



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: bluetooth headset

Test Model: A2 Pro

Environmental Conditions

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





A.1 20dB Emission Bandwidth

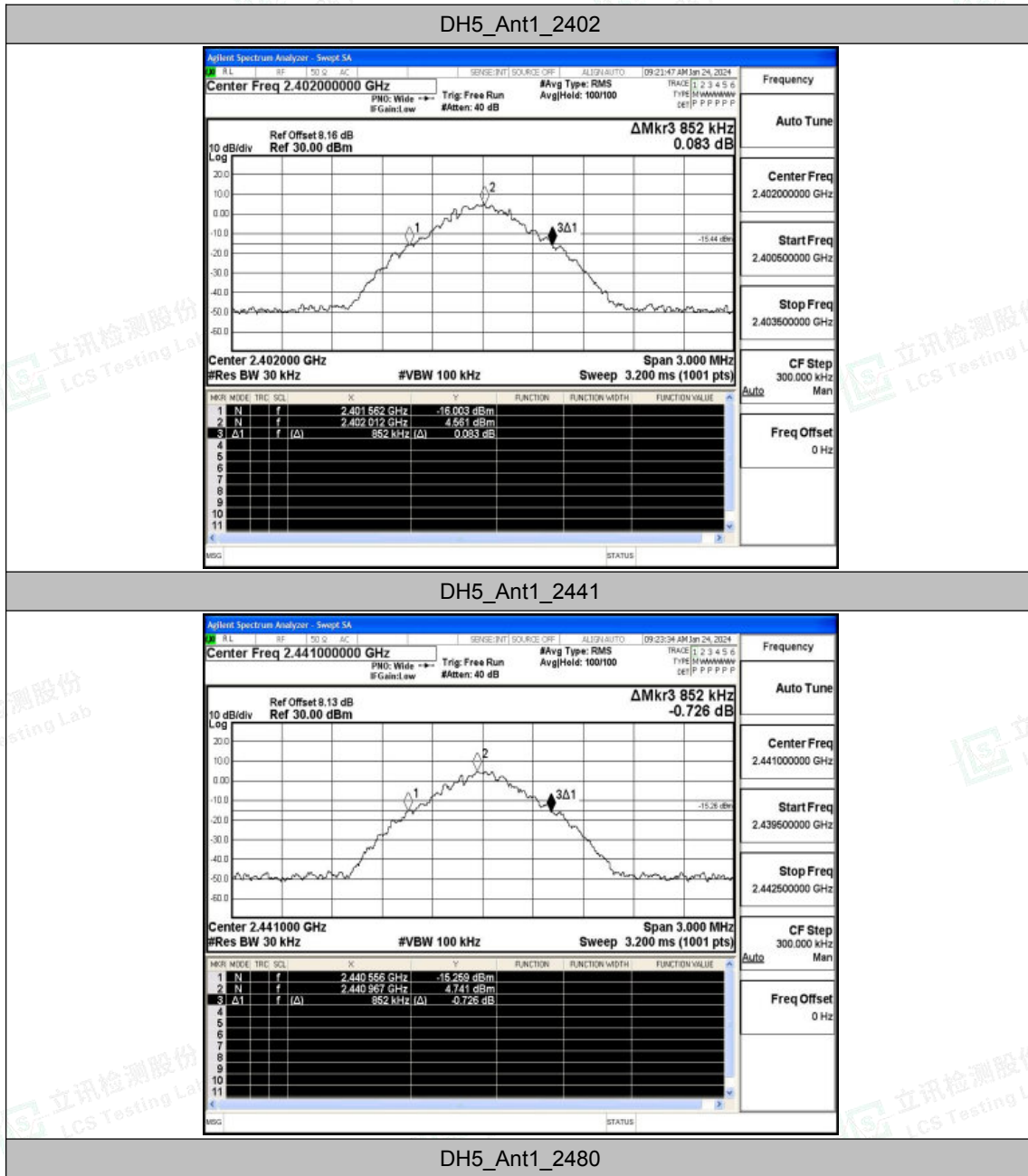
Test Result

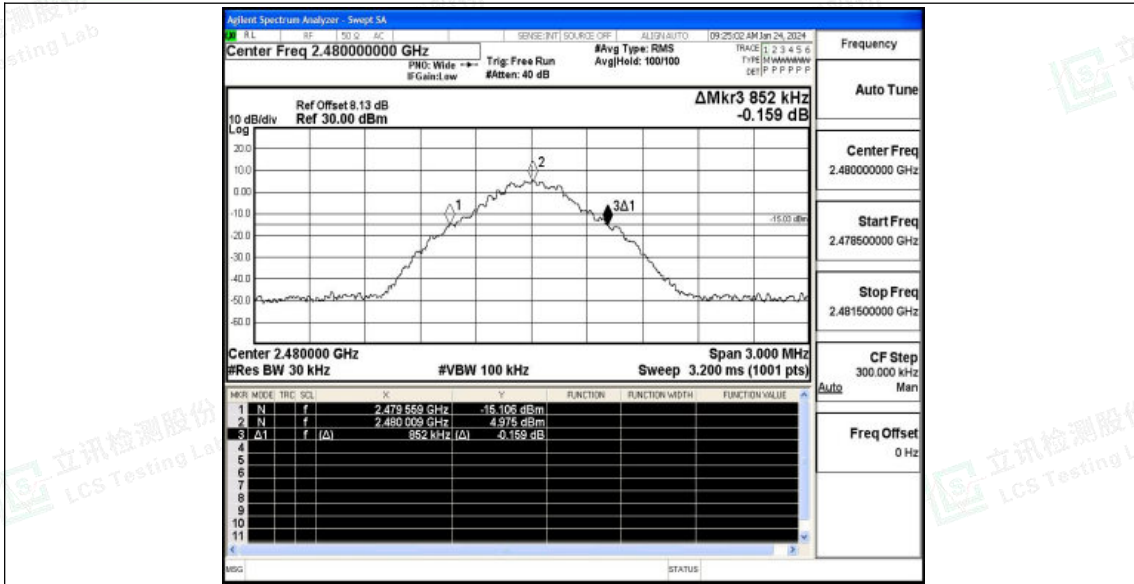
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.852	2401.562	2402.414	---	---
		2441	0.852	2440.556	2441.408	---	---
		2480	0.852	2479.559	2480.411	---	---
2DH5	Ant1	2402	1.278	2401.364	2402.642	---	---
		2441	1.269	2440.370	2441.639	---	---
		2480	1.278	2479.364	2480.642	---	---
3DH5	Ant1	2402	1.293	2401.355	2402.648	---	---
		2441	1.305	2440.343	2441.648	---	---
		2480	1.257	2479.364	2480.621	---	---



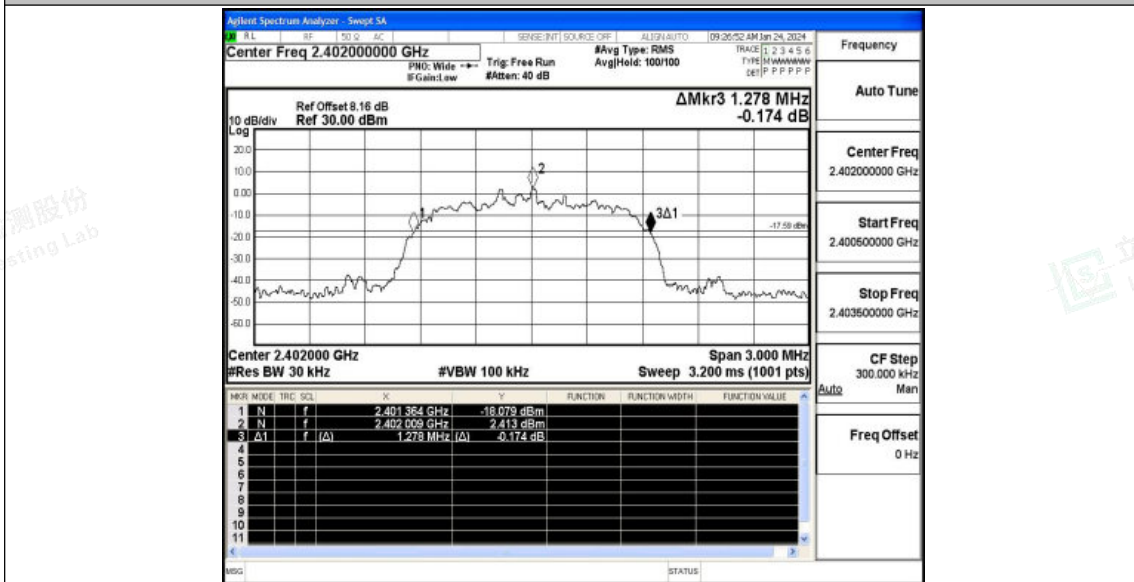


Test Graphs



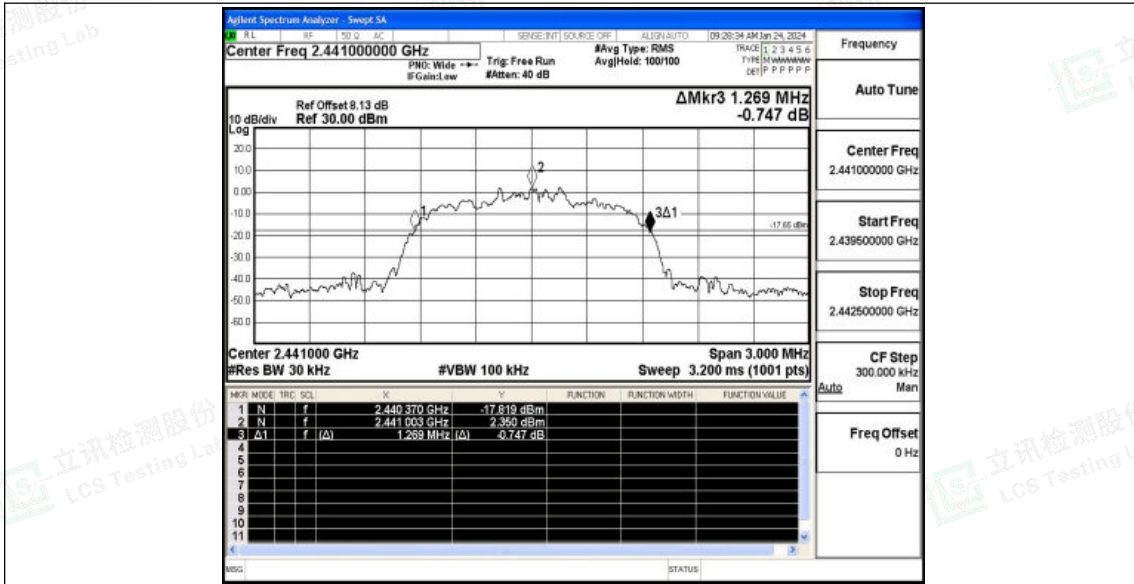


2DH5_Ant1_2402

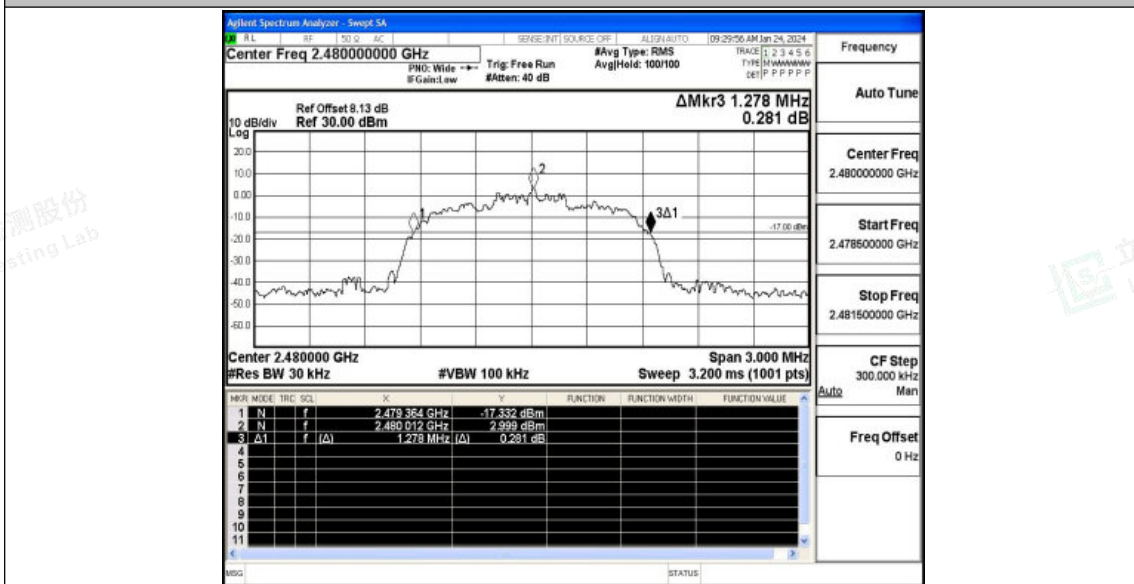


2DH5_Ant1_2441



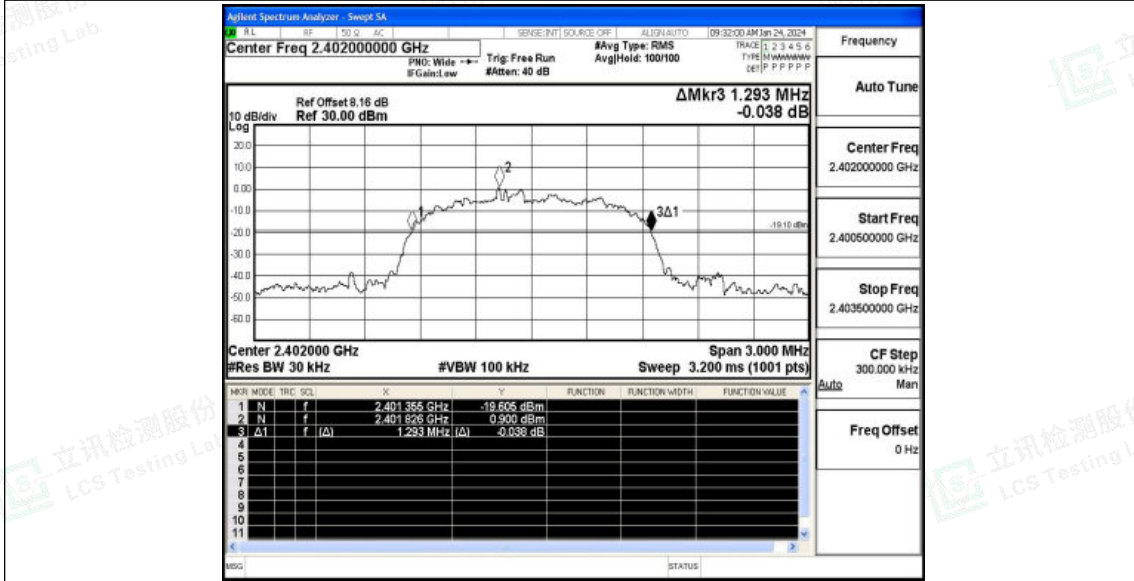


2DH5_Ant1_2480

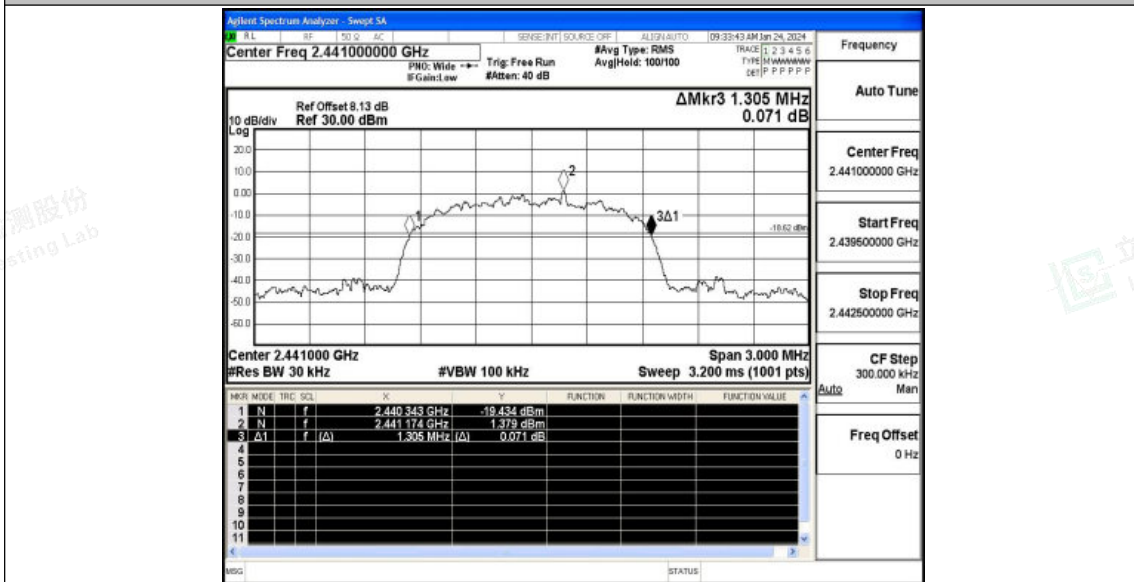


3DH5_Ant1_2402



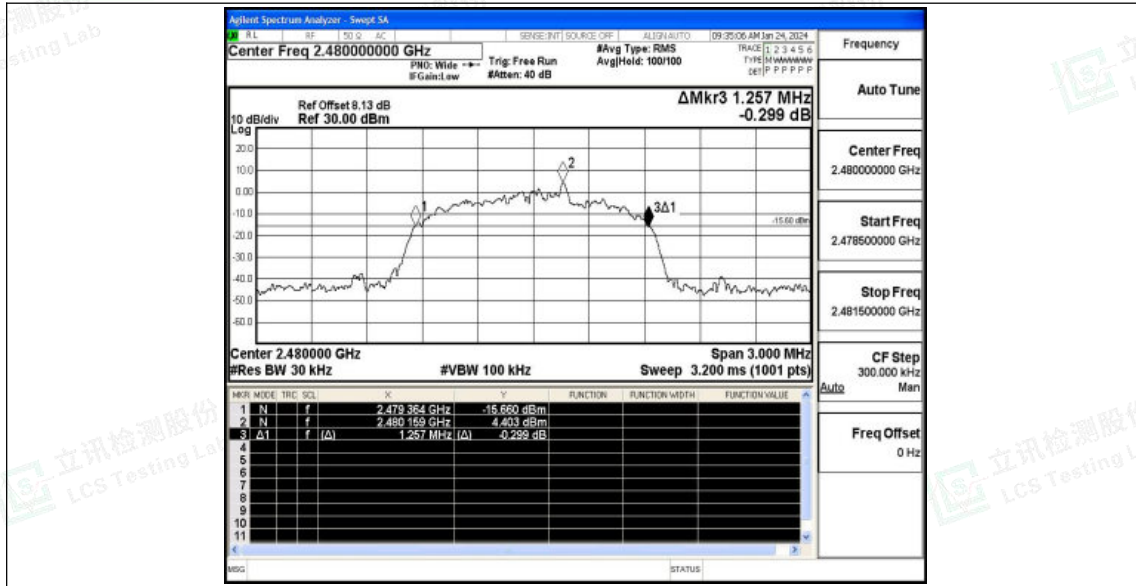


3DH5_Ant1_2441



3DH5_Ant1_2480







A.2 Maximum conducted output power

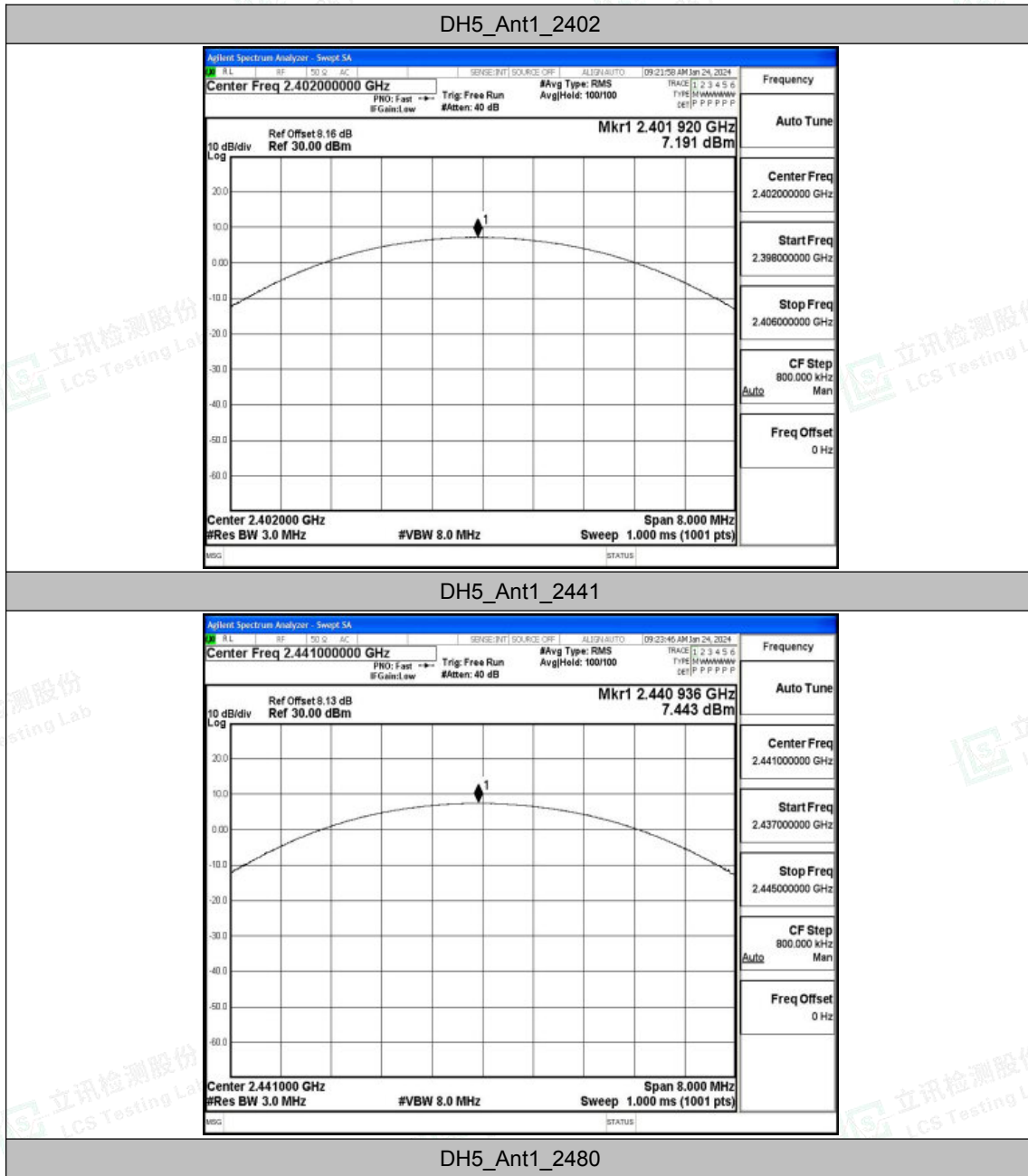
Test Result Peak

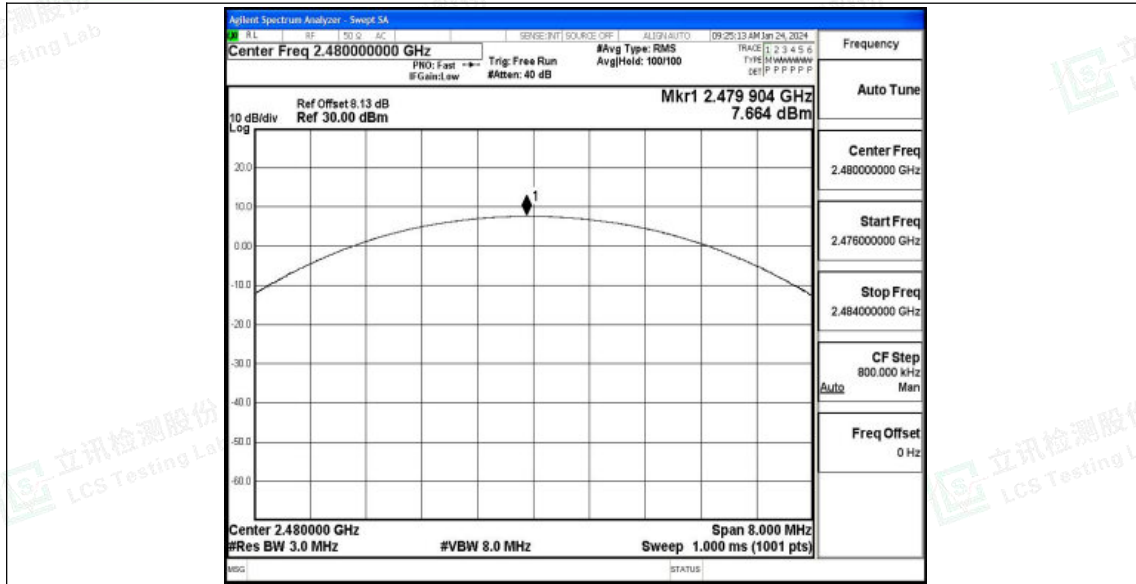
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	7.19	≤21	PASS
		2441	7.44	≤21	PASS
		2480	7.66	≤21	PASS
2DH5	Ant1	2402	6.30	≤21	PASS
		2441	6.59	≤21	PASS
		2480	6.79	≤21	PASS
3DH5	Ant1	2402	6.24	≤21	PASS
		2441	6.51	≤21	PASS
		2480	6.79	≤21	PASS



