



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Device_UI_Protech_651G

Test Model: 42-18000-0

Environmental Conditions

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



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A.1 20dB Emission Bandwidth

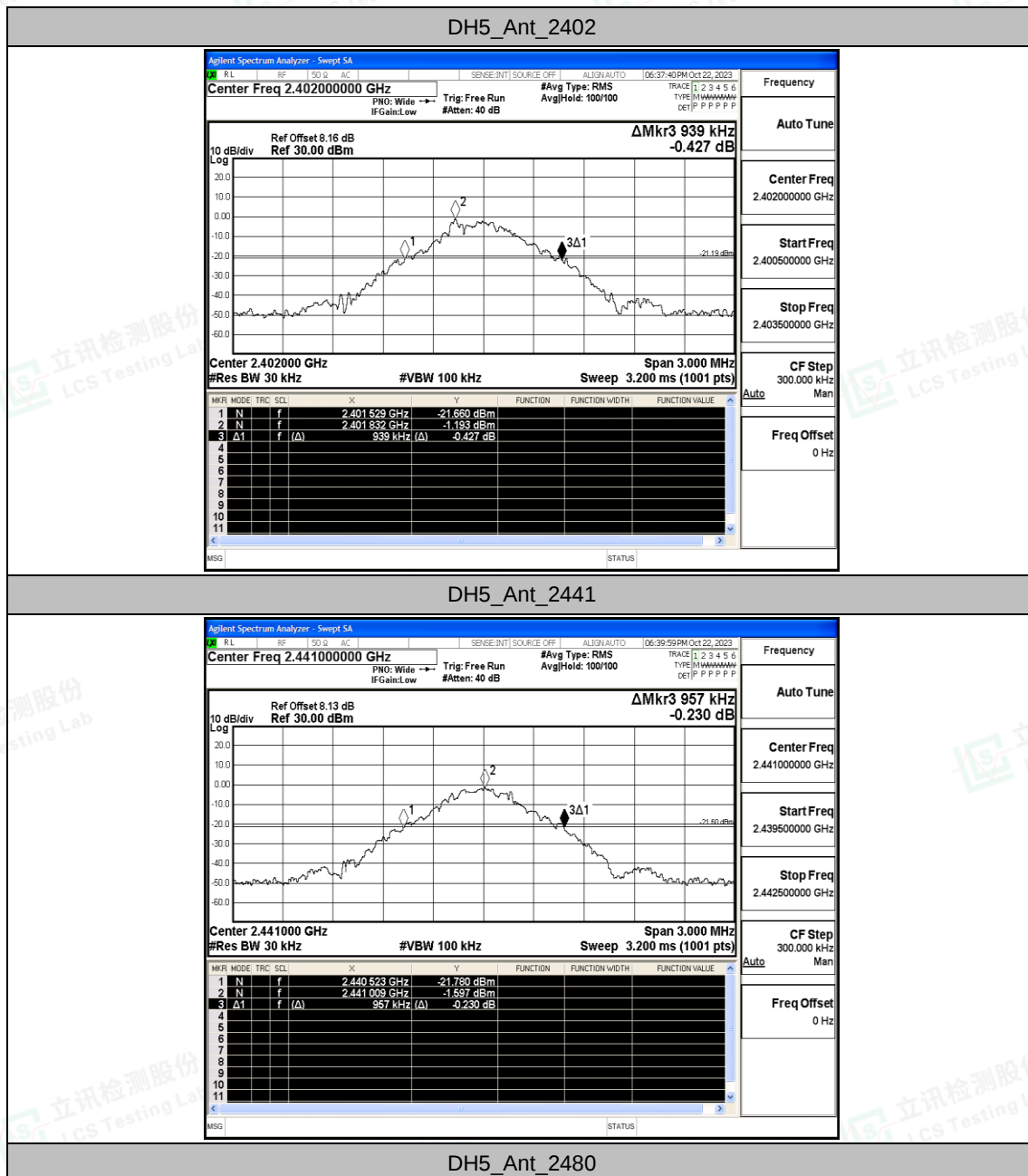
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant	2402	0.939	2401.529	2402.468	---
		2441	0.957	2440.523	2441.480	---
		2480	0.975	2479.523	2480.498	---
2DH5	Ant	2402	1.296	2401.352	2402.648	---
		2441	1.296	2440.352	2441.648	---
		2480	1.341	2479.319	2480.660	---
3DH5	Ant	2402	1.305	2401.340	2402.645	---
		2441	1.323	2440.331	2441.654	---
		2480	1.308	2479.337	2480.645	---





Test Graphs

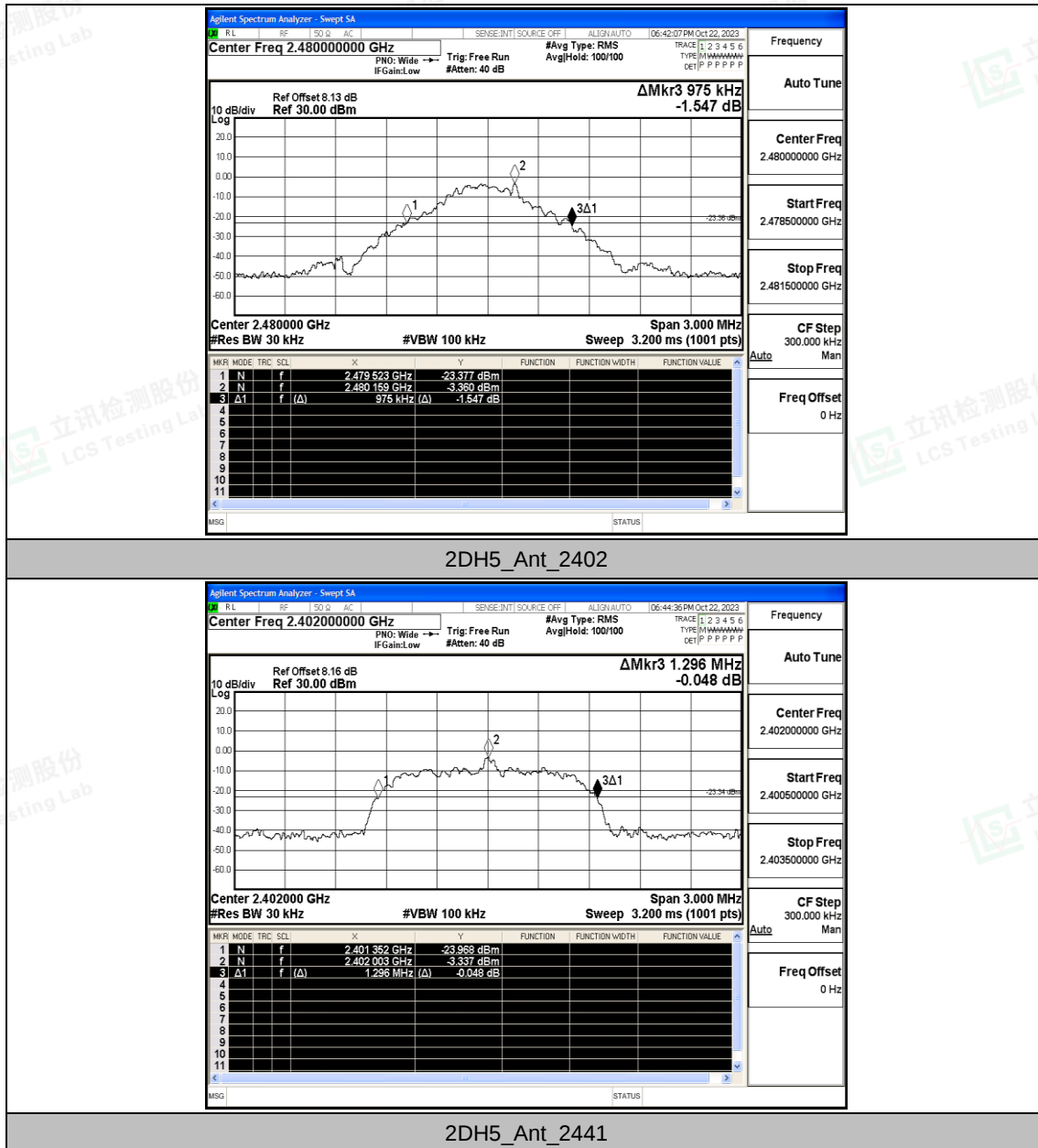


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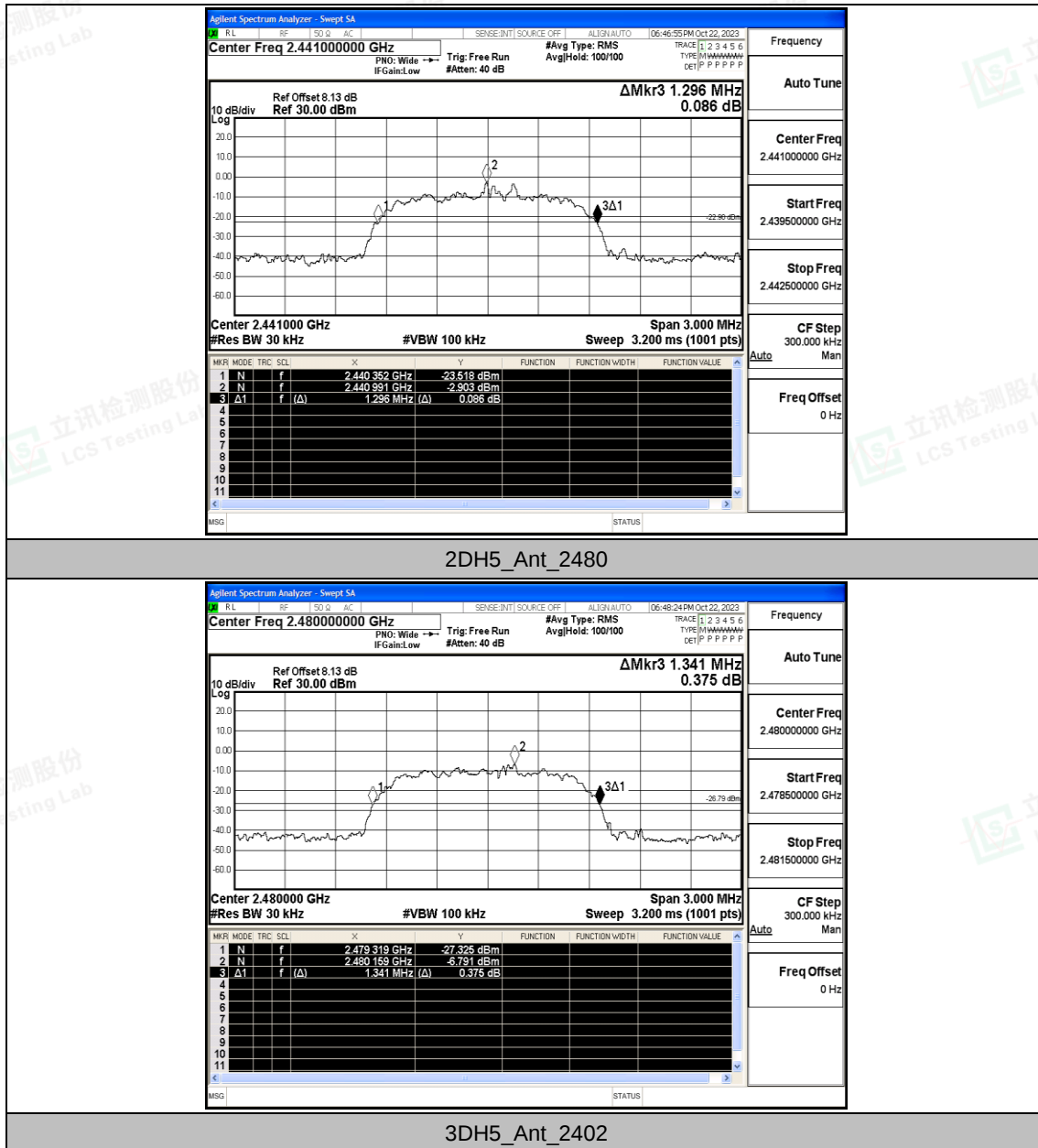


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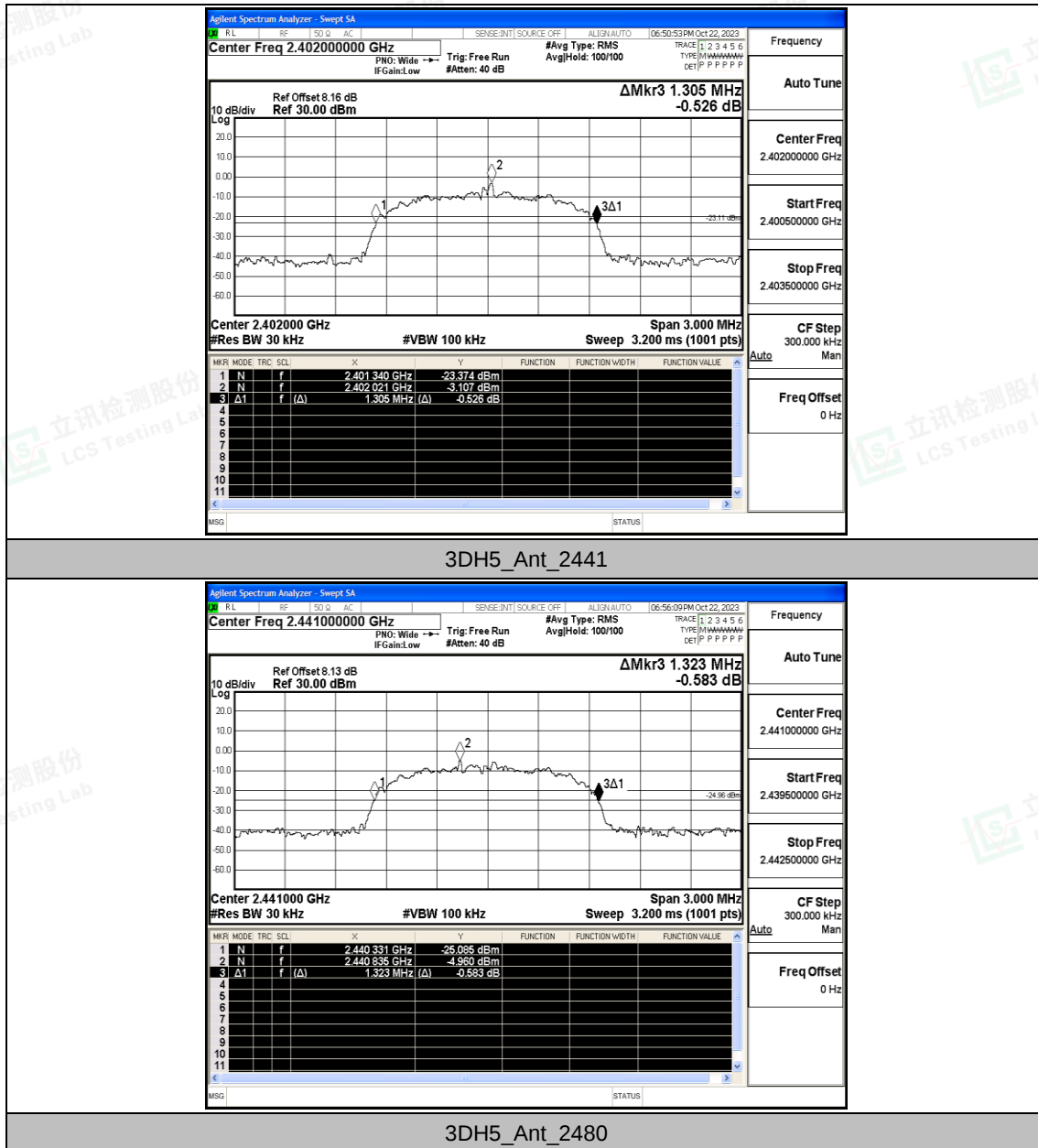


