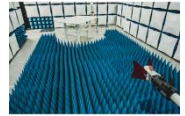




ELEMENT WASHINGTON DC LLC

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<http://www.element.com>



PART 30 MEASUREMENT REPORT

Applicant Name:

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

Date of Testing:

5/30/2022 – 9/24/2022

Test Site/Location:

Element Washington DC LLC, Morgan Hill, CA, USA

Test Report Serial No.:

1C2205090028-06-R1.BCG

FCC ID:

BCGA2764

APPLICANT:

Apple Inc.

Application Type:

Certification

Model:

A2764

EUT Type:

Tablet Device

FCC Classification:

Part 30 Mobile Transmitter (5GM)

FCC Rule Part(s):

30

Test Procedure(s):

ANSI C63.26-2015, KDB 842590 D01 v01r02

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: 1C2205090028-06-R1.BCG) 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.

RJ Ortanez
Executive Vice President



FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 1 of 999

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V2.0 5/30/2022

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The following EUT Overview tables summarize and display the highest measured EIRP for each respective band and configuration. Section 7.3 of this report provides EIRP measurements for all configurations.

Band	Tx Frequency [MHz]	Bandwidth [MHz]	CCs Active	Waveform	Antenna Diversity	Modulation	EIRP		Emission Designator
							Max Power [W]	Max Power [dBm]	
n258-R1	24275 - 24425	50	1	CP-OFDM	SISO	QPSK	0.166	22.20	47M4G7W
						16QAM	0.133	21.24	47M3D7W
						64QAM	0.090	19.54	47M3D7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.364	25.61	46M2G7W
						QPSK	0.389	25.89	46M1G7W
						16QAM	0.211	23.25	45M9D7W
						64QAM	0.147	21.67	45M7D7W
				CP-OFDM	MIMO	QPSK	0.473	26.74	46M0G7W
						16QAM	0.390	25.91	45M9D7W
						64QAM	0.445	26.48	45M7D7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.853	29.31	45M5G7W
						QPSK	1.220	30.86	45M6G7W
						16QAM	0.637	28.04	45M4D7W
						64QAM	0.441	26.44	45M6D7W
		50+50	2	CP-OFDM	SISO	QPSK	0.051	17.05	97M0G7W
						16QAM	0.050	17.02	96M9D7W
						64QAM	0.037	15.71	97M0D7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.043	16.38	95M6G7W
						QPSK	0.043	16.38	96M2G7W
						16QAM	0.043	16.33	95M7D7W
						64QAM	0.035	15.39	95M6D7W
				CP-OFDM	MIMO	QPSK	0.161	22.07	95M4G7W
						16QAM	0.155	21.90	95M0D7W
						64QAM	0.106	20.25	94M8D7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.116	20.63	94M3G7W
						QPSK	0.118	20.70	94M6G7W
						16QAM	0.117	20.69	94M5D7W
						64QAM	0.093	19.68	94M6D7W
		50+50+50	3	CP-OFDM	SISO	QPSK	0.054	17.29	146M7W
						16QAM	0.052	17.13	146MD7W
						64QAM	0.037	15.72	146MD7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.045	16.49	145MG7W
						QPSK	0.045	16.50	145MG7W
						16QAM	0.045	16.57	145MD7W
						64QAM	0.033	15.20	145MD7W
				CP-OFDM	MIMO	QPSK	0.177	22.49	144MG7W
						16QAM	0.159	22.00	144MD7W
						64QAM	0.102	20.10	144MD7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.120	20.79	144MG7W
						QPSK	0.126	21.01	143MG7W
						16QAM	0.122	20.85	143MD7W
						64QAM	0.091	19.57	143MD7W
		50+50+50+50	4	CP-OFDM	SISO	QPSK	0.052	17.15	196MG7W
						16QAM	0.052	17.13	196MD7W
						64QAM	0.040	16.06	196MD7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.043	16.31	194MG7W
						QPSK	0.043	16.33	194MG7W
						16QAM	0.043	16.36	194MD7W
						64QAM	0.034	15.37	194MD7W
				CP-OFDM	MIMO	QPSK	0.169	22.28	193MG7W
						16QAM	0.164	22.14	194MD7W
						64QAM	0.108	20.35	193MD7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.045	16.56	193MG7W
						QPSK	0.045	16.54	193MG7W
						16QAM	0.045	16.57	193MD7W
						64QAM	0.035	15.47	193MD7W
	24300 - 24400	100	1	CP-OFDM	SISO	QPSK	0.289	24.62	95M0G7W
						16QAM	0.161	22.07	94M7D7W
						64QAM	0.112	20.48	94M4D7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.267	24.10	92M0G7W
						QPSK	0.265	24.24	91M7G7W
						16QAM	0.154	21.86	91M9D7W
						64QAM	0.107	20.30	91M9D7W
				CP-OFDM	MIMO	QPSK	0.426	26.30	93M8G7W
						16QAM	0.343	25.35	93M6D7W
						64QAM	0.214	23.30	93M7D7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.916	29.62	92M5G7W
						QPSK	0.978	29.90	92M5G7W
						16QAM	0.375	25.74	92M6D7W
						64QAM	0.257	24.11	92M5D7W
		100+100	2	CP-OFDM	SISO	QPSK	0.052	17.16	194MG7W
						16QAM	0.051	17.08	193MD7W
						64QAM	0.039	15.93	194MD7W
				DFTs-OFDM	SISO	$\pi/2$ BPSK	0.044	16.40	191MG7W
						QPSK	0.043	16.38	191MG7W
						16QAM	0.043	16.36	190MD7W
						64QAM	0.034	15.36	191MD7W
				CP-OFDM	MIMO	QPSK	0.169	22.28	192MG7W
						16QAM	0.163	22.13	193MD7W
						64QAM	0.108	20.32	192MD7W
				DFTs-OFDM	SISO Dual Pol	$\pi/2$ BPSK	0.118	20.70	192MG7W
						QPSK	0.123	20.88	191MG7W
						16QAM	0.118	20.71	191MD7W
						64QAM	0.095	19.76	191MD7W

EUT Overview (Band n258, 24.25 – 24.45GHz)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 3 of 999

Band	Tx Frequency [MHz]	Bandwidth [MHz]	CCs Active	Waveform	Antenna Diversity	Modulation	ERP		Emission Designator
							Max Power [W]	Max Power [dBm]	
n258-R2	24775 - 25225	50	1	CP-OFDM	SISO	QPSK	0.130	21.14	47MAG7W
						16QAM	0.103	20.12	47M307W
						64QAM	0.068	18.29	47M207W
						11/2 BPSK	0.271	24.33	46M2G7W
						QPSK	0.273	24.36	46M0G7W
				DFTs-OFDM	SISO	16QAM	0.158	21.99	46M1D7W
						64QAM	0.115	20.60	46M1D7W
						QPSK	0.482	26.83	46M1G7W
						16QAM	0.388	25.89	46M7D7W
						64QAM	0.243	23.86	46M7D7W
			2	CP-OFDM	MIMO	11/2 BPSK	0.695	29.52	45M5G7W
						QPSK	0.902	29.92	45M5G7W
						16QAM	0.538	27.31	45M4D7W
						64QAM	0.402	26.04	45M3D7W
						QPSK	0.052	17.16	97M1G7W
				DFTs-OFDM	SISO	16QAM	0.052	17.12	96M9D7W
						64QAM	0.034	15.26	96M9D7W
						11/2 BPSK	0.055	17.42	96M8G7W
						QPSK	0.055	17.42	96M5G7W
						16QAM	0.055	17.37	96M5D7W
			3	CP-OFDM	MIMO	64QAM	0.044	16.41	95M7D7W
						QPSK	0.154	22.65	94M5G7W
						16QAM	0.178	22.51	94M5D7W
						64QAM	0.112	20.51	94M7D7W
						11/2 BPSK	0.172	22.37	94M5G7W
			4	CP-OFDM	SISO	QPSK	0.174	22.41	94M7G7W
						16QAM	0.166	22.21	94M8D7W
						64QAM	0.137	21.36	94M8D7W
						QPSK	0.053	17.28	144M7W
						16QAM	0.050	17.02	144M7W
			5	CP-OFDM	SISO	64QAM	0.032	15.00	144M7W
						11/2 BPSK	0.057	17.56	144M7W
						QPSK	0.057	17.56	145M7W
						16QAM	0.057	17.59	145M7W
						64QAM	0.042	16.24	145M7W
			6	CP-OFDM	MIMO	QPSK	0.197	22.95	144M7W
						16QAM	0.172	22.37	144M7W
						64QAM	0.112	20.51	144M7W
						11/2 BPSK	0.192	22.82	144M7W
						QPSK	0.210	23.23	143M7W
			7	CP-OFDM	SISO	16QAM	0.196	22.92	143M7W
						64QAM	0.138	21.41	144M7W
						QPSK	0.062	17.92	196M7W
						16QAM	0.061	17.87	196M7W
						64QAM	0.040	16.00	196M7W
			8	CP-OFDM	SISO	11/2 BPSK	0.061	17.88	194M7W
						QPSK	0.062	17.93	194M7W
						16QAM	0.061	17.88	194M7W
						64QAM	0.050	16.96	194M7W
						QPSK	0.174	22.42	193M7W
			9	CP-OFDM	MIMO	16QAM	0.179	22.52	194M7W
						64QAM	0.121	20.82	193M7W
						11/2 BPSK	0.069	18.39	193M7W
						QPSK	0.069	18.42	193M7W
						16QAM	0.070	18.43	193M7W
			10	CP-OFDM	SISO	64QAM	0.054	17.33	193M7W
						QPSK	0.133	21.23	94M5D7W
						16QAM	0.106	20.24	94M3D7W
						64QAM	0.068	18.34	94M4D7W
						11/2 BPSK	0.272	24.35	91M5G7W
			11	CP-OFDM	SISO	QPSK	0.280	24.47	91M5G7W
						16QAM	0.162	22.08	92M0D7W
						64QAM	0.117	20.67	92M0D7W
						QPSK	0.484	26.85	93M5G7W
						16QAM	0.361	25.58	93M7D7W
			12	CP-OFDM	MIMO	64QAM	0.250	23.97	93M8D7W
						11/2 BPSK	0.903	29.56	92M4G7W
						QPSK	0.936	29.71	92M7G7W
						16QAM	0.536	27.29	92M4D7W
						64QAM	0.367	25.65	92M8D7W
			13	CP-OFDM	SISO	QPSK	0.051	17.05	193M7W
						16QAM	0.051	17.06	194M7W
						64QAM	0.032	15.10	193M7W
						11/2 BPSK	0.055	17.42	193M7W
						QPSK	0.055	17.43	191M7W
			14	CP-OFDM	SISO	16QAM	0.054	17.34	191M7W
						64QAM	0.044	16.39	190M7W
						QPSK	0.181	22.59	193M7W
						16QAM	0.177	22.47	193M7W
						64QAM	0.116	20.65	193M7W
			15	CP-OFDM	MIMO	11/2 BPSK	0.178	22.51	191M7W
						QPSK	0.185	22.67	192M7W
						16QAM	0.163	22.12	191M7W
						64QAM	0.137	21.37	192M7W
						QPSK	0.051	17.12	293M7W
			16	CP-OFDM	SISO	16QAM	0.048	16.81	293M7W
						64QAM	0.031	14.95	293M7W
						11/2 BPSK	0.054	17.34	290M7W
						QPSK	0.054	17.35	290M7W
						16QAM	0.055	17.37	290M7W
			17	CP-OFDM	MIMO	64QAM	0.040	16.03	290M7W
						QPSK	0.134	21.28	291M7W
						16QAM	0.148	21.72	291M7W
						64QAM	0.081	19.08	292M7W
						11/2 BPSK	0.164	22.15	289M7W
			18	CP-OFDM	SISO	QPSK	0.169	22.27	288M7W
						16QAM	0.136	21.33	288M7W
						64QAM	0.125	21.00	288M7W
						QPSK	0.048	16.86	392M7W
						16QAM	0.048	16.83	392M7W
			19	CP-OFDM	MIMO	64QAM	0.030	14.79	392M7W
						11/2 BPSK	0.053	17.21	399M7W
						QPSK	0.052	17.18	399M7W
						16QAM	0.052	17.18	399M7W
						64QAM	0.042	16.28	399M7W
			20	CP-OFDM	SISO	QPSK	0.173	22.38	392M7W
						16QAM	0.169	22.29	391M7W
						64QAM	0.078	18.91	391M7W
						11/2 BPSK	0.138	21.41	391M7W
						QPSK	0.171	22.33	397M7W
			21	CP-OFDM	MIMO	16QAM	0.157	21.97	396M7W
						64QAM	0.135	21.30	396M7W

EUT Overview (Band n258, 24.75 – 25.25GHz)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device		Page 4 of 999

