



## Appendix B

### RF Test Data for 2.4GWIFI (Conducted Measurement)

**Product Name: Treadmill**

**Test Model: BA03**

#### Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





### B.1 DTS Bandwidth

#### Test Result

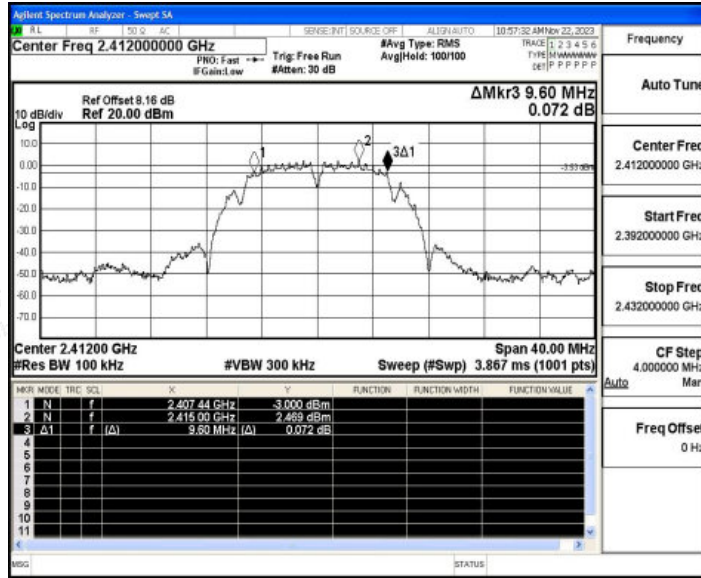
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.600	2407.440	2417.040	0.5	PASS
		2437	9.120	2432.400	2441.520	0.5	PASS
		2462	9.560	2457.480	2467.040	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.000	2428.840	2444.840	0.5	PASS
		2462	16.280	2453.840	2470.120	0.5	PASS
11N20SISO	Ant1	2412	16.720	2403.520	2420.240	0.5	PASS
		2437	16.640	2428.680	2445.320	0.5	PASS
		2462	16.920	2453.400	2470.320	0.5	PASS
11N40SISO	Ant1	2422	35.520	2404.400	2439.920	0.5	PASS
		2437	35.200	2419.320	2454.520	0.5	PASS
		2452	34.320	2433.920	2468.240	0.5	PASS



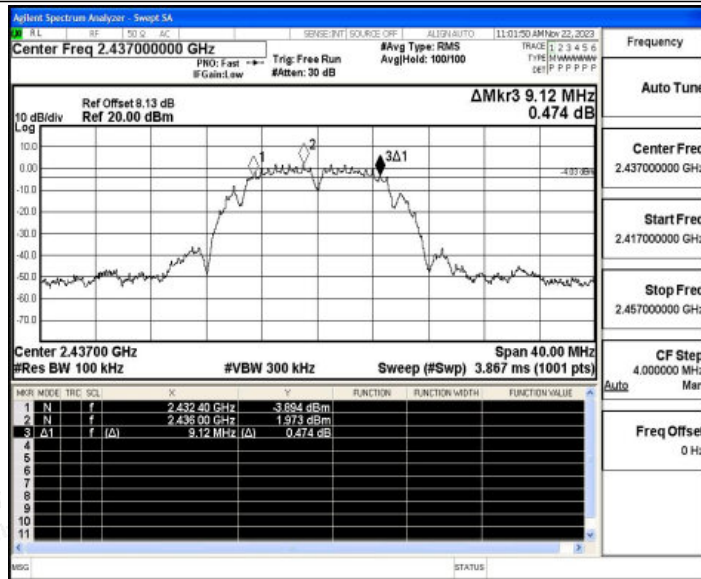


### Test Graphs

11B\_Ant1\_2412

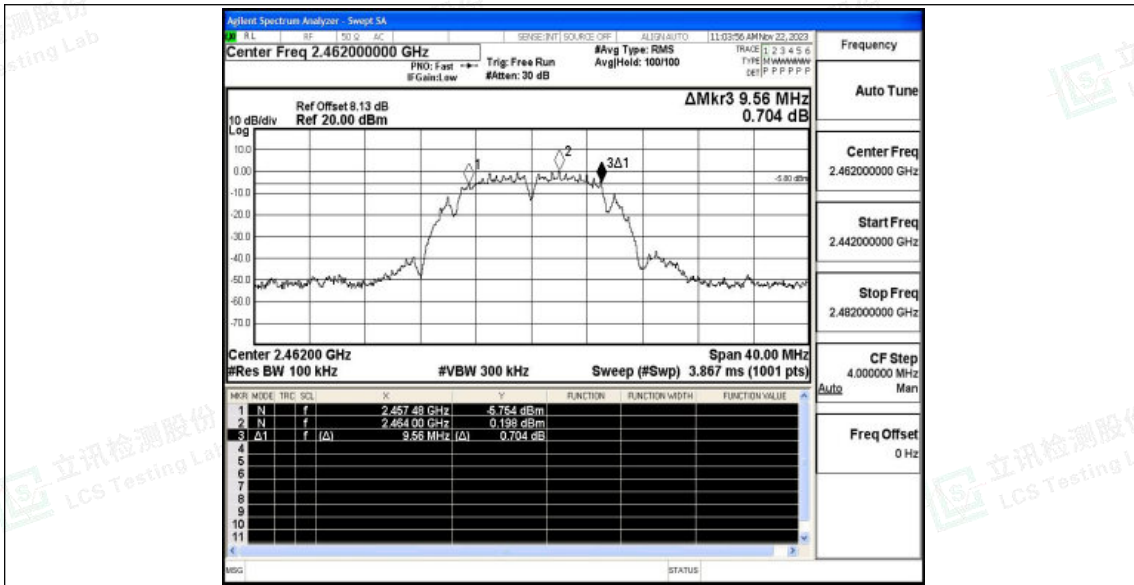


11B\_Ant1\_2437

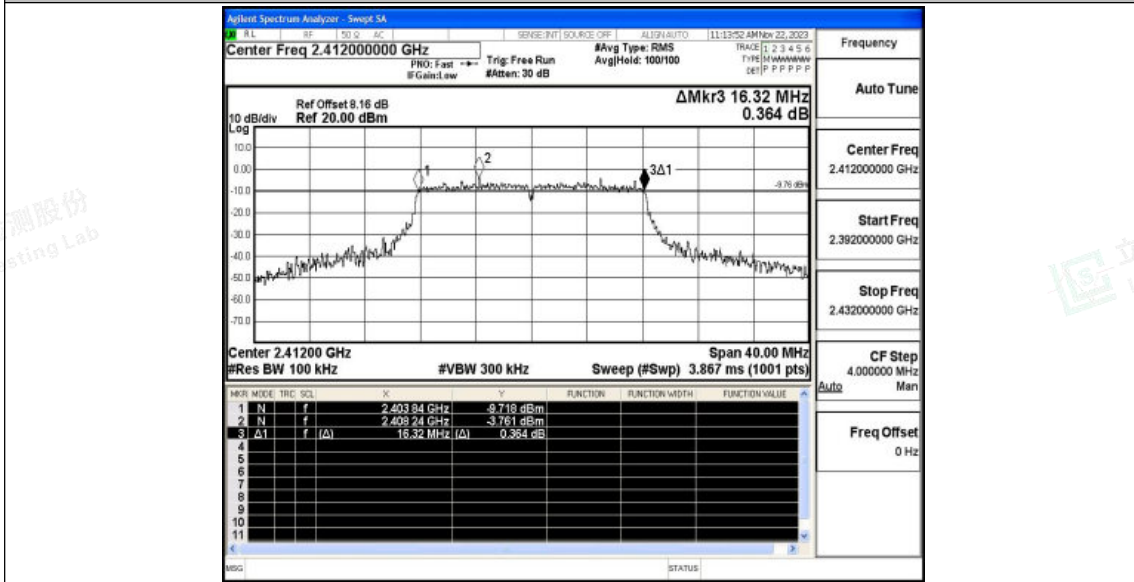


11B\_Ant1\_2462



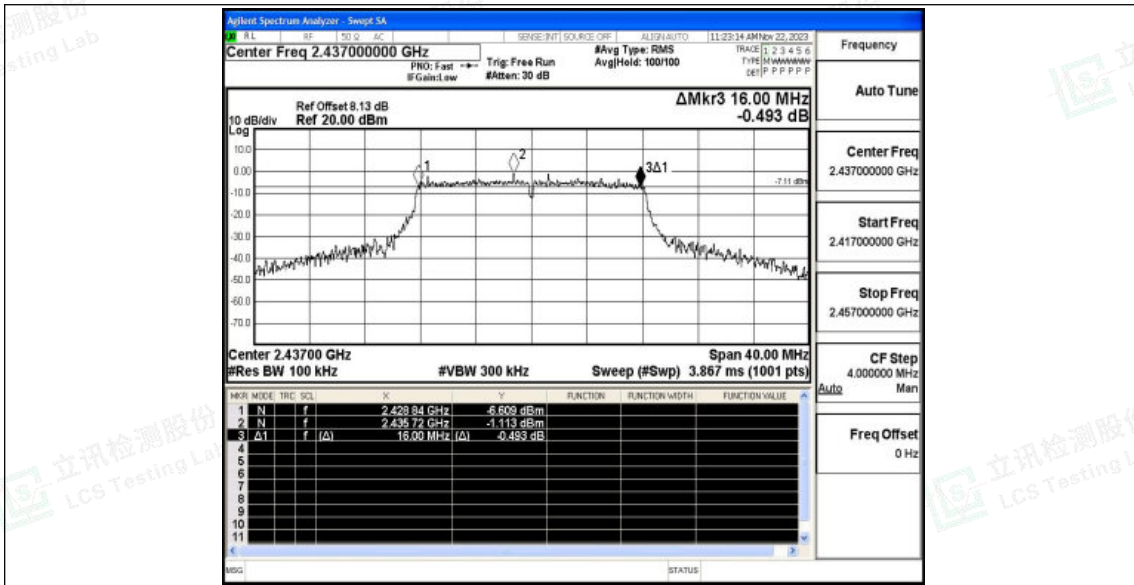


11G\_Ant1\_2412

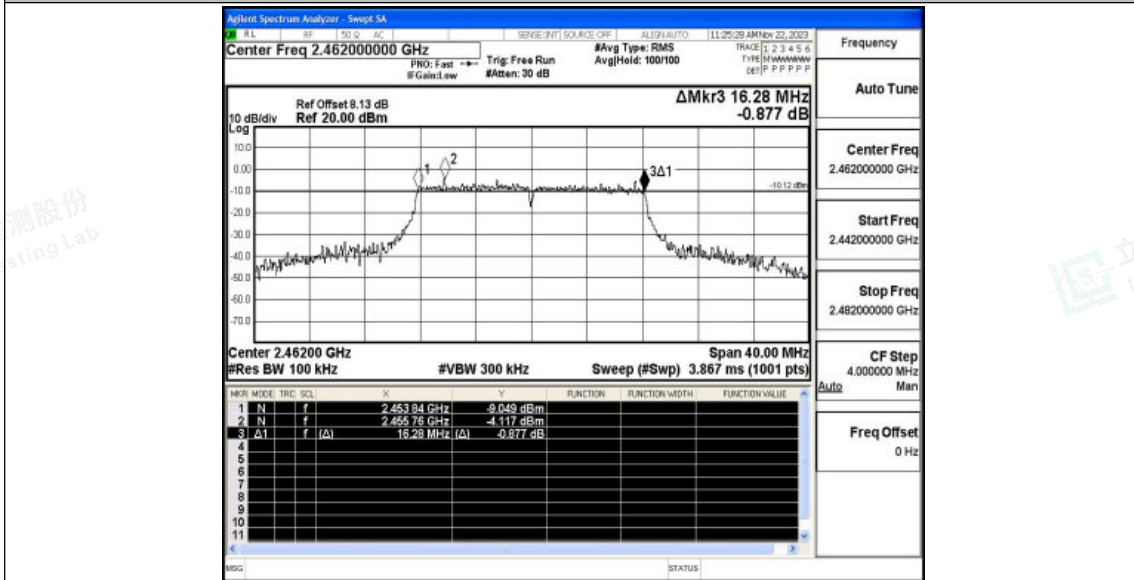


11G\_Ant1\_2437



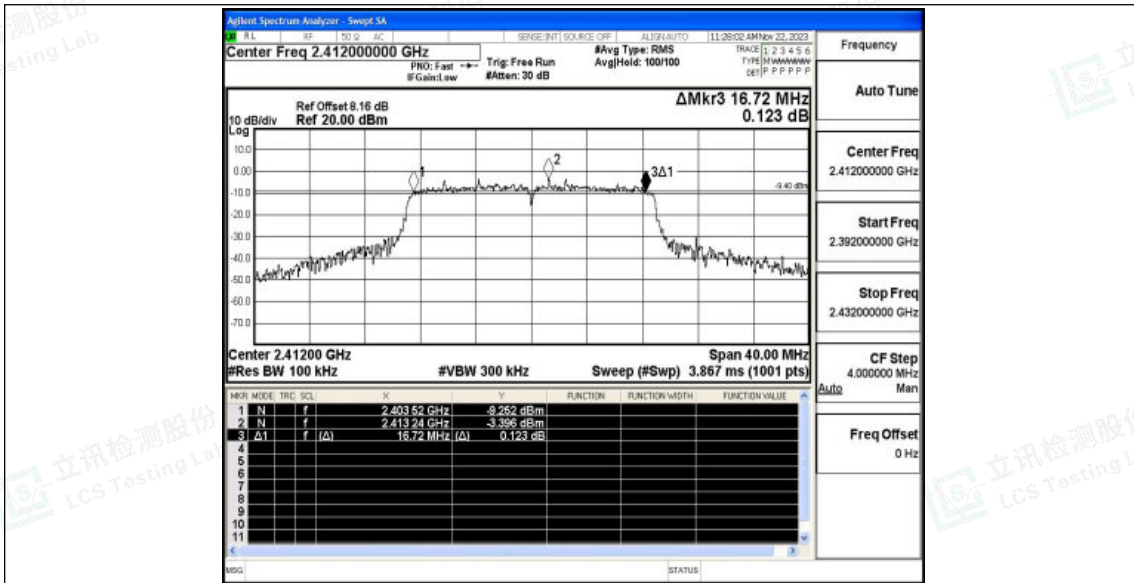


11G\_Ant1\_2462

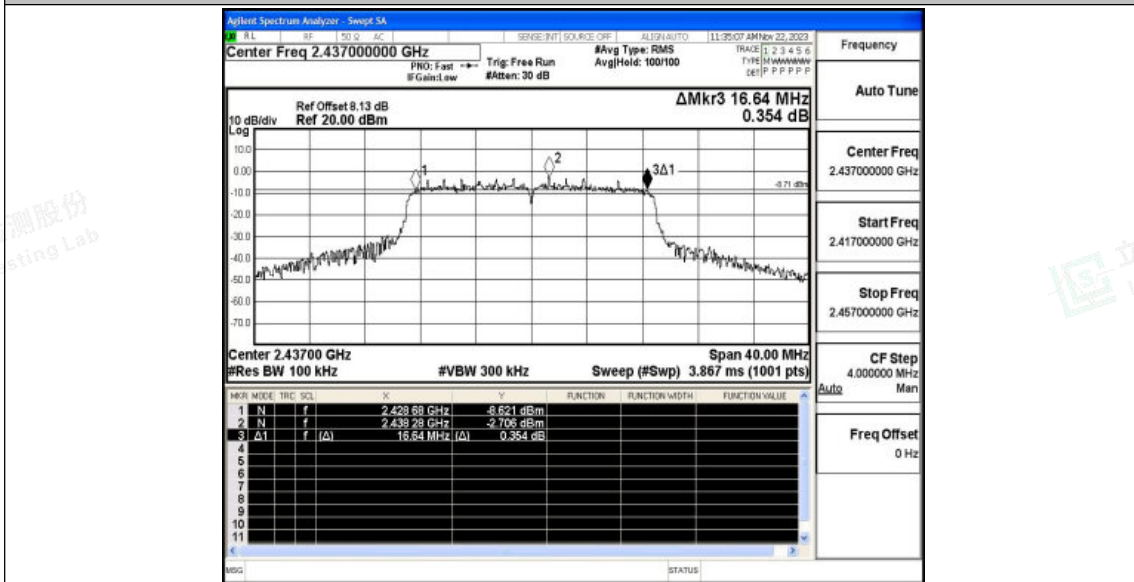


11N20SISO\_Ant1\_2412



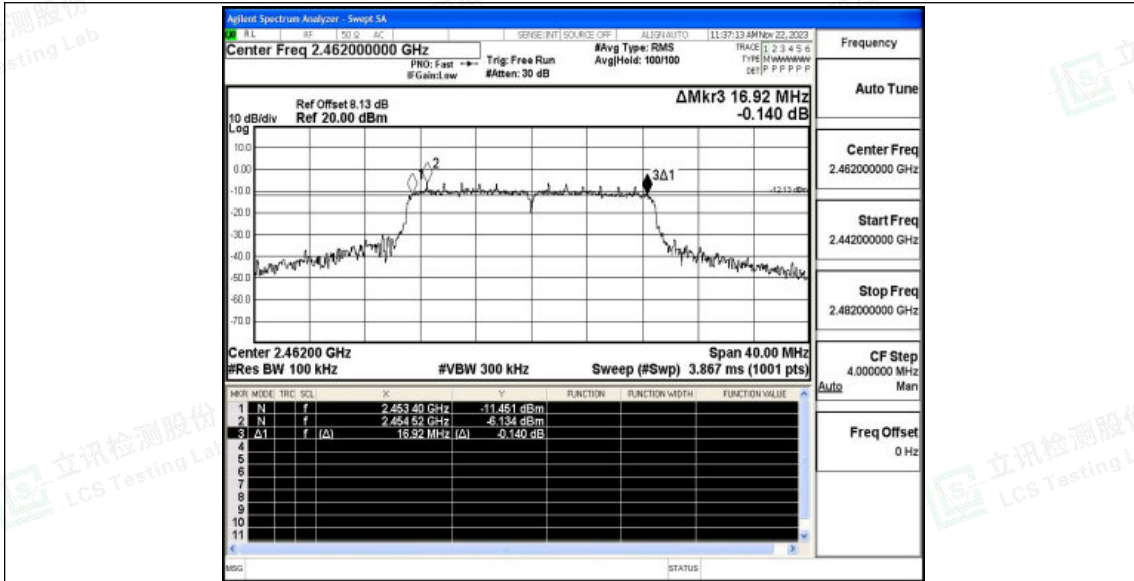


11N20SISO\_Ant1\_2437

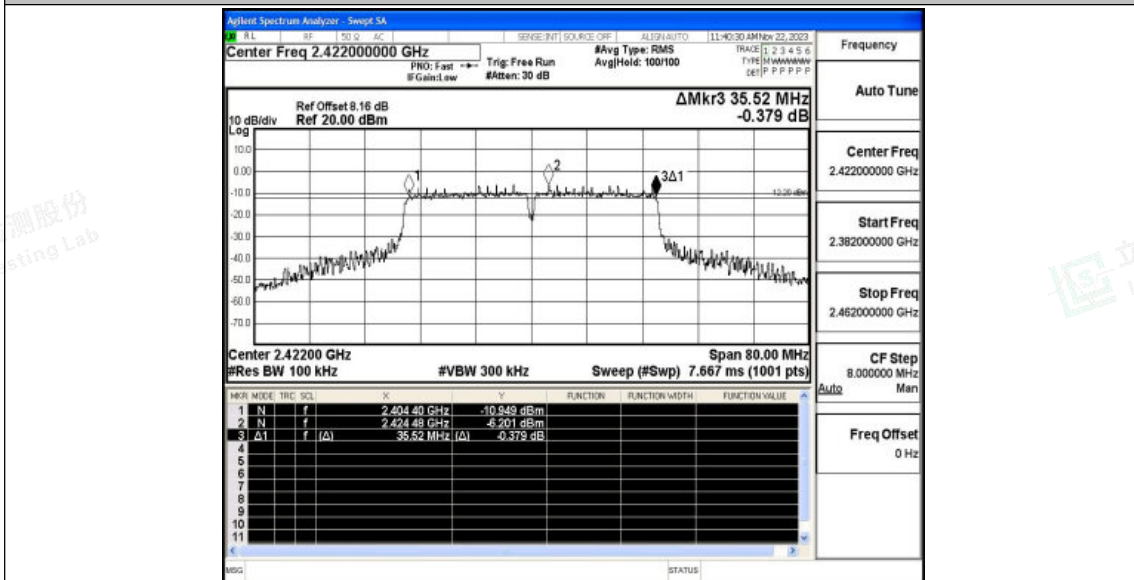


11N20SISO\_Ant1\_2462





11N40SISO\_Ant1\_2422



11N40SISO\_Ant1\_2437

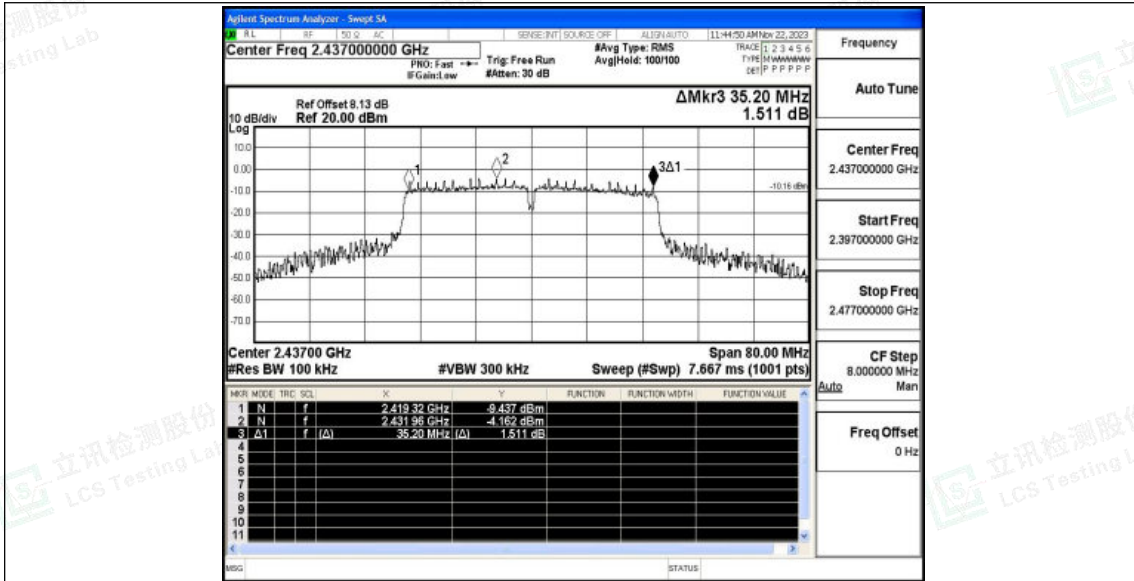


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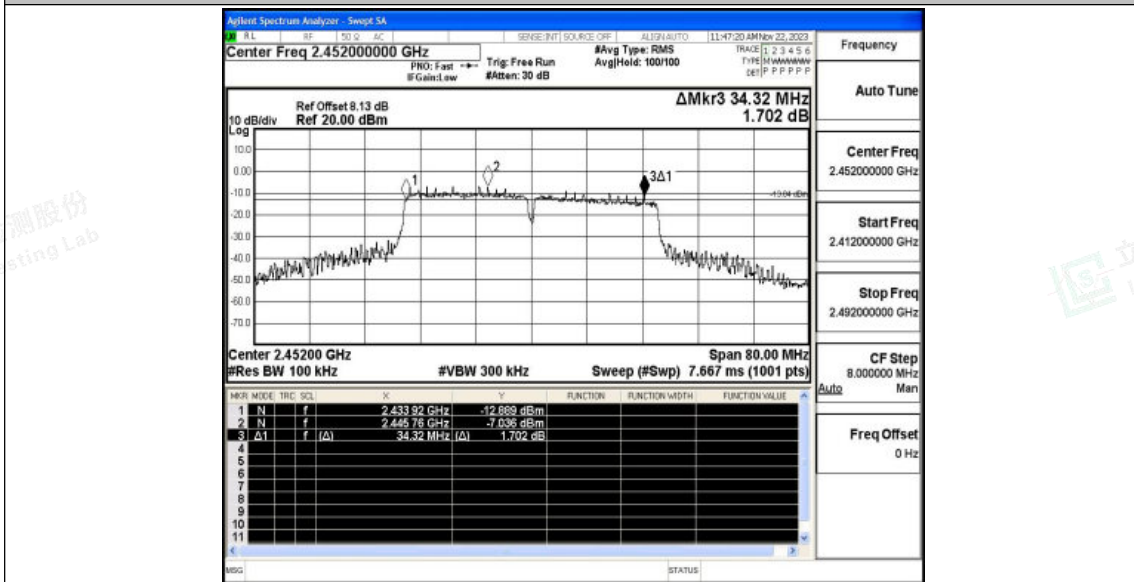
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11N40SISO\_Ant1\_2452







