



11.4. APPENDIX D: MAXIMUM CONDUCTED OUTPUT POWER

11.4.1. Test Result

Test Mode	Antenna	Channel	Power	FCC Limit	ISED Limit	EIRP	Limit	Verdict
			[dBm]	[dBm]	[dBm]	[dBm]		
11A	Ant1	5180	12.69	≤23.98	---	13.39	≤22.23	PASS
	Ant0	5180	9.66	≤23.98	---	13.86	≤22.20	PASS
	Ant1	5200	12.45	≤23.98	---	13.15	≤22.23	PASS
	Ant0	5200	9.65	≤23.98	---	13.85	≤22.20	PASS
	Ant1	5240	12.39	≤23.98	---	13.09	≤22.21	PASS
	Ant0	5240	9.34	≤23.98	---	13.54	≤22.19	PASS
	Ant1	5745	16.43	≤30.00	≤30.00	18.93	---	PASS
	Ant0	5745	16.47	≤30.00	≤30.00	17.97	---	PASS
	Ant1	5785	16.85	≤30.00	≤30.00	19.35	---	PASS
	Ant0	5785	16.46	≤30.00	≤30.00	17.96	---	PASS
	Ant1	5825	16.72	≤30.00	≤30.00	19.22	---	PASS
	Ant0	5825	16.66	≤30.00	≤30.00	18.16	---	PASS
11N20MIMO	Ant1	5180	9.23	≤23.98	---	9.93	≤23.49	PASS
	Ant0	5180	9.13	≤23.98	---	13.33	≤23.48	PASS
	total	5180	12.19	≤23.98	---	16.39	≤23.48	PASS
	Ant1	5200	9.43	≤23.98	---	10.13	≤23.50	PASS
	Ant0	5200	9.45	≤23.98	---	13.65	≤23.49	PASS
	total	5200	12.45	≤23.98	---	16.65	≤23.49	PASS
	Ant1	5240	9.21	≤23.98	---	9.91	≤23.50	PASS
	Ant0	5240	9.63	≤23.98	---	13.83	≤23.47	PASS
	total	5240	12.44	≤23.98	---	16.64	≤23.47	PASS
	Ant1	5745	15.54	≤30.00	≤30.00	18.04	---	PASS
	Ant0	5745	16.31	≤30.00	≤30.00	17.81	---	PASS
	total	5745	18.95	≤30.00	≤30.00	21.45	---	PASS
	Ant1	5785	15.77	≤30.00	≤30.00	18.27	---	PASS
	Ant0	5785	16.30	≤30.00	≤30.00	17.80	---	PASS
	total	5785	19.05	≤30.00	≤30.00	21.55	---	PASS
	Ant1	5825	15.67	≤30.00	≤30.00	18.17	---	PASS
	Ant0	5825	16.69	≤30.00	≤30.00	18.19	---	PASS
	total	5825	19.22	≤30.00	≤30.00	21.72	---	PASS
11N40MIMO	Ant1	5190	10.76	≤23.98	---	11.46	≤23.98	PASS
	Ant0	5190	10.56	≤23.98	---	14.76	≤23.98	PASS
	total	5190	13.67	≤23.98	---	17.87	≤23.98	PASS
	Ant1	5230	10.66	≤23.98	---	11.36	≤23.98	PASS
	Ant0	5230	10.46	≤23.98	---	14.66	≤23.98	PASS
	total	5230	13.57	≤23.98	---	17.77	≤23.98	PASS
	Ant1	5755	16.00	≤30.00	≤30.00	18.50	---	PASS
	Ant0	5755	17.58	≤30.00	≤30.00	20.08	---	PASS
	total	5755	19.87	≤30.00	≤30.00	22.37	---	PASS
	Ant1	5795	16.11	≤30.00	≤30.00	18.61	---	PASS
Ant0	5795	17.35	≤30.00	≤30.00	19.85	---	PASS	



	total	5795	19.78	≤30.00	≤30.00	22.28	---	PASS
11AC80MIMO	Ant1	5210	15.32	≤23.98	---	16.02	≤23.98	PASS
	Ant0	5210	15.88	≤23.98	---	20.08	≤23.98	PASS
	total	5210	18.62	≤23.98	---	22.82	≤23.98	PASS
	Ant1	5775	15.10	≤30.00	≤30.00	17.60	---	PASS
	Ant0	5775	16.37	≤30.00	≤30.00	18.87	---	PASS
	total	5775	18.79	≤30.00	≤30.00	21.29	---	PASS
11AX20MIMO	Ant1	5180	9.54	≤23.98	---	10.24	≤23.77	PASS
	Ant0	5180	9.15	≤23.98	---	13.35	≤23.77	PASS
	total	5180	12.36	≤23.98	---	16.56	≤23.77	PASS
	Ant1	5200	9.35	≤23.98	---	10.05	≤23.75	PASS
	Ant0	5200	9.33	≤23.98	---	13.53	≤23.77	PASS
	total	5200	12.35	≤23.98	---	16.55	≤23.75	PASS
	Ant1	5240	9.18	≤23.98	---	9.88	≤23.78	PASS
	Ant0	5240	9.28	≤23.98	---	13.48	≤23.75	PASS
	total	5240	12.24	≤23.98	---	16.44	≤23.75	PASS
	Ant1	5745	15.69	≤30.00	≤30.00	18.19	---	PASS
	Ant0	5745	16.73	≤30.00	≤30.00	18.23	---	PASS
	total	5745	19.25	≤30.00	≤30.00	21.75	---	PASS
	Ant1	5785	16.04	≤30.00	≤30.00	18.54	---	PASS
	Ant0	5785	16.68	≤30.00	≤30.00	18.18	---	PASS
	total	5785	19.38	≤30.00	≤30.00	21.88	---	PASS
	Ant1	5825	15.82	≤30.00	≤30.00	18.32	---	PASS
	Ant0	5825	17.01	≤30.00	≤30.00	18.51	---	PASS
	total	5825	19.47	≤30.00	≤30.00	21.97	---	PASS
11AX40MIMO	Ant1	5190	10.33	≤23.98	---	11.03	≤23.98	PASS
	Ant0	5190	10.34	≤23.98	---	14.54	≤23.98	PASS
	total	5190	13.35	≤23.98	---	17.55	≤23.98	PASS
	Ant1	5230	10.23	≤23.98	---	10.93	≤23.98	PASS
	Ant0	5230	10.19	≤23.98	---	14.39	≤23.98	PASS
	total	5230	13.22	≤23.98	---	17.42	≤23.98	PASS
	Ant1	5755	16.08	≤30.00	≤30.00	18.58	---	PASS
	Ant0	5755	17.61	≤30.00	≤30.00	19.11	---	PASS
	total	5755	19.92	≤30.00	≤30.00	22.42	---	PASS
	Ant1	5795	16.28	≤30.00	≤30.00	18.78	---	PASS
	Ant0	5795	17.41	≤30.00	≤30.00	18.91	---	PASS
	total	5795	19.89	≤30.00	≤30.00	22.39	---	PASS
11AX80MIMO	Ant1	5210	15.86	≤23.98	---	16.56	≤23.98	PASS
	Ant0	5210	16.11	≤23.98	---	20.31	≤23.98	PASS
	total	5210	19.00	≤23.98	---	21.50	≤23.98	PASS
	Ant1	5775	14.41	≤30.00	≤30.00	16.91	---	PASS
	Ant0	5775	15.61	≤30.00	≤30.00	17.11	---	PASS
	total	5775	18.06	≤30.00	≤30.00	20.56	---	PASS

Note: 1. Conducted Power=Meas. Level+ Correction Factor

2. The Duty Cycle Factor (refer to section 7.1) had already compensated to the test data.



Appendix E: Maximum power spectral density

11.4.2. Test Result

Test Mode	Antenna	Channel	Power	Limit	EIRP	Limit	Verdict
			[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	[dBm/MHz]	
11A	Ant1	5180	4.34	≤11.00	5.04	≤10.00	PASS
	Ant0	5180	1.13	≤11.00	5.33	≤10.00	PASS
	Ant1	5200	3.92	≤11.00	4.62	≤10.00	PASS
	Ant0	5200	1.12	≤11.00	5.32	≤10.00	PASS
	Ant1	5240	4.12	≤11.00	4.82	≤10.00	PASS
	Ant0	5240	1.3	≤11.00	5.5	≤10.00	PASS
	Ant1	5745	5.52	≤30.00	8.02	---	PASS
	Ant0	5745	5.53	≤30.00	7.03	---	PASS
	Ant1	5785	5.99	≤30.00	8.49	---	PASS
	Ant0	5785	5.39	≤30.00	6.89	---	PASS
	Ant1	5825	5.92	≤30.00	8.42	---	PASS
	Ant0	5825	5.71	≤30.00	7.21	---	PASS
11N20MIMO	Ant1	5180	-0.83	≤11.00	-0.13	≤10.00	PASS
	Ant0	5180	-1.36	≤11.00	2.84	≤10.00	PASS
	total	5180	1.92	≤11.00	9.13	≤10.00	PASS
	Ant1	5200	-0.92	≤11.00	-0.22	≤10.00	PASS
	Ant0	5200	-1.68	≤11.00	2.52	≤10.00	PASS
	total	5200	1.73	≤11.00	8.94	≤10.00	PASS
	Ant1	5240	-1.37	≤11.00	2.83	≤10.00	PASS
	Ant0	5240	-0.79	≤11.00	3.41	≤10.00	PASS
	total	5240	1.94	≤11.00	9.15	≤10.00	PASS
	Ant1	5745	4.39	≤30.00	6.89	---	PASS
	Ant0	5745	5.08	≤30.00	6.58	---	PASS
	total	5745	7.76	≤30.00	13.27	---	PASS
	Ant1	5785	4.67	≤30.00	7.17	---	PASS
	Ant0	5785	5.3	≤30.00	6.8	---	PASS
	total	5785	8.01	≤30.00	13.52	---	PASS
	Ant1	5825	4.71	≤30.00	7.21	---	PASS
	Ant0	5825	5.45	≤30.00	6.95	---	PASS
	total	5825	8.11	≤30.00	13.62	---	PASS
11N40MIMO	Ant1	5190	-2.63	≤11.00	-1.93	≤10.00	PASS
	Ant0	5190	-2.29	≤11.00	1.91	≤10.00	PASS
	total	5190	0.55	≤11.00	7.76	≤10.00	PASS
	Ant1	5230	-2.5	≤11.00	-1.8	≤10.00	PASS
	Ant0	5230	-2.29	≤11.00	1.91	≤10.00	PASS
	total	5230	0.62	≤11.00	7.83	≤10.00	PASS
	Ant1	5755	-0.95	≤30.00	1.55	---	PASS
	Ant0	5755	1.03	≤30.00	2.53	---	PASS
	total	5755	3.16	≤30.00	8.67	---	PASS
	Ant1	5795	-0.58	≤30.00	1.92	---	PASS
	Ant0	5795	0.39	≤30.00	1.89	---	PASS



