

Appendix A

RF Test Data for BT (Conducted Measurement)

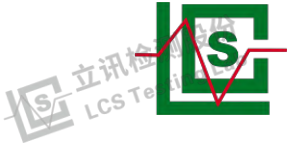
Product Name: **BLUETOOTH SPEAKER**

Test Model: **IQ-8310DJBT**

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu





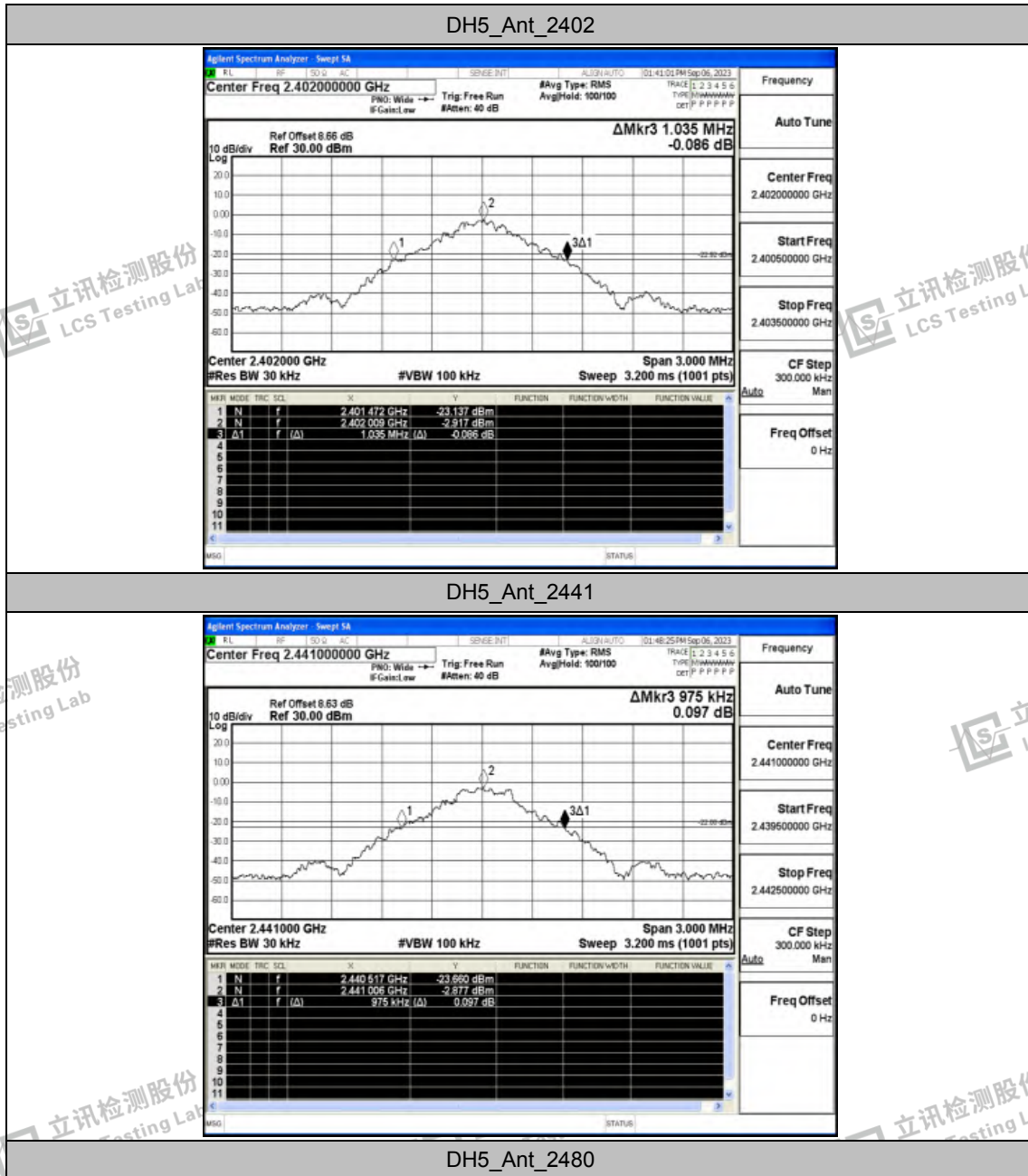
A.1 20dB Emission Bandwidth

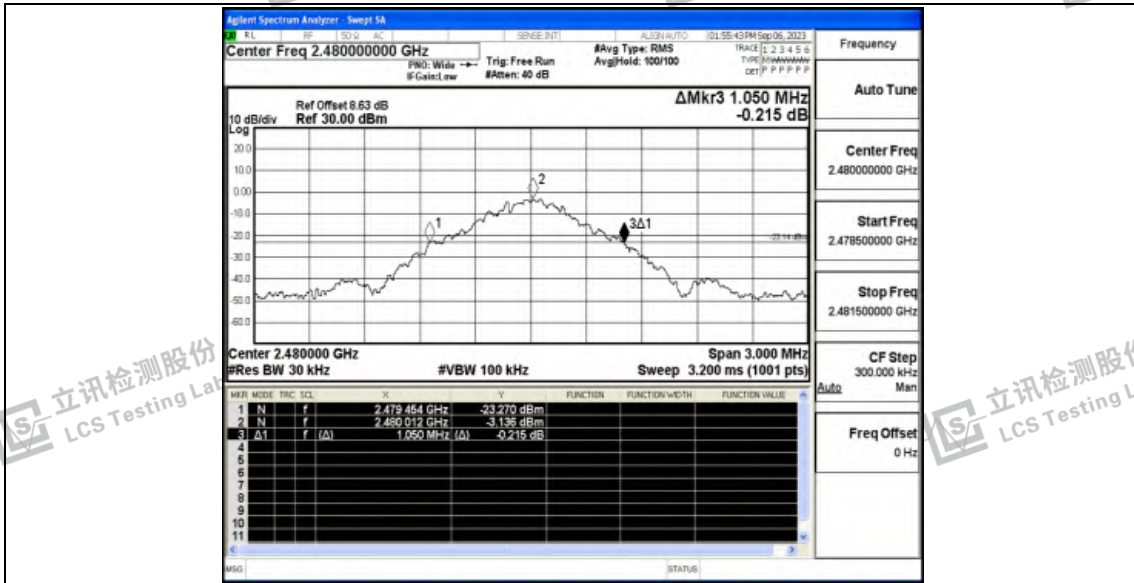
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant	2402	1.035	2401.472	2402.507	PASS
		2441	0.975	2440.517	2441.492	PASS
		2480	1.050	2479.454	2480.504	PASS
2DH5	Ant	2402	1.317	2401.334	2402.651	PASS
		2441	1.284	2440.358	2441.642	PASS
		2480	1.335	2479.322	2480.657	PASS
3DH5	Ant	2402	1.344	2401.319	2402.663	PASS
		2441	1.320	2440.334	2441.654	PASS
		2480	1.302	2479.340	2480.642	PASS

