

RF Test Data for RLAN(5.2G) (Conducted Measurement)

Product Name: 4K Dongle

Trade Mark: MSTICK

Test Model: MG-S02L

FCC ID: 2AWC3-MG-S02L

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

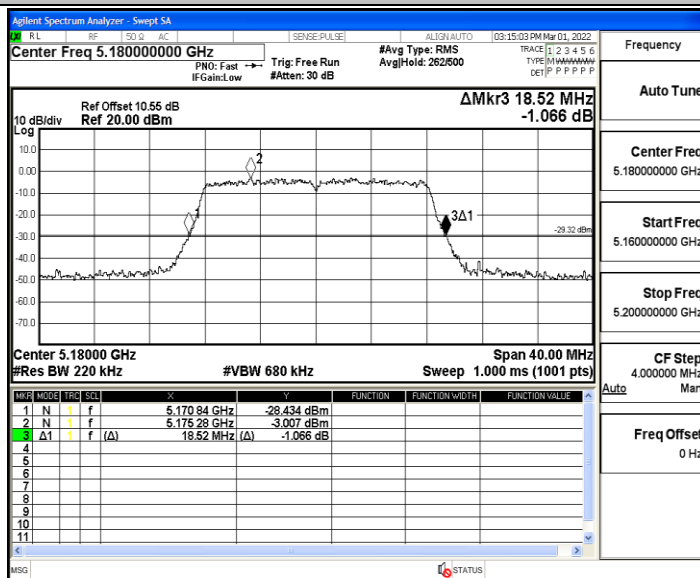
Appendix A1: Emission Bandwidth

Test Result

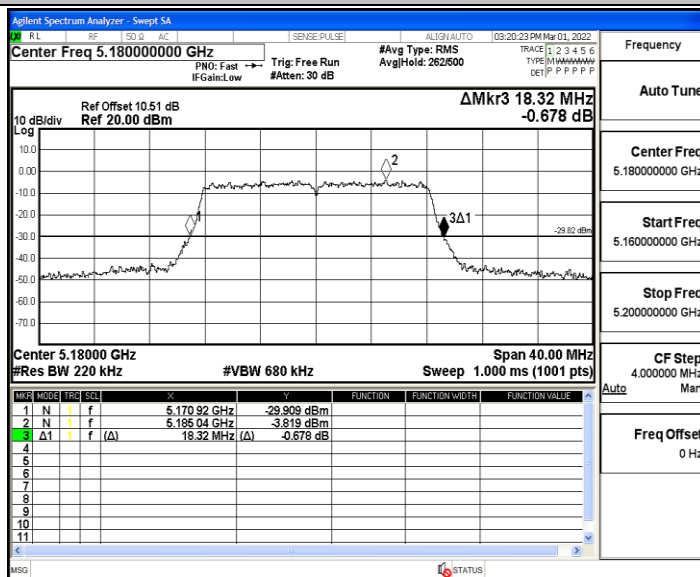
TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.520	5170.840	5189.360	---	PASS
	Ant2	5180	18.320	5170.920	5189.240	---	PASS
	Ant1	5200	18.440	5190.840	5209.280	---	PASS
	Ant2	5200	18.560	5190.760	5209.320	---	PASS
	Ant1	5240	18.520	5230.760	5249.280	---	PASS
	Ant2	5240	18.560	5230.720	5249.280	---	PASS
11N20MIMO	Ant1	5180	19.400	5170.320	5189.720	---	PASS
	Ant2	5180	19.200	5170.480	5189.680	---	PASS
	Ant1	5200	19.640	5190.200	5209.840	---	PASS
	Ant2	5200	19.480	5190.360	5209.840	---	PASS
	Ant1	5240	19.400	5230.320	5249.720	---	PASS
	Ant2	5240	19.320	5230.400	5249.720	---	PASS
11N40MIMO	Ant1	5190	41.440	5169.440	5210.880	---	PASS
	Ant2	5190	40.800	5169.680	5210.480	---	PASS
	Ant1	5230	41.040	5209.520	5250.560	---	PASS
	Ant2	5230	40.960	5209.760	5250.720	---	PASS
11AC20MIMO	Ant1	5180	19.480	5170.360	5189.840	---	PASS
	Ant2	5180	19.440	5170.360	5189.800	---	PASS
	Ant1	5200	19.520	5190.280	5209.800	---	PASS
	Ant2	5200	19.600	5190.240	5209.840	---	PASS
	Ant1	5240	19.360	5230.280	5249.640	---	PASS
	Ant2	5240	19.360	5230.400	5249.760	---	PASS
11AC40MIMO	Ant1	5190	41.120	5169.520	5210.640	---	PASS
	Ant2	5190	41.040	5169.520	5210.560	---	PASS
	Ant1	5230	41.120	5209.440	5250.560	---	PASS
	Ant2	5230	40.720	5209.760	5250.480	---	PASS
11AC80MIMO	Ant1	5210	80.640	5170.000	5250.640	---	PASS
	Ant2	5210	80.320	5170.160	5250.480	---	PASS

Test Graphs

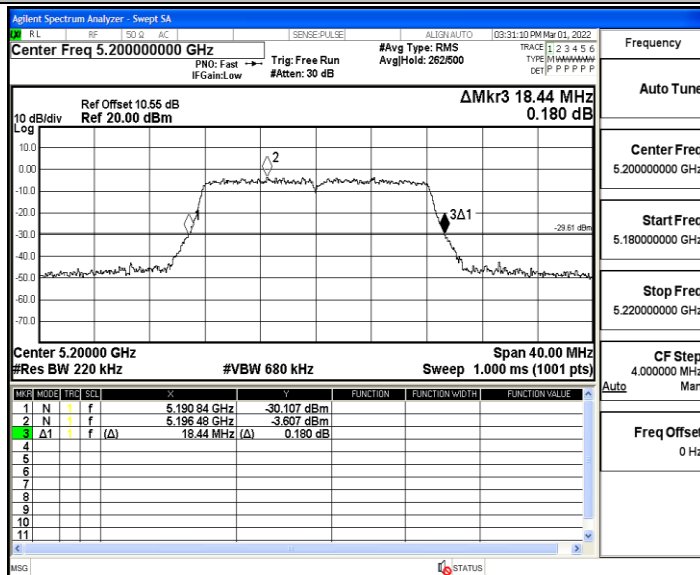
11A_Ant1_5180



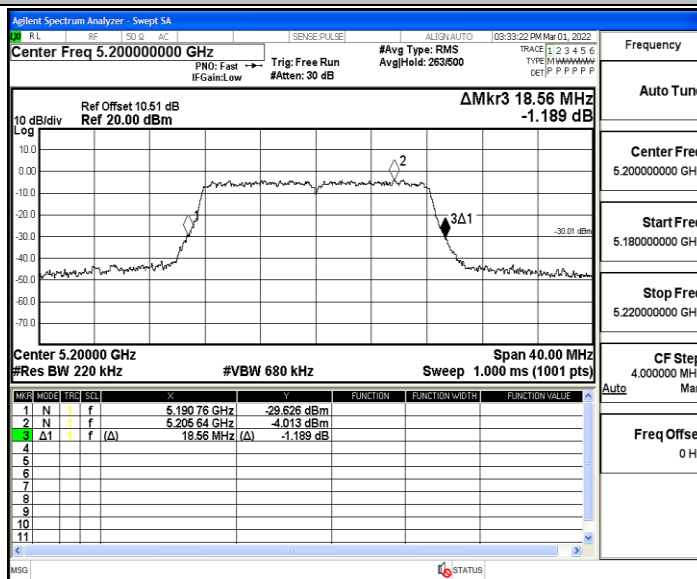
11A_Ant2_5180



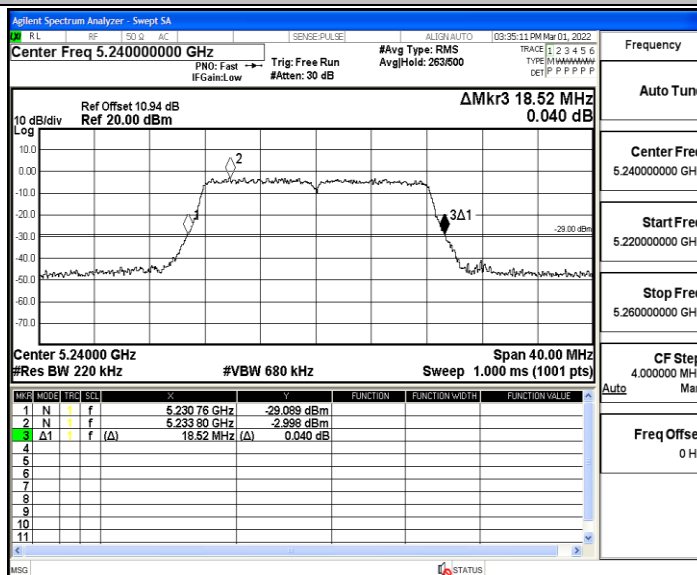
11A_Ant1_5200



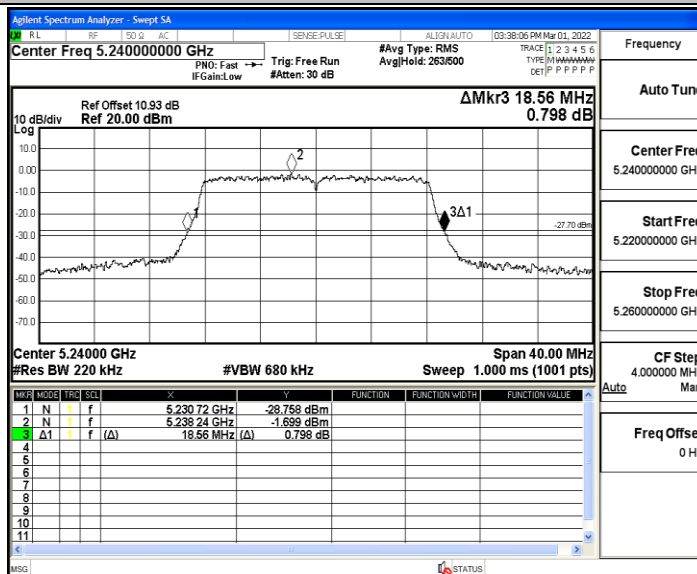
11A_Ant2_5200



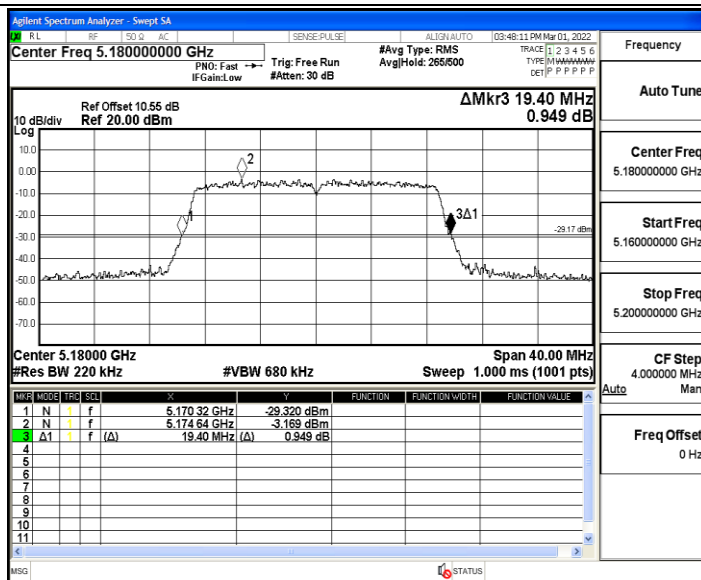
11A_Ant1_5240



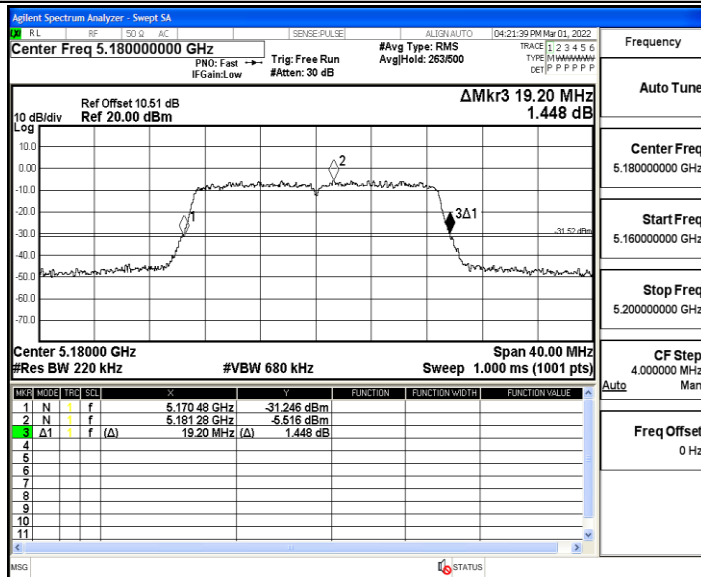
11A_Ant2_5240



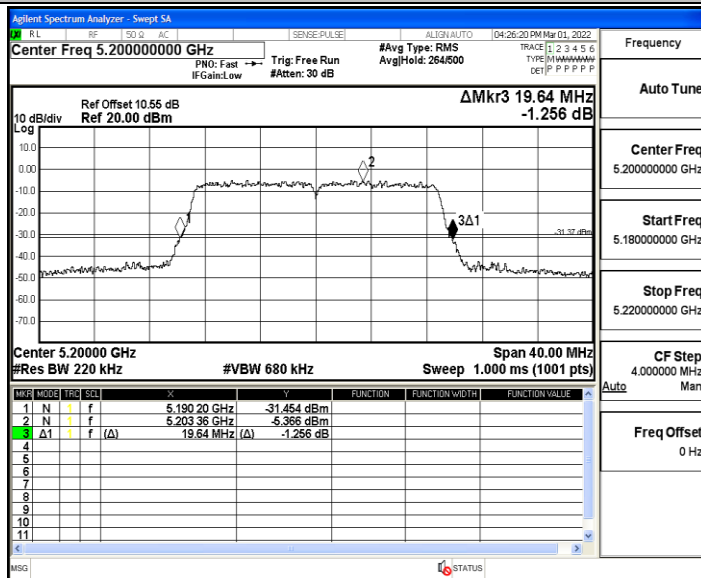
11N20MIMO_Ant1_5180



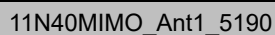
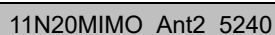
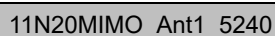
11N20MIMO_Ant2_5180

