



## Appendix C

### RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Smart switch

Test Model: Shelly PRO 3

#### Environmental Conditions

Temperature:	23.8 °C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>monkey.Li</i> Monkey Li
Supervised by:	<i>Li</i> Li Huan





### C.1 DTS Bandwidth

#### Test Result

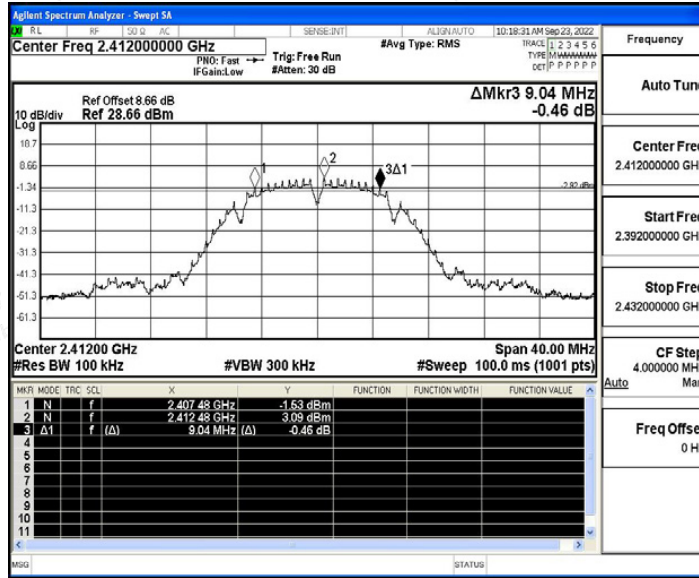
TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.040	2407.480	2416.520	0.5	PASS
		2437	9.080	2432.440	2441.520	0.5	PASS
		2462	9.040	2457.480	2466.520	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.320	2428.840	2445.160	0.5	PASS
		2462	16.320	2453.840	2470.160	0.5	PASS
11N20SISO	Ant1	2412	17.600	2403.200	2420.800	0.5	PASS
		2437	17.600	2428.200	2445.800	0.5	PASS
		2462	17.560	2453.200	2470.760	0.5	PASS
11N40SISO	Ant1	2422	35.920	2404.240	2440.160	0.5	PASS
		2437	36.000	2419.160	2455.160	0.5	PASS
		2452	35.840	2434.080	2469.920	0.5	PASS



