



Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: LCD PROJECTOR

Test Model: L011

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
	<i>Nick Peng</i>
Supervised by:	Ling Zhu
	<i>Ling Zhu</i>





D.1 Emission Bandwidth

Test Result

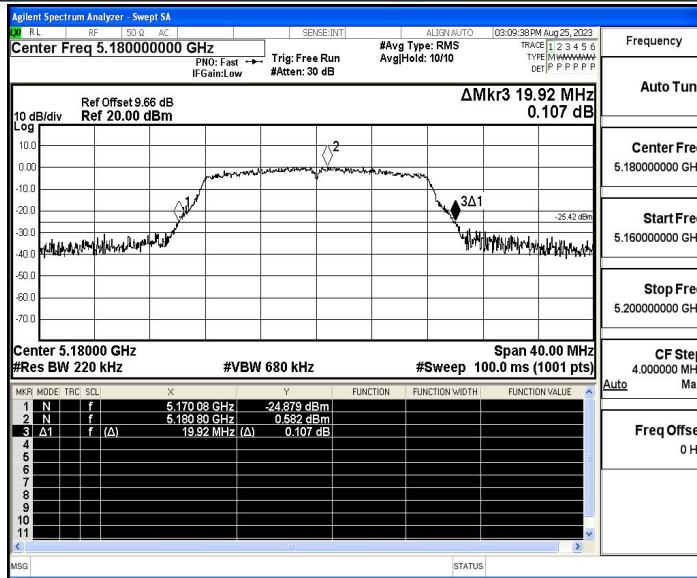
TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	19.920	5170.080	5190.000	---	---
		5220	19.920	5210.040	5229.960	---	---
		5240	19.960	5229.920	5249.880	---	---
11N20SISO	Ant1	5180	20.200	5169.880	5190.080	---	---
		5220	21.040	5209.760	5230.800	---	---
		5240	20.600	5229.520	5250.120	---	---
11N40SISO	Ant1	5190	40.640	5169.600	5210.240	---	---
		5230	40.400	5209.760	5250.160	---	---



