

**RF Test Data for RLAN(5.2G) (Conducted Measurement)****Product Name: 4K Set Top Box****Trade Mark: OptiSigns****Test Model: ARD3****FCC ID: 2AOVU-ARD3****Environmental Conditions**

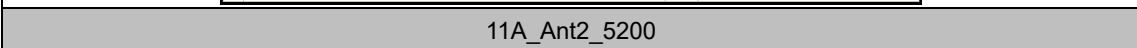
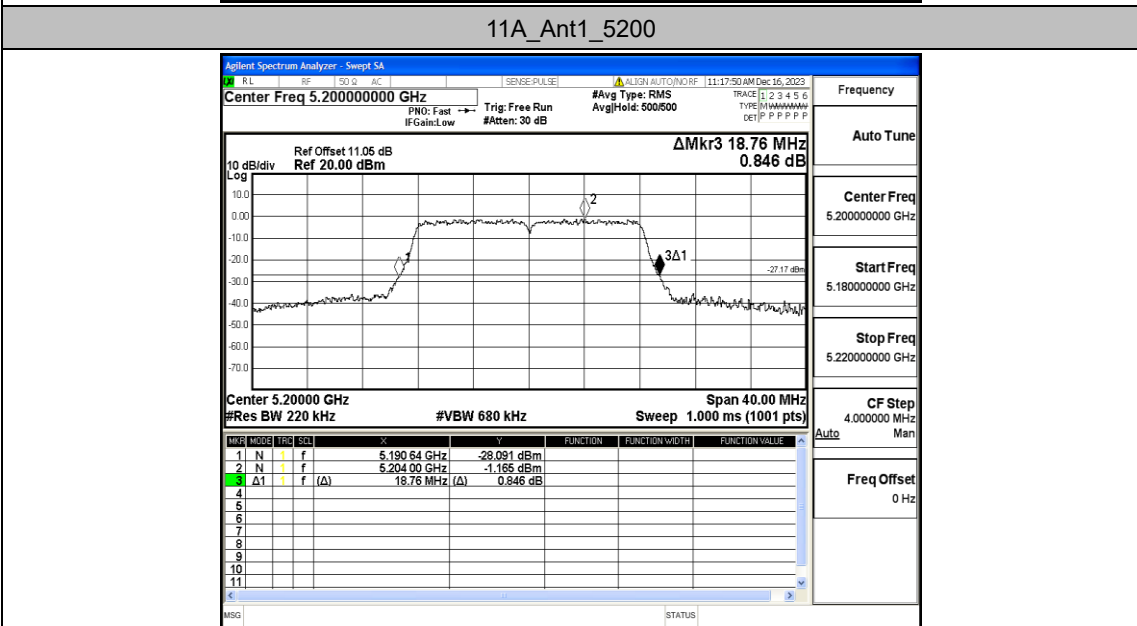
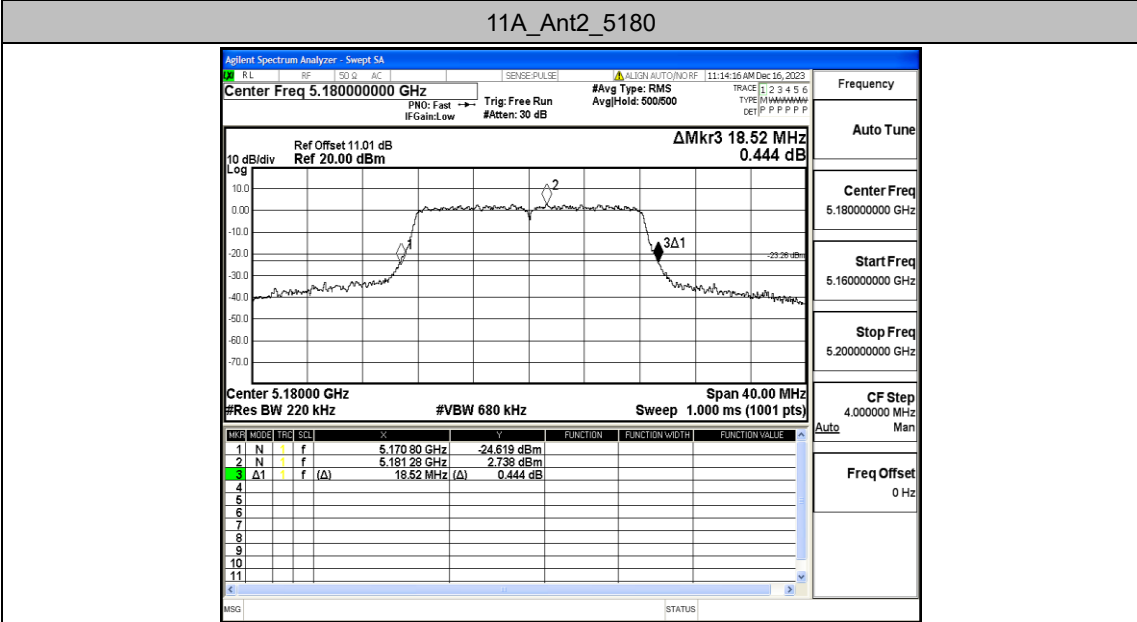
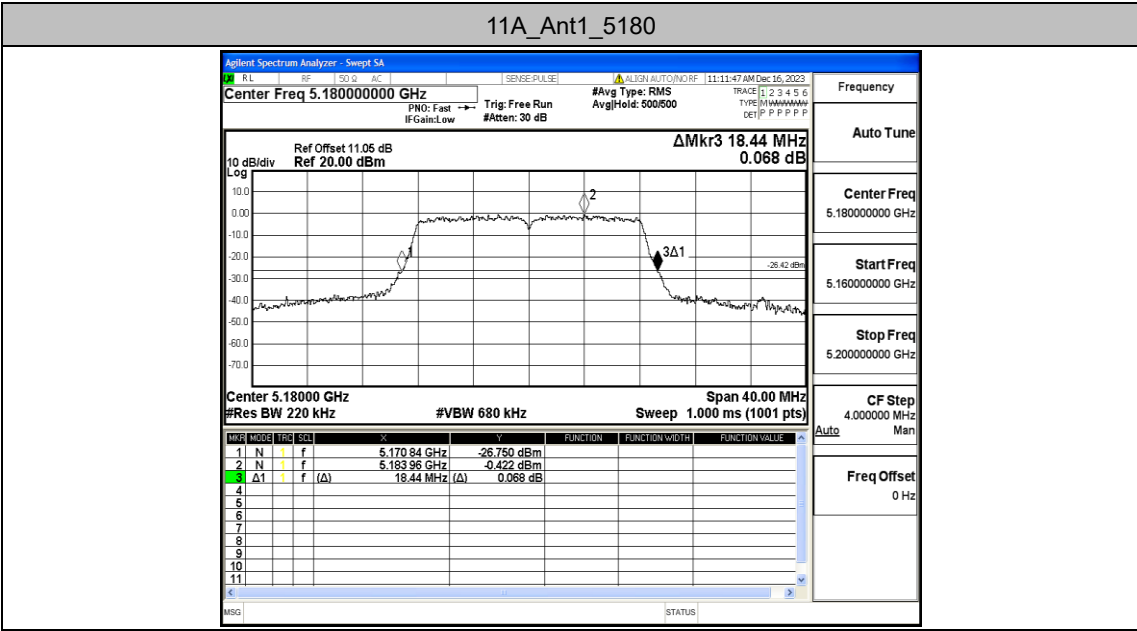
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

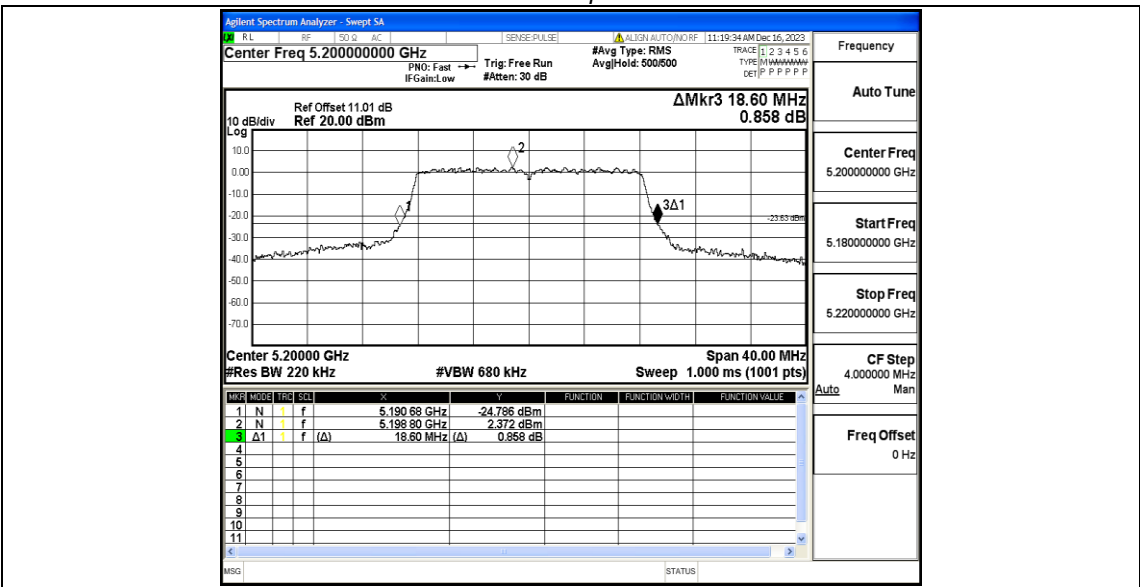
**Appendix A1: Emission Bandwidth****Test Result**

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.440	5170.840	5189.280	---	---
	Ant2	5180	18.520	5170.800	5189.320	---	---
	Ant1	5200	18.760	5190.640	5209.400	---	---
	Ant2	5200	18.600	5190.680	5209.280	---	---
	Ant1	5240	18.680	5230.680	5249.360	---	---
	Ant2	5240	18.560	5230.760	5249.320	---	---
11N20MIMO	Ant1	5180	19.520	5170.280	5189.800	---	---
	Ant2	5180	19.560	5170.280	5189.840	---	---
	Ant1	5200	19.640	5190.240	5209.880	---	---
	Ant2	5200	19.560	5190.280	5209.840	---	---
	Ant1	5240	19.560	5230.280	5249.840	---	---
	Ant2	5240	19.600	5230.280	5249.880	---	---
11N40MIMO	Ant1	5190	41.360	5169.600	5210.960	---	---
	Ant2	5190	40.880	5169.760	5210.640	---	---
	Ant1	5230	40.880	5209.920	5250.800	---	---
	Ant2	5230	40.880	5209.760	5250.640	---	---
11AC20MIMO	Ant1	5180	19.480	5170.320	5189.800	---	---
	Ant2	5180	19.520	5170.320	5189.840	---	---
	Ant1	5200	19.560	5190.200	5209.760	---	---
	Ant2	5200	19.600	5190.200	5209.800	---	---
	Ant1	5240	19.600	5230.280	5249.880	---	---
	Ant2	5240	19.560	5230.280	5249.840	---	---
11AC40MIMO	Ant1	5190	40.960	5169.840	5210.800	---	---
	Ant2	5190	41.200	5169.600	5210.800	---	---
	Ant1	5230	40.560	5209.760	5250.320	---	---

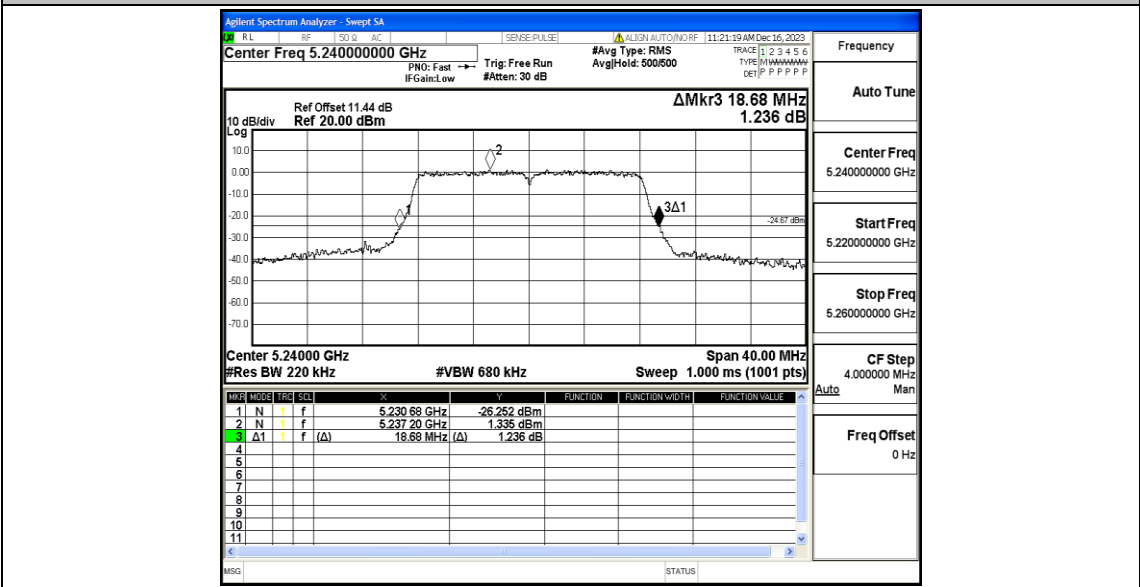
	Ant2	5230	40.880	5209.600	5250.480	---	---
11AC80MIMO	Ant1	5210	80.960	5169.840	5250.800	---	---
	Ant2	5210	81.600	5169.360	5250.960	---	---

