



## Appendix A

### RF Test Data for BT (Conducted Measurement)

**Product Name: Smartphone**

**Test Model: Hyline Pro**

#### Environmental Conditions

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





### A.1 20dB Emission Bandwidth

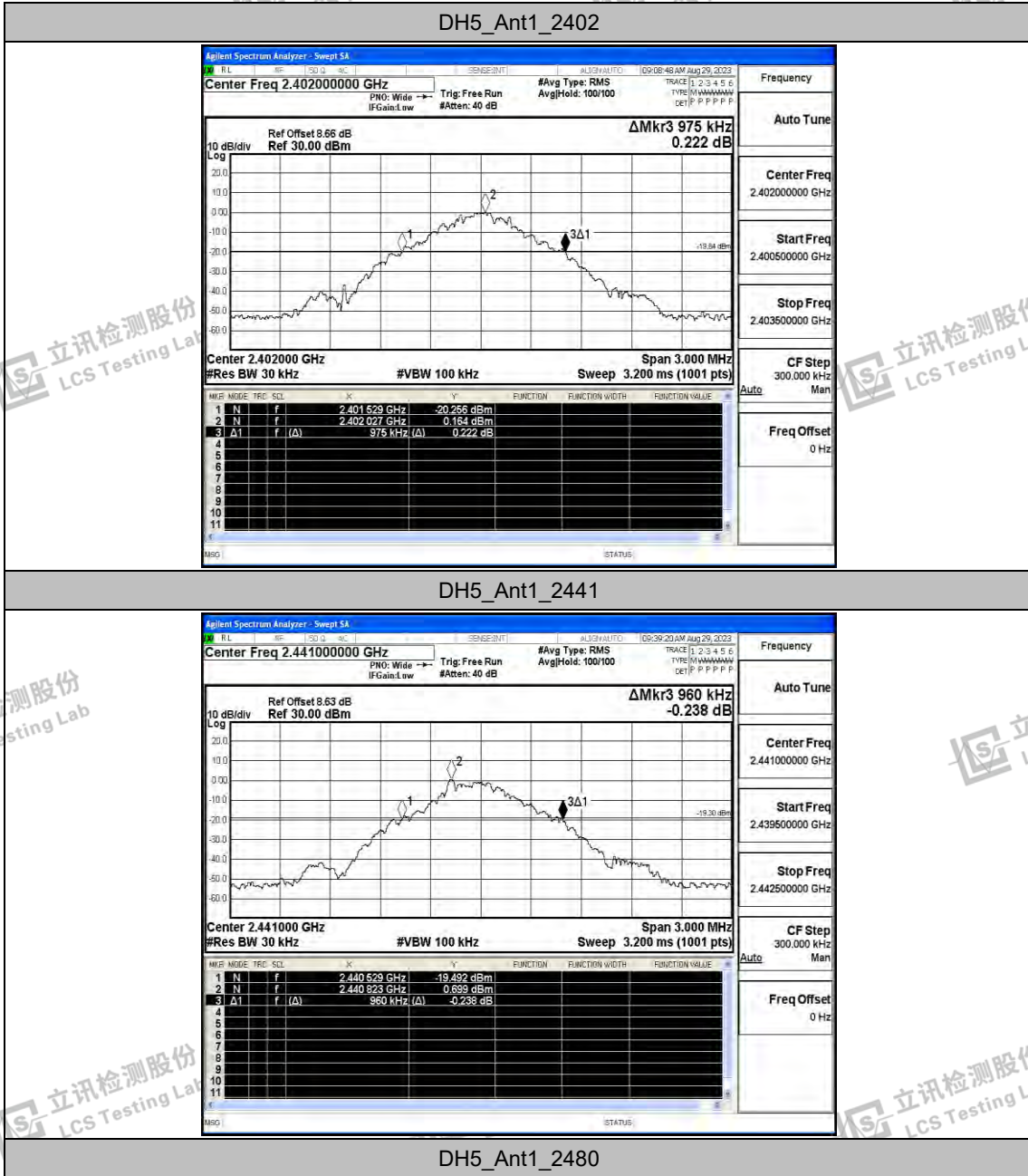
#### Test Result

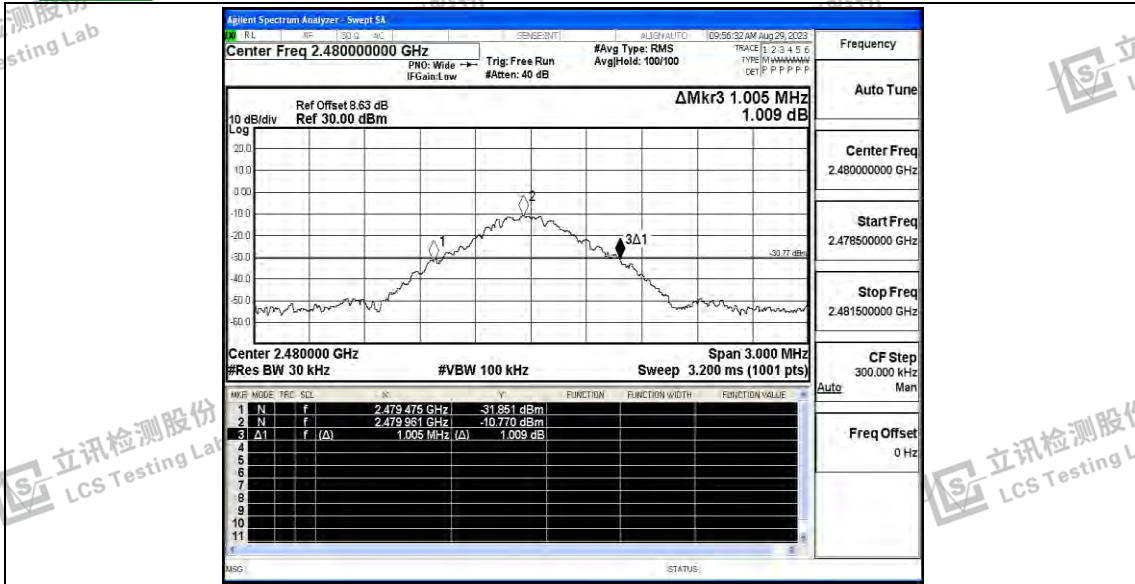
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	0.975	2401.529	2402.504	---
		2441	0.960	2440.529	2441.489	---
		2480	1.005	2479.475	2480.480	---
2DH5	Ant1	2402	1.350	2401.313	2402.663	---
		2441	1.290	2440.352	2441.642	---
		2480	1.308	2479.331	2480.639	---
3DH5	Ant1	2402	1.338	2401.319	2402.657	---
		2441	1.341	2440.316	2441.657	---
		2480	1.296	2479.343	2480.639	---



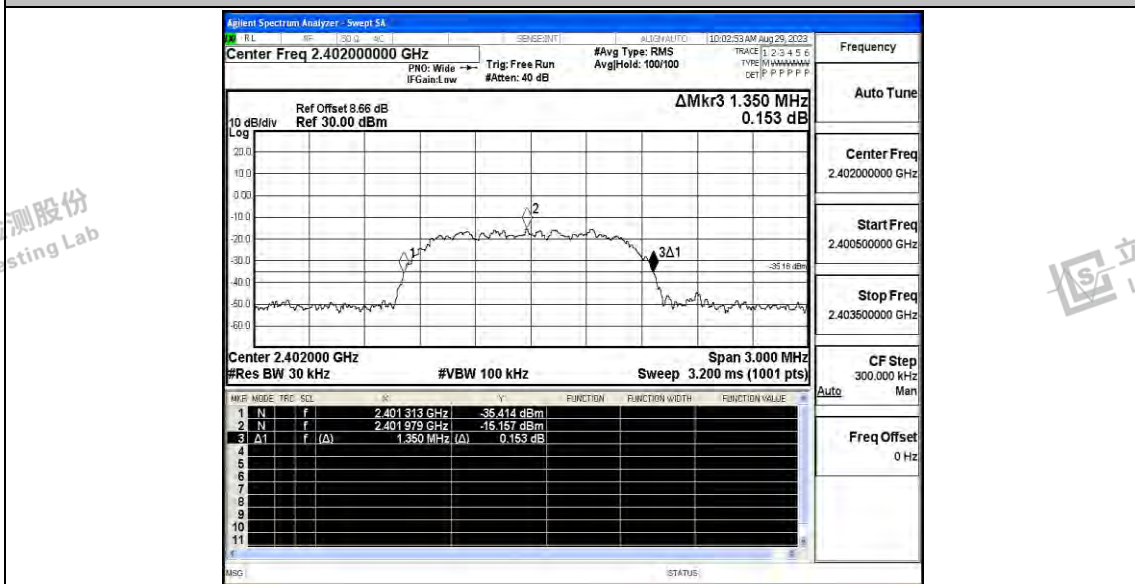


### Test Graphs



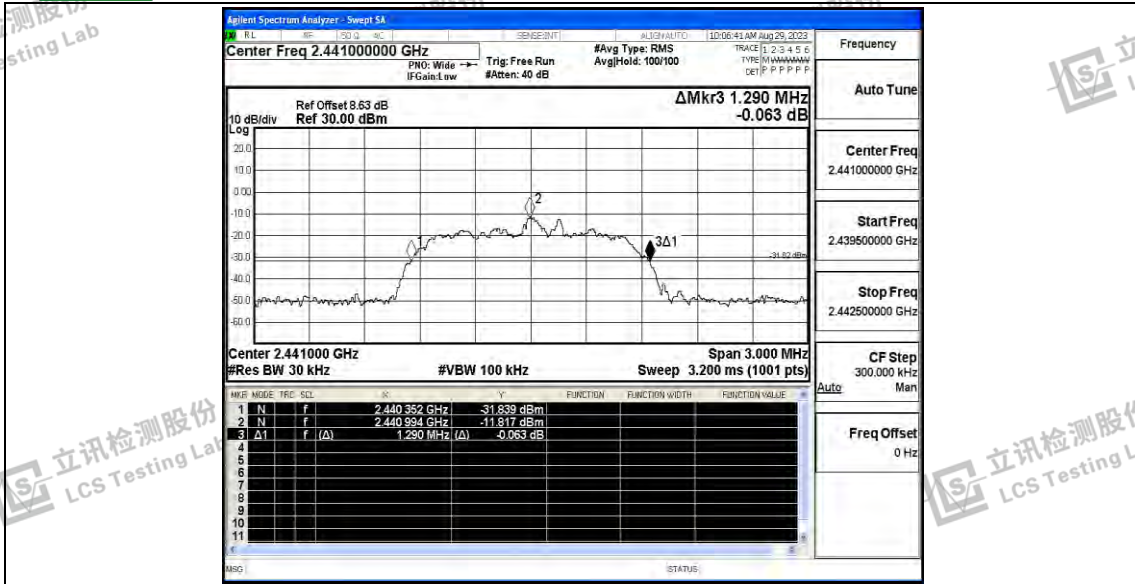


2DH5\_Ant1\_2402

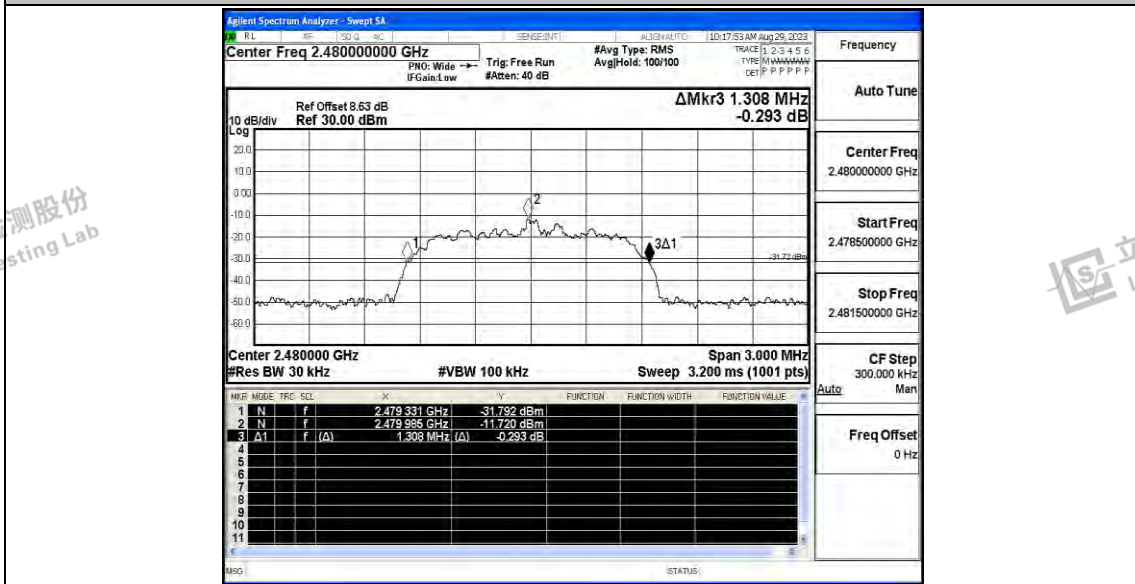


2DH5\_Ant1\_2441



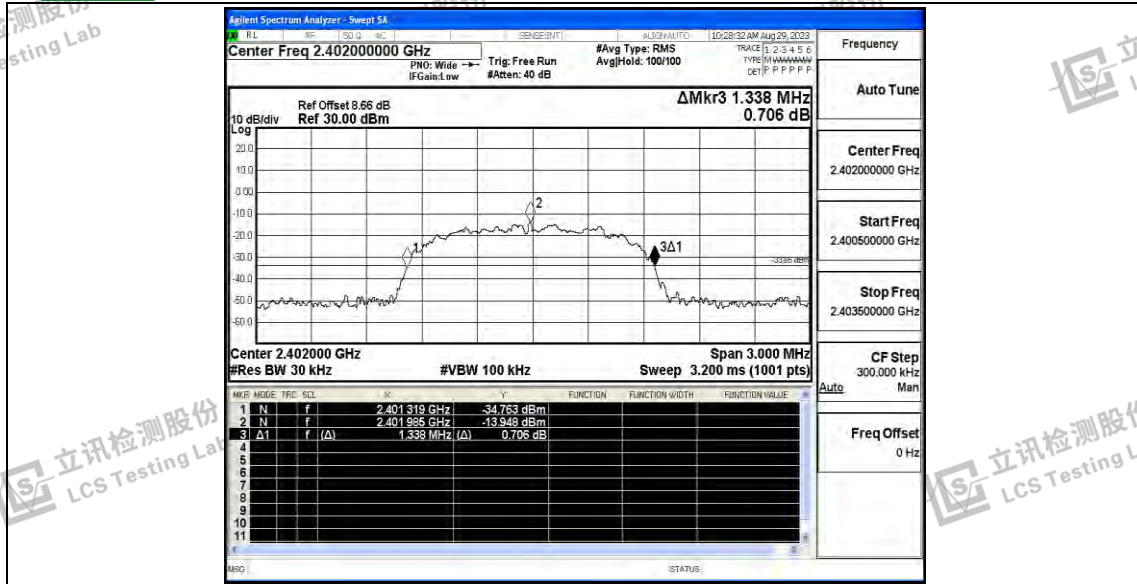


2DH5\_Ant1\_2480

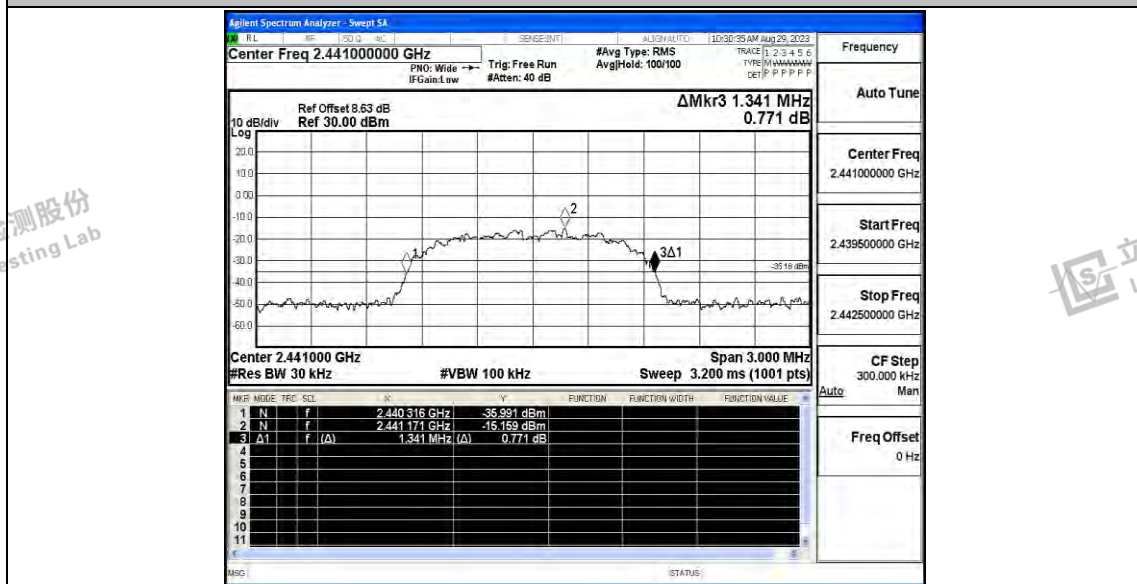


3DH5\_Ant1\_2402



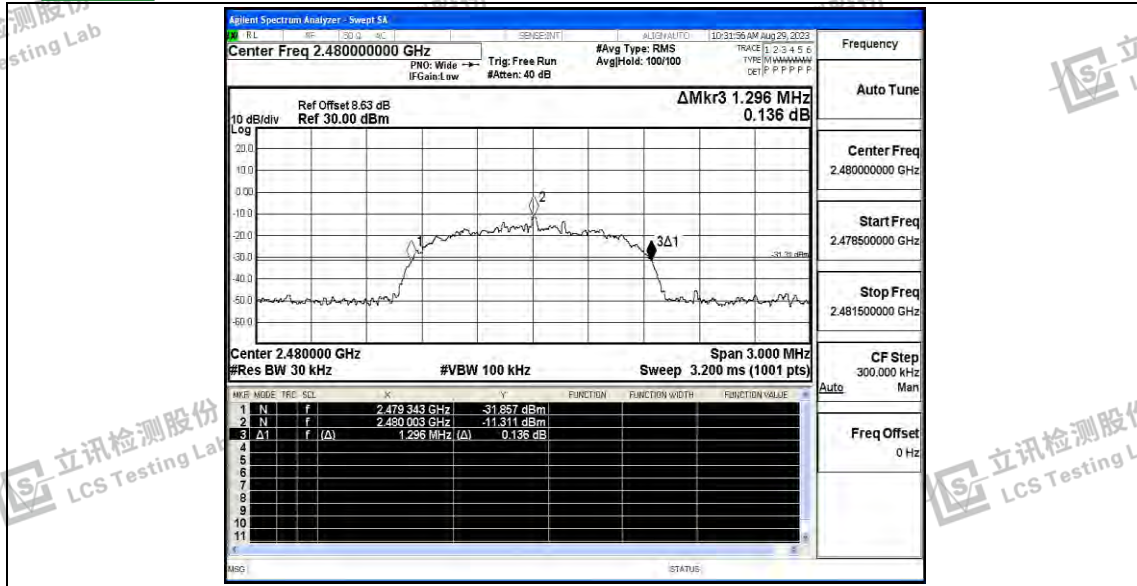


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







## A.2 Maximum conducted output power

### Test Result

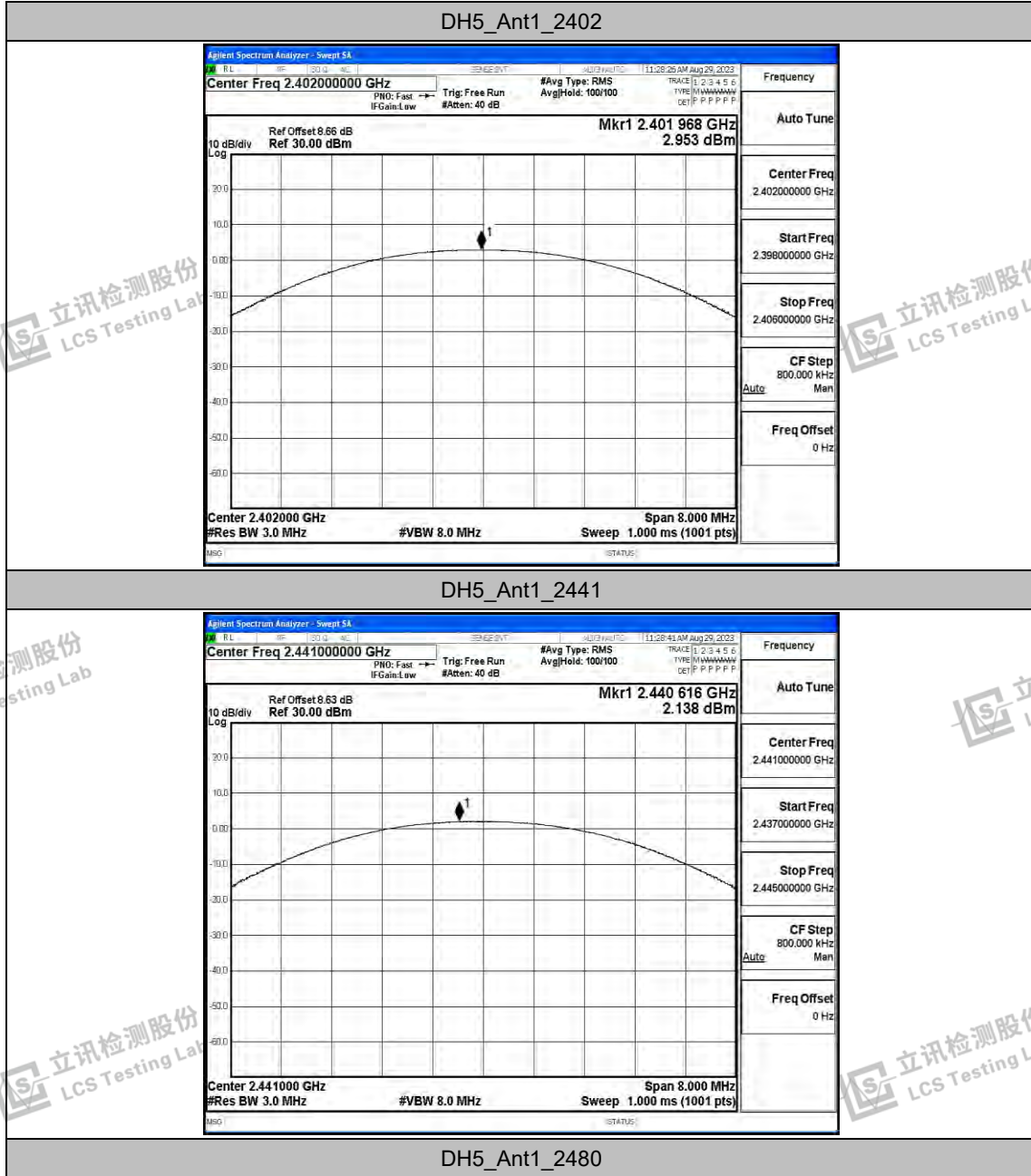
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	2.95	≤20.97	PASS
		2441	2.14	≤20.97	PASS
		2480	2.58	≤20.97	PASS
2DH5	Ant1	2402	3.07	≤20.97	PASS
		2441	2.02	≤20.97	PASS
		2480	2.92	≤20.97	PASS
3DH5	Ant1	2402	3.43	≤20.97	PASS
		2441	2.29	≤20.97	PASS
		2480	3.08	≤20.97	PASS

