



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: 4G fixed wireless phone

Test Model: F40

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
	<i>Nick Peng</i>
Supervised by:	Ling Zhu
	





A.1 20dB Emission Bandwidth

Test Result

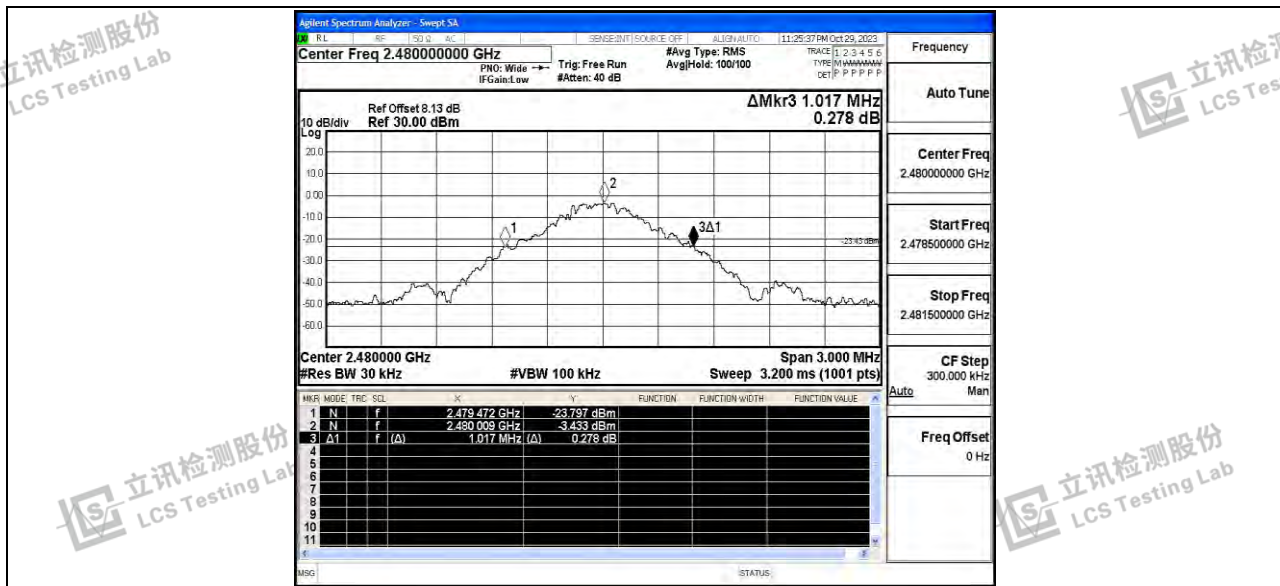
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	0.972	2401.517	2402.489	---	---
		2441	1.041	2440.463	2441.504	---	---
		2480	1.017	2479.472	2480.489	---	---
2DH5	Ant	2402	1.329	2401.334	2402.663	---	---
		2441	1.335	2440.325	2441.660	---	---
		2480	1.308	2479.340	2480.648	---	---
3DH5	Ant	2402	1.314	2401.337	2402.651	---	---
		2441	1.308	2440.340	2441.648	---	---
		2480	1.293	2479.352	2480.645	---	---



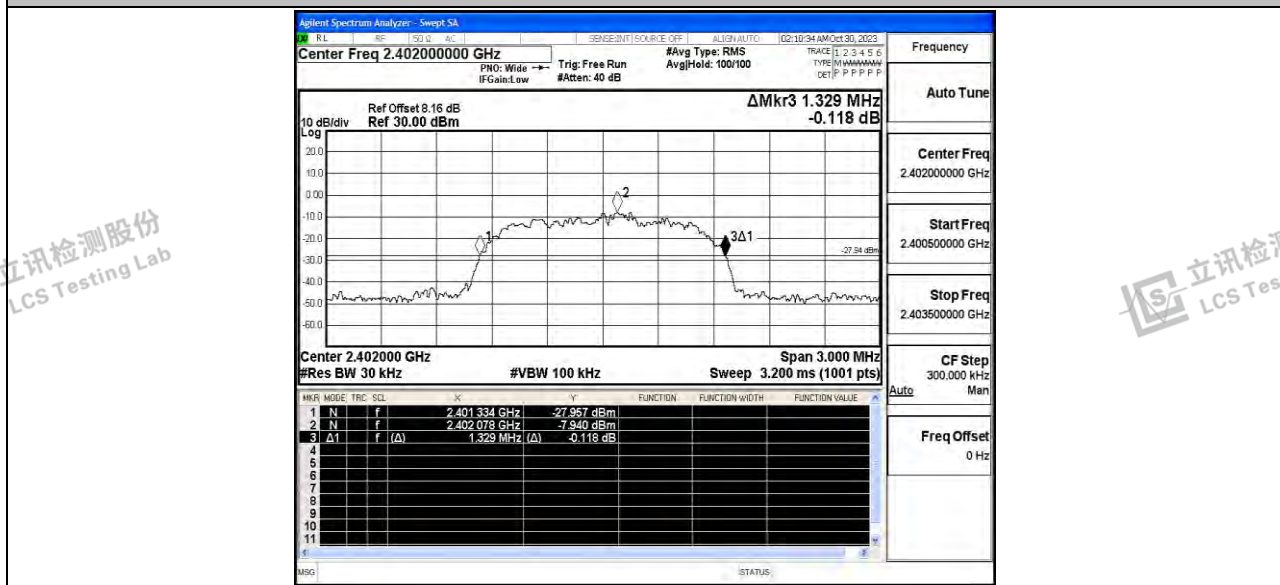


Test Graphs



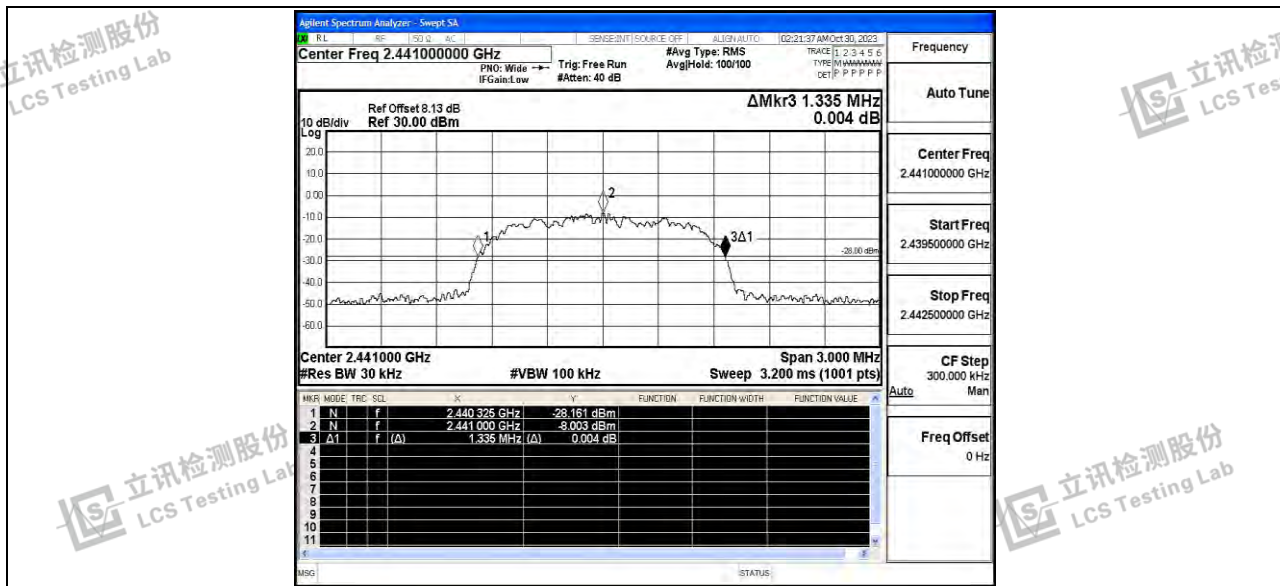


2DH5_Ant_2402

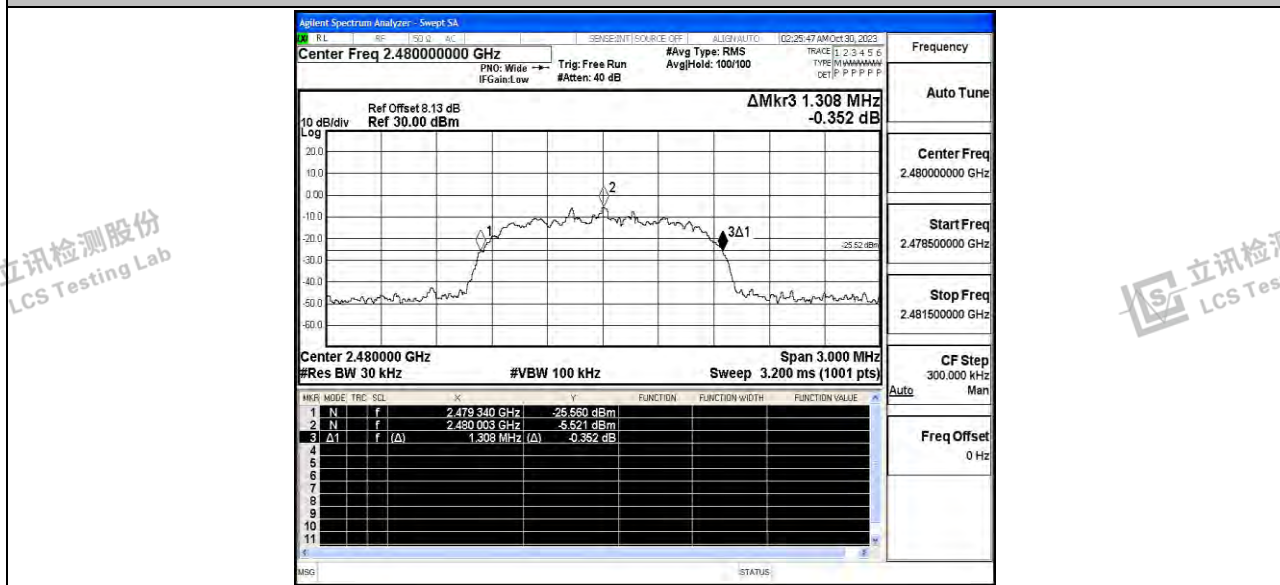


2DH5_Ant_2441



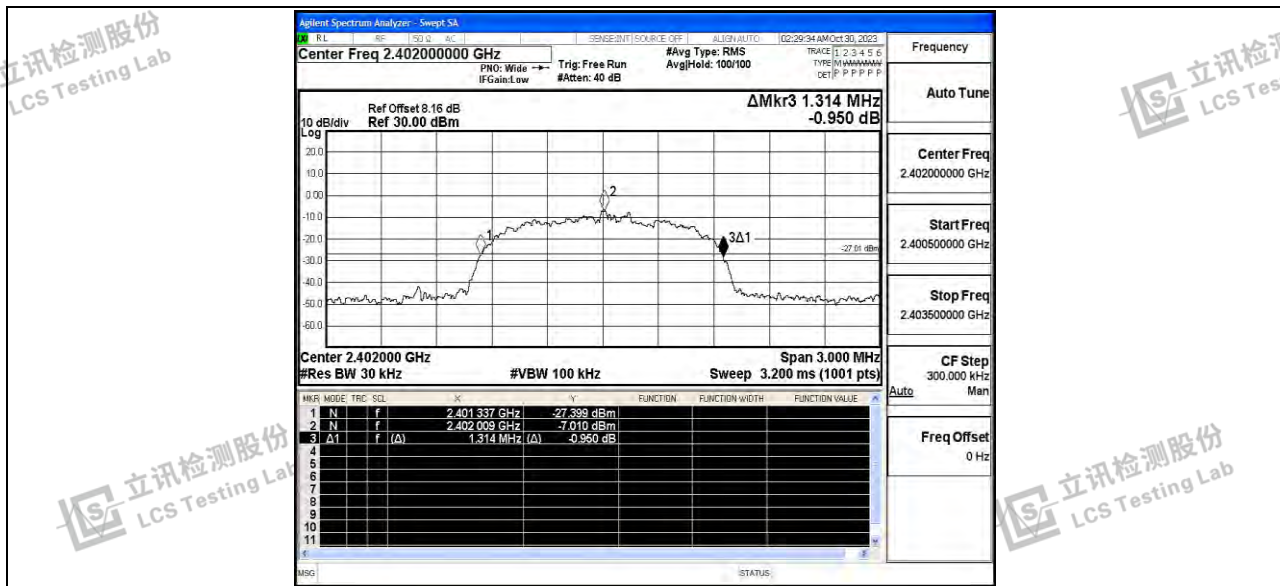


2DH5_Ant_2480

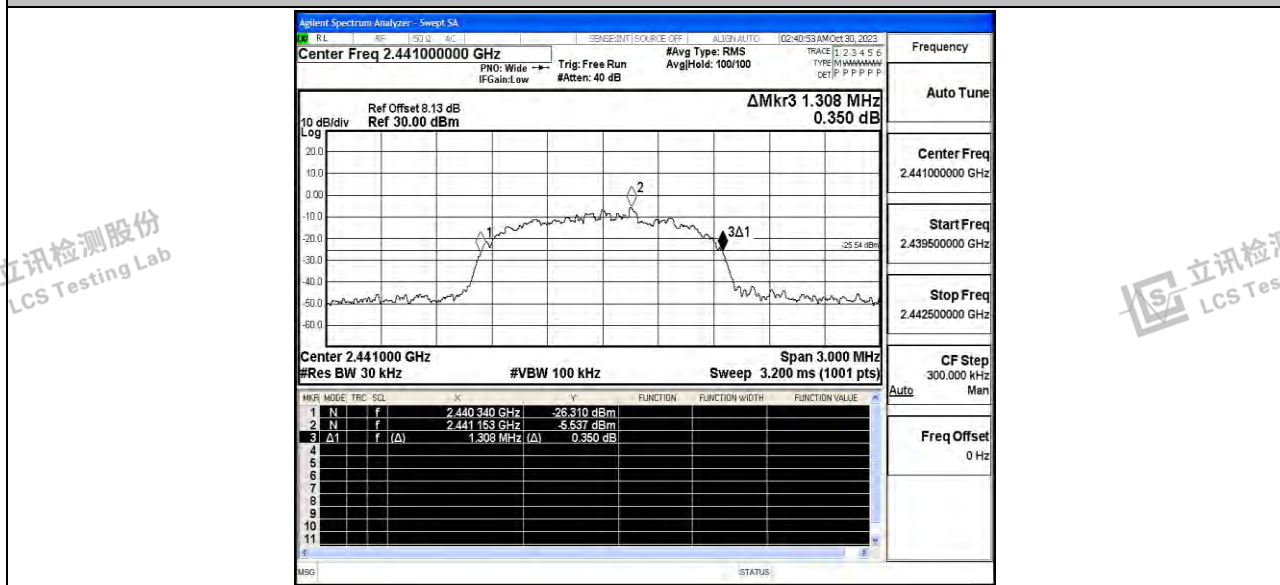


3DH5_Ant_2402



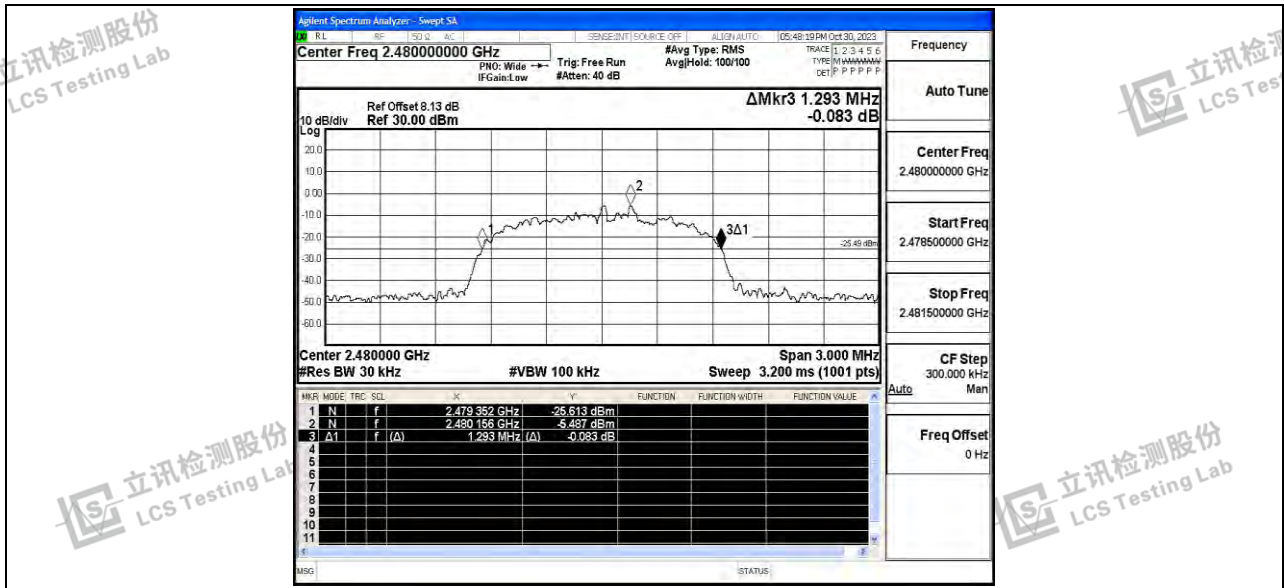


3DH5_Ant_2441



3DH5_Ant_2480







A.2 Maximum conducted output power

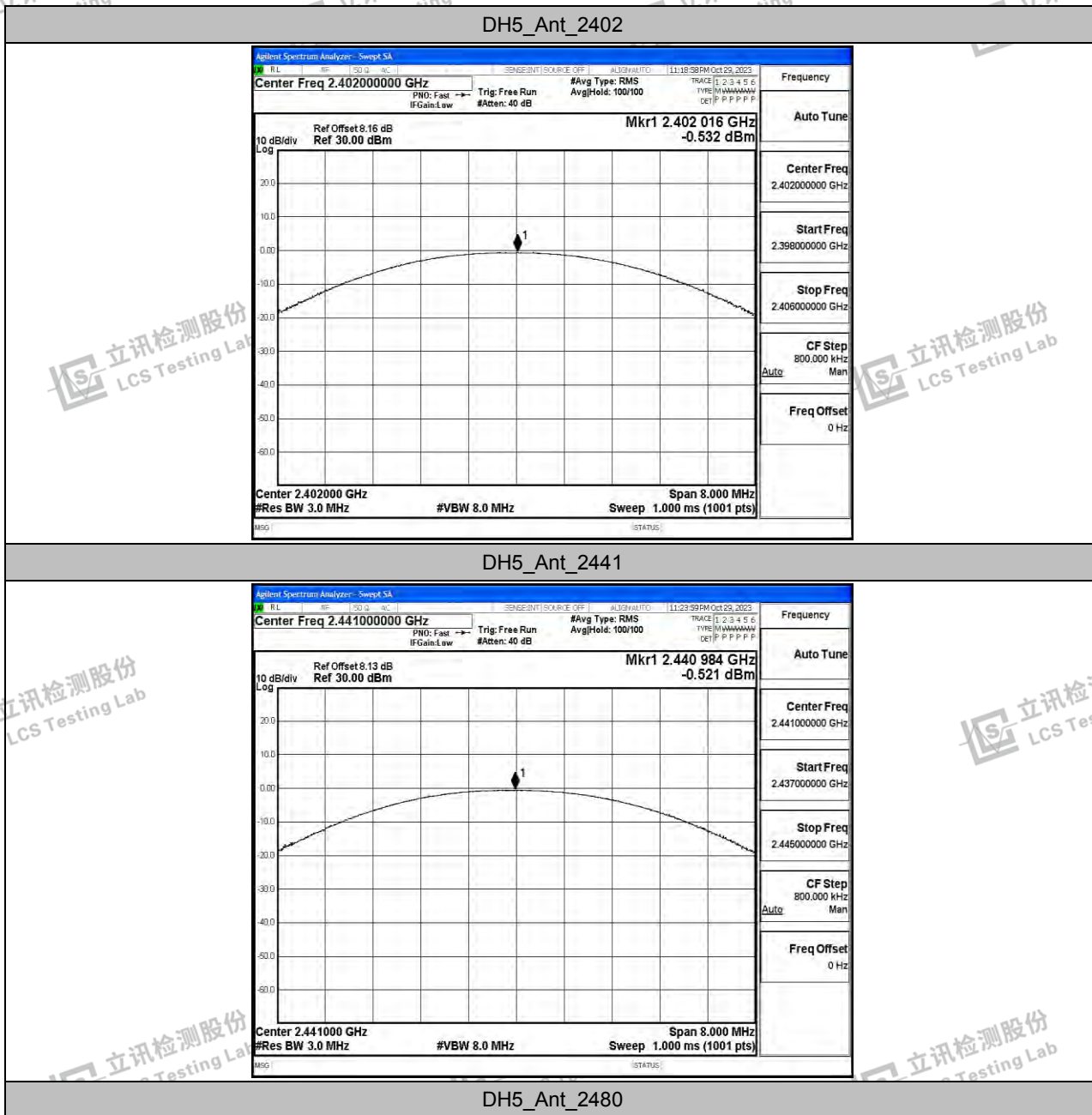
Test Result Peak

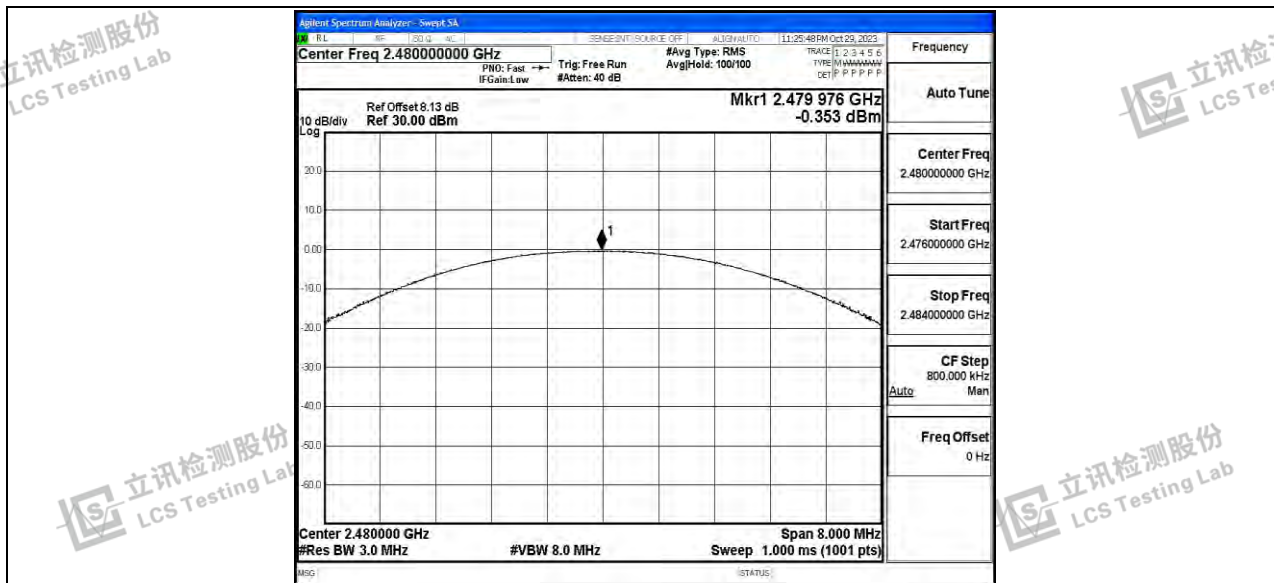
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant	2402	-0.53	≤20.97	PASS
		2441	-0.52	≤20.97	PASS
		2480	-0.35	≤20.97	PASS
2DH5	Ant	2402	-0.79	≤20.97	PASS
		2441	-0.64	≤20.97	PASS
		2480	-0.53	≤20.97	PASS
3DH5	Ant	2402	-0.67	≤20.97	PASS
		2441	-0.46	≤20.97	PASS
		2480	-0.71	≤20.97	PASS



