

RF Test Data for WLAN(2.4G) (Conducted Measurement)

Product Name: NucBox5

Trade Mark: GMKtec

Test Model: KB5

FCC ID: 2AXUD-KB5

Environmental Conditions

Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

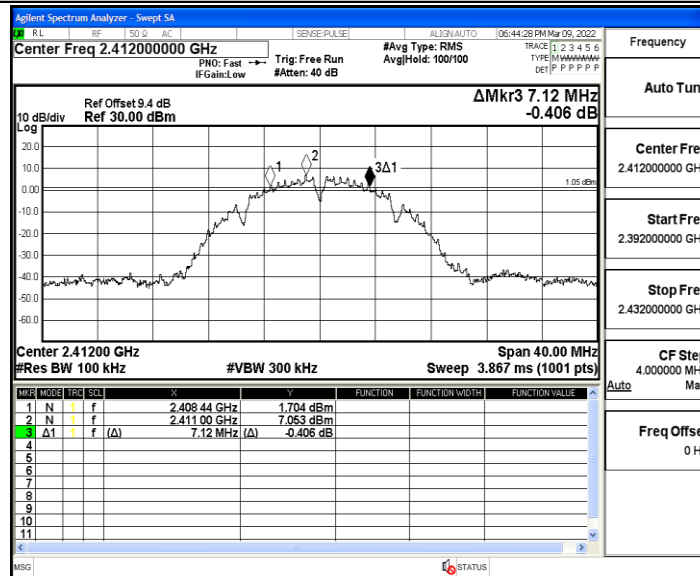
Appendix A: DTS Bandwidth

Test Result

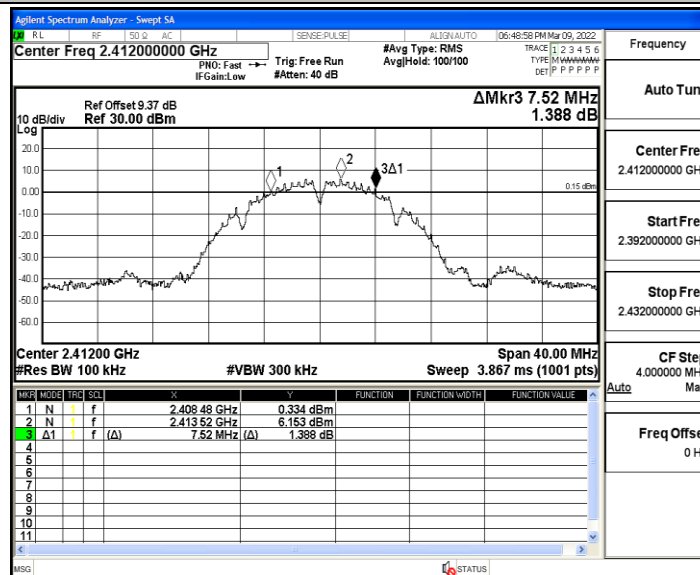
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	7.120	2408.440	2415.560	0.5	PASS
	Ant2	2412	7.520	2408.480	2416.000	0.5	PASS
	Ant1	2437	8.000	2433.000	2441.000	0.5	PASS
	Ant2	2437	8.040	2432.960	2441.000	0.5	PASS
	Ant1	2462	8.040	2457.960	2466.000	0.5	PASS
	Ant2	2462	8.040	2458.000	2466.040	0.5	PASS
11G	Ant1	2412	13.800	2405.720	2419.520	0.5	PASS
	Ant2	2412	15.080	2404.480	2419.560	0.5	PASS
	Ant1	2437	15.840	2428.880	2444.720	0.5	PASS
	Ant2	2437	16.000	2429.120	2445.120	0.5	PASS
	Ant1	2462	15.320	2454.440	2469.760	0.5	PASS
	Ant2	2462	15.640	2454.480	2470.120	0.5	PASS
11N20MIMO	Ant1	2412	12.800	2406.720	2419.520	0.5	PASS
	Ant2	2412	15.040	2405.120	2420.160	0.5	PASS
	Ant1	2437	15.240	2429.240	2444.480	0.5	PASS
	Ant2	2437	17.600	2428.200	2445.800	0.5	PASS
	Ant1	2462	17.520	2453.240	2470.760	0.5	PASS
	Ant2	2462	17.320	2453.440	2470.760	0.5	PASS
11N40MIMO	Ant1	2422	35.040	2404.480	2439.520	0.5	PASS
	Ant2	2422	35.040	2404.480	2439.520	0.5	PASS
	Ant1	2437	35.040	2419.480	2454.520	0.5	PASS
	Ant2	2437	35.040	2419.480	2454.520	0.5	PASS
	Ant1	2452	33.840	2435.680	2469.520	0.5	PASS
	Ant2	2452	34.960	2434.480	2469.440	0.5	PASS

