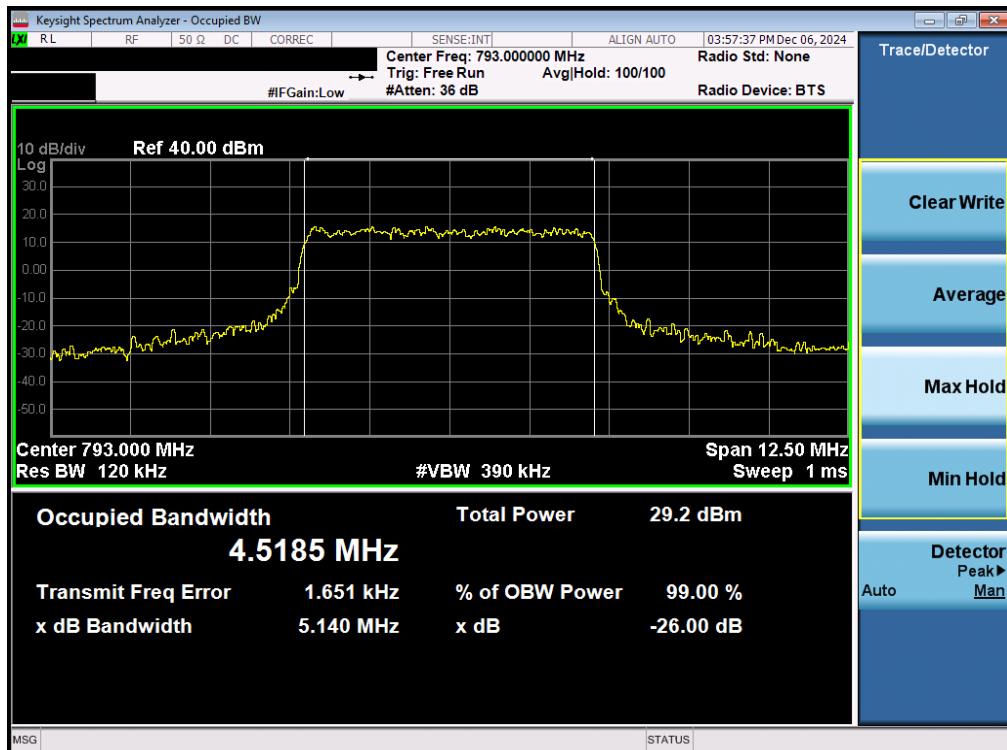


Plot 7-58. Occupied Bandwidth Plot (LTE Band 14 - 10MHz QPSK - Full RB - Ant2)

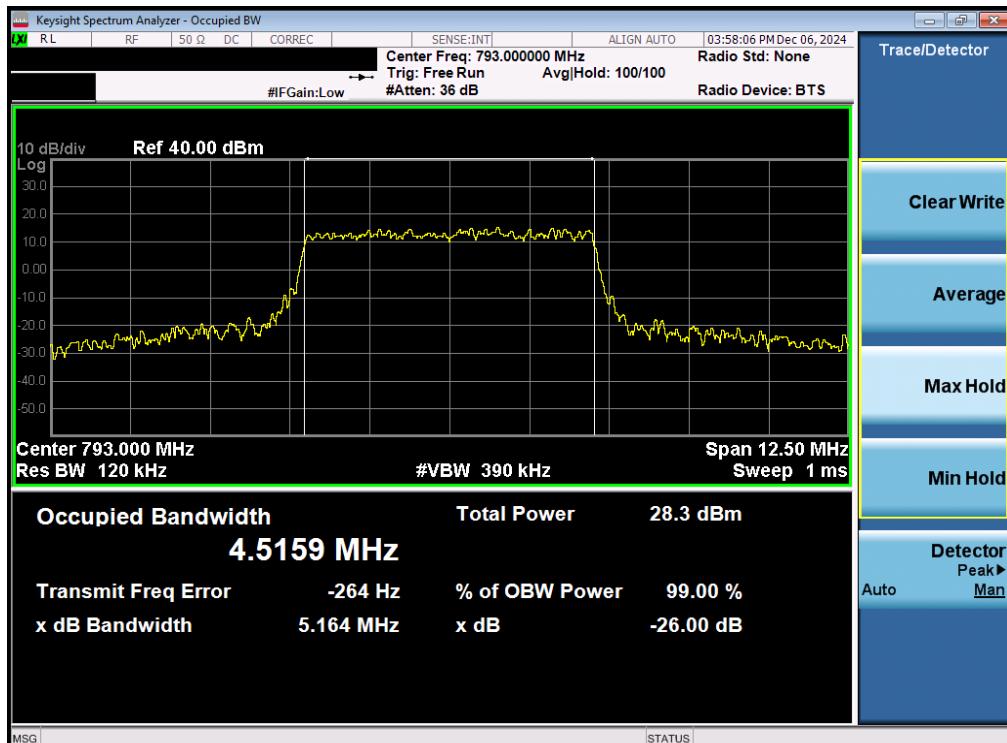


Plot 7-59. Occupied Bandwidth Plot (LTE Band 14 - 10MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 48 of 120



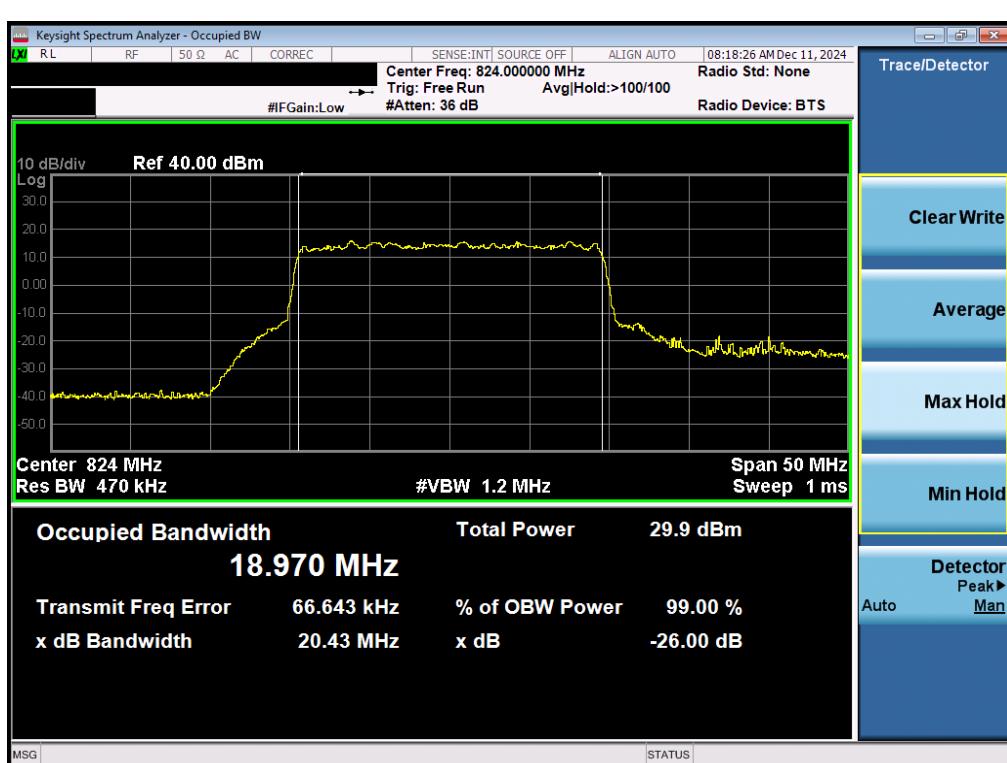
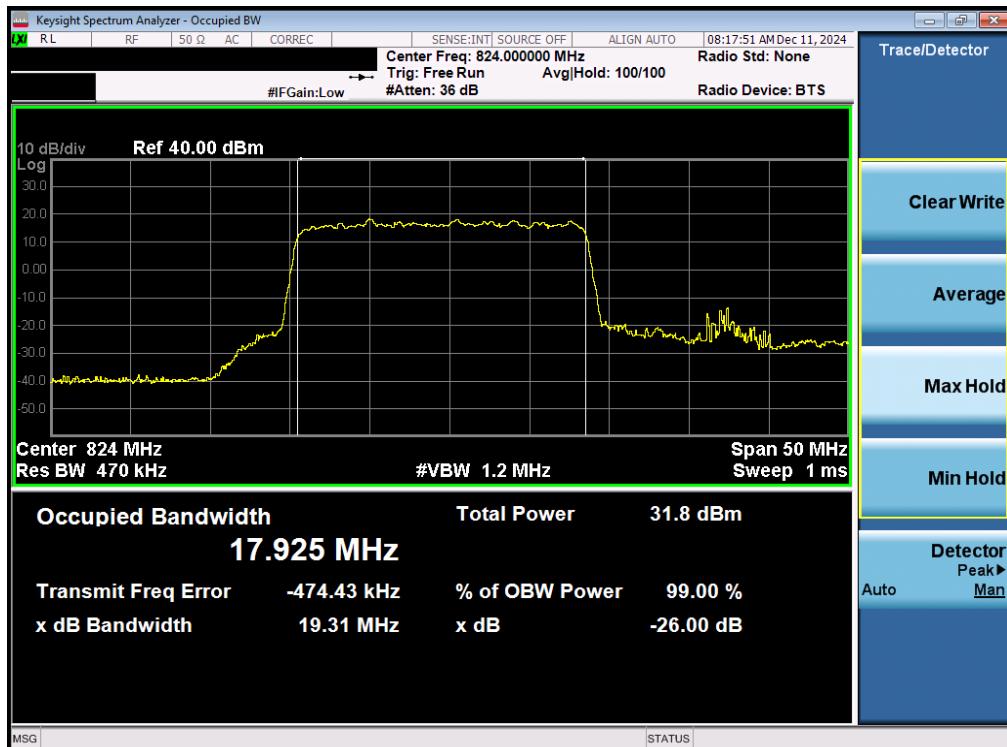
Plot 7-60. Occupied Bandwidth Plot (LTE Band 14 - 5MHz QPSK - Full RB - Ant2)



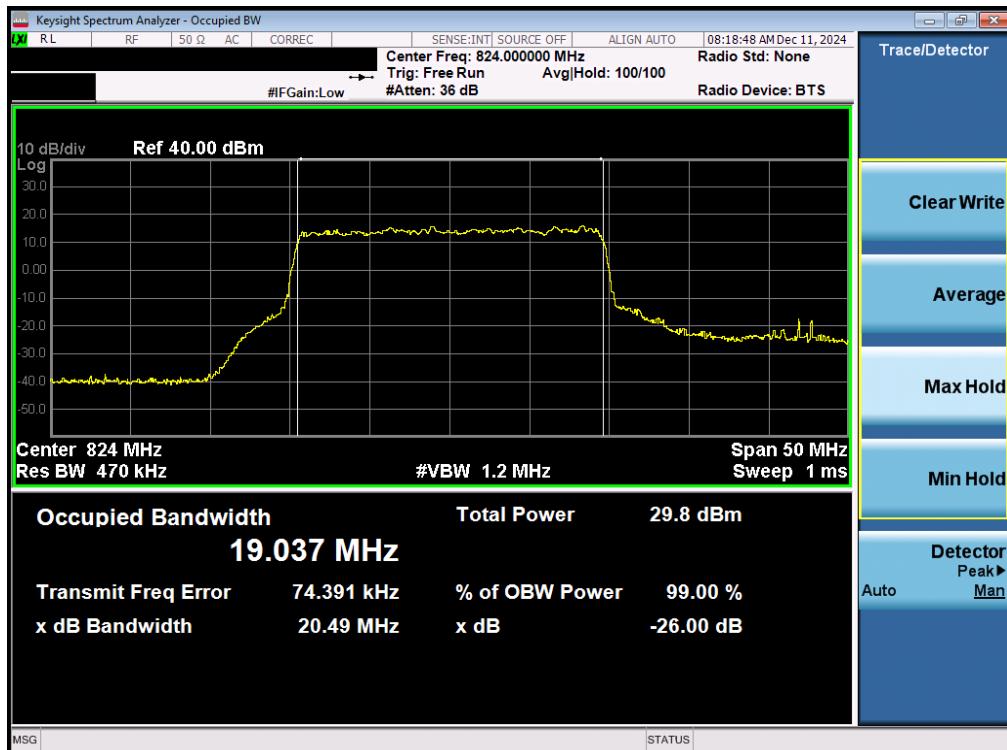
Plot 7-61. Occupied Bandwidth Plot (LTE Band 14 - 5MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 49 of 120

