



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: MIDI electronic wind instruments

Test Model: EWI-S2

Environmental Conditions

Temperature:	22.3° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Mening Su
Supervised by:	Li Huan



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Scan code to check authenticity



A.1 20dB Emission Bandwidth

Test Result

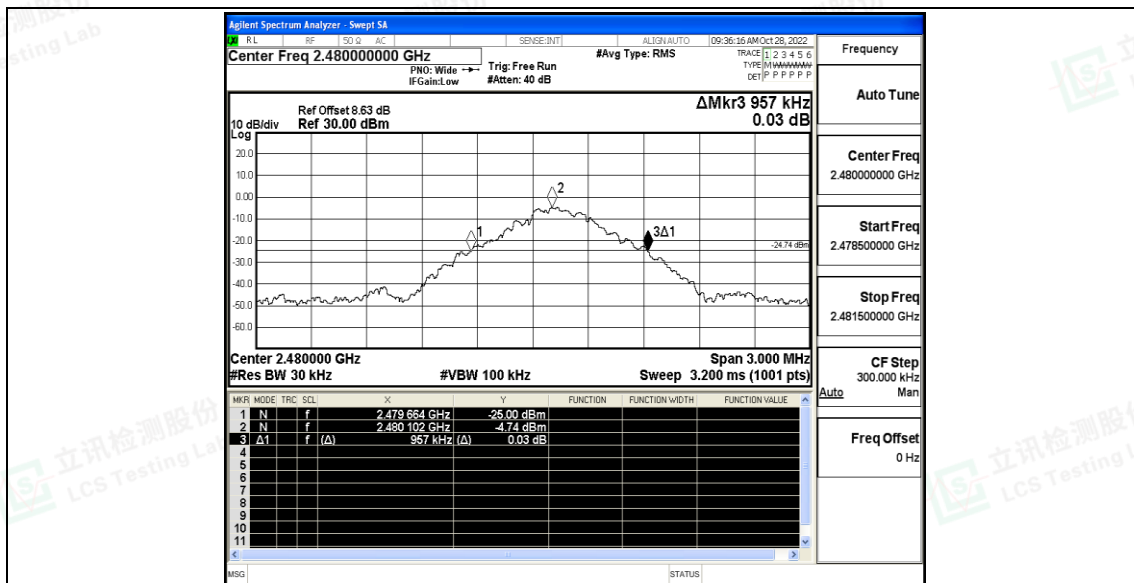
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	0.960	2401.658	2402.618	---
		2441	0.927	2440.664	2441.591	---
		2480	0.957	2479.664	2480.621	---
2DH5	Ant1	2402	1.380	2401.442	2402.822	---
		2441	1.281	2440.499	2441.780	---
		2480	1.281	2479.499	2480.780	---
3DH5	Ant1	2402	1.290	2401.487	2402.777	---
		2441	1.350	2440.454	2441.804	---
		2480	1.305	2479.478	2480.783	---