Test Graphs

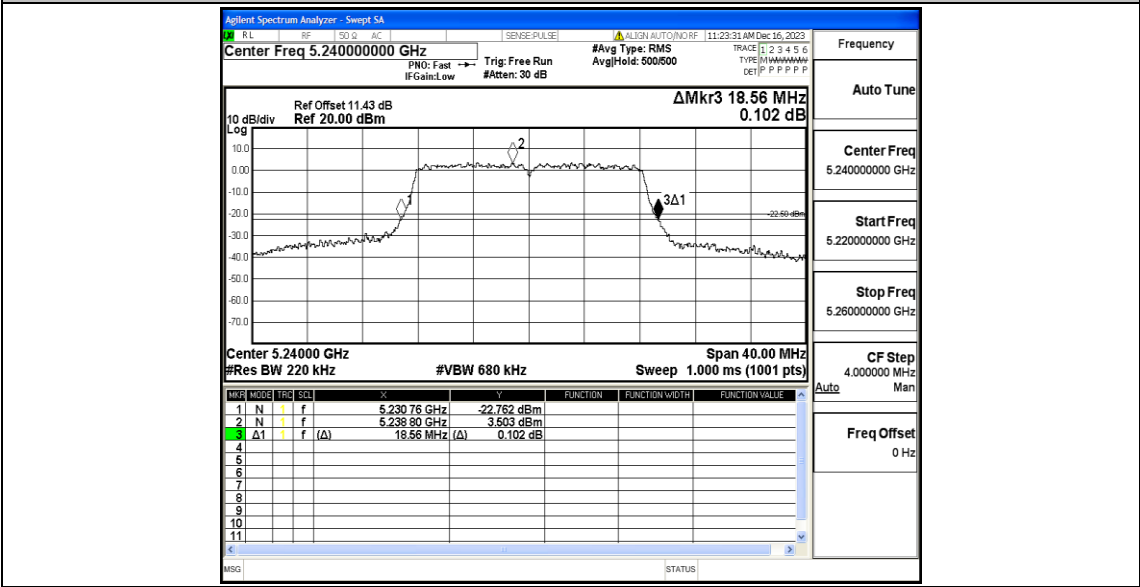




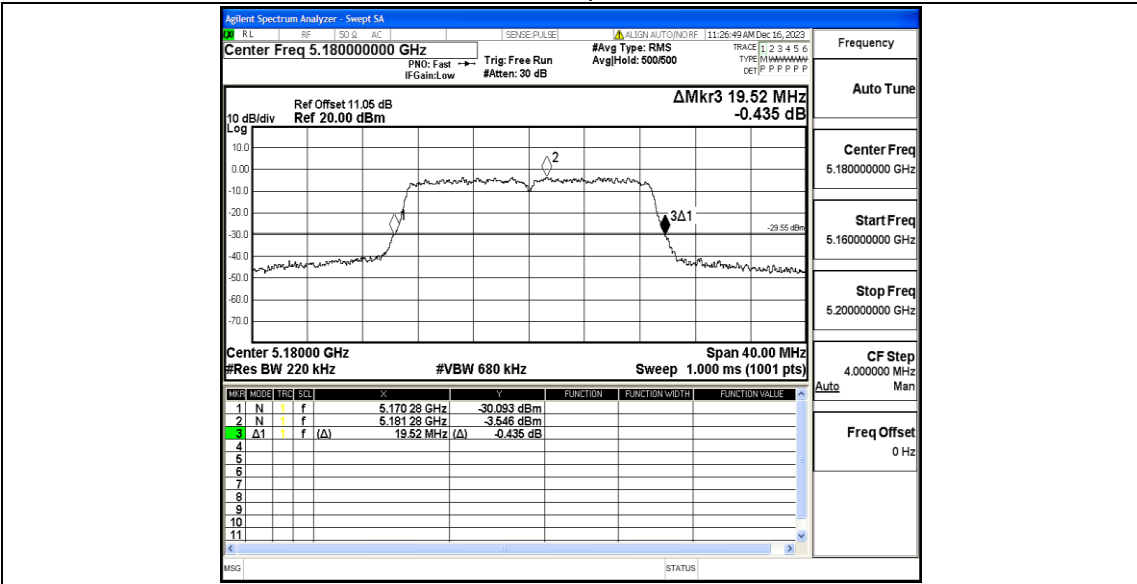
11A\_Ant1\_5240



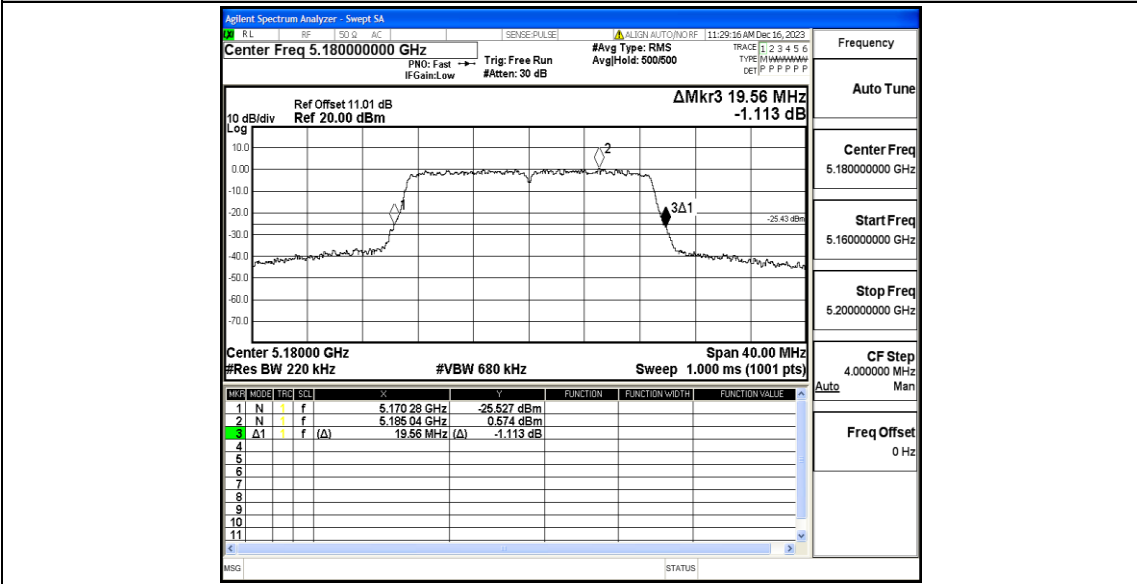
11A\_Ant2\_5240



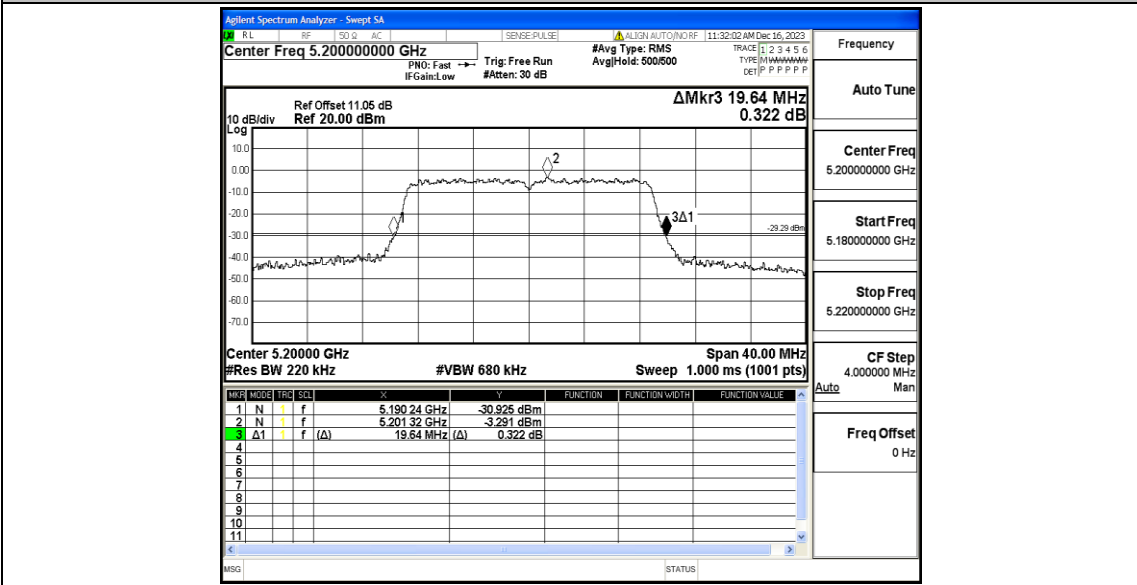
11N20MIMO\_Ant1\_5180



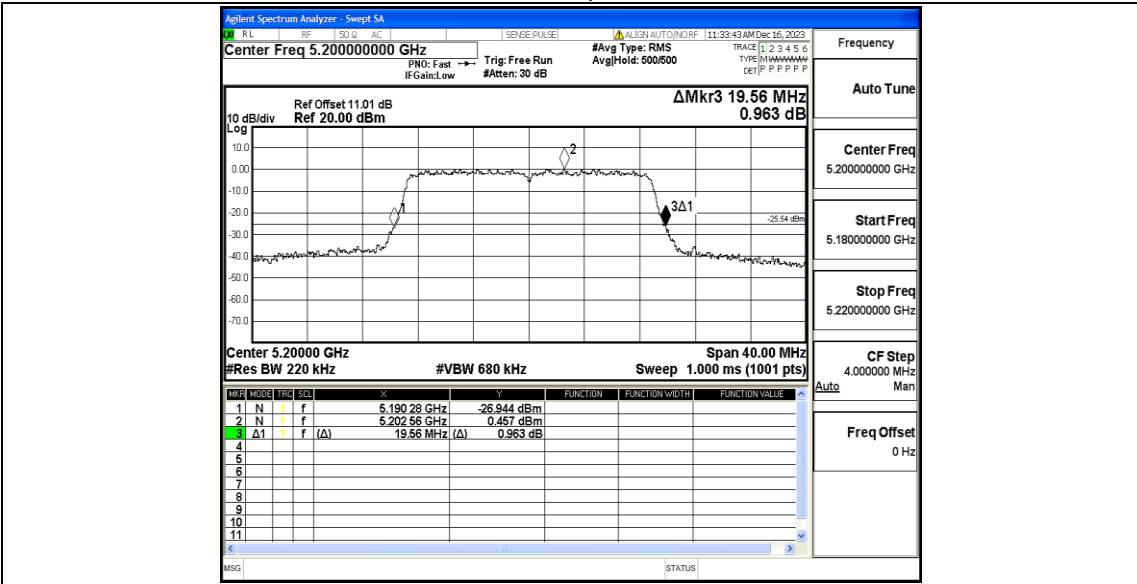
11N20MIMO\_Ant2\_5180



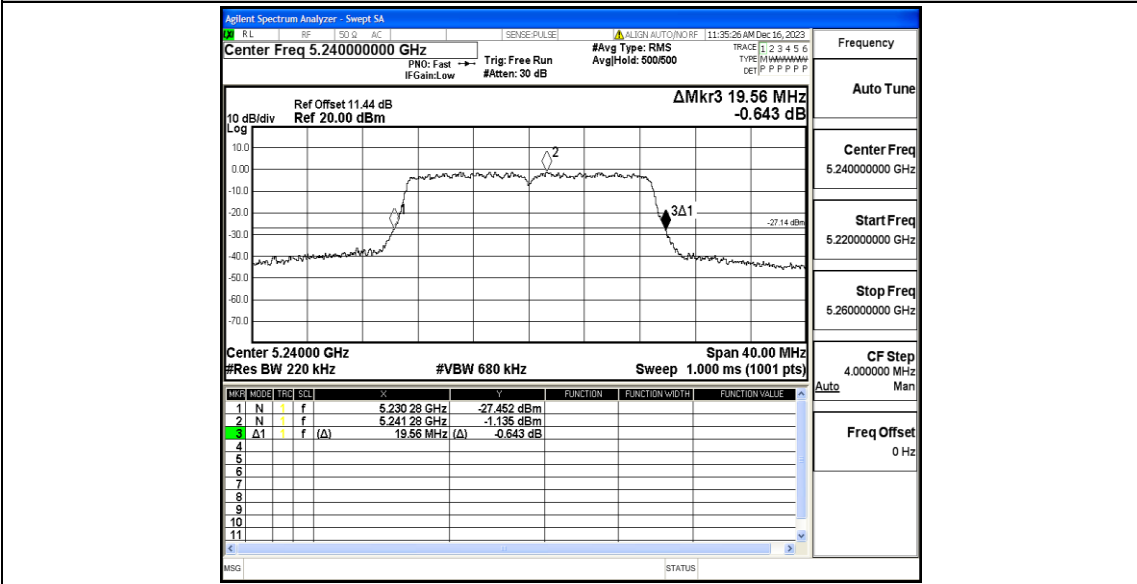
11N20MIMO\_Ant1\_5200



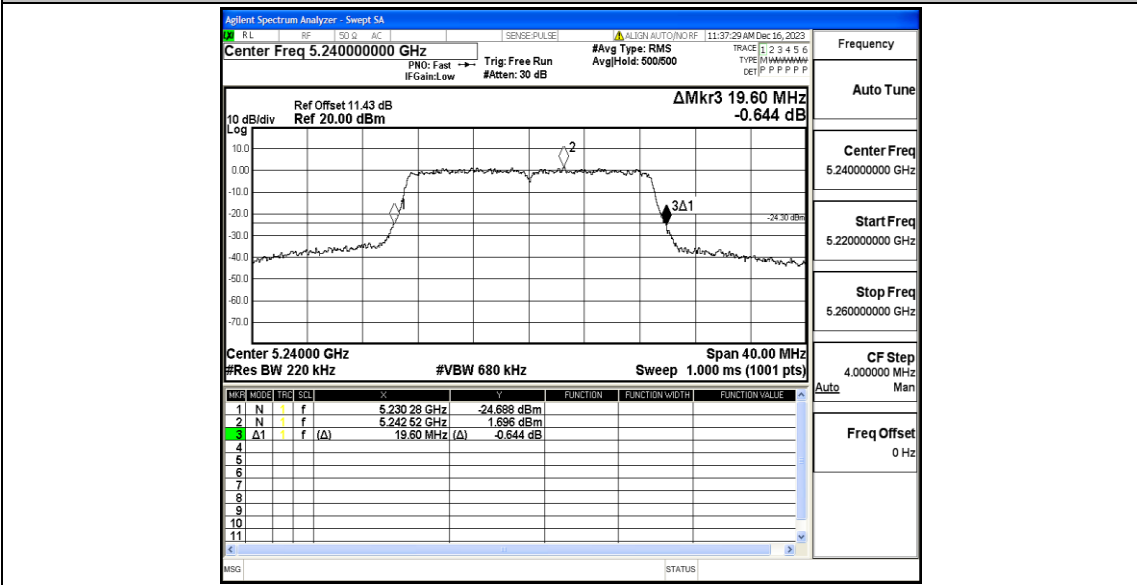
11N20MIMO\_Ant2\_5200



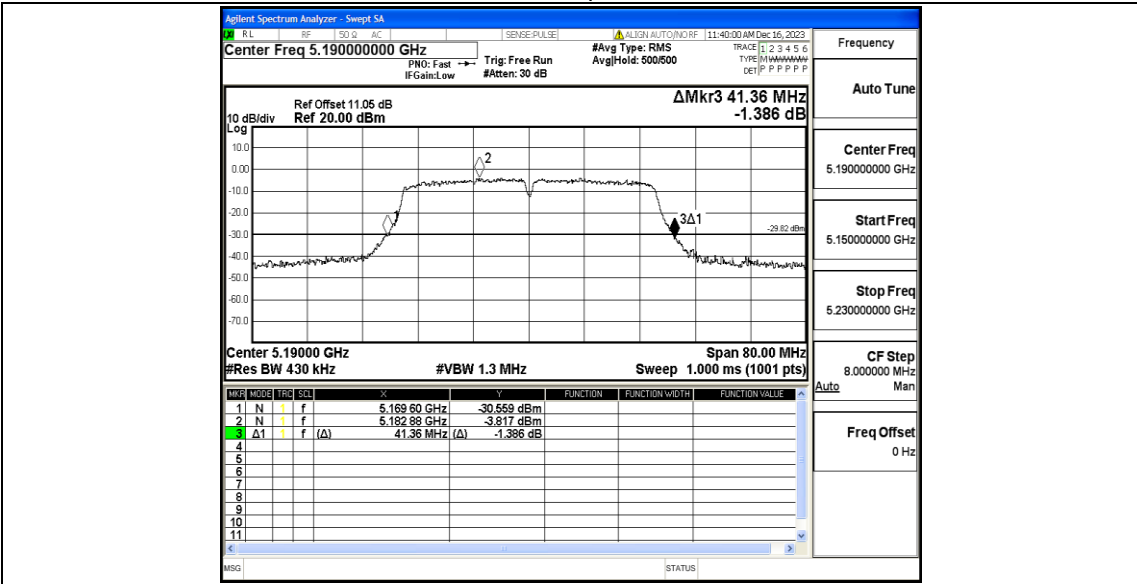
11N20MIMO\_Ant1\_5240



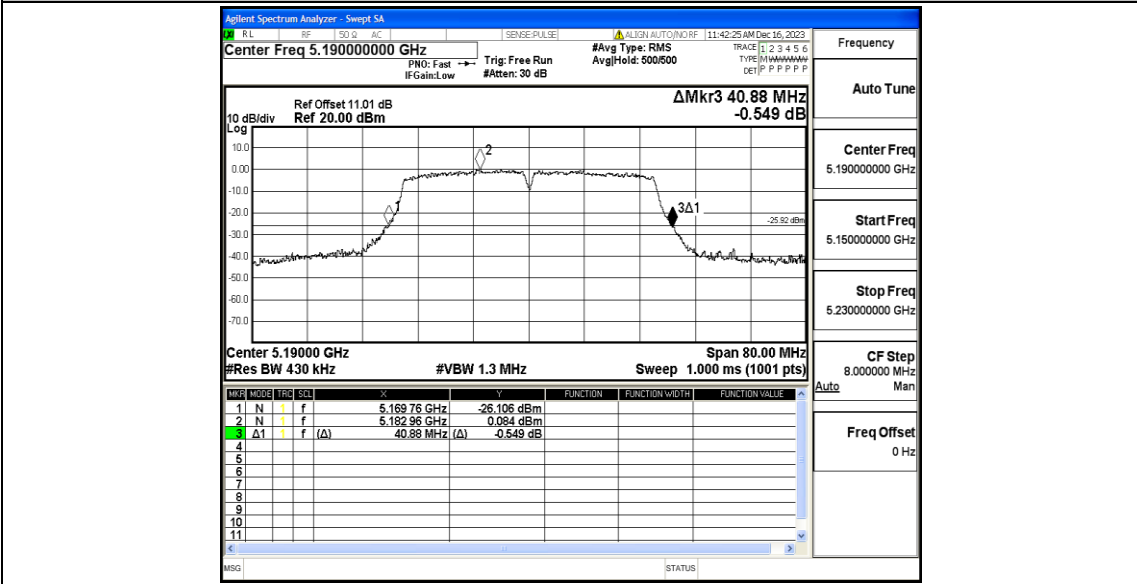
11N20MIMO\_Ant2\_5240



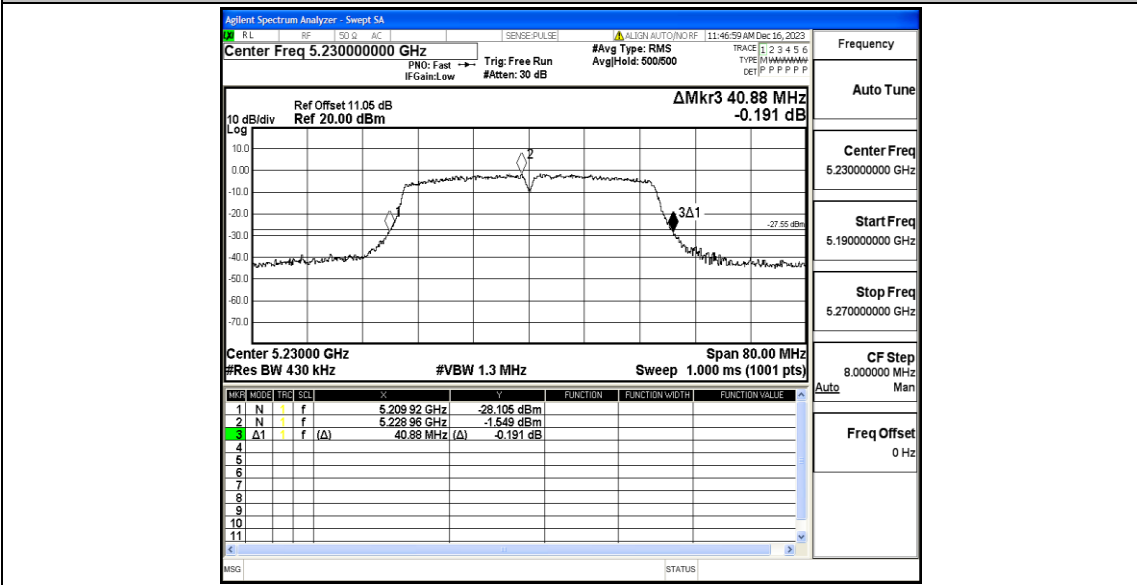
11N40MIMO\_Ant1\_5190



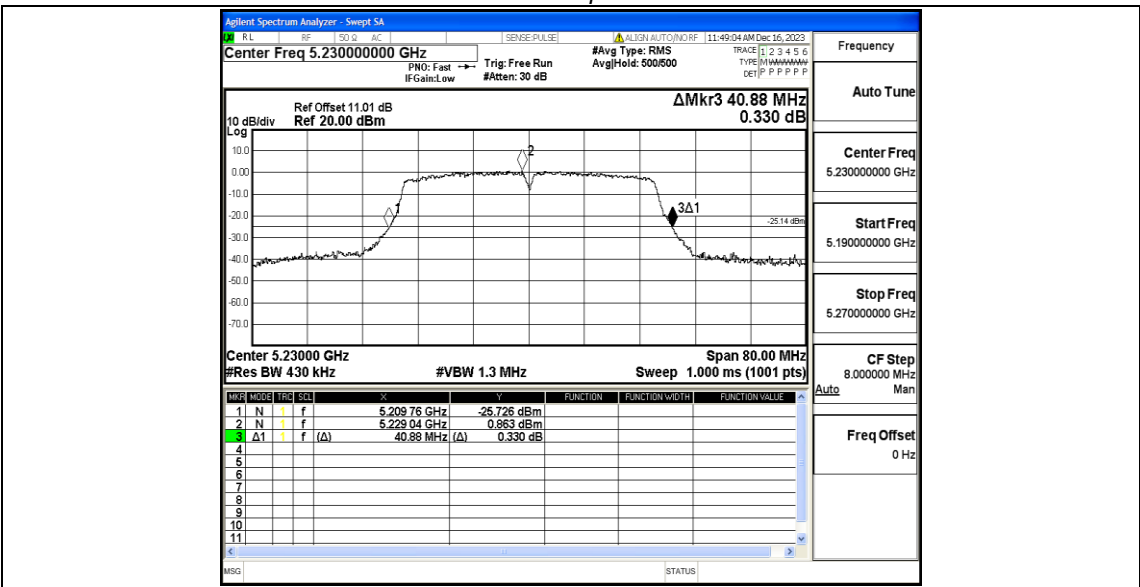
11N40MIMO\_Ant2\_5190



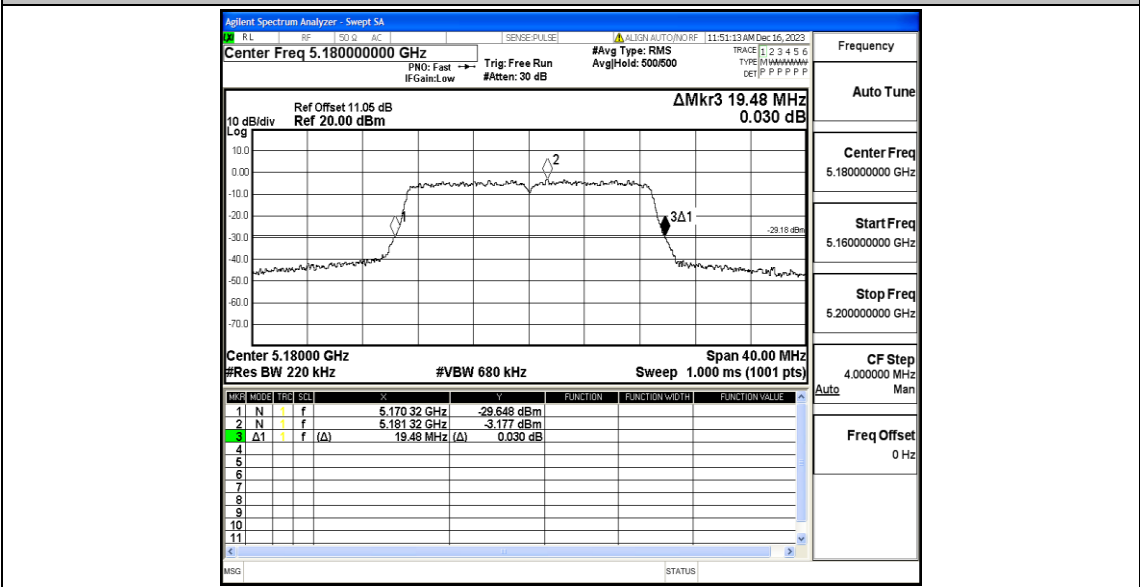
11N40MIMO\_Ant1\_5230



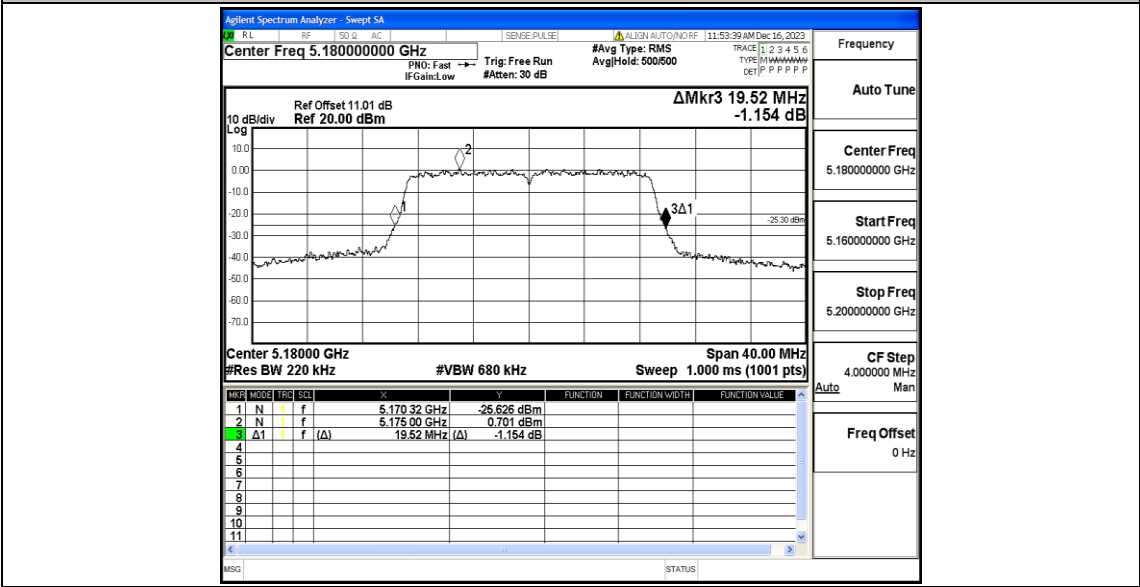
11N40MIMO\_Ant2\_5230