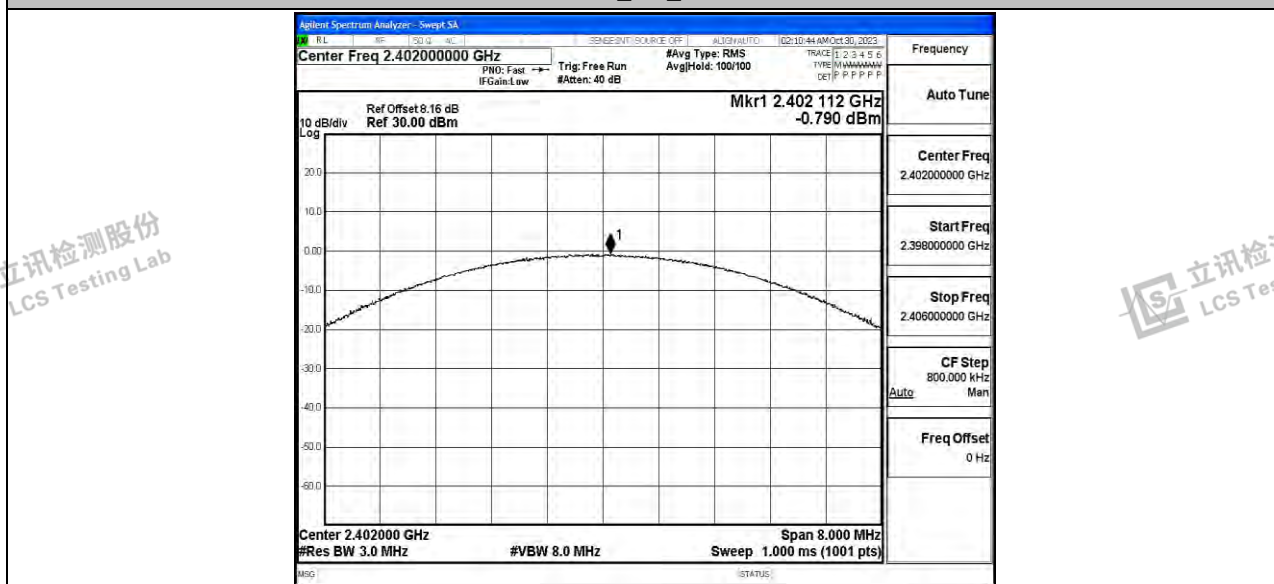


Test Graphs



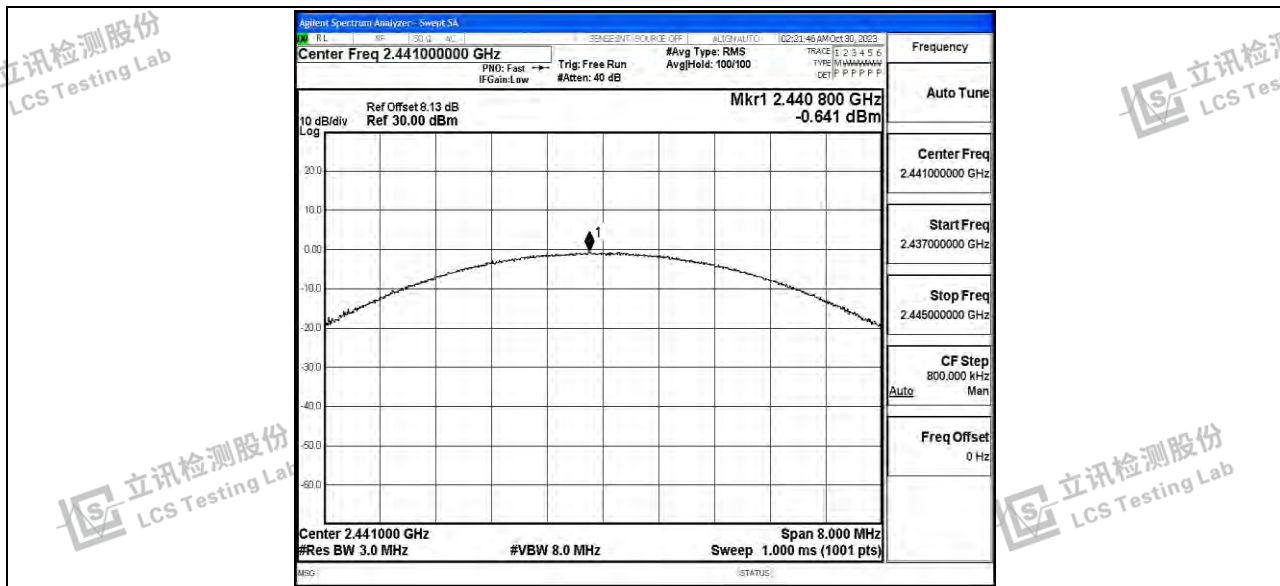


2DH5_Ant_2402

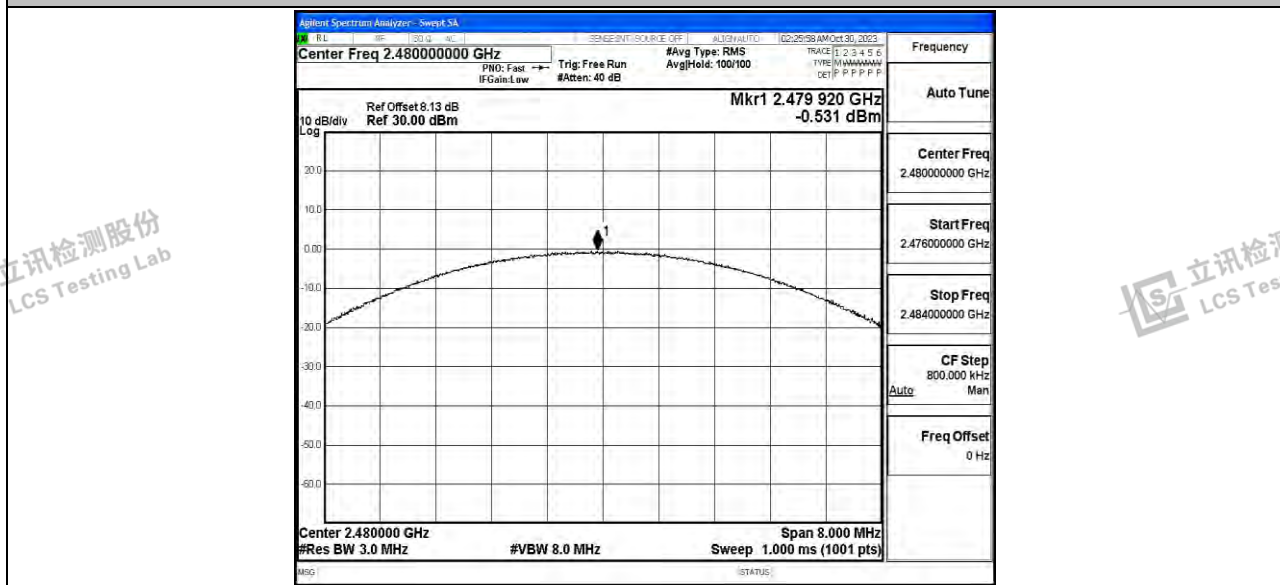


2DH5_Ant_2441



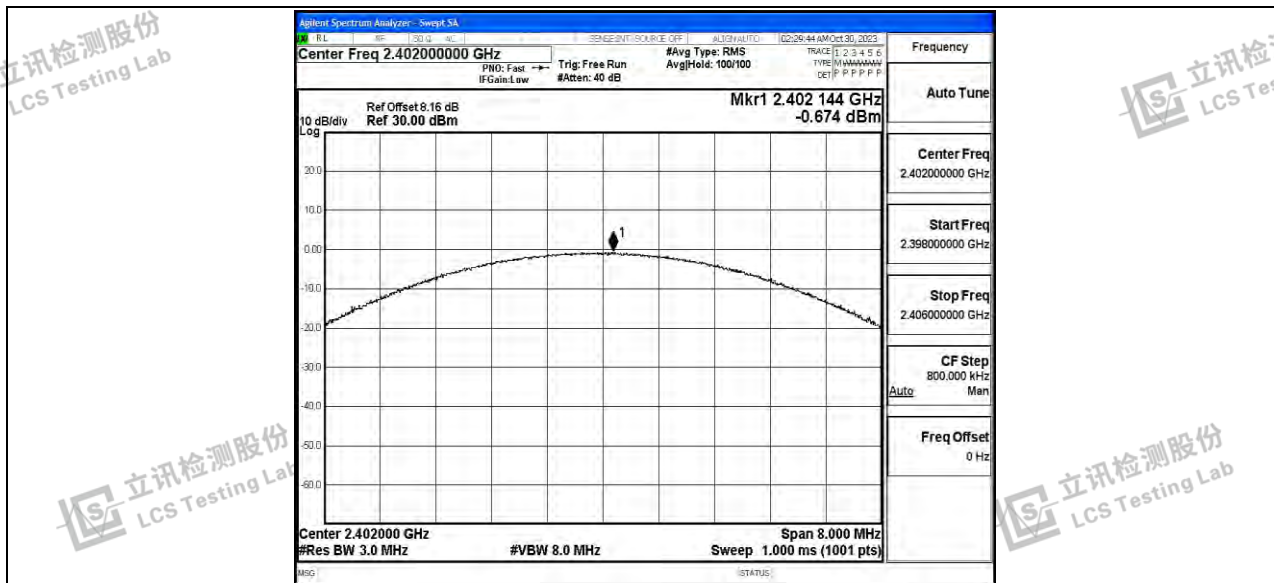


2DH5_Ant_2480

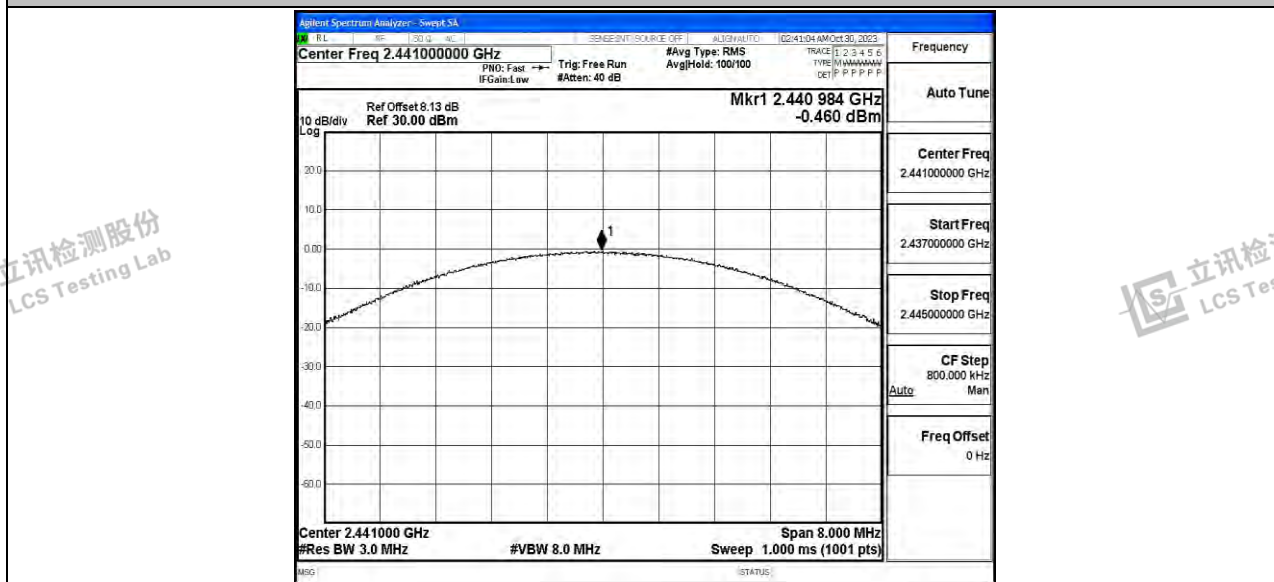


3DH5_Ant_2402



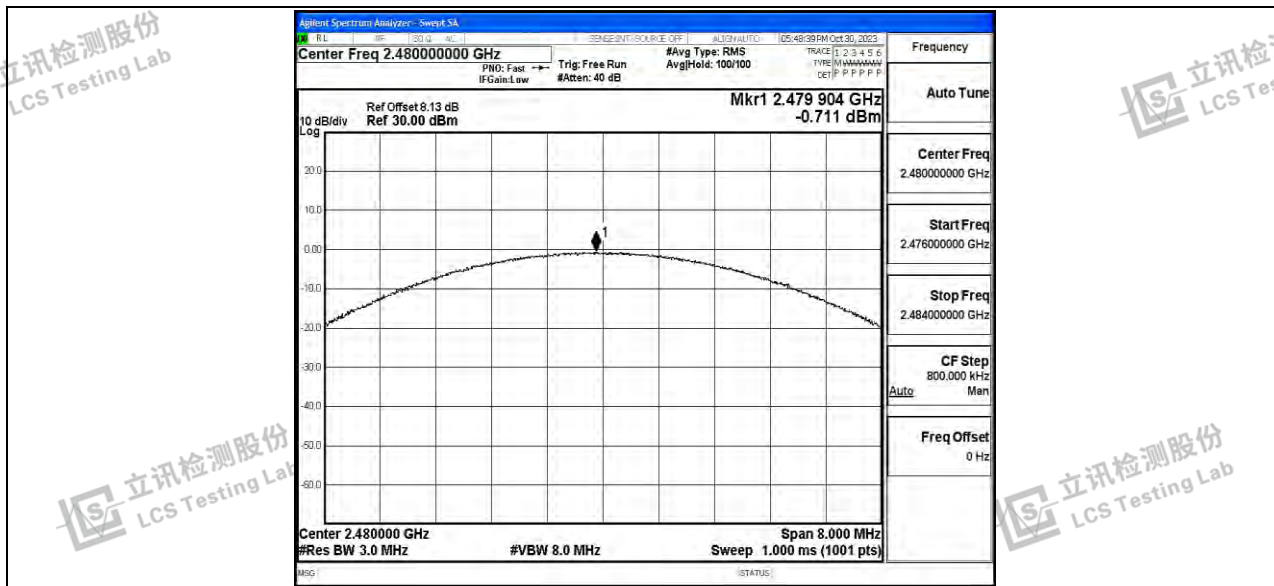


3DH5_Ant_2441



3DH5_Ant_2480





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A.3 Carrier frequency separation

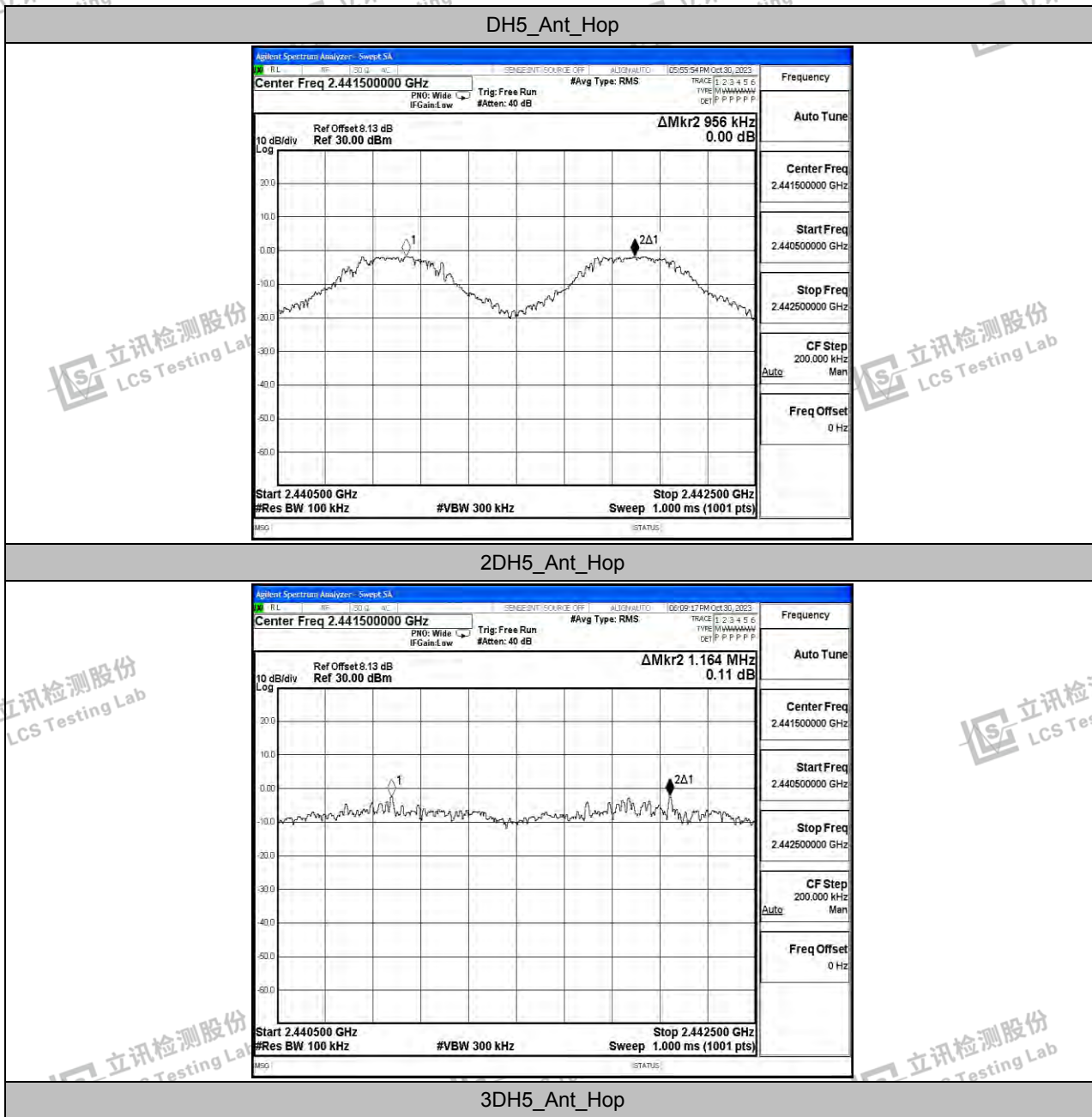
Test Result

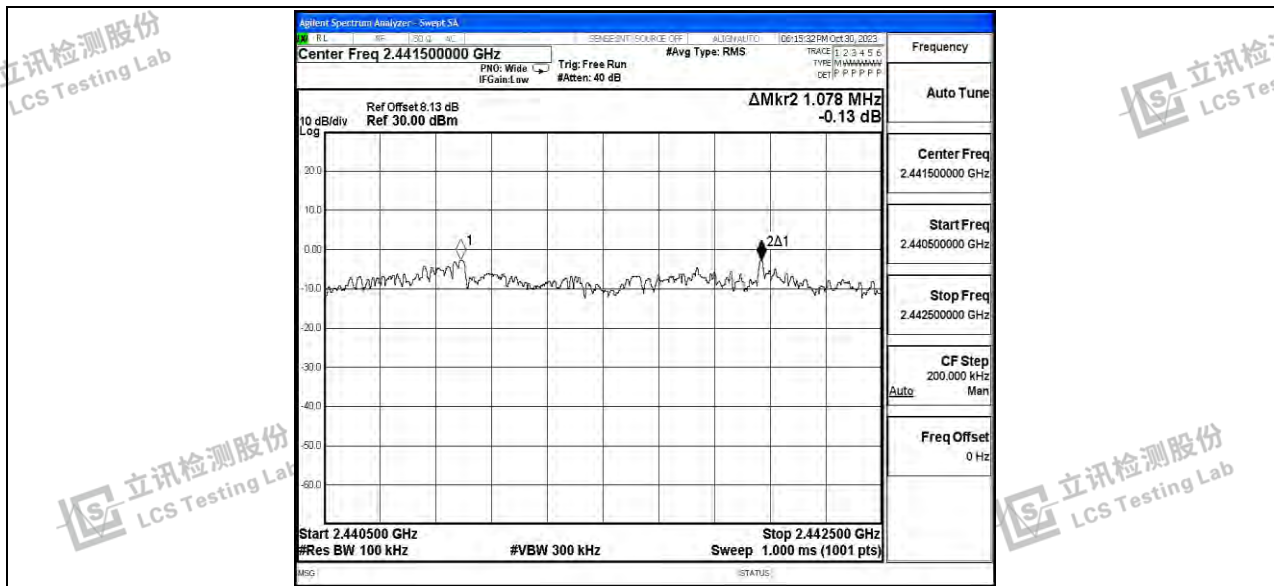
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.956	≥0.694	PASS
2DH5	Ant	Hop	1.164	≥0.890	PASS
3DH5	Ant	Hop	1.078	≥0.876	PASS





Test Graphs







A.4 Time of occupancy

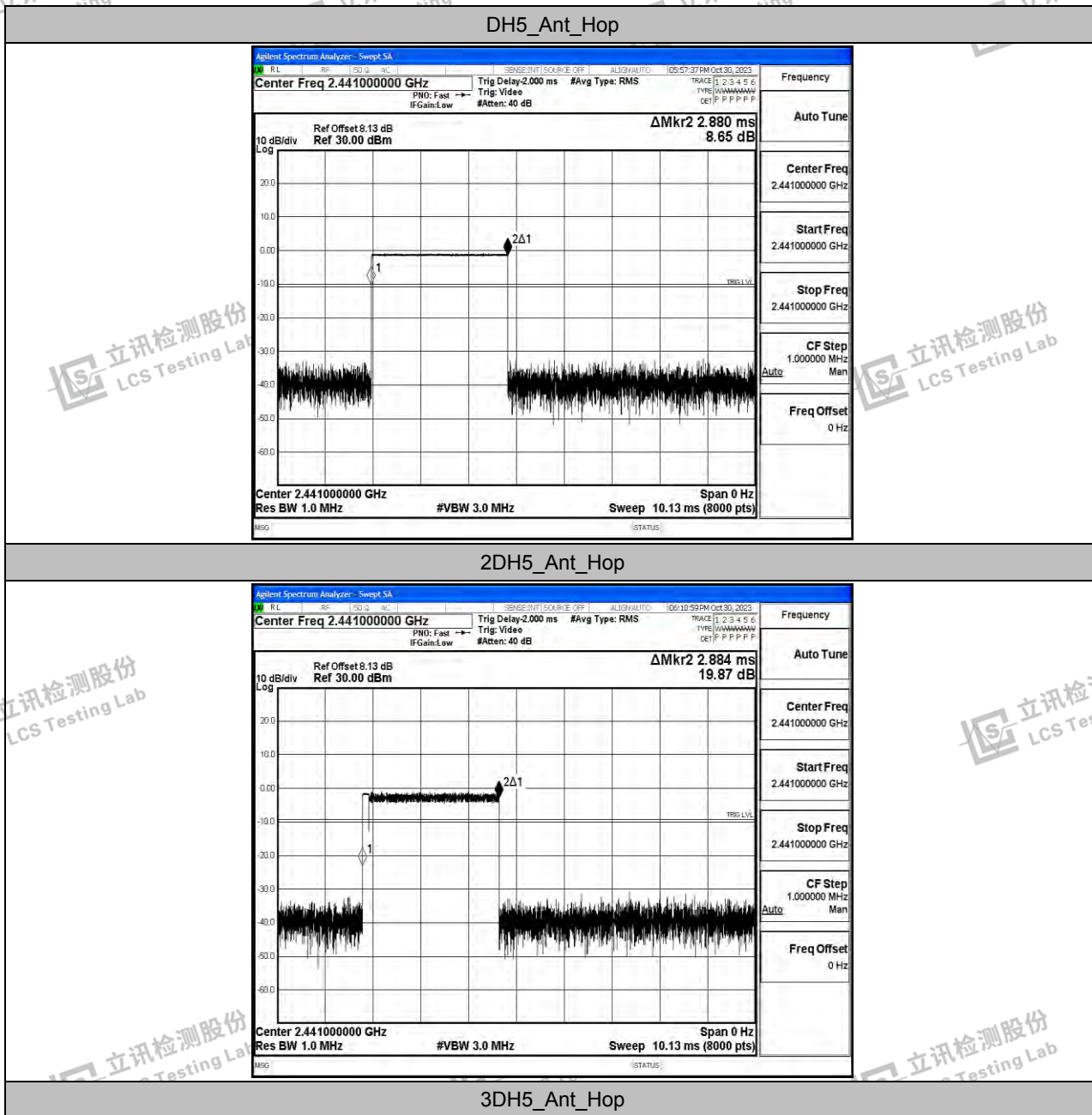
Test Result

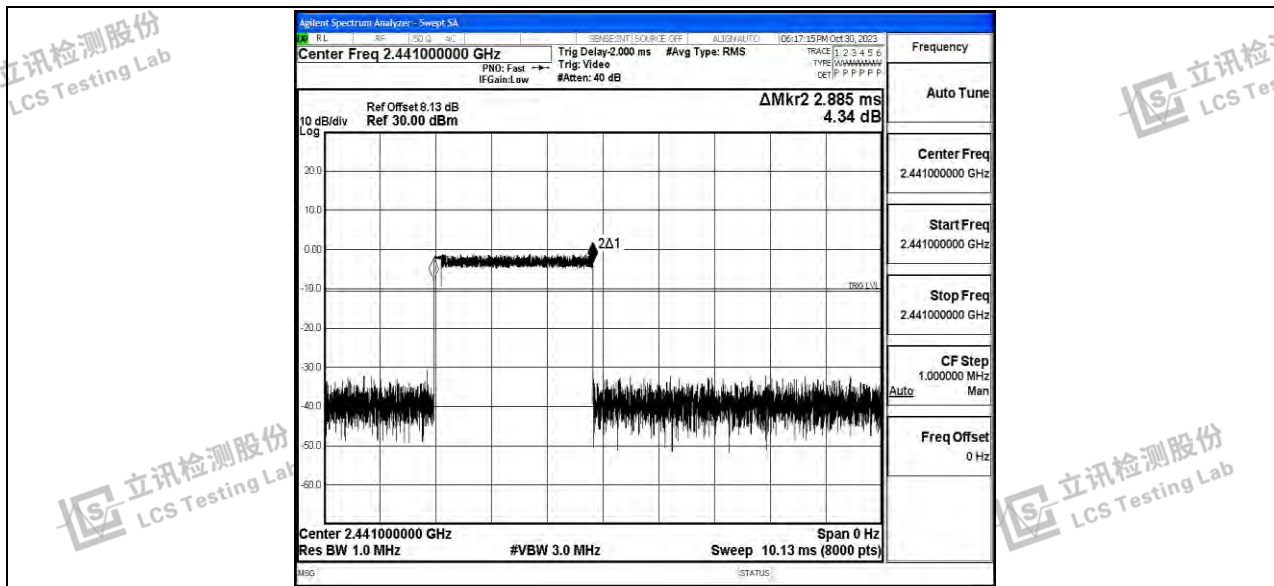
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.884	106.67	0.308	≤0.4	PASS
3DH5	Ant	Hop	2.885	106.67	0.308	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