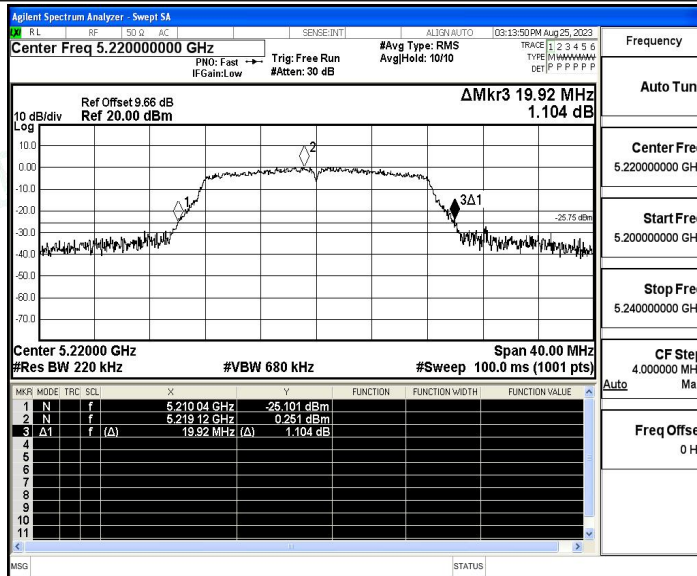


Test Graphs

11A_Ant1_5180

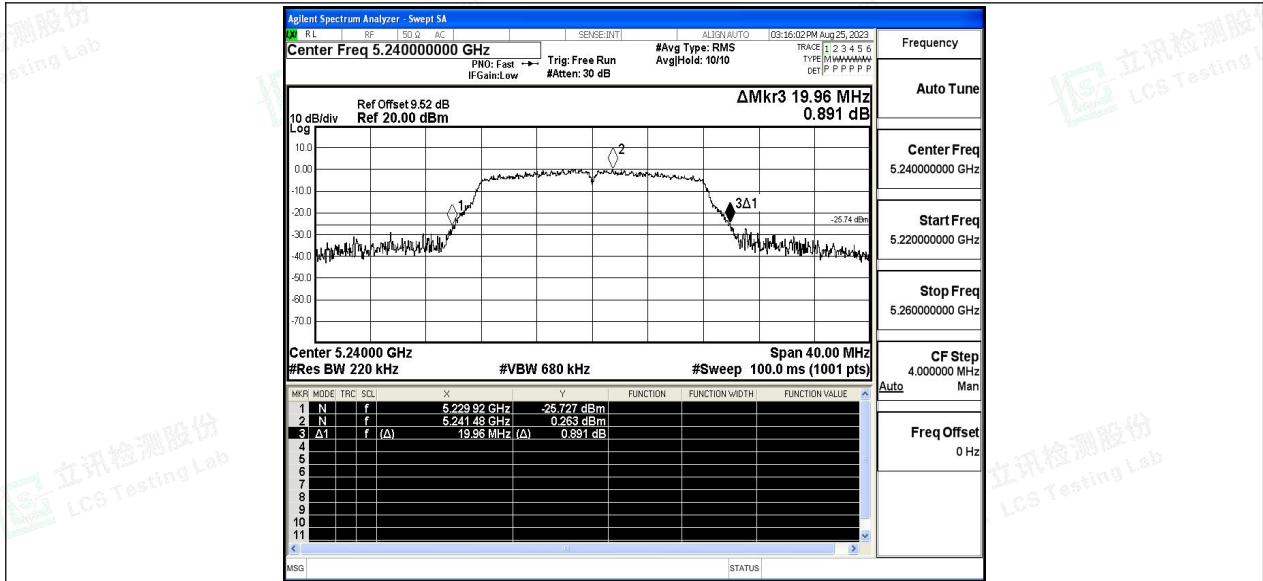


11A_Ant1_5220

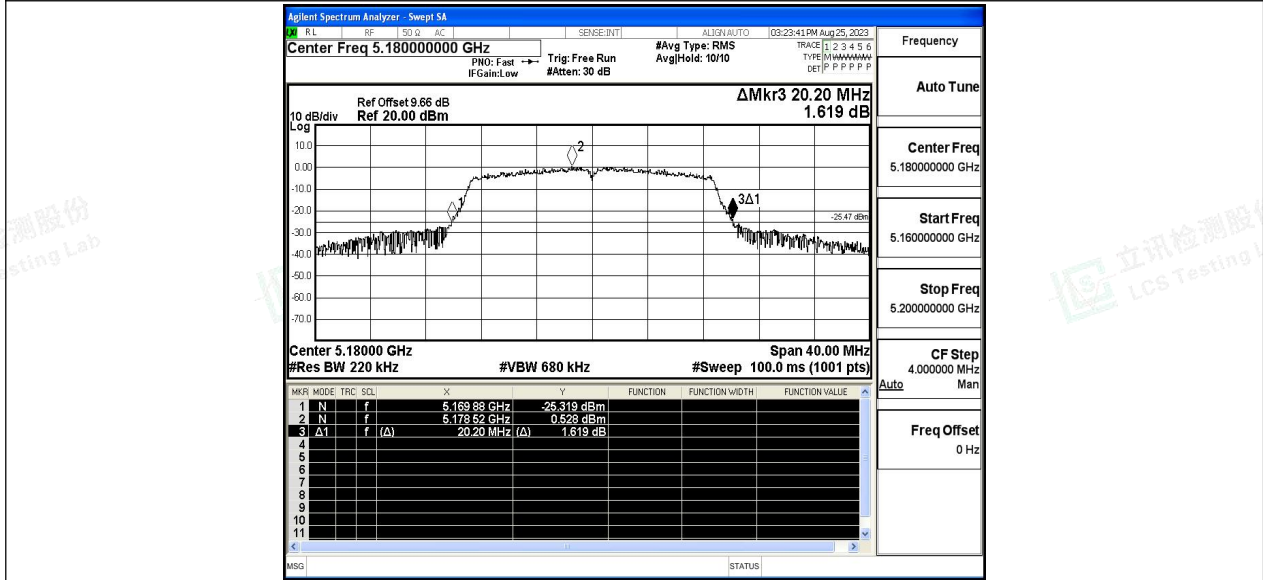


11A_Ant1_5240



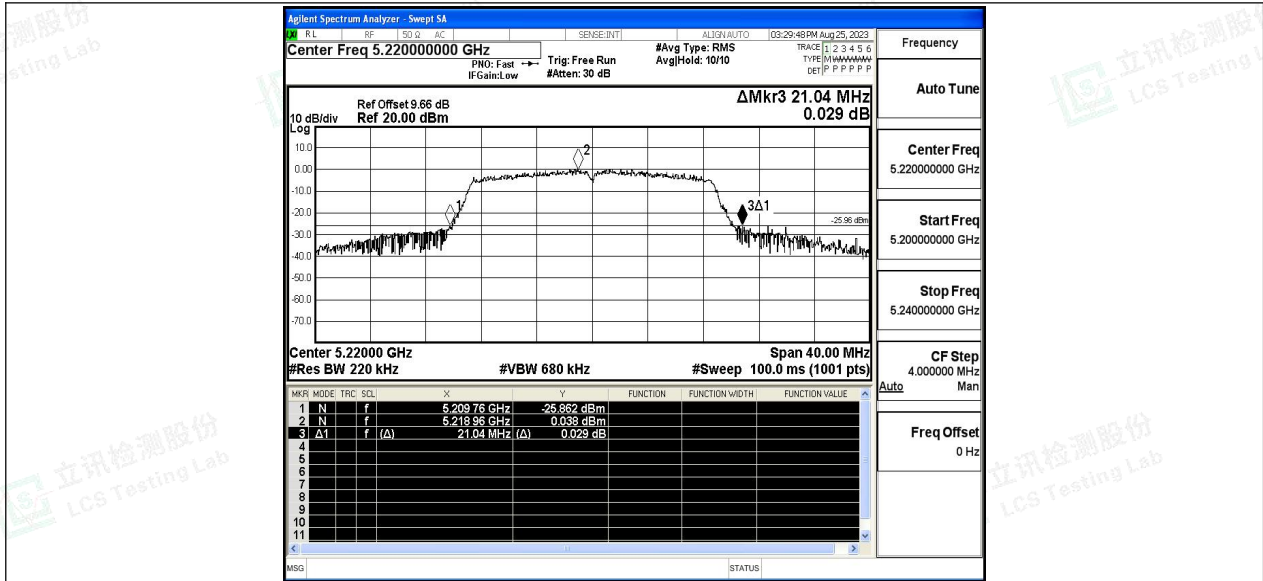


11N20SISO_Ant1_5180

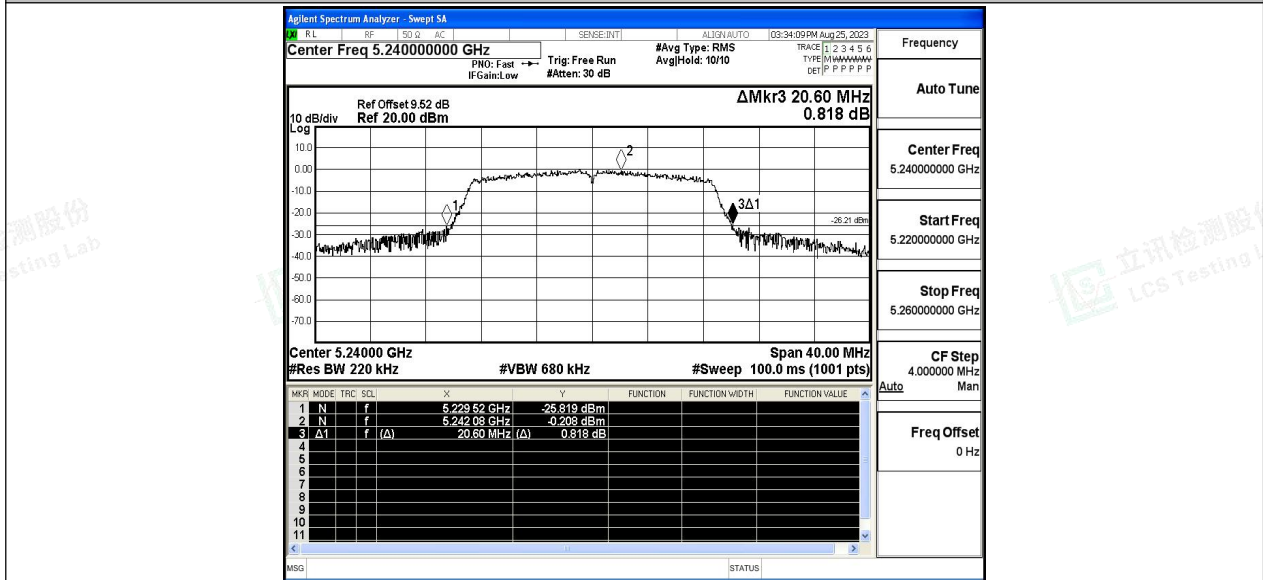


11N20SISO_Ant1_5220



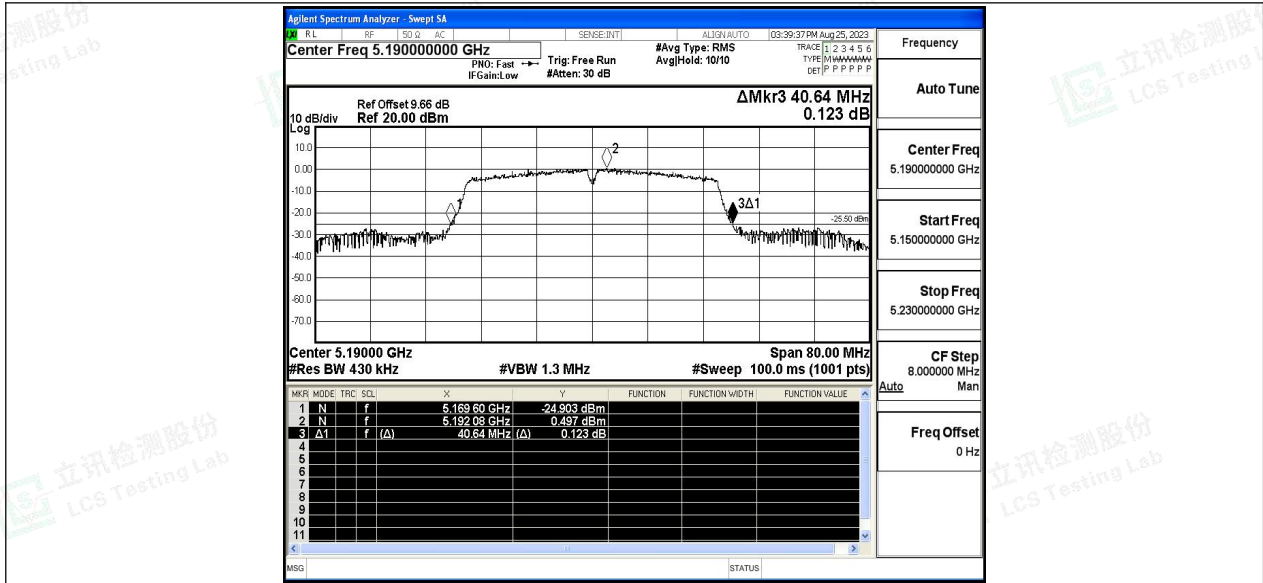


11N20SISO_Ant1_5240

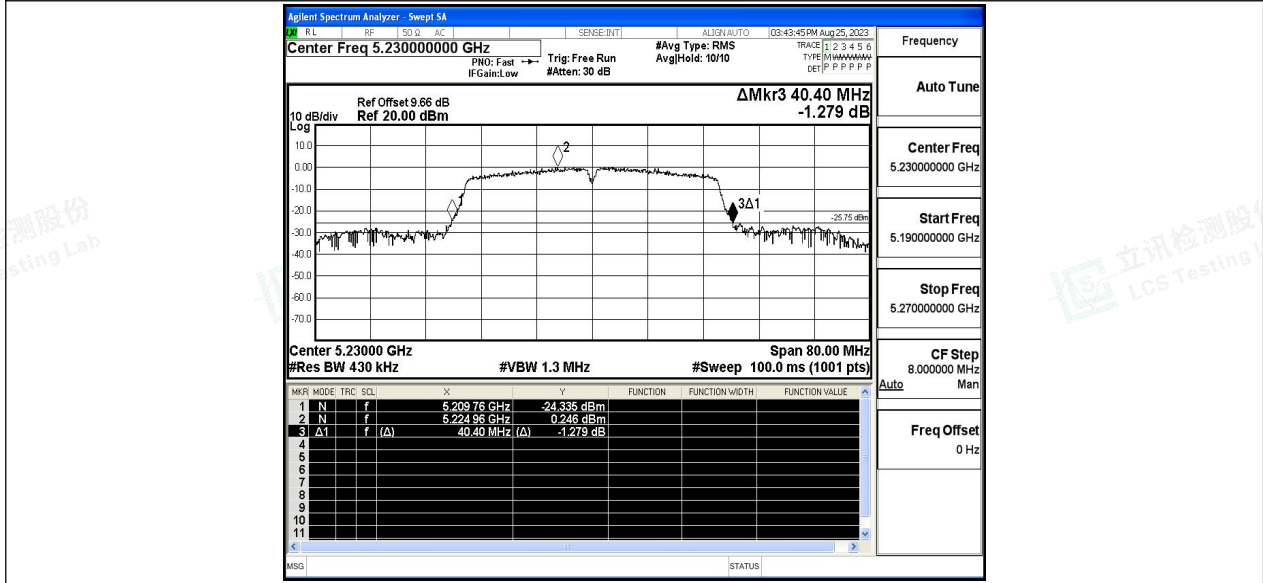


11N40SISO_Ant1_5190





11N40SISO_Ant1_5230





D.2 Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Frequency[MHz]	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	9.81	97.22	0.12	9.93	≤23.98	PASS
		5220	9.73	96.53	0.15	9.88	≤23.98	PASS
		5240	9.50	97.20	0.12	9.62	≤23.98	PASS
11N20SISO	Ant1	5180	9.74	96.99	0.13	9.87	≤23.98	PASS
		5220	9.50	96.27	0.17	9.67	≤23.98	PASS
		5240	9.33	96.27	0.17	9.50	≤23.98	PASS
11N40SISO	Ant1	5190	9.62	94.12	0.26	9.88	≤23.98	PASS
		5230	9.38	92.65	0.33	9.71	≤23.98	PASS

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





D.3 Maximum power spectral density

Test Result

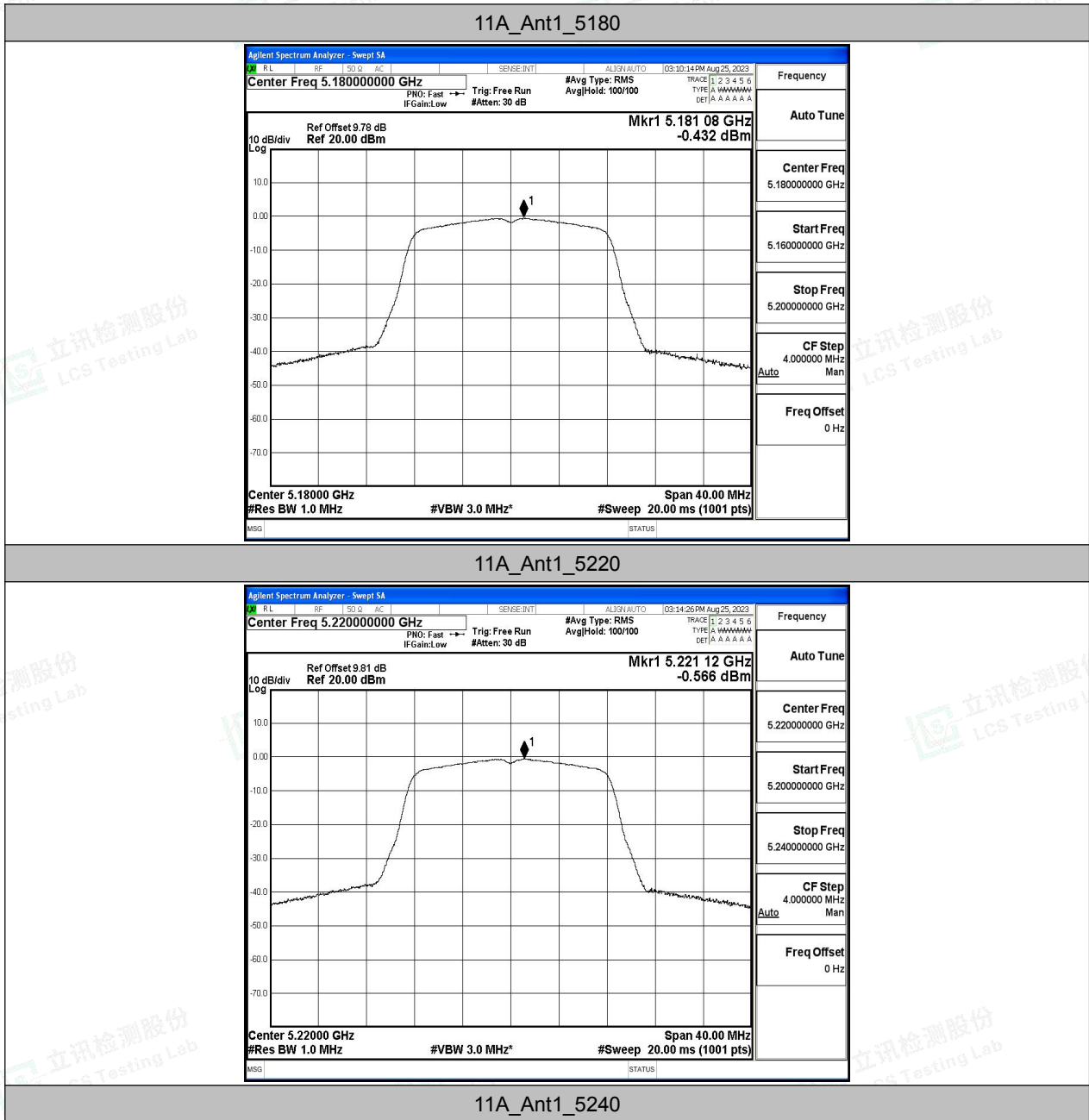
TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-0.43	≤11.00	PASS
		5220	-0.57	≤11.00	PASS
		5240	-0.81	≤11.00	PASS
11N20SISO	Ant1	5180	-0.78	≤11.00	PASS
		5220	-0.98	≤11.00	PASS
		5240	-1.13	≤11.00	PASS
11N40SISO	Ant1	5190	-3.54	≤11.00	PASS
		5230	-3.75	≤11.00	PASS