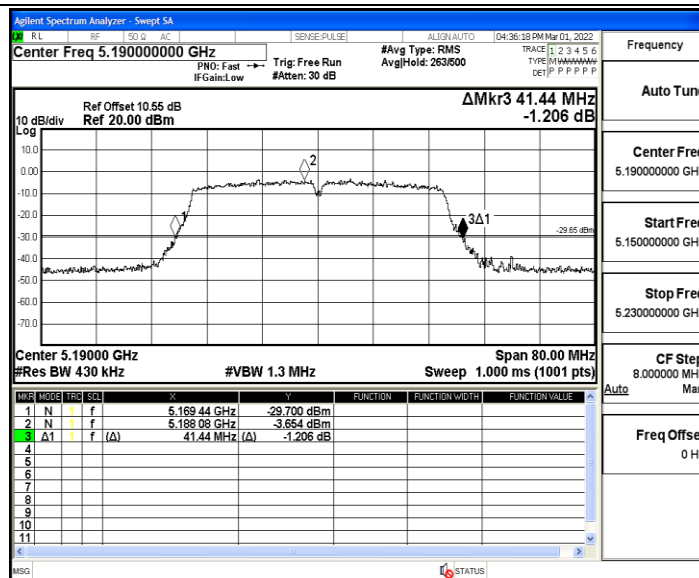


11N20MIMO_Ant1_5200

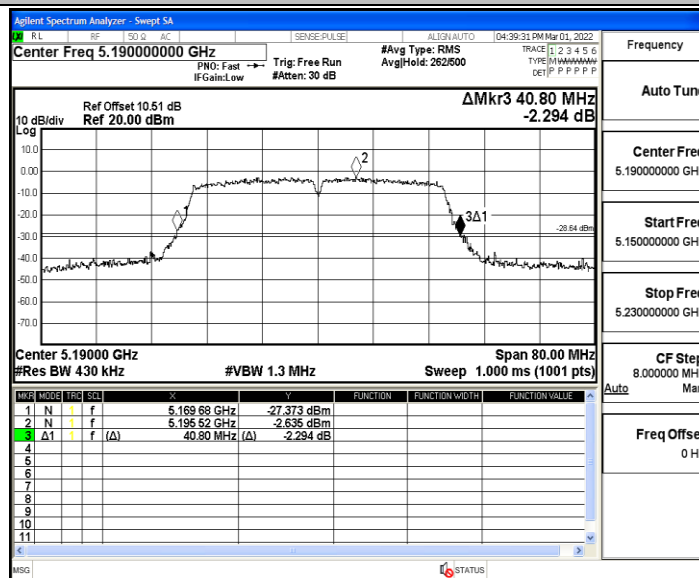


11N20MIMO_Ant2_5200

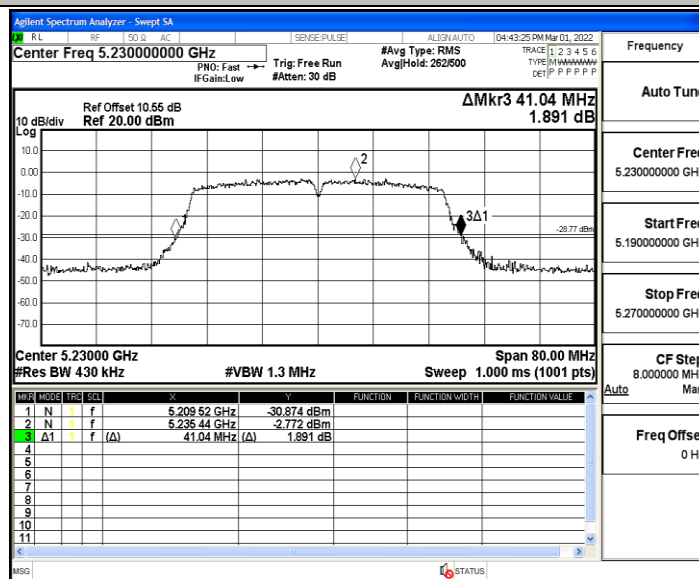




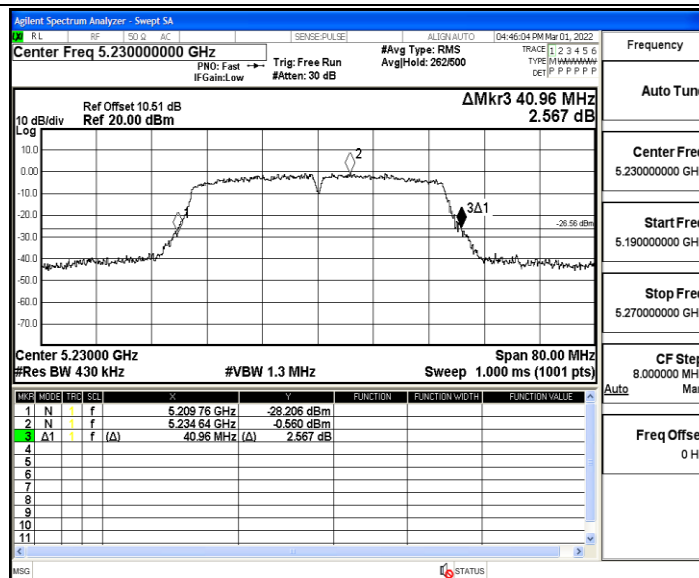
11N40MIMO_Ant2_5190



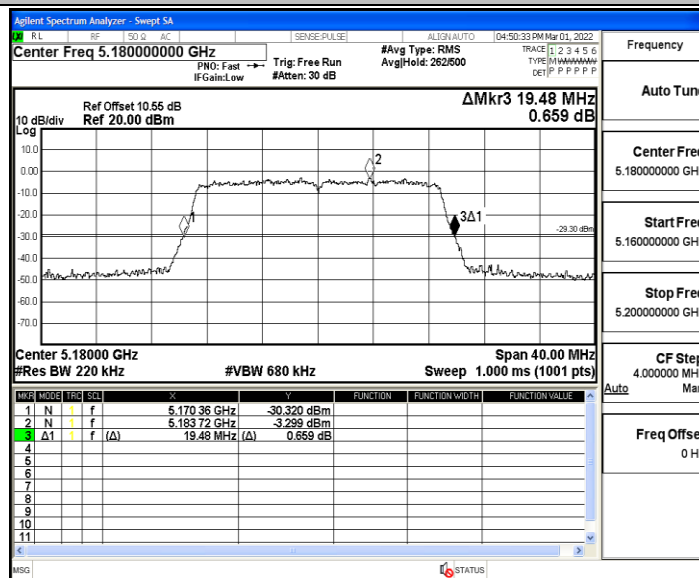
11N40MIMO_Ant1_5230



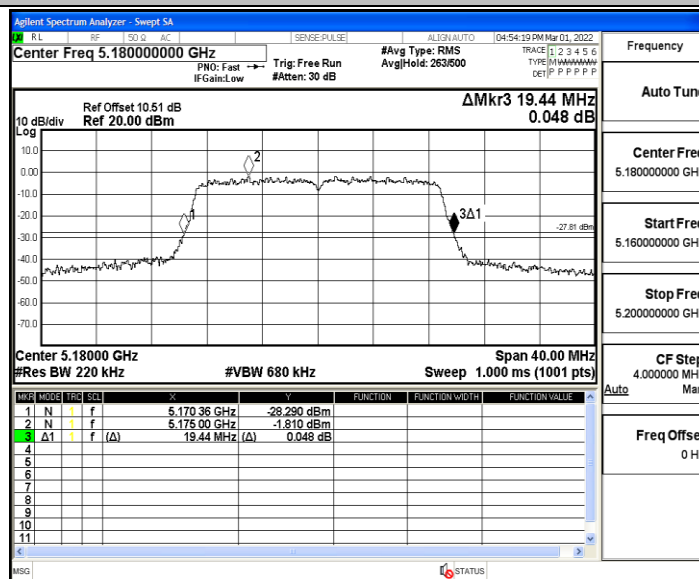
11N40MIMO_Ant2_5230



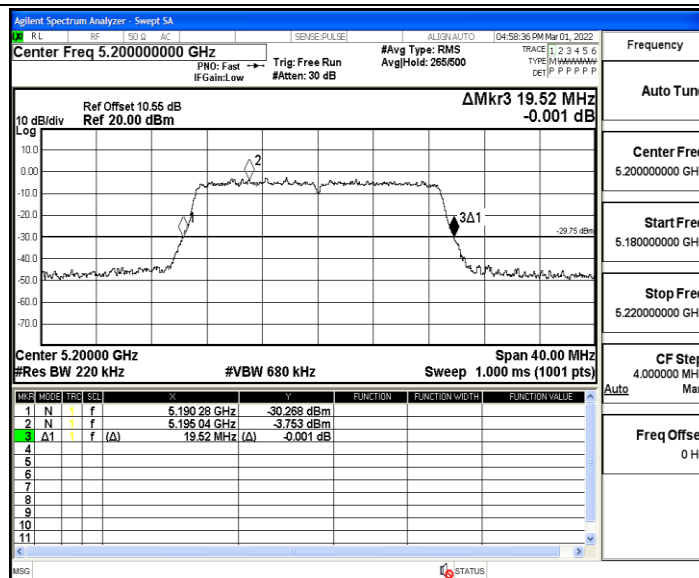
11AC20MIMO_Ant1_5180



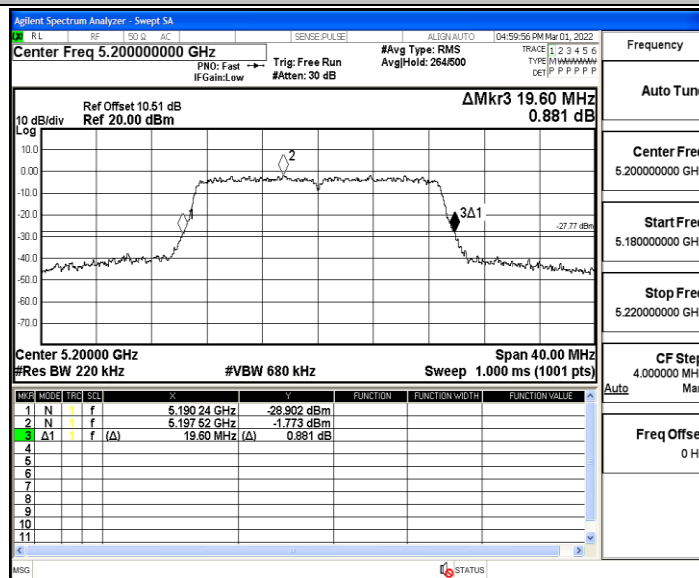
11AC20MIMO_Ant2_5180



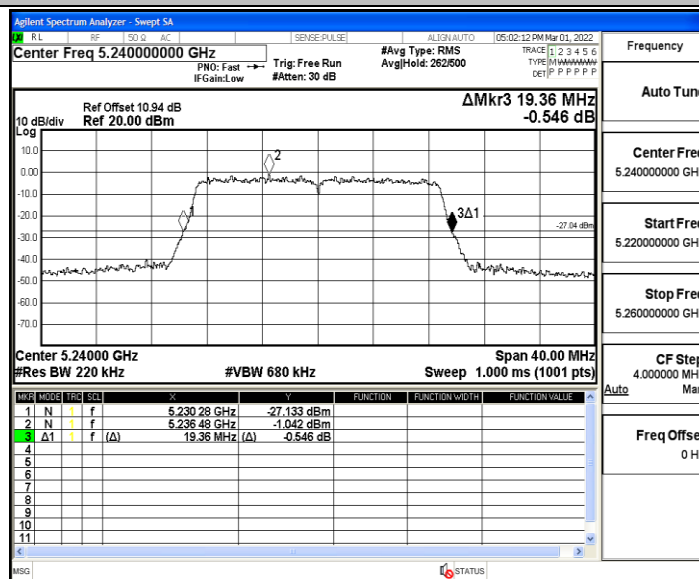
11AC20MIMO_Ant1_5200



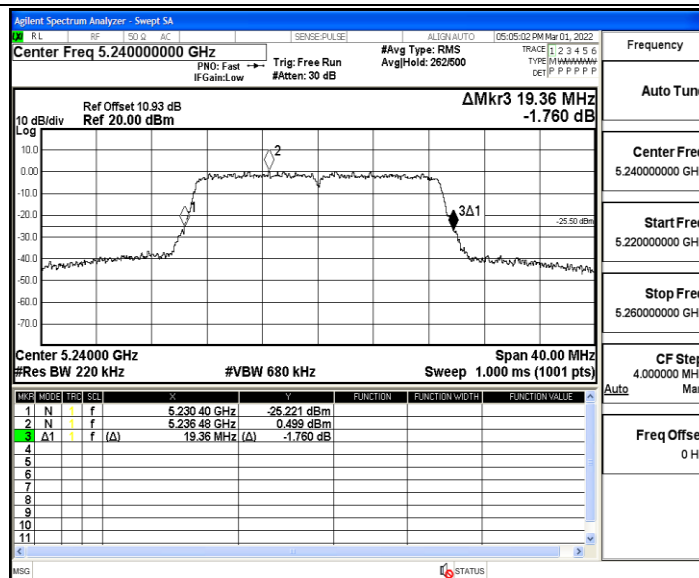
11AC20MIMO_Ant2_5200



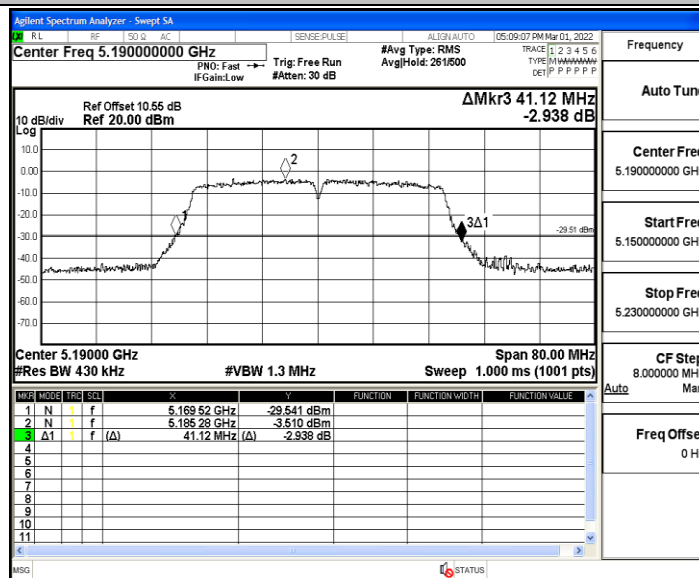
11AC20MIMO_Ant1_5240



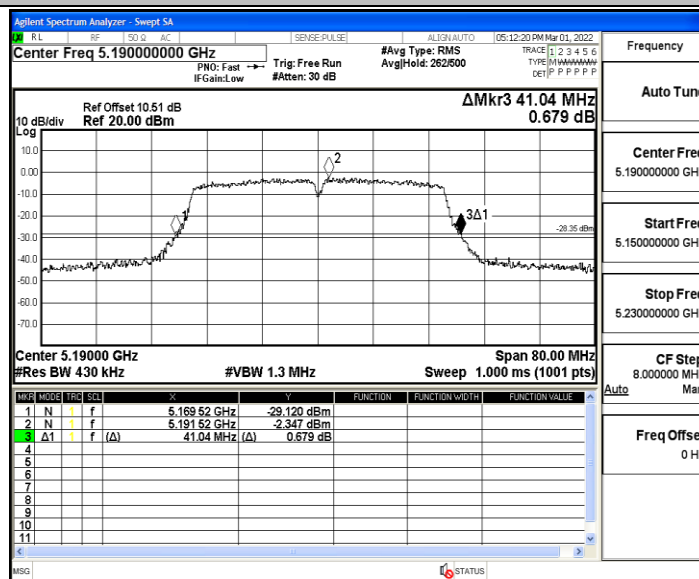
11AC20MIMO_Ant2_5240



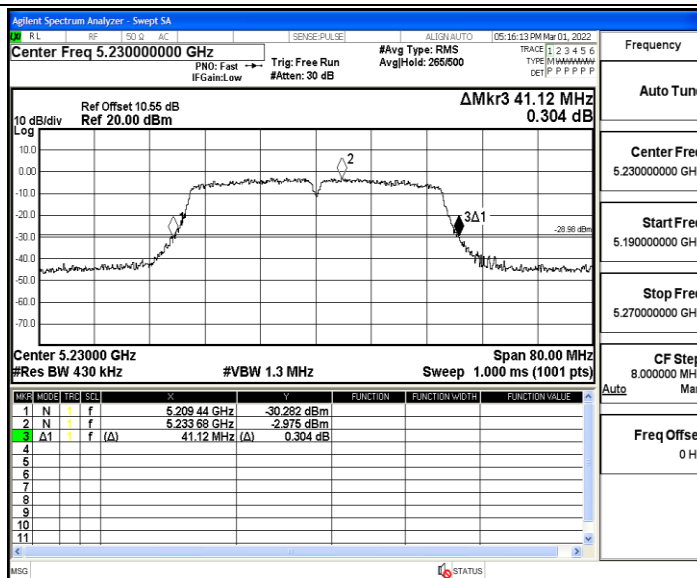
11AC40MIMO_Ant1_5190



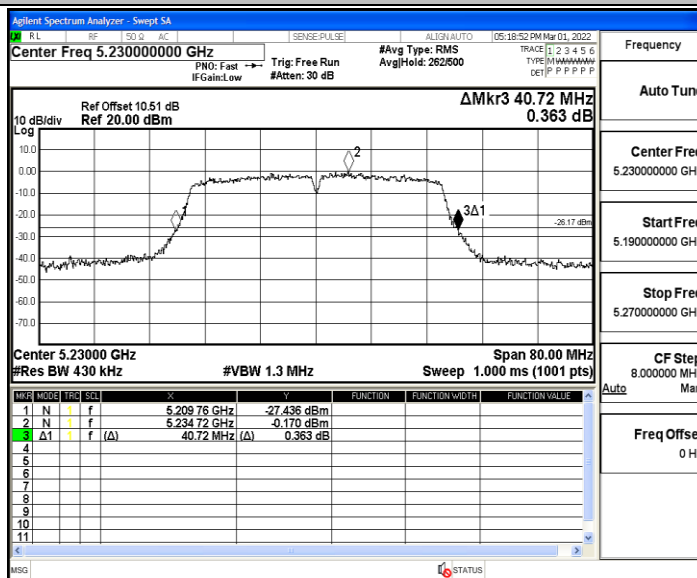
11AC40MIMO_Ant2_5190



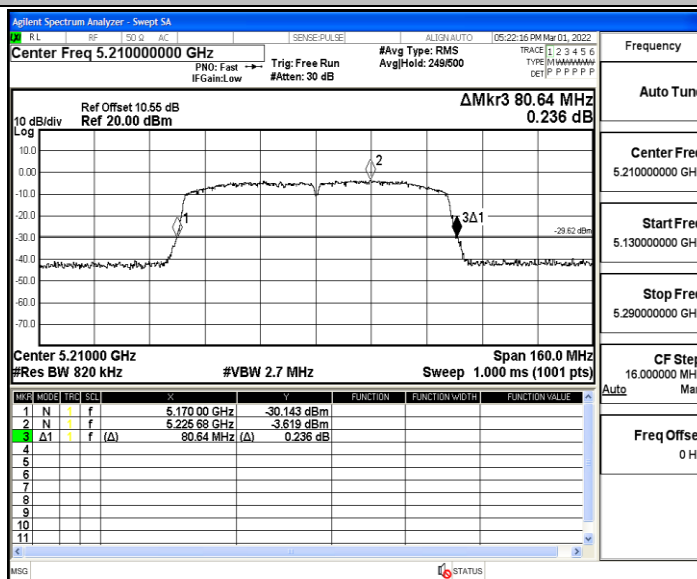
11AC40MIMO_Ant1_5230



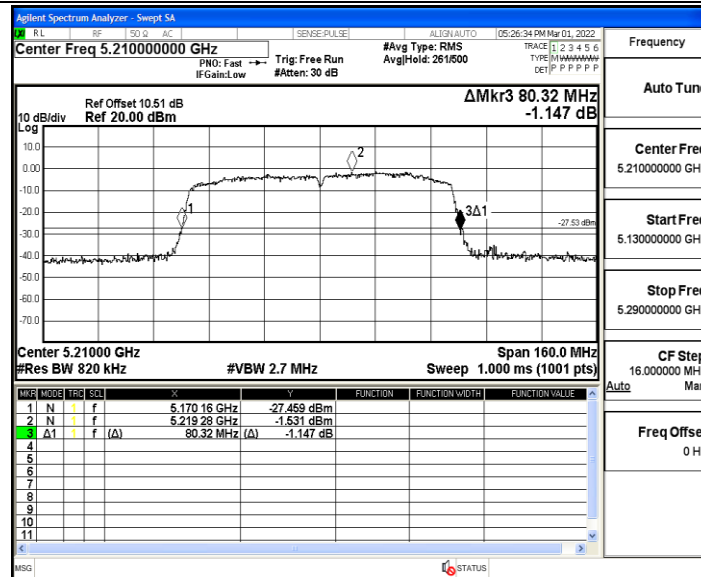
11AC40MIMO_Ant2_5230



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant2_5210



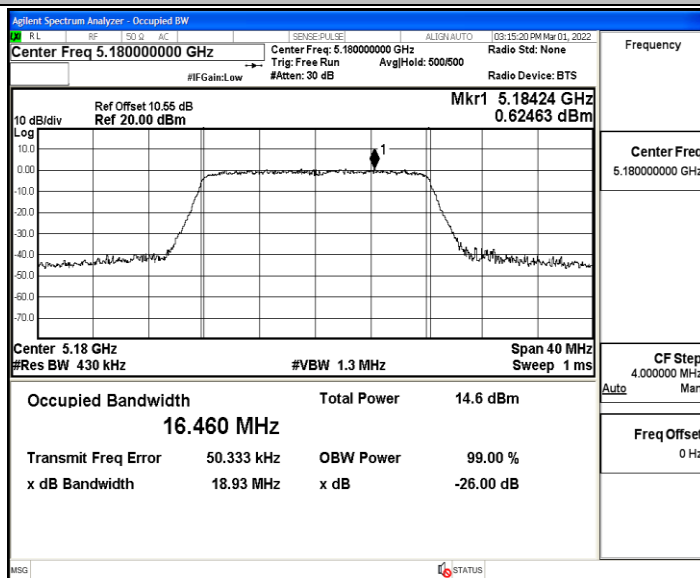
Appendix A2: Occupied channel bandwidth

Test Result

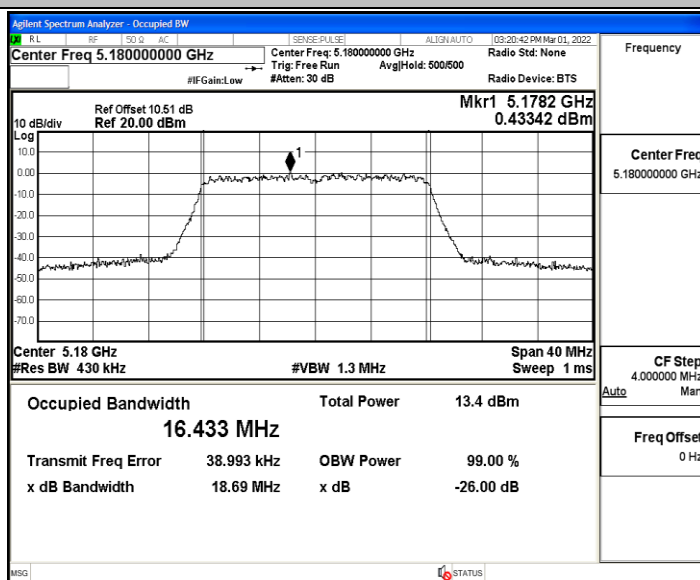
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.460	5171.820	5188.280	---	PASS
