



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Sound Bar

Test Model: S111

Environmental Conditions

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





A.1 20dB Emission Bandwidth

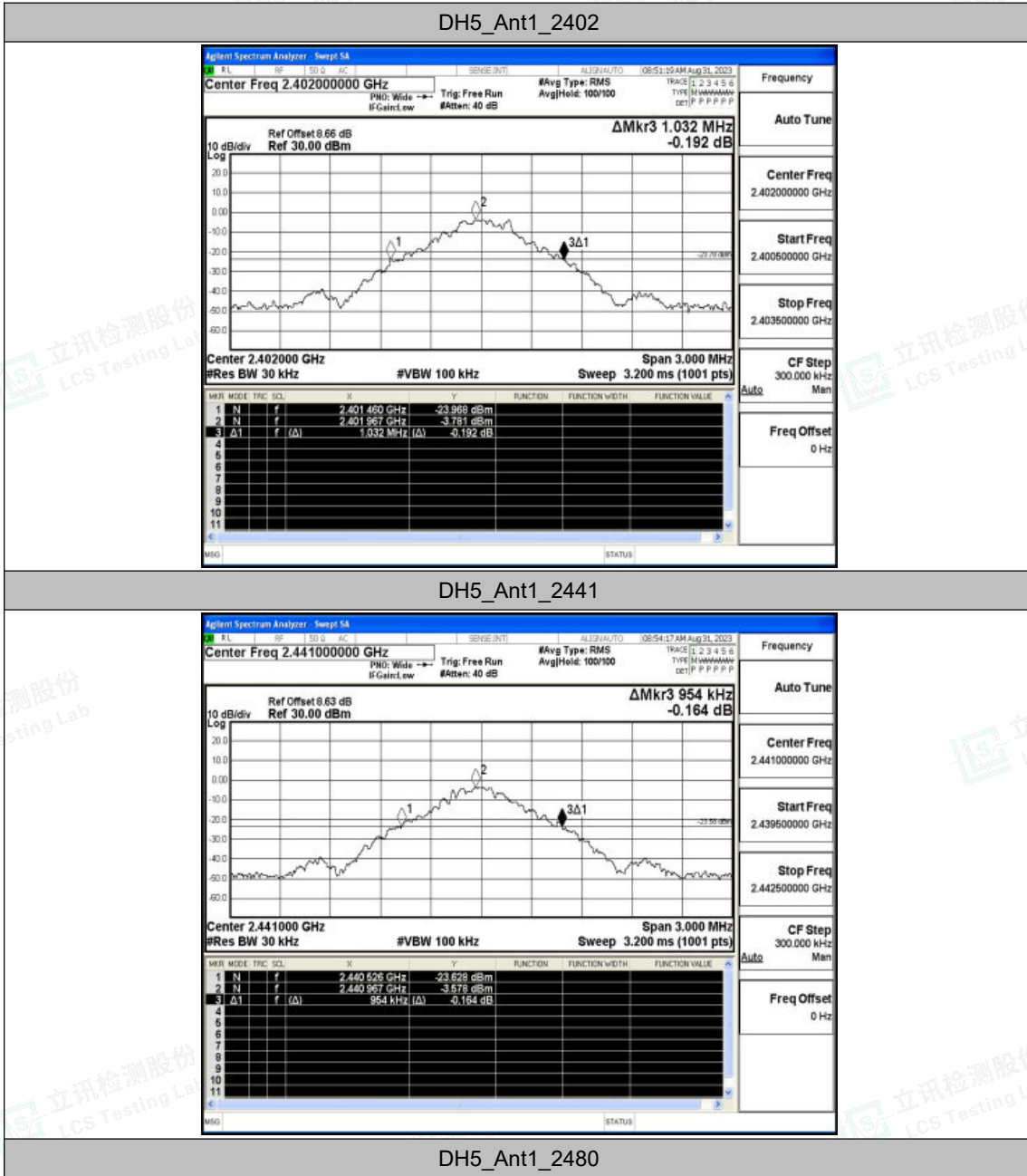
Test Result

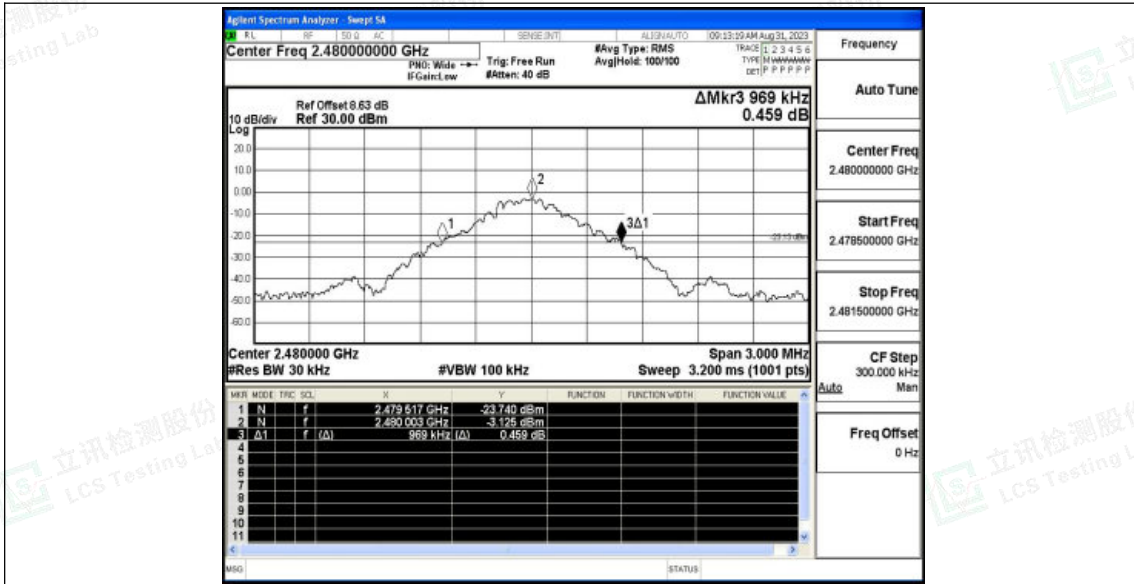
TestMode	Antenna	Frequency [MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	1.032	2401.460	2402.492	---
		2441	0.954	2440.526	2441.480	---
		2480	0.969	2479.517	2480.486	---
2DH5	Ant1	2402	1.359	2401.310	2402.669	---
		2441	1.290	2440.352	2441.642	---
		2480	1.317	2479.328	2480.645	---
3DH5	Ant1	2402	1.299	2401.331	2402.630	---
		2441	1.314	2440.337	2441.651	---
		2480	1.317	2479.331	2480.648	---



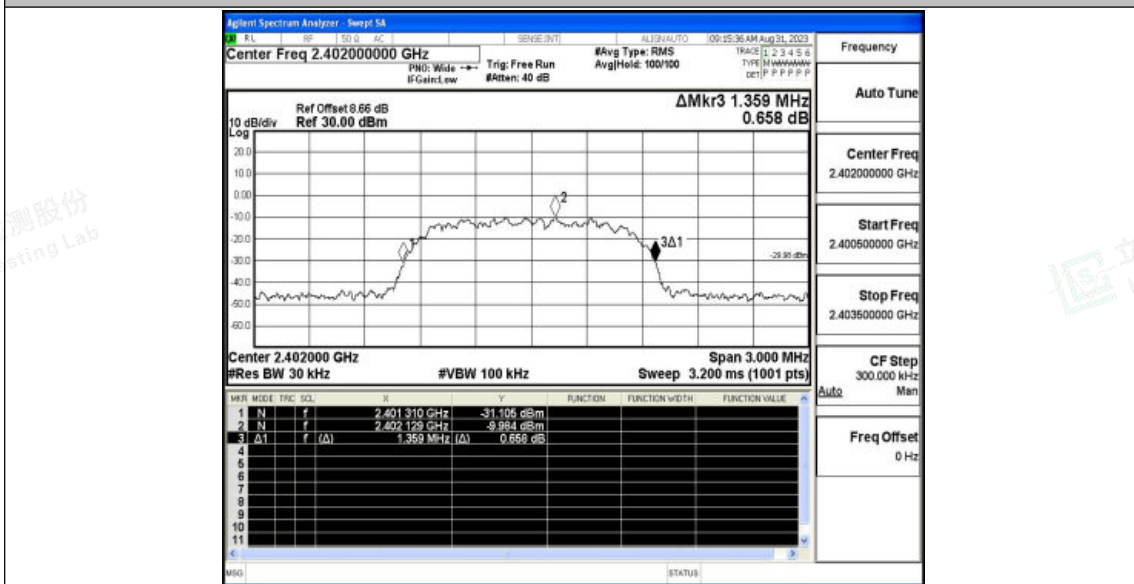


Test Graphs



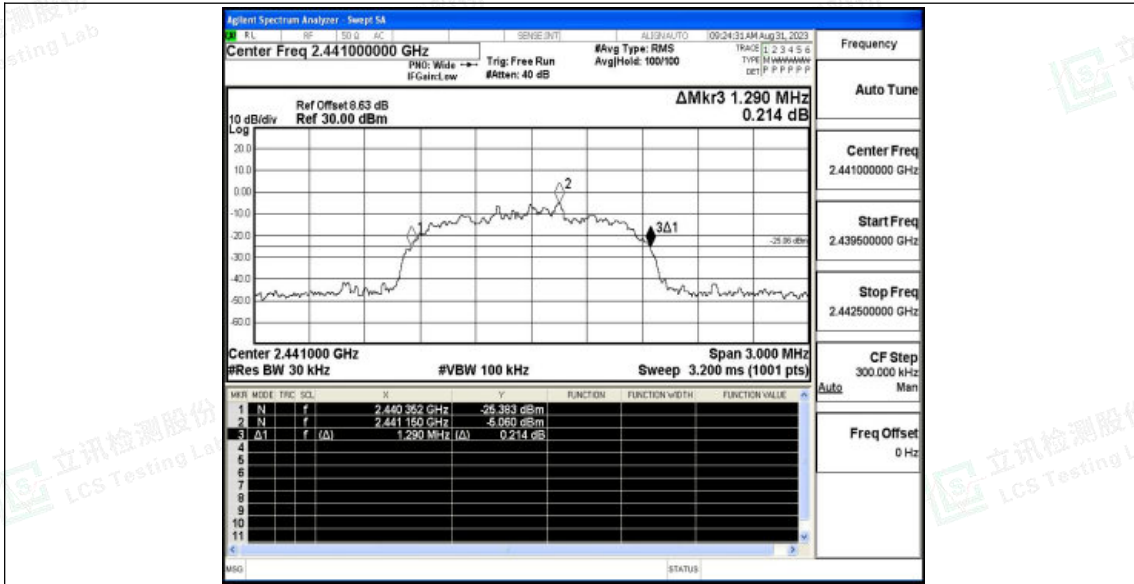


2DH5_Ant1_2402

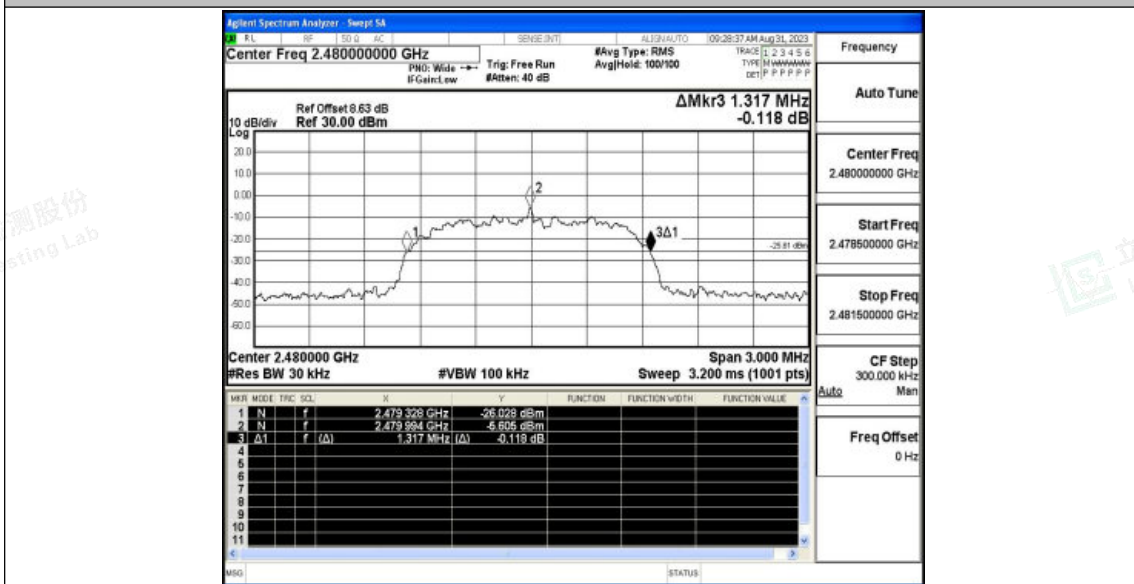


2DH5_Ant1_2441



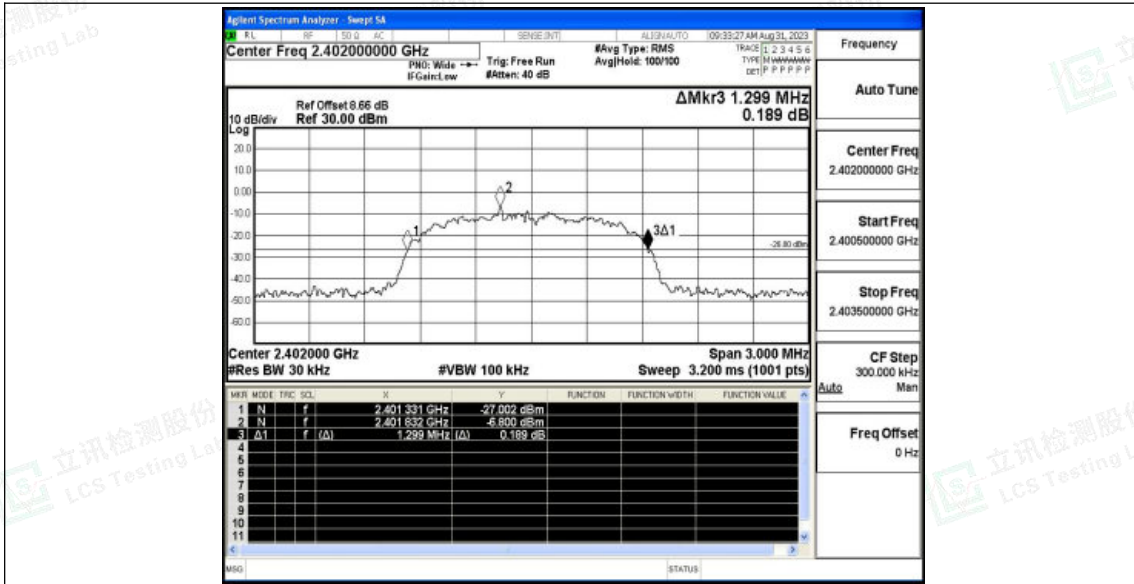


2DH5_Ant1_2480

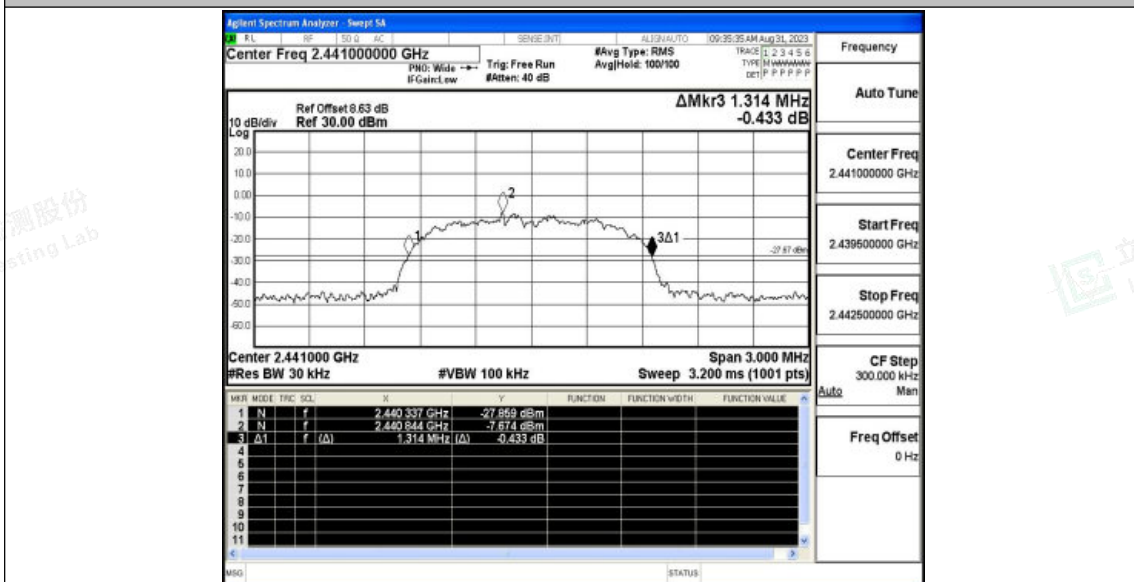


3DH5_Ant1_2402



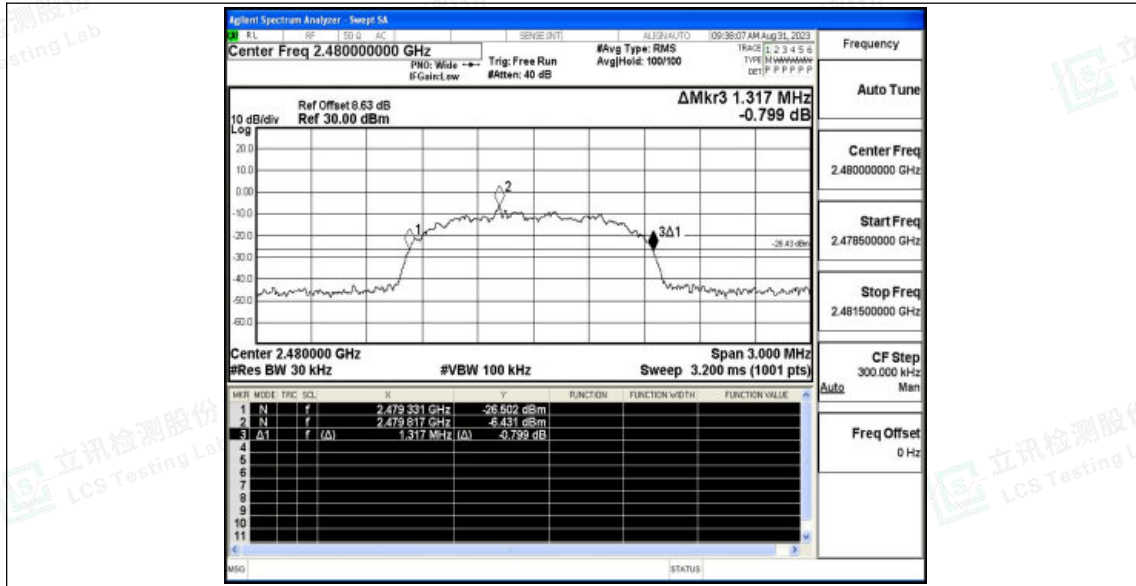


3DH5_Ant1_2441



3DH5_Ant1_2480







A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Frequency [MHz]	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-0.6	≤21	PASS
		2441	-0.41	≤21	PASS
		2480	-0.03	≤21	PASS
2DH5	Ant1	2402	-0.81	≤21	PASS
		2441	-0.62	≤21	PASS
		2480	-0.52	≤21	PASS
3DH5	Ant1	2402	-0.77	≤21	PASS
		2441	-0.58	≤21	PASS
		2480	-0.49	≤21	PASS



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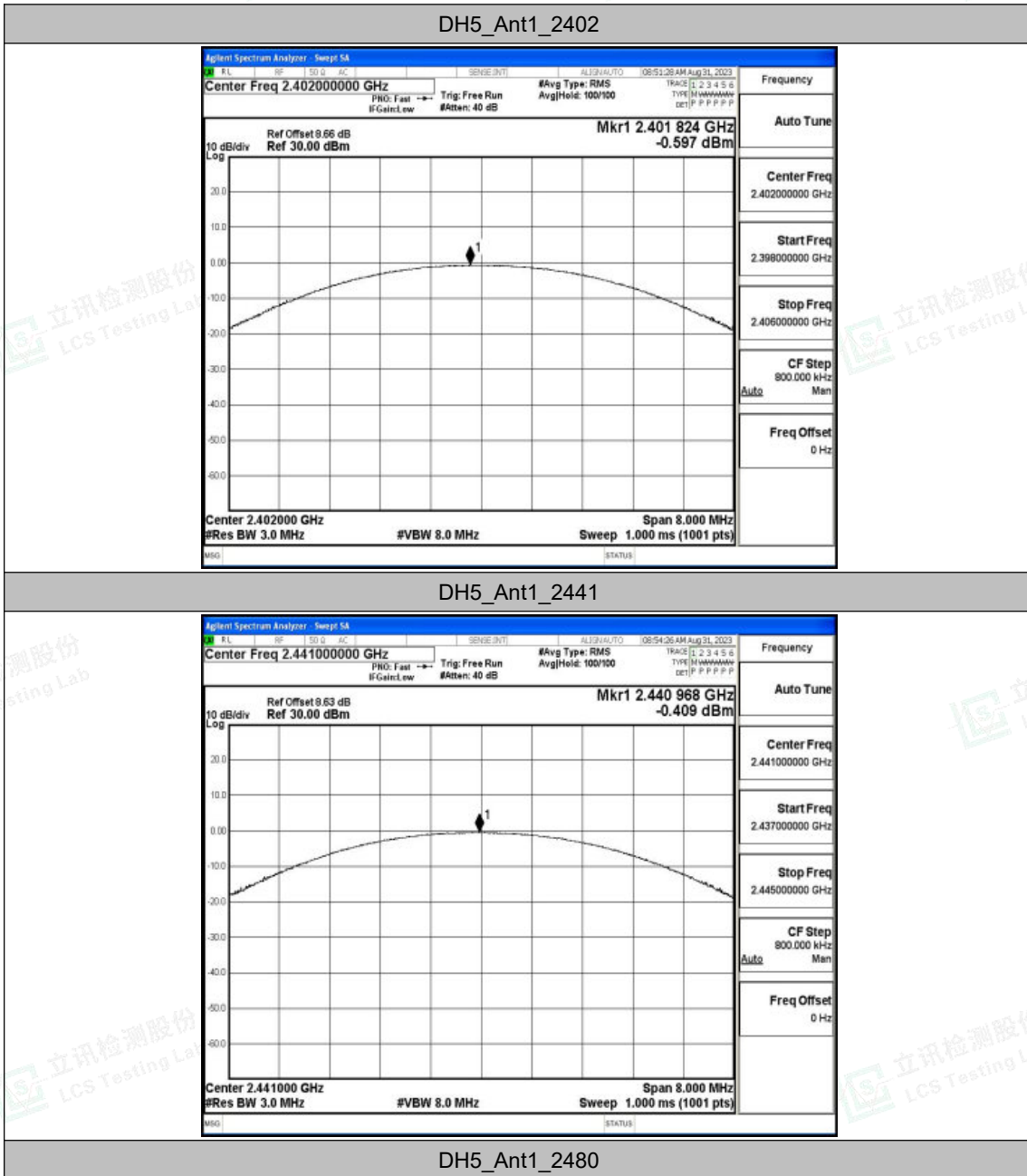
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