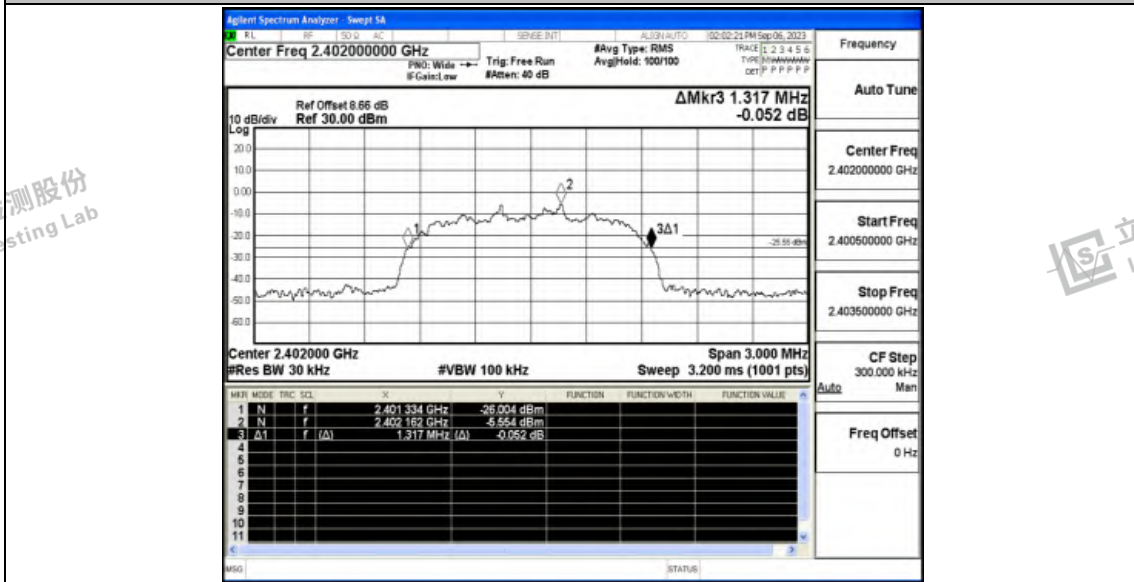


Test Graphs



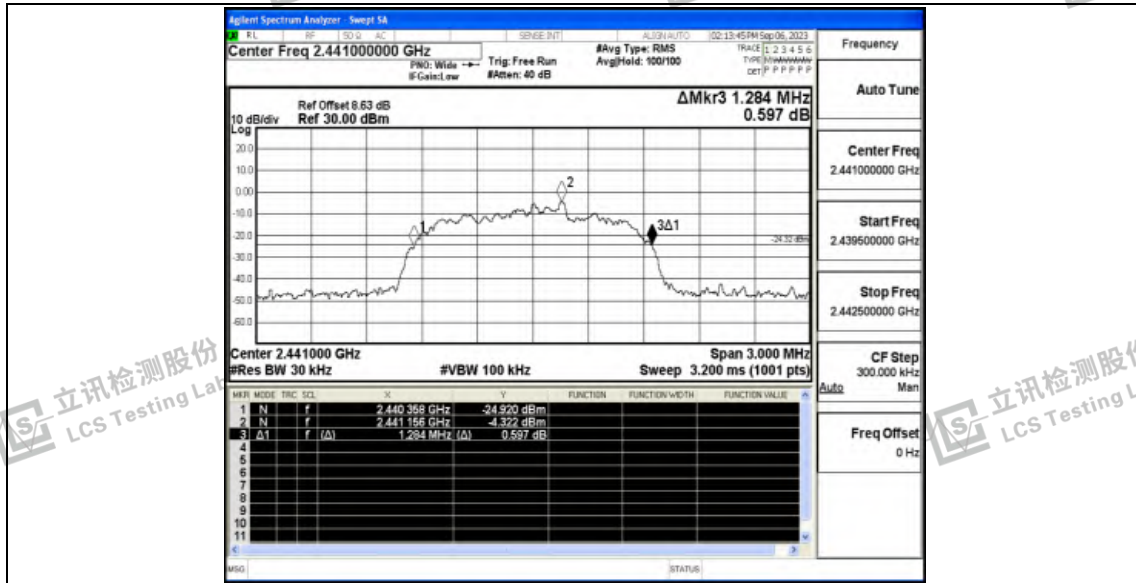


2DH5_Ant_2402

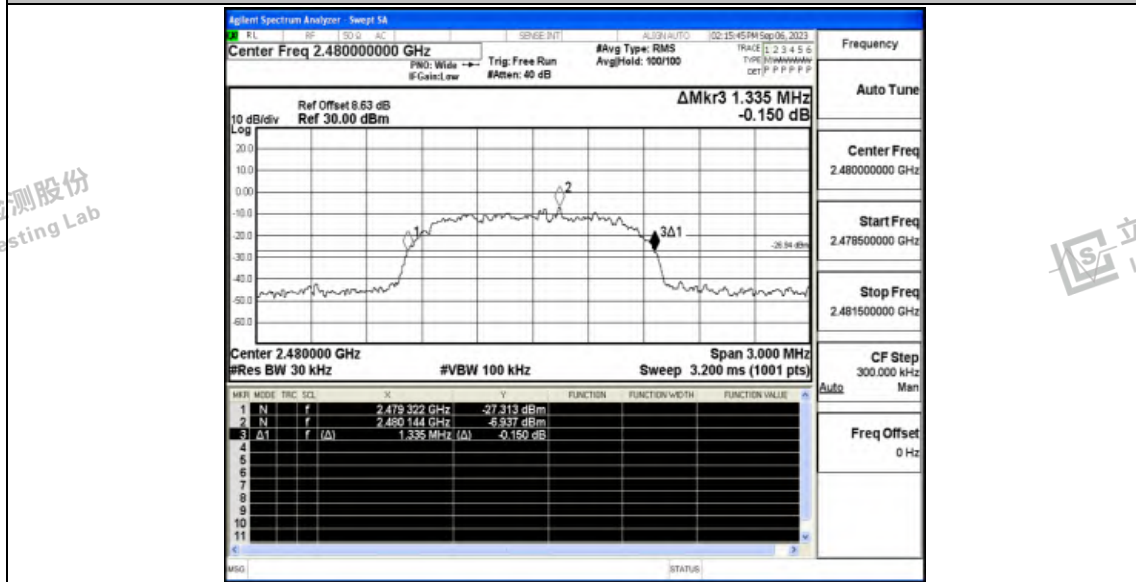


2DH5_Ant_2441



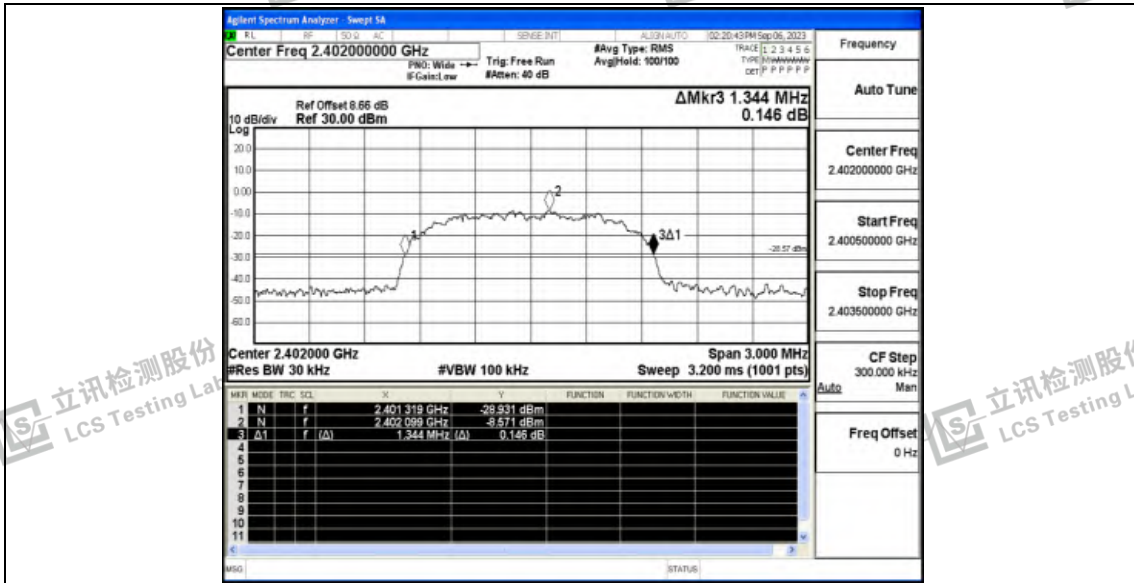


2DH5_Ant_2480

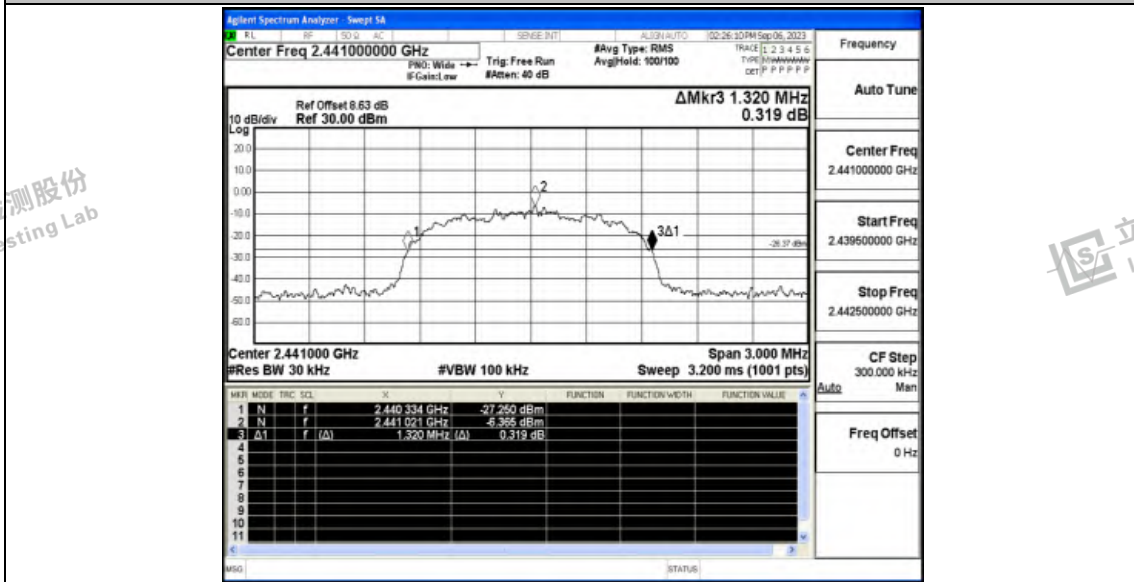


3DH5_Ant_2402



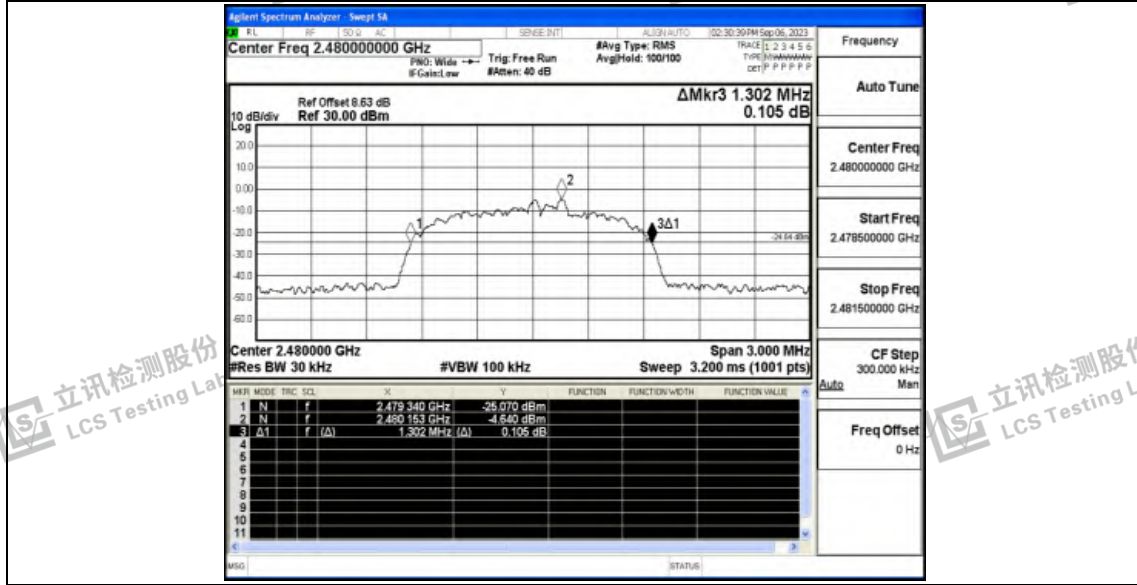


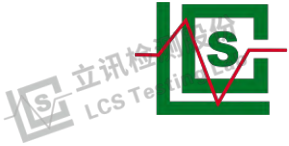
3DH5_Ant_2441



3DH5_Ant_2480







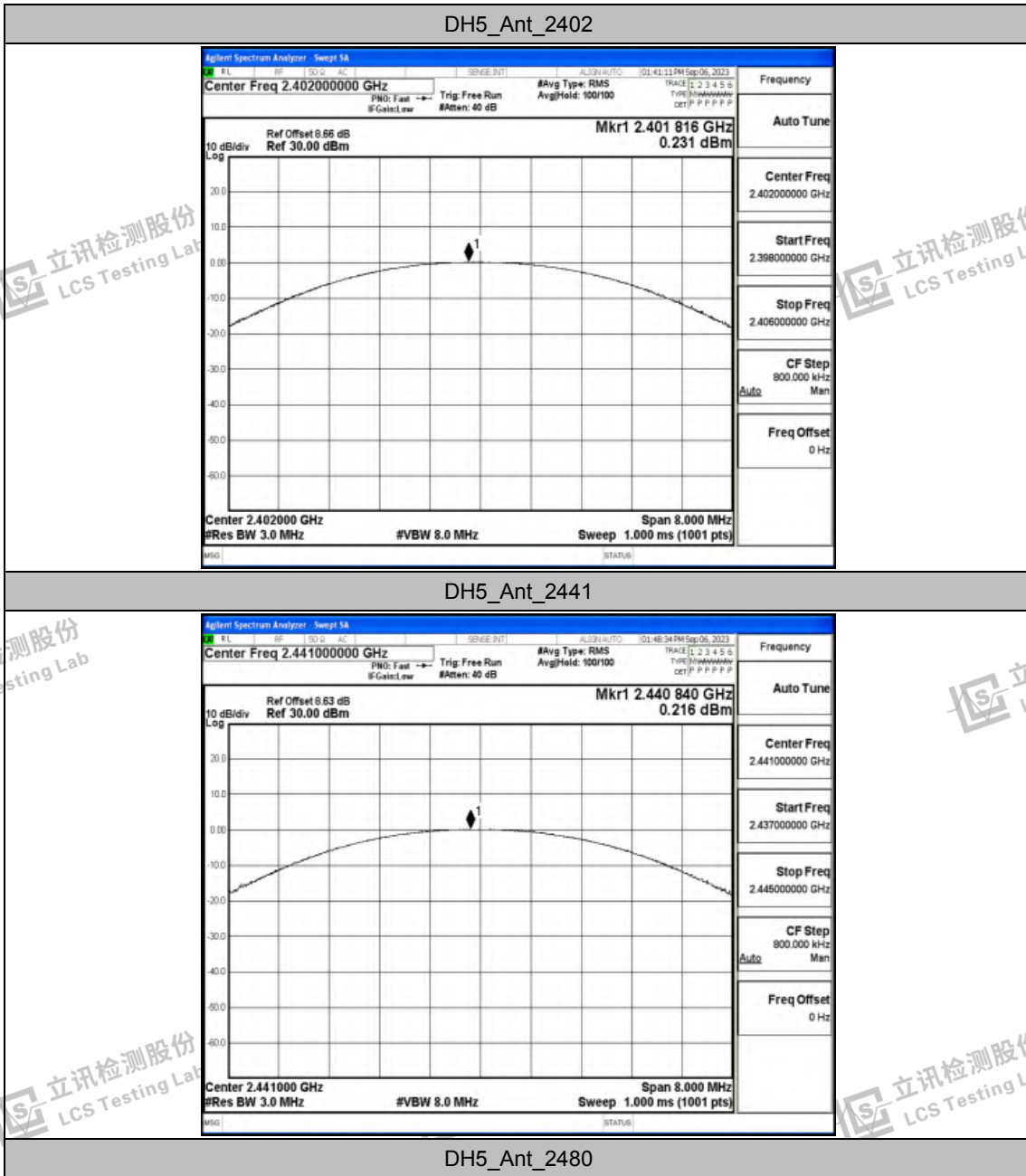
A.2 Maximum conducted output power

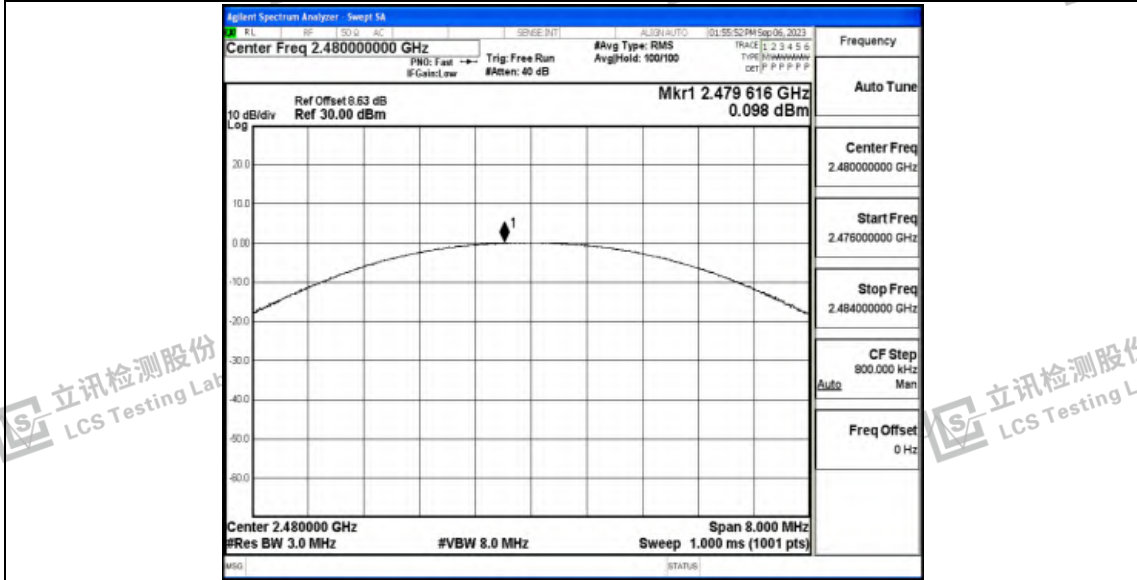
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	0.23	≤20.97	PASS
		2441	0.22	≤20.97	PASS
		2480	0.10	≤20.97	PASS
2DH5	Ant	2402	-0.28	≤20.97	PASS
		2441	-0.23	≤20.97	PASS
		2480	0.13	≤20.97	PASS
3DH5	Ant	2402	0.04	≤20.97	PASS
		2441	-0.15	≤20.97	PASS
		2480	-0.18	≤20.97	PASS

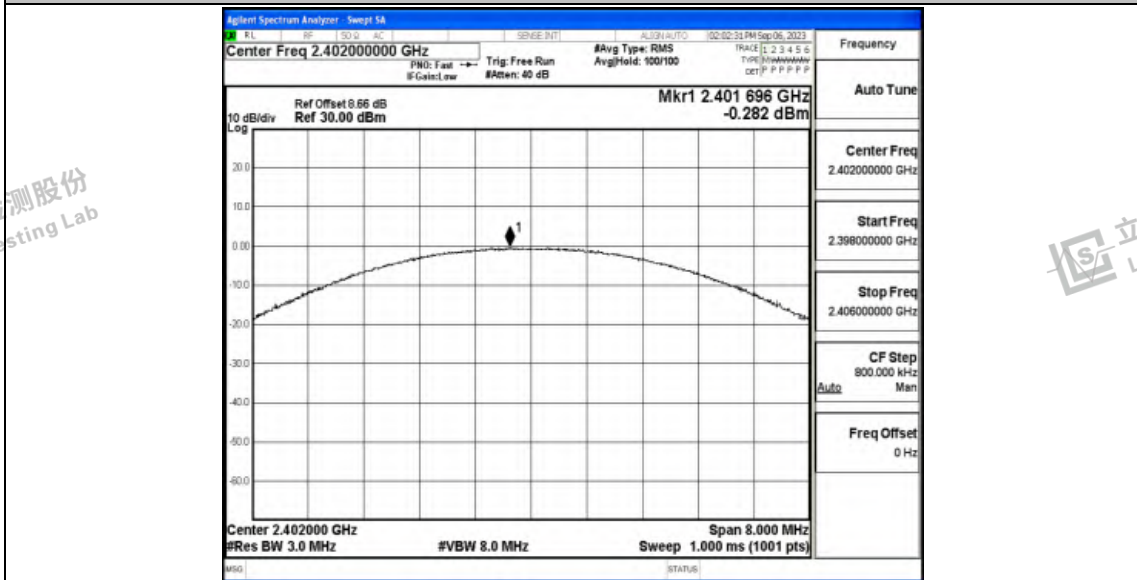


Test Graphs



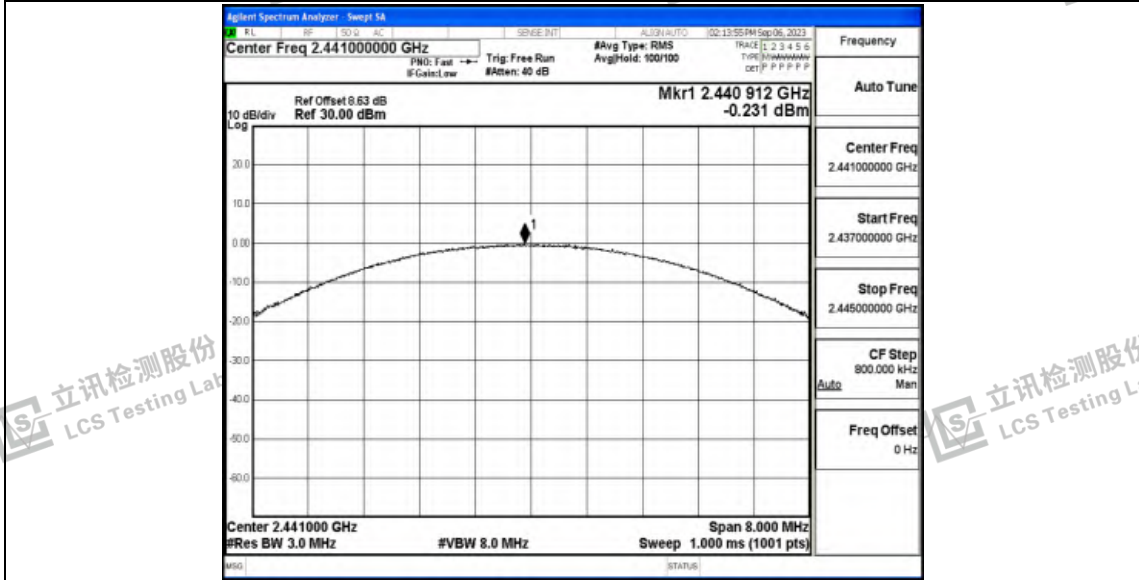


2DH5_Ant_2402

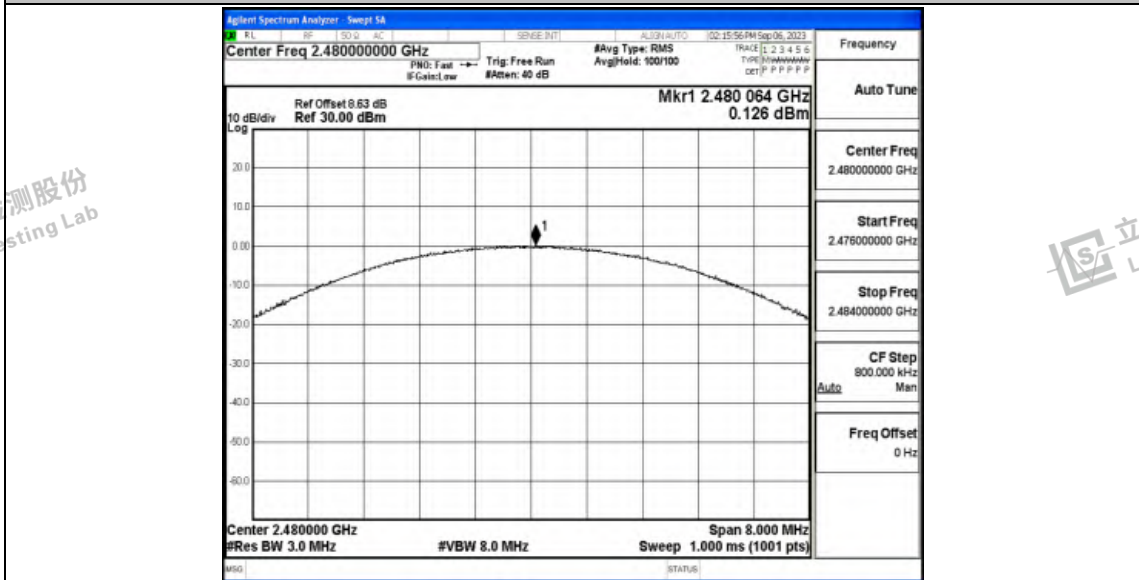


2DH5_Ant_2441



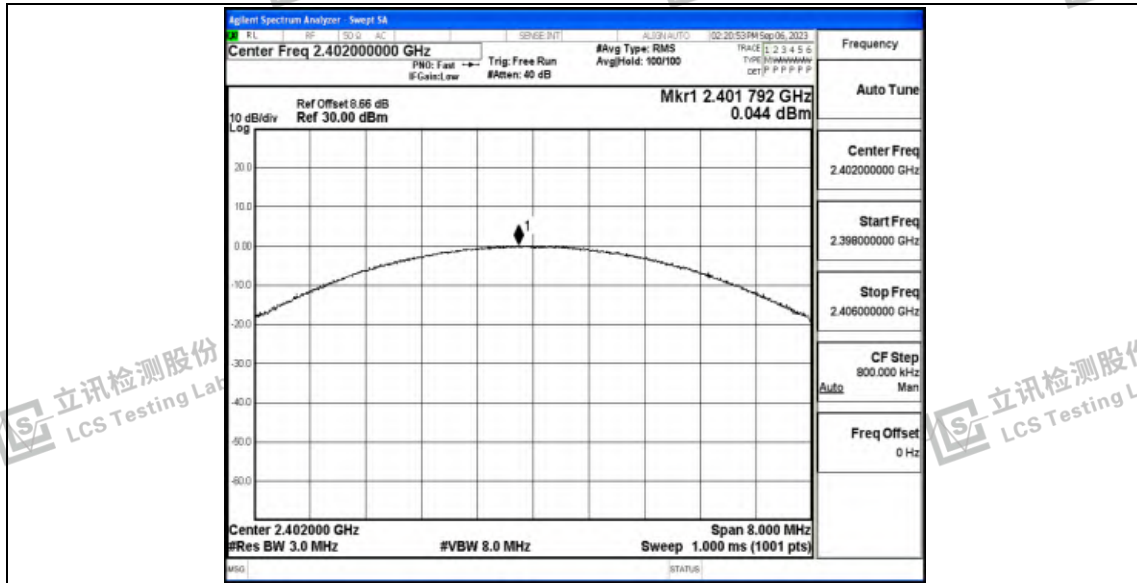


2DH5_Ant_2480

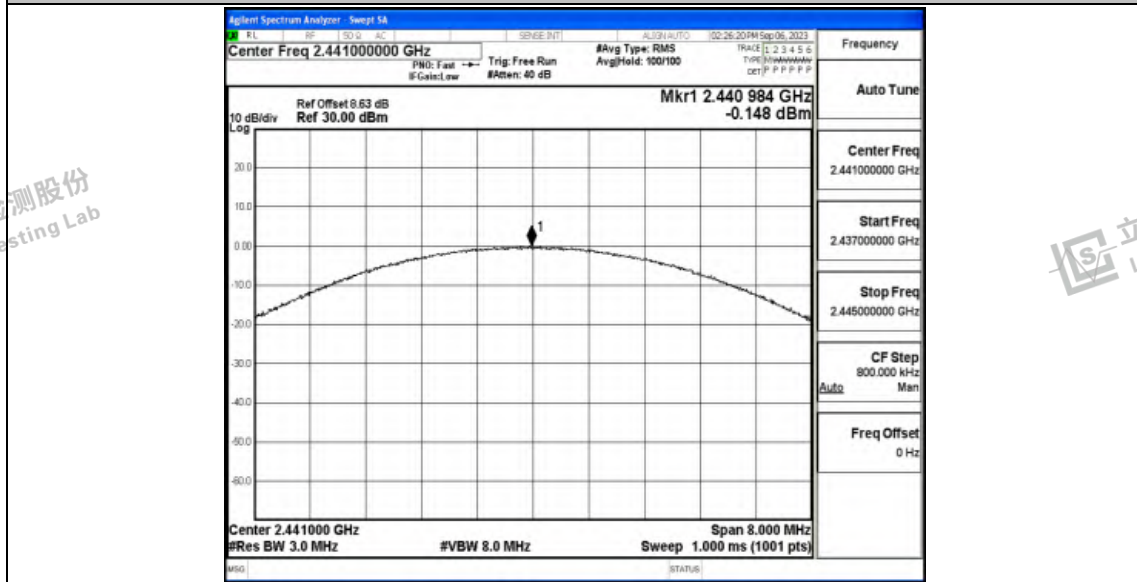


3DH5_Ant_2402



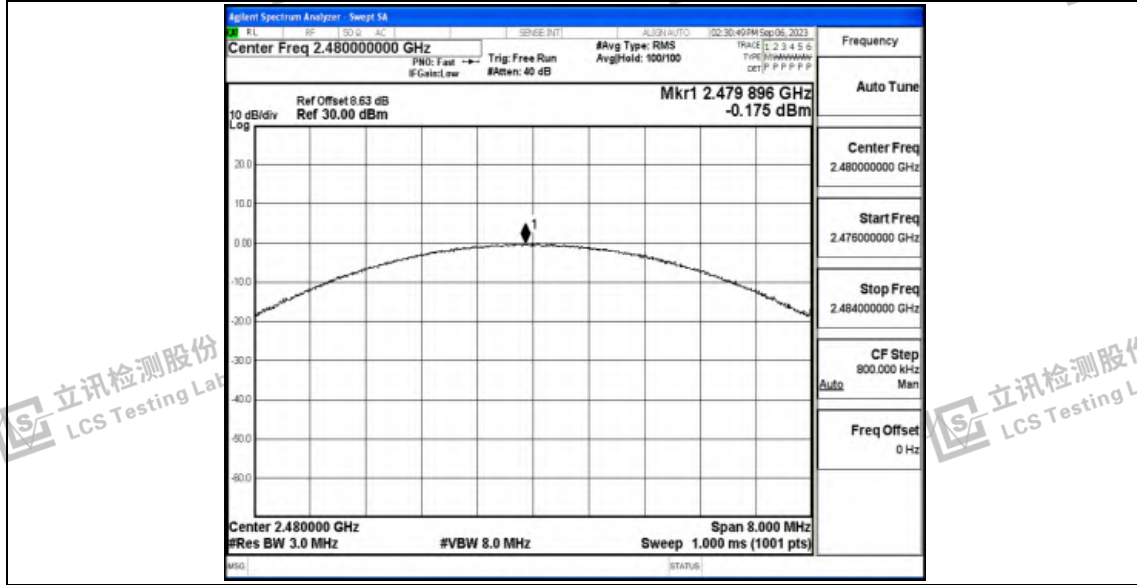


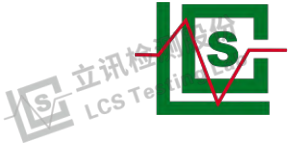
3DH5_Ant_2441



3DH5_Ant_2480







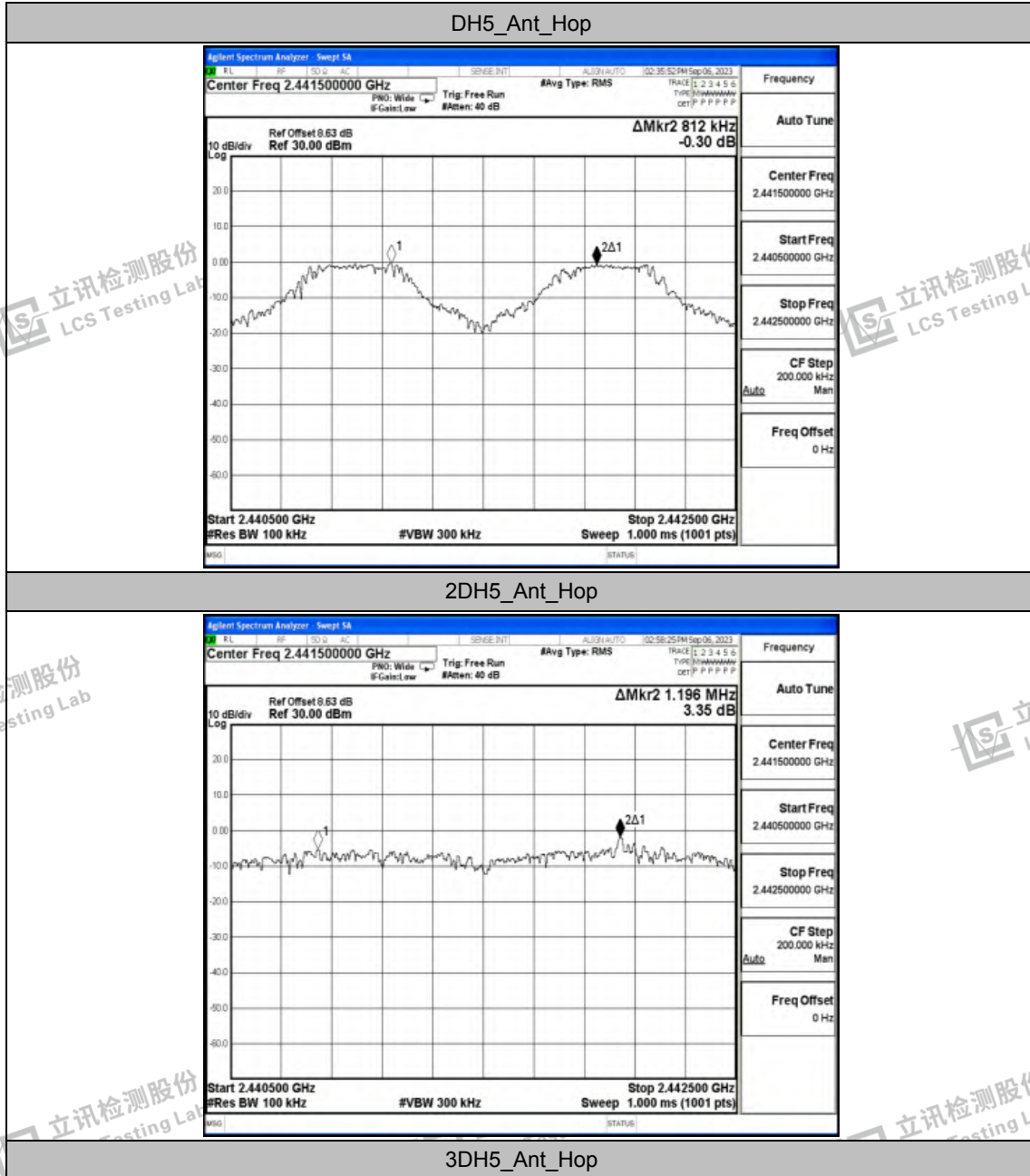
A.3 Carrier frequency separation

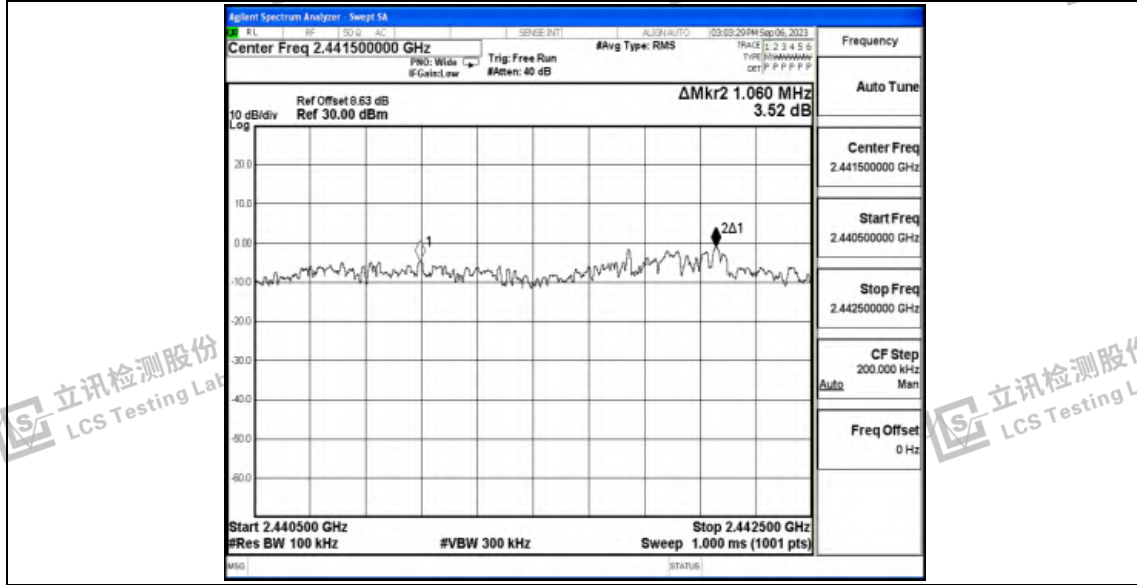
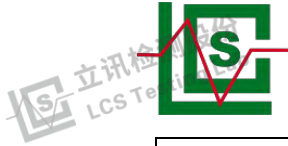
Test Result