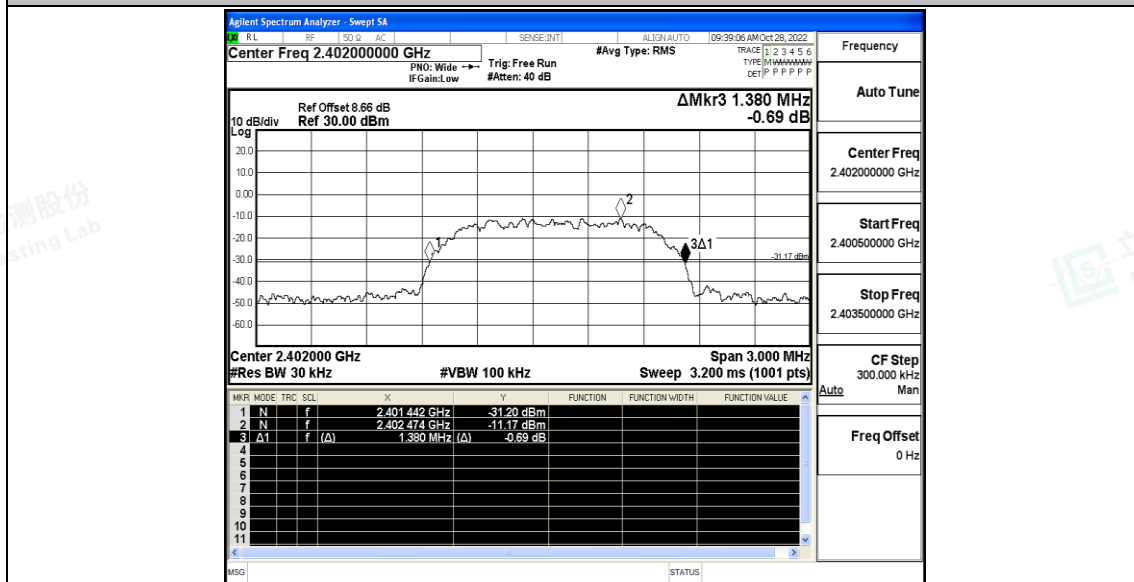


Test Graphs



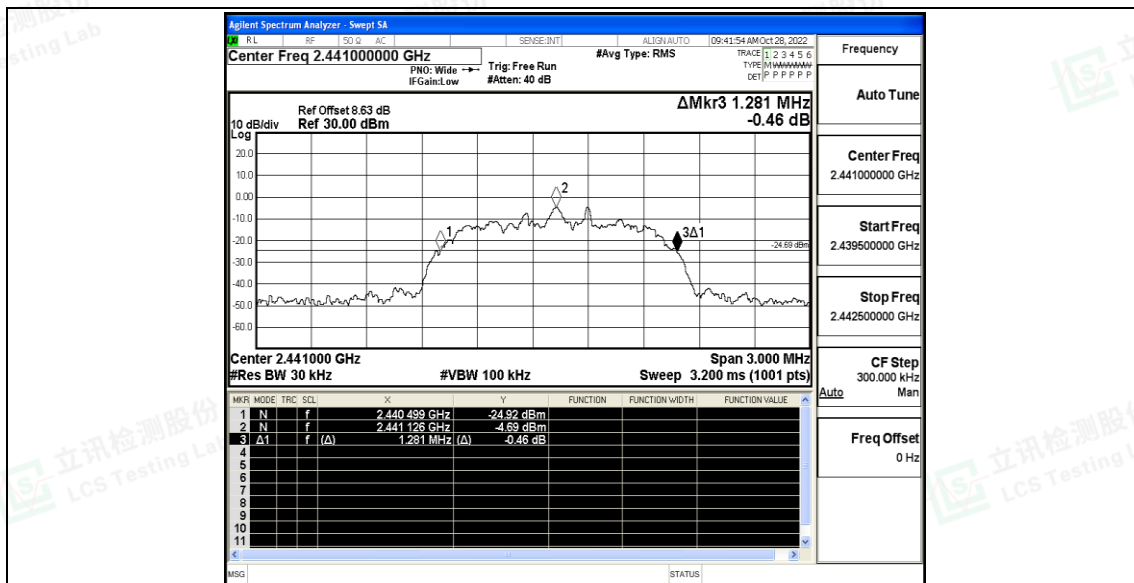


2DH5_Ant1_2402

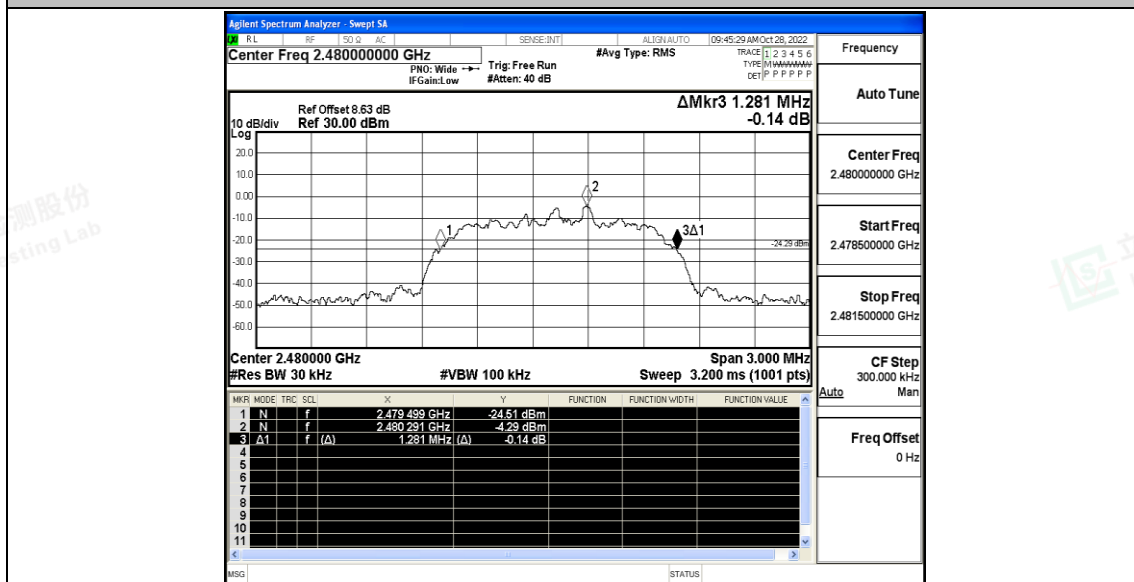


2DH5_Ant1_2441



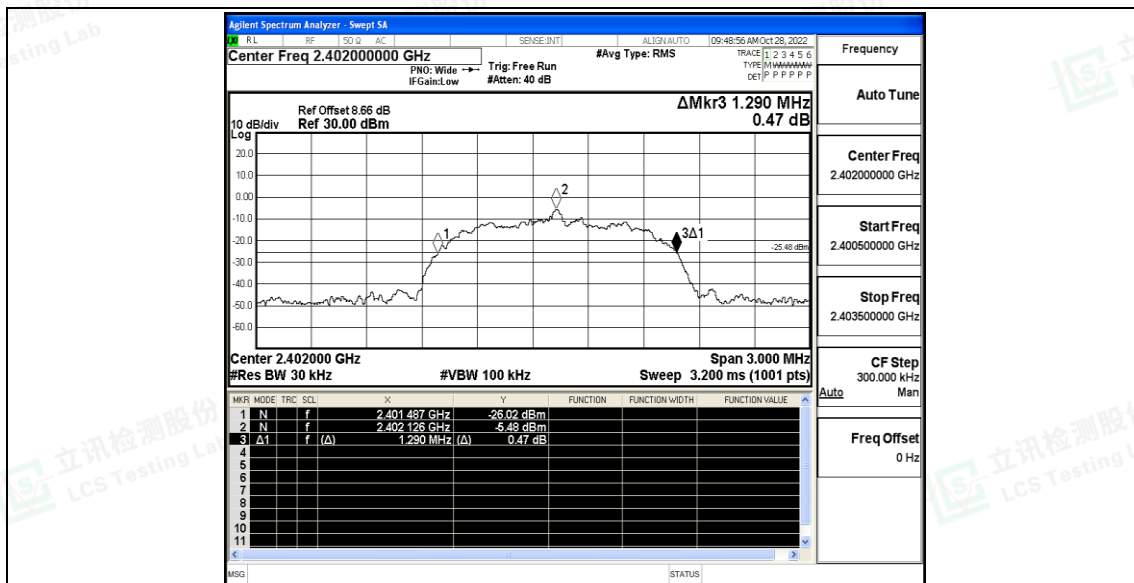


2DH5_Ant1_2480

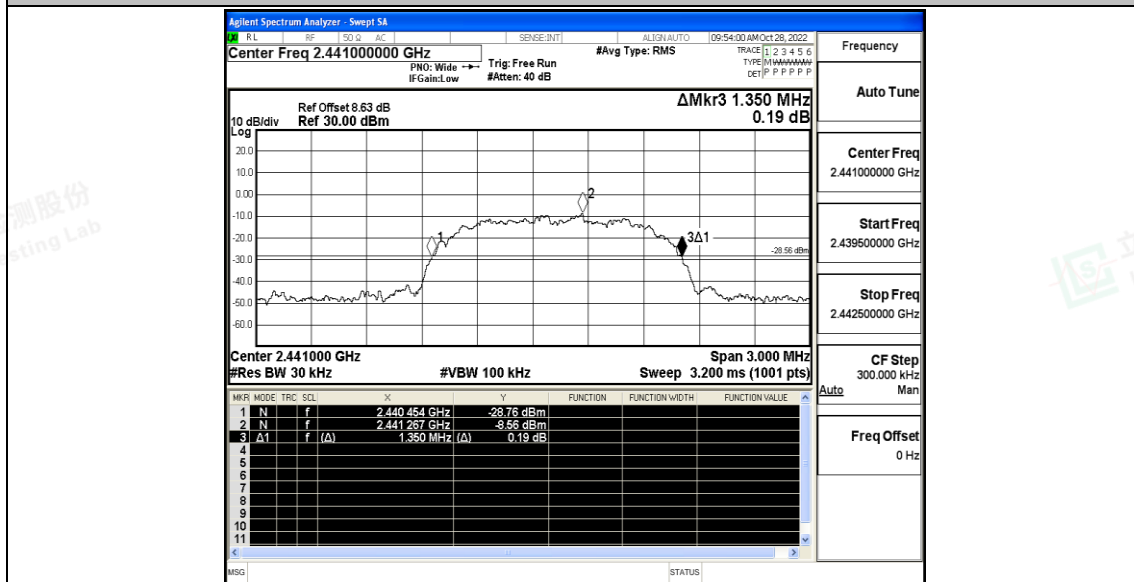


3DH5_Ant1_2402



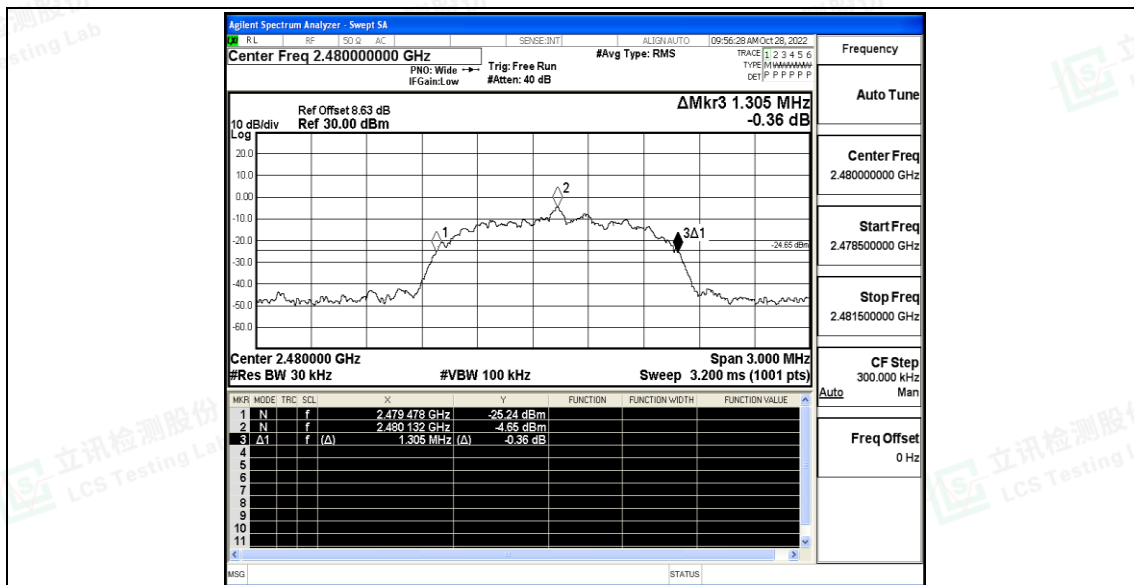


3DH5_Ant1_2441



3DH5_Ant1_2480







A.2 Maximum conducted output power

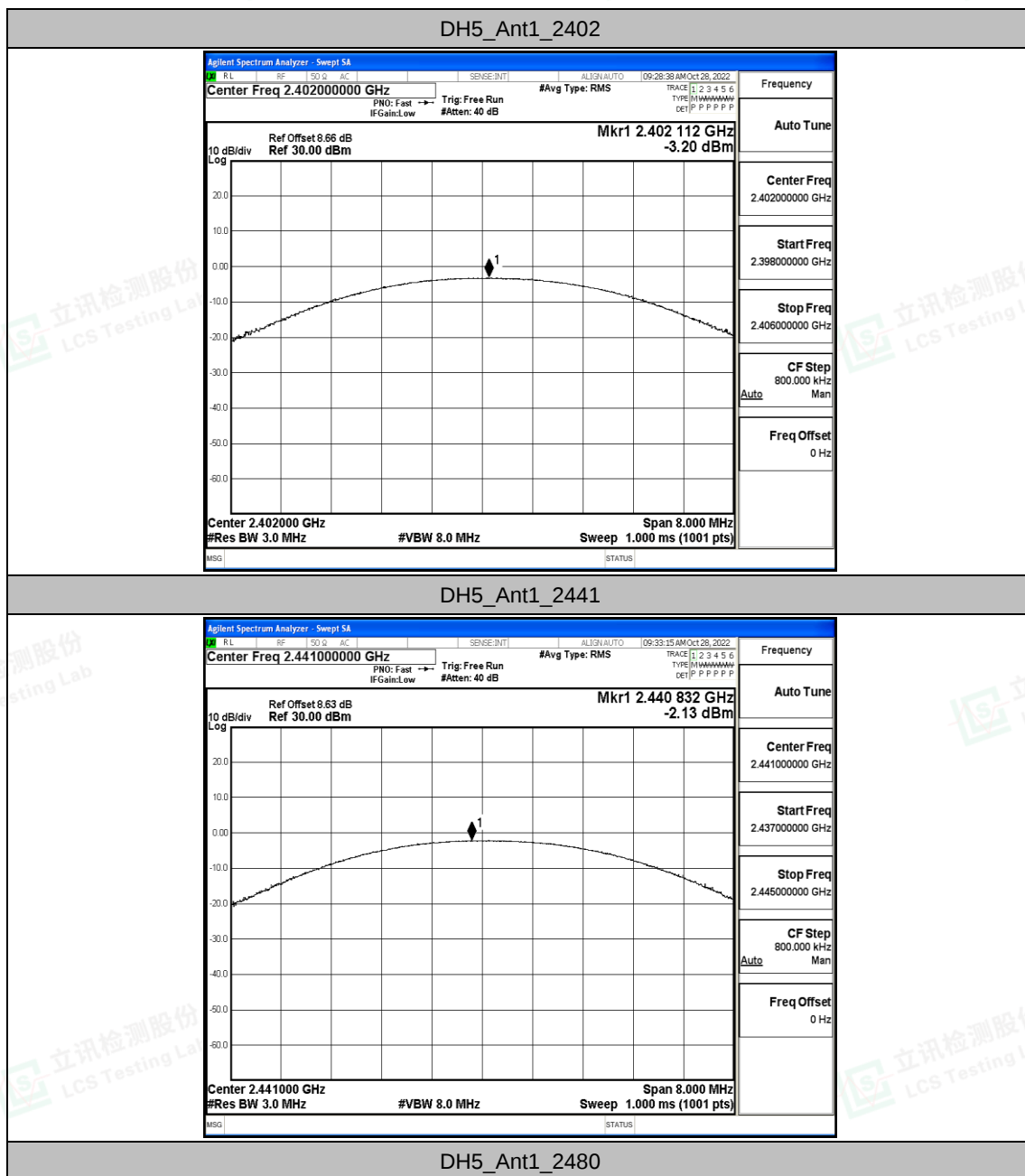
Test Result

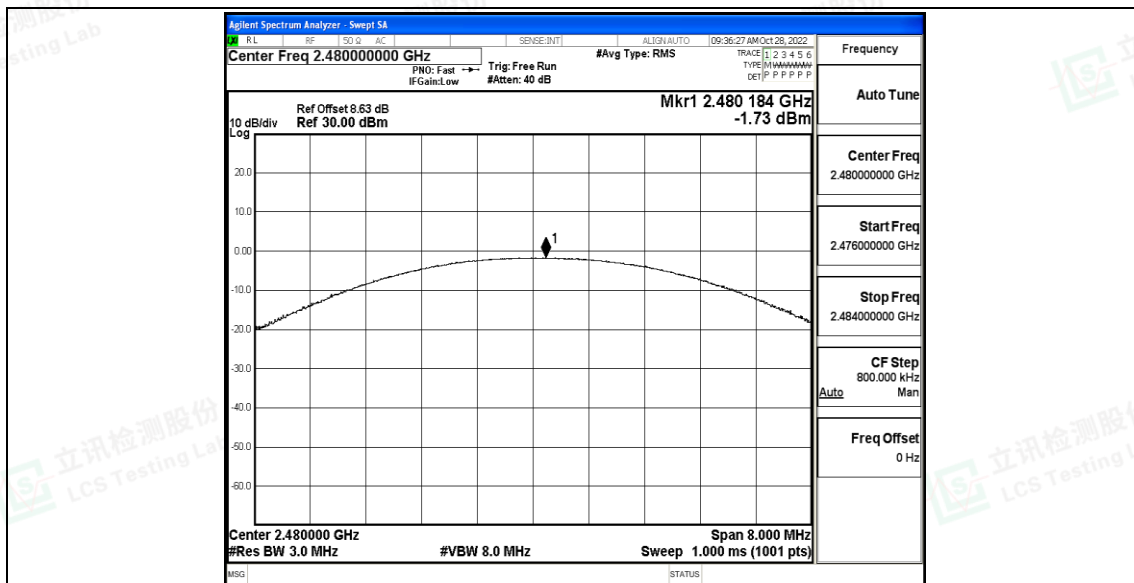
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-3.2	≤20.97	PASS
		2441	-2.13	≤20.97	PASS
		2480	-1.73	≤20.97	PASS
2DH5	Ant1	2402	-2.02	≤20.97	PASS
		2441	-1.29	≤20.97	PASS
		2480	-0.93	≤20.97	PASS
3DH5	Ant1	2402	-1.29	≤20.97	PASS
		2441	-0.55	≤20.97	PASS
		2480	-0.58	≤20.97	PASS