Band	Tx Frequency [MHz]	Bandwidth [MHz]	CCs Active	Waveform	Antenna Diversity	Modulation	ERP		Emission Designator																
							Max Power [W]	Max Power [dBm]																	
n261	27525 - 28325	50	1	CP-OFDM	SISO	QPSK	0.206	23.13	47M3G7W																
						16QAM	0.160	22.04	47M4D7W																
						64QAM	0.103	20.11	47M4D7W																
				DFTs-OFDM	SISO	11/2 BPSK	0.421	26.24	48M1G7W																
						QPSK	0.421	26.25	48M9G7W																
						16QAM	0.243	23.85	48M1D7W																
				CP-OFDM	MIMO	64QAM	0.172	22.25	48M8D7W																
						QPSK	0.367	25.64	49M5G7W																
						16QAM	0.294	24.68	49M9D7W																
				DFTs-OFDM	SISO Dual Pol	64QAM	0.184	22.66	49M0D7W																
						11/2 BPSK	0.902	29.55	49M2G7W																
						QPSK	0.863	29.31	49M1G7W																
				50+50	2	CP-OFDM	SISO	16QAM	0.054	26.16	49M1D7W														
								64QAM	0.445	26.48	49M7D7W														
								QPSK	0.084	19.26	96M9G7W														
						DFTs-OFDM	SISO	16QAM	0.085	19.28	97M0D7W														
								64QAM	0.054	17.29	97M9D7W														
								11/2 BPSK	0.086	19.34	99M8G7W														
						CP-OFDM	MIMO	QPSK	0.088	19.43	99M5G7W														
								16QAM	0.086	19.33	99M5D7W														
								64QAM	0.069	18.41	99M5D7W														
						DFTs-OFDM	SISO Dual Pol	QPSK	0.144	21.58	97M5G7W														
								16QAM	0.144	21.58	97M6D7W														
								64QAM	0.104	20.18	97M6D7W														
						50+50+50	3	CP-OFDM	SISO	11/2 BPSK	0.159	22.02	99M5G7W												
										QPSK	0.160	22.04	99M1G7W												
										16QAM	0.147	21.67	99M9D7W												
								DFTs-OFDM	SISO	64QAM	0.125	20.97	99M8D7W												
										QPSK	0.088	19.44	147M7G7W												
										16QAM	0.082	19.12	147M6D7W												
								CP-OFDM	MIMO	64QAM	0.052	17.13	147M7D7W												
										11/2 BPSK	0.089	19.50	147M7G7W												
										QPSK	0.089	19.50	148M7G7W												
								DFTs-OFDM	SISO	16QAM	0.088	19.46	148M7D7W												
										64QAM	0.065	18.12	148M7D7W												
										QPSK	0.147	21.67	148M5G7W												
								50+50+50+50	4	CP-OFDM	SISO	16QAM	0.142	21.52	148M7D7W										
												64QAM	0.106	20.25	148M7D7W										
												11/2 BPSK	0.151	21.78	148M6G7W										
										DFTs-OFDM	SISO Dual Pol	QPSK	0.168	22.27	147M7D7W										
												16QAM	0.168	22.25	148M7D7W										
												64QAM	0.125	20.97	147M7D7W										
										CP-OFDM	MIMO	QPSK	0.085	19.32	196M7G7W										
												16QAM	0.084	19.24	196M7D7W										
												64QAM	0.053	17.24	196M7D7W										
										DFTs-OFDM	SISO	11/2 BPSK	0.136	21.33	196M7G7W										
												QPSK	0.148	21.70	196M7G7W										
												16QAM	0.135	21.31	196M7D7W										
										100	1	CP-OFDM	SISO	64QAM	0.101	20.05	196M7D7W								
														QPSK	0.143	21.56	196M7G7W								
														16QAM	0.141	21.49	197M7D7W								
												DFTs-OFDM	SISO Dual Pol	64QAM	0.115	20.61	197M7D7W								
														11/2 BPSK	0.134	21.27	198M5G7W								
														QPSK	0.134	21.28	196M7G7W								
												CP-OFDM	SISO	16QAM	0.135	21.30	194M7D7W								
														64QAM	0.105	20.22	194M7D7W								
														QPSK	0.208	23.18	94M8G7W								
												DFTs-OFDM	SISO	16QAM	0.164	22.15	94M6D7W								
														64QAM	0.108	20.33	94M7D7W								
														11/2 BPSK	0.429	26.32	91M9G7W								
												100+100	2	CP-OFDM	SISO	QPSK	0.428	26.31	91M8G7W						
																16QAM	0.250	23.98	91M5D7W						
																64QAM	0.169	22.28	91M5D7W						
														DFTs-OFDM	SISO Dual Pol	QPSK	0.373	25.72	94M5G7W						
																16QAM	0.299	24.75	94M4D7W						
																64QAM	0.166	22.19	93M7D7W						
														CP-OFDM	MIMO	11/2 BPSK	0.851	29.30	91M9G7W						
																QPSK	0.857	29.33	92M3G7W						
																16QAM	0.487	26.87	92M1D7W						
														DFTs-OFDM	SISO	64QAM	0.345	25.38	92M7D7W						
																QPSK	0.087	19.40	194M7G7W						
																16QAM	0.085	19.29	193M7D7W						
														CP-OFDM	SISO	64QAM	0.054	17.28	194M7D7W						
																11/2 BPSK	0.089	19.47	191M7D7W						
																QPSK	0.089	19.48	191M7G7W						
														100+100+100	3	CP-OFDM	MIMO	16QAM	0.088	19.45	190M7D7W				
																		64QAM	0.070	18.43	191M7D7W				
																		QPSK	0.142	21.52	193M7G7W				
																DFTs-OFDM	SISO Dual Pol	16QAM	0.143	21.55	193M7D7W				
																		64QAM	0.089	19.51	194M7D7W				
																		11/2 BPSK	0.162	22.11	198M7G7W				
																CP-OFDM	SISO	QPSK	0.162	22.09	190M7G7W				
																		16QAM	0.156	21.94	189M7D7W				
																		64QAM	0.126	21.02	190M7D7W				
																DFTs-OFDM	SISO	QPSK	0.085	19.29	295M7G7W				
																		16QAM	0.079	18.99	294M7D7W				
																		64QAM	0.051	17.04	295M7D7W				
																100+100+100+100	4	CP-OFDM	SISO	11/2 BPSK	0.087	19.41	293M7G7W		
																				QPSK	0.087	19.37	293M7G7W		
																				16QAM	0.087	19.38	292M7D7W		
																		DFTs-OFDM	SISO Dual Pol	64QAM	0.063	18.02	292M7D7W		
																				QPSK	0.144	21.58	296M7G7W		
																				16QAM	0.136	21.33	296M7D7W		
																		CP-OFDM	MIMO	64QAM	0.088	19.45	296M7D7W		
																				11/2 BPSK	0.153	21.85	292M7G7W		
																				QPSK	0.170	22.30	292M7G7W		
																		DFTs-OFDM	SISO Dual Pol	16QAM	0.154	21.87	291M7D7W		
																				64QAM	0.115	20.60	292M7D7W		
																				QPSK	0.083	19.20	395M7G7W		
																		CP-OFDM	SISO	16QAM	0.082	19.13	395M7D7W		
																				64QAM	0.052	17.15	395M7D7W		
																				11/2 BPSK	0.082	19.15	393M7G7W		
																		DFTs-OFDM	SISO	QPSK	0.083	19.21	393M7G7W		
																				16QAM	0.130	21.15	393M7D7W		
																				64QAM	0.065	18.15	393M7D7W		
																		100+100+100+100+100	4	CP-OFDM	MIMO	QPSK	0.165	22.16	393M7G7W
																						16QAM	0.111	20.44	395M7D7W
																						64QAM	0.109	20.35	393M7D7W
																				DFTs-OFDM	SISO Dual Pol	11/2 BPSK	0.156	21.93	391M7G7W
																						QPSK	0.156	21.93	391M7G7W
																						16QAM	0.150	21.77	391M7D7W
																				CP-OFDM	MIMO	64QAM	0.125	20.98	391M7D7W

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Band	Tx Frequency [MHz]	Bandwidth [MHz]	CCs Active	Waveform	Antenna Diversity	Modulation	ERP		Emission Designator
							Max Power [W]	Max Power [dBm]	
n260	37025 - 39975	50	1	CP-OFDM	SISO	QPSK	0.286	24.56	48M0G7W
						16QAM	0.228	23.58	48M4D7W
						64QAM	0.144	21.58	47M4D7W
				DFTs-OFDM	SISO	11/2 BPSK	0.813	29.10	48M4G7W
						QPSK	0.843	29.25	48M2G7W
						16QAM	0.465	26.67	48M4D7W
				CP-OFDM	MIMO	64QAM	0.327	25.14	48M1D7W
						QPSK	0.494	26.94	47M5G7W
						16QAM	0.417	26.20	47M4D7W
				DFTs-OFDM	SISO Dual Pol	64QAM	0.261	24.17	47M3D7W
						11/2 BPSK	1.196	30.78	48M3G7W
						QPSK	1.313	31.18	48M3G7W
		50+50	2	CP-OFDM	SISO	16QAM	0.732	28.65	48M2D7W
						64QAM	0.504	27.02	44M8D7W
						QPSK	0.105	20.20	97M7G7W
				DFTs-OFDM	SISO	16QAM	0.102	20.09	98M0D7W
						64QAM	0.065	18.14	97M3D7W
						11/2 BPSK	0.147	21.67	96M7G7W
				CP-OFDM	MIMO	QPSK	0.148	21.69	96M5G7W
						16QAM	0.148	21.69	96M5D7W
						64QAM	0.115	20.61	95M5D7W
				DFTs-OFDM	SISO Dual Pol	QPSK	0.172	22.34	97M2G7W
						16QAM	0.156	21.94	97M3D7W
						64QAM	0.103	20.11	97M3D7W
		50+50+50	3	CP-OFDM	SISO	11/2 BPSK	0.182	22.60	96M0G7W
						QPSK	0.190	22.79	96M5G7W
						16QAM	0.174	22.41	96M5D7W
				DFTs-OFDM	SISO	64QAM	0.148	21.71	96M0D7W
						QPSK	0.105	20.22	147M0G7W
						16QAM	0.104	20.17	148M0D7W
				CP-OFDM	MIMO	64QAM	0.067	18.29	148M0D7W
						11/2 BPSK	0.150	21.77	147M0G7W
						QPSK	0.151	21.78	147M0G7W
				DFTs-OFDM	SISO Dual Pol	16QAM	0.150	21.77	148M0D7W
						64QAM	0.121	20.82	147M0D7W
						QPSK	0.188	22.74	147M0D7W
		50+50+50+50	4	CP-OFDM	SISO	64QAM	0.163	22.13	147M0D7W
						QPSK	0.110	20.41	187M0G7W
						16QAM	0.107	20.30	187M0D7W
				DFTs-OFDM	SISO	64QAM	0.069	18.37	198M0D7W
						11/2 BPSK	0.150	21.76	187M0G7W
						QPSK	0.150	21.75	187M0G7W
				CP-OFDM	MIMO	16QAM	0.151	21.78	187M0D7W
						64QAM	0.118	20.72	187M0D7W
						QPSK	0.159	22.03	187M0G7W
				DFTs-OFDM	SISO Dual Pol	16QAM	0.152	21.83	187M0D7W
						64QAM	0.100	20.00	198M0D7W
						11/2 BPSK	0.154	21.87	196M0G7W
		100	1	CP-OFDM	SISO	QPSK	0.151	21.78	187M0G7W
						16QAM	0.152	21.81	196M0D7W
						64QAM	0.118	20.73	187M0D7W
				DFTs-OFDM	SISO	QPSK	0.281	24.48	99M1D7W
						16QAM	0.221	23.44	96M0D7W
						64QAM	0.139	21.44	96M0D7W
				CP-OFDM	MIMO	11/2 BPSK	0.775	28.89	94M4G7W
						QPSK	0.802	29.04	94M5G7W
						16QAM	0.449	26.52	91M4D7W
				DFTs-OFDM	SISO Dual Pol	64QAM	0.312	24.94	93M2D7W
						QPSK	0.480	26.81	95M3G7W
						16QAM	0.389	25.90	94M8D7W
				CP-OFDM	MIMO	64QAM	0.247	23.92	94M5D7W
						11/2 BPSK	1.049	30.21	91M5G7W
				DFTs-OFDM	SISO Dual Pol	QPSK	1.106	30.44	91M7G7W
						16QAM	0.624	27.95	93M0D7W
						64QAM	0.432	26.35	91M8D7W
		100+100	2	CP-OFDM	SISO	QPSK	0.117	20.69	193M0G7W
						16QAM	0.113	20.53	194M0D7W
						64QAM	0.071	18.52	195M0D7W
				DFTs-OFDM	SISO	11/2 BPSK	0.155	21.90	193M0D7W
						QPSK	0.152	22.02	191M0D7W
						16QAM	0.152	21.83	191M0D7W
				CP-OFDM	MIMO	64QAM	0.123	20.91	192M0D7W
						QPSK	0.188	22.75	194M0G7W
						16QAM	0.191	22.81	194M0D7W
				DFTs-OFDM	SISO Dual Pol	64QAM	0.122	20.86	194M0D7W
						11/2 BPSK	0.203	23.07	192M0G7W
						QPSK	0.206	23.13	192M0G7W
						16QAM	0.186	22.70	191M0D7W
		100+100+100	3	CP-OFDM	SISO	64QAM	0.165	22.18	192M0D7W
						QPSK	0.109	20.36	298M0G7W
						16QAM	0.108	20.33	298M0D7W
				DFTs-OFDM	SISO	64QAM	0.070	18.42	298M0D7W
						11/2 BPSK	0.150	21.77	297M0G7W
						QPSK	0.151	21.78	297M0G7W
				CP-OFDM	MIMO	16QAM	0.150	21.77	295M0D7W
						64QAM	0.121	20.82	297M0D7W
						QPSK	0.189	22.74	298M0G7W
				DFTs-OFDM	SISO Dual Pol	16QAM	0.116	20.64	297M0D7W
						64QAM	0.070	18.43	300M0D7W
						11/2 BPSK	0.195	22.90	296M0G7W
		100+100+100+100	4	CP-OFDM	SISO	QPSK	0.204	23.10	294M0G7W
						16QAM	0.140	21.46	295M0D7W
						64QAM	0.115	20.61	296M0D7W
				DFTs-OFDM	SISO	QPSK	0.117	20.67	394M0G7W
						16QAM	0.109	20.38	394M0D7W
						64QAM	0.073	18.63	395M0D7W
				CP-OFDM	MIMO	11/2 BPSK	0.155	21.91	393M0G7W
						QPSK	0.157	21.96	392M0G7W
						16QAM	0.155	21.90	392M0D7W
				DFTs-OFDM	SISO Dual Pol	64QAM	0.124	20.94	392M0D7W
						QPSK	0.149	21.73	397M0G7W
						16QAM	0.144	21.58	397M0D7W
						64QAM	0.105	20.22	395M0D7W
				CP-OFDM	MIMO	11/2 BPSK	0.129	21.11	397M0D7W
						QPSK	0.174	22.41	396M0G7W
						16QAM	0.214	23.31	391M0D7W
				DFTs-OFDM	SISO Dual Pol	64QAM	0.112	20.48	394M0D7W

EUT Overview (Band n260)

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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.

1.2 Element Washington DC LLC Test Location

These measurement tests were conducted at the Element Washington DC LLC 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.

- Element Washington DC LLC 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 Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Washington DC LLC facility is a registered (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 Recognition Agreement.

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Tablet Device FCC ID: BCGA2764**. The test data contained in this report pertains only to the emissions due to the EUT's 5G mmWave function.

