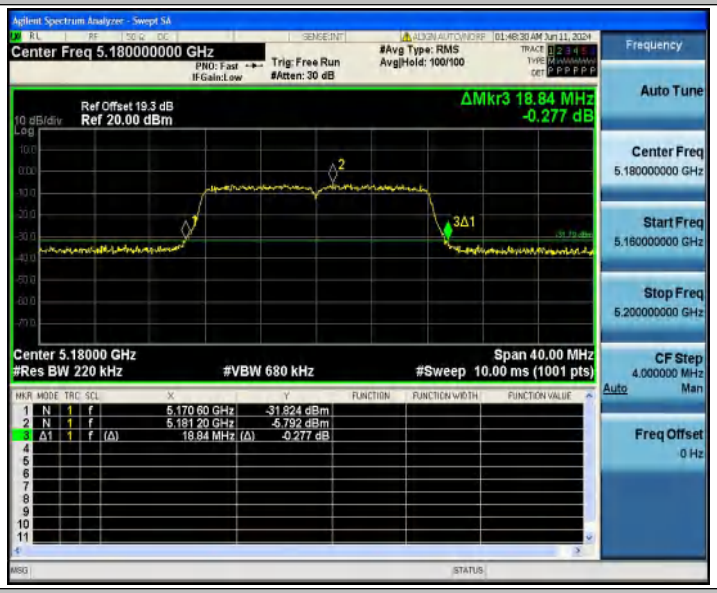
Applicant:CARPLAY TECHNOLOGY (CHINA) LIMITED
Case No. : TH202405493-C08
EUT: Wireless CarPlay / Android Auto Kits
M/N: CP2
Test Power Supply: NA
Ambient Condition: 22.5 ℃, 34 %RH, 101.325 kPa
According Standard: ■ ; ☐other:
Test Date: 2024.06.11 **Test Engineer:** Blue

Appendix A1: Emission Bandwidth

Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.840	5170.600	5189.440	---	---
		5200	18.840	5190.520	5209.360	---	---
		5240	18.680	5230.680	5249.360	---	---
		5745	18.680	5735.640	5754.320	---	---
		5785	18.840	5775.600	5794.440	---	---
		5825	18.800	5815.560	5834.360	---	---
11N20SISO	Ant1	5180	19.760	5170.080	5189.840	---	---
		5200	19.800	5190.000	5209.800	---	---
		5240	19.680	5230.120	5249.800	---	---
		5745	19.520	5735.240	5754.760	---	---
		5785	19.640	5775.160	5794.800	---	---
		5825	19.640	5815.160	5834.800	---	---
11N40SISO	Ant1	5190	50.320	5161.040	5211.360	---	---
		5230	59.920	5191.760	5251.680	---	---
		5755	42.160	5733.640	5775.800	---	---
		5795	42.640	5773.640	5816.280	---	---

Test Graphs

11A_Ant1_5180


11A_Ant1_5200

11A_Ant1_5240

11A_Ant1_5745

11A_Ant1_5785

11A_Ant1_5825

11N20SISO_Ant1_5180

11N20SISO_Ant1_5200

11N20SISO_Ant1_5240

11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

11N40SISO_Ant1_5190

11N40SISO_Ant1_5230

11N40SISO_Ant1_5755

11N40SISO_Ant1_5795

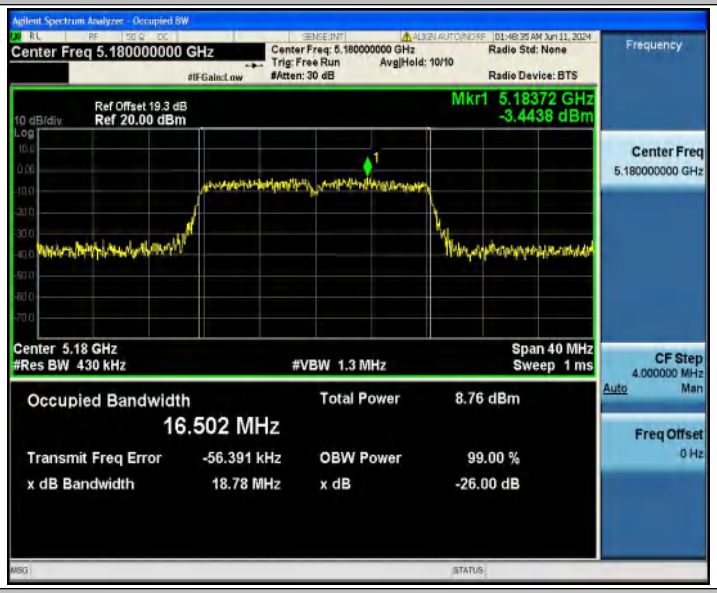
Appendix A2: Occupied channel bandwidth

Test Result

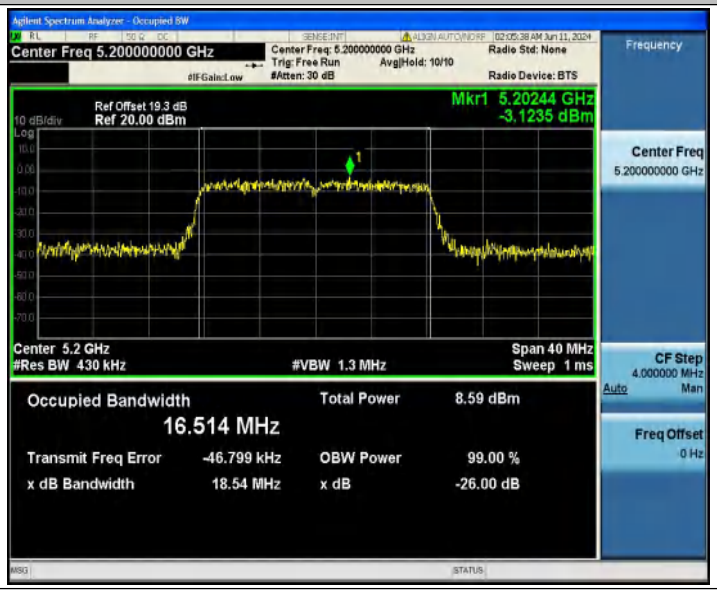
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.502	5171.6926	5188.1946	---	---
		5200	16.514	5191.6962	5208.2102	---	---
		5240	16.491	5231.7363	5248.2273	---	---
		5745	16.466	5736.7741	5753.2401	---	---
		5785	16.450	5776.7834	5793.2334	---	---
		5825	16.498	5816.7694	5833.2674	---	---
11N20SISO	Ant1	5180	17.639	5171.2206	5188.8596	---	---
		5200	17.682	5191.1744	5208.8564	---	---
		5240	17.678	5231.1799	5248.8579	---	---
		5745	17.646	5736.1919	5753.8379	---	---
		5785	17.658	5776.1856	5793.8436	---	---
		5825	17.672	5816.1894	5833.8614	---	---
11N40SISO	Ant1	5190	36.263	5171.8857	5208.1487	---	---
		5230	36.138	5211.9493	5248.0873	---	---
		5755	36.226	5736.9261	5773.1521	---	---
		5795	36.225	5776.8779	5813.1029	---	---

Test Graphs

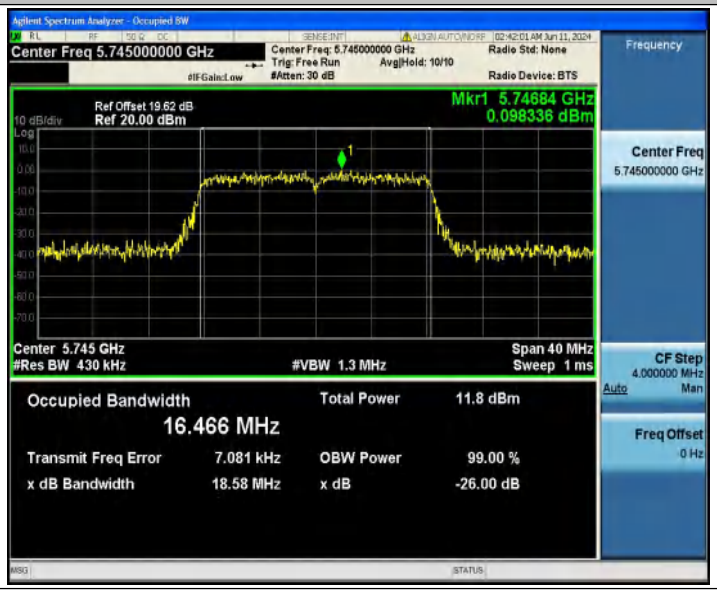
11A_Ant1_5180

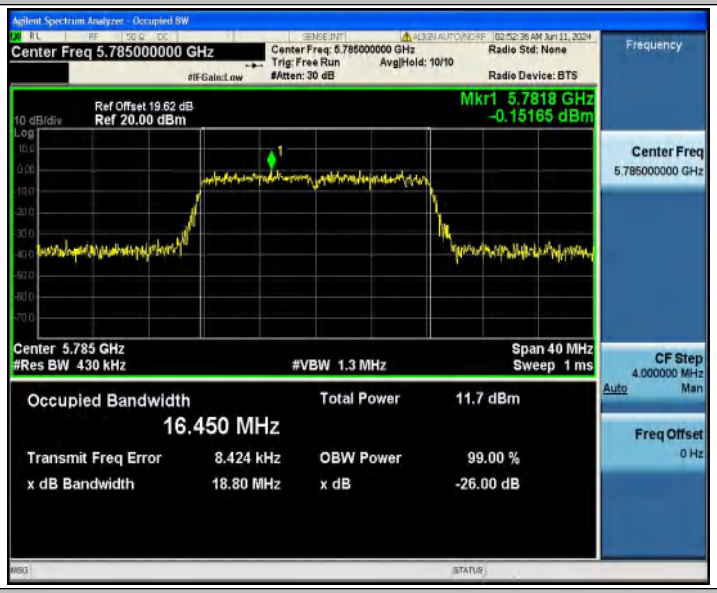


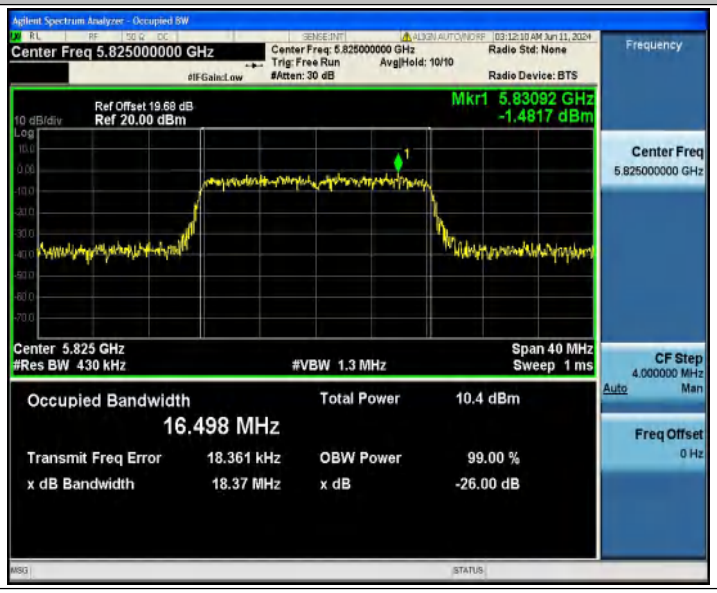
11A_Ant1_5200



11A_Ant1_5240

11A_Ant1_5745


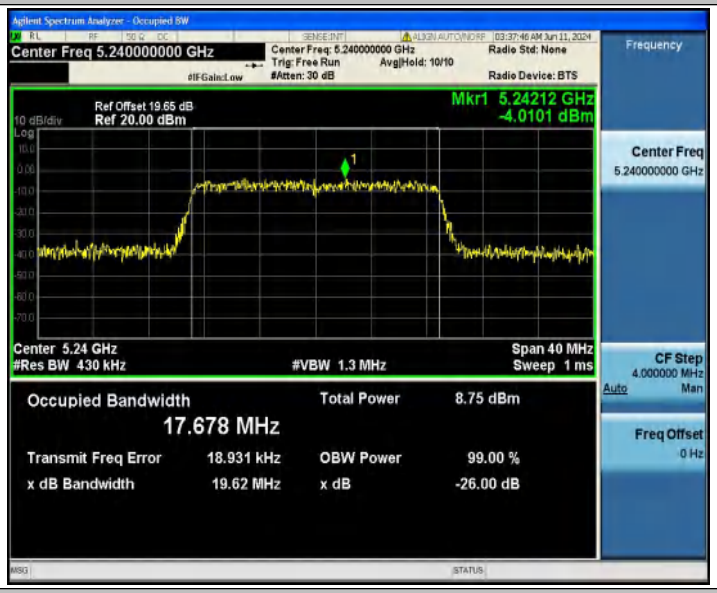
11A_Ant1_5785


11A_Ant1_5825


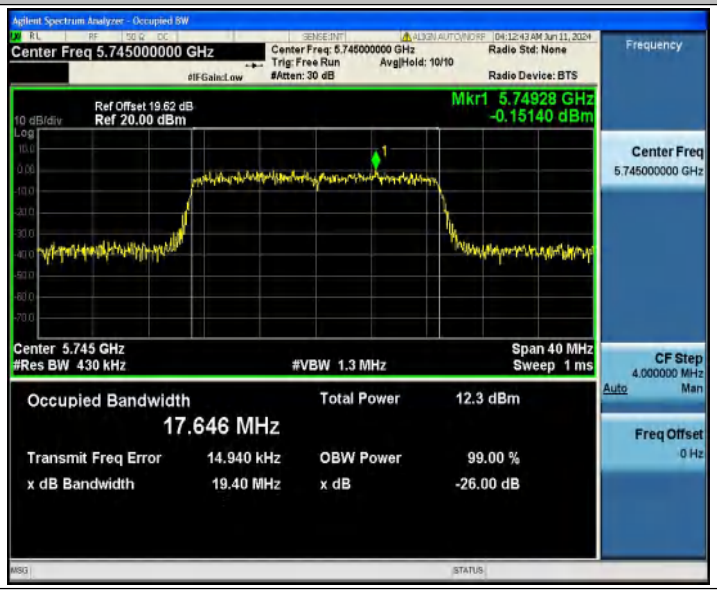
11N20SISO_Ant1_5180

11N20SISO_Ant1_5200

11N20SISO_Ant1_5240



11N20SISO_Ant1_5745



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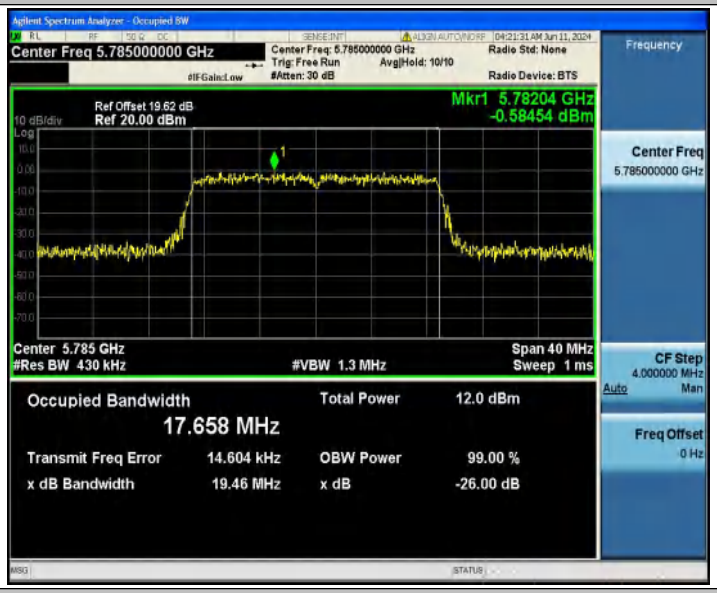