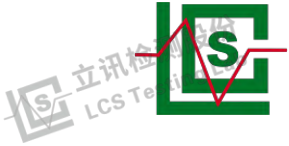
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.812	≥0.700	PASS
2DH5	Ant	Hop	1.196	≥0.890	PASS
3DH5	Ant	Hop	1.060	≥0.896	PASS



Test Graphs







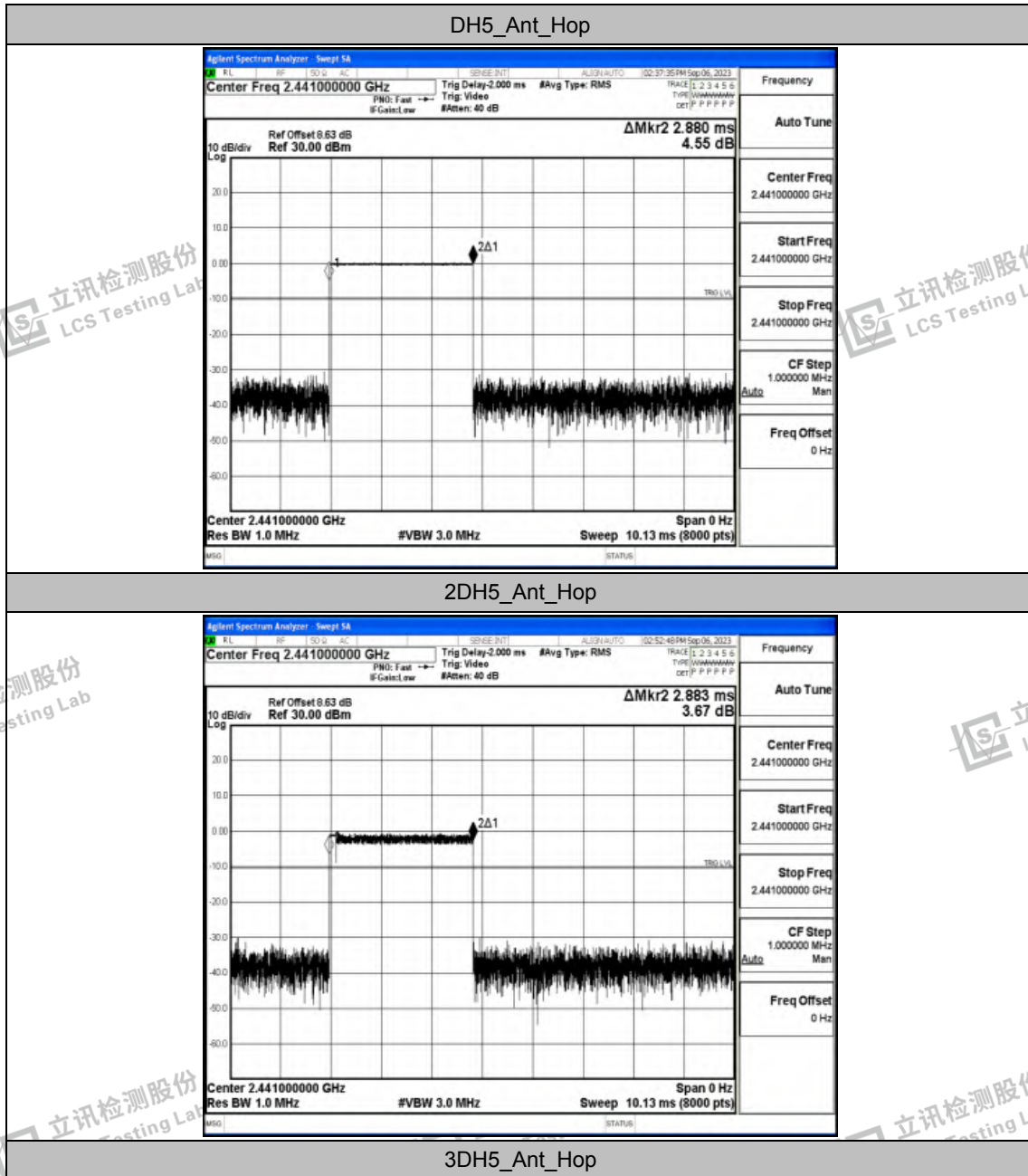
A.4 Time of occupancy

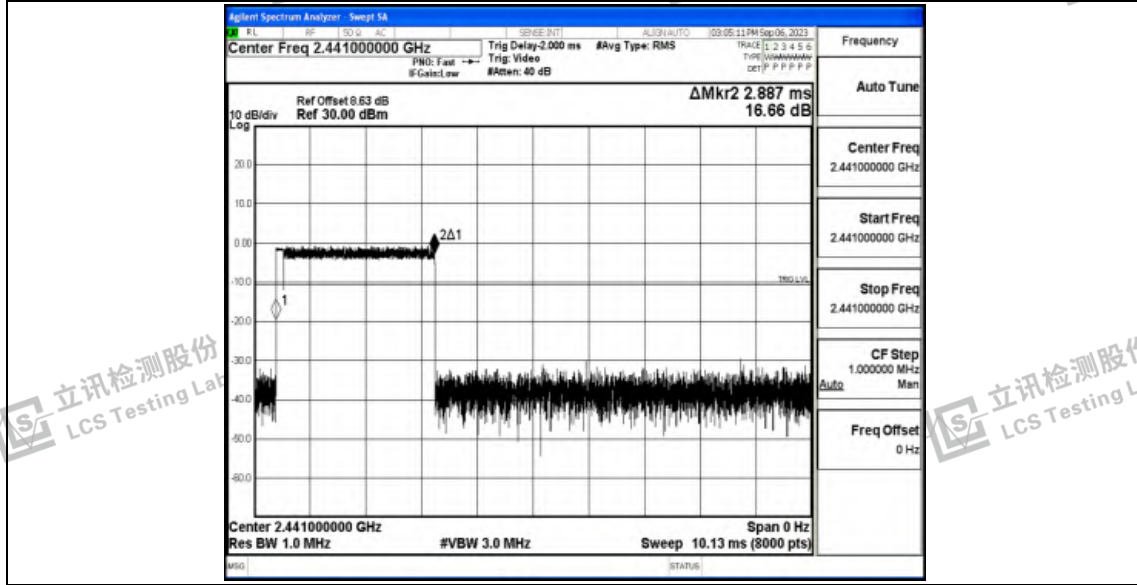
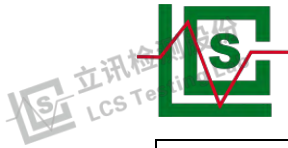
Test Result

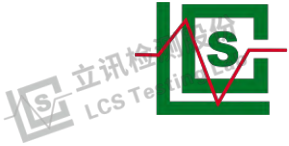
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.883	106.67	0.308	≤0.4	PASS
3DH5	Ant	Hop	2.887	106.67	0.308	≤0.4	PASS



Test Graphs







A.5 Number of hopping channels

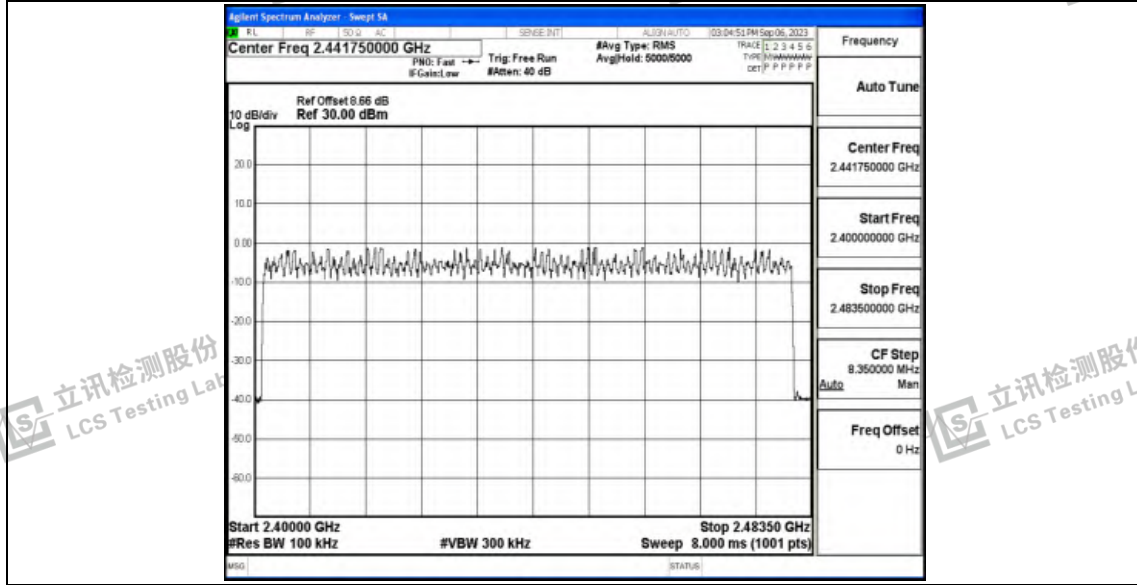
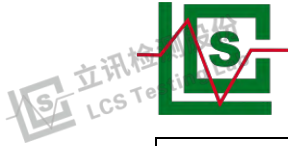
Test Result

TestMode	Antenna	Channel	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

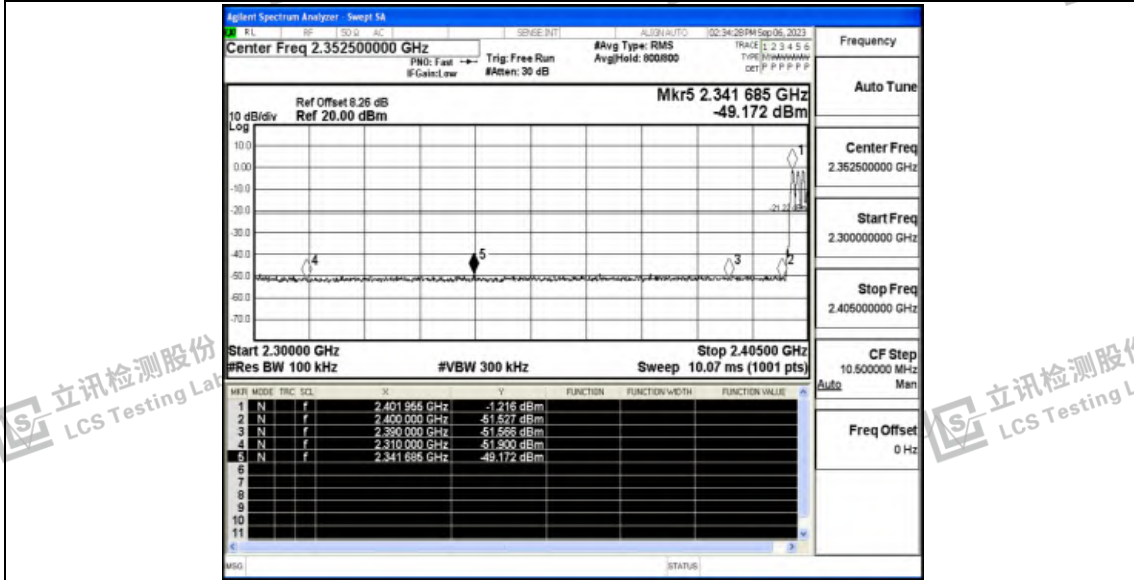
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-1.17	-49.4	≤-21.17	PASS
		High	2480	-0.78	-49.38	≤-20.78	PASS
		Low	Hop_2402	-1.22	-49.17	≤-21.22	PASS
		High	Hop_2480	-0.38	-47.5	≤-20.38	PASS
2DH5	Ant	Low	2402	-5.53	-50.22	≤-25.53	PASS
		High	2480	-6.45	-49.03	≤-26.45	PASS
		Low	Hop_2402	-5.49	-48.91	≤-25.49	PASS
		High	Hop_2480	-3.30	-47.63	≤-23.3	PASS
3DH5	Ant	Low	2402	-4.35	-49.77	≤-24.35	PASS
		High	2480	-1.28	-49.26	≤-21.28	PASS
		Low	Hop_2402	-4.58	-48.7	≤-24.58	PASS
		High	Hop_2480	-2.70	-48.13	≤-22.7	PASS