Test Graphs

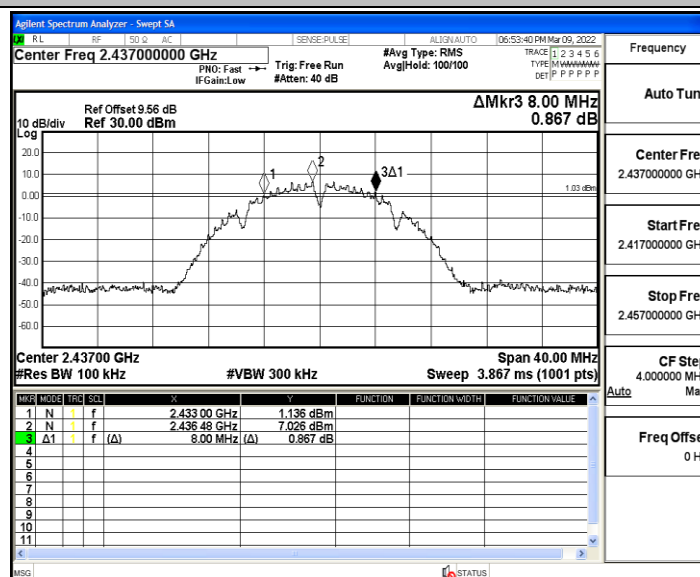
11B_Ant1_2412



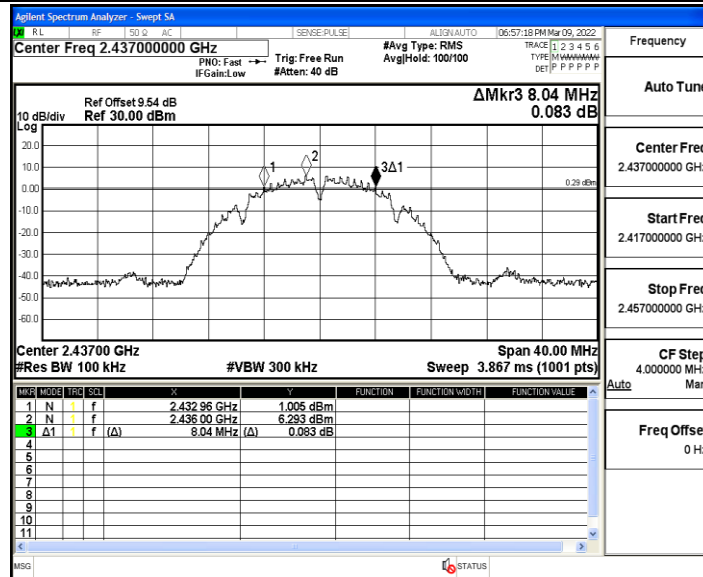
11B_Ant2_2412



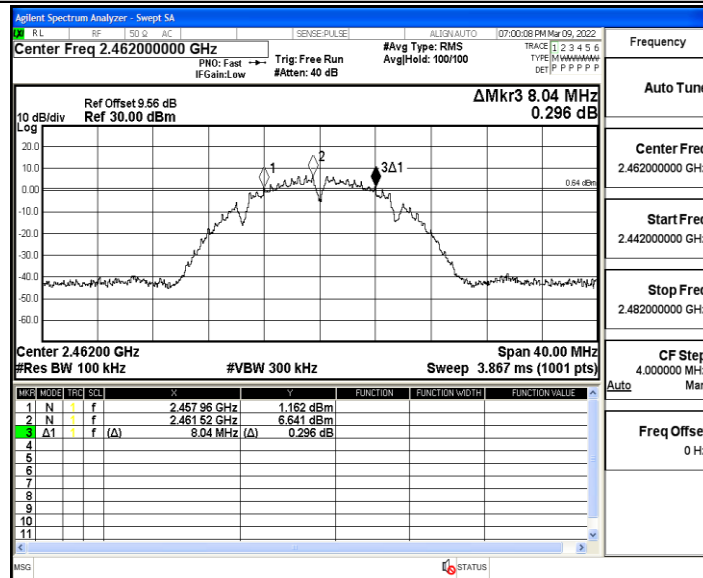
11B_Ant1_2437



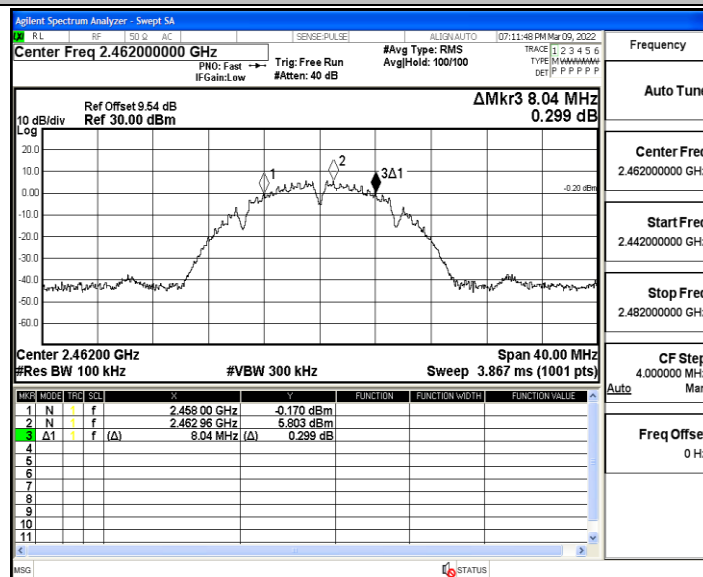
11B_Ant2_2437



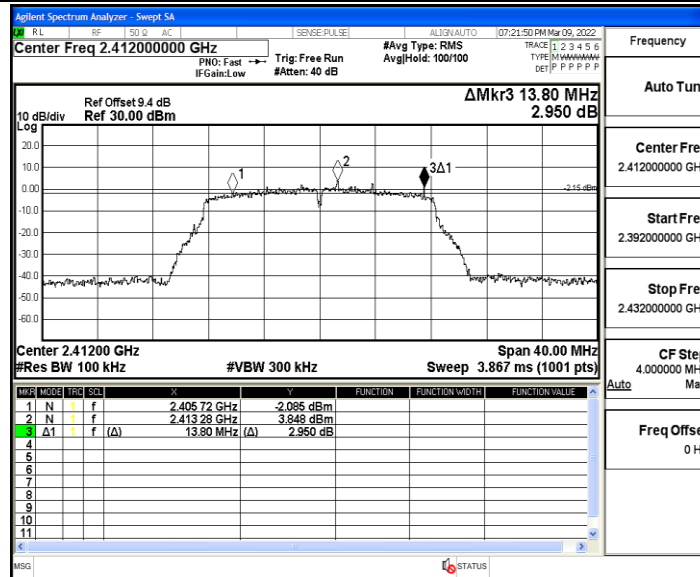
11B_Ant1_2462



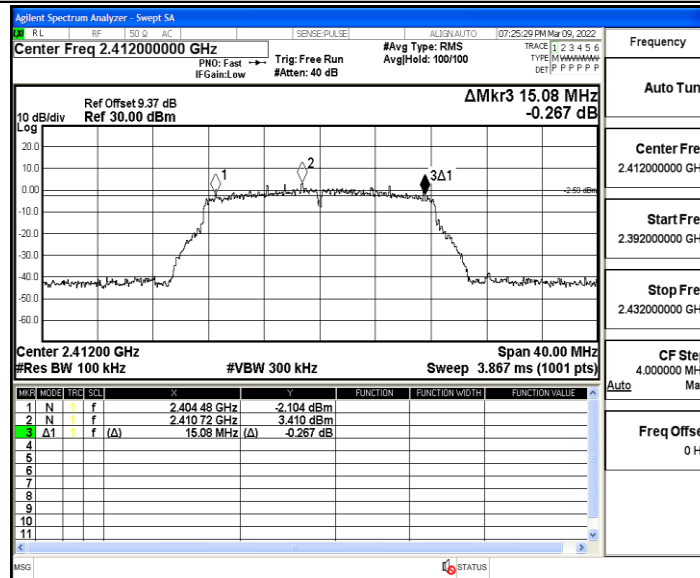
11B_Ant2_2462



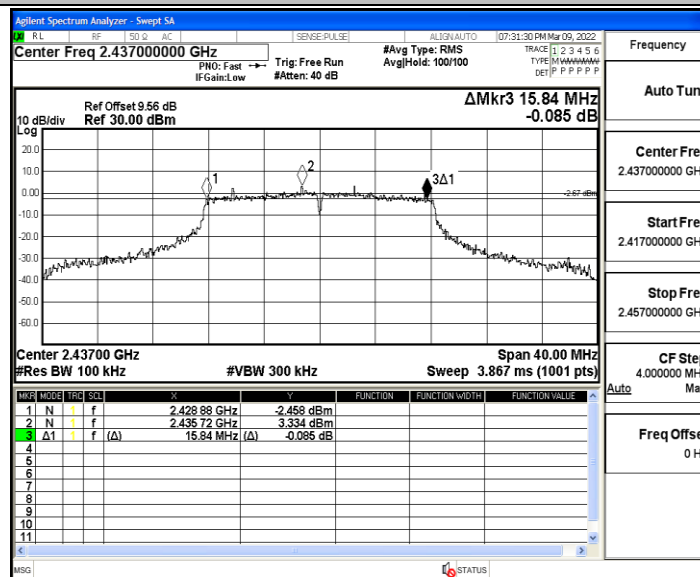
11G_Ant1_2412



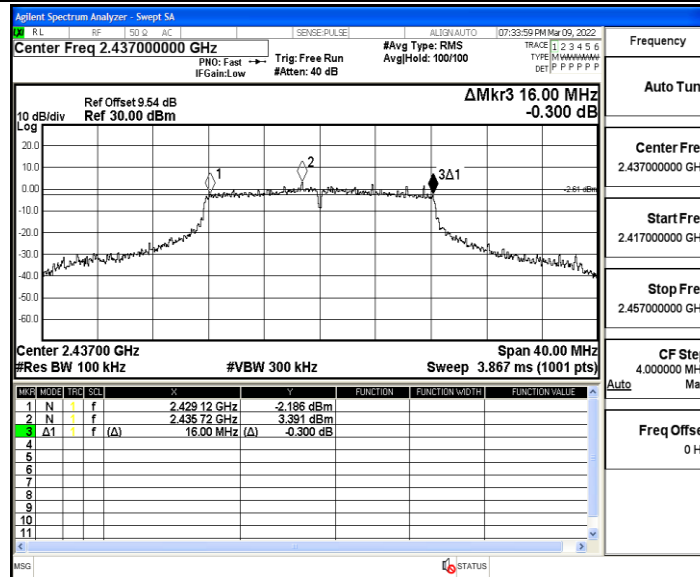
11G_Ant2_2412



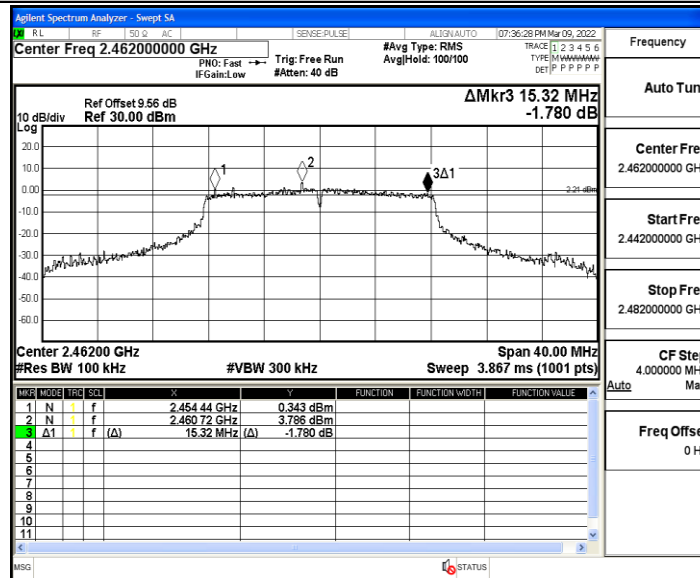
11G_Ant1_2437



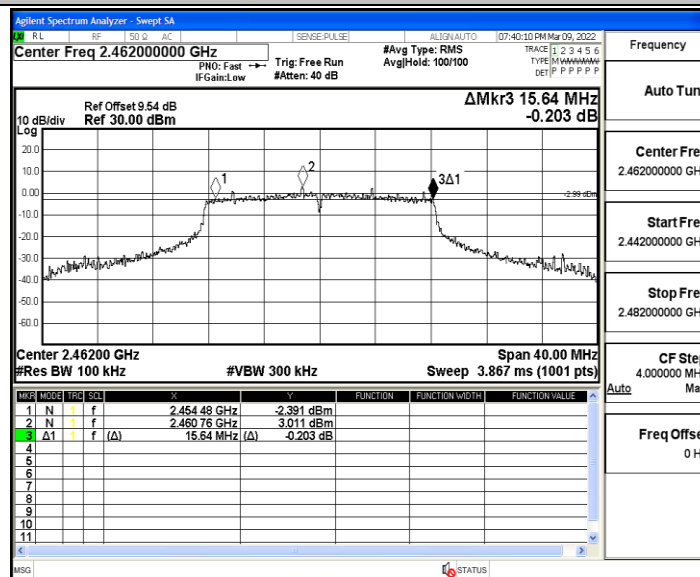
11G_Ant2_2437



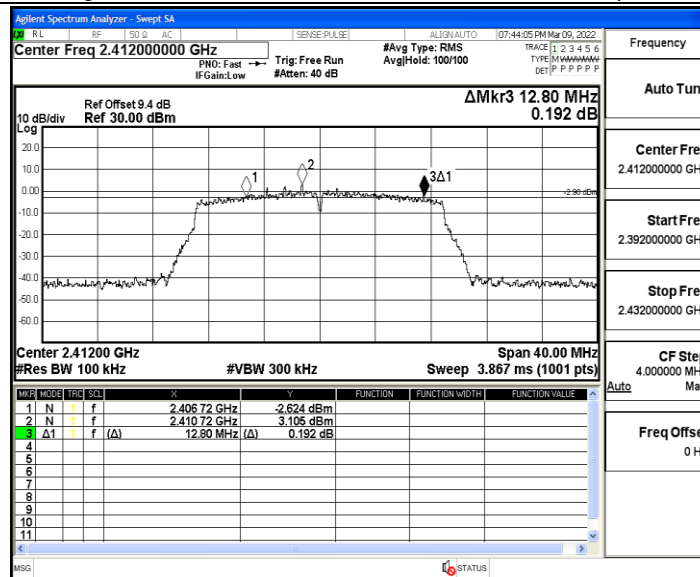
11G_Ant1_2462



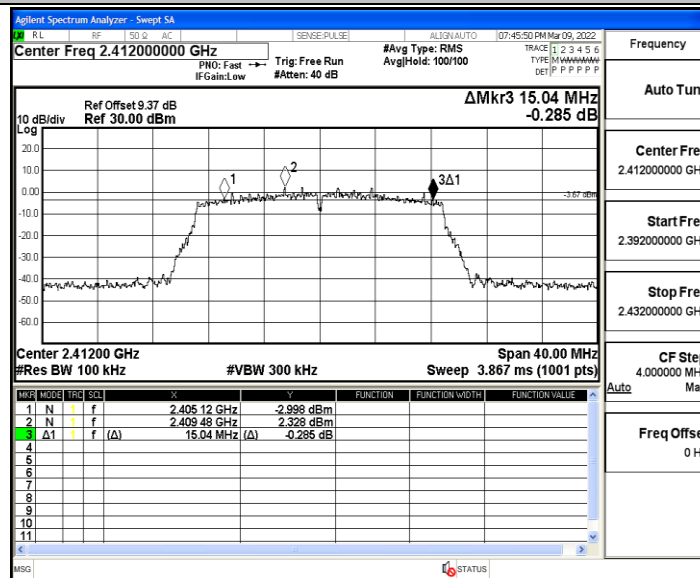
11G_Ant2_2462



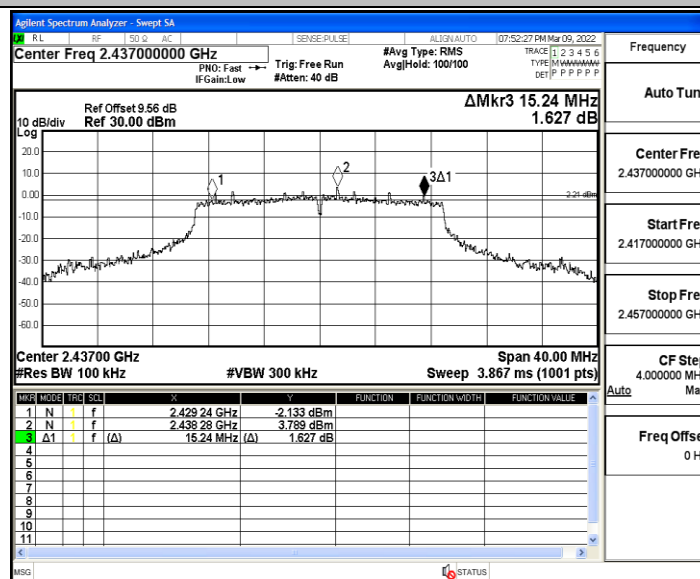
11N20MIMO_Ant1_2412



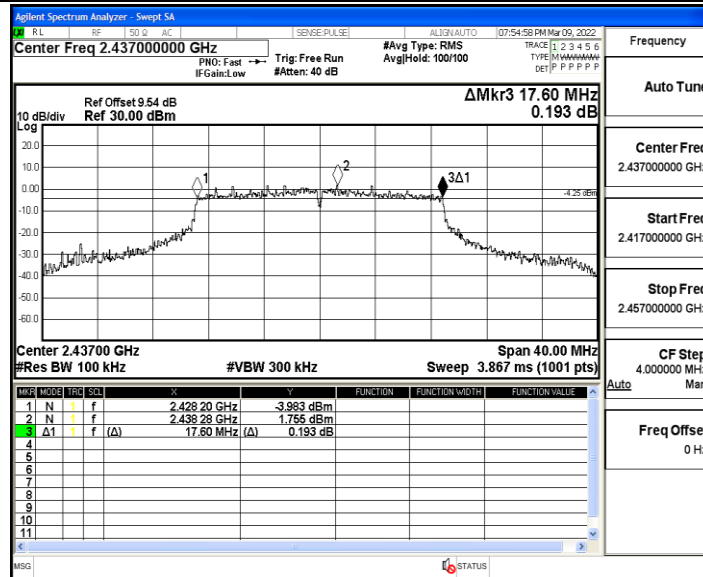
11N20MIMO_Ant2_2412



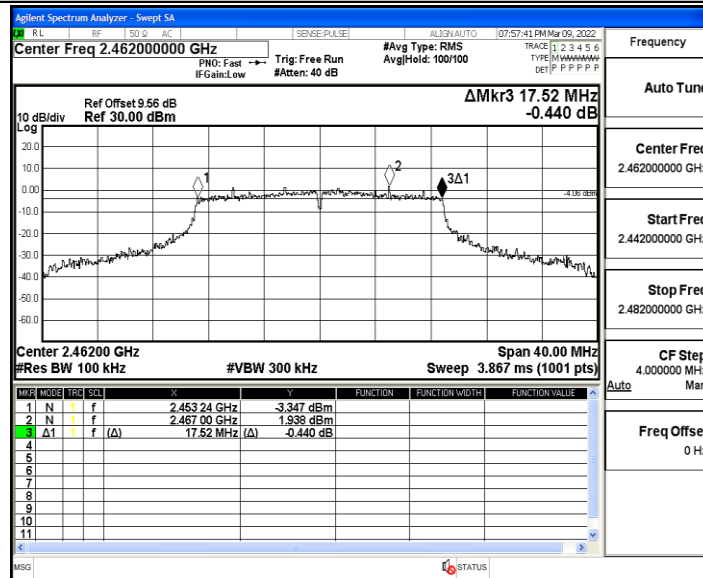
11N20MIMO_Ant1_2437



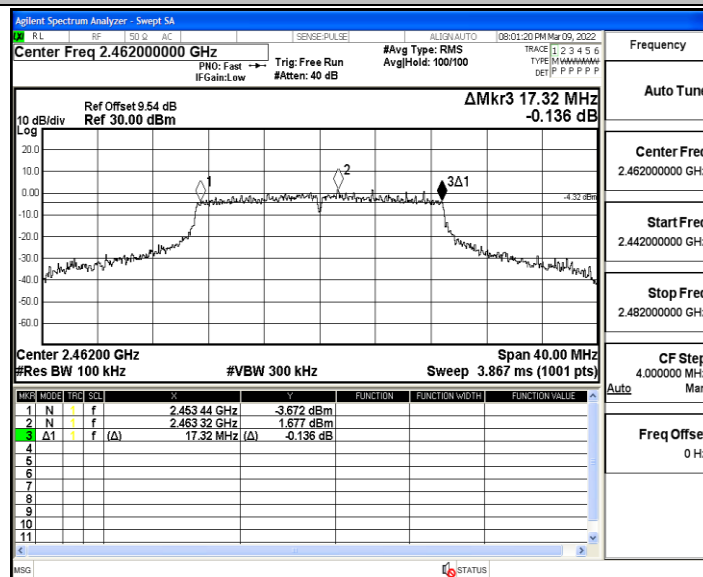
11N20MIMO_Ant2_2437



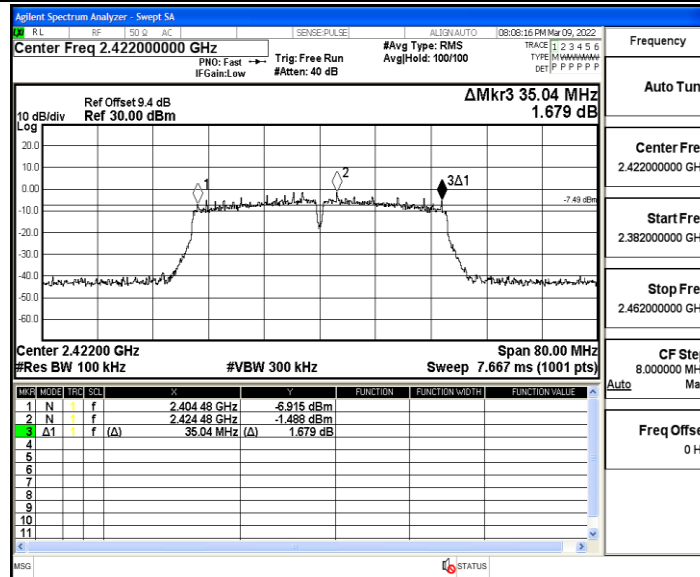
11N20MIMO_Ant1_2462



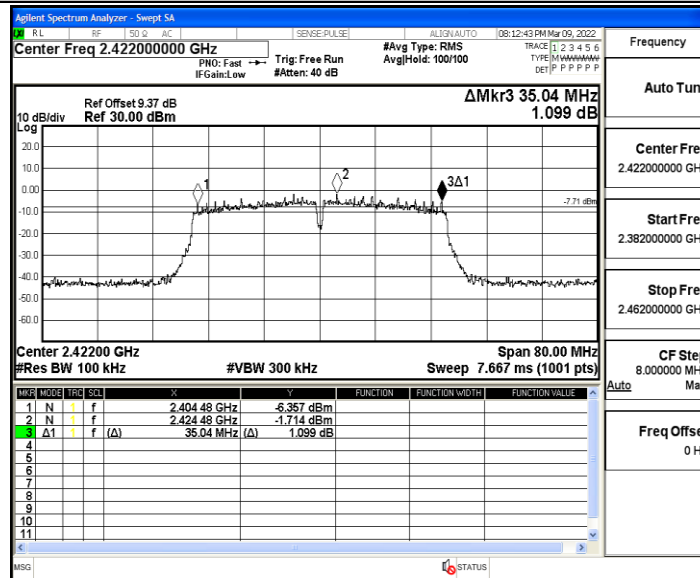
11N20MIMO_Ant2_2462



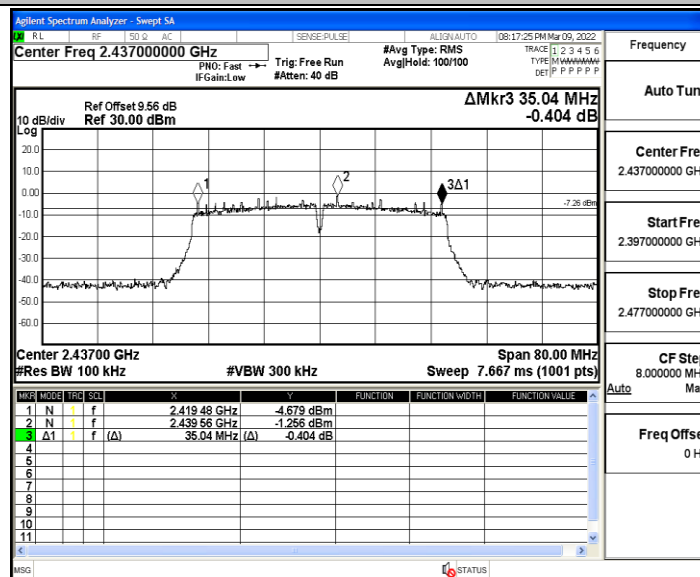
11N40MIMO_Ant1_2422



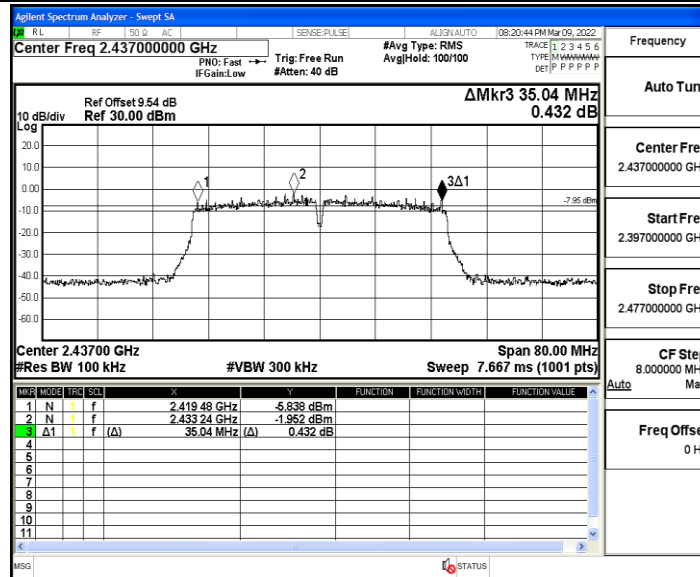
11N40MIMO_Ant2_2422



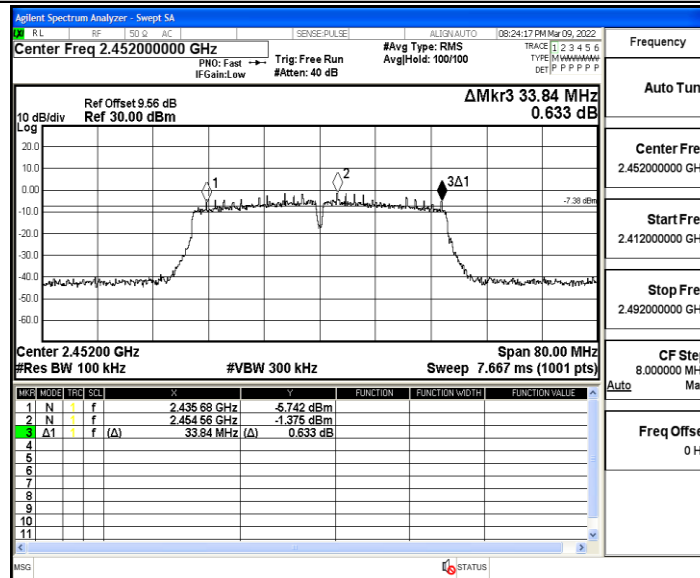
11N40MIMO_Ant1_2437



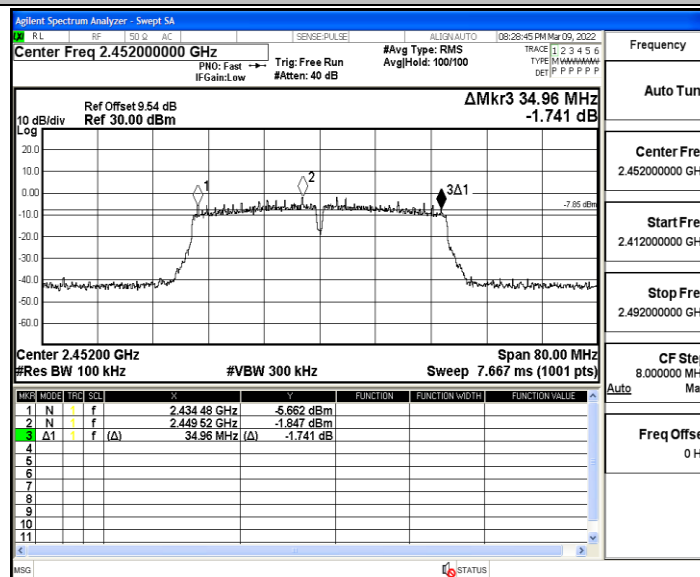