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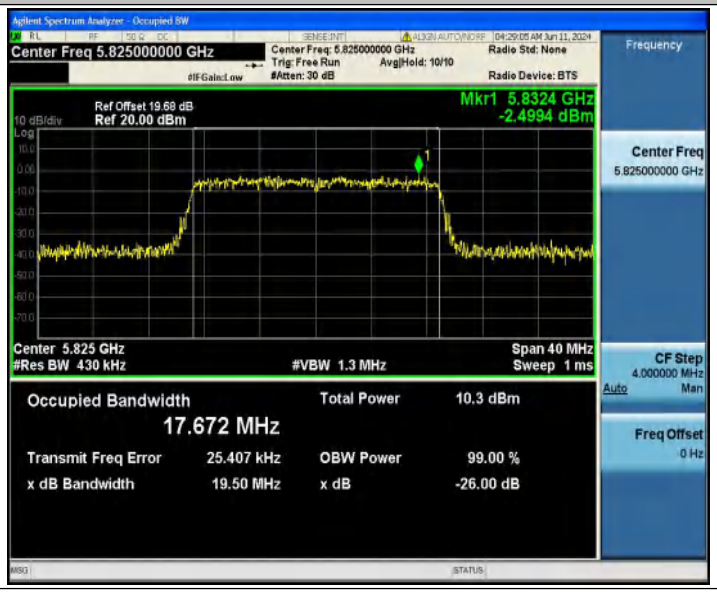
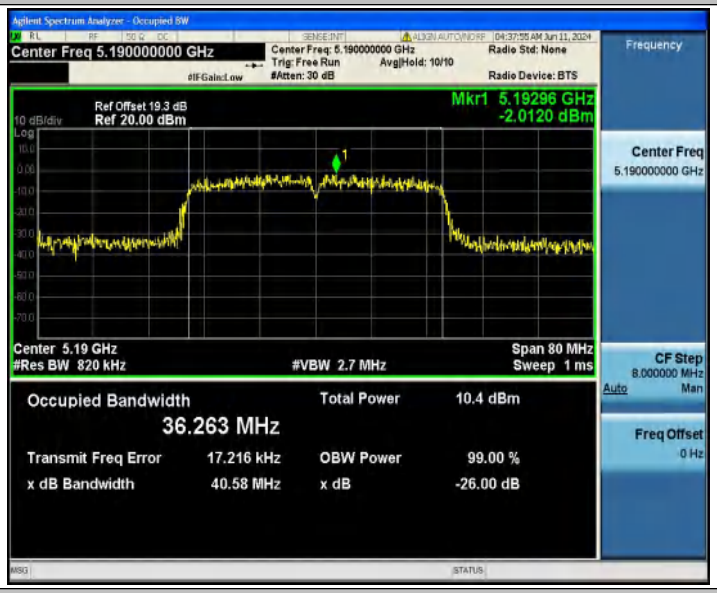
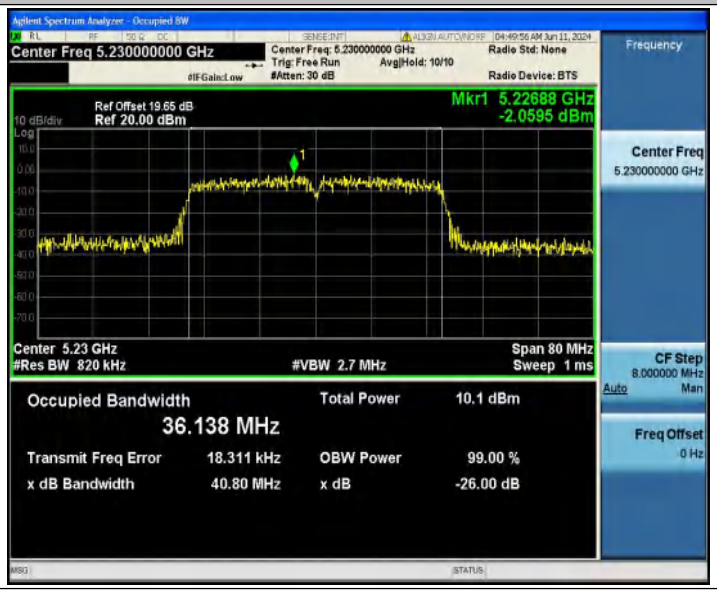
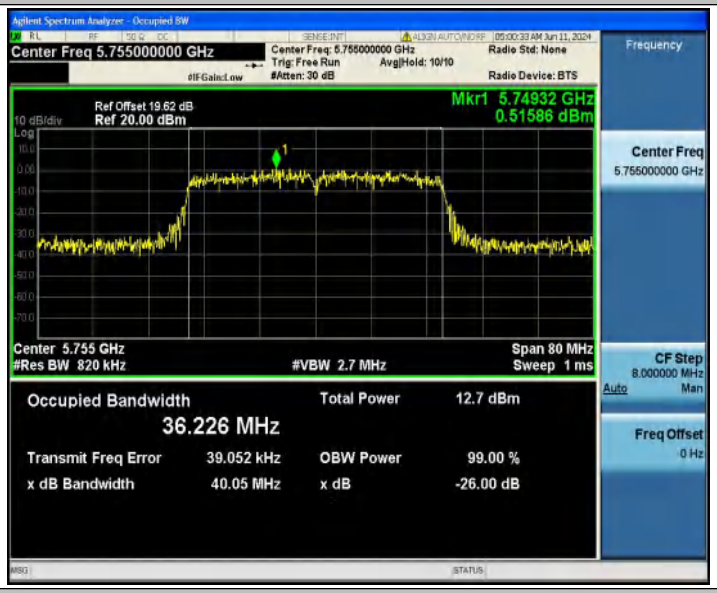


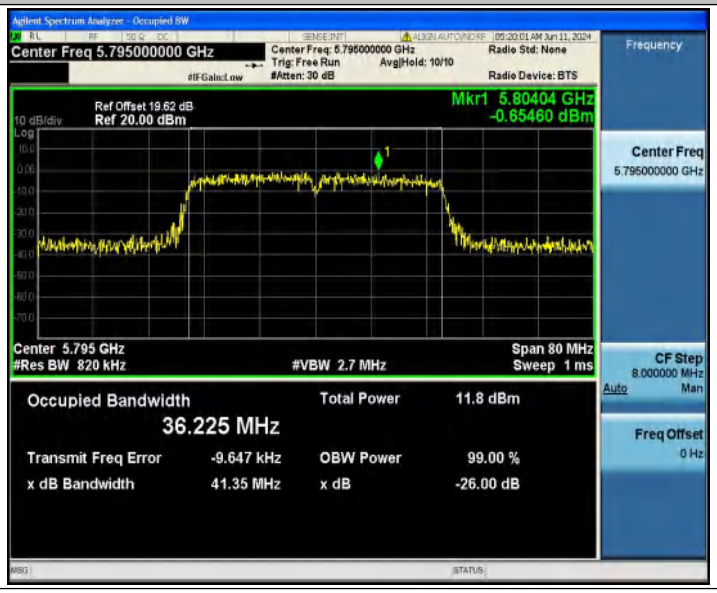
11N40SISO_Ant1_5190


11N40SISO_Ant1_5230


11N40SISO_Ant1_5755



11N40SISO_Ant1_5795

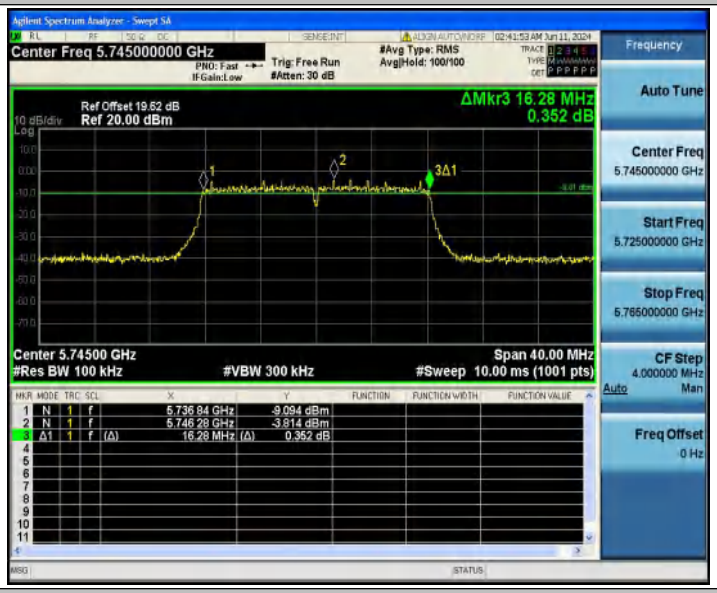


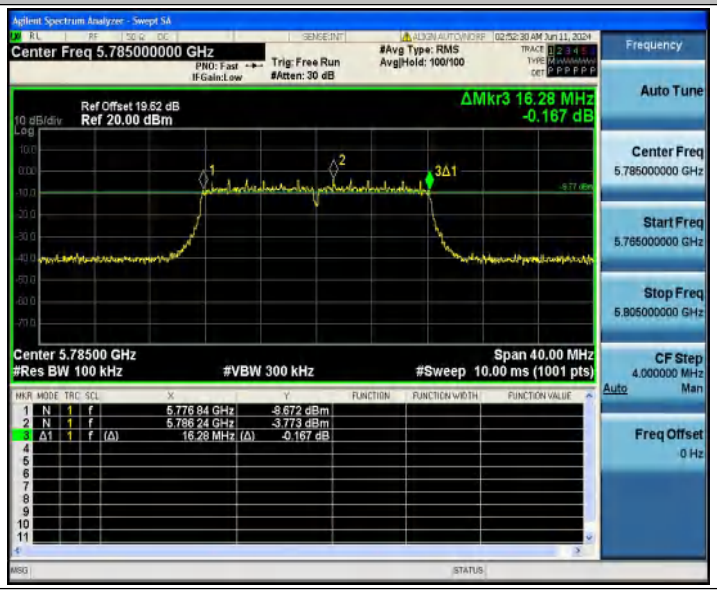
Appendix A3: Min emission bandwidth

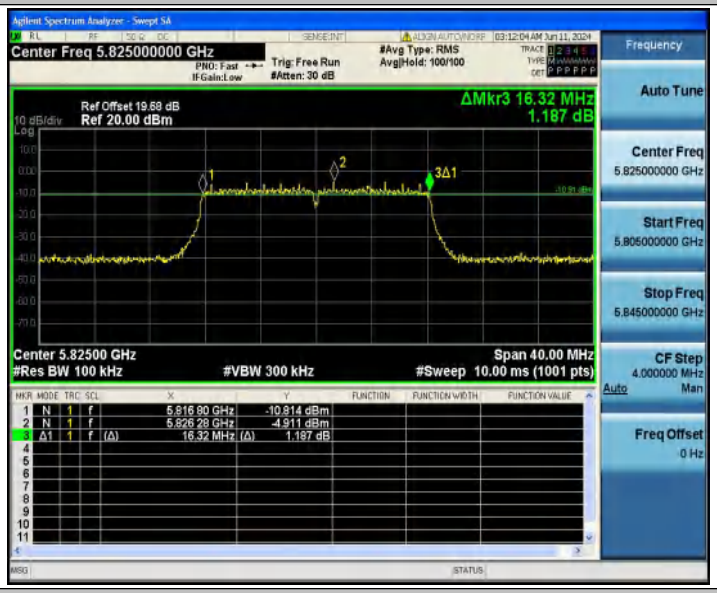
Test Result B4

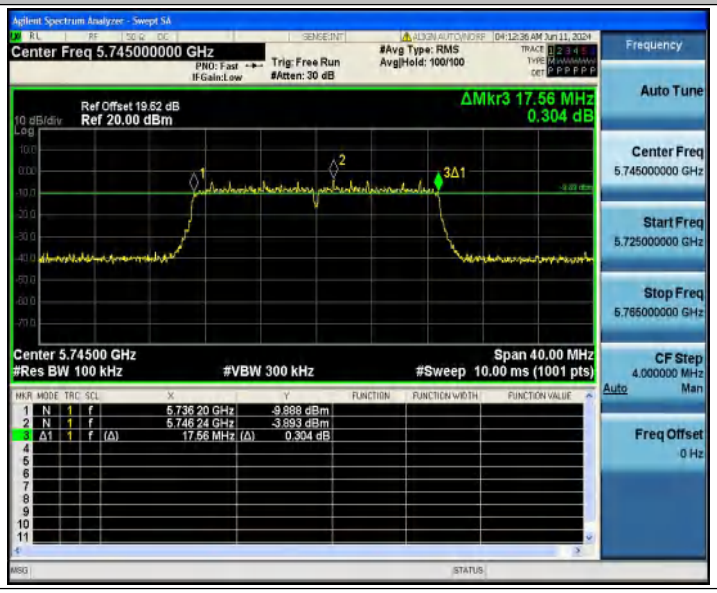
TestMode	Antenna	Channel	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.280	5736.840	5753.120	0.5	PASS
		5785	16.280	5776.840	5793.120	0.5	PASS
		5825	16.320	5816.800	5833.120	0.5	PASS
11N20SISO	Ant1	5745	17.560	5736.200	5753.760	0.5	PASS
		5785	17.560	5776.200	5793.760	0.5	PASS
		5825	17.560	5816.200	5833.760	0.5	PASS
11N40SISO	Ant1	5755	35.120	5737.400	5772.520	0.5	PASS
		5795	35.120	5777.400	5812.520	0.5	PASS