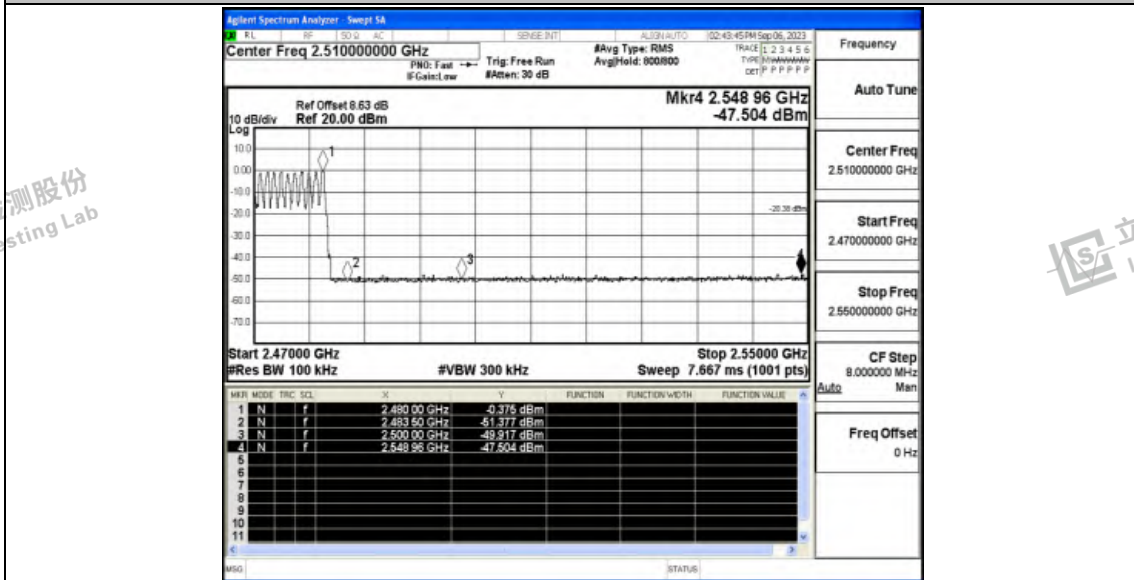


Test Graphs



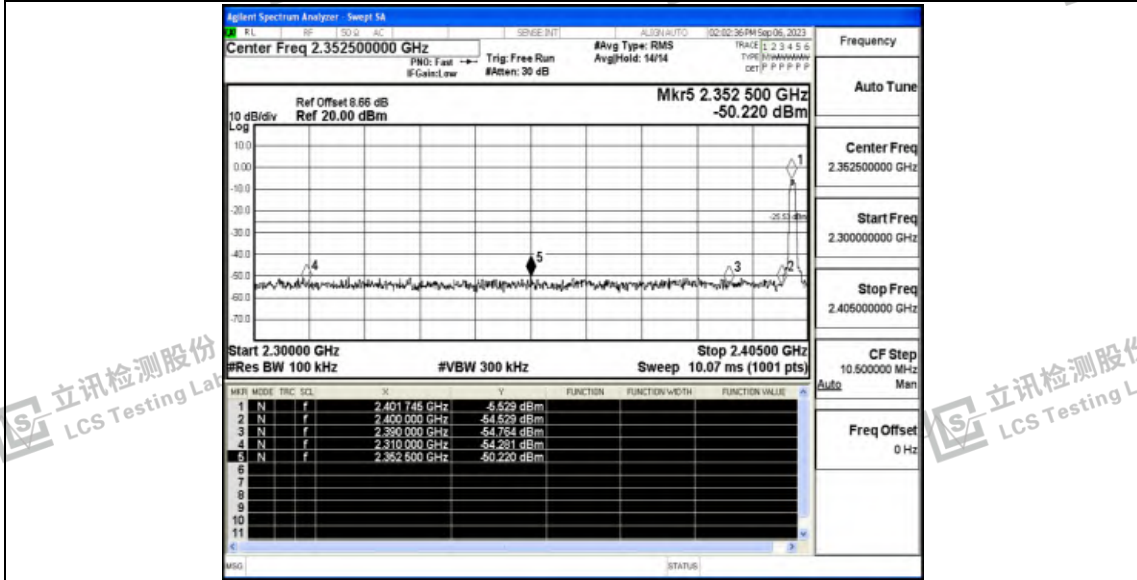


DH5_Ant_High_Hop_2480

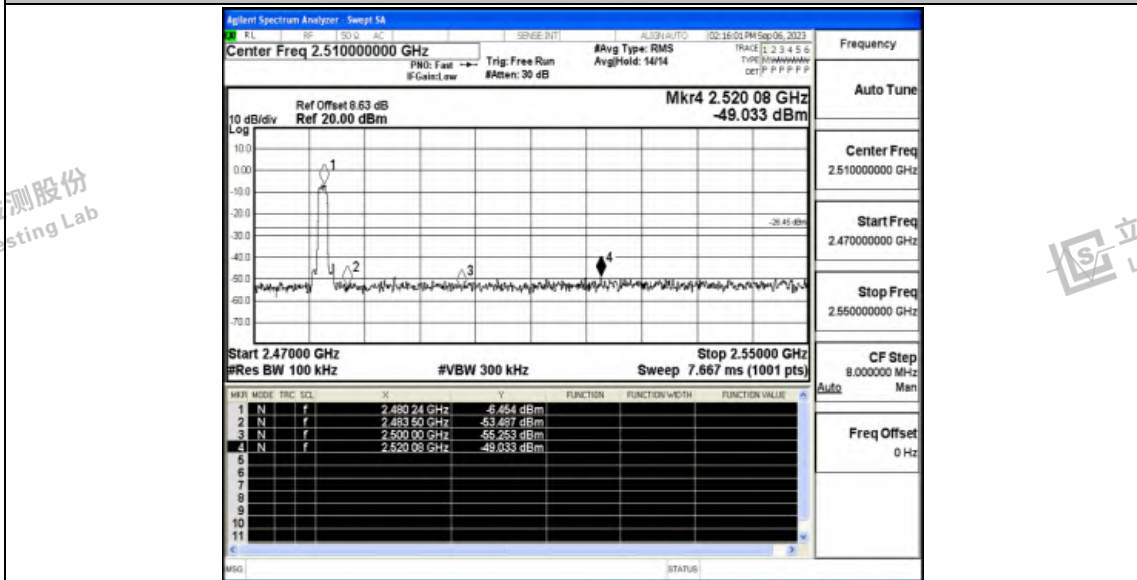


2DH5_Ant_Low_2402



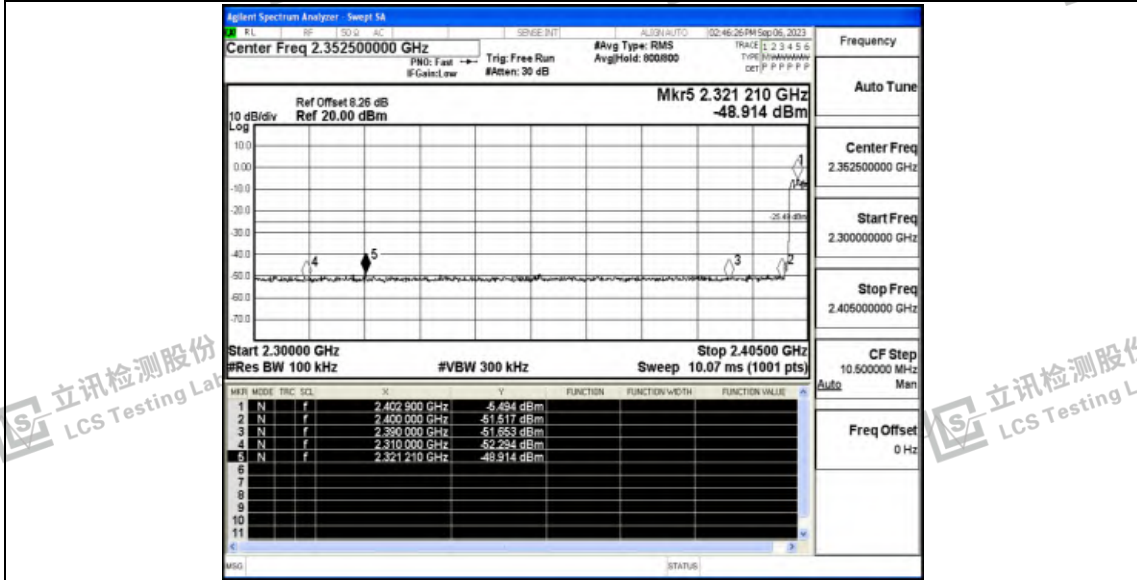


2DH5_Ant_High_2480

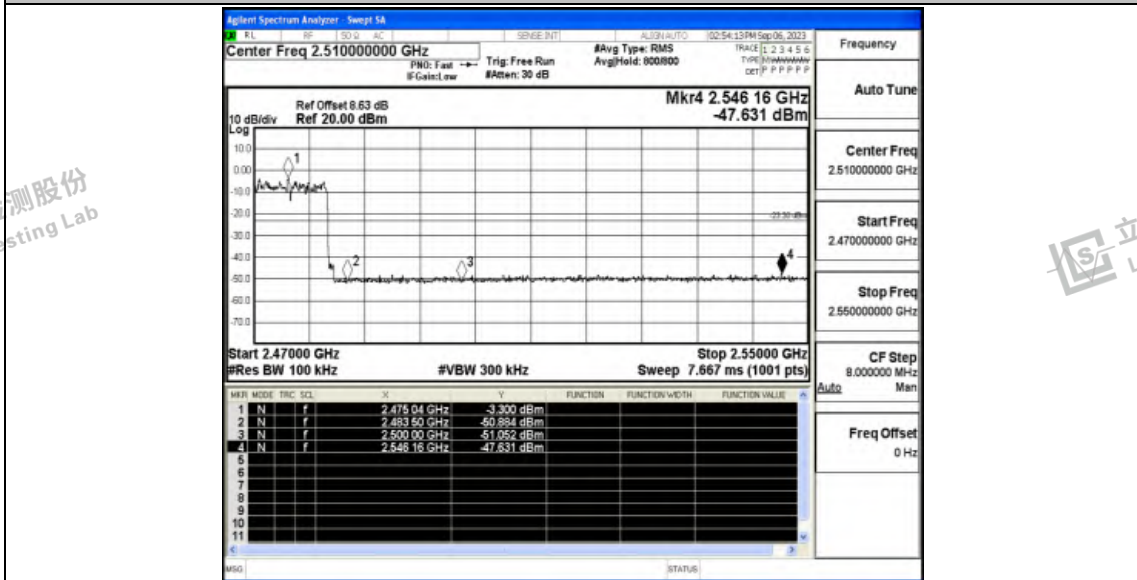


2DH5_Ant_Low_Hop_2402



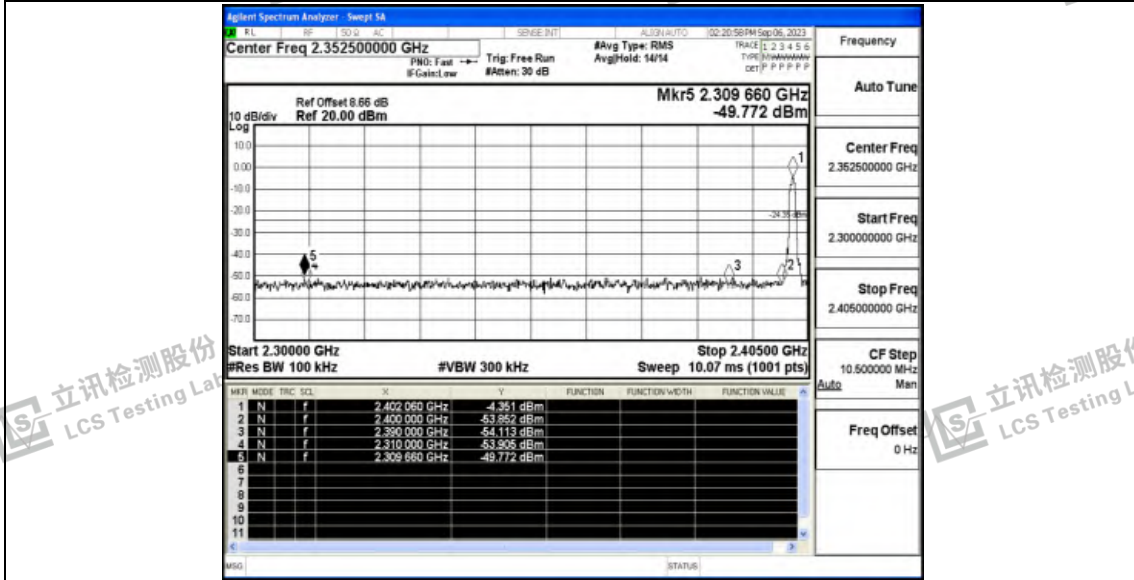


2DH5_Ant_High_Hop_2480

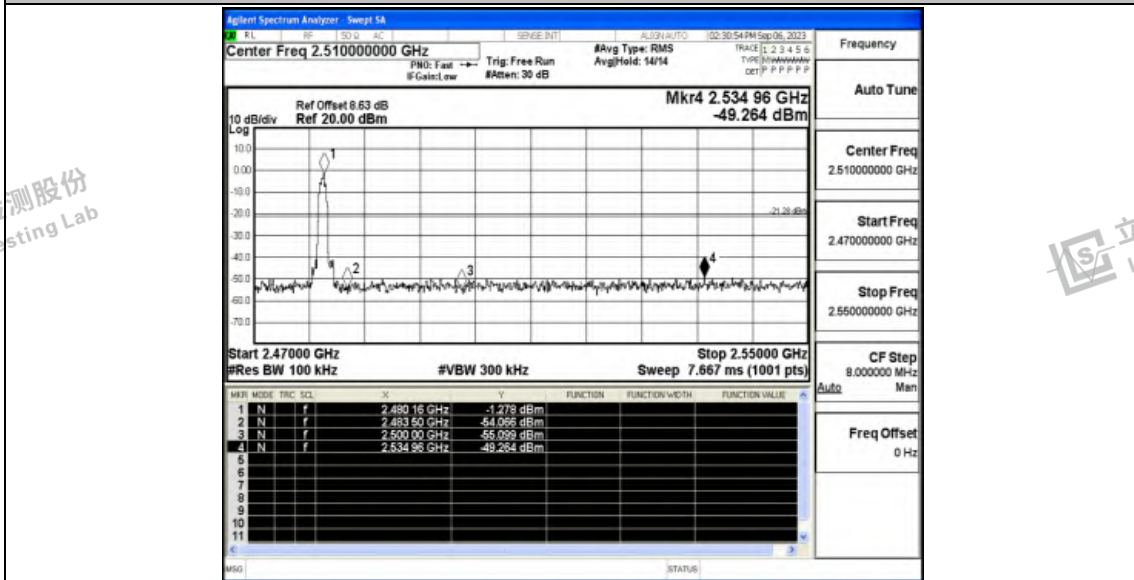


3DH5_Ant_Low_2402



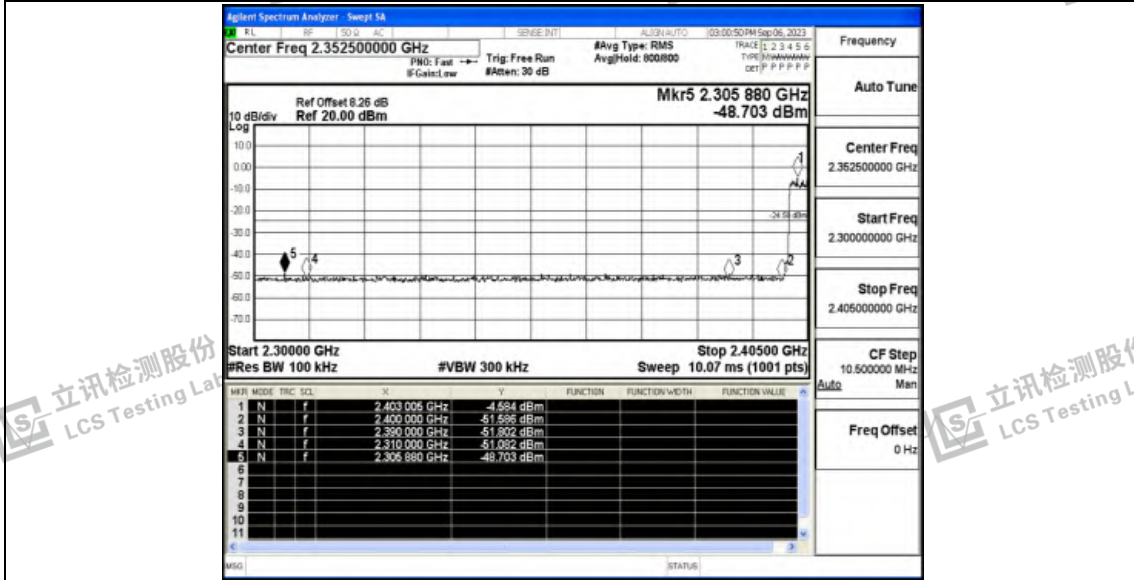


3DH5_Ant_High_2480

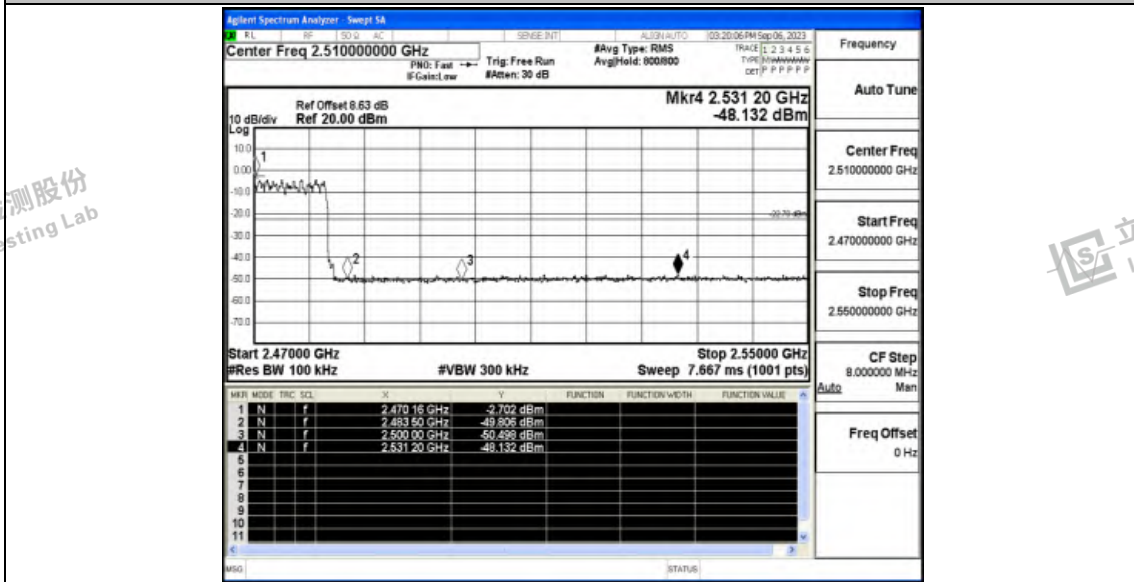


3DH5_Ant_Low_Hop_2402





3DH5_Ant_High_Hop_2480



A.7 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	-0.97	-0.97	---	PASS
			30~1000	-0.97	-77.78	≤-20.97	PASS
			1000~26500	-0.97	-46.31	≤-20.97	PASS
		2441	Reference	-0.61	-0.61	---	PASS
			30~1000	-0.61	-61.57	≤-20.61	PASS
			1000~26500	-0.61	-46.01	≤-20.61	PASS
		2480	Reference	-0.57	-0.57	---	PASS
			30~1000	-0.57	-61.06	≤-20.57	PASS
			1000~26500	-0.57	-47.12	≤-20.57	PASS
2DH5	Ant	2402	Reference	-2.28	-2.28	---	PASS
			30~1000	-2.28	-61.06	≤-22.28	PASS
			1000~26500	-2.28	-46.4	≤-22.28	PASS
		2441	Reference	-1.66	-1.66	---	PASS
			30~1000	-1.66	-61.3	≤-21.66	PASS
			1000~26500	-1.66	-46.28	≤-21.66	PASS
		2480	Reference	-1.73	-1.73	---	PASS
			30~1000	-1.73	-60.41	≤-21.73	PASS
			1000~26500	-1.73	-47.22	≤-21.73	PASS
3DH5	Ant	2402	Reference	-1.30	-1.30	---	PASS
			30~1000	-1.30	-60.81	≤-21.3	PASS
			1000~26500	-1.30	-46.63	≤-21.3	PASS
		2441	Reference	-1.22	-1.22	---	PASS
			30~1000	-1.22	-61.18	≤-21.22	PASS
			1000~26500	-1.22	-46.75	≤-21.22	PASS
		2480	Reference	-1.19	-1.19	---	PASS
			30~1000	-1.19	-61.11	≤-21.19	PASS
			1000~26500	-1.19	-46.58	≤-21.19	PASS



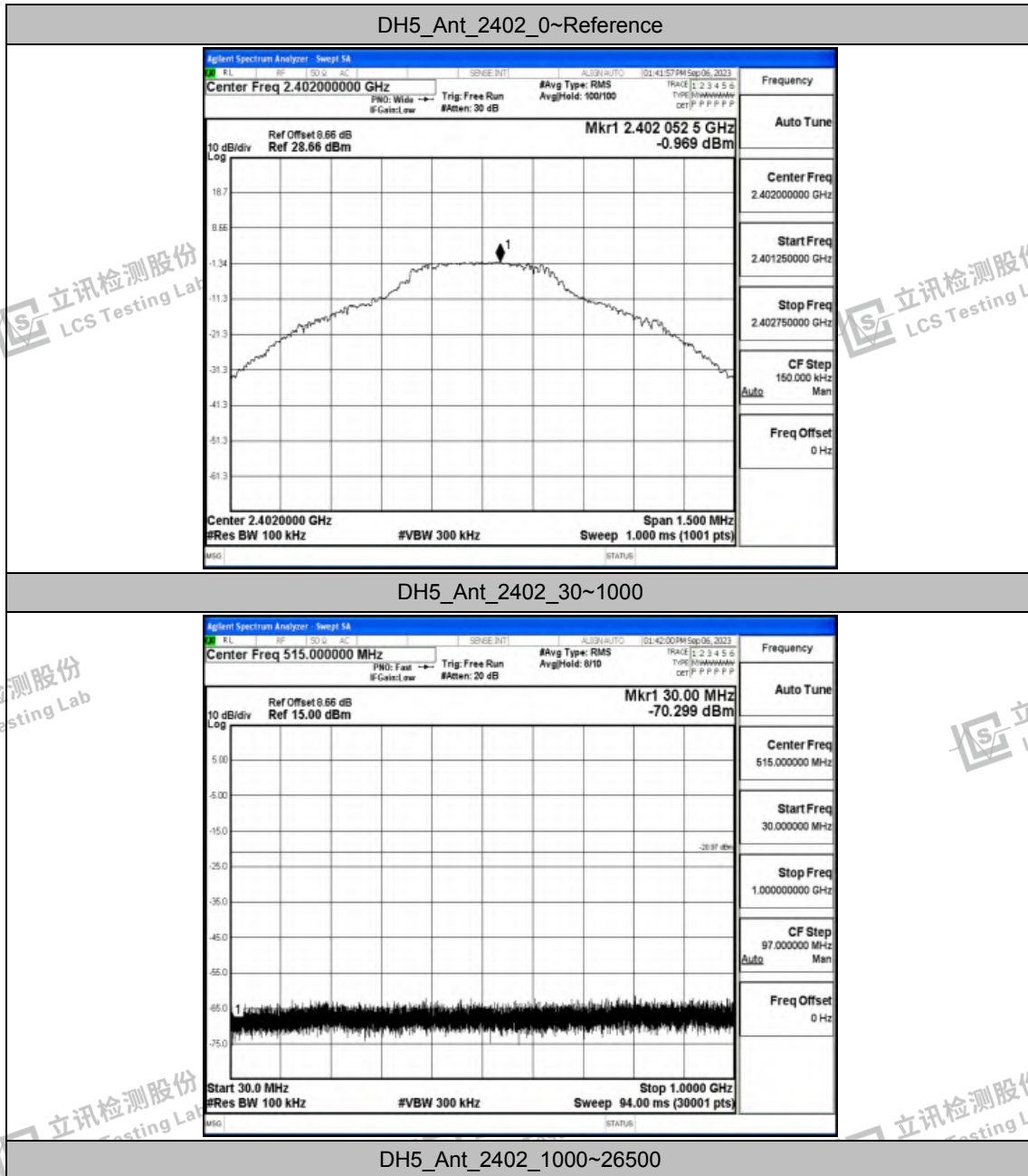
Shenzhen LCS Compliance Testing Laboratory Ltd.

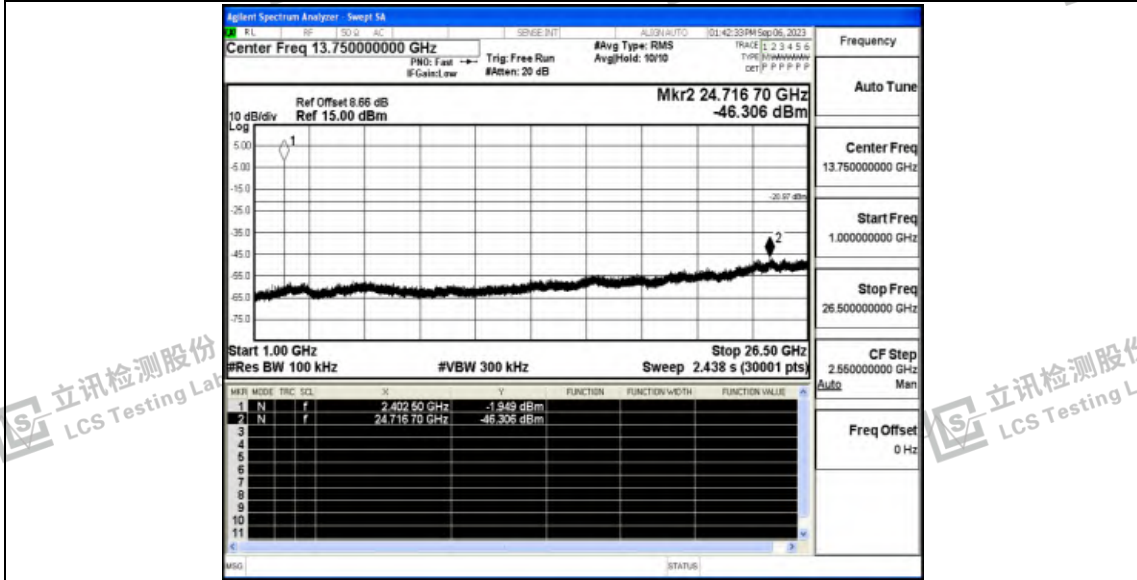
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

