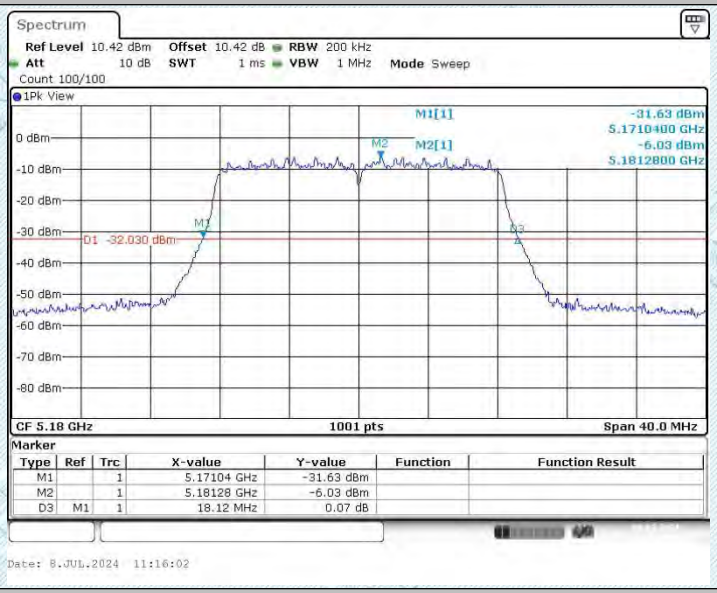
Appendix A1: Emission Bandwidth

Test Result

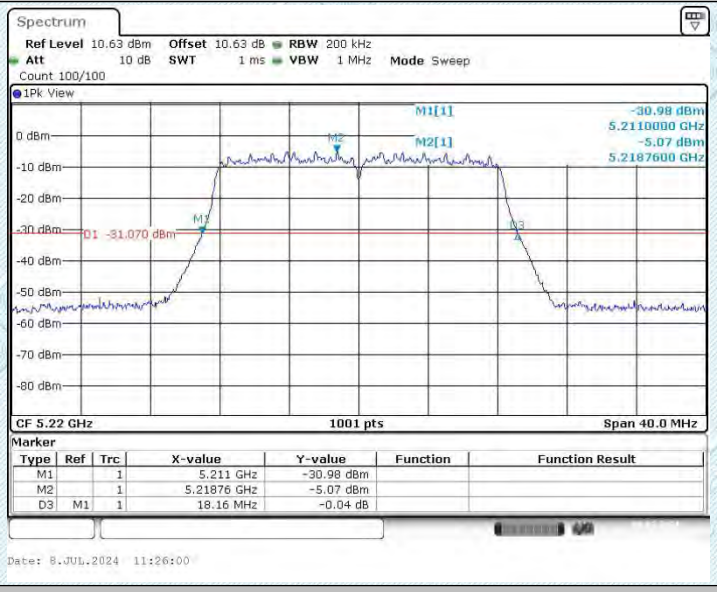
TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.12	5171.04	5189.16	---	PASS
		5220	18.16	5211.00	5229.16	---	PASS
		5240	18.16	5231.00	5249.16	---	PASS
11N20SISO	Ant1	5180	19.12	5170.40	5189.52	---	PASS
		5220	19.12	5210.36	5229.48	---	PASS
		5240	19.12	5230.40	5249.52	---	PASS
11N40SISO	Ant1	5190	39.04	5170.56	5209.60	---	PASS
		5230	39.04	5210.56	5249.60	---	PASS
11AC20SISO	Ant1	5180	19.16	5170.36	5189.52	---	PASS
		5220	19.16	5210.32	5229.48	---	PASS
		5240	19.16	5230.36	5249.52	---	PASS
11AC40SISO	Ant1	5190	39.04	5170.64	5209.68	---	PASS
		5230	39.04	5210.64	5249.68	---	PASS
11AC80SISO	Ant1	5210	87.68	5166.64	5254.32	---	PASS

Test Graphs

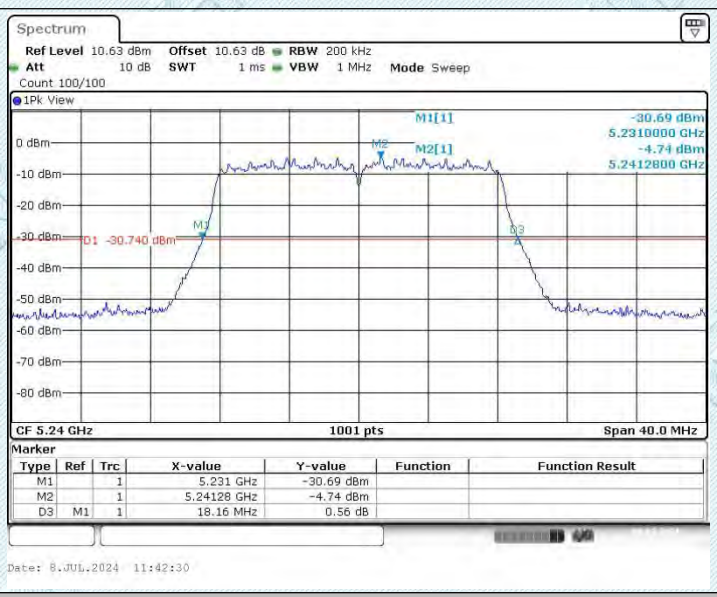
11A_Ant1_5180



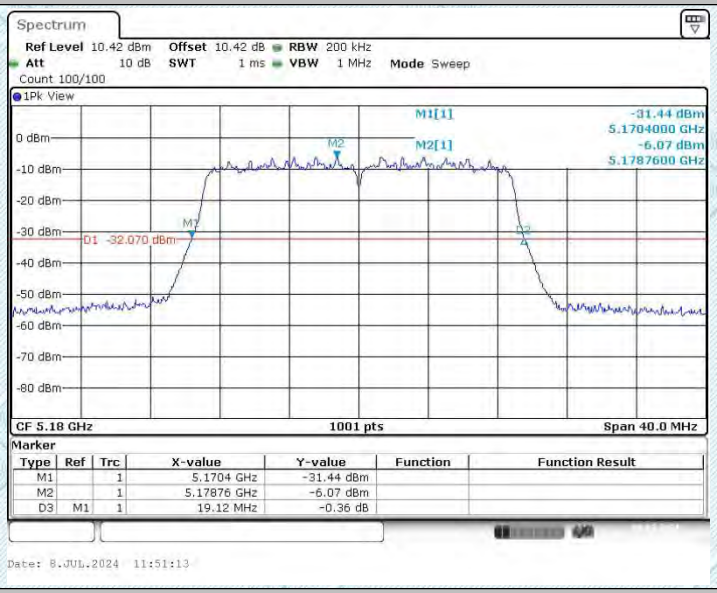
11A_Ant1_5220



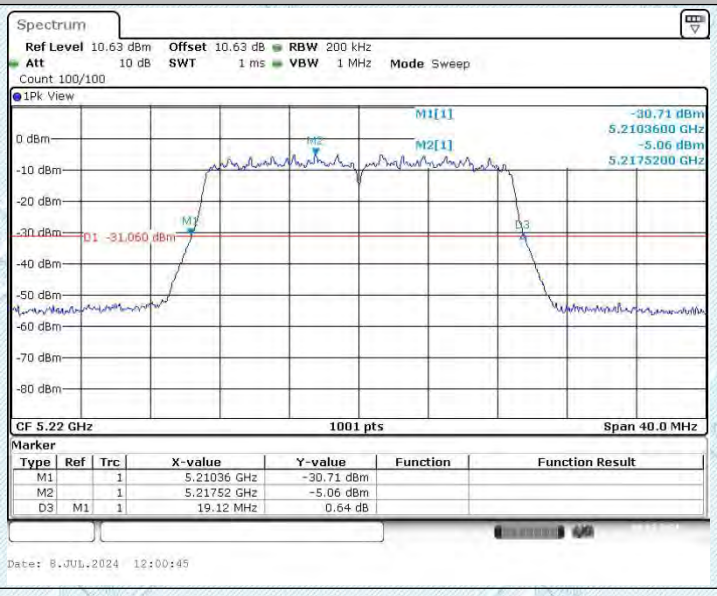
11A_Ant1_5240



11N20SISO_Ant1_5180



11N20SISO_Ant1_5220



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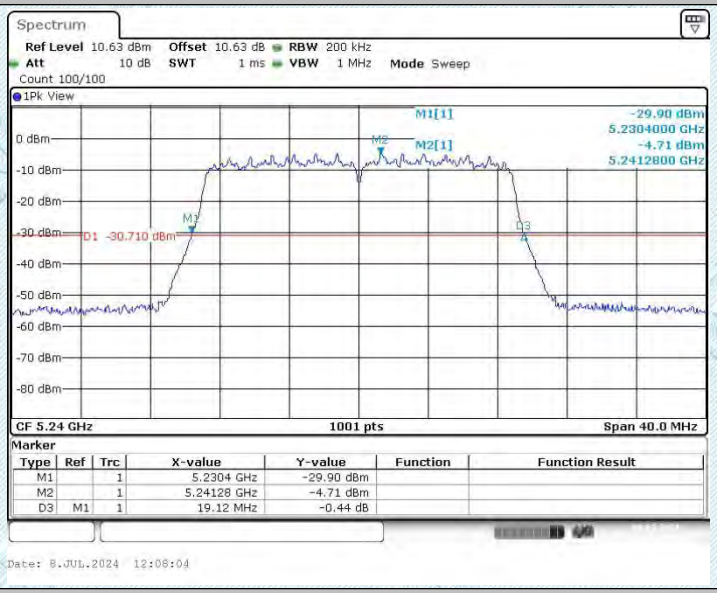
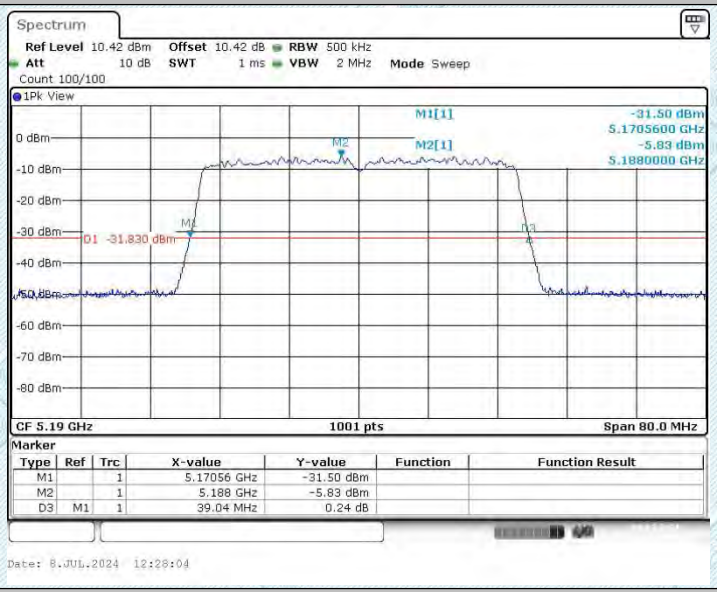
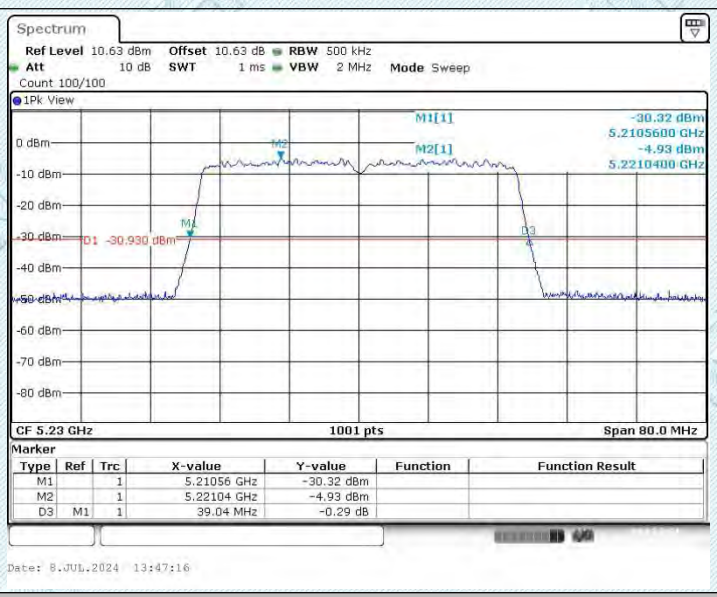


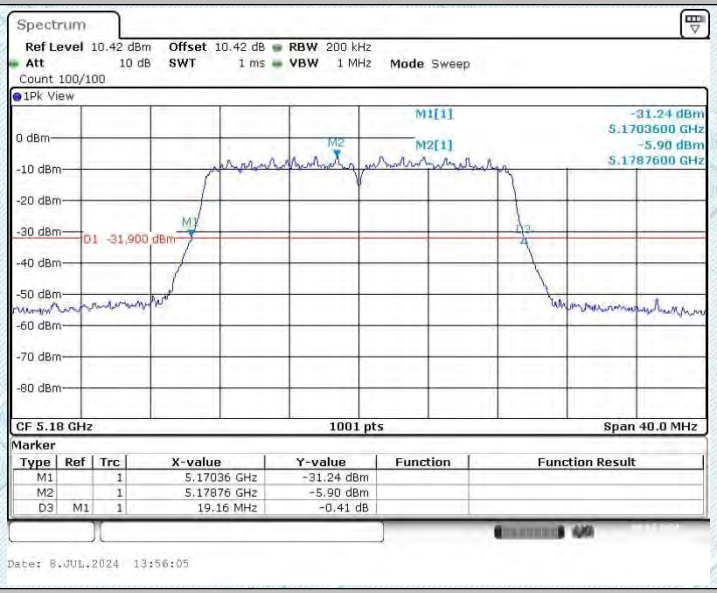
11N40SISO_Ant1_5190



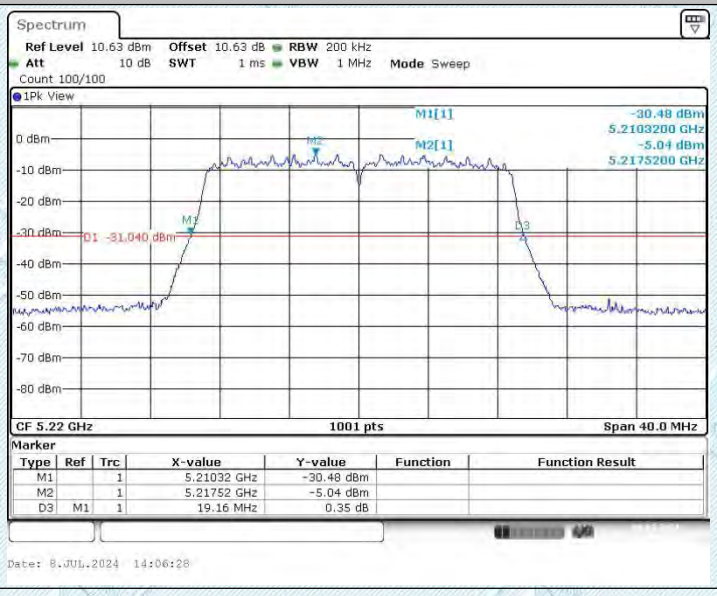
11N40SISO_Ant1_5230



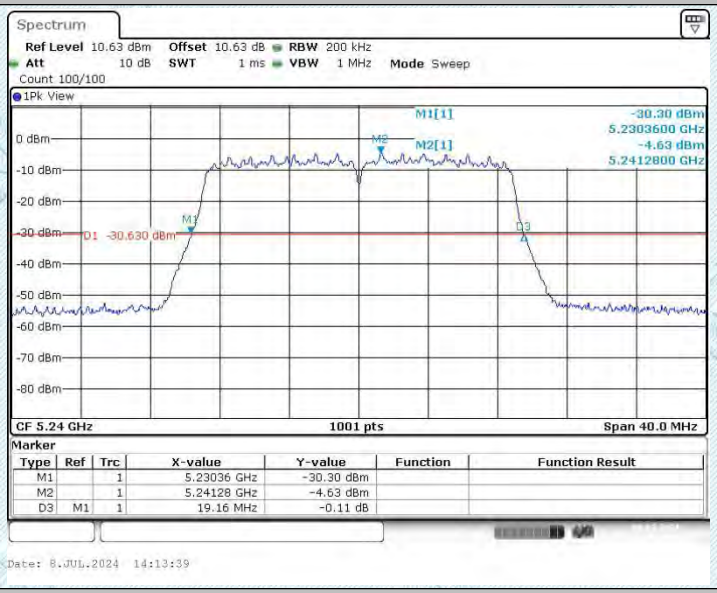
11AC20SISO_Ant1_5180



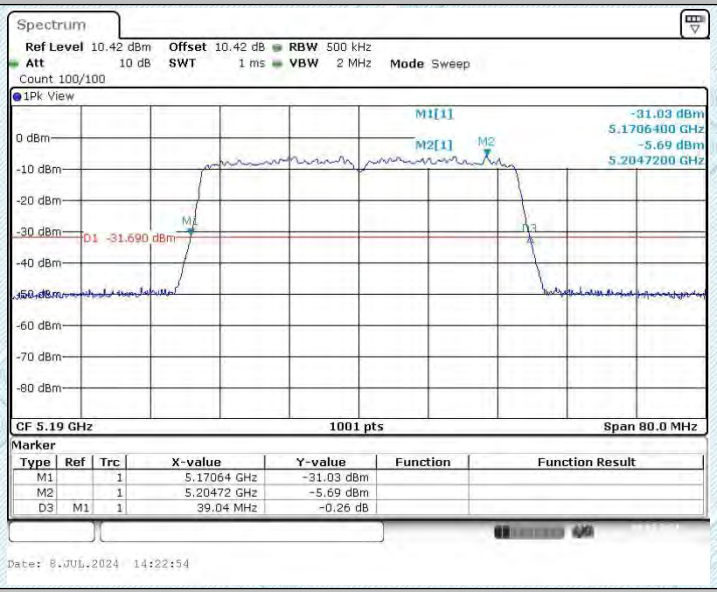
11AC20SISO_Ant1_5220



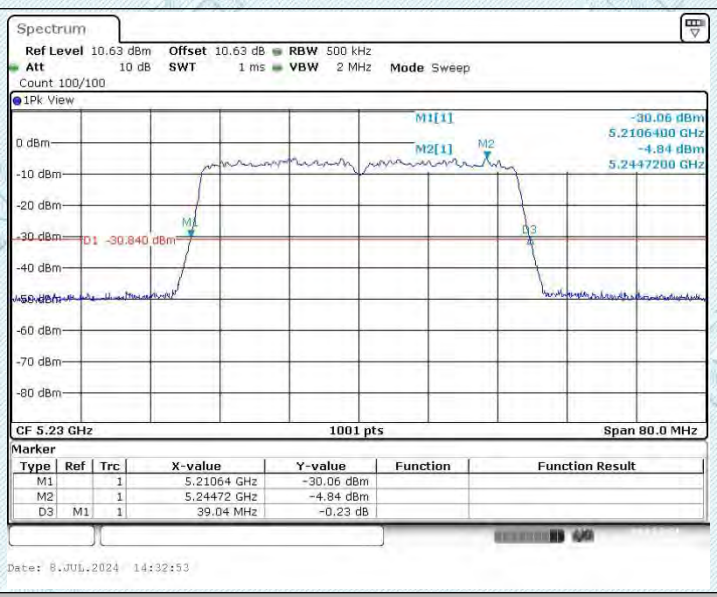
11AC20SISO_Ant1_5240



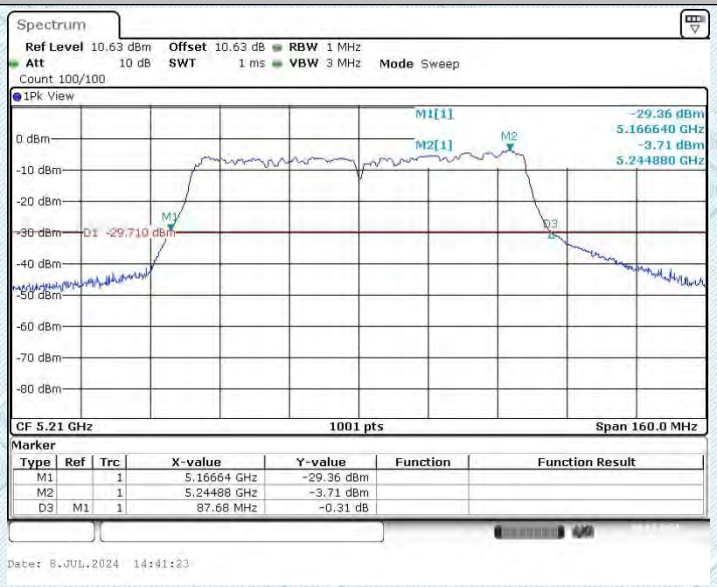
11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210



