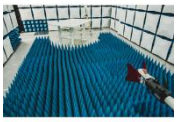
Element Materials Technology
(formerly PCTEST)
18855 Adams Court, Morgan Hill, CA 95037 USA
Tel. 410.290.6652 / Fax 410.290.6654
http://www.element.com



PART 27 MEASUREMENT REPORT

Applicant Name:
Apple Inc.
One Apple Park Way
Cupertino, CA 95014
United States

Date of Testing:
7/1/2024 - 12/26/2024
Test Report Issue Date:
1/29/2025
Test Site/Location:
Element Materials Technology, Morgan Hill, CA, USA
Test Report Serial No.:
1C2410210075-11.BCG

FCC ID:	**BCGA3269**
Applicant Name:	**Apple Inc.**

Application Type:	Certification
Model:	A3269, A3271
EUT Type:	Tablet Device
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part:	27
Test Procedure(s):	ANSI C63.26-2015, TIA-603-E-2016, KDB 971168 D01 v03r01

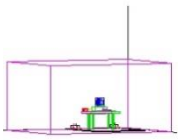
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

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

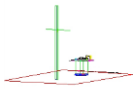
RJ Ortanez
Executive Vice President

ACCREDITED
CERT #2041.02

TABLE OF CONTENTS



PART 27 MEASUREMENT REPORT



Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	PAR at 0.1% [dB]	EIRP		Emission Designator
						Max. Power [W]	Max. Power [dBm]	
NR Band n77 (PC2) (3450 - 3550MHz)	10 MHz	π/2 BPSK	3455.0 - 3545.0	8.624	4.21	0.813	29.10	8M62G7W
		QPSK	3455.0 - 3545.0	8.955	5.56	0.809	29.08	8M96G7W
		16QAM	3455.0 - 3545.0	8.994	6.37	0.640	28.06	8M99D7W
		64QAM	3455.0 - 3545.0	8.999	6.89	0.516	27.13	9M00D7W
		256QAM	3455.0 - 3545.0	8.998	6.57	0.267	24.27	9M00D7W
	15 MHz	π/2 BPSK	3457.5 - 3542.5	12.925	4.17	0.807	29.07	12M9G7W
		QPSK	3457.5 - 3542.5	13.633	5.46	0.813	29.10	13M6G7W
		16QAM	3457.5 - 3542.5	13.570	6.29	0.647	28.11	13M6D7W
		64QAM	3457.5 - 3542.5	13.568	6.43	0.512	27.09	13M6D7W
		256QAM	3457.5 - 3542.5	13.569	6.62	0.263	24.20	13M6D7W
	20 MHz	π/2 BPSK	3460.0 - 3540.0	17.913	4.09	0.813	29.10	17M9G7W
		QPSK	3460.0 - 3540.0	18.340	5.43	0.804	29.05	18M3G7W
		16QAM	3460.0 - 3540.0	18.276	6.29	0.644	28.09	18M3D7W
		64QAM	3460.0 - 3540.0	18.204	6.58	0.513	27.10	18M2D7W
		256QAM	3460.0 - 3540.0	18.288	6.45	0.263	24.20	18M3D7W
	30MHz	π/2 BPSK	3465.0 - 3535.0	26.881	4.21	0.807	29.07	26M9G7W
		QPSK	3465.0 - 3535.0	27.895	5.46	0.813	29.10	27M9G7W
		16QAM	3465.0 - 3535.0	28.007	6.20	0.649	28.12	28M0D7W
		64QAM	3465.0 - 3535.0	27.929	6.62	0.515	27.12	27M9D7W
		256QAM	3465.0 - 3535.0	27.965	6.60	0.265	24.23	28M0D7W
	40 MHz	π/2 BPSK	3470.0 - 3530.0	35.896	4.14	0.813	29.10	35M9G7W
		QPSK	3470.0 - 3530.0	37.934	5.41	0.804	29.05	37M9G7W
		16QAM	3470.0 - 3530.0	37.955	6.29	0.652	28.14	38M0D7W
		64QAM	3470.0 - 3530.0	38.014	6.61	0.522	27.18	38M0D7W
		256QAM	3470.0 - 3530.0	37.929	6.69	0.264	24.21	37M9D7W
	50 MHz	π/2 BPSK	3475.0 - 3525.0	45.816	3.91	0.807	29.07	45M8G7W
		QPSK	3475.0 - 3525.0	47.565	5.29	0.813	29.10	47M6G7W
		16QAM	3475.0 - 3525.0	47.645	6.04	0.650	28.13	47M6D7W
		64QAM	3475.0 - 3525.0	47.481	6.45	0.511	27.08	47M5D7W
		256QAM	3475.0 - 3525.0	47.521	6.71	0.265	24.24	47M5D7W
	60 MHz	π/2 BPSK	3480.0 - 3520.0	57.839	4.03	0.813	29.10	57M8G7W
		QPSK	3480.0 - 3520.0	57.893	5.33	0.813	29.10	57M9G7W
		16QAM	3480.0 - 3520.0	57.904	6.22	0.649	28.12	57M9D7W
		64QAM	3480.0 - 3520.0	57.881	6.49	0.512	27.09	57M9D7W
		256QAM	3480.0 - 3520.0	57.913	6.77	0.257	24.10	57M9D7W
	70 MHz	π/2 BPSK	3485.0 - 3515.0	64.548	4.40	0.813	29.10	64M5G7W
		QPSK	3485.0 - 3515.0	67.610	5.60	0.813	29.10	67M6G7W
		16QAM	3485.0 - 3515.0	67.450	6.38	0.647	28.11	67M5D7W
		64QAM	3485.0 - 3515.0	67.578	6.59	0.500	26.99	67M6D7W
		256QAM	3485.0 - 3515.0	67.515	6.69	0.264	24.21	67M5D7W
	80 MHz	π/2 BPSK	3490.0 - 3510.0	77.419	4.06	0.813	29.10	77M4G7W
		QPSK	3490.0 - 3510.0	77.667	5.38	0.811	29.09	77M7G7W
		16QAM	3490.0 - 3510.0	77.812	6.19	0.649	28.12	77M8D7W
		64QAM	3490.0 - 3510.0	77.830	6.44	0.519	27.15	77M8D7W
		256QAM	3490.0 - 3510.0	77.843	6.66	0.265	24.24	77M8D7W
	90 MHz	π/2 BPSK	3495.0 - 3505.0	87.071	4.04	0.813	29.10	87M1G7W
		QPSK	3495.0 - 3505.0	87.923	5.41	0.813	29.10	87M9G7W
		16QAM	3495.0 - 3505.0	87.525	6.26	0.646	28.10	87M5D7W
		64QAM	3495.0 - 3505.0	87.638	6.65	0.512	27.09	87M6D7W
		256QAM	3495.0 - 3505.0	87.586	6.73	0.262	24.19	87M6D7W
	100 MHz	π/2 BPSK	3500	96.555	4.07	0.793	28.99	96M6G7W
		QPSK	3500	97.598	5.45	0.783	28.94	97M6G7W
		16QAM	3500	97.676	6.32	0.640	28.06	97M7D7W
		64QAM	3500	97.699	6.52	0.515	27.12	97M7D7W
		256QAM	3500	97.664	6.70	0.260	24.15	97M7D7W

EUT Overview

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	PAR at 0.1% [dB]	EIRP		Emission Designator
						Max. Power [W]	Max. Power [dBm]	
NR Band n77 (PC3) (3450 - 3550MHz)	10 MHz	π/2 BPSK	3455.0 - 3545.0	8.624	4.21	0.601	27.79	8M62G7W
		QPSK	3455.0 - 3545.0	8.955	5.56	0.603	27.80	8M96G7W
		16QAM	3455.0 - 3545.0	8.994	6.37	0.478	26.79	8M99D7W
		64QAM	3455.0 - 3545.0	8.999	6.89	0.379	25.79	9M00D7W
		256QAM	3455.0 - 3545.0	8.998	6.57	0.195	22.89	9M00D7W
	15 MHz	π/2 BPSK	3457.5 - 3542.5	12.925	4.17	0.603	27.80	12M9G7W
		QPSK	3457.5 - 3542.5	13.633	5.46	0.601	27.79	13M6G7W
		16QAM	3457.5 - 3542.5	13.570	6.29	0.479	26.80	13M6D7W
		64QAM	3457.5 - 3542.5	13.568	6.43	0.379	25.79	13M6D7W
		256QAM	3457.5 - 3542.5	13.569	6.62	0.195	22.89	13M6D7W
	20 MHz	π/2 BPSK	3460.0 - 3540.0	17.913	4.09	0.597	27.76	17M9G7W
		QPSK	3460.0 - 3540.0	18.340	5.43	0.603	27.80	18M3G7W
		16QAM	3460.0 - 3540.0	18.276	6.29	0.468	26.70	18M3D7W
		64QAM	3460.0 - 3540.0	18.204	6.58	0.378	25.78	18M2D7W
		256QAM	3460.0 - 3540.0	18.288	6.45	0.184	22.64	18M3D7W
	30MHz	π/2 BPSK	3465.0 - 3535.0	26.881	4.21	0.598	27.77	26M9G7W
		QPSK	3465.0 - 3535.0	27.895	5.46	0.603	27.80	27M9G7W
		16QAM	3465.0 - 3535.0	28.007	6.20	0.474	26.76	28M0D7W
		64QAM	3465.0 - 3535.0	27.929	6.62	0.381	25.81	27M9D7W
		256QAM	3465.0 - 3535.0	27.965	6.60	0.195	22.91	28M0D7W
	40 MHz	π/2 BPSK	3470.0 - 3530.0	35.896	4.14	0.603	27.80	35M9G7W
		QPSK	3470.0 - 3530.0	37.934	5.41	0.598	27.77	37M9G7W
		16QAM	3470.0 - 3530.0	37.955	6.29	0.478	26.79	38M0D7W
		64QAM	3470.0 - 3530.0	38.014	6.61	0.372	25.71	38M0D7W
		256QAM	3470.0 - 3530.0	37.929	6.69	0.194	22.87	37M9D7W
	50 MHz	π/2 BPSK	3475.0 - 3525.0	45.816	3.91	0.603	27.80	45M8G7W
		QPSK	3475.0 - 3525.0	47.565	5.29	0.600	27.78	47M6G7W
		16QAM	3475.0 - 3525.0	47.645	6.04	0.471	26.73	47M6D7W
		64QAM	3475.0 - 3525.0	47.481	6.45	0.378	25.78	47M5D7W
		256QAM	3475.0 - 3525.0	47.521	6.71	0.192	22.83	47M5D7W
	60 MHz	π/2 BPSK	3480.0 - 3520.0	57.839	4.03	0.603	27.80	57M8G7W
		QPSK	3480.0 - 3520.0	57.893	5.33	0.583	27.66	57M9G7W
		16QAM	3480.0 - 3520.0	57.904	6.22	0.470	26.72	57M9D7W
		64QAM	3480.0 - 3520.0	57.881	6.49	0.379	25.79	57M9D7W
		256QAM	3480.0 - 3520.0	57.913	6.77	0.191	22.82	57M9D7W
	70 MHz	π/2 BPSK	3485.0 - 3515.0	64.548	4.40	0.603	27.80	64M5G7W
		QPSK	3485.0 - 3515.0	67.610	5.60	0.601	27.79	67M6G7W
		16QAM	3485.0 - 3515.0	67.450	6.38	0.478	26.79	67M4D7W
		64QAM	3485.0 - 3515.0	67.578	6.59	0.374	25.73	67M6D7W
		256QAM	3485.0 - 3515.0	67.515	6.69	0.193	22.86	67M5D7W
	80 MHz	π/2 BPSK	3490.0 - 3510.0	77.419	4.06	0.603	27.80	77M4G7W
		QPSK	3490.0 - 3510.0	77.667	5.38	0.603	27.80	77M7G7W
		16QAM	3490.0 - 3510.0	77.812	6.19	0.478	26.79	77M8D7W
		64QAM	3490.0 - 3510.0	77.830	6.44	0.375	25.74	77M8D7W
		256QAM	3490.0 - 3510.0	77.843	6.66	0.195	22.89	77M8D7W
	90 MHz	π/2 BPSK	3495.0 - 3505.0	87.071	4.04	0.603	27.80	87M1G7W
		QPSK	3495.0 - 3505.0	87.923	5.41	0.601	27.79	87M9G7W
		16QAM	3495.0 - 3505.0	87.525	6.26	0.479	26.80	87M5D7W
		64QAM	3495.0 - 3505.0	87.638	6.65	0.377	25.76	87M6D7W
		256QAM	3495.0 - 3505.0	87.586	6.73	0.194	22.87	87M6D7W
	100 MHz	π/2 BPSK	3500	96.555	4.07	0.592	27.72	96M6G7W
		QPSK	3500	97.598	5.45	0.586	27.68	97M6G7W
		16QAM	3500	97.676	6.32	0.478	26.79	97M7D7W
		64QAM	3500	97.699	6.52	0.377	25.76	97M7D7W
		256QAM	3500	97.664	6.70	0.192	22.83	97M7D7W

EUT Overview

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	PAR at 0.1% [dB]	EIRP		Emission Designator
						Max. Power [W]	Max. Power [dBm]	
NR Band n77 (PC2) (3700 - 3980MHz)	10 MHz	π/2 BPSK	3705.0 - 3975.0	8.650	4.13	0.615	27.89	8M65G7W
		QPSK	3705.0 - 3975.0	8.601	5.46	0.617	27.90	8M60G7W
		16QAM	3705.0 - 3975.0	8.596	6.12	0.499	26.98	8M60D7W
		64QAM	3705.0 - 3975.0	8.630	6.63	0.389	25.90	8M63D7W
		256QAM	3705.0 - 3975.0	8.594	6.60	0.204	23.09	8M59D7W
	15 MHz	π/2 BPSK	3707.5 - 3972.5	12.902	4.10	0.617	27.90	12M9G7W
		QPSK	3707.5 - 3972.5	13.605	5.34	0.612	27.87	13M6G7W
		16QAM	3707.5 - 3972.5	13.603	6.18	0.485	26.86	13M6D7W
		64QAM	3707.5 - 3972.5	13.601	6.52	0.390	25.91	13M6D7W
		256QAM	3707.5 - 3972.5	13.622	6.51	0.200	23.02	13M6D7W
	20 MHz	π/2 BPSK	3710.0 - 3970.0	17.915	4.02	0.617	27.90	17M9G7W
		QPSK	3710.0 - 3970.0	18.267	5.20	0.596	27.75	18M3G7W
		16QAM	3710.0 - 3970.0	18.252	6.04	0.488	26.88	18M3D7W
		64QAM	3710.0 - 3970.0	18.274	6.34	0.387	25.88	18M3D7W
		256QAM	3710.0 - 3970.0	18.296	6.38	0.200	23.01	18M3D7W
	30MHz	π/2 BPSK	3715.0 - 3965.0	26.873	4.24	0.600	27.78	26M9G7W
		QPSK	3715.0 - 3965.0	27.933	5.15	0.617	27.90	27M9G7W
		16QAM	3715.0 - 3965.0	27.905	6.05	0.488	26.88	27M9D7W
		64QAM	3715.0 - 3965.0	27.885	6.37	0.382	25.82	27M9D7W
		256QAM	3715.0 - 3965.0	27.987	6.62	0.200	23.02	28M0D7W
	40 MHz	π/2 BPSK	3720.0 - 3960.0	35.811	4.13	0.617	27.90	35M8G7W
		QPSK	3720.0 - 3960.0	37.986	5.09	0.608	27.84	38M0G7W
		16QAM	3720.0 - 3960.0	37.984	6.01	0.493	26.93	38M0D7W
		64QAM	3720.0 - 3960.0	37.991	6.36	0.391	25.92	38M0D7W
		256QAM	3720.0 - 3960.0	38.031	6.65	0.200	23.00	38M0D7W
	50 MHz	π/2 BPSK	3725.0 - 3955.0	45.844	3.85	0.617	27.90	45M8G7W
		QPSK	3725.0 - 3955.0	47.642	5.23	0.612	27.87	47M6G7W
		16QAM	3725.0 - 3955.0	47.621	5.99	0.484	26.85	47M6D7W
		64QAM	3725.0 - 3955.0	47.601	6.36	0.389	25.90	47M6D7W
		256QAM	3725.0 - 3955.0	47.600	6.67	0.200	23.00	47M6D7W
	60 MHz	π/2 BPSK	3730.0 - 3950.0	58.084	3.95	0.611	27.86	58M1G7W
		QPSK	3730.0 - 3950.0	57.942	5.26	0.617	27.90	57M9G7W
		16QAM	3730.0 - 3950.0	58.102	6.17	0.481	26.82	58M1D7W
		64QAM	3730.0 - 3950.0	58.023	6.42	0.383	25.83	58M0D7W
		256QAM	3730.0 - 3950.0	57.921	6.59	0.199	22.98	57M9D7W
	70 MHz	π/2 BPSK	3735.0 - 3945.0	64.495	4.30	0.617	27.90	64M5G7W
		QPSK	3735.0 - 3945.0	67.623	5.56	0.615	27.89	67M6G7W
		16QAM	3735.0 - 3945.0	67.687	6.32	0.497	26.96	67M7D7W
		64QAM	3735.0 - 3945.0	67.723	6.44	0.385	25.85	67M7D7W
		256QAM	3735.0 - 3945.0	67.538	6.59	0.200	23.00	67M5D7W
	80 MHz	π/2 BPSK	3740.0 - 3940.0	77.335	3.98	0.603	27.80	77M3G7W
		QPSK	3740.0 - 3940.0	77.749	5.29	0.617	27.90	77M7G7W
		16QAM	3740.0 - 3940.0	77.712	6.13	0.485	26.86	77M7D7W
		64QAM	3740.0 - 3940.0	77.609	6.48	0.387	25.88	77M6D7W
		256QAM	3740.0 - 3940.0	77.500	6.58	0.199	22.99	77M5D7W
	90 MHz	π/2 BPSK	3745.0 - 3935.0	87.093	3.93	0.617	27.90	87M1G7W
		QPSK	3745.0 - 3935.0	87.630	5.31	0.612	27.87	87M6G7W
		16QAM	3745.0 - 3935.0	87.781	6.16	0.492	26.92	87M8D7W
		64QAM	3745.0 - 3935.0	87.836	6.45	0.394	25.95	87M8D7W
		256QAM	3745.0 - 3935.0	87.765	6.65	0.195	22.91	87M8D7W
	100 MHz	π/2 BPSK	3750.0 - 3930.0	96.597	4.04	0.604	27.81	96M6G7W
		QPSK	3750.0 - 3930.0	97.696	5.33	0.617	27.90	97M7G7W
		16QAM	3750.0 - 3930.0	97.846	6.18	0.489	26.89	97M8D7W
		64QAM	3750.0 - 3930.0	97.683	6.45	0.389	25.90	97M7D7W
		256QAM	3750.0 - 3930.0	97.736	6.63	0.199	22.99	97M7D7W

EUT Overview

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	PAR at 0.1% [dB]	EIRP		Emission Designator
						Max. Power [W]	Max. Power [dBm]	
NR Band n77 (PC3) (3700 - 3980MHz)	10 MHz	π/2 BPSK	3705.0 - 3975.0	8.650	4.13	0.457	26.60	8M65G7W
		QPSK	3705.0 - 3975.0	8.601	5.46	0.457	26.60	8M60G7W
		16QAM	3705.0 - 3975.0	8.596	6.12	0.363	25.60	8M60D7W
		64QAM	3705.0 - 3975.0	8.630	6.63	0.285	24.55	8M63D7W
		256QAM	3705.0 - 3975.0	8.594	6.60	0.149	21.72	8M59D7W
	15 MHz	π/2 BPSK	3707.5 - 3972.5	12.902	4.10	0.457	26.60	12M9G7W
		QPSK	3707.5 - 3972.5	13.605	5.34	0.457	26.60	13M6G7W
		16QAM	3707.5 - 3972.5	13.603	6.18	0.361	25.57	13M6D7W
		64QAM	3707.5 - 3972.5	13.601	6.52	0.288	24.60	13M6D7W
		256QAM	3707.5 - 3972.5	13.622	6.51	0.143	21.54	13M6D7W
	20 MHz	π/2 BPSK	3710.0 - 3970.0	17.915	4.02	0.451	26.54	17M9G7W
		QPSK	3710.0 - 3970.0	18.267	5.20	0.457	26.60	18M3G7W
		16QAM	3710.0 - 3970.0	18.252	6.04	0.358	25.54	18M3D7W
		64QAM	3710.0 - 3970.0	18.274	6.34	0.288	24.59	18M3D7W
		256QAM	3710.0 - 3970.0	18.296	6.38	0.148	21.69	18M3D7W
	30MHz	π/2 BPSK	3715.0 - 3965.0	26.873	4.24	0.457	26.60	26M9G7W
		QPSK	3715.0 - 3965.0	27.933	5.15	0.449	26.52	27M9G7W
		16QAM	3715.0 - 3965.0	27.905	6.05	0.360	25.56	27M9D7W
		64QAM	3715.0 - 3965.0	27.885	6.37	0.287	24.58	27M9D7W
		256QAM	3715.0 - 3965.0	27.987	6.62	0.145	21.60	28M0D7W
	40 MHz	π/2 BPSK	3720.0 - 3960.0	35.811	4.13	0.453	26.56	35M8G7W
		QPSK	3720.0 - 3960.0	37.986	5.09	0.457	26.60	38M0G7W
		16QAM	3720.0 - 3960.0	37.984	6.01	0.359	25.55	38M0D7W
		64QAM	3720.0 - 3960.0	37.991	6.36	0.289	24.61	38M0D7W
		256QAM	3720.0 - 3960.0	38.031	6.65	0.148	21.70	38M0D7W
	50 MHz	π/2 BPSK	3725.0 - 3955.0	45.844	3.85	0.457	26.60	45M8G7W
		QPSK	3725.0 - 3955.0	47.642	5.23	0.438	26.41	47M6G7W
		16QAM	3725.0 - 3955.0	47.621	5.99	0.363	25.60	47M6D7W
		64QAM	3725.0 - 3955.0	47.601	6.36	0.294	24.69	47M6D7W
		256QAM	3725.0 - 3955.0	47.600	6.67	0.149	21.72	47M6D7W
	60 MHz	π/2 BPSK	3730.0 - 3950.0	58.084	3.95	0.457	26.60	58M1G7W
		QPSK	3730.0 - 3950.0	57.942	5.26	0.456	26.59	57M9G7W
		16QAM	3730.0 - 3950.0	58.102	6.17	0.351	25.45	58M1D7W
		64QAM	3730.0 - 3950.0	58.023	6.42	0.290	24.62	58M0D7W
		256QAM	3730.0 - 3950.0	57.921	6.59	0.146	21.64	57M9D7W
	70 MHz	π/2 BPSK	3735.0 - 3945.0	64.495	4.30	0.457	26.60	64M5G7W
		QPSK	3735.0 - 3945.0	67.623	5.56	0.453	26.56	67M6G7W
		16QAM	3735.0 - 3945.0	67.687	6.32	0.357	25.53	67M7D7W
		64QAM	3735.0 - 3945.0	67.723	6.44	0.287	24.58	67M7D7W
		256QAM	3735.0 - 3945.0	67.538	6.59	0.147	21.67	67M5D7W
	80 MHz	π/2 BPSK	3740.0 - 3940.0	77.335	3.98	0.457	26.60	77M3G7W
		QPSK	3740.0 - 3940.0	77.749	5.29	0.453	26.56	77M7G7W
		16QAM	3740.0 - 3940.0	77.712	6.13	0.364	25.61	77M7D7W
		64QAM	3740.0 - 3940.0	77.609	6.48	0.289	24.61	77M6D7W
		256QAM	3740.0 - 3940.0	77.500	6.58	0.148	21.71	77M5D7W
	90 MHz	π/2 BPSK	3745.0 - 3935.0	87.093	3.93	0.456	26.59	87M1G7W
		QPSK	3745.0 - 3935.0	87.630	5.31	0.457	26.60	87M6G7W
		16QAM	3745.0 - 3935.0	87.781	6.16	0.365	25.62	87M8D7W
		64QAM	3745.0 - 3935.0	87.836	6.45	0.286	24.56	87M8D7W
		256QAM	3745.0 - 3935.0	87.765	6.65	0.150	21.75	87M8D7W
	100 MHz	π/2 BPSK	3750.0 - 3930.0	96.597	4.04	0.457	26.60	96M6G7W
		QPSK	3750.0 - 3930.0	97.696	5.33	0.454	26.57	97M7G7W
		16QAM	3750.0 - 3930.0	97.846	6.18	0.357	25.53	97M8D7W
		64QAM	3750.0 - 3930.0	97.683	6.45	0.291	24.64	97M7D7W
		256QAM	3750.0 - 3930.0	97.736	6.63	0.147	21.68	97M7D7W

EUT Overview

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 Materials Technology Test Location

These measurement tests were conducted at the Element Materials Technology facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014 and KDB 414788 D01 v01r01.

1.3 Test Facility / Accreditations

Measurements were performed at Element Materials Technology

- Element Materials Technology is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 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 Materials Technology 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 Materials Technology facility is a registered (22831) 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 Agreements (MRAs).

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID:BCGA3269**. 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.: RTF5C4W1KX, XD4R967RNY, TJ4463YD19, DLXH57000060000RJY, DLXH570002H0000RJY

2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, 5G NR (FR1), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, 802.11a/ax WIFI 6E, 802.15.4, Bluetooth (1x, EDR, LE1M, LE2M, HDR4, HDR8), NB UNII (1x, HDR4, HDR8), WPT

This device supports BT Beamforming

This device supports simultaneous transmission operations, which allows for multiple transmitters to transmit simultaneously on the same antenna. The table below shows all configurations possible.

Antenna	Simultaneous Tx Config	Bluetooth 2.4GHz	Thread	WLAN	NB UNII	WIFI 5GHz	WIFI 6GHz	LTE / FR1 NR		
		BDR, EDR, HDR4/8, LE1/2M	802.15.4	802.11 b/g/n/ax	BDR, HDR4/8	802.11 a/n/ac/ax	802.11 a/ax	LB	MB/HB	Ultra High Band
Ant 3b	Config 1	×	×	×	✓	×	×	×	✓	×
Ant 3b	Config 2	×	×	×	×	✓	×	×	✓	×
Ant 3b	Config 3	×	×	×	×	×	✓	×	✓	×
Ant 3a	Config 4	✓	×	×	×	×	×	×	×	✓
Ant 3a	Config 5	×	✓	×	×	×	×	×	×	✓
Ant 3a	Config 6	×	×	✓	×	×	×	×	×	✓
Ant 1a	Config 7	✓	×	×	×	×	×	×	×	✓
Ant 1a	Config 8	×	✓	×	×	×	×	×	×	✓
Ant 1a	Config 9	×	×	✓	×	×	×	×	×	✓
Ant 1b	Config 10	×	×	×	✓	×	×	×	✓	×
Ant 1b	Config 11	×	×	×	×	✓	×	×	✓	×
Ant 1b	Config 12	×	×	×	×	×	✓	×	✓	×

Table 2-1. Simultaneous Transmission Configurations

✓ = Support; × = Not Support

Note:

All the above simultaneous transmission configurations have been tested and the worst case configuration was found to be Config 2 and reported in RF UNII OFDM, and RF FCC Part 27b test reports.