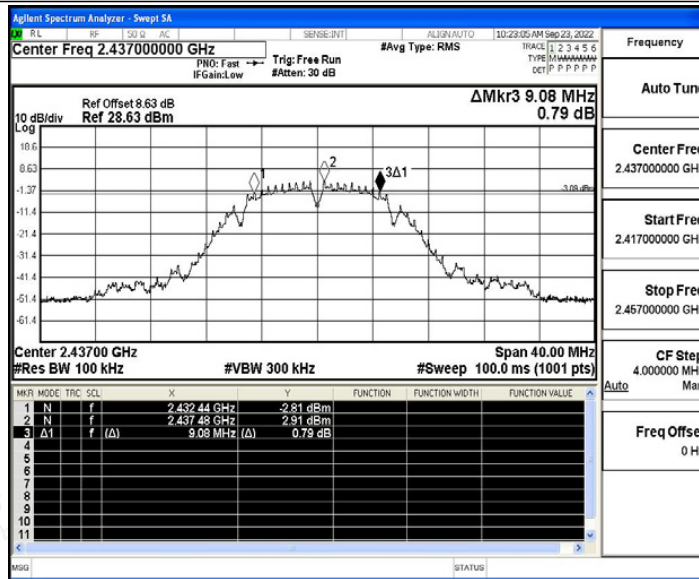


### Test Graphs

11B\_Ant1\_2412

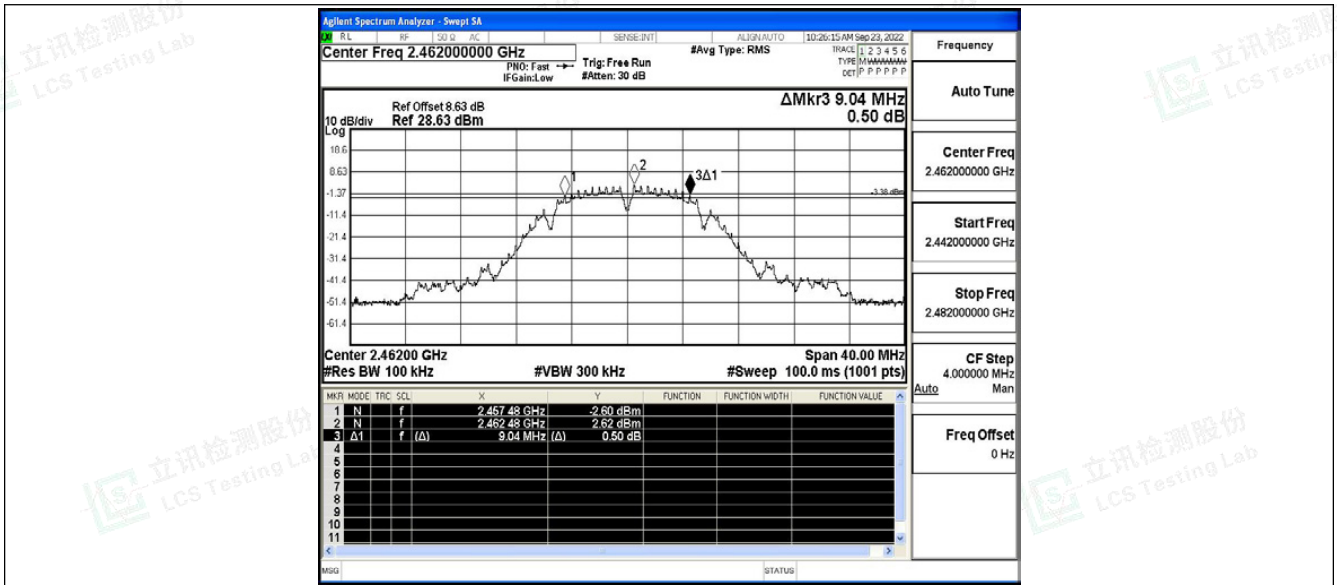


11B\_Ant1\_2437

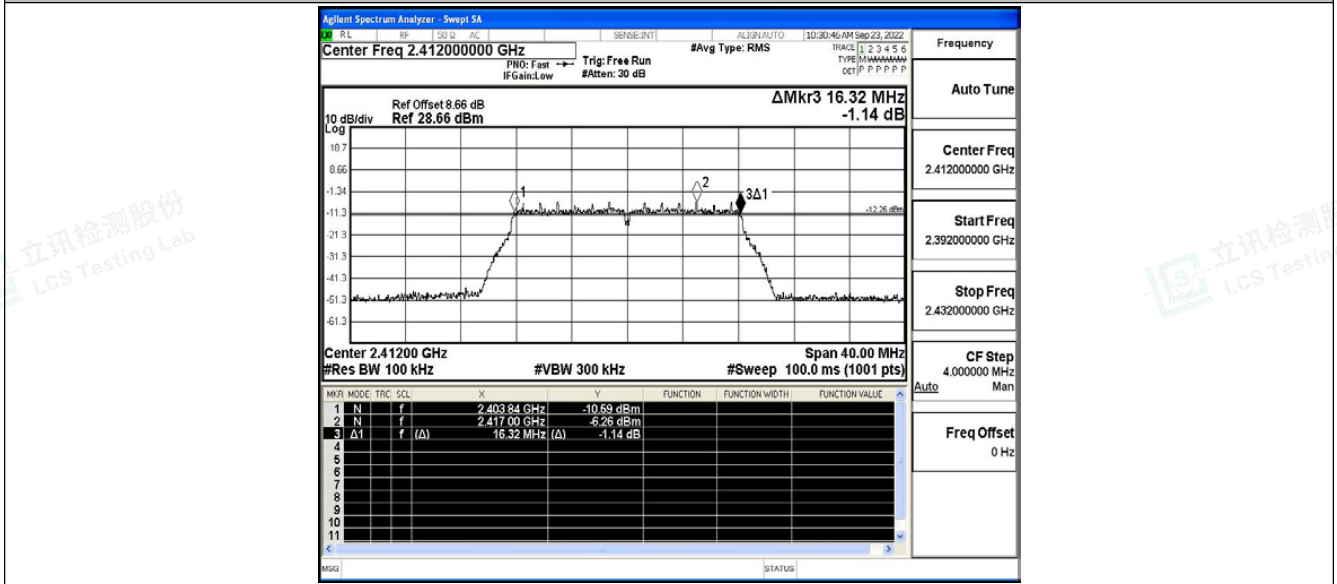


11B\_Ant1\_2462



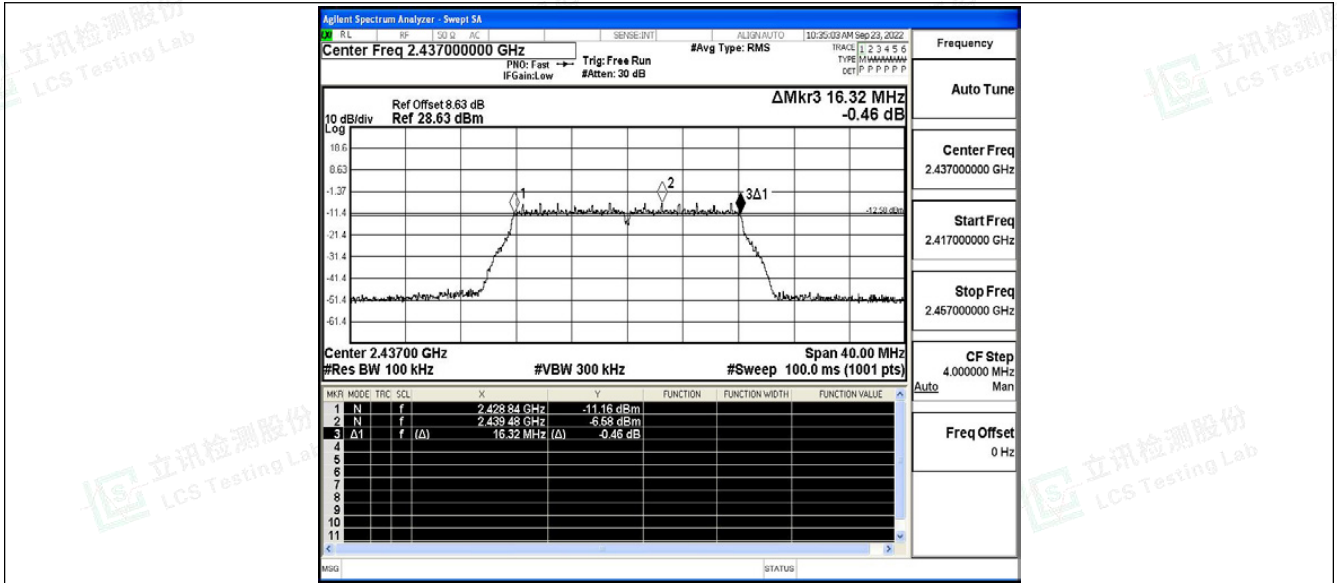


11G\_Ant1\_2412

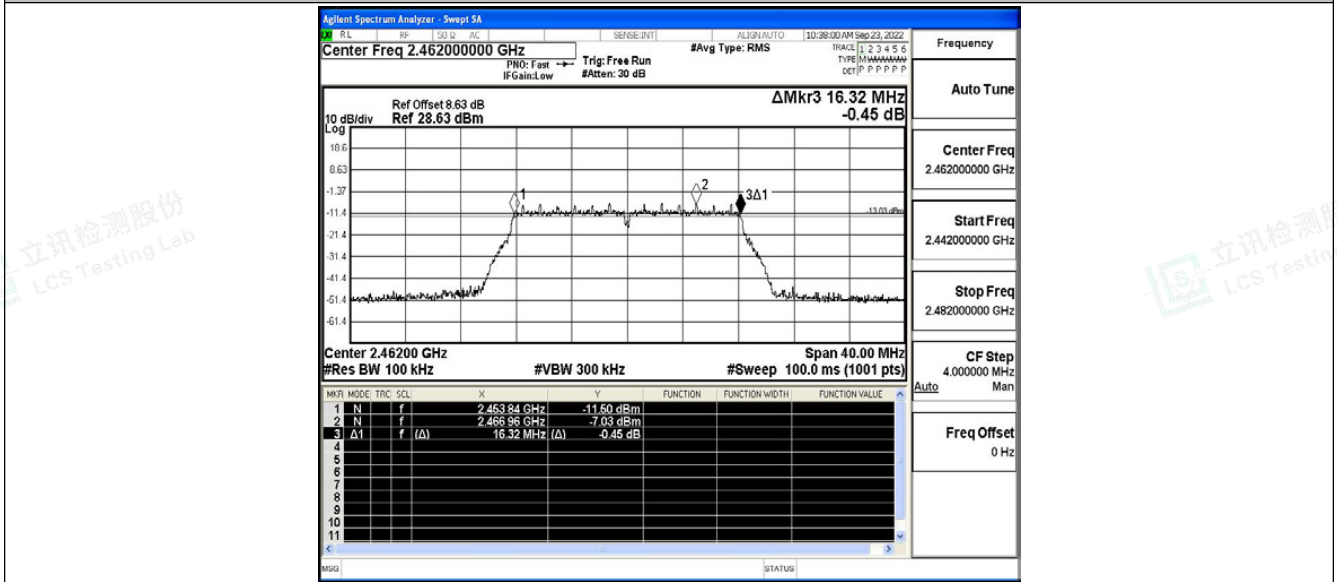


11G\_Ant1\_2437



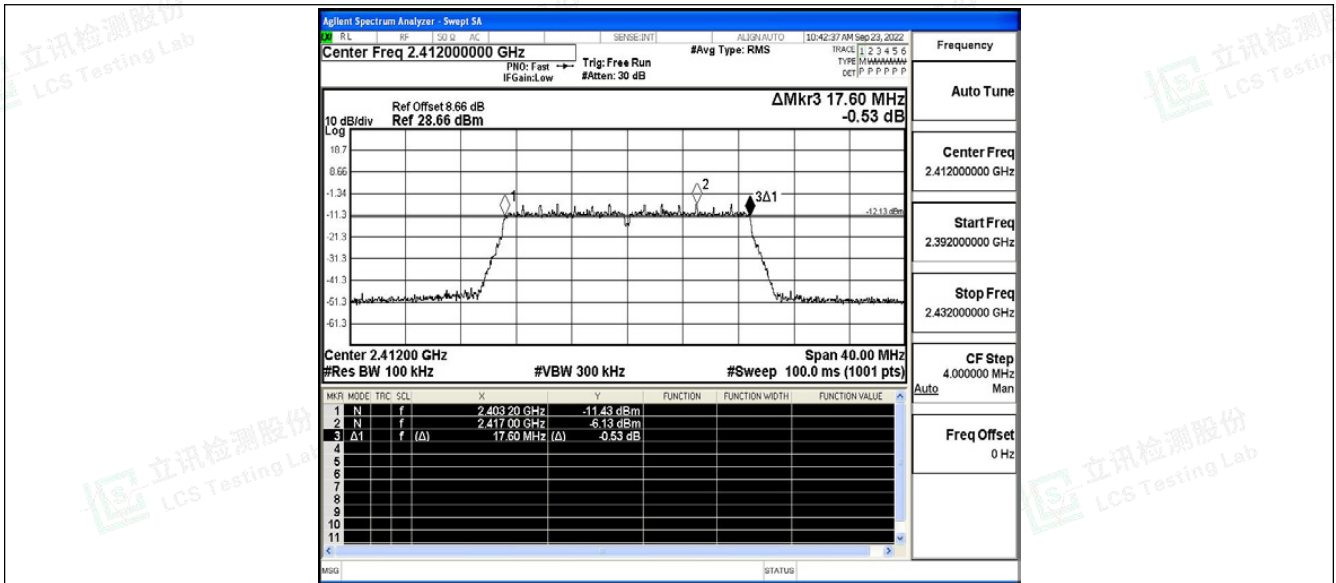


11G\_Ant1\_2462

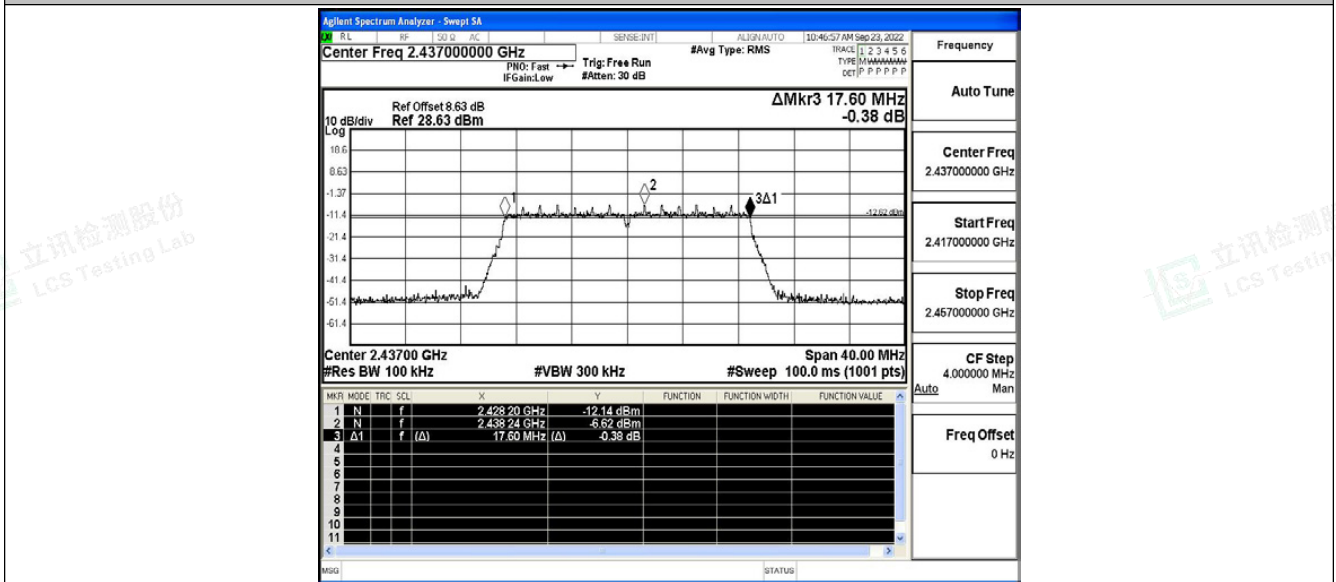


11N20SISO\_Ant1\_2412



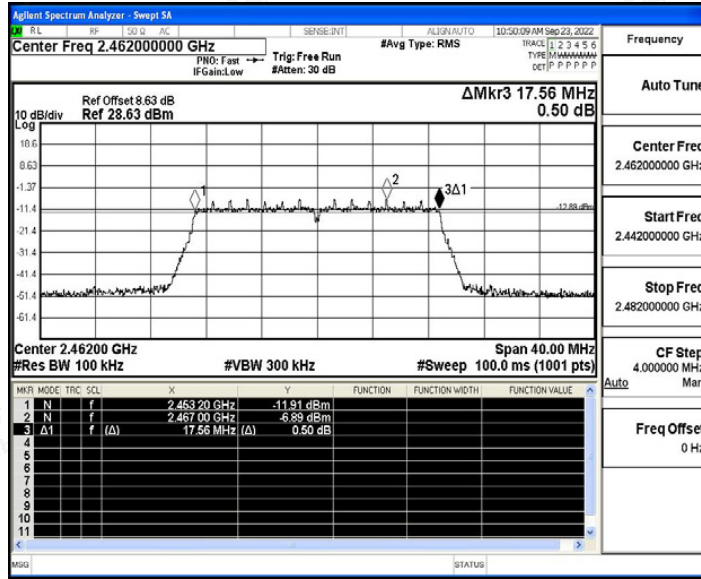


11N20SISO\_Ant1\_2437

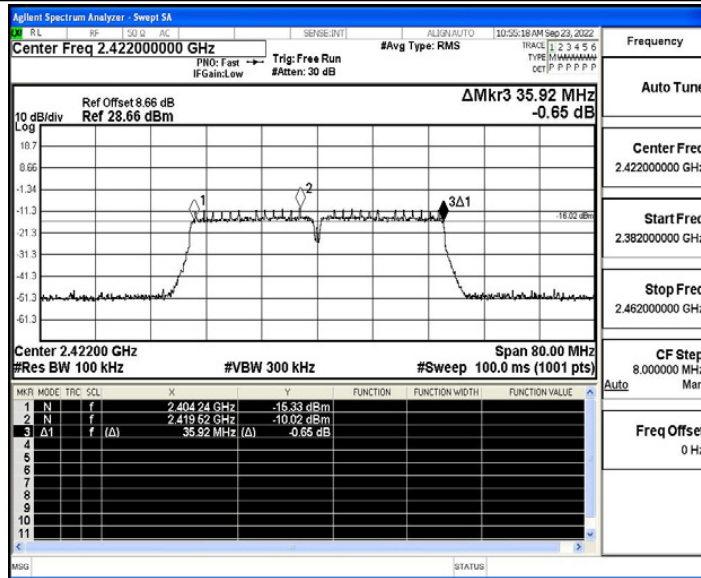


11N20SISO\_Ant1\_2462



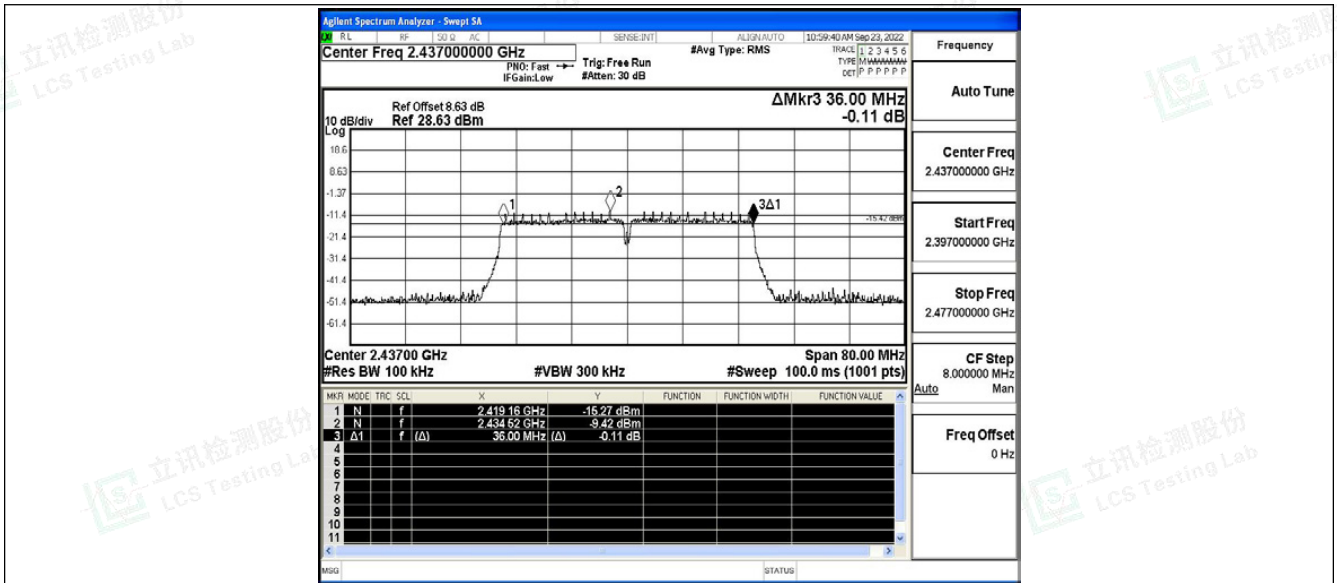


11N40SISO\_Ant1\_2422

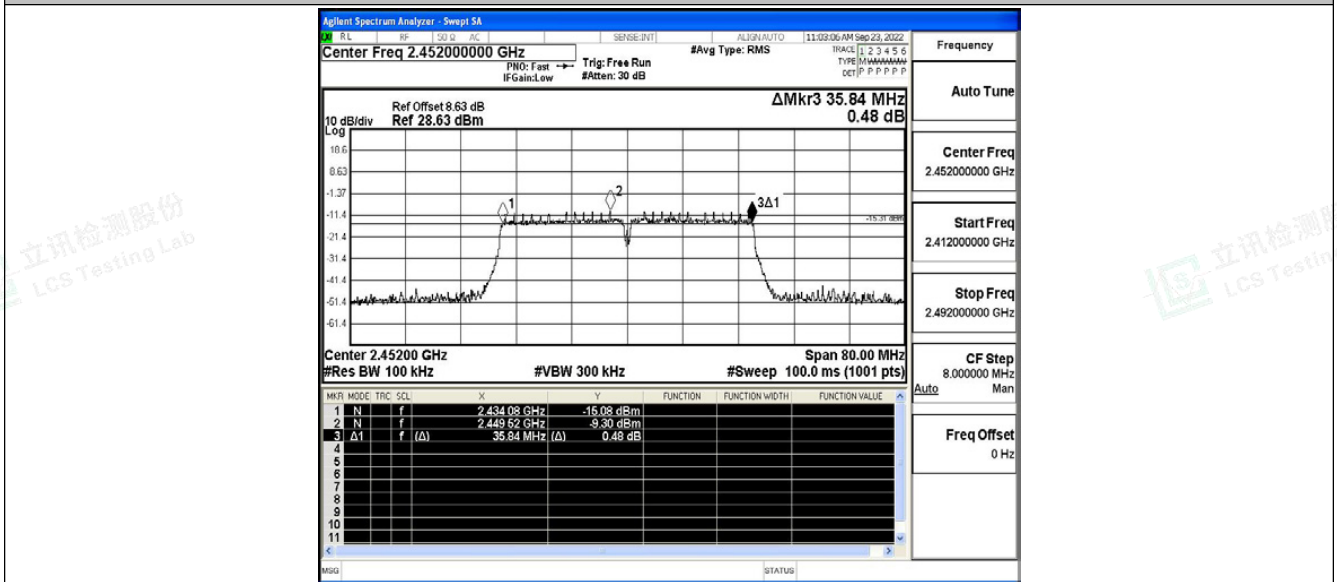


11N40SISO\_Ant1\_2437





11N40SISO\_Ant1\_2452







### C.2 Maximum conducted output power

#### Test Result

TestMode	Antenna	Freq(MHz)	Peak Power [dBm]	Conducted Limit[dBm]	Verdict
11B	Ant1	2412	15.69	≤30.00	PASS
		2437	15.68	≤30.00	PASS
		2462	15.33	≤30.00	PASS
11G	Ant1	2412	13.38	≤30.00	PASS
		2437	12.98	≤30.00	PASS
		2462	12.60	≤30.00	PASS
11N20SISO	Ant1	2412	13.37	≤30.00	PASS
		2437	12.99	≤30.00	PASS
		2462	12.64	≤30.00	PASS
11N40SISO	Ant1	2422	12.23	≤30.00	PASS
		2437	12.98	≤30.00	PASS
		2452	12.92	≤30.00	PASS





### C.3 Maximum power spectral density

#### Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11B	Ant1	2412	-11.28	≤8.00	PASS
		2437	-11.71	≤8.00	PASS
		2462	-6.52	≤8.00	PASS
11G	Ant1	2412	-19.07	≤8.00	PASS
		2437	-20.38	≤8.00	PASS
		2462	-21.72	≤8.00	PASS
11N20SISO	Ant1	2412	-21.13	≤8.00	PASS
		2437	-21.63	≤8.00	PASS
		2462	-20.88	≤8.00	PASS
11N40SISO	Ant1	2422	-24.54	≤8.00	PASS
		2437	-22.85	≤8.00	PASS
		2452	-22.95	≤8.00	PASS