11AC20MIMO\_Ant1\_5180

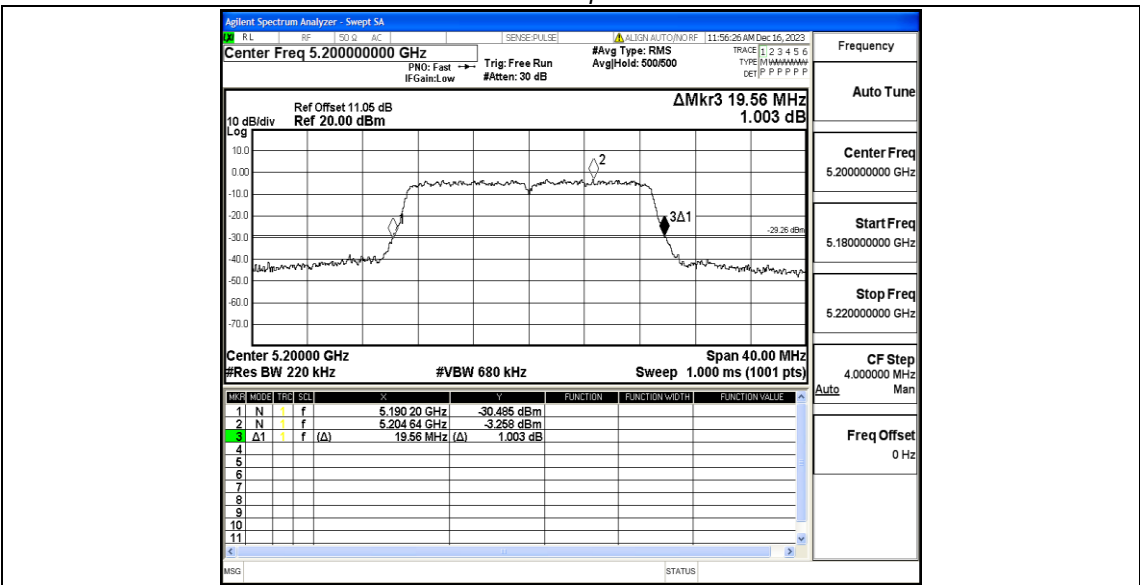


11AC20MIMO\_Ant2\_5180

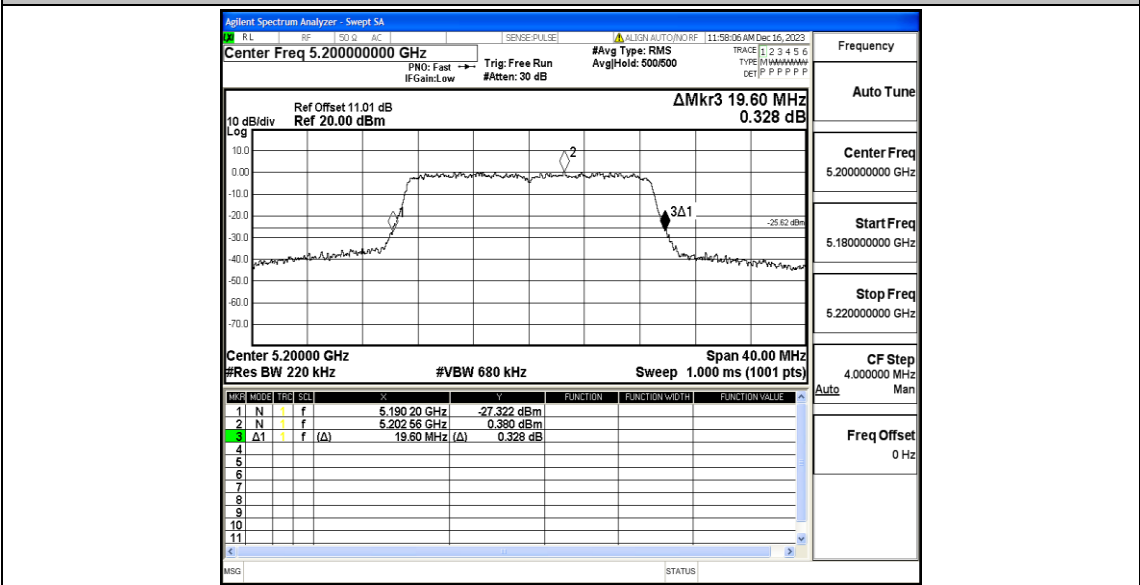


11AC20MIMO\_Ant1\_5200

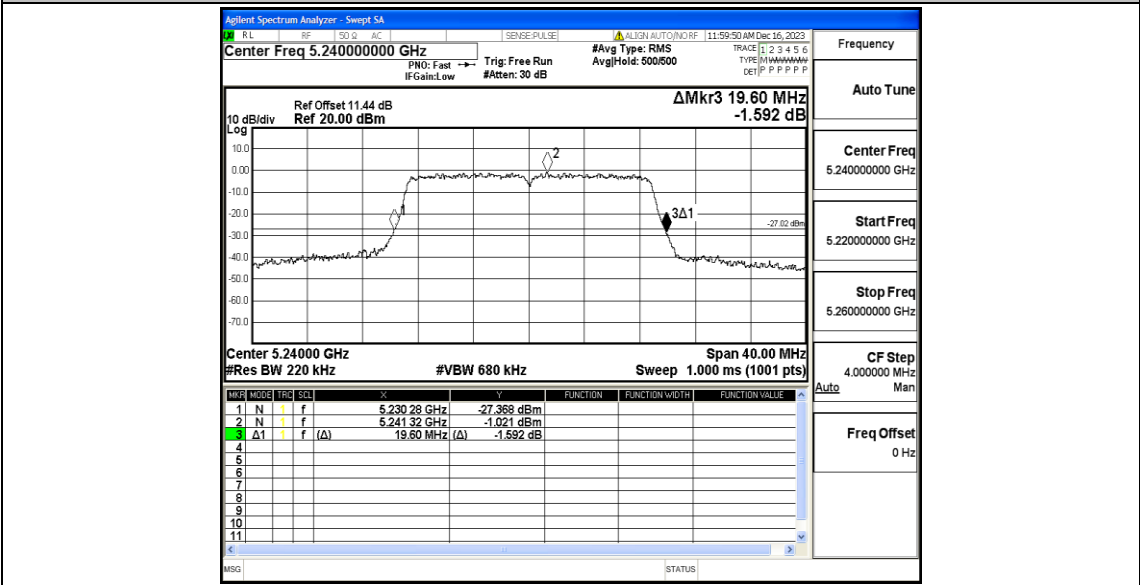




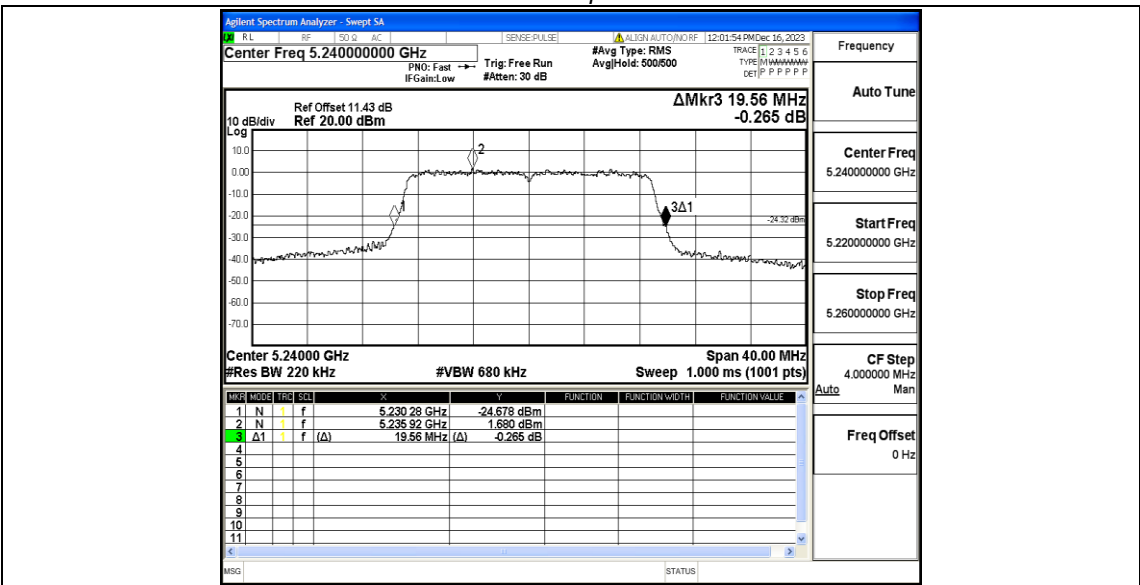
11AC20MIMO\_Ant2\_5200



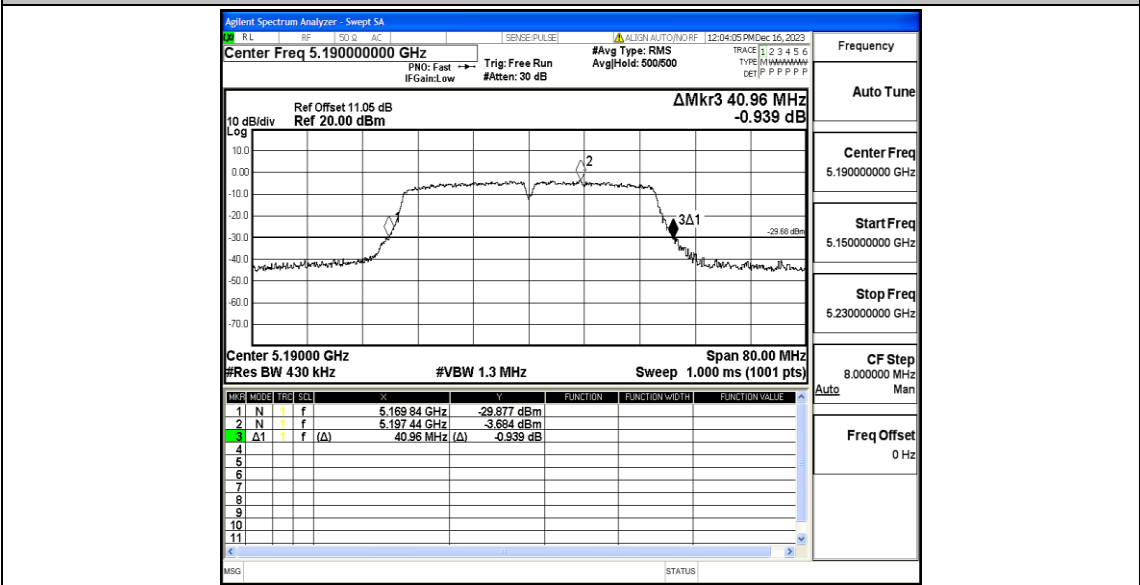
11AC20MIMO\_Ant1\_5240



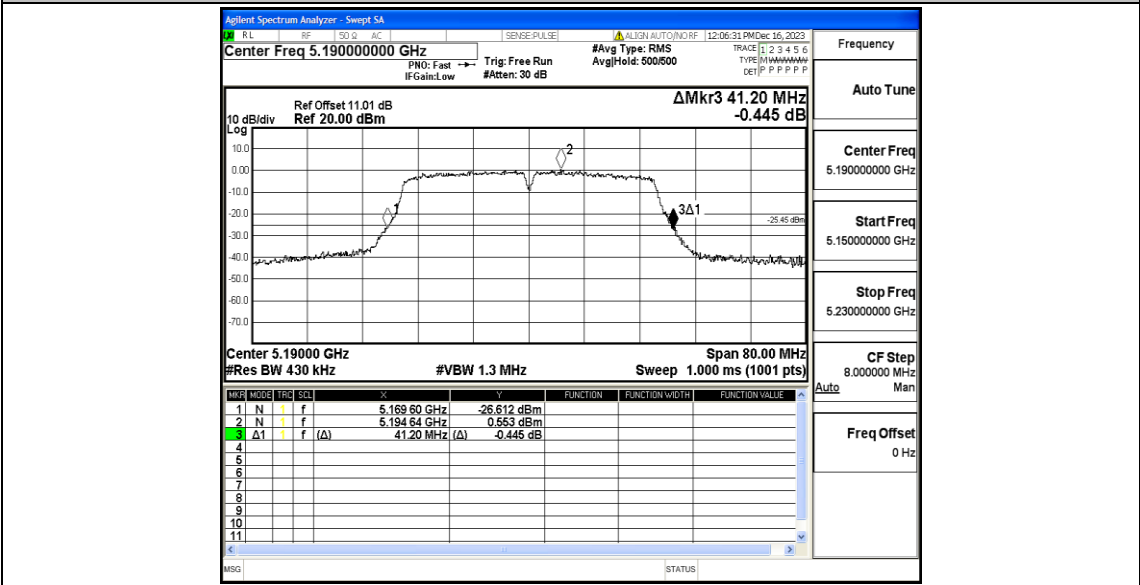
11AC20MIMO\_Ant2\_5240



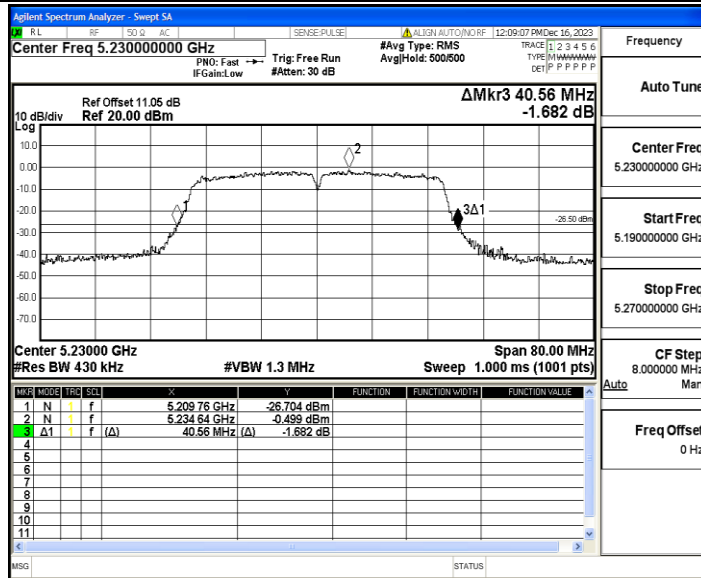
11AC40MIMO\_Ant1\_5190



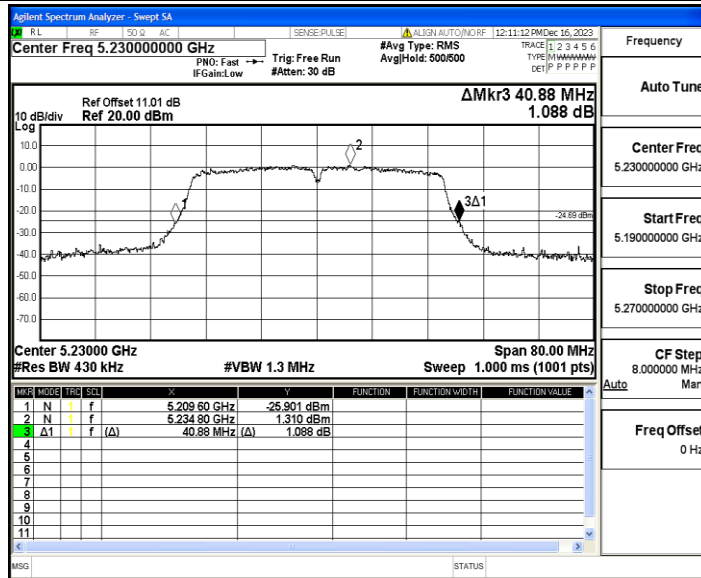
11AC40MIMO\_Ant2\_5190



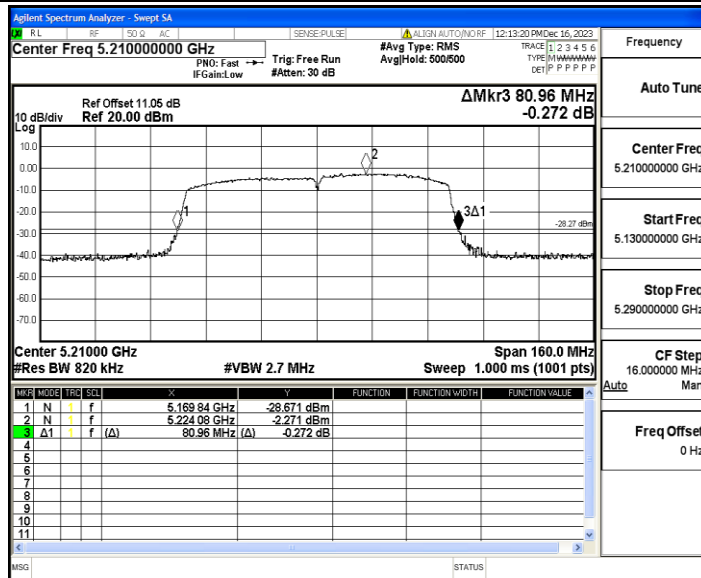
11AC40MIMO\_Ant1\_5230



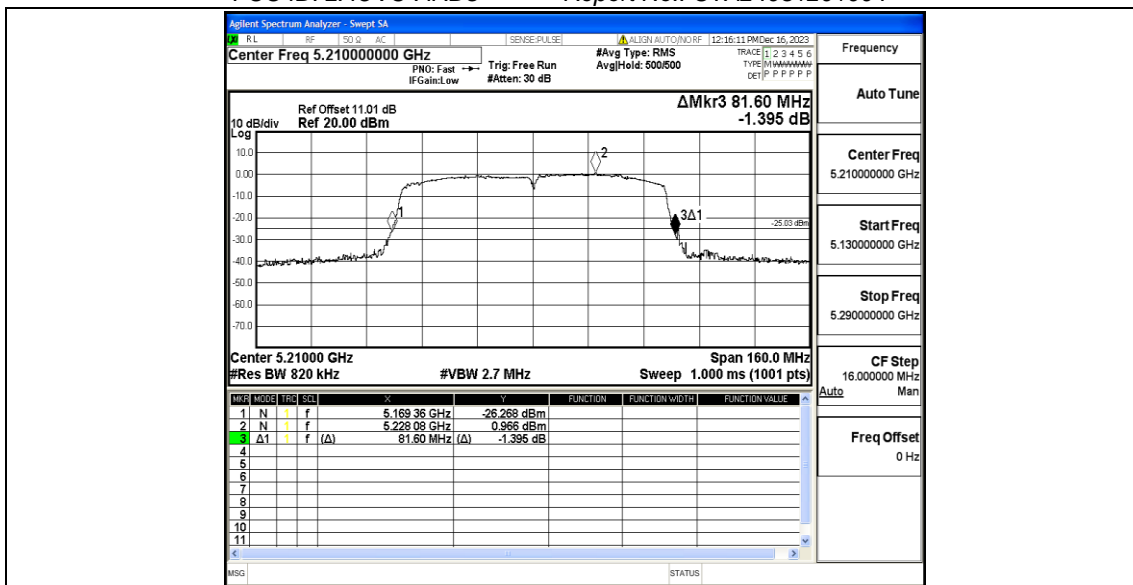
11AC40MIMO\_Ant2\_5230



11AC80MIMO\_Ant1\_5210



11AC80MIMO\_Ant2\_5210

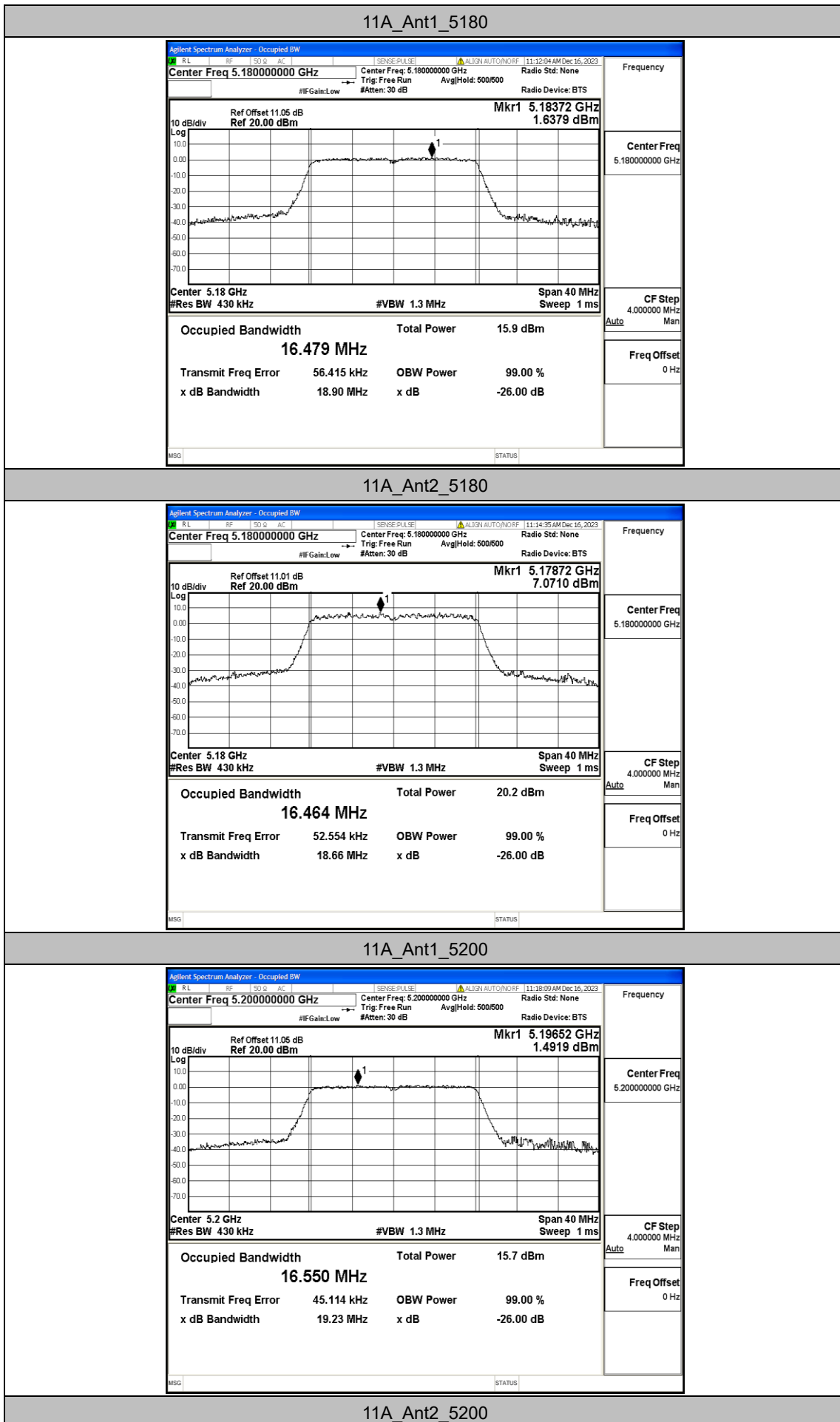


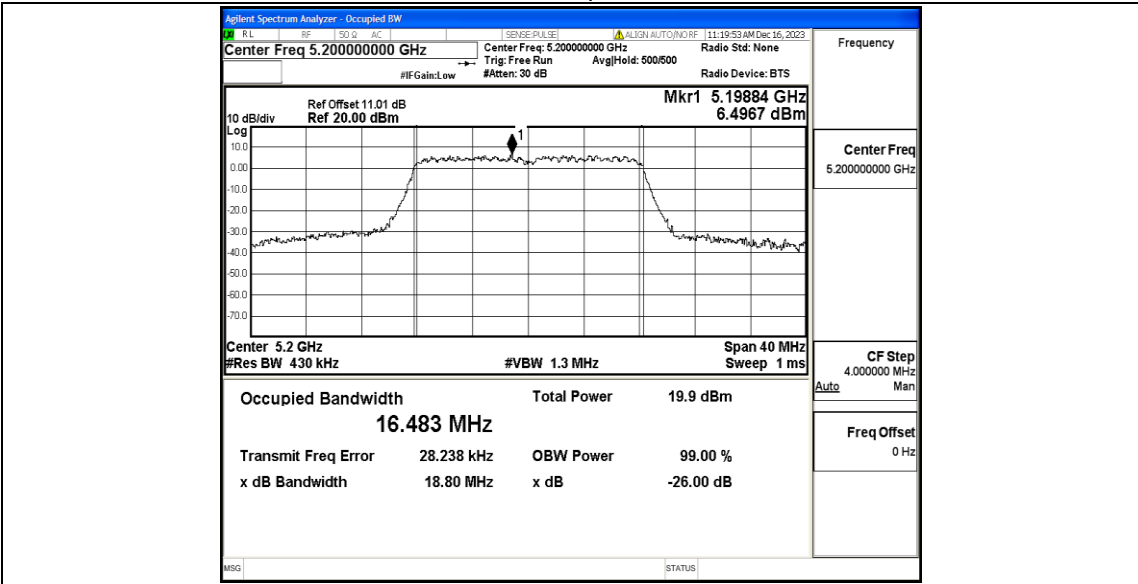
## Appendix A2: Occupied channel bandwidth