	Ant2	5180	16.433	5171.822	5188.255	---	PASS
	Ant1	5200	16.509	5191.776	5208.285	---	PASS
	Ant2	5200	16.468	5191.785	5208.253	---	PASS
	Ant1	5240	16.458	5231.787	5248.245	---	PASS
	Ant2	5240	16.455	5231.777	5248.232	---	PASS
11N20MIMO	Ant1	5180	17.610	5171.240	5188.850	---	PASS
	Ant2	5180	17.607	5171.250	5188.857	---	PASS
	Ant1	5200	17.661	5191.197	5208.858	---	PASS
	Ant2	5200	17.627	5191.224	5208.851	---	PASS
	Ant1	5240	17.635	5231.200	5248.835	---	PASS
	Ant2	5240	17.624	5231.216	5248.840	---	PASS
11N40MIMO	Ant1	5190	36.358	5171.857	5208.215	---	PASS
	Ant2	5190	36.464	5171.865	5208.329	---	PASS
	Ant1	5230	36.313	5211.885	5248.198	---	PASS
	Ant2	5230	36.260	5211.961	5248.221	---	PASS
11AC20MIMO	Ant1	5180	17.603	5171.244	5188.847	---	PASS
	Ant2	5180	17.595	5171.249	5188.844	---	PASS
	Ant1	5200	17.628	5191.208	5208.836	---	PASS
	Ant2	5200	17.641	5191.215	5208.856	---	PASS
	Ant1	5240	17.622	5231.196	5248.818	---	PASS
	Ant2	5240	17.628	5231.209	5248.837	---	PASS
11AC40MIMO	Ant1	5190	36.255	5171.955	5208.210	---	PASS
	Ant2	5190	36.314	5171.947	5208.261	---	PASS
	Ant1	5230	36.263	5211.920	5248.183	---	PASS
	Ant2	5230	36.149	5212.029	5248.178	---	PASS
11AC80MIMO	Ant1	5210	74.490	5172.965	5247.455	---	PASS
	Ant2	5210	74.576	5173.120	5247.696	---	PASS