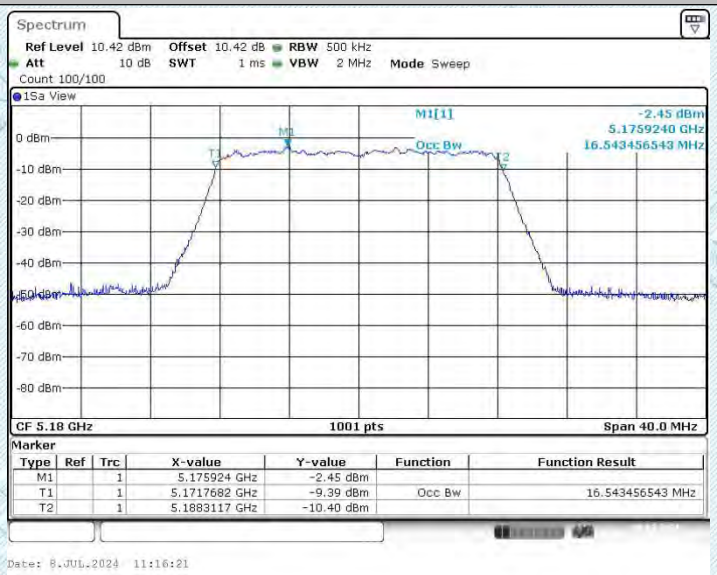
Appendix A2: Occupied channel bandwidth

Test Result

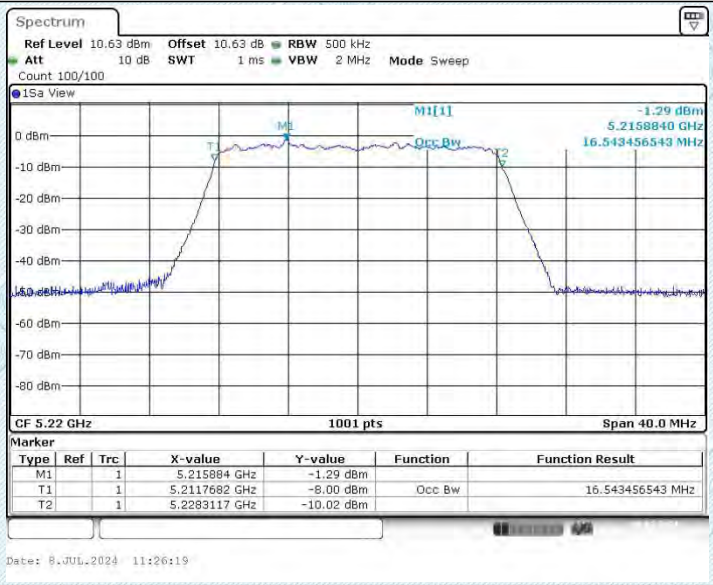
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.543	5171.768	5188.312	---	PASS
		5220	16.543	5211.768	5228.312	---	PASS
		5240	16.543	5231.768	5248.312	---	PASS
11N20SISO	Ant1	5180	17.702	5171.129	5188.831	---	PASS
		5220	17.662	5211.129	5228.791	---	PASS
		5240	17.662	5231.169	5248.831	---	PASS
11N40SISO	Ant1	5190	36.044	5172.018	5208.062	---	PASS
		5230	36.044	5212.018	5248.062	---	PASS
11AC20SISO	Ant1	5180	17.702	5171.129	5188.831	---	PASS
		5220	17.702	5211.089	5228.791	---	PASS
		5240	17.702	5231.129	5248.831	---	PASS
11AC40SISO	Ant1	5190	36.044	5172.018	5208.062	---	PASS
		5230	36.204	5211.938	5248.142	---	PASS
11AC80SISO	Ant1	5210	77.363	5171.638	5249.001	---	PASS

Test Graphs

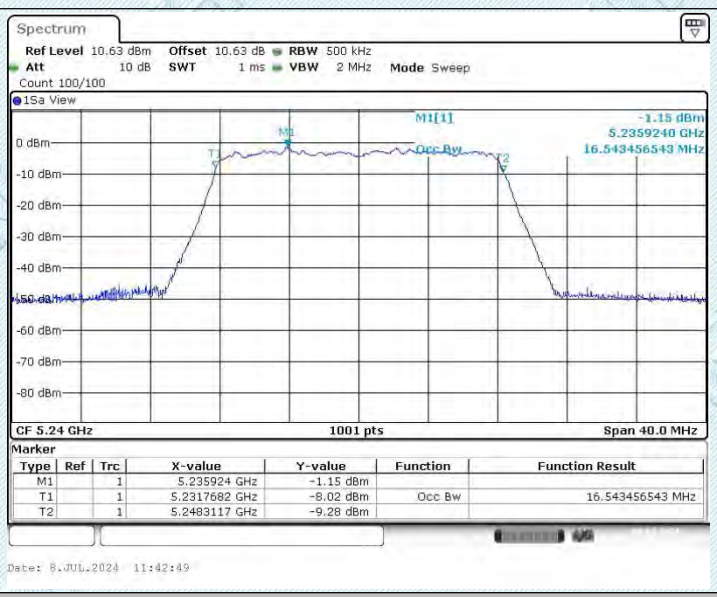
11A_Ant1_5180



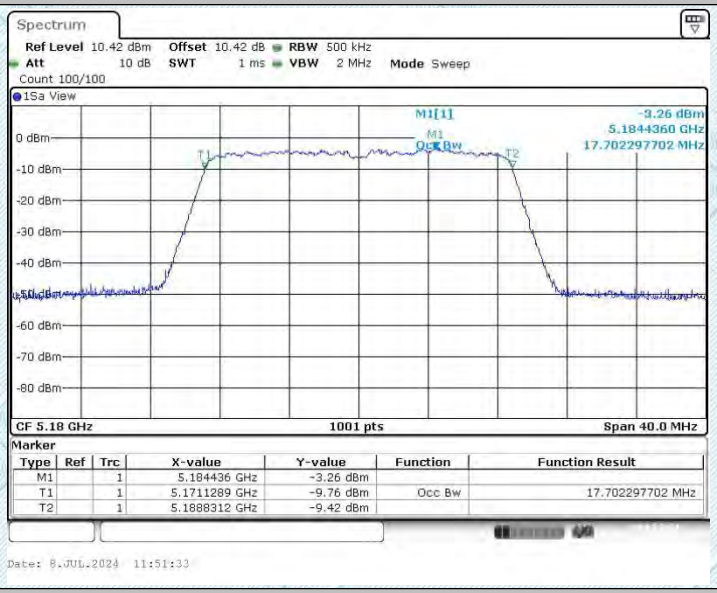
11A_Ant1_5220



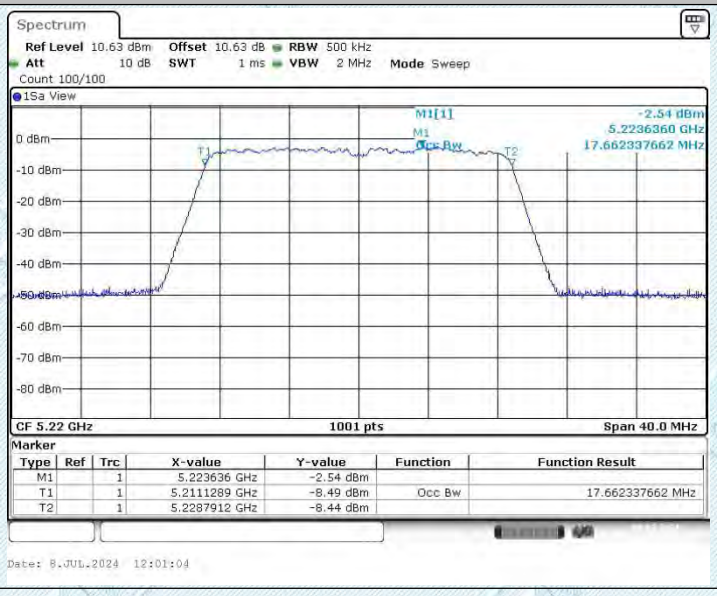
11A_Ant1_5240



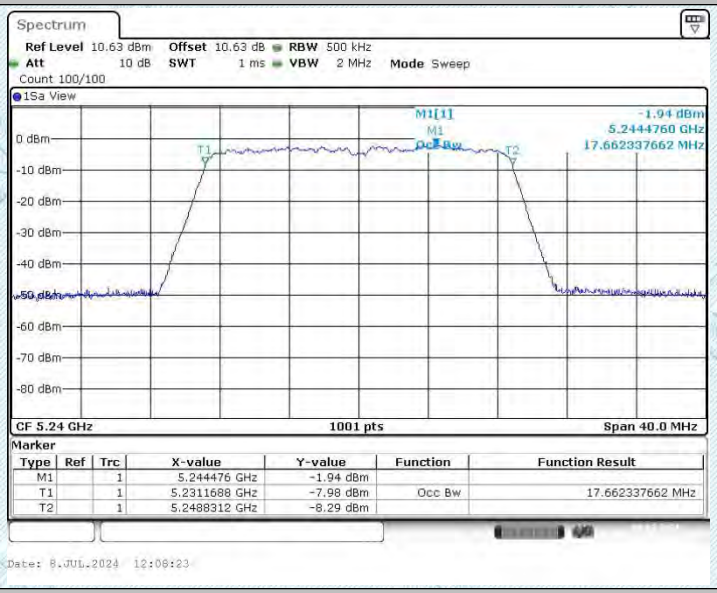
11N20SISO_Ant1_5180



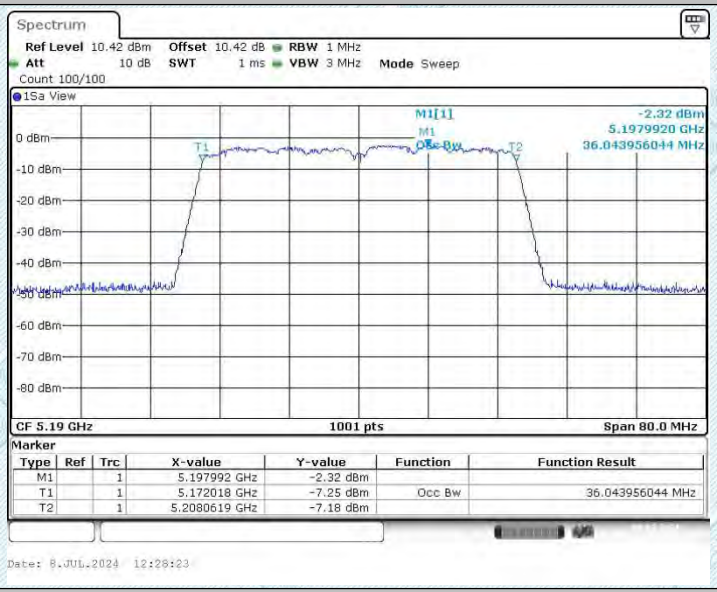
11N20SISO_Ant1_5220



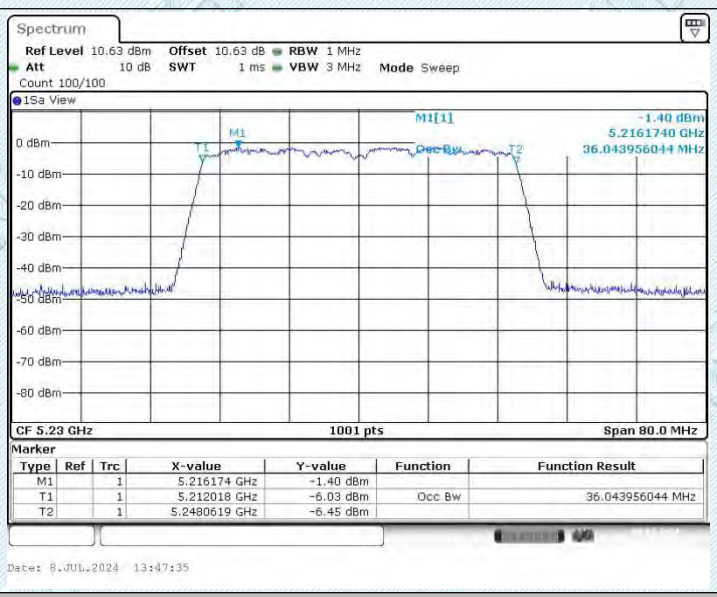
11N20SISO_Ant1_5240



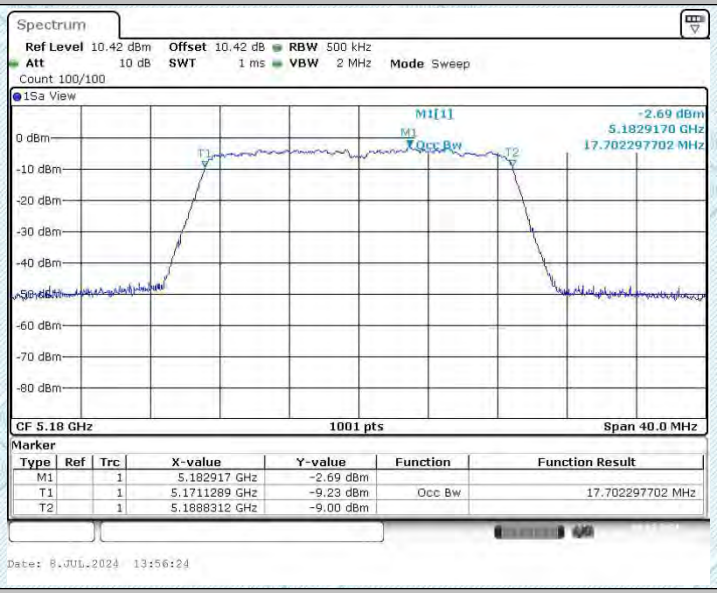
11N40SISO_Ant1_5190



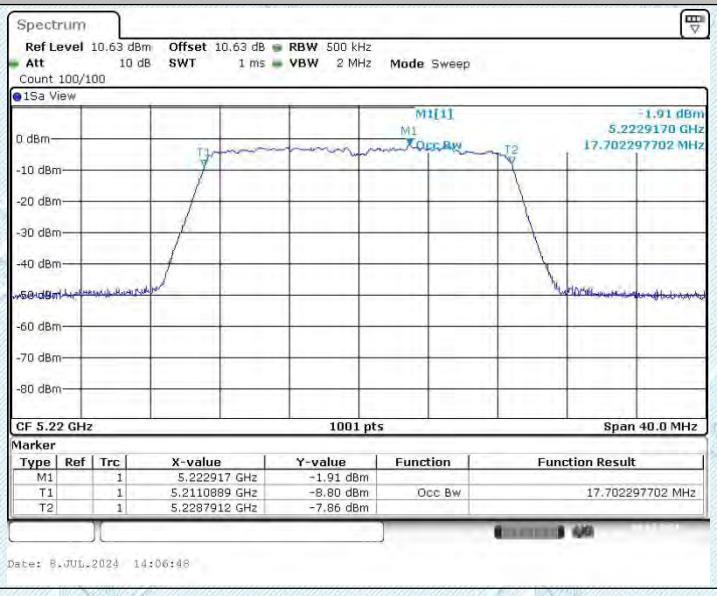
11N40SISO_Ant1_5230



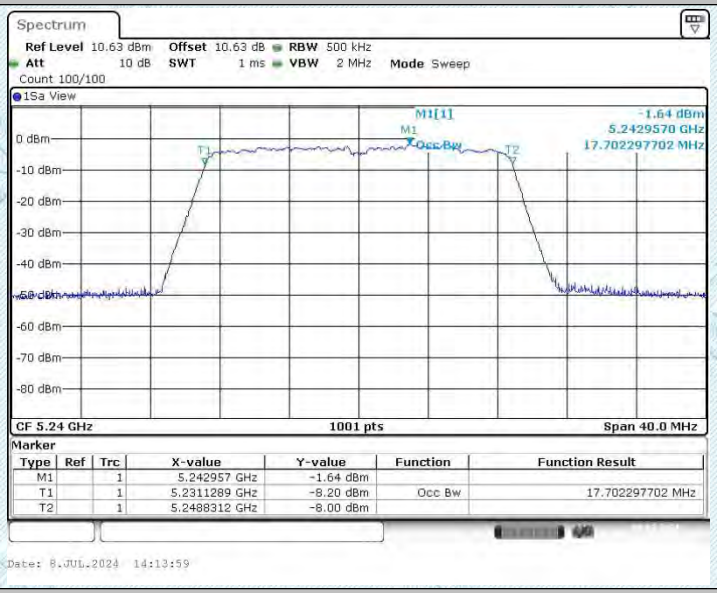
11AC20SISO_Ant1_5180



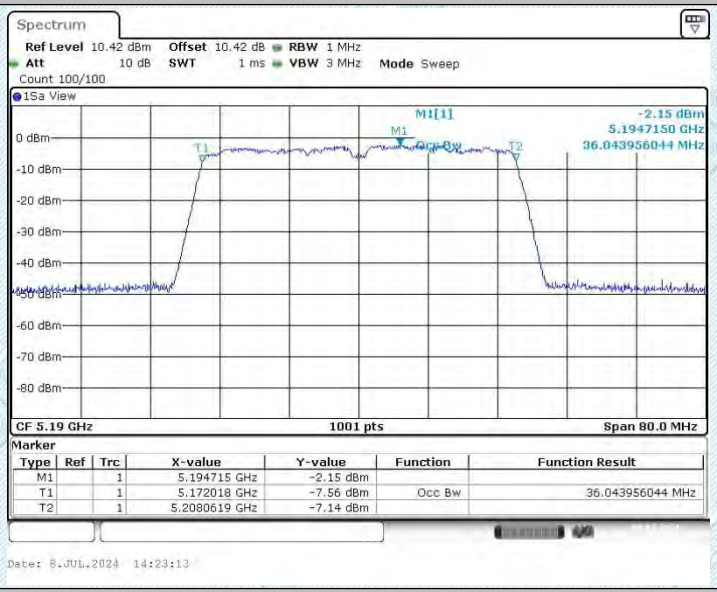
11AC20SISO_Ant1_5220



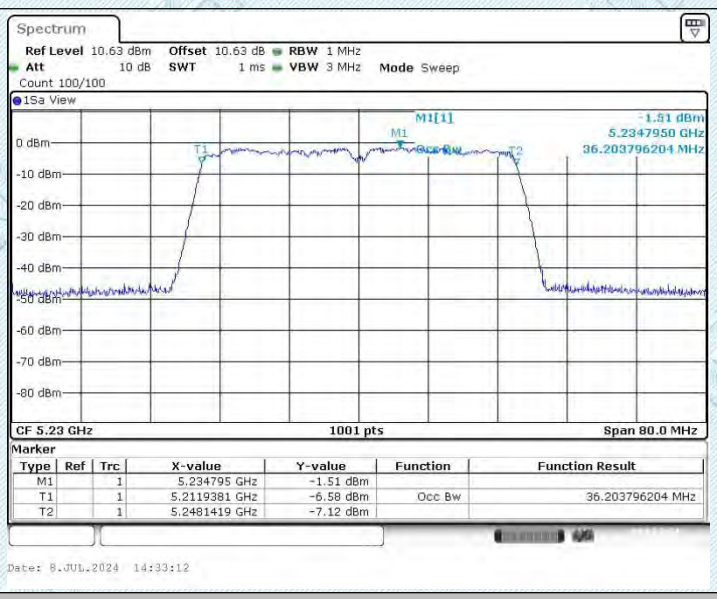
11AC20SISO_Ant1_5240



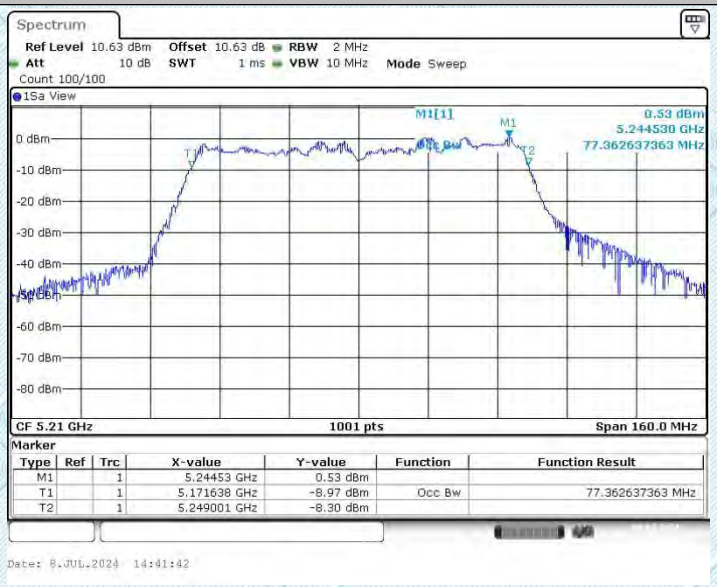
11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210