### Test Result

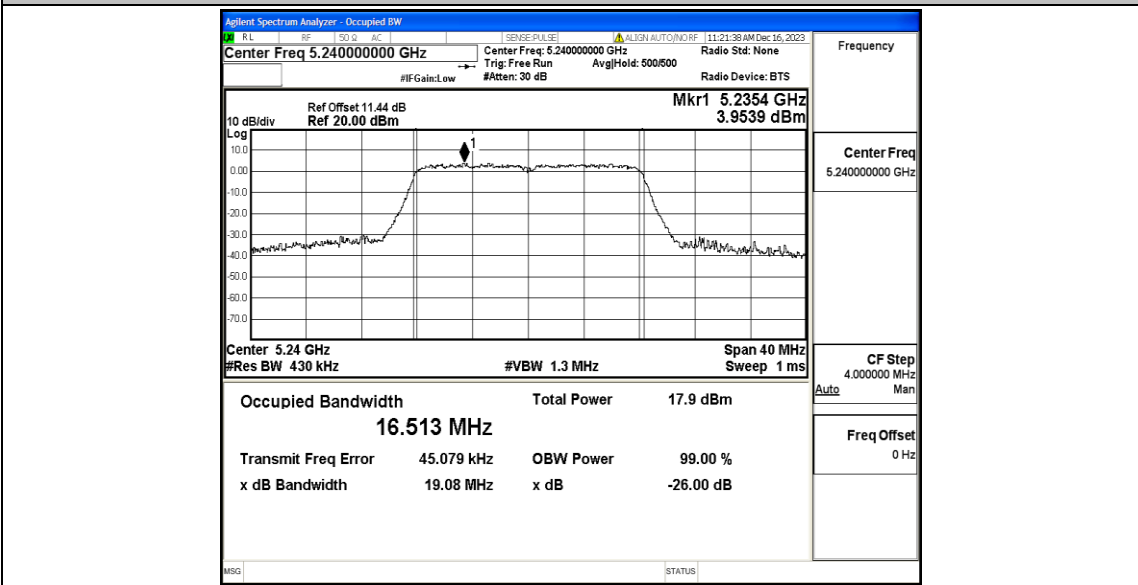
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.479	5171.8169	5188.2959	---	---
	Ant2	5180	16.464	5171.8206	5188.2846	---	---
	Ant1	5200	16.550	5191.7701	5208.3201	---	---
	Ant2	5200	16.483	5191.7867	5208.2697	---	---
	Ant1	5240	16.513	5231.7886	5248.3016	---	---
	Ant2	5240	16.481	5231.7931	5248.2741	---	---
11N20MIMO	Ant1	5180	17.617	5171.2587	5188.8757	---	---
	Ant2	5180	17.626	5171.2429	5188.8689	---	---
	Ant1	5200	17.656	5191.2253	5208.8813	---	---
	Ant2	5200	17.656	5191.2053	5208.8613	---	---
	Ant1	5240	17.664	5231.2089	5248.8729	---	---
	Ant2	5240	17.653	5231.2023	5248.8553	---	---
11N40MIMO	Ant1	5190	36.401	5171.9335	5208.3345	---	---
	Ant2	5190	36.419	5171.8908	5208.3098	---	---
	Ant1	5230	36.214	5212.1019	5248.3159	---	---
	Ant2	5230	36.334	5212.0380	5248.3720	---	---
11AC20MIMO	Ant1	5180	17.626	5171.2481	5188.8741	---	---
	Ant2	5180	17.618	5171.2474	5188.8654	---	---
	Ant1	5200	17.662	5191.2205	5208.8825	---	---
	Ant2	5200	17.656	5191.2008	5208.8568	---	---
	Ant1	5240	17.641	5231.2226	5248.8636	---	---
	Ant2	5240	17.638	5231.2199	5248.8579	---	---
11AC40MIMO	Ant1	5190	36.456	5172.0147	5208.4707	---	---
	Ant2	5190	36.355	5171.9622	5208.3172	---	---
	Ant1	5230	36.137	5212.1013	5248.2383	---	---
	Ant2	5230	36.174	5212.0206	5248.1946	---	---
11AC80MIMO	Ant1	5210	74.667	5173.0351	5247.7021	---	---
	Ant2	5210	74.583	5172.8849	5247.4679	---	---

