

PART 27 MEASUREMENT REPORT

Applicant Name:

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

Date of Testing:

6/2/2021 - 8/26/2021

Test Site/Location:

PCTEST Morgan Hill, CA, USA

Test Report Serial No.:

1C2106080049-04-R1.BCG

FCC ID:

BCGA2568

Applicant Name:

Apple Inc.

Application Type:

Certification

Model:

A2568(A2569)

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.

This revised Test Report (S/N: 1C2106080049-04-R1.BCG Report SNs) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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



Randy Ortanez
President





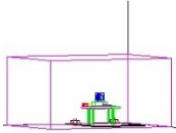
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 1 of 250

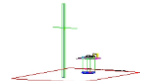
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Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	EIRP		Emission Designator
					Max. Power [W]	Max. Power [dBm]	
LTE Band 30	5 MHz	QPSK	2307.5 - 2312.5	4.5794	0.229	23.60	4M58G7W
		16QAM	2307.5 - 2312.5	4.5336	0.192	22.83	4M53D7W
		64QAM	2307.5 - 2312.5	4.5552	0.148	21.70	4M56D7W
		256QAM	2307.5 - 2312.5	4.5349	0.079	18.96	4M53D7W
	10MHz	QPSK	2310.0	9.0036	0.219	23.41	9M00G7W
		16QAM	2310.0	9.0037	0.189	22.77	9M00D7W
		64QAM	2310.0	9.0170	0.144	21.58	9M02D7W
		256QAM	2310.0	9.0211	0.082	19.16	9M02D7W
LTE Band 7	5 MHz	QPSK	2502.5 - 2567.5	4.5625	0.437	26.40	4M56G7W
		16QAM	2502.5 - 2567.5	4.5271	0.390	25.91	4M53D7W
		64QAM	2502.5 - 2567.5	4.5425	0.313	24.96	4M54D7W
		256QAM	2502.5 - 2567.5	4.5239	0.155	21.89	4M52D7W
	10 MHz	QPSK	2505.0 - 2565.0	9.0152	0.437	26.40	9M02G7W
		16QAM	2505.0 - 2565.0	8.9980	0.372	25.71	9M00D7W
		64QAM	2505.0 - 2565.0	9.0038	0.322	25.08	9M00D7W
		256QAM	2505.0 - 2565.0	8.9946	0.156	21.53	8M59D7W
	15 MHz	QPSK	2507.5 - 2562.5	13.5136	0.437	26.40	13M5G7W
		16QAM	2507.5 - 2562.5	13.5113	0.398	26.00	13M5D7W
		64QAM	2507.5 - 2562.5	13.5079	0.323	25.09	13M5D7W
		256QAM	2507.5 - 2562.5	13.4965	0.153	21.84	13M5D7W
	20 MHz	QPSK	2510.0 - 2560.0	17.9470	0.437	26.40	17M5G7W
		16QAM	2510.0 - 2560.0	18.0000	0.385	25.85	18M0D7W
		64QAM	2510.0 - 2560.0	17.9998	0.320	25.05	18M0D7W
		256QAM	2510.0 - 2560.0	17.9850	0.156	21.94	18M0D7W
LTE Band 41 (PC2)	5 MHz	QPSK	2498.5 - 2687.5	4.5344	0.646	28.10	4M53G7W
		16QAM	2498.5 - 2687.5	4.5171	0.543	27.35	4M52D7W
		64QAM	2498.5 - 2687.5	4.5242	0.469	26.71	4M52D7W
		256QAM	2498.5 - 2687.5	4.5285	0.214	23.30	4M53D7W
	10 MHz	QPSK	2501.0 - 2685.0	8.9834	0.646	28.10	8M58G7W
		16QAM	2501.0 - 2685.0	9.0037	0.579	27.63	9M00D7W
		64QAM	2501.0 - 2685.0	8.9870	0.465	26.67	8M59D7W
		256QAM	2501.0 - 2685.0	9.0318	0.220	23.42	9M03D7W
	15 MHz	QPSK	2503.5 - 2682.5	13.4837	0.646	28.10	13M5G7W
		16QAM	2503.5 - 2682.5	13.5143	0.568	27.54	13M5D7W
		64QAM	2503.5 - 2682.5	13.5069	0.469	26.71	13M5D7W
		256QAM	2503.5 - 2682.5	13.5160	0.231	23.64	13M5D7W
	20 MHz	QPSK	2506.0 - 2680.0	17.9933	0.646	28.10	18M0G7W
		16QAM	2506.0 - 2680.0	17.9858	0.586	27.68	18M0D7W
		64QAM	2506.0 - 2680.0	17.9041	0.491	26.91	17M5D7W
		256QAM	2506.0 - 2680.0	18.0000	0.238	23.77	18M0D7W
LTE Band 41(PC3)	5 MHz	QPSK	2498.5 - 2687.5	4.5344	0.407	26.10	4M53G7W
		16QAM	2498.5 - 2687.5	4.5171	0.344	25.36	4M52D7W
		64QAM	2498.5 - 2687.5	4.5242	0.275	24.39	4M52D7W
		256QAM	2498.5 - 2687.5	4.5285	0.144	21.57	4M53D7W
	10 MHz	QPSK	2501.0 - 2685.0	8.9834	0.407	26.10	8M58G7W
		16QAM	2501.0 - 2685.0	9.0037	0.343	25.35	9M00D7W
		64QAM	2501.0 - 2685.0	8.9870	0.254	24.04	8M59D7W
		256QAM	2501.0 - 2685.0	9.0318	0.143	21.55	9M03D7W
	15 MHz	QPSK	2503.5 - 2682.5	13.4837	0.407	26.10	13M5G7W
		16QAM	2503.5 - 2682.5	13.5143	0.331	25.20	13M5D7W
		64QAM	2503.5 - 2682.5	13.5069	0.256	24.09	13M5D7W
		256QAM	2503.5 - 2682.5	13.5160	0.143	21.55	13M5D7W
	20 MHz	QPSK	2506.0 - 2680.0	17.9933	0.407	26.10	18M0G7W
		16QAM	2506.0 - 2680.0	17.9858	0.340	25.32	18M0D7W
		64QAM	2506.0 - 2680.0	17.9041	0.245	23.90	17M5D7W
		256QAM	2506.0 - 2680.0	18.0000	0.145	21.60	18M0D7W
LTE Band 38	5 MHz	QPSK	2572.5 - 2617.5	4.5344	0.407	26.10	4M53G7W
		16QAM	2572.5 - 2617.5	4.5171	0.371	25.69	4M52D7W
		64QAM	2572.5 - 2617.5	4.5242	0.329	25.17	4M52D7W
		256QAM	2572.5 - 2617.5	4.5285	0.151	21.79	4M53D7W
	10 MHz	QPSK	2575.0 - 2615.0	8.9834	0.407	26.10	8M58G7W
		16QAM	2575.0 - 2615.0	9.0037	0.355	25.50	9M00D7W
		64QAM	2575.0 - 2615.0	8.9870	0.295	24.70	8M59D7W
		256QAM	2575.0 - 2615.0	9.0318	0.141	21.48	9M03D7W
	15 MHz	QPSK	2577.5 - 2612.5	13.4837	0.407	26.10	13M5G7W
		16QAM	2577.5 - 2612.5	13.5143	0.360	25.56	13M5D7W
		64QAM	2577.5 - 2612.5	13.5069	0.293	24.67	13M5D7W
		256QAM	2577.5 - 2612.5	13.5160	0.152	21.82	13M5D7W
	20 MHz	QPSK	2580.0 - 2610.0	17.9933	0.407	26.10	18M0G7W
		16QAM	2580.0 - 2610.0	17.9858	0.368	25.66	18M0D7W
		64QAM	2580.0 - 2610.0	17.9041	0.293	24.67	17M5D7W
		256QAM	2580.0 - 2610.0	18.0000	0.147	21.68	18M0D7W
ULCA LTE Band 7	20 + 20 MHz	QPSK	2510.0 - 2560.0	37.4695	0.437	26.40	37M5G7W
		16QAM	2510.0 - 2560.0	37.4500	0.207	23.16	37M5D7W
		64QAM	2510.0 - 2560.0	37.5223	0.164	22.15	37M5D7W
		256QAM	2510.0 - 2560.0	37.4958	0.128	21.07	37M5D7W
		QPSK	2506.0 - 2680.0	37.5258	0.692	28.40	37M5G7W
ULCA LTE Band 41(PC2)	20 + 20 MHz	16QAM	2506.0 - 2680.0	37.4862	0.349	25.43	37M5D7W
		64QAM	2506.0 - 2680.0	37.4648	0.274	24.37	37M5D7W
		256QAM	2506.0 - 2680.0	37.5032	0.223	23.48	37M5D7W
		QPSK	2506.0 - 2680.0	37.5258	0.407	26.10	37M5G7W
		16QAM	2506.0 - 2680.0	37.4862	0.212	23.27	37M5D7W
ULCA LTE Band 41(PC3)	20 + 20 MHz	64QAM	2506.0 - 2680.0	37.4648	0.169	22.27	37M5D7W
		256QAM	2506.0 - 2680.0	37.5032	0.133	21.24	37M5D7W

EUT Overview

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Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	EIRP		Emission Designator
					Max. Power [W]	Max. Power [dBm]	
NR Band n30	5 MHz	11/2 BPSK	2307.5 - 2312.5	4.5061	0.166	22.20	4M51G7W
		QPSK	2307.5 - 2312.5	4.5234	0.166	22.20	4M52G7W
		16QAM	2307.5 - 2312.5	4.5246	0.156	21.94	4M52D7W
		64QAM	2307.5 - 2312.5	4.5035	0.132	21.21	4M50D7W
		256QAM	2307.5 - 2312.5	4.5023	0.069	18.41	4M50D7W
	10MHz	11/2 BPSK	2310.0	9.0351	0.166	22.20	9M04G7W
		QPSK	2310.0	9.3407	0.166	22.20	9M34G7W
		16QAM	2310.0	9.3409	0.146	21.63	9M34D7W
		64QAM	2310.0	9.3364	0.129	21.12	9M34D7W
		256QAM	2310.0	9.3318	0.070	18.48	9M33D7W
NR Band n7	5 MHz	11/2 BPSK	2502.5 - 2567.5	4.5172	0.437	26.40	4M52G7W
		QPSK	2502.5 - 2567.5	4.5085	0.425	26.28	4M51G7W
		16QAM	2502.5 - 2567.5	4.5000	0.354	25.49	4M50D7W
		64QAM	2502.5 - 2567.5	4.5028	0.301	24.79	4M50D7W
		256QAM	2502.5 - 2567.5	4.5178	0.190	22.78	4M52D7W
	10MHz	11/2 BPSK	2505.0 - 2565.0	9.0007	0.437	26.40	9M00G7W
		QPSK	2505.0 - 2565.0	9.3163	0.426	26.30	9M32G7W
		16QAM	2505.0 - 2565.0	9.3539	0.333	25.23	9M35D7W
		64QAM	2505.0 - 2565.0	9.3664	0.287	24.58	9M37D7W
		256QAM	2505.0 - 2565.0	9.3456	0.178	22.51	9M35D7W
	15 MHz	11/2 BPSK	2507.5 - 2562.5	13.4580	0.407	26.09	13M5G7W
		QPSK	2507.5 - 2562.5	14.1393	0.437	26.40	14M1G7W
		16QAM	2507.5 - 2562.5	14.1480	0.322	25.08	14M1D7W
		64QAM	2507.5 - 2562.5	14.1866	0.288	24.59	14M2D7W
	20MHz	256QAM	2507.5 - 2562.5	14.1768	0.181	22.56	14M2D7W
		11/2 BPSK	2510.0 - 2560.0	17.9710	0.437	26.40	18M0G7W
		QPSK	2510.0 - 2560.0	18.9547	0.424	26.27	19M0G7W
		16QAM	2510.0 - 2560.0	19.0019	0.327	25.15	19M0D7W
		64QAM	2510.0 - 2560.0	18.9964	0.284	24.54	19M0D7W
	25MHz	256QAM	2510.0 - 2560.0	19.0557	0.180	22.55	19M1D7W
		11/2 BPSK	2512.5 - 2557.5	22.9351	0.272	24.35	22M9G7W
		QPSK	2512.5 - 2557.5	23.8209	0.275	24.40	23M8G7W
		16QAM	2512.5 - 2557.5	23.8501	0.210	23.22	23M9D7W
		64QAM	2512.5 - 2557.5	23.8697	0.179	22.54	23M9D7W
	30MHz	256QAM	2512.5 - 2557.5	23.8228	0.114	20.56	23M8D7W
		11/2 BPSK	2515 - 2555	28.6628	0.275	24.40	28M7G7W
		QPSK	2515 - 2555	28.6791	0.273	24.35	28M7G7W
		16QAM	2515 - 2555	28.7833	0.218	23.39	28M8D7W
		64QAM	2515 - 2555	28.7207	0.178	22.49	28M7D7W
	40MHz	256QAM	2515 - 2555	28.6827	0.112	20.50	28M7D7W
		11/2 BPSK	2520 - 2550	38.5033	0.270	24.31	38M5G7W
		QPSK	2520 - 2550	38.6081	0.275	24.40	38M6G7W
		16QAM	2520 - 2550	38.5087	0.219	23.41	38M6D7W
		64QAM	2520 - 2550	38.5748	0.179	22.53	38M6D7W
	40MHz	256QAM	2520 - 2550	38.5831	0.112	20.49	38M6D7W

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Version 2.0, 5/21/2021

Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	OBW [MHz]	EIRP		Emission Designator
					Max. Power [W]	Max. Power [dBm]	
NR Band n41 (PC2)	20 MHz	11/2 BPSK	2506.0 - 2680.0	17.9998	0.616	27.90	18M0G7W
		QPSK	2506.0 - 2680.0	18.3580	0.446	26.49	18M4G7W
		16QAM	2506.0 - 2680.0	18.3546	0.346	25.39	18M4D7W
		64QAM	2506.0 - 2680.0	18.3777	0.238	23.77	18M4D7W
		256QAM	2506.0 - 2680.0	18.2783	0.157	21.96	18M3D7W
	30 MHz	11/2 BPSK	2511.0 - 2675.0	26.8916	0.587	27.69	26M9G7W
		QPSK	2511.0 - 2675.0	27.9550	0.598	27.77	28M0G7W
		16QAM	2511.0 - 2675.0	27.9432	0.531	27.25	27M9D7W
		64QAM	2511.0 - 2675.0	28.0435	0.352	25.47	28M0D7W
		256QAM	2511.0 - 2675.0	27.9327	0.164	22.16	27M9D7W
	40 MHz	11/2 BPSK	2516.0 - 2670.0	35.9728	0.631	28.00	36M0G7W
		QPSK	2516.0 - 2670.0	37.9835	0.629	27.98	38M0G7W
		16QAM	2516.0 - 2670.0	38.0028	0.531	27.25	38M0D7W
		64QAM	2516.0 - 2670.0	38.0435	0.366	25.64	38M0D7W
		256QAM	2516.0 - 2670.0	37.8554	0.229	23.59	37M9D7W
	50 MHz	11/2 BPSK	2521.0 - 2665.0	45.9540	0.631	28.00	46M0G7W
		QPSK	2521.0 - 2665.0	47.7900	0.620	27.93	47M8G7W
		16QAM	2521.0 - 2665.0	47.6910	0.484	26.85	47M7D7W
		64QAM	2521.0 - 2665.0	47.6520	0.362	25.58	47M7D7W
		256QAM	2521.0 - 2665.0	47.5670	0.227	23.56	47M6D7W
	60 MHz	11/2 BPSK	2526.0 - 2660.0	58.1531	0.631	28.00	58M2G7W
		QPSK	2526.0 - 2660.0	58.0609	0.627	27.97	58M1G7W
		16QAM	2526.0 - 2660.0	58.2223	0.516	27.12	58M2D7W
		64QAM	2526.0 - 2660.0	58.1440	0.376	25.75	58M1D7W
		256QAM	2526.0 - 2660.0	58.0831	0.230	23.62	58M1D7W
	80 MHz	11/2 BPSK	2536.0 - 2650.0	77.2801	0.631	28.00	77M3G7W
		QPSK	2536.0 - 2650.0	77.9015	0.627	27.97	77M9G7W
		16QAM	2536.0 - 2650.0	77.7806	0.540	27.33	77M8D7W
		64QAM	2536.0 - 2650.0	77.4962	0.367	25.65	77M5D7W
		256QAM	2536.0 - 2650.0	77.6482	0.239	23.78	77M6D7W
	90 MHz	11/2 BPSK	2541.0 - 2645.0	86.8973	0.625	27.96	86M9G7W
		QPSK	2541.0 - 2645.0	87.7277	0.631	28.00	87M7G7W
		16QAM	2541.0 - 2645.0	87.8626	0.537	27.30	87M9D7W
		64QAM	2541.0 - 2645.0	87.9562	0.368	25.66	88M0D7W
		256QAM	2541.0 - 2645.0	87.7916	0.239	23.79	87M8D7W
	100 MHz	11/2 BPSK	2546.0 - 2640.0	96.4893	0.629	27.99	96M5G7W
		QPSK	2546.0 - 2640.0	97.5682	0.631	28.00	97M6G7W
		16QAM	2546.0 - 2640.0	97.5715	0.529	27.23	97M6D7W
		64QAM	2546.0 - 2640.0	97.4541	0.389	25.90	97M5D7W
		256QAM	2546.0 - 2640.0	97.7462	0.232	23.66	97M7D7W
NR Band n41 (PC3)	20 MHz	11/2 BPSK	2506.0 - 2680.0	17.9998	0.398	26.00	18M0G7W
		QPSK	2506.0 - 2680.0	18.3580	0.398	26.00	18M4G7W
		16QAM	2506.0 - 2680.0	18.3546	0.337	25.28	18M4D7W
		64QAM	2506.0 - 2680.0	18.3777	0.240	23.80	18M4D7W
		256QAM	2506.0 - 2680.0	18.2783	0.148	21.72	18M3D7W
	30 MHz	11/2 BPSK	2511.0 - 2675.0	26.8916	0.393	25.94	26M9G7W
		QPSK	2511.0 - 2675.0	27.9550	0.389	25.89	28M0G7W
		16QAM	2511.0 - 2675.0	27.9432	0.337	25.28	27M9D7W
		64QAM	2511.0 - 2675.0	28.0435	0.226	23.55	28M0D7W
		256QAM	2511.0 - 2675.0	27.9327	0.134	21.27	27M9D7W
	40 MHz	11/2 BPSK	2516.0 - 2670.0	35.9728	0.398	26.00	36M0G7W
		QPSK	2516.0 - 2670.0	37.9835	0.407	26.10	38M0G7W
		16QAM	2516.0 - 2670.0	38.0028	0.357	25.52	38M0D7W
		64QAM	2516.0 - 2670.0	38.0435	0.243	23.85	38M0D7W
		256QAM	2516.0 - 2670.0	37.8554	0.153	21.84	37M9D7W
	50 MHz	11/2 BPSK	2521.0 - 2665.0	45.9540	0.389	25.90	46M0G7W
		QPSK	2521.0 - 2665.0	47.7900	0.398	26.00	47M8G7W
		16QAM	2521.0 - 2665.0	47.6910	0.354	25.49	47M7D7W
		64QAM	2521.0 - 2665.0	47.6520	0.237	23.74	47M7D7W
		256QAM	2521.0 - 2665.0	47.5670	0.148	21.69	47M6D7W
	60 MHz	11/2 BPSK	2526.0 - 2660.0	58.1531	0.398	26.00	58M2G7W
		QPSK	2526.0 - 2660.0	58.0609	0.389	25.89	58M1G7W
		16QAM	2526.0 - 2660.0	58.2223	0.347	25.40	58M2D7W
		64QAM	2526.0 - 2660.0	58.1440	0.238	23.77	58M1D7W
		256QAM	2526.0 - 2660.0	58.0831	0.149	21.73	58M1D7W
	80 MHz	11/2 BPSK	2536.0 - 2650.0	77.2801	0.398	26.00	77M3G7W
		QPSK	2536.0 - 2650.0	77.9015	0.393	25.94	77M9G7W
		16QAM	2536.0 - 2650.0	77.7806	0.355	25.51	77M8D7W
		64QAM	2536.0 - 2650.0	77.4962	0.239	23.78	77M5D7W
		256QAM	2536.0 - 2650.0	77.6482	0.150	21.75	77M6D7W
	90 MHz	11/2 BPSK	2541.0 - 2645.0	86.8973	0.393	25.95	86M9G7W
		QPSK	2541.0 - 2645.0	87.7277	0.398	26.00	87M7G7W
		16QAM	2541.0 - 2645.0	87.8626	0.308	24.88	87M9D7W
		64QAM	2541.0 - 2645.0	87.9562	0.237	23.75	88M0D7W
		256QAM	2541.0 - 2645.0	87.7916	0.149	21.73	87M8D7W
	100 MHz	11/2 BPSK	2546.0 - 2640.0	96.4893	0.398	26.00	96M5G7W
		QPSK	2546.0 - 2640.0	97.5682	0.383	25.83	97M6G7W
		16QAM	2546.0 - 2640.0	97.5715	0.337	25.28	97M6D7W
		64QAM	2546.0 - 2640.0	97.4541	0.240	23.80	97M5D7W
		256QAM	2546.0 - 2640.0	97.7462	0.150	21.75	97M7D7W

EUT Overview

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Version 2.0, 5/21/2021

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 PCTEST Test Location

These measurement tests were conducted at the PCTEST 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 PCTEST located in Morgan Hill, CA 95037, U.S.A.

- PCTEST 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.
- PCTEST 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 ISSED Standards (RSS).
- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISSED.

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID:BCGA2568**. 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.: DG7QPQX0RY, GL6FX203DX, DLX121200630NC43Y

2.2 Device Capabilities

This device contains the following capabilities:

WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (FR1), 802.11b/g/n/ax WLAN, 802.11a/n/ax UNII, Bluetooth (1x, EDR, LE1M, LE2M, 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	WLAN	Bluetooth	WCDMA	LTE / FR1 NR			UNII
		802.11 b/g/n/ax	BDR, EDR, HDR4/8, LE1/2M	Mid Band	Mid Band	High Band	Ultra High Band	802.11 a/n/ac/ax
3a	Config 1	✓	✗	✗	✗	✗	✓	✗
3a	Config 2	✗	✓	✗	✗	✗	✓	✗
3b	Config 3	✗	✗	✗	✗	✓	✗	✓
3b	Config 4	✗	✗	✗	✓	✗	✗	✓
3b	Config 5	✗	✗	✓	✗	✗	✗	✓
3a	Config 6	✗	✓	✗	✗	✗	✓	✗
3b	Config 7	✗	✗	✗	✗	✓	✗	✓
3b	Config 8	✗	✗	✗	✓	✗	✗	✓

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 Bluetooth and Part 96 test reports.

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2.3 Antenna Description

Following antenna gains provided by manufacturer were used for testing.

Band	Antennas			
	Antenna 4	Antenna 1b	Antenna 3b	Antenna 2
LTE Band 30	1	-2.6	-1.9	0.9
NR Band n30				
LTE Band 7	0.7	-2.8	-4.3	0.8
NR Band n7				
LTE Band 41	0.4	-3.8	-4.4	0.3
NR Band n41				

Table 2-2. Highest Antenna Gain

2.4 Test Support Equipment

1	Apple MacBook Pro	Model:	A2141	S/N:	C02DV7VKMD6T
	w/AC/DC Adapter	Model:	A2166	S/N:	N/A
2	Apple USB-C Cable	Model:	Chimp	S/N:	420A57
3	USB-C Cable	Model:	A146	S/N:	N/A
	w/ AC/DC Adapter	Model:	A2305	S/N:	N/A
4	Apple Pencil	Model:	N/A	S/N:	GQXYGSXBJKM9
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 19A310b 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 “Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards” (ANSI C63.26 2015, TIA-603-E-2016) and “Measurement Guidance for Certification of Licensed Digital Transmitters” (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:

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


And

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

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	1.65
Radiated Disturbance (<30MHz)	4.06
Radiated Disturbance (30MHz-1GHz)	4.30
Radiated Disturbance (1-18GHz)	4.78
Radiated Disturbance (>18GHz)	4.79

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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
Agilent Technologies	N9030A	3Hz-44GHz PXA Signal Analyzer	3/31/2021	Annual	3/31/2022	MY49430244
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	12/1/2020	Annual	12/1/2021	T058701-02
ETS-Lindgren	3142E	BiConiLog Antenna (30MHz - 6GHz)	9/15/2020	Annual	9/15/2021	208204
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	11/4/2020	Annual	11/4/2021	227597
ESPEC	SU-241	Tabletop Temperature Chamber	9/28/2020	Annual	9/28/2021	92009574
Keysight Technology	N9040B	UXA Signal Analyzer	12/19/2020	Annual	12/19/2021	MY57212015
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	12/3/2020	Annual	12/3/2021	102327
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	12/3/2020	Annual	12/3/2021	101648
Rohde & Schwarz	FSV40	Signal Analyzer (10Hz-40GHz)	3/16/2021	Annual	3/16/2022	101619
Rohde & Schwarz	ESW26	EMI Test Receiver	6/11/2021	Annual	6/11/2022	101299
Rohde & Schwarz	ESW44	EMI Test Receiver	12/14/2020	Annual	12/14/2021	101867
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	10/13/2020	Annual	10/13/2021	161616
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	9/24/2020	Annual	9/24/2021	151888
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	4/29/2021	Annual	4/29/2022	100051
Rohde & Schwarz	TC-TA18	Cross Polarized Vivaldi Antenna (400MHz-18GHz)	10/2/2020	Annual	10/2/2021	101063
Rohde & Schwarz	HFH2-Z2	Loop Antenna	4/5/2021	Annual	4/5/2022	100519

Table 5-1. Test Equipment

Notes:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

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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: BCGA2568
 FCC Classification: PCS Licensed Transmitter (PCB)
 Mode(s): LTE/NR/ULCA


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 (LTE Band 30)	2.1051, 27.53(a)	Undesirable emissions must meet the limits detailed in 27.53(a)	PASS	Sections 7.3, 7.4
	Conducted Band Edge / Spurious Emissions (LTE Band 7)	2.1051, 27.53(m)	Undesirable emissions must meet the limits detailed in 27.53(m)	PASS	Sections 7.3, 7.4
	Conducted Band Edge / Spurious Emissions (LTE Band 41)			PASS	Sections 7.3, 7.4
	Conducted Band Edge / Spurious Emissions (NR Band n41)			PASS	Sections 7.3, 7.4
	Transmitter Conducted Output Power	2.1046	N/A	N/A	See RF Exposure Report
	Additional Maximum Power Reduction (A-MPR)	2.1046	N/A	N/A	Section 7.5
	Effective Radiated Power / Equivalent Isotropic Radiated Power (LTE Band 30)	27.50(a)(3)	< 0.25 Watts max. EIRP	PASS	Section 7.6
	Effective Radiated Power / Equivalent Isotropic Radiated Power (LTE Band 7)	27.50(h)(2)	< 2 Watts max. EIRP	PASS	Section 7.6
	Effective Radiated Power / Equivalent Isotropic Radiated Power (LTE Band 41)			PASS	Section 7.6
	Effective Radiated Power / Equivalent Isotropic Radiated Power (NR Band n41)			PASS	Section 7.6
	Frequency Stability	2.1055, 27.54	Fundamental emissions stay within authorized frequency block over the temperature and voltage range as tested	PASS	Section 7.8
RADIATED	Radiated Spurious Emissions (LTE Band 30)	2.1053, 27.53(a)	Undesirable emissions must meet the limits detailed in 27.53(a)	PASS	Section 7.7
	Radiated Spurious Emissions (LTE Band 7)	2.1053, 27.53(m)	Undesirable emissions must meet the limits detailed in 27.53(m)	PASS	Section 7.7
	Radiated Spurious Emissions (LTE Band 41)			PASS	Section 7.7
	Radiated Spurious Emissions (NR Band n41)			PASS	Section 7.7

Table 7-1. Summary of Test Results

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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 PCTEST EMC Software Tool 1.0.