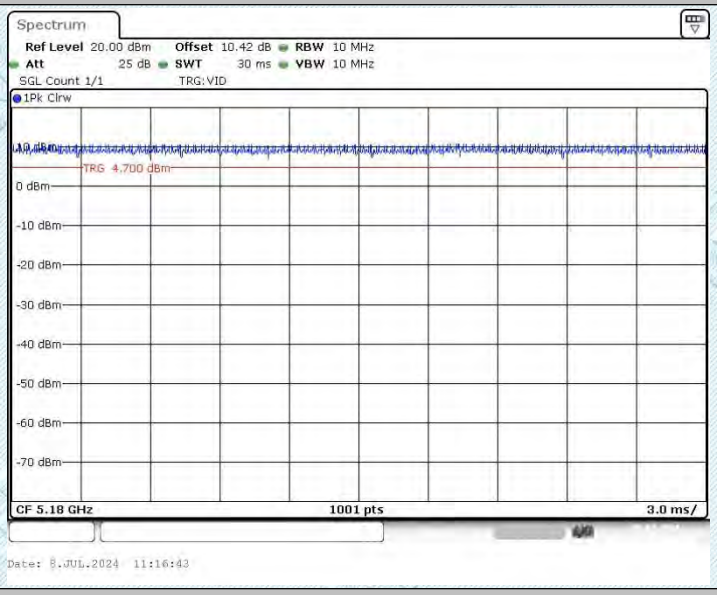
Appendix B: Duty Cycle

Test Result

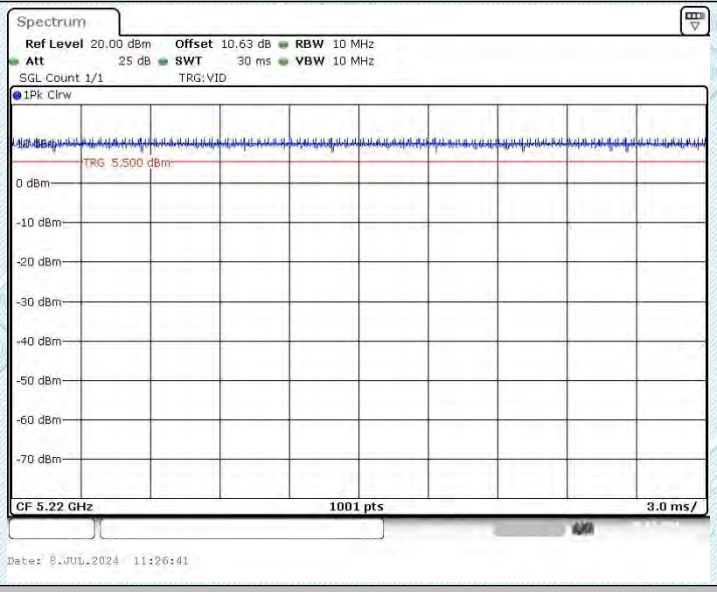
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	30.00	30.00	100.00
		5220	30.00	30.00	100.00
		5240	1.02	1.03	99.03
11N20SISO	Ant1	5180	30.00	30.00	100.00
		5220	30.00	30.00	100.00
		5240	30.00	30.00	100.00
11N40SISO	Ant1	5190	1.25	1.29	96.90
		5230	1.78	1.84	96.74
11AC20SISO	Ant1	5180	30.00	30.00	100.00
		5220	30.00	30.00	100.00
		5240	30.00	30.00	100.00
11AC40SISO	Ant1	5190	30.00	30.00	100.00
		5230	0.36	0.37	97.30
11AC80SISO	Ant1	5210	1.11	1.16	95.69

Test Graphs

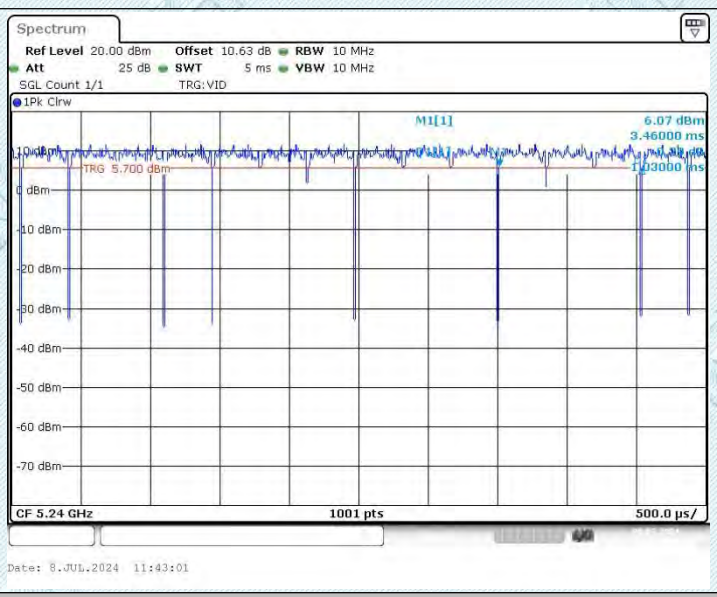
11A_Ant1_5180



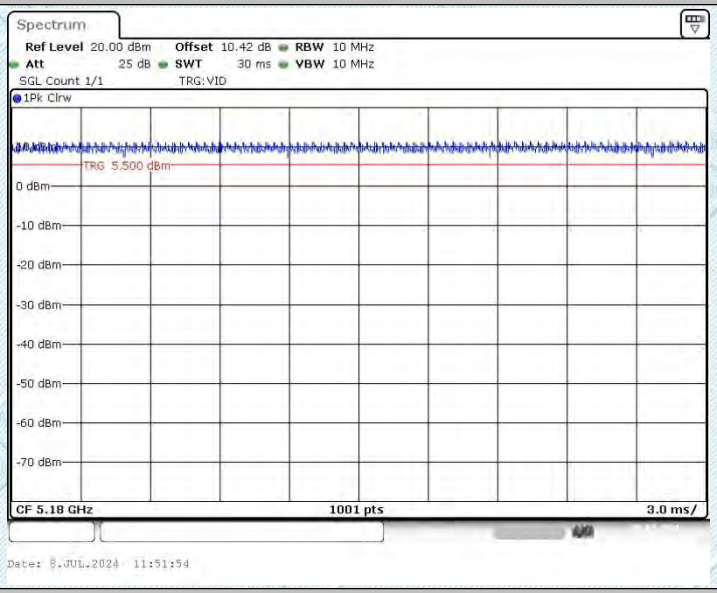
11A_Ant1_5220



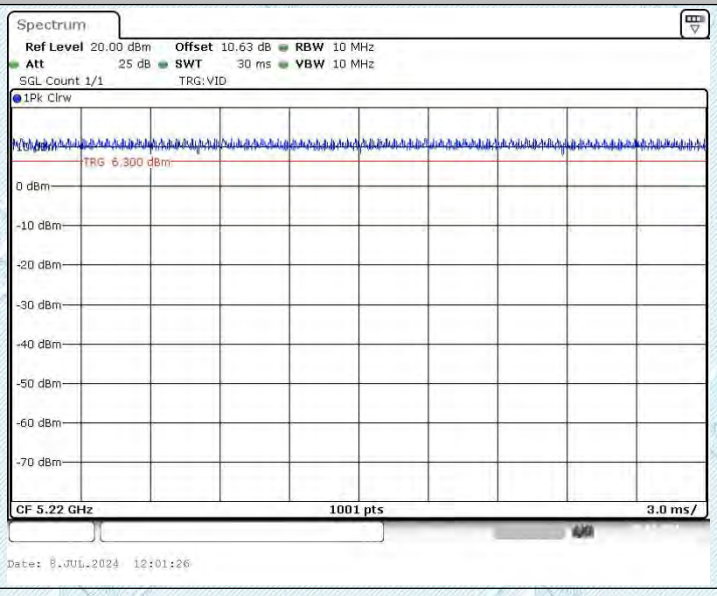
11A_Ant1_5240



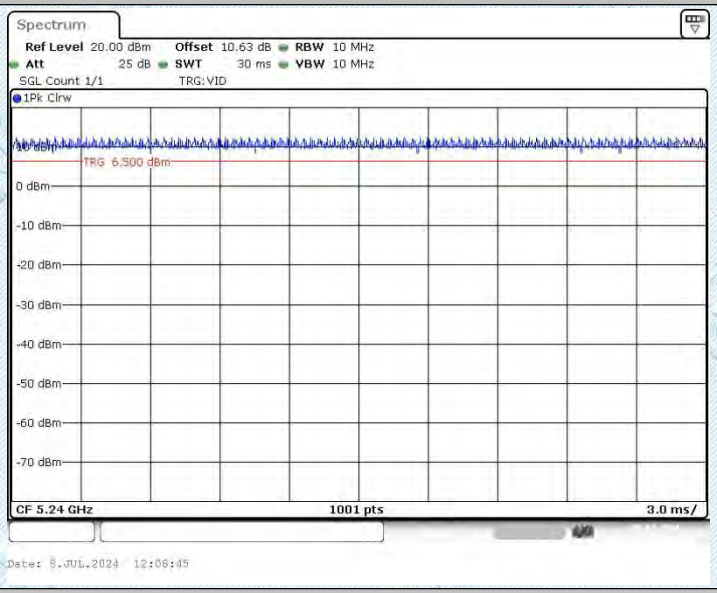
11N20SISO_Ant1_5180



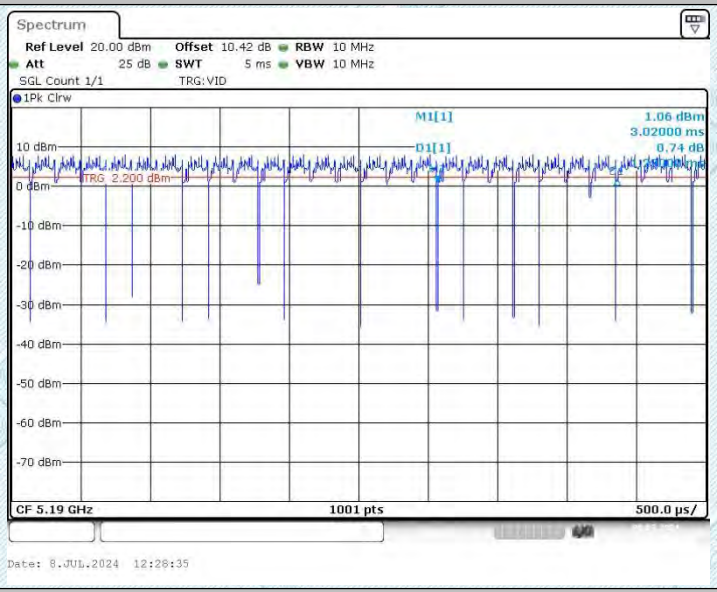
11N20SISO_Ant1_5220



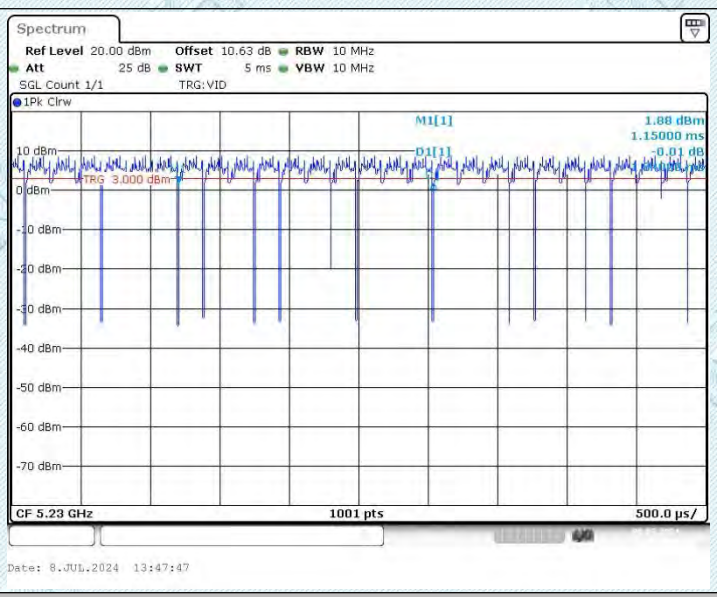
11N20SISO_Ant1_5240



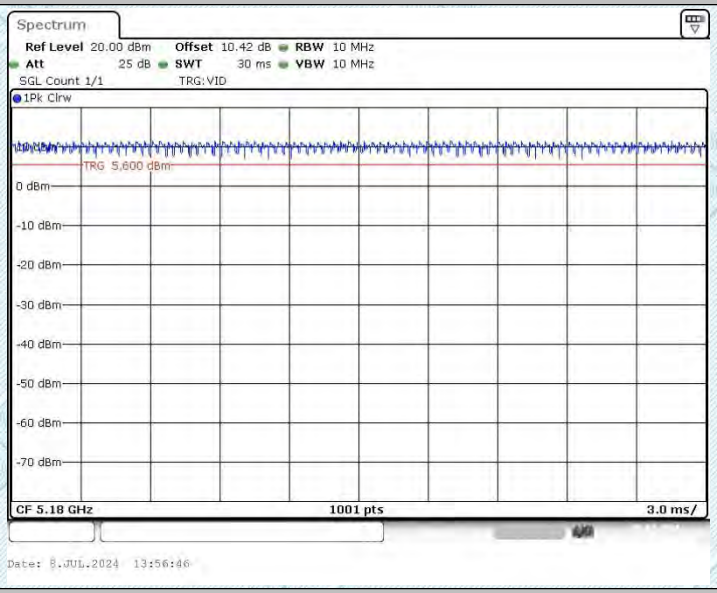
11N40SISO_Ant1_5190



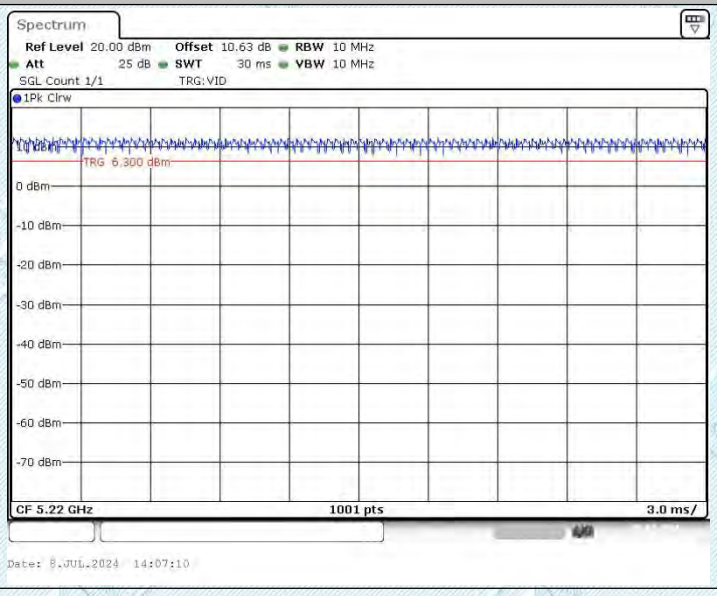
11N40SISO_Ant1_5230

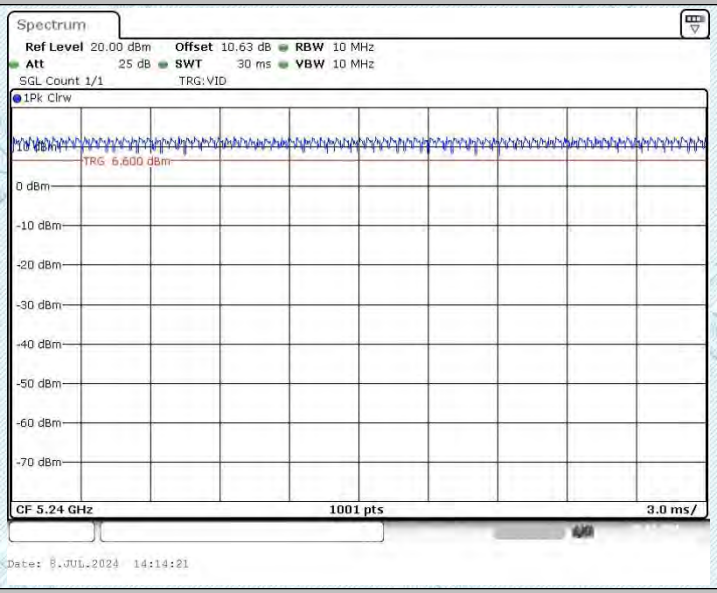


11AC20SISO_Ant1_5180



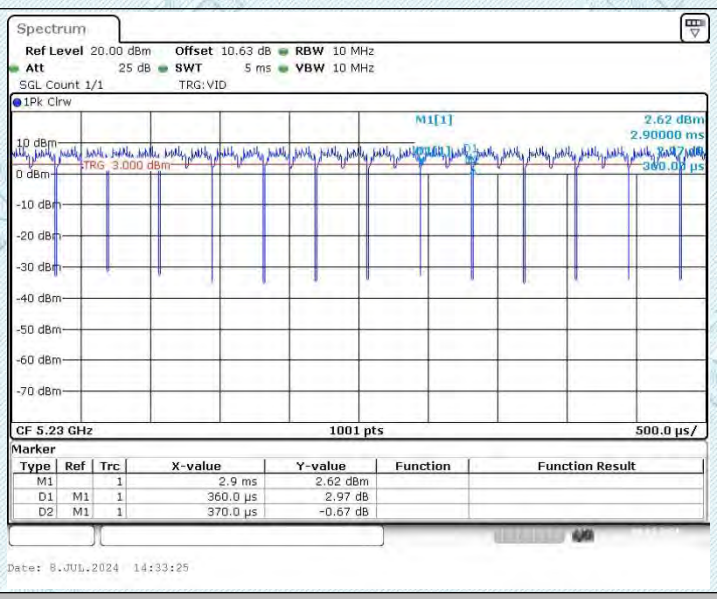
11AC20SISO_Ant1_5220



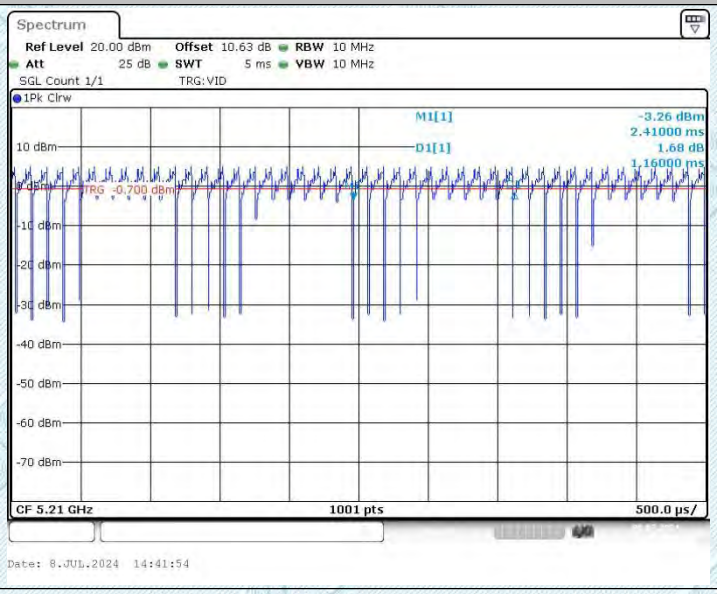
11AC20SISO_Ant1_5240


11AC40SISO_Ant1_5190

11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210



Appendix C: Maximum conducted output power

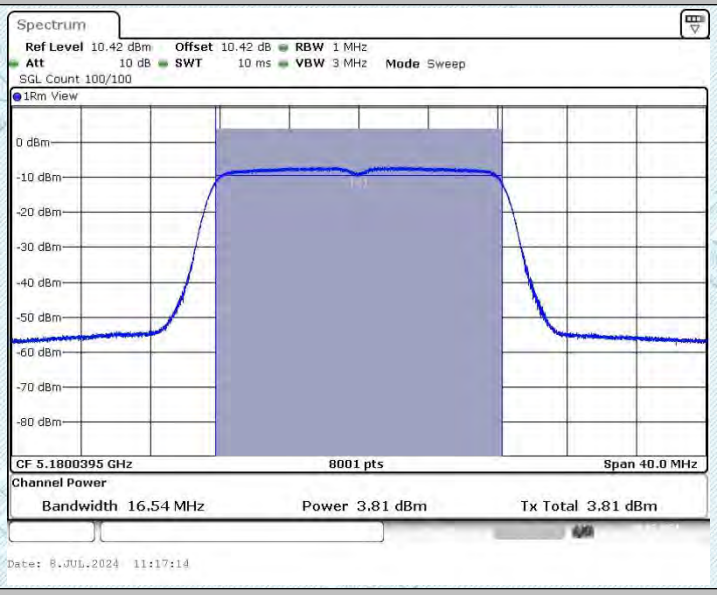
Test Result Channel Power

Test Mode	Antenna	Frequency [MHz]	Channel Powert [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	3.81	100.00	0.00	3.81	≤23.98	PASS
		5220	4.76	100.00	0.00	4.76	≤23.98	PASS
		5240	5.09	99.03	0.04	5.13	≤23.98	PASS
11N20SISO	Ant1	5180	3.86	100.00	0.00	3.86	≤23.98	PASS
		5220	4.77	100.00	0.00	4.77	≤23.98	PASS
		5240	5.08	100.00	0.00	5.08	≤23.98	PASS
11N40SISO	Ant1	5190	3.95	96.90	0.14	4.09	≤23.98	PASS
		5230	4.90	96.74	0.14	5.04	≤23.98	PASS
11AC20SISO	Ant1	5180	4.01	100.00	0.00	4.01	≤23.98	PASS
		5220	4.89	100.00	0.00	4.89	≤23.98	PASS
		5240	5.21	100.00	0.00	5.21	≤23.98	PASS
11AC40SISO	Ant1	5190	4.03	100.00	0.00	4.03	≤23.98	PASS
		5230	4.94	97.30	0.12	5.06	≤23.98	PASS
11AC80SISO	Ant1	5210	4.37	95.69	0.19	4.56	≤23.98	PASS