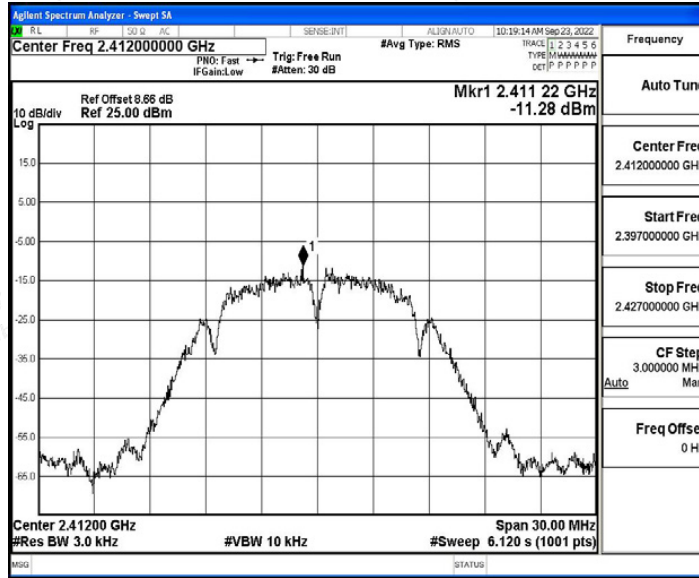


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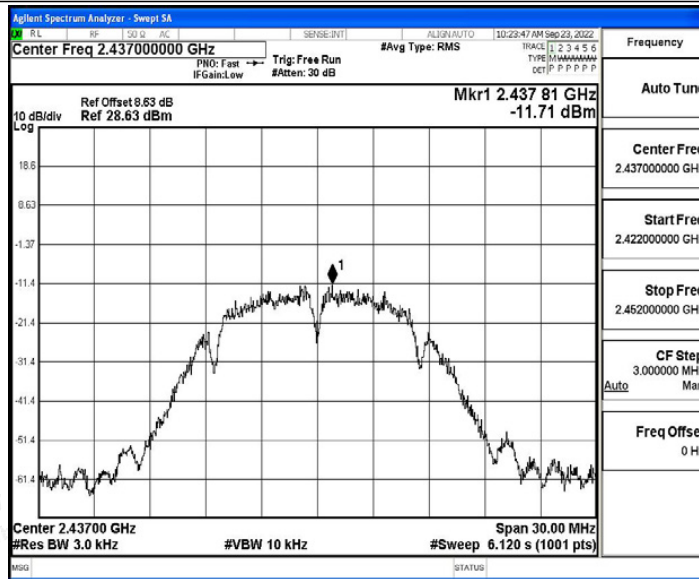