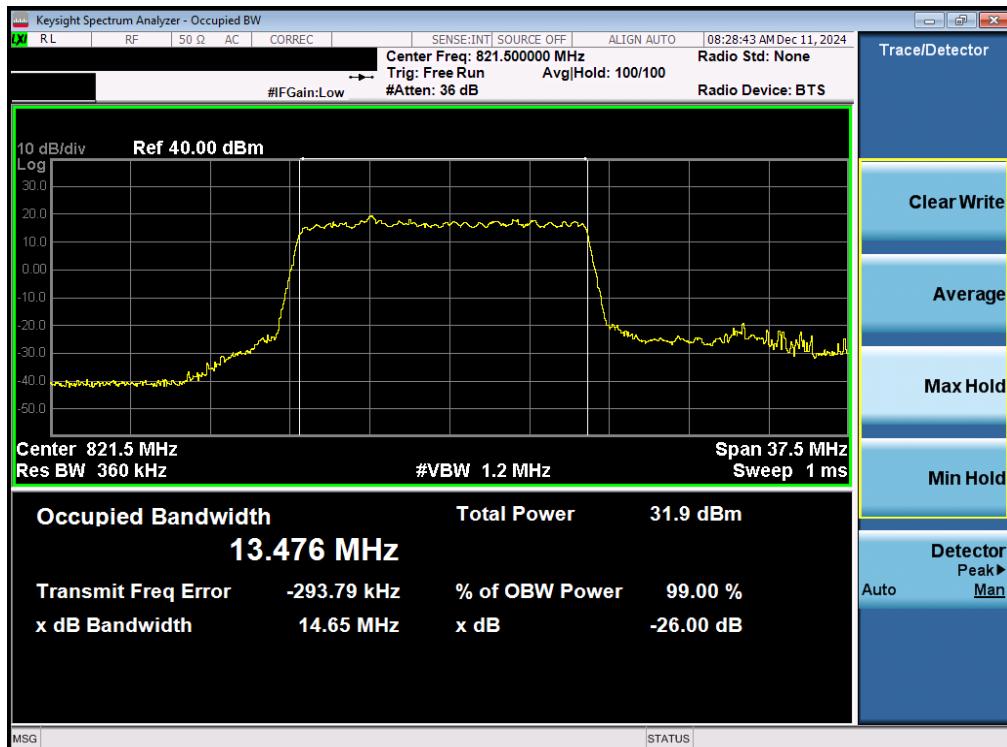
NR Band n26 – Ant2



FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 50 of 120

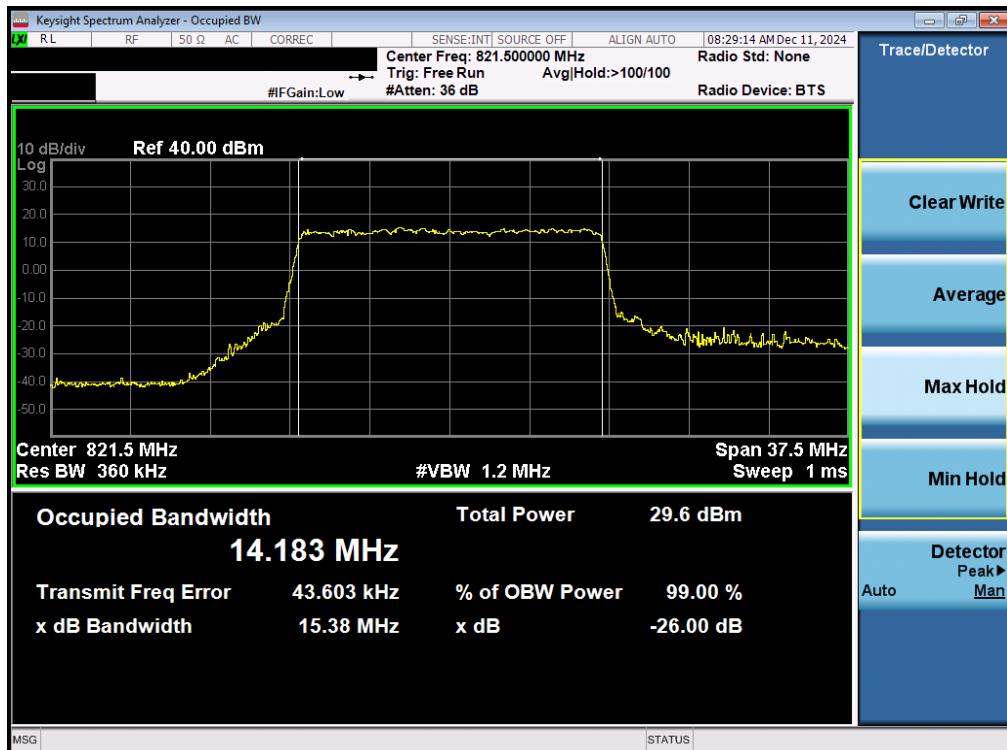


Plot 7-64. Occupied Bandwidth Plot (NR Band n26 - 20MHz 16-QAM - Full RB - Ant2)

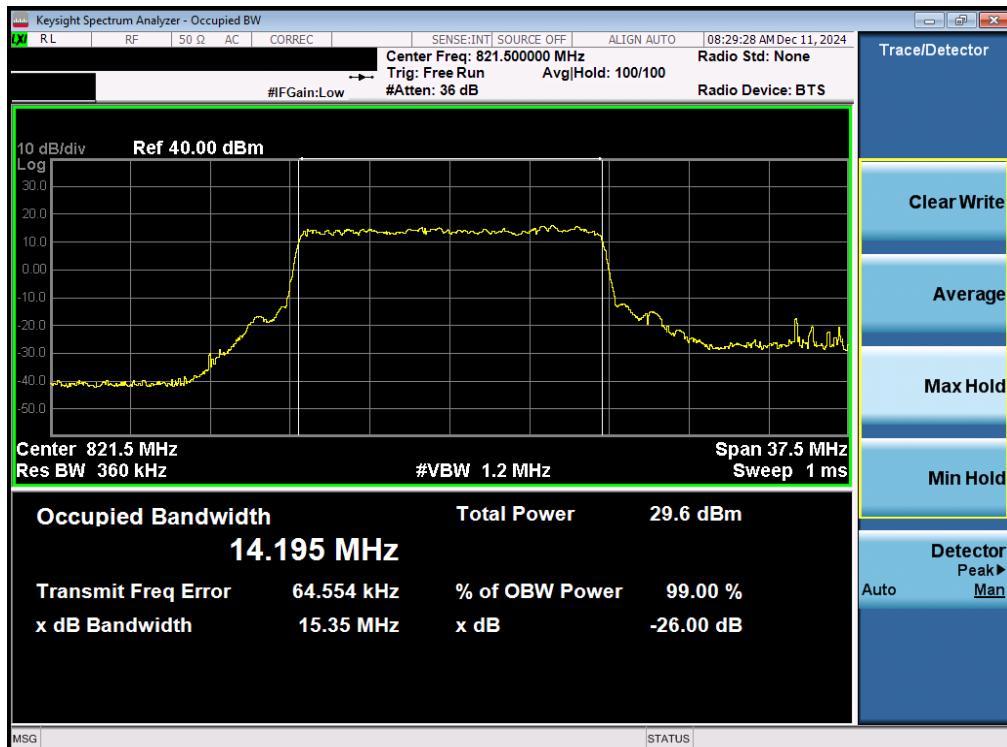


Plot 7-65. Occupied Bandwidth Plot (NR Band n26 - 15MHz BPSK - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 51 of 120

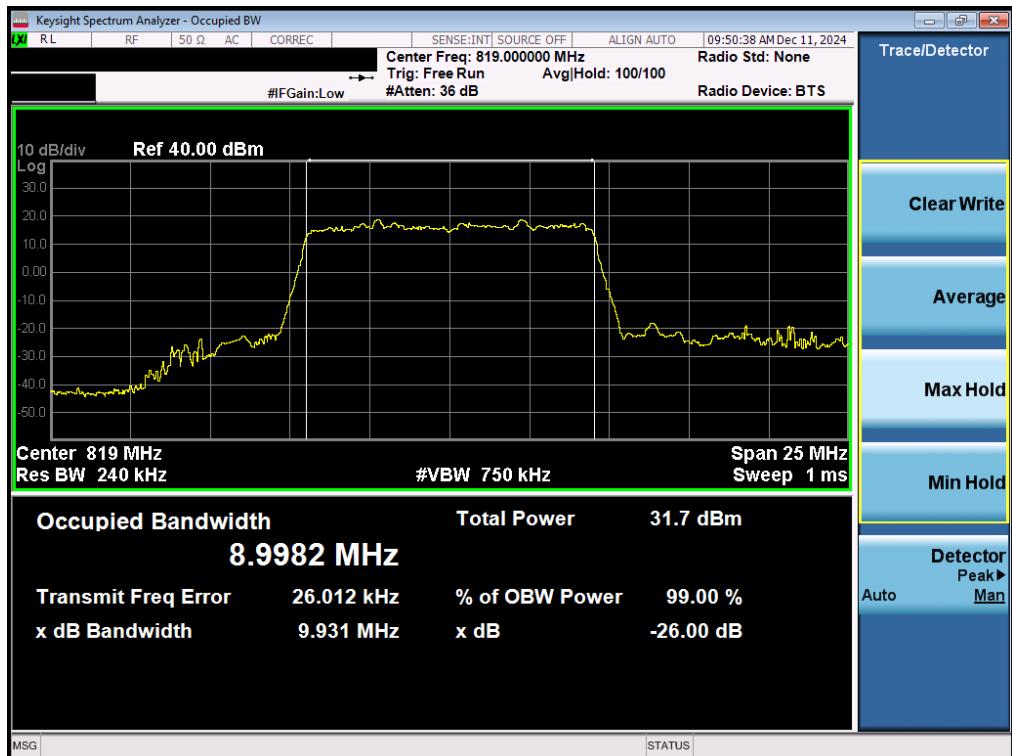


Plot 7-66. Occupied Bandwidth Plot (NR Band n26 - 15MHz QPSK - Full RB - Ant2)

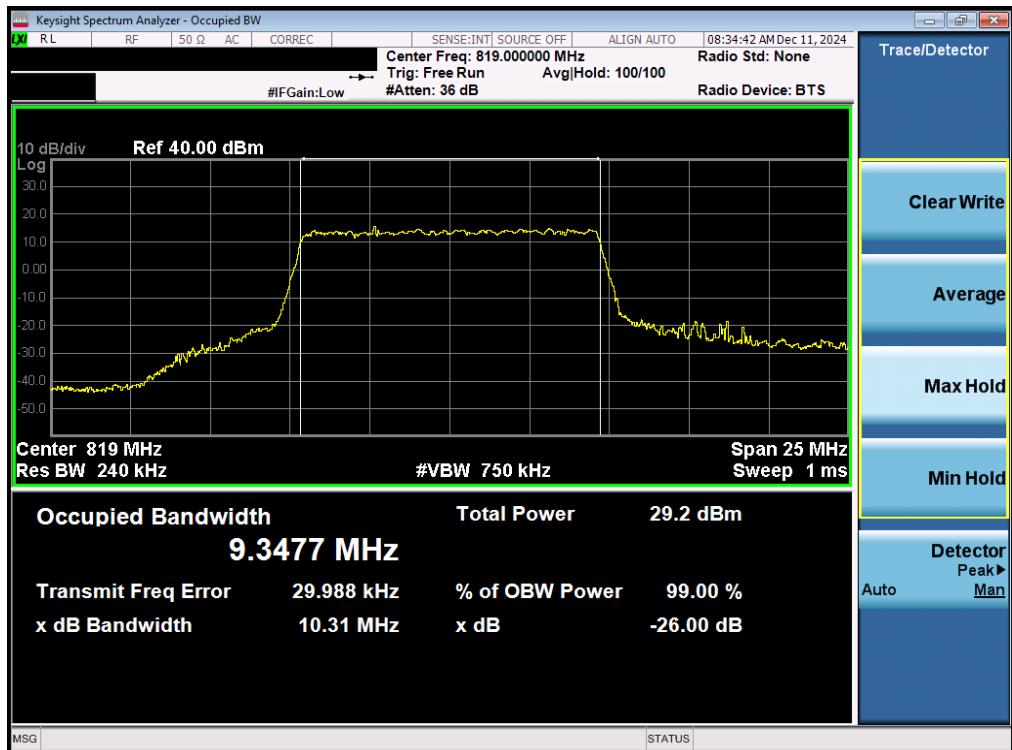


Plot 7-67. Occupied Bandwidth Plot (NR Band n26 - 15MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 52 of 120

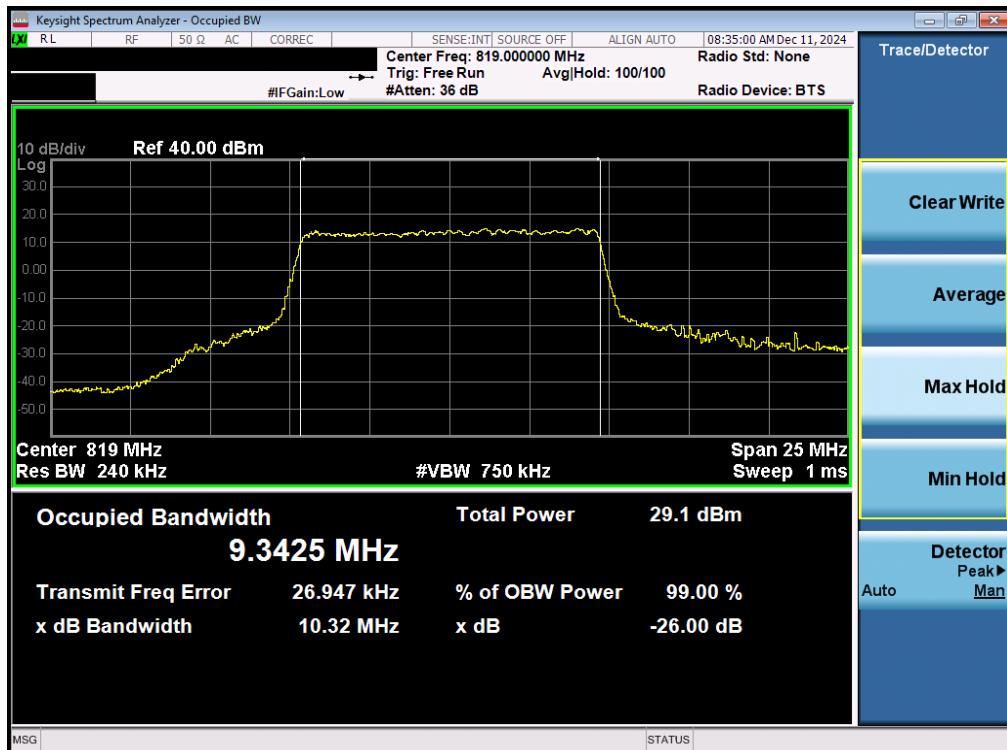


Plot 7-68. Occupied Bandwidth Plot (NR Band n26 - 10MHz BPSK - Full RB - Ant2)

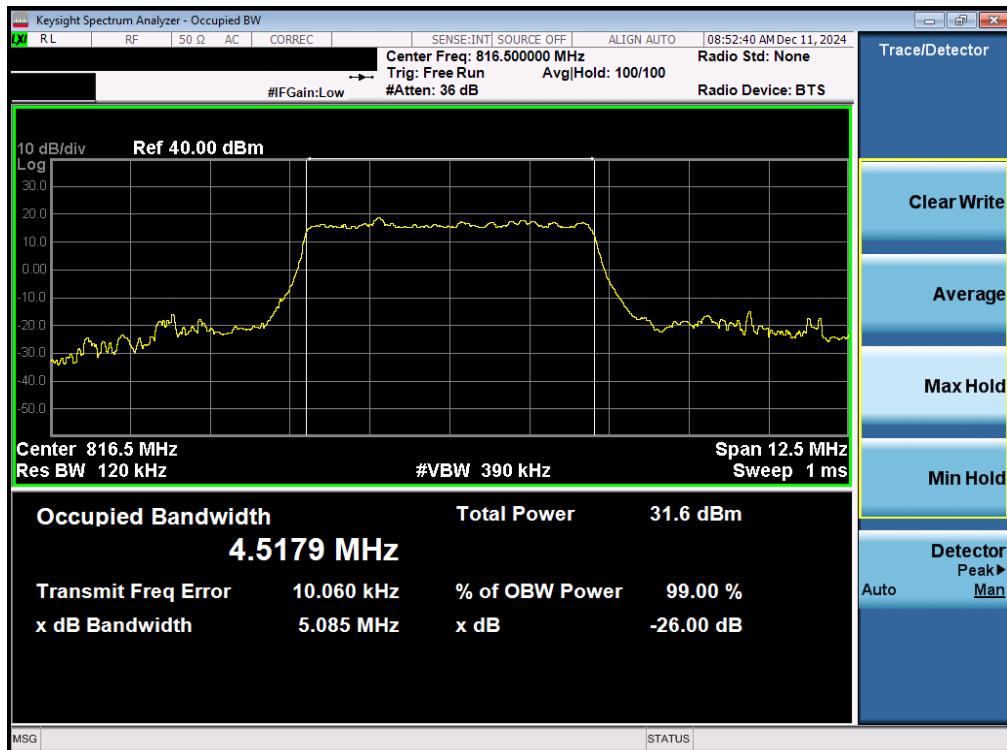


Plot 7-69. Occupied Bandwidth Plot (NR Band n26 - 10MHz QPSK - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 53 of 120