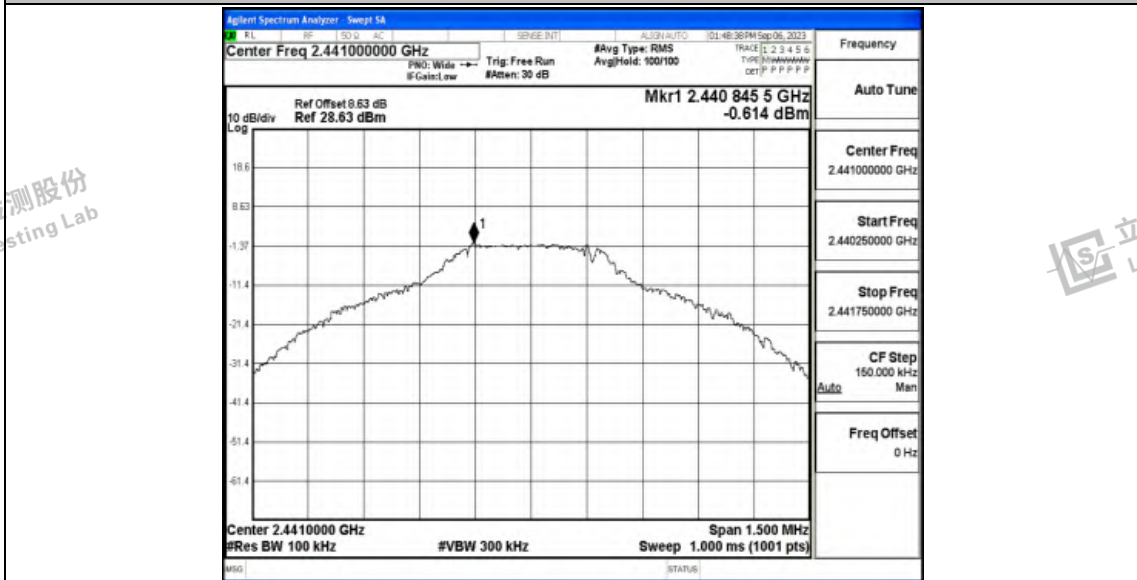
Scan code to check authenticity

Test Graphs



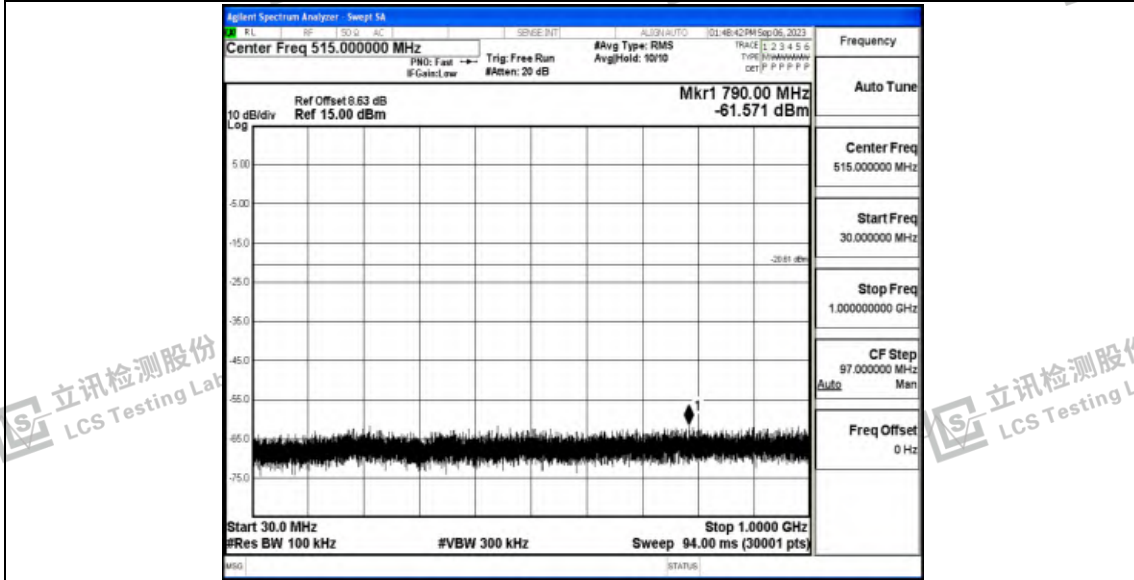


DH5_Ant_2441_0~Reference

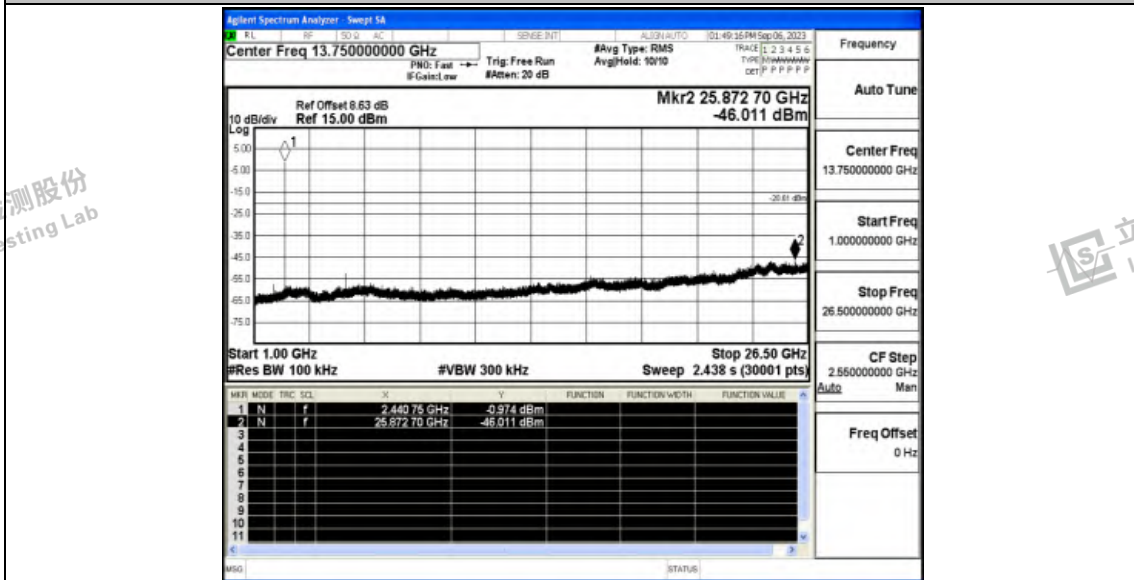


DH5_Ant_2441_30~1000



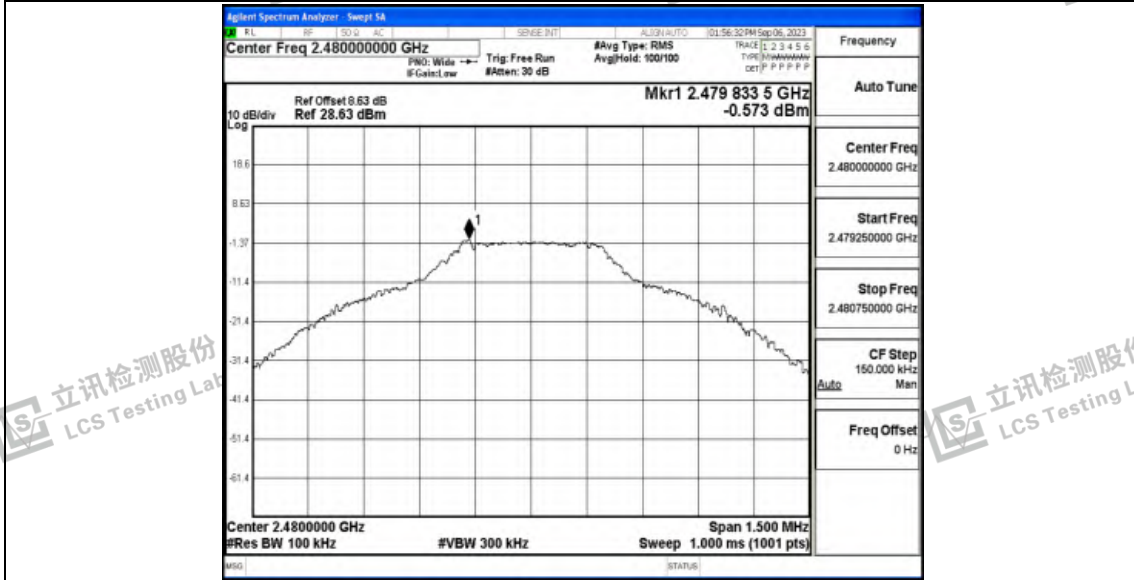


DH5_Ant_2441_1000~26500

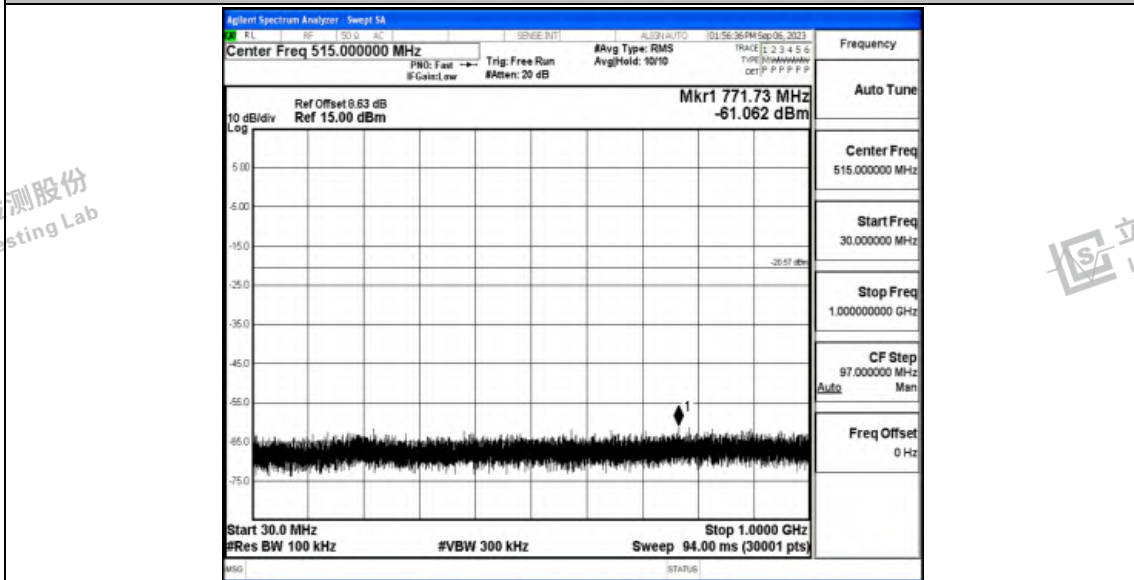


DH5_Ant_2480_0~Reference



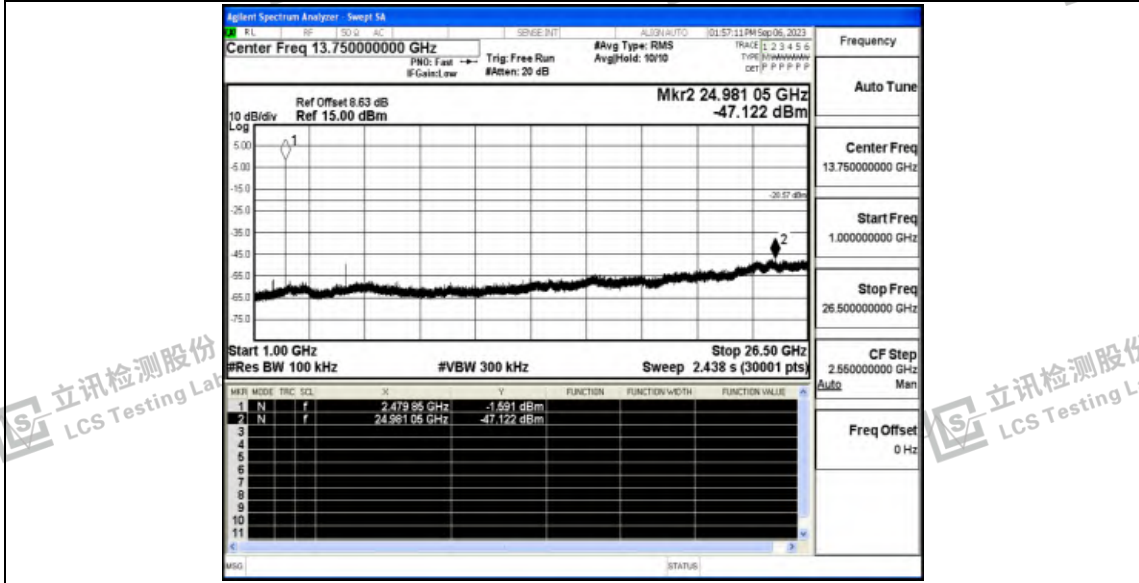


DH5_Ant_2480_30~1000

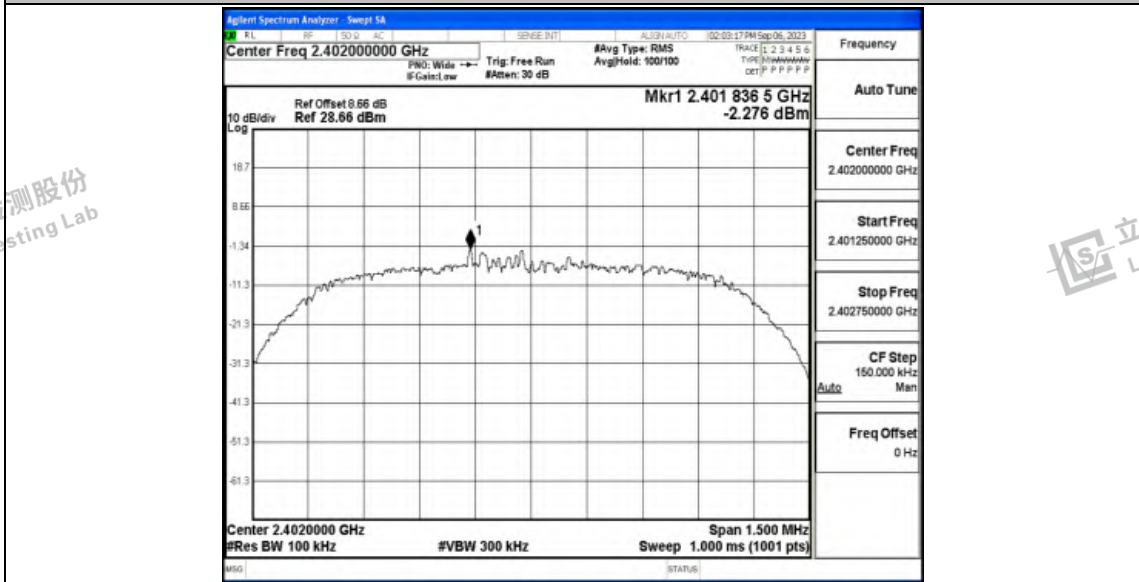


DH5_Ant_2480_1000~26500



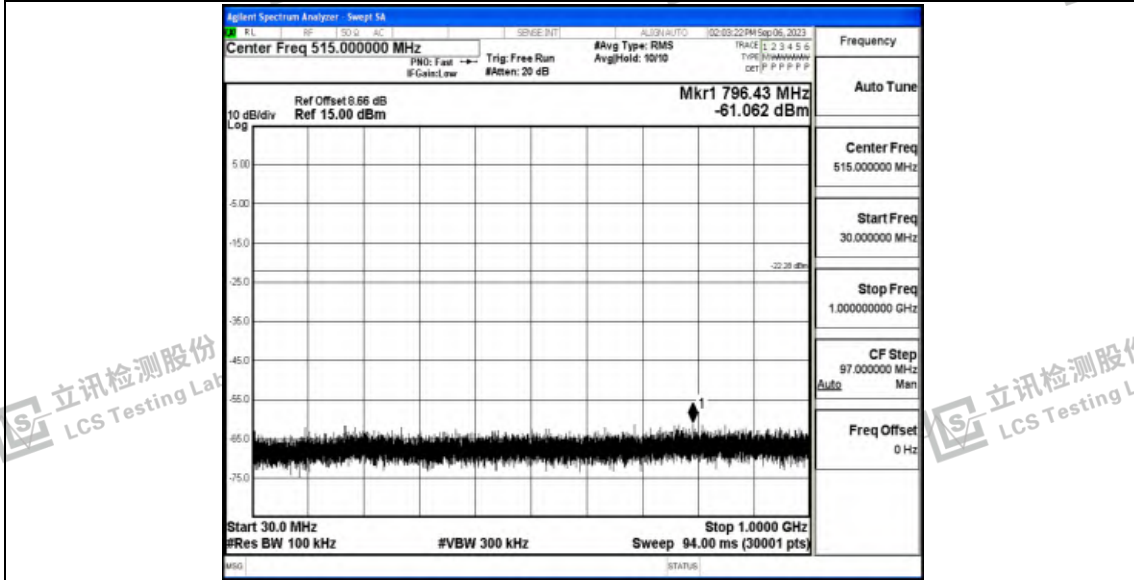


2DH5_Ant_2402_0~Reference

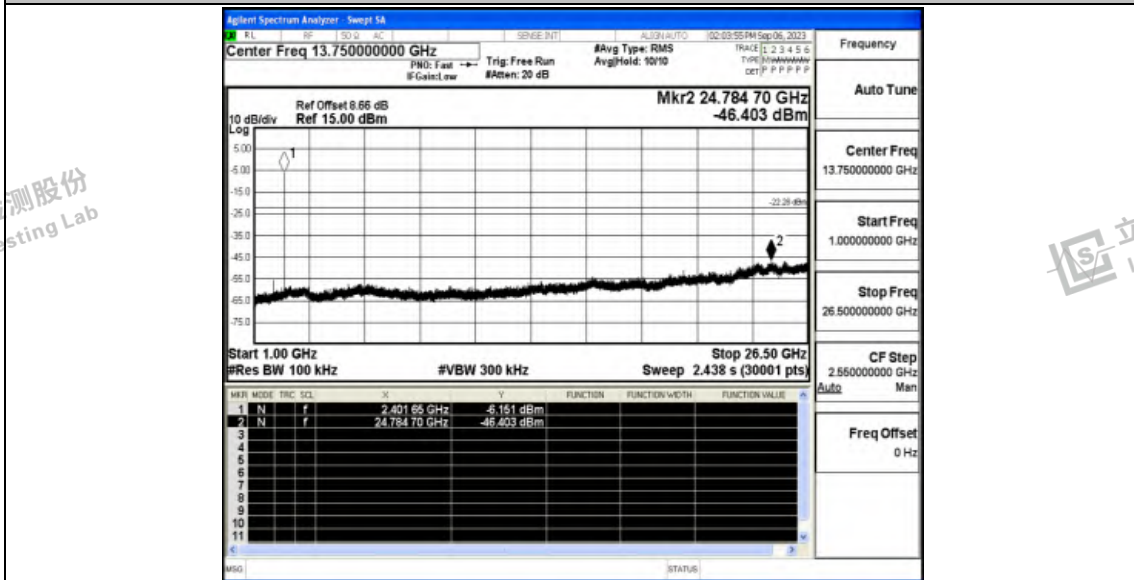


2DH5_Ant_2402_30~1000



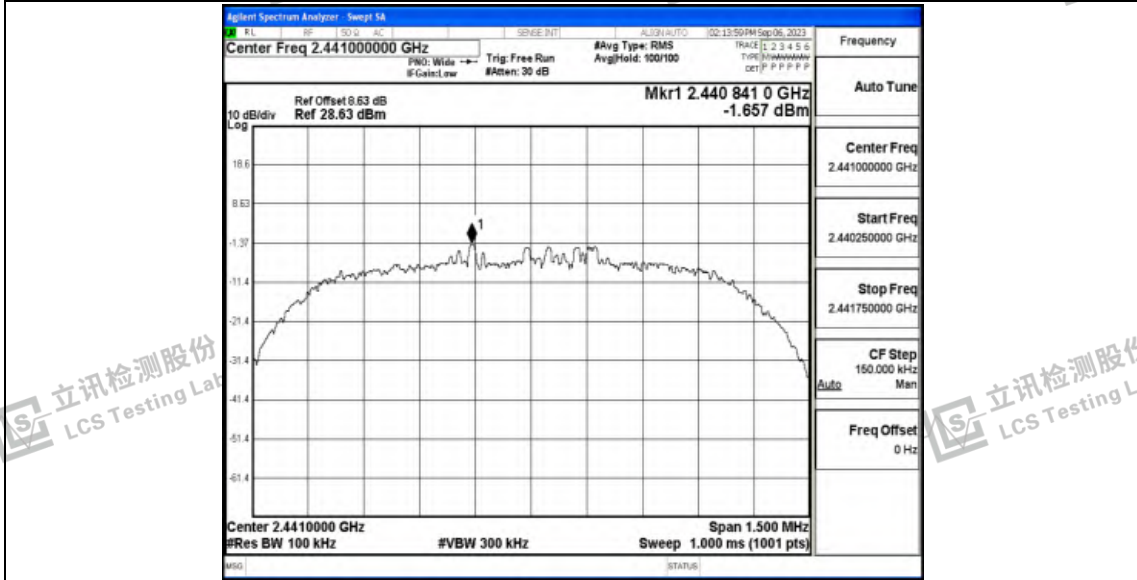


2DH5_Ant_2402_1000~26500

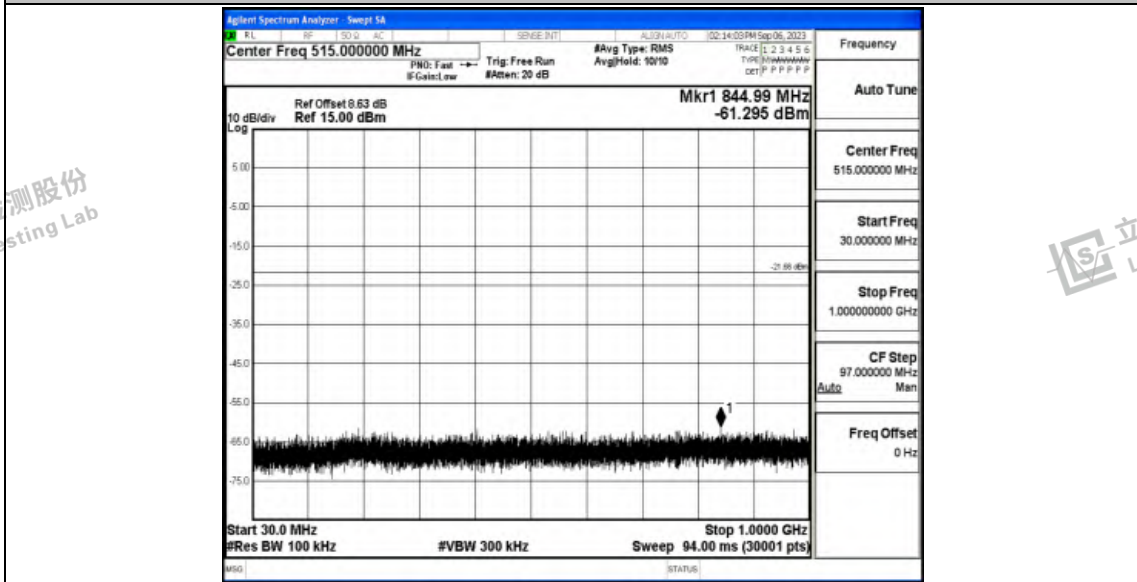


2DH5_Ant_2441_0~Reference



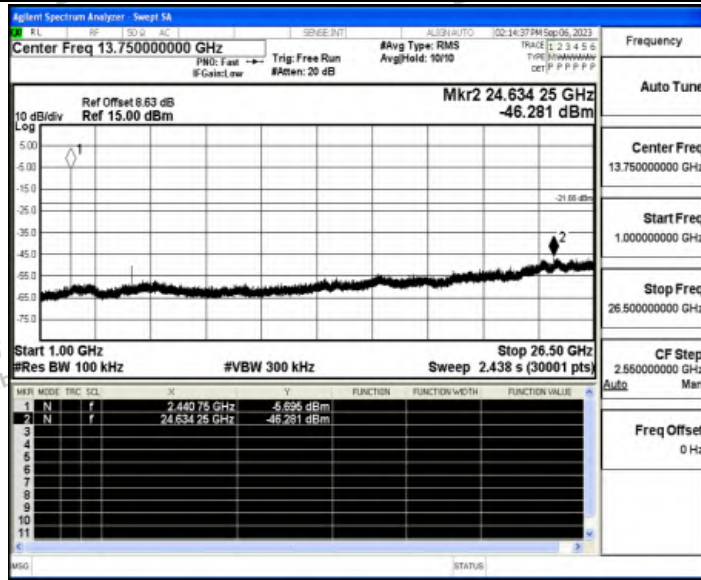


2DH5_Ant_2441_30~1000