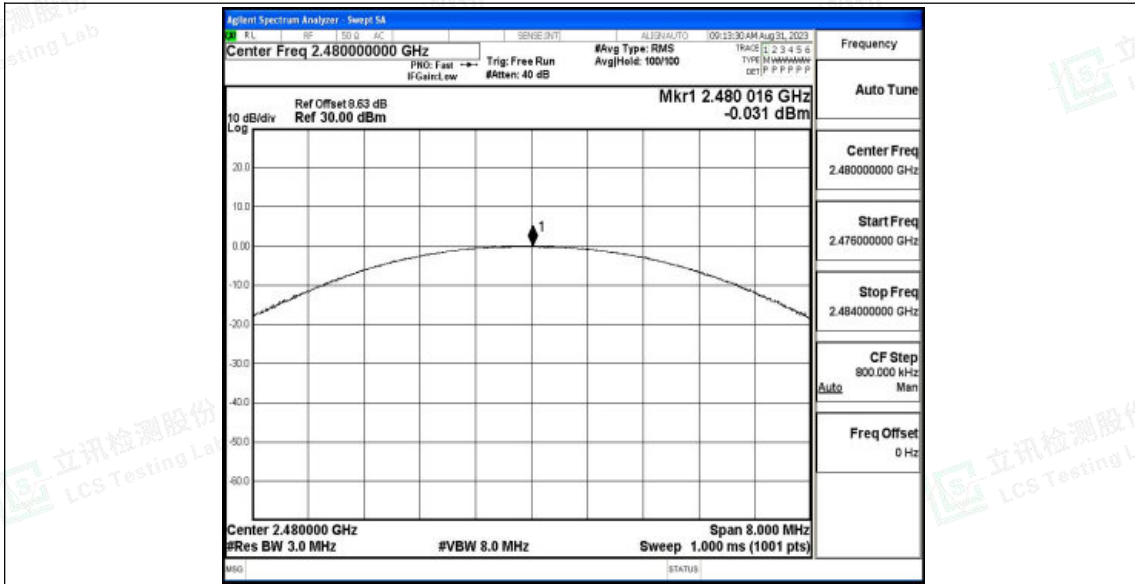
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

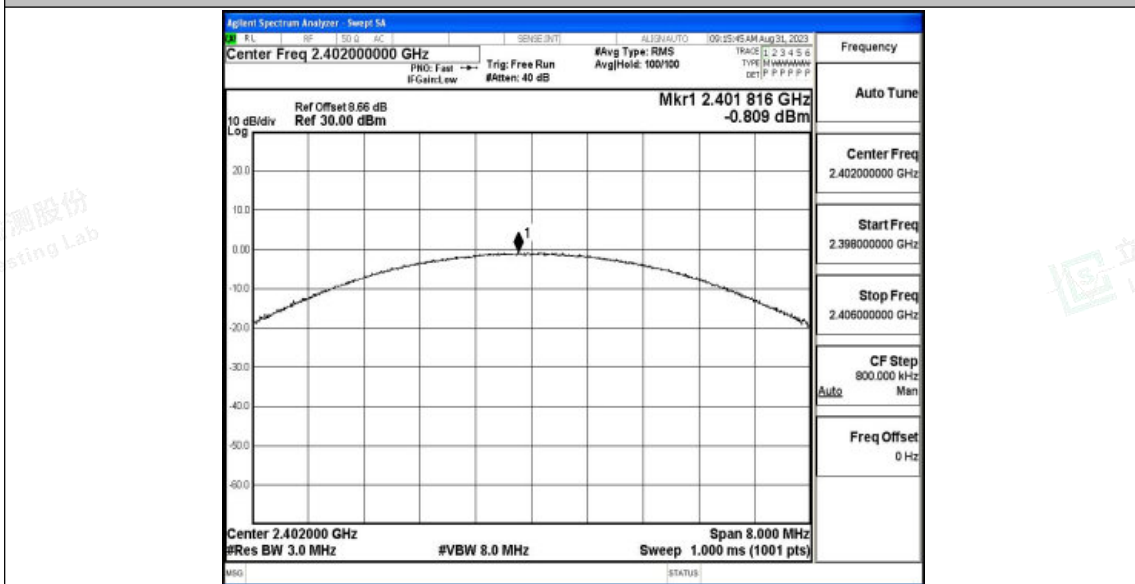


Test Graphs



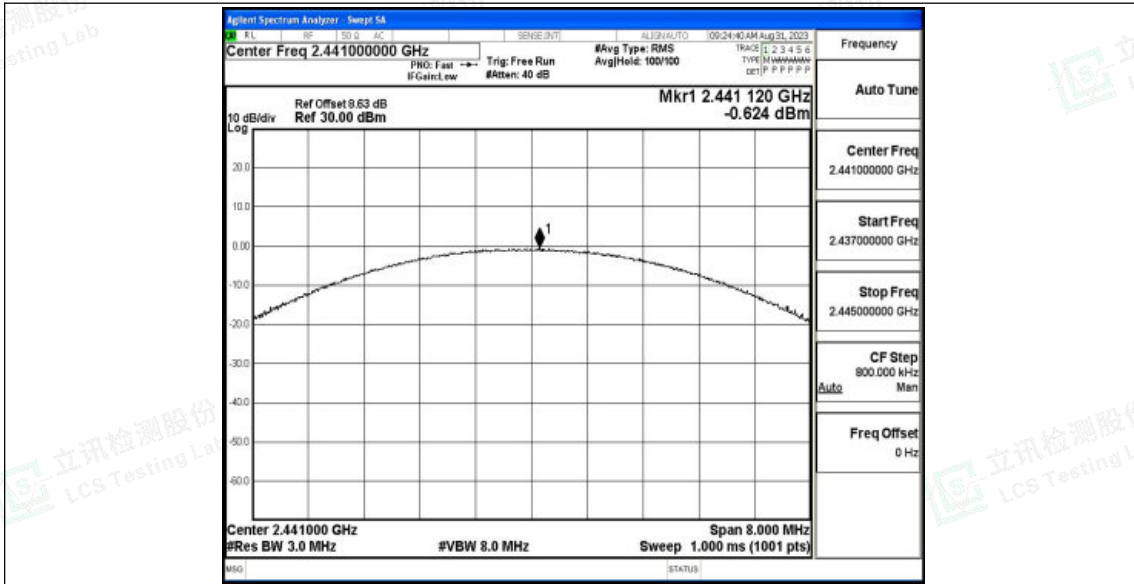


2DH5_Ant1_2402

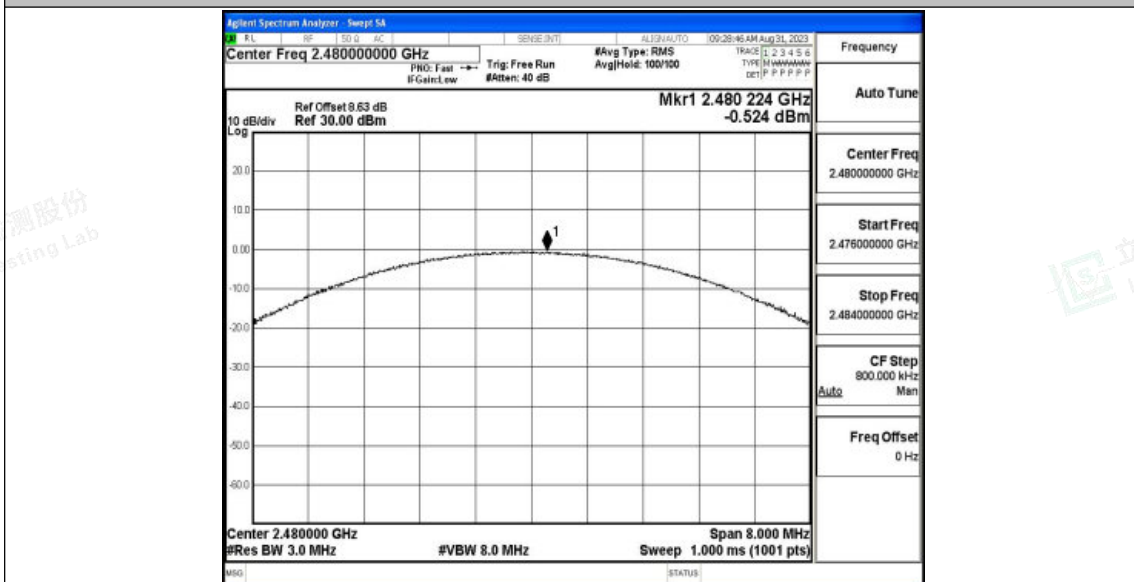


2DH5_Ant1_2441



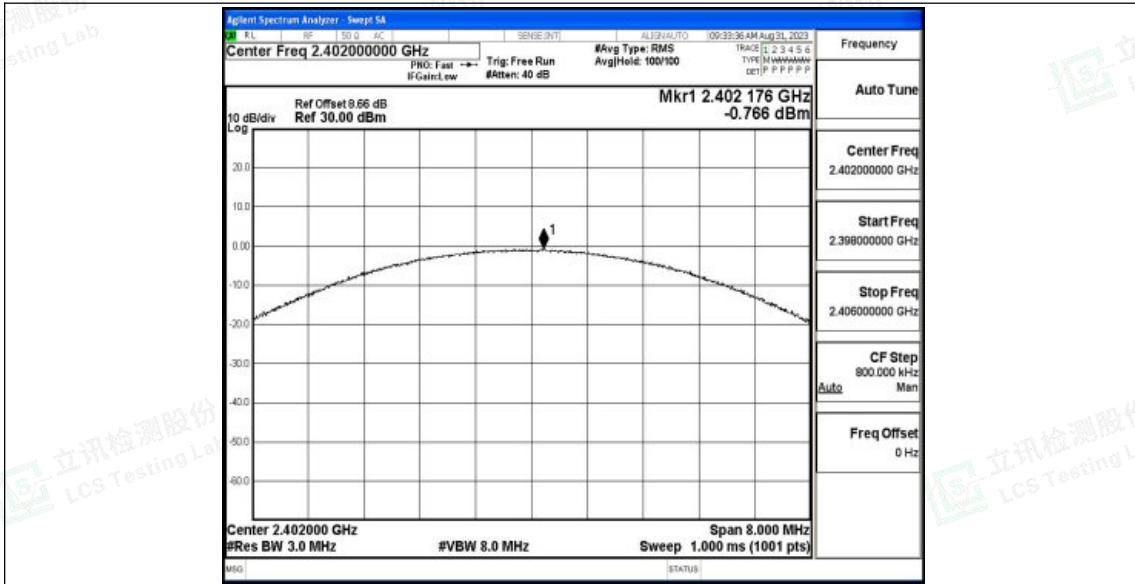


2DH5_Ant1_2480

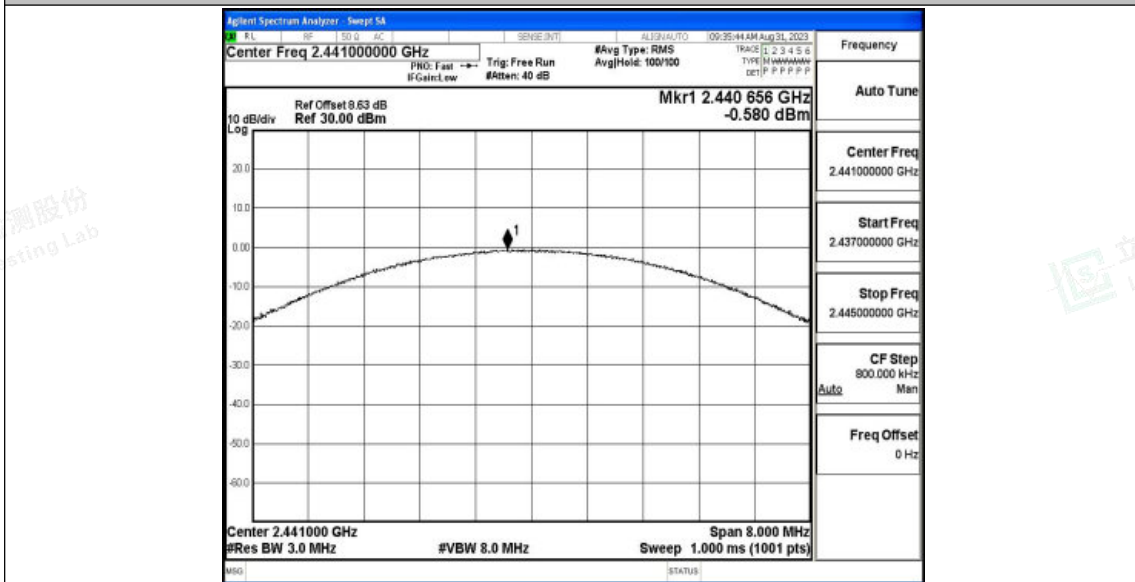


3DH5_Ant1_2402



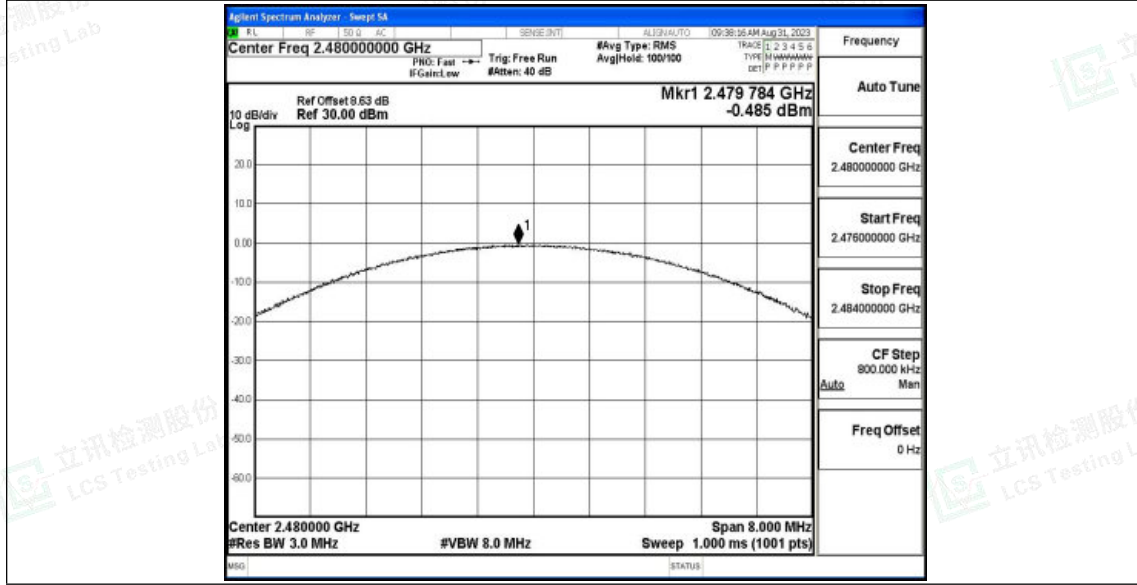


3DH5_Ant1_2441



3DH5_Ant1_2480







A.3 Carrier frequency separation

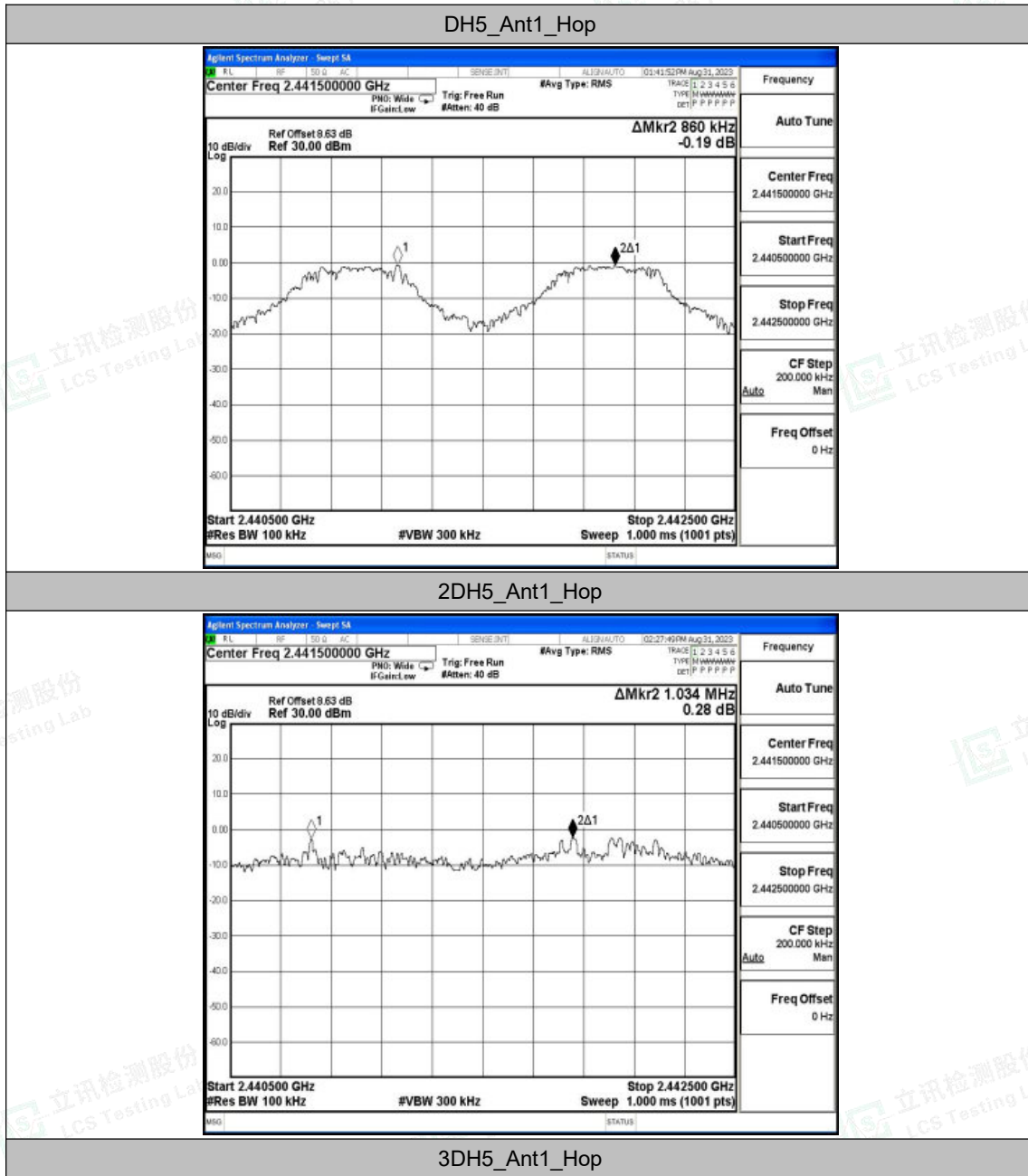
Test Result

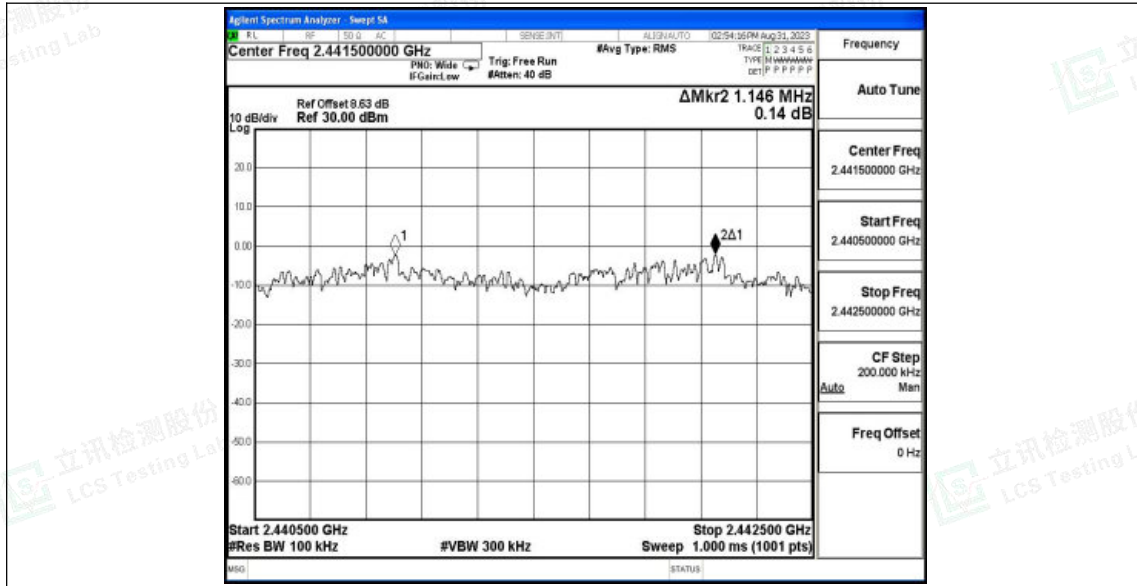
TestMode	Antenna	Frequency [MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.86	≥0.688	PASS
2DH5	Ant1	Hop	1.034	≥0.906	PASS
3DH5	Ant1	Hop	1.146	≥0.878	PASS