## B.2 Maximum Peak Conducted Output Power

### Test Result Peak

TestMode	Antenna	Freq(MHz)	Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	14.64	≤30.00	PASS
		2437	13.97	≤30.00	PASS
		2462	14.30	≤30.00	PASS
11G	Ant1	2412	14.11	≤30.00	PASS
		2437	16.46	≤30.00	PASS
		2462	13.14	≤30.00	PASS
11N20SISO	Ant1	2412	14.13	≤30.00	PASS
		2437	14.27	≤30.00	PASS
		2462	11.23	≤30.00	PASS
11N40SISO	Ant1	2422	14.09	≤30.00	PASS
		2437	15.74	≤30.00	PASS
		2452	12.61	≤30.00	PASS





### B.3 Maximum power spectral density

#### Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-8.46	≤8.00	PASS
		2437	-9.71	≤8.00	PASS
		2462	-11.85	≤8.00	PASS
11G	Ant1	2412	-18.25	≤8.00	PASS
		2437	-15.18	≤8.00	PASS
		2462	-18.9	≤8.00	PASS
11N20SISO	Ant1	2412	-17.36	≤8.00	PASS
		2437	-17.95	≤8.00	PASS
		2462	-19.89	≤8.00	PASS
11N40SISO	Ant1	2422	-20.63	≤8.00	PASS
		2437	-19.46	≤8.00	PASS
		2452	-20.5	≤8.00	PASS



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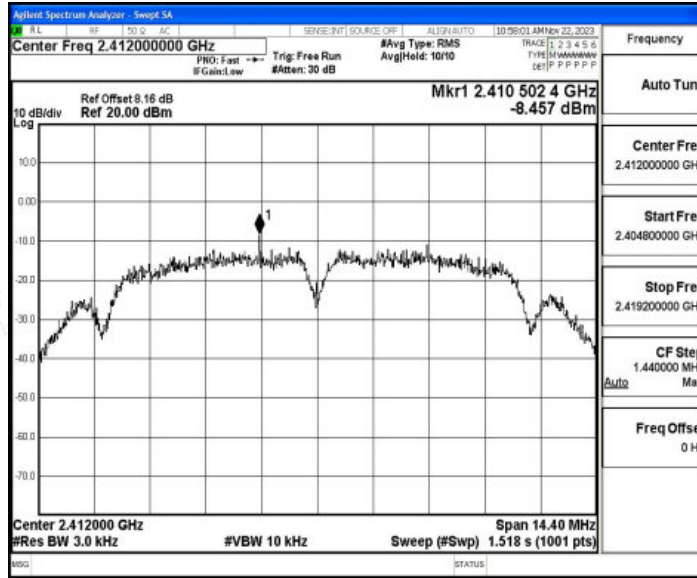
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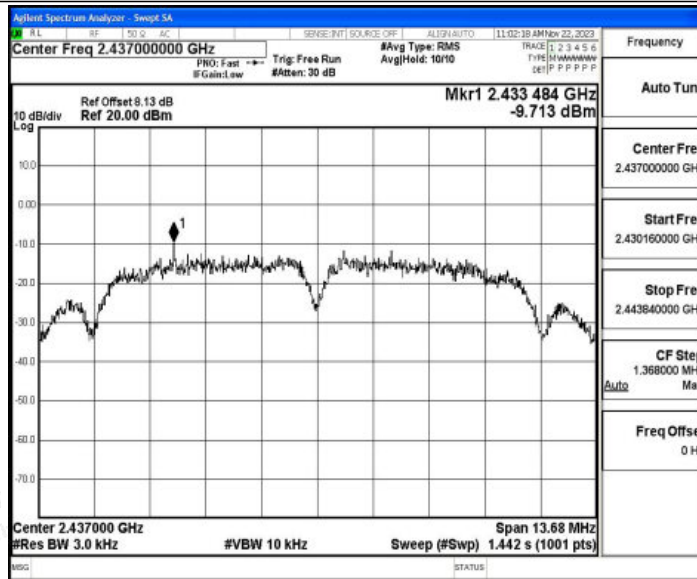