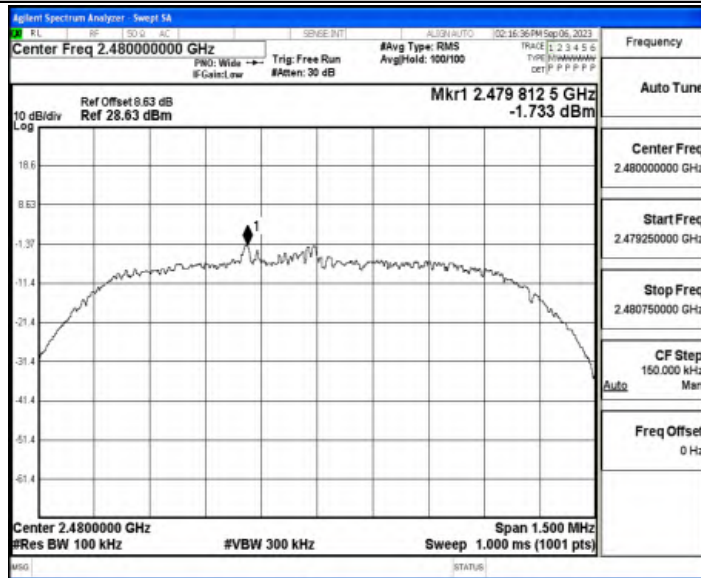


2DH5_Ant_2441_1000~26500



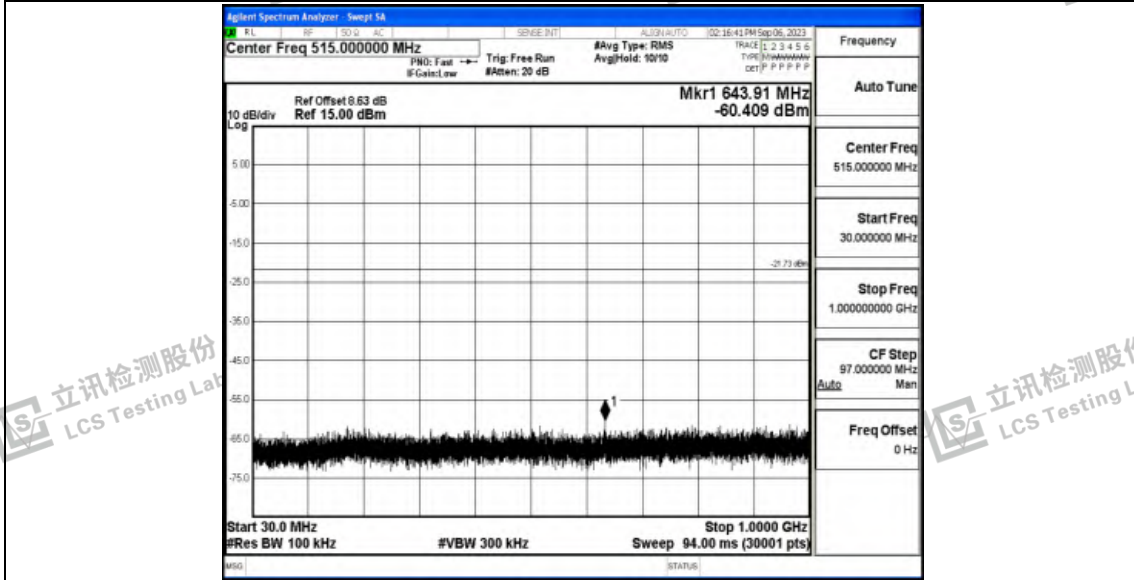


2DH5_Ant_2480_0~Reference

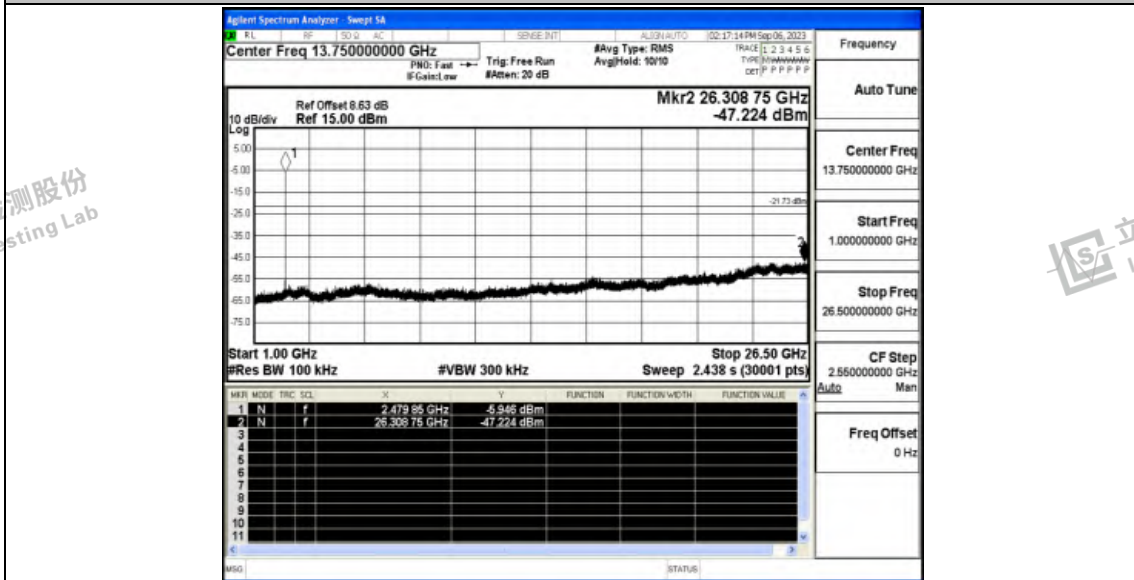


2DH5_Ant_2480_30~1000



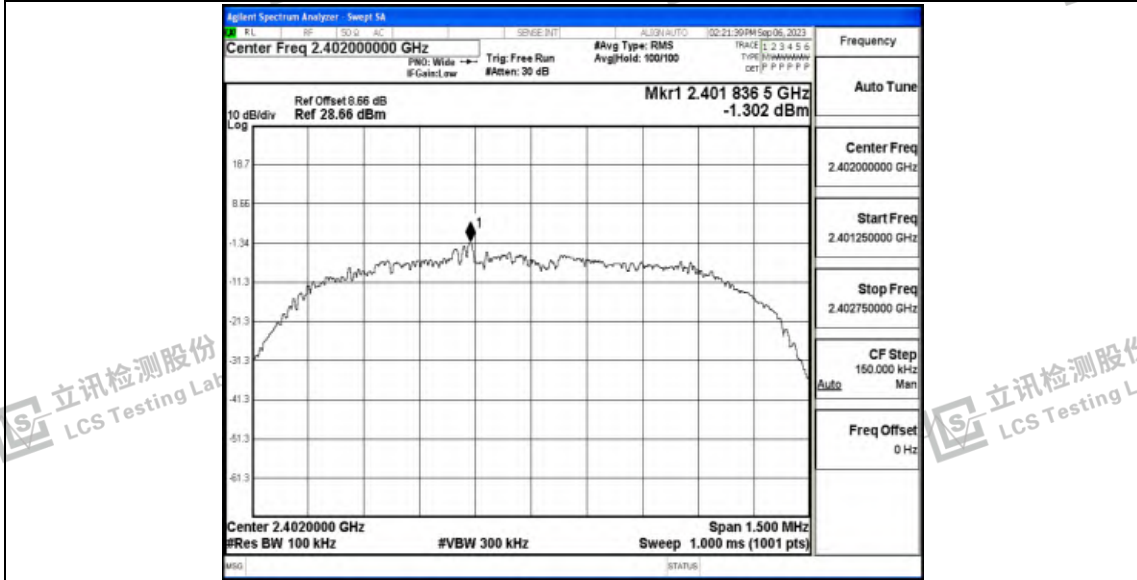


2DH5_Ant_2480_1000~26500

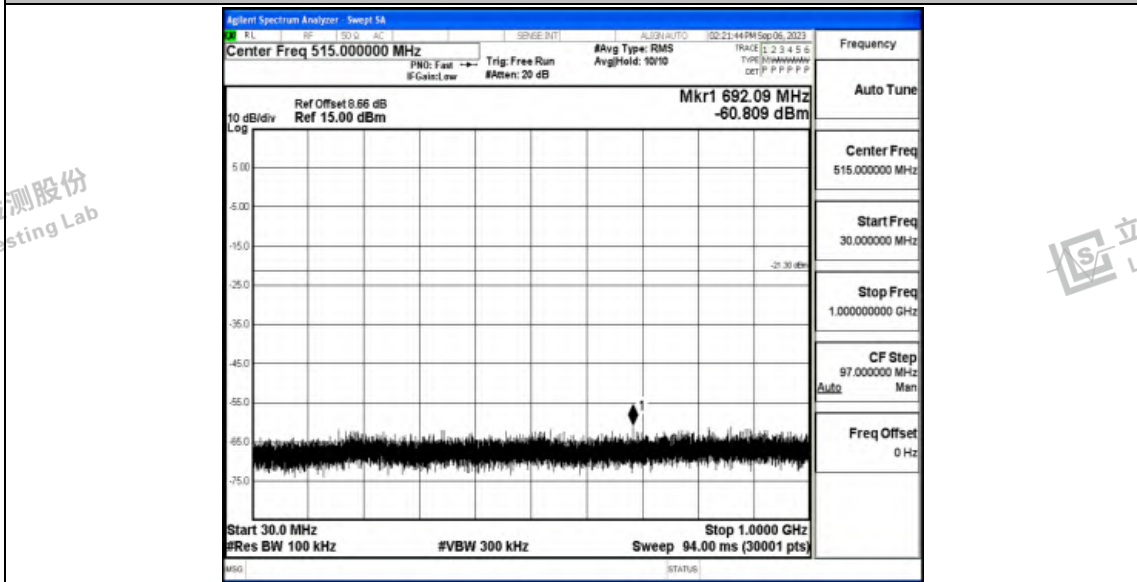


3DH5_Ant_2402_0~Reference



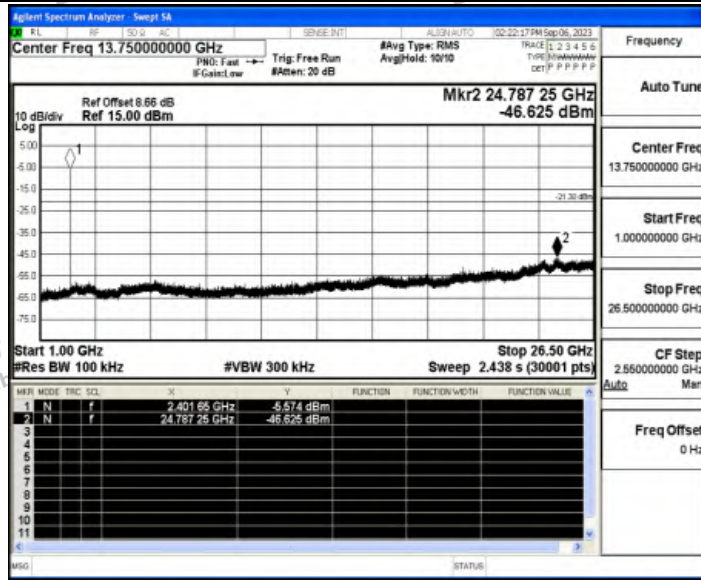


3DH5_Ant_2402_30~1000

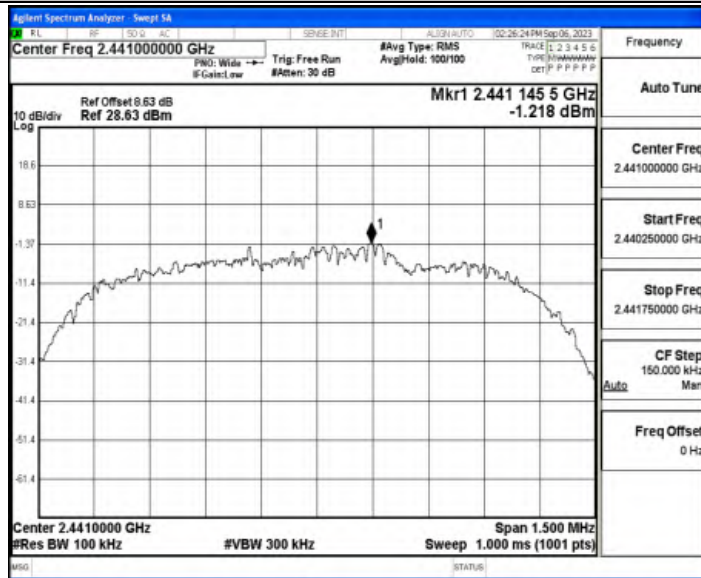


3DH5_Ant_2402_1000~26500



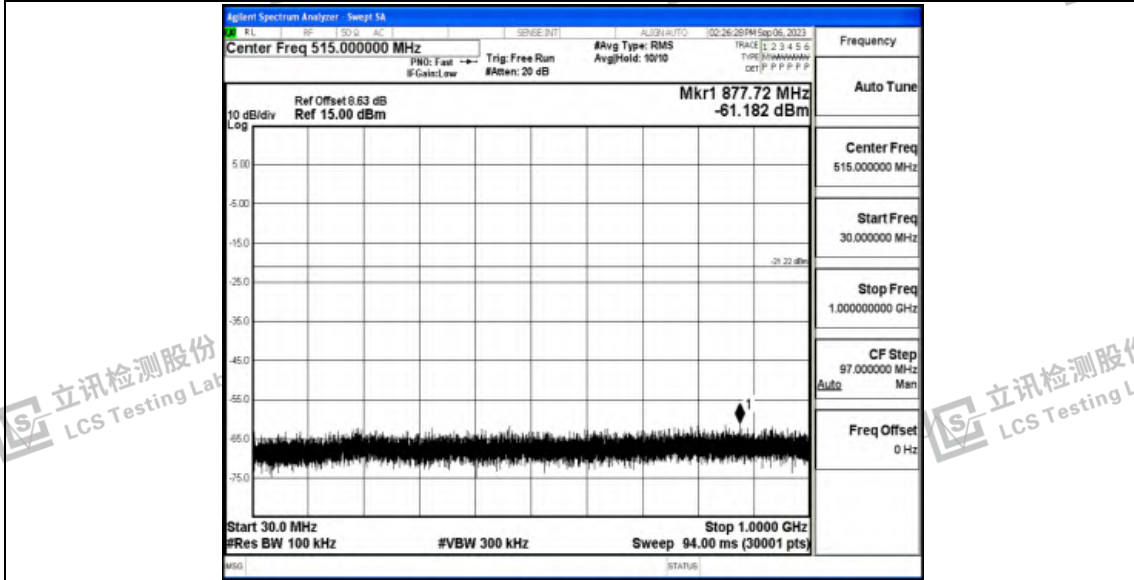


3DH5_Ant_2441_0~Reference

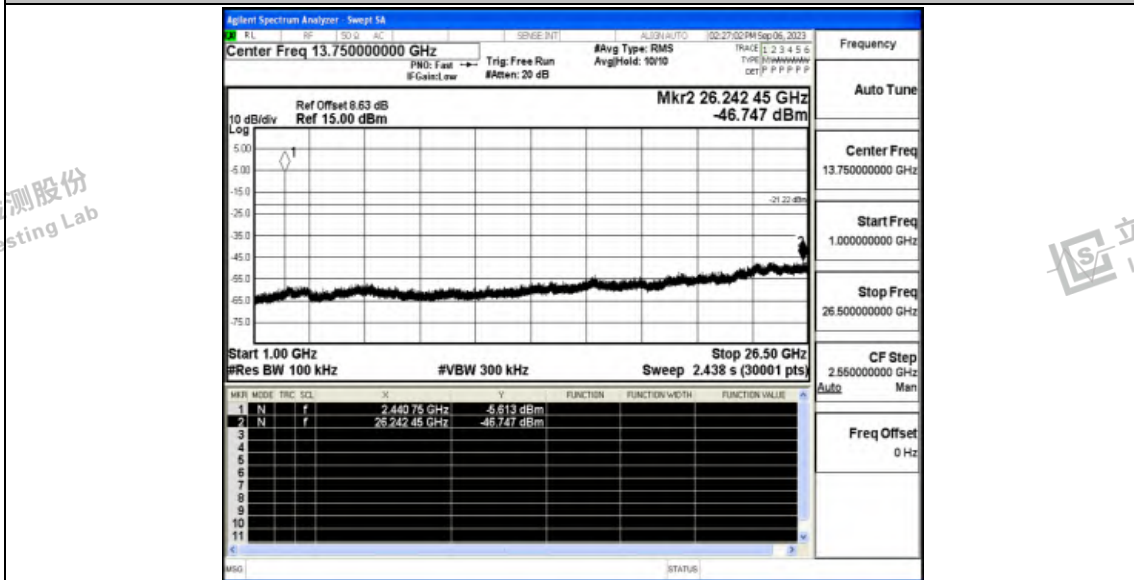


3DH5_Ant_2441_30~1000



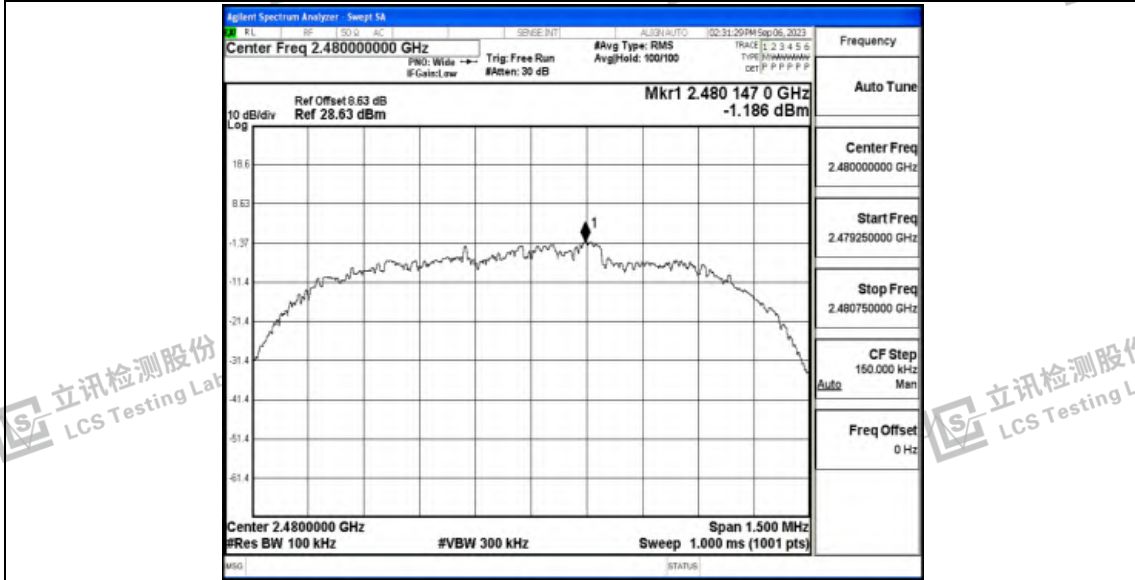


3DH5_Ant_2441_1000~26500

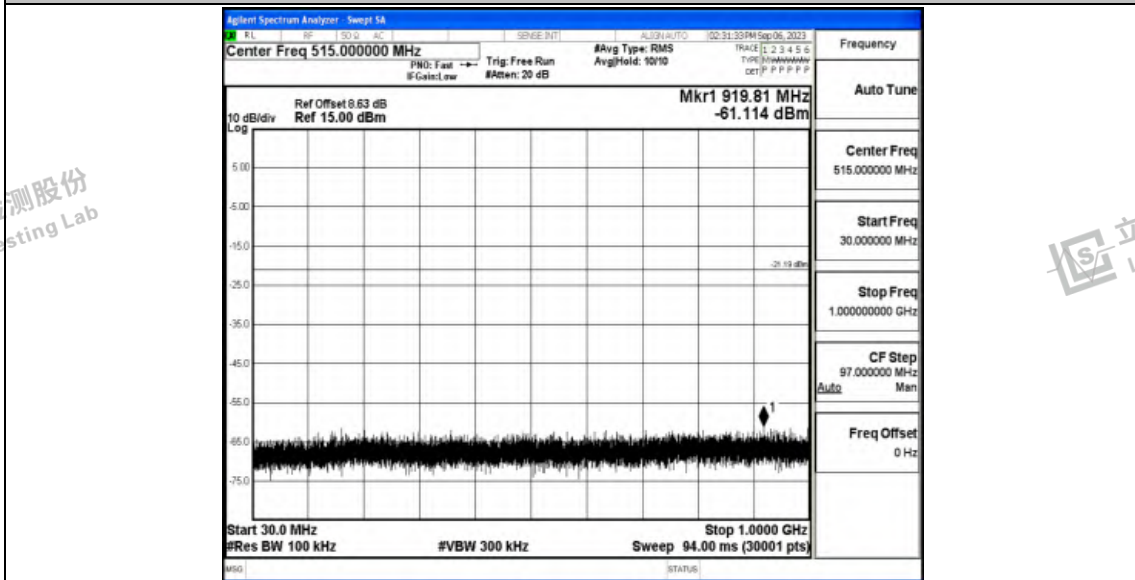


3DH5_Ant_2480_0~Reference



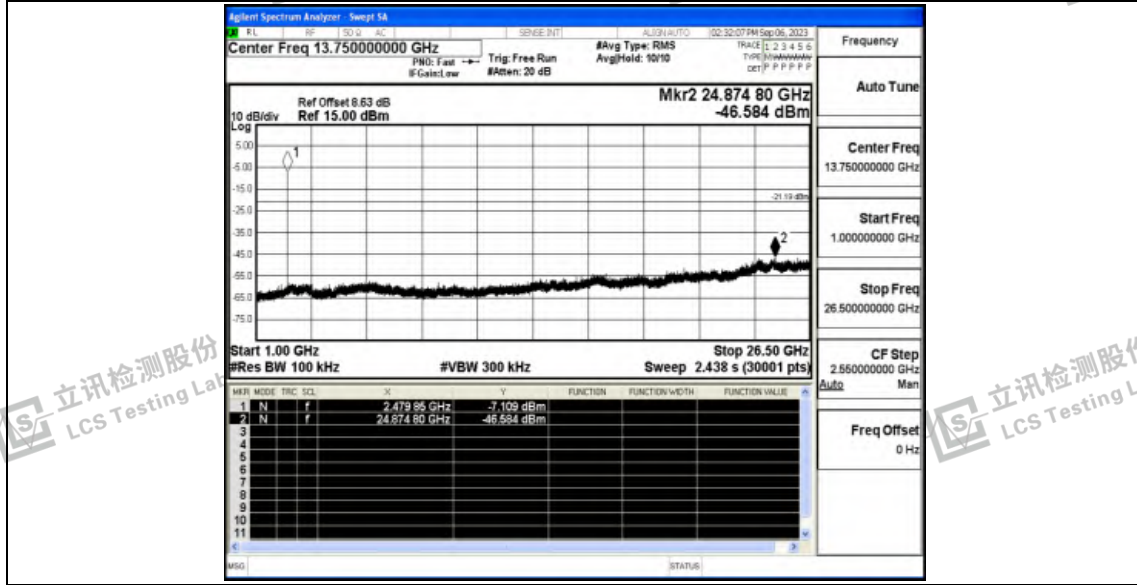
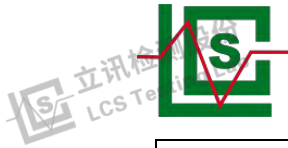