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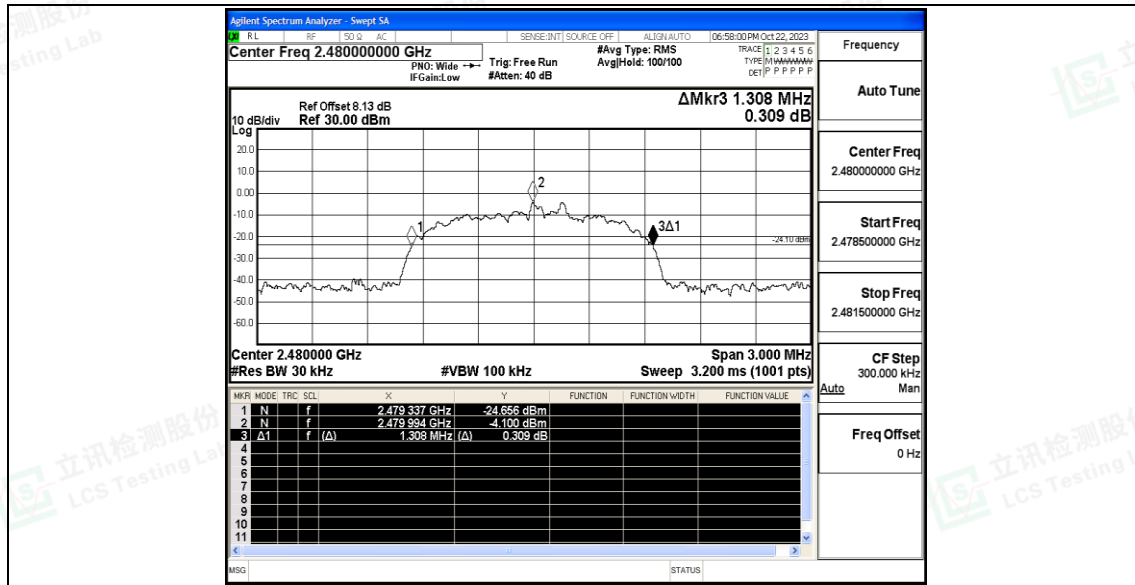


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A.2 Occupied Channel Bandwidth

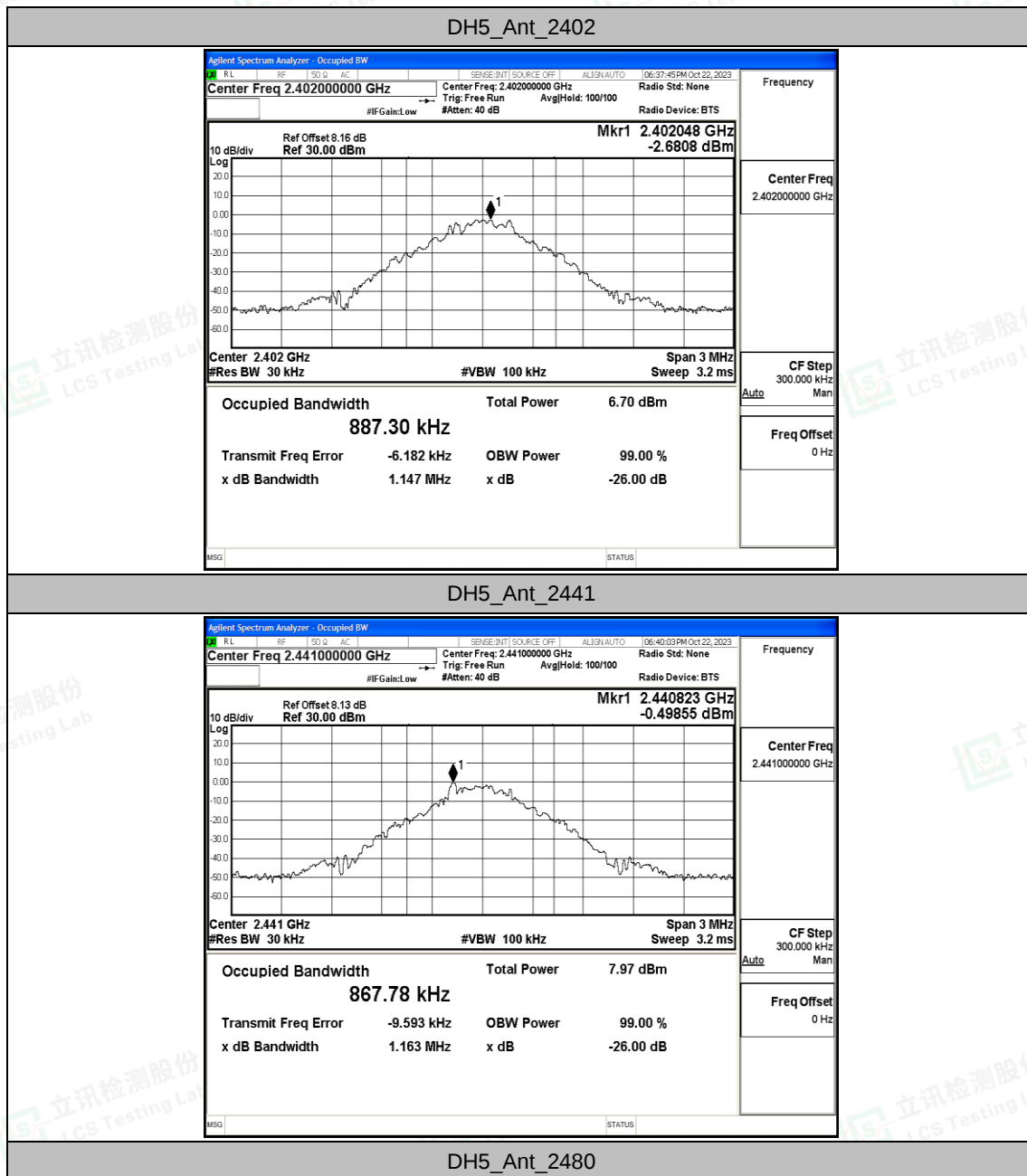
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	0.88730	2401.5502	2402.4375	---	---
		2441	0.86778	2440.5565	2441.4243	---	---
		2480	0.87817	2479.5570	2480.4352	---	---
2DH5	Ant	2402	1.1927	2401.3953	2402.5880	---	---
		2441	1.1914	2440.3970	2441.5884	---	---
		2480	1.1882	2479.3958	2480.5840	---	---
3DH5	Ant	2402	1.2138	2401.3796	2402.5934	---	---
		2441	1.2142	2440.3791	2441.5933	---	---
		2480	1.2012	2479.3870	2480.5882	---	---





Test Graphs

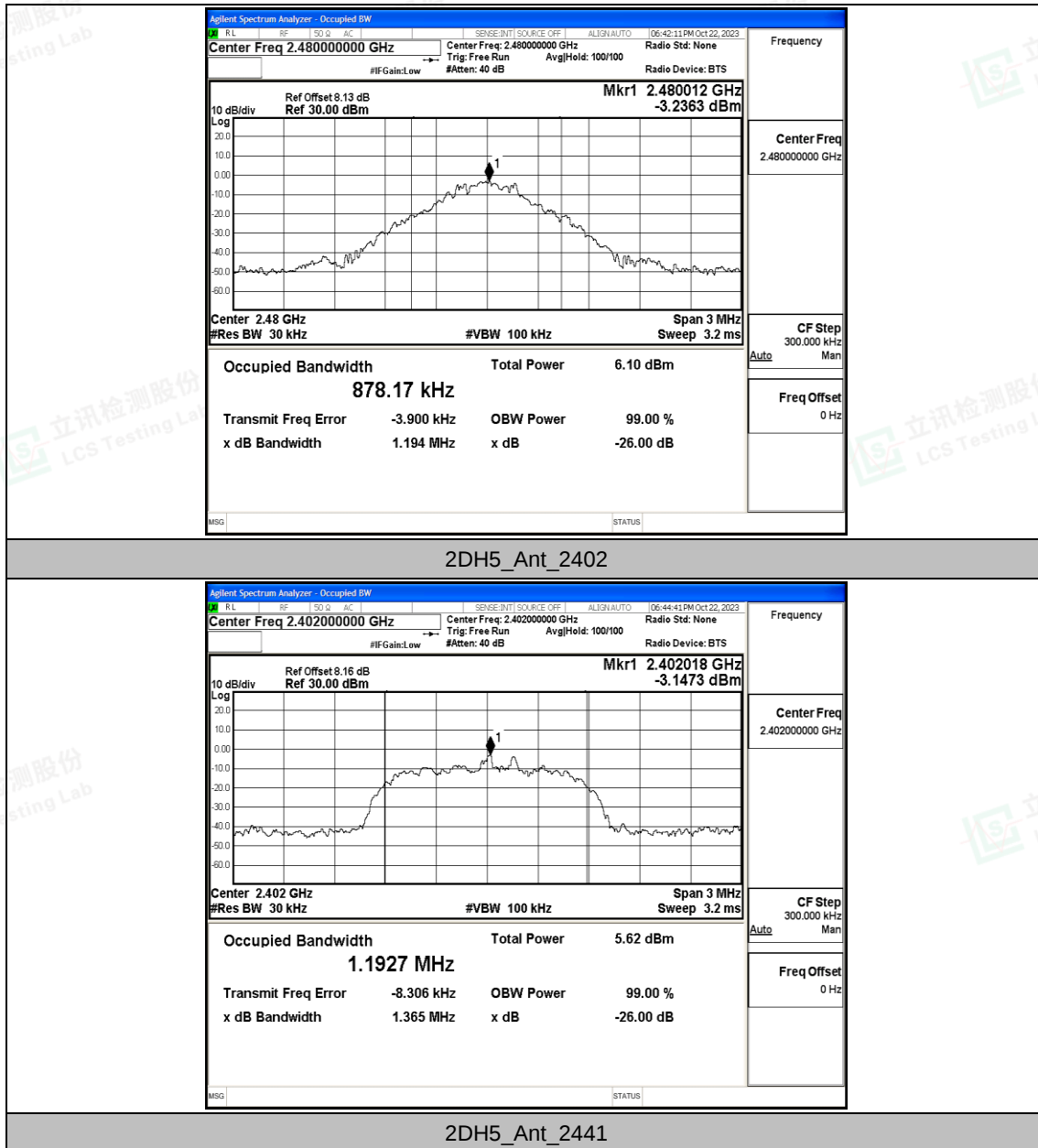


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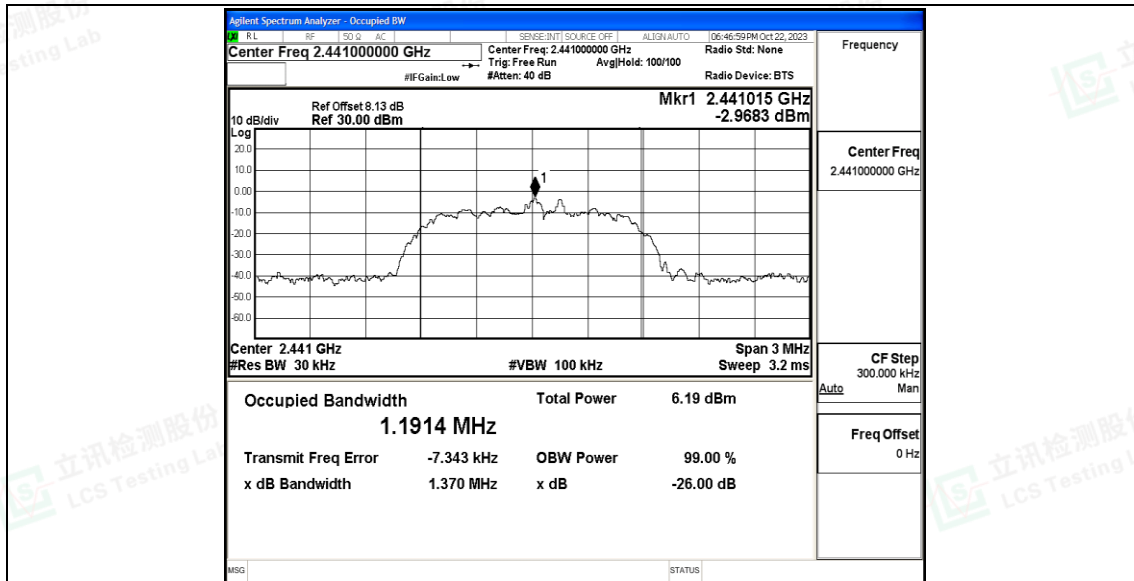


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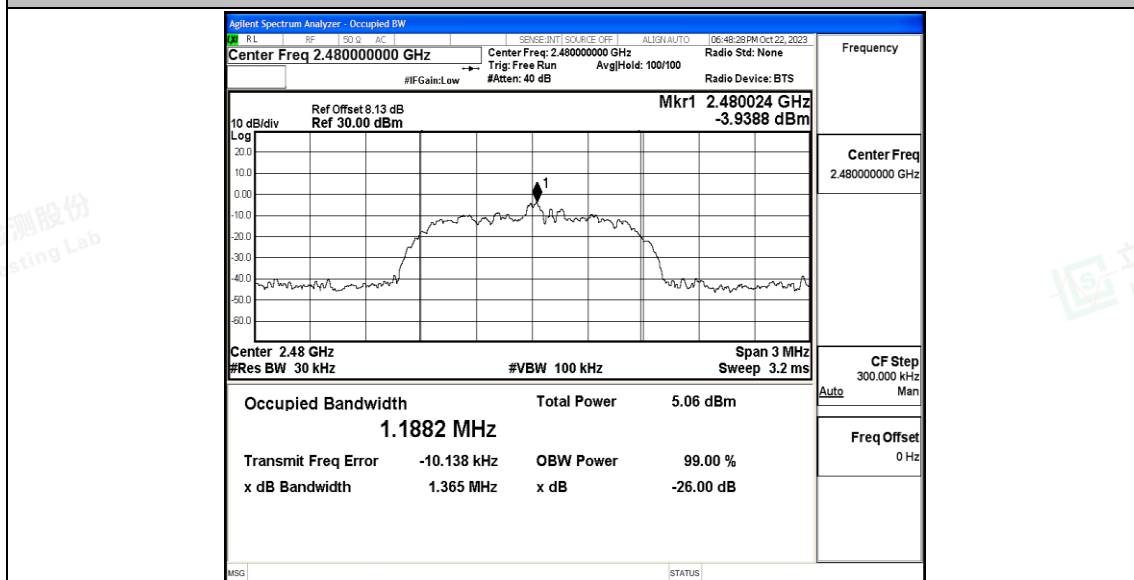
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2DH5_Ant_2480