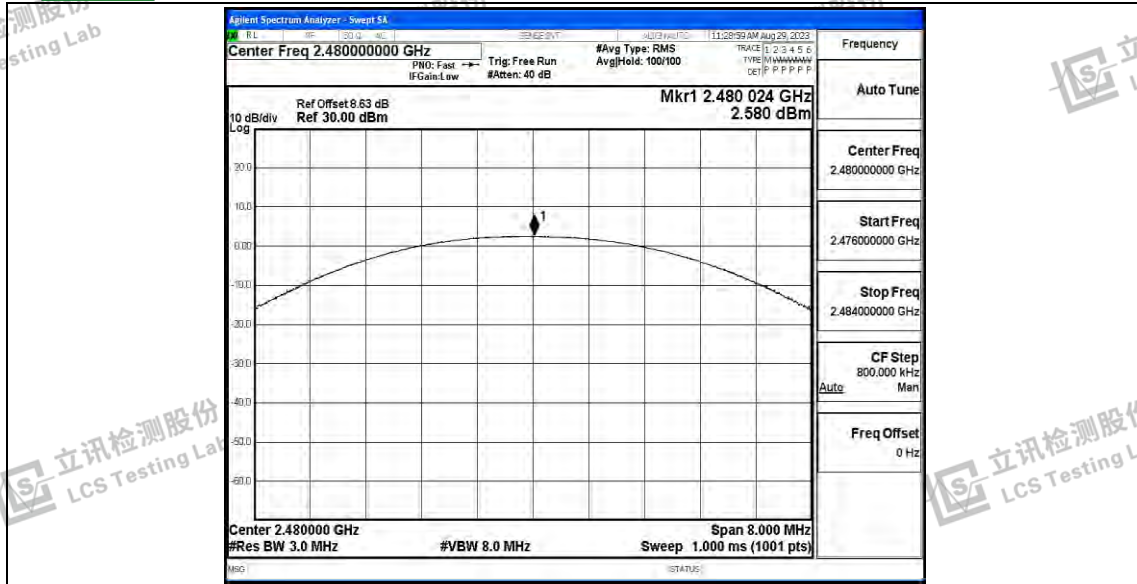




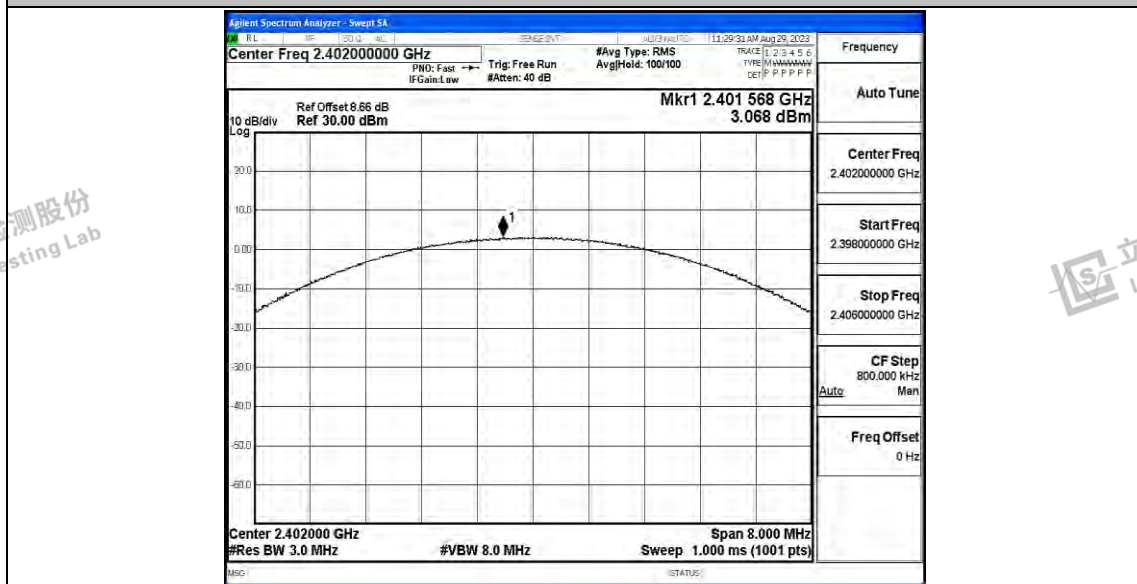


### Test Graphs



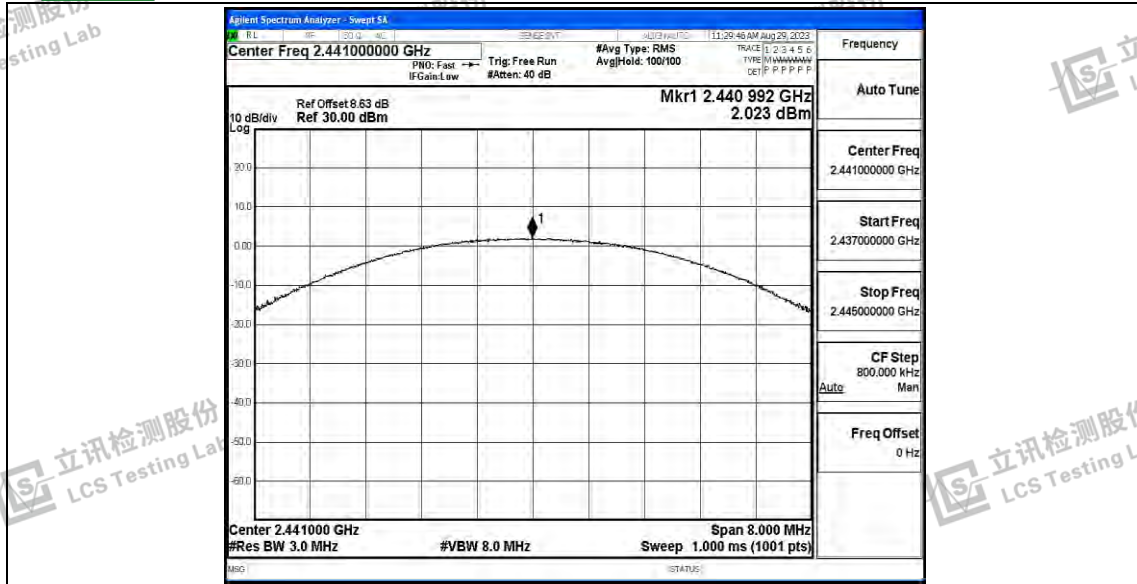


2DH5\_Ant1\_2402

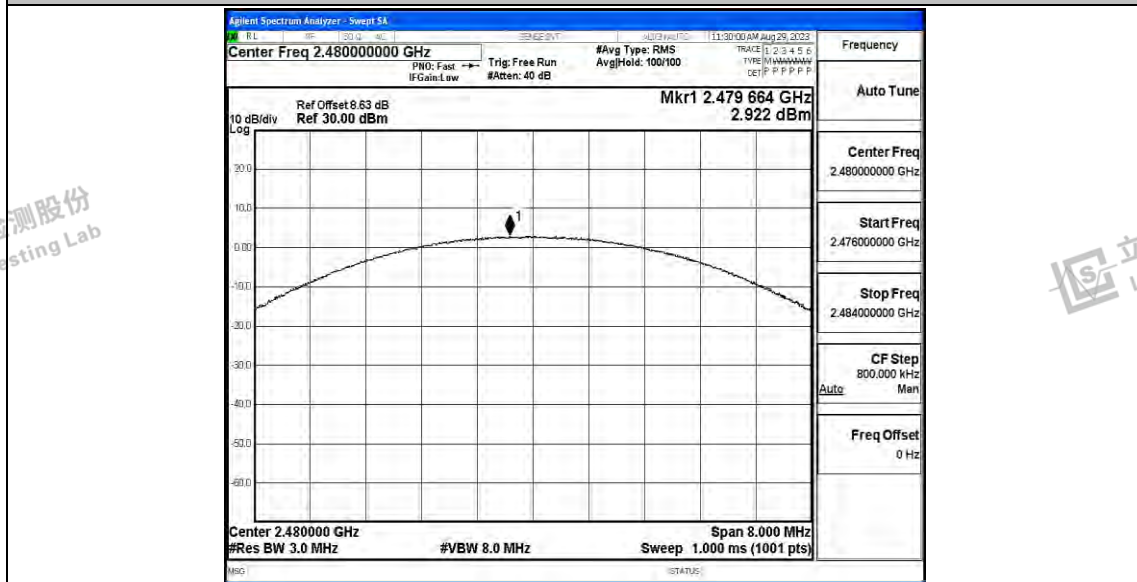


2DH5\_Ant1\_2441



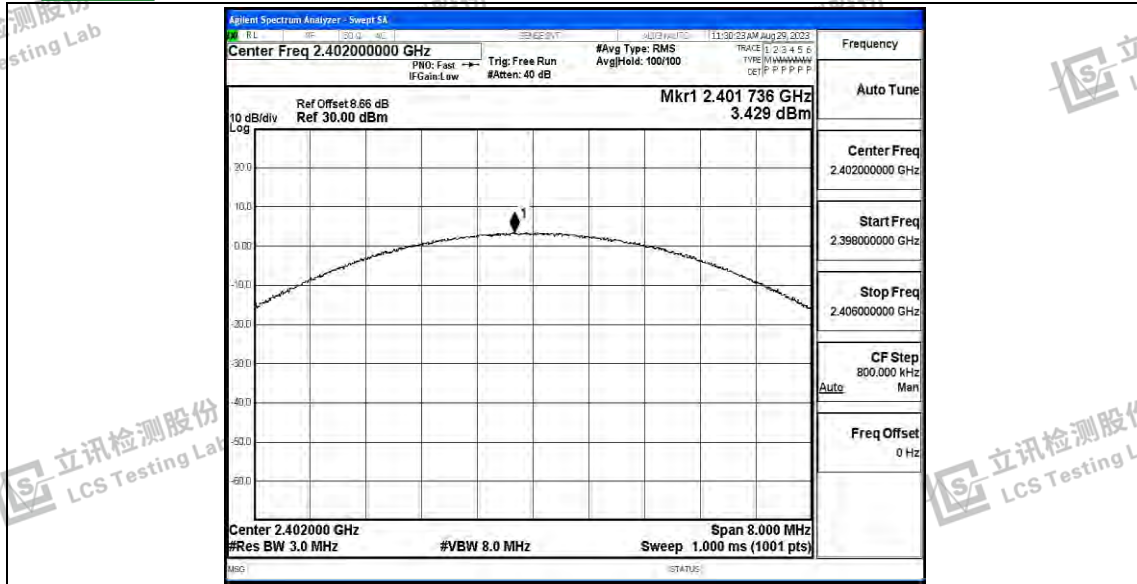


2DH5\_Ant1\_2480

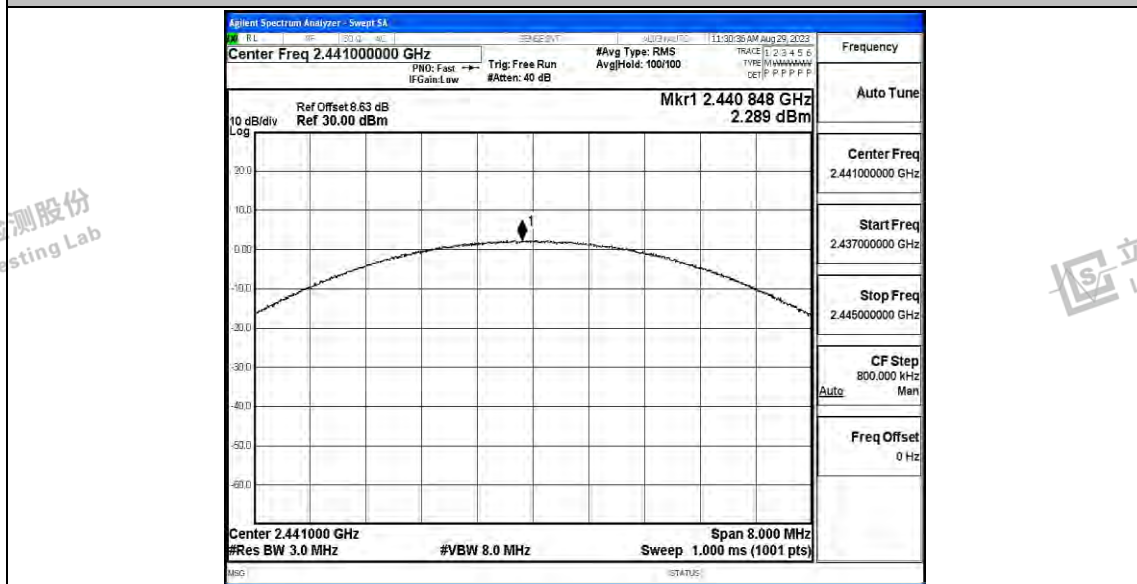


3DH5\_Ant1\_2402



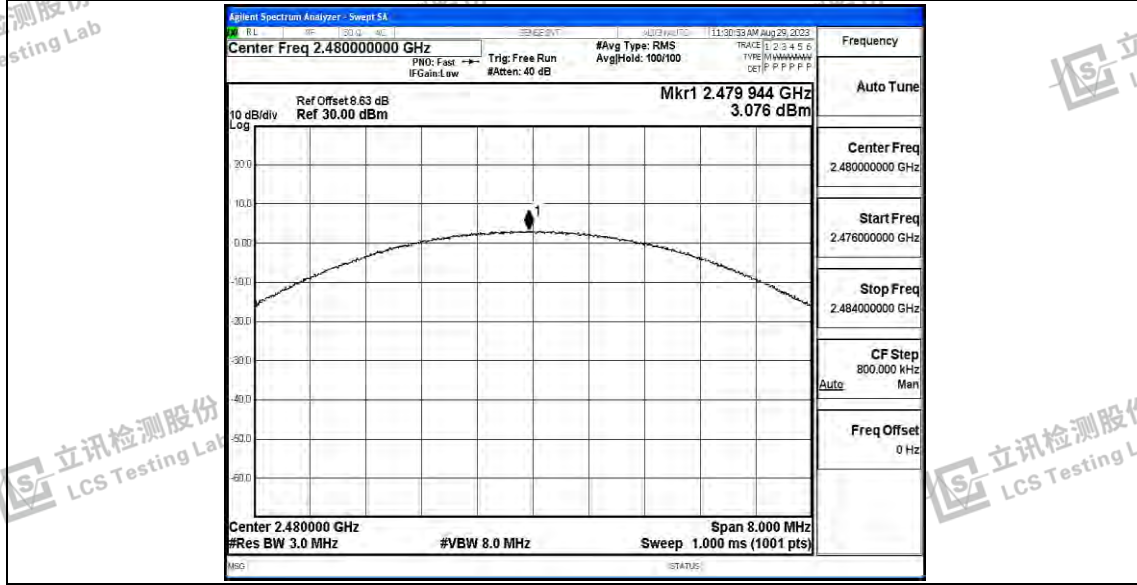


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







### A.3 Carrier frequency separation

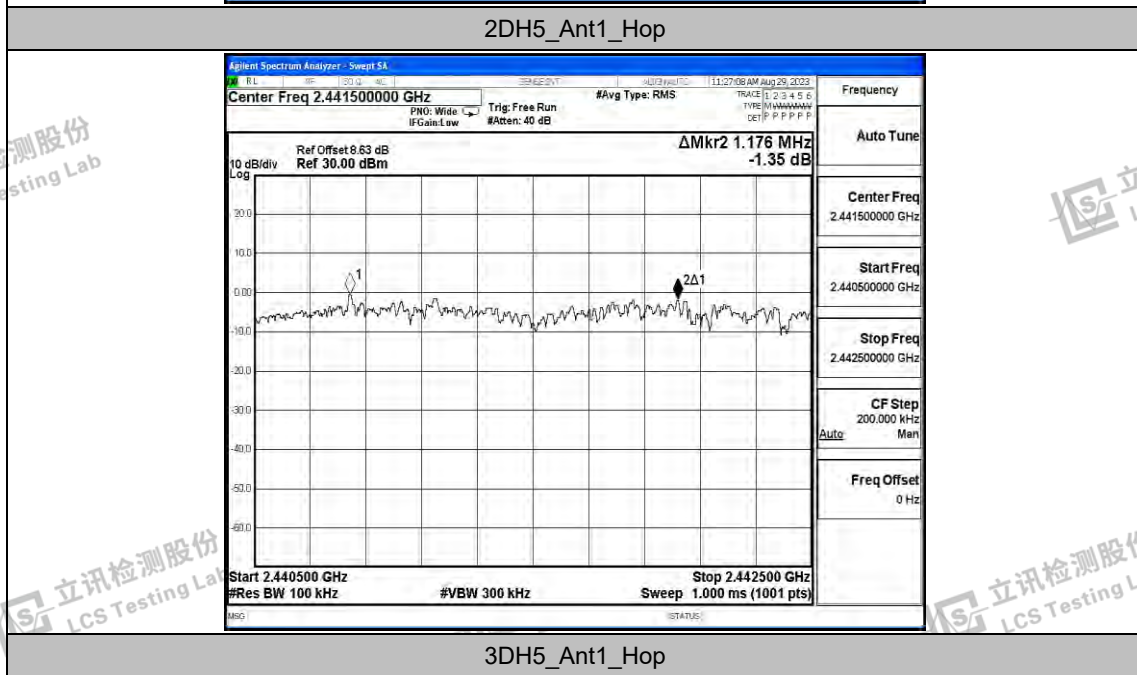
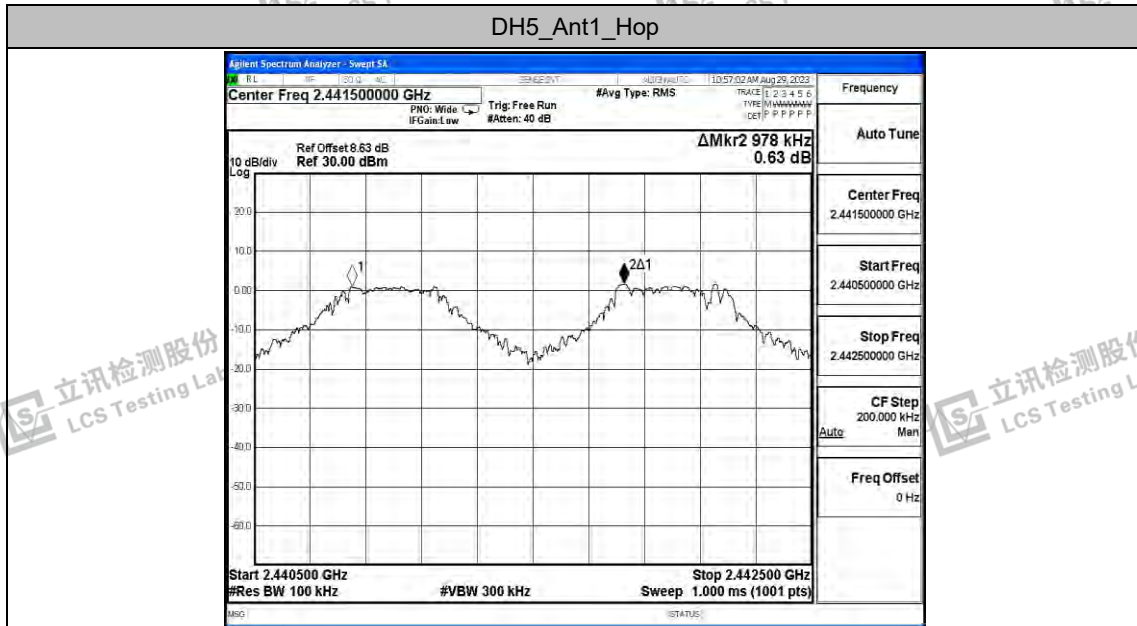
#### Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.978	≥0.670	PASS
2DH5	Ant1	Hop	1.176	≥0.900	PASS
3DH5	Ant1	Hop	1.184	≥0.894	PASS