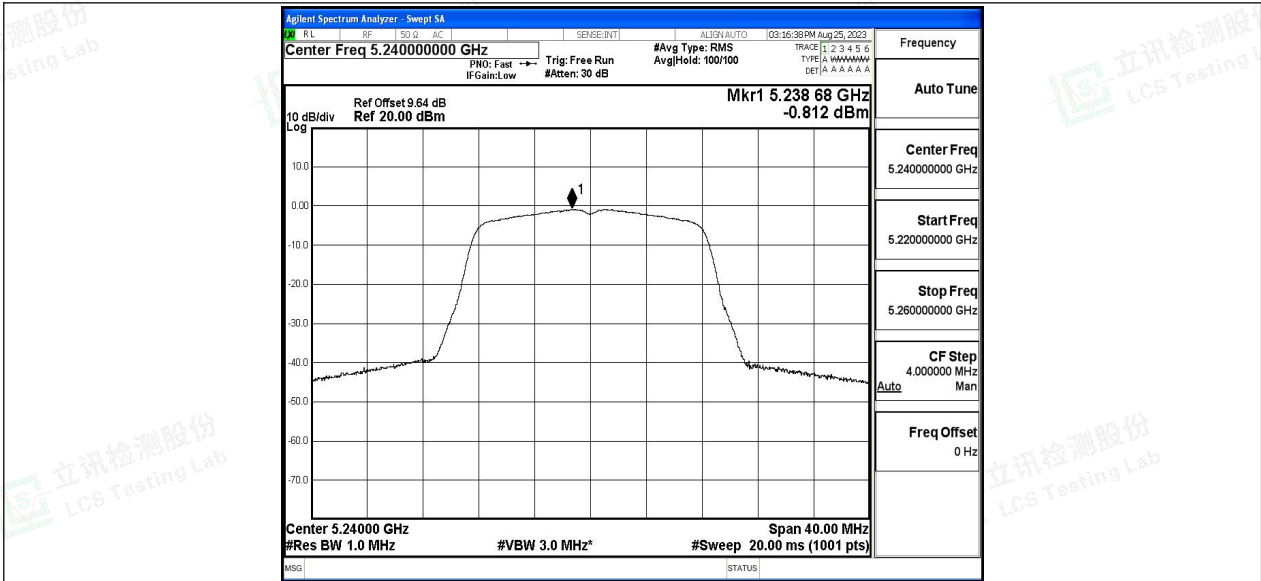
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
 2.The Duty Cycle Factor and RBW Factor is compensated in the graph.