3DH5_Ant_2402

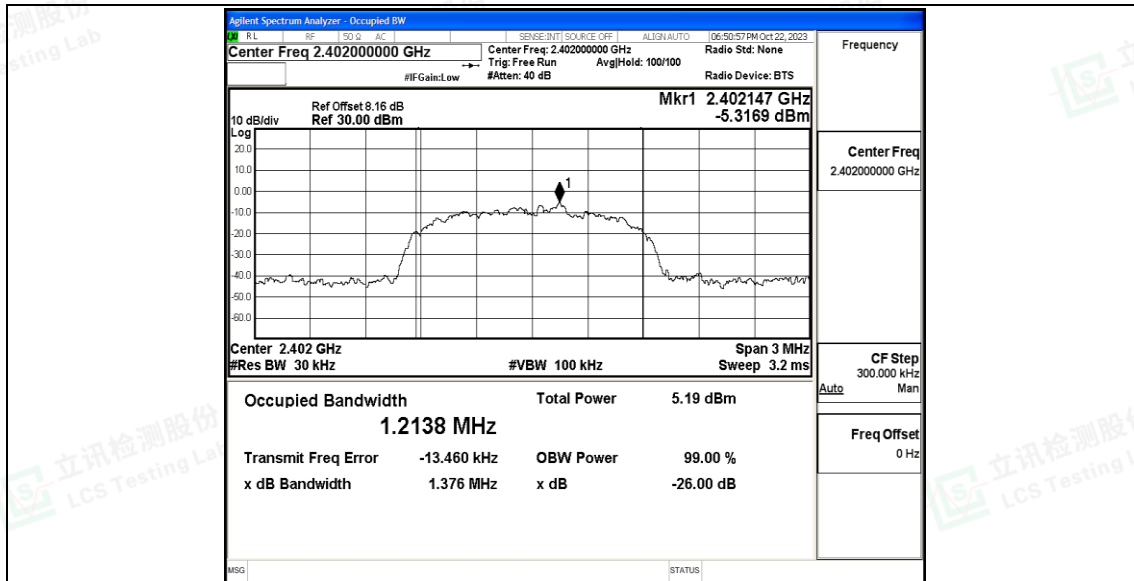


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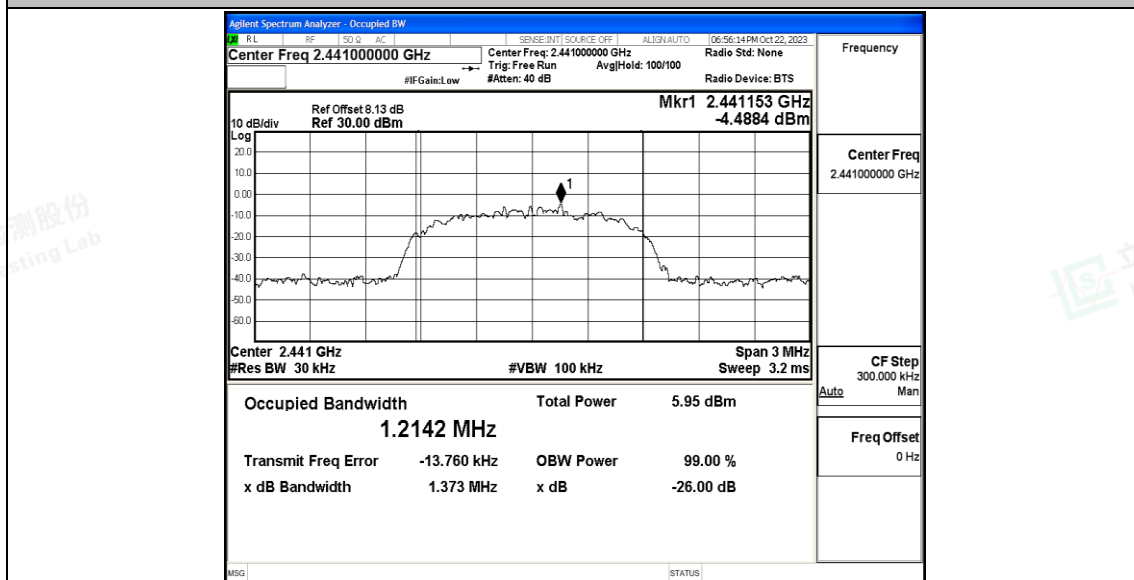
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3DH5_Ant_2441



3DH5_Ant_2480

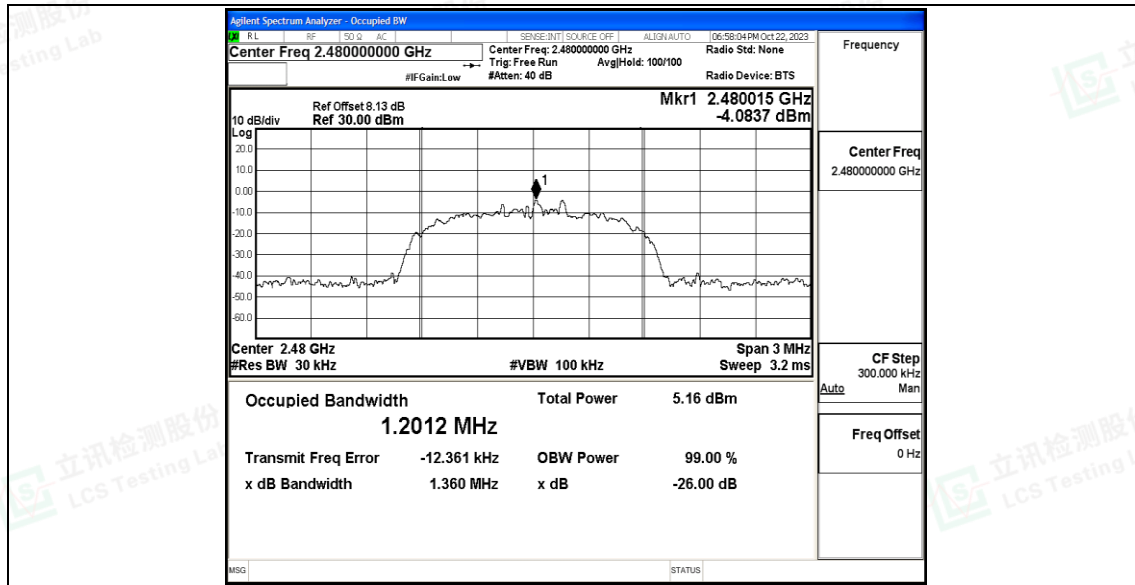


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A.3 Maximum Peak conducted output power

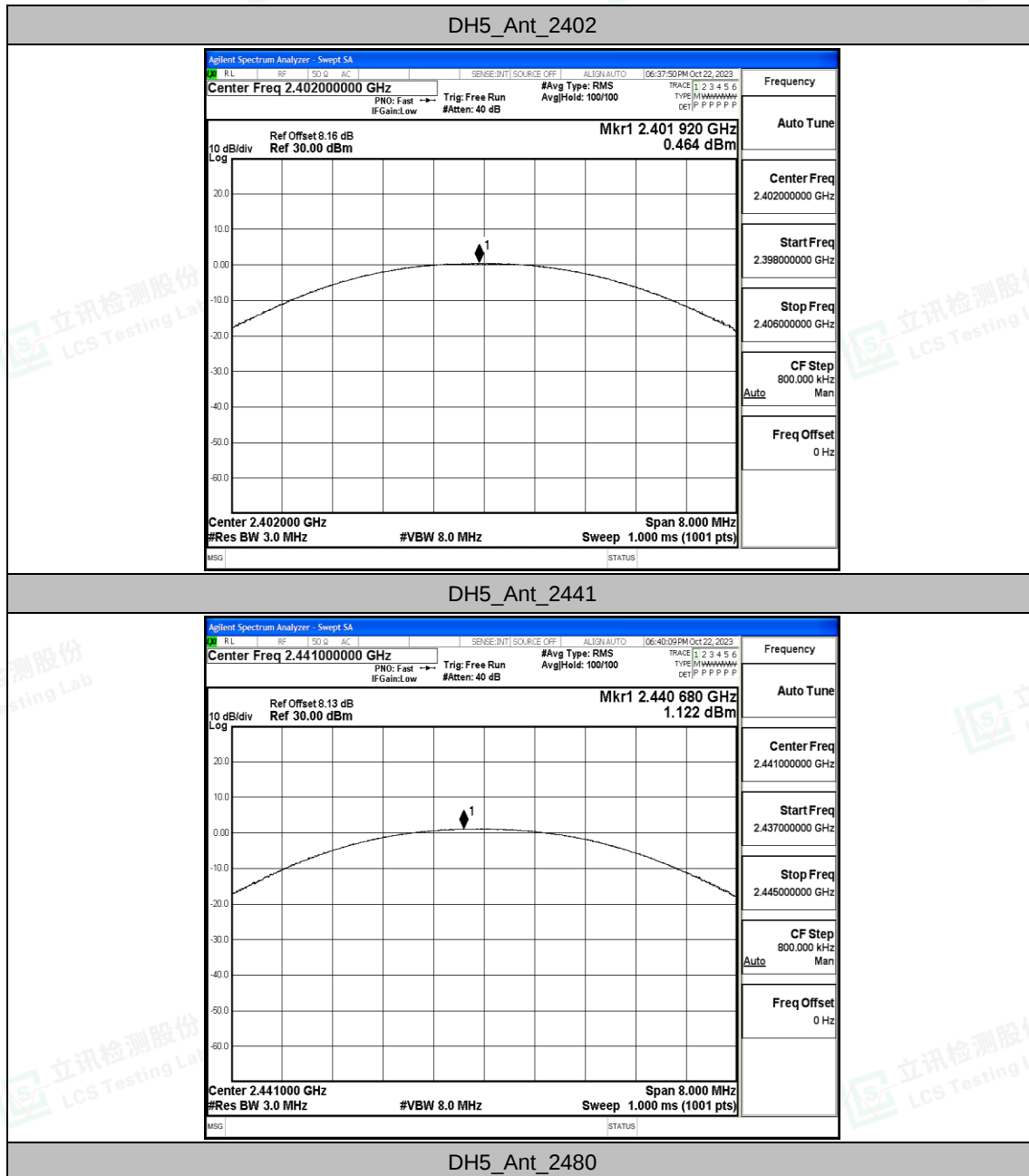
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit[dBm]	Verdict
DH5	Ant	2402	0.46	≤21	0.77	1.23	≤36.00	PASS
		2441	1.12	≤21	0.77	1.89	≤36.00	PASS
		2480	-0.37	≤21	0.77	0.4	≤36.00	PASS
2DH5	Ant	2402	0.55	≤21	0.77	1.32	≤36.00	PASS
		2441	1.02	≤21	0.77	1.79	≤36.00	PASS
		2480	0.03	≤21	0.77	0.8	≤36.00	PASS
3DH5	Ant	2402	0.79	≤21	0.77	1.56	≤36.00	PASS
		2441	1.4	≤21	0.77	2.17	≤36.00	PASS
		2480	0.22	≤21	0.77	0.99	≤36.00	PASS





Test Graphs

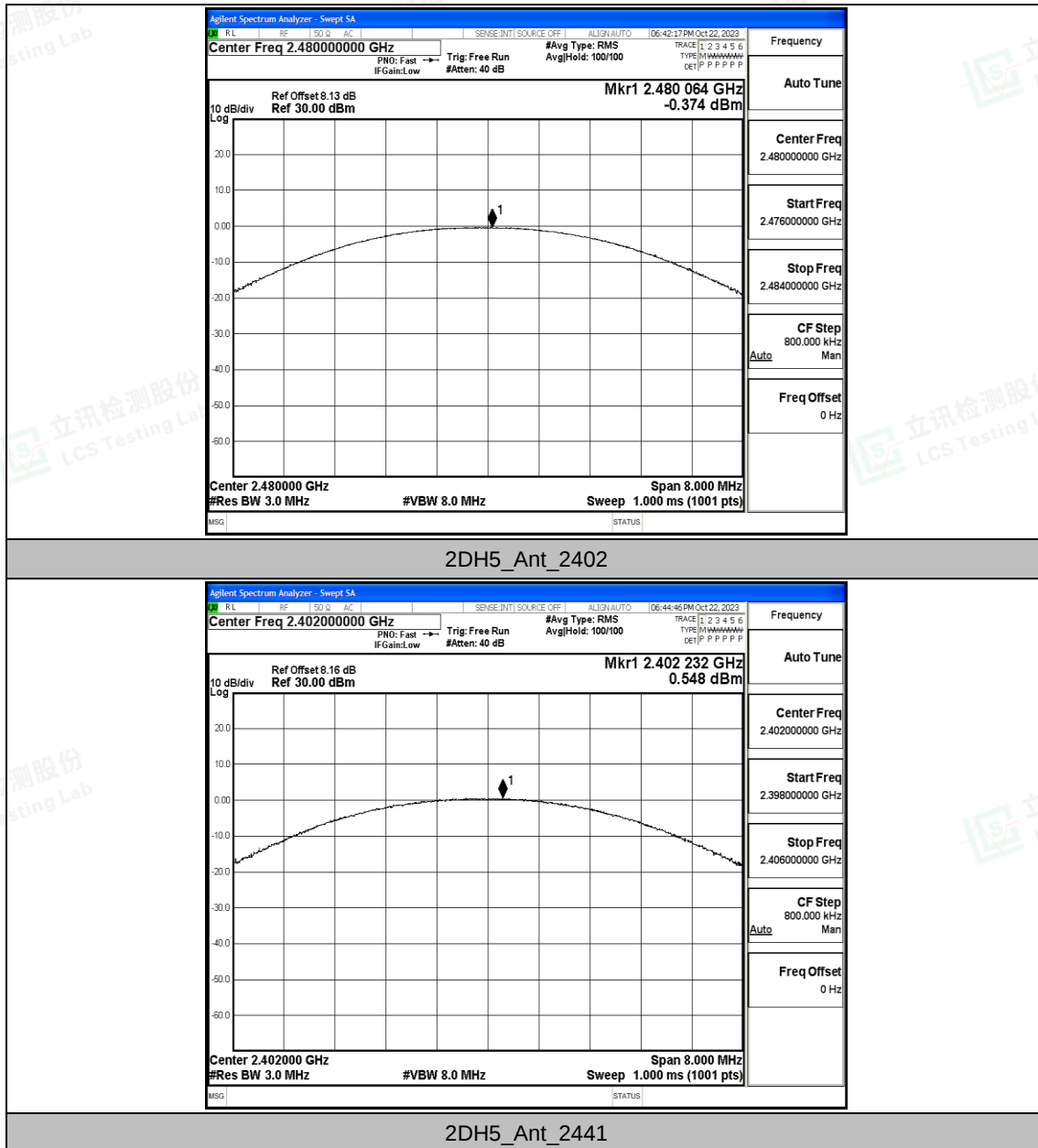


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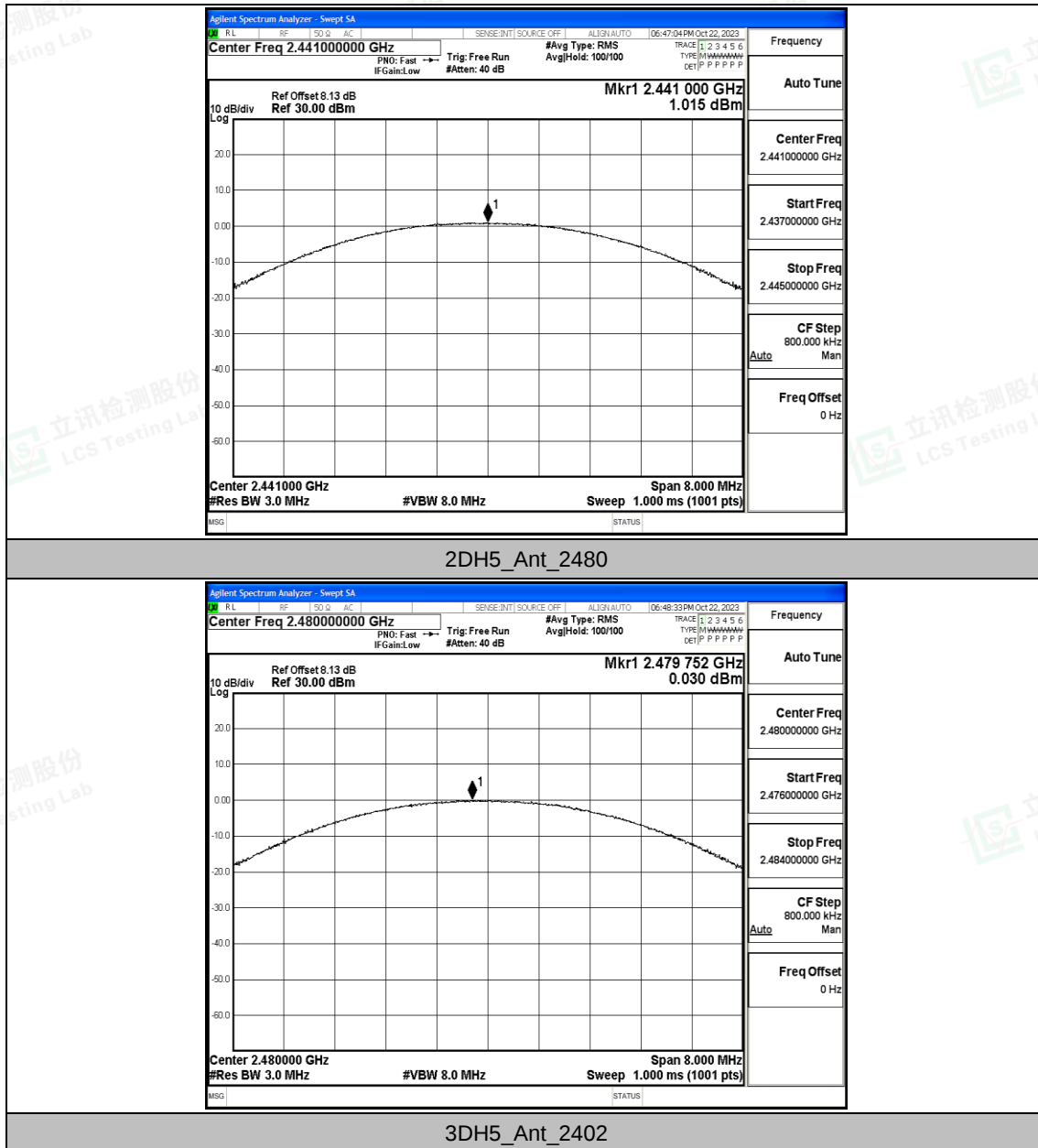