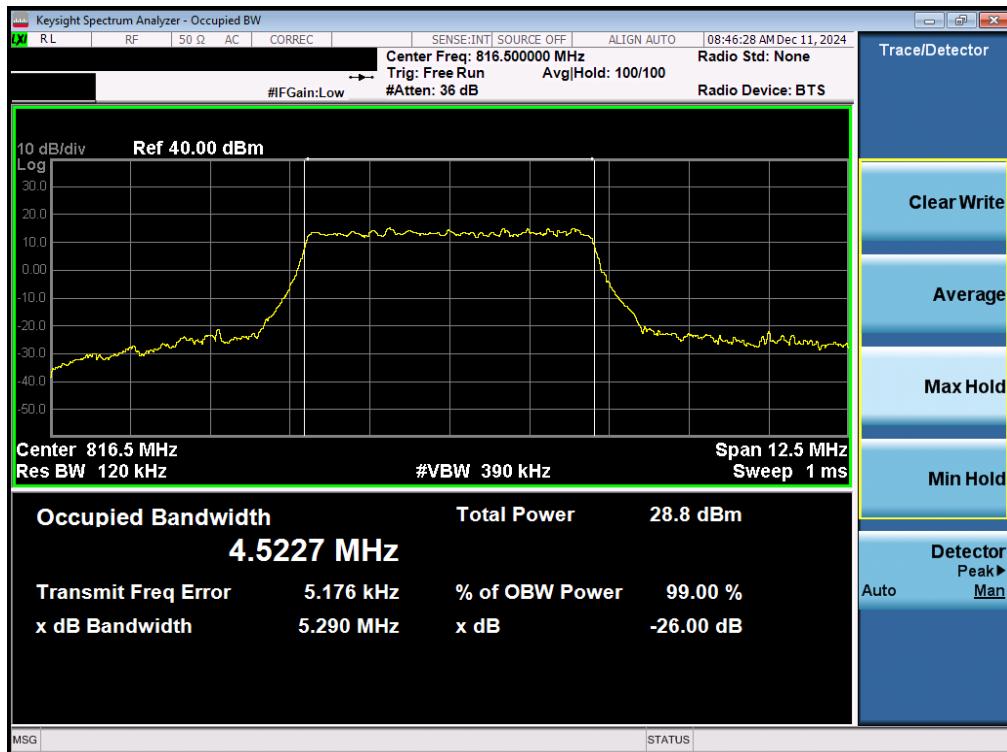


Plot 7-70. Occupied Bandwidth Plot (NR Band n26 - 10MHz 16-QAM - Full RB - Ant2)

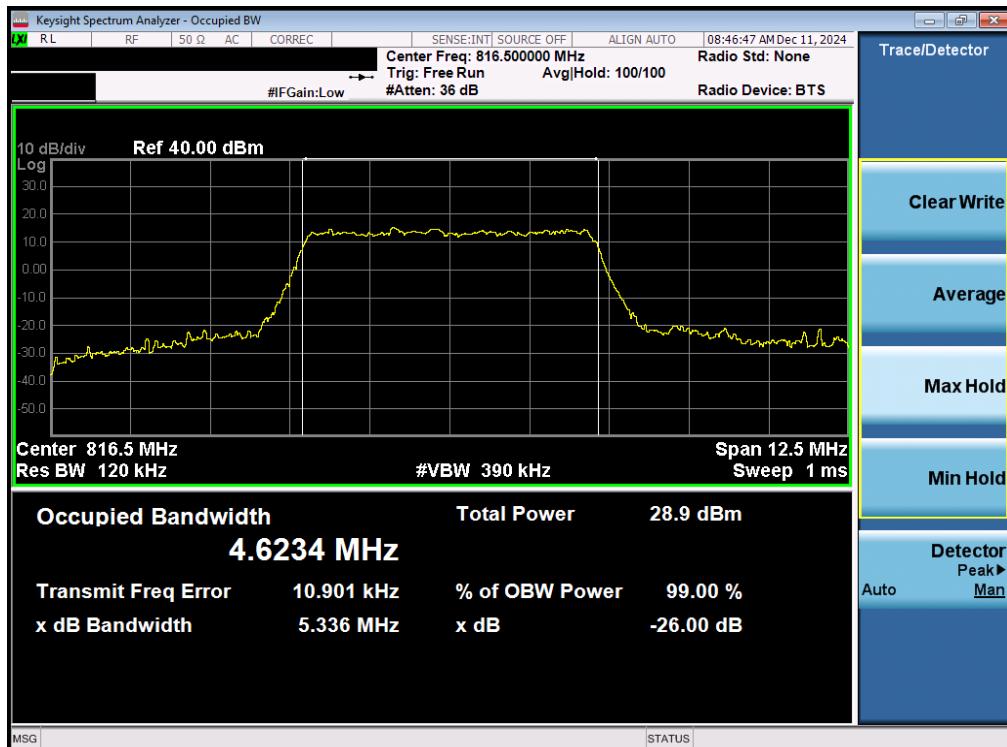


Plot 7-71. Occupied Bandwidth Plot (NR Band n26 - 5MHz BPSK - Full RB - Low Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 54 of 120

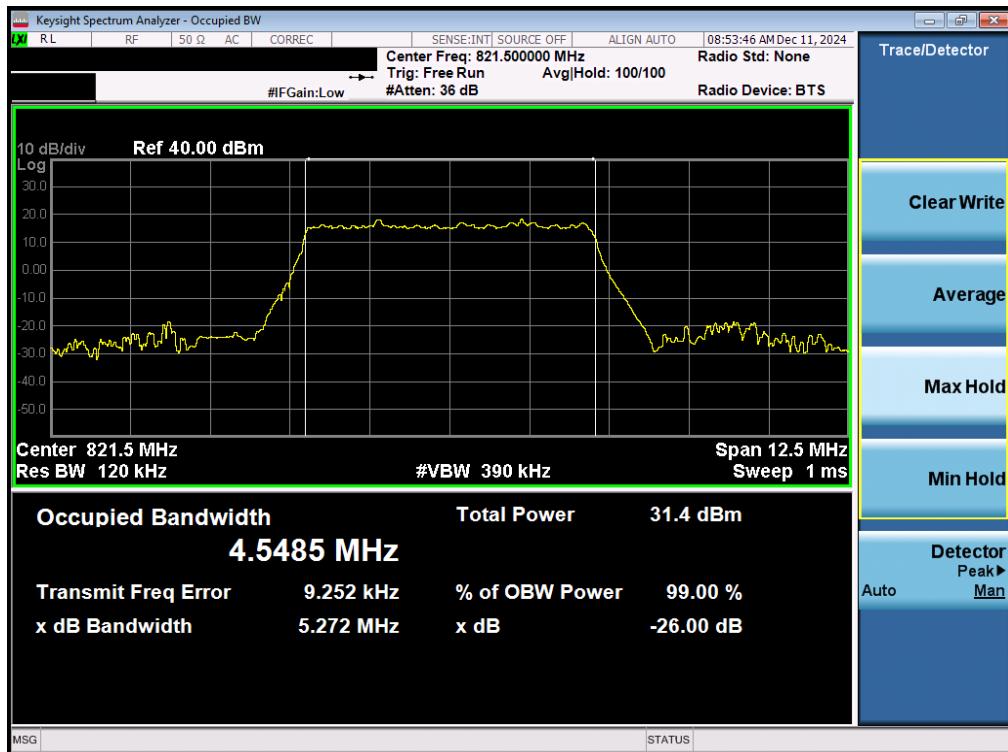


Plot 7-72. Occupied Bandwidth Plot (NR Band n26 - 5MHz QPSK - Full RB – Low Channel - Ant2)

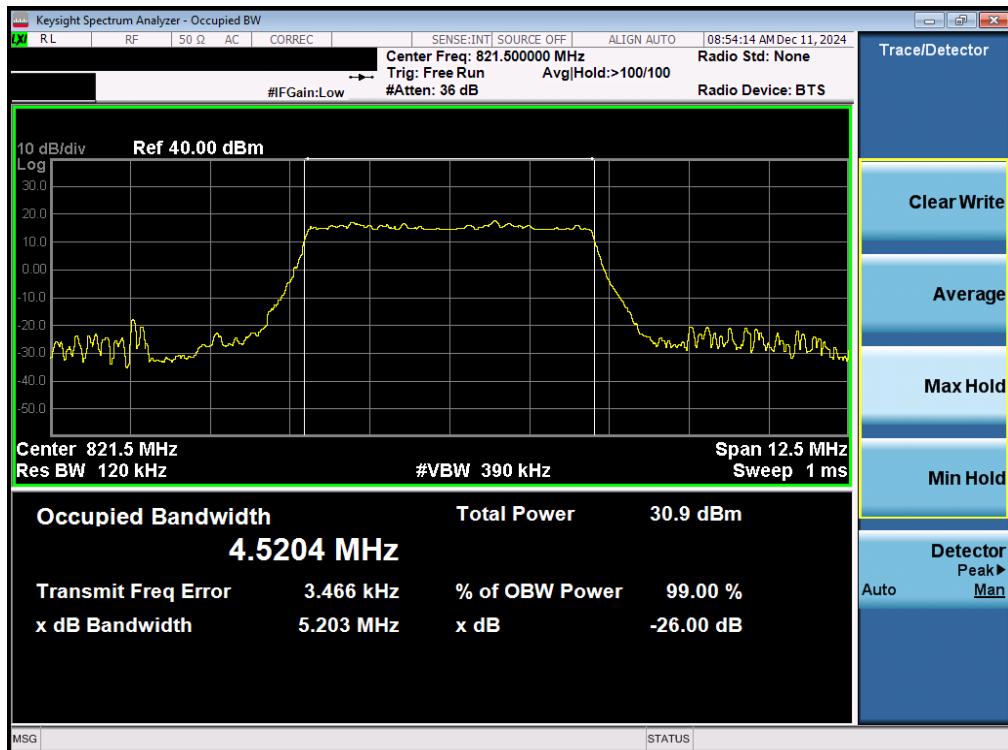


Plot 7-73. Occupied Bandwidth Plot (NR Band n26 - 5MHz 16-QAM - Full RB – Low Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 55 of 120

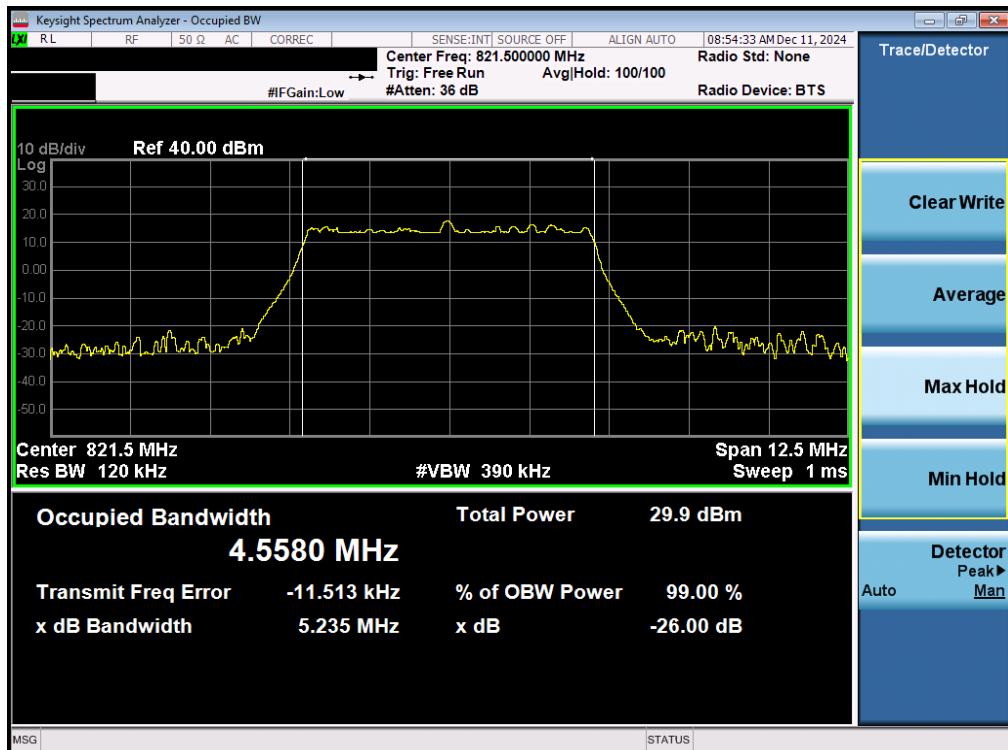


Plot 7-74. Occupied Bandwidth Plot (NR Band n26 - 5MHz BPSK - Full RB – High Channel - Ant2)



Plot 7-75. Occupied Bandwidth Plot (NR Band n26 - 5MHz QPSK - Full RB – High Channel - Ant2)