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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 $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

Test Setup

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

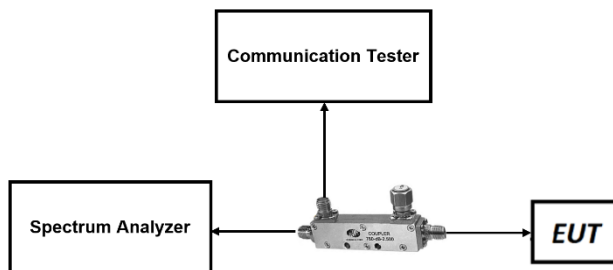



Figure 7-1. Test Instrument & Measurement Setup

Test Notes

None.

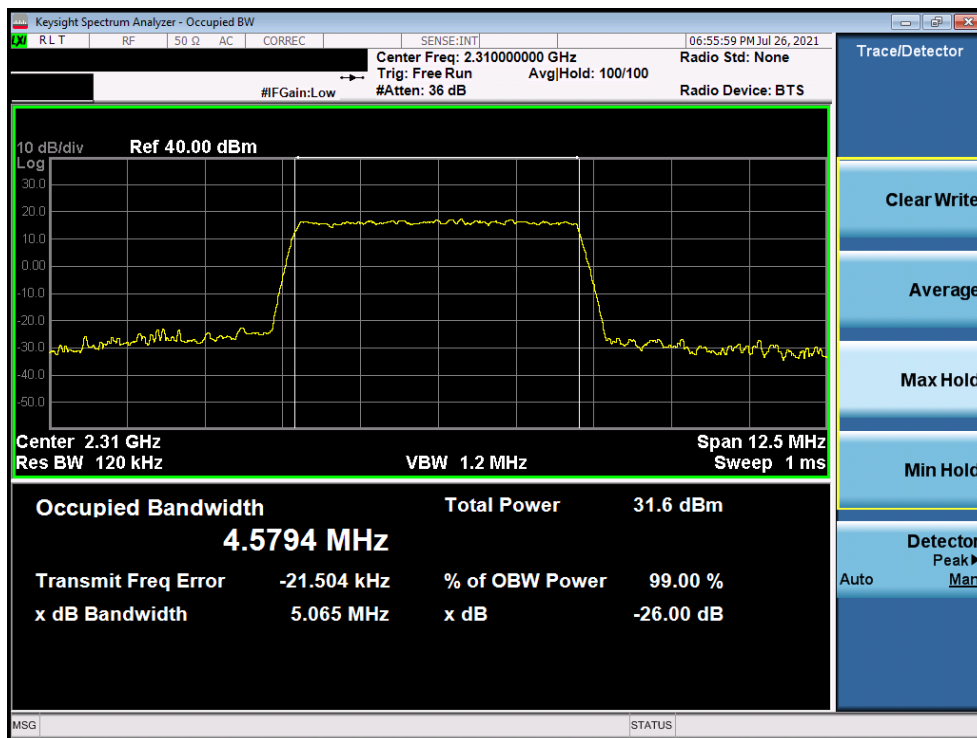
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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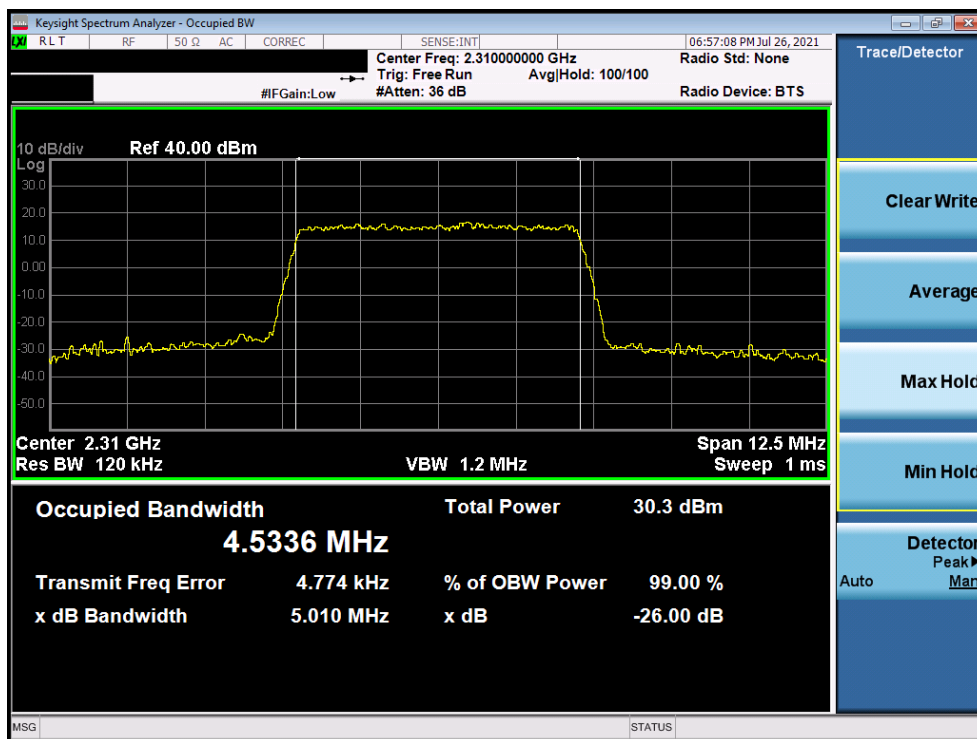
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LTE Band 30

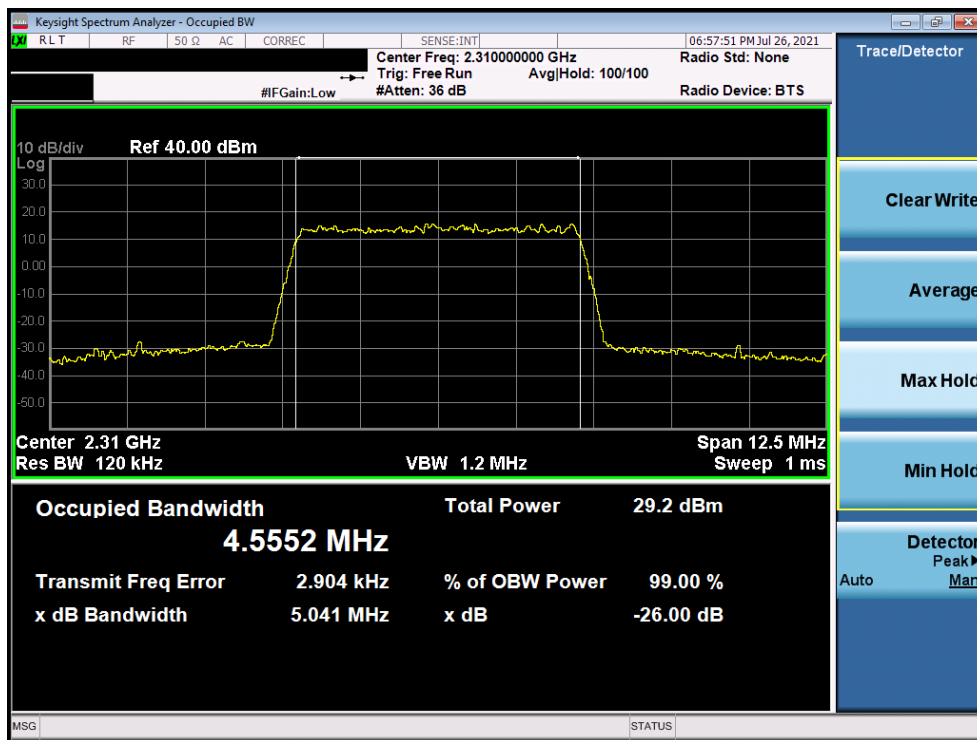


Plot 7-1. Occupied Bandwidth Plot (LTE Band 30 - 5MHz QPSK - Full RB)

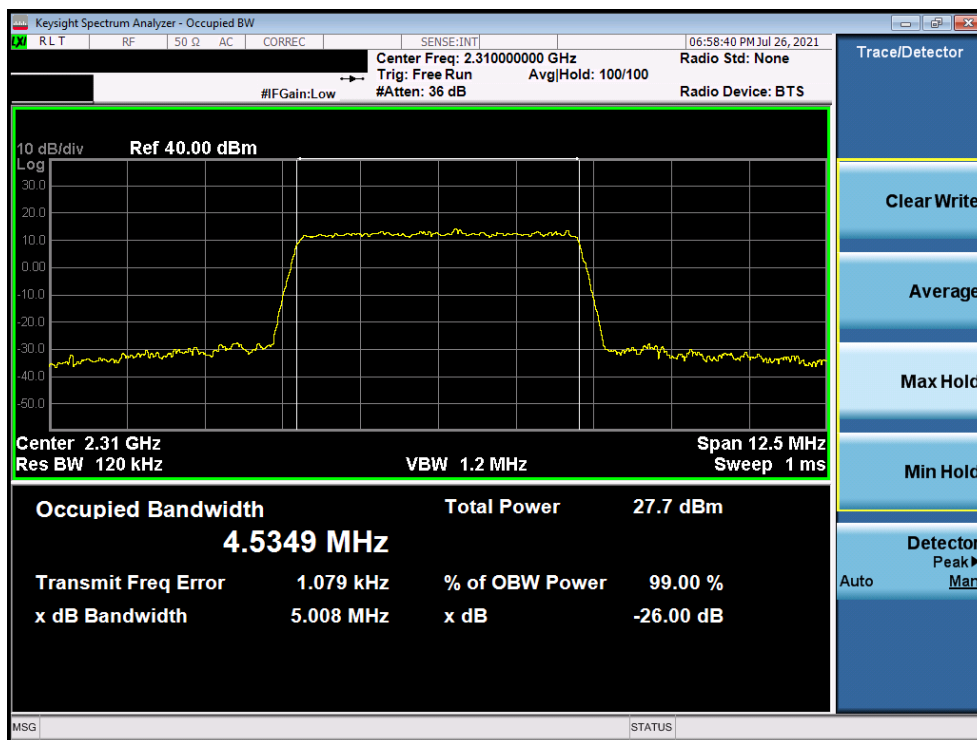


Plot 7-2. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 16-QAM - Full RB)

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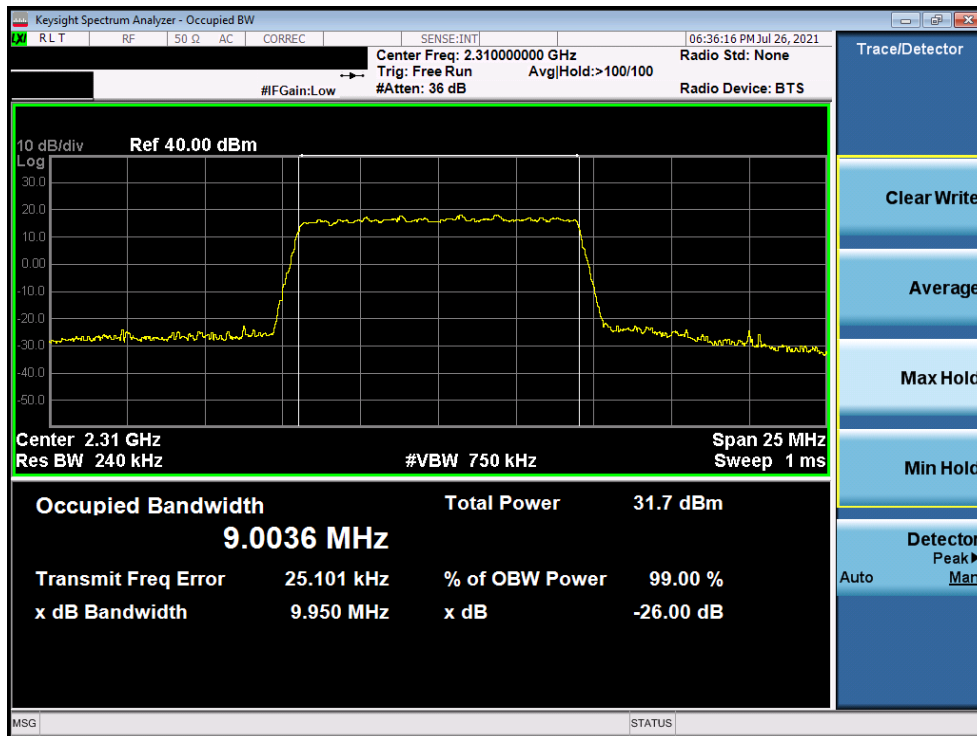


Plot 7-3. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 64-QAM - Full RB)

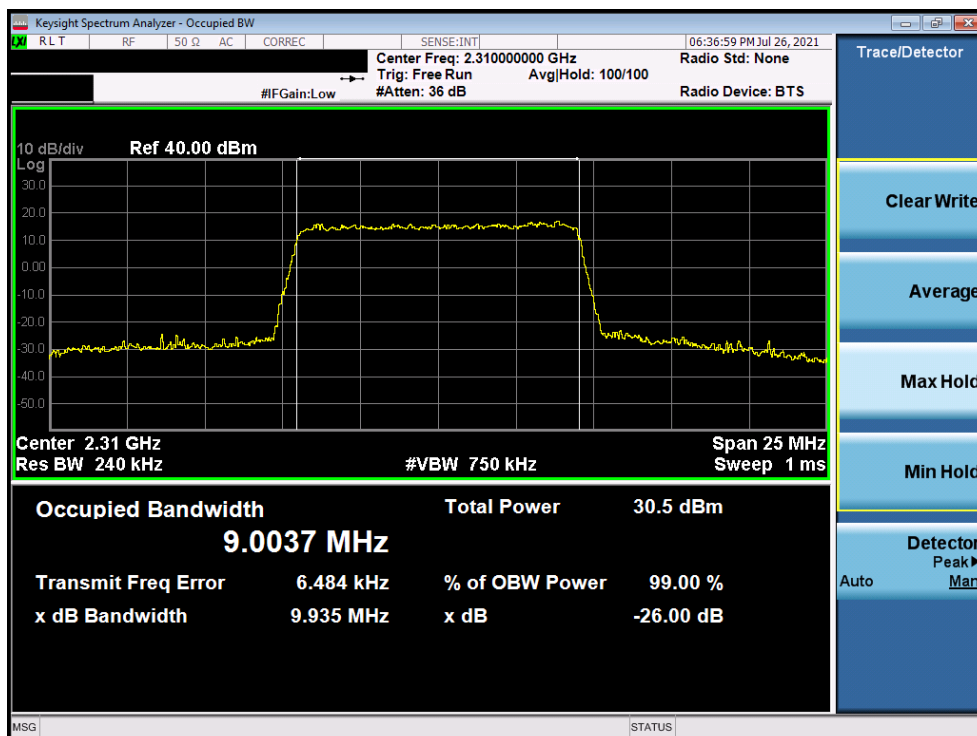


Plot 7-4. Occupied Bandwidth Plot (LTE Band 30 - 5MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 18 of 250

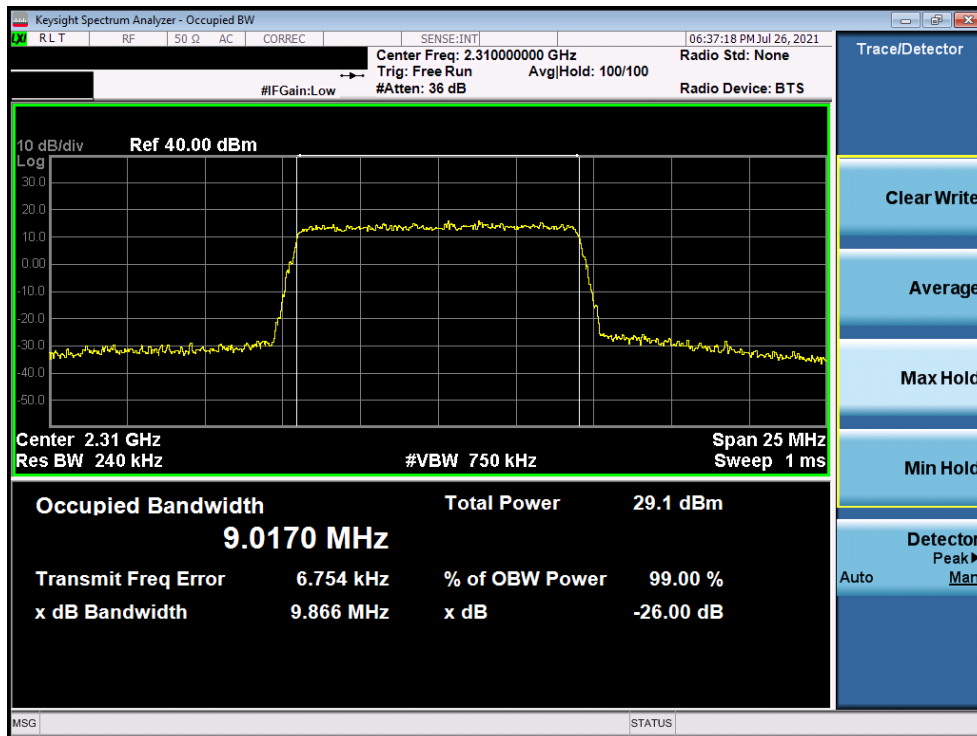


Plot 7-5. Occupied Bandwidth Plot (LTE Band 30 - 10MHz QPSK - Full RB)

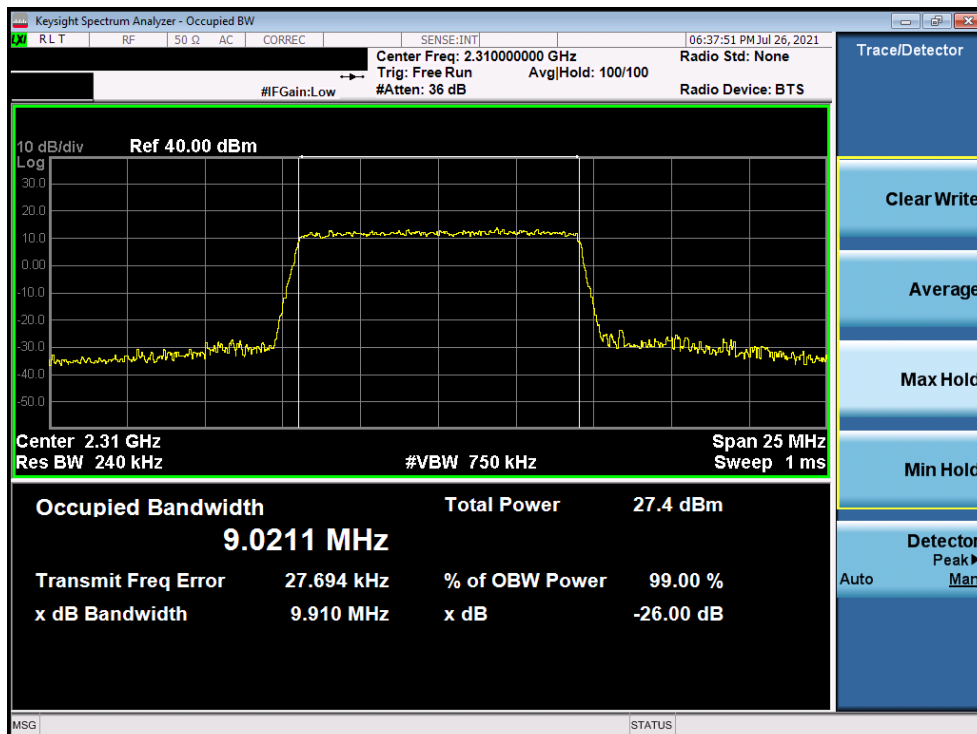


Plot 7-6. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 19 of 250



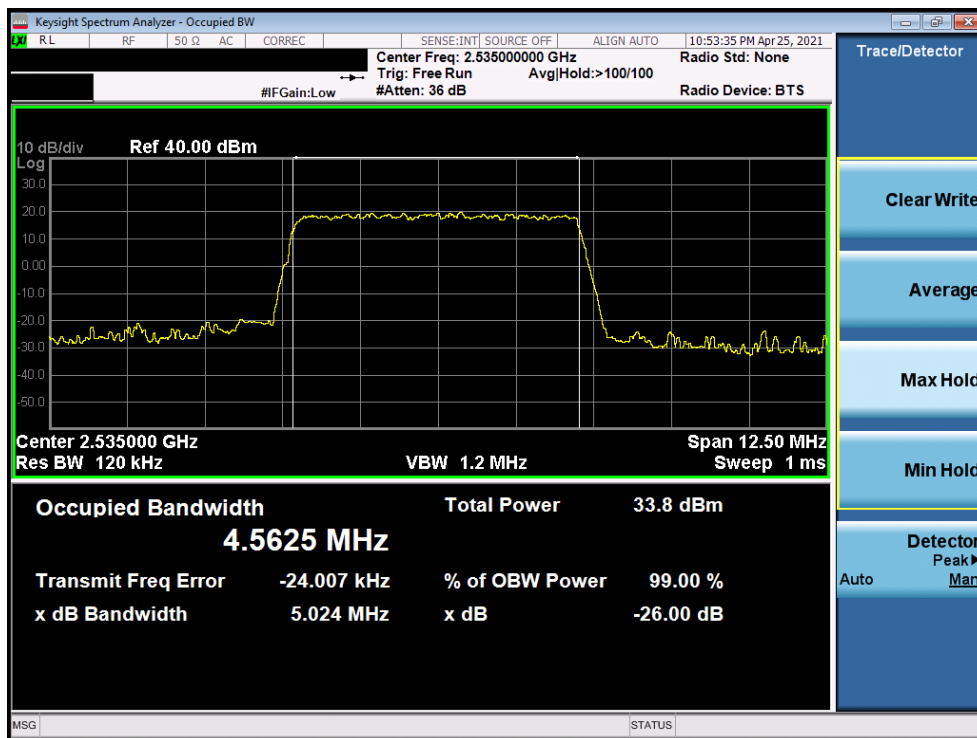
Plot 7-7. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 64-QAM - Full RB)



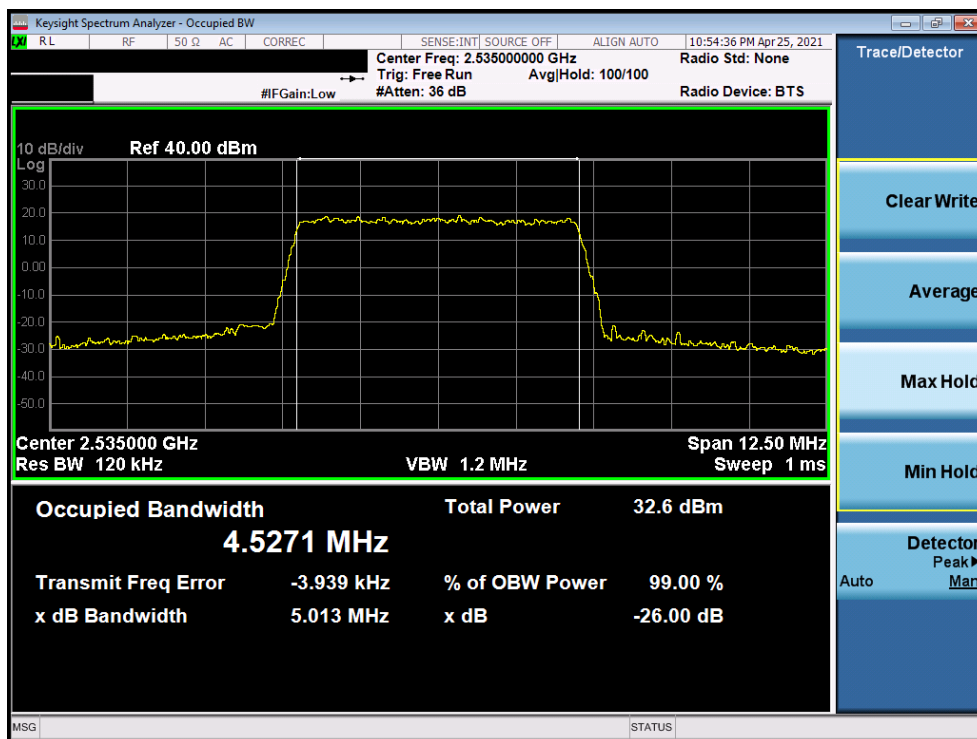
Plot 7-8. Occupied Bandwidth Plot (LTE Band 30 - 10MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 20 of 250

LTE Band 7

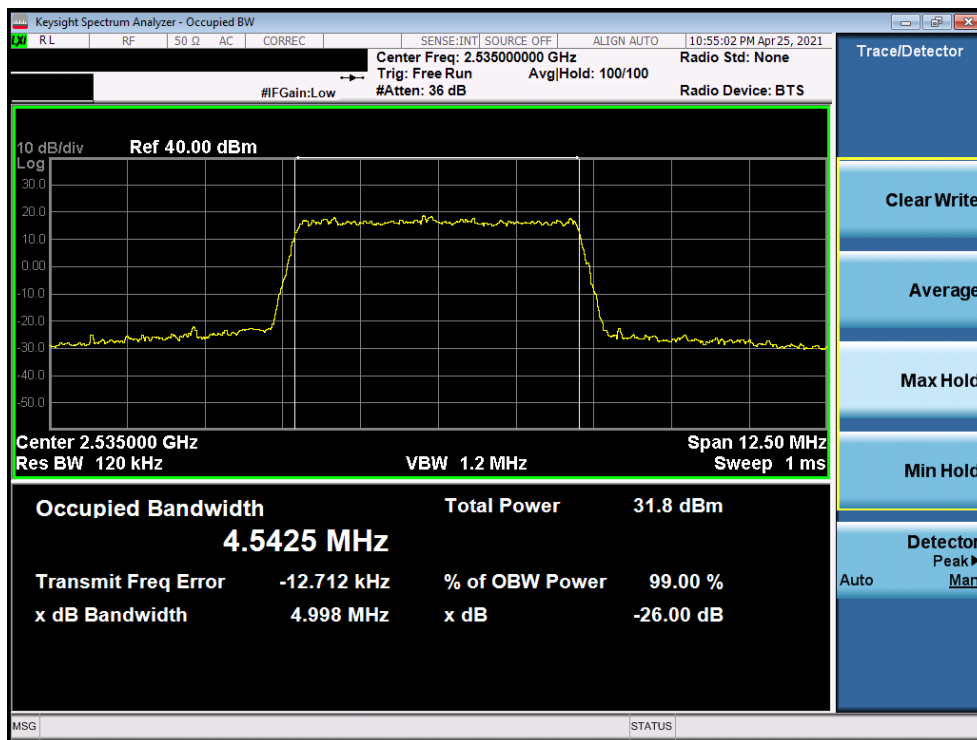


Plot 7-9. Occupied Bandwidth Plot (LTE Band 7 - 5MHz QPSK - Full RB)