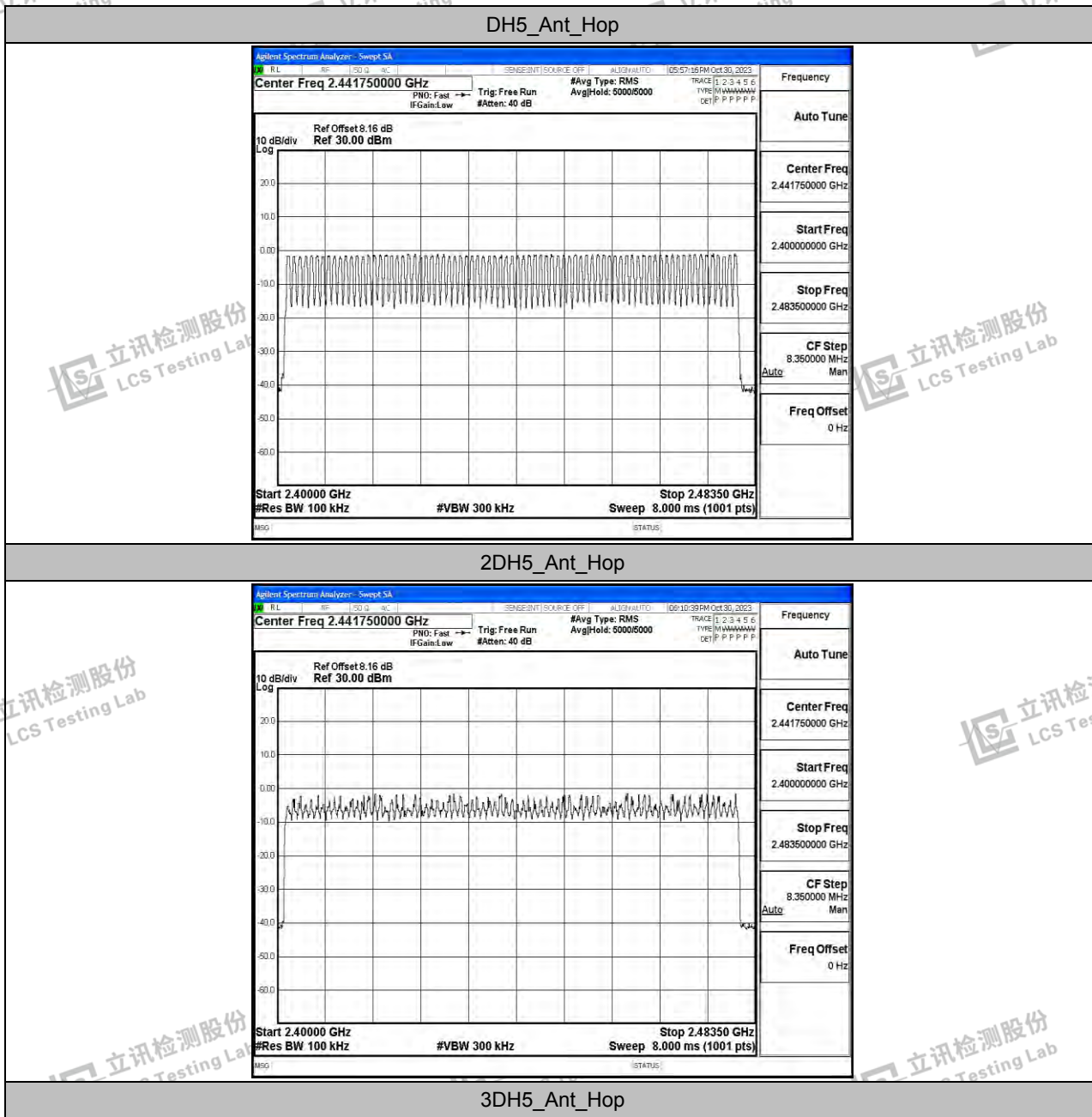
Test Result

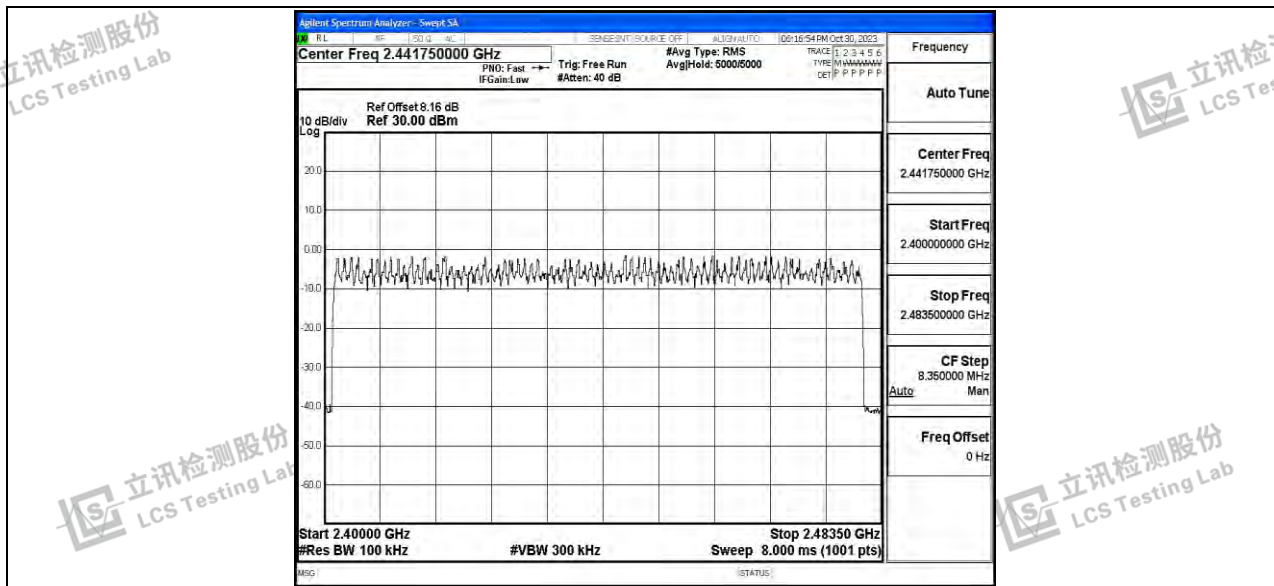
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant	Hop	79	≥15	PASS
2DH5	Ant	Hop	79	≥15	PASS
3DH5	Ant	Hop	79	≥15	PASS





Test Graphs







A.6 Band edge measurements

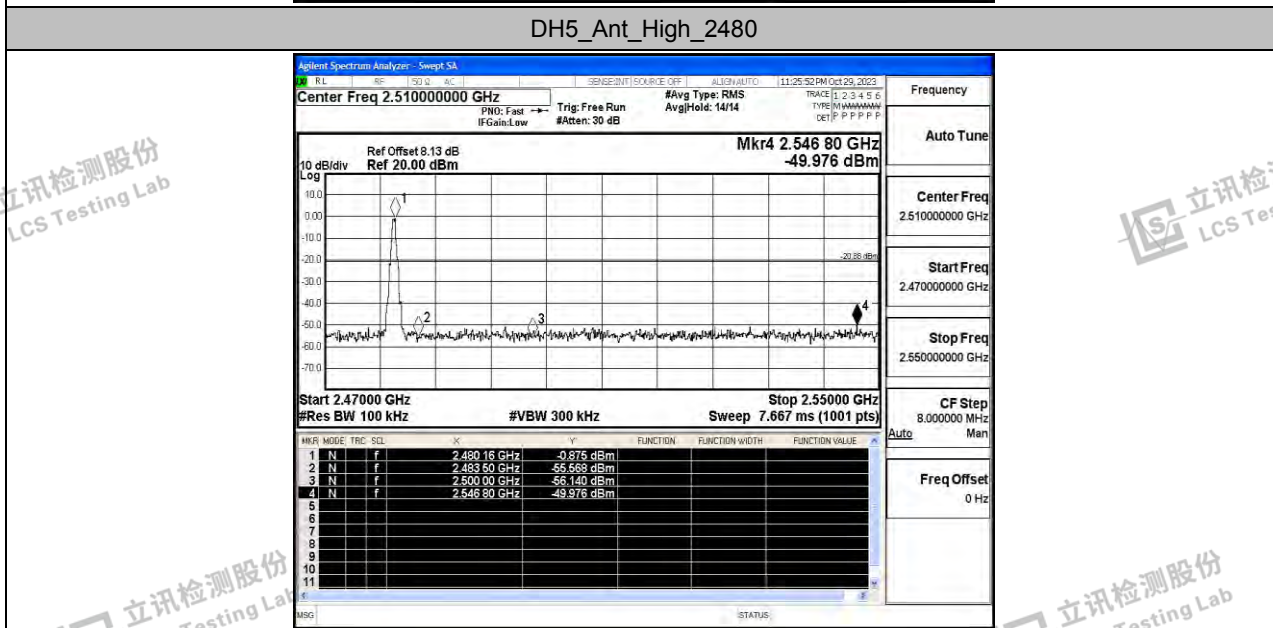
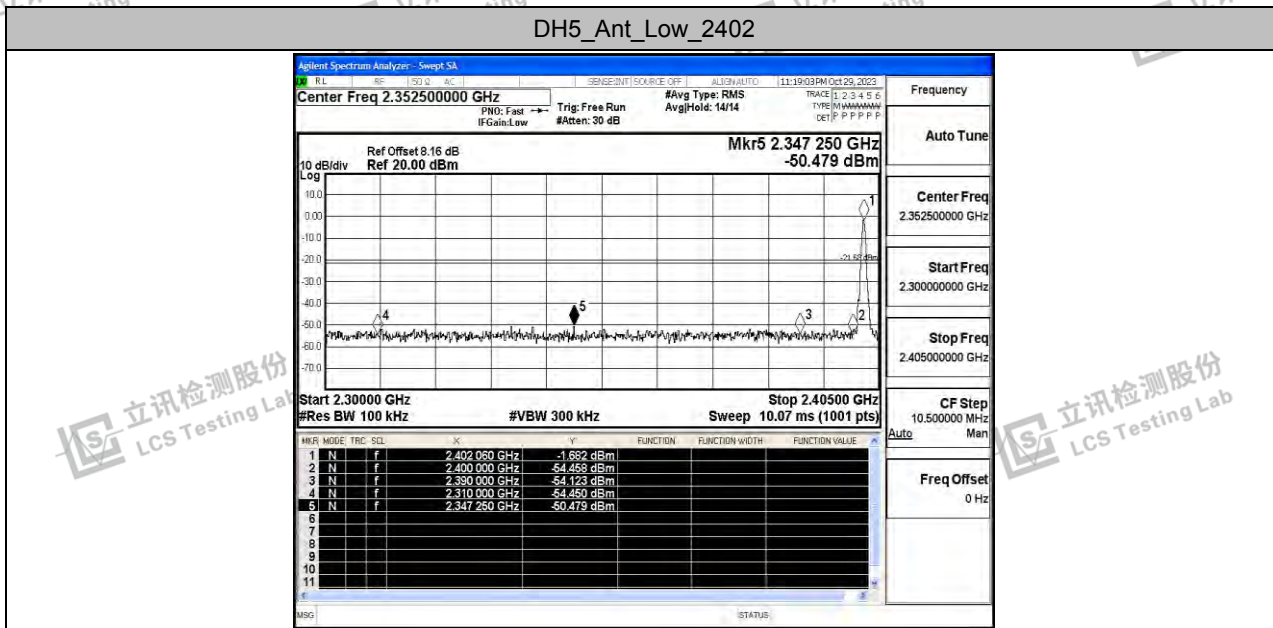
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-1.68	-50.48	≤-21.68	PASS
		High	2480	-0.88	-49.98	≤-20.88	PASS
		Low	Hop_2402	-2.11	-49.87	≤-22.11	PASS
		High	Hop_2480	-0.50	-49.13	≤-20.5	PASS
2DH5	Ant	Low	2402	-5.88	-50.5	≤-25.88	PASS
		High	2480	-2.94	-49.71	≤-22.94	PASS
		Low	Hop_2402	-3.30	-50.44	≤-23.3	PASS
		High	Hop_2480	-2.25	-49.43	≤-22.25	PASS
3DH5	Ant	Low	2402	-6.56	-50.46	≤-26.56	PASS
		High	2480	-2.58	-50.39	≤-22.58	PASS
		Low	Hop_2402	-4.60	-49.2	≤-24.6	PASS
		High	Hop_2480	-1.78	-49.06	≤-21.78	PASS