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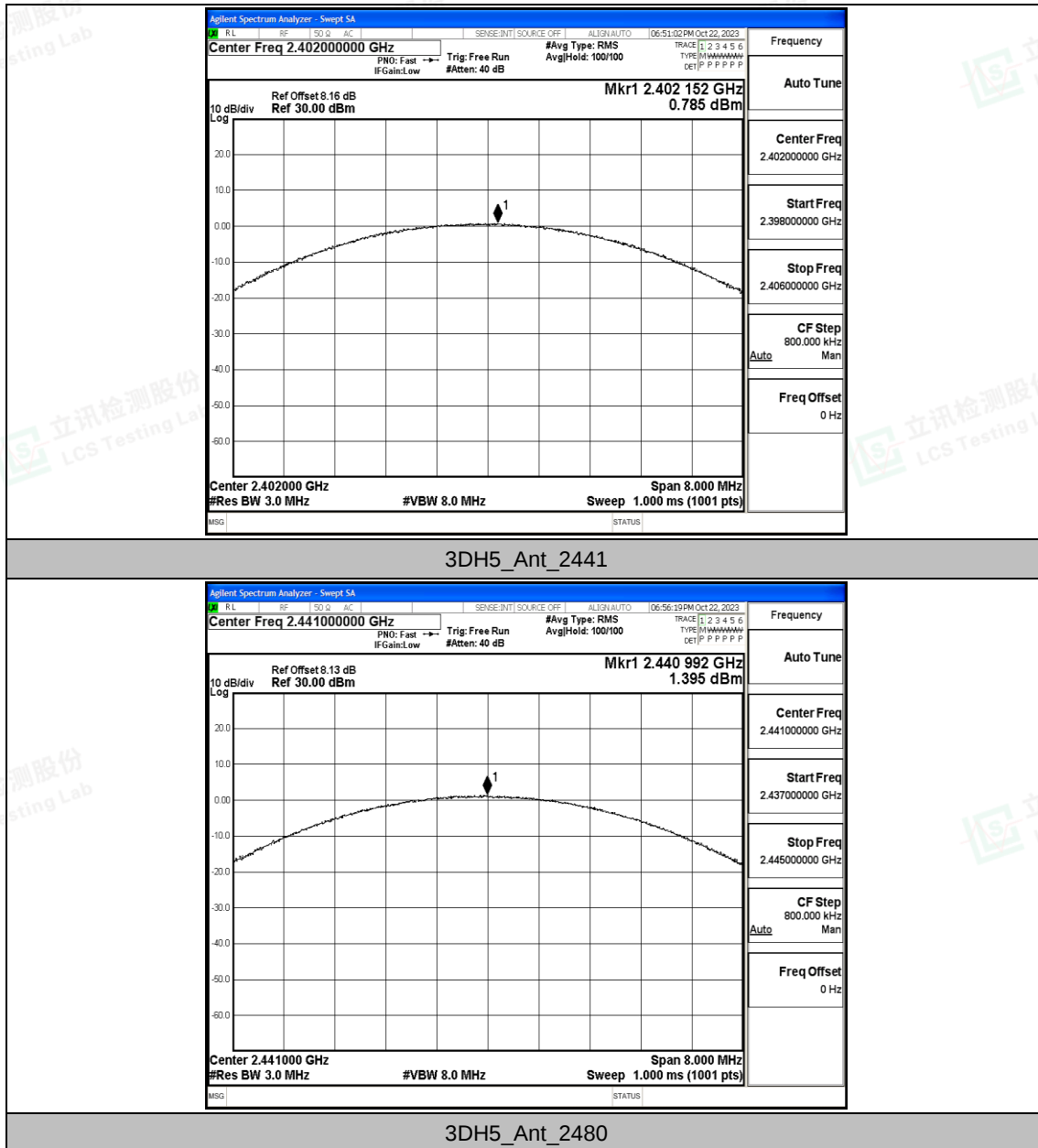


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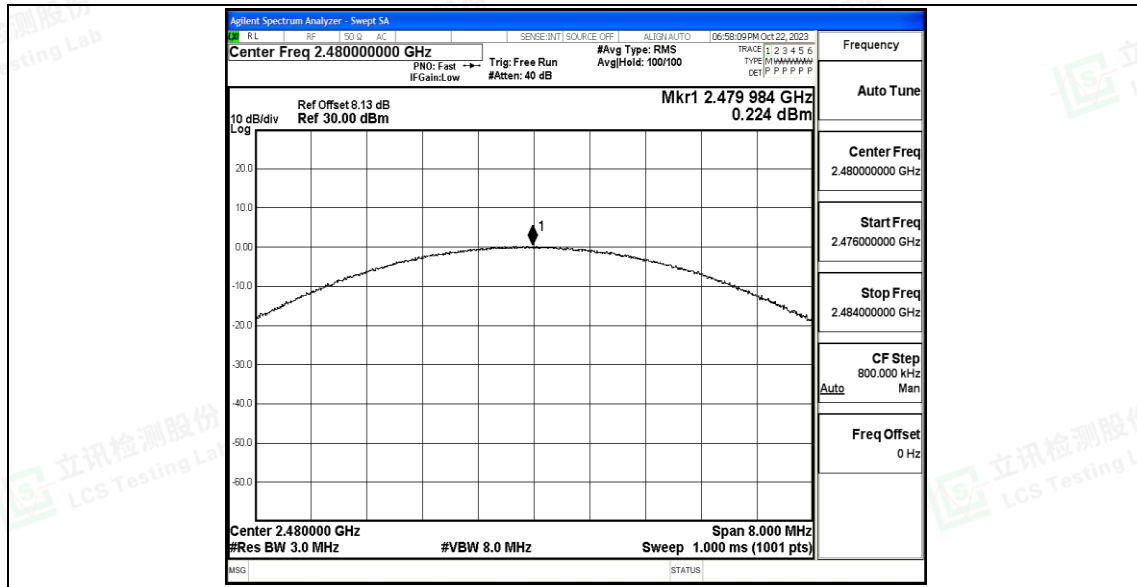


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A.4 Carrier frequency separation

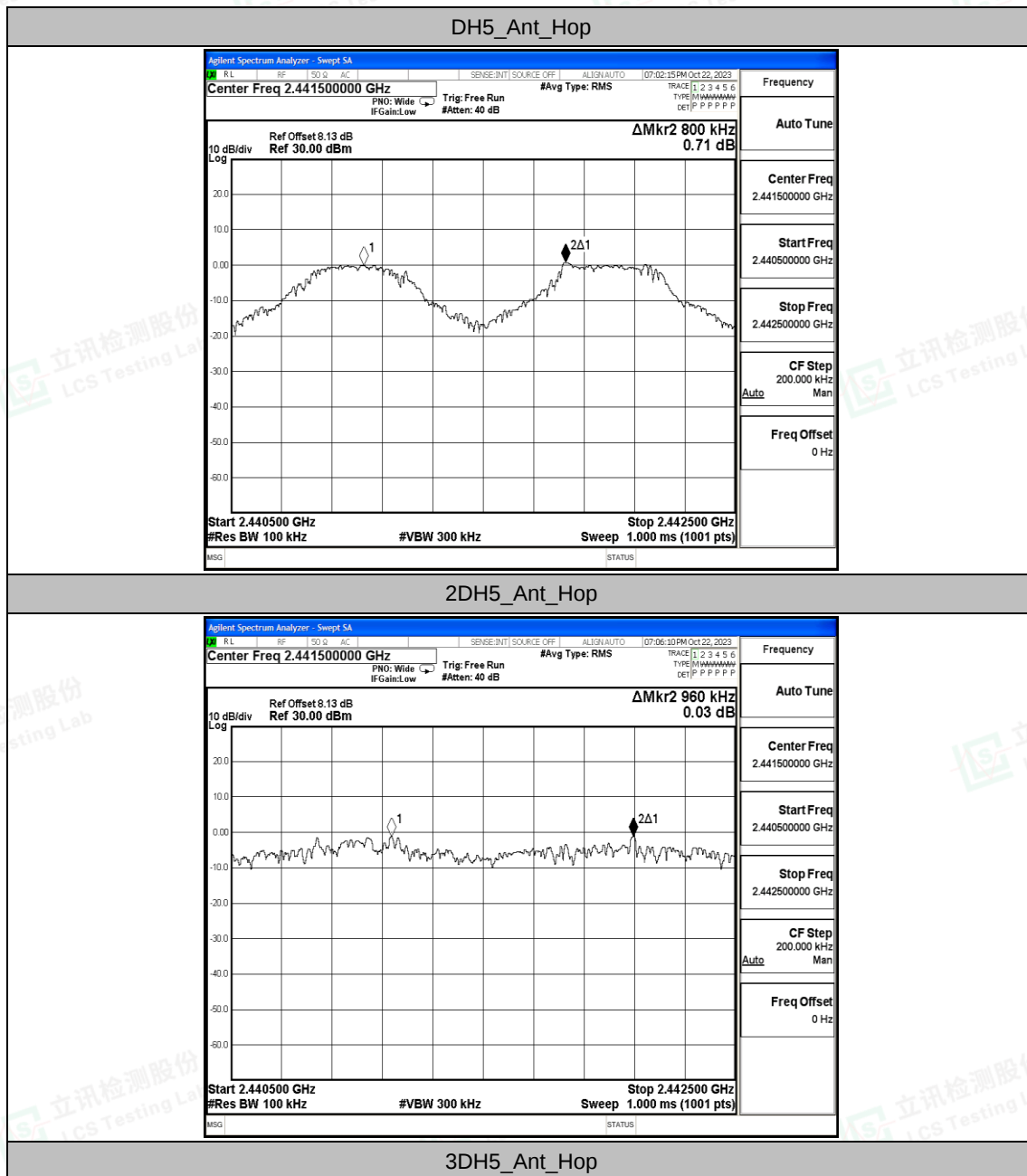
Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.8	≥ 0.650	PASS
2DH5	Ant	Hop	0.96	≥ 0.894	PASS
3DH5	Ant	Hop	1.104	≥ 0.882	PASS