Test Device Serial No.: FQ5P40N6C3, M4PP7XVT6F, D95V7V6MXH, H4X7969512, C44HXQPHV7

2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, 5G NR (FR1/FR2), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII, 802.11a/ax WiFi 6E, Bluetooth (1x, EDR, LE1M, LE2M, HDR4, HDR8), WPT, NB UNII (1x, HDR4, HDR8)

This device supports BT Beamforming

The EUT supports up to 4CC for UL. For each CC, the EUT supports both 50MHz bandwidth and 100MHz bandwidth. The EUT supports a subcarrier spacing (SCS) of 120kHz with two transmission schemes, CP-OFDM and DFT-s-OFDM, with pi/2-BPSK, QPSK, 16-QAM, and 64-QAM modulations. Different Beam IDs are supported, each corresponding to a different position in space for each antenna.

EUT supports both CP-OFDM and DFTs-OFDM waveforms. Below are the possible FR2 configurations. Throughout the report "SISO Dual Pol" term is used for MIMO DFTs-OFDM configuration.

FR2 Configurations		SISO CP-OFDM			SISO DFTs-OFDM			MIMO CP-OFDM			SISO Dual Pol (MIMO DFTs-OFDM)		
		Ant M0	Ant M2	Ant M3	Ant M0	Ant M2	Ant M3	Ant M0	Ant M2	Ant M3	Ant M0	Ant M2	Ant M3
n258	24.25-24.45GHz 24.75-25.25GHz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
n261	27.5-28.35 GHz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
n260	37-40 GHz	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2-1. FR2 Configurations

✓ = Support ; ✗ = NOT Support

SISO = Single Input Single Output

MIMO = Multiple Input Multiple Output

CP-OFDM = Cyclic Prefix – Orthogonal Frequency Division Multiplexing

DFTs-OFDM = Discrete Fourier Transform Spread – Orthogonal Frequency Division Multiplexing

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2.3 Antenna Description

The EUT contains three patch antennas, referred to herein as Ant M0, Ant M2 and Ant M3. Different Beam IDs are supported, each corresponding to a different position in space for each antenna. OEM provided Beam IDs using EIRP Simulation that yields highest EIRP for each antenna per FR2 band. Below are the worst case Beam IDs per manufacturer.

Band n261		
Antenna	Peak Beam ID	Paired Beam ID
Ant M0	58	186
Ant M2	36	164
Ant M3	41	169

Table 2-2. Band n261 Worst Case Beam IDs

Band n260		
Antenna	Peak Beam ID	Paired Beam ID
Ant M0	60	188
Ant M2	51	179
Ant M3	55	183

Table 2-3. Band n260 Worst Case Beam IDs

Band n258		
Antenna	Peak Beam ID	Paired Beam ID
Ant M0	59	187
Ant M2	37	165
Ant M3	54	182

Table 2-4. Band n258 Worst Case Beam IDs

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: Spartan	S/N: 000MKTR02U
3	USB-C Cable	Model: A246	S/N: N/A
	w/ AC Adapter	Model: A2305	S/N: N/A
4	Apple Pencil	Model: N/A	S/N: GQXGSXBJKM9
5	DC Power Supply	Model: KPS3010D	S/N: N/A

Table 2-5. Test Support Equipment List

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2.5 Test Configuration

The EUT was tested per the guidance of ANSI C63.26-2015 and KDB 842590 D01 v01r02. See Section 7.0 of this test report for a description of the radiated tests.

During testing, non-signaling standalone mode was used to operate the transmitter. Peak Beam ID was used for SISO operation and MIMO operation was achieved by enabling two Beam IDs at the same time, one Peak Beam ID and one corresponding Paired Beam ID, as provided in Section 2.3. Worst case Beam IDs yielding highest EIRP was used for all testing provided in this report.

2.6 Software and Firmware

The test was conducted with firmware version 20A8359 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 Measurement Procedure

The measurement procedures described in the document titled "American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services" (ANSI C63.26-2015) and the guidance provided in KDB 842590 D01 v01r02 were used in the measurement of the EUT.

3.2 Radiated Power and Radiated Spurious Emissions

§30.202, §30.203

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements from 30MHz - 18GHz, when necessary for radiated emissions measurements in the spurious domain. 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 for measurements above 1GHz.

Radiated power (EIRP) measurements and radiated spurious emissions above 18GHz were performed in a Shielded Anechoic Chamber conforming to the site validation requirements of CISPR 16-1-4 (Figure 3-5). RSE Measurements from 9kHz - 18GHz were performed in a semi anechoic chamber (SAC) conforming to the site validation requirements of CISPR 16-1-4 (Figure 3-2, Figure 3-3, and Figure 3-4). A positioner was used to manipulate the EUT through several positions in space by rotating about the roll axis as shown in the figure below. The positioner was mounted on top of a turntable bringing the total EUT height to 1.5m.

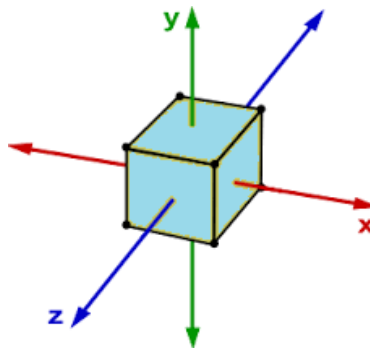


Figure 3-1. Rotation of the EUT Through Three Orthogonal Planes

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 (Figure 3-2) 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.

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Test Site Diagrams

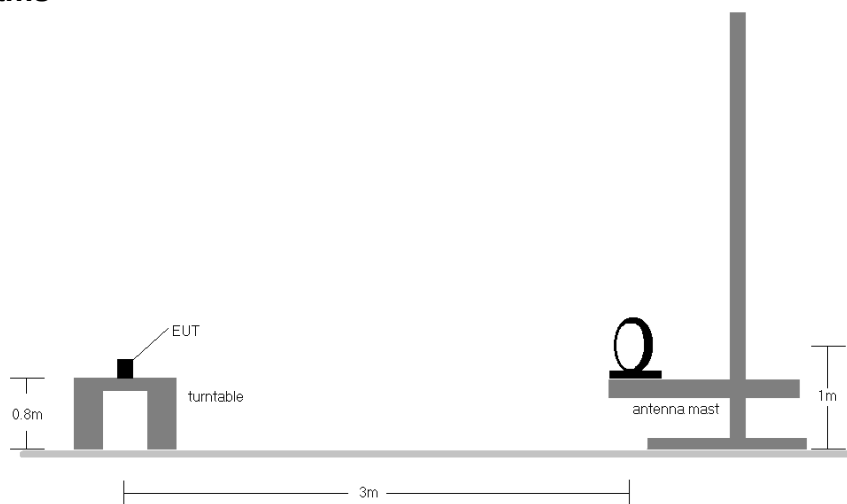


Figure 3-2. Test Site Diagram (9kHz - 30MHz)

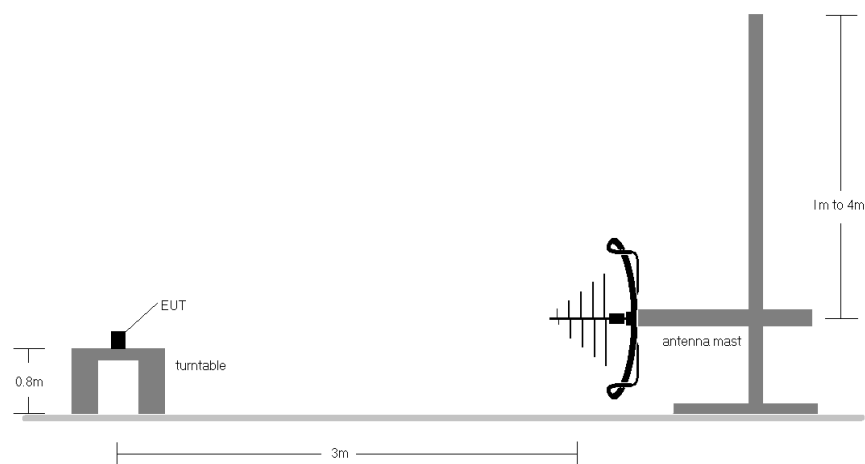


Figure 3-3. Test Site Diagram (30MHz - 1GHz)

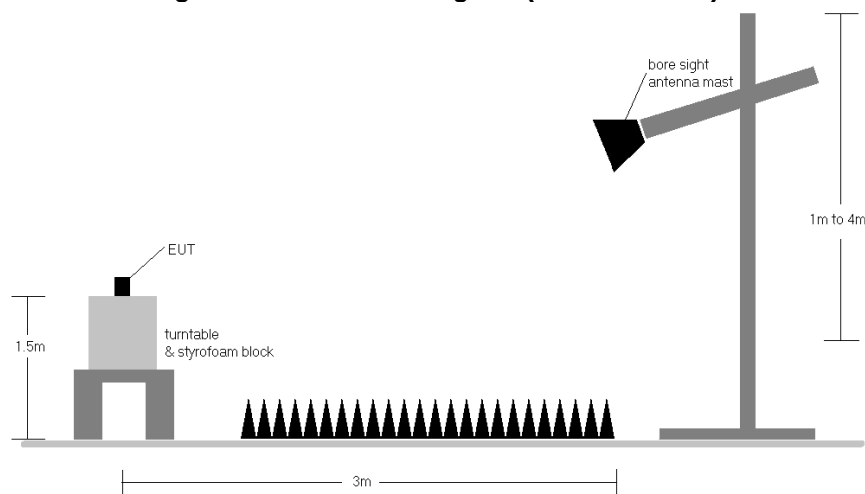


Figure 3-4. Test Site Diagram (1GHz - 18GHz)

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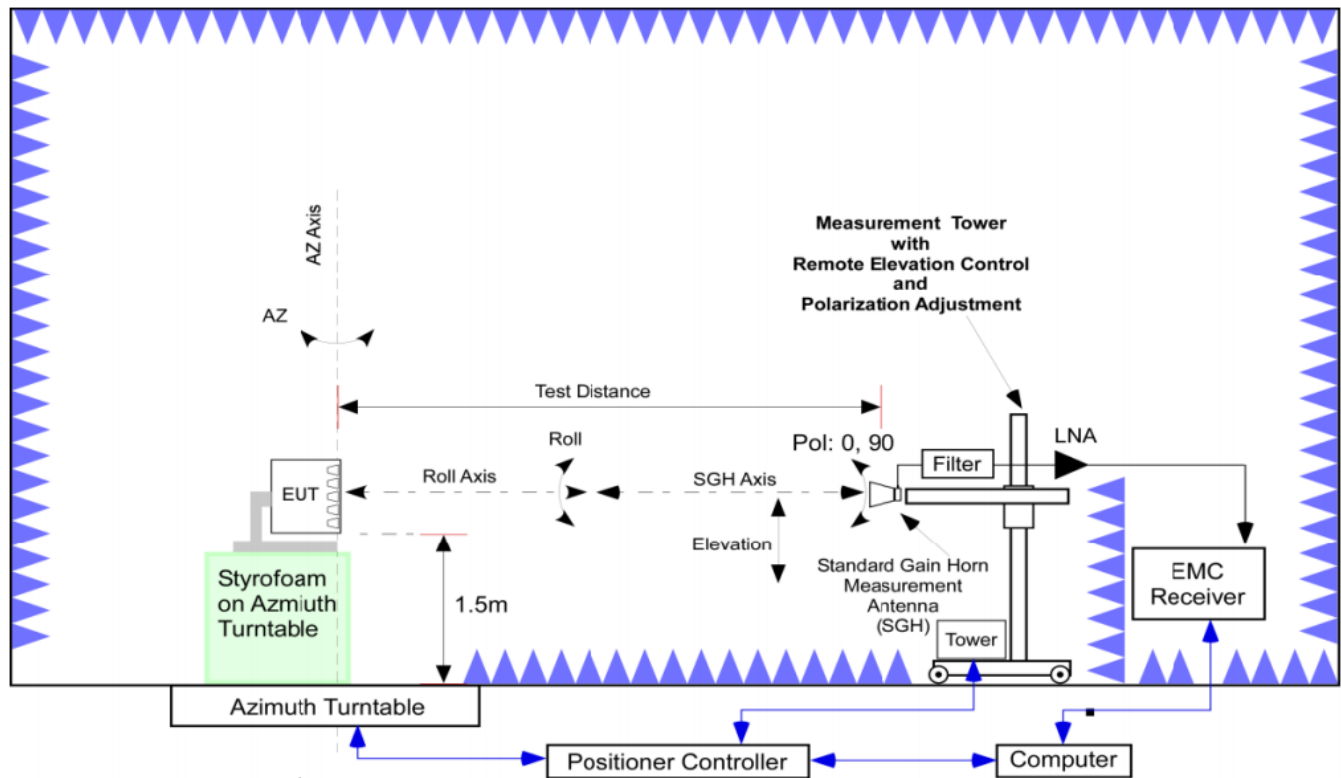


Figure 3-5. Test Site Diagram (Above 18GHz)

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable. The measurement antenna is in the far field of the EUT per formula $2D^2/\lambda$ where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, "D" is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer.

Frequency Range (GHz)	Wavelength (cm)	Farfield Distance (m)	Measurement Distance (m)
18-40	0.750	0.65	1.00
40-60	0.500	0.99	1.00
60-90	0.333	0.71	1.00
90-140	0.214	0.54	1.00
140-200	0.150	0.32	1.00

Table 3-1. Far-Field Distance & Measurement Distance per Frequency Range

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Radiated power levels are investigated while the receive antenna was rotated through all angles to determine the worst case polarization/positioning.

The maximized power level is recorded using the spectrum analyzer “Channel Power” function with the integration bandwidth set to the emissions’ occupied bandwidth. The EIRP is calculated from the raw power level measured with the spectrum analyzer using the formulas shown below.

Effective Isotropic Radiated Power Sample Calculation

For Effective Isotropic Radiated Power (EIRP) 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:

$$\begin{aligned}\text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured amplitude level}_{[\text{dBm}]} + \text{Antenna Factor}_{[\text{dB/m}]} + \text{Cable Loss}_{[\text{dB}]} + 107; \\ &= -32.74 \text{ dBm} + 40.7 \text{ dB/m} + 8.78 \text{ dB} + 107 = 123.74 \text{ dB}\mu\text{V/m} \\ \text{e.i.r.p. [dBm]} &= \text{Field Strength}_{[\text{dB}\mu\text{V/m}]} + 20\log_{10}(D) - 104.8; \\ &= 123.74 - 104.8 \\ &= 18.94 \text{ dBm}\end{aligned}$$

Where D is the measurement distance in meters and D=1m in above example.

