



Element Materials Technology

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PART 27 MEASUREMENT REPORT

Applicant Name:

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

Date of Testing:

4/18/2024 - 7/22/2024

Test Report Issue Date:

9/6/2024

Test Site/Location:

Element Materials Technology, Morgan Hill, CA, USA

Test Report Serial No.:

1C2405200018-11.BCG

FCC ID:**BCGA2995****Applicant Name:****Apple Inc.****Application Type:****Certification****Model:****A2995, A2996****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 Ortiz
Executive Vice President

Prepared by: WKR0000006193**Reviewed by:** WKR0000005849

FCC ID: BCGA2995		PART 27 MEASUREMENT REPORT	
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device	Approved by: Technical Manager Page 1 of 266

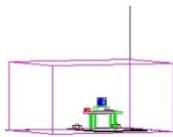
V2.2 09/07/2023

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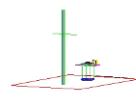
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Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	PAR at 0.1% [dB]	EIRP		Emission Designator
						Max. Power [W]	Max. Power [dBm]	
NR Band n77 (PC2) (3450 - 3550MHz)	10 MHz	TT/2 BPSK	3455.0 - 3545.0	8.557	4.14	0.869	29.39	8M56G7W
		QPSK	3455.0 - 3545.0	8.941	5.55	0.891	29.50	8M94G7W
		16QAM	3455.0 - 3545.0	8.974	6.33	0.706	28.49	8M97D7W
		64QAM	3455.0 - 3545.0	8.965	6.40	0.561	27.49	8M97D7W
		256QAM	3455.0 - 3545.0	8.980	6.65	0.284	24.54	8M98D7W
	15 MHz	TT/2 BPSK	3457.5 - 3542.5	12.898	4.11	0.865	29.37	12M9G7W
		QPSK	3457.5 - 3542.5	13.599	5.46	0.891	29.50	13M6G7W
		16QAM	3457.5 - 3542.5	13.641	6.17	0.690	28.39	13M6D7W
		64QAM	3457.5 - 3542.5	13.545	6.55	0.564	27.51	13M5D7W
		256QAM	3457.5 - 3542.5	13.583	6.66	0.287	24.58	13M6D7W
	20 MHz	TT/2 BPSK	3460.0 - 3540.0	17.945	4.05	0.891	29.50	17M9G7W
		QPSK	3460.0 - 3540.0	18.303	5.41	0.887	29.48	18M3G7W
		16QAM	3460.0 - 3540.0	18.312	6.28	0.710	28.51	18M3D7W
		64QAM	3460.0 - 3540.0	18.297	6.56	0.550	27.40	18M3D7W
		256QAM	3460.0 - 3540.0	18.330	6.66	0.284	24.54	18M3D7W
	30MHz	TT/2 BPSK	3465.0 - 3535.0	26.768	4.19	0.891	29.50	26M8G7W
		QPSK	3465.0 - 3535.0	27.940	5.46	0.891	29.50	27M9G7W
		16QAM	3465.0 - 3535.0	27.945	6.24	0.678	28.31	27M9D7W
		64QAM	3465.0 - 3535.0	27.900	6.64	0.562	27.50	27M9D7W
		256QAM	3465.0 - 3535.0	27.936	6.66	0.282	24.51	27M9D7W
	40 MHz	TT/2 BPSK	3470.0 - 3530.0	35.722	4.11	0.891	29.50	35M7G7W
		QPSK	3470.0 - 3530.0	37.932	5.45	0.891	29.50	37M9G7W
		16QAM	3470.0 - 3530.0	37.898	6.19	0.705	28.48	37M9D7W
		64QAM	3470.0 - 3530.0	37.856	6.59	0.557	27.46	37M9D7W
		256QAM	3470.0 - 3530.0	37.935	6.63	0.288	24.59	37M9D7W
	50 MHz	TT/2 BPSK	3475.0 - 3525.0	45.805	3.87	0.891	29.50	45M8G7W
		QPSK	3475.0 - 3525.0	47.577	5.31	0.879	29.44	47M6G7W
		16QAM	3475.0 - 3525.0	47.456	6.12	0.701	28.46	47M5D7W
		64QAM	3475.0 - 3525.0	47.683	6.53	0.557	27.46	47M7D7W
		256QAM	3475.0 - 3525.0	47.502	6.79	0.287	24.58	47M5D7W
	60 MHz	TT/2 BPSK	3480.0 - 3520.0	57.867	4.01	0.891	29.50	57M9G7W
		QPSK	3480.0 - 3520.0	57.872	5.37	0.889	29.49	57M9G7W
		16QAM	3480.0 - 3520.0	57.878	6.28	0.706	28.49	57M9D7W
		64QAM	3480.0 - 3520.0	57.889	6.47	0.566	27.53	57M9D7W
		256QAM	3480.0 - 3520.0	57.983	6.58	0.284	24.53	58M0D7W
	70 MHz	TT/2 BPSK	3485.0 - 3515.0	64.442	4.39	0.887	29.48	64M4G7W
		QPSK	3485.0 - 3515.0	67.767	5.71	0.891	29.50	67M8G7W
		16QAM	3485.0 - 3515.0	67.592	6.45	0.708	28.50	67M6D7W
		64QAM	3485.0 - 3515.0	67.652	6.66	0.564	27.51	67M7D7W
		256QAM	3485.0 - 3515.0	67.653	6.71	0.289	24.61	67M7D7W
	80 MHz	TT/2 BPSK	3490.0 - 3510.0	77.257	4.03	0.885	29.47	77M3G7W
		QPSK	3490.0 - 3510.0	77.605	5.40	0.891	29.50	77M6G7W
		16QAM	3490.0 - 3510.0	77.526	6.23	0.714	28.54	77M5D7W
		64QAM	3490.0 - 3510.0	77.655	6.57	0.570	27.56	77M7D7W
		256QAM	3490.0 - 3510.0	77.786	6.64	0.292	24.66	77M8D7W
	90 MHz	TT/2 BPSK	3495.0 - 3505.0	86.924	4.09	0.891	29.50	86M9G7W
		QPSK	3495.0 - 3505.0	87.724	5.40	0.867	29.38	87M7G7W
		16QAM	3495.0 - 3505.0	87.669	6.25	0.701	28.46	87M7D7W
		64QAM	3495.0 - 3505.0	87.837	6.51	0.553	27.43	87M8D7W
		256QAM	3495.0 - 3505.0	87.760	6.60	0.288	24.60	87M8D7W
	100 MHz	TT/2 BPSK	3500	96.664	4.06	0.828	29.18	96M7G7W
		QPSK	3500	97.725	5.45	0.865	29.37	97M7G7W
		16QAM	3500	97.620	6.31	0.706	28.49	97M6D7W
		64QAM	3500	97.598	6.52	0.548	27.39	97M6D7W
		256QAM	3500	97.491	6.65	0.269	24.30	97M5D7W

EUT Overview

FCC ID: BCGA2995	 element	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device			

V2.2 09/07/2023

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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	TT/2 BPSK	3455.0 - 3545.0	8.557	4.14	0.708	28.50	8M56G7W
		QPSK	3455.0 - 3545.0	8.941	5.55	0.708	28.50	8M94G7W
		16QAM	3455.0 - 3545.0	8.974	6.33	0.562	27.50	8M97D7W
		64QAM	3455.0 - 3545.0	8.965	6.40	0.445	26.48	8M97D7W
		256QAM	3455.0 - 3545.0	8.980	6.65	0.224	23.51	8M98D7W
	15 MHz	TT/2 BPSK	3457.5 - 3542.5	12.898	4.11	0.676	28.30	12M9G7W
		QPSK	3457.5 - 3542.5	13.599	5.46	0.708	28.50	13M6G7W
		16QAM	3457.5 - 3542.5	13.641	6.17	0.531	27.25	13M6D7W
		64QAM	3457.5 - 3542.5	13.545	6.55	0.447	26.50	13M5D7W
		256QAM	3457.5 - 3542.5	13.583	6.66	0.229	23.59	13M6D7W
	20 MHz	TT/2 BPSK	3460.0 - 3540.0	17.945	4.05	0.687	28.37	17M9G7W
		QPSK	3460.0 - 3540.0	18.303	5.41	0.708	28.50	18M3G7W
		16QAM	3460.0 - 3540.0	18.312	6.28	0.565	27.52	18M3D7W
		64QAM	3460.0 - 3540.0	18.297	6.56	0.443	26.46	18M3D7W
		256QAM	3460.0 - 3540.0	18.330	6.66	0.229	23.60	18M3D7W
	30MHz	TT/2 BPSK	3465.0 - 3535.0	26.768	4.19	0.708	28.50	26M8G7W
		QPSK	3465.0 - 3535.0	27.940	5.46	0.706	28.49	27M9G7W
		16QAM	3465.0 - 3535.0	27.945	6.24	0.550	27.40	27M9D7W
		64QAM	3465.0 - 3535.0	27.900	6.64	0.450	26.53	27M9D7W
		256QAM	3465.0 - 3535.0	27.936	6.66	0.229	23.60	27M9D7W
	40 MHz	TT/2 BPSK	3470.0 - 3530.0	35.722	4.11	0.708	28.50	35M7G7W
		QPSK	3470.0 - 3530.0	37.932	5.45	0.708	28.50	37M9G7W
		16QAM	3470.0 - 3530.0	37.898	6.19	0.556	27.45	37M9D7W
		64QAM	3470.0 - 3530.0	37.856	6.59	0.442	26.45	37M9D7W
		256QAM	3470.0 - 3530.0	37.935	6.63	0.229	23.60	37M9D7W
	50 MHz	TT/2 BPSK	3475.0 - 3525.0	45.805	3.87	0.705	28.48	45M8G7W
		QPSK	3475.0 - 3525.0	47.577	5.31	0.708	28.50	47M6G7W
		16QAM	3475.0 - 3525.0	47.456	6.12	0.561	27.49	47M5D7W
		64QAM	3475.0 - 3525.0	47.683	6.53	0.447	26.50	47M7D7W
		256QAM	3475.0 - 3525.0	47.502	6.79	0.230	23.61	47M5D7W
	60 MHz	TT/2 BPSK	3480.0 - 3520.0	57.867	4.01	0.708	28.50	57M9G7W
		QPSK	3480.0 - 3520.0	57.872	5.37	0.700	28.45	57M9G7W
		16QAM	3480.0 - 3520.0	57.878	6.28	0.564	27.51	57M9D7W
		64QAM	3480.0 - 3520.0	57.889	6.47	0.438	26.41	57M9D7W
		256QAM	3480.0 - 3520.0	57.983	6.58	0.228	23.58	58M0D7W
	70 MHz	TT/2 BPSK	3485.0 - 3515.0	64.442	4.39	0.708	28.50	64M4G7W
		QPSK	3485.0 - 3515.0	67.767	5.71	0.706	28.49	67M8G7W
		16QAM	3485.0 - 3515.0	67.592	6.45	0.565	27.52	67M6D7W
		64QAM	3485.0 - 3515.0	67.652	6.66	0.437	26.40	67M7D7W
		256QAM	3485.0 - 3515.0	67.653	6.71	0.230	23.61	67M7D7W
	80 MHz	TT/2 BPSK	3490.0 - 3510.0	77.257	4.03	0.705	28.48	77M3G7W
		QPSK	3490.0 - 3510.0	77.605	5.40	0.708	28.50	77M6G7W
		16QAM	3490.0 - 3510.0	77.526	6.23	0.548	27.39	77M5D7W
		64QAM	3490.0 - 3510.0	77.655	6.57	0.453	26.56	77M7D7W
		256QAM	3490.0 - 3510.0	77.786	6.64	0.230	23.62	77M8D7W
	90 MHz	TT/2 BPSK	3495.0 - 3505.0	86.924	4.09	0.700	28.45	86M9G7W
		QPSK	3495.0 - 3505.0	87.724	5.40	0.708	28.50	87M7G7W
		16QAM	3495.0 - 3505.0	87.669	6.25	0.558	27.47	87M7D7W
		64QAM	3495.0 - 3505.0	87.837	6.51	0.444	26.47	87M8D7W
		256QAM	3495.0 - 3505.0	87.760	6.60	0.231	23.64	87M8D7W
	100 MHz	TT/2 BPSK	3500	96.664	4.06	0.700	28.45	96M7G7W
		QPSK	3500	97.725	5.45	0.705	28.48	97M7G7W
		16QAM	3500	97.620	6.31	0.540	27.32	97M6D7W
		64QAM	3500	97.598	6.52	0.446	26.49	97M6D7W
		256QAM	3500	97.491	6.65	0.221	23.44	97M5D7W

EUT Overview

FCC ID: BCGA2995	 element	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device			Page 4 of 266

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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	TT/2 BPSK	3705.0 - 3975.0	8.565	4.10	0.562	27.50	8M57G7W
		QPSK	3705.0 - 3975.0	8.591	5.49	0.561	27.49	8M59G7W
		16QAM	3705.0 - 3975.0	8.580	6.24	0.445	26.48	8M58D7W
		64QAM	3705.0 - 3975.0	8.614	6.37	0.356	25.52	8M61D7W
		256QAM	3705.0 - 3975.0	8.608	6.70	0.181	22.58	8M61D7W
	15 MHz	TT/2 BPSK	3707.5 - 3972.5	12.930	3.98	0.561	27.49	12M9G7W
		QPSK	3707.5 - 3972.5	13.570	5.35	0.562	27.50	13M6G7W
		16QAM	3707.5 - 3972.5	13.580	6.15	0.457	26.60	13M6D7W
		64QAM	3707.5 - 3972.5	13.614	6.50	0.362	25.59	13M6D7W
		256QAM	3707.5 - 3972.5	13.548	6.62	0.185	22.66	13M5D7W
	20 MHz	TT/2 BPSK	3710.0 - 3970.0	17.915	3.85	0.558	27.47	17M9G7W
		QPSK	3710.0 - 3970.0	18.253	5.27	0.562	27.50	18M3G7W
		16QAM	3710.0 - 3970.0	18.218	6.20	0.439	26.42	18M2D7W
		64QAM	3710.0 - 3970.0	18.288	6.31	0.349	25.43	18M3D7W
		256QAM	3710.0 - 3970.0	18.325	6.55	0.178	22.50	18M3D7W
	30MHz	TT/2 BPSK	3715.0 - 3965.0	26.852	4.23	0.562	27.50	26M9G7W
		QPSK	3715.0 - 3965.0	27.986	5.24	0.562	27.50	28M0G7W
		16QAM	3715.0 - 3965.0	27.955	6.17	0.452	26.55	28M0D7W
		64QAM	3715.0 - 3965.0	27.875	6.52	0.358	25.54	27M9D7W
		256QAM	3715.0 - 3965.0	27.932	6.61	0.183	22.63	27M9D7W
	40 MHz	TT/2 BPSK	3720.0 - 3960.0	35.738	4.04	0.561	27.49	35M7G7W
		QPSK	3720.0 - 3960.0	37.879	5.25	0.562	27.50	37M9G7W
		16QAM	3720.0 - 3960.0	37.899	6.14	0.434	26.37	37M9D7W
		64QAM	3720.0 - 3960.0	37.839	6.47	0.352	25.46	37M8D7W
		256QAM	3720.0 - 3960.0	37.996	6.55	0.182	22.60	38M0D7W
	50 MHz	TT/2 BPSK	3725.0 - 3955.0	45.784	4.11	0.562	27.50	45M8G7W
		QPSK	3725.0 - 3955.0	47.631	5.07	0.558	27.47	47M6G7W
		16QAM	3725.0 - 3955.0	47.510	6.06	0.443	26.46	47M5D7W
		64QAM	3725.0 - 3955.0	47.621	6.34	0.353	25.48	47M6D7W
		256QAM	3725.0 - 3955.0	47.660	6.57	0.182	22.59	47M7D7W
	60 MHz	TT/2 BPSK	3730.0 - 3950.0	57.996	4.58	0.562	27.50	58M0G7W
		QPSK	3730.0 - 3950.0	57.942	4.92	0.561	27.49	57M9G7W
		16QAM	3730.0 - 3950.0	57.972	6.02	0.449	26.52	58M0D7W
		64QAM	3730.0 - 3950.0	58.087	6.31	0.354	25.49	58M1D7W
		256QAM	3730.0 - 3950.0	57.840	6.45	0.185	22.67	57M8D7W
	70 MHz	TT/2 BPSK	3735.0 - 3945.0	64.477	4.88	0.562	27.50	64M5G7W
		QPSK	3735.0 - 3945.0	67.751	4.98	0.562	27.50	67M8G7W
		16QAM	3735.0 - 3945.0	67.888	6.07	0.455	26.58	67M9D7W
		64QAM	3735.0 - 3945.0	67.702	6.35	0.361	25.58	67M7D7W
		256QAM	3735.0 - 3945.0	67.837	6.42	0.180	22.55	67M8D7W
	80 MHz	TT/2 BPSK	3740.0 - 3940.0	77.459	4.56	0.553	27.43	77M5G7W
		QPSK	3740.0 - 3940.0	77.747	4.69	0.562	27.50	77M7G7W
		16QAM	3740.0 - 3940.0	77.570	6.06	0.439	26.42	77M6D7W
		64QAM	3740.0 - 3940.0	77.645	6.42	0.356	25.52	77M6D7W
		256QAM	3740.0 - 3940.0	77.715	6.51	0.176	22.46	77M7D7W
	90 MHz	TT/2 BPSK	3745.0 - 3935.0	87.013	3.95	0.561	27.49	87M0G7W
		QPSK	3745.0 - 3935.0	87.870	4.81	0.562	27.50	87M9G7W
		16QAM	3745.0 - 3935.0	87.817	6.22	0.442	26.45	87M8D7W
		64QAM	3745.0 - 3935.0	87.724	6.48	0.351	25.45	87M7D7W
		256QAM	3745.0 - 3935.0	87.773	6.59	0.178	22.50	87M8D7W
	100 MHz	TT/2 BPSK	3750.0 - 3930.0	96.778	4.36	0.562	27.50	96M8G7W
		QPSK	3750.0 - 3930.0	97.691	5.01	0.541	27.33	97M7G7W
		16QAM	3750.0 - 3930.0	97.540	6.32	0.438	26.41	97M5D7W
		64QAM	3750.0 - 3930.0	97.693	6.63	0.353	25.48	97M7D7W
		256QAM	3750.0 - 3930.0	97.736	6.70	0.182	22.61	97M7D7W