Specific 2.4GHz Wi-Fi antenna that can only transmit simultaneously with 2.4GHz Bluetooth antenna is listed in the SAR test report. For BT (2.4GHz), in both connected and disconnected modes, and Wi-Fi (2.4GHz) - Wi-Fi max power will not exceed minimum of (13.5dBm, SAR max cap, Reg max cap) power. Bluetooth can simultaneously transmit with IEEE 802.11a/n/ac/ax 5/6 GHz on separate antenna.

2.3 Antenna Description

The following antenna gains provided by the manufacturer were used for testing.

Band	Antenna Gain [dBi]			
	Antenna 3a	Antenna 2	Antenna 4	Antenna 1a
NR Band n77 (Sub 1)	1.6	2.8	2.1	-0.5
NR Band n77 (Sub 2)	-0.1	2.8	0.9	-0.7

Table 2-2. Highest Antenna Gain

2.4 Test Support Equipment

1	Apple MacBook Pro	Model:	A2141	S/N:	C02H604EQ05D
	w/AC/DC Adapter	Model:	A2166	S/N:	C4H042705ZNPM0WA6
2	Apple USB-C Cable	Model:	Spartan	S/N:	GXK1336018XKTR024
3	USB-C Cable	Model:	A246C	S/N:	DWH80115BK826GV19
	w/ AC Adapter	Model:	A2305	S/N:	C4H95160004PF4F4V
4	Apple Pencil	Model:	A2538	S/N:	KJ26TCFXJW
5	DC Power Supply	Model:	KPS3010D	S/N:	N/A

Table 2-3. Test Support Equipment

2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.26 2015, TIA-603-E-2016 and KDB 971168 D01 v03r01. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

For emissions from 1GHz – 18GHz, low, mid, and high channels were tested with highest power and worst case configuration. The emissions below 1GHz and above 18GHz were tested with the highest transmitting power and the worst case channel.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

2.6 Software and Firmware

The test was conducted with firmware version 22D20 installed on the EUT.

2.7 EMI Suppression Device(s)/Modifications

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

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedures described in the documents titled “American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services” (ANSI C63.26-2015 and TIA-603-E-2016) and “Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems” (KDB 971168 D01 v03r01) 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 and calculations, conversion method is used per the formulas in KDB 971168 Section 5.8.4. Field Strength (EIRP) is calculated using the following formulas:

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

And

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

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014.

Per KDB 414788 D01 v01r01, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was used while the reference device was rotated through the X, Y and Z axis in order to capture the worst case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3 meter semi-anechoic chamber to the open field site.

Radiated spurious emission levels are investigated with the receive antenna horizontally and vertically polarized per ANSI C63.26-2015 and TIA-603-E-2016.

4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	2.07
Radiated Disturbance (<30MHz)	4.12
Radiated Disturbance (30MHz-1GHz)	4.85
Radiated Disturbance (1-18GHz)	5.08
Radiated Disturbance (>18GHz)	5.22

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
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	3/14/2024	Annual	3/14/2025	T058701-01
ESPEC	SU-241	Tabletop Temperature Chamber	10/24/2024	Annual	10/24/2025	92009574
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	4/9/2024	Annual	4/9/2025	00218555
Fairview Microwave/MCL	FMCA1975-36/BW-K10-2W44+	30MHz-40GHz RF Cable/Attenuator *	6/10/2024	Annual	6/10/2025	-
Keysight Technology	N9040B	UXA Signal Analyzer	5/28/2024	Annual	5/28/2025	MY57212015
Rohde & Schwarz	FSW67	Signal and Spectrum Analyzer (2Hz-67GHz)	7/5/2024	Annual	7/5/2025	101366
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	3/1/2024	Annual	3/1/2025	102143
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	5/29/2024	Annual	5/29/2025	101619
Rohde & Schwarz	ESW44	EMI Test Receiver	5/1/2024	Annual	5/1/2025	101867
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	7/3/2024	Annual	7/3/2025	102356
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	6/10/2024	Annual	6/10/2025	100057
Rohde & Schwarz	HFH2-Z2	Loop Antenna	6/21/2024	Annual	6/21/2025	100519
Rohde & Schwarz	ENV216	Two-Line V-Network	4/24/2024	Annual	4/24/2025	101364
Schwarzbeck	VULB 9162	Bilog Antenna (30MHz - 6GHz)	4/29/2024	Annual	4/29/2025	00304

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. * denotes passive equipment that have been internally verified/calibrated.

6.0 SAMPLE CALCULATIONS

Emission Designator

π/2 BPSK / QPSK Modulation

Emission Designator = 8M62G7W
BW = 8.62 MHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination of Any

QAM Modulation

Emission Designator = 8M45D7W
BW = 8.45 MHz
D = Amplitude/Angle Modulated
7 = Quantized/Digital Info
W = Combination of Any

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.

7.0 TEST RESULTS

7.1 Summary

Company Name: Apple Inc.

FCC ID: BCGA3269

FCC Classification: PCS Licensed Transmitter (PCB)

Mode(s): NR

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
CONDUCTED	Occupied Bandwidth	2.1049	N/A	N/A	Section 7.2
	Conducted Band Edge / Spurious Emissions (NR Band n77 - 3450-3550MHz)	2.1051, 27.53(n)(2)	-13 dBm at Band Edge and for all out-of-band emissions	PASS	Sections 7.3, 7.4
	Conducted Band Edge / Spurious Emissions (NR Band n77 - 3700-3980MHz)	2.1051, 27.53(l)(2)		PASS	Sections 7.3, 7.4
	Peak-Average Ratio (NR Band n77 - 3450-3550MHz)	27.50(k)(4)	< 13 dB	PASS	Sections 7.5
	Peak-Average Ratio (NR Band n77 - 3700-3980MHz)	27.50(j)(4)		PASS	Sections 7.5
	Transmitter Conducted Output Power	2.1046	N/A	N/A	See RF Exposure Report
	Equivalent Isotropic Radiated Power (NR Band n77 - 3450-3550MHz)	27.50(k)(3)	< 1 Watts max. EIRP	PASS	Section 7.6
	Equivalent Isotropic Radiated Power (NR Band n77 - 3700-3980MHz)	27.50(j)(3)		PASS	Section 7.6
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block	PASS	Section 7.8
RADIATED	Radiated Spurious Emissions (NR Band n77 - 3450-3550MHz)	2.1051, 27.53(n)(2)	-13 dBm for all out-of-band emissions	PASS	Section 7.7
	Radiated Spurious Emissions (NR Band n77 - 3700-3980MHz)	2.1051, 27.53(l)(2)		PASS	Section 7.7

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 was Element EMC Software Tool EMC Software Tool v1.1.

5. For radiated spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element "Chamber Automation," Version 3.1.0.

7.2 Occupied Bandwidth

§2.1049

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. All ports were tested and only the worst case data were reported.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 4.2

Test Settings

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

Test Setup

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

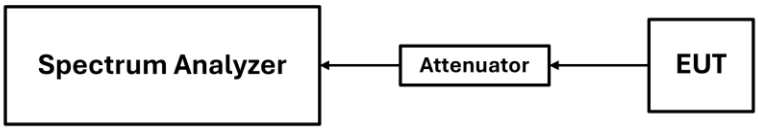


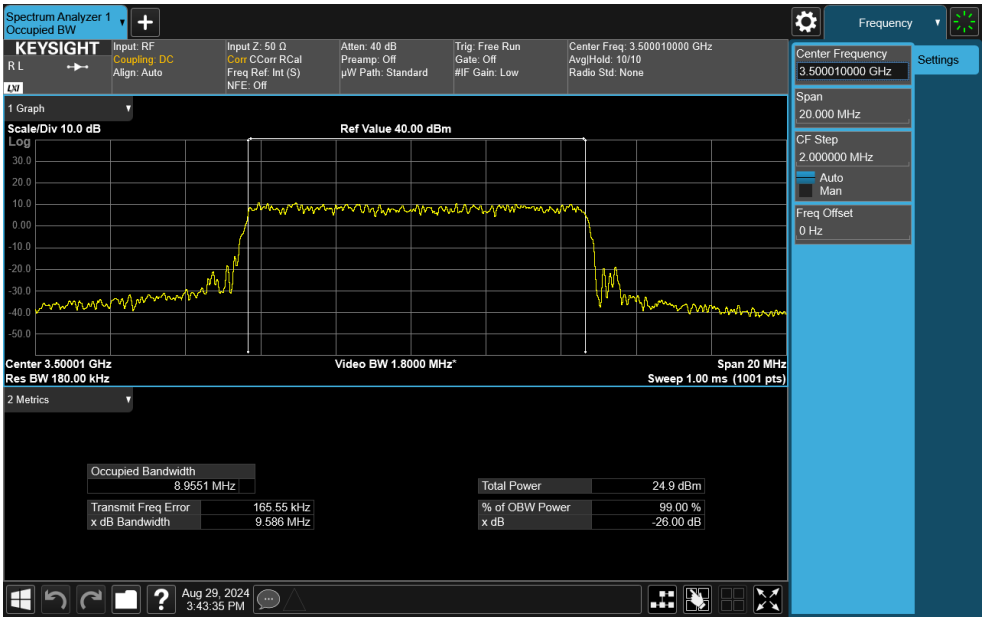
Figure 7-1. FR1 Test Instrument & Measurement Setup

Test Notes

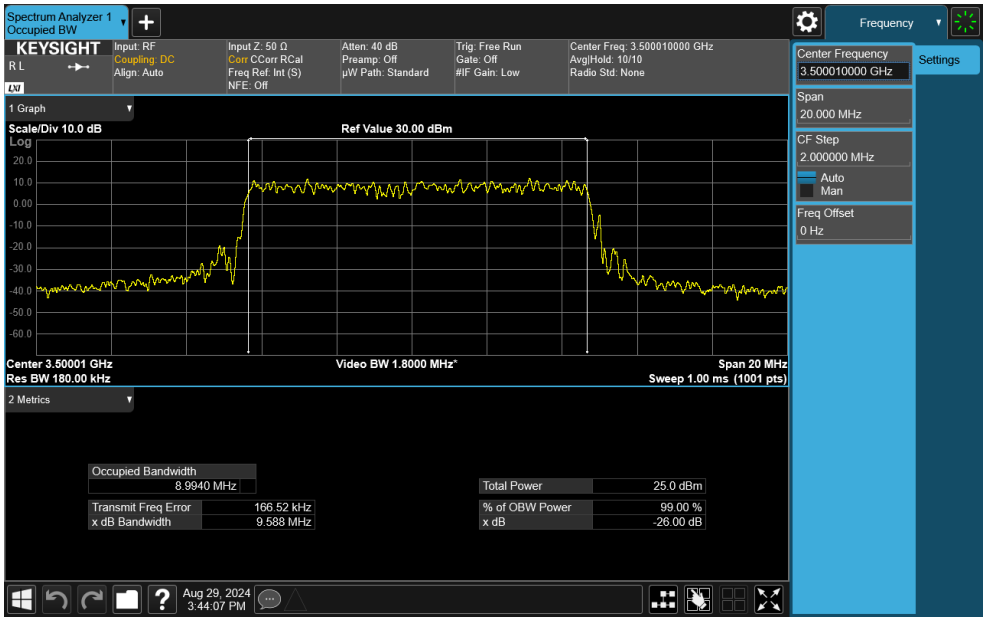
None.

NR Band n77 DoD-Band

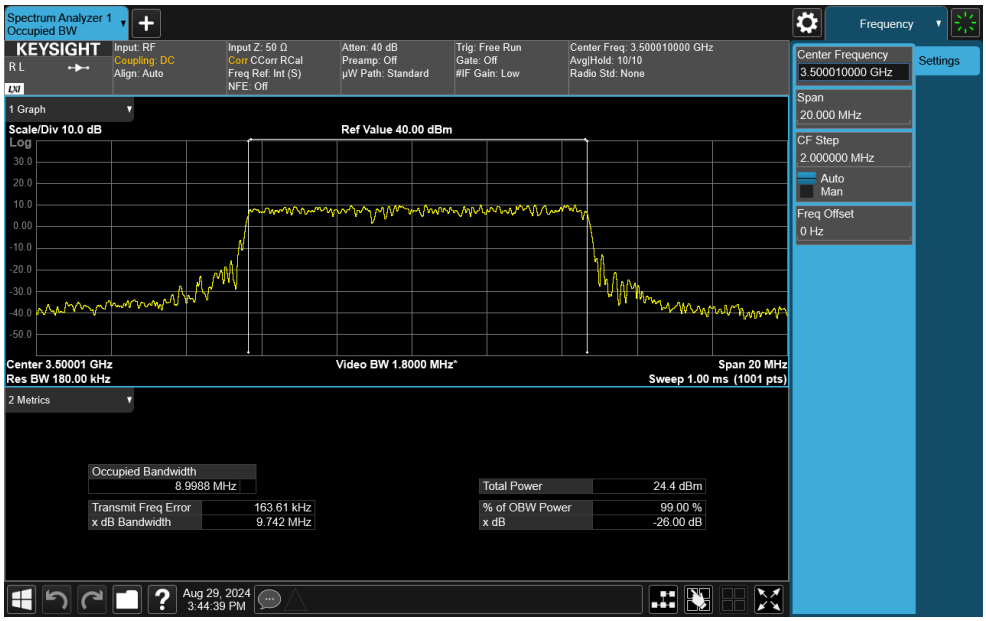
Plot 7-1. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz DFT-s-OFDM π/2 BPSK - Full RB)



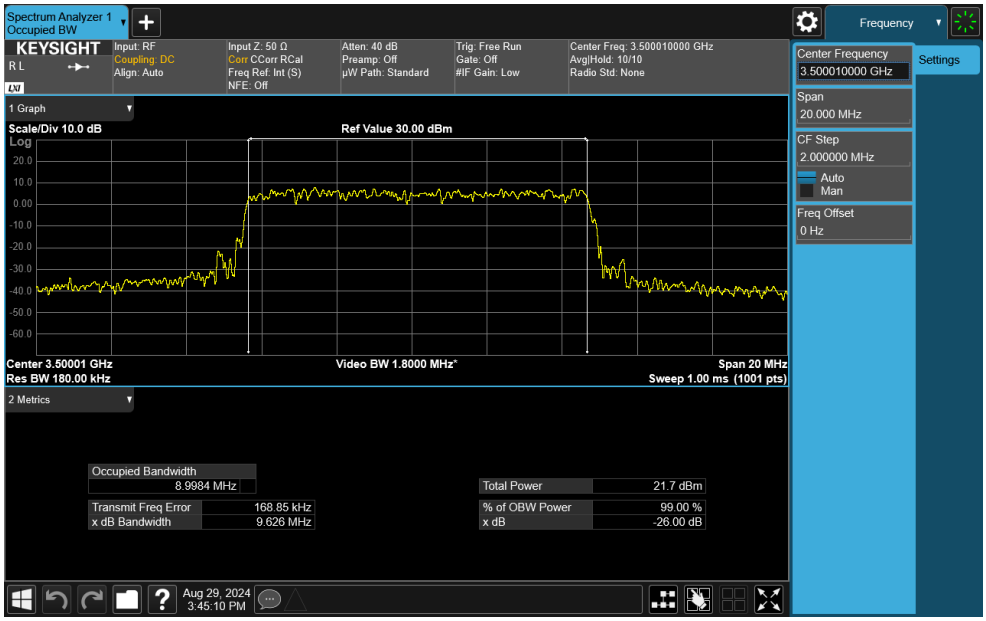
Plot 7-2. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz CP-OFDM QPSK - Full RB)



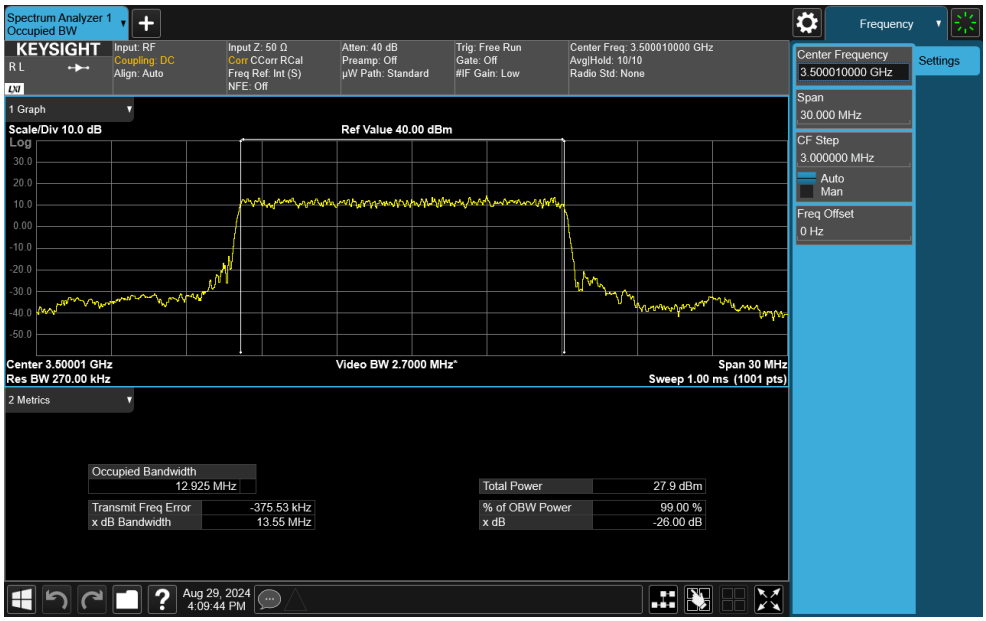
Plot 7-3. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz CP-OFDM 16-QAM - Full RB)



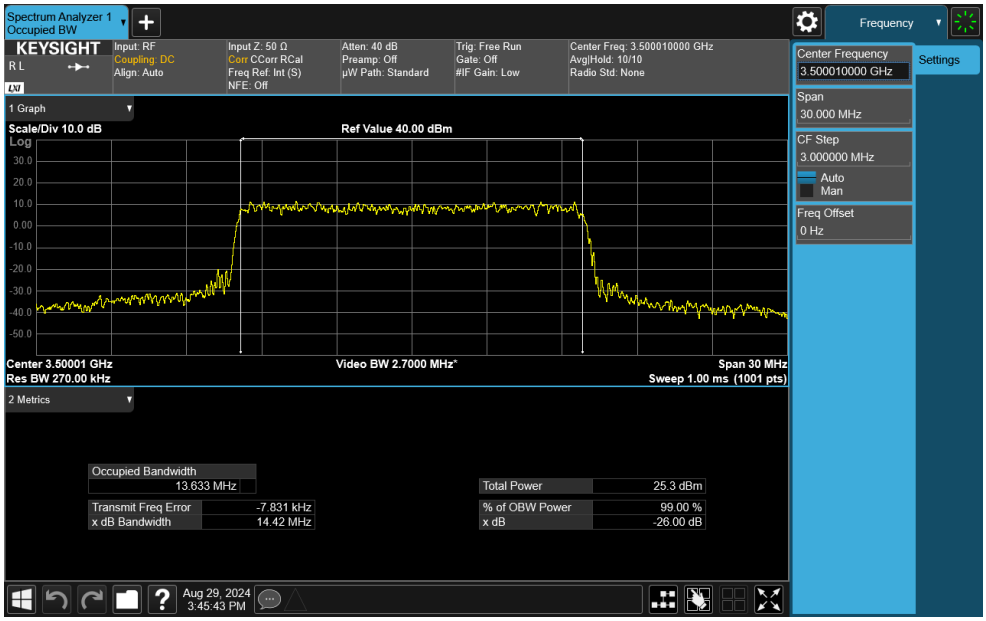
Plot 7-4. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz CP-OFDM 64-QAM - Full RB)



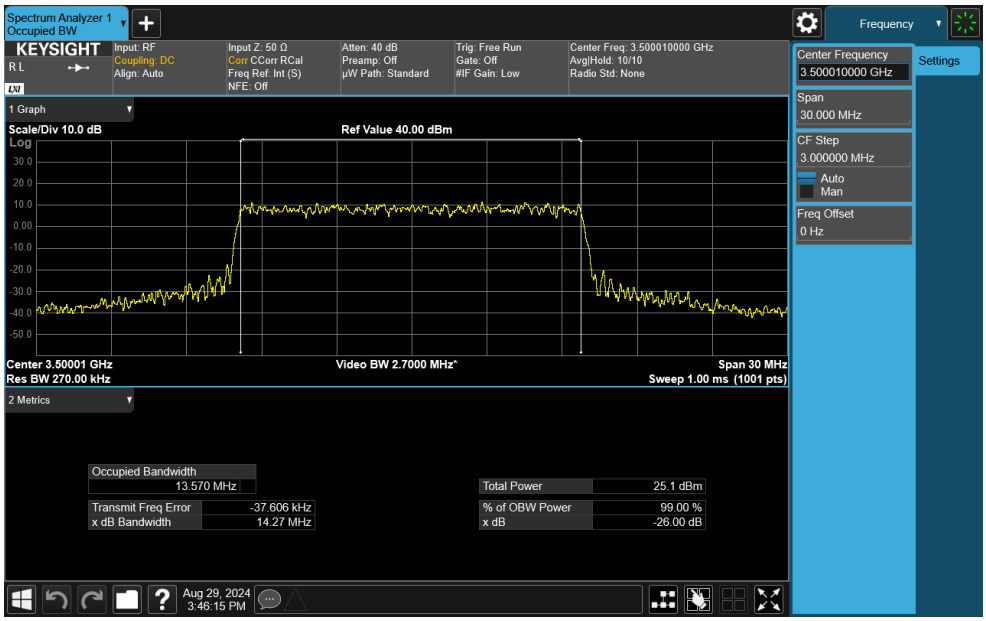
Plot 7-5. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz CP-OFDM 256-QAM - Full RB)



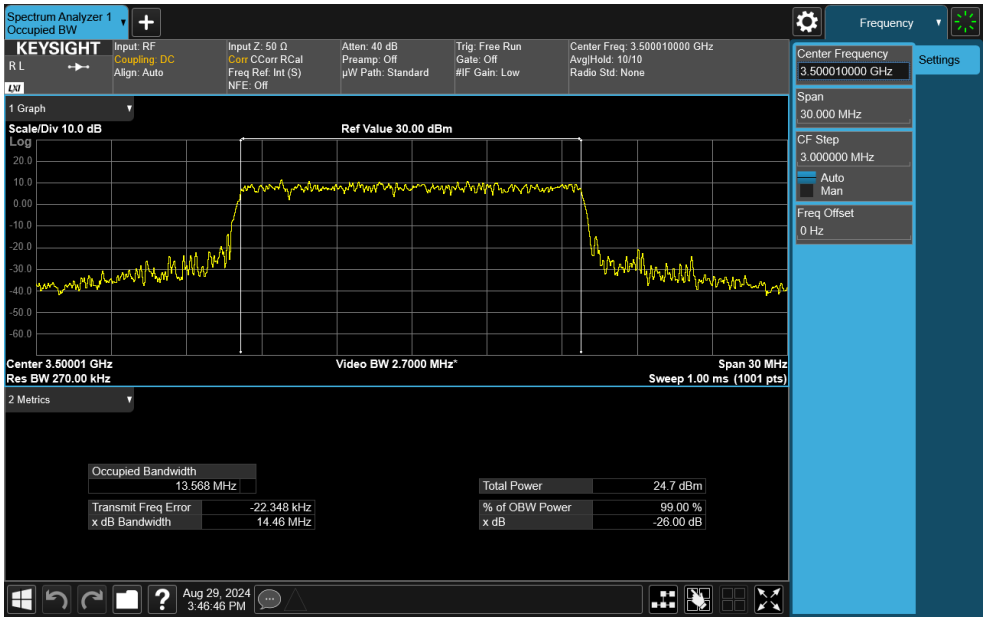
Plot 7-6. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz DFT-s-OFDM π/2 BPSK - Full RB)



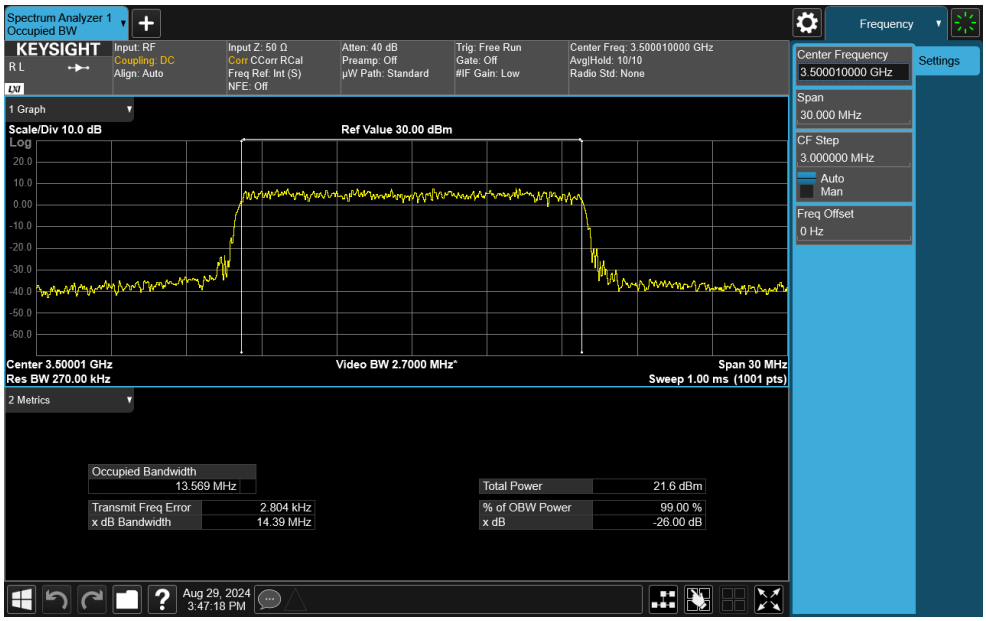
Plot 7-7. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM QPSK - Full RB)