Test Graphs

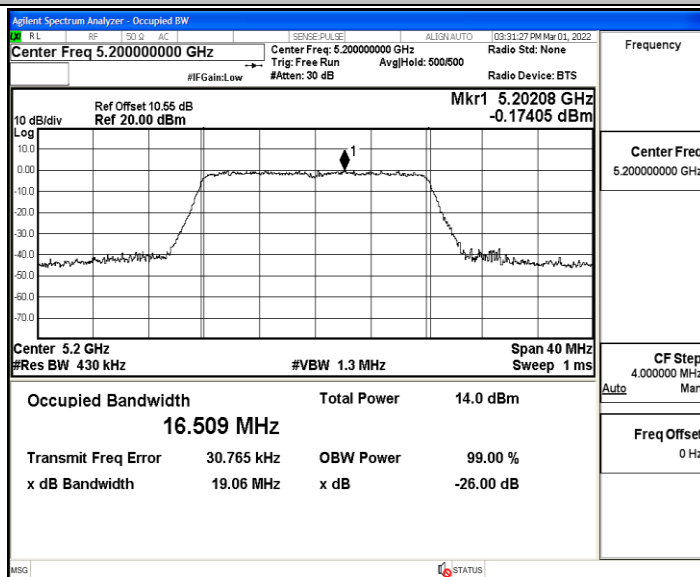
11A_Ant1_5180



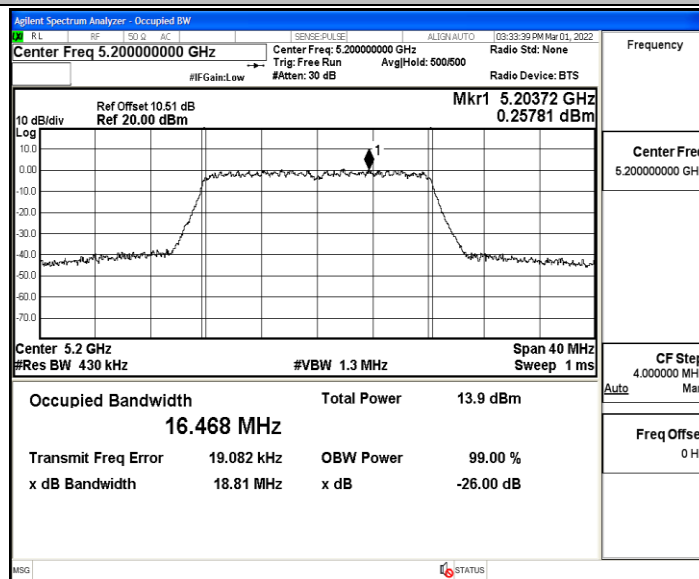
11A_Ant2_5180



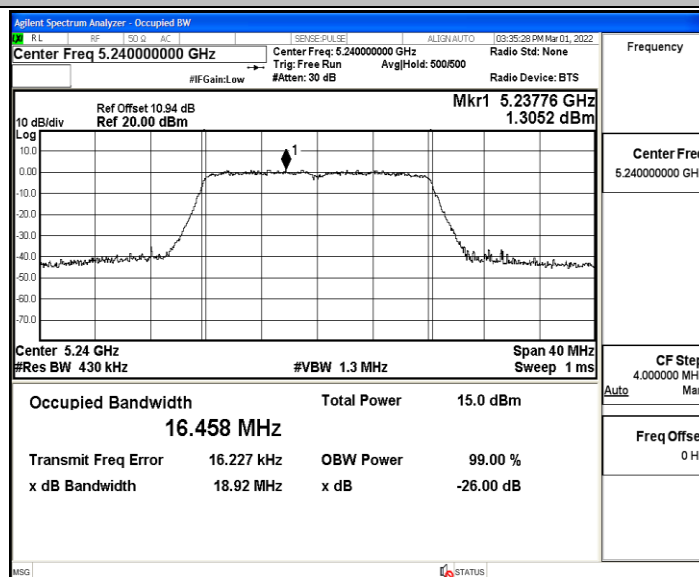
11A_Ant1_5200



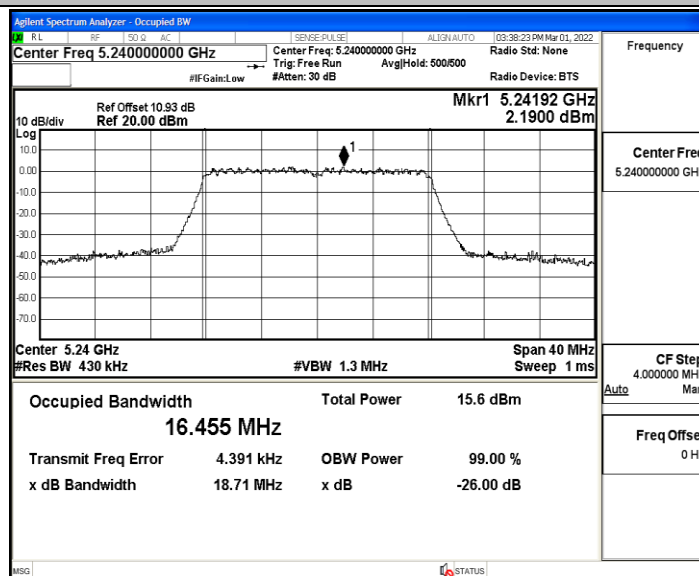
11A_Ant2_5200



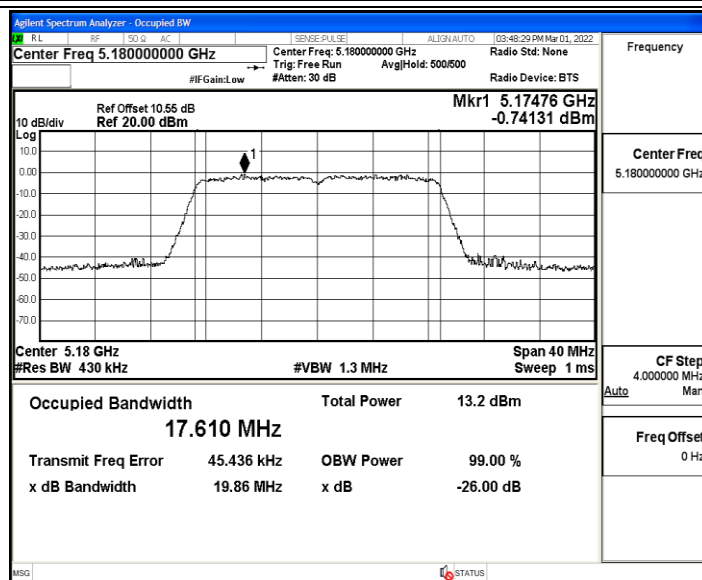
11A_Ant1_5240



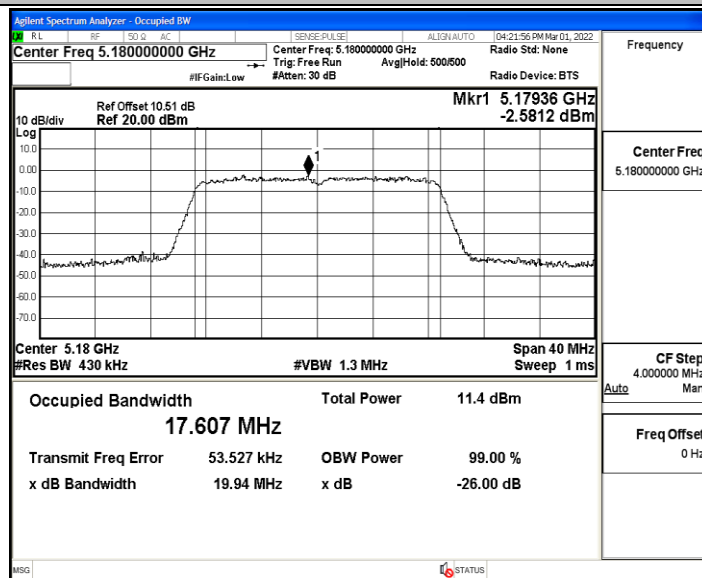
11A_Ant2_5240



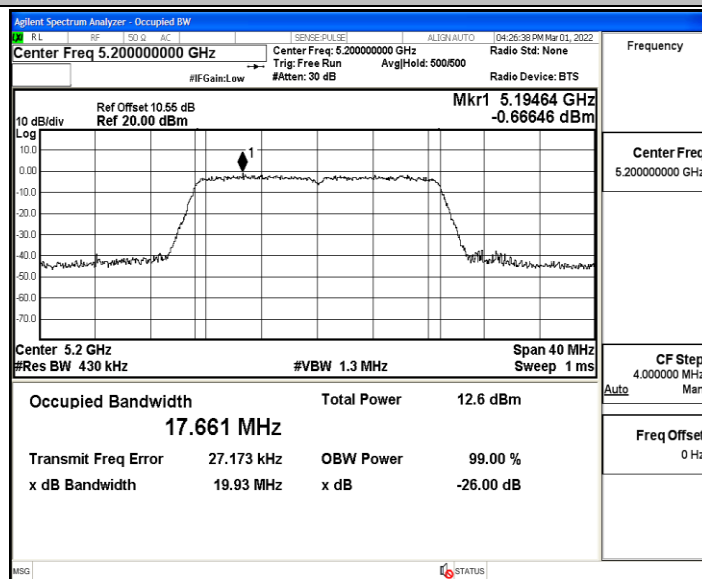
11N20MIMO_Ant1_5180



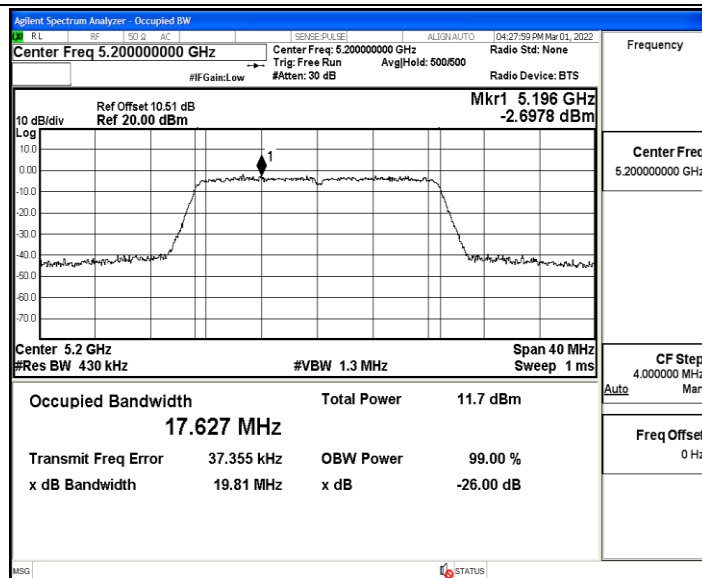
11N20MIMO_Ant2_5180



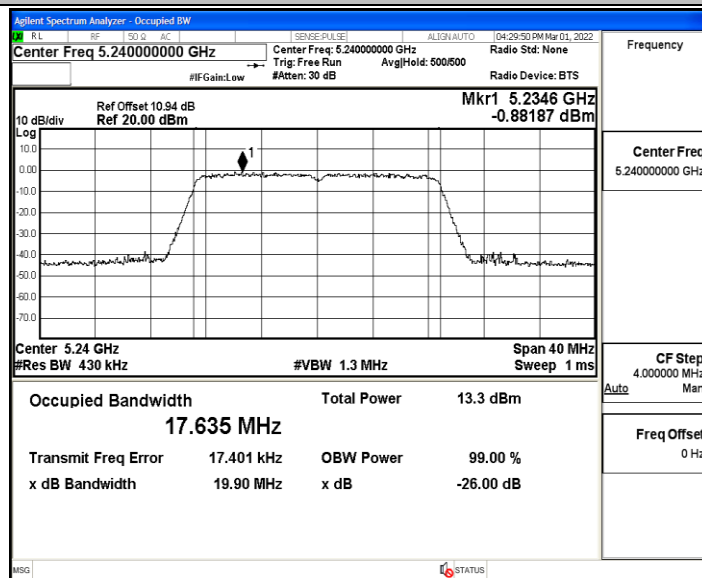
11N20MIMO_Ant1_5200



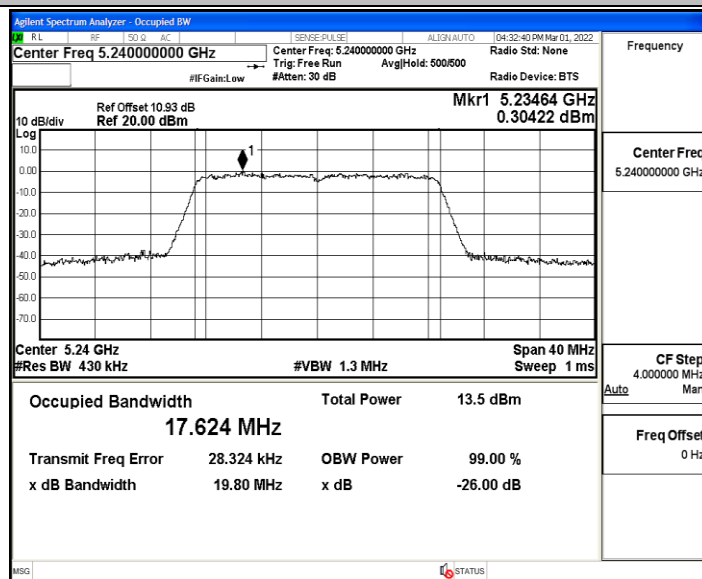
11N20MIMO_Ant2_5200



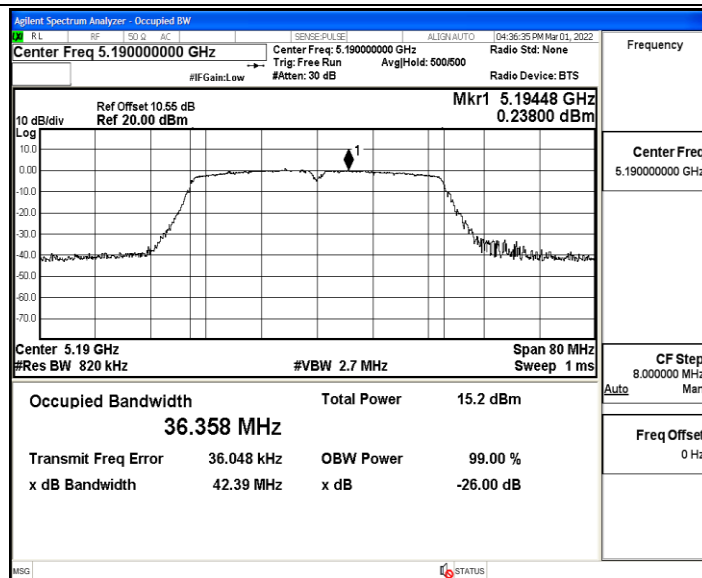
11N20MIMO_Ant1_5240



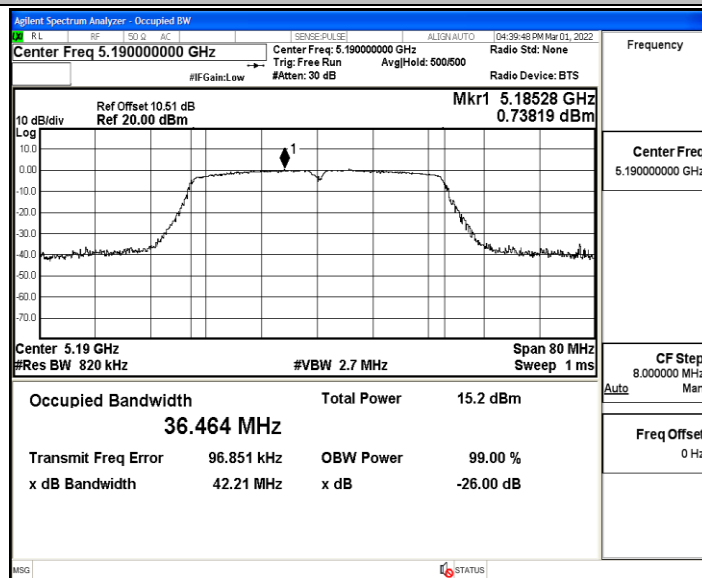
11N20MIMO_Ant2_5240



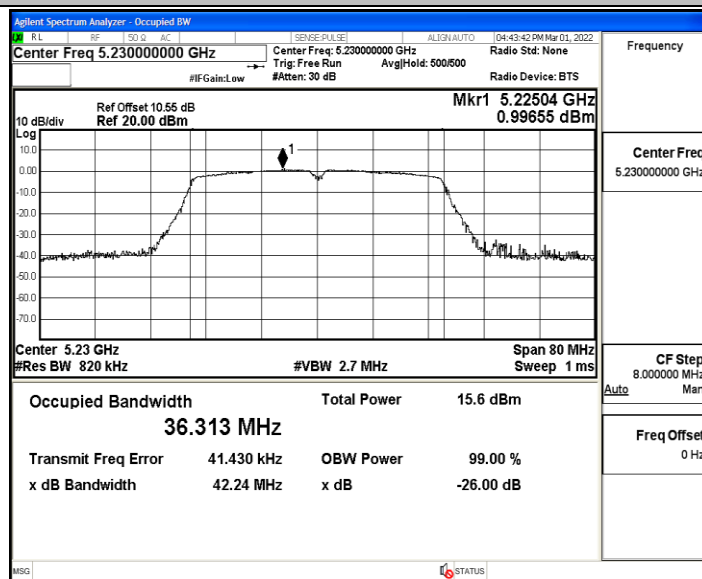
11N40MIMO_Ant1_5190



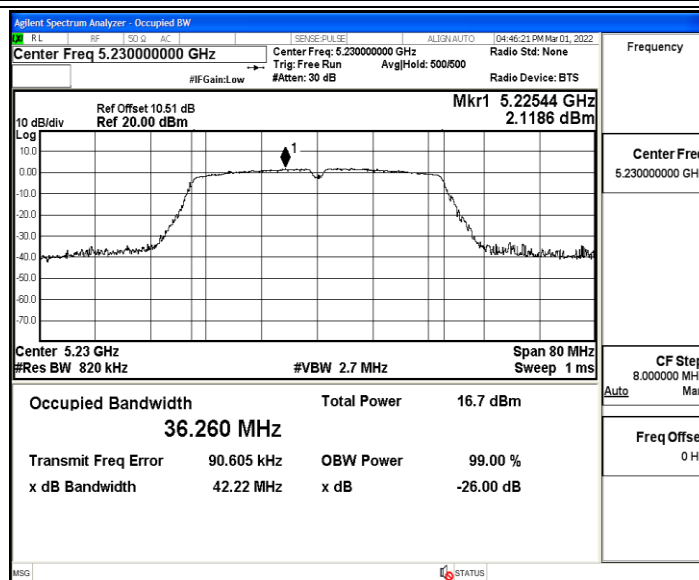
11N40MIMO_Ant2_5190



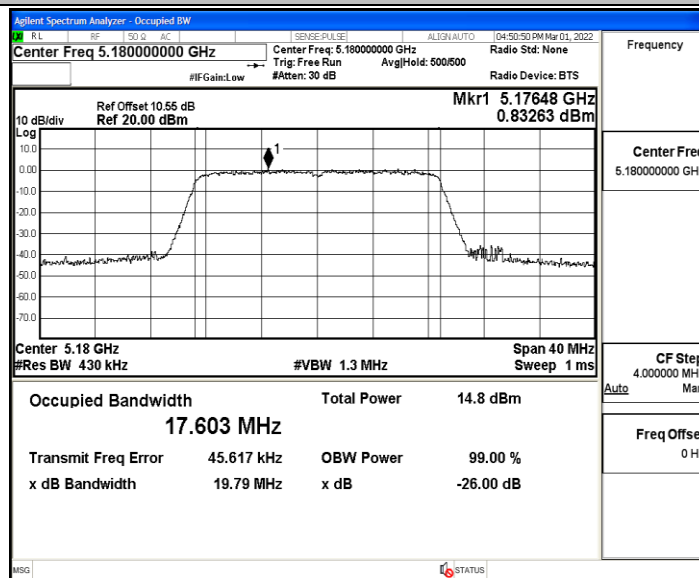
11N40MIMO_Ant1_5230



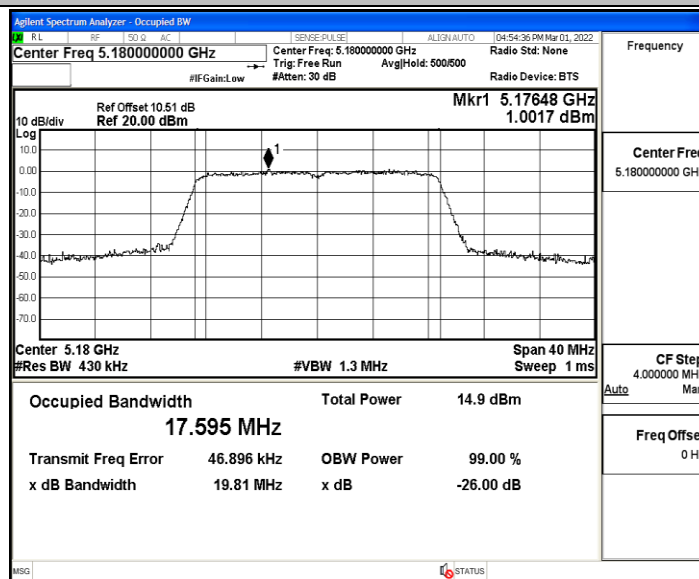
11N40MIMO_Ant2_5230



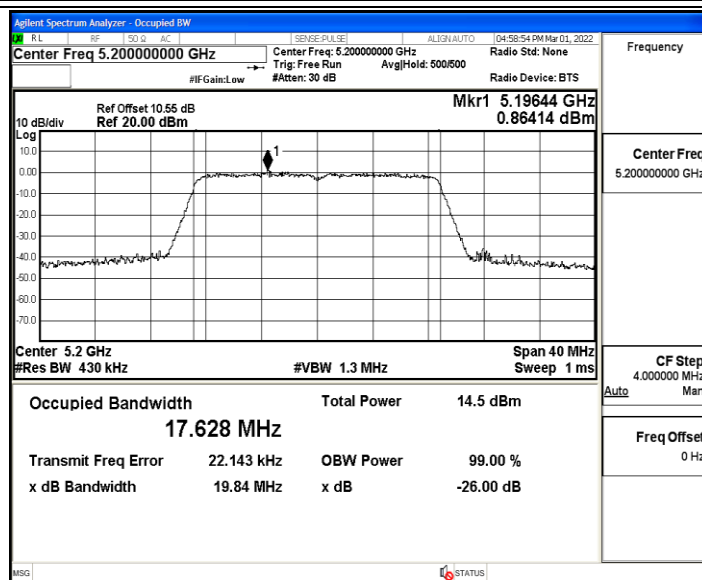
11AC20MIMO_Ant1_5180



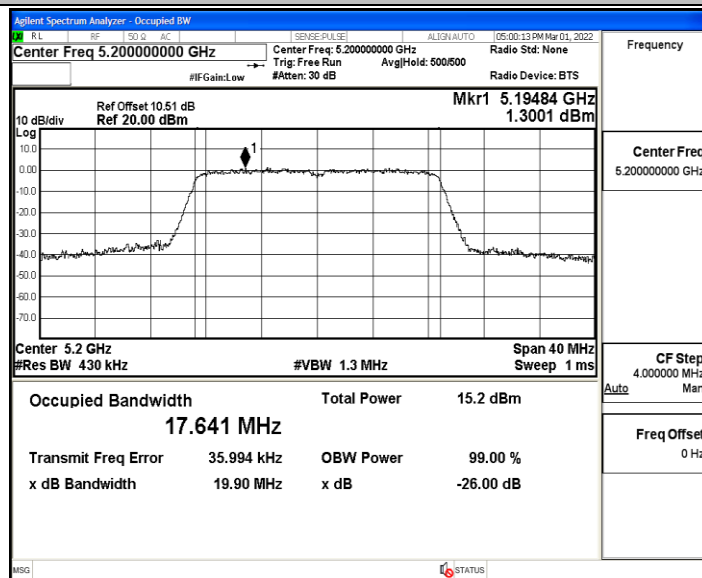
11AC20MIMO_Ant2_5180



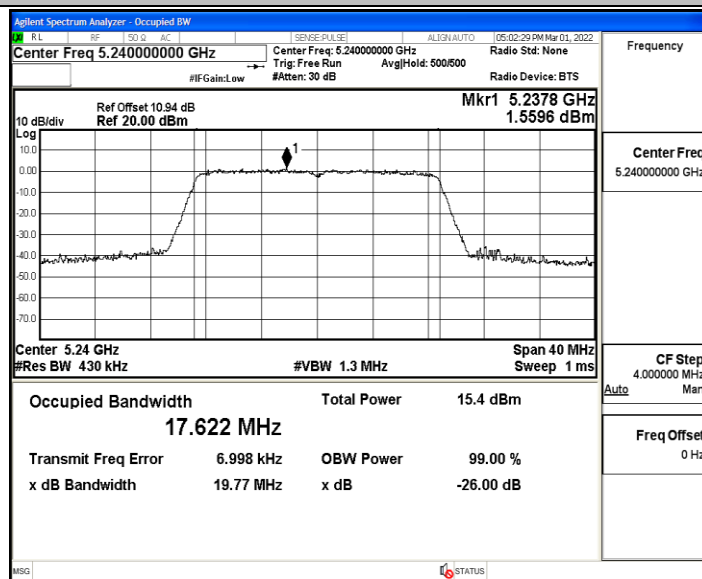
11AC20MIMO_Ant1_5200



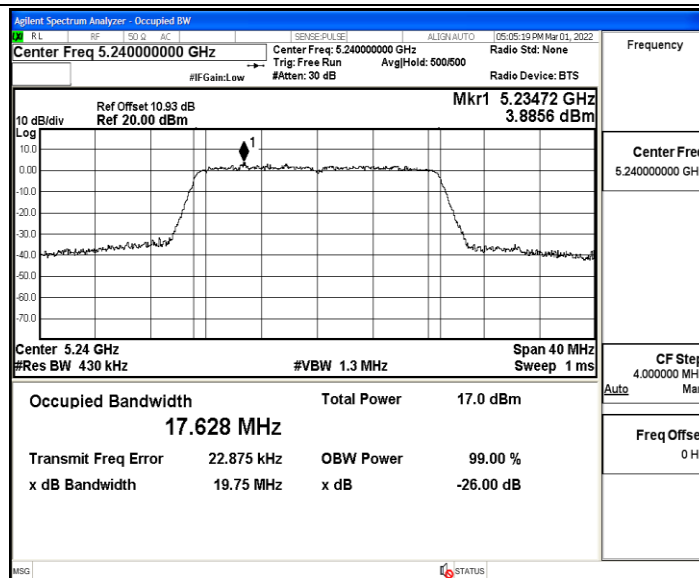
11AC20MIMO_Ant2_5200



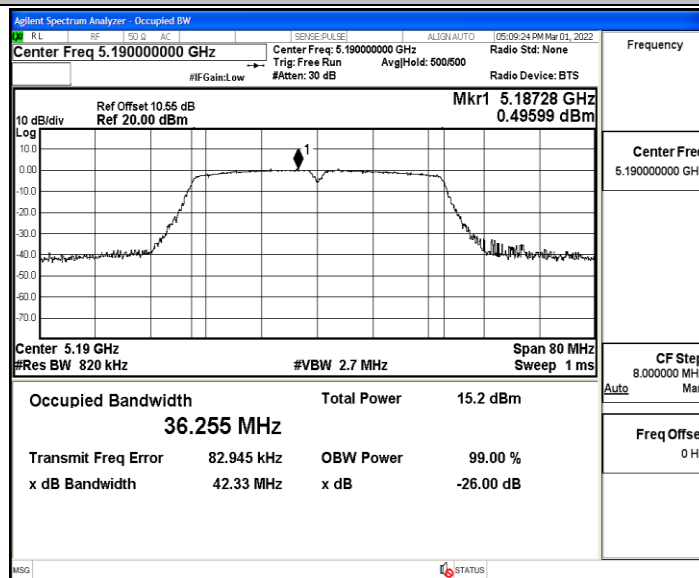
11AC20MIMO_Ant1_5240



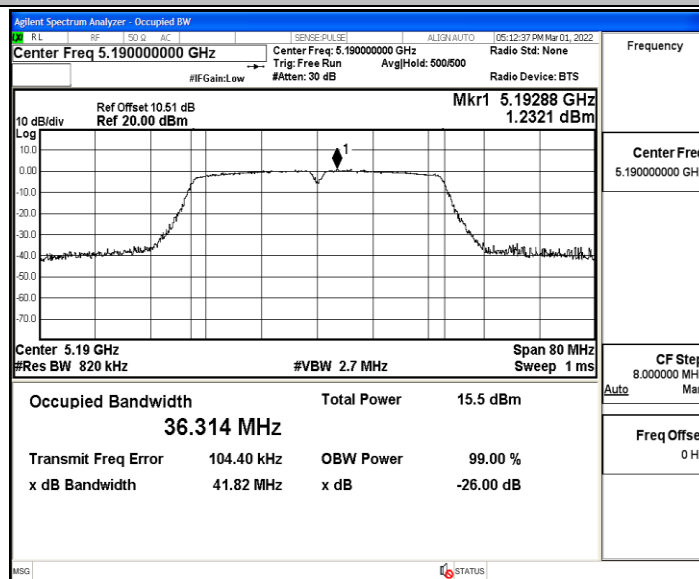
11AC20MIMO_Ant2_5240



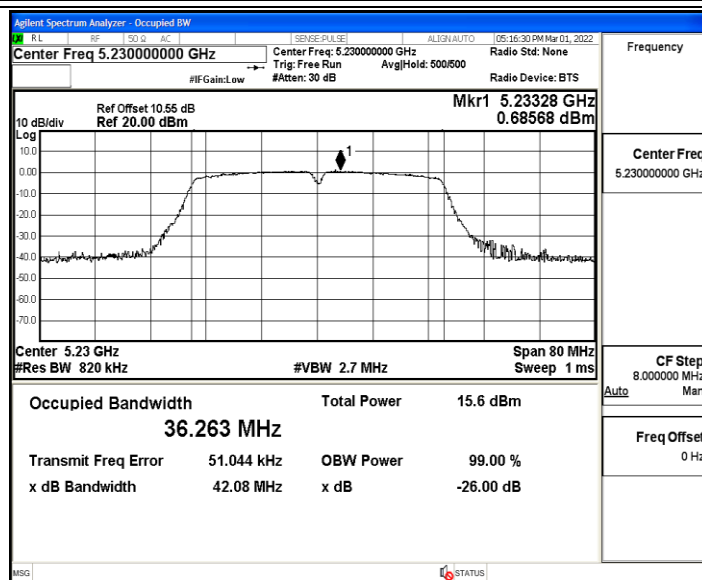