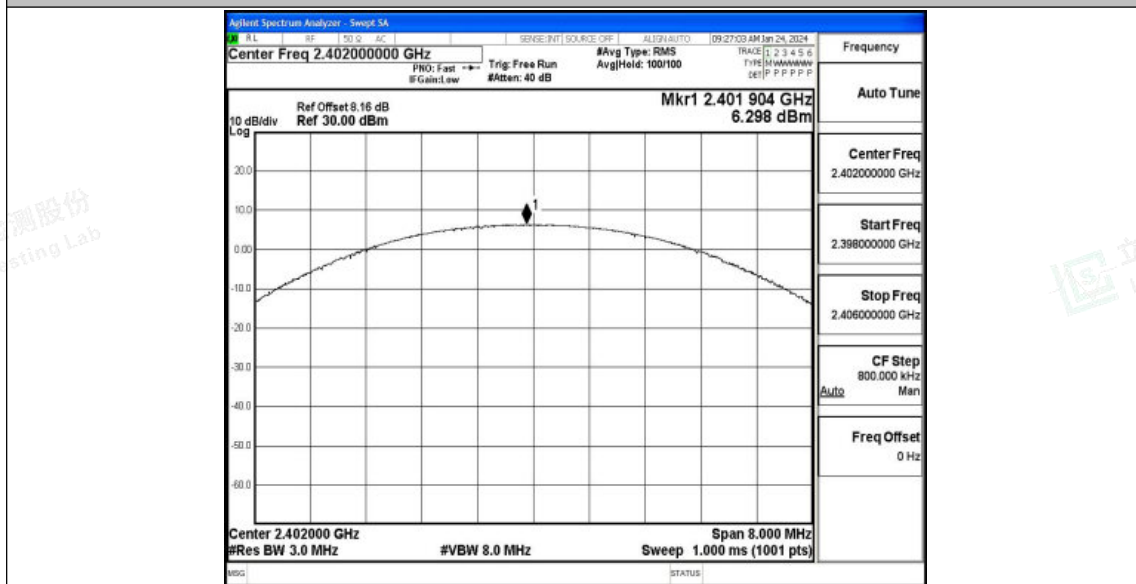


Test Graphs



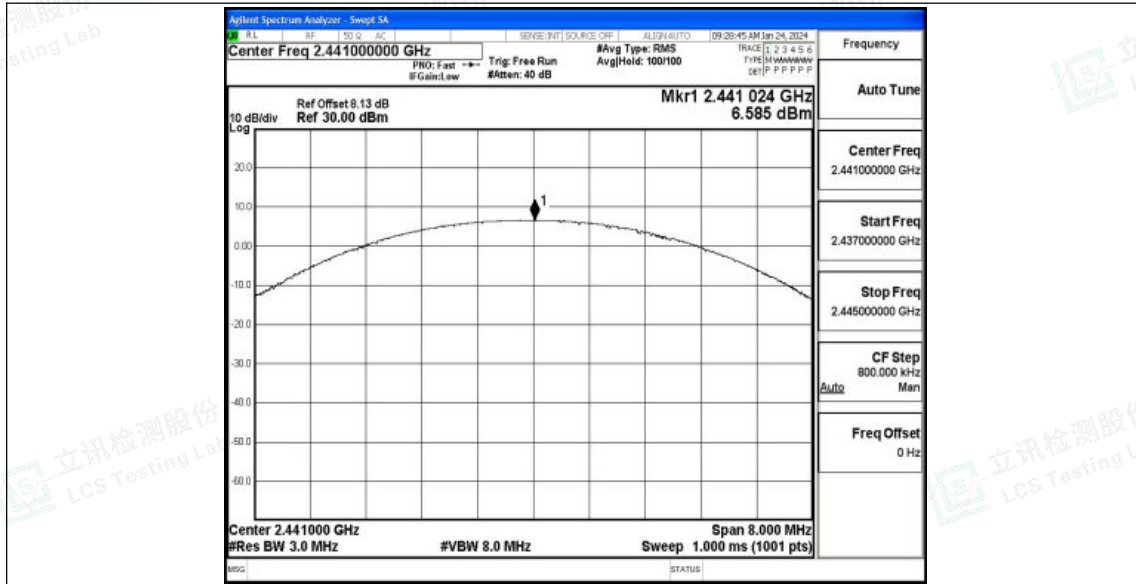


2DH5_Ant1_2402

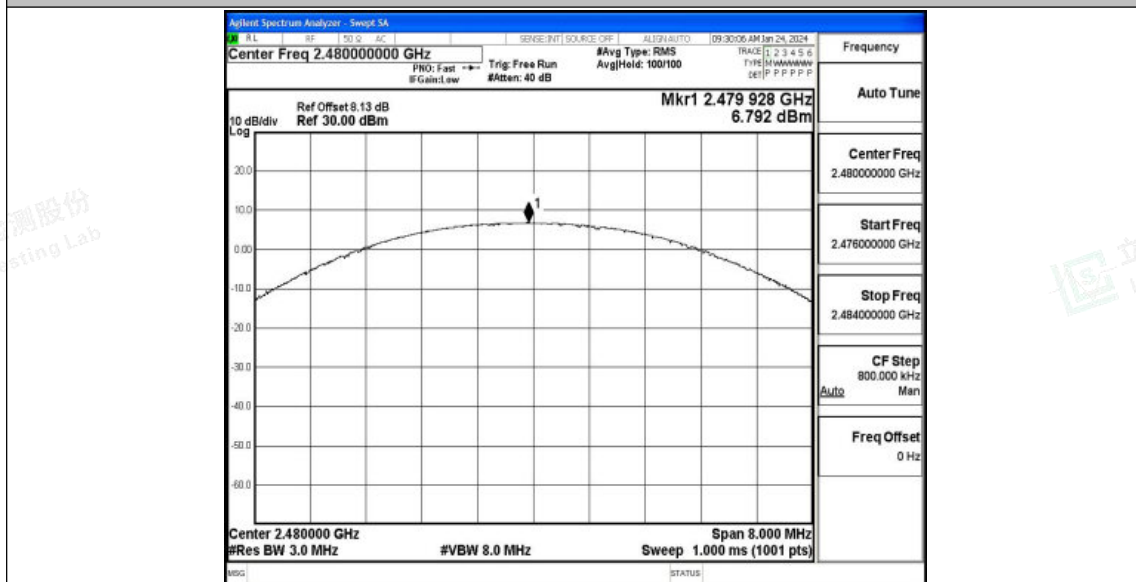


2DH5_Ant1_2441



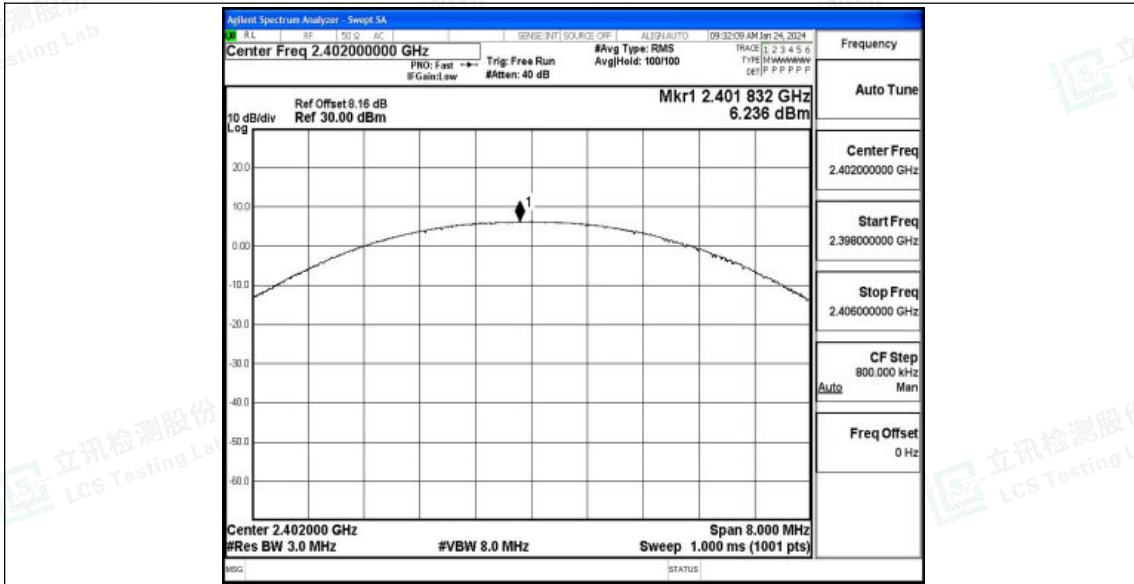


2DH5_Ant1_2480

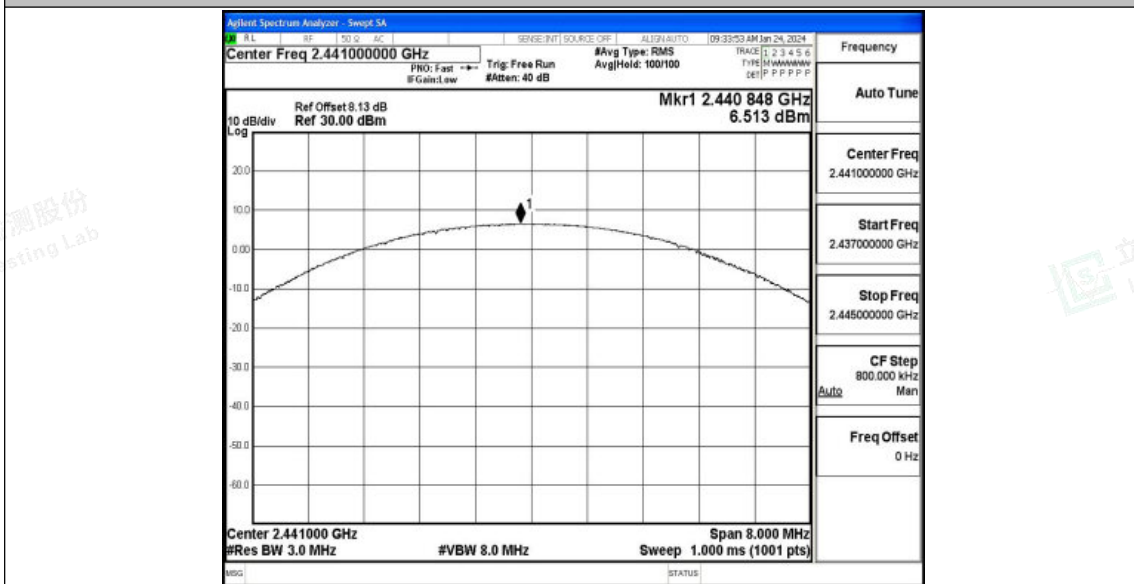


3DH5_Ant1_2402



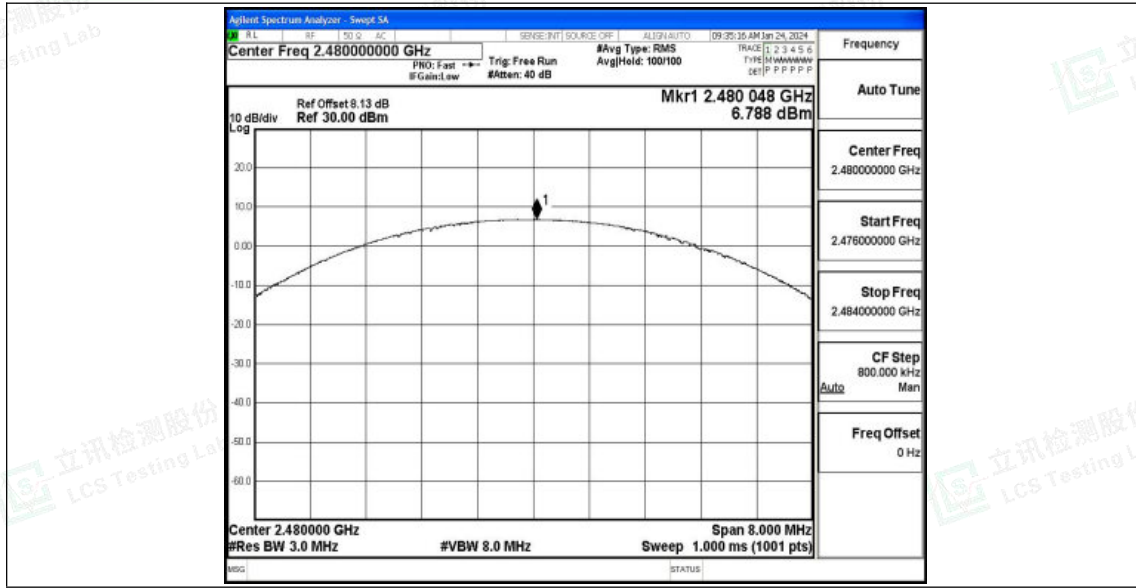


3DH5_Ant1_2441



3DH5_Ant1_2480







A.3 Carrier frequency separation

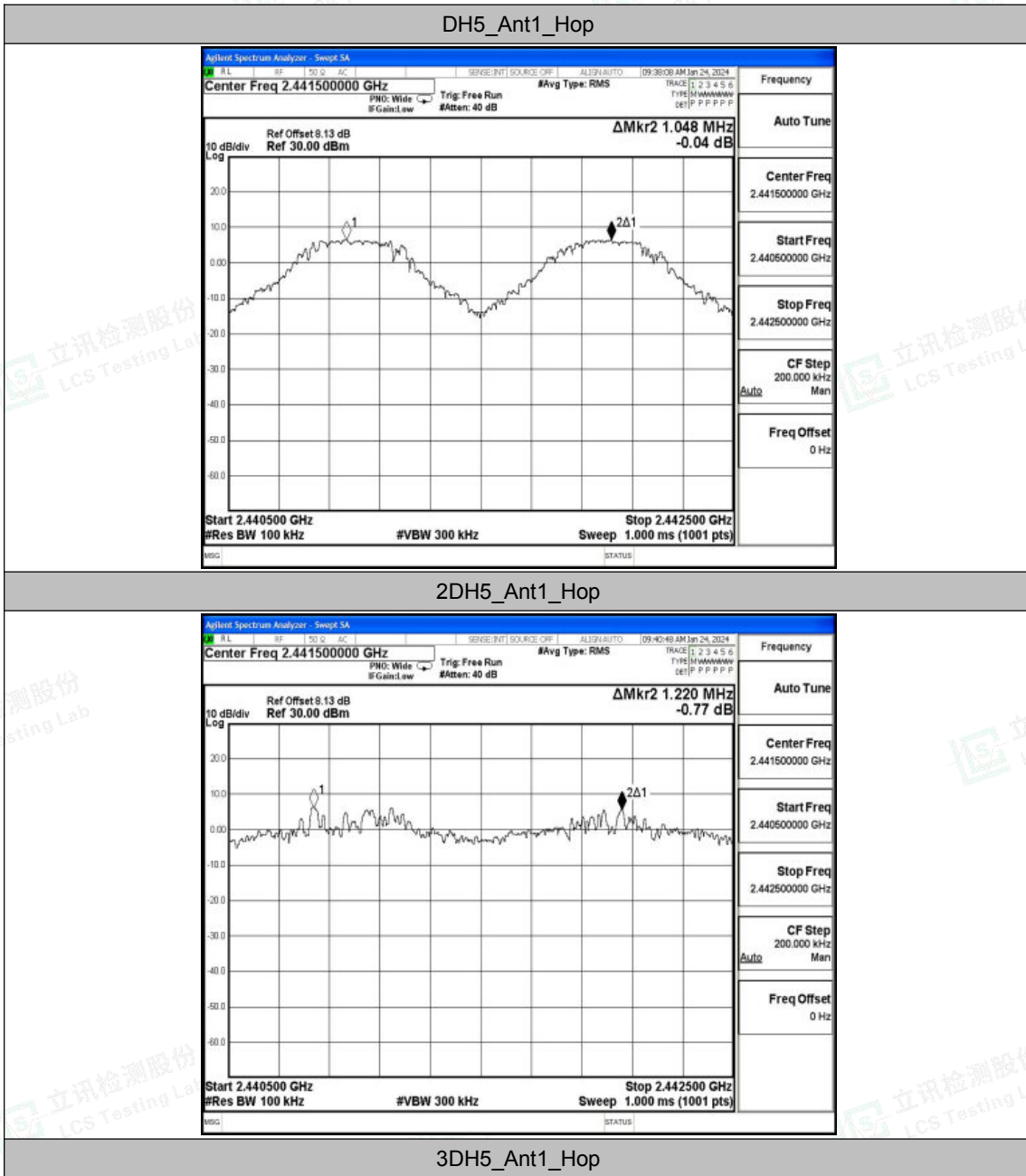
Test Result

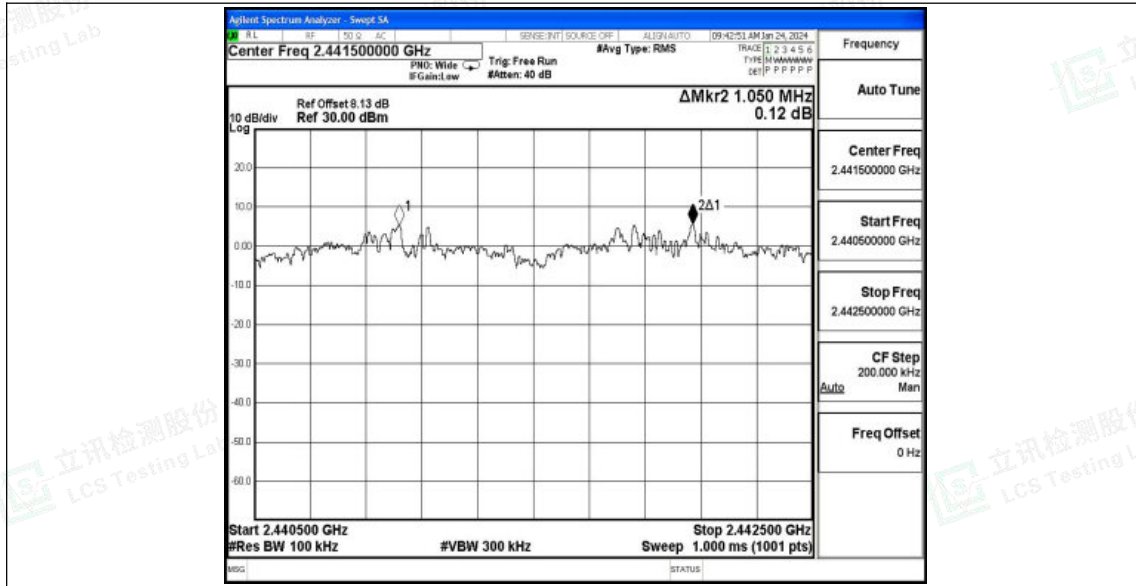
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.048	≥0.568	PASS
2DH5	Ant1	Hop	1.22	≥0.852	PASS
3DH5	Ant1	Hop	1.05	≥0.870	PASS





Test Graphs







A.4 Time of occupancy

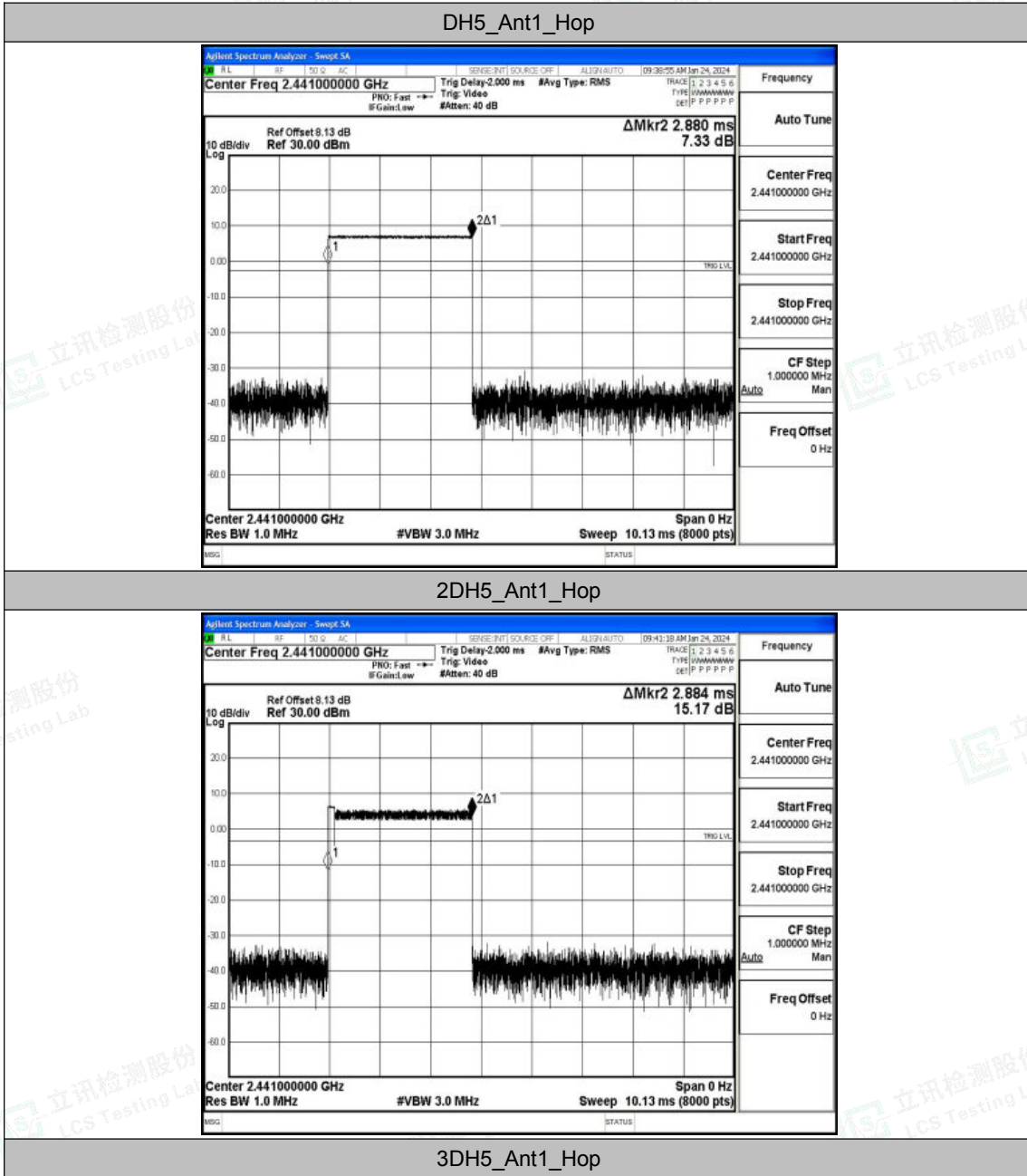
Test Result

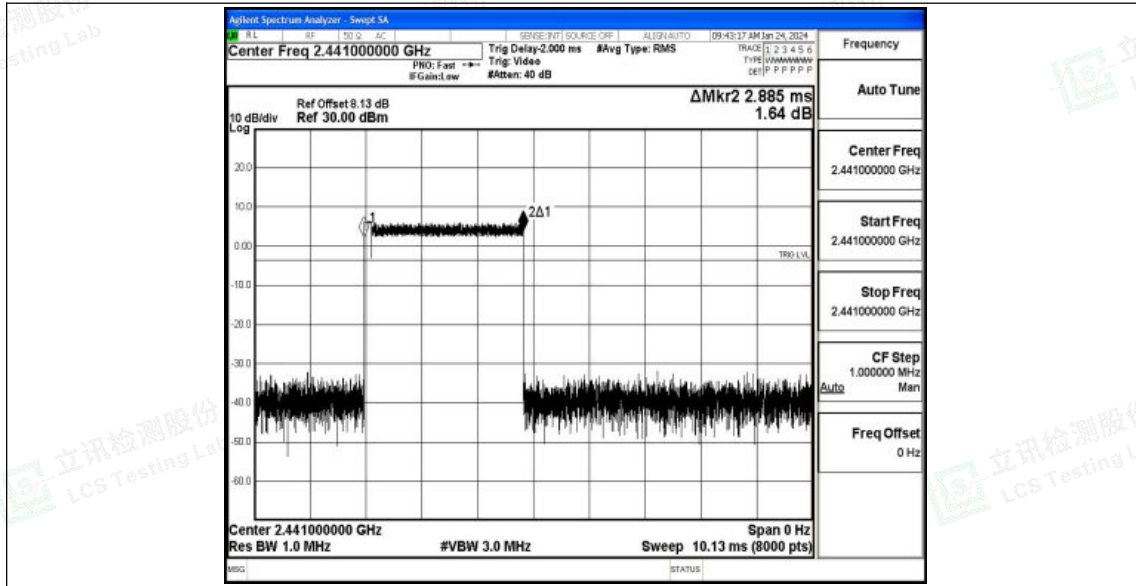
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.884	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