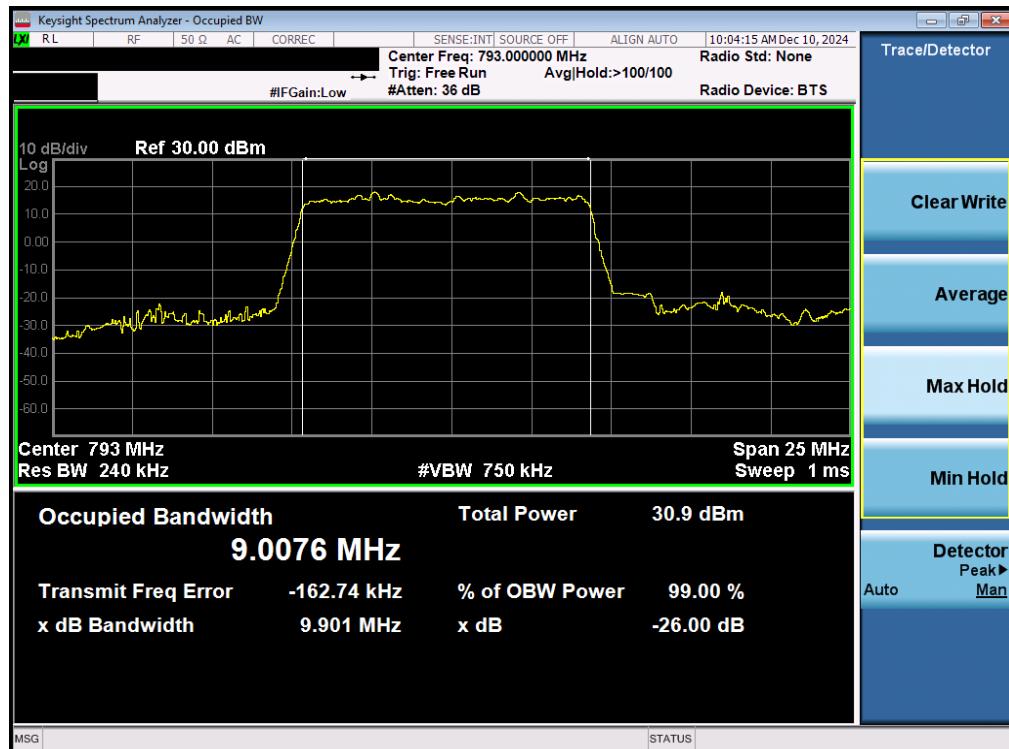
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 56 of 120



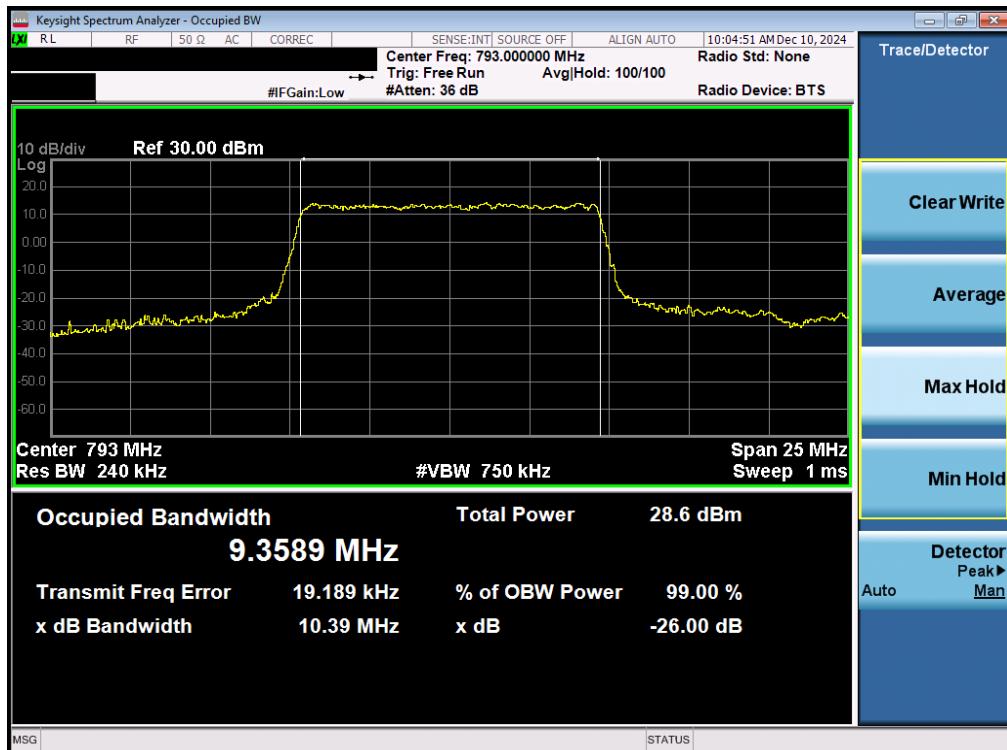
Plot 7-76. Occupied Bandwidth Plot (NR Band n26 - 5MHz 16-QAM - Full RB – High Channel - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 57 of 120

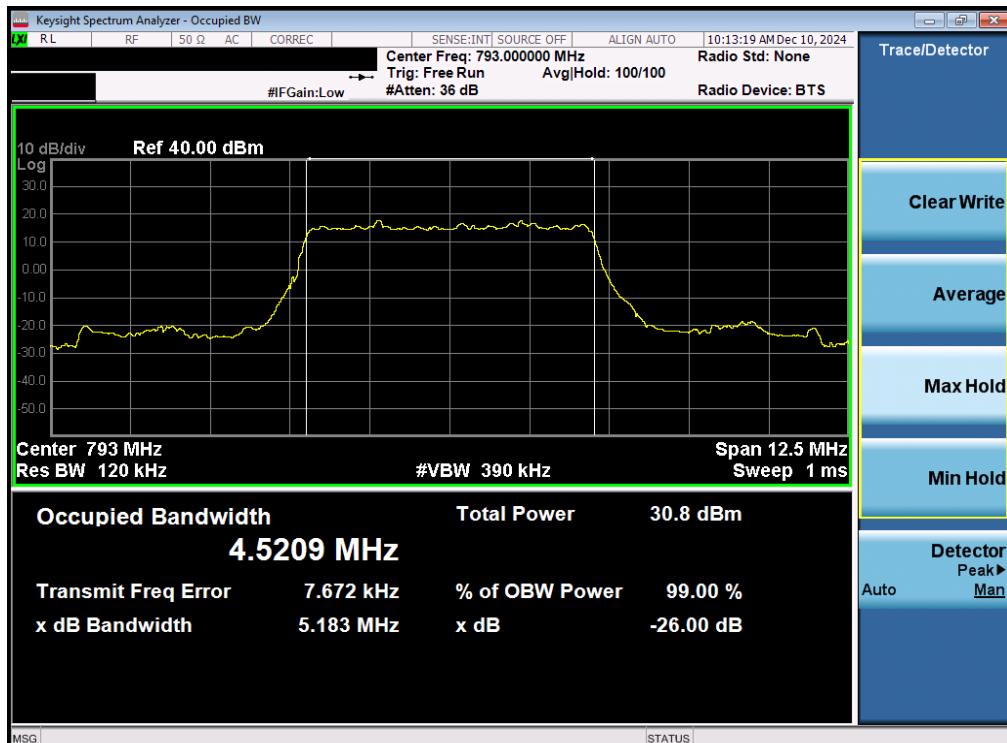
NR Band n14 – Ant2



FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 58 of 120

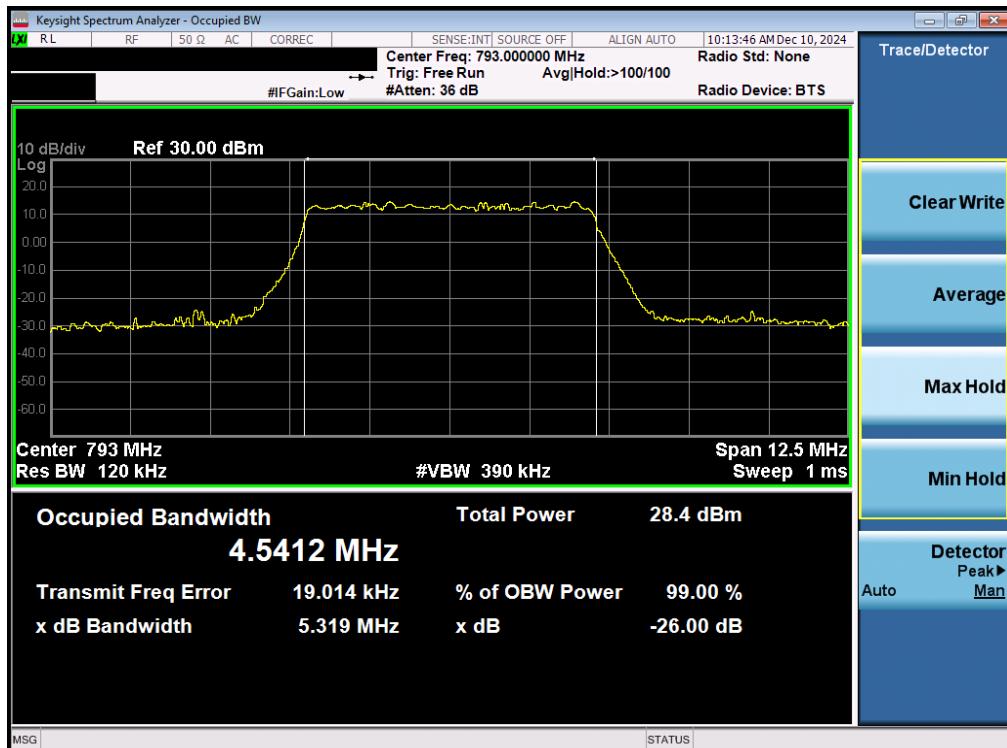


Plot 7-79. Occupied Bandwidth Plot (NR Band n14 - 10MHz 16-QAM - Full RB - Ant2)

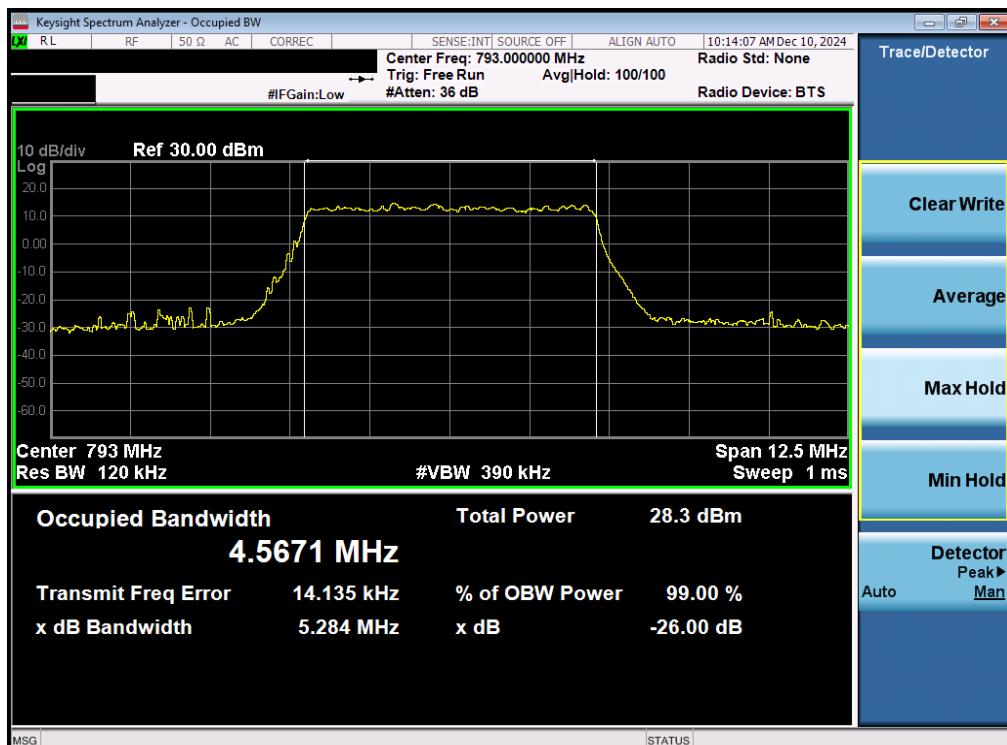


Plot 7-80. Occupied Bandwidth Plot (NR Band n14 - 5MHz π/2 BPSK - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 59 of 120



Plot 7-81. Occupied Bandwidth Plot (NR Band n14 - 5MHz QPSK - Full RB - Ant2)



Plot 7-82. Occupied Bandwidth Plot (NR Band n14 - 5MHz 16-QAM - Full RB - Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 60 of 120

7.4 Spurious and Harmonic Emissions at Antenna Terminal

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating 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.

The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

Test Procedure Used

ANSI C63.26-2015 – Section 5.7.4

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 10GHz (separated into at least two plots per channel)
2. RBW \geq 100kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = RMS
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

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

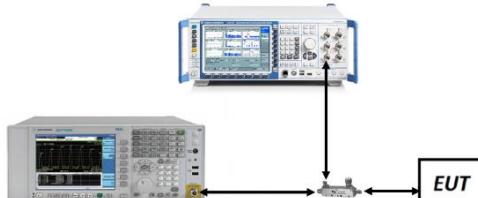


Figure 7-3. Test Instrument & Measurement Setup

Test Notes

1. Per Part 22H and 90, compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.
2. For NR operation, all subcarrier spacings (SCS) and transmission schemes (e.g. CP-OFDM and DFT-s-OFDM) 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.