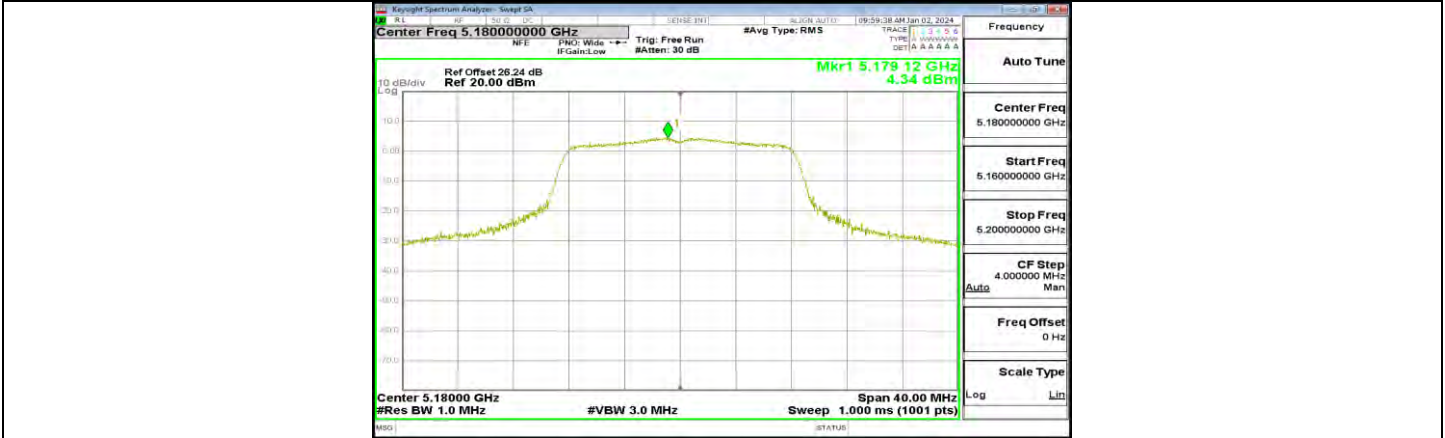
	total	5795	2.94	≤30.00	8.45	---	PASS
11AC80MIMO	Ant1	5210	-1.88	≤11.00	-1.18	≤10.00	PASS
	Ant0	5210	-2.1	≤11.00	2.1	≤10.00	PASS
	total	5210	1.02	≤11.00	8.23	≤10.00	PASS
	Ant1	5775	-4.78	≤30.00	-2.28	---	PASS
	Ant0	5775	-3.01	≤30.00	-1.51	---	PASS
	total	5775	-0.8	≤30.00	4.71	---	PASS
11AX20MIMO	Ant1	5180	-1.1	≤11.00	-0.4	≤10.00	PASS
	Ant0	5180	-1.4	≤11.00	2.8	≤10.00	PASS
	total	5180	1.76	≤11.00	8.97	≤10.00	PASS
	Ant1	5200	-0.88	≤11.00	-0.18	≤10.00	PASS
	Ant0	5200	-1.07	≤11.00	3.13	≤10.00	PASS
	total	5200	2.04	≤11.00	9.25	≤10.00	PASS
	Ant1	5240	-1.53	≤11.00	-0.83	≤10.00	PASS
	Ant0	5240	-1.85	≤11.00	2.35	≤10.00	PASS
	total	5240	1.32	≤11.00	8.53	≤10.00	PASS
	Ant1	5745	2.89	≤30.00	5.39	---	PASS
	Ant0	5745	3.81	≤30.00	5.31	---	PASS
	total	5745	6.38	≤30.00	11.89	---	PASS
	Ant1	5785	3.43	≤30.00	5.93	---	PASS
	Ant0	5785	3.68	≤30.00	5.18	---	PASS
	total	5785	6.57	≤30.00	12.08	---	PASS
	Ant1	5825	3.15	≤30.00	5.65	---	PASS
	Ant0	5825	4.74	≤30.00	6.24	---	PASS
	total	5825	7.03	≤30.00	12.54	---	PASS
11AX40MIMO	Ant1	5190	-1.66	≤11.00	-0.96	≤10.00	PASS
	Ant0	5190	-1.76	≤11.00	2.44	≤10.00	PASS
	total	5190	1.3	≤11.00	8.51	≤10.00	PASS
	Ant1	5230	-1.51	≤11.00	-0.81	≤10.00	PASS
	Ant0	5230	-1.46	≤11.00	2.74	≤10.00	PASS
	total	5230	1.53	≤11.00	8.74	≤10.00	PASS
	Ant1	5755	-1.07	≤30.00	1.43	---	PASS
	Ant0	5755	0.57	≤30.00	2.07	---	PASS
	total	5755	2.84	≤30.00	8.35	---	PASS
	Ant1	5795	-0.3	≤30.00	2.2	---	PASS
	Ant0	5795	0.73	≤30.00	2.23	---	PASS
	total	5795	3.26	≤30.00	8.77	---	PASS
11AX80MIMO	Ant1	5210	-1.22	≤11.00	-0.52	≤10.00	PASS
	Ant0	5210	-0.96	≤11.00	3.24	≤10.00	PASS
	total	5210	1.92	≤11.00	9.13	≤10.00	PASS
	Ant1	5775	-4.85	≤30.00	-2.35	---	PASS
	Ant0	5775	-4.14	≤30.00	-2.64	---	PASS
	total	5775	-1.47	≤30.00	4.04	---	PASS

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

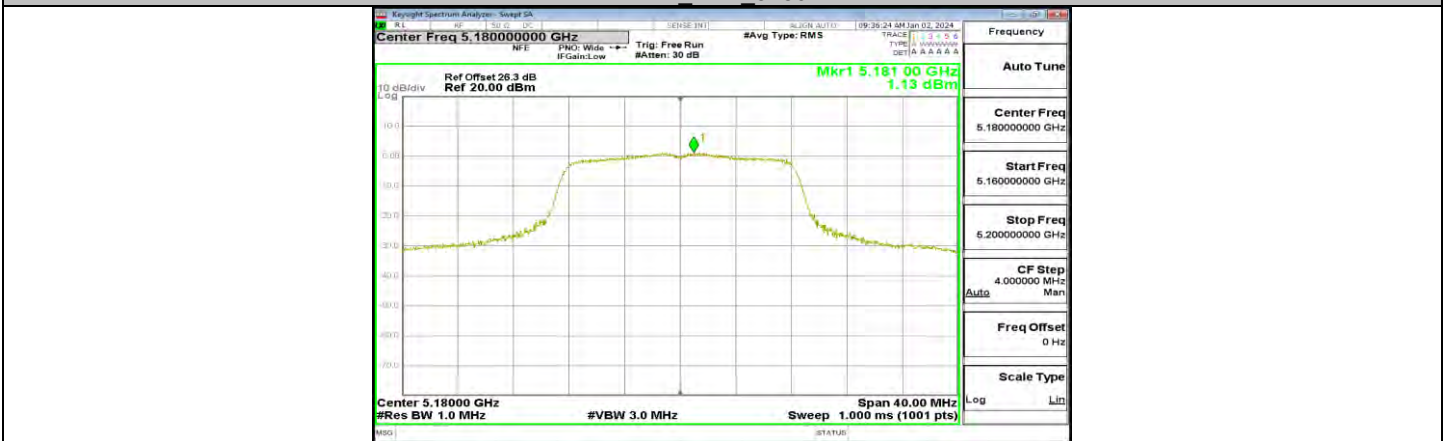
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.