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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	TT/2 BPSK	3705.0 - 3975.0	8.565	4.10	0.457	26.60	8M57G7W
		QPSK	3705.0 - 3975.0	8.591	5.49	0.456	26.59	8M59G7W
		16QAM	3705.0 - 3975.0	8.580	6.24	0.370	25.68	8M58D7W
		64QAM	3705.0 - 3975.0	8.614	6.37	0.286	24.56	8M61D7W
	15 MHz	256QAM	3705.0 - 3975.0	8.608	6.70	0.146	21.64	8M61D7W
		TT/2 BPSK	3707.5 - 3972.5	12.930	3.98	0.457	26.60	12M9G7W
		QPSK	3707.5 - 3972.5	13.570	5.35	0.452	26.55	13M6G7W
		16QAM	3707.5 - 3972.5	13.580	6.15	0.356	25.52	13M6D7W
	20 MHz	64QAM	3707.5 - 3972.5	13.614	6.50	0.284	24.54	13M6D7W
		256QAM	3707.5 - 3972.5	13.548	6.62	0.145	21.62	13M5D7W
		TT/2 BPSK	3710.0 - 3970.0	17.915	3.85	0.452	26.55	17M9G7W
		QPSK	3710.0 - 3970.0	18.253	5.27	0.457	26.60	18M3G7W
	30MHz	16QAM	3710.0 - 3970.0	18.218	6.20	0.366	25.63	18M2D7W
		64QAM	3710.0 - 3970.0	18.288	6.31	0.289	24.61	18M3D7W
		256QAM	3710.0 - 3970.0	18.325	6.55	0.148	21.70	18M3D7W
		TT/2 BPSK	3715.0 - 3965.0	26.852	4.23	0.457	26.60	26M9G7W
	40 MHz	QPSK	3715.0 - 3965.0	27.986	5.24	0.457	26.60	28M0G7W
		16QAM	3715.0 - 3965.0	27.955	6.17	0.362	25.59	28M0D7W
		64QAM	3715.0 - 3965.0	27.875	6.52	0.284	24.54	27M9D7W
		256QAM	3715.0 - 3965.0	27.932	6.61	0.144	21.58	27M9D7W
	50 MHz	TT/2 BPSK	3720.0 - 3960.0	35.738	4.04	0.455	26.58	35M7G7W
		QPSK	3720.0 - 3960.0	37.879	5.25	0.457	26.60	37M9G7W
		16QAM	3720.0 - 3960.0	37.899	6.14	0.358	25.54	37M9D7W
		64QAM	3720.0 - 3960.0	37.839	6.47	0.284	24.53	37M8D7W
	60 MHz	256QAM	3720.0 - 3960.0	37.996	6.55	0.147	21.68	38M0D7W
		TT/2 BPSK	3725.0 - 3955.0	45.784	4.11	0.452	26.55	45M8G7W
		QPSK	3725.0 - 3955.0	47.631	5.07	0.457	26.60	47M6G7W
		16QAM	3725.0 - 3955.0	47.510	6.06	0.365	25.62	47M5D7W
	60 MHz	64QAM	3725.0 - 3955.0	47.621	6.34	0.286	24.57	47M6D7W
		256QAM	3725.0 - 3955.0	47.660	6.57	0.147	21.68	47M7D7W
		TT/2 BPSK	3730.0 - 3950.0	57.996	4.58	0.457	26.60	58M0G7W
		QPSK	3730.0 - 3950.0	57.942	4.92	0.457	26.60	57M9G7W
	60 MHz	16QAM	3730.0 - 3950.0	57.972	6.02	0.352	25.46	58M0D7W
		64QAM	3730.0 - 3950.0	58.087	6.31	0.285	24.55	58M1D7W
		256QAM	3730.0 - 3950.0	57.840	6.45	0.145	21.62	57M8D7W
		TT/2 BPSK	3735.0 - 3945.0	64.477	4.88	0.457	26.60	64M5G7W
	70 MHz	QPSK	3735.0 - 3945.0	67.751	4.98	0.455	26.58	67M8G7W
		16QAM	3735.0 - 3945.0	67.888	6.07	0.361	25.57	67M9D7W
		64QAM	3735.0 - 3945.0	67.702	6.35	0.283	24.52	67M7D7W
		256QAM	3735.0 - 3945.0	67.837	6.42	0.147	21.67	67M8D7W
	80 MHz	TT/2 BPSK	3740.0 - 3940.0	77.459	4.56	0.457	26.60	77M5G7W
		QPSK	3740.0 - 3940.0	77.747	4.69	0.450	26.53	77M7G7W
		16QAM	3740.0 - 3940.0	77.570	6.06	0.364	25.61	77M6D7W
		64QAM	3740.0 - 3940.0	77.645	6.42	0.286	24.56	77M6D7W
	90 MHz	256QAM	3740.0 - 3940.0	77.715	6.51	0.147	21.68	77M7D7W
		TT/2 BPSK	3745.0 - 3935.0	87.013	3.95	0.457	26.60	87M0G7W
		QPSK	3745.0 - 3935.0	87.870	4.81	0.448	26.51	87M9G7W
		16QAM	3745.0 - 3935.0	87.817	6.22	0.371	25.69	87M8D7W
	90 MHz	64QAM	3745.0 - 3935.0	87.724	6.48	0.292	24.65	87M7D7W
		256QAM	3745.0 - 3935.0	87.773	6.59	0.151	21.78	87M8D7W
		TT/2 BPSK	3750.0 - 3930.0	96.778	4.36	0.457	26.60	96M8G7W
		QPSK	3750.0 - 3930.0	97.691	5.01	0.455	26.58	97M7G7W
	100 MHz	16QAM	3750.0 - 3930.0	97.540	6.32	0.366	25.63	97M5D7W
		64QAM	3750.0 - 3930.0	97.693	6.63	0.290	24.63	97M7D7W
		256QAM	3750.0 - 3930.0	97.736	6.70	0.147	21.66	97M7D7W

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1.0 INTRODUCTION

1.1 Scope

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

1.2 Element 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).

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID:BCGA2995**. 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.: WH6226Y7R5, D74GQ0GVJR, DVXJDXL1QN, H9HH5F000230000CFX

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	NB UNII	WLAN	WIFI 5GHz	WIFI 6GHz	LTE / FR1 NR		
		BDR, EDR, HDR4/8, LE1/2M	802.15.4	BDR, HDR4/8	802.11 b/g/n/ax	802.11 a/n/ac/ax	802.11 a/ax	LB	MB/HB	Ultra High Band
1a	Config 1	✓	✗	✗	✗	✗	✗	✗	✗	✓
1a	Config 2	✗	✗	✗	✓	✗	✗	✗	✗	✓
1a	Config 3	✗	✓	✗	✗	✗	✗	✗	✗	✓
1b	Config 4	✗	✗	✓	✗	✗	✗	✗	✓	✗
1b	Config 5	✗	✗	✗	✗	✓	✗	✗	✓	✗
1b	Config 6	✗	✗	✗	✗	✗	✓	✗	✓	✗
3a	Config 7	✗	✗	✗	✓	✗	✗	✗	✗	✓
3a	Config 8	✓	✗	✗	✗	✗	✗	✗	✗	✓
3a	Config 9	✗	✓	✗	✗	✗	✗	✗	✗	✓
3b	Config 10	✗	✗	✓	✗	✗	✗	✗	✓	✗
3b	Config 11	✗	✗	✗	✗	✓	✗	✗	✓	✗
3b	Config 12	✗	✗	✗	✗	✗	✓	✗	✓	✗
4	Config 13	✓	✗	✗	✗	✗	✗	✓	✗	✗
4	Config 14	✓	✗	✗	✗	✗	✗	✗	✓	✗
4	Config 15	✓	✗	✗	✗	✗	✗	✗	✗	✓
4	Config 16	✗	✓	✗	✗	✗	✗	✓	✗	✗
4	Config 17	✗	✓	✗	✗	✗	✗	✗	✓	✗
4	Config 18	✗	✓	✗	✗	✗	✗	✗	✗	✓

Table 2-1. Simultaneous Transmission Configurations

✓ = Support; ✗ = Not Support

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Note:

All the above simultaneous transmission configurations have been tested and the worst case configuration was found to be Config 14 and reported in RF Bluetooth 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 connected mode and disconnected mode, 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)	2.8	1.9	-2.9	1.5
NR Band n77 (Sub 2)	0.8	2.0	0.9	0.7

Table 2-2. Highest Antenna Gain

2.4 Test Support Equipment

1	Apple MacBook Pro w/AC/DC Adapter	Model: A2141 Model: A2166	S/N: C02H604EQ05D S/N: C4H042705ZNP0WA6		
2	Apple USB-C Cable	Model: Spartan	S/N: GXK1336018XKTR024		
3	USB-C Cable w/ AC Adapter	Model: A246C Model: A2305	S/N: DWH80115BK826GV19 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.

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2.6 Software and Firmware

The test was conducted with firmware version 22A312 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.

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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:

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

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.

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.

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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 (\pm 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

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5.0 TEST EQUIPMENT CALIBRATION DATA

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

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Rohde & Schwarz	FSW67	Signal and Spectrum Analyzer (2Hz-67GHz)	7/5/2024	Annual	7/5/2025	101366
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	3/14/2024	Annual	3/14/2025	T058701-01
ESPEC	SU-241	Tabletop Temperature Chamber	11/17/2023	Annual	11/17/2024	92009574
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	4/9/2024	Annual	4/9/2025	00218555
Fairview Microwave	FMCA1975-36	30MHz-40GHz Conducted Cable *	6/10/2024	Annual	6/10/2025	-
Fairview Microwave	M2CP1122-10	30MHz-40GHz Conducted Coupler *	6/10/2024	Annual	6/10/2025	1946
Keysight Technology	N9040B	UXA Signal Analyzer	5/28/2024	Annual	5/28/2025	MY57212015
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	8/15/2023	Annual	8/15/2024	101639
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	CMW500	Wideband Radio Communication Tester	11/30/2023	Annual	11/30/2024	161616
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	12/27/2023	Annual	12/27/2024	164715
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.

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6.0 SAMPLE CALCULATIONS

Emission Designator

$\pi/2$ 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.

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7.0 TEST RESULTS

7.1 Summary

Company Name: Apple Inc.
 FCC ID: BCGA2995
 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

FCC ID: BCGA2995	 element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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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.

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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 \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.

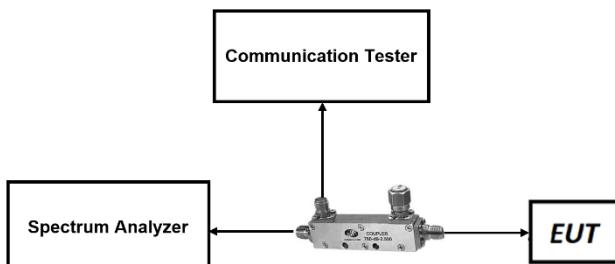


Figure 7-1. LTE Test Instrument & Measurement Setup

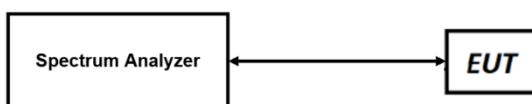


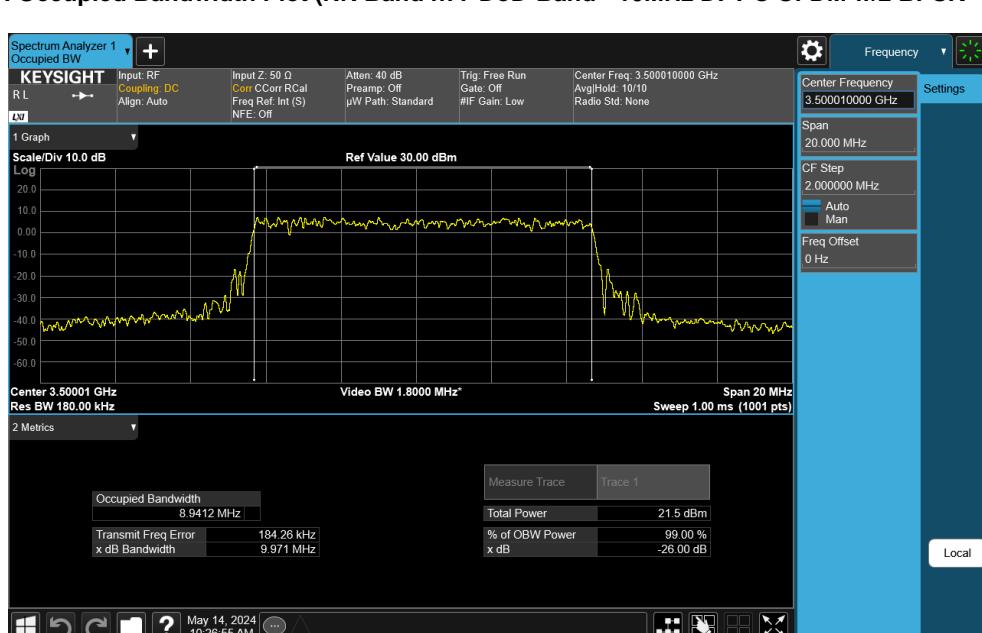
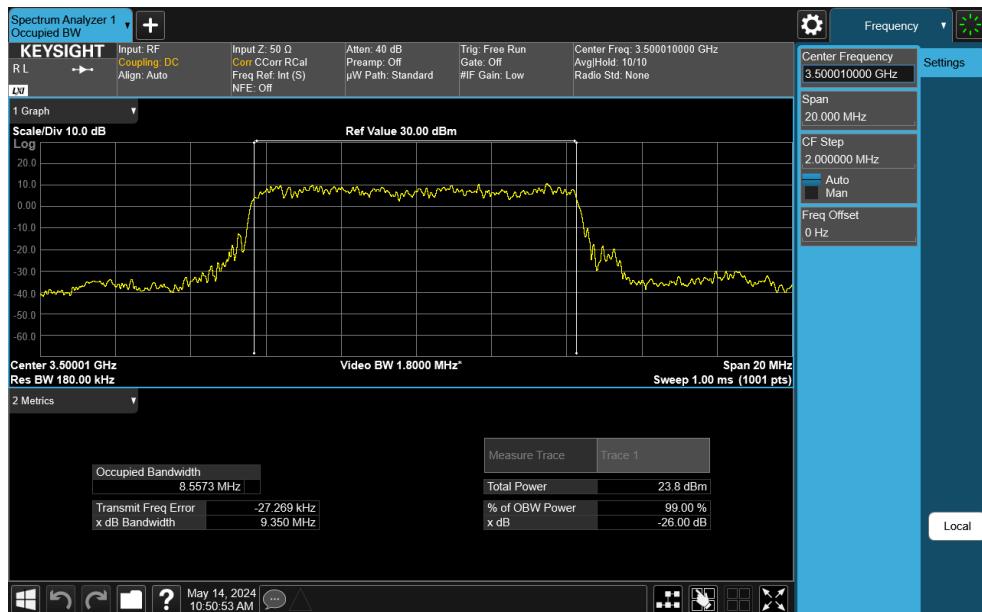
Figure 7-2. FR1 Test Instrument & Measurement Setup

Test Notes

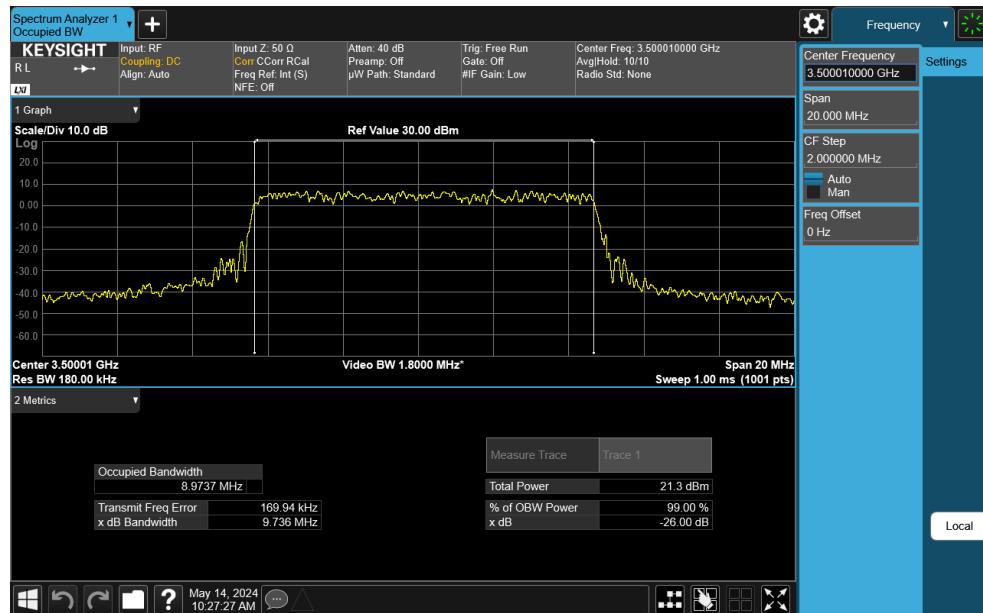
None.