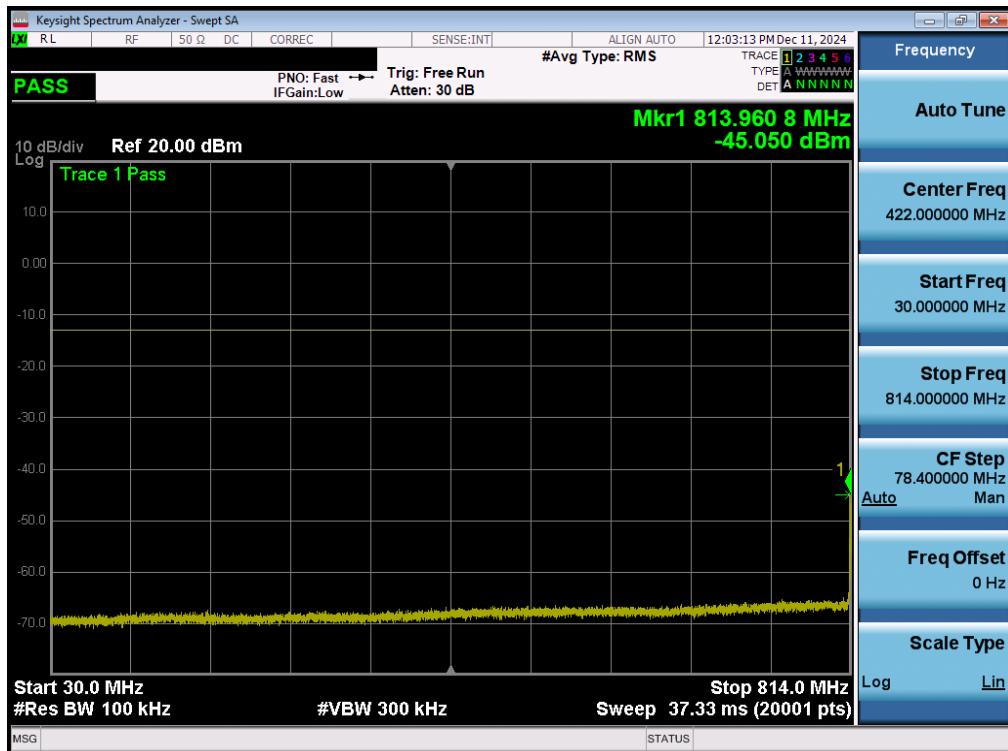
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 61 of 120

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE-B26	15 MHz	Mid	30.0 - 814.0	-45.05	-13	-32.05
		Mid	824.0 - 1000.0	-32.14	-13	-19.14
		Mid	1000.0 -10000.0	-40.97	-13	-27.97
LTE-B14	10 MHz	Mid	30.0 - 788.0	-65.82	-35	-30.82
		Mid	798.0 - 1000.0	-58.83	-35	-23.83
		Mid	1000.0 -10000.0	-41.18	-13	-28.18
NR-n26	20 MHz	Mid	30.0 - 814.0	-59.78	-13	-46.78
		Mid	824.0 - 1000.0	-53.74	-13	-40.74
		Mid	1000.0 -10000.0	-38.96	-13	-25.96
NR-n14	10 MHz	Mid	30.0 - 788.0	-62.09	-35	-27.09
		Mid	798.0 - 1000.0	-60.53	-35	-25.53
		Mid	1000.0 -10000.0	-27.74	-13	-14.74

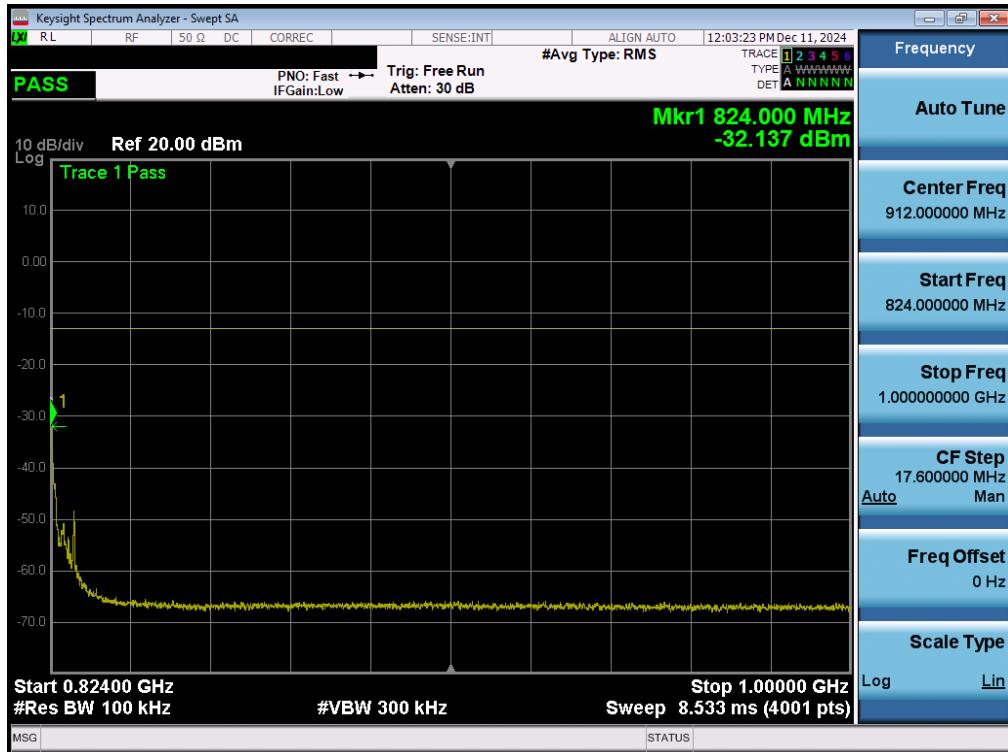
Table 7-12. Conducted Spurious Emission Results- Ant5

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		

LTE Band 26 – Ant5

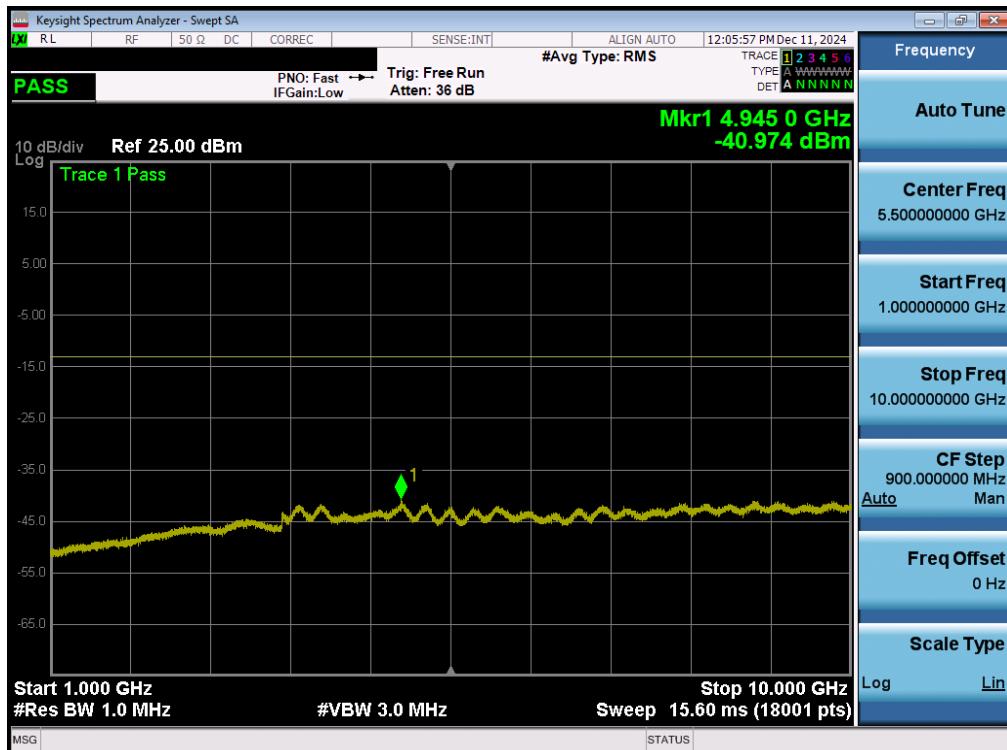


Plot 7-83. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant5)



Plot 7-84. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

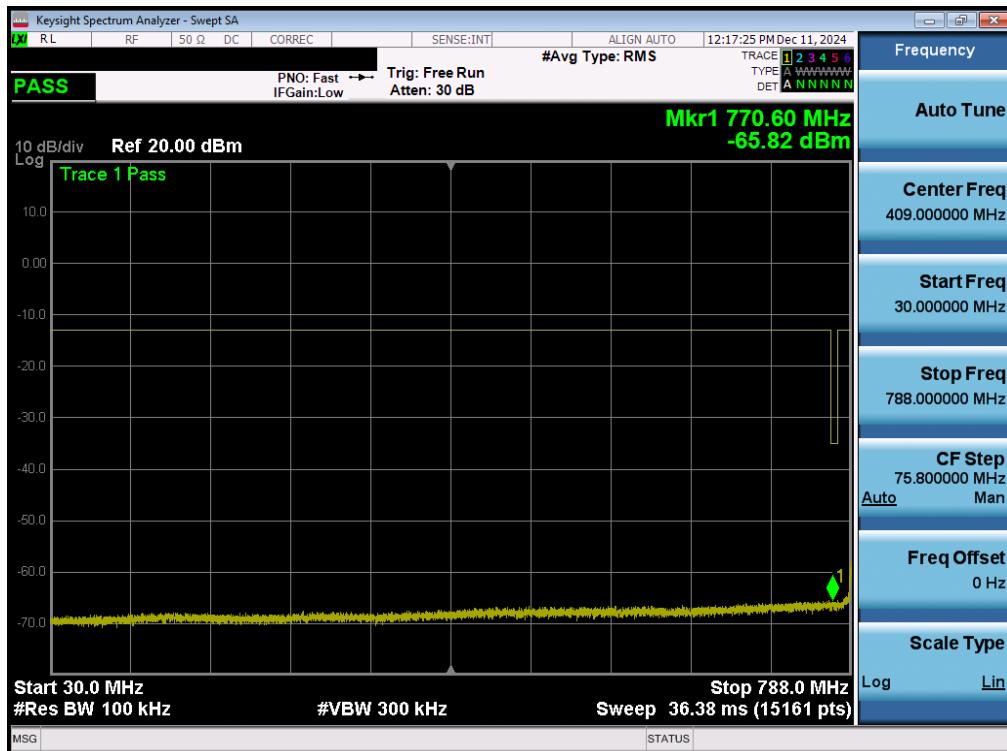
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 63 of 120



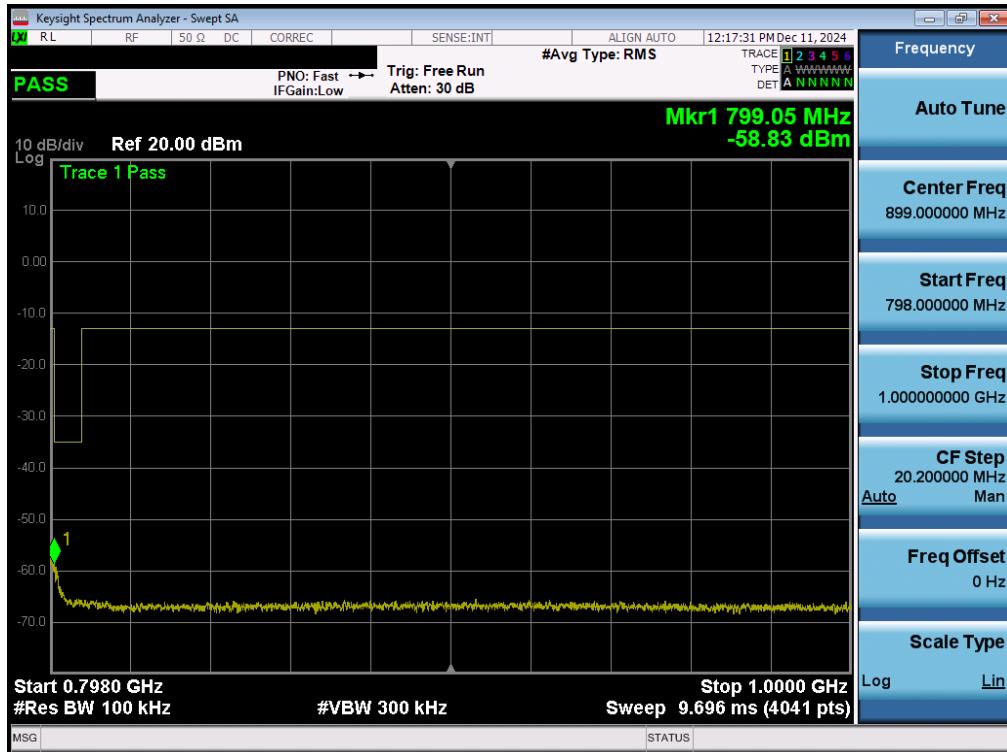
Plot 7-85. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 64 of 120

LTE Band 14 – Ant5

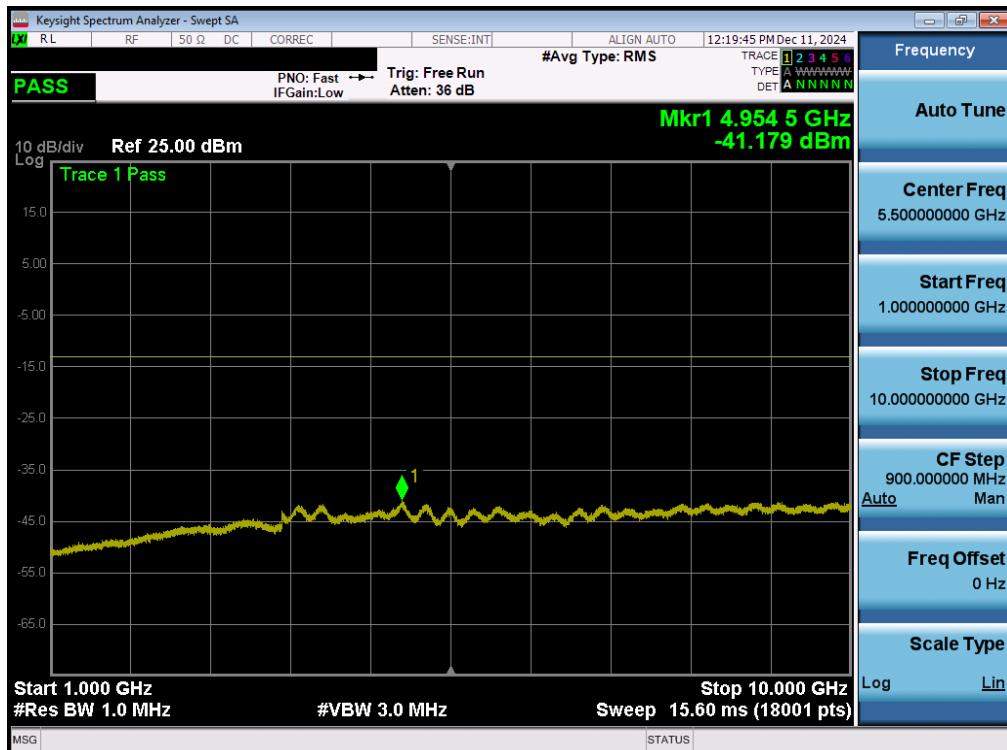


Plot 7-86. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant5)