Test Graphs







A.4 Time of occupancy

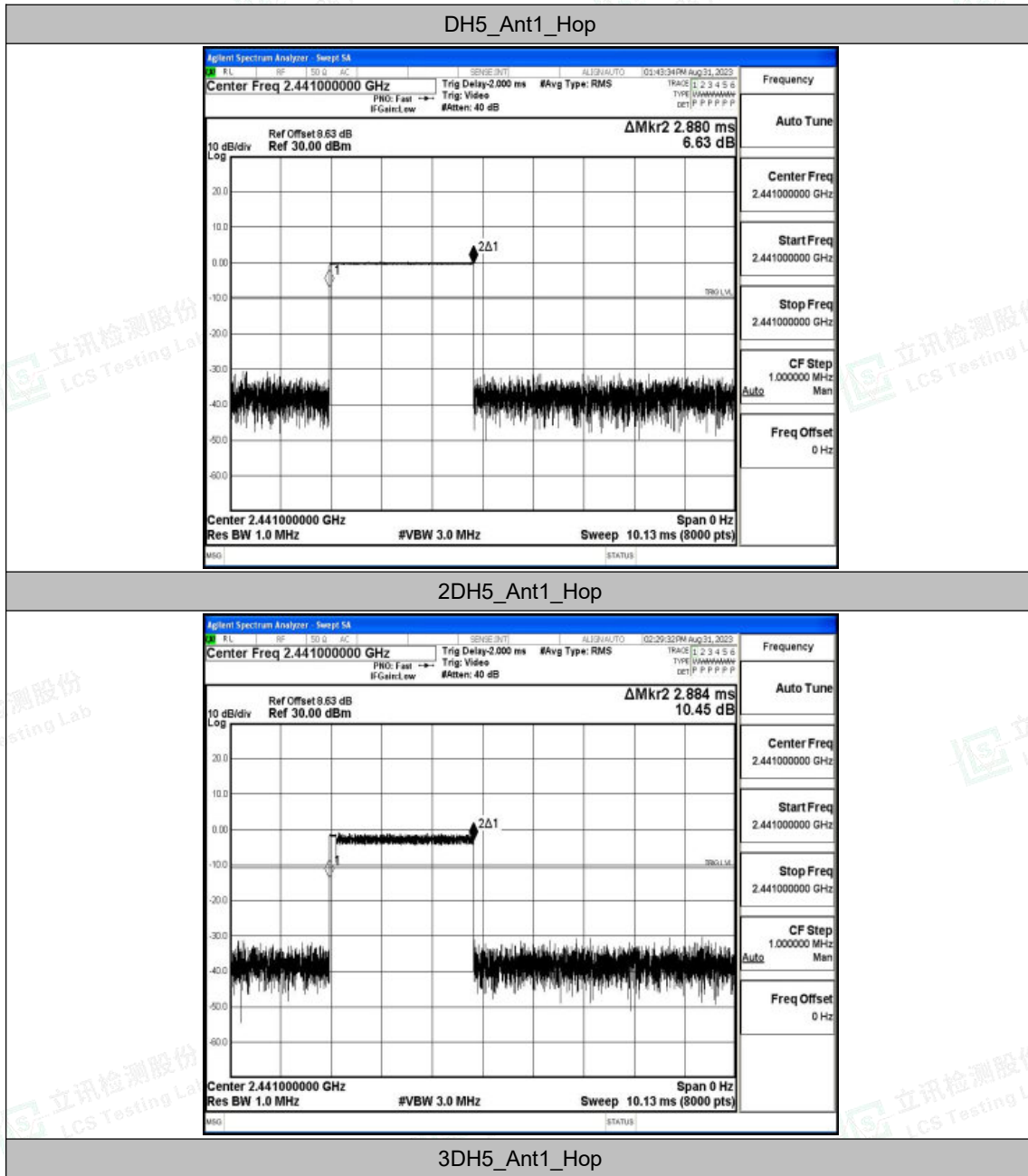
Test Result

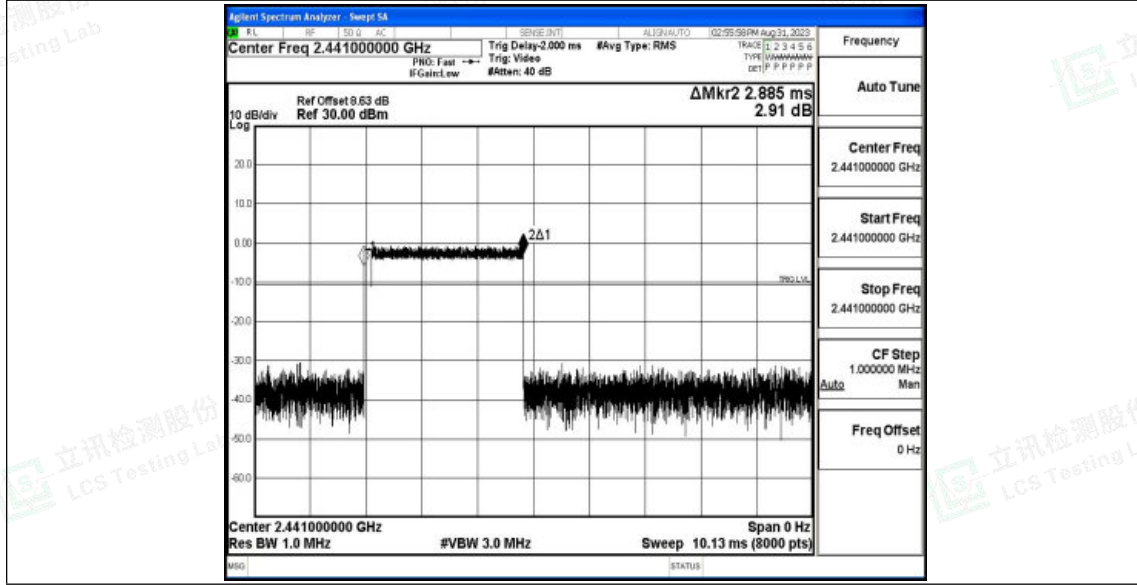
TestMode	Antenna	Frequency [MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.884	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

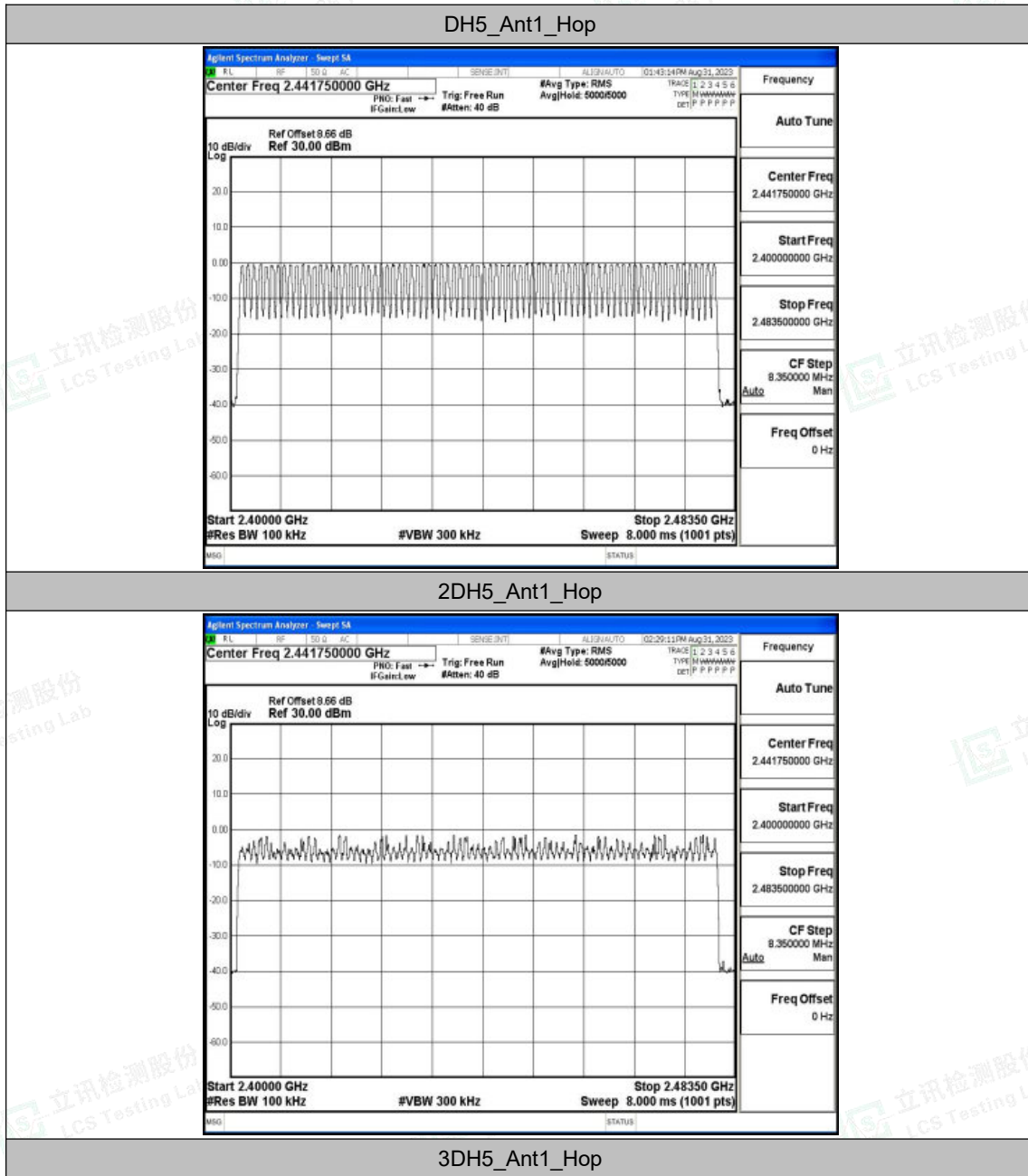
Test Result

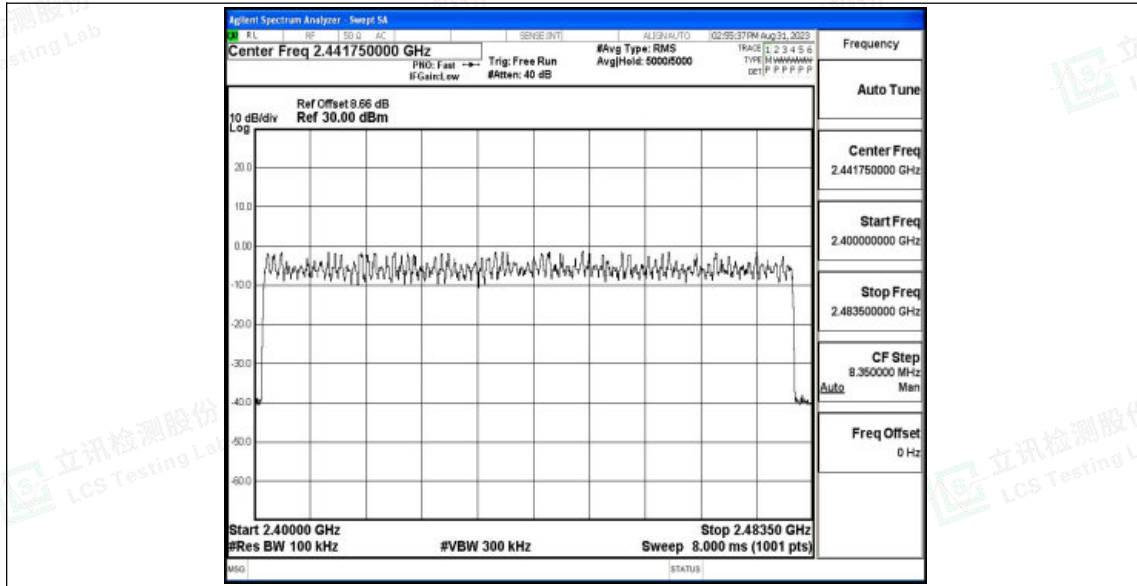
TestMode	Antenna	Frequency [MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS





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	-1.26	-49.77	≤-21.26	PASS
		High	2480	-1.26	-47.95	≤-21.26	PASS
		Low	Hop_2402	-1.12	-48.69	≤-21.12	PASS
		High	Hop_2480	-0.39	-47.5	≤-20.39	PASS
2DH5	Ant1	Low	2402	-5.97	-49.01	≤-25.97	PASS
		High	2480	-5.15	-49.15	≤-25.15	PASS
		Low	Hop_2402	-5.55	-49.1	≤-25.55	PASS
		High	Hop_2480	-2.99	-47.06	≤-22.99	PASS
3DH5	Ant1	Low	2402	-5.31	-49.89	≤-25.31	PASS
		High	2480	-4.99	-49.32	≤-24.99	PASS
		Low	Hop_2402	-5.14	-48.42	≤-25.14	PASS
		High	Hop_2480	-3.24	-47.1	≤-23.24	PASS



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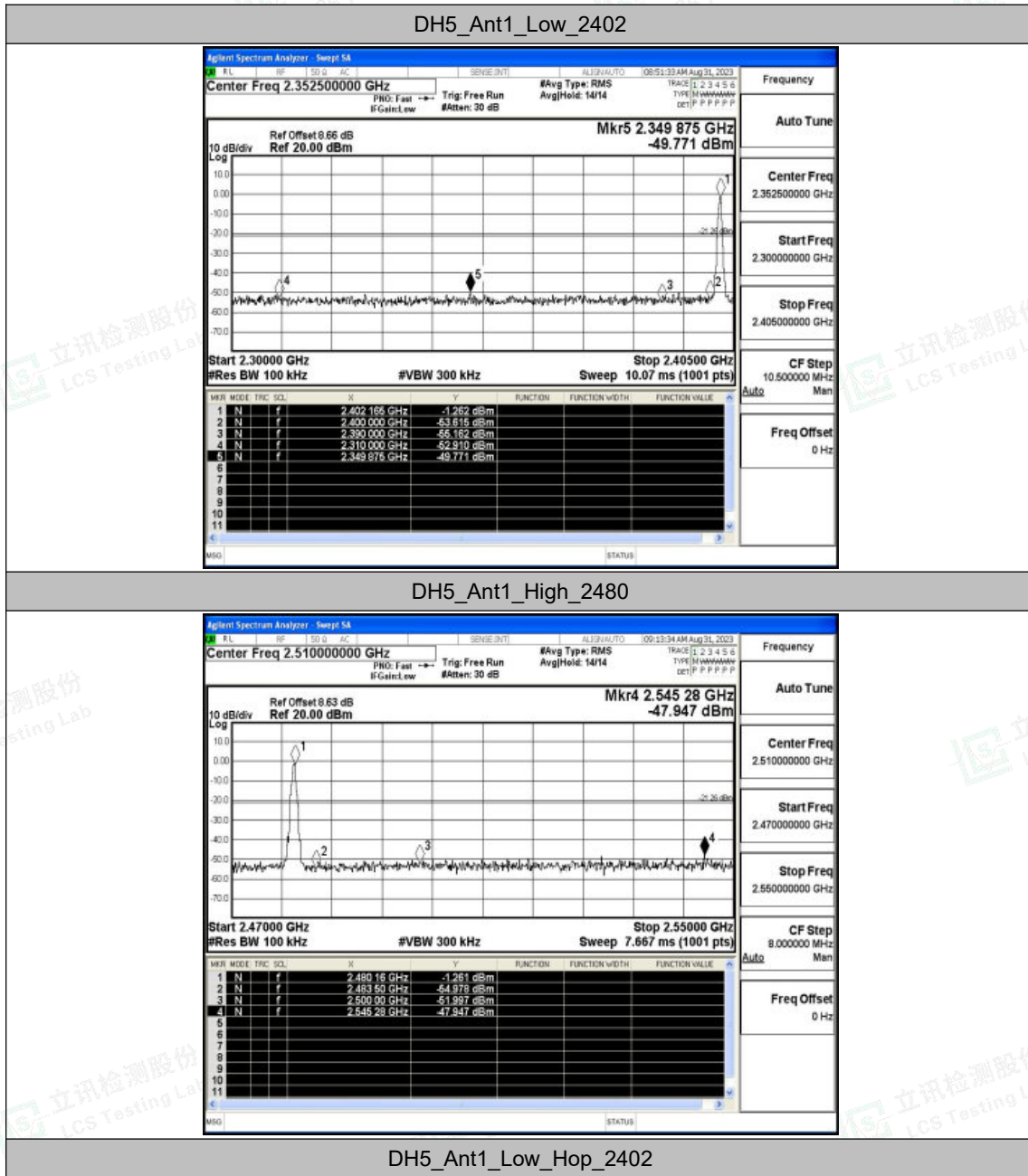
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