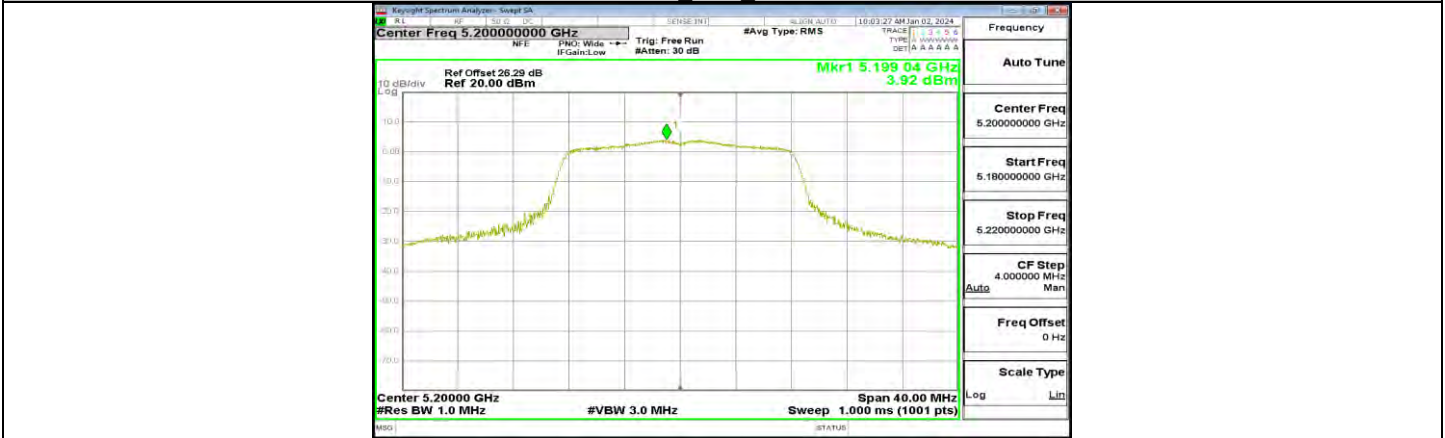
Test Graphs



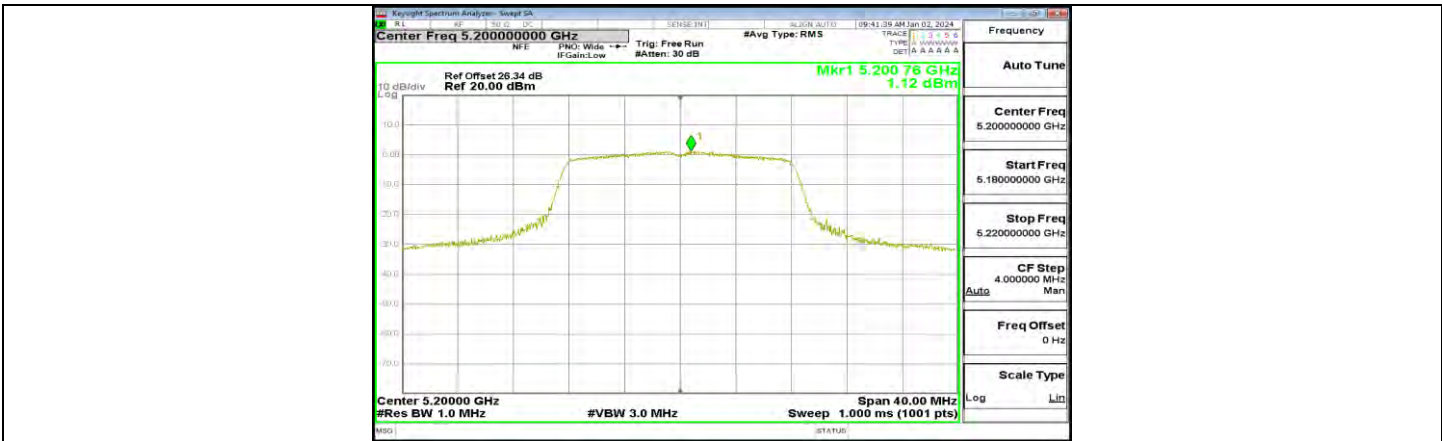
11A Ant1 5180



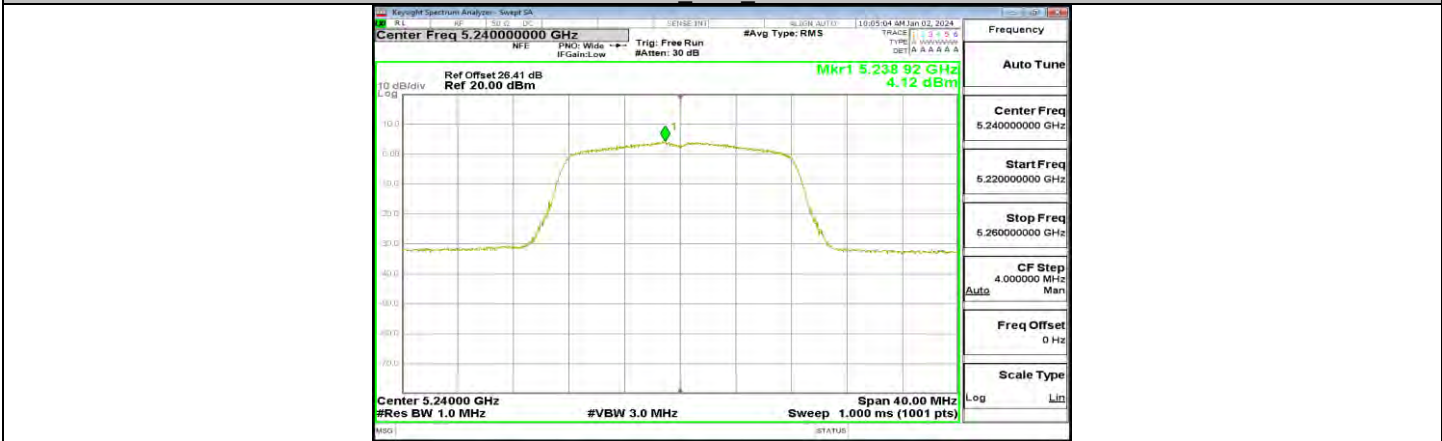
11A Ant0 5180



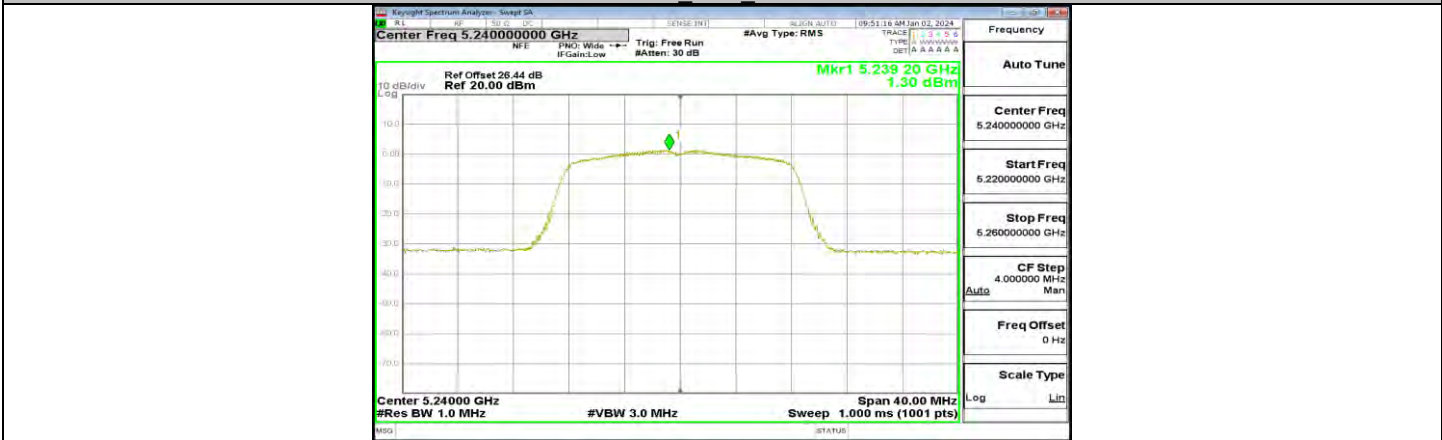
11A Ant1 5200



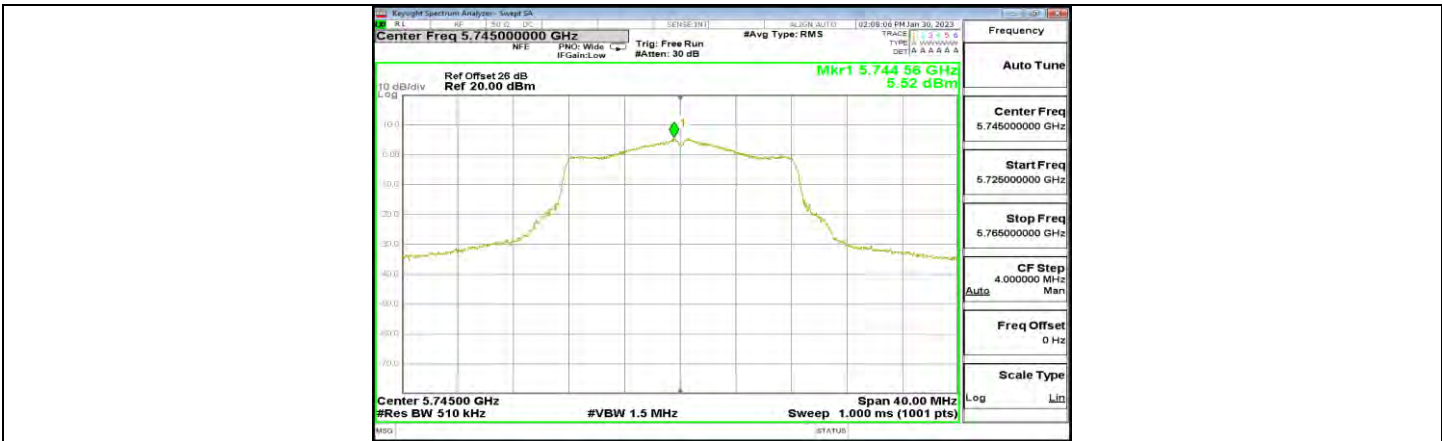
11A Ant0 5200



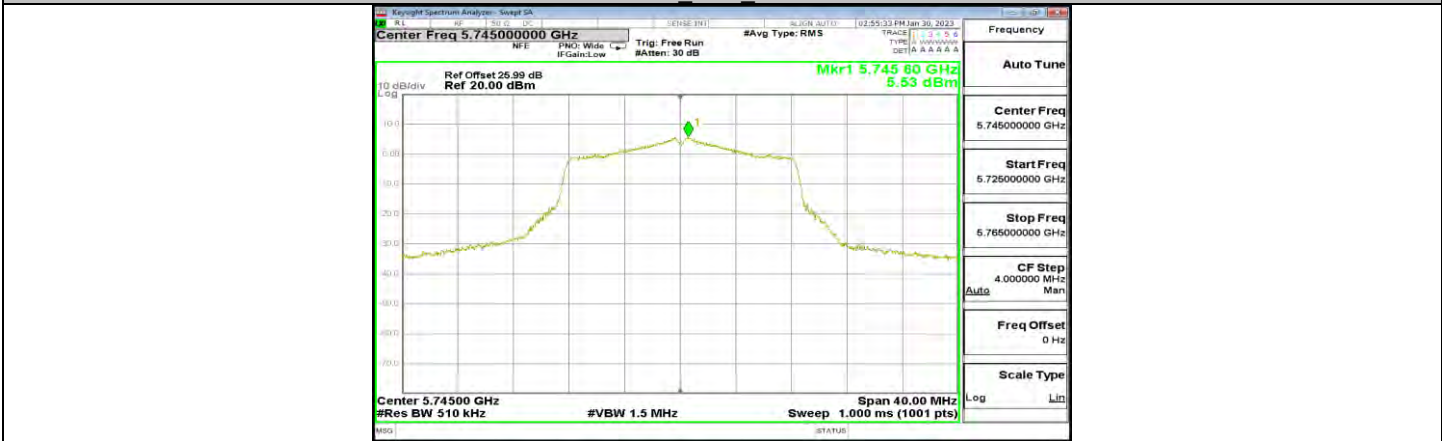
11A Ant1 5240



11A Ant0 5240



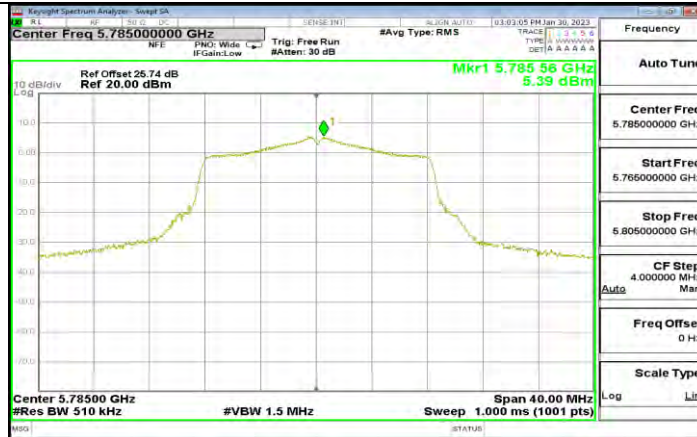
11A Ant1 5745



11A Ant0 5745



11A Ant1 5785



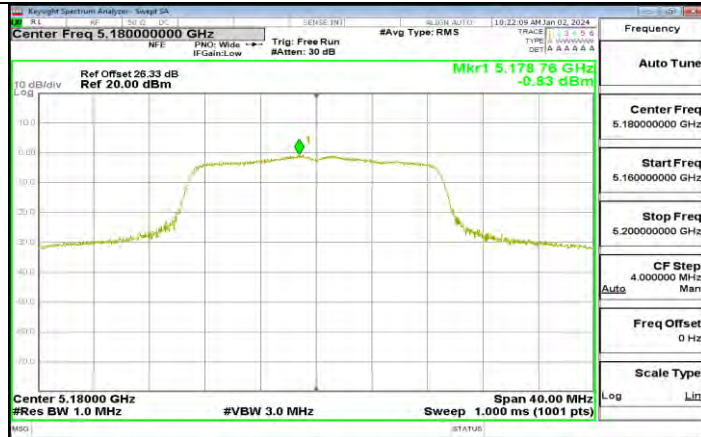
11A Ant0 5785



11A Ant1 5825



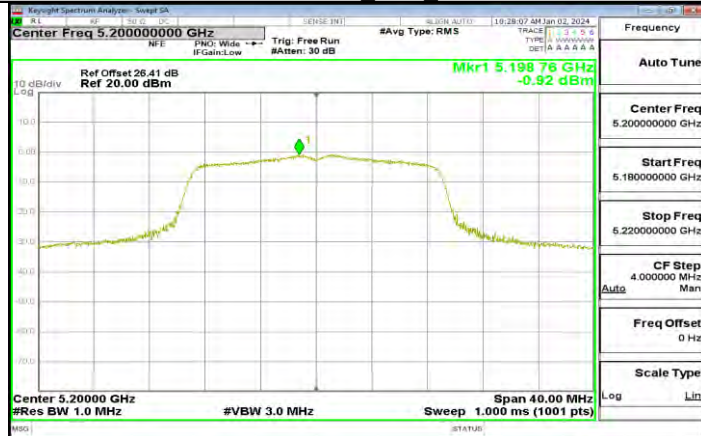
11A Ant0 5825



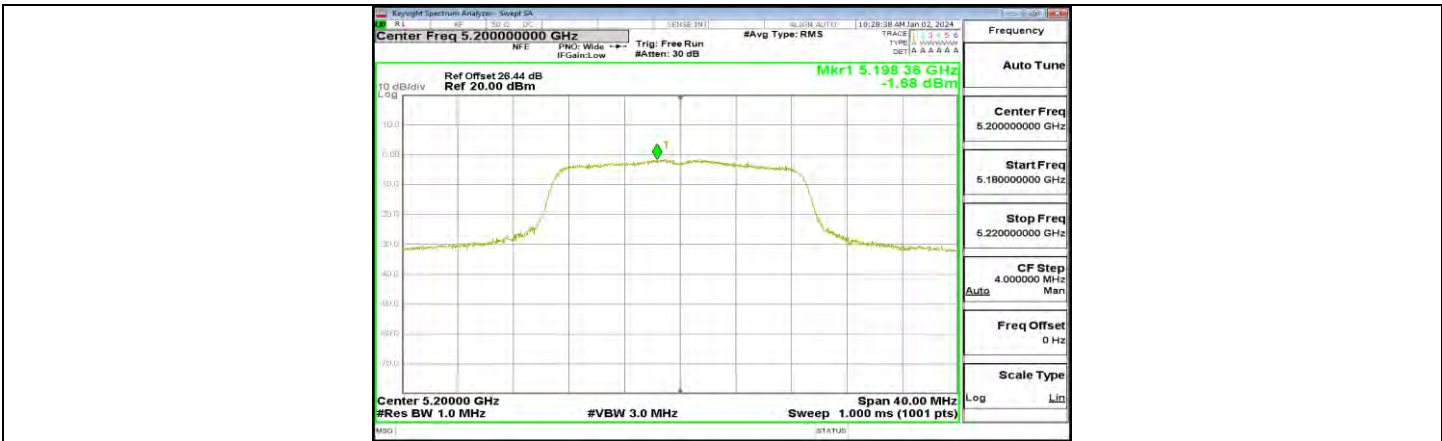
11N20MIMO Ant1 5180



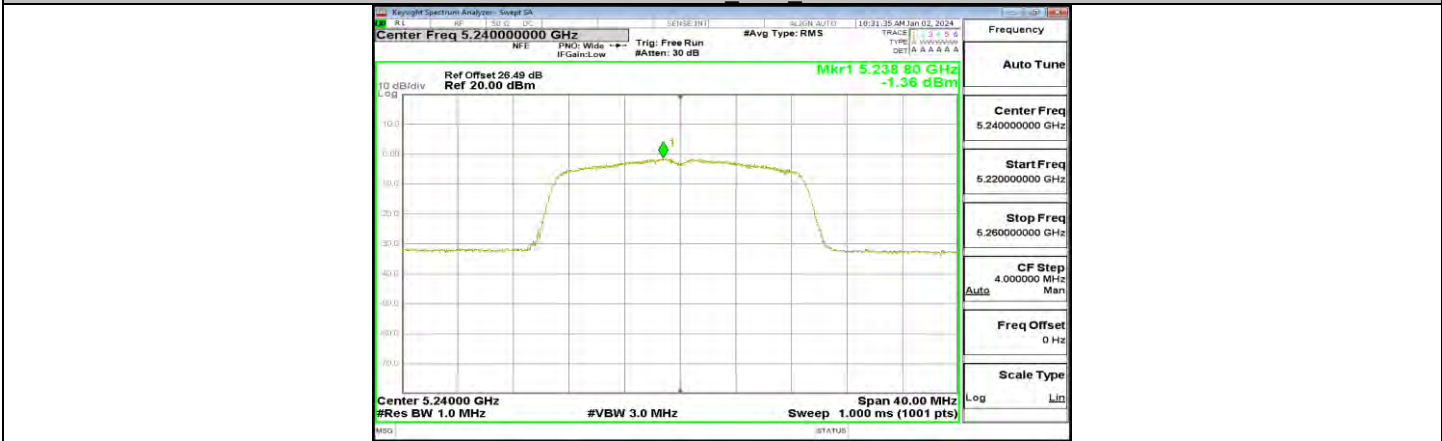
11N20MIMO Ant0 5180



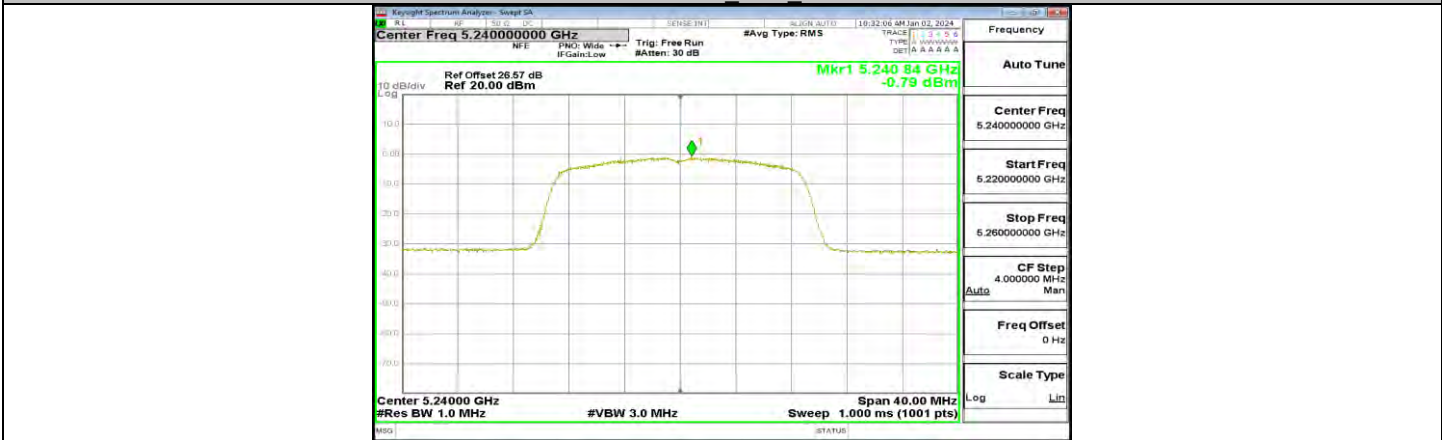