Plot 7-87. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

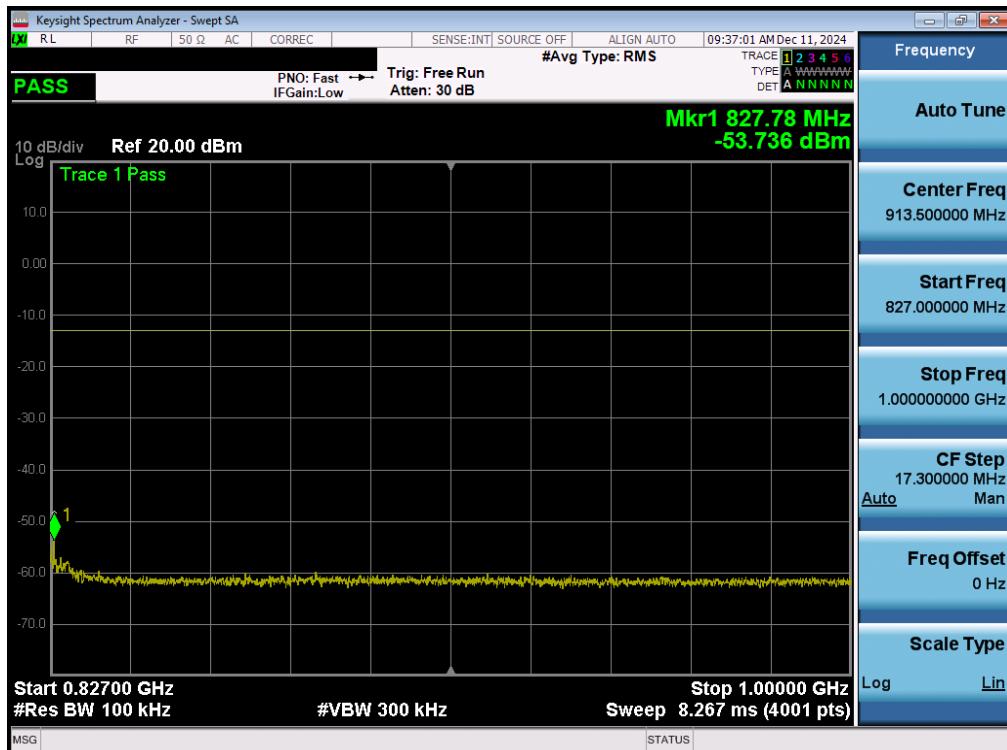
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 65 of 120



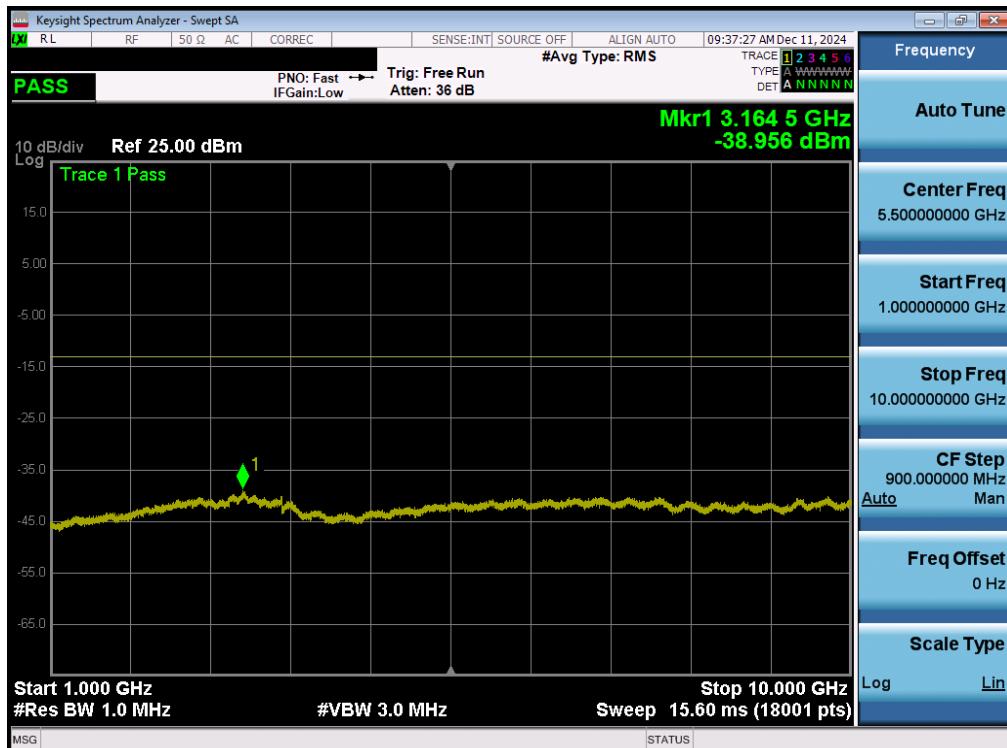
Plot 7-88. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 66 of 120

NR Band n26 – Ant5

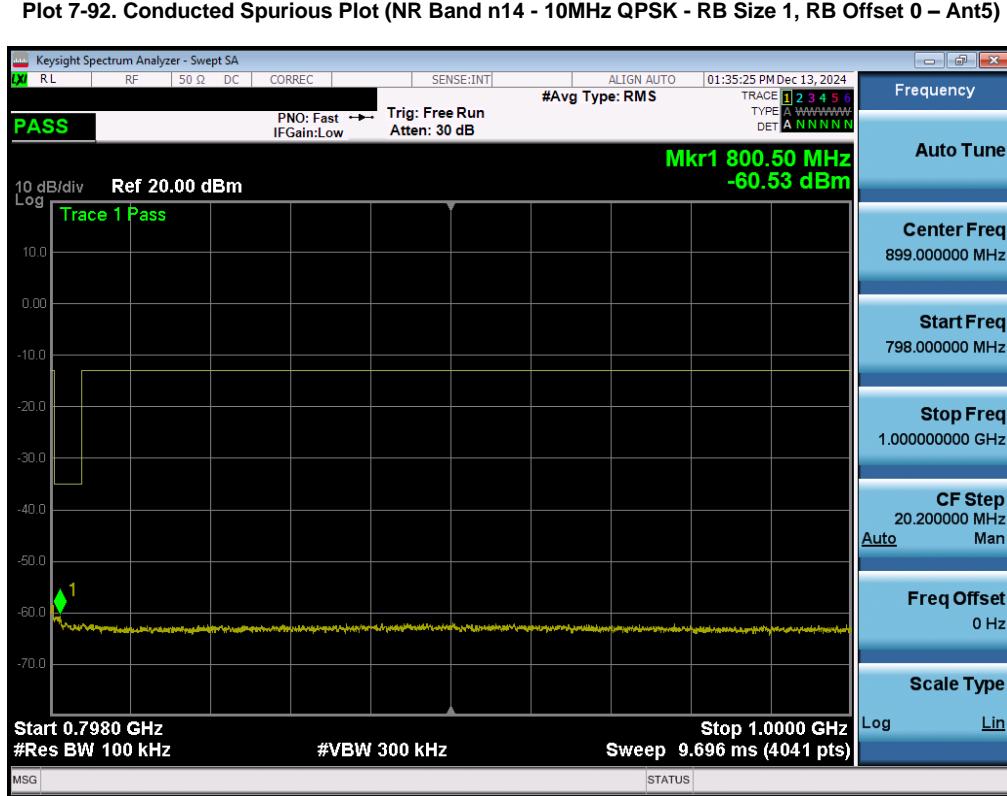
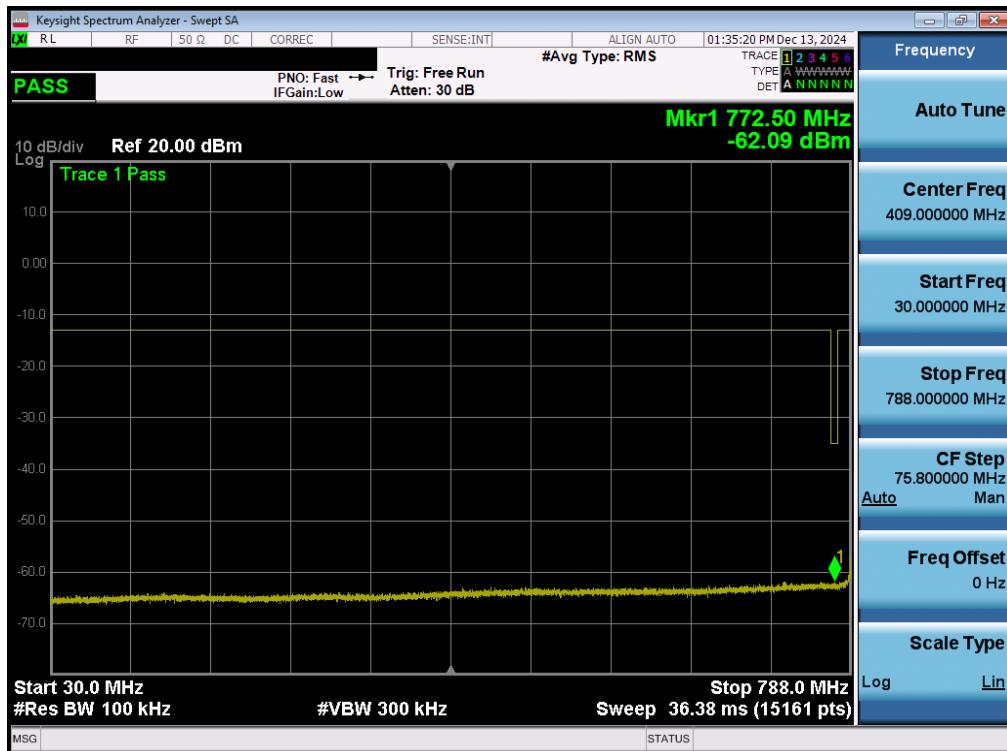
Plot 7-89. Conducted Spurious Plot (NR Band n26 - 20MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

Plot 7-90. Conducted Spurious Plot (NR Band n26 - 20MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 67 of 120

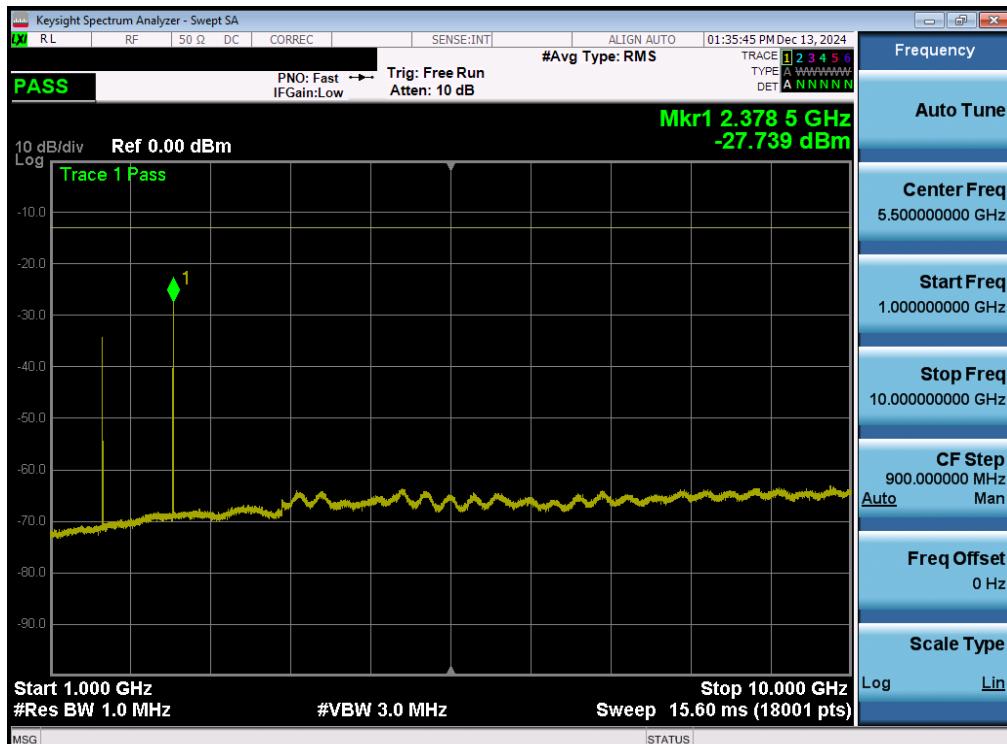


Plot 7-91. Conducted Spurious Plot (NR Band n26 - 20MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 68 of 120

NR Band n14 – Ant5


FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 69 of 120



Plot 7-94. Conducted Spurious Plot (NR Band n14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant5)

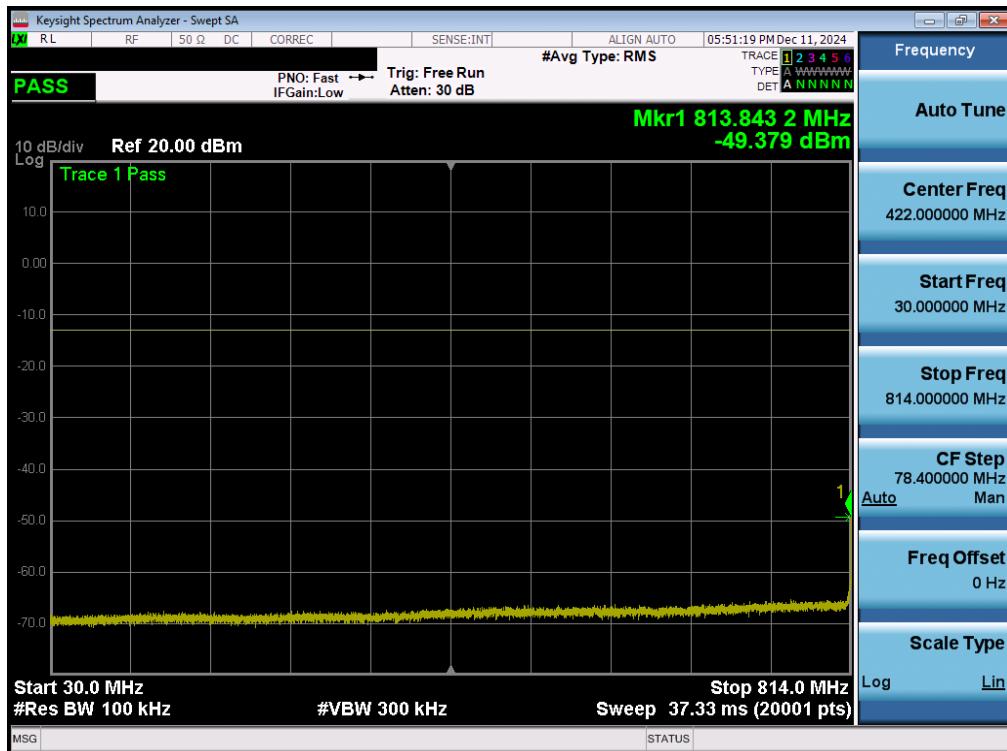
MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
FCC ID: C3K2114	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular

Mode	Bandwidth	Channel	Range [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]
LTE-B26	15 MHz	Mid	30.0 - 814.0	-49.38	-13	-36.38
		Mid	824.0 - 1000.0	-31.45	-13	-18.45
		Mid	1000.0 -10000.0	-46.93	-13	-33.93
LTE-B14	10 MHz	Mid	30.0 - 788.0	-66.16	-35	-31.16
		Mid	798.0 - 1000.0	-59.26	-35	-24.26
		Mid	1000.0 -10000.0	-47.05	-13	-34.05
NR-n26	20 MHz	Mid	30.0 - 814.0	-59.56	-13	-46.56
		Mid	824.0 - 1000.0	-54.53	-13	-41.53
		Mid	1000.0 -10000.0	-39.27	-13	-26.27
NR-n14	10 MHz	Mid	30.0 - 788.0	-60.59	-35	-25.59
		Mid	798.0 - 1000.0	-59.88	-35	-24.88
		Mid	1000.0 -10000.0	-39.31	-13	-26.31