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NR Band n77 DoD-Band



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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)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device	Approved by: Technical Manager

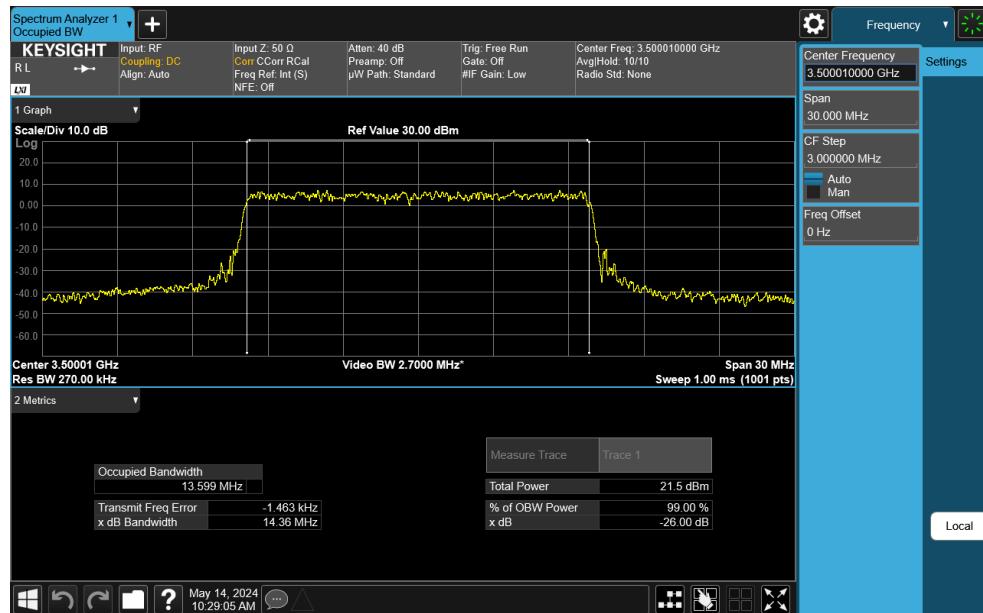


Plot 7-5. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 10MHz CP-OFDM 256-QAM - Full RB)

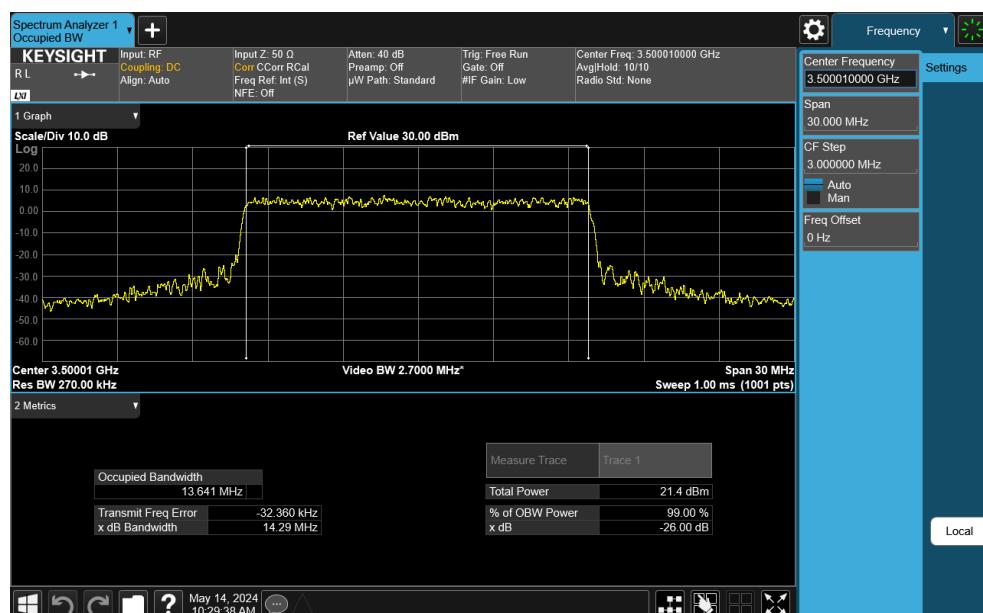


Plot 7-6. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz DFT-s-OFDM π/2 BPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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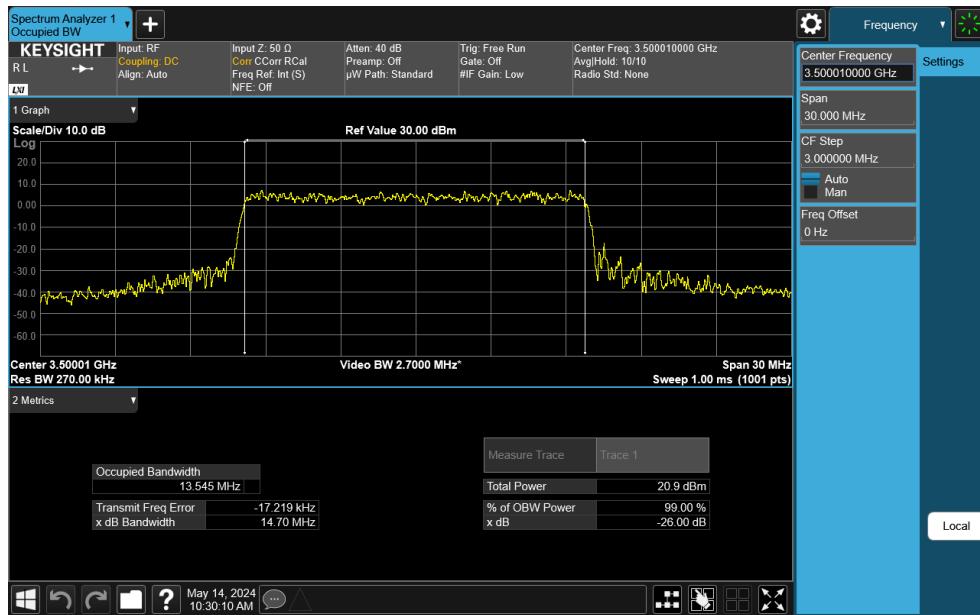


Plot 7-7. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM QPSK - Full RB)



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

FCC ID: BCGA2995	 element	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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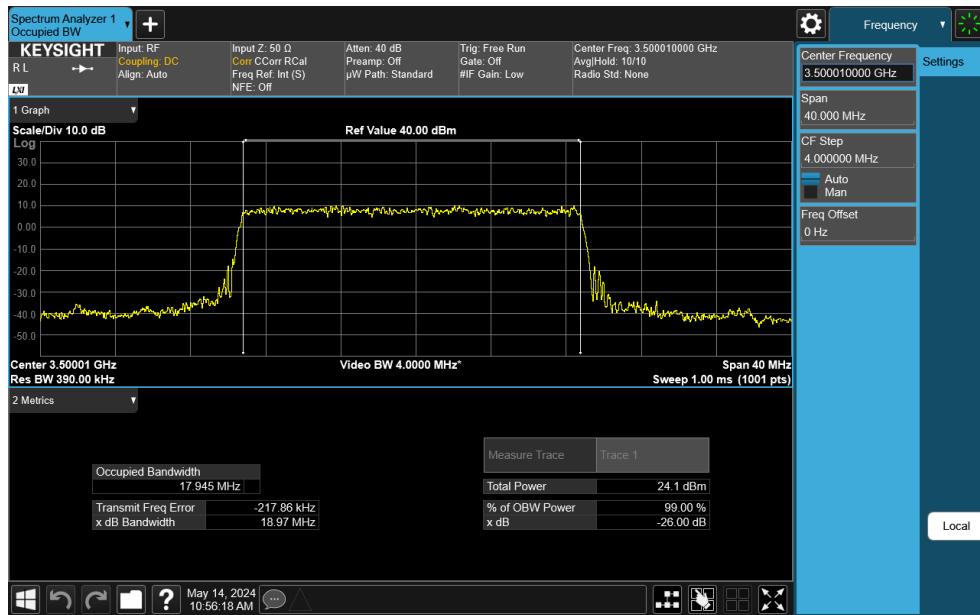


Plot 7-9. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 15MHz CP-OFDM 64-QAM - Full RB)



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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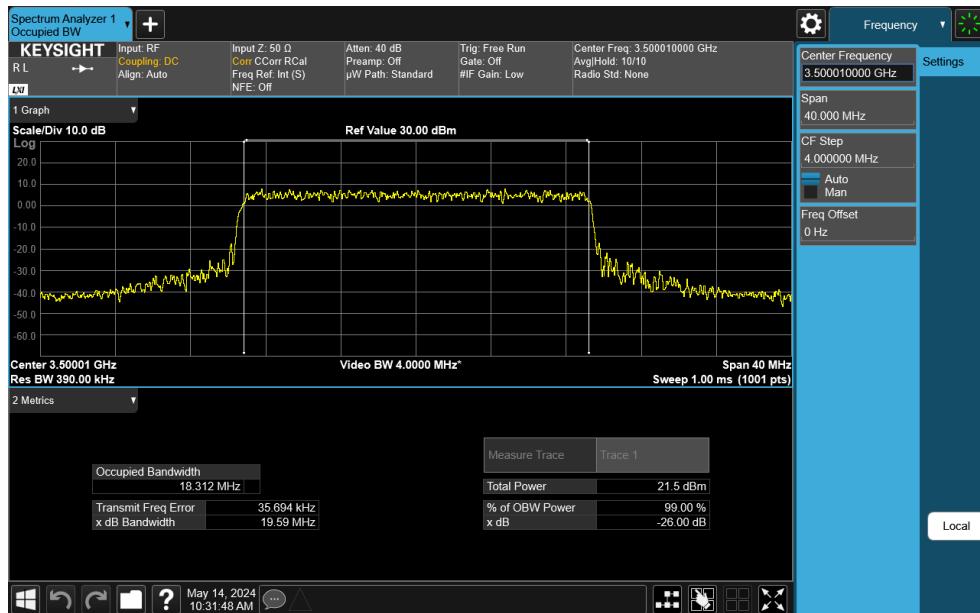


Plot 7-11. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz DFT-s-OFDM $\pi/2$ BPSK - Full RB)

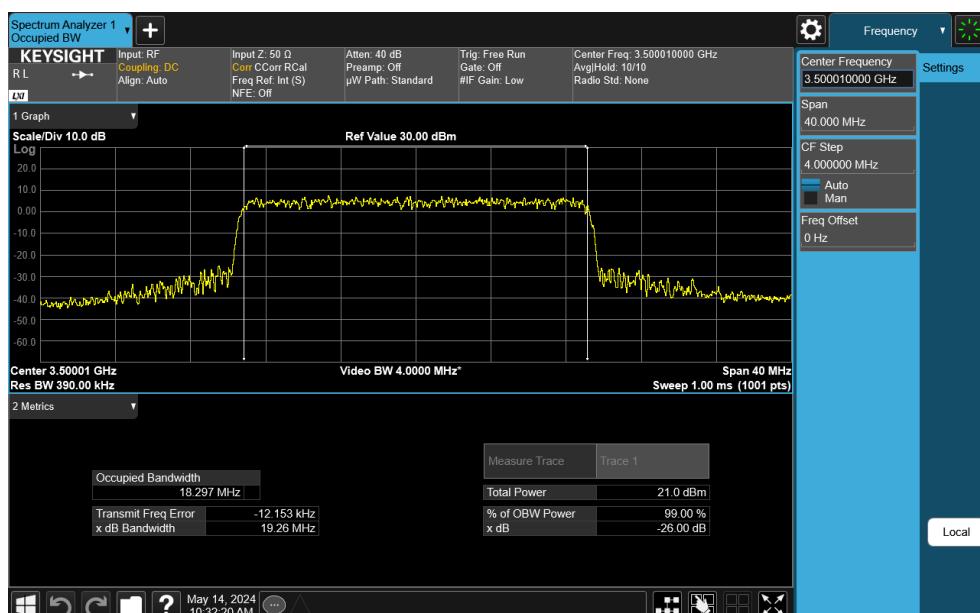


Plot 7-12. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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Plot 7-13. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 16-QAM - Full RB)

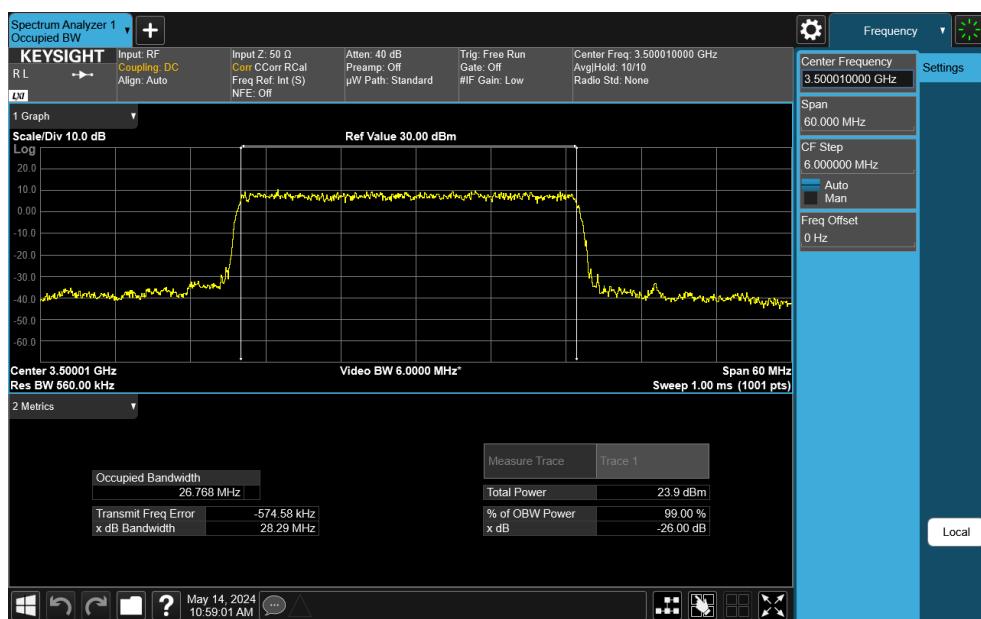


Plot 7-14. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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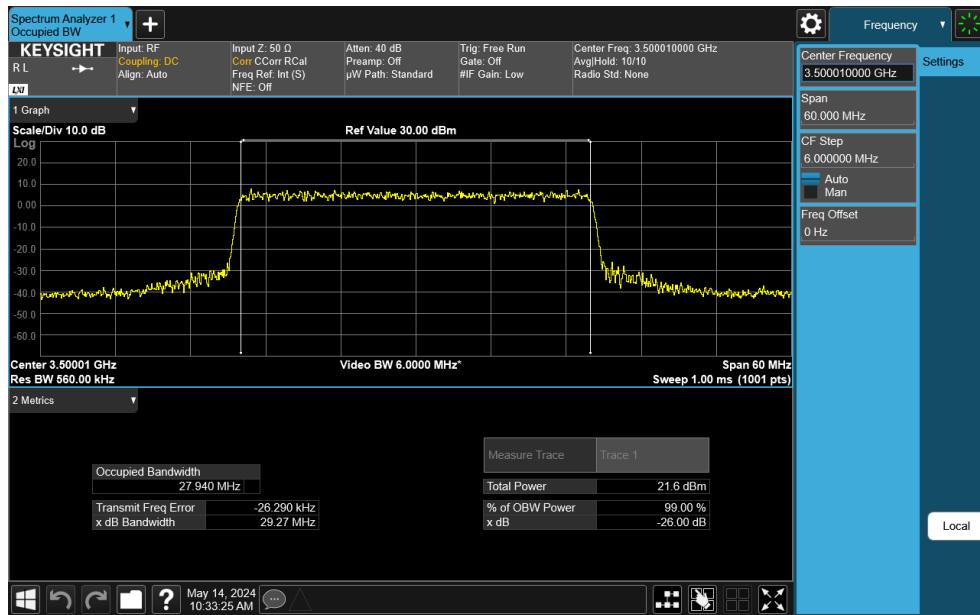


Plot 7-15. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 20MHz CP-OFDM 256-QAM - Full RB)



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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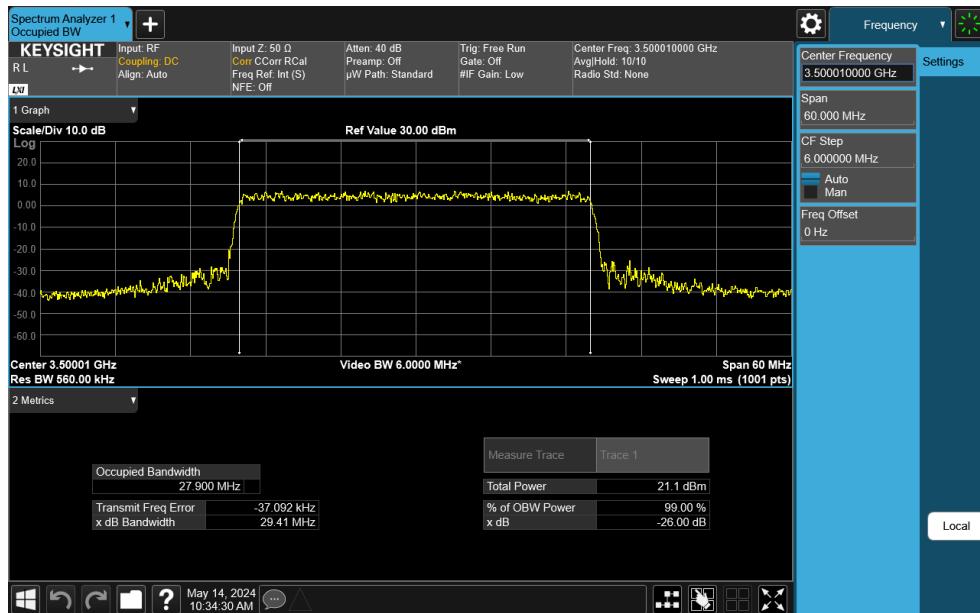


Plot 7-17. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM QPSK - Full RB)

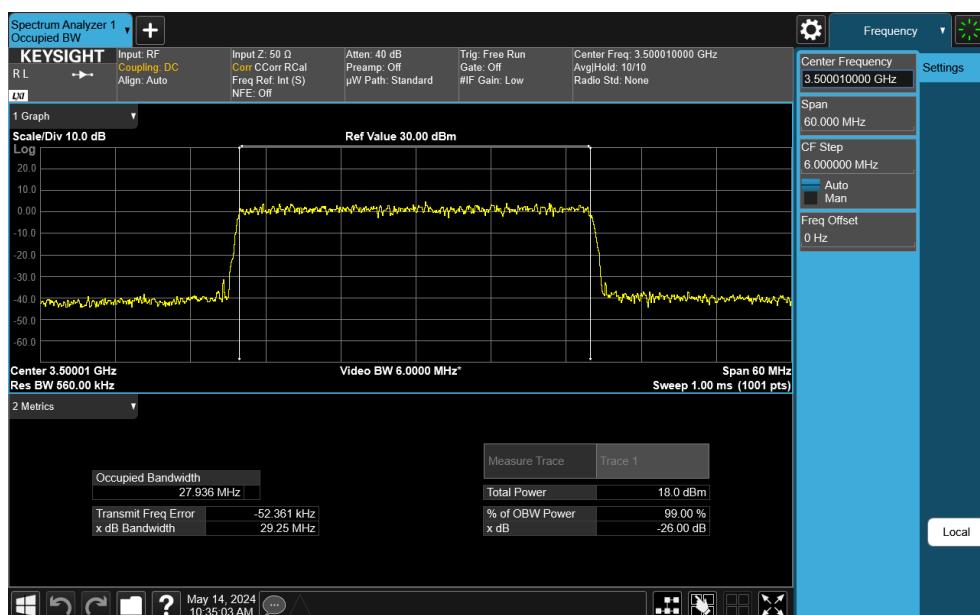


Plot 7-18. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM 16-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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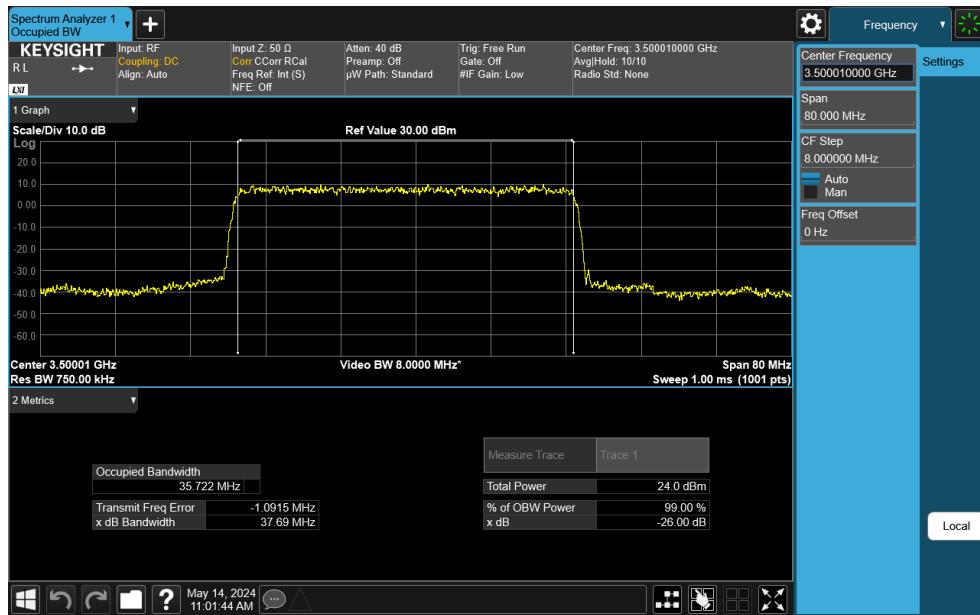