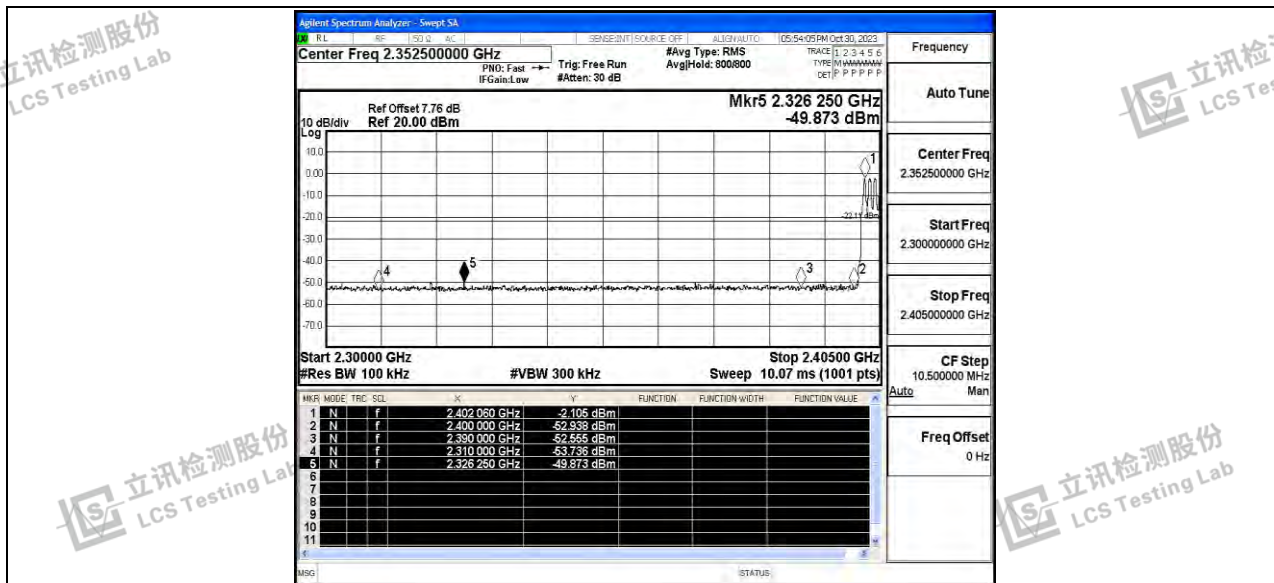


Test Graphs

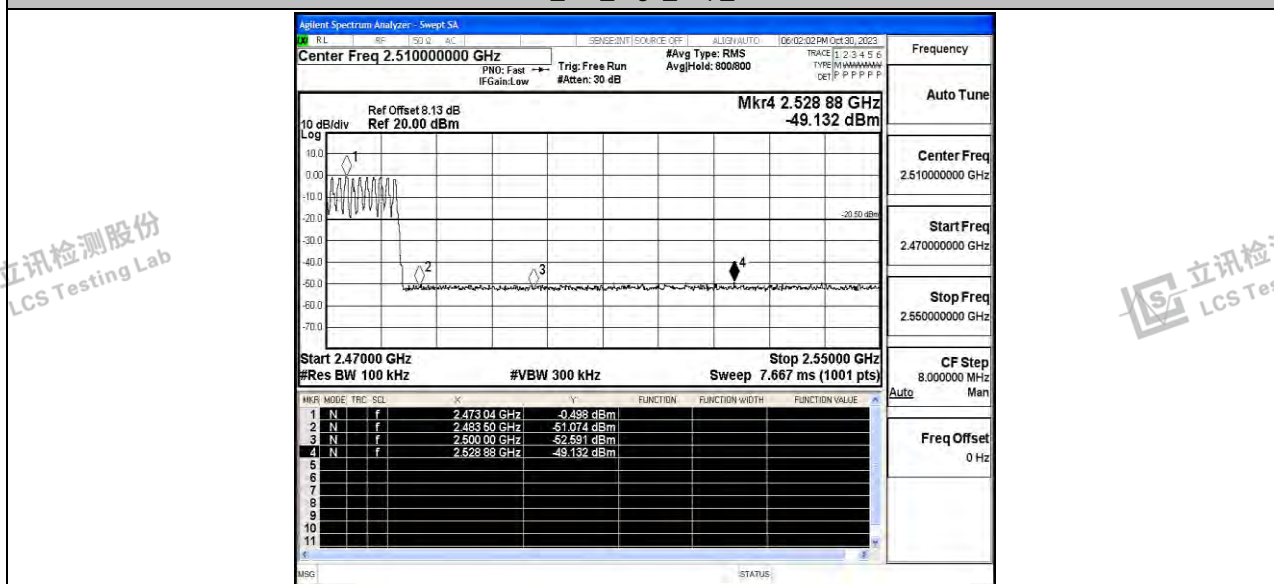


DH5_Ant_Low_Hop_2402



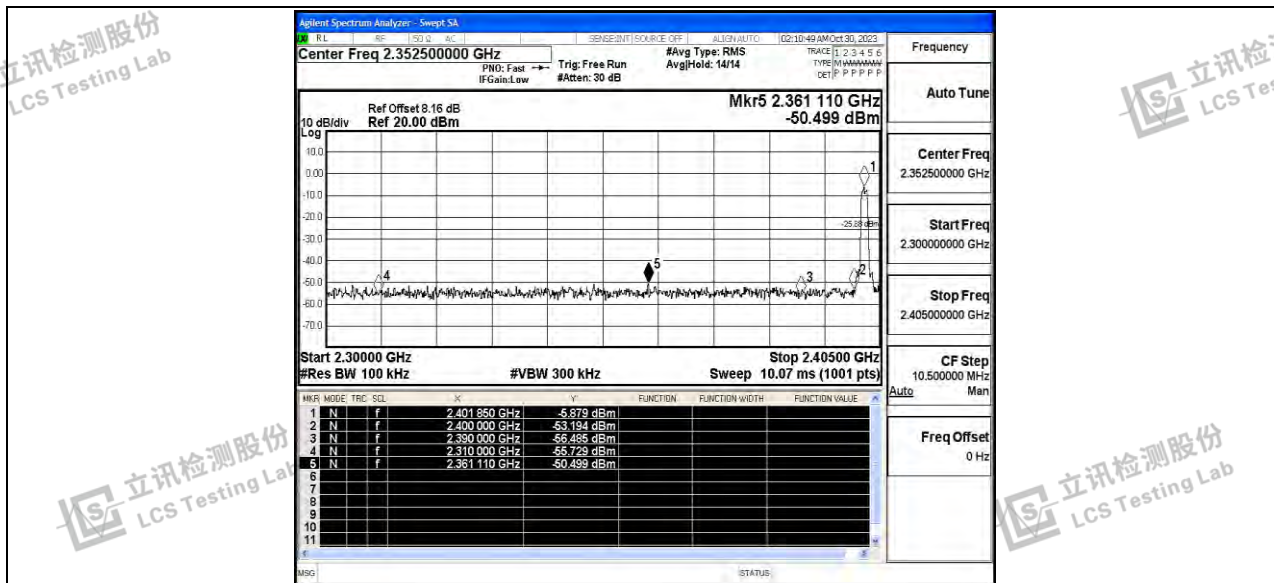


DH5_Ant_High_Hop_2480

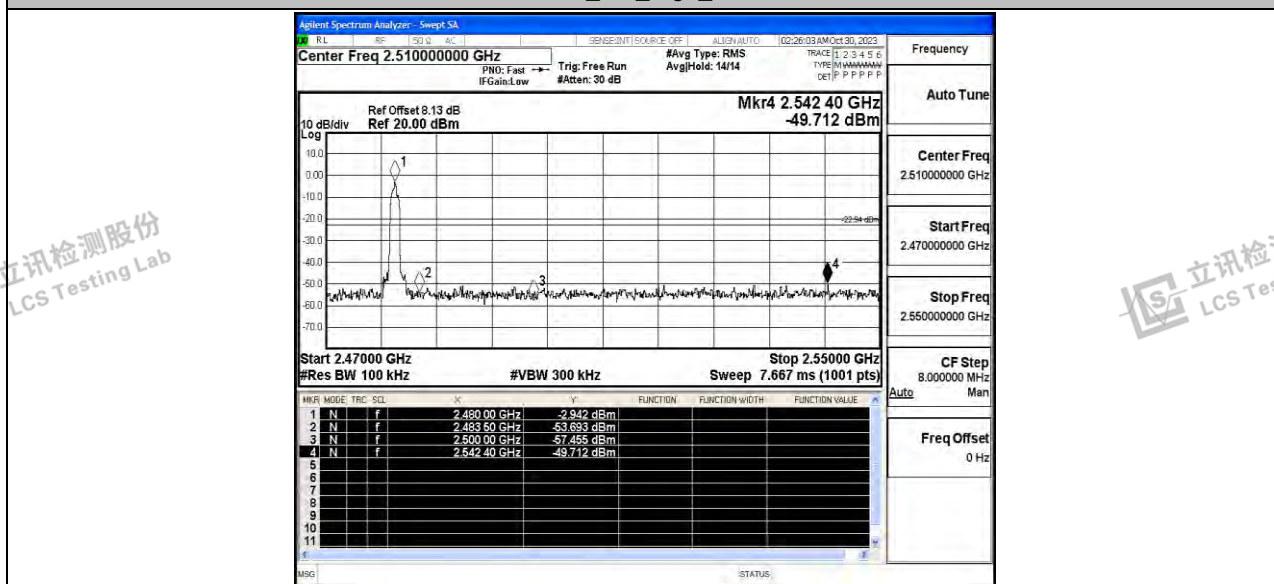


2DH5_Ant_Low_2402



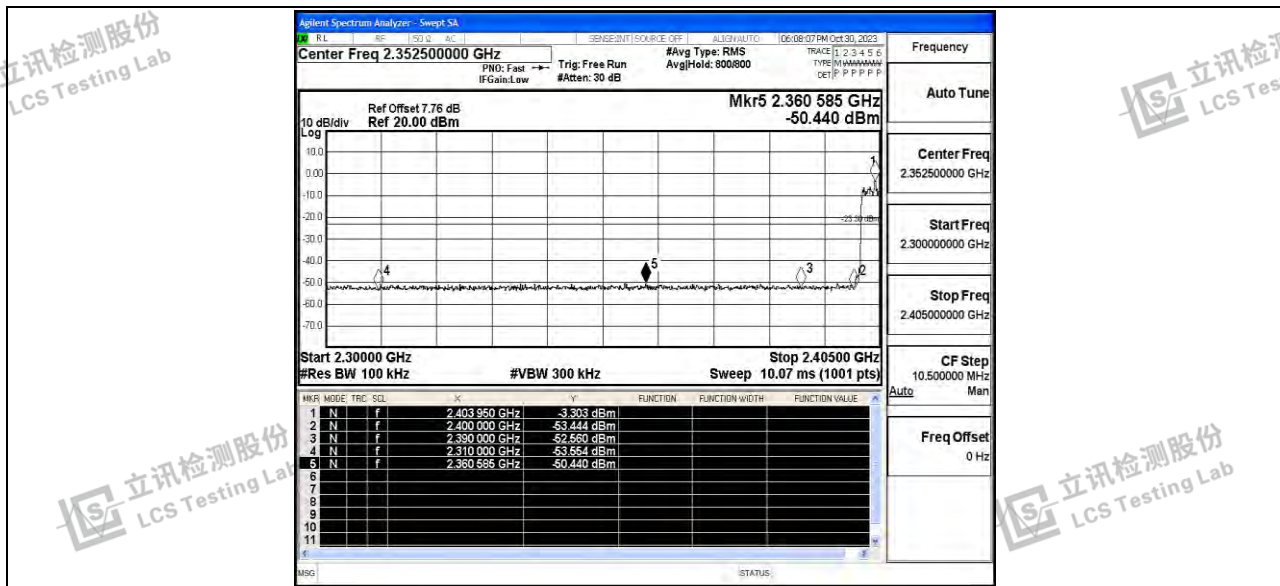


2DH5_Ant_High_2480

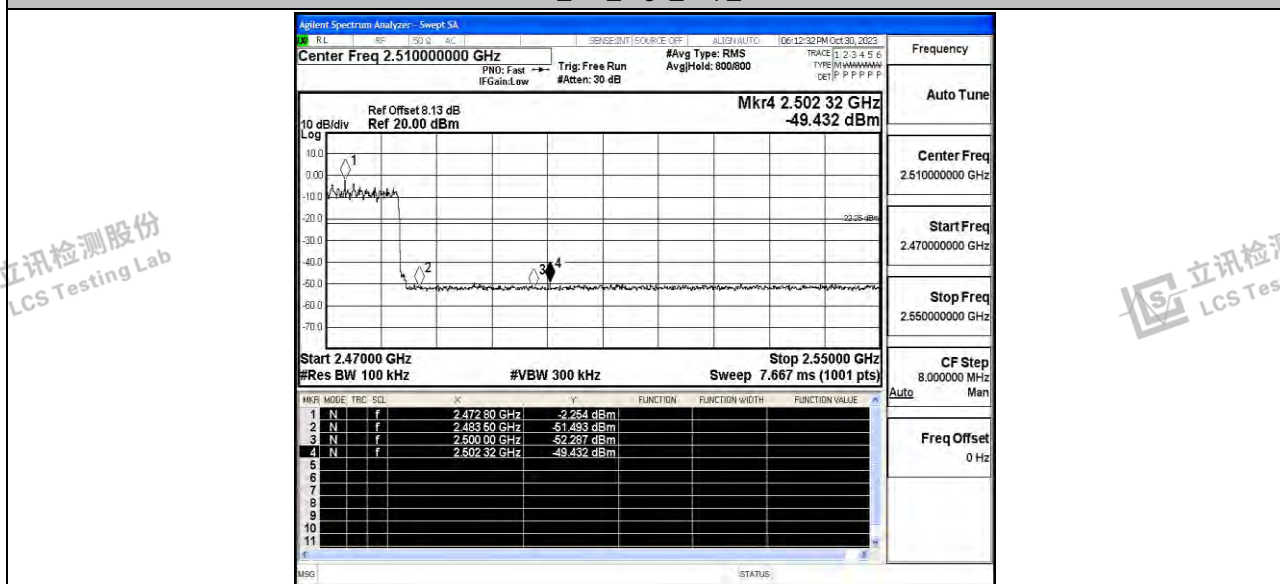


2DH5_Ant_Low_Hop_2402



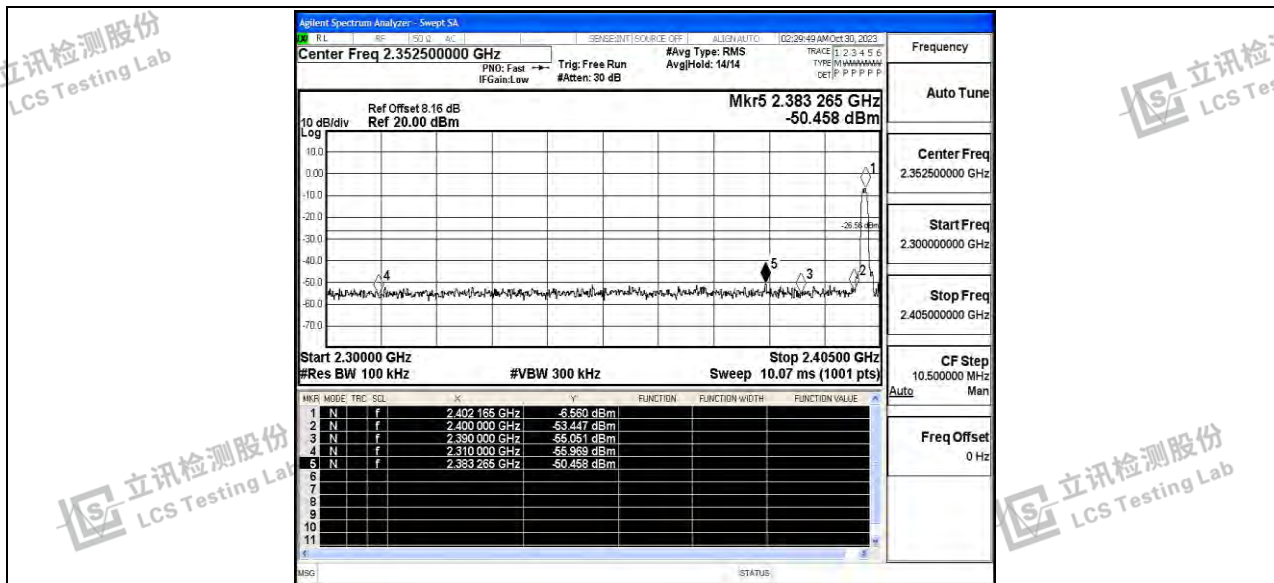


2DH5_Ant_High_Hop_2480

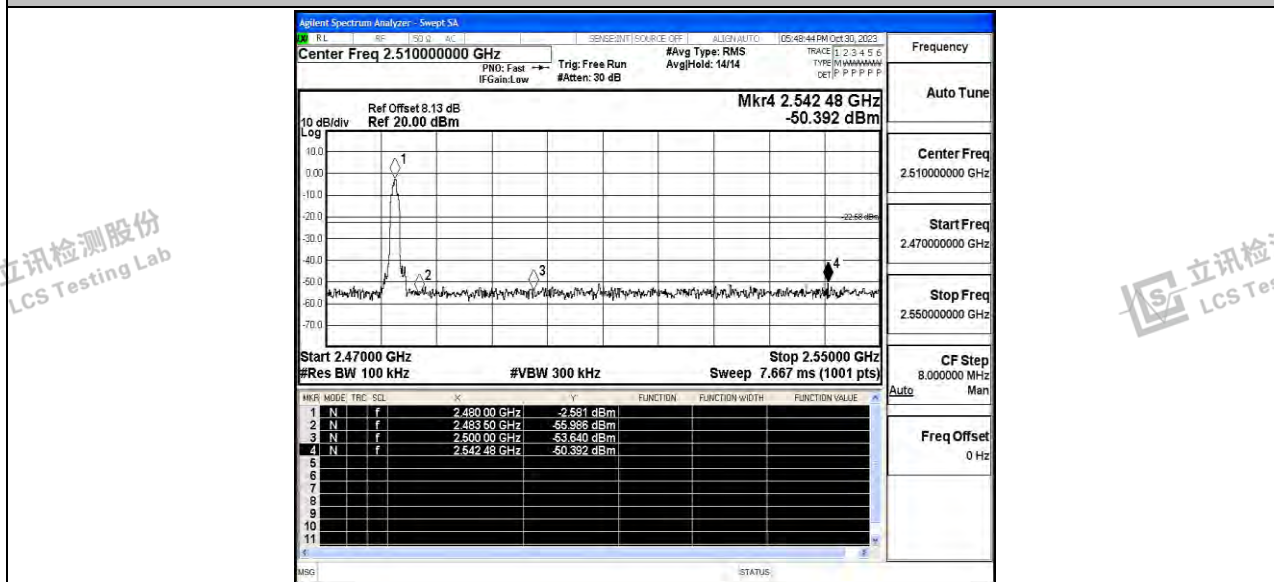


3DH5_Ant_Low_2402



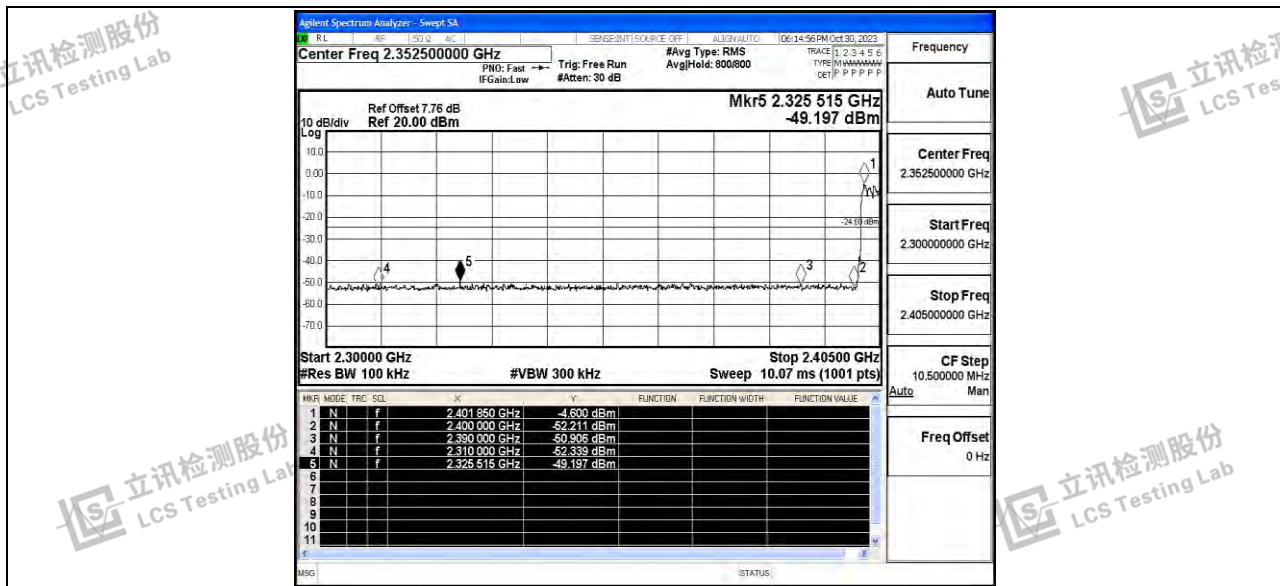


3DH5_Ant_High_2480

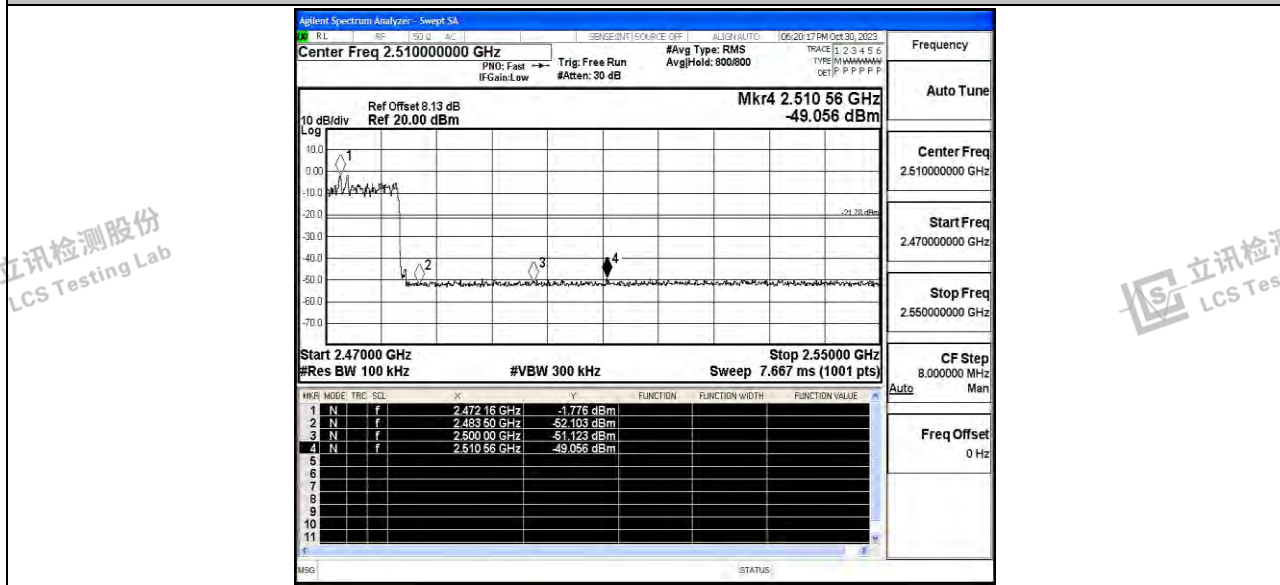


3DH5_Ant_Low_Hop_2402





3DH5_Ant_High_Hop_2480





A.7 Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	-1.73	-1.73	---	PASS
			30~1000	-1.73	-61.15	≤-21.73	PASS
			1000~26500	-1.73	-48.9	≤-21.73	PASS
		2441	Reference	-1.47	-1.47	---	PASS
			30~1000	-1.47	-61.55	≤-21.47	PASS
			1000~26500	-1.47	-49.25	≤-21.47	PASS
		2480	Reference	-1.39	-1.39	---	PASS
			30~1000	-1.39	-61.54	≤-21.39	PASS
			1000~26500	-1.39	-49.22	≤-21.39	PASS
2DH5	Ant	2402	Reference	-2.25	-2.25	---	PASS
			30~1000	-2.25	-58.83	≤-22.25	PASS
			1000~26500	-2.25	-46.3	≤-22.25	PASS
		2441	Reference	-2.35	-2.35	---	PASS
			30~1000	-2.35	-61.49	≤-22.35	PASS
			1000~26500	-2.35	-48.63	≤-22.35	PASS
		2480	Reference	-1.99	-1.99	---	PASS
			30~1000	-1.99	-61.8	≤-21.99	PASS
			1000~26500	-1.99	-49.07	≤-21.99	PASS
3DH5	Ant	2402	Reference	-3.17	-3.17	---	PASS
			30~1000	-3.17	-61.34	≤-23.17	PASS
			1000~26500	-3.17	-48.73	≤-23.17	PASS
		2441	Reference	-2.03	-2.03	---	PASS
			30~1000	-2.03	-61.3	≤-22.03	PASS
			1000~26500	-2.03	-48.87	≤-22.03	PASS
		2480	Reference	-2.16	-2.16	---	PASS
			30~1000	-2.16	-61.75	≤-22.16	PASS
			1000~26500	-2.16	-50.08	≤-22.16	PASS



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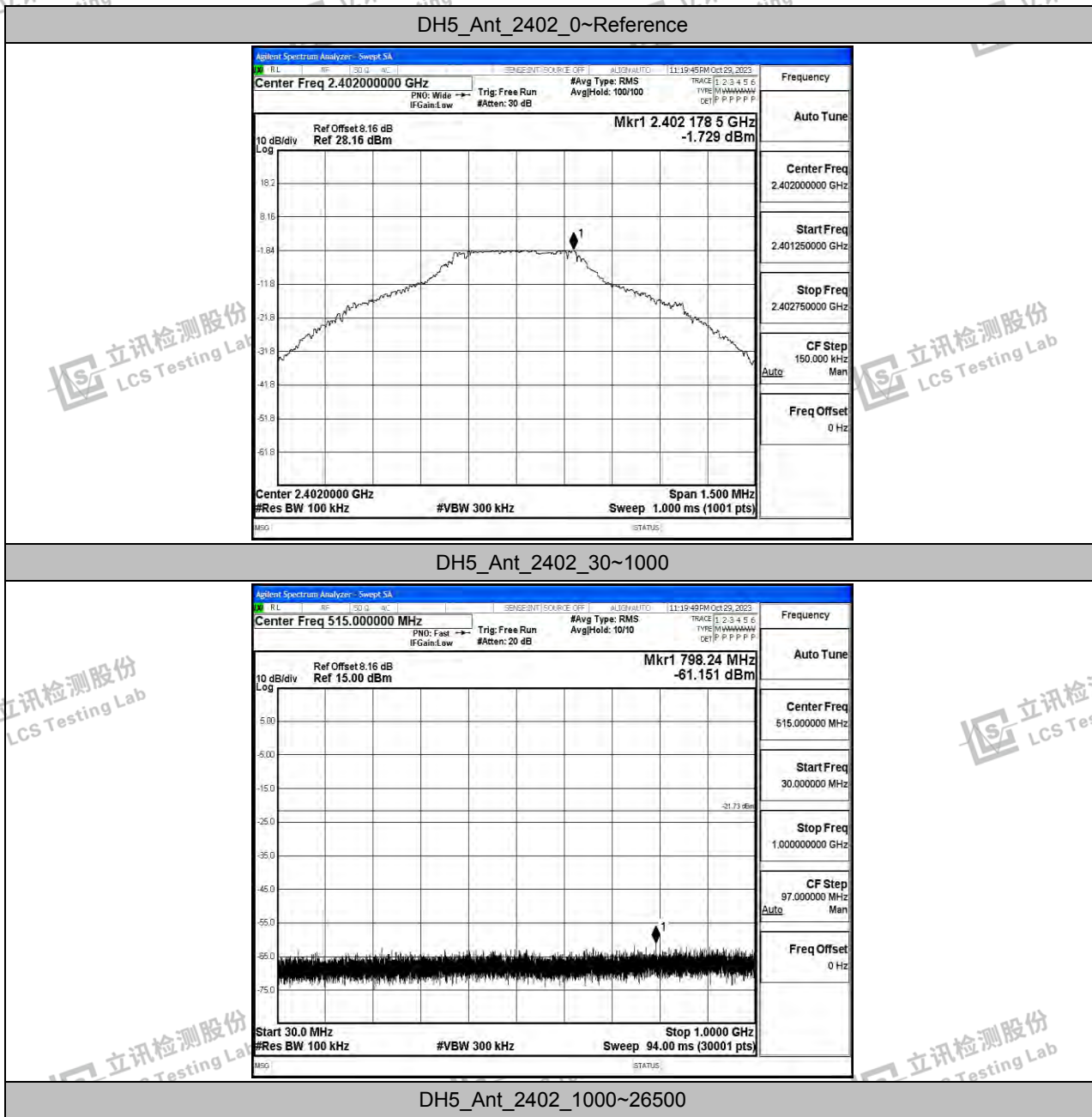
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

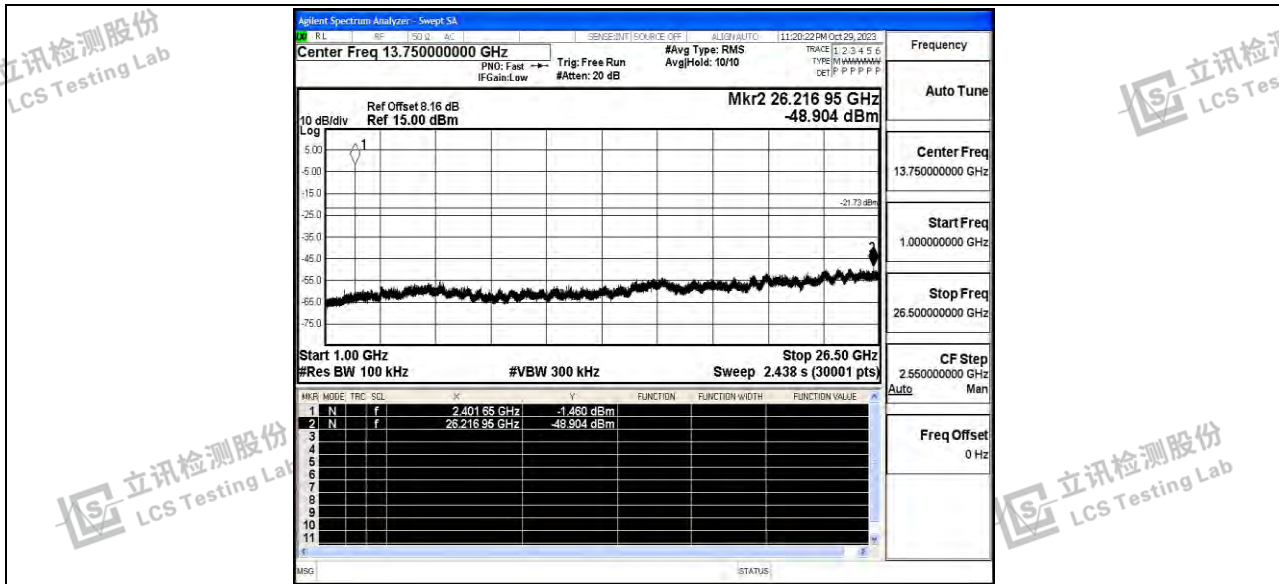
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