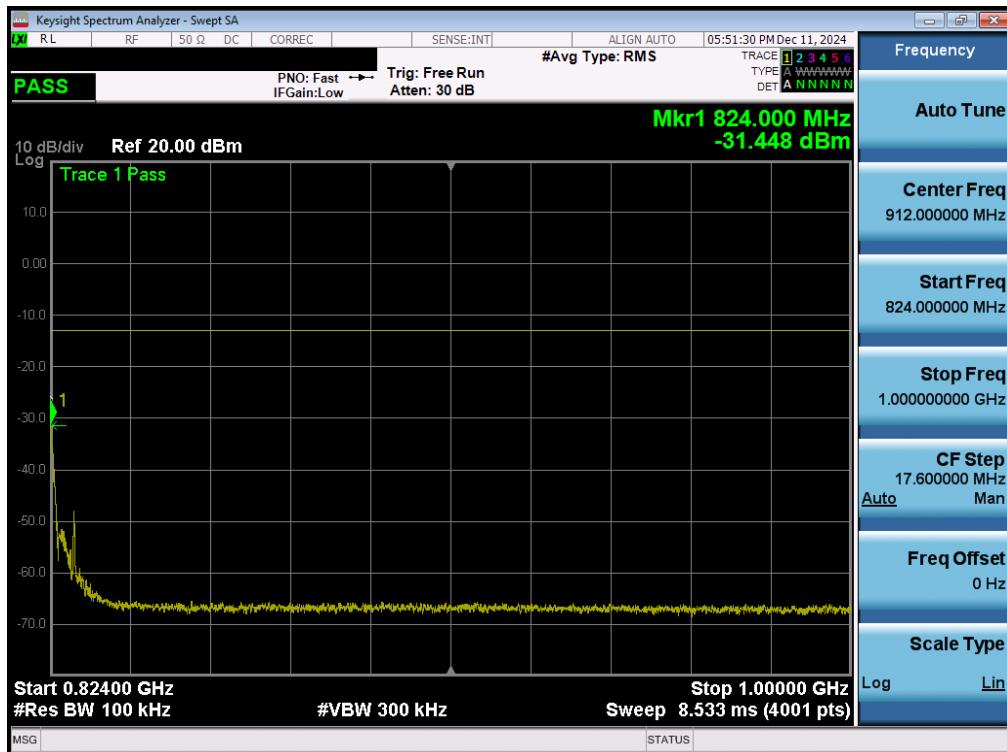
Table 7-13. Conducted Spurious Emission Results- Ant2

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		

LTE Band 26 – Ant2

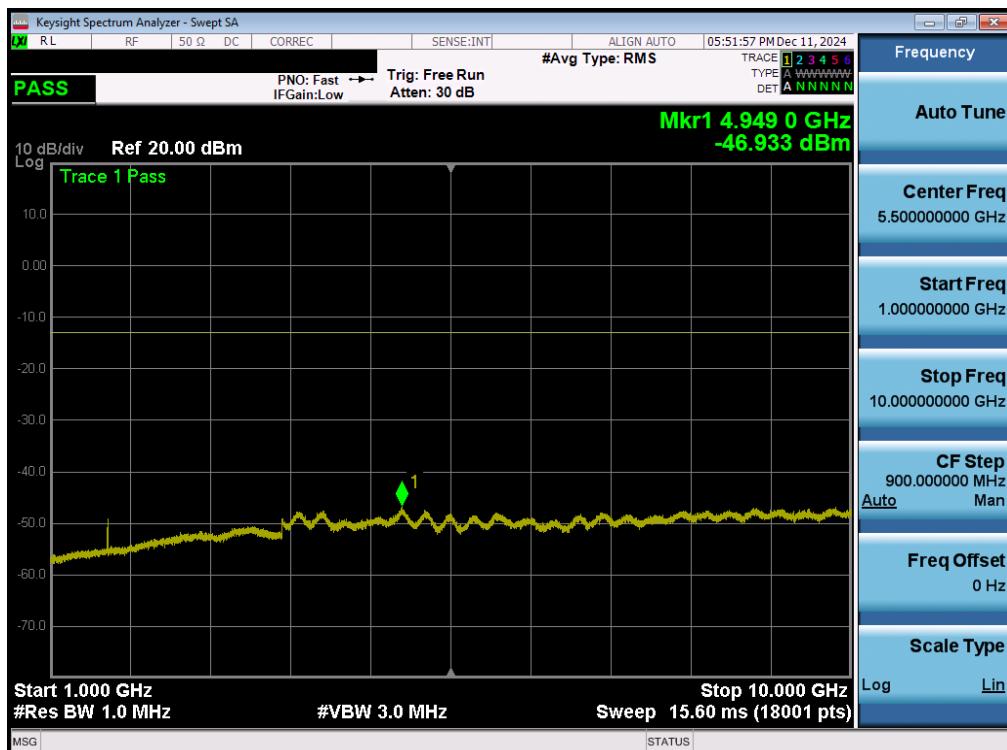


Plot 7-95. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant2)



Plot 7-96. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

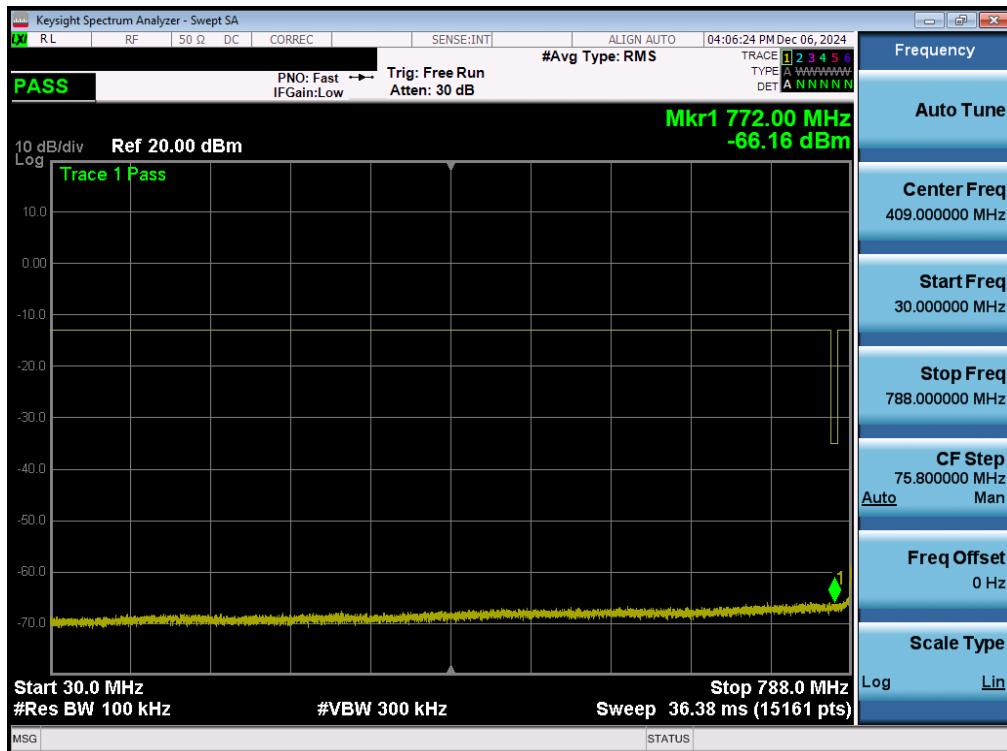
FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 72 of 120



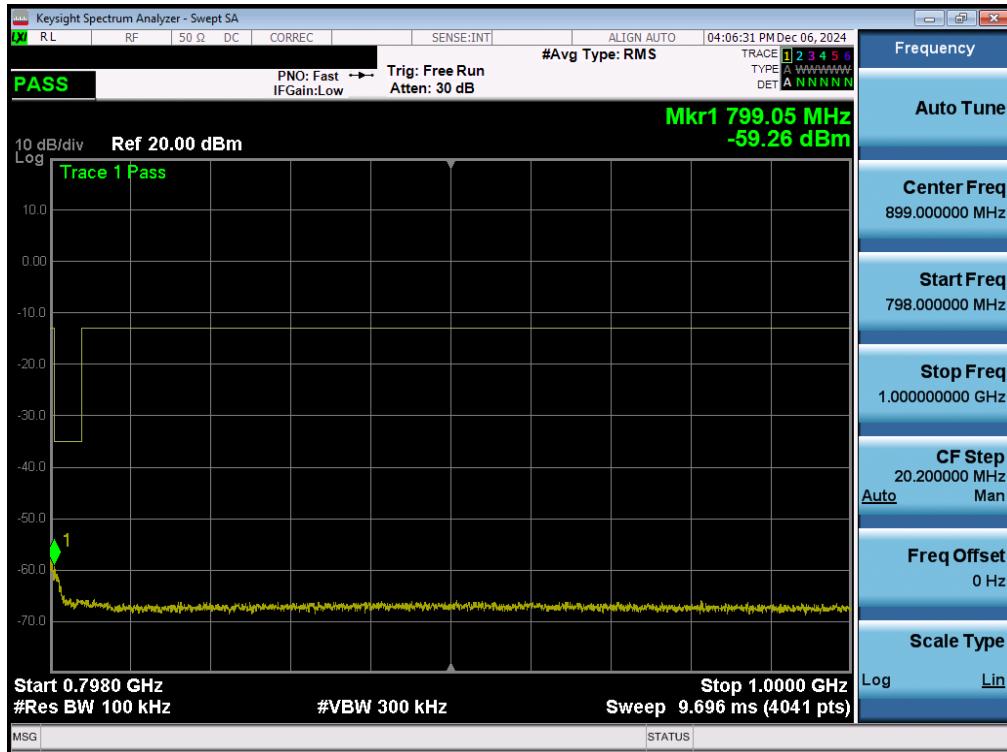
Plot 7-97. Conducted Spurious Plot (LTE Band 26 - 15MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 73 of 120

LTE Band 14 – Ant2

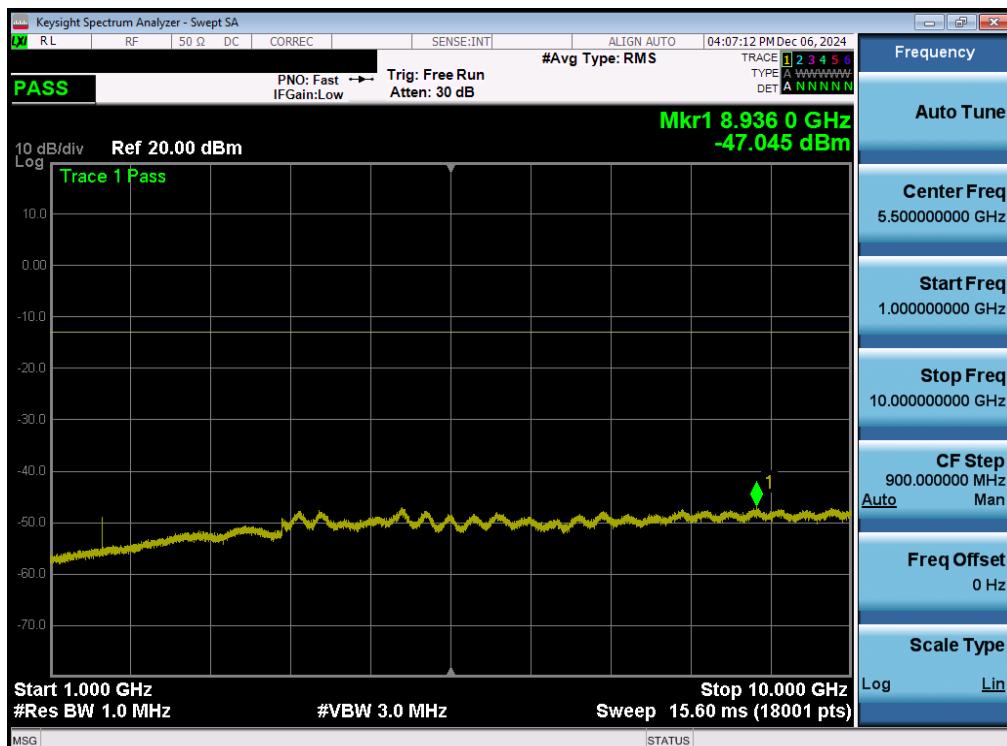


Plot 7-98. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant2)