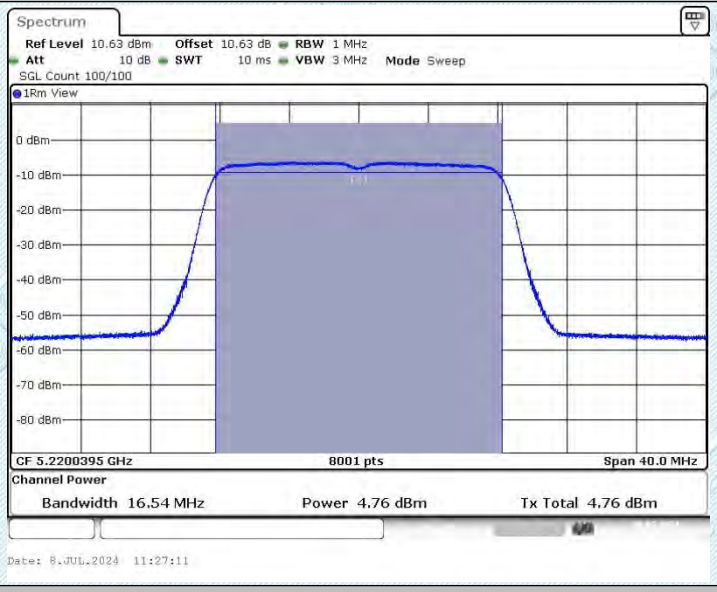
Note：The Duty Cycle Factor is compensated in the graph.

Test Graphs Channel Power

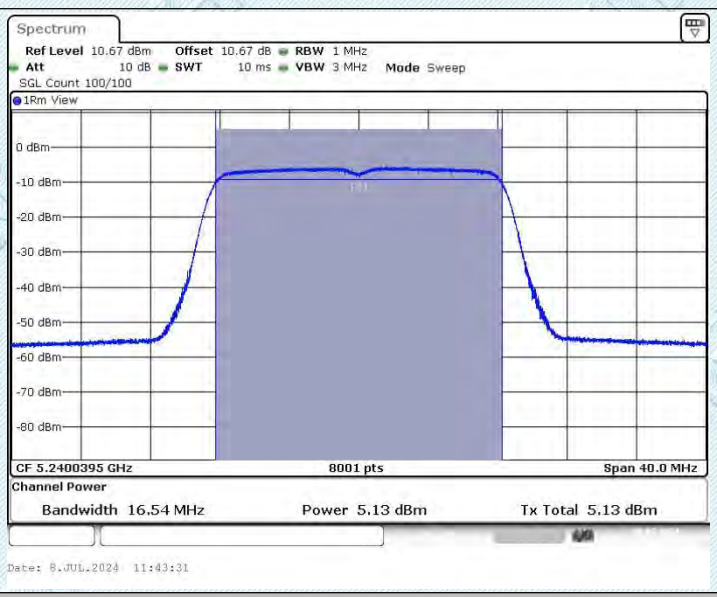
11A_Ant1_5180



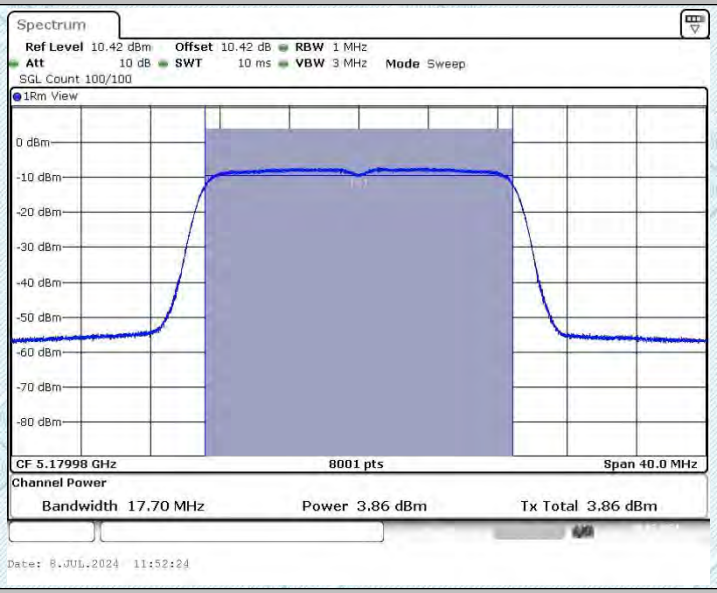
11A_Ant1_5220



11A_Ant1_5240



11N20SISO_Ant1_5180



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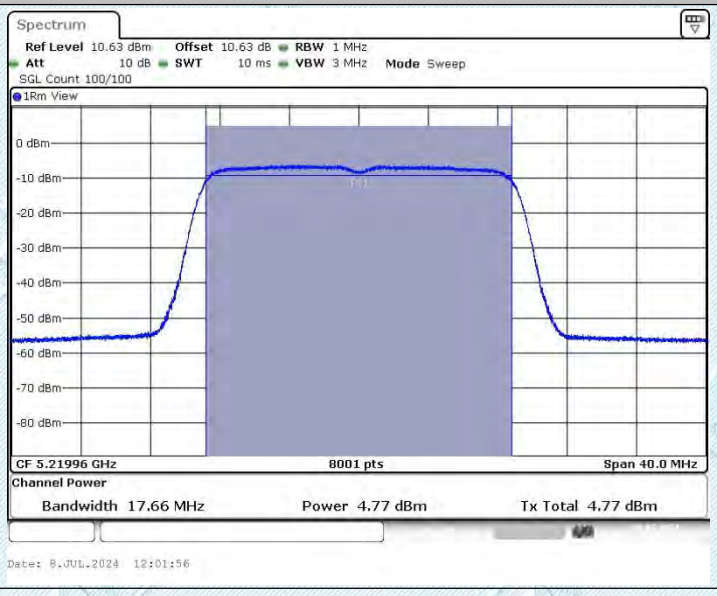

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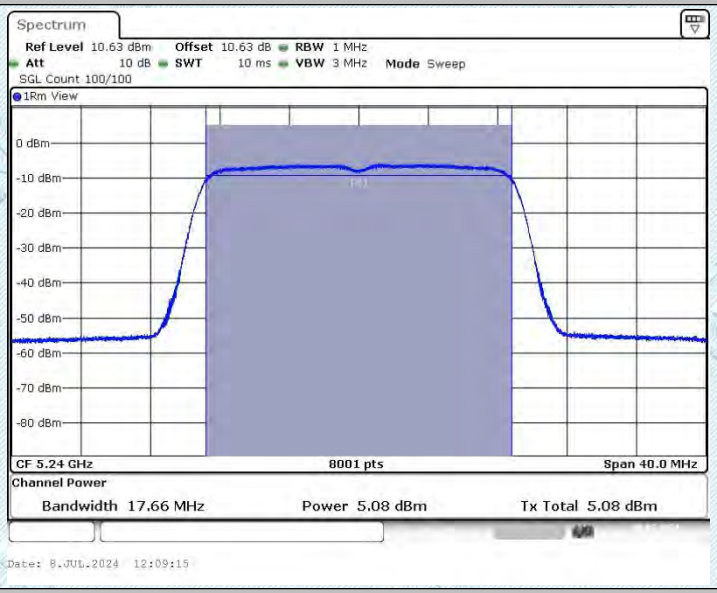

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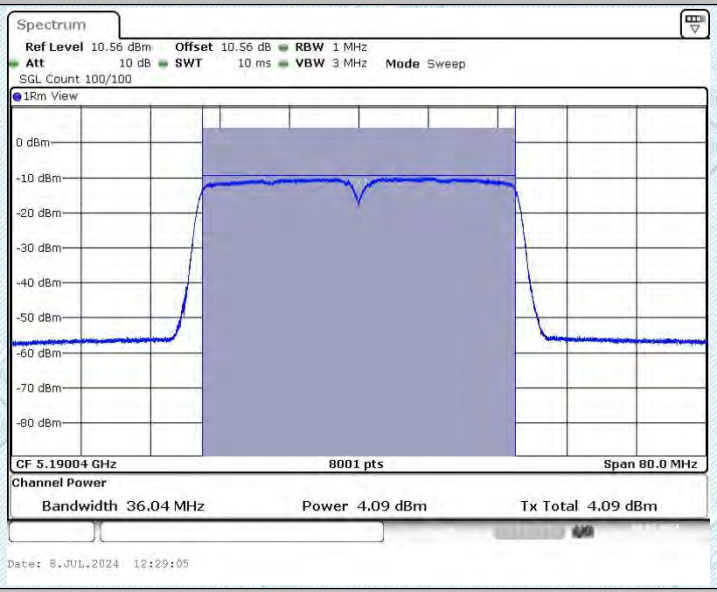

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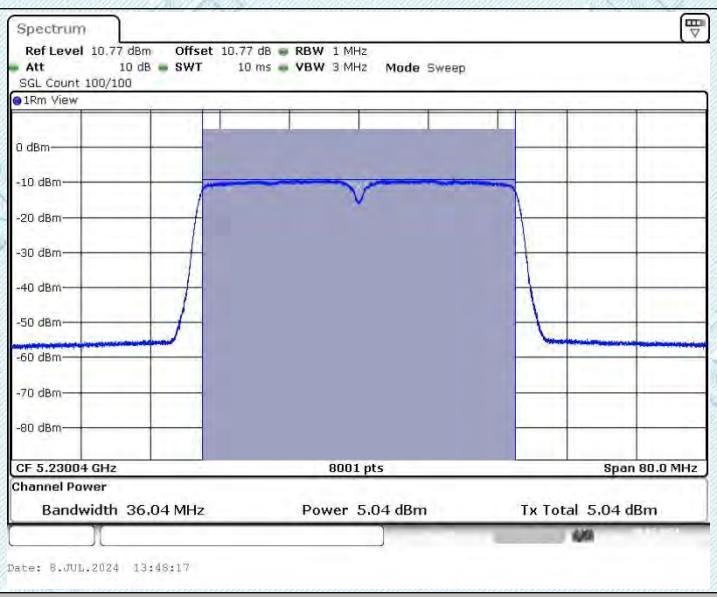

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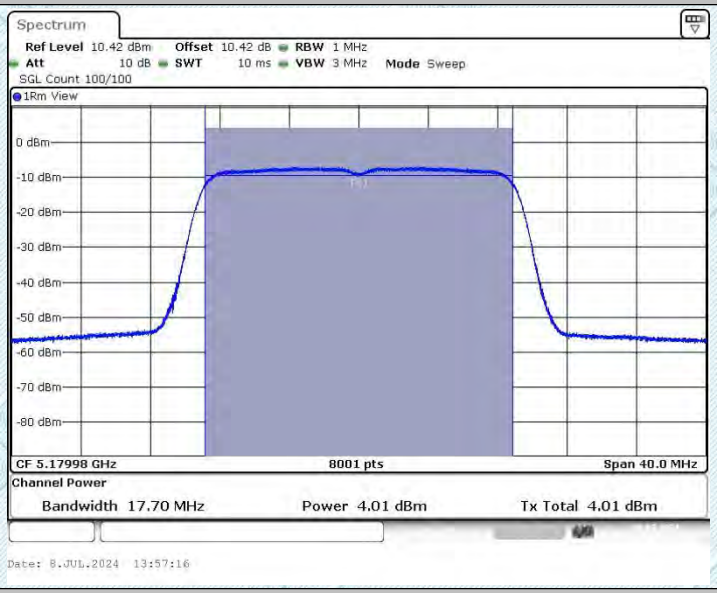

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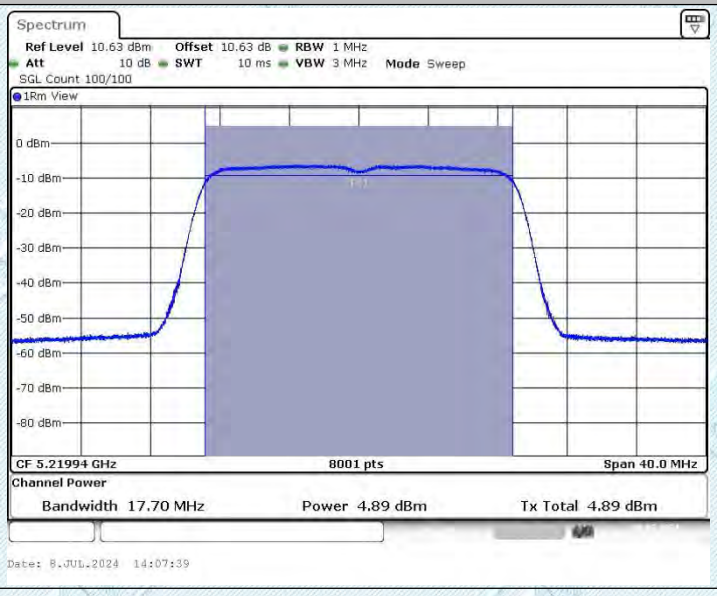

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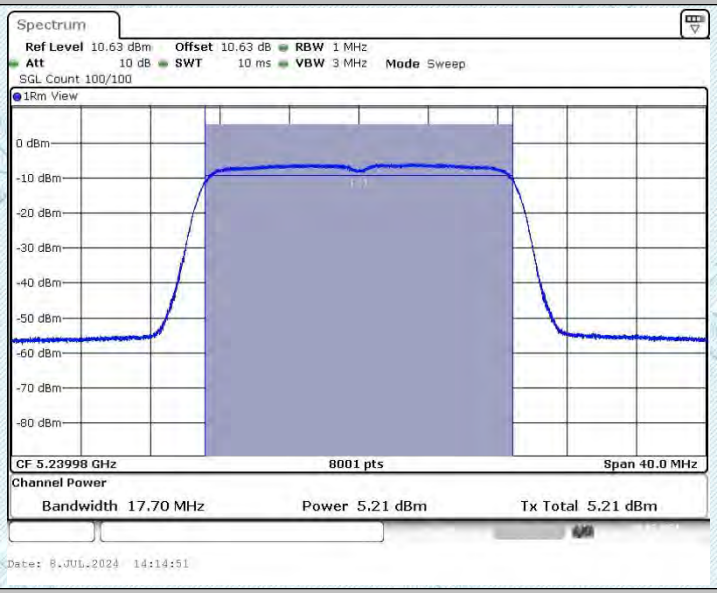

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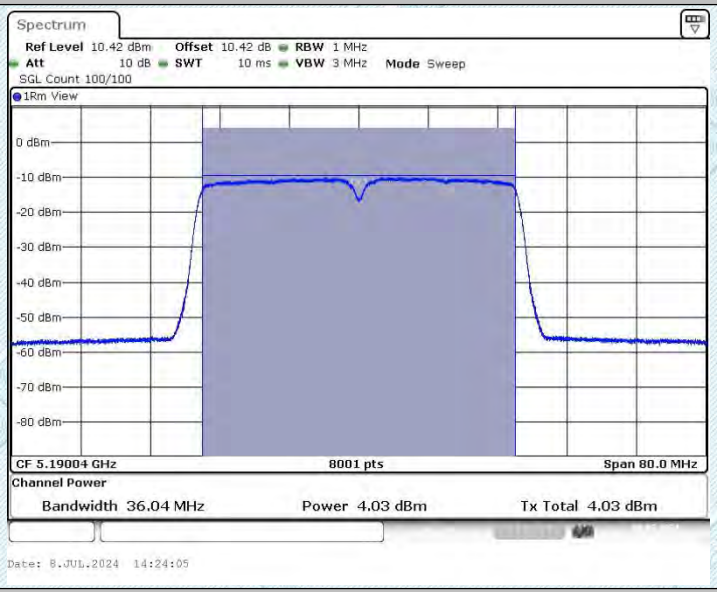
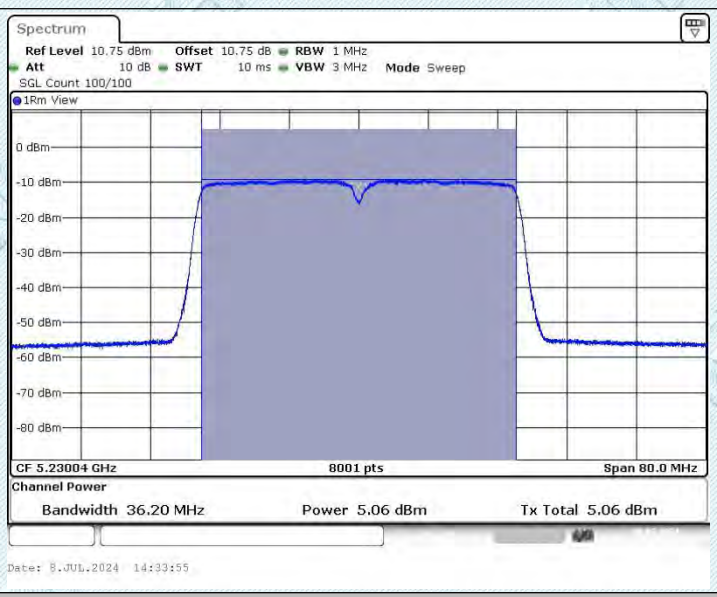
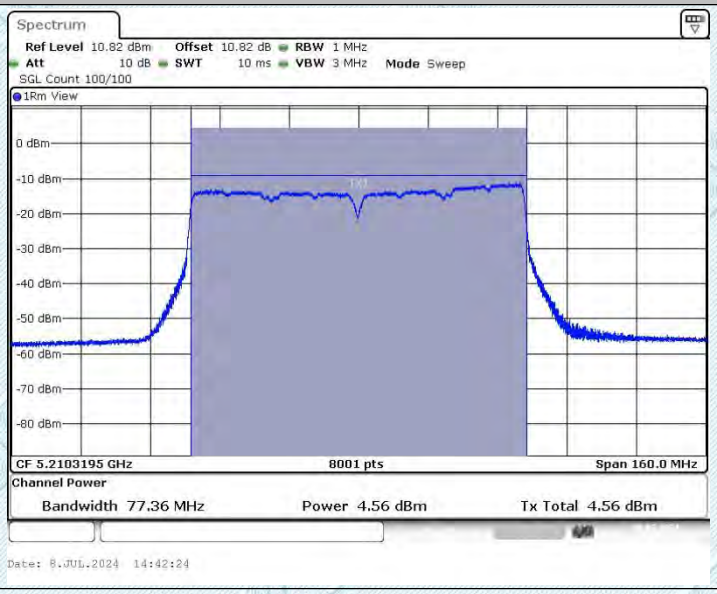