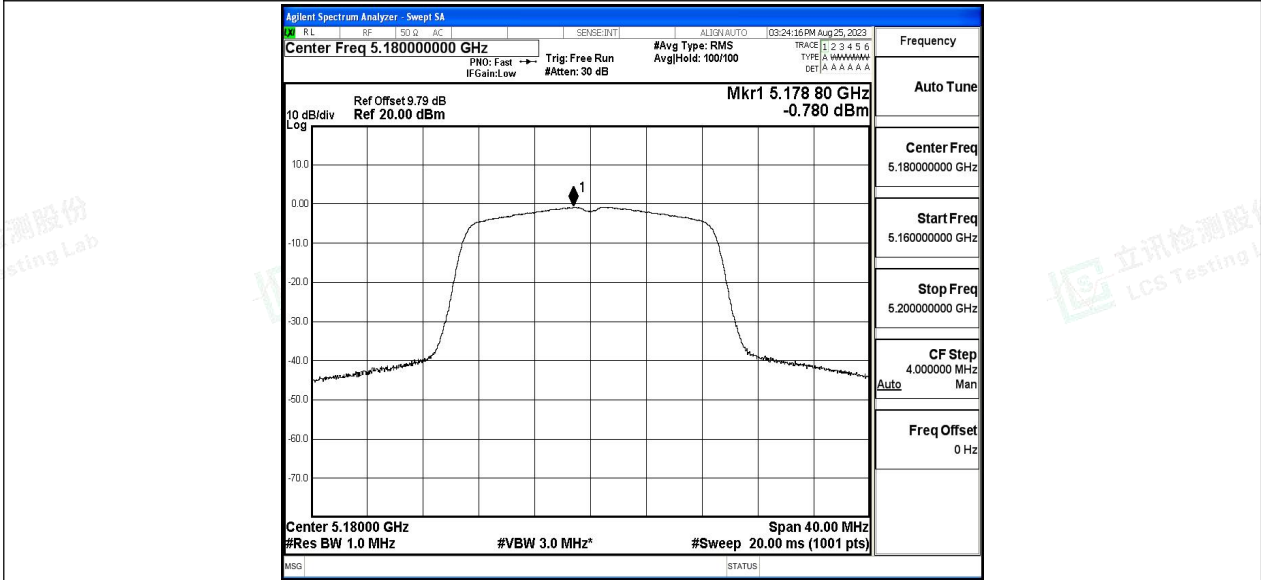


Test Graphs



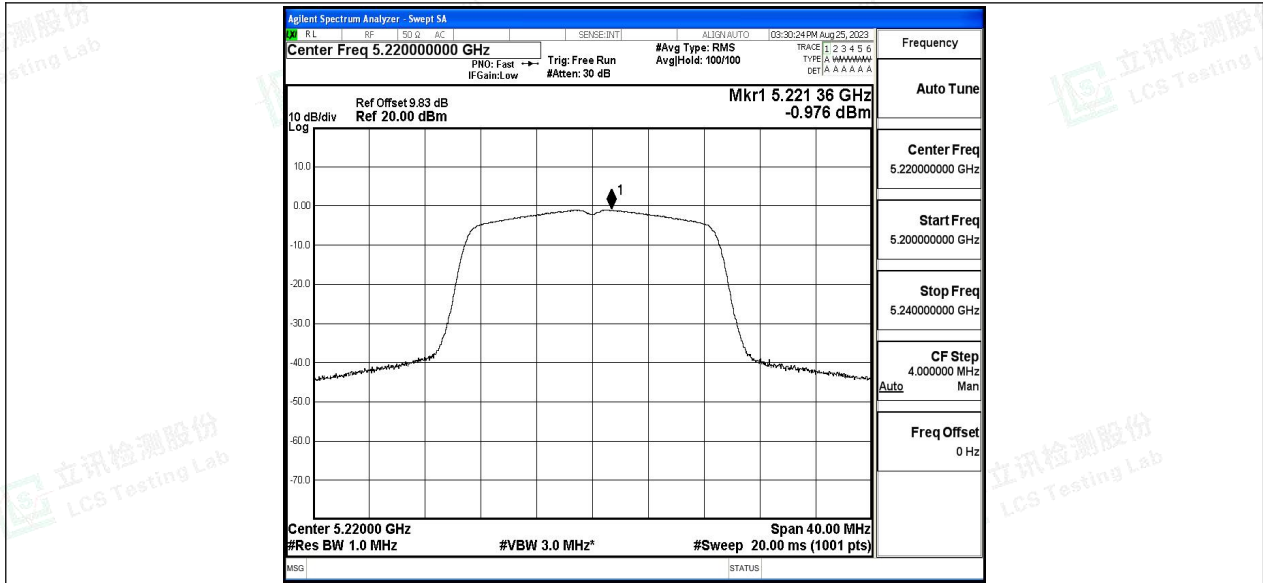


11N20SISO_Ant1_5180

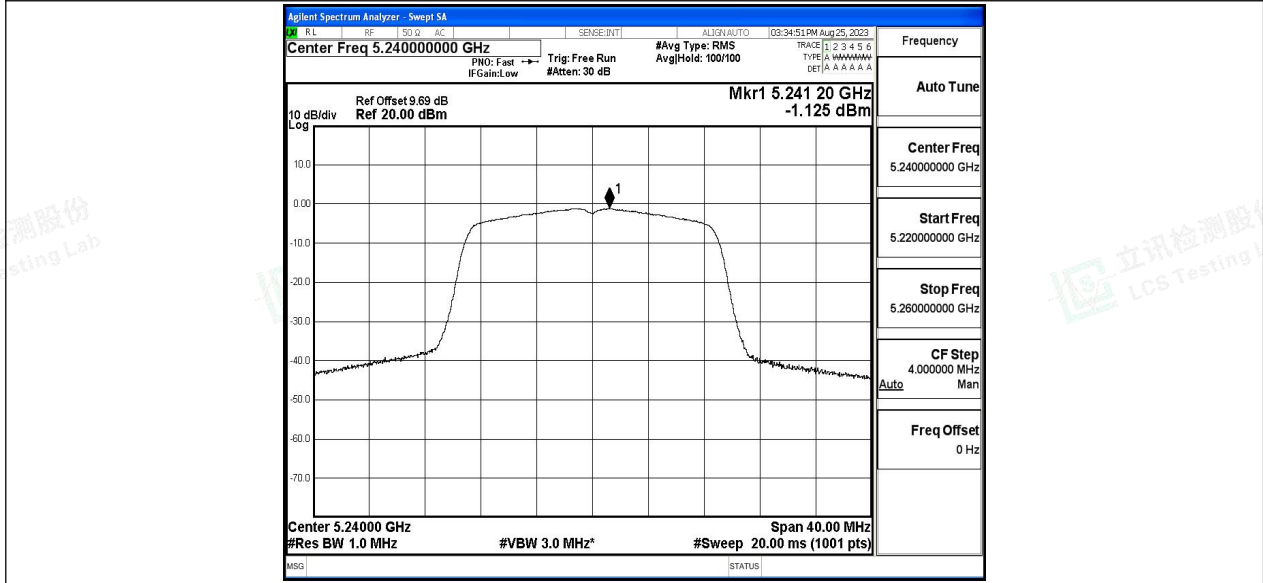


11N20SISO_Ant1_5220



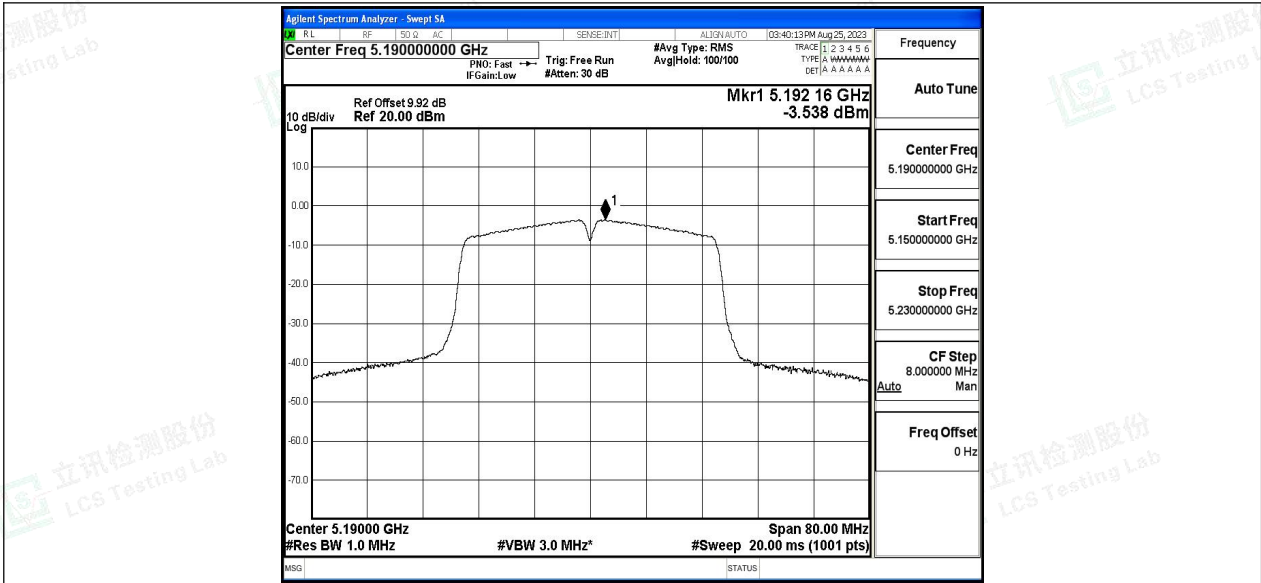


11N20SISO_Ant1_5240

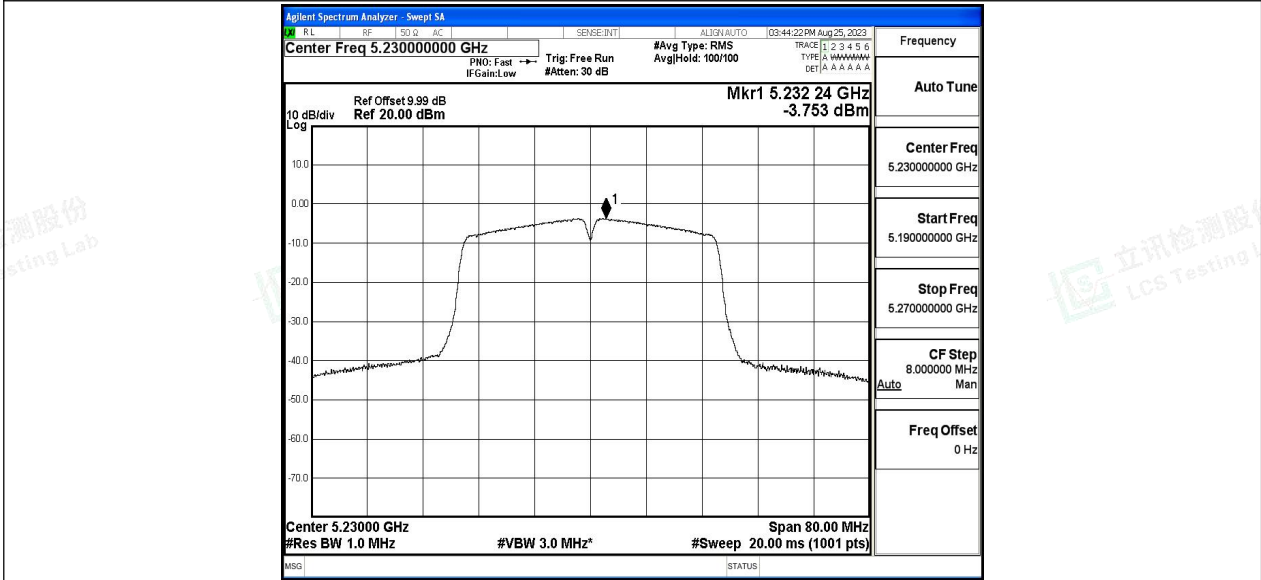


11N40SISO_Ant1_5190





11N40SISO_Ant1_5230





D.4 Emissions in Restricted Bands

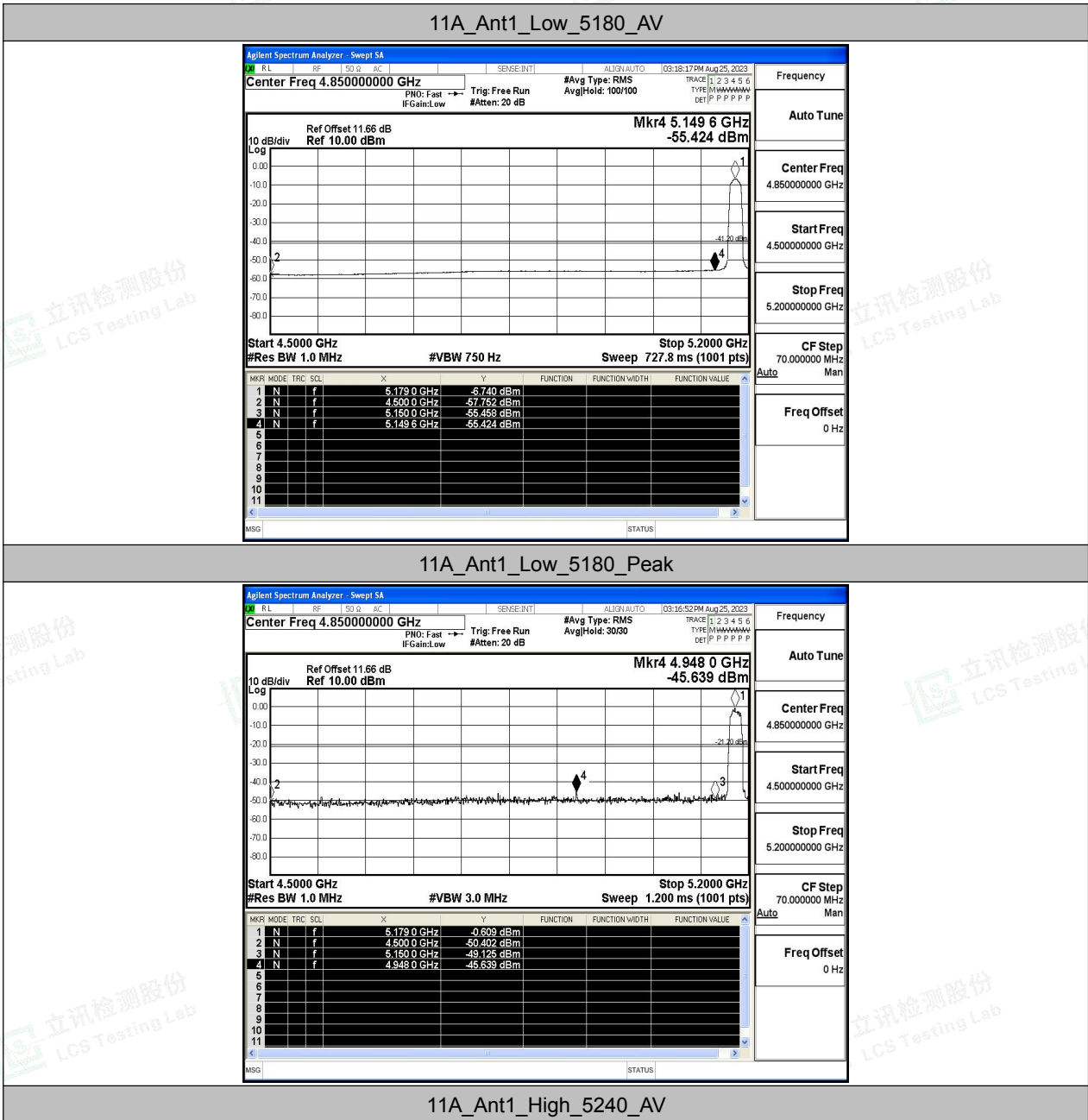
Test Result

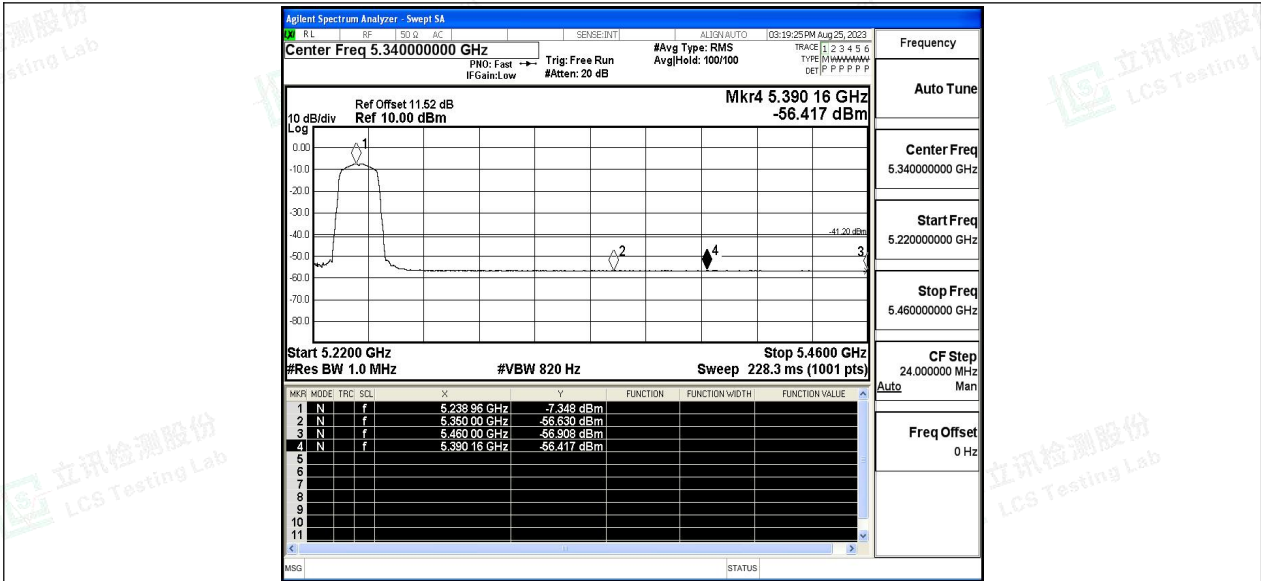
TestMode	Antenna	Channel Name	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Gain (dBi)	E (dBuV/m)	Limit [dBuV/m]	Verdict
11A	Ant1	Low	5180	AV	4500.000	-57.75	5.32	42.80	≤54	PASS
				AV	5149.600	-55.42	5.32	45.13	≤54	PASS
				AV	5150.000	-55.46	5.32	45.09	≤54	PASS
				Peak	4500.000	-50.4	5.32	50.15	≤74	PASS
				Peak	4948.000	-45.64	5.32	54.91	≤74	PASS
				Peak	5150.000	-49.13	5.32	51.42	≤74	PASS
		High	5240	AV	5350.000	-56.63	5.32	43.92	≤54	PASS
				AV	5390.160	-56.42	5.32	44.13	≤54	PASS
				AV	5460.000	-56.91	5.32	43.64	≤54	PASS
				Peak	5350.000	-50.08	5.32	50.47	≤74	PASS
				Peak	5403.600	-47.67	5.32	52.88	≤74	PASS
				Peak	5460.000	-50.65	5.32	49.90	≤74	PASS