11AC40MIMO_Ant1_5190



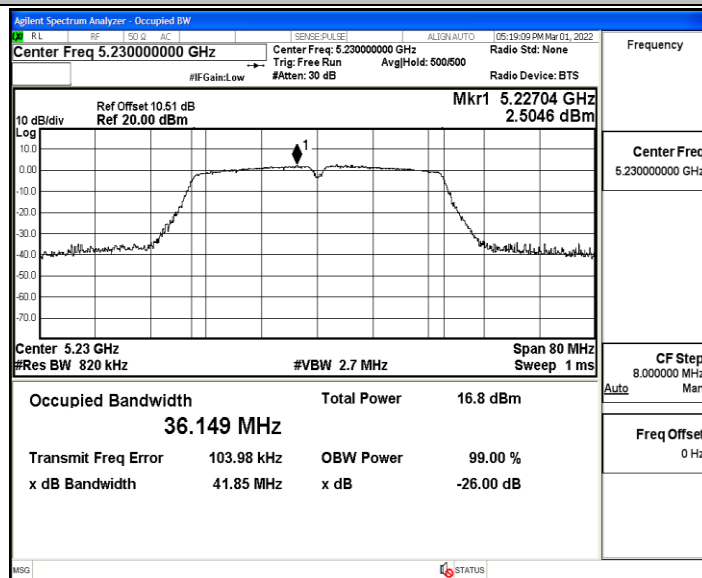
11AC40MIMO_Ant2_5190



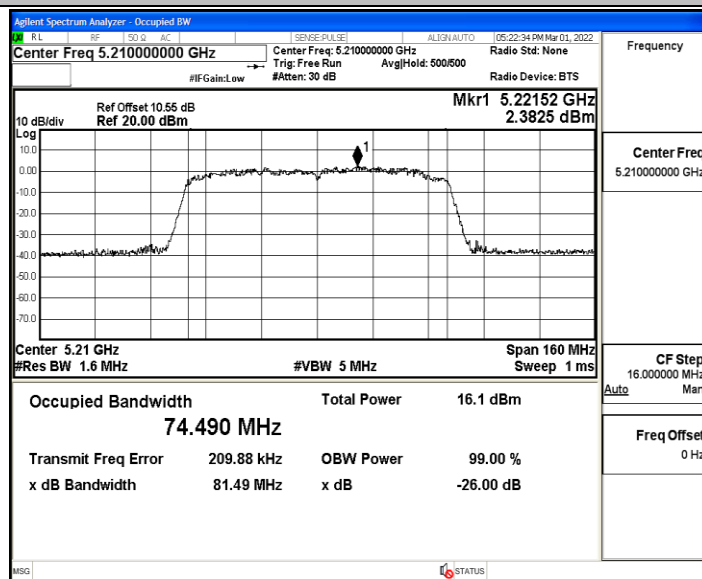
11AC40MIMO_Ant1_5230



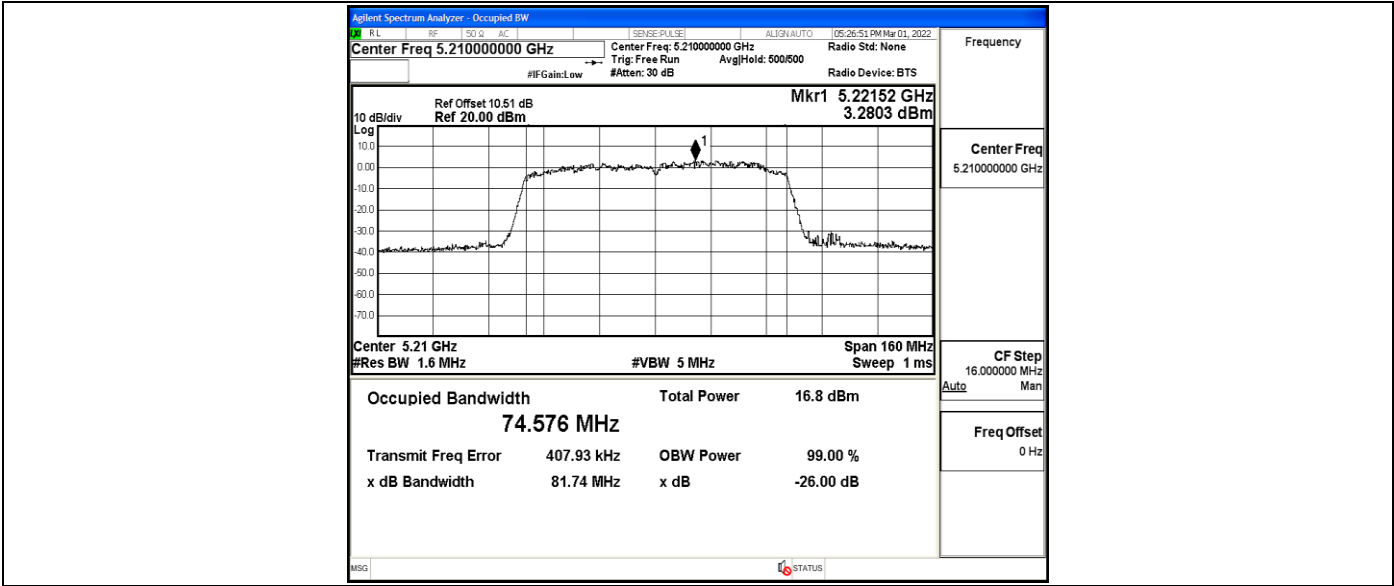
11AC40MIMO_Ant2_5230



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant2_5210



Appendix B: Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	7.95	≤23.98	PASS
	Ant2	5180	5.97	≤23.98	PASS
	Ant1	5200	7.67	≤23.98	PASS
	Ant2	5200	6.74	≤23.98	PASS
	Ant1	5240	8.47	≤23.98	PASS
	Ant2	5240	8.39	≤23.98	PASS
11N20MIMO	Ant1	5180	6.58	≤23.98	PASS
	Ant2	5180	4.68	≤23.98	PASS
	total	5180	8.74	≤23.98	PASS
	Ant1	5200	6.26	≤23.98	PASS
	Ant2	5200	5.11	≤23.98	PASS
	total	5200	8.73	≤23.98	PASS
	Ant1	5240	6.92	≤23.98	PASS
	Ant2	5240	6.92	≤23.98	PASS
	total	5240	9.93	≤23.98	PASS
11N40MIMO	Ant1	5190	7.98	≤23.98	PASS
	Ant2	5190	7.91	≤23.98	PASS
	total	5190	10.96	≤23.98	PASS
	Ant1	5230	8.28	≤23.98	PASS
	Ant2	5230	9.48	≤23.98	PASS
	total	5230	11.93	≤23.98	PASS
11AC20MIMO	Ant1	5180	8.39	≤23.98	PASS
	Ant2	5180	8.24	≤23.98	PASS
	total	5180	11.33	≤23.98	PASS
	Ant1	5200	8.16	≤23.98	PASS
	Ant2	5200	8.43	≤23.98	PASS
	total	5200	11.31	≤23.98	PASS
	Ant1	5240	8.89	≤23.98	PASS
	Ant2	5240	10.48	≤23.98	PASS
	total	5240	12.77	≤23.98	PASS
11AC40MIMO	Ant1	5190	7.59	≤23.98	PASS
	Ant2	5190	8.19	≤23.98	PASS
	total	5190	10.91	≤23.98	PASS
	Ant1	5230	8.11	≤23.98	PASS
	Ant2	5230	9.44	≤23.98	PASS
	total	5230	11.84	≤23.98	PASS
11AC80MIMO	Ant1	5210	7.86	≤23.98	PASS