Test Graphs

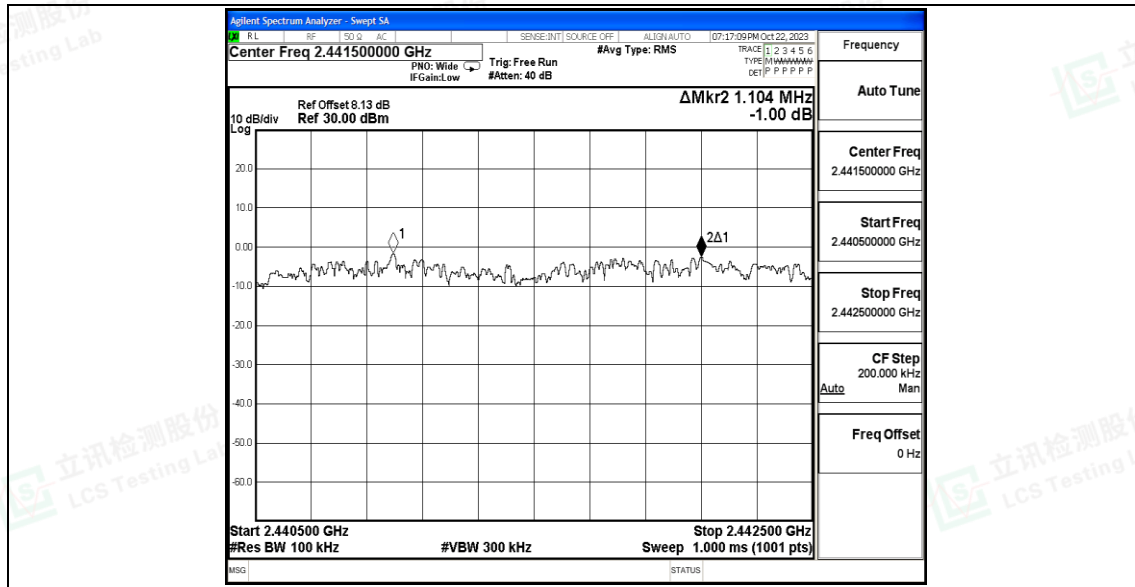


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A.5 Time of occupancy

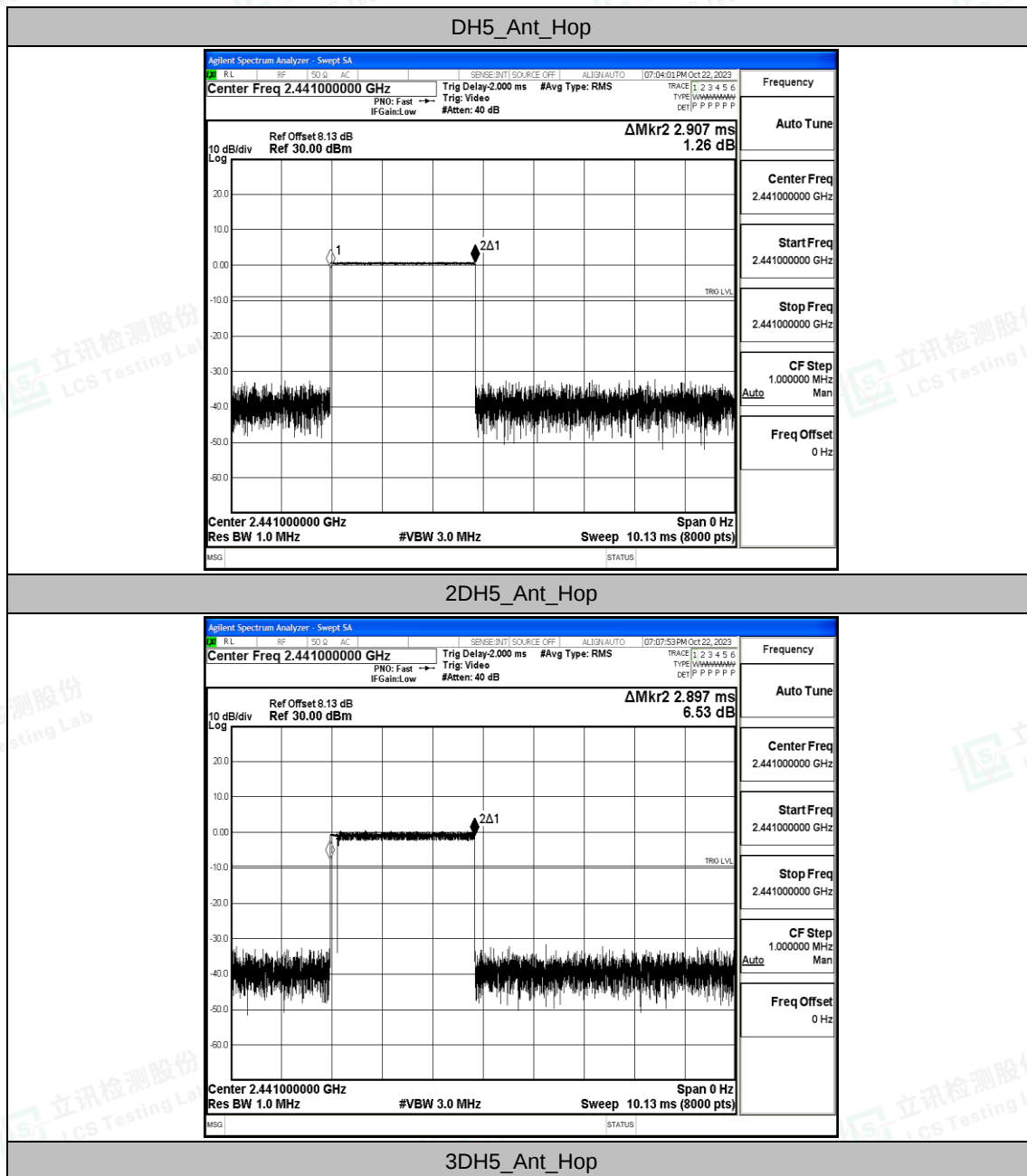
Test Result

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





Test Graphs

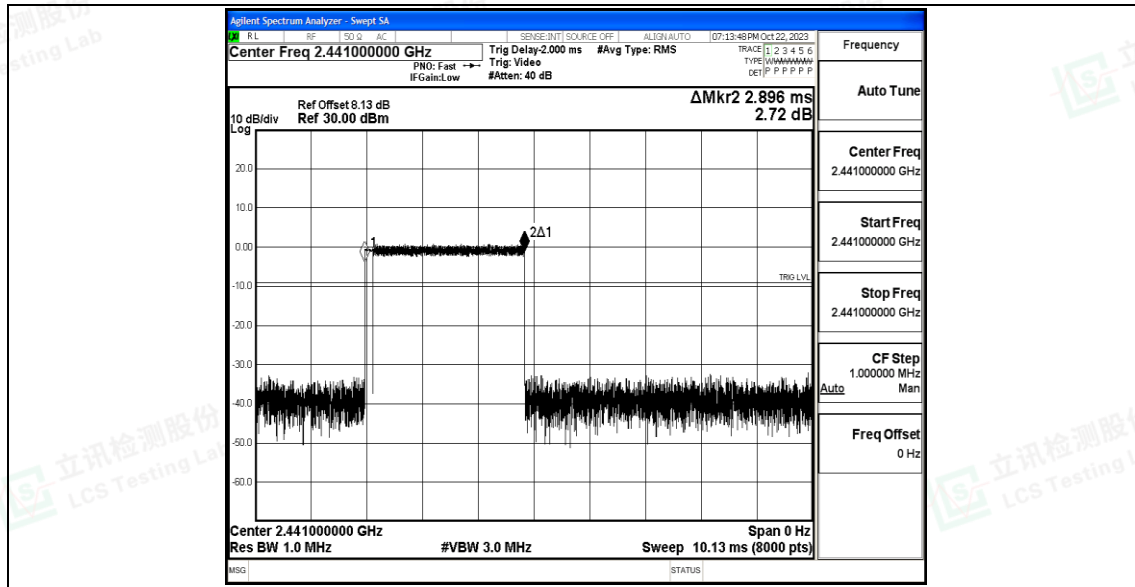


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A.6 Number of hopping channels

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

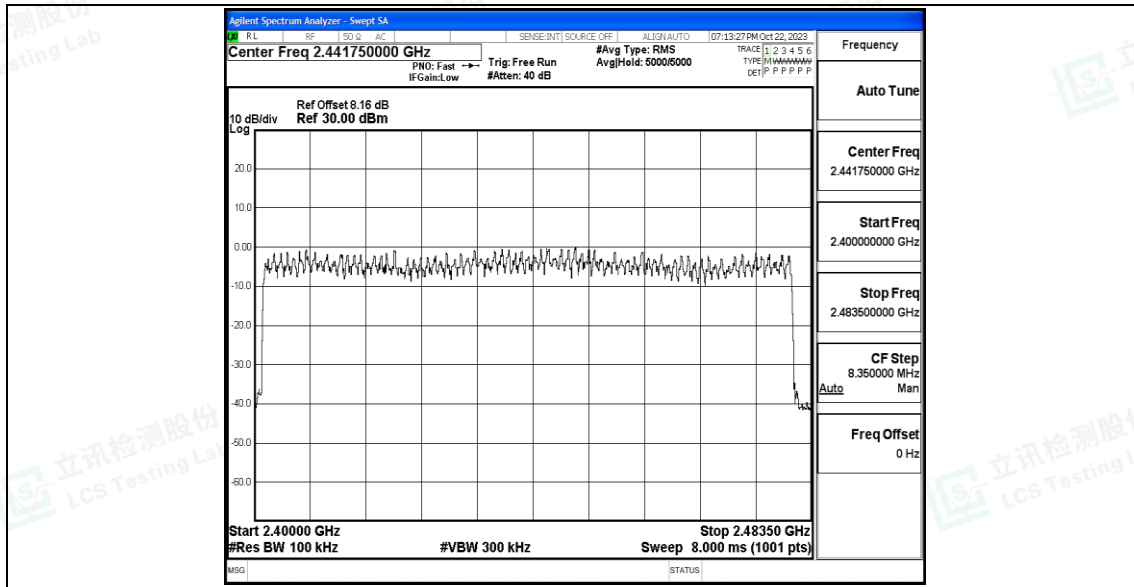


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A.7 Band edge measurements

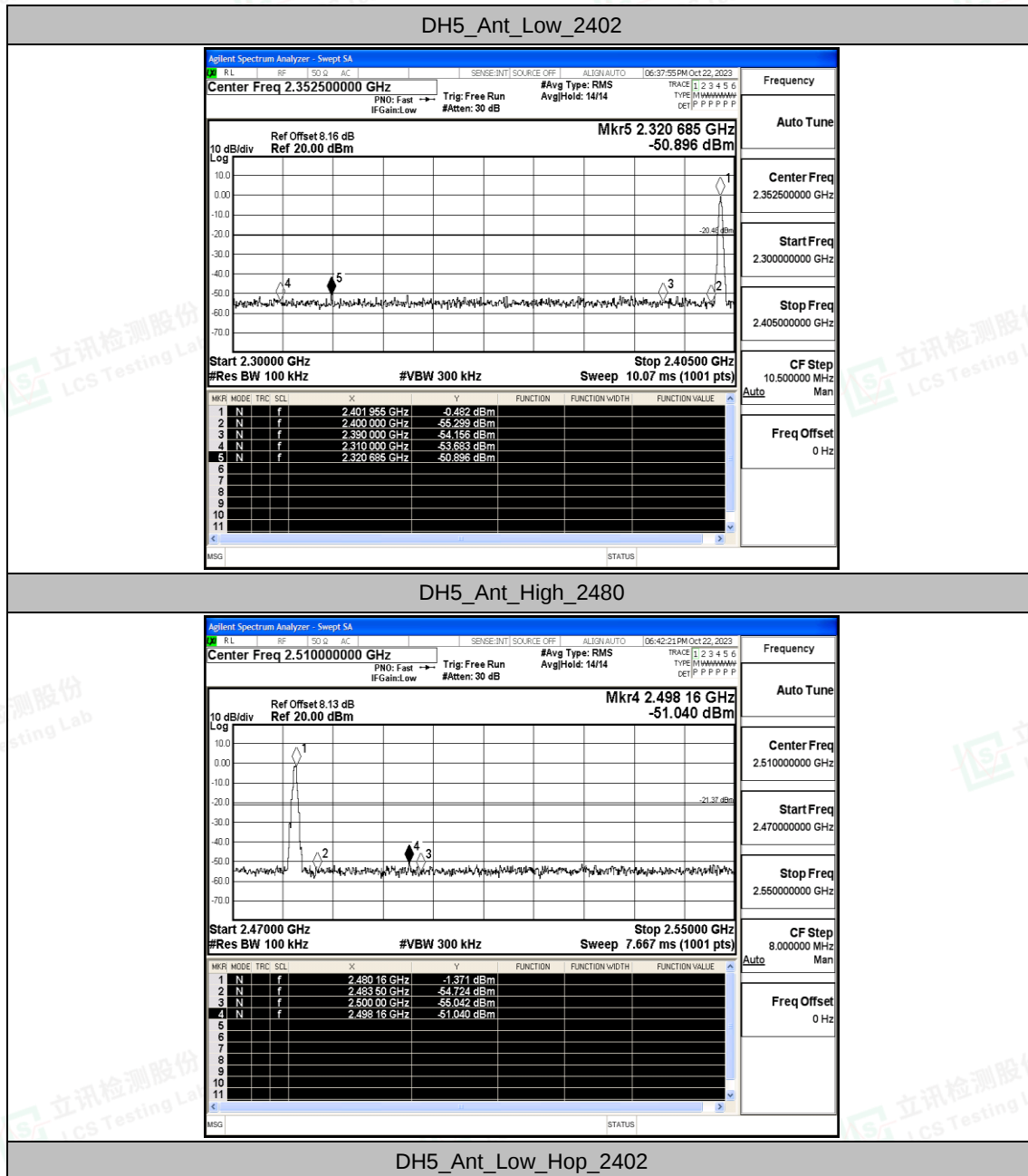
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-0.48	-50.9	≤ -20.48	PASS
		High	2480	-1.37	-51.04	≤ -21.37	PASS
		Low	Hop_2402	-0.23	-50.34	≤ -20.23	PASS
		High	Hop_2480	-1.03	-49.18	≤ -21.03	PASS
2DH5	Ant	Low	2402	-4.85	-50.28	≤ -24.85	PASS
		High	2480	-4.99	-50.63	≤ -24.99	PASS
		Low	Hop_2402	-3.52	-50.11	≤ -23.52	PASS
		High	Hop_2480	-2.97	-49.56	≤ -22.97	PASS
3DH5	Ant	Low	2402	-2.57	-50.53	≤ -22.57	PASS
		High	2480	-4.97	-50.76	≤ -24.97	PASS
		Low	Hop_2402	-2.28	-50.21	≤ -22.28	PASS
		High	Hop_2480	-2.36	-49.3	≤ -22.36	PASS





Test Graphs

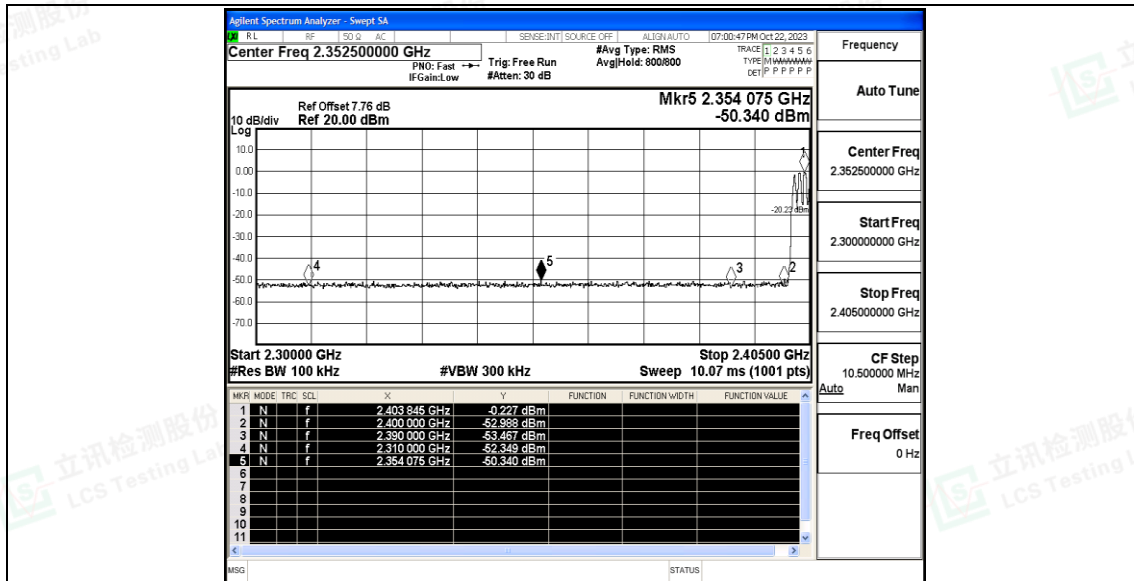


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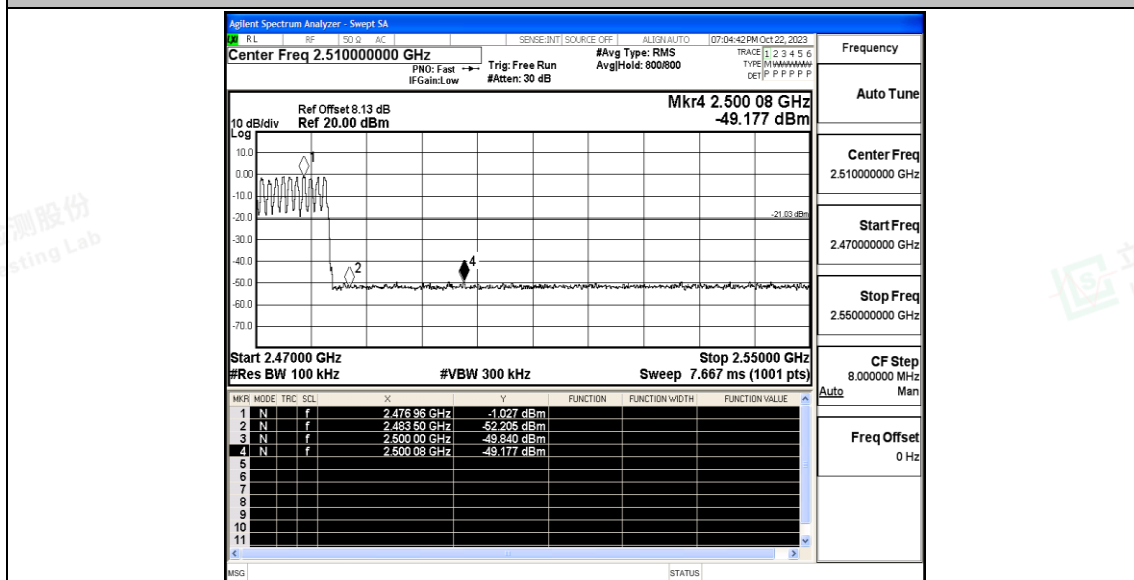
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DH5_Ant_High_Hop_2480



2DH5_Ant_Low_2402

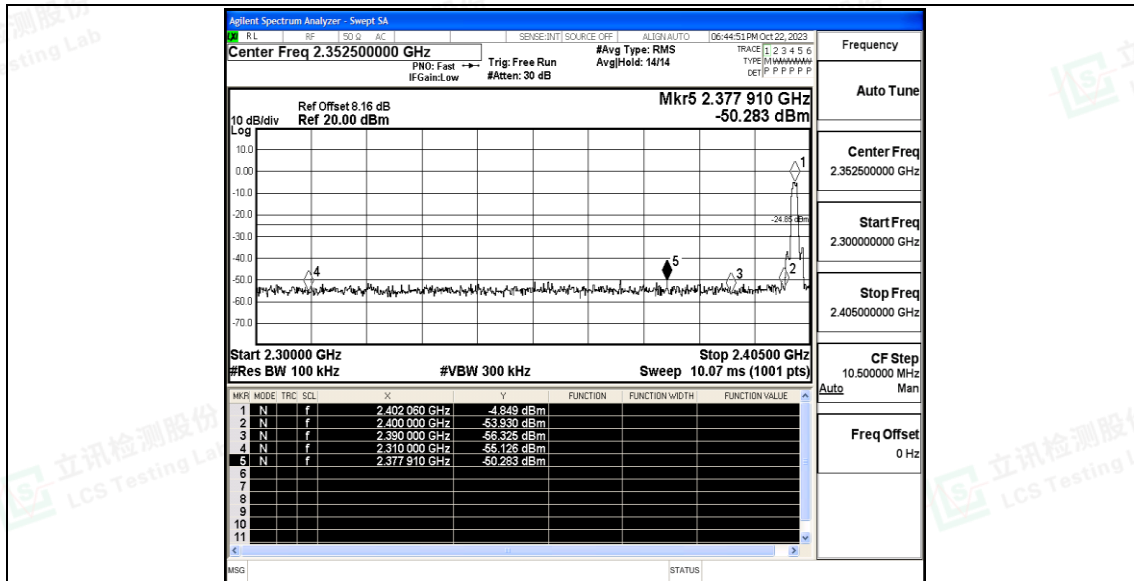


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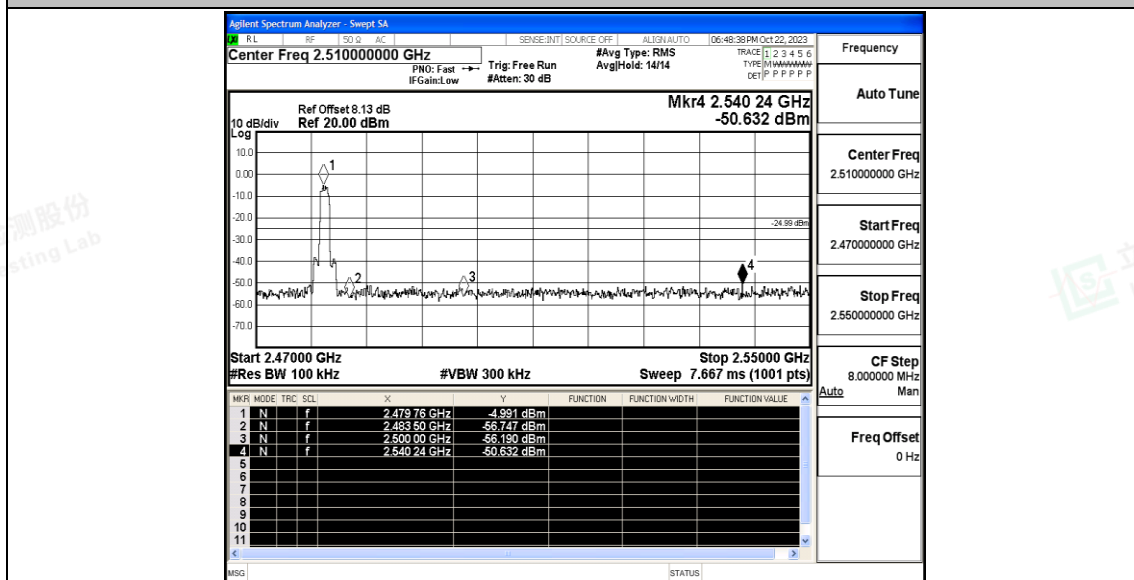
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2DH5_Ant_High_2480