11N20SI SO	Ant1	Low	5180	AV	4500.000	-57.8	5.32	42.75	≤54	PASS
				AV	5147.500	-55.3	5.32	45.25	≤54	PASS
				AV	5150.000	-55.47	5.32	45.08	≤54	PASS
				Peak	4500.000	-51.88	5.32	48.67	≤74	PASS
				Peak	5097.100	-46.88	5.32	53.67	≤74	PASS
				Peak	5150.000	-47.5	5.32	53.05	≤74	PASS
		High	5240	AV	5350.000	-56.74	5.32	43.81	≤54	PASS
				AV	5403.120	-56.48	5.32	44.07	≤54	PASS
				AV	5460.000	-56.96	5.32	43.59	≤54	PASS
				Peak	5350.000	-51.67	5.32	48.88	≤74	PASS
				Peak	5360.160	-47.25	5.32	53.30	≤74	PASS
				Peak	5460.000	-50.46	5.32	50.09	≤74	PASS
11N40SI SO	Ant1	Low	5190	AV	4500.000	-57.64	5.32	42.91	≤54	PASS
				AV	5142.600	-55.07	5.32	45.48	≤54	PASS
				AV	5150.000	-55.05	5.32	45.50	≤54	PASS
				Peak	4500.000	-53.25	5.32	47.30	≤74	PASS
				Peak	4903.200	-46.84	5.32	53.71	≤74	PASS
				Peak	5150.000	-50.19	5.32	50.36	≤74	PASS
		High	5230	AV	5350.000	-56.26	5.32	44.29	≤54	PASS
				AV	5354.180	-55.97	5.32	44.58	≤54	PASS
				AV	5460.000	-56.34	5.32	44.21	≤54	PASS
				Peak	5350.000	-51.66	5.32	48.89	≤74	PASS
				Peak	5436.340	-46.17	5.32	54.38	≤74	PASS
				Peak	5460.000	-51.01	5.32	49.54	≤74	PASS



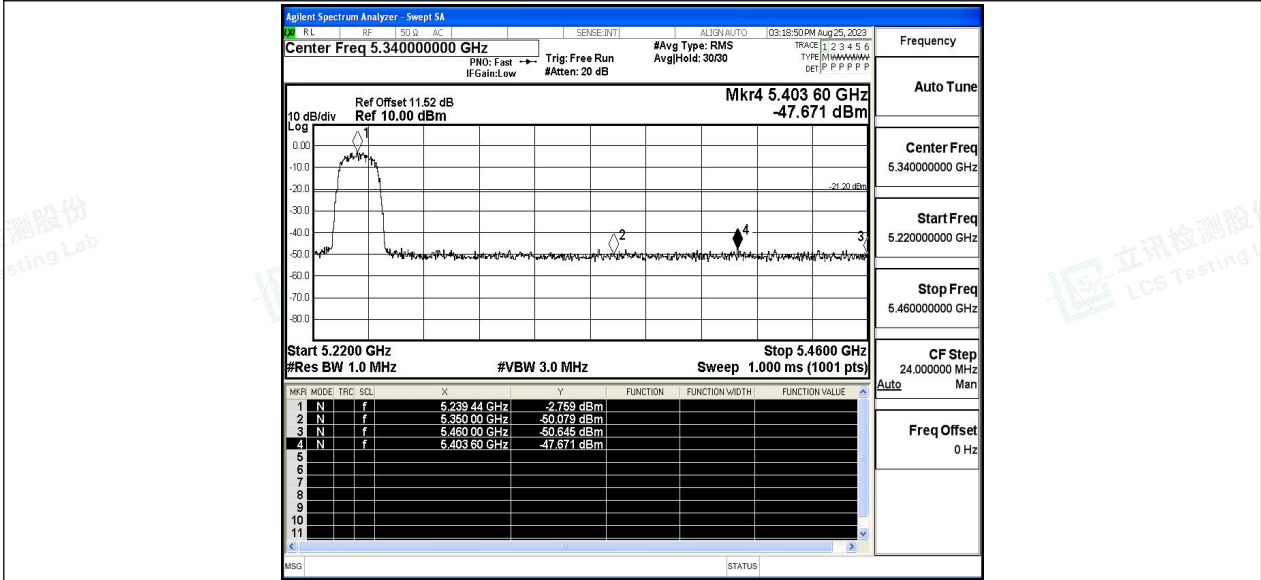


Test Graphs



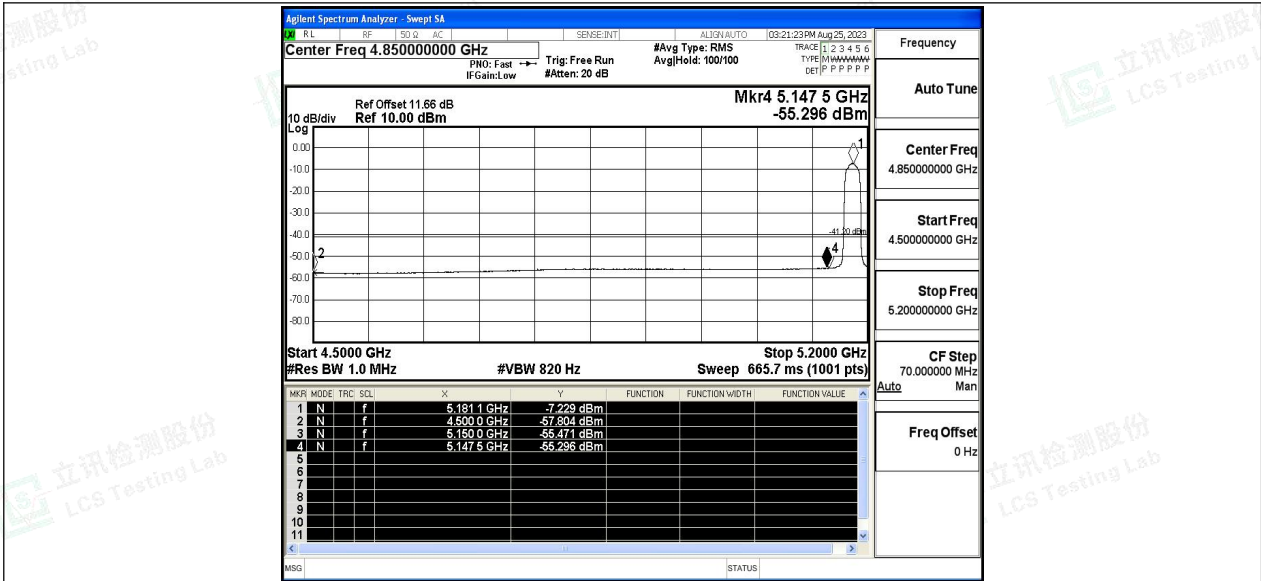


11A_Ant1_High_5240_Peak

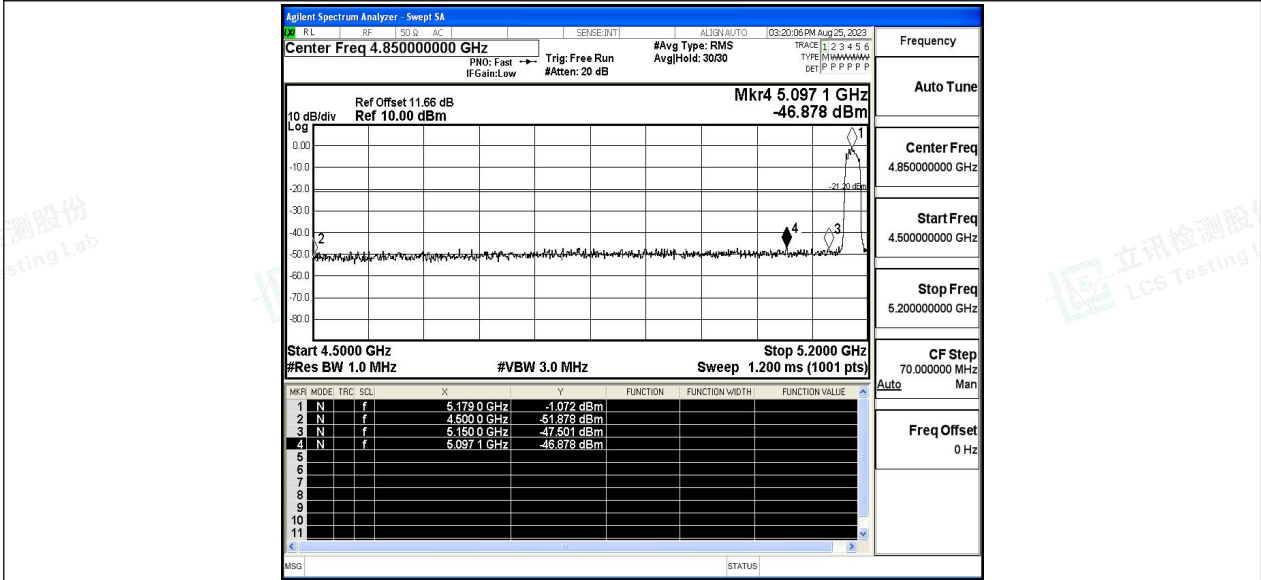


11N20SISO_Ant1_Low_5180_AV



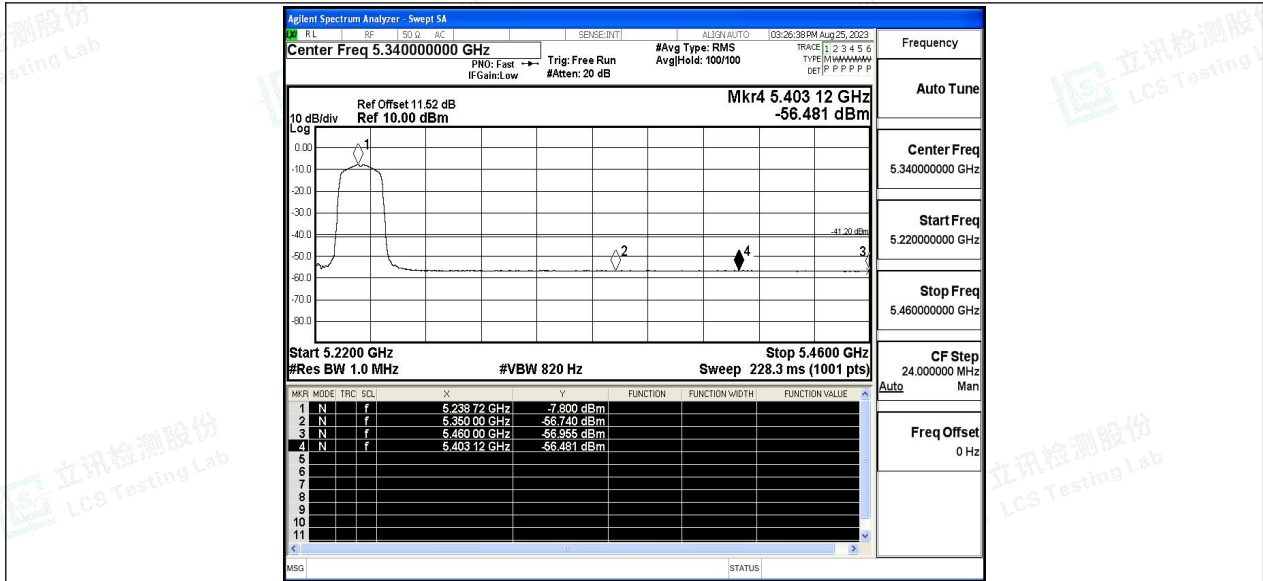


11N20SISO_Ant1_Low_5180_Peak

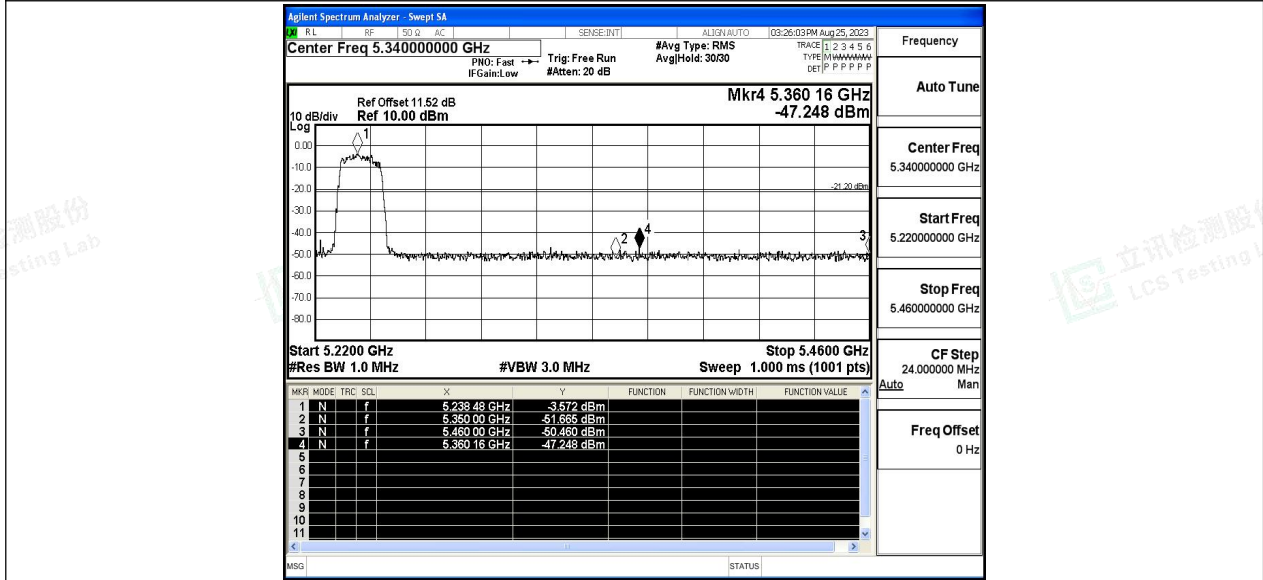


11N20SISO_Ant1_High_5240_AV



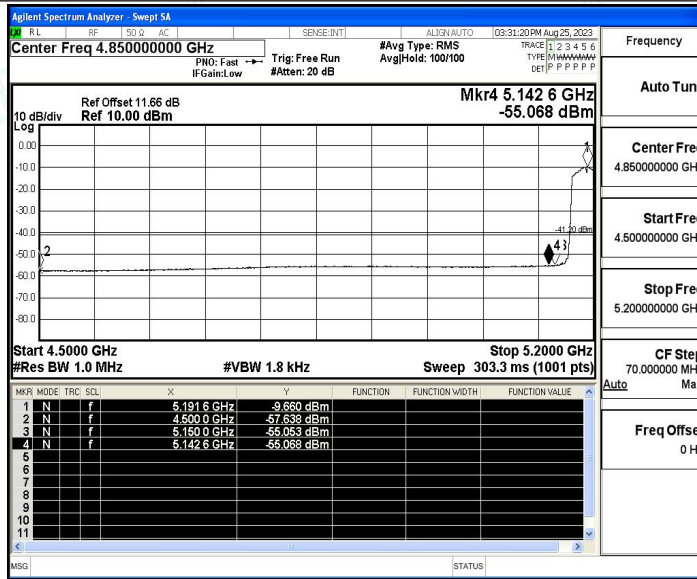


11N20SISO_Ant1_High_5240_Peak

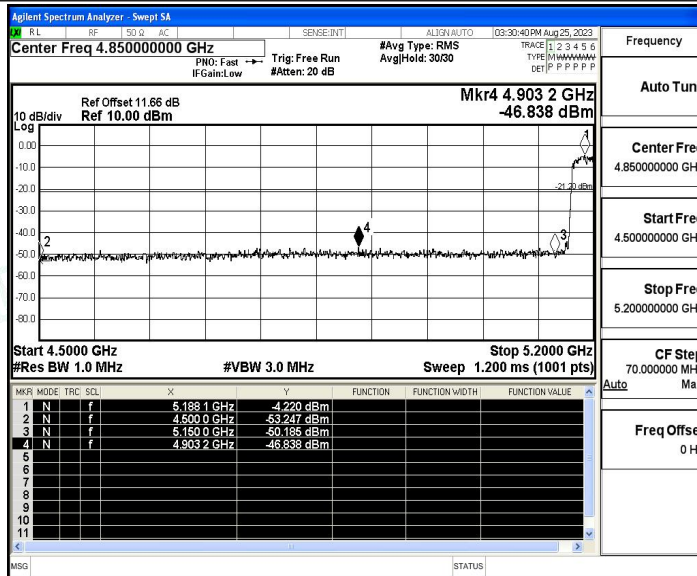


11N40SISO_Ant1_Low_5190_AV



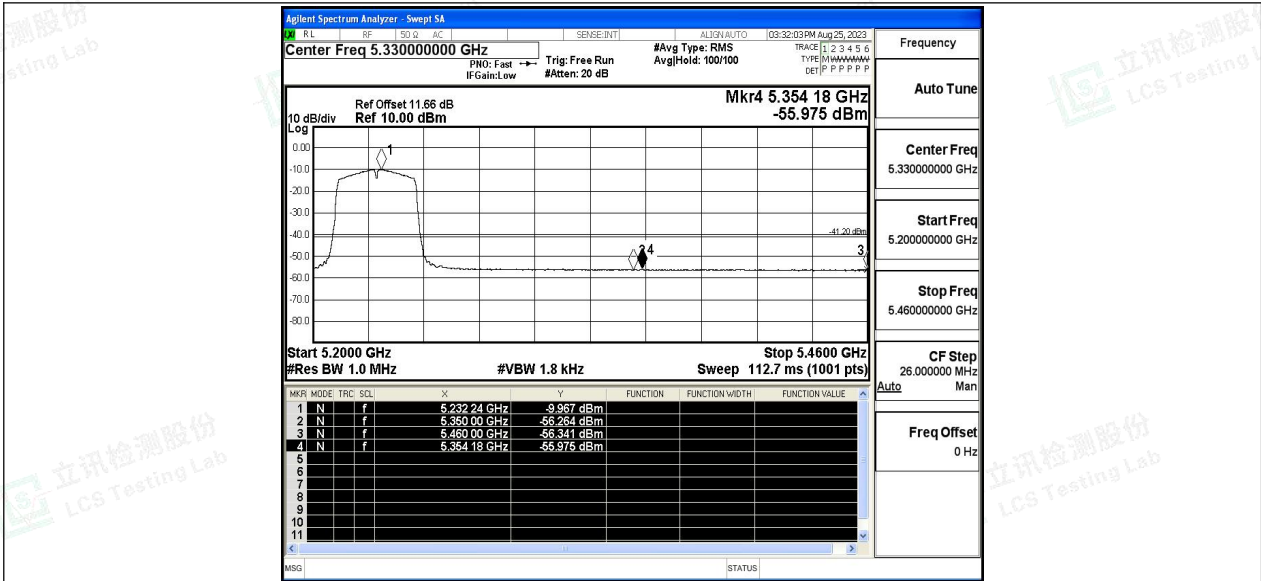


11N40SISO_Ant1_Low_5190_Peak

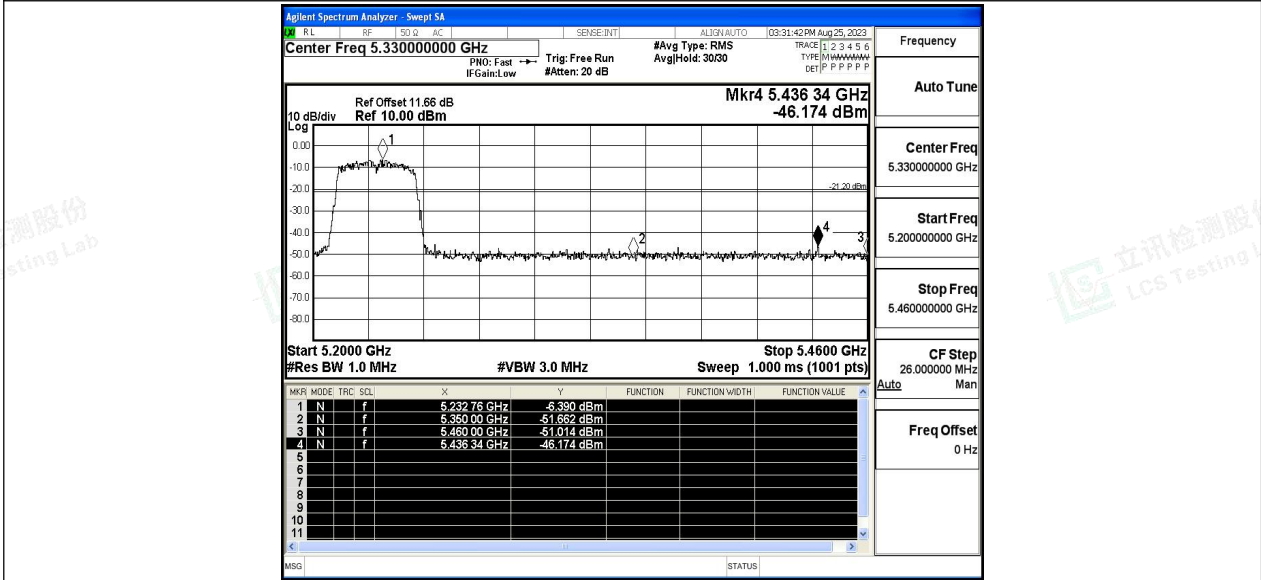


11N40SISO_Ant1_High_5230_AV





11N40SISO_Ant1_High_5230_Peak



D.5 Frequency Stability

Test Result

TestMode	Antenna	Frequency [MHz]	Voltage					Limit (ppm)	Verdict
			Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Deviation (ppm)		
11A	Ant1	5180	NV	NT	-20000.00	-3.861004	20	PASS	
			LV	NT	-40000.00	-7.722008	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	





11N40SIS O	Ant1	5240	HV	NT	-20000.00	-3.831418	20	PASS
			NV	NT	-20000.00	-3.816794	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-60000.00	-11.450382	20	PASS
		5190	NV	NT	-40000.00	-7.707129	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5230	NV	NT	-40000.00	-7.648184	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-40000.00	-7.648184	20	PASS

Temperature								
TestMode	Antenna	Frequenc y [MHz]	Voltage [Vdc]	Tempera ture (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	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	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	-20000.00	-3.861004	20	PASS