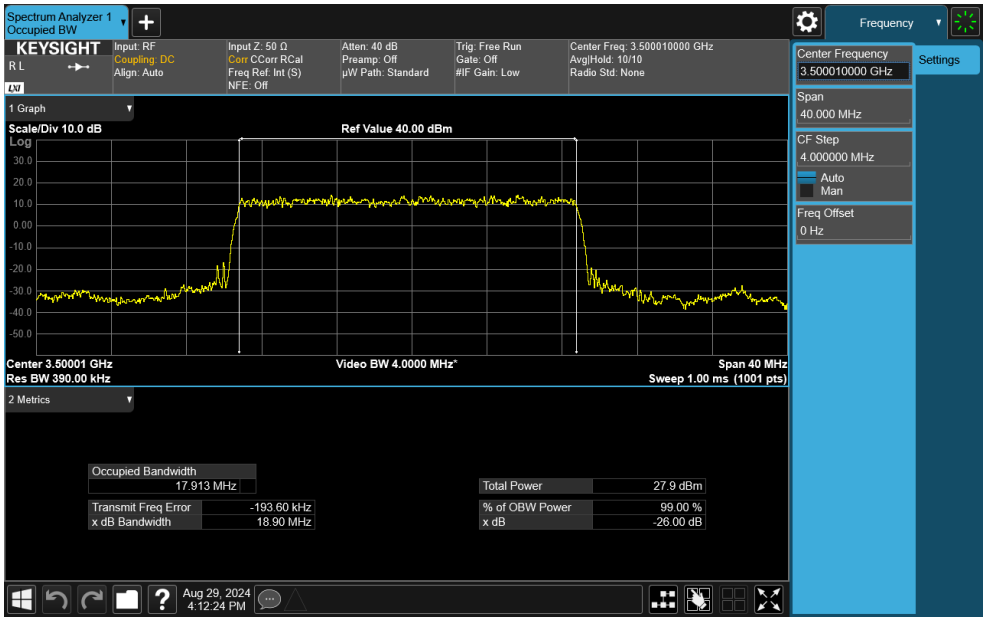
Plot 7-8. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM 16-QAM - Full RB)



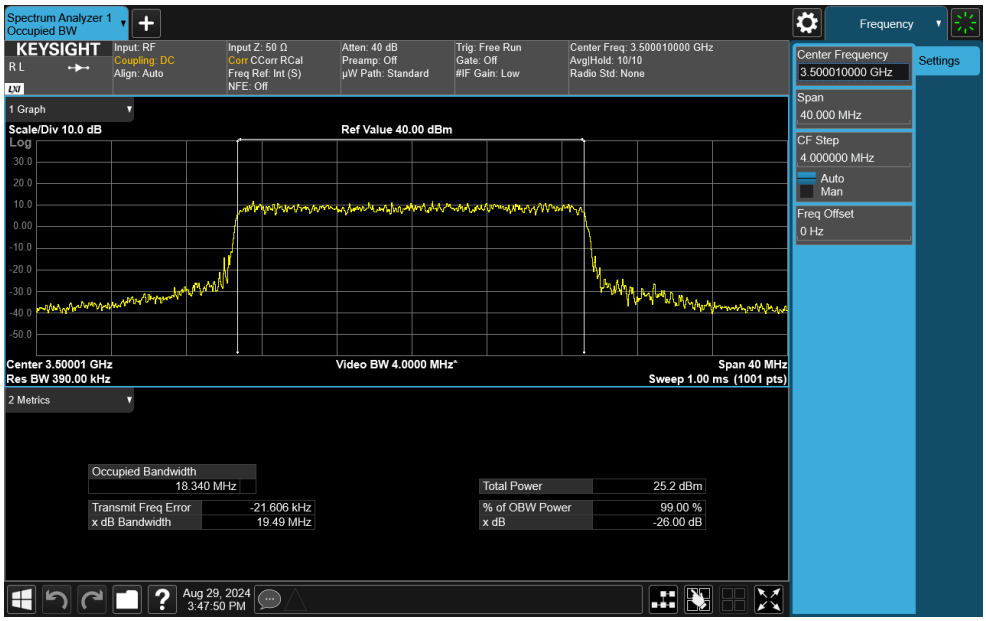
Plot 7-9. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM 64-QAM - Full RB)



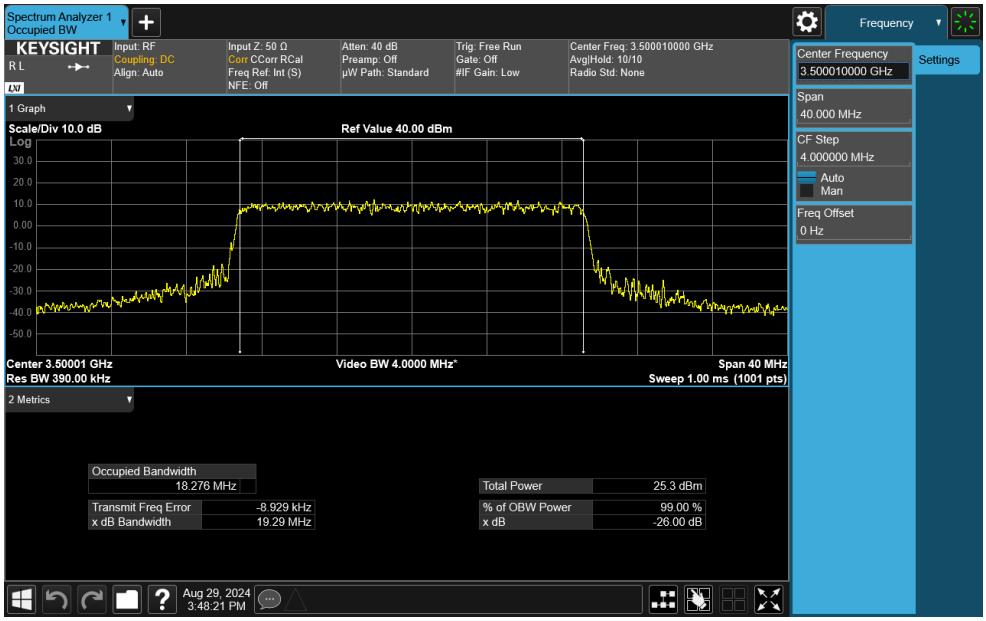
Plot 7-10. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM 256-QAM - Full RB)



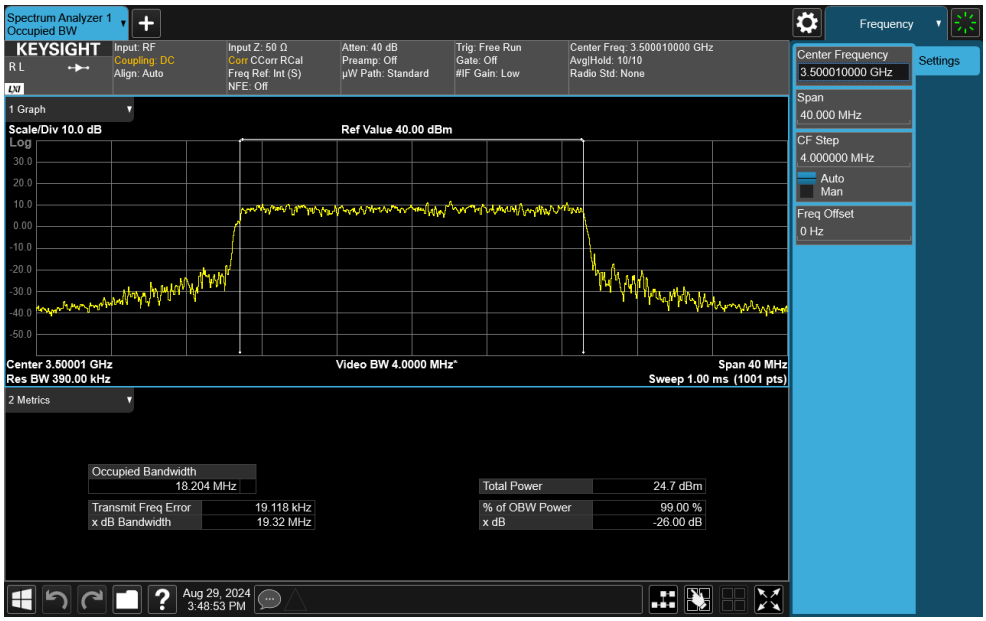
Plot 7-11. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz DFT-s-OFDM π/2 BPSK - Full RB)



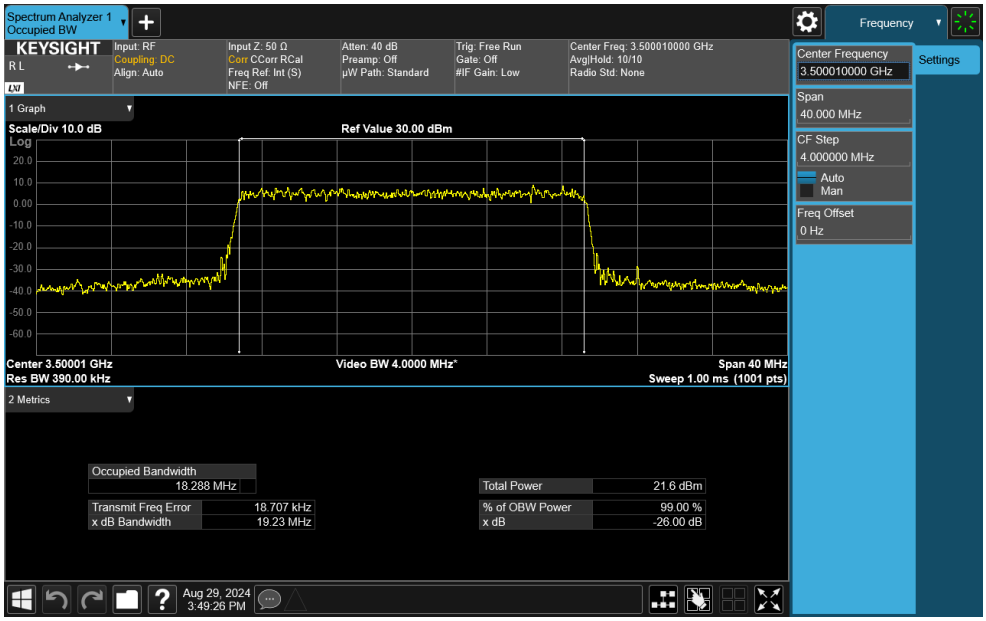
Plot 7-12. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM QPSK - Full RB)



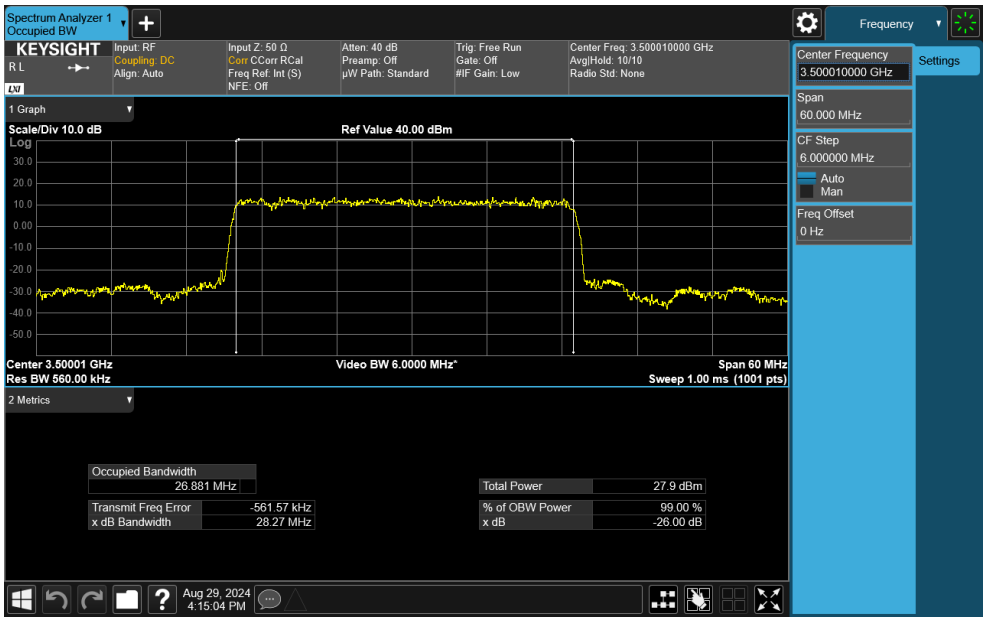
Plot 7-13. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 16-QAM - Full RB)



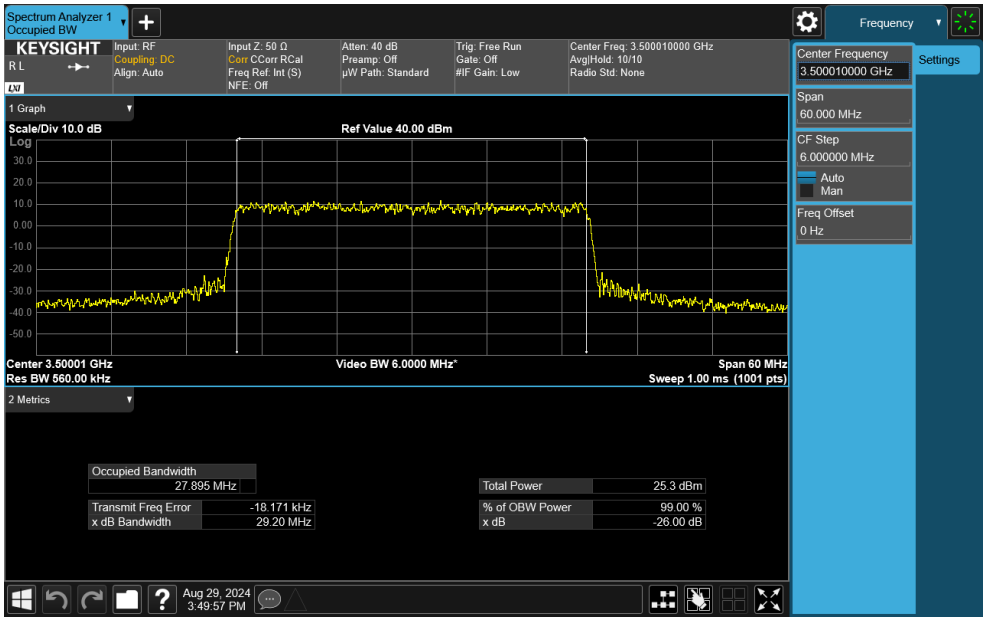
Plot 7-14. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 64-QAM - Full RB)



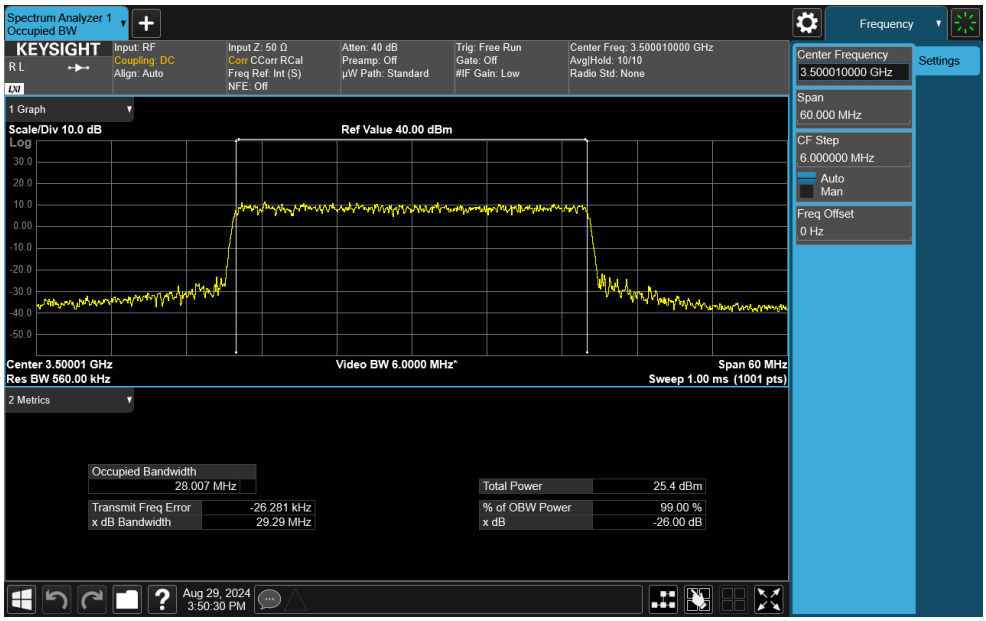
Plot 7-15. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 256-QAM - Full RB)



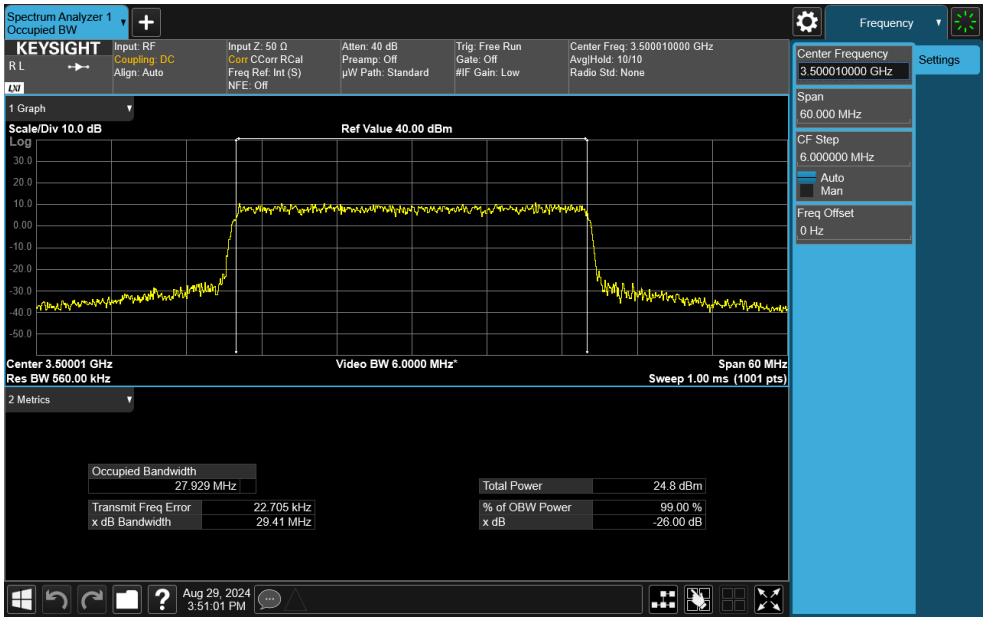
Plot 7-16. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz DFT-s-OFDM π/2 BPSK - Full RB)



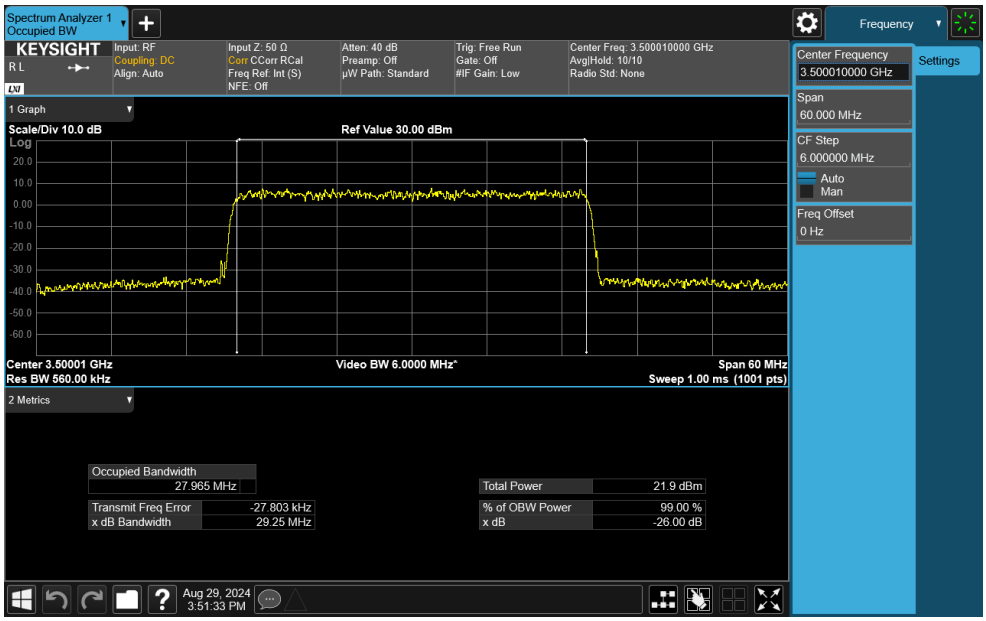
Plot 7-17. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM QPSK - Full RB)



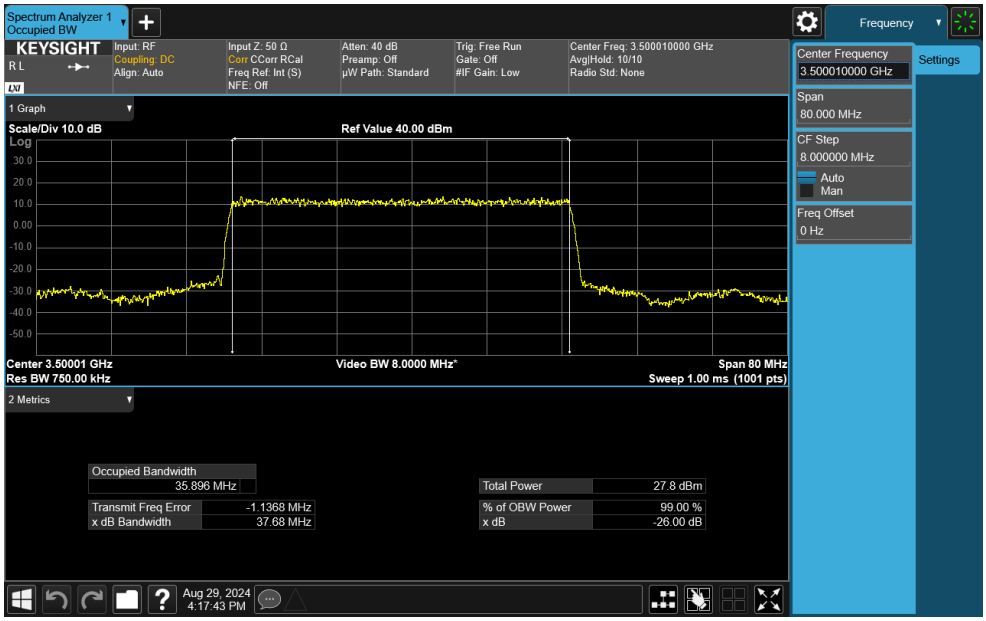
Plot 7-18. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM 16-QAM - Full RB)



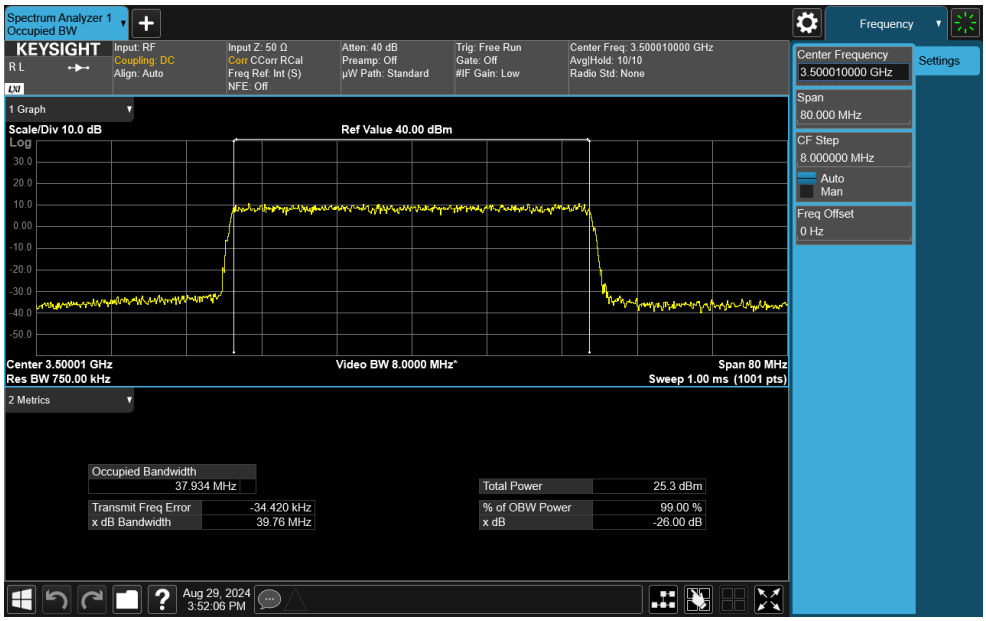
Plot 7-19. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM 64-QAM - Full RB)



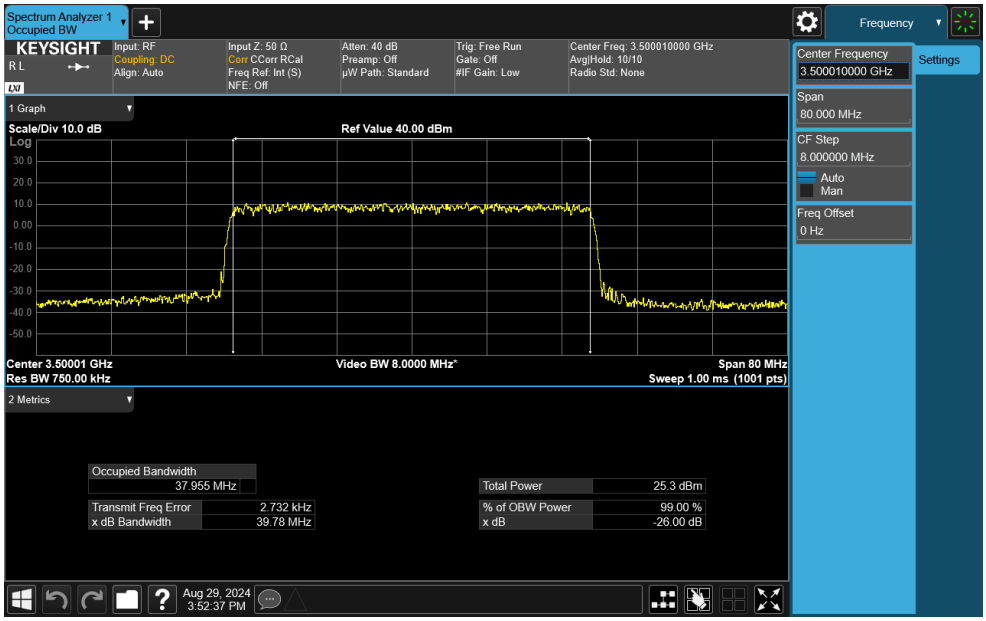
Plot 7-20. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM 256-QAM - Full RB)