2DH5_Ant_Low_Hop_2402

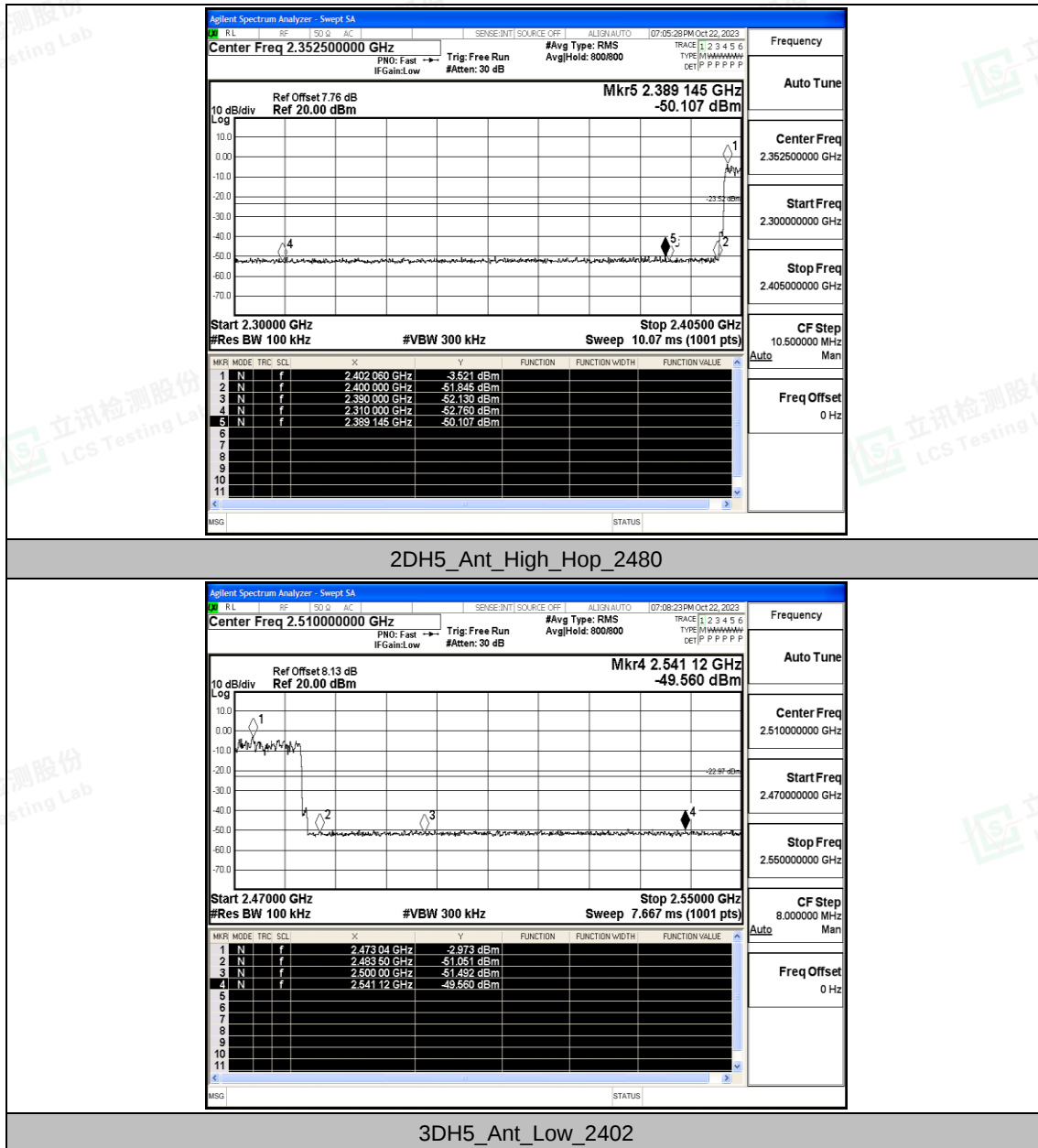


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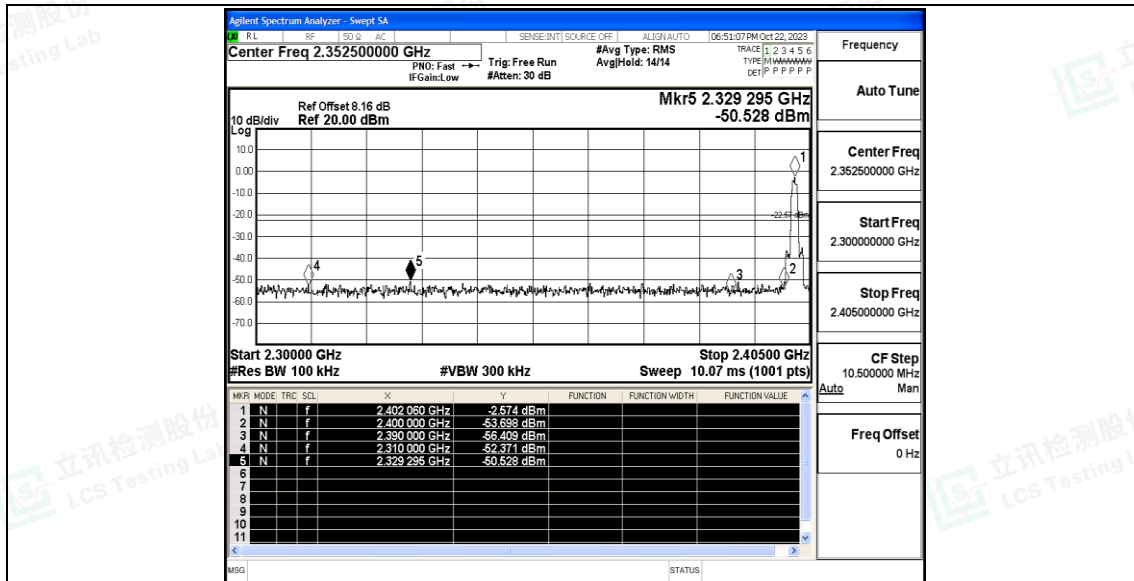


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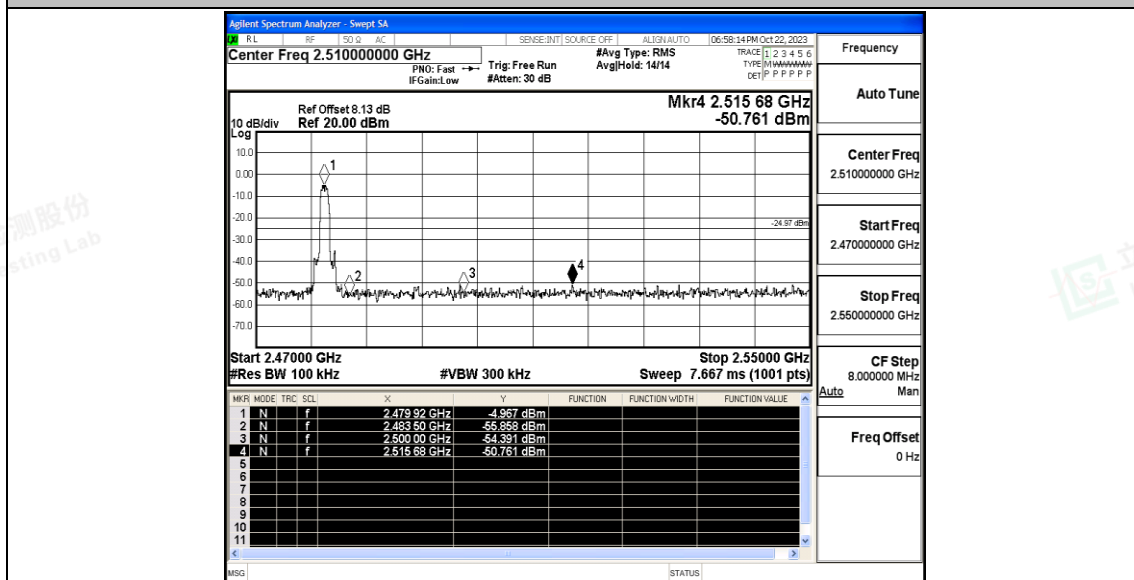
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3DH5_Ant_High_2480



3DH5_Ant_Low_Hop_2402

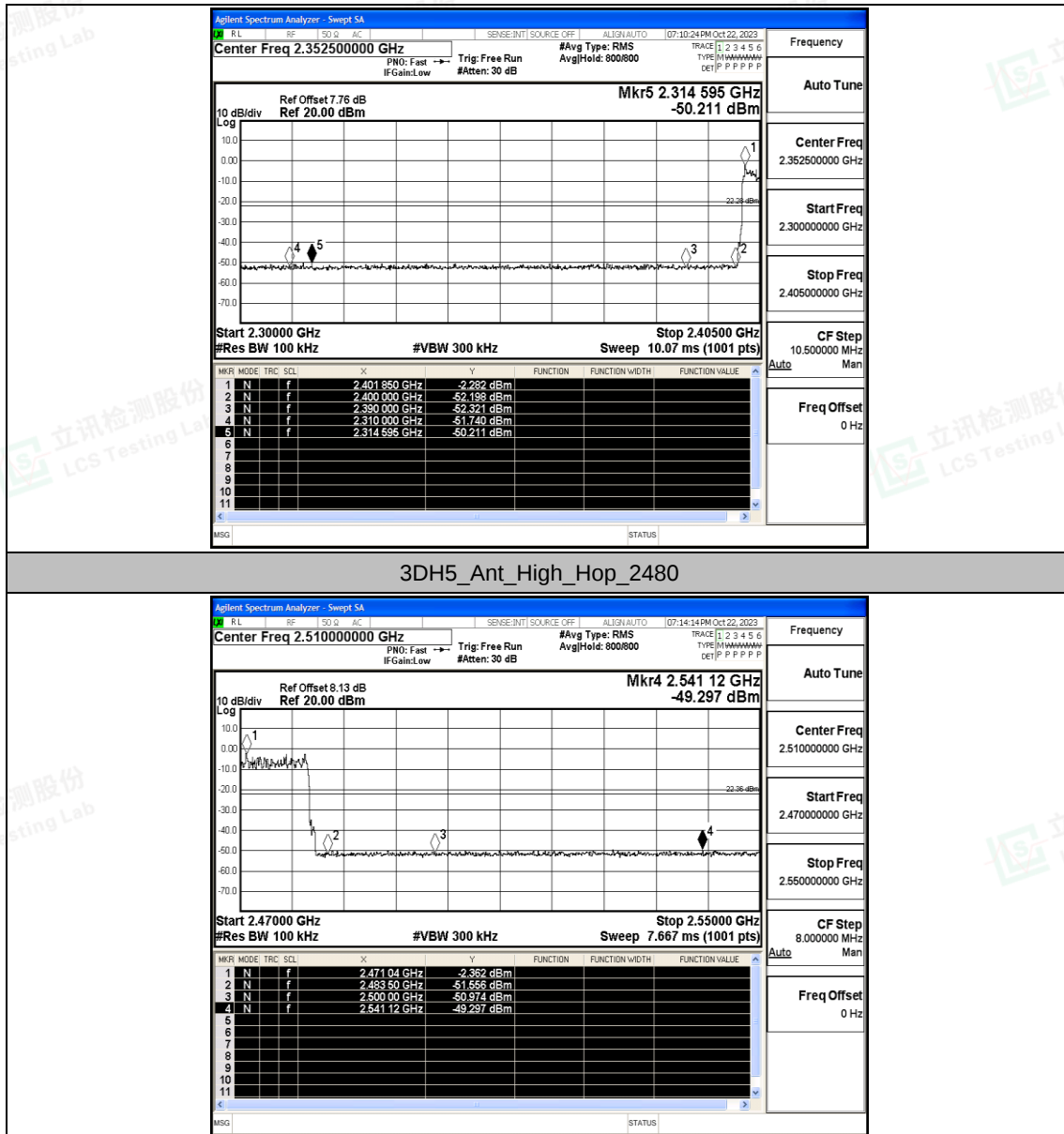


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A.8 Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	-0.05	-0.05	---	PASS
			30~1000	-0.05	-62.03	≤-20.05	PASS
			1000~26500	-0.05	-49.36	≤-20.05	PASS
		2441	Reference	0.47	0.47	---	PASS
			30~1000	0.47	-61.61	≤-19.53	PASS
			1000~26500	0.47	-49.35	≤-19.53	PASS
		2480	Reference	-0.82	-0.82	---	PASS
			30~1000	-0.82	-61.83	≤-20.82	PASS
			1000~26500	-0.82	-49.37	≤-20.82	PASS
2DH5	Ant	2402	Reference	-1.59	-1.59	---	PASS
			30~1000	-1.59	-61.73	≤-21.59	PASS
			1000~26500	-1.59	-48.29	≤-21.59	PASS
		2441	Reference	-1.23	-1.23	---	PASS
			30~1000	-1.23	-61.21	≤-21.23	PASS
			1000~26500	-1.23	-49.42	≤-21.23	PASS
		2480	Reference	-2.11	-2.11	---	PASS
			30~1000	-2.11	-61.43	≤-22.11	PASS
			1000~26500	-2.11	-48.91	≤-22.11	PASS
3DH5	Ant	2402	Reference	-2.23	-2.23	---	PASS
			30~1000	-2.23	-61.45	≤-22.23	PASS
			1000~26500	-2.23	-49.56	≤-22.23	PASS
		2441	Reference	-1.23	-1.23	---	PASS
			30~1000	-1.23	-61.86	≤-21.23	PASS
			1000~26500	-1.23	-49.14	≤-21.23	PASS
		2480	Reference	-2.99	-2.99	---	PASS
			30~1000	-2.99	-61.74	≤-22.99	PASS
			1000~26500	-2.99	-49.3	≤-22.99	PASS