Plot 7-19. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 30MHz CP-OFDM 64-QAM - Full RB)



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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Plot 7-21. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz DFT-s-OFDM π/2 BPSK - Full RB)

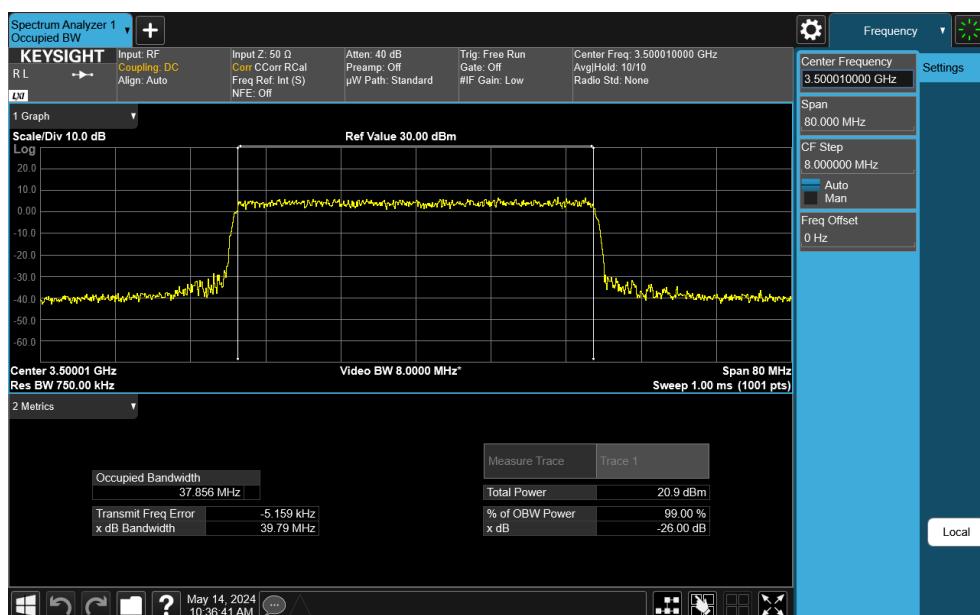


Plot 7-22. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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Plot 7-23. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM 16-QAM - Full RB)

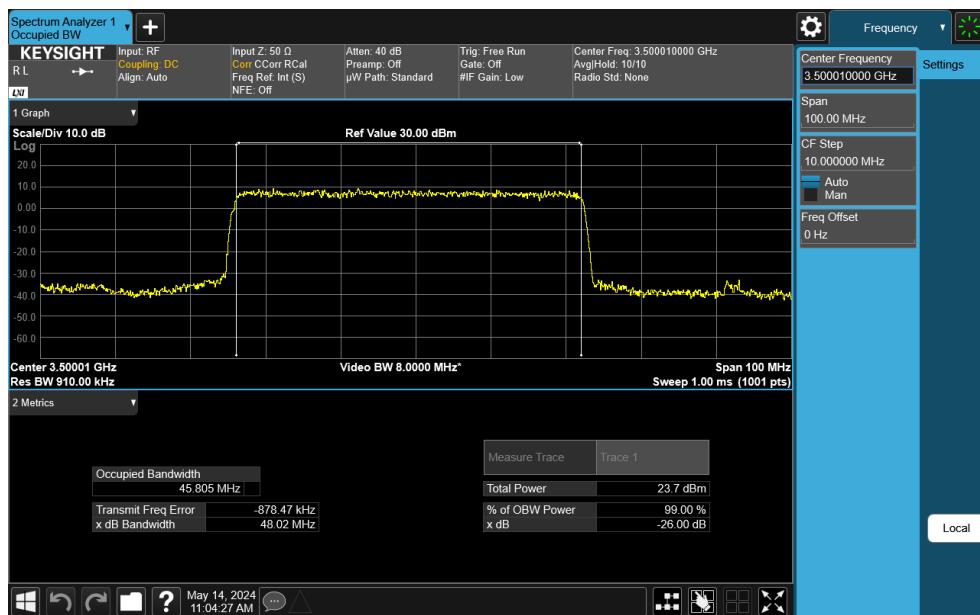


Plot 7-24. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 40MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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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)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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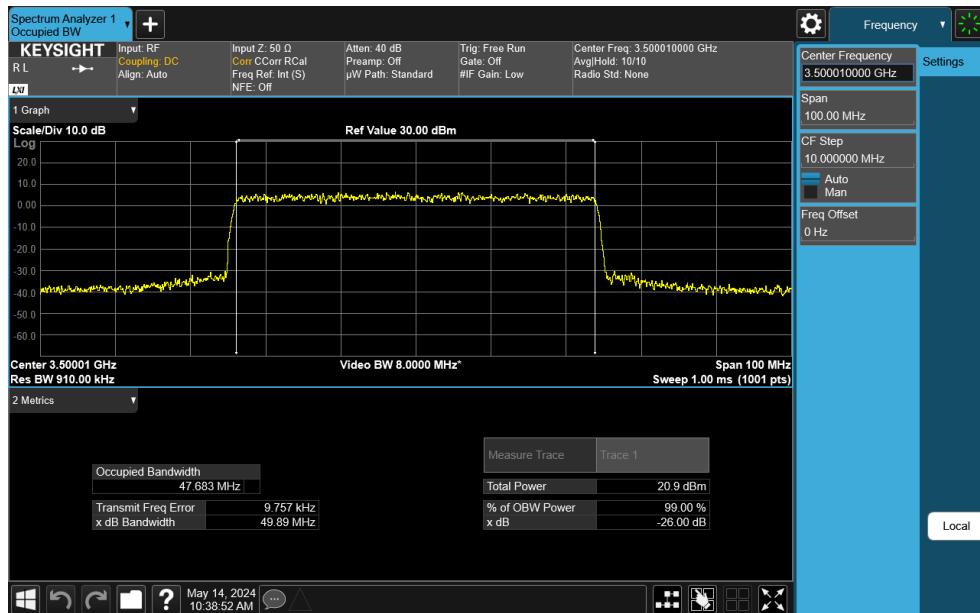


Plot 7-27. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM QPSK - Full RB)

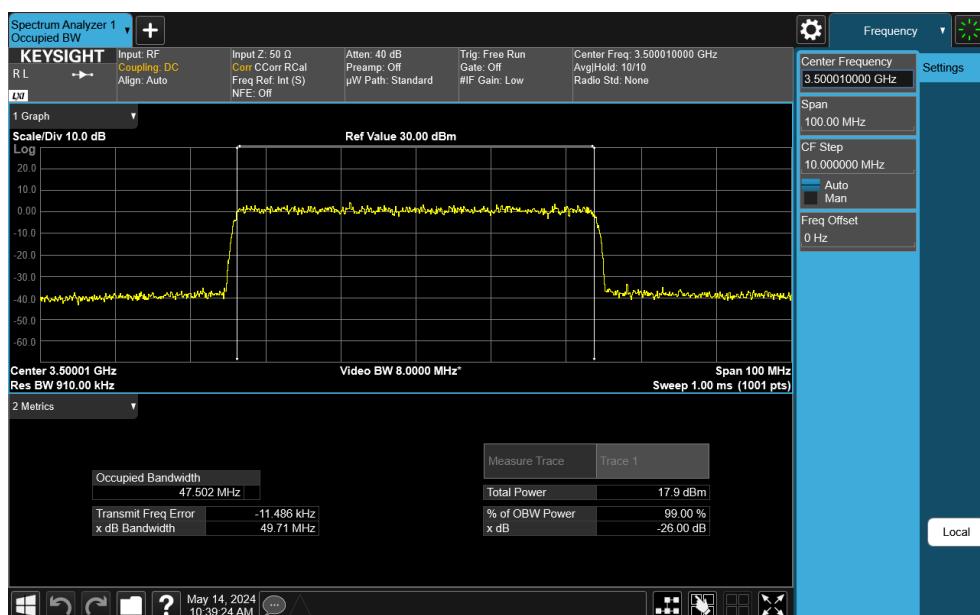


Plot 7-28. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 16-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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Plot 7-29. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 64-QAM - Full RB)

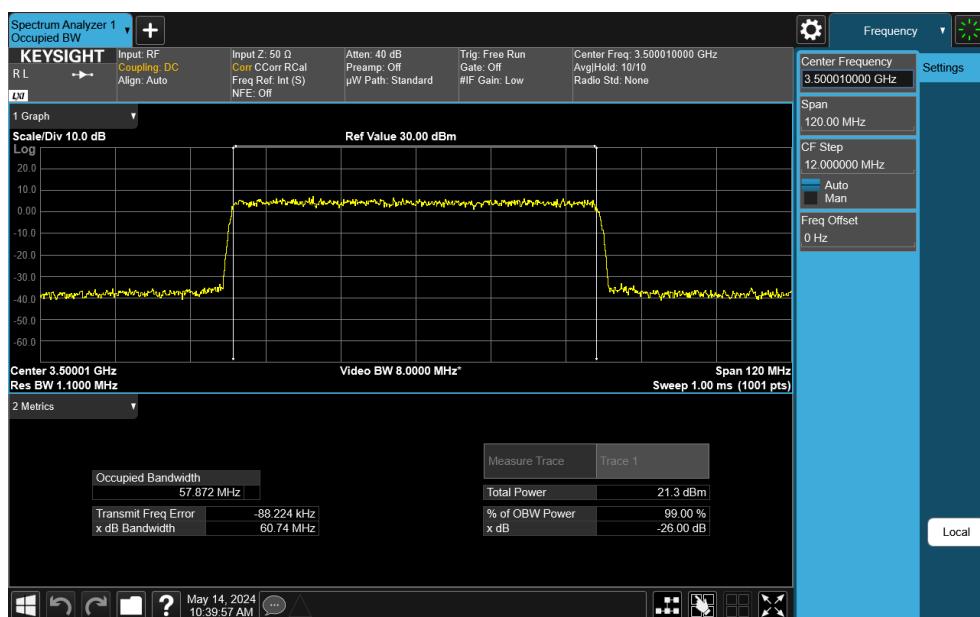


Plot 7-30. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 50MHz CP-OFDM 256-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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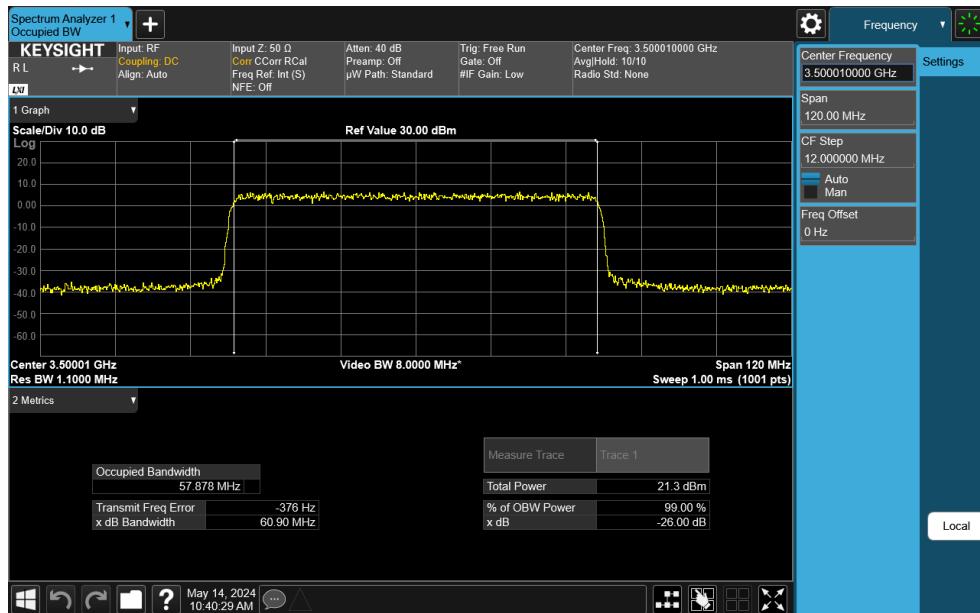


Plot 7-31. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz DFT-s-OFDM π/2 BPSK - Full RB)

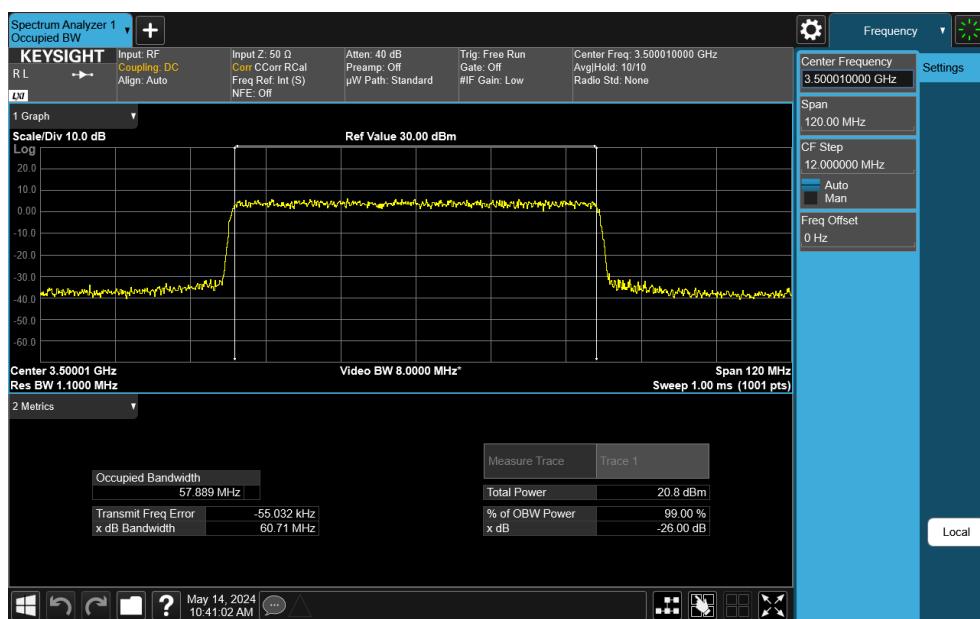


Plot 7-32. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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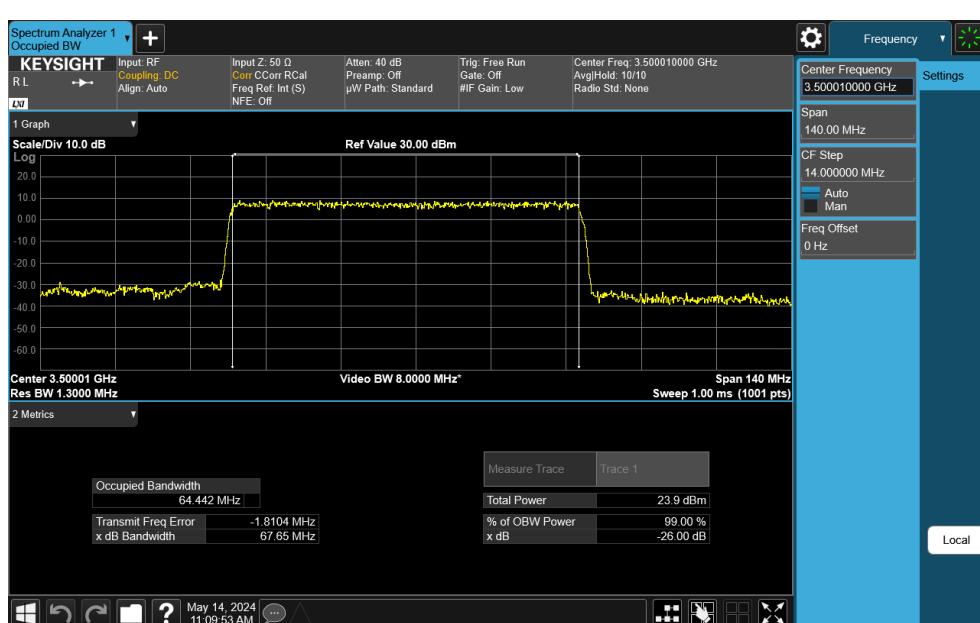
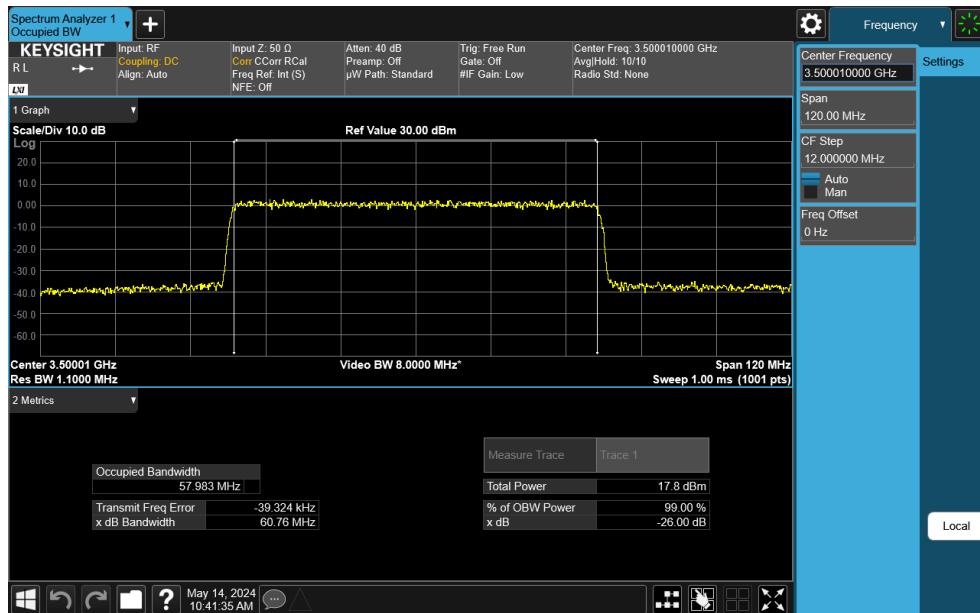


