



# Appendix A

## RF Test Data for BT (Conducted Measurement)

Product Name: Laptop

Test Model: HPPLP10

### 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 Bandwidth

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant0	2402	1.023	2401.463	2402.486	---
		2441	0.945	2440.532	2441.477	---
		2480	0.960	2479.526	2480.486	---
2DH5	Ant0	2402	1.530	2401.229	2402.759	---
		2441	1.590	2440.220	2441.810	---
		2480	1.524	2479.226	2480.750	---
3DH5	Ant0	2402	1.548	2401.226	2402.774	---
		2441	1.494	2440.265	2441.759	---
		2480	1.572	2479.208	2480.780	---

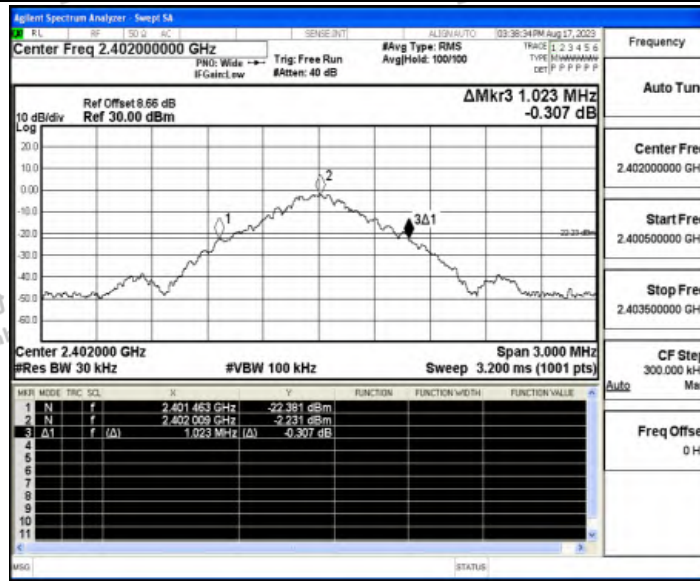


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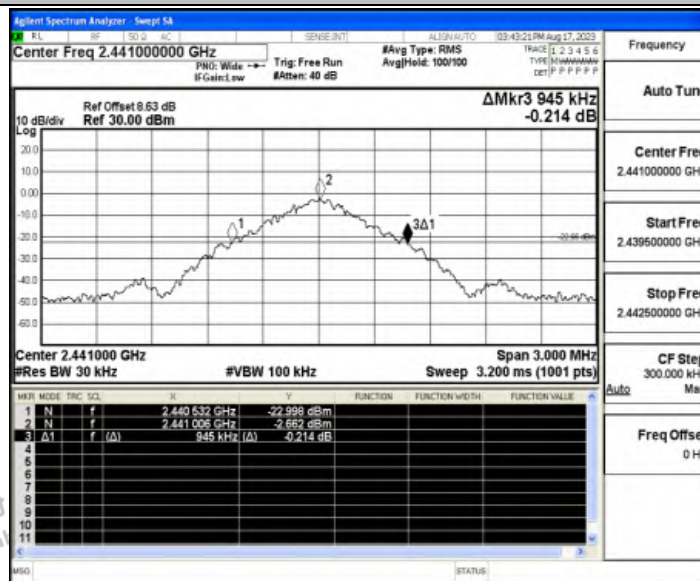


### Test Graphs

DH5\_Ant0\_2402

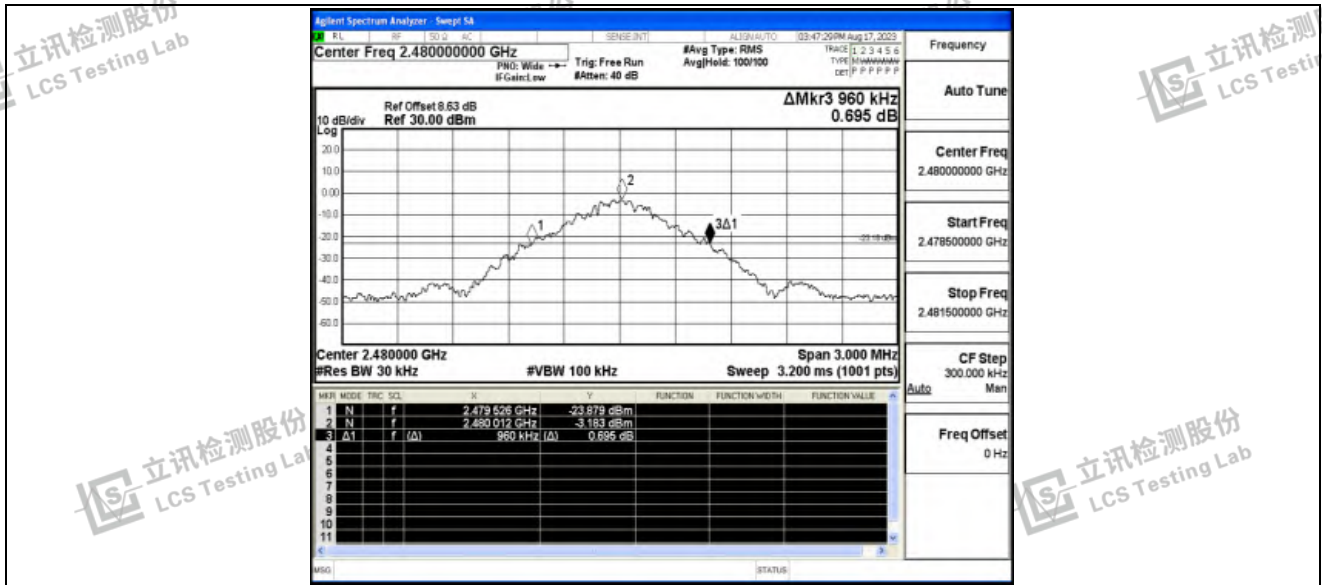


DH5\_Ant0\_2441

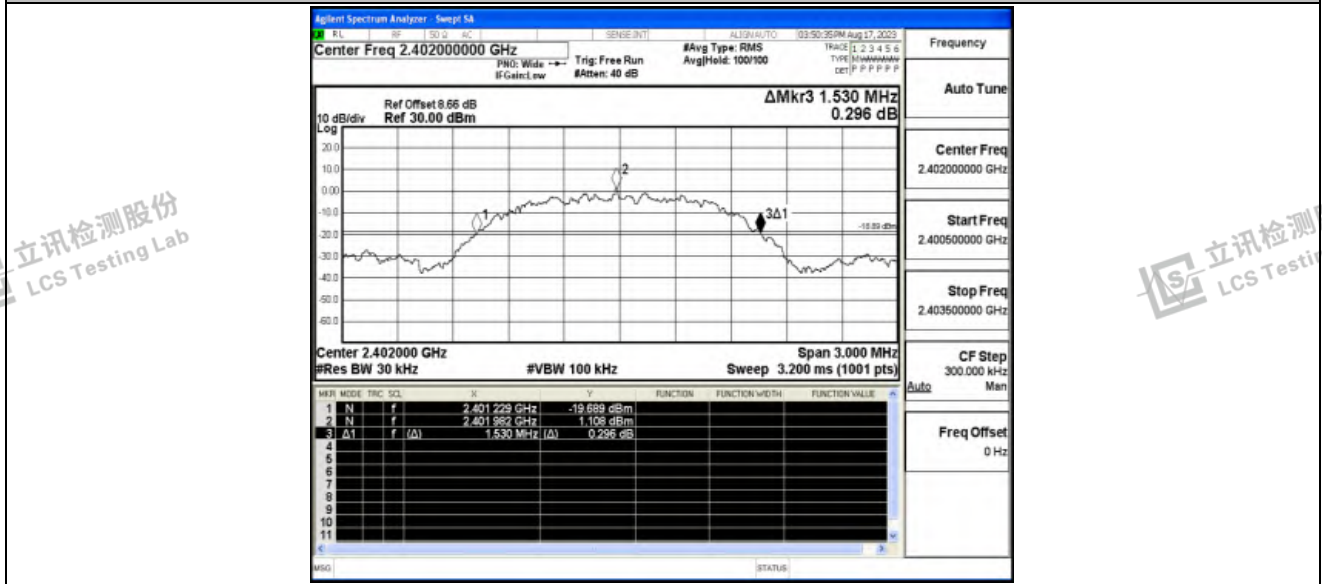


DH5\_Ant0\_2480



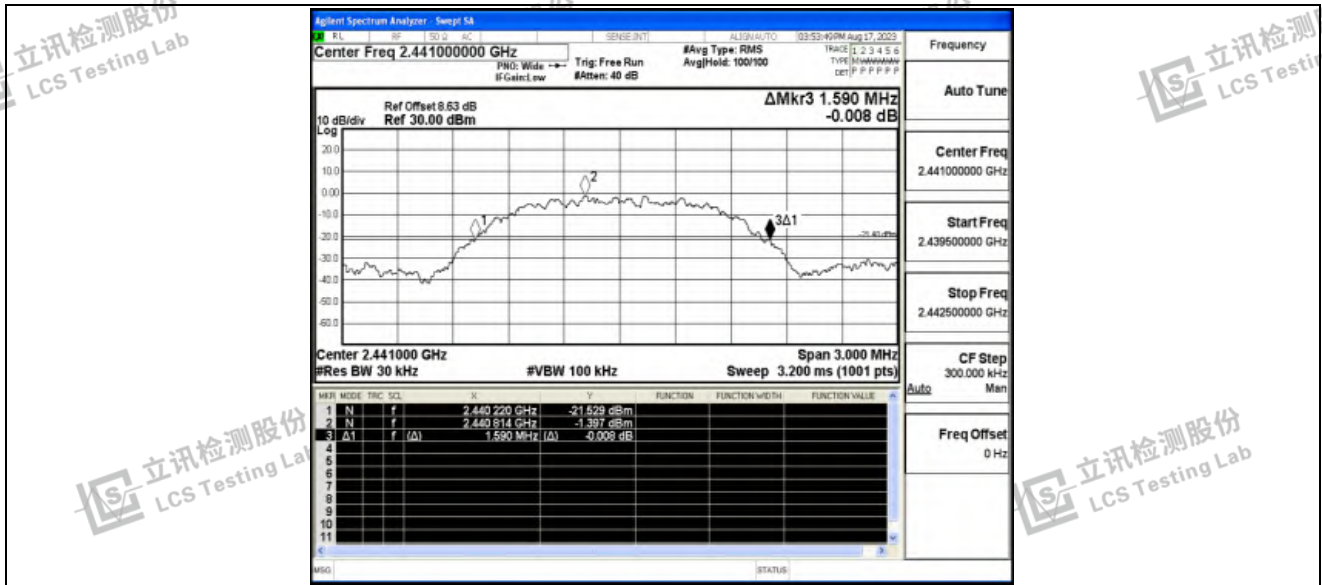


2DH5\_Ant0\_2402

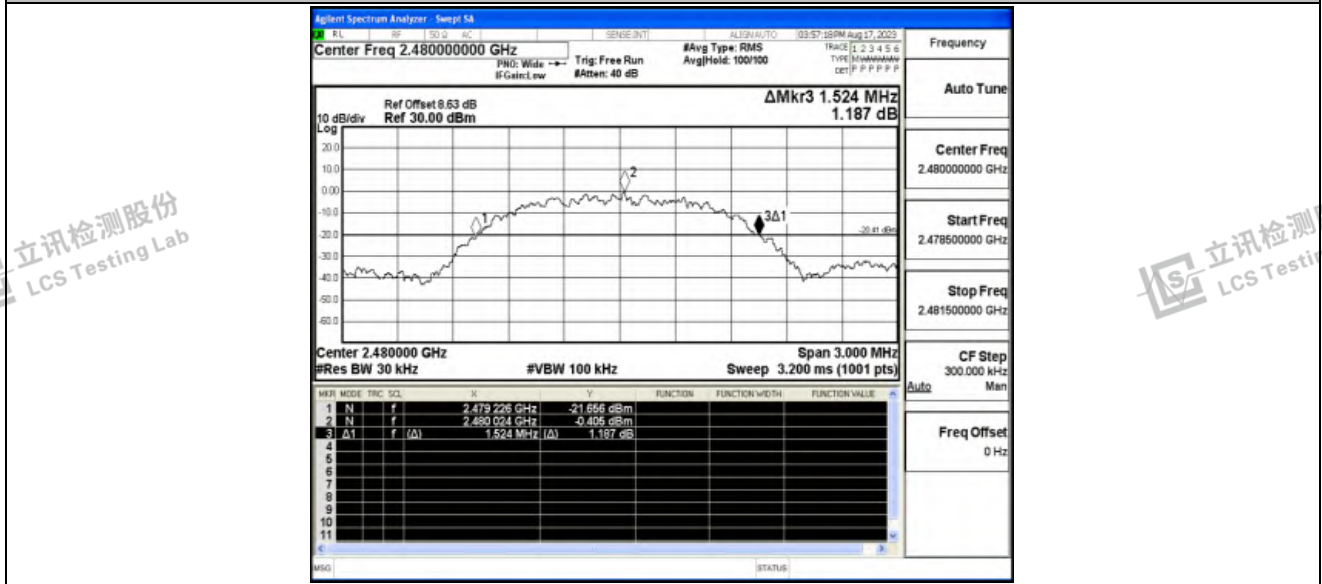


2DH5\_Ant0\_2441



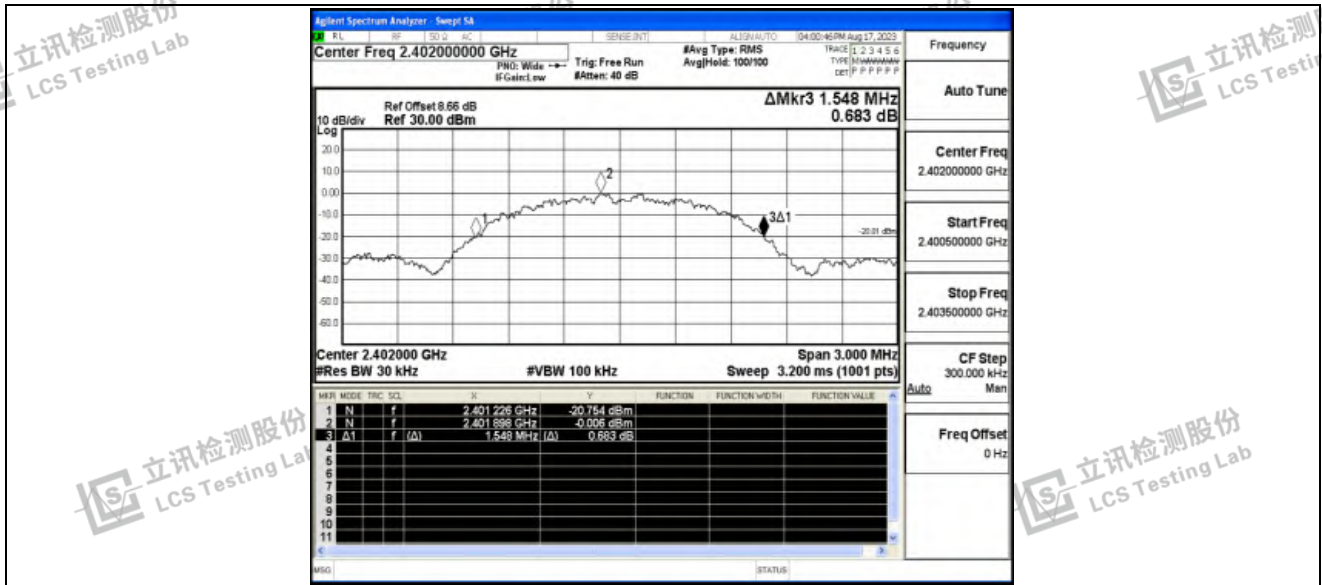


2DH5\_Ant0\_2480

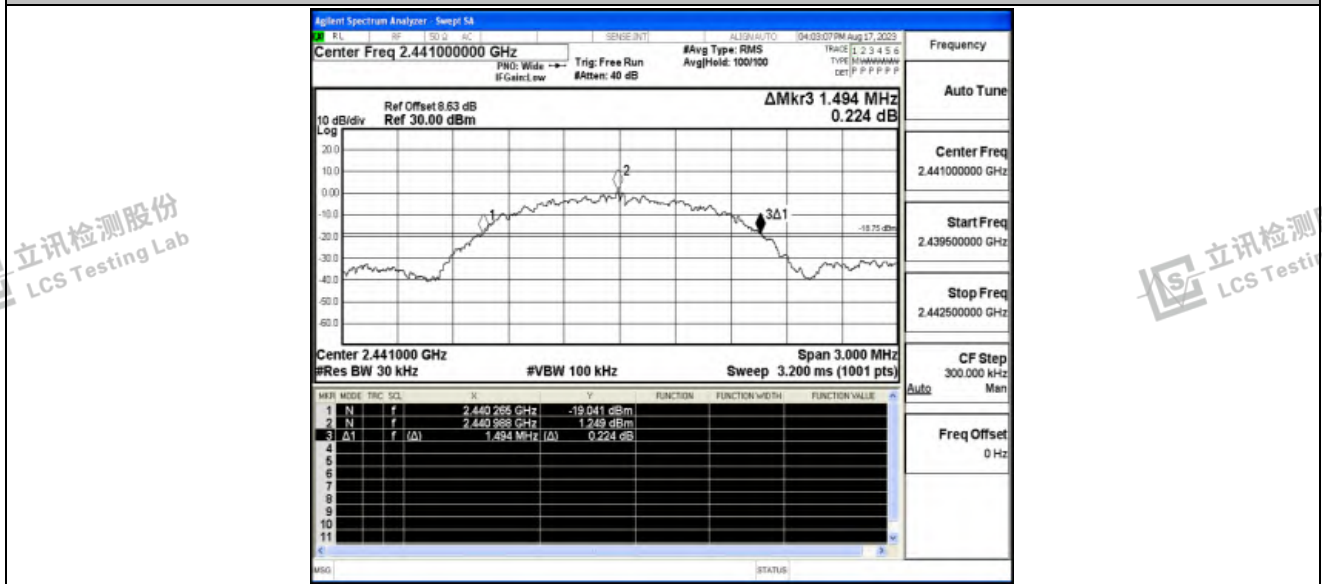


3DH5\_Ant0\_2402



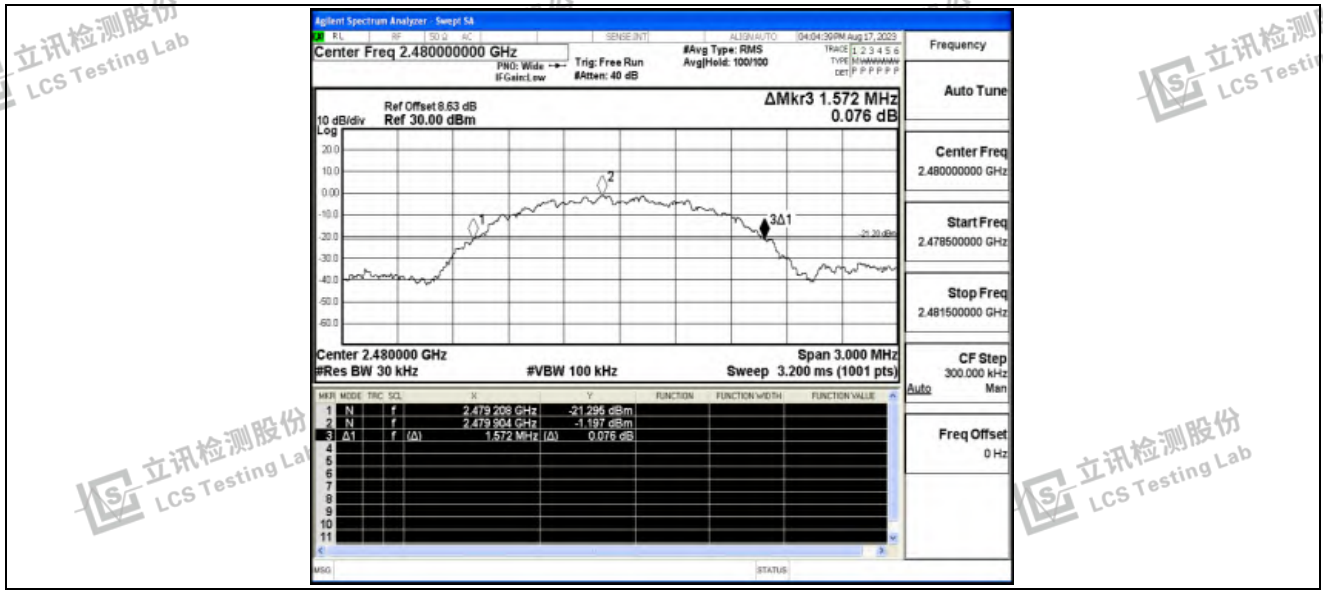


3DH5\_Ant0\_2441



3DH5\_Ant0\_2480





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# Appendix B: Occupied Channel Bandwidth

## Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant0	2402	0.88286	2401.5539	2402.4368	---	---
		2441	0.88209	2440.5573	2441.4394	---	---
		2480	0.88129	2479.5563	2480.4376	---	---
2DH5	Ant0	2402	1.3855	2401.2973	2402.6828	---	---
		2441	1.3668	2440.3111	2441.6779	---	---
		2480	1.3677	2479.3088	2480.6765	---	---
3DH5	Ant0	2402	1.3715	2401.3089	2402.6804	---	---
		2441	1.3732	2440.3127	2441.6859	---	---
		2480	1.3741	2479.3091	2480.6832	---	---