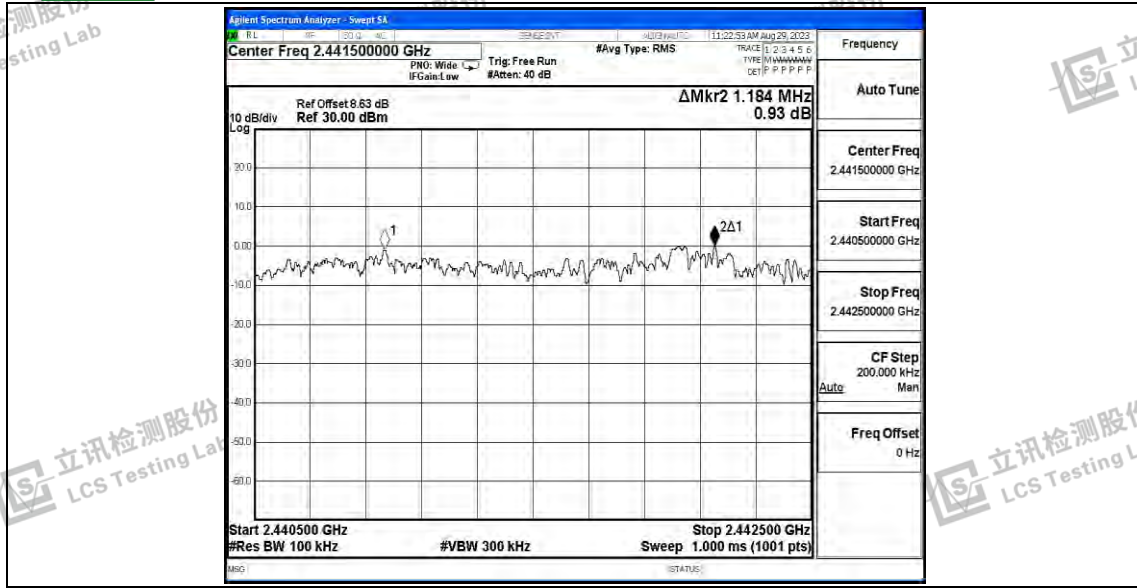


### Test Graphs



3DH5\_Ant1\_Hop









## A.4 Time of occupancy

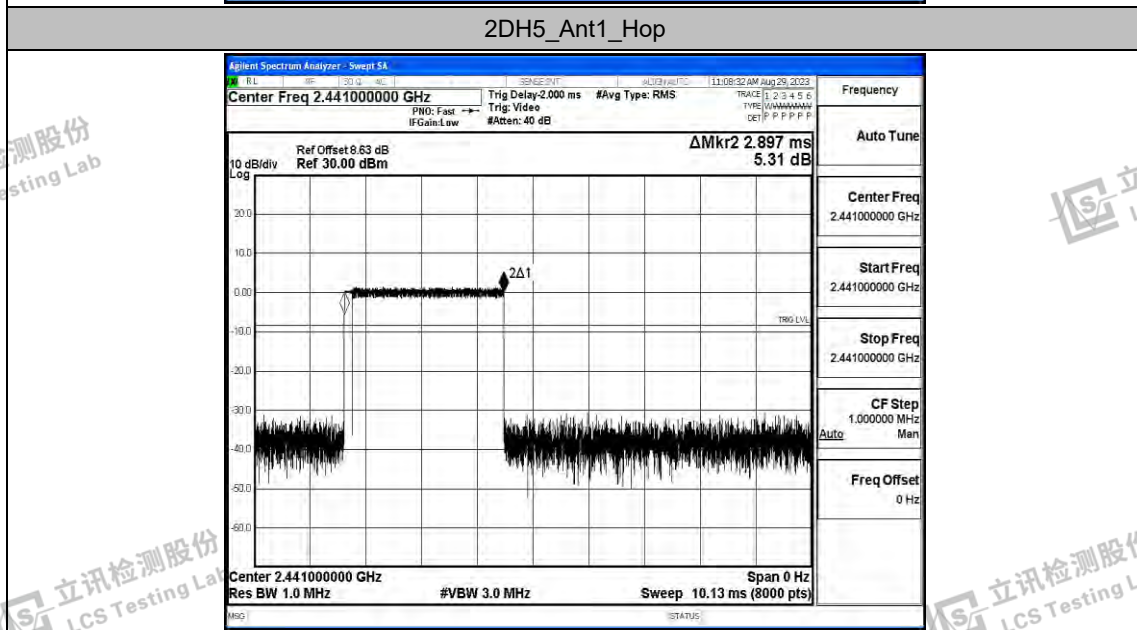
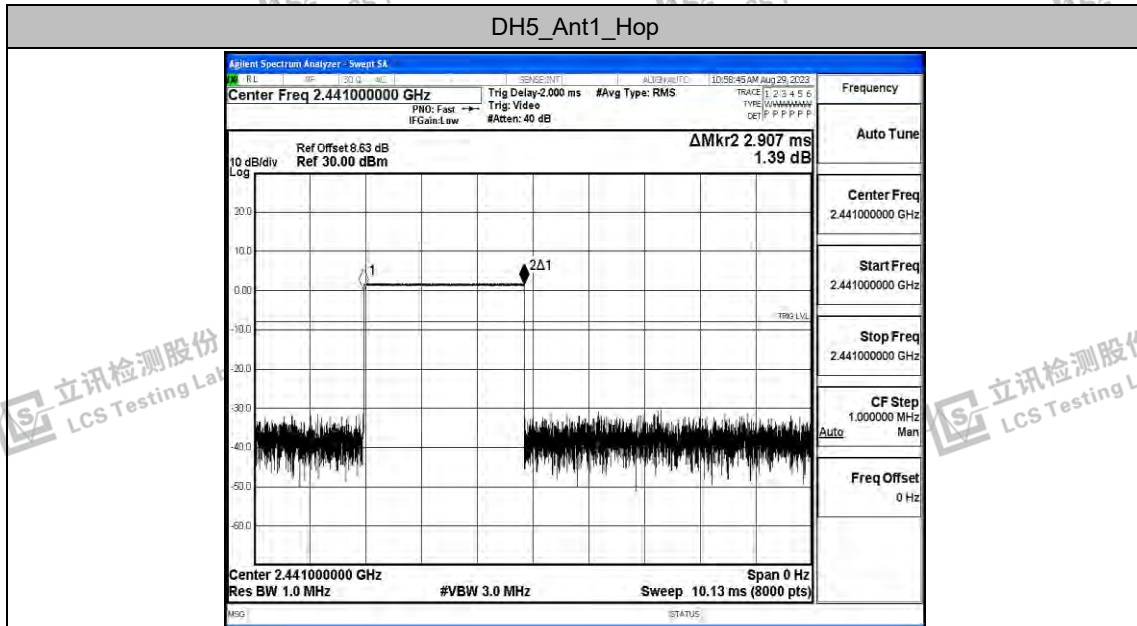
### Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.907	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.897	106.67	0.309	≤0.4	PASS
3DH5	Ant1	Hop	2.896	106.67	0.309	≤0.4	PASS



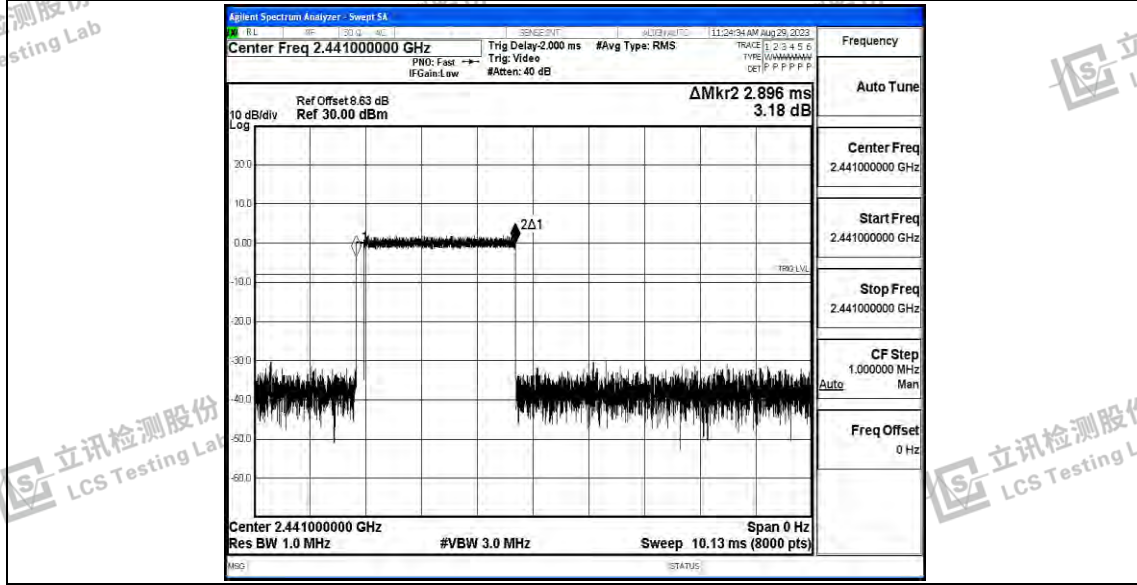


### Test Graphs



**3DH5\_Ant1\_Hop**







## A.5 Number of hopping channels

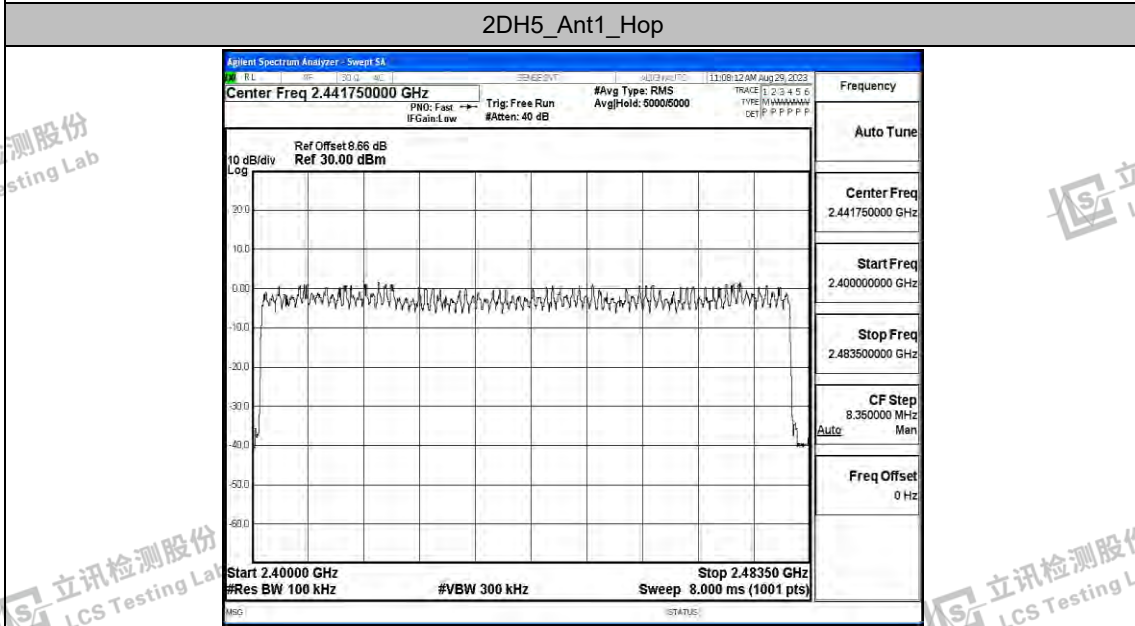
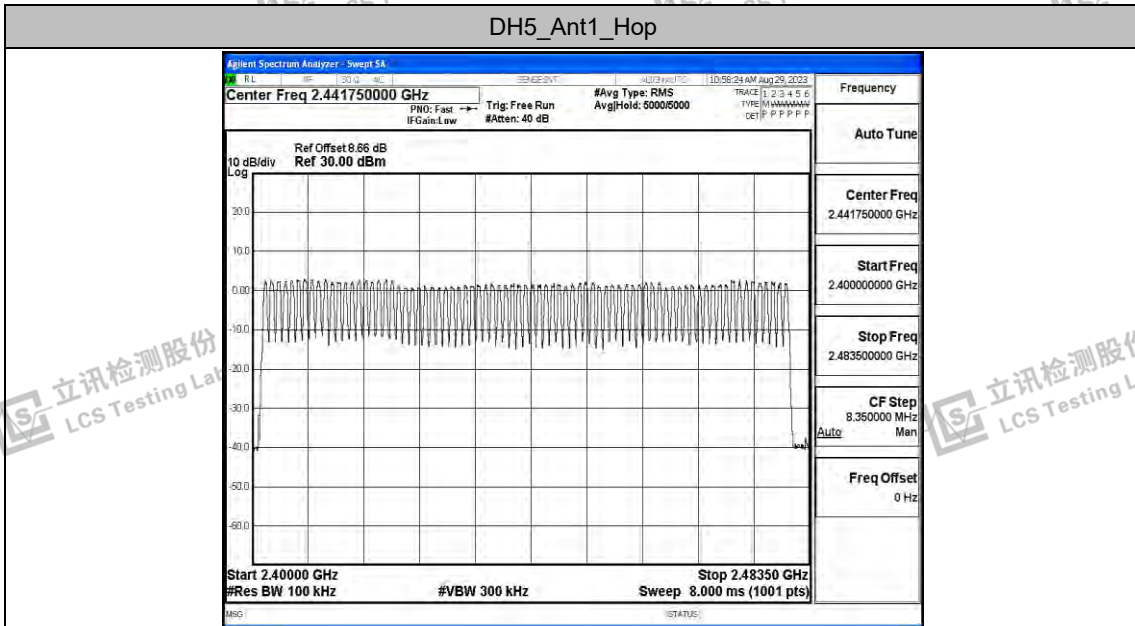
### Test Result

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



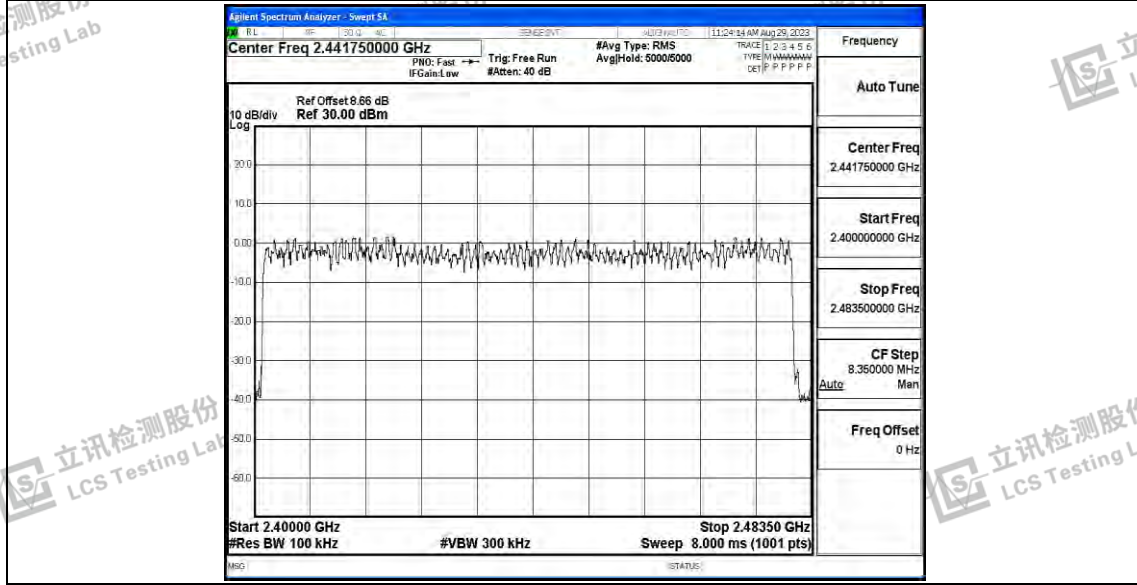


### Test Graphs



#### 3DH5\_Ant1\_Hop





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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



## A.6 Band edge measurements

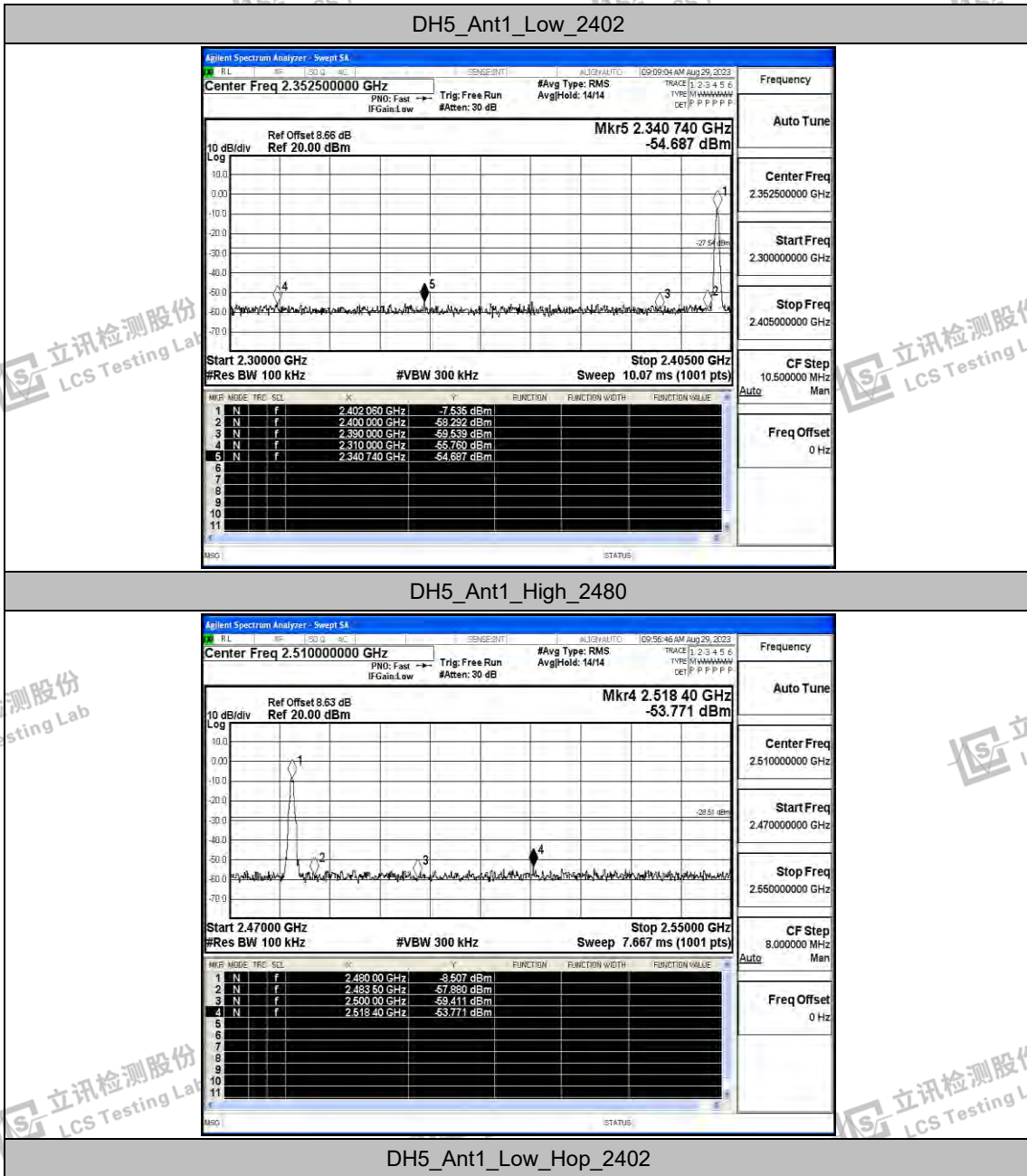
### Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-7.54	-54.69	≤-27.54	PASS
		High	2480	-8.51	-53.77	≤-28.51	PASS
		Low	Hop_2402	1.59	-48.93	≤-18.41	PASS
		High	Hop_2480	2.33	-47.33	≤-17.67	PASS
2DH5	Ant1	Low	2402	-9.83	-54.4	≤-29.83	PASS
		High	2480	-10.86	-54.04	≤-30.86	PASS
		Low	Hop_2402	-2.29	-48.98	≤-22.29	PASS
		High	Hop_2480	1.03	-47.85	≤-18.97	PASS
3DH5	Ant1	Low	2402	-11.39	-54.64	≤-31.39	PASS
		High	2480	-11.28	-54.62	≤-31.28	PASS
		Low	Hop_2402	0.31	-48.86	≤-19.69	PASS
		High	Hop_2480	0.49	-47.03	≤-19.51	PASS