Plot 7-33. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM 16-QAM - Full RB)

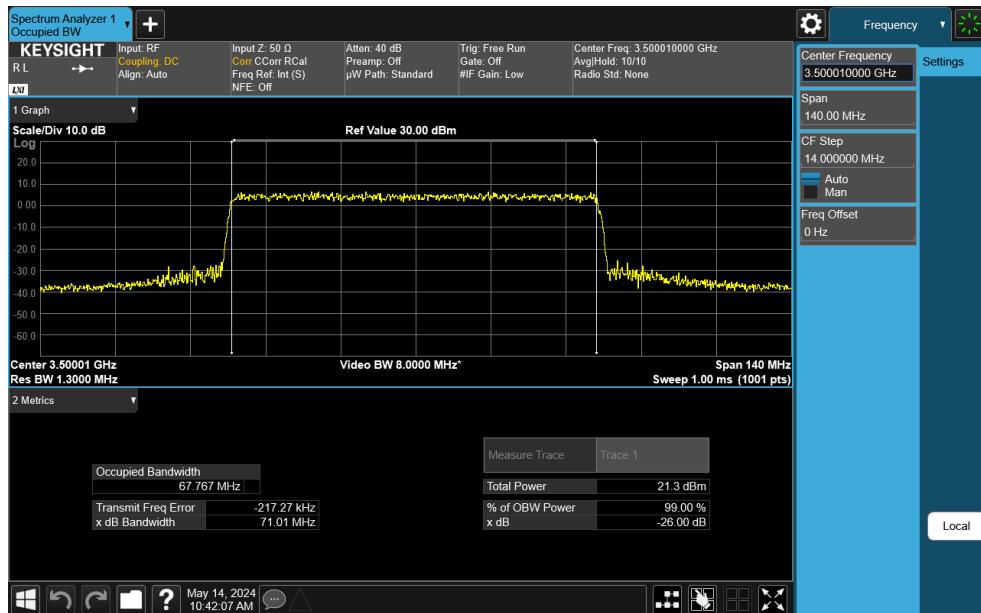


Plot 7-34. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 60MHz CP-OFDM 64-QAM - Full RB)

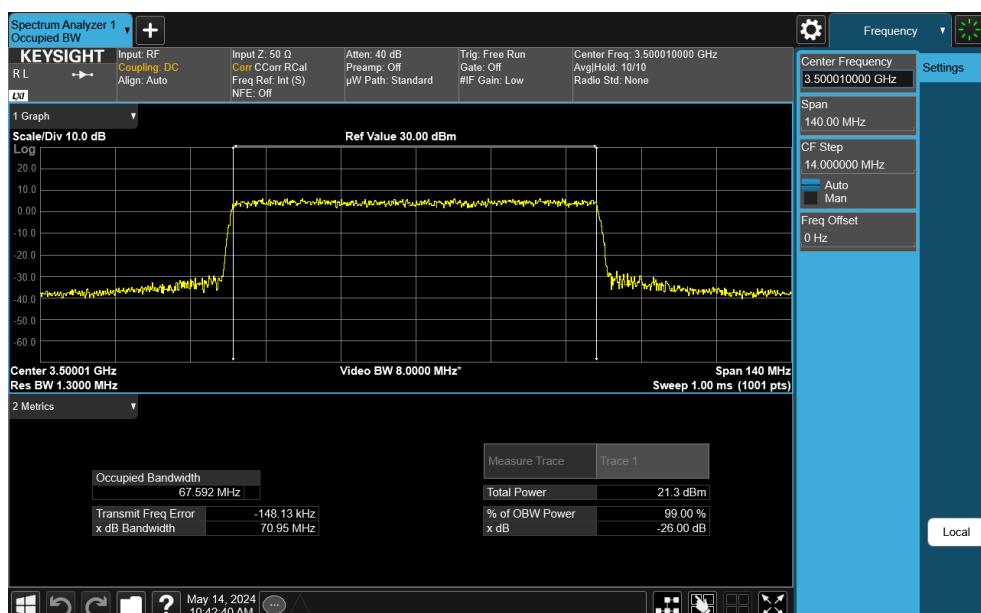
FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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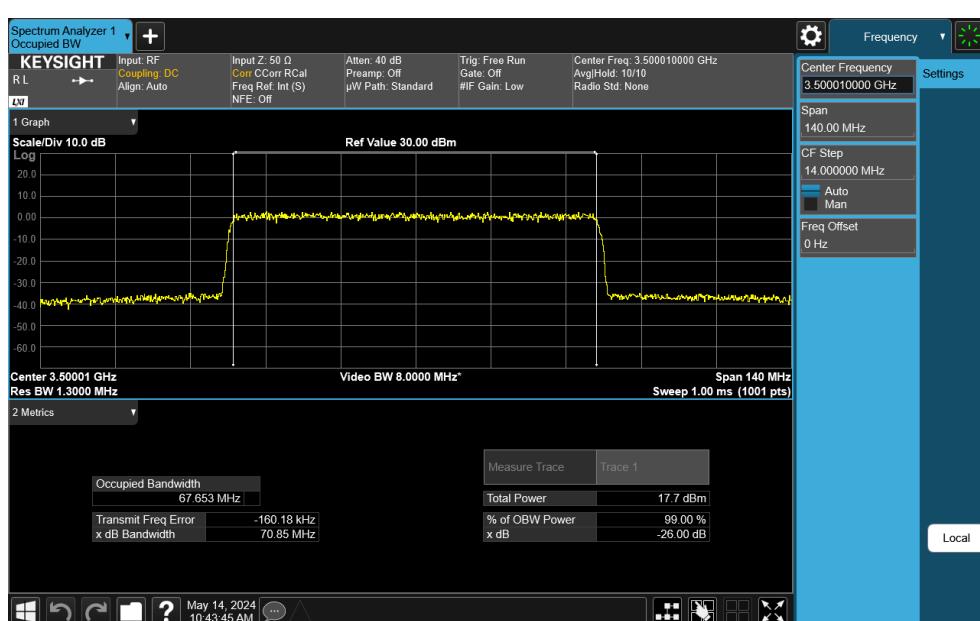


Plot 7-37. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM QPSK - Full RB)

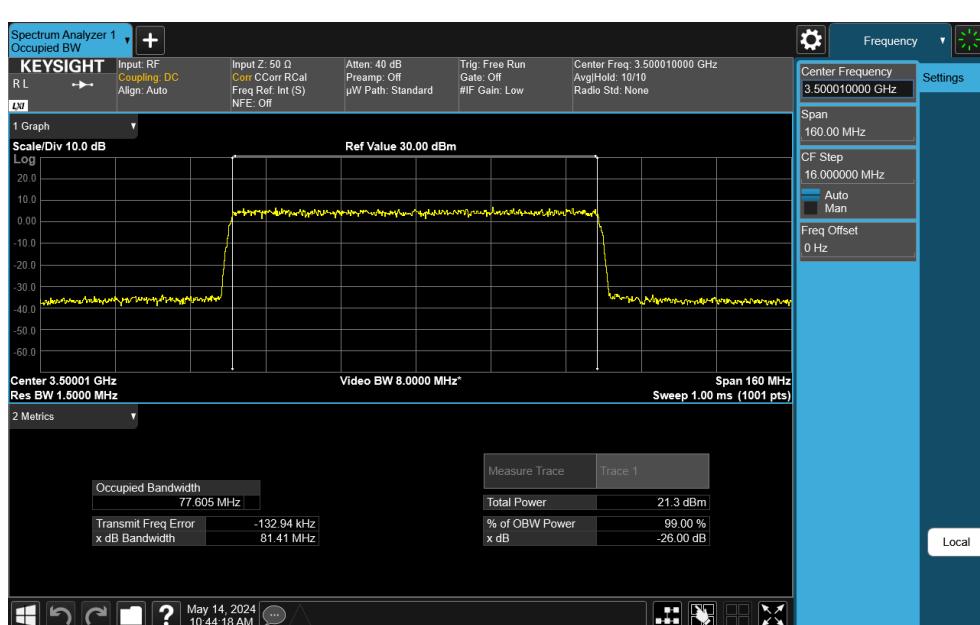


Plot 7-38. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 70MHz CP-OFDM 16-QAM - Full RB)

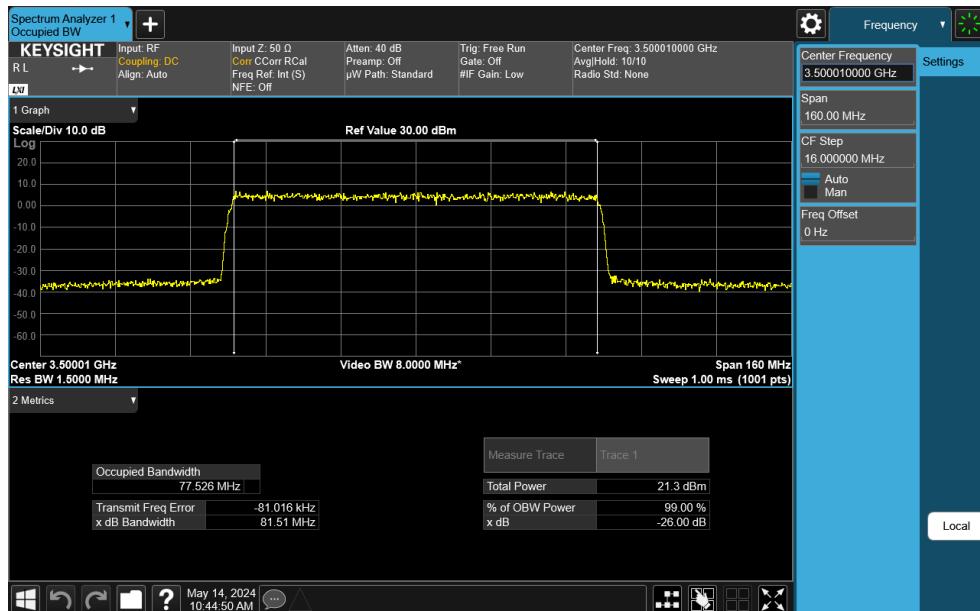
FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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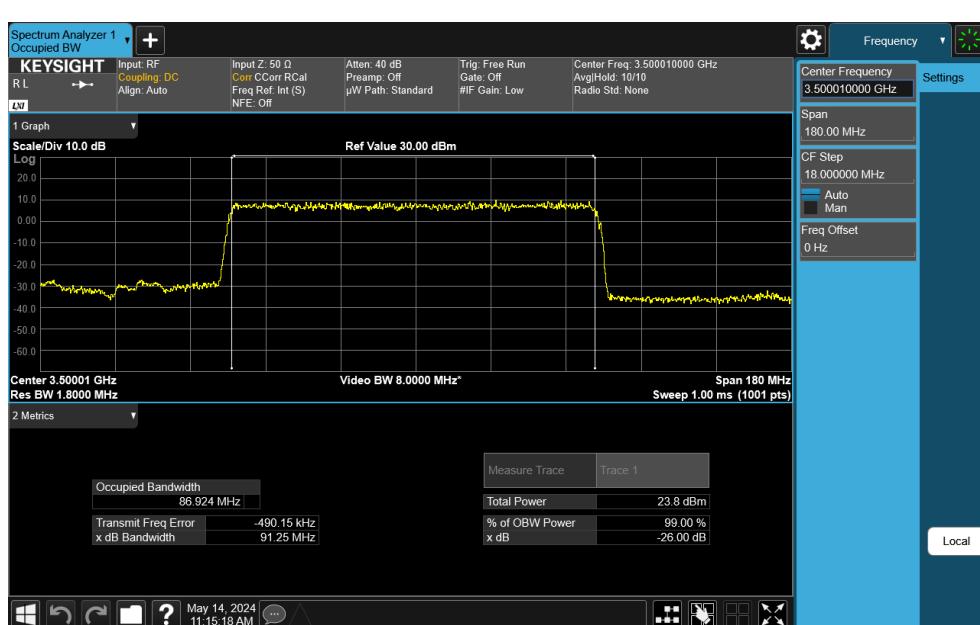
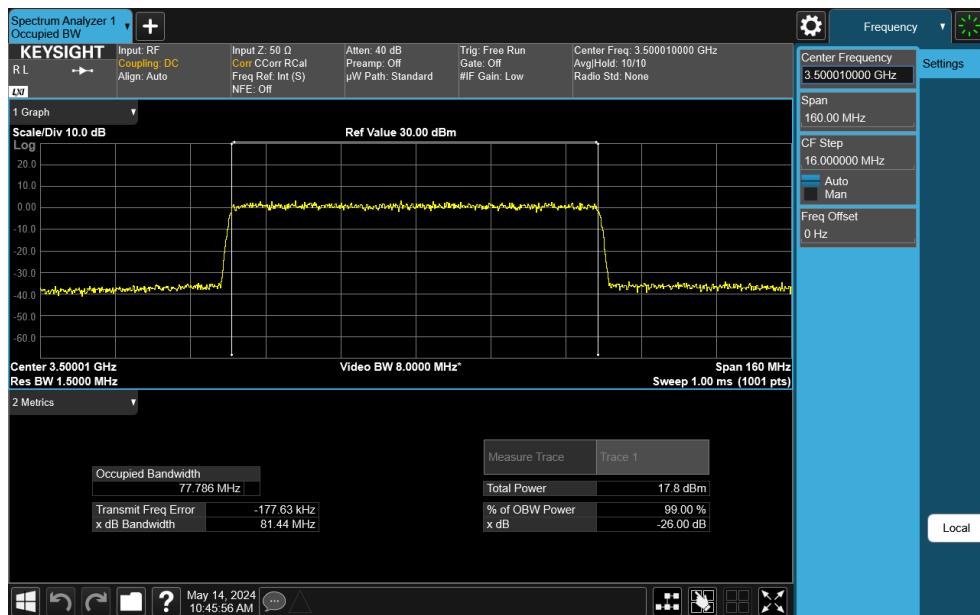


Plot 7-43. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM 16-QAM - Full RB)

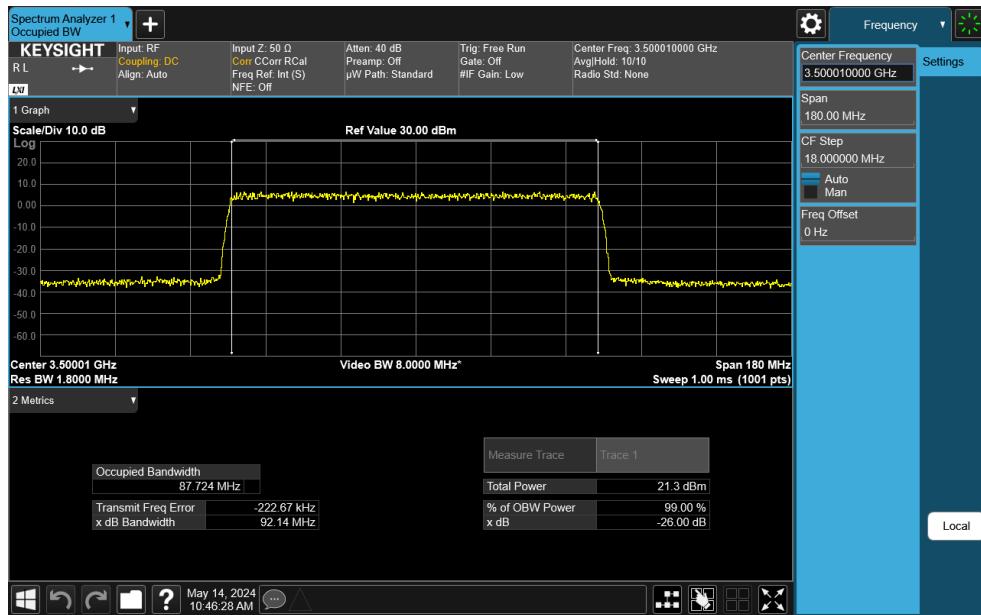


Plot 7-44. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 80MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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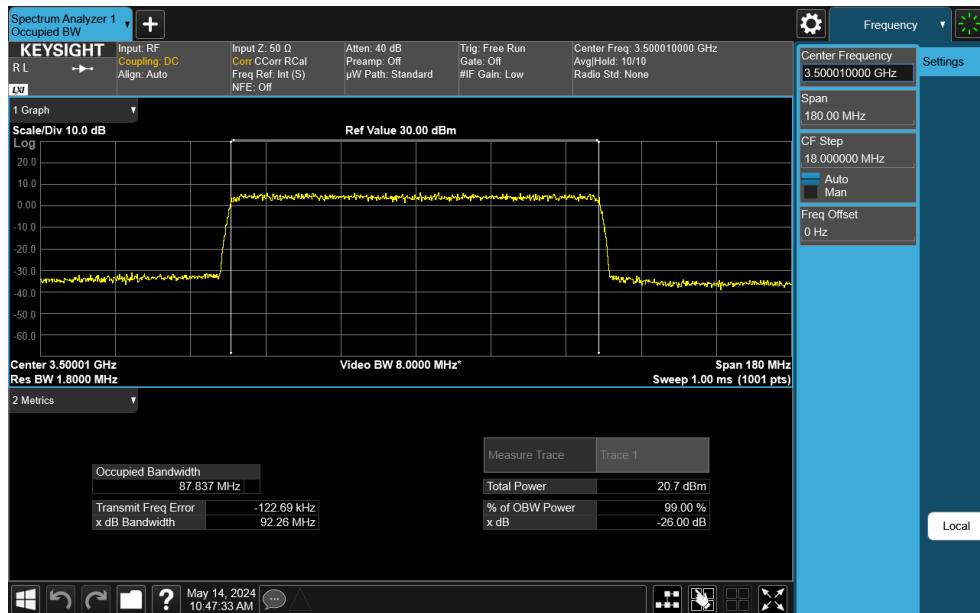


Plot 7-47. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM QPSK - Full RB)