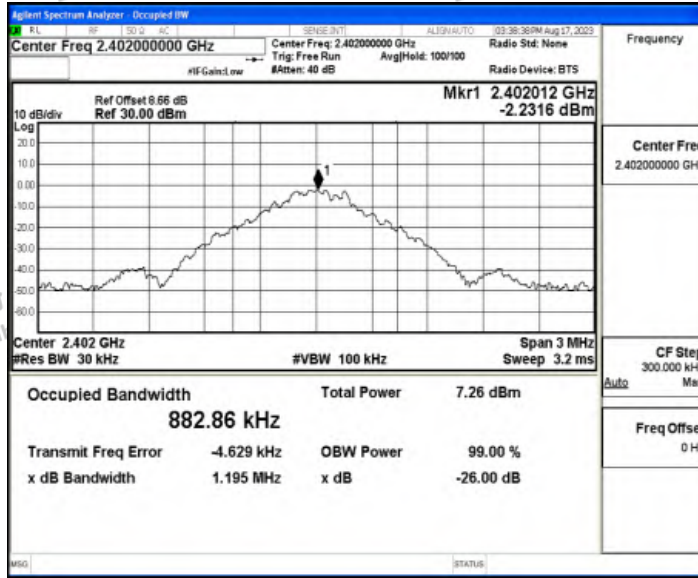






### Test Graphs

DH5\_Ant0\_2402

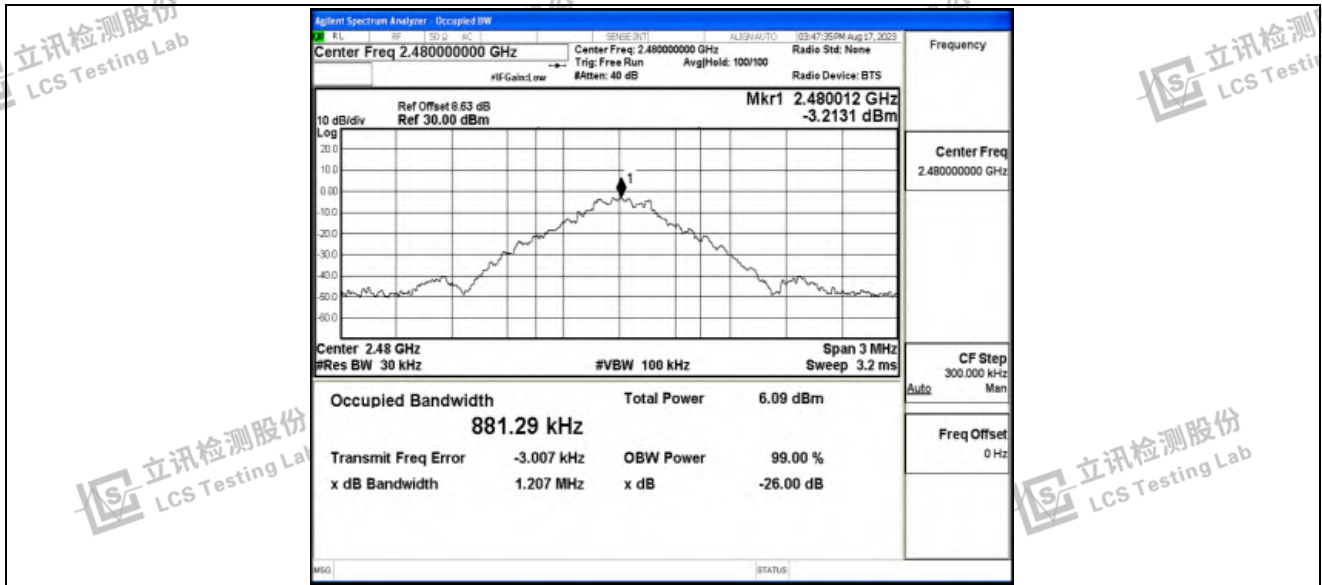


DH5\_Ant0\_2441

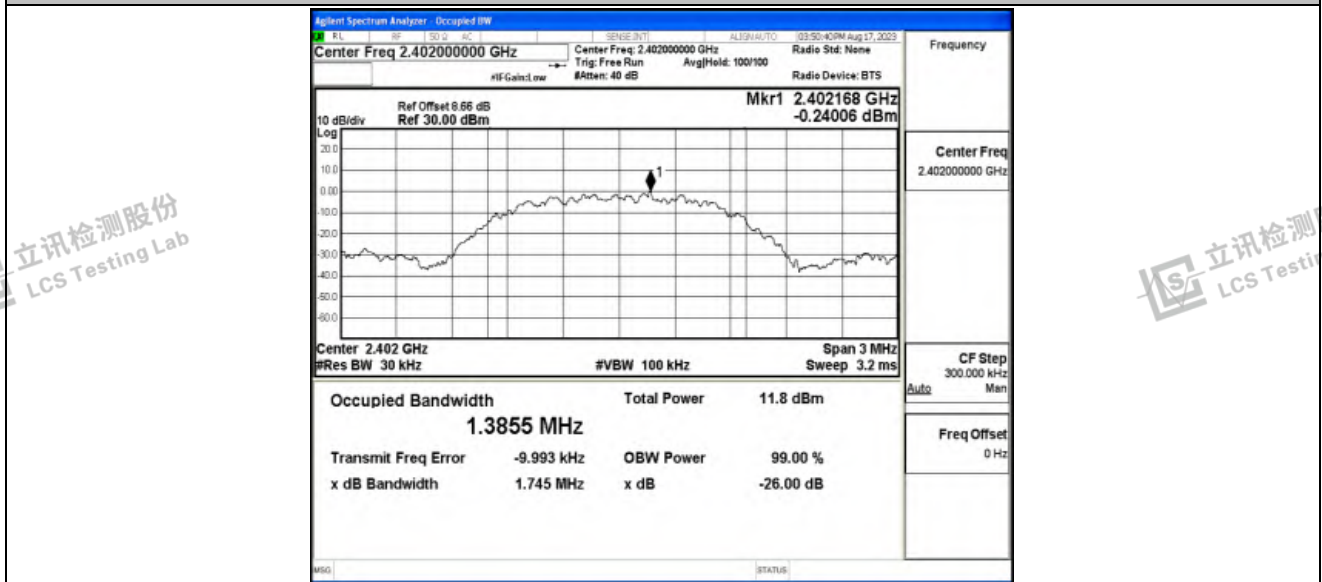


DH5\_Ant0\_2480



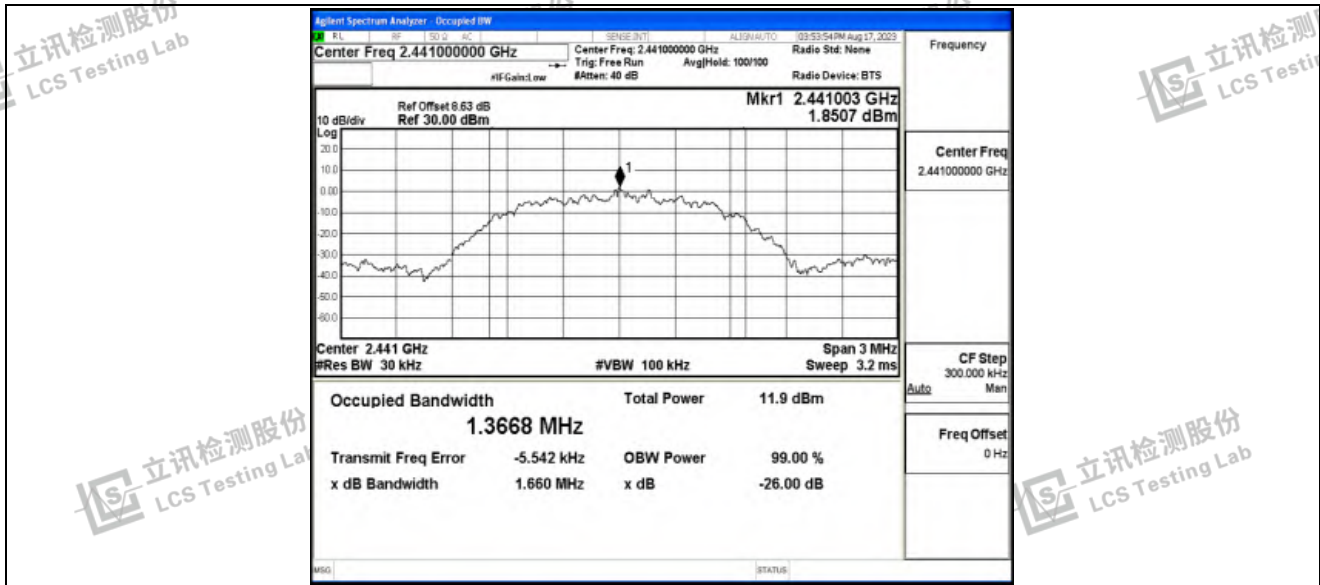


2DH5\_Ant0\_2402

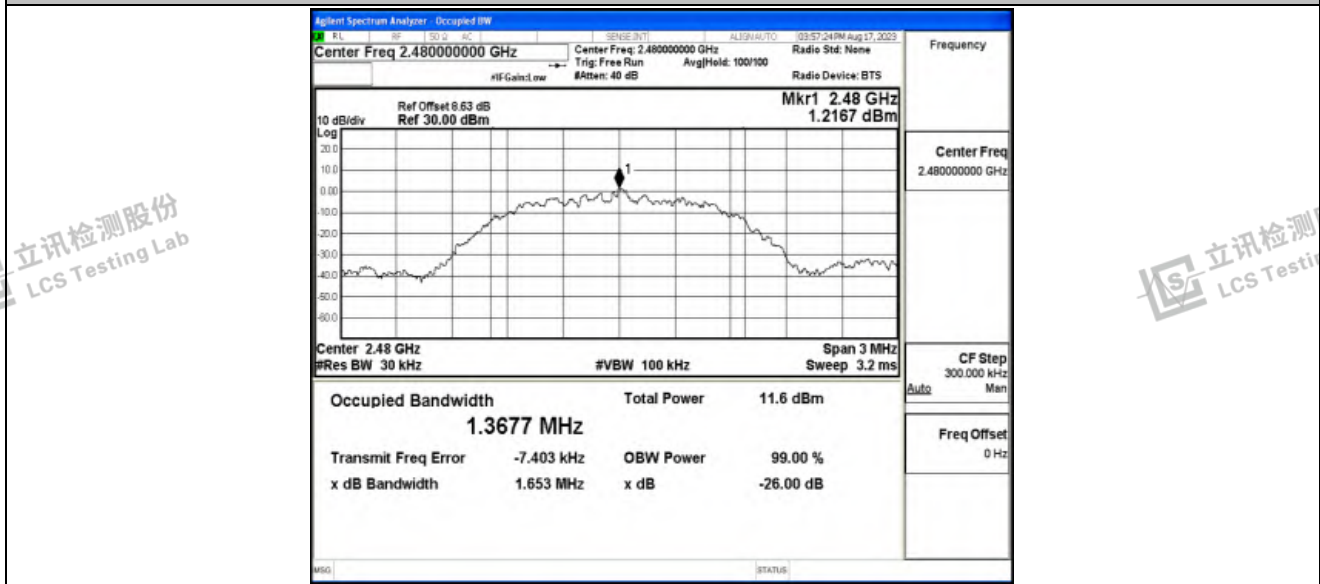


2DH5\_Ant0\_2441



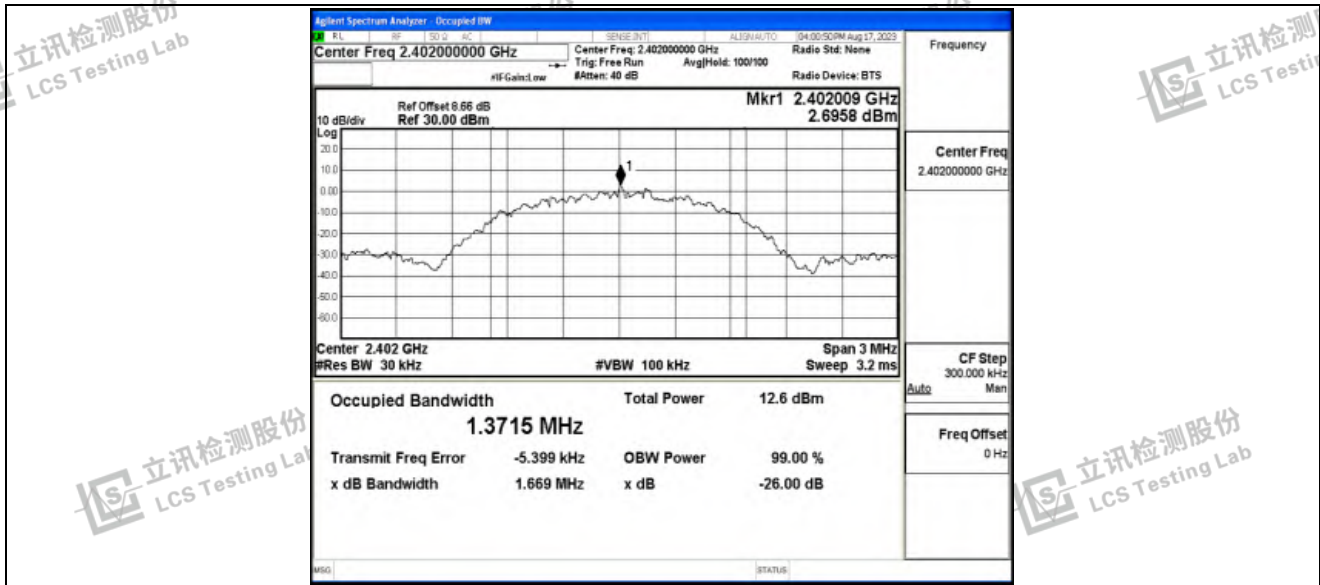


2DH5\_Ant0\_2480

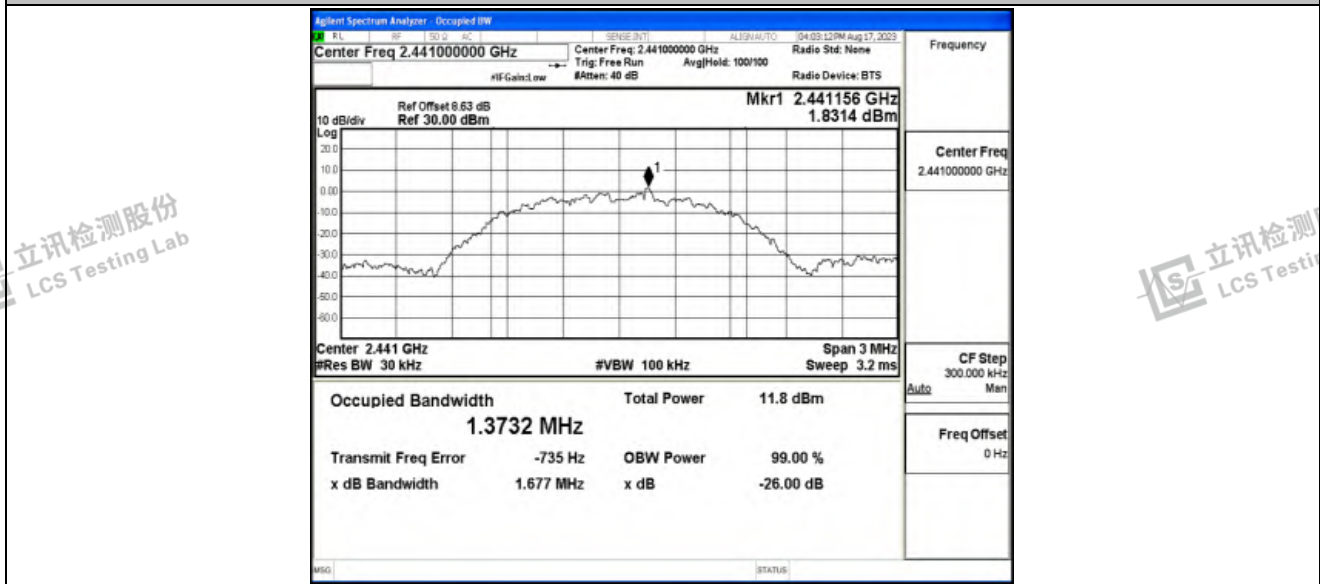


3DH5\_Ant0\_2402



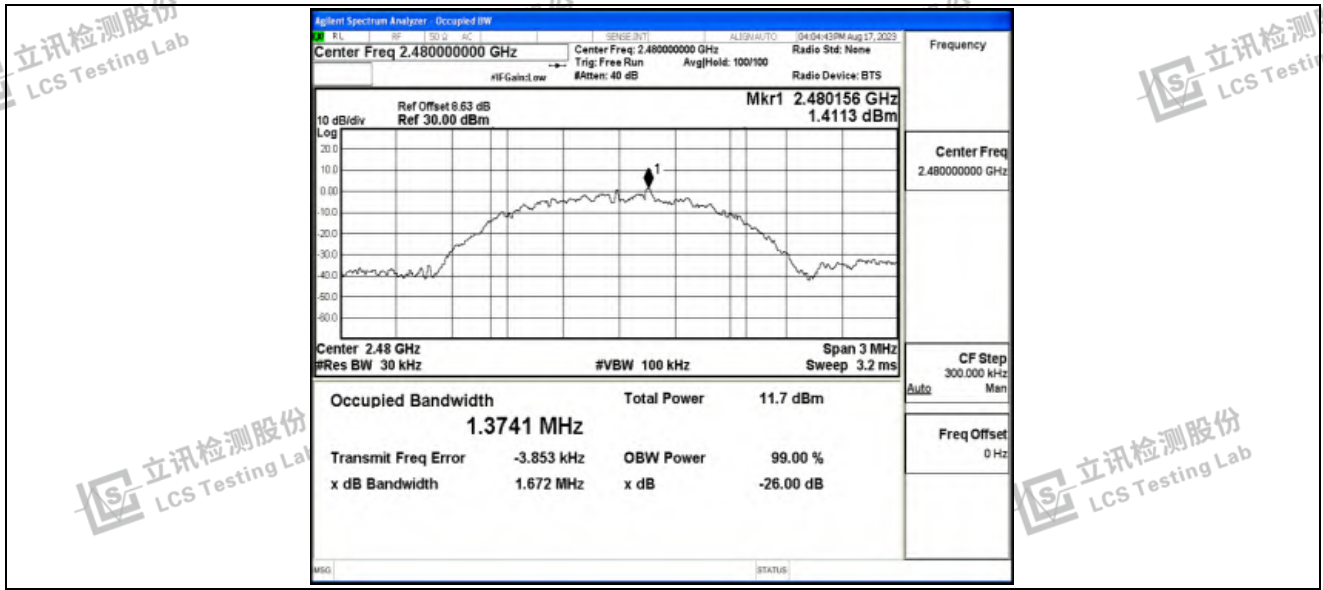


3DH5\_Ant0\_2441



3DH5\_Ant0\_2480





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## A.2 Maximum Conducted Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant0	2402	0.69	≤20.97	PASS
		2441	0.13	≤20.97	PASS
		2480	-0.37	≤20.97	PASS
2DH5	Ant0	2402	6.96	≤20.97	PASS
		2441	6.74	≤20.97	PASS
		2480	6.52	≤20.97	PASS
3DH5	Ant0	2402	7.18	≤20.97	PASS
		2441	6.95	≤20.97	PASS
		2480	6.72	≤20.97	PASS





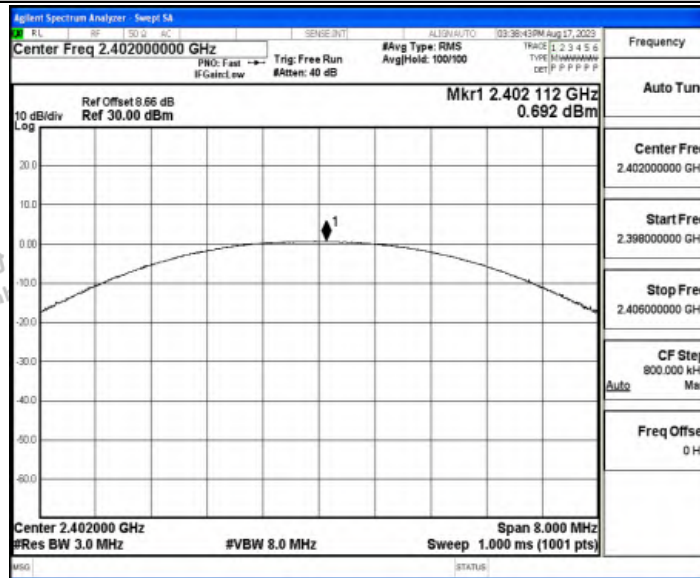
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Test Graphs

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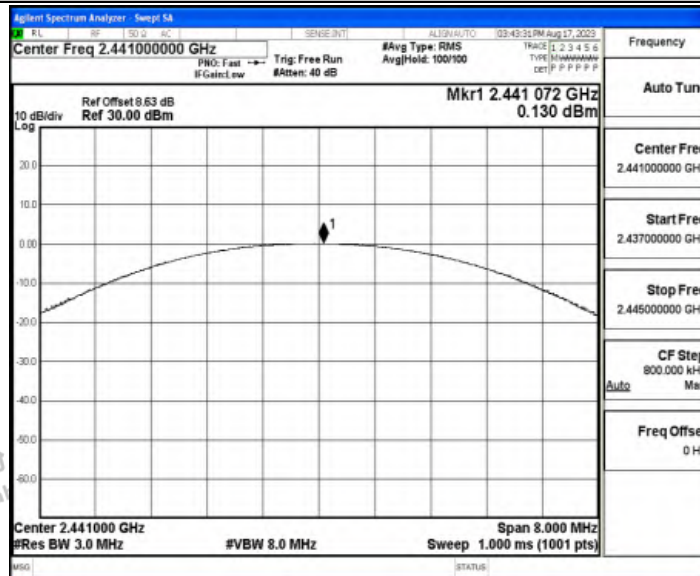
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DH5\_Ant0\_2402