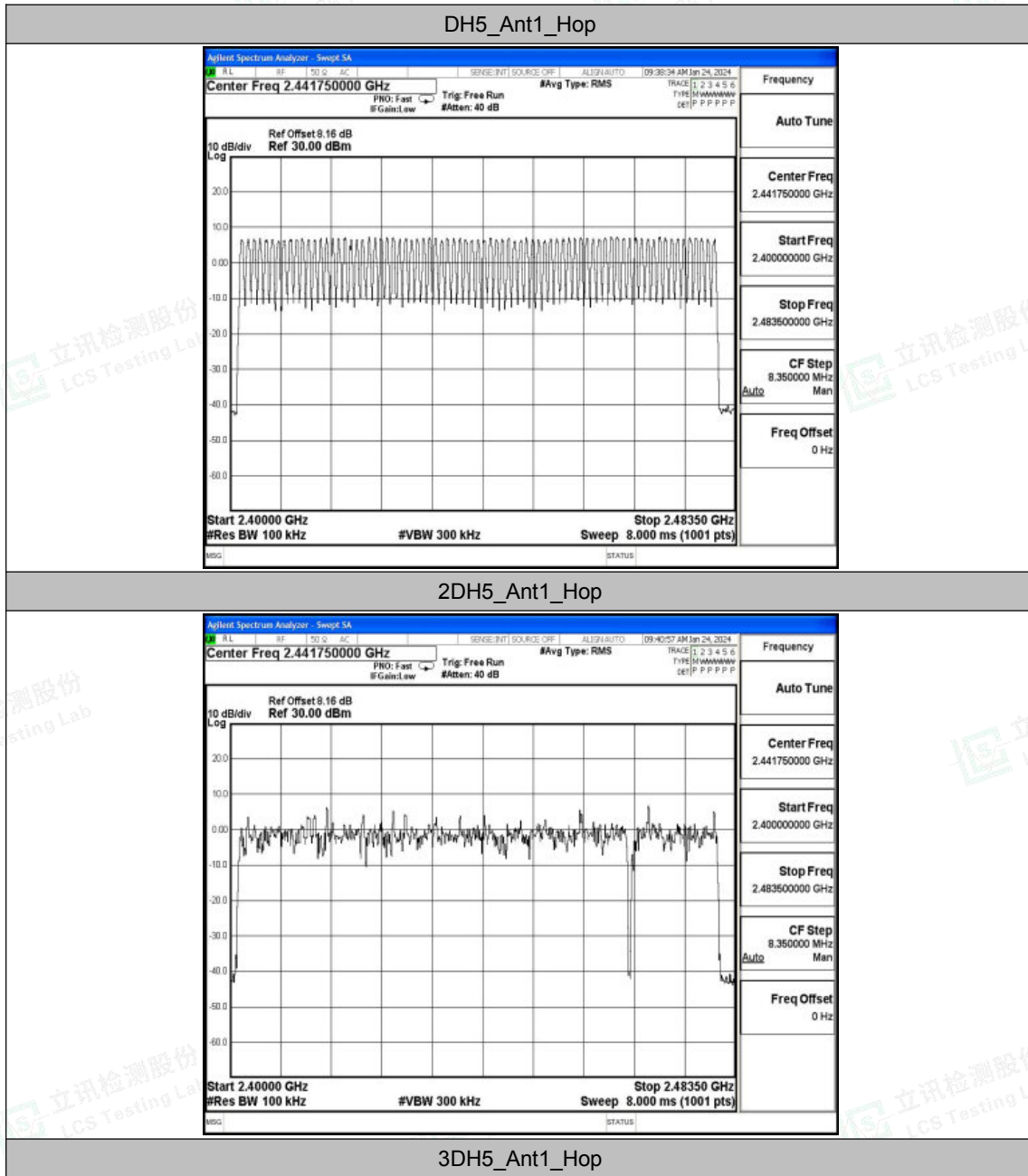
Test Result

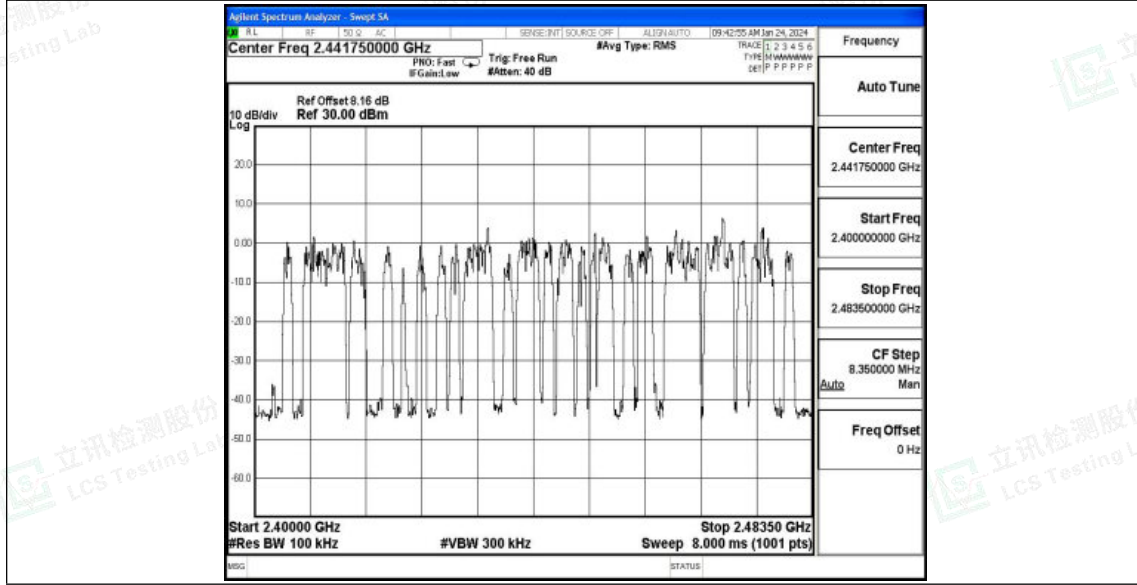
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS





Test Graphs







A.6 Band edge measurements

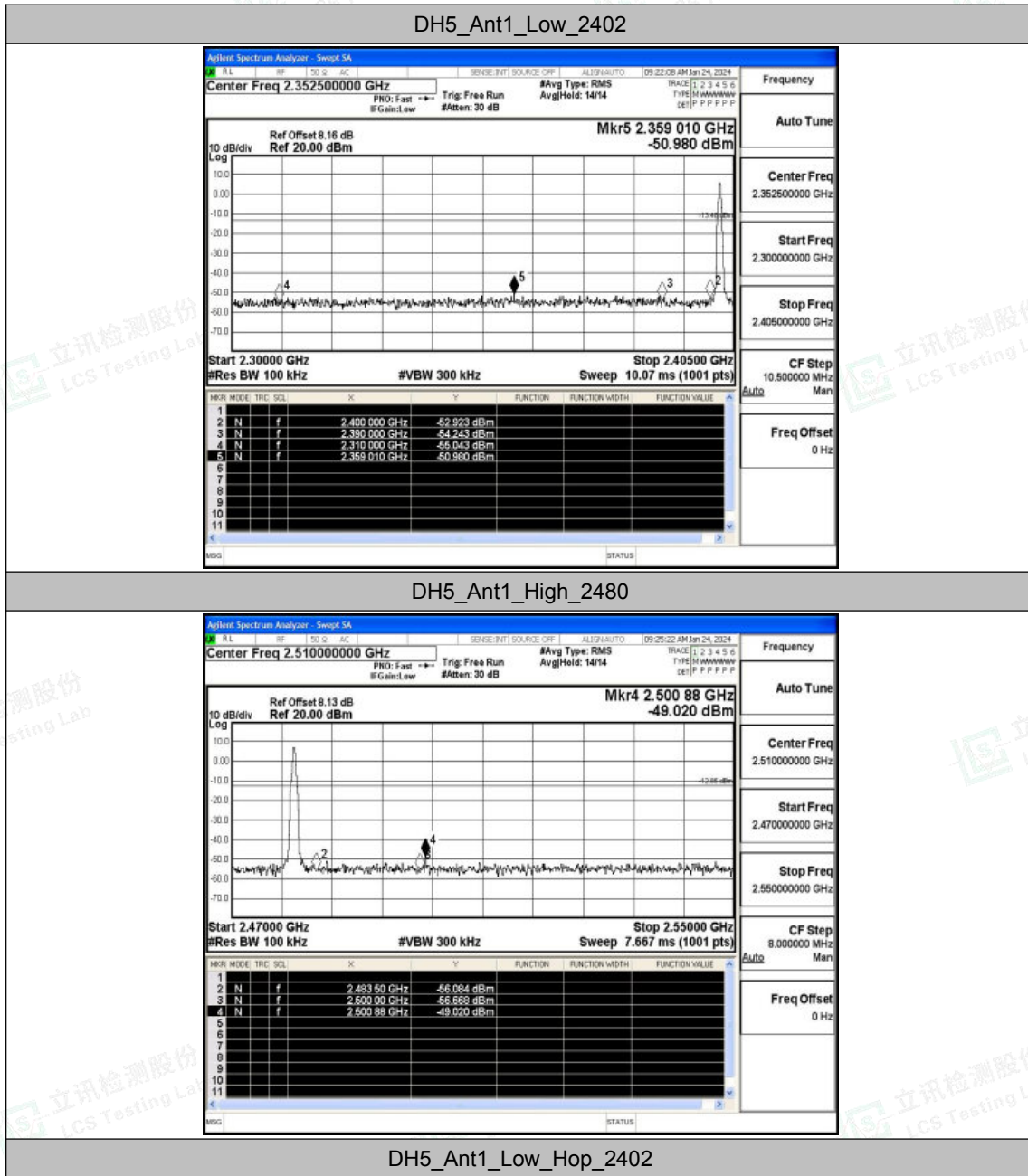
Test Result

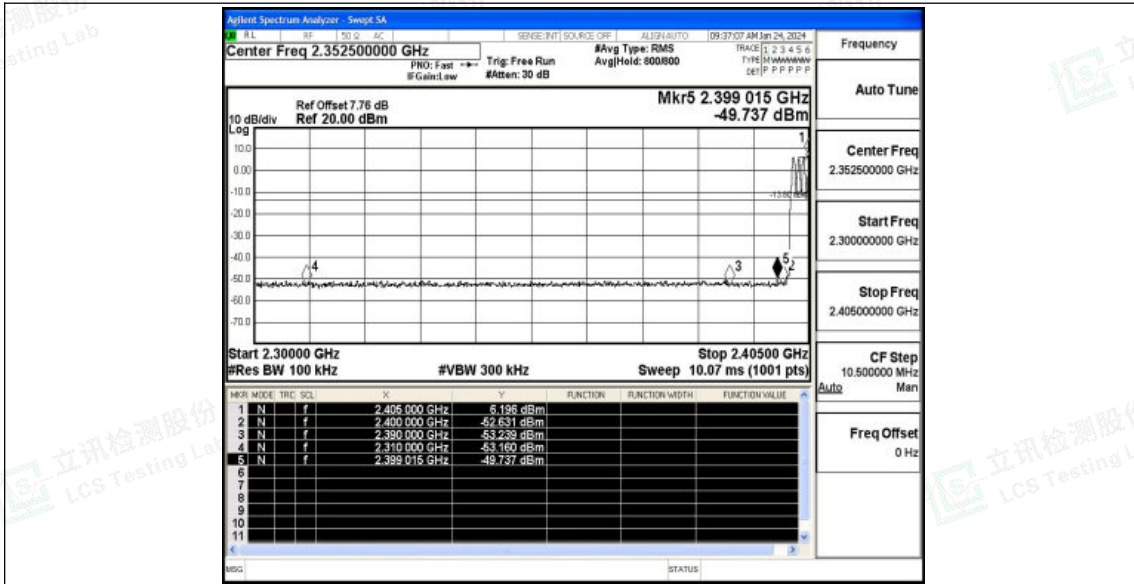
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	6.52	-50.98	≤-13.48	PASS
		High	2480	7.15	-49.02	≤-12.85	PASS
		Low	Hop_2402	6.20	-49.74	≤-13.8	PASS
		High	Hop_2480	7.09	-49.23	≤-12.92	PASS
2DH5	Ant1	Low	2402	5.75	-50.85	≤-14.25	PASS
		High	2480	5.92	-50.89	≤-14.08	PASS
		Low	Hop_2402	4.82	-50.29	≤-15.18	PASS
		High	Hop_2480	5.50	-49.1	≤-14.5	PASS
3DH5	Ant1	Low	2402	5.83	-50.42	≤-14.17	PASS
		High	2480	6.33	-51.21	≤-13.67	PASS
		Low	Hop_2402	3.56	-49.81	≤-16.44	PASS
		High	Hop_2480	6.53	-48.65	≤-13.47	PASS