	Ant2	5210	8.29	≤23.98	PASS
	total	5210	11.09	≤23.98	PASS

Note 1.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Appendix C: Maximum power spectral density

Test Result

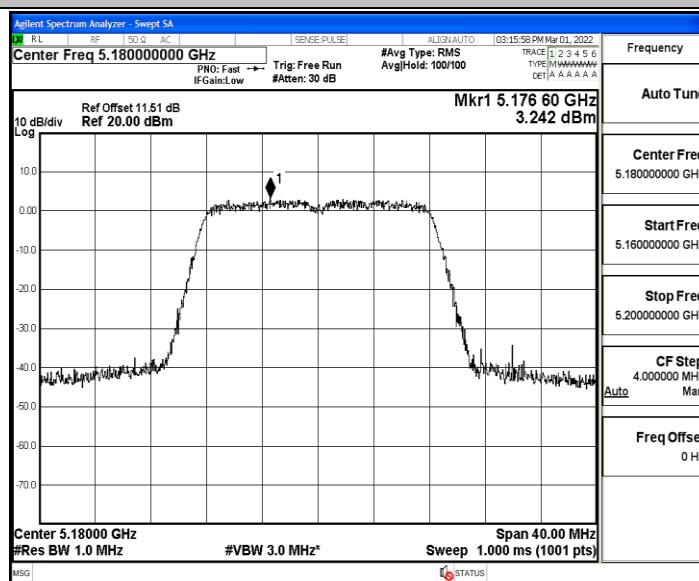
TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	3.24	≤11	PASS
	Ant2	5180	2.25	≤11	PASS
	Ant1	5200	2.8	≤11	PASS
	Ant2	5200	2.88	≤11	PASS
	Ant1	5240	3.89	≤11	PASS
	Ant2	5240	5.43	≤11	PASS
11N20MIMO	Ant1	5180	1.03	≤11	PASS
	Ant2	5180	-0.22	≤11	PASS
	total	5180	3.46	≤11	PASS
	Ant1	5200	1.16	≤11	PASS
	Ant2	5200	-0.22	≤11	PASS
	total	5200	3.53	≤11	PASS
	Ant1	5240	1.63	≤11	PASS
	Ant2	5240	2.05	≤11	PASS
	total	5240	4.86	≤11	PASS
11N40MIMO	Ant1	5190	1.79	≤11	PASS
	Ant2	5190	0.87	≤11	PASS
	total	5190	4.36	≤11	PASS
	Ant1	5230	1.44	≤11	PASS
	Ant2	5230	2.66	≤11	PASS
	total	5230	5.10	≤11	PASS
11AC20MIMO	Ant1	5180	3.47	≤11	PASS
	Ant2	5180	4.18	≤11	PASS
	total	5180	6.85	≤11	PASS
	Ant1	5200	3.41	≤11	PASS
	Ant2	5200	3.34	≤11	PASS
	total	5200	6.39	≤11	PASS
	Ant1	5240	3.65	≤11	PASS
	Ant2	5240	5.7	≤11	PASS
	total	5240	7.81	≤11	PASS
11AC40MIMO	Ant1	5190	1.85	≤11	PASS
	Ant2	5190	1.94	≤11	PASS
	total	5190	4.91	≤11	PASS
	Ant1	5230	1.36	≤11	PASS
	Ant2	5230	2.8	≤11	PASS
	total	5230	5.15	≤11	PASS
11AC80MIMO	Ant1	5210	-0.01	≤11	PASS
	Ant2	5210	0.87	≤11	PASS
	total	5210	3.46	≤11	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

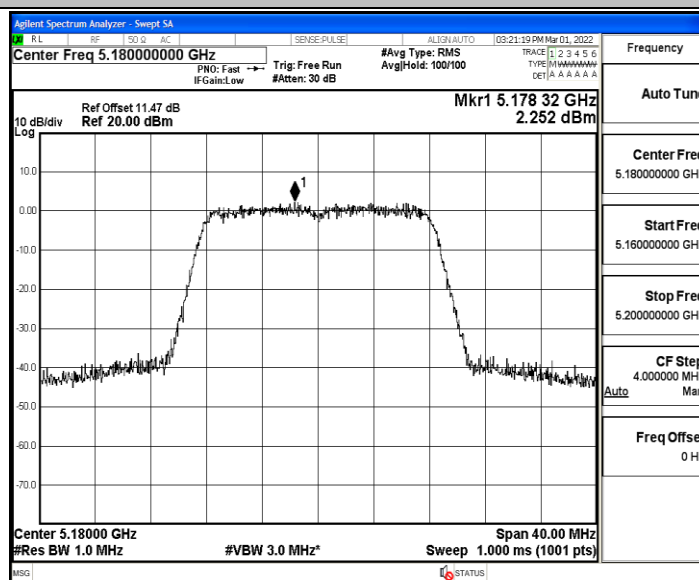
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