DH5\_Ant0\_2441



DH5\_Ant0\_2480

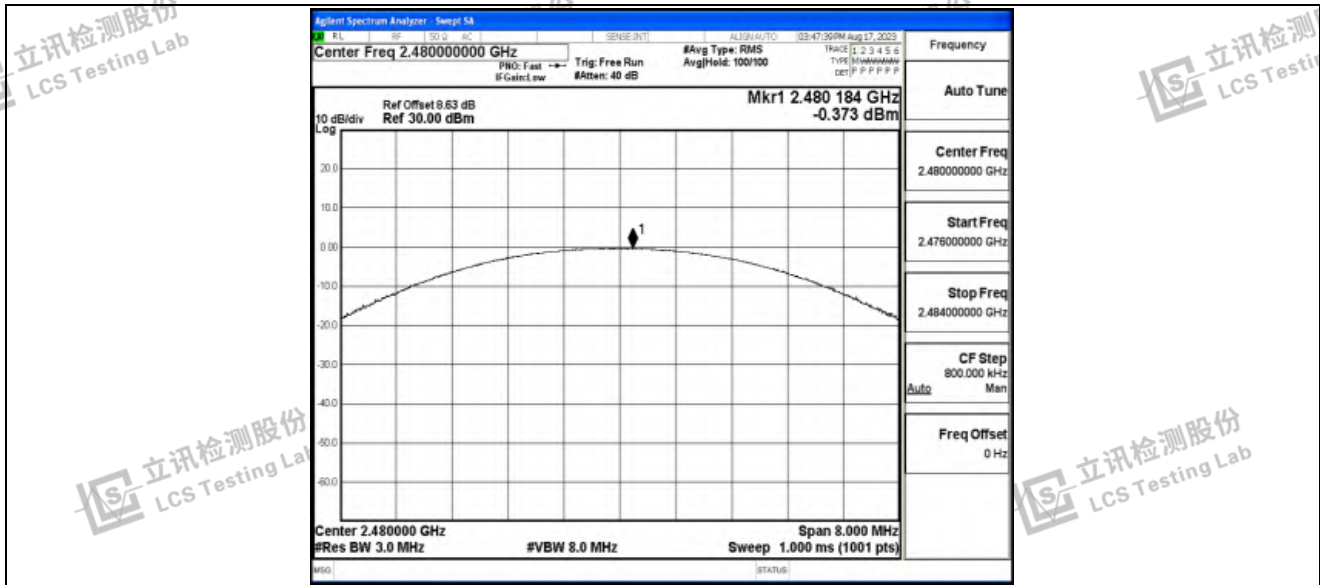
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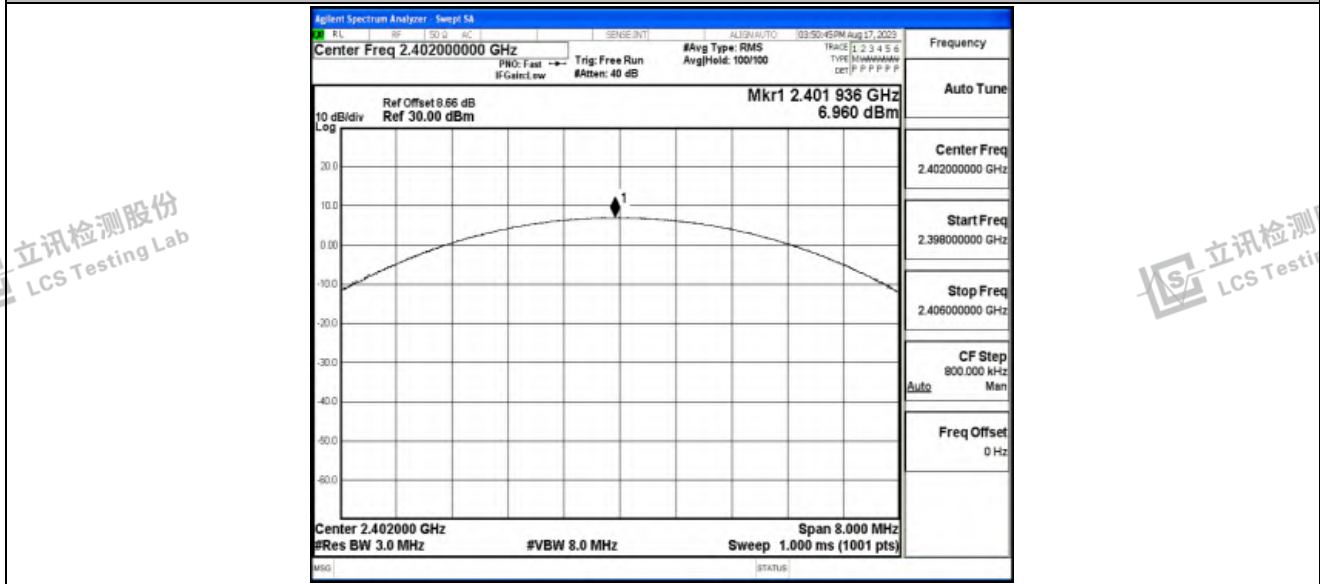
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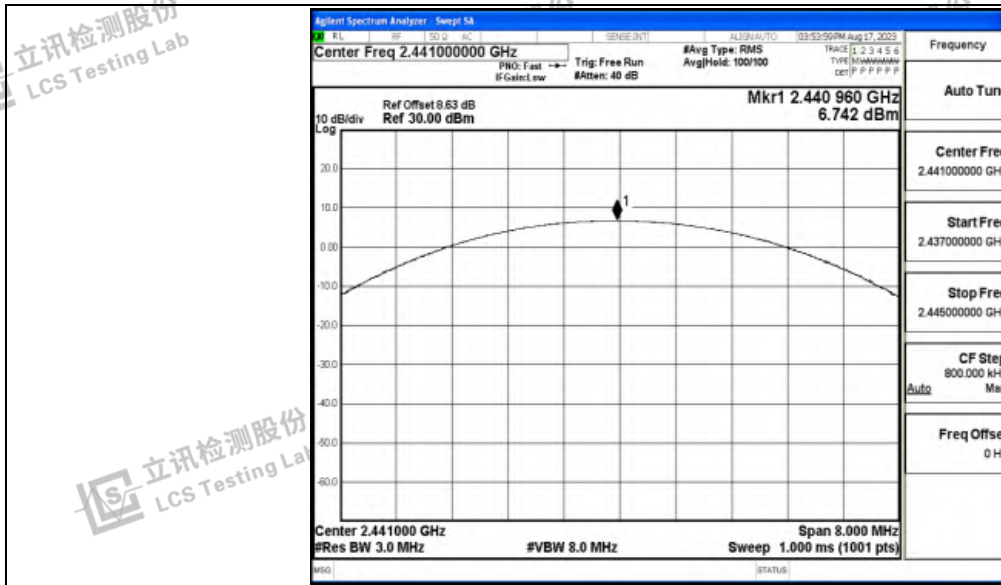
2DH5\_Ant0\_2402



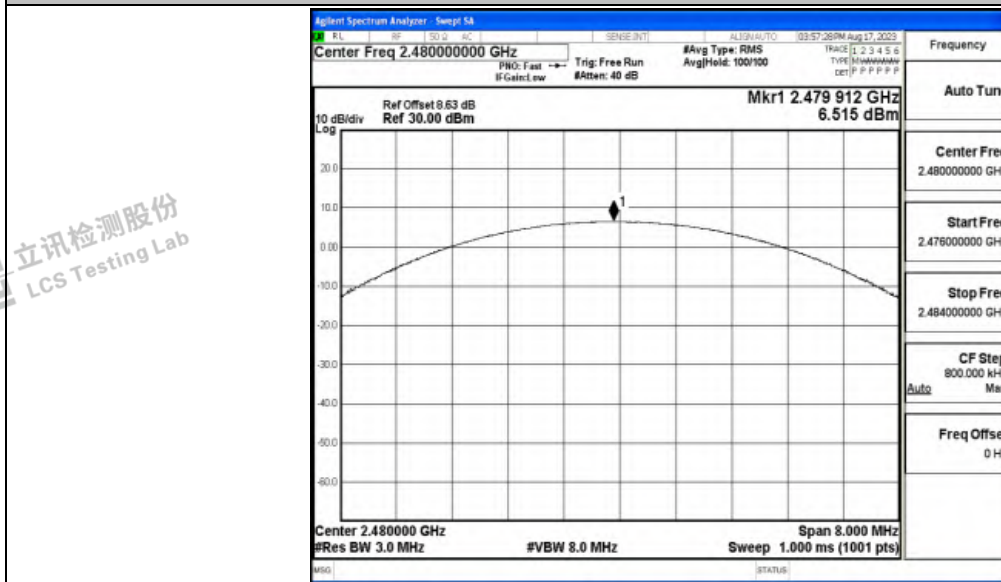
2DH5\_Ant0\_2441





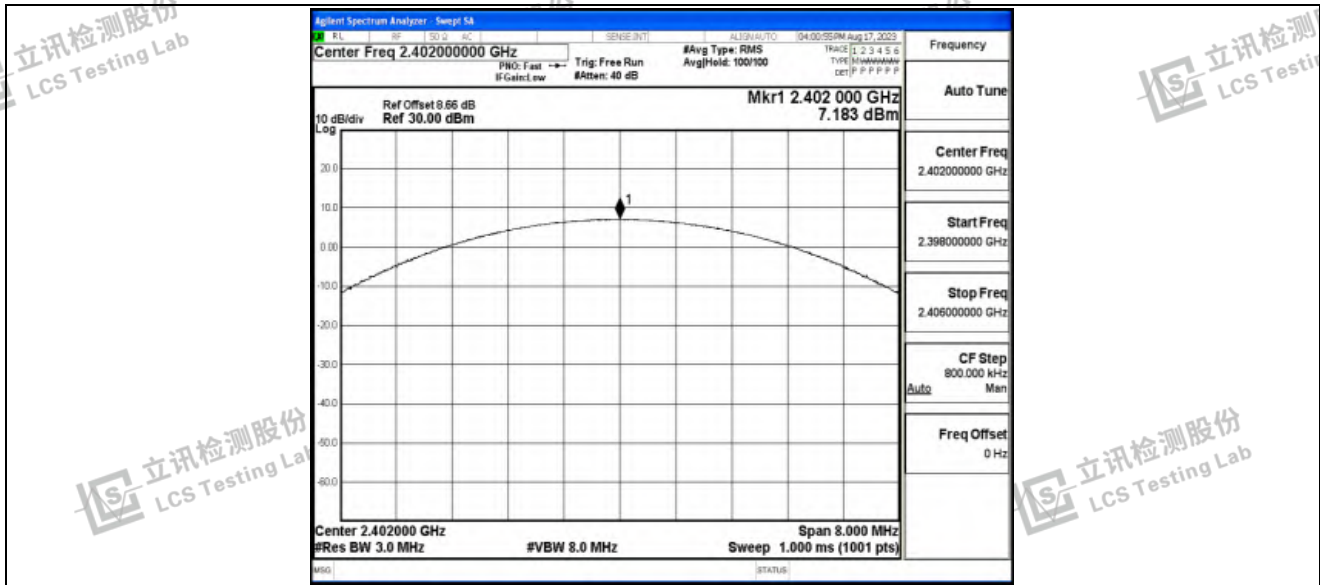


2DH5\_Ant0\_2480

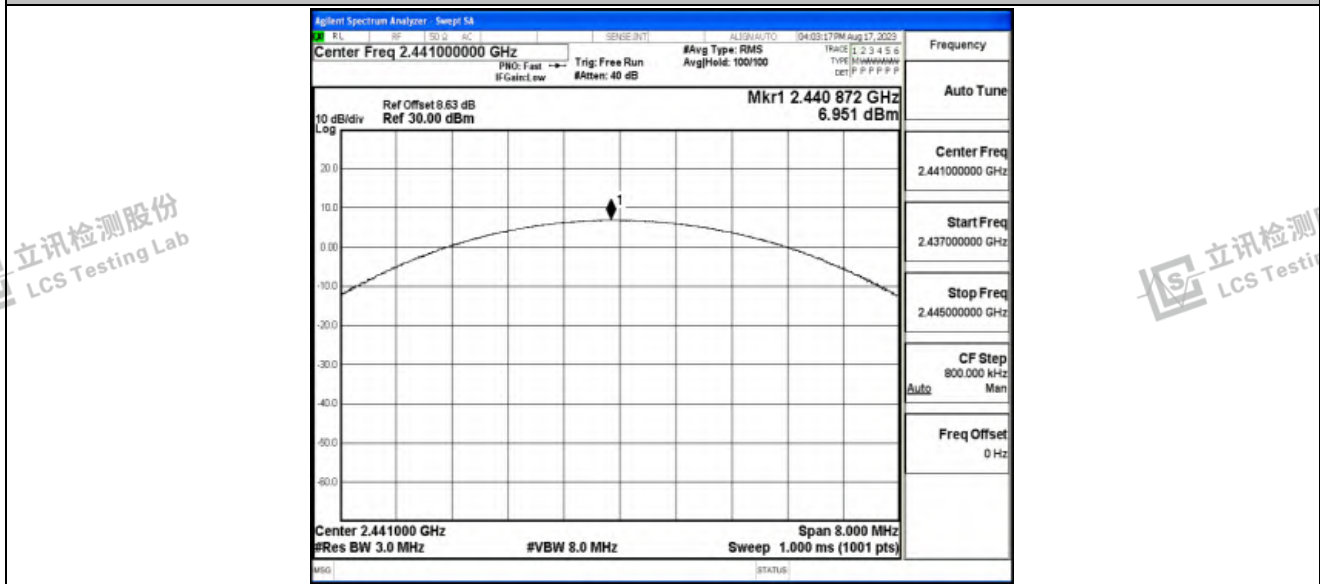


3DH5\_Ant0\_2402



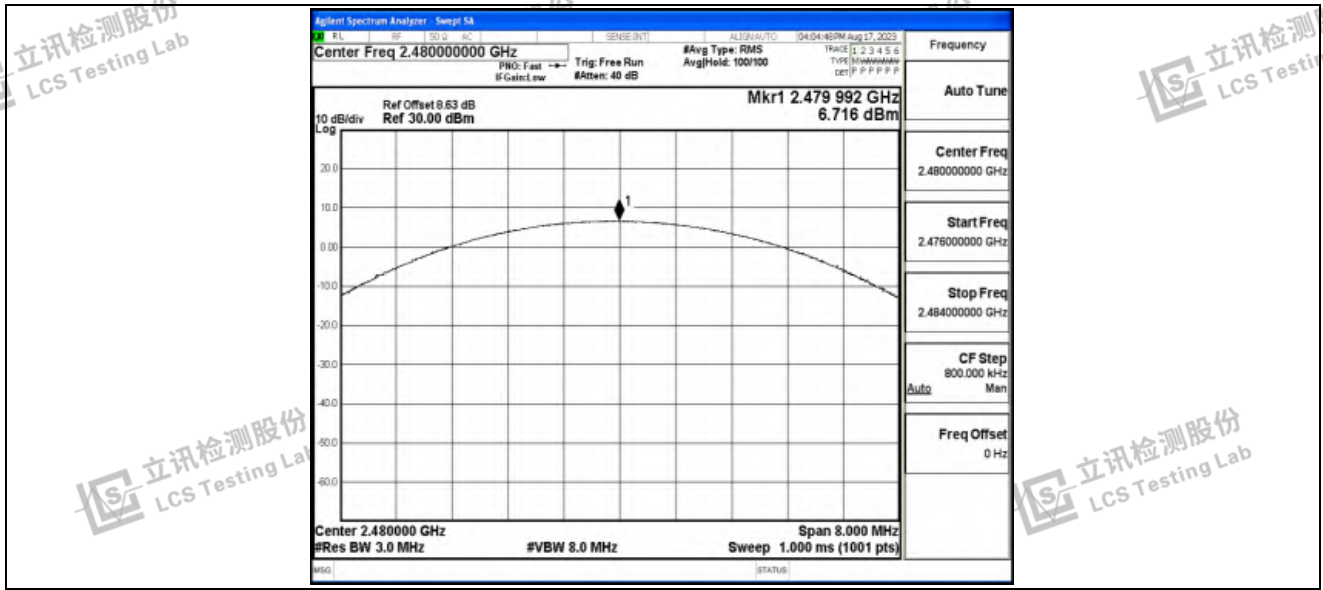


3DH5\_Ant0\_2441



3DH5\_Ant0\_2480





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### A.3 Carrier Frequencies Separation

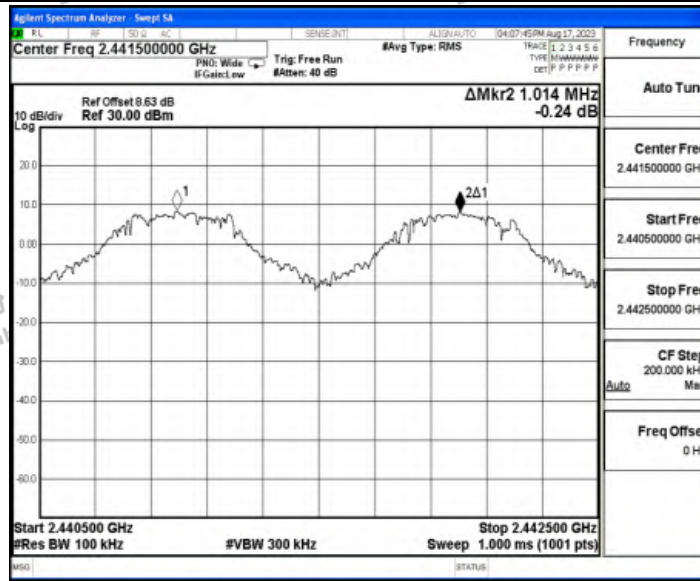
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant0	Hop	1.014	≥0.682	PASS
2DH5	Ant0	Hop	1.07	≥1.060	PASS
3DH5	Ant0	Hop	1.17	≥1.048	PASS



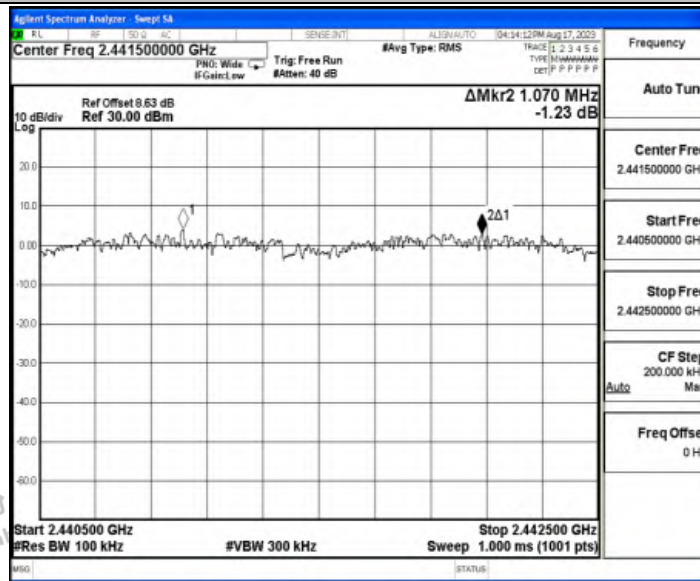


### Test Graphs

DH5\_Ant0\_Hop

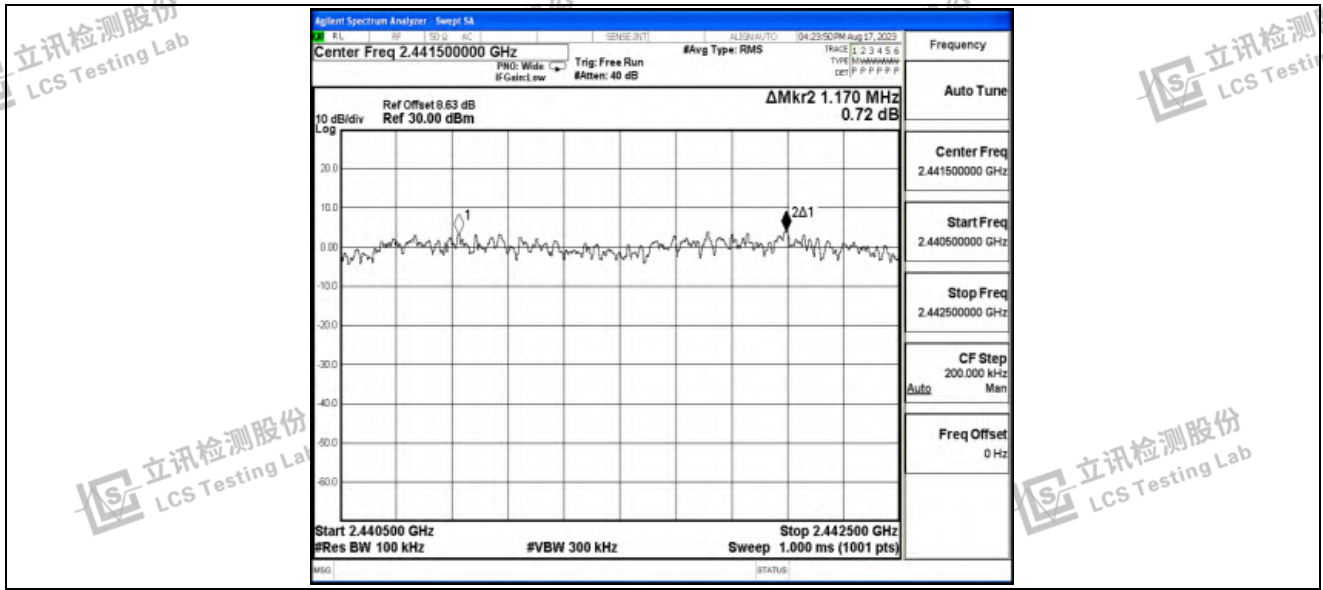


2DH5\_Ant0\_Hop



3DH5\_Ant0\_Hop





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### A.4 Dwell Time

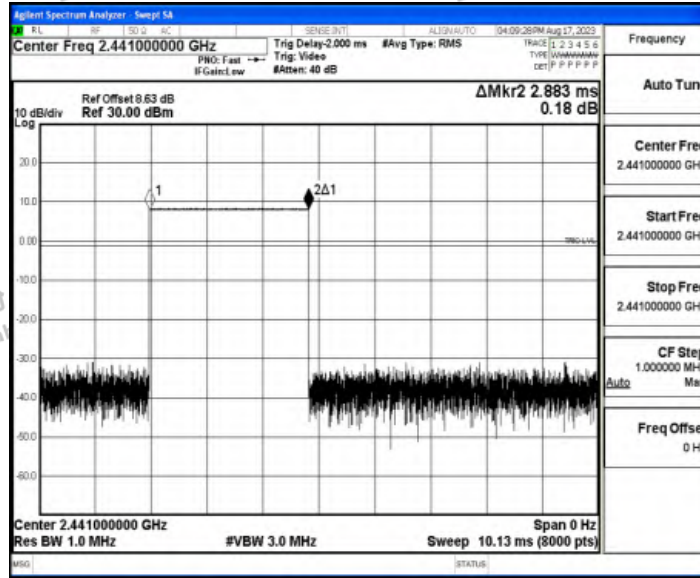
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant0	Hop	2.883	106.67	0.308	≤0.4	PASS
2DH5	Ant0	Hop	2.888	106.67	0.308	≤0.4	PASS
3DH5	Ant0	Hop	2.889	106.67	0.308	≤0.4	PASS