Scan code to check authenticity

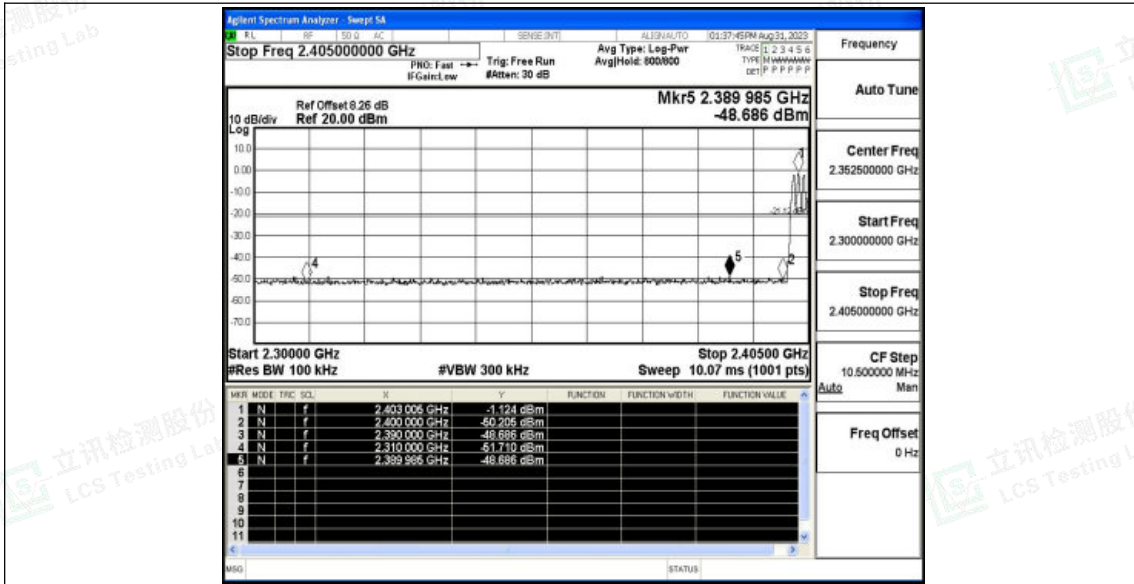


Test Graphs

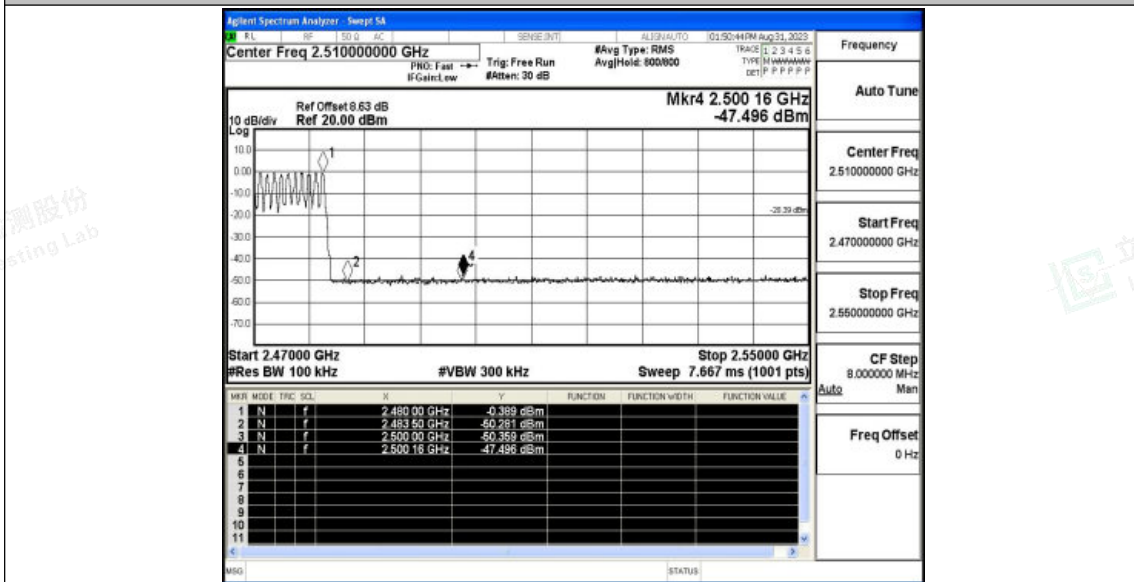


DH5_Ant1_Low_Hop_2402



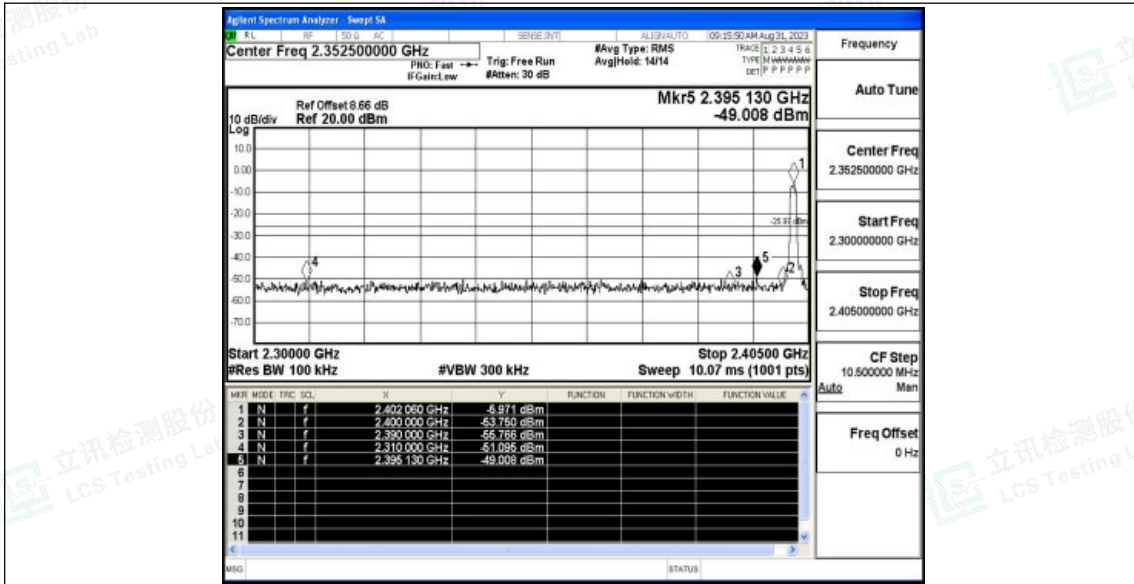


DH5_Ant1_High_Hop_2480

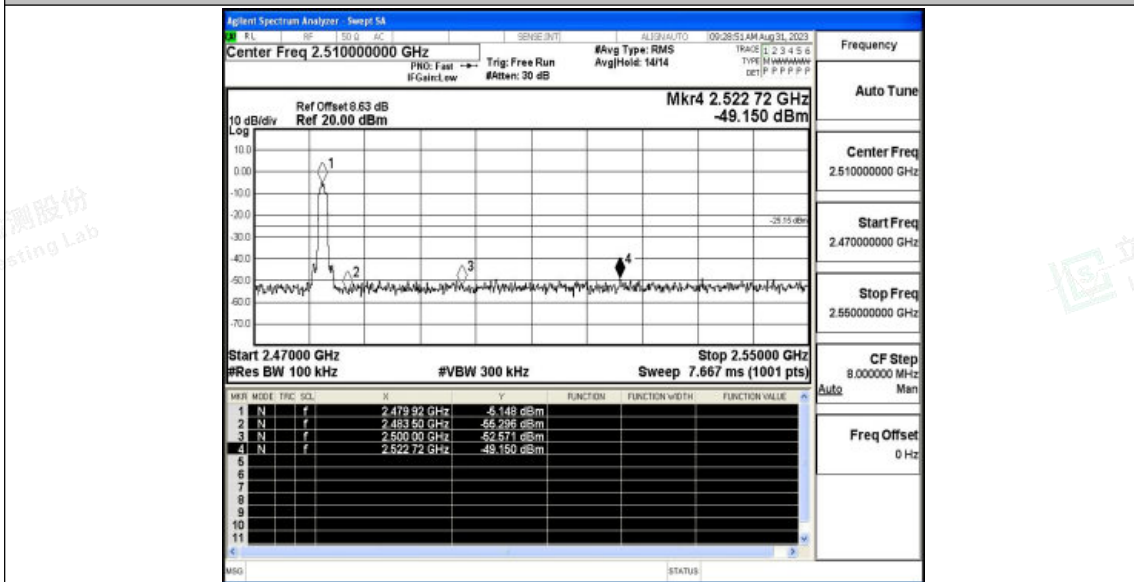


2DH5_Ant1_Low_2402



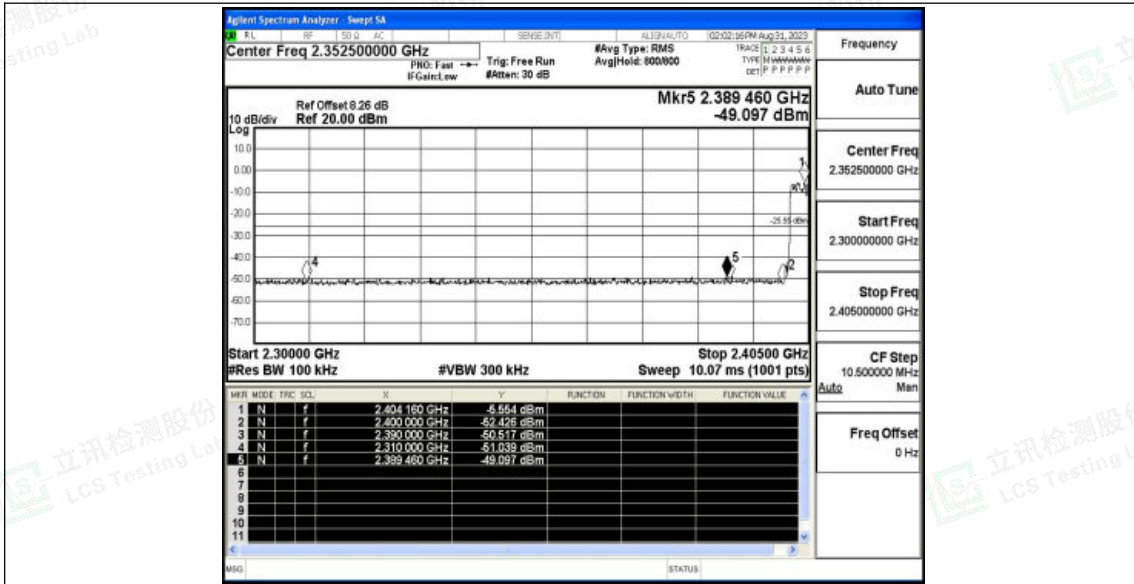


2DH5_Ant1_High_2480

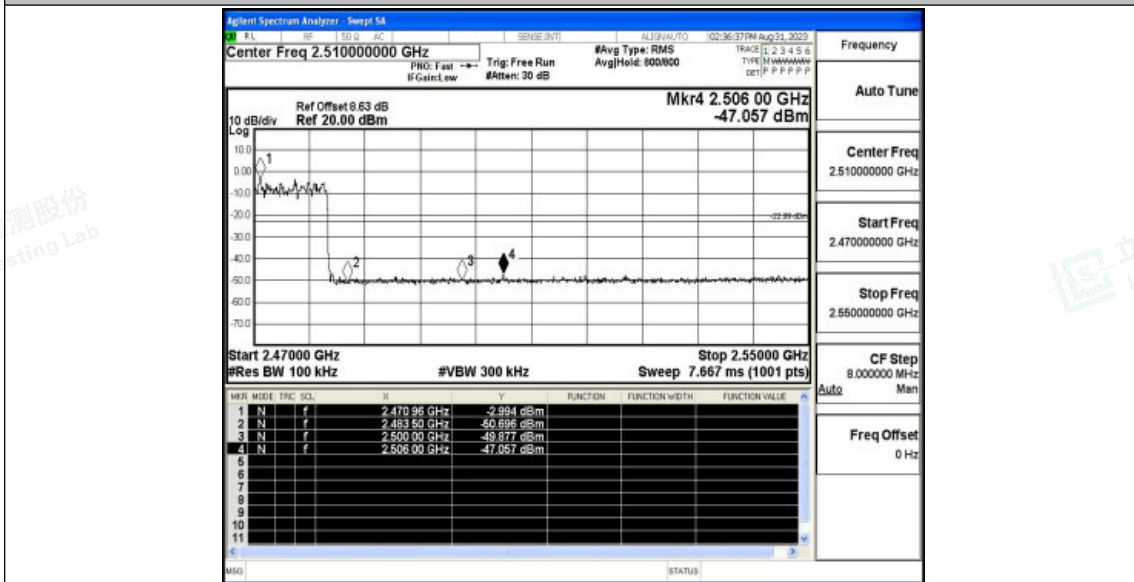


2DH5_Ant1_Low_Hop_2402



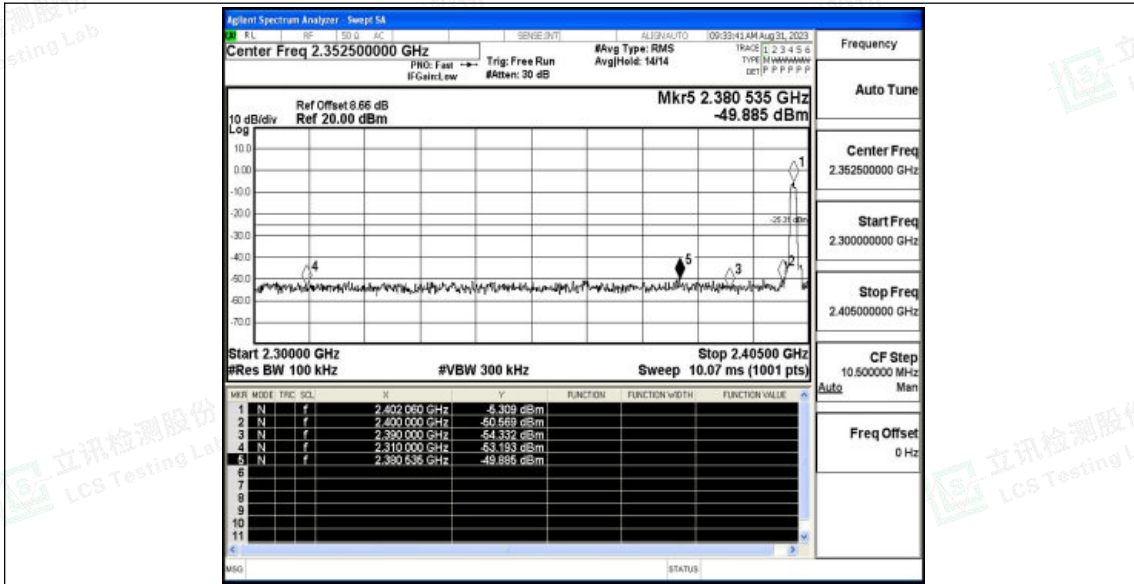


2DH5_Ant1_High_Hop_2480

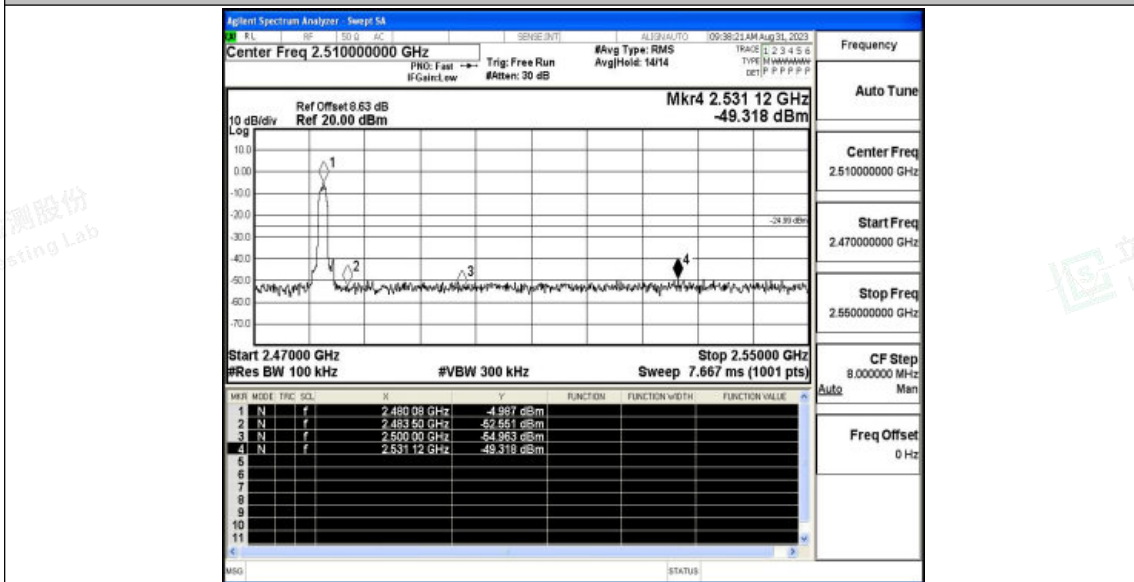


3DH5_Ant1_Low_2402



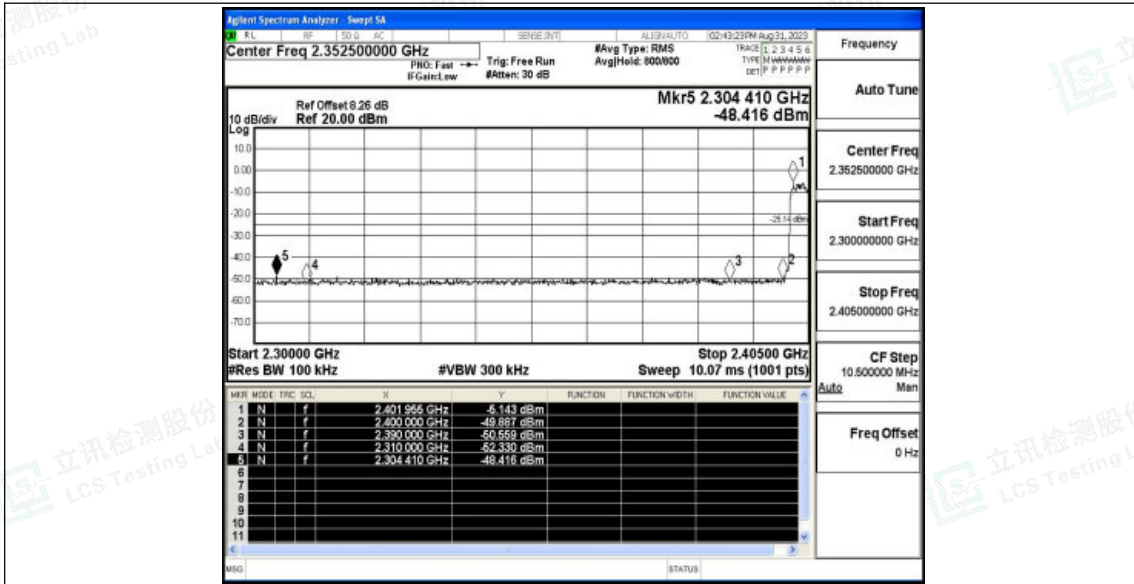


3DH5_Ant1_High_2480

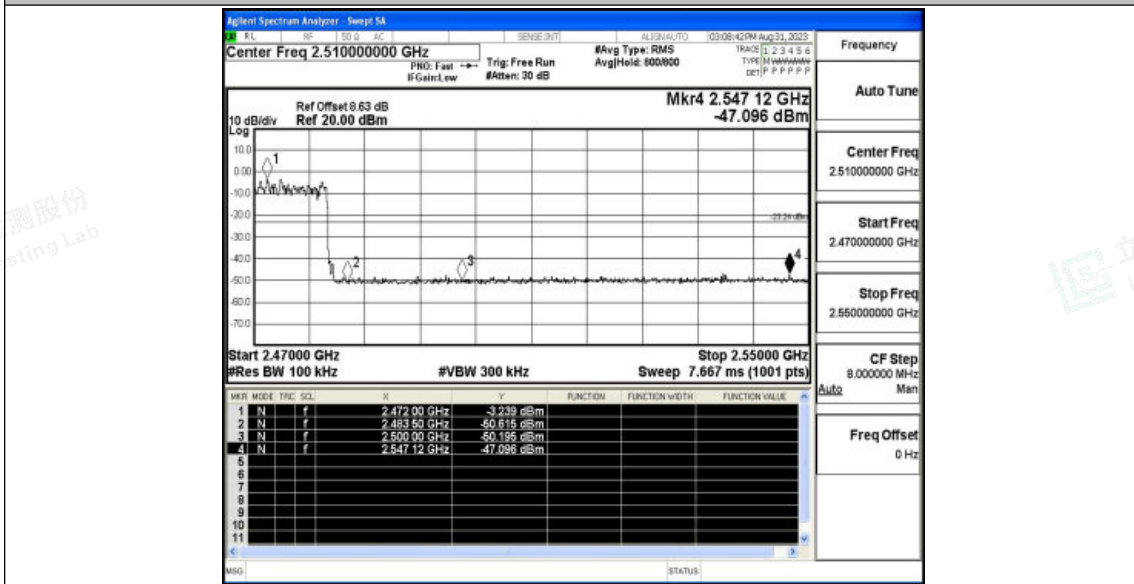


3DH5_Ant1_Low_Hop_2402





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	Reference	-1.90	-1.90	---	PASS
			30~1000	-1.90	-60.08	≤-21.9	PASS
			1000~26500	-1.90	-47.11	≤-21.9	PASS
		2441	Reference	-1.66	-1.66	---	PASS
			30~1000	-1.66	-60.87	≤-21.66	PASS
			1000~26500	-1.66	-45.73	≤-21.66	PASS
		2480	Reference	-0.72	-0.72	---	PASS
			30~1000	-0.72	-59.65	≤-20.72	PASS
			1000~26500	-0.72	-46.19	≤-20.72	PASS
2DH5	Ant1	2402	Reference	-2.41	-2.41	---	PASS
			30~1000	-2.41	-60.59	≤-22.41	PASS
			1000~26500	-2.41	-45.75	≤-22.41	PASS
		2441	Reference	-2.70	-2.70	---	PASS
			30~1000	-2.70	-61.21	≤-22.7	PASS
			1000~26500	-2.70	-46.3	≤-22.7	PASS
		2480	Reference	-2.35	-2.35	---	PASS
			30~1000	-2.35	-61.5	≤-22.35	PASS
			1000~26500	-2.35	-46.79	≤-22.35	PASS
3DH5	Ant1	2402	Reference	-3.53	-3.53	---	PASS
			30~1000	-3.53	-60.61	≤-23.53	PASS
			1000~26500	-3.53	-45.61	≤-23.53	PASS
		2441	Reference	-2.71	-2.71	---	PASS
			30~1000	-2.71	-60.52	≤-22.71	PASS
			1000~26500	-2.71	-45.97	≤-22.71	PASS
		2480	Reference	-5.15	-5.15	---	PASS
			30~1000	-5.15	-61.29	≤-25.15	PASS
			1000~26500	-5.15	-46.71	≤-25.15	PASS



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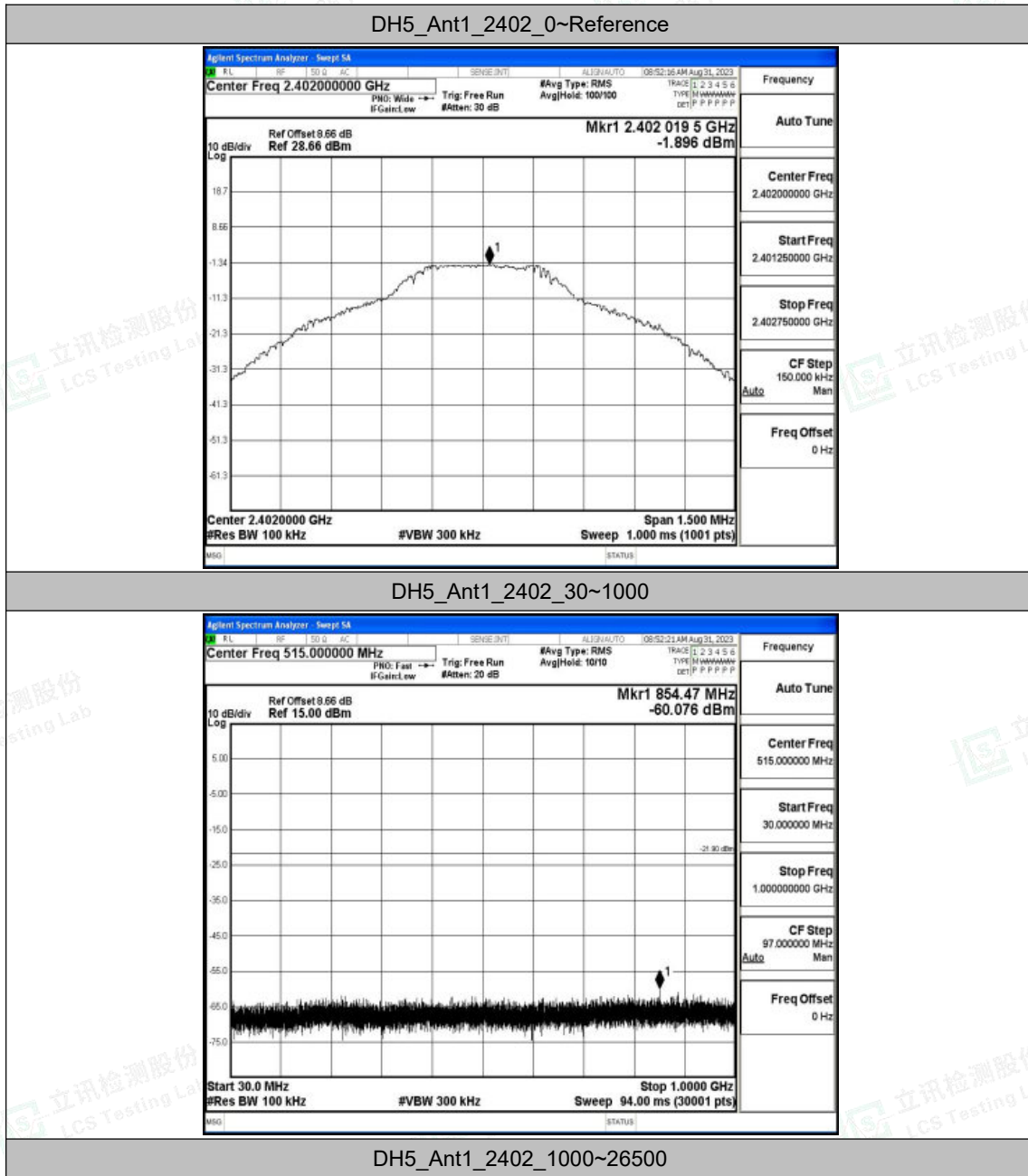
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

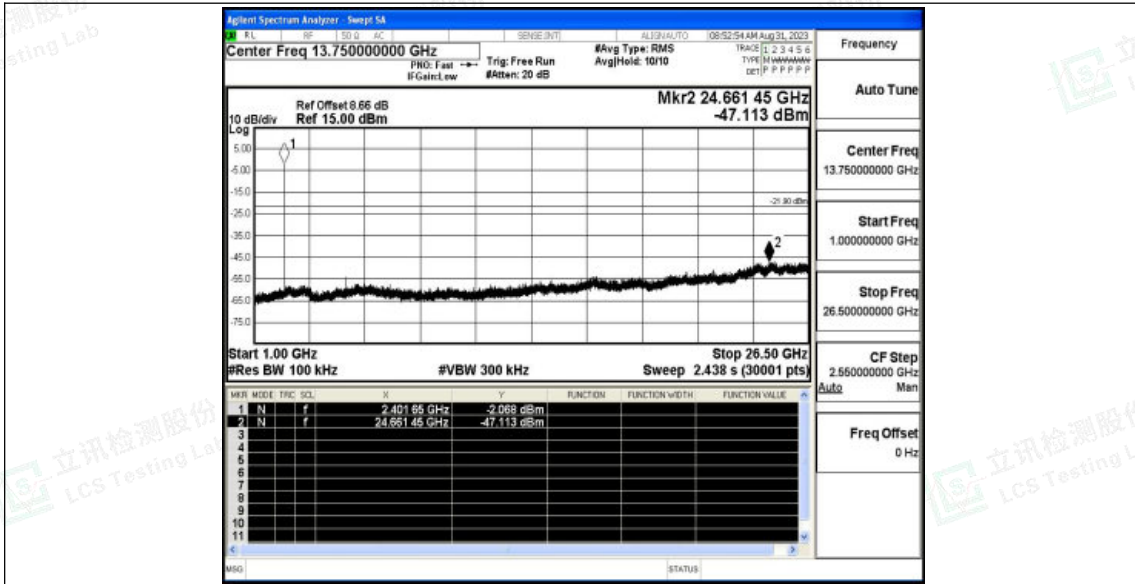
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