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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)
Radiated Disturbance (<30MHz)	4.38
Radiated Disturbance (30MHz-1GHz)	4.75
Radiated Disturbance (1GHz-18GHz)	5.20
Radiated Disturbance (>18GHz)	5.71

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5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to an accredited ISO/IEC 17025 calibration facility. 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	6/10/2022	Annual	6/10/2023	MY49430244
ATM	180-442A-KF	20dB Nominal Gain Horn Antenna	1/19/2022	Annual	1/19/2023	T058701-02
ESPEC	SU-241	Tabletop Temperature Chamber	10/26/2021	Annual	10/26/2022	92009574
ETS-Lindgren	3142E	BiConiLog Antenna (30MHz - 6GHz)	10/21/2021	Annual	10/21/2022	208204
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	5/11/2022	Annual	5/11/2023	205956
Eravant	SAR-2309-19-S2	WR-19 Horn Antenna, 23 dBi Gain (40-60 GHz)	3/9/2022	Biennial	3/9/2024	17314-01
Eravant	SAR-2309-12-S2	WR-12 Horn Antenna, 23 dBi Gain (60-90 GHz)	3/9/2022	Biennial	3/9/2024	17315-01
Eravant	SAR-2309-08-S2	WR-08 Horn Antenna, 23 dBi Gain (90-140 GHz)	3/9/2022	Biennial	3/9/2024	01719-07
Eravant	SAR-2309-05-S2	WR-05 Horn Antenna, 23 dBi Gain (140-220 GHz)	3/9/2022	Biennial	3/9/2024	01672-15
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	1/6/2022	Annual	1/6/2023	102327
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	1/6/2022	Annual	1/6/2023	101639
Rohde & Schwarz	TS-PR1840	Pre-Amplifier (18GHz - 40GHz)	4/18/2022	Annual	4/18/2023	100050
Rohde & Schwarz	FSW43	Signal and Spectrum Analyzer	5/19/2022	Annual	5/19/2023	104093
Rohde & Schwarz	ESW44	EMI Test Receiver	1/10/2022	Annual	1/10/2023	101867
Rohde & Schwarz	HFH2-Z2	Loop Antenna	4/13/2022	Annual	4/13/2023	100546
Rohde & Schwarz	TC-TA18	Cross Polarized Vivaldi Antenna (400MHz-18GHz)	1/25/2022	Annual	1/25/2023	101063
Virginia Diodes Inc	SAX	SAX Module (40-60 GHz)	1/12/2021	Biennial	1/12/2023	SAX 782
Virginia Diodes Inc	SAX	SAX Module (60-90 GHz)	11/25/2020	Biennial	11/25/2022	SAX 783
Virginia Diodes Inc	SAX	SAX Module (90-140 GHz)	12/2/2020	Biennial	12/2/2022	SAX 784
Virginia Diodes Inc	SAX	SAX Module (140-220 GHz)	2/3/2021	Biennial	2/3/2023	SAX 785

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 = 800MG7W

BW = 800 MHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination of any

QAM Modulation

Emission Designator = 802MD7W

BW = 802 MHz

D = Amplitude/Angle Modulated

7 = Quantized/Digital Info

W = Combination of any

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7.0 TEST RESULTS

7.1 Summary

Company Name: Apple Inc.
 FCC ID: BCGA2764
 FCC Classification: Part 30 Mobile Transmitter (5GM)
 Mode(s): TDD

Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
RADIATED	Occupied Bandwidth	2.1049	N/A	PASS	Section 7.2
	Equivalent Isotropic Radiated Power	2.1046, 30.202	43 dBm	PASS	Section 7.3
	Spurious Emissions	2.1053, 30.203	-13 dBm/MHz for all out-of-band emissions	PASS	Section 7.4
	Out-of-Band Emissions at the Band Edge	30.203	-13 dBm/MHz for all out-of-band emissions, -5dBm/MHz from the band edge up to 10% of the channel BW	PASS	Section 7.5
	Frequency Stability	2.1055	Fundamental emissions stay within authorized frequency block over the temperature and voltage range as tested	PASS	Section 7.6

Table 7-1. Summary of Radiated Test Results

Notes:

- 1) All modes of operation and modulations were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) This report contains references to "n258-R1" and "n258-R2". These correspond to n258 Range 1, operating from 24.25 – 24.45GHz, and n258 Range 2, operating from 24.75 – 25.25GHz, respectively, as defined in Part 30.4(a).
- 3) Per 2.1057(a)(2), spurious emissions were investigated up to 100GHz for n258-R1, n258-R2 and n261. Per 2.1057(a)(3), spurious emissions were investigated up to 200GHz for n260.
- 4) "CC" refers to "Component Carriers".
- 5) OEM provided worst Beam IDs using EIRP Simulation that yields highest EIRP were used for testing.
- 6) All testing was performed using non-signaling standalone mode at continuous Tx operation (100% duty cycle).
- 7) The CP-OFDM and DFT-s-OFDM transmission schemes were investigated fully for each test type and only the worst case data is included.
- 8) 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, antenna factor, and distance correction.

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7.2 Occupied Bandwidth

S2.1049

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.

Test Procedure Used

ANSI C63.26-2015 Section 5.4.3
KDB 842590 D01 v01r02 Section 4.3

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied 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 Notes

1. The EUT supports CP-OFDM and DFT-s-OFDM waveforms. All configurations were investigated and tabular data has been reported for all three antennas (M0, M2, M3).
2. Due to similar occupied bandwidth results between all three antennas, only Ant M0 occupied bandwidth plots have been included in this section.
3. The EUT and measurement equipment were set up as shown in the diagram in Figure 3-5.

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7.2.1 Band n258-R1

Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
50	1	Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	47.39
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	47.32
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	47.30
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	46.20
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	46.06
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	45.87
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	45.73
		Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	45.95
		Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	45.88
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	45.65
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	45.52
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	45.62
50+50	2	Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	45.44
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	45.56
		Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	97.03
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	96.88
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	97.03
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	95.62
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	96.21
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	95.67
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	95.57
		Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	95.39
		Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	94.99
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	94.84
50+50+50	3	Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	94.34
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	94.65
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	94.48
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	94.64
		Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	146.32
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	146.55
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	146.56
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	145.77
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	145.00
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	145.03
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	145.32
		Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	144.18
50+50+50+50	4	Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	144.70
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	144.42
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	144.62
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	143.65
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	143.69
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	143.79
		Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	196.14
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	196.60
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	196.22
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	194.95
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	194.65
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	194.39
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	194.74
50+50+50+50	4	Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	193.50
		Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	194.13
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	193.57
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	193.93
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	193.84
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	193.69
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	193.55

Table 7-2. Ant M0 Occupied Bandwidths (n258-R1 – 50MHz)

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Bandwidth (MHz)	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
100	1	Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	94.99
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	94.65
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	94.43
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	92.01
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	91.72
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	91.86
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	91.89
		Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	93.77
		Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	93.61
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	93.70
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	92.46
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	92.45
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	92.58
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	92.45
100+100	2	Mid	24349.92	CP-OFDM	QPSK	V	59	SISO	194.06
		Mid	24349.92	CP-OFDM	16QAM	V	59	SISO	193.83
		Mid	24349.92	CP-OFDM	64QAM	V	59	SISO	194.54
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59	SISO	191.03
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59	SISO	191.66
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59	SISO	190.94
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59	SISO	191.04
		Mid	24349.92	CP-OFDM	QPSK	V	59 + 187	MIMO	192.93
		Mid	24349.92	CP-OFDM	16QAM	V	59 + 187	MIMO	193.04
		Mid	24349.92	CP-OFDM	64QAM	V	59 + 187	MIMO	192.85
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	59 + 187	SISO Dual Pol	192.53
		Mid	24349.92	DFT-s-OFDM	QPSK	V	59 + 187	SISO Dual Pol	191.91
		Mid	24349.92	DFT-s-OFDM	16QAM	V	59 + 187	SISO Dual Pol	191.92
		Mid	24349.92	DFT-s-OFDM	64QAM	V	59 + 187	SISO Dual Pol	191.67

Table 7-3. Ant M0 Occupied Bandwidths (n258-R1 – 100MHz)

FCC ID: BCGA2764	 PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Bandwidth (MHz)	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
50	1	Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	47.40
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	47.31
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	47.31
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	46.00
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	45.94
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	45.92
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	45.84
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	47.63
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	47.41
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	47.63
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	46.28
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	46.18
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	46.24
50+50	2	Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	46.07
		Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	96.87
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	96.86
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	97.00
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	95.71
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	95.77
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	95.63
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	95.63
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	97.49
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	97.27
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	97.69
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	95.52
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	95.66
50+50+50	3	Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	95.81
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	96.02
		Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	146.31
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	146.41
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	146.54
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	144.97
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	145.03
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	145.12
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	145.02
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	147.03
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	147.08
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	147.26
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	145.38
50+50+50+50	4	Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	145.38
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	145.71
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	145.49
		Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	195.57
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	196.00
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	196.17
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	194.90
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	194.65
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	194.03
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	194.94
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	197.37
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	197.36
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	197.33
50+50+50+50	4	Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	196.55
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	196.06
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	196.14
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	196.10
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	195.10

Table 7-4. Ant M2 Occupied Bandwidths (n258-R1 – 50MHz)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device		Page 22 of 999

Bandwidth (MHz)	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
100	1	Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	94.73
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	94.33
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	94.62
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	91.93
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	91.43
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	91.77
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	91.86
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	94.93
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	94.53
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	94.57
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	91.22
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	90.96
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	91.15
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	91.49
100+100	2	Mid	24349.92	CP-OFDM	QPSK	H	37	SISO	193.75
		Mid	24349.92	CP-OFDM	16QAM	H	37	SISO	193.62
		Mid	24349.92	CP-OFDM	64QAM	H	37	SISO	193.75
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37	SISO	191.13
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37	SISO	191.40
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37	SISO	191.33
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37	SISO	191.20
		Mid	24349.92	CP-OFDM	QPSK	H	37 + 165	MIMO	193.47
		Mid	24349.92	CP-OFDM	16QAM	H	37 + 165	MIMO	193.83
		Mid	24349.92	CP-OFDM	64QAM	H	37 + 165	MIMO	193.60
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	H	37 + 165	SISO Dual Pol	190.84
		Mid	24349.92	DFT-s-OFDM	QPSK	H	37 + 165	SISO Dual Pol	191.09
		Mid	24349.92	DFT-s-OFDM	16QAM	H	37 + 165	SISO Dual Pol	190.59
		Mid	24349.92	DFT-s-OFDM	64QAM	H	37 + 165	SISO Dual Pol	191.21

Table 7-5. Ant M2 Occupied Bandwidths (n258-R1 – 100MHz)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device		Page 23 of 999

Bandwidth (MHz)	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
50	1	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	47.49
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	47.38
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	47.40
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	45.94
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	46.02
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	46.10
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	45.94
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	46.74
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	46.53
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	46.76
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	44.63
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	44.46
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	44.58
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	45.43
50+50	2	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	97.18
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	97.28
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	97.25
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	95.50
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	96.28
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	95.66
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	95.63
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	95.71
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	95.49
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	95.32
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	95.18
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	94.88
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	94.56
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	94.68
50+50+50	3	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	146.69
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	146.72
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	147.29
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	145.06
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	145.78
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	145.87
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	145.86
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	144.98
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	144.92
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	144.92
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	143.91
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	144.31
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	143.39
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	143.82
50+50+50+50	4	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	195.99
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	196.14
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	196.05
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	194.86
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	194.67
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	195.12
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	194.84
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	193.38
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	194.30
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	194.29
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	193.50
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	193.07
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	192.69
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	193.02

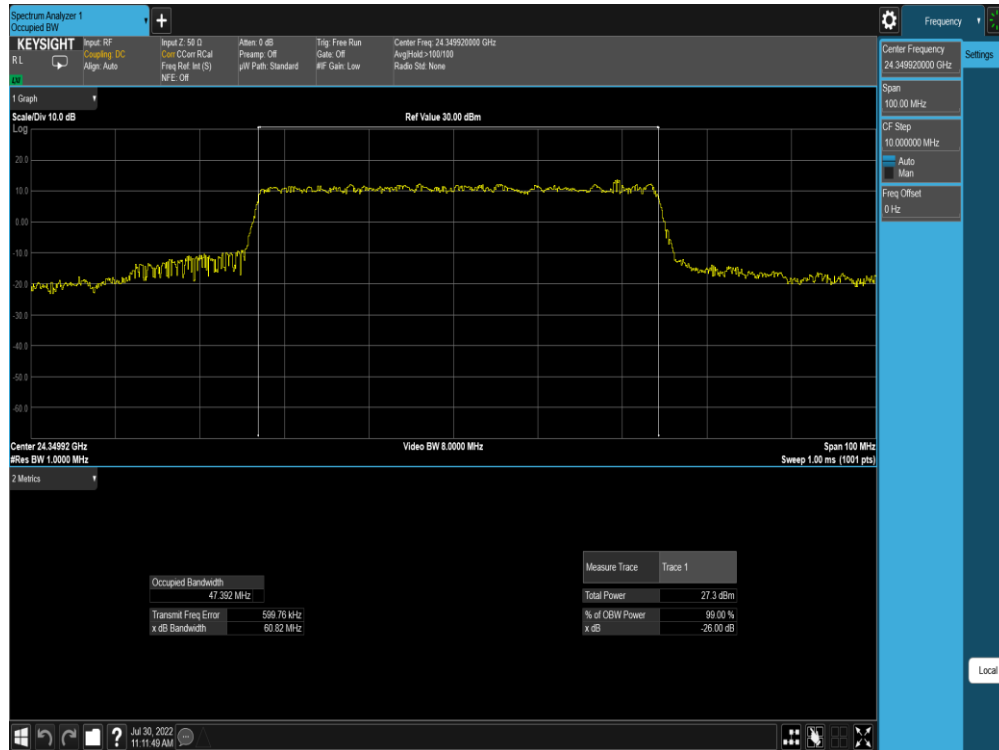
Table 7-6. Ant M3 Occupied Bandwidths (n258-R1 – 50MHz)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device		Page 24 of 999