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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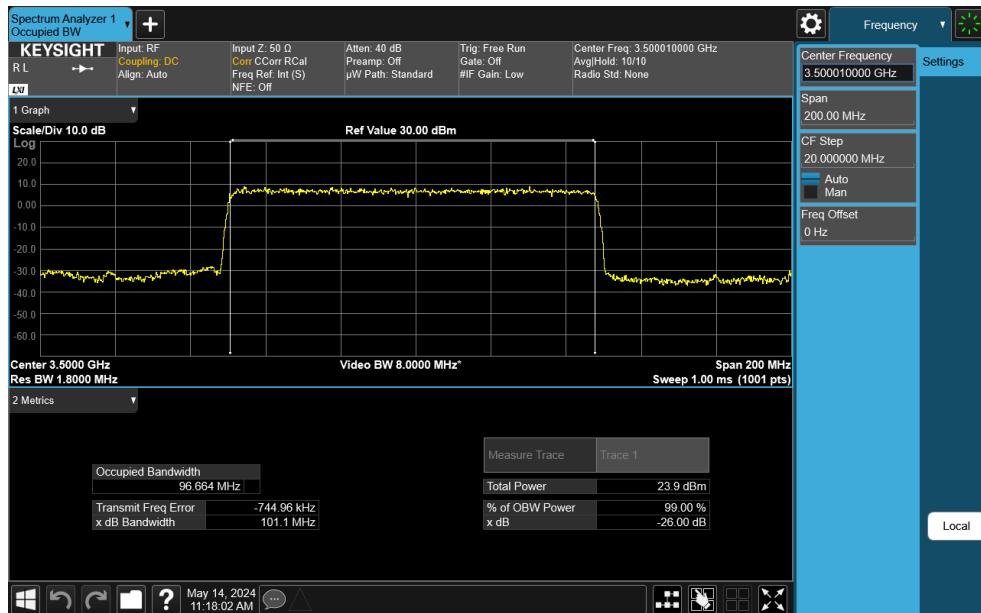


Plot 7-49. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM 64-QAM - Full RB)

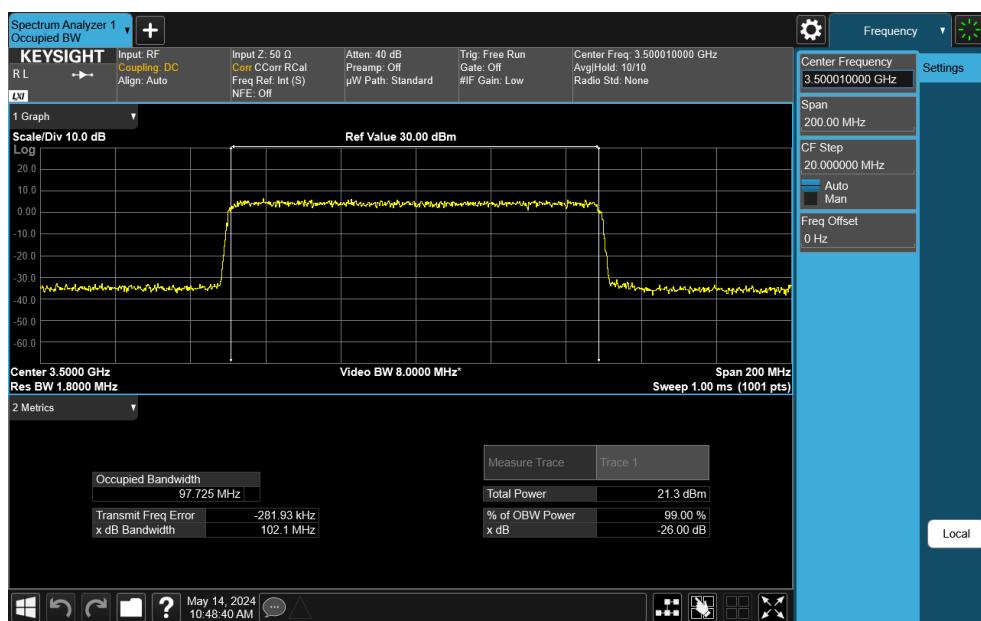


Plot 7-50. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 90MHz CP-OFDM 256-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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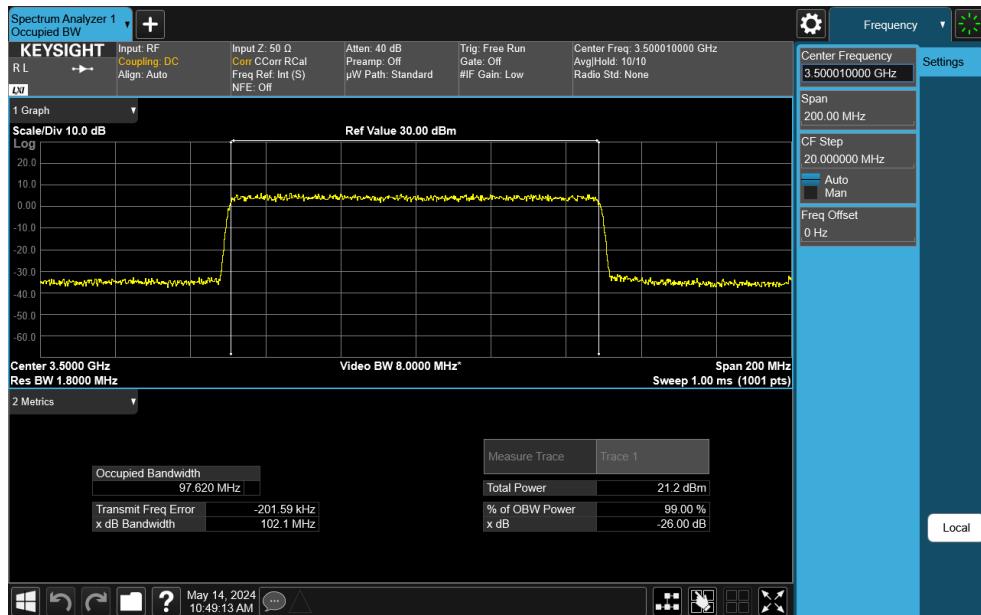


Plot 7-51. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz DFT-s-OFDM $\pi/2$ BPSK - Full RB)

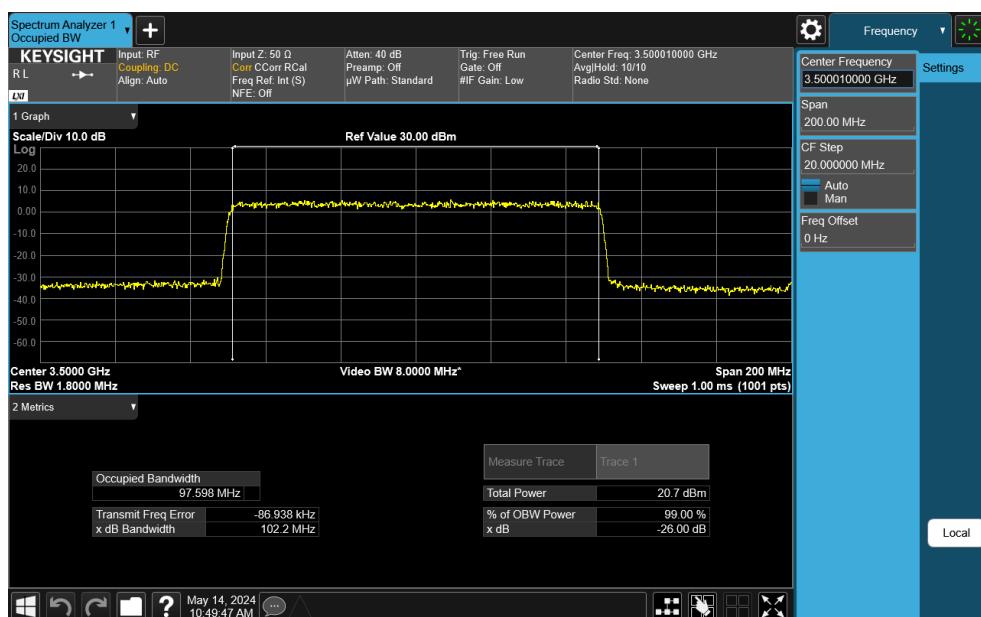


Plot 7-52. Occupied Bandwidth Plot (NR Band n77 DoD-Band - 100MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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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)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 44 of 266



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device	Page 45 of 266

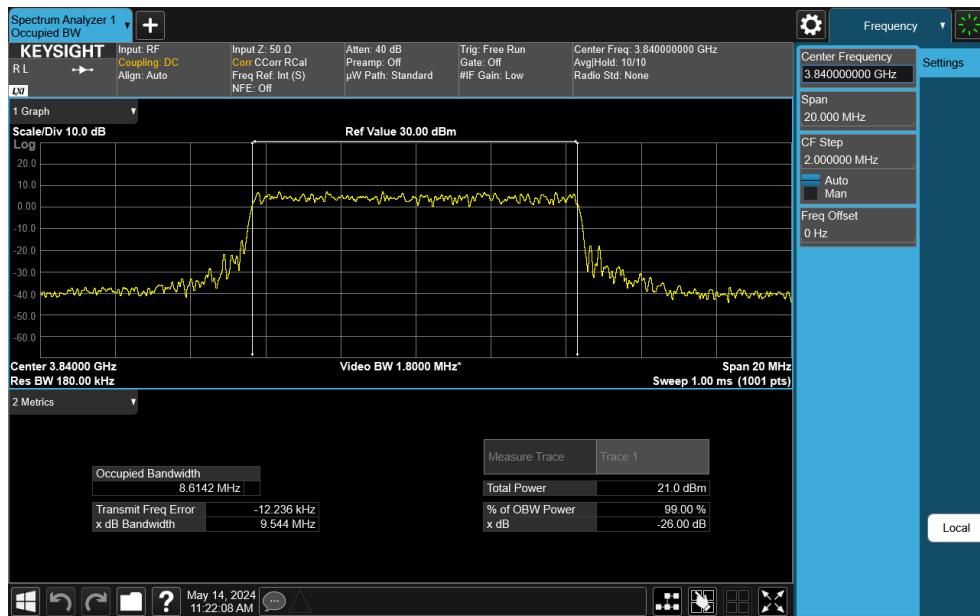
NR Band n77 C-Band



FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device	Page 46 of 266



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

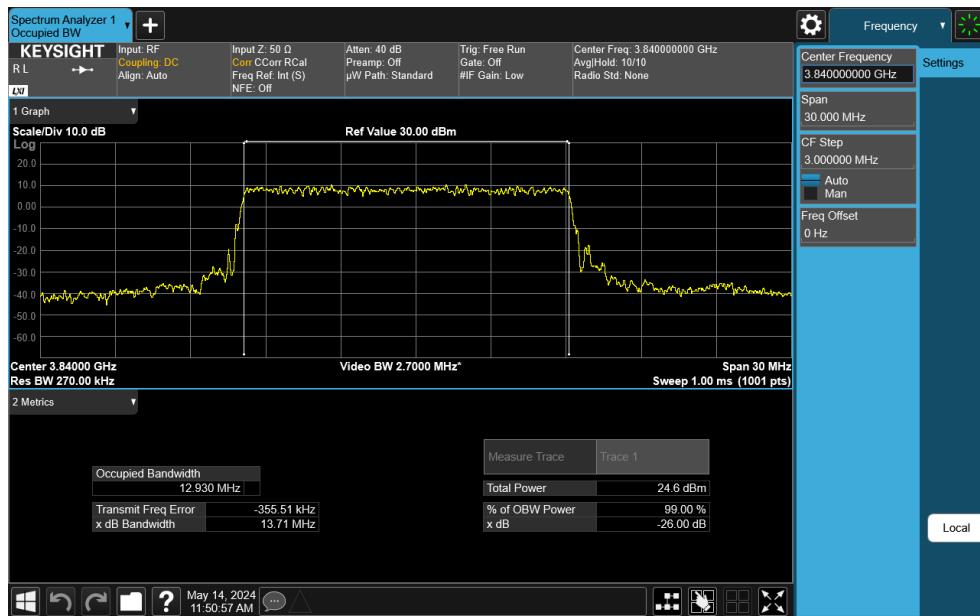


Plot 7-59. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 47 of 266

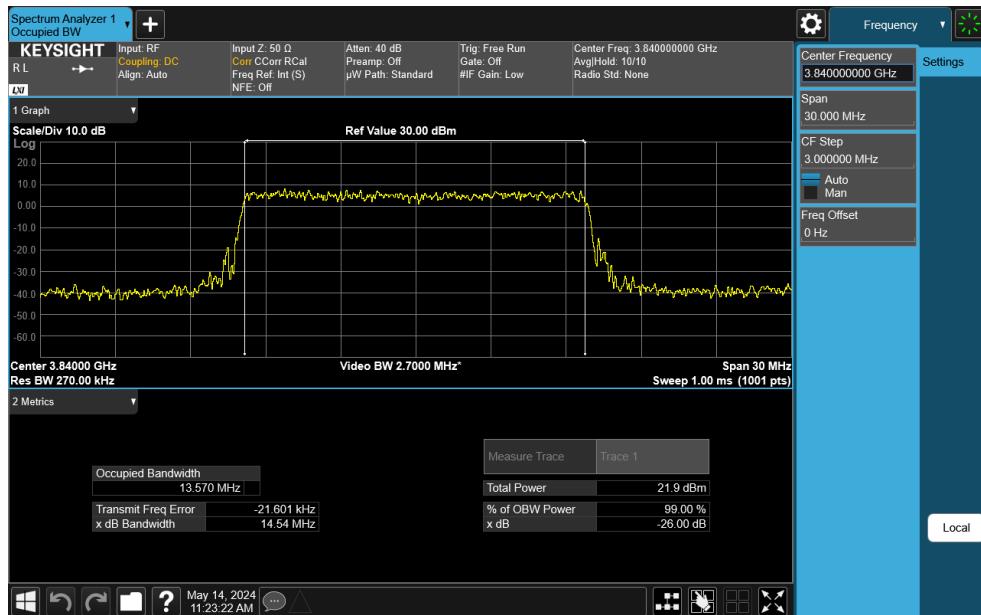


Plot 7-60. Occupied Bandwidth Plot (NR Band n77 C-Band - 10MHz CP-OFDM 256-QAM - Full RB)

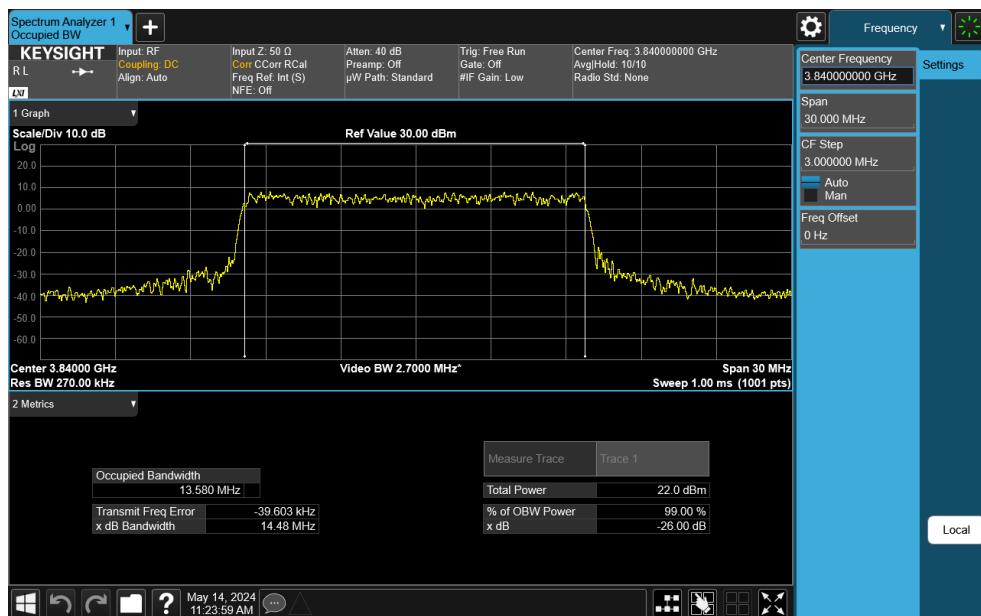


Plot 7-61. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz DFT-s-OFDM $\pi/2$ BPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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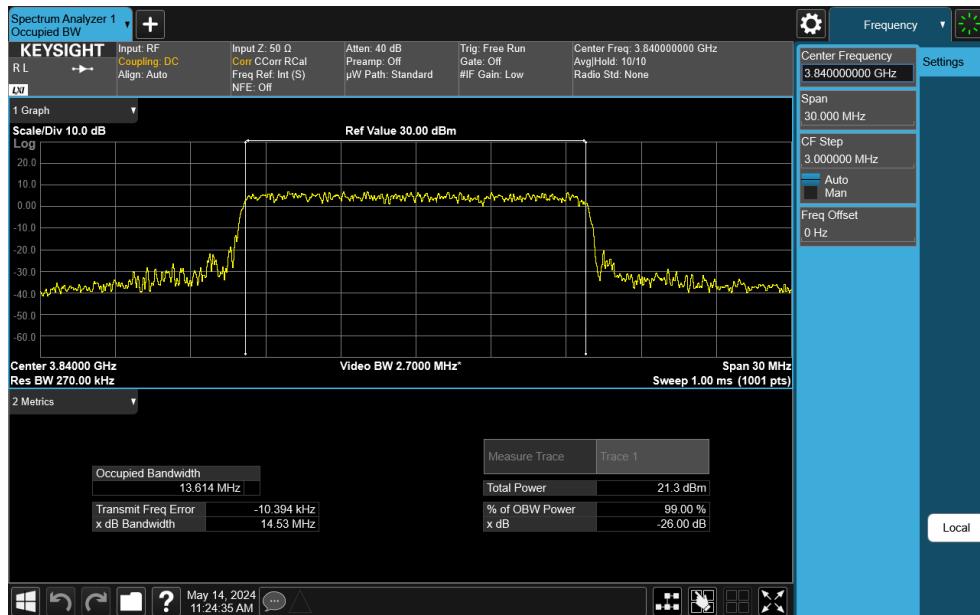


Plot 7-62. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM QPSK - Full RB)

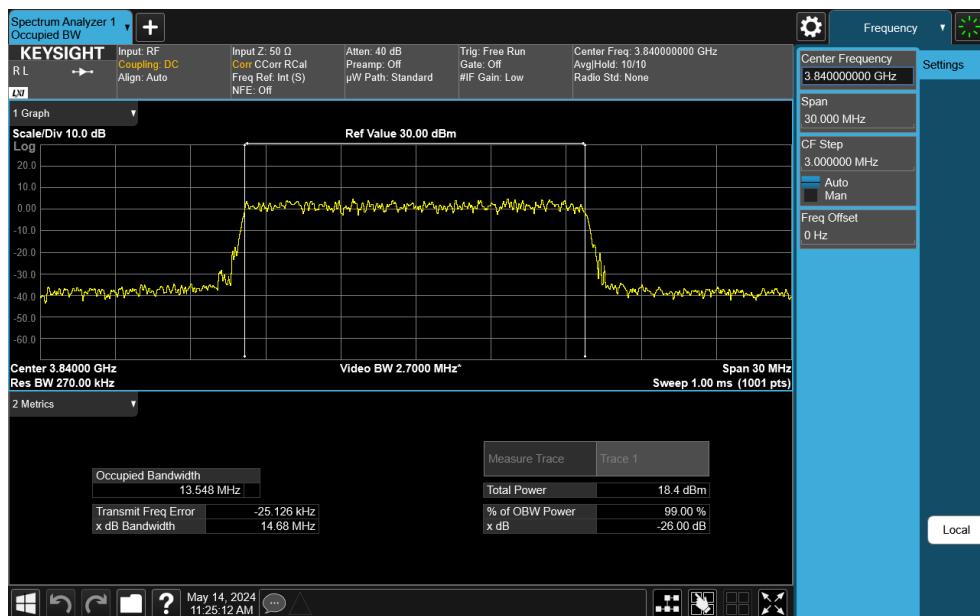


Plot 7-63. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM 16-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 49 of 266