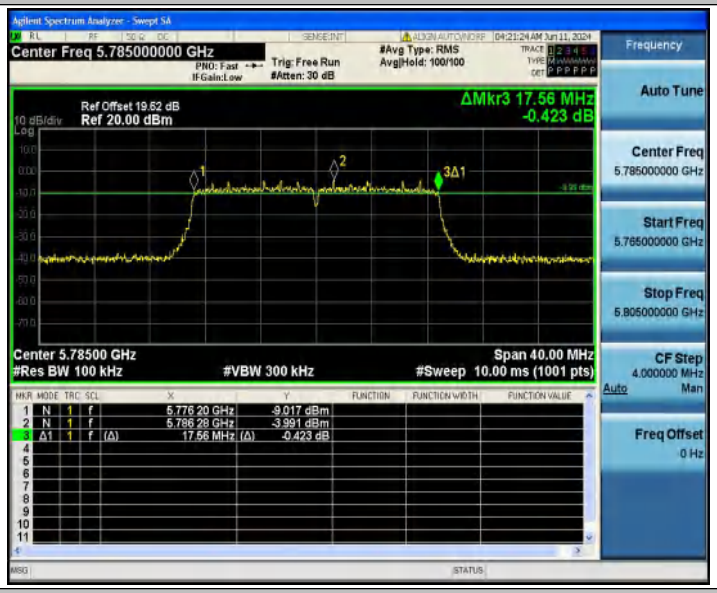
Test Graphs B4

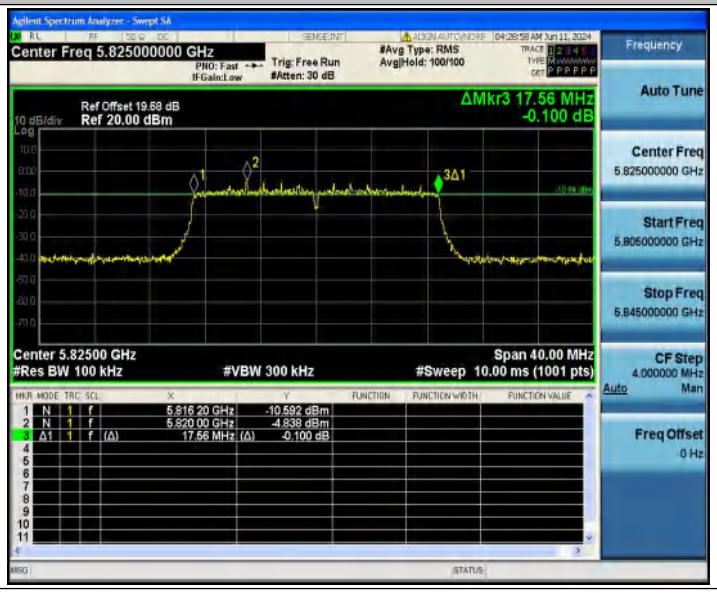
11A_Ant1_5745


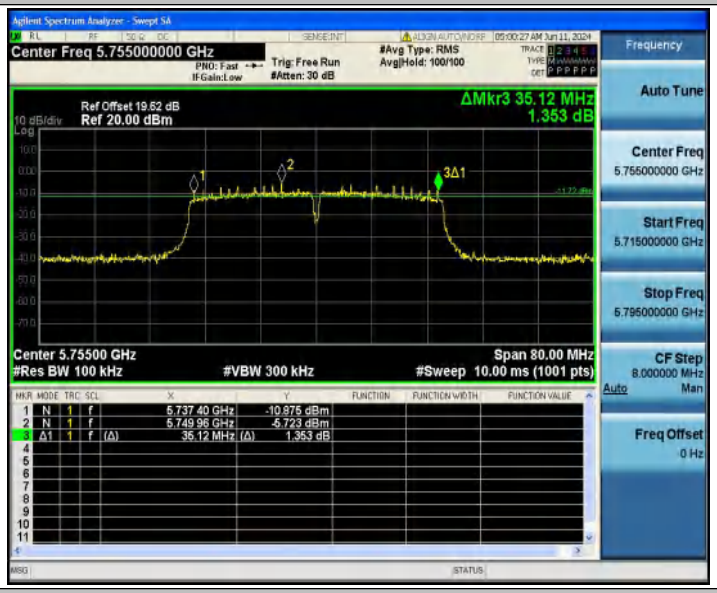
11A_Ant1_5785


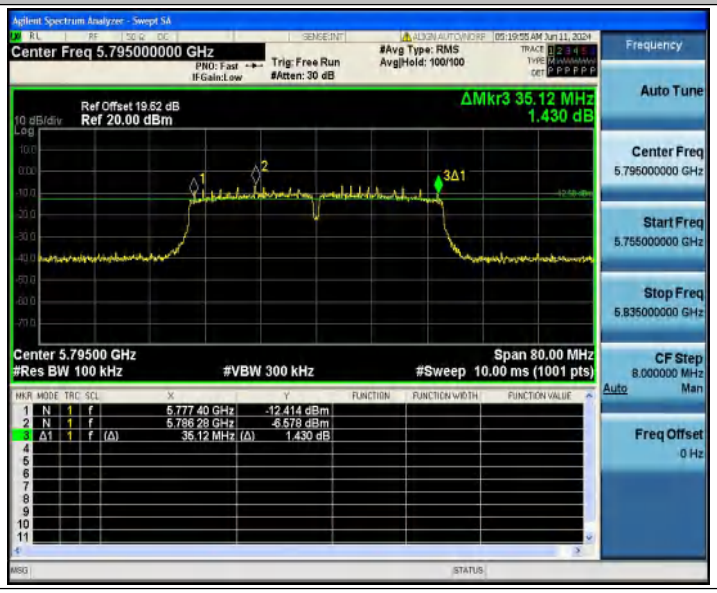
11A_Ant1_5825


11N20SISO_Ant1_5745


11N20SISO_Ant1_5785


11N20SISO_Ant1_5825


11N40SISO_Ant1_5755


11N40SISO_Ant1_5795


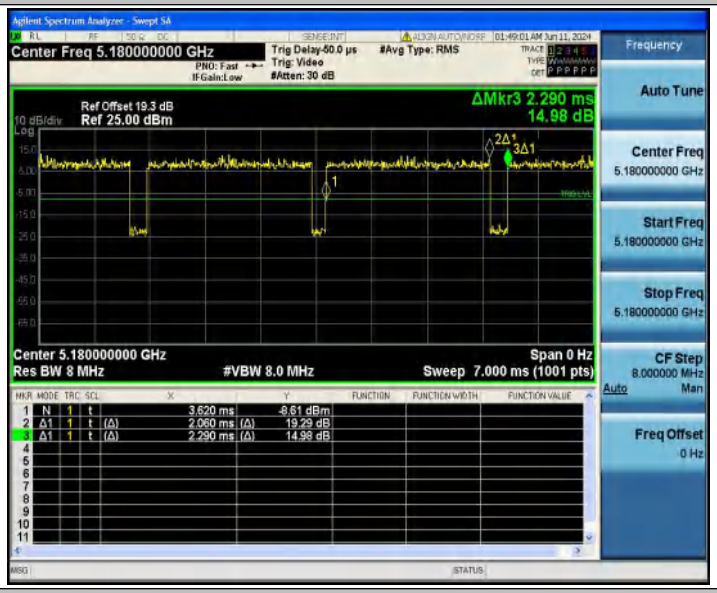
Appendix B: Duty Cycle

Test Result

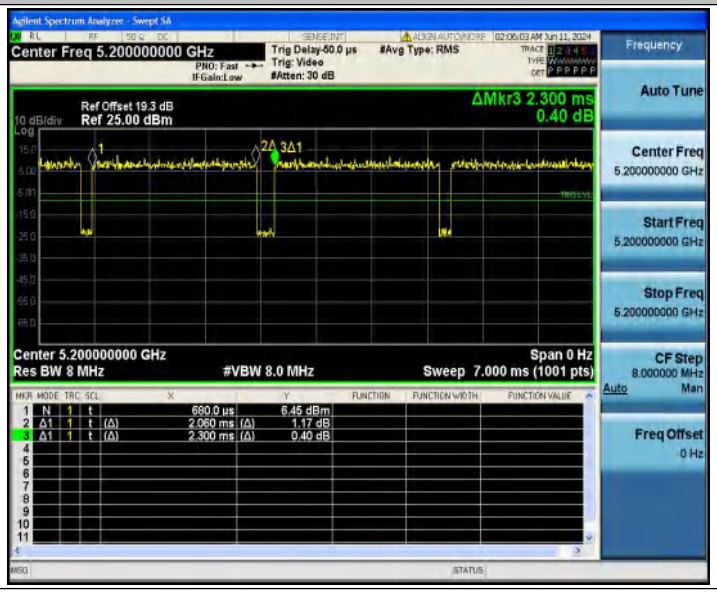
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Factor [dBm]
11A	Ant1	5180	2.06	2.29	89.96	---	0.46
		5200	2.06	2.30	89.57	---	0.48
		5240	2.07	2.24	92.41	---	0.34
		5745	2.06	2.20	93.64	---	0.29
		5785	2.07	2.28	90.79	---	0.42
		5825	2.07	2.27	91.19	---	0.40
11N20SISO	Ant1	5180	1.92	2.08	92.31	---	0.35
		5200	1.91	2.10	90.95	---	0.41
		5240	1.91	2.14	89.25	---	0.49
		5745	1.92	2.13	90.14	---	0.45
		5785	1.92	2.10	91.43	---	0.39
		5825	1.93	2.04	94.61	---	0.24
11N40SISO	Ant1	5190	0.94	1.17	80.34	---	0.95
		5230	0.95	1.16	81.90	---	0.87
		5755	0.94	1.53	61.44	---	2.12
		5795	0.94	1.11	84.68	---	0.72