11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210



Appendix D: Maximum power spectral density

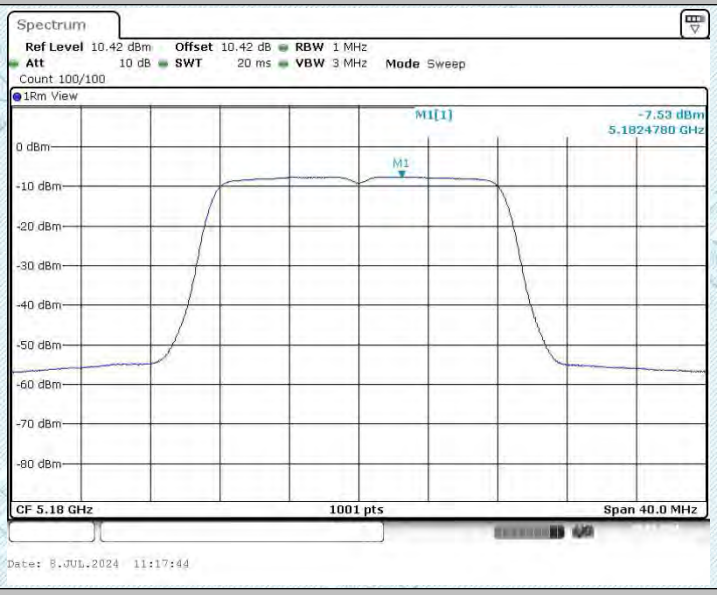
Test Result

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-7.53	≤11.00	PASS
		5220	-6.59	≤11.00	PASS
		5240	-6.15	≤11.00	PASS
11N20SISO	Ant1	5180	-7.75	≤11.00	PASS
		5220	-6.82	≤11.00	PASS
		5240	-6.52	≤11.00	PASS
11N40SISO	Ant1	5190	-10.35	≤11.00	PASS
		5230	-9.61	≤11.00	PASS
11AC20SISO	Ant1	5180	-7.51	≤11.00	PASS
		5220	-6.63	≤11.00	PASS
		5240	-6.24	≤11.00	PASS
11AC40SISO	Ant1	5190	-10.49	≤11.00	PASS
		5230	-9.67	≤11.00	PASS
11AC80SISO	Ant1	5210	-11.73	≤11.00	PASS

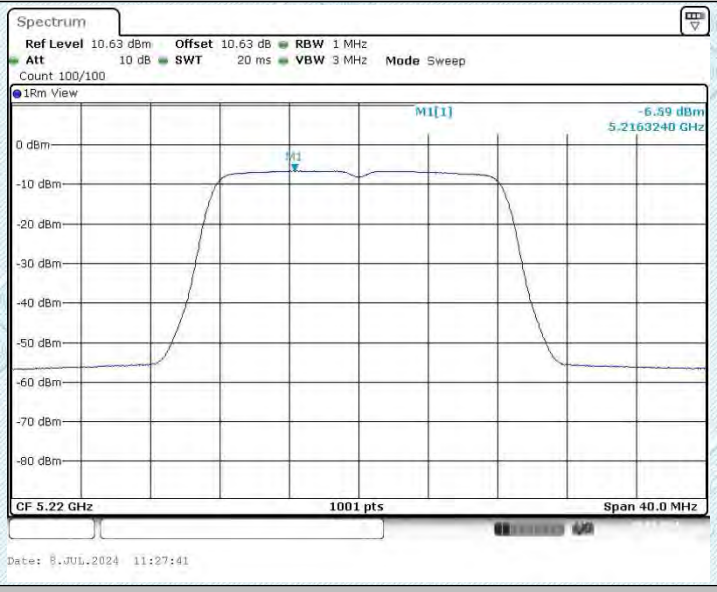
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

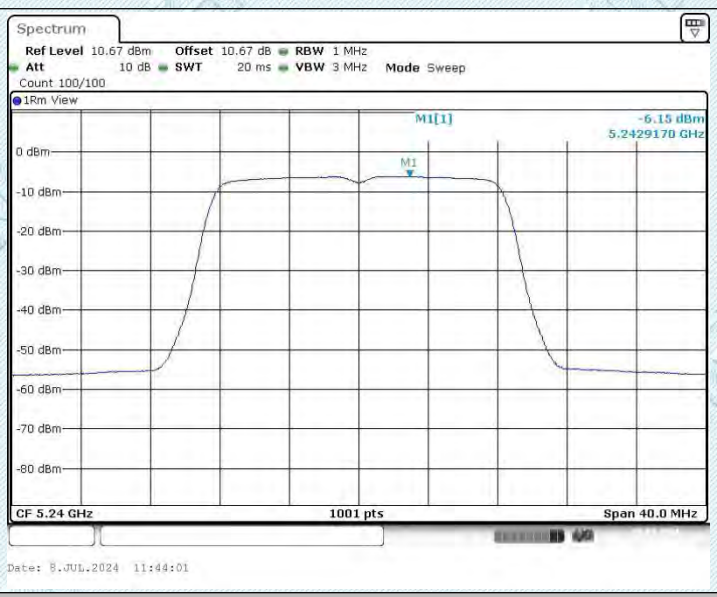
11A_Ant1_5180



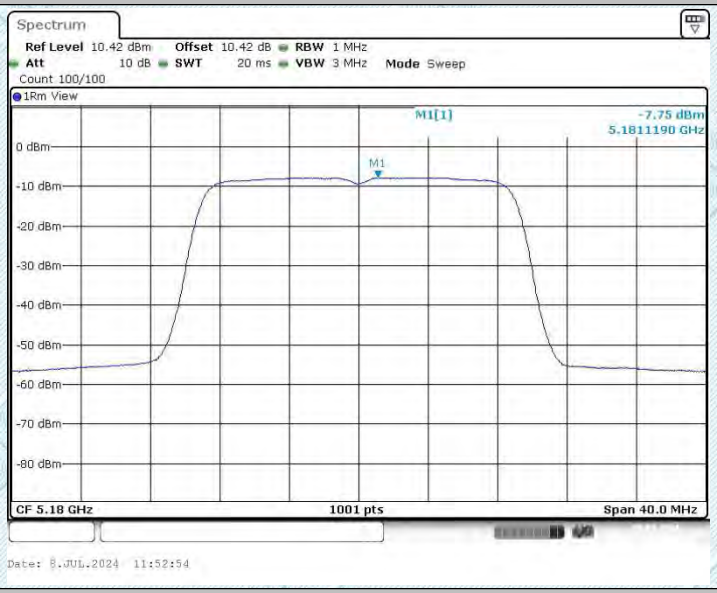
11A_Ant1_5220



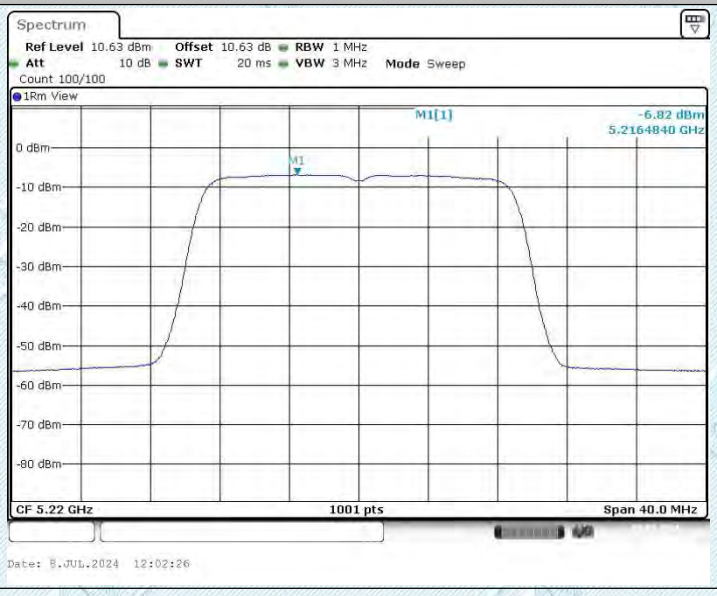
11A_Ant1_5240



11N20SISO_Ant1_5180



11N20SISO_Ant1_5220



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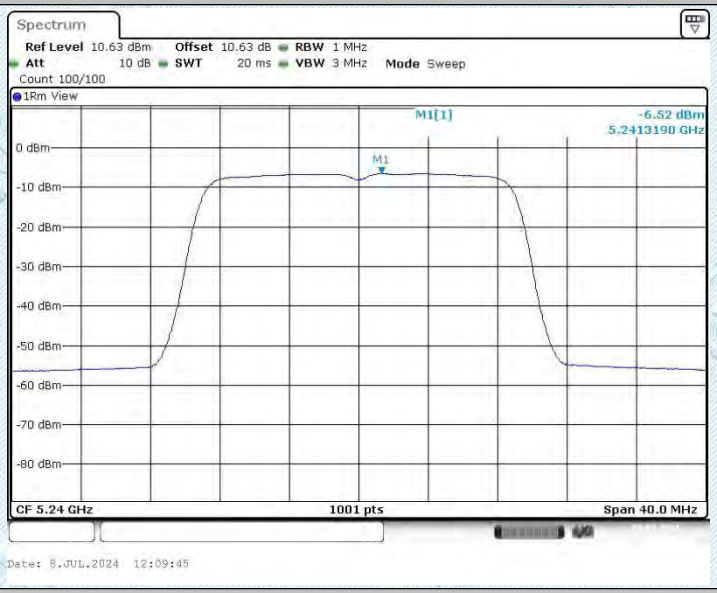
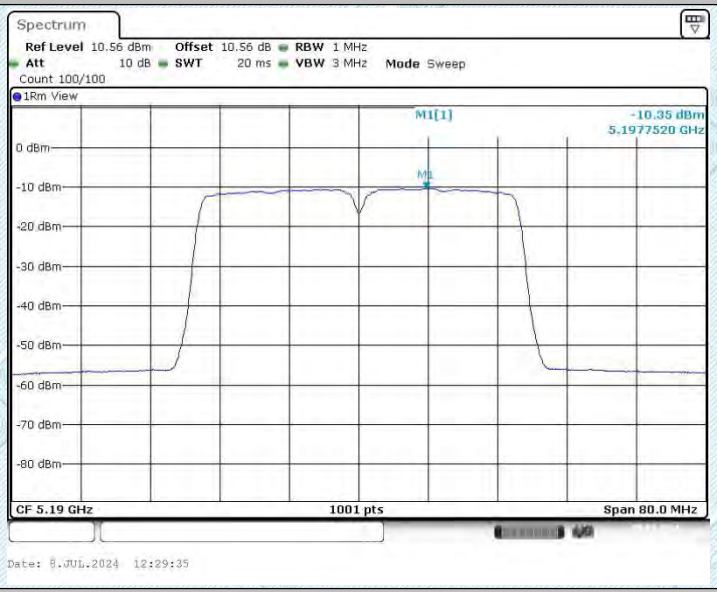
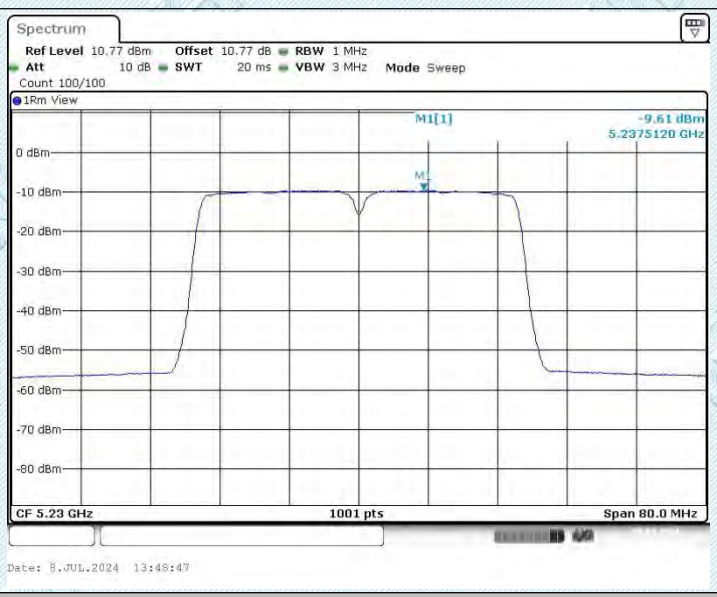


11N40SISO_Ant1_5190



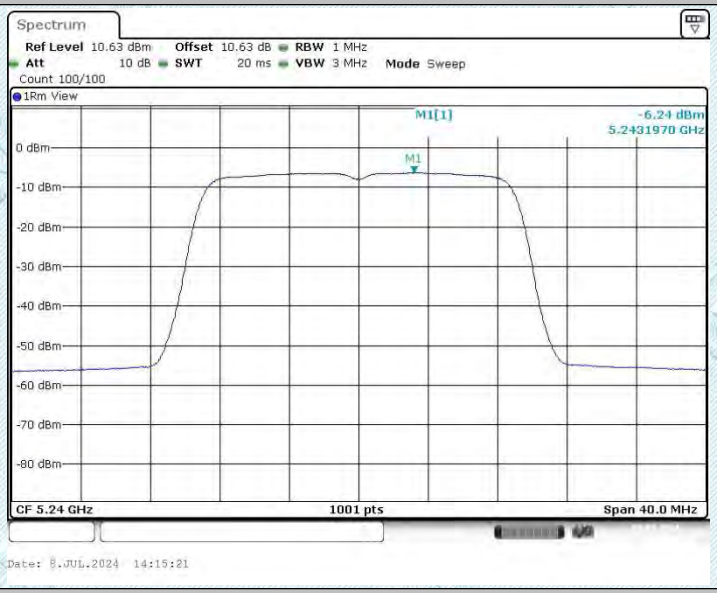
11N40SISO_Ant1_5230



11AC20SISO_Ant1_5180

11AC20SISO_Ant1_5220

11AC20SISO_Ant1_5240



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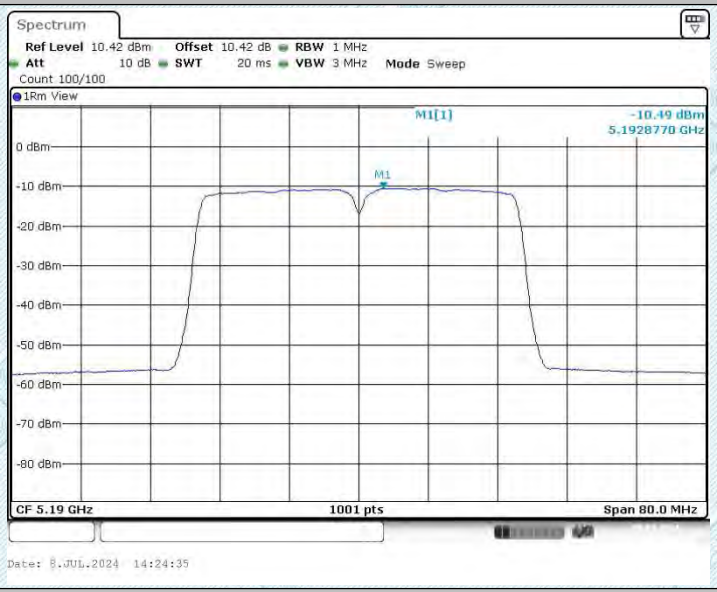
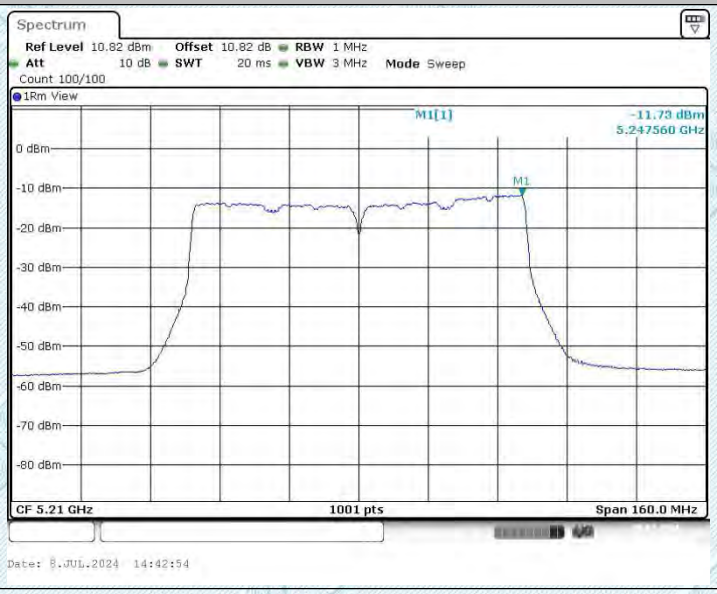


11AC40SISO_Ant1_5230

11AC80SISO_Ant1_5210



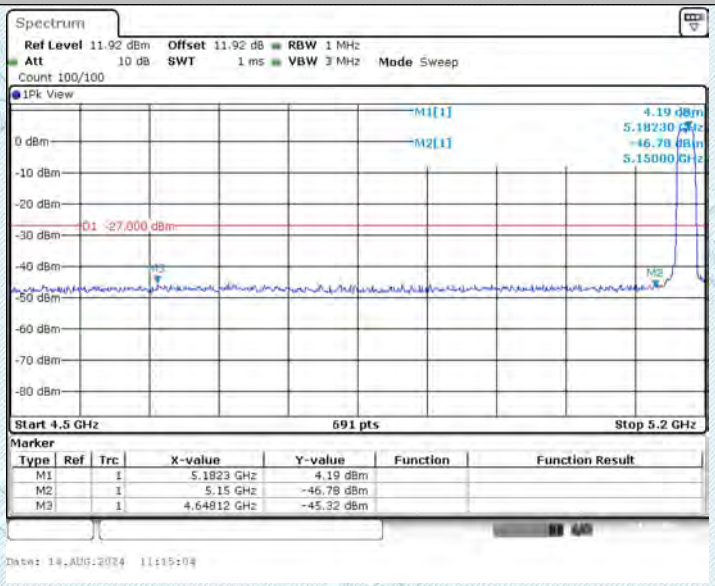
Appendix E: Band edge measurements

Test Result

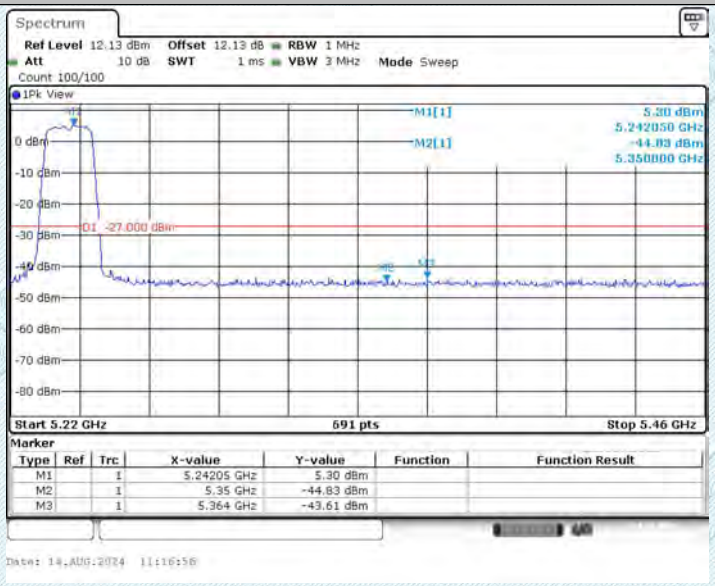
TestMode	Antenna	ChName	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-45.32	≤-27	PASS
		High	5240	-43.61	≤-27	PASS
11N20SISO	Ant1	Low	5180	-45.13	≤-27	PASS
		High	5240	-43.54	≤-27	PASS
11N40SISO	Ant1	Low	5190	-45.25	≤-27	PASS
		High	5230	-43.8	≤-27	PASS
11AC20SISO	Ant1	Low	5180	-45.08	≤-27	PASS
		High	5240	-43.68	≤-27	PASS
11AC40SISO	Ant1	Low	5190	-44.22	≤-27	PASS
		High	5230	-43.17	≤-27	PASS
11AC80SISO	Ant1	Low	5210	-42.6	≤-27	PASS
		High	5210	-43.42	≤-27	PASS