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



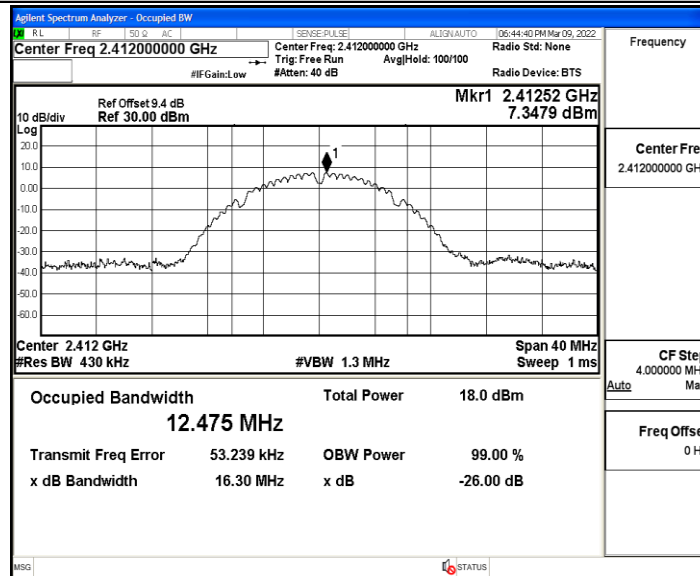
Appendix B: Occupied Channel Bandwidth

Test Result

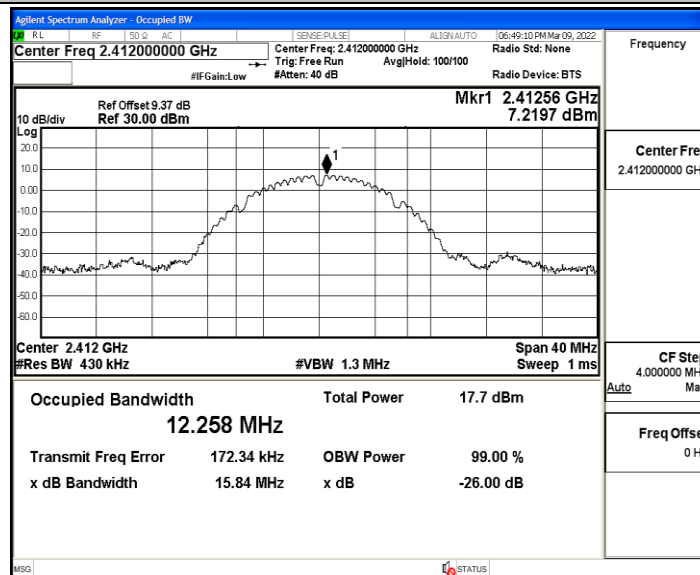
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	12.475	2405.816	2418.291	---	PASS
	Ant2	2412	12.258	2406.043	2418.301	---	PASS
	Ant1	2437	12.677	2430.673	2443.350	---	PASS
	Ant2	2437	12.497	2430.779	2443.276	---	PASS
	Ant1	2462	12.622	2455.744	2468.366	---	PASS
	Ant2	2462	12.451	2455.834	2468.285	---	PASS
11G	Ant1	2412	16.694	2403.712	2420.406	---	PASS
	Ant2	2412	16.546	2403.747	2420.293	---	PASS
	Ant1	2437	17.665	2428.132	2445.797	---	PASS
	Ant2	2437	17.249	2428.418	2445.667	---	PASS
	Ant1	2462	17.598	2453.214	2470.812	---	PASS
	Ant2	2462	17.164	2453.440	2470.604	---	PASS
11N20MIMO	Ant1	2412	17.752	2403.144	2420.896	---	PASS
	Ant2	2412	17.679	2403.190	2420.869	---	PASS
	Ant1	2437	18.673	2427.646	2446.319	---	PASS
	Ant2	2437	18.191	2427.893	2446.084	---	PASS
	Ant1	2462	18.672	2452.704	2471.376	---	PASS
	Ant2	2462	18.208	2452.958	2471.166	---	PASS
11N40MIMO	Ant1	2422	36.046	2404.065	2440.111	---	PASS
	Ant2	2422	35.958	2404.127	2440.085	---	PASS
	Ant1	2437	36.055	2419.037	2455.092	---	PASS
	Ant2	2437	36.122	2418.974	2455.096	---	PASS
	Ant1	2452	36.221	2433.968	2470.189	---	PASS
	Ant2	2452	36.146	2433.973	2470.119	---	PASS