### Test Graphs

11B\_Ant1\_2412

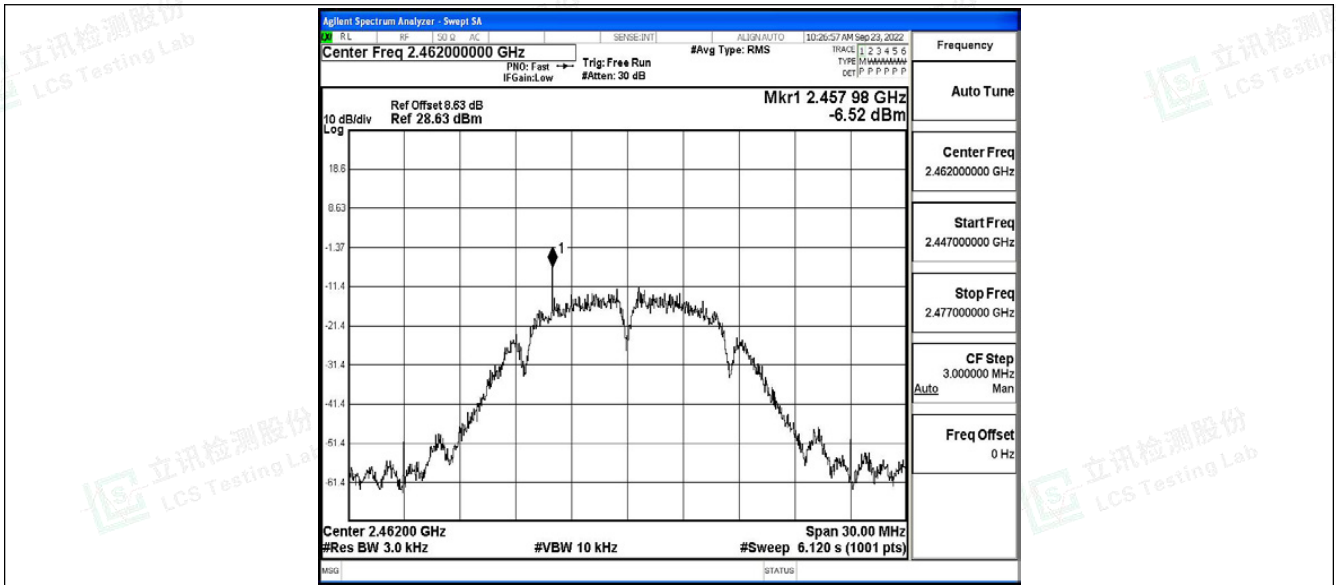


11B\_Ant1\_2437

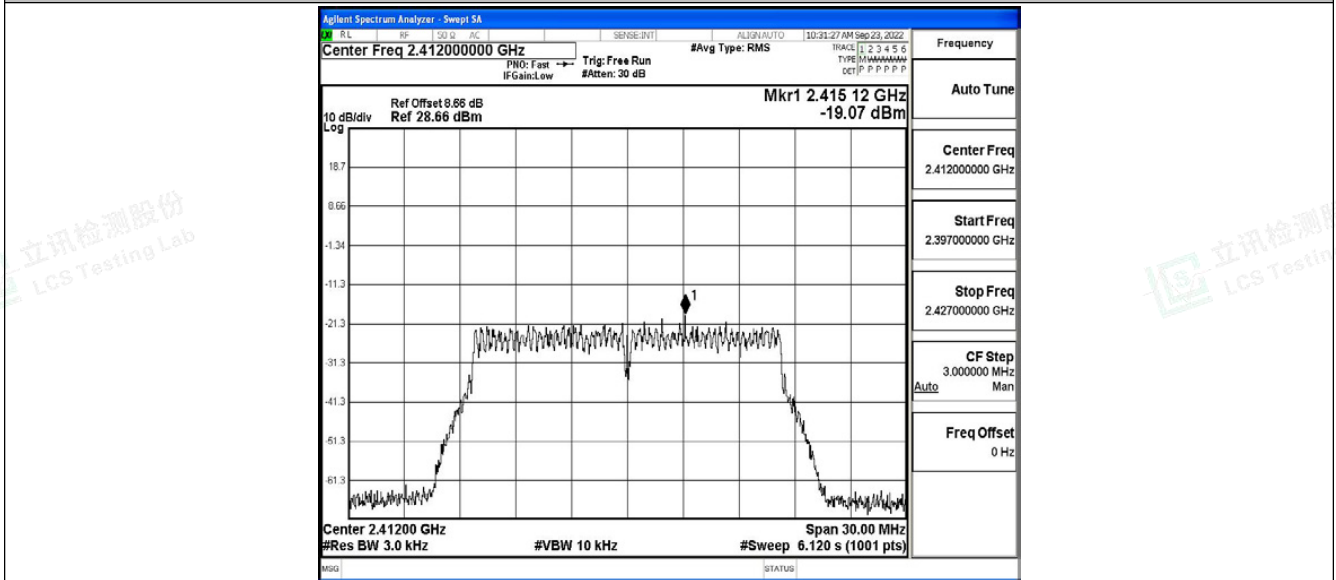


11B\_Ant1\_2462



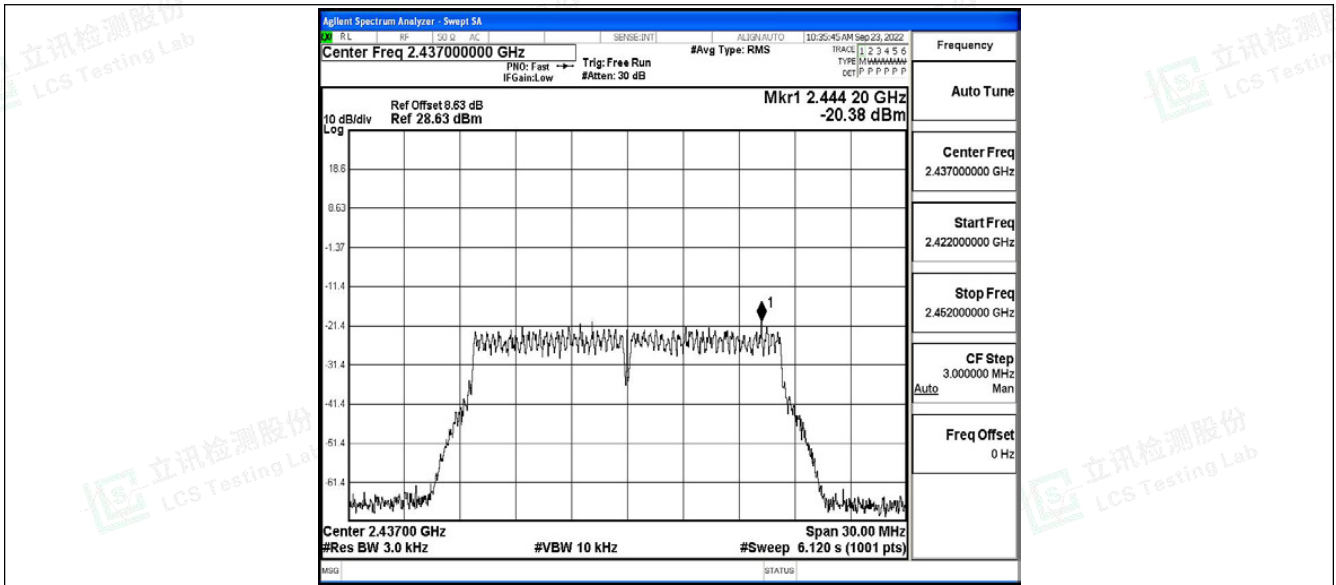


11G\_Ant1\_2412

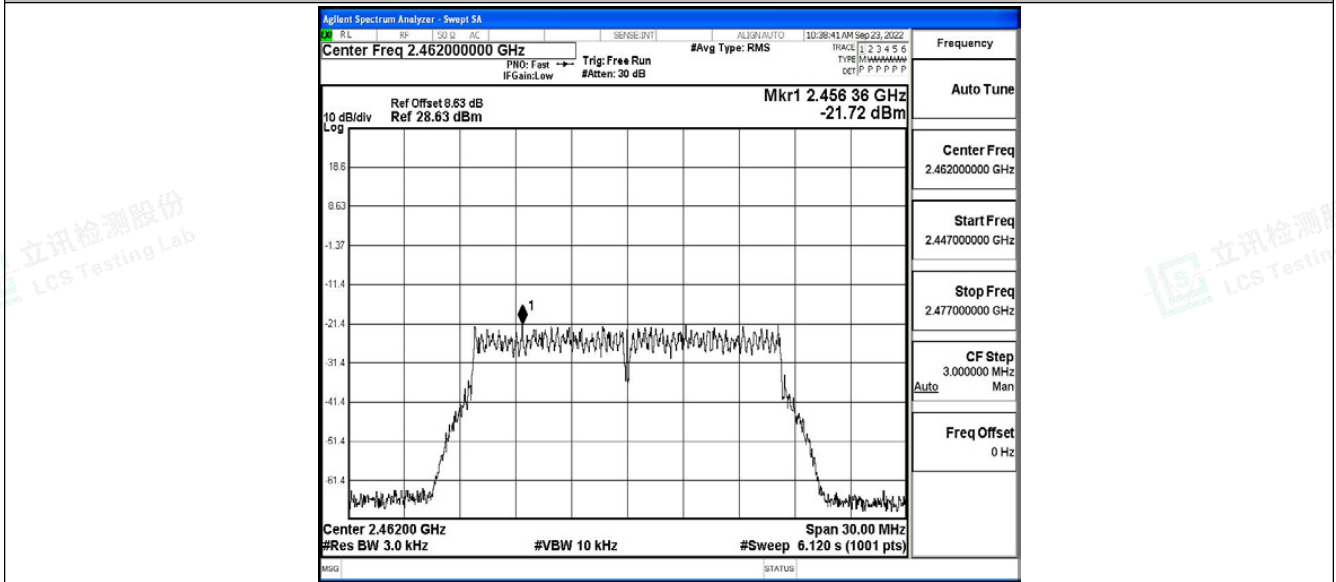


11G\_Ant1\_2437



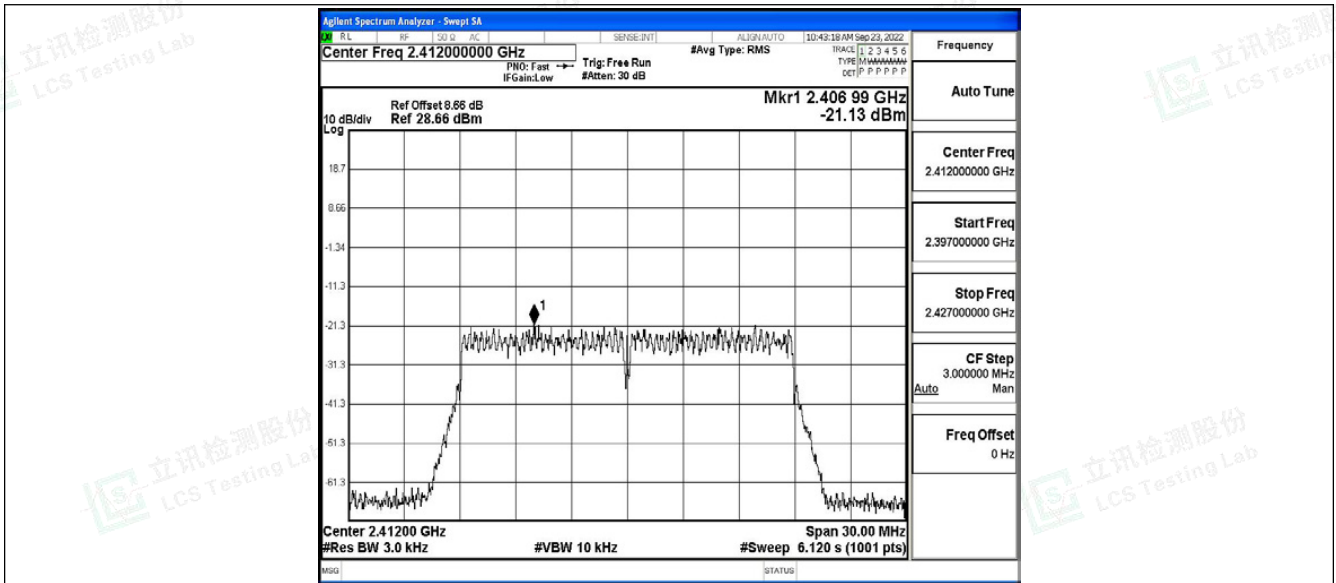


11G\_Ant1\_2462

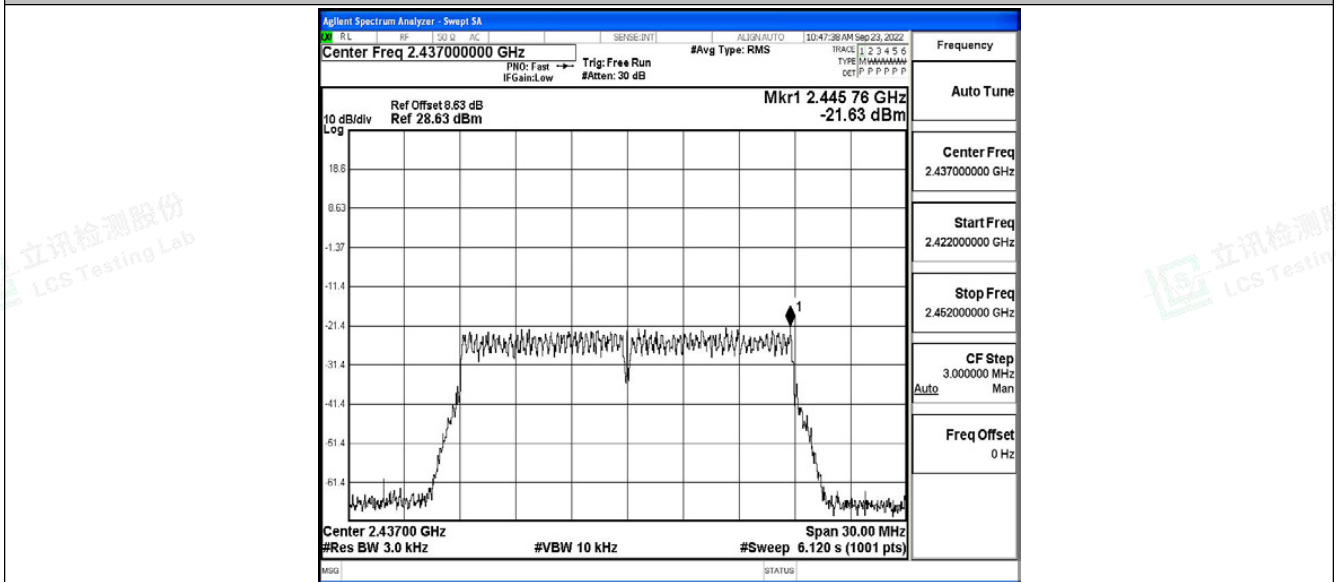


11N20SISO\_Ant1\_2412



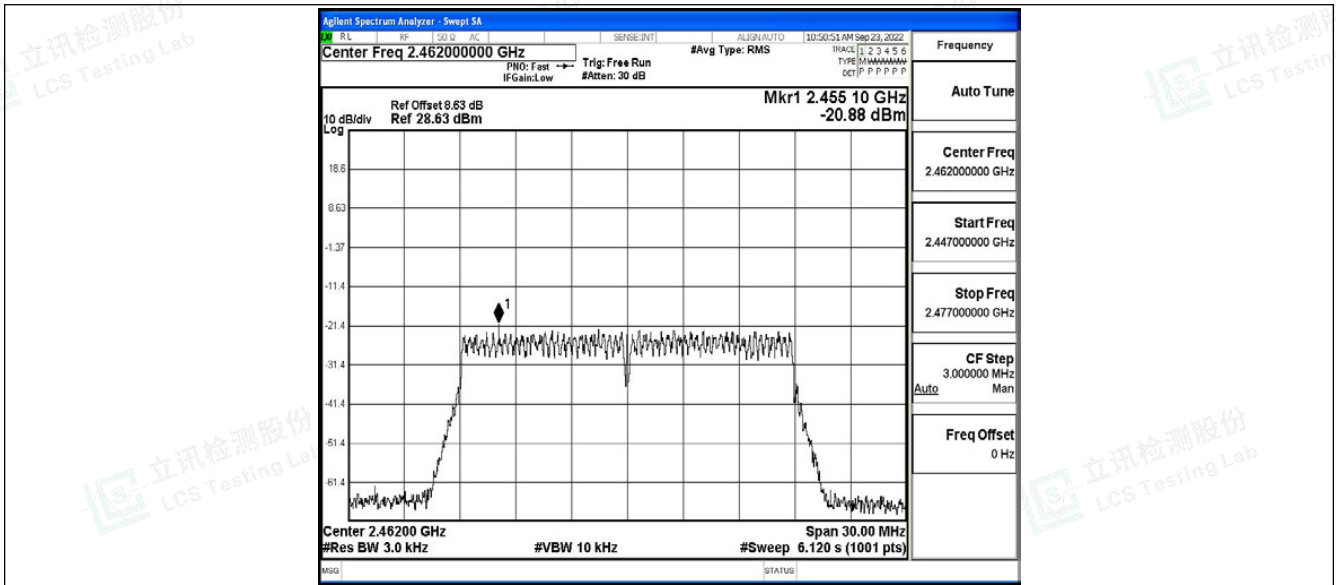


11N20SISO\_Ant1\_2437

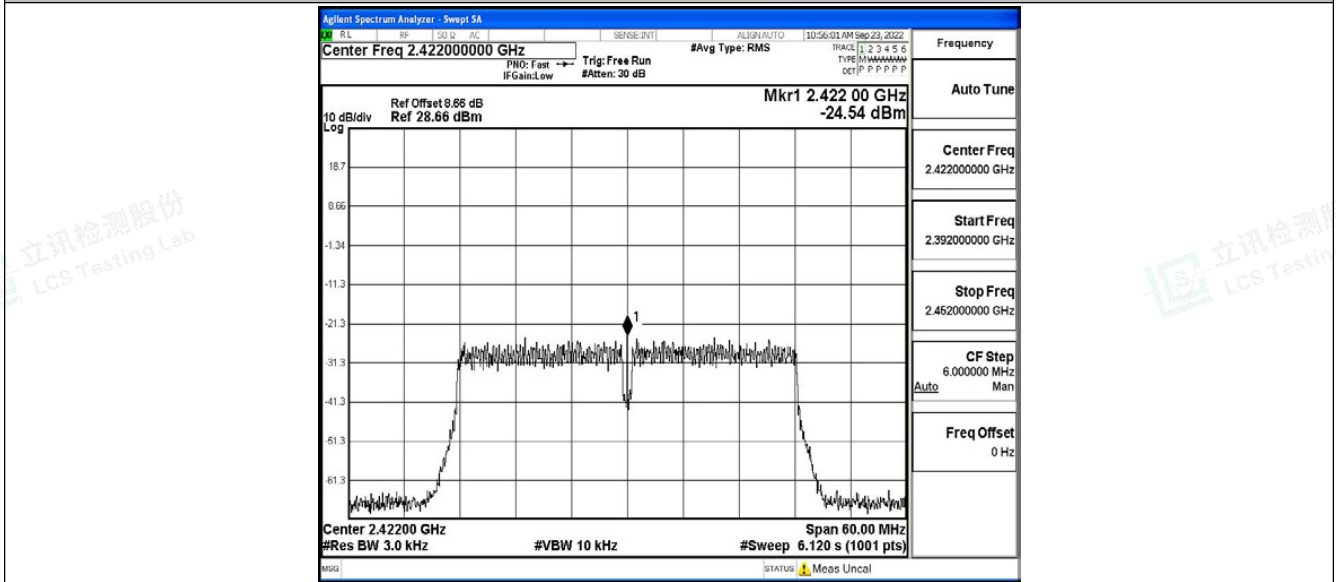


11N20SISO\_Ant1\_2462



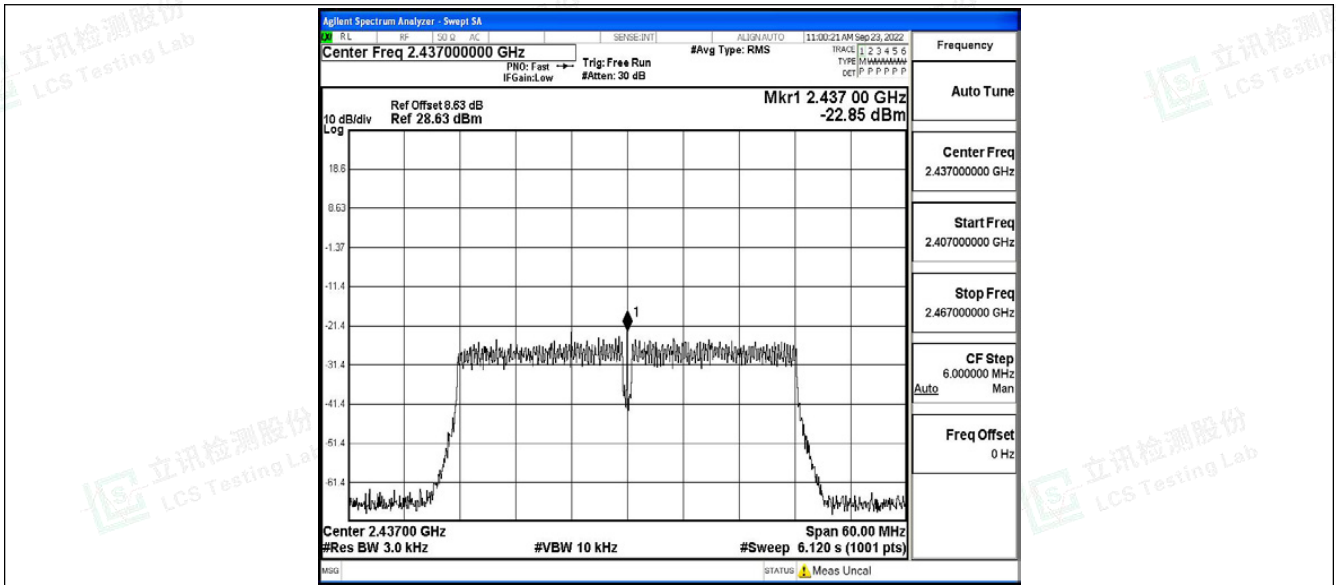


11N40SISO\_Ant1\_2422

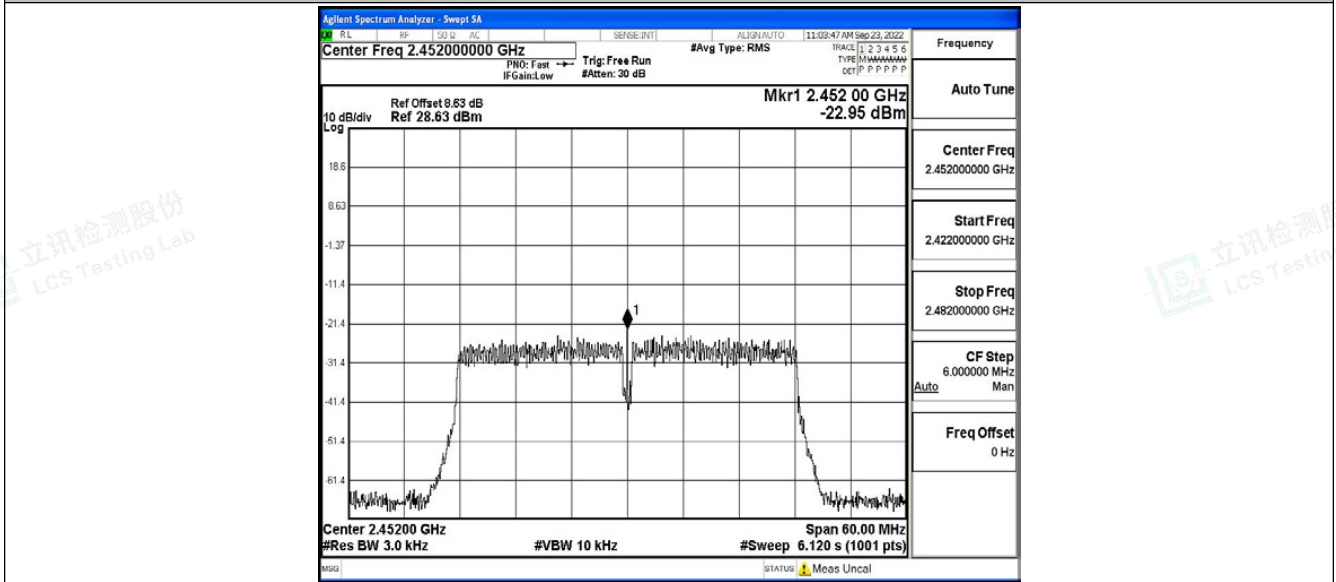


11N40SISO\_Ant1\_2437





11N40SISO\_Ant1\_2452







### C.4 Band edge measurements

#### Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	2.89	-42.48	≤-17.11	PASS
		High	2462	2.54	-47.97	≤-17.46	PASS
11G	Ant1	Low	2412	-6.35	-44.98	≤-26.35	PASS
		High	2462	-6.95	-48.37	≤-26.95	PASS
11N20SISO	Ant1	Low	2412	-6.09	-47.53	≤-26.09	PASS
		High	2462	-6.95	-48.59	≤-26.95	PASS
11N40SISO	Ant1	Low	2422	-9.99	-48.42	≤-29.99	PASS
		High	2452	-9.24	-47.51	≤-29.24	PASS