Test Graphs

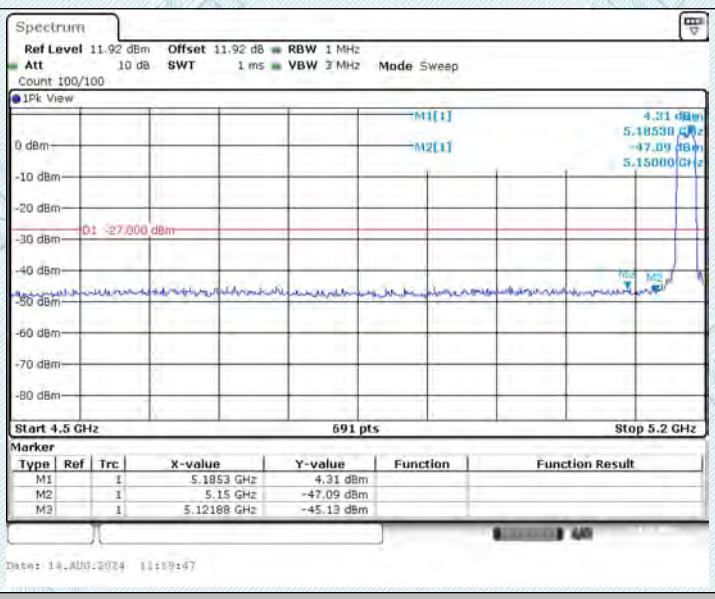
11A_Ant1_Low_5180



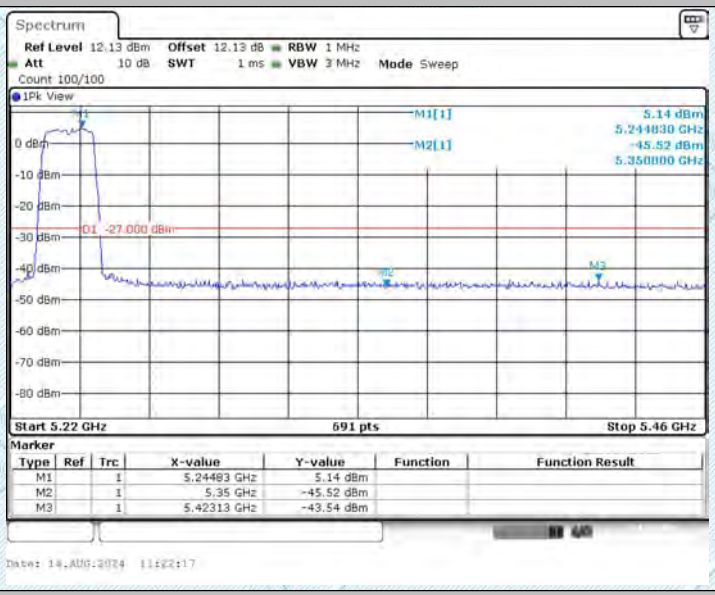
11A_Ant1_High_5240



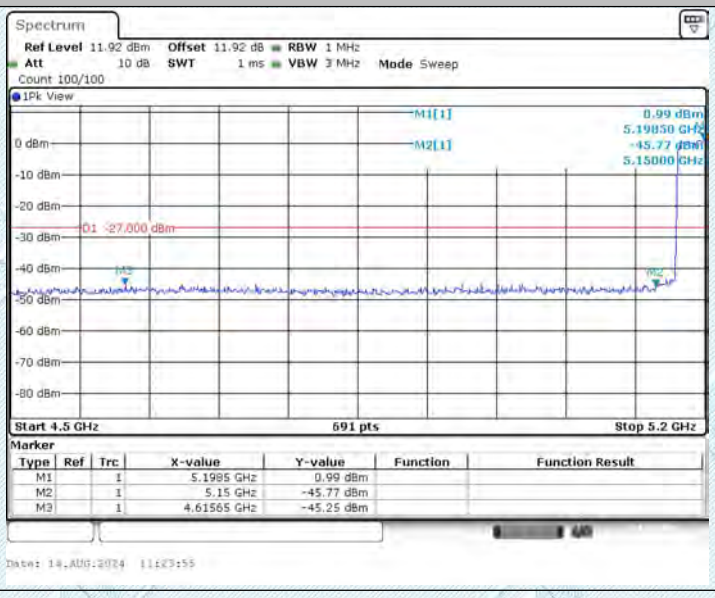
11N20SISO_Ant1_Low_5180



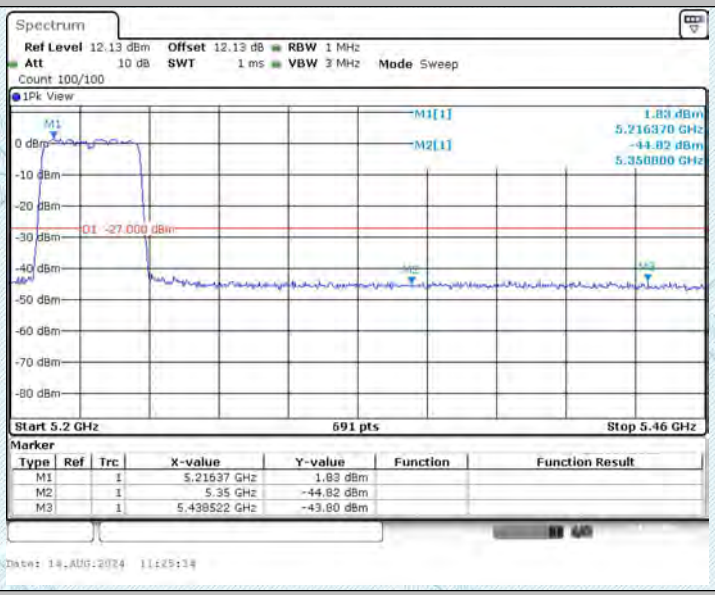
11N20SISO_Ant1_High_5240



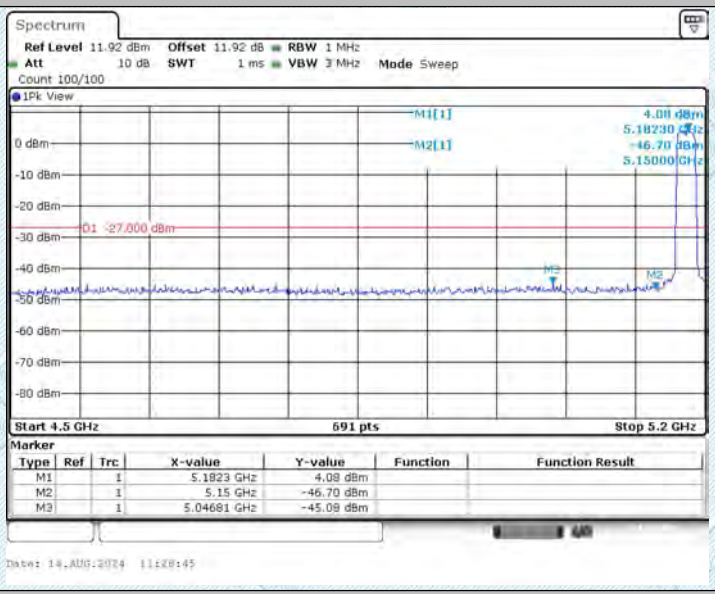
11N40SISO_Ant1_Low_5190



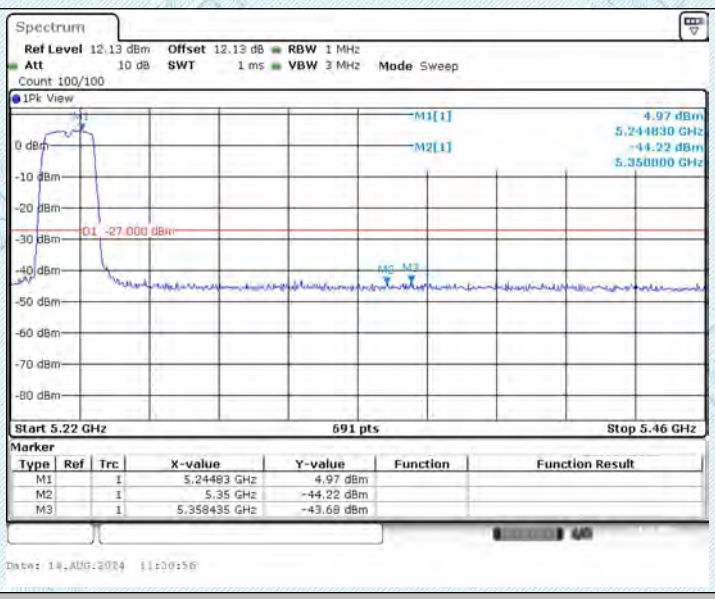
11N40SISO_Ant1_High_5230



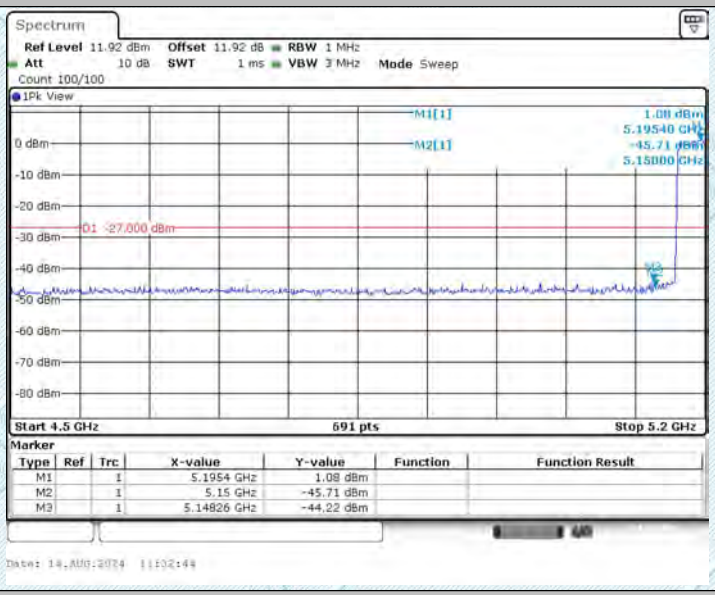
11AC20SISO_Ant1_Low_5180



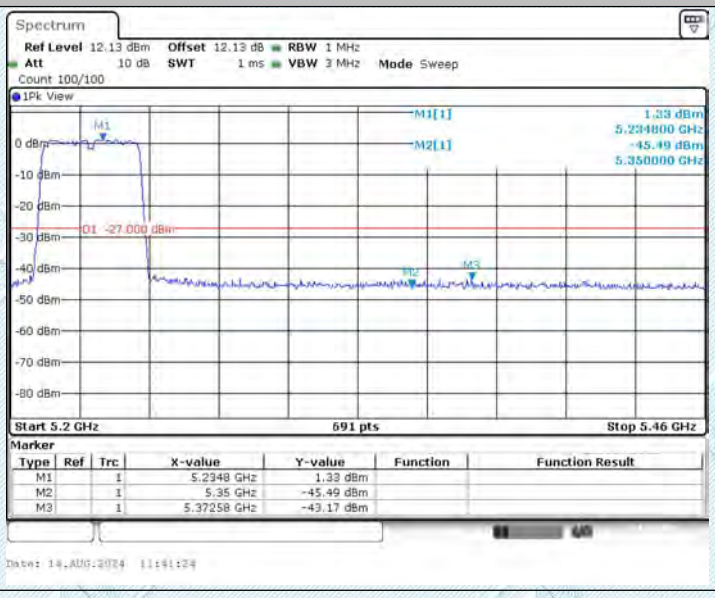
11AC20SISO_Ant1_High_5240



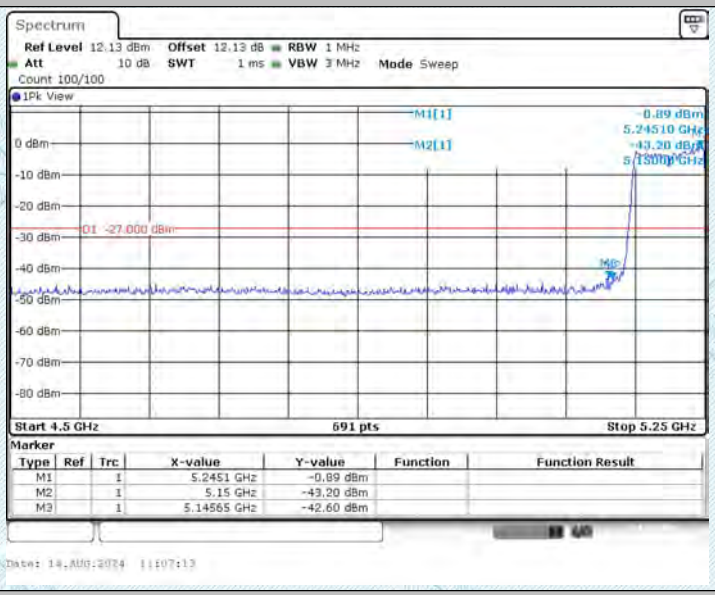
11AC40SISO_Ant1_Low_5190



11AC40SISO_Ant1_High_5230



11AC80SISO_Ant1_Low_5210



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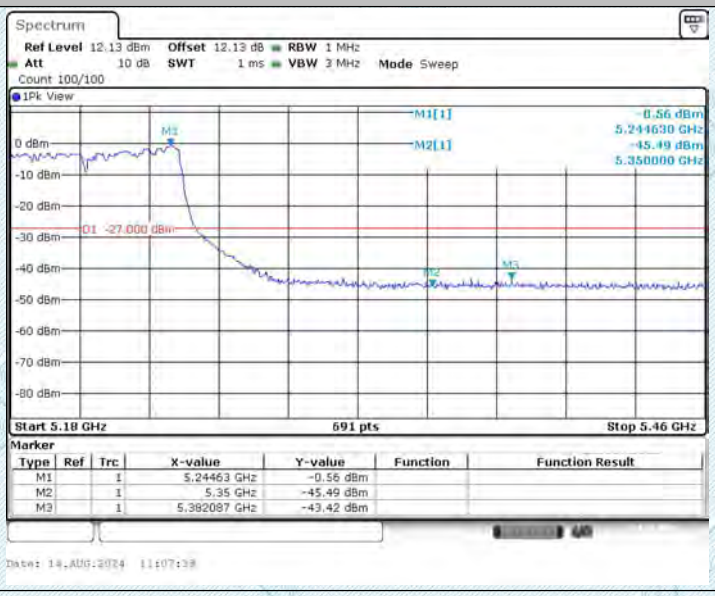


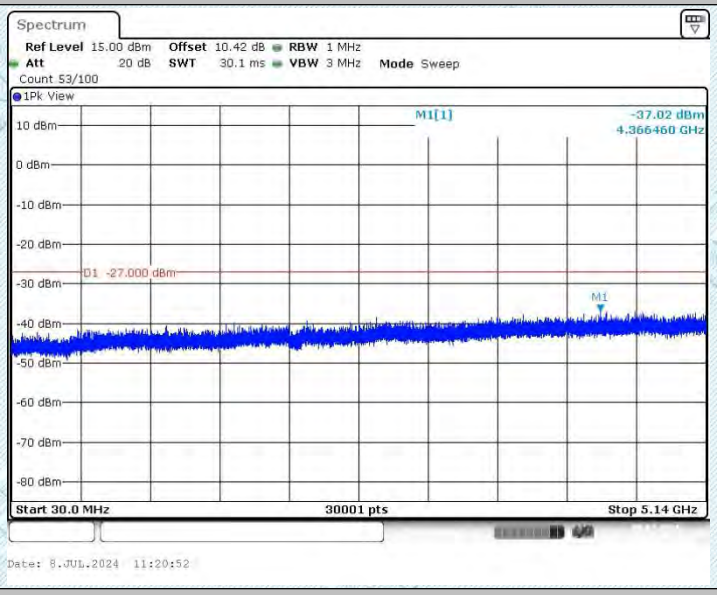
Appendix F: Conducted Spurious Emission

Test Result

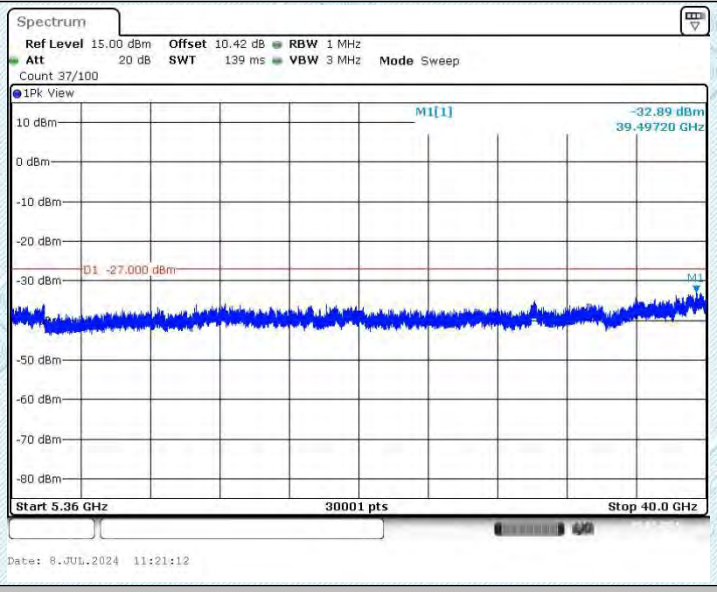
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	4366.46	-37.02	≤-27	PASS
			5360~40000	39497.2	-32.89	≤-27	PASS
		5220	30~5140	5022.9	-36.84	≤-27	PASS
			5360~40000	39212	-33.05	≤-27	PASS
		5240	30~5140	5097.33	-36.77	≤-27	PASS
			5360~40000	39151.9	-33.03	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	4618.71	-37.22	≤-27	PASS
			5360~40000	39868.9	-32.41	≤-27	PASS
		5220	30~5140	4592.99	-36.25	≤-27	PASS
			5360~40000	39648.4	-33.03	≤-27	PASS
		5240	30~5140	3889.88	-36.81	≤-27	PASS
			5360~40000	39783.5	-32.8	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	4985.26	-36.08	≤-27	PASS
			5360~40000	39860.9	-33.03	≤-27	PASS
		5230	30~5140	5121.69	-36.39	≤-27	PASS
			5360~40000	39843.5	-33.08	≤-27	PASS
11AC20SISO	Ant1	5180	30~5140	4537.81	-36.89	≤-27	PASS
			5360~40000	39169.2	-32.74	≤-27	PASS
		5220	30~5140	4077.92	-36.36	≤-27	PASS
			5360~40000	39198.1	-32.27	≤-27	PASS
		5240	30~5140	4691.95	-36.01	≤-27	PASS
			5360~40000	39138.1	-32.06	≤-27	PASS
11AC40SISO	Ant1	5190	30~5140	4571.02	-36.69	≤-27	PASS
			5360~40000	39168.1	-33.08	≤-27	PASS
		5230	30~5140	4619.39	-37.11	≤-27	PASS
			5360~40000	39109.2	-32.42	≤-27	PASS
11AC80SISO	Ant1	5210	30~5140	4539.51	-36.87	≤-27	PASS
			5360~40000	39721.2	-32.52	≤-27	PASS