### Test Graphs

11B\_Ant1\_2412

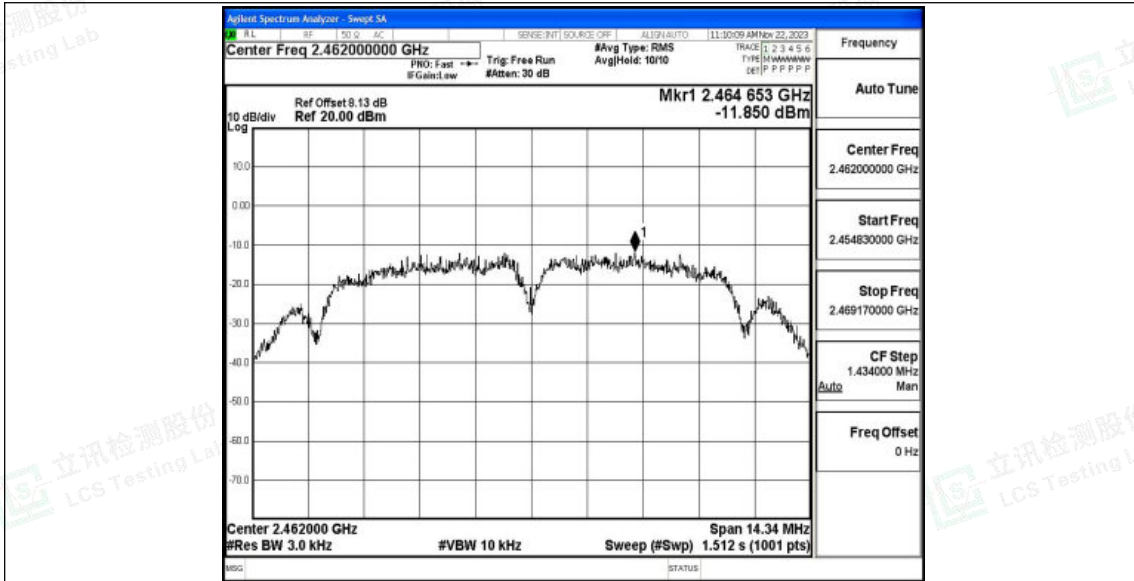


11B\_Ant1\_2437

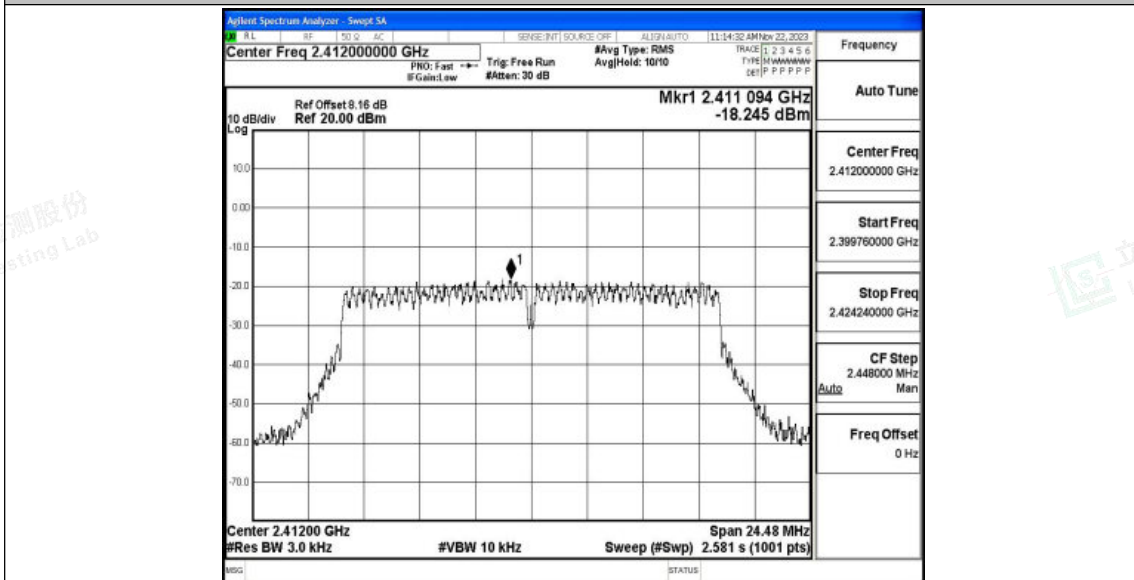


11B\_Ant1\_2462



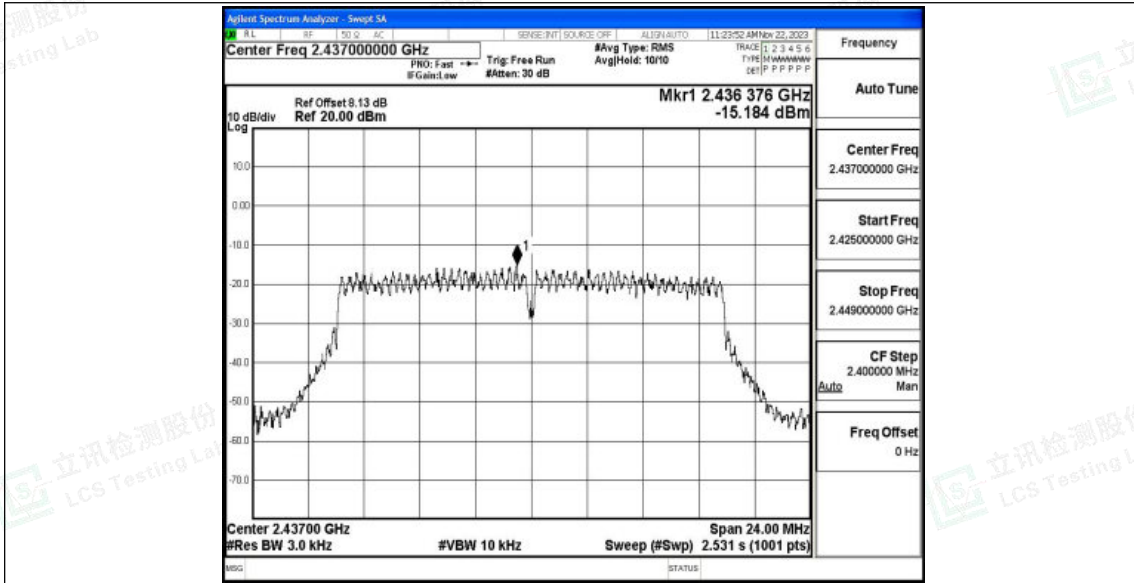


11G\_Ant1\_2412

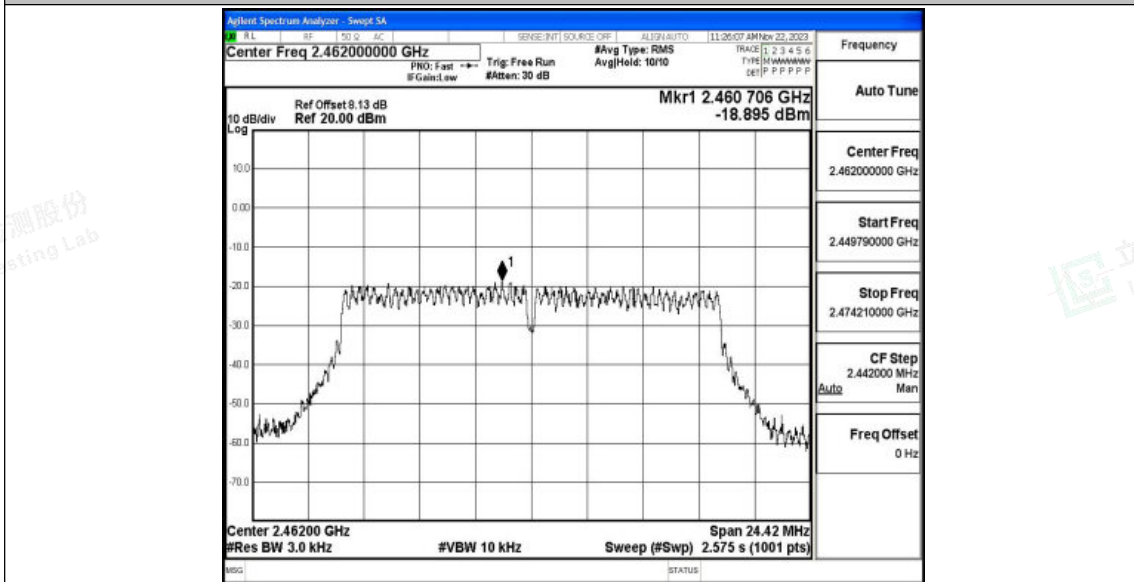


11G\_Ant1\_2437



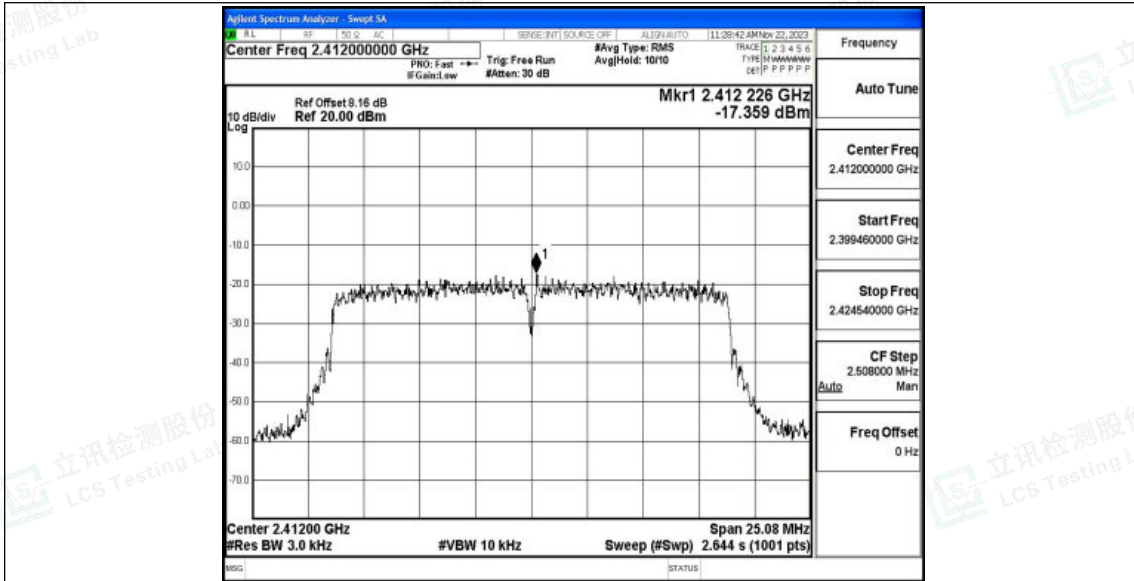


11G\_Ant1\_2462

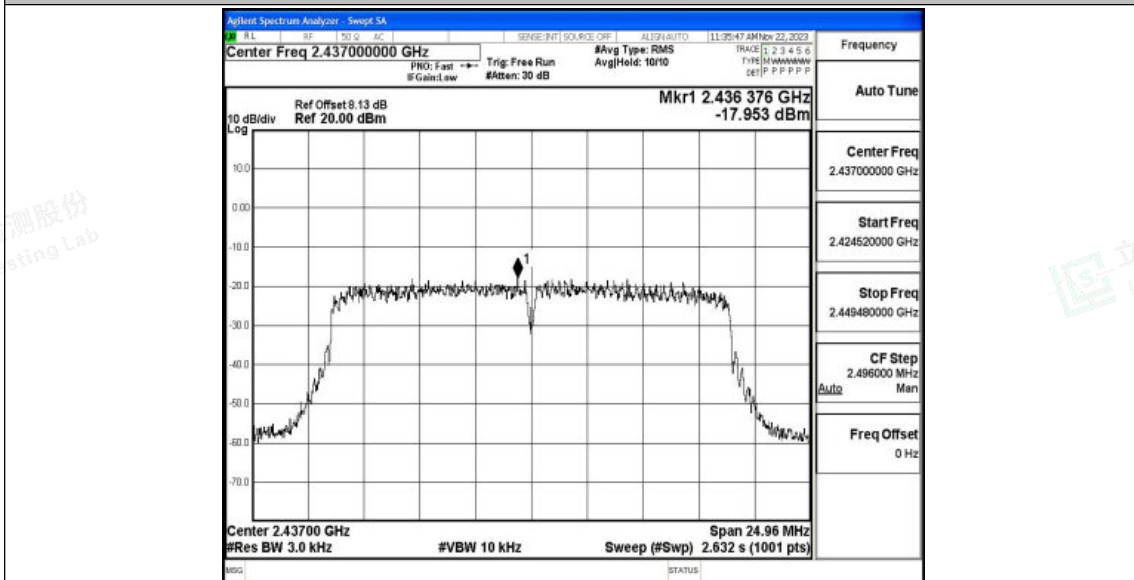


11N20SISO\_Ant1\_2412



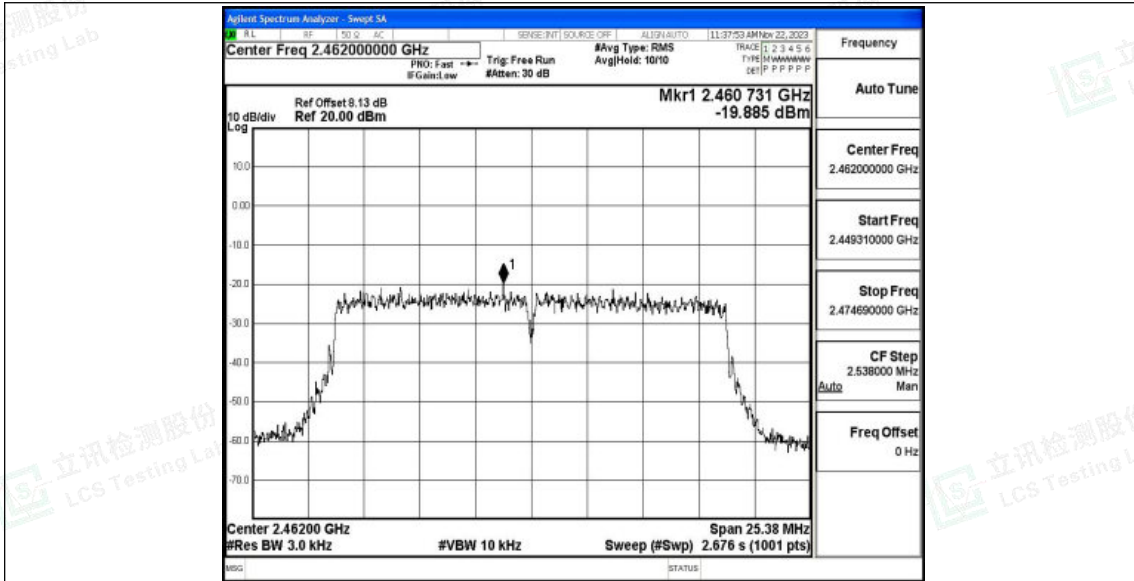


11N20SISO\_Ant1\_2437

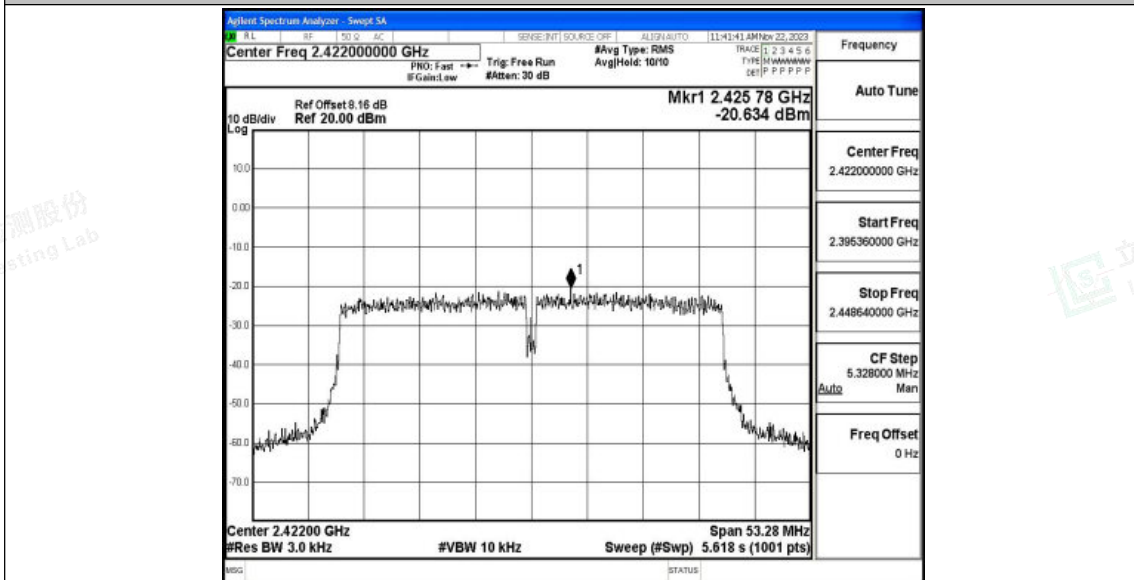


11N20SISO\_Ant1\_2462



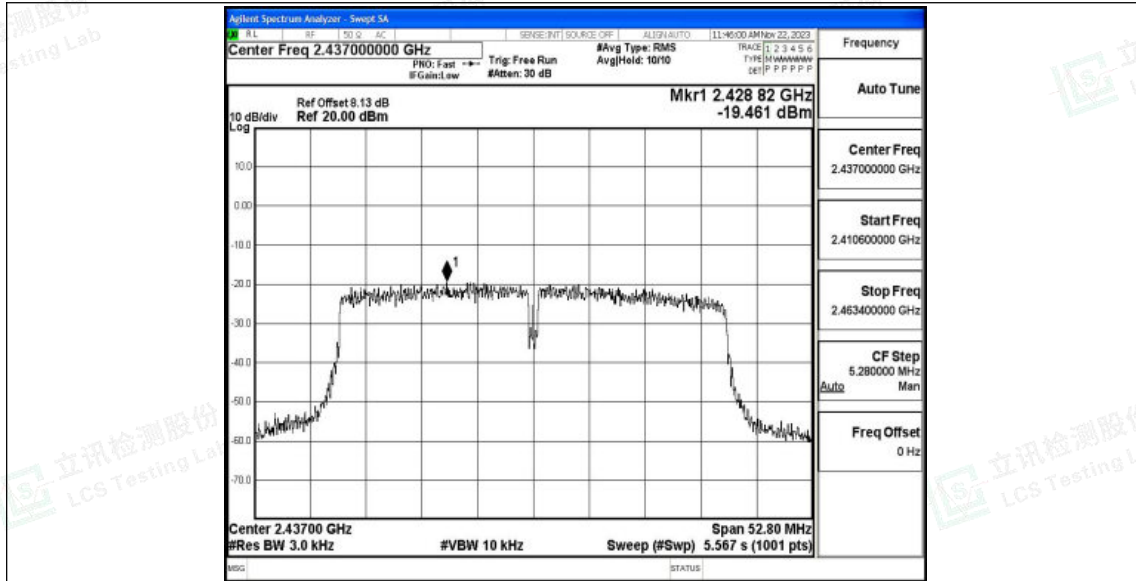


11N40SISO\_Ant1\_2422

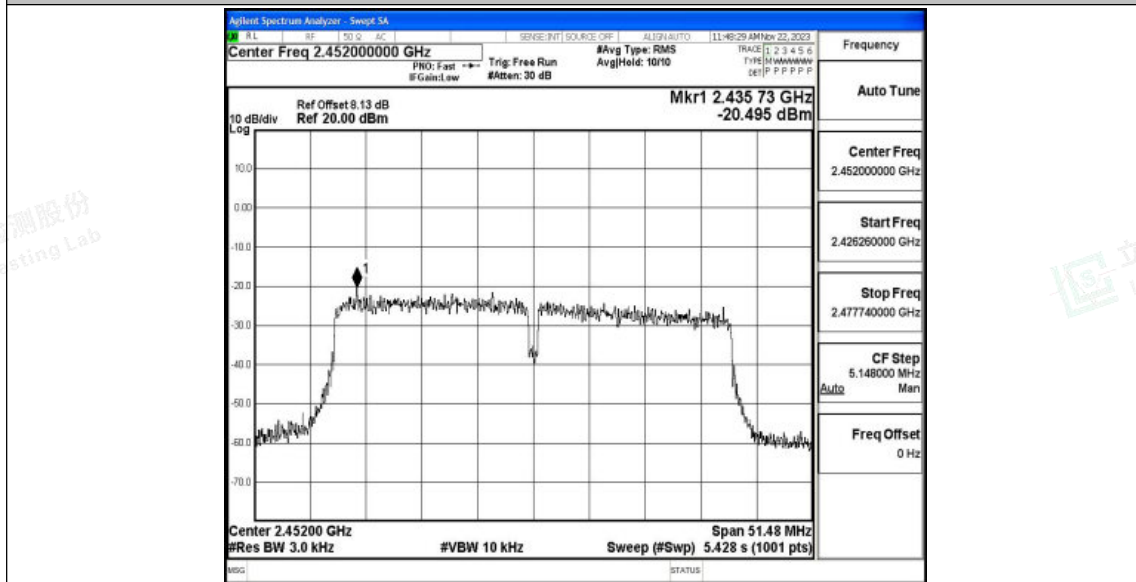


11N40SISO\_Ant1\_2437





11N40SISO\_Ant1\_2452







## B.4 Band edge measurements

### Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	2.45	-45.51	≤-17.55	PASS
		High	2462	-0.09	-49.67	≤-20.09	PASS
11G	Ant1	Low	2412	-3.61	-35.42	≤-23.61	PASS
		High	2462	-4.01	-49.52	≤-24.01	PASS
11N20SISO	Ant1	Low	2412	-3.36	-34.81	≤-23.36	PASS
		High	2462	-6.08	-49.17	≤-26.08	PASS
11N40SISO	Ant1	Low	2422	-6.21	-34.4	≤-26.21	PASS
		High	2452	-7.12	-42.28	≤-27.12	PASS



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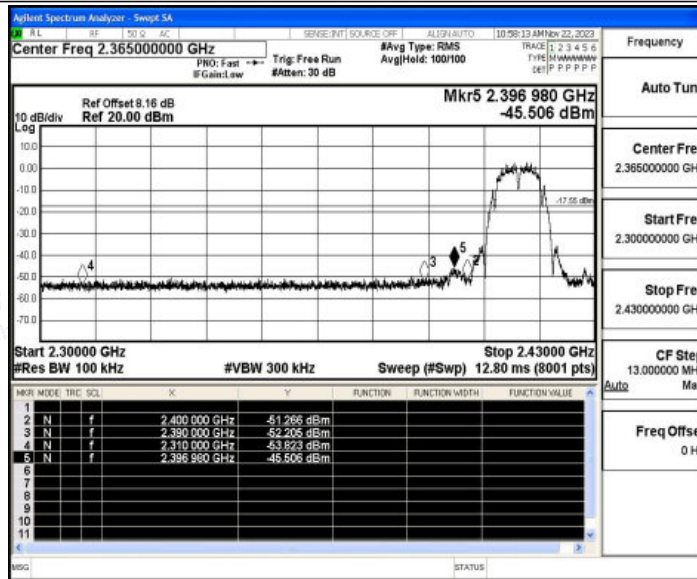
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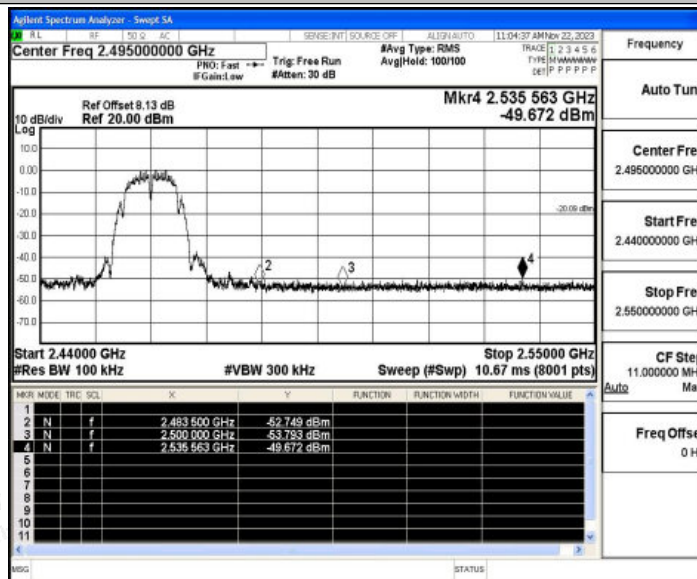


### Test Graphs

11B\_Ant1\_Low\_2412

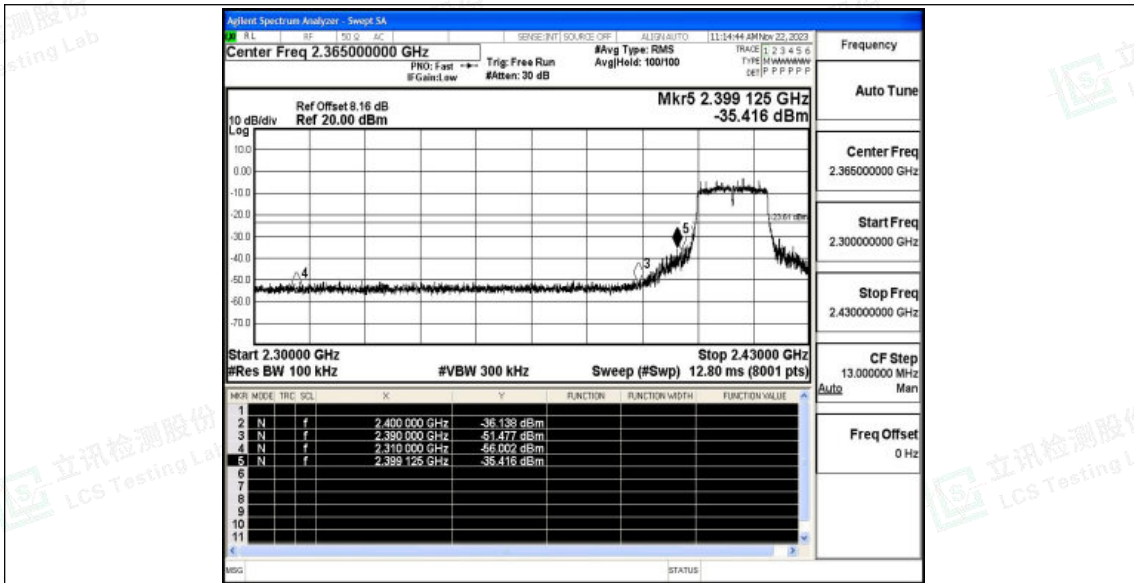


11B\_Ant1\_High\_2462

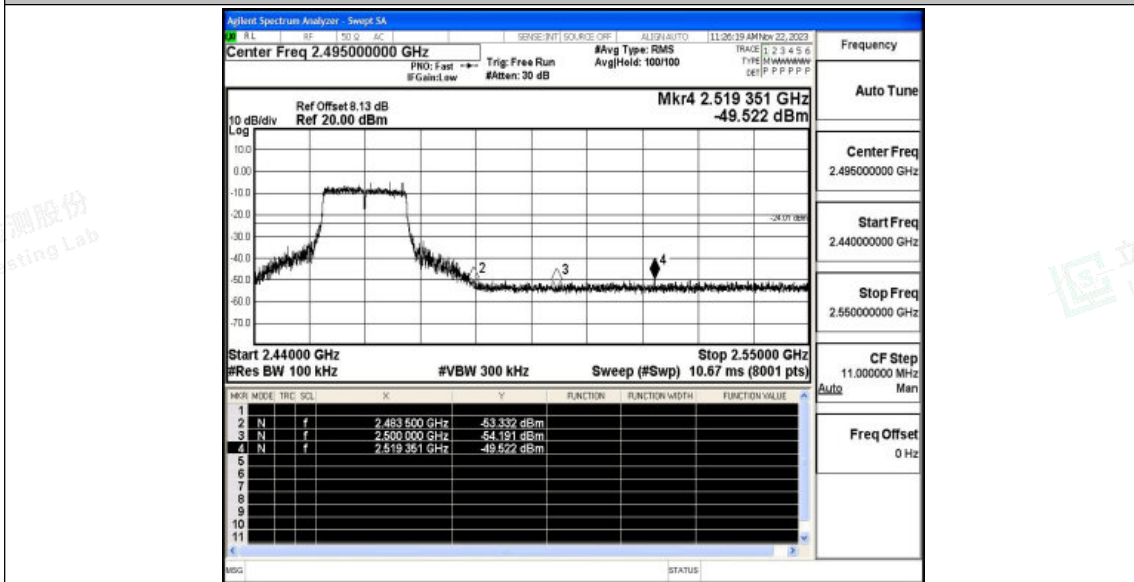


11G\_Ant1\_Low\_2412



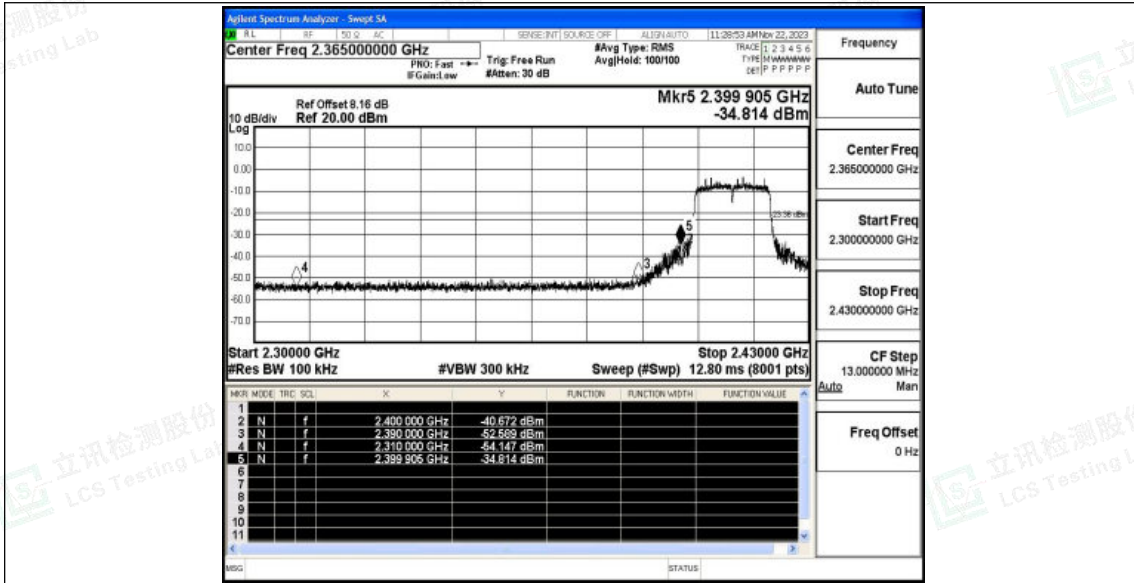


11G\_Ant1\_High\_2462

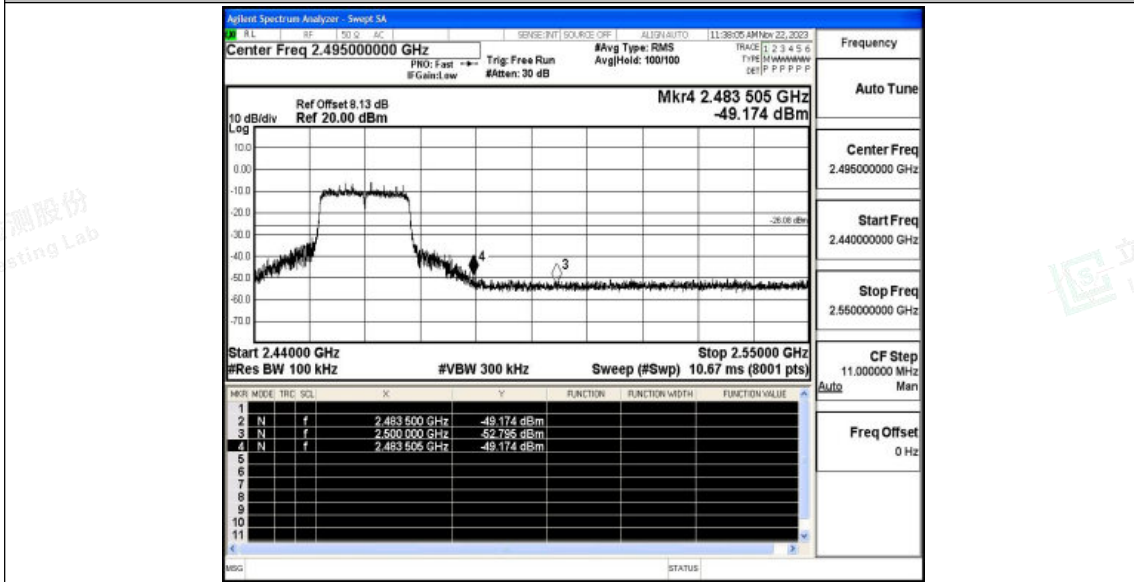


11N20SISO\_Ant1\_Low\_2412





11N20SISO\_Ant1\_High\_2462



11N40SISO\_Ant1\_Low\_2422

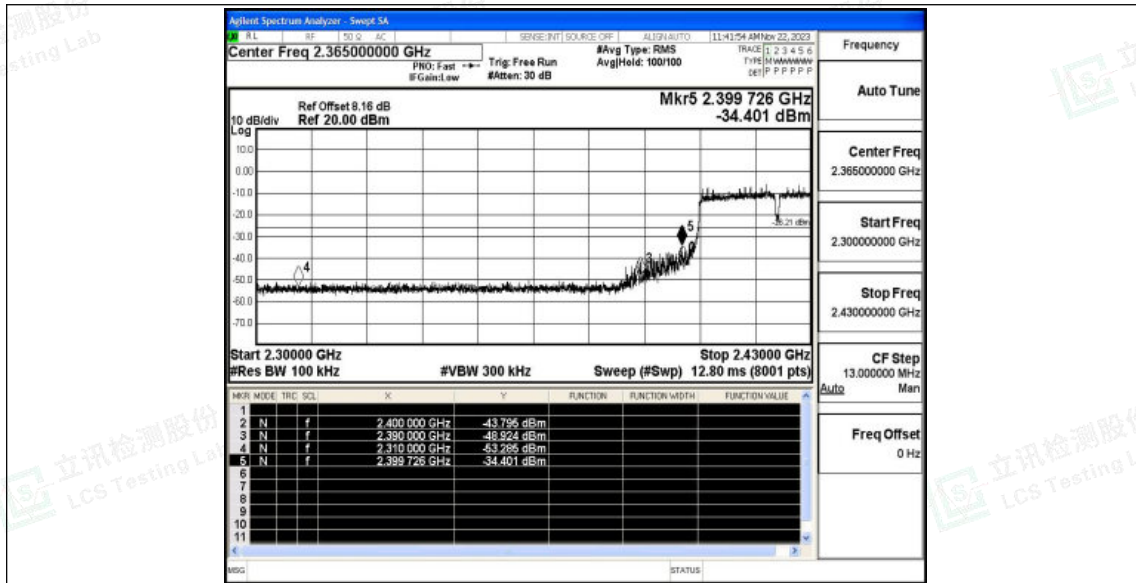


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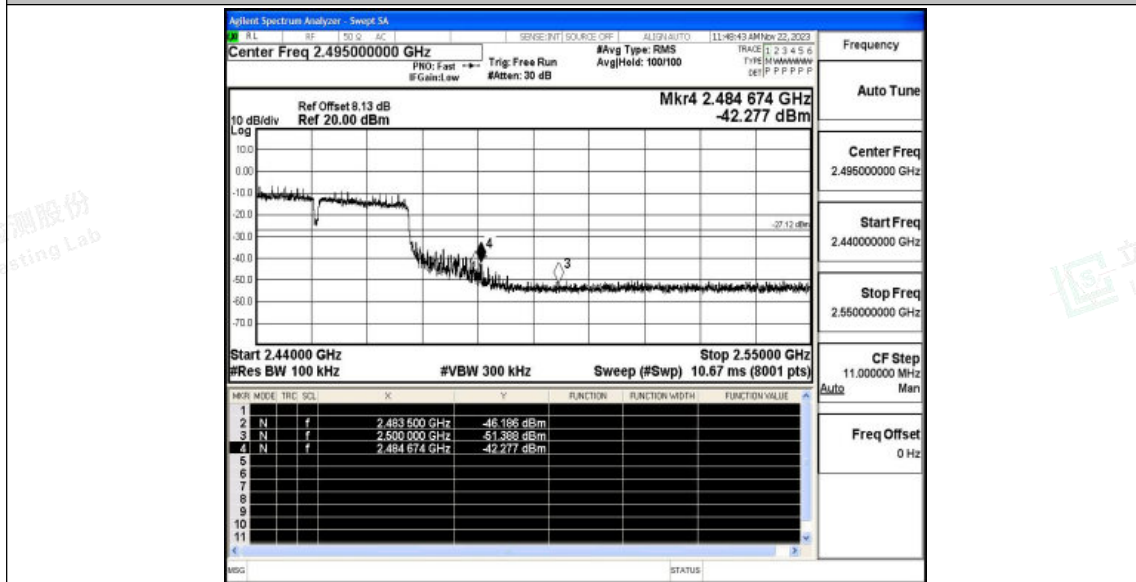
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11N40SISO\_Ant1\_High\_2452