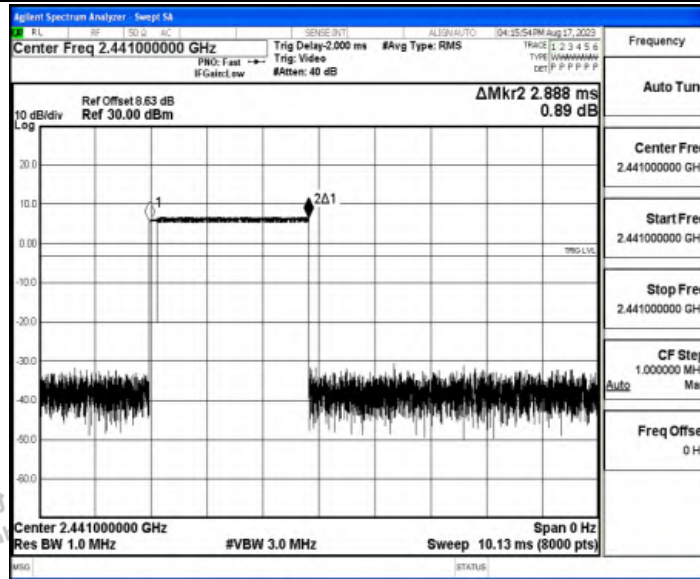


### Test Graphs

DH5\_Ant0\_Hop



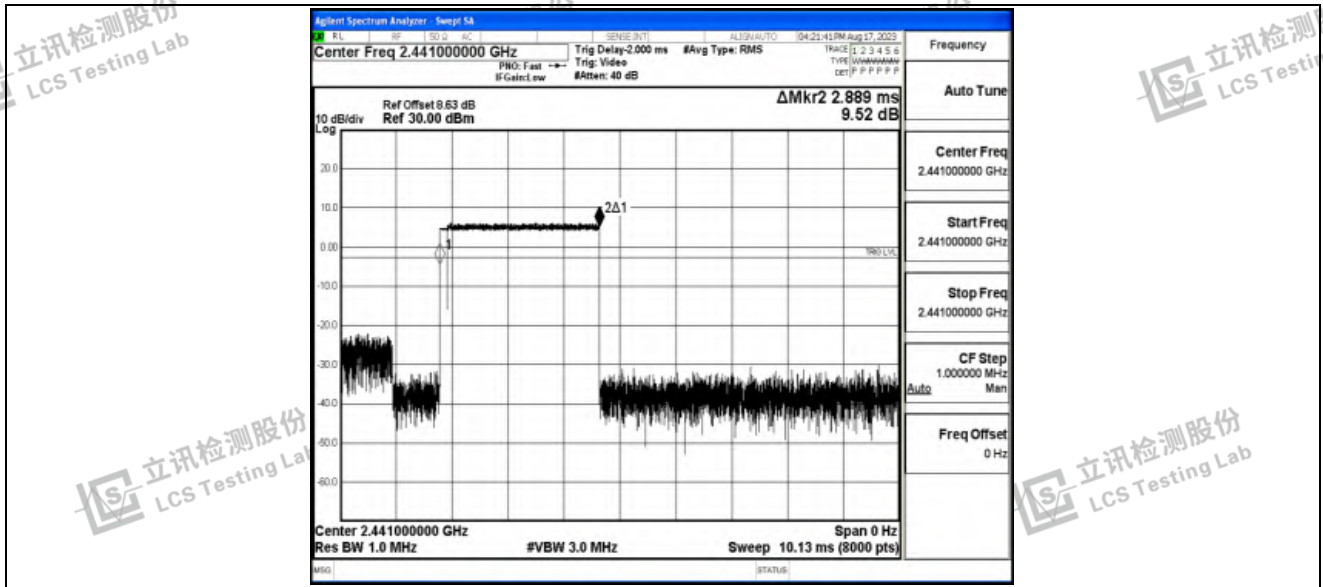
2DH5\_Ant0\_Hop



3DH5\_Ant0\_Hop







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## A.5 Number of Hopping Channel

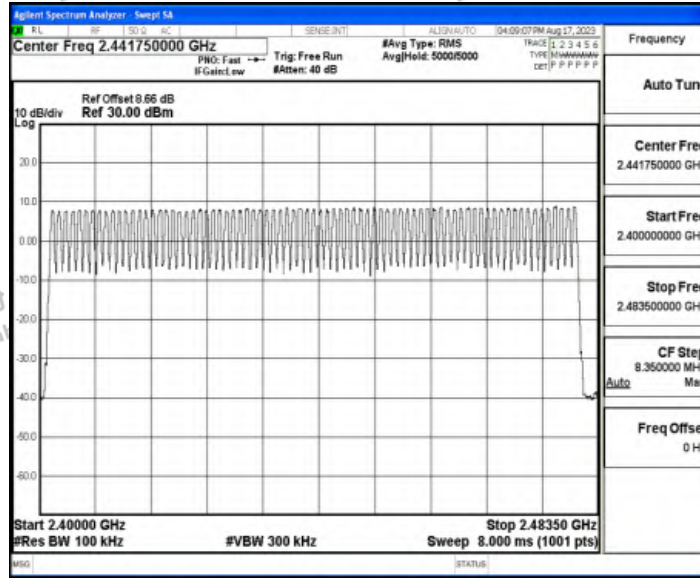
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant0	Hop	79	≥15	PASS
2DH5	Ant0	Hop	79	≥15	PASS
3DH5	Ant0	Hop	79	≥15	PASS



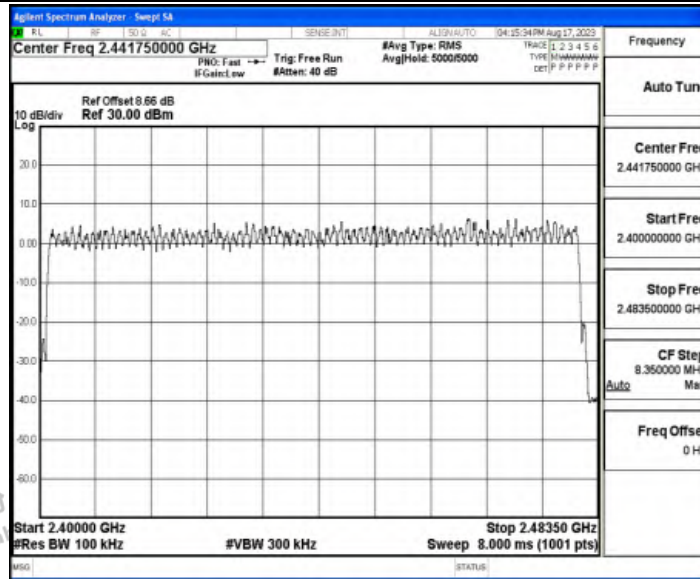


### Test Graphs

DH5\_Ant0\_Hop

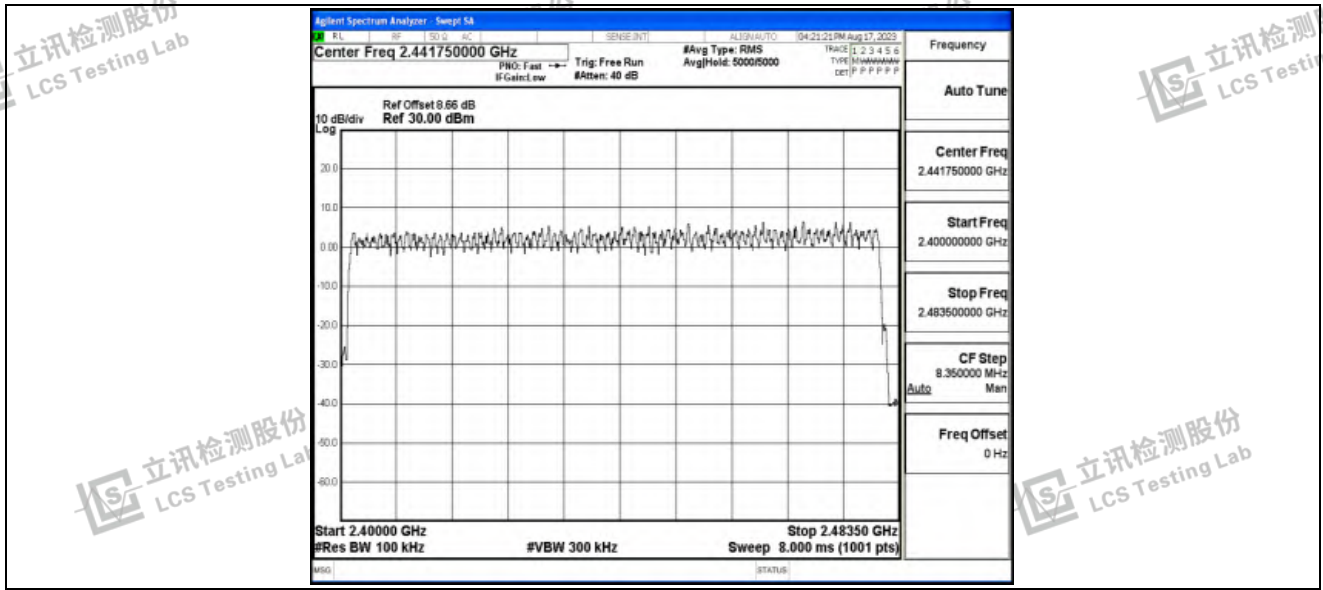


2DH5\_Ant0\_Hop



3DH5\_Ant0\_Hop





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### A.6 Band Edge

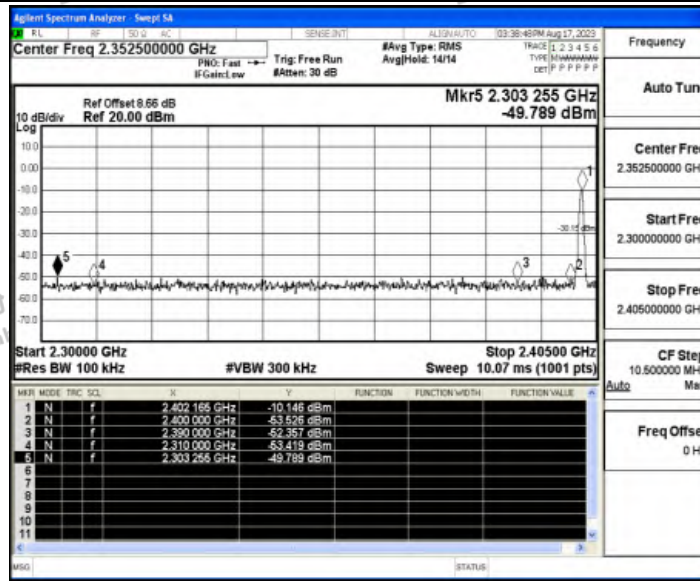
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant0	Low	2402	-10.15	-49.79	≤-30.15	PASS
		High	2480	-2.03	-42.91	≤-22.03	PASS
		Low	Hop_2402	7.05	-46.75	≤-12.95	PASS
		High	Hop_2480	8.58	-46.11	≤-11.42	PASS
2DH5	Ant0	Low	2402	2.69	-44.5	≤-17.31	PASS
		High	2480	2.40	-49.85	≤-17.6	PASS
		Low	Hop_2402	1.68	-48.14	≤-18.32	PASS
		High	Hop_2480	4.20	-47.92	≤-15.8	PASS
3DH5	Ant0	Low	2402	3.38	-45.49	≤-16.62	PASS
		High	2480	2.31	-49.35	≤-17.69	PASS
		Low	Hop_2402	2.56	-48.25	≤-17.44	PASS
		High	Hop_2480	6.53	-47.15	≤-13.47	PASS