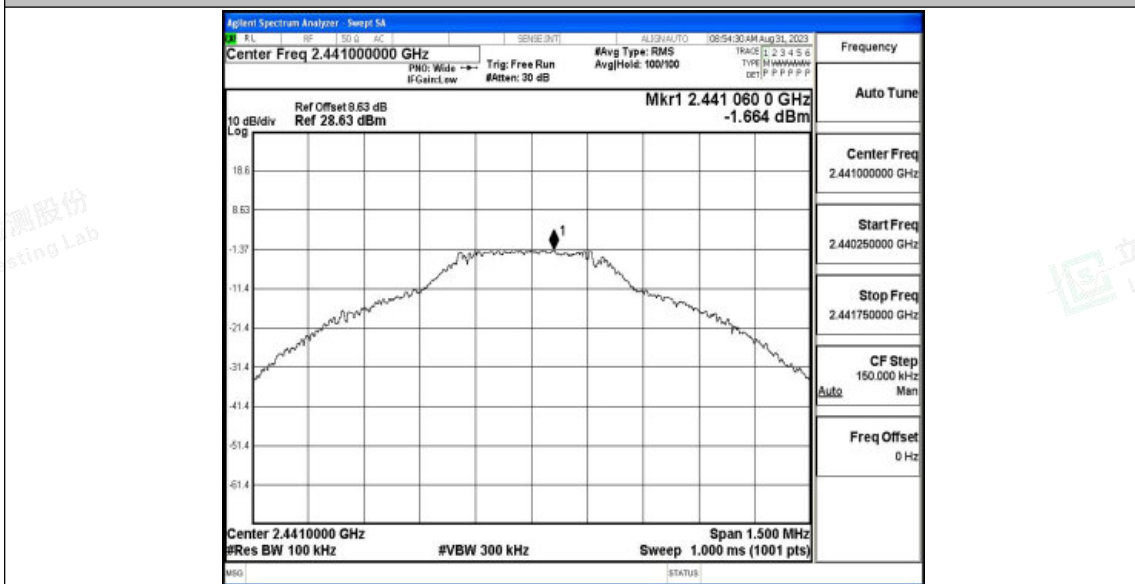


Test Graphs



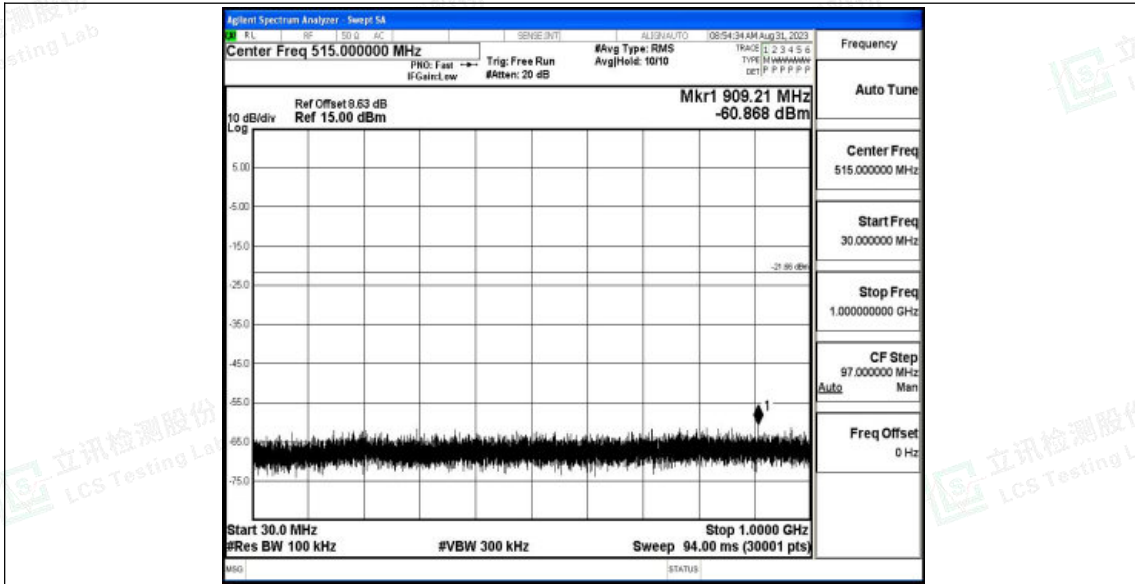


DH5_Ant1_2441_0~Reference

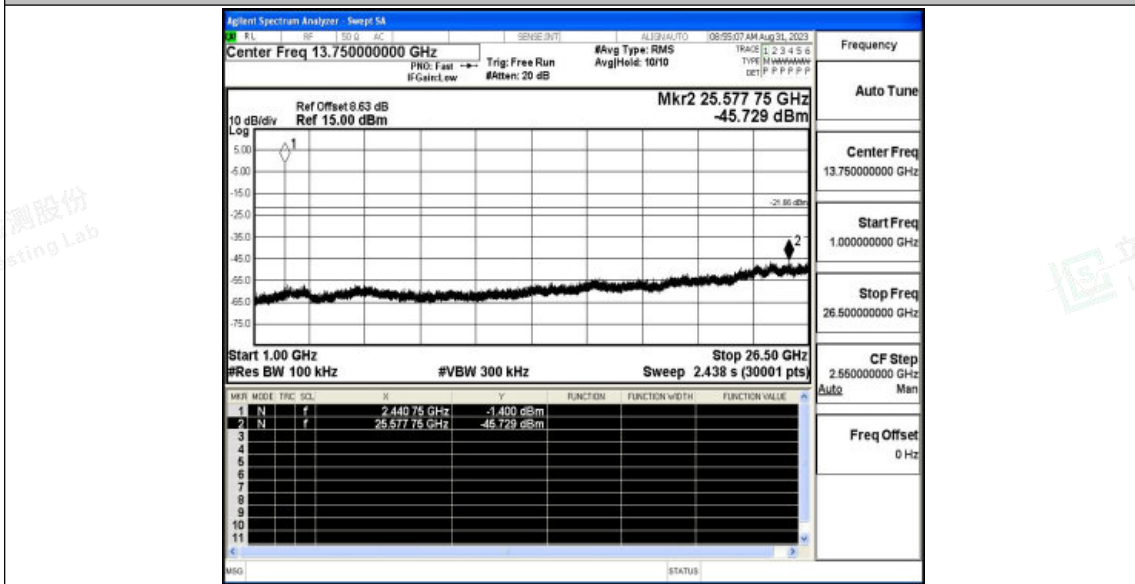


DH5_Ant1_2441_30~1000



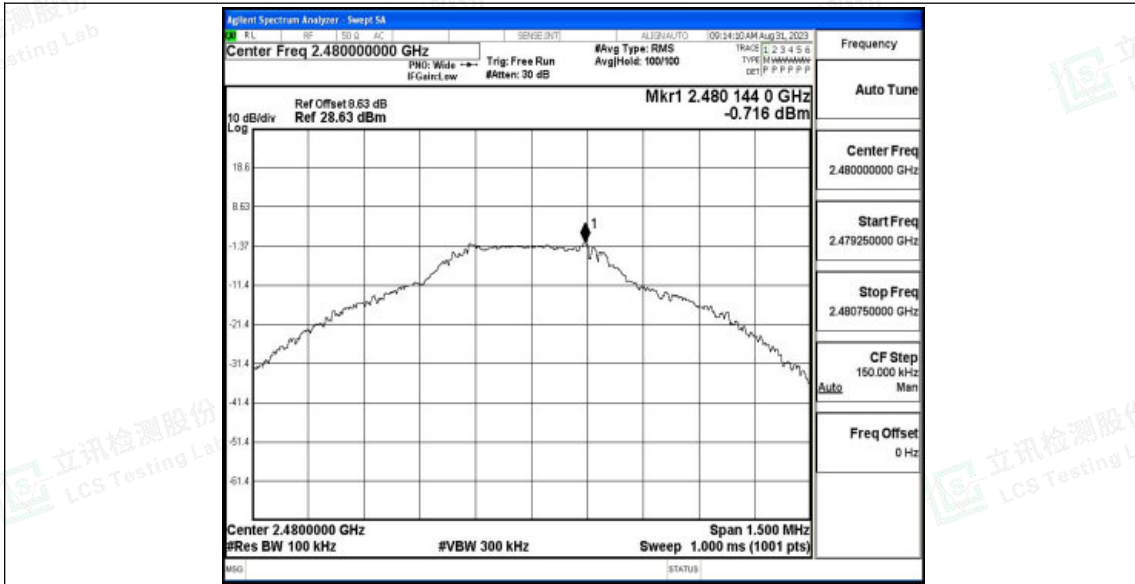


DH5_Ant1_2441_1000~26500

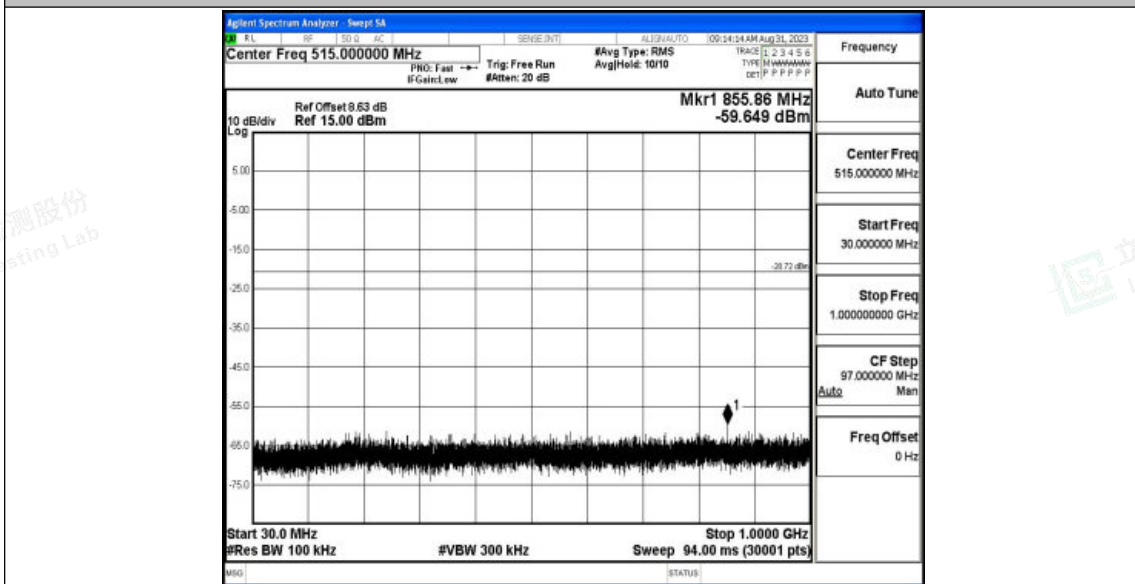


DH5_Ant1_2480_0-Reference



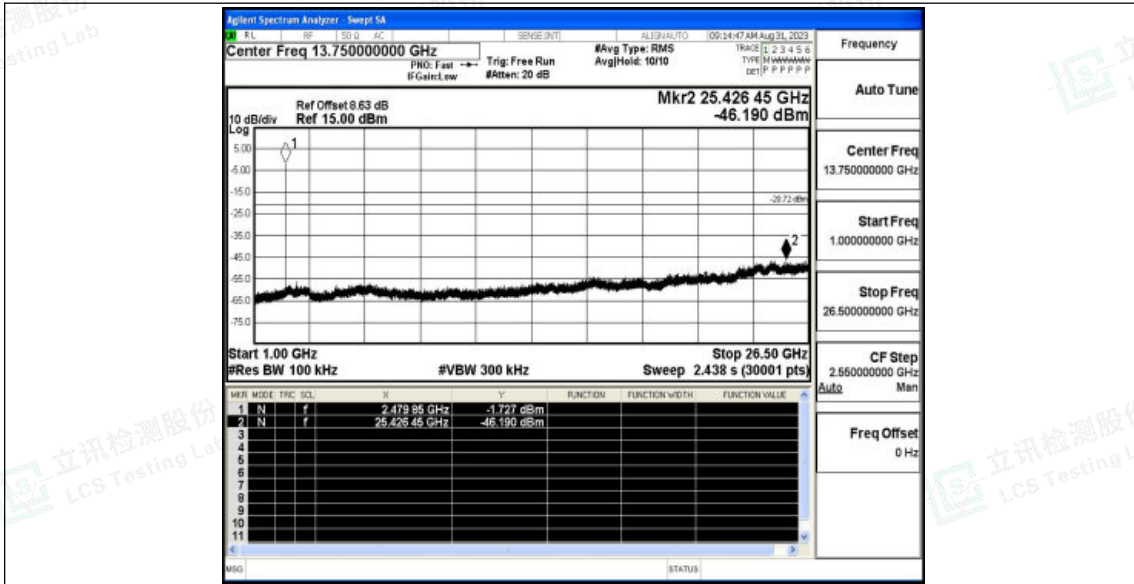


DH5_Ant1_2480_30~1000

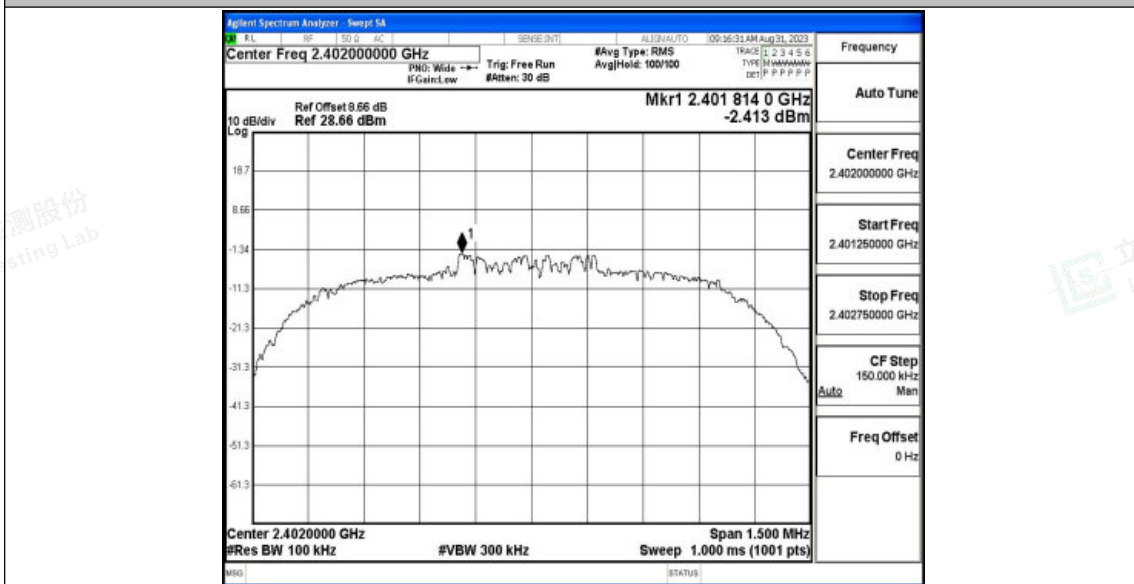


DH5_Ant1_2480_1000~26500



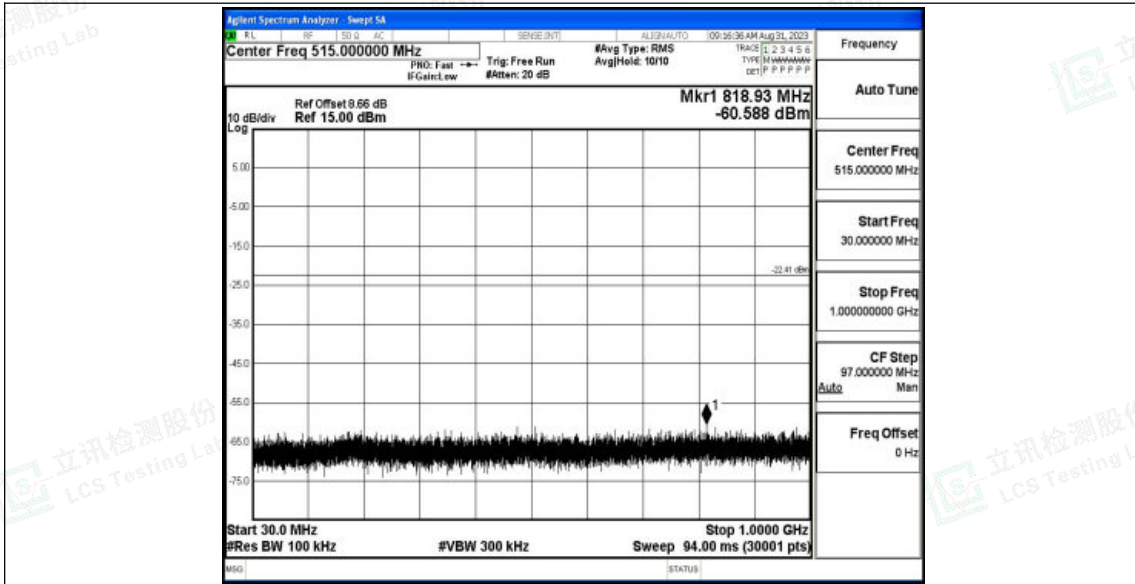


2DH5_Ant1_2402_0~Reference

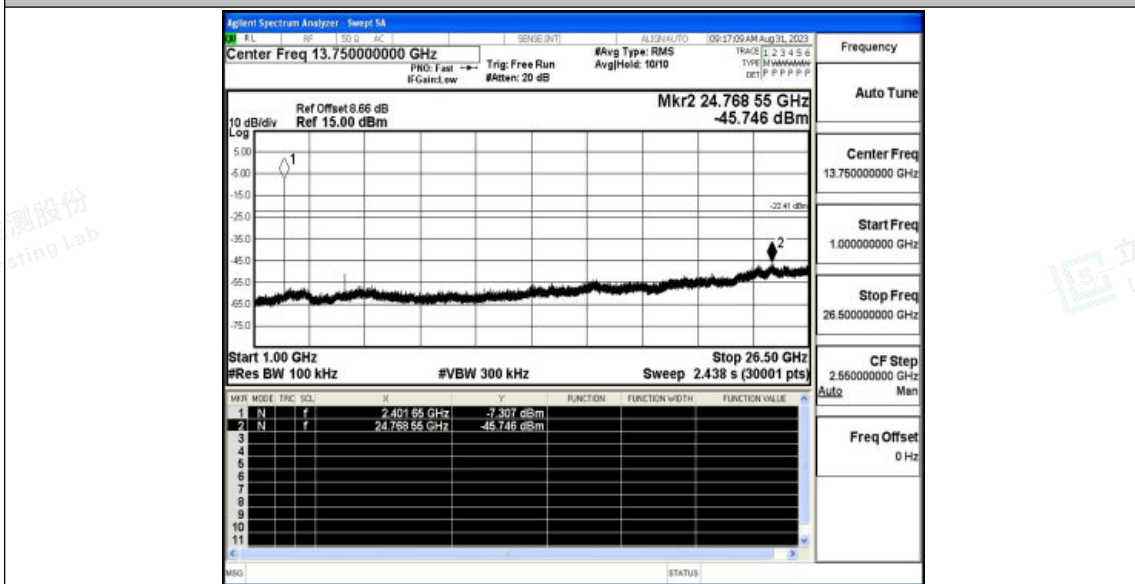


2DH5_Ant1_2402_30~1000



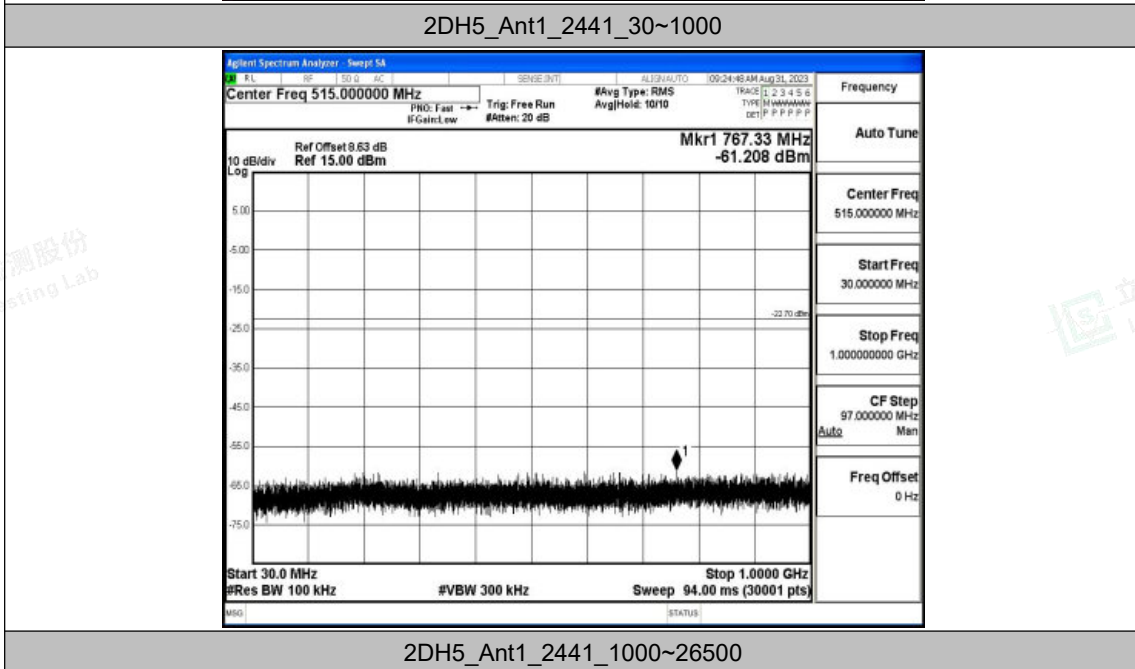
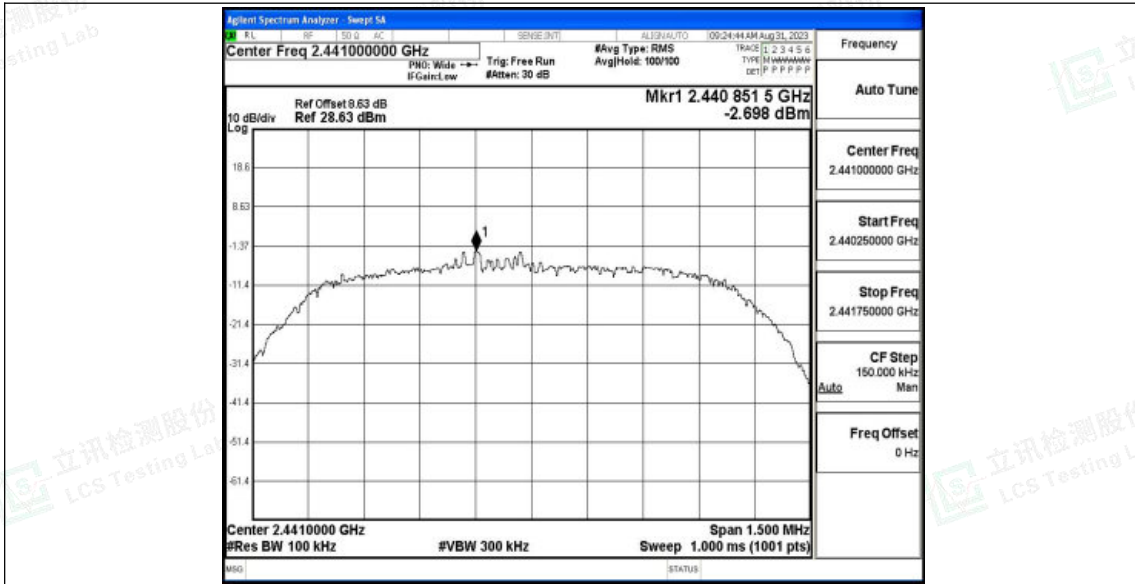