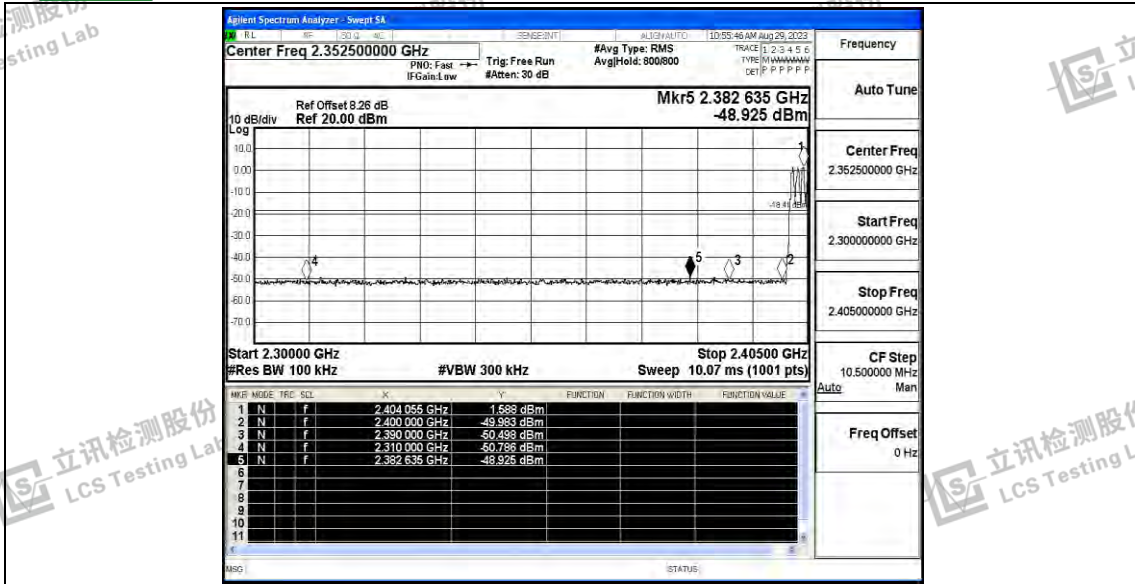




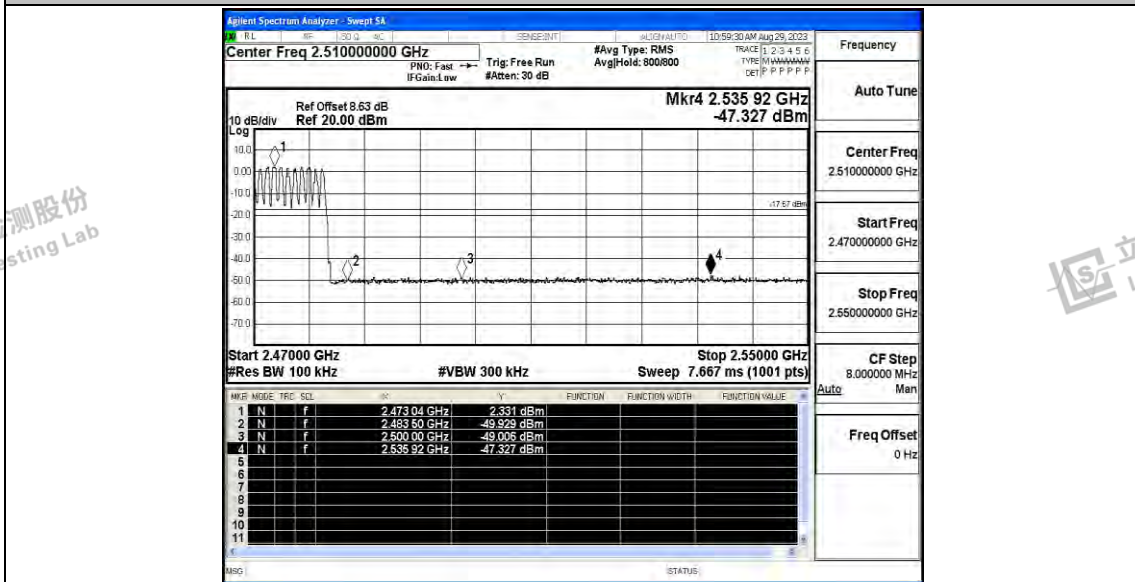
### Test Graphs





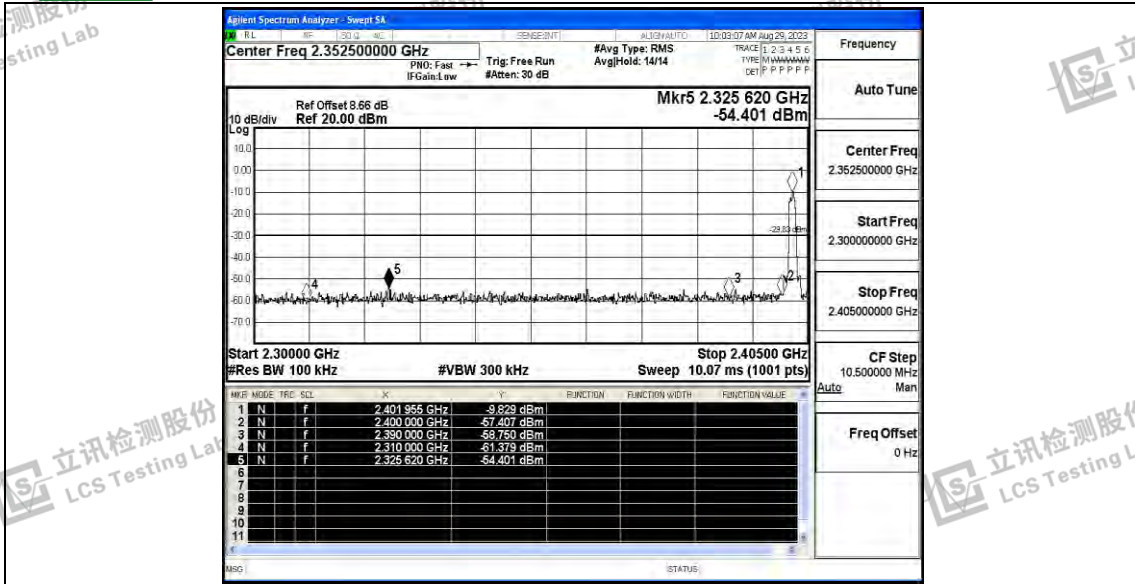


DH5\_Ant1\_High\_Hop\_2480

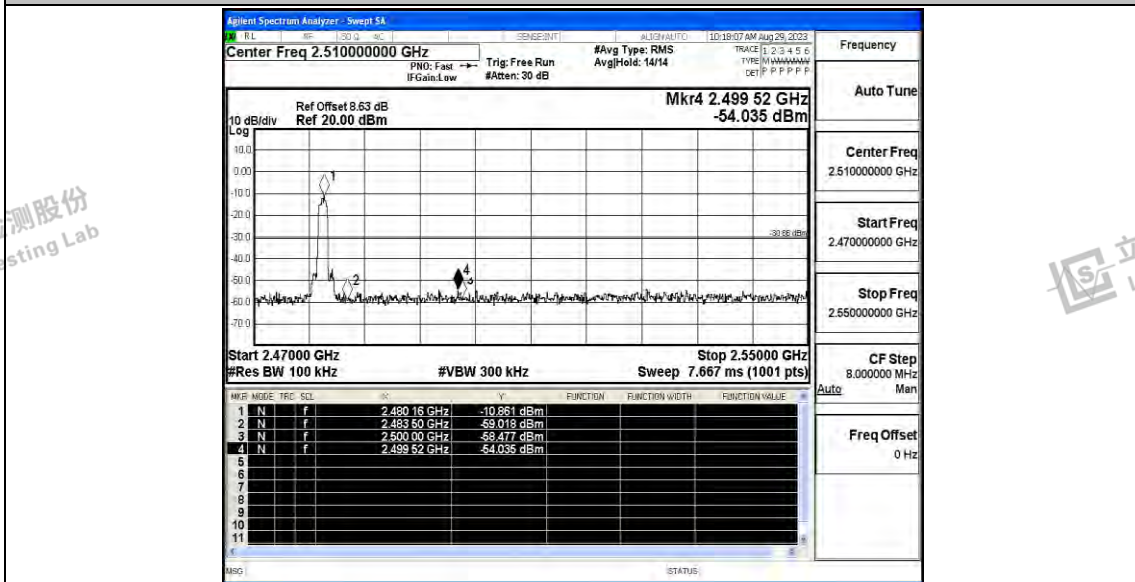


2DH5\_Ant1\_Low\_2402



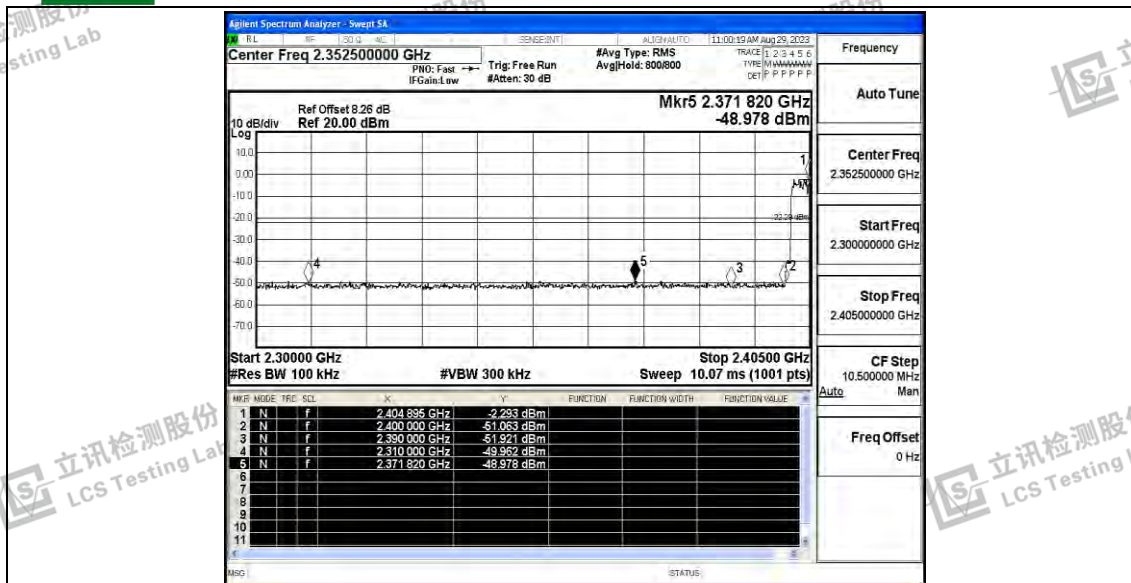


2DH5\_Ant1\_High\_2480

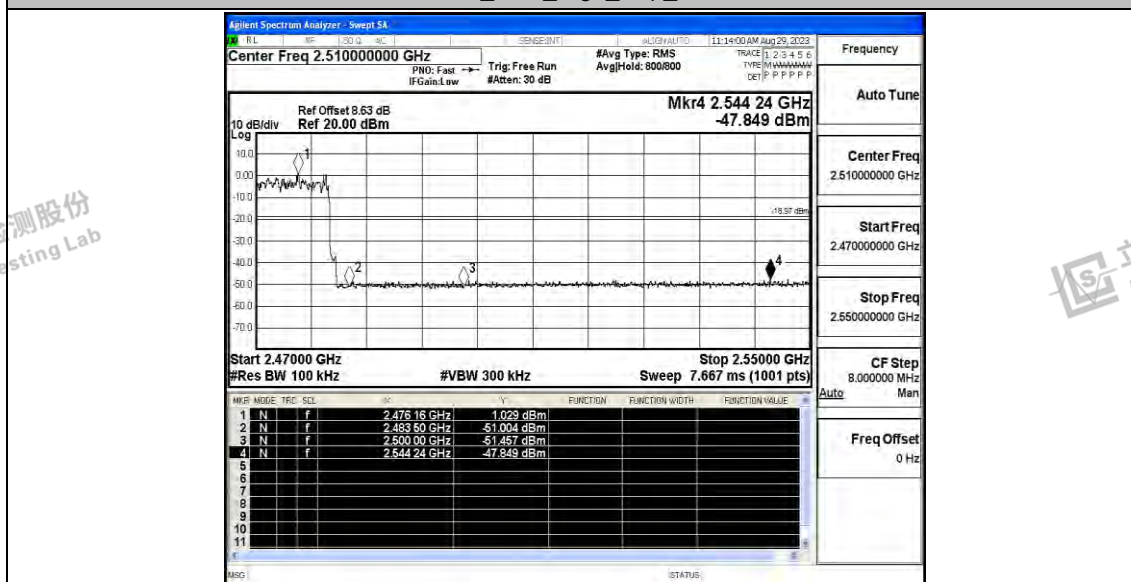


2DH5\_Ant1\_Low\_Hop\_2402



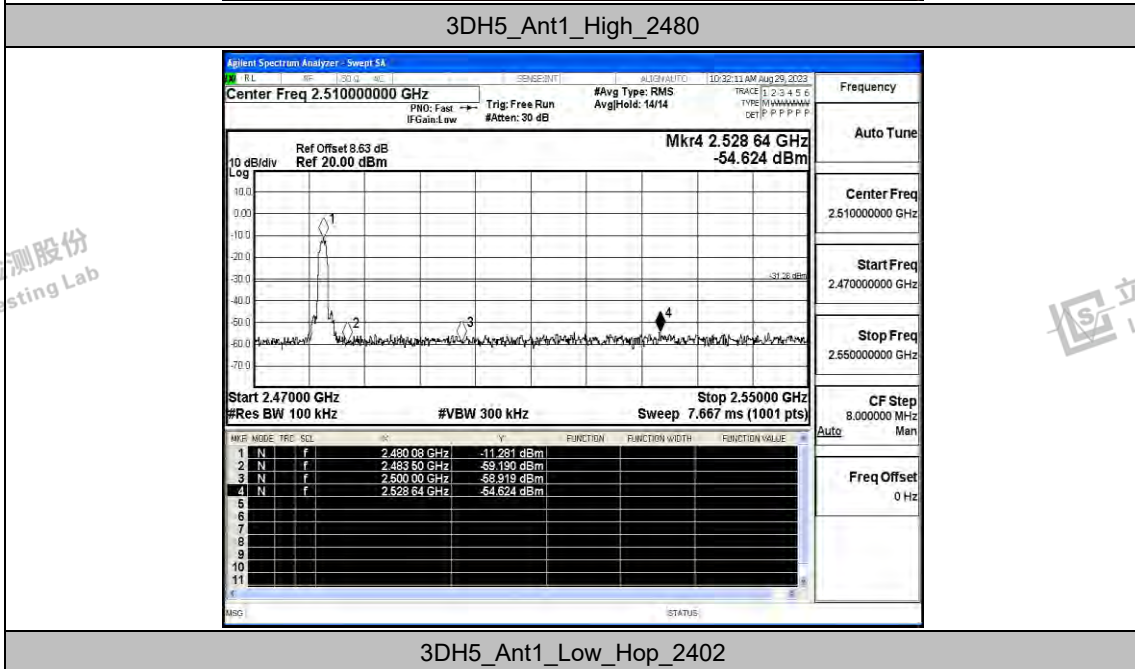
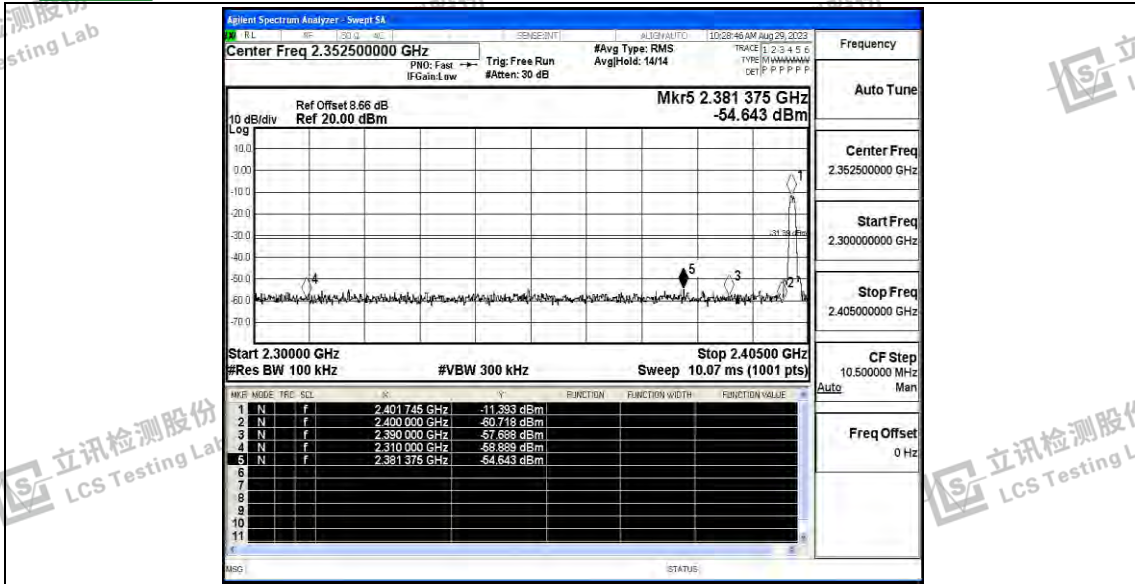


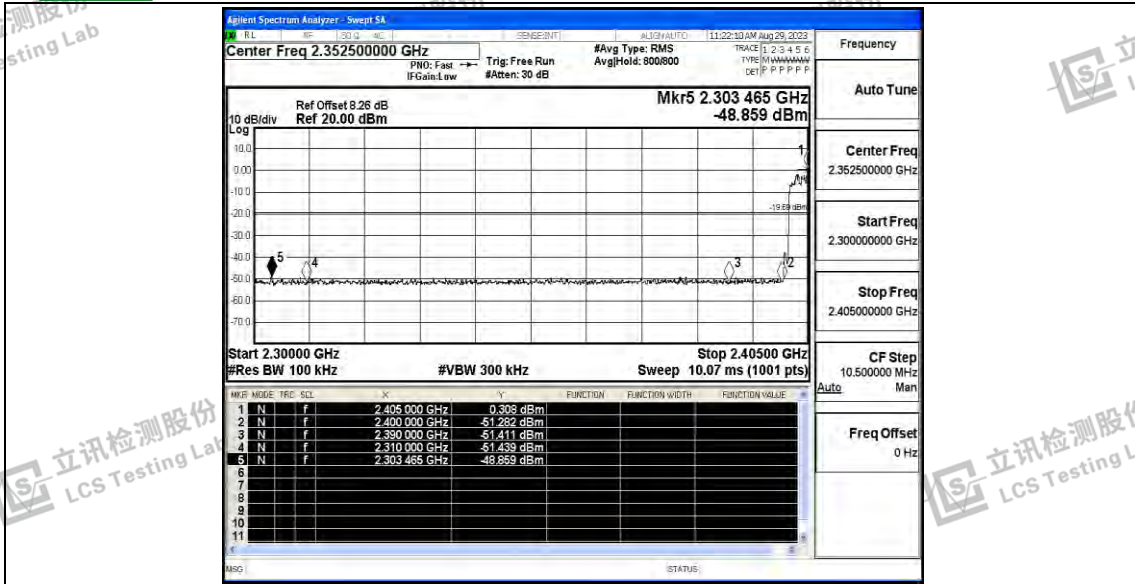
2DH5\_Ant1\_High\_Hop\_2480



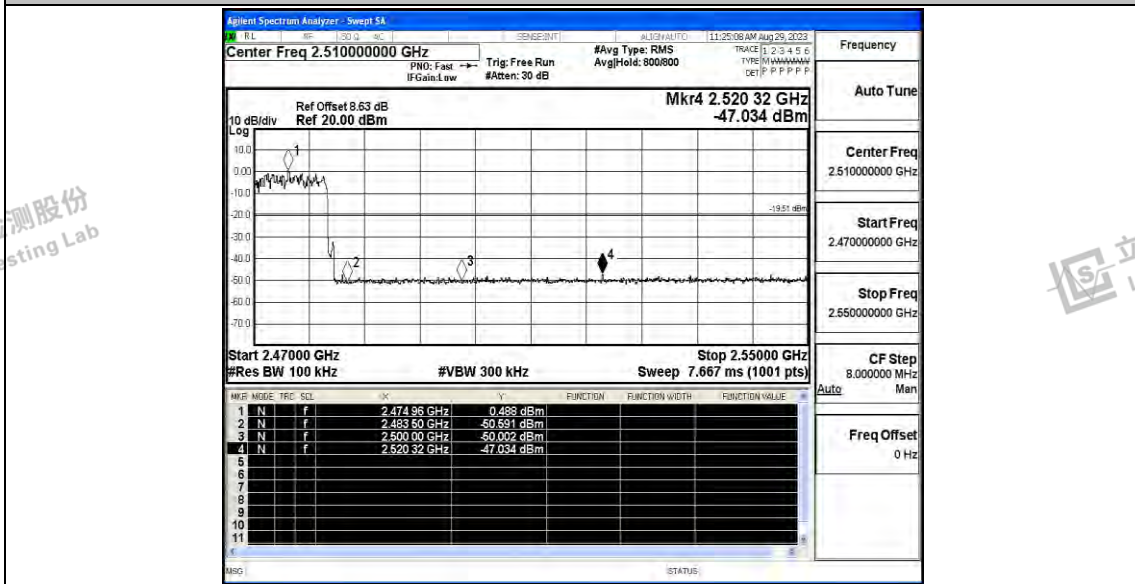
3DH5\_Ant1\_Low\_2402







3DH5\_Ant1\_High\_Hop\_2480





## A.7 Conducted Spurious Emission

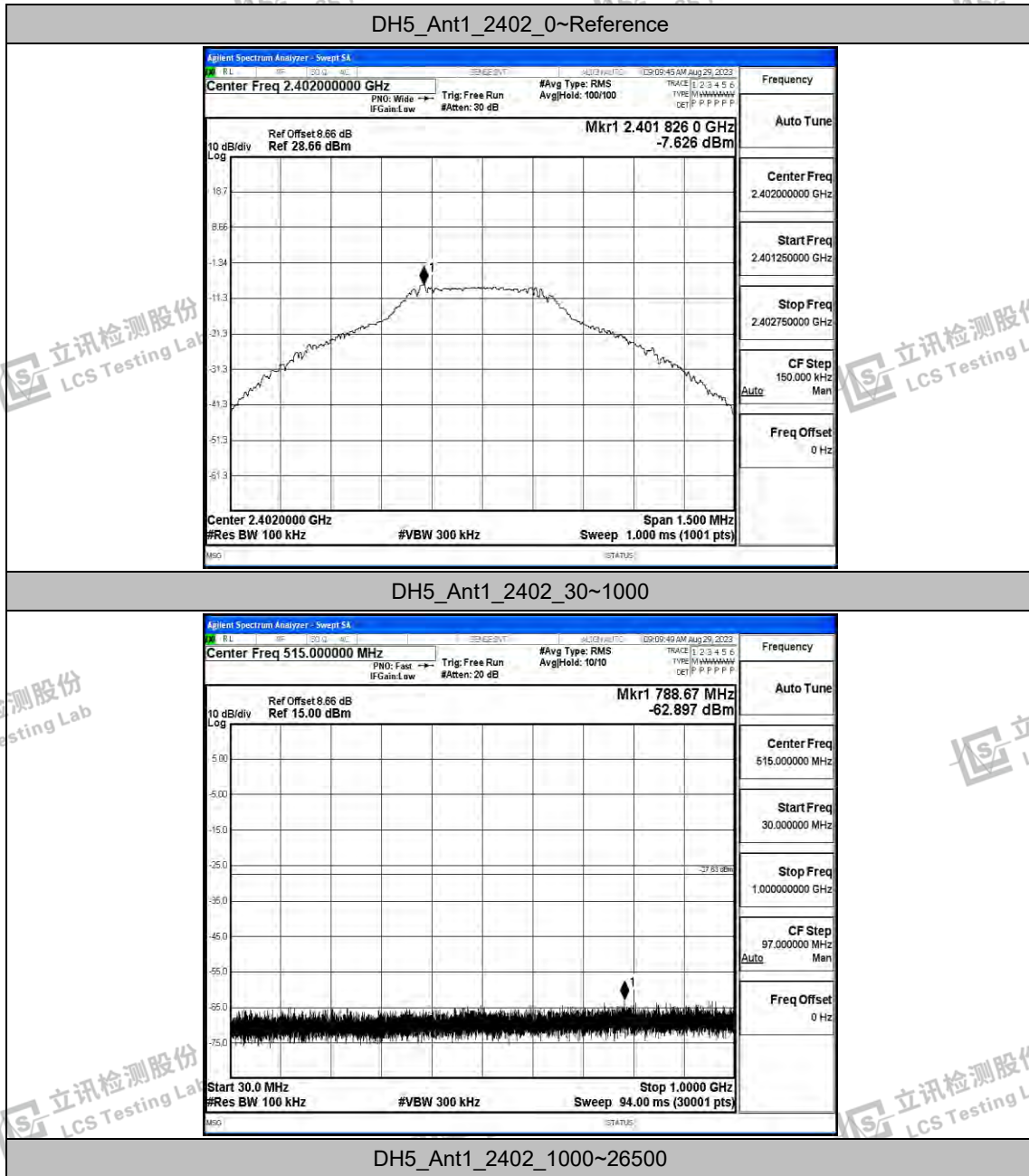
### Test Result

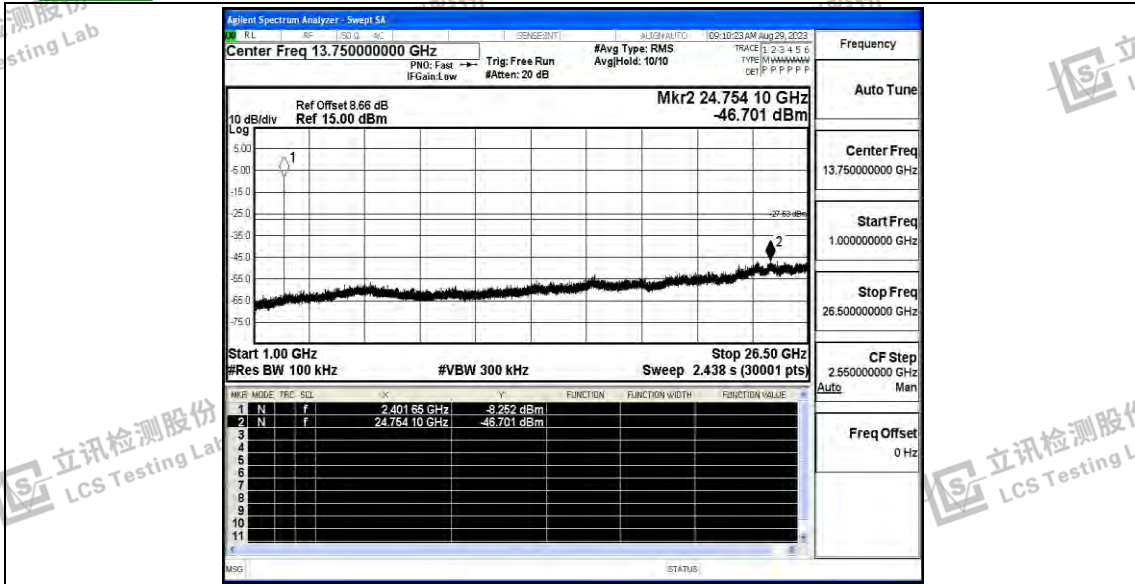
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-7.63	-7.63	---	PASS
			30~1000	-7.63	-62.9	≤-27.63	PASS
			1000~26500	-7.63	-46.7	≤-27.63	PASS
		2441	Reference	-8.27	-8.27	---	PASS
			30~1000	-8.27	-62.1	≤-28.27	PASS
			1000~26500	-8.27	-46.53	≤-28.27	PASS
		2480	Reference	-8.12	-8.12	---	PASS
			30~1000	-8.12	-63.15	≤-28.12	PASS
			1000~26500	-8.12	-46.97	≤-28.12	PASS
2DH5	Ant1	2402	Reference	-9.31	-9.31	---	PASS
			30~1000	-9.31	-62.98	≤-29.31	PASS
			1000~26500	-9.31	-46.65	≤-29.31	PASS
		2441	Reference	-10.71	-10.71	---	PASS
			30~1000	-10.71	-62.79	≤-30.71	PASS
			1000~26500	-10.71	-46.72	≤-30.71	PASS
		2480	Reference	-9.26	-9.26	---	PASS
			30~1000	-9.26	-63.75	≤-29.26	PASS
			1000~26500	-9.26	-46.01	≤-29.26	PASS
3DH5	Ant1	2402	Reference	-8.50	-8.50	---	PASS
			30~1000	-8.50	-62.96	≤-28.5	PASS
			1000~26500	-8.50	-46.93	≤-28.5	PASS
		2441	Reference	-9.67	-9.67	---	PASS
			30~1000	-9.67	-63.85	≤-29.67	PASS
			1000~26500	-9.67	-46.84	≤-29.67	PASS
		2480	Reference	-9.12	-9.12	---	PASS
			30~1000	-9.12	-62.63	≤-29.12	PASS
			1000~26500	-9.12	-47.03	≤-29.12	PASS