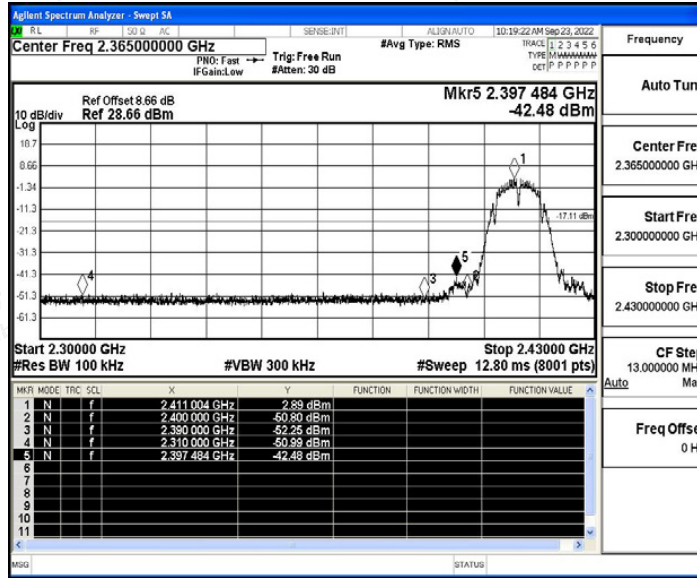


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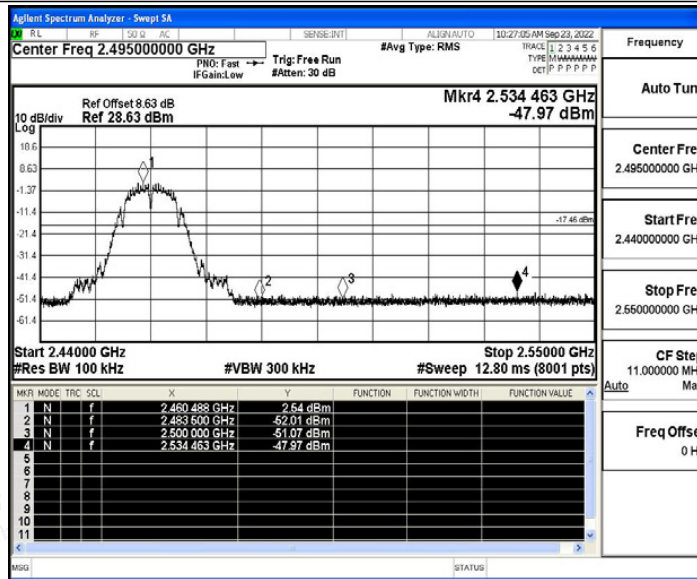