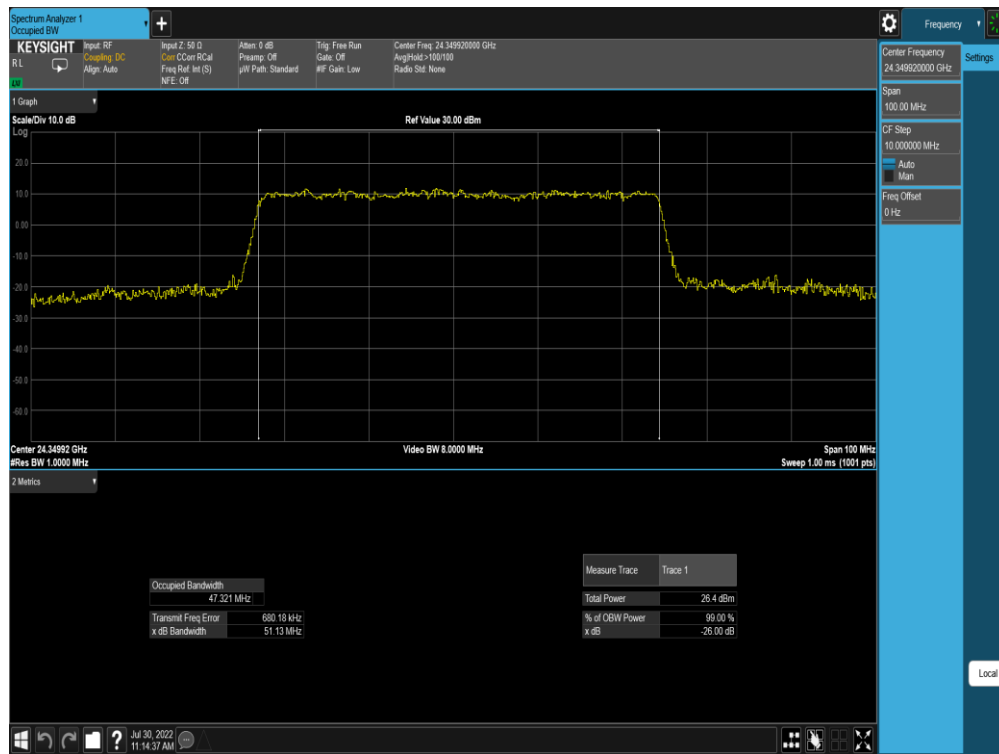
Bandwidth [MHz]	CCs Active	Channel	Frequency [MHz]	Waveform	Modulation	Beam Polarization	Beam ID	Antenna Diversity	OBW [MHz]
100	1	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	94.70
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	94.90
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	95.08
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	91.52
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	91.80
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	91.69
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	91.81
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	94.54
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	94.75
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	94.90
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	92.24
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	92.48
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	92.14
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	92.26
100+100	2	Mid	24349.92	CP-OFDM	QPSK	V	54	SISO	194.70
		Mid	24349.92	CP-OFDM	16QAM	V	54	SISO	194.59
		Mid	24349.92	CP-OFDM	64QAM	V	54	SISO	195.08
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54	SISO	190.95
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54	SISO	191.82
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54	SISO	191.64
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54	SISO	192.29
		Mid	24349.92	CP-OFDM	QPSK	V	54 + 182	MIMO	194.60
		Mid	24349.92	CP-OFDM	16QAM	V	54 + 182	MIMO	194.55
		Mid	24349.92	CP-OFDM	64QAM	V	54 + 182	MIMO	194.78
		Mid	24349.92	DFT-s-OFDM	$\pi/2$ BPSK	V	54 + 182	SISO Dual Pol	191.52
		Mid	24349.92	DFT-s-OFDM	QPSK	V	54 + 182	SISO Dual Pol	191.68
		Mid	24349.92	DFT-s-OFDM	16QAM	V	54 + 182	SISO Dual Pol	191.53
		Mid	24349.92	DFT-s-OFDM	64QAM	V	54 + 182	SISO Dual Pol	191.94

Table 7-7. Ant M3 Occupied Bandwidths (n258-R1 – 100MHz)

FCC ID: BCGA2764	 PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 25 of 999

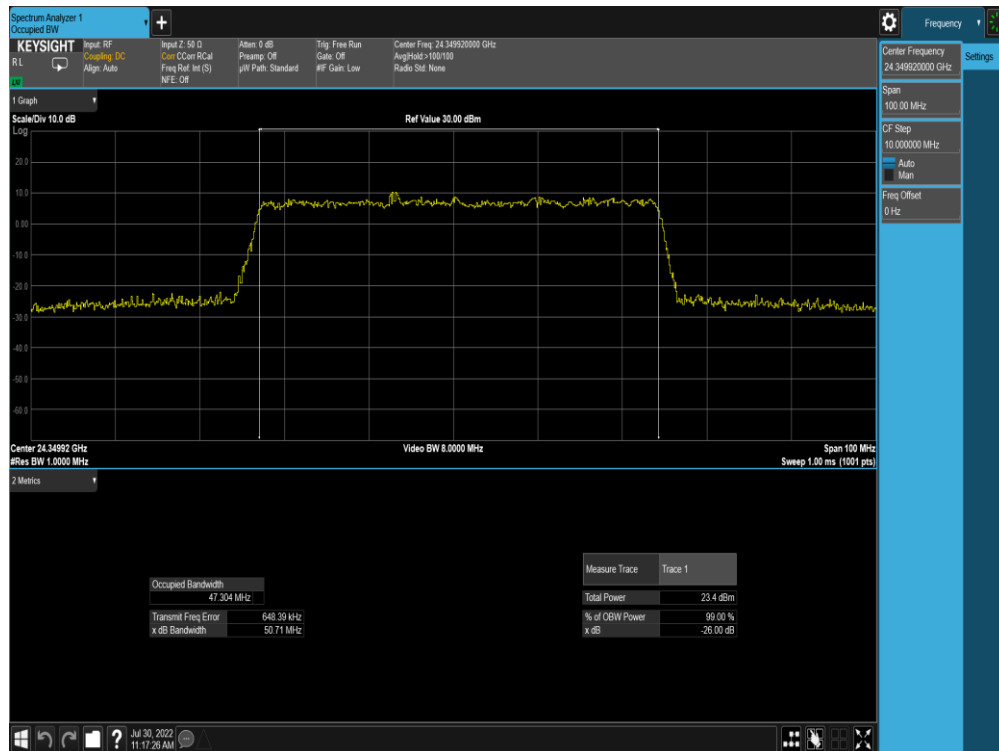


Plot 7-1. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO CP-OFDM – QPSK – Mid Channel)



Plot 7-2. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO CP-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 26 of 999

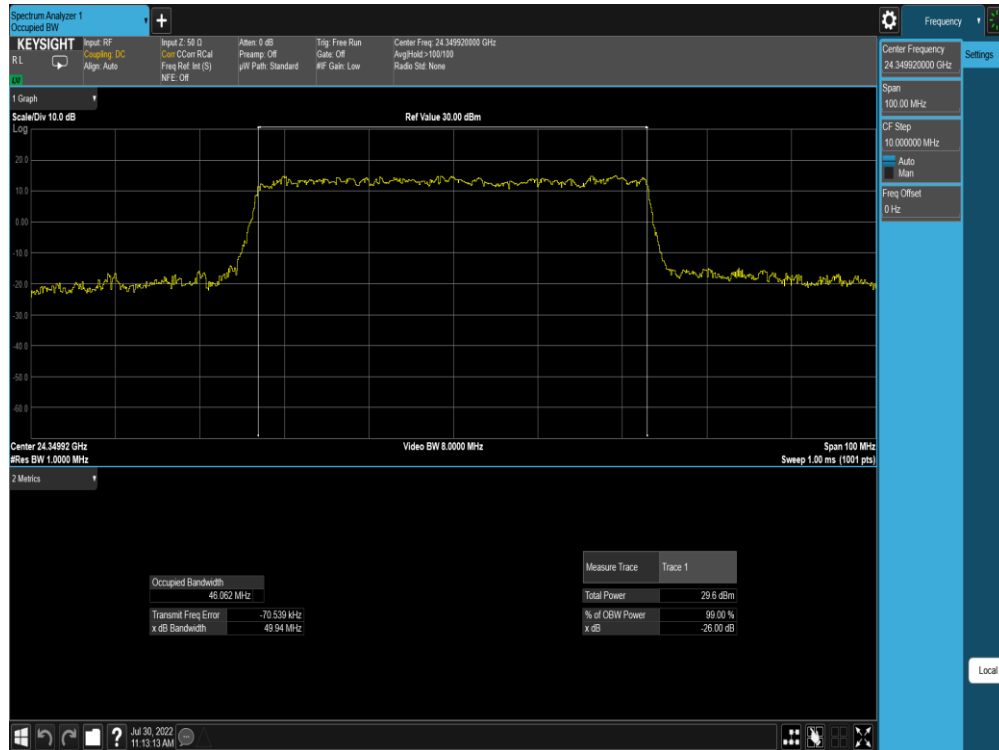


Plot 7-3. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO CP-OFDM – 64QAM – Mid Channel)

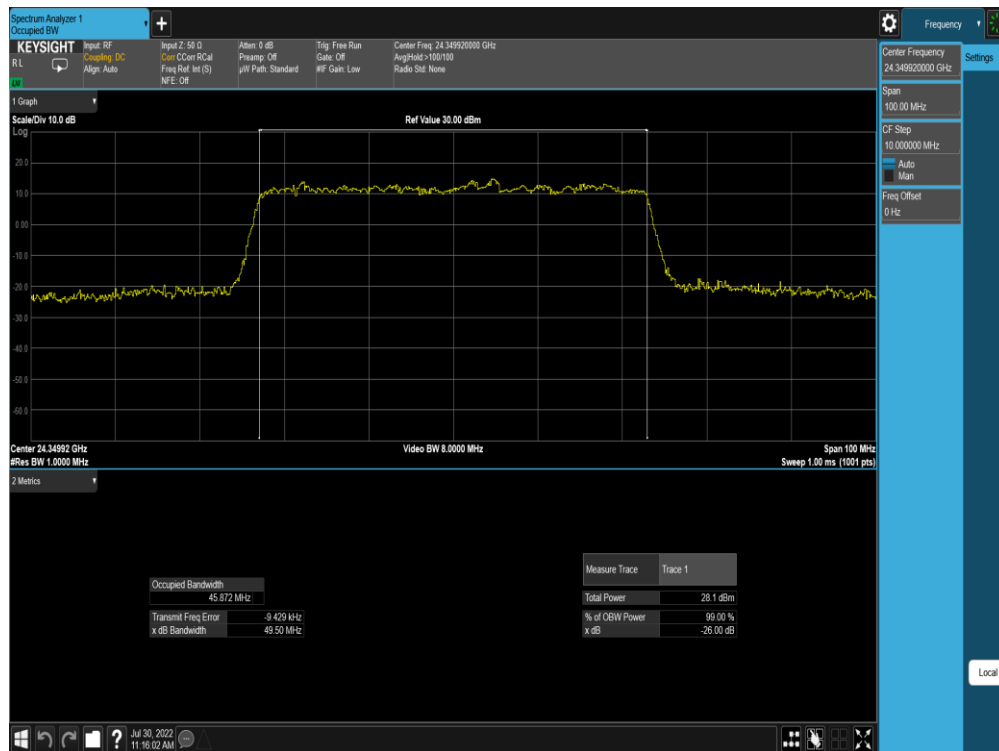


Plot 7-4. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO DFTs-OFDM – $\pi/2$ BPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 27 of 999

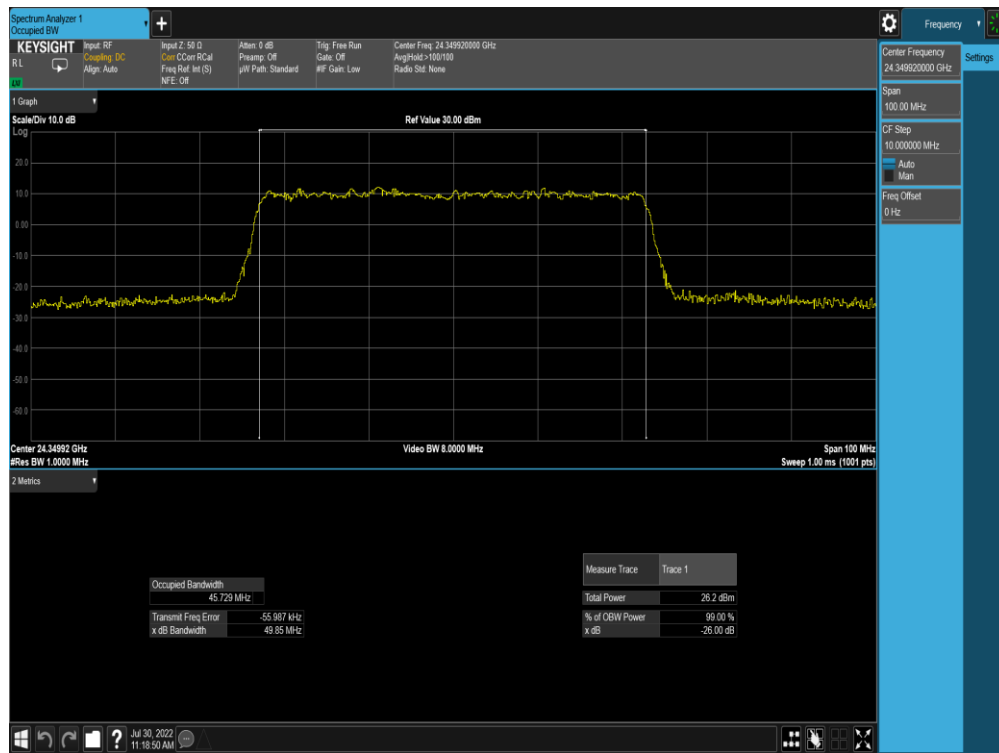


Plot 7-5. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO DFTs-OFDM – QPSK – Mid Channel)