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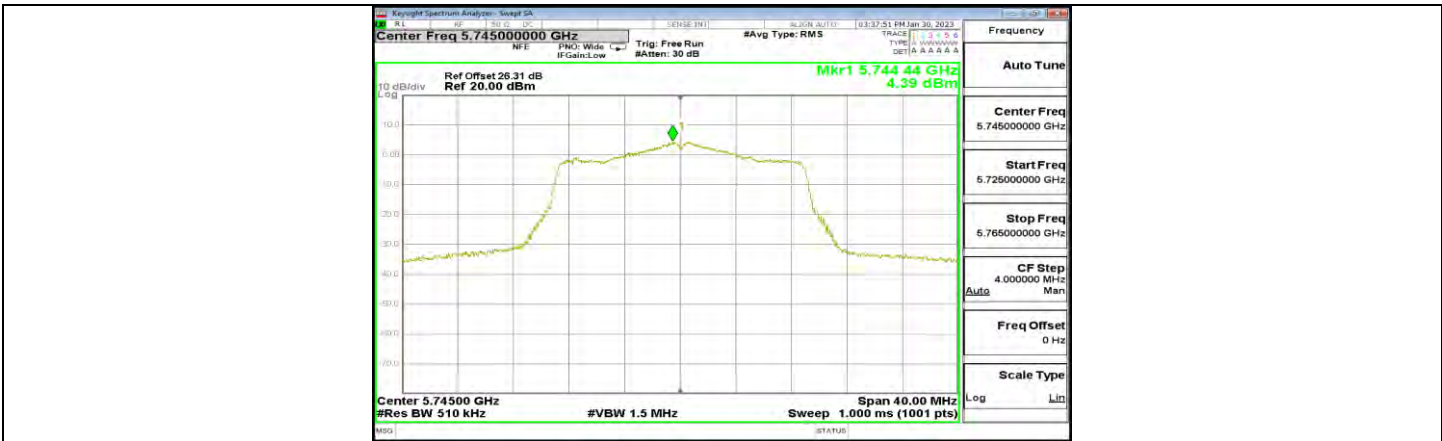
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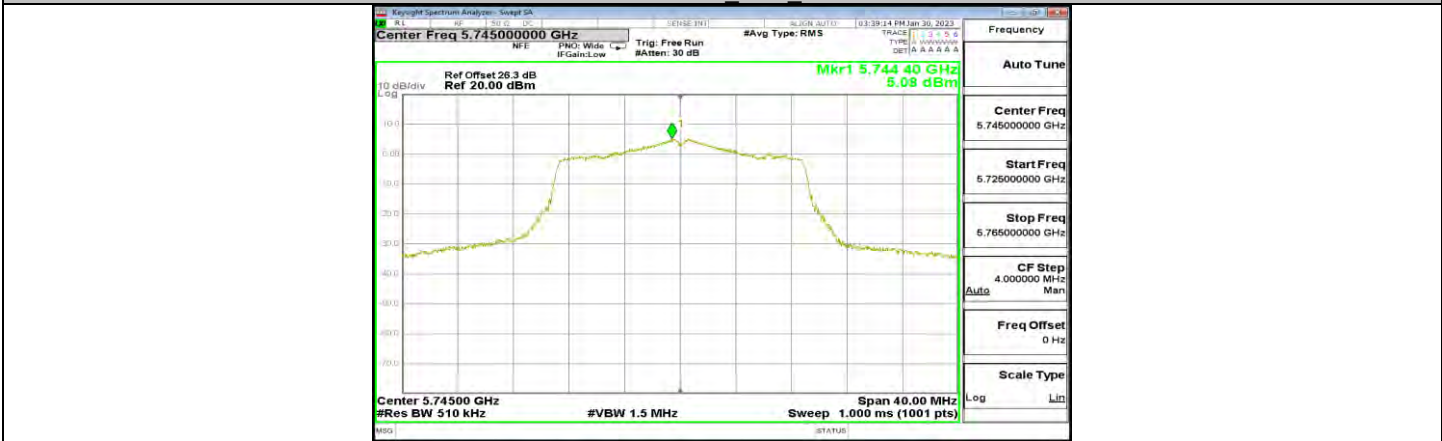
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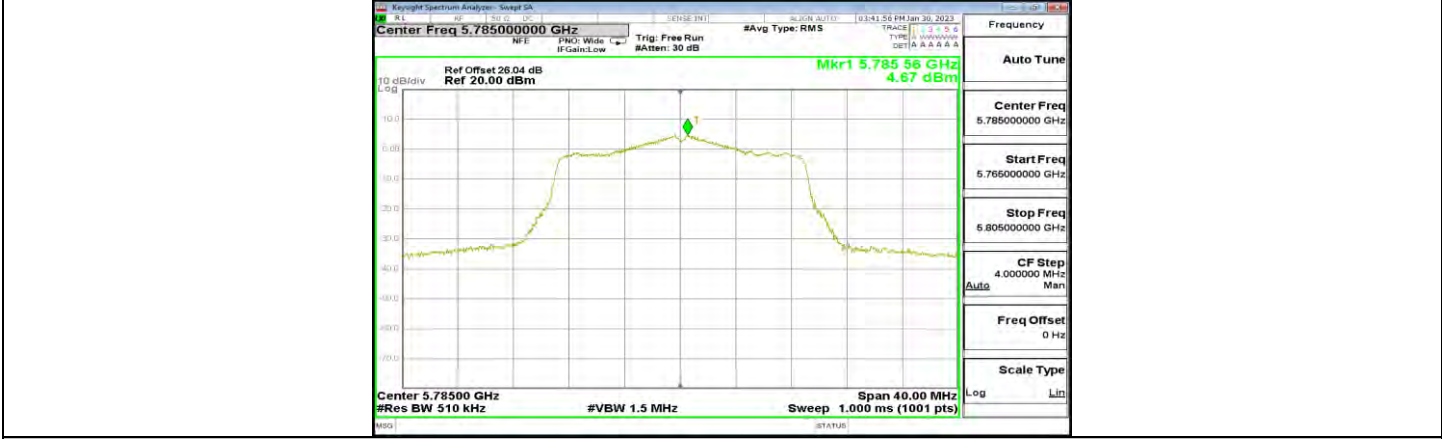
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11N20MIMO Ant1 5745



11N20MIMO Ant0 5745



11N20MIMO Ant1 5785



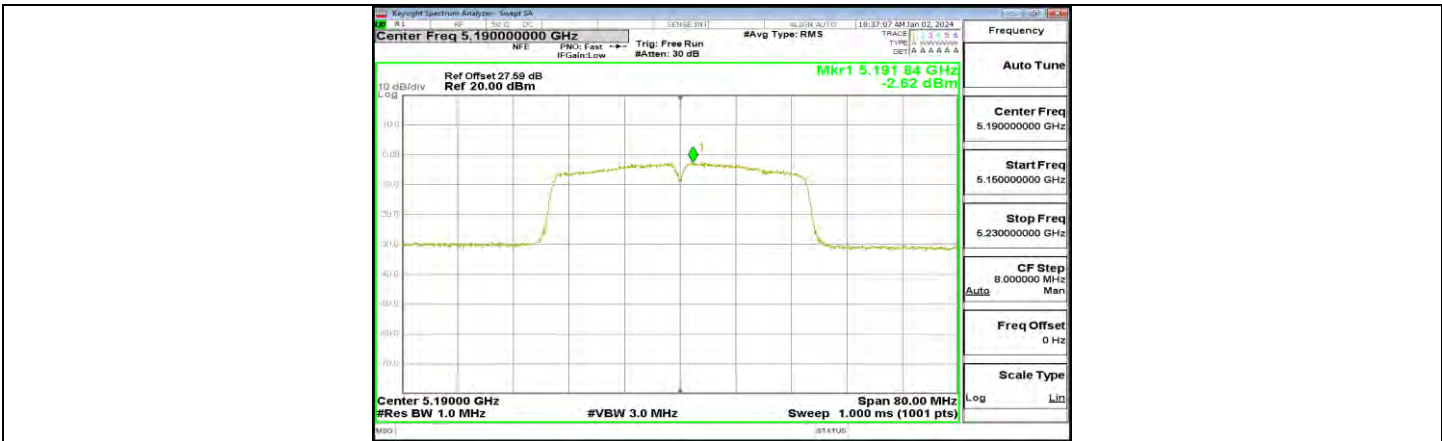
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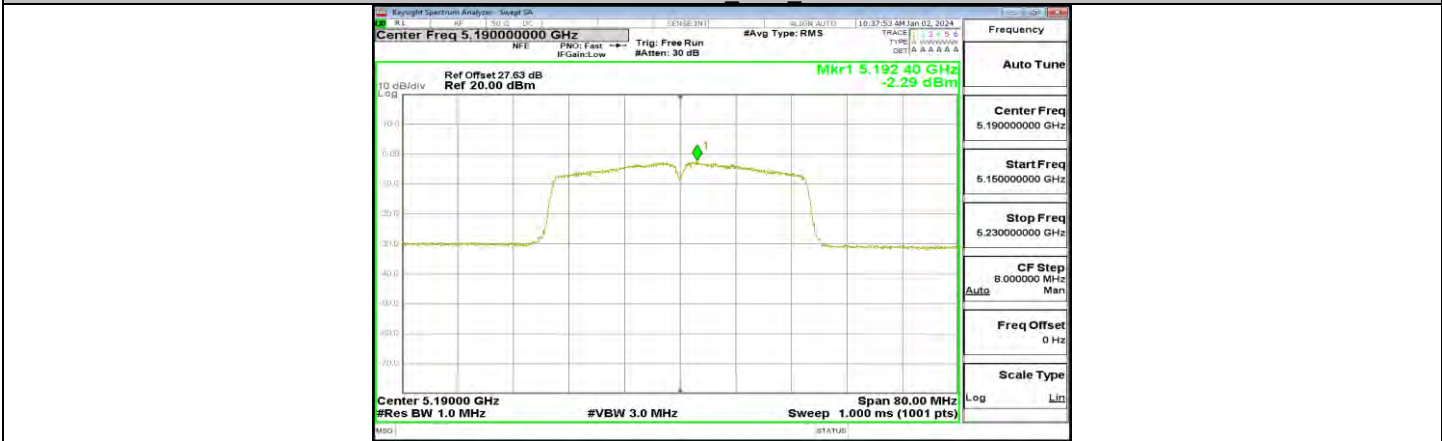
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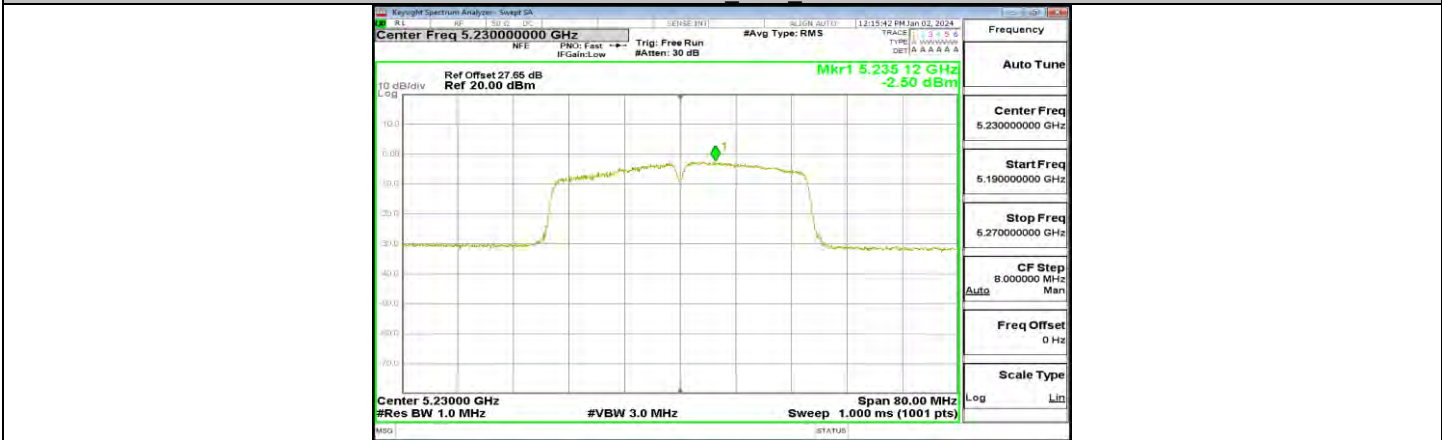
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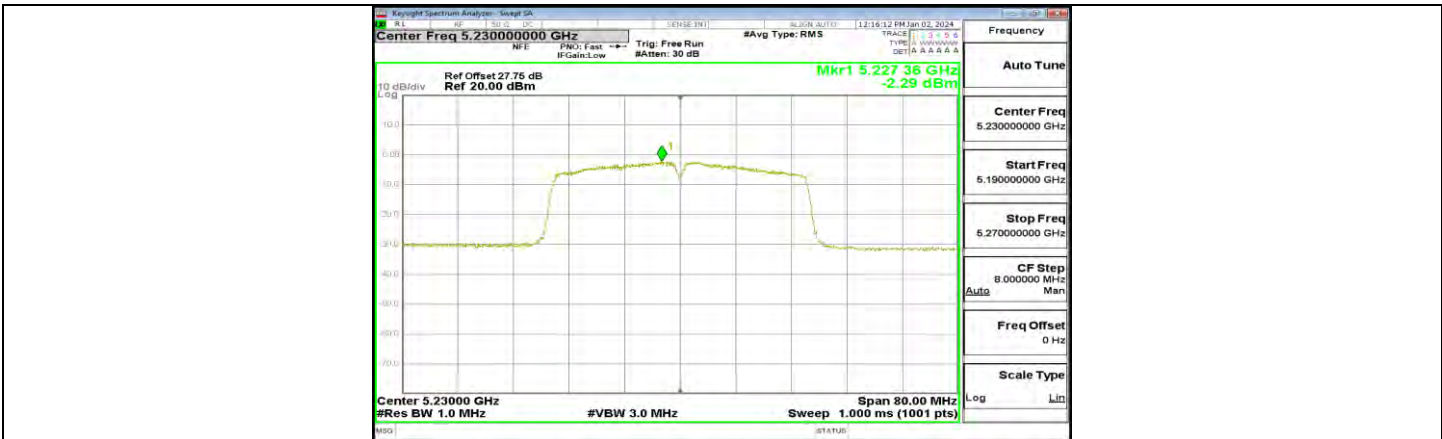
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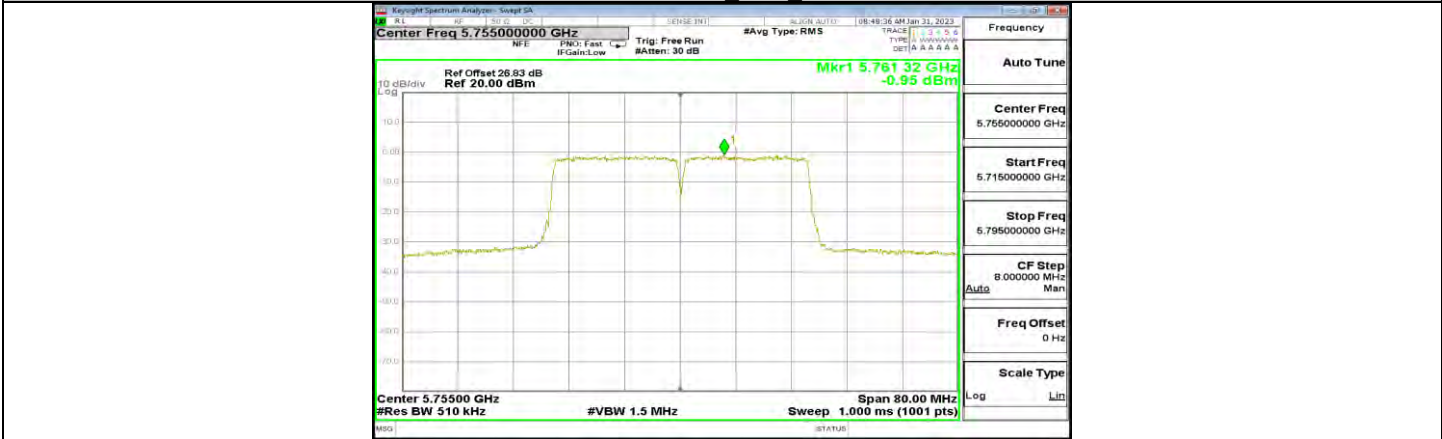
11N40MIMO Ant0 5190