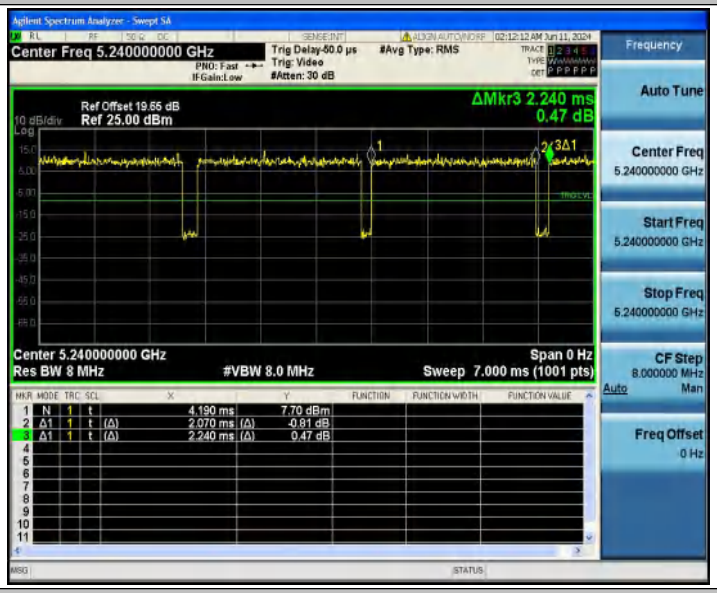
Test Graphs

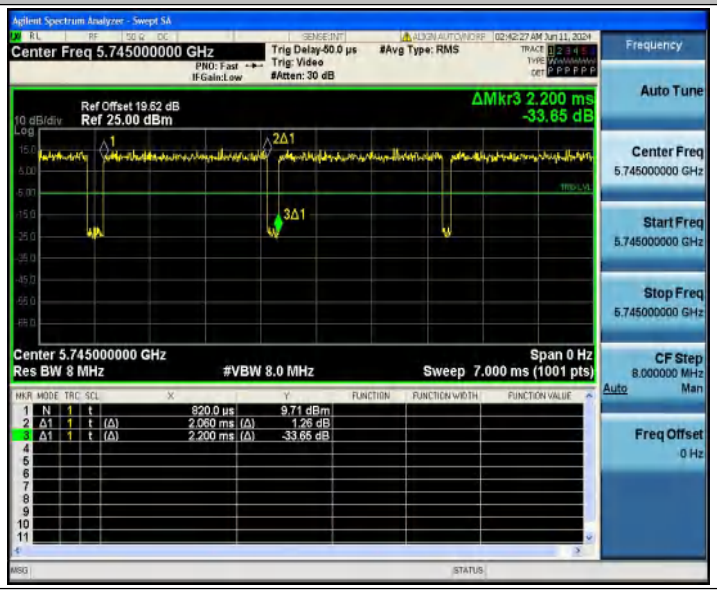
11A_Ant1_5180

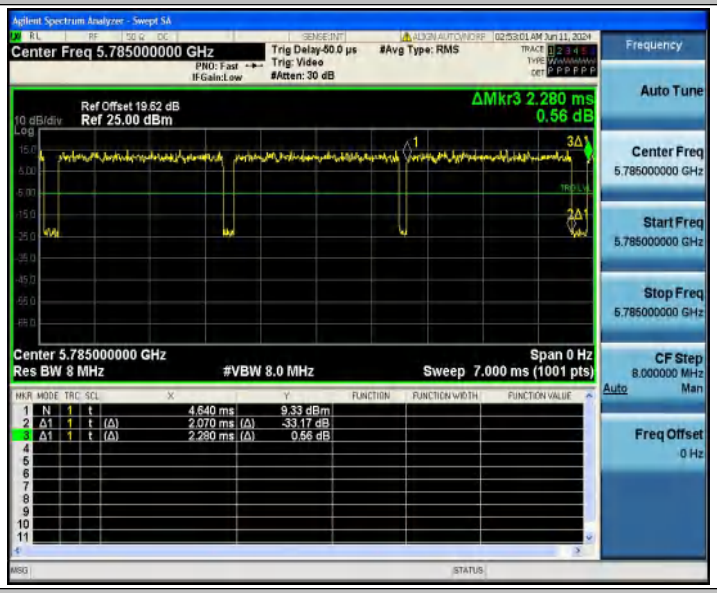


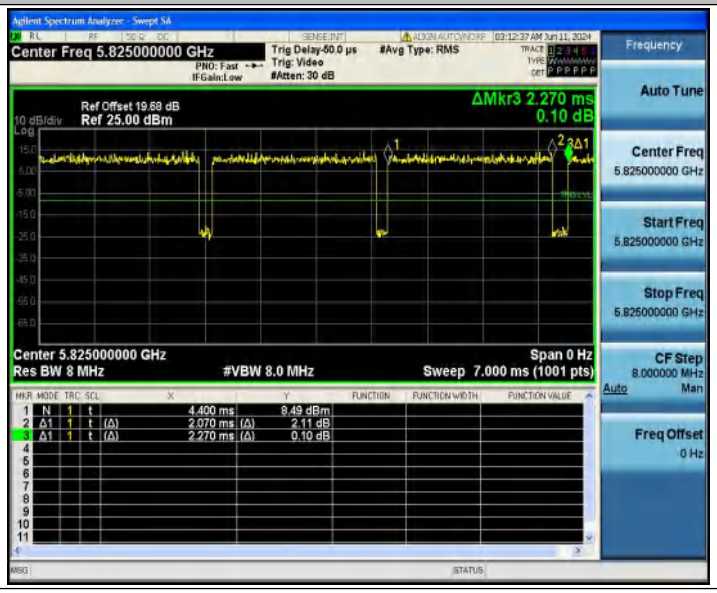
11A_Ant1_5200

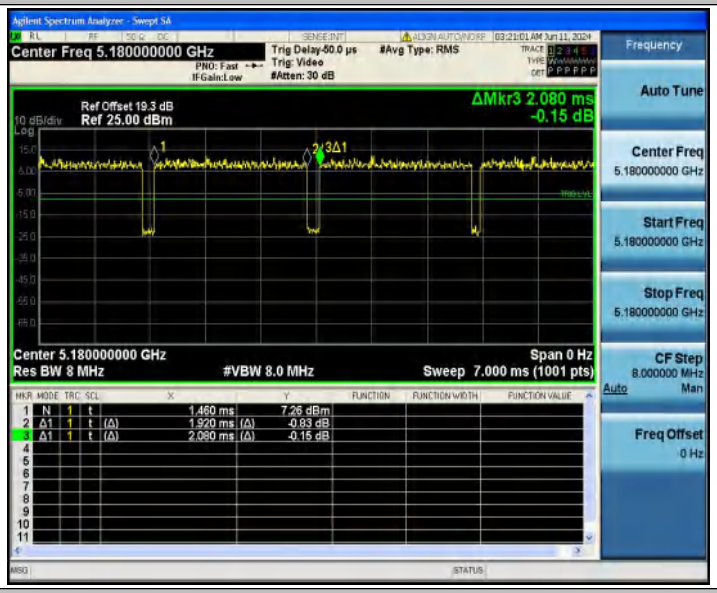


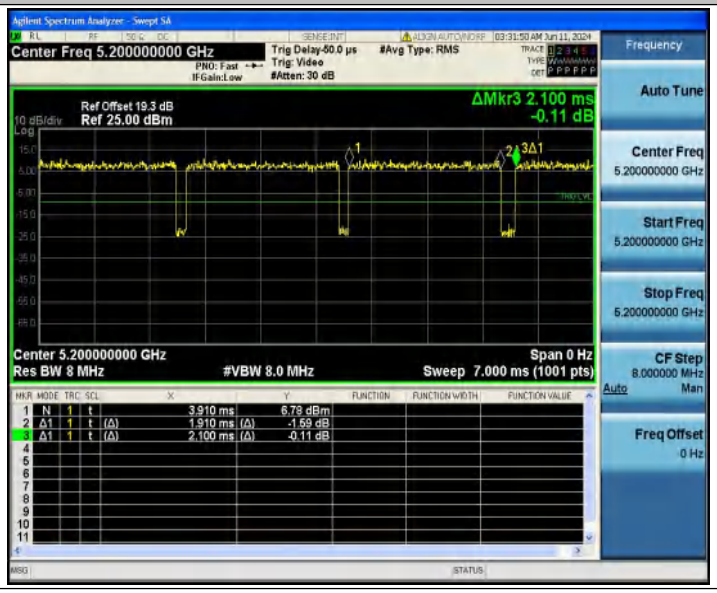
11A_Ant1_5240


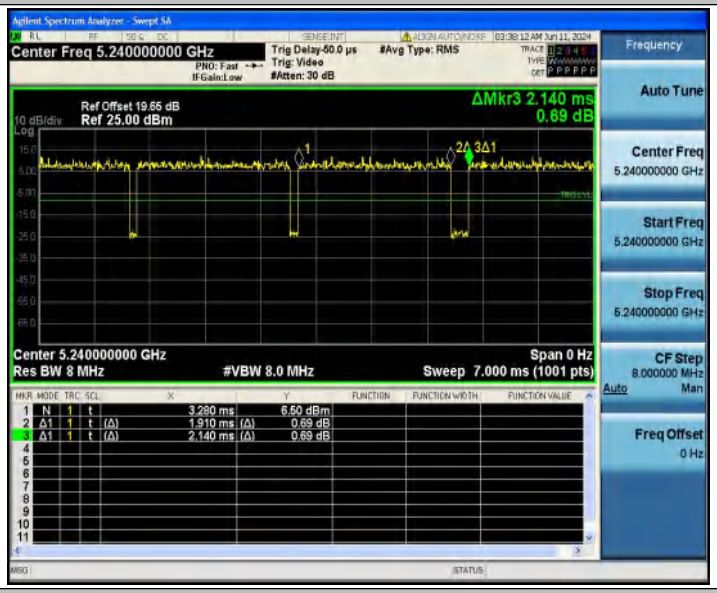
11A_Ant1_5745


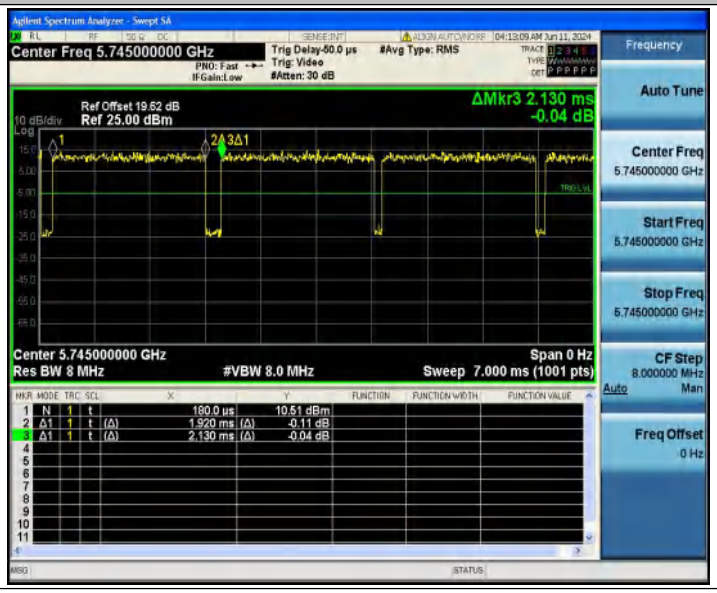
11A_Ant1_5785


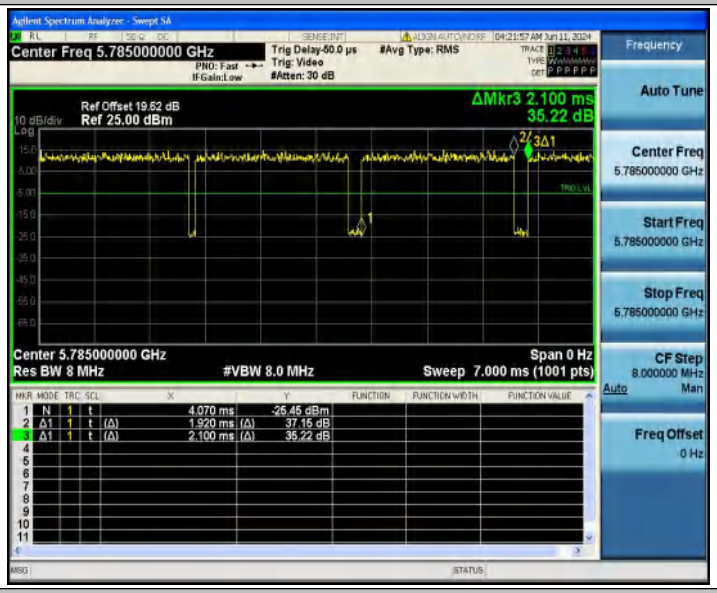
11A_Ant1_5825


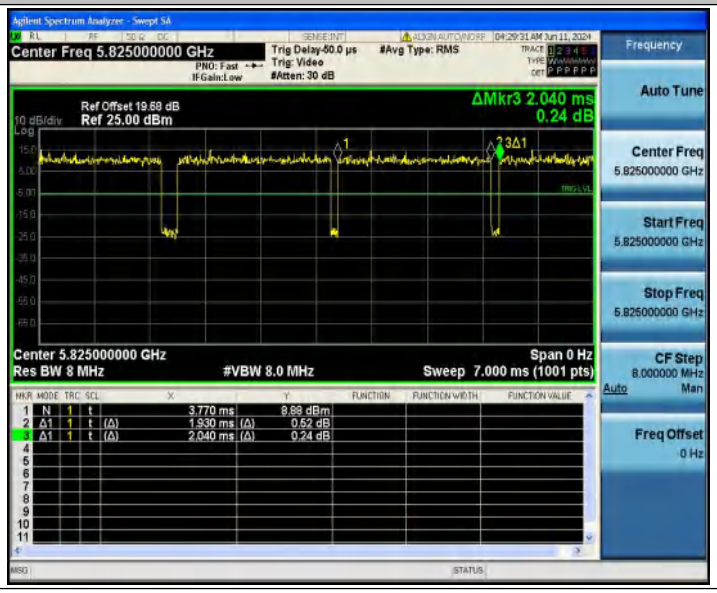
11N20SISO_Ant1_5180


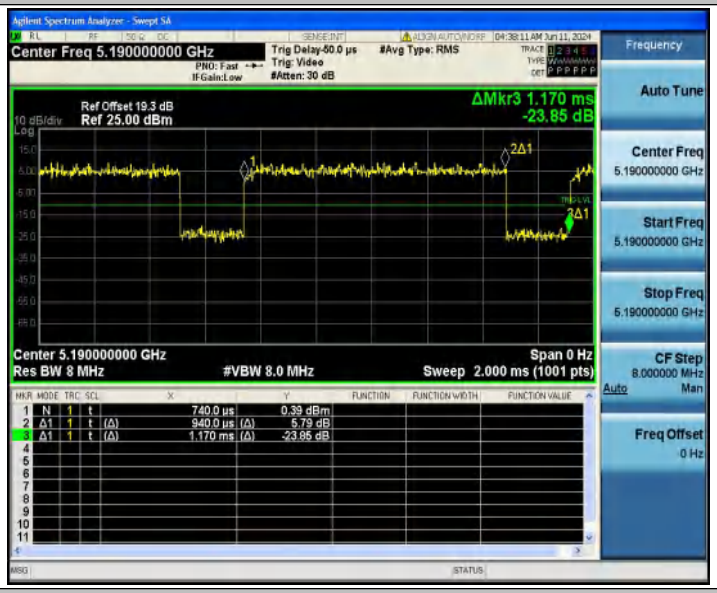
11N20SISO_Ant1_5200


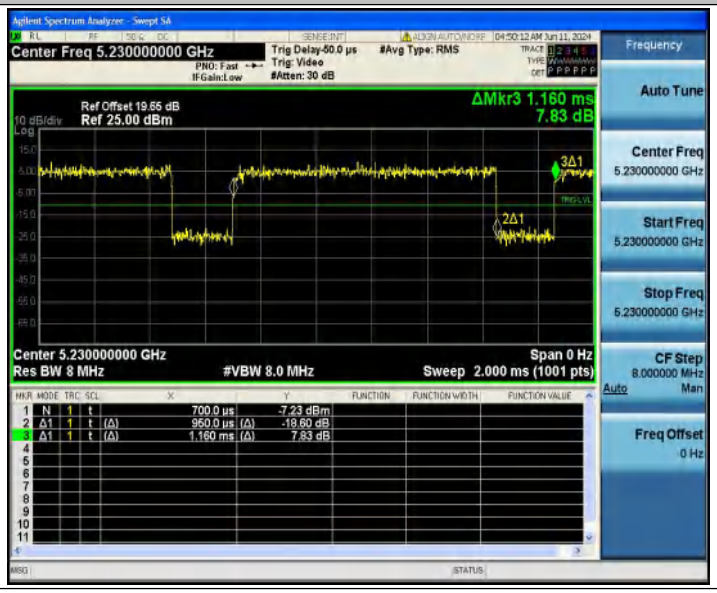
11N20SISO_Ant1_5240


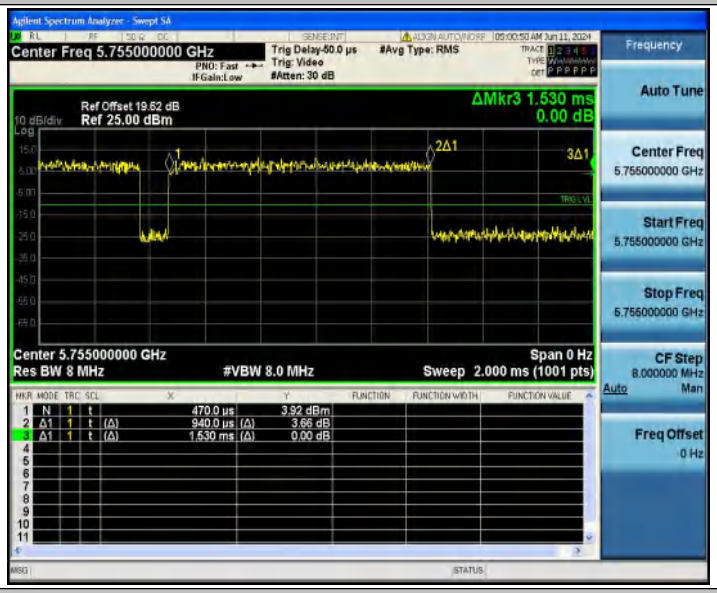
11N20SISO_Ant1_5745


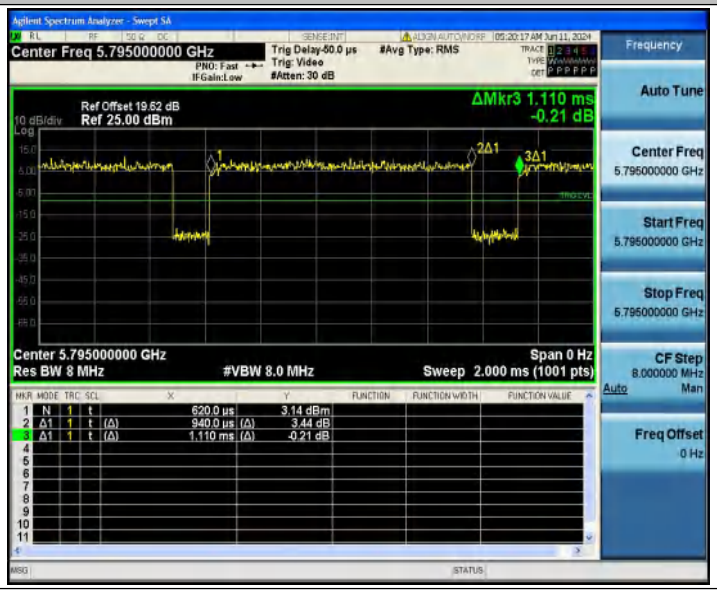
11N20SISO_Ant1_5785


11N20SISO_Ant1_5825


11N40SISO_Ant1_5190


11N40SISO_Ant1_5230


11N40SISO_Ant1_5755


11N40SISO_Ant1_5795


Appendix C: Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Channel	Set Power	Channel Powert [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	---	4.55	89.96	0.46	5.01	≤23.98	PASS
		5200	---	4.42	89.57	0.48	4.90	≤23.98	PASS
		5240	---	5.71	92.41	0.34	6.05	≤23.98	PASS
		5745	---	4.37	93.64	0.29	4.66	≤30.00	PASS
		5785	---	3.30	90.79	0.42	3.72	≤30.00	PASS
		5825	---	3.75	91.19	0.40	4.15	≤30.00	PASS
11N20SISO	Ant1	5180	---	4.53	92.31	0.35	4.88	≤23.98	PASS
		5200	---	4.16	90.95	0.41	4.57	≤23.98	PASS
		5240	---	4.48	89.25	0.49	4.97	≤23.98	PASS
		5745	---	5.70	90.14	0.45	6.15	≤30.00	PASS
		5785	---	4.27	91.43	0.39	4.66	≤30.00	PASS
		5825	---	3.55	94.61	0.24	3.79	≤30.00	PASS
11N40SISO	Ant1	5190	---	4.55	80.34	0.95	5.50	≤23.98	PASS
		5230	---	5.71	81.90	0.87	6.58	≤23.98	PASS
		5755	---	5.22	61.44	1.12	6.34	≤30.00	PASS
		5795	---	3.63	84.68	0.72	4.35	≤30.00	PASS

Test Graphs Channel Power

11A_Ant1_5180

11A_Ant1_5200

11A_Ant1_5240

11A_Ant1_5745

11A_Ant1_5785

11A_Ant1_5825

11N20SISO_Ant1_5180

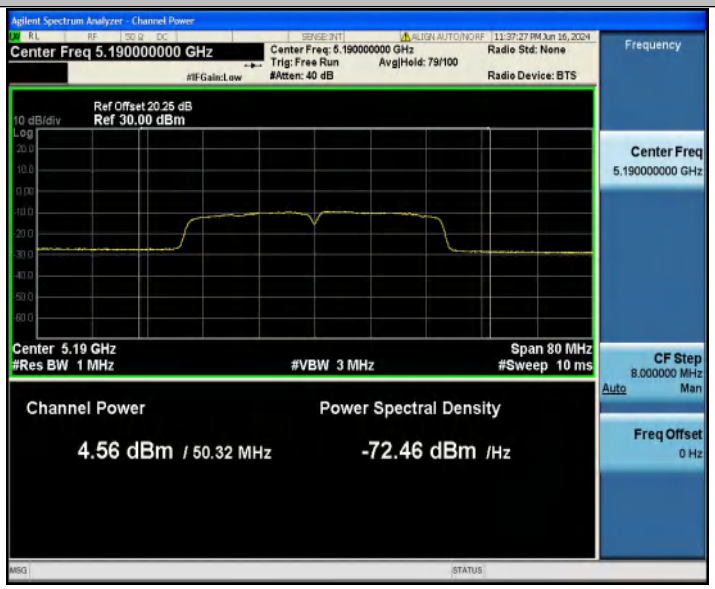
11N20SISO_Ant1_5200

11N20SISO_Ant1_5240

11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

11N40SISO_Ant1_5190


11N40SISO_Ant1_5230

11N40SISO_Ant1_5755

11N40SISO_Ant1_5795

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-6.8	≤11.00	PASS
		5200	-6.97	≤11.00	PASS
		5240	-5.68	≤11.00	PASS