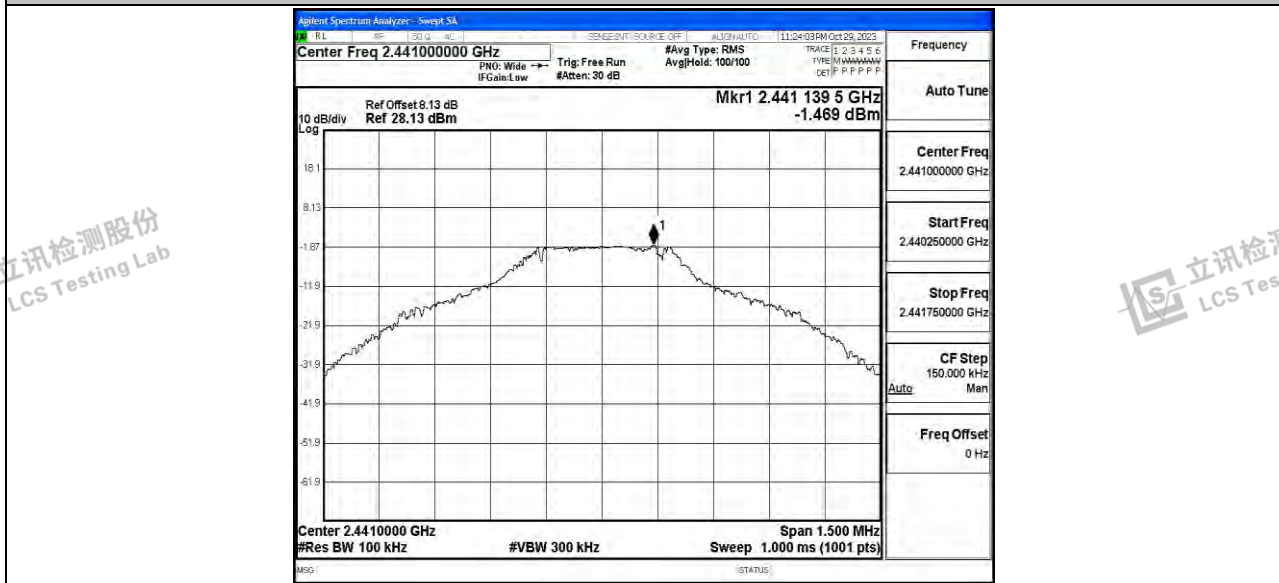


Test Graphs



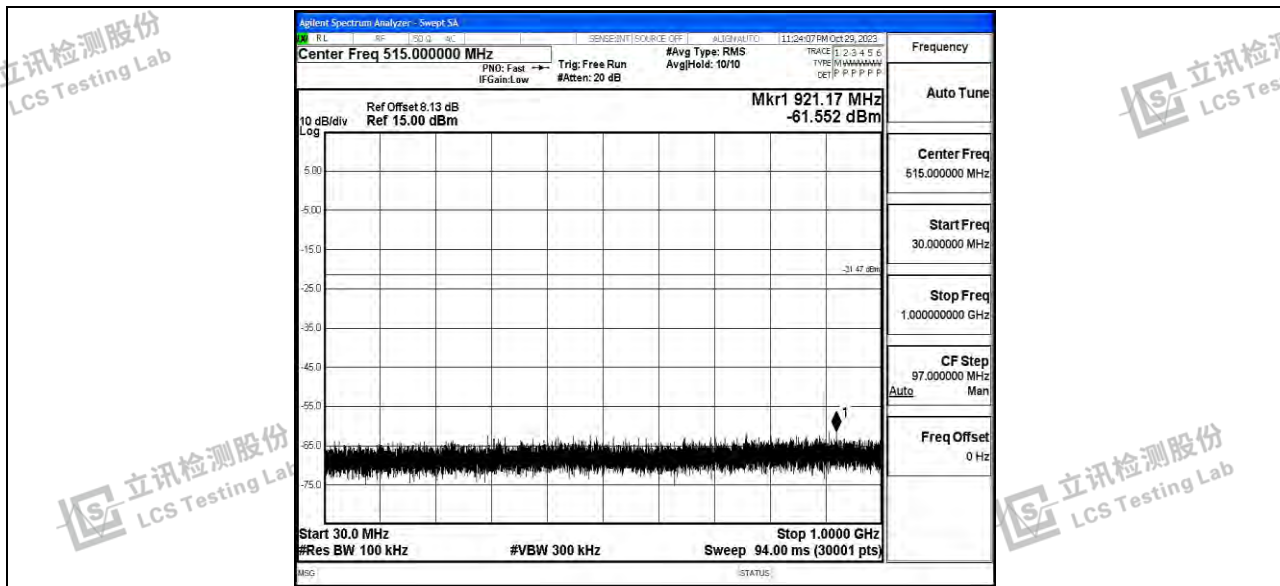


DH5_Ant_2441_0~Reference

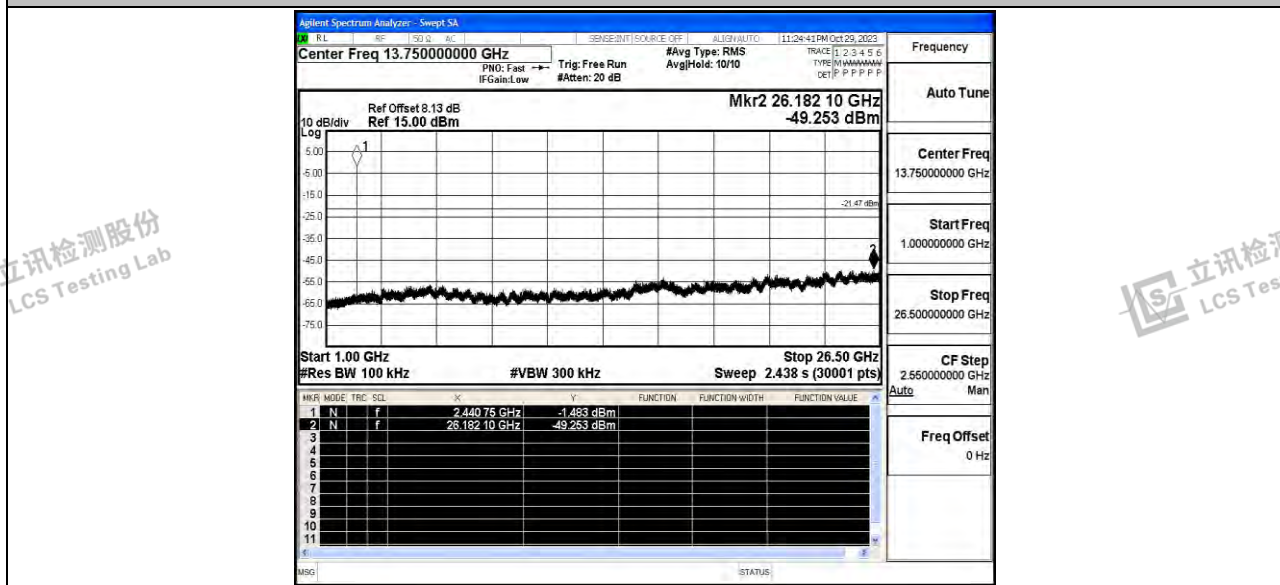


DH5_Ant_2441_30~1000



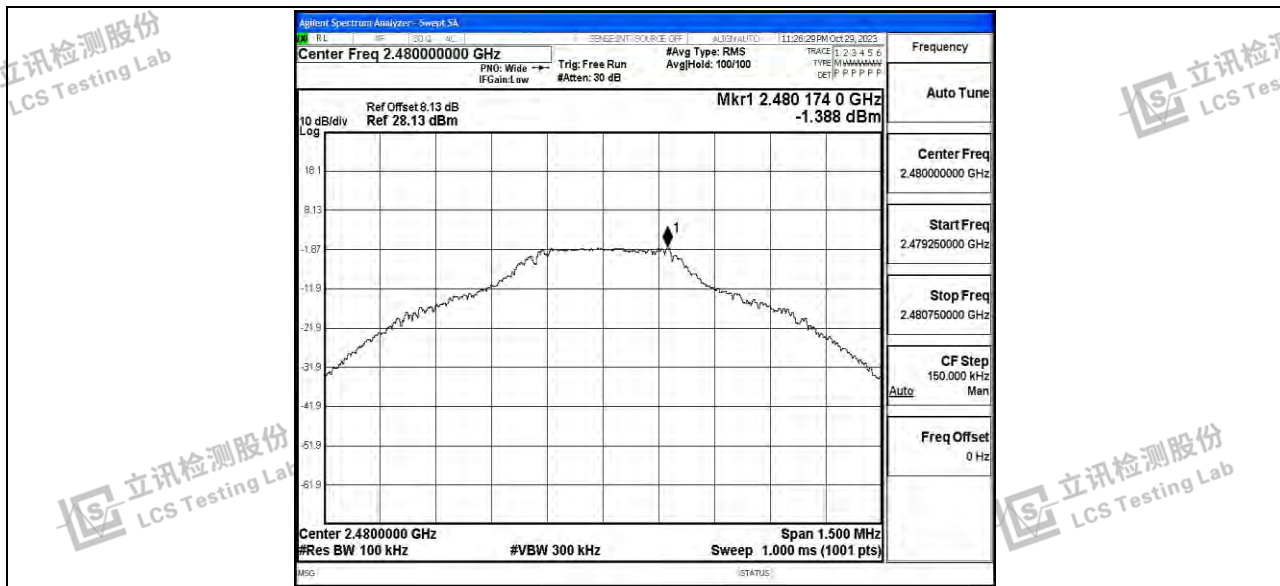


DH5_Ant_2441_1000~26500

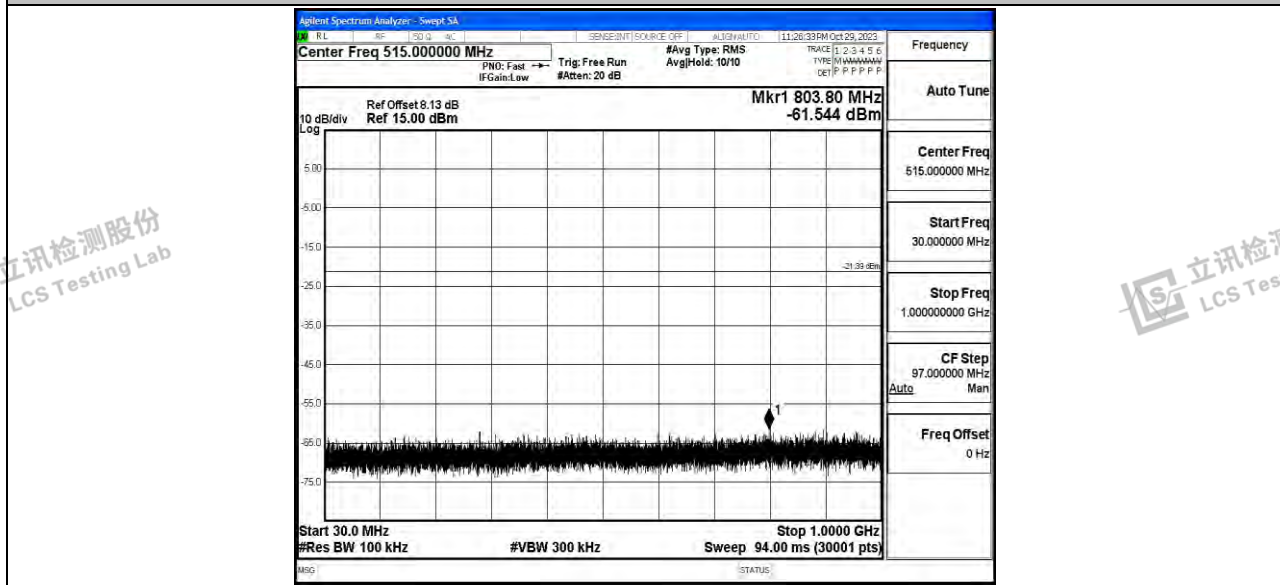


DH5_Ant_2480_0~Reference



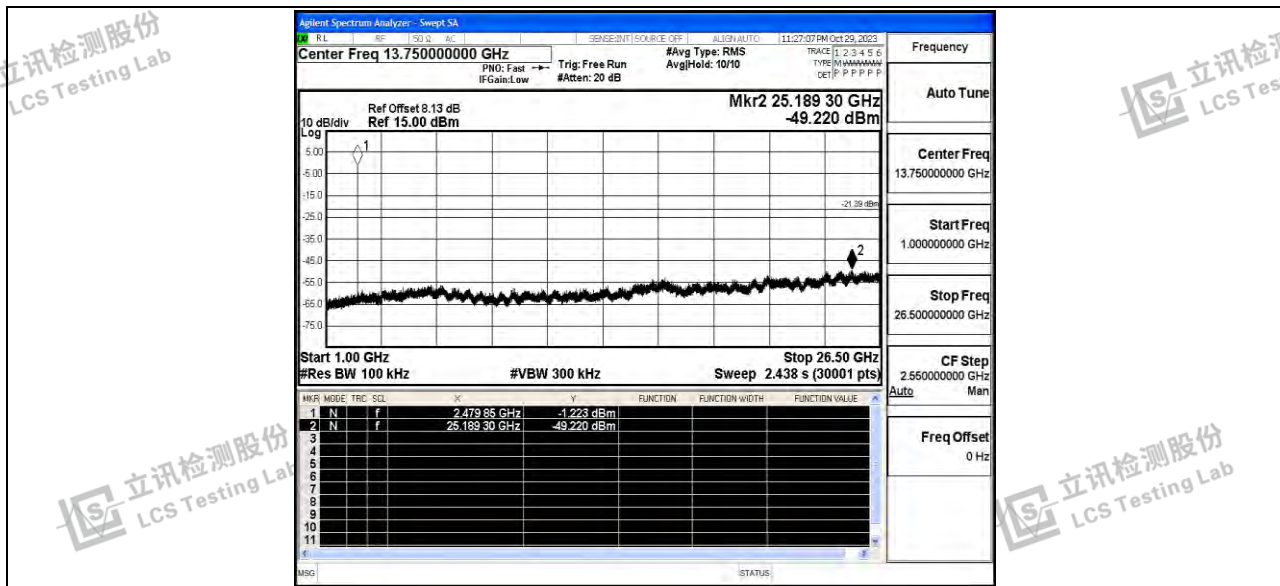


DH5_Ant_2480_30~1000

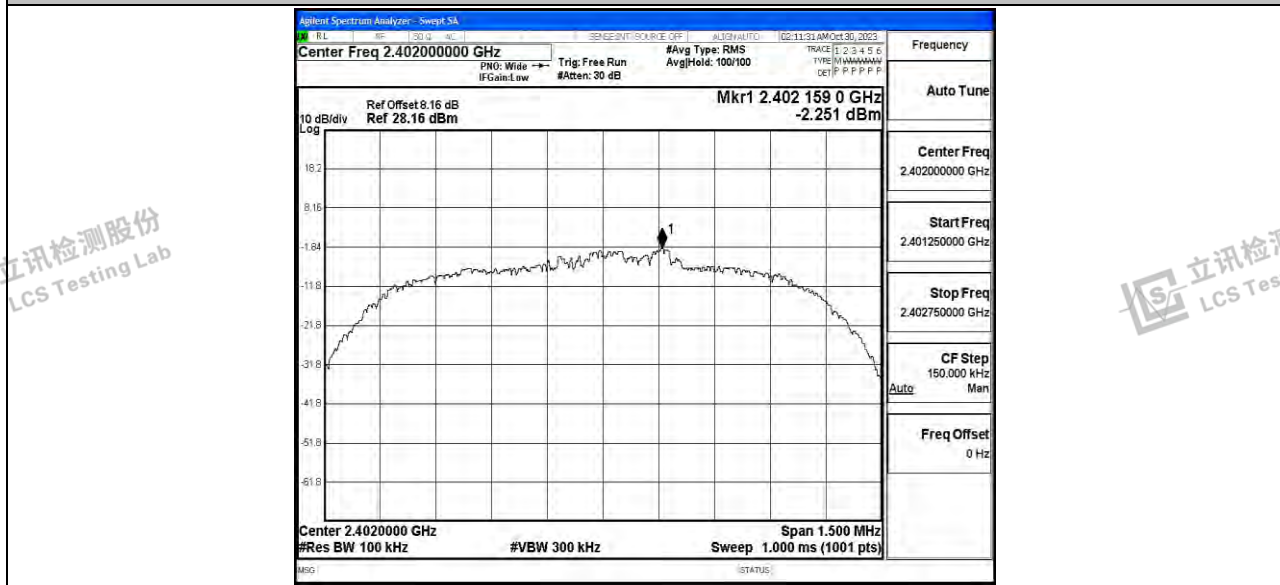


DH5_Ant_2480_1000~26500



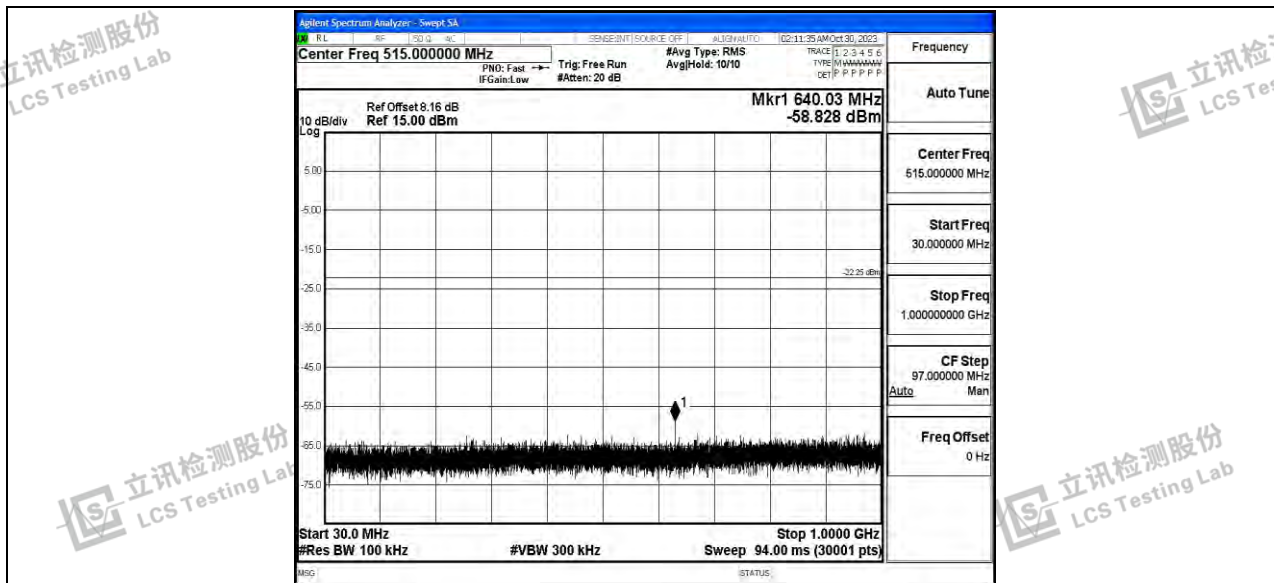


2DH5_Ant_2402_0~Reference

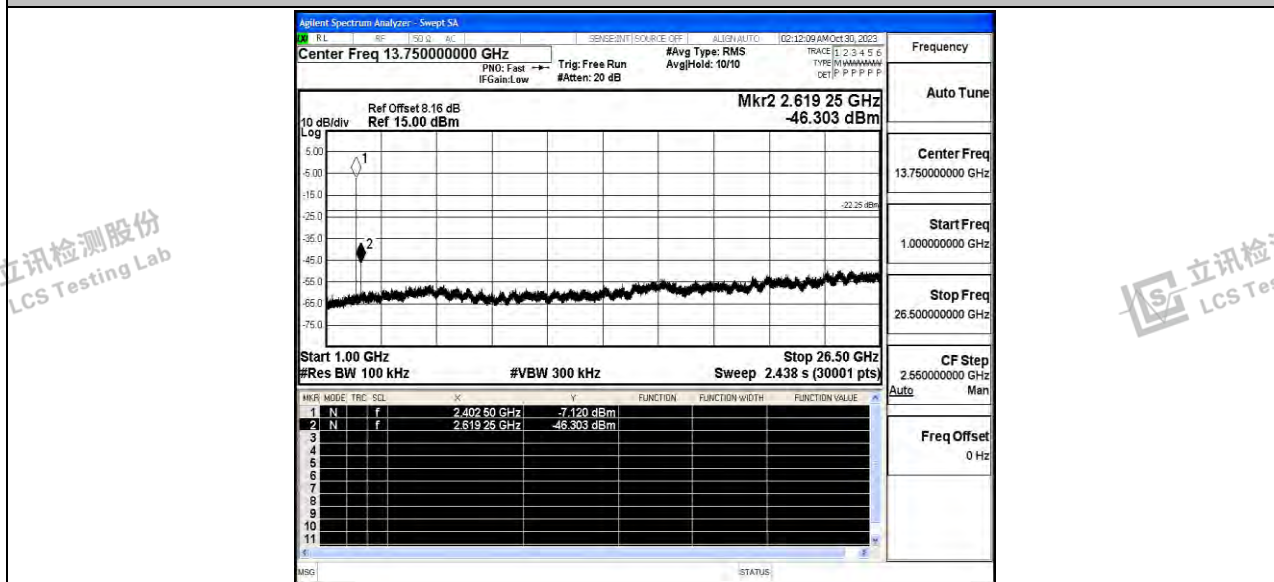


2DH5_Ant_2402_30~1000



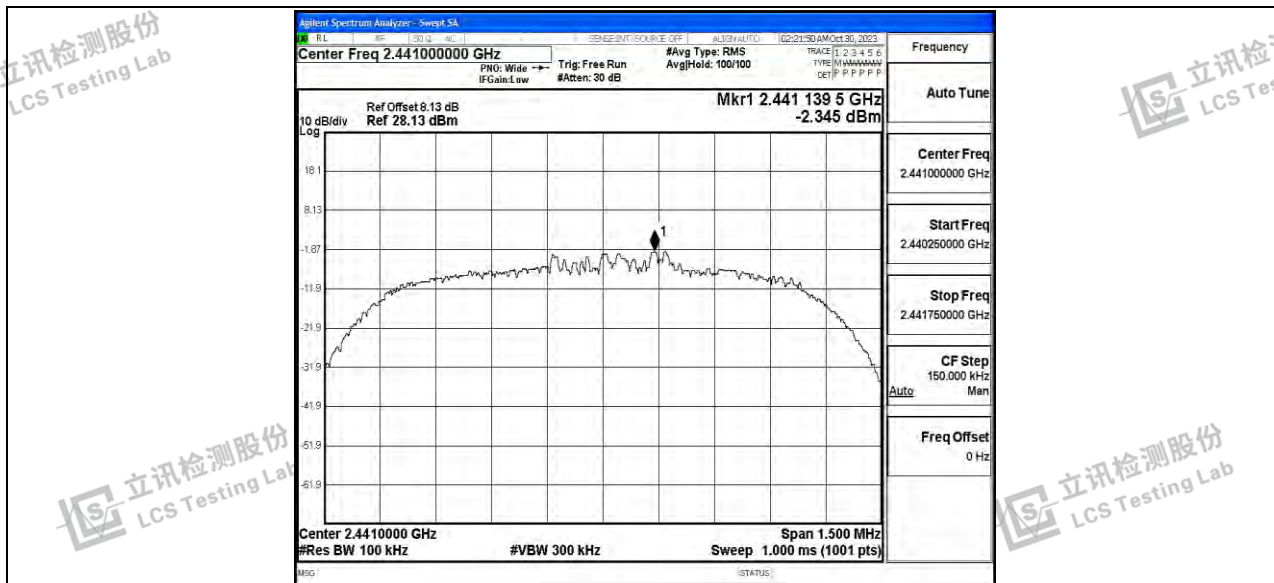


2DH5_Ant_2402_1000~26500

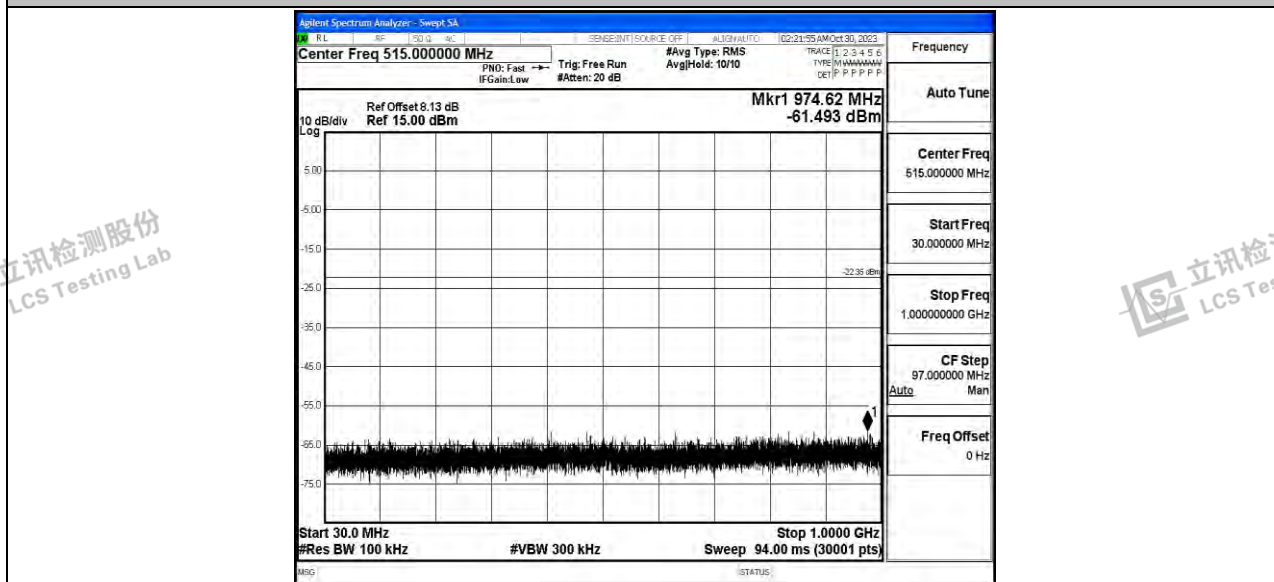


2DH5_Ant_2441_0~Reference



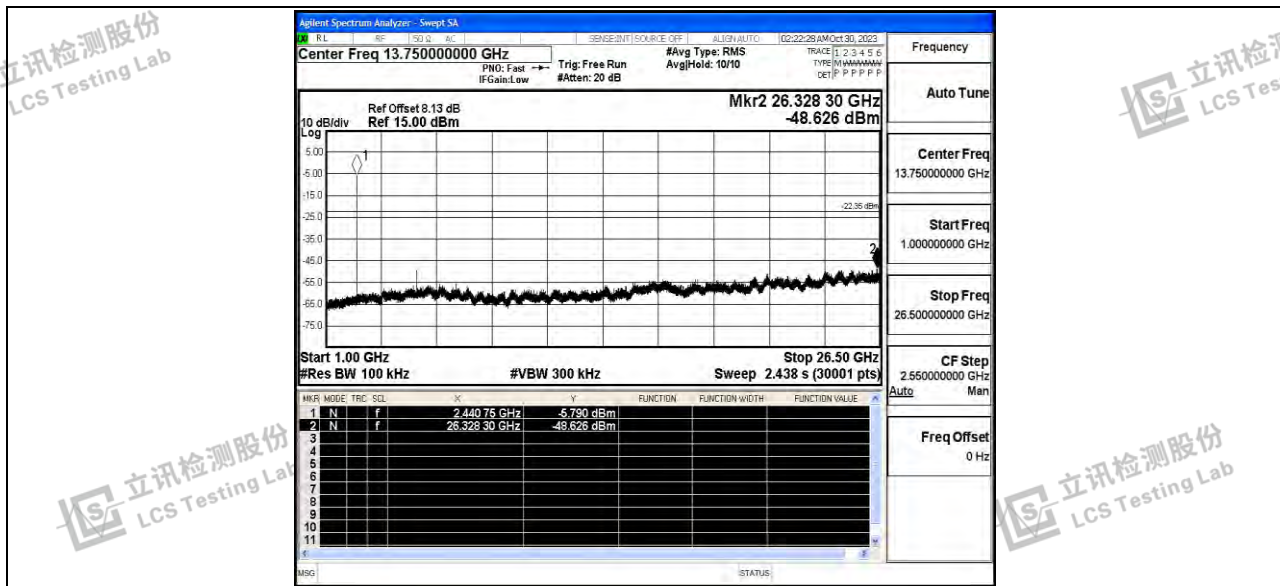


2DH5_Ant_2441_30~1000

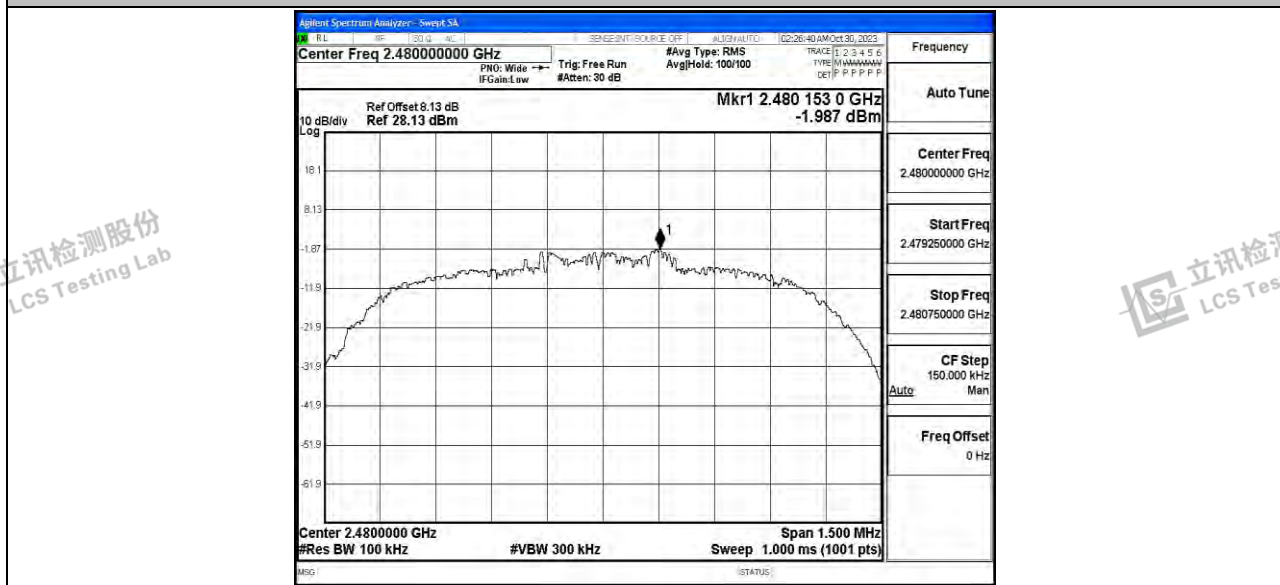


2DH5_Ant_2441_1000~26500



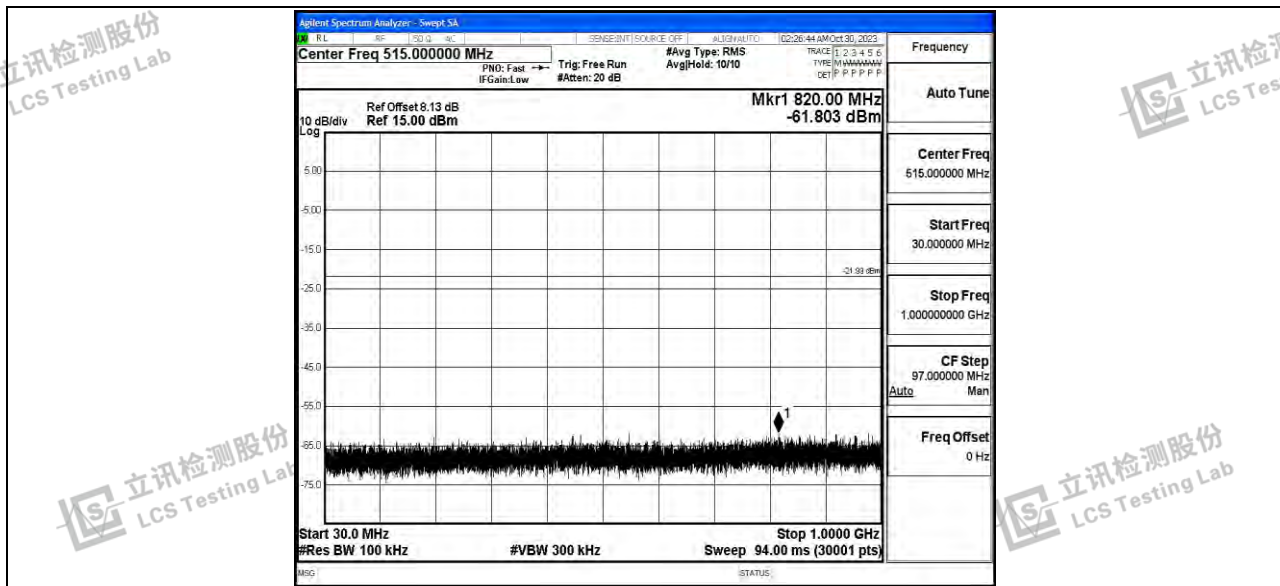


2DH5_Ant_2480_0~Reference

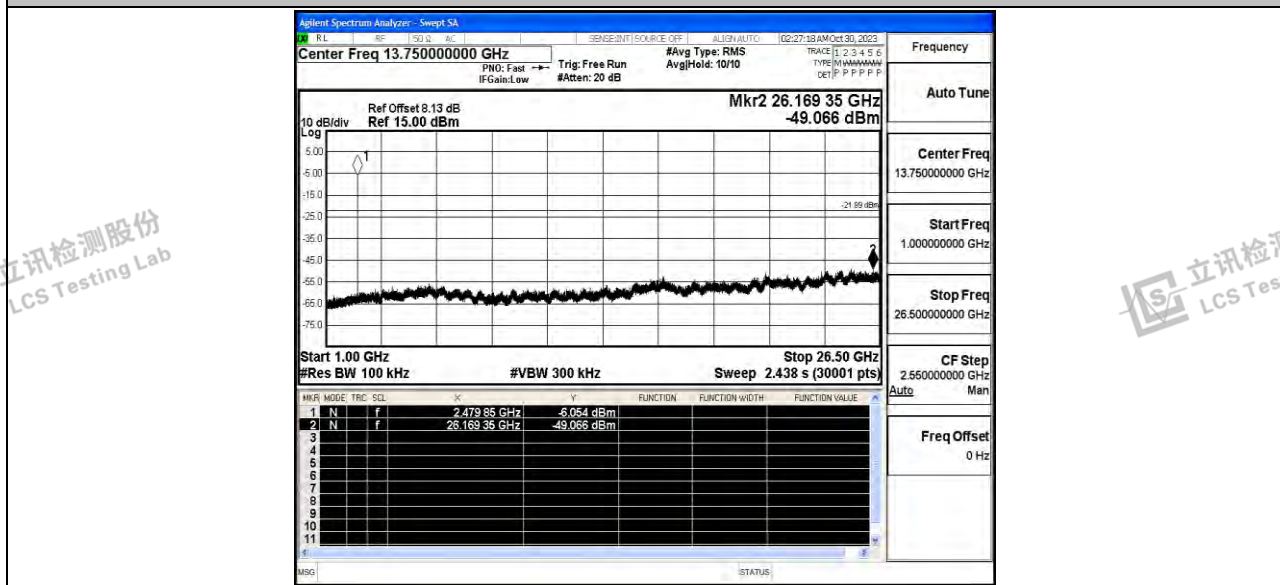


2DH5_Ant_2480_30~1000



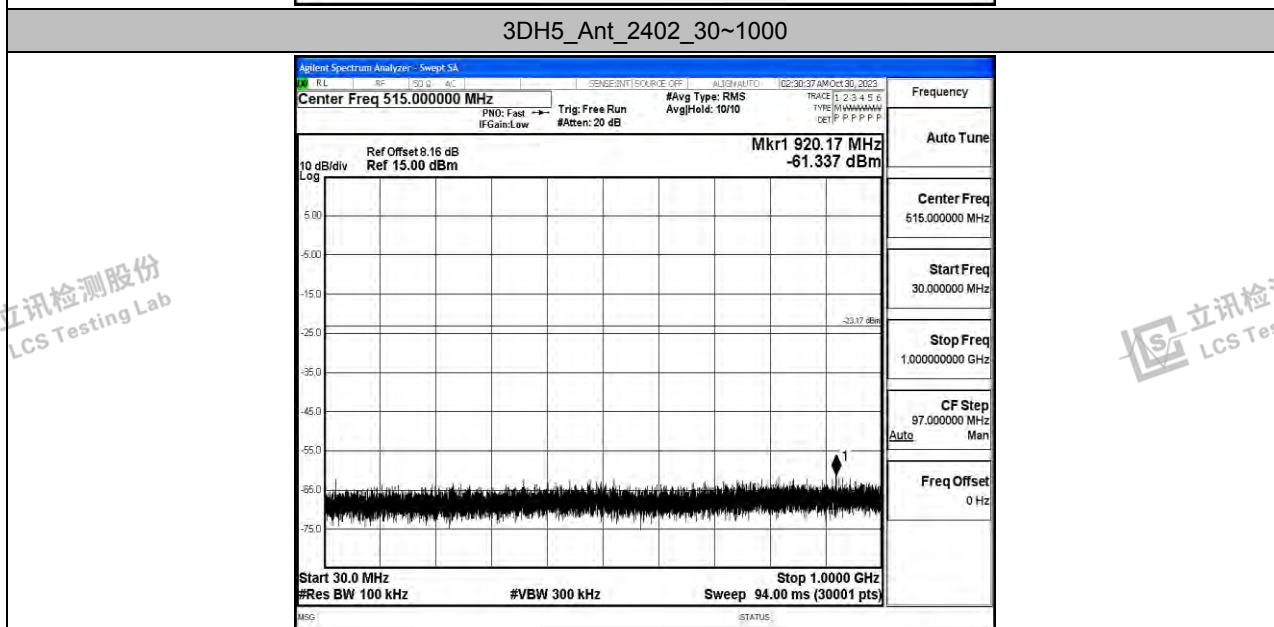
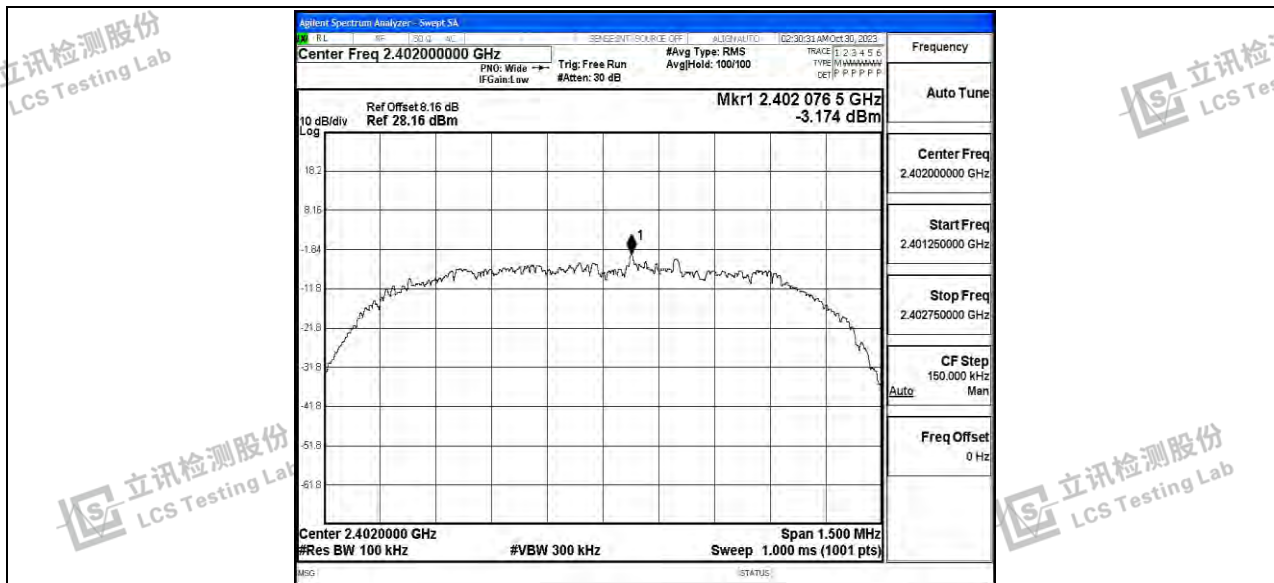