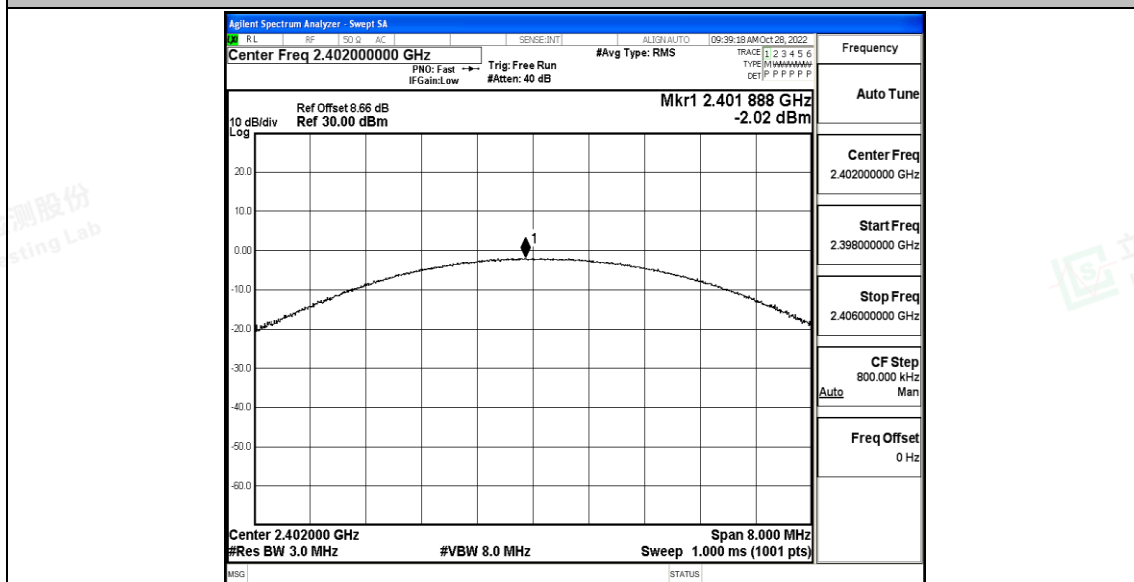


Test Graphs



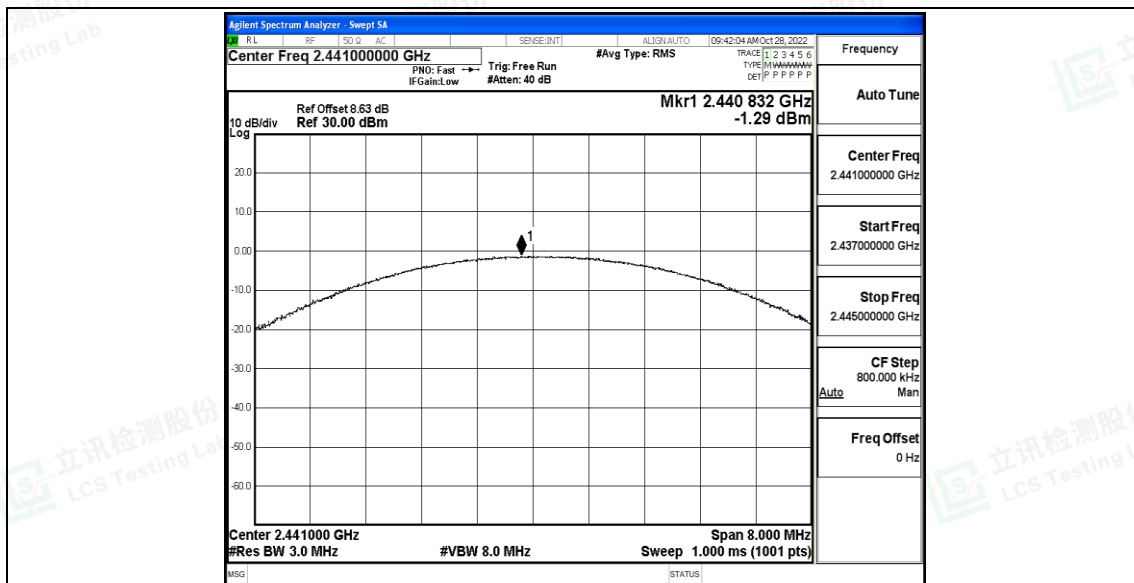


2DH5_Ant1_2402

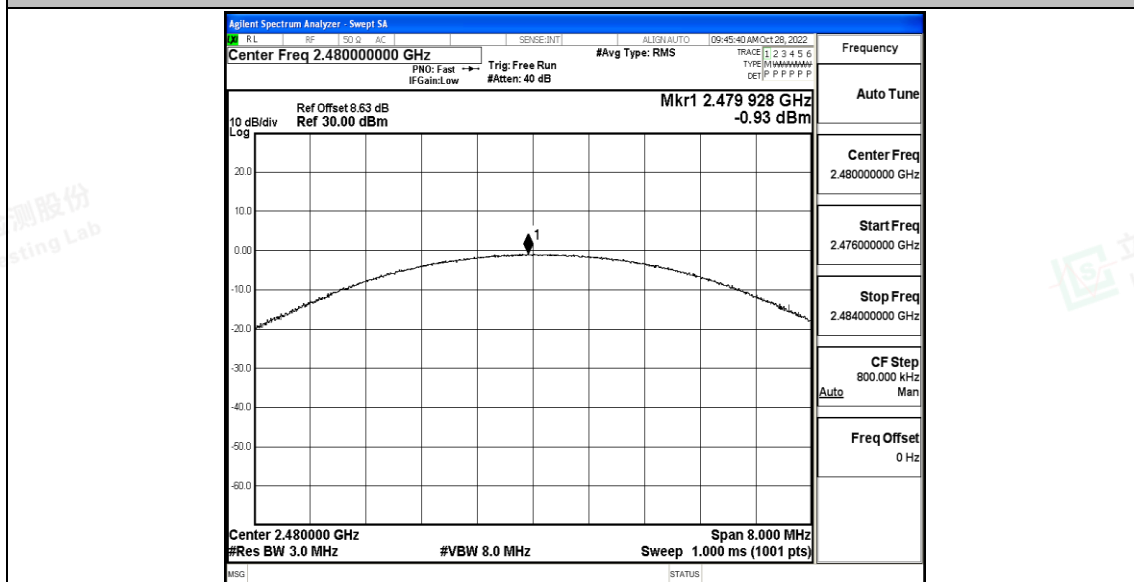


2DH5_Ant1_2441



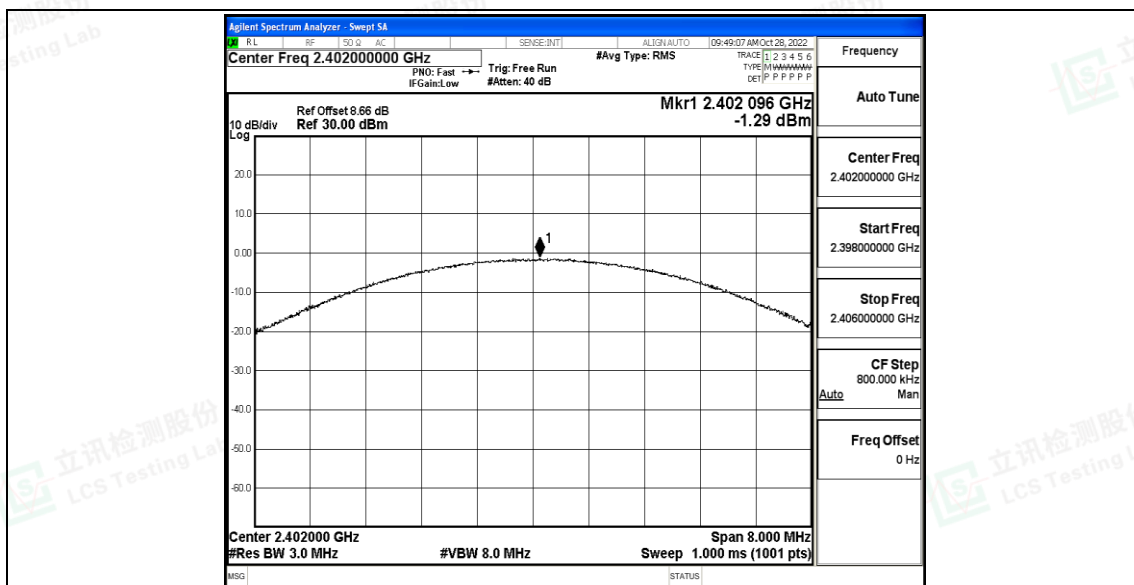


2DH5_Ant1_2480

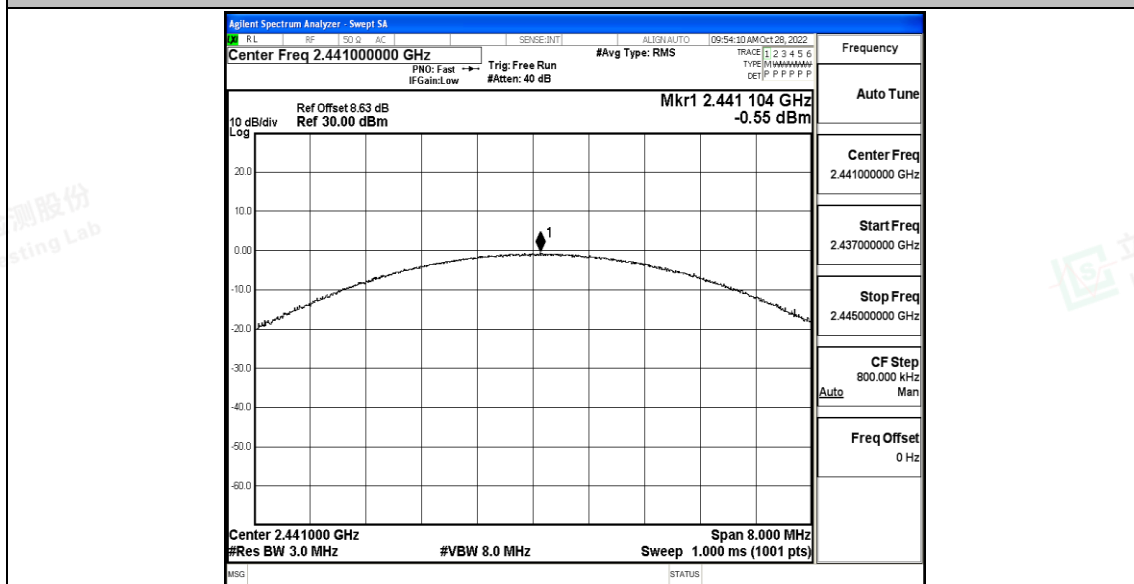


3DH5_Ant1_2402



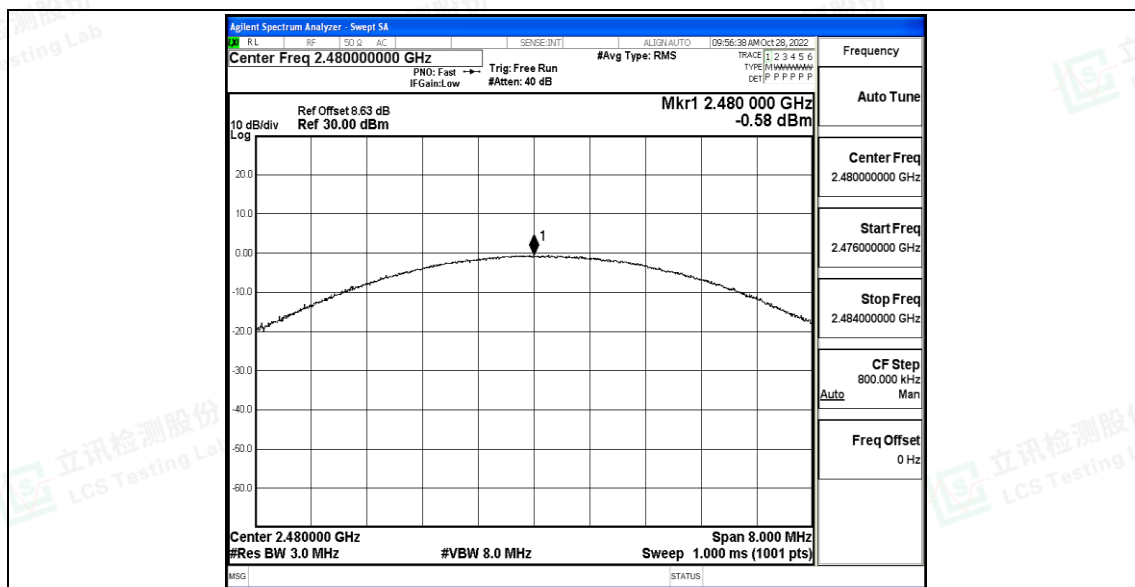


3DH5_Ant1_2441



3DH5_Ant1_2480







A.3 Carrier frequency separation

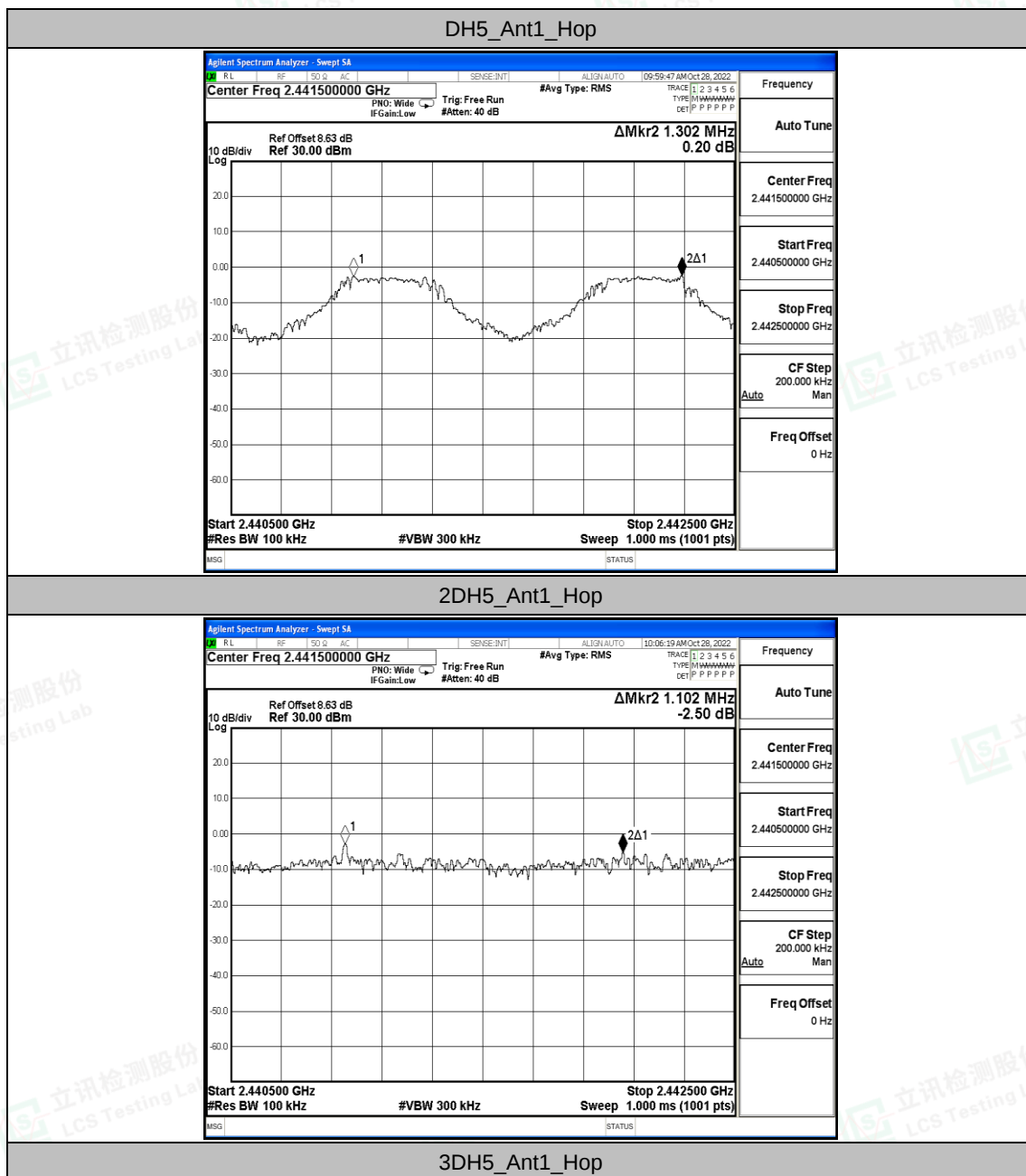
Test Result

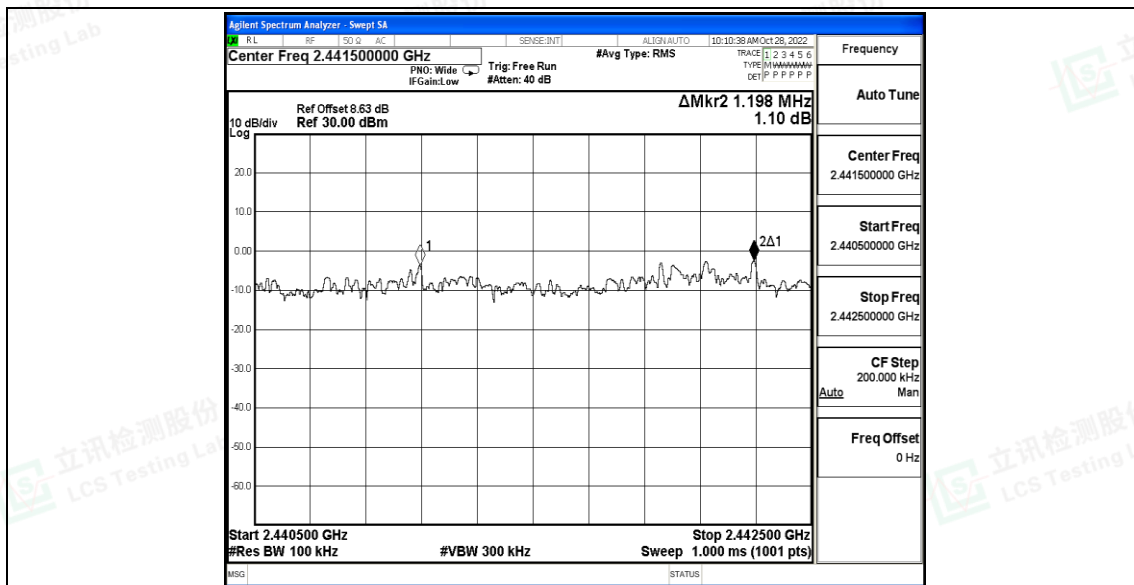
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.302	≥ 0.640	PASS
2DH5	Ant1	Hop	1.102	≥ 0.920	PASS
3DH5	Ant1	Hop	1.198	≥ 0.900	PASS