Test Graphs

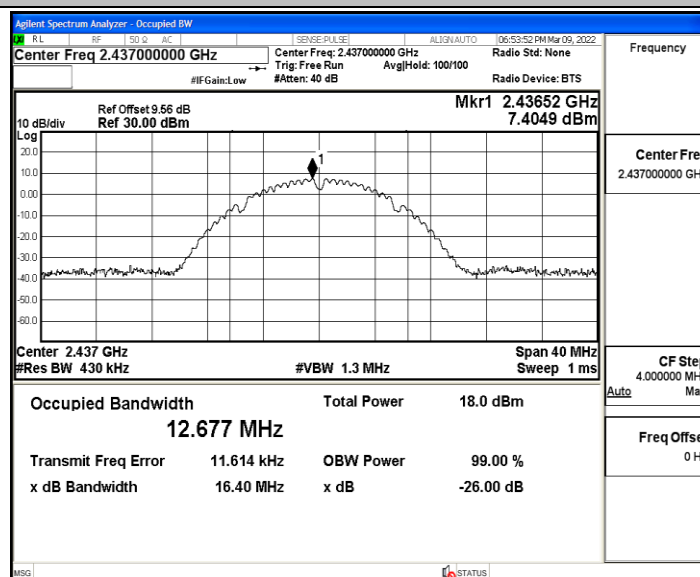
11B_Ant1_2412



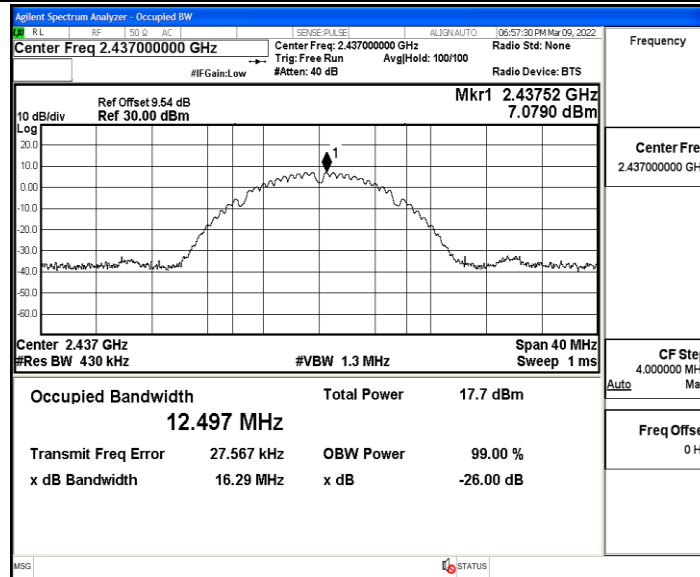
11B_Ant2_2412



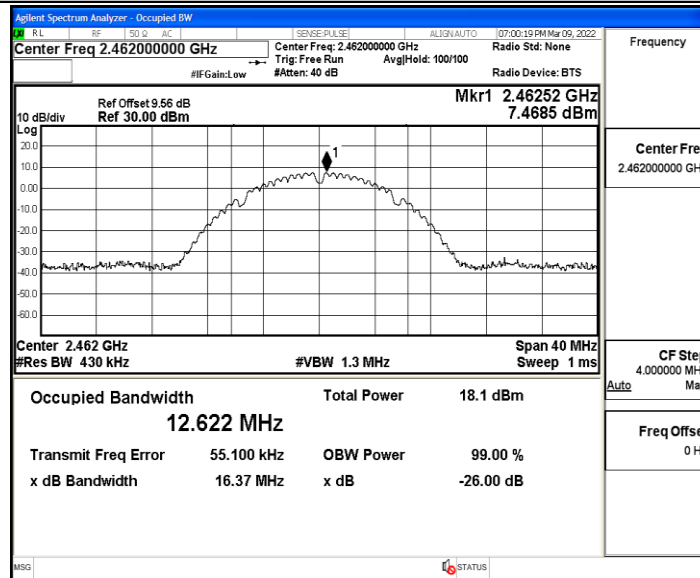
11B_Ant1_2437



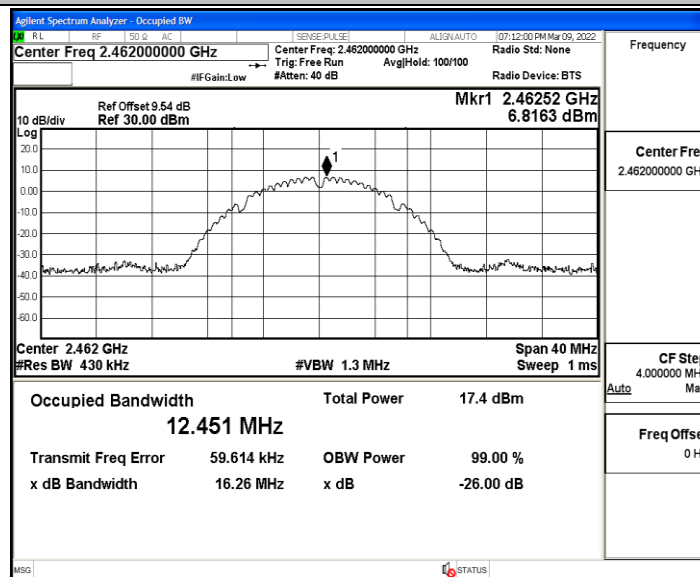
11B_Ant2_2437



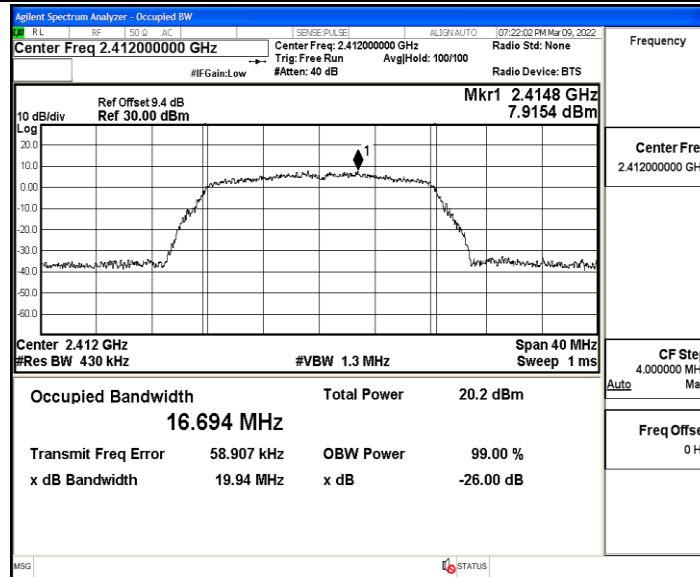
11B_Ant1_2462



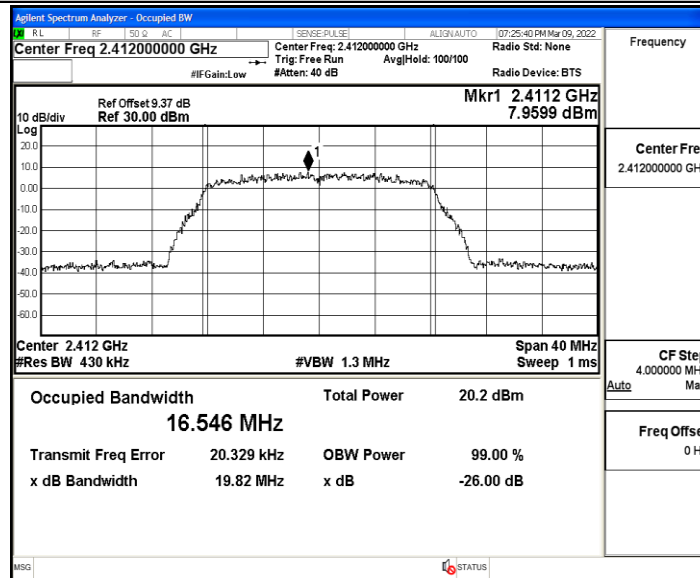
11B_Ant2_2462



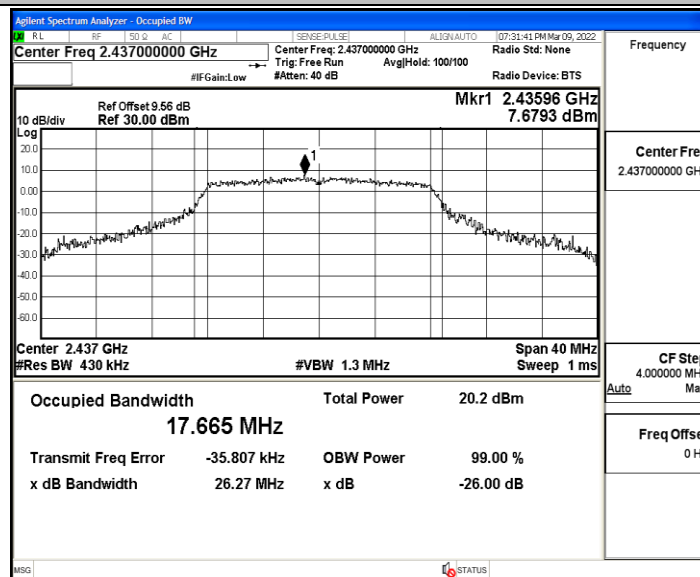
11G_Ant1_2412



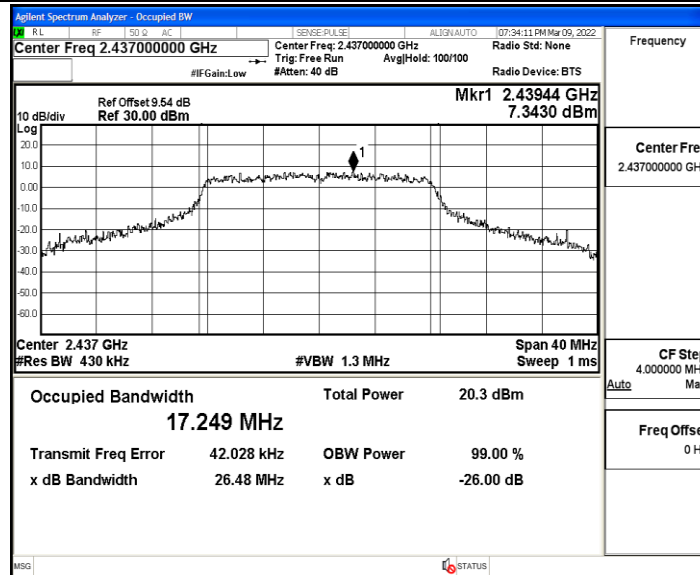
11G_Ant2_2412



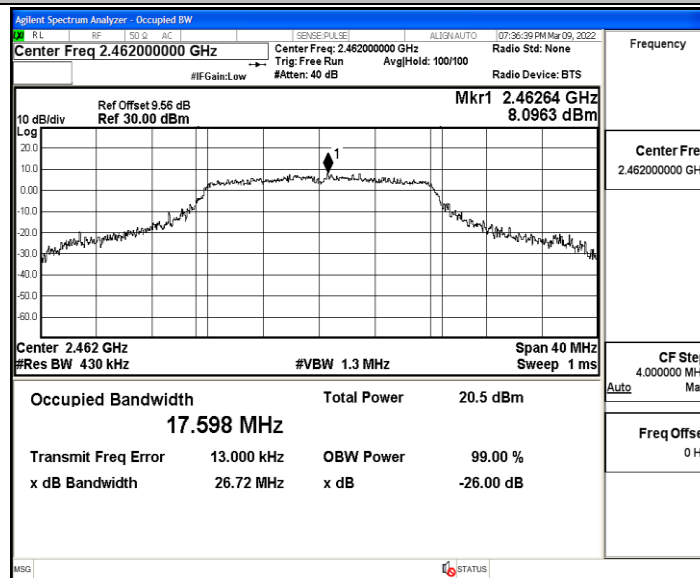
11G_Ant1_2437



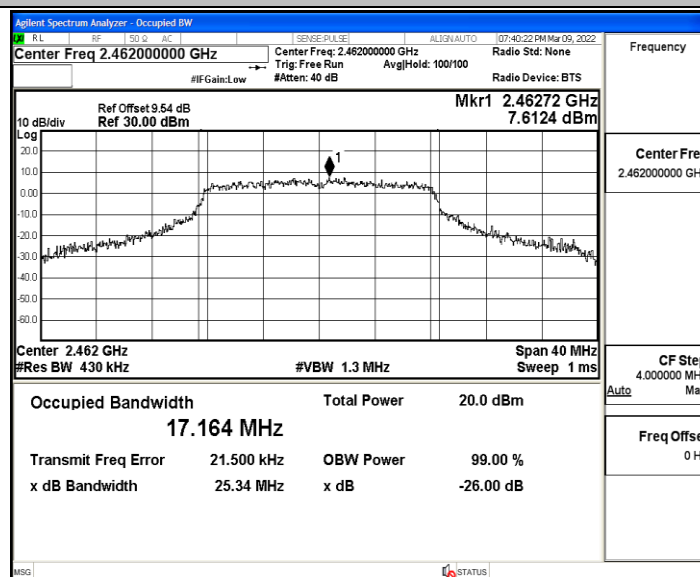
11G_Ant2_2437



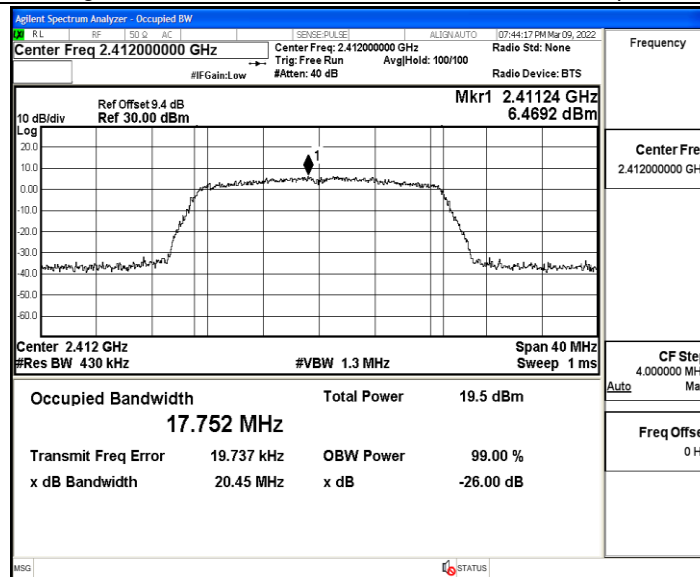
11G_Ant1_2462



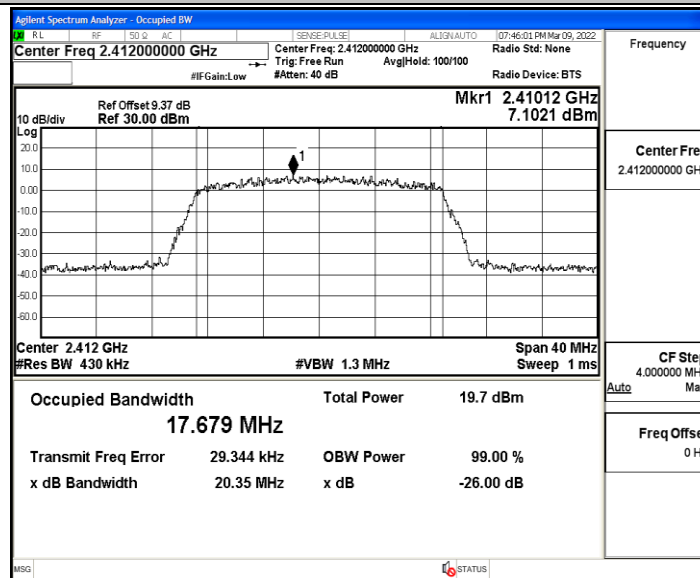
11G_Ant2_2462



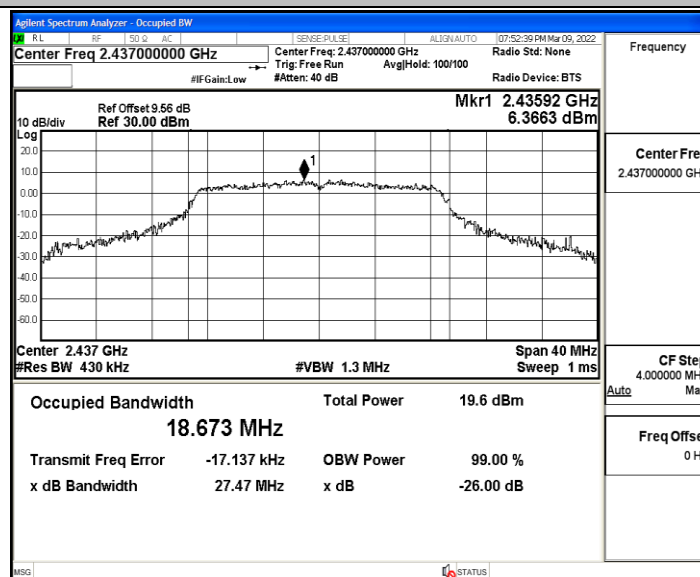
11N20MIMO_Ant1_2412



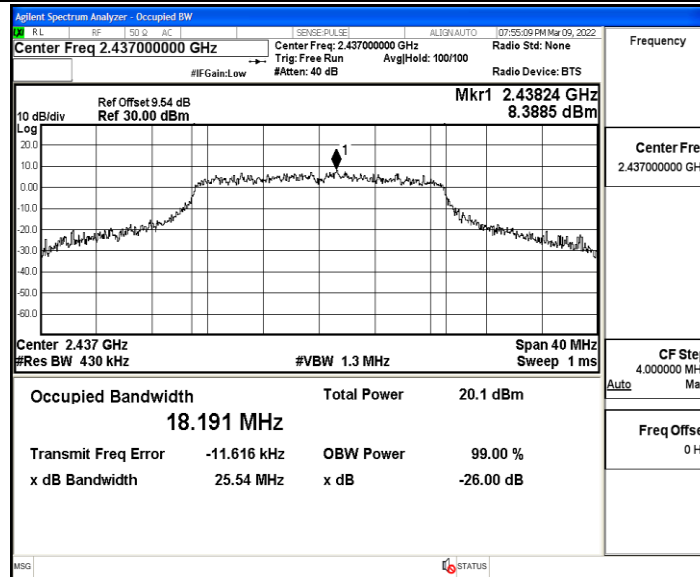
11N20MIMO_Ant2_2412



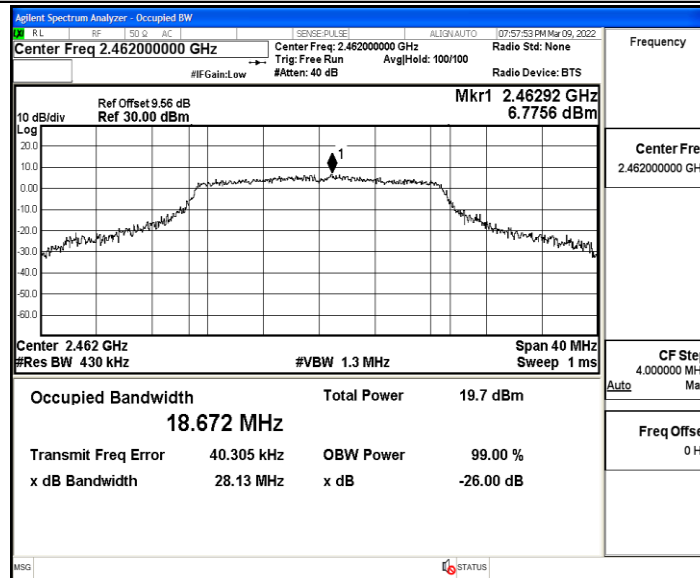
11N20MIMO_Ant1_2437



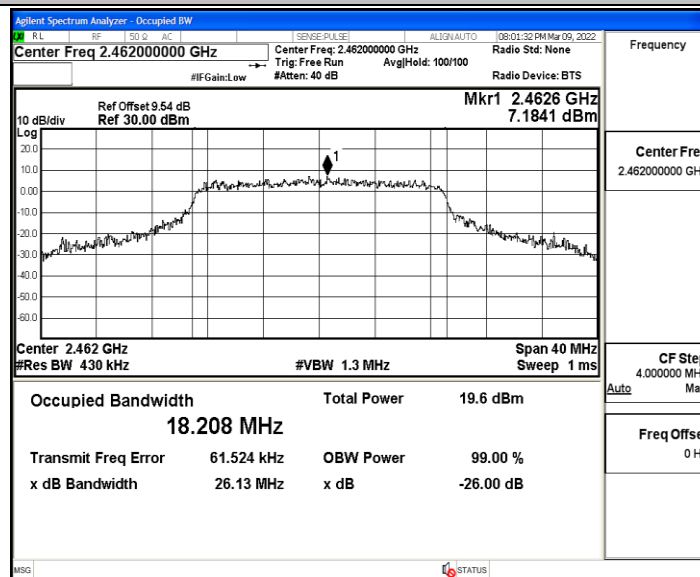
11N20MIMO_Ant2_2437



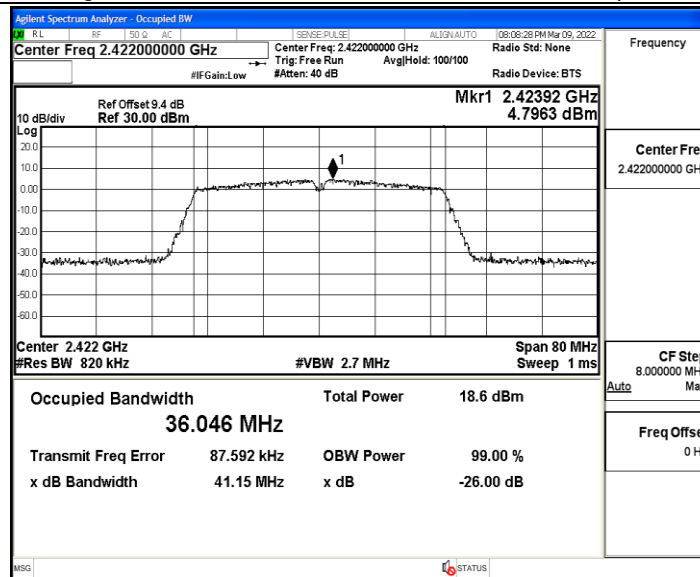
11N20MIMO_Ant1_2462



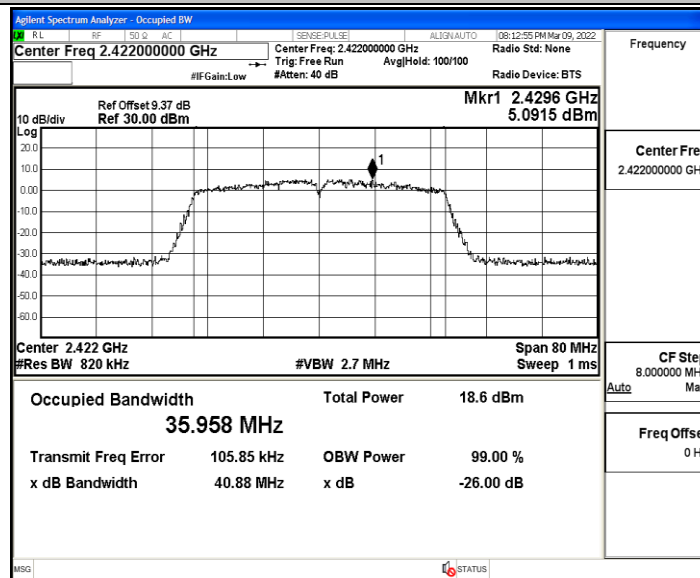
11N20MIMO_Ant2_2462



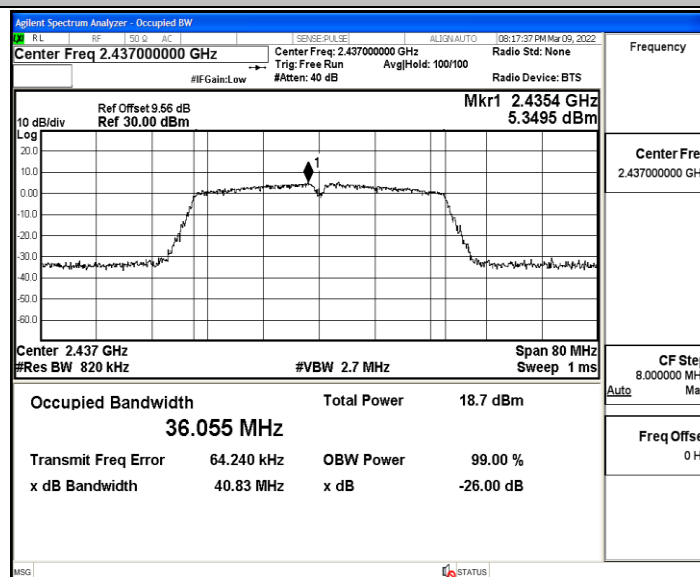
11N40MIMO_Ant1_2422



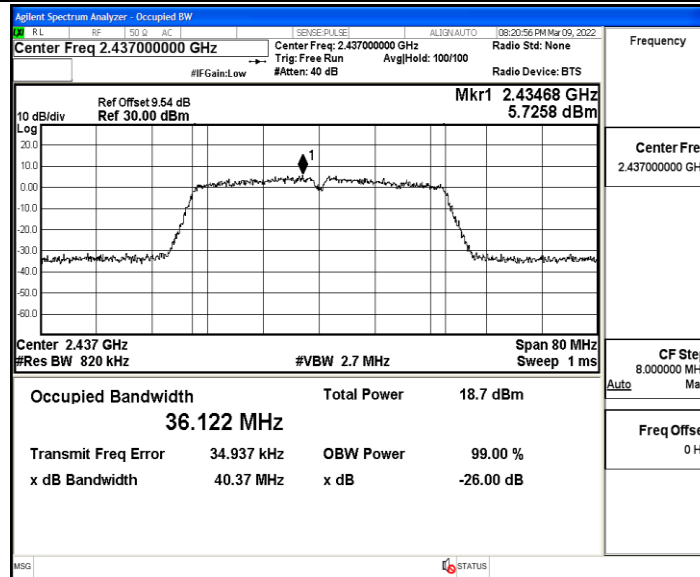
11N40MIMO_Ant2_2422



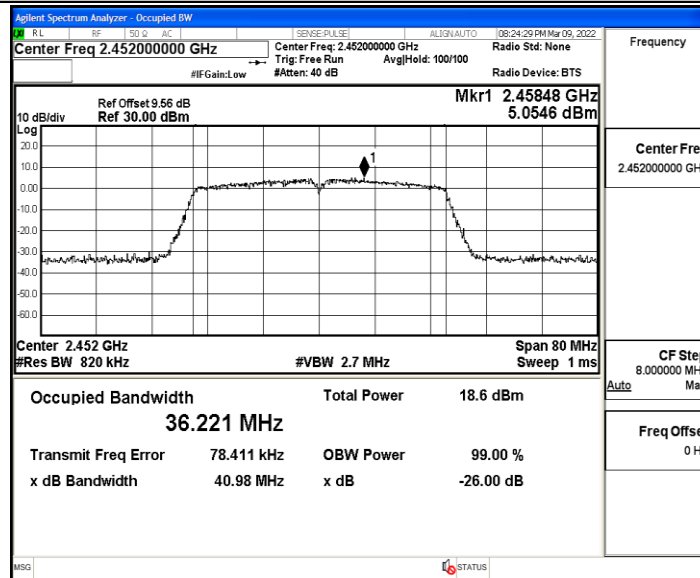
11N40MIMO_Ant1_2437



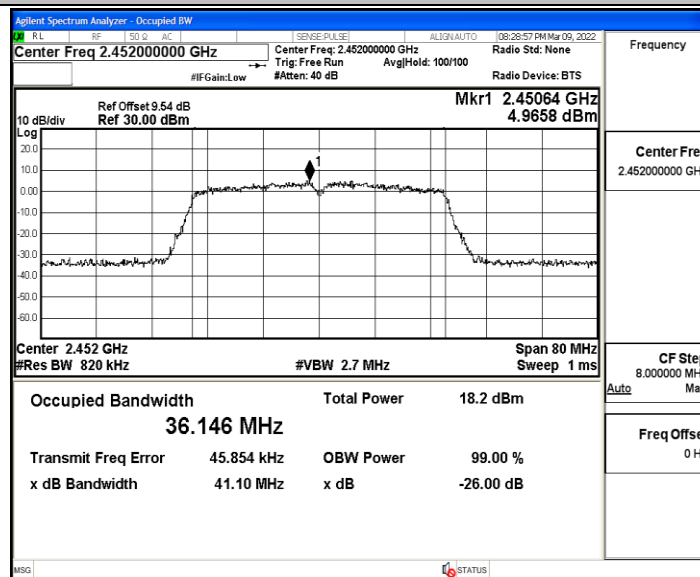
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



Appendix C: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.09	≤30	PASS
	Ant2	2412	14.71	≤30	PASS
	Ant1	2437	15.17	≤30	PASS
	Ant2	2437	14.48	≤30	PASS
	Ant1	2462	15.11	≤30	PASS
	Ant2	2462	14.23	≤30	PASS
11G	Ant1	2412	14.06	≤30	PASS