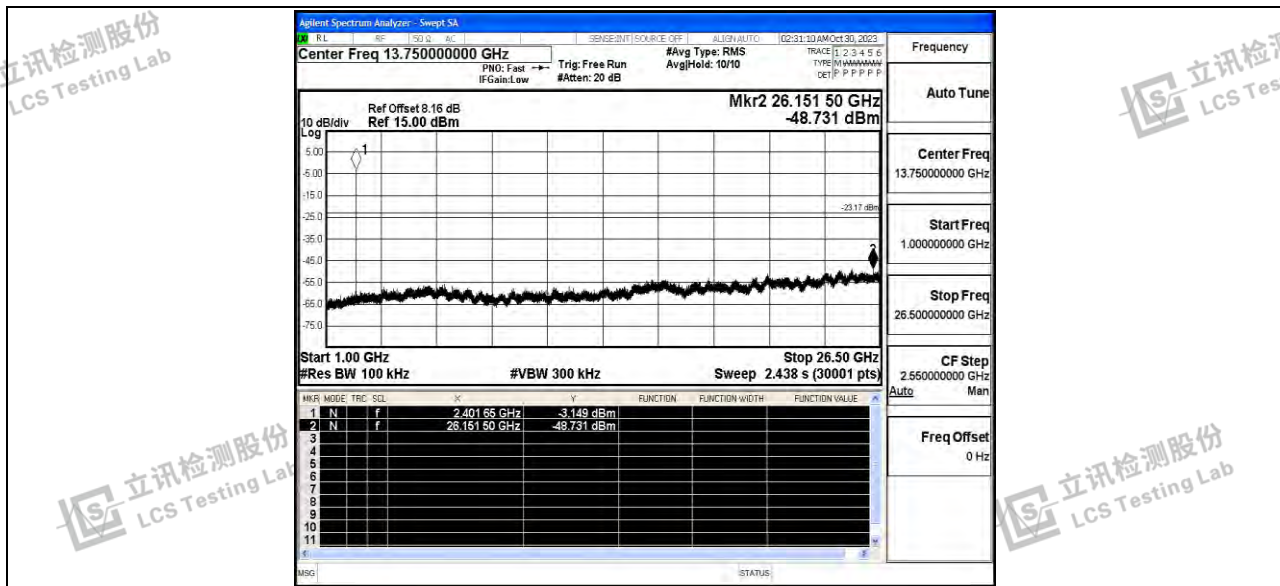
2DH5_Ant_2480_1000~26500



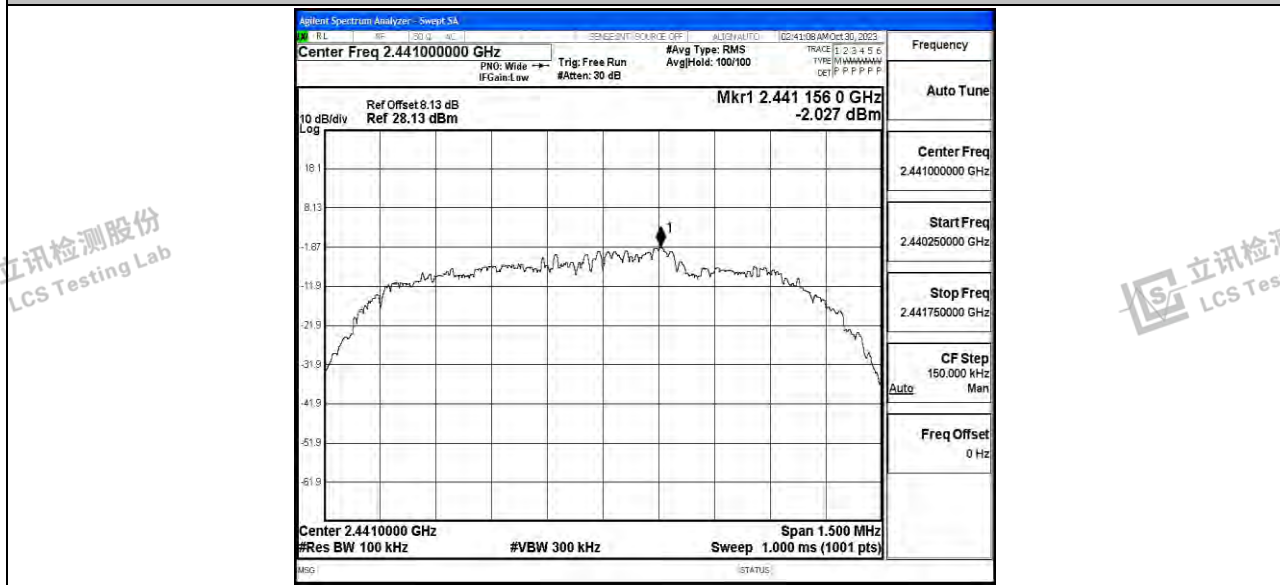
3DH5_Ant_2402_0~Reference





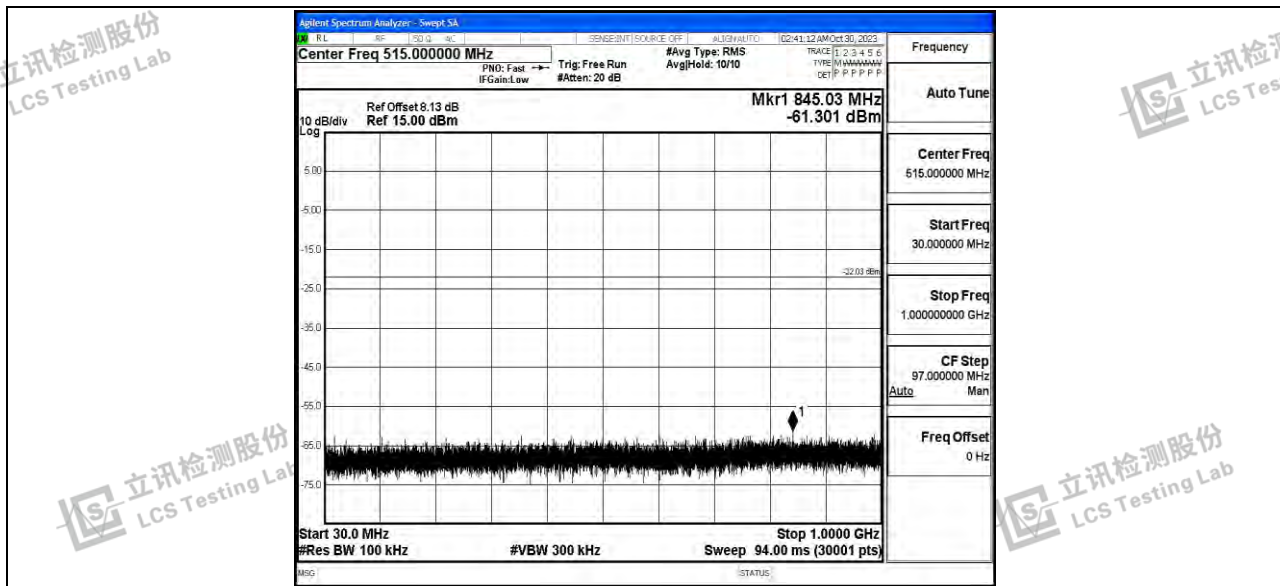


3DH5_Ant_2441_0~Reference

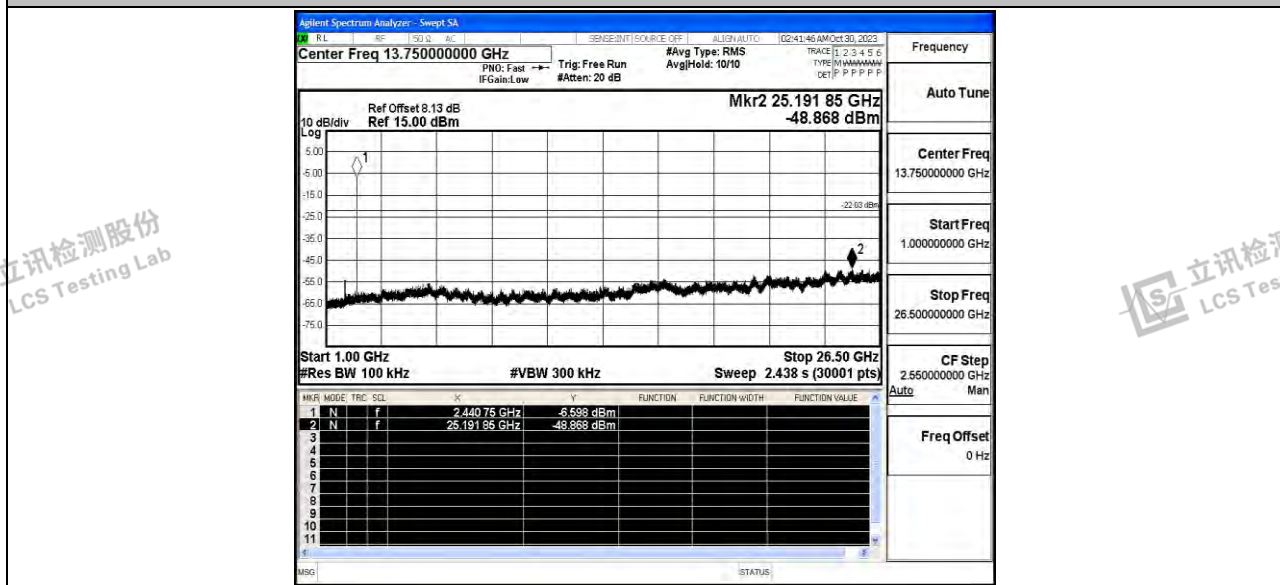


3DH5_Ant_2441_30~1000



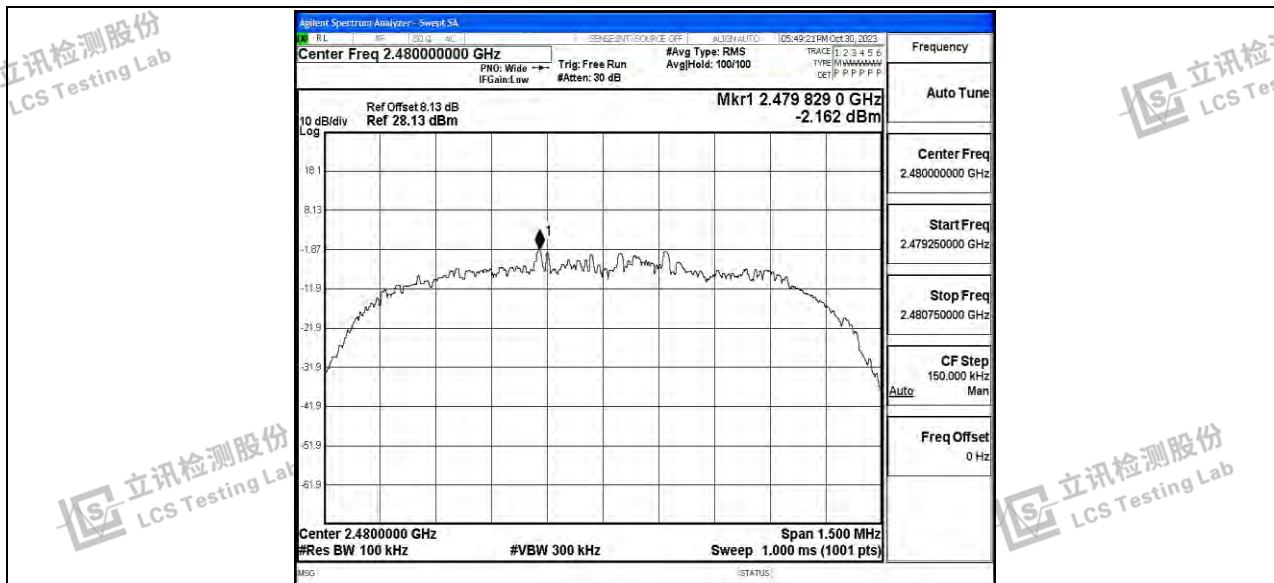


3DH5_Ant_2441_1000~26500

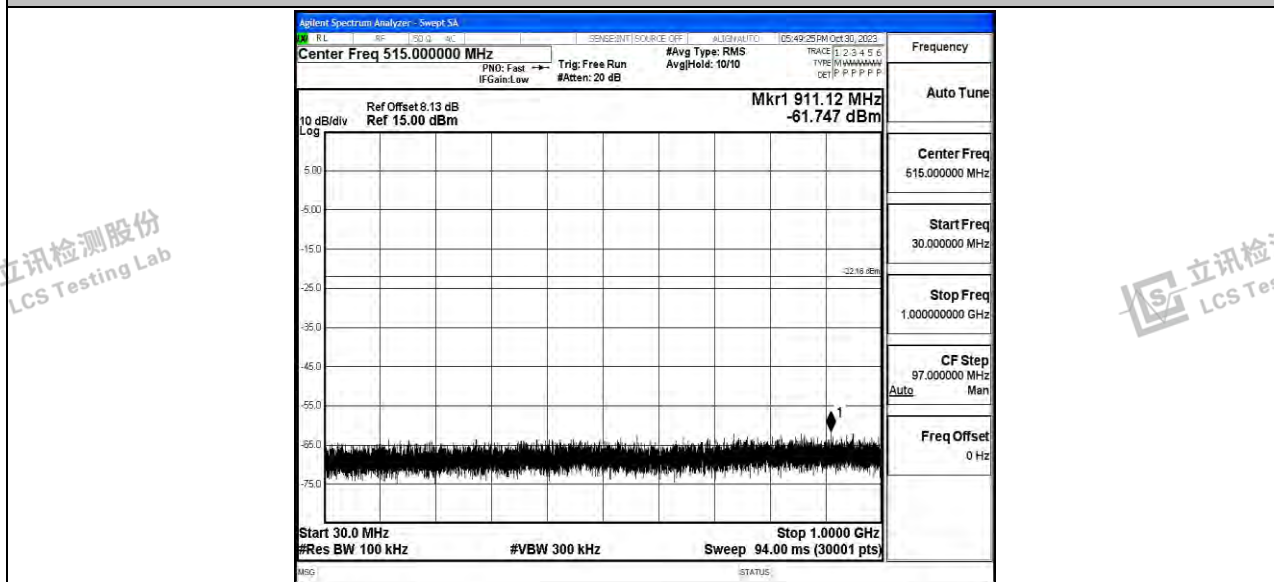


3DH5_Ant_2480_0~Reference



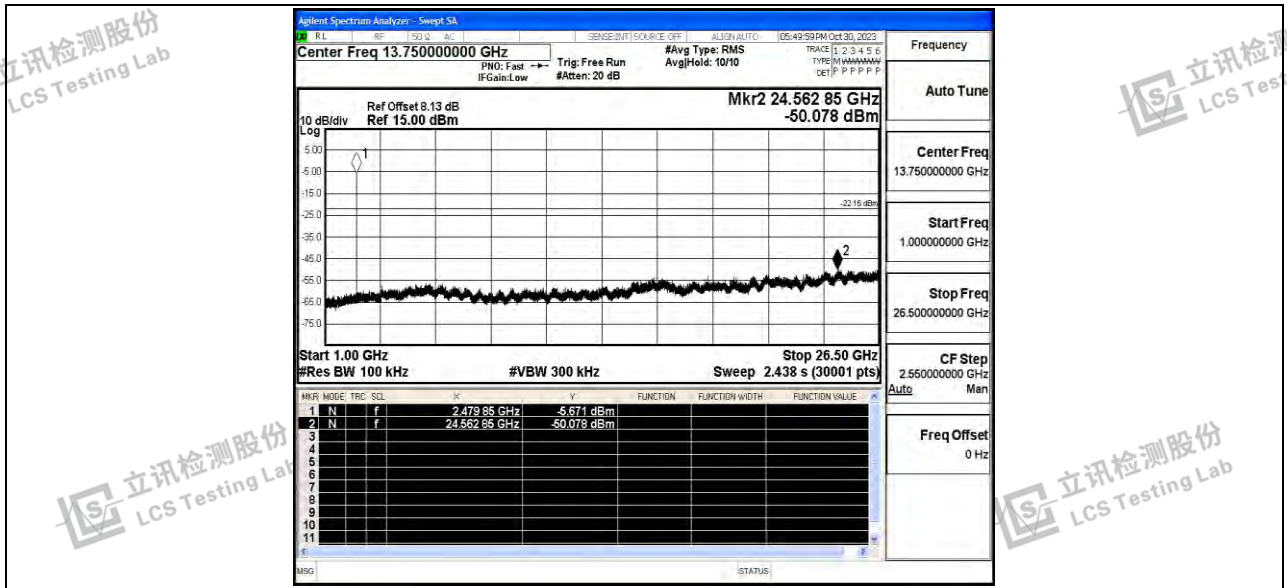


3DH5_Ant_2480_30~1000



3DH5_Ant_2480_1000~26500







A.8 Emissions in Restricted Bands

Test Result

TestMod e	Antenn a	ChName	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/ m]	Verdi ct		
DH5	Ant	Low	2402	AV	2310.000	-49	≤-41.20	46.20	≤54	PASS		
				AV	2387.150	-48.56	≤-41.20	46.64	≤54	PASS		
				AV	2390.000	-48.77	≤-41.20	46.43	≤54	PASS		
				Peak	2310.000	-43.74	≤-21.20	51.46	≤74	PASS		
				Peak	2344.205	-38.87	≤-21.20	56.33	≤74	PASS		
				Peak	2390.000	-42.4	≤-21.20	52.80	≤74	PASS		
		High	2480	AV	2483.500	-48.51	≤-41.20	46.69	≤54	PASS		
				AV	2483.520	-48.51	≤-41.20	46.69	≤54	PASS		
				AV	2500.000	-48.51	≤-41.20	46.69	≤54	PASS		
				Peak	2483.500	-40.81	≤-21.20	54.39	≤74	PASS		
				Peak	2487.040	-40.01	≤-21.20	55.19	≤74	PASS		
				Peak	2500.000	-42.73	≤-21.20	52.47	≤74	PASS		
		Low	Hop_2402	Peak	2310.000	-41.72	≤-21.20	53.48	≤74	PASS		
				Peak	2373.290	-38.55	≤-21.20	56.65	≤74	PASS		
				Peak	2390.000	-41.96	≤-21.20	53.24	≤74	PASS		
		High	Hop_2480	Peak	2483.500	-41.63	≤-21.20	53.57	≤74	PASS		
				Peak	2488.480	-37.5	≤-21.20	57.70	≤74	PASS		
				Peak	2500.000	-39.38	≤-21.20	55.82	≤74	PASS		
		2DH5	Ant	Low	2402	AV	2310.000	-49.14	≤-41.20	46.06	≤54	PASS
						AV	2385.995	-48.55	≤-41.20	46.65	≤54	PASS
						AV	2390.000	-48.8	≤-41.20	46.40	≤54	PASS
Peak	2310.000					-45.24	≤-21.20	49.96	≤74	PASS		
Peak	2380.010					-39.63	≤-21.20	55.57	≤74	PASS		
Peak	2390.000					-42.19	≤-21.20	53.01	≤74	PASS		
High	2480			AV	2483.500	-48.48	≤-41.20	46.72	≤54	PASS		
				AV	2487.600	-48.4	≤-41.20	46.80	≤54	PASS		