Test Graphs







A.4 Time of occupancy

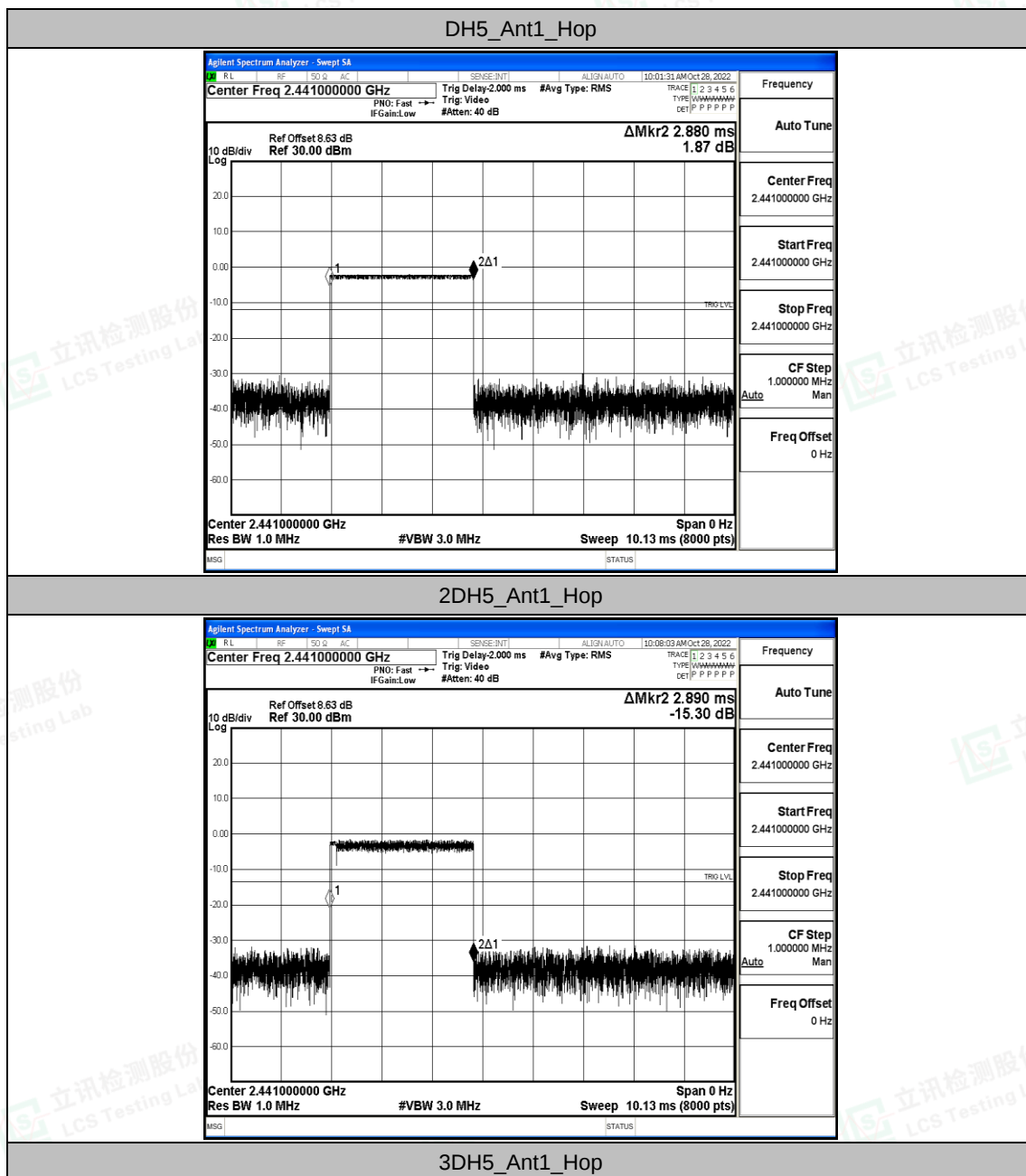
Test Result

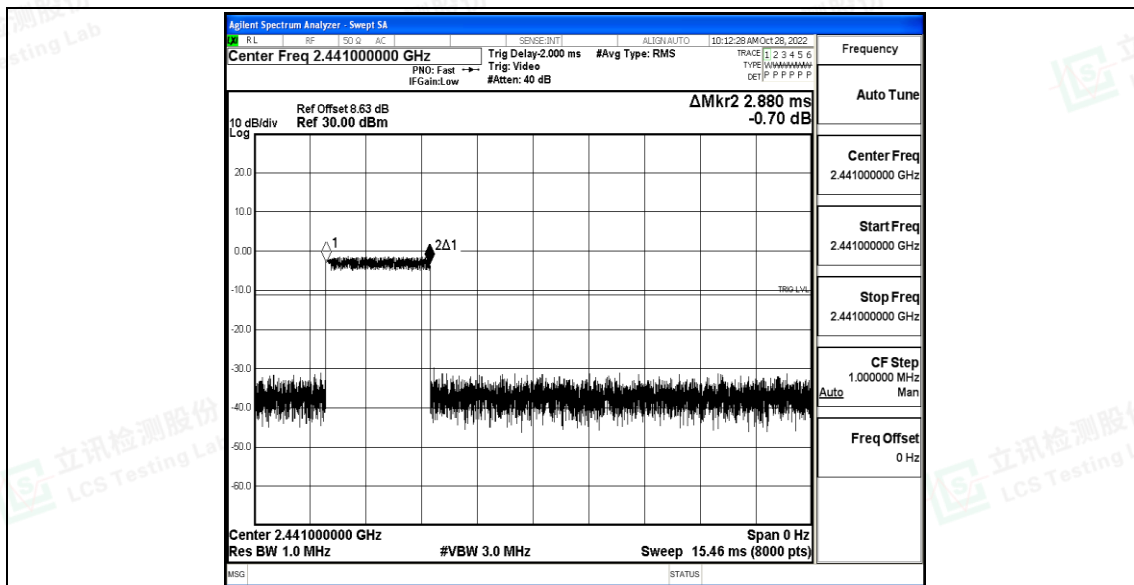
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.89	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

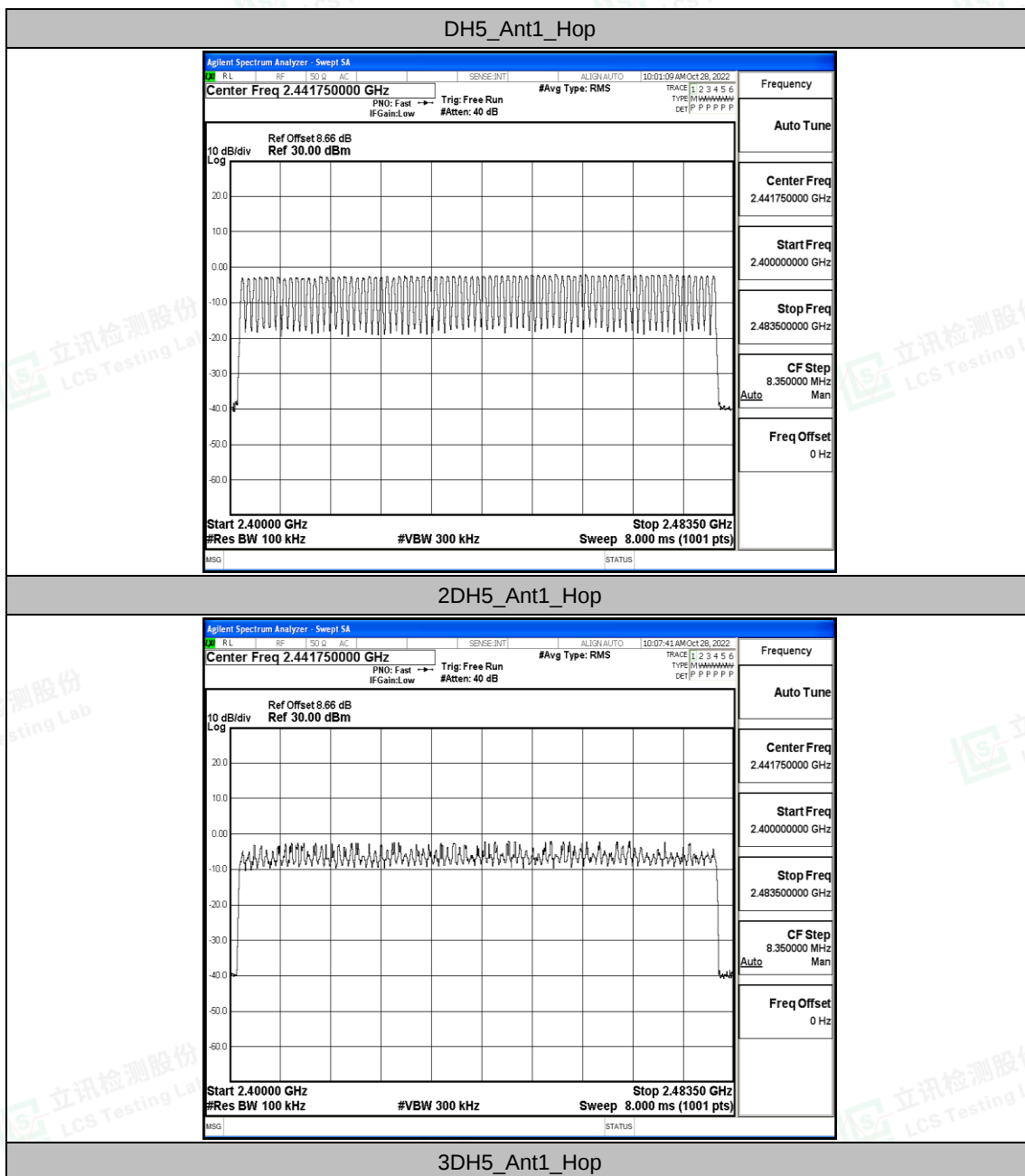
Test Result

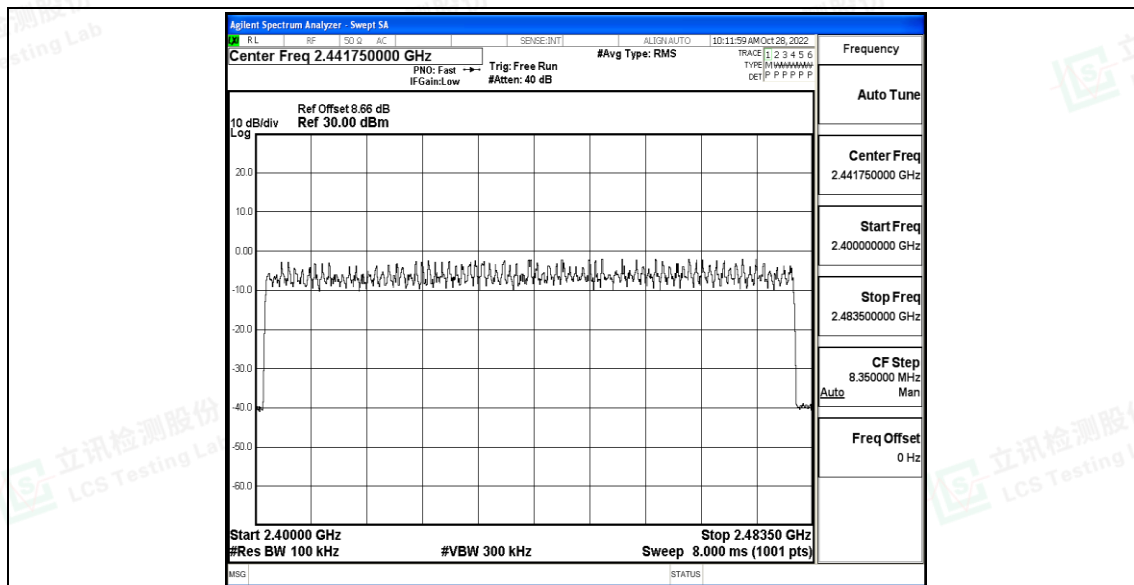
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS





Test Graphs







A.6 Band edge measurements

Test Result

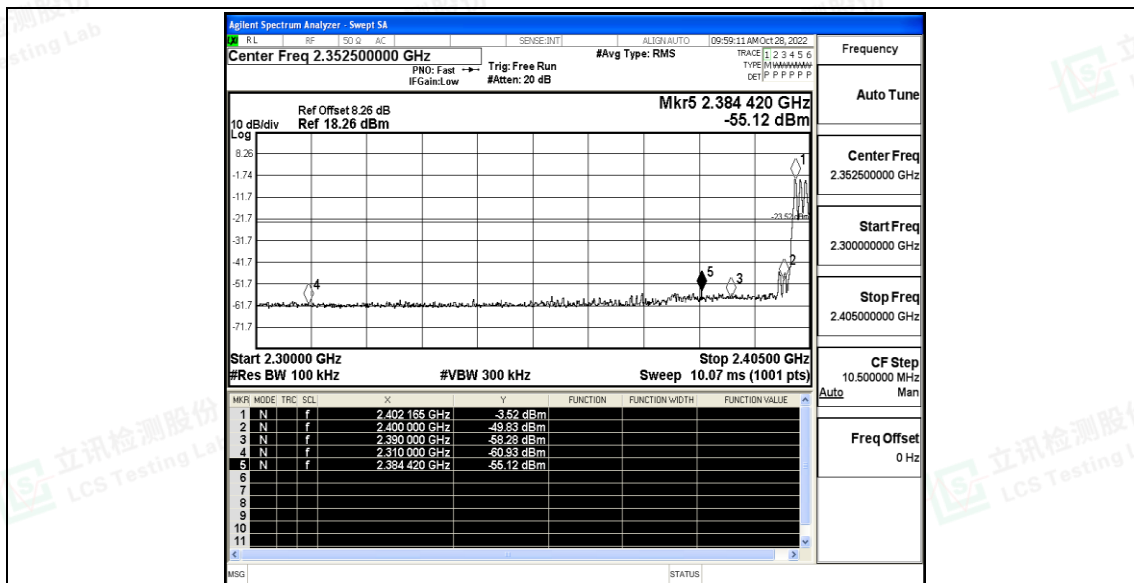
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.28	-46.5	≤ -24.28	PASS
		High	2480	-2.23	-50.46	≤ -22.23	PASS
		Low	2402	-3.52	-55.12	≤ -23.52	PASS
		High	2480	-2.31	-55.27	≤ -22.31	PASS
2DH5	Ant1	Low	2402	-7.02	-49.22	≤ -27.02	PASS
		High	2480	-6.00	-55.03	≤ -26	PASS
		Low	2402	-3.29	-56.48	≤ -23.29	PASS
		High	2480	-3.27	-55.92	≤ -23.27	PASS
3DH5	Ant1	Low	2402	-3.85	-48.37	≤ -23.85	PASS
		High	2480	-4.24	-55.64	≤ -24.24	PASS
		Low	2402	-4.29	-56.33	≤ -24.29	PASS
		High	2480	-2.63	-56.08	≤ -22.63	PASS