3DH5_Ant_2480_30~1000



3DH5_Ant_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict		
DH5	Ant	Low	2402	AV	2310.000	-48.15	≤-41.20	47.05	≤54	PASS		
				AV	2384.840	-47.66	≤-41.20	47.54	≤54	PASS		
				AV	2390.000	-47.72	≤-41.20	47.48	≤54	PASS		
				Peak	2310.000	-41.54	≤-21.20	53.66	≤74	PASS		
				Peak	2333.705	-38.34	≤-21.20	56.86	≤74	PASS		
				Peak	2390.000	-42.69	≤-21.20	52.51	≤74	PASS		
		High	2480	AV	2483.500	-47.25	≤-41.20	47.95	≤54	PASS		
				AV	2494.880	-47.04	≤-41.20	48.16	≤54	PASS		
				AV	2500.000	-47.22	≤-41.20	47.98	≤54	PASS		
				Peak	2483.500	-42.17	≤-21.20	53.03	≤74	PASS		
				Peak	2497.600	-38.76	≤-21.20	56.44	≤74	PASS		
				Peak	2500.000	-41.33	≤-21.20	53.87	≤74	PASS		
		Low	Hop_24 02	Peak	2310.000	-40.66	≤-21.20	54.54	≤74	PASS		
				Peak	2323.415	-37.74	≤-21.20	57.46	≤74	PASS		
				Peak	2390.000	-38.52	≤-21.20	56.68	≤74	PASS		
		High	Hop_24 80	Peak	2483.500	-38.77	≤-21.20	56.43	≤74	PASS		
				Peak	2491.680	-37.33	≤-21.20	57.87	≤74	PASS		
				Peak	2500.000	-38.9	≤-21.20	56.30	≤74	PASS		
		2DH5	Ant	Low	2402	AV	2310.000	-47.93	≤-41.20	47.27	≤54	PASS
						AV	2387.150	-47.6	≤-41.20	47.60	≤54	PASS
						AV	2390.000	-47.79	≤-41.20	47.41	≤54	PASS
Peak	2310.000					-42.72	≤-21.20	52.48	≤74	PASS		
Peak	2316.590					-38.75	≤-21.20	56.45	≤74	PASS		
Peak	2390.000					-43.31	≤-21.20	51.89	≤74	PASS		
High	2480			AV	2483.500	-47.2	≤-41.20	48.00	≤54	PASS		
				AV	2499.440	-47.09	≤-41.20	48.11	≤54	PASS		
				AV	2500.000	-47.13	≤-41.20	48.07	≤54	PASS		
				Peak	2483.500	-42.36	≤-21.20	52.84	≤74	PASS		
				Peak	2498.400	-38.2	≤-21.20	57.00	≤74	PASS		
				Peak	2500.000	-40.67	≤-21.20	54.53	≤74	PASS		
Low	Hop_24 02			Peak	2310.000	-40.08	≤-21.20	55.12	≤74	PASS		
				Peak	2317.010	-37.52	≤-21.20	57.68	≤74	PASS		
				Peak	2390.000	-39.69	≤-21.20	55.51	≤74	PASS		
High	Hop_24			Peak	2483.500	-38.39	≤-21.20	56.81	≤74	PASS		





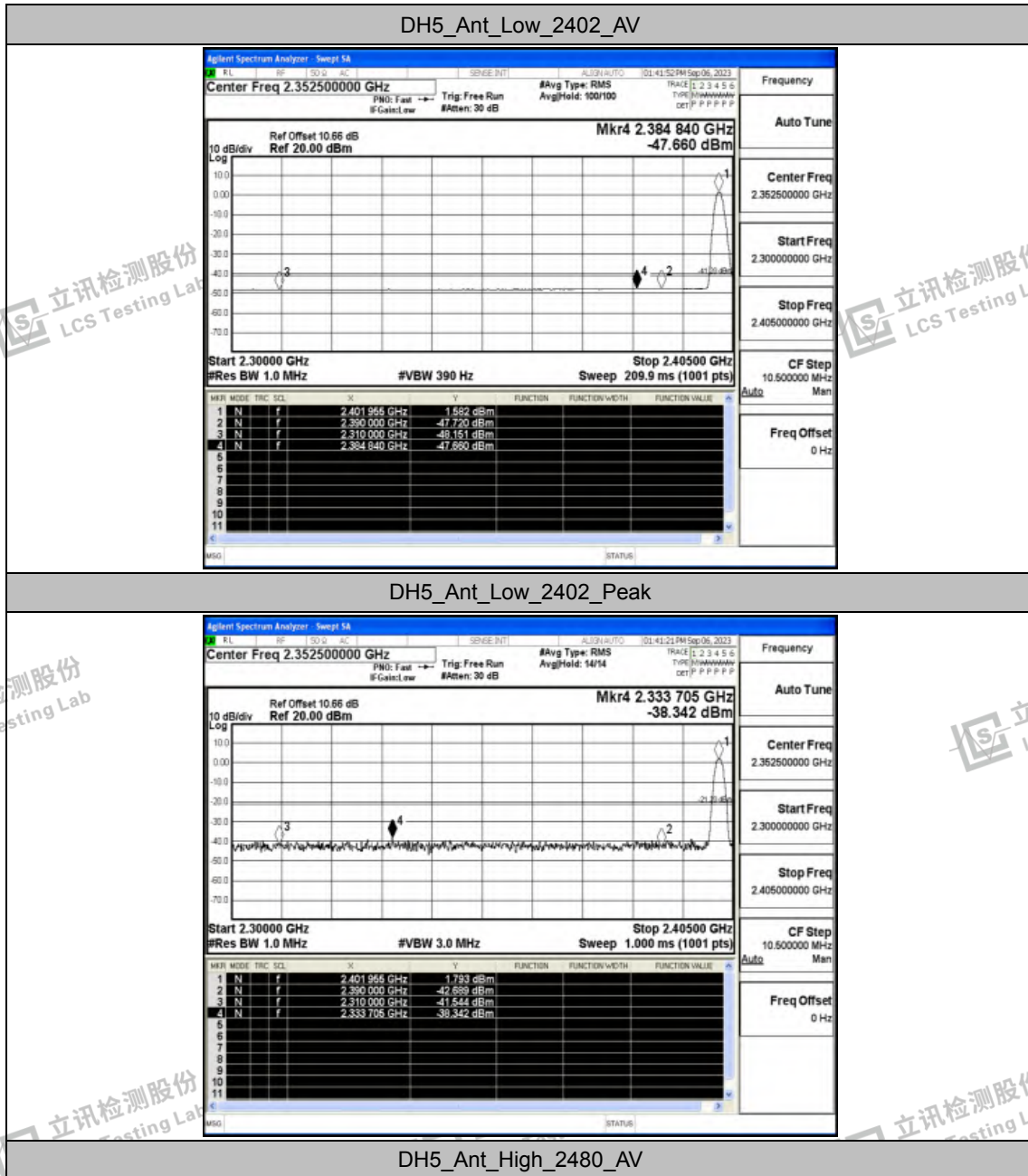
			80	Peak	2484.320	-37.23	≤-21.20	57.97	≤74	PASS
				Peak	2500.000	-39.32	≤-21.20	55.88	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-48.07	≤-41.20	47.13	≤54	PASS
				AV	2384.420	-47.61	≤-41.20	47.59	≤54	PASS
				AV	2390.000	-47.72	≤-41.20	47.48	≤54	PASS
				Peak	2310.000	-43.21	≤-21.20	51.99	≤74	PASS
				Peak	2381.060	-38.18	≤-21.20	57.02	≤74	PASS
				Peak	2390.000	-40.42	≤-21.20	54.78	≤74	PASS
		High	2480	AV	2483.500	-47.2	≤-41.20	48.00	≤54	PASS
				AV	2498.400	-47.13	≤-41.20	48.07	≤54	PASS
				AV	2500.000	-47.28	≤-41.20	47.92	≤54	PASS
				Peak	2483.500	-41.97	≤-21.20	53.23	≤74	PASS
				Peak	2489.520	-37.77	≤-21.20	57.43	≤74	PASS
				Peak	2500.000	-43.13	≤-21.20	52.07	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.93	≤-21.20	55.27	≤74	PASS
				Peak	2370.770	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2390.000	-39.76	≤-21.20	55.44	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-38.67	≤-21.20	56.53	≤74	PASS
				Peak	2484.000	-36.14	≤-21.20	59.06	≤74	PASS
				Peak	2500.000	-39.36	≤-21.20	55.84	≤74	PASS

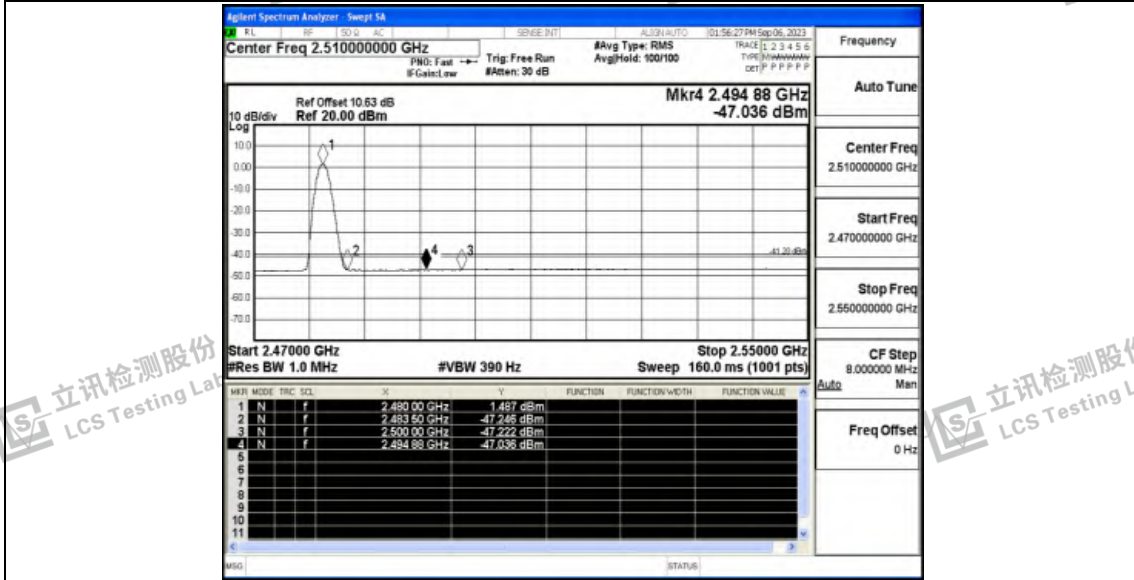
Note:

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.