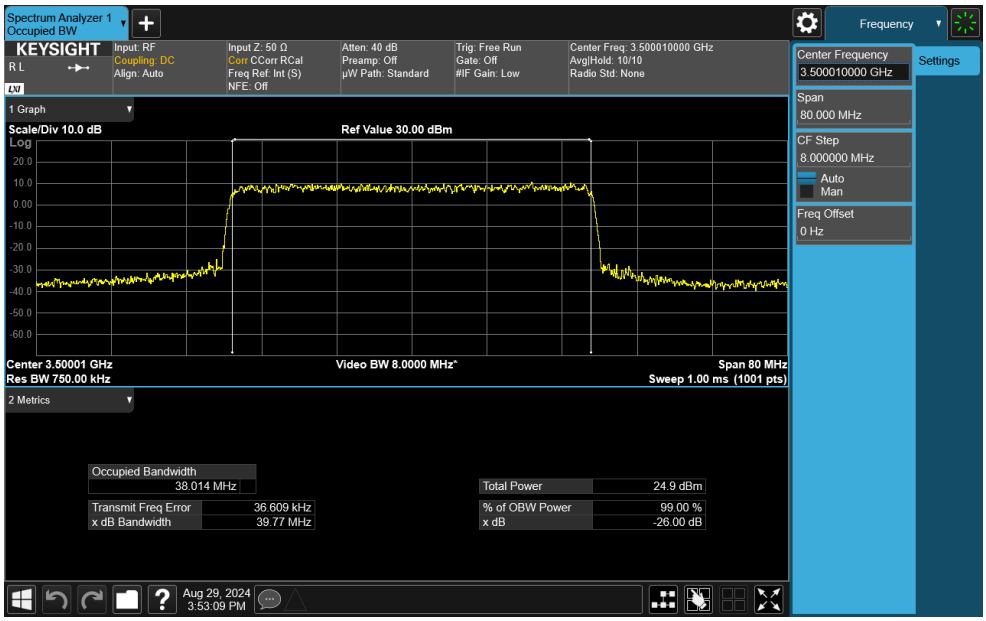
Plot 7-21. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz DFT-s-OFDM π/2 BPSK - Full RB)



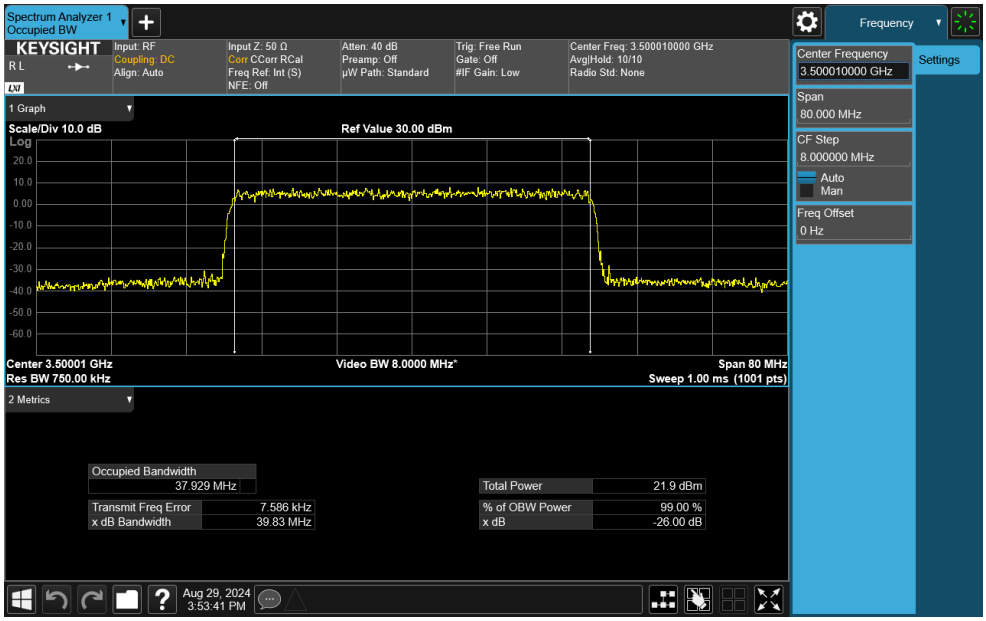
Plot 7-22. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM QPSK - Full RB)



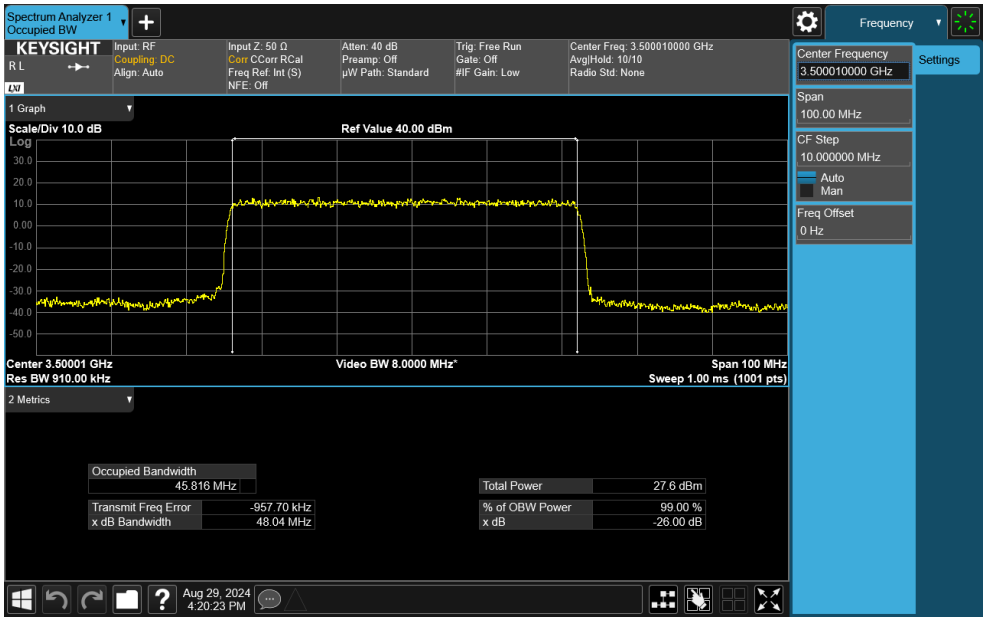
Plot 7-23. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM 16-QAM - Full RB)



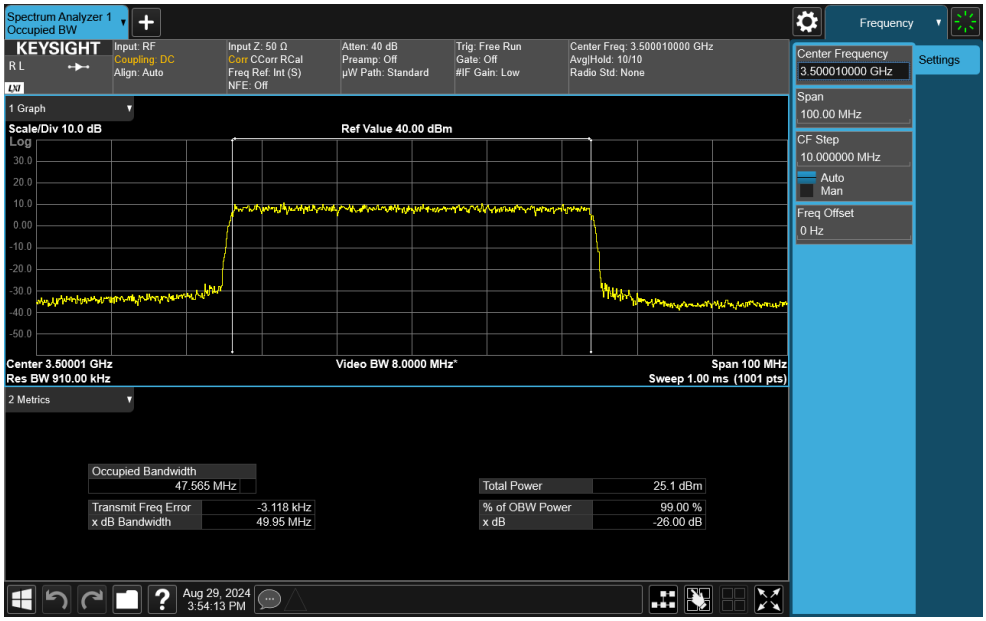
Plot 7-24. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM 64-QAM - Full RB)



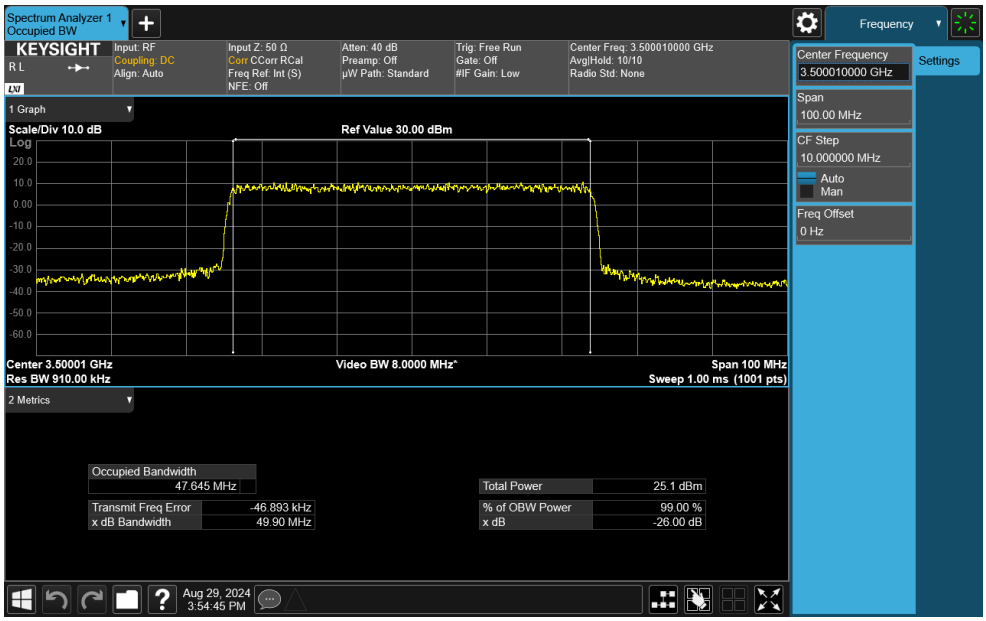
Plot 7-25. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM 256-QAM - Full RB)



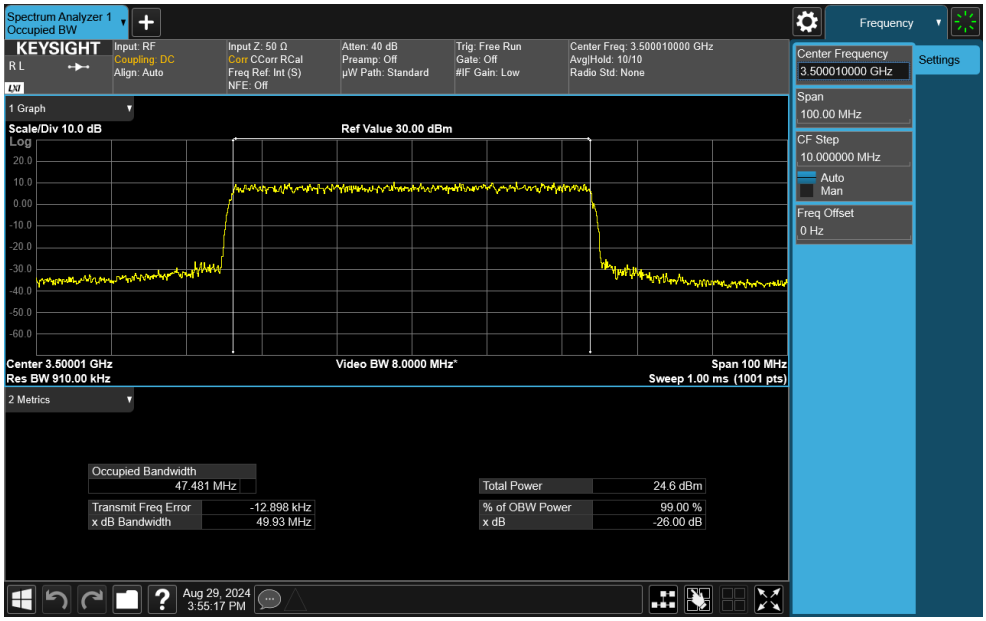
Plot 7-26. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz DFT-s-OFDM π/2 BPSK - Full RB)



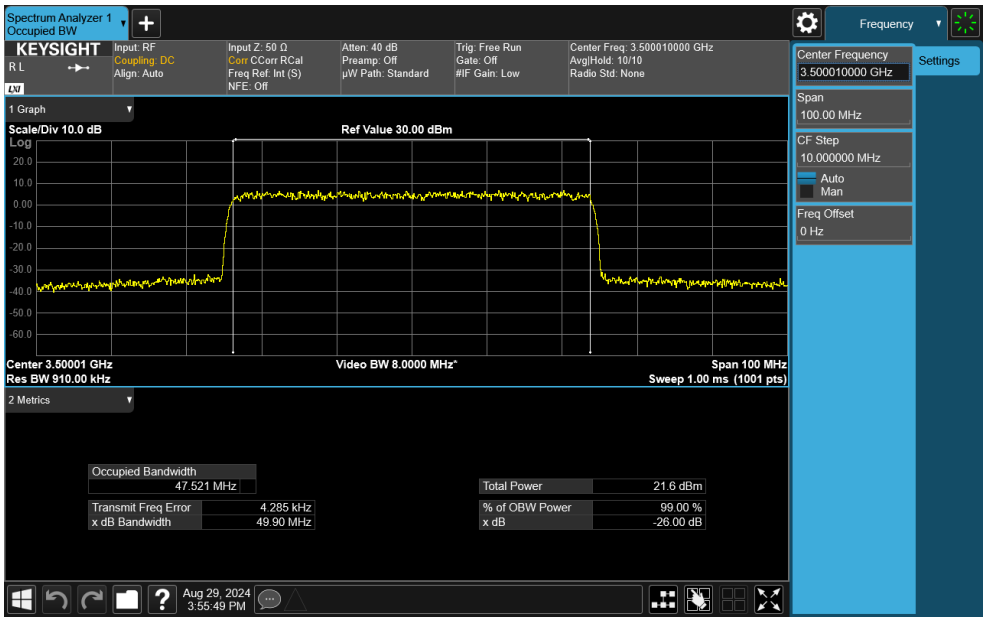
Plot 7-27. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM QPSK - Full RB)



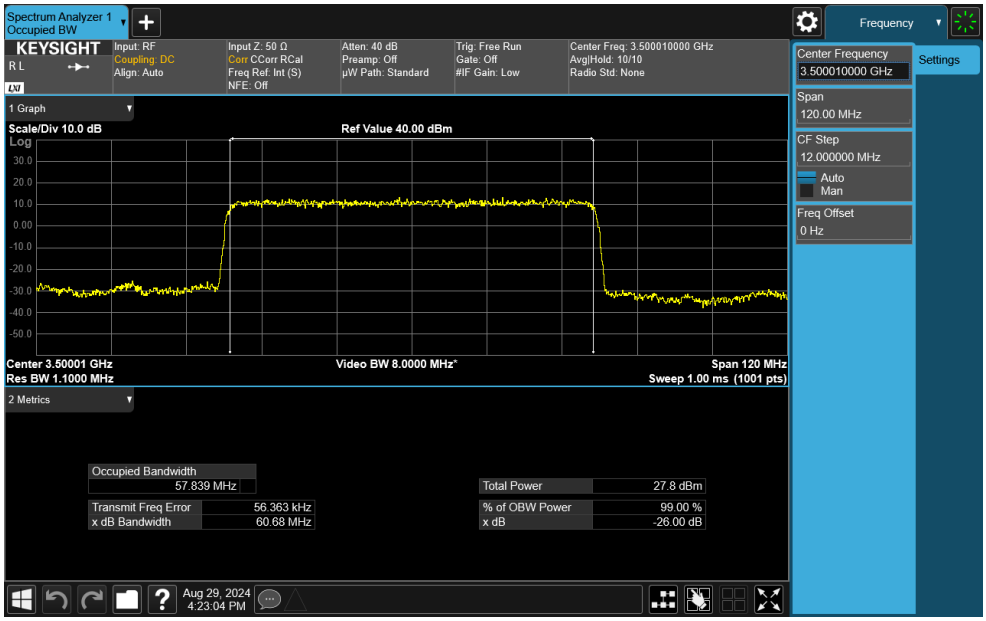
Plot 7-28. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 16-QAM - Full RB)



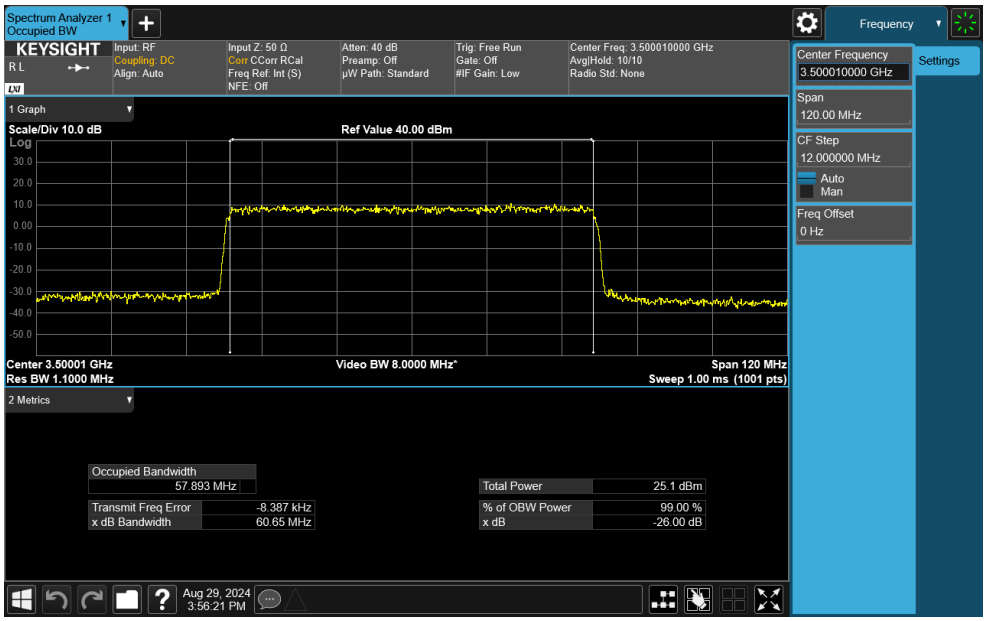
Plot 7-29. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 64-QAM - Full RB)



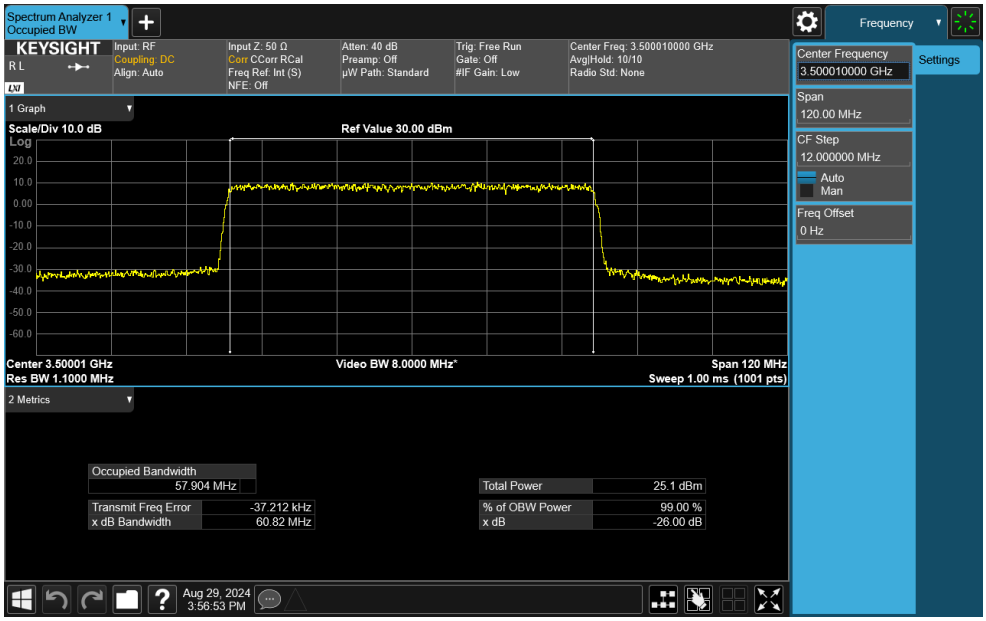
Plot 7-30. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 256-QAM - Full RB)



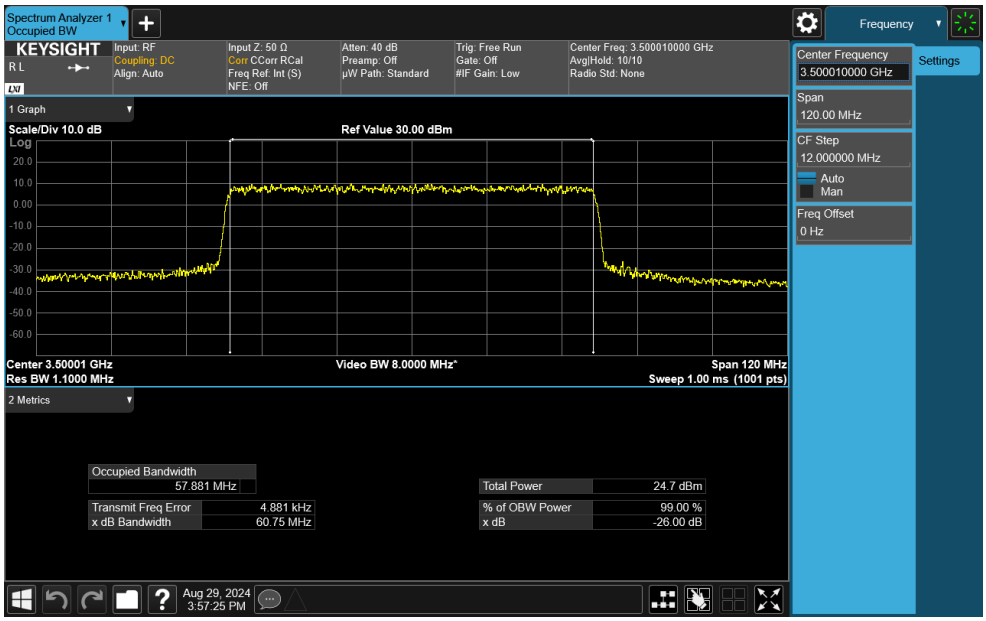
Plot 7-31. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz DFT-s-OFDM π/2 BPSK - Full RB)



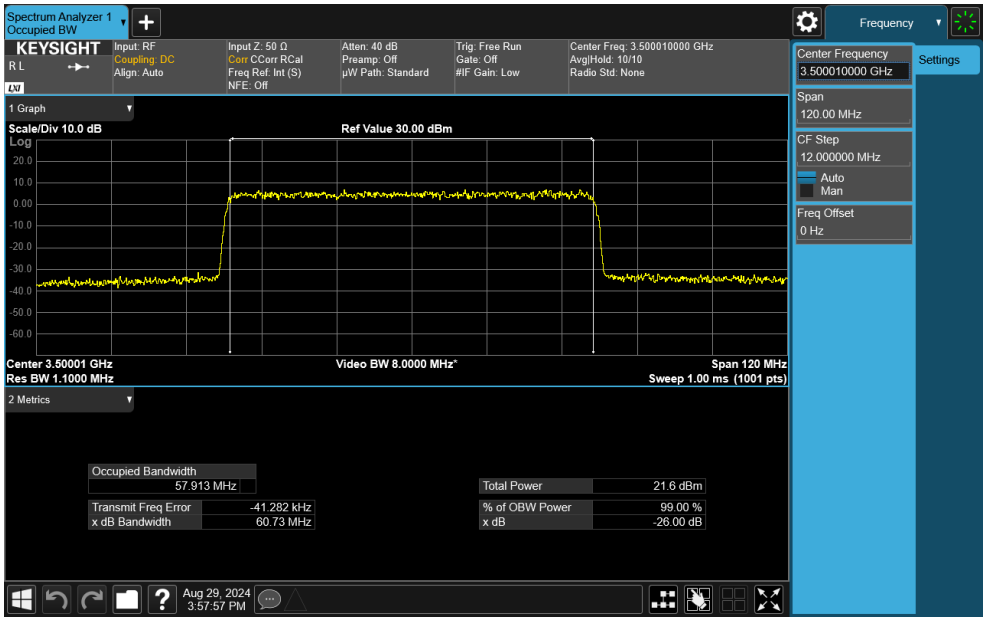
Plot 7-32. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM QPSK - Full RB)



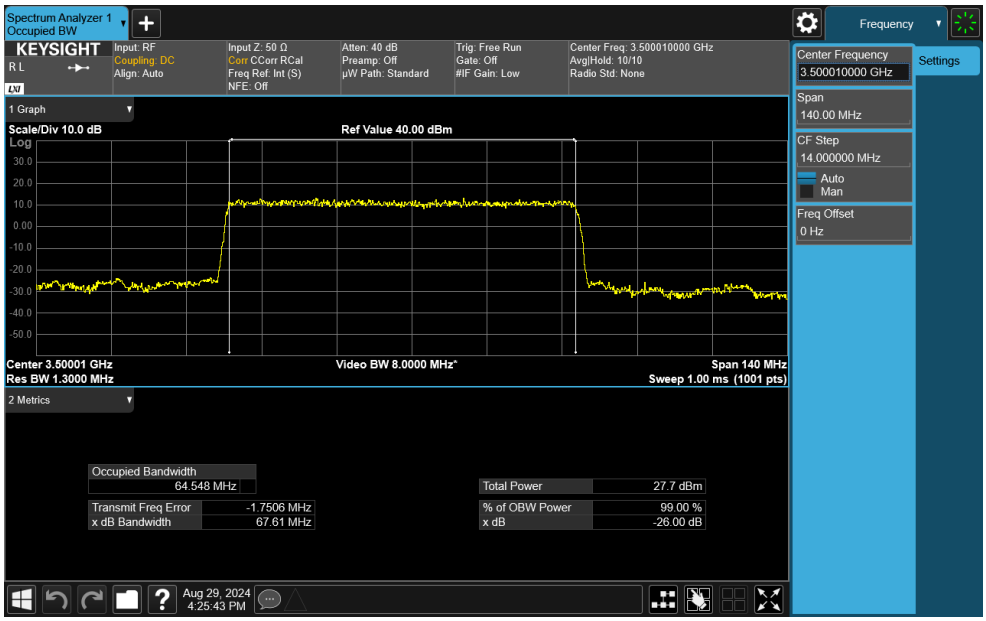
Plot 7-33. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM 16-QAM - Full RB)