	Ant2	2412	13.60	≤30	PASS
	Ant1	2437	14.22	≤30	PASS
	Ant2	2437	14.15	≤30	PASS
	Ant1	2462	14.59	≤30	PASS
	Ant2	2462	13.84	≤30	PASS
11N20MIMO	Ant1	2412	13.56	≤30	PASS
	Ant2	2412	13.32	≤30	PASS
	total	2412	16.45	≤30	PASS
	Ant1	2437	13.95	≤30	PASS
	Ant2	2437	13.65	≤30	PASS
	total	2437	16.81	≤30	PASS
	Ant1	2462	13.80	≤30	PASS
	Ant2	2462	12.97	≤30	PASS
	total	2462	16.42	≤30	PASS
11N40MIMO	Ant1	2422	12.16	≤30	PASS
	Ant2	2422	11.28	≤30	PASS
	total	2422	14.75	≤30	PASS
	Ant1	2437	12.04	≤30	PASS
	Ant2	2437	11.80	≤30	PASS
	total	2437	14.93	≤30	PASS
	Ant1	2452	12.15	≤30	PASS
	Ant2	2452	11.34	≤30	PASS
	total	2452	14.77	≤30	PASS

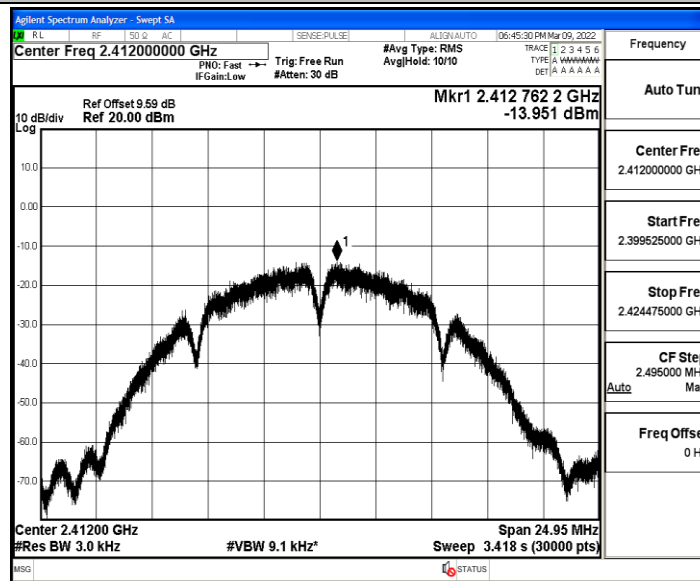
Appendix D: Maximum power spectral density

Test Result

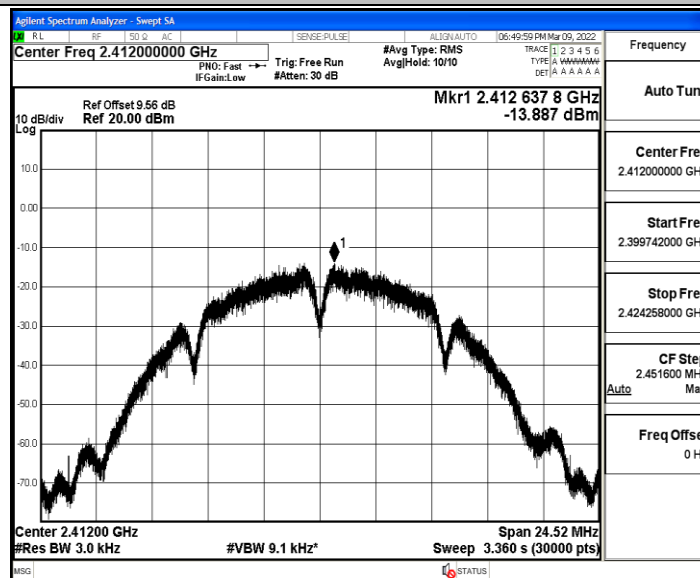
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-13.95	≤8	PASS
	Ant2	2412	-13.89	≤8	PASS
	Ant1	2437	-13.83	≤8	PASS
	Ant2	2437	-14.04	≤8	PASS
	Ant1	2462	-13.01	≤8	PASS
	Ant2	2462	-13.6	≤8	PASS
11G	Ant1	2412	-15.69	≤8	PASS
	Ant2	2412	-16.75	≤8	PASS
	Ant1	2437	-17.26	≤8	PASS
	Ant2	2437	-17.09	≤8	PASS
	Ant1	2462	-16.15	≤8	PASS
	Ant2	2462	-17	≤8	PASS
11N20MIMO	Ant1	2412	-17.06	≤8	PASS
	Ant2	2412	-16.85	≤8	PASS
	total	2412	-13.94	≤8	PASS
	Ant1	2437	-17.53	≤8	PASS
	Ant2	2437	-16.78	≤8	PASS
	total	2437	-14.13	≤8	PASS
	Ant1	2462	-16.71	≤8	PASS
	Ant2	2462	-18.05	≤8	PASS
	total	2462	-14.32	≤8	PASS
11N40MIMO	Ant1	2422	-20.19	≤8	PASS
	Ant2	2422	-21.95	≤8	PASS
	total	2422	-17.97	≤8	PASS
	Ant1	2437	-20.87	≤8	PASS
	Ant2	2437	-21.75	≤8	PASS
	total	2437	-18.28	≤8	PASS
	Ant1	2452	-21.24	≤8	PASS
	Ant2	2452	-22.34	≤8	PASS
	total	2452	-18.74	≤8	PASS