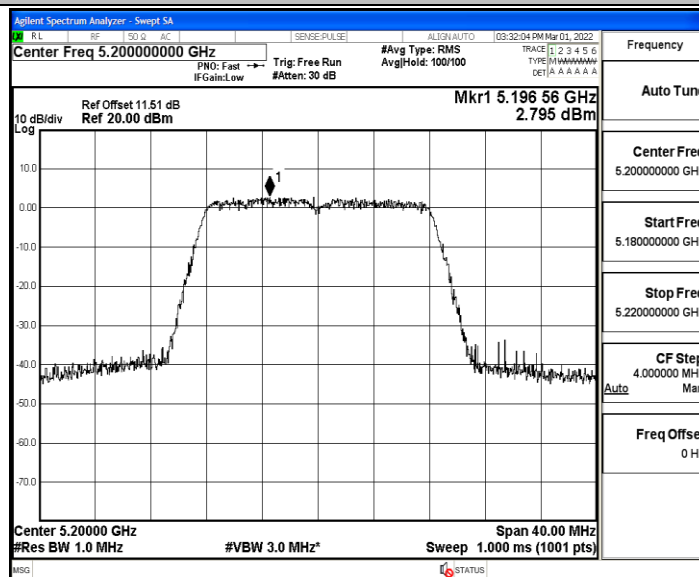
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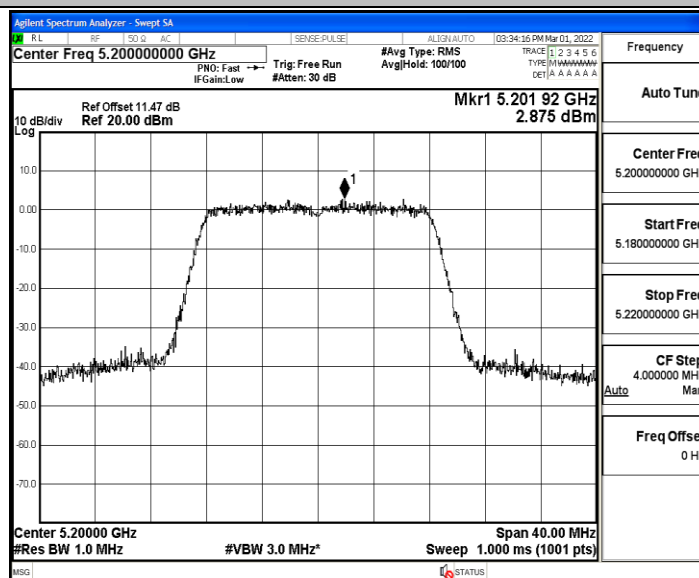
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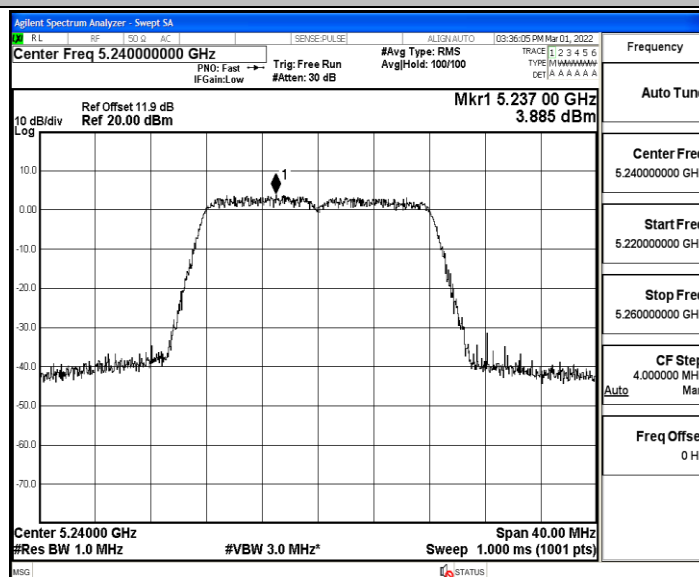
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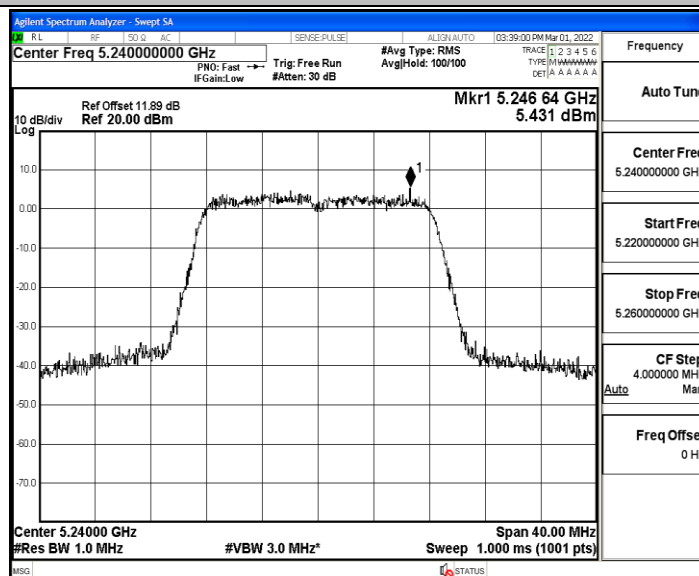
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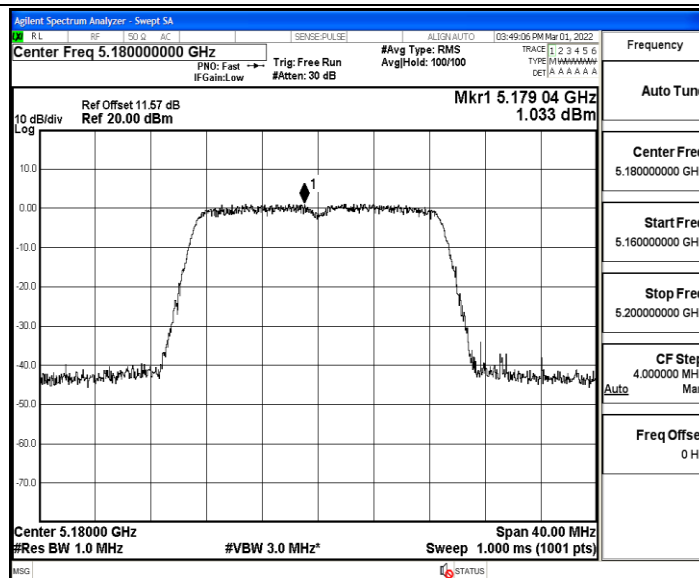
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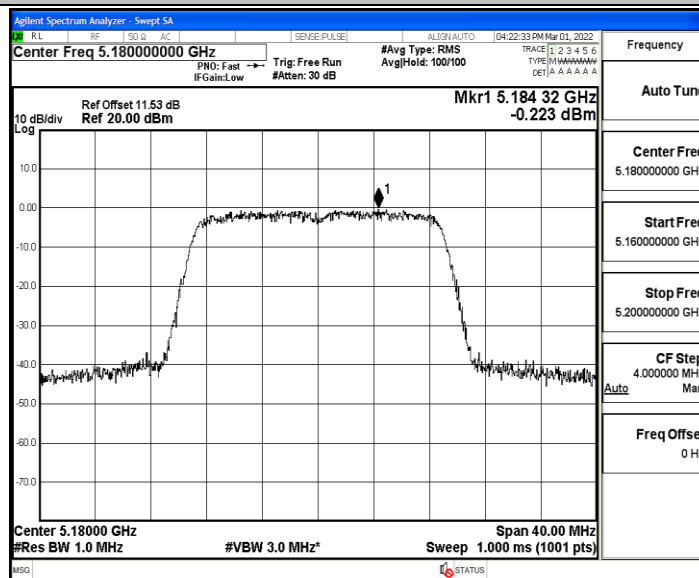
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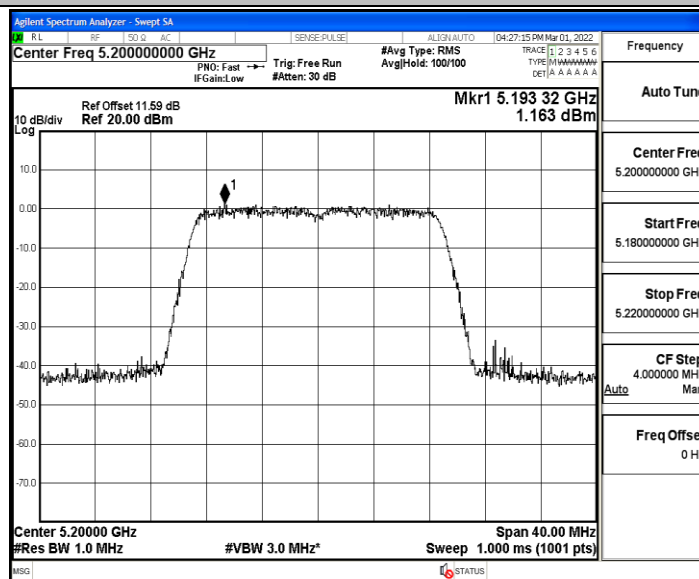
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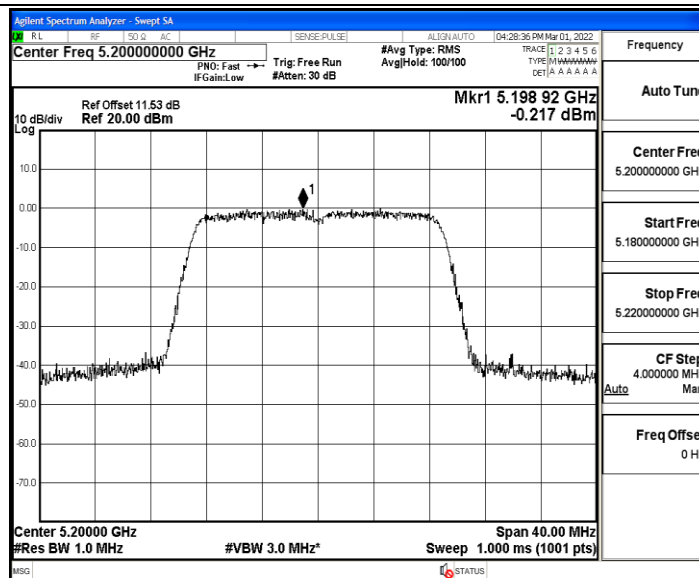
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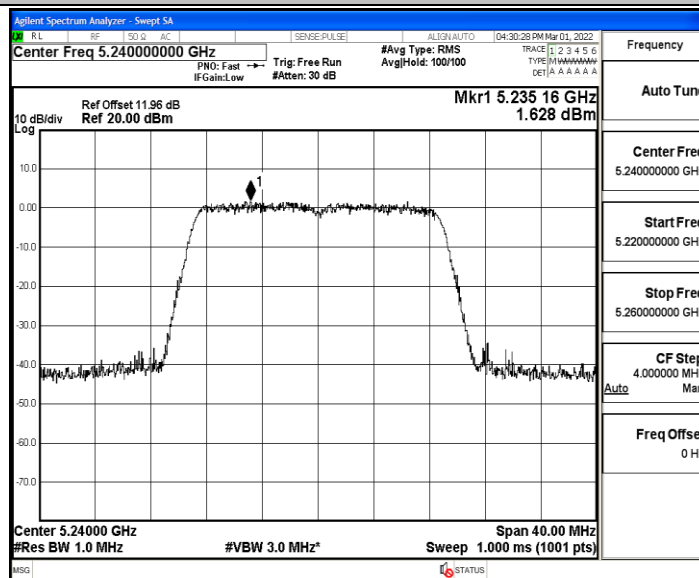
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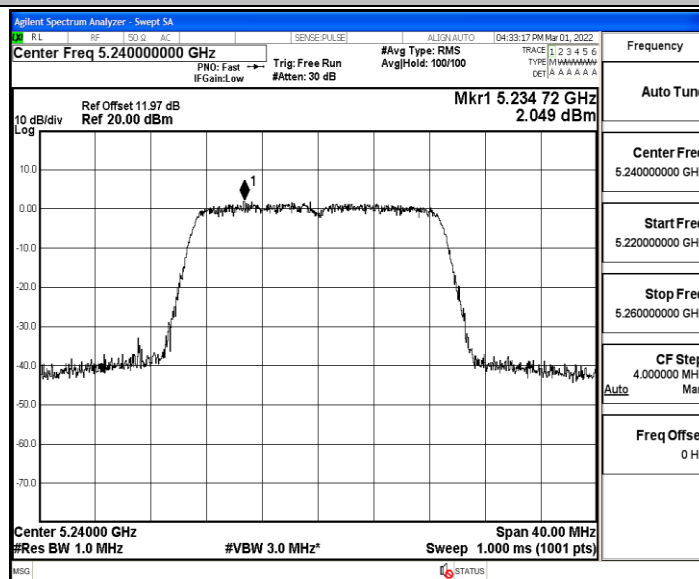
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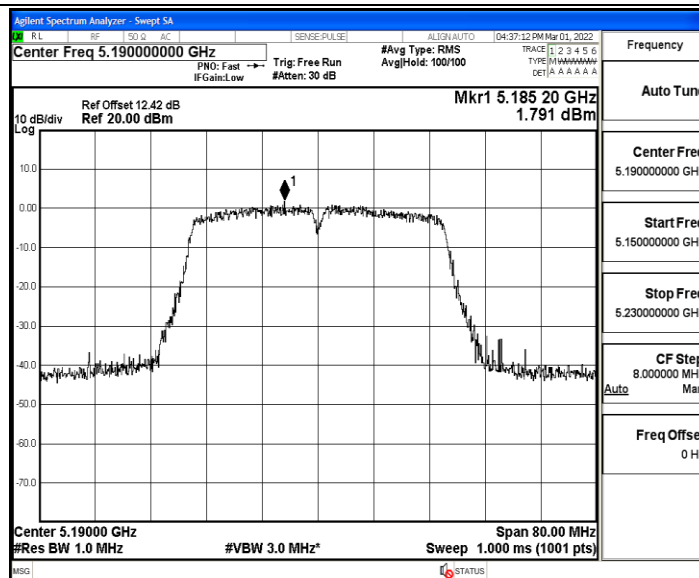
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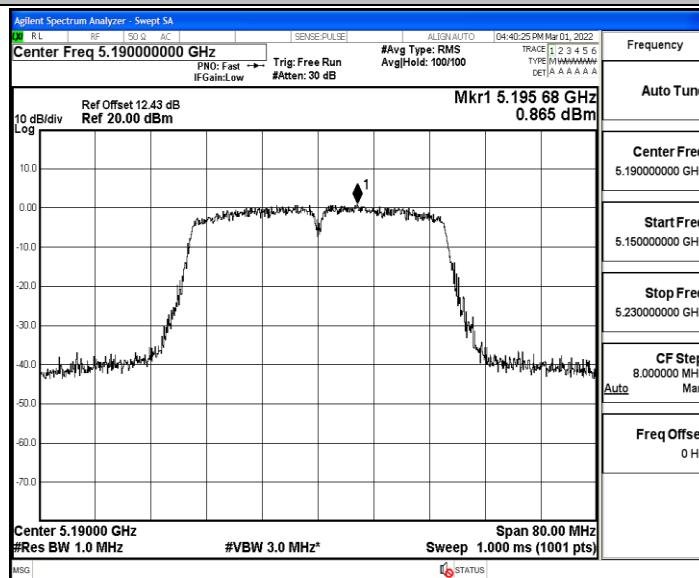