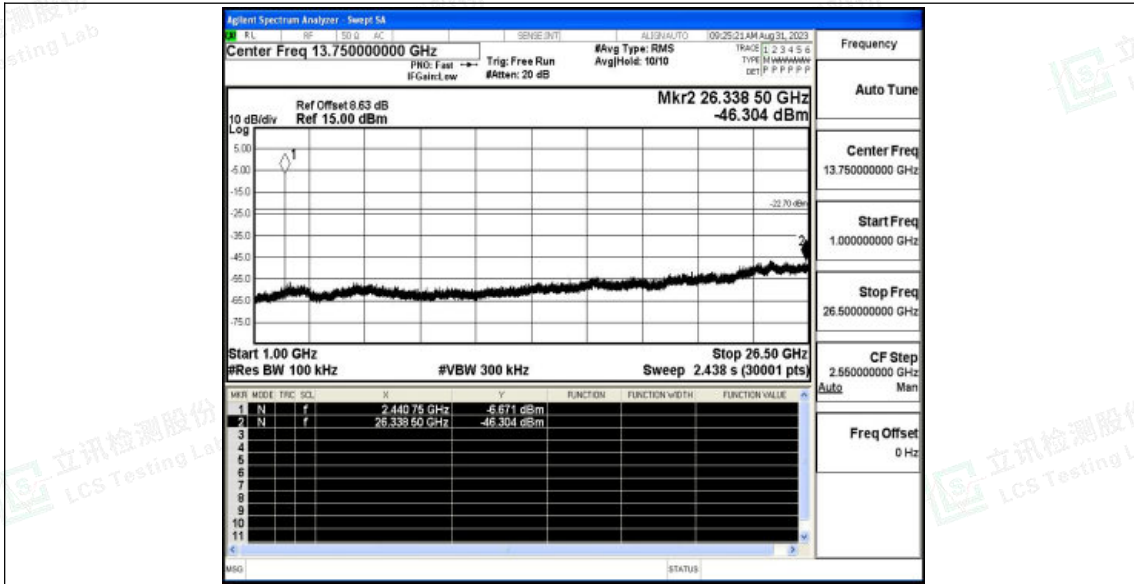
2DH5_Ant1_2402_1000~26500



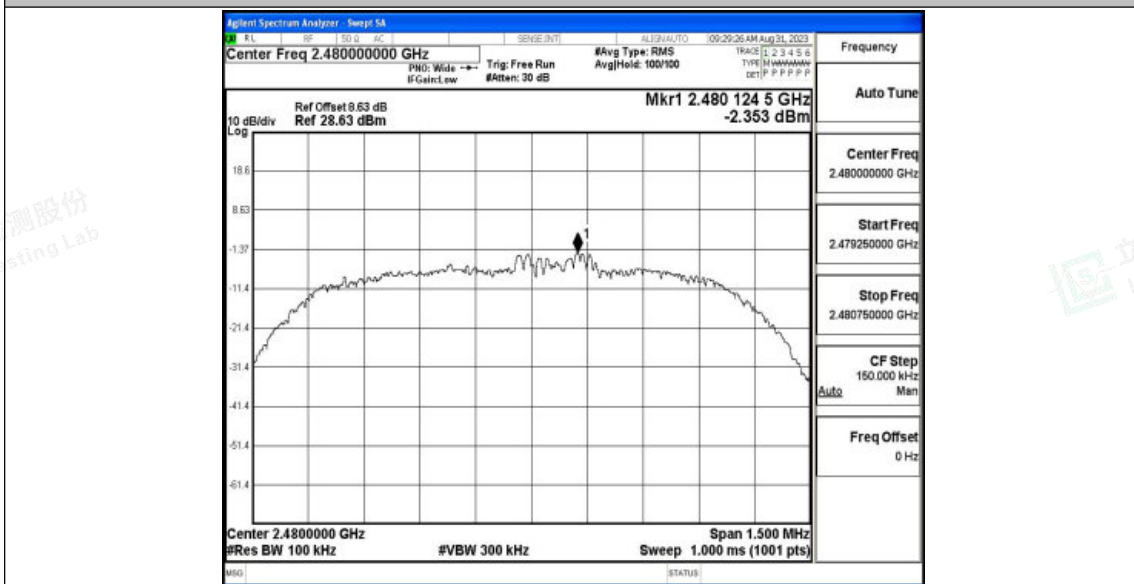
2DH5_Ant1_2441_0~Reference





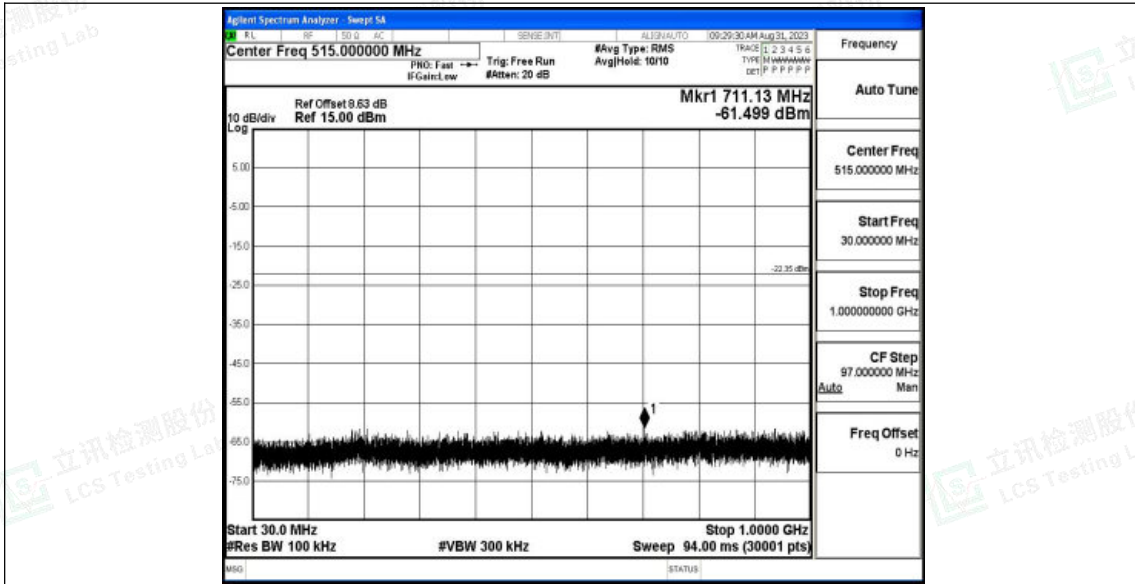


2DH5_Ant1_2480_0~Reference

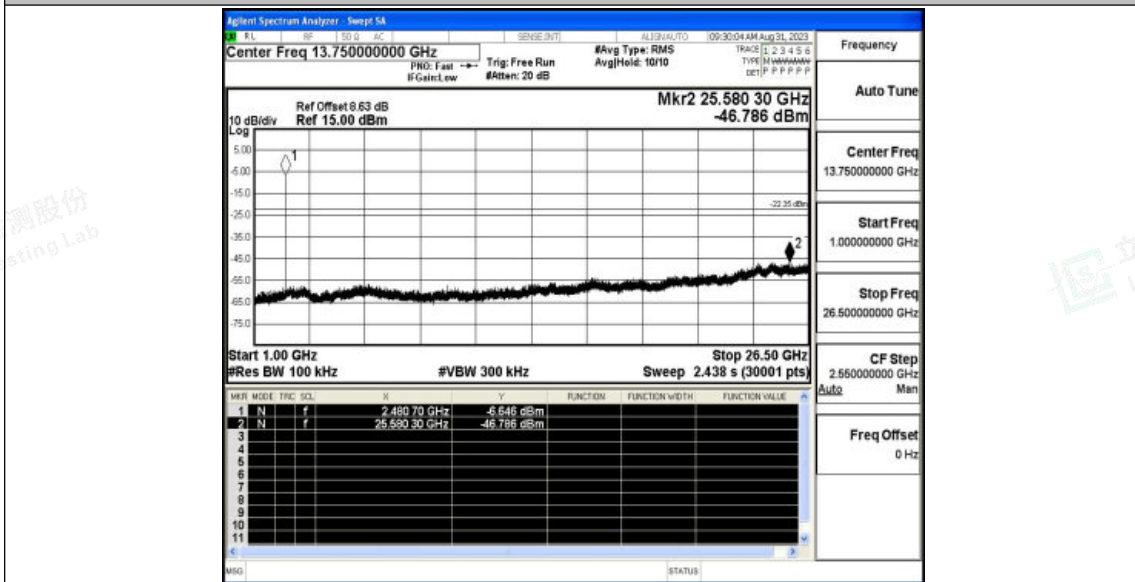


2DH5_Ant1_2480_30~100



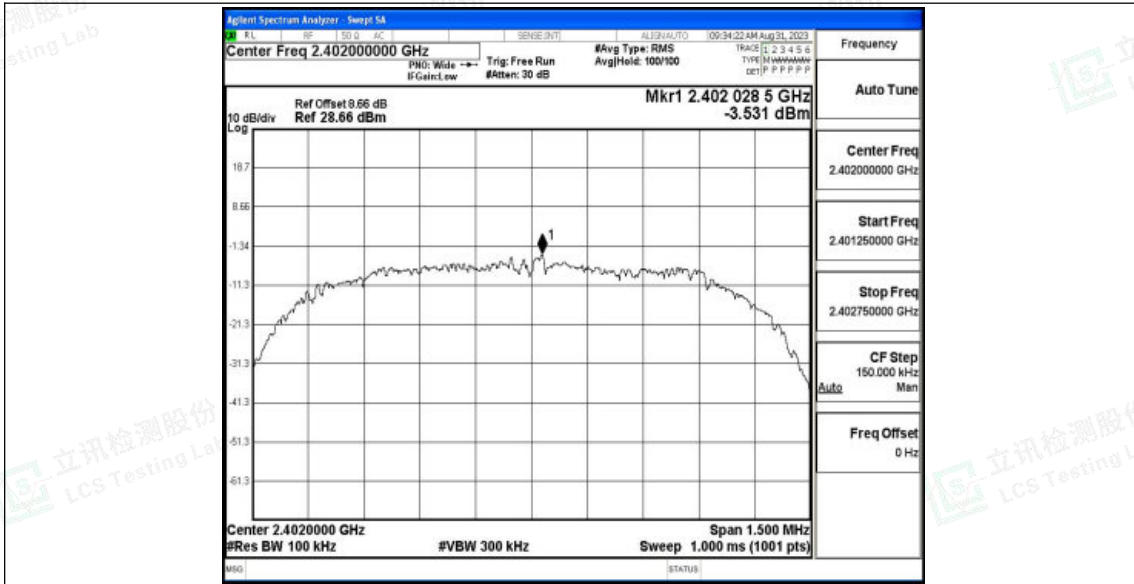


2DH5_Ant1_2480_1000~26500

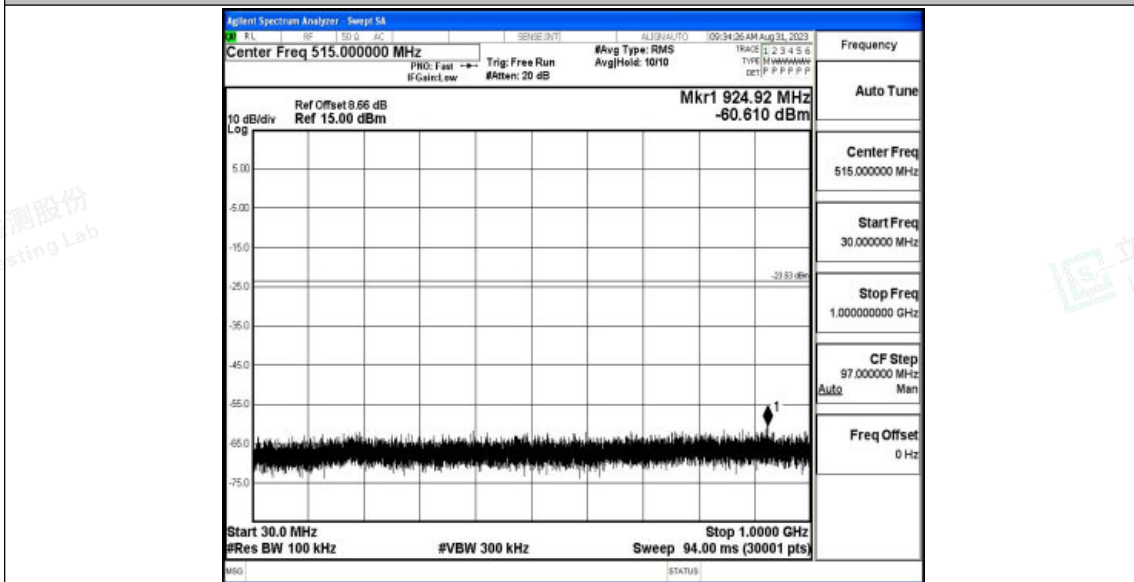


3DH5_Ant1_2402_0~Reference



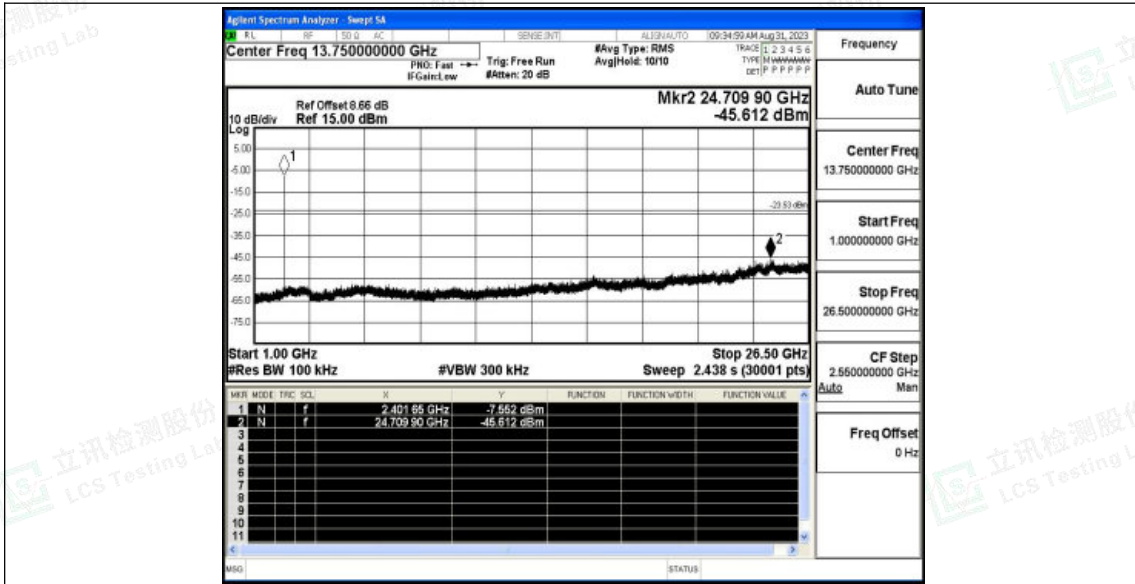


3DH5_Ant1_2402_30~1000

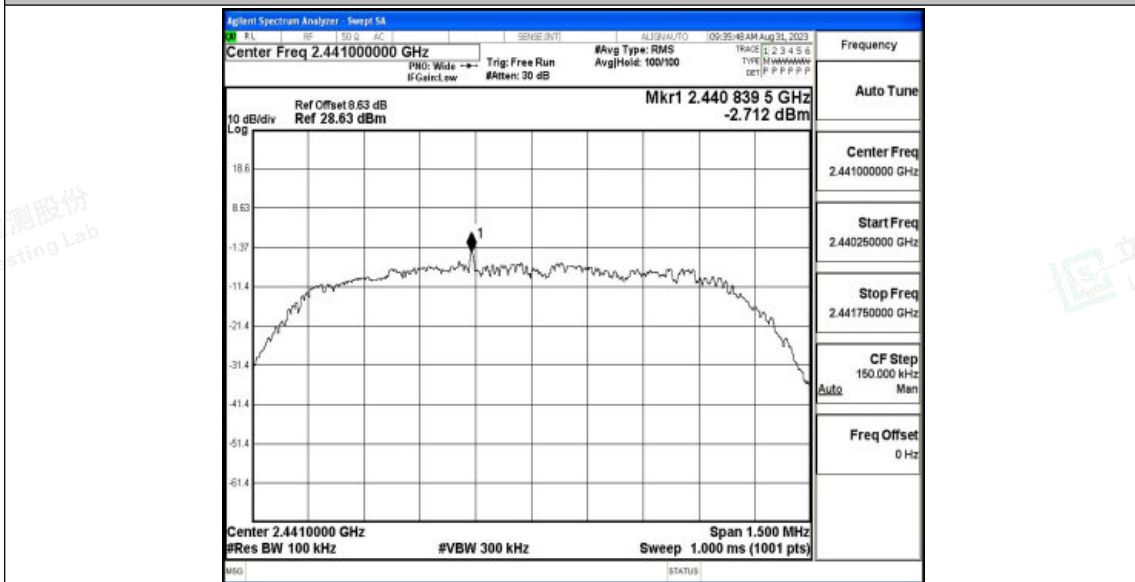


3DH5_Ant1_2402_1000~26500



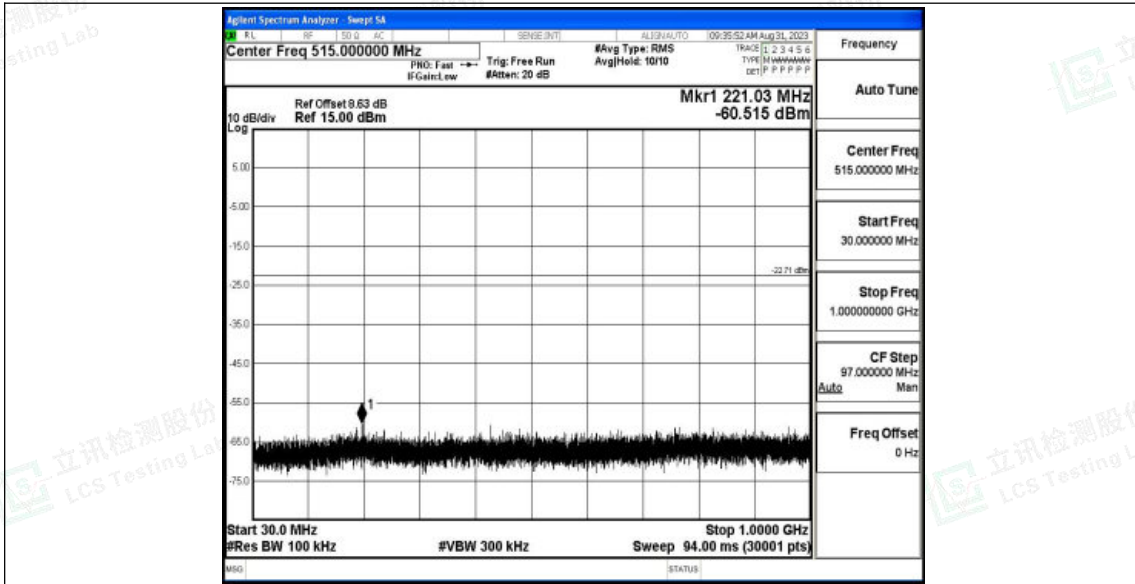


3DH5_Ant1_2441_0~Reference

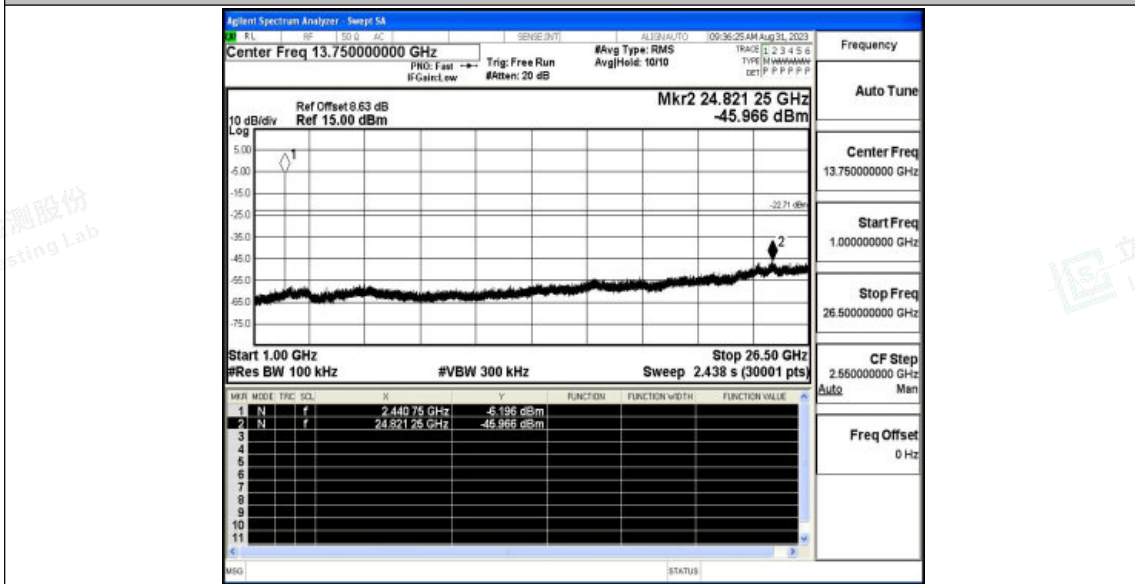


3DH5_Ant1_2441_30~100



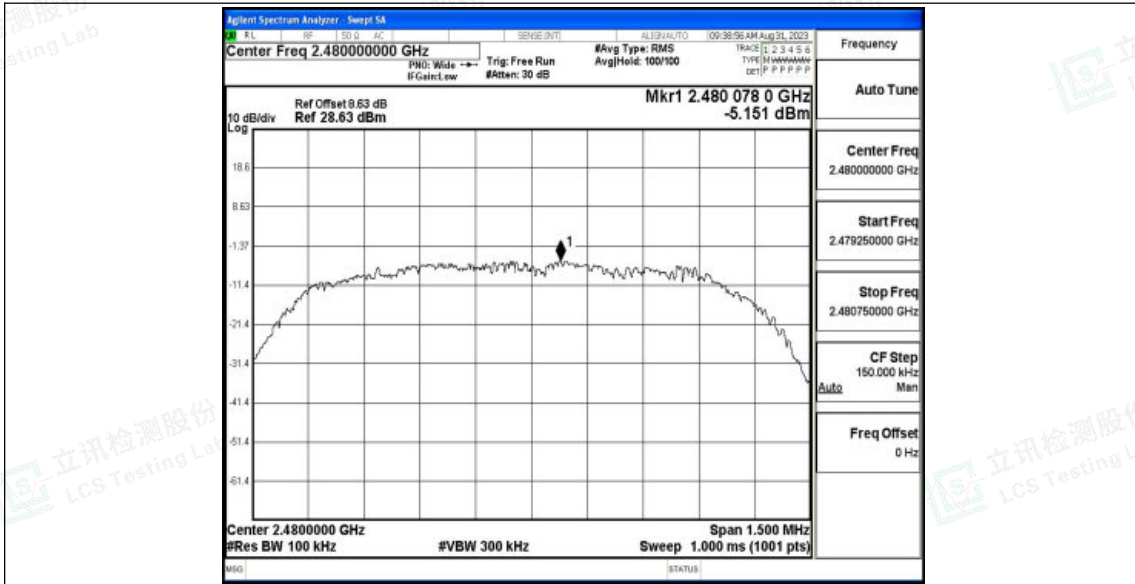


3DH5_Ant1_2441_1000~26500

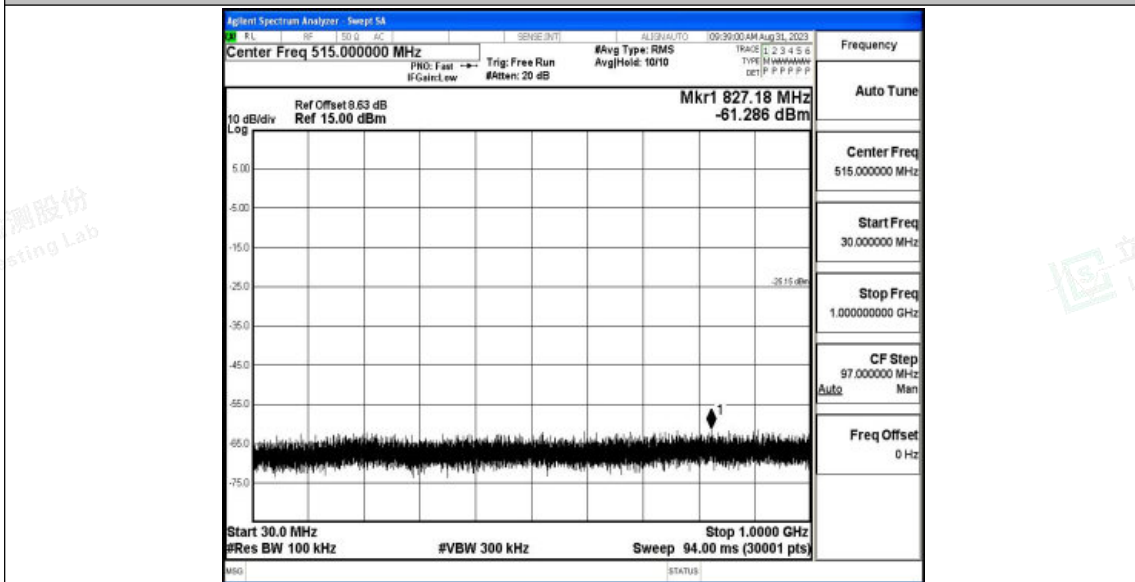


3DH5_Ant1_2480_0~Reference



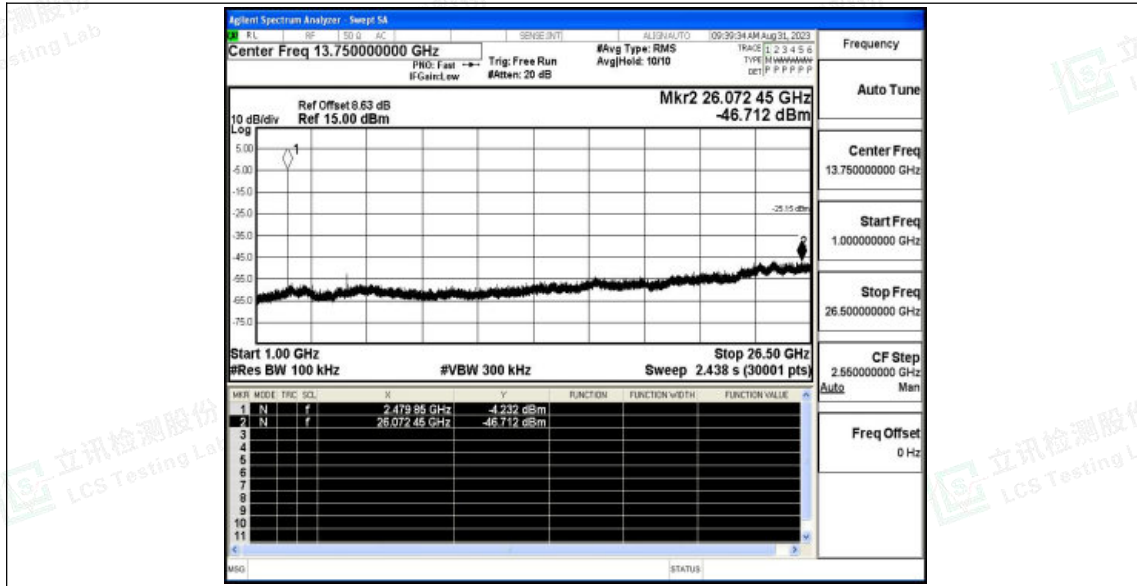


3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





**A.8 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	-48.24	≤-41.20	46.96	≤54	PASS
				AV	2387.675	-47.76	≤-41.20	47.44	≤54	PASS
				AV	2390.000	-47.91	≤-41.20	47.29	≤54	PASS
				Peak	2310.000	-40.47	≤-21.20	54.73	≤74	PASS
				Peak	2315.750	-38.58	≤-21.20	56.62	≤74	PASS
				Peak	2390.000	-44.32	≤-21.20	50.88	≤74	PASS
		High	2480	AV	2483.500	-47.08	≤-41.20	48.12	≤54	PASS
				AV	2499.760	-46.96	≤-41.20	48.24	≤54	PASS
				AV	2500.000	-47.23	≤-41.20	47.97	≤54	PASS
				Peak	2483.500	-39.82	≤-21.20	55.38	≤74	PASS
				Peak	2485.920	-38.2	≤-21.20	57.00	≤74	PASS
				Peak	2500.000	-41.45	≤-21.20	53.75	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.29	≤-21.20	54.91	≤74	PASS
				Peak	2370.980	-36.98	≤-21.20	58.22	≤74	PASS
				Peak	2390.000	-38.83	≤-21.20	56.37	≤74	PASS
		High	Hop_2480	Peak	2483.500	-39.35	≤-21.20	55.85	≤74	PASS
				Peak	2496.480	-36.83	≤-21.20	58.37	≤74	PASS
				Peak	2500.000	-38.63	≤-21.20	56.57	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.14	≤-41.20	47.06	≤54	PASS