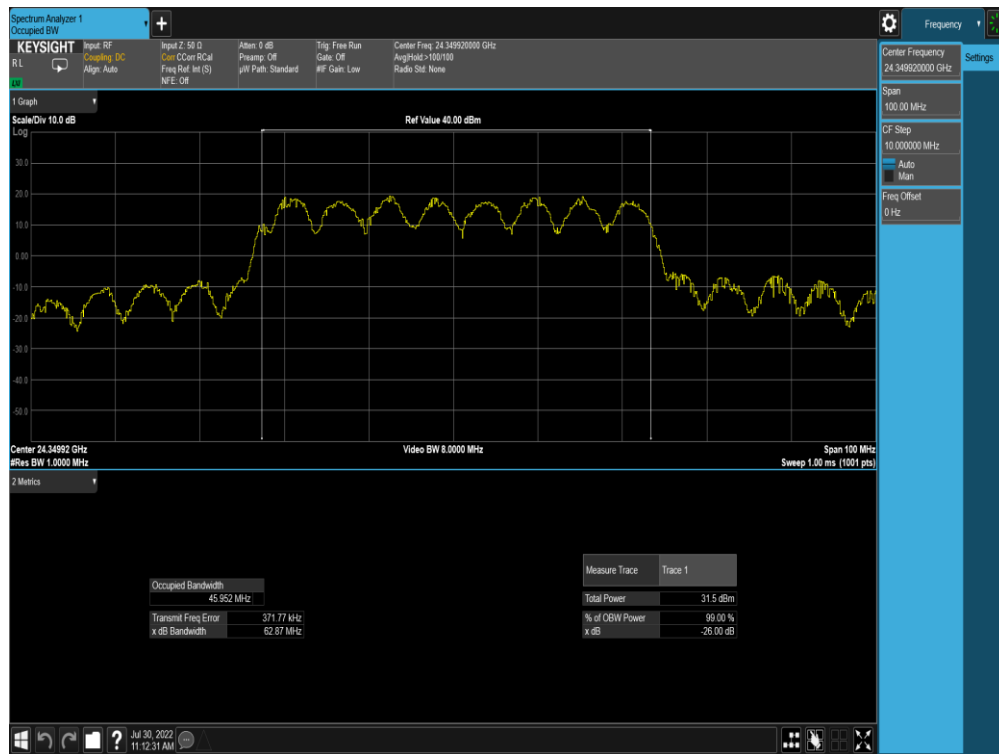


Plot 7-6. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO DFTs-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 28 of 999

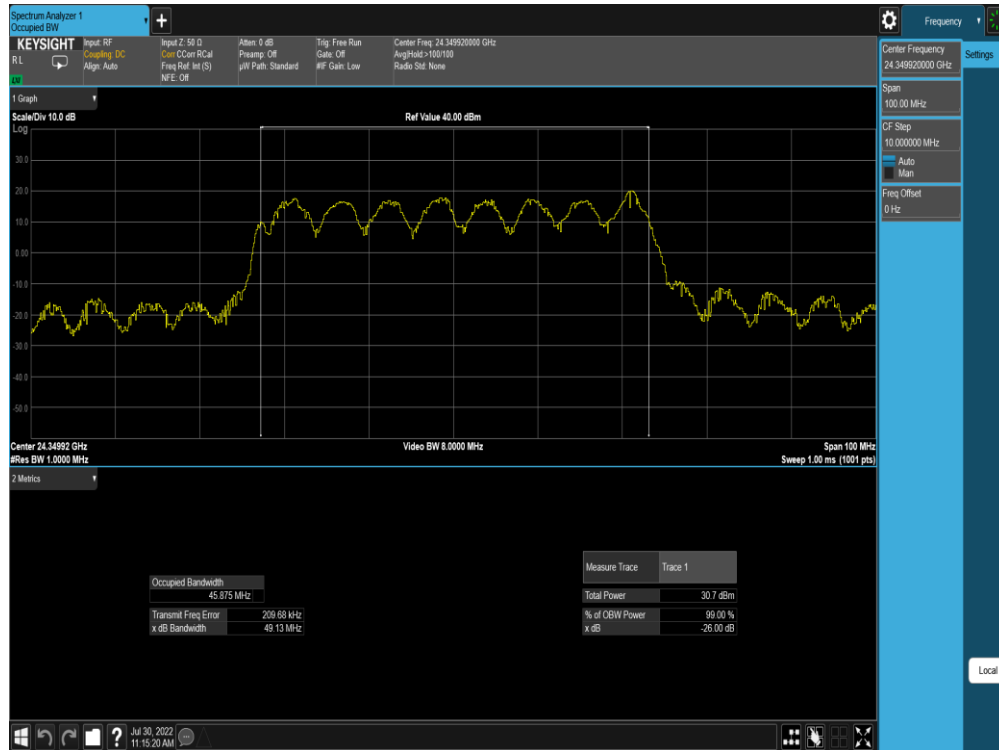


Plot 7-7. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO DFTs-OFDM – 64QAM – Mid Channel)

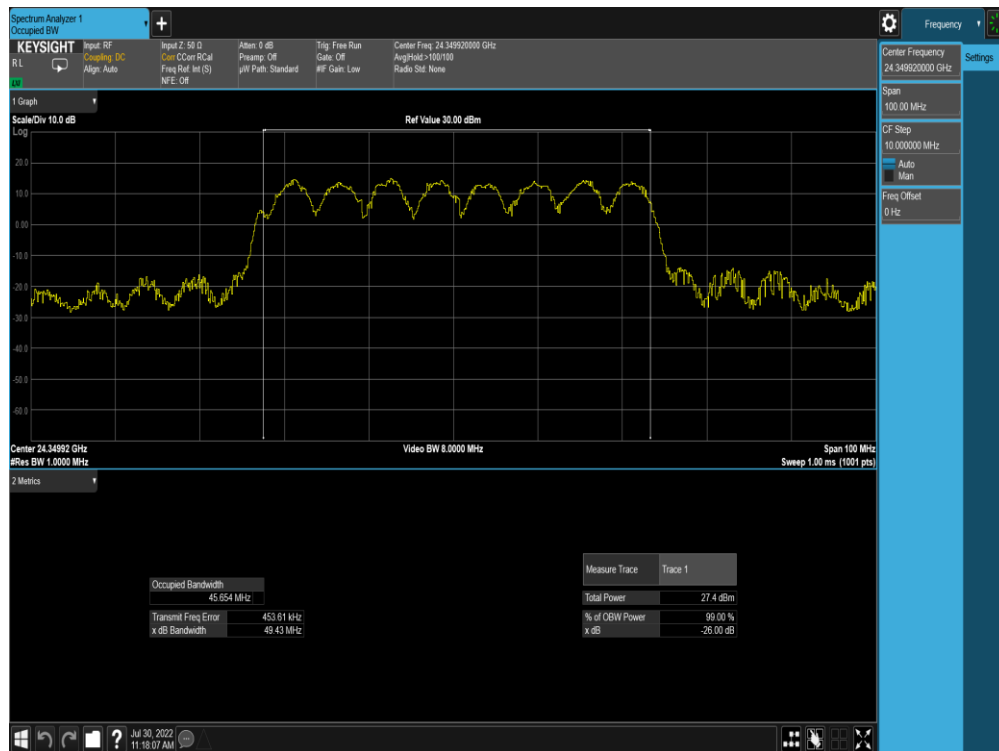


Plot 7-8. Ant M0 OBW (Band n258-R1-50MHz-1CC MIMO CP-OFDM – QPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 29 of 999

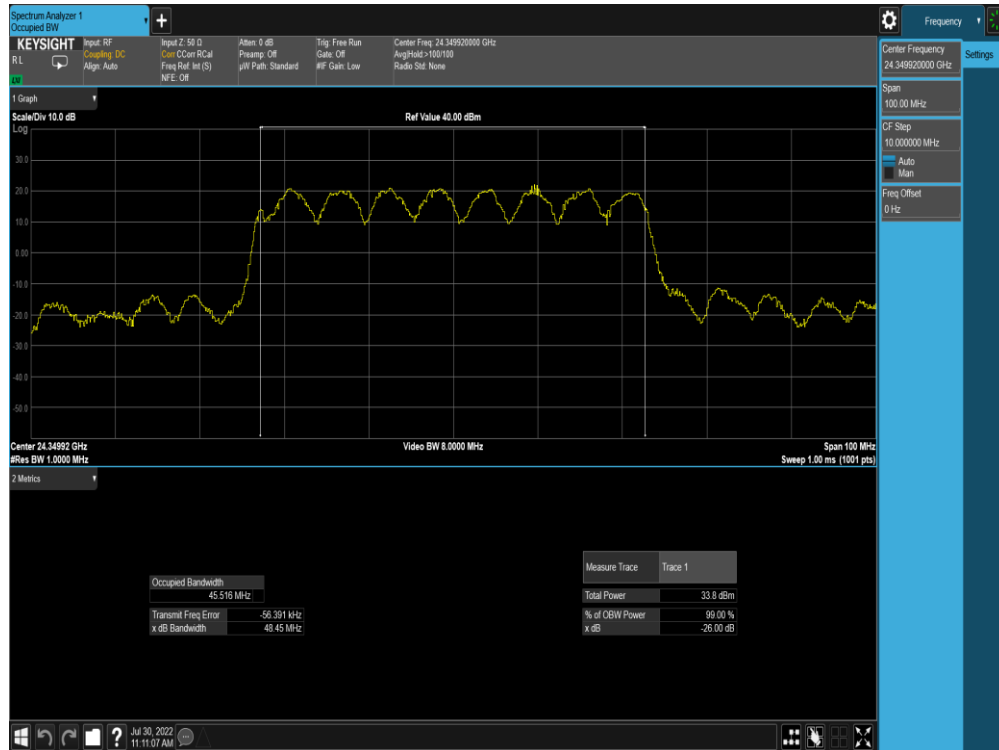


Plot 7-9. Ant M0 OBW (Band n258-R1-50MHz-1CC MIMO CP-OFDM – 16QAM – Mid Channel)



Plot 7-10. Ant M0 OBW (Band n258-R1-50MHz-1CC MIMO CP-OFDM – 64QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 30 of 999



Plot 7-11. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO Dual Pol DFTs-OFDM – $\pi/2$ BPSK – Mid Channel)

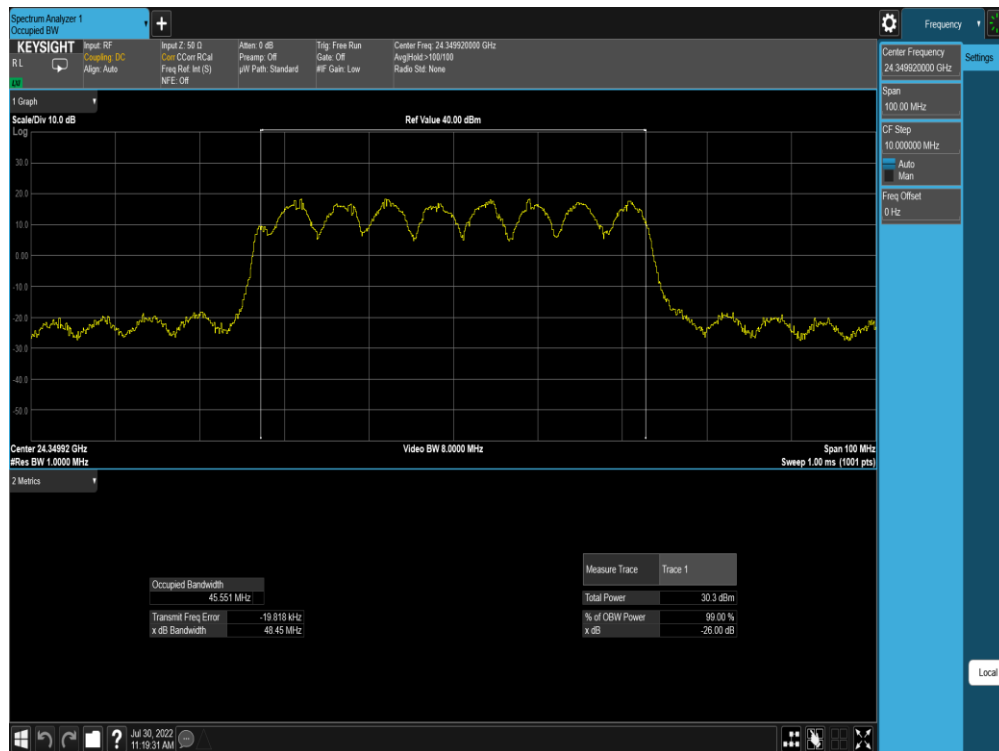


Plot 7-12. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO Dual Pol DFTs-OFDM – QPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 31 of 999

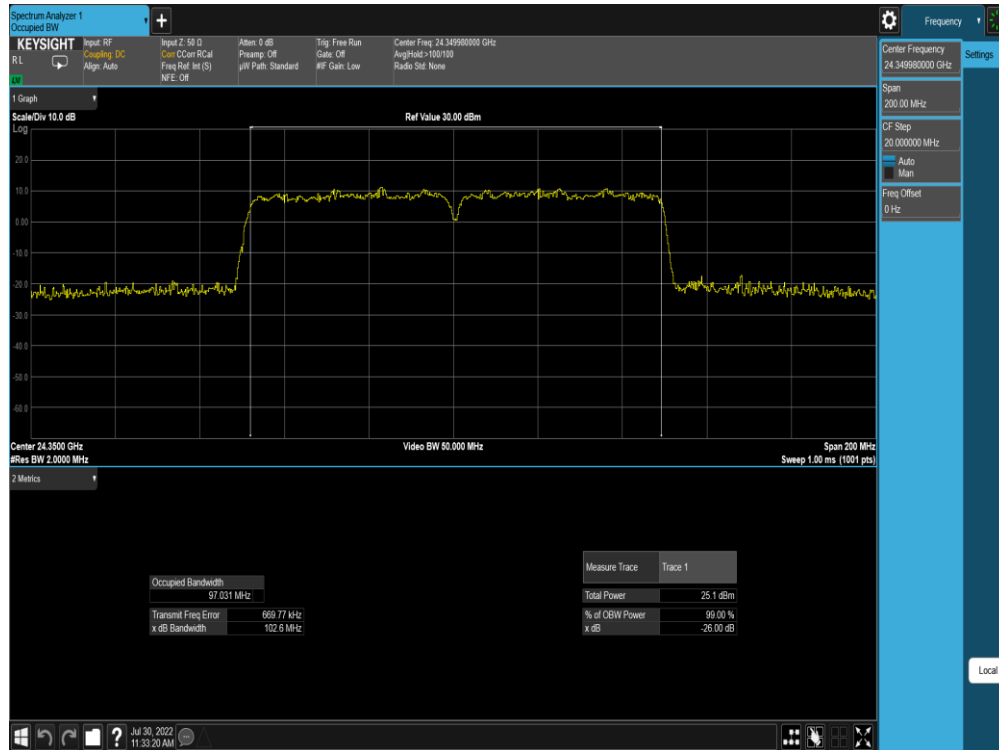


Plot 7-13. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO Dual Pol DFTs-OFDM – 16QAM – Mid Channel)