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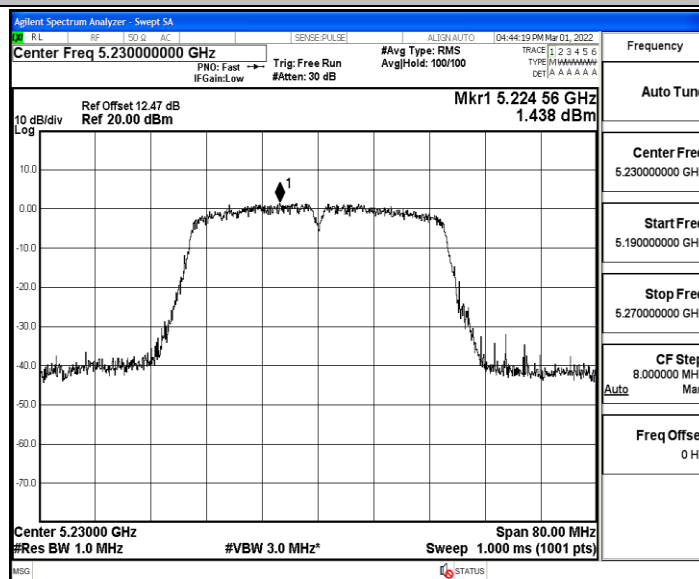
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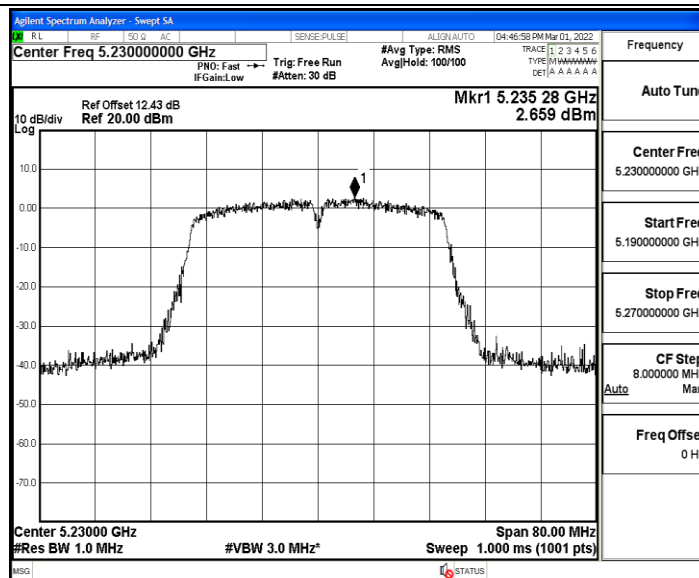
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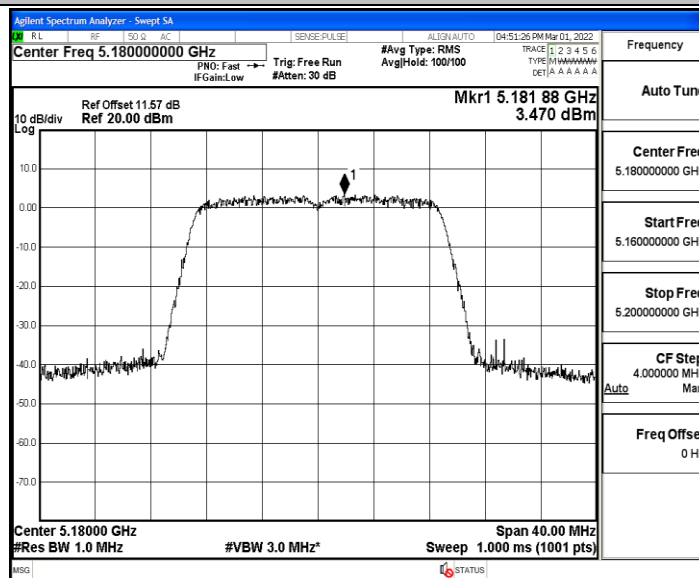
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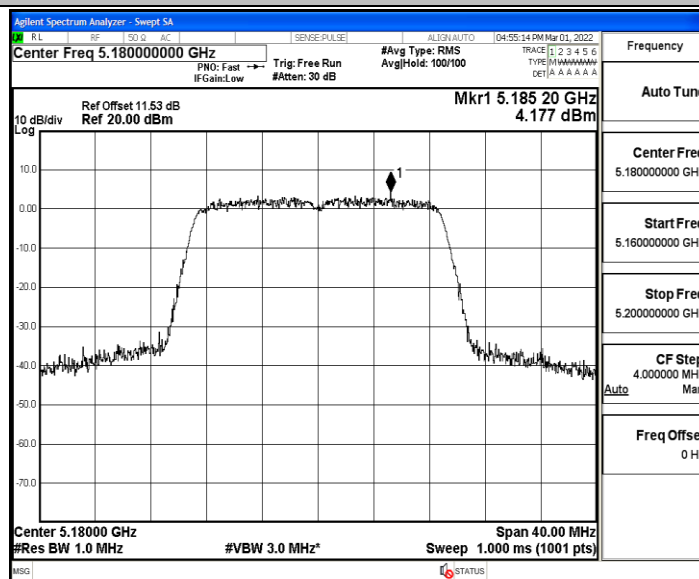
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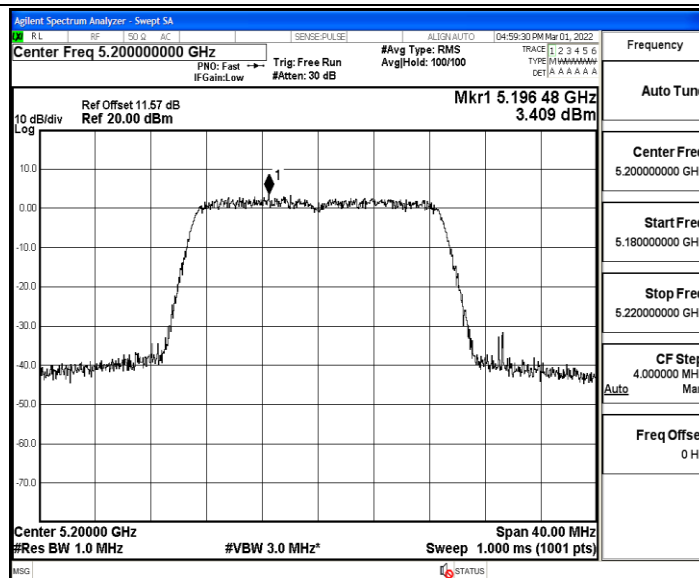
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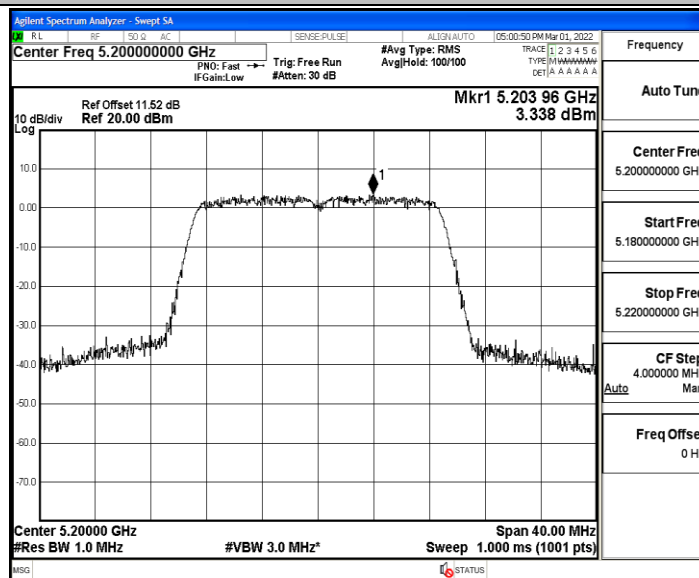
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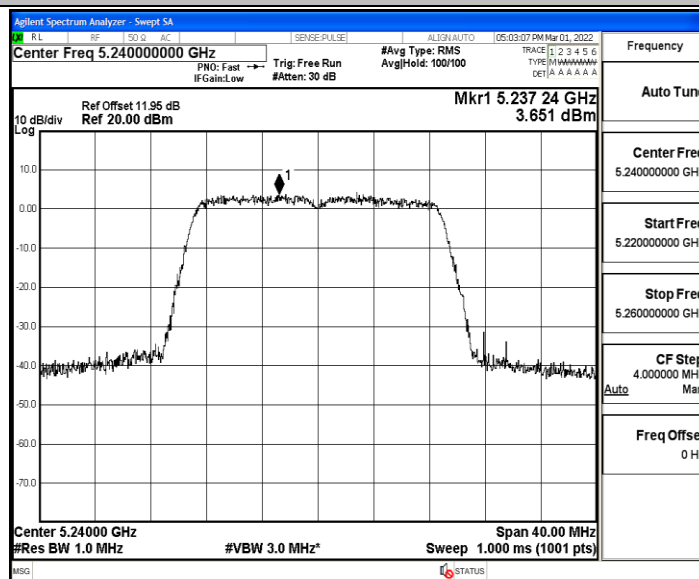
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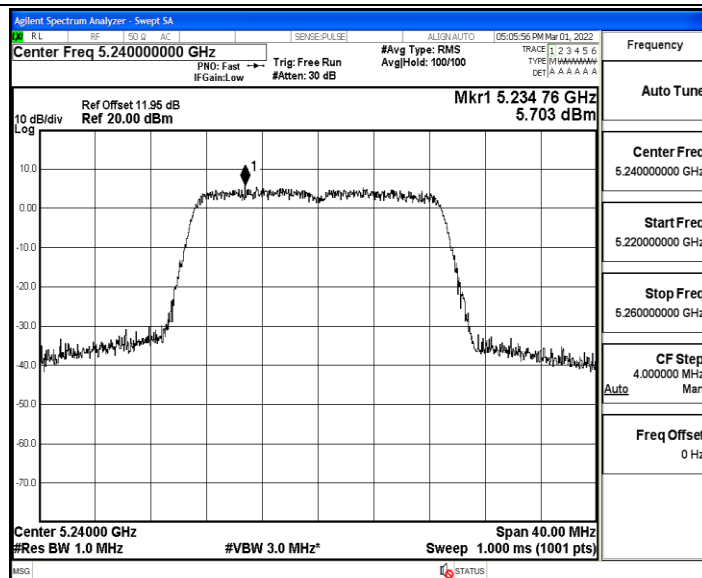
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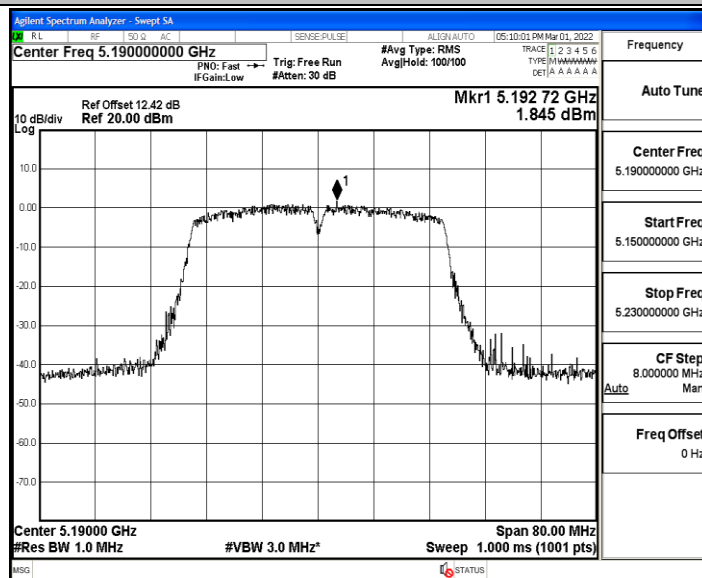
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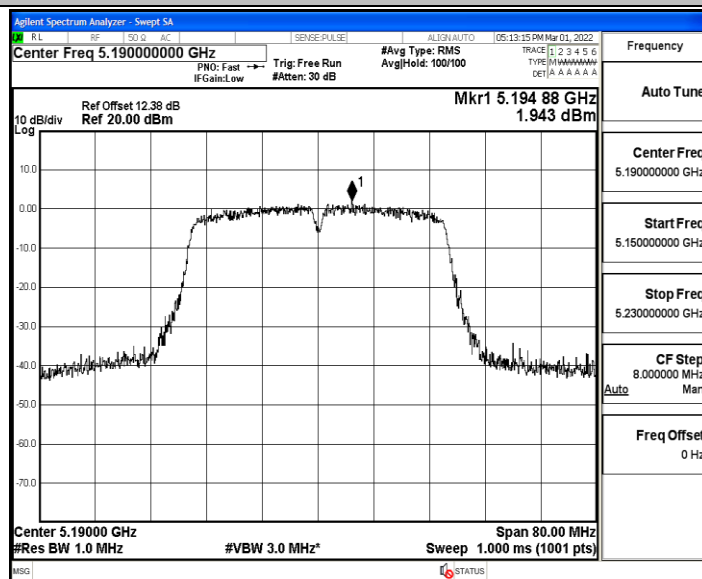
11AC20MIMO_Ant2_5240



11AC40MIMO_Ant1_5190



11AC40MIMO_Ant2_5190



11AC40MIMO_Ant1_5230