## B.5 Conducted Spurious Emission

### Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	2.45	-61.8	≤-17.55	PASS
			1000~26500	2.45	-48.86	≤-17.55	PASS
		2437	30~1000	1.89	-61.67	≤-18.11	PASS
			1000~26500	1.89	-48.66	≤-18.11	PASS
		2462	30~1000	-0.09	-61.56	≤-20.09	PASS
			1000~26500	-0.09	-48.98	≤-20.09	PASS
11G	Ant1	2412	30~1000	-3.61	-61.79	≤-23.61	PASS
			1000~26500	-3.61	-48.12	≤-23.61	PASS
		2437	30~1000	-1.05	-61.99	≤-21.05	PASS
			1000~26500	-1.05	-49.36	≤-21.05	PASS
		2462	30~1000	-4.01	-62.1	≤-24.01	PASS
			1000~26500	-4.01	-48.41	≤-24.01	PASS
11N20SISO	Ant1	2412	30~1000	-3.36	-61.45	≤-23.36	PASS
			1000~26500	-3.36	-48.95	≤-23.36	PASS
		2437	30~1000	-2.58	-61.34	≤-22.58	PASS
			1000~26500	-2.58	-48.67	≤-22.58	PASS
		2462	30~1000	-6.08	-61.9	≤-26.08	PASS
			1000~26500	-6.08	-48.9	≤-26.08	PASS
11N40SISO	Ant1	2422	30~1000	-6.21	-61.06	≤-26.21	PASS
			1000~26500	-6.21	-48.99	≤-26.21	PASS
		2437	30~1000	-3.97	-61.8	≤-23.97	PASS
			1000~26500	-3.97	-48.82	≤-23.97	PASS
		2452	30~1000	-7.12	-61.51	≤-27.12	PASS
			1000~26500	-7.12	-48.95	≤-27.12	PASS



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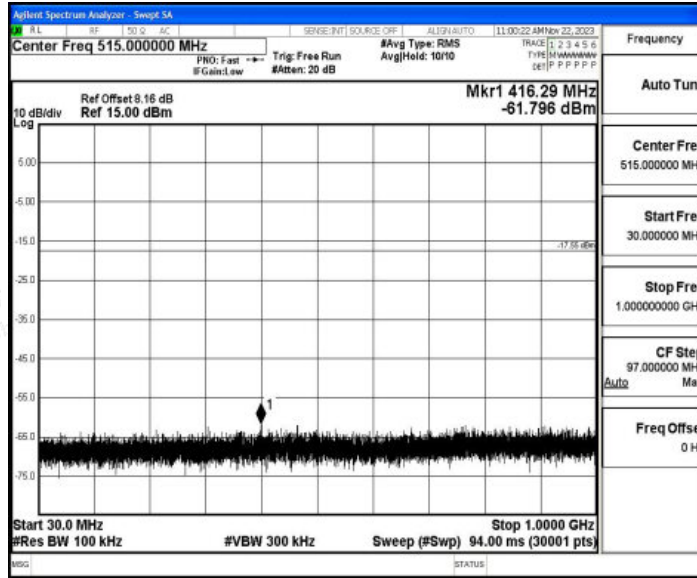
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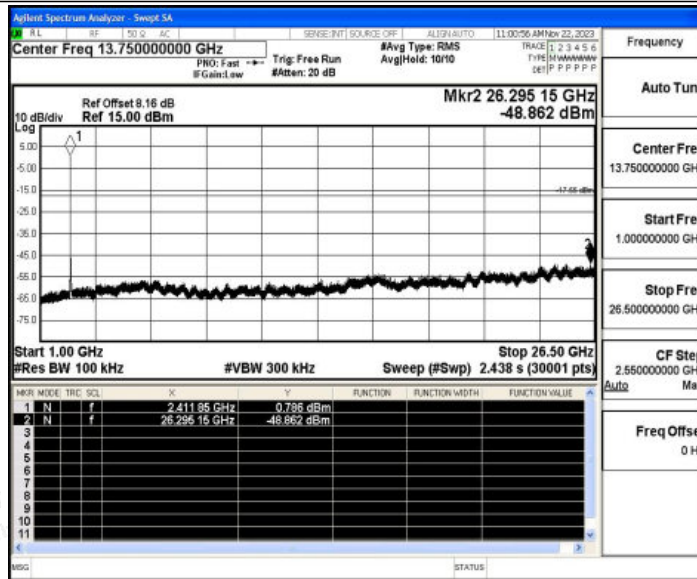