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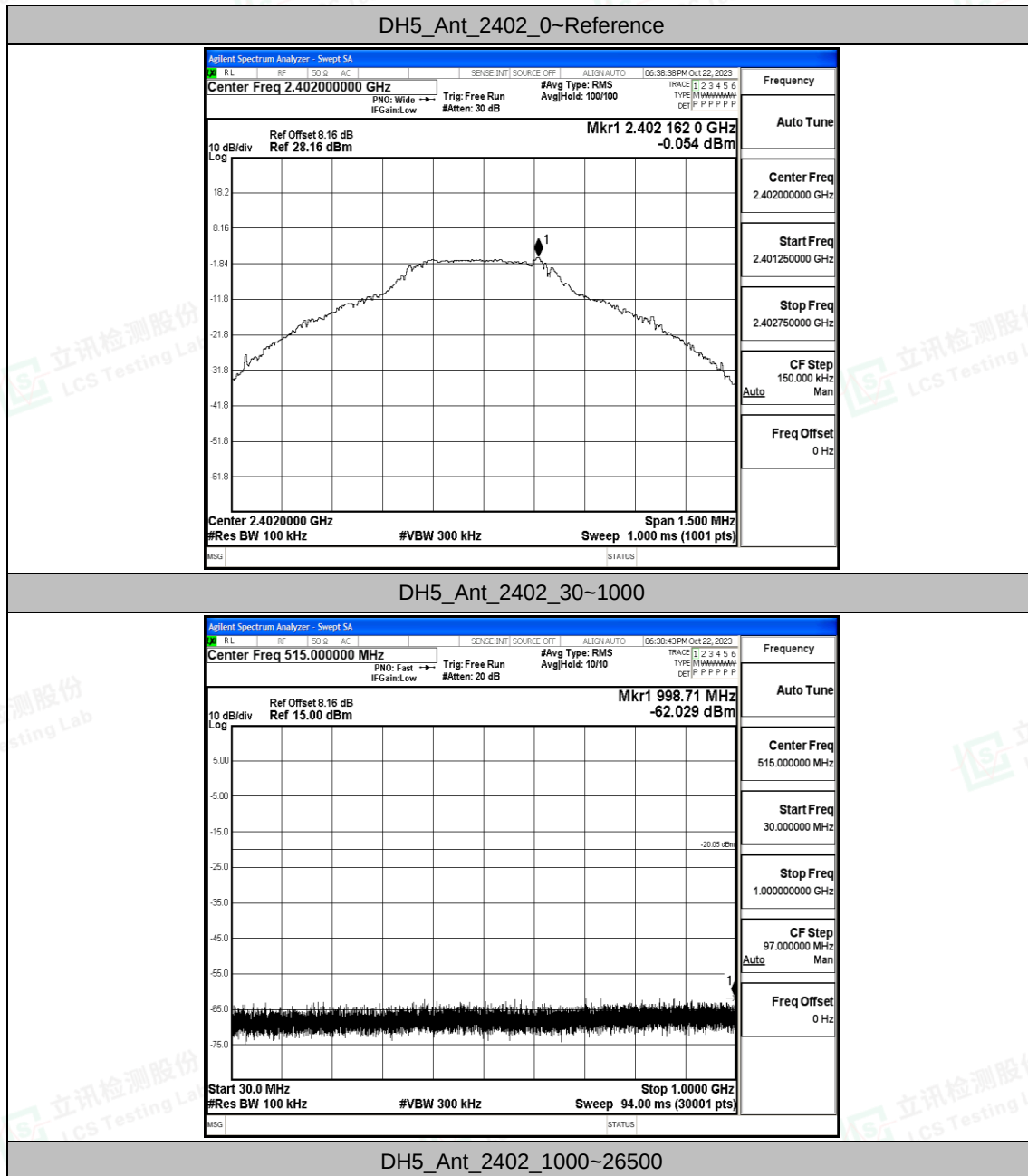
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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Test Graphs

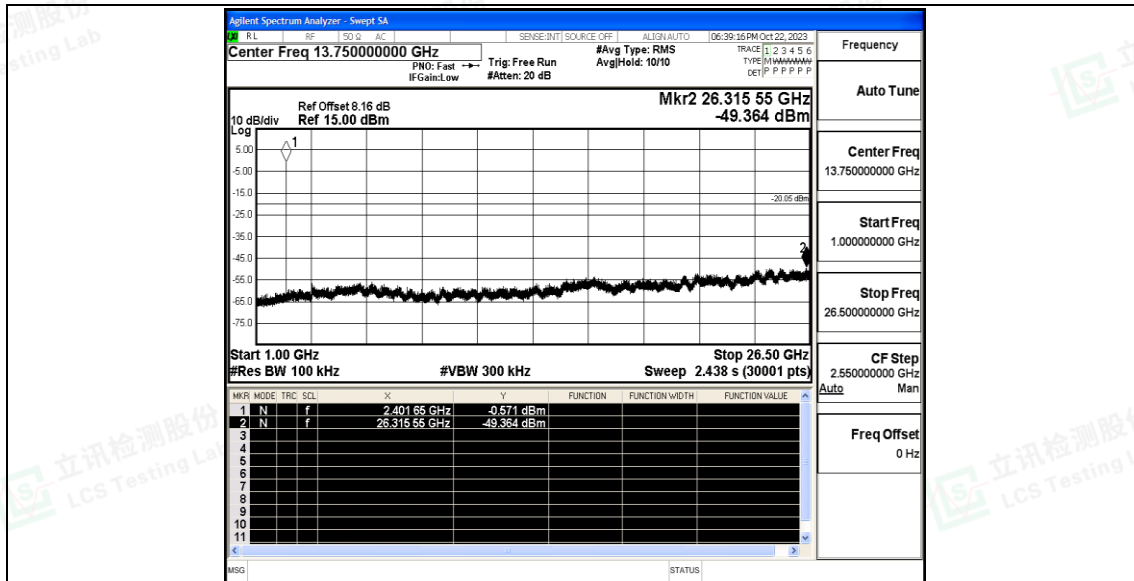


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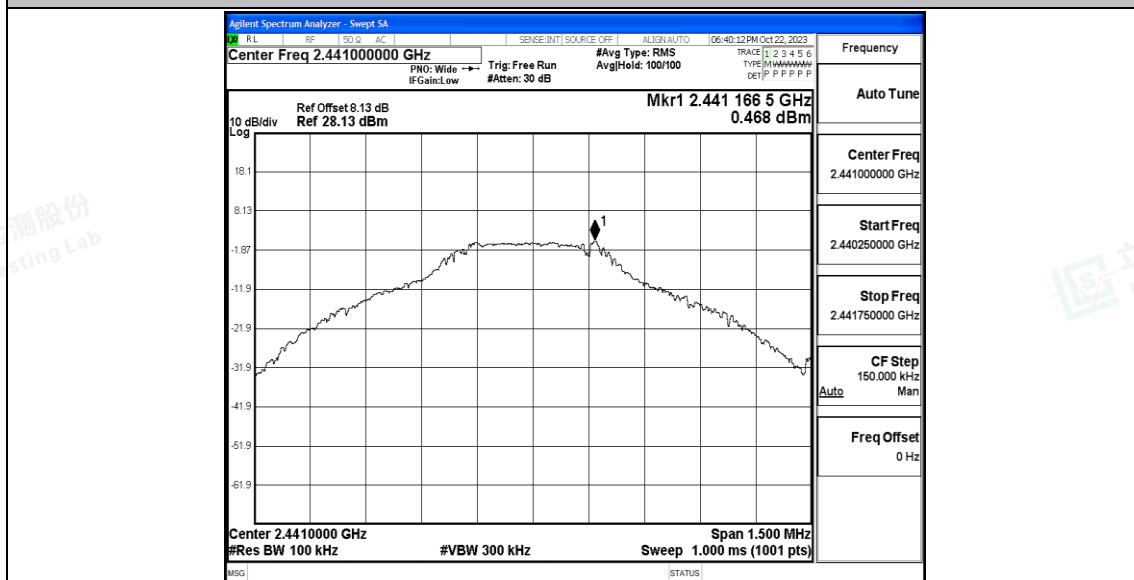
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DH5_Ant_2441_0~Reference



DH5_Ant_2441_30~1000

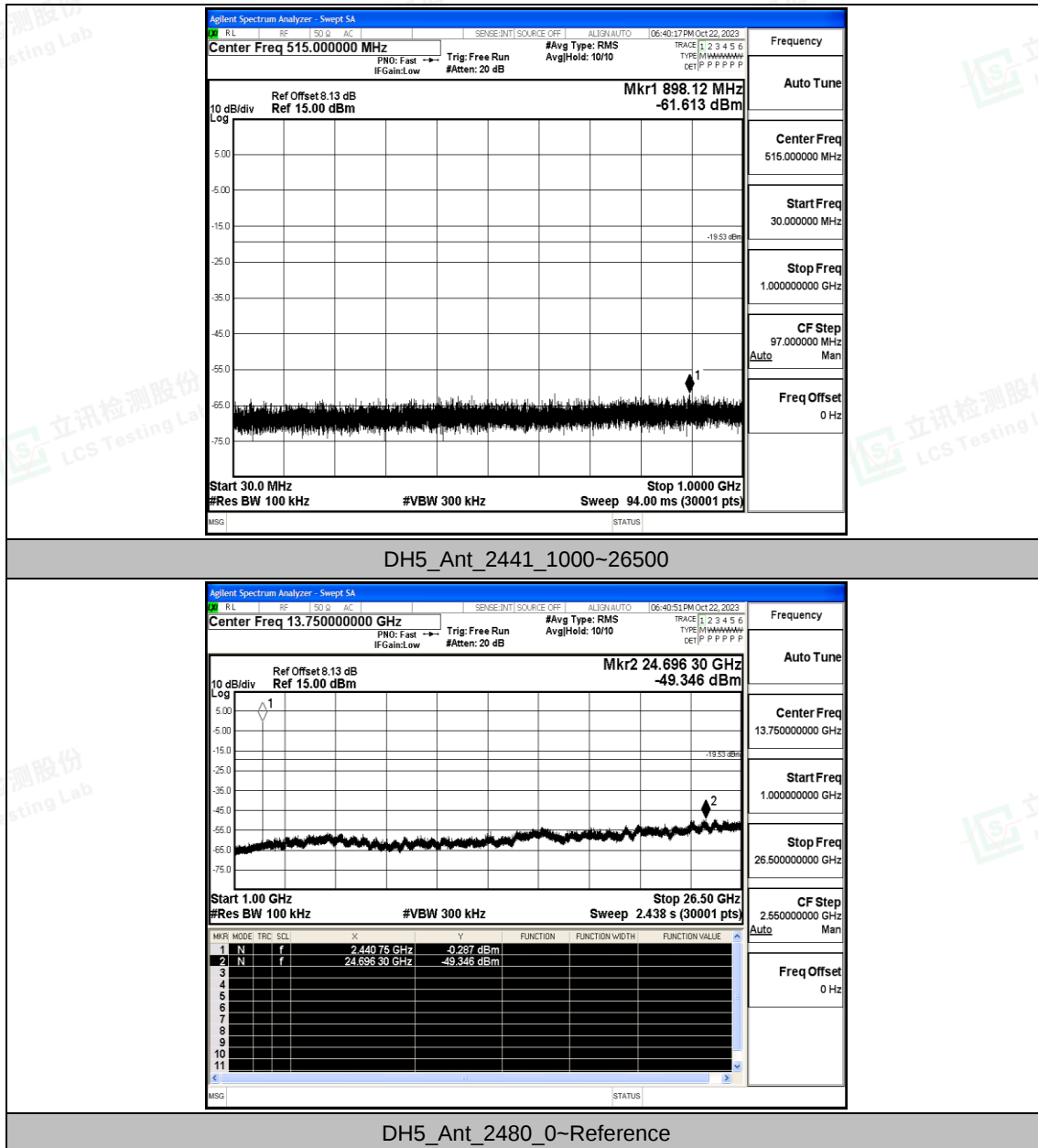


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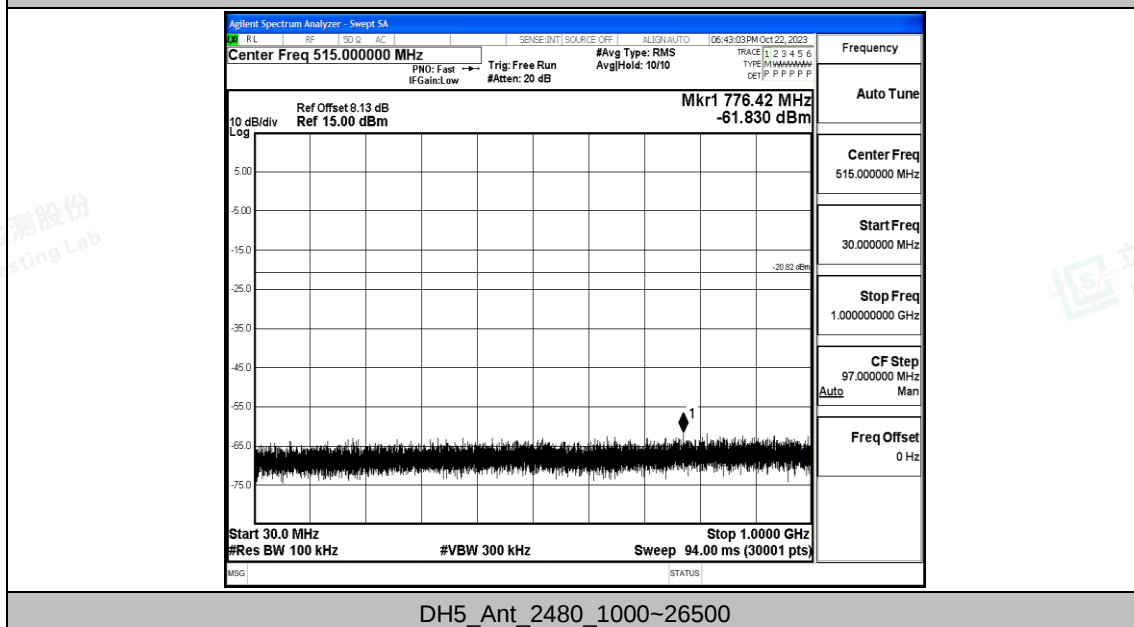
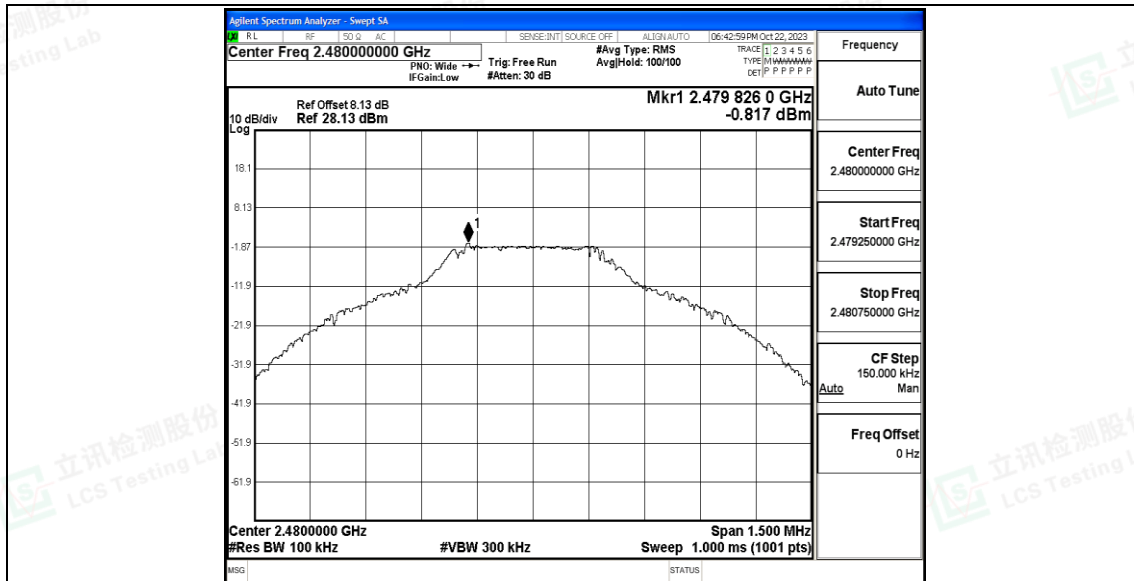