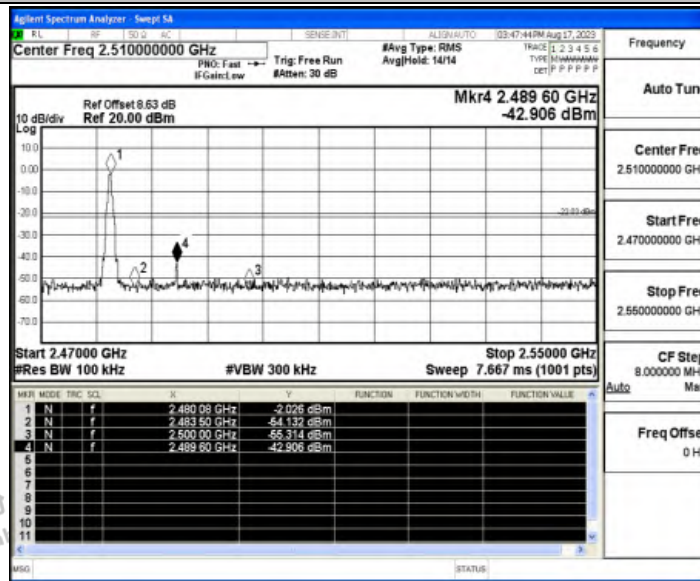


### Test Graphs

DH5\_Ant0\_Low\_2402

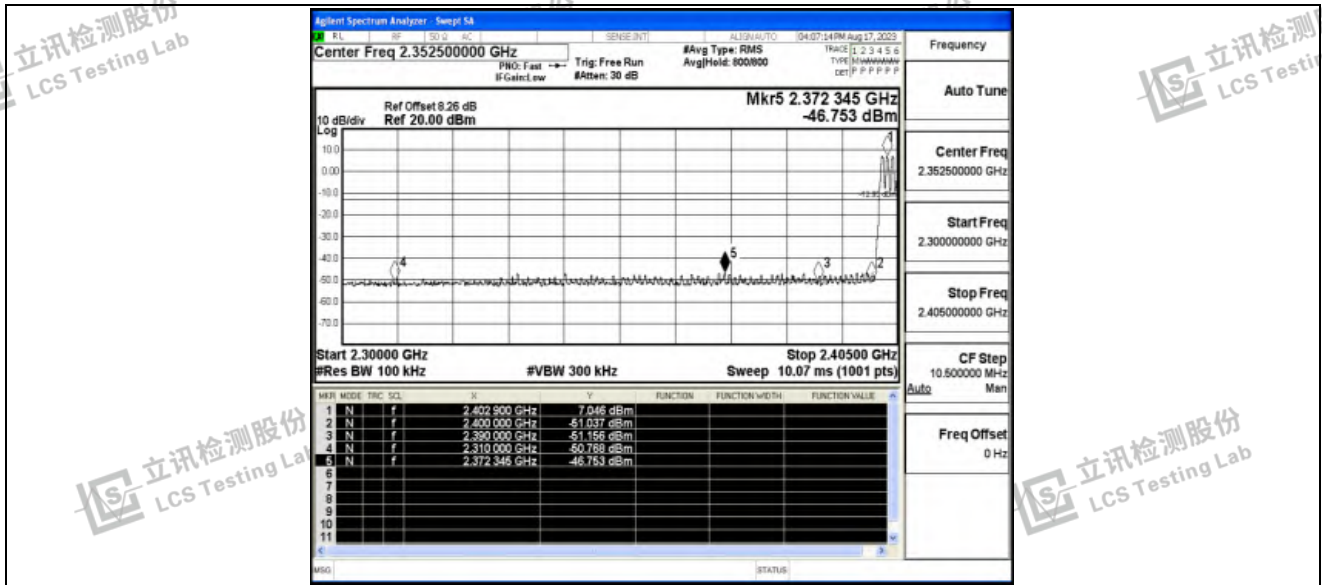


DH5\_Ant0\_High\_2480

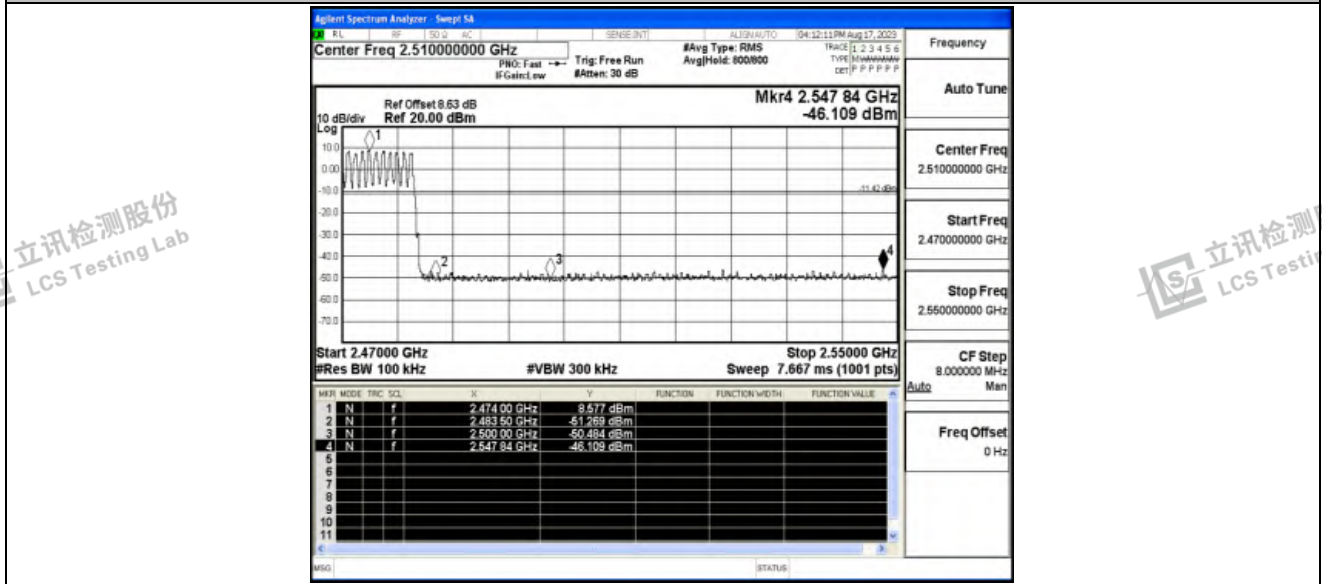


DH5\_Ant0\_Low\_Hop\_2402



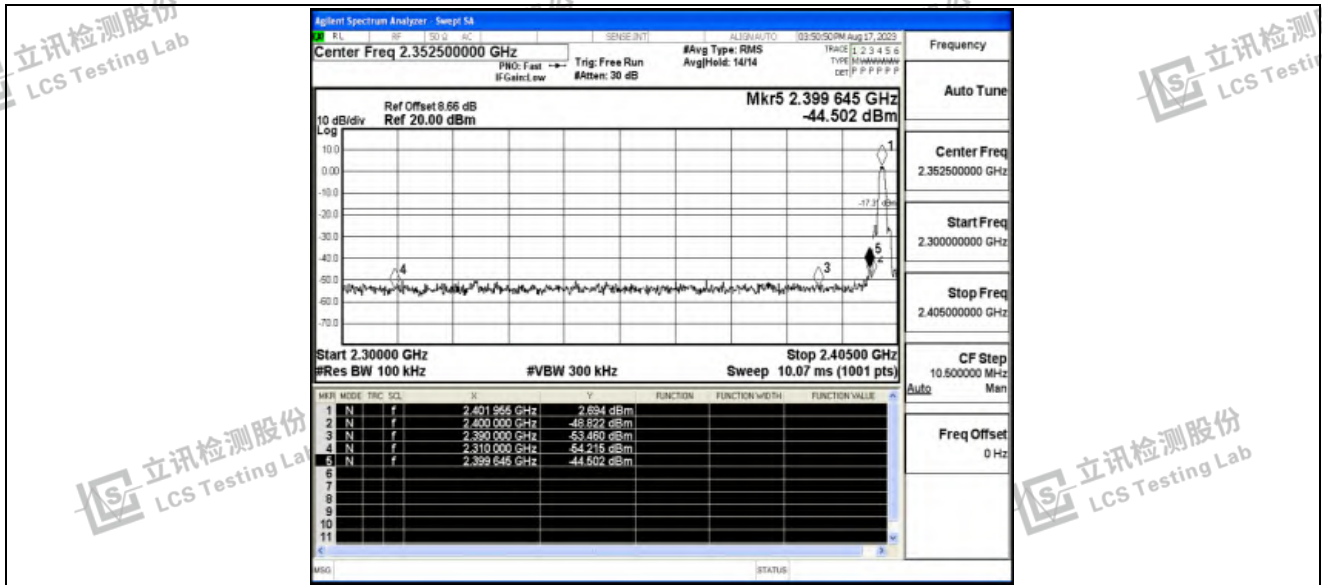


DH5\_Ant0\_High\_Hop\_2480

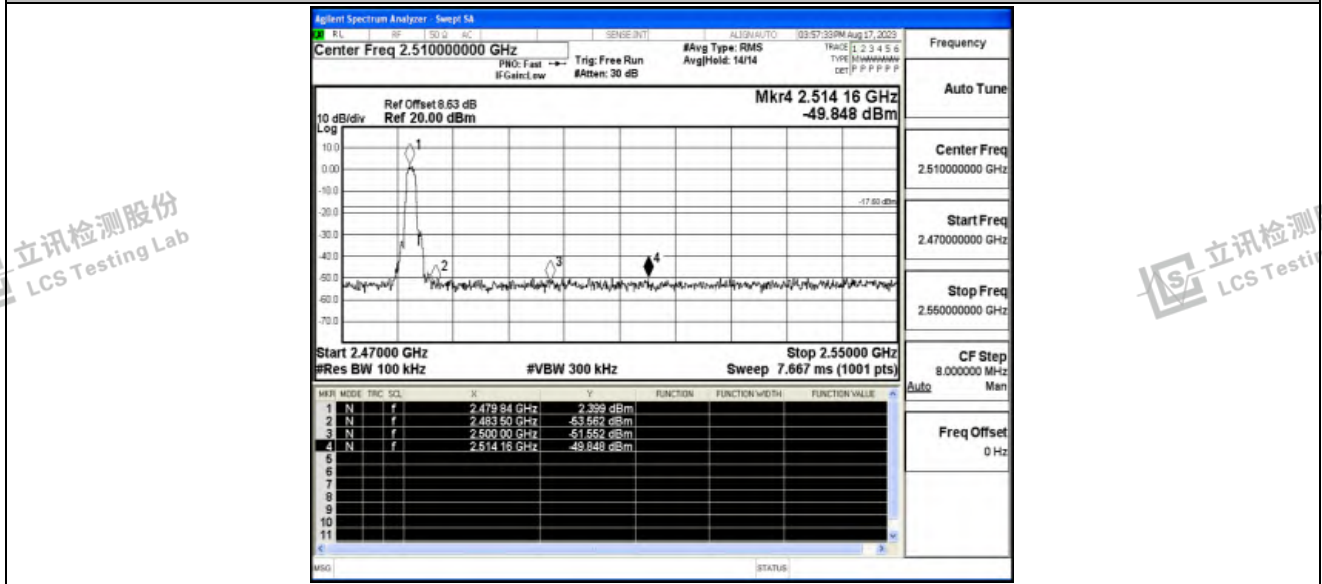


2DH5\_Ant0\_Low\_2402





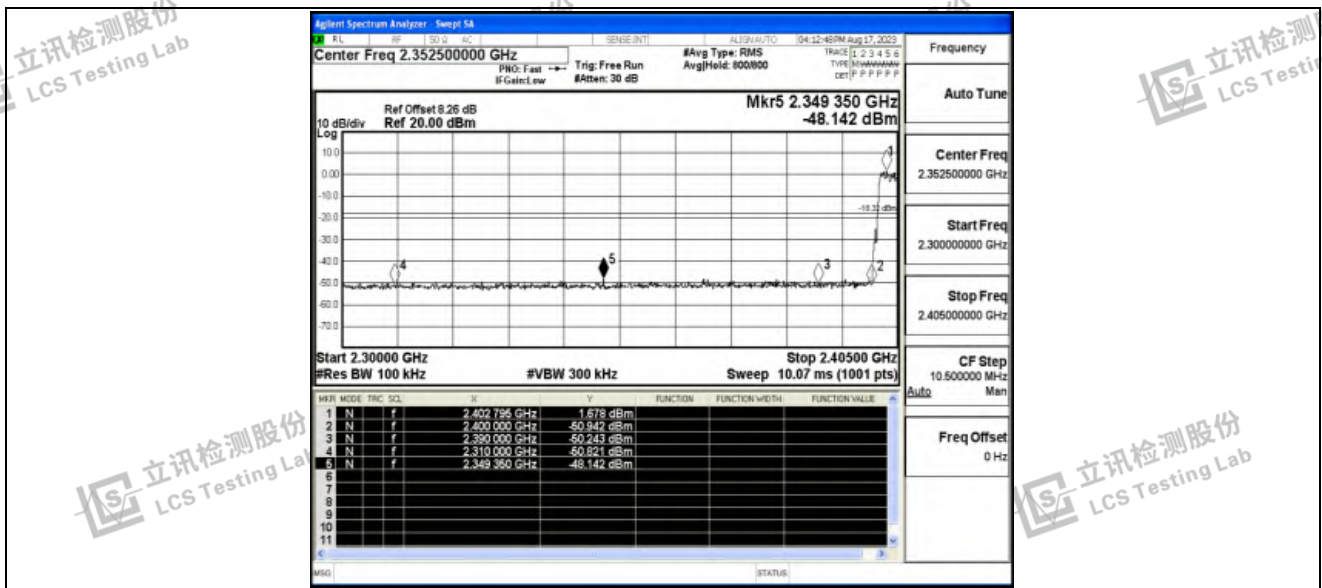
2DH5\_Ant0\_High\_2480



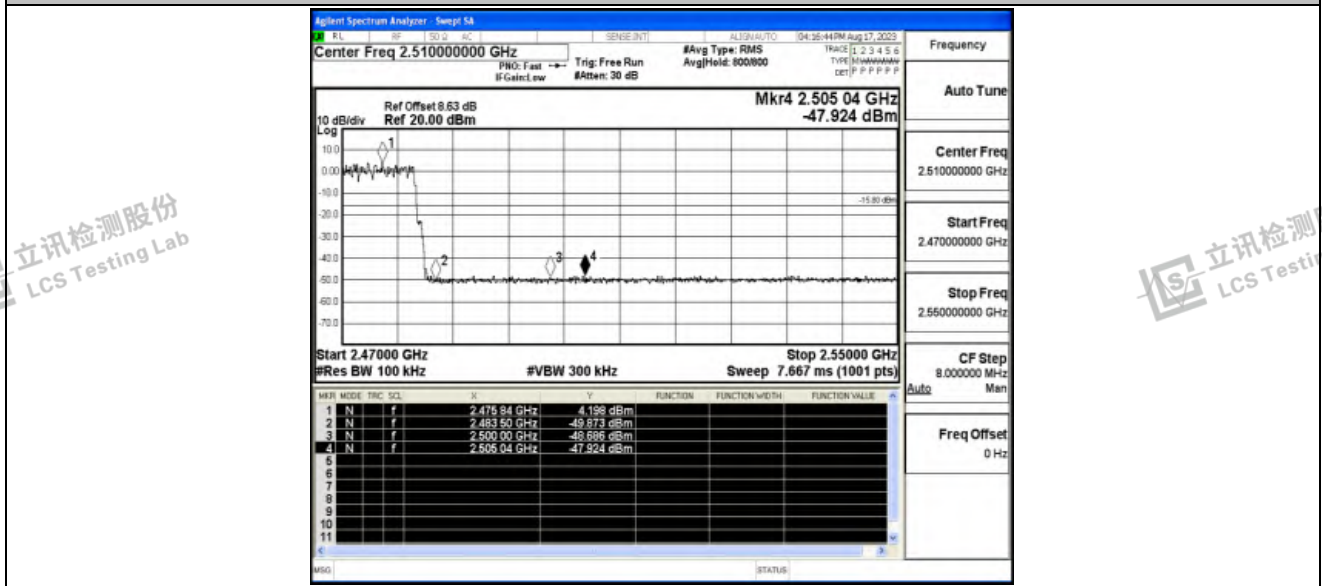
2DH5\_Ant0\_Low\_Hop\_2402





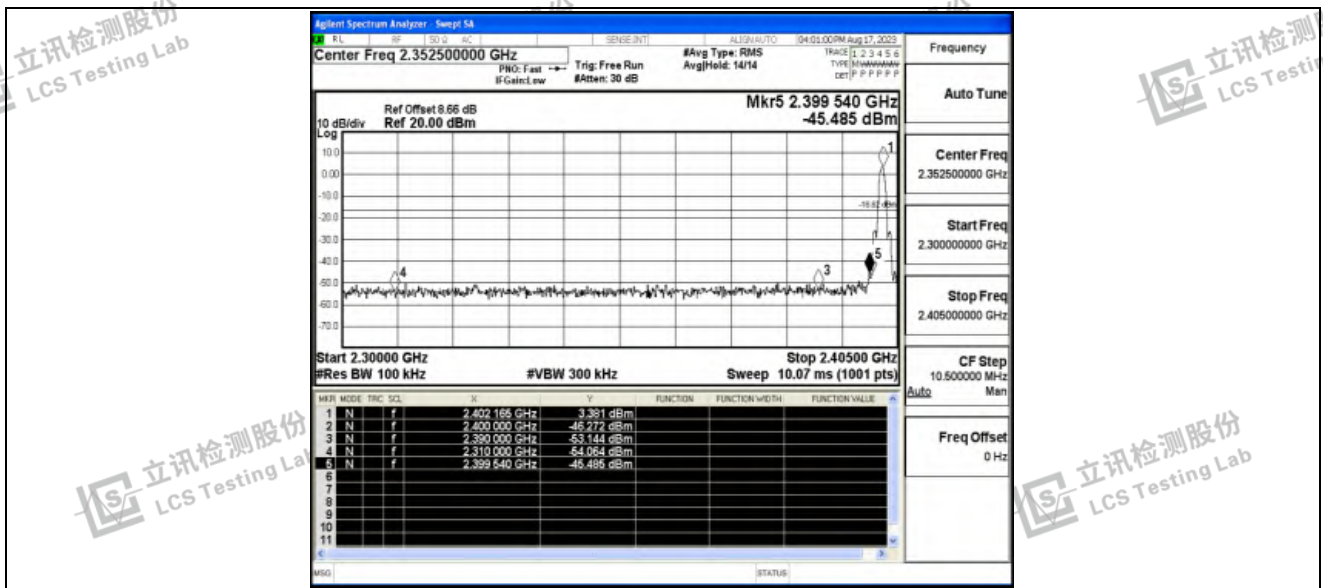


2DH5\_Ant0\_High\_Hop\_2480

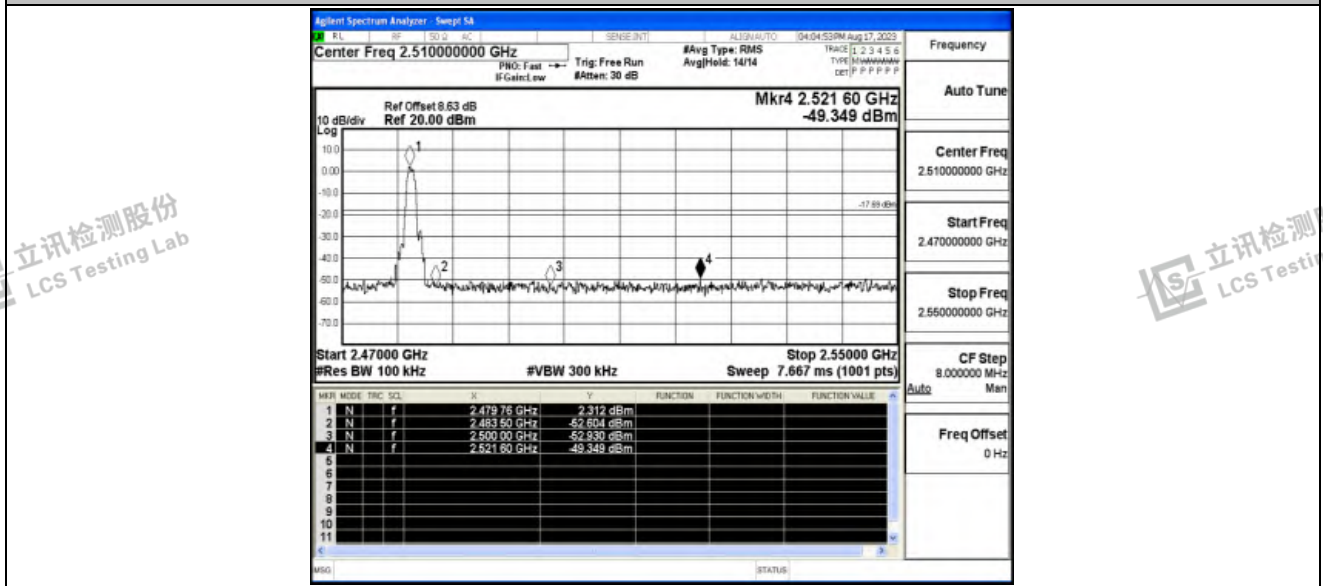


3DH5\_Ant0\_Low\_2402



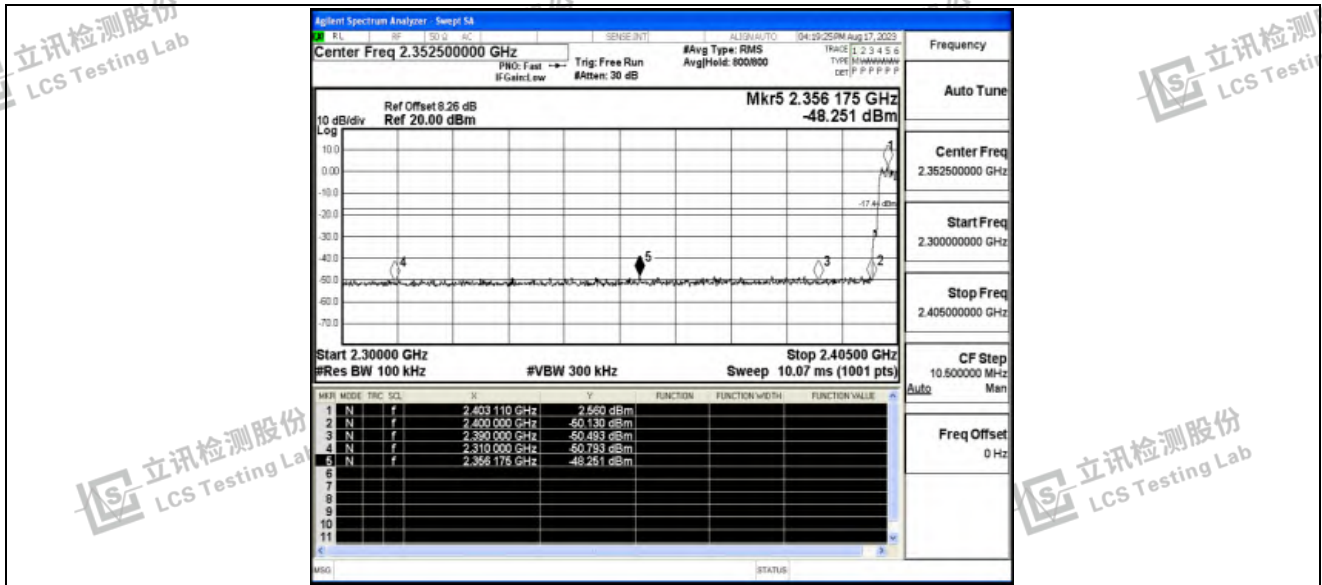


3DH5\_Ant0\_High\_2480

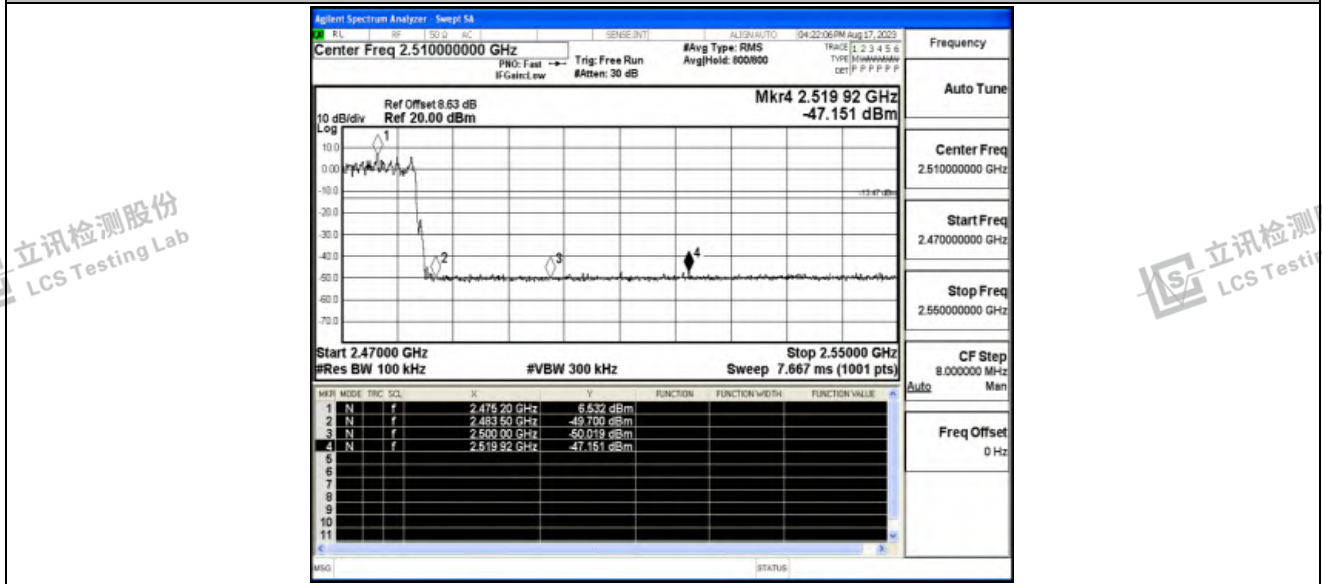


3DH5\_Ant0\_Low\_Hop\_2402





3DH5\_Ant0\_High\_Hop\_2480



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### A.7 Conducted RF Spurious Emission

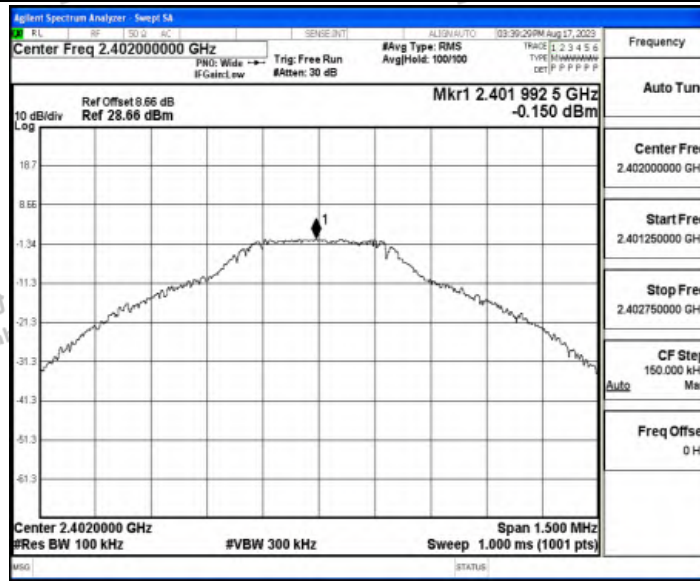
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant0	2402	Reference	-0.15	-0.15	---	PASS
			30~1000	-0.15	-61.25	≤-20.15	PASS
			1000~26500	-0.15	-46.33	≤-20.15	PASS
		2441	Reference	-0.59	-0.59	---	PASS
			30~1000	-0.59	-61.01	≤-20.59	PASS
			1000~26500	-0.59	-46.07	≤-20.59	PASS
		2480	Reference	-0.87	-0.87	---	PASS
			30~1000	-0.87	-61.21	≤-20.87	PASS
			1000~26500	-0.87	-47.43	≤-20.87	PASS
2DH5	Ant0	2402	Reference	5.08	5.08	---	PASS
			30~1000	5.08	-61.51	≤-14.92	PASS
			1000~26500	5.08	-46.48	≤-14.92	PASS
		2441	Reference	4.63	4.63	---	PASS
			30~1000	4.63	-61.79	≤-15.37	PASS
			1000~26500	4.63	-46.66	≤-15.37	PASS
		2480	Reference	2.66	2.66	---	PASS
			30~1000	2.66	-61.4	≤-17.34	PASS
			1000~26500	2.66	-46.94	≤-17.34	PASS
3DH5	Ant0	2402	Reference	5.10	5.10	---	PASS
			30~1000	5.10	-61.39	≤-14.9	PASS
			1000~26500	5.10	-46.4	≤-14.9	PASS
		2441	Reference	4.66	4.66	---	PASS
			30~1000	4.66	-61.16	≤-15.34	PASS
			1000~26500	4.66	-46.67	≤-15.34	PASS
		2480	Reference	2.47	2.47	---	PASS
			30~1000	2.47	-61.85	≤-17.53	PASS
			1000~26500	2.47	-47.07	≤-17.53	PASS