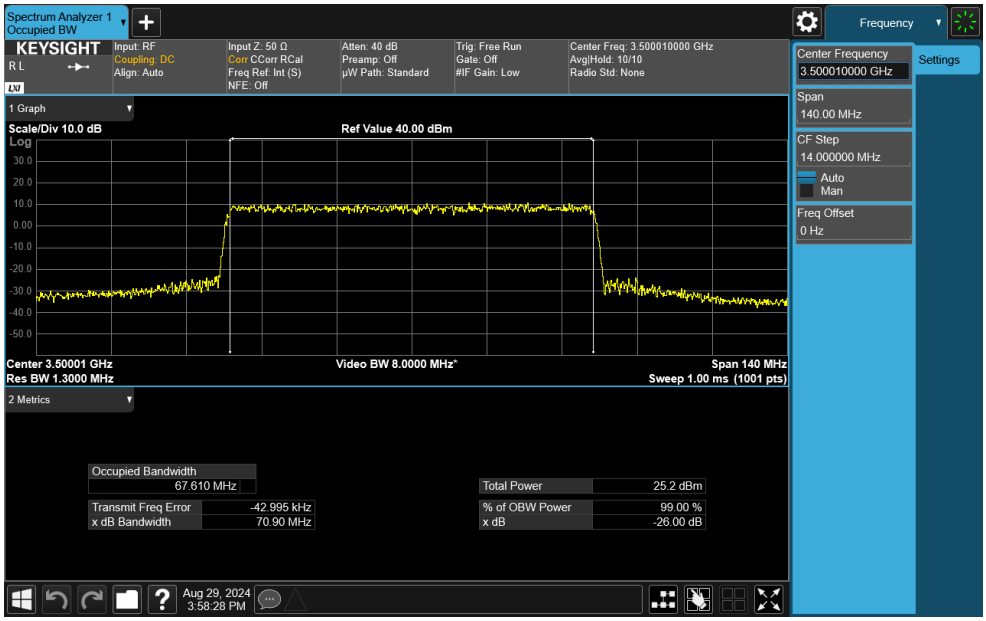
Plot 7-34. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM 64-QAM - Full RB)



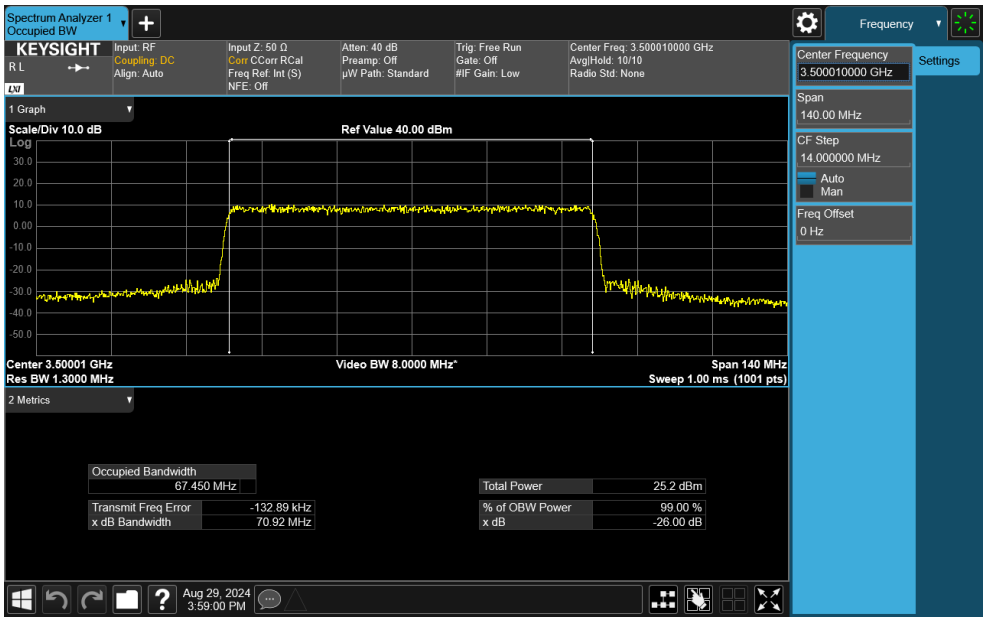
Plot 7-35. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM 256-QAM - Full RB)



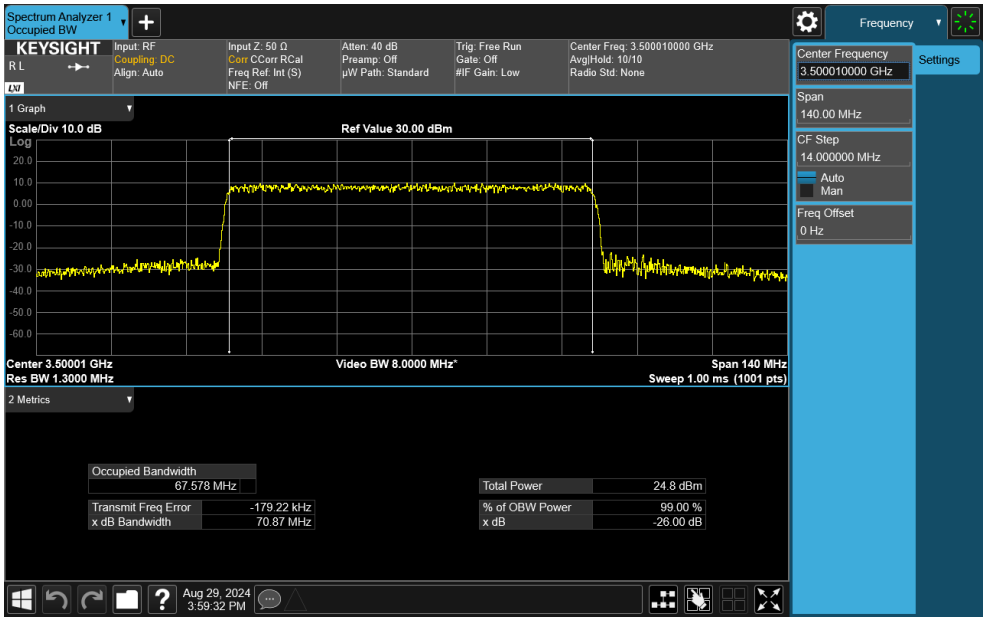
Plot 7-36. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz DFT-s-OFDM π/2 BPSK - Full RB)



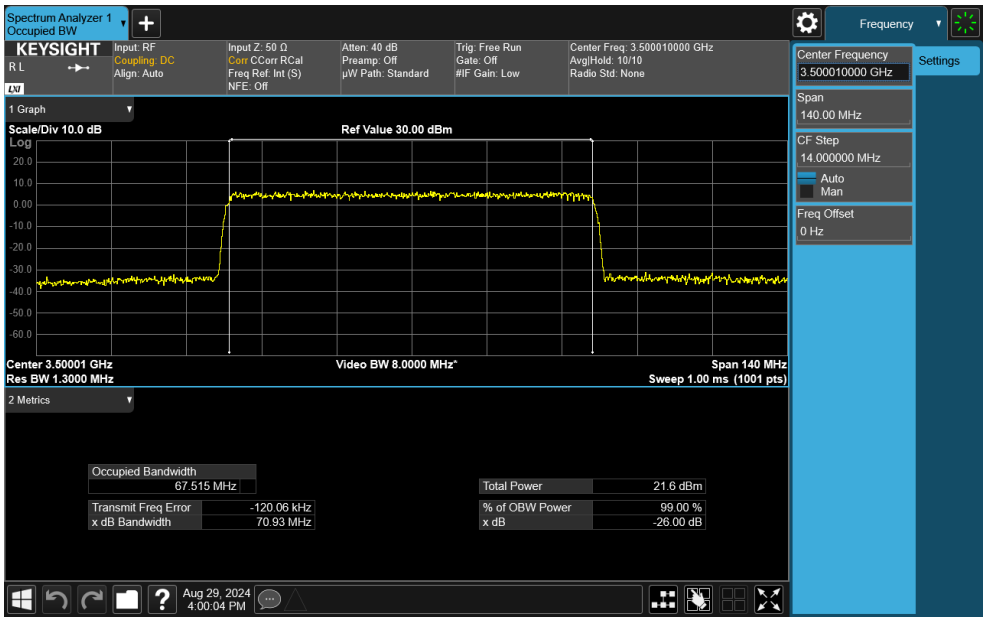
Plot 7-37. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM QPSK - Full RB)



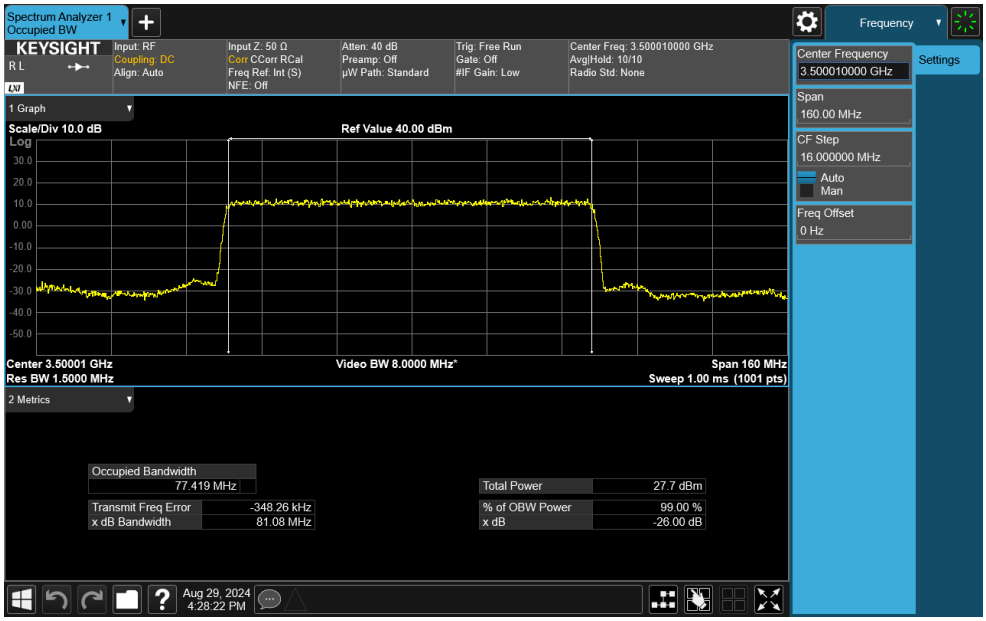
Plot 7-38. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM 16-QAM - Full RB)



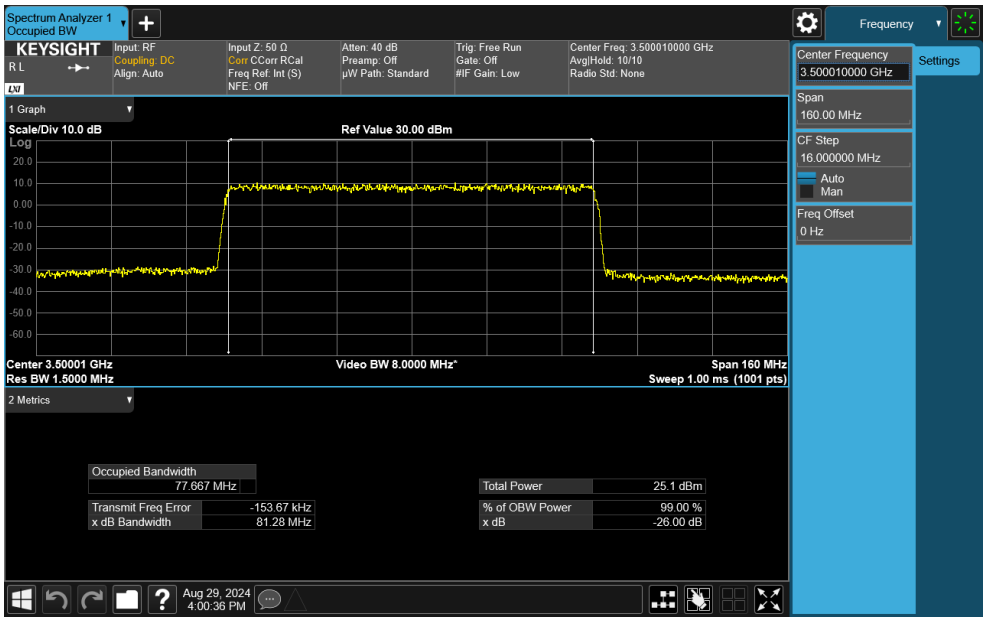
Plot 7-39. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM 64-QAM - Full RB)



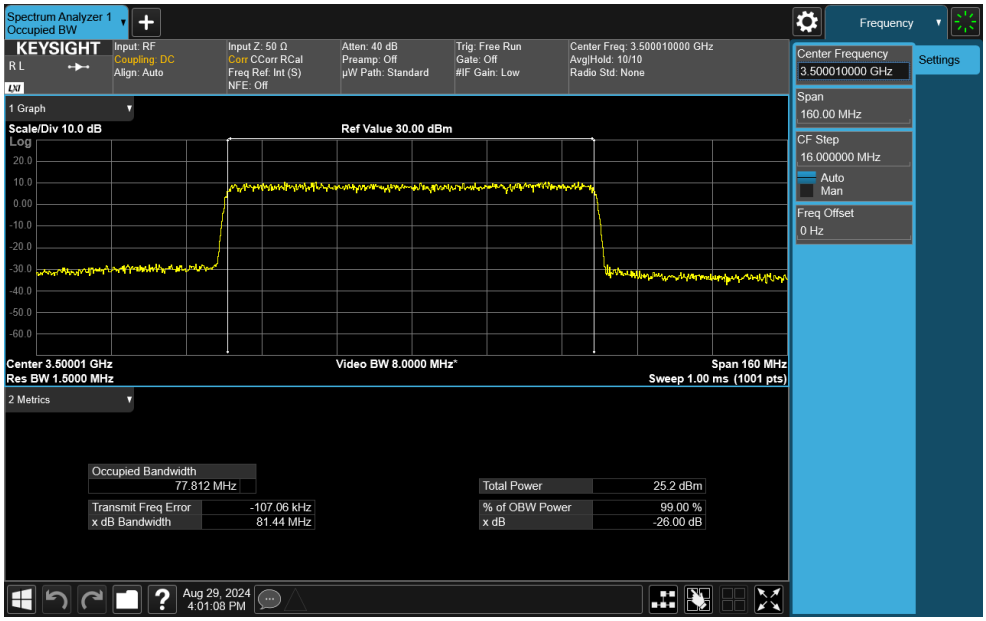
Plot 7-40. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM 256-QAM - Full RB)



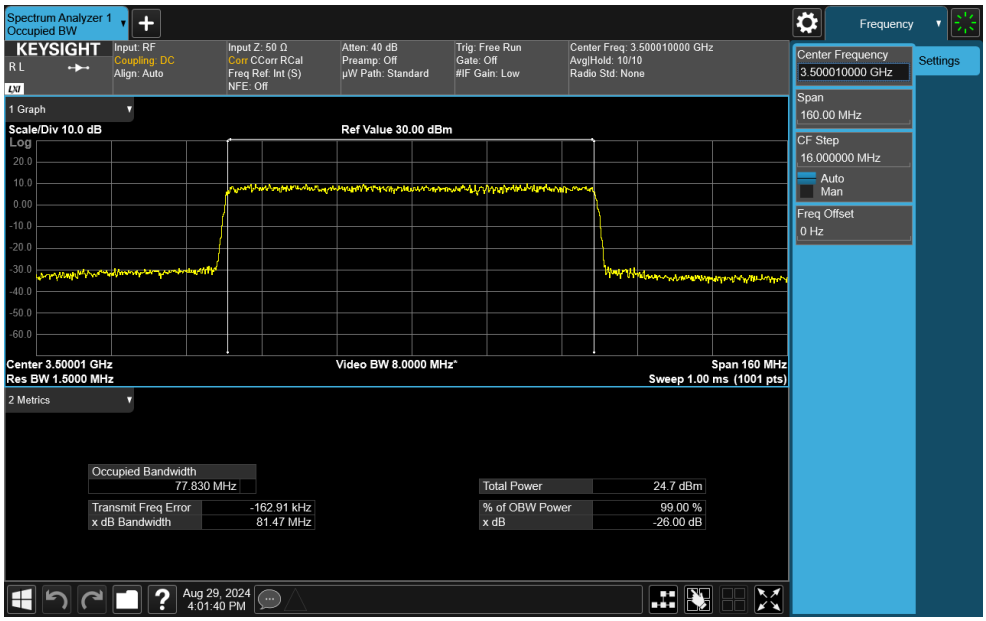
Plot 7-41. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz DFT-s-OFDM π/2 BPSK - Full RB)



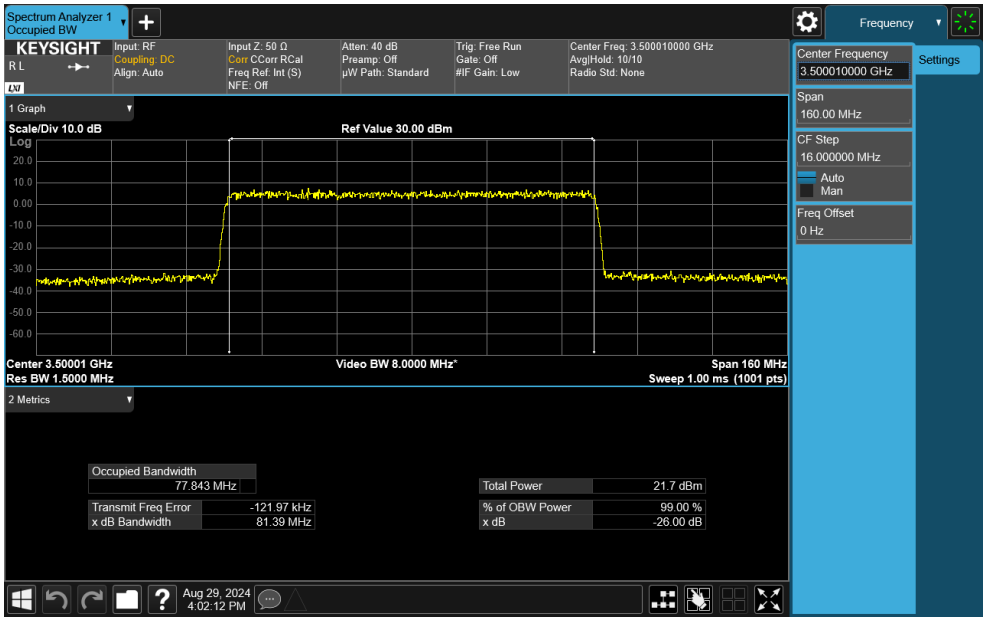
Plot 7-42. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM QPSK - Full RB)



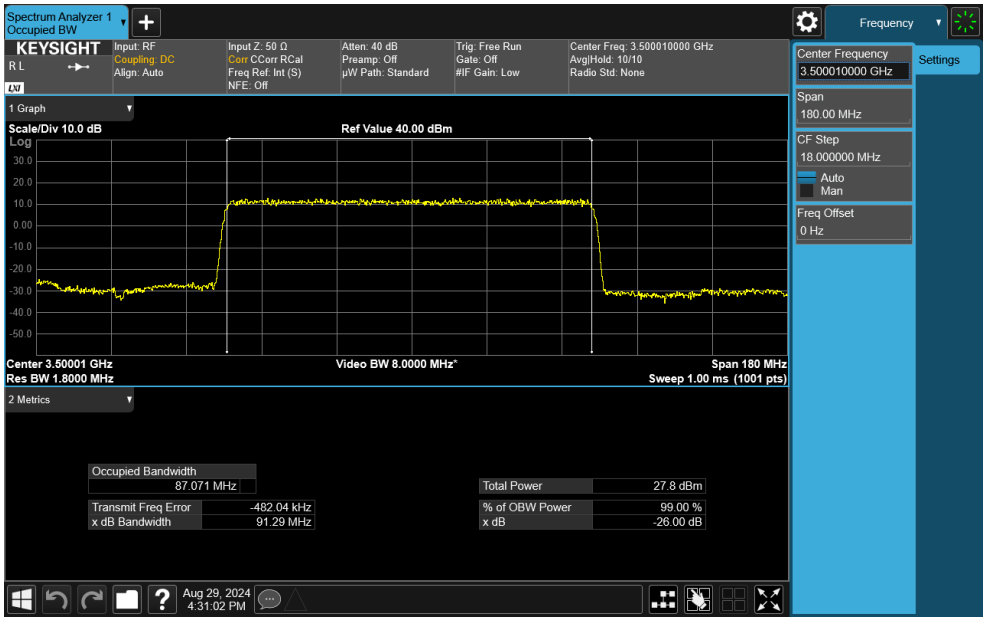
Plot 7-43. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM 16-QAM - Full RB)



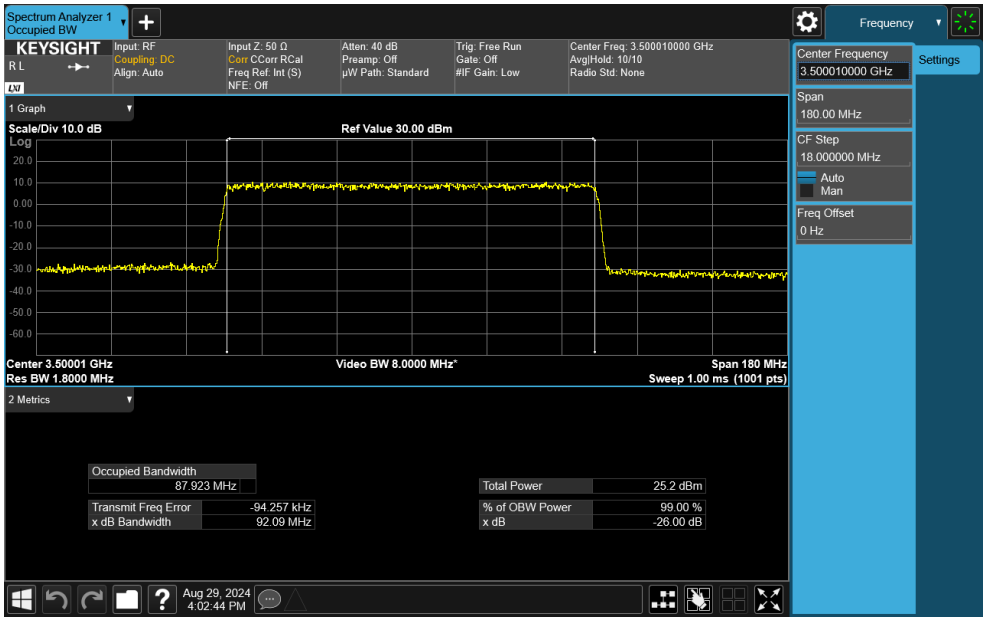
Plot 7-44. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM 64-QAM - Full RB)



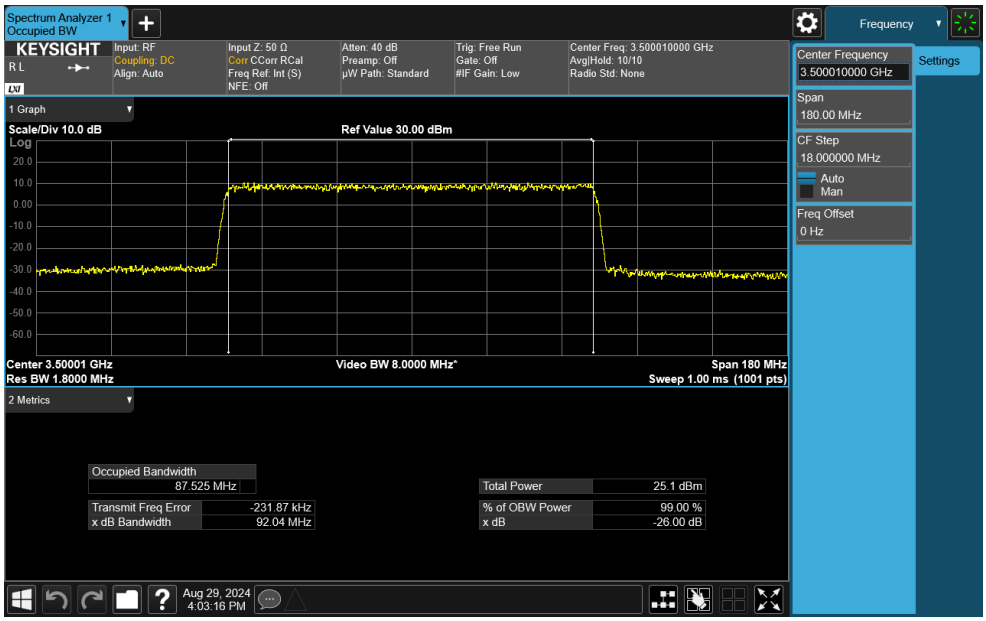
Plot 7-45. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM 256-QAM - Full RB)



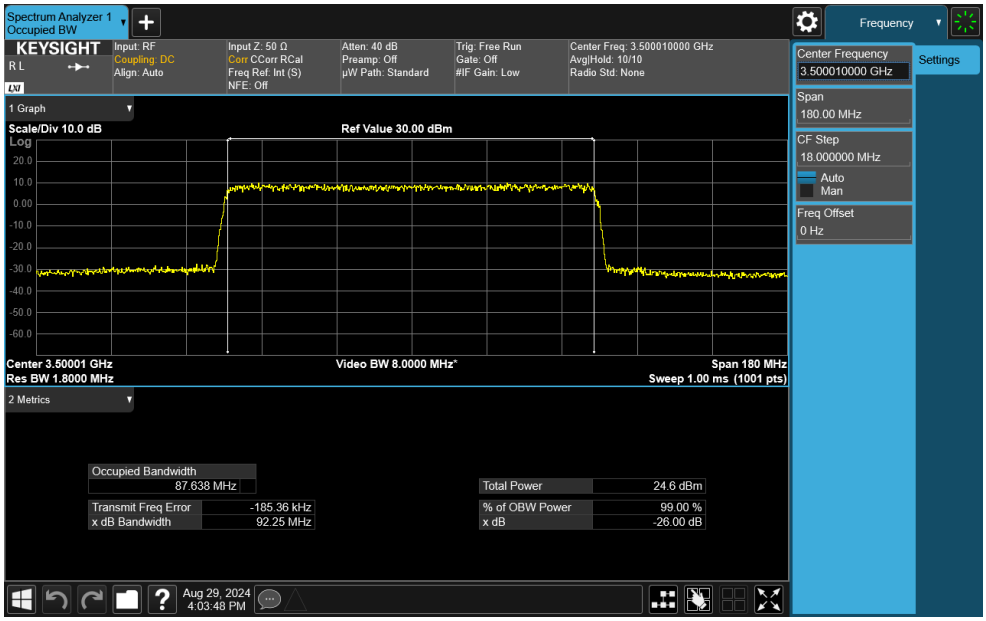
Plot 7-46. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz DFT-s-OFDM π/2 BPSK - Full RB)