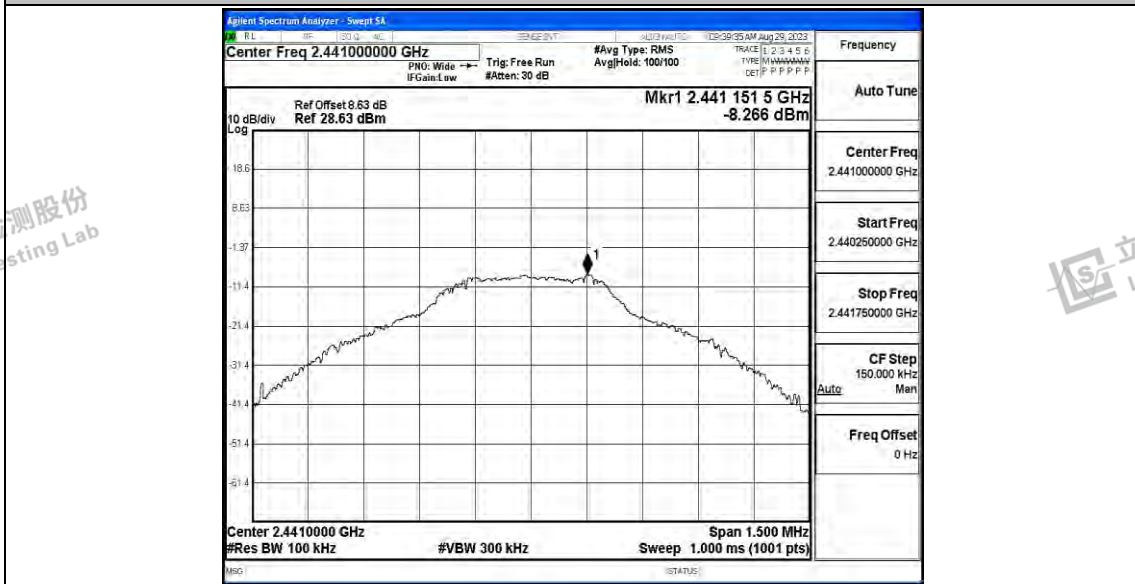


### Test Graphs





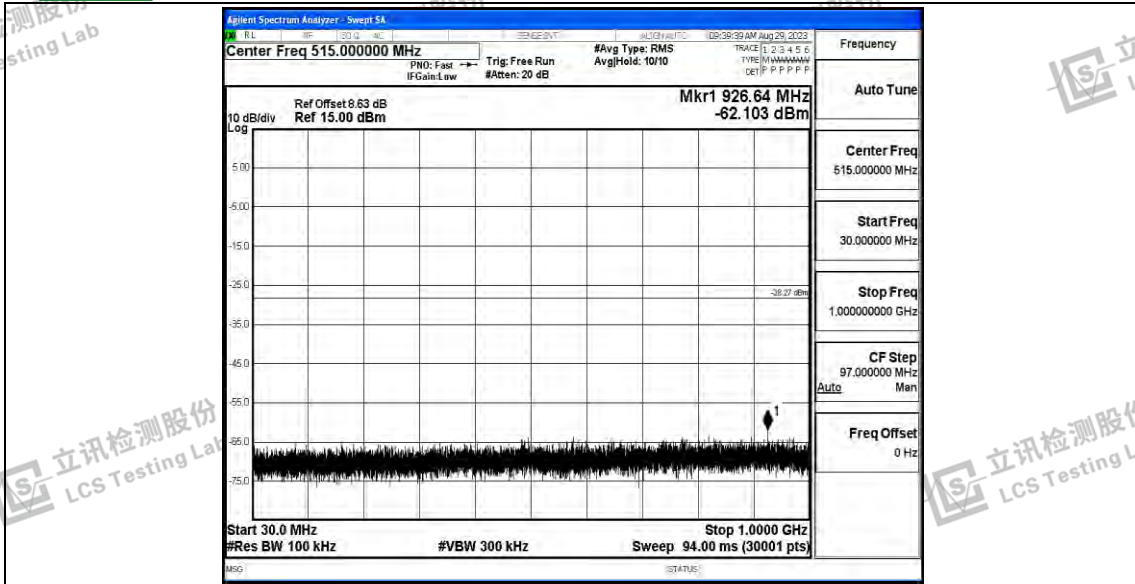
DH5\_Ant1\_2441\_0~Reference



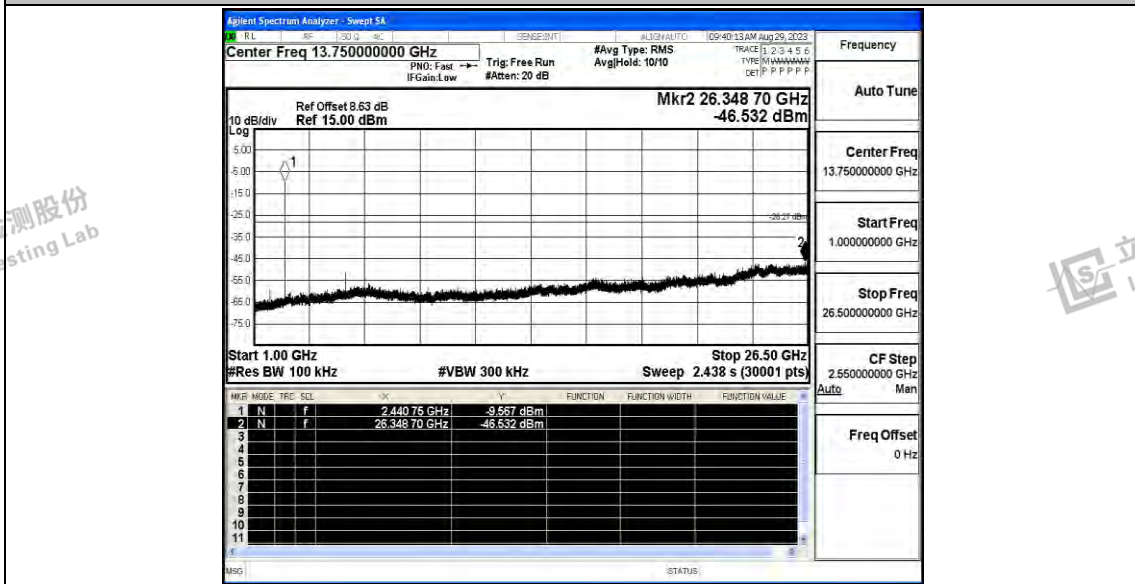
DH5\_Ant1\_2441\_30~1000





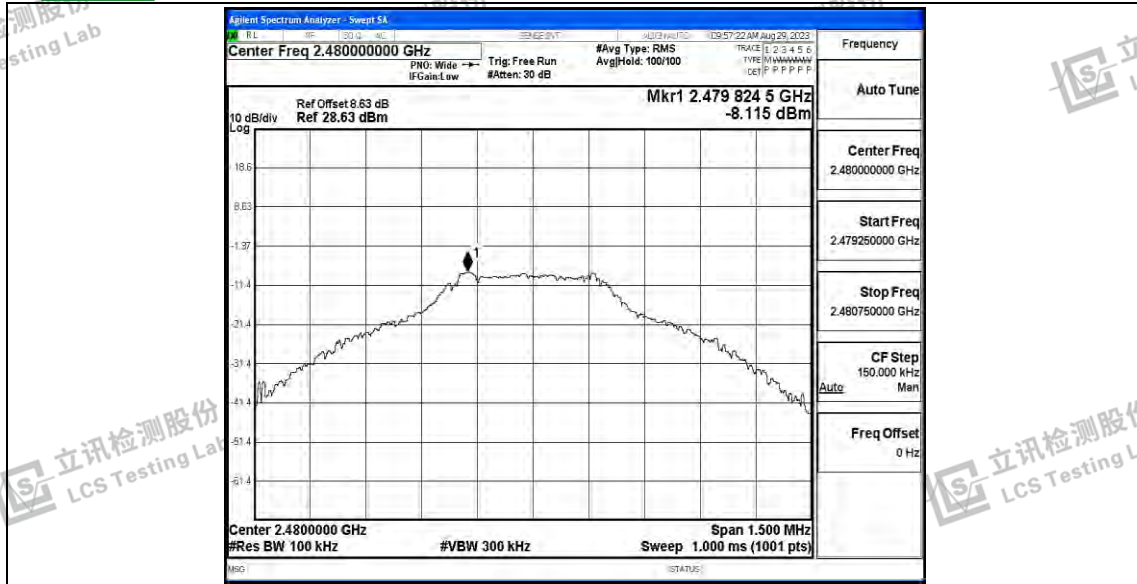


DH5\_Ant1\_2441\_1000~26500

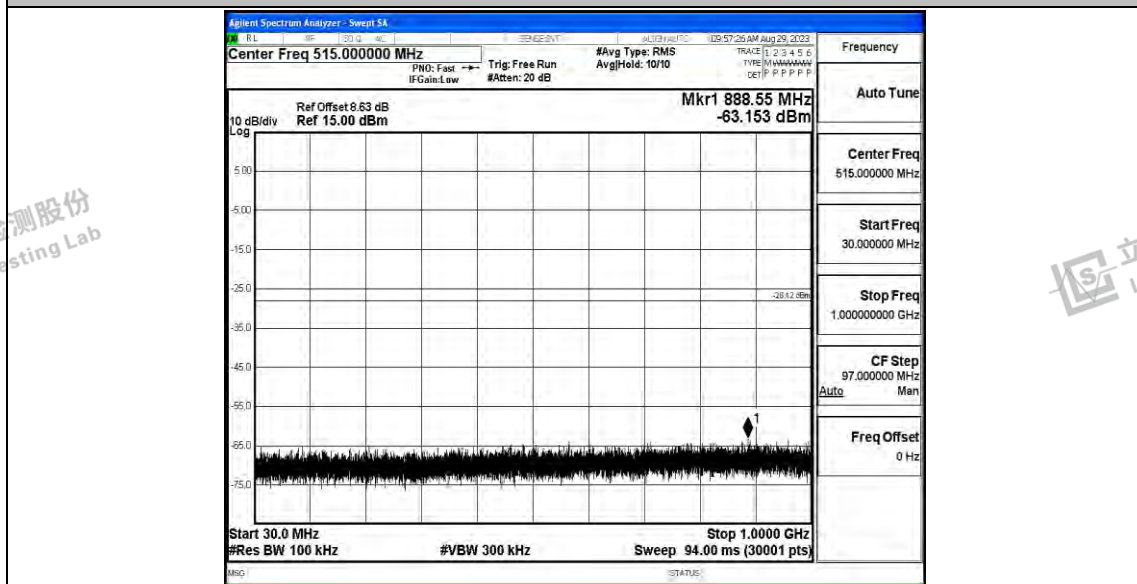


DH5\_Ant1\_2480\_0-Reference



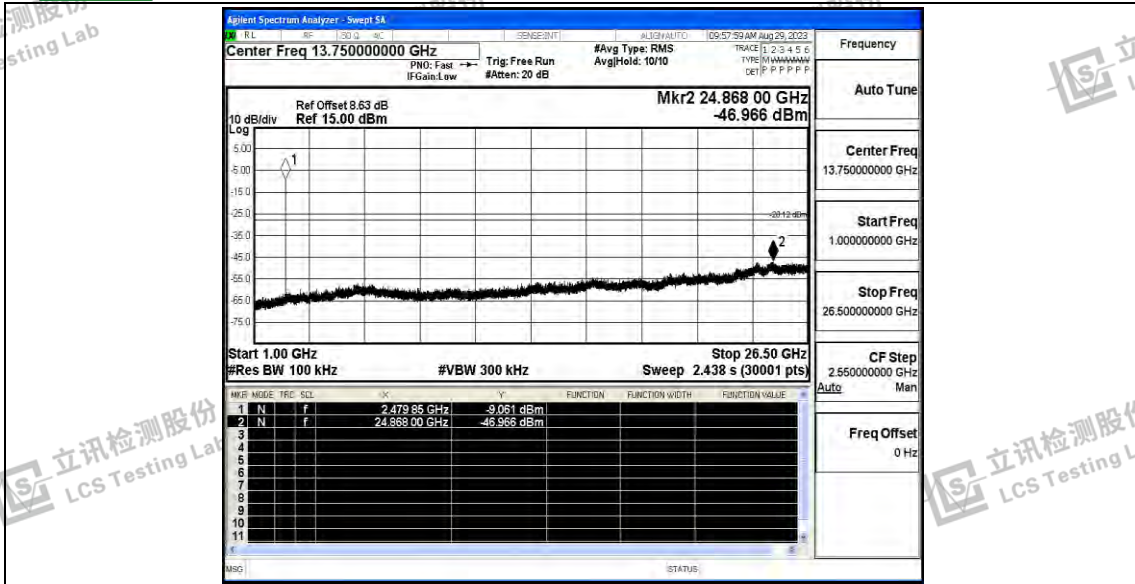


DH5\_Ant1\_2480\_30~1000

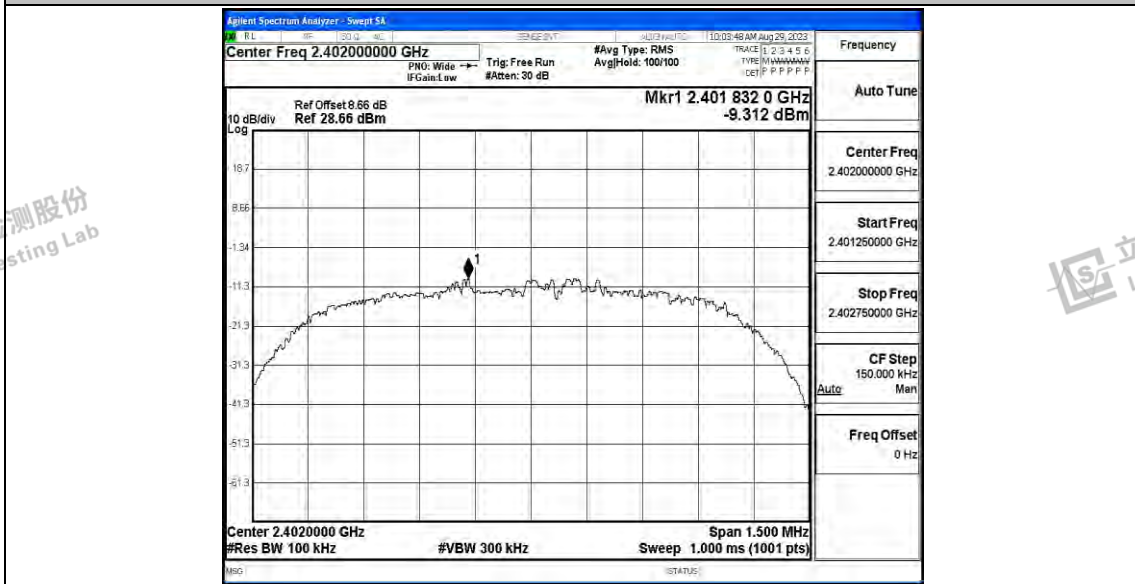


DH5\_Ant1\_2480\_1000~26500



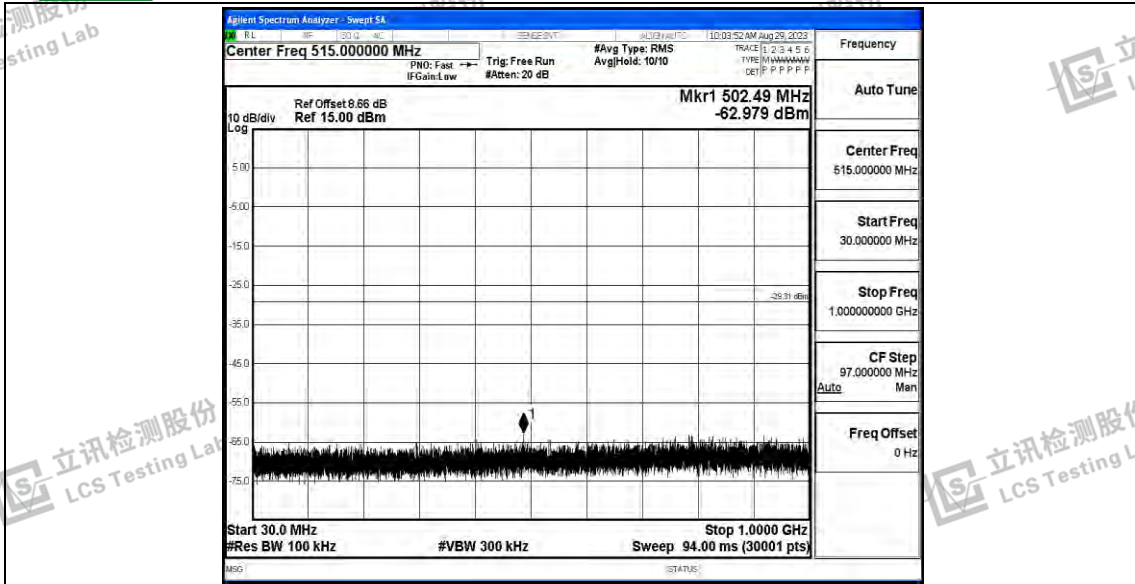


2DH5\_Ant1\_2402\_0~Reference

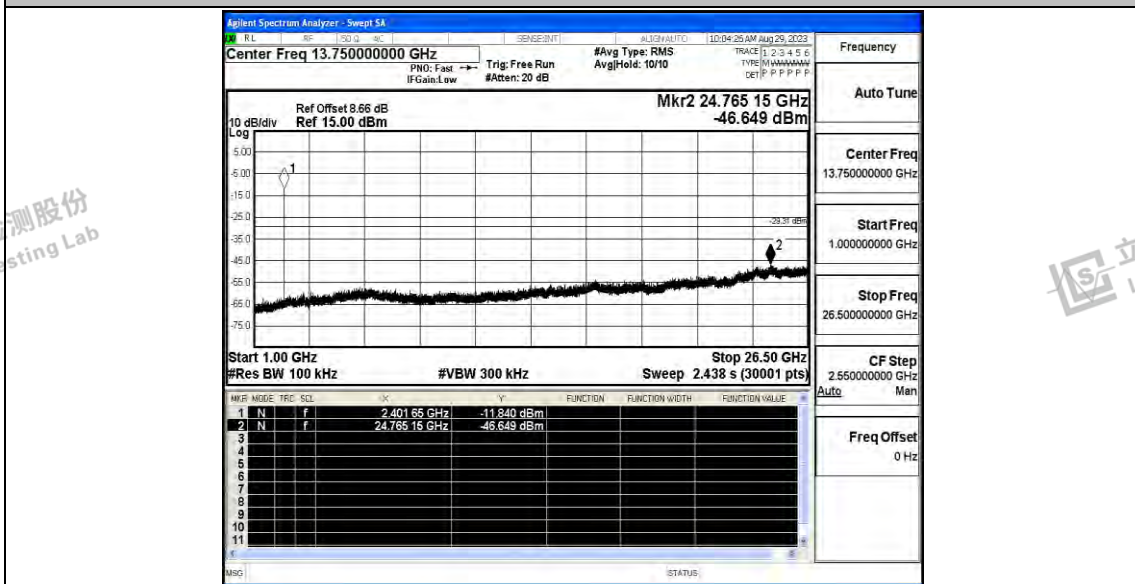


2DH5\_Ant1\_2402\_30~1000



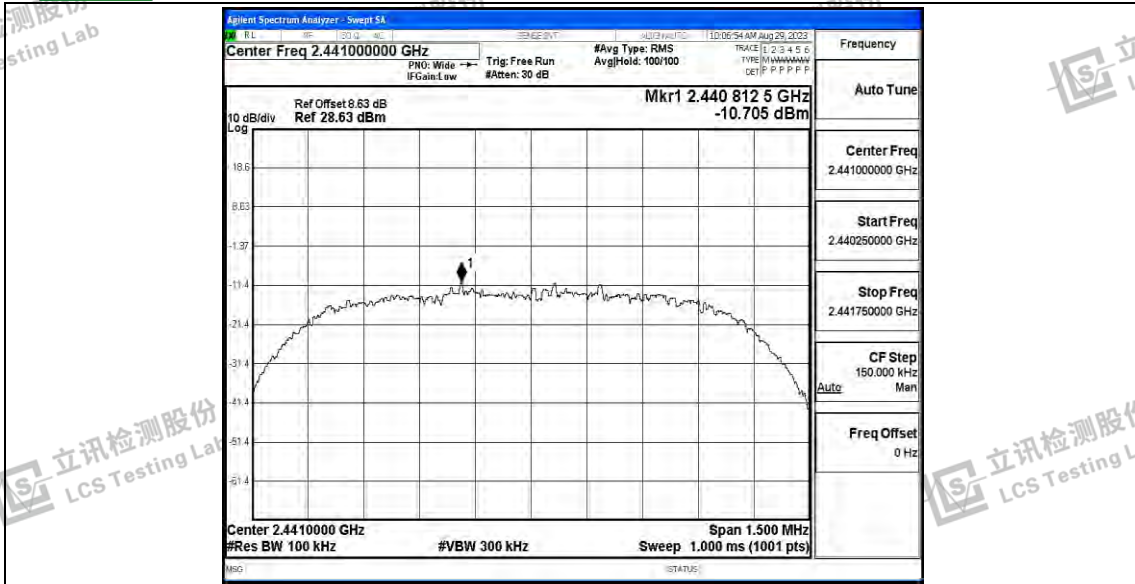


2DH5\_Ant1\_2402\_1000~26500

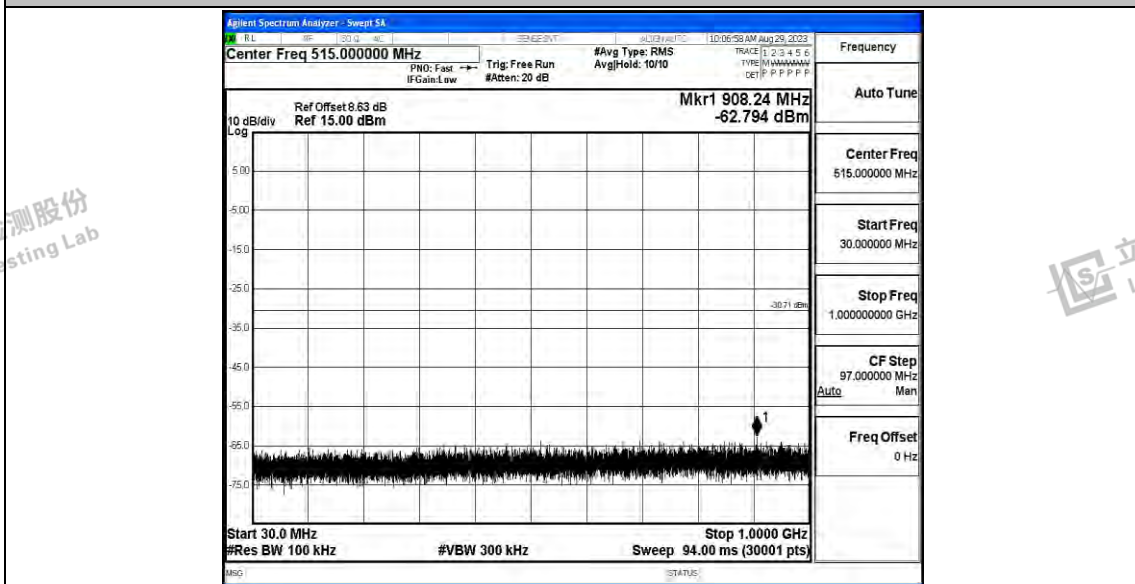


2DH5\_Ant1\_2441\_0~Reference



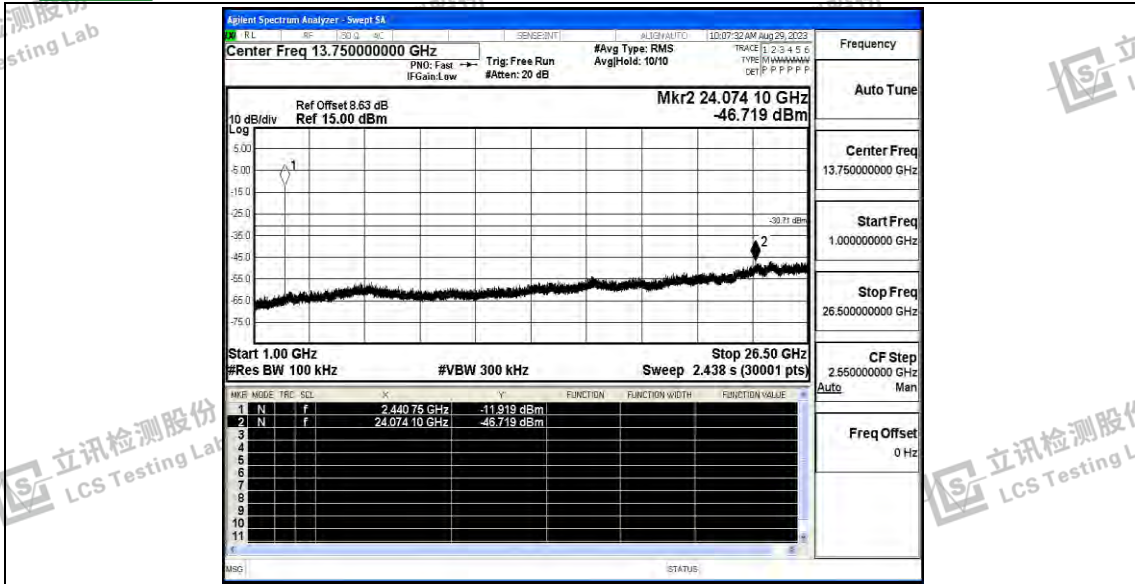


2DH5\_Ant1\_2441\_30~1000

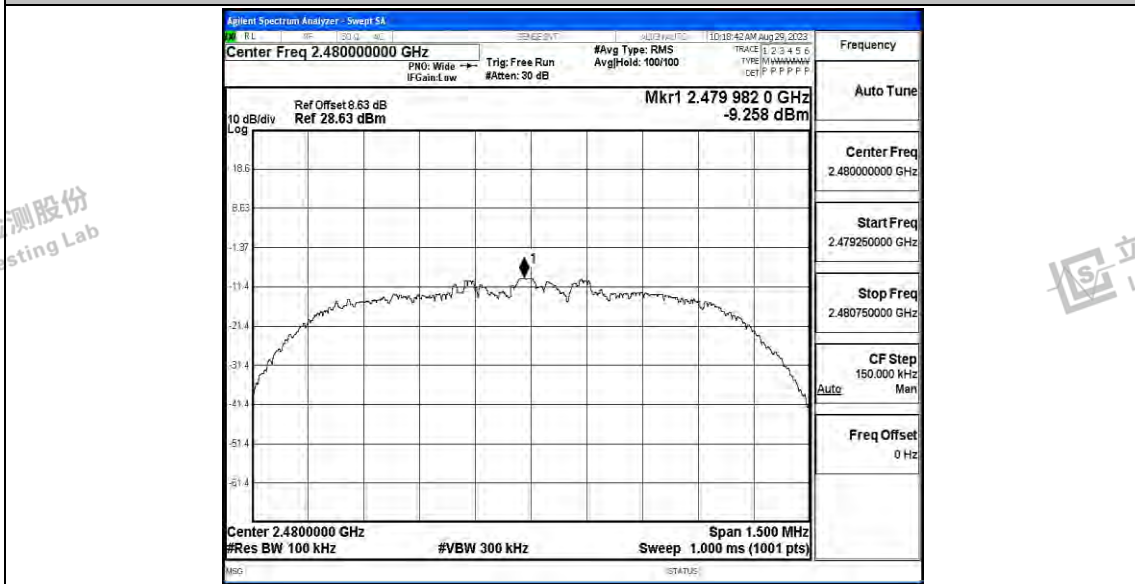


2DH5\_Ant1\_2441\_1000~26500



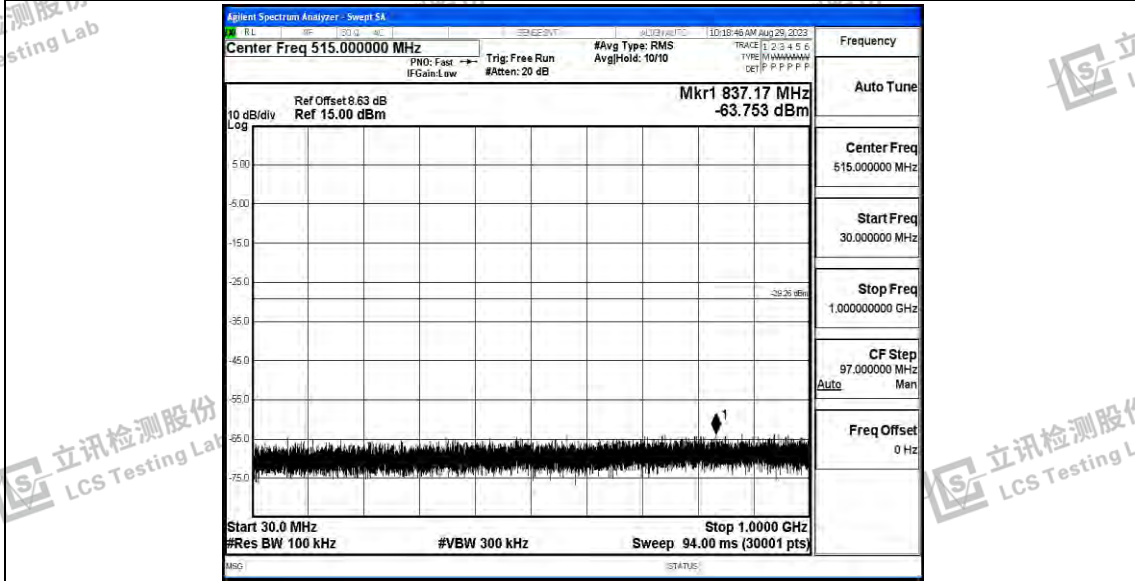


2DH5\_Ant1\_2480\_0~Reference

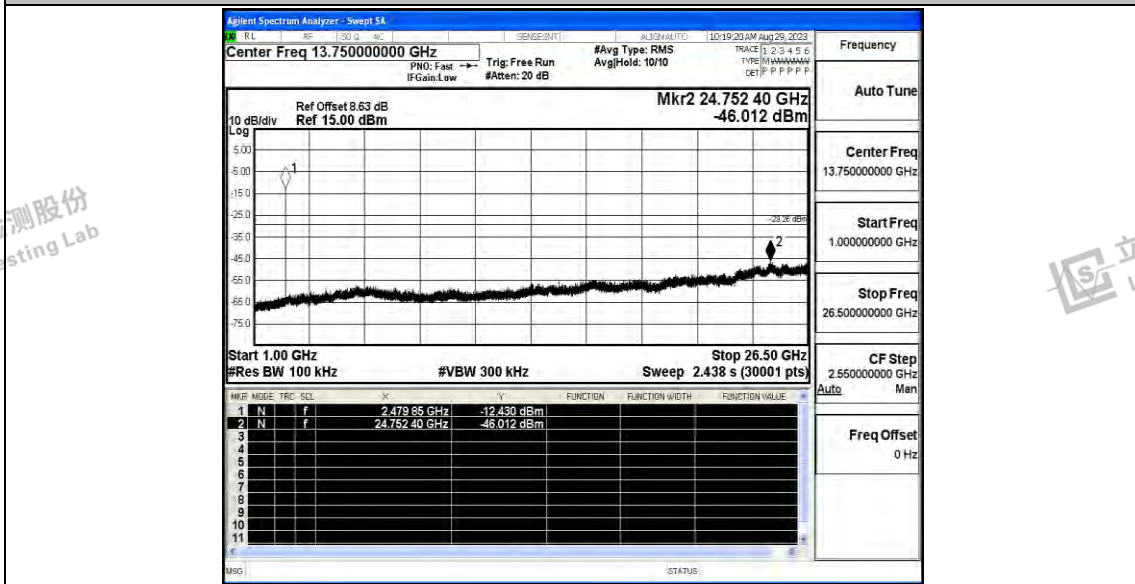


2DH5\_Ant1\_2480\_30~1000



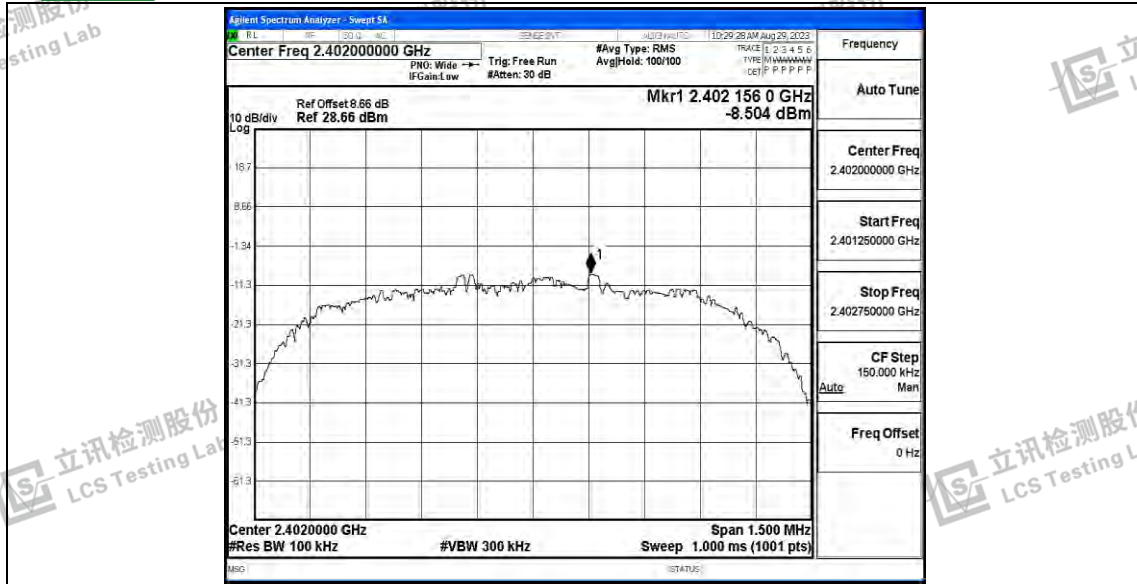


2DH5\_Ant1\_2480\_1000~26500

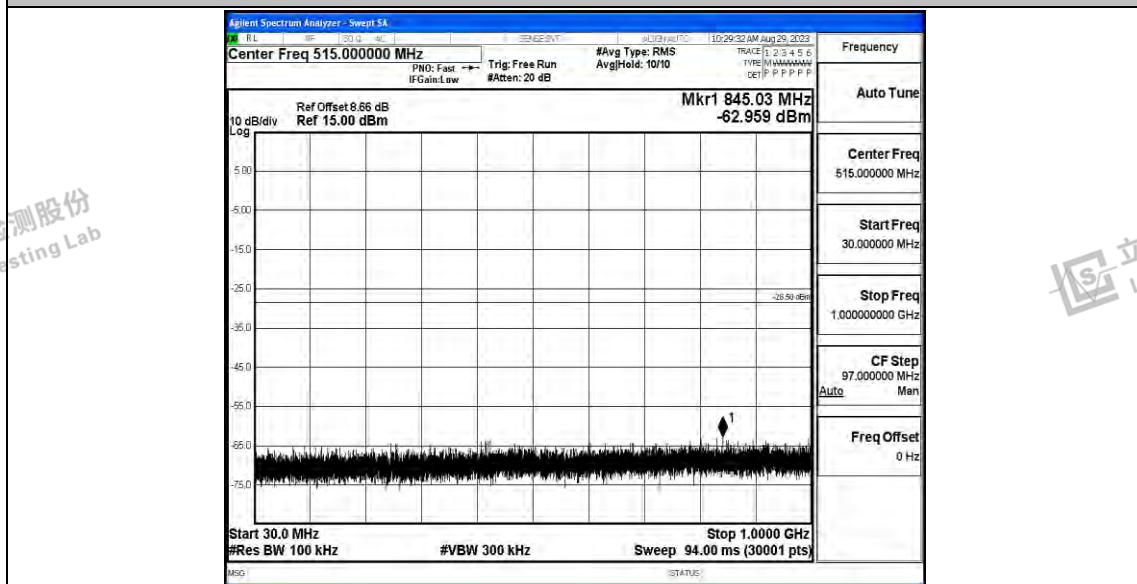


3DH5\_Ant1\_2402\_0~Reference





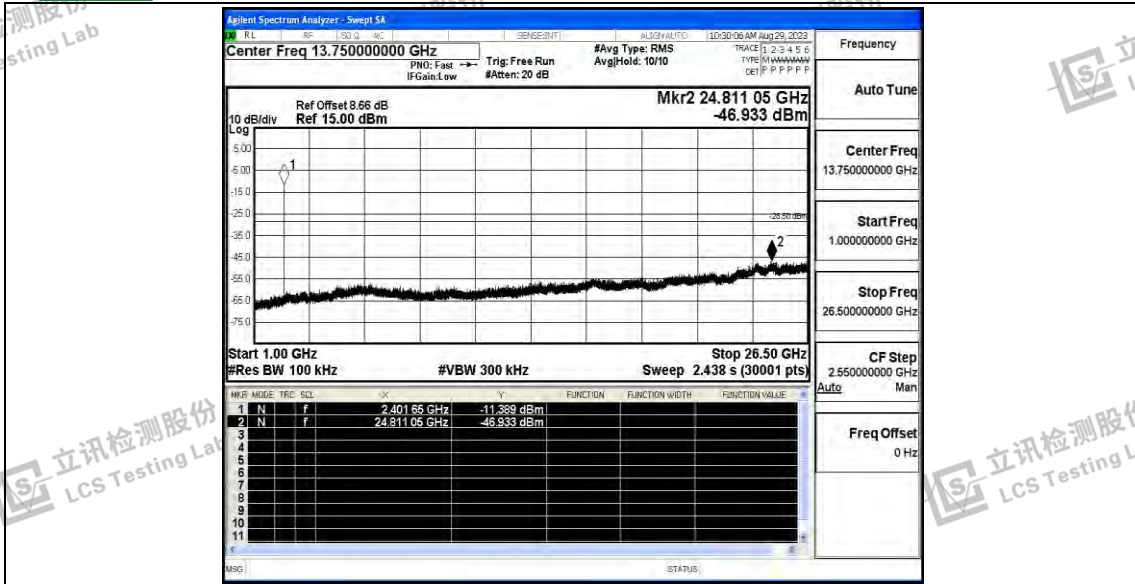
3DH5\_Ant1\_2402\_30~1000



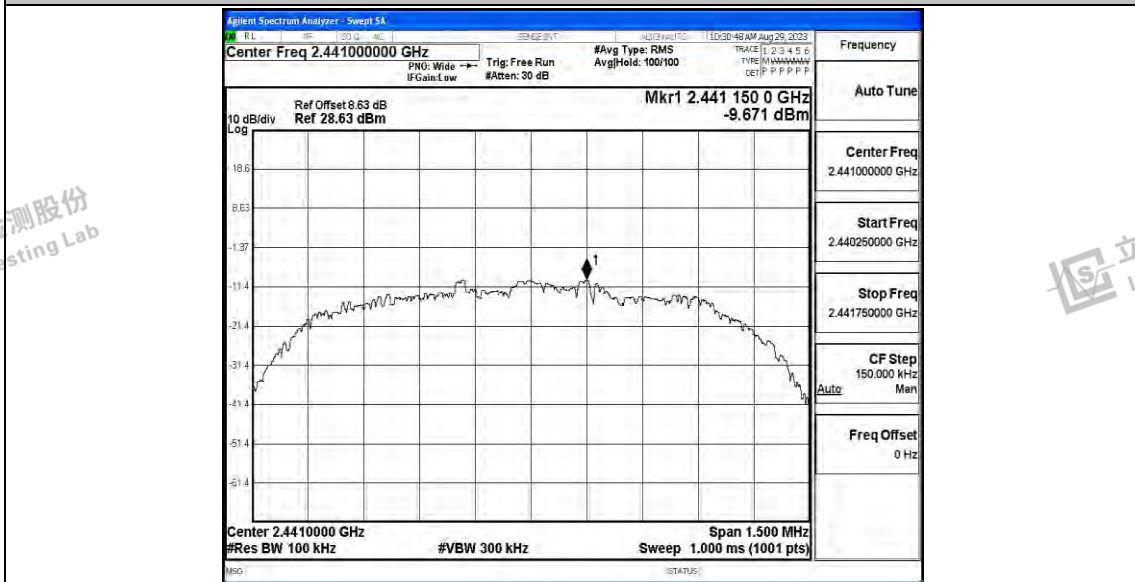
3DH5\_Ant1\_2402\_1000~26500





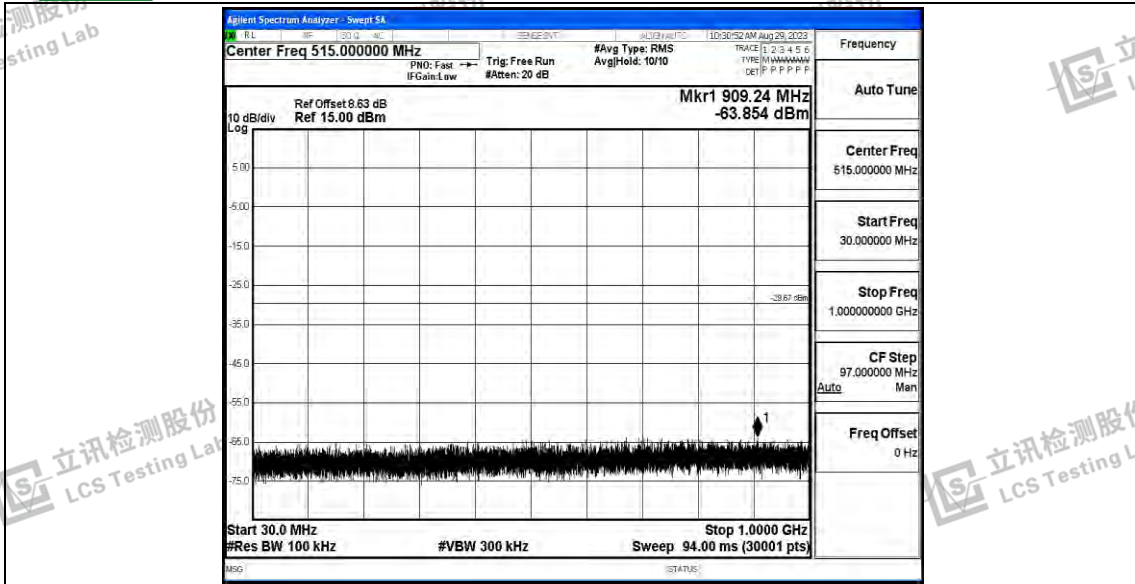


3DH5\_Ant1\_2441\_0~Reference

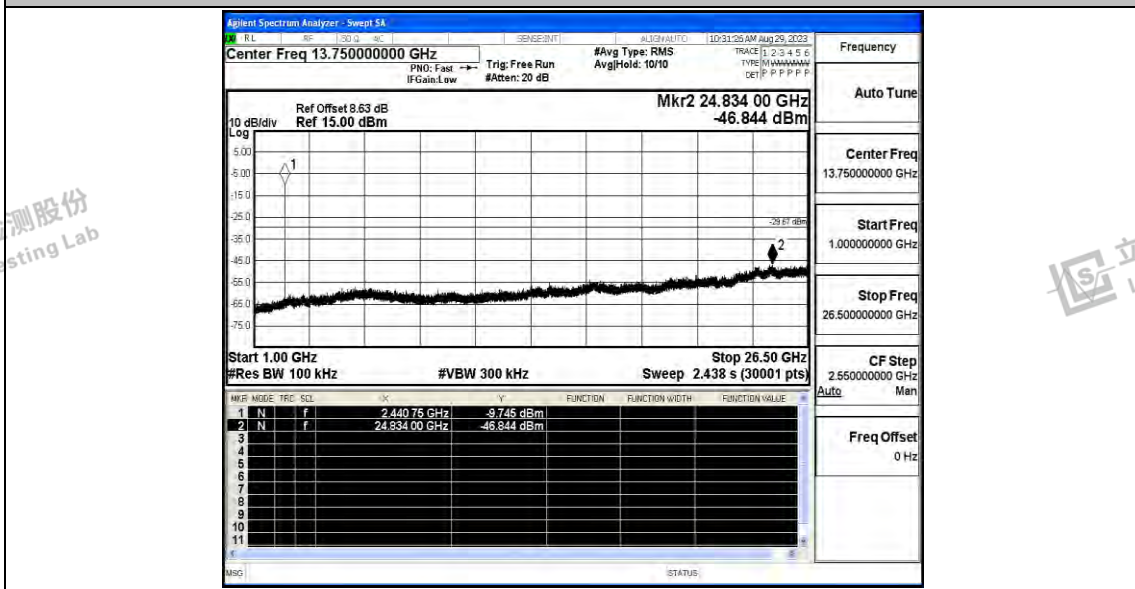


3DH5\_Ant1\_2441\_30~1000



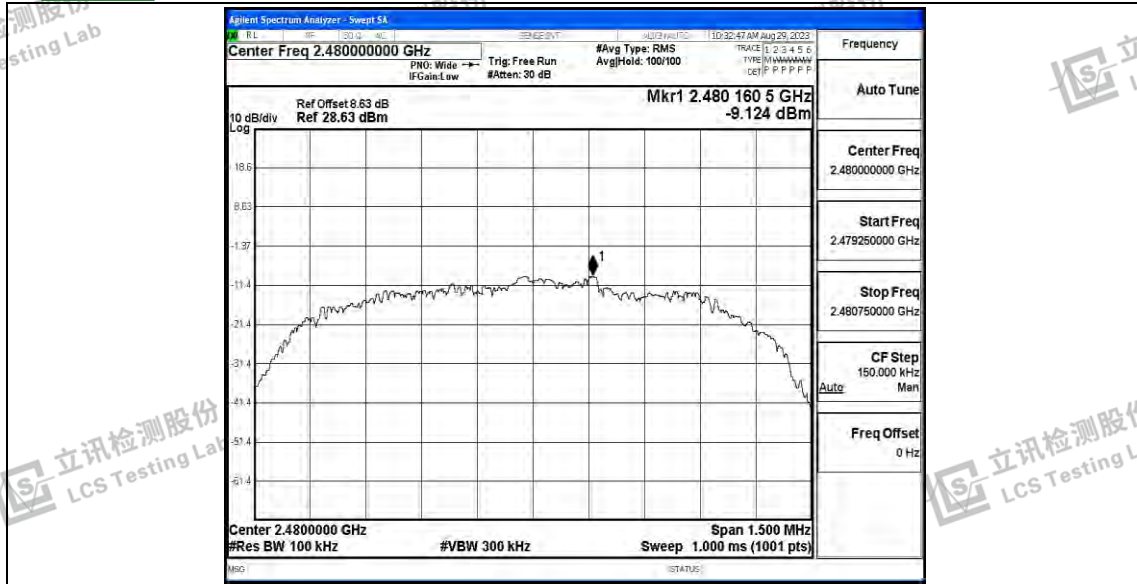


3DH5\_Ant1\_2441\_1000~26500