		5745	-6.85	≤30.00	PASS
		5785	-6.41	≤30.00	PASS
		5825	-7.33	≤30.00	PASS
11N20SISO	Ant1	5180	-7	≤11.00	PASS
		5200	-7.5	≤11.00	PASS
		5240	-7.08	≤11.00	PASS
		5745	-6.79	≤30.00	PASS
		5785	-6.57	≤30.00	PASS
		5825	-7.91	≤30.00	PASS
11N40SISO	Ant1	5190	-8.24	≤11.00	PASS
		5230	-8.32	≤11.00	PASS
		5755	-7.64	≤30.00	PASS
		5795	-9.42	≤30.00	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_Ant1_5200

11A_Ant1_5240

11A_Ant1_5745

11A_Ant1_5785

11A_Ant1_5825

11N20SISO_Ant1_5180

11N20SISO_Ant1_5200

11N20SISO_Ant1_5240

11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

11N40SISO_Ant1_5190

11N40SISO_Ant1_5230

11N40SISO_Ant1_5755

11N40SISO_Ant1_5795

Appendix E: Band edge measurements

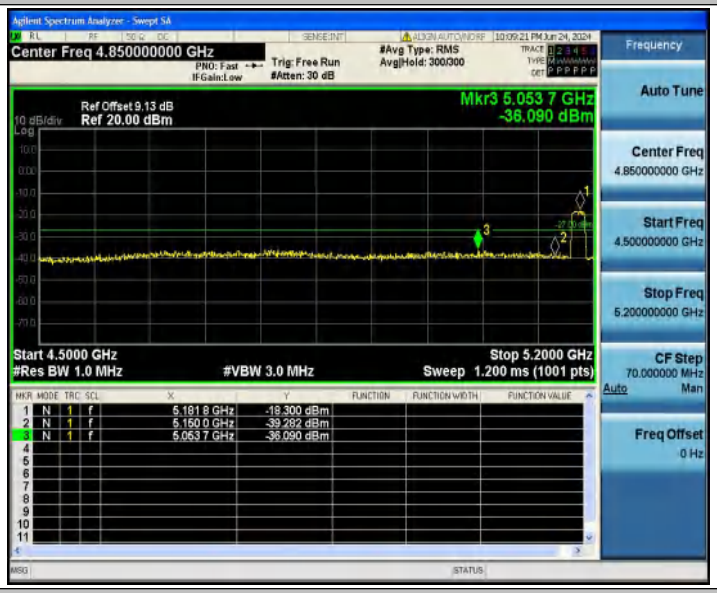
Test Result B1/2/3

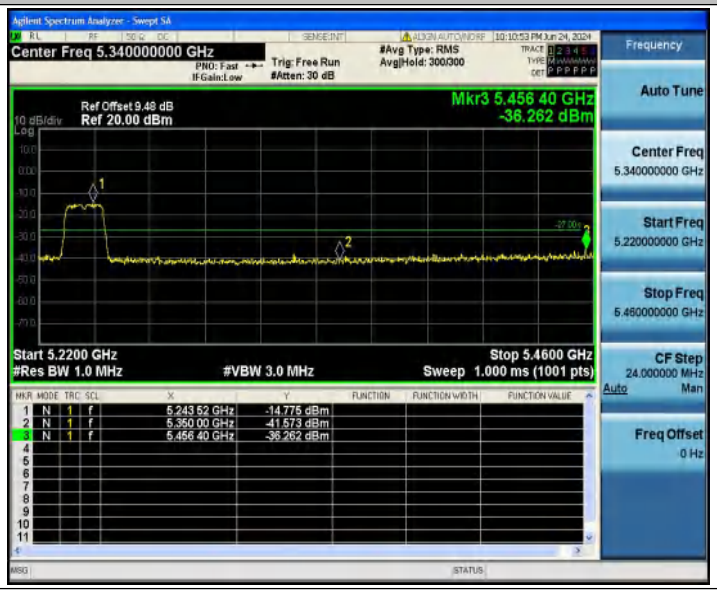
TestMode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-36.09	≤-27	PASS
		High	5240	-36.26	≤-27	PASS
11N20SISO	Ant1	Low	5180	-35.86	≤-27	PASS
		High	5240	-36.81	≤-27	PASS
11N40SISO	Ant1	Low	5190	-35.65	≤-27	PASS
		High	5230	-36.59	≤-27	PASS

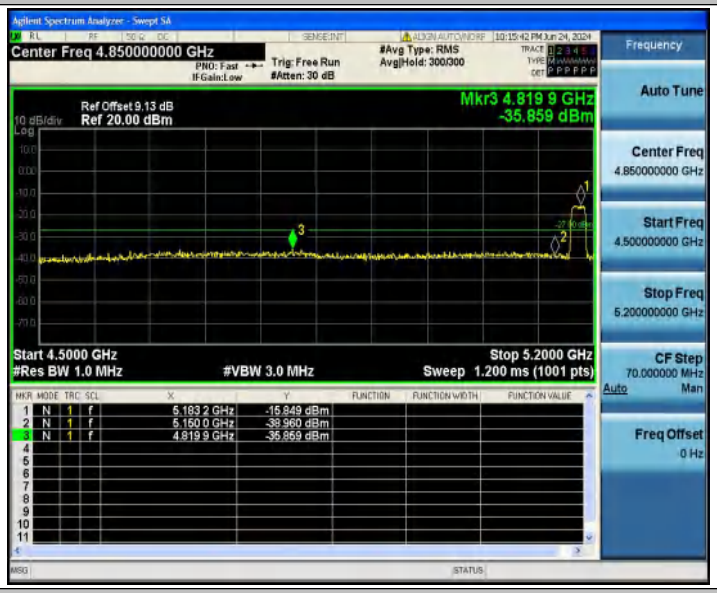
Test Result B4

TestMode	Antenna	ChName	Channel	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5650~5700	-37.7	≤-13.51	PASS
				5700~5720	-38.34	≤13.95	PASS
				5720~5725	-38.83	≤24.21	PASS
				5760~5650	-37.98	≤-27	PASS
		High	5825	5850~5855	-38.64	≤19.18	PASS
				5855~5875	-38.47	≤11.53	PASS
				5875~5925	-37.67	≤-0.68	PASS
				5925~5935	-39.3	≤-27	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-37.54	≤-8.83	PASS
				5700~5720	-38.46	≤13.57	PASS
				5720~5725	-39.16	≤16.08	PASS
				5760~5650	-36.77	≤-27	PASS
		High	5825	5850~5855	-38.56	≤17.33	PASS
				5855~5875	-38.16	≤13.99	PASS
				5875~5925	-37.29	≤-17.17	PASS
				5925~5935	-38.36	≤-27	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-37.04	≤-24.61	PASS
				5700~5720	-38.04	≤10.40	PASS
				5720~5725	-39.13	≤19.12	PASS
				5780~5650	-37.37	≤-27	PASS
		High	5795	5850~5855	-39.42	≤21.68	PASS
				5855~5875	-38.36	≤11.47	PASS
				5875~5925	-38.49	≤-0.92	PASS
				5925~5935	-39.21	≤-27	PASS

Test Graphs B1/2/3

11A_Ant1_Low_5180


11A_Ant1_High_5240


11N20SISO_Ant1_Low_5180


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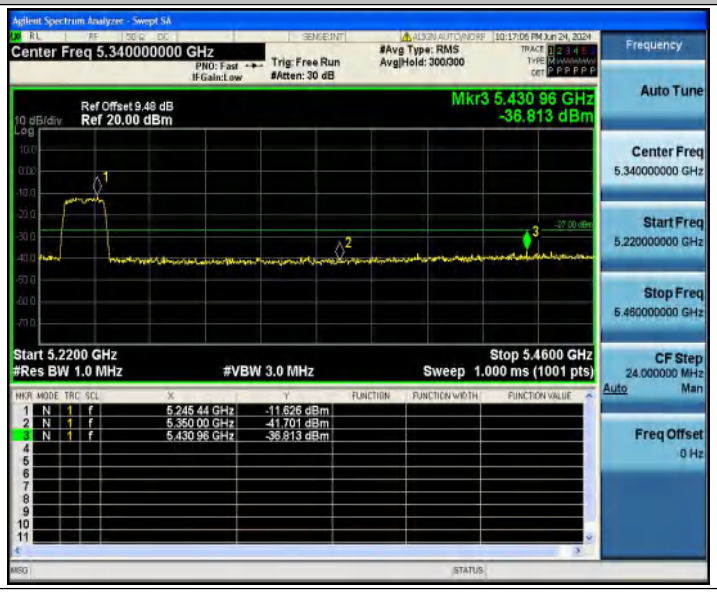