				AV	2500.000	-48.58	≤-41.20	46.62	≤54	PASS		
				Peak	2483.500	-44.45	≤-21.20	50.75	≤74	PASS		
				Peak	2486.160	-39.72	≤-21.20	55.48	≤74	PASS		
				Peak	2500.000	-42.79	≤-21.20	52.41	≤74	PASS		
Low	Hop_2402			Peak	2310.000	-41.35	≤-21.20	53.85	≤74	PASS		
				Peak	2377.070	-37.97	≤-21.20	57.23	≤74	PASS		
				Peak	2390.000	-40.31	≤-21.20	54.89	≤74	PASS		
High	Hop_2480			Peak	2483.500	-39.36	≤-21.20	55.84	≤74	PASS		
				Peak	2498.960	-38.25	≤-21.20	56.95	≤74	PASS		





3DH5	Ant	Low	2402	Peak	2500.000	-39.46	≤-21.20	55.74	≤74	PASS
				AV	2310.000	-49.13	≤-41.20	46.07	≤54	PASS
				AV	2386.205	-48.6	≤-41.20	46.60	≤54	PASS
				AV	2390.000	-48.84	≤-41.20	46.36	≤54	PASS
				Peak	2310.000	-45.15	≤-21.20	50.05	≤74	PASS
				Peak	2349.875	-38.98	≤-21.20	56.22	≤74	PASS
		High	2480	AV	2483.500	-48.81	≤-41.20	46.39	≤54	PASS
				AV	2498.560	-48.8	≤-41.20	46.40	≤54	PASS
				AV	2500.000	-48.96	≤-41.20	46.24	≤54	PASS
				Peak	2483.500	-43.98	≤-21.20	51.22	≤74	PASS
				Peak	2494.240	-40.18	≤-21.20	55.02	≤74	PASS
				Peak	2500.000	-43.41	≤-21.20	51.79	≤74	PASS
	Low	Hop_240 2	Peak	2310.000	-40.93	≤-21.20	54.27	≤74	PASS	
			Peak	2379.905	-38.11	≤-21.20	57.09	≤74	PASS	
			Peak	2390.000	-40.3	≤-21.20	54.90	≤74	PASS	
	High	Hop_248 0	Peak	2483.500	-39.49	≤-21.20	55.71	≤74	PASS	
			Peak	2490.800	-38.3	≤-21.20	56.90	≤74	PASS	
			Peak	2500.000	-40.2	≤-21.20	55.00	≤74	PASS	

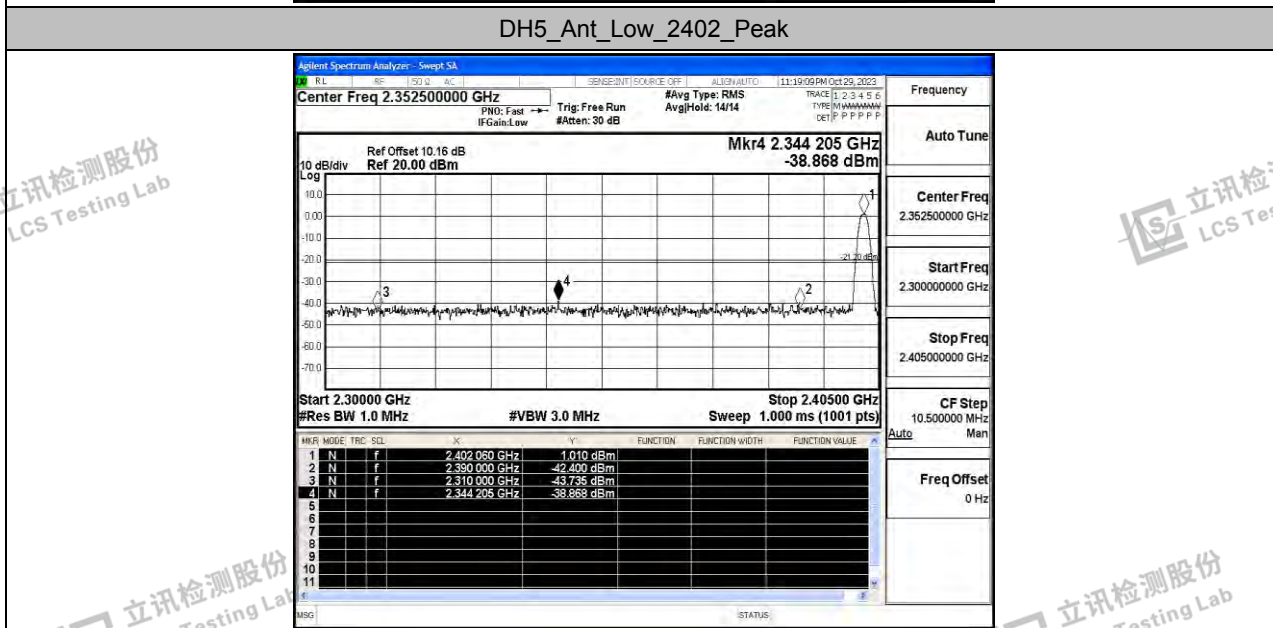
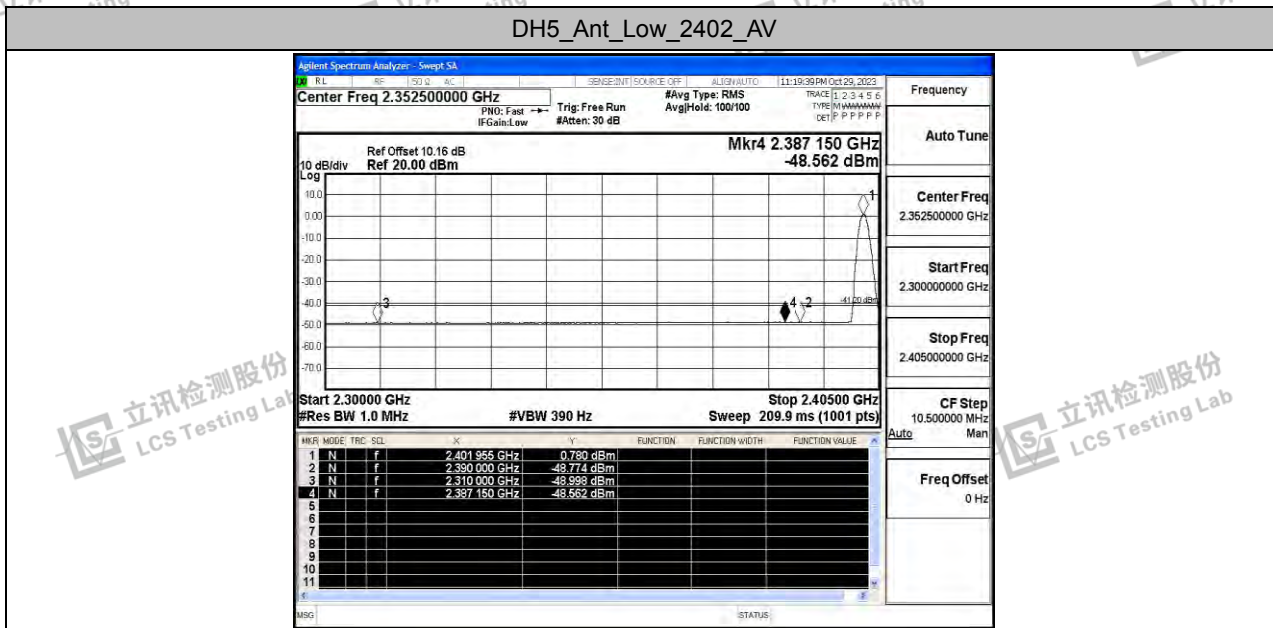
Note:

- The Antenna Gain is compensated in the graph.
- 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.



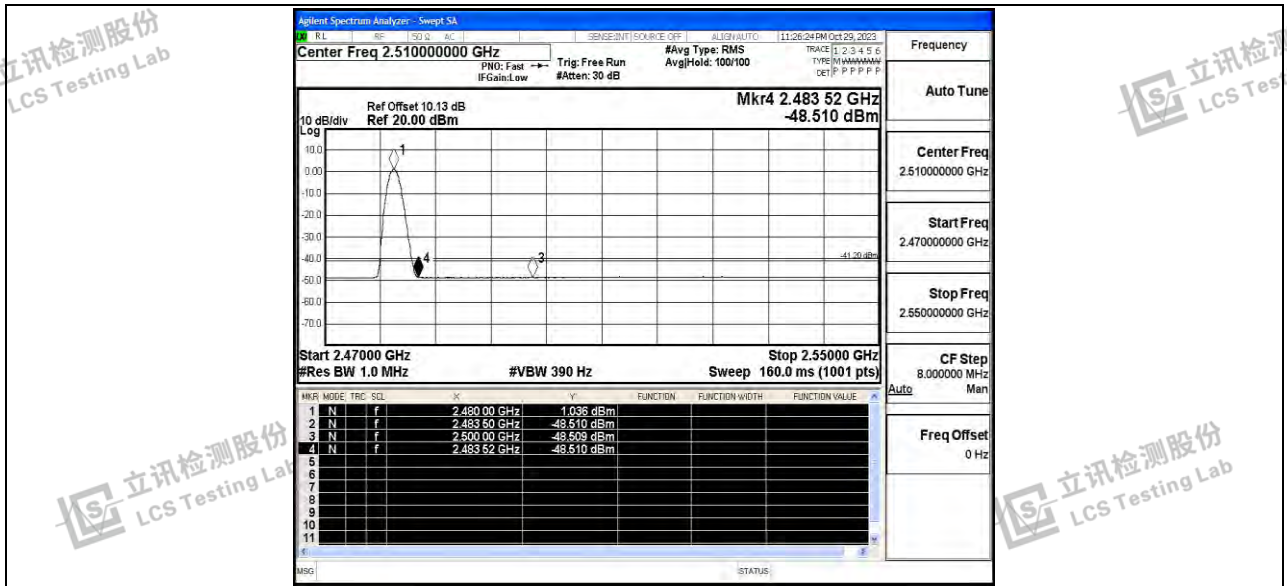


Test Graphs

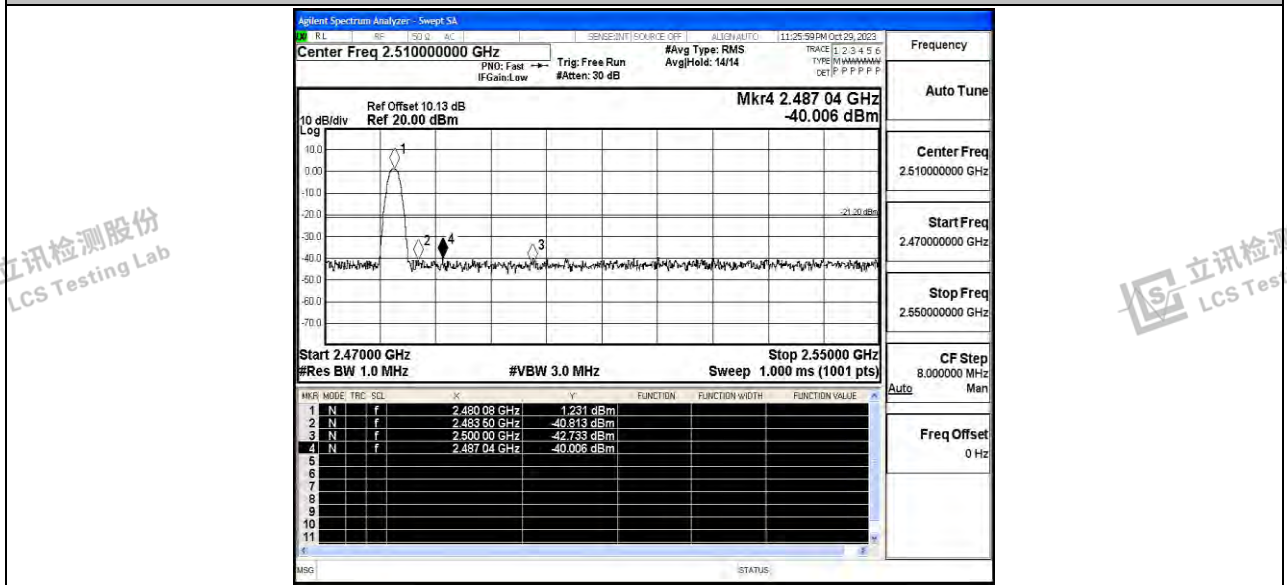


DH5_Ant_High_2480_AV



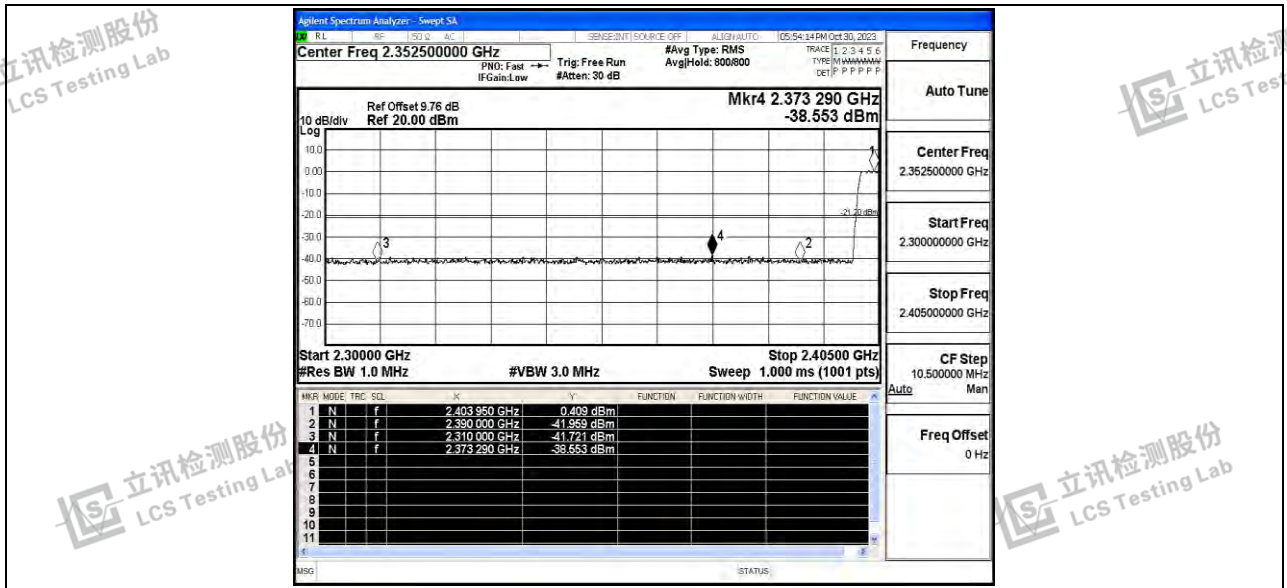


DH5_Ant_High_2480_Peak

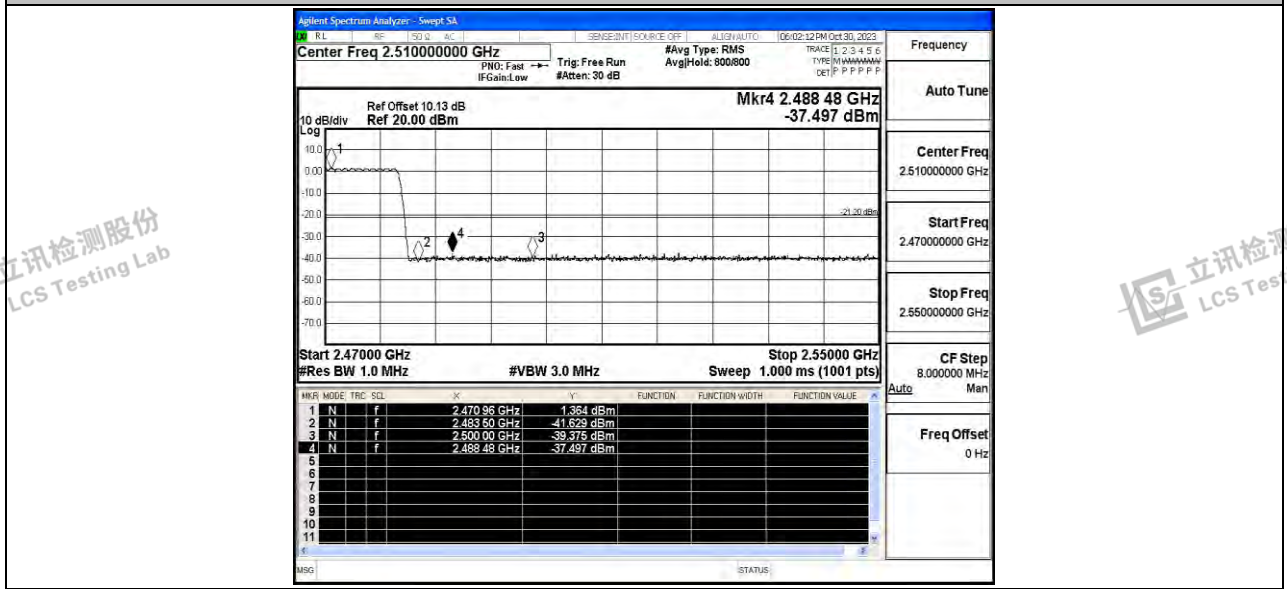


DH5_Ant_Low_Hop_2402_Peak



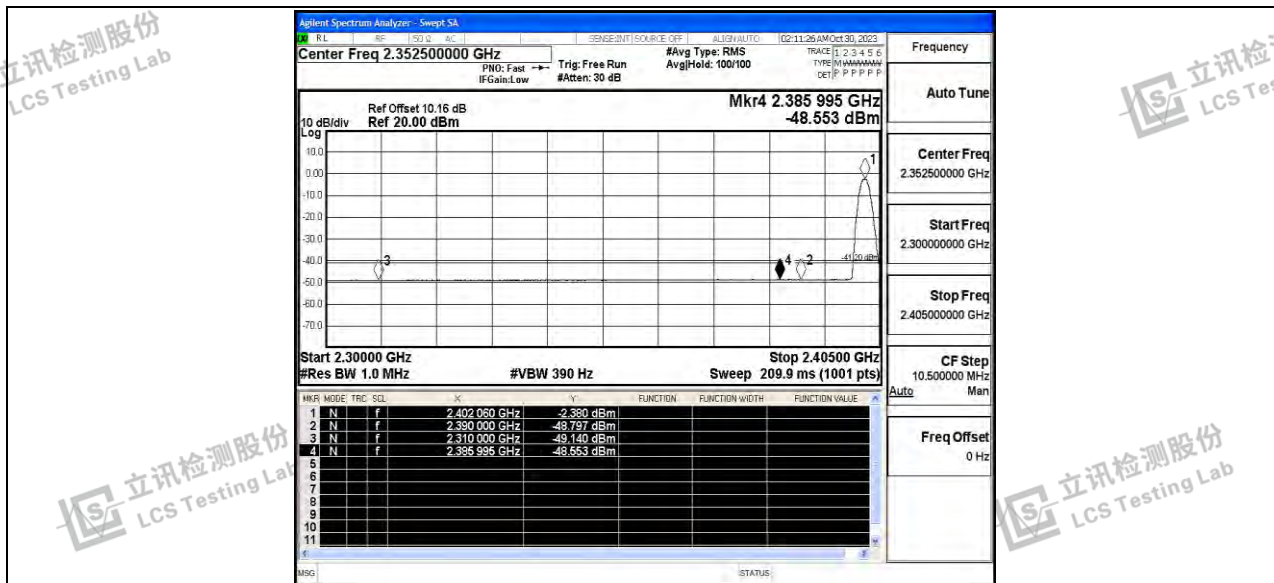


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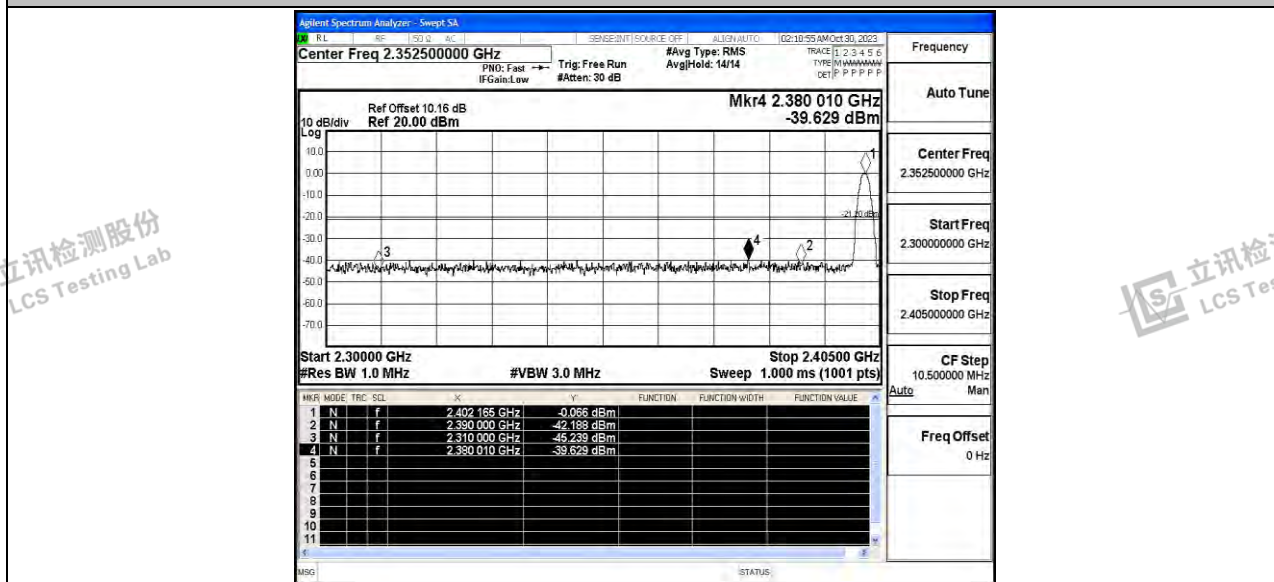