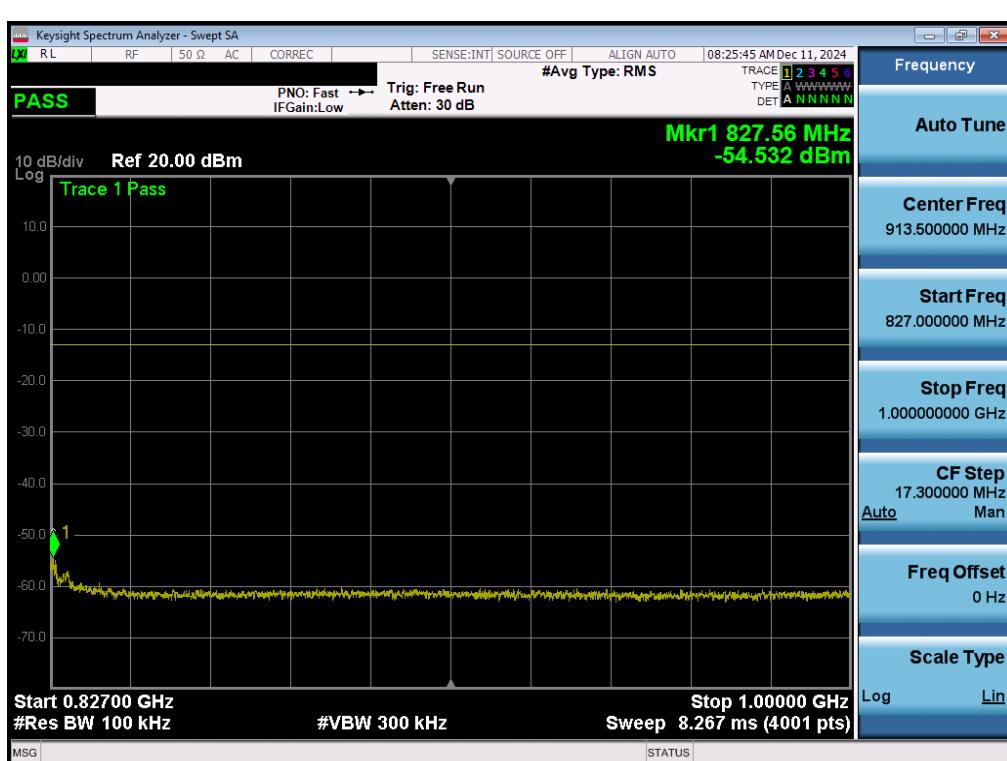
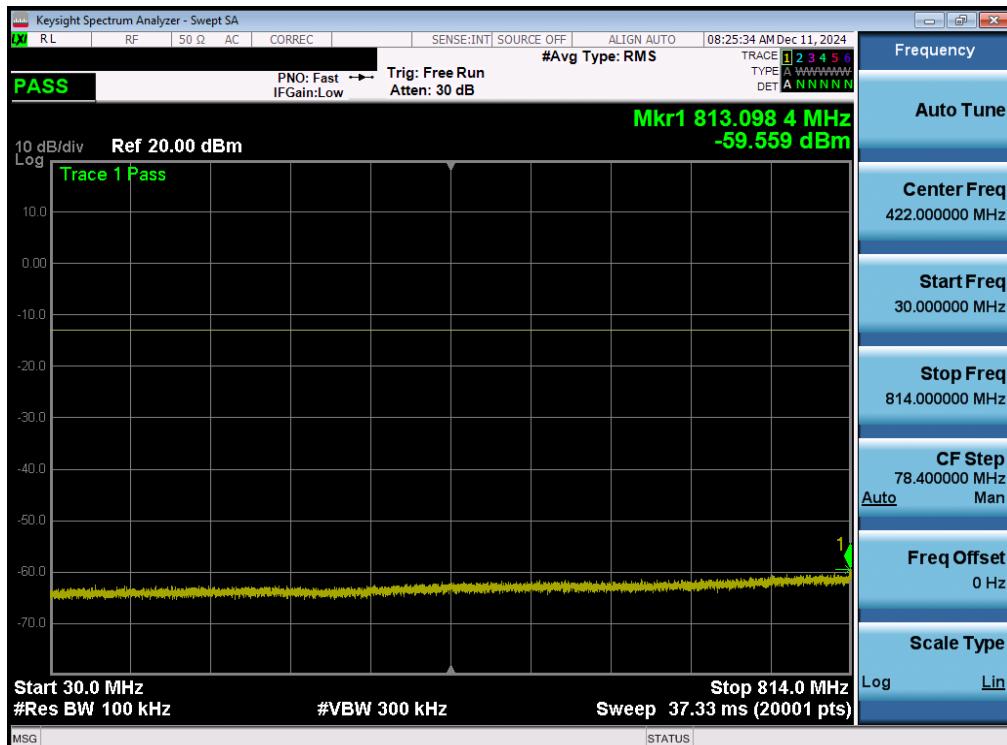
Plot 7-99. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 74 of 120

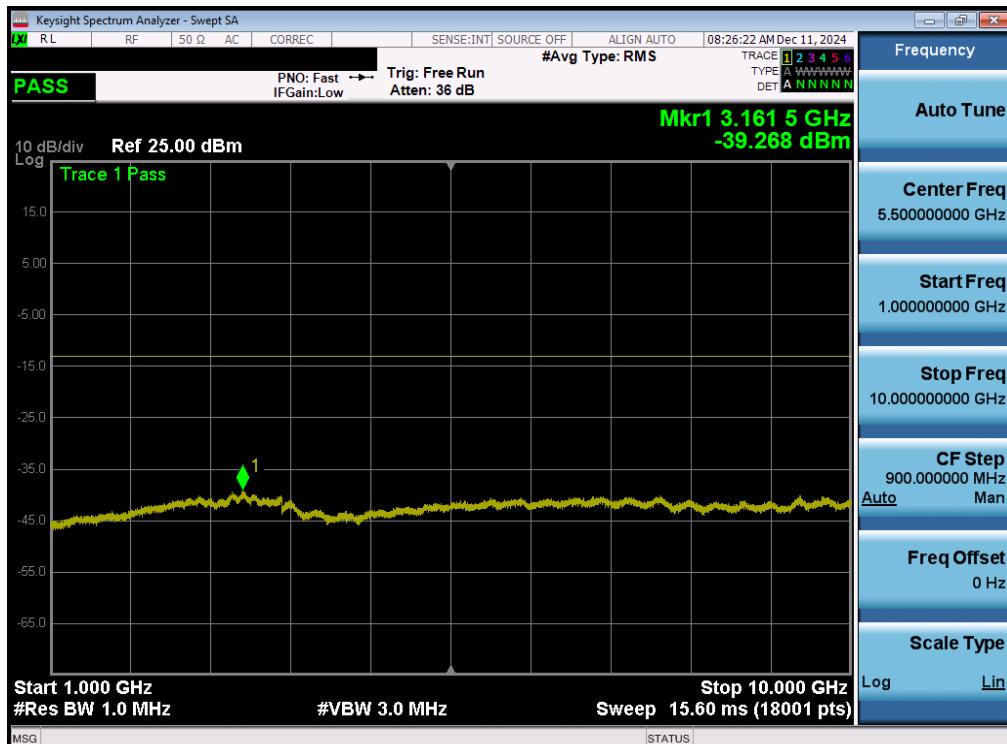


Plot 7-100. Conducted Spurious Plot (LTE Band 14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 75 of 120

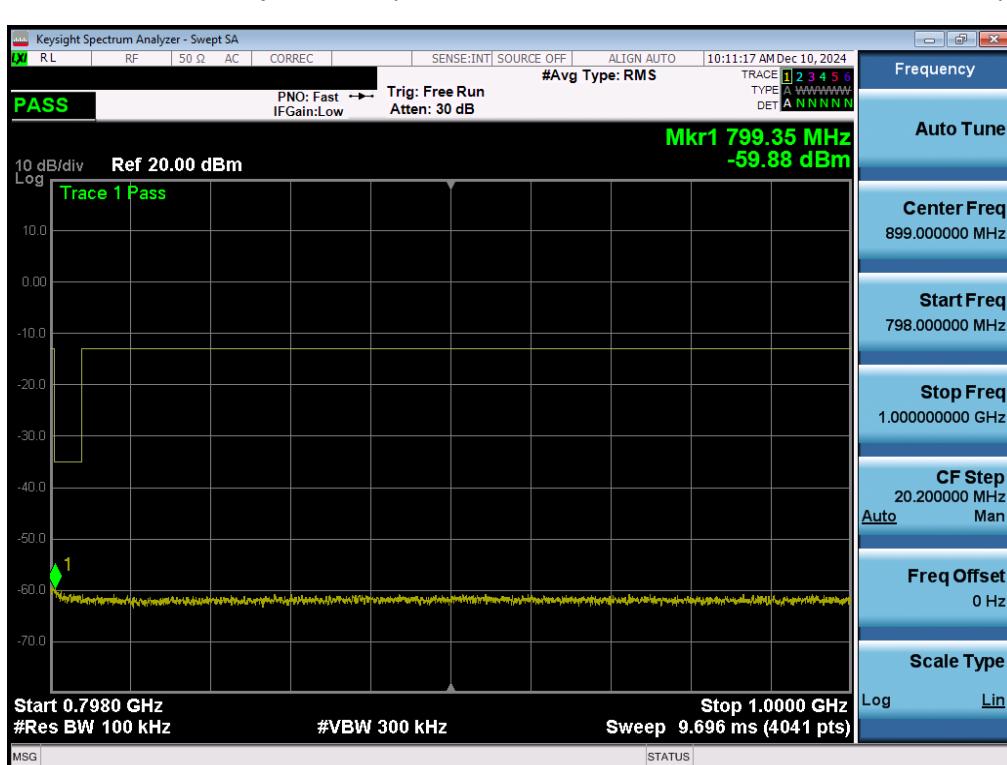
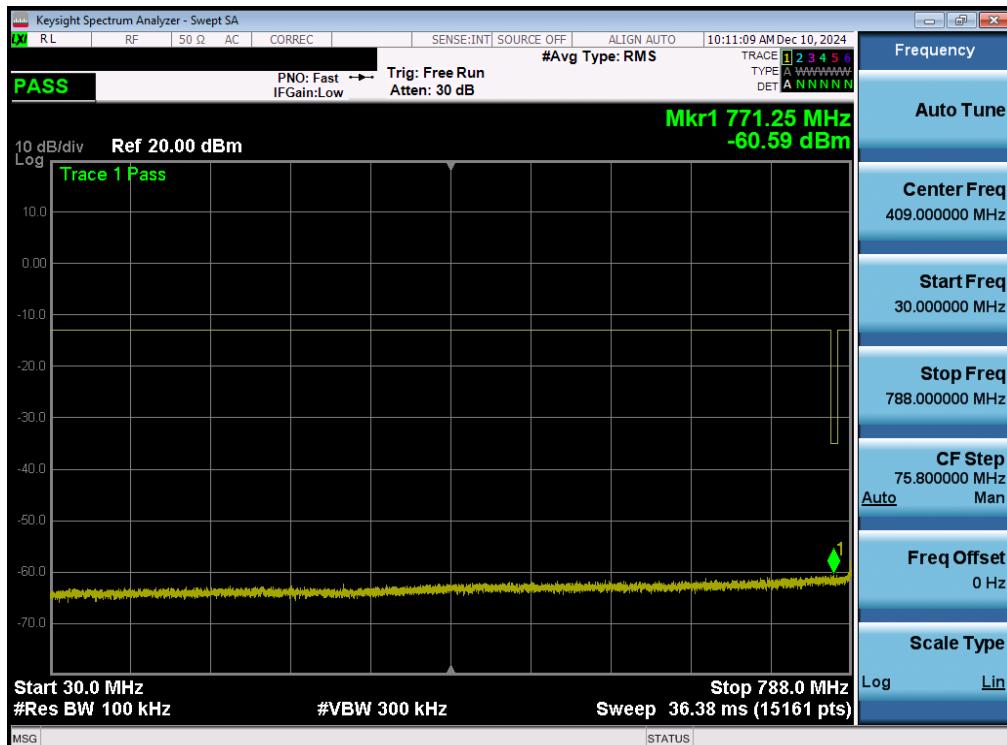
NR Band n26 – Ant2


FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular		Page 76 of 120

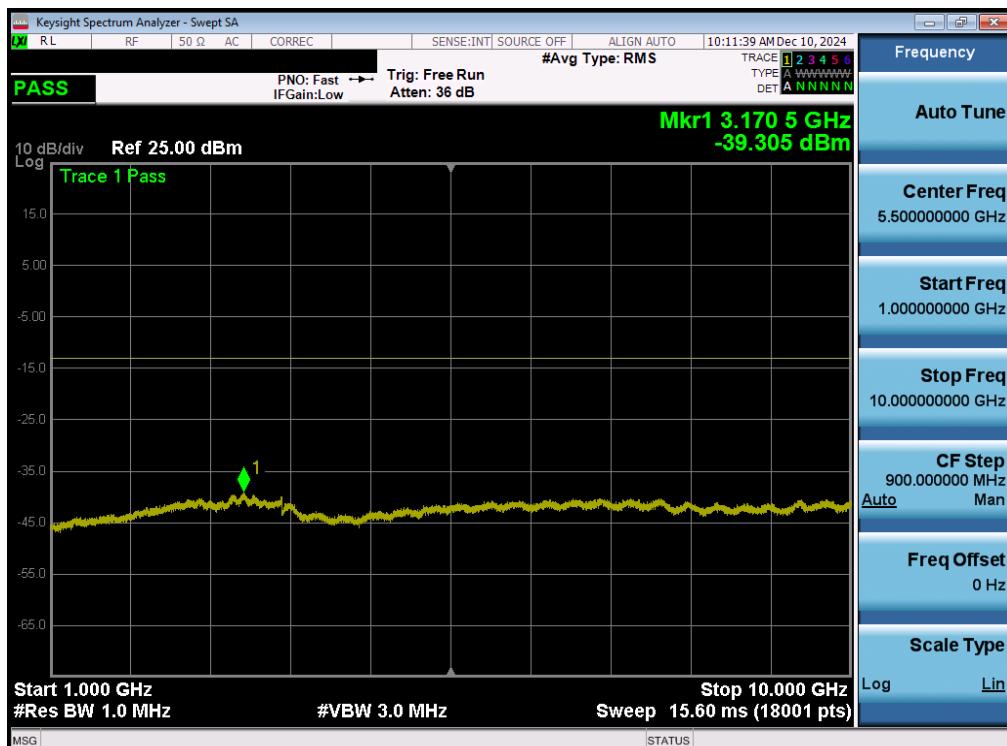


Plot 7-103. Conducted Spurious Plot (NR Band n26 - 20MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 77 of 120

NR Band n14 – Ant2


FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 78 of 120



Plot 7-106. Conducted Spurious Plot (NR Band n14 - 10MHz QPSK - RB Size 1, RB Offset 0 – Ant2)

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 79 of 120

7.5 Band Edge Emissions at Antenna Terminal

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating 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.

For LTE B26 operation under Part 90.691, the minimum permissible attenuation level of any spurious emission removed from the EA licensee's frequency block by greater than 37.5 kHz is $43 + 10\log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts. The minimum permissible attenuation level of any spurious emission removed from the EA licensee's frequency block by up to and including 37.5 kHz is $50 + 10\log_{10}(P[\text{Watts}])$, where P is the transmitter power in Watts.

For LTE Band 14 operation under Part 90.543, the power of any emission must be reduced below the mean output power (P) by at least $43 + 10\log(P)$ dB measured in a 100 kHz bandwidth for frequencies less than 1 GHz, and in a 1 MHz bandwidth for frequencies greater than 1 GHz.

Additionally, for LTE Band 14 operation, on all frequencies between 769-775 MHz and 799-805 MHz, the power of any emission shall be attenuated by a factor not less than $65 + 10 \log(P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.

Test Procedure Used

ANSI C63.26-2015 – Section 5.7.3

Test Settings

1. Span was set large enough so as to capture all out of band emissions near the band edge
2. RBW = 100 kHz
3. VBW = 300 kHz
4. Detector = RMS
5. Trace mode = trace average
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

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

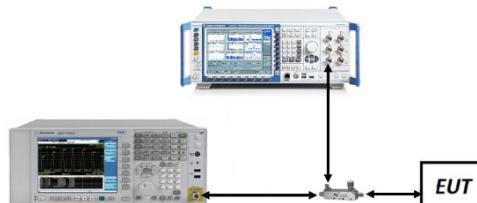


Figure 7-4. Test Instrument & Measurement Setup

FCC ID: C3K2114	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2411190103-06-R1.C3K	Test Dates: 12/3/2024 - 2/14/2025	EUT Type: Full Modular	Page 80 of 120