Test Graphs

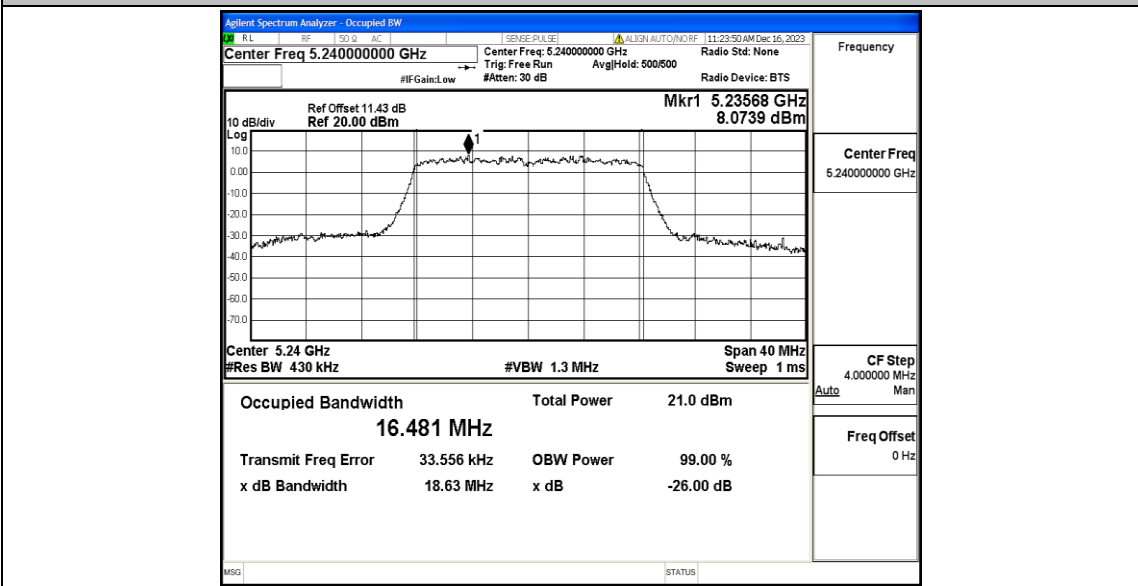




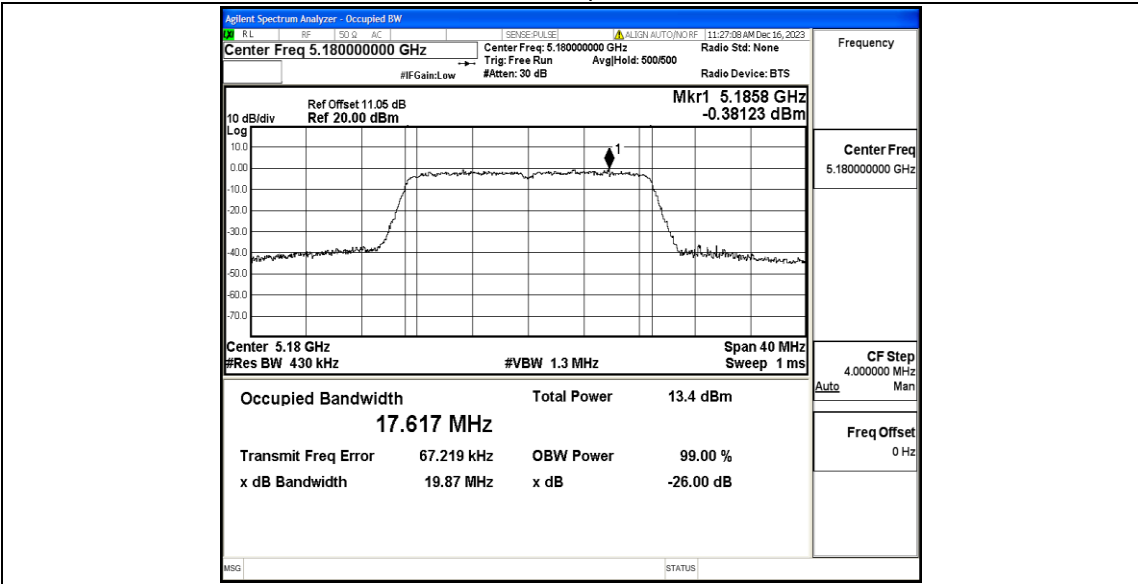
11A\_Ant1\_5240



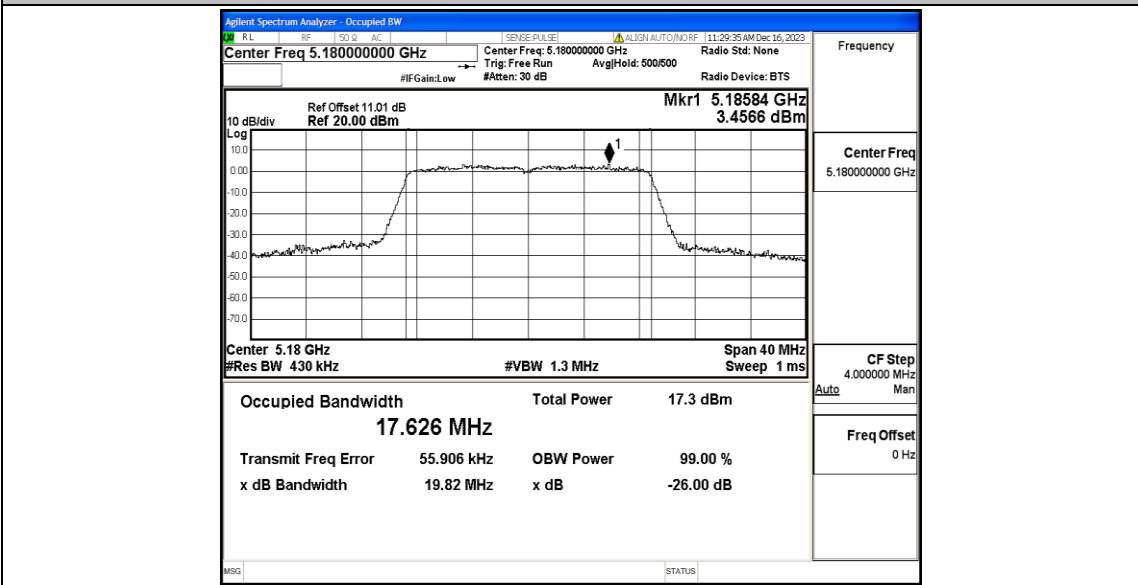
11A\_Ant2\_5240



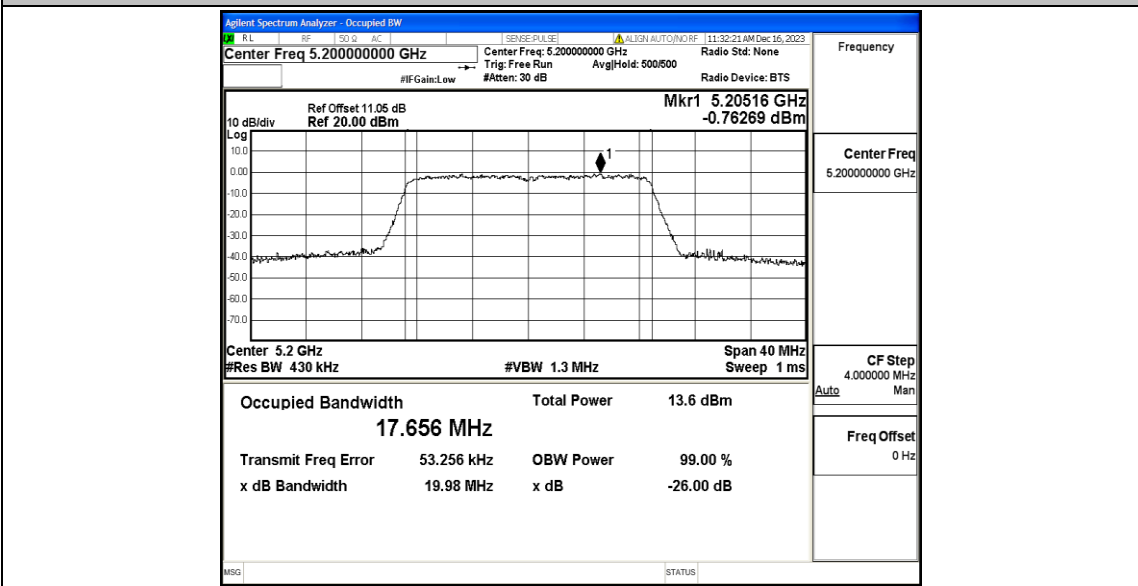
11N20MIMO\_Ant1\_5180



11N20MIMO\_Ant2\_5180

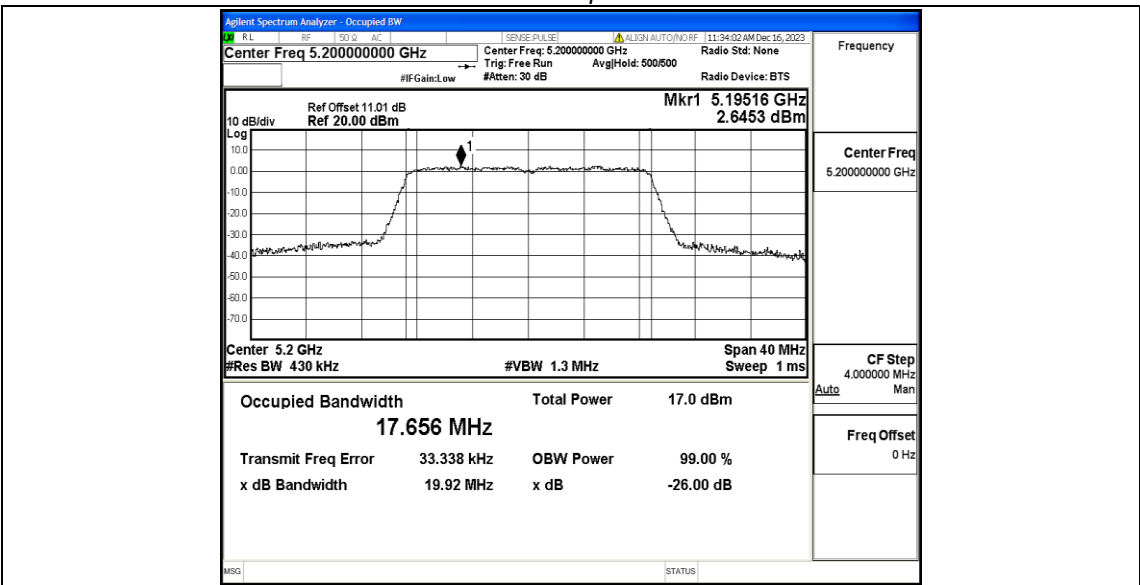


11N20MIMO\_Ant1\_5200

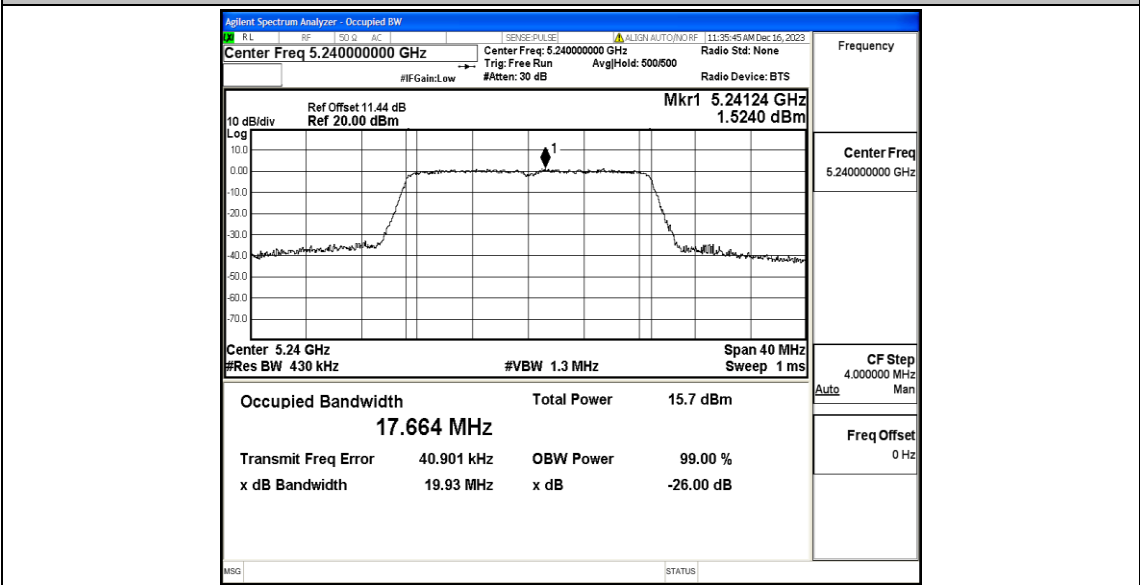


11N20MIMO\_Ant2\_5200

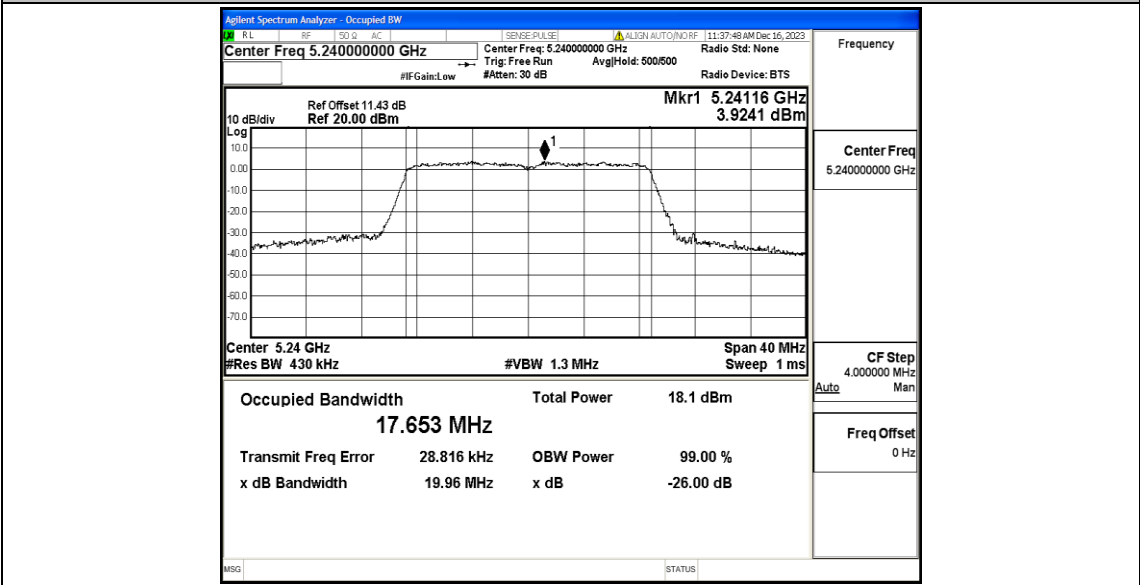




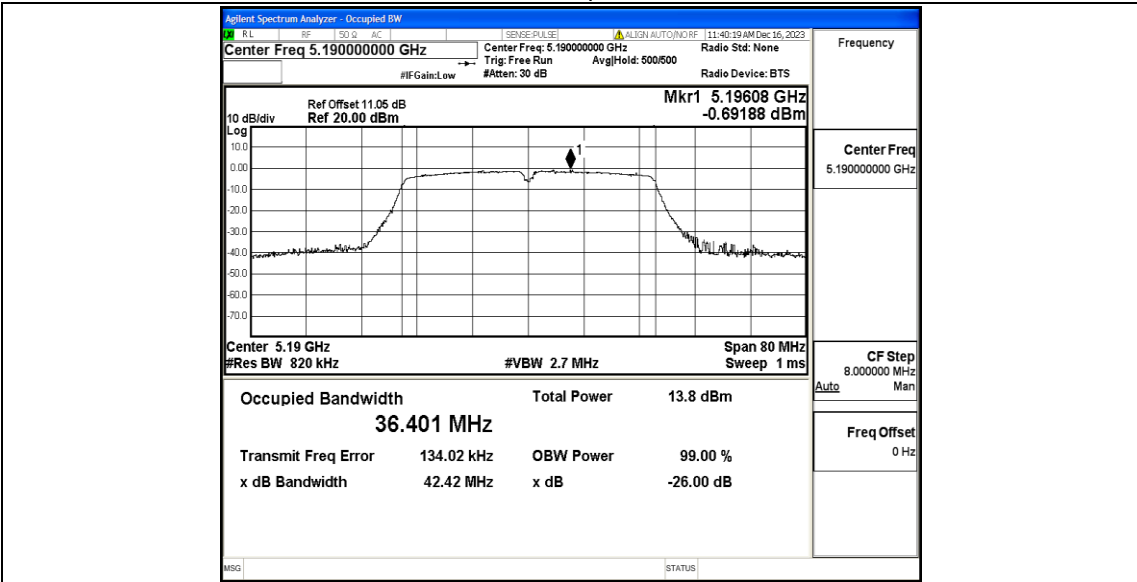
11N20MIMO\_Ant1\_5240



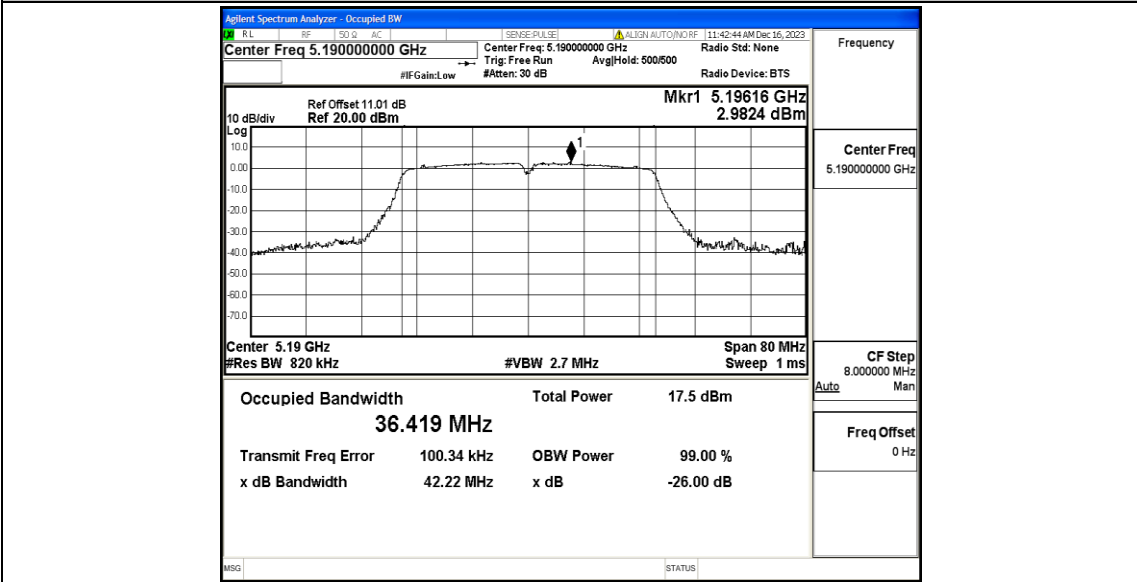
11N20MIMO\_Ant2\_5240



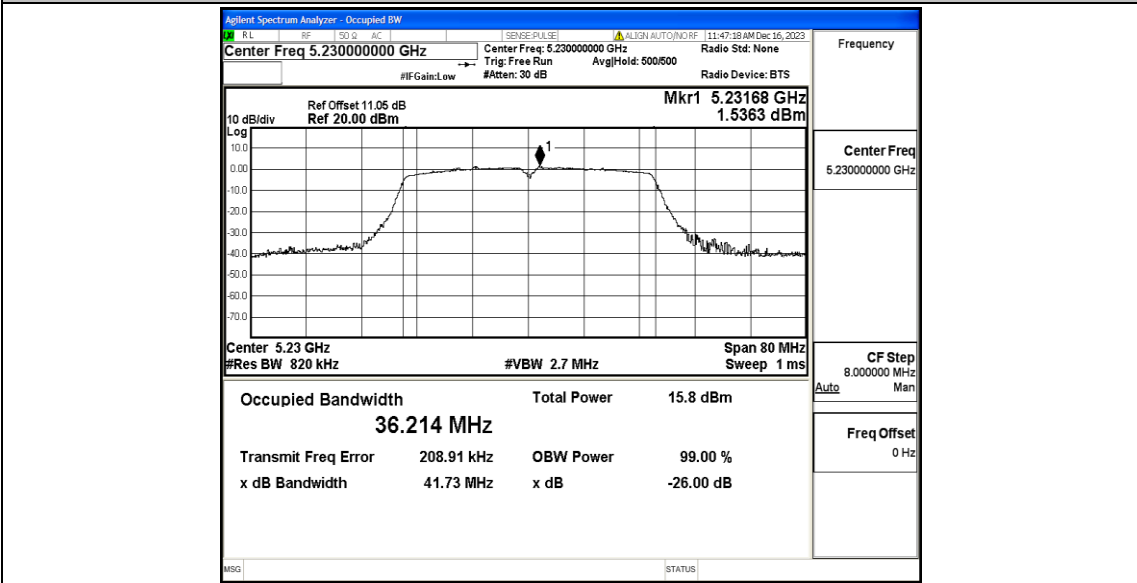
11N40MIMO\_Ant1\_5190



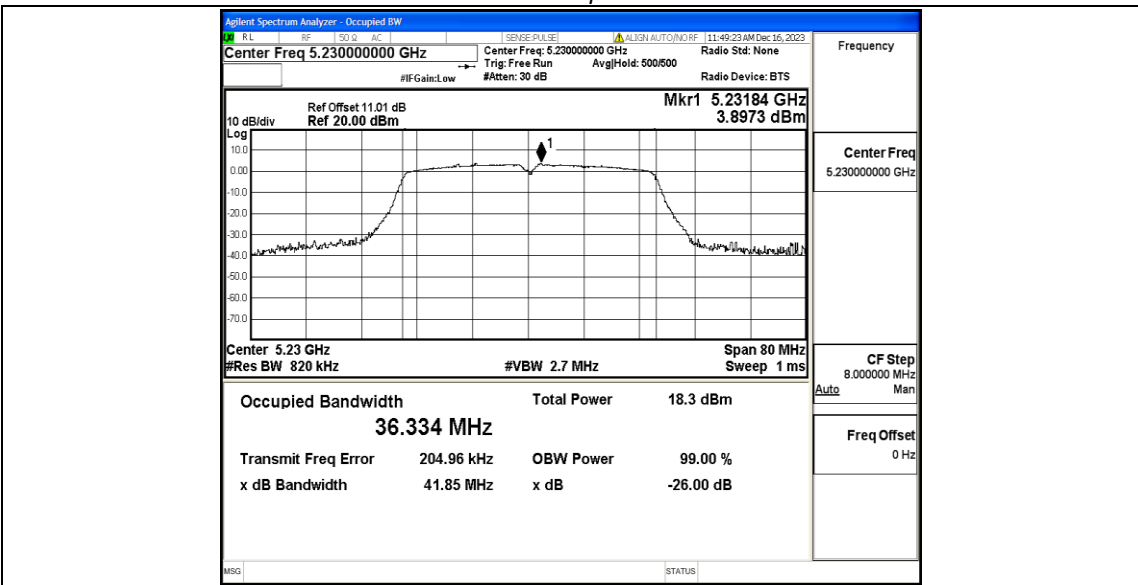
11N40MIMO\_Ant2\_5190



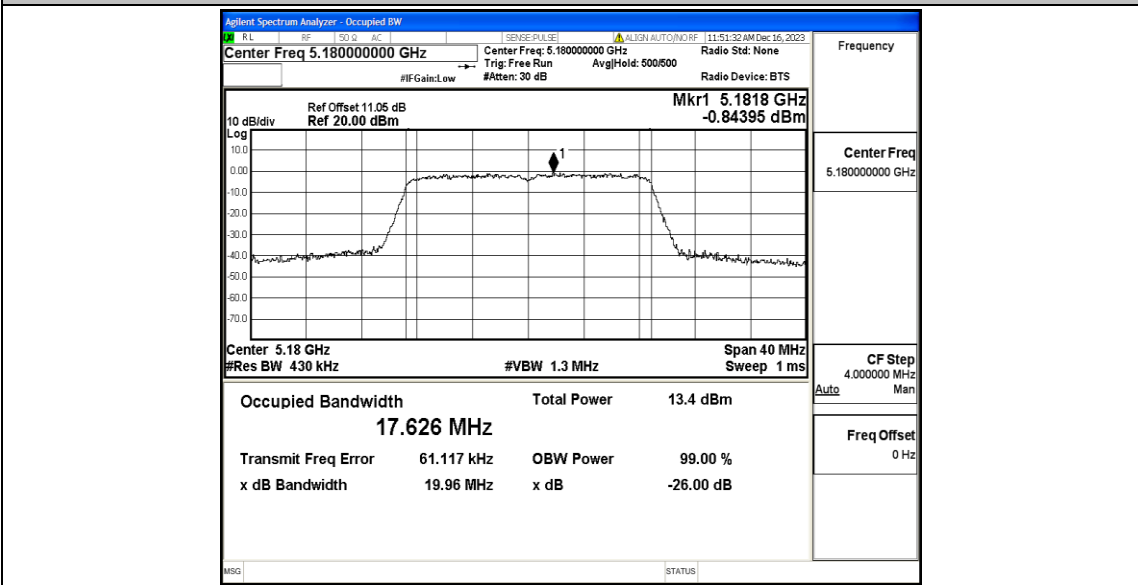
11N40MIMO\_Ant1\_5230



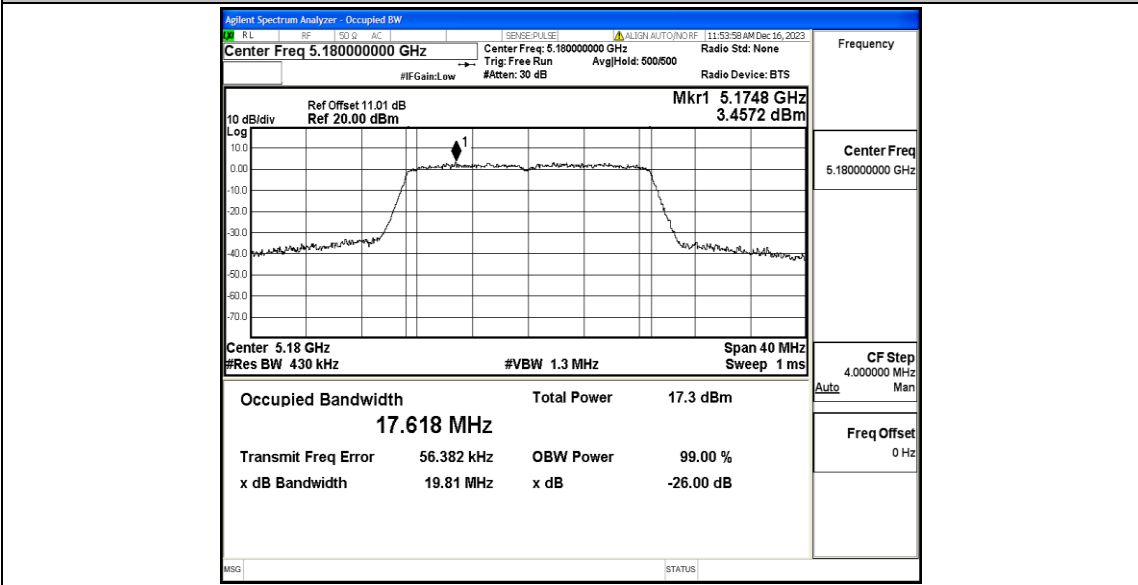
11N40MIMO\_Ant2\_5230



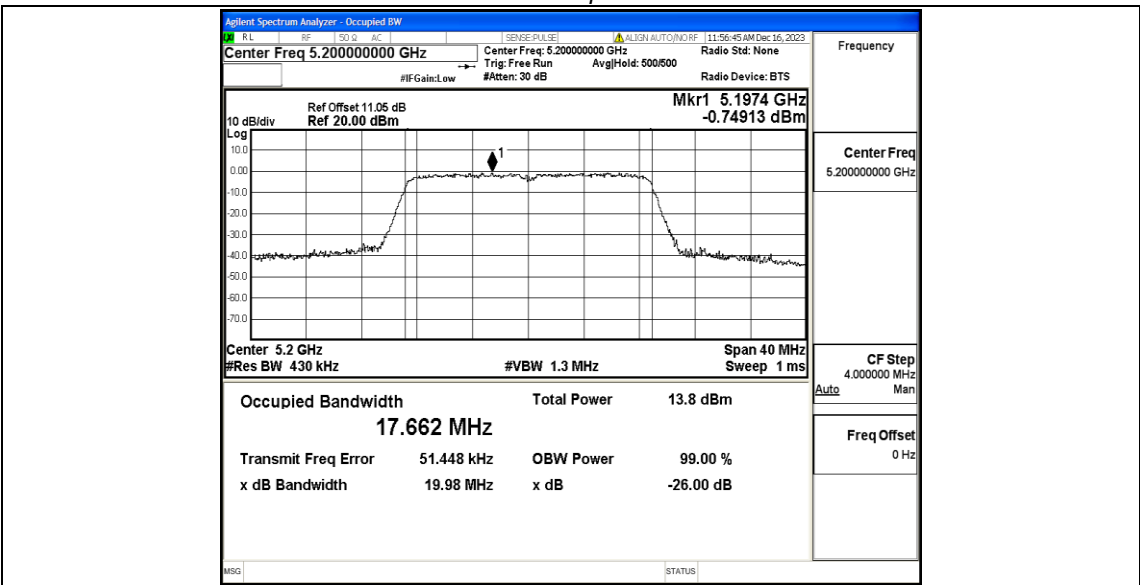
11AC20MIMO\_Ant1\_5180



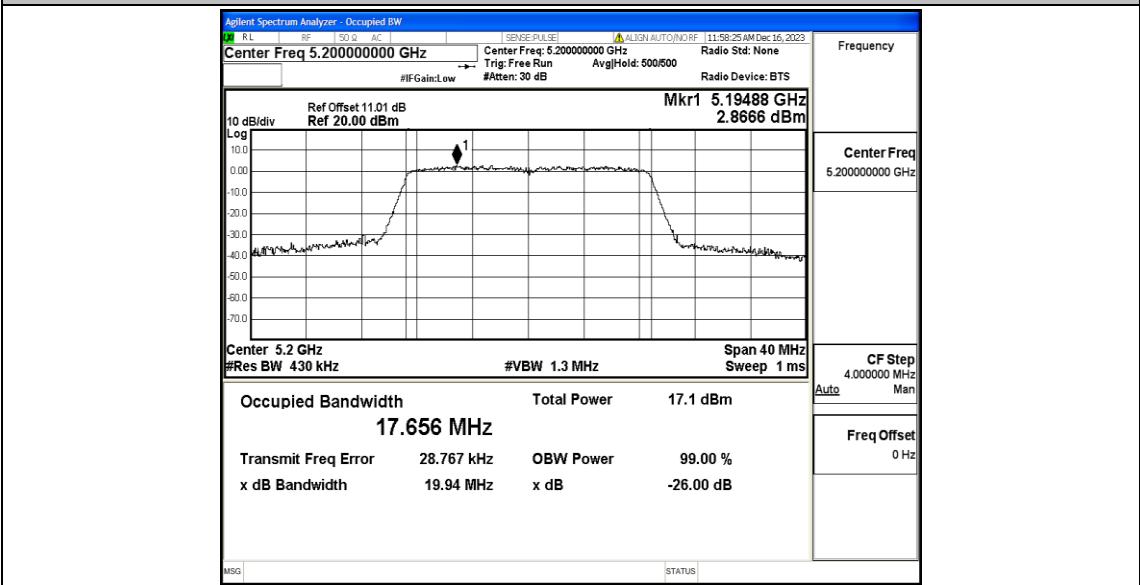
11AC20MIMO\_Ant2\_5180



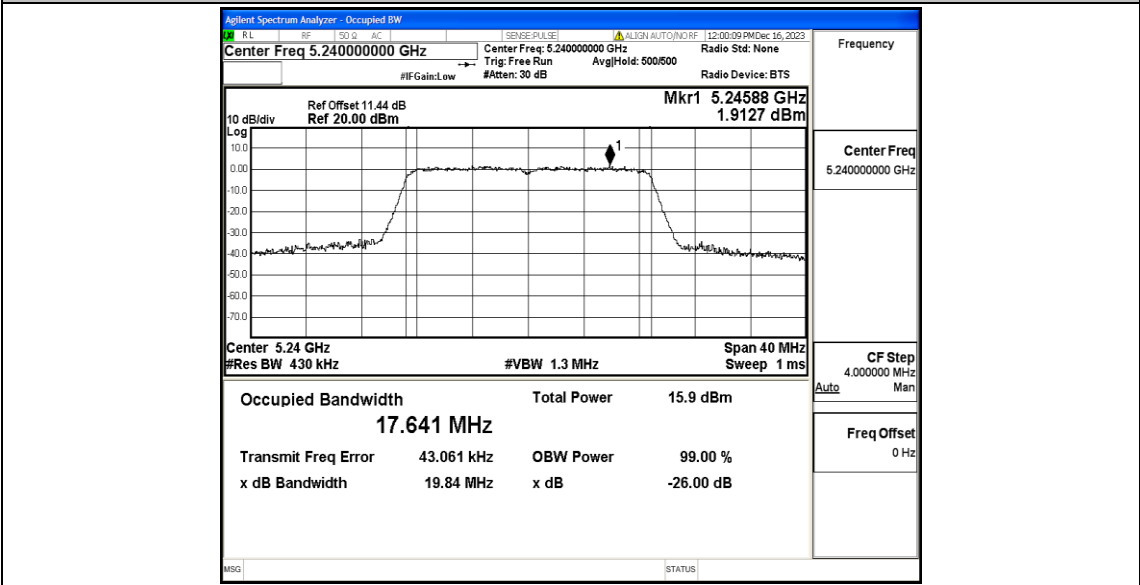
11AC20MIMO\_Ant1\_5200



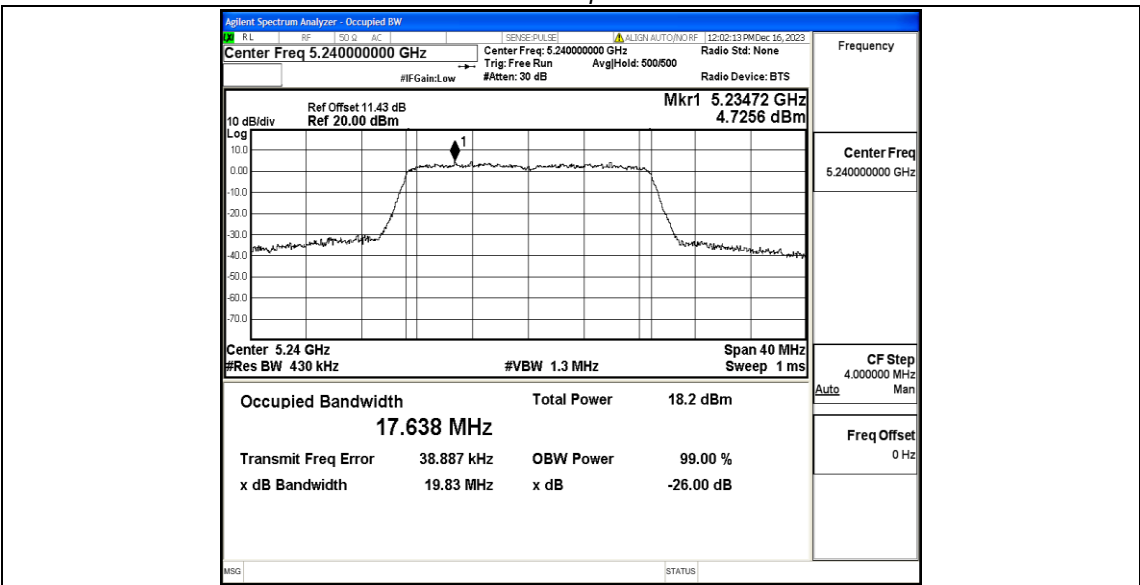
11AC20MIMO\_Ant2\_5200



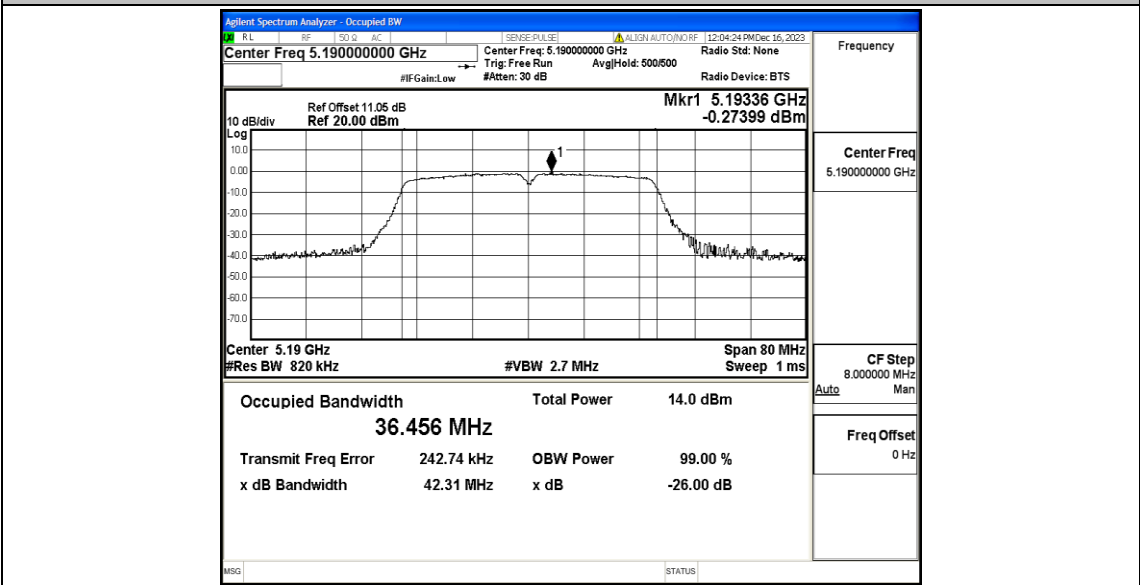
11AC20MIMO\_Ant1\_5240



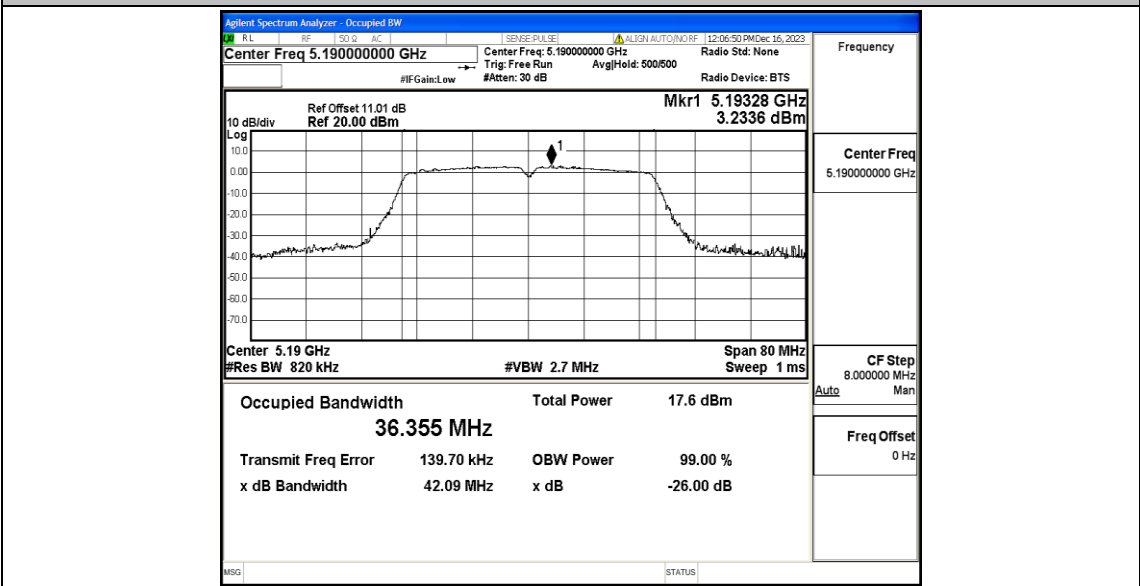
11AC20MIMO\_Ant2\_5240



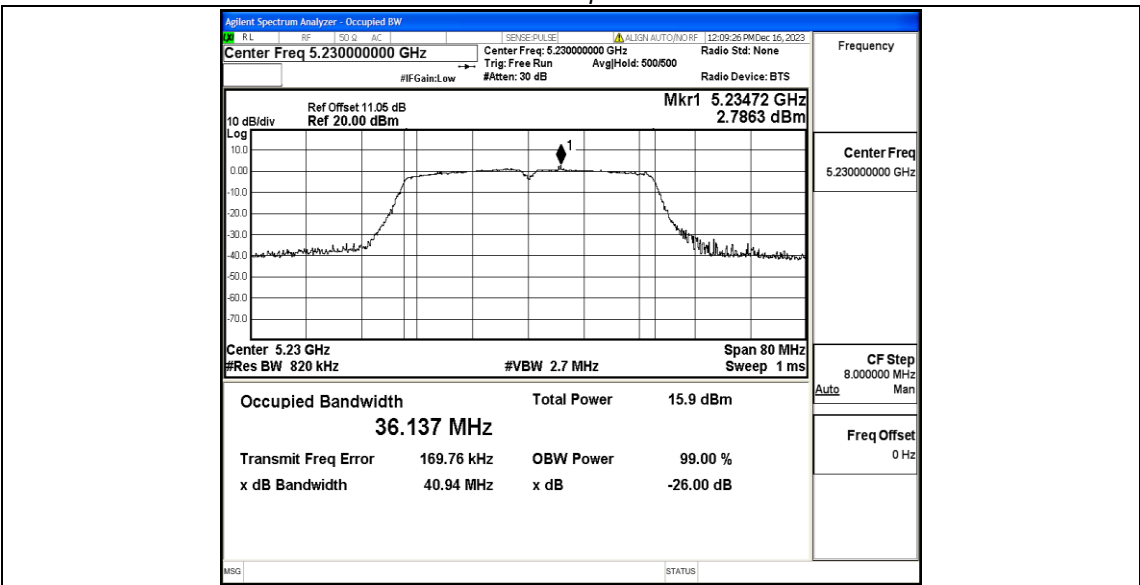
11AC40MIMO\_Ant1\_5190



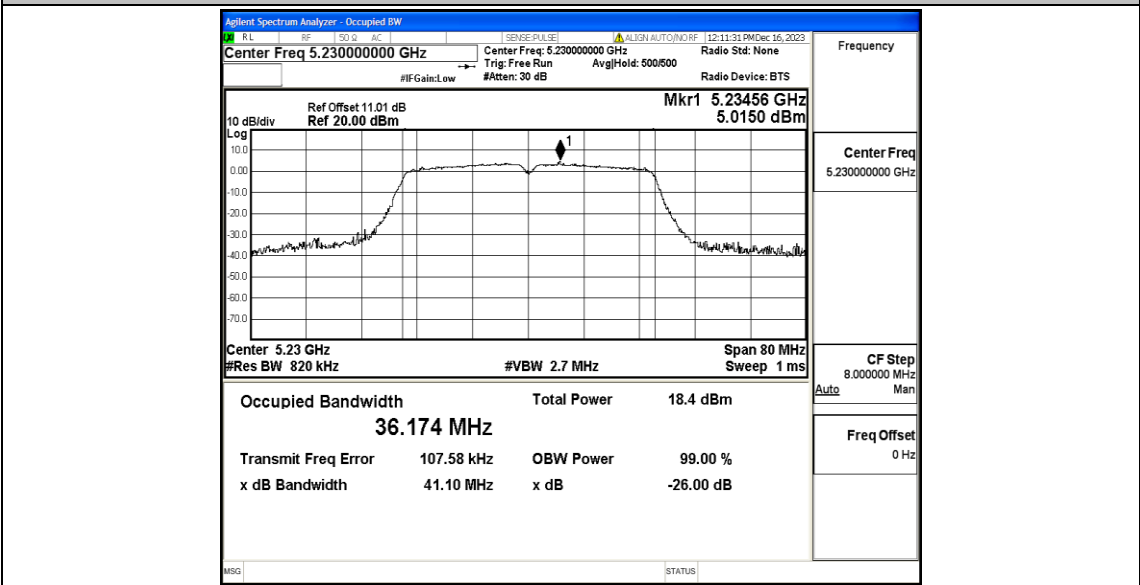
11AC40MIMO\_Ant2\_5190



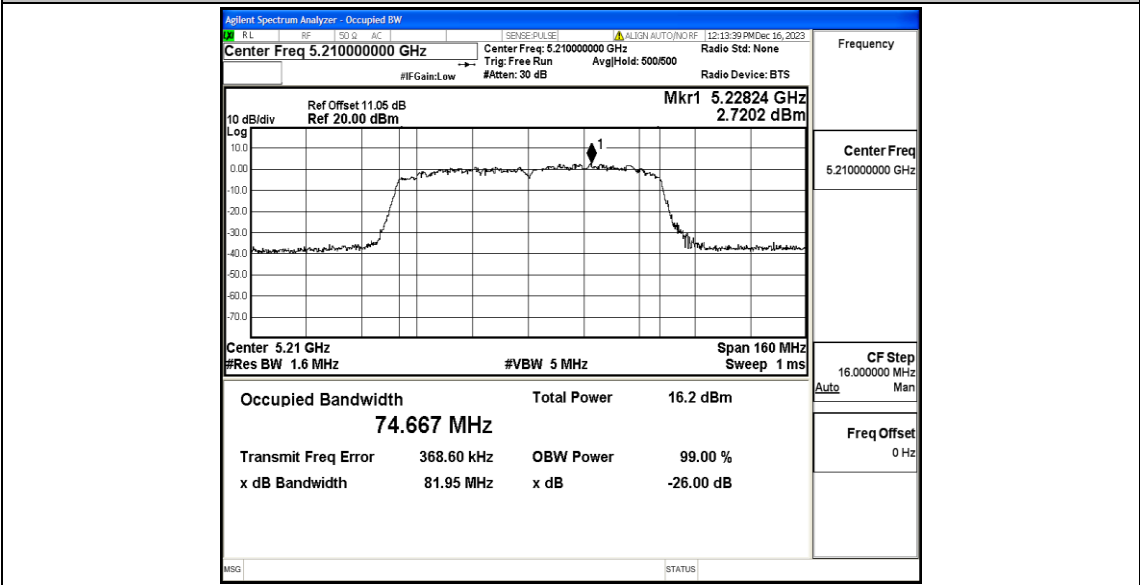
11AC40MIMO\_Ant1\_5230



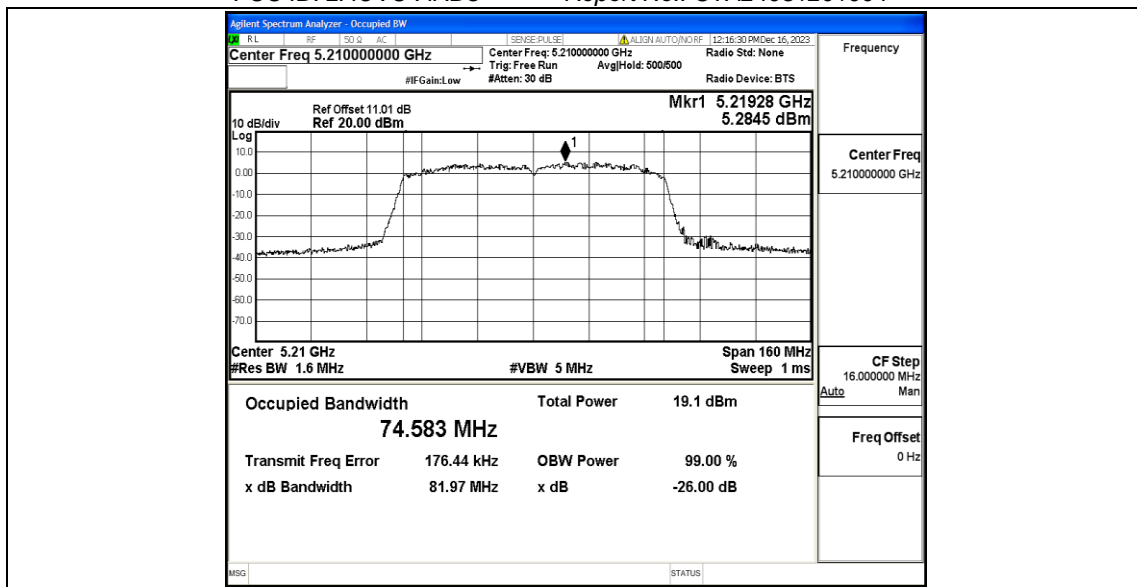
11AC40MIMO\_Ant2\_5230



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	9.24	≤23.98	PASS
	Ant2	5180	13.15	≤23.98	PASS
	Ant1	5200	9.26	≤23.98	PASS
	Ant2	5200	12.77	≤23.98	PASS
	Ant1	5240	11.45	≤23.98	PASS
	Ant2	5240	11.54	≤23.98	PASS
11N20MIMO	Ant1	5180	6.69	≤23.98	PASS
	Ant2	5180	10.65	≤23.98	PASS
	total	5180	12.12	≤23.98	PASS
	Ant1	5200	7.01	≤23.98	PASS
	Ant2	5200	10.45	≤23.98	PASS
	total	5200	12.07	≤23.98	PASS
	Ant1	5240	9.31	≤23.98	PASS
	Ant2	5240	11.64	≤23.98	PASS
	total	5240	13.64	≤23.98	PASS
11N40MIMO	Ant1	5190	6.84	≤23.98	PASS
	Ant2	5190	10.60	≤23.98	PASS
	total	5190	12.13	≤23.98	PASS
	Ant1	5230	8.89	≤23.98	PASS