11N40MIMO Ant1 5230



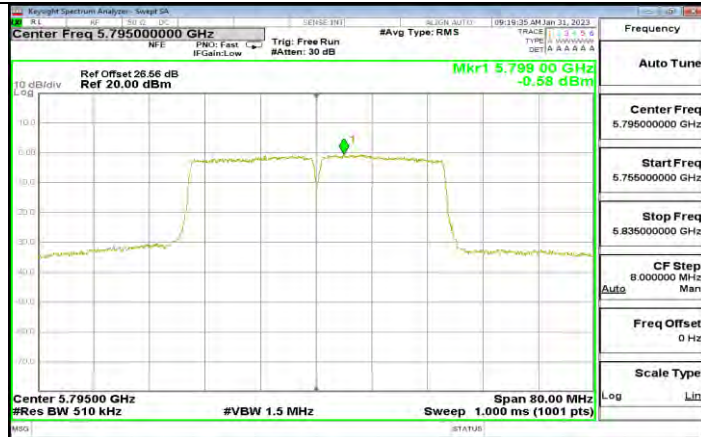
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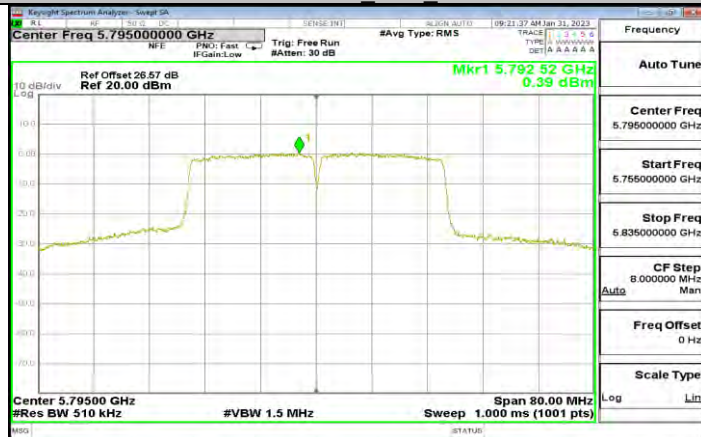
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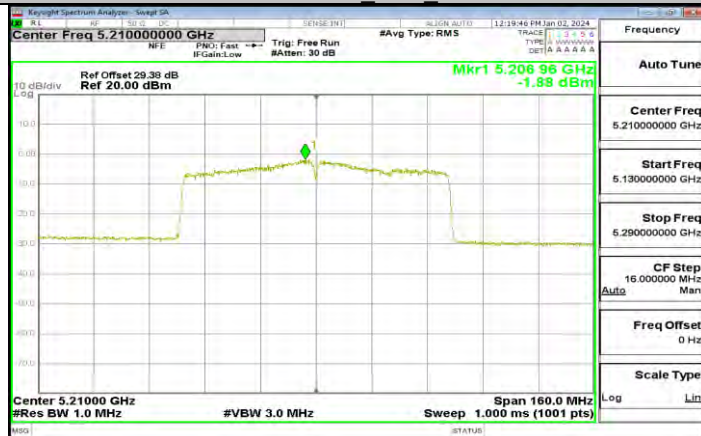
11N40MIMO Ant0 5755



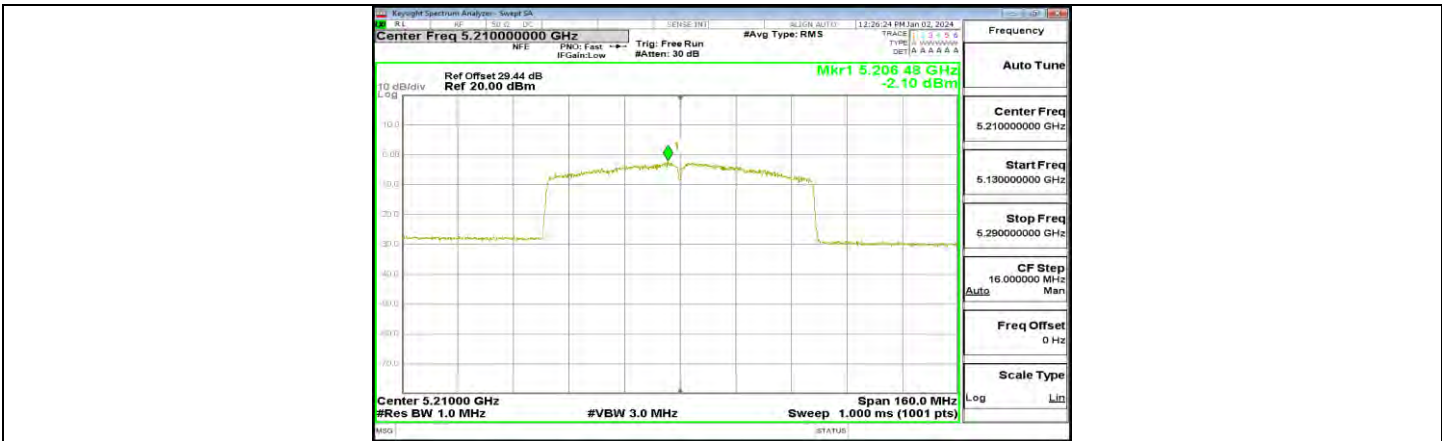
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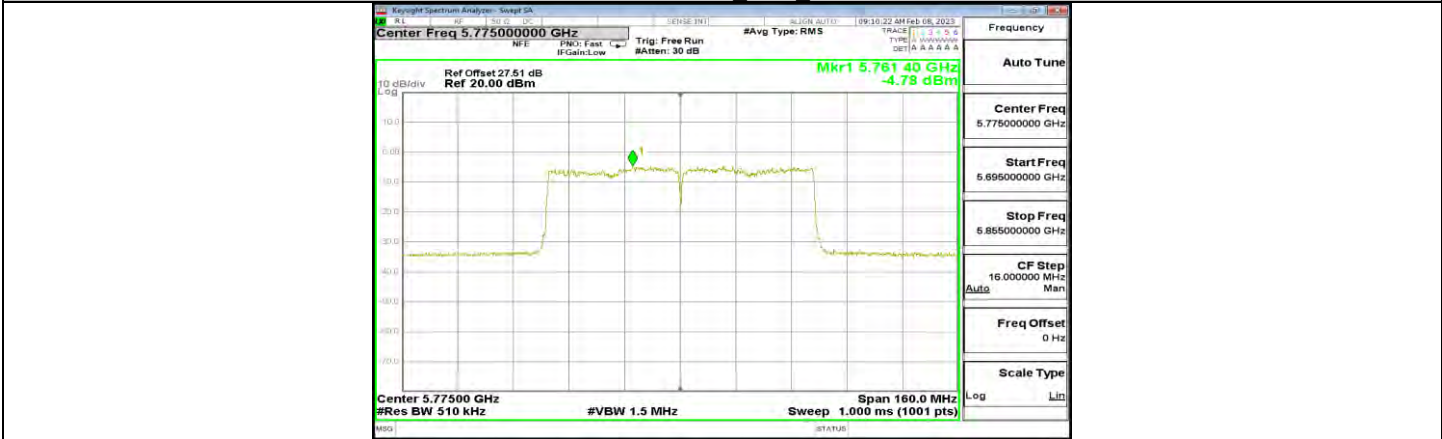
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11AC80MIMO Ant1 5210



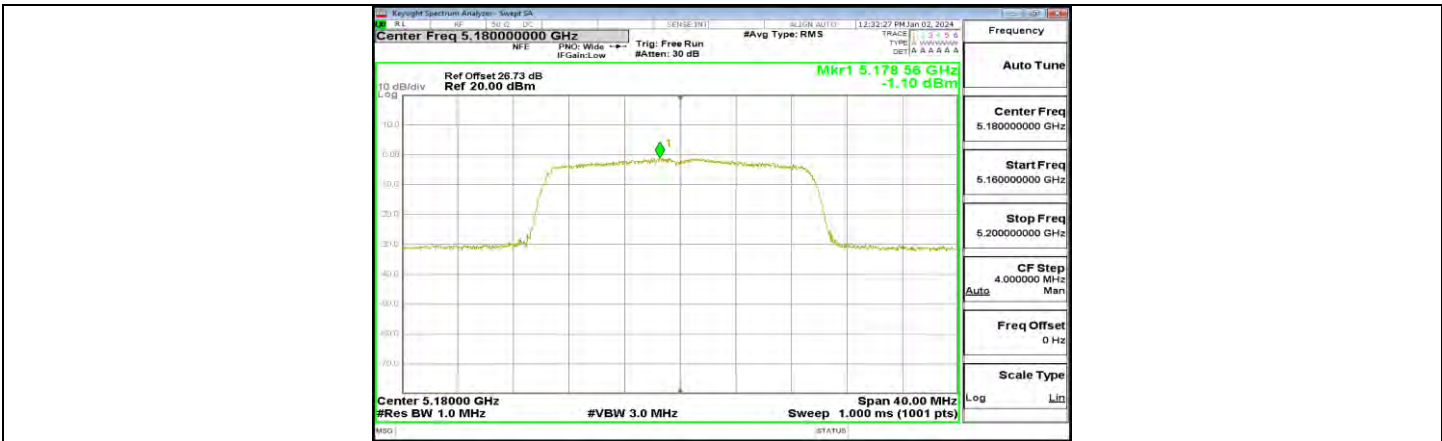
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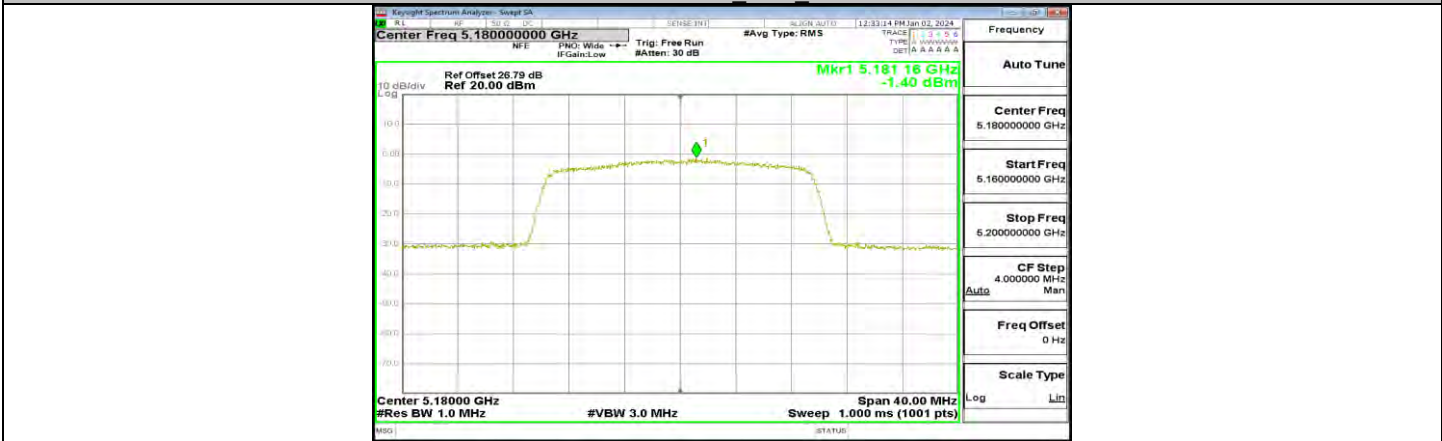
11AC80MIMO Ant1 5775