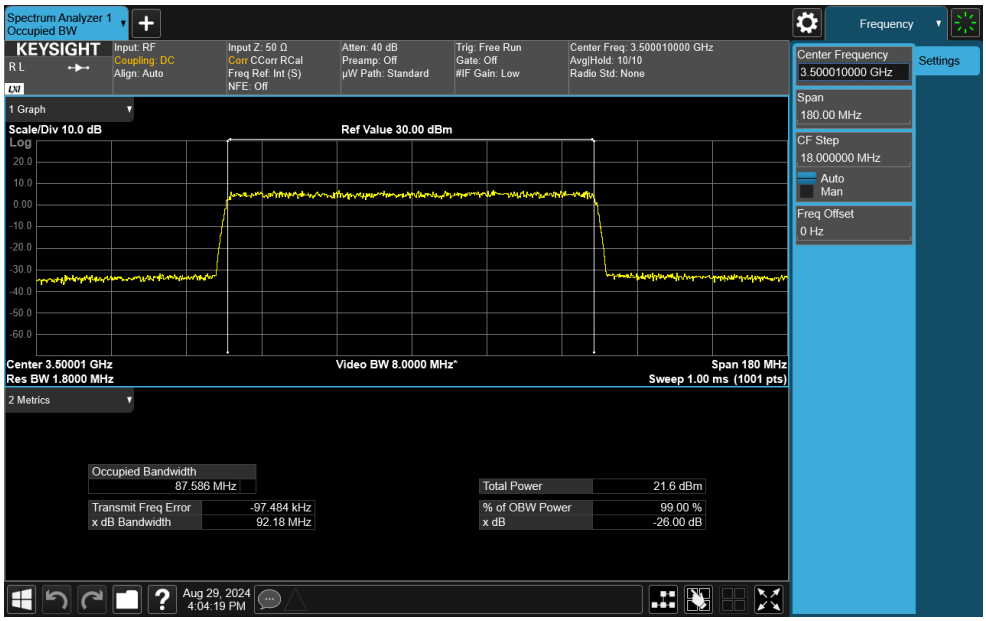
Plot 7-47. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM QPSK - Full RB)



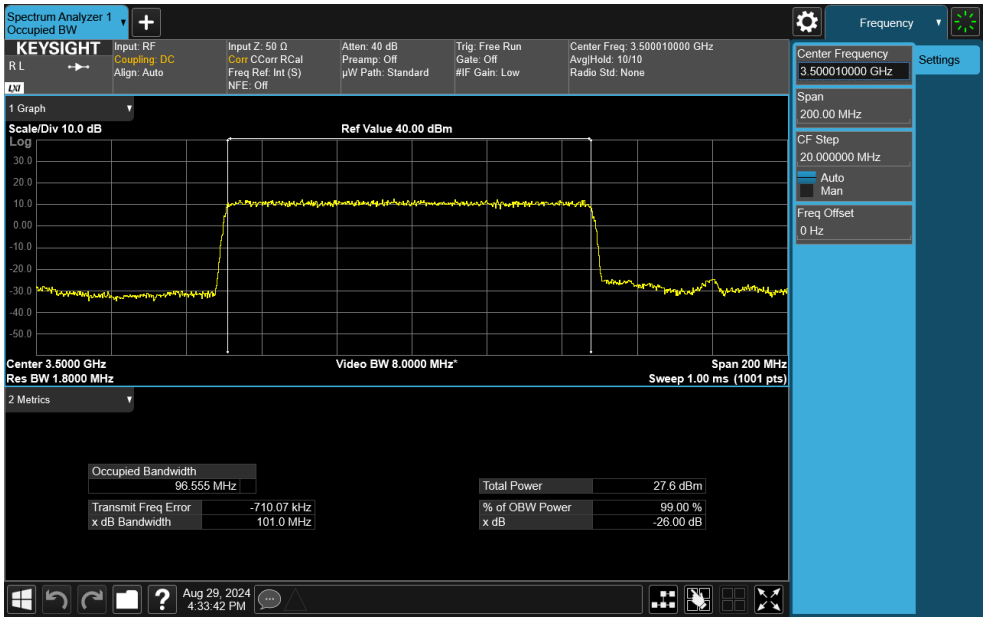
Plot 7-48. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM 16-QAM - Full RB)



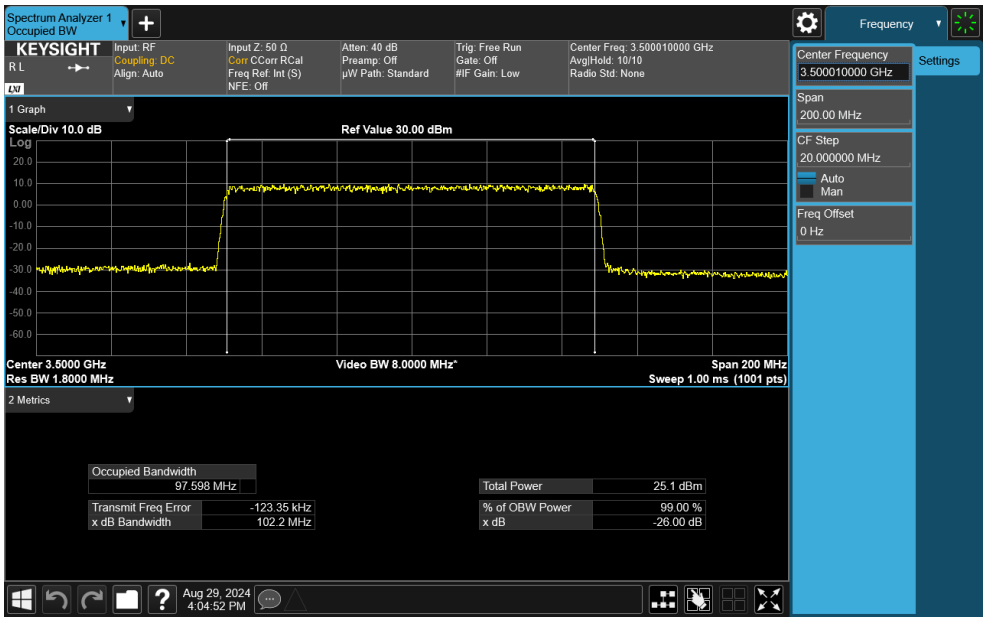
Plot 7-49. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM 64-QAM - Full RB)



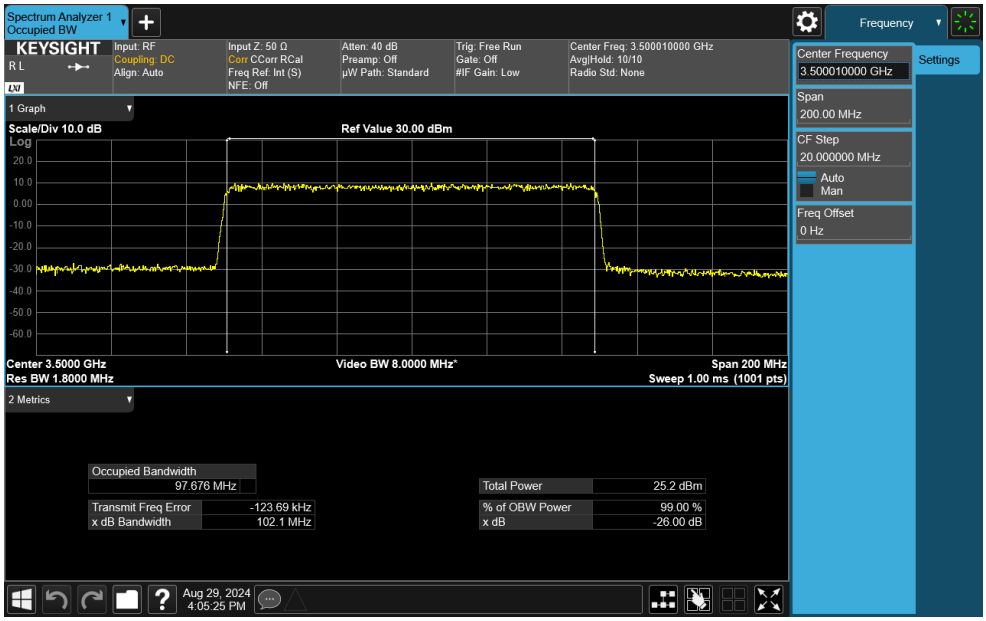
Plot 7-50. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM 256-QAM - Full RB)



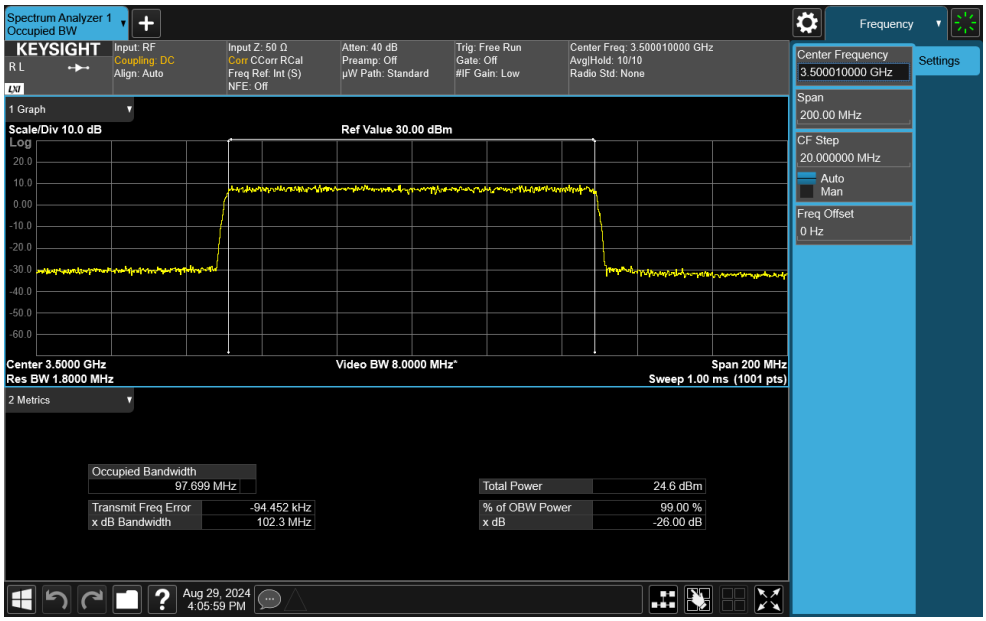
Plot 7-51. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz DFT-s-OFDM π/2 BPSK - Full RB)



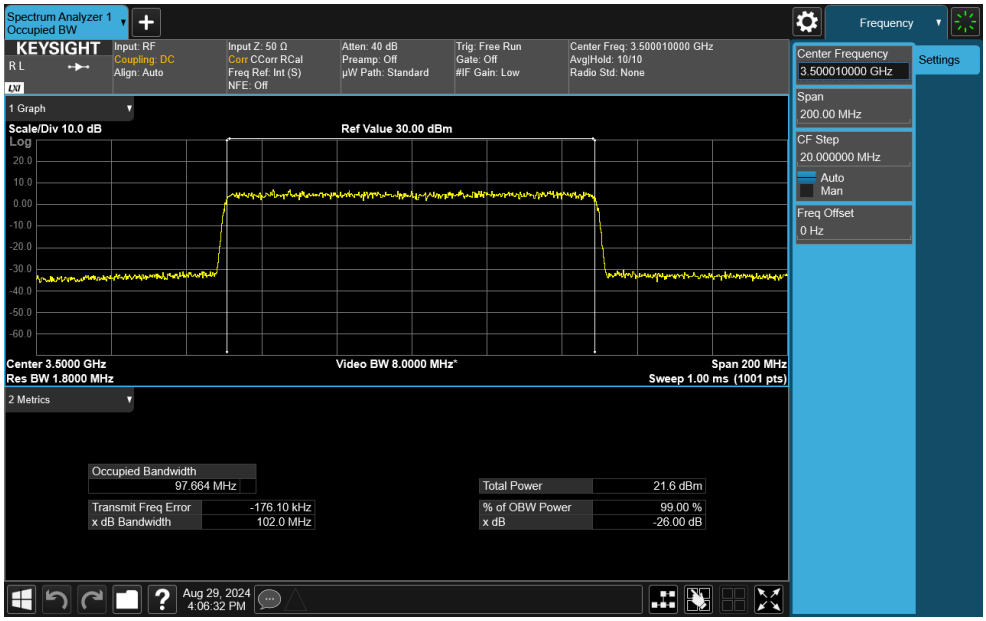
Plot 7-52. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz CP-OFDM QPSK - Full RB)



Plot 7-53. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz CP-OFDM 16-QAM - Full RB)

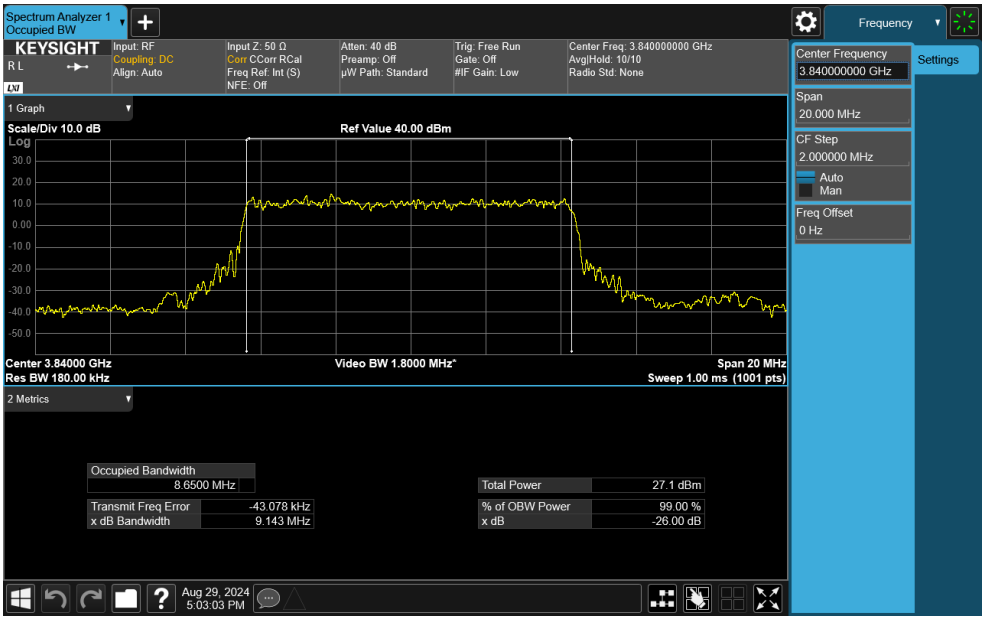


Plot 7-54. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz CP-OFDM 64-QAM - Full RB)

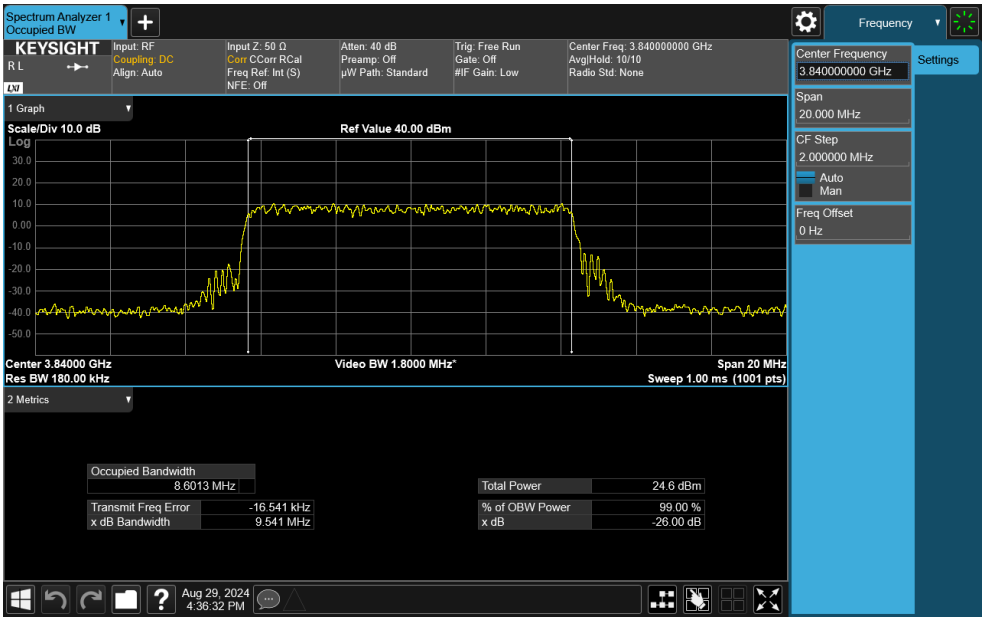


Plot 7-55. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz CP-OFDM 256-QAM - Full RB)

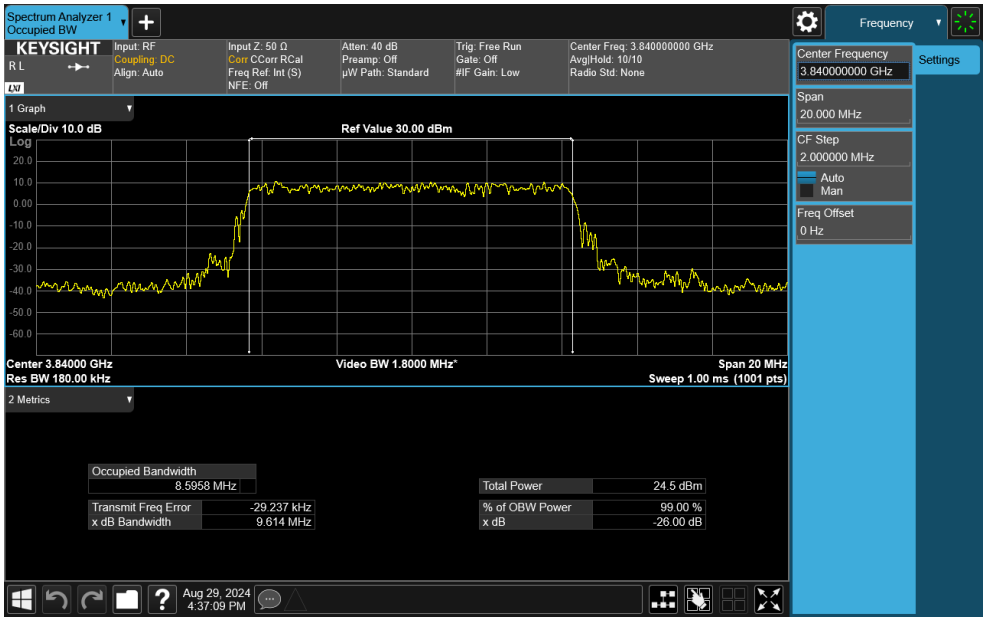
NR Band n77 C-Band



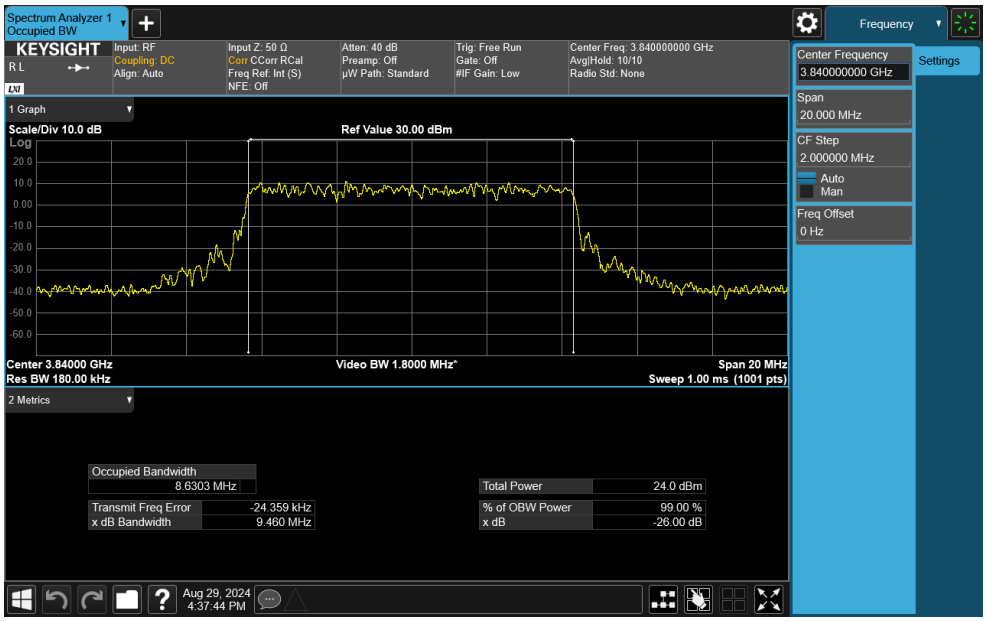
Plot 7-56. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz DFT-s-OFDM π/2 BPSK - Full RB)



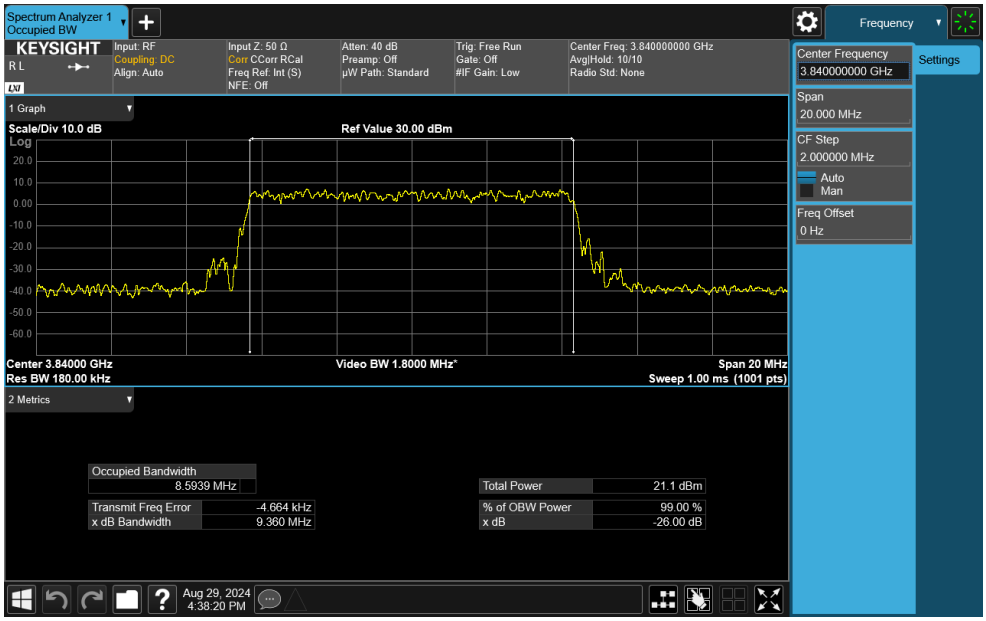
Plot 7-57. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM QPSK - Full RB)



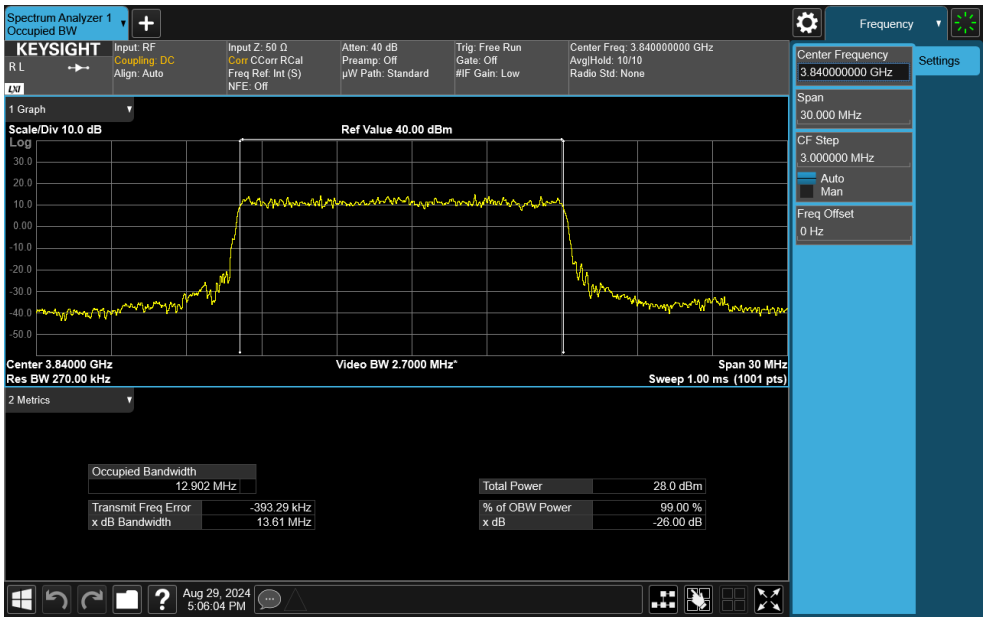
Plot 7-58. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM 16-QAM - Full RB)