	Ant2	5230	11.24	≤23.98	PASS
	total	5230	13.23	≤23.98	PASS
11AC20MIMO	Ant1	5180	6.77	≤23.98	PASS
	Ant2	5180	10.75	≤23.98	PASS
	total	5180	12.21	≤23.98	PASS
	Ant1	5200	7.16	≤23.98	PASS
	Ant2	5200	10.40	≤23.98	PASS
	total	5200	12.09	≤23.98	PASS
	Ant1	5240	9.38	≤23.98	PASS
	Ant2	5240	11.63	≤23.98	PASS
	total	5240	13.66	≤23.98	PASS
11AC40MIMO	Ant1	5190	6.94	≤23.98	PASS
	Ant2	5190	10.46	≤23.98	PASS
	total	5190	12.06	≤23.98	PASS
	Ant1	5230	8.99	≤23.98	PASS
	Ant2	5230	11.22	≤23.98	PASS
	total	5230	13.26	≤23.98	PASS
11AC80MIMO	Ant1	5210	8.17	≤23.98	PASS
	Ant2	5210	11.28	≤23.98	PASS
	total	5210	13.01	≤23.98	PASS

Note: The Duty Cycle Factor is compensated in the test result.



## Appendix C: Maximum power spectral density

### Test Result

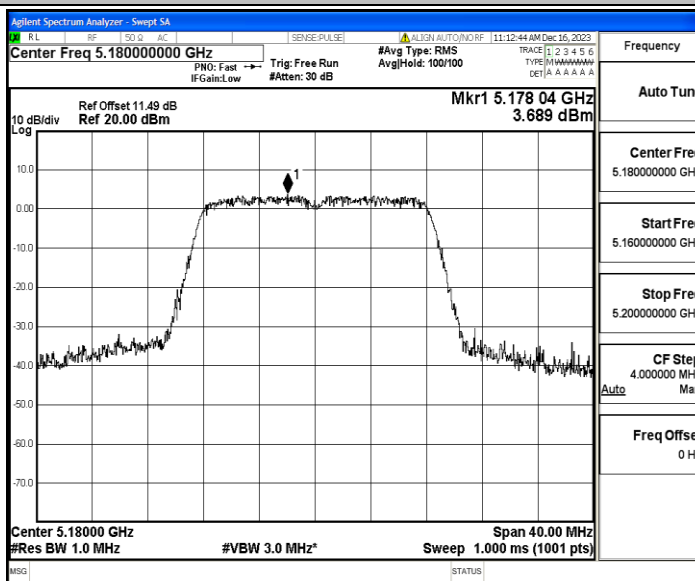
TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	3.69	≤11.00	PASS
	Ant2	5180	8.59	≤11.00	PASS
	Ant1	5200	3.51	≤11.00	PASS
	Ant2	5200	8.92	≤11.00	PASS
	Ant1	5240	6.02	≤11.00	PASS
	Ant2	5240	6.57	≤11.00	PASS
11N20MIMO	Ant1	5180	1.44	≤11.00	PASS
	Ant2	5180	6.22	≤11.00	PASS
	total	5180	7.47	≤11.00	PASS
	Ant1	5200	2.74	≤11.00	PASS
	Ant2	5200	6.24	≤11.00	PASS
	total	5200	7.84	≤11.00	PASS
	Ant1	5240	3.6	≤11.00	PASS
	Ant2	5240	7.27	≤11.00	PASS
	total	5240	8.82	≤11.00	PASS
11N40MIMO	Ant1	5190	-1.08	≤11.00	PASS
	Ant2	5190	2.26	≤11.00	PASS
	total	5190	3.91	≤11.00	PASS
	Ant1	5230	0.76	≤11.00	PASS
	Ant2	5230	3.07	≤11.00	PASS
	total	5230	5.08	≤11.00	PASS
11AC20MIMO	Ant1	5180	1.04	≤11.00	PASS
	Ant2	5180	5.24	≤11.00	PASS
	total	5180	6.64	≤11.00	PASS
	Ant1	5200	1.87	≤11.00	PASS
	Ant2	5200	5.11	≤11.00	PASS
	total	5200	6.80	≤11.00	PASS
	Ant1	5240	3.6	≤11.00	PASS
	Ant2	5240	6.19	≤11.00	PASS
	total	5240	8.10	≤11.00	PASS
11AC40MIMO	Ant1	5190	-1.34	≤11.00	PASS
	Ant2	5190	2.6	≤11.00	PASS
	total	5190	4.07	≤11.00	PASS
	Ant1	5230	1.43	≤11.00	PASS
	Ant2	5230	3.16	≤11.00	PASS
	total	5230	5.39	≤11.00	PASS
11AC80MIMO	Ant1	5210	-1.61	≤11.00	PASS
	Ant2	5210	0.92	≤11.00	PASS
	total	5210	2.85	≤11.00	PASS

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

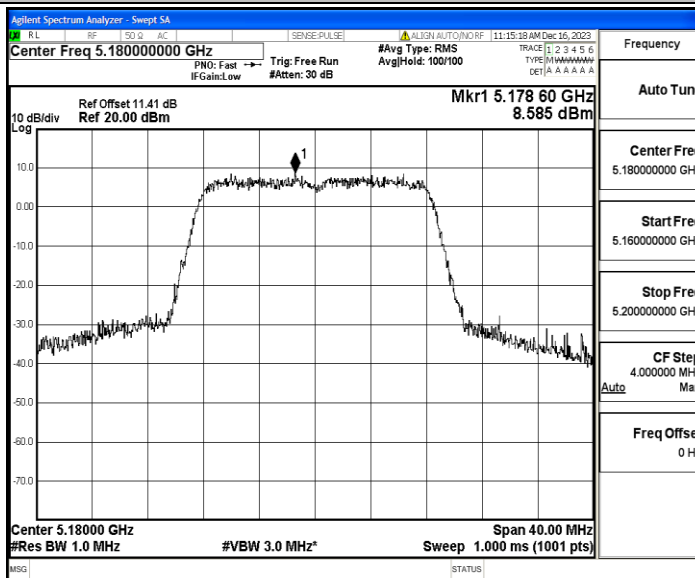
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