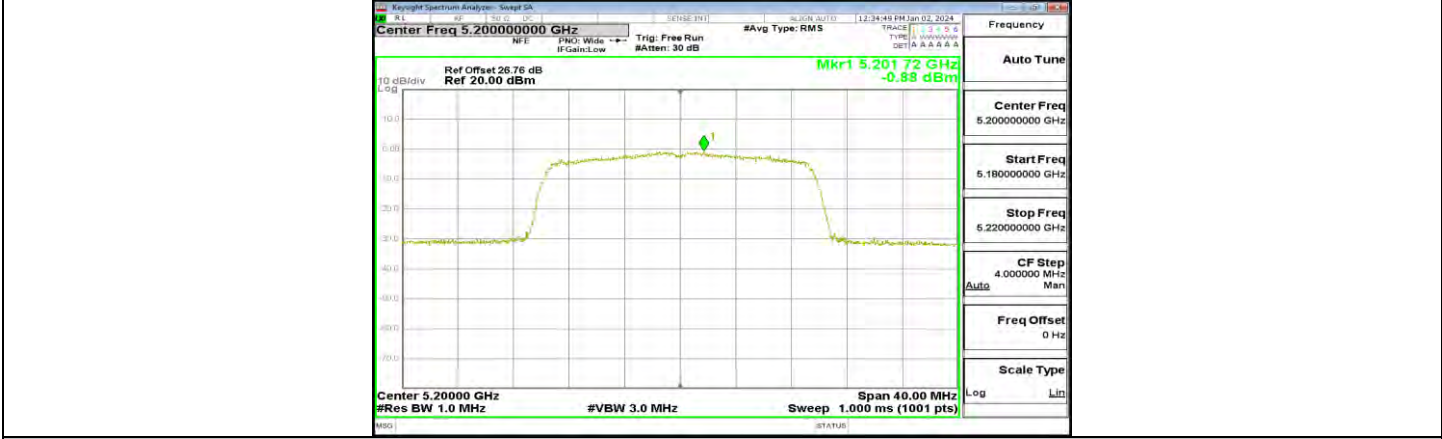
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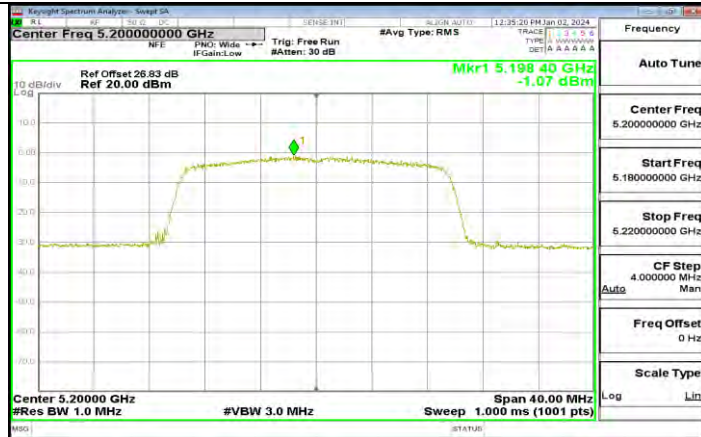
11AX20MIMO Ant1 5180