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

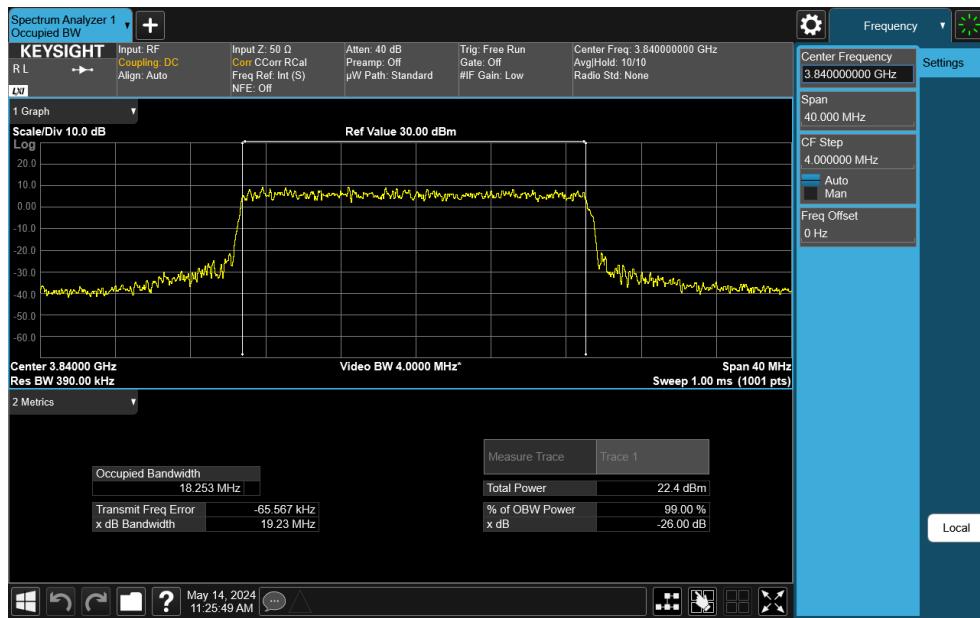


Plot 7-65. Occupied Bandwidth Plot (NR Band n77 C-Band - 15MHz CP-OFDM 256-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 50 of 266

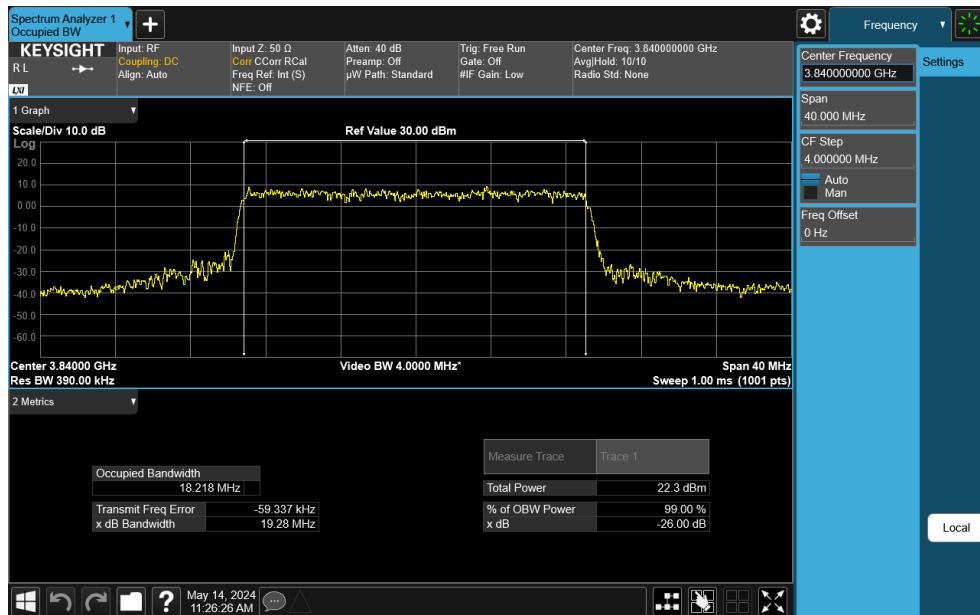


Plot 7-66. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz DFT-s-OFDM π/2 BPSK - Full RB)

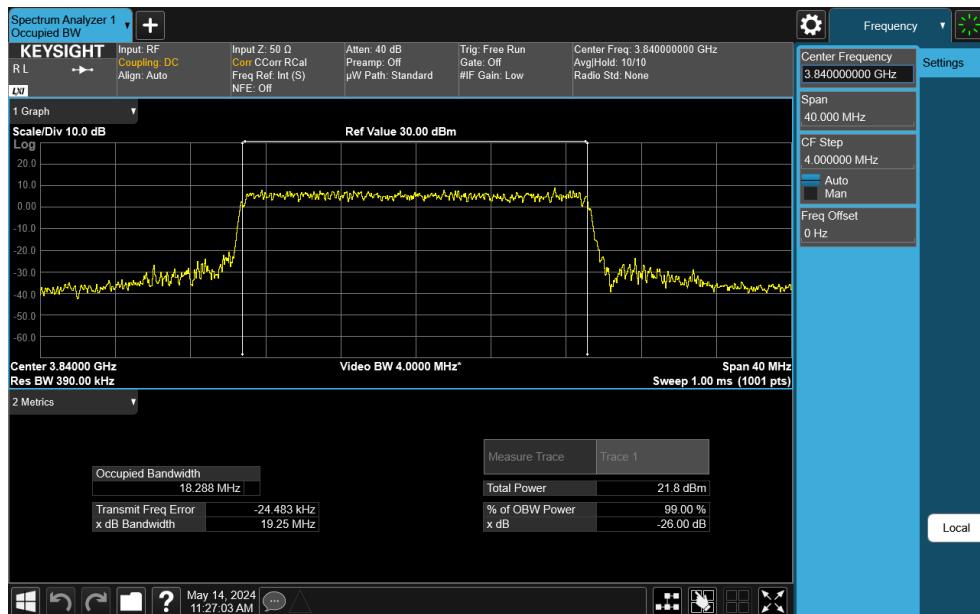


Plot 7-67. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 51 of 266

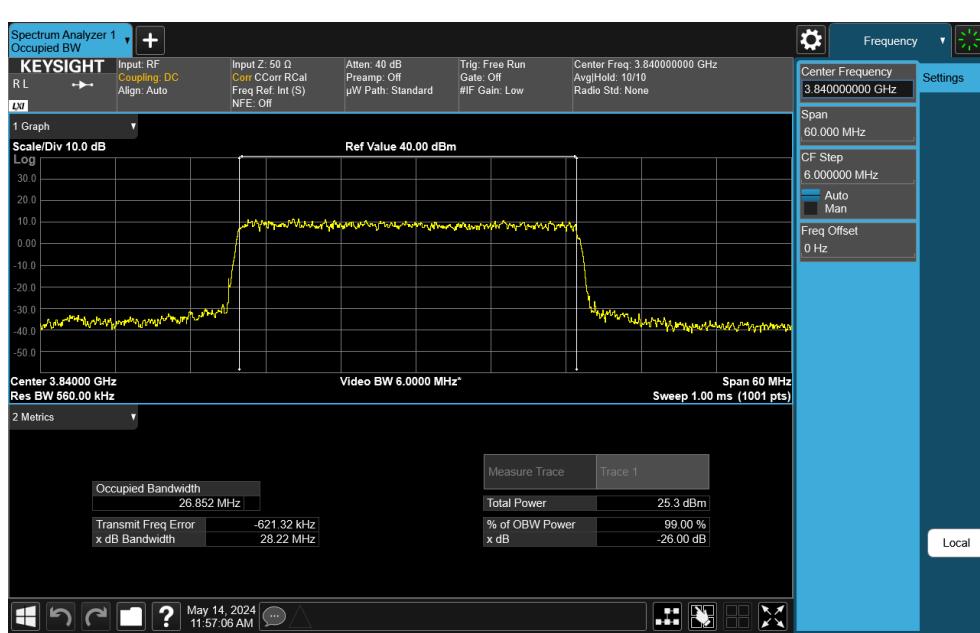


Plot 7-68. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM 16-QAM - Full RB)

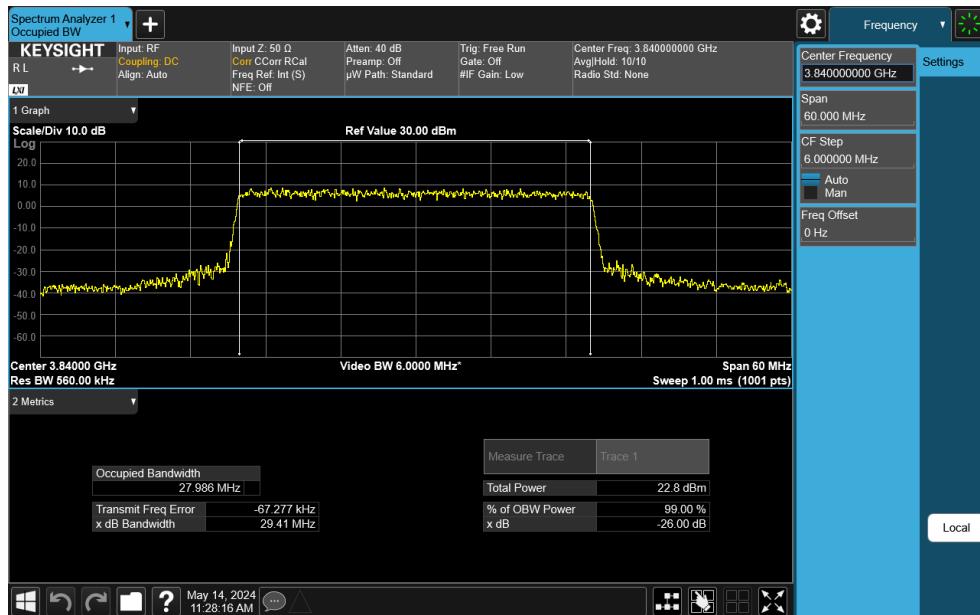


Plot 7-69. Occupied Bandwidth Plot (NR Band n77 C-Band - 20MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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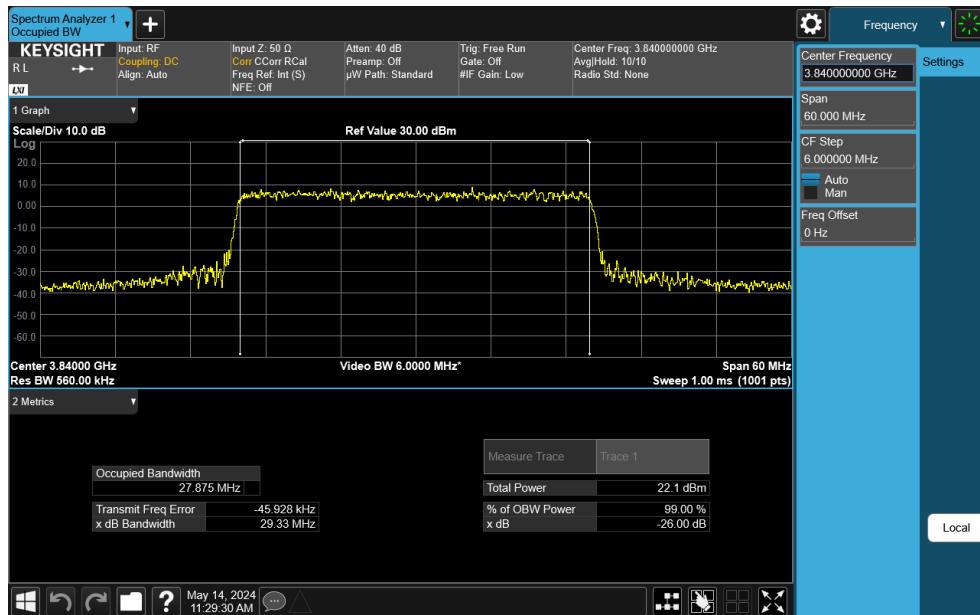


Plot 7-72. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM QPSK - Full RB)



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

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 54 of 266

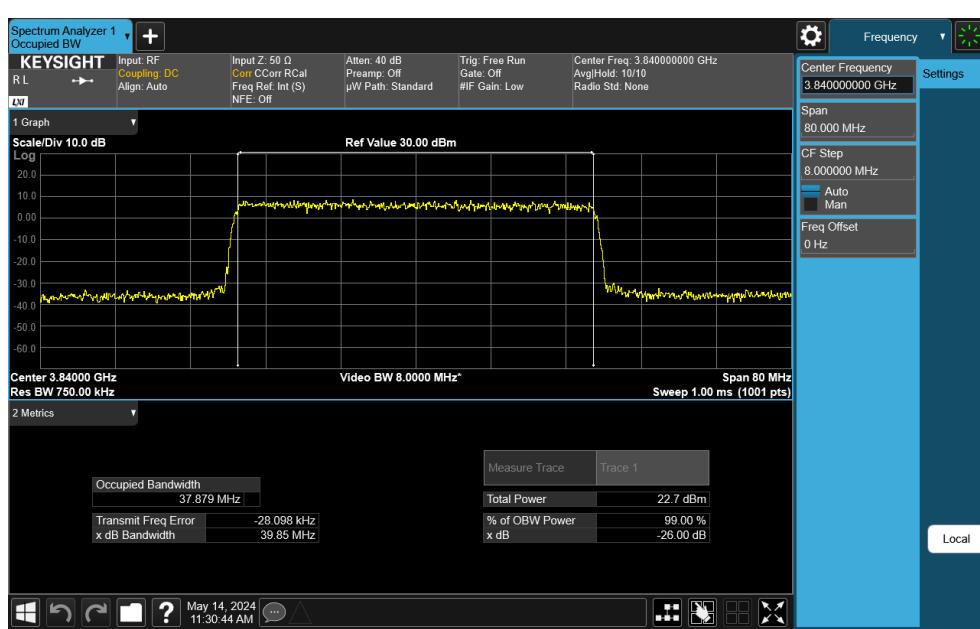
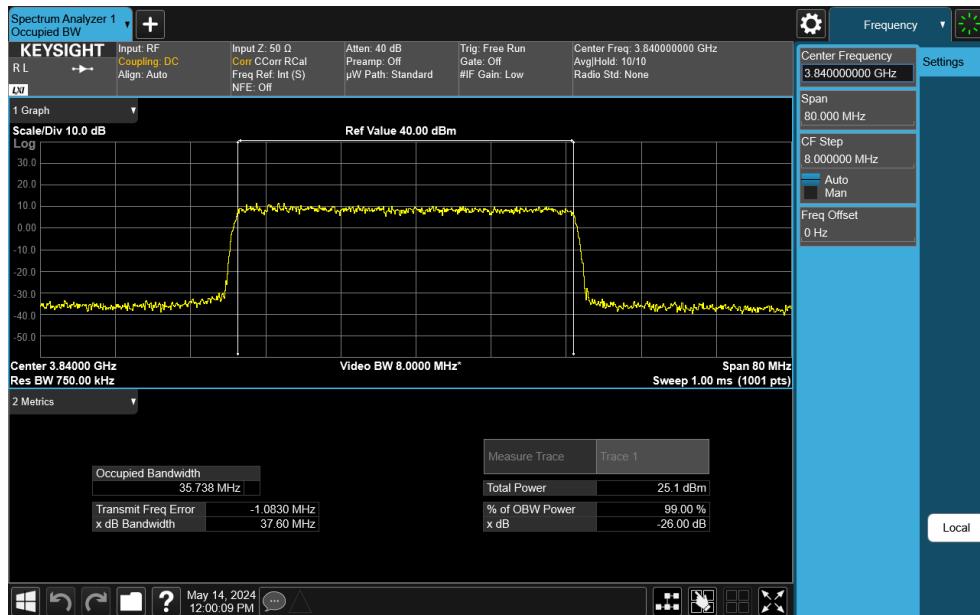


Plot 7-74. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM 64-QAM - Full RB)

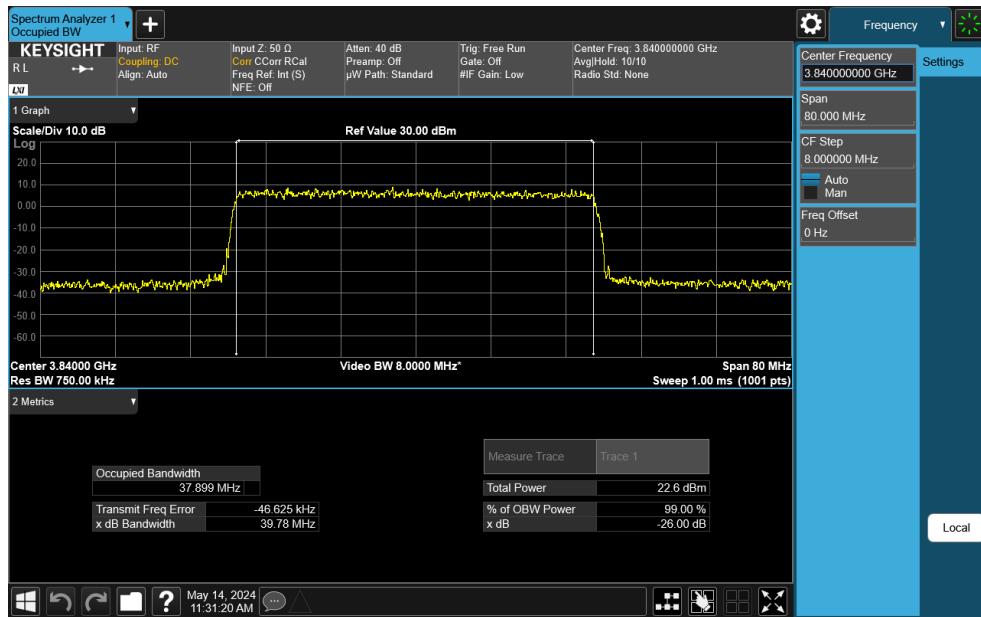


Plot 7-75. Occupied Bandwidth Plot (NR Band n77 C-Band - 30MHz CP-OFDM 256-QAM - Full RB)