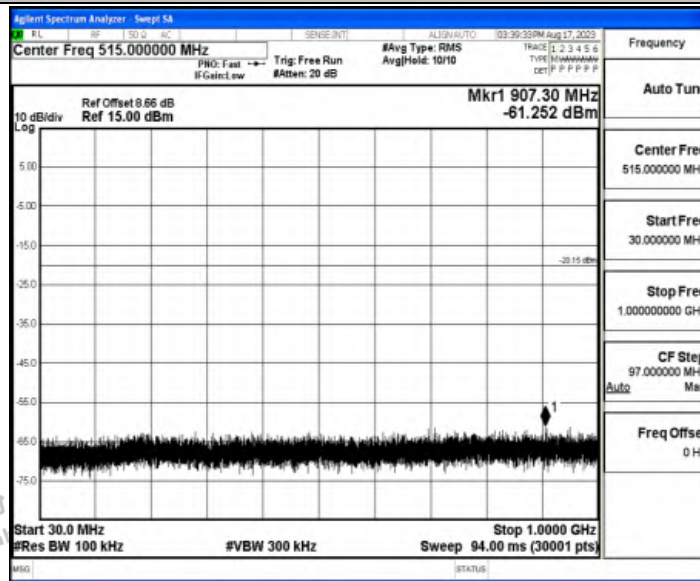


### Test Graphs

DH5\_Ant0\_2402\_0~Reference

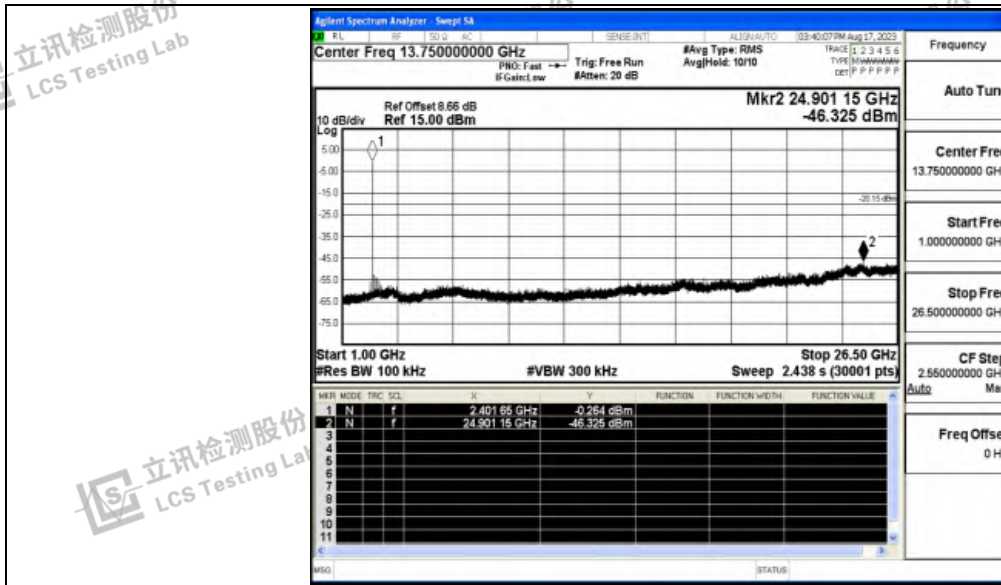


DH5\_Ant0\_2402\_30~1000

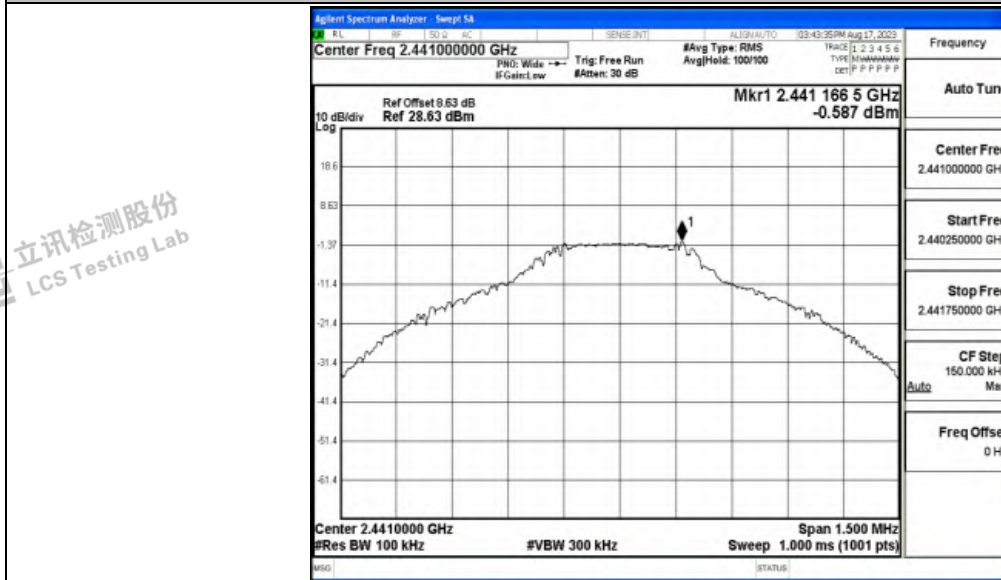


DH5\_Ant0\_2402\_1000~26500



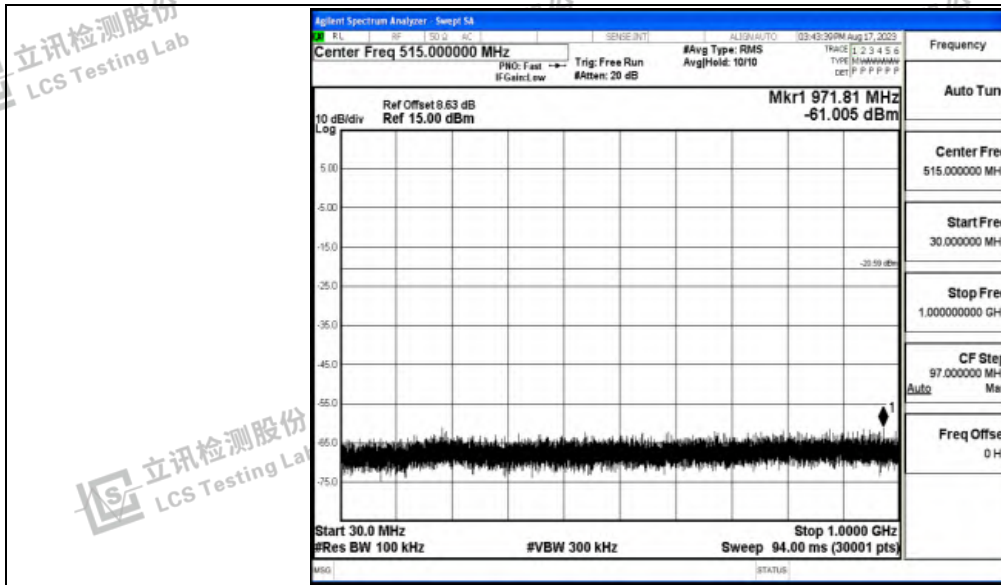


DH5\_Ant0\_2441\_0-Reference

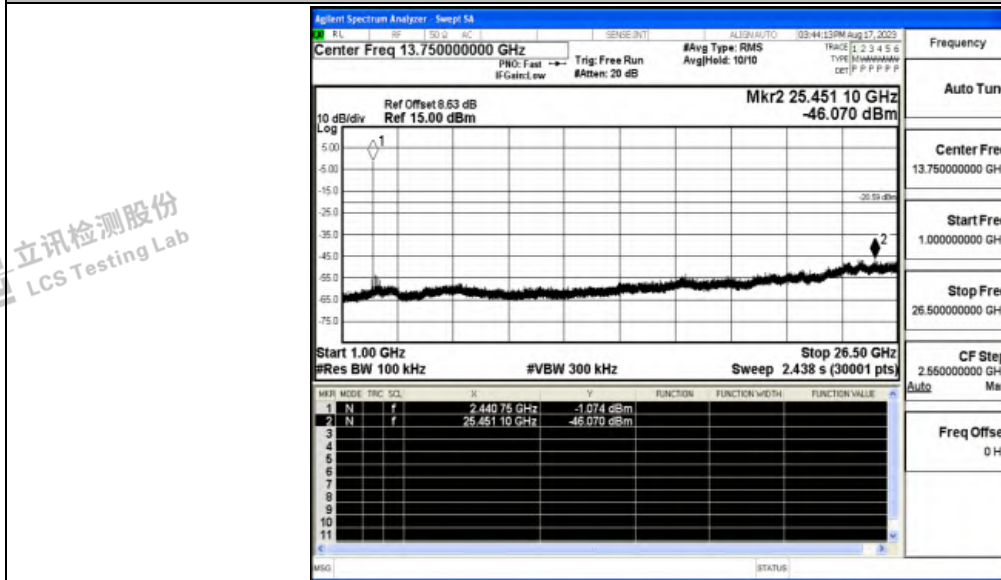


DH5\_Ant0\_2441\_30~1000



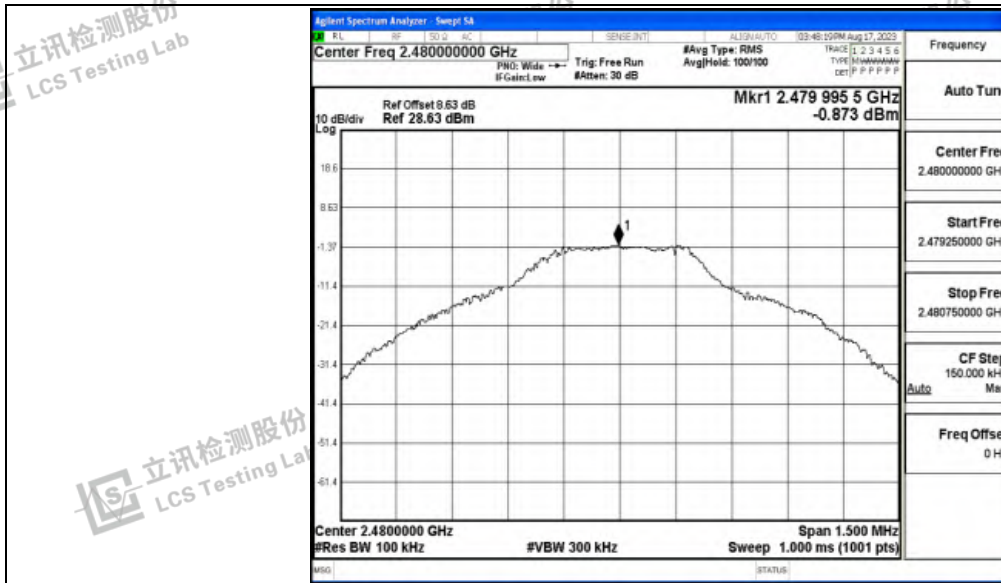


DH5\_Ant0\_2441\_1000~26500

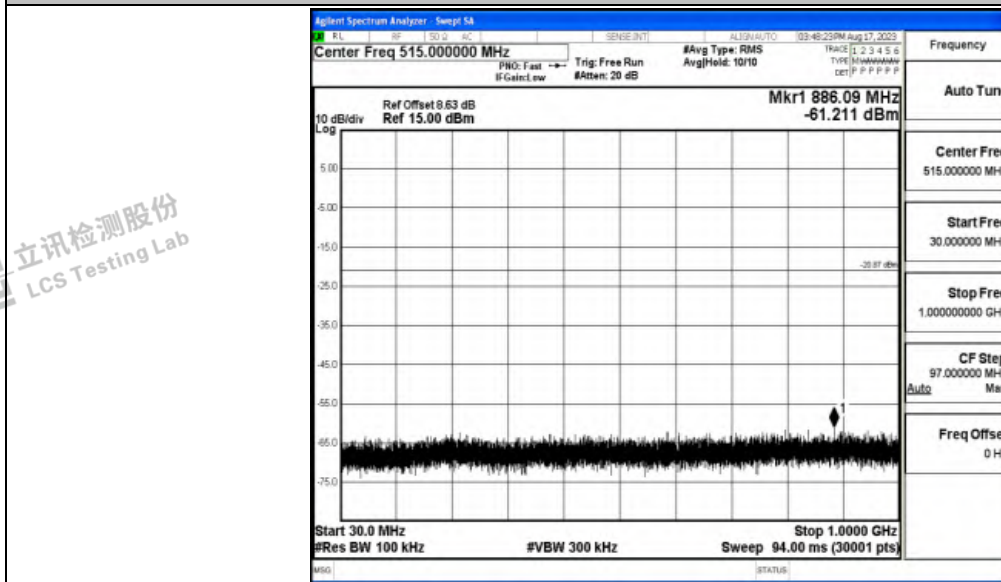


DH5\_Ant0\_2480\_0~Reference





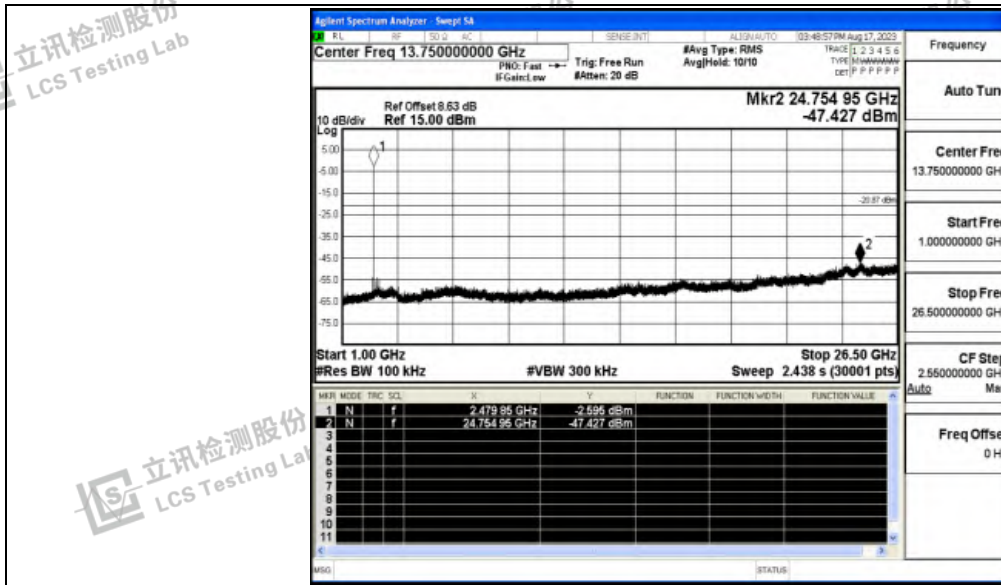
DH5\_Ant0\_2480\_30~1000



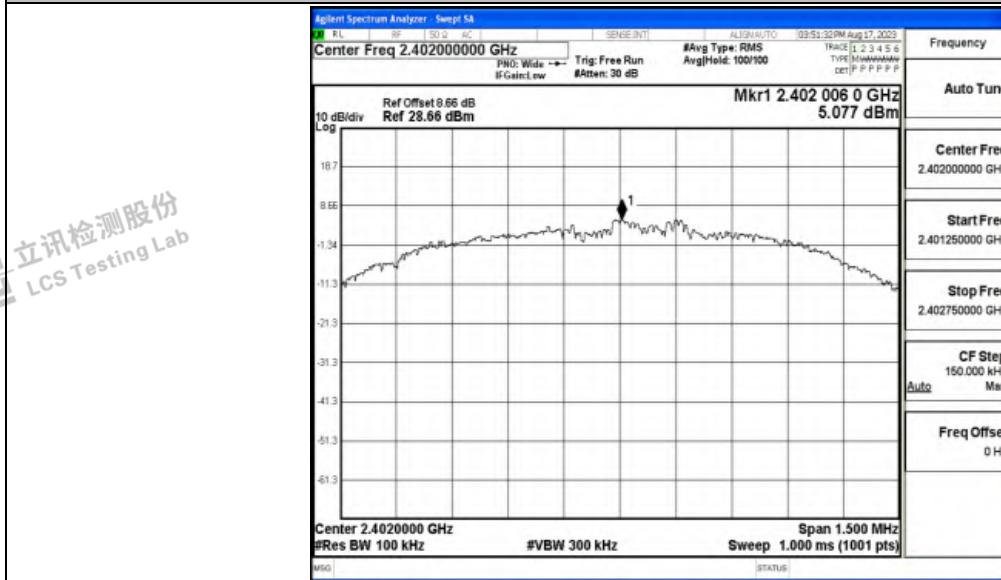
DH5\_Ant0\_2480\_1000~26500





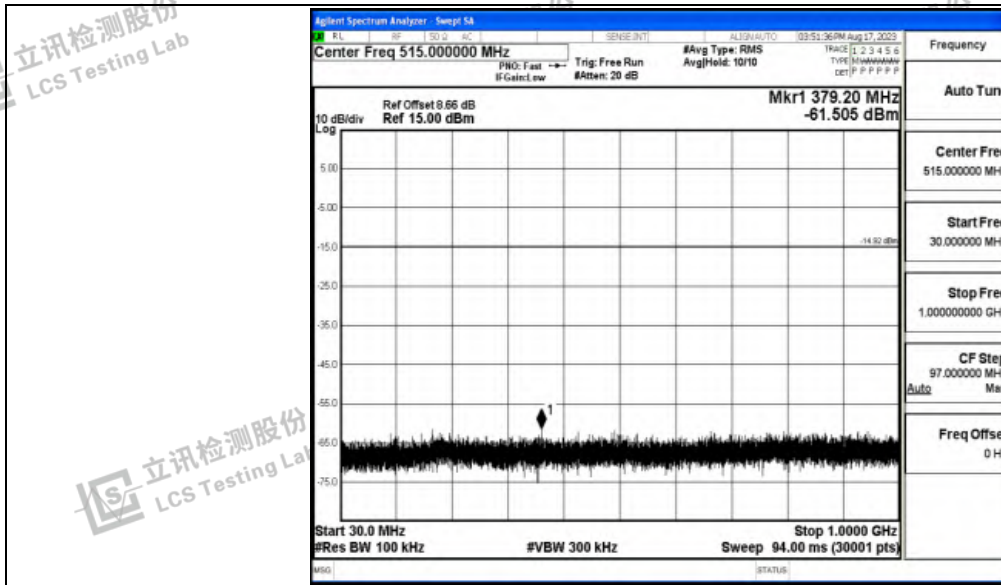


2DH5\_Ant0\_2402\_0~Reference

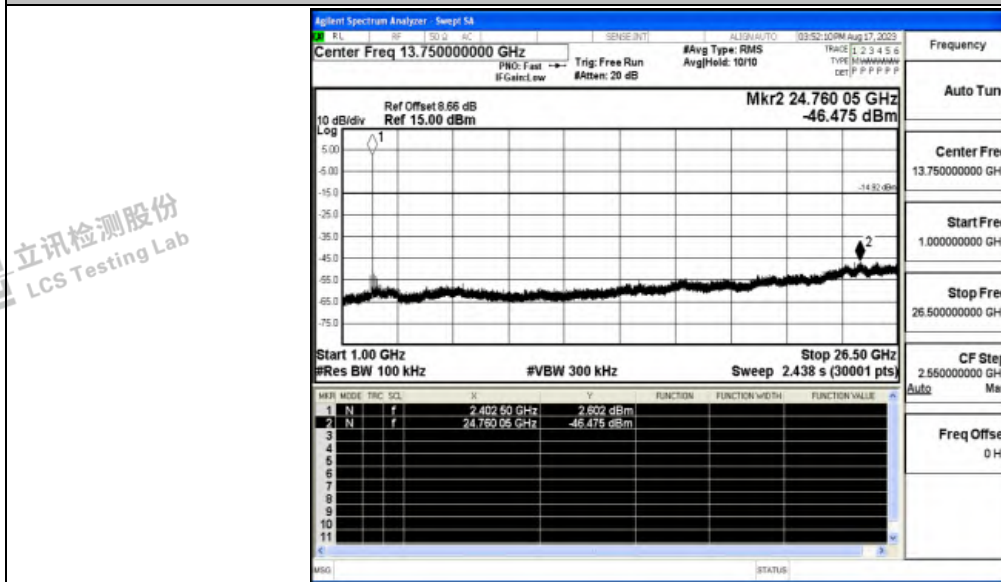


2DH5\_Ant0\_2402\_30~1000



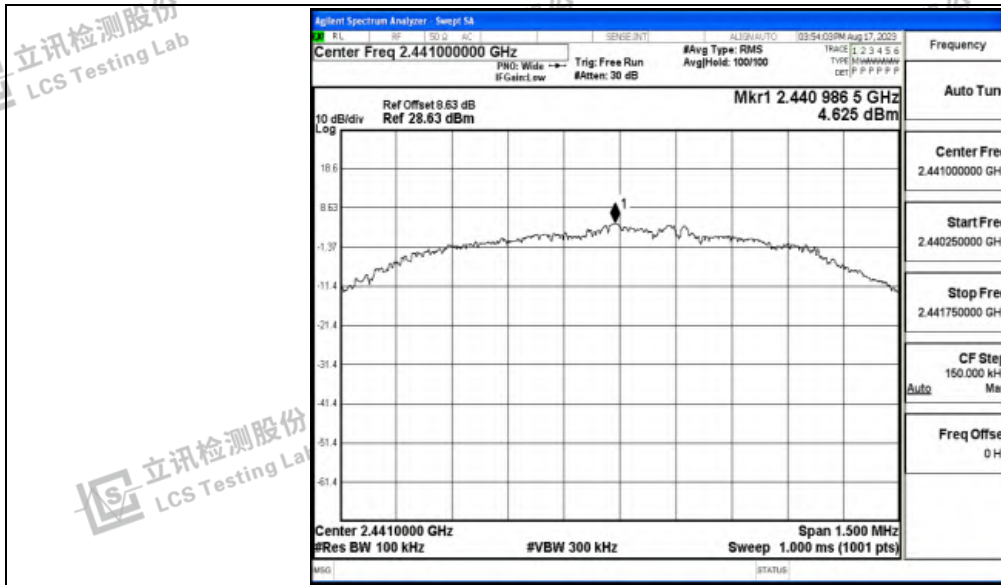


2DH5\_Ant0\_2402\_1000~26500

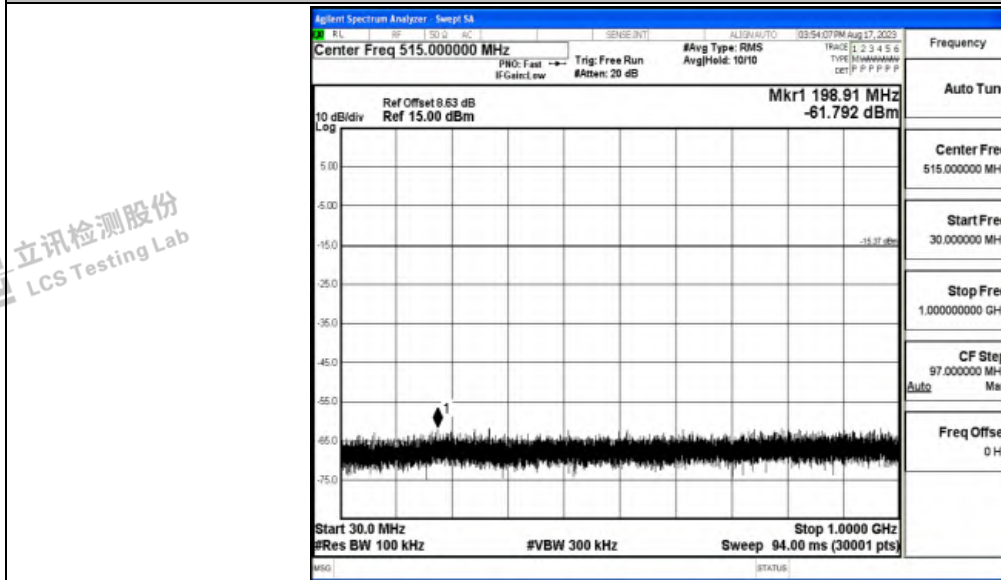


2DH5\_Ant0\_2441\_0~Reference



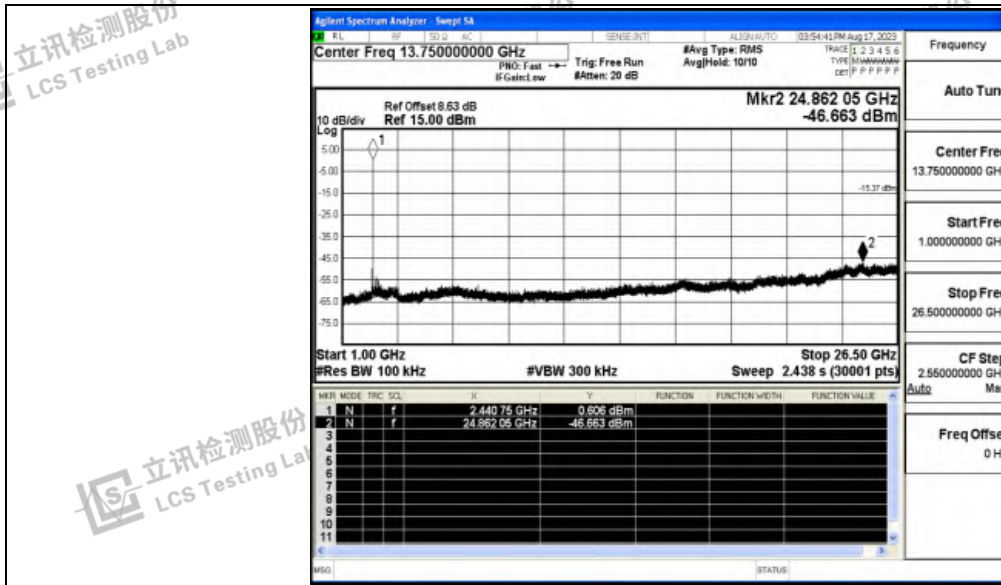


2DH5\_Ant0\_2441\_30~1000

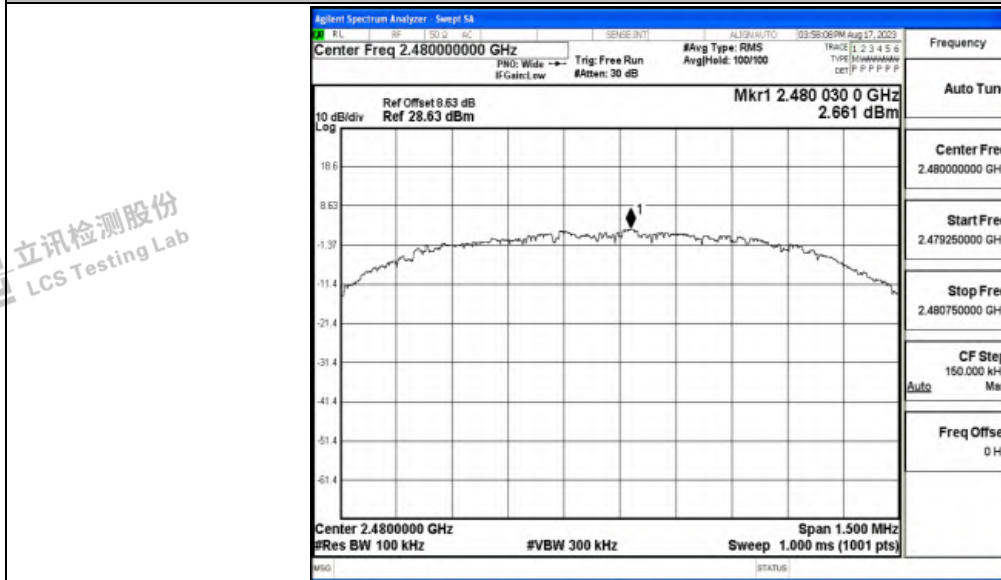


2DH5\_Ant0\_2441\_1000~26500



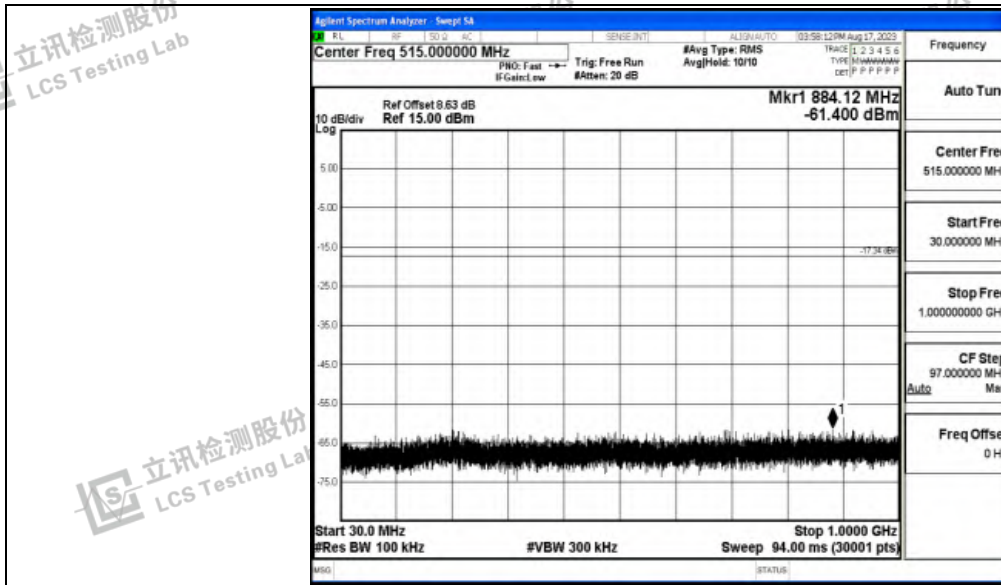


2DH5\_Ant0\_2480\_0~Reference

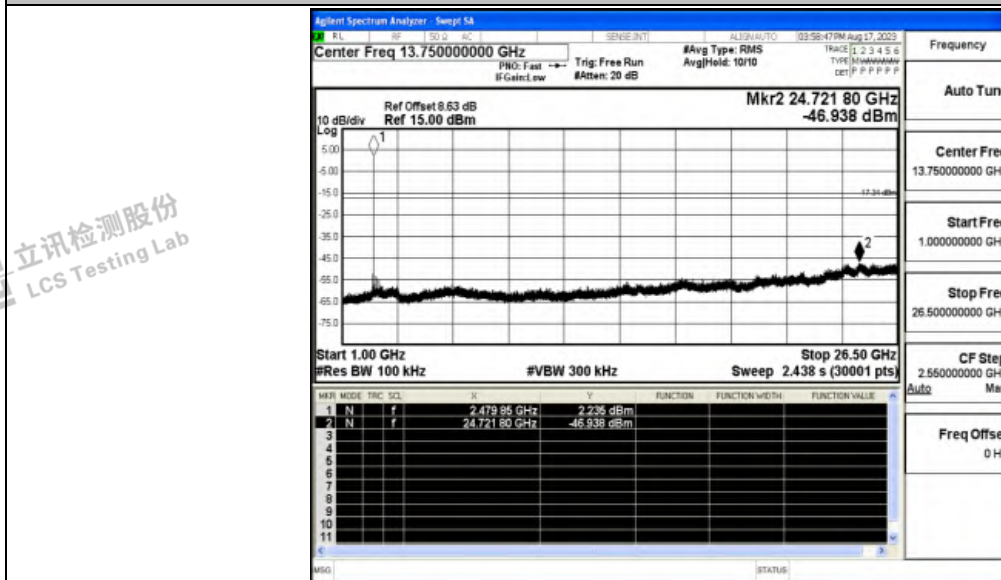


2DH5\_Ant0\_2480\_30~1000



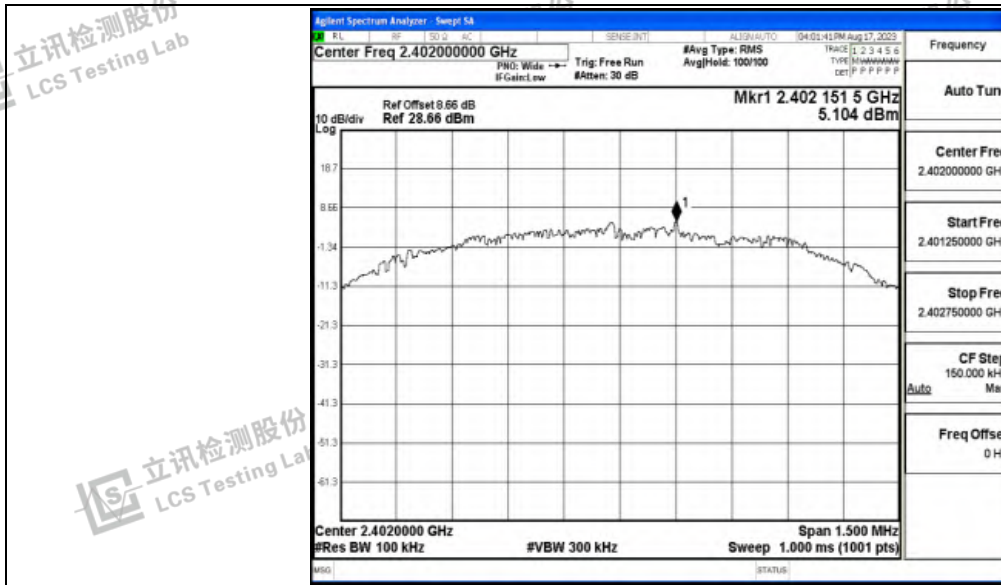


2DH5\_Ant0\_2480\_1000-26500

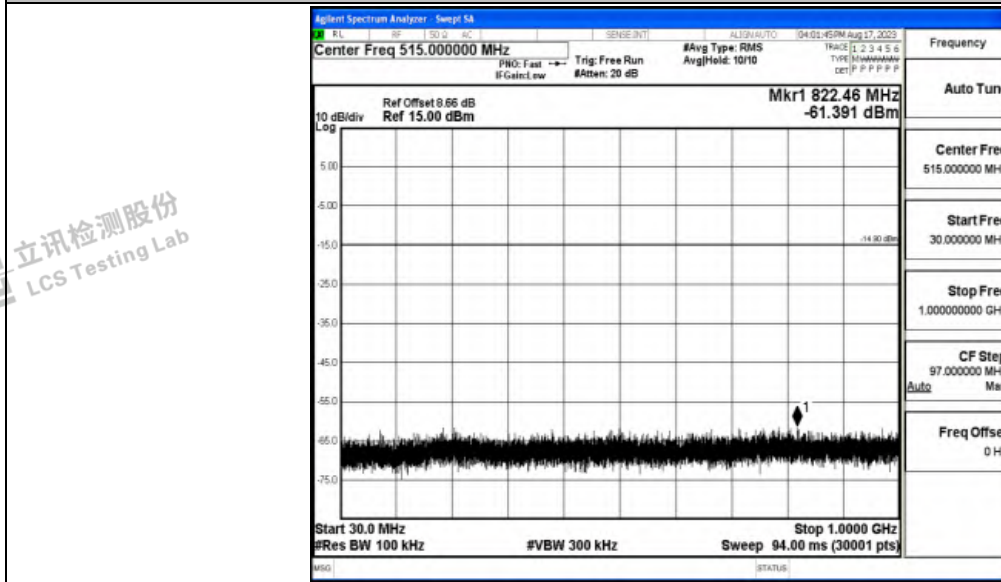


3DH5\_Ant0\_2402\_0-Reference



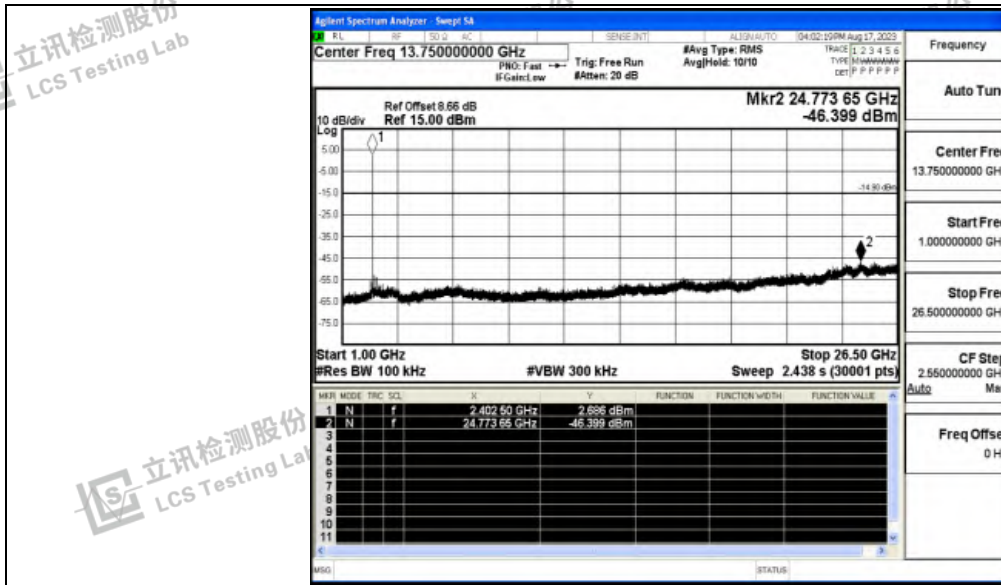


3DH5\_Ant0\_2402\_30~1000

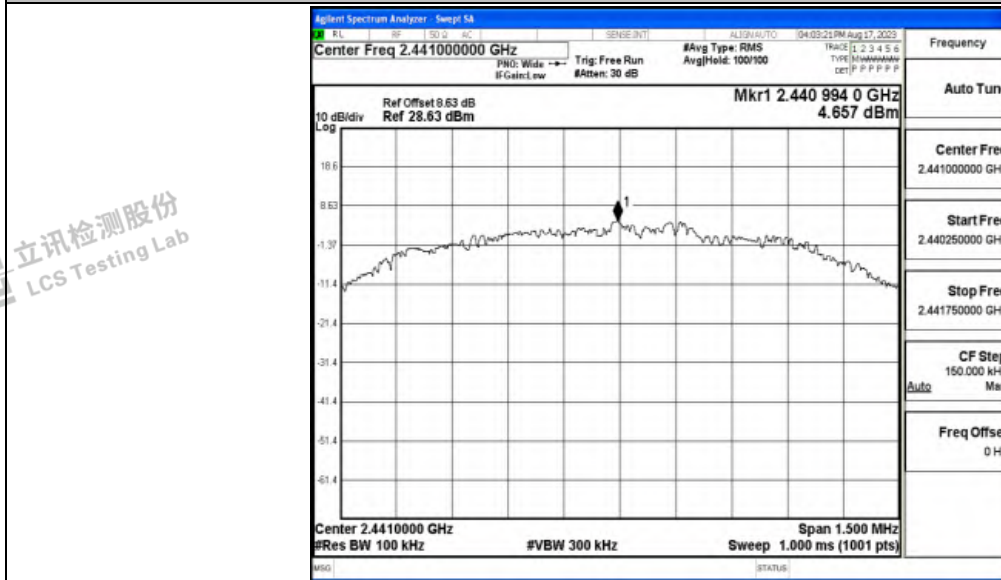


3DH5\_Ant0\_2402\_1000~26500



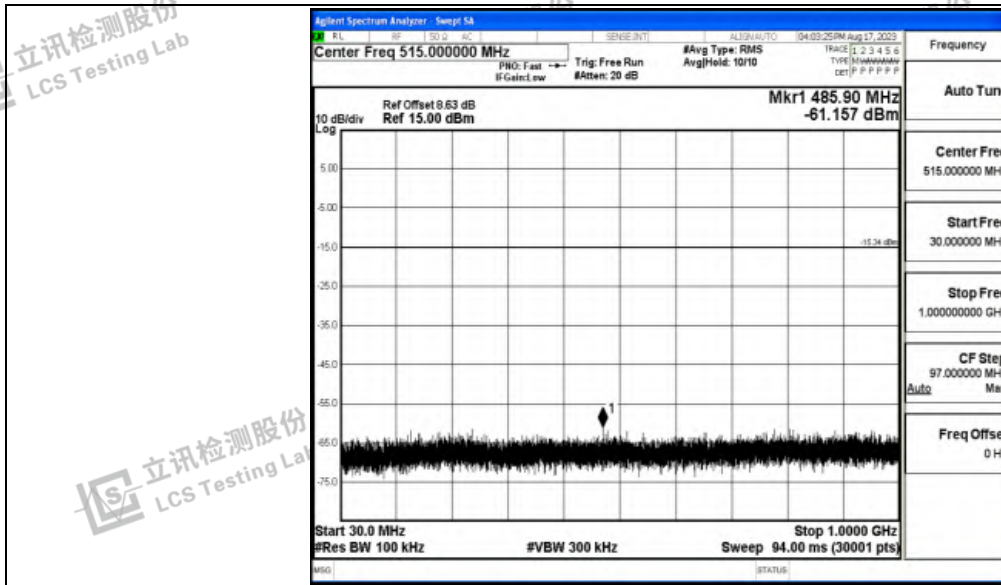


3DH5\_Ant0\_2441\_0~Reference

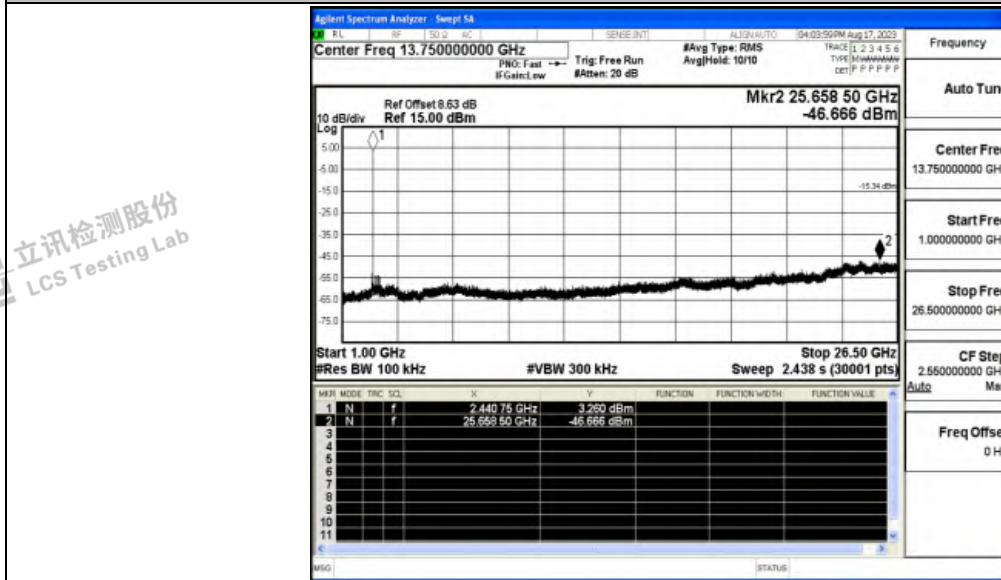


3DH5\_Ant0\_2441\_30~1000





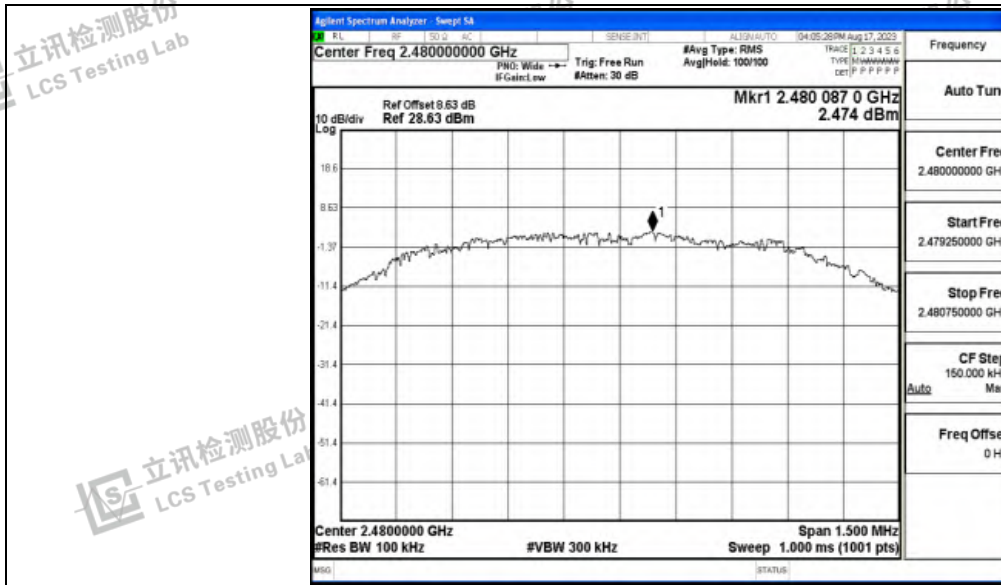
3DH5\_Ant0\_2441\_1000~26500



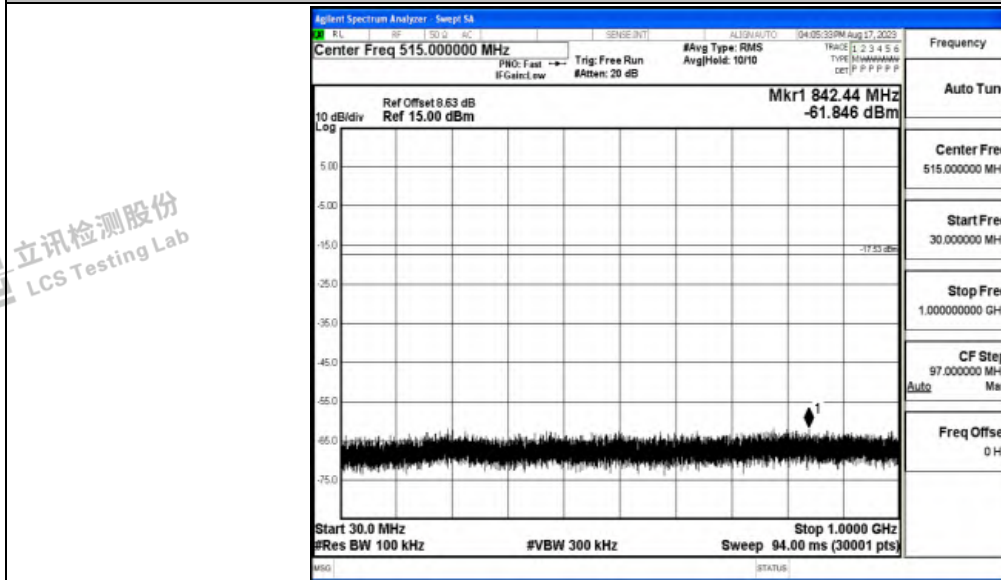
3DH5\_Ant0\_2480\_0~Reference





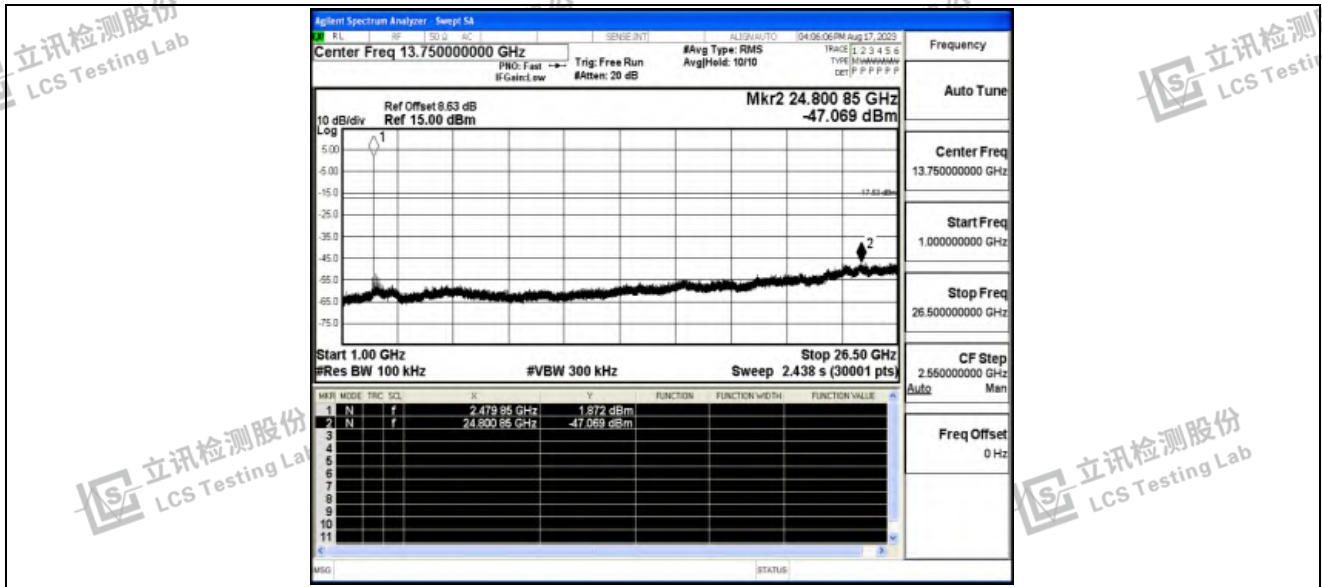


3DH5\_Ant0\_2480\_30~1000



3DH5\_Ant0\_2480\_1000~26500





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### A.8 Restrict Band