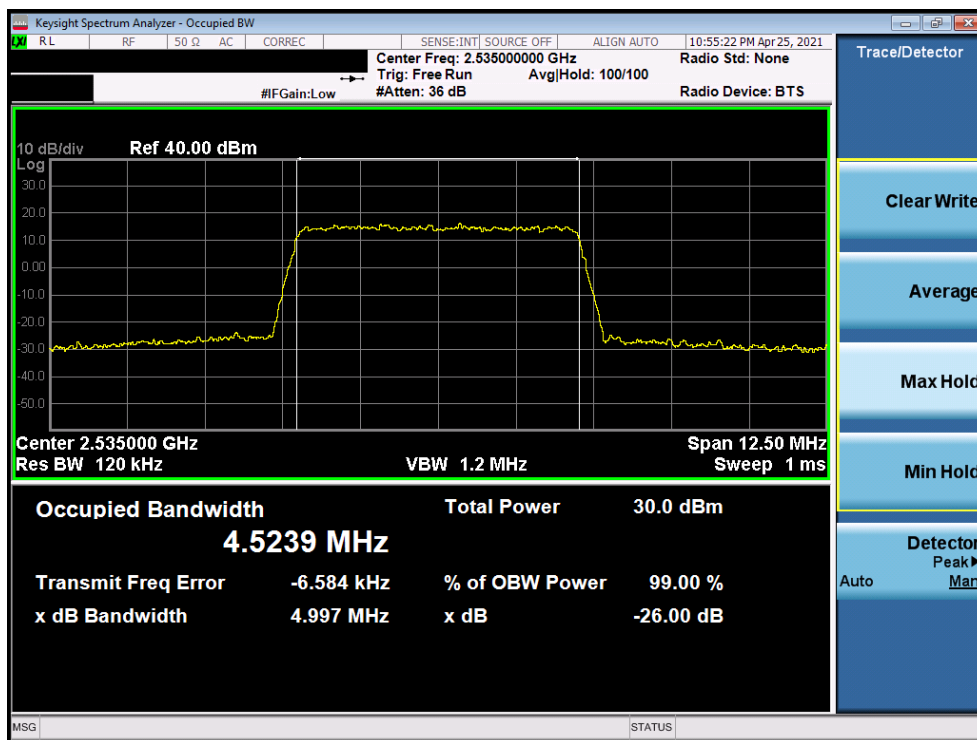


Plot 7-10. Occupied Bandwidth Plot (LTE Band 7 - 5MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 21 of 250

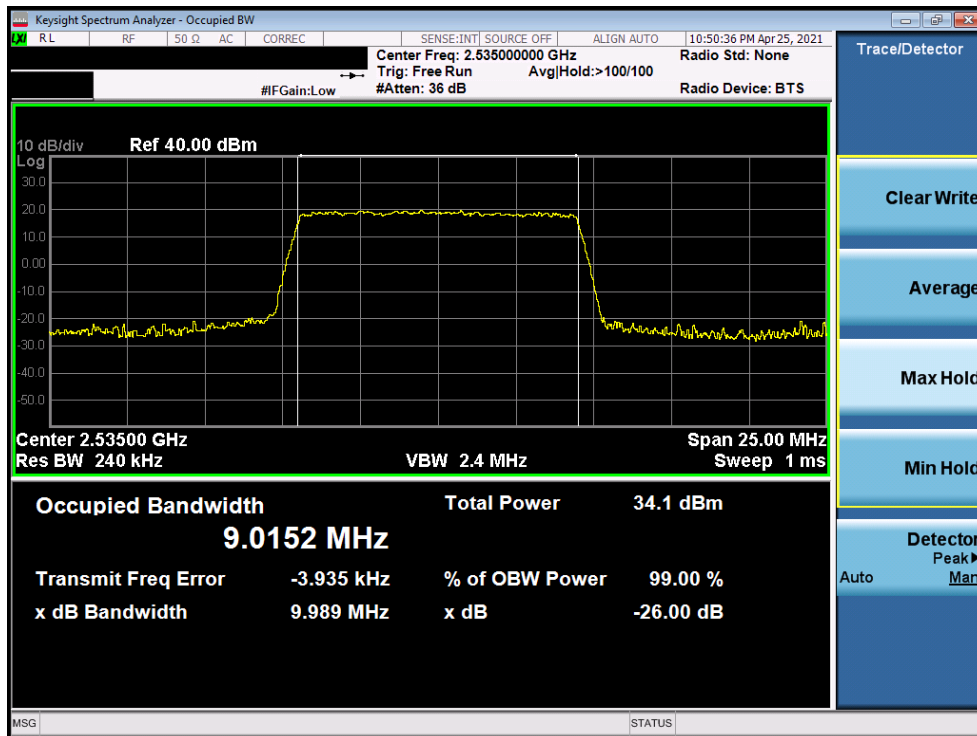


Plot 7-11. Occupied Bandwidth Plot (LTE Band 7 - 5MHz 64-QAM - Full RB)

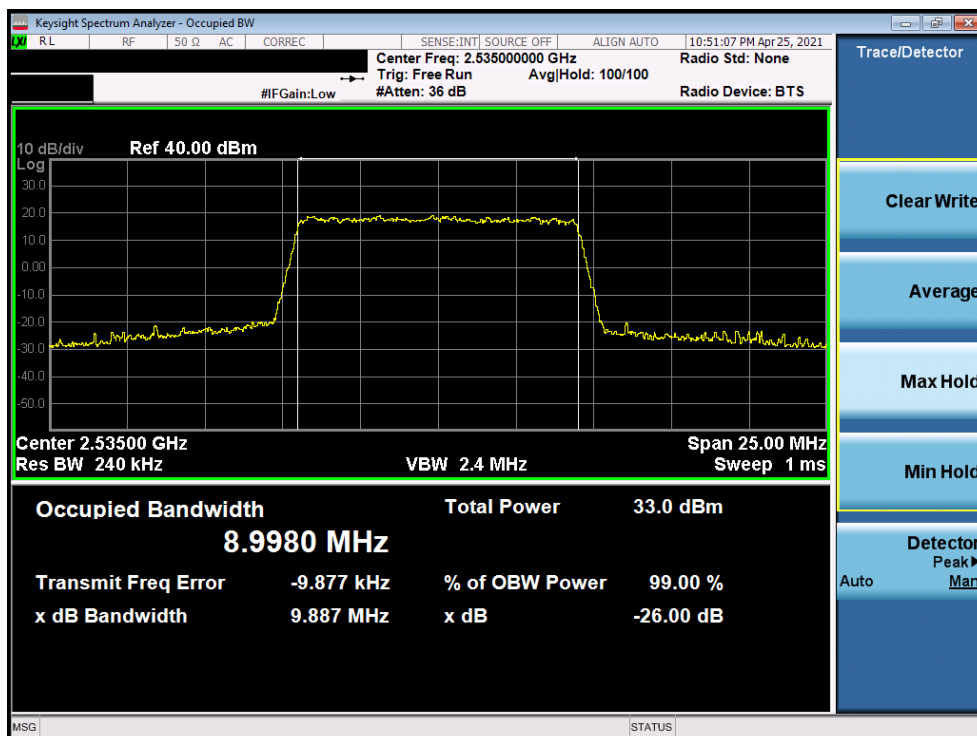


Plot 7-12. Occupied Bandwidth Plot (LTE Band 7 - 5MHz 256-QAM - Full RB)


FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 22 of 250

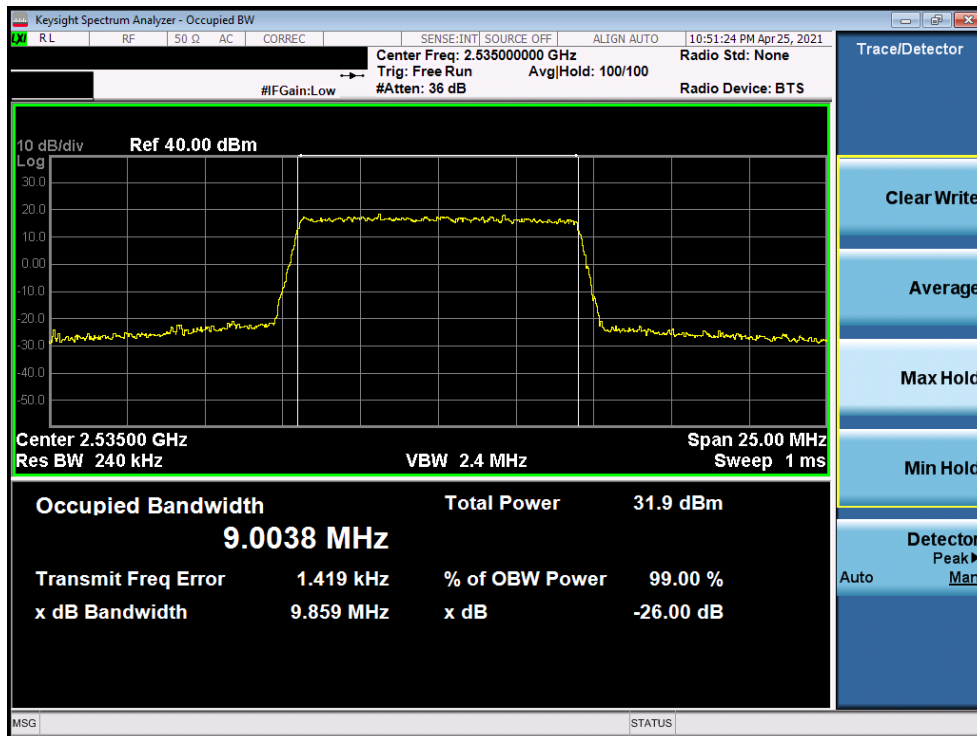


Plot 7-13. Occupied Bandwidth Plot (LTE Band 7 - 10MHz QPSK - Full RB)

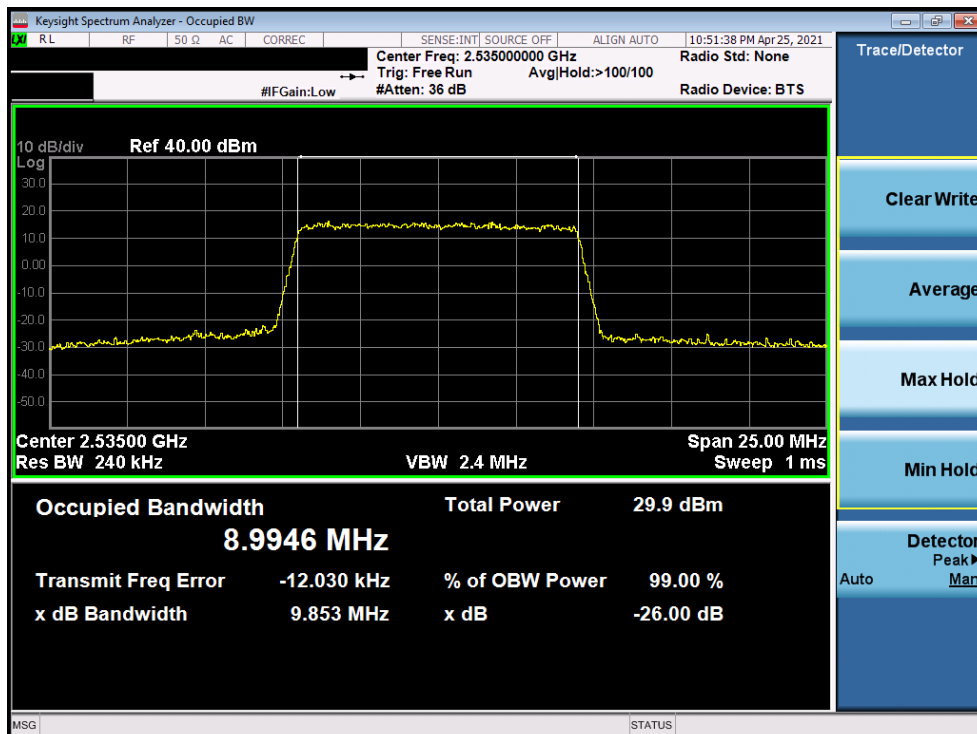


Plot 7-14. Occupied Bandwidth Plot (LTE Band 7 - 10MHz 16-QAM - Full RB)


FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 23 of 250

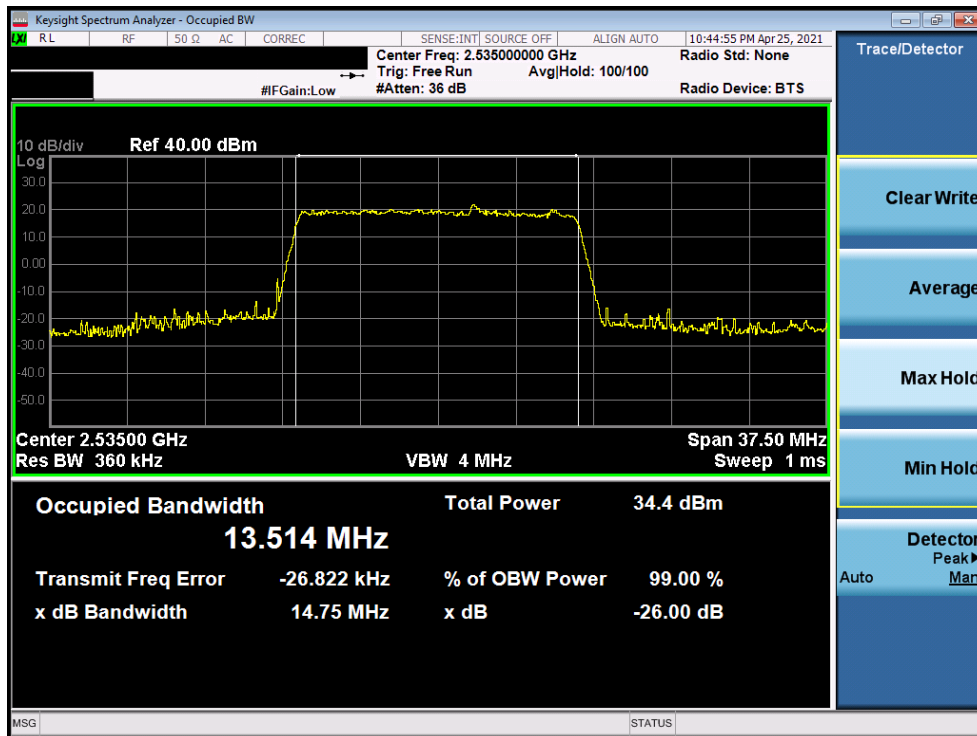


Plot 7-15. Occupied Bandwidth Plot (LTE Band 7 - 10MHz 64-QAM - Full RB)

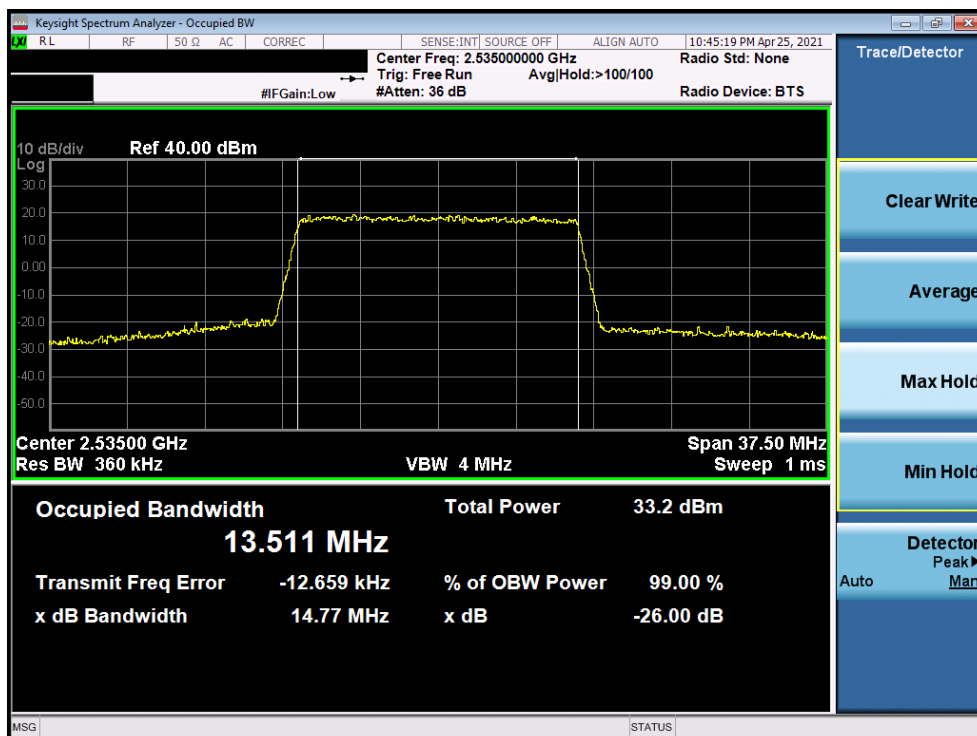


Plot 7-16. Occupied Bandwidth Plot (LTE Band 7 - 10MHz 256-QAM - Full RB)

FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 24 of 250

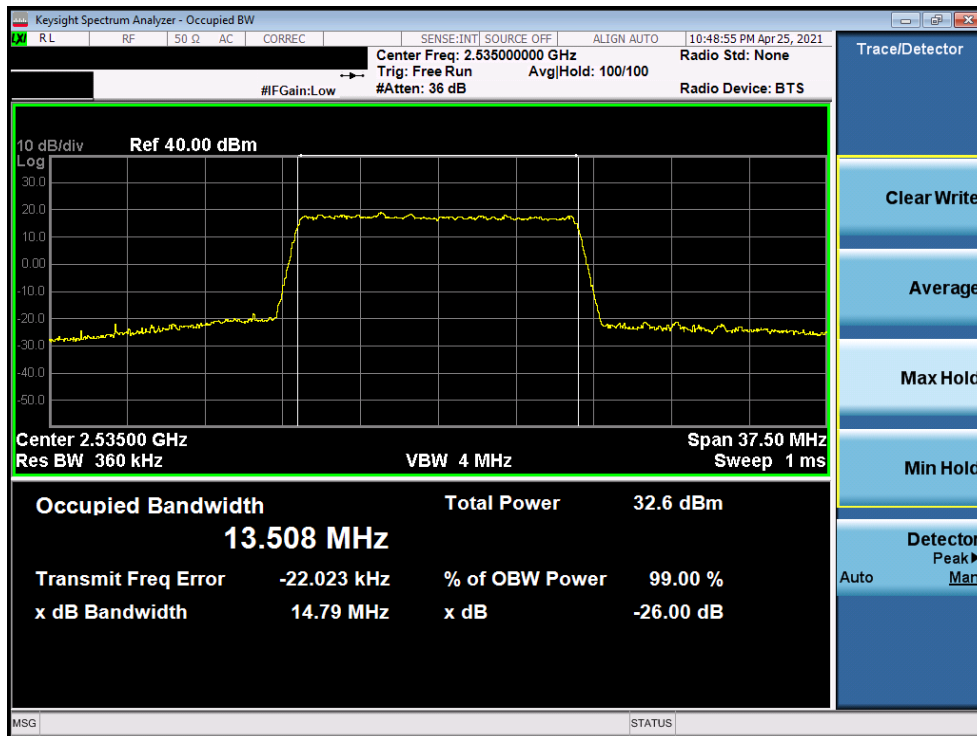


Plot 7-17. Occupied Bandwidth Plot (LTE Band 7 - 15MHz QPSK - Full RB)

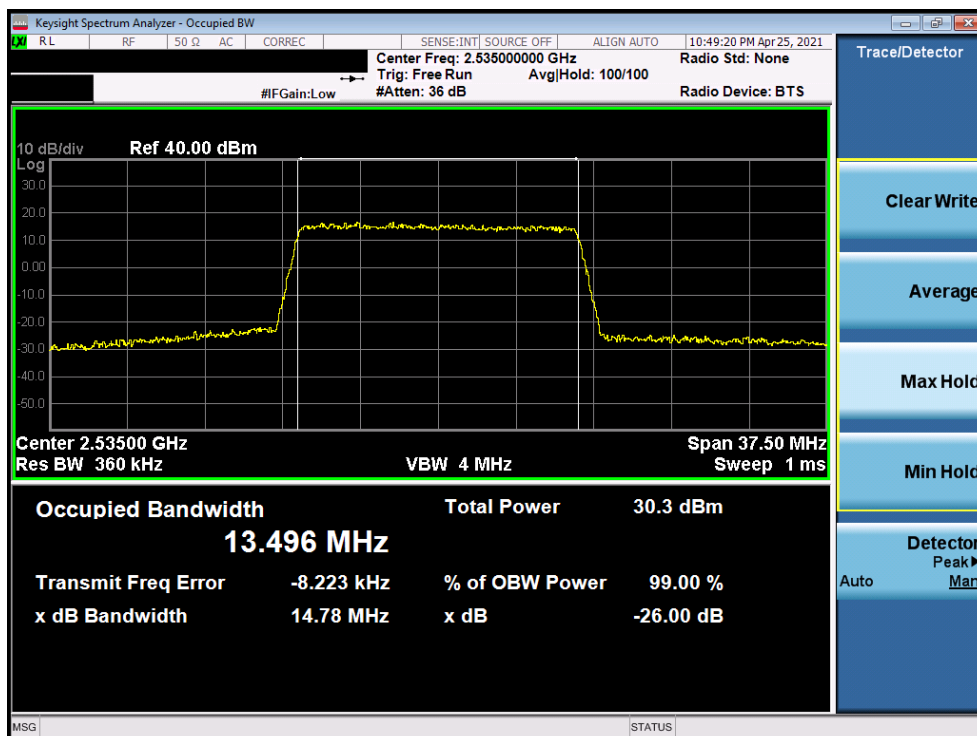


Plot 7-18. Occupied Bandwidth Plot (LTE Band 7 - 15MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 25 of 250

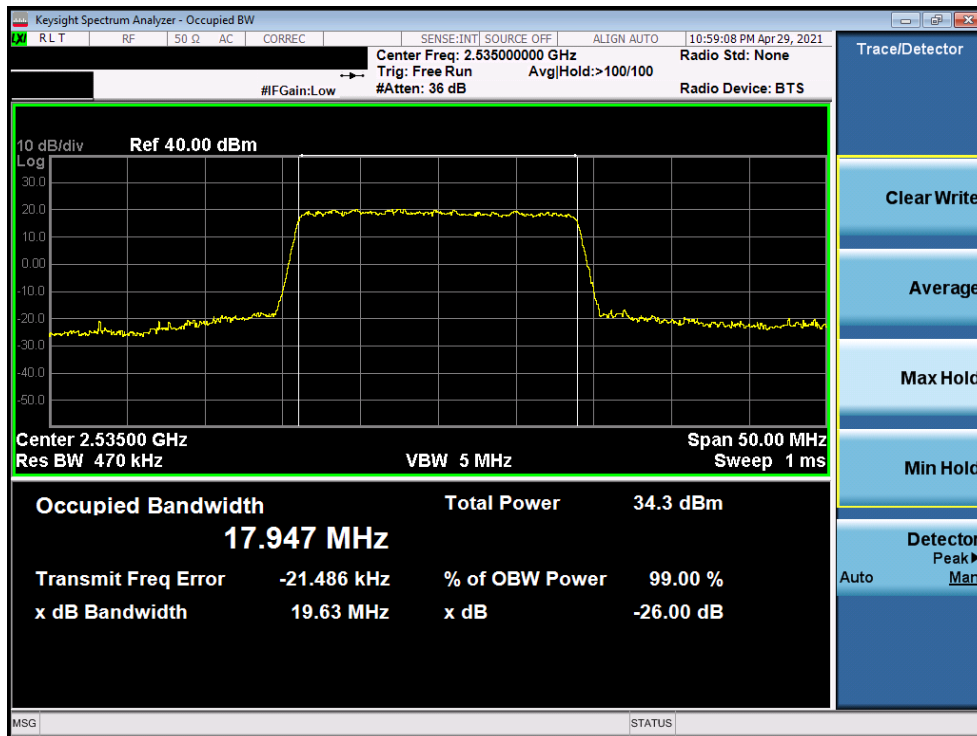


Plot 7-19. Occupied Bandwidth Plot (LTE Band 7 - 15MHz 64-QAM - Full RB)

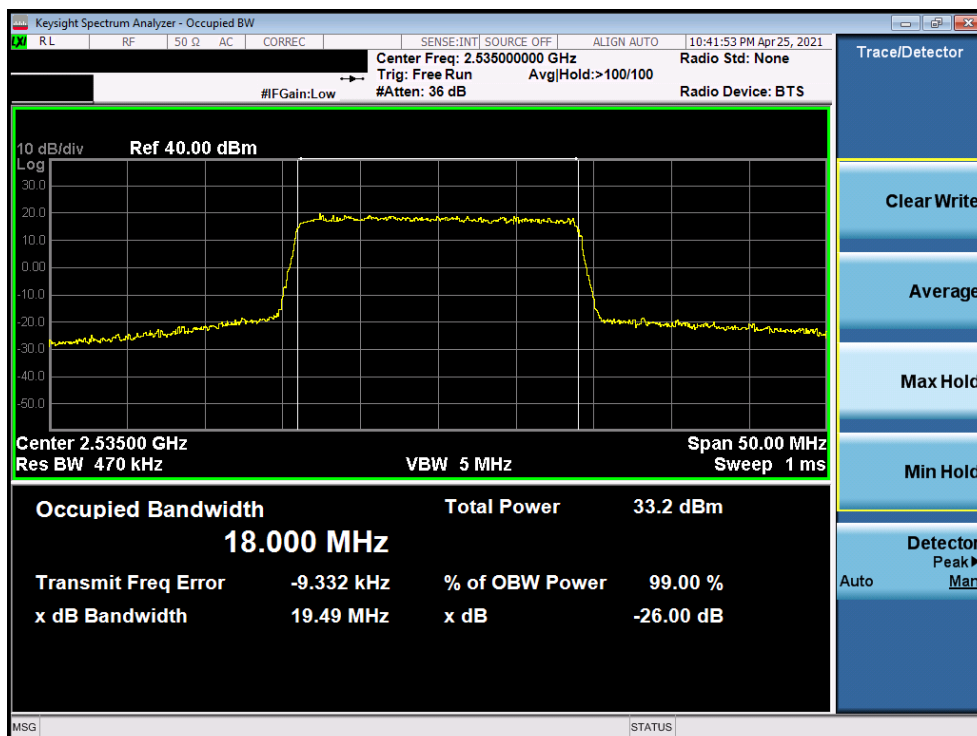


Plot 7-20. Occupied Bandwidth Plot (LTE Band 7 - 15MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 26 of 250