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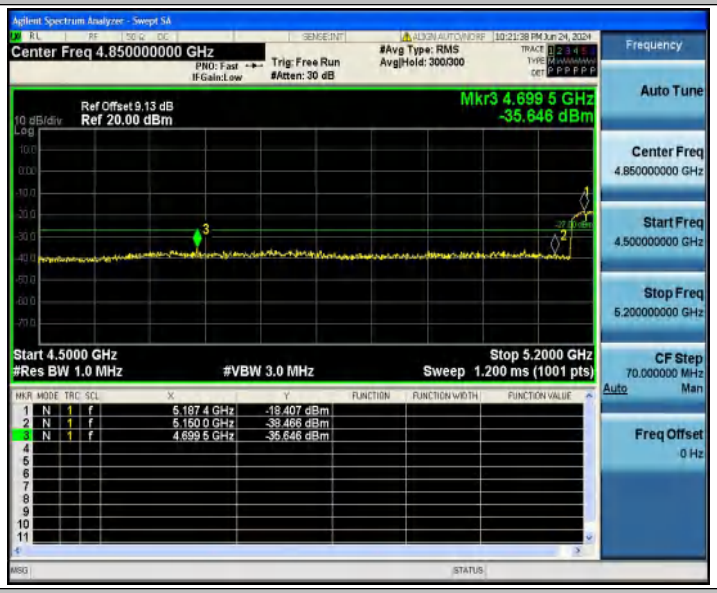
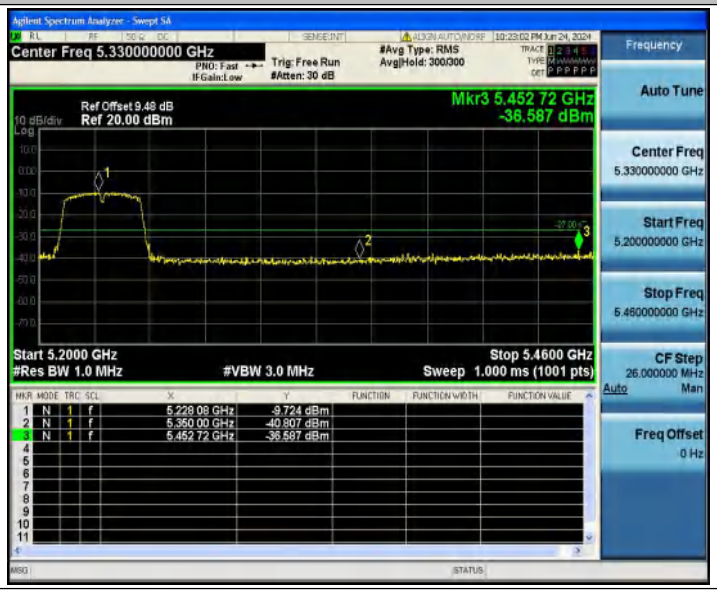


11N40SISO_Ant1_High_5230


Test Graphs B4

11A_Ant1_Low_5745

11A_Ant1_High_5825

11N20SISO_Ant1_Low_5745

11N20SISO_Ant1_High_5825

11N40SISO_Ant1_Low_5755

11N40SISO_Ant1_High_5795

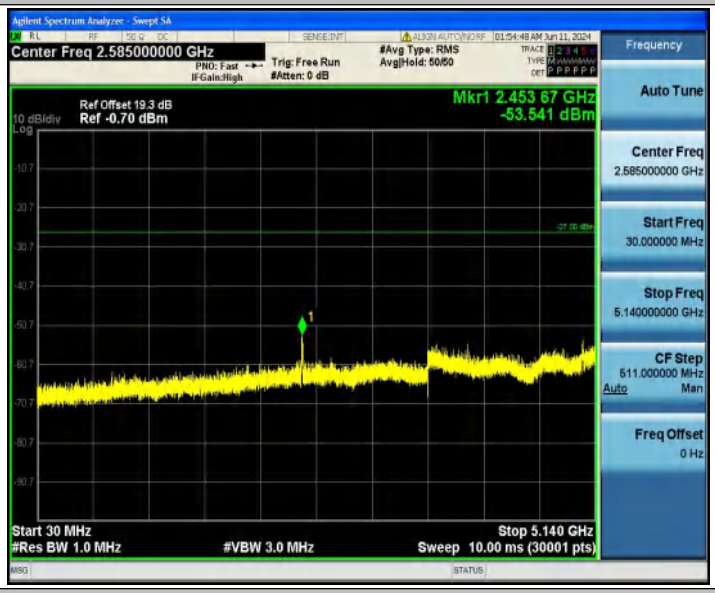
Appendix F: Conducted Spurious Emission

Test Result

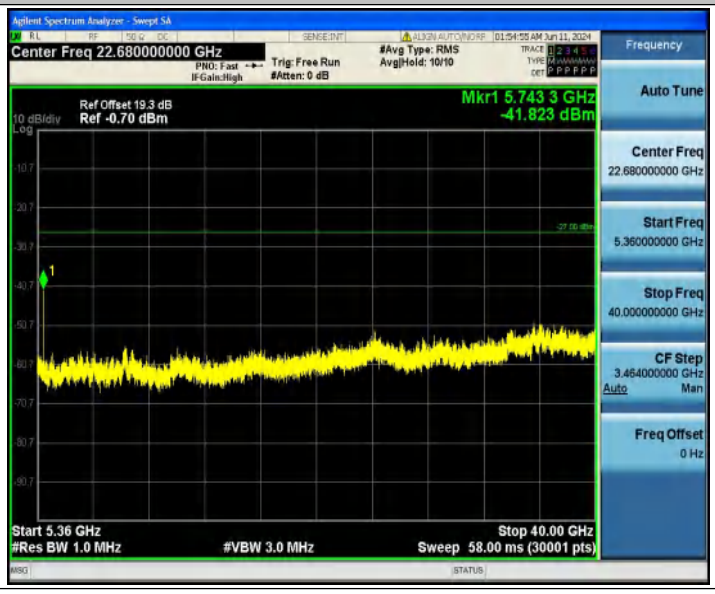
TestMode	Antenna	Channel	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	2453.67	-53.54	≤-27	PASS
			5360~40000	5743.35	-41.82	≤-27	PASS
		5200	30~5140	2450.95	-43.08	≤-27	PASS
			5360~40000	36585.65	-50.42	≤-27	PASS
		5240	30~5140	2448.05	-43.67	≤-27	PASS
			5360~40000	36085.68	-48.99	≤-27	PASS
		5745	30~5650	3653.21	-35.21	≤-27	PASS
			5925~40000	36230.17	-29.13	≤-27	PASS
		5785	30~5650	3702.11	-34.23	≤-27	PASS
			5925~40000	36176.79	-29.02	≤-27	PASS
		5825	30~5650	3826.68	-35.02	≤-27	PASS
			5925~40000	37007.08	-29.03	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	2446.69	-44.14	≤-27	PASS
			5360~40000	36622.6	-49.09	≤-27	PASS
		5200	30~5140	2456.57	-44.17	≤-27	PASS
			5360~40000	36978.24	-49.98	≤-27	PASS
		5240	30~5140	3642.94	-54.71	≤-27	PASS
			5360~40000	36142.26	-49.27	≤-27	PASS
		5745	30~5650	3683.19	-34.65	≤-27	PASS
			5925~40000	36610.67	-29.6	≤-27	PASS
		5785	30~5650	4688.23	-34.99	≤-27	PASS
			5925~40000	36591.36	-29.94	≤-27	PASS
		5825	30~5650	3637.48	-35.28	≤-27	PASS
			5925~40000	36562.97	-29.04	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	2456.74	-44.68	≤-27	PASS
			5360~40000	38612.09	-50.3	≤-27	PASS
		5230	30~5140	2454.52	-43.5	≤-27	PASS
			5360~40000	37032.51	-49.13	≤-27	PASS
		5755	30~5650	3722.9	-35.34	≤-27	PASS
			5925~40000	36173.38	-28.54	≤-27	PASS
		5795	30~5650	3625.3	-35.16	≤-27	PASS
			5925~40000	36540.25	-28.79	≤-27	PASS