				AV	2387.675	-47.62	≤-41.20	47.58	≤54	PASS
				AV	2390.000	-47.73	≤-41.20	47.47	≤54	PASS
				Peak	2310.000	-43.17	≤-21.20	52.03	≤74	PASS
				Peak	2389.040	-37.98	≤-21.20	57.22	≤74	PASS
				Peak	2390.000	-41.4	≤-21.20	53.80	≤74	PASS
		High	2480	AV	2483.500	-47.09	≤-41.20	48.11	≤54	PASS
				AV	2499.040	-47.04	≤-41.20	48.16	≤54	PASS
				AV	2500.000	-47.19	≤-41.20	48.01	≤54	PASS
				Peak	2483.500	-39.94	≤-21.20	55.26	≤74	PASS
				Peak	2484.560	-37.49	≤-21.20	57.71	≤74	PASS
				Peak	2500.000	-42.88	≤-21.20	52.32	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.3	≤-21.20	55.90	≤74	PASS
				Peak	2339.795	-37.1	≤-21.20	58.10	≤74	PASS
				Peak	2390.000	-40.52	≤-21.20	54.68	≤74	PASS
High	Hop_24	Peak	2483.500	-40.15	≤-21.20	55.05	≤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		80	Peak	2495.520	-36.6	≤-21.20	58.60	≤74	PASS
				Peak	2500.000	-38.47	≤-21.20	56.73	≤74	PASS
		Low	2402	AV	2310.000	-47.98	≤-41.20	47.22	≤54	PASS
				AV	2389.145	-47.6	≤-41.20	47.60	≤54	PASS
				AV	2390.000	-47.71	≤-41.20	47.49	≤54	PASS
				Peak	2310.000	-40.63	≤-21.20	54.57	≤74	PASS
				Peak	2312.810	-39.13	≤-21.20	56.07	≤74	PASS
				Peak	2390.000	-41.9	≤-21.20	53.30	≤74	PASS
		High	2480	AV	2483.500	-47.17	≤-41.20	48.03	≤54	PASS
				AV	2497.600	-47.09	≤-41.20	48.11	≤54	PASS
				AV	2500.000	-47.09	≤-41.20	48.11	≤54	PASS
				Peak	2483.500	-42.58	≤-21.20	52.62	≤74	PASS
				Peak	2497.680	-38.37	≤-21.20	56.83	≤74	PASS
				Peak	2500.000	-41.57	≤-21.20	53.63	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.58	≤-21.20	55.62	≤74	PASS
				Peak	2317.640	-37.71	≤-21.20	57.49	≤74	PASS
				Peak	2390.000	-38.98	≤-21.20	56.22	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.09	≤-21.20	56.11	≤74	PASS
				Peak	2489.680	-35.8	≤-21.20	59.40	≤74	PASS
				Peak	2500.000	-38.27	≤-21.20	56.93	≤74	PASS

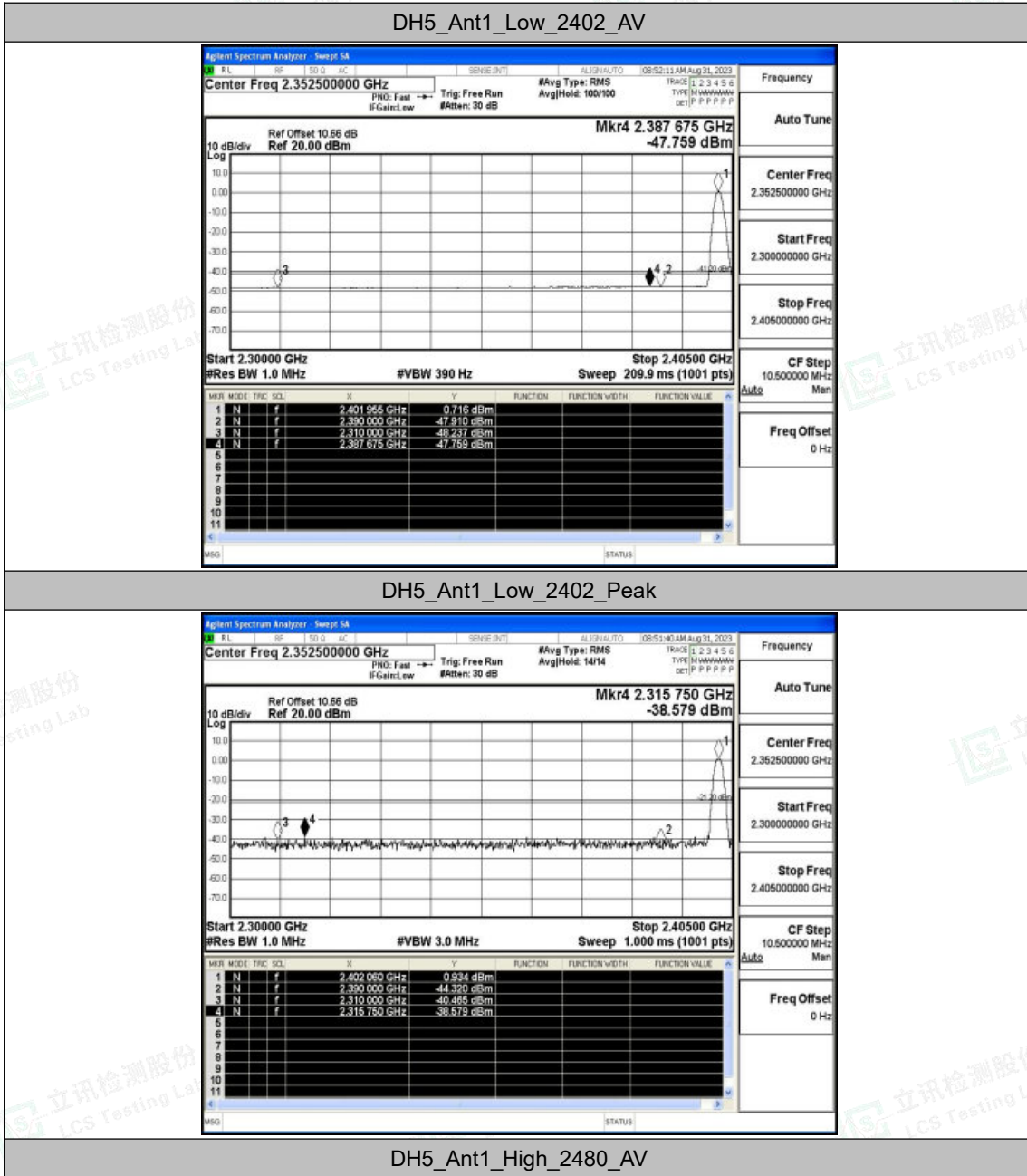
Note:

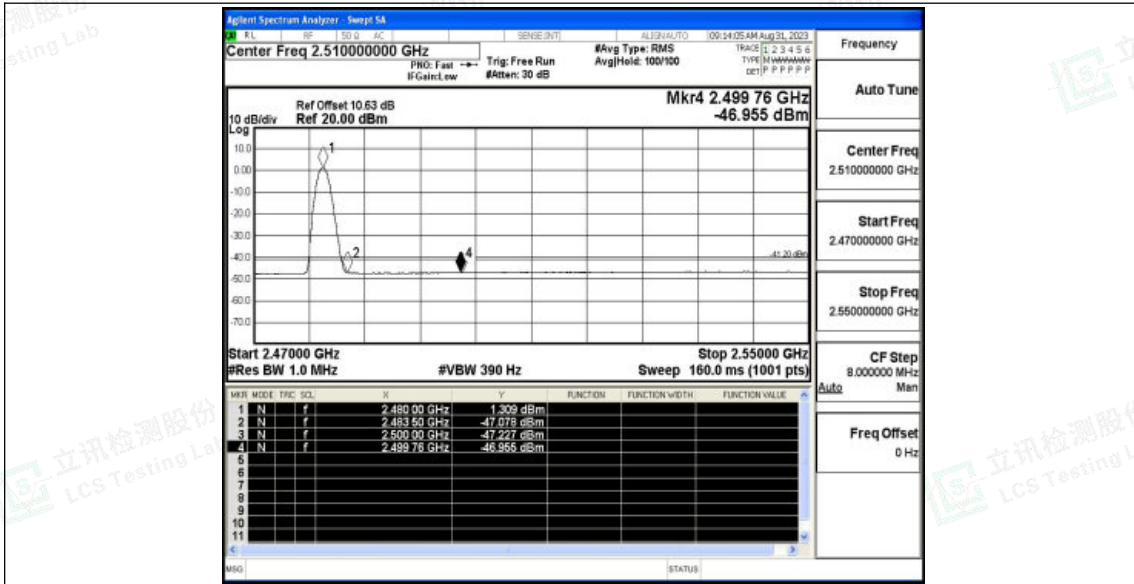
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