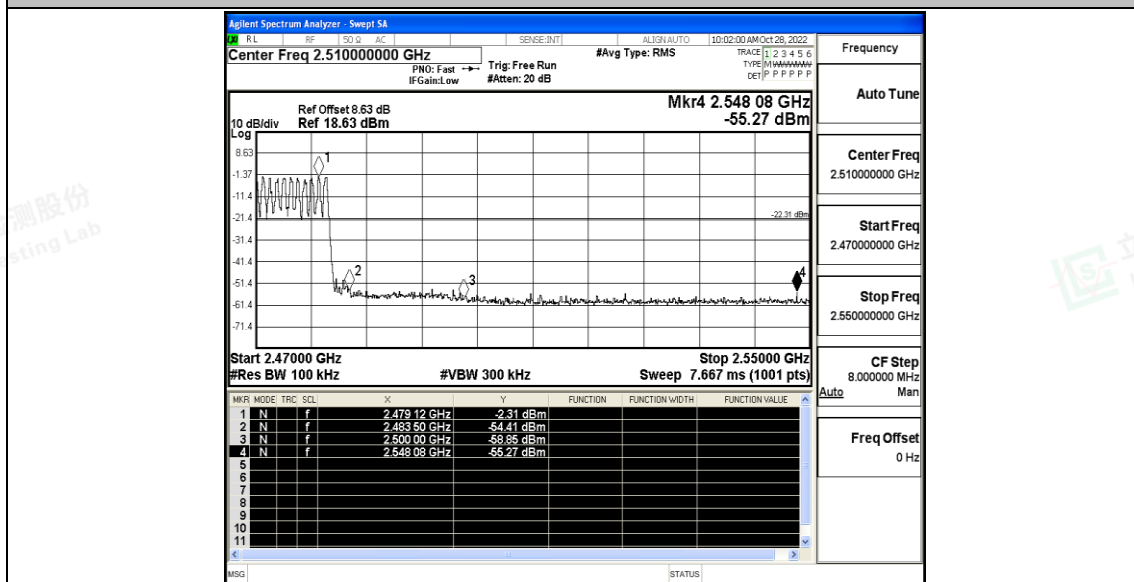


Test Graphs



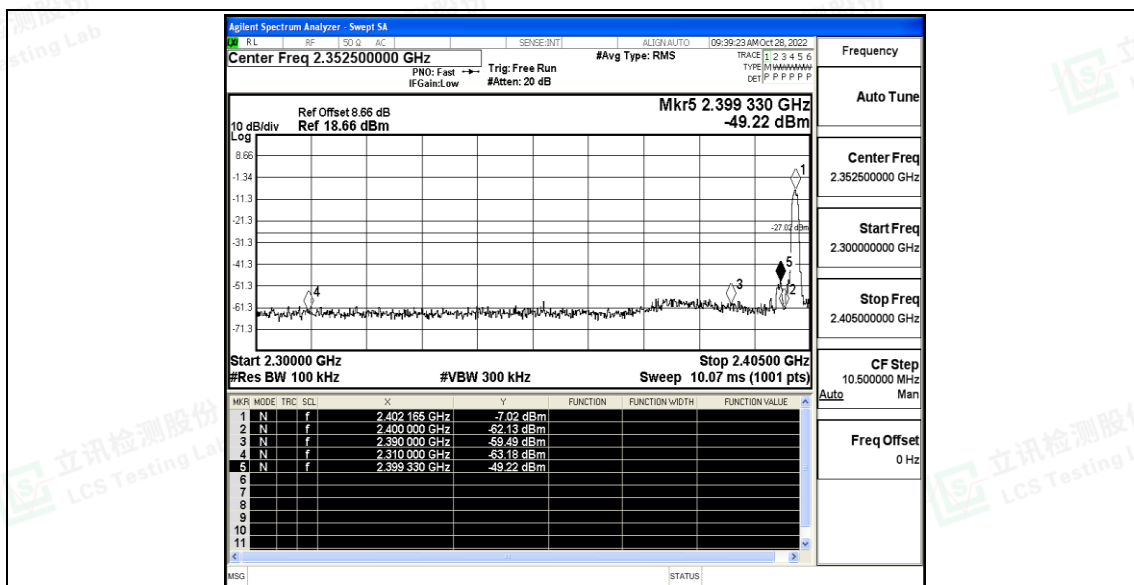


DH5_Ant1_High_Hop_2480

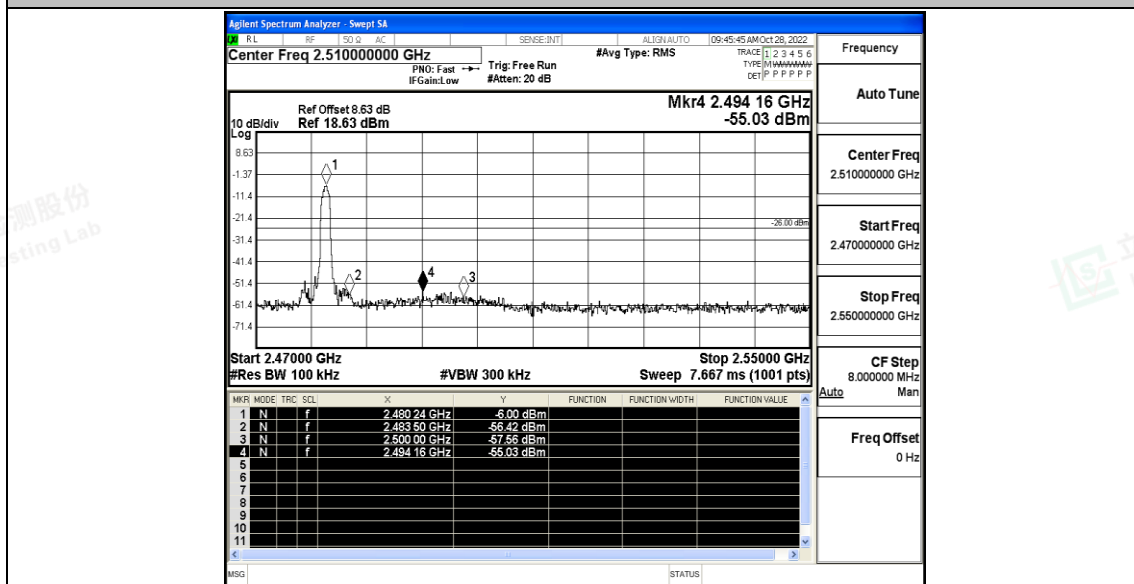


2DH5_Ant1_Low_2402



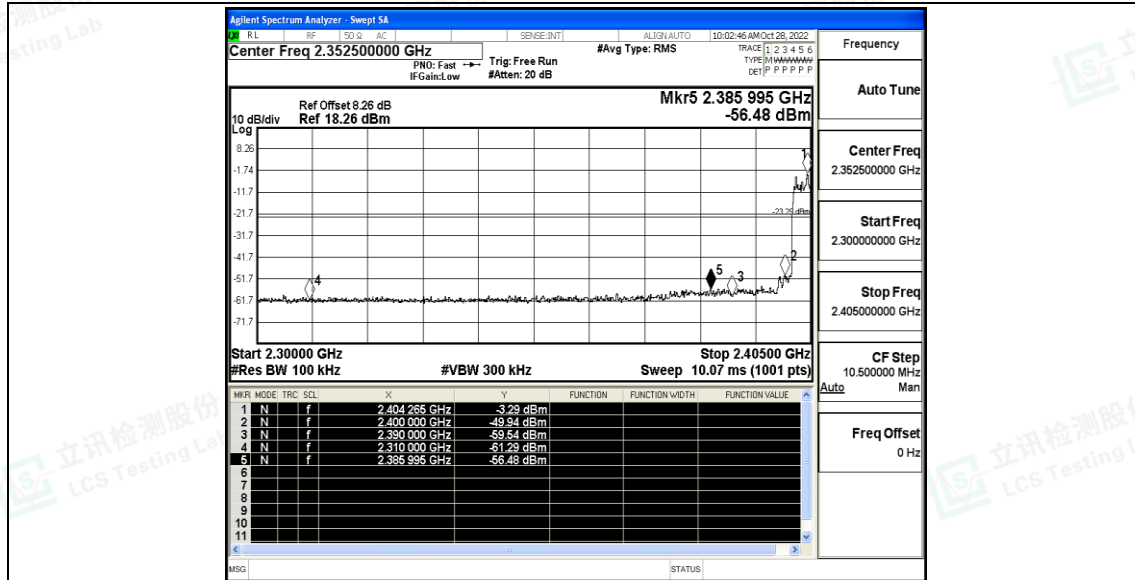


2DH5_Ant1_High_2480

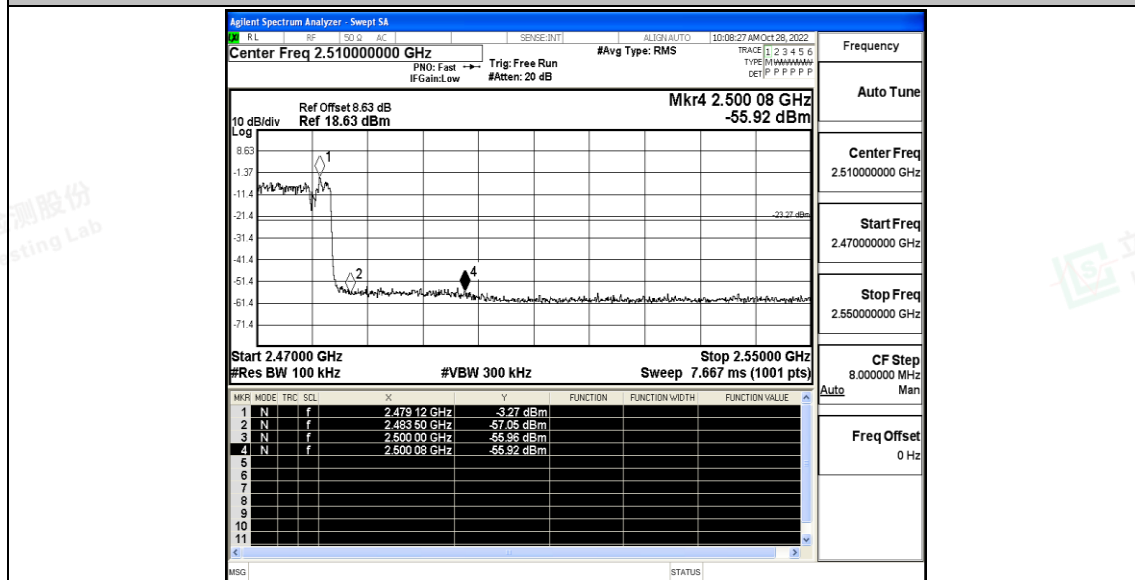


2DH5_Ant1_Low_Hop_2402



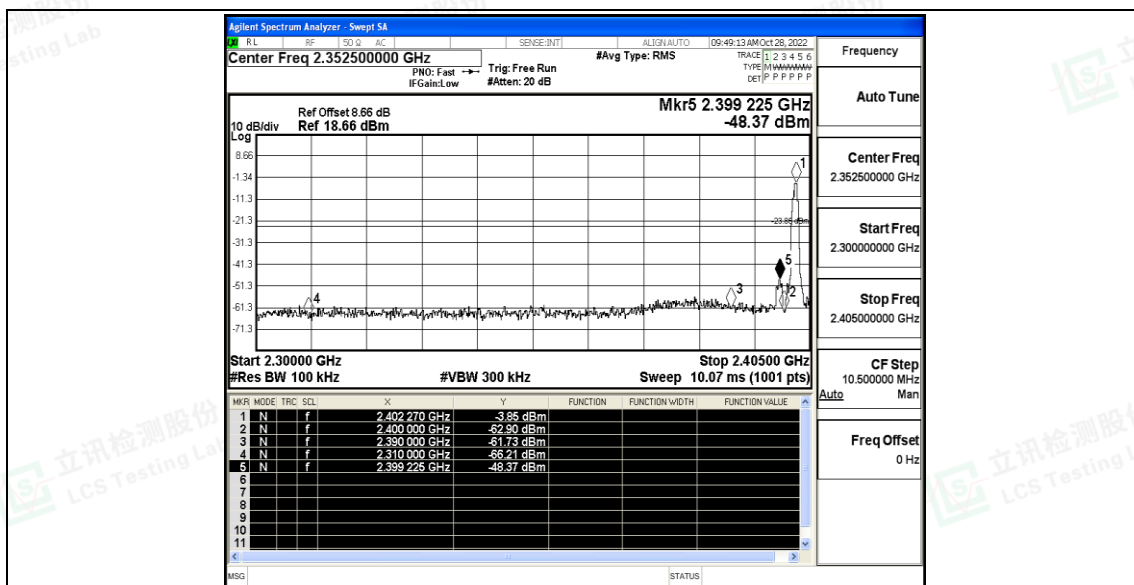


2DH5_Ant1_High_Hop_2480

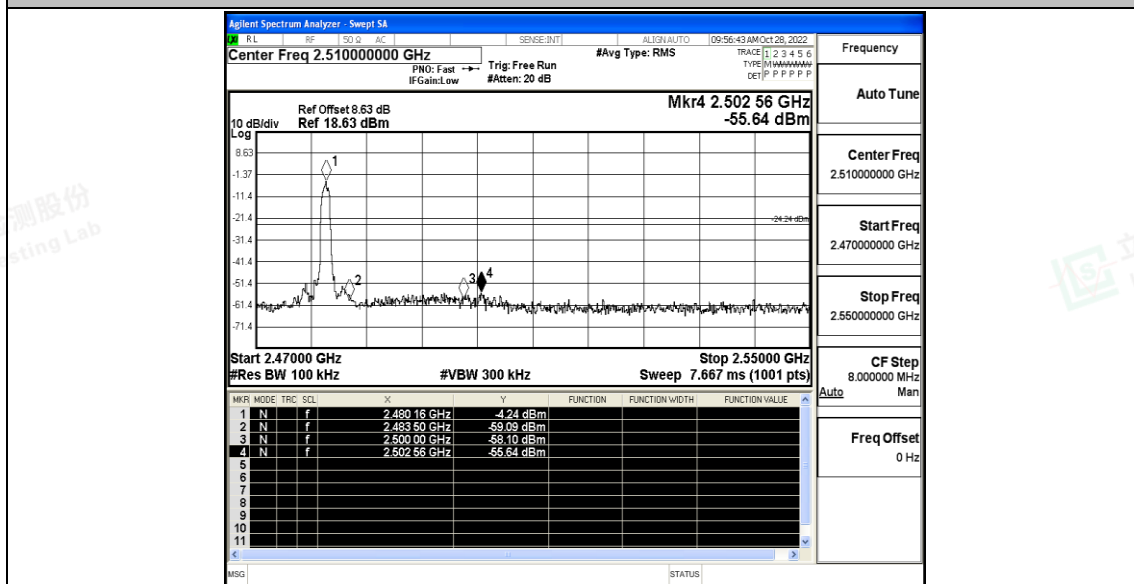


3DH5_Ant1_Low_2402



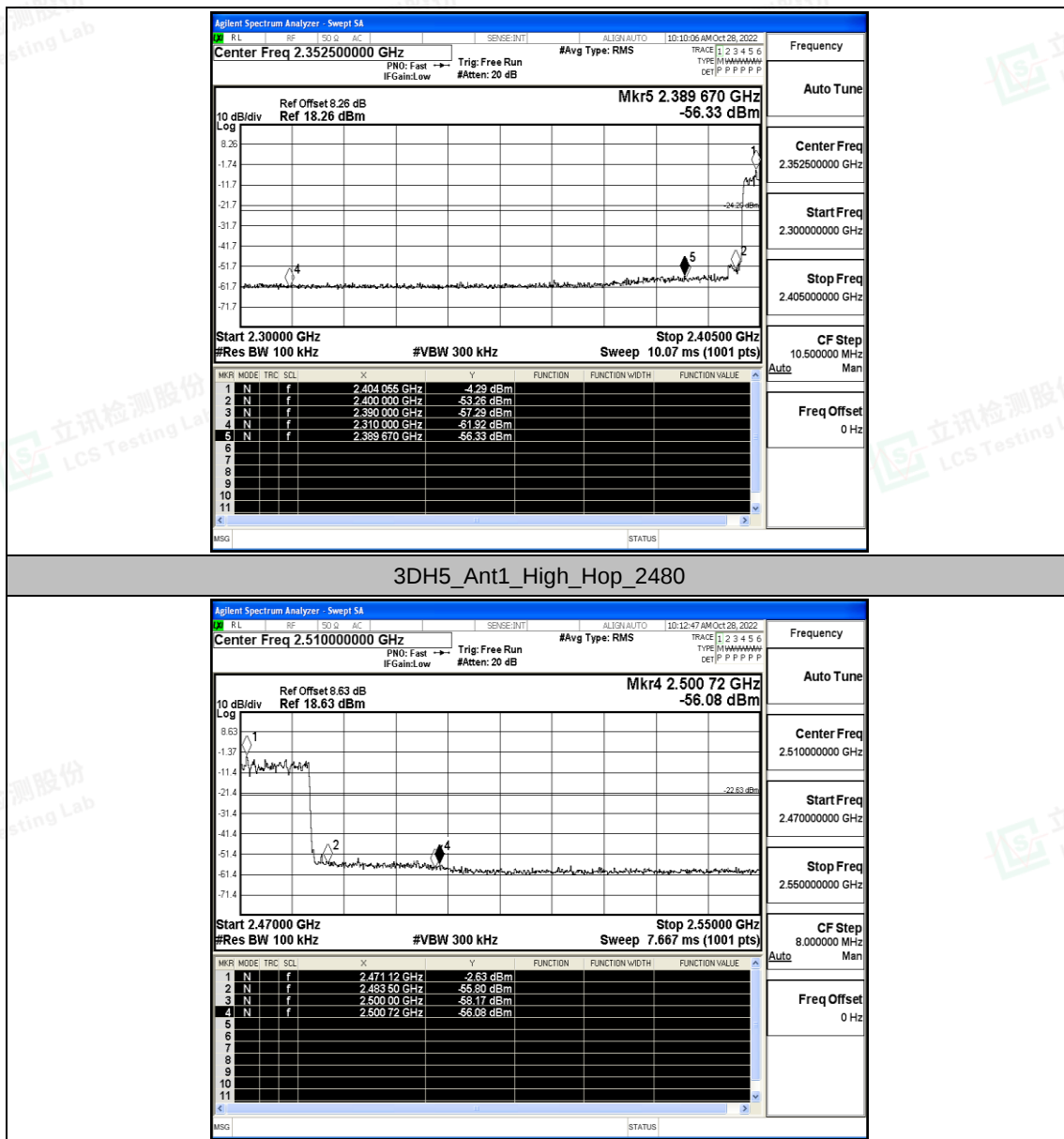


3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402







A.7 Conducted Spurious Emission

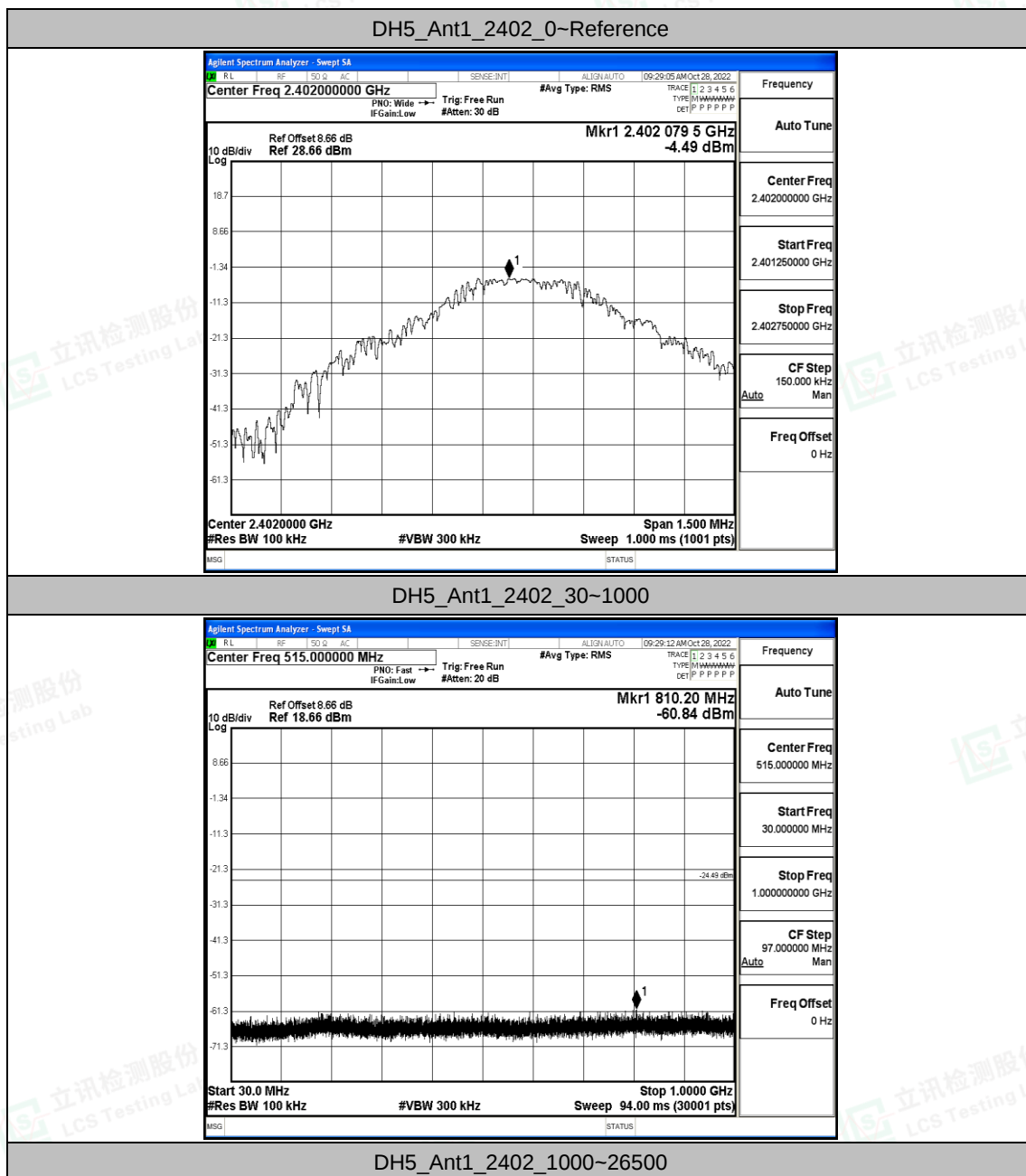
Test Result

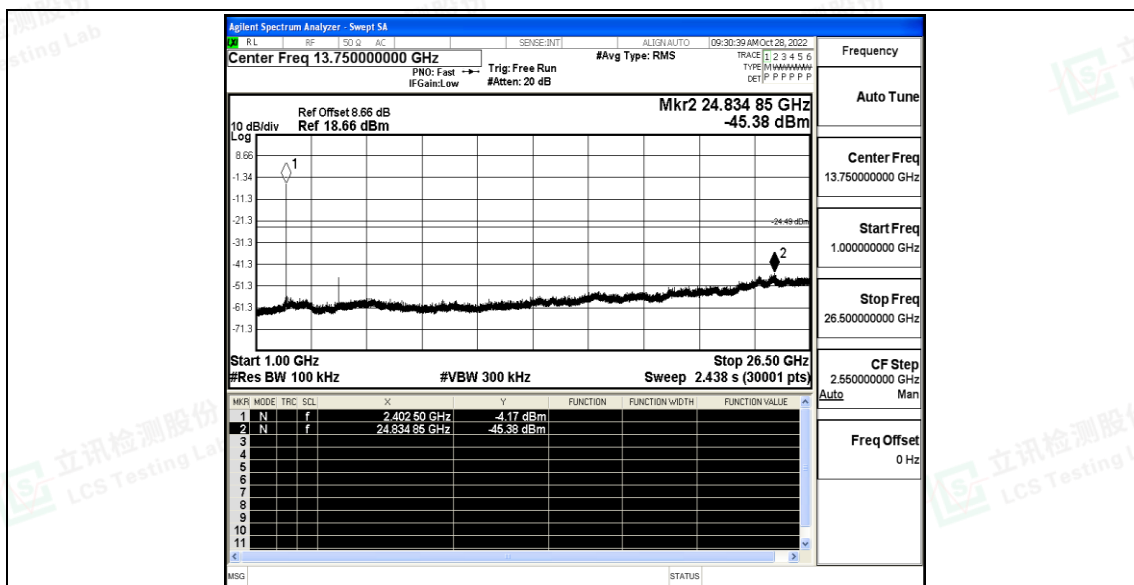
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.49	-4.49	---	PASS
			30~1000	-4.49	-60.84	≤-24.49	PASS
			1000~26500	-4.49	-45.38	≤-24.49	PASS
		2441	Reference	-3.60	-3.60	---	PASS