### Test Graphs

11B\_Ant1\_2412\_30~1000

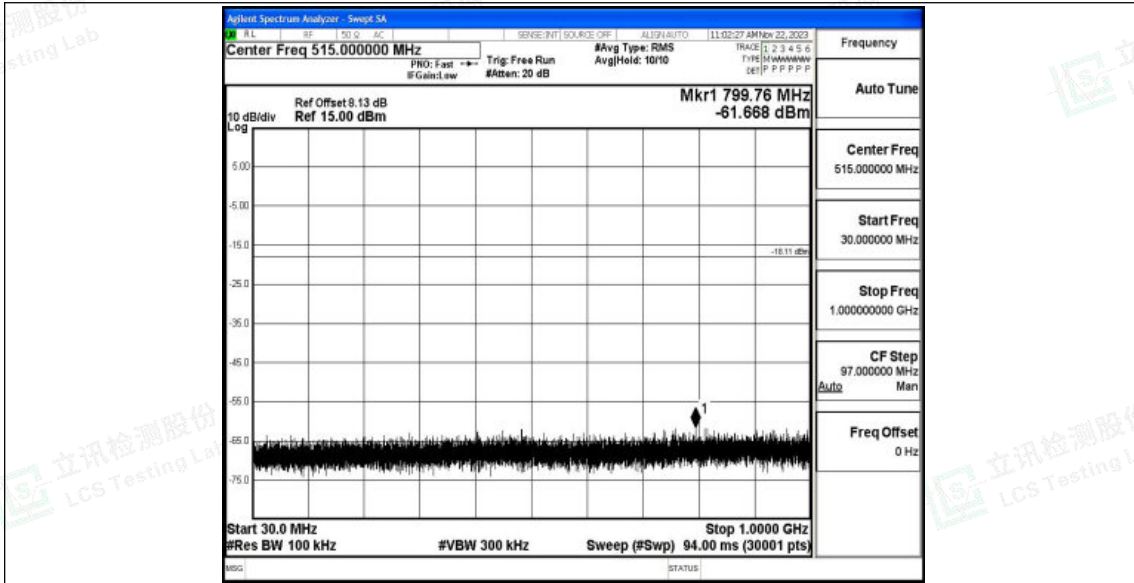


11B\_Ant1\_2412\_1000~26500

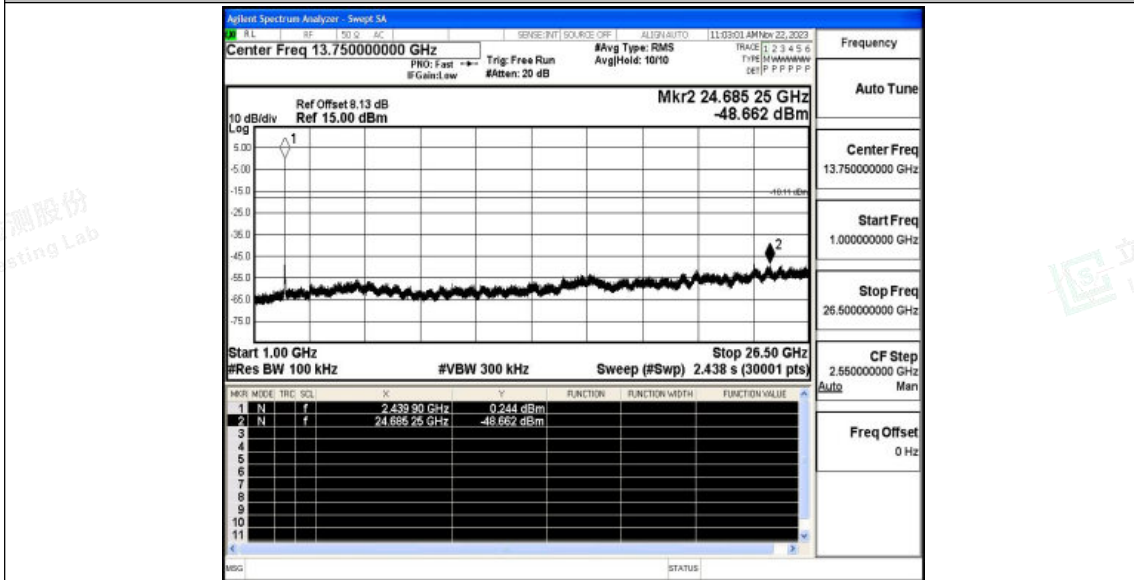


11B\_Ant1\_2437\_30~1000





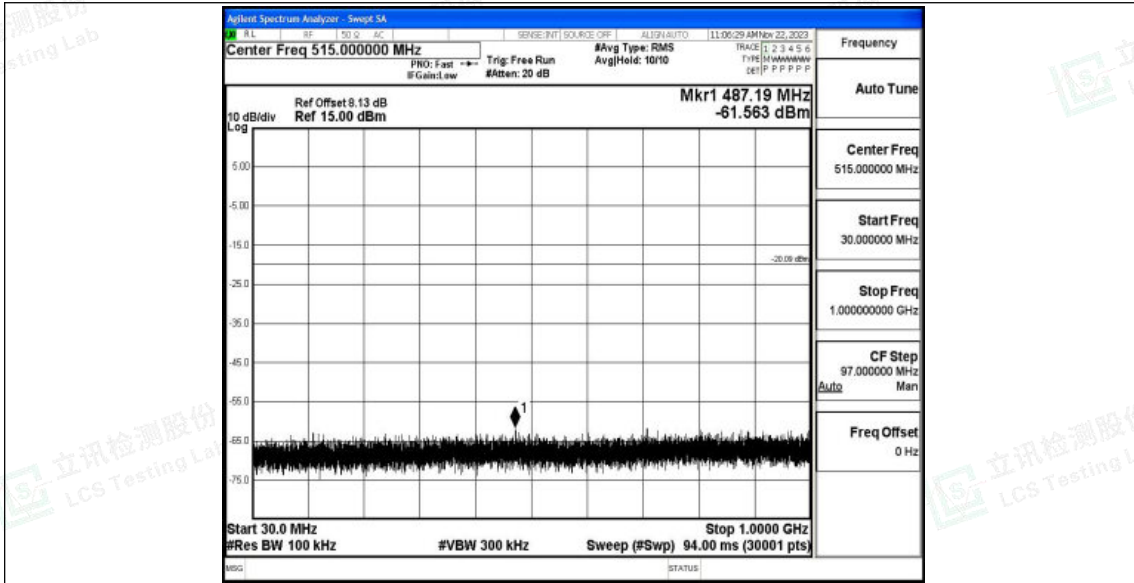
11B\_Ant1\_2437\_1000~26500



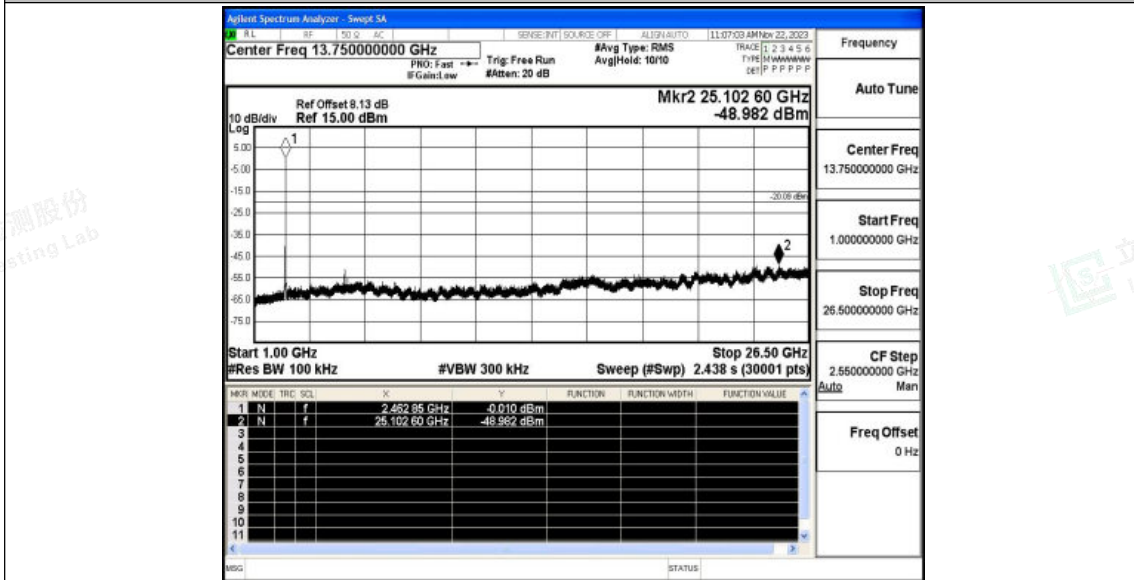
11B\_Ant1\_2462\_30~1000





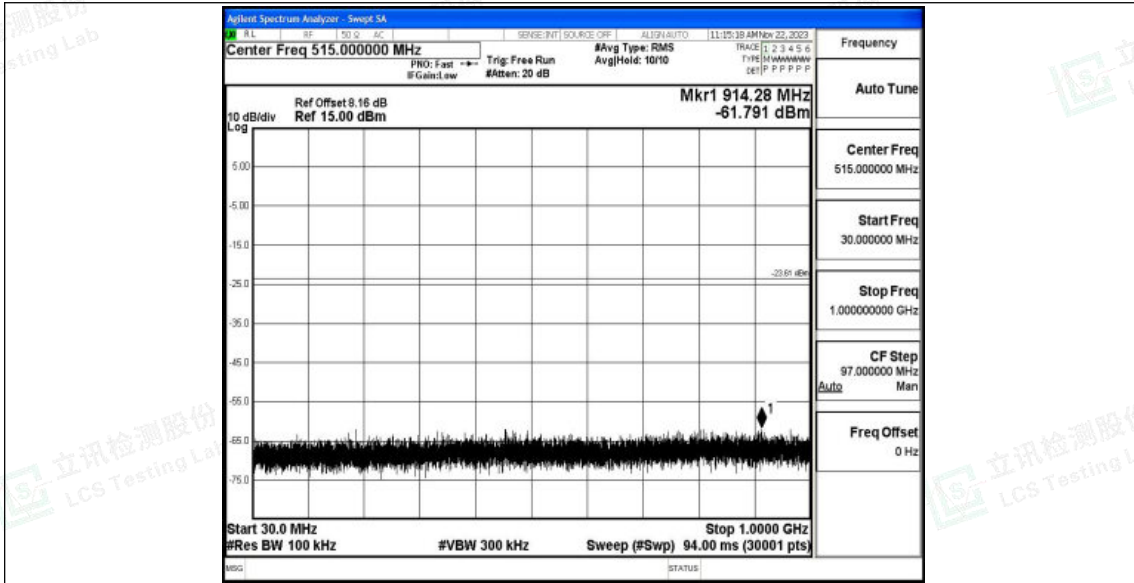


11B\_Ant1\_2462\_1000~26500

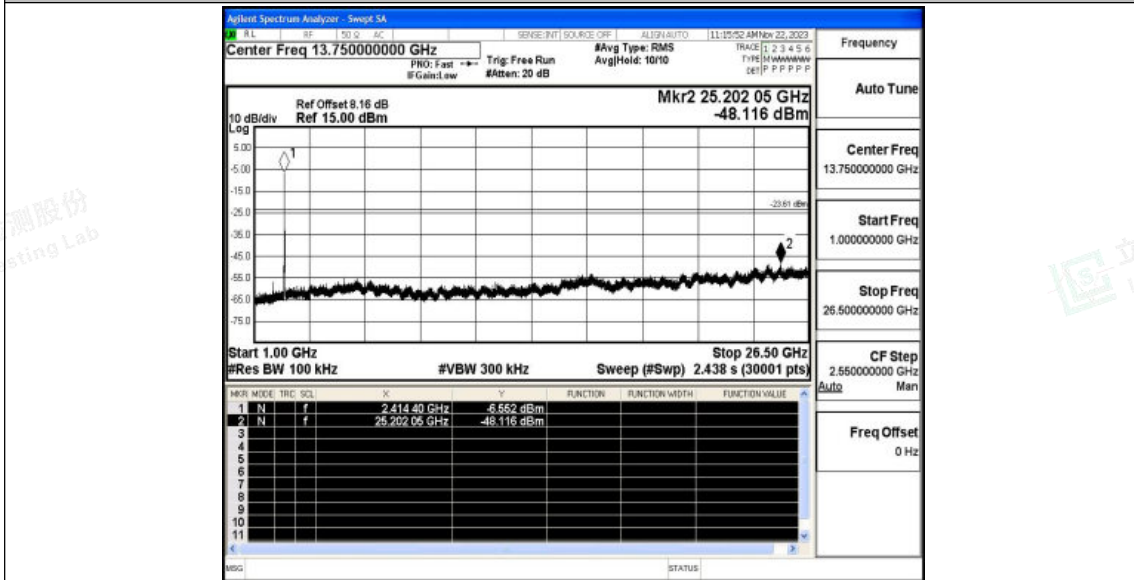


11G\_Ant1\_2412\_30~1000



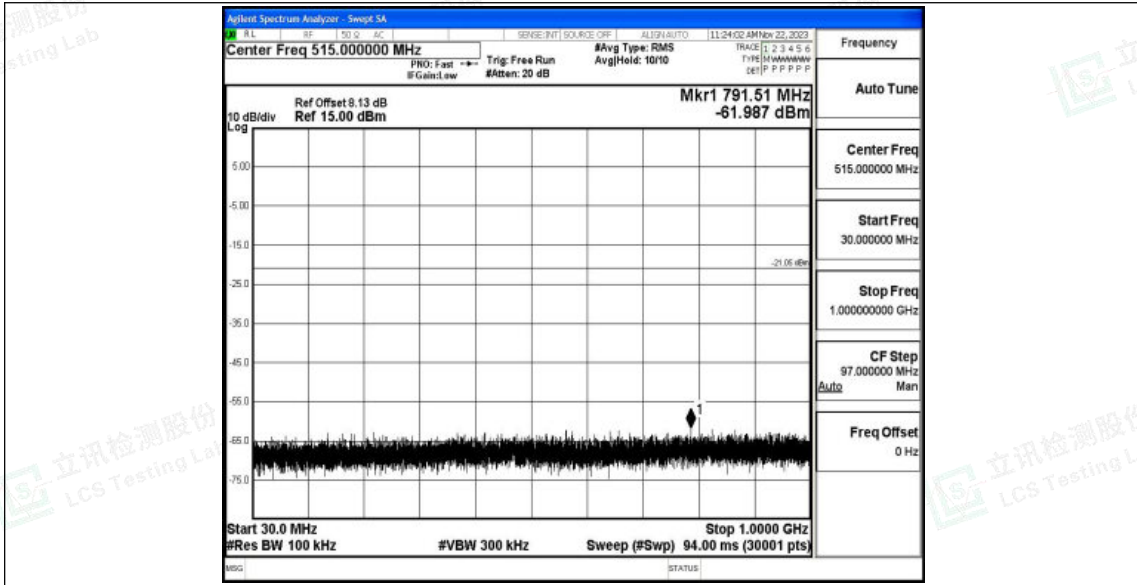


11G\_Ant1\_2412\_1000~26500

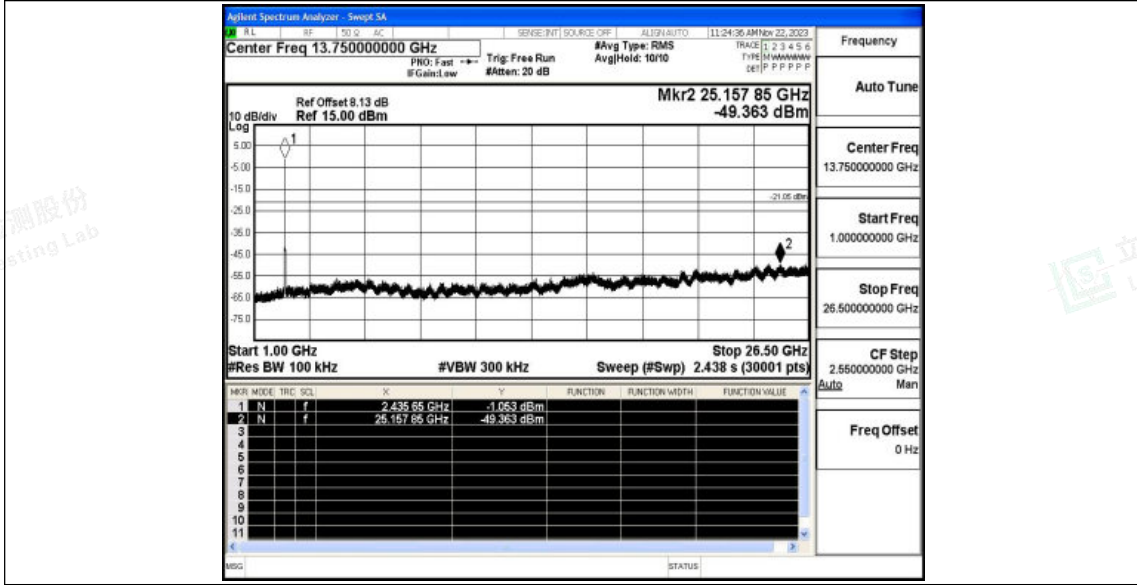


11G\_Ant1\_2437\_30~1000



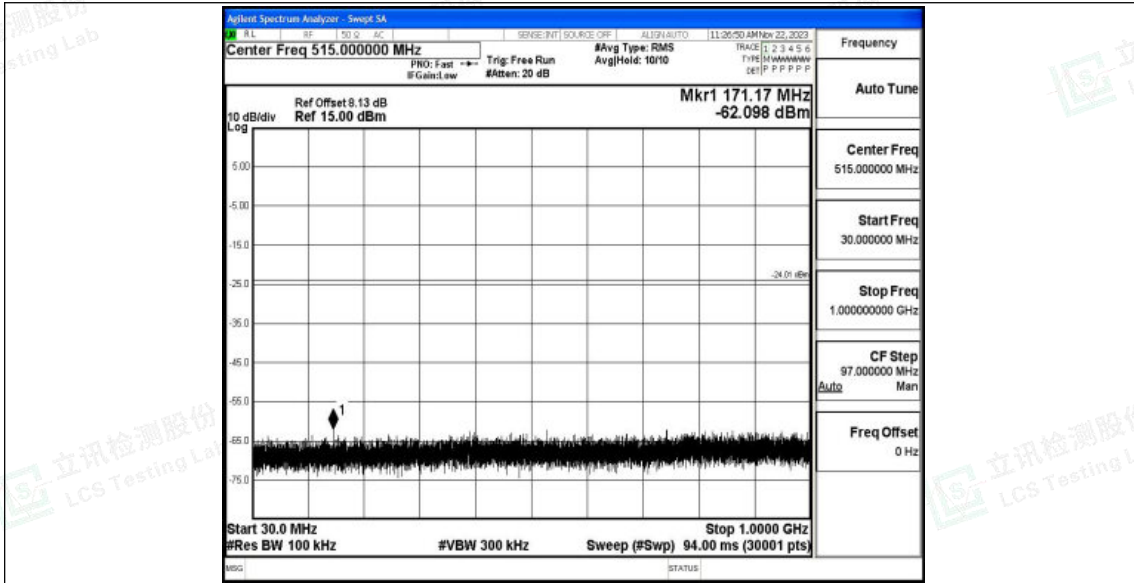


11G\_Ant1\_2437\_1000~26500

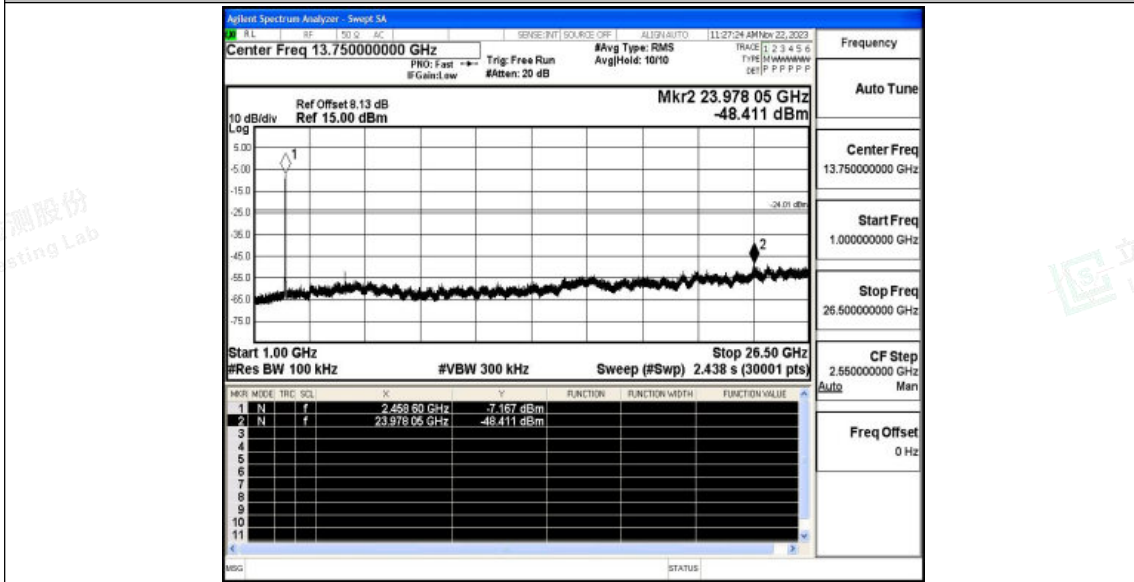


11G\_Ant1\_2462\_30~1000



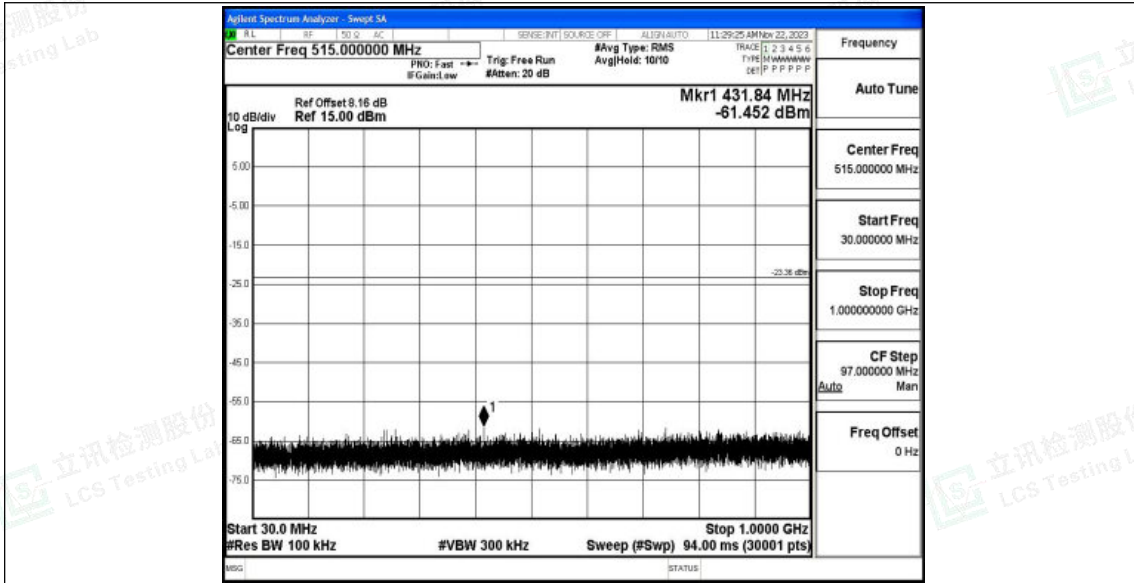


11G\_Ant1\_2462\_1000~26500

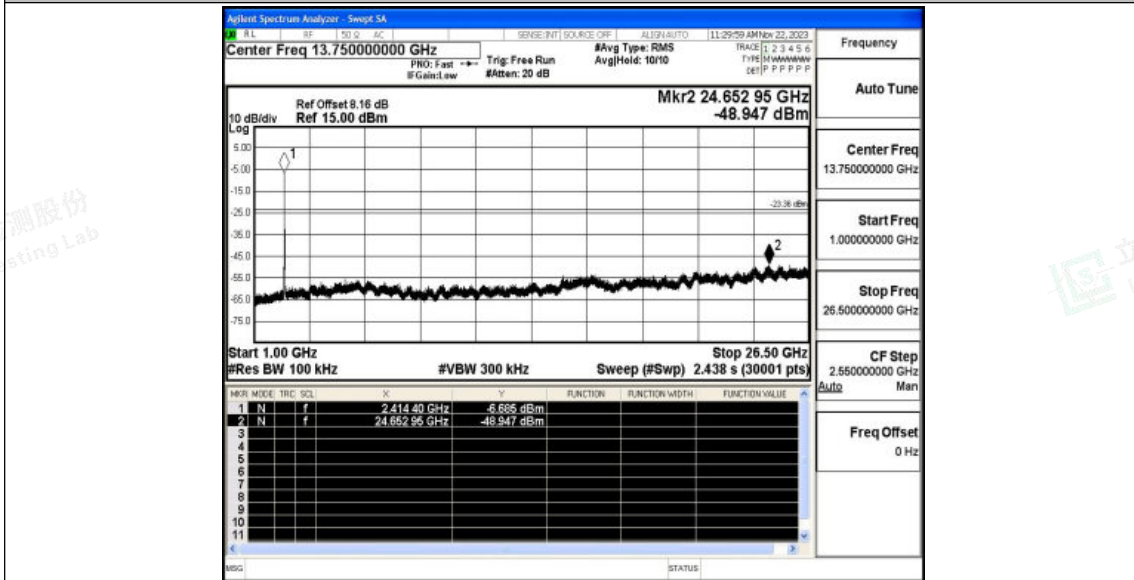


11N20SISO\_Ant1\_2412\_30~1000



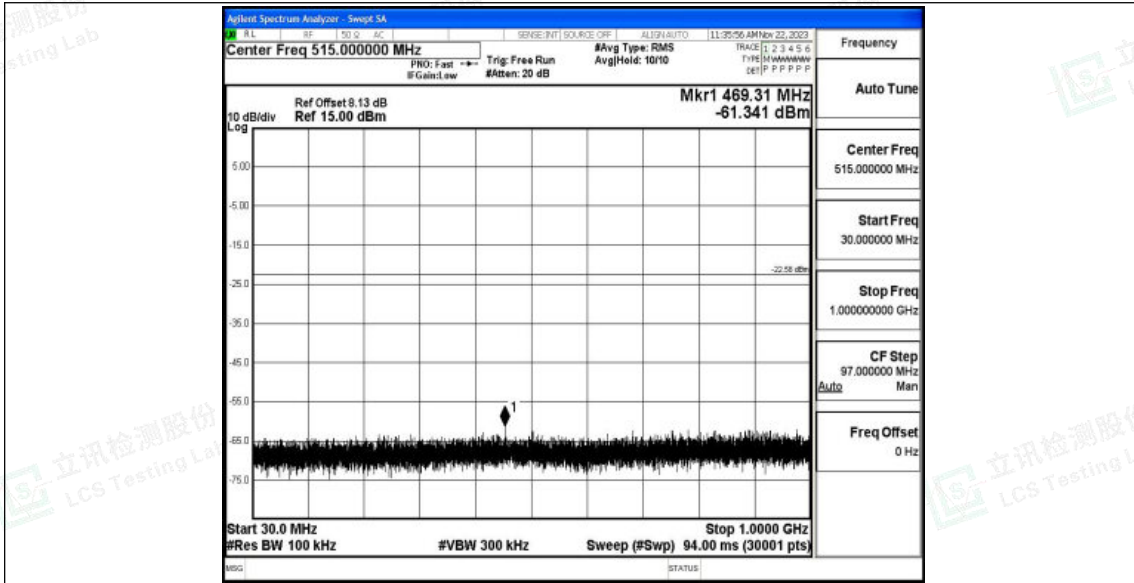


11N20SISO\_Ant1\_2412\_1000~26500

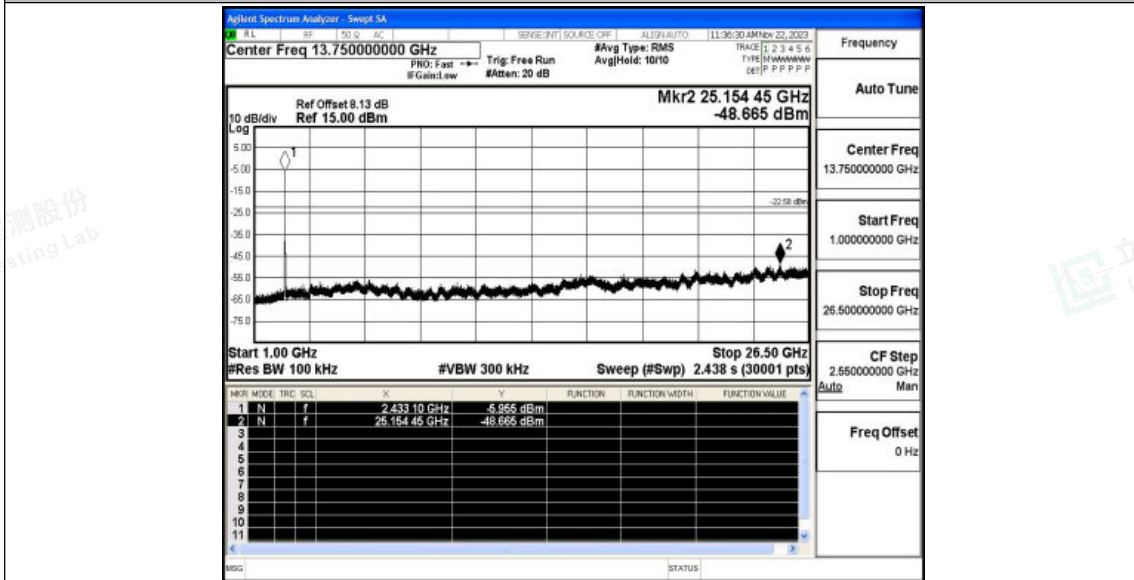


11N20SISO\_Ant1\_2437\_30~1000



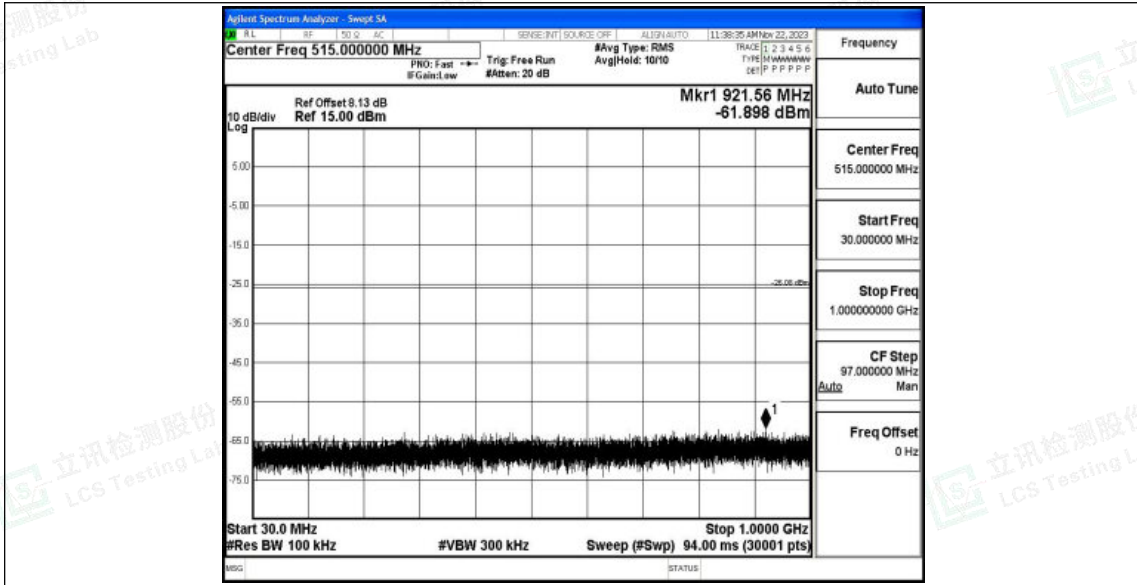


11N20SISO\_Ant1\_2437\_1000~26500