Test Graphs

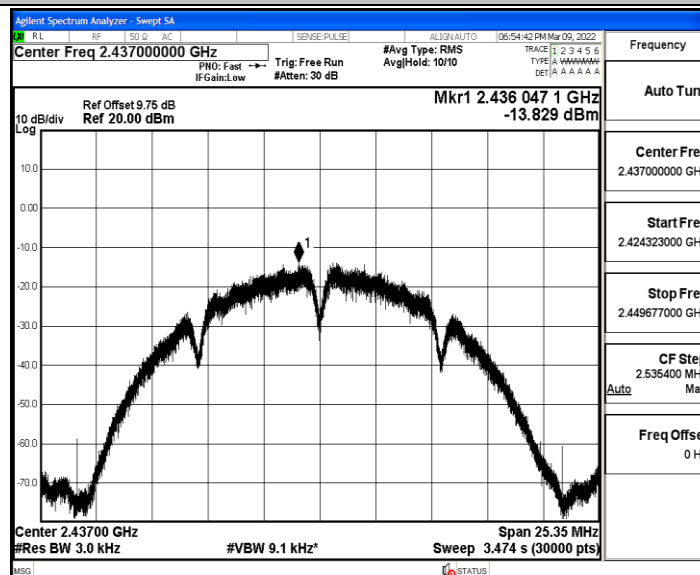
11B_Ant1_2412



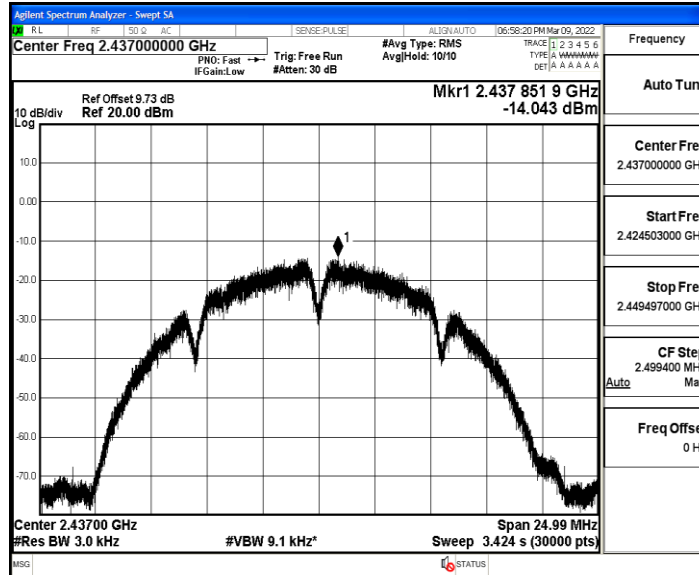
11B_Ant2_2412



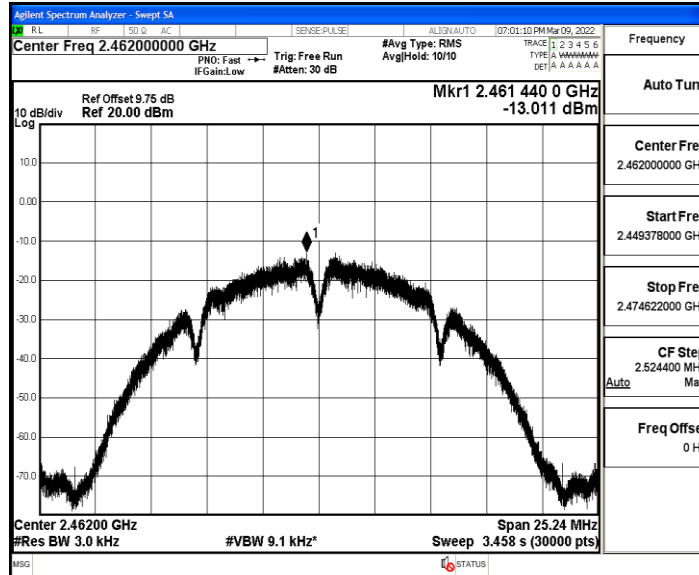
11B_Ant1_2437



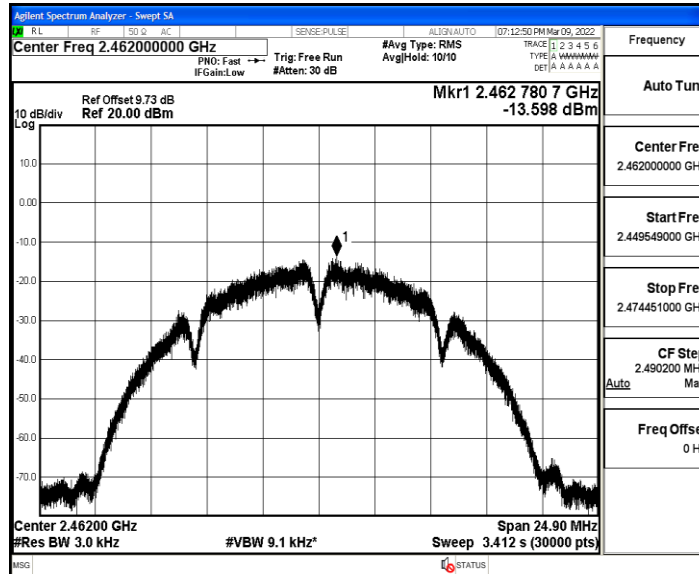
11B_Ant2_2437



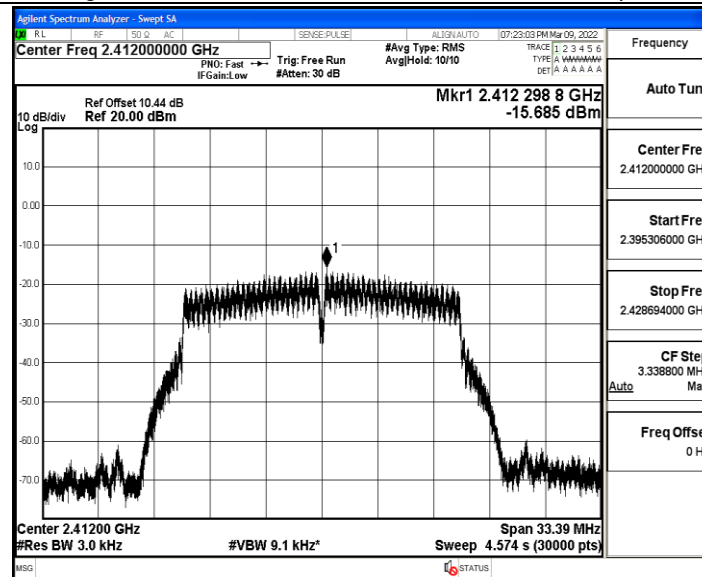
11B_Ant1_2462



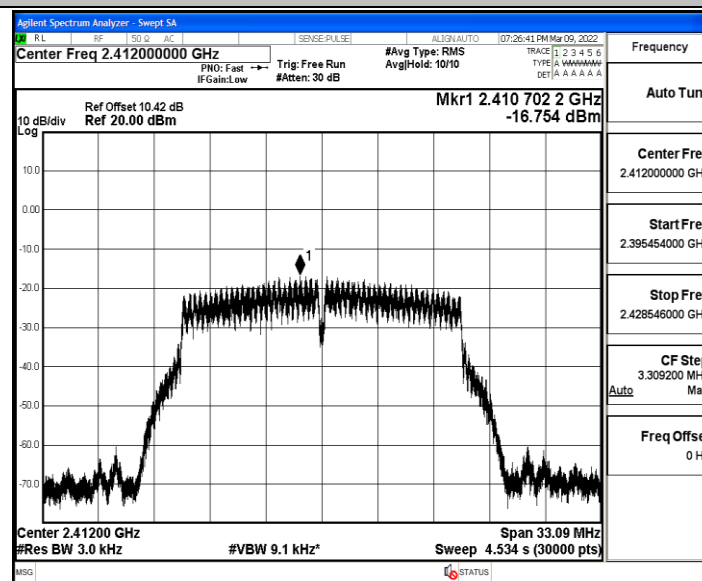
11B_Ant2_2462



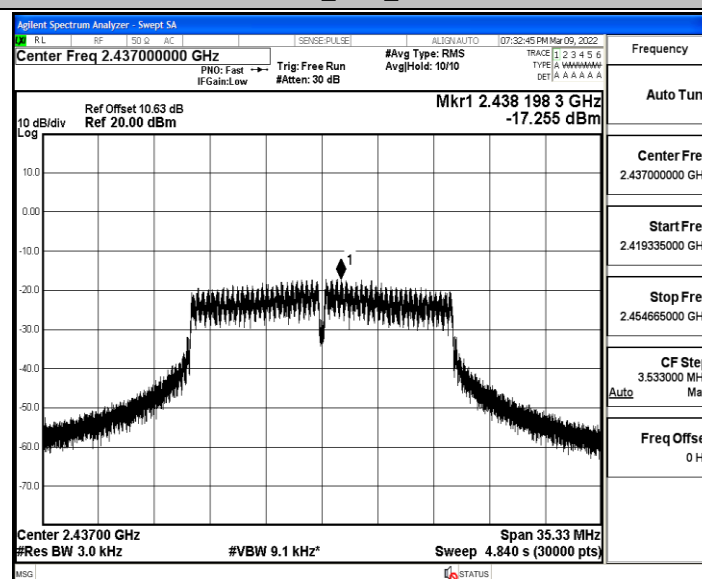
11G_Ant1_2412



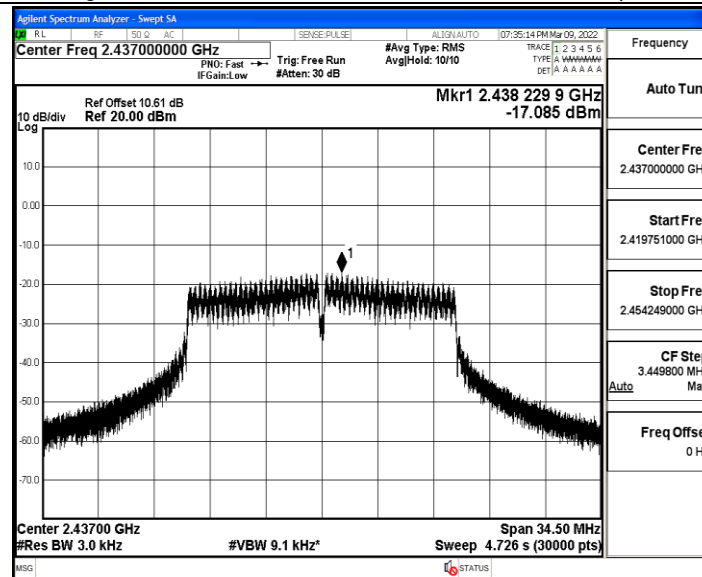
11G_Ant2_2412



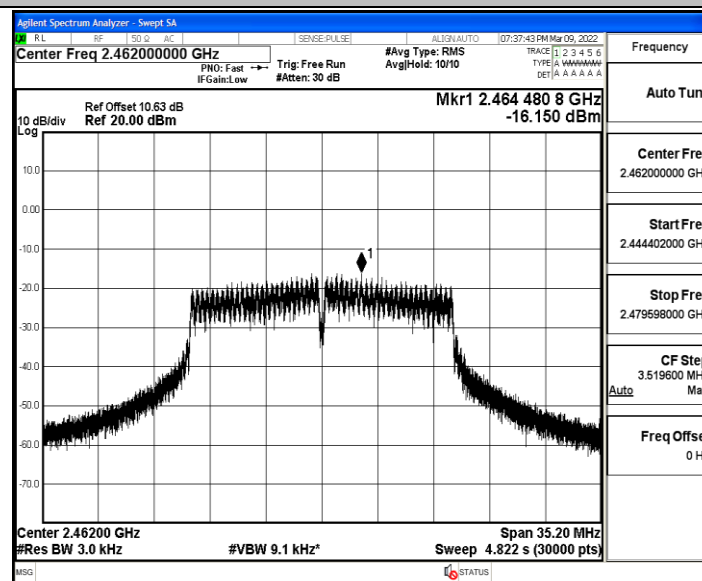
11G_Ant1_2437



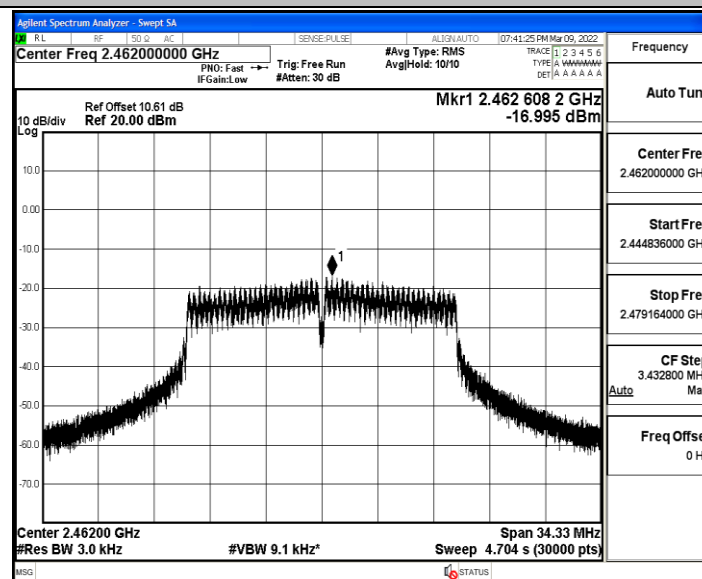
11G_Ant2_2437



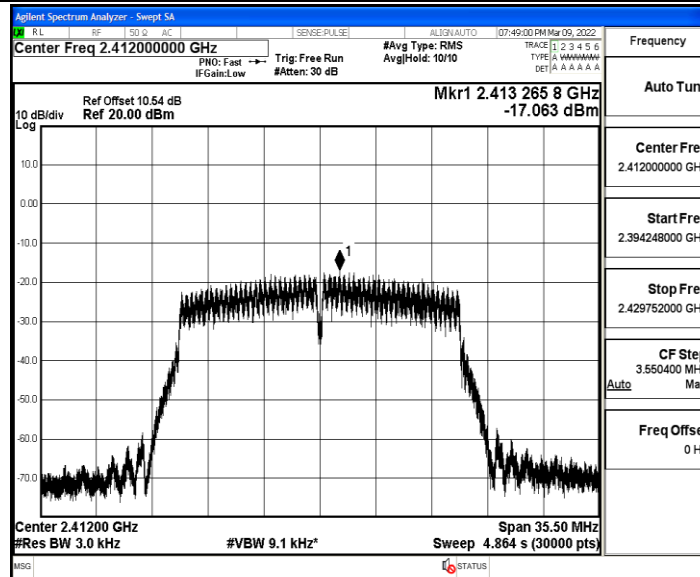
11G_Ant1_2462



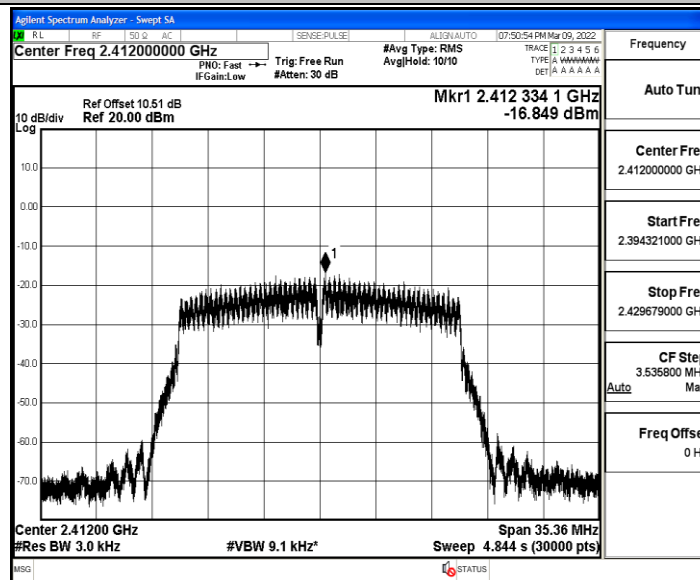
11G_Ant2_2462



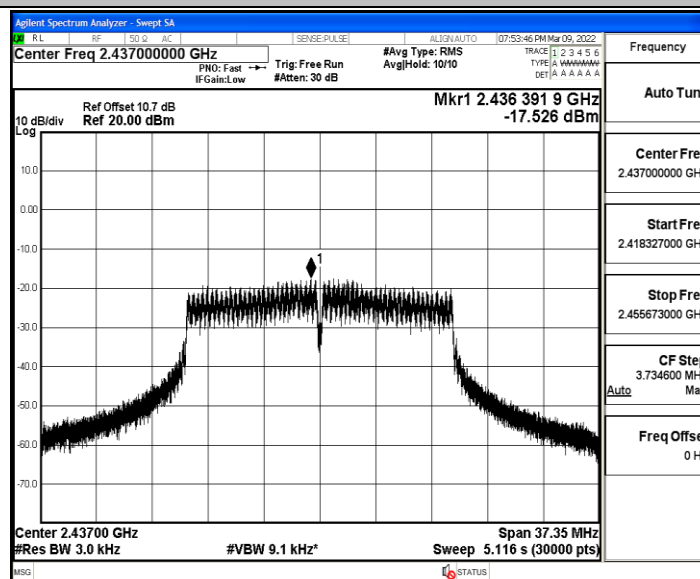
11N20MIMO_Ant1_2412



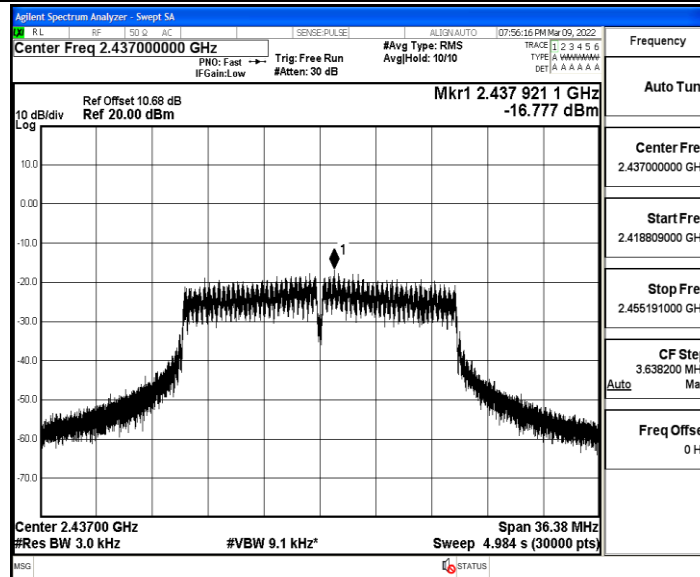
11N20MIMO_Ant2_2412



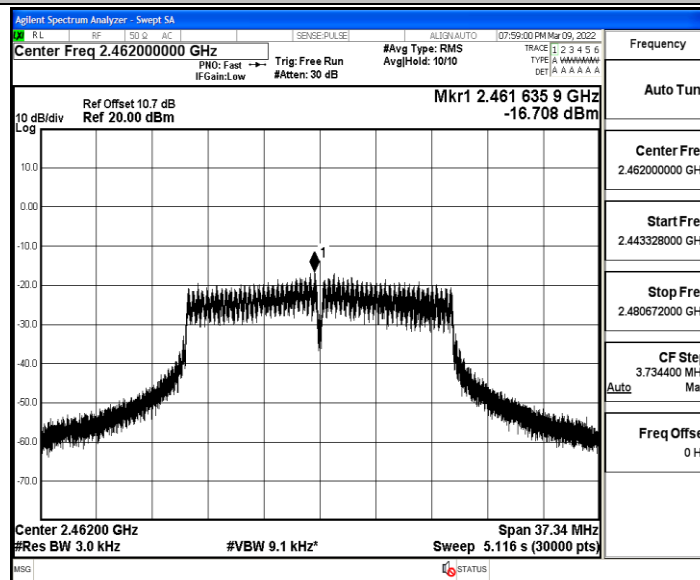
11N20MIMO_Ant1_2437



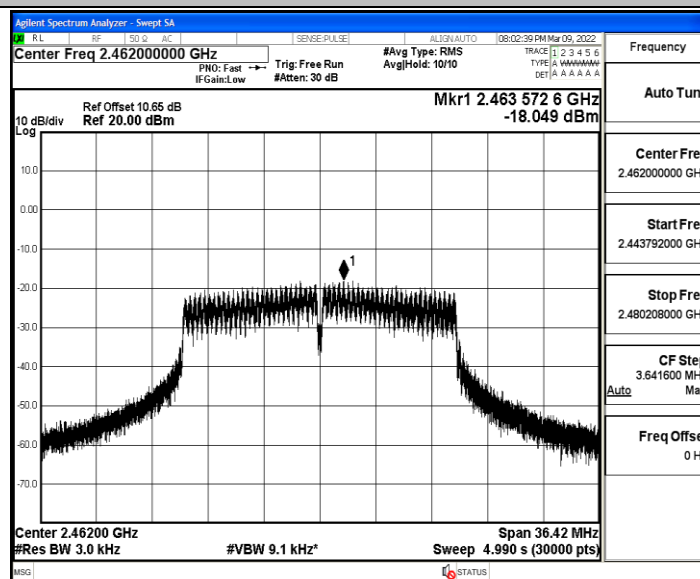
11N20MIMO_Ant2_2437



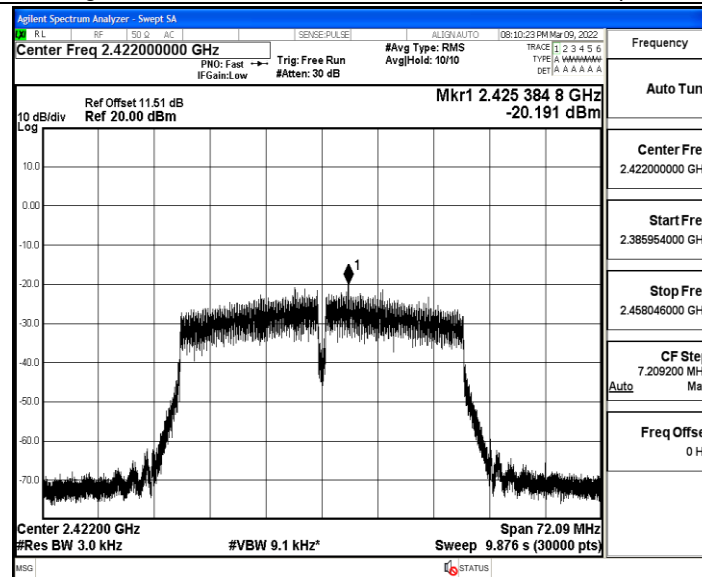
11N20MIMO_Ant1_2462



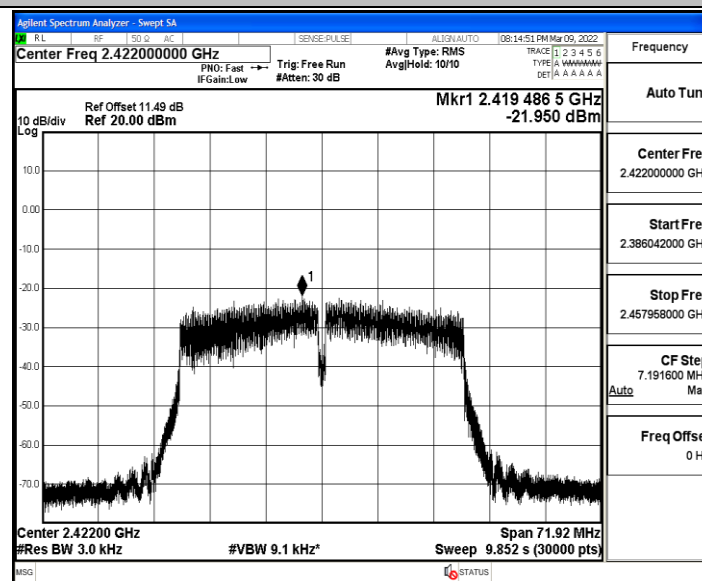
11N20MIMO_Ant2_2462



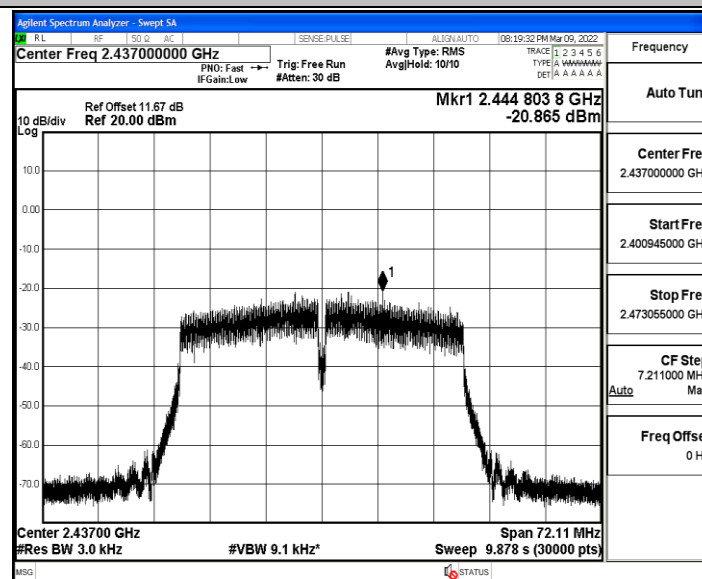
11N40MIMO_Ant1_2422



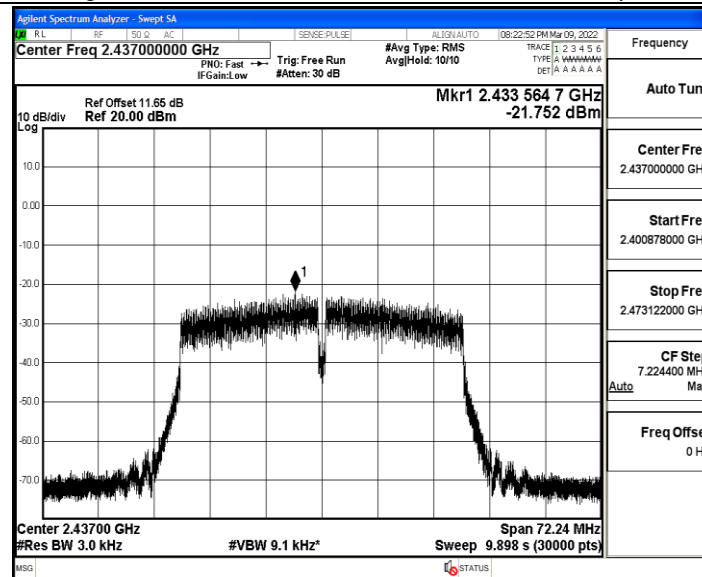
11N40MIMO_Ant2_2422



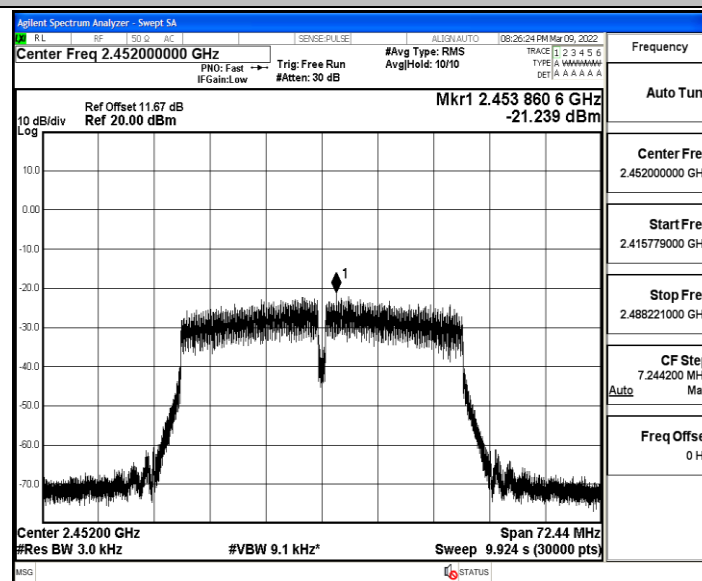
11N40MIMO_Ant1_2437



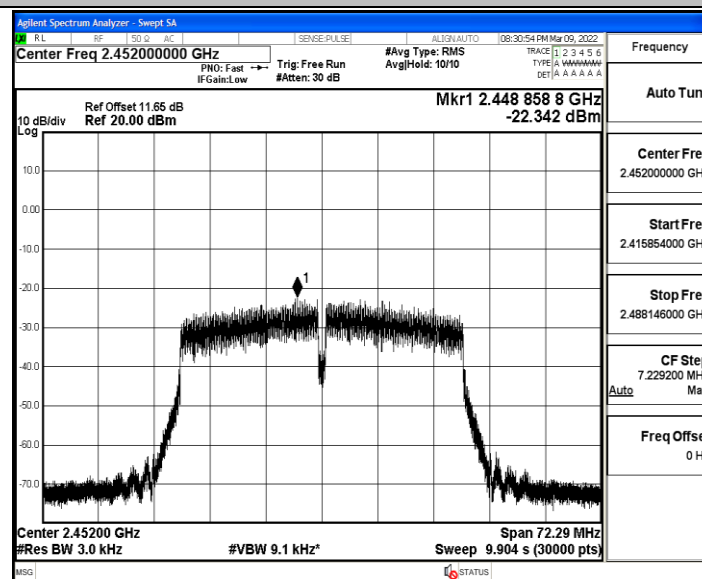
11N40MIMO_Ant2_2437



11N40MIMO_Ant1_2452



11N40MIMO_Ant2_2452



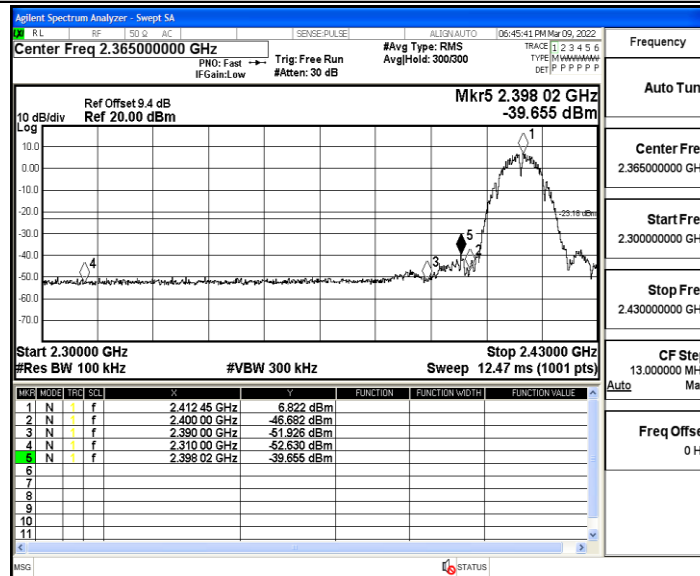
Appendix E: Band edge measurements

Test Result

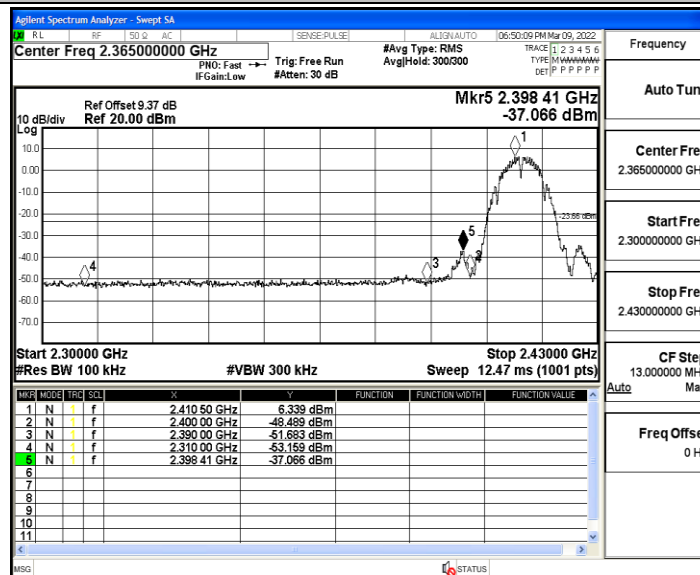
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.82	-39.66	≤-23.18	PASS
	Ant2	Low	2412	6.34	-37.07	≤-23.66	PASS
	Ant1	High	2462	7.42	-47.3	≤-22.59	PASS
	Ant2	High	2462	6.46	-48.65	≤-23.54	PASS
11G	Ant1	Low	2412	4.43	-42.43	≤-25.57	PASS
	Ant2	Low	2412	3.59	-41.67	≤-26.41	PASS
	Ant1	High	2462	4.12	-46.36	≤-25.88	PASS
	Ant2	High	2462	3.72	-47.19	≤-26.28	PASS
11N20MIMO	Ant1	Low	2412	3.22	-42.91	≤-26.78	PASS
	Ant2	Low	2412	3.30	-43.17	≤-26.7	PASS
	Ant1	High	2462	3.37	-47.76	≤-26.63	PASS
	Ant2	High	2462	2.87	-47.56	≤-27.13	PASS
11N40MIMO	Ant1	Low	2422	-0.98	-39.49	≤-30.98	PASS
	Ant2	Low	2422	-1.19	-43.31	≤-31.19	PASS
	Ant1	High	2452	-1.03	-44.29	≤-31.03	PASS
	Ant2	High	2452	-1.80	-47.45	≤-31.8	PASS