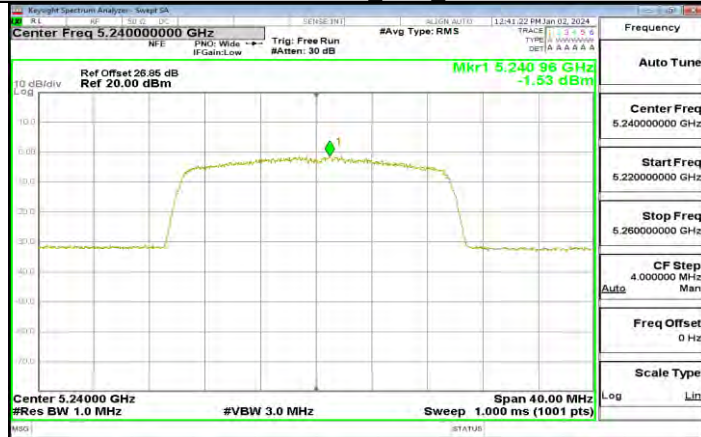
11AX20MIMO Ant0 5180



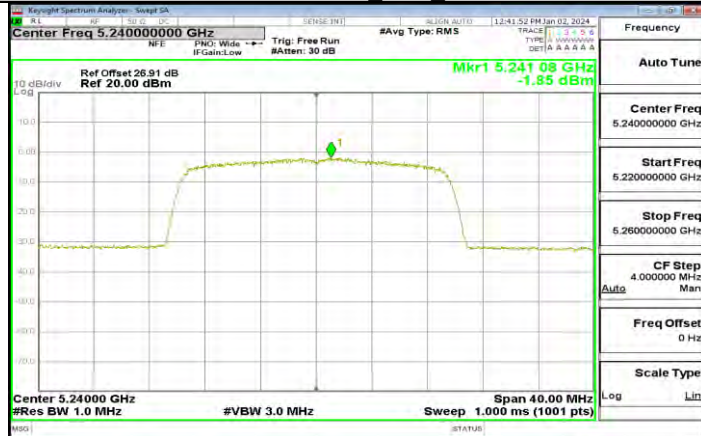
11AX20MIMO Ant1 5200



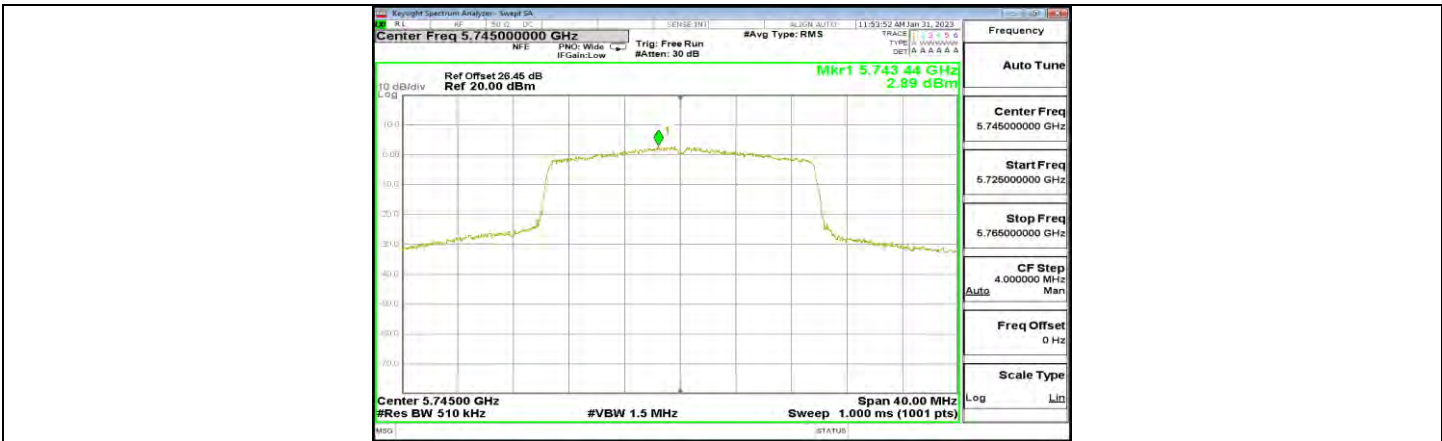
11AX20MIMO Ant0 5200



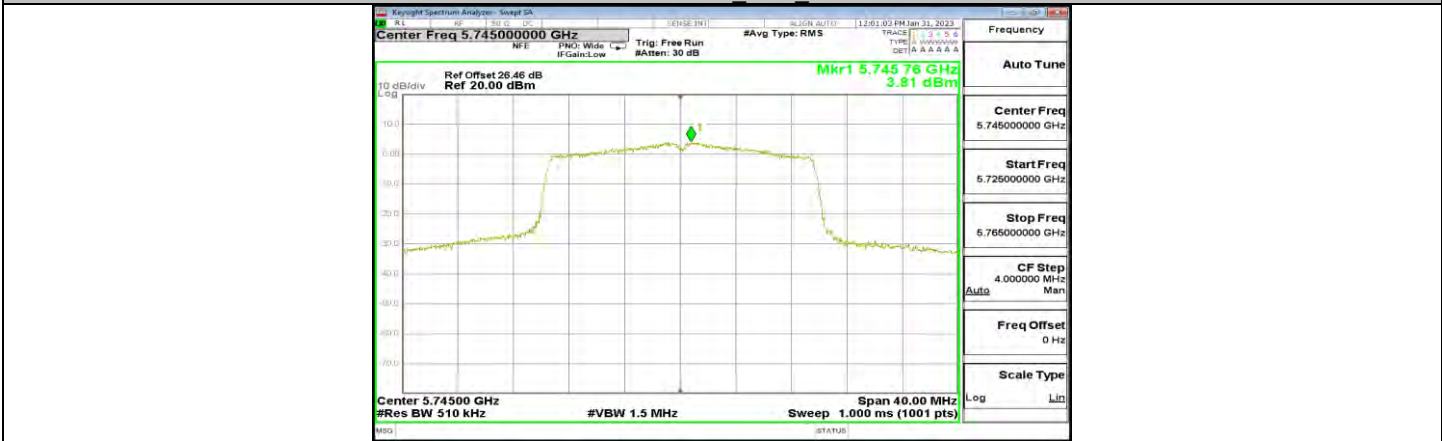
11AX20MIMO Ant1 5240



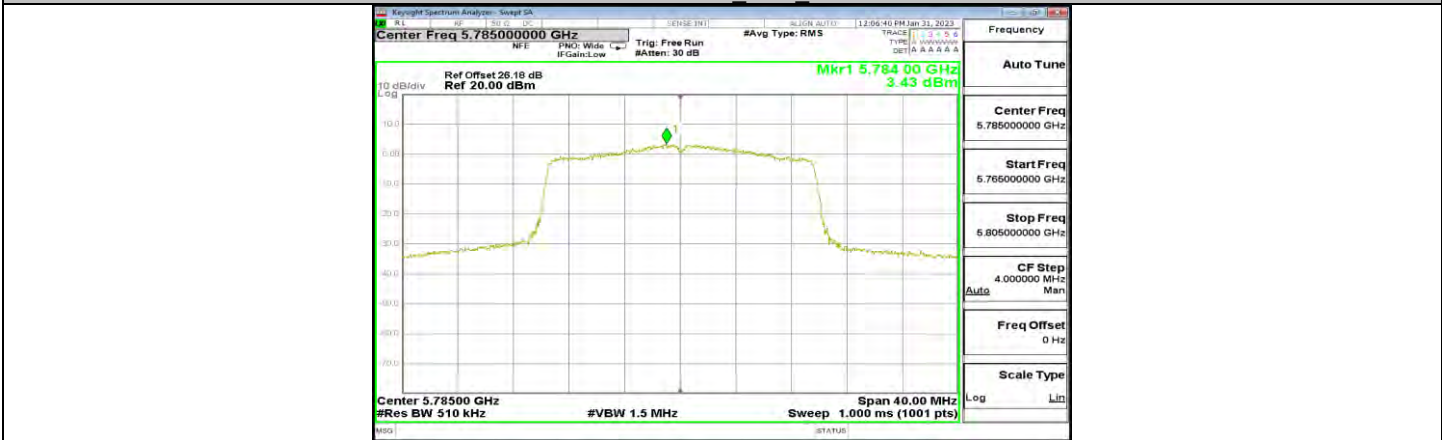
11AX20MIMO Ant0 5240



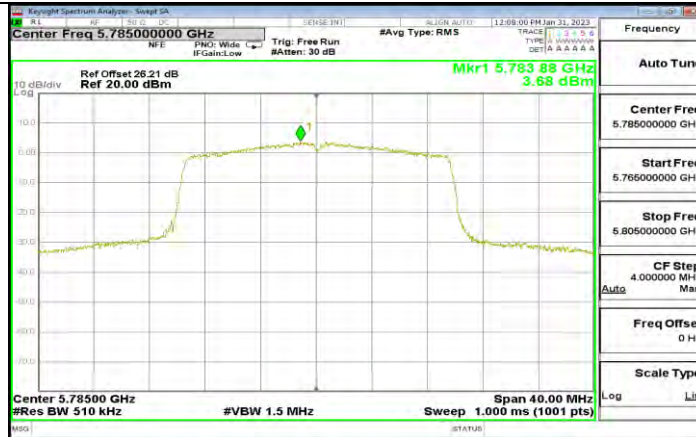
11AX20MIMO Ant1 5745



11AX20MIMO Ant0 5745



11AX20MIMO Ant1 5785



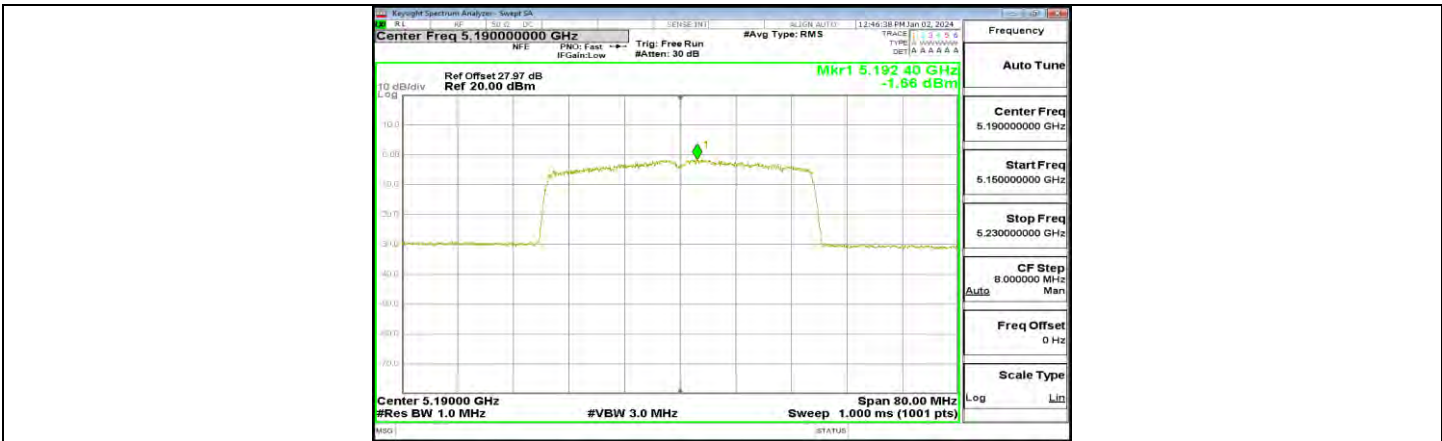
11AX20MIMO Ant0 5785



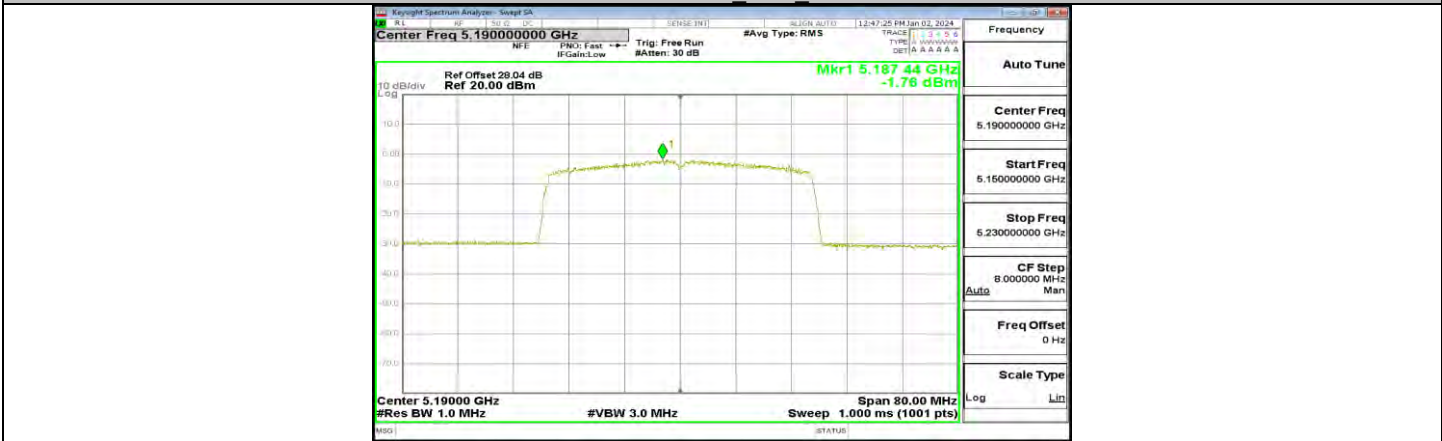
11AX20MIMO Ant1 5825



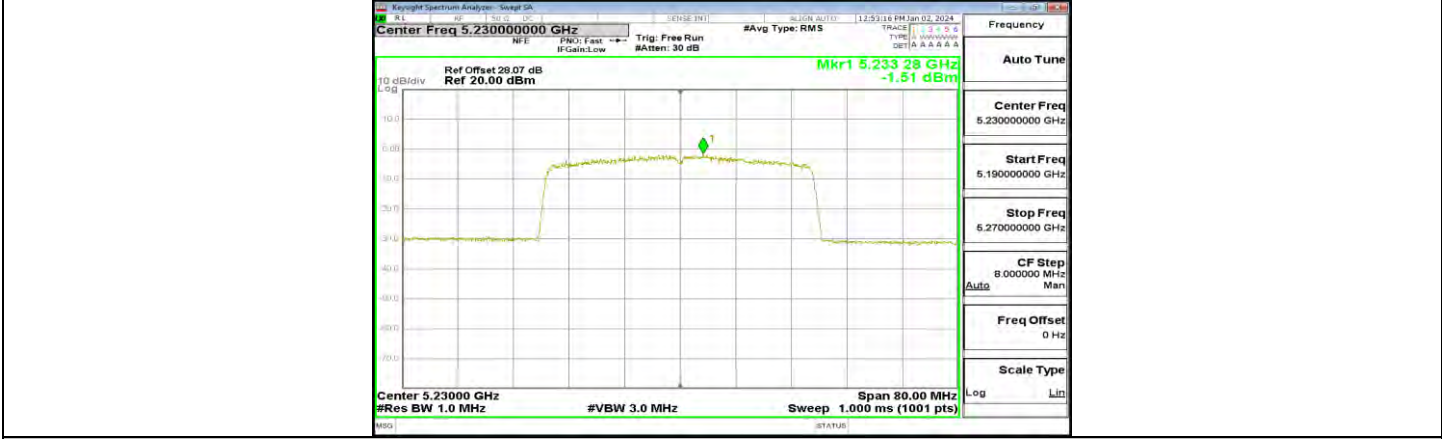
11AX20MIMO Ant0 5825



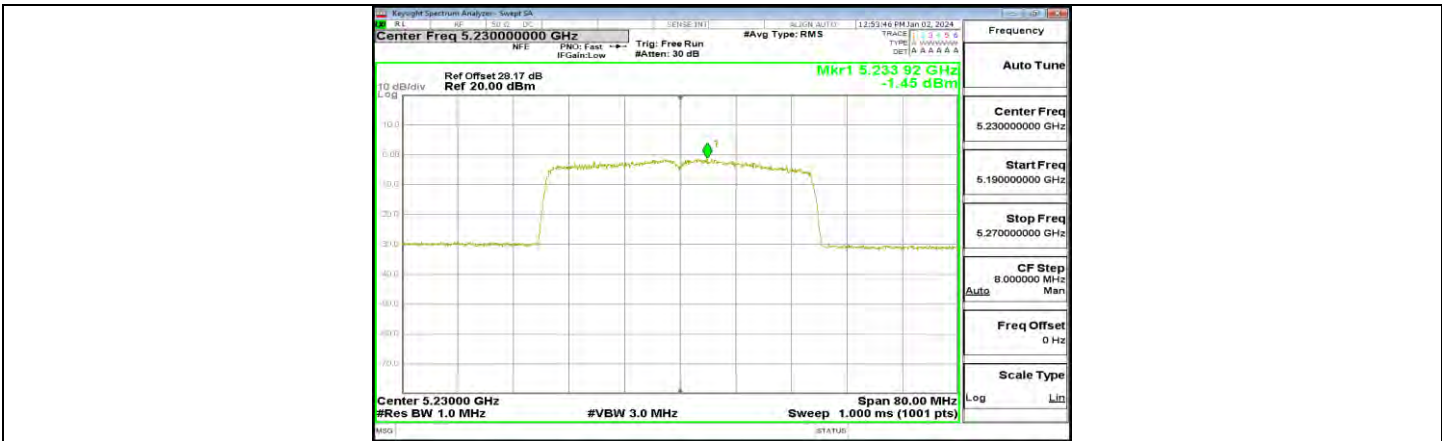
11AX40MIMO Ant1 5190

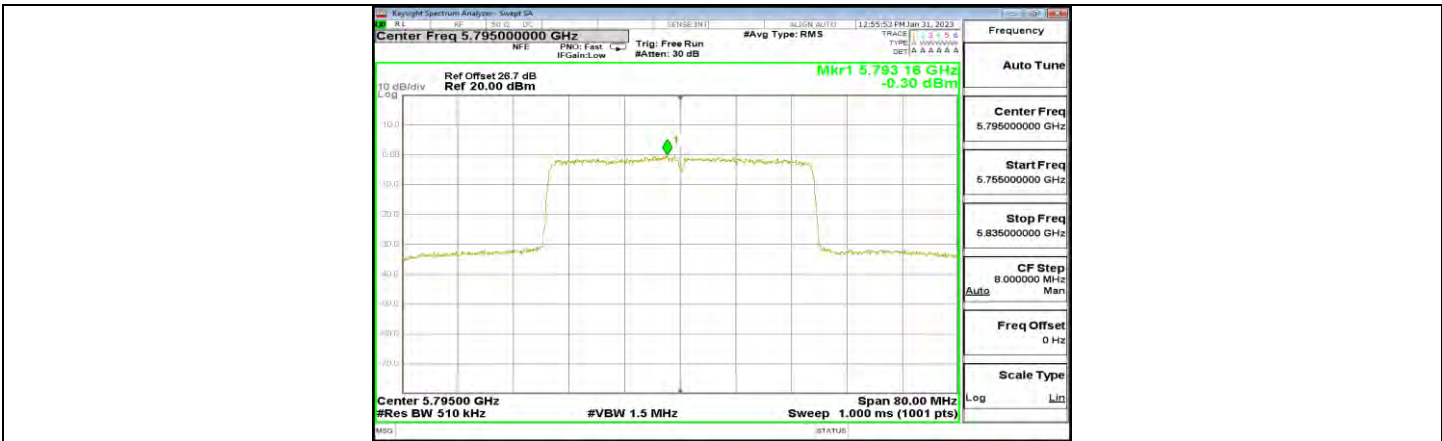


11AX40MIMO Ant0 5190



11AX40MIMO Ant1 5230

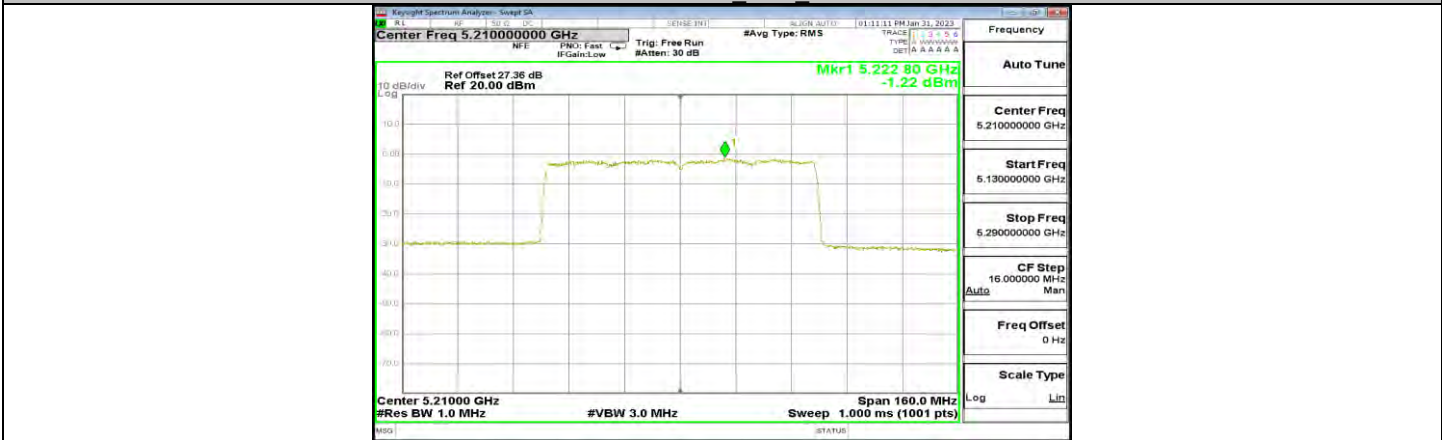




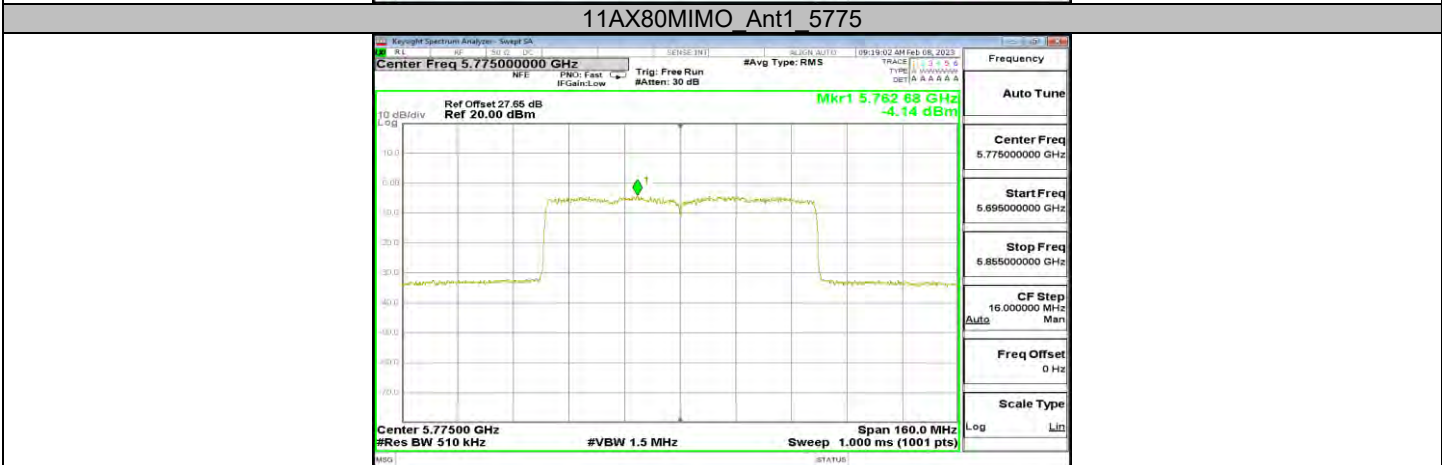
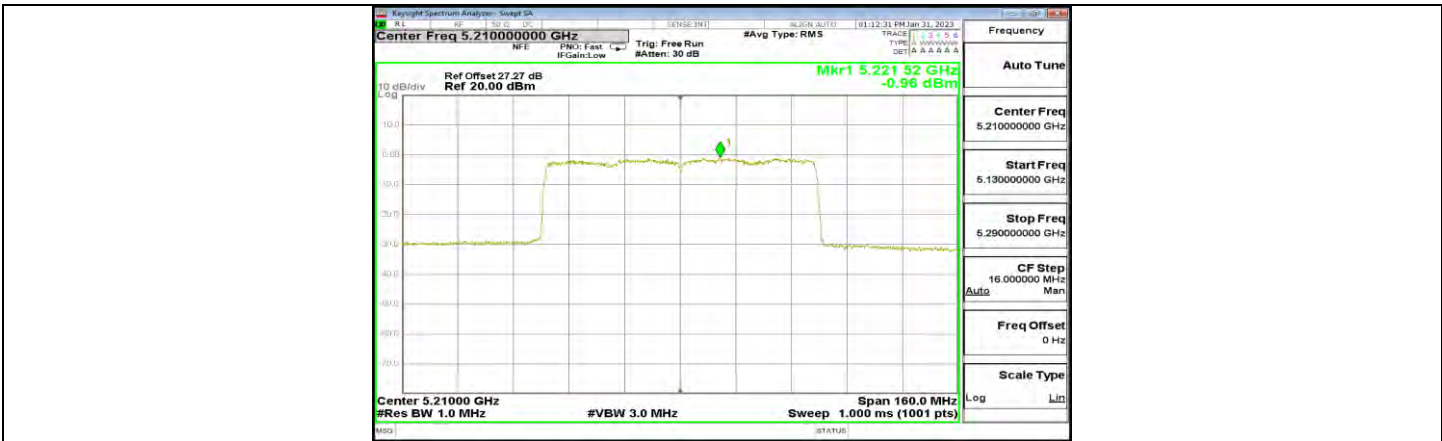
11AX40MIMO Ant1 5795



11AX40MIMO Ant0 5795



11AX80MIMO Ant1 5210





11.5. APPENDIX F: DUTY CYCLE

11.5.1. Test Result

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	1.43	1.53	0.9346	93.46	0.29	0.70	1
11N20MIMO	0.69	0.79	0.8734	87.34	0.59	1.45	2
11N40MIMO	0.961	1.061	0.9057	90.57	0.43	1.04	2
11AC80MIMO	0.19	0.29	0.6552	65.52	1.84	5.26	6
11AX20MIMO	1.511	1.611	0.9379	93.79	0.29	0.66	1
11AX40MIMO	1.511	1.611	0.9379	93.79	0.29	0.66	1
11AX80MIMO	0.18	0.28	0.6429	64.29	1.92	5.56	6

Note:

Duty Cycle Correction Factor=10log (1/x).

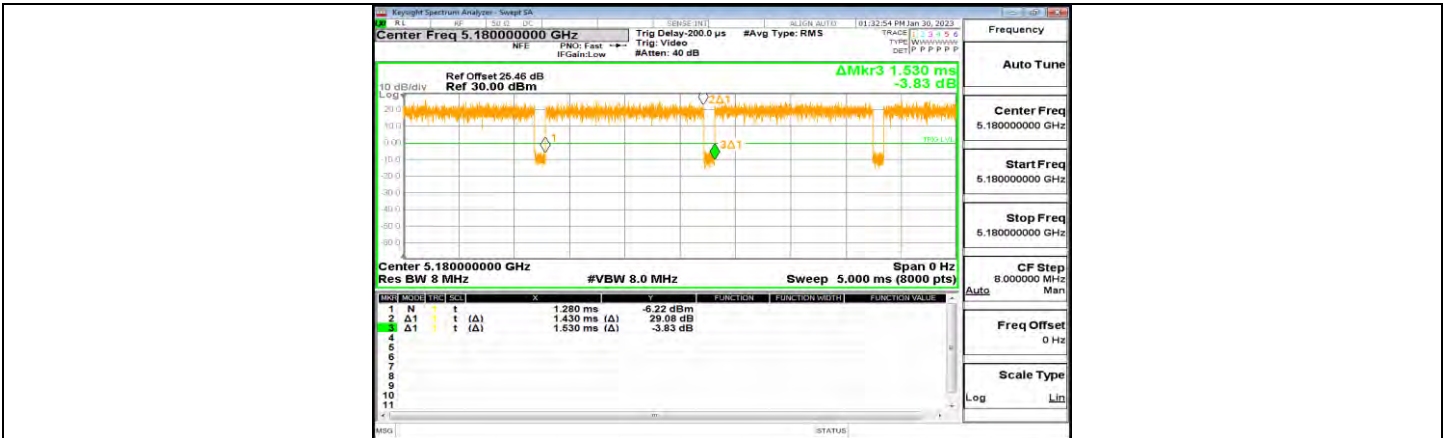
Where: x is Duty Cycle (Linear)

Where: T is On Time

If that calculated VBW is not available on the analyzer then the next higher value should be used.



11.5.2. Test Graphs



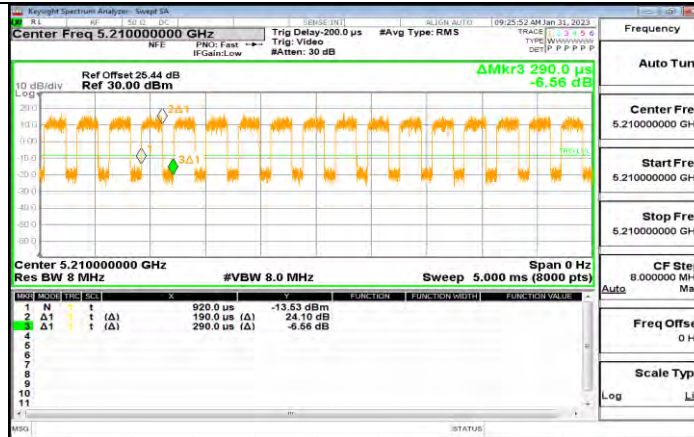
11A Ant1 5180



11N20MIMO Ant1 5180



11N40MIMO Ant1 5190



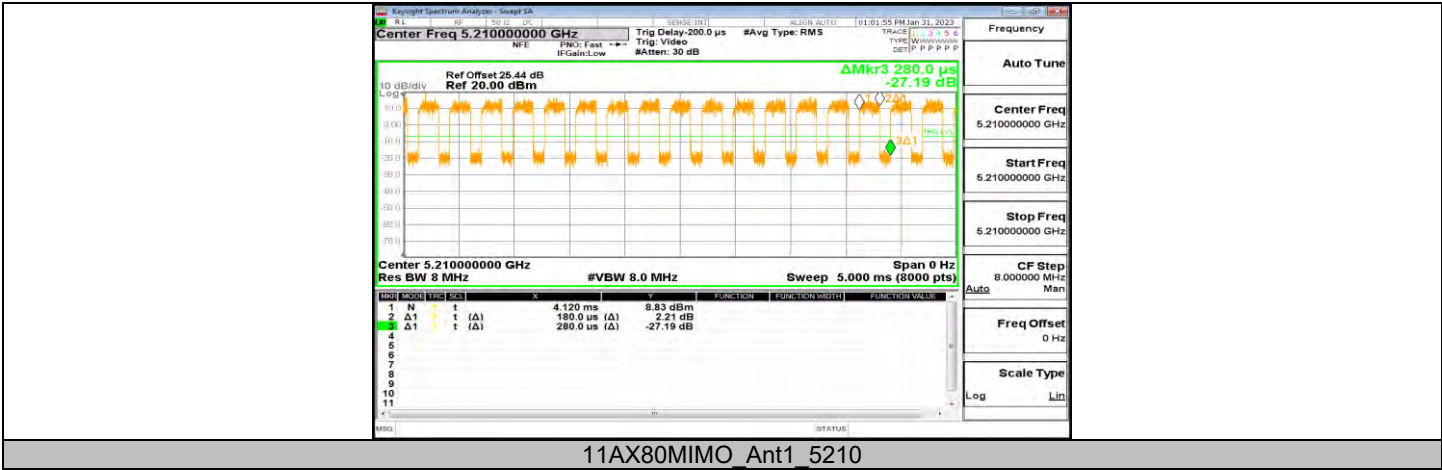
11AC80MIMO Ant1 5210



11AX20MIMO Ant1 5180



11AX40MIMO Ant1 5190



11AX80MIMO_Ant1_5210



11.6. APPENDIX G: FREQUENCY STABILITY
11.6.1. Test Result

Frequency Error vs. Voltage									
802.11a:5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5199.9837	-3.13	5200.0076	1.45	5199.9776	-4.32	5199.9795	-3.94