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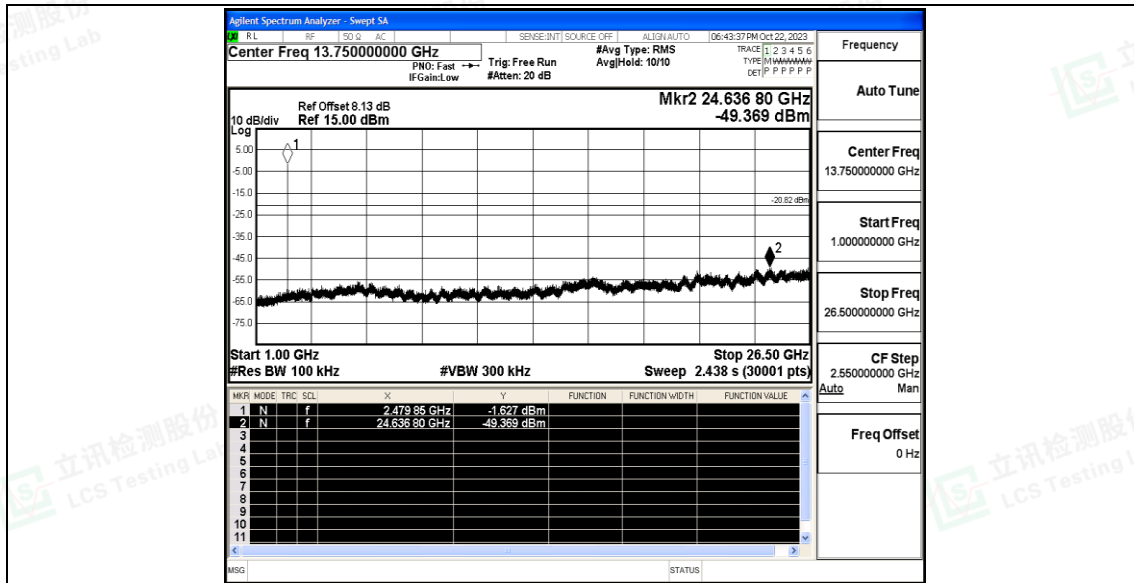


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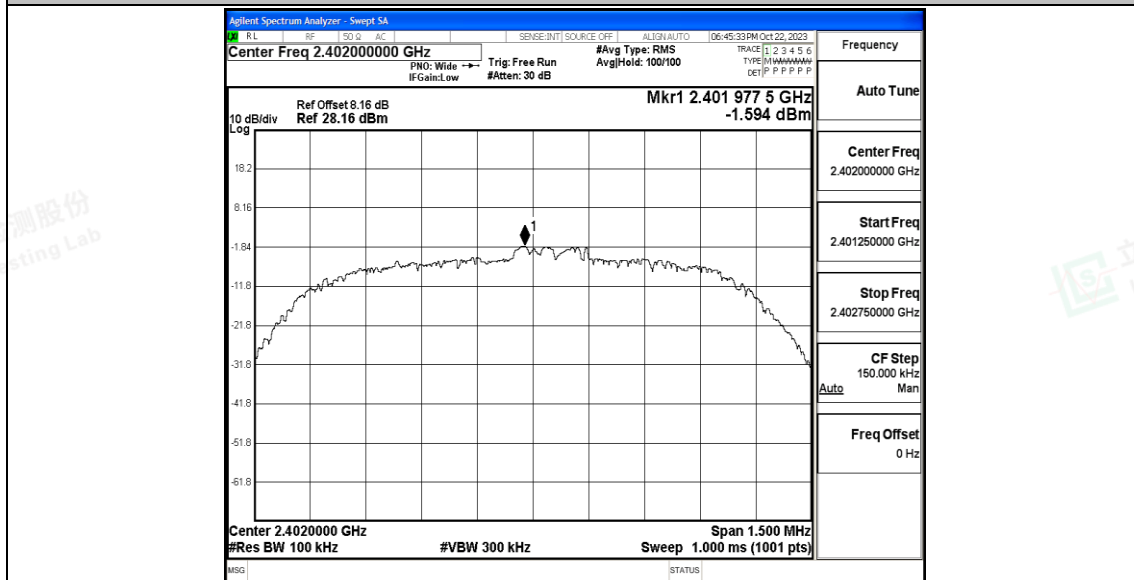
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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2DH5_Ant_2402_0-Reference



2DH5_Ant_2402_30~1000

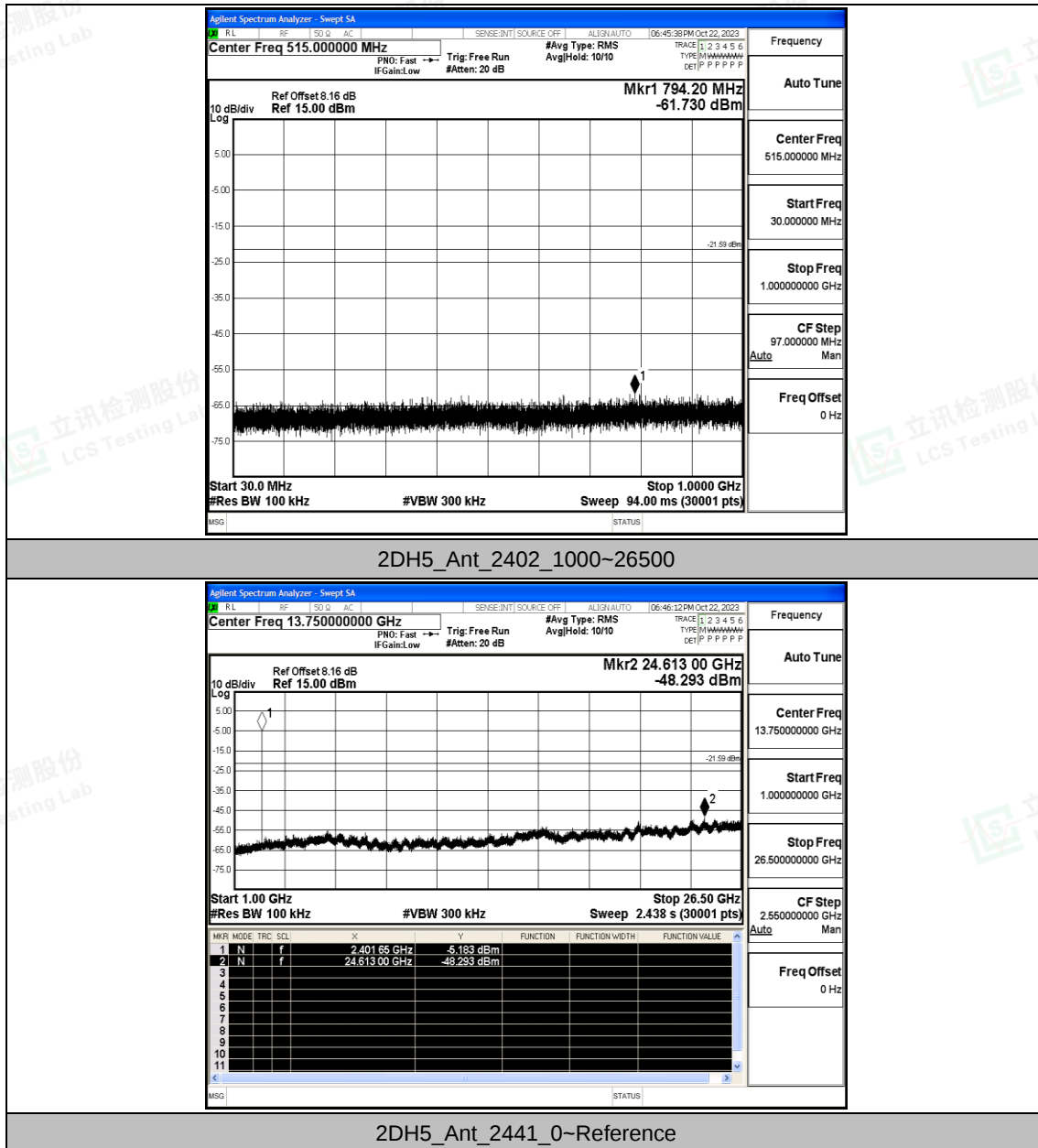


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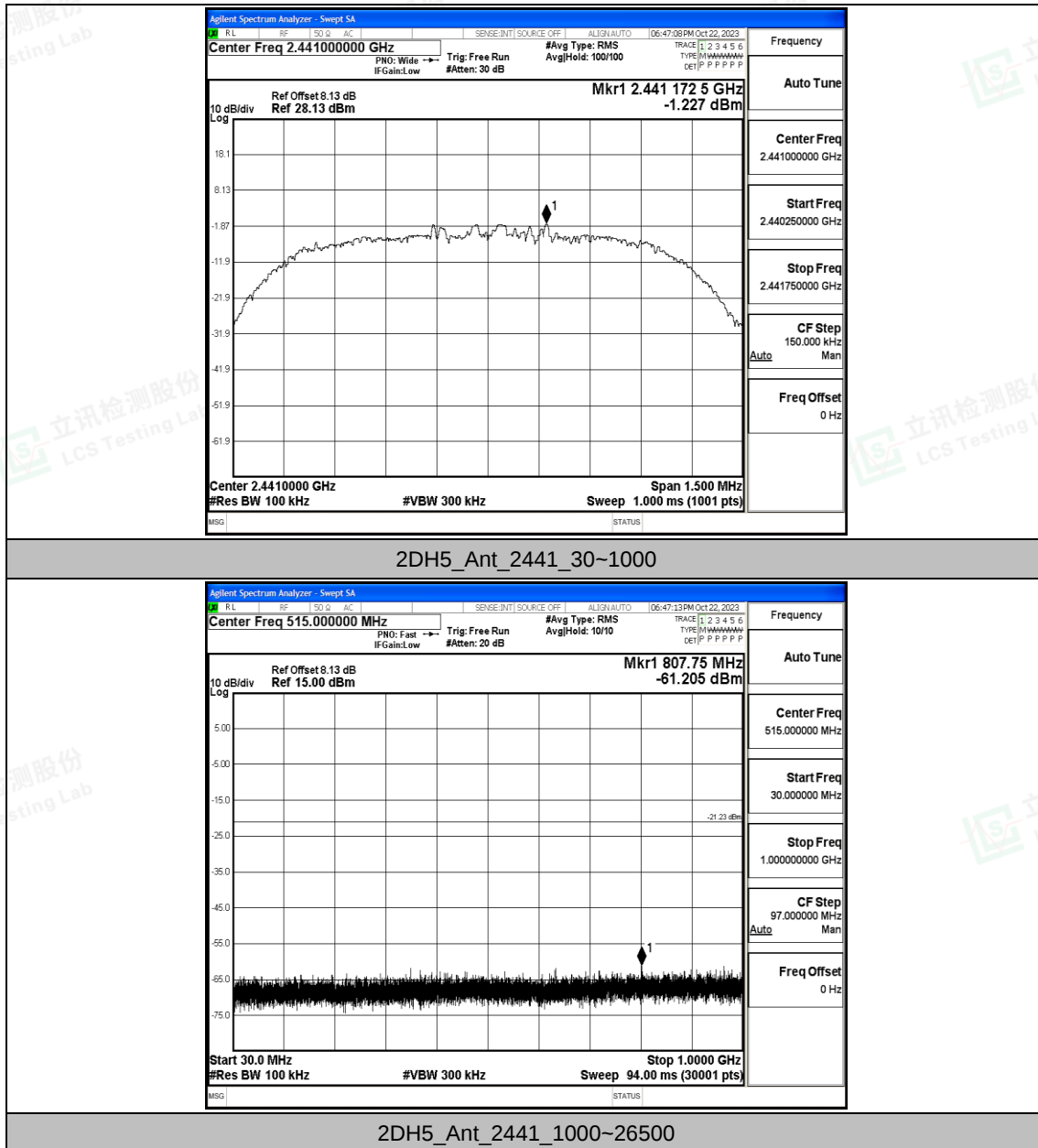


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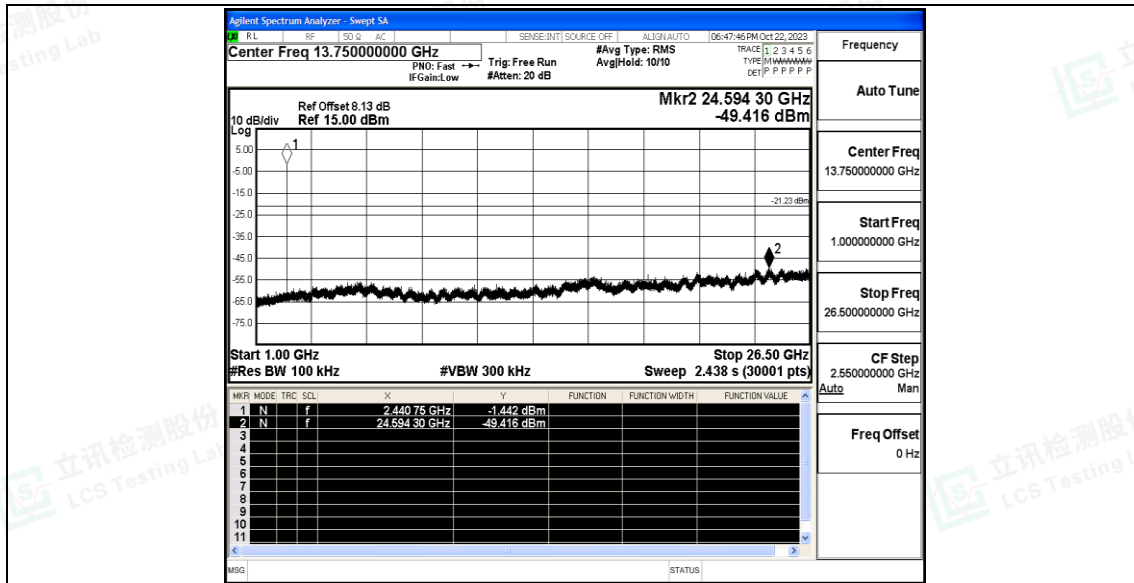


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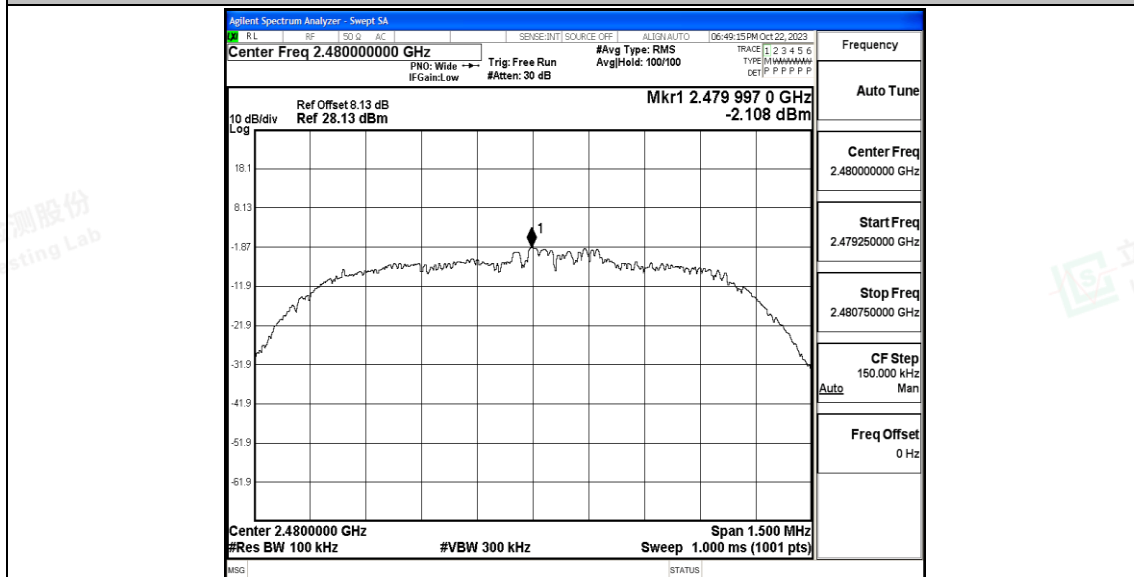
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2DH5_Ant_2480_0-Reference



2DH5_Ant_2480_30~1000



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