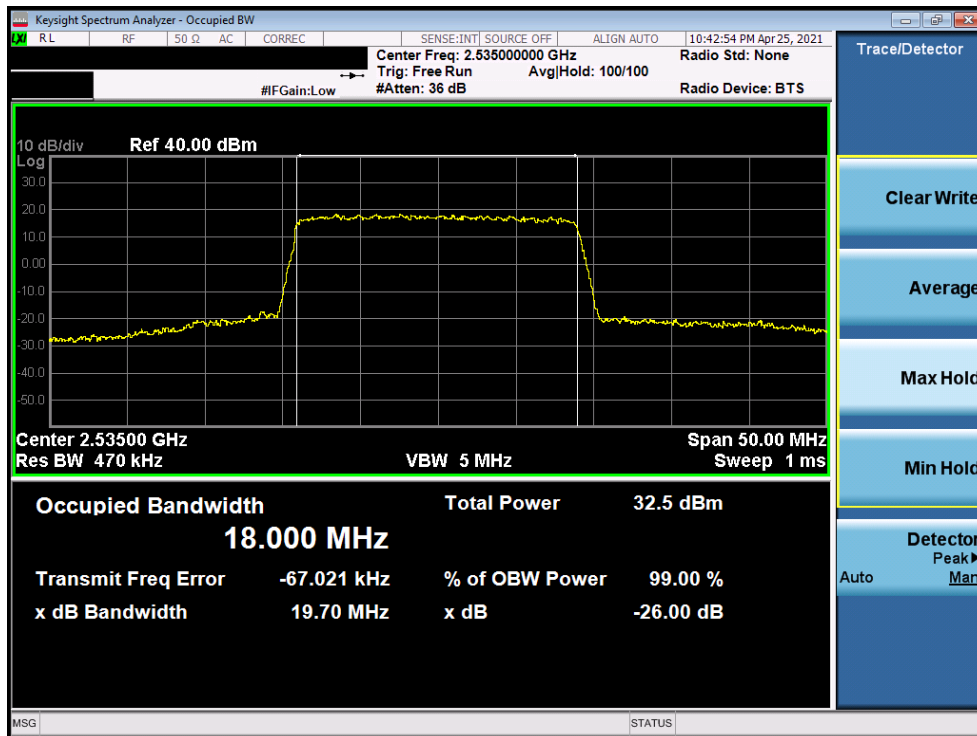


Plot 7-21. Occupied Bandwidth Plot (LTE Band 7 - 20MHz QPSK - Full RB)

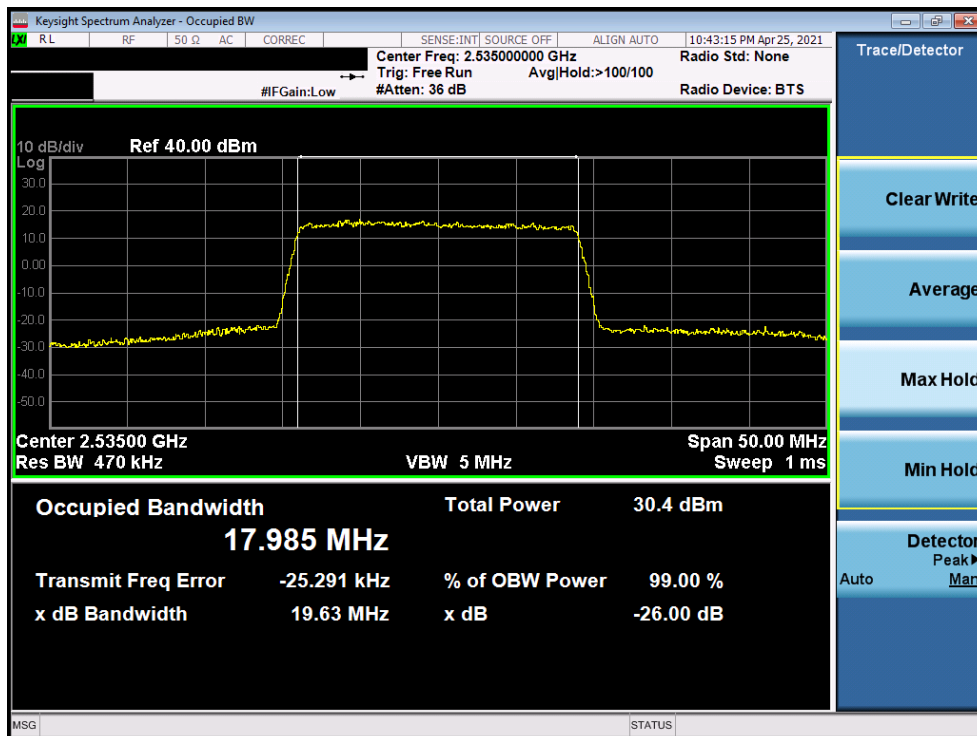


Plot 7-22. Occupied Bandwidth Plot (LTE Band 7 - 20MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 27 of 250



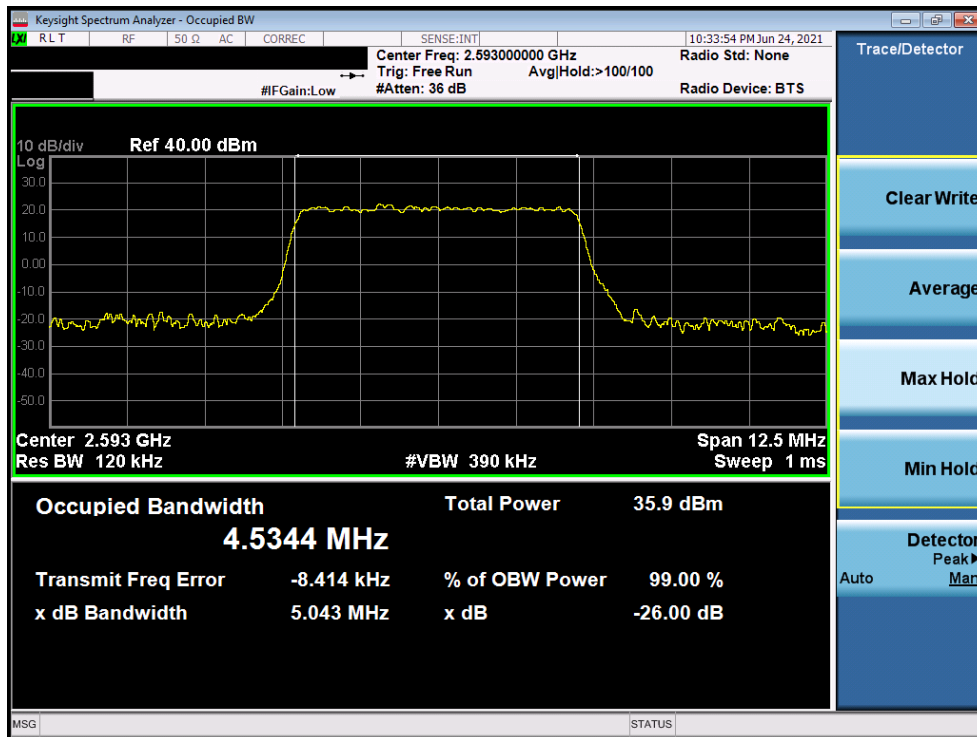
Plot 7-23. Occupied Bandwidth Plot (LTE Band 7 - 20MHz 64-QAM - Full RB)



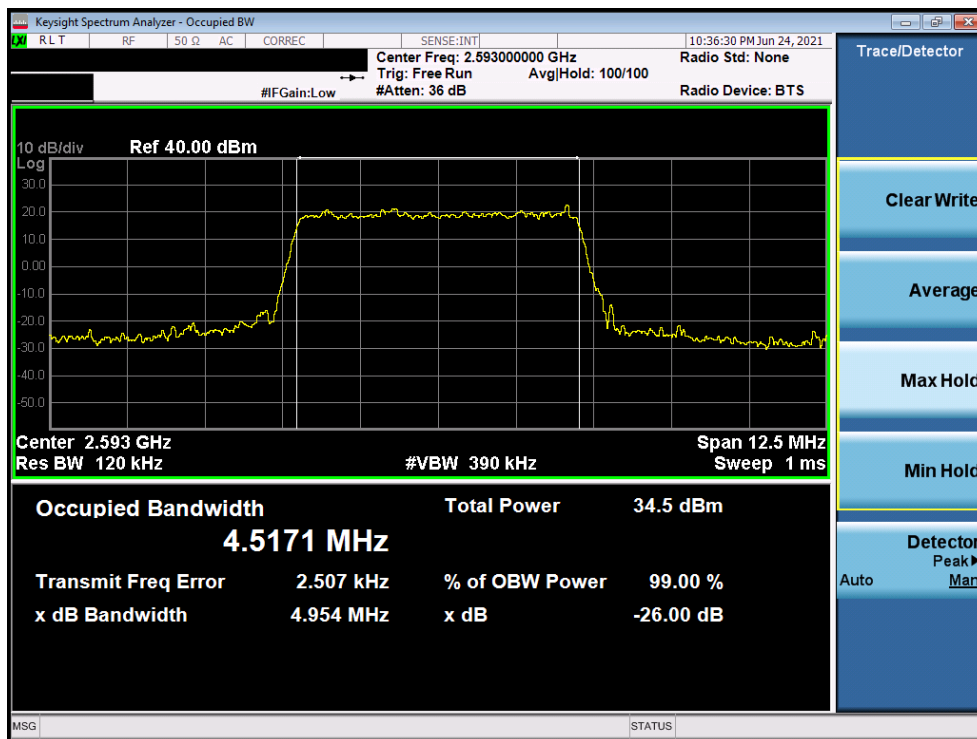
Plot 7-24. Occupied Bandwidth Plot (LTE Band 7 - 20MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 28 of 250

LTE Band 41

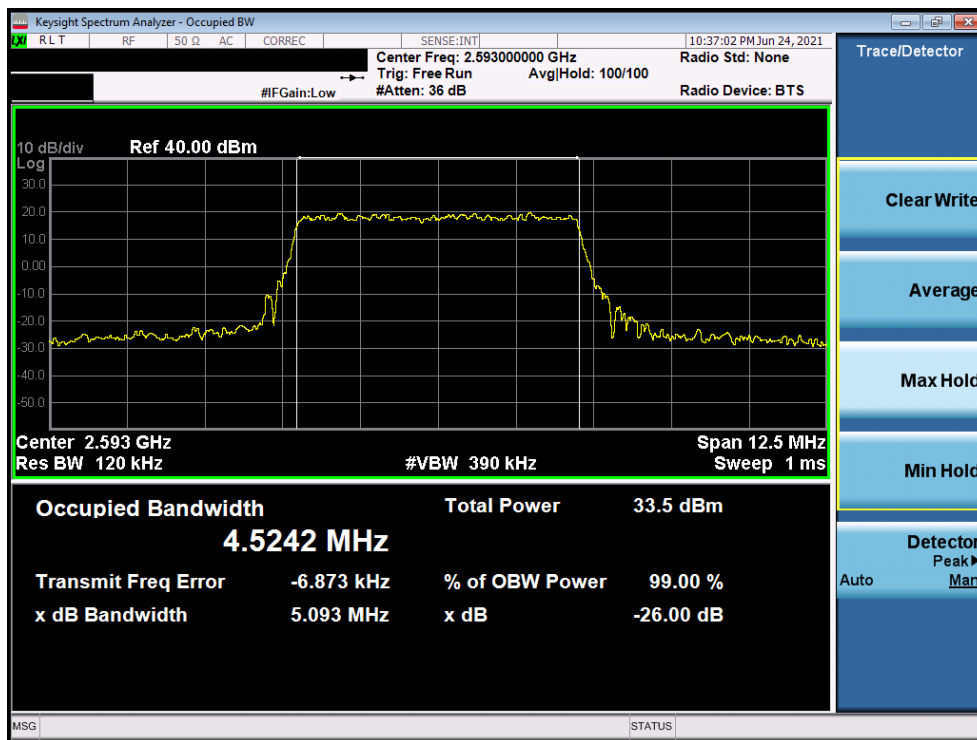


Plot 7-25. Occupied Bandwidth Plot (LTE Band 41 - 5MHz QPSK - Full RB)

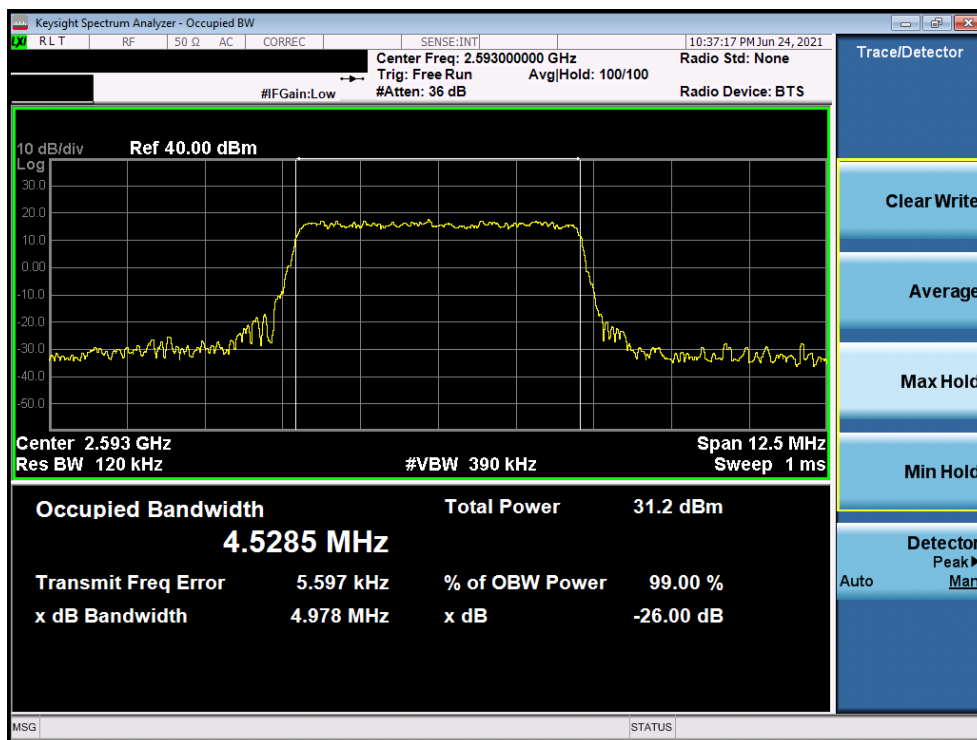


Plot 7-26. Occupied Bandwidth Plot (LTE Band 41 - 5MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 29 of 250

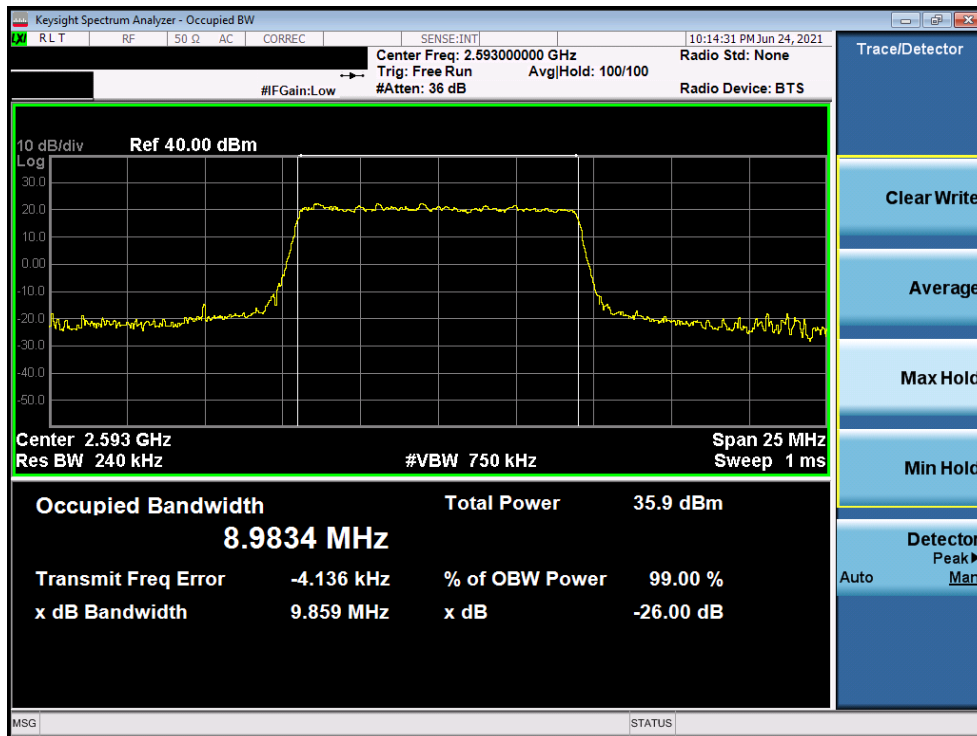


Plot 7-27. Occupied Bandwidth Plot (LTE Band 41 - 5MHz 64-QAM - Full RB)

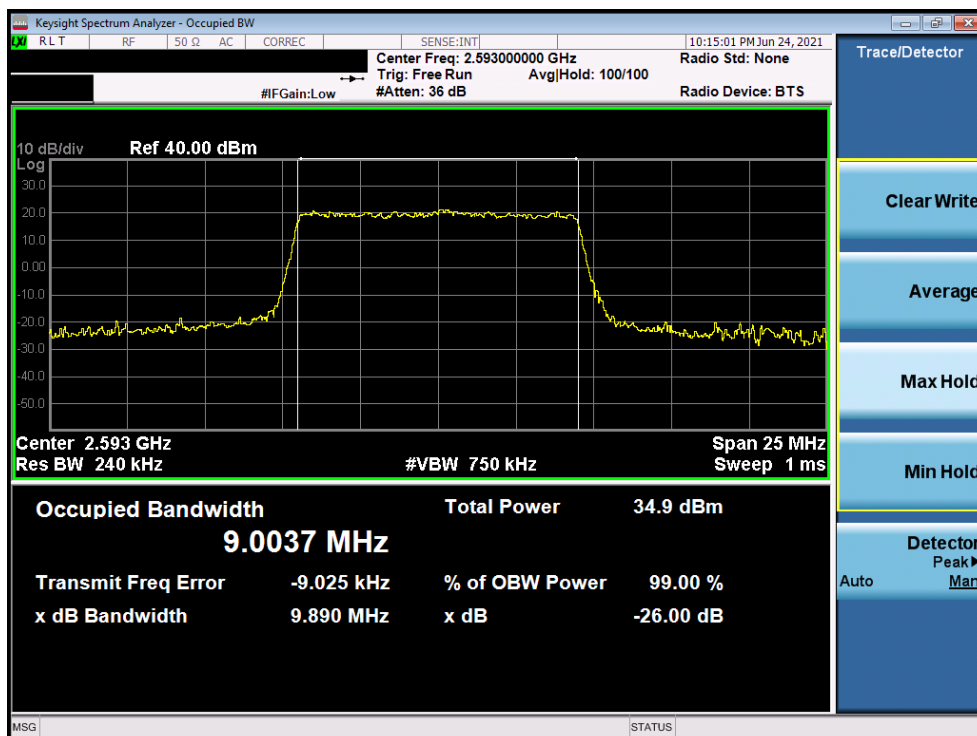


Plot 7-28. Occupied Bandwidth Plot (LTE Band 41 - 5MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 30 of 250

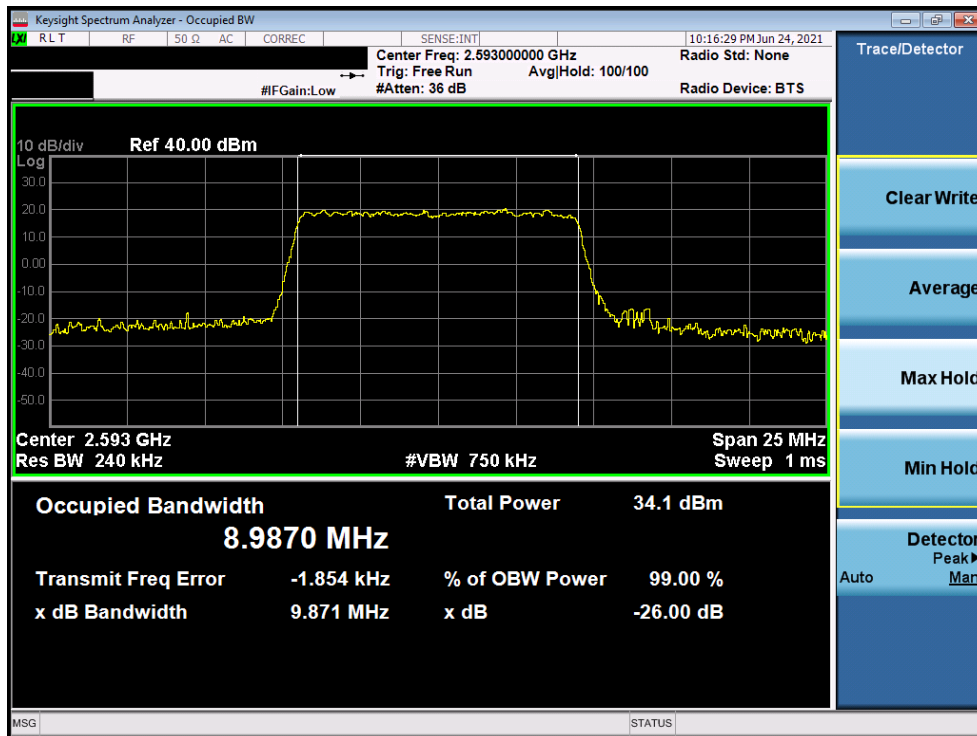


Plot 7-29. Occupied Bandwidth Plot (LTE Band 41 - 10MHz QPSK - Full RB)

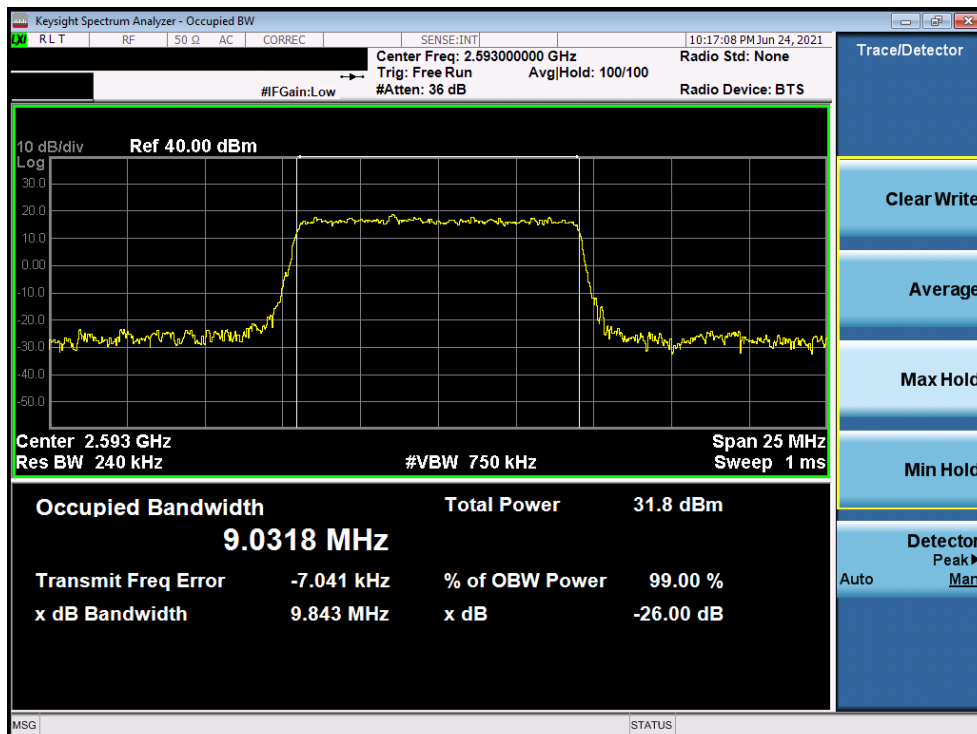


Plot 7-30. Occupied Bandwidth Plot (LTE Band 41 - 10MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 31 of 250

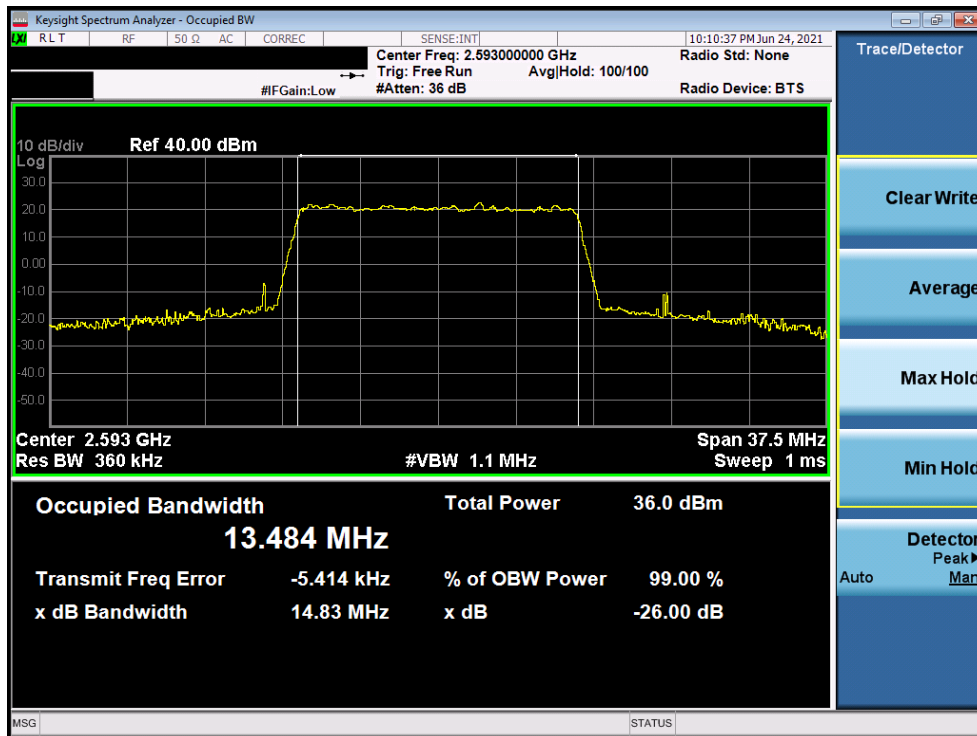


Plot 7-31. Occupied Bandwidth Plot (LTE Band 41 - 10MHz 64-QAM - Full RB)