Test Graphs

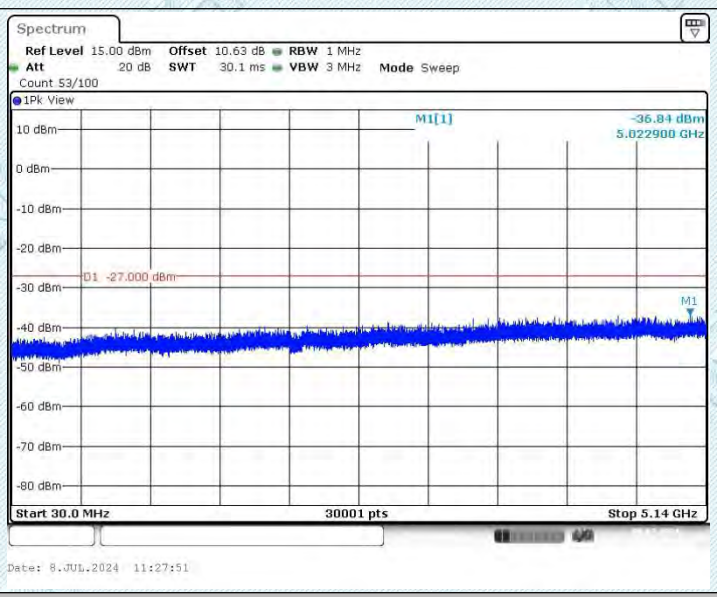
11A_Ant1_5180_30~5140



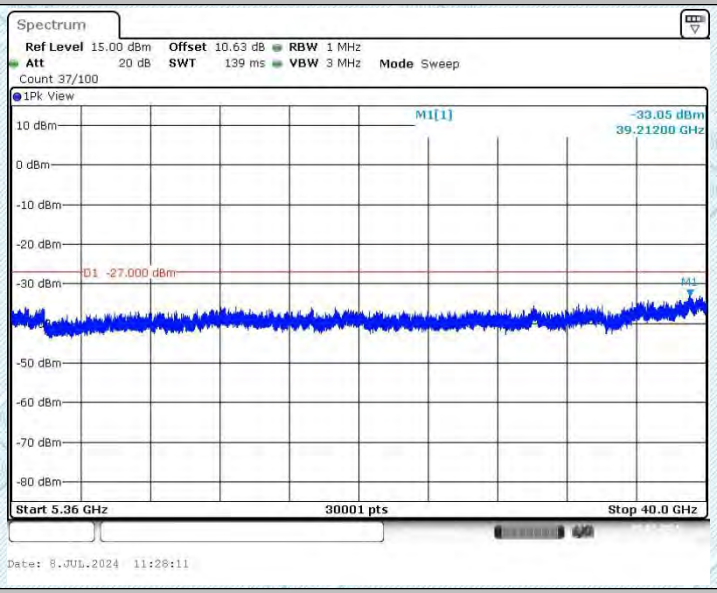
11A_Ant1_5180_5360~40000



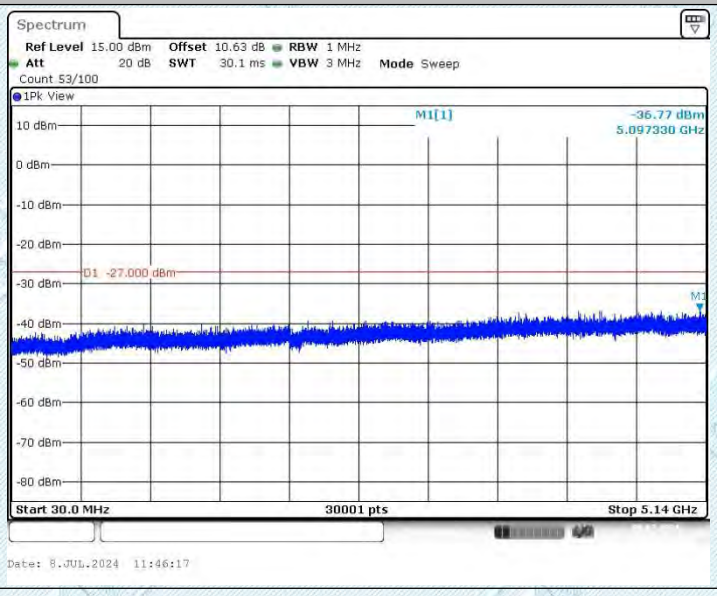
11A_Ant1_5220_30~5140



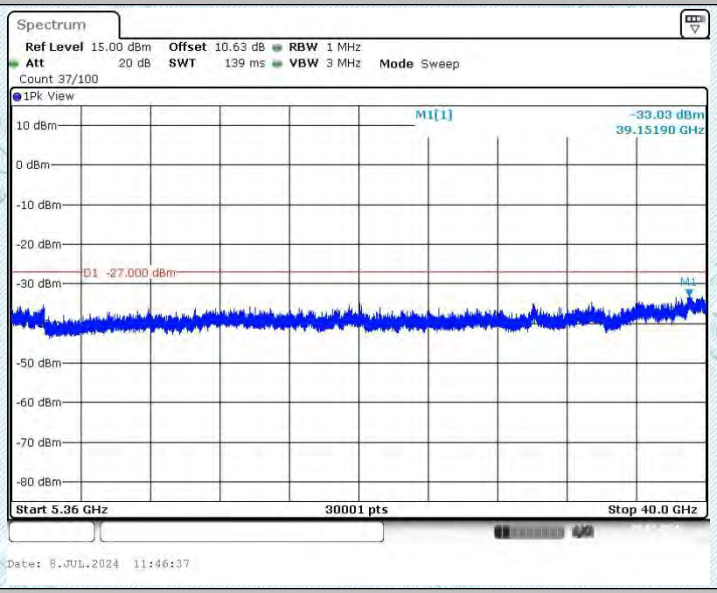
11A_Ant1_5220_5360~40000



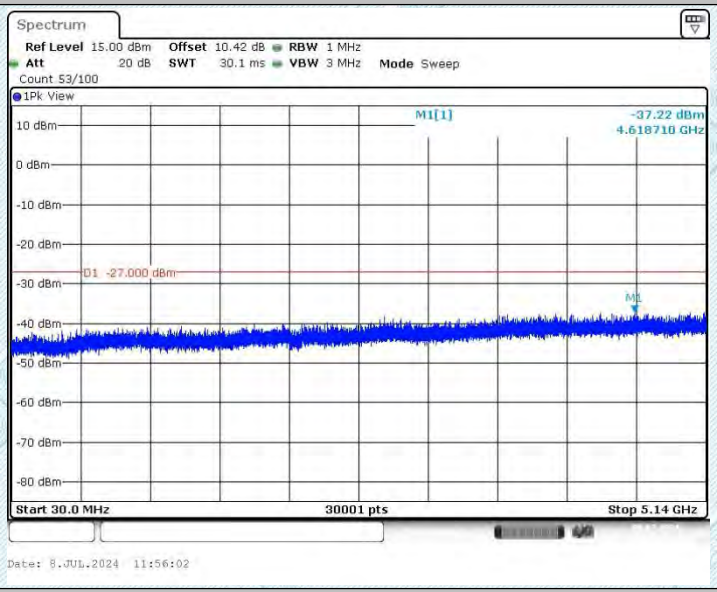
11A_Ant1_5240_30~5140



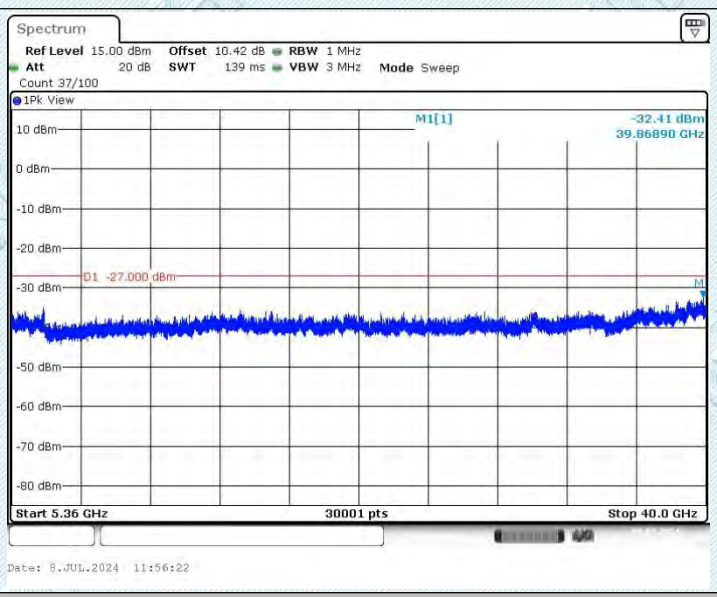
11A_Ant1_5240_5360~40000



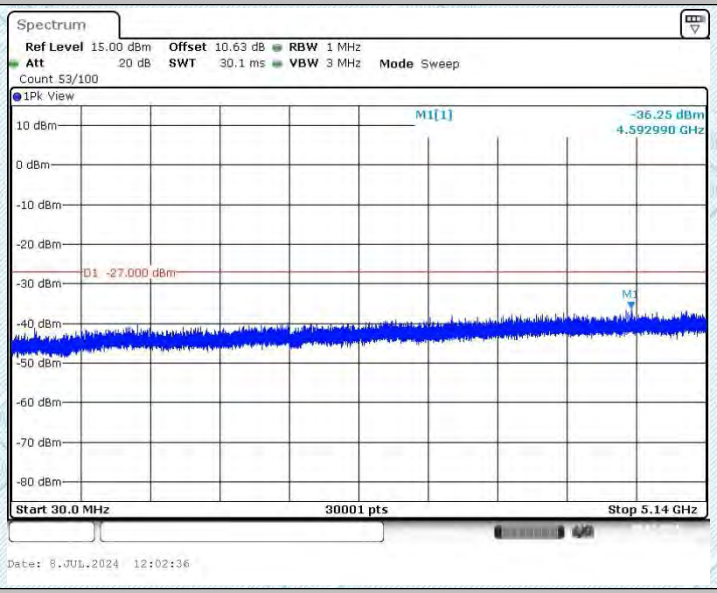
11N20SISO_Ant1_5180_30~5140



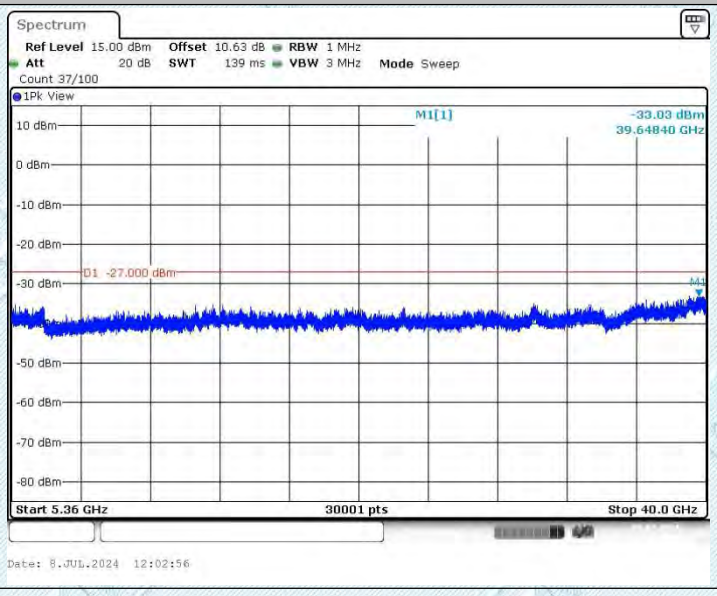
11N20SISO_Ant1_5180_5360~40000



11N20SISO_Ant1_5220_30~5140



11N20SISO_Ant1_5220_5360~40000



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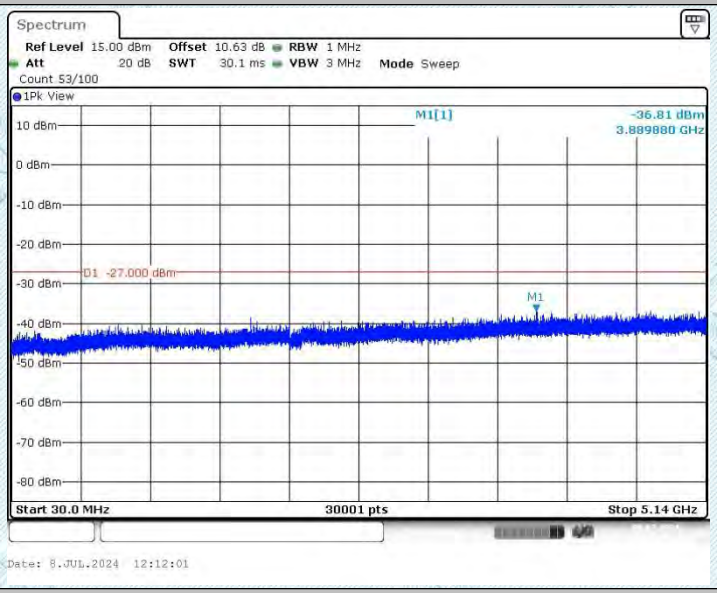
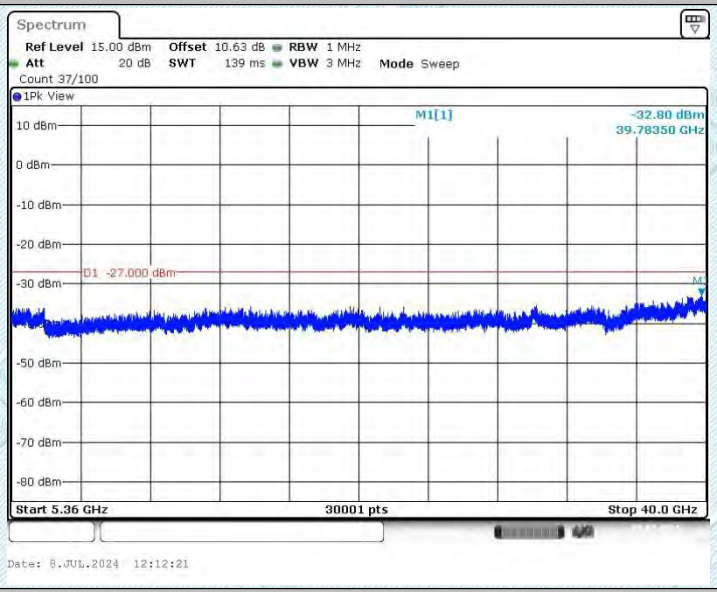
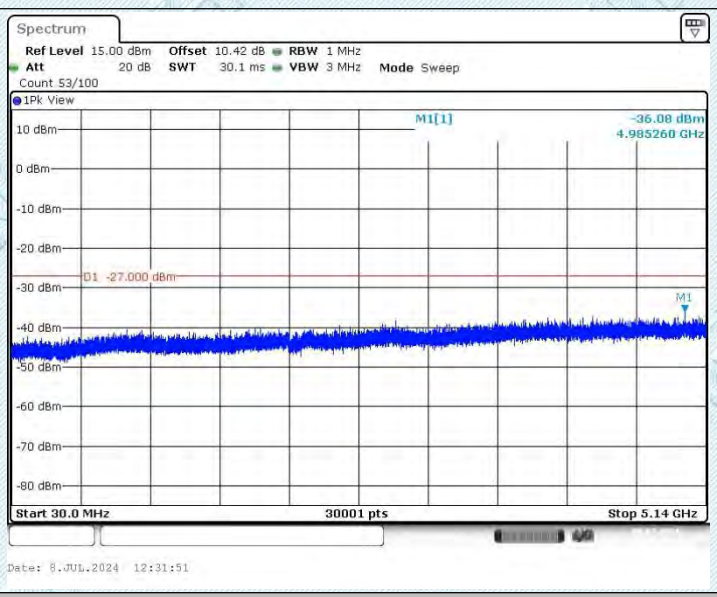