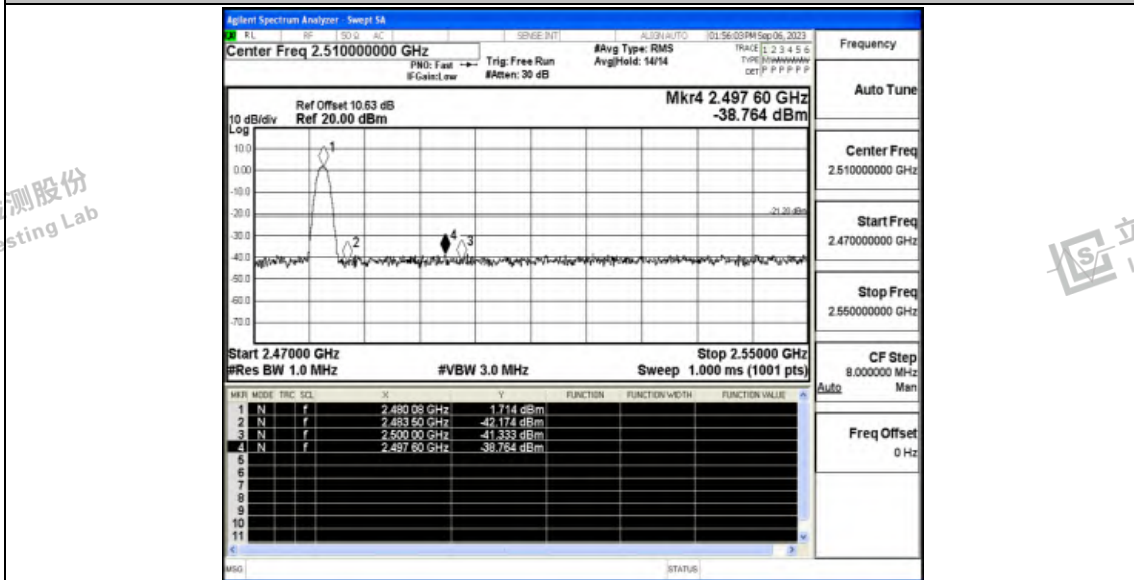


Test Graphs



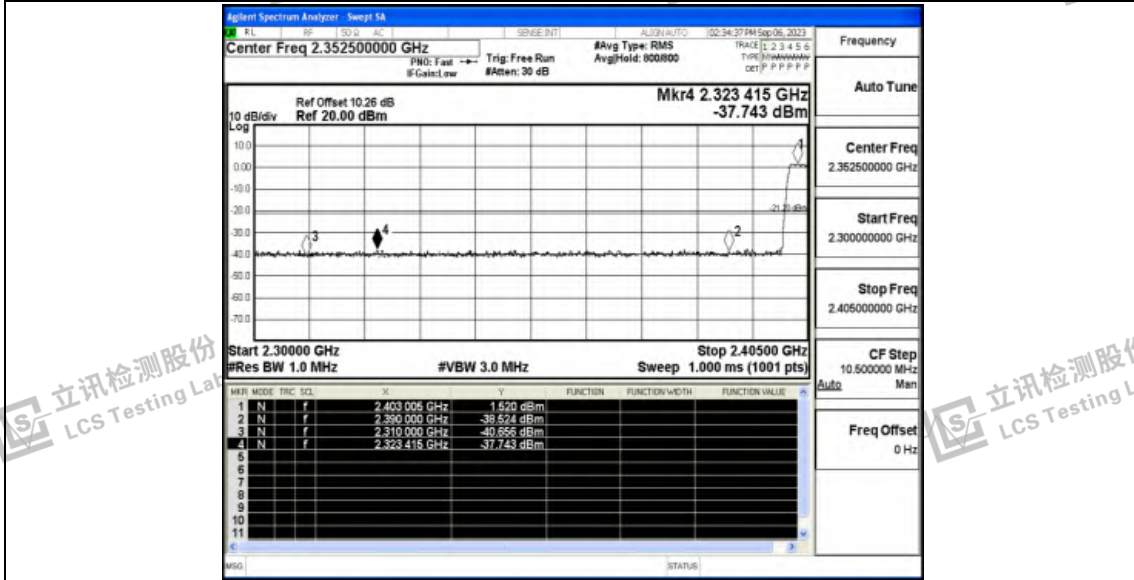


DH5_Ant_High_2480_Peak

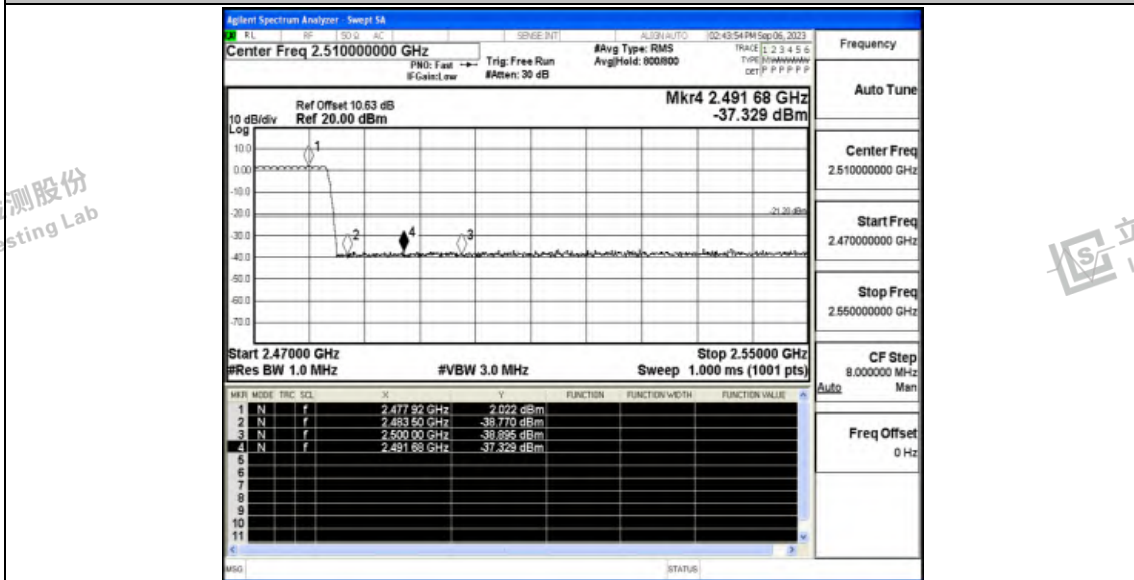


DH5_Ant_Low_Hop_2402_Peak



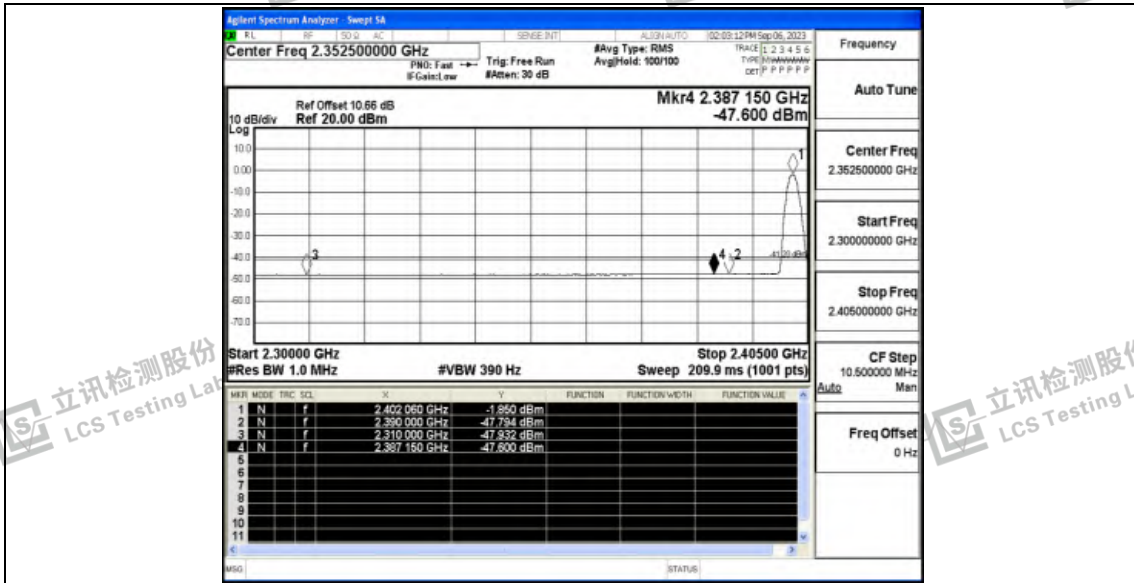


DH5_Ant_High_Hop_2480_Peak

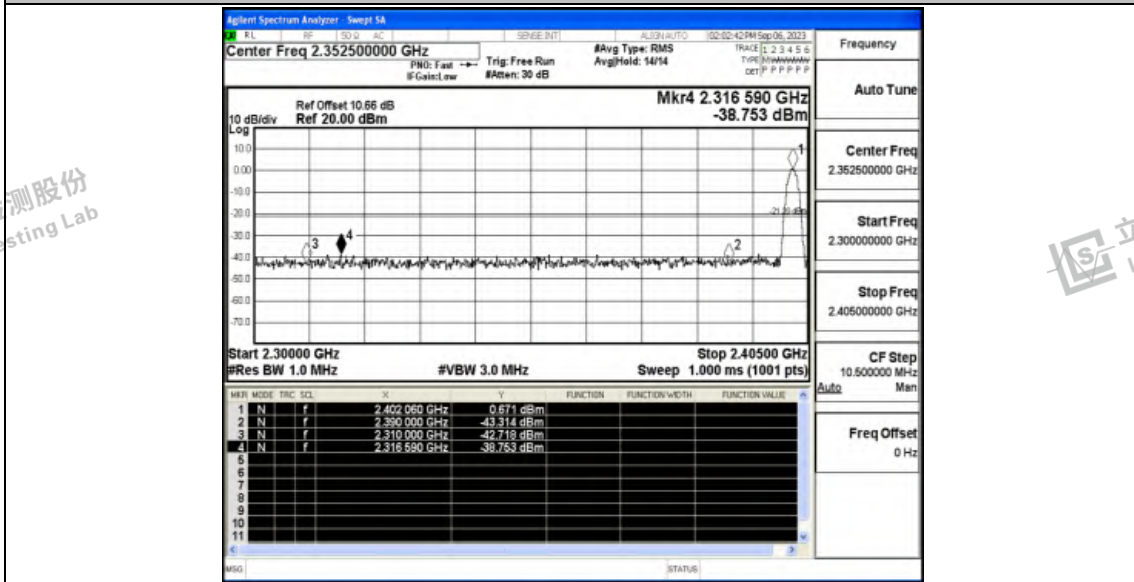


2DH5_Ant_Low_2402_AV



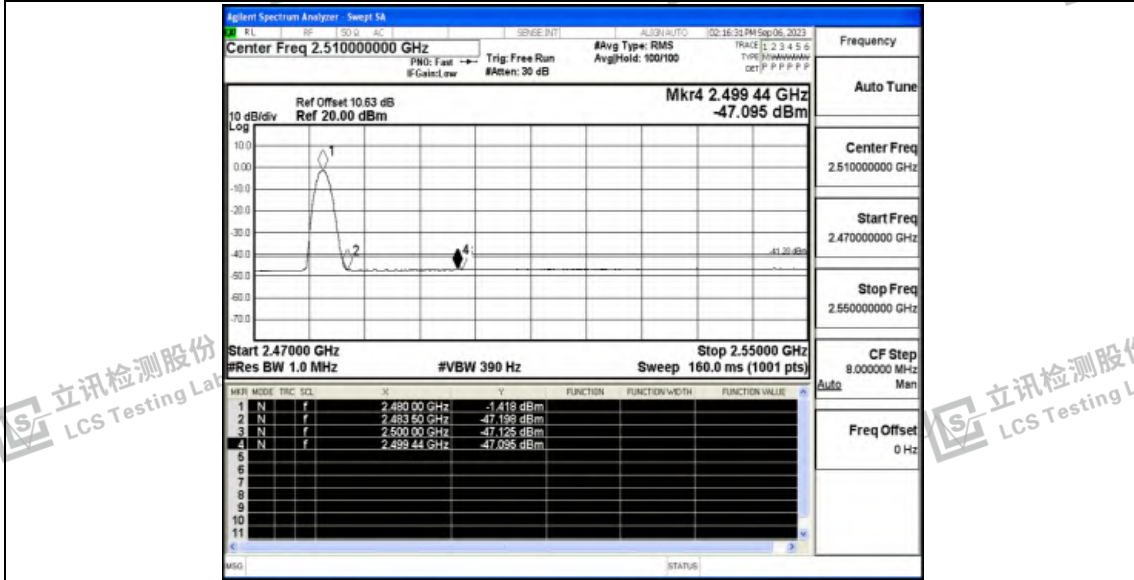


2DH5_Ant_Low_2402_Peak

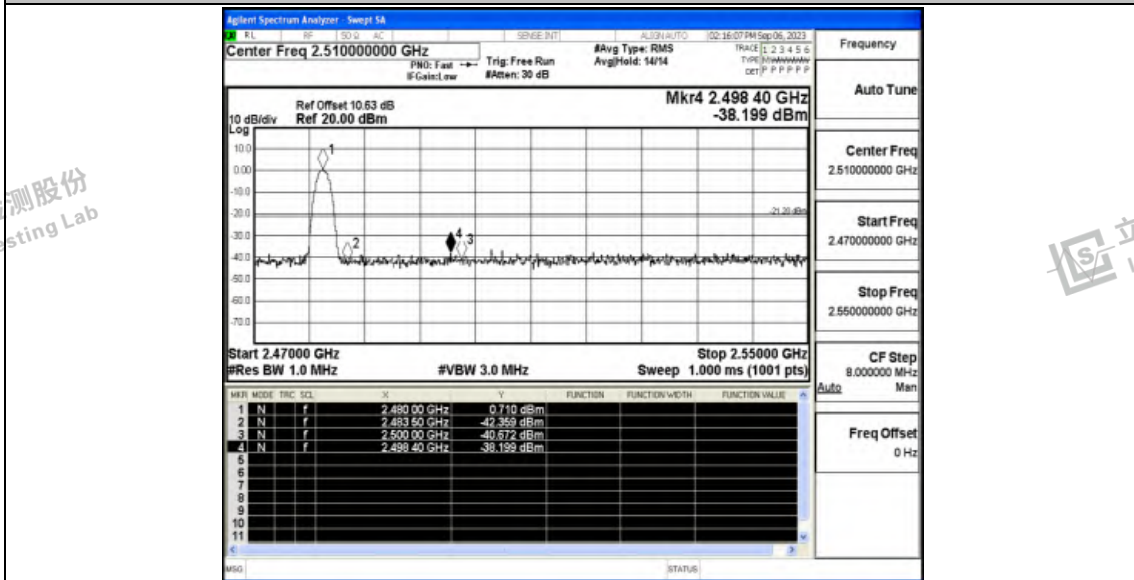


2DH5_Ant_High_2480_AV



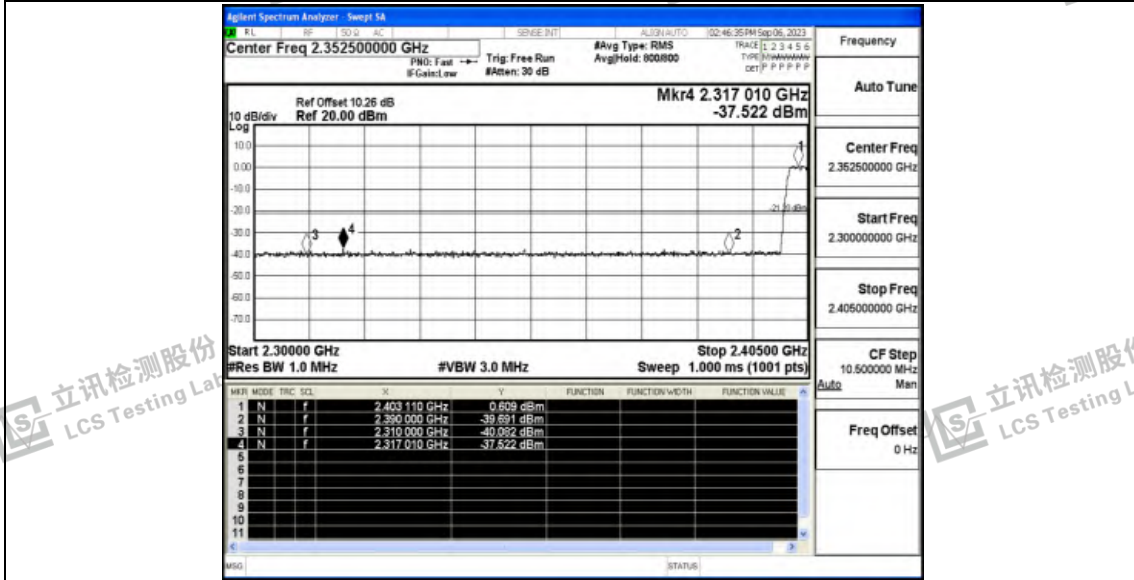


2DH5_Ant_High_2480_Peak

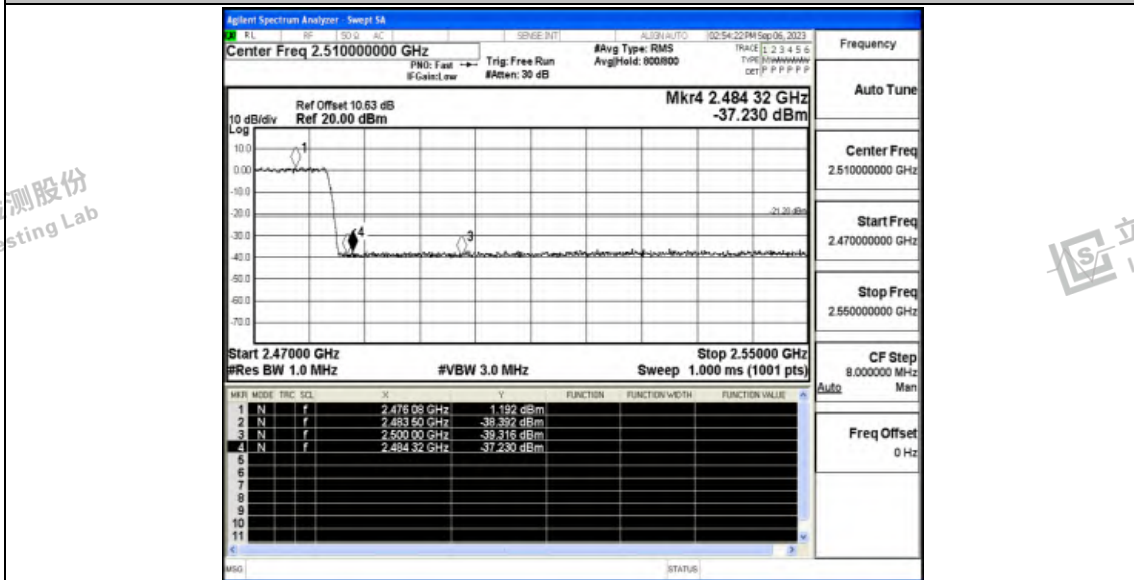


2DH5_Ant_Low_Hop_2402_Peak



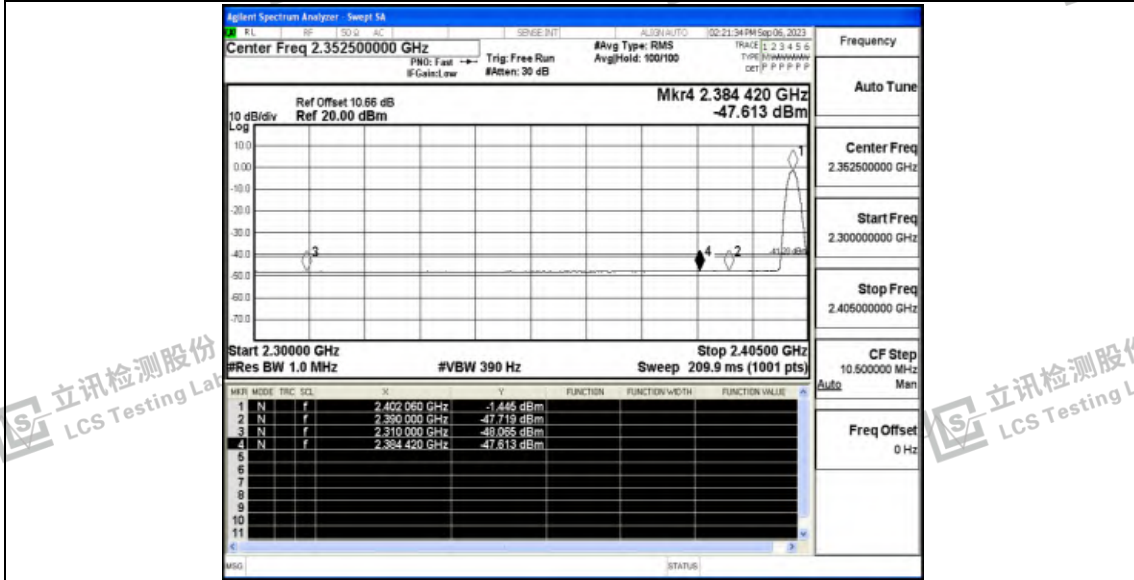


2DH5_Ant_High_Hop_2480_Peak

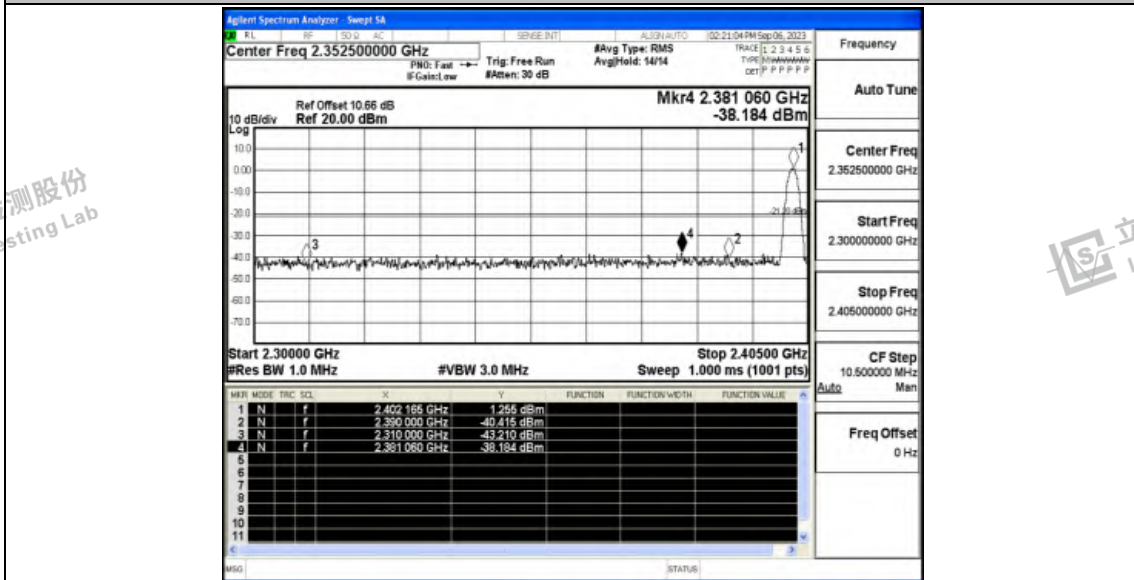


3DH5_Ant_Low_2402_AV



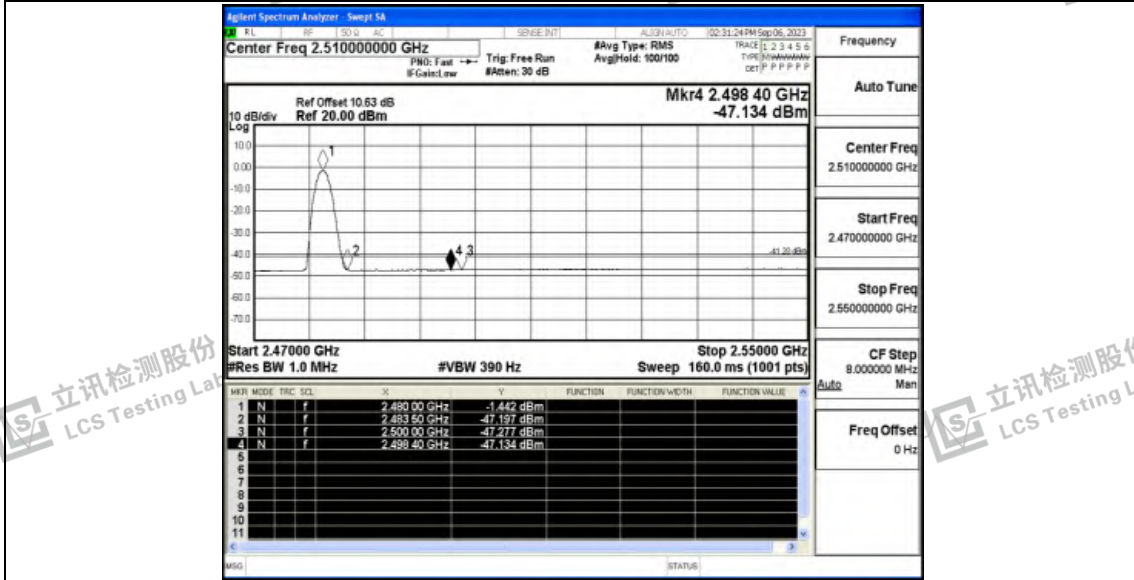


3DH5_Ant_Low_2402_Peak

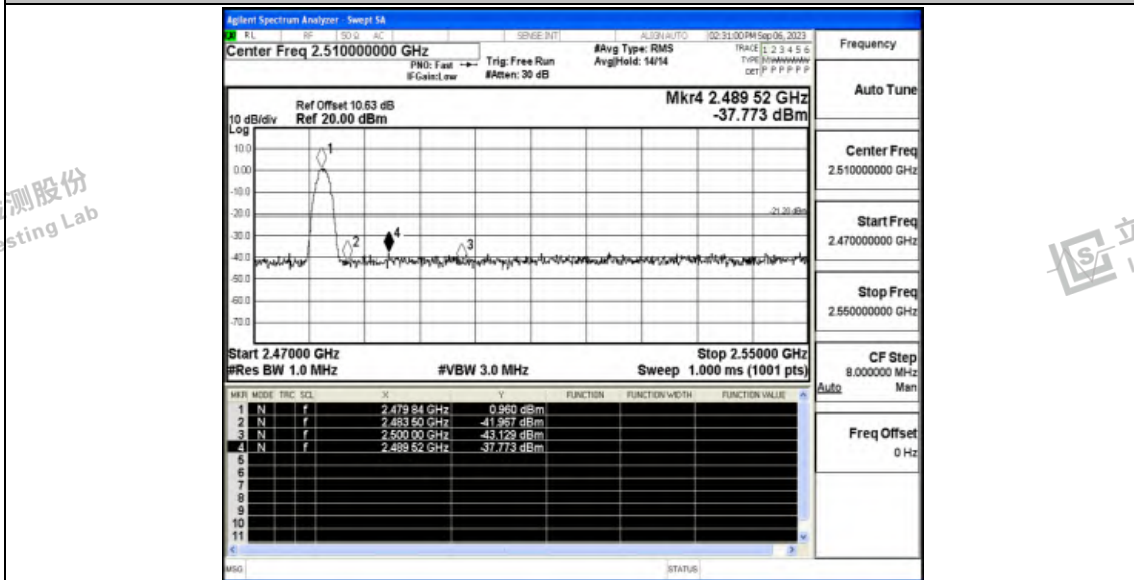


3DH5_Ant_High_2480_AV



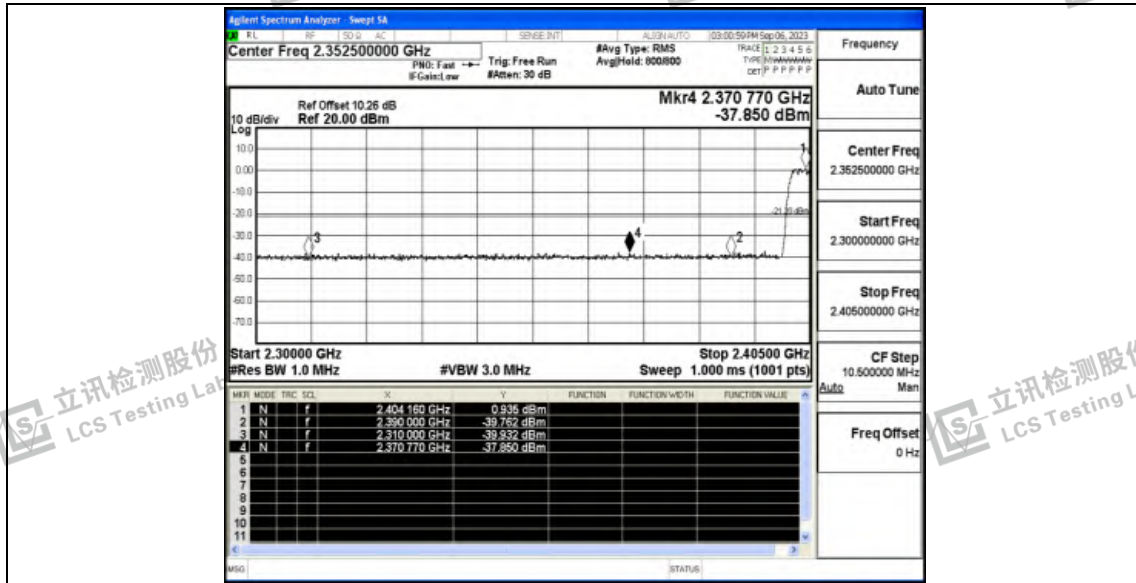


3DH5_Ant_High_2480_Peak



3DH5_Ant_Low_Hop_2402_Peak





3DH5_Ant_High_Hop_2480_Peak