Test Graphs

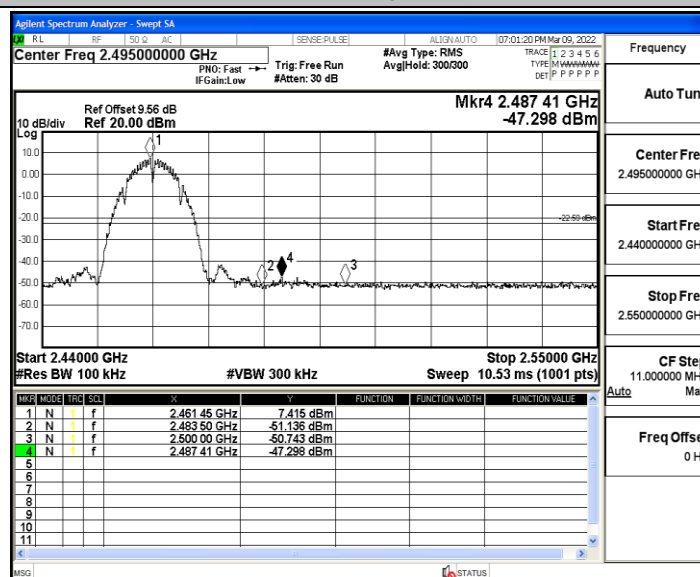
11B_Ant1_Low_2412



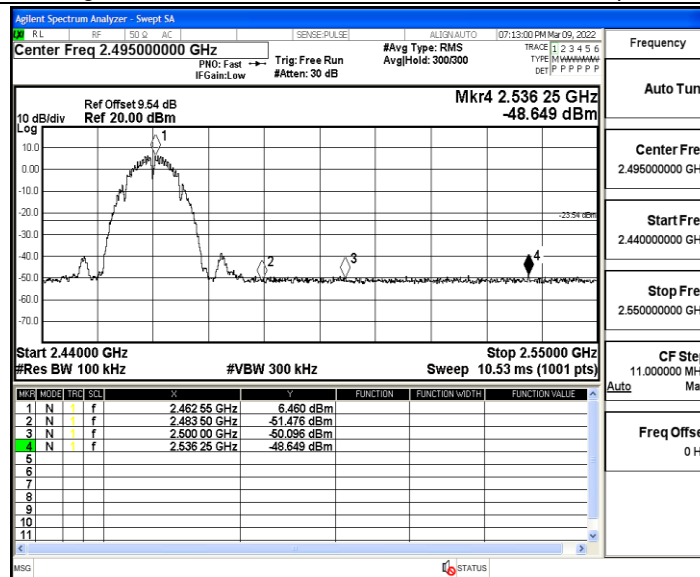
11B_Ant2_Low_2412



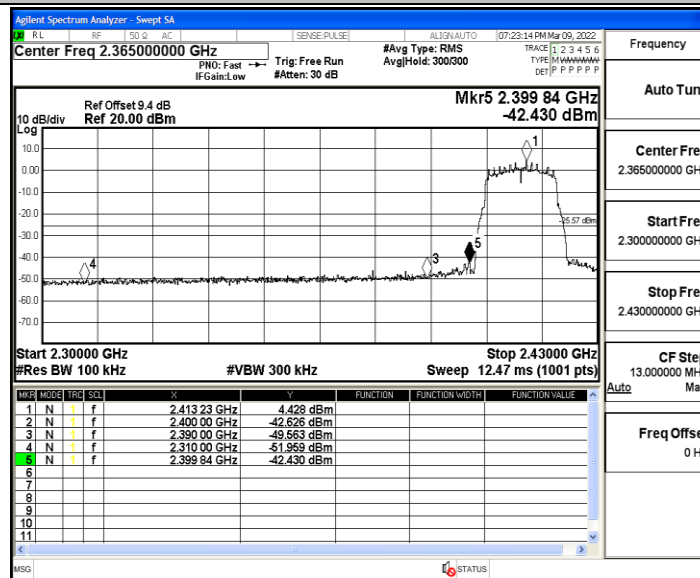
11B_Ant1_High_2462



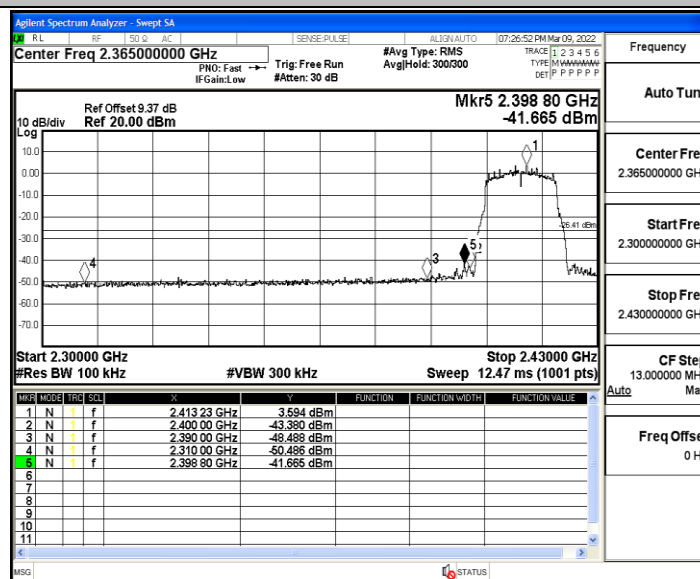
11B_Ant2_High_2462



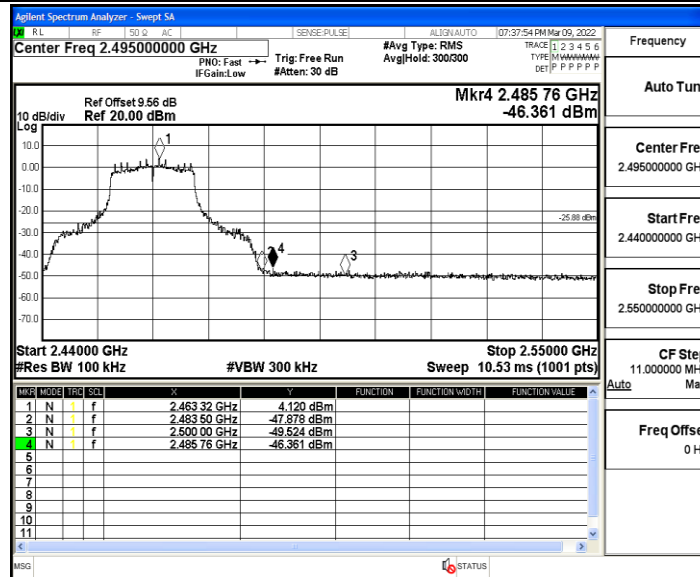
11G_Ant1_Low_2412



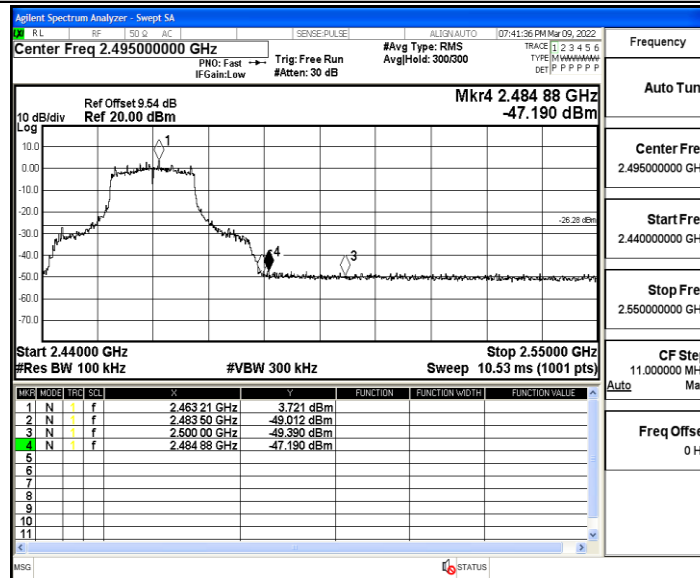
11G_Ant2_Low_2412



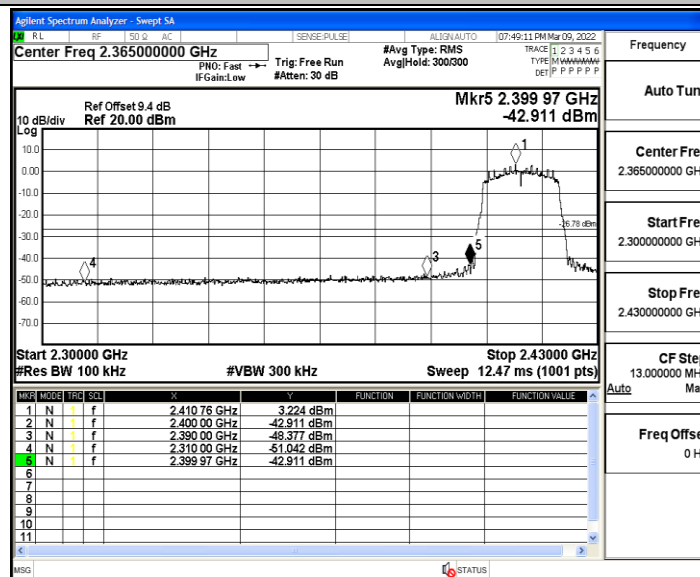
11G_Ant1_High_2462



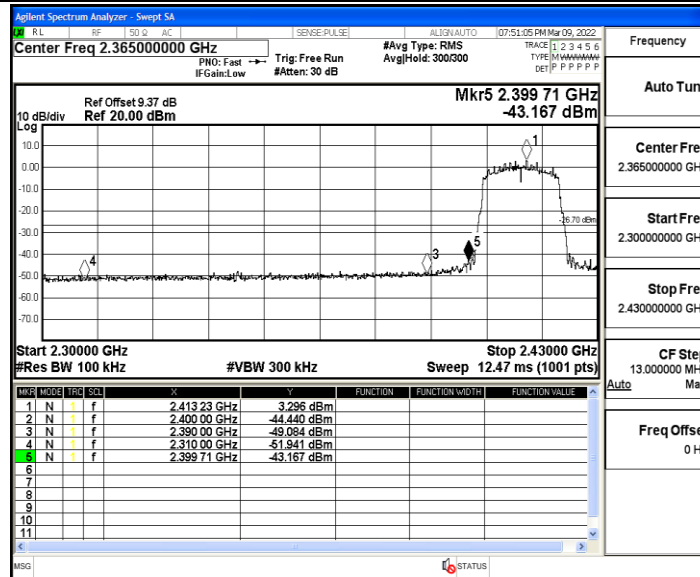
11G_Ant2_High_2462



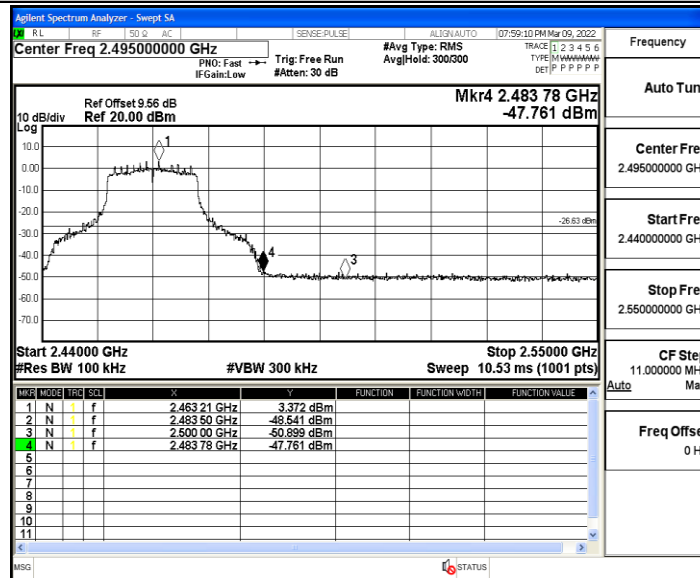
11N20MIMO_Ant1_Low_2412



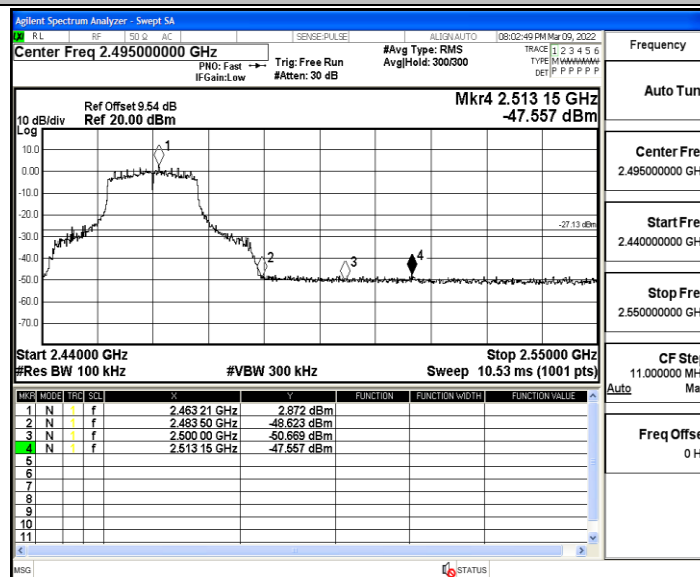
11N20MIMO_Ant2_Low_2412



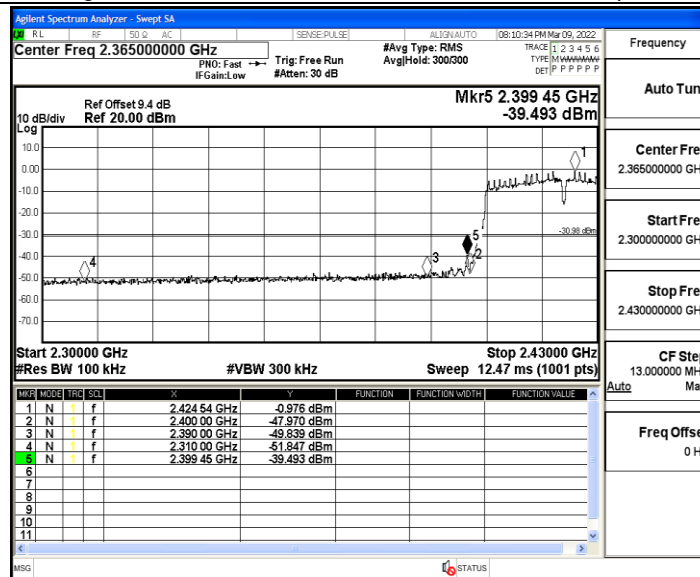
11N20MIMO_Ant1_High_2462



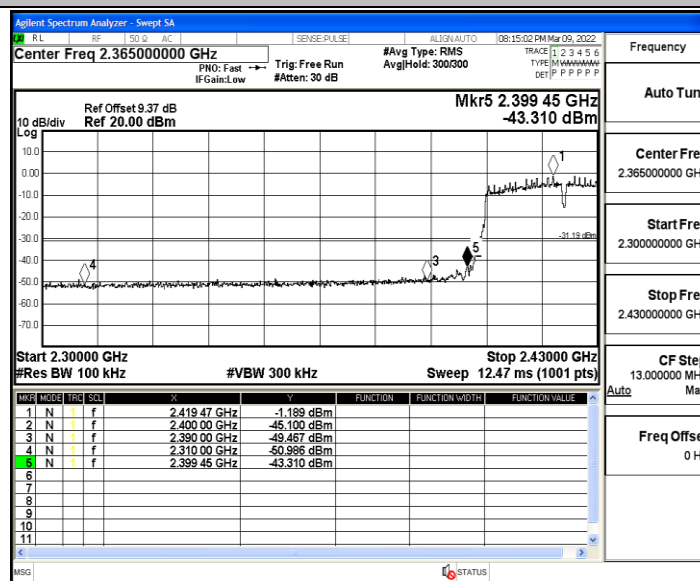
11N20MIMO_Ant2_High_2462



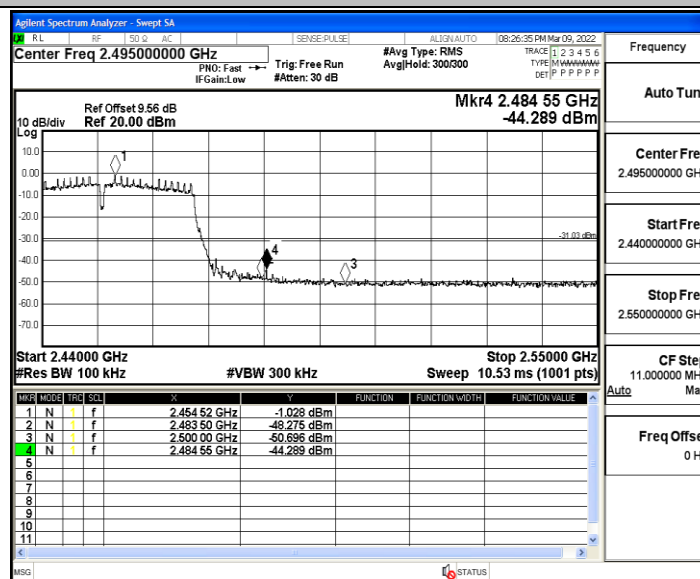
11N40MIMO_Ant1_Low_2422



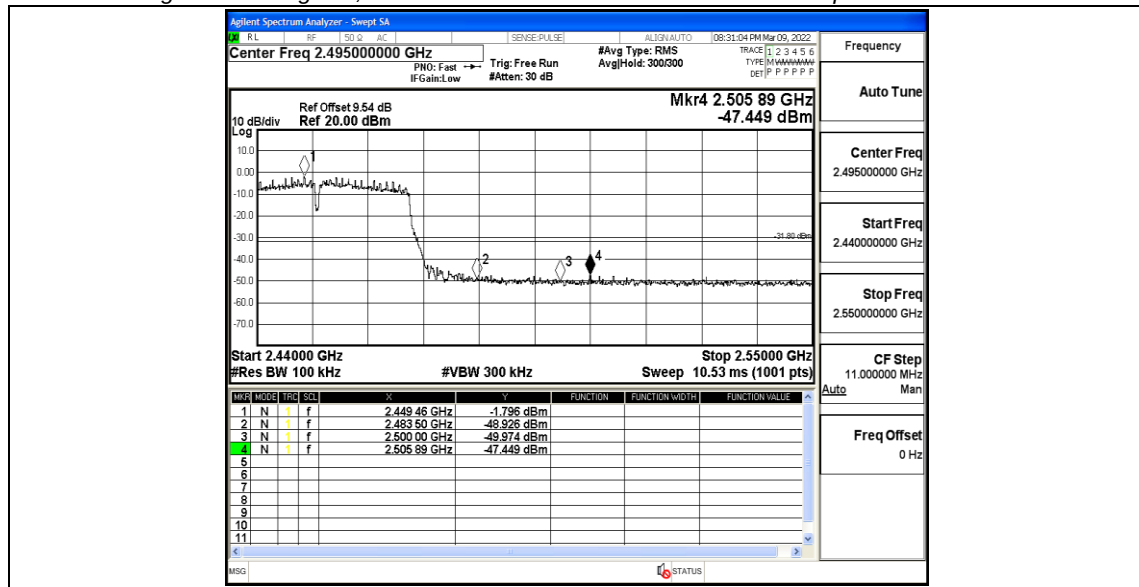
11N40MIMO_Ant2_Low_2422



11N40MIMO_Ant1_High_2452



11N40MIMO_Ant2_High_2452



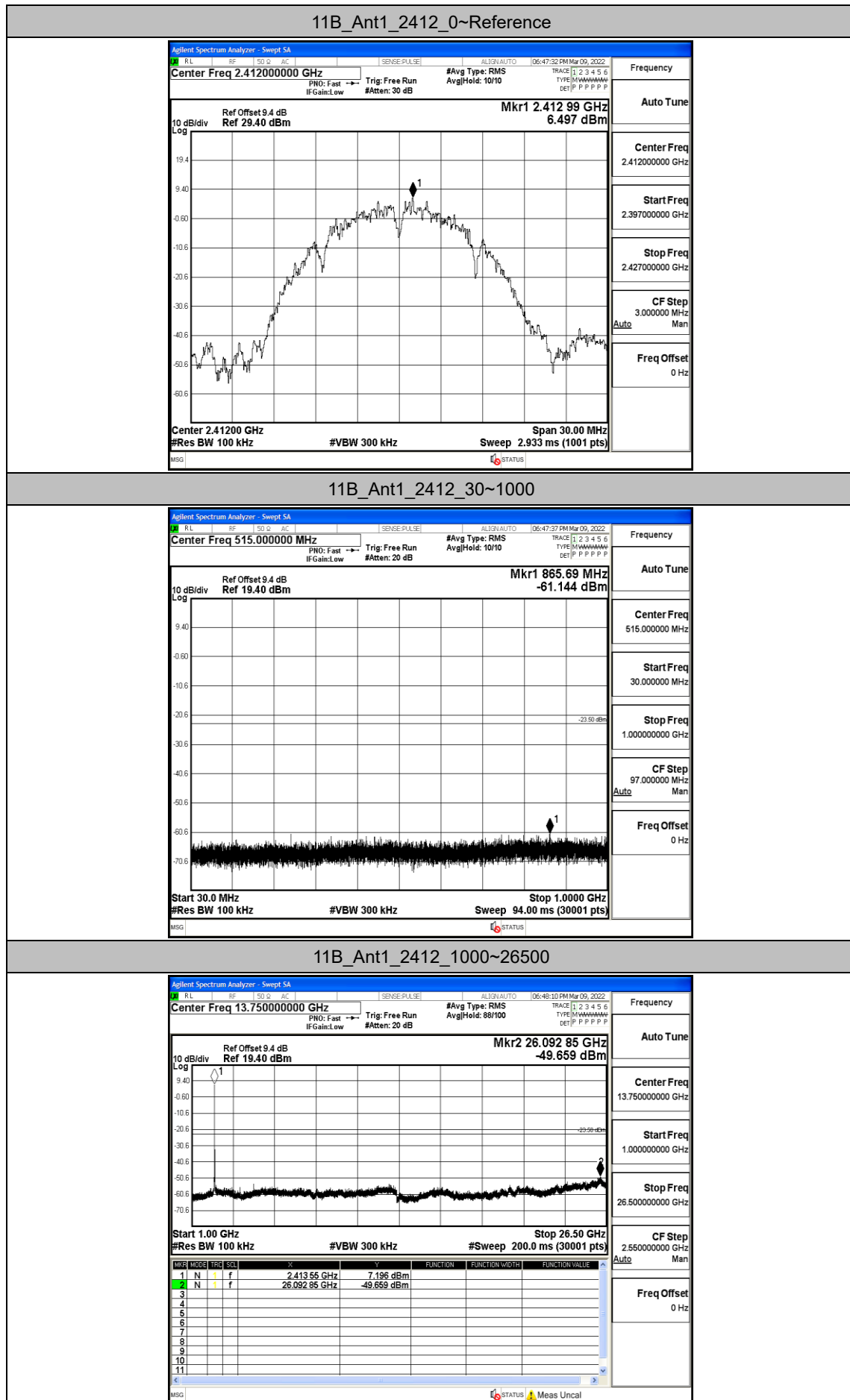
Appendix F: Conducted Spurious Emission

Test Result

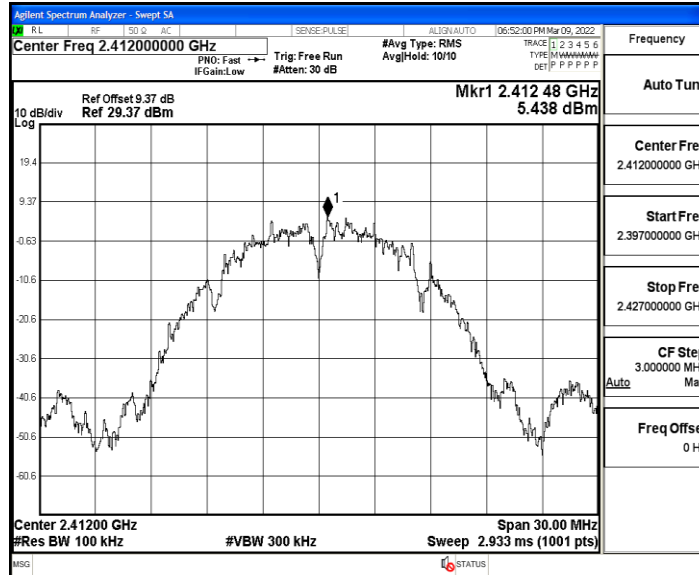
TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.50	6.50	---	PASS
			30~1000	6.50	-61.14	≤-23.5	PASS
			1000~26500	6.50	-49.66	≤-23.5	PASS
	Ant2	2412	Reference	5.44	5.44	---	PASS
			30~1000	5.44	-60.98	≤-24.56	PASS
			1000~26500	5.44	-49.09	≤-24.56	PASS
	Ant1	2437	Reference	5.81	5.81	---	PASS
			30~1000	5.81	-60.69	≤-24.19	PASS
			1000~26500	5.81	-49.57	≤-24.19	PASS
	Ant2	2437	Reference	5.41	5.41	---	PASS
			30~1000	5.41	-60.59	≤-24.59	PASS
			1000~26500	5.41	-48.79	≤-24.59	PASS
	Ant1	2462	Reference	5.74	5.74	---	PASS
			30~1000	5.74	-61.08	≤-24.26	PASS
			1000~26500	5.74	-49.66	≤-24.26	PASS
	Ant2	2462	Reference	5.52	5.52	---	PASS
			30~1000	5.52	-60.06	≤-24.48	PASS
			1000~26500	5.52	-49.95	≤-24.48	PASS
11G	Ant1	2412	Reference	1.13	1.13	---	PASS
			30~1000	1.13	-60.7	≤-28.87	PASS
			1000~26500	1.13	-49.67	≤-28.87	PASS
	Ant2	2412	Reference	0.93	0.93	---	PASS
			30~1000	0.93	-60.73	≤-29.07	PASS
			1000~26500	0.93	-49.07	≤-29.07	PASS
	Ant1	2437	Reference	1.95	1.95	---	PASS
			30~1000	1.95	-61.06	≤-28.05	PASS
			1000~26500	1.95	-48.86	≤-28.05	PASS
	Ant2	2437	Reference	0.61	0.61	---	PASS
			30~1000	0.61	-60.75	≤-29.39	PASS
			1000~26500	0.61	-48.38	≤-29.39	PASS