### Test Graphs

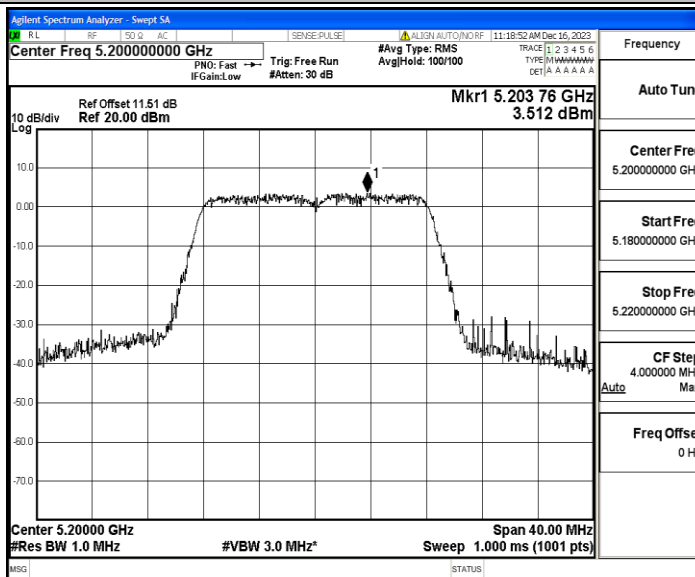
11A\_Ant1\_5180



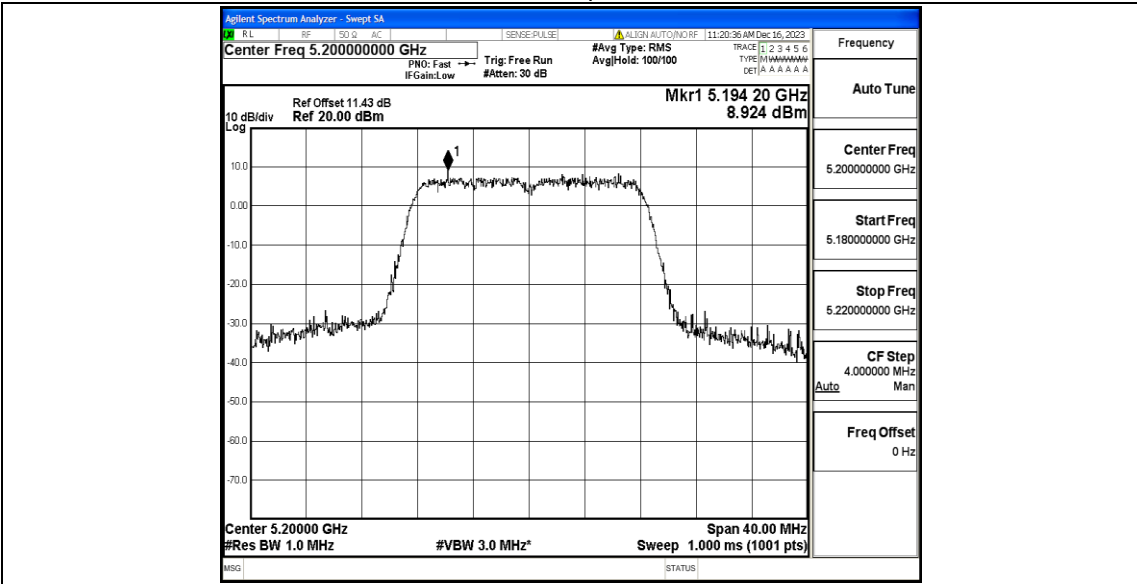
11A\_Ant2\_5180



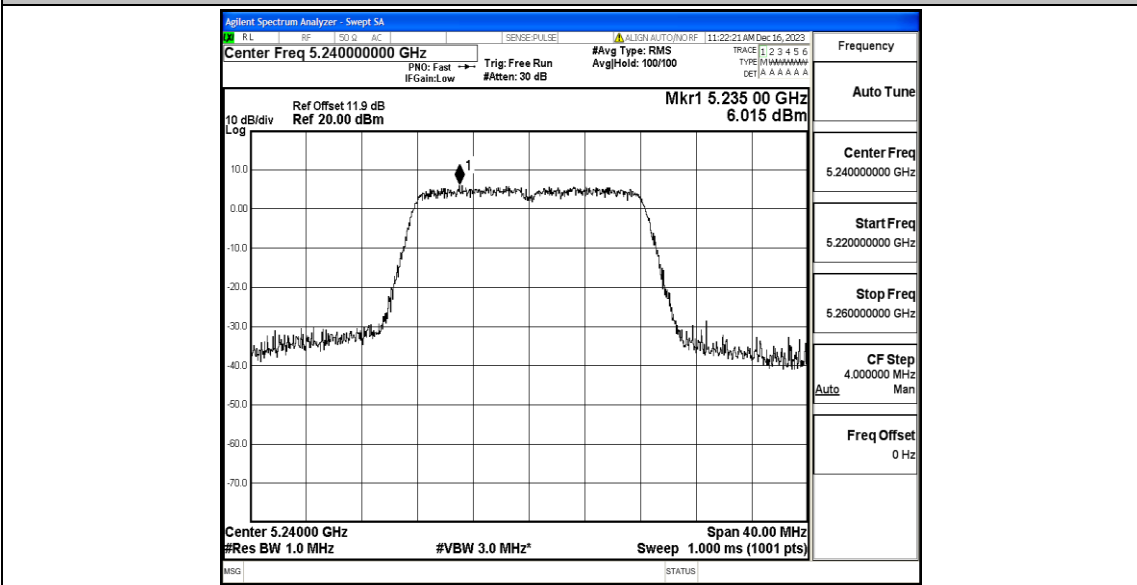
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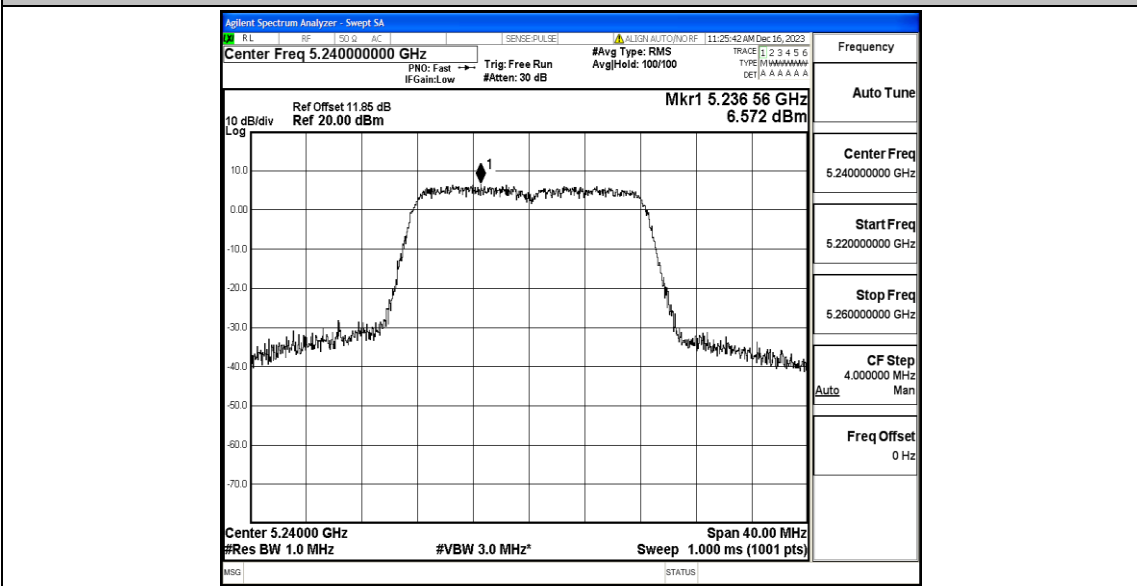
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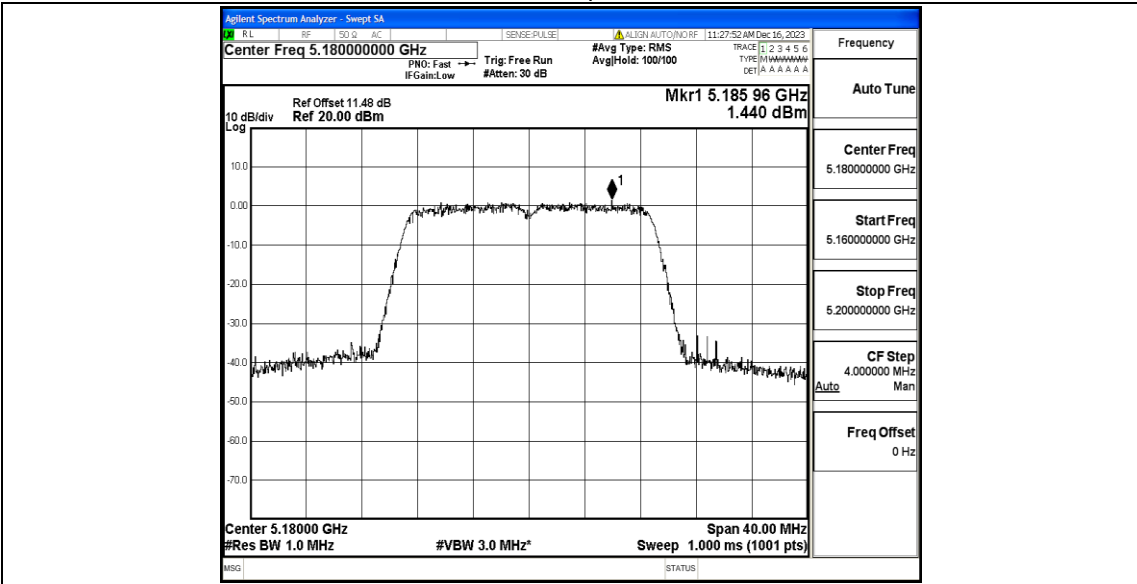
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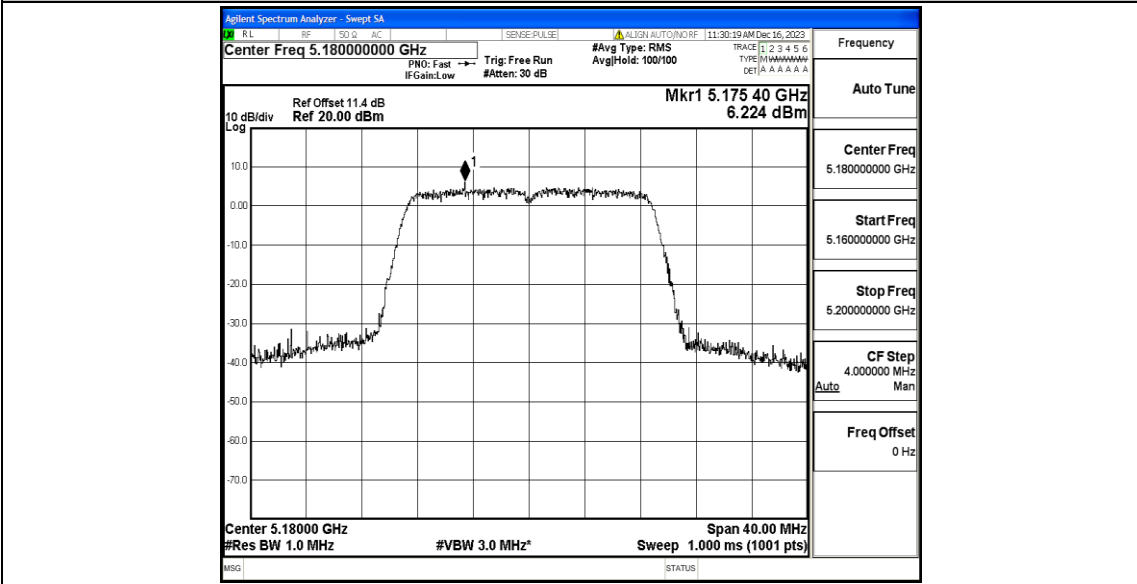
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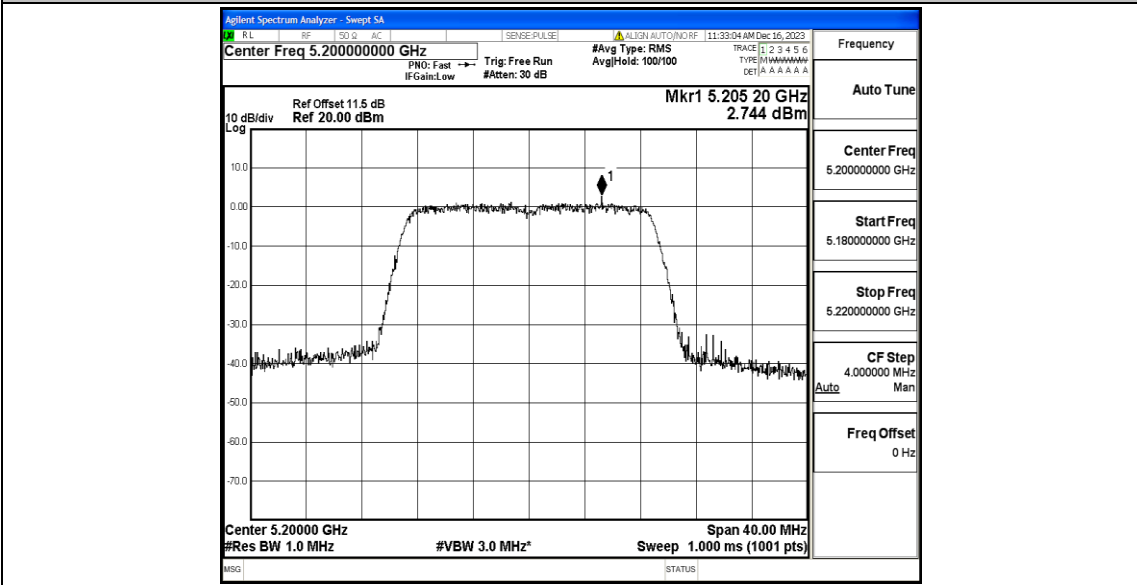
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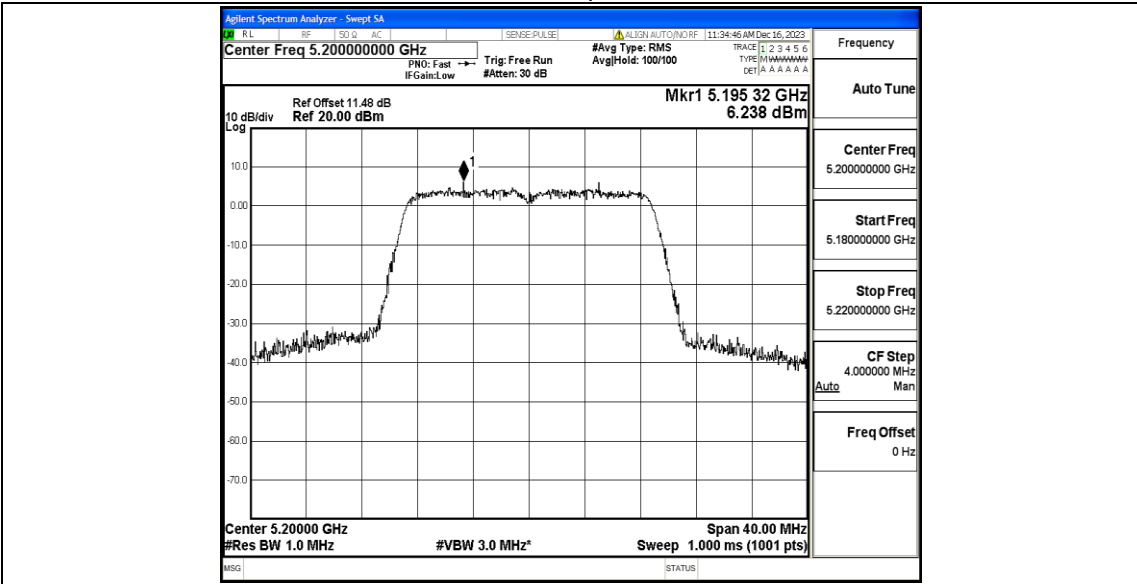
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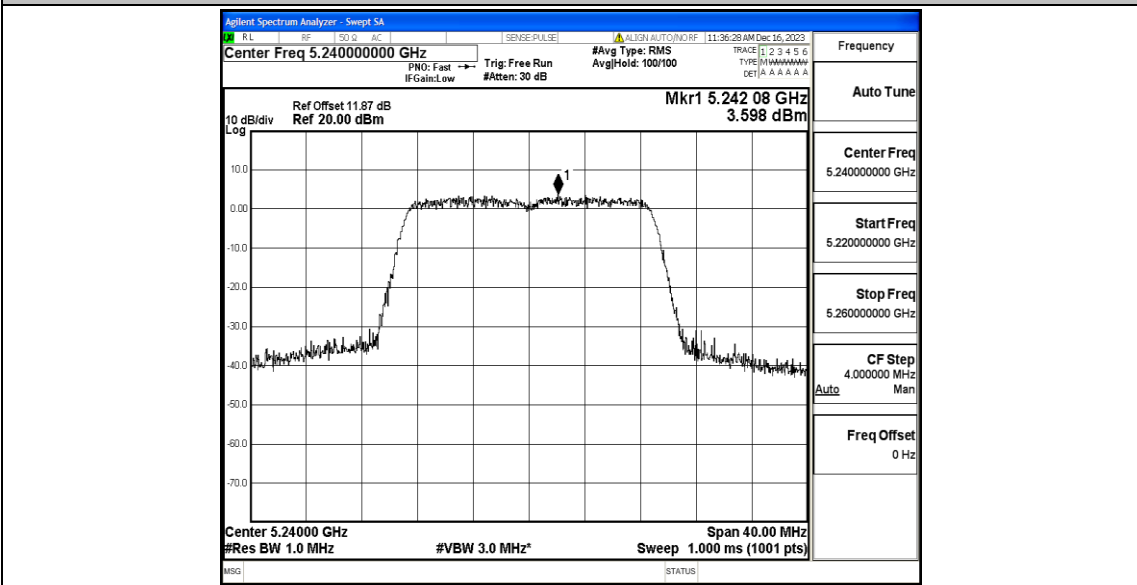
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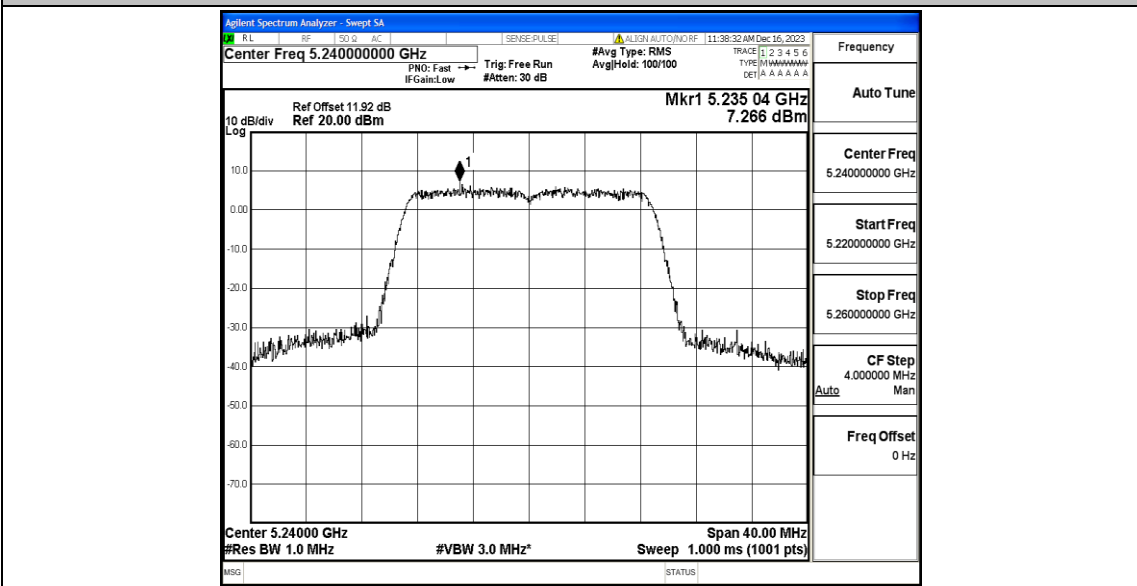
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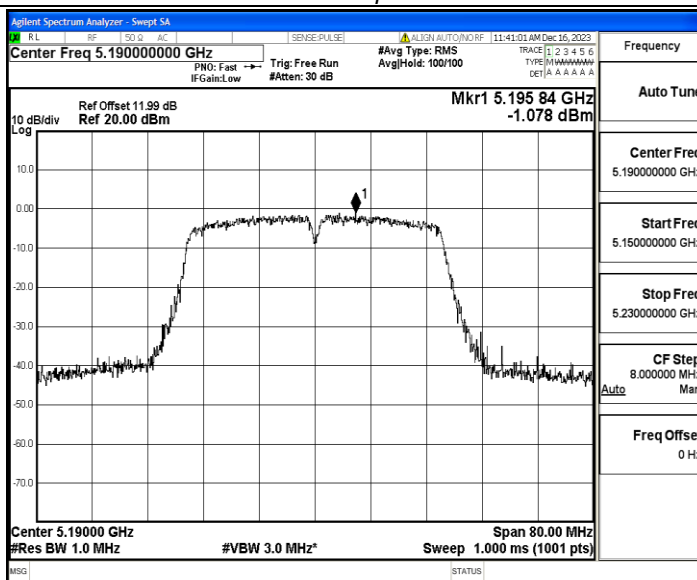
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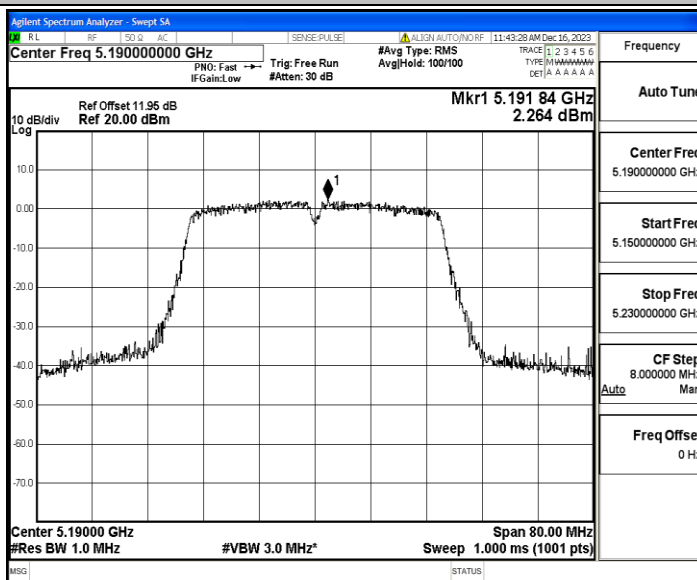
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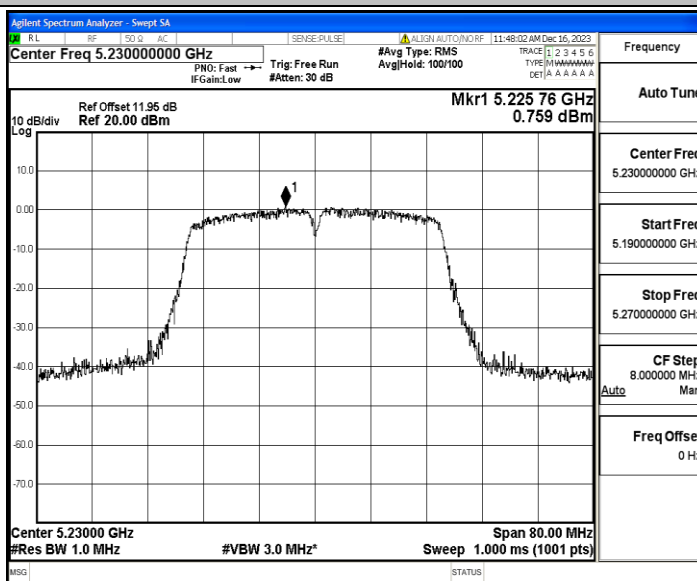
11N40MIMO\_Ant1\_5190