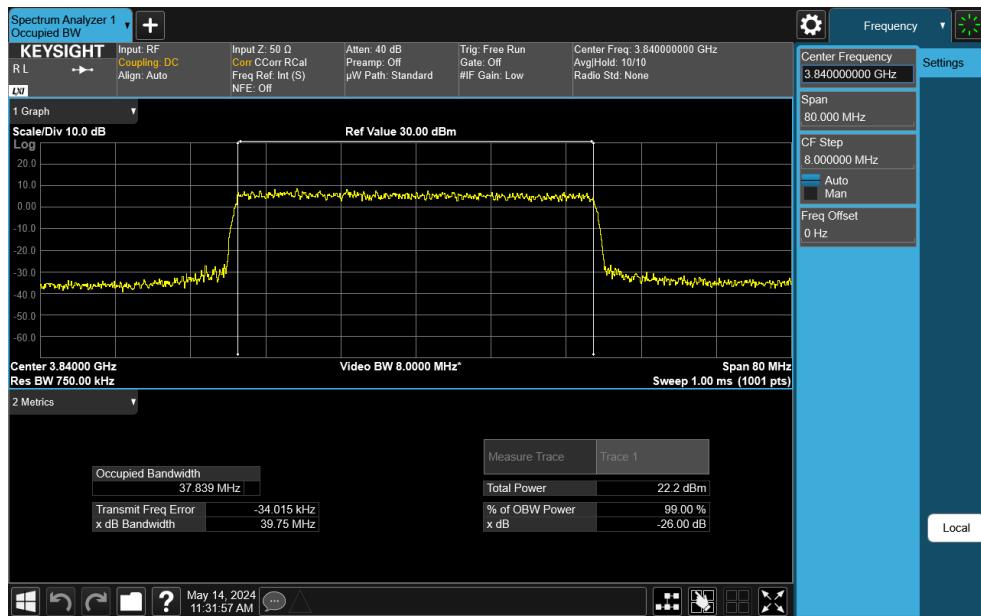
FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 55 of 266



FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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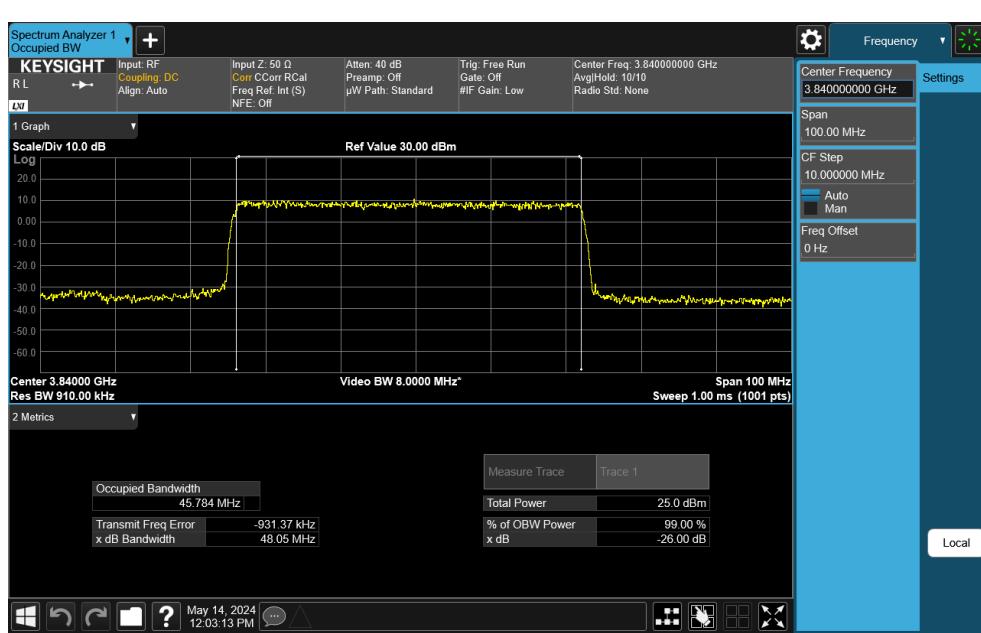


Plot 7-78. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM 16-QAM - Full RB)

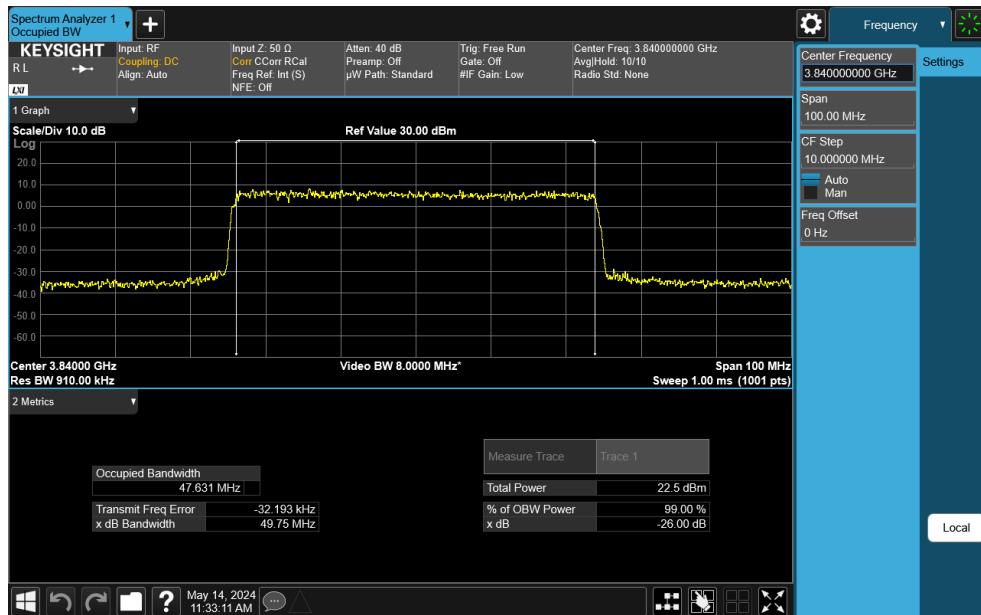


Plot 7-79. Occupied Bandwidth Plot (NR Band n77 C-Band - 40MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
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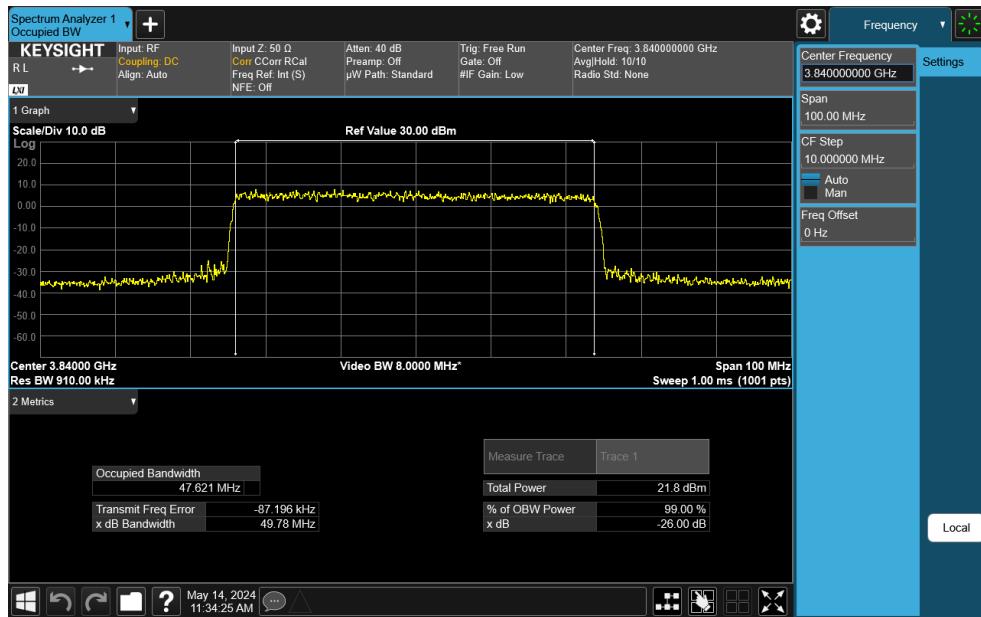


Plot 7-82. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM QPSK - Full RB)

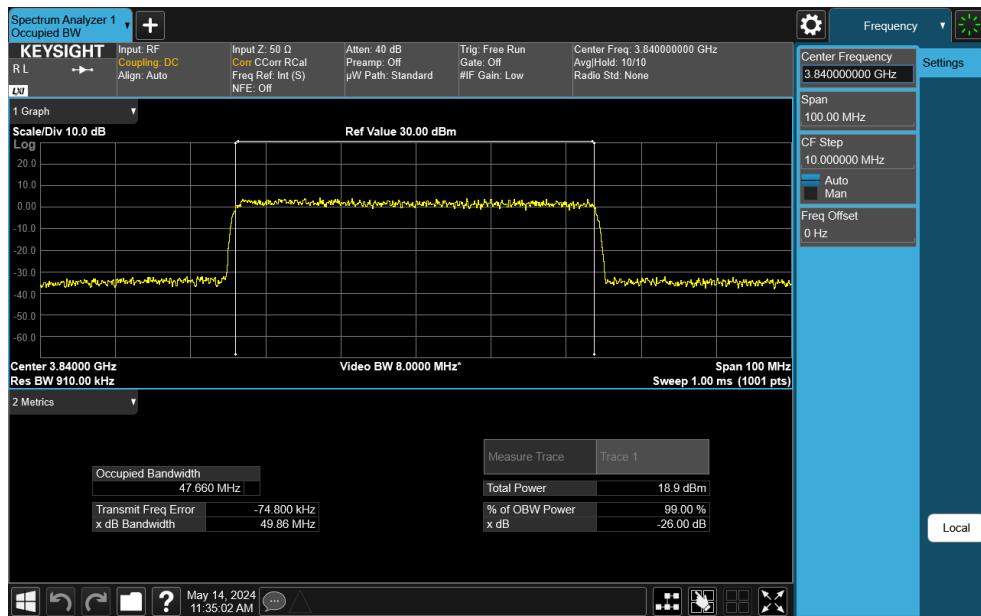


Plot 7-83. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM 16-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 59 of 266



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

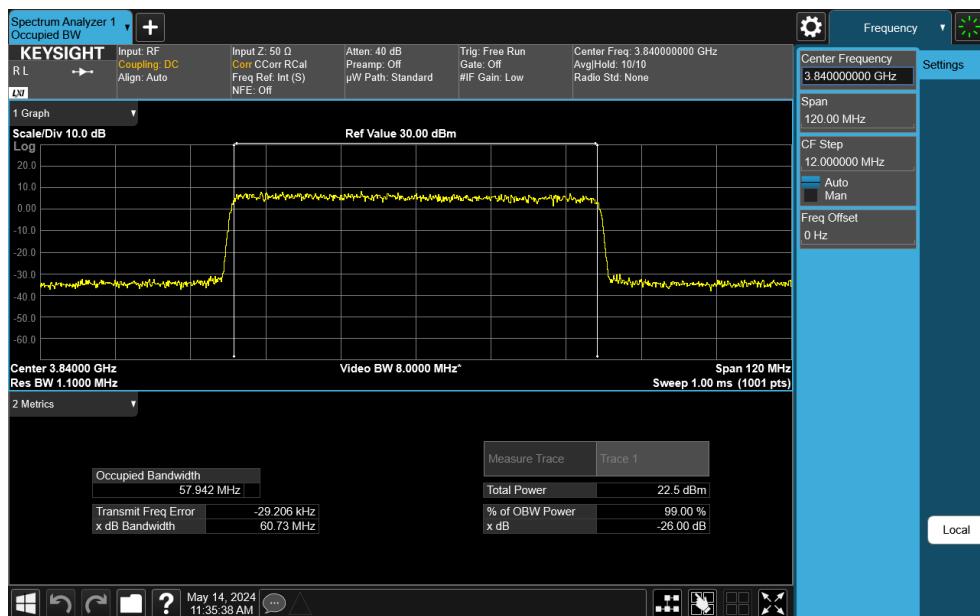


Plot 7-85. Occupied Bandwidth Plot (NR Band n77 C-Band - 50MHz CP-OFDM 256-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 60 of 266

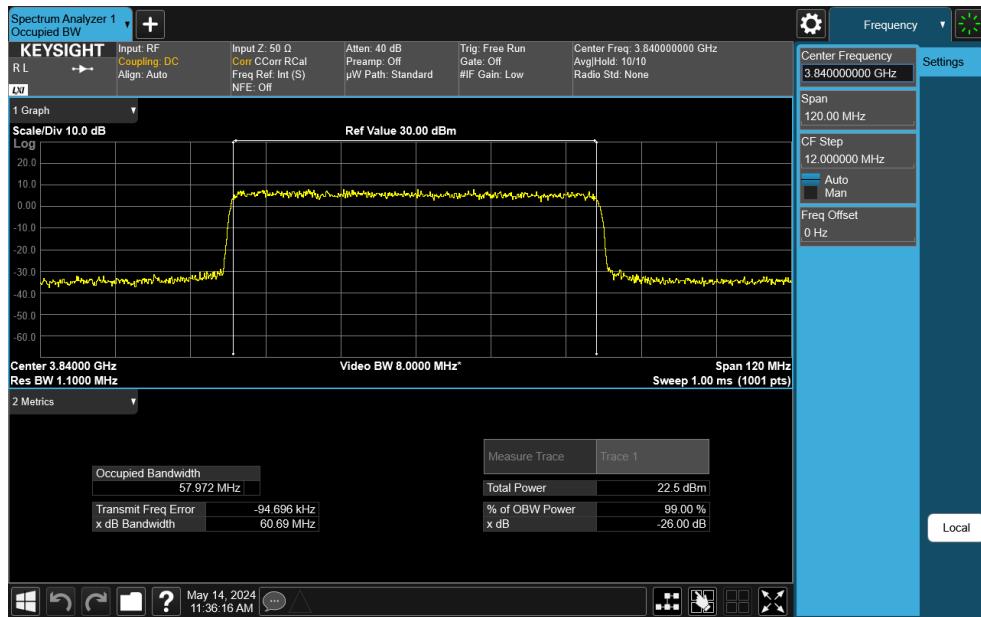


Plot 7-86. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz DFT-s-OFDM $\pi/2$ BPSK - Full RB)

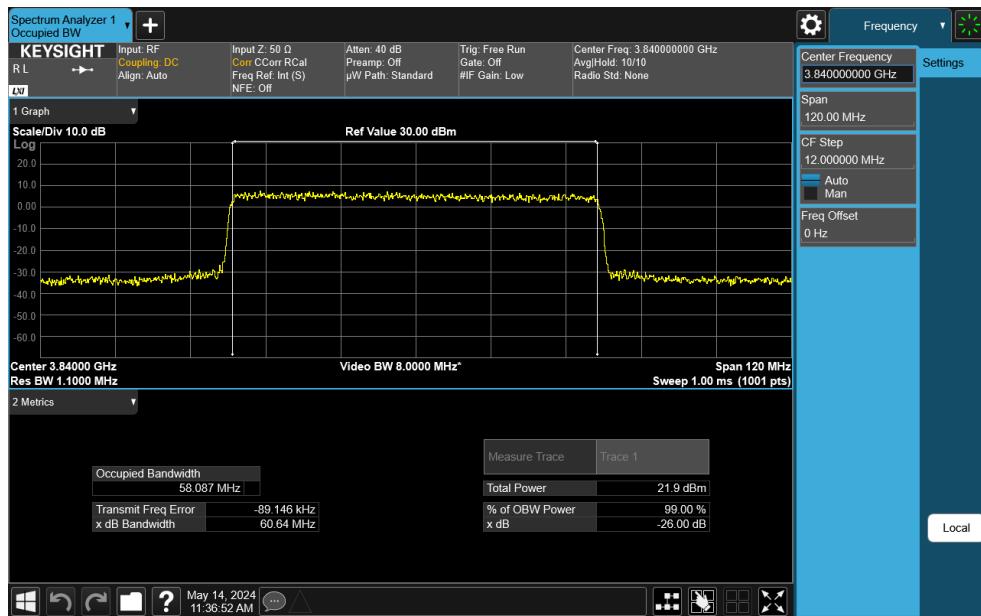


Plot 7-87. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz CP-OFDM QPSK - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT			Approved by: Technical Manager
Test Report S/N: 1C2405200018-11.BCG	Test Dates: 4/18/2024 - 7/22/2024	EUT Type: Tablet Device		Page 61 of 266

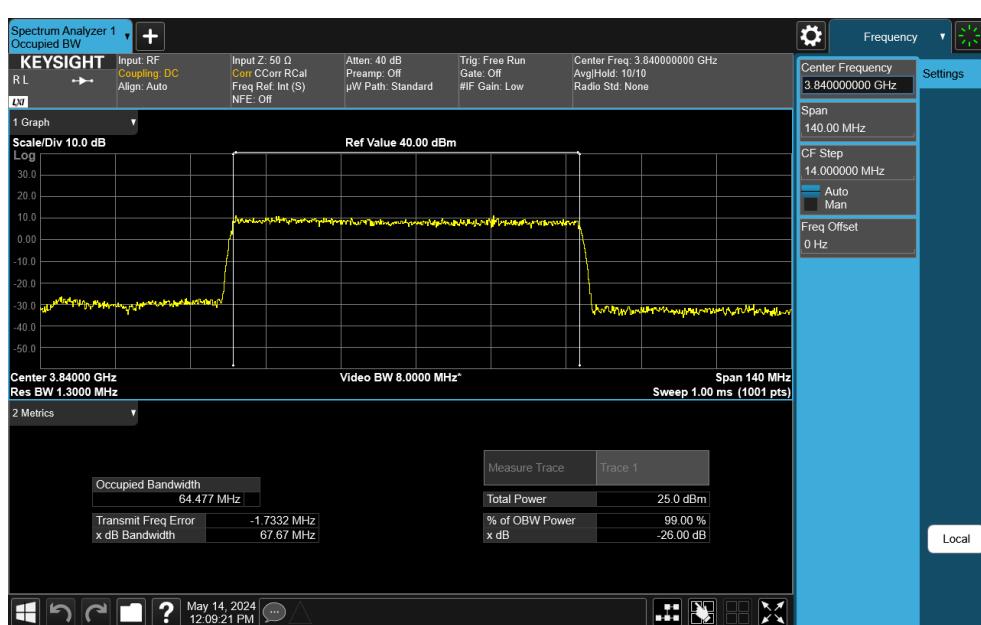


Plot 7-88. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz CP-OFDM 16-QAM - Full RB)



Plot 7-89. Occupied Bandwidth Plot (NR Band n77 C-Band - 60MHz CP-OFDM 64-QAM - Full RB)

FCC ID: BCGA2995	PART 27 MEASUREMENT REPORT		Approved by: Technical Manager
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