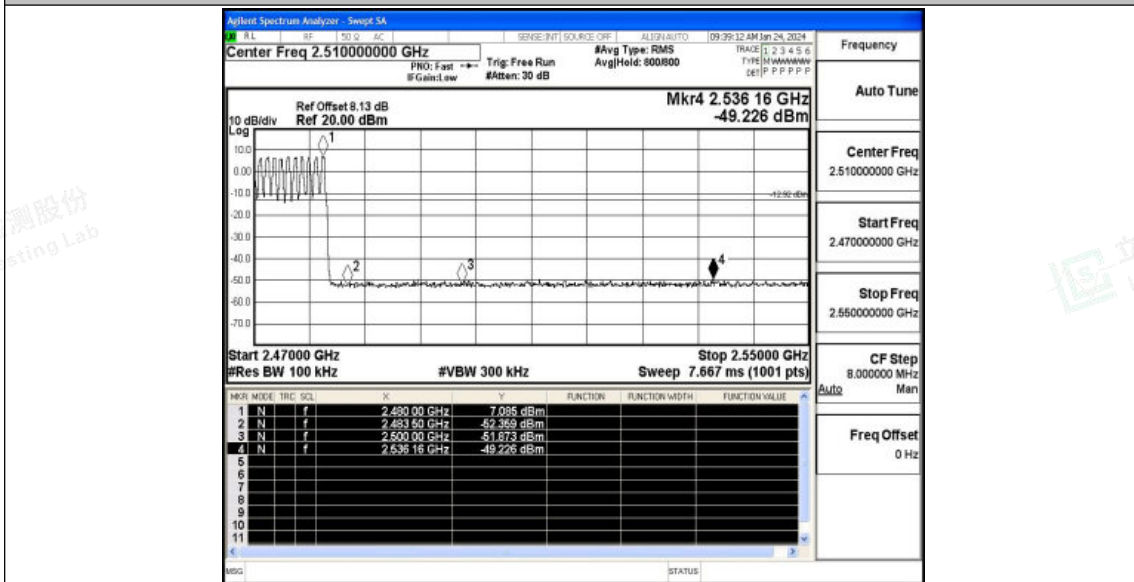


Test Graphs



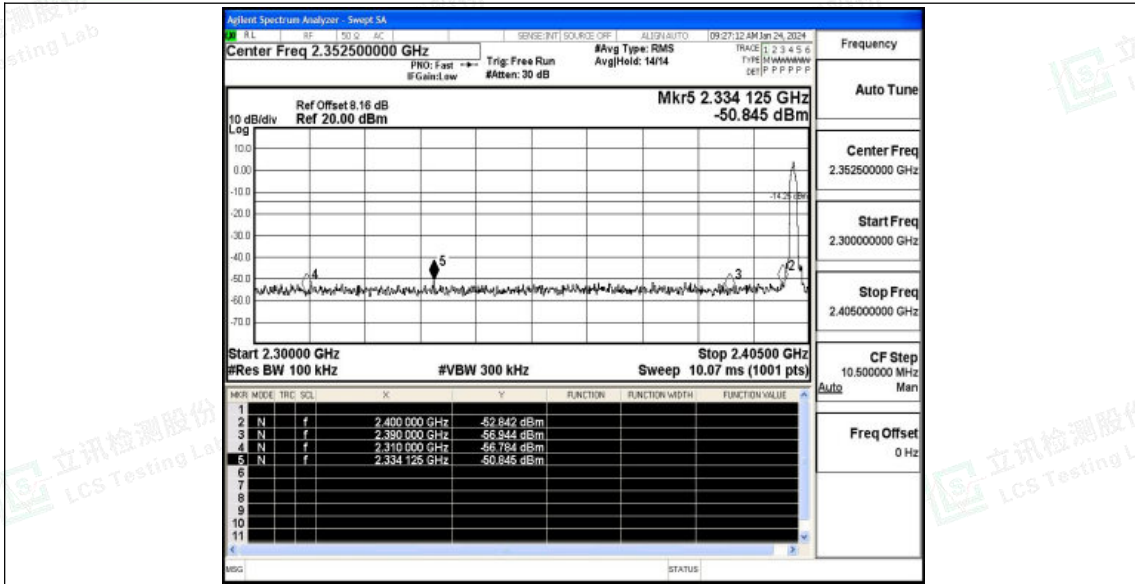


DH5_Ant1_High_Hop_2480

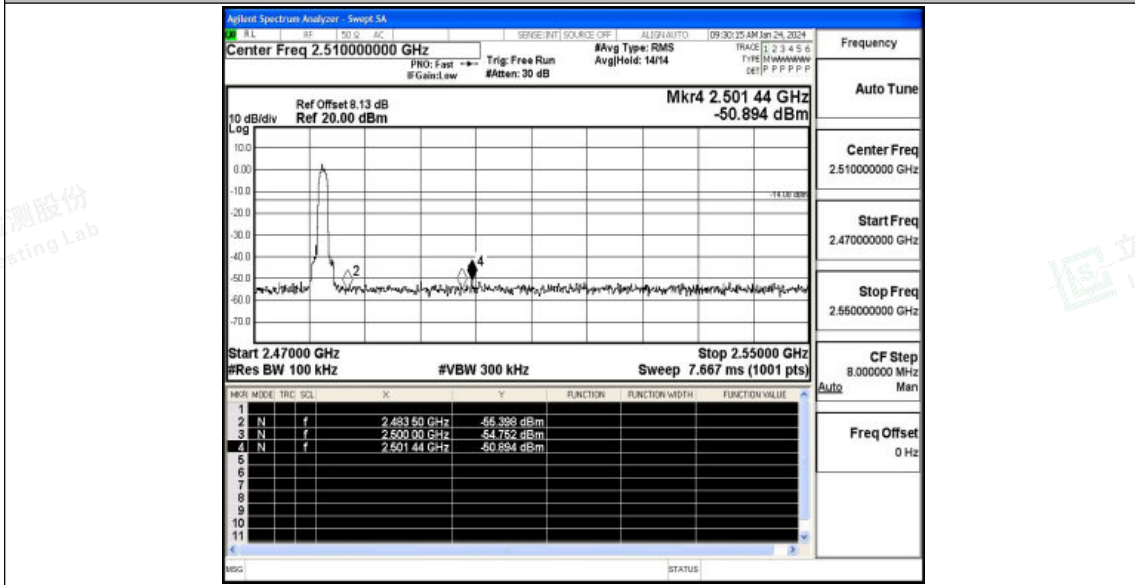


2DH5_Ant1_Low_2402



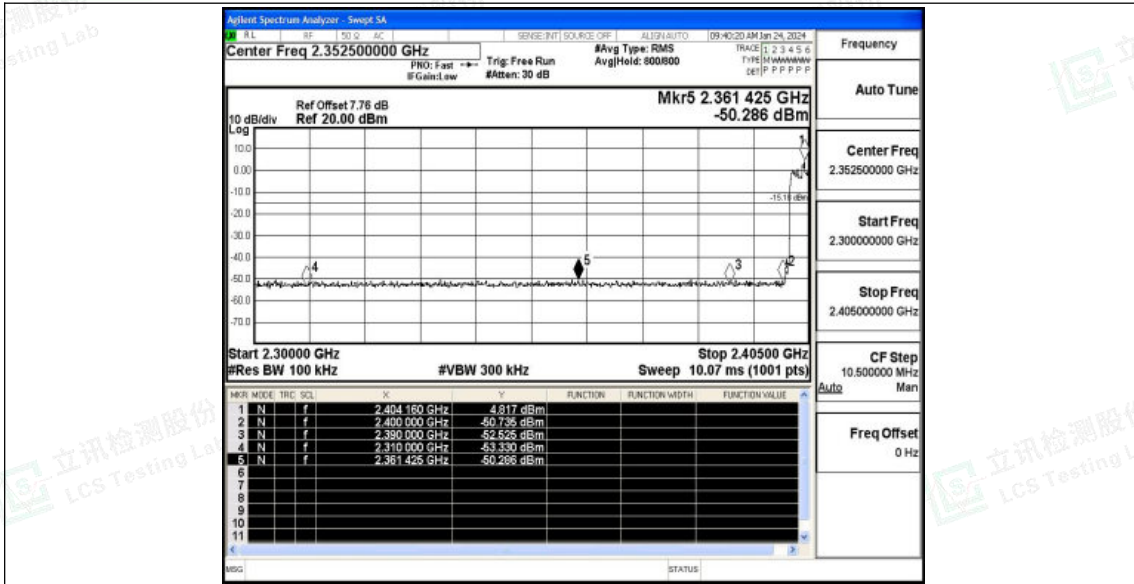


2DH5_Ant1_High_2480

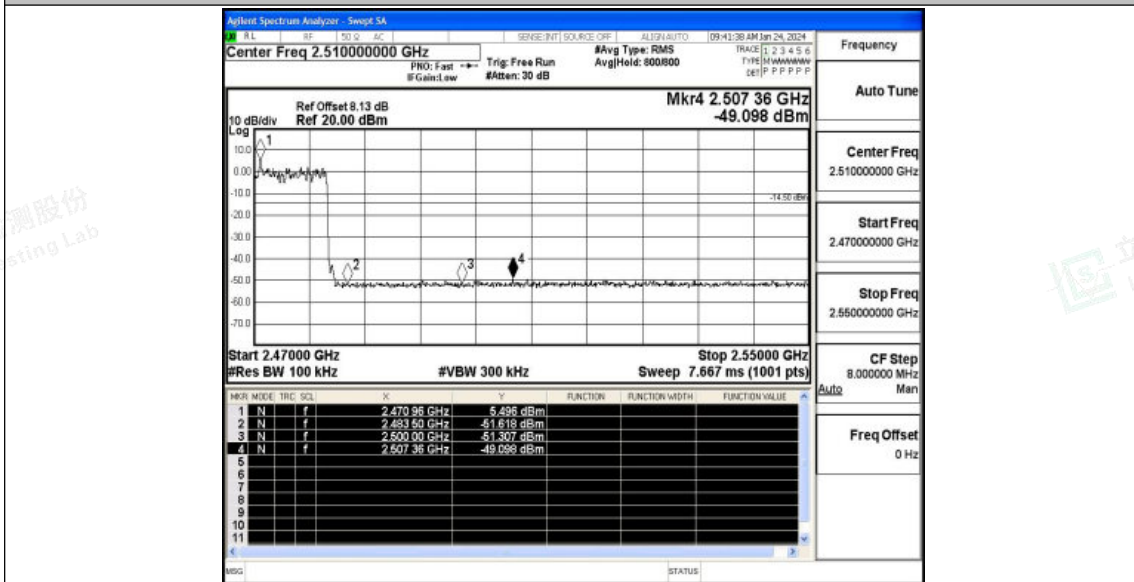


2DH5_Ant1_Low_Hop_2402



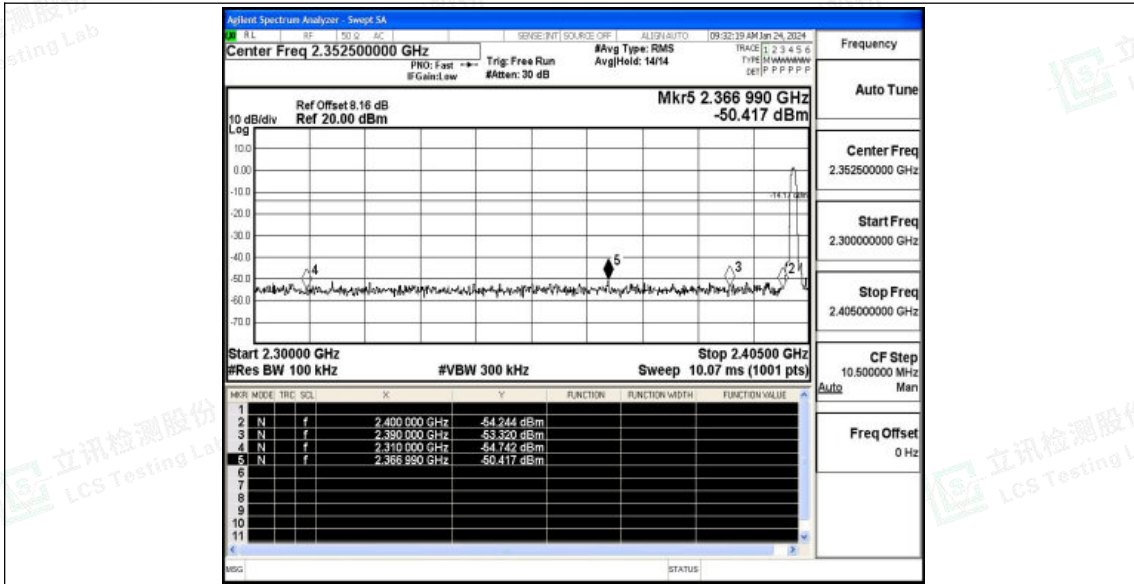


2DH5_Ant1_High_Hop_2480

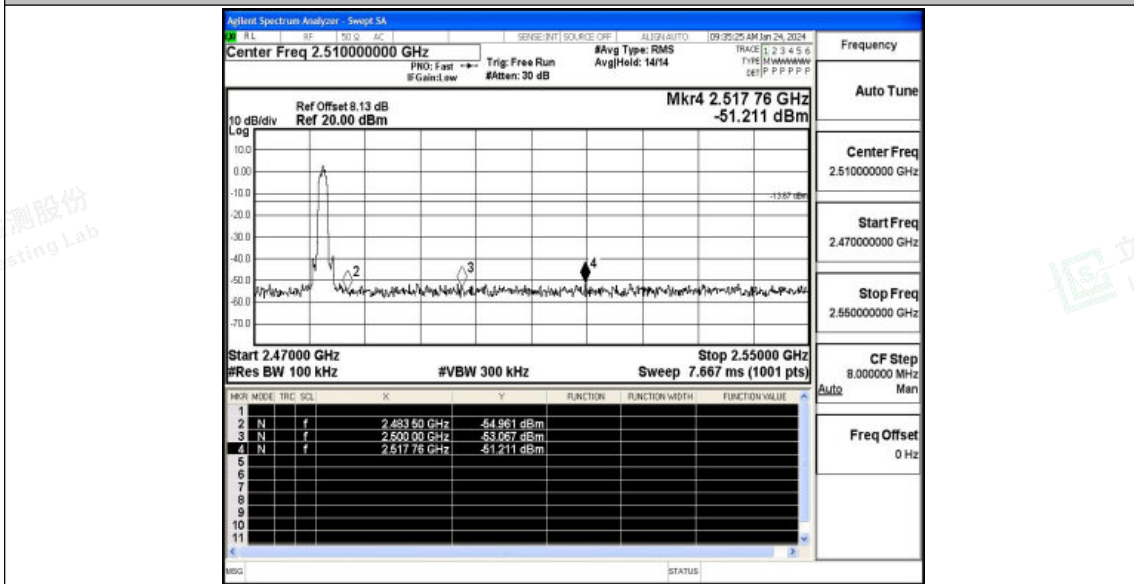


3DH5_Ant1_Low_2402



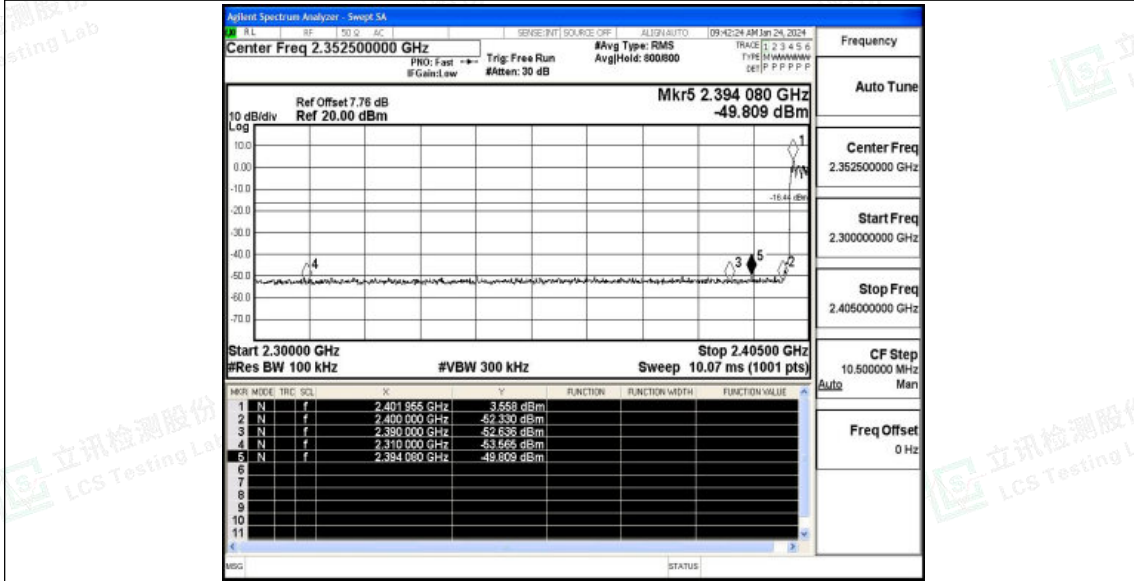


3DH5_Ant1_High_2480

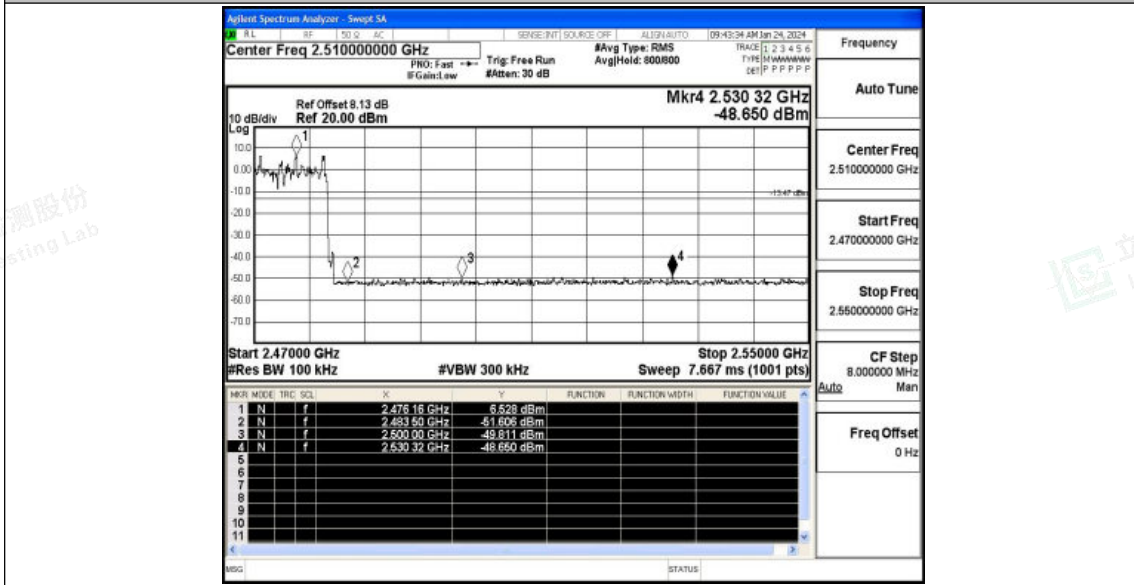


3DH5_Ant1_Low_Hop_2402





3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

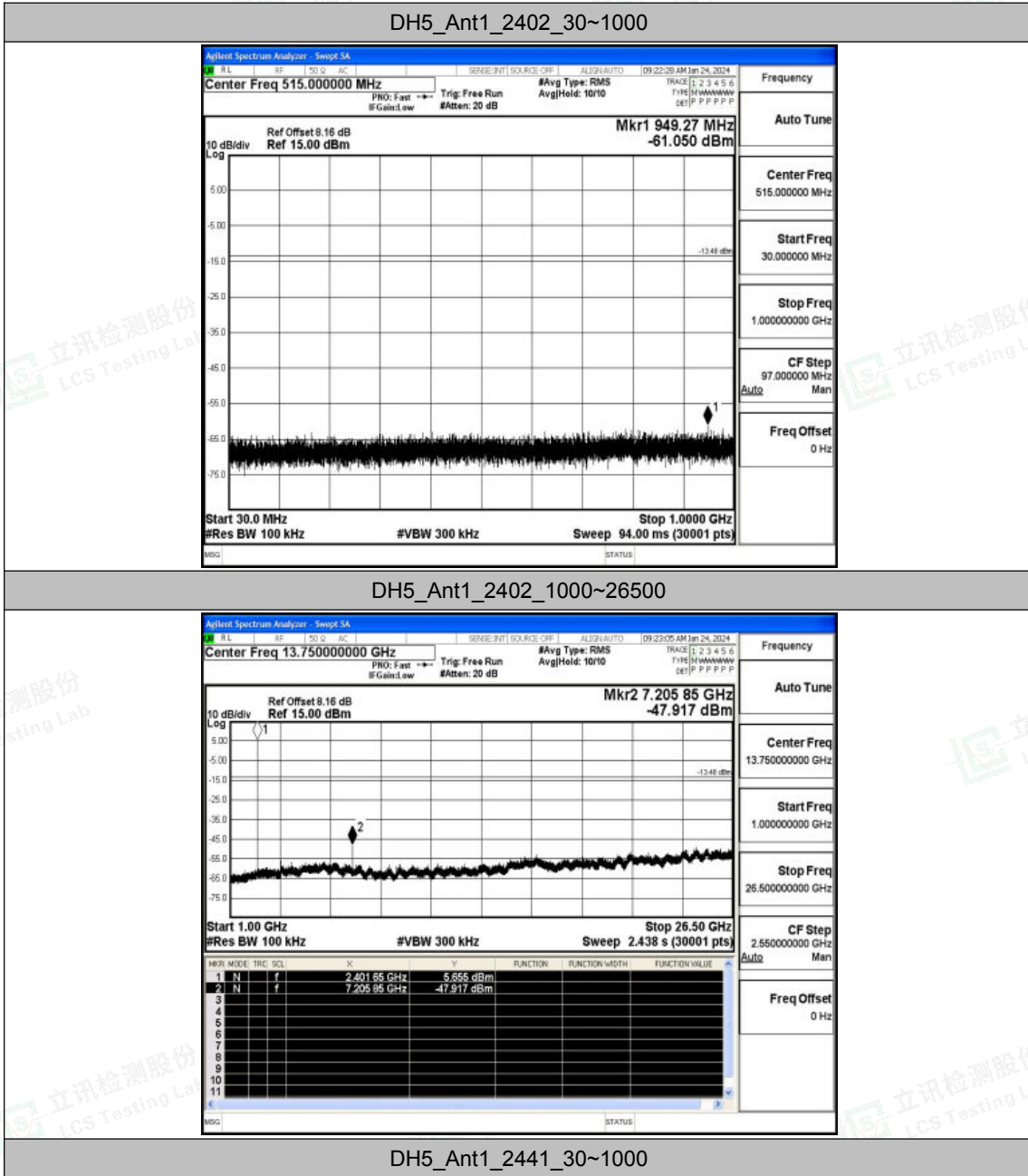
Test Result

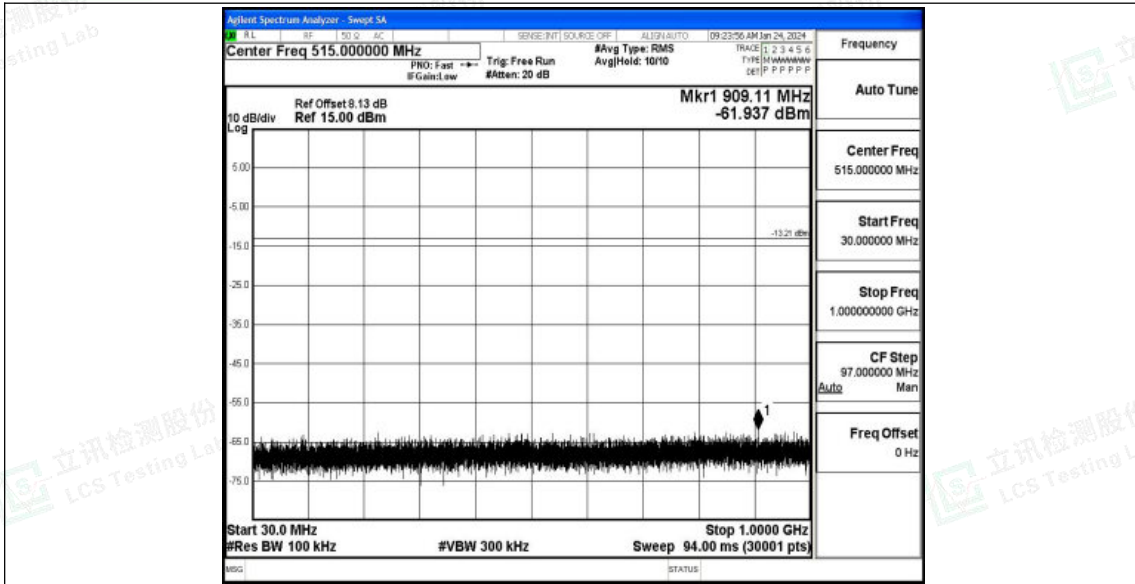
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~1000	6.52	-61.05	≤-13.48	PASS
			1000~26500	6.52	-47.92	≤-13.48	PASS
		2441	30~1000	6.79	-61.94	≤-13.21	PASS
			1000~26500	6.79	-48.91	≤-13.21	PASS
		2480	30~1000	7.15	-61.7	≤-12.85	PASS
			1000~26500	7.15	-48.69	≤-12.85	PASS
2DH5	Ant1	2402	30~1000	5.75	-61.87	≤-14.25	PASS
			1000~26500	5.75	-49.6	≤-14.25	PASS
		2441	30~1000	5.42	-62.38	≤-14.58	PASS
			1000~26500	5.42	-48.87	≤-14.58	PASS
		2480	30~1000	5.92	-61.9	≤-14.08	PASS
			1000~26500	5.92	-49.26	≤-14.08	PASS
3DH5	Ant1	2402	30~1000	5.83	-61.25	≤-14.17	PASS
			1000~26500	5.83	-48.51	≤-14.17	PASS
		2441	30~1000	6.15	-62.03	≤-13.85	PASS
			1000~26500	6.15	-49.51	≤-13.85	PASS
		2480	30~1000	6.33	-62.27	≤-13.67	PASS
			1000~26500	6.33	-48.19	≤-13.67	PASS