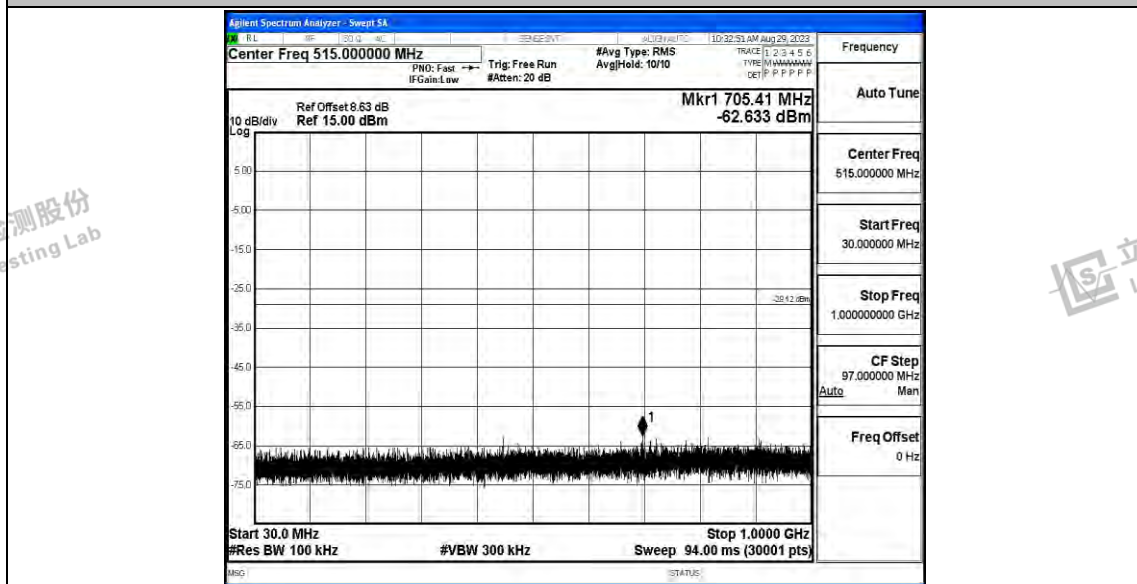


3DH5\_Ant1\_2480\_0~Reference



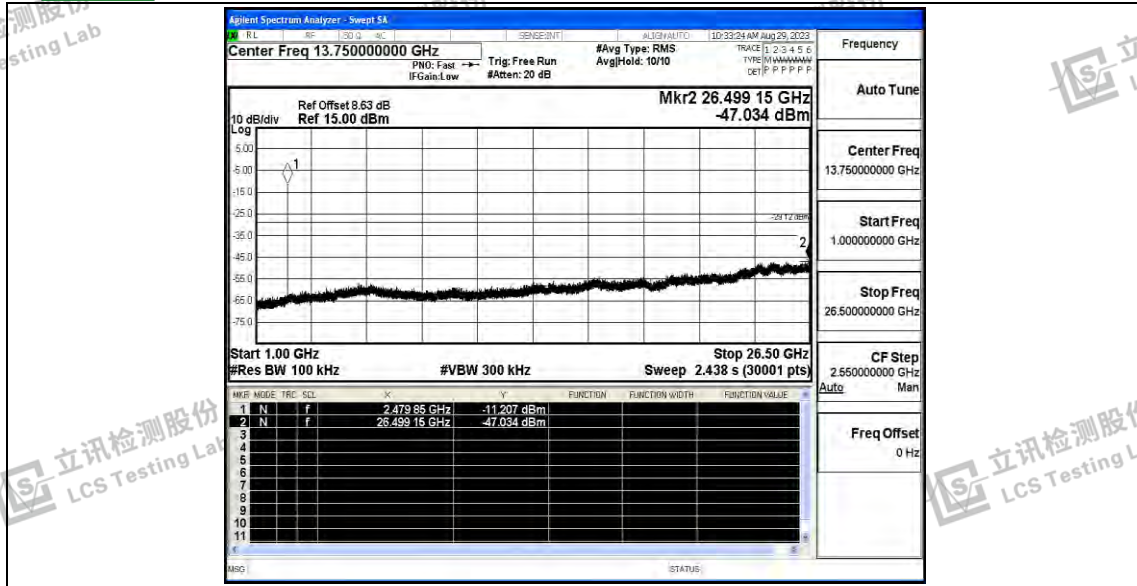


3DH5\_Ant1\_2480\_30~1000



3DH5\_Ant1\_2480\_1000~26500







## A.8 Emissions in Restricted Bands

### Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-53.19	≤-41.20	42.01	≤54	PASS
				AV	2386.940	-52.58	≤-41.20	42.62	≤54	PASS
				AV	2390.000	-52.71	≤-41.20	42.49	≤54	PASS
				Peak	2310.000	-48.21	≤-21.20	46.99	≤74	PASS
				Peak	2355.230	-43.45	≤-21.20	51.75	≤74	PASS
				Peak	2390.000	-47.94	≤-21.20	47.26	≤74	PASS
		High	2480	AV	2483.500	-52.33	≤-41.20	42.87	≤54	PASS
				AV	2499.760	-52	≤-41.20	43.20	≤54	PASS
				AV	2500.000	-52.05	≤-41.20	43.15	≤54	PASS
				Peak	2483.500	-43.14	≤-21.20	52.06	≤74	PASS
				Peak	2486.080	-42.99	≤-21.20	52.21	≤74	PASS
				Peak	2500.000	-45.74	≤-21.20	49.46	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.34	≤-21.20	54.86	≤74	PASS
				Peak	2372.240	-36.55	≤-21.20	58.65	≤74	PASS
				Peak	2390.000	-39.89	≤-21.20	55.31	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.95	≤-21.20	55.25	≤74	PASS
				Peak	2490.480	-36.5	≤-21.20	58.70	≤74	PASS
				Peak	2500.000	-38.36	≤-21.20	56.84	≤74	PASS
				Peak	2310.000	-53.09	≤-41.20	42.11	≤54	PASS
		2DH5	Ant1	Low	2402	AV	2310.000	-53.09	≤-41.20	42.11
AV	2384.525					-52.59	≤-41.20	42.61	≤54	PASS
AV	2390.000					-52.78	≤-41.20	42.42	≤54	PASS
Peak	2310.000					-47.49	≤-21.20	47.71	≤74	PASS
Peak	2383.475					-43.44	≤-21.20	51.76	≤74	PASS
Peak	2390.000					-48.13	≤-21.20	47.07	≤74	PASS
High	2480			AV	2483.500	-52.24	≤-41.20	42.96	≤54	PASS
				AV	2499.520	-52.09	≤-41.20	43.11	≤54	PASS