### Test Graphs

11B\_Ant1\_Low\_2412

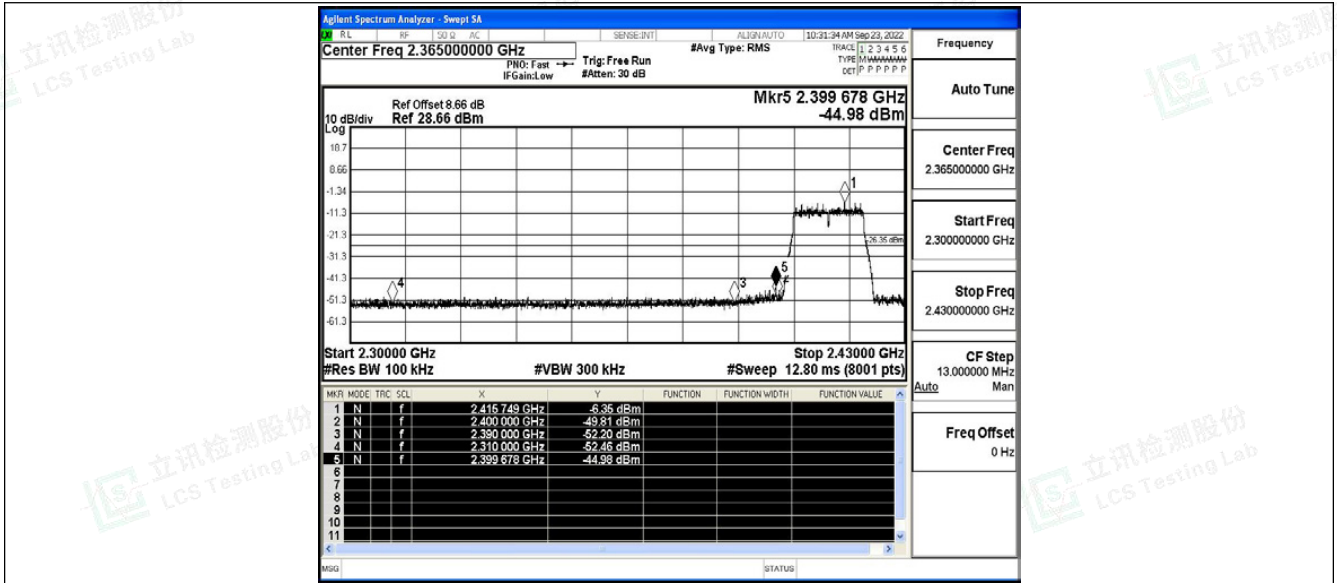


11B\_Ant1\_High\_2462

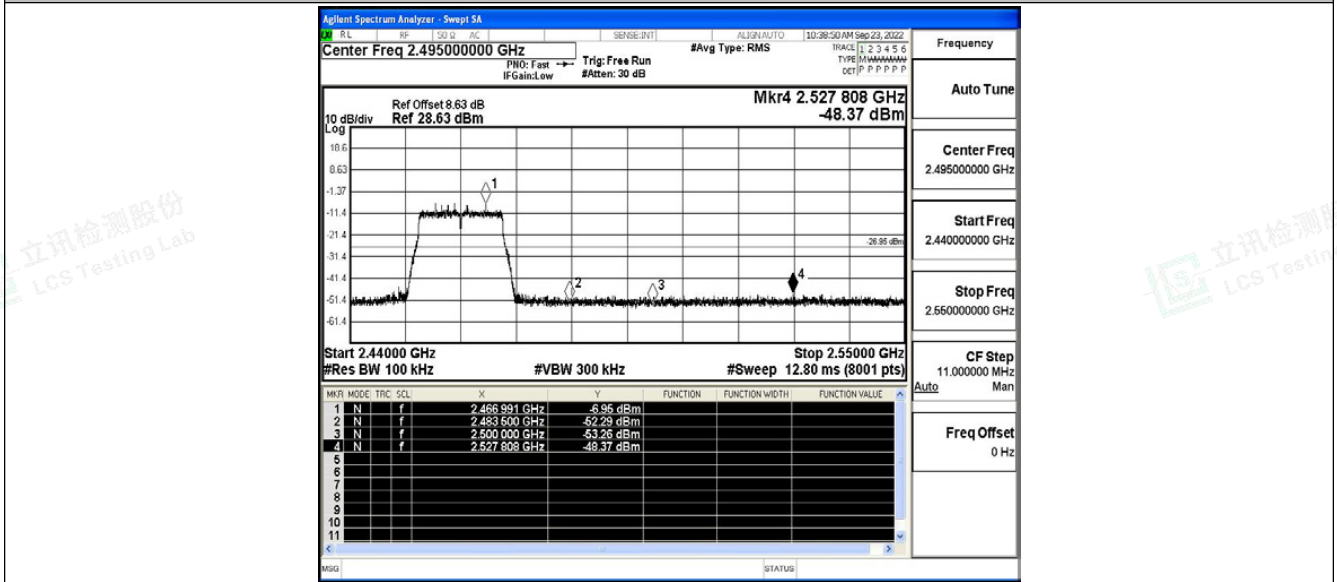


11G\_Ant1\_Low\_2412



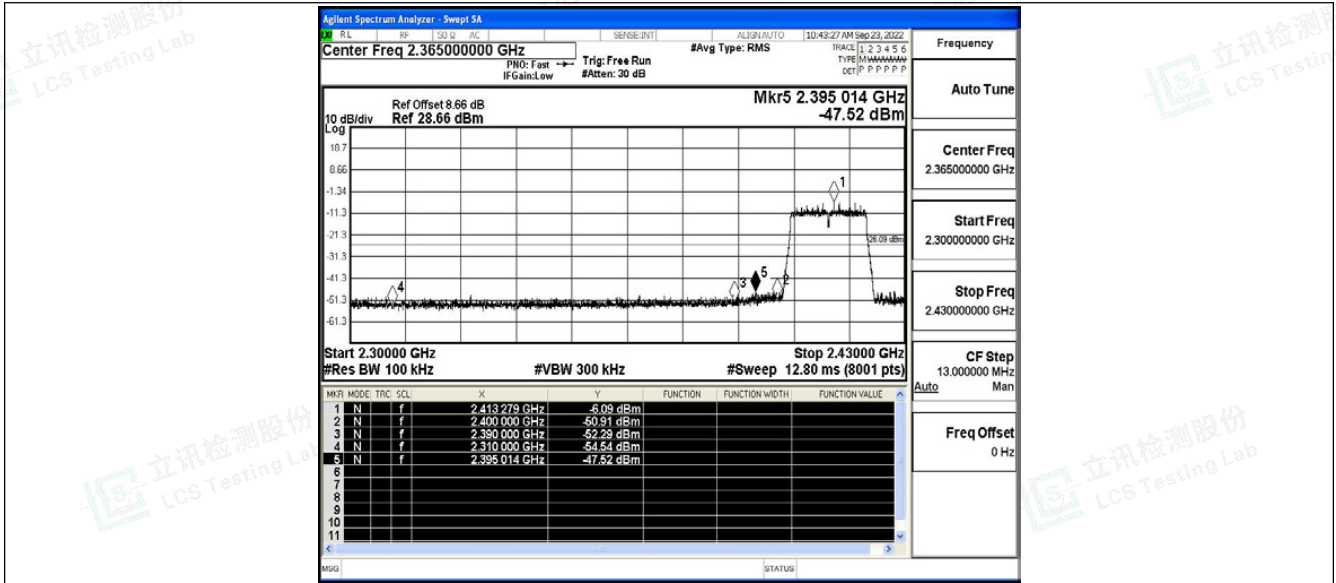


11G\_Ant1\_High\_2462

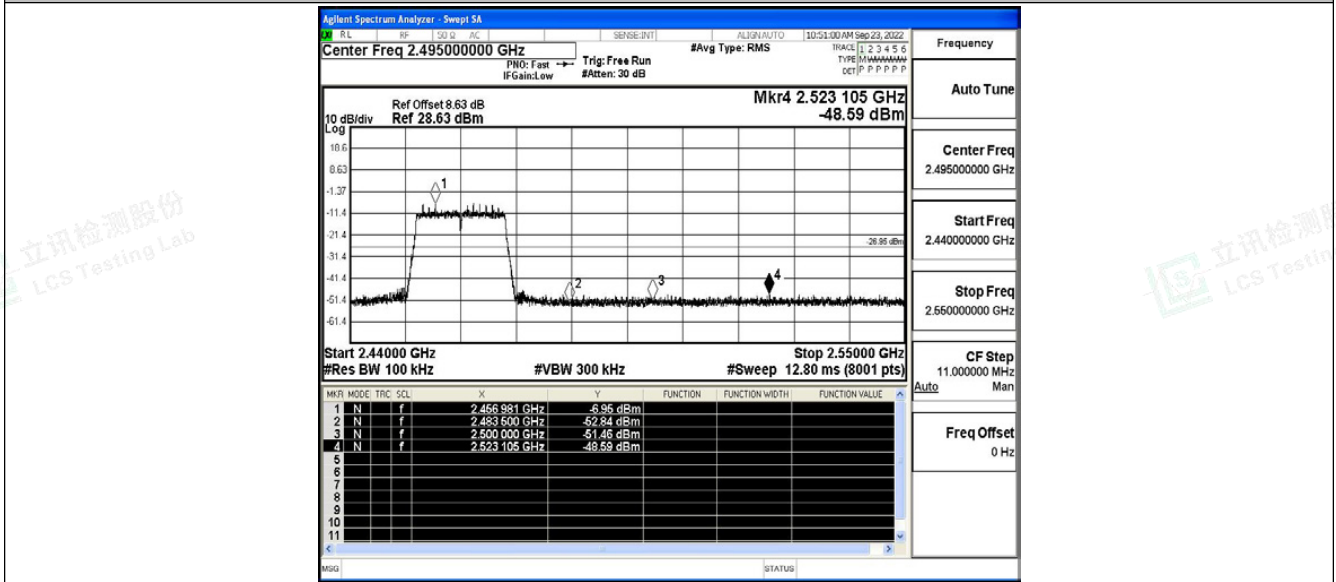


11N20SISO\_Ant1\_Low\_2412



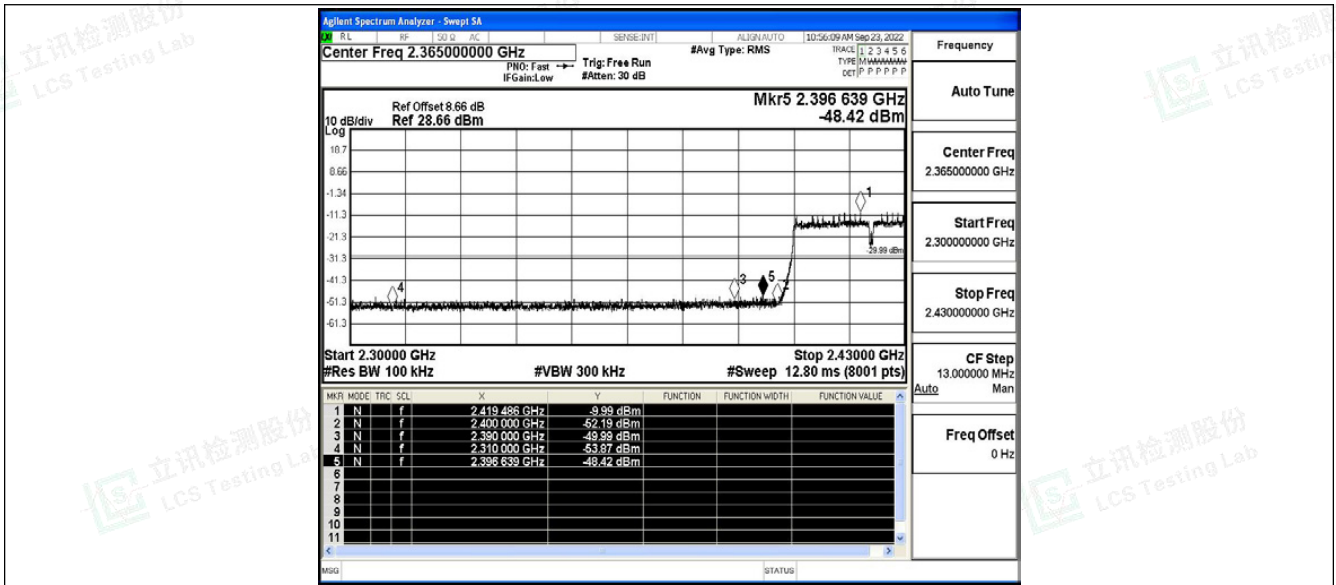


11N20SISO\_Ant1\_High\_2462

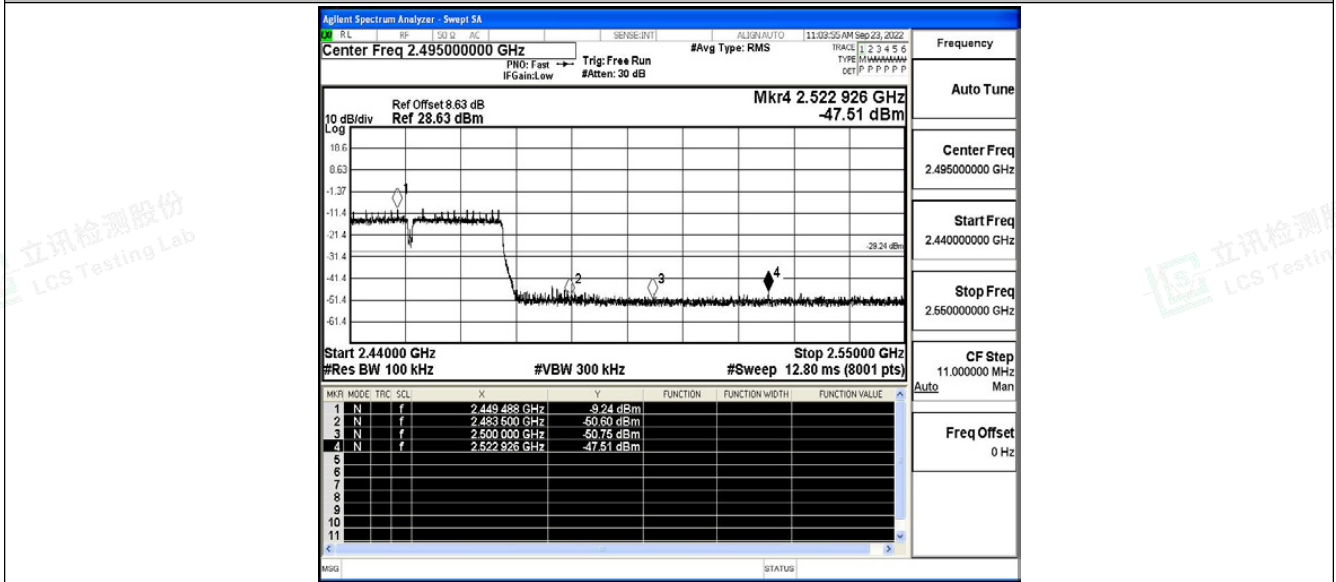


11N40SISO\_Ant1\_Low\_2422





11N40SISO\_Ant1\_High\_2452





## C.5 Conducted Spurious Emission

### Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	1.14	1.14	---	PASS
			30~1000	1.14	-60.59	≤-18.86	PASS
			1000~26500	1.14	-45.88	≤-18.86	PASS
		2437	Reference	1.37	1.37	---	PASS
			30~1000	1.37	-60.33	≤-18.63	PASS
			1000~26500	1.37	-45.23	≤-18.63	PASS
		2462	Reference	0.80	0.80	---	PASS
			30~1000	0.80	-59.89	≤-19.2	PASS
			1000~26500	0.80	-46.04	≤-19.2	PASS
11G	Ant1	2412	Reference	-7.18	-7.18	---	PASS
			30~1000	-7.18	-60.48	≤-27.18	PASS
			1000~26500	-7.18	-46.01	≤-27.18	PASS
		2437	Reference	-7.19	-7.19	---	PASS
			30~1000	-7.19	-60.78	≤-27.19	PASS
			1000~26500	-7.19	-45.61	≤-27.19	PASS
		2462	Reference	-9.26	-9.26	---	PASS
			30~1000	-9.26	-60.77	≤-29.26	PASS
			1000~26500	-9.26	-45.24	≤-29.26	PASS
11N20SISO	Ant1	2412	Reference	-9.29	-9.29	---	PASS
			30~1000	-9.29	-52.24	≤-29.29	PASS
			1000~26500	-9.29	-46.09	≤-29.29	PASS
		2437	Reference	-9.09	-9.09	---	PASS
			30~1000	-9.09	-53.78	≤-29.09	PASS
			1000~26500	-9.09	-46.09	≤-29.09	PASS
		2462	Reference	-7.05	-7.05	---	PASS
			30~1000	-7.05	-60.71	≤-27.05	PASS
			1000~26500	-7.05	-45.88	≤-27.05	PASS
11N40SISO	Ant1	2422	Reference	-11.04	-11.04	---	PASS
			30~1000	-11.04	-60.87	≤-31.04	PASS
			1000~26500	-11.04	-46.6	≤-31.04	PASS
		2437	Reference	-9.28	-9.28	---	PASS
			30~1000	-9.28	-60.15	≤-29.28	PASS
			1000~26500	-9.28	-46.18	≤-29.28	PASS
		2452	Reference	-9.46	-9.46	---	PASS
			30~1000	-9.46	-60.82	≤-29.46	PASS



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			1000~26500	-9.46	-45.89	≤-29.46	PASS
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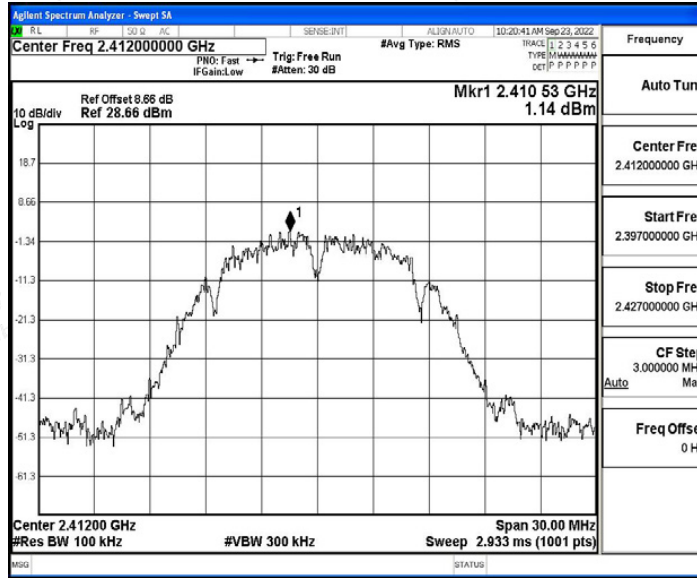


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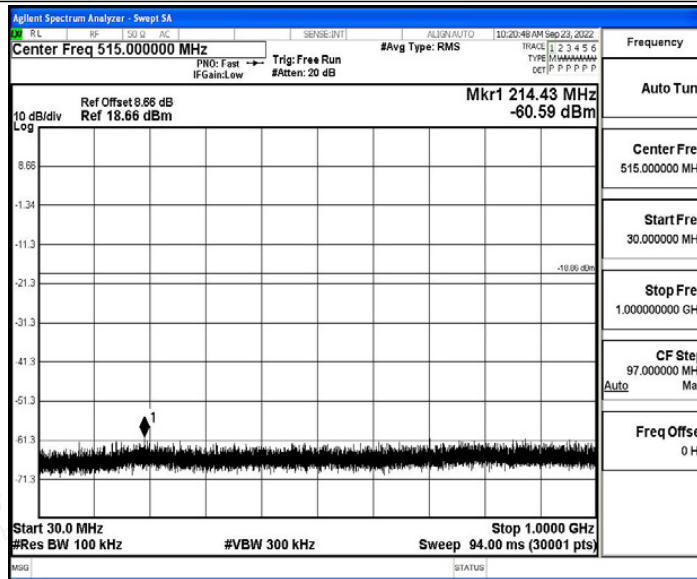