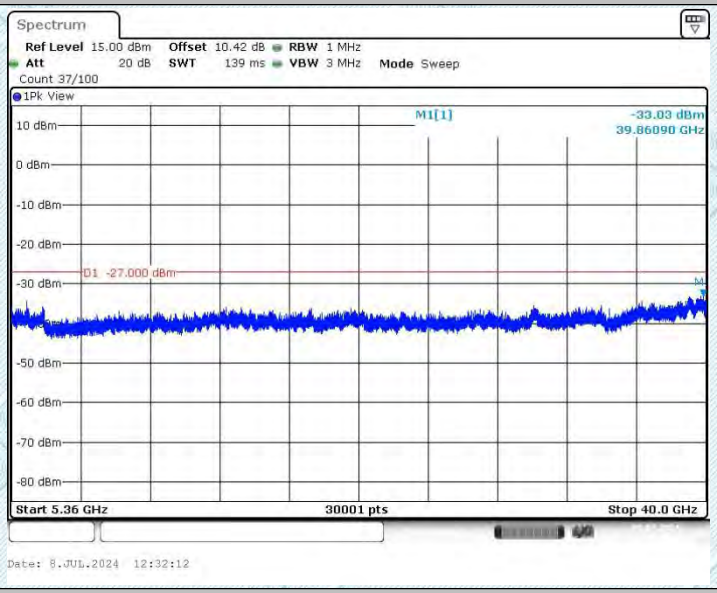
11N20SISO_Ant1_5240_5360~40000



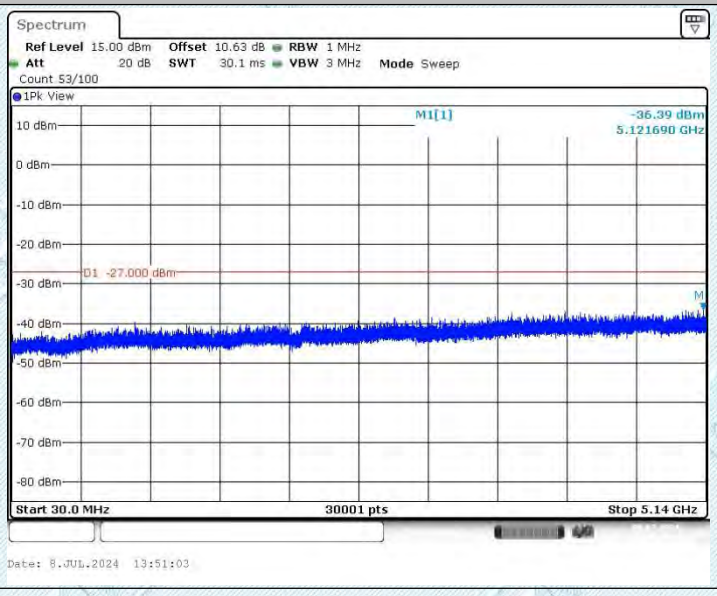
11N40SISO_Ant1_5190_30~5140



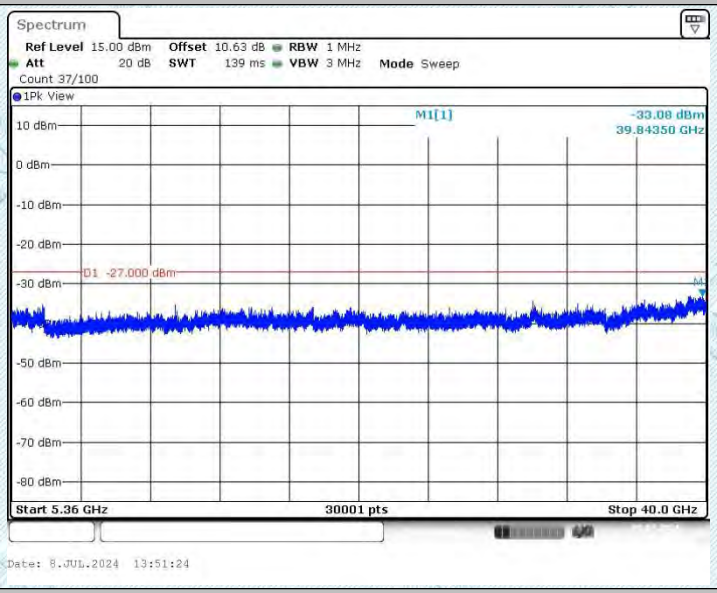
11N40SISO_Ant1_5190_5360~40000



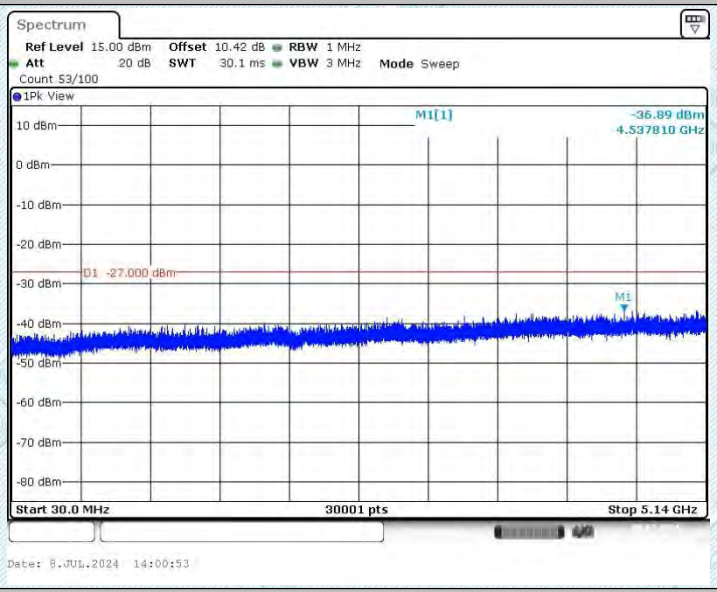
11N40SISO_Ant1_5230_30~5140



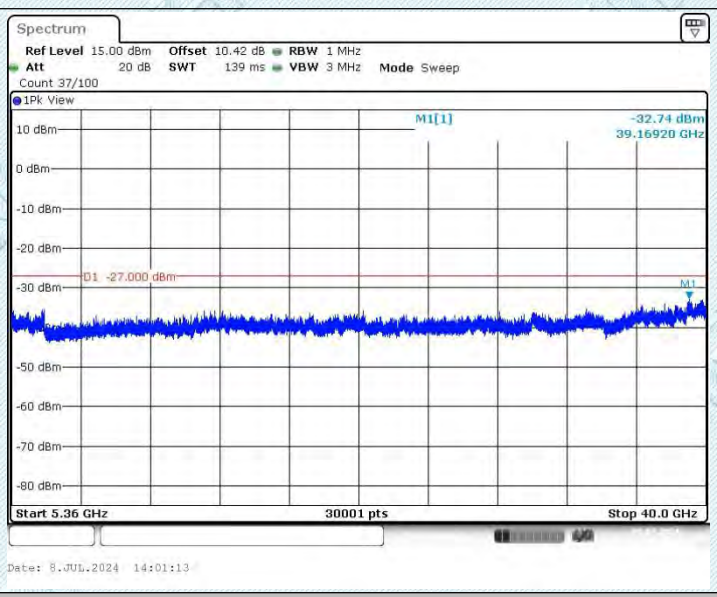
11N40SISO_Ant1_5230_5360~40000



11AC20SISO_Ant1_5180_30~5140



11AC20SISO_Ant1_5180_5360~40000



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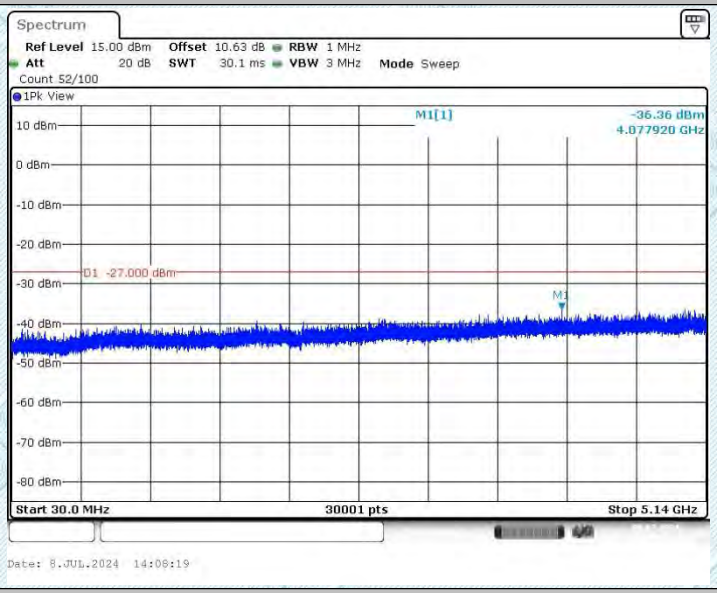
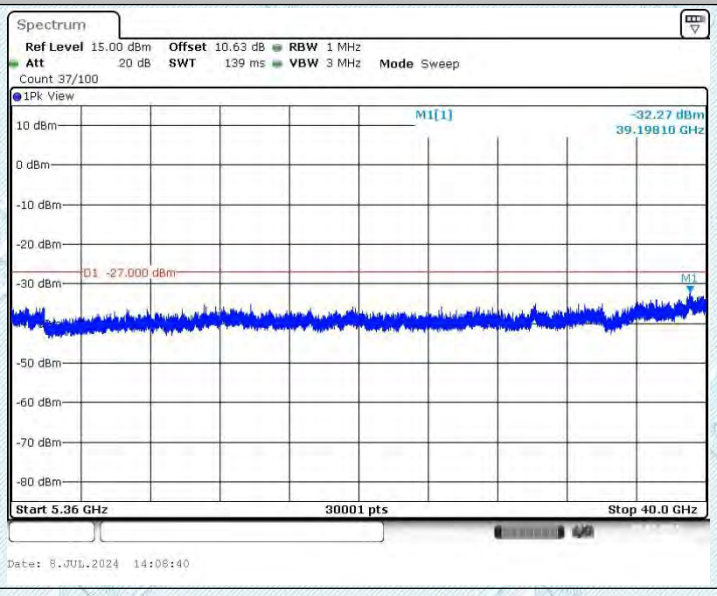
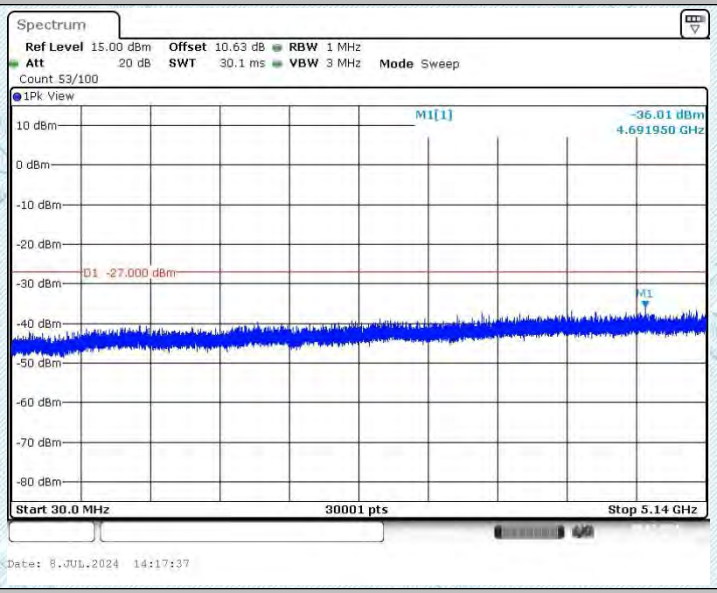


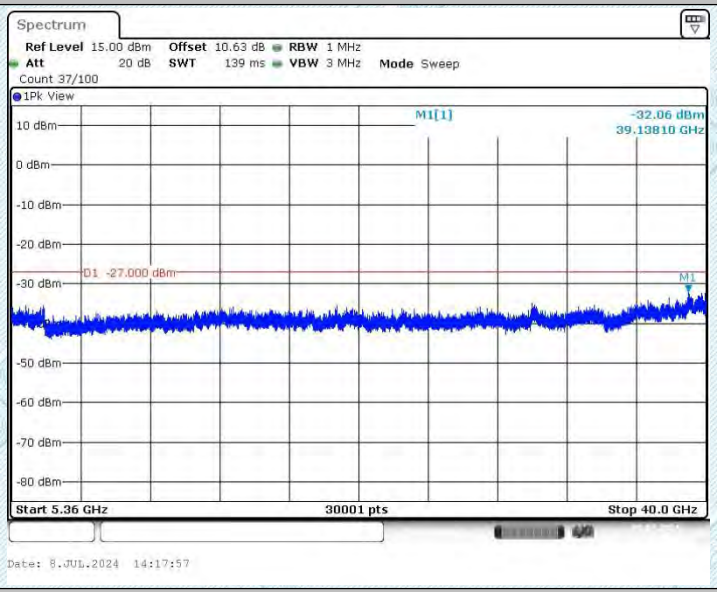
11AC20SISO_Ant1_5220_5360~40000



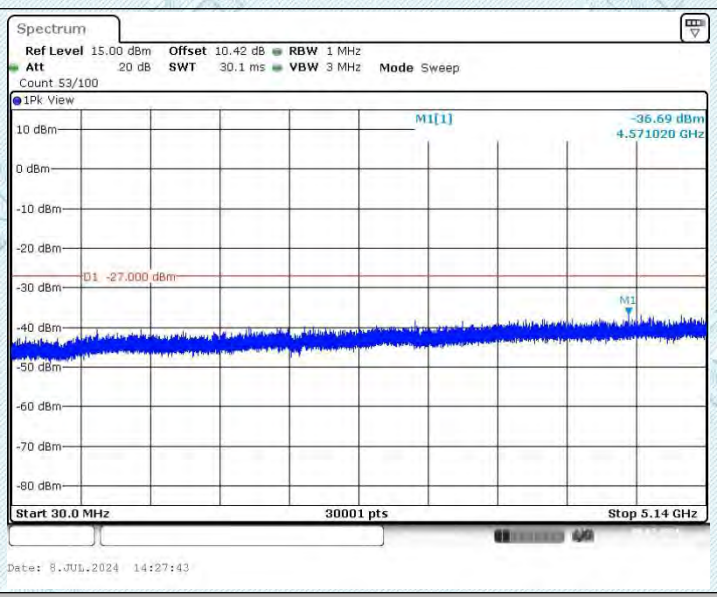
11AC20SISO_Ant1_5240_30~5140



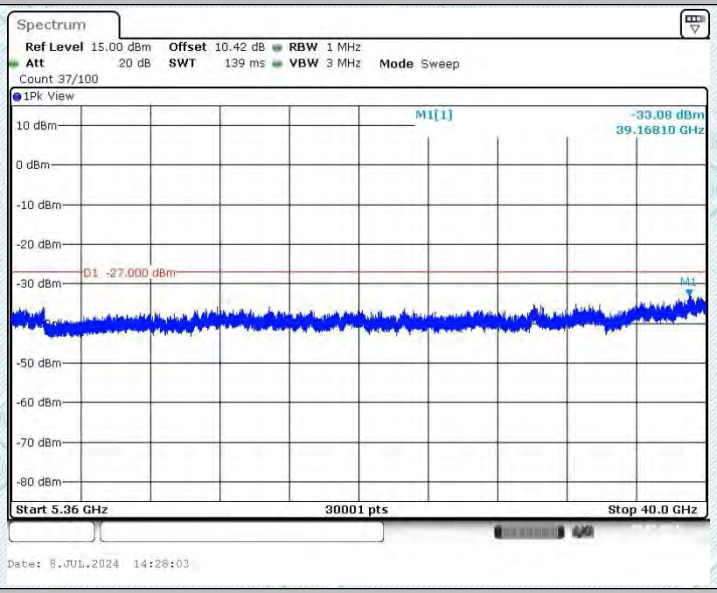
11AC20SISO_Ant1_5240_5360~40000



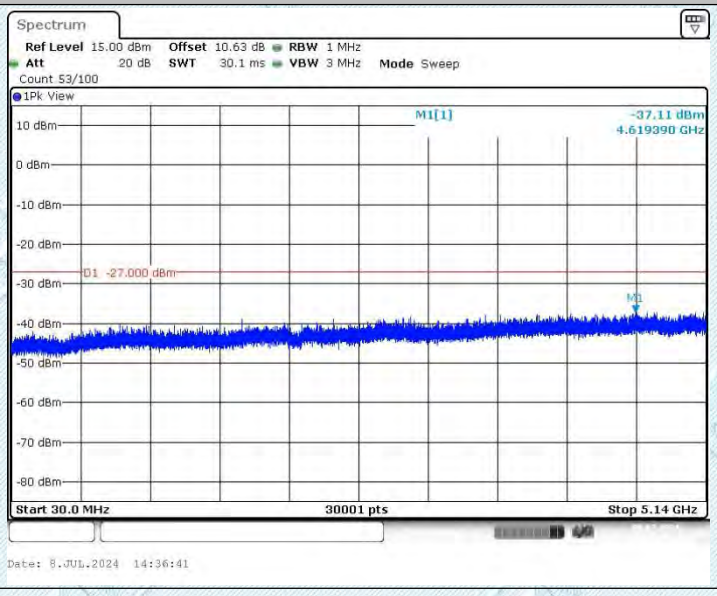
11AC40SISO_Ant1_5190_30~5140



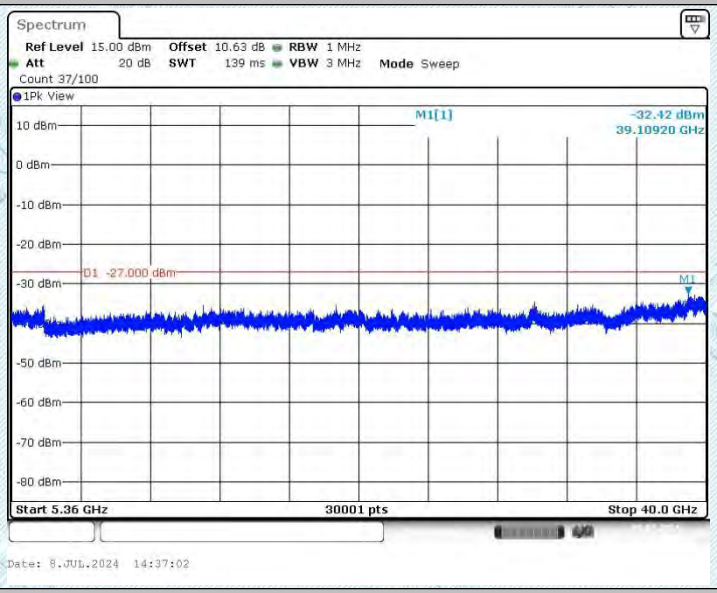
11AC40SISO_Ant1_5190_5360~40000



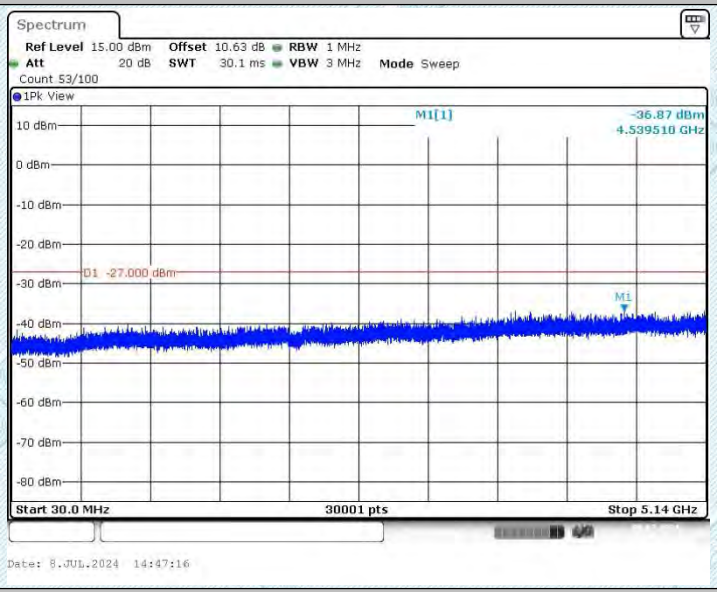
11AC40SISO_Ant1_5230_30~5140



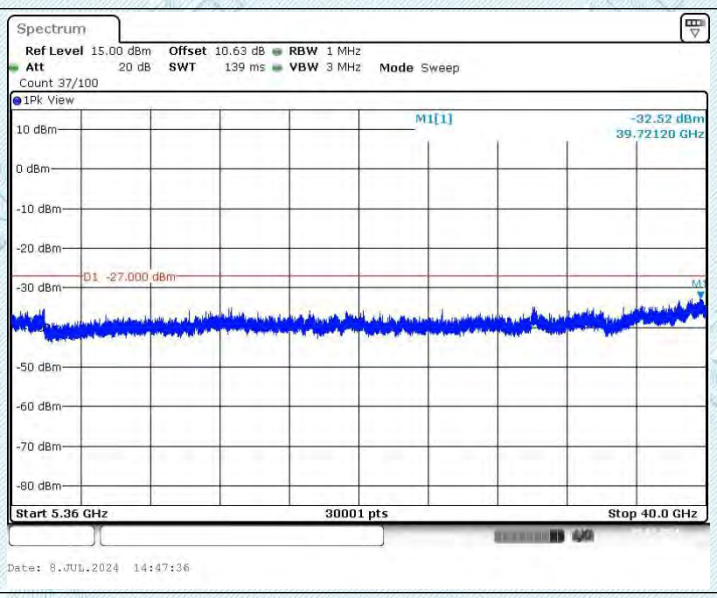
11AC40SISO_Ant1_5230_5360~40000



11AC80SISO_Ant1_5210_30~5140



11AC80SISO_Ant1_5210_5360~40000


Spectrum
Ref Level 15.00 dBm Offset 10.63 dB RBW 1 MHz
Att 20 dB SWT 139 ms VBW 3 MHz Mode Sweep
Count 37/100
1Pk View
M1[1] -32.52 dBm
39.72120 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
D1 -27.000 dBm
-30 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
Start 5.36 GHz
30001 pts
Stop 40.0 GHz
Date: 8.JUL.2024 14:47:36

Appendix G: Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Frequency[MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5220	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5240	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11N20SISO	Ant1	5180	NV	NT	-20000.00	-3.861004	20	PASS
			LV	NT	-20000.00	-3.861004	20	PASS
			HV	NT	-20000.00	-3.861004	20	PASS
		5220	NV	NT	-20000.00	-3.831418	20	PASS
			LV	NT	-20000.00	-3.831418	20	PASS
			HV	NT	-20000.00	-3.831418	20	PASS
		5240	NV	NT	-20000.00	-3.816794	20	PASS
			LV	NT	-20000.00	-3.816794	20	PASS
			HV	NT	-20000.00	-3.816794	20	PASS
11N40SISO	Ant1	5190	NV	NT	40000.00	7.707129	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	40000.00	7.707129	20	PASS
		5230	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11AC20SISO	Ant1	5180	NV	NT	-20000.00	-3.861004	20	PASS
			LV	NT	-20000.00	-3.861004	20	PASS
			HV	NT	-20000.00	-3.861004	20	PASS
		5220	NV	NT	-20000.00	-3.831418	20	PASS
			LV	NT	-20000.00	-3.831418	20	PASS
			HV	NT	-20000.00	-3.831418	20	PASS
		5240	NV	NT	-20000.00	-3.816794	20	PASS
			LV	NT	-20000.00	-3.816794	20	PASS
			HV	NT	-20000.00	-3.816794	20	PASS
11AC40SISO	Ant1	5190	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

		5230	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
11AC80S ISO	Ant1	5210	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS

Temperature								
TestMode	Antenna	Frequency[MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5220	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5240	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11N20SISO	Ant1	5180	NV	-30	-20000.00	-3.861004	20	PASS
			NV	-20	-20000.00	-3.861004	20	PASS
			NV	-10	-20000.00	-3.861004	20	PASS
			NV	0	-20000.00	-3.861004	20	PASS
			NV	10	-20000.00	-3.861004	20	PASS
			NV	20	-20000.00	-3.861004	20	PASS

			NV	30	-20000.00	-3.861004	20	PASS
			NV	40	-20000.00	-3.861004	20	PASS
			NV	50	-20000.00	-3.861004	20	PASS
		5220	NV	-30	-20000.00	-3.831418	20	PASS
			NV	-20	-20000.00	-3.831418	20	PASS
			NV	-10	-20000.00	-3.831418	20	PASS
			NV	0	-20000.00	-3.831418	20	PASS
			NV	10	-20000.00	-3.831418	20	PASS
			NV	20	-20000.00	-3.831418	20	PASS
			NV	30	-20000.00	-3.831418	20	PASS
			NV	40	-20000.00	-3.831418	20	PASS
			NV	50	-20000.00	-3.831418	20	PASS
		5240	NV	-30	-20000.00	-3.816794	20	PASS
			NV	-20	-20000.00	-3.816794	20	PASS
			NV	-10	-20000.00	-3.816794	20	PASS
			NV	0	-20000.00	-3.816794	20	PASS
			NV	10	-20000.00	-3.816794	20	PASS
			NV	20	-20000.00	-3.816794	20	PASS
			NV	30	-20000.00	-3.816794	20	PASS
			NV	40	-20000.00	-3.816794	20	PASS
			NV	50	-20000.00	-3.816794	20	PASS
11N40SISO	Ant1	5190	NV	-30	0.00	0.000000	20	PASS
			NV	-20	40000.00	7.707129	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	40000.00	7.707129	20	PASS
			NV	10	40000.00	7.707129	20	PASS
			NV	20	40000.00	7.707129	20	PASS
			NV	30	40000.00	7.707129	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	40000.00	7.707129	20	PASS
		5230	NV	-30	0.00	0.000000	20	PASS
			NV	-20	40000.00	7.648184	20	PASS
			NV	-10	40000.00	7.648184	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11AC20SISO	Ant1	5180	NV	-30	-20000.00	-3.861004	20	PASS
			NV	-20	-20000.00	-3.861004	20	PASS
			NV	-10	-20000.00	-3.861004	20	PASS
			NV	0	-20000.00	-3.861004	20	PASS

			NV	10	-20000.00	-3.861004	20	PASS
			NV	20	-20000.00	-3.861004	20	PASS
			NV	30	-20000.00	-3.861004	20	PASS
			NV	40	-20000.00	-3.861004	20	PASS
			NV	50	-20000.00	-3.861004	20	PASS
		5220	NV	-30	-20000.00	-3.831418	20	PASS
			NV	-20	-20000.00	-3.831418	20	PASS
			NV	-10	-20000.00	-3.831418	20	PASS
			NV	0	-20000.00	-3.831418	20	PASS
			NV	10	-20000.00	-3.831418	20	PASS
			NV	20	-20000.00	-3.831418	20	PASS
			NV	30	-20000.00	-3.831418	20	PASS
			NV	40	-20000.00	-3.831418	20	PASS
			NV	50	-20000.00	-3.831418	20	PASS
		5240	NV	-30	-20000.00	-3.816794	20	PASS
			NV	-20	-20000.00	-3.816794	20	PASS
			NV	-10	-20000.00	-3.816794	20	PASS
			NV	0	-20000.00	-3.816794	20	PASS
			NV	10	-20000.00	-3.816794	20	PASS
			NV	20	-20000.00	-3.816794	20	PASS
			NV	30	-20000.00	-3.816794	20	PASS
			NV	40	-20000.00	-3.816794	20	PASS
			NV	50	-20000.00	-3.816794	20	PASS
11AC40S ISO	Ant1	5190	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5230	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
11AC80S ISO	Ant1	5210	NV	-30	0.00	0.000000	20	PASS
			NV	-20	0.00	0.000000	20	PASS

			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS