



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: LED Strip controller

Test Model: CW024

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jack Cheng
Supervised by:	Li huan





A.1 DTS Bandwidth

Test Result

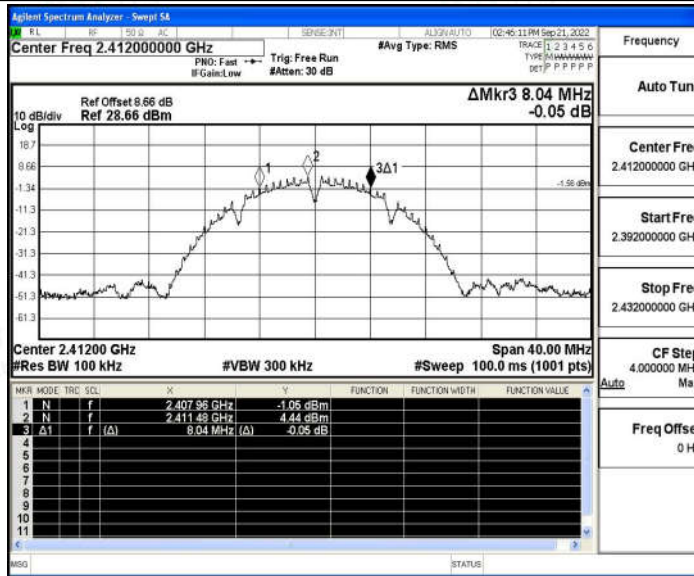
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.040	2407.960	2416.000	0.5	PASS
		2437	8.000	2433.000	2441.000	0.5	PASS
		2462	8.040	2457.960	2466.000	0.5	PASS
11G	Ant1	2412	15.120	2404.440	2419.560	0.5	PASS
		2437	15.280	2429.440	2444.720	0.5	PASS
		2462	15.600	2454.120	2469.720	0.5	PASS
11N20SISO	Ant1	2412	15.120	2404.440	2419.560	0.5	PASS
		2437	15.440	2429.120	2444.560	0.5	PASS
		2462	15.320	2454.440	2469.760	0.5	PASS
11N40SISO	Ant1	2422	35.040	2404.480	2439.520	0.5	PASS
		2437	35.040	2419.480	2454.520	0.5	PASS
		2452	35.040	2434.480	2469.520	0.5	PASS



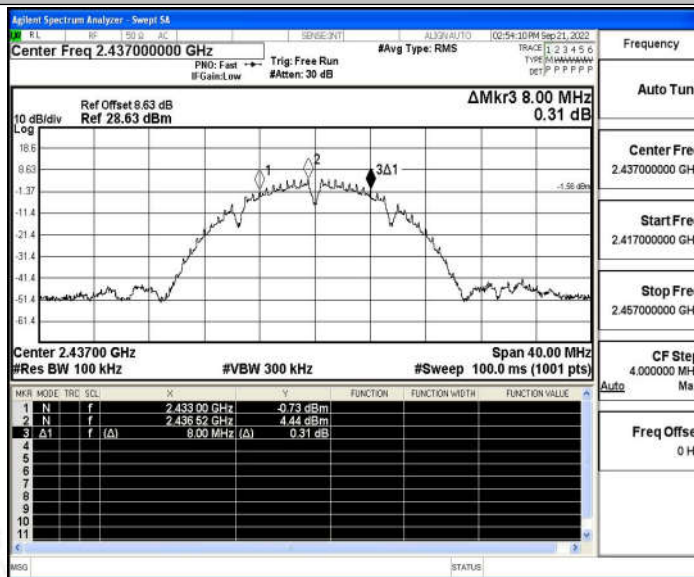


Test Graphs

11B_Ant1_2412

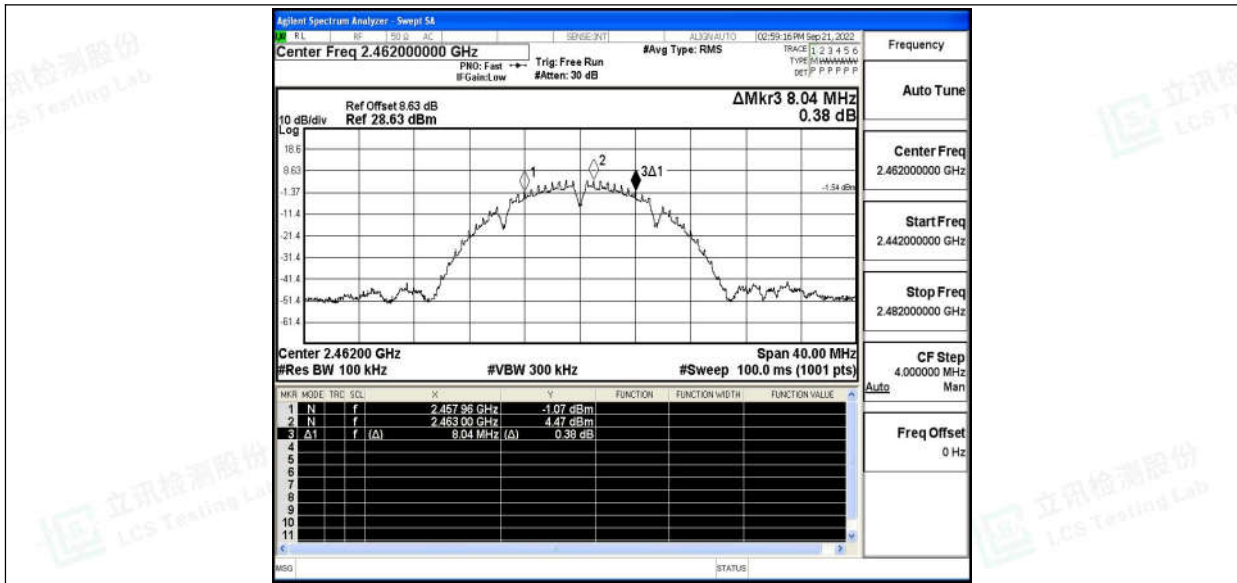


11B_Ant1_2437

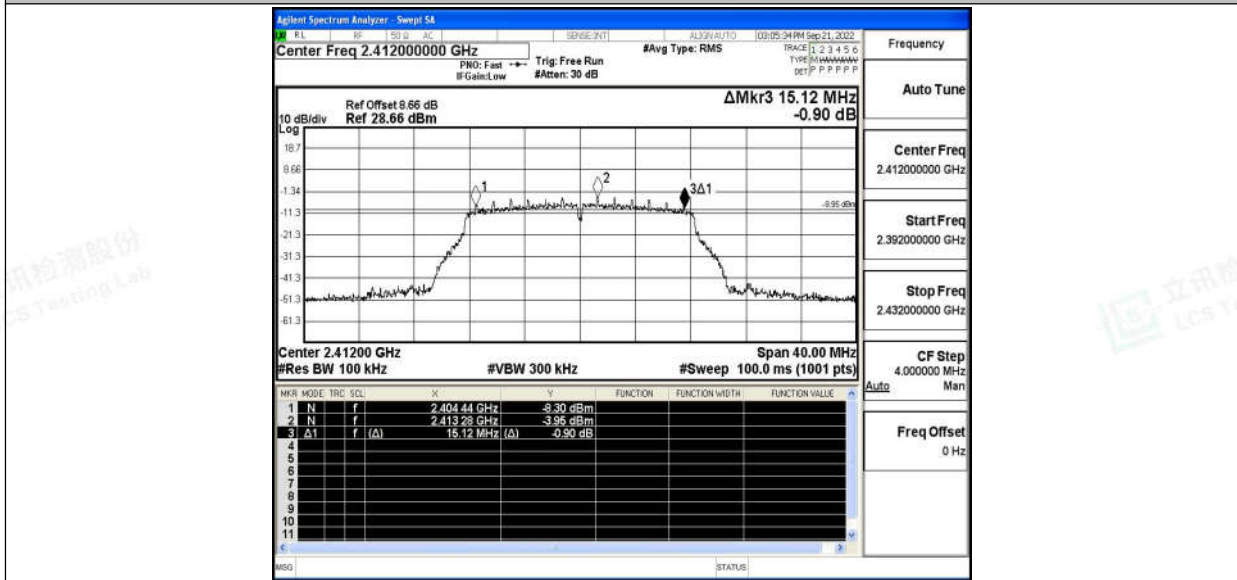


11B_Ant1_2462



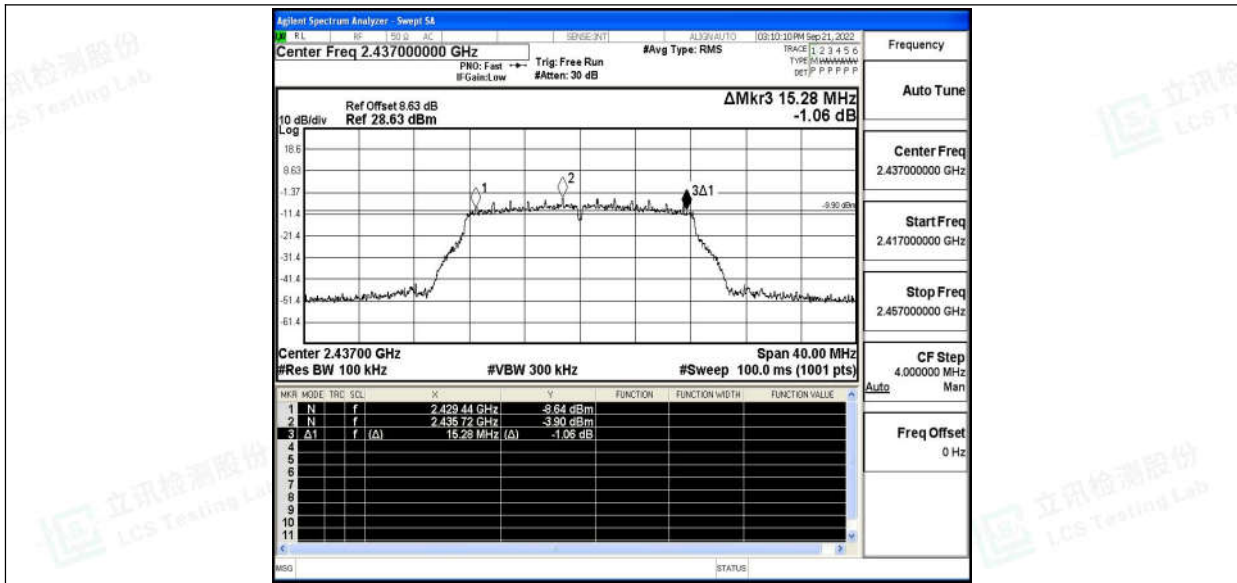


11G_Ant1_2412

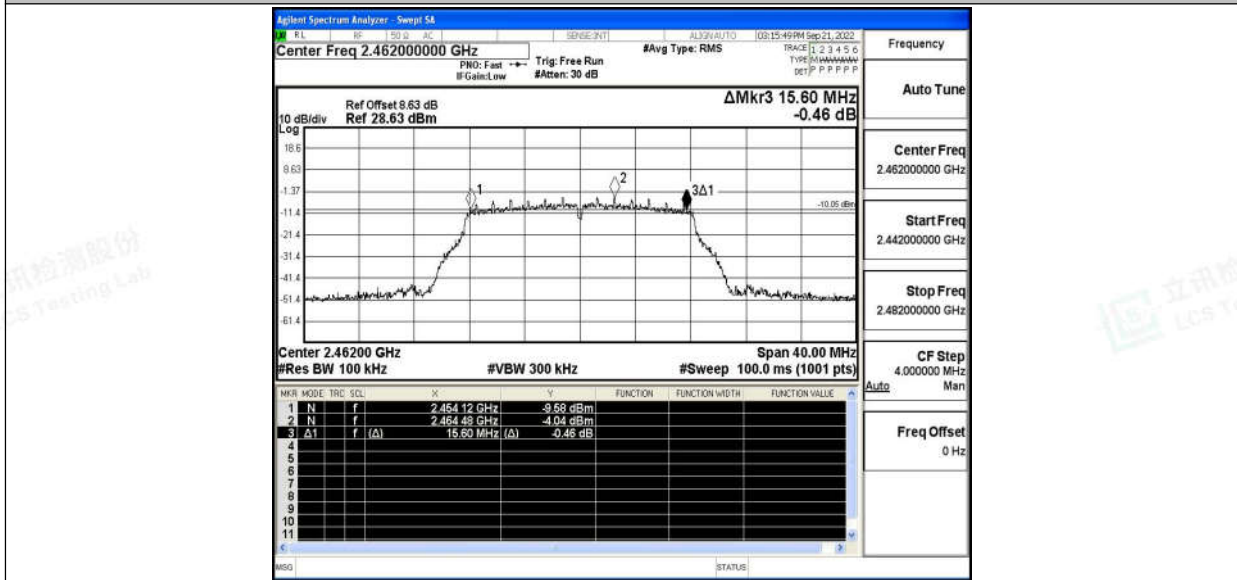


11G_Ant1_2437



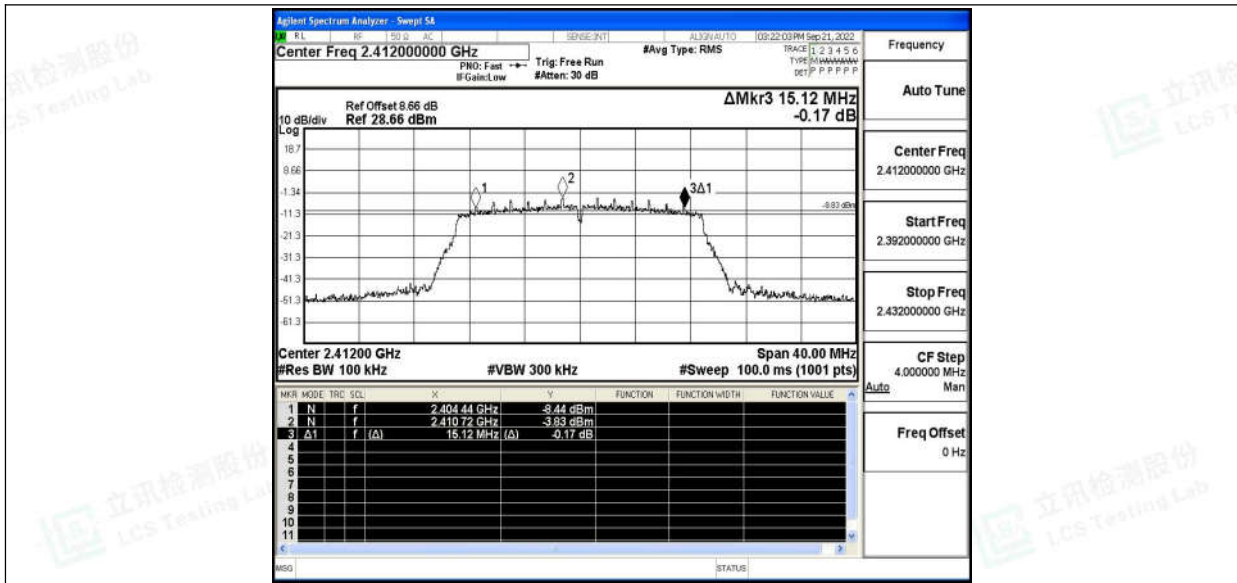


11G_Ant1_2462

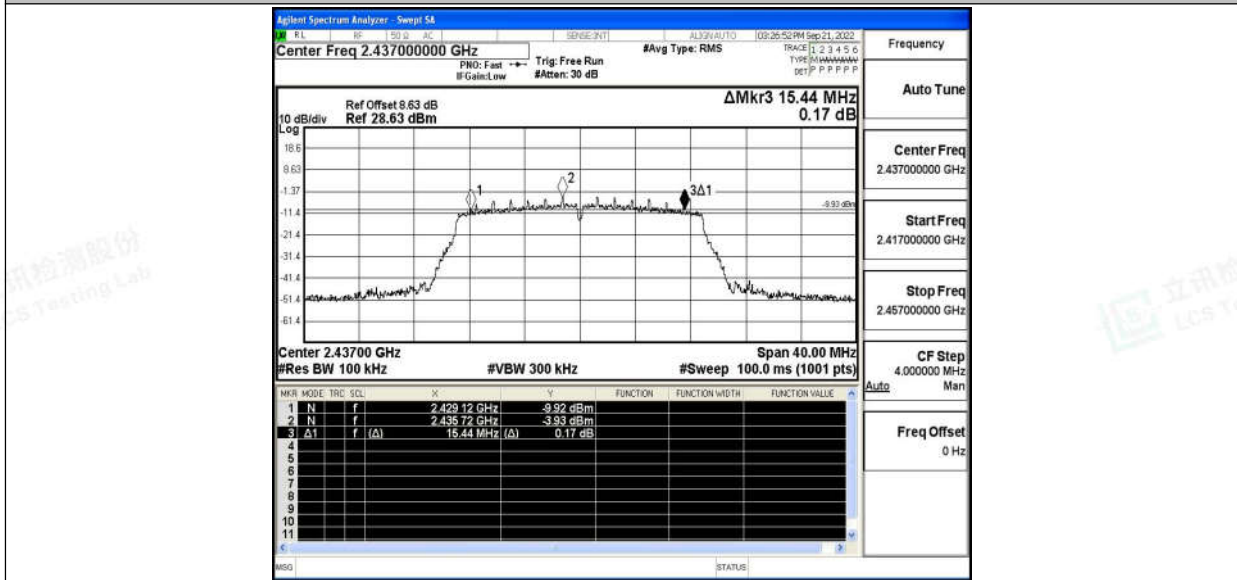


11N20SISO_Ant1_2412



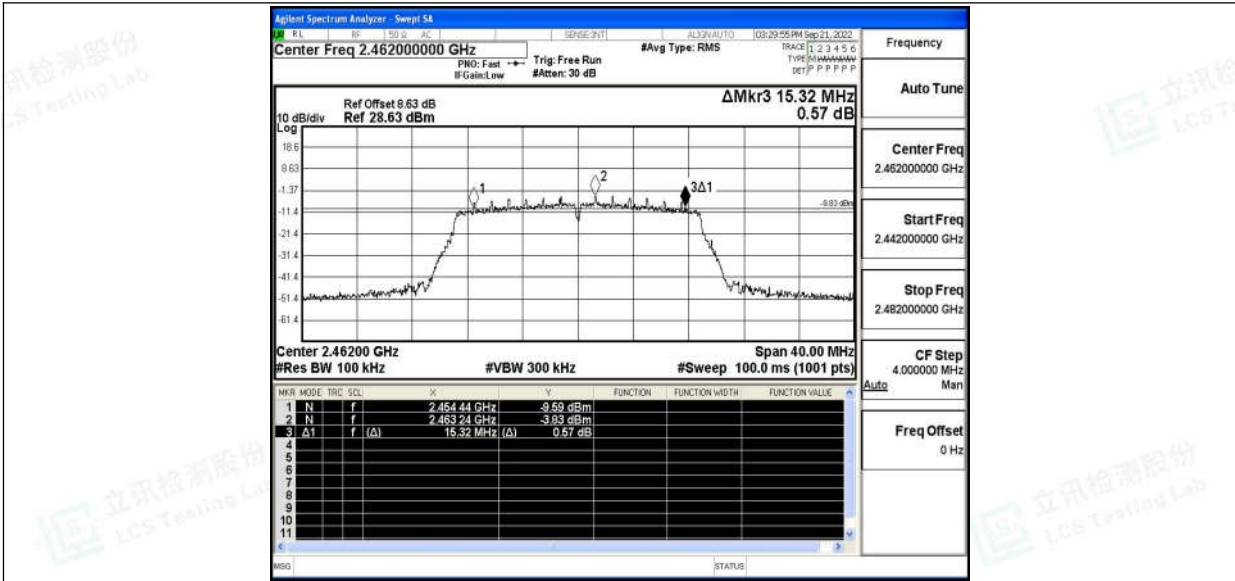


11N20SISO_Ant1_2437

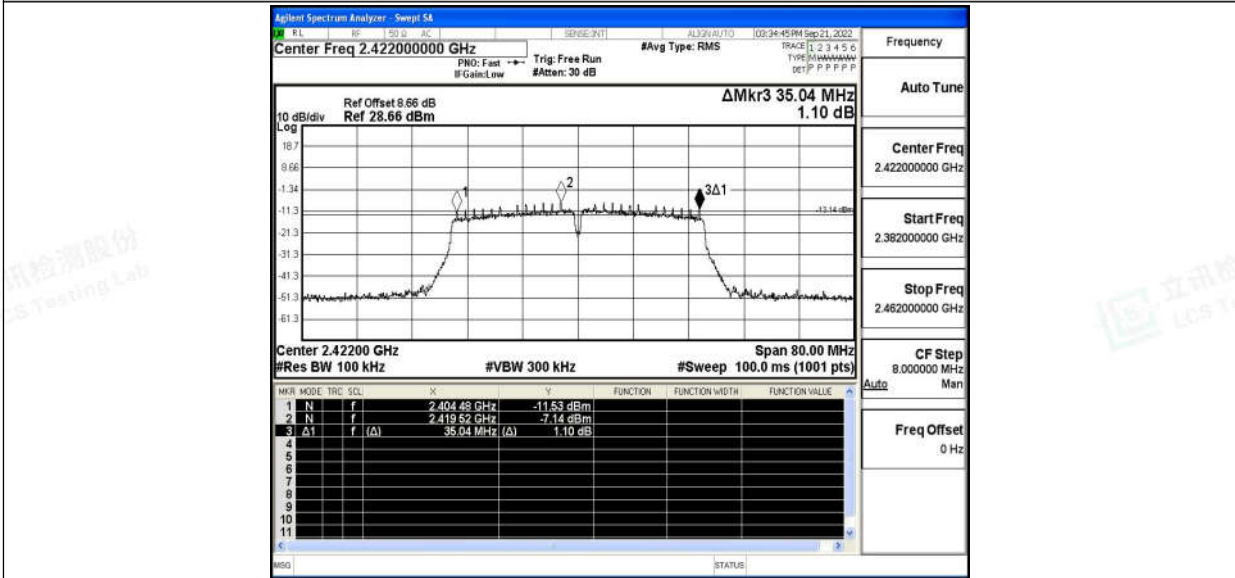


11N20SISO_Ant1_2462



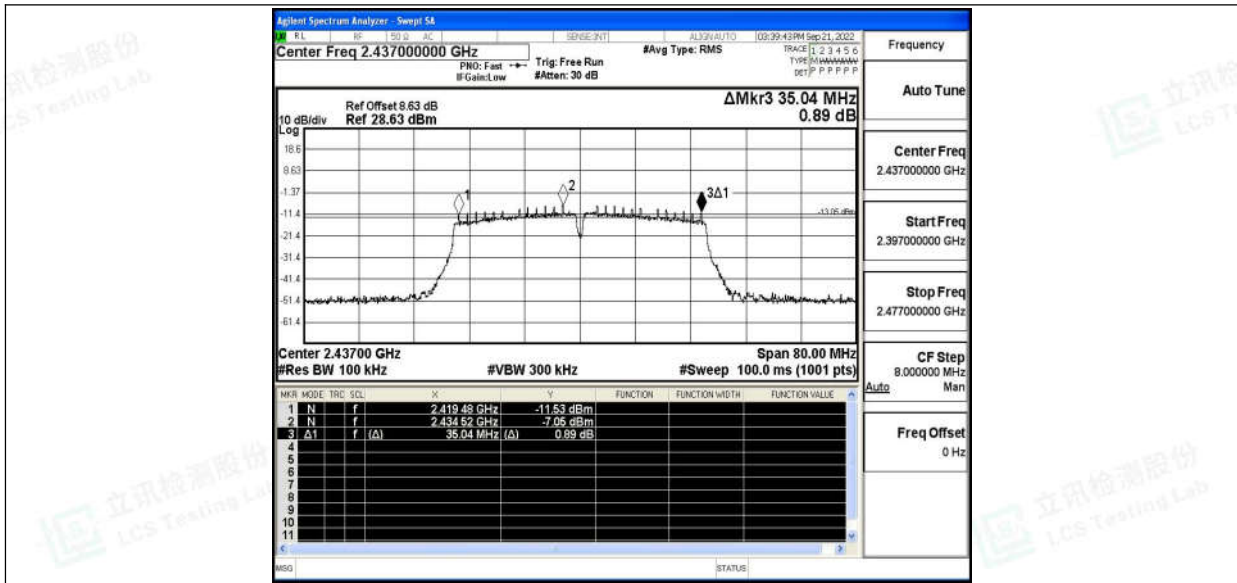


11N40SISO_Ant1_2422

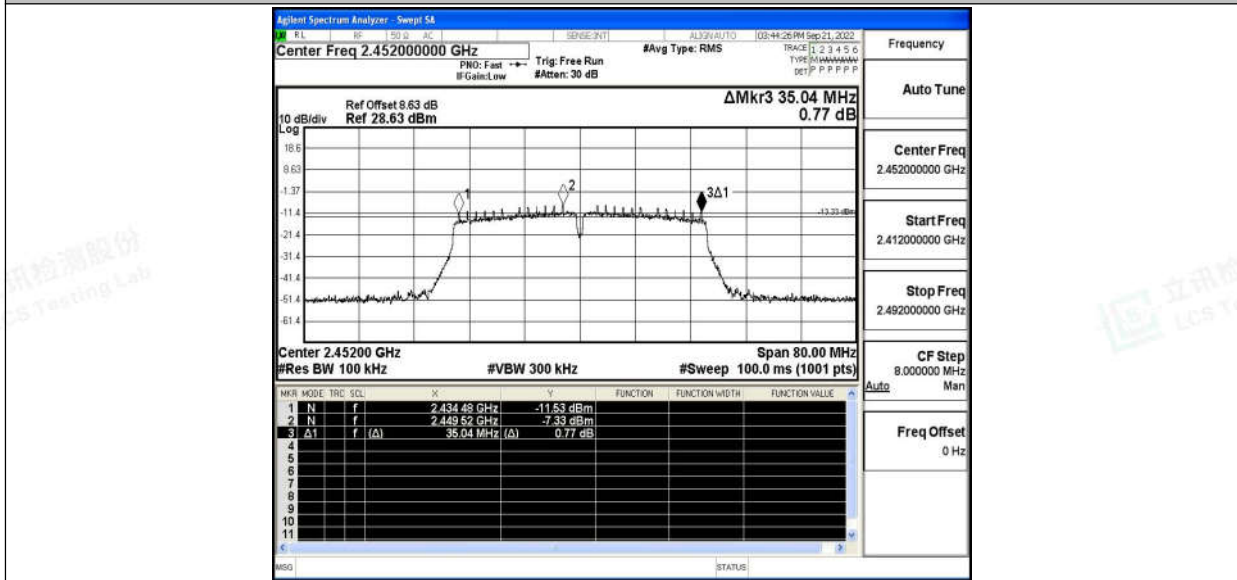


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452





A.2 Maximum conducted output power

Test Result Peak

TestMode	Antenna	Freq(MHz)	Set Power	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	---	15.49	≤30.00	PASS
		2437	---	15.70	≤30.00	PASS
		2462	---	15.70	≤30.00	PASS
11G	Ant1	2412	---	14.84	≤30.00	PASS
		2437	---	14.82	≤30.00	PASS
		2462	---	14.78	≤30.00	PASS
11N20SISO	Ant1	2412	---	14.76	≤30.00	PASS
		2437	---	14.70	≤30.00	PASS
		2462	---	14.73	≤30.00	PASS
11N40SISO	Ant1	2422	---	14.29	≤30.00	PASS
		2437	---	14.23	≤30.00	PASS
		2452	---	14.19	≤30.00	PASS





A.3 Maximum power spectral density

Test Result

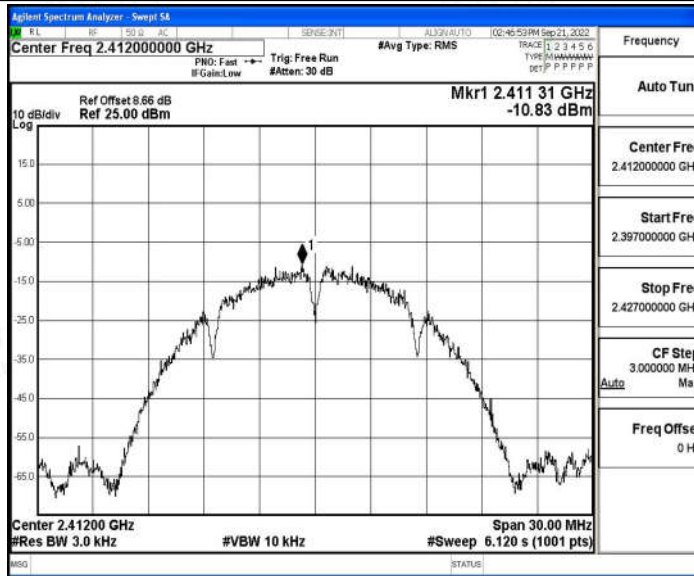
TestMode	Antenna	Freq(MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Gain [dBi]	EIRP [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-10.83	≤8.00	0.00	-10.83	---	PASS
		2437	-9.6	≤8.00	0.00	-9.60	---	PASS
		2462	-10.7	≤8.00	0.00	-10.70	---	PASS
11G	Ant1	2412	-18.81	≤8.00	0.00	-18.81	---	PASS
		2437	-18.67	≤8.00	0.00	-18.67	---	PASS
		2462	-18.38	≤8.00	0.00	-18.38	---	PASS
11N20SISO	Ant1	2412	-19.11	≤8.00	0.00	-19.11	---	PASS
		2437	-18.08	≤8.00	0.00	-18.08	---	PASS
		2462	-18.28	≤8.00	0.00	-18.28	---	PASS
11N40SISO	Ant1	2422	-21.65	≤8.00	0.00	-21.65	---	PASS
		2437	-22.33	≤8.00	0.00	-22.33	---	PASS
		2452	-22.03	≤8.00	0.00	-22.03	---	PASS



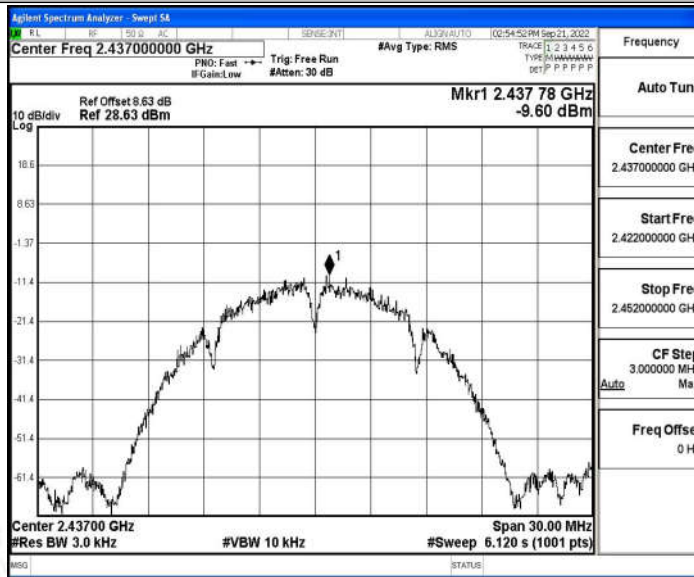


Test Graphs

11B_Ant1_2412

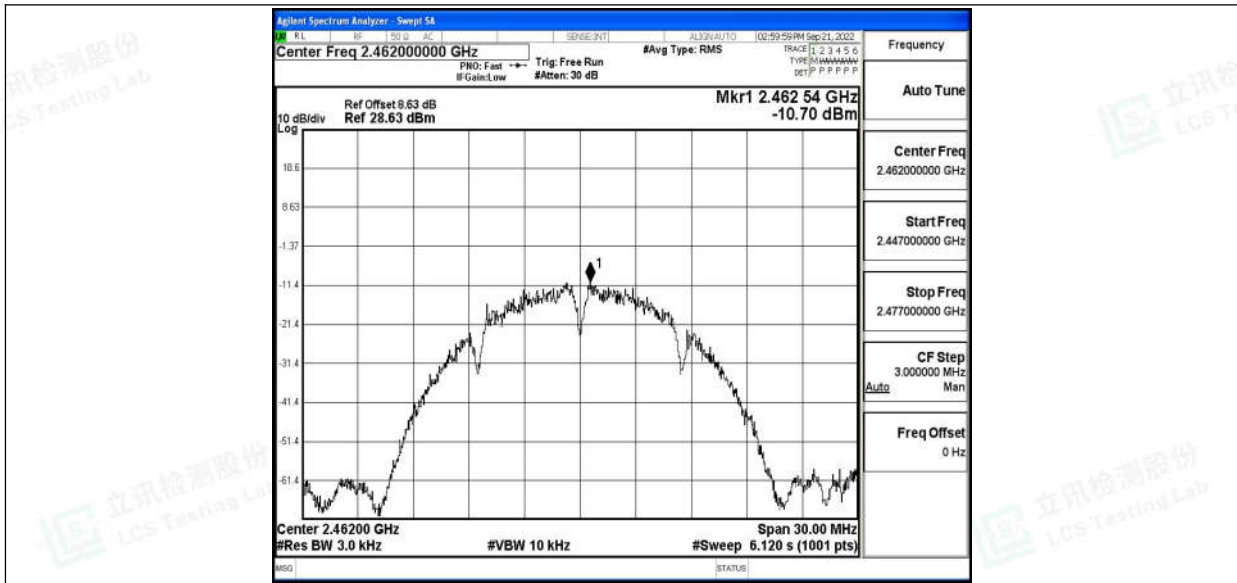


11B_Ant1_2437

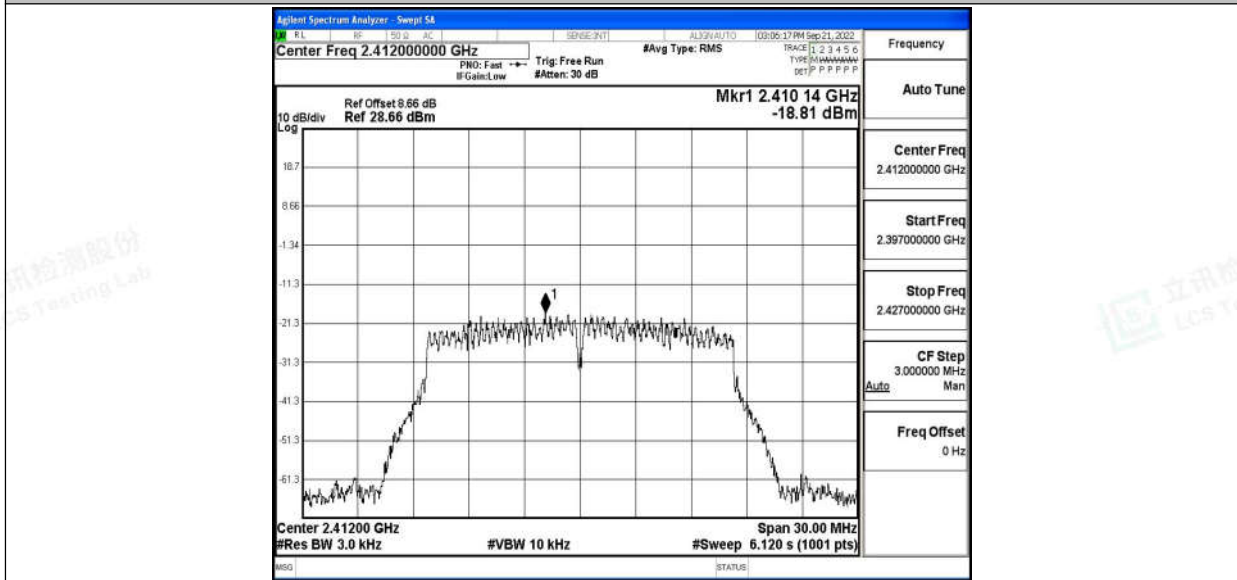


11B_Ant1_2462



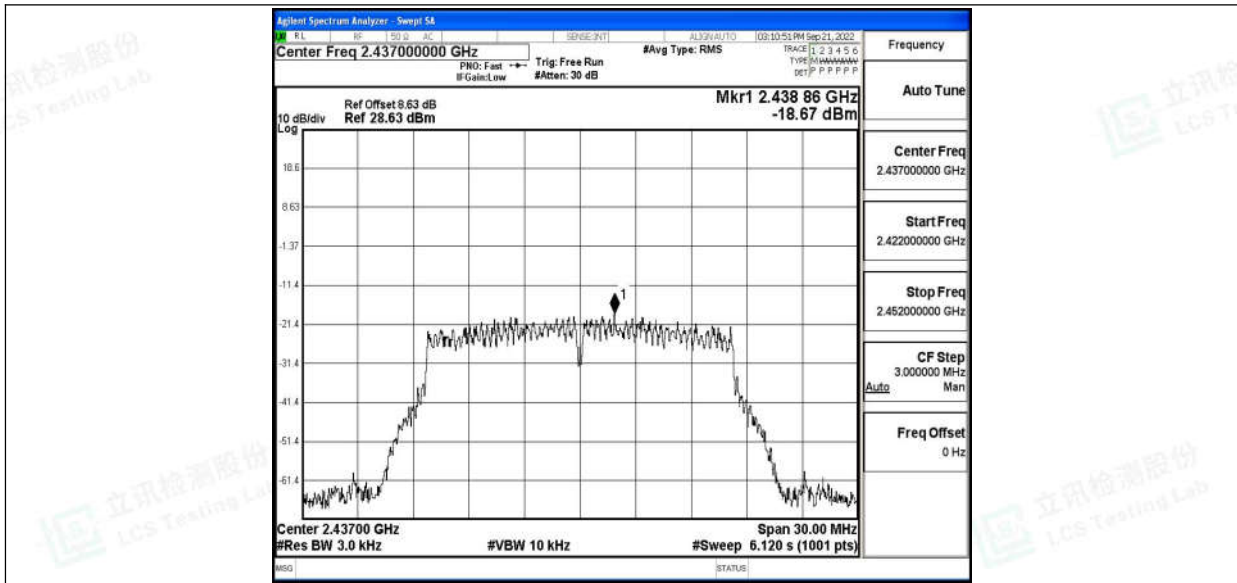


11G_Ant1_2412

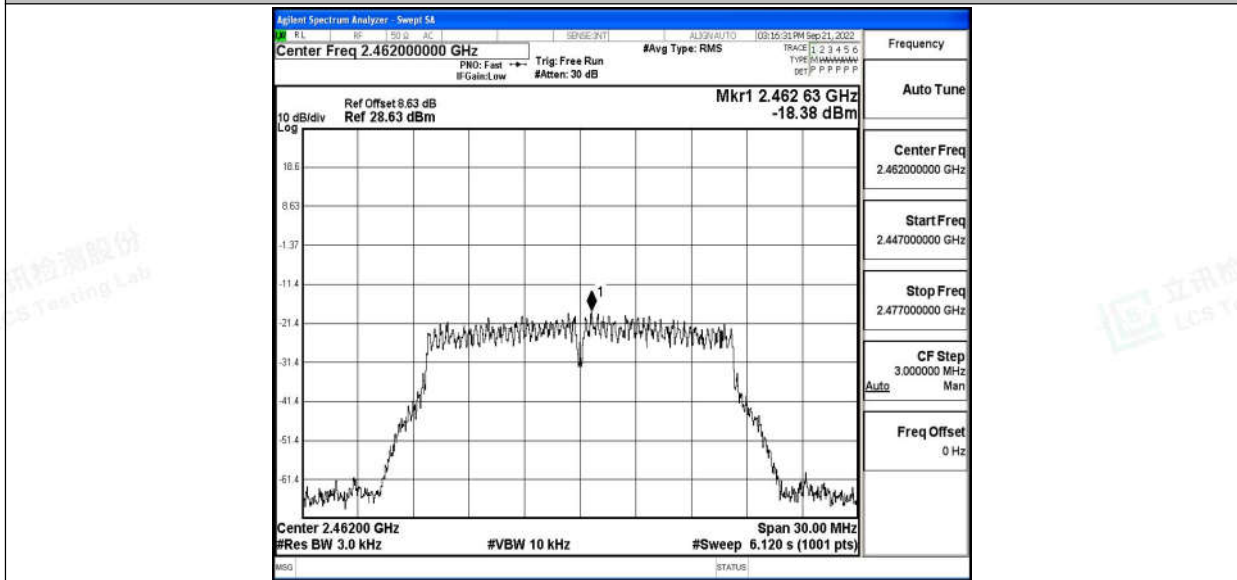


11G_Ant1_2437



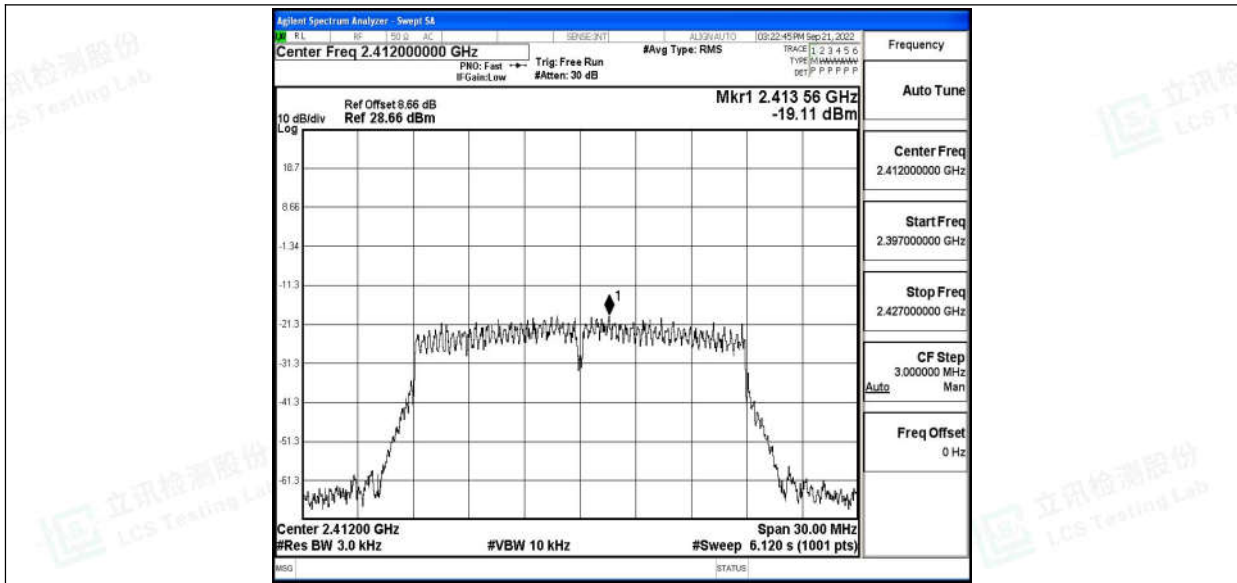


11G_Ant1_2462

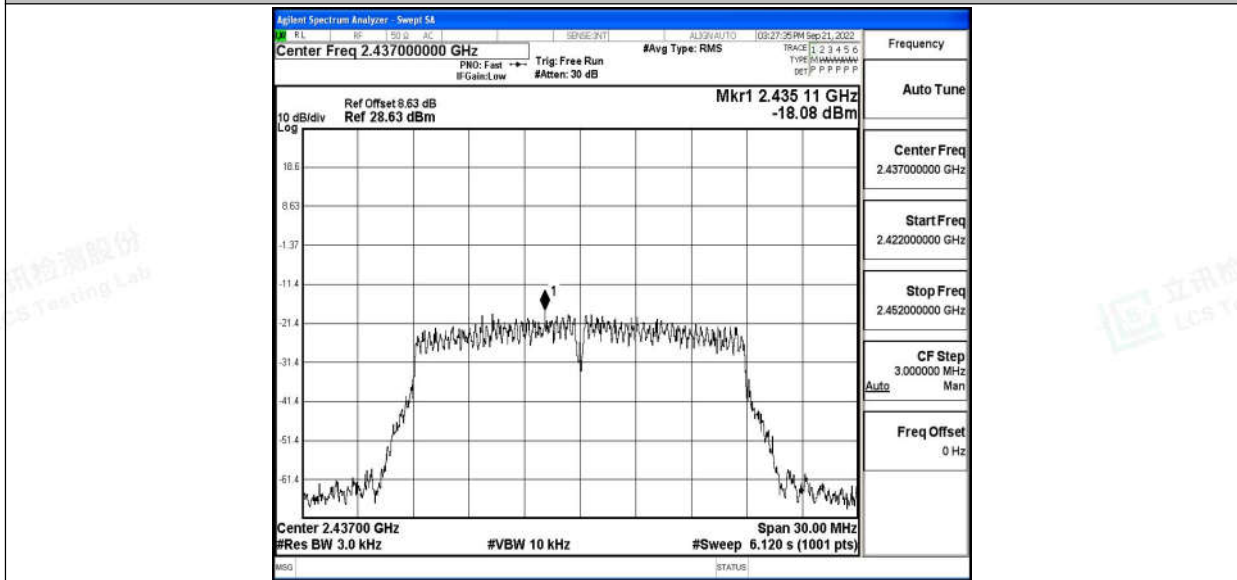


11N20SISO_Ant1_2412



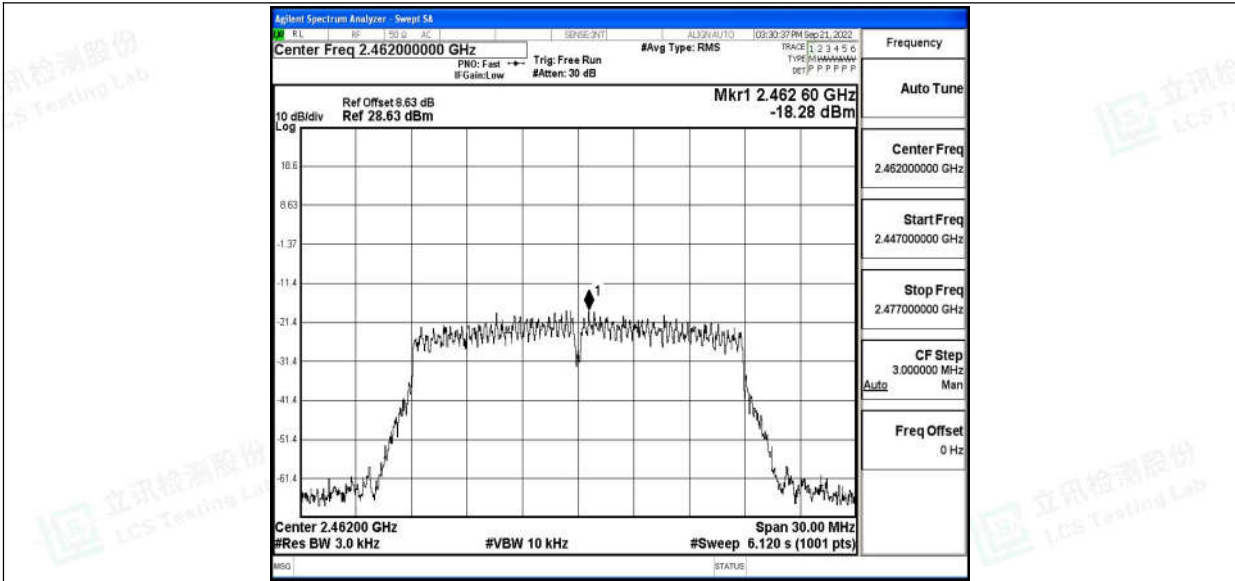


11N20SISO_Ant1_2437

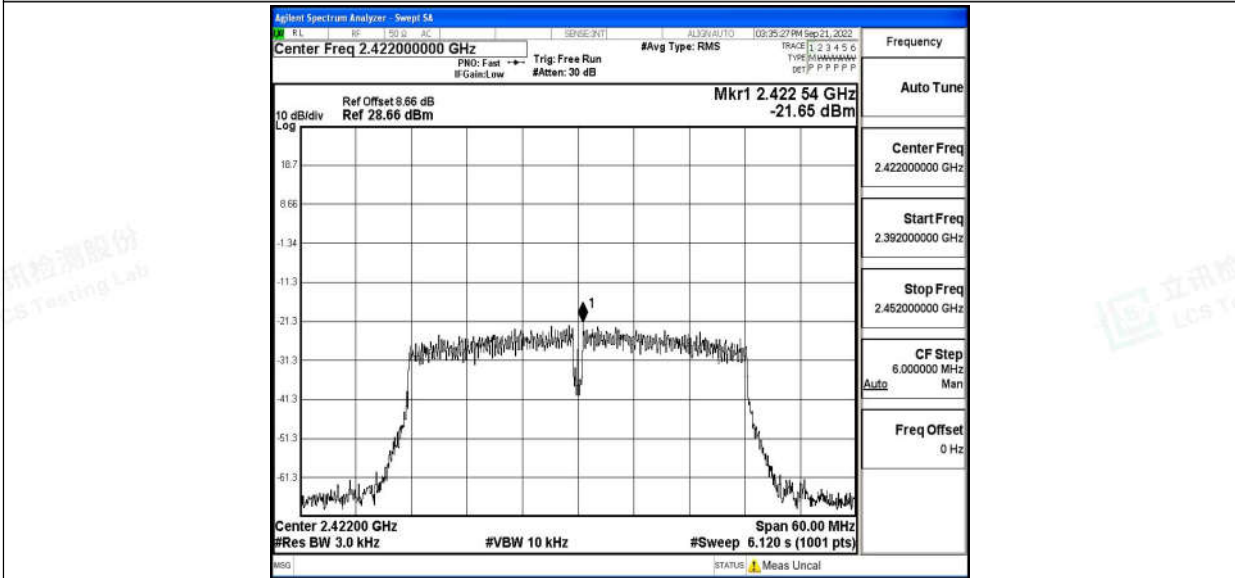


11N20SISO_Ant1_2462



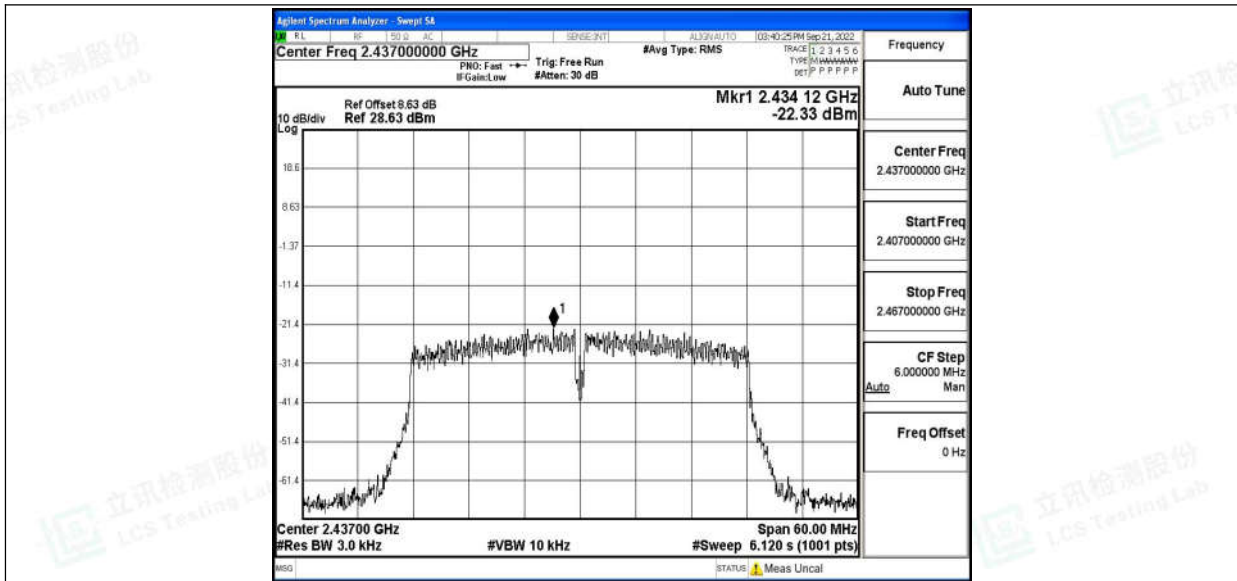


11N40SISO_Ant1_2422

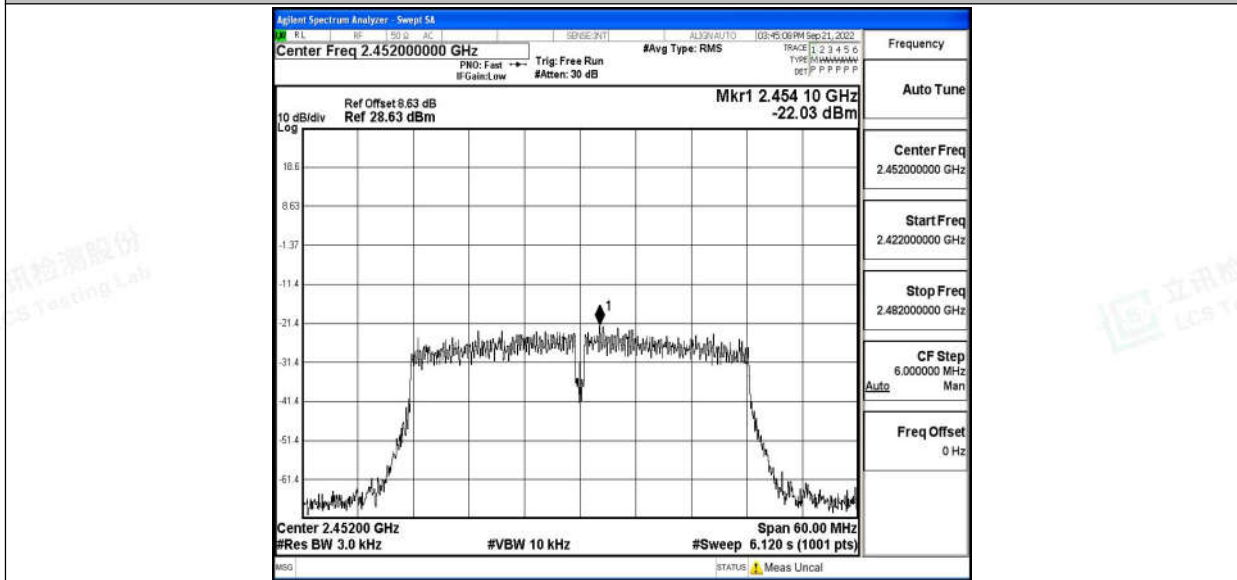


11N40SISO_Ant1_2437





11N40SISO_Ant1_2452





A.4 Band edge measurements

Test Result

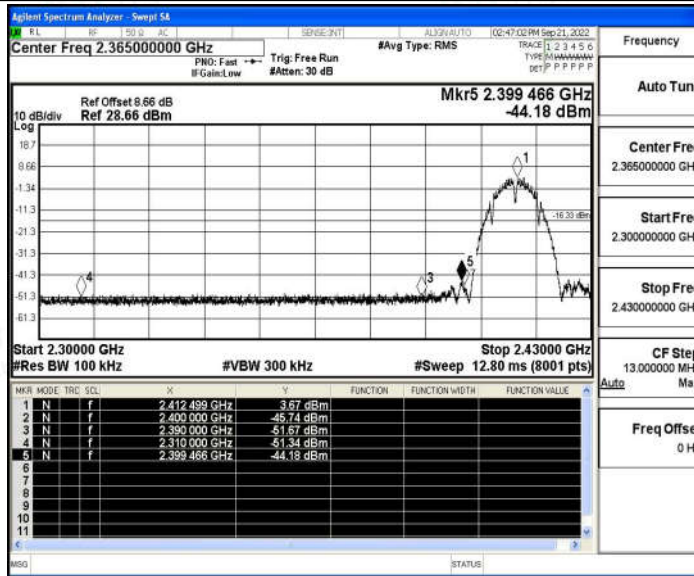
TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.67	-44.18	≤-16.33	PASS
		High	2462	4.09	-48.18	≤-15.91	PASS
11G	Ant1	Low	2412	-3.50	-46.12	≤-23.5	PASS
		High	2462	-3.94	-48.46	≤-23.94	PASS
11N20SISO	Ant1	Low	2412	-3.89	-45.42	≤-23.89	PASS
		High	2462	-4.75	-48.19	≤-24.75	PASS
11N40SISO	Ant1	Low	2422	-7.00	-45.98	≤-27	PASS
		High	2452	-7.61	-48.41	≤-27.61	PASS



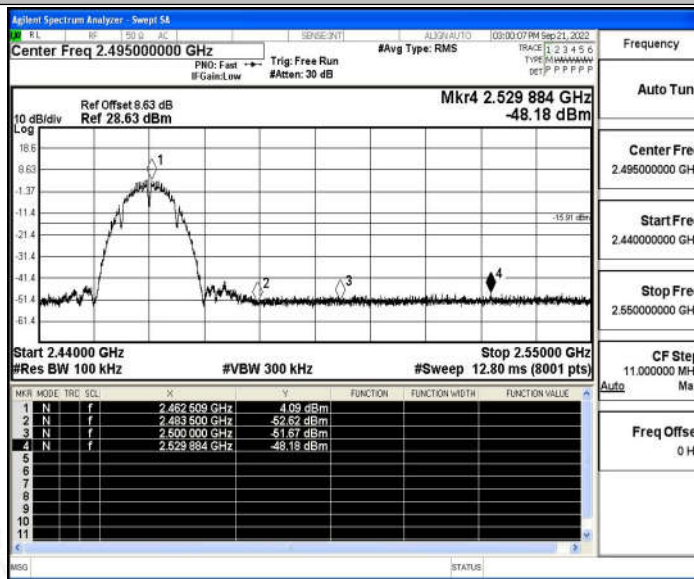


Test Graphs

11B_Ant1_Low_2412

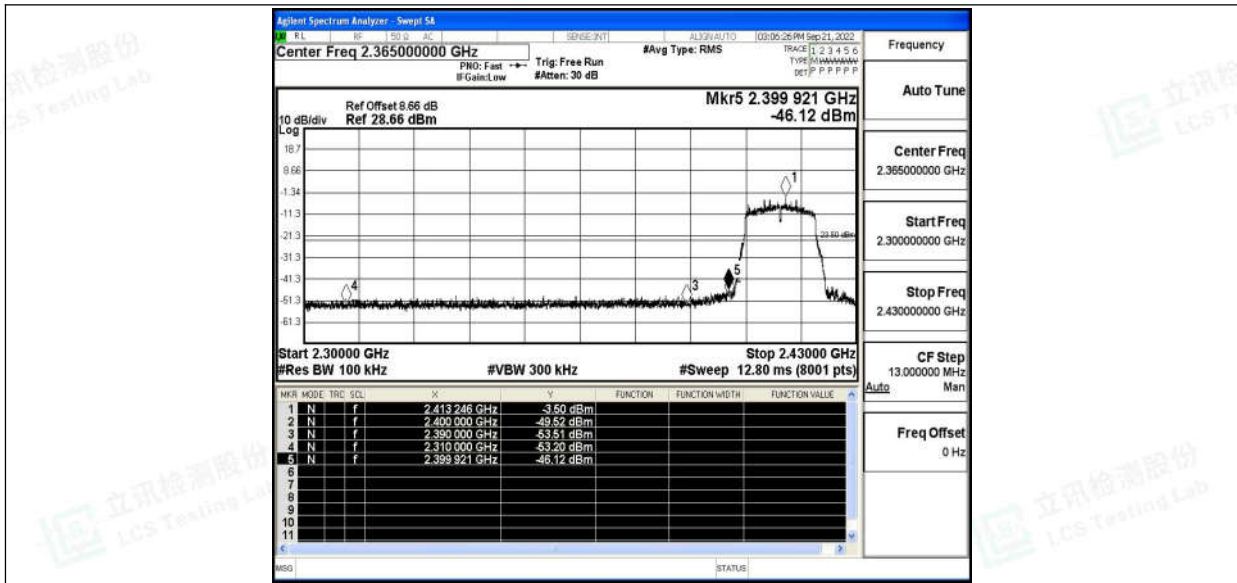


11B_Ant1_High_2462

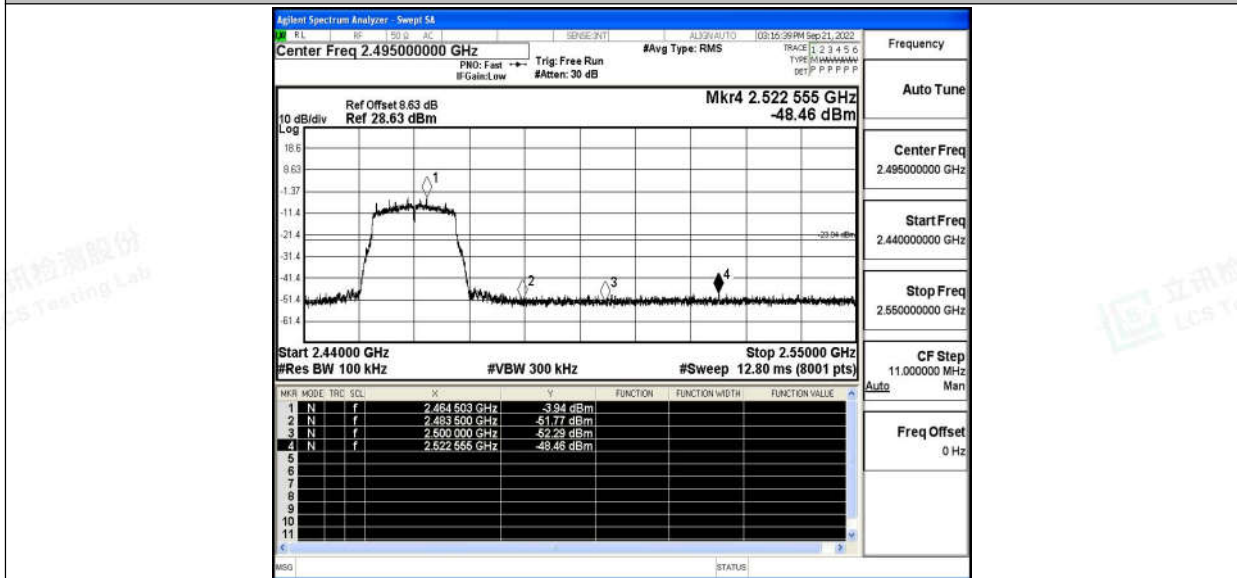


11G_Ant1_Low_2412



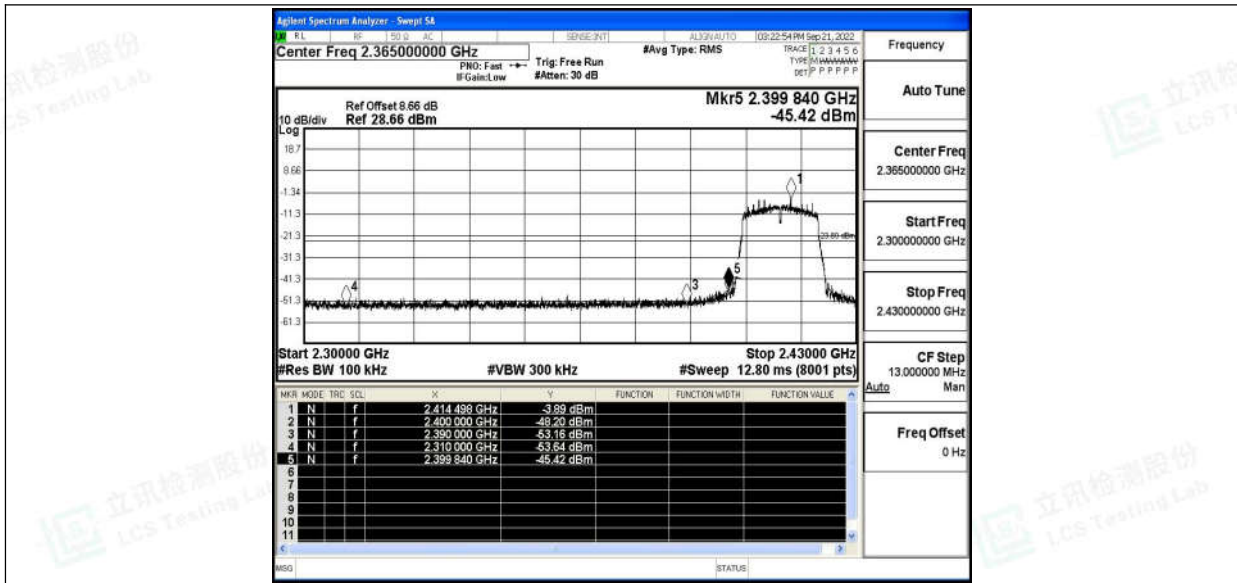


11G_Ant1_High_2462

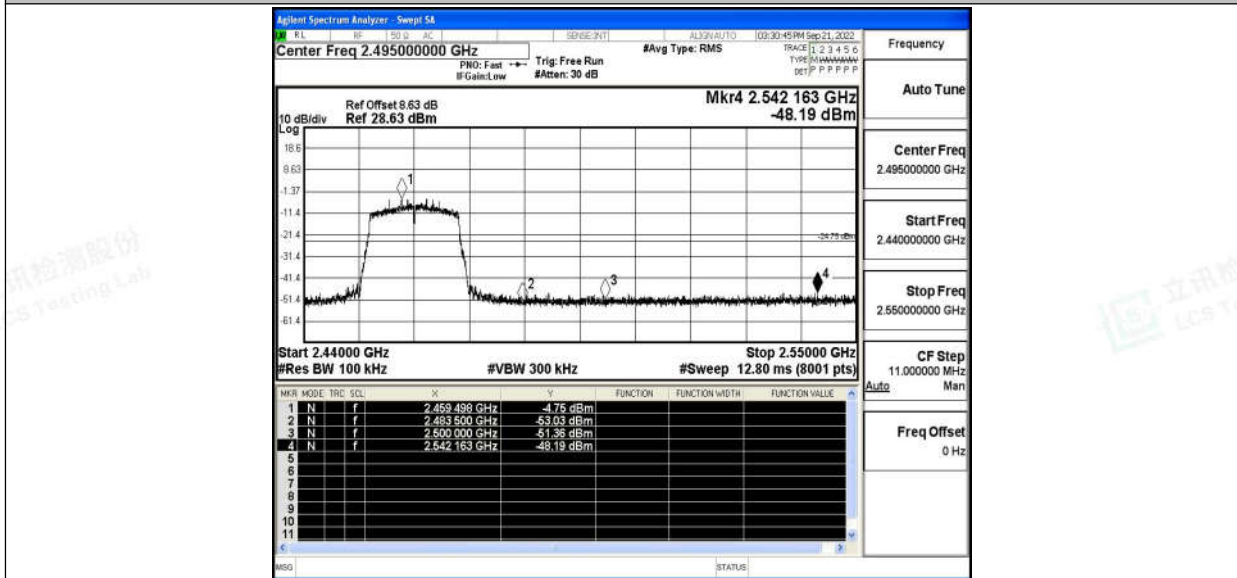


11N20SISO_Ant1_Low_2412



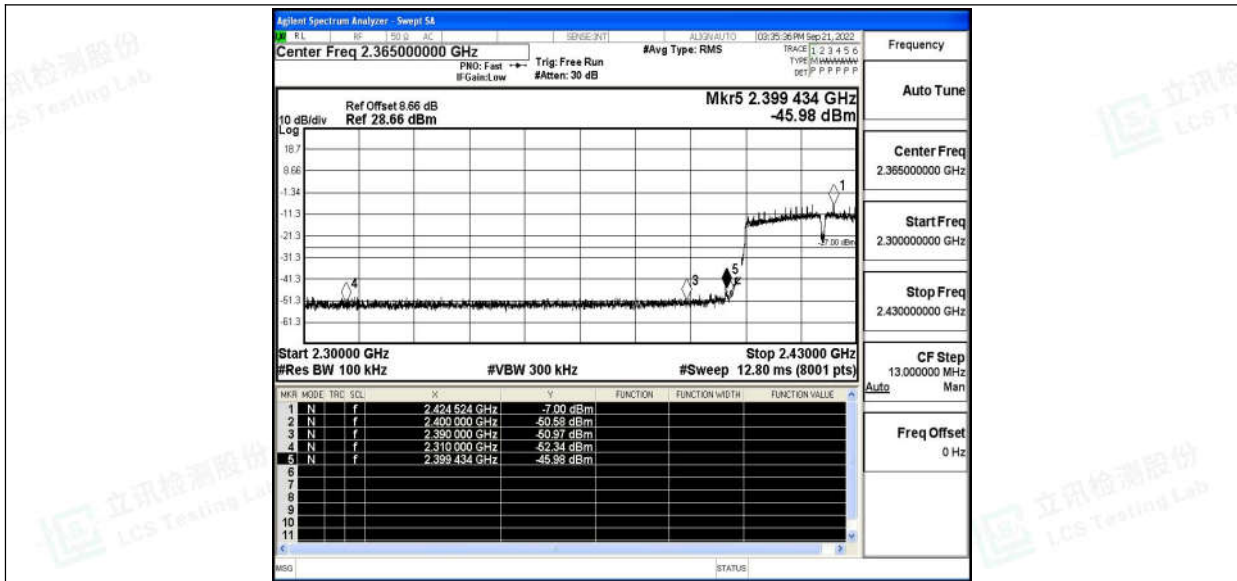


11N20SISO_Ant1_High_2462

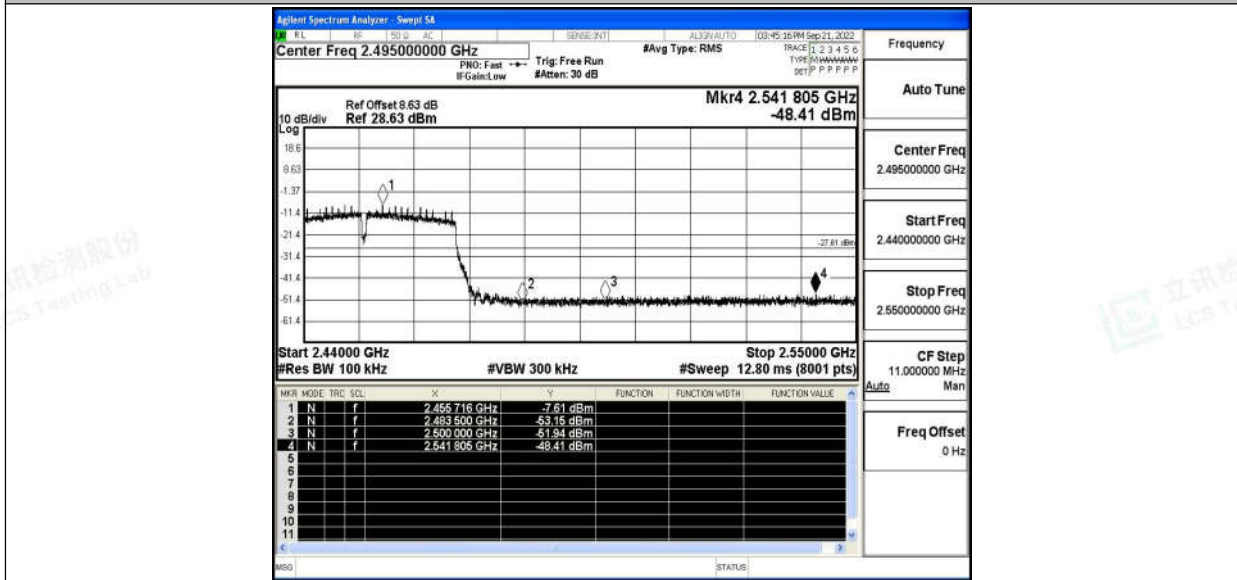


11N40SISO_Ant1_Low_2422





11N40SISO_Ant1_High_2452





A.5 Conducted Spurious Emission

Test Result

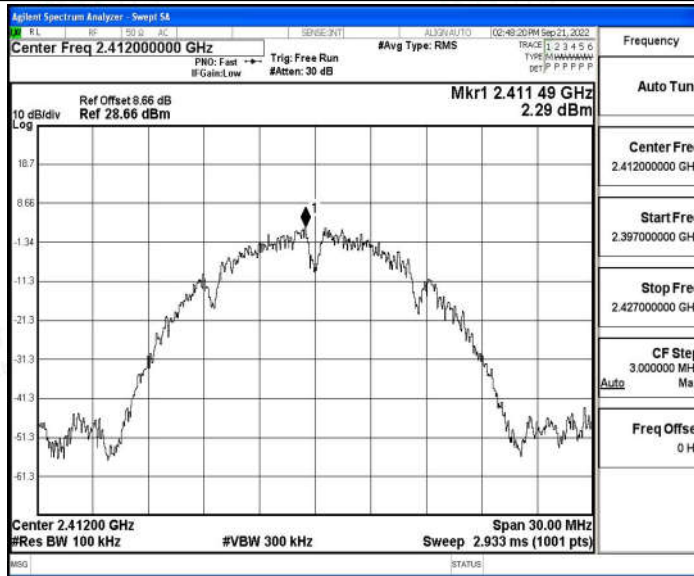
TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.29	2.29	---	PASS
			30~1000	2.29	-60.37	≤-17.71	PASS
			1000~26500	2.29	-45.99	≤-17.71	PASS
		2437	Reference	2.37	2.37	---	PASS
			30~1000	2.37	-60.78	≤-17.63	PASS
			1000~26500	2.37	-46.11	≤-17.63	PASS
		2462	Reference	3.82	3.82	---	PASS
			30~1000	3.82	-60.53	≤-16.18	PASS
			1000~26500	3.82	-46.26	≤-16.18	PASS
11G	Ant1	2412	Reference	-5.24	-5.24	---	PASS
			30~1000	-5.24	-60.33	≤-25.24	PASS
			1000~26500	-5.24	-46.32	≤-25.24	PASS
		2437	Reference	-3.25	-3.25	---	PASS
			30~1000	-3.25	-61.05	≤-23.25	PASS
			1000~26500	-3.25	-45.59	≤-23.25	PASS
		2462	Reference	-6.45	-6.45	---	PASS
			30~1000	-6.45	-60.14	≤-26.45	PASS
			1000~26500	-6.45	-46.26	≤-26.45	PASS
11N20SISO	Ant1	2412	Reference	-4.49	-4.49	---	PASS
			30~1000	-4.49	-60.45	≤-24.49	PASS
			1000~26500	-4.49	-45.82	≤-24.49	PASS
		2437	Reference	-6.25	-6.25	---	PASS
			30~1000	-6.25	-60.75	≤-26.25	PASS
			1000~26500	-6.25	-46.6	≤-26.25	PASS
		2462	Reference	-6.90	-6.90	---	PASS
			30~1000	-6.90	-61.15	≤-26.9	PASS
			1000~26500	-6.90	-46.31	≤-26.9	PASS
11N40SISO	Ant1	2422	Reference	-8.96	-8.96	---	PASS
			30~1000	-8.96	-43.39	≤-28.96	PASS
			1000~26500	-8.96	-45.91	≤-28.96	PASS
		2437	Reference	-7.46	-7.46	---	PASS
			30~1000	-7.46	-60.69	≤-27.46	PASS
			1000~26500	-7.46	-45.82	≤-27.46	PASS
		2452	Reference	-8.49	-8.49	---	PASS
			30~1000	-8.49	-40.06	≤-28.49	PASS
			1000~26500	-8.49	-45.64	≤-28.49	PASS



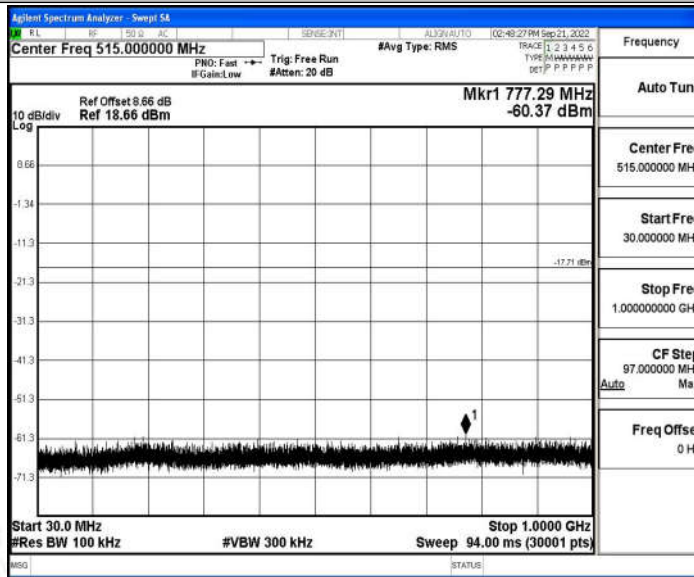


Test Graphs

11B_Ant1_2412_0~Reference

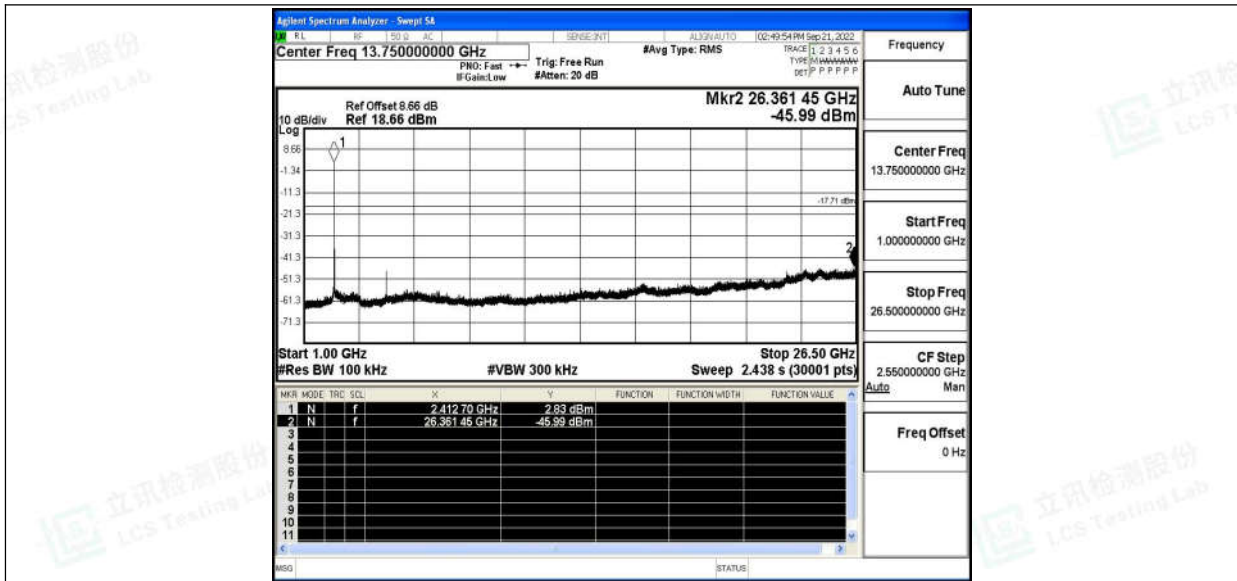


11B_Ant1_2412_30~1000

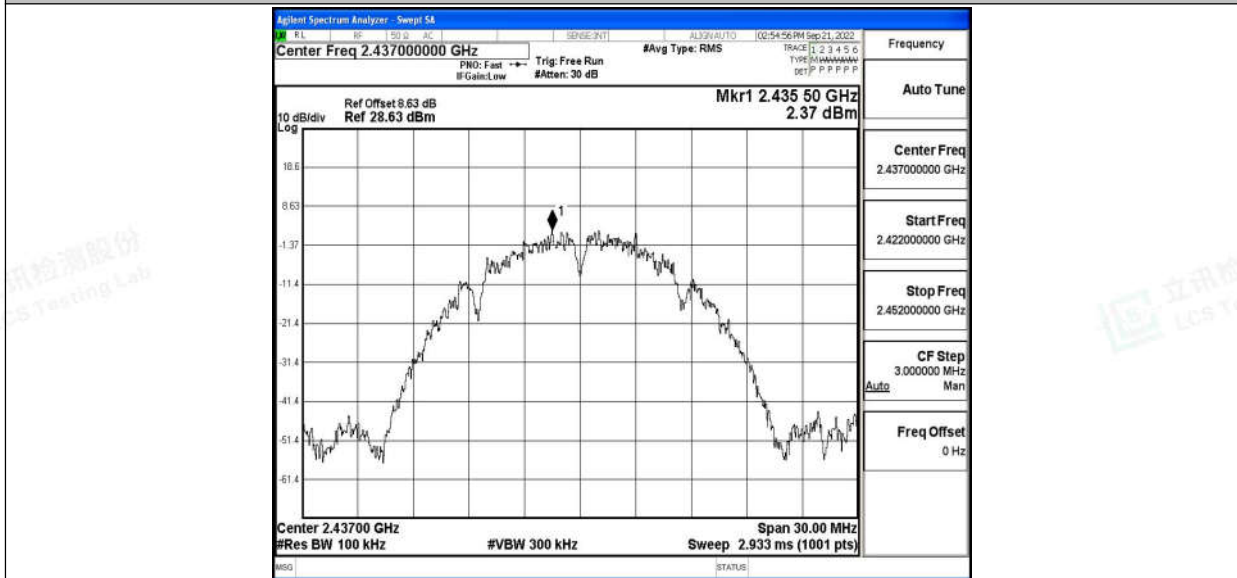


11B_Ant1_2412_1000~26500



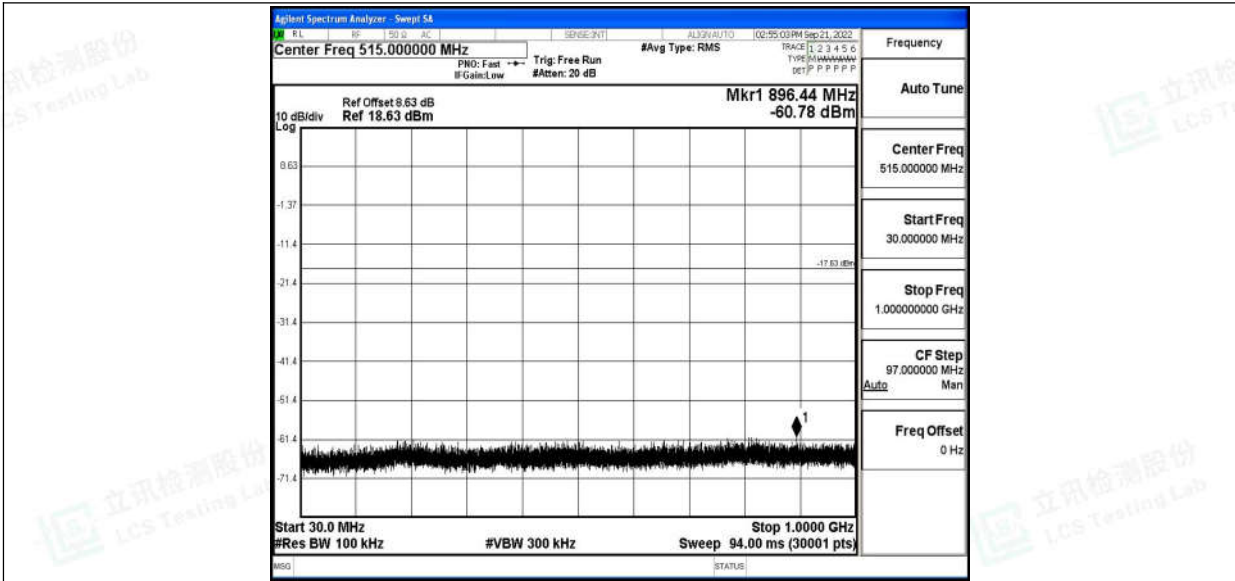


11B_Ant1_2437_0~Reference

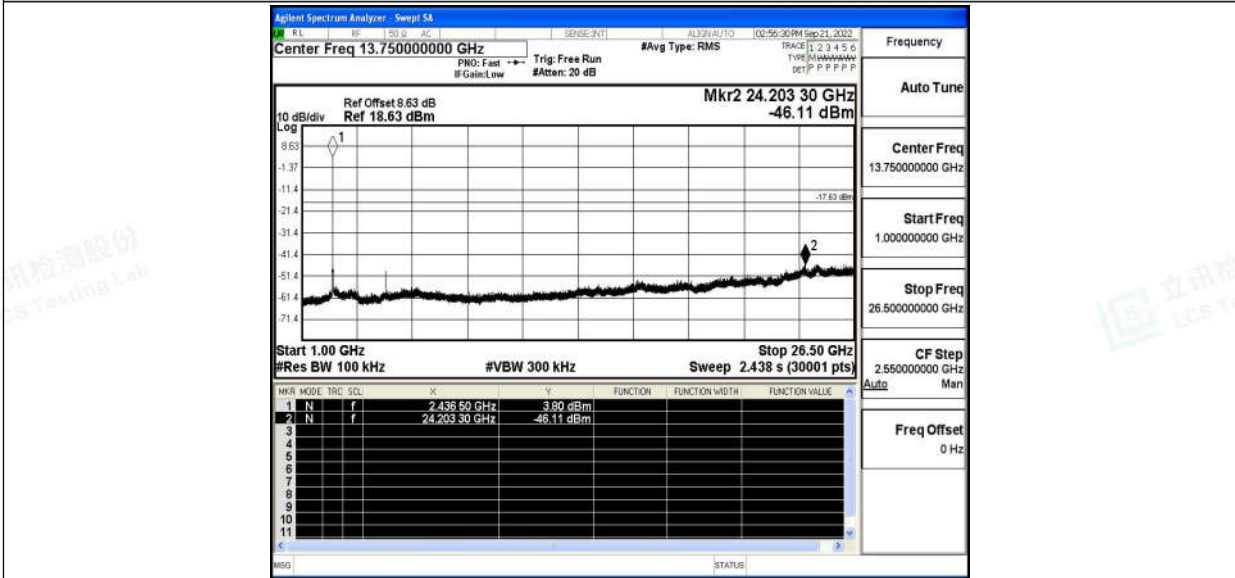


11B_Ant1_2437_30~1000



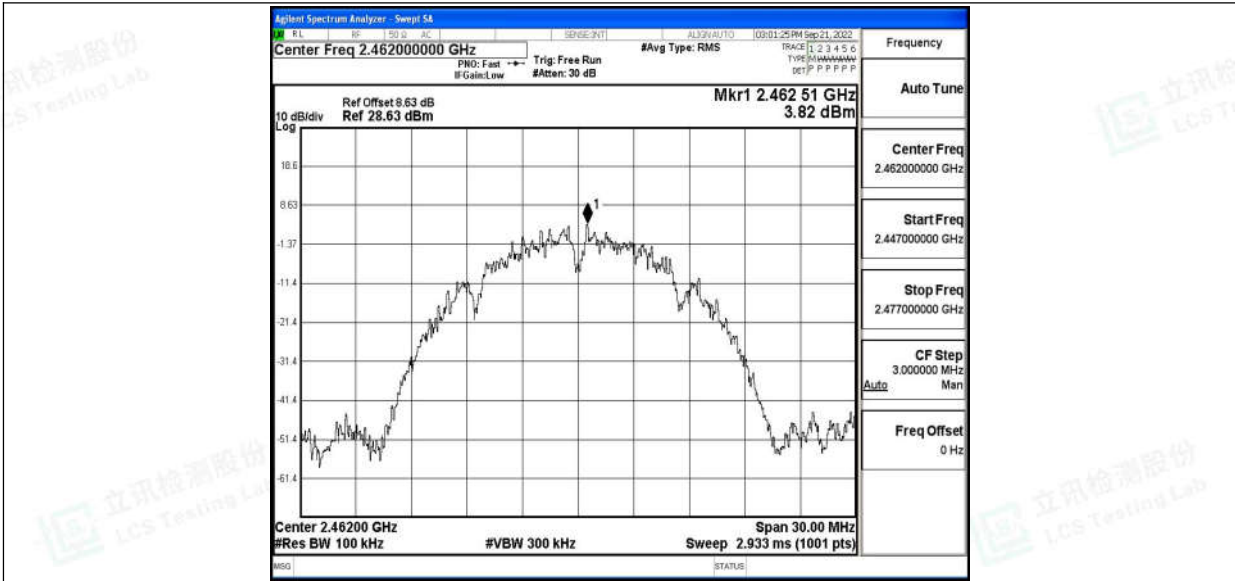


11B_Ant1_2437_1000~26500

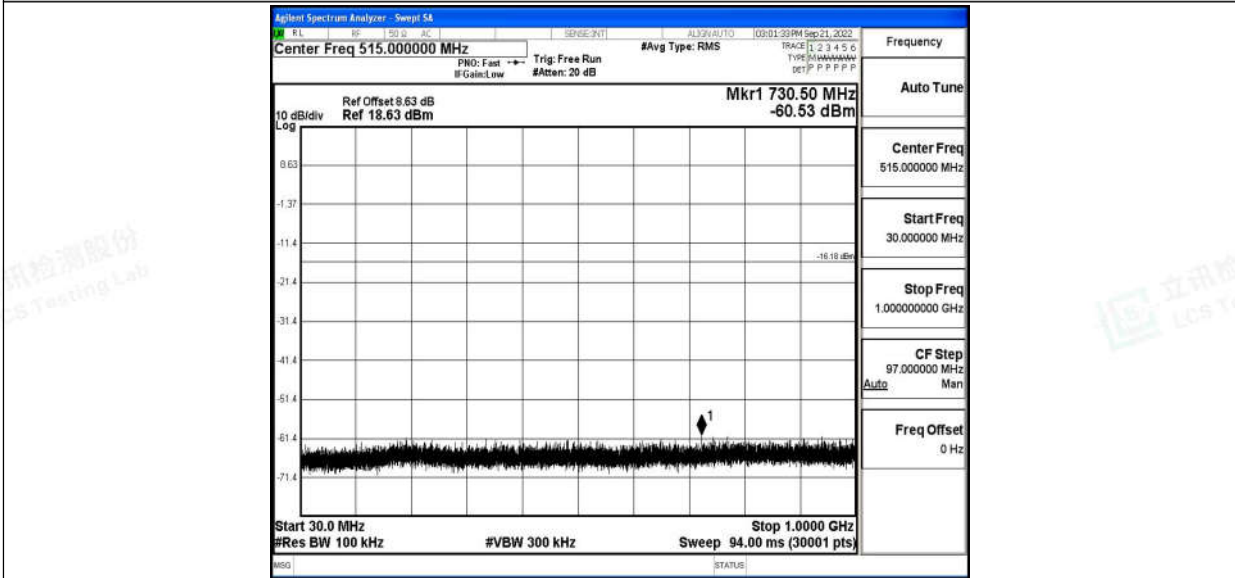


11B_Ant1_2462_0~Reference



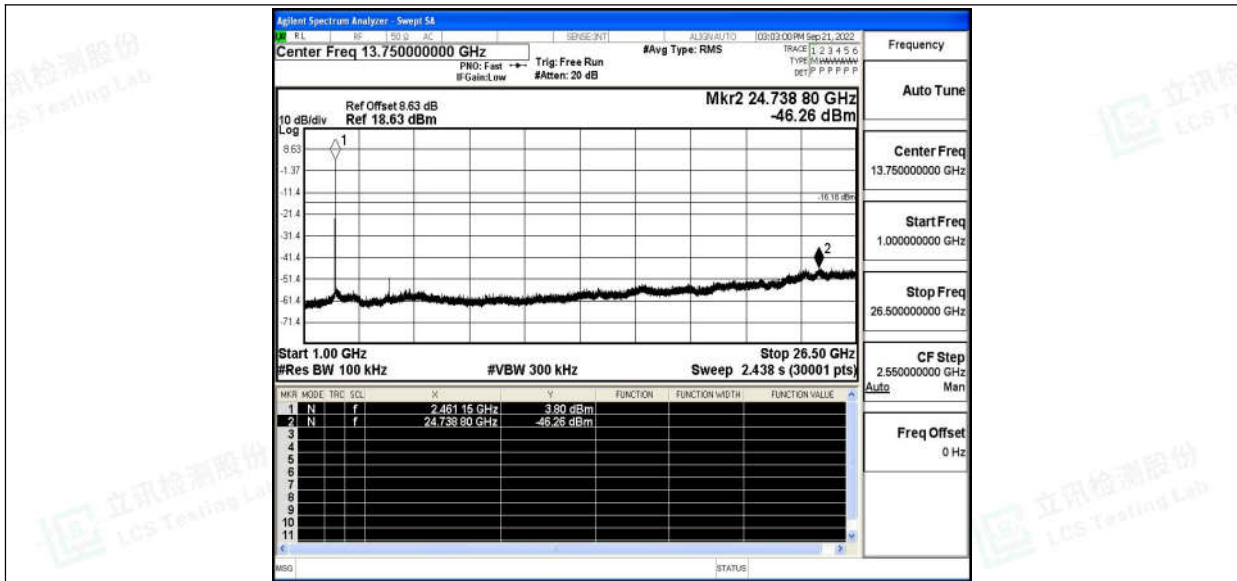


11B_Ant1_2462_30~1000

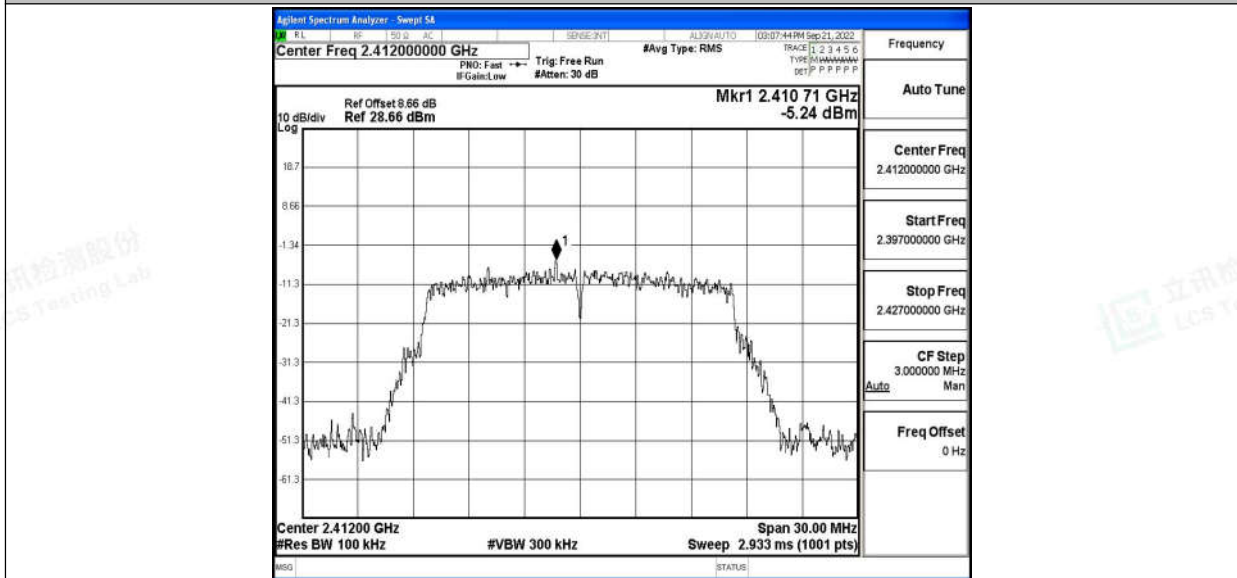


11B_Ant1_2462_1000~26500



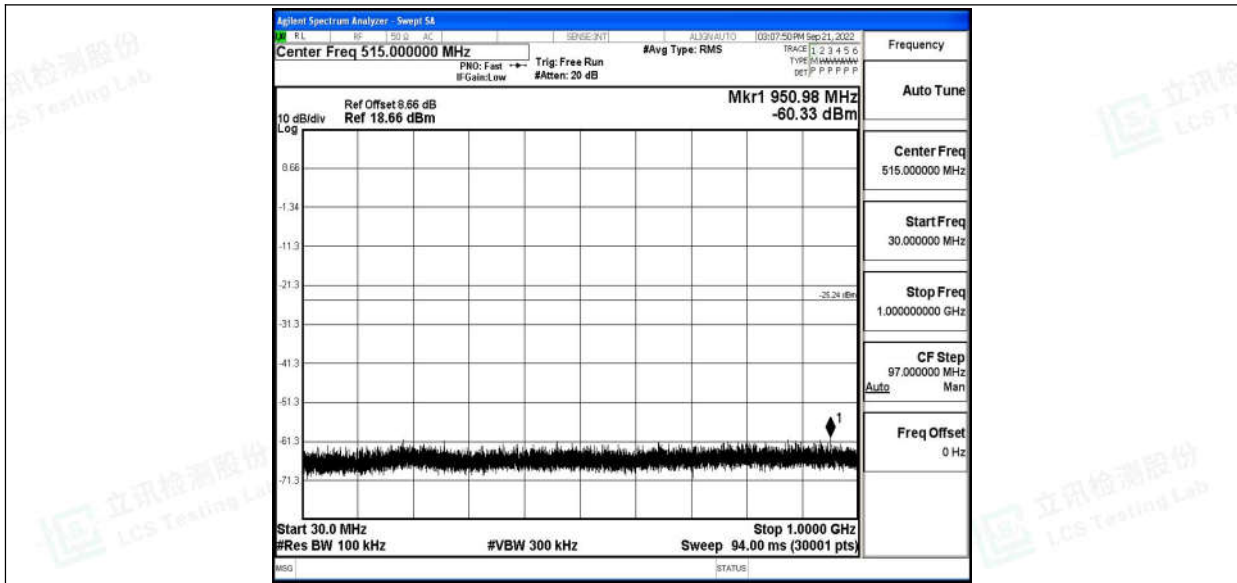


11G_Ant1_2412_0~Reference

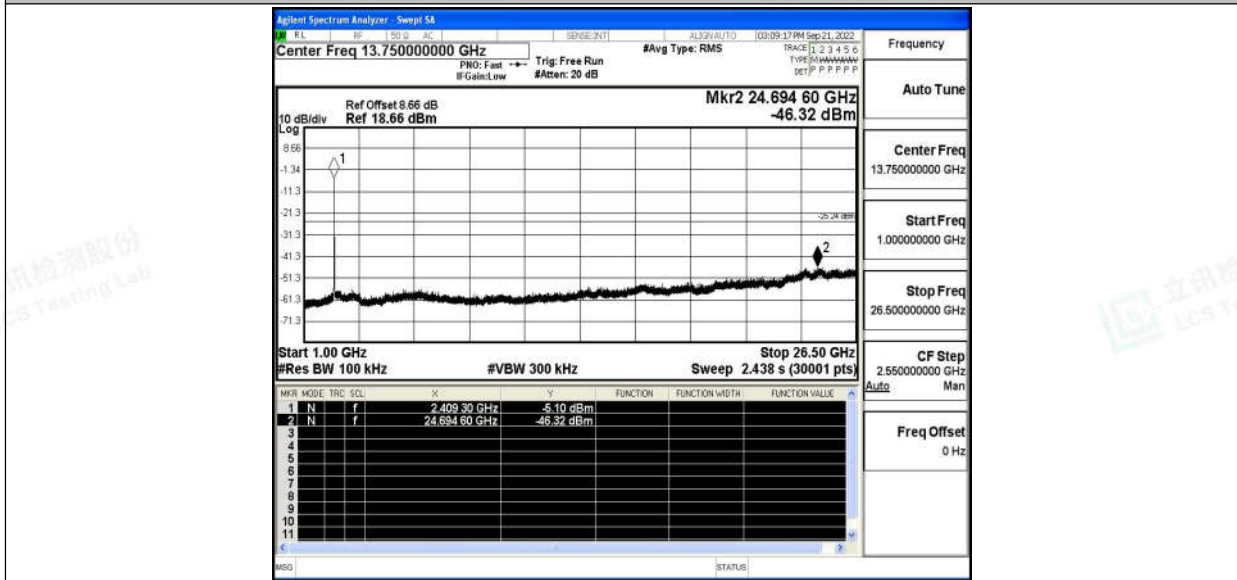


11G_Ant1_2412_30~1000



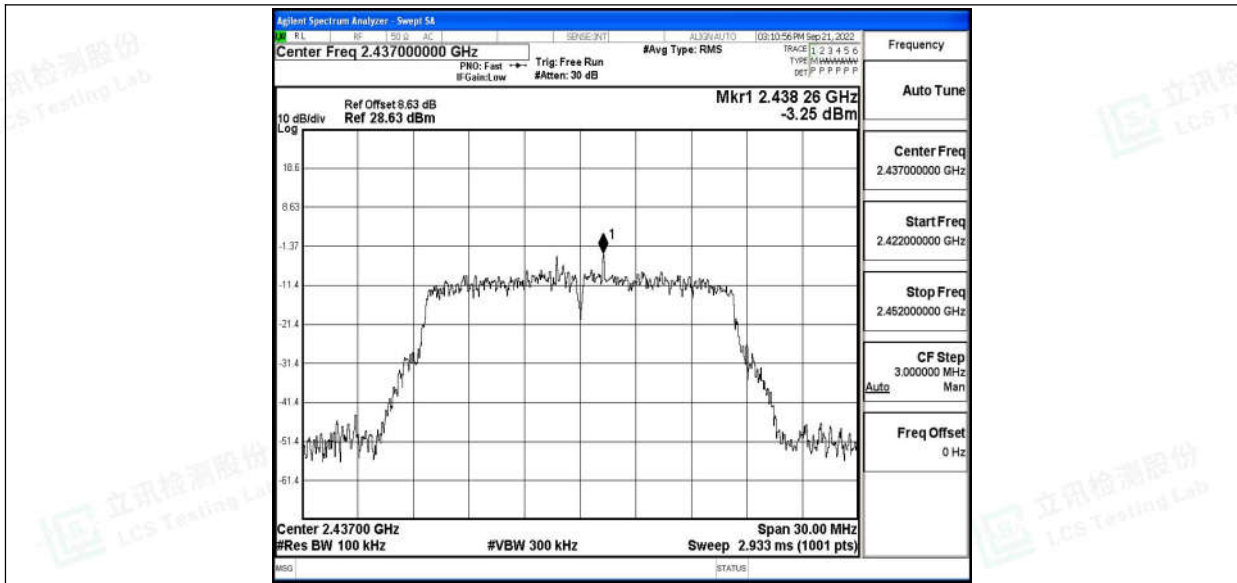


11G_Ant1_2412_1000~26500

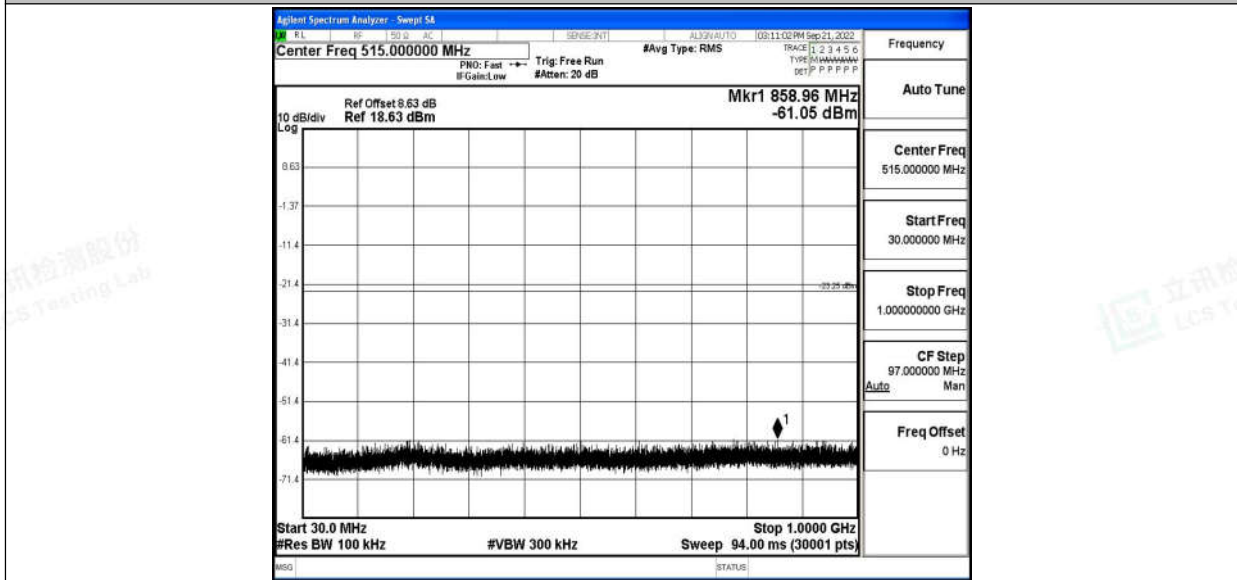


11G_Ant1_2437_0~Reference



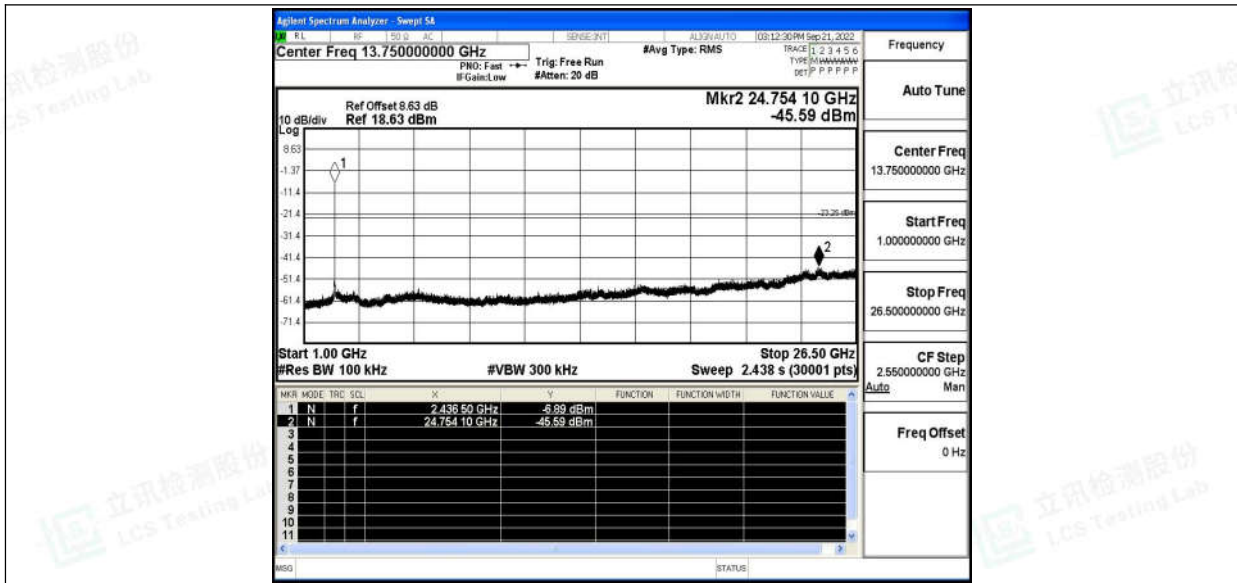


11G_Ant1_2437_30~1000

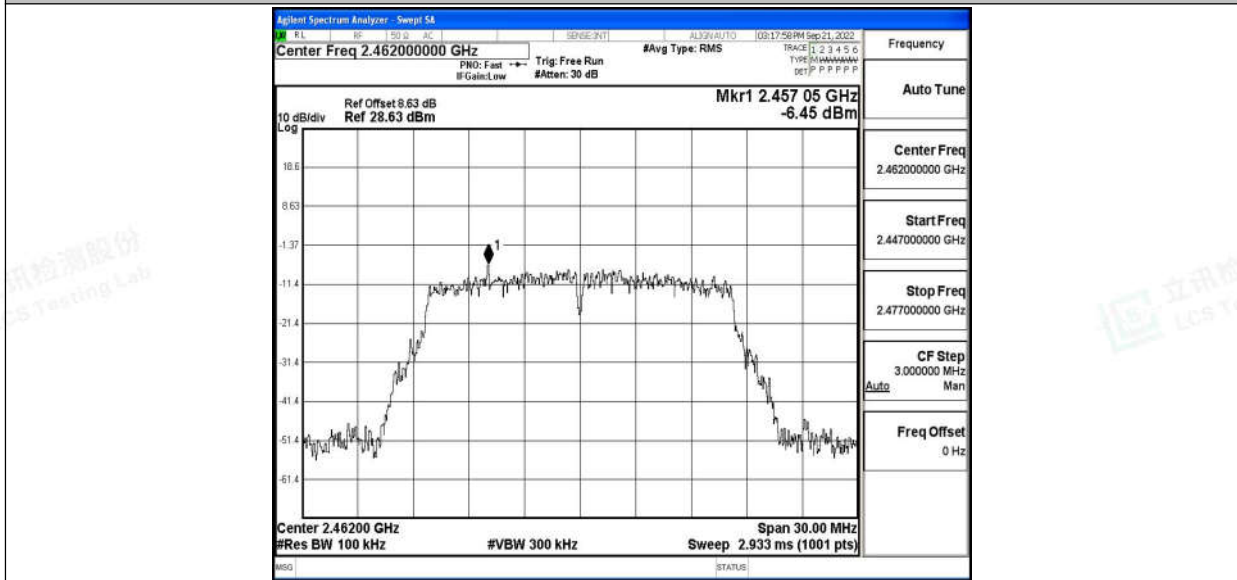


11G_Ant1_2437_1000~26500



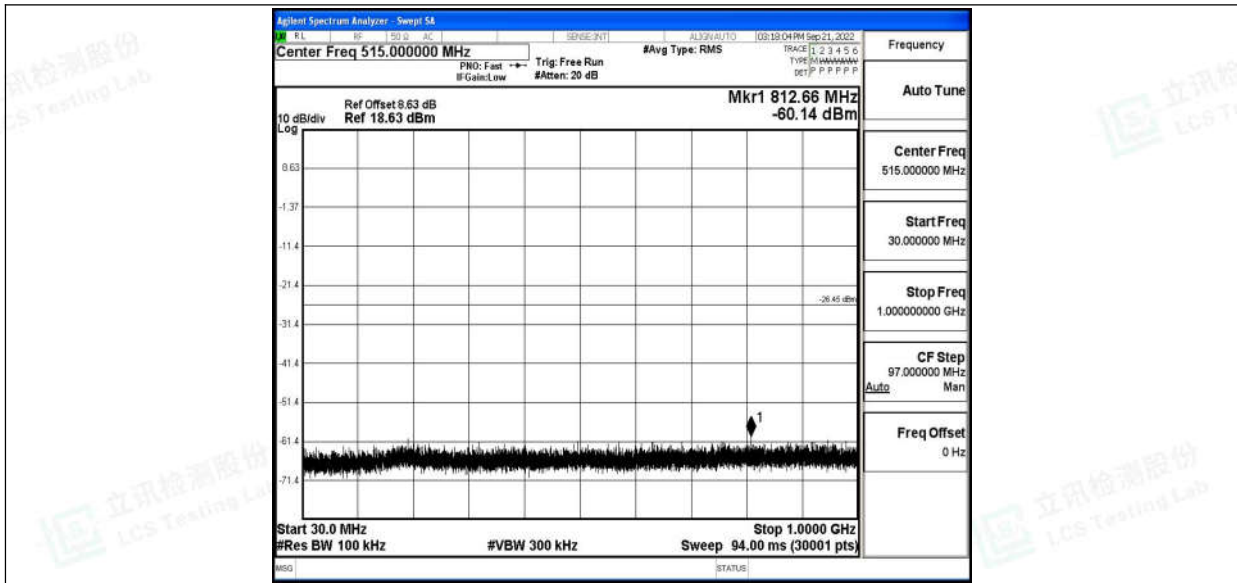


11G_Ant1_2462_0~Reference

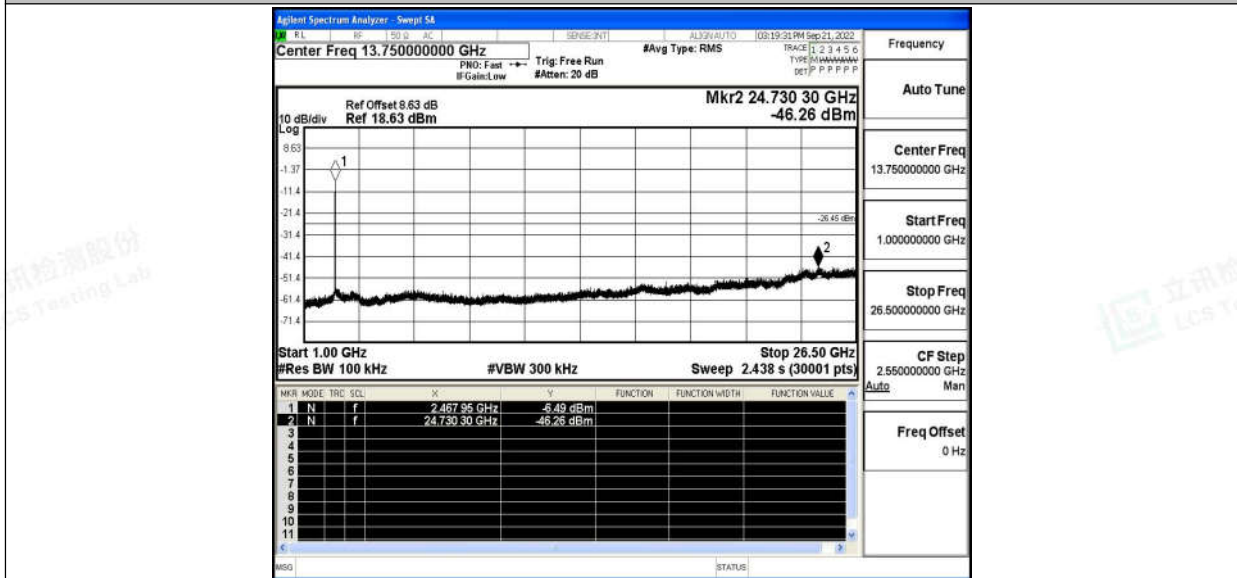


11G_Ant1_2462_30~1000



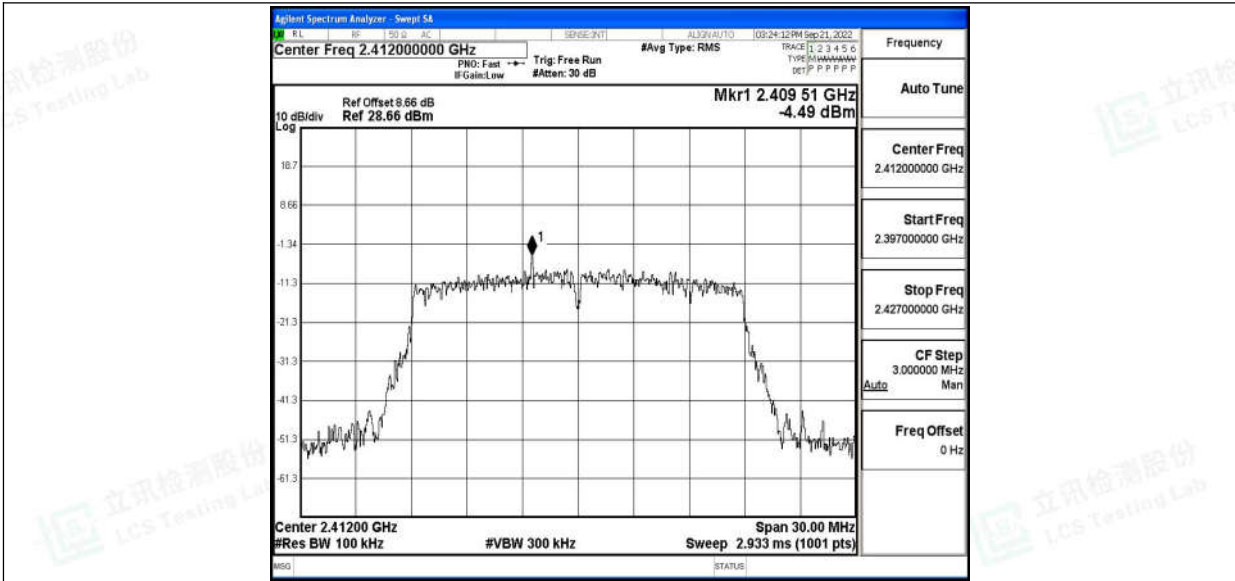


11G_Ant1_2462_1000~26500

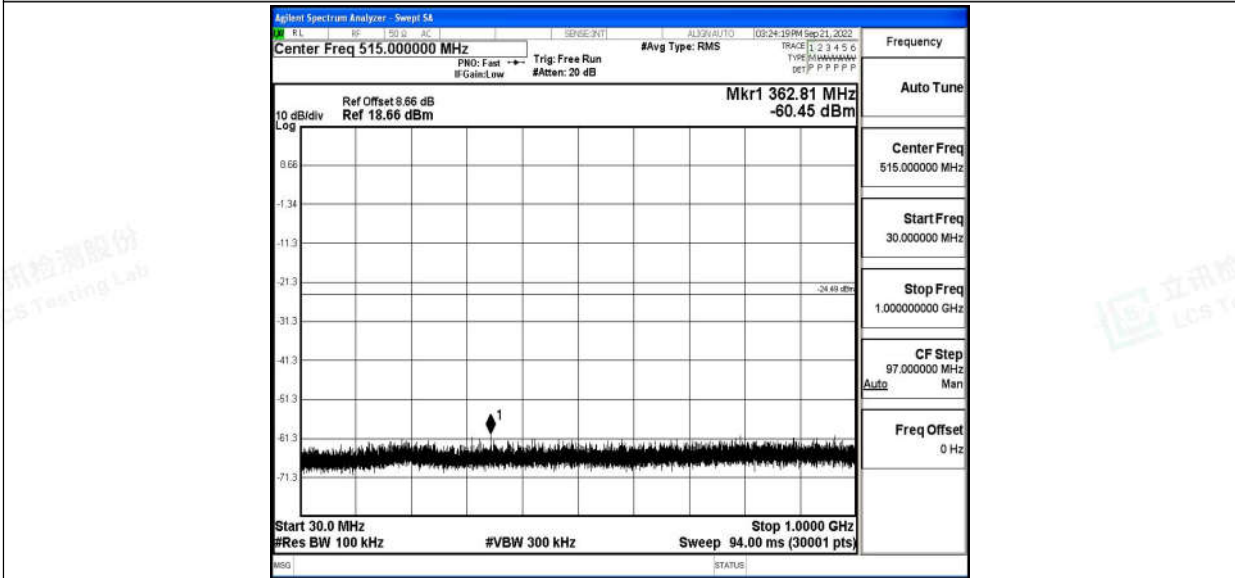


11N20SISO_Ant1_2412_0~Reference



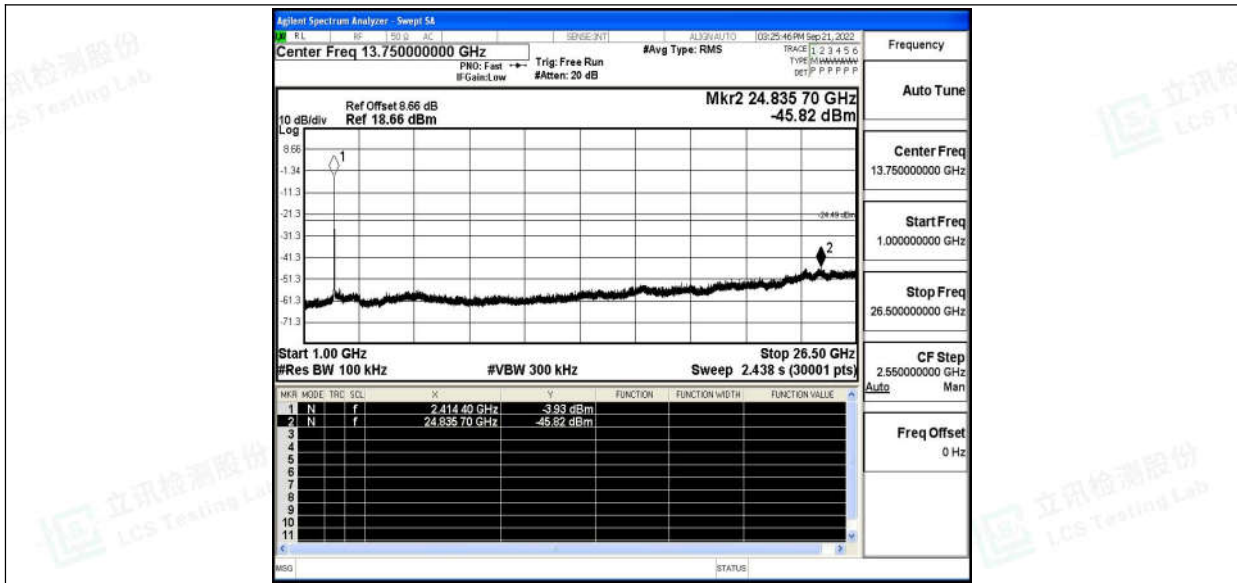


11N20SISO_Ant1_2412_30~1000

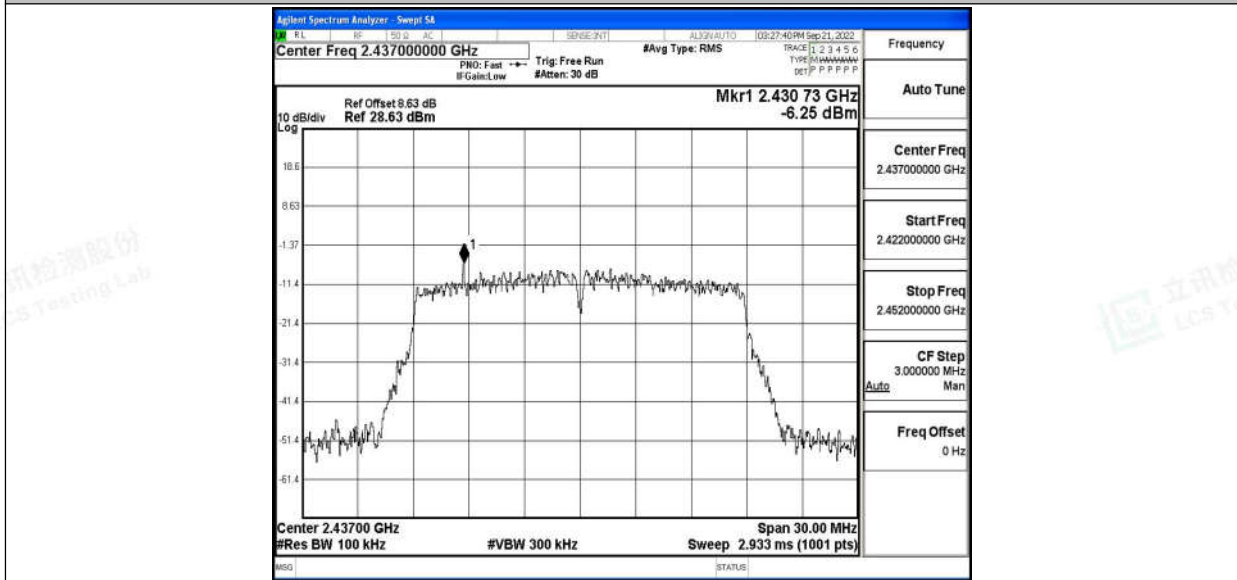


11N20SISO_Ant1_2412_1000~26500



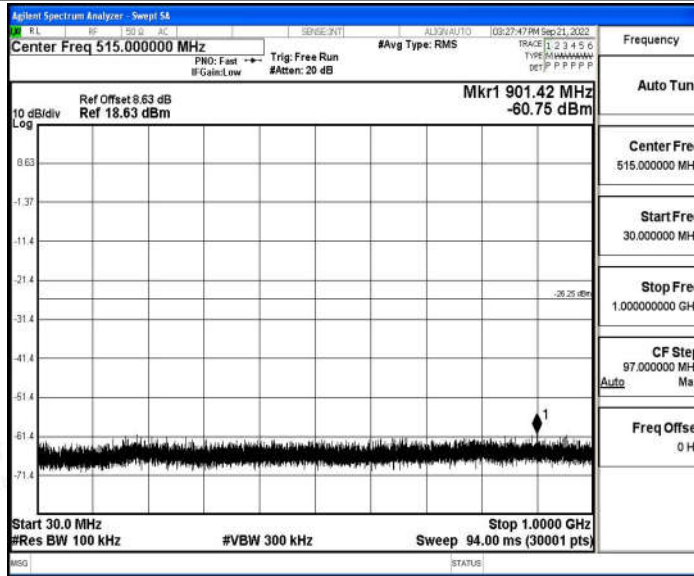


11N20SISO_Ant1_2437_0~Reference

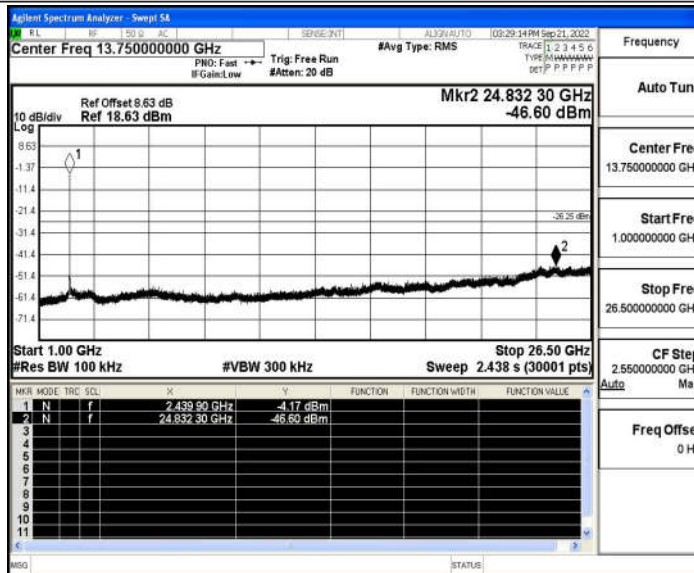


11N20SISO_Ant1_2437_30~1000



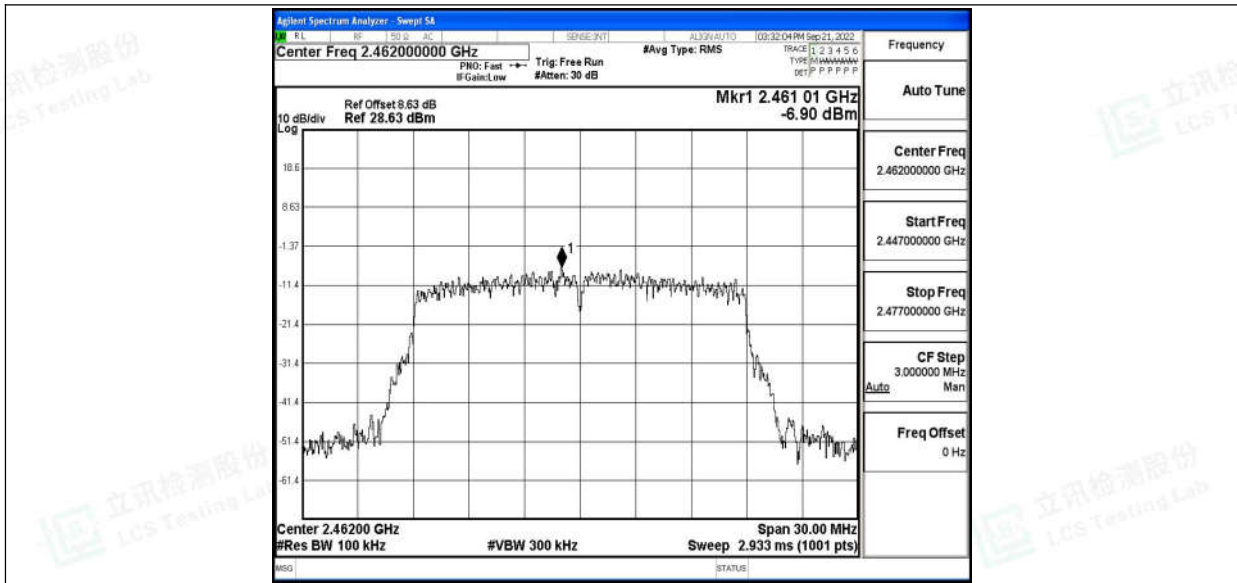


11N20SISO_Ant1_2437_1000~26500

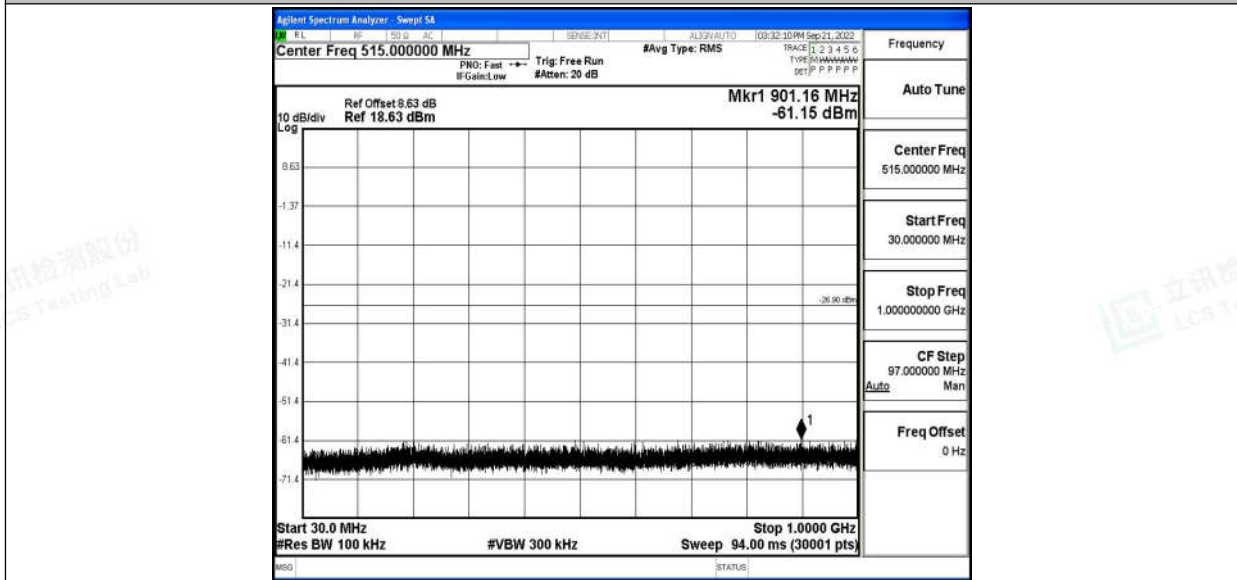


11N20SISO_Ant1_2462_0~Reference



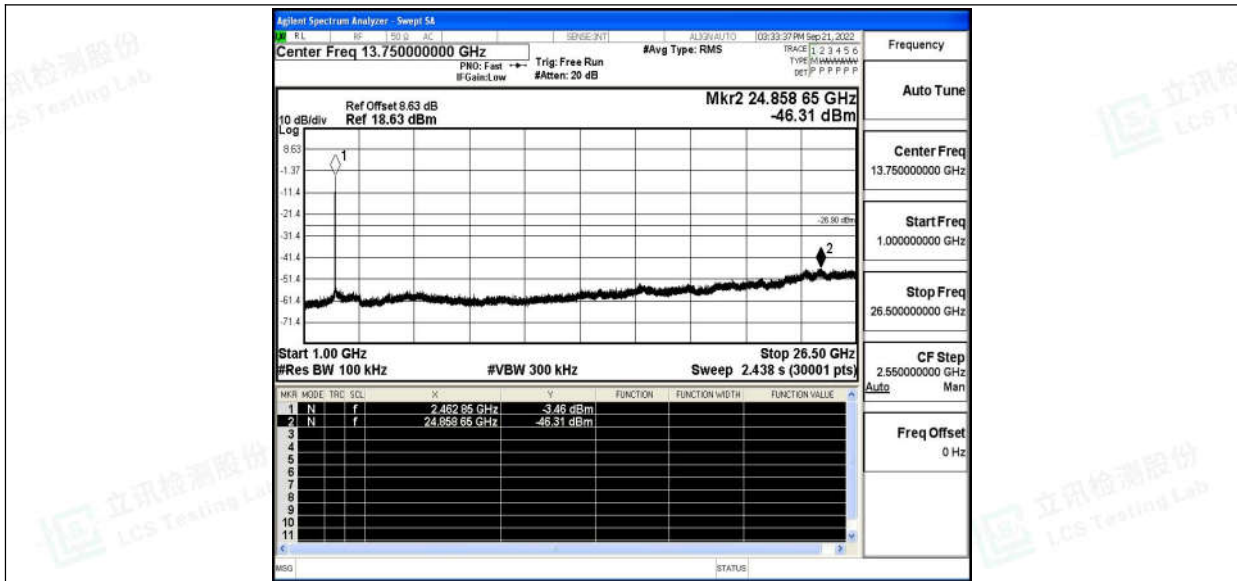


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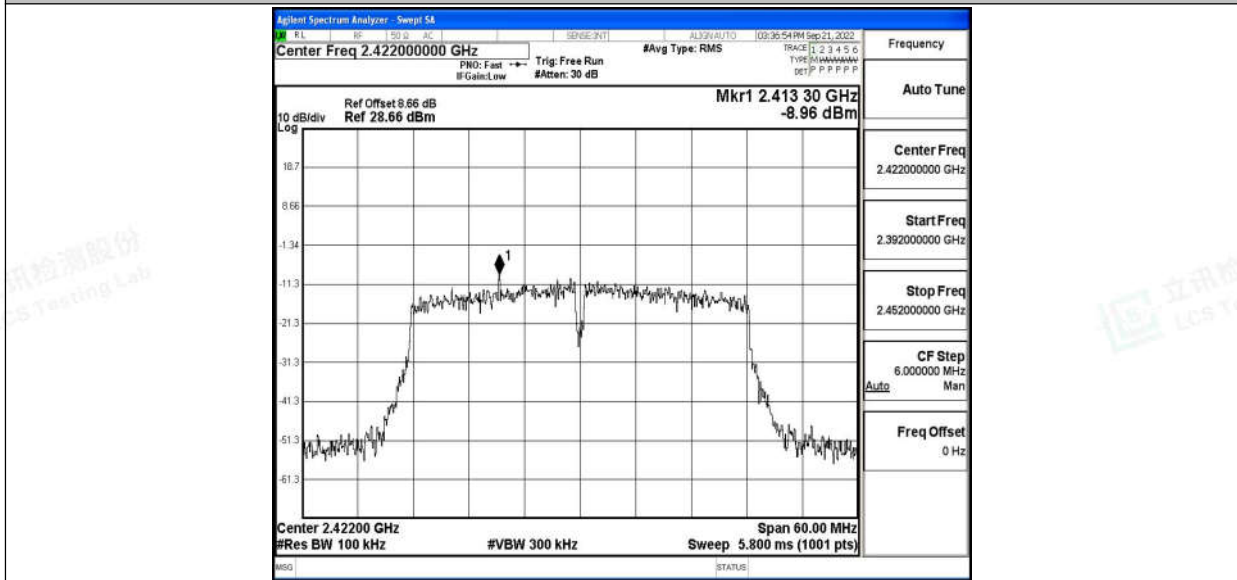


11N20SISO_Ant1_2462_1000~26500





11N40SISO_Ant1_2422_0~Reference



11N40SISO_Ant1_2422_30~1000