			NV	40	20000.00	3.861004	20	PASS
		5220	NV	50	-20000.00	-3.861004	20	PASS
			NV	-30	-20000.00	-3.831418	20	PASS
			NV	-20	-40000.00	-7.662835	20	PASS
			NV	-10	-40000.00	-7.662835	20	PASS
			NV	0	-40000.00	-7.662835	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	-20000.00	-3.831418	20	PASS
			NV	30	0.00	0.000000	20	PASS
		5240	NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
			NV	-30	0.00	0.000000	20	PASS
			NV	-20	-20000.00	-3.816794	20	PASS
			NV	-10	-40000.00	-7.633588	20	PASS
			NV	0	-40000.00	-7.633588	20	PASS
			NV	10	-20000.00	-3.816794	20	PASS
			NV	20	-20000.00	-3.816794	20	PASS
		5230	NV	30	-20000.00	-3.816794	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	-60000.00	-11.450382	20	PASS





11N40SIS O	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	0.00	0.000000	20	PASS
			NV	20	-80000.00	-15.414258	20	PASS
			NV	30	-40000.00	-7.707129	20	PASS
			NV	40	-40000.00	-7.707129	20	PASS
		NV	50	-40000.00	-7.707129	20	PASS	
		5230	NV	-30	-40000.00	-7.648184	20	PASS
			NV	-20	-80000.00	-15.296367	20	PASS
			NV	-10	40000.00	7.648184	20	PASS
			NV	0	-40000.00	-7.648184	20	PASS
			NV	10	-40000.00	-7.648184	20	PASS
			NV	20	-40000.00	-7.648184	20	PASS
			NV	30	-40000.00	-7.648184	20	PASS
			NV	40	0.00	0.000000	20	PASS
		NV	50	-40000.00	-7.648184	20	PASS	





D.6 Duty Cycle

Test Result

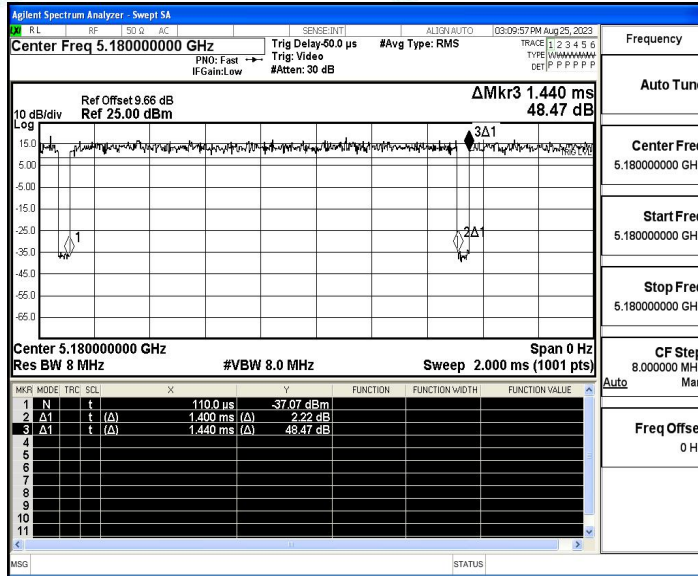
TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	1.40	1.44	97.22
		5220	1.39	1.44	96.53
		5240	1.39	1.43	97.20
11N20SISO	Ant1	5180	1.29	1.33	96.99
		5220	1.29	1.34	96.27
		5240	1.29	1.34	96.27
11N40SISO	Ant1	5190	0.64	0.68	94.12
		5230	0.63	0.68	92.65