	Ant1	2462	Reference	0.33	0.33	---	PASS
			30~1000	0.33	-60.65	≤-29.67	PASS
			1000~26500	0.33	-47.75	≤-29.67	PASS
	Ant2	2462	Reference	0.89	0.89	---	PASS
			30~1000	0.89	-59.86	≤-29.11	PASS
			1000~26500	0.89	-49.31	≤-29.11	PASS
11N20MIMO	Ant1	2412	Reference	-0.42	-0.42	---	PASS
			30~1000	-0.42	-60.96	≤-30.42	PASS
			1000~26500	-0.42	-49.73	≤-30.42	PASS
	Ant2	2412	Reference	0.65	0.65	---	PASS

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
			30~1000	0.65	-60.84	≤-29.35	PASS
			1000~26500	0.65	-49.03	≤-29.35	PASS
	Ant1	2437	Reference	0.29	0.29	---	PASS
			30~1000	0.29	-61.03	≤-29.71	PASS
			1000~26500	0.29	-48.95	≤-29.71	PASS
	Ant2	2437	Reference	-0.34	-0.34	---	PASS
			30~1000	-0.34	-60.95	≤-30.34	PASS
			1000~26500	-0.34	-48.94	≤-30.34	PASS
	Ant1	2462	Reference	0.01	0.01	---	PASS
			30~1000	0.01	-60.99	≤-29.99	PASS
			1000~26500	0.01	-50.14	≤-29.99	PASS
	Ant2	2462	Reference	-0.22	-0.22	---	PASS
			30~1000	-0.22	-61.51	≤-30.22	PASS
			1000~26500	-0.22	-48.87	≤-30.22	PASS
11N40MIMO	Ant1	2422	Reference	-1.75	-1.75	---	PASS
			30~1000	-1.75	-61.71	≤-31.75	PASS
			1000~26500	-1.75	-50.3	≤-31.75	PASS
	Ant2	2422	Reference	-3.03	-3.03	---	PASS
			30~1000	-3.03	-61.02	≤-33.03	PASS
			1000~26500	-3.03	-50.29	≤-33.03	PASS
	Ant1	2437	Reference	-1.71	-1.71	---	PASS
			30~1000	-1.71	-59.96	≤-31.71	PASS
			1000~26500	-1.71	-49.94	≤-31.71	PASS
	Ant2	2437	Reference	-4.28	-4.28	---	PASS
			30~1000	-4.28	-60.7	≤-34.28	PASS
			1000~26500	-4.28	-49.3	≤-34.28	PASS
	Ant1	2452	Reference	-2.25	-2.25	---	PASS
			30~1000	-2.25	-61.56	≤-32.25	PASS
			1000~26500	-2.25	-49.32	≤-32.25	PASS
	Ant2	2452	Reference	-2.64	-2.64	---	PASS
			30~1000	-2.64	-61.08	≤-32.64	PASS
			1000~26500	-2.64	-49.92	≤-32.64	PASS

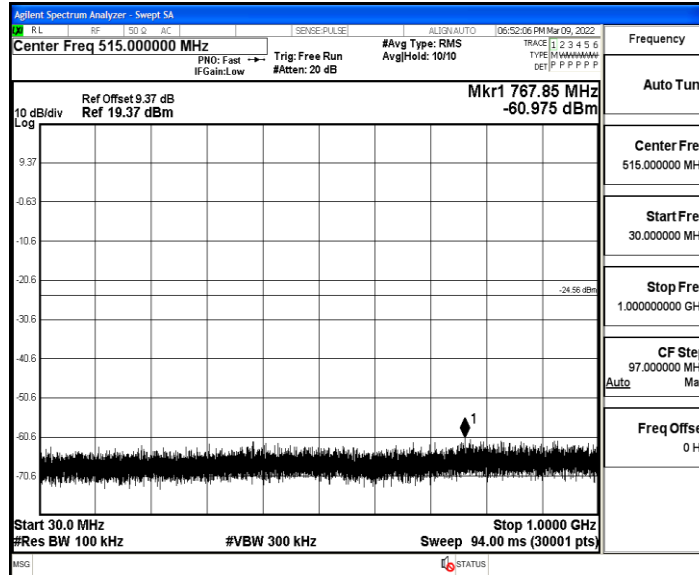
Test Graphs



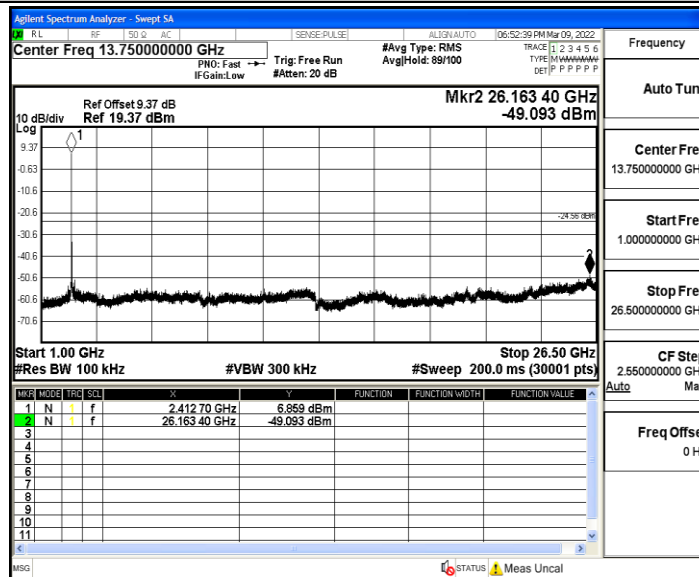
11B_Ant2_2412_0~Reference



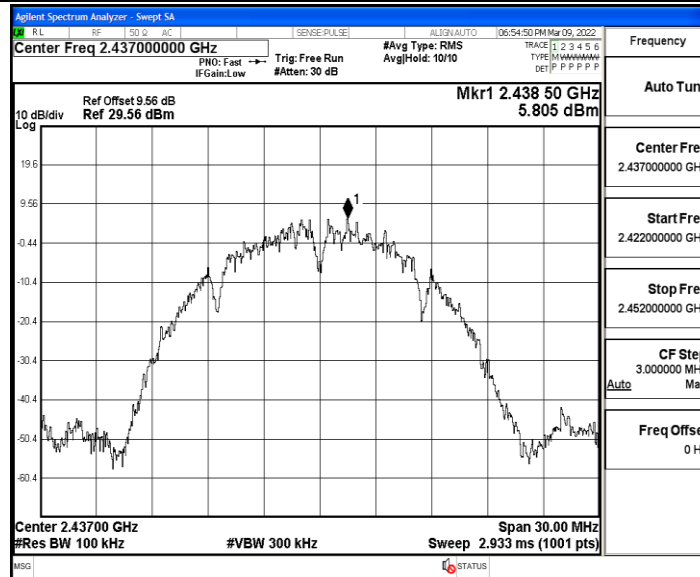
11B_Ant2_2412_30~1000



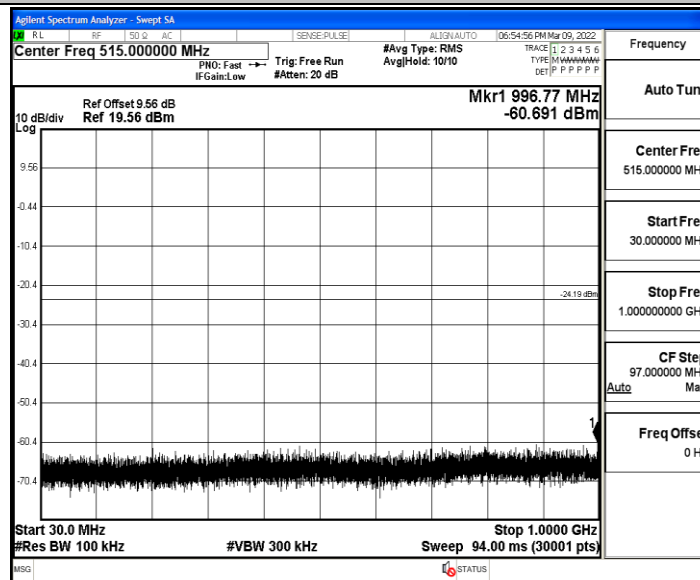
11B_Ant2_2412_1000~26500



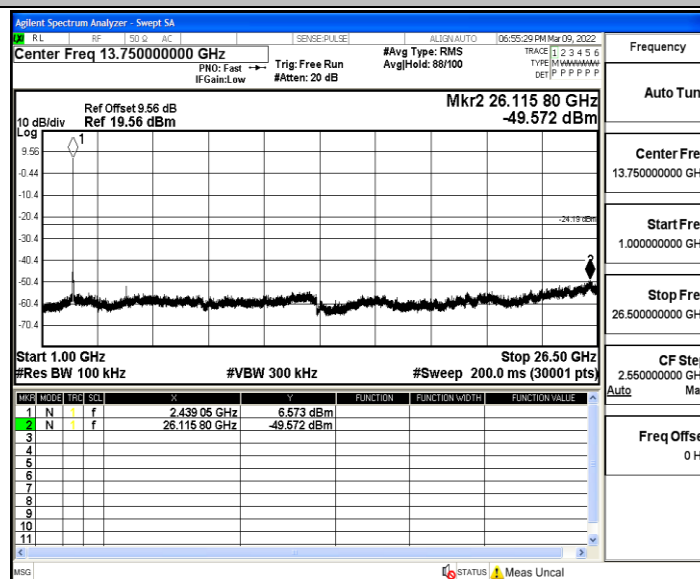
11B_Ant1_2437_0~Reference



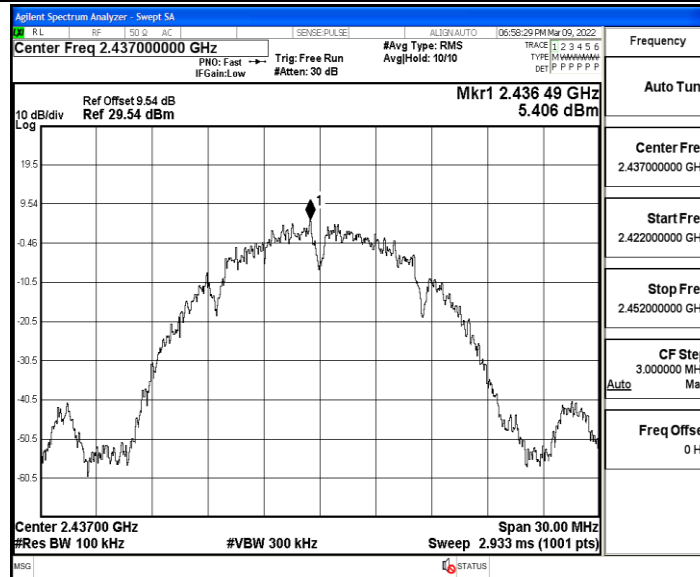
11B_Ant1_2437_30~1000



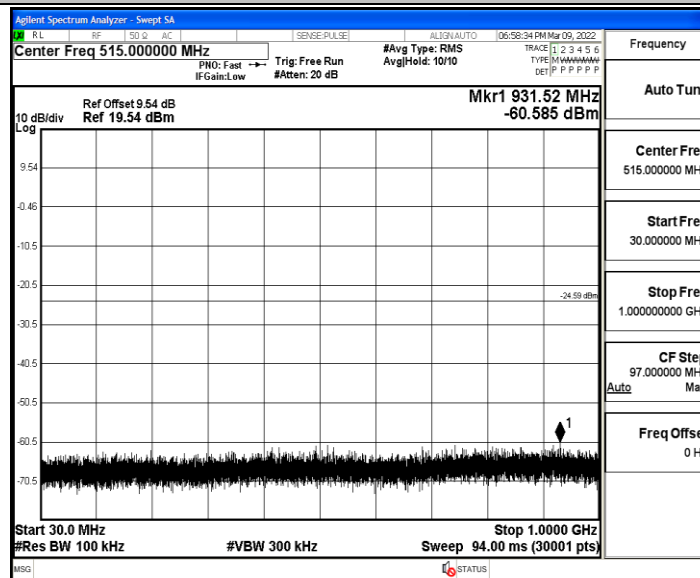
11B_Ant1_2437_1000~26500



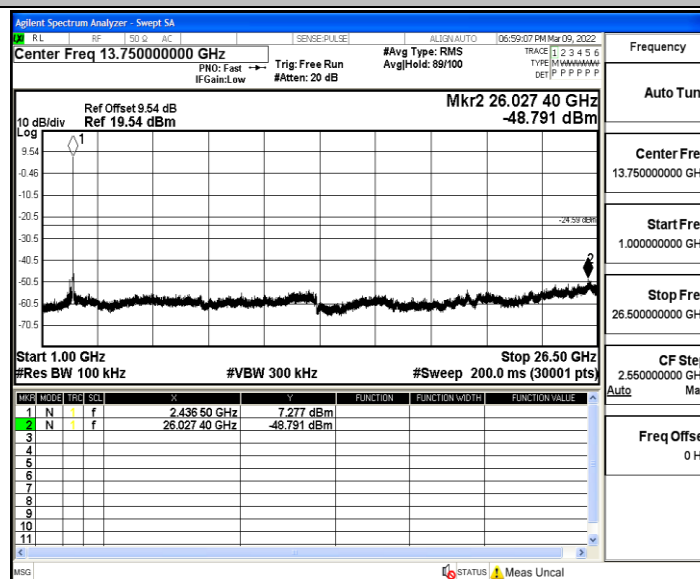
11B_Ant2_2437_0~Reference



11B_Ant2_2437_30~1000



11B_Ant2_2437_1000~26500



11B_Ant1_2462_0~Reference