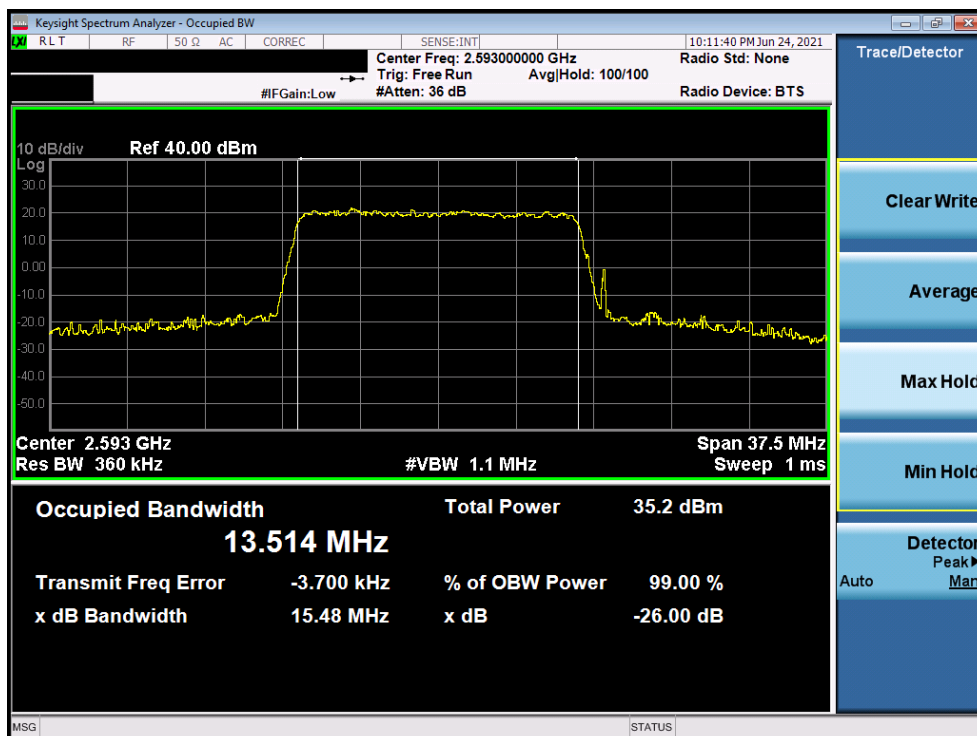


Plot 7-32. Occupied Bandwidth Plot (LTE Band 41 - 10MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 32 of 250

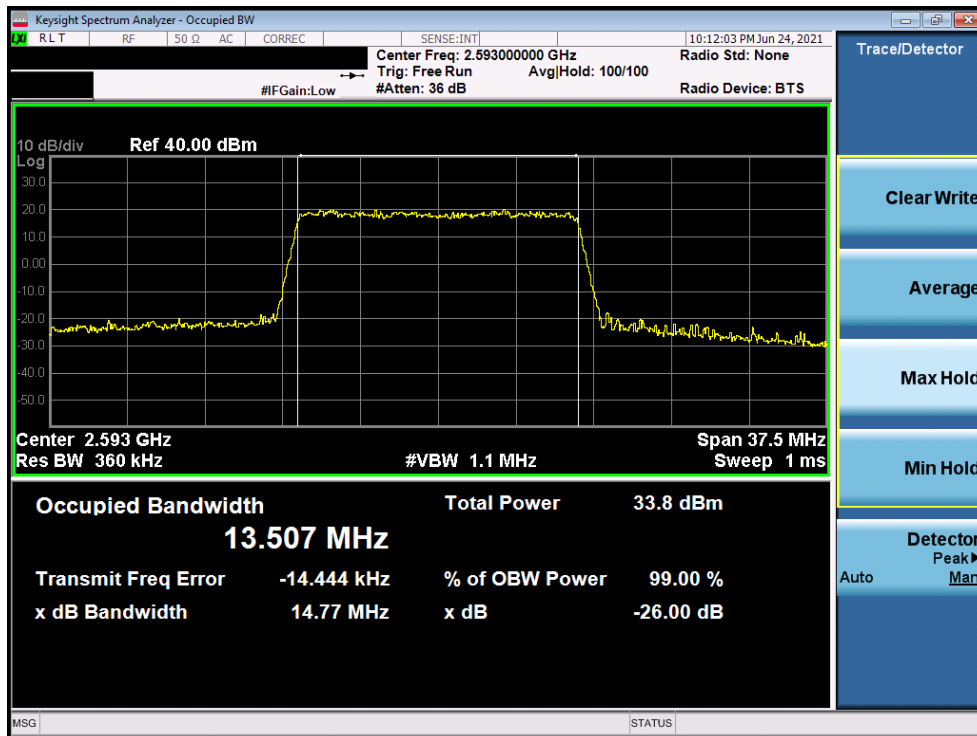


Plot 7-33. Occupied Bandwidth Plot (LTE Band 41 - 15MHz QPSK - Full RB)

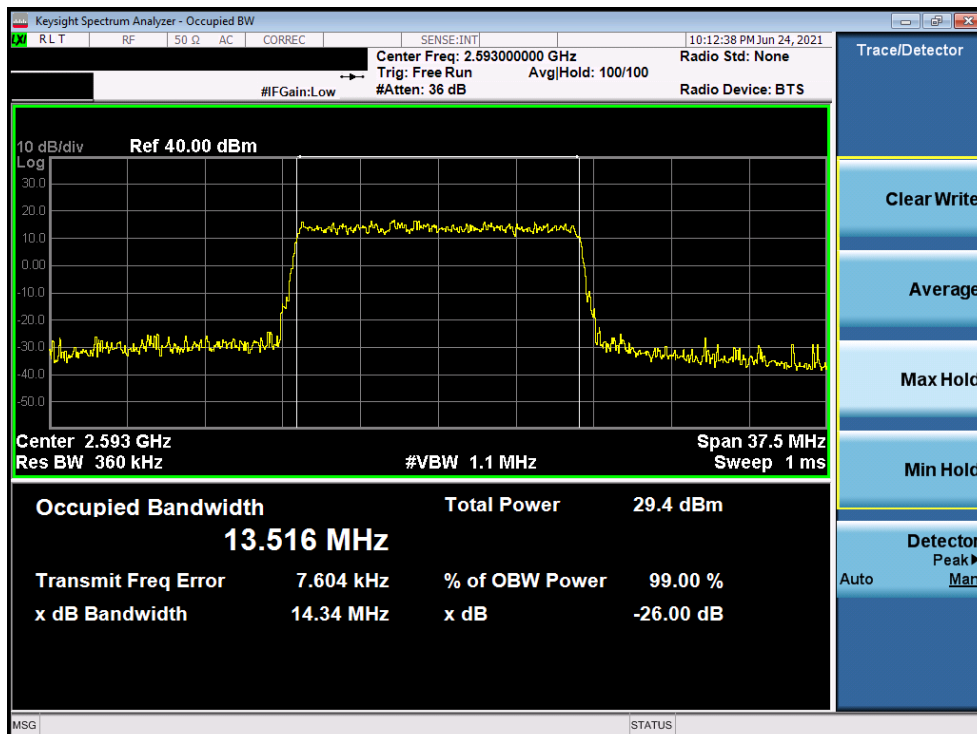


Plot 7-34. Occupied Bandwidth Plot (LTE Band 41 - 15MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 33 of 250

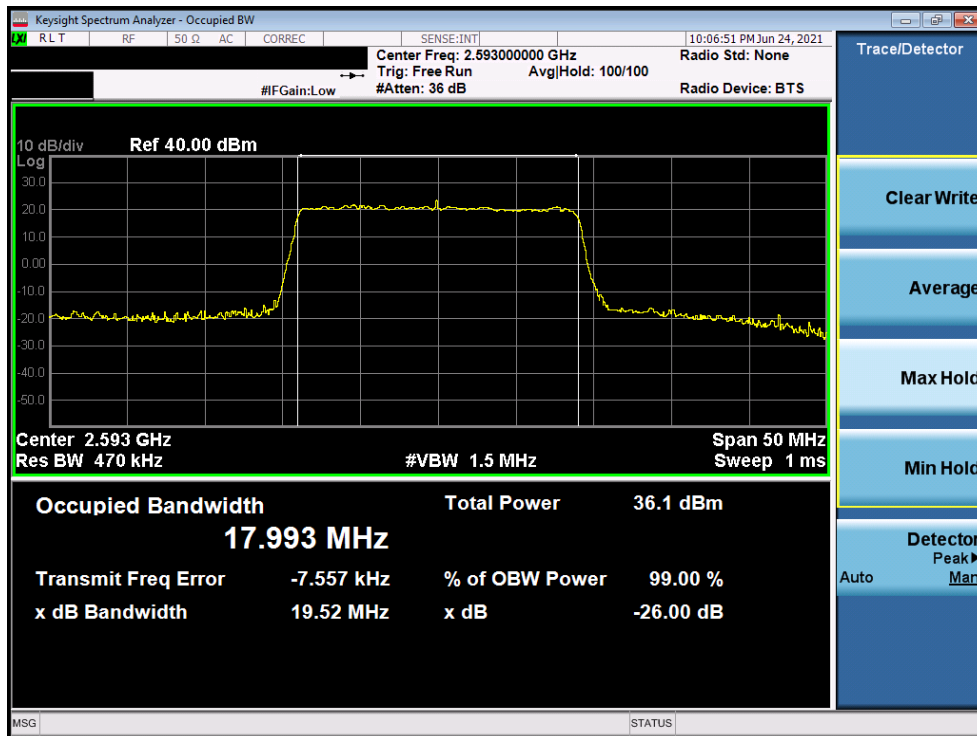


Plot 7-35. Occupied Bandwidth Plot (LTE Band 41 - 15MHz 64-QAM - Full RB)

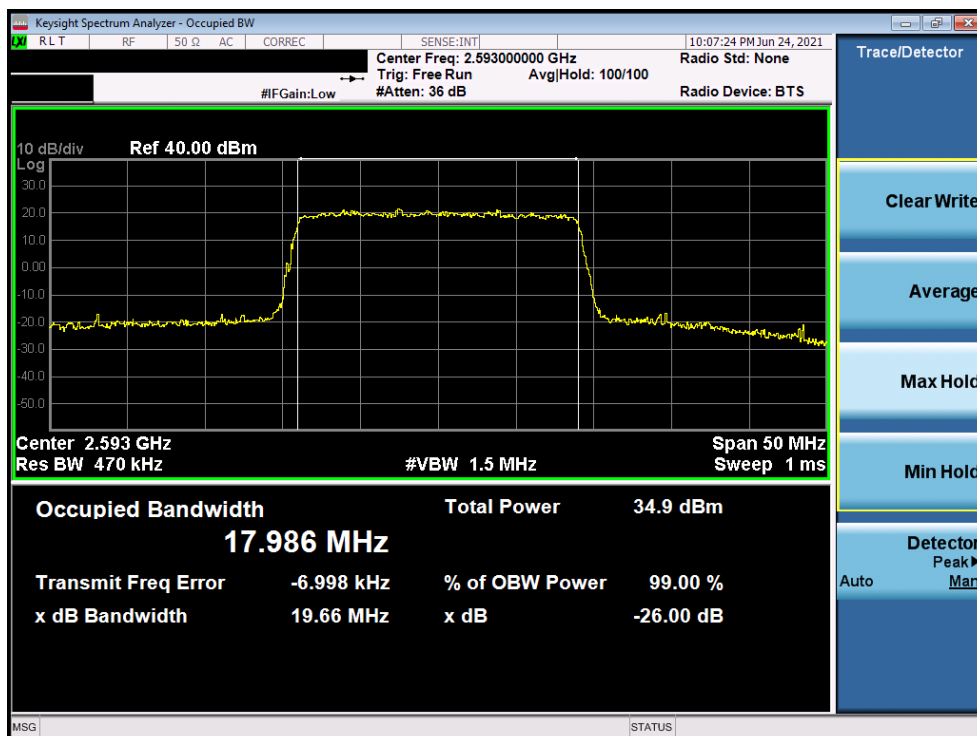


Plot 7-36. Occupied Bandwidth Plot (LTE Band 41 - 15MHz 256-QAM - Full RB)


FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 34 of 250

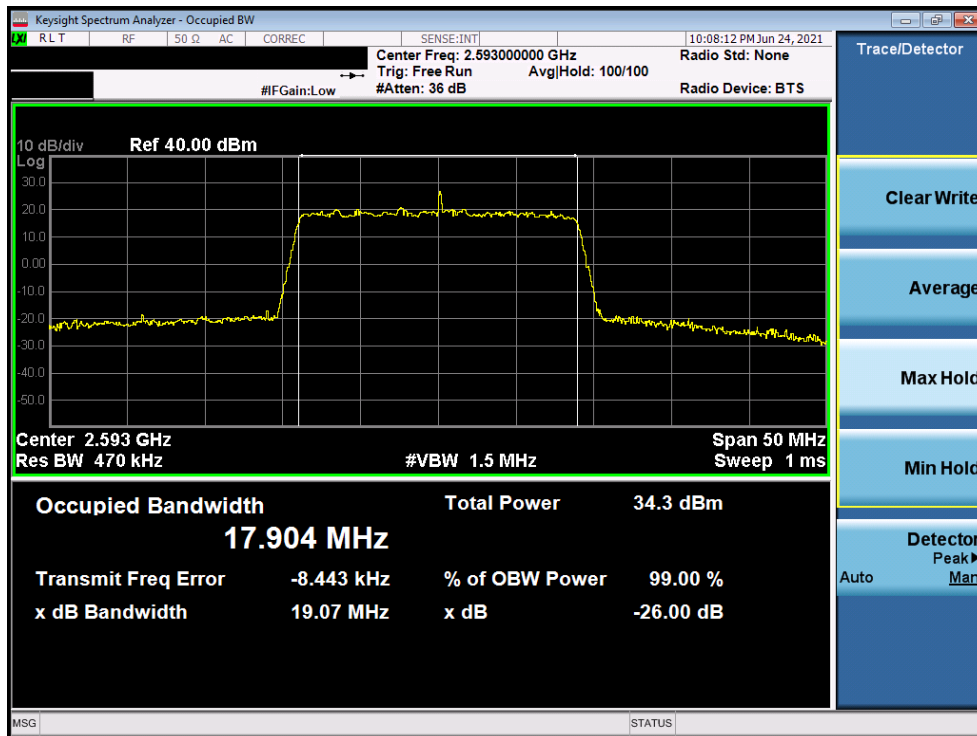


Plot 7-37. Occupied Bandwidth Plot (LTE Band 41 - 20MHz QPSK - Full RB)

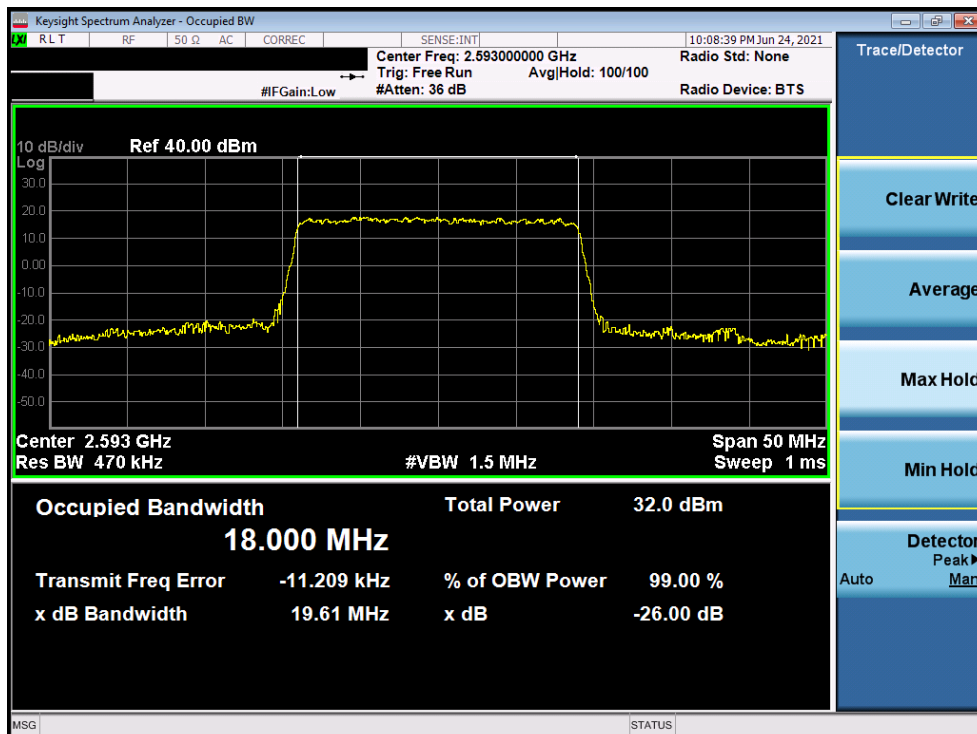


Plot 7-38. Occupied Bandwidth Plot (LTE Band 41 - 20MHz 16-QAM - Full RB)


FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 35 of 250



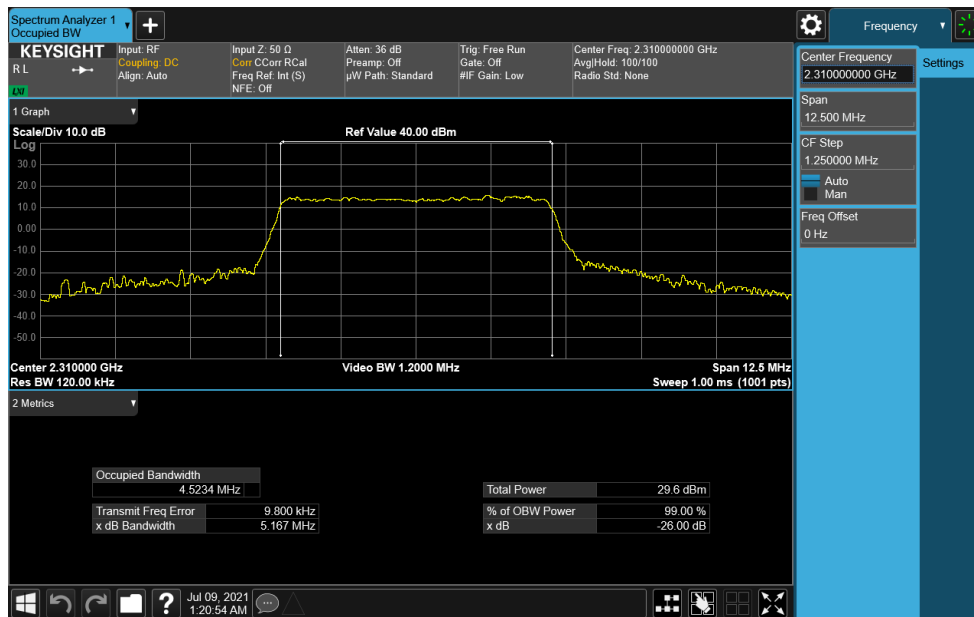
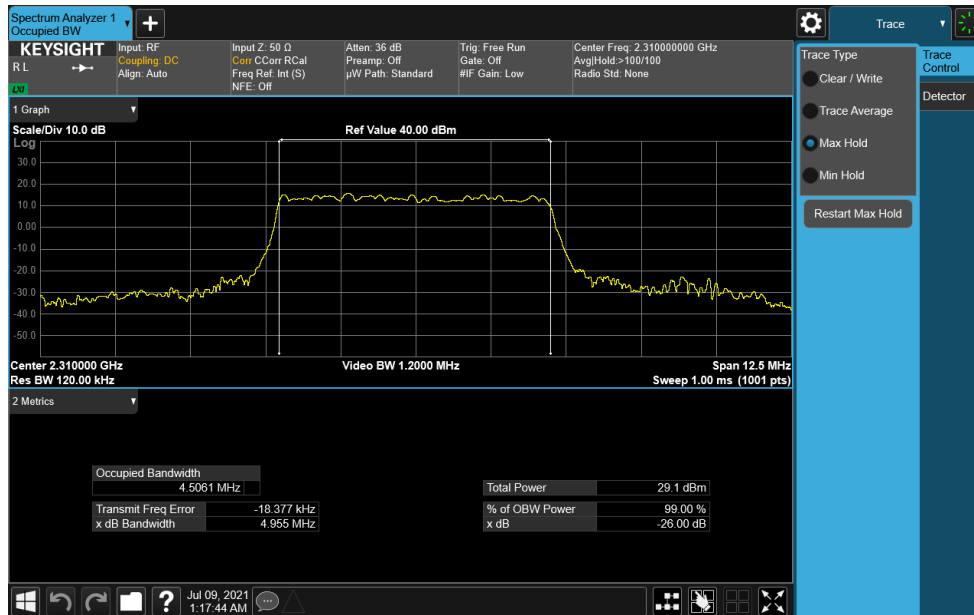
Plot 7-39. Occupied Bandwidth Plot (LTE Band 41 - 20MHz 64-QAM - Full RB)



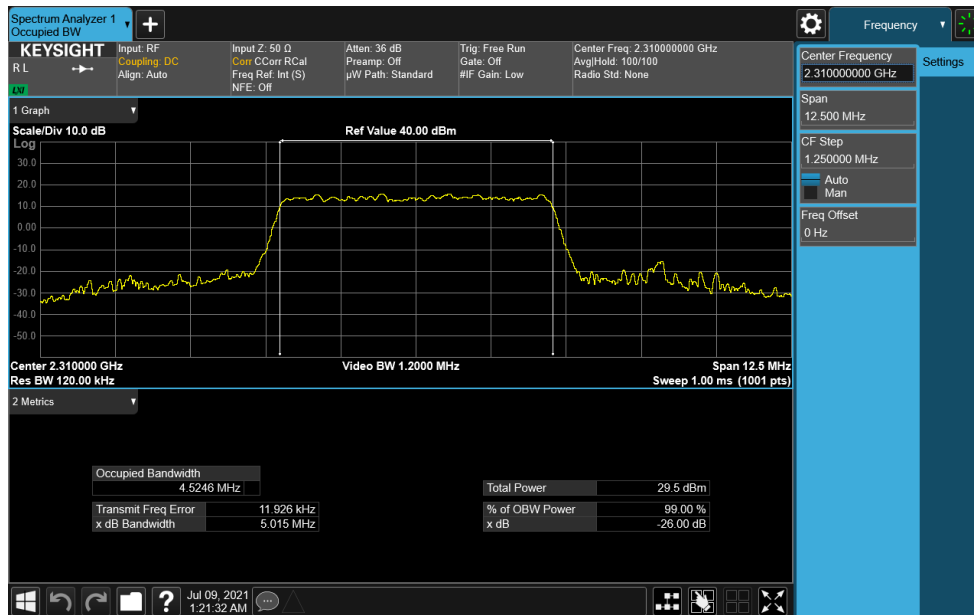
Plot 7-40. Occupied Bandwidth Plot (LTE Band 41 - 20MHz 256-QAM - Full RB)

FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 36 of 250

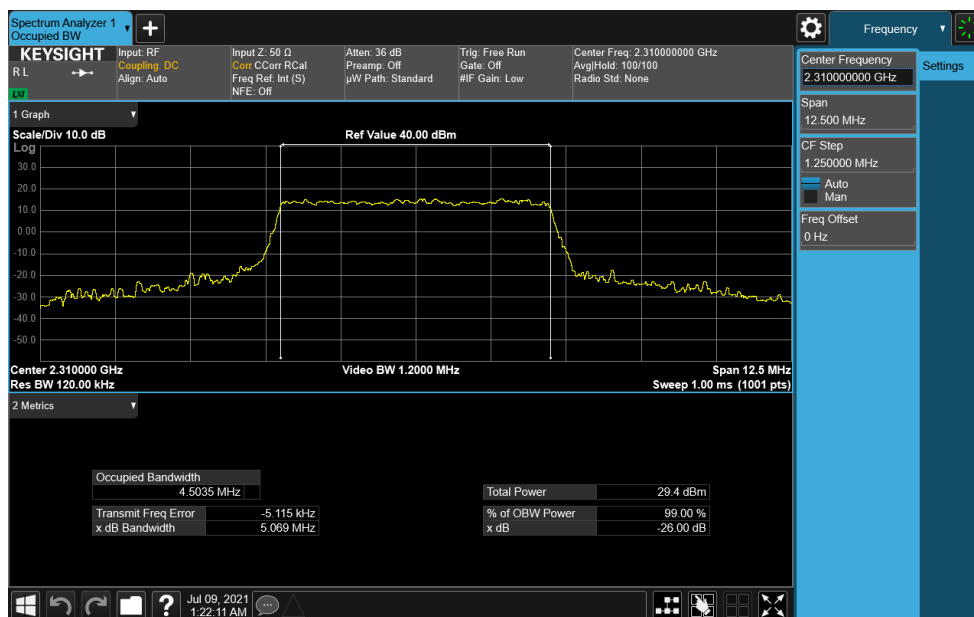
NR Band n30




FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 37 of 250

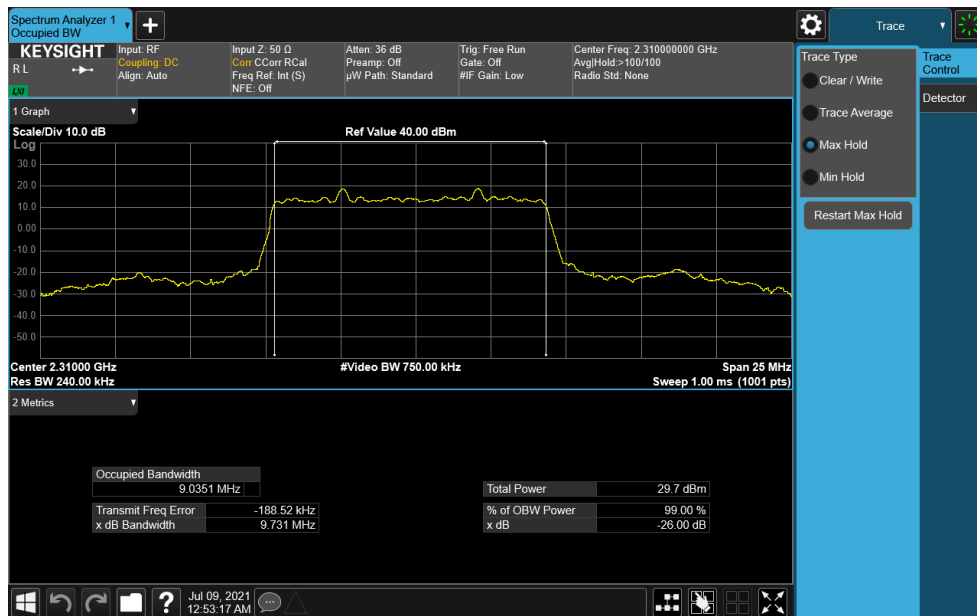
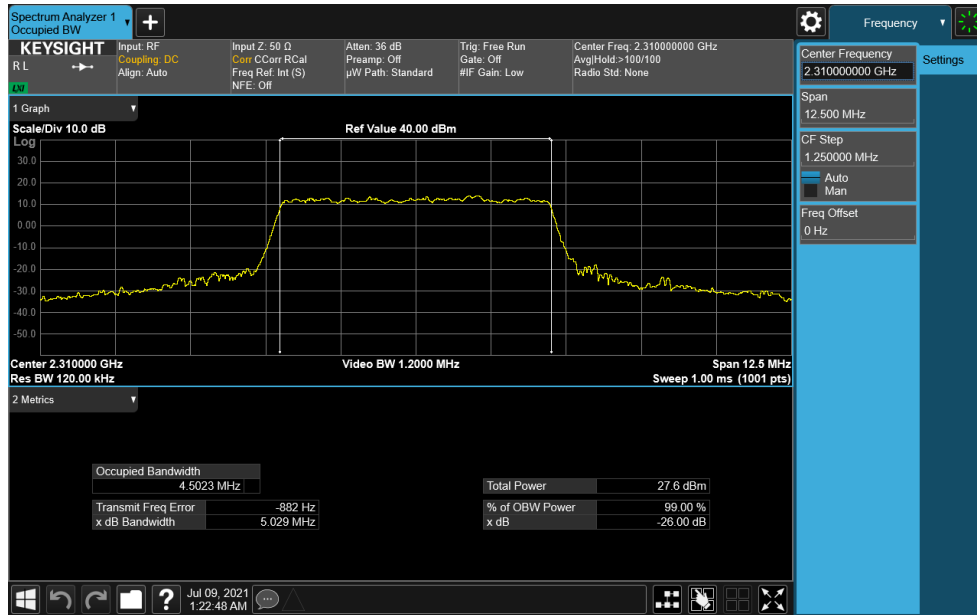



Plot 7-43. Occupied Bandwidth Plot (NR Band n30 - 5MHz 16-QAM - Full RB)

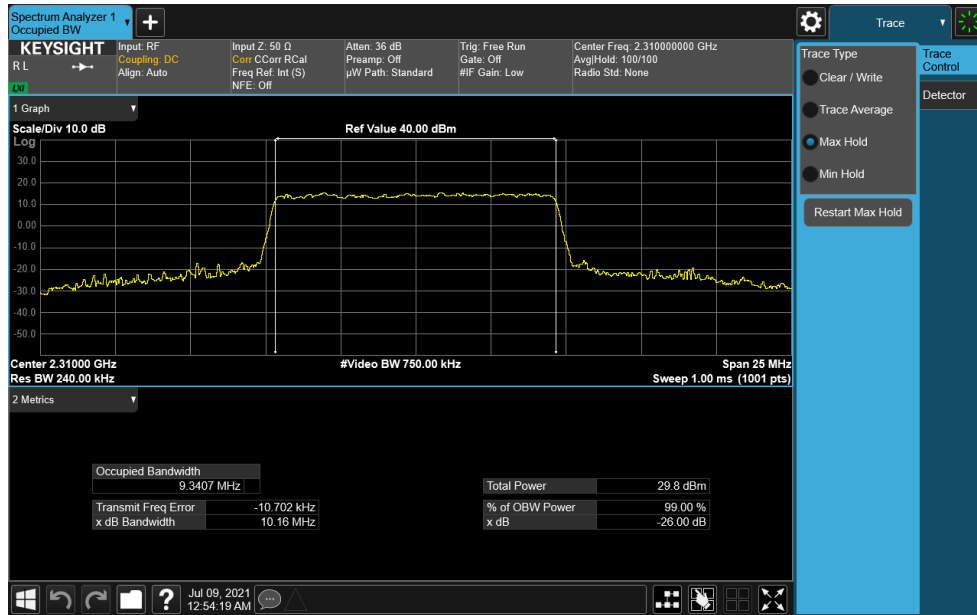


Plot 7-44. Occupied Bandwidth Plot (NR Band n30 - 5MHz 64-QAM - Full RB)

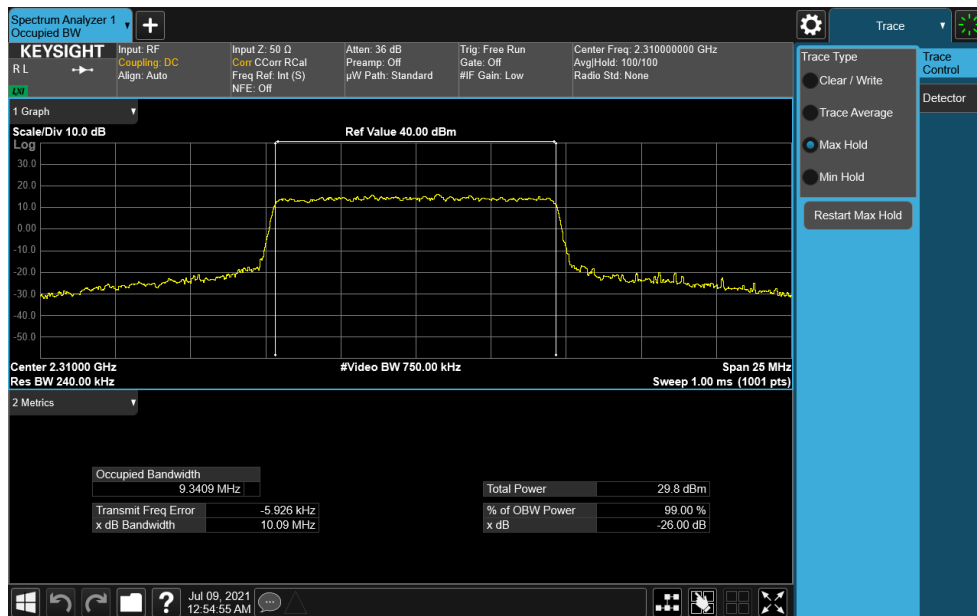
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 38 of 250



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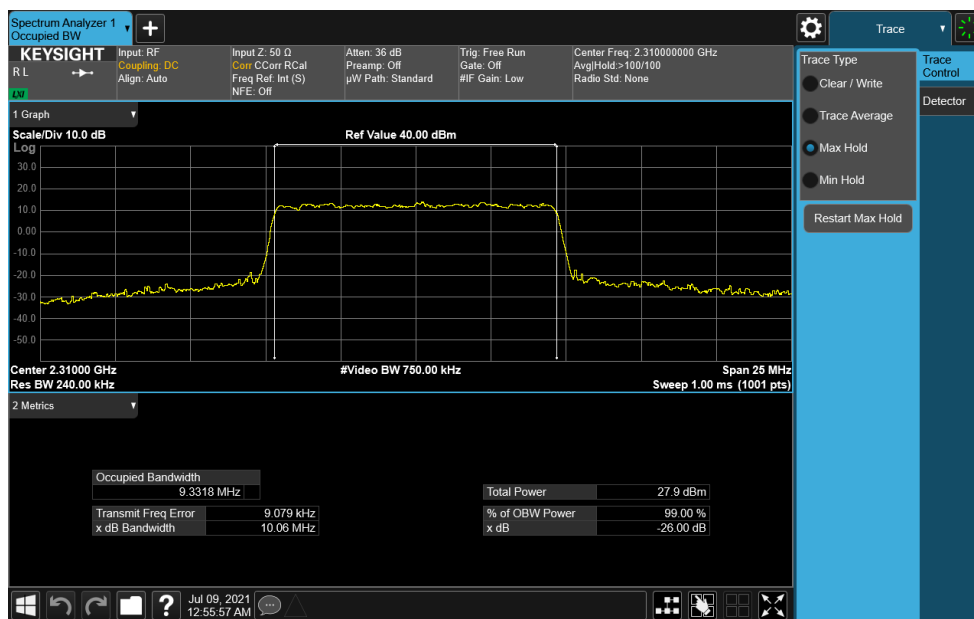
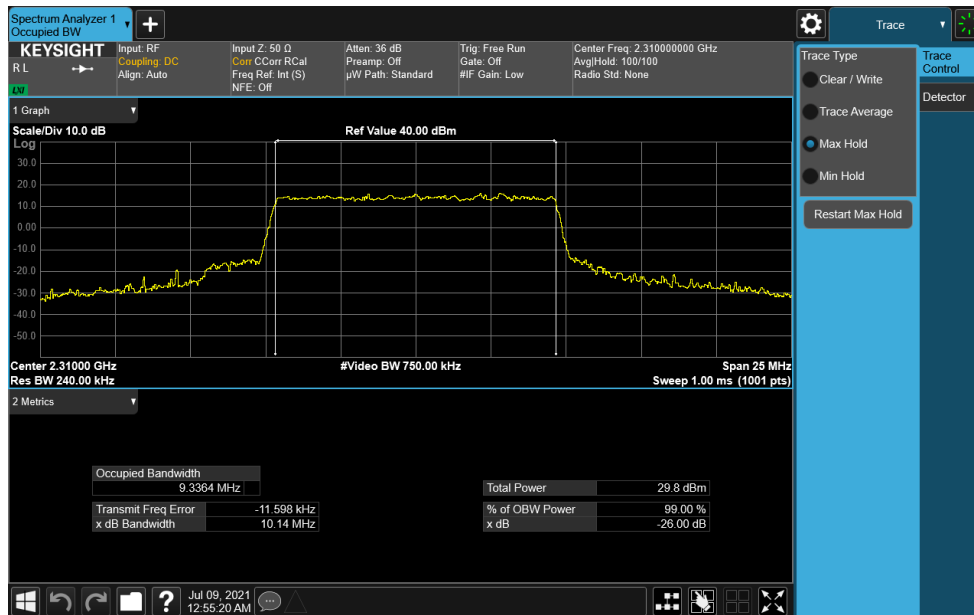


Plot 7-47. Occupied Bandwidth Plot (NR Band n30 - 10MHz QPSK - Full RB)



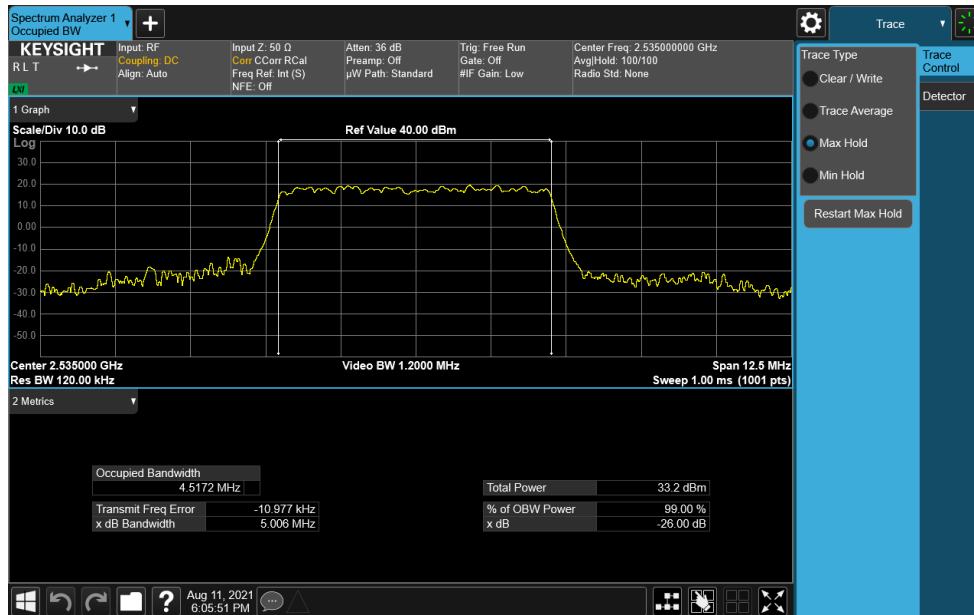
Plot 7-48. Occupied Bandwidth Plot (NR Band n30 - 10MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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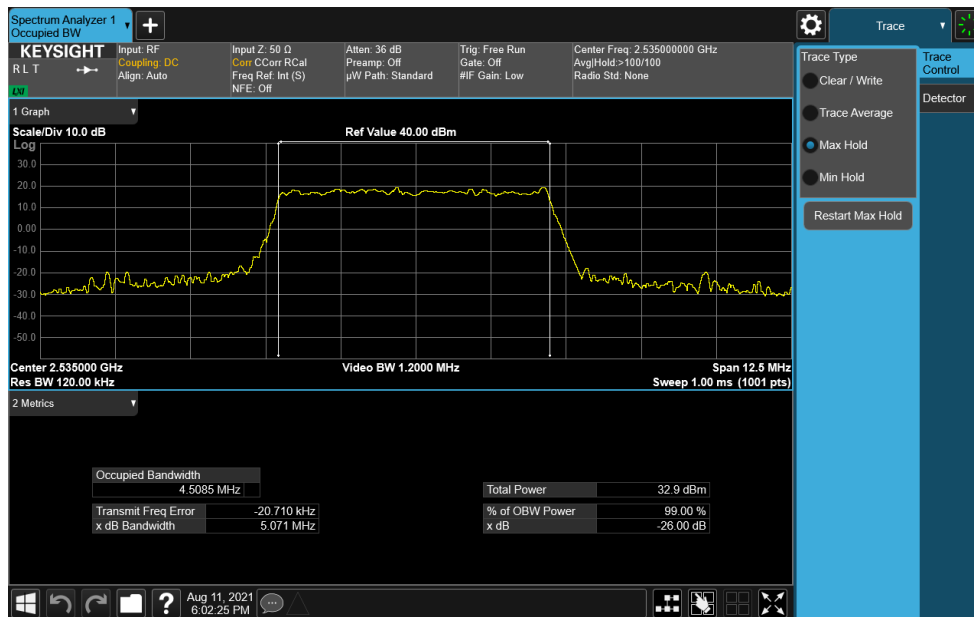


FCC ID: BCGA2568	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT	Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 41 of 250

NR Band n7

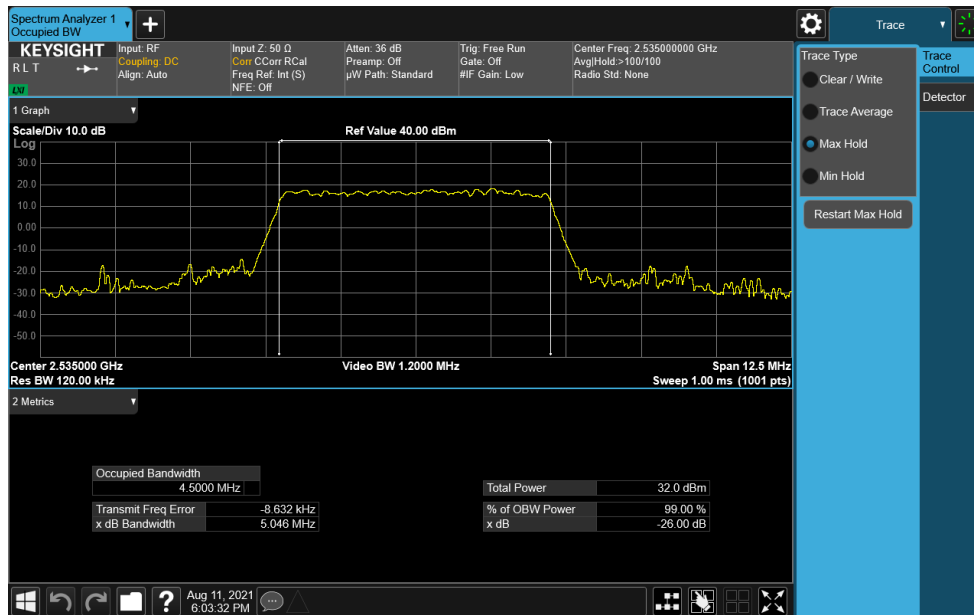


Plot 7-51. Occupied Bandwidth Plot (NR Band n7 - 5MHz $\pi/2$ BPSK - Full RB)



Plot 7-52. Occupied Bandwidth Plot (NR Band n7 - 5MHz QPSK - Full RB)


FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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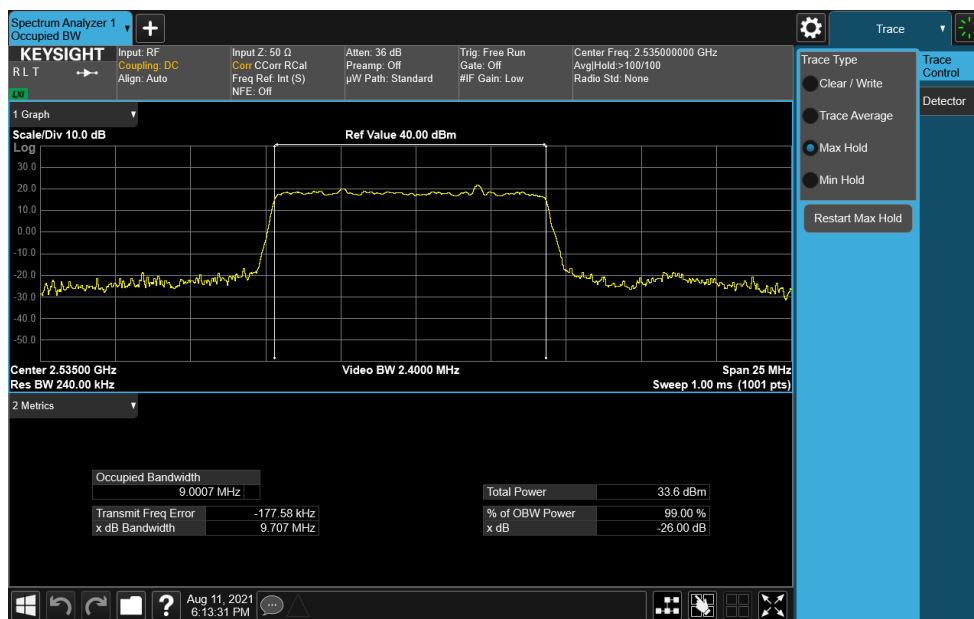
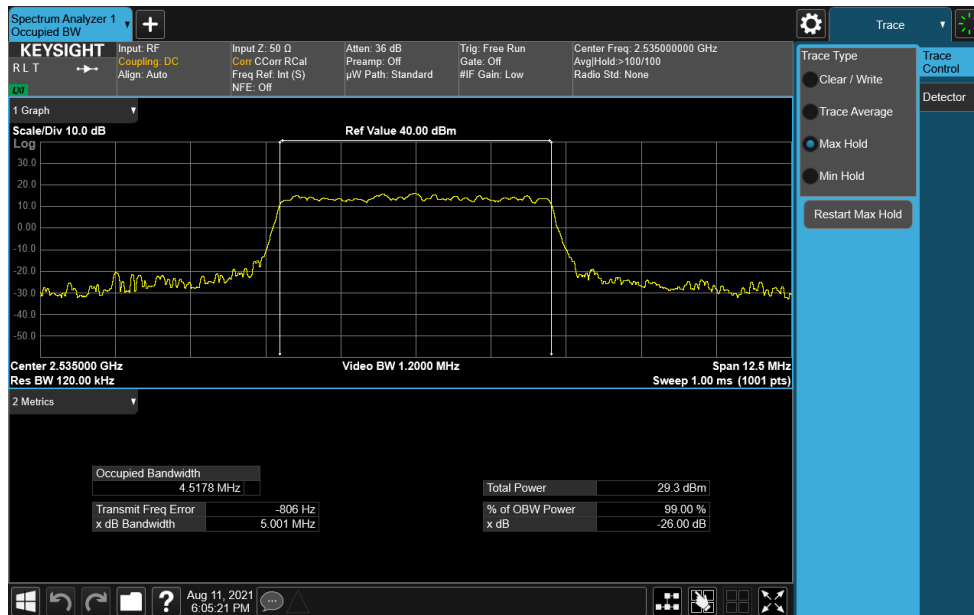



Plot 7-53. Occupied Bandwidth Plot (NR Band n7 - 5MHz 16-QAM - Full RB)

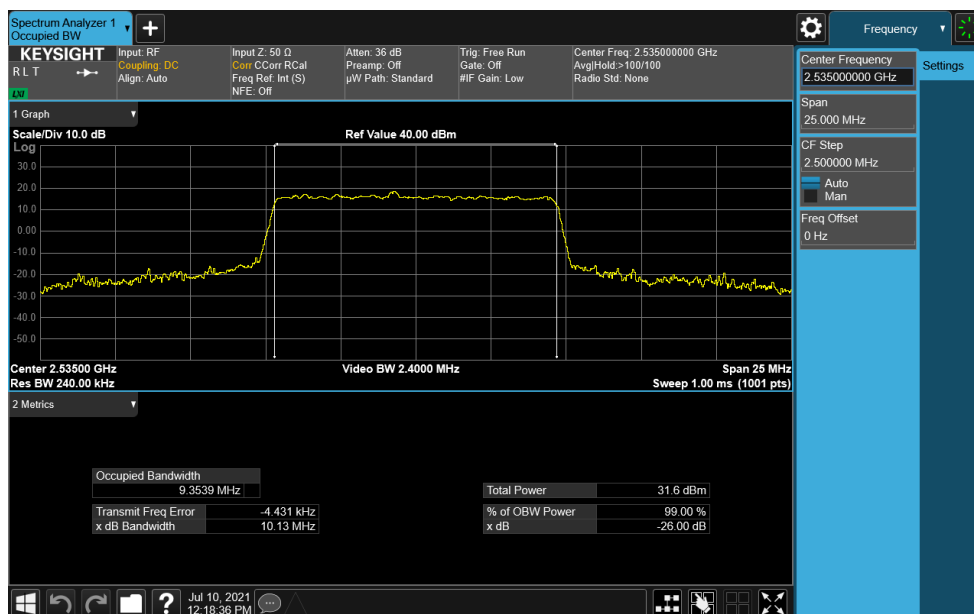
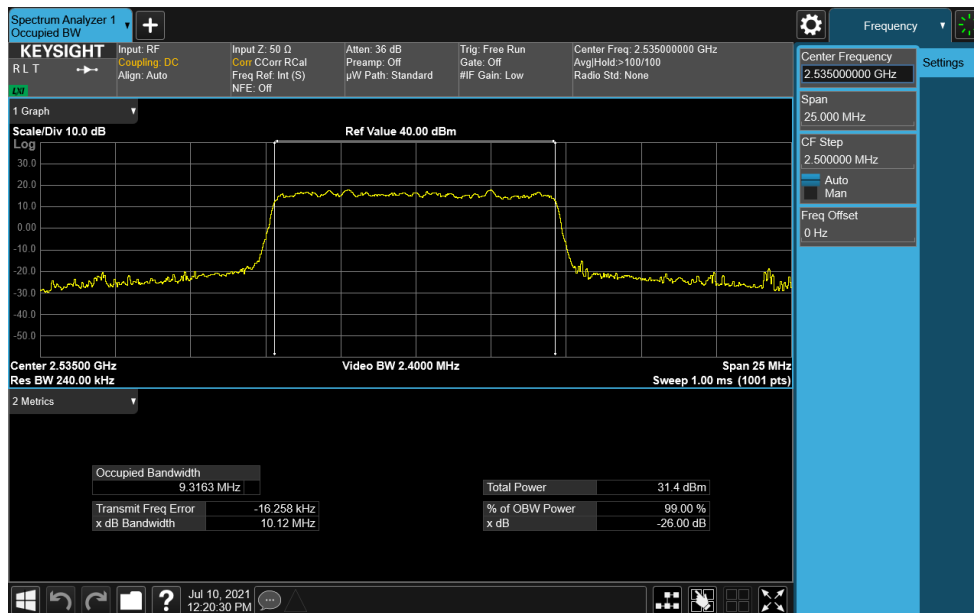



Plot 7-54. Occupied Bandwidth Plot (NR Band n7 - 5MHz 64-QAM - Full RB)

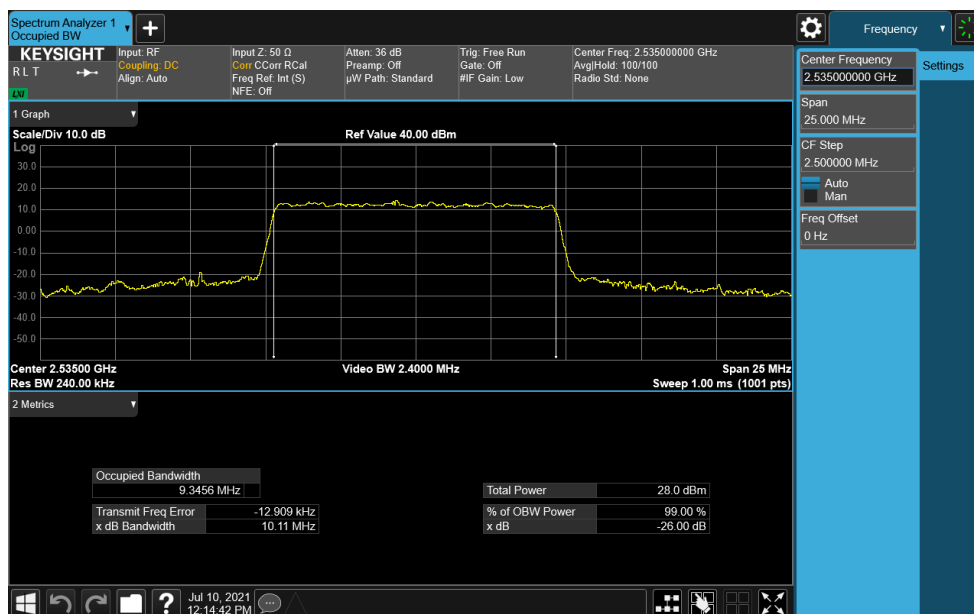
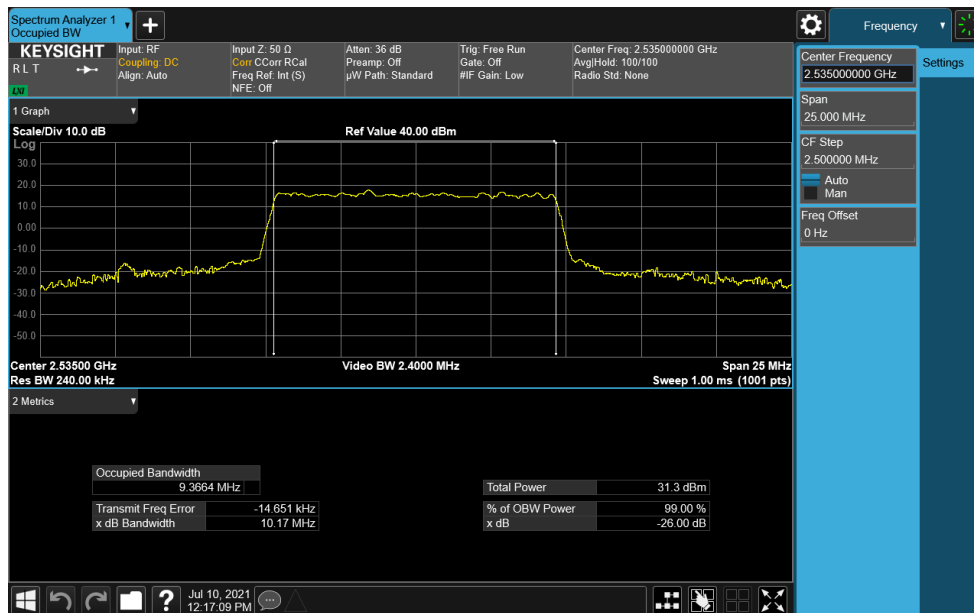
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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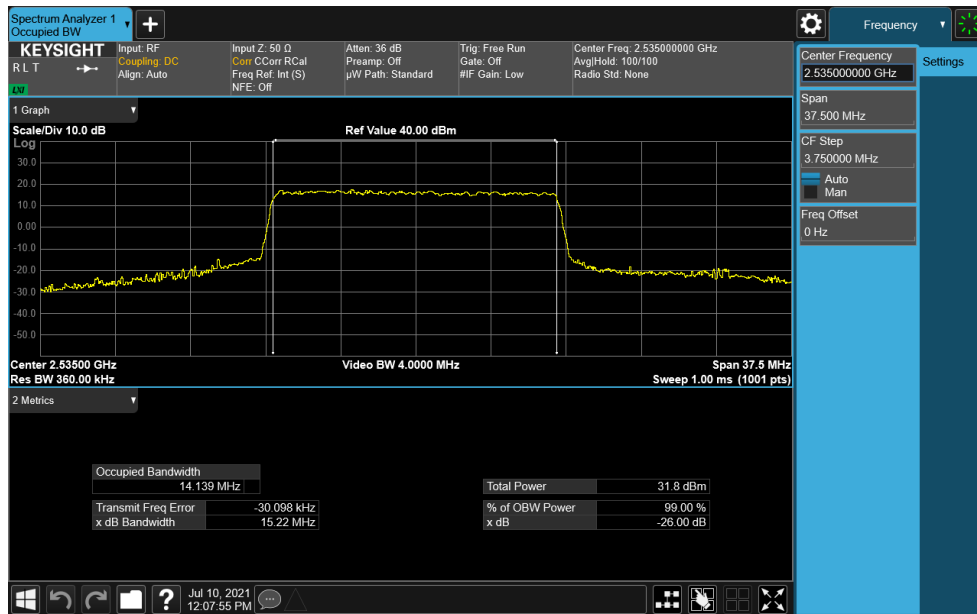
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 44 of 250



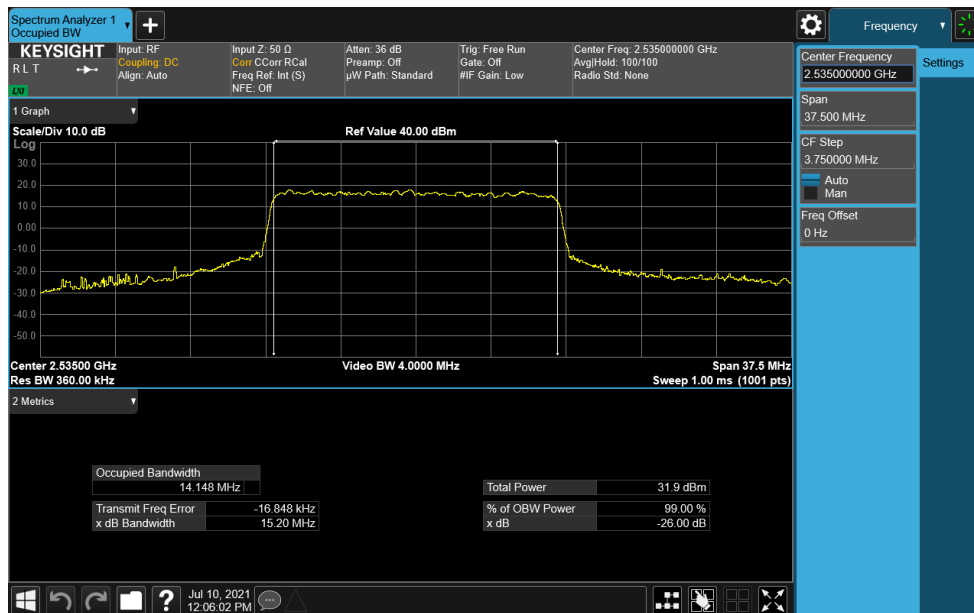
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 45 of 250



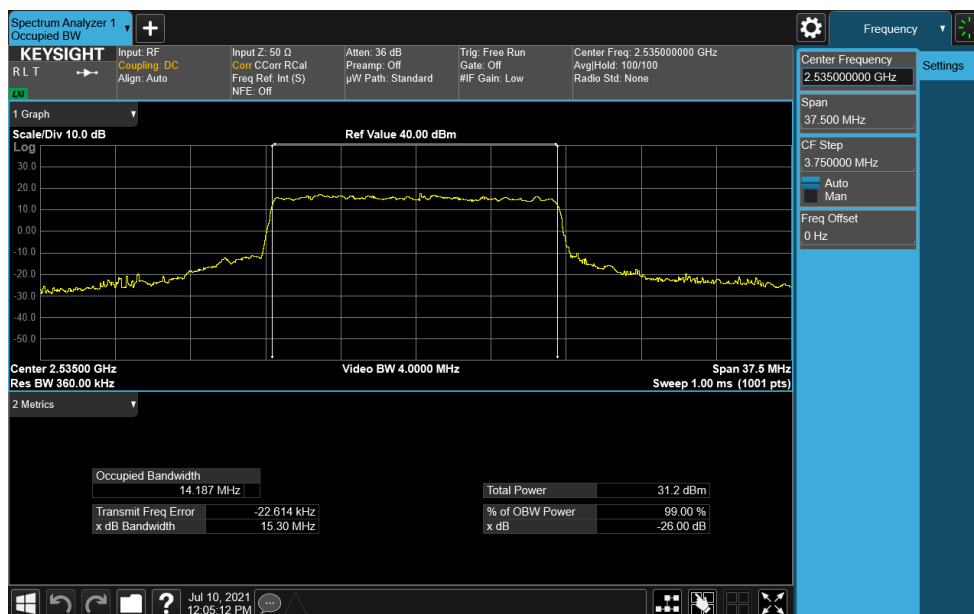
FCC ID: BCGA2568	PCTEST Proud to be part of element		PART 27 MEASUREMENT REPORT	Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device		Page 46 of 250



FCC ID: BCGA2568	PCTEST Proud to be part of element	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device		Page 47 of 250

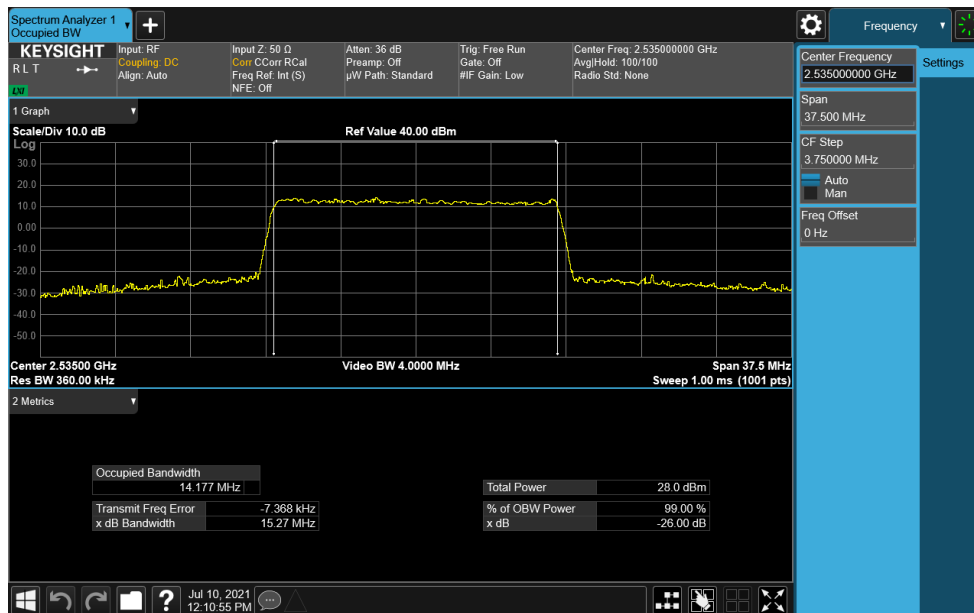



Plot 7-63. Occupied Bandwidth Plot (NR Band n7 - 15MHz 16-QAM - Full RB)



Plot 7-64. Occupied Bandwidth Plot (NR Band n7 - 15MHz 64-QAM - Full RB)

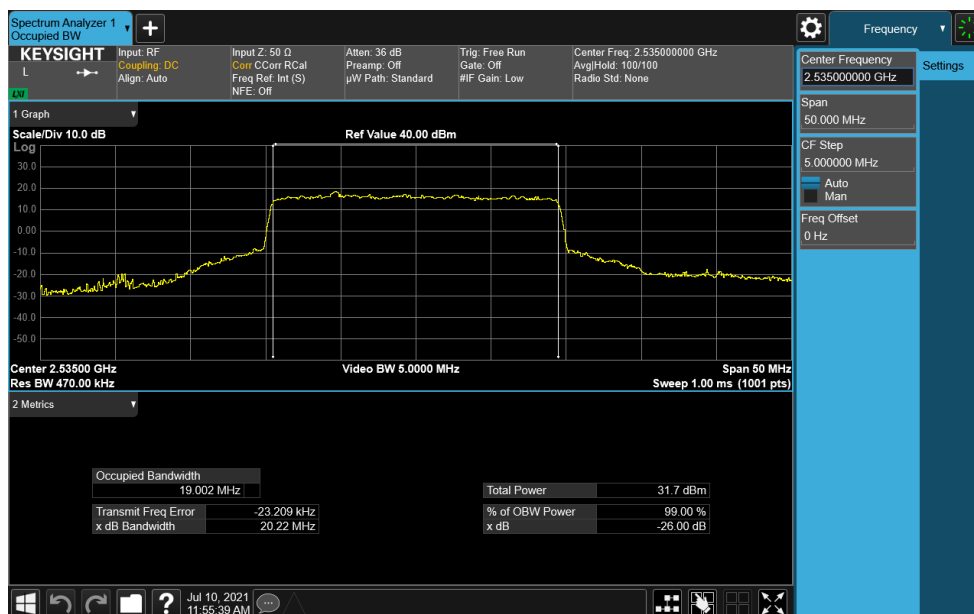
FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 48 of 250



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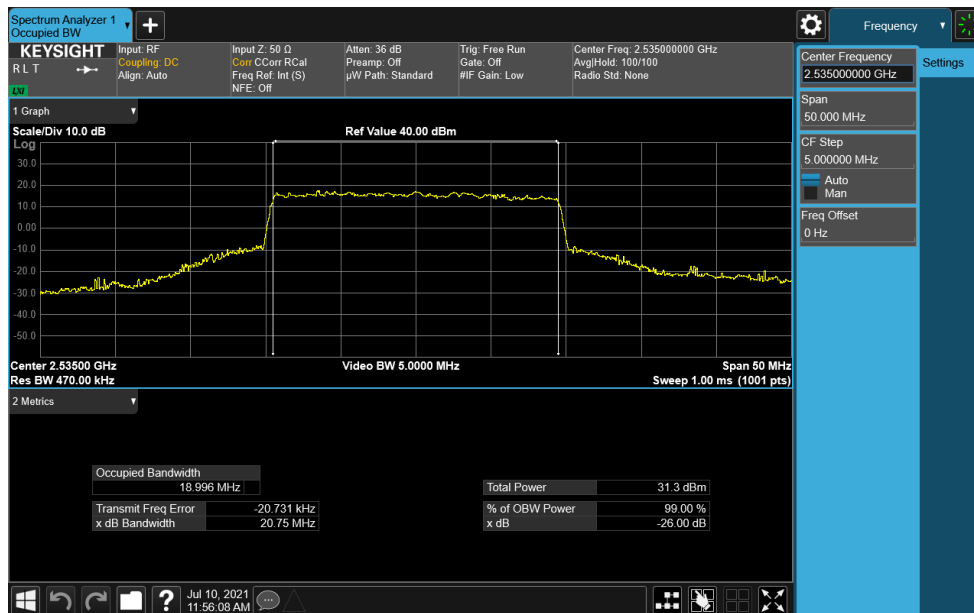


Plot 7-67. Occupied Bandwidth Plot (NR Band n7 - 20MHz QPSK - Full RB)

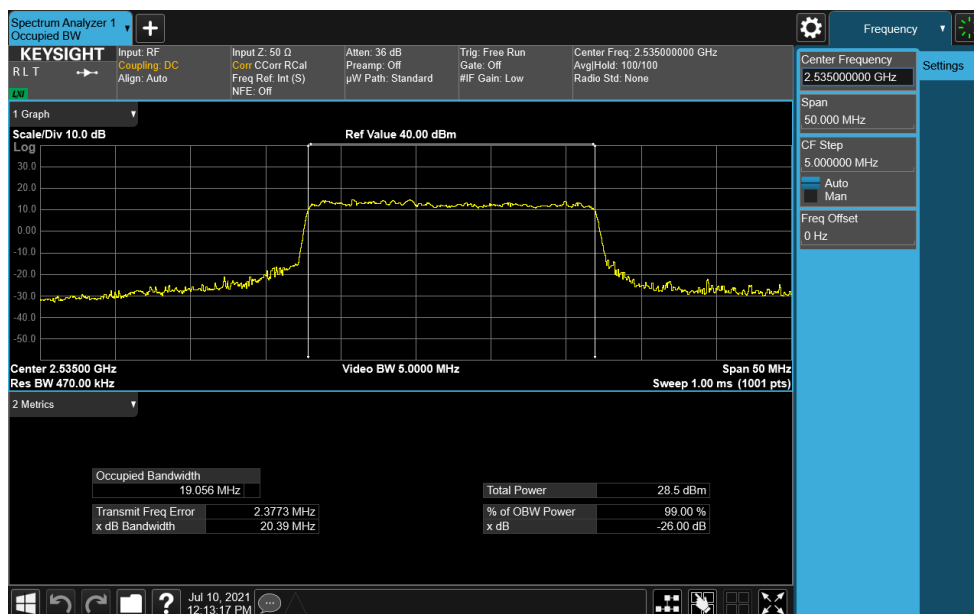


Plot 7-68. Occupied Bandwidth Plot (NR Band n7 - 20MHz 16-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 50 of 250

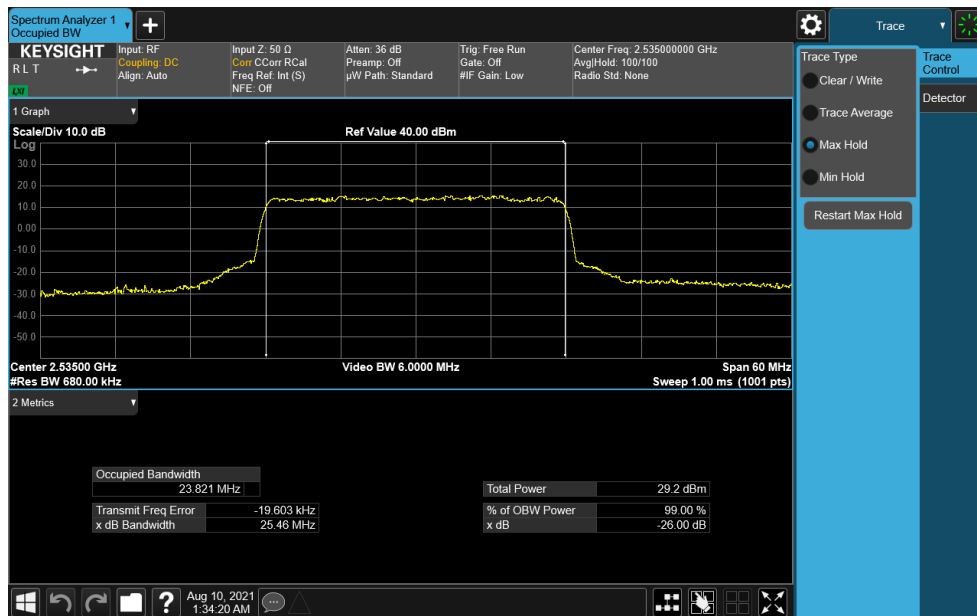
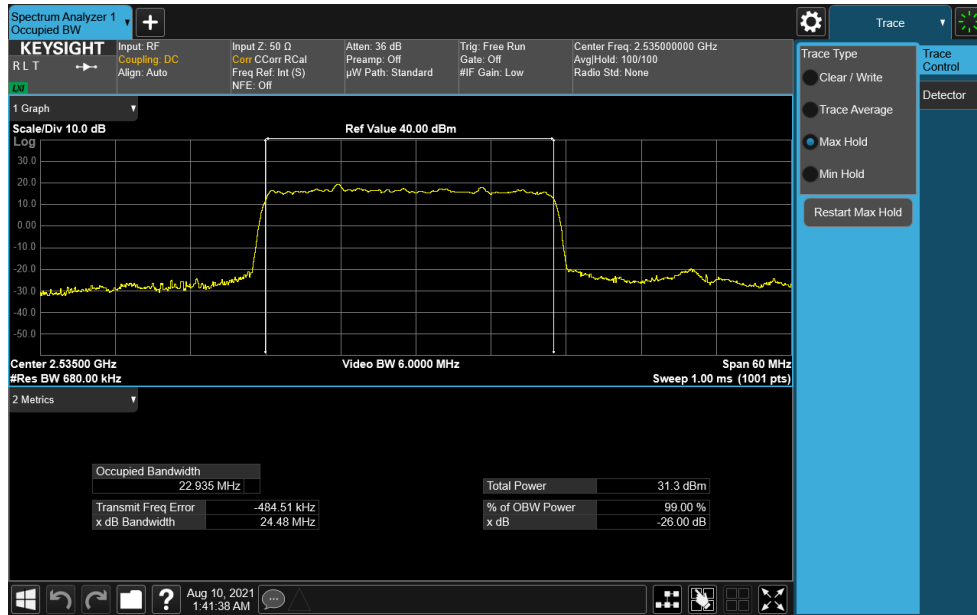



Plot 7-69. Occupied Bandwidth Plot (NR Band n7 - 20MHz 64-QAM - Full RB)

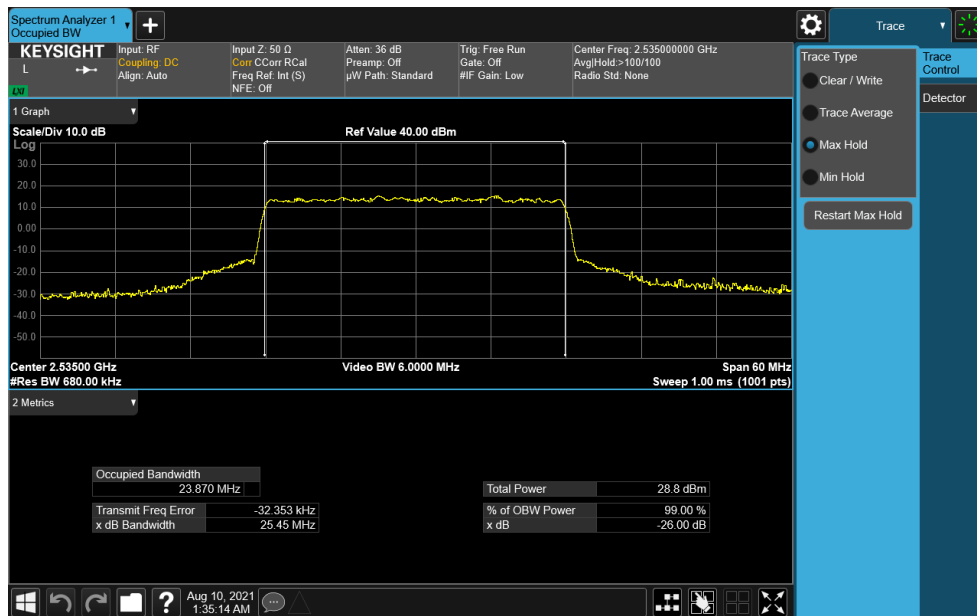
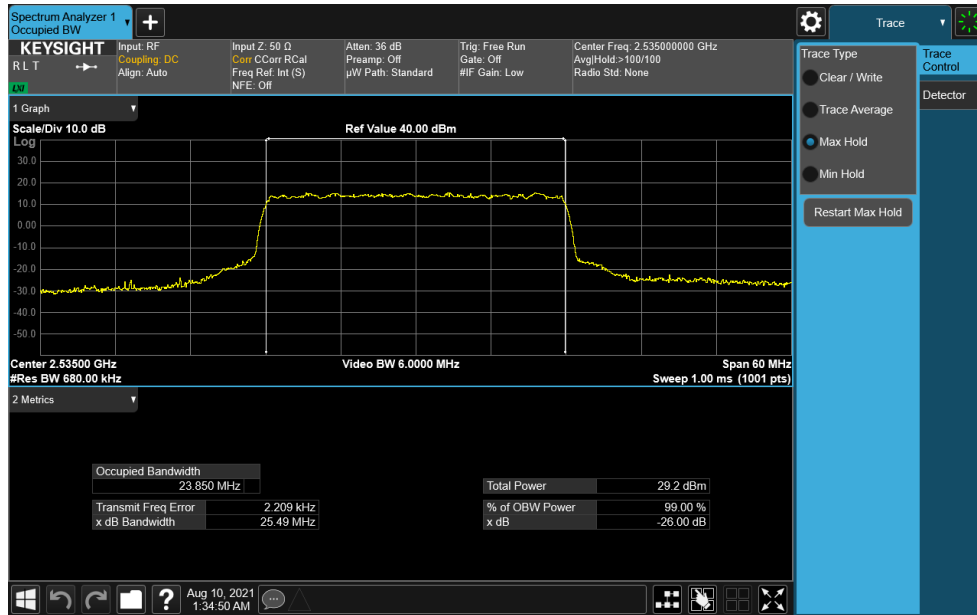


Plot 7-70. Occupied Bandwidth Plot (NR Band n7 - 20MHz 256-QAM - Full RB)

FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 51 of 250



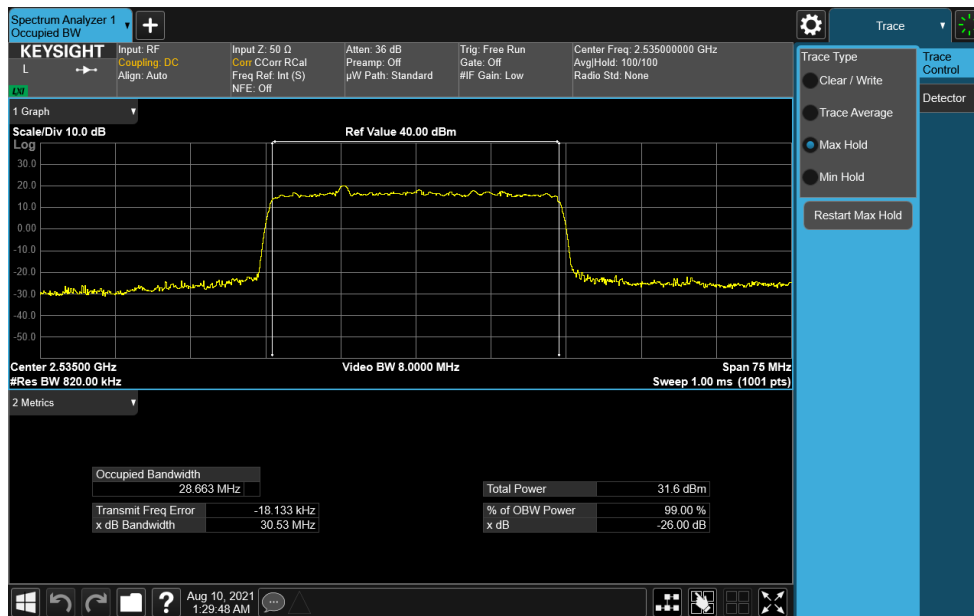
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 52 of 250




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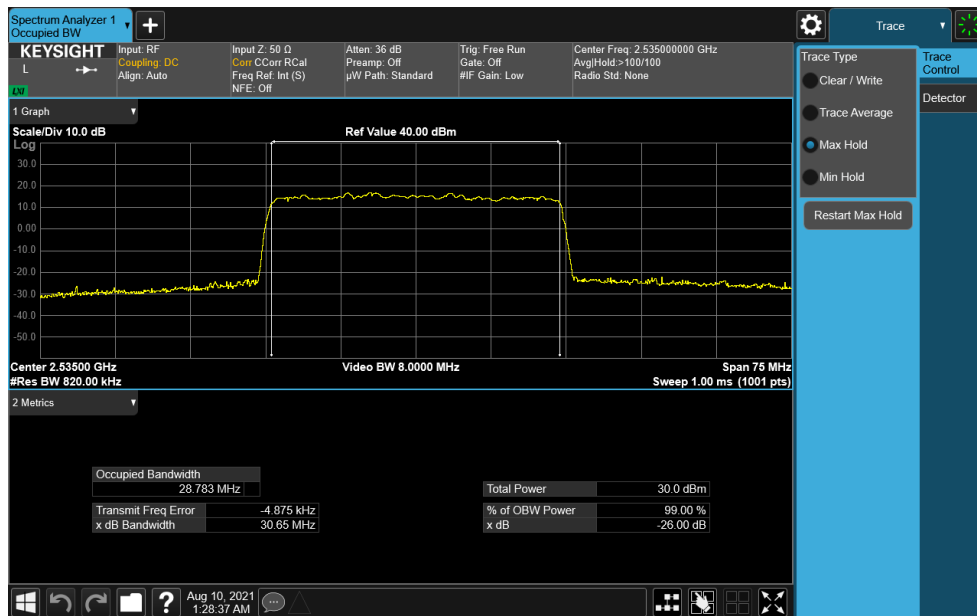
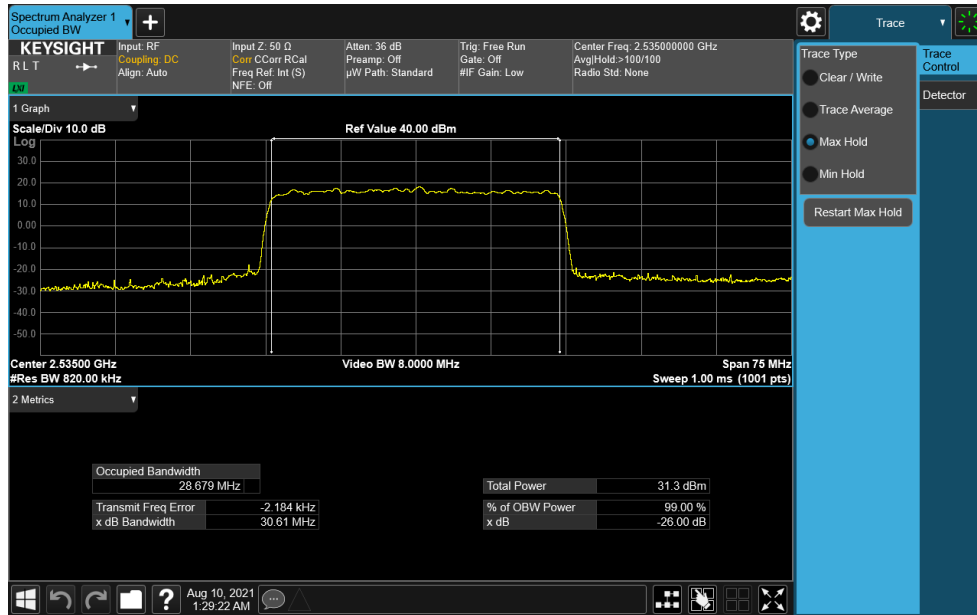