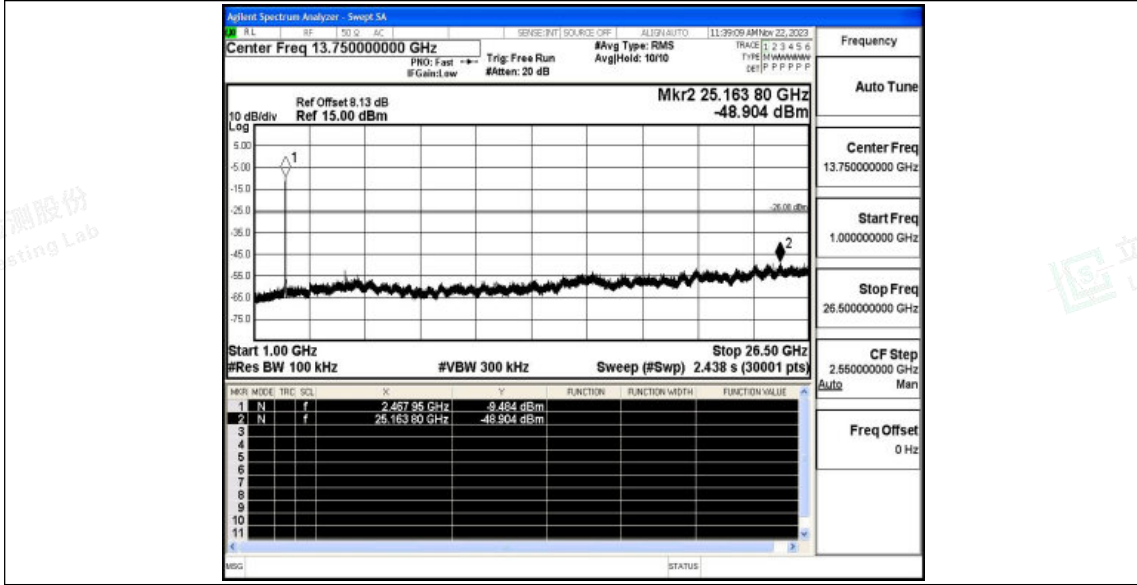


11N20SISO\_Ant1\_2462\_30~1000



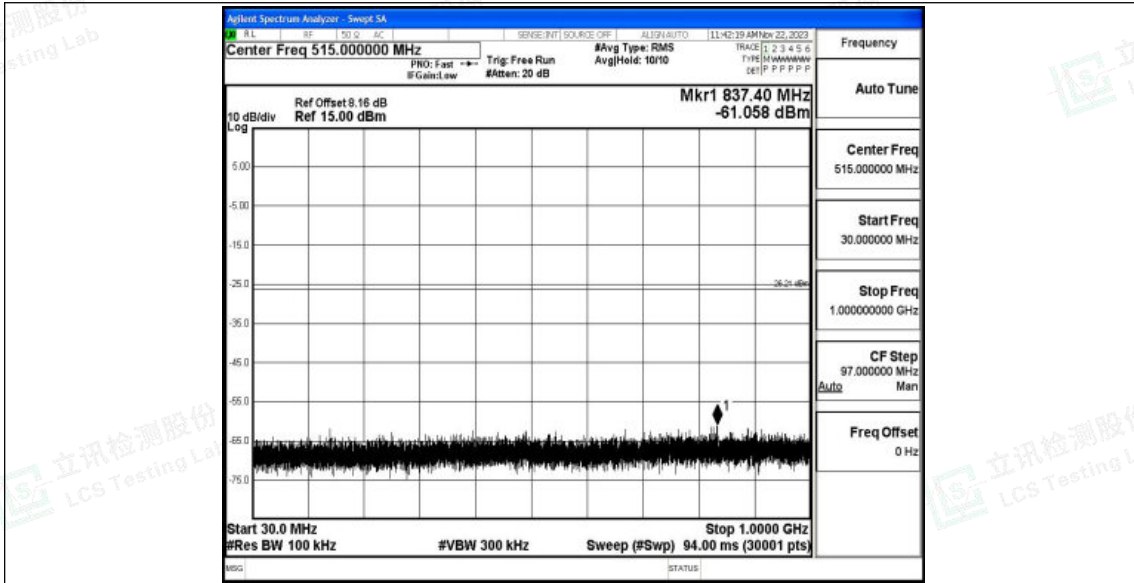


11N20SISO\_Ant1\_2462\_1000~26500

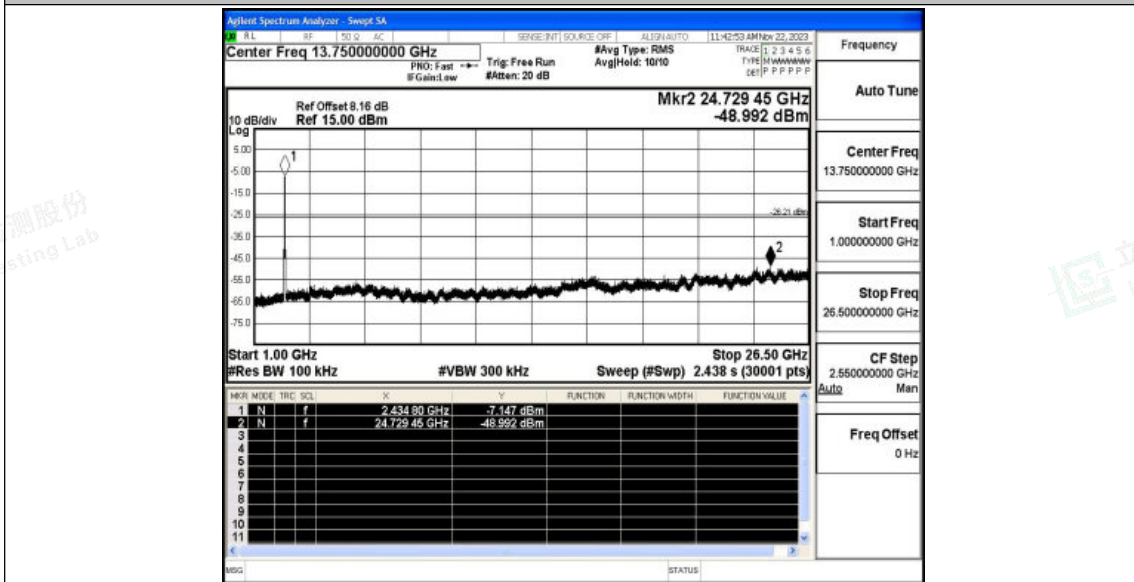


11N40SISO\_Ant1\_2422\_30~1000





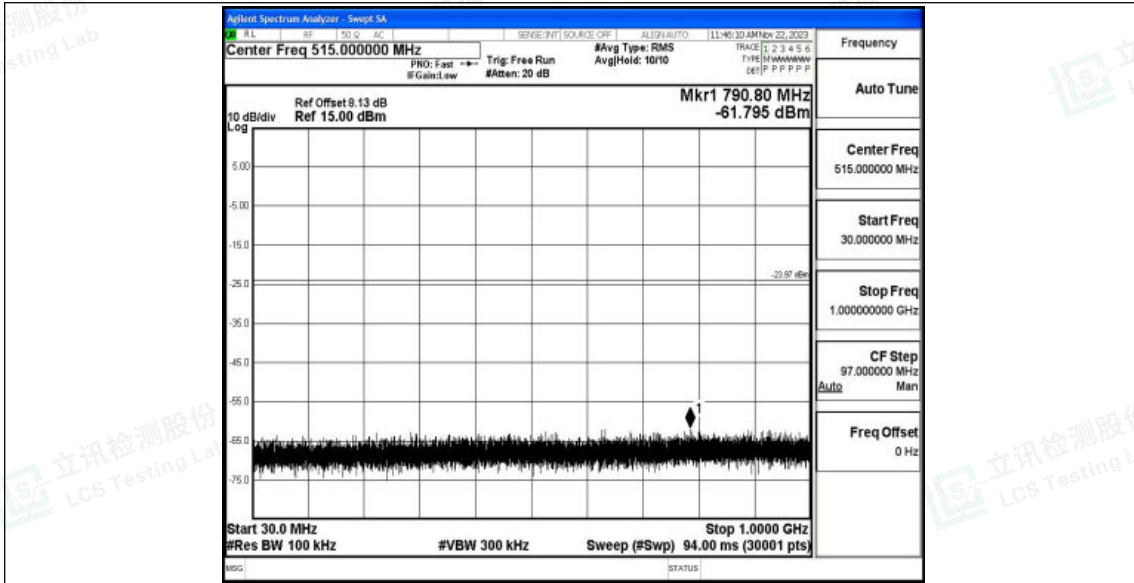
11N40SISO\_Ant1\_2422\_1000~26500



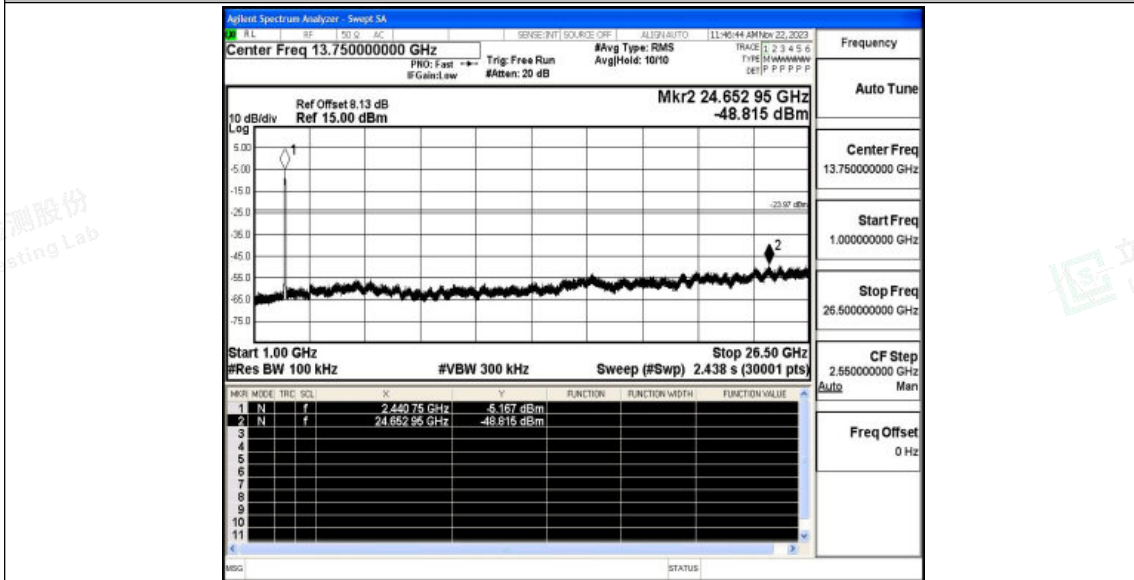
11N40SISO\_Ant1\_2437\_30~1000





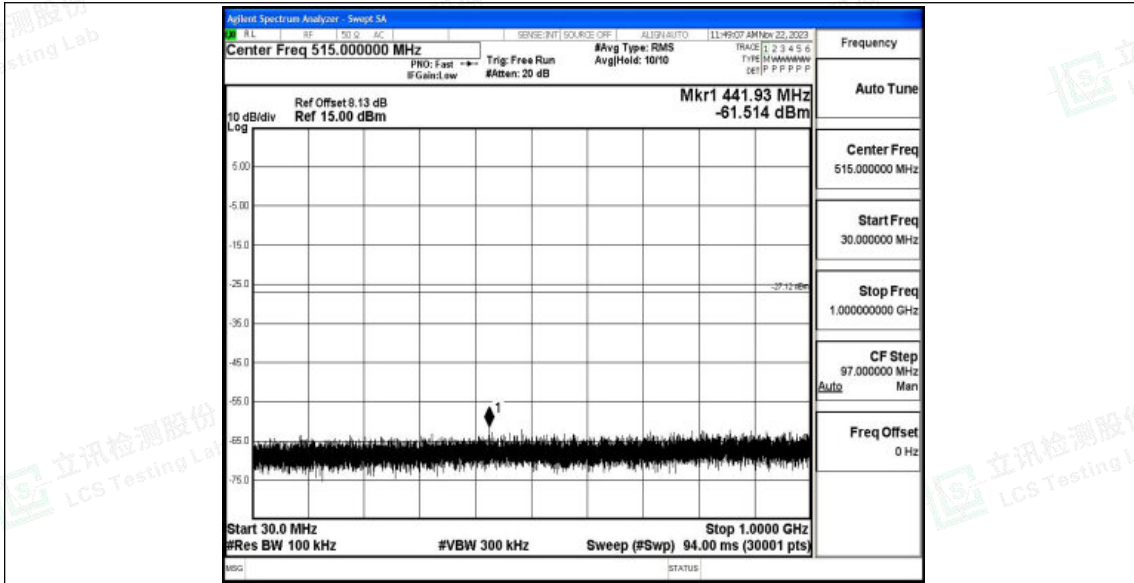


11N40SISO\_Ant1\_2437\_1000~26500

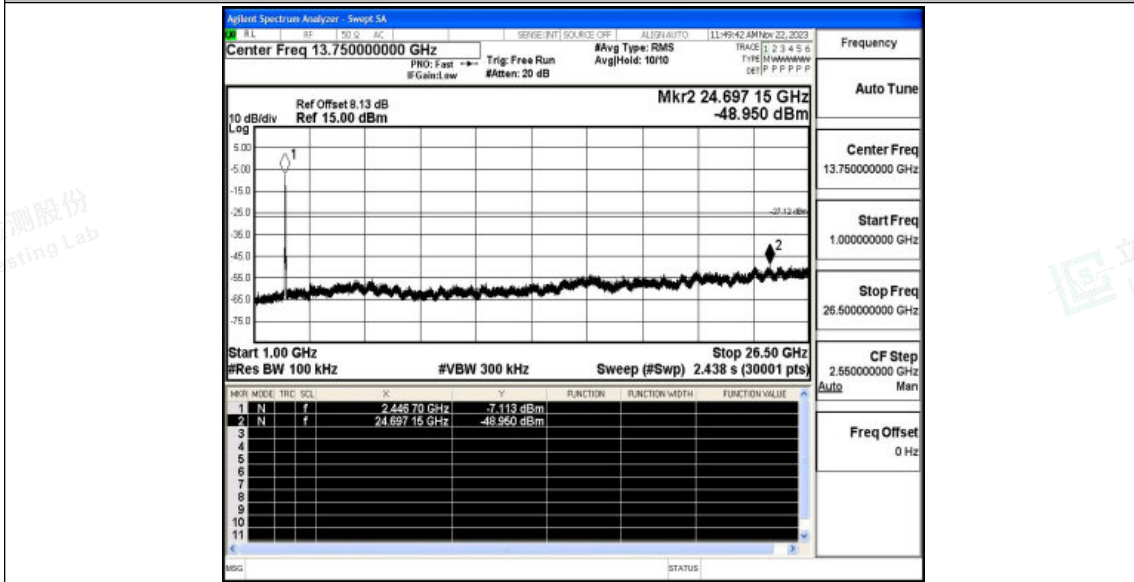


11N40SISO\_Ant1\_2452\_30~1000





11N40SISO\_Ant1\_2452\_1000~26500





### B.6 Duty Cycle

#### Test Result

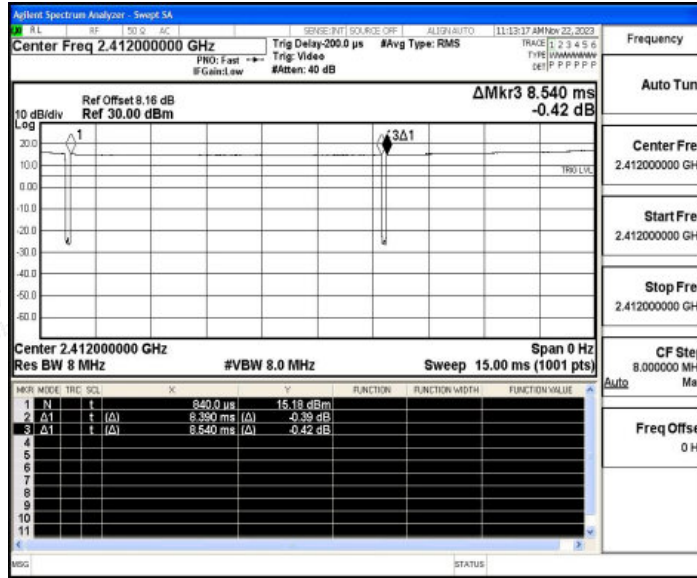
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Factor	Verdict
11B	Ant1	2412	8.39	8.54	98.24	0.08	---
		2437	8.37	8.54	98.01	0.09	---
		2462	8.39	8.55	98.13	0.08	---
11G	Ant1	2412	1.39	1.56	89.10	0.50	---
		2437	1.39	1.57	88.54	0.53	---
		2462	1.39	1.54	90.26	0.45	---
11N20SISO	Ant1	2412	1.17	1.32	88.64	0.52	---
		2437	1.18	1.35	87.41	0.58	---
		2462	1.17	1.34	87.31	0.59	---
11N40SISO	Ant1	2422	0.58	0.73	79.45	1.00	---
		2437	0.59	0.74	79.73	0.98	---
		2452	0.58	0.74	78.38	1.06	---