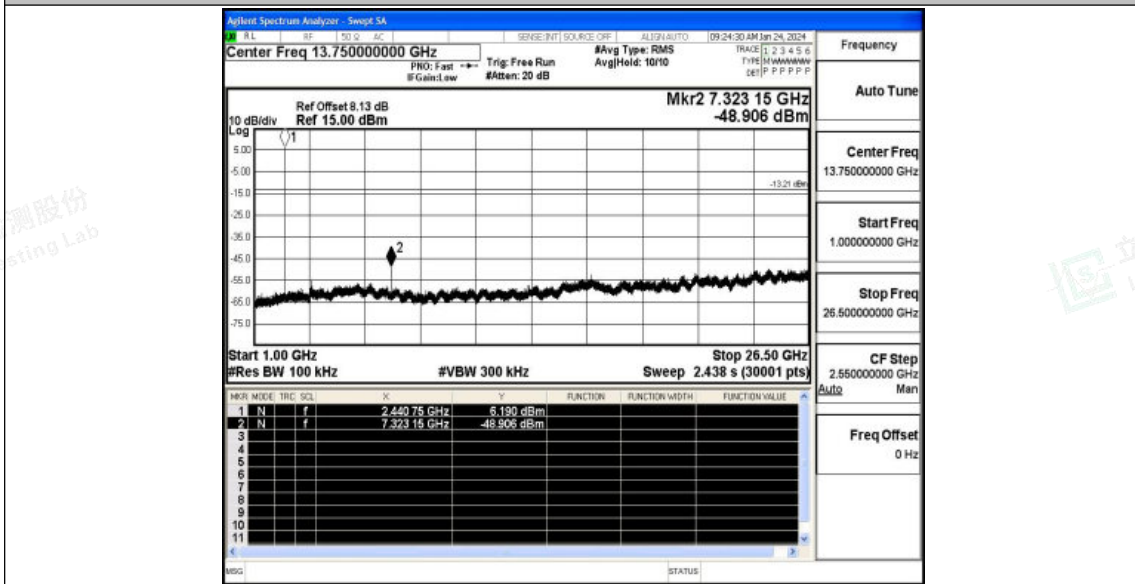


Test Graphs



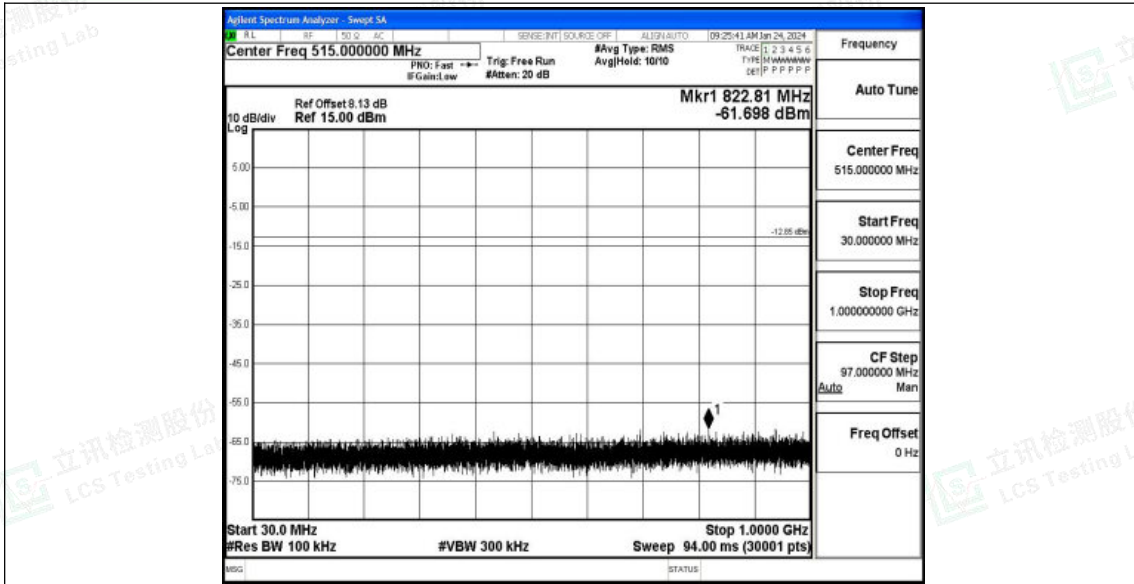


DH5_Ant1_2441_1000~26500

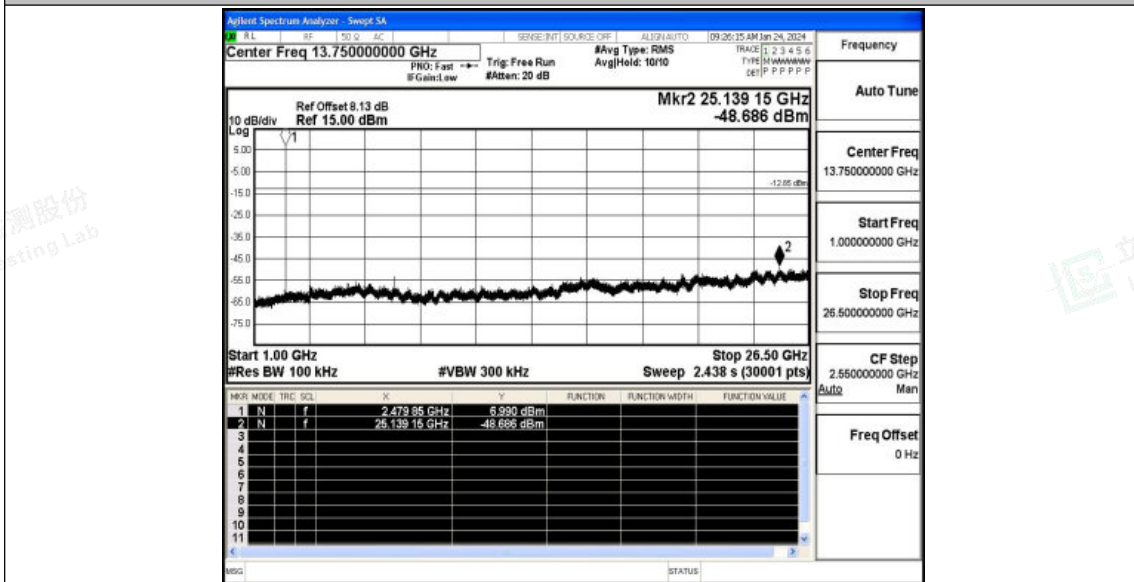


DH5_Ant1_2480_30~1000



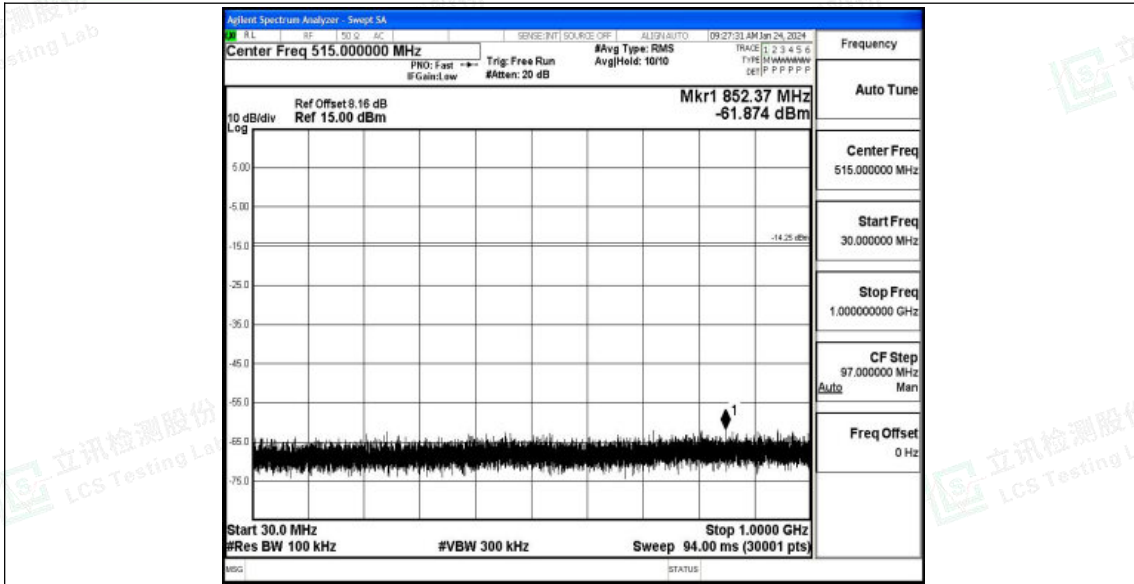


DH5_Ant1_2480_1000~26500

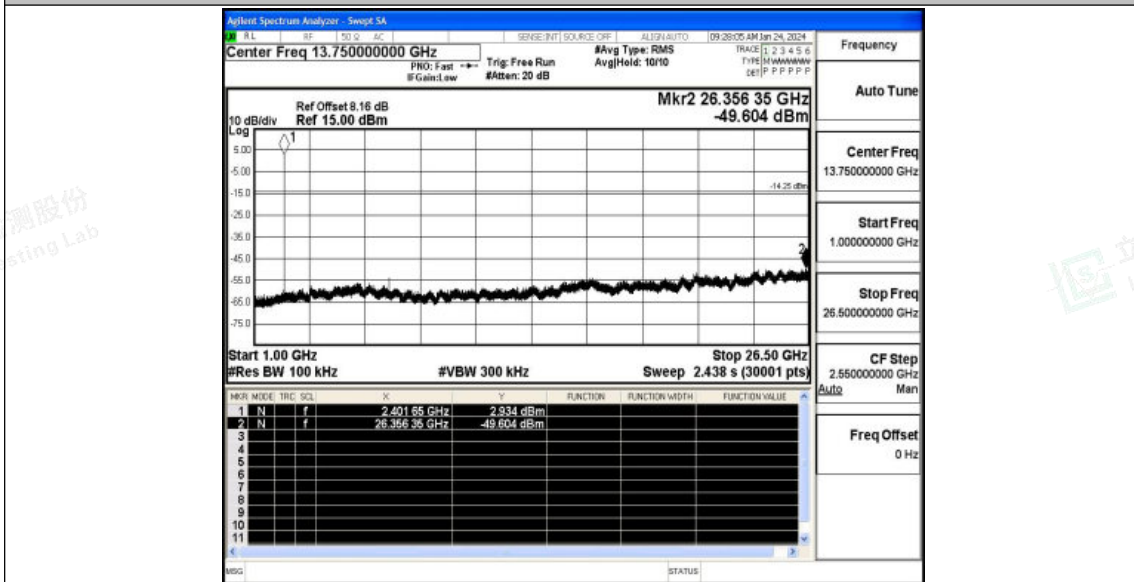


2DH5_Ant1_2402_30~1000



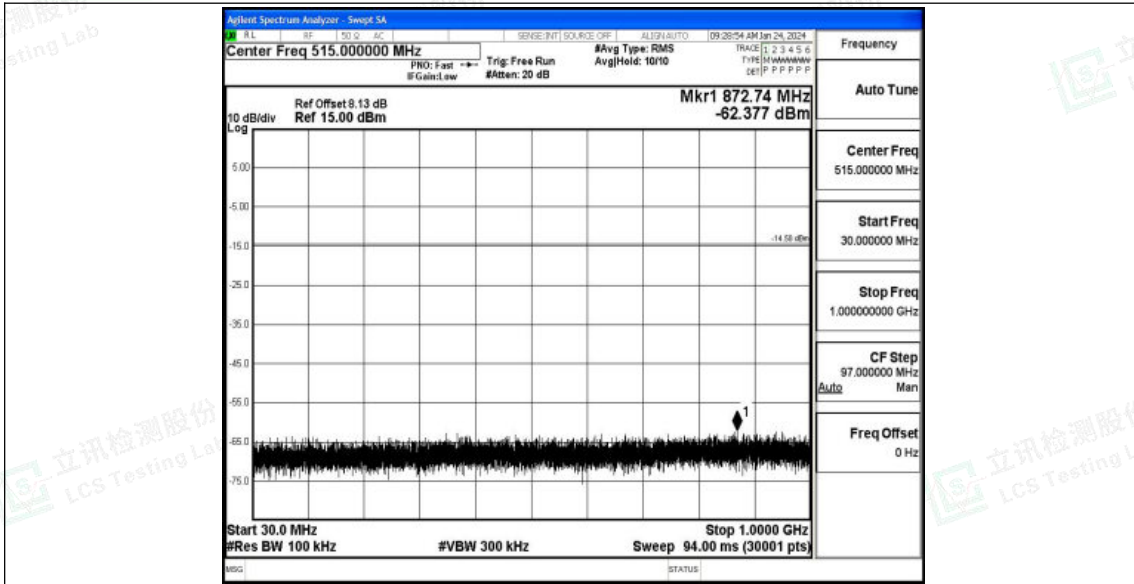


2DH5_Ant1_2402_1000~26500

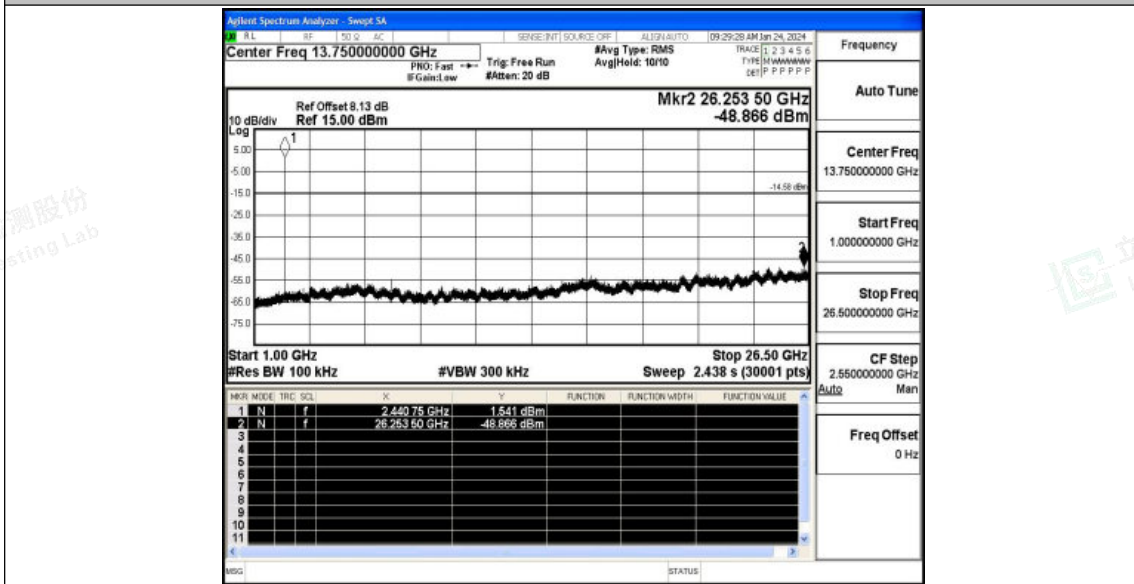


2DH5_Ant1_2441_30~1000



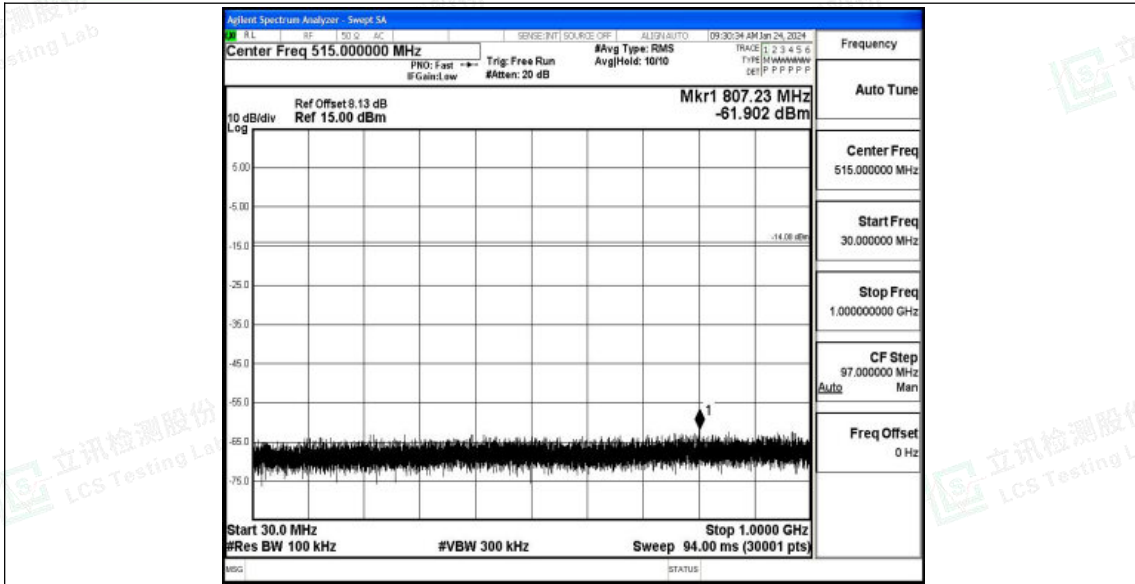


2DH5_Ant1_2441_1000~26500

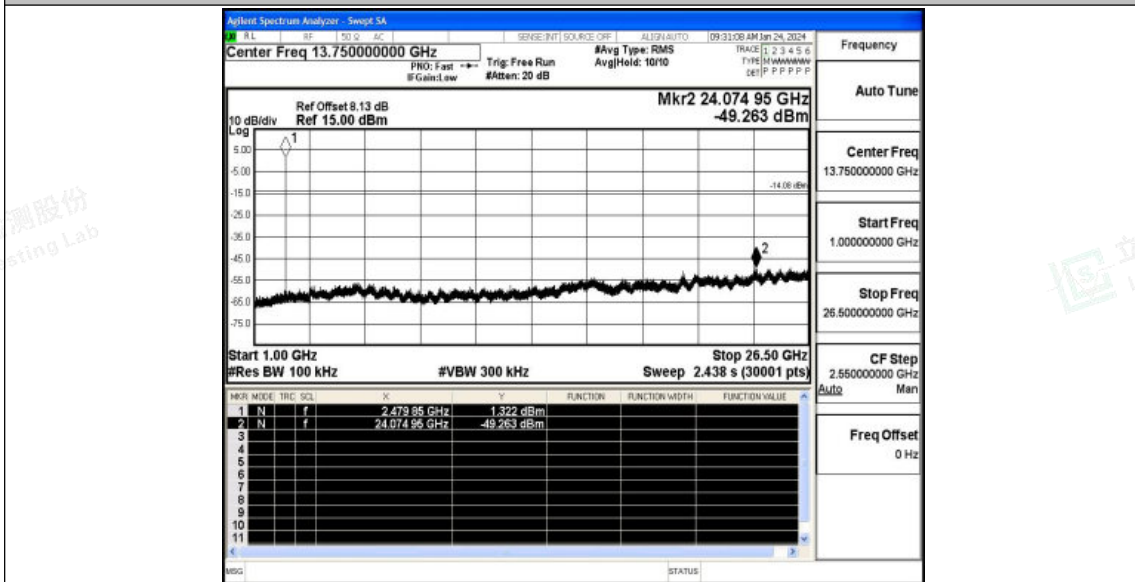


2DH5_Ant1_2480_30~1000



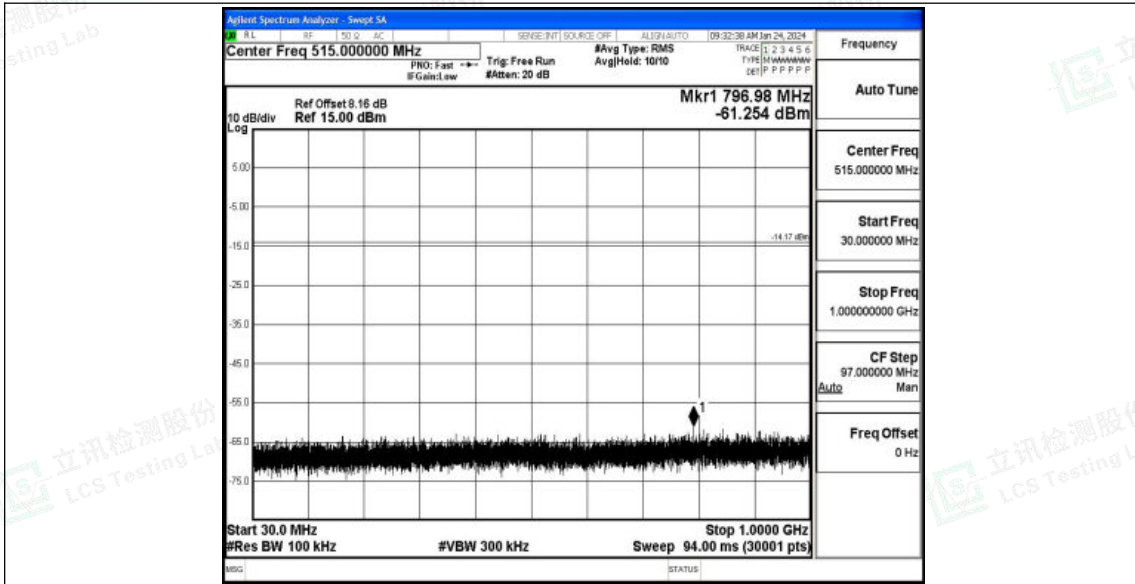


2DH5_Ant1_2480_1000~26500

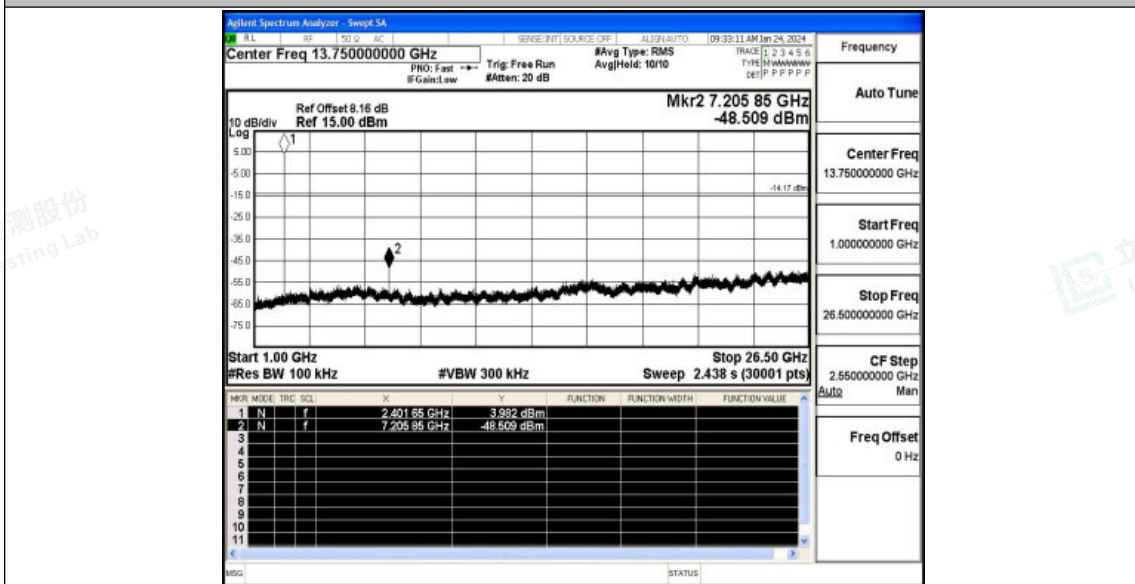


3DH5_Ant1_2402_30~1000



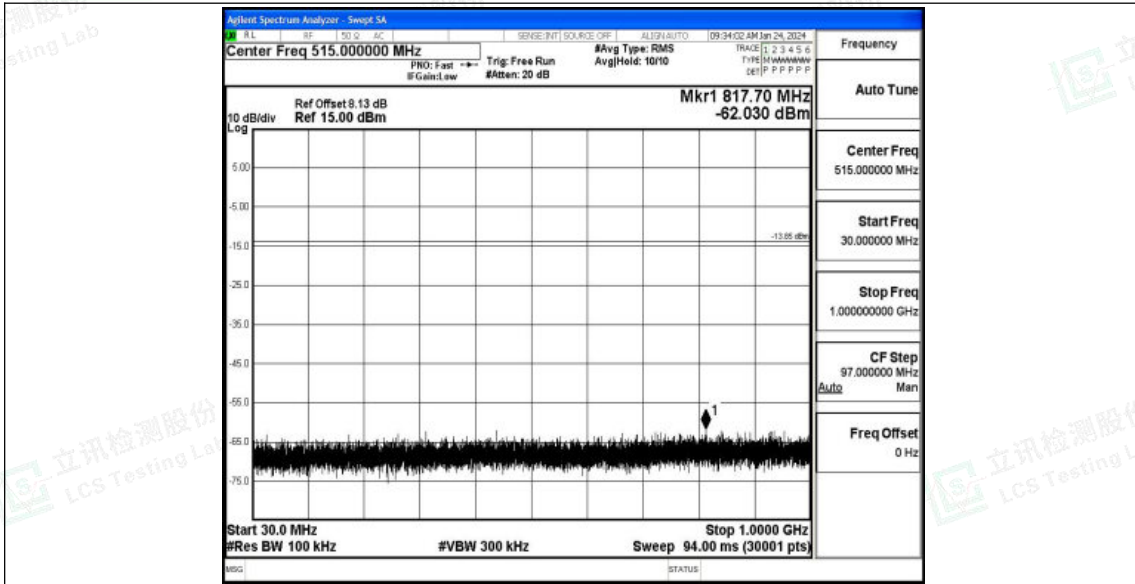


3DH5_Ant1_2402_1000~26500

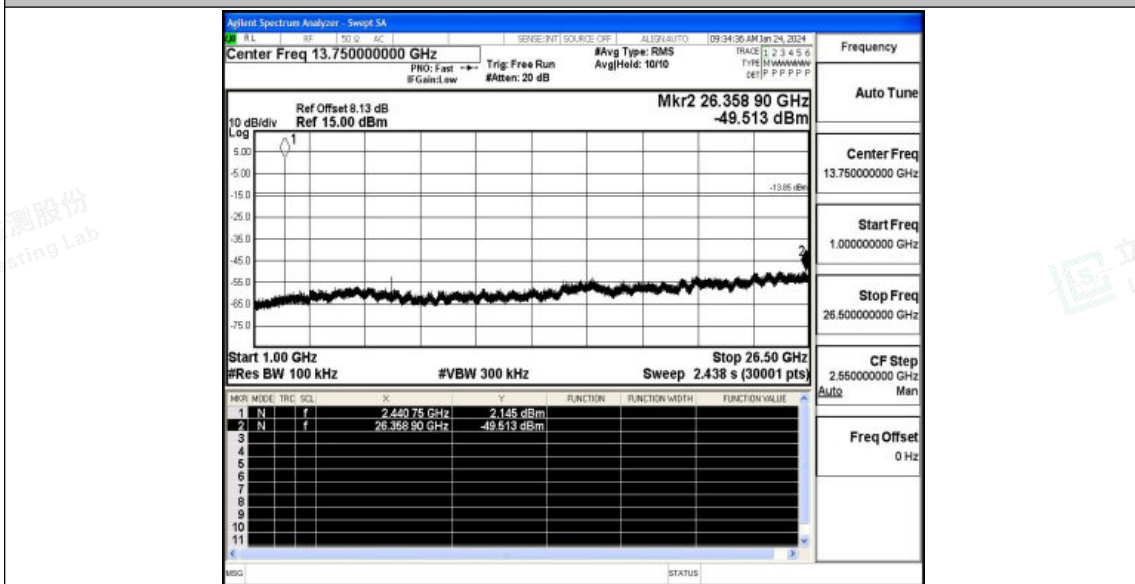


3DH5_Ant1_2441_30~1000



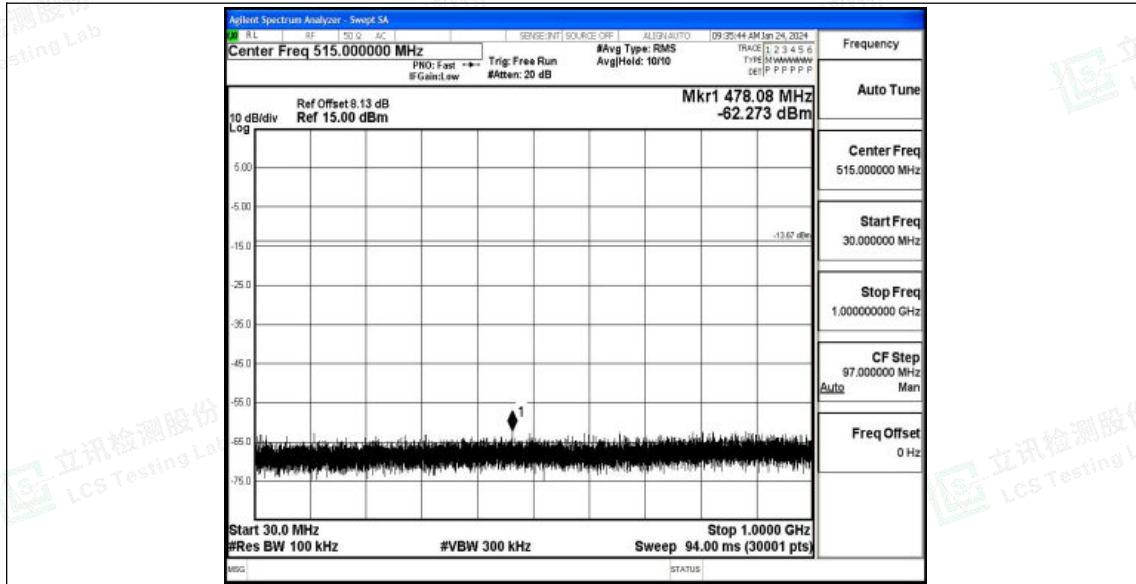


3DH5_Ant1_2441_1000~26500

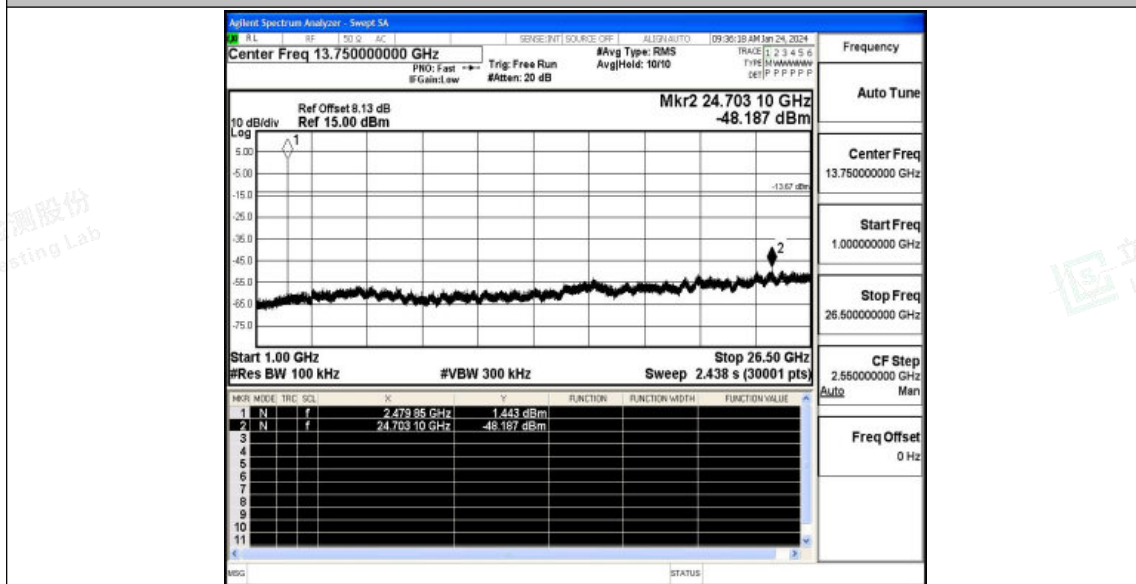


3DH5_Ant1_2480_30~1000





3DH5_Ant1_2480_1000~26500





Reference Level

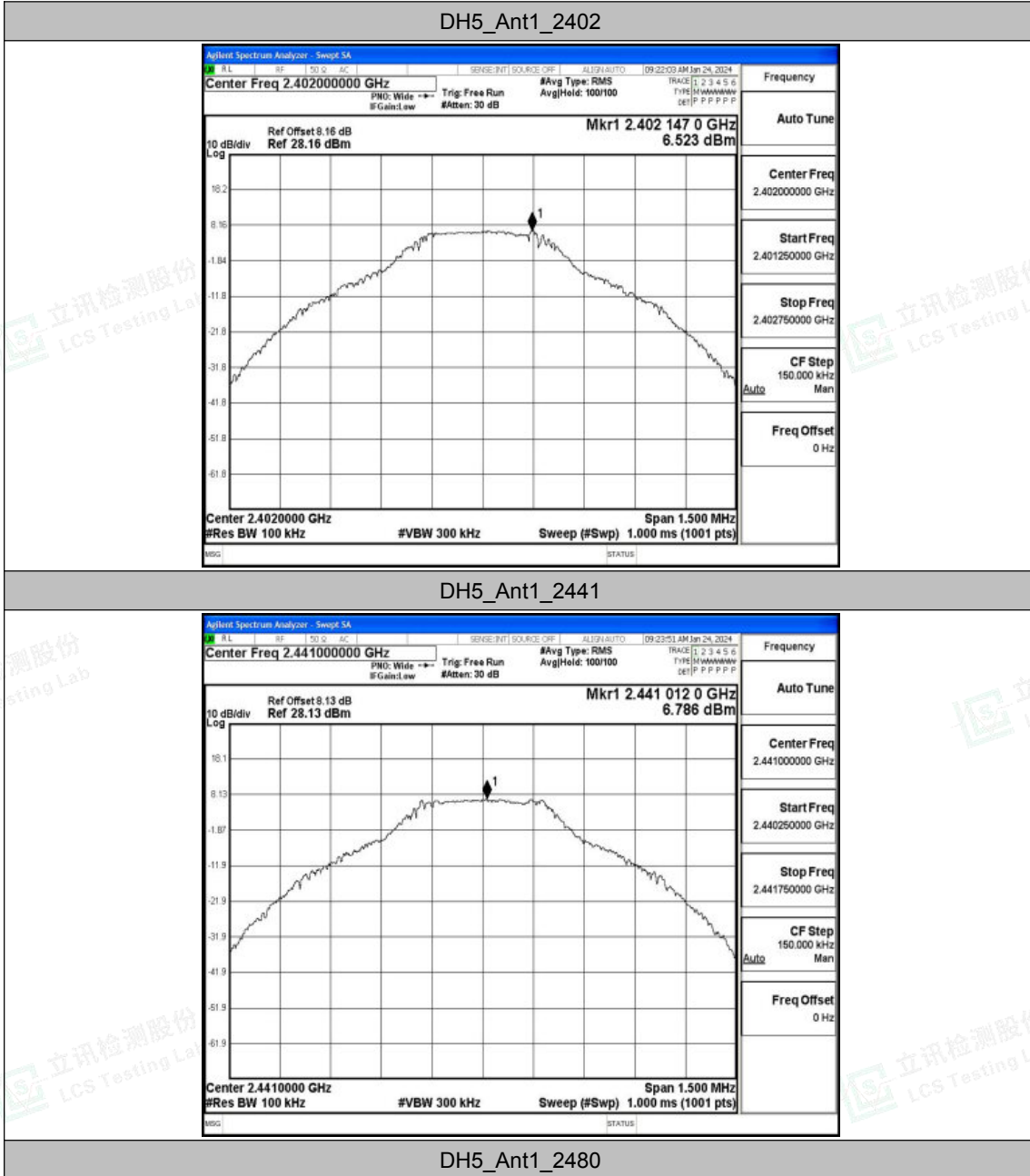
Test Result

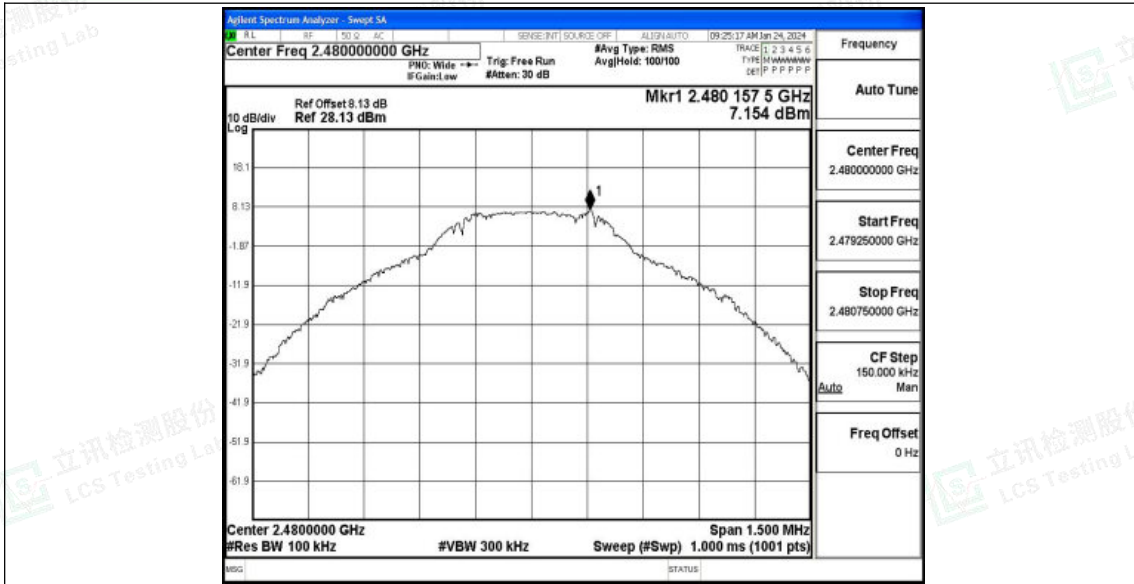
TestMode	Antenna	ChName	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	2402.15	6.52	---	PASS