### Test Graphs

11B\_Ant1\_2412\_0~Reference



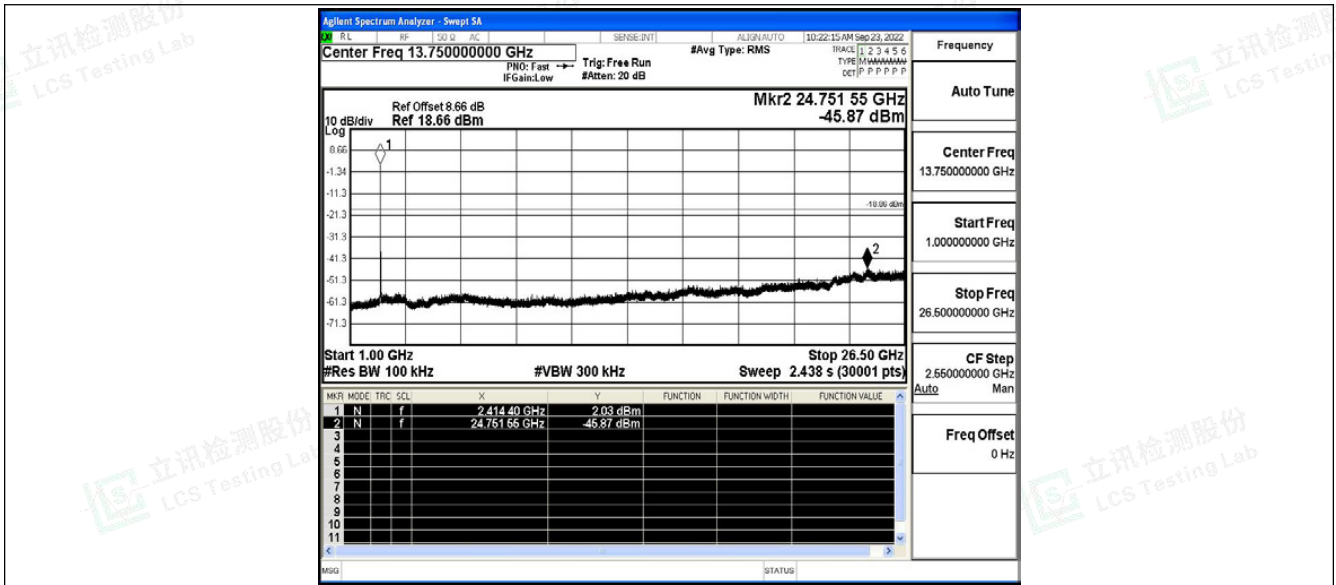
11B\_Ant1\_2412\_30~1000



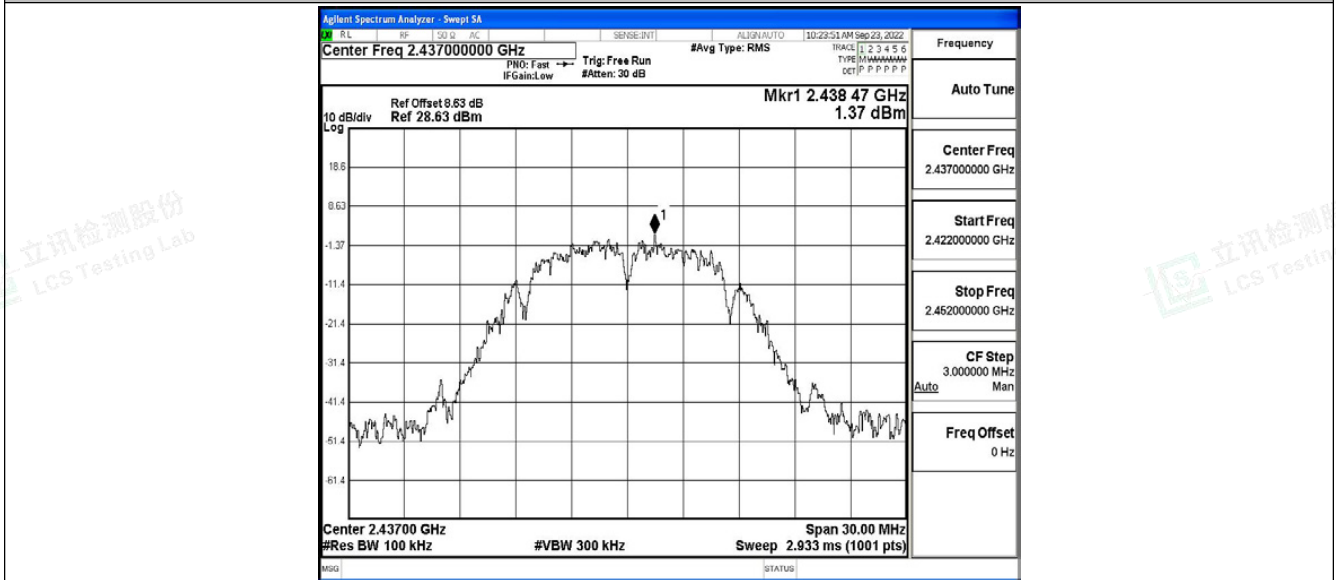
11B\_Ant1\_2412\_1000~26500





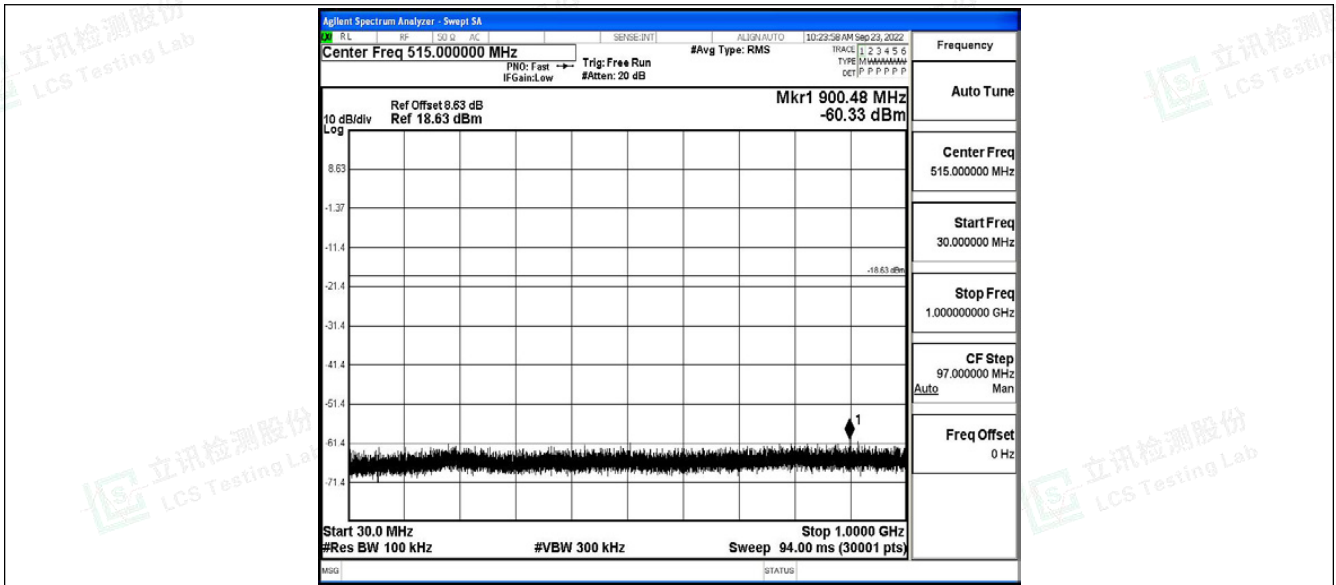


11B\_Ant1\_2437\_0~Reference

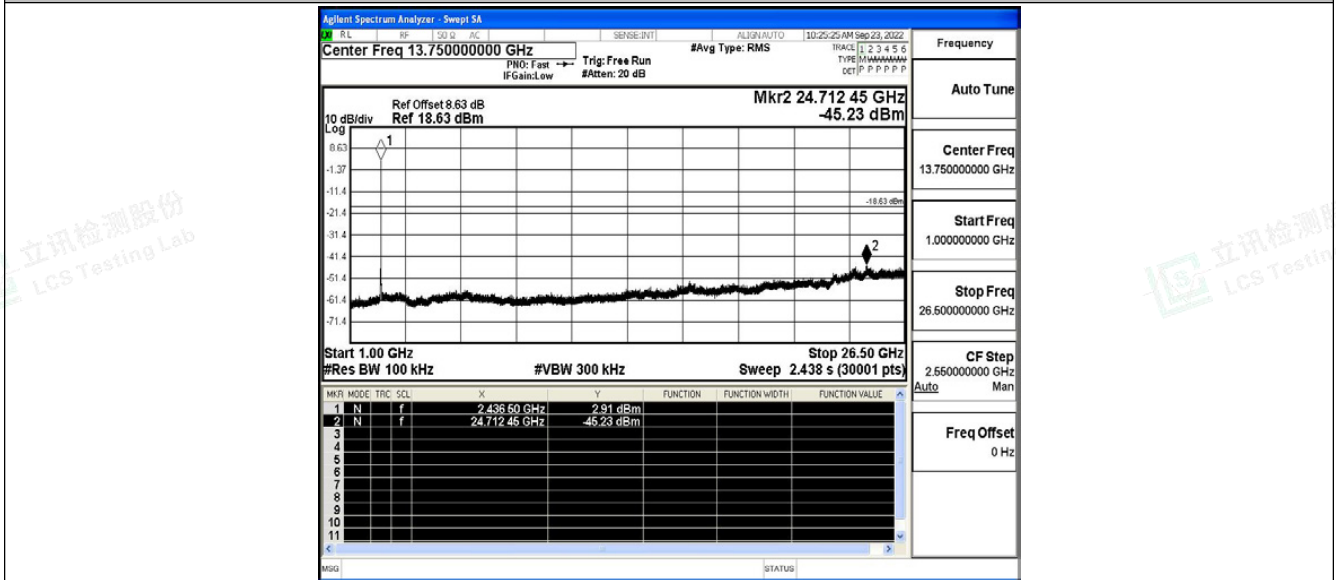


11B\_Ant1\_2437\_30~1000



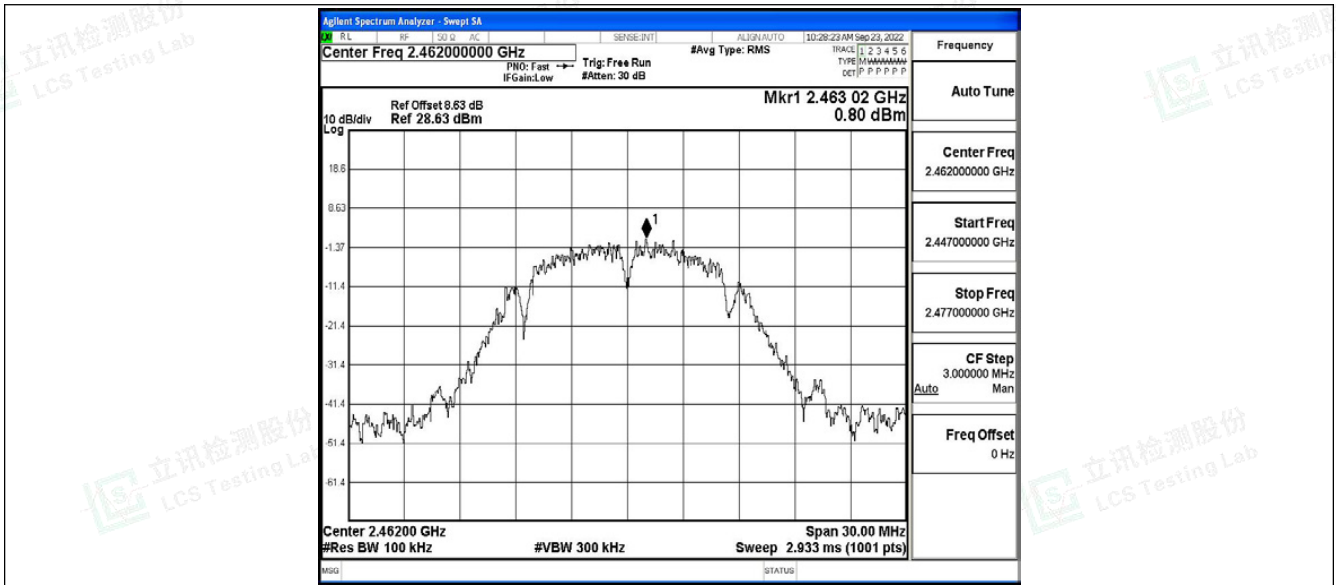


11B\_Ant1\_2437\_1000~26500

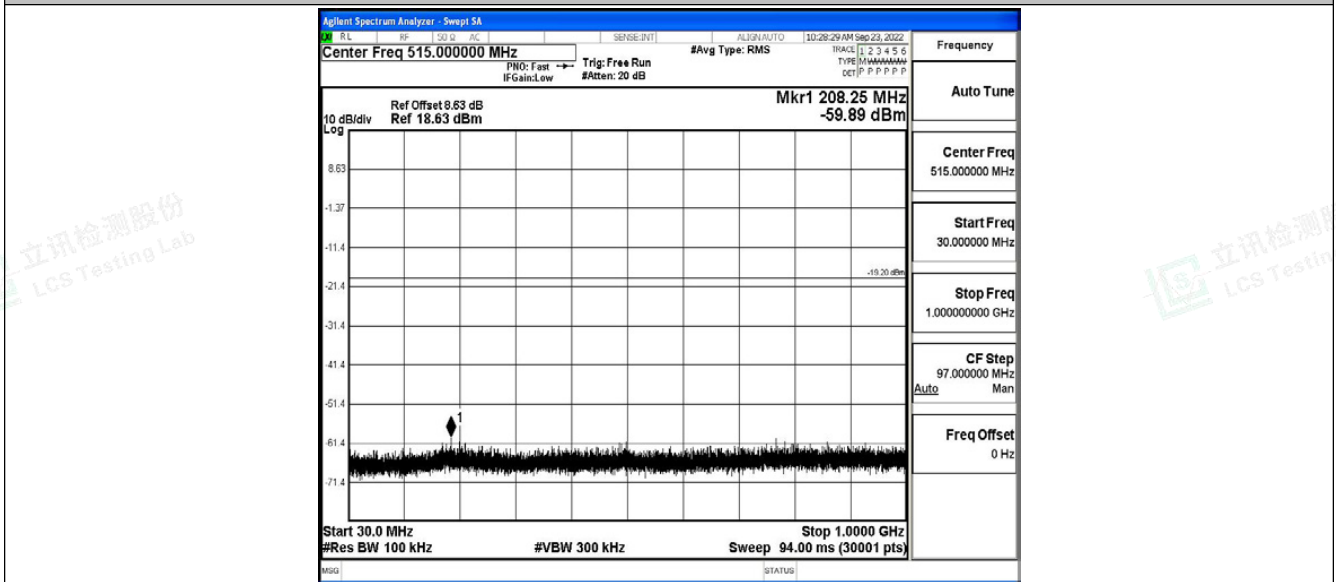


11B\_Ant1\_2462\_0~Reference



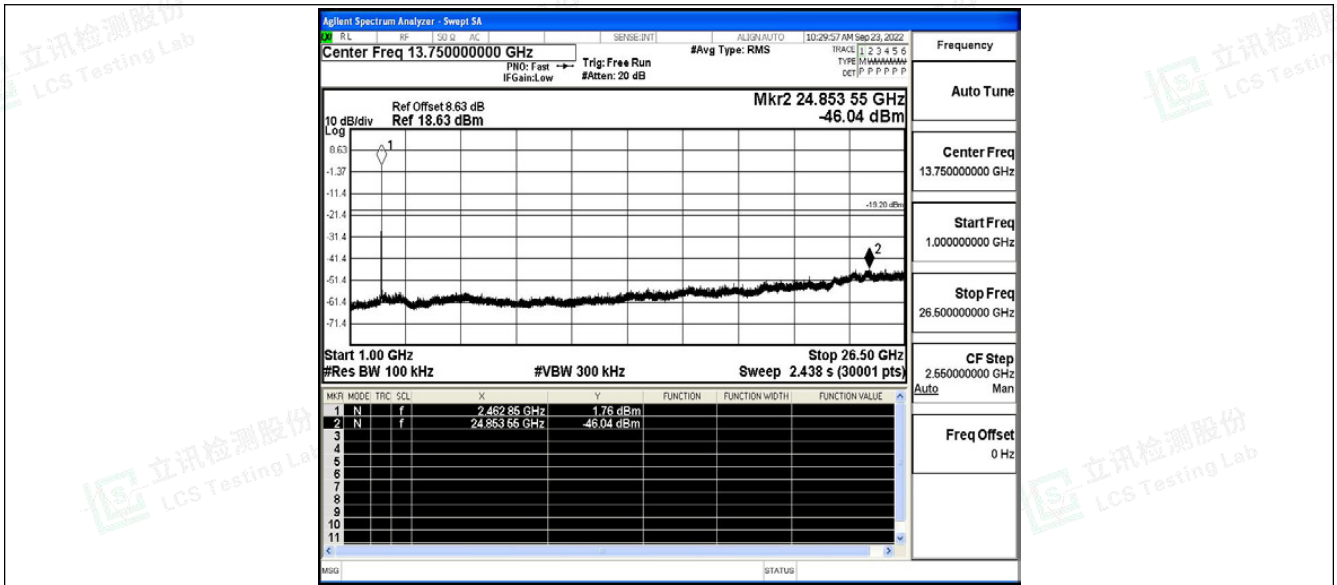


11B\_Ant1\_2462\_30~1000