Plot 7-14. Ant M0 OBW (Band n258-R1-50MHz-1CC SISO Dual Pol DFTs-OFDM – 64QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 32 of 999

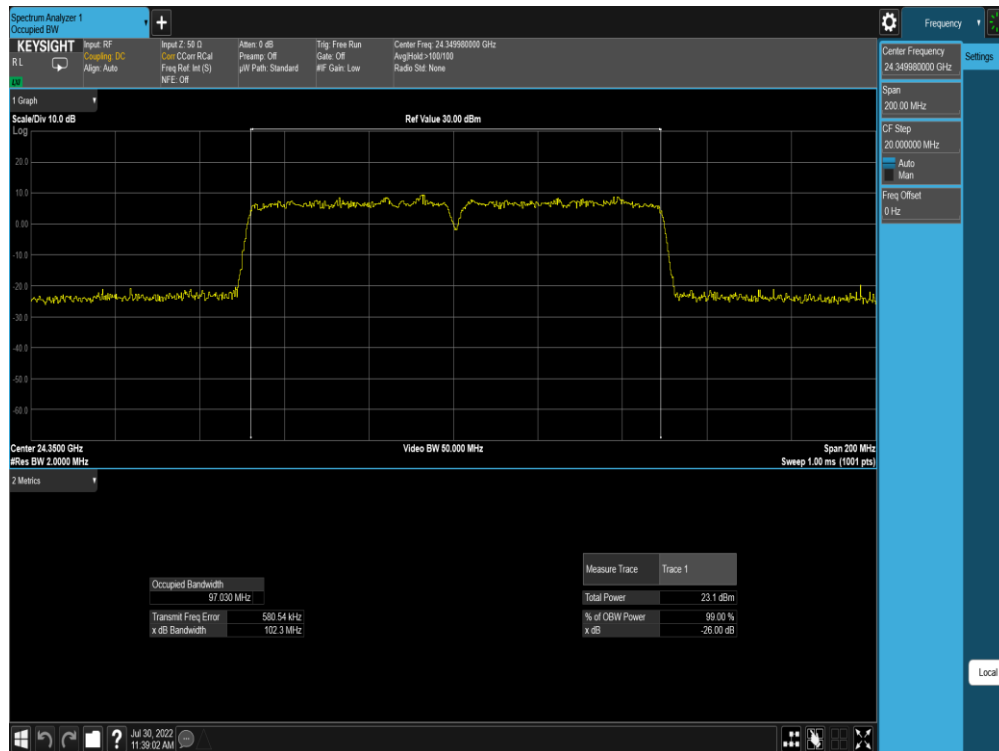


Plot 7-15. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO CP-OFDM – QPSK – Mid Channel)

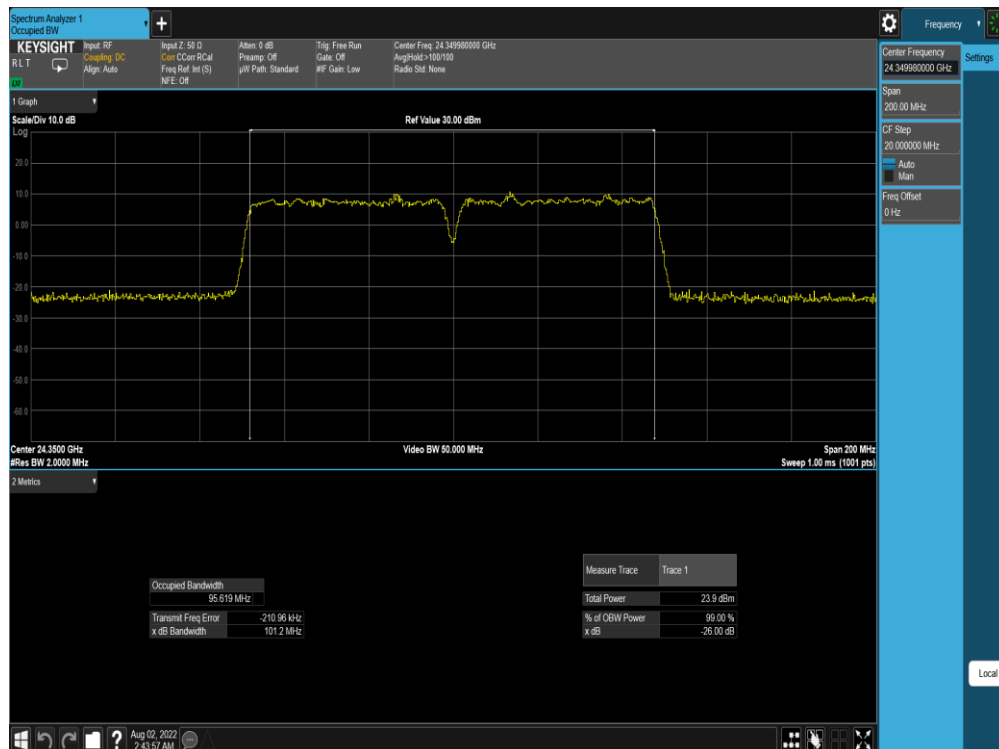


Plot 7-16. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO CP-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 33 of 999	

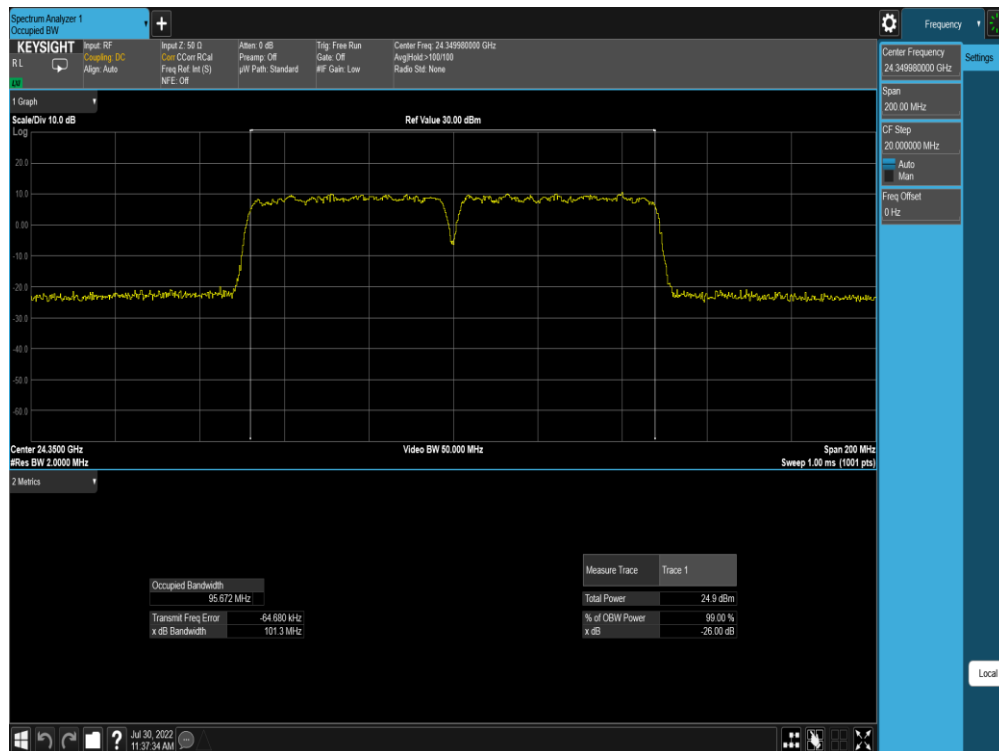


Plot 7-17. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO CP-OFDM – 64QAM – Mid Channel)

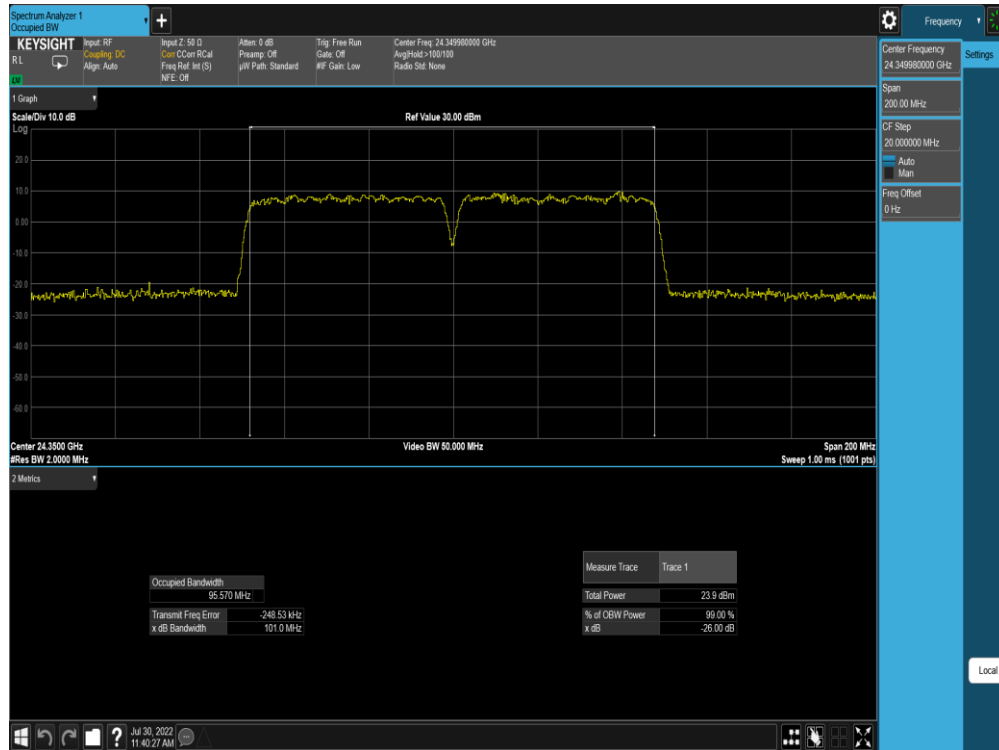


Plot 7-18. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO DFTs-OFDM – $\pi/2$ BPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 34 of 999



FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-21. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO DFTs-OFDM – 64QAM – Mid Channel)



Plot 7-22. Ant M0 OBW (Band n258-R1-50MHz-2CC MIMO CP-OFDM – QPSK – Mid Channel)

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Plot 7-23. Ant M0 OBW (Band n258-R1-50MHz-2CC MIMO CP-OFDM – 16QAM – Mid Channel)



Plot 7-24. Ant M0 OBW (Band n258-R1-50MHz-2CC MIMO CP-OFDM – 64QAM – Mid Channel)

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Plot 7-25. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO Dual Pol DFTs-OFDM – $\pi/2$ BPSK – Mid Channel)



Plot 7-26. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO Dual Pol DFTs-OFDM – QPSK – Mid Channel)

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Plot 7-27. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO Dual Pol DFTs-OFDM – 16QAM – Mid Channel)



Plot 7-28. Ant M0 OBW (Band n258-R1-50MHz-2CC SISO Dual Pol DFTs-OFDM – 64QAM – Mid Channel)

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Plot 7-29. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO CP-OFDM – QPSK – Mid Channel)