		2441	2441.01	6.79	---	PASS
		2480	2480.16	7.15	---	PASS
2DH5	Ant1	2402	2402.15	5.75	---	PASS
		2441	2440.98	5.42	---	PASS
		2480	2479.86	5.92	---	PASS
3DH5	Ant1	2402	2401.84	5.83	---	PASS
		2441	2441.17	6.15	---	PASS
		2480	2479.83	6.33	---	PASS



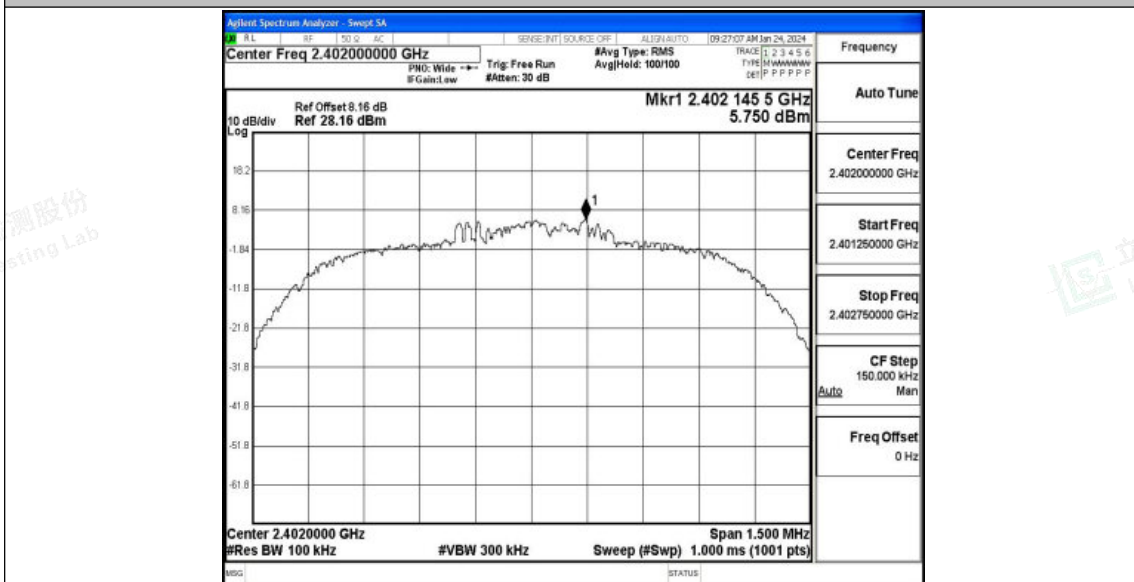


Test Graphs



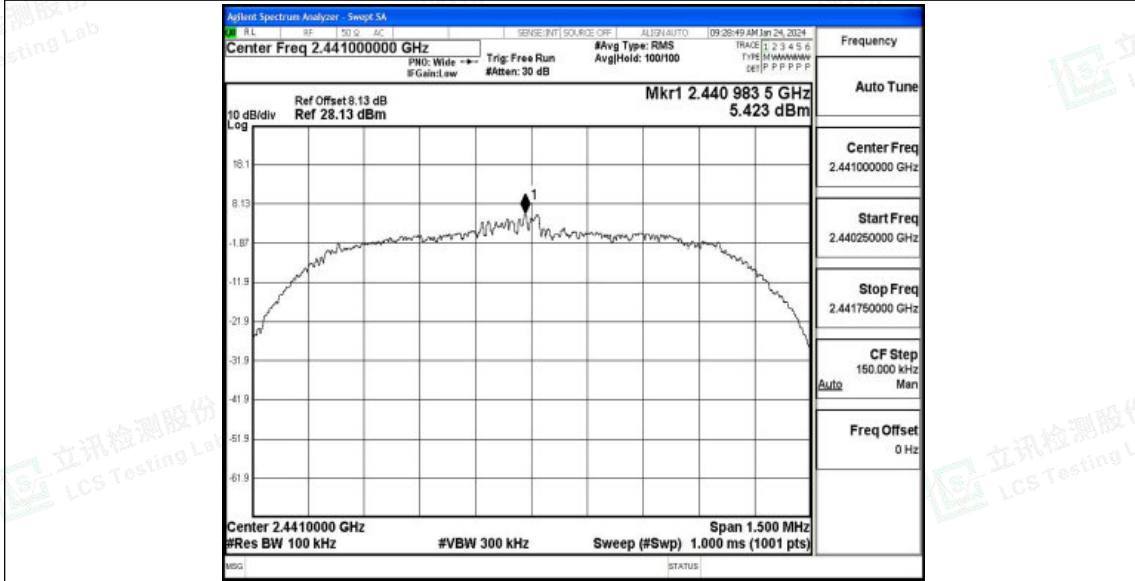


2DH5_Ant1_2402

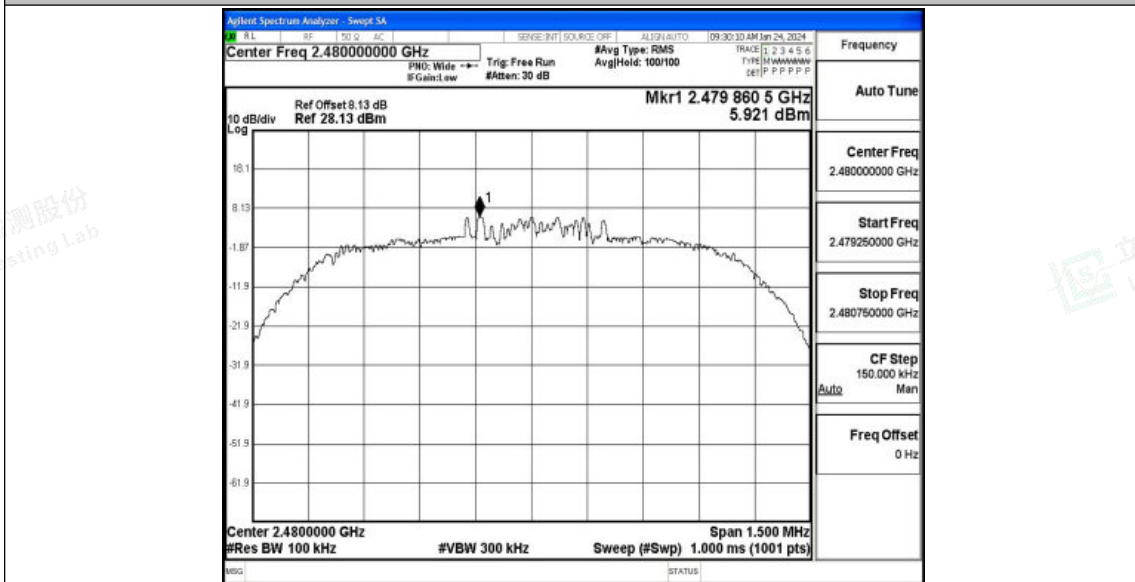


2DH5_Ant1_2441



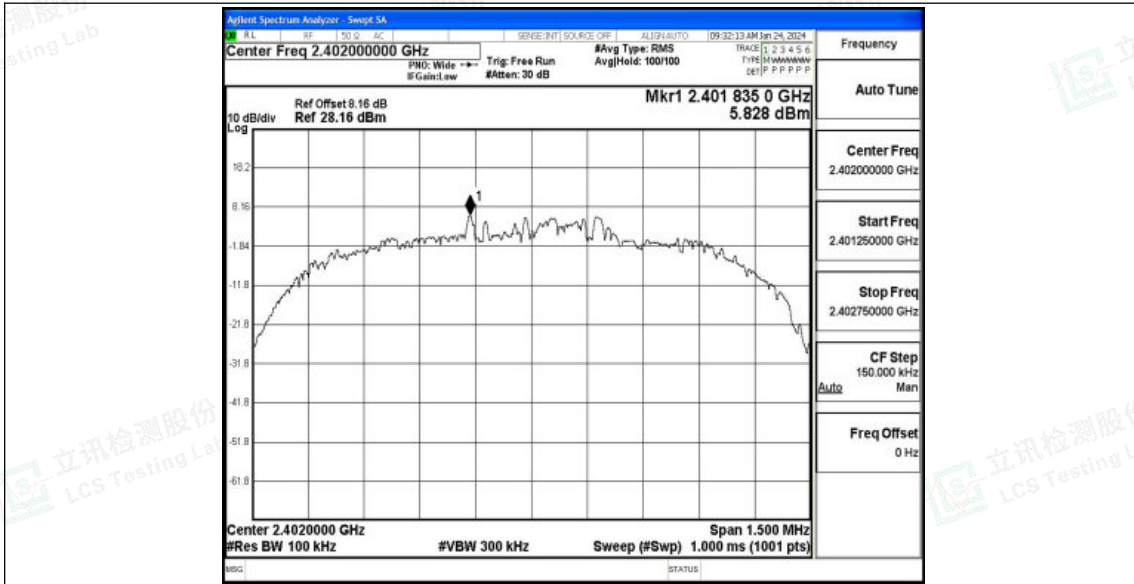


2DH5_Ant1_2480

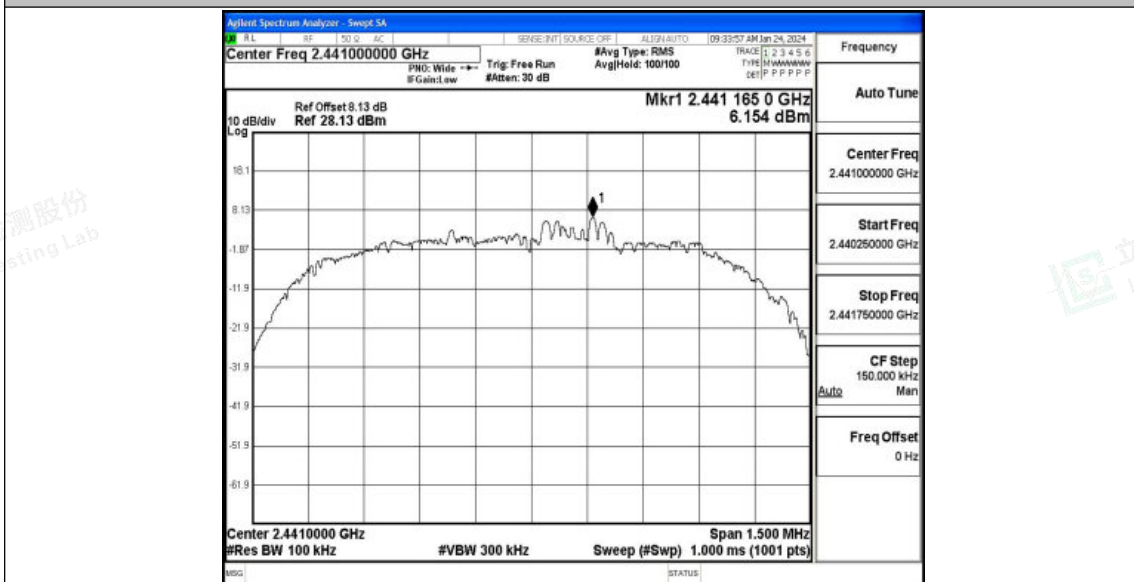


3DH5_Ant1_2402





3DH5_Ant1_2441



3DH5_Ant1_2480





Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 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
Scan code to check authenticity



A.8 Duty Cycle

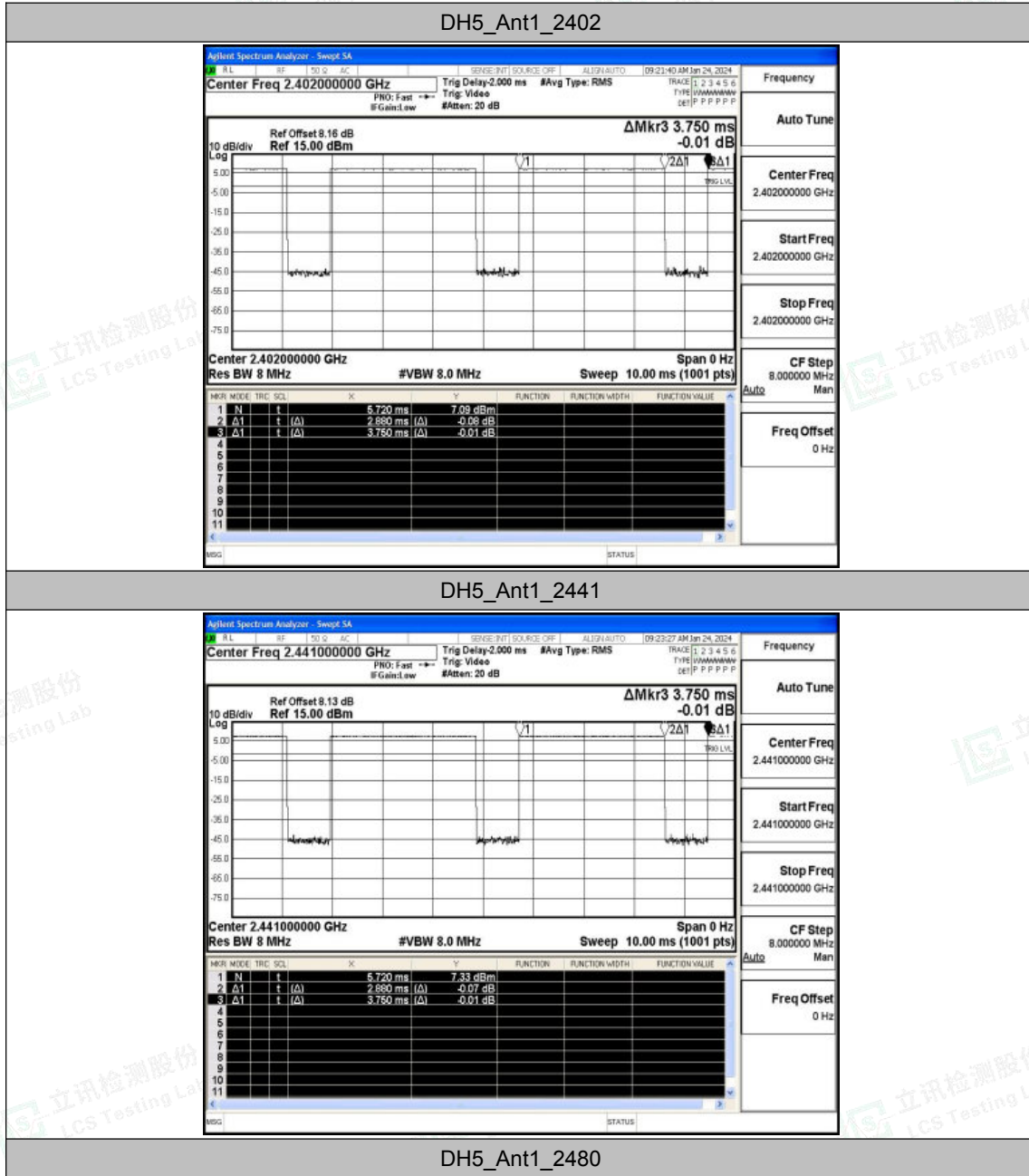
Test Result

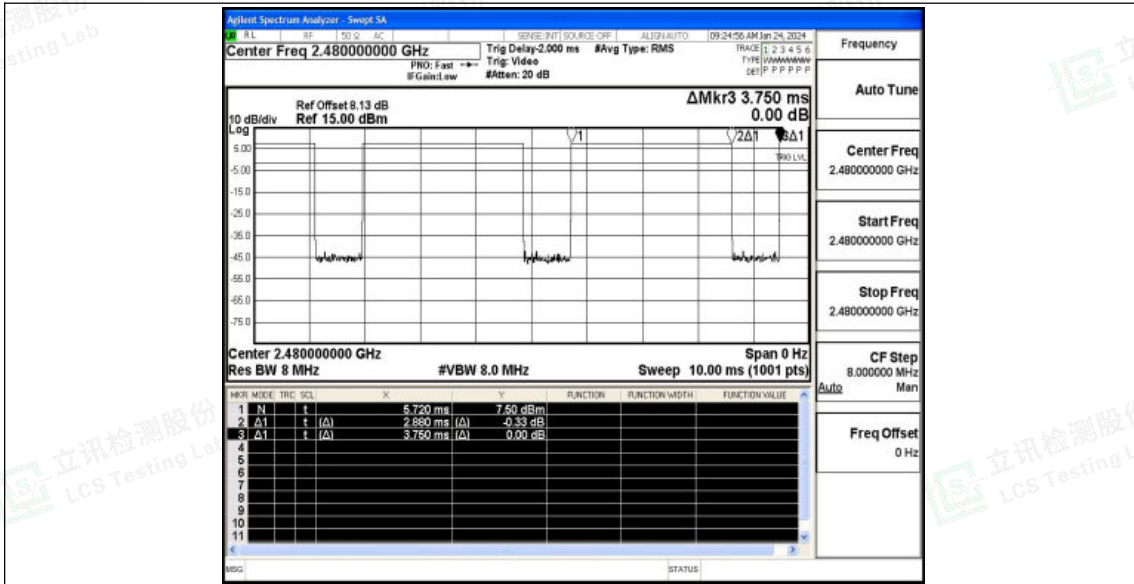
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[kHz]
DH5	Ant1	2402	2.88	3.75	76.80	1.15	0.35
		2441	2.88	3.75	76.80	1.15	0.35
		2480	2.88	3.75	76.80	1.15	0.35
2DH5	Ant1	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.88	3.75	76.80	1.15	0.35
3DH5	Ant1	2402	2.88	3.75	76.80	1.15	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.89	3.75	77.07	1.13	0.35