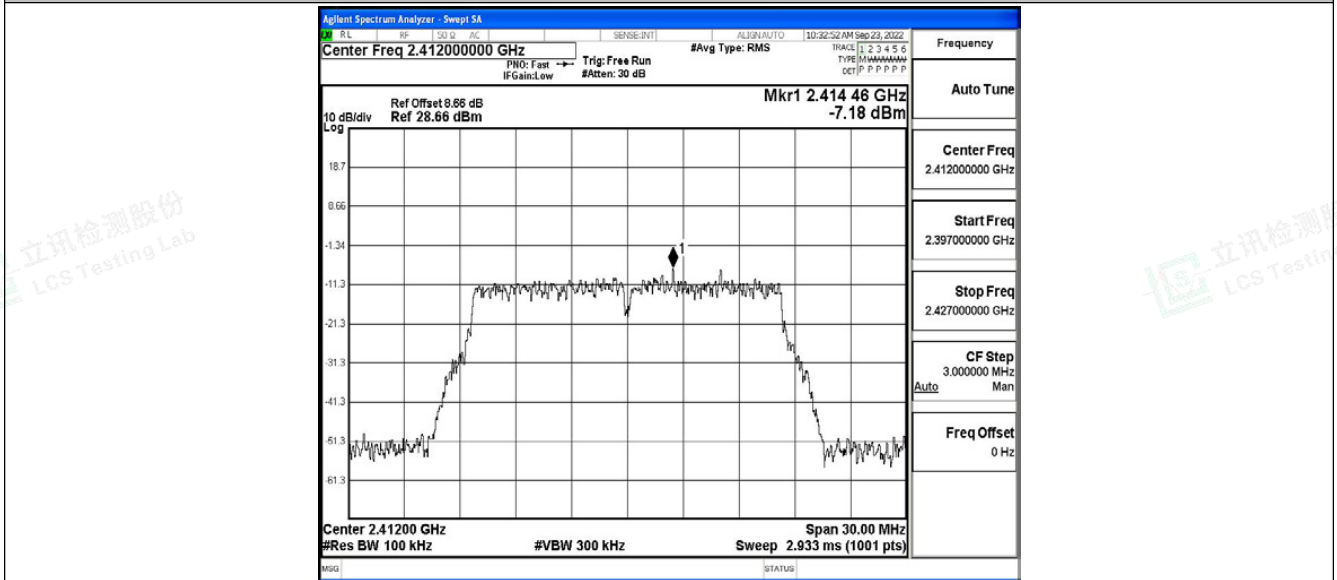


11B\_Ant1\_2462\_1000~26500



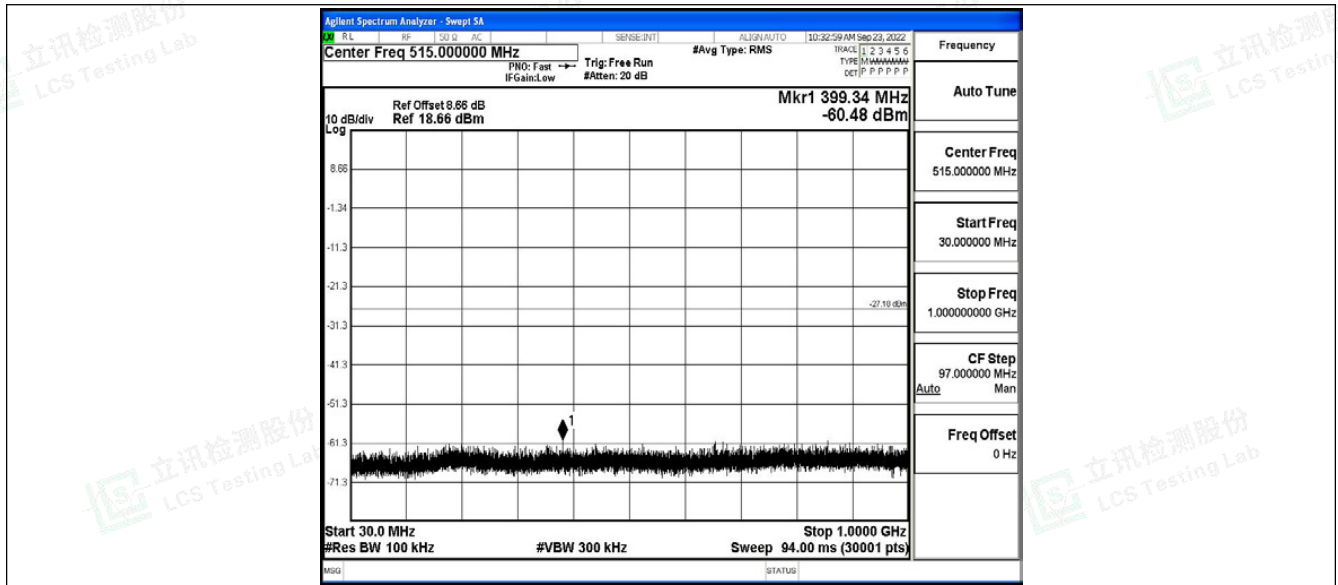


11G\_Ant1\_2412\_0~Reference

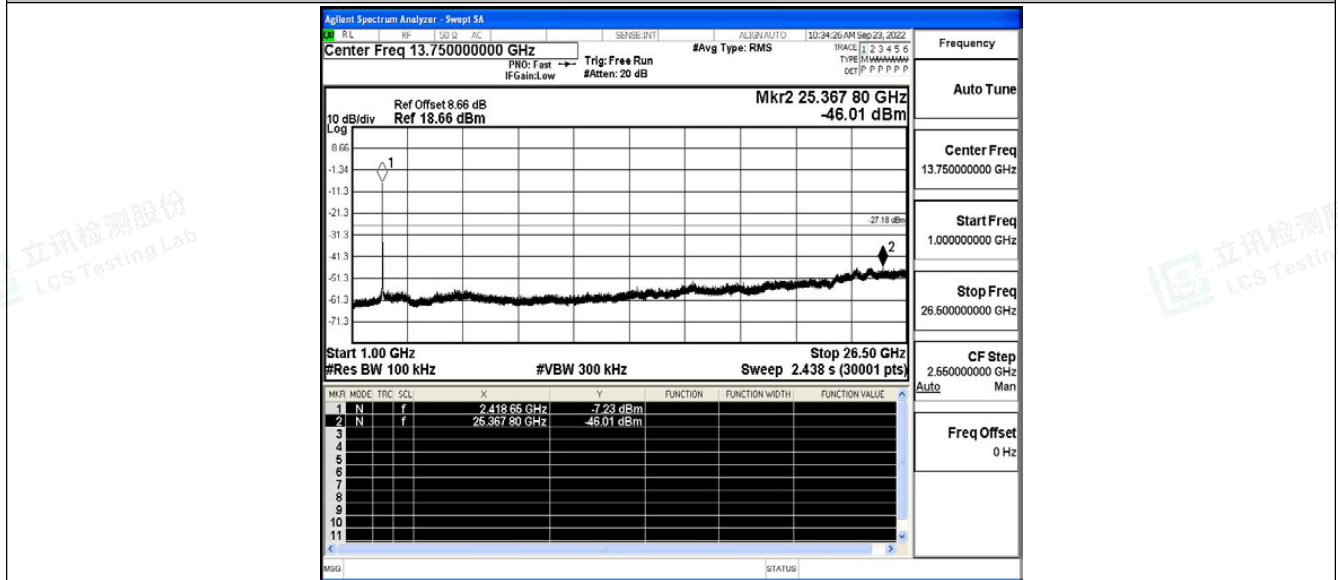


11G\_Ant1\_2412\_30~1000



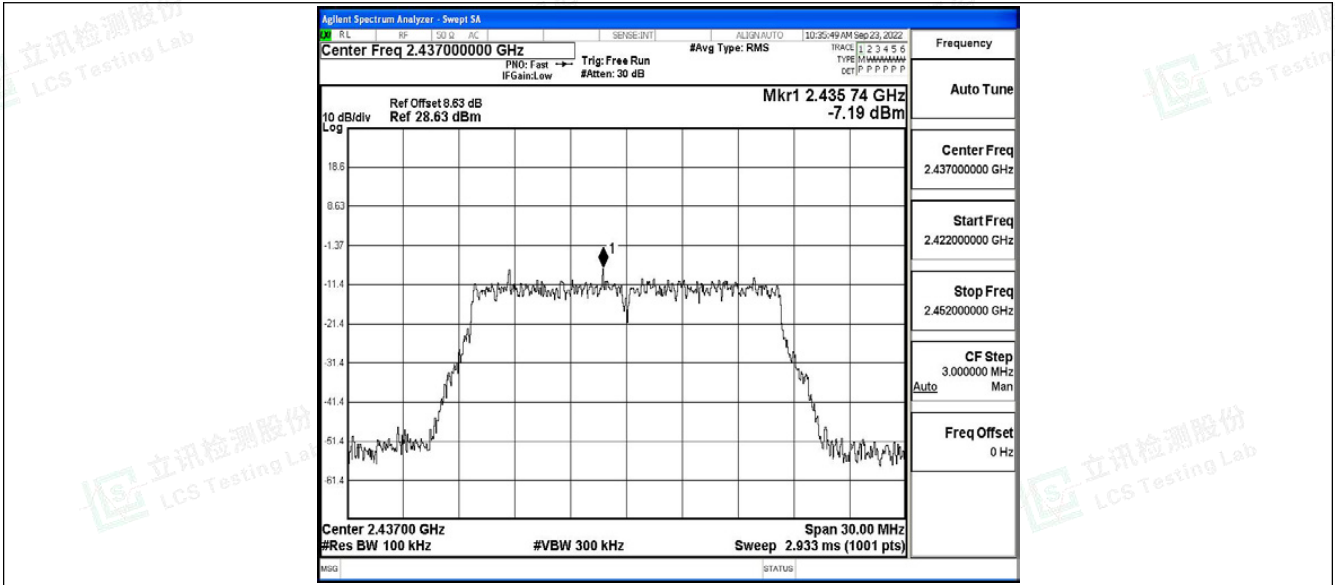


11G\_Ant1\_2412\_1000~26500

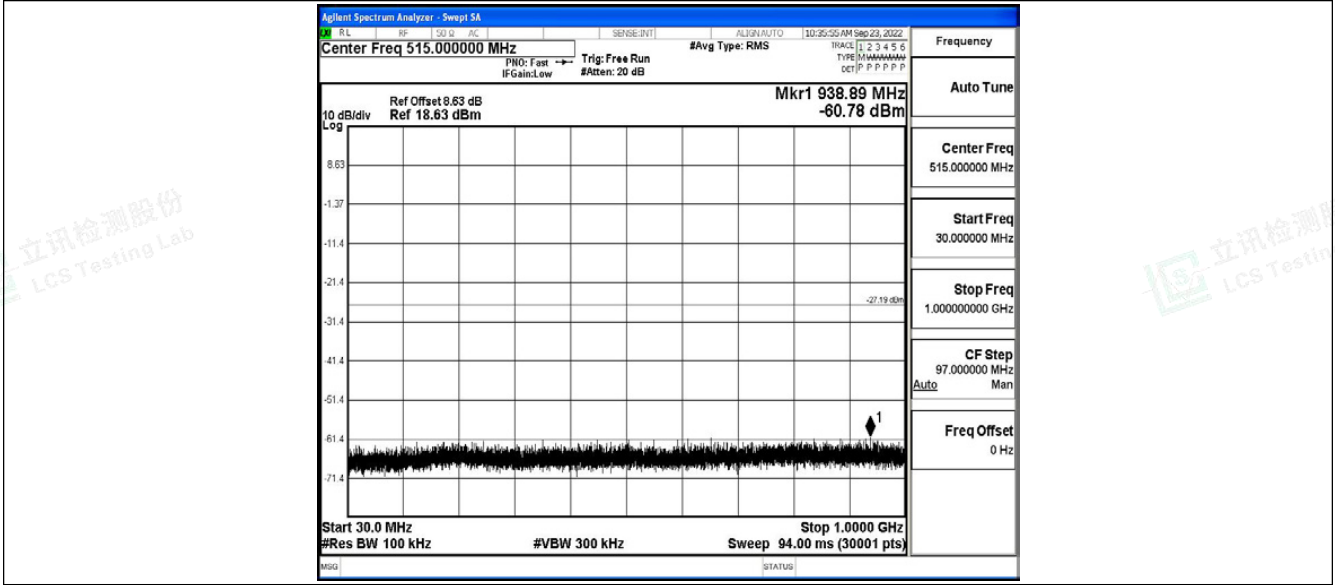


11G\_Ant1\_2437\_0~Reference



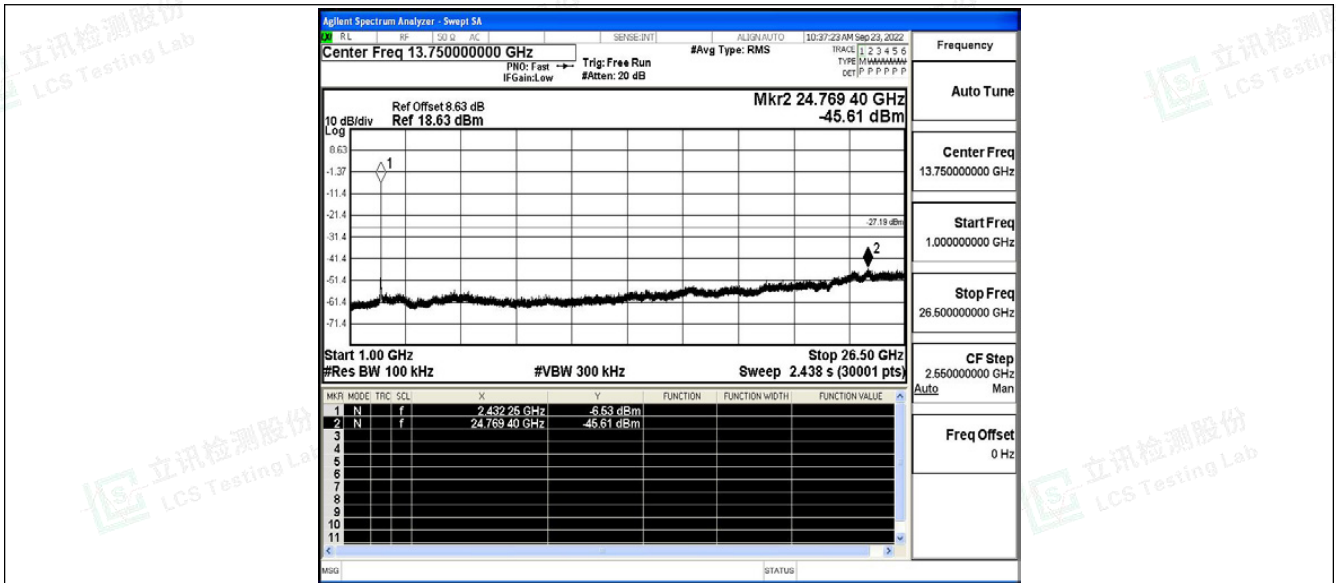


11G\_Ant1\_2437\_30~1000

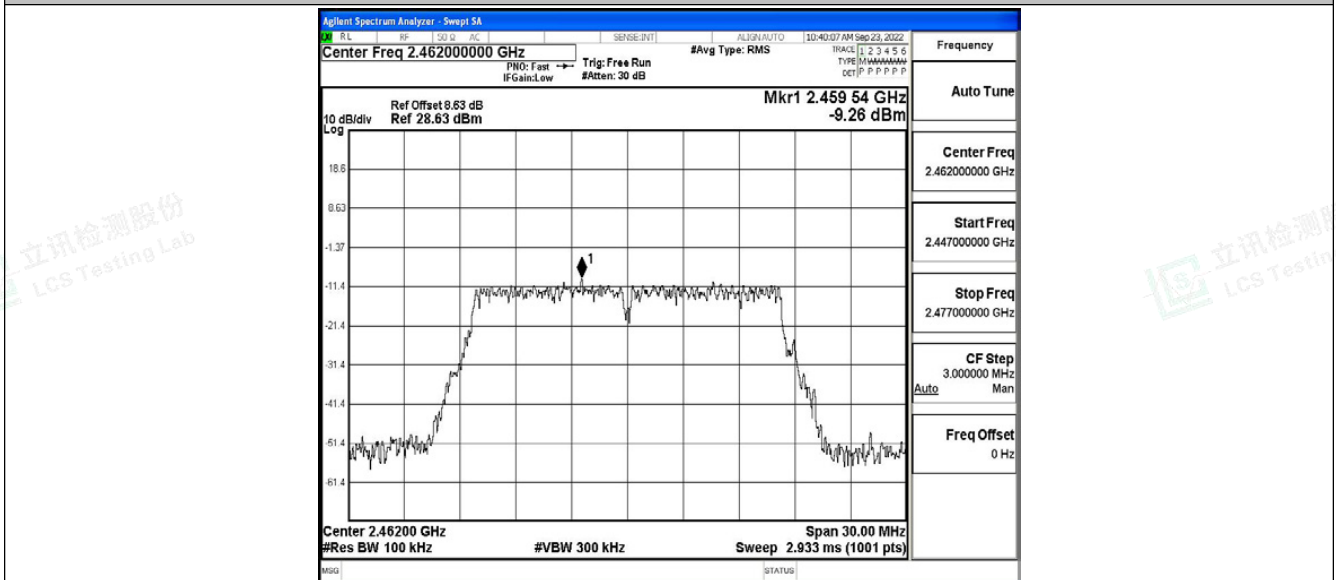


11G\_Ant1\_2437\_1000~26500





11G\_Ant1\_2462\_0~Reference



11G\_Ant1\_2462\_30~1000