			30~1000	-3.60	-60.36	≤-23.6	PASS
			1000~26500	-3.60	-45.77	≤-23.6	PASS
		2480	Reference	-2.94	-2.94	---	PASS
			30~1000	-2.94	-60.84	≤-22.94	PASS
			1000~26500	-2.94	-45.89	≤-22.94	PASS
2DH5	Ant1	2402	Reference	-7.56	-7.56	---	PASS
			30~1000	-7.56	-60.37	≤-27.56	PASS
			1000~26500	-7.56	-46.4	≤-27.56	PASS
		2441	Reference	-3.86	-3.86	---	PASS
			30~1000	-3.86	-60.99	≤-23.86	PASS
			1000~26500	-3.86	-46.05	≤-23.86	PASS
		2480	Reference	-6.64	-6.64	---	PASS
			30~1000	-6.64	-60.78	≤-26.64	PASS
			1000~26500	-6.64	-45.21	≤-26.64	PASS
3DH5	Ant1	2402	Reference	-5.51	-5.51	---	PASS
			30~1000	-5.51	-60.94	≤-25.51	PASS
			1000~26500	-5.51	-45.57	≤-25.51	PASS
		2441	Reference	-5.89	-5.89	---	PASS
			30~1000	-5.89	-61.26	≤-25.89	PASS
			1000~26500	-5.89	-44.85	≤-25.89	PASS
		2480	Reference	-6.53	-6.53	---	PASS
			30~1000	-6.53	-60.33	≤-26.53	PASS
			1000~26500	-6.53	-46.22	≤-26.53	PASS