				AV	2500.000	-52.16	≤-41.20	43.04	≤54	PASS
				Peak	2483.500	-46.46	≤-21.20	48.74	≤74	PASS
				Peak	2497.520	-43.1	≤-21.20	52.10	≤74	PASS
				Peak	2500.000	-44.5	≤-21.20	50.70	≤74	PASS
Low	Hop_24 02			Peak	2310.000	-39.57	≤-21.20	55.63	≤74	PASS
				Peak	2360.900	-37.43	≤-21.20	57.77	≤74	PASS
				Peak	2390.000	-39.27	≤-21.20	55.93	≤74	PASS
High	Hop_24 80			Peak	2483.500	-39.06	≤-21.20	56.14	≤74	PASS
				Peak	2492.640	-37.04	≤-21.20	58.16	≤74	PASS



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 Scan code to check authenticity



3DH5	Ant1	Low	2402	Peak	2500.000	-38.31	≤-21.20	56.89	≤74	PASS
				AV	2310.000	-53.09	≤-41.20	42.11	≤54	PASS
				AV	2389.145	-52.52	≤-41.20	42.68	≤54	PASS
				AV	2390.000	-52.75	≤-41.20	42.45	≤54	PASS
				Peak	2310.000	-46.34	≤-21.20	48.86	≤74	PASS
				Peak	2317.010	-42.76	≤-21.20	52.44	≤74	PASS
		Peak	2390.000	-46.53	≤-21.20	48.67	≤74	PASS		
		High	2480	AV	2483.500	-52.03	≤-41.20	43.17	≤54	PASS
				AV	2483.520	-52.03	≤-41.20	43.17	≤54	PASS
				AV	2500.000	-52.29	≤-41.20	42.91	≤54	PASS
				Peak	2483.500	-46.64	≤-21.20	48.56	≤74	PASS
				Peak	2493.040	-42.34	≤-21.20	52.86	≤74	PASS
	Peak			2500.000	-46.46	≤-21.20	48.74	≤74	PASS	
	Low	Hop_24 02	Peak	2310.000	-39.95	≤-21.20	55.25	≤74	PASS	
			Peak	2364.155	-37.76	≤-21.20	57.44	≤74	PASS	
			Peak	2390.000	-40.45	≤-21.20	54.75	≤74	PASS	
	High	Hop_24 80	Peak	2483.500	-40.12	≤-21.20	55.08	≤74	PASS	
			Peak	2490.560	-37.22	≤-21.20	57.98	≤74	PASS	
			Peak	2500.000	-39.51	≤-21.20	55.69	≤74	PASS	

Note:

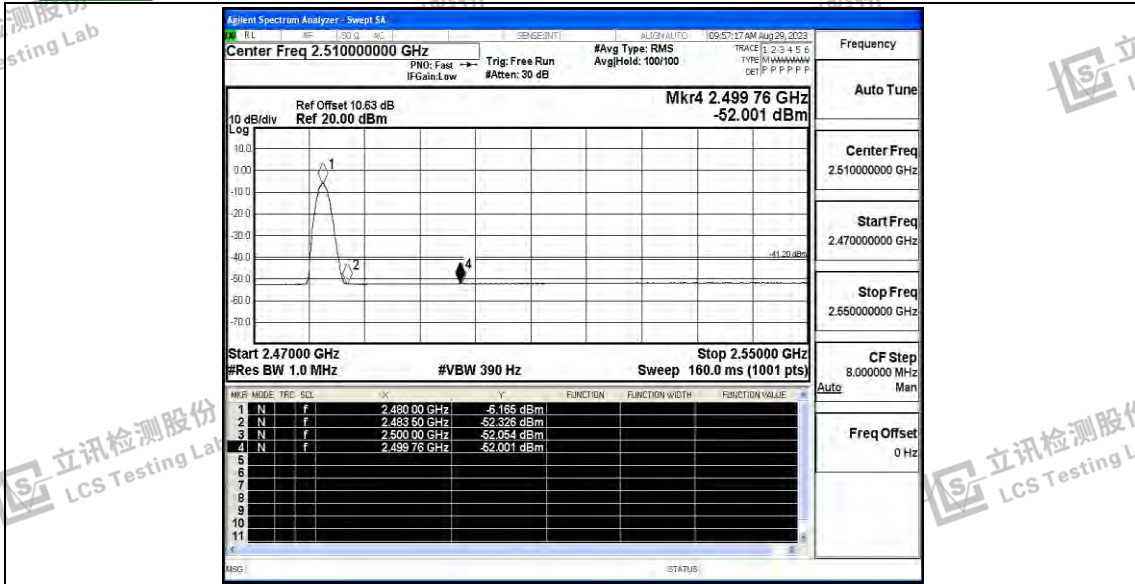
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