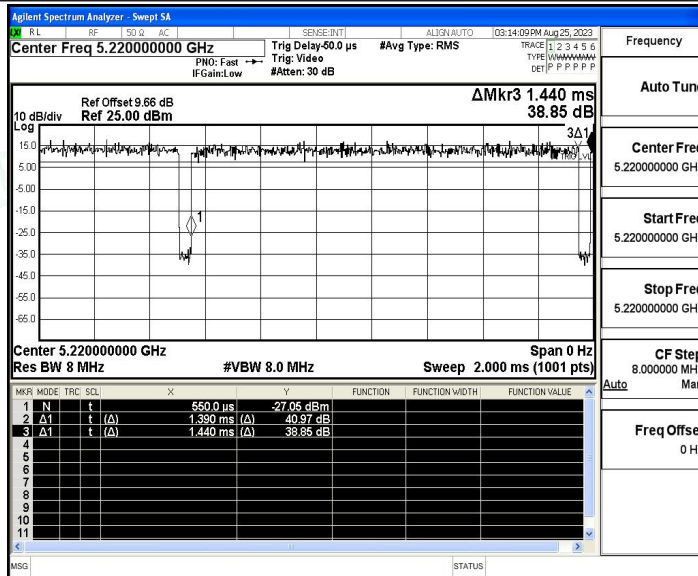


Test Graphs

11A_Ant1_5180

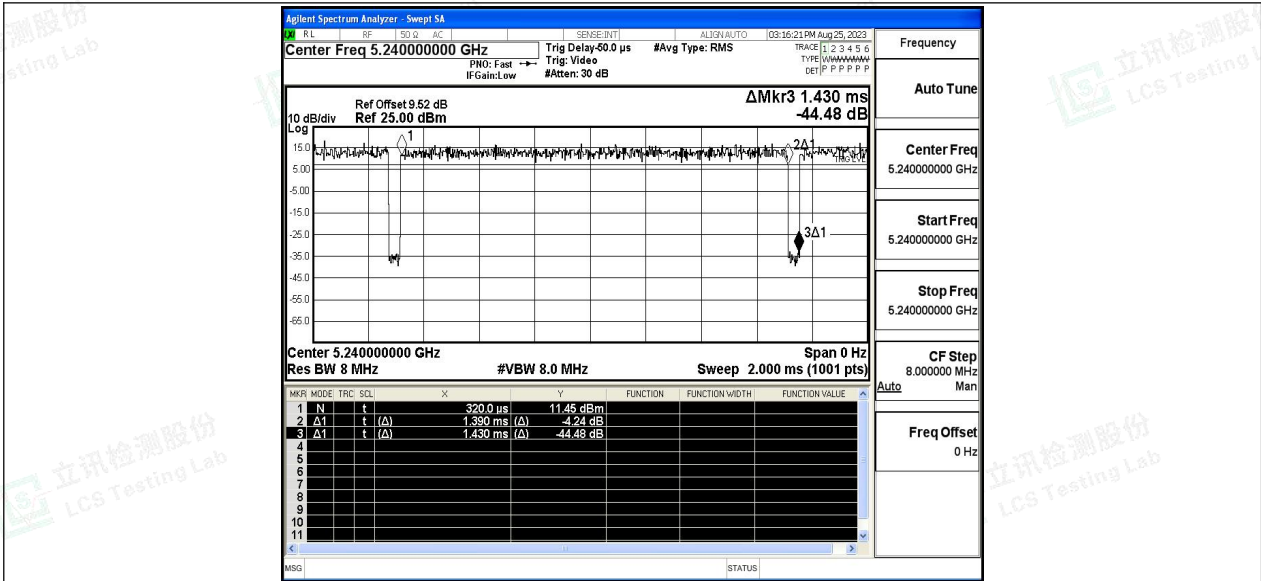


11A_Ant1_5220

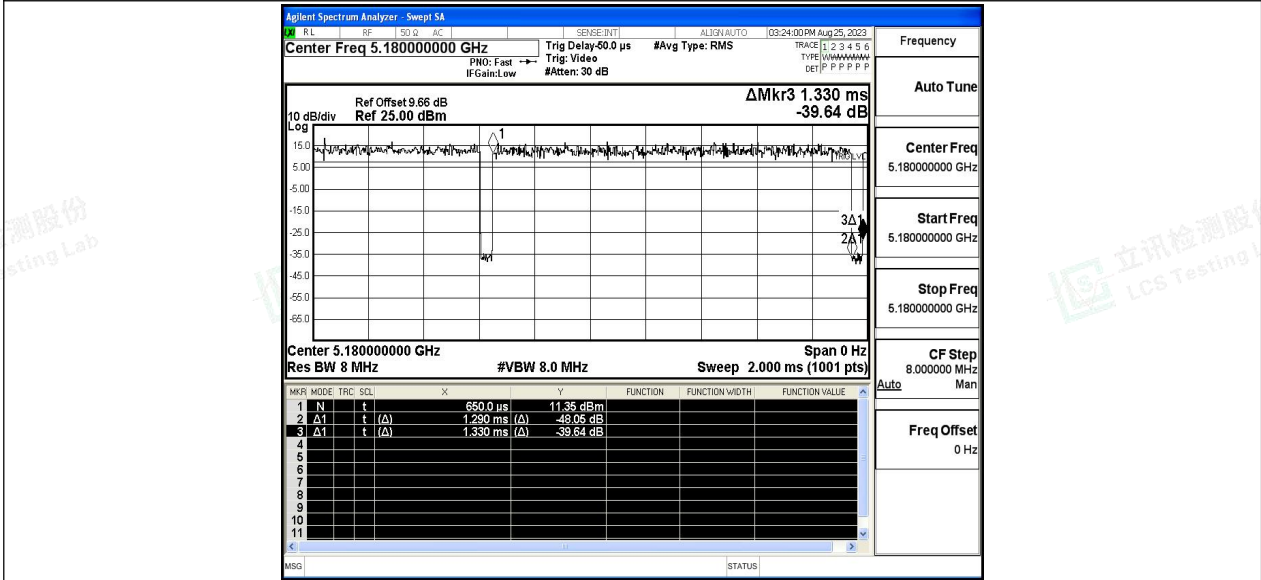


11A_Ant1_5240



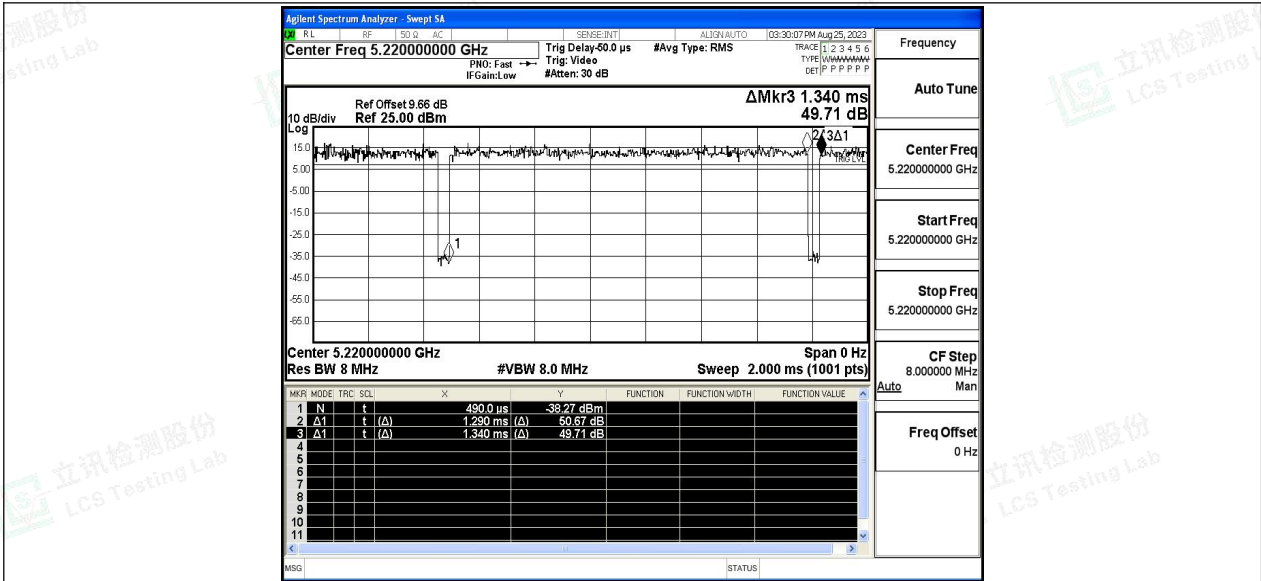


11N20SISO_Ant1_5180

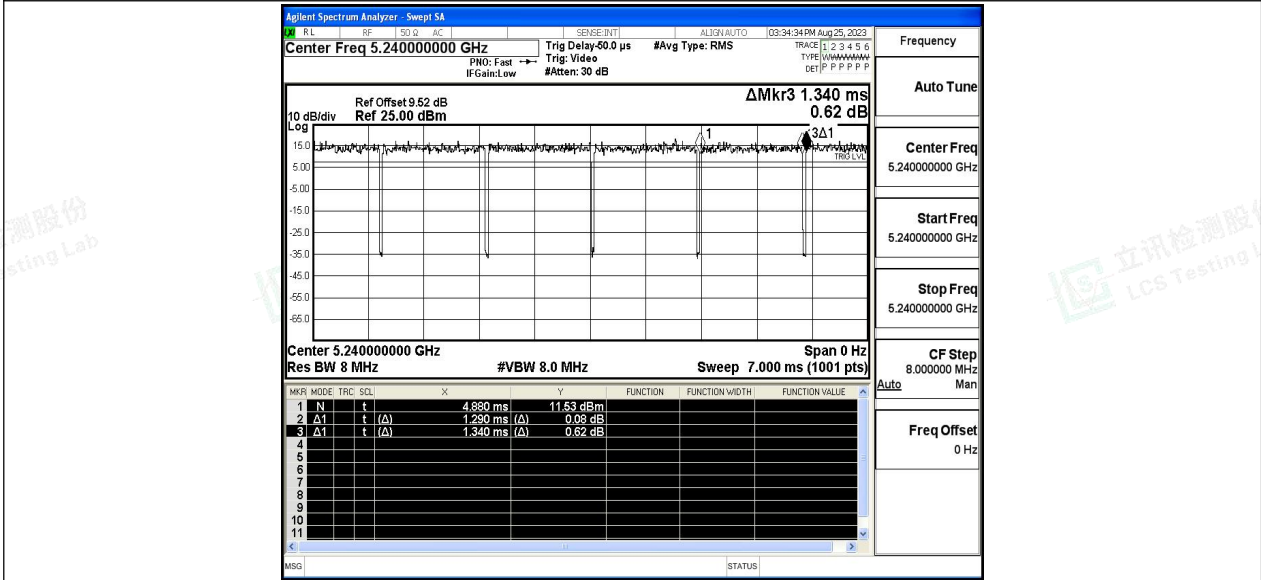


11N20SISO_Ant1_5220



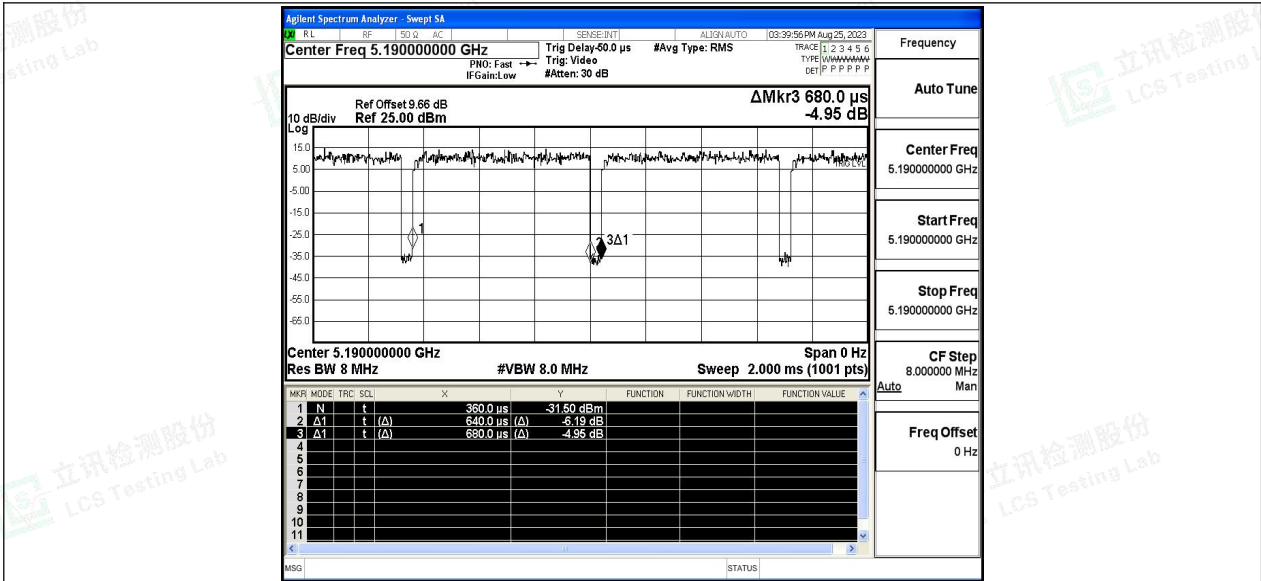


11N20SISO_Ant1_5240



11N40SISO_Ant1_5190





11N40SISO_Ant1_5230