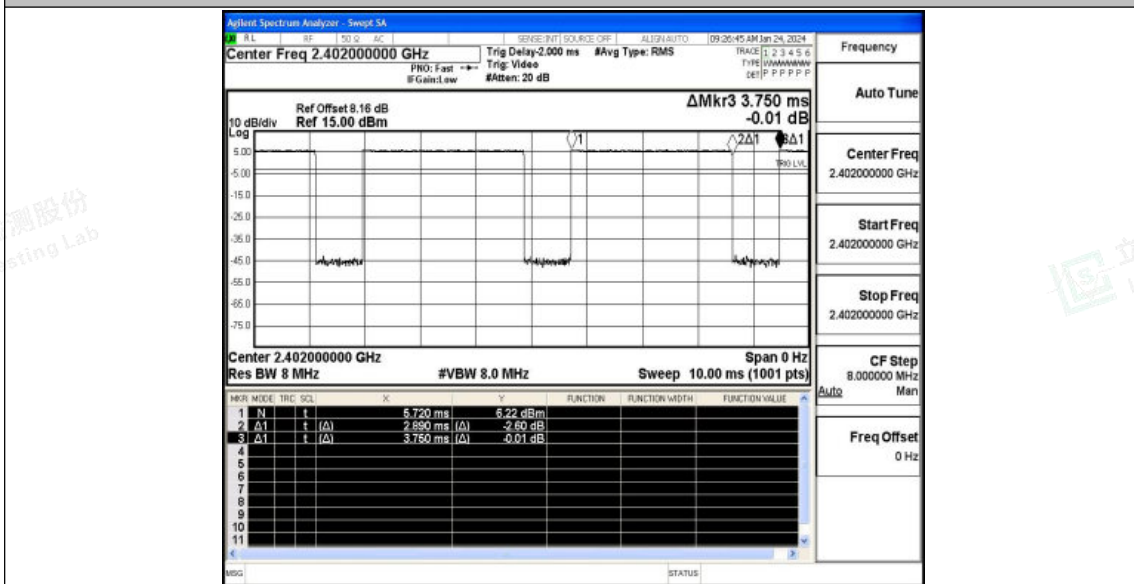


Test Graphs



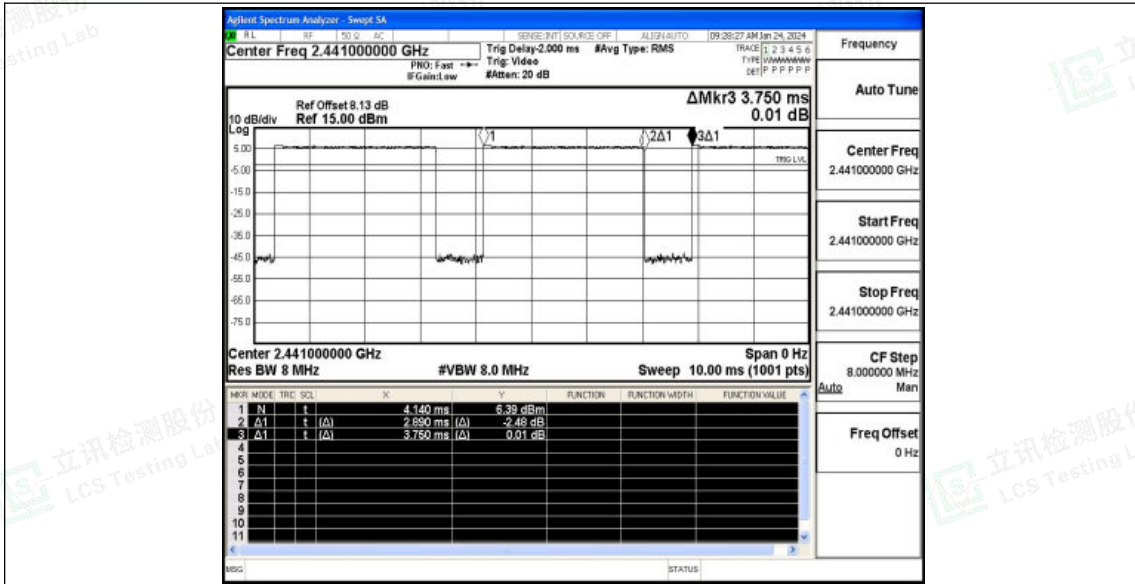


2DH5_Ant1_2402

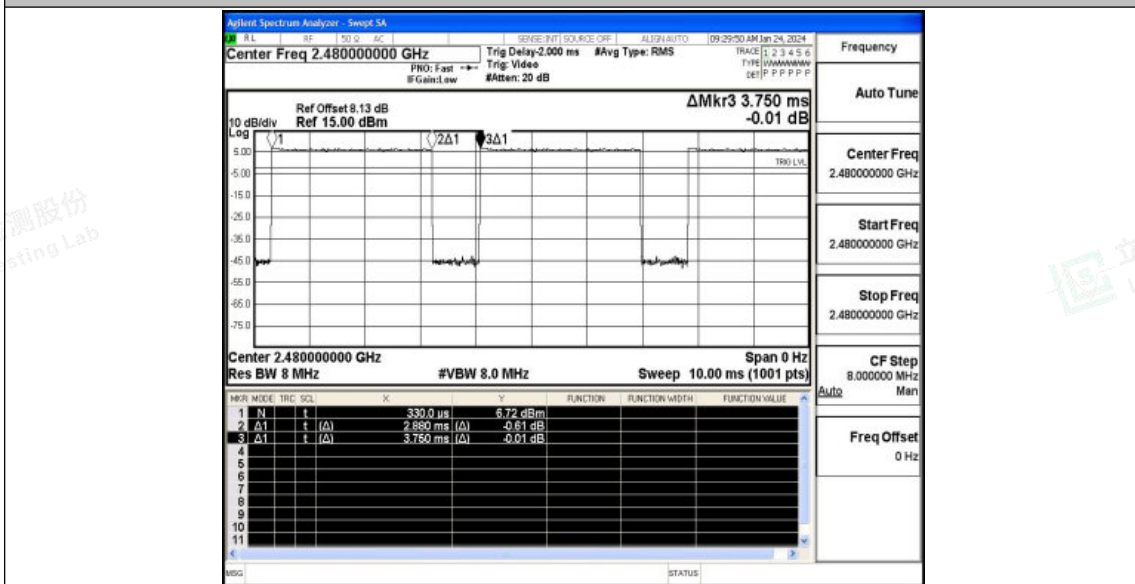


2DH5_Ant1_2441



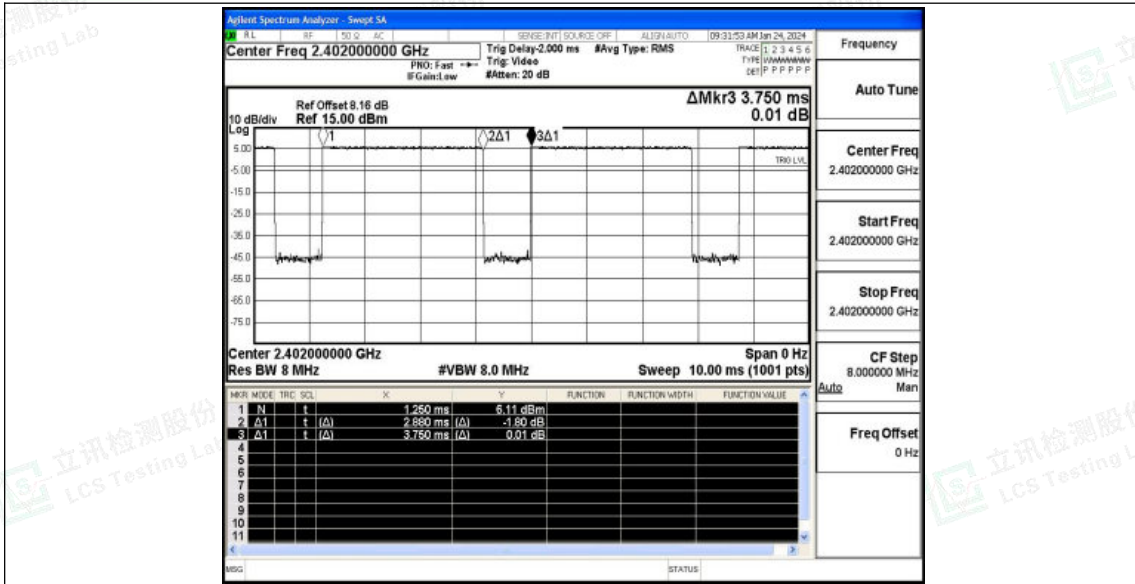


2DH5_Ant1_2480

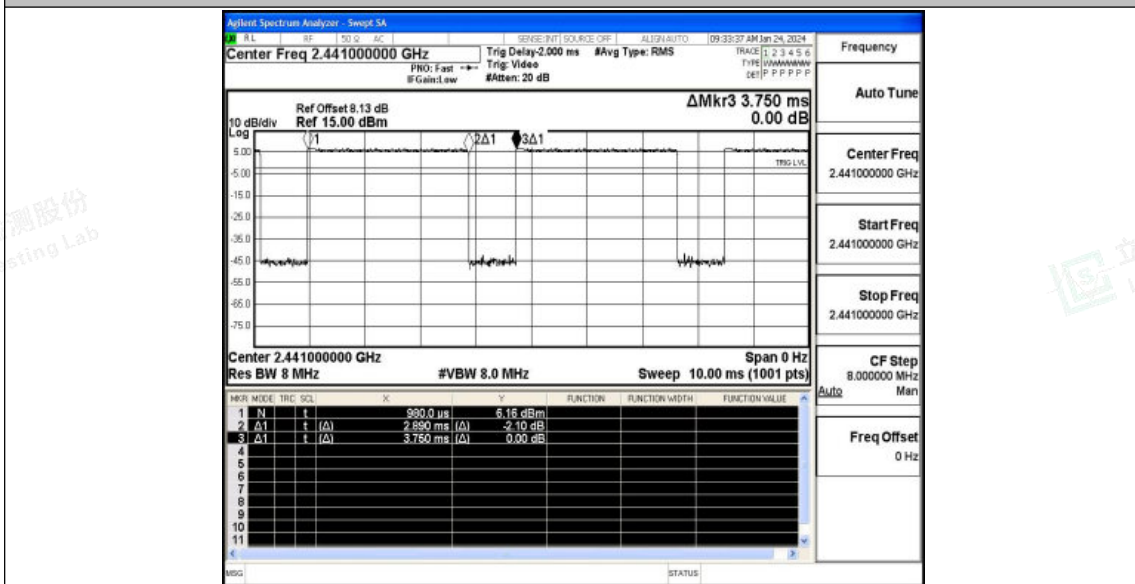


3DH5_Ant1_2402



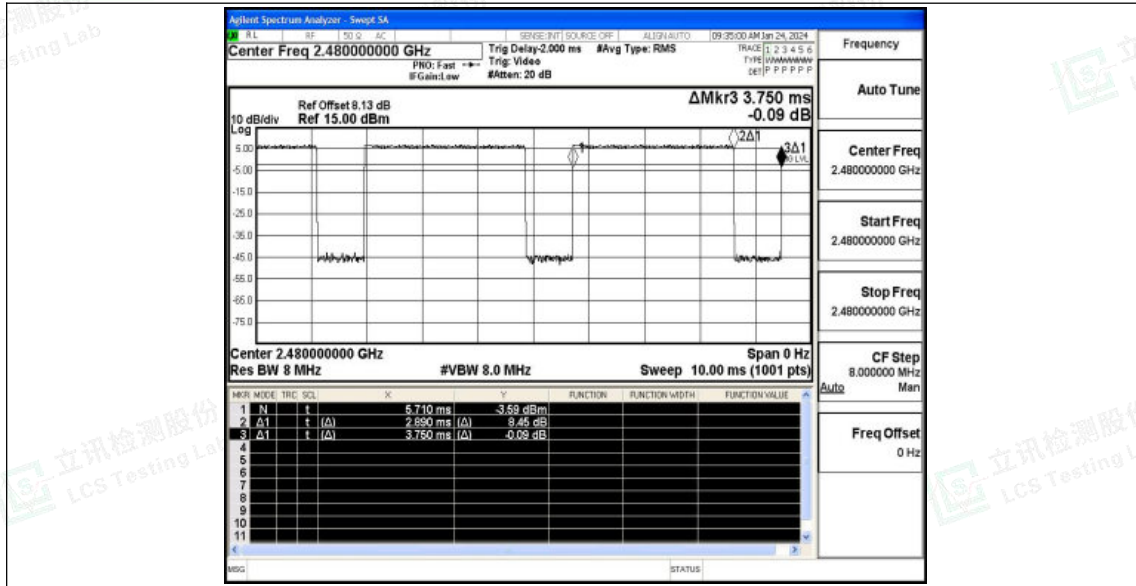


3DH5_Ant1_2441



3DH5_Ant1_2480







A.9 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.37	≤-41.20	45.83	≤54	PASS
				AV	2386.625	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2390.000	-48.61	≤-41.20	46.59	≤54	PASS
				Peak	2310.000	-41.42	≤-21.20	53.78	≤74	PASS
				Peak	2363.315	-39.11	≤-21.20	56.09	≤74	PASS
				Peak	2390.000	-42.29	≤-21.20	52.91	≤74	PASS
		High	2480	AV	2483.500	-48.18	≤-41.20	47.02	≤54	PASS
				AV	2491.520	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2500.000	-48.26	≤-41.20	46.94	≤54	PASS
				Peak	2483.500	-42.07	≤-21.20	53.13	≤74	PASS
				Peak	2491.360	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2500.000	-42.65	≤-21.20	52.55	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-42.67	≤-21.20	52.53	≤74	PASS
				Peak	2340.110	-38.99	≤-21.20	56.21	≤74	PASS
				Peak	2390.000	-41.46	≤-21.20	53.74	≤74	PASS
		High	Hop_2480	Peak	2483.500	-41.41	≤-21.20	53.79	≤74	PASS
				Peak	2494.320	-38.75	≤-21.20	56.45	≤74	PASS
				Peak	2500.000	-41.28	≤-21.20	53.92	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.86	≤-41.20	46.34	≤54	PASS
				AV	2377.385	-47.98	≤-41.20	47.22	≤54	PASS
				AV	2390.000	-48.71	≤-41.20	46.49	≤54	PASS
				Peak	2310.000	-42.51	≤-21.20	52.69	≤74	PASS
				Peak	2382.740	-39.09	≤-21.20	56.11	≤74	PASS
				Peak	2390.000	-41.78	≤-21.20	53.42	≤74	PASS
		High	2480	AV	2483.500	-48.56	≤-41.20	46.64	≤54	PASS
				AV	2495.600	-47.74	≤-41.20	47.46	≤54	PASS
				AV	2500.000	-48.4	≤-41.20	46.80	≤54	PASS
				Peak	2483.500	-41.76	≤-21.20	53.44	≤74	PASS
				Peak	2488.480	-37.64	≤-21.20	57.56	≤74	PASS
				Peak	2500.000	-42.26	≤-21.20	52.94	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.53	≤-21.20	53.67	≤74	PASS
				Peak	2385.470	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2390.000	-41.93	≤-21.20	53.27	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.18	≤-21.20	55.02	≤74	PASS
				Peak	2492.400	-38.96	≤-21.20	56.24	≤74	PASS



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 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

Scan code to check authenticity



3DH5	Ant1	Low	2402	Peak	2500.000	-42.43	≤-21.20	52.77	≤74	PASS
				AV	2310.000	-49.58	≤-41.20	45.62	≤54	PASS
				AV	2377.700	-47.98	≤-41.20	47.22	≤54	PASS
				AV	2390.000	-48.28	≤-41.20	46.92	≤54	PASS
				Peak	2310.000	-42.69	≤-21.20	52.51	≤74	PASS
				Peak	2362.160	-39.06	≤-21.20	56.14	≤74	PASS
		High	2480	AV	2483.500	-48.31	≤-41.20	46.89	≤54	PASS
				AV	2494.160	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2500.000	-47.67	≤-41.20	47.53	≤54	PASS
				Peak	2483.500	-42.49	≤-21.20	52.71	≤74	PASS
				Peak	2485.120	-39.19	≤-21.20	56.01	≤74	PASS
				Peak	2500.000	-41.66	≤-21.20	53.54	≤74	PASS
		Low	Hop_240 2	Peak	2310.000	-41.34	≤-21.20	53.86	≤74	PASS
				Peak	2368.775	-39.12	≤-21.20	56.08	≤74	PASS
				Peak	2390.000	-42.65	≤-21.20	52.55	≤74	PASS
		High	Hop_248 0	Peak	2483.500	-41.73	≤-21.20	53.47	≤74	PASS
				Peak	2497.760	-38.6	≤-21.20	56.60	≤74	PASS
				Peak	2500.000	-42.29	≤-21.20	52.91	≤74	PASS

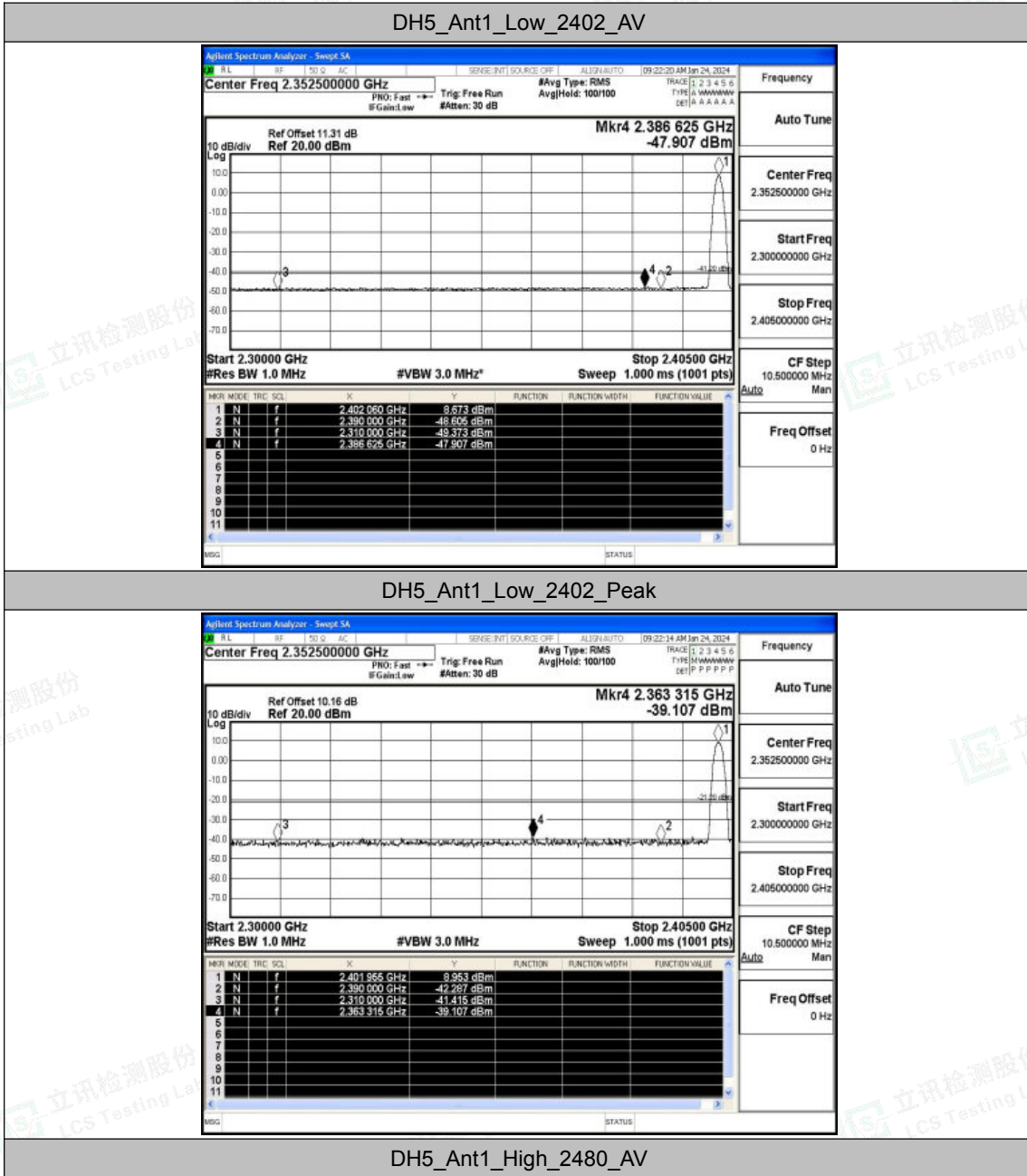
Note:

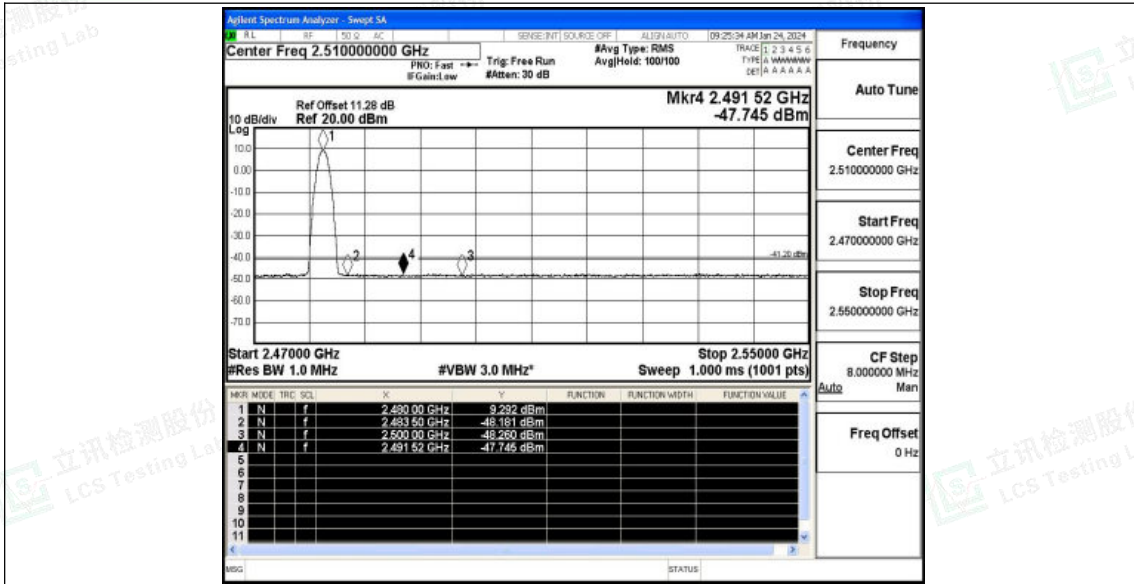
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