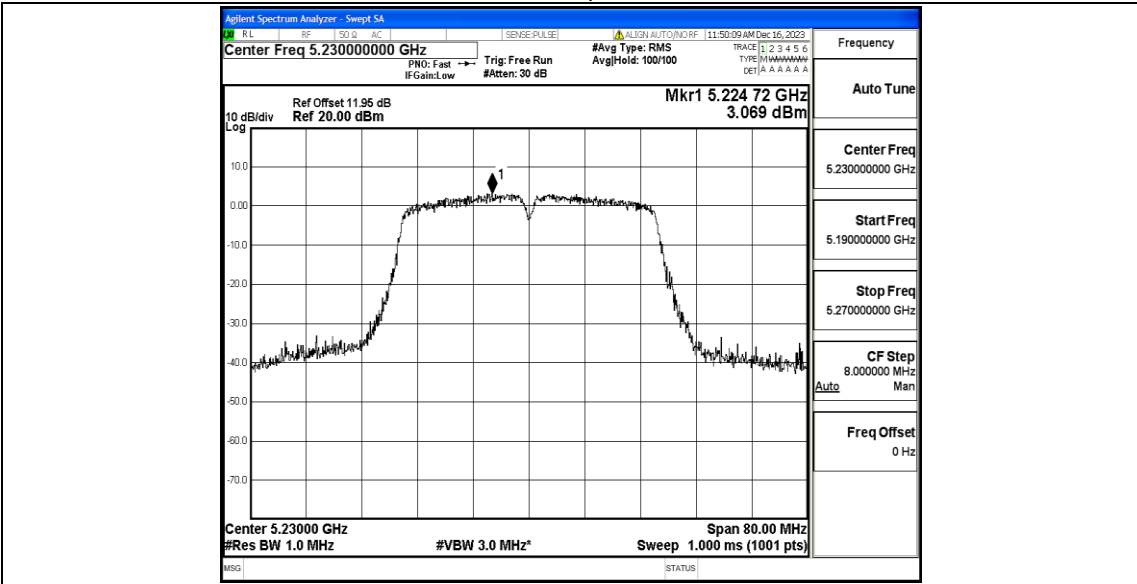
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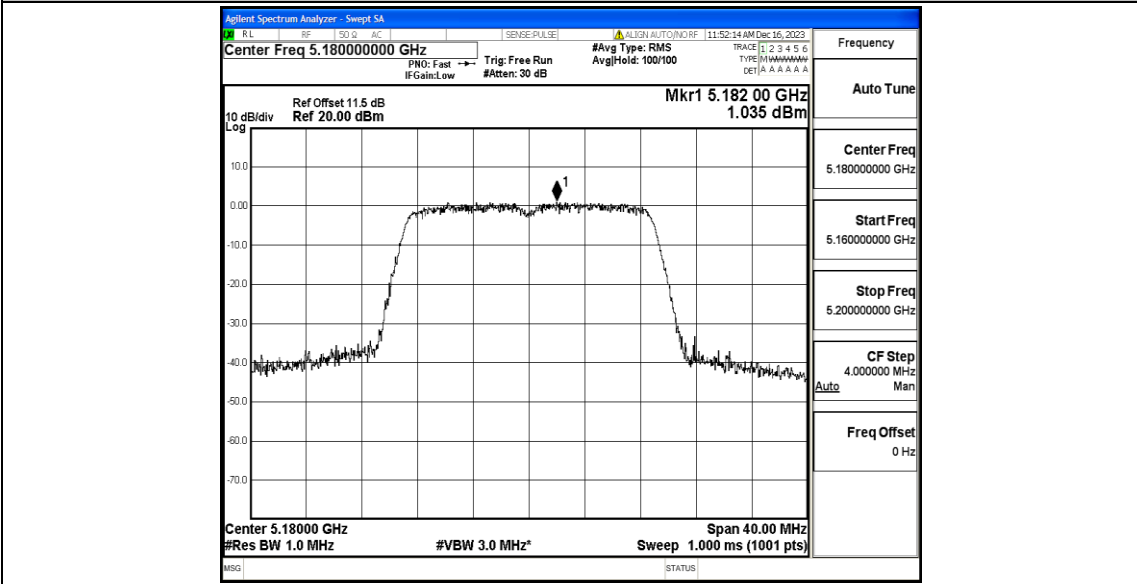
11N40MIMO\_Ant1\_5230



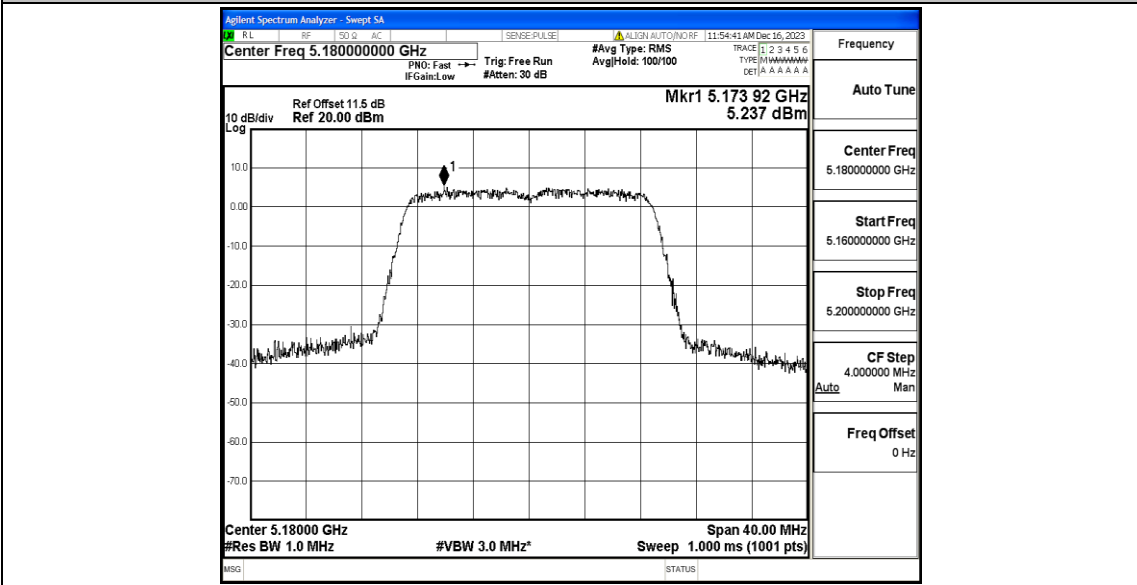
11N40MIMO\_Ant2\_5230



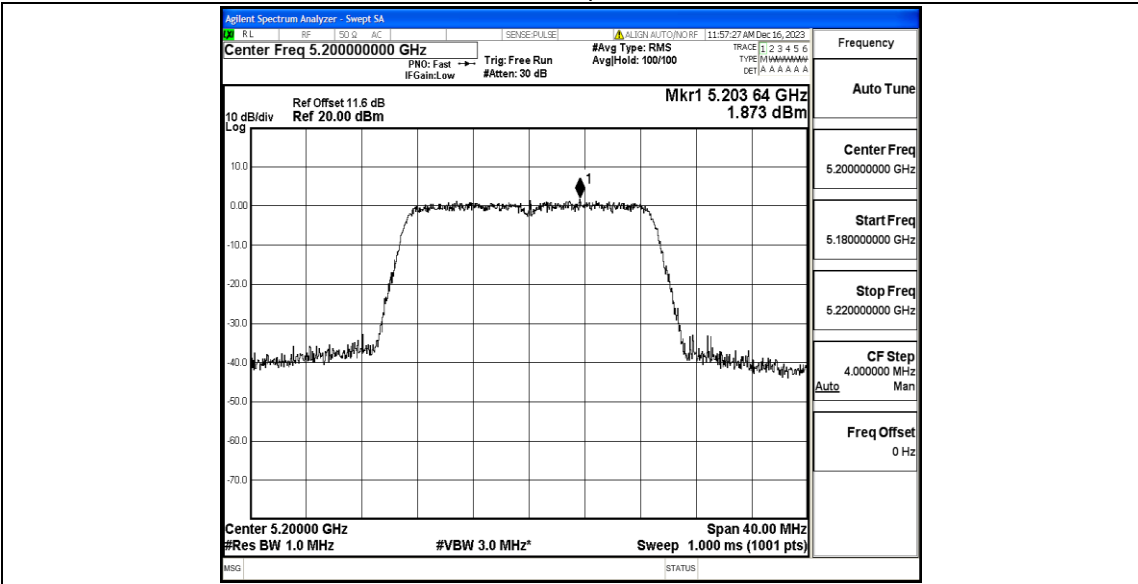
11AC20MIMO\_Ant1\_5180



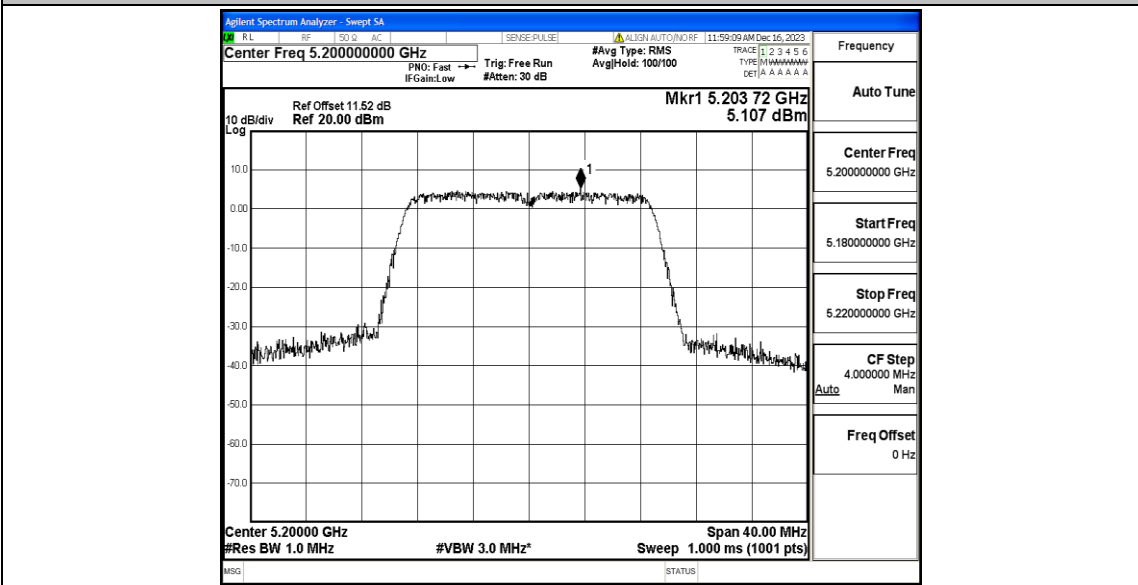
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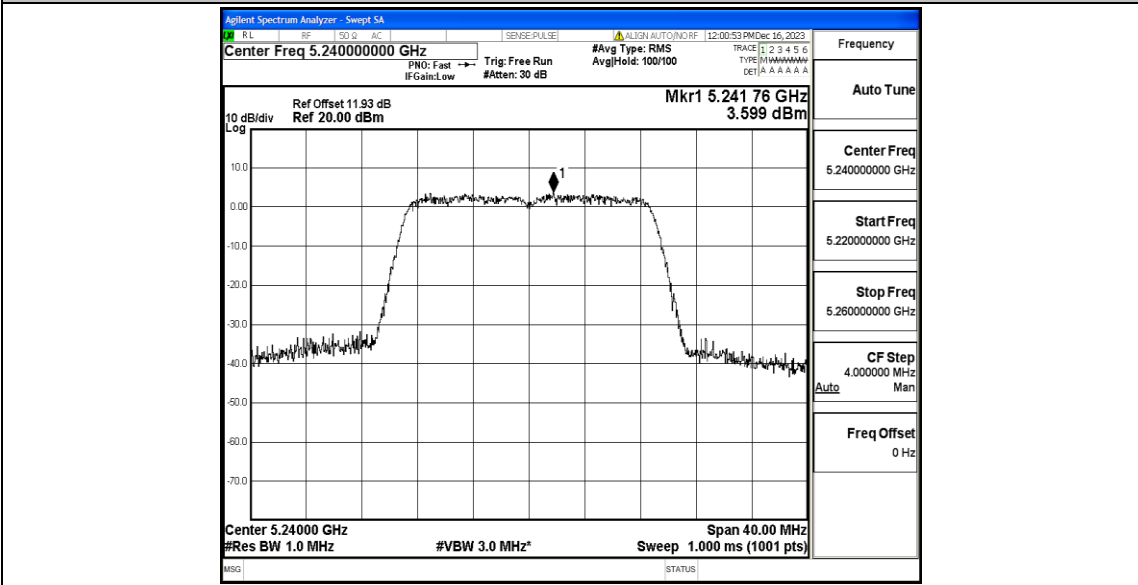
11AC20MIMO\_Ant1\_5200



11AC20MIMO\_Ant2\_5200

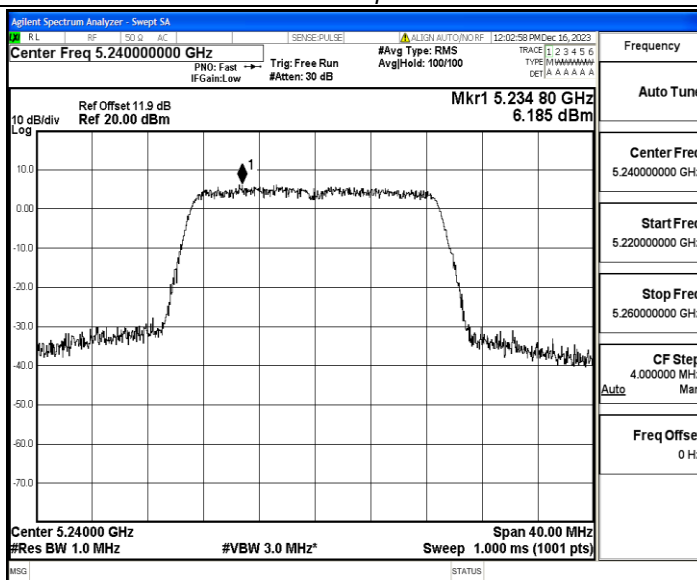


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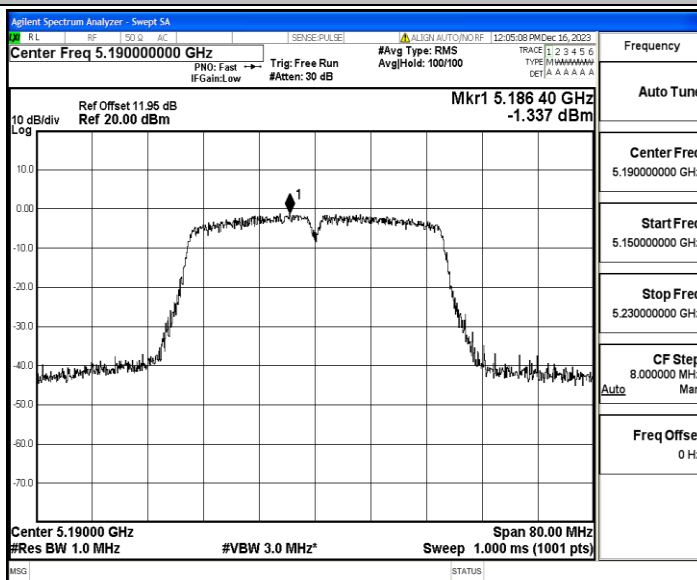


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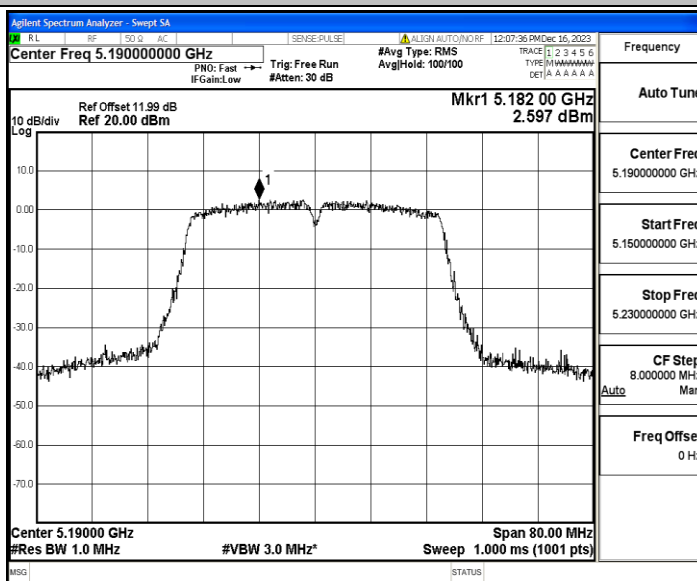




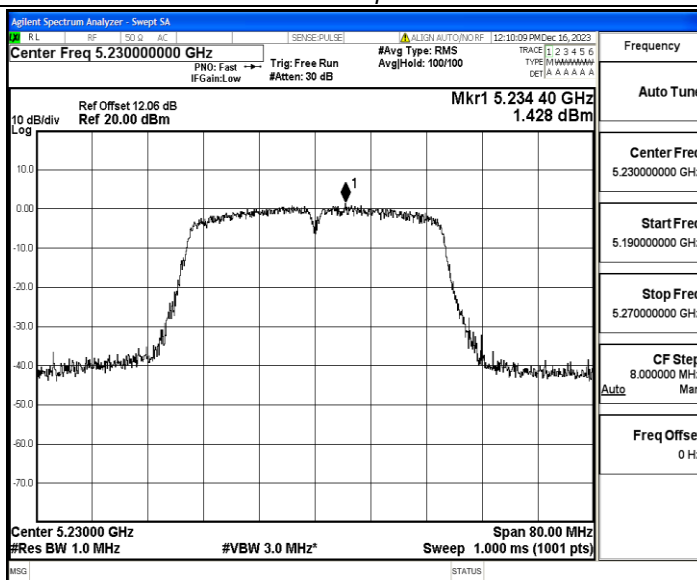
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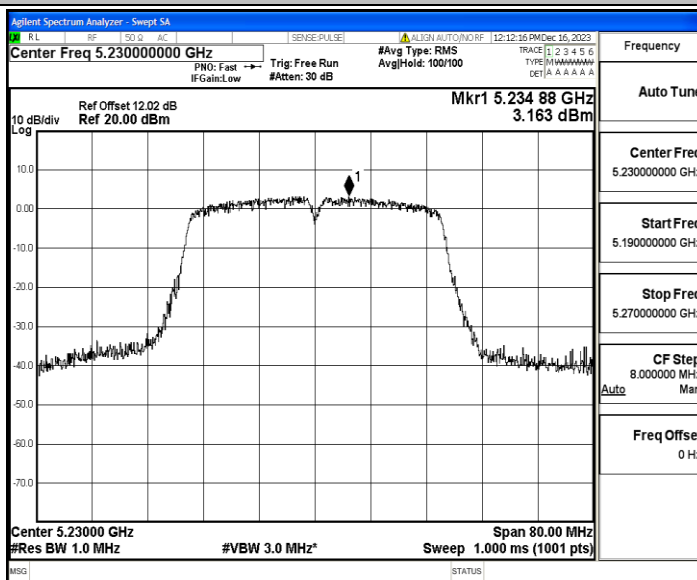
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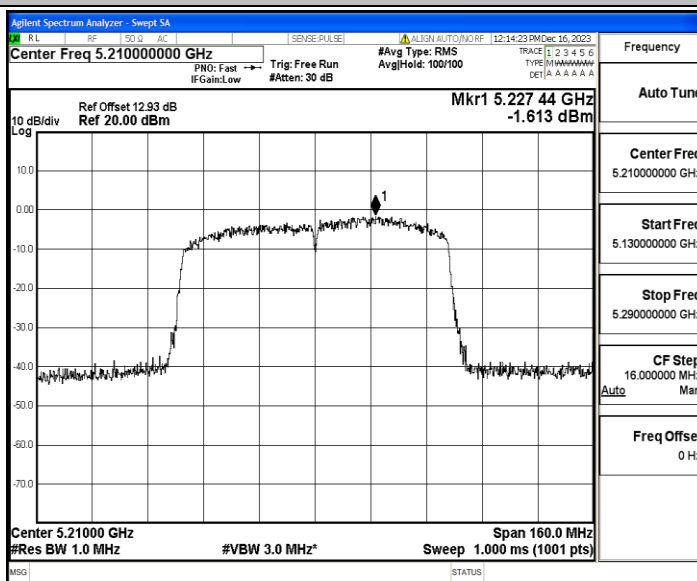
11AC40MIMO\_Ant1\_5230



11AC40MIMO\_Ant2\_5230



11AC80MIMO\_Ant1\_5210



11AC80MIMO\_Ant2\_5210