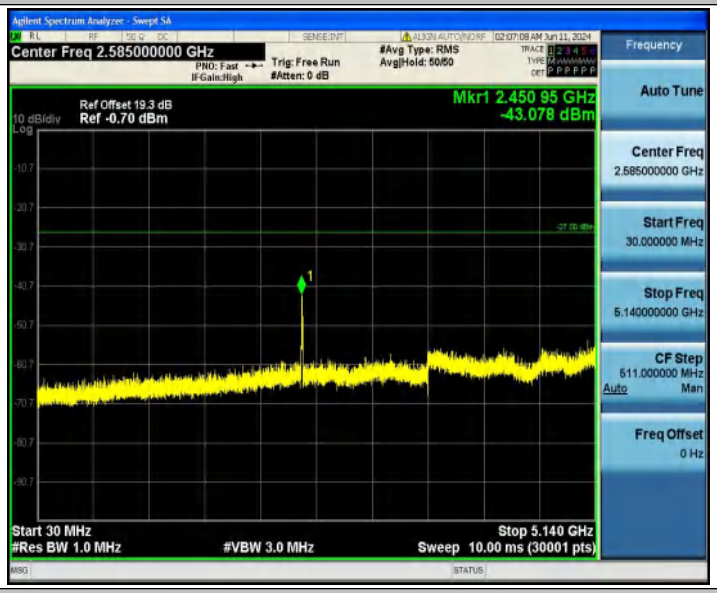
Test Graphs

11A_Ant1_5180_30~5140



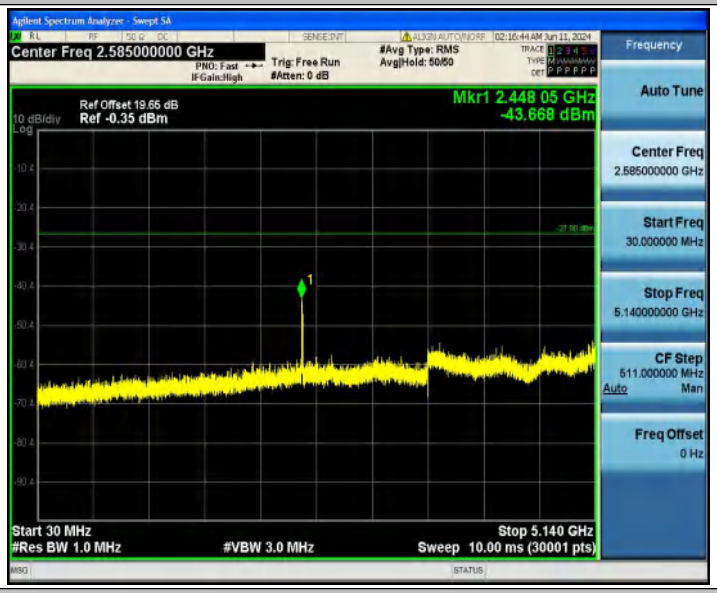
11A_Ant1_5180_5360~40000



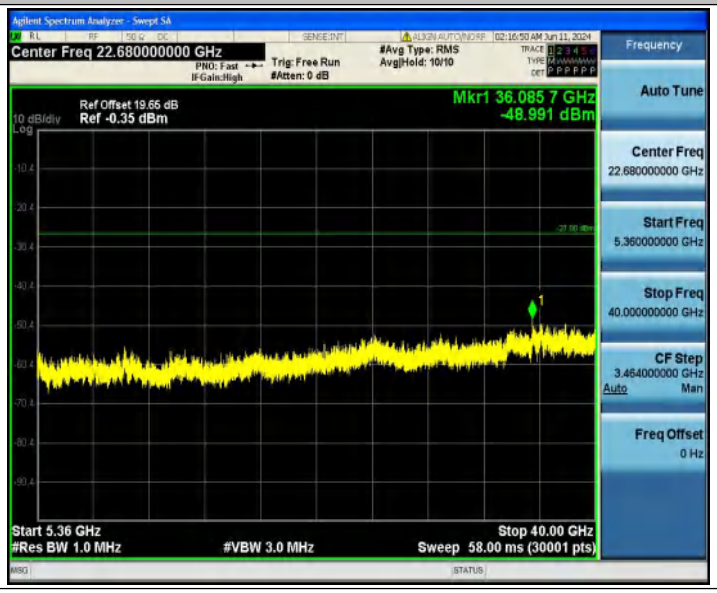
11A_Ant1_5200_30~5140


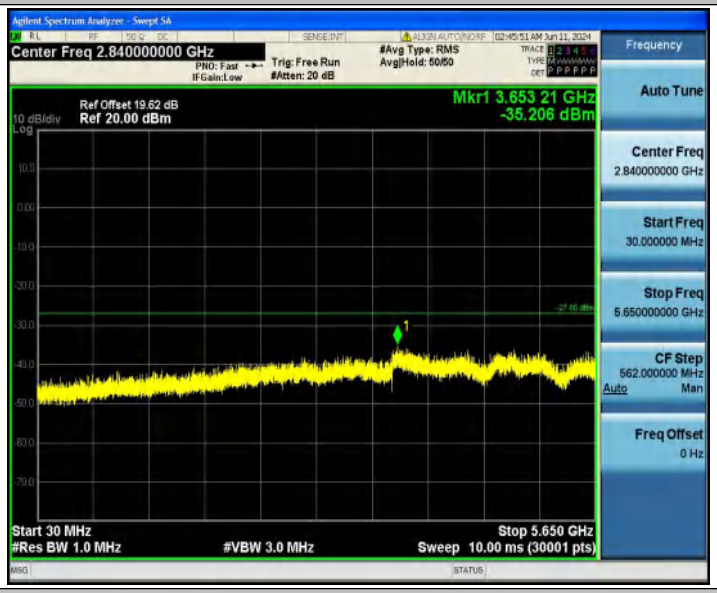
11A_Ant1_5200_5360~40000

11A_Ant1_5240_30~5140



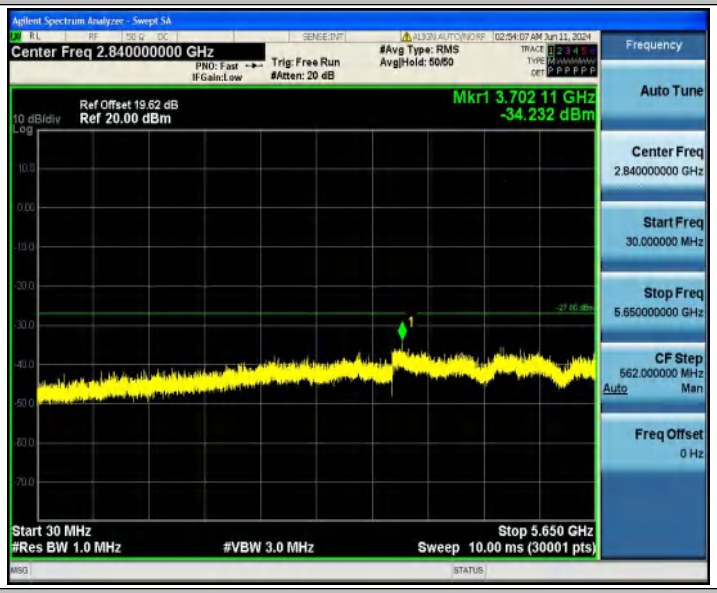
11A_Ant1_5240_5360~40000



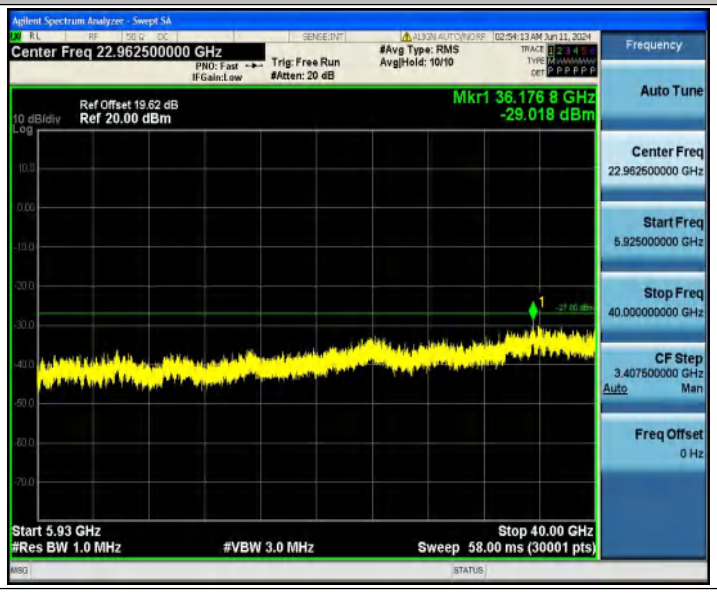
11A_Ant1_5745_30~5650


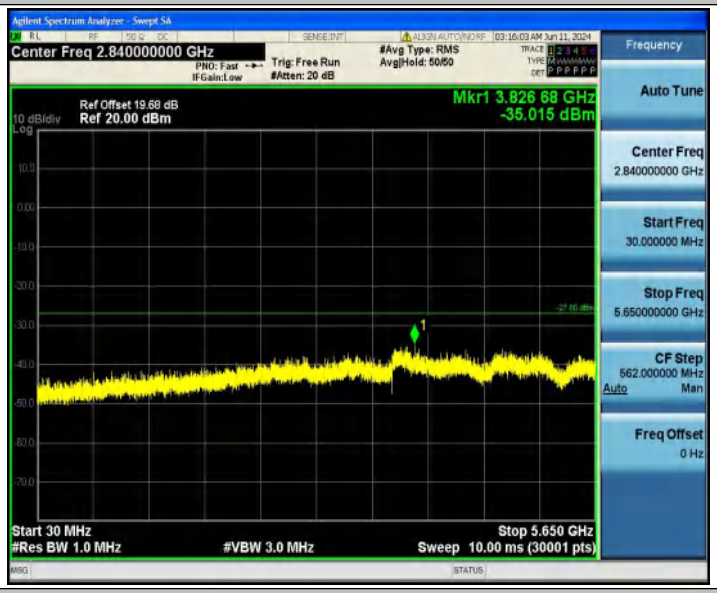
11A_Ant1_5745_5925~40000

11A_Ant1_5785_30~5650



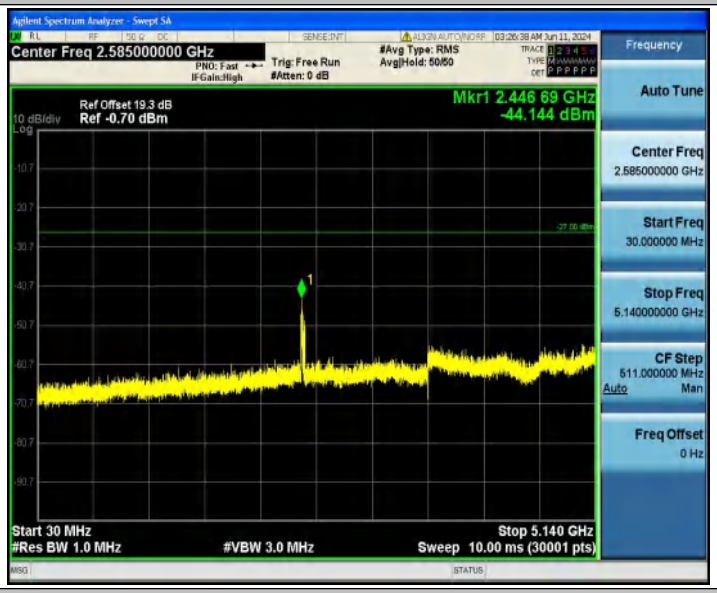
11A_Ant1_5785_5925~40000



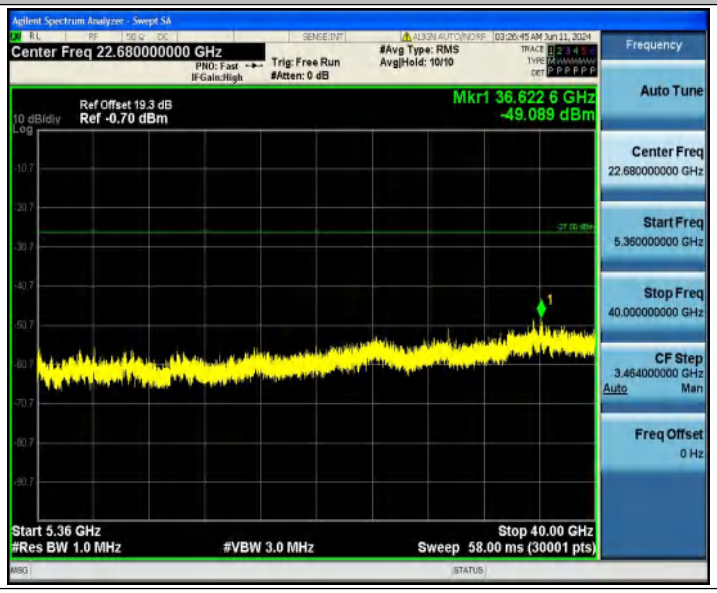
11A_Ant1_5825_30~5650


11A_Ant1_5825_5925~40000

11N20SISO_Ant1_5180_30~5140



11N20SISO_Ant1_5180_5360~40000



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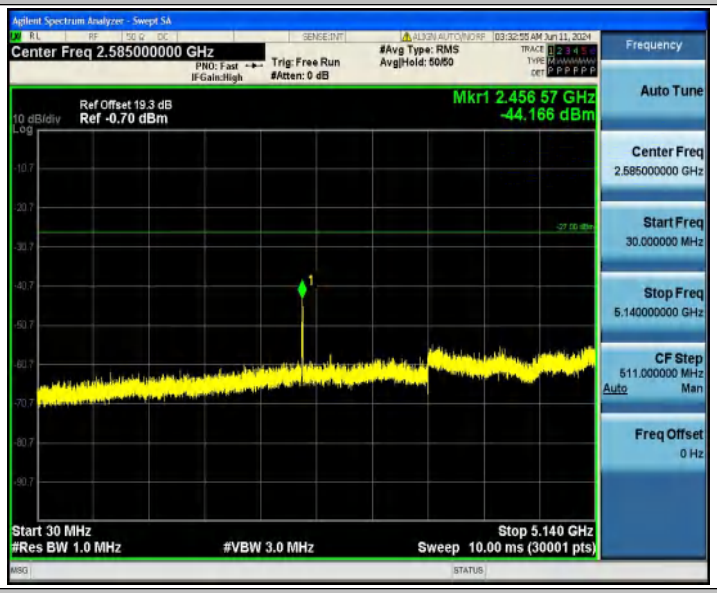
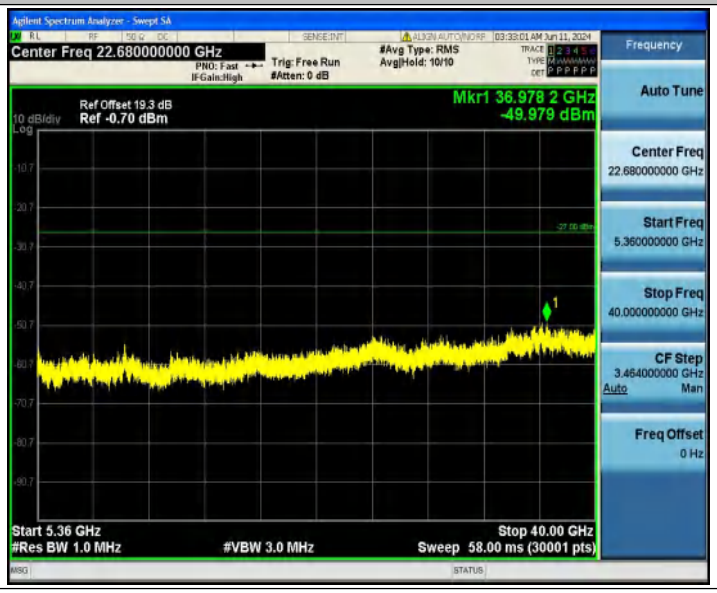
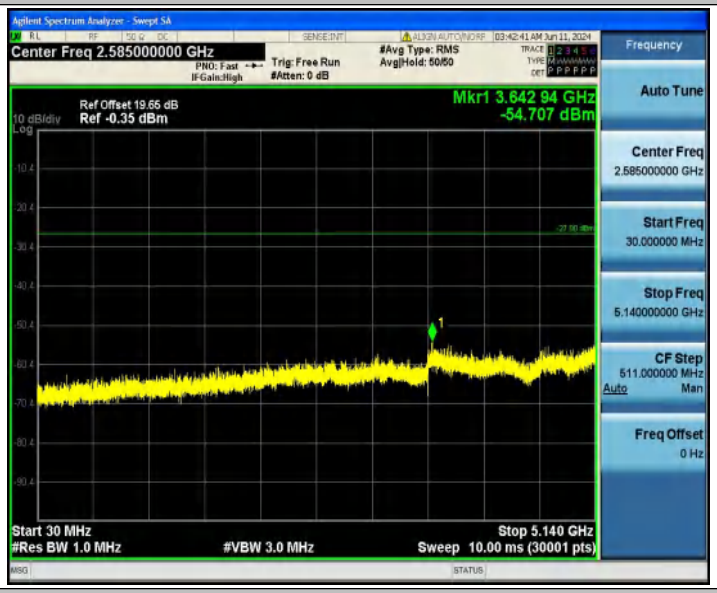


11N20SISO_Ant1_5200_5360~40000


11N20SISO_Ant1_5240_30~5140


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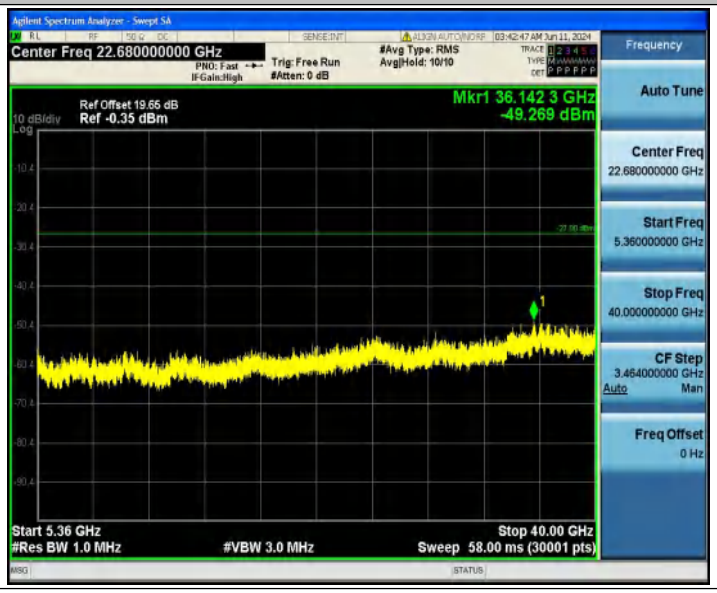

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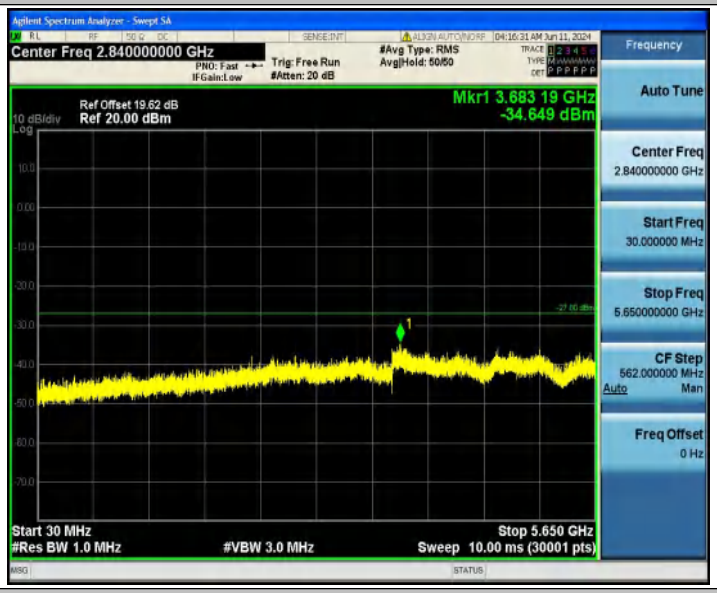