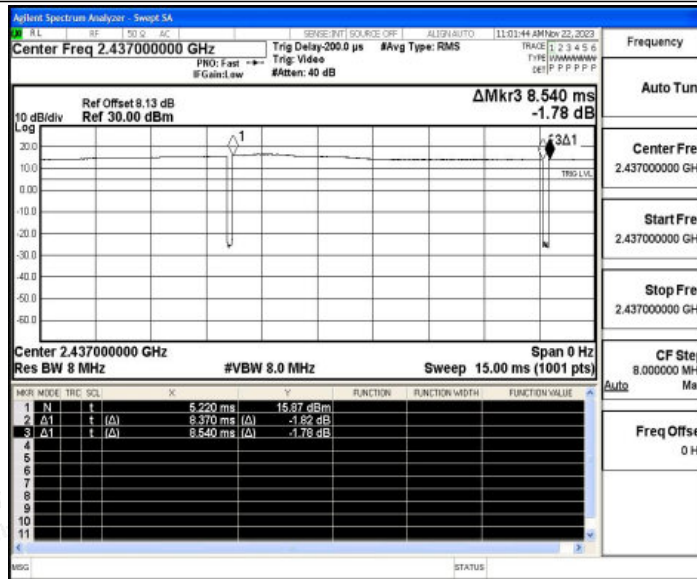


### Test Graphs

11B\_Ant1\_2412

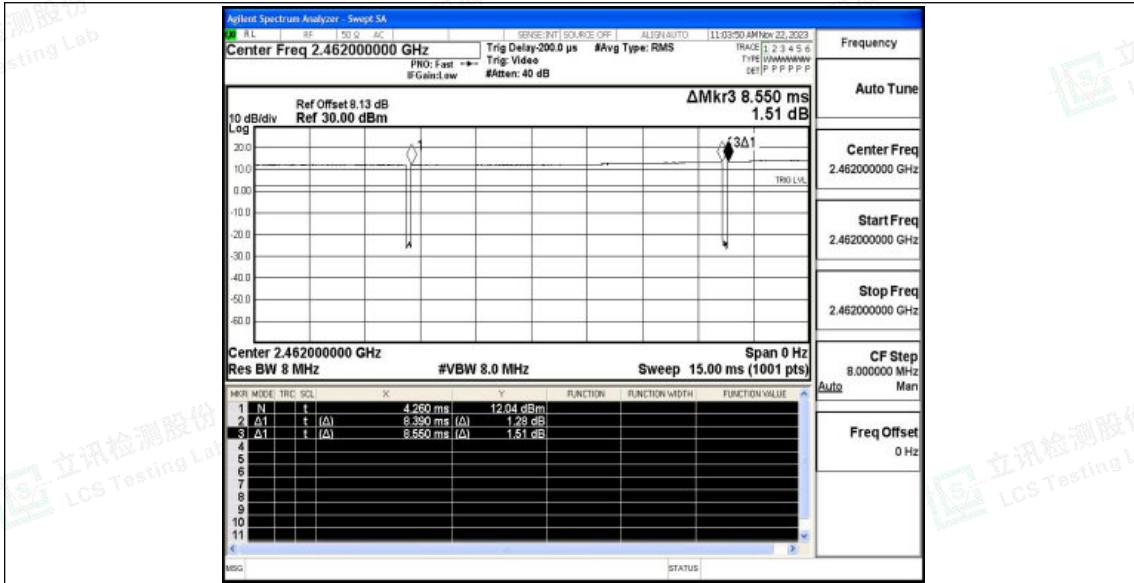


11B\_Ant1\_2437

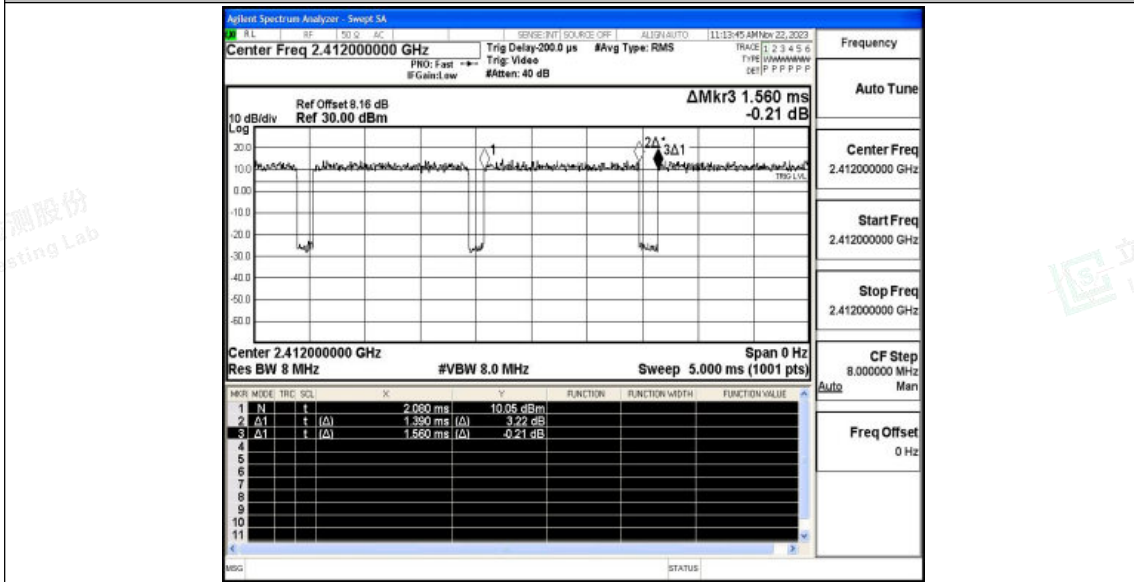


11B\_Ant1\_2462



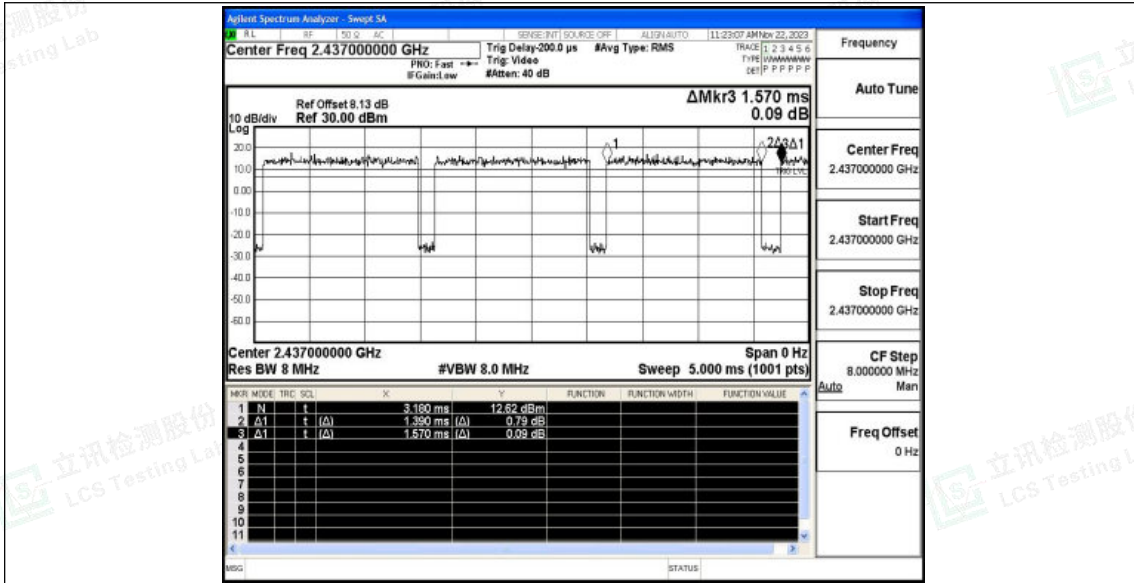


11G\_Ant1\_2412

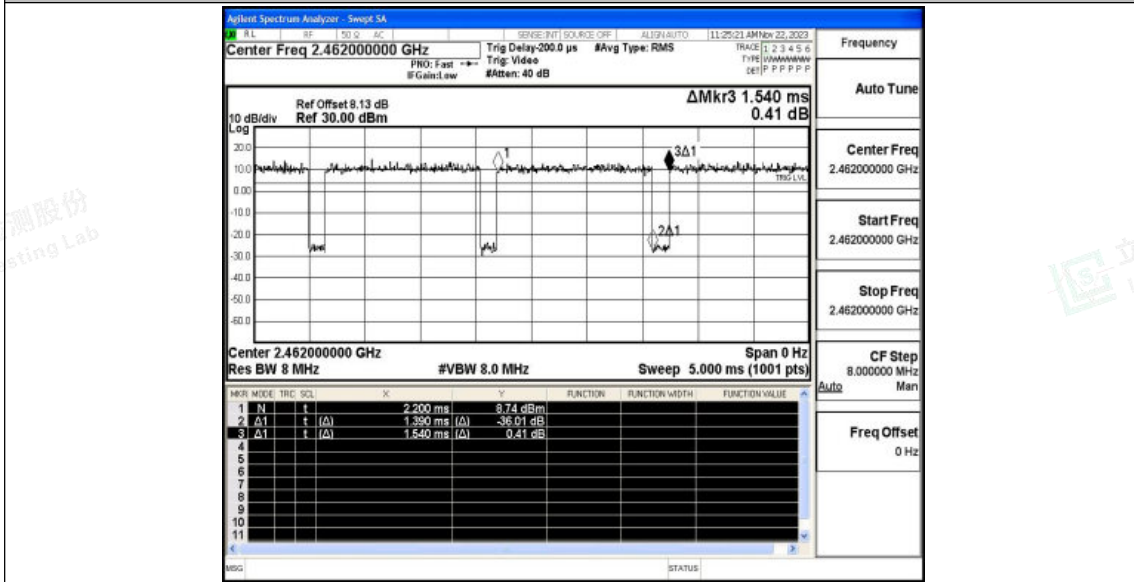


11G\_Ant1\_2437



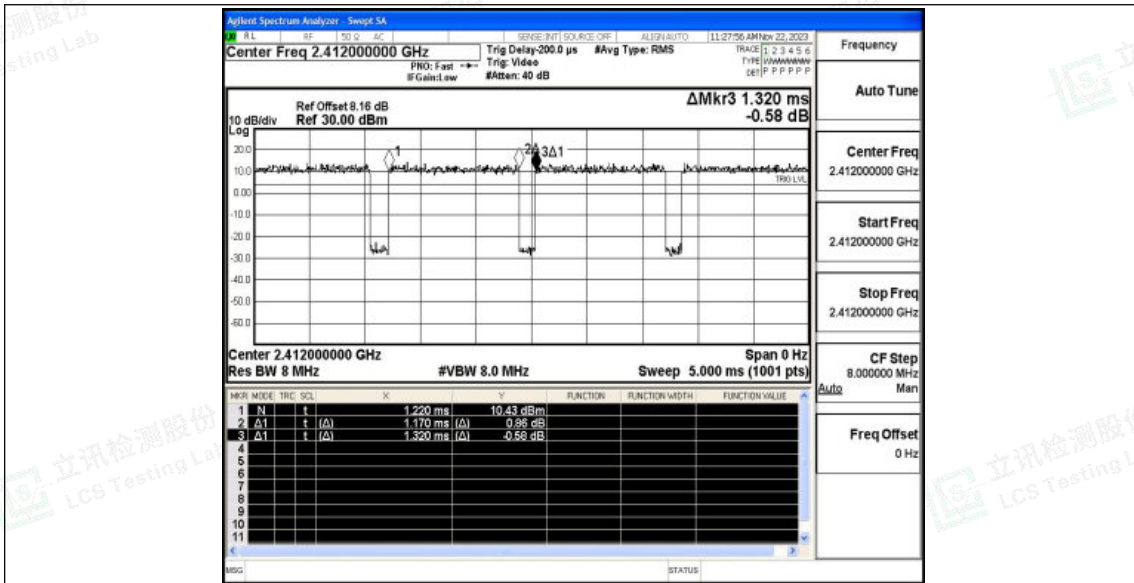


11G\_Ant1\_2462

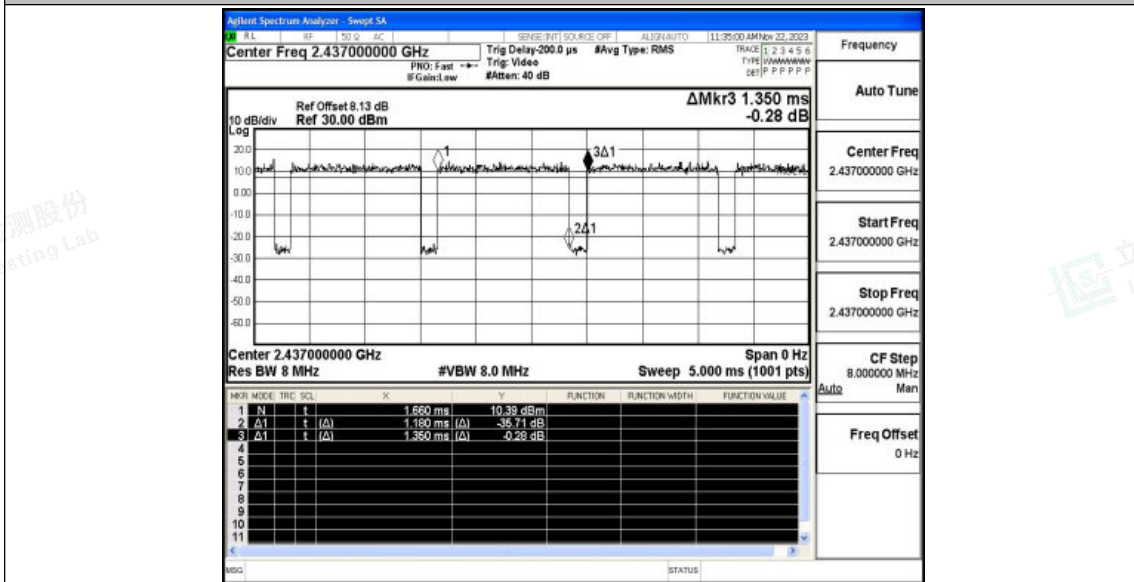


11N20SISO\_Ant1\_2412



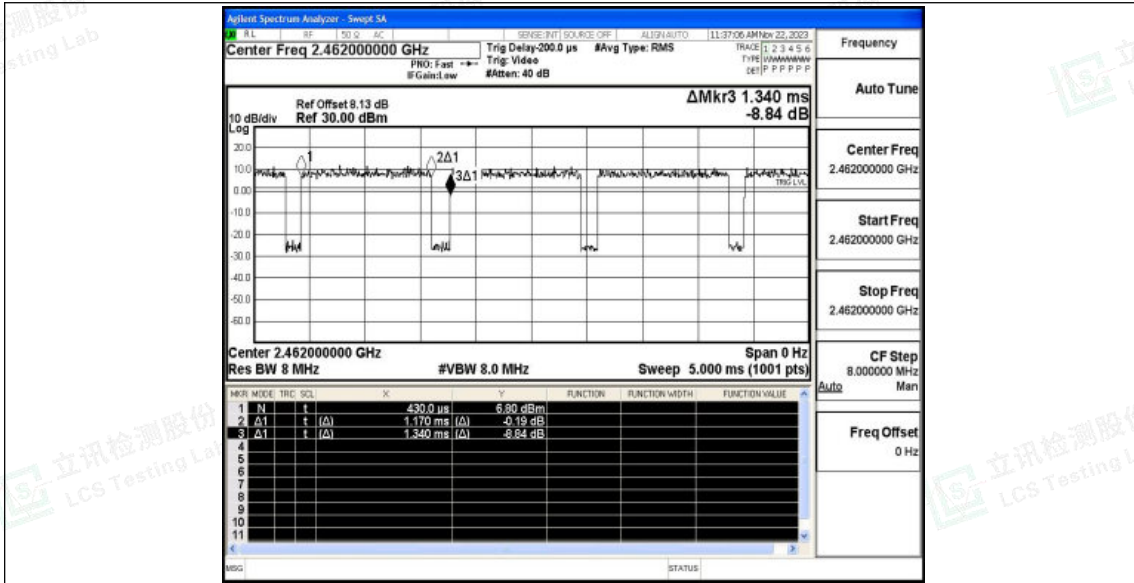


11N20SISO\_Ant1\_2437

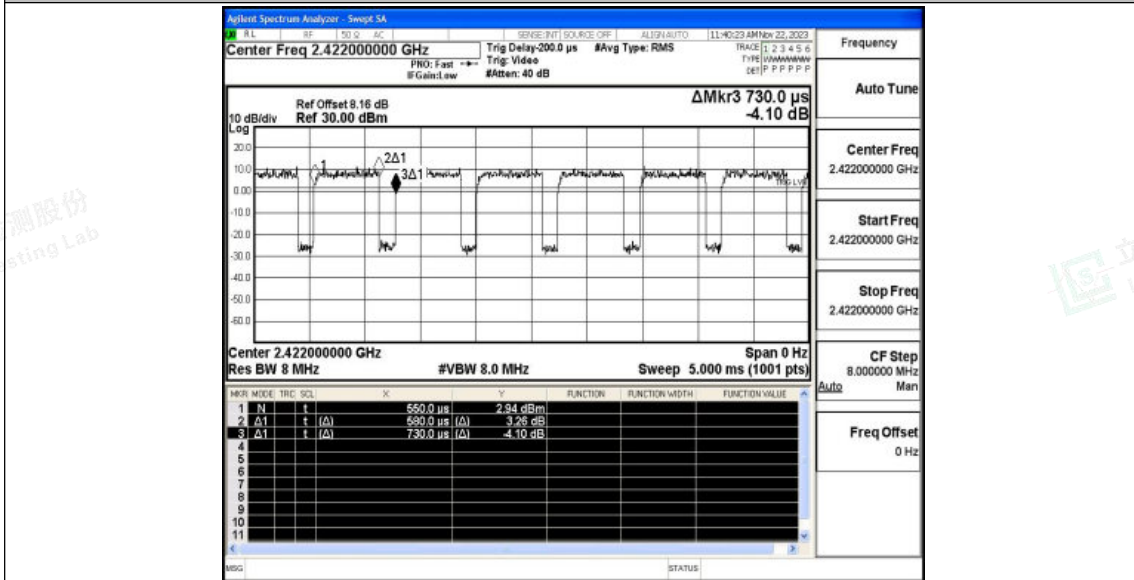


11N20SISO\_Ant1\_2462





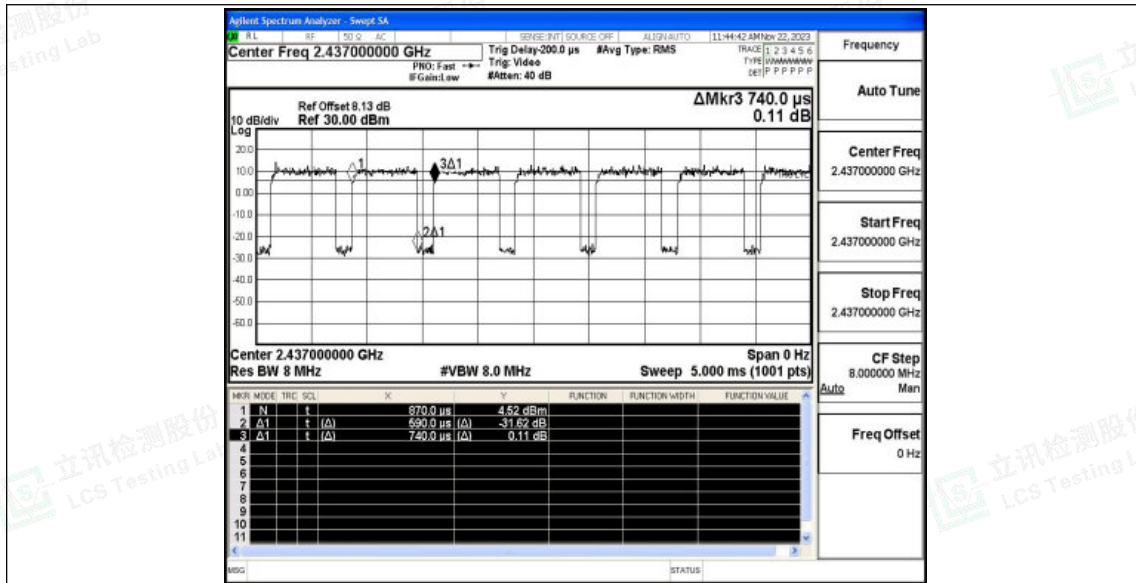
11N40SISO\_Ant1\_2422



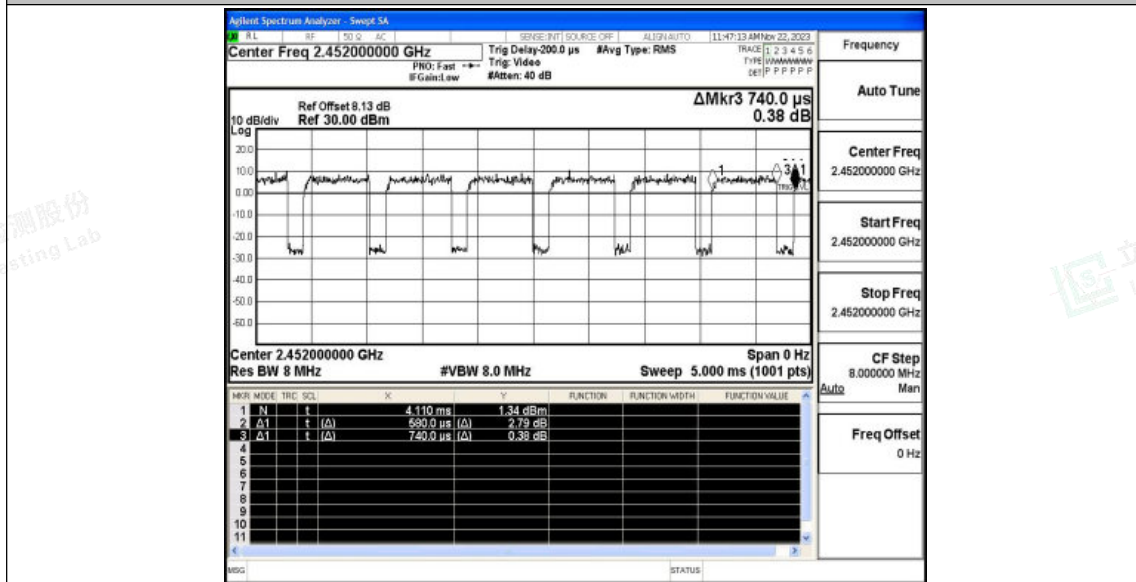
11N40SISO\_Ant1\_2437







11N40SISO\_Ant1\_2452





## B.7 Emissions in Restricted Bands

### Test Result

TestMode	Antenna	ChName	Freq(MHz )	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11B	Ant1	Low	2412	AV	2310.000	-49.41	≤-41.20	45.79	≤54	PASS
				AV	2389.570	-47.37	≤-41.20	47.83	≤54	PASS
				AV	2390.000	-47.45	≤-41.20	47.75	≤54	PASS
				Peak	2310.000	-43.06	≤-21.20	52.14	≤74	PASS
				Peak	2353.300	-39.58	≤-21.20	55.62	≤74	PASS
				Peak	2390.000	-39.78	≤-21.20	55.42	≤74	PASS
		High	2462	AV	2483.500	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2483.560	-47.72	≤-41.20	47.48	≤54	PASS
				AV	2500.000	-48.93	≤-41.20	46.27	≤54	PASS
				Peak	2483.500	-40.33	≤-21.20	54.87	≤74	PASS
				Peak	2483.780	-38.11	≤-21.20	57.09	≤74	PASS
				Peak	2500.000	-42.13	≤-21.20	53.07	≤74	PASS
11G	Ant1	Low	2412	AV	2310.000	-48.88	≤-41.20	46.32	≤54	PASS
				AV	2389.960	-47.17	≤-41.20	48.03	≤54	PASS
				AV	2390.000	-47.17	≤-41.20	48.03	≤54	PASS
				Peak	2310.000	-43.49	≤-21.20	51.71	≤74	PASS
				Peak	2389.440	-38.64	≤-21.20	56.56	≤74	PASS
				Peak	2390.000	-40.21	≤-21.20	54.99	≤74	PASS
		High	2462	AV	2483.500	-46.23	≤-41.20	48.97	≤54	PASS
				AV	2483.560	-46.27	≤-41.20	48.93	≤54	PASS
				AV	2500.000	-48.35	≤-41.20	46.85	≤54	PASS
				Peak	2483.500	-41.74	≤-21.20	53.46	≤74	PASS
				Peak	2484.440	-37.25	≤-21.20	57.95	≤74	PASS
				Peak	2500.000	-43.23	≤-21.20	51.97	≤74	PASS
11N20SIS O	Ant1	Low	2412	AV	2310.000	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2389.960	-46.92	≤-41.20	48.28	≤54	PASS
				AV	2390.000	-46.92	≤-41.20	48.28	≤54	PASS
				Peak	2310.000	-42.37	≤-21.20	52.83	≤74	PASS
				Peak	2389.570	-36.16	≤-21.20	59.04	≤74	PASS
				Peak	2390.000	-42.27	≤-21.20	52.93	≤74	PASS
		High	2462	AV	2483.500	-46.49	≤-41.20	48.71	≤54	PASS
				AV	2483.560	-45.86	≤-41.20	49.34	≤54	PASS
				AV	2500.000	-48.4	≤-41.20	46.80	≤54	PASS
				Peak	2483.500	-41.23	≤-21.20	53.97	≤74	PASS
				Peak	2483.890	-36.86	≤-21.20	58.34	≤74	PASS



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A &amp; 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

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11N40SIS O	Ant1	Low	2422	Peak	2500.000	-41.72	≤-21.20	53.48	≤74	PASS
				AV	2310.000	-48.57	≤-41.20	46.63	≤54	PASS
				AV	2389.570	-42.29	≤-41.20	52.91	≤54	PASS
				AV	2390.000	-42.29	≤-41.20	52.91	≤54	PASS
				Peak	2310.000	-44.65	≤-21.20	50.55	≤74	PASS
				Peak	2385.930	-32.44	≤-21.20	62.76	≤74	PASS
		High	2452	AV	2483.500	-42.27	≤-41.20	52.93	≤54	PASS
				AV	2483.560	-42.1	≤-41.20	53.10	≤54	PASS
				AV	2500.000	-48.11	≤-41.20	47.09	≤54	PASS
				Peak	2483.500	-37.07	≤-21.20	58.13	≤74	PASS
				Peak	2483.890	-33.74	≤-21.20	61.46	≤74	PASS
				Peak	2500.000	-42.94	≤-21.20	52.26	≤74	PASS

Note:

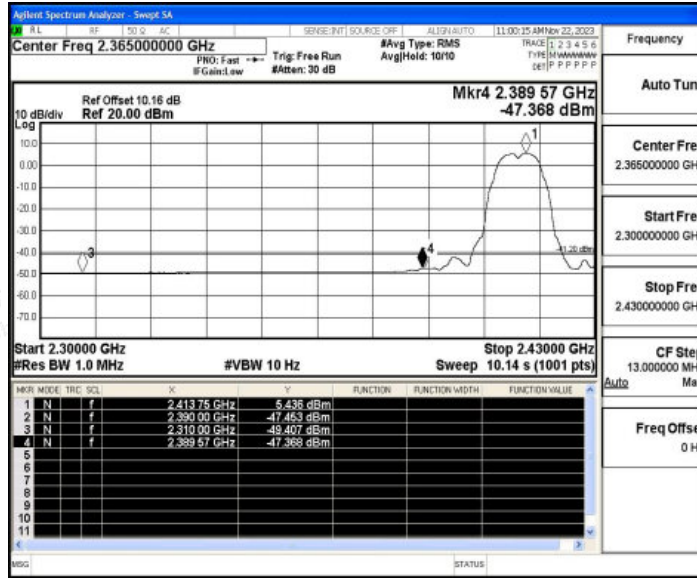
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