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant0	Low	2402	AV	2310.000	-48.22	≤-41.20	46.98	≤54	PASS
				AV	2325.305	-47.08	≤-41.20	48.12	≤54	PASS
				AV	2390.000	-47.89	≤-41.20	47.31	≤54	PASS
				Peak	2310.000	-41.77	≤-21.20	53.43	≤74	PASS
				Peak	2350.085	-38.18	≤-21.20	57.02	≤74	PASS
				Peak	2390.000	-41.14	≤-21.20	54.06	≤74	PASS
		High	2480	AV	2483.500	-47.28	≤-41.20	47.92	≤54	PASS
				AV	2489.760	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2500.000	-47.23	≤-41.20	47.97	≤54	PASS
				Peak	2483.500	-43.35	≤-21.20	51.85	≤74	PASS
				Peak	2497.120	-38.72	≤-21.20	56.48	≤74	PASS
				Peak	2500.000	-42.13	≤-21.20	53.07	≤74	PASS
2DH5	Ant0	Low	2402	AV	2310.000	-48.22	≤-41.20	46.98	≤54	PASS
				AV	2325.095	-46.15	≤-41.20	49.05	≤54	PASS
				AV	2390.000	-47.46	≤-41.20	47.74	≤54	PASS
				Peak	2310.000	-42.04	≤-21.20	53.16	≤74	PASS
				Peak	2324.570	-37.07	≤-21.20	58.13	≤74	PASS
				Peak	2390.000	-40.71	≤-21.20	54.49	≤74	PASS
		High	2480	AV	2483.500	-45.21	≤-41.20	49.99	≤54	PASS
				AV	2483.520	-45.21	≤-41.20	49.99	≤54	PASS
				AV	2500.000	-47.01	≤-41.20	48.19	≤54	PASS
				Peak	2483.500	-41.85	≤-21.20	53.35	≤74	PASS
				Peak	2488.880	-37.68	≤-21.20	57.52	≤74	PASS
				Peak	2500.000	-42.26	≤-21.20	52.94	≤74	PASS
3DH5	Ant0	Low	2402	AV	2310.000	-48.13	≤-41.20	47.07	≤54	PASS
				AV	2325.200	-46.09	≤-41.20	49.11	≤54	PASS
				AV	2390.000	-47.5	≤-41.20	47.70	≤54	PASS
				Peak	2310.000	-42.18	≤-21.20	53.02	≤74	PASS
				Peak	2387.465	-37.65	≤-21.20	57.55	≤74	PASS
				Peak	2390.000	-43.11	≤-21.20	52.09	≤74	PASS
		High	2480	AV	2483.500	-45.13	≤-41.20	50.07	≤54	PASS
				AV	2483.520	-45.13	≤-41.20	50.07	≤54	PASS
				AV	2500.000	-47.05	≤-41.20	48.15	≤54	PASS
				Peak	2483.500	-43.14	≤-21.20	52.06	≤74	PASS
				Peak	2485.920	-37.05	≤-21.20	58.15	≤74	PASS
				Peak	2500.000	-44.04	≤-21.20	51.16	≤74	PASS





	Peak	2489.680	-35.78	≤-21.20	59.42	≤74	PASS
	Peak	2500.000	-39.83	≤-21.20	55.37	≤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.