2DH5_Ant_Low_2402_AV



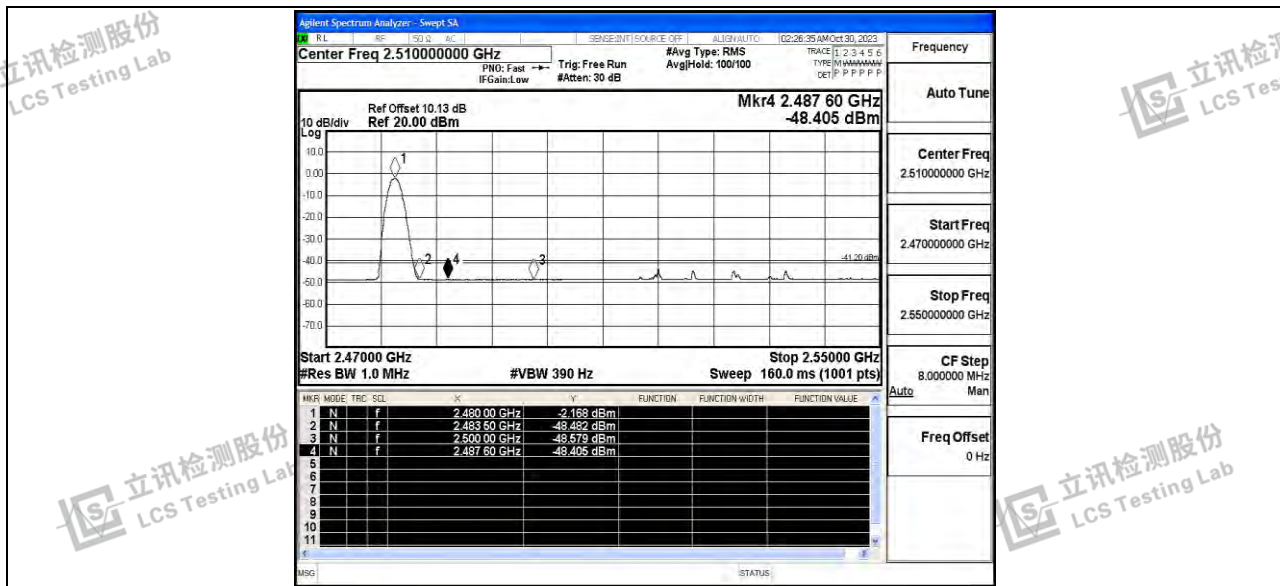


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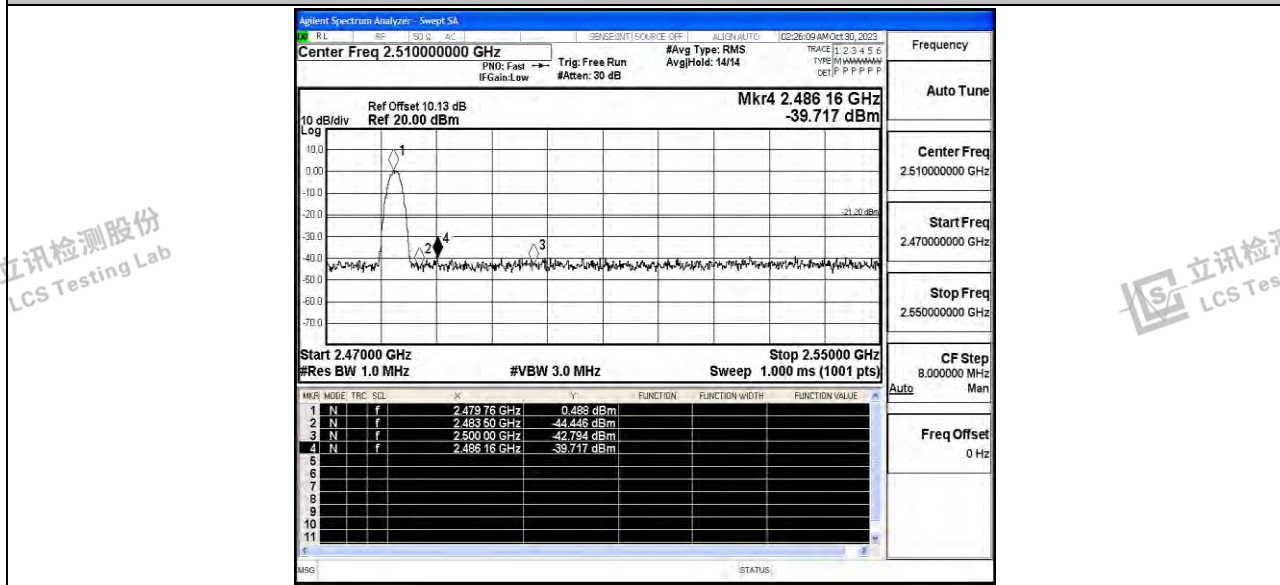


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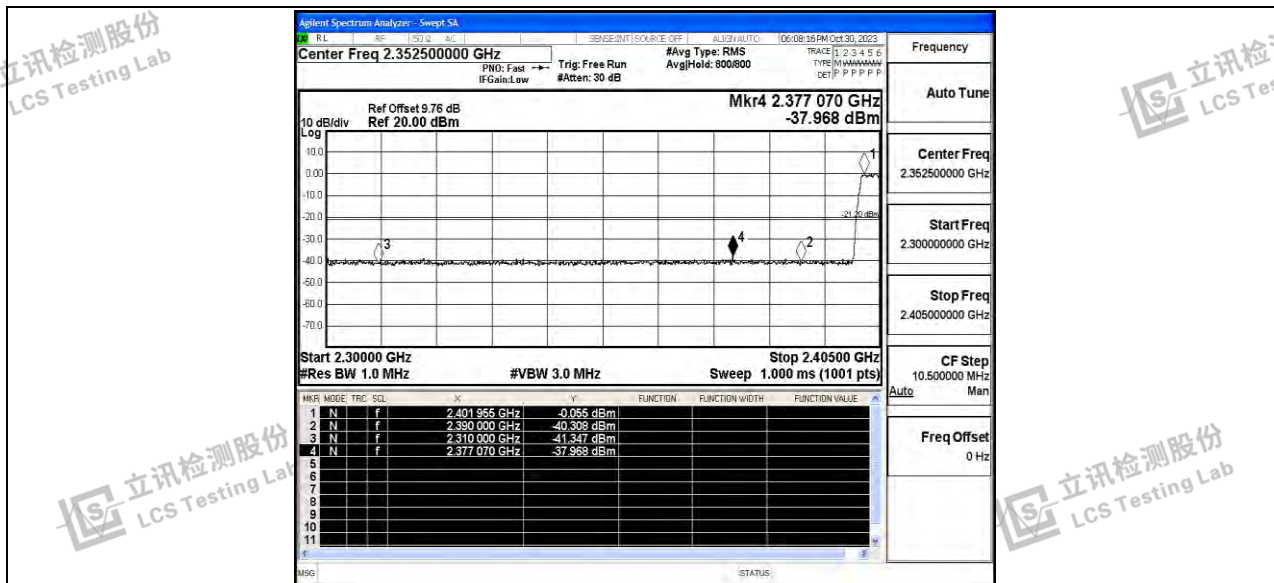


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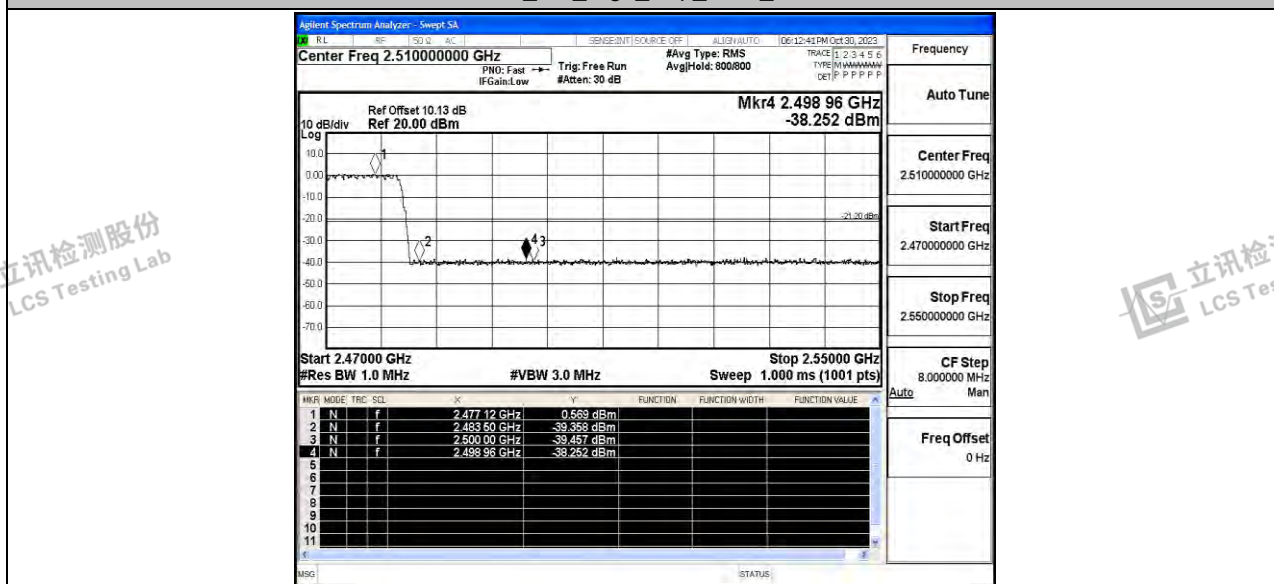


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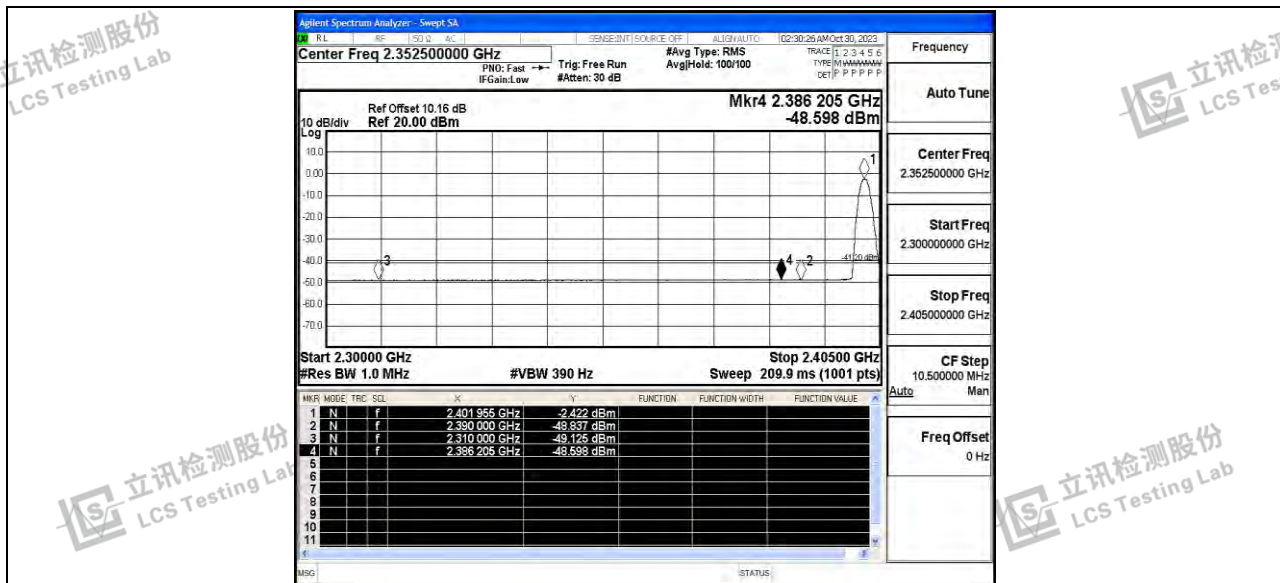


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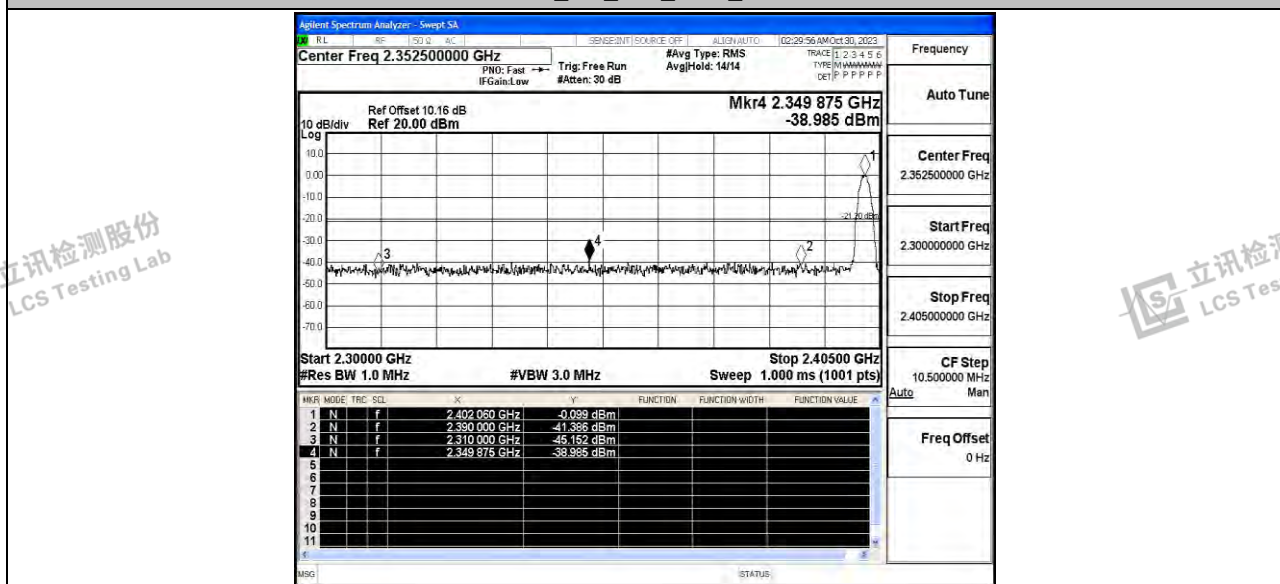


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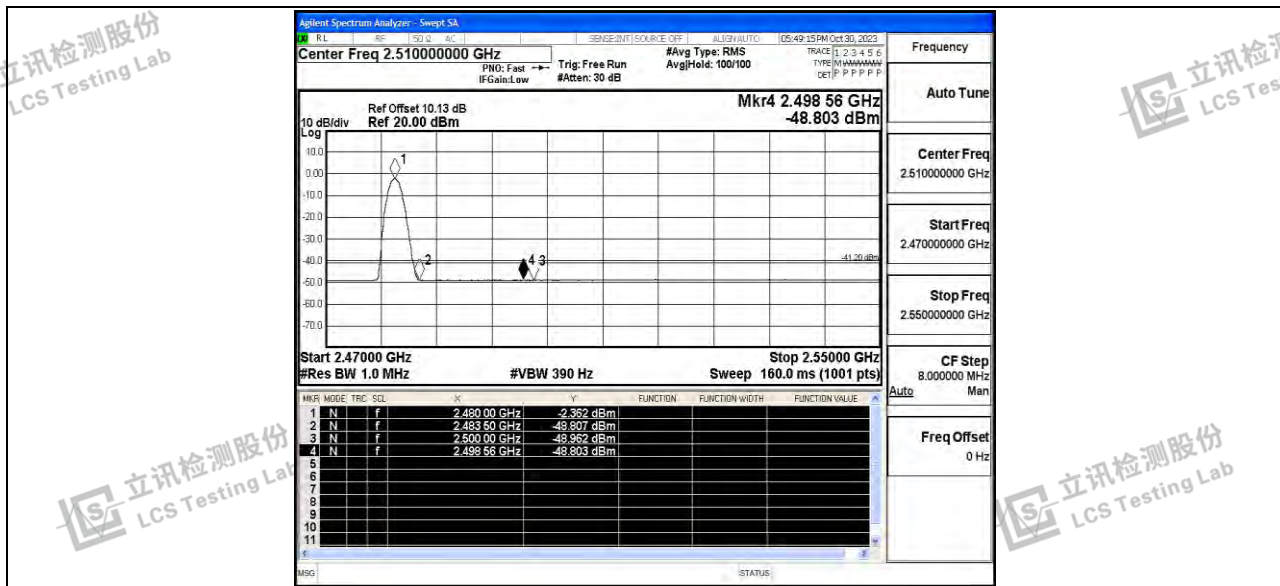


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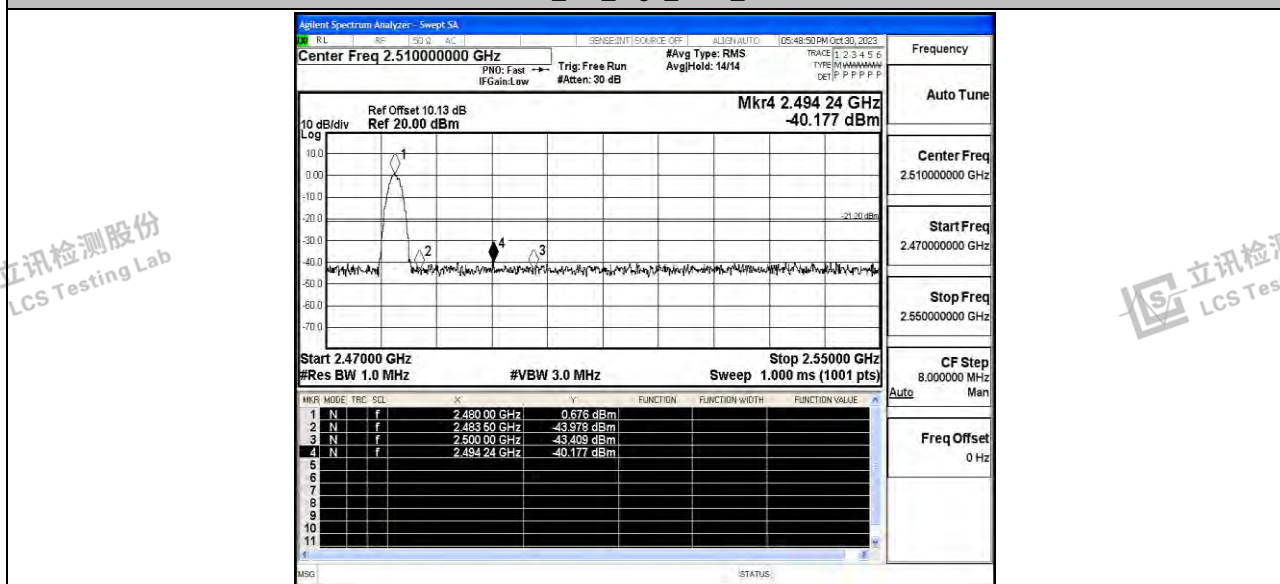


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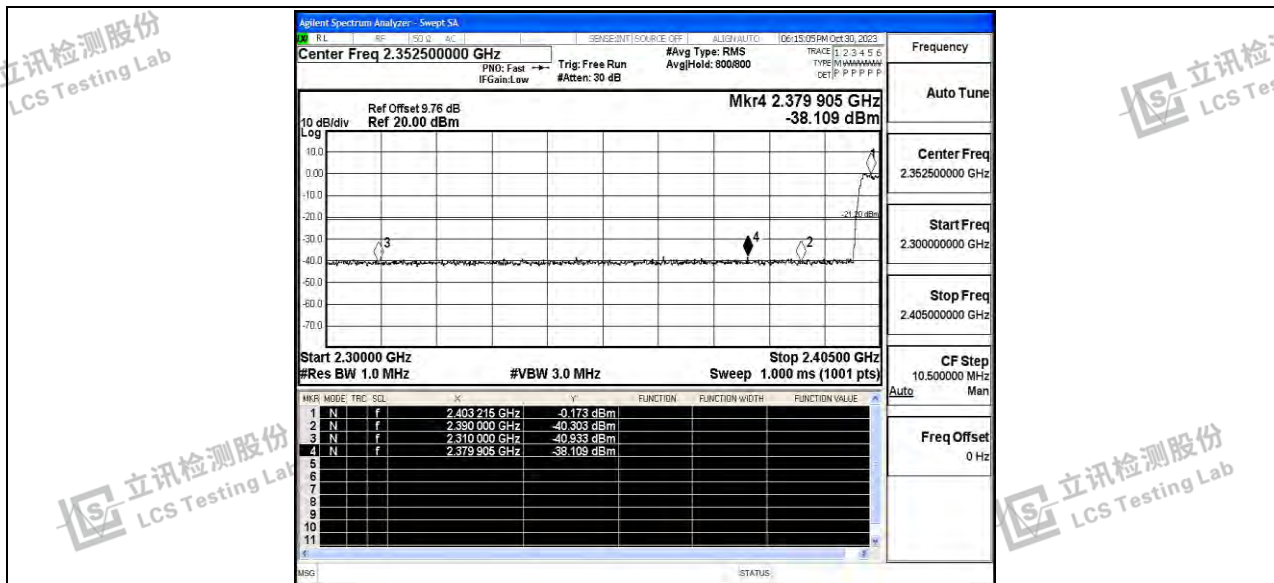


3DH5_Ant_High_2480_Peak



3DH5_Ant_Low_Hop_2402_Peak





3DH5_Ant_High_Hop_2480_Peak