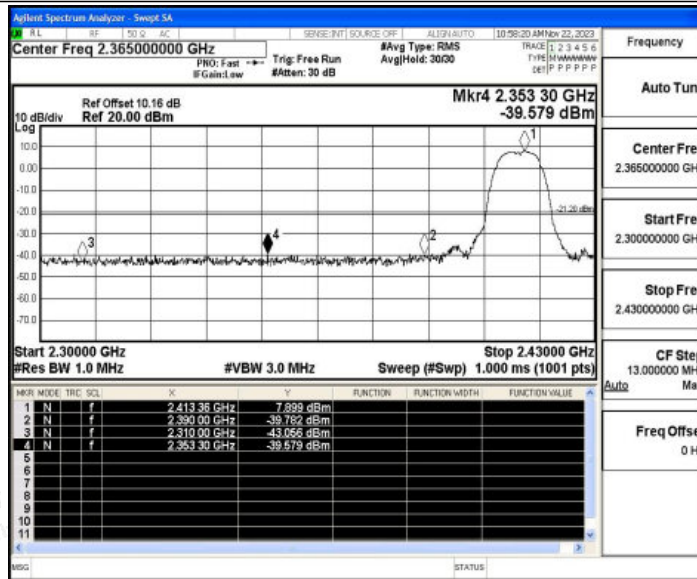


### Test Graphs

#### 11B\_Ant1\_Low\_2412\_AV

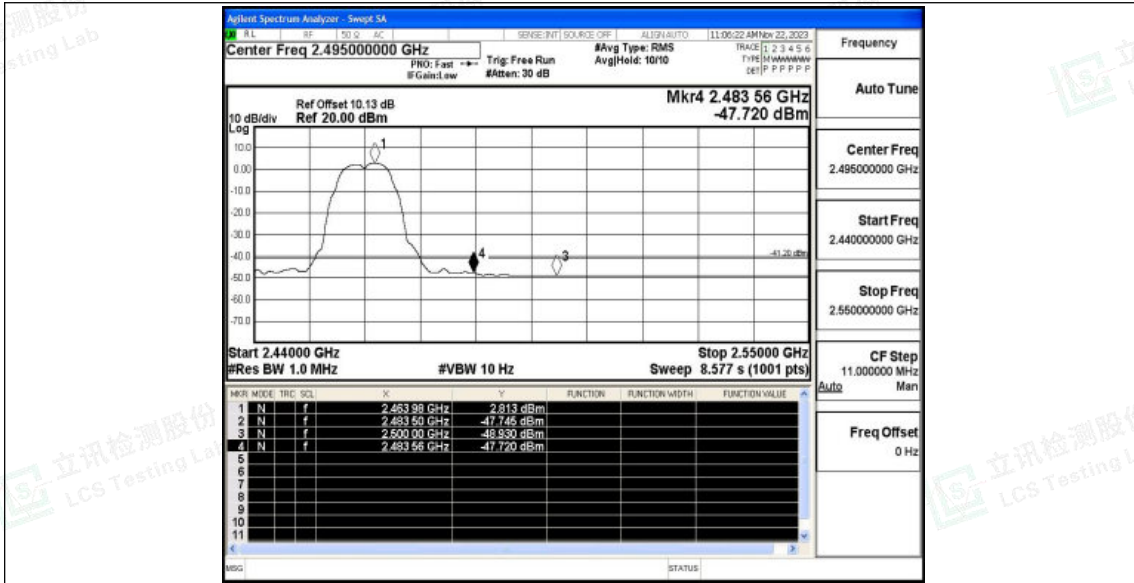


#### 11B\_Ant1\_Low\_2412\_Peak

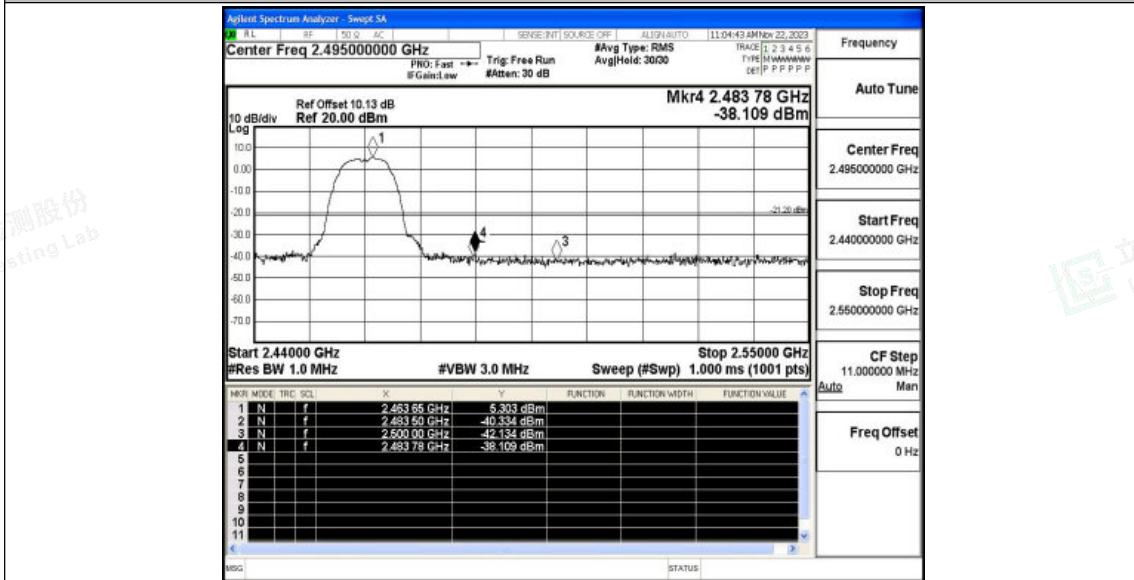


#### 11B\_Ant1\_High\_2462\_AV



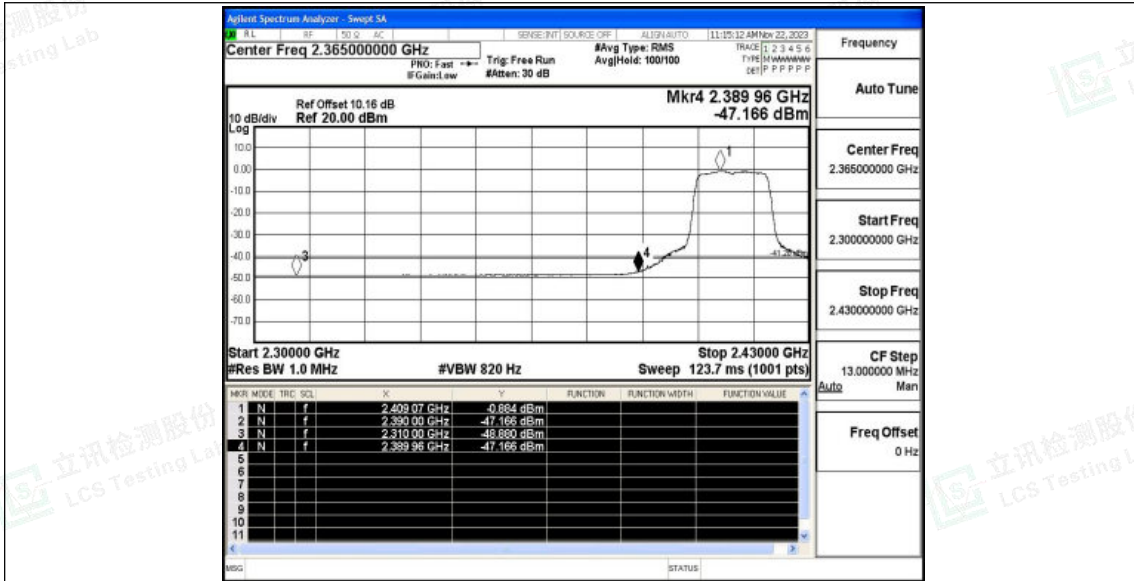


11B\_Ant1\_High\_2462\_Peak

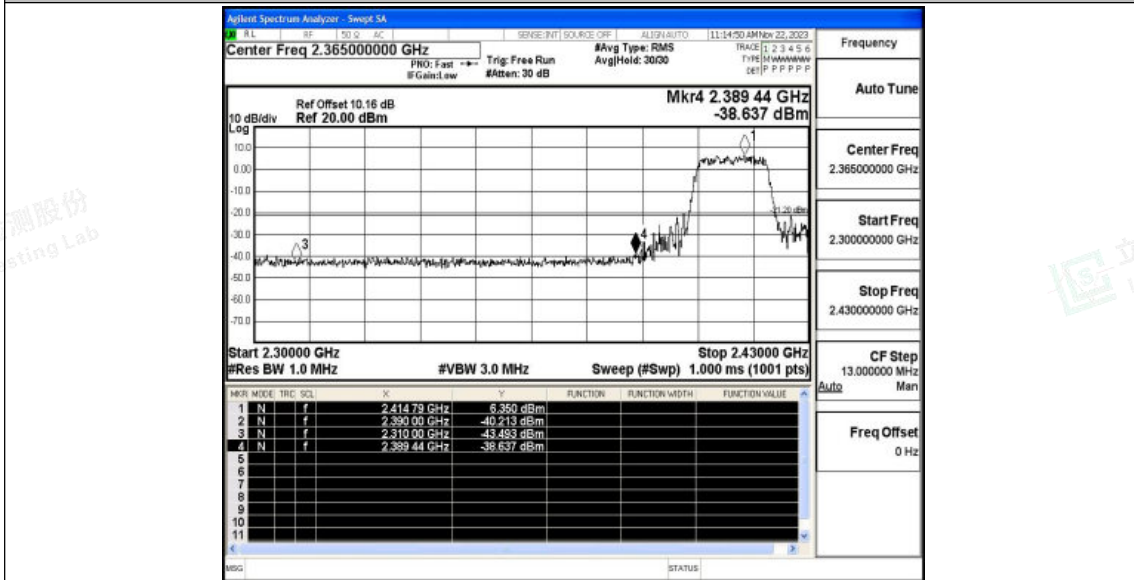


11G\_Ant1\_Low\_2412\_AV



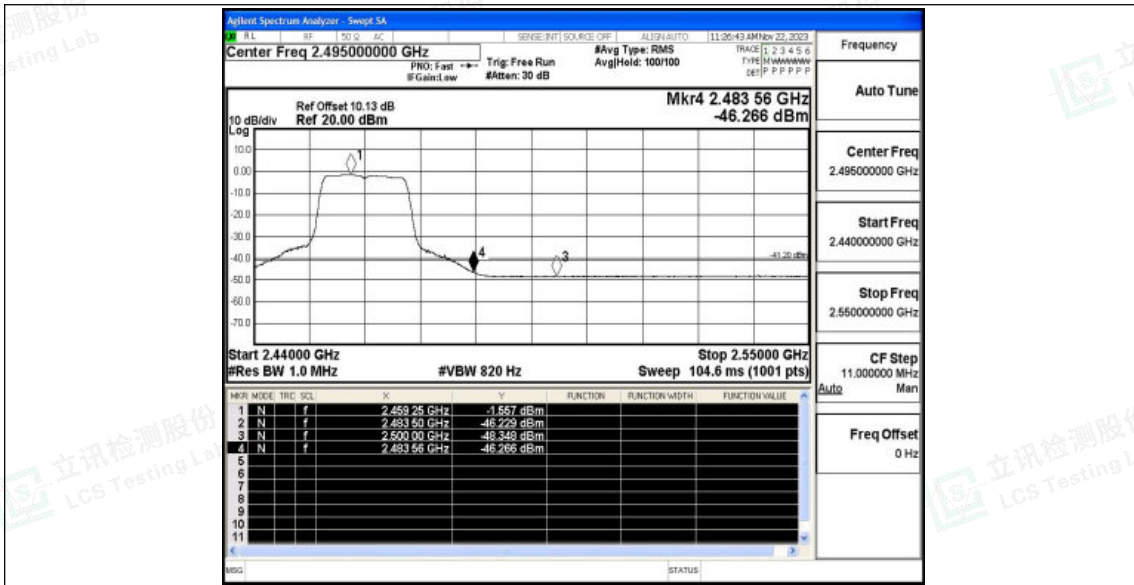


11G\_Ant1\_Low\_2412\_Peak

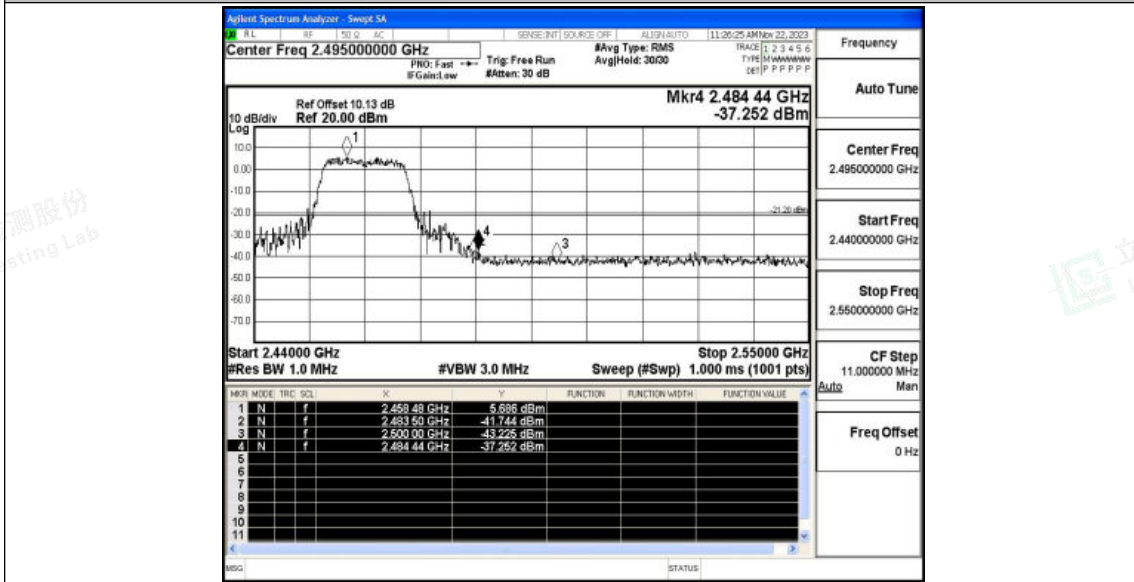


11G\_Ant1\_High\_2462\_AV



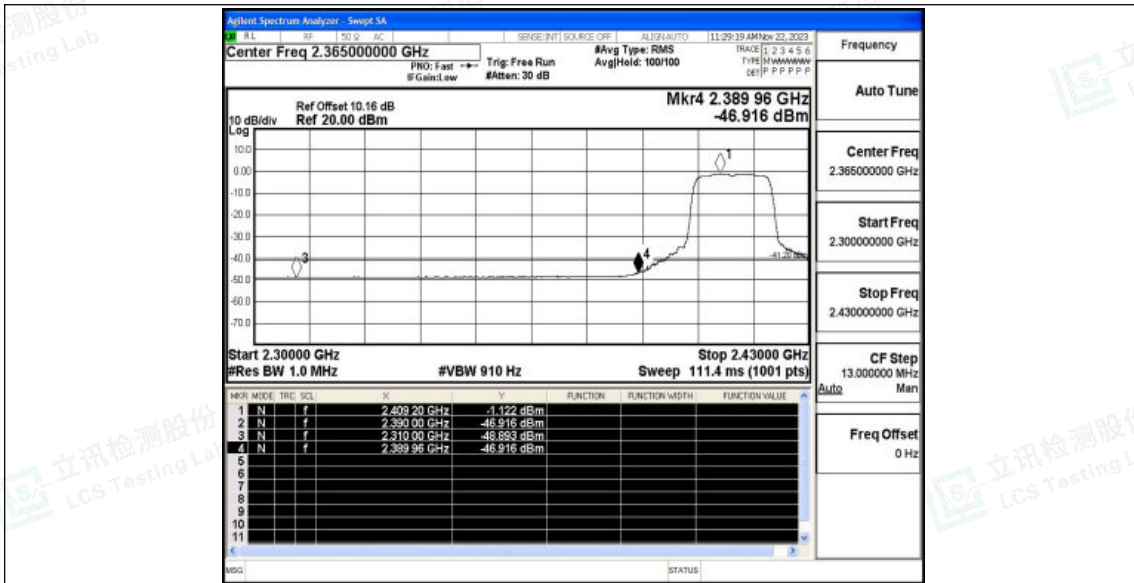


11G\_Ant1\_High\_2462\_Peak

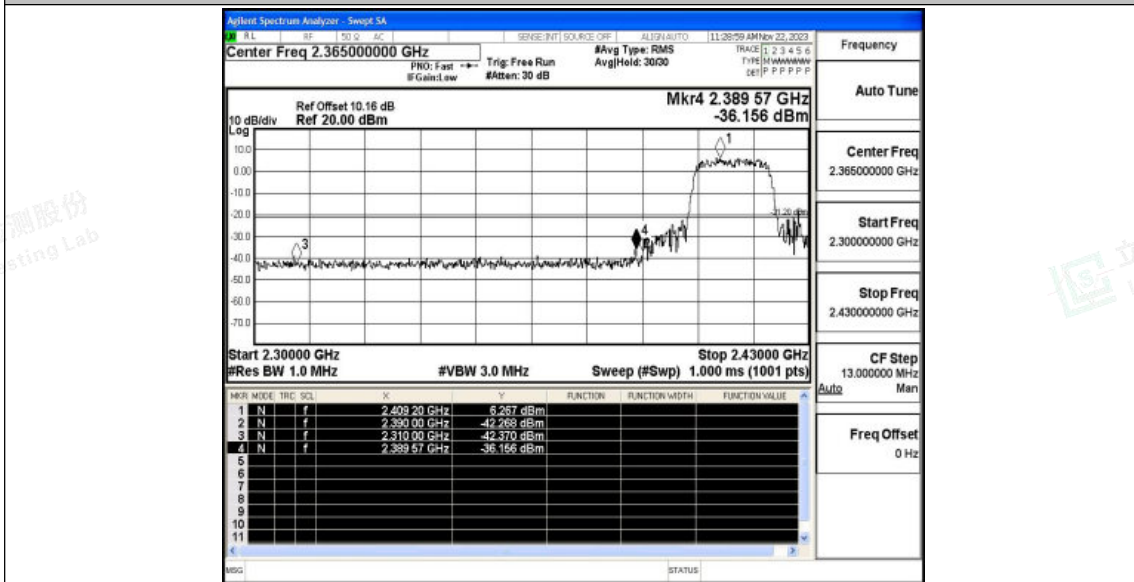


11N20SISO\_Ant1\_Low\_2412\_AV





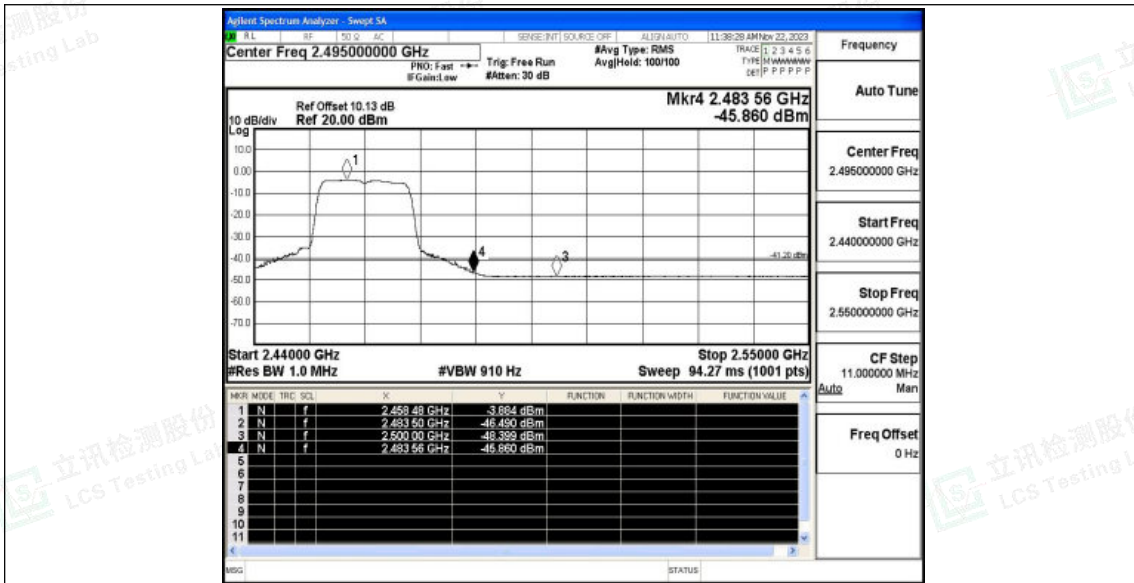
11N20SISO\_Ant1\_Low\_2412\_Peak



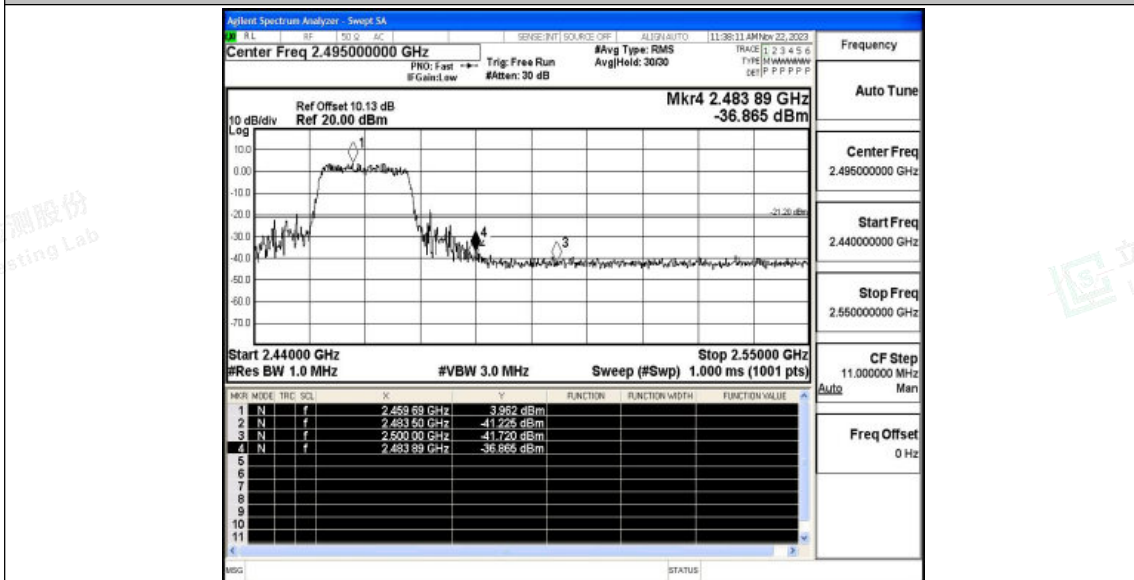
11N20SISO\_Ant1\_High\_2462\_AV







11N20SISO\_Ant1\_High\_2462\_Peak



11N40SISO\_Ant1\_Low\_2422\_AV

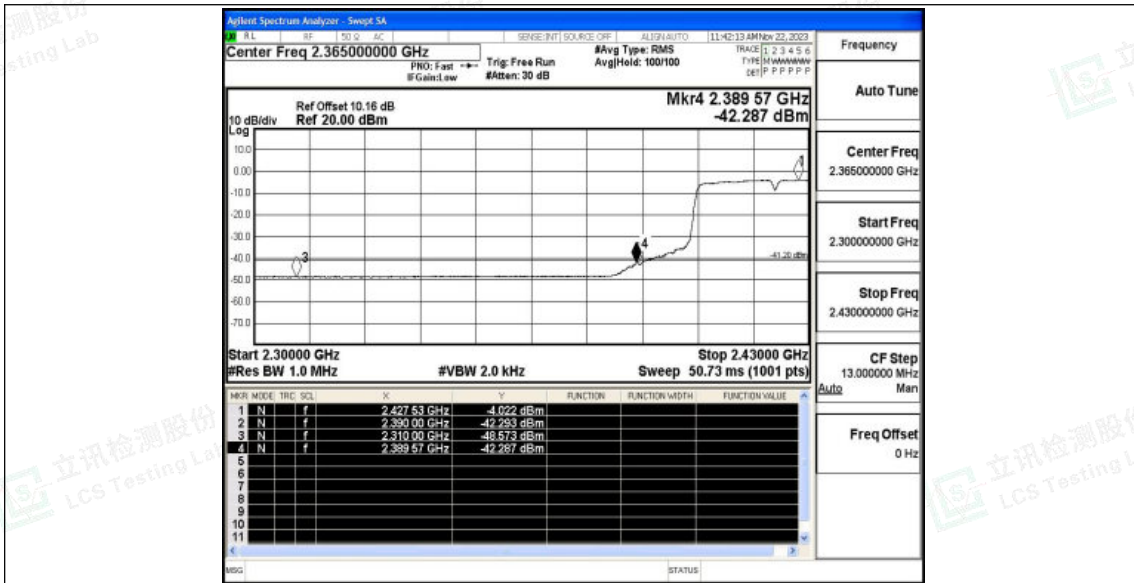


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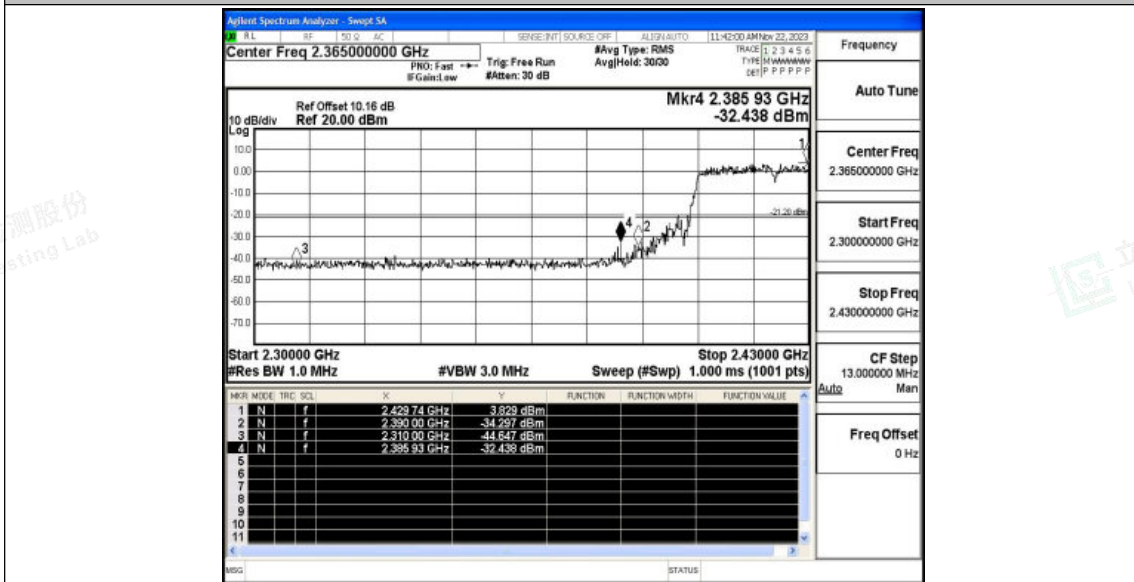
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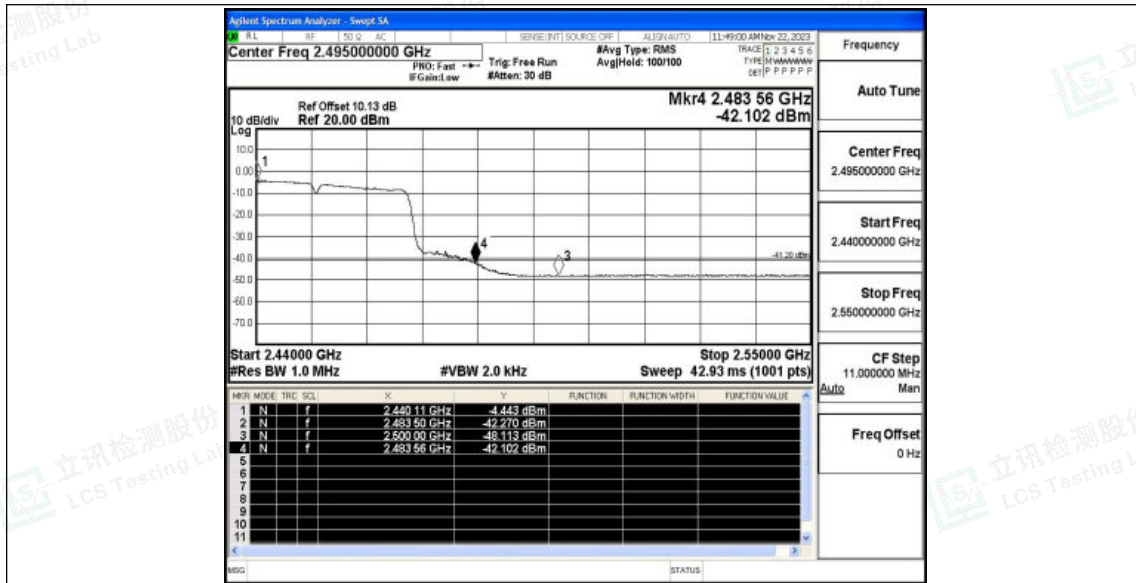


11N40SISO\_Ant1\_Low\_2422\_Peak



11N40SISO\_Ant1\_High\_2452\_AV





11N40SISO\_Ant1\_High\_2452\_Peak