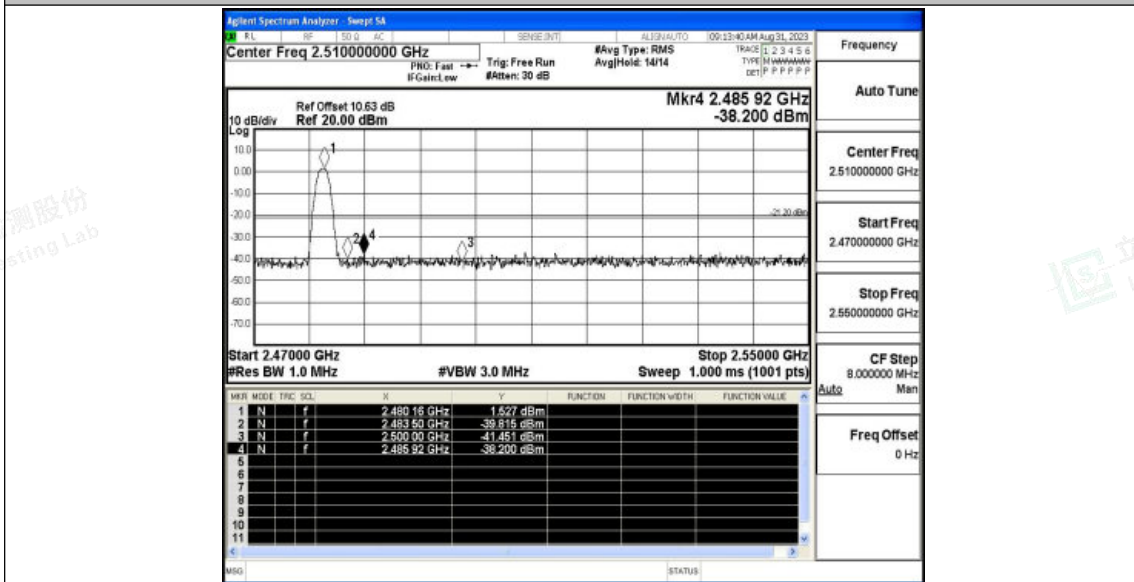


Test Graphs



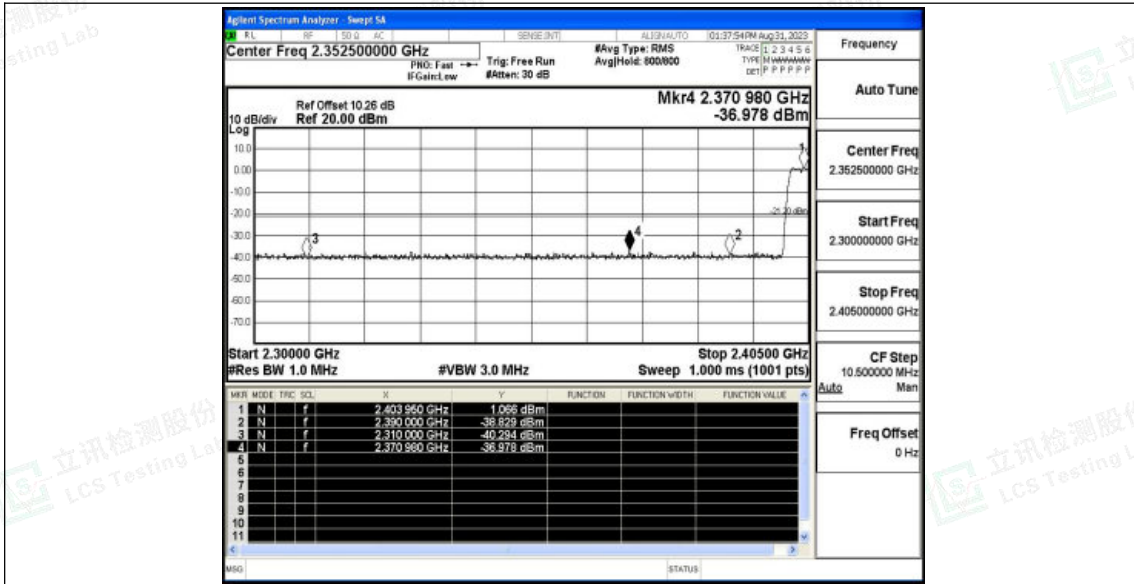


DH5_Ant1_High_2480_Peak

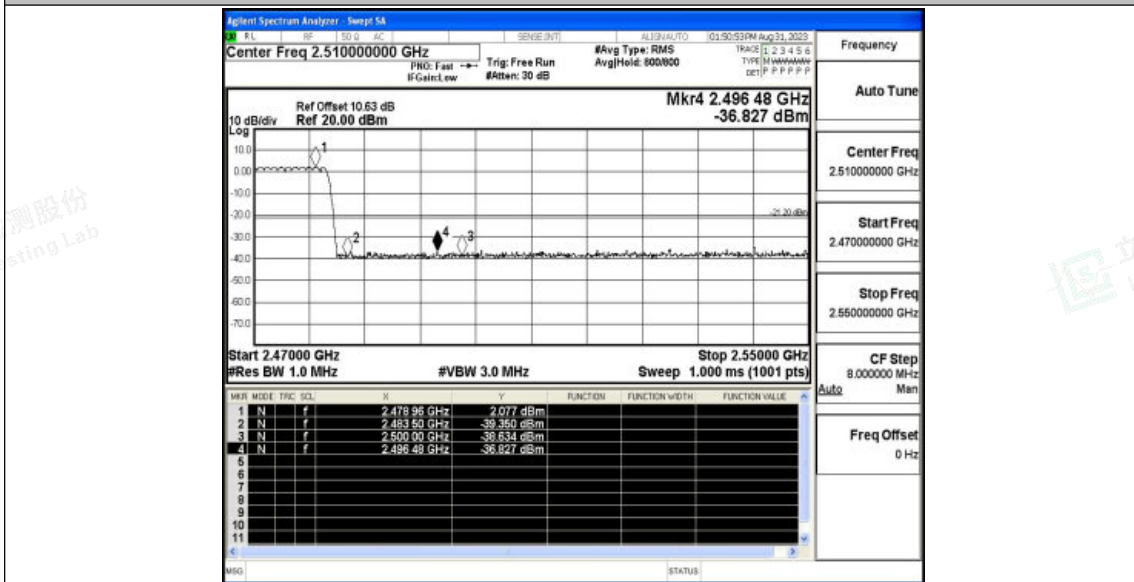


DH5_Ant1_Low_Hop_2402_Peak



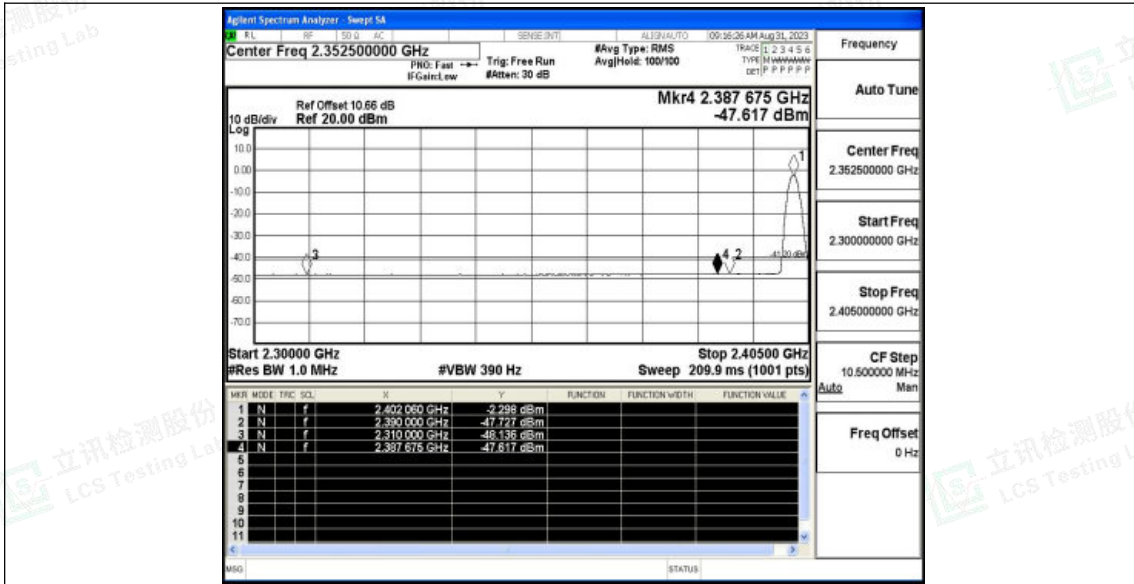


DH5_Ant1_High_Hop_2480_Peak

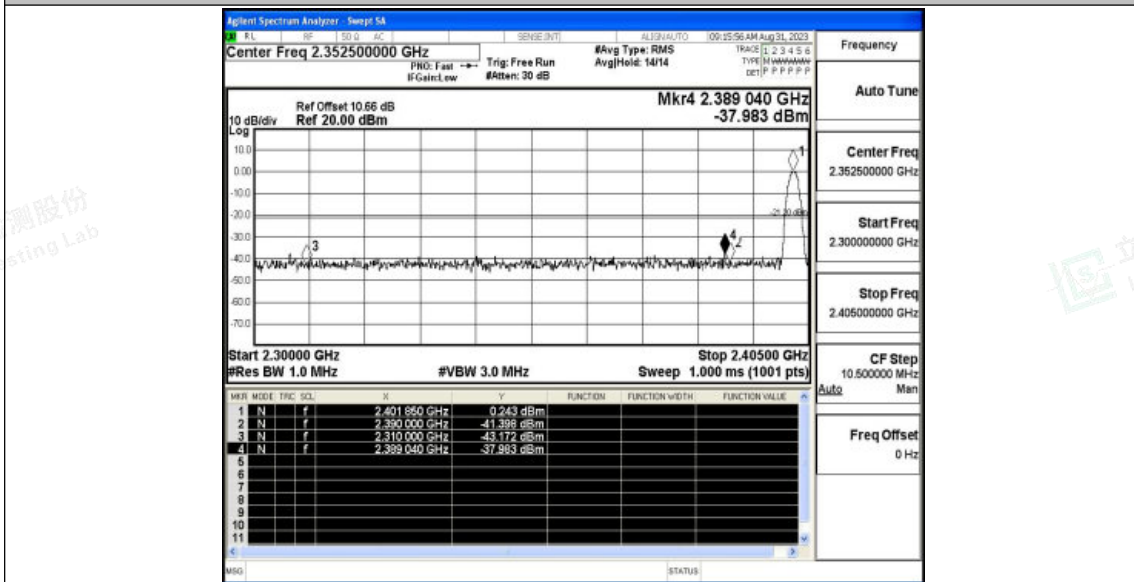


2DH5_Ant1_Low_2402_AV



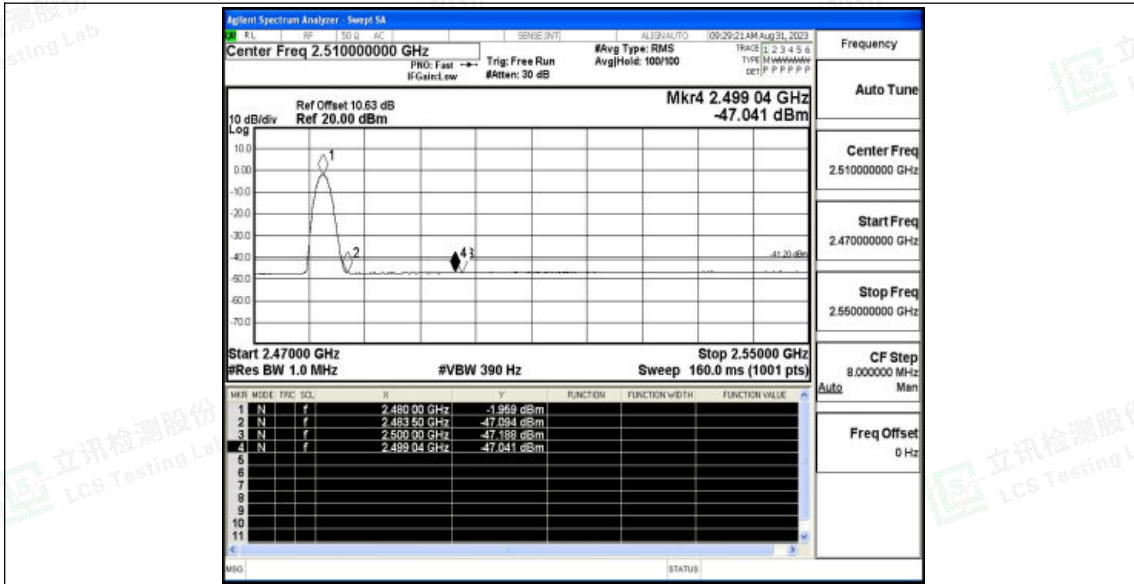


2DH5_Ant1_Low_2402_Peak

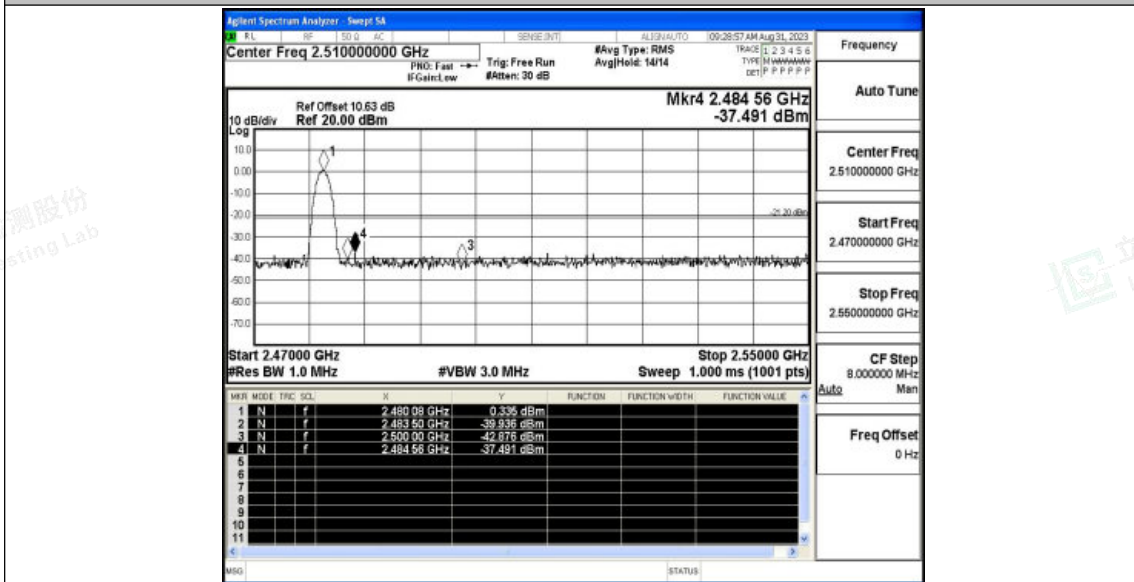


2DH5_Ant1_High_2480_AV



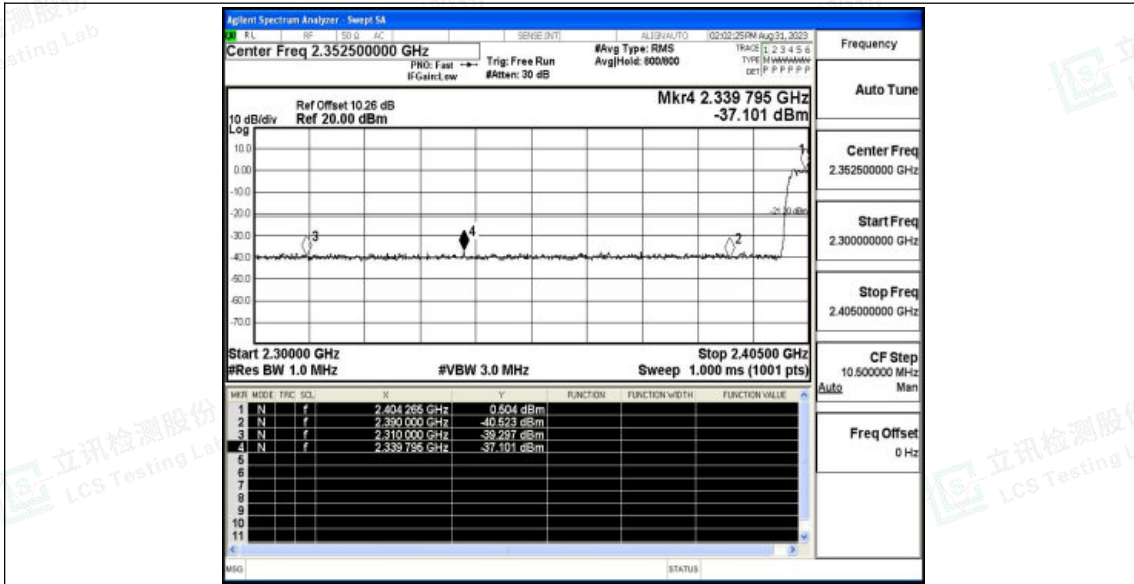


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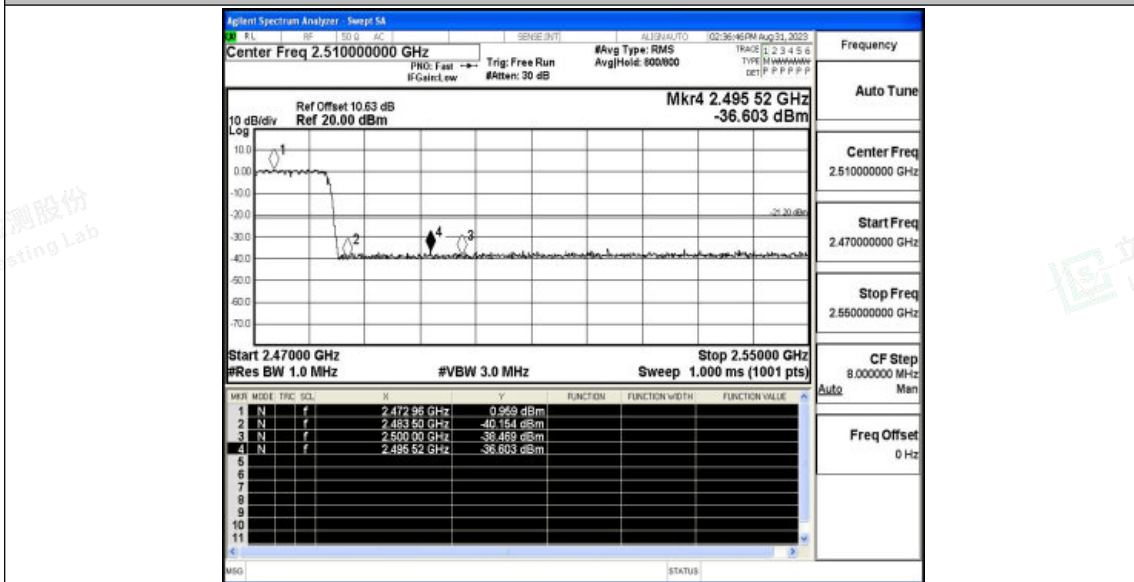


2DH5_Ant1_Low_Hop_2402_Peak



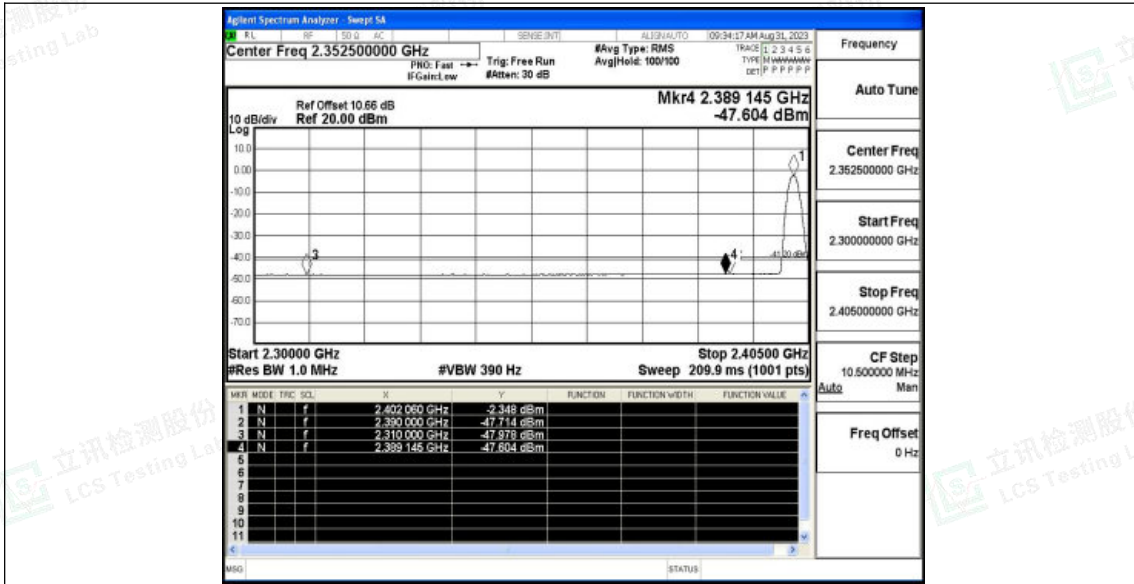


2DH5_Ant1_High_Hop_2480_Peak

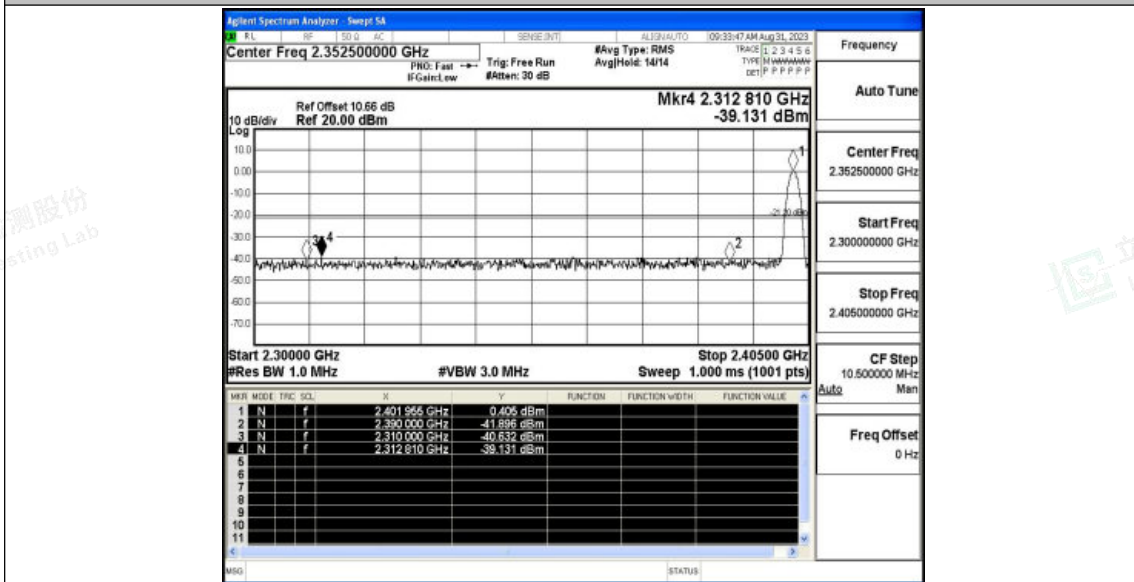


3DH5_Ant1_Low_2402_AV



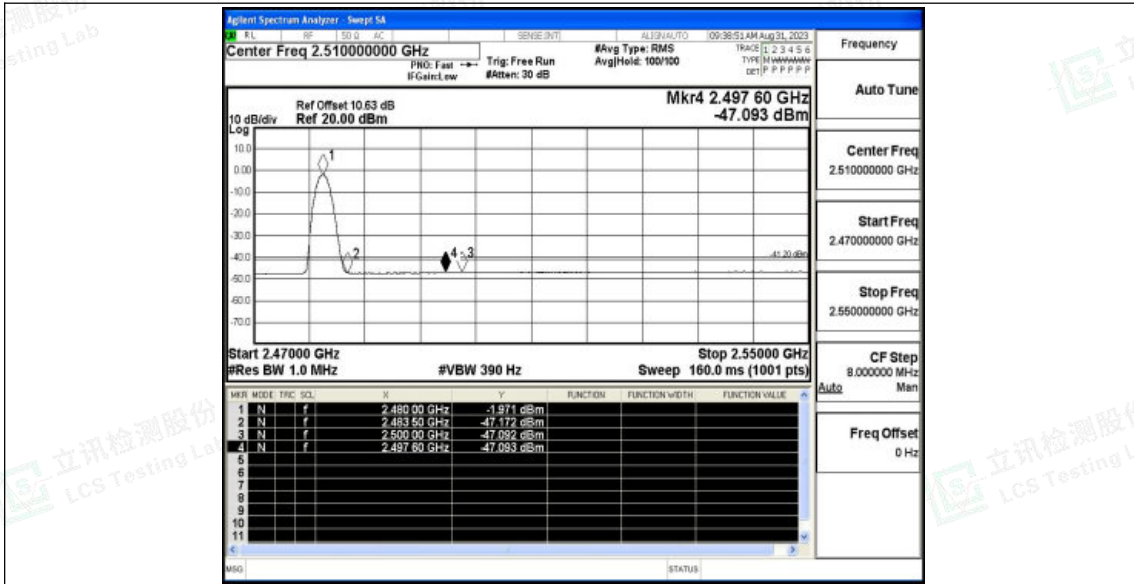


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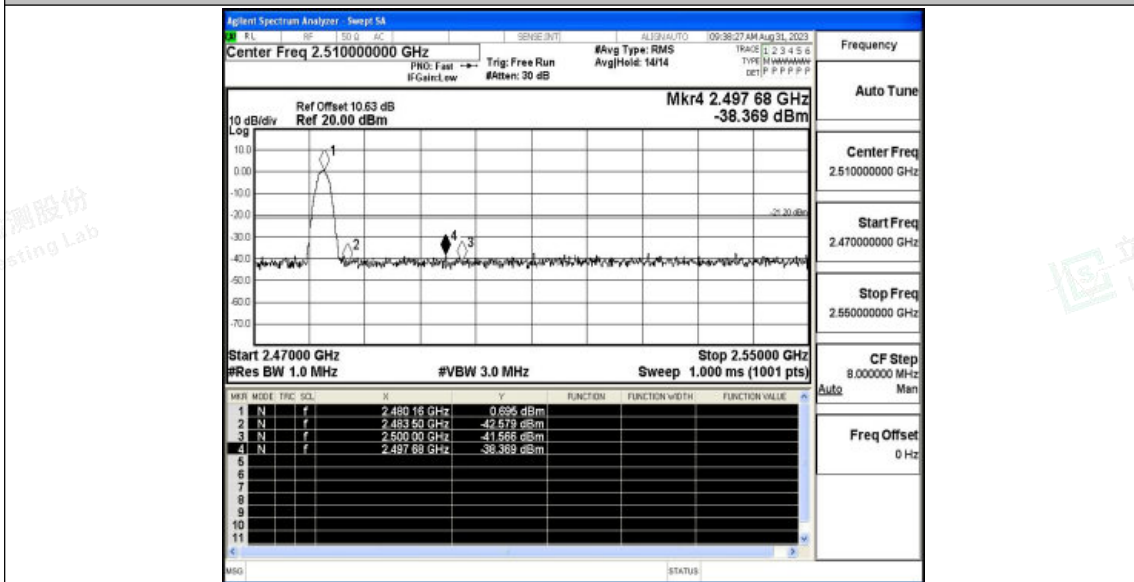


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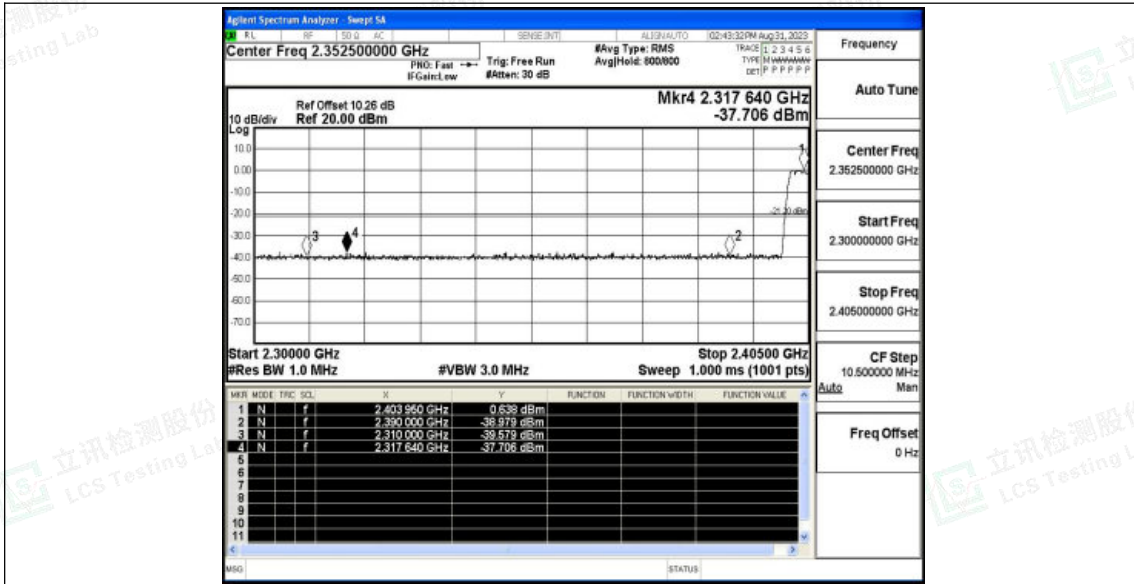


3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak





3DH5_Ant1_High_Hop_2480_Peak