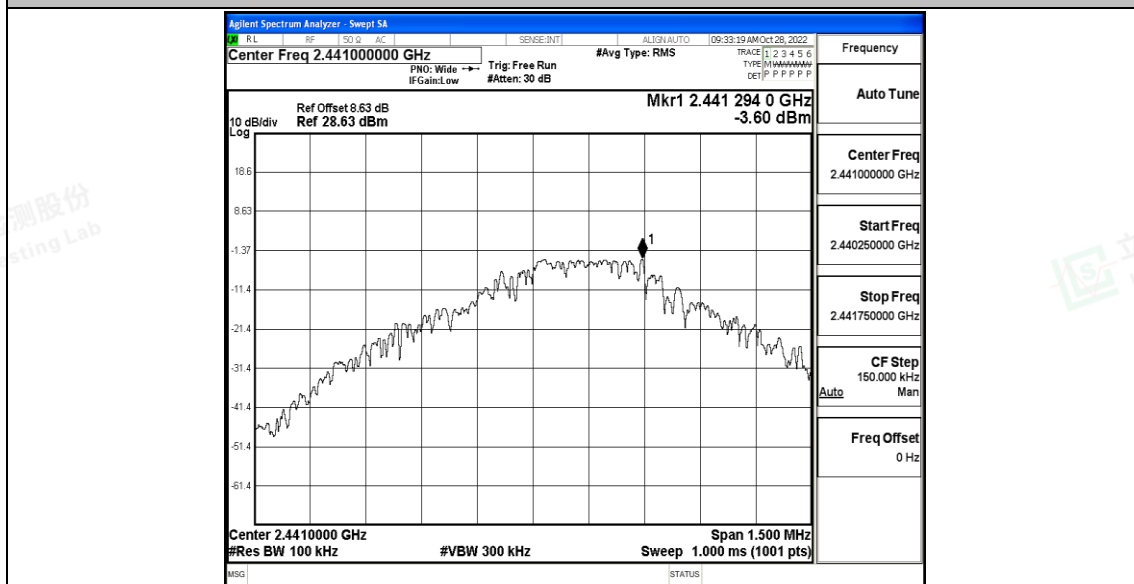


Test Graphs



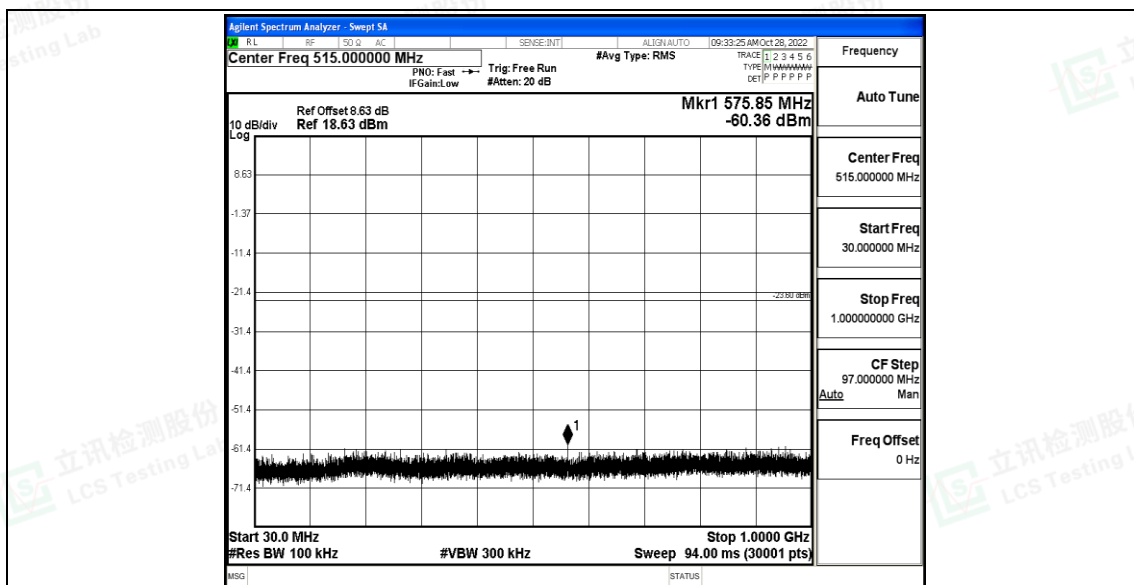


DH5_Ant1_2441_0-Reference

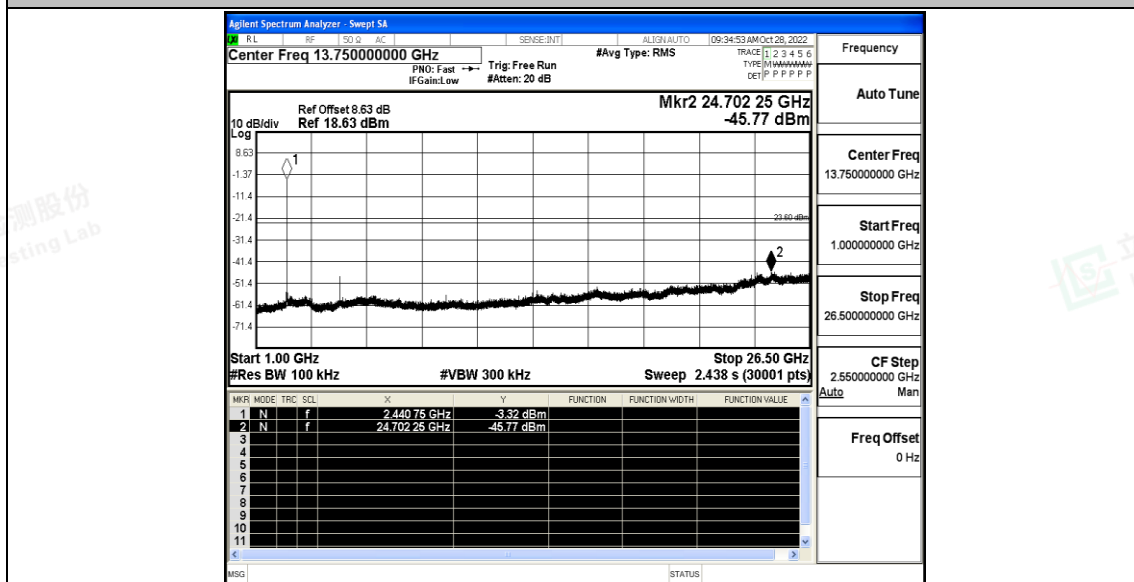


DH5_Ant1_2441_30-1000



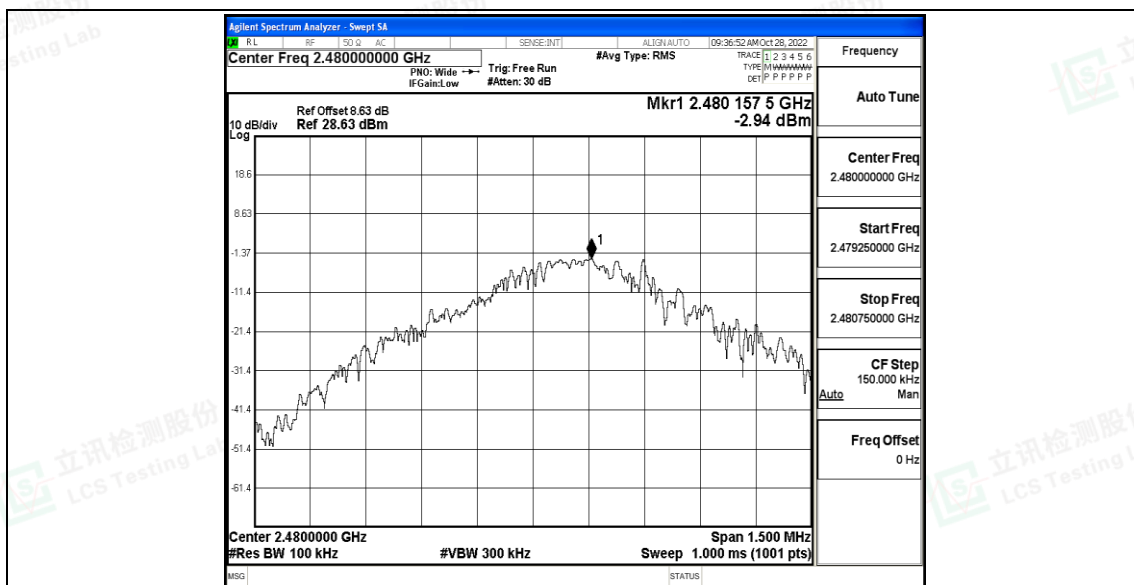


DH5_Ant1_2441_1000~26500

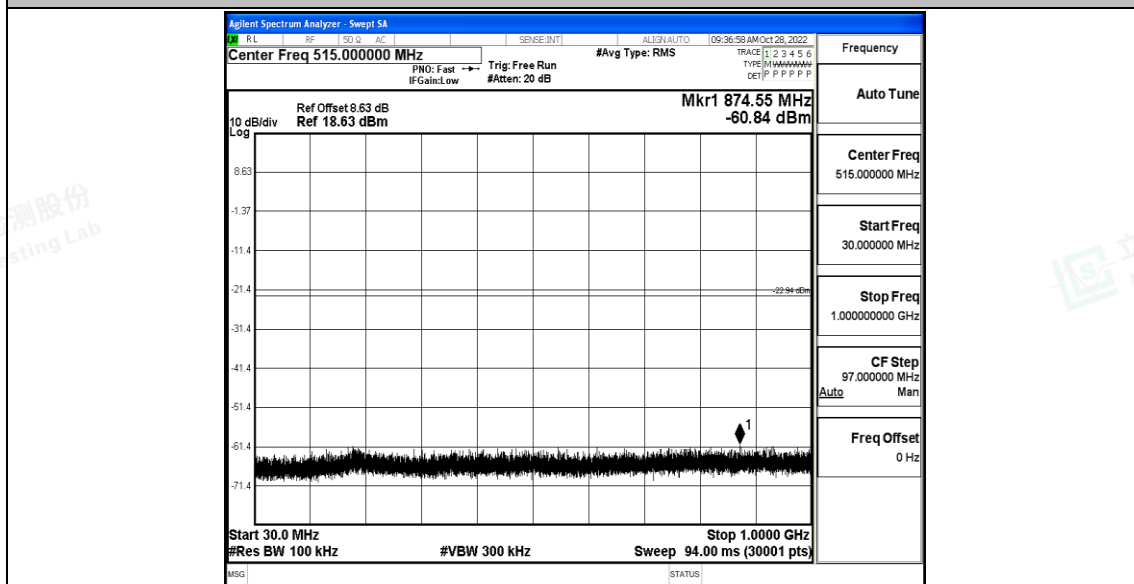


DH5_Ant1_2480_0~Reference



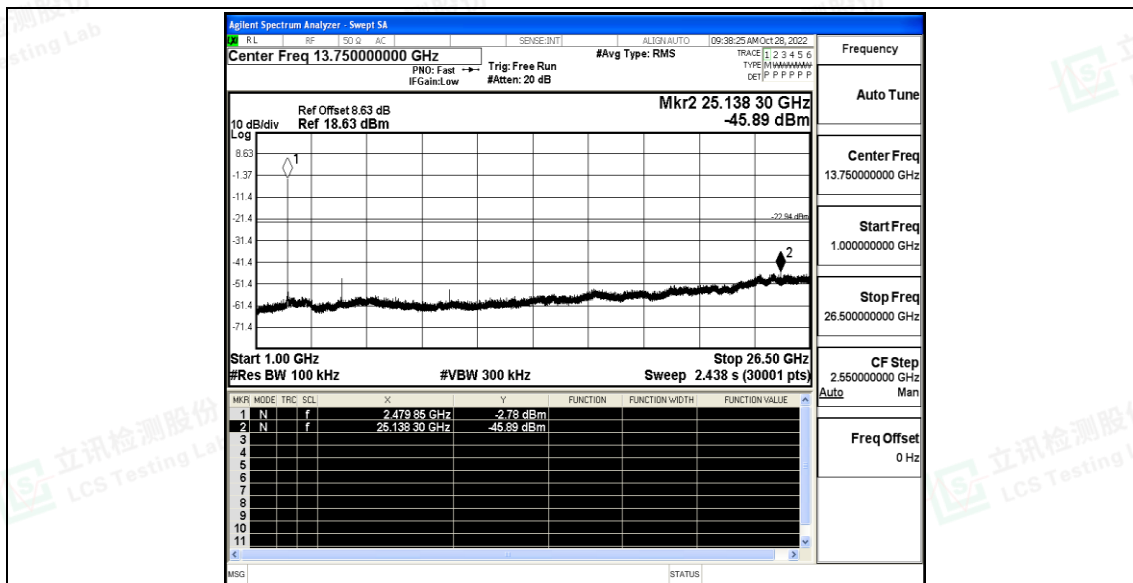


DH5_Ant1_2480_30~1000

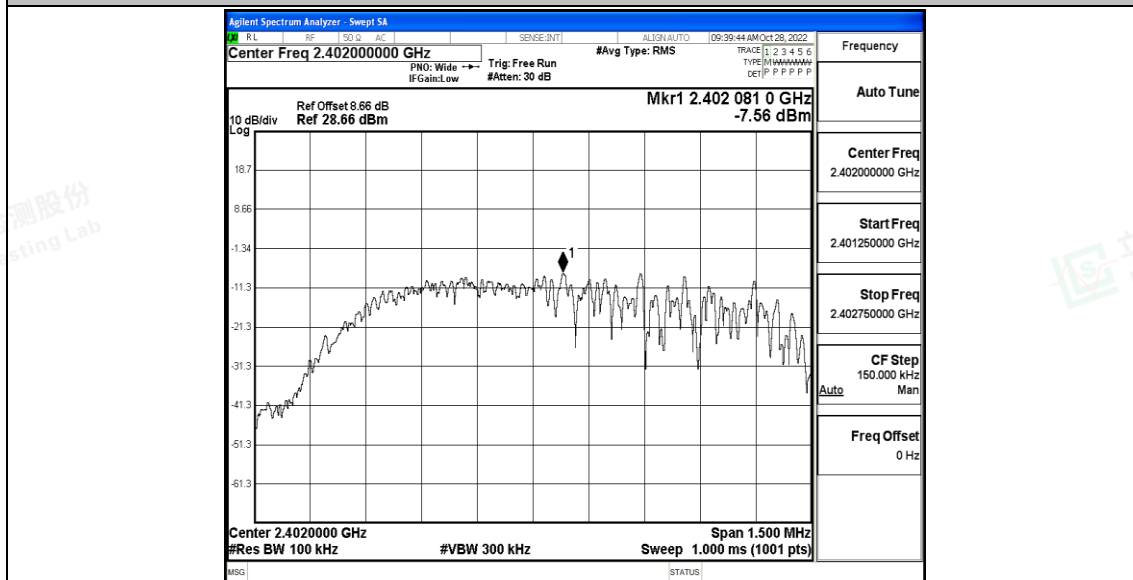


DH5_Ant1_2480_1000~26500



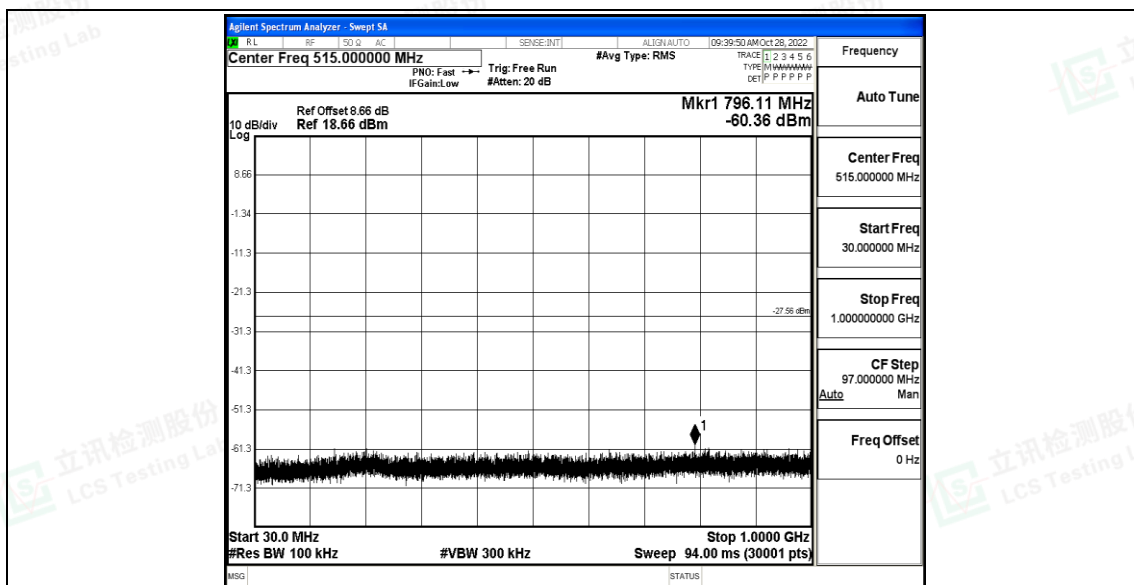