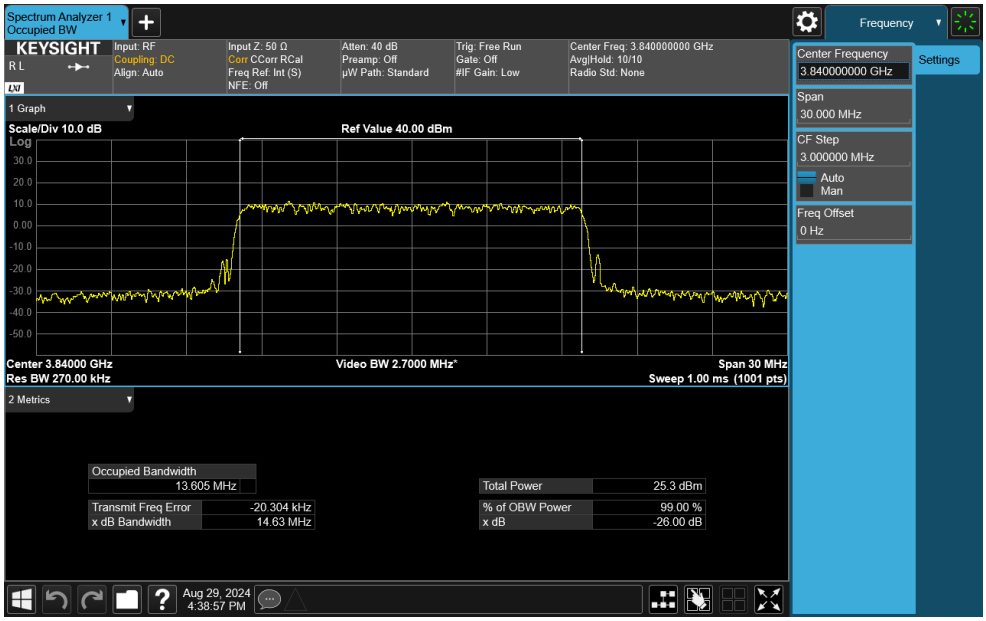
Plot 7-59. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM 64-QAM - Full RB)



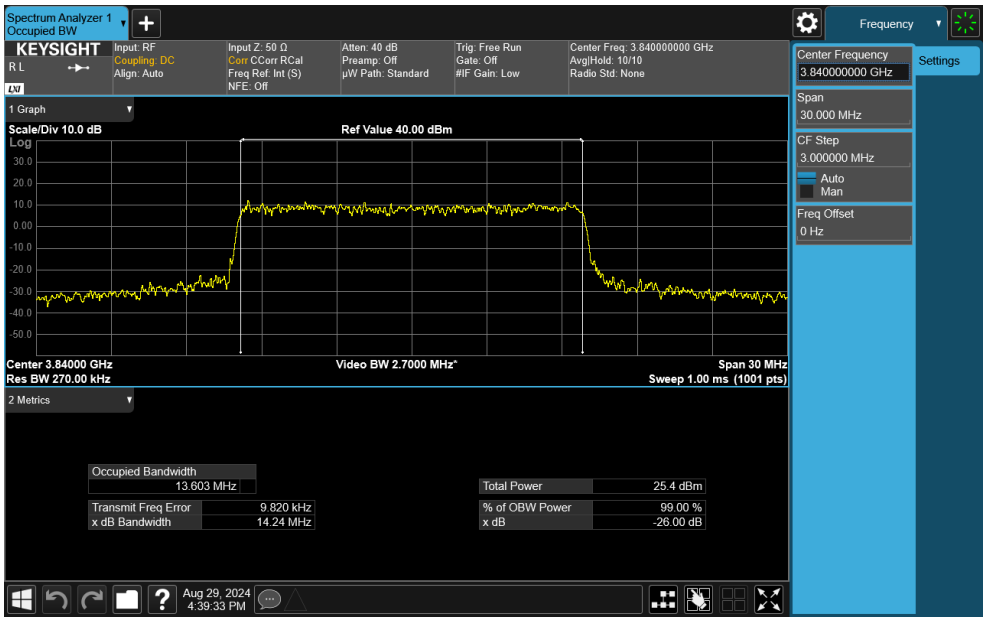
Plot 7-60. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM 256-QAM - Full RB)



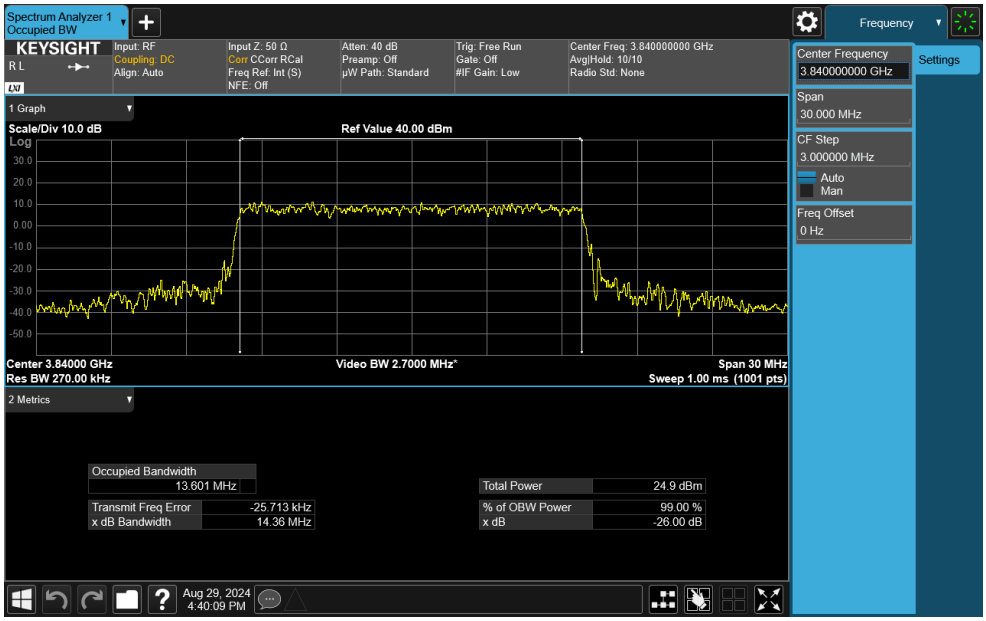
Plot 7-61. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz DFT-s-OFDM π/2 BPSK - Full RB)



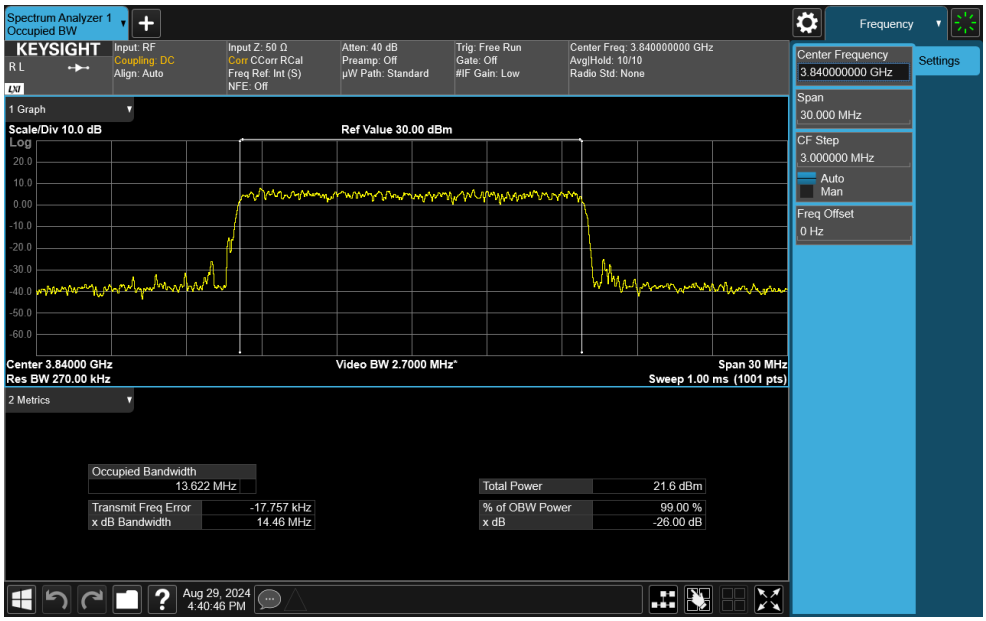
Plot 7-62. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM QPSK - Full RB)



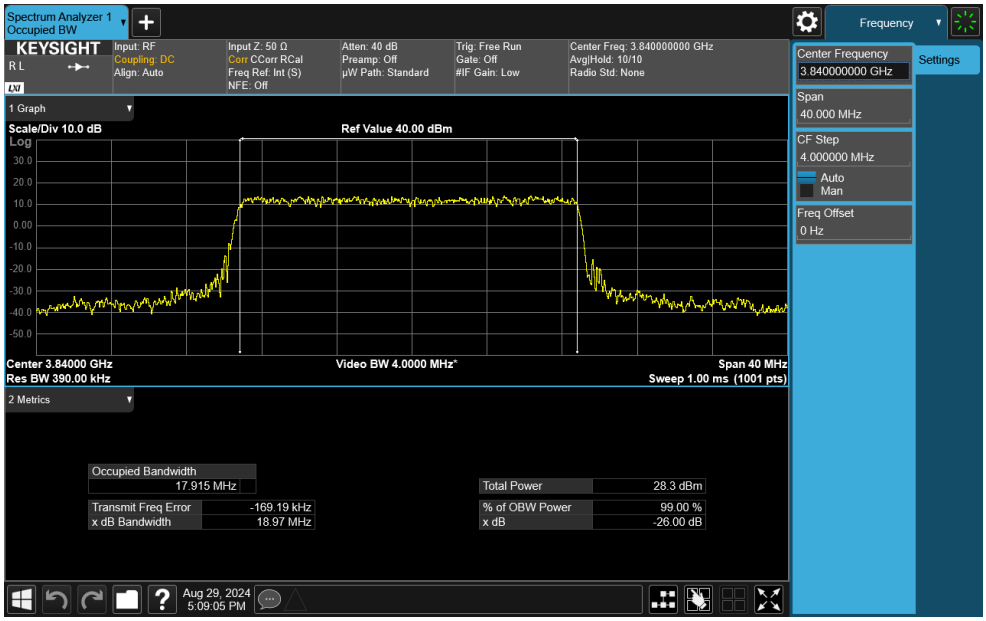
Plot 7-63. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM 16-QAM - Full RB)



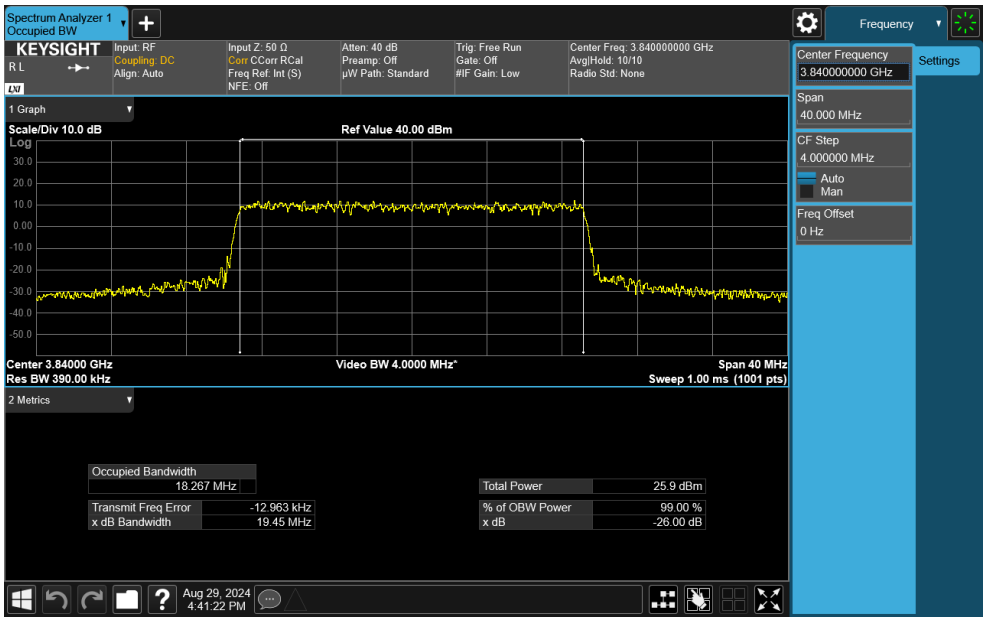
Plot 7-64. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM 64-QAM - Full RB)



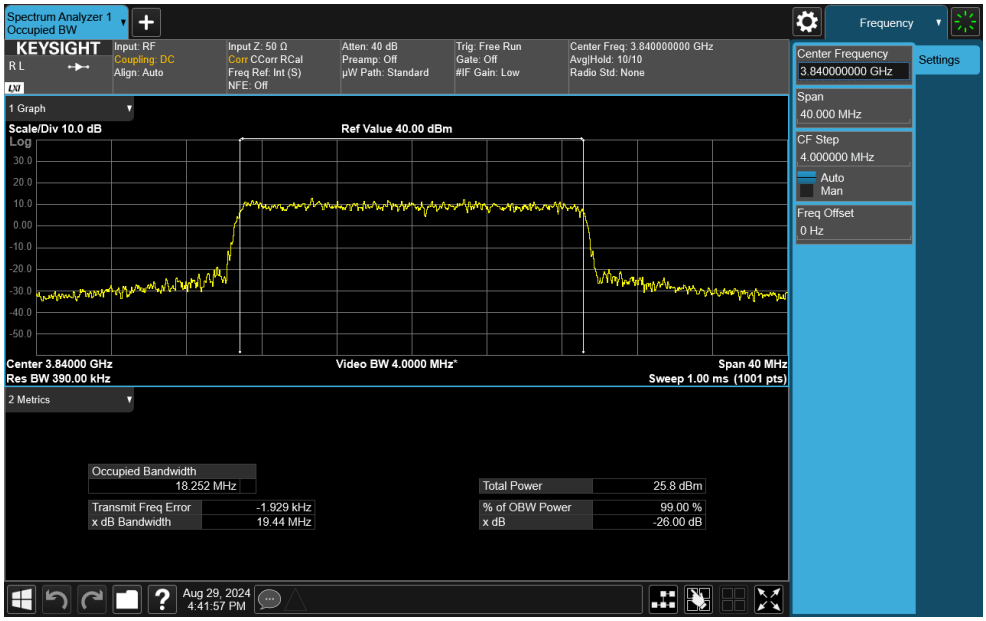
Plot 7-65. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM 256-QAM - Full RB)



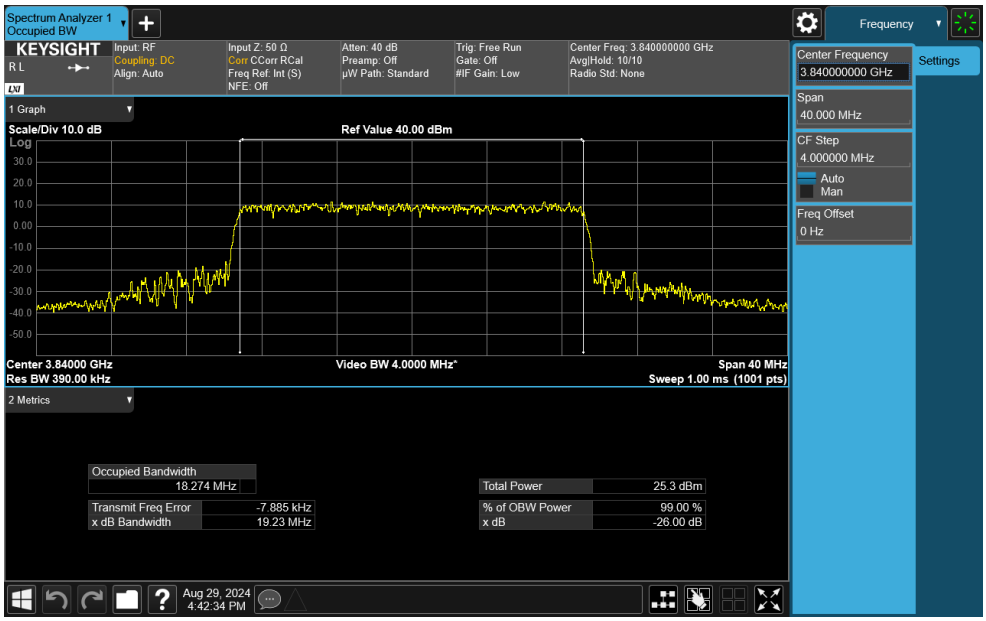
Plot 7-66. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz DFT-s-OFDM π/2 BPSK - Full RB)



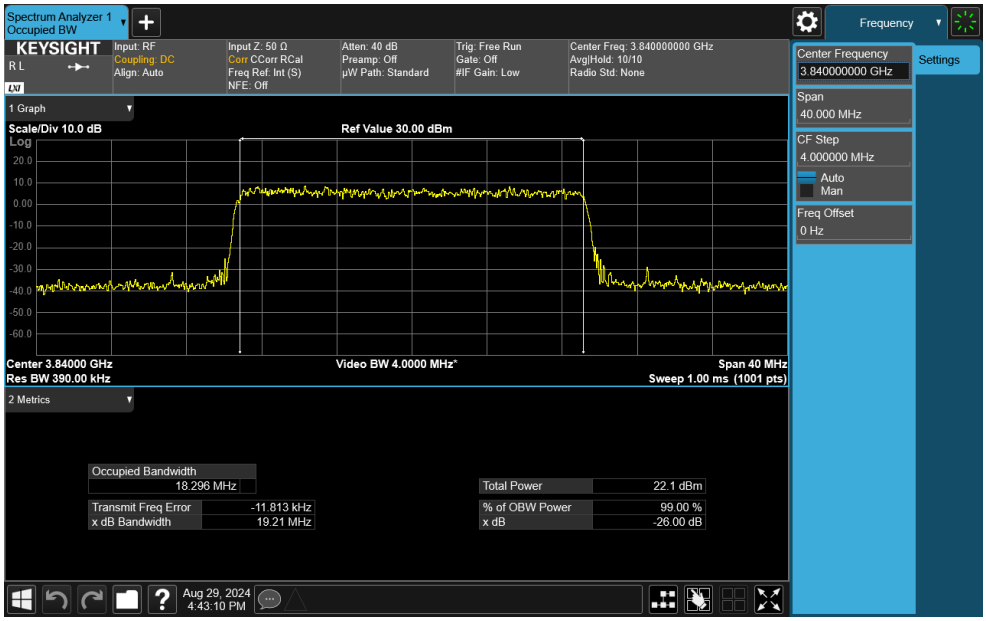
Plot 7-67. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM QPSK - Full RB)



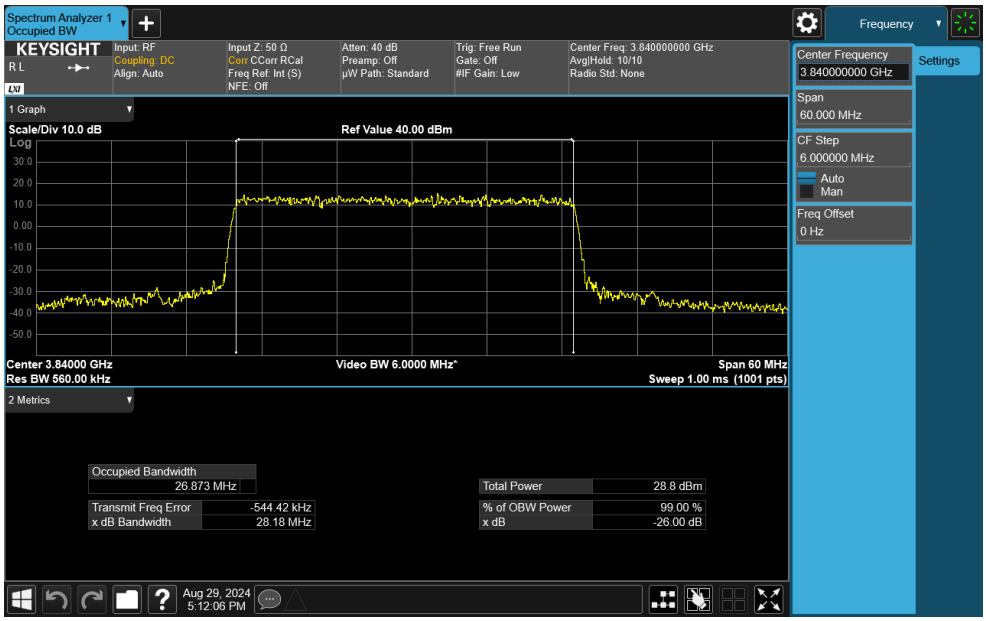
Plot 7-68. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM 16-QAM - Full RB)



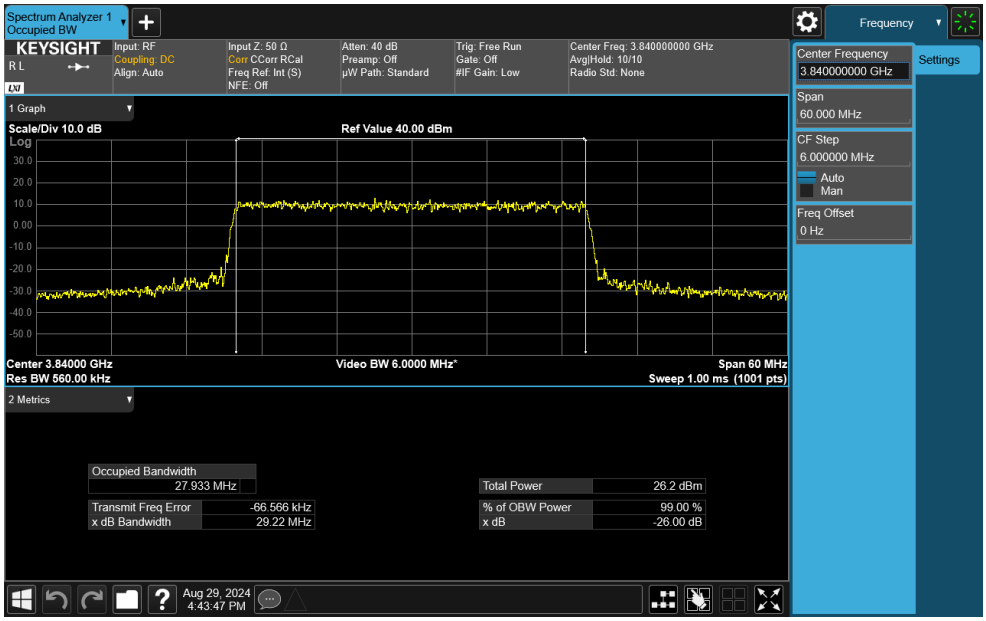
Plot 7-69. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM 64-QAM - Full RB)



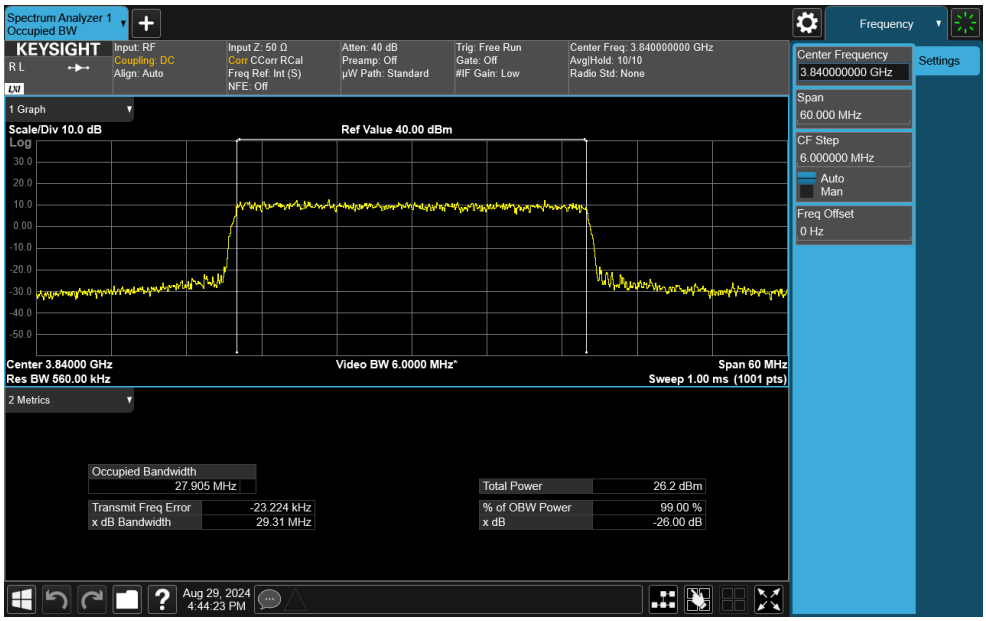
Plot 7-70. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM 256-QAM - Full RB)



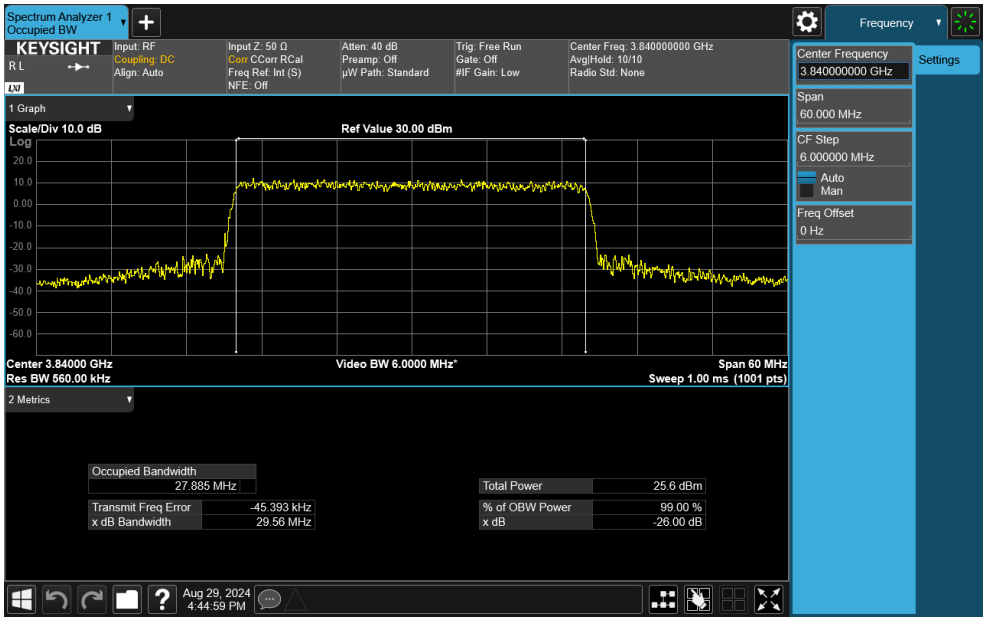
Plot 7-71. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz DFT-s-OFDM π/2 BPSK - Full RB)