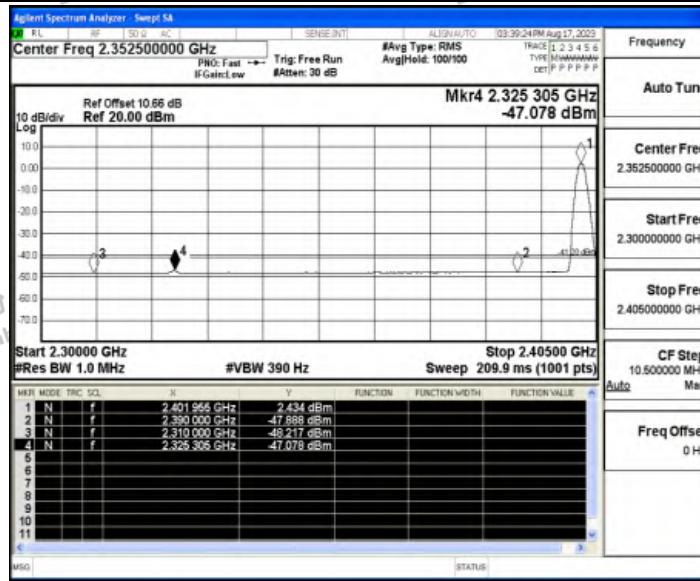


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 Scan code to check authenticity

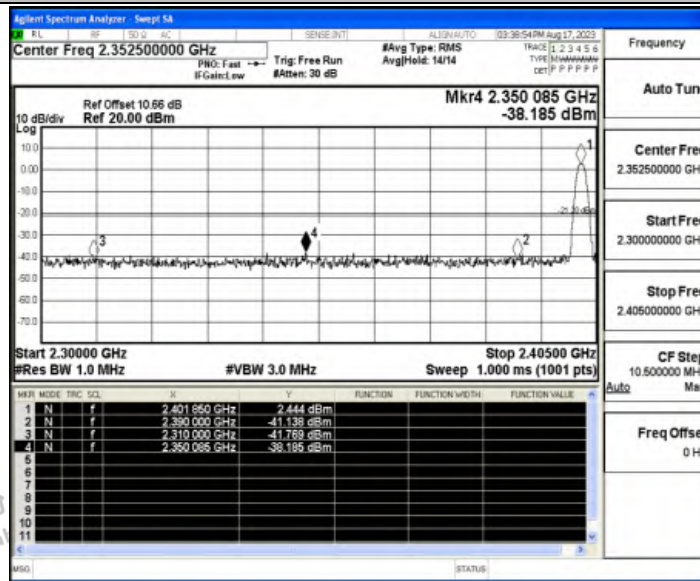


### Test Graphs

DH5\_Ant0\_Low\_2402\_AV

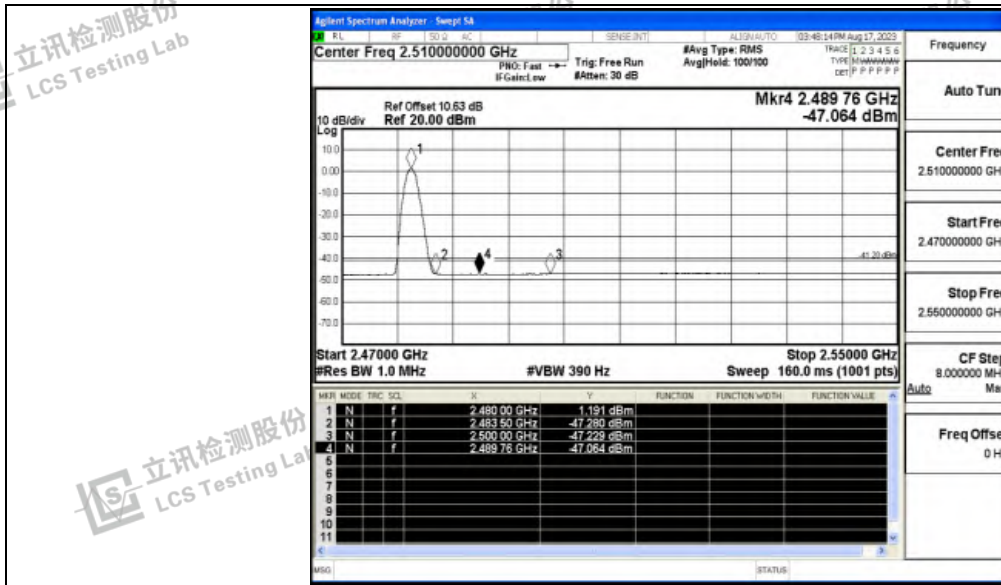


DH5\_Ant0\_Low\_2402\_Peak

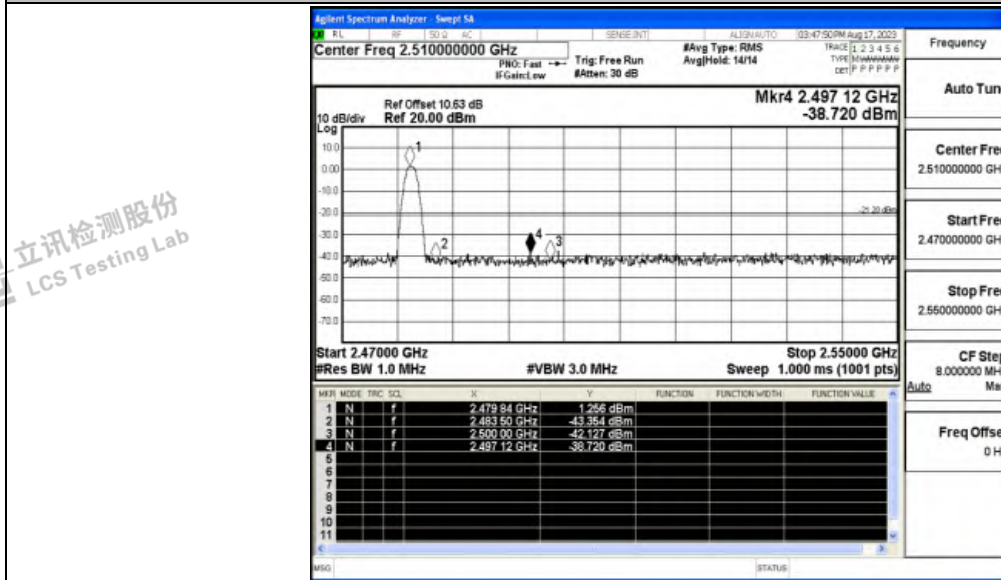


DH5\_Ant0\_High\_2480\_AV



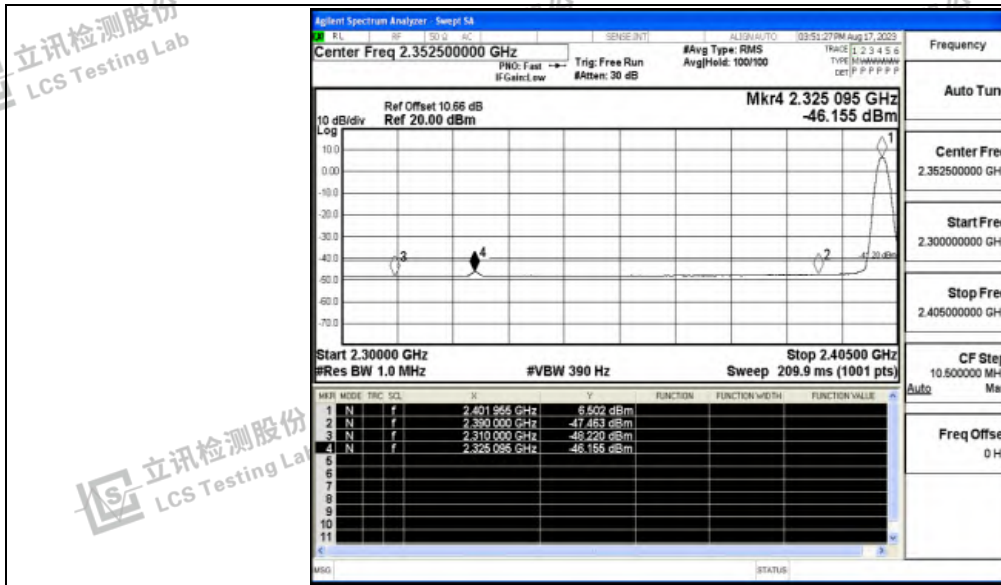


DH5\_Ant0\_High\_2480\_Peak

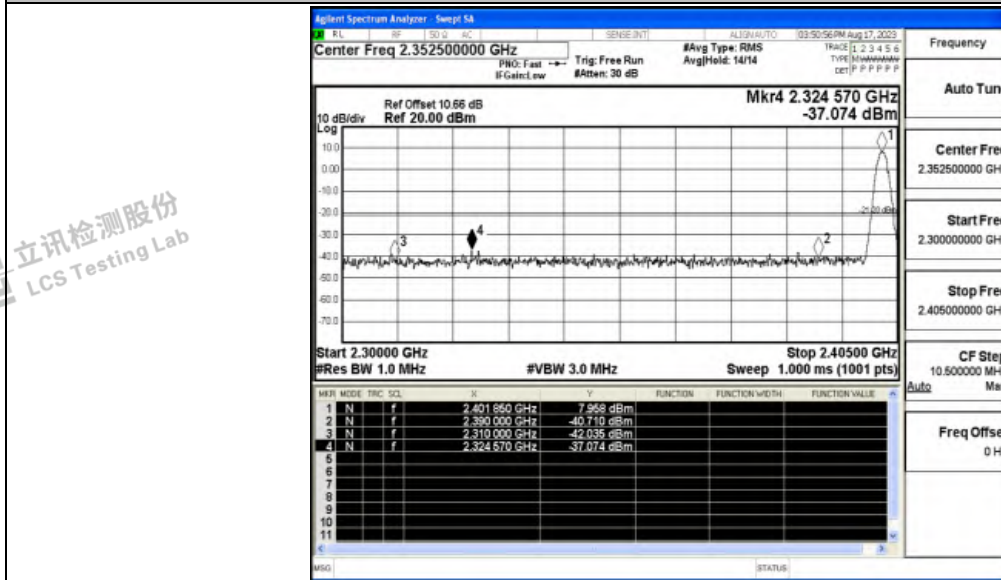


2DH5\_Ant0\_Low\_2402\_AV



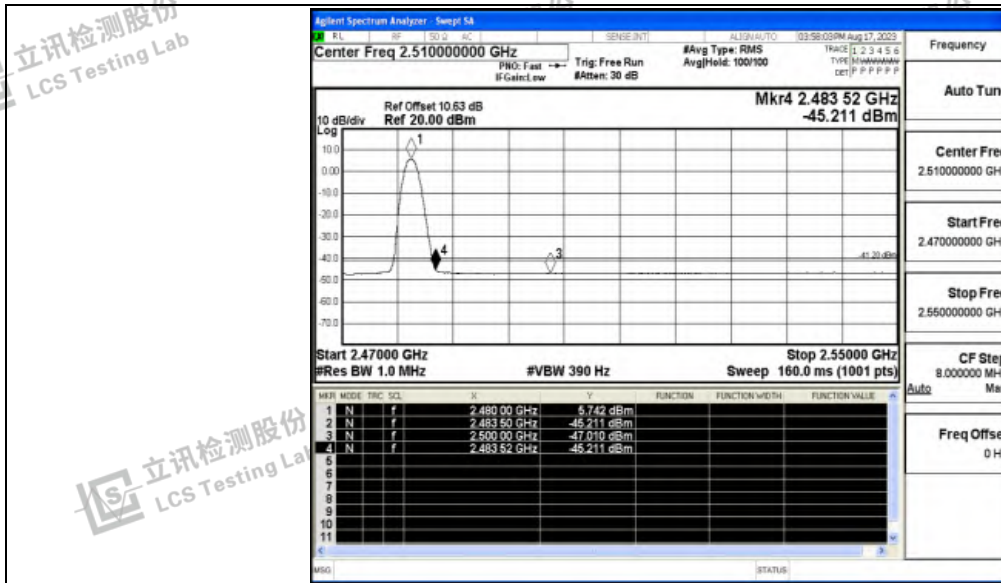


2DH5\_Ant0\_Low\_2402\_Peak

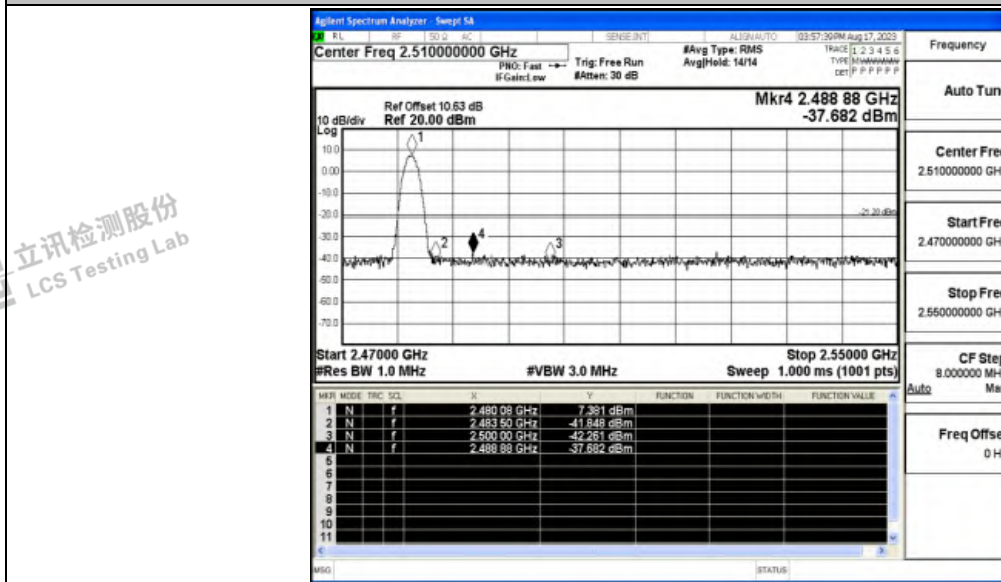


2DH5\_Ant0\_High\_2480\_AV





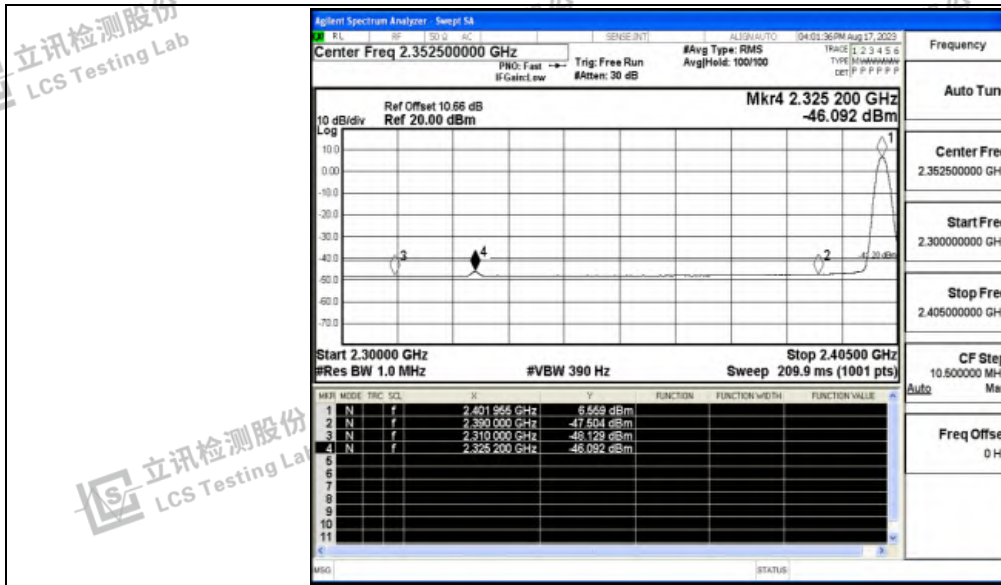
2DH5\_Ant0\_High\_2480\_Peak



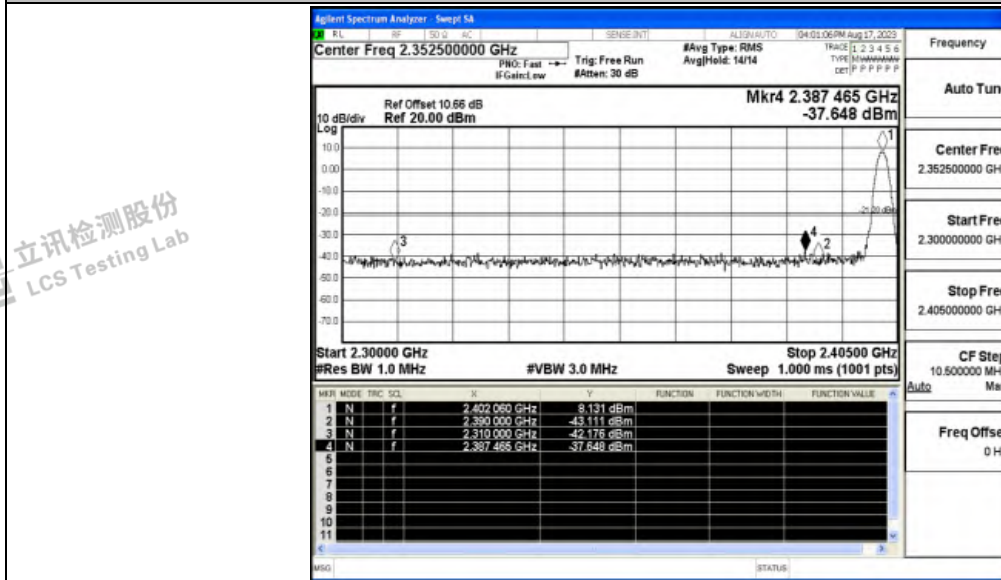
3DH5\_Ant0\_Low\_2402\_AV





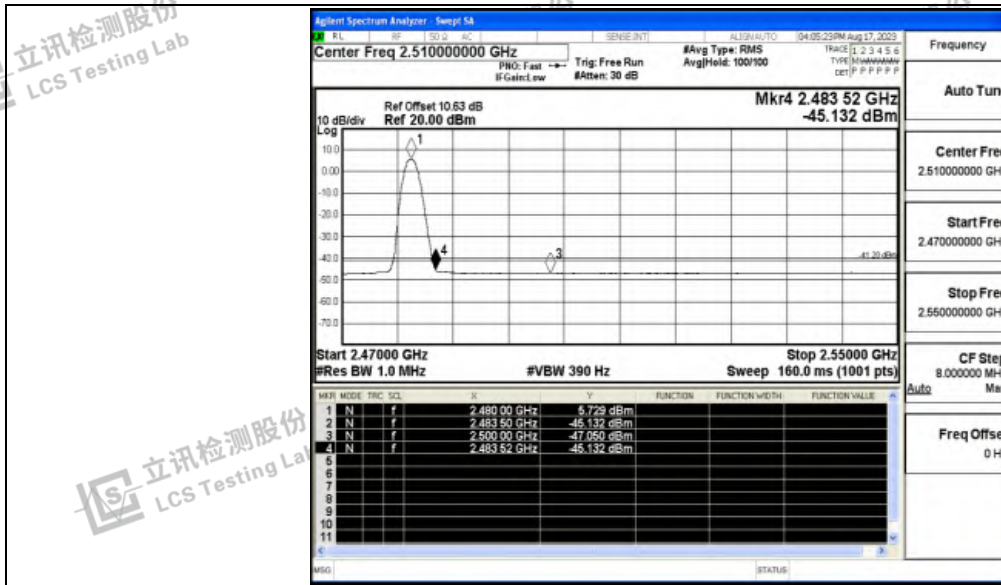


3DH5\_Ant0\_Low\_2402\_Peak



3DH5\_Ant0\_High\_2480\_AV





3DH5\_Ant0\_High\_2480\_Peak