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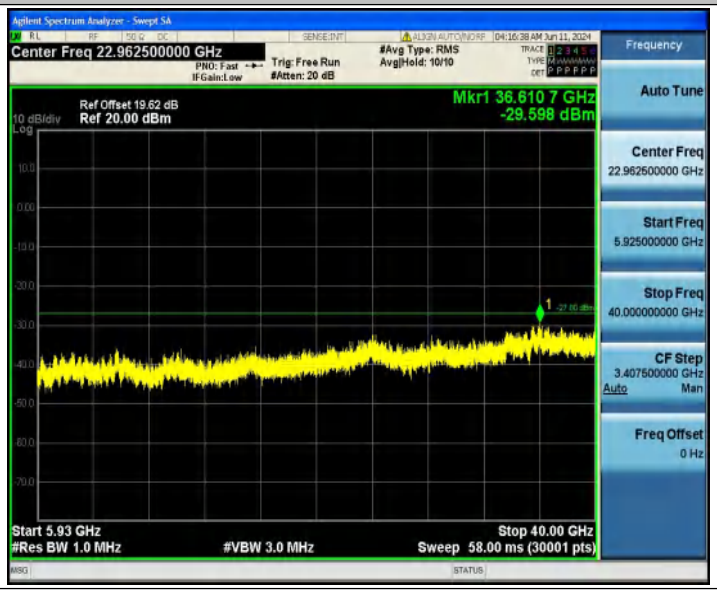

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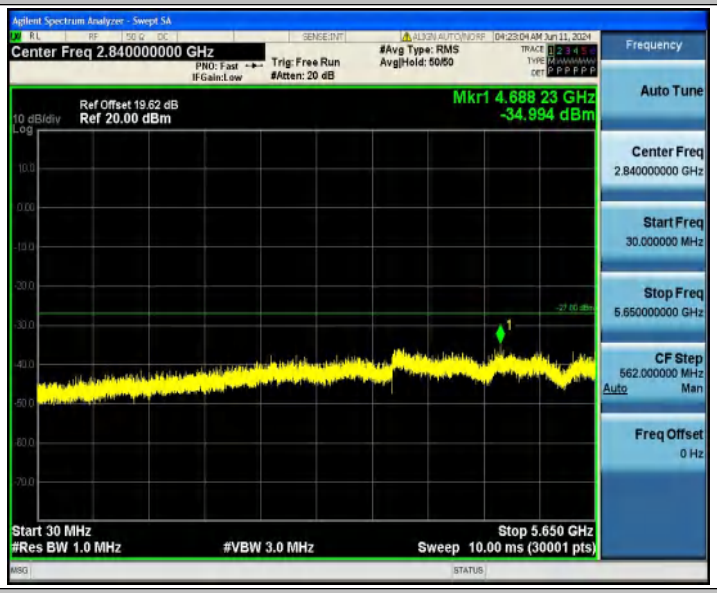
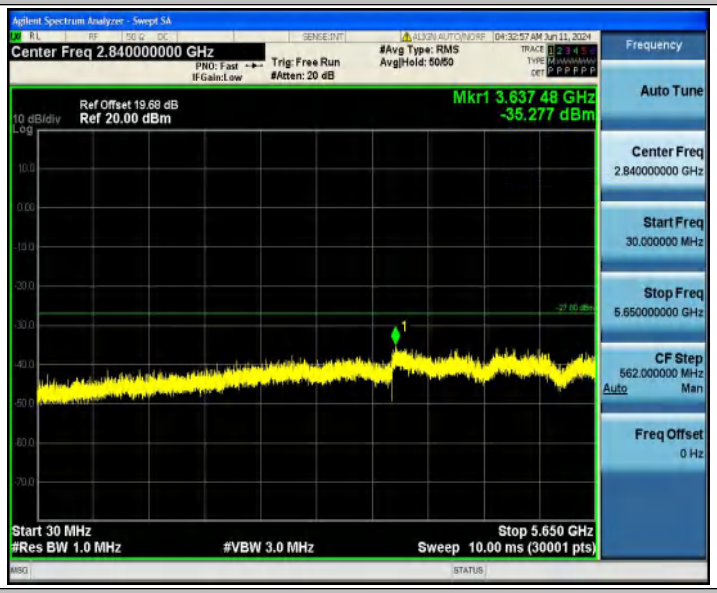


11N20SISO_Ant1_5785_5925~40000

11N20SISO_Ant1_5825_30~5650


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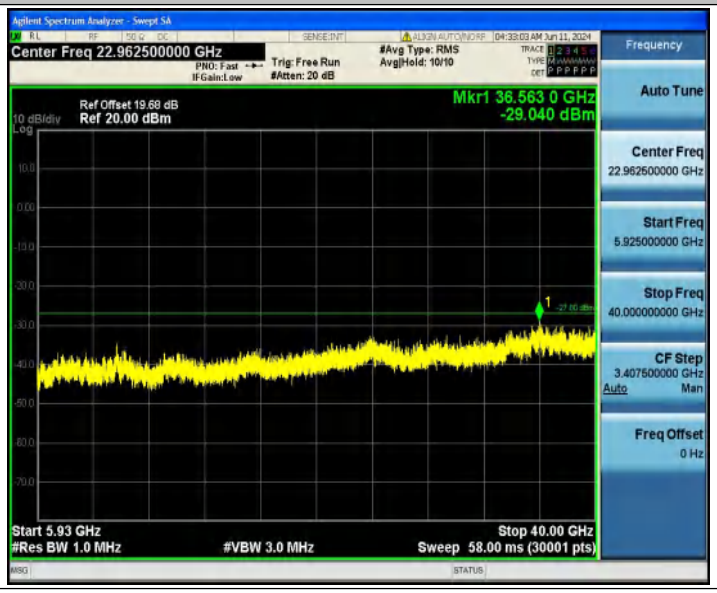

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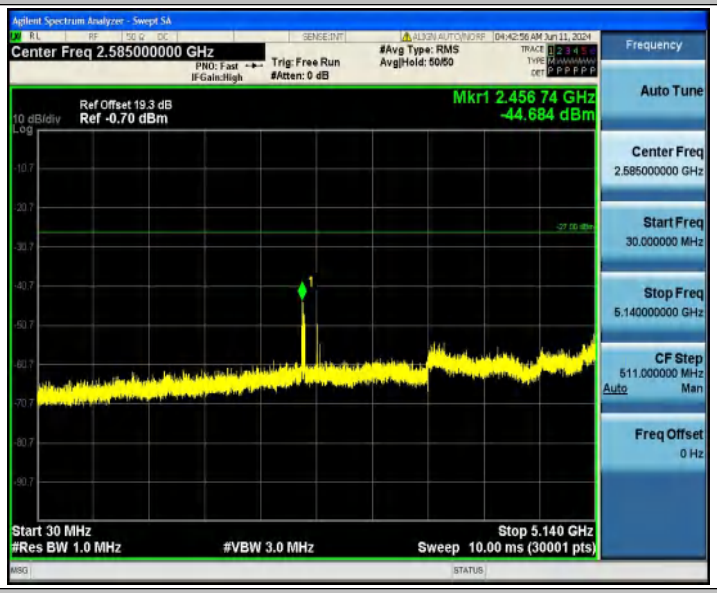
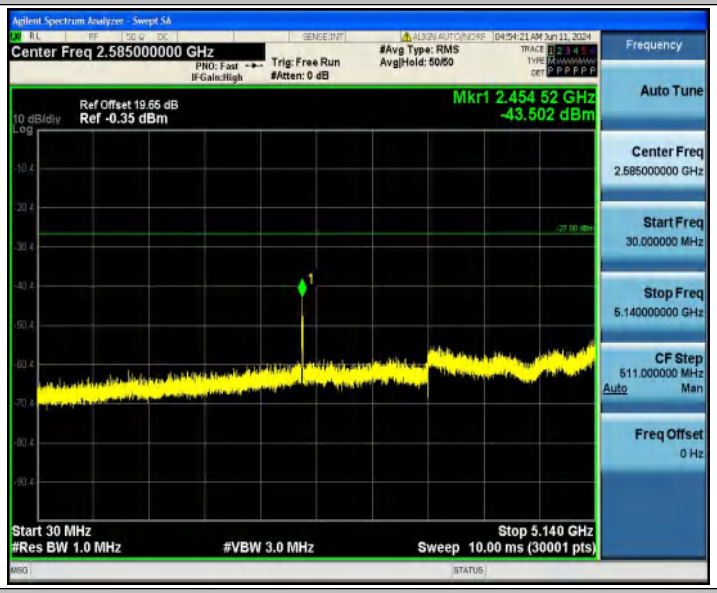


11N40SISO_Ant1_5190_5360~40000

11N40SISO_Ant1_5230_30~5140


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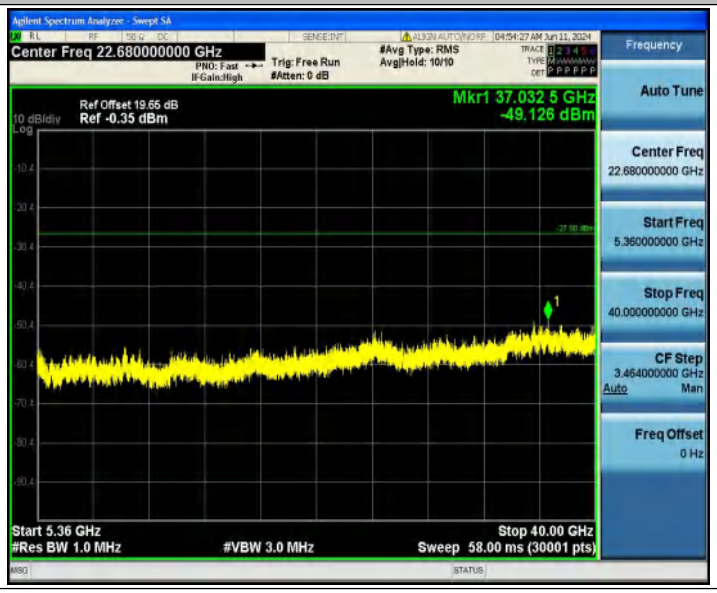

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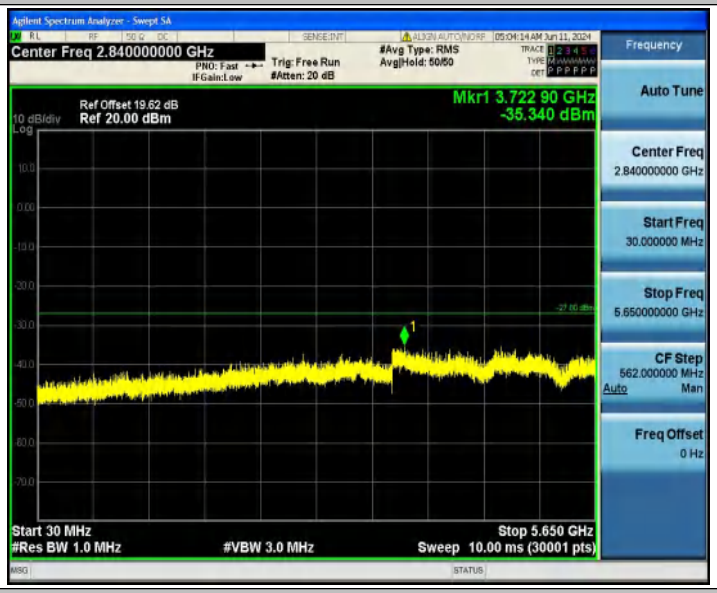
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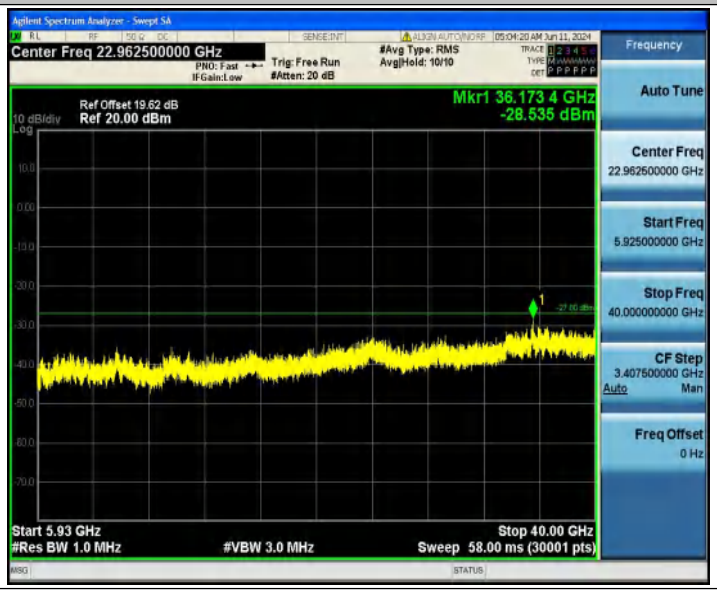
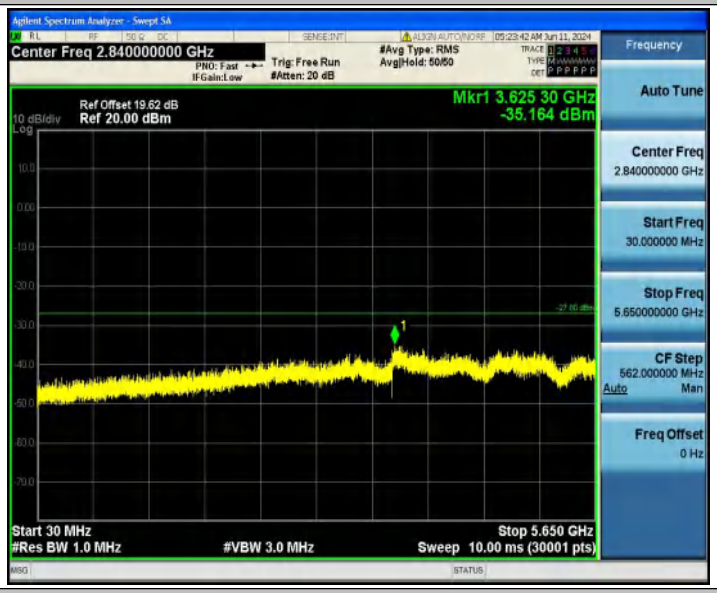


11N40SISO_Ant1_5795_30~5650


11N40SISO_Ant1_5795_5925~40000