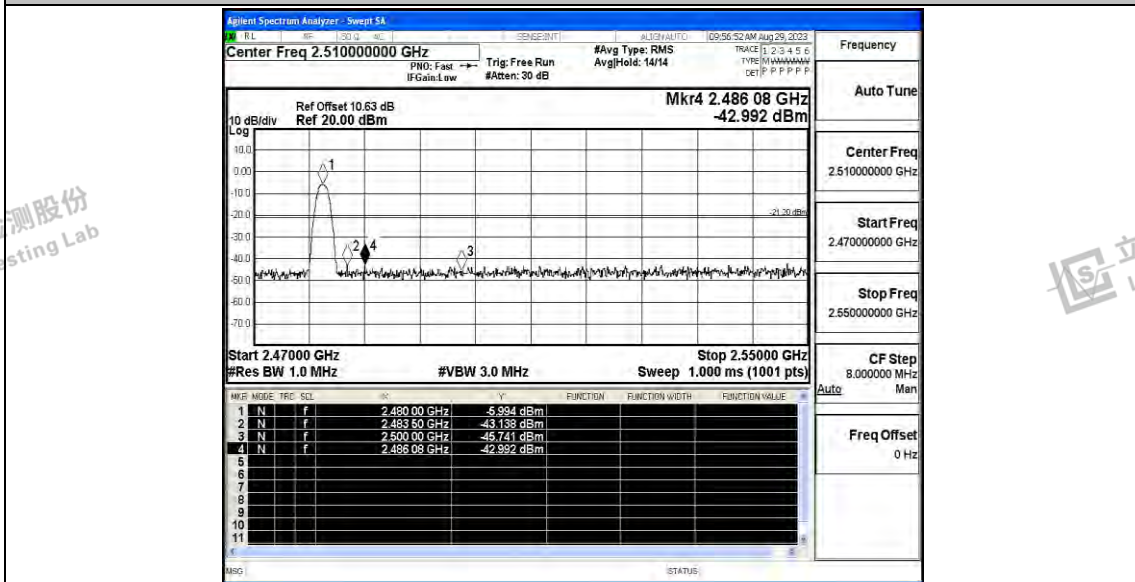


### Test Graphs





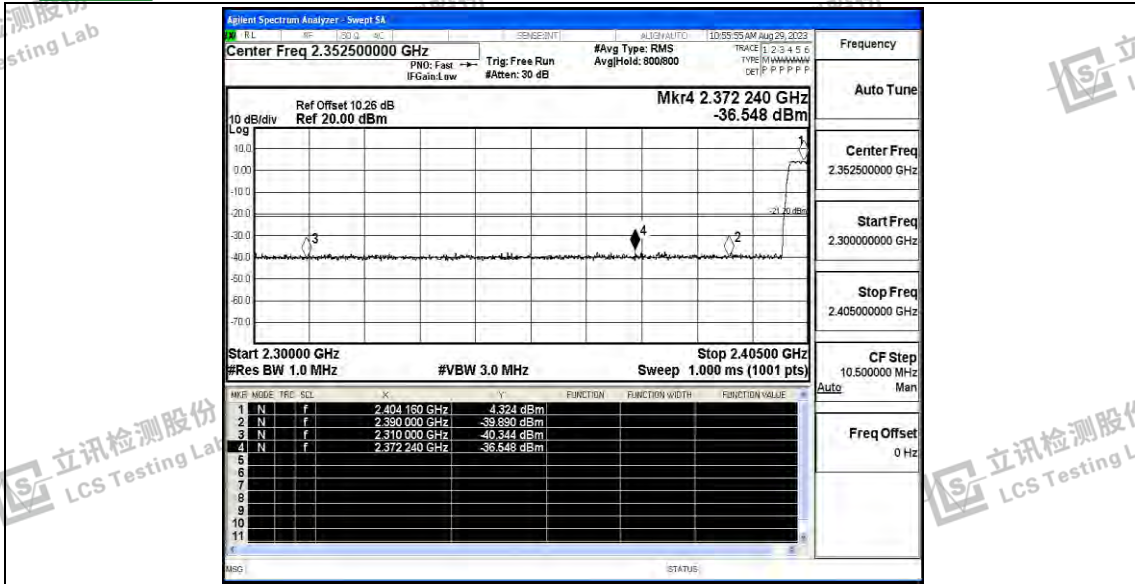
DH5\_Ant1\_High\_2480\_Peak



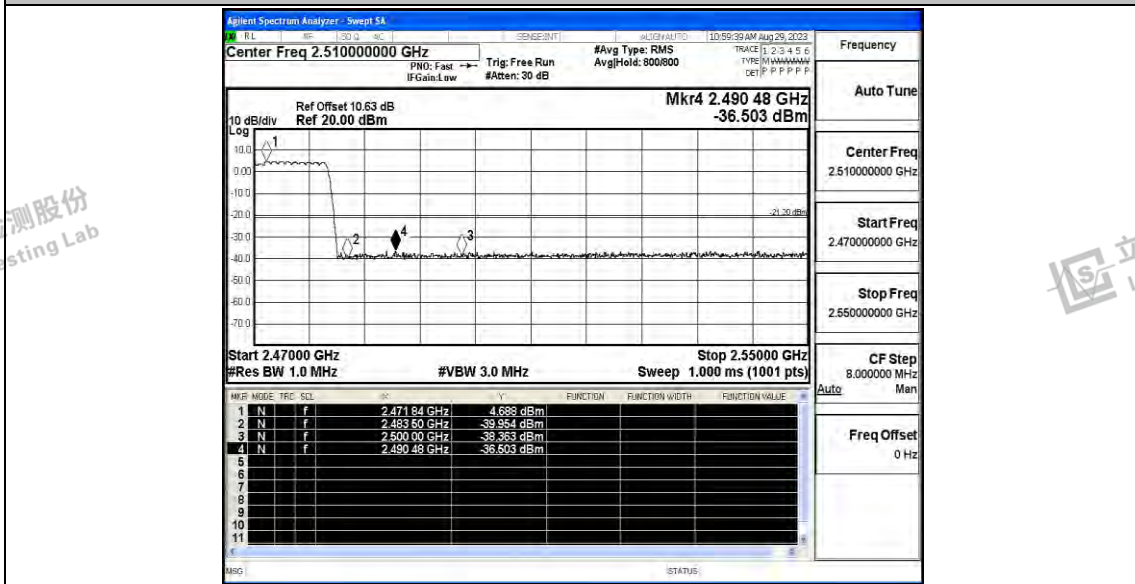
DH5\_Ant1\_Low\_Hop\_2402\_Peak





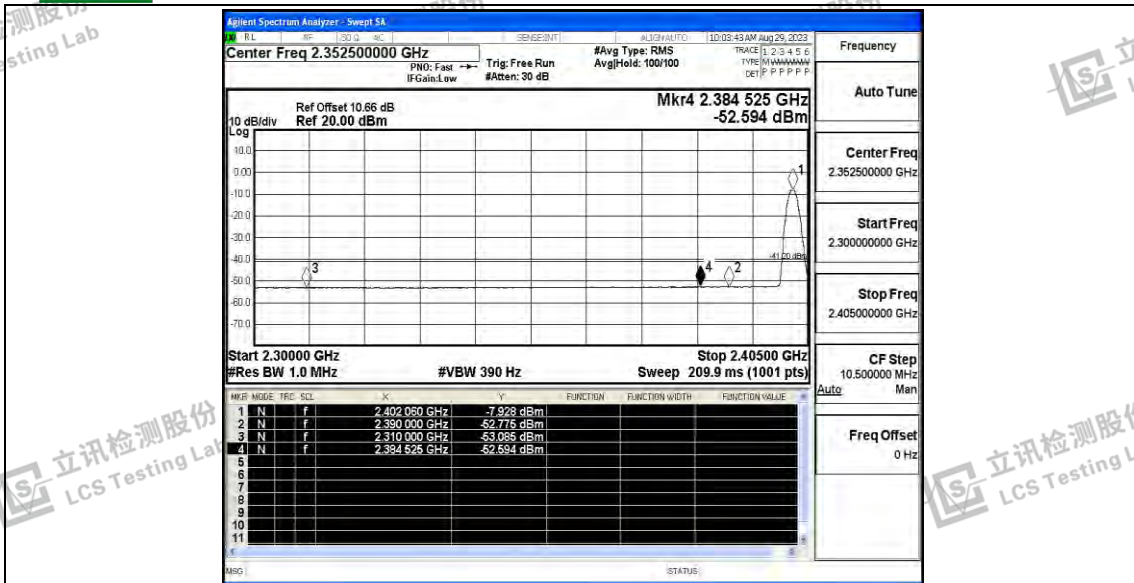


DH5\_Ant1\_High\_Hop\_2480\_Peak

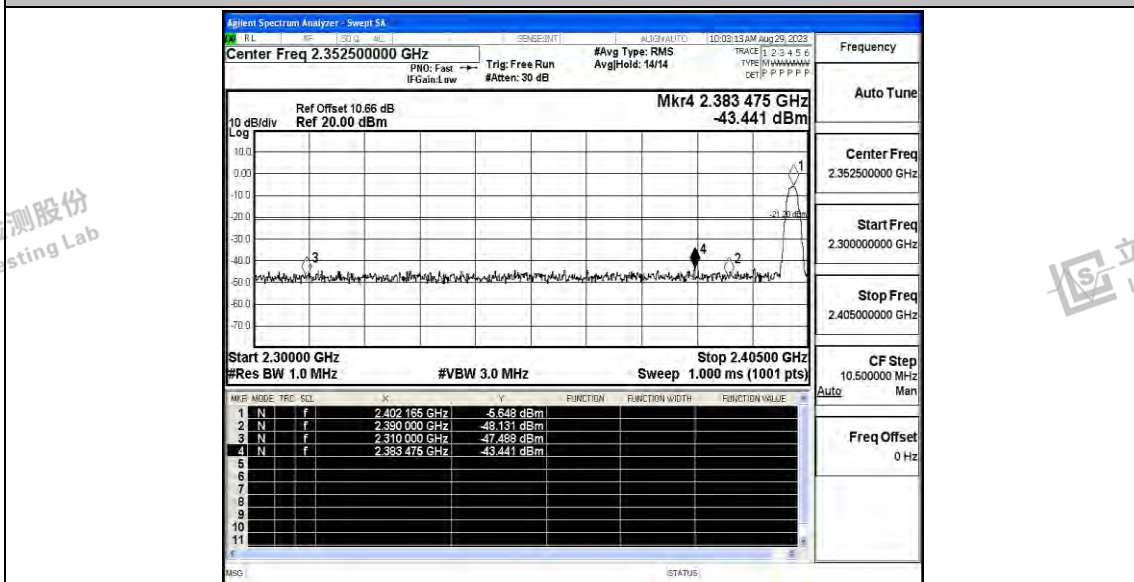


2DH5\_Ant1\_Low\_2402\_AV



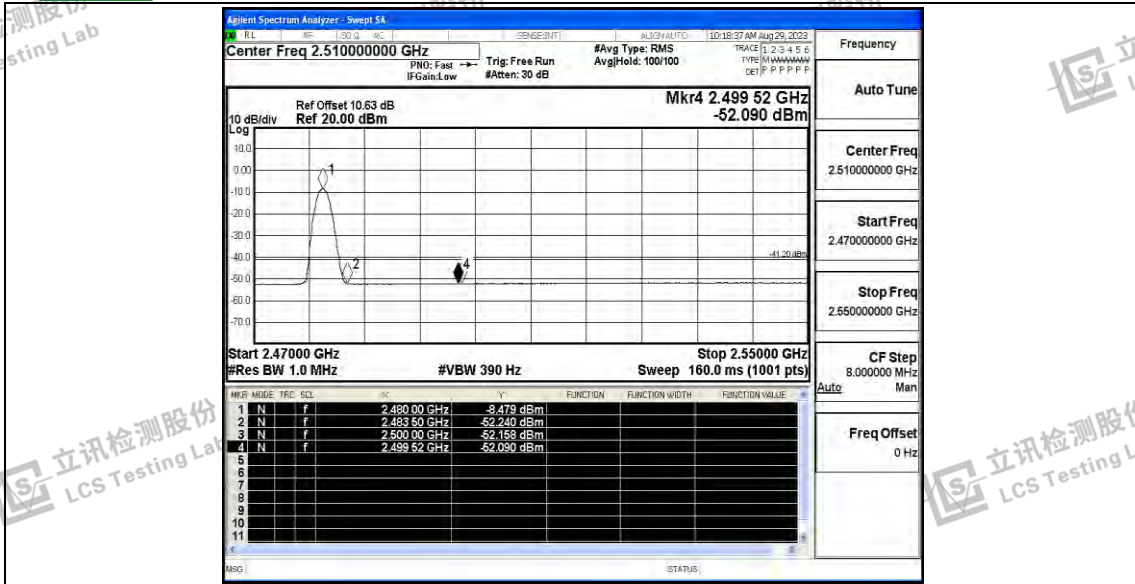


2DH5\_Ant1\_Low\_2402\_Peak

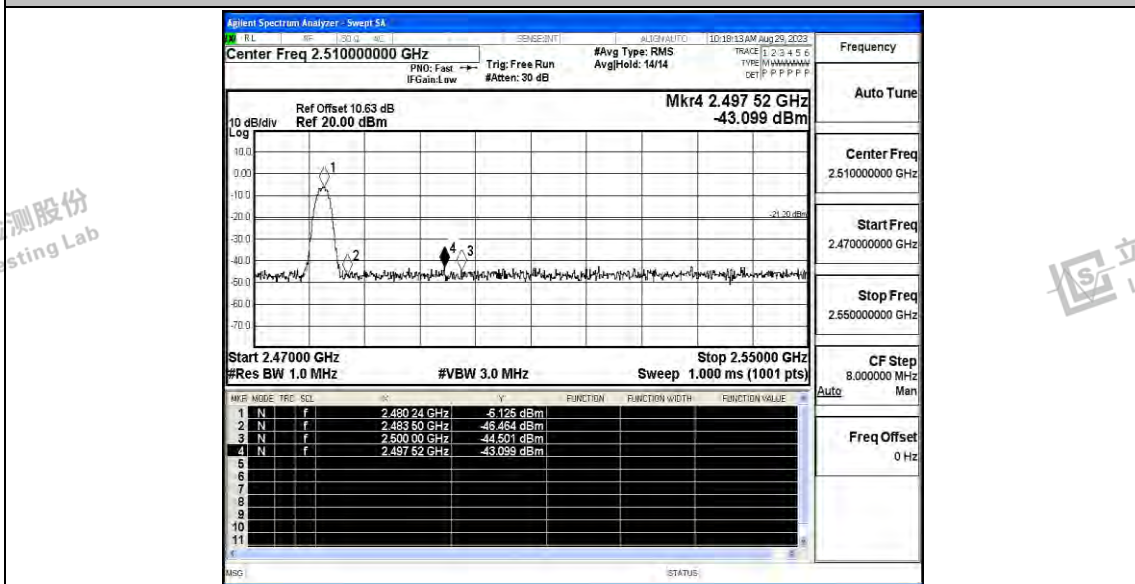


2DH5\_Ant1\_High\_2480\_AV



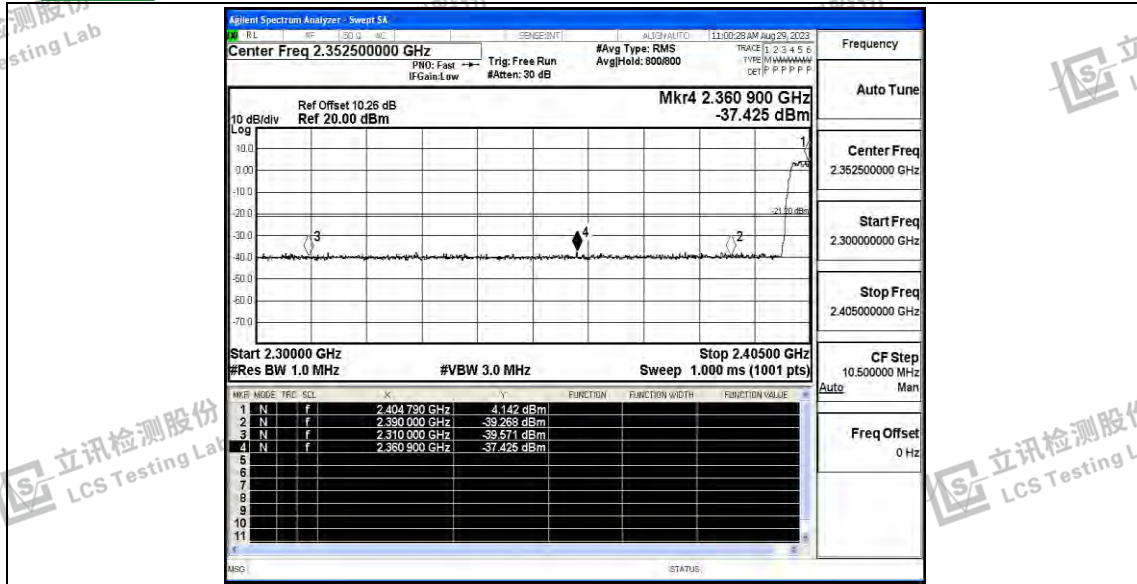


2DH5\_Ant1\_High\_2480\_Peak

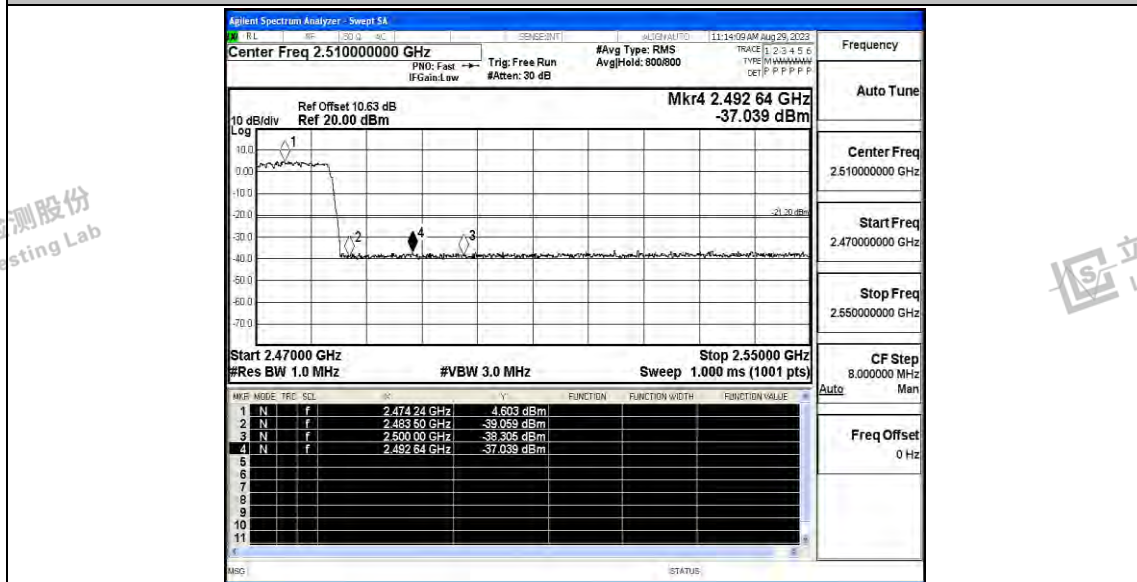


2DH5\_Ant1\_Low\_Hop\_2402\_Peak



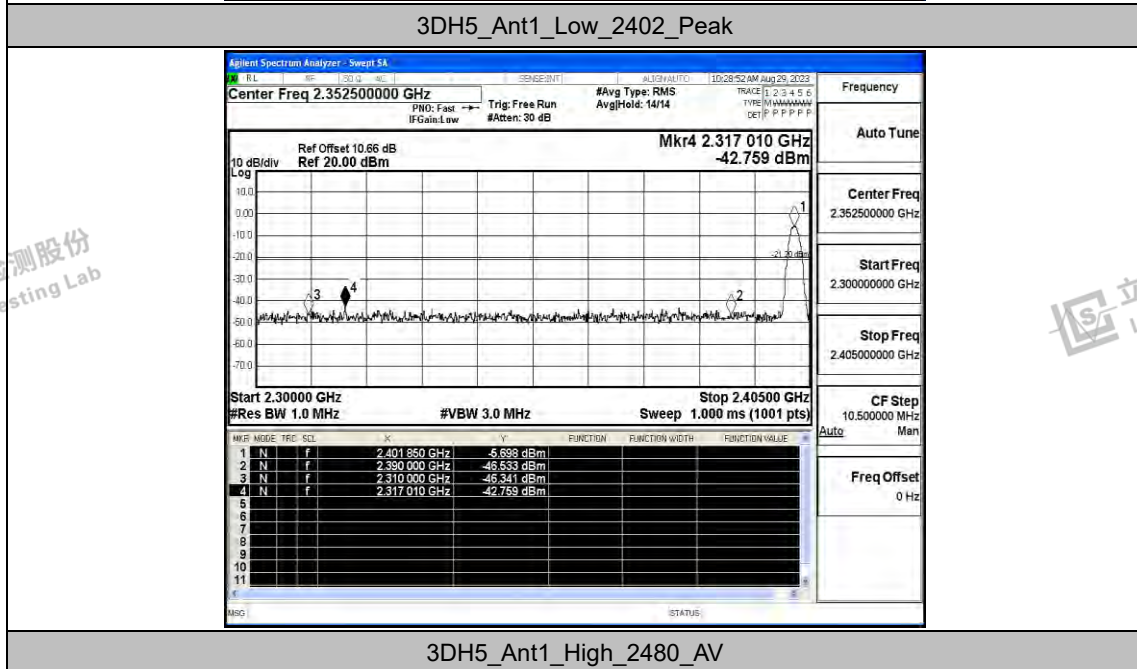
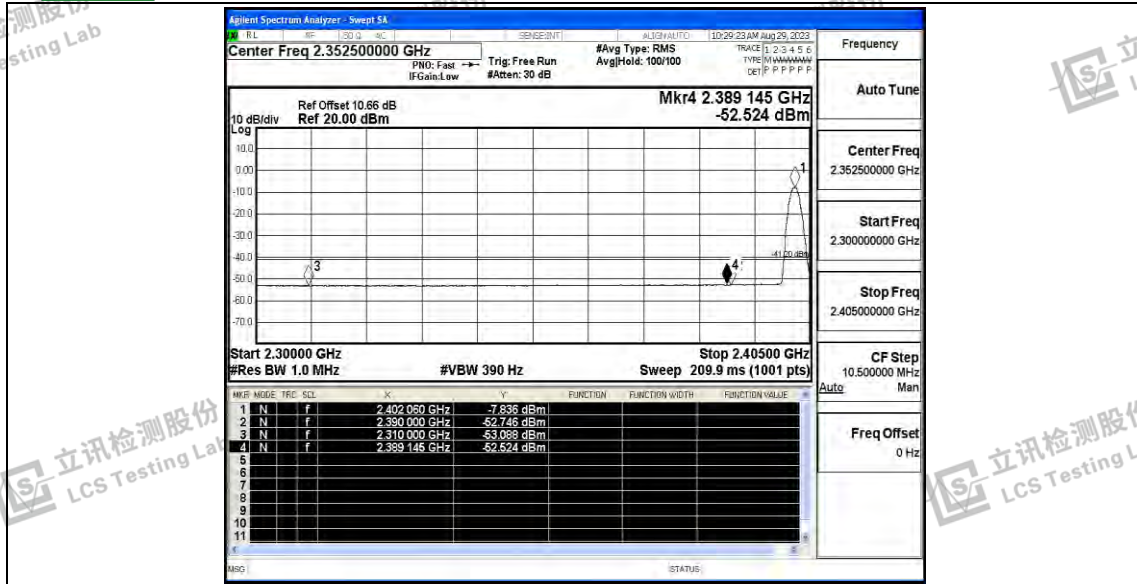


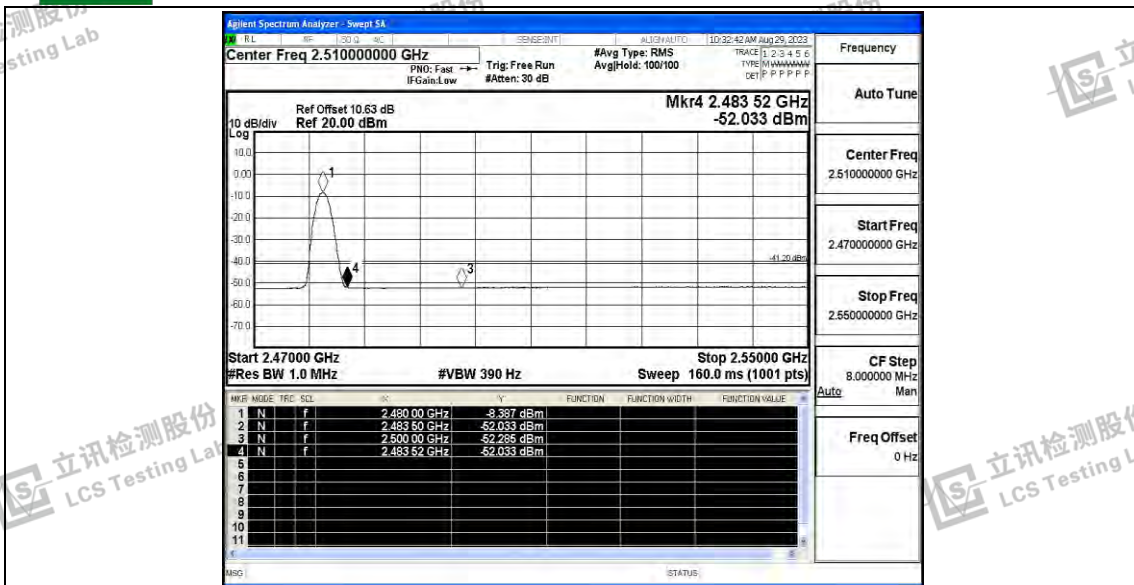
2DH5\_Ant1\_High\_Hop\_2480\_Peak



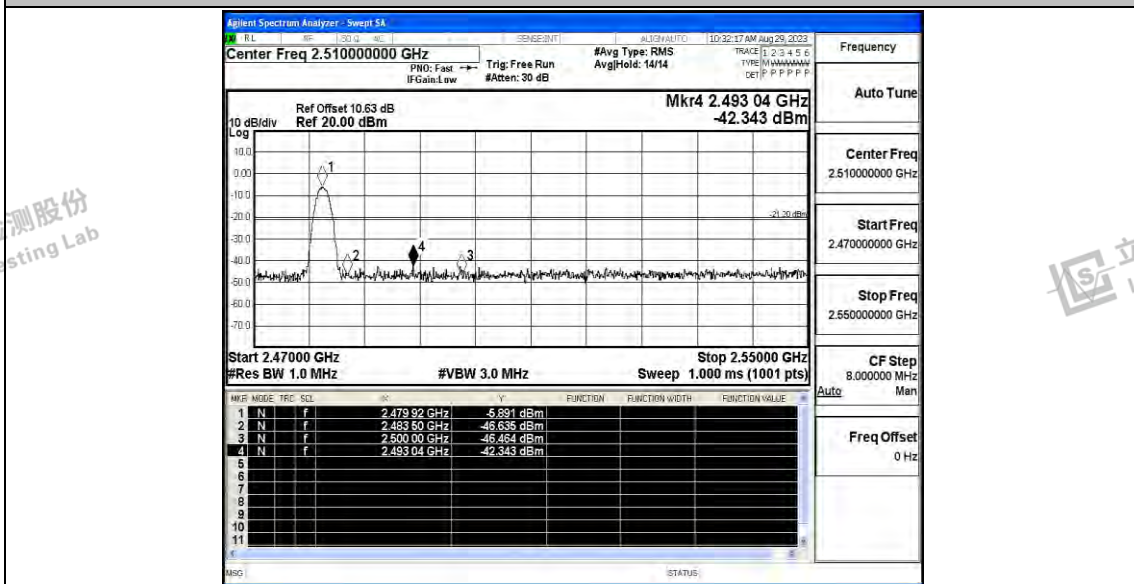
3DH5\_Ant1\_Low\_2402\_AV





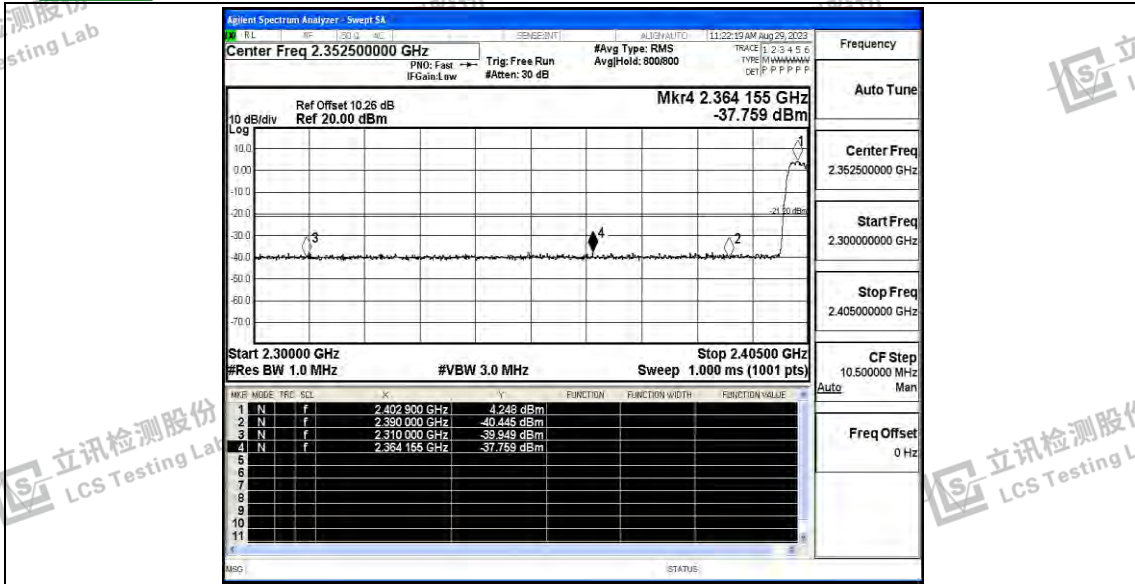


3DH5\_Ant1\_High\_2480\_Peak



3DH5\_Ant1\_Low\_Hop\_2402\_Peak





3DH5\_Ant1\_High\_Hop\_2480\_Peak