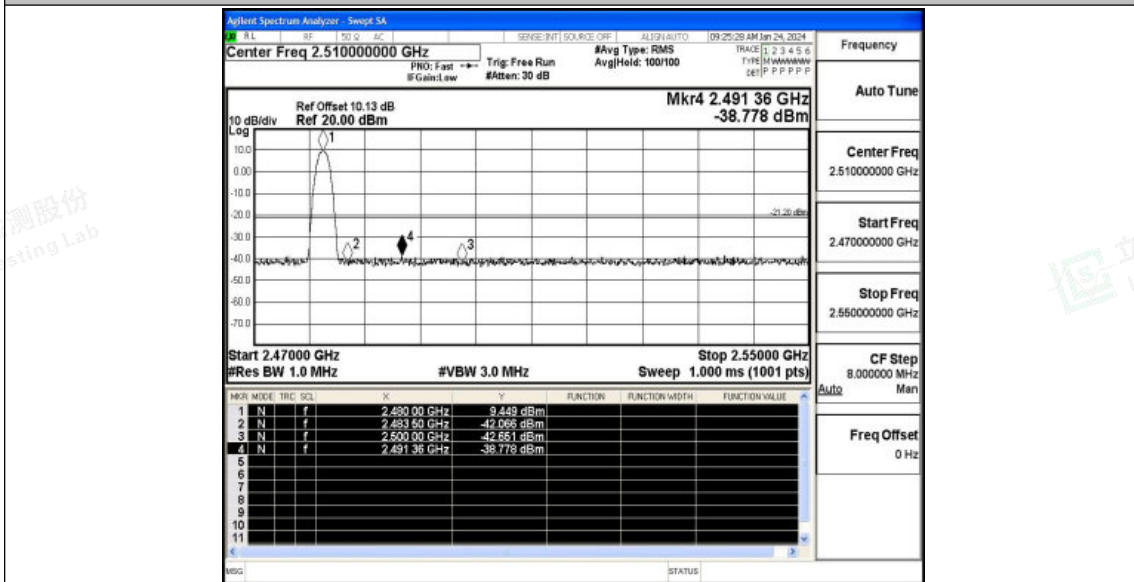


Test Graphs



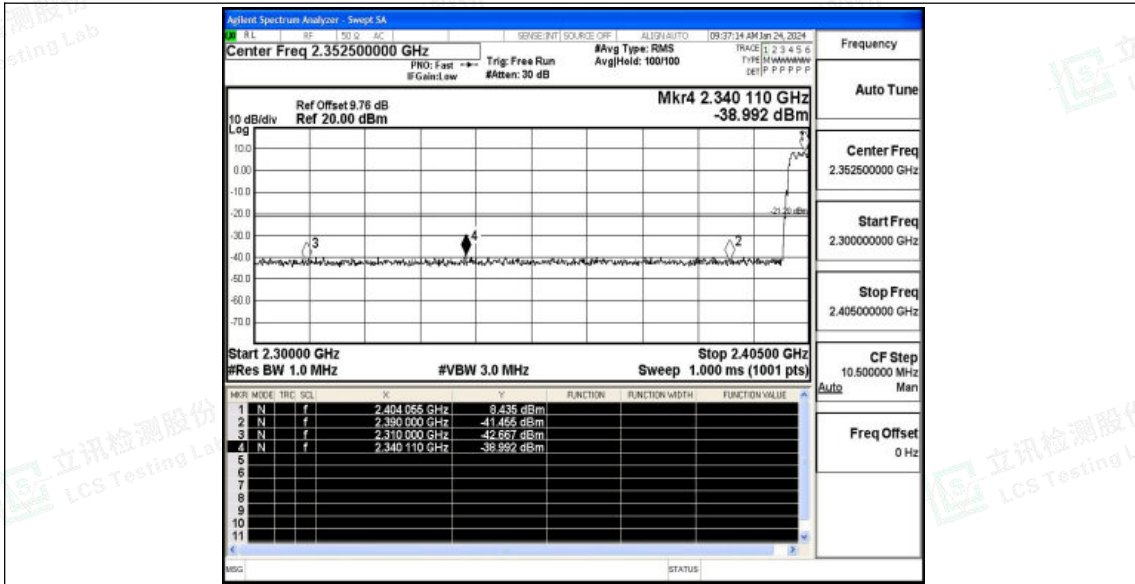


DH5_Ant1_High_2480_Peak

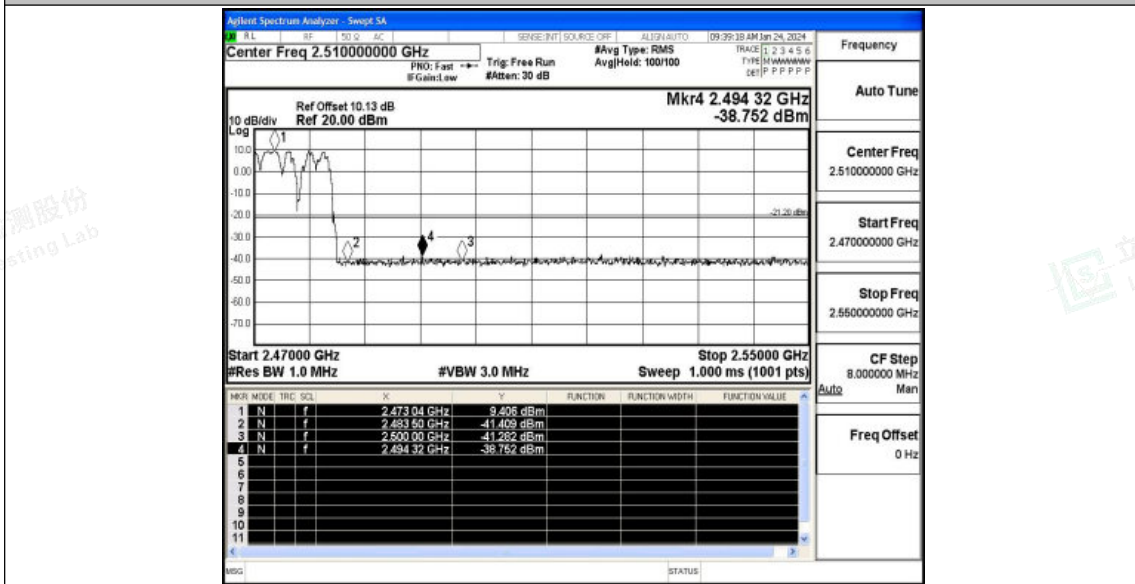


DH5_Ant1_Low_Hop_2402_Peak



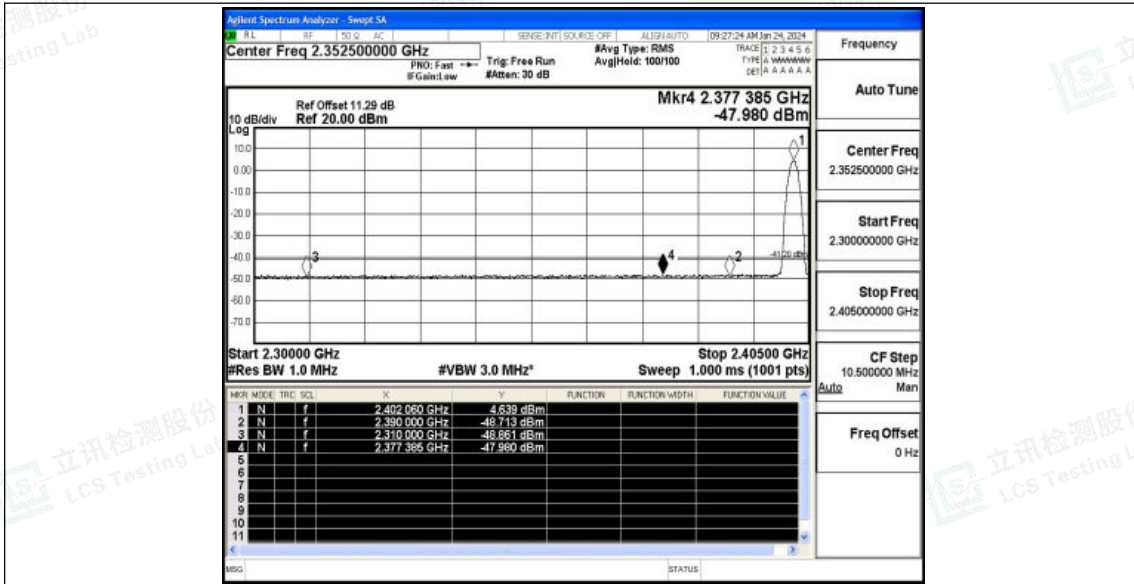


DH5_Ant1_High_Hop_2480_Peak

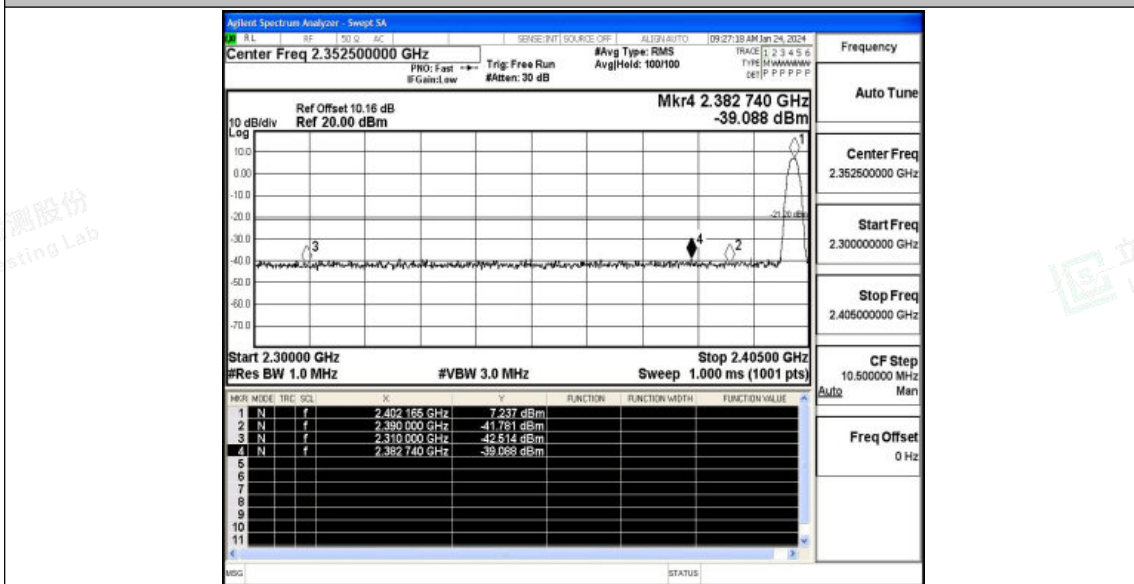


2DH5_Ant1_Low_2402_AV



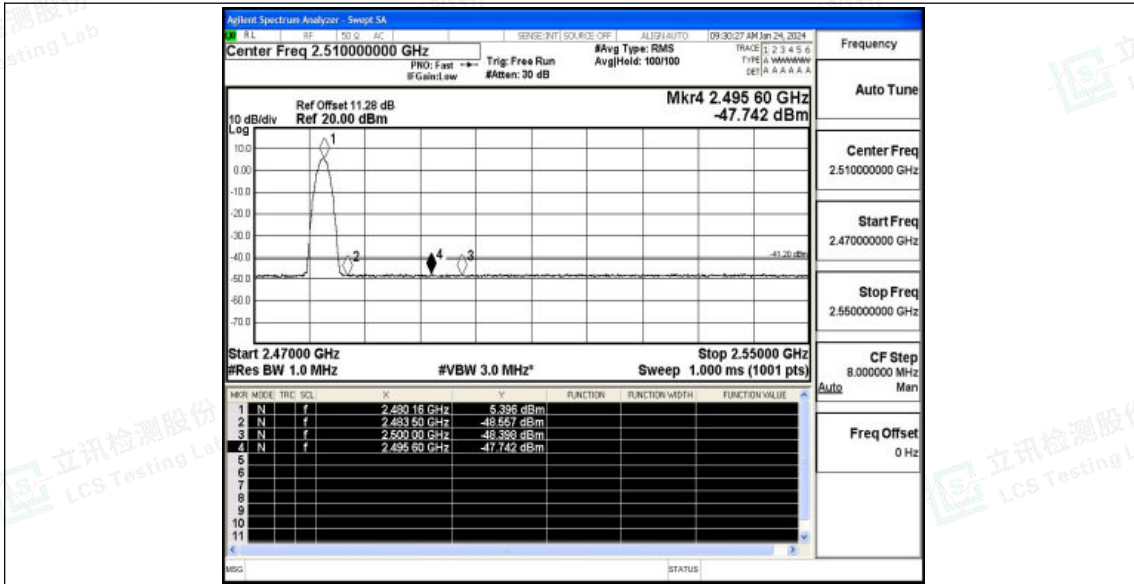


2DH5_Ant1_Low_2402_Peak

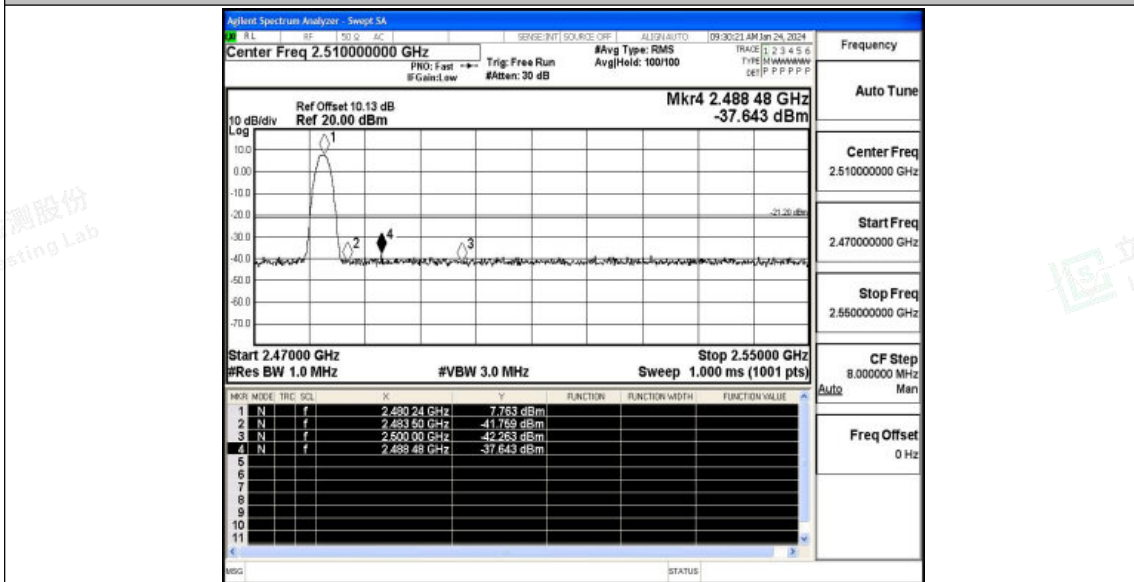


2DH5_Ant1_High_2480_AV



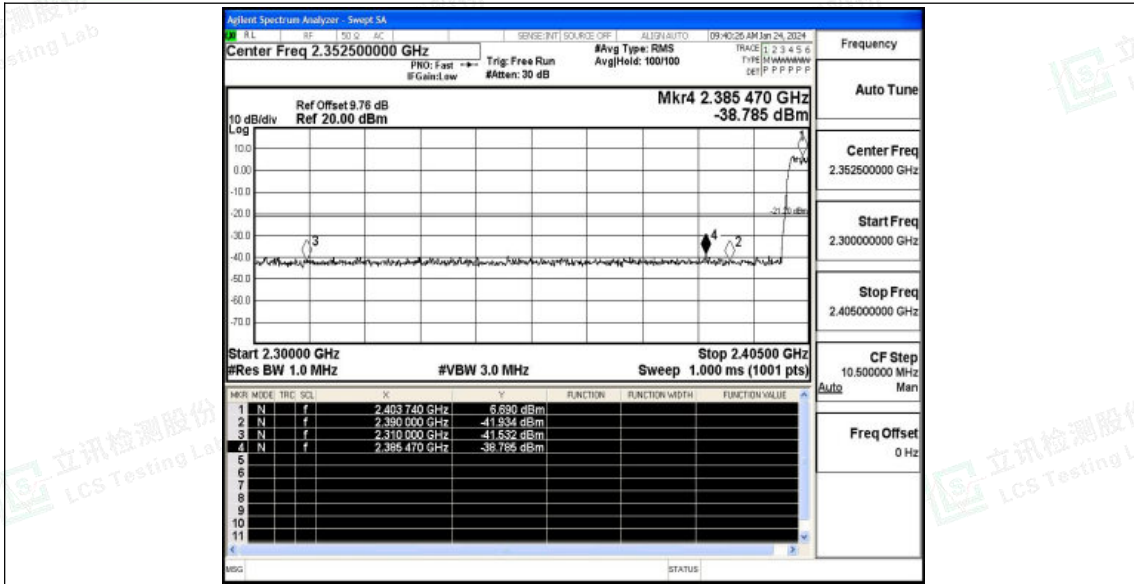


2DH5_Ant1_High_2480_Peak

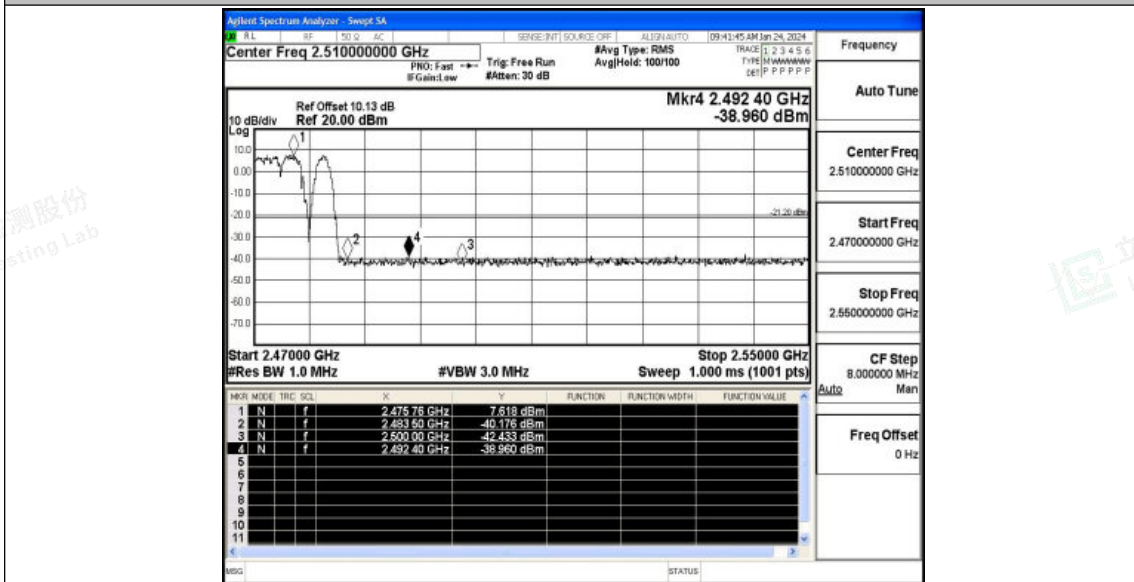


2DH5_Ant1_Low_Hop_2402_Peak



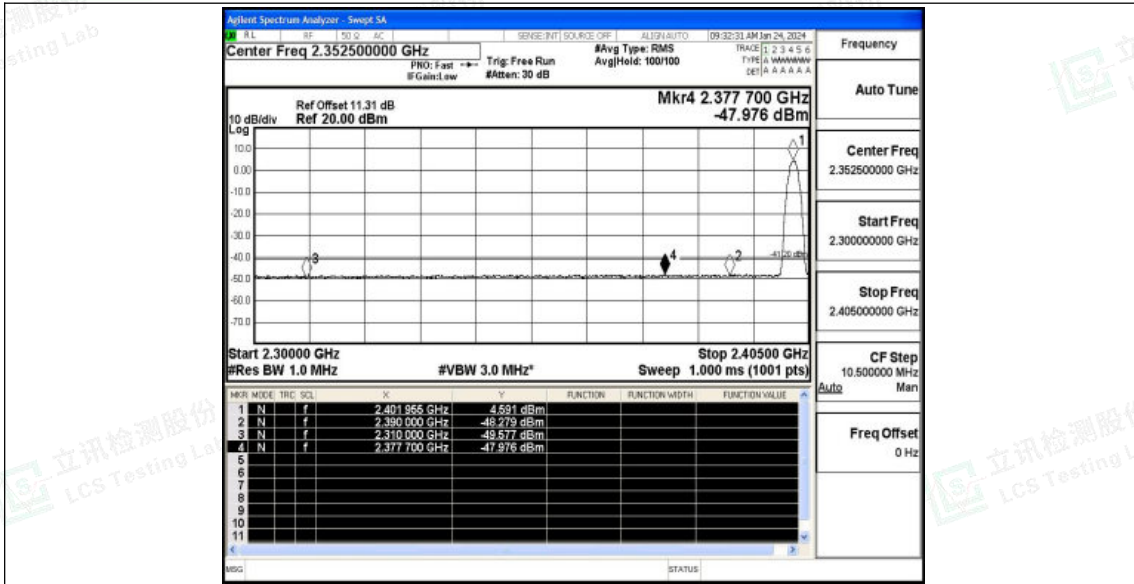


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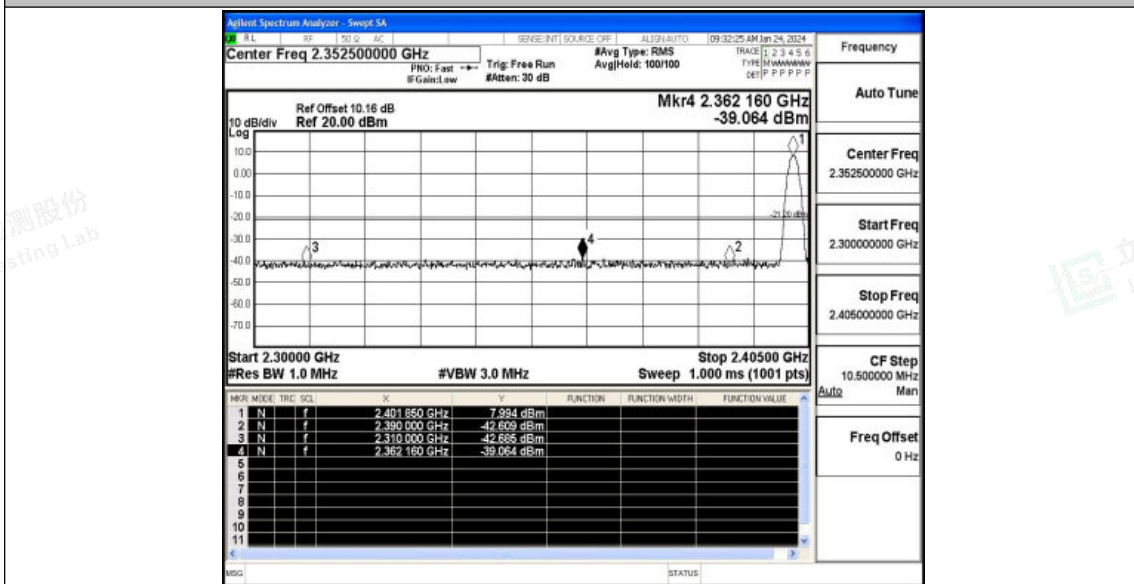


3DH5_Ant1_Low_2402_AV



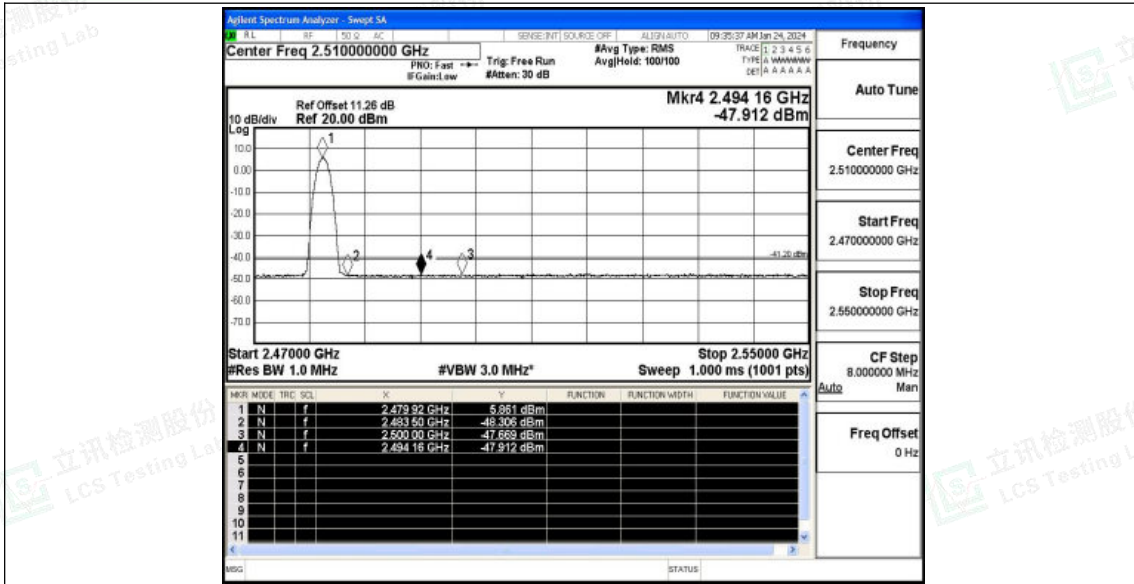


3DH5_Ant1_Low_2402_Peak

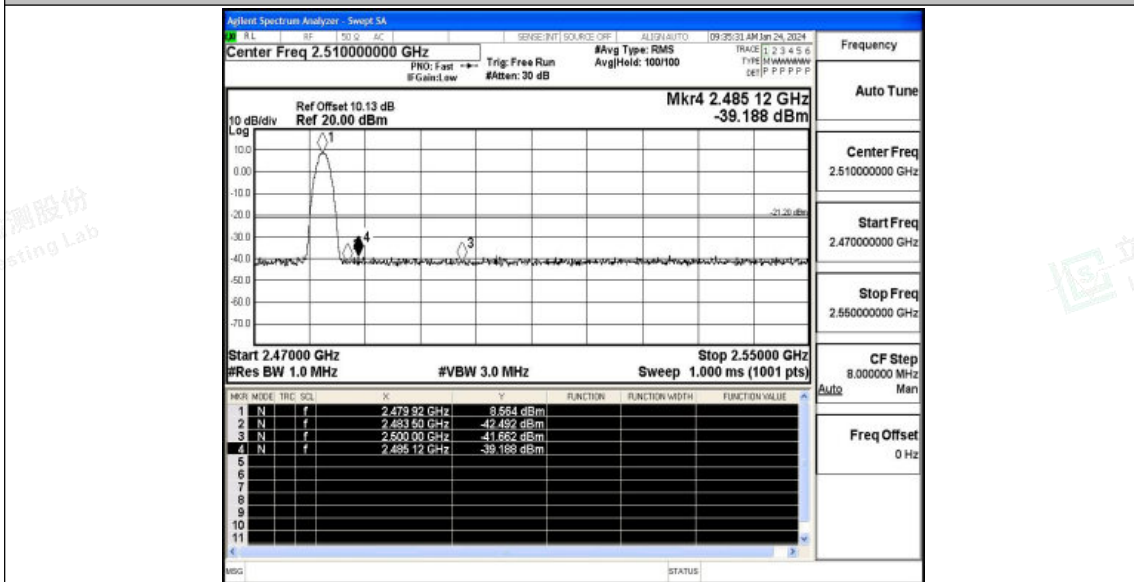


3DH5_Ant1_High_2480_AV



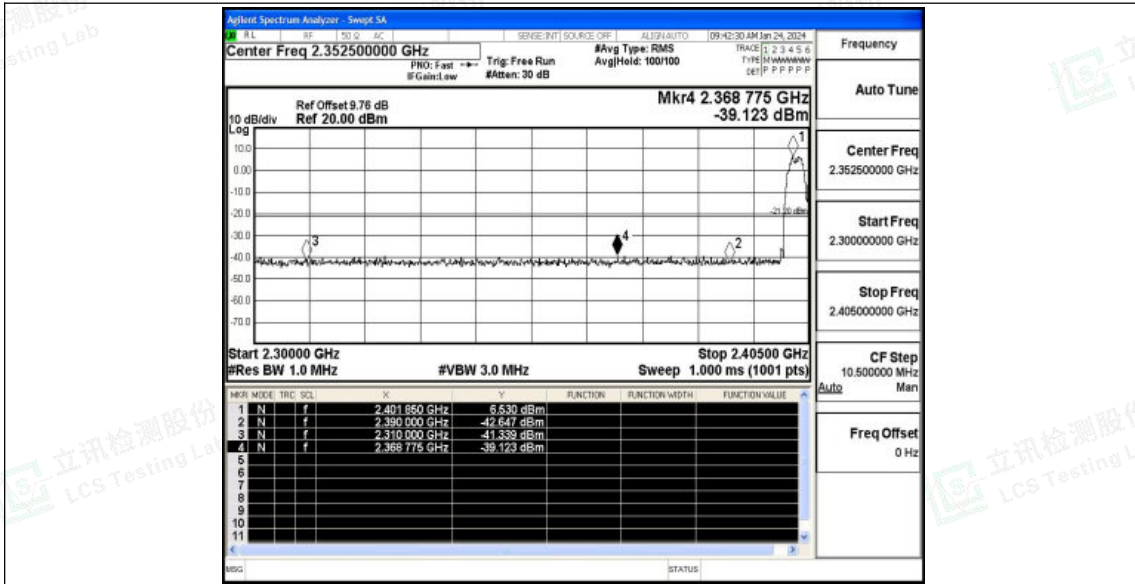


3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak





3DH5_Ant1_High_Hop_2480_Peak