TN	VN	5199.9899	-1.95	5199.9867	-2.55	5199.9952	-0.92	5200.0046	0.88
TN	VH	5200.0235	4.52	5200.0053	1.01	5200.0197	3.79	5200.0110	2.12

Frequency Error vs. Temperature									
802.11a:5200MHz									
Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
45	VN	5199.9987	-0.25	5200.0022	0.43	5199.9970	-0.58	5200.0129	2.47
40	VN	5200.0144	2.77	5200.0158	3.04	5199.9847	-2.95	5199.9914	-1.65
30	VN	5200.0195	3.74	5199.9975	-0.49	5199.9847	-2.94	5199.9986	-0.28
20	VN	5199.9997	-0.06	5200.0214	4.11	5199.9773	-4.37	5200.0076	1.46
10	VN	5199.9872	-2.46	5200.0192	3.69	5199.9757	-4.68	5199.9967	-0.64
0	VN	5199.9987	-0.26	5199.9919	-1.56	5199.9873	-2.44	5199.9768	-4.46
-10	VN	5199.9837	-3.14	5200.0192	3.68	5199.9895	-2.02	5200.0034	0.65

Note:

1. All antennas, test modes and test channels have been tested, only the worst data record in the report.
2. For the detail Test Conditions, please refer to section 7.5 TEST ENVIRONMENT.



Frequency Error vs. Voltage

802.11a:5825MHz

Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
TN	VL	5824.9843	-2.69	5824.9960	-0.68	5824.9810	-3.27	5824.9759	-4.14
TN	VN	5825.0225	3.86	5825.0083	1.43	5825.0076	1.31	5824.9889	-1.90
TN	VH	5824.9753	-4.24	5825.0041	0.71	5824.9995	-0.09	5824.9907	-1.59

Frequency Error vs. Temperature

802.11a:5825MHz

Temp.	Volt.	0 Minute		2 Minute		5 Minute		10 Minute	
		Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)	Freq.Error (MHz)	Tolerance (ppm)
45	VN	5825.0036	0.63	5825.0002	0.04	5825.0026	0.45	5825.0243	4.18
40	VN	5825.0207	3.55	5824.9913	-1.49	5824.9804	-3.37	5824.9853	-2.52
30	VN	5824.9850	-2.57	5825.0063	1.08	5825.0161	2.77	5825.0052	0.90
20	VN	5825.0227	3.90	5824.9759	-4.13	5824.9760	-4.13	5824.9857	-2.46
10	VN	5825.0078	1.33	5824.9804	-3.36	5825.0045	0.77	5825.0008	0.14
0	VN	5825.0166	2.84	5824.9959	-0.70	5824.9843	-2.70	5825.0182	3.12
-10	VN	5824.9858	-2.43	5825.0171	2.94	5824.9981	-0.33	5825.0224	3.84

Note:

1. All antennas, test modes and test channels have been tested, only the worst data record in the report.
2. For the detail Test Conditions, please refer to section 7.5 TEST ENVIRONMENT.

END OF REPORT