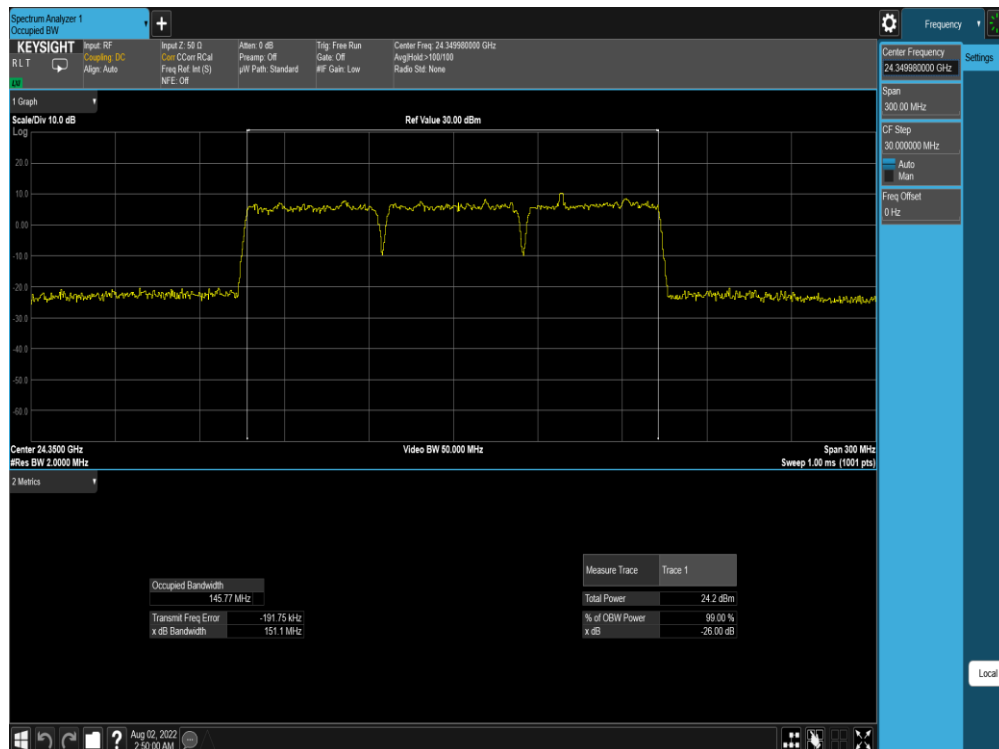


Plot 7-30. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO CP-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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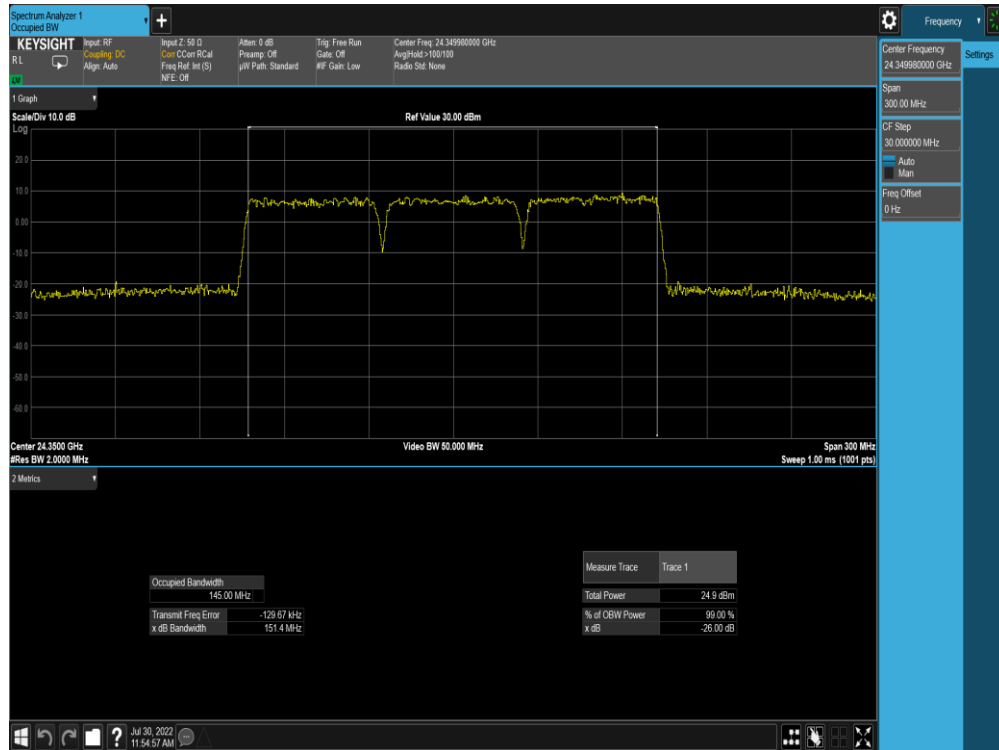


Plot 7-31. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO CP-OFDM – 64QAM – Mid Channel)



Plot 7-32. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO DFTs-OFDM – $\pi/2$ BPSK – Mid Channel)

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Plot 7-33. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO DFTs-OFDM – QPSK – Mid Channel)



Plot 7-34. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO DFTs-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-35. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO DFTs-OFDM – 64QAM – Mid Channel)



Plot 7-36. Ant M0 OBW (Band n258-R1-50MHz-3CC MIMO CP-OFDM – QPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-37. Ant M0 OBW (Band n258-R1-50MHz-3CC MIMO CP-OFDM – 16QAM – Mid Channel)



Plot 7-38. Ant M0 OBW (Band n258-R1-50MHz-3CC MIMO CP-OFDM – 64QAM – Mid Channel)

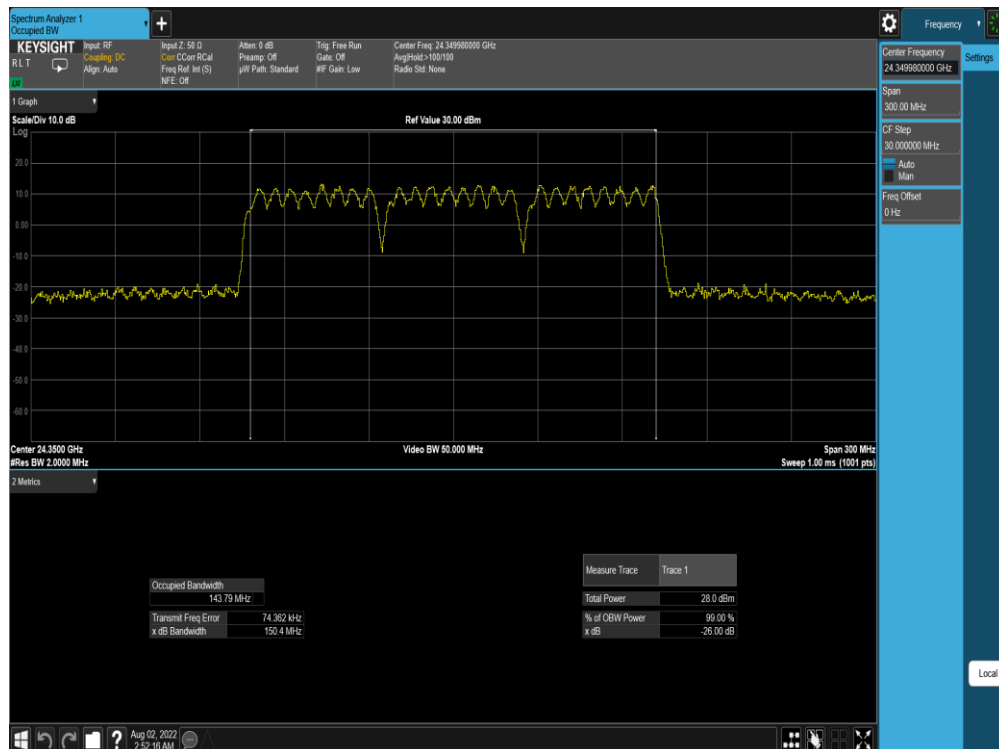
FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090028-06-R1.BCG	Test Dates: 5/30/2022 – 9/24/2022	EUT Type: Tablet Device	Page 44 of 999



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Plot 7-41. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO Dual Pol DFTs-OFDM – 16QAM – Mid Channel)



Plot 7-42. Ant M0 OBW (Band n258-R1-50MHz-3CC SISO Dual Pol DFTs-OFDM – 64QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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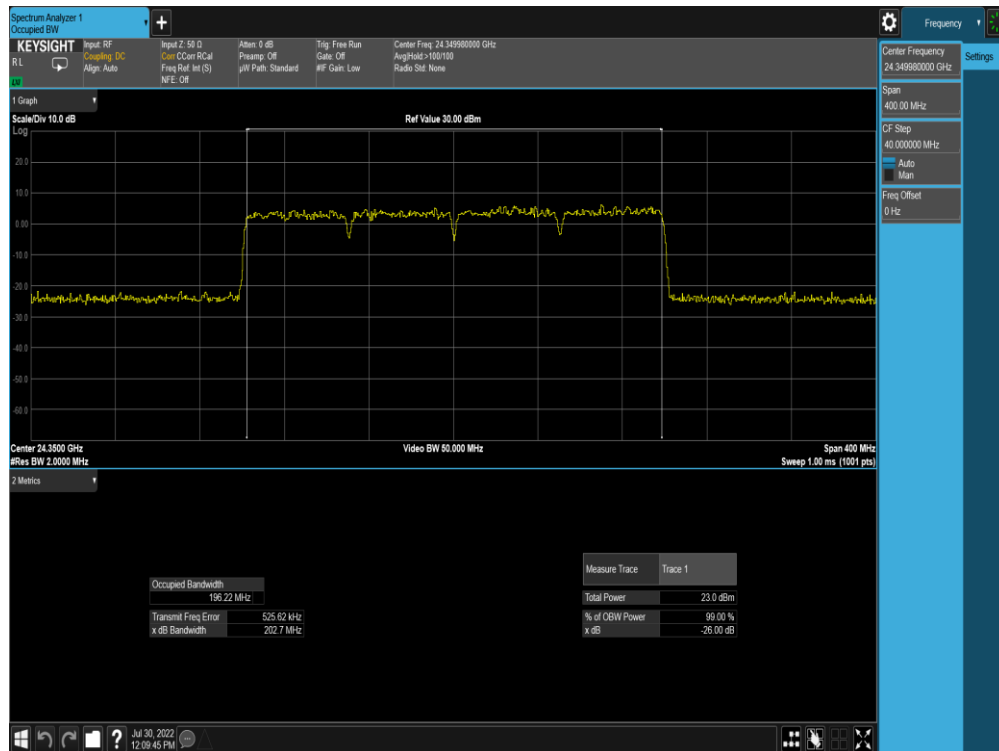


Plot 7-43. Ant M0 OBW (Band n258-R1-50MHz-4CC SISO CP-OFDM – QPSK – Mid Channel)



Plot 7-44. Ant M0 OBW (Band n258-R1-50MHz-4CC SISO CP-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-47. Ant M0 OBW (Band n258-R1-50MHz-4CC SISO DFTs-OFDM – QPSK – Mid Channel)



Plot 7-48. Ant M0 OBW (Band n258-R1-50MHz-4CC SISO DFTs-OFDM – 16QAM – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-49. Ant M0 OBW (Band n258-R1-50MHz-4CC SISO DFTs-OFDM – 64QAM – Mid Channel)

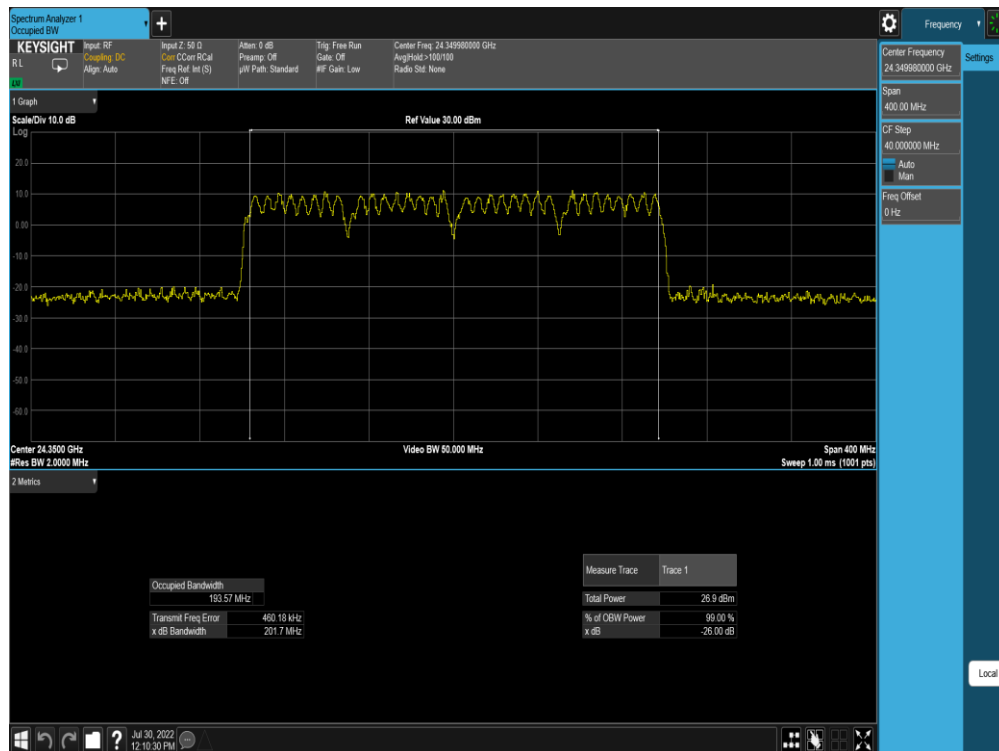


Plot 7-50. Ant M0 OBW (Band n258-R1-50MHz-4CC MIMO CP-OFDM – QPSK – Mid Channel)

FCC ID: BCGA2764		PART 30 MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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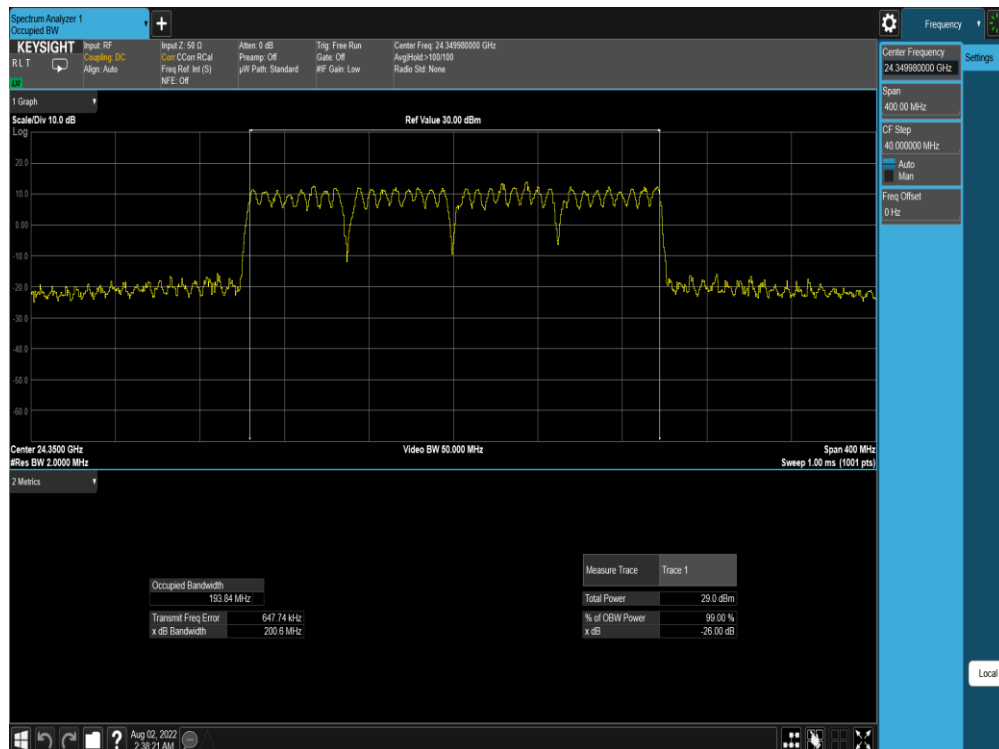


Plot 7-51. Ant M0 OBW (Band n258-R1-50MHz-4CC MIMO CP-OFDM – 16QAM – Mid Channel)



Plot 7-52. Ant M0 OBW (Band n258-R1-50MHz-4CC MIMO CP-OFDM – 64QAM – Mid Channel)

FCC ID: BCGA2764	 PART 30 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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