Plot 7-75. Occupied Bandwidth Plot (NR Band n7 - 25MHz 256-QAM - Full RB)

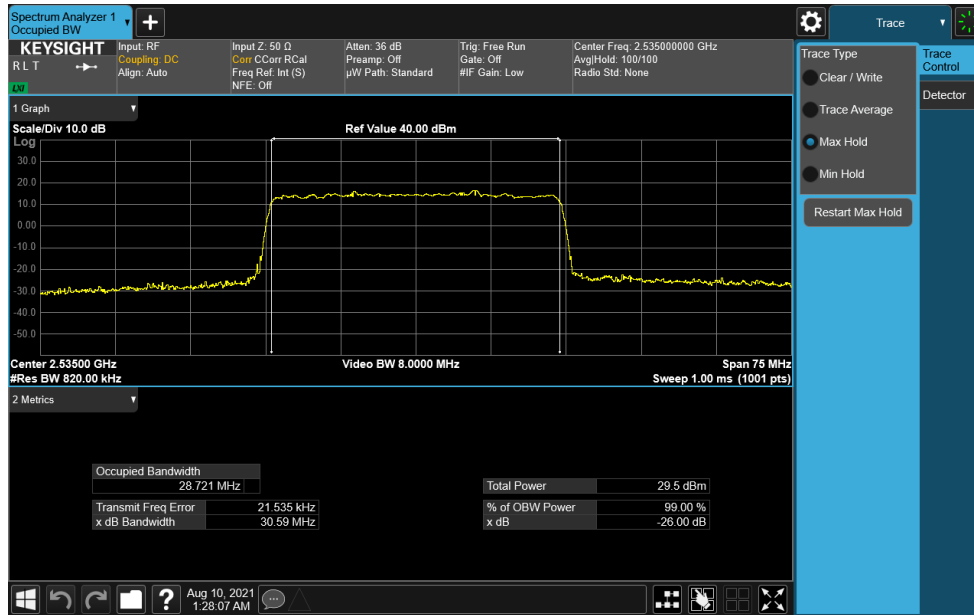


Plot 7-76. Occupied Bandwidth Plot (NR Band n7 - 30MHz $\pi/2$ BPSK - Full RB)

FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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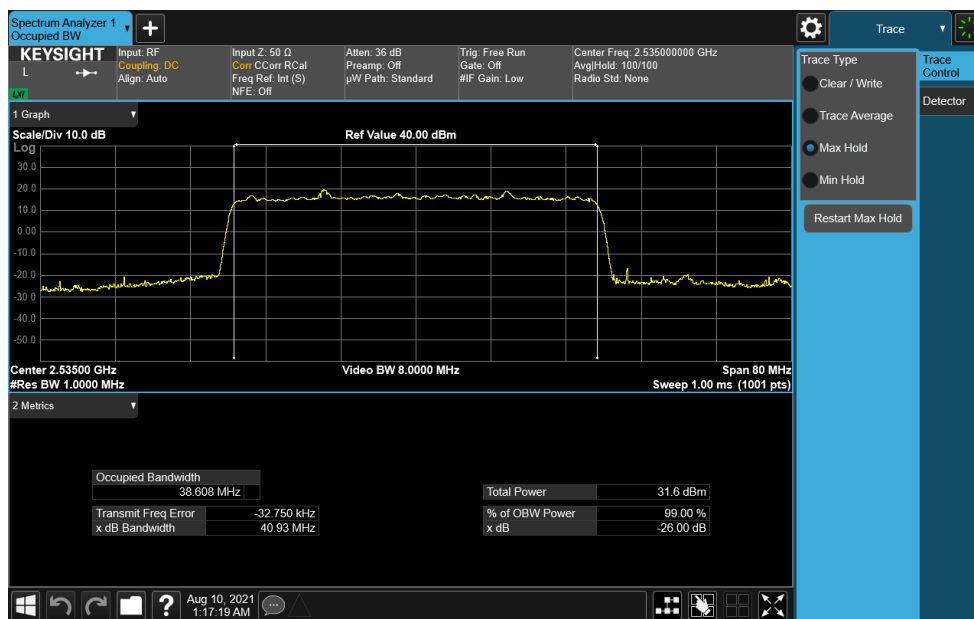
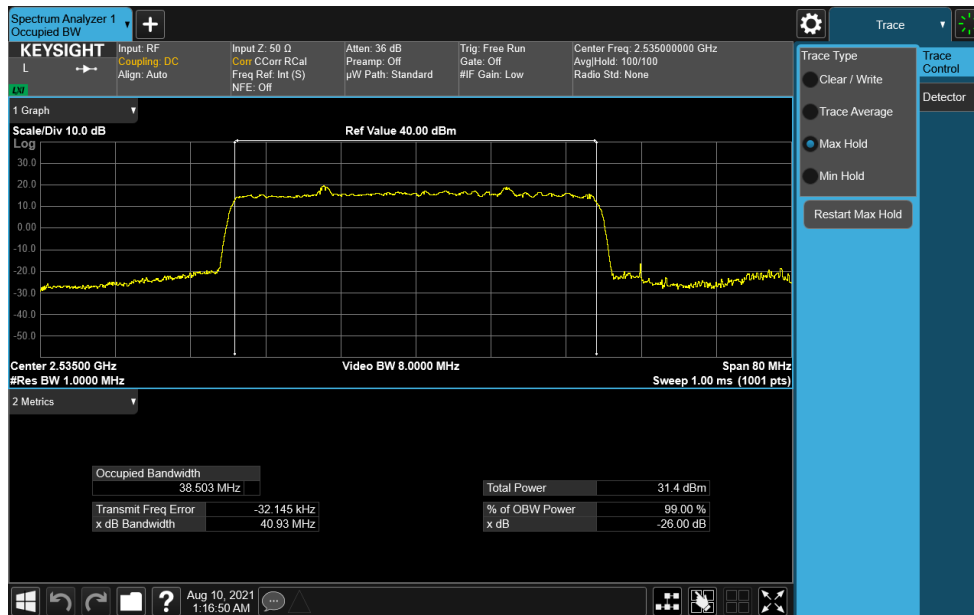



Plot 7-79. Occupied Bandwidth Plot (NR Band n7 - 30MHz 64-QAM - Full RB)

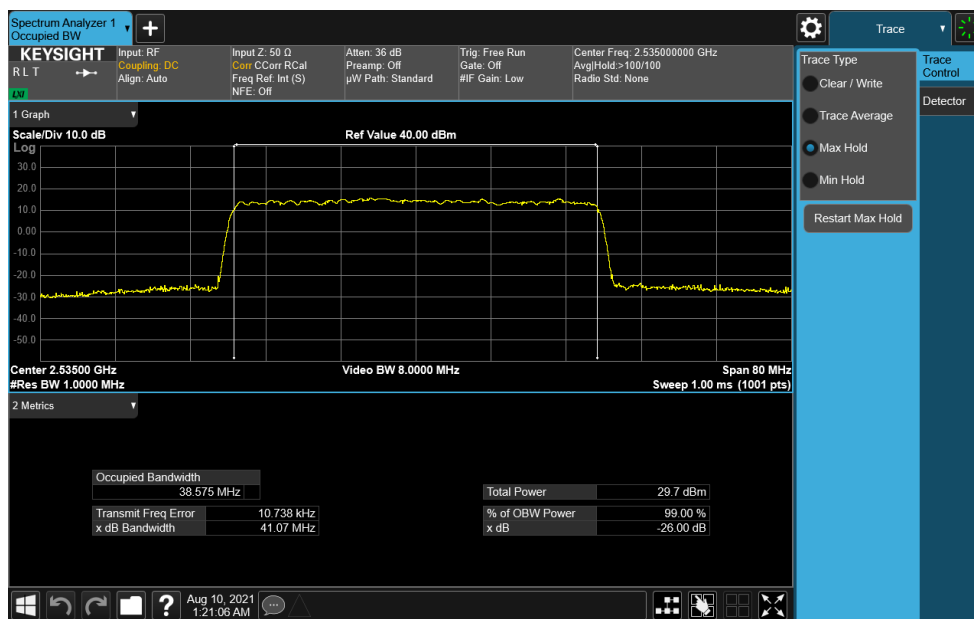
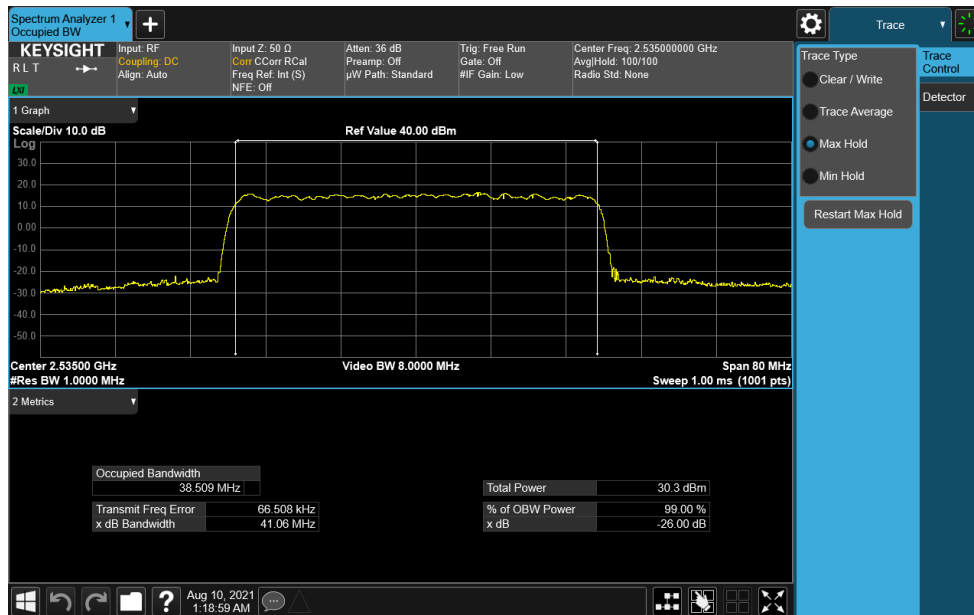



Plot 7-80. Occupied Bandwidth Plot (NR Band n7 - 30MHz 256-QAM - Full RB)

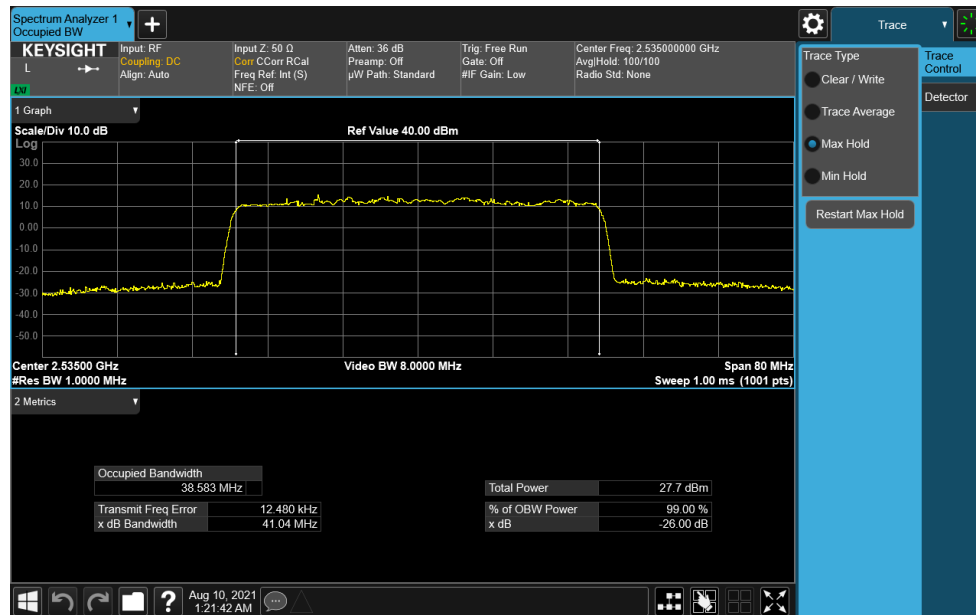
FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 56 of 250



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FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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Plot 7-85. Occupied Bandwidth Plot (NR Band n7 - 40MHz 256-QAM - Full RB)

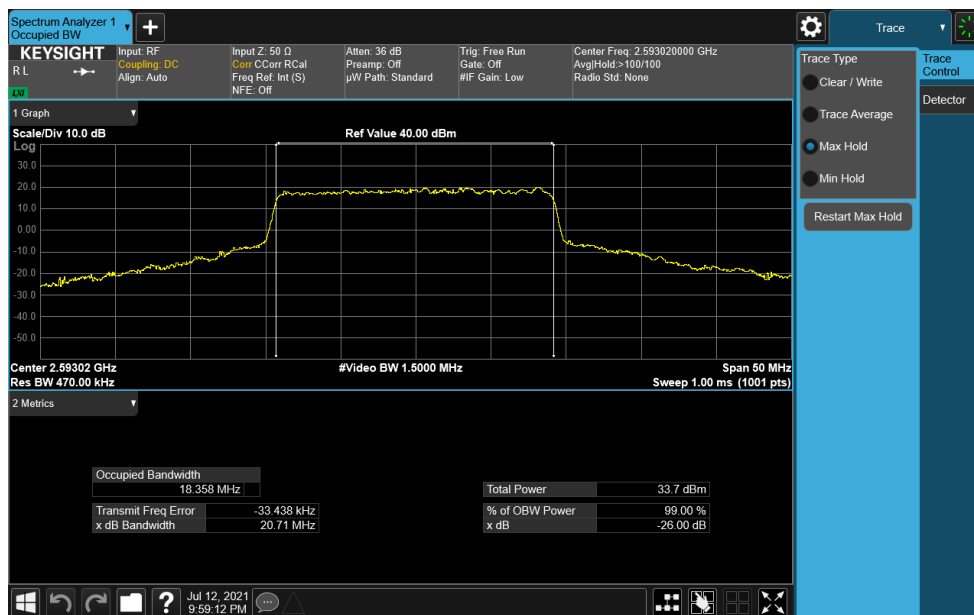
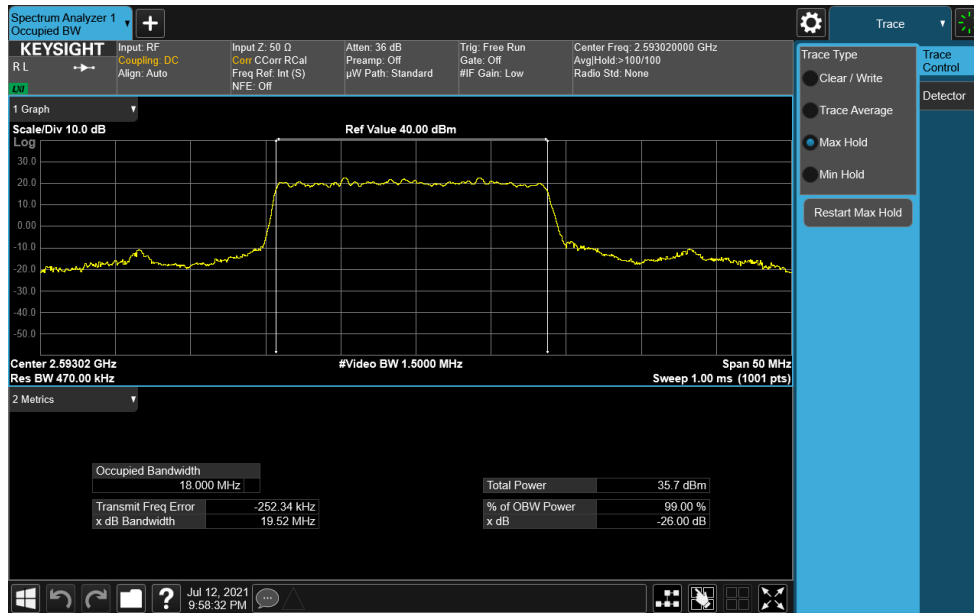
FCC ID: BCGA2568	PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
Test Report S/N: 1C2106080049-04-R1.BCG	Test Dates: 6/2/2021 - 8/26/2021	EUT Type: Tablet Device	Page 59 of 250


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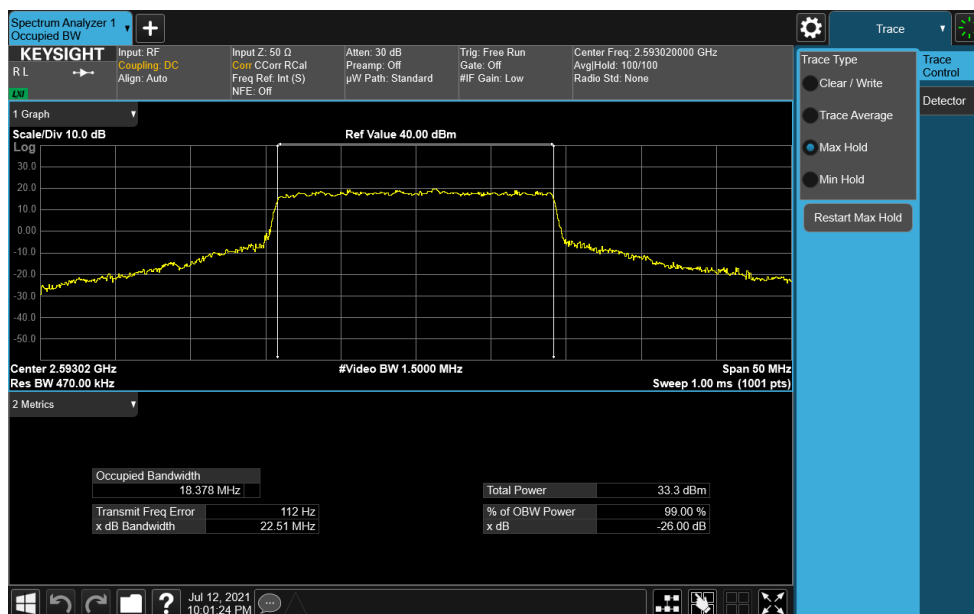
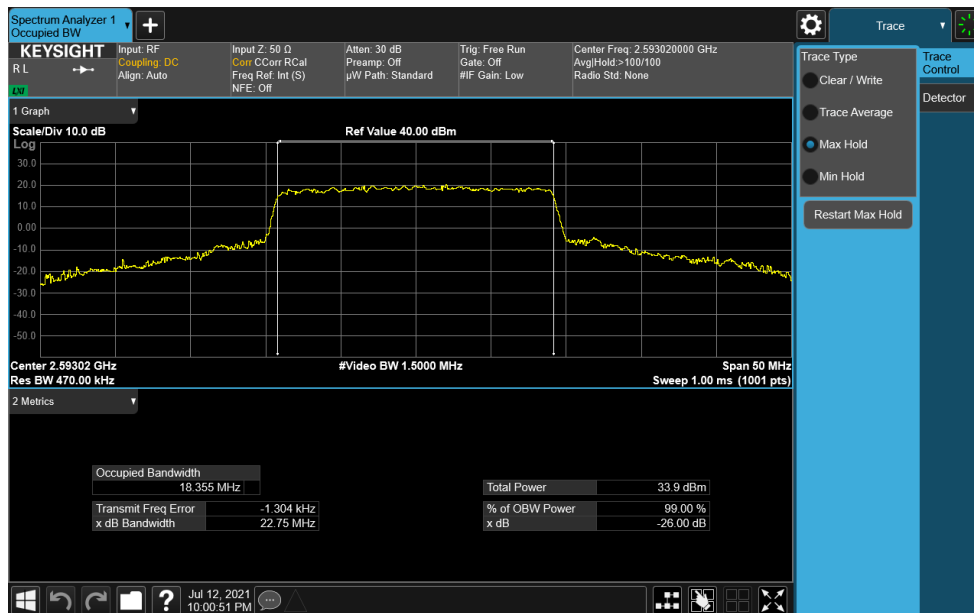
Version 2.0, 5/21/2021


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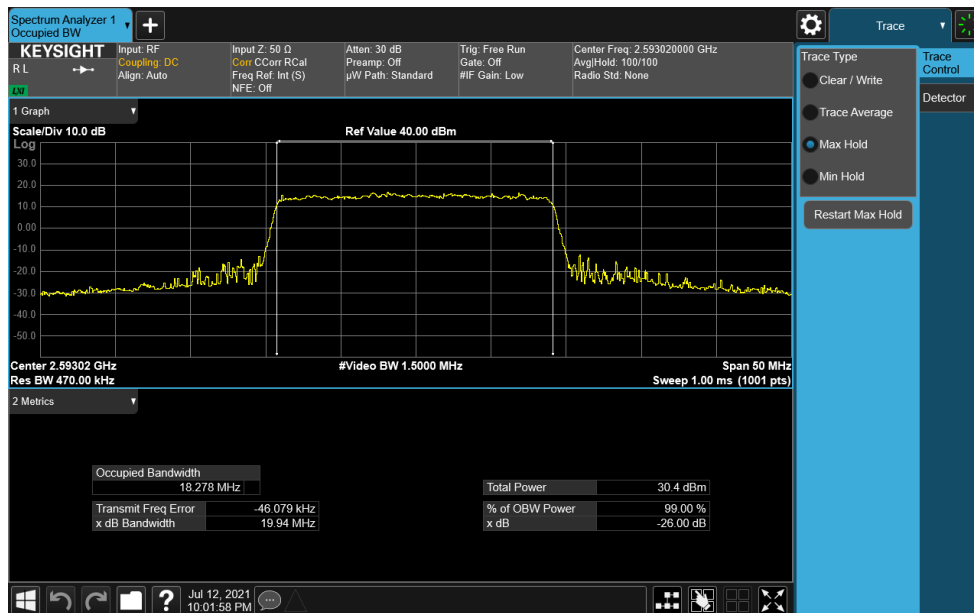
NR Band n41




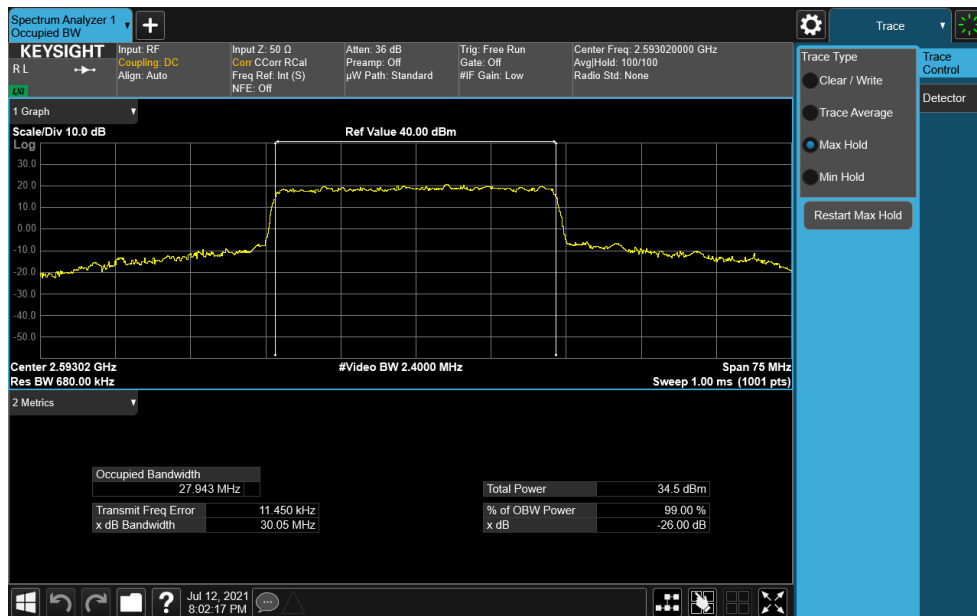
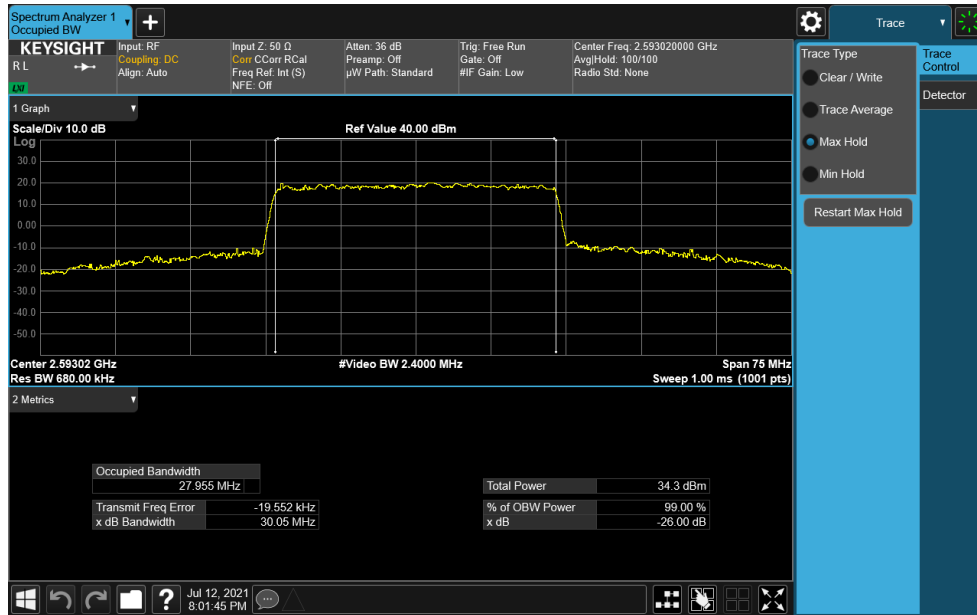
FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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FCC ID: BCGA2568	 PART 27 MEASUREMENT REPORT		Approved by: Quality Manager
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