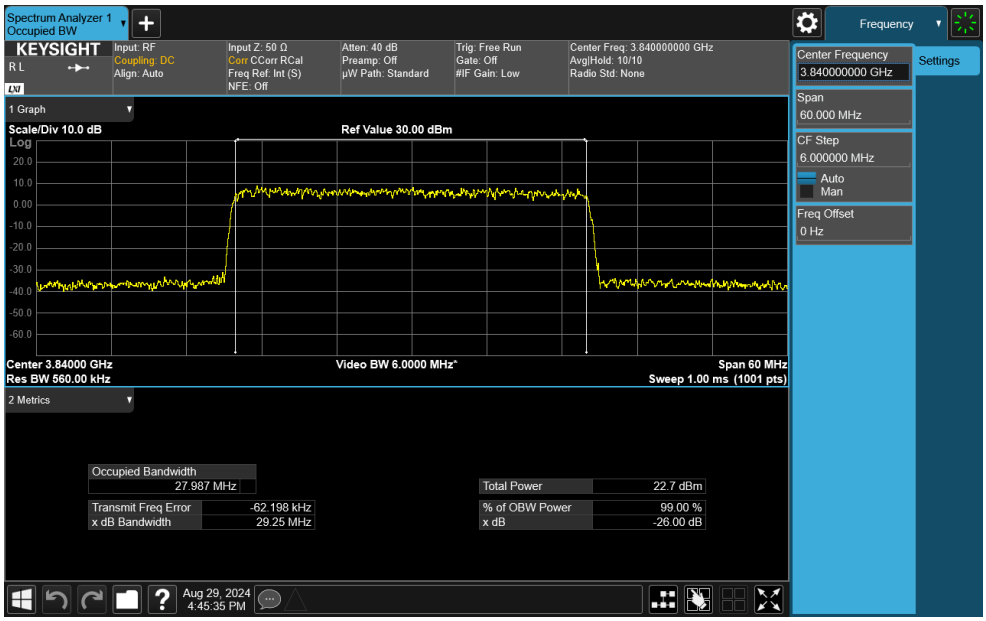
Plot 7-72. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM QPSK - Full RB)



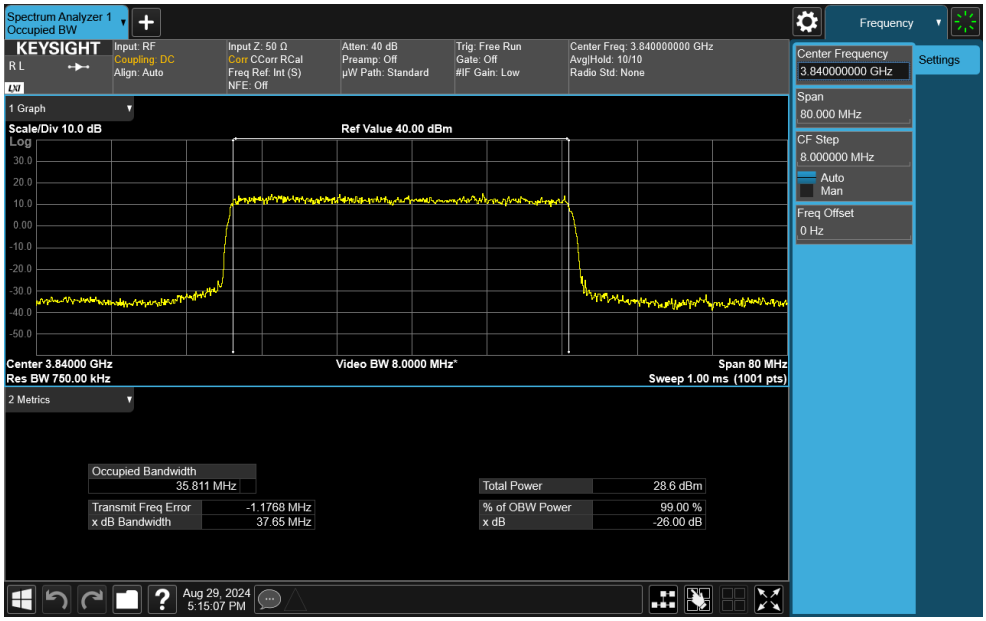
Plot 7-73. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM 16-QAM - Full RB)



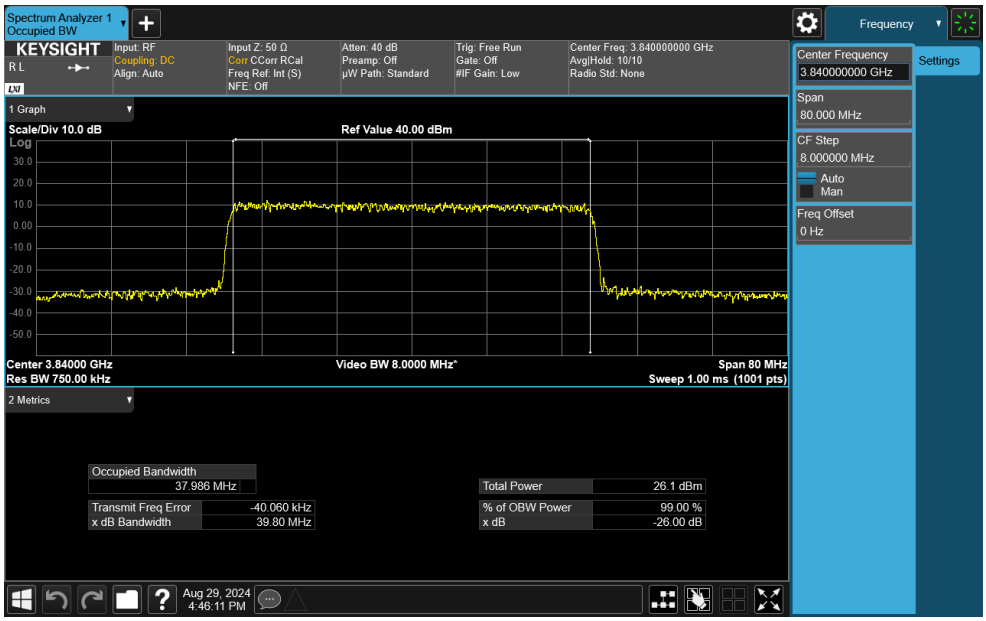
Plot 7-74. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM 64-QAM - Full RB)



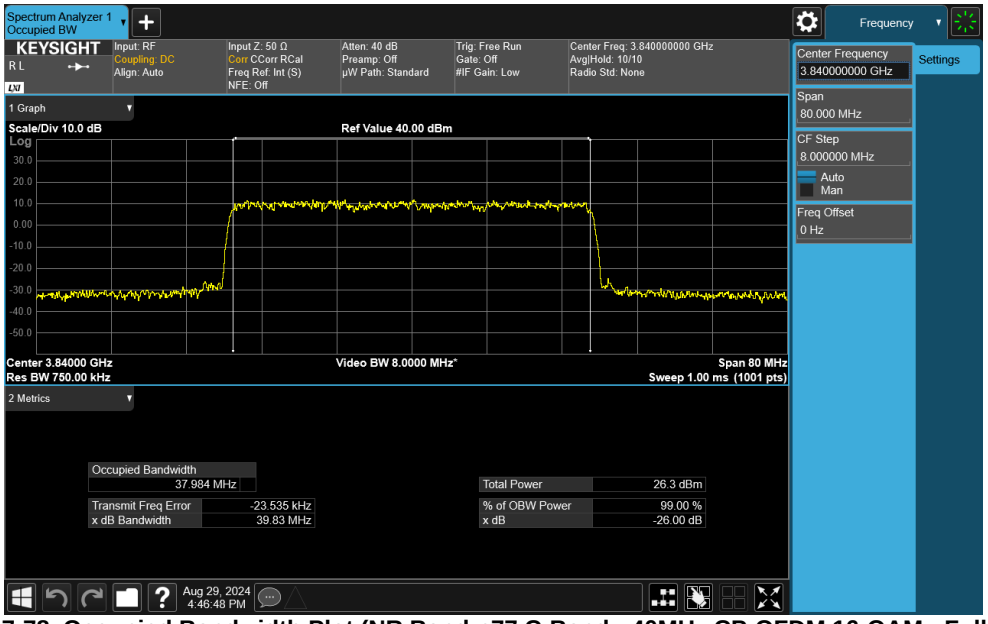
Plot 7-75. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM 256-QAM - Full RB)



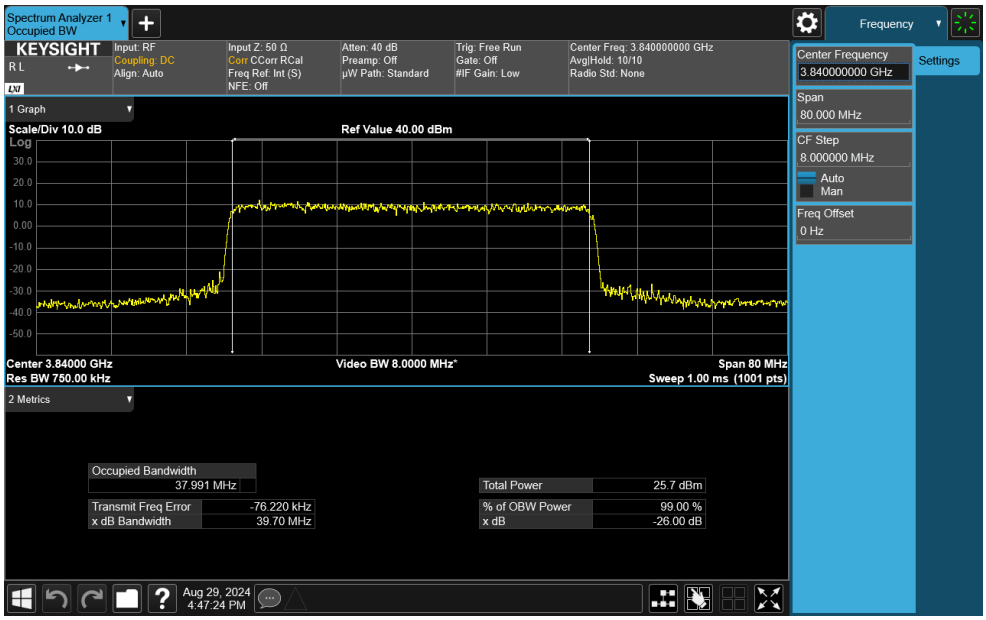
Plot 7-76. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz DFT-s-OFDM π/2 BPSK - Full RB)



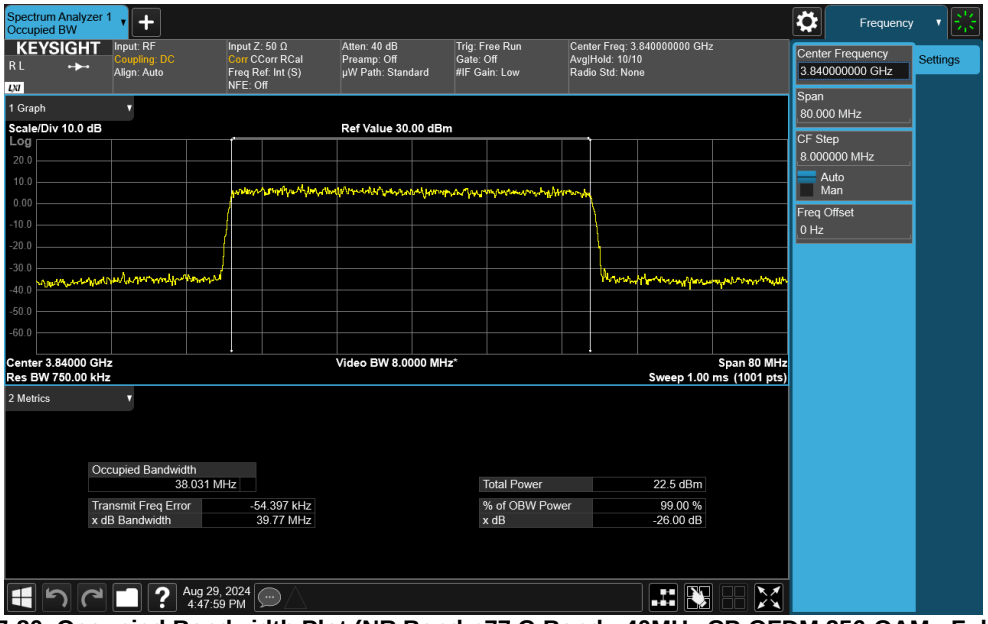
Plot 7-77. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM QPSK - Full RB)



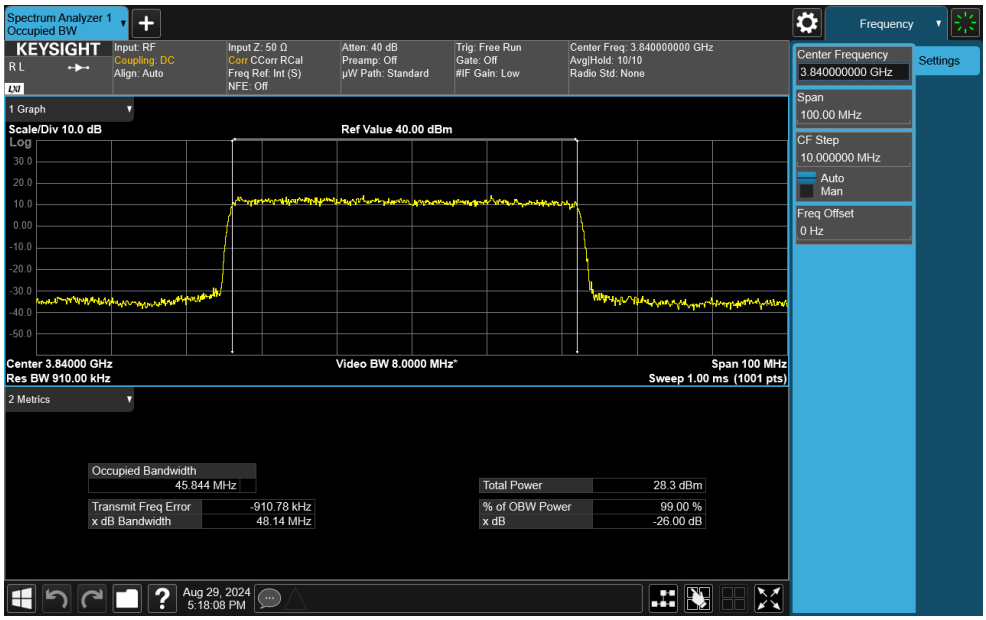
Plot 7-78. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM 16-QAM - Full RB)



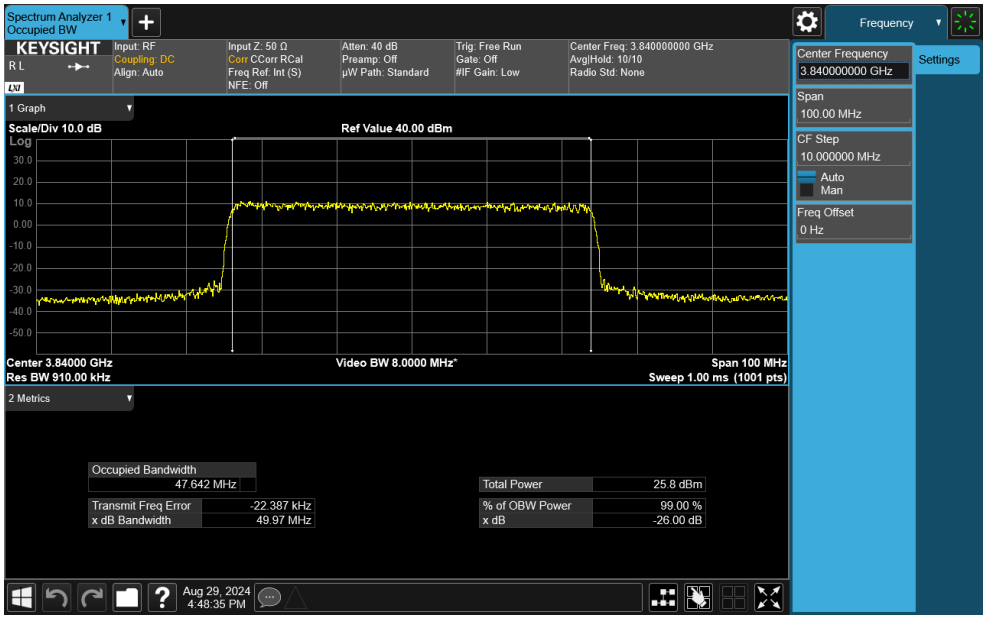
Plot 7-79. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM 64-QAM - Full RB)



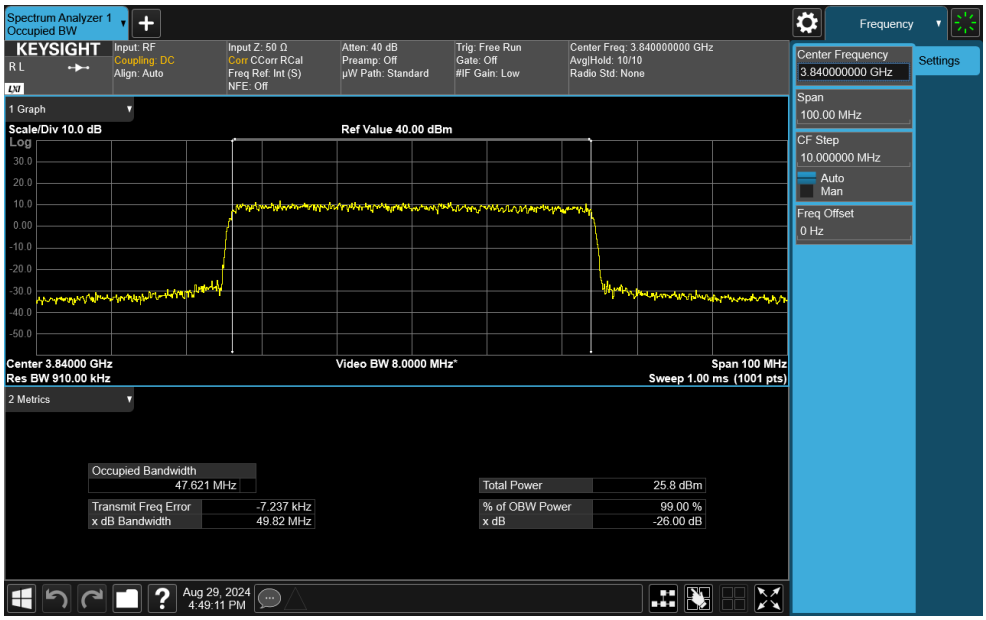
Plot 7-80. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM 256-QAM - Full RB)



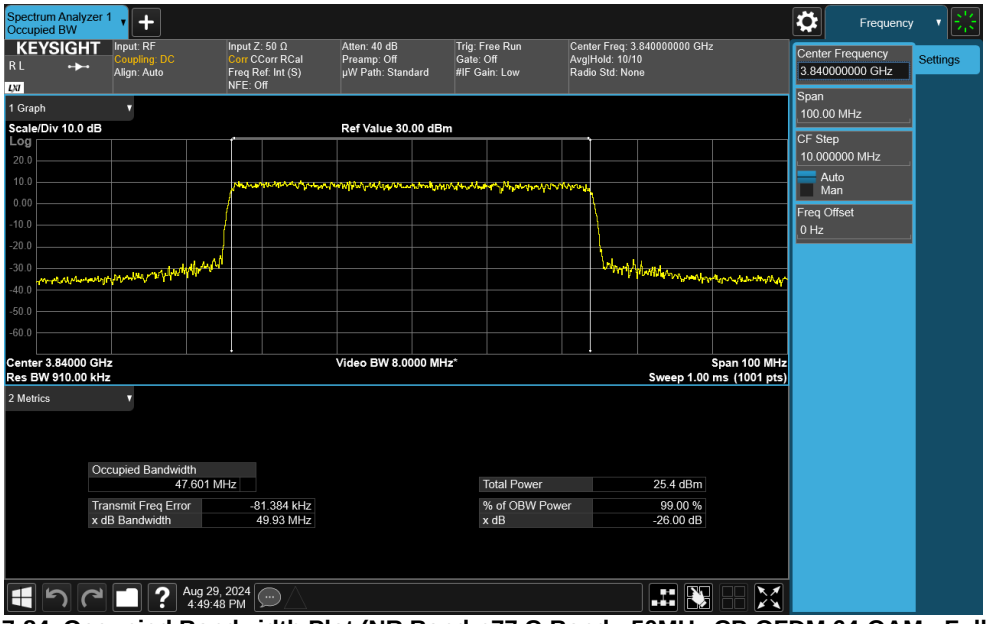
Plot 7-81. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz DFT-s-OFDM π/2 BPSK - Full RB)



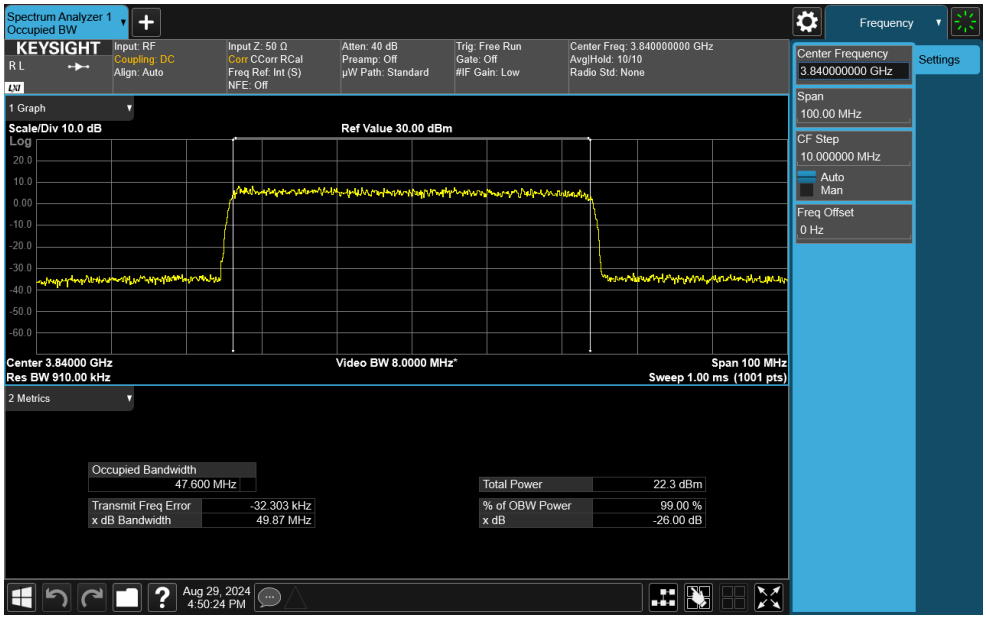
Plot 7-82. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM QPSK - Full RB)



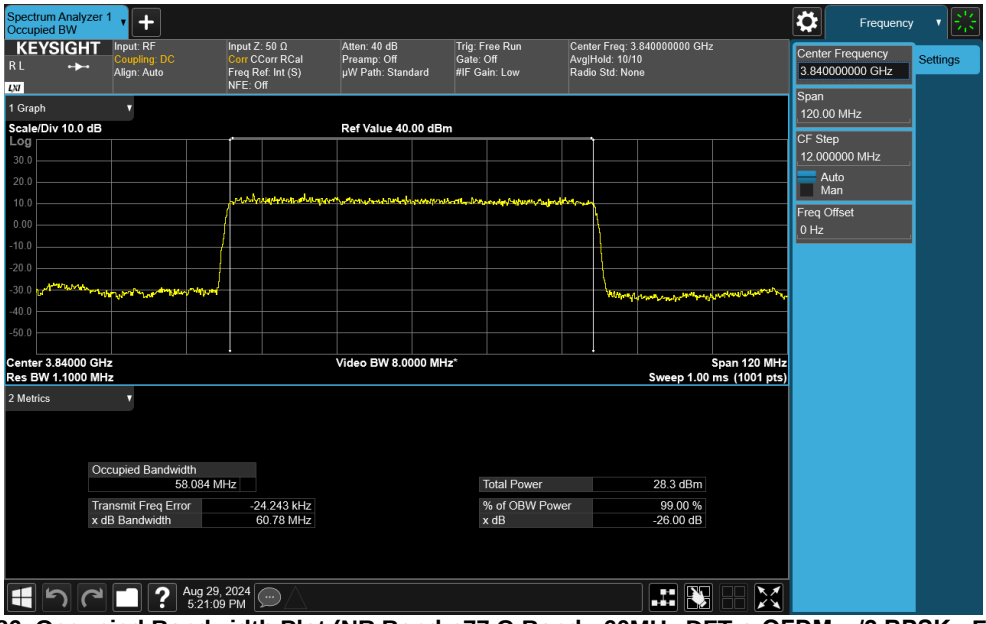
Plot 7-83. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM 16-QAM - Full RB)



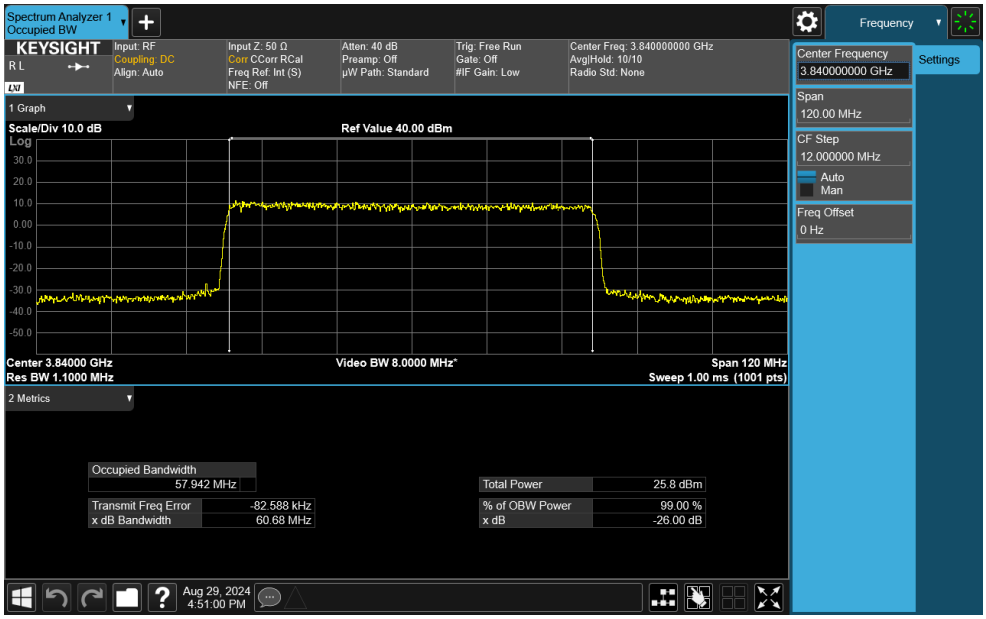
Plot 7-84. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM 64-QAM - Full RB)



Plot 7-85. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM 256-QAM - Full RB)



Plot 7-86. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz DFT-s-OFDM π/2 BPSK - Full RB)



Plot 7-87. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz CP-OFDM QPSK - Full RB)