2DH5_Ant1_2402_0~Reference

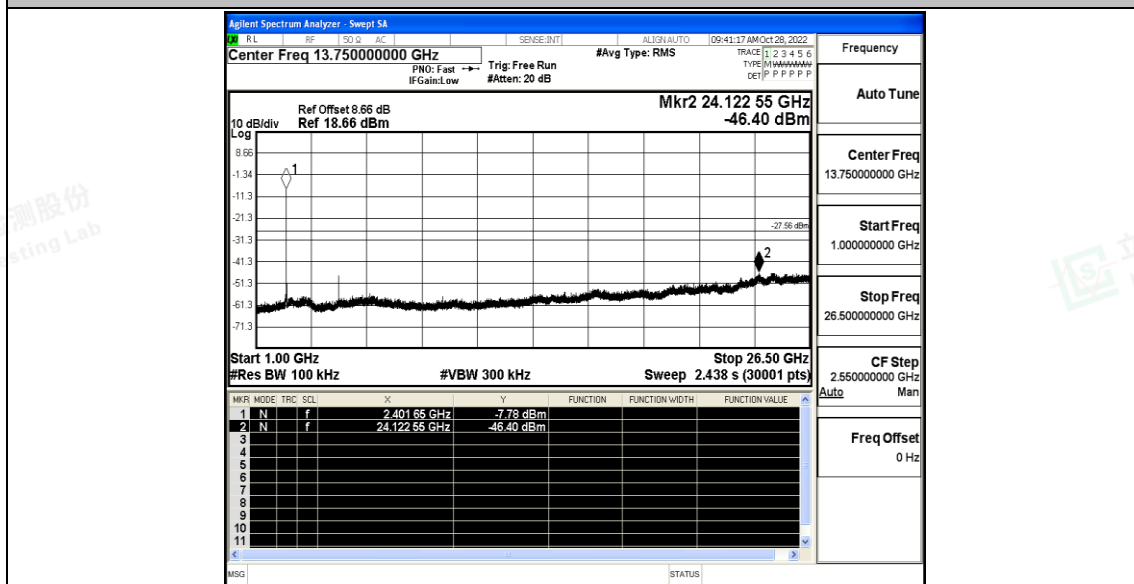


2DH5_Ant1_2402_30~1000



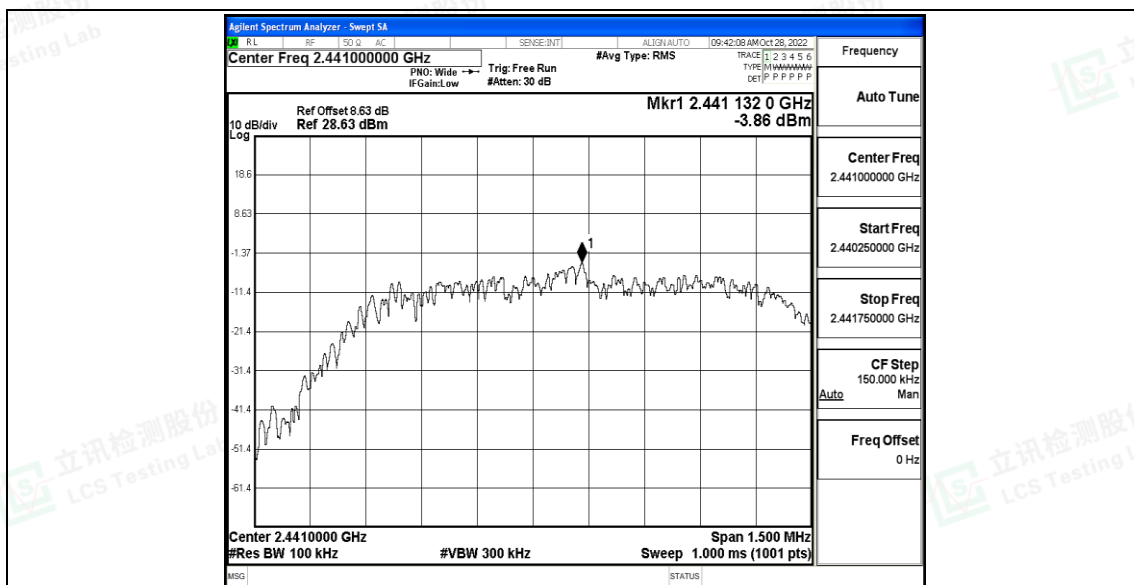


2DH5_Ant1_2402_1000~26500

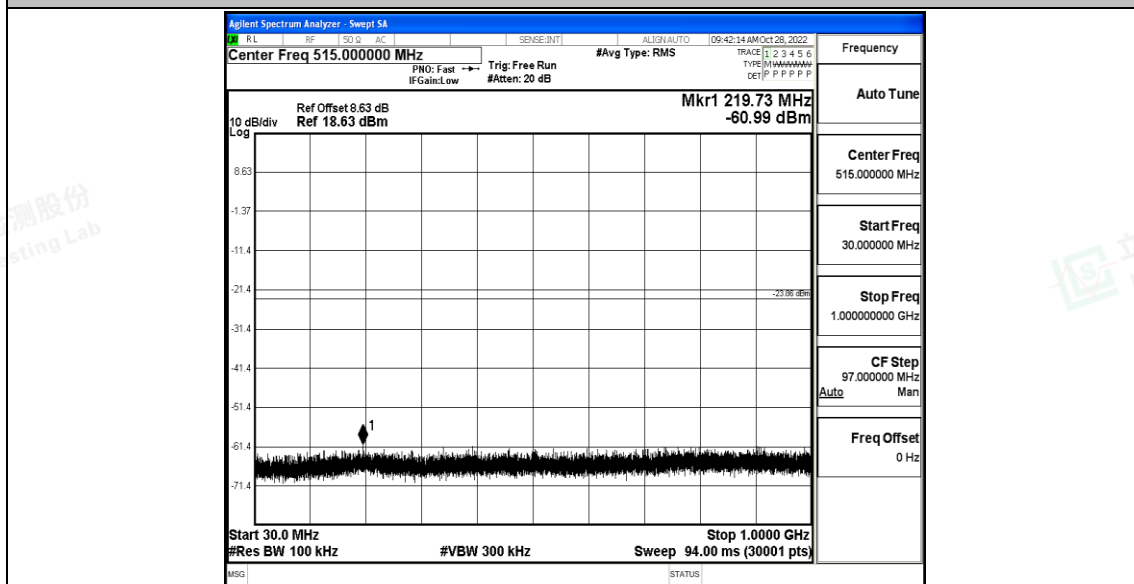


2DH5_Ant1_2441_0~Reference



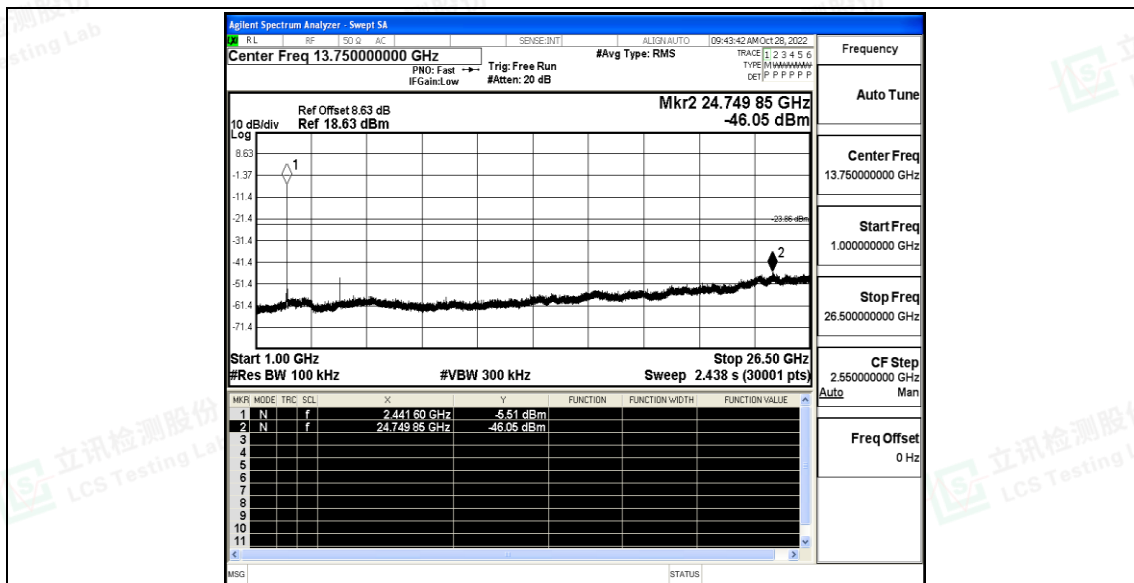


2DH5_Ant1_2441_30~1000

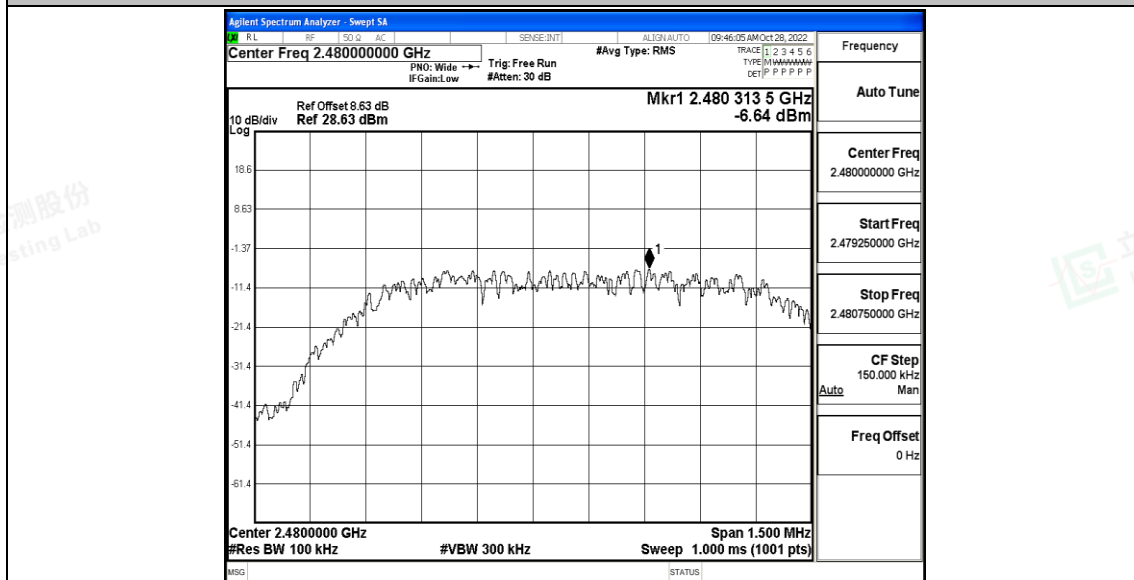


2DH5_Ant1_2441_1000~26500



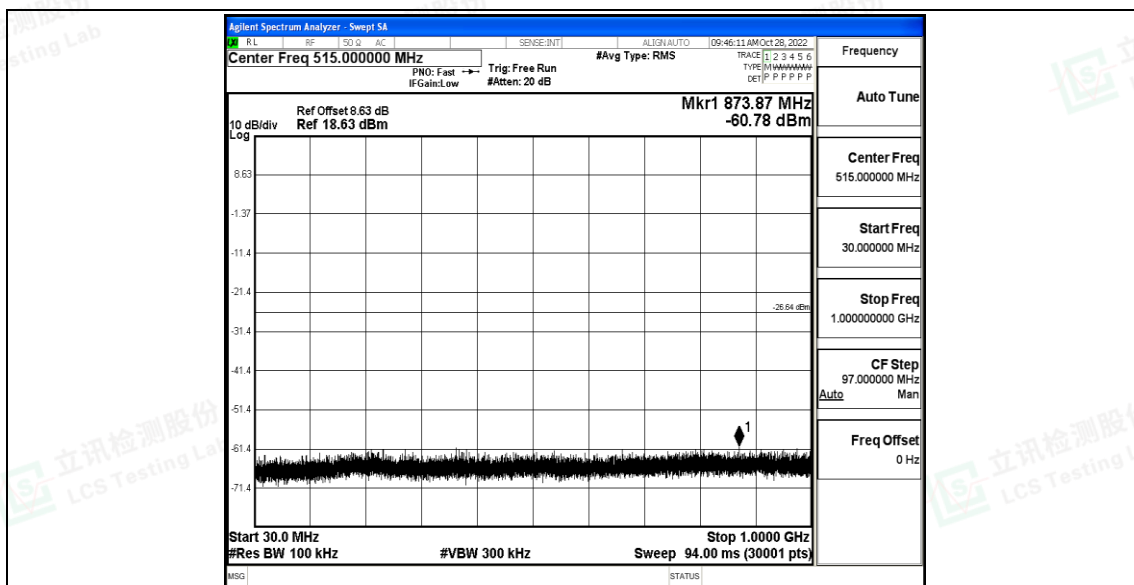


2DH5_Ant1_2480_0~Reference

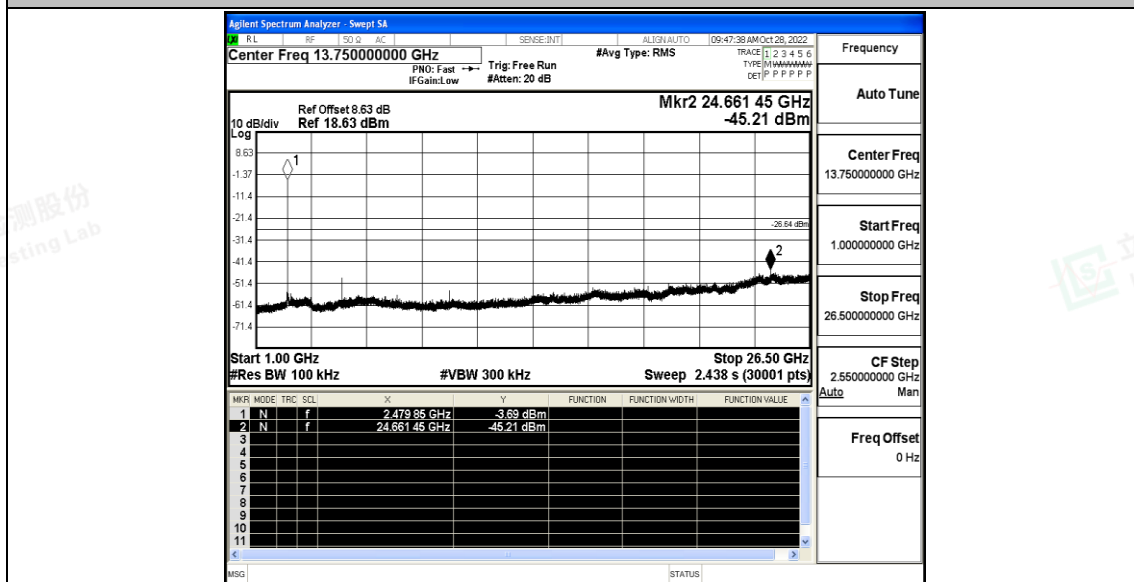


2DH5_Ant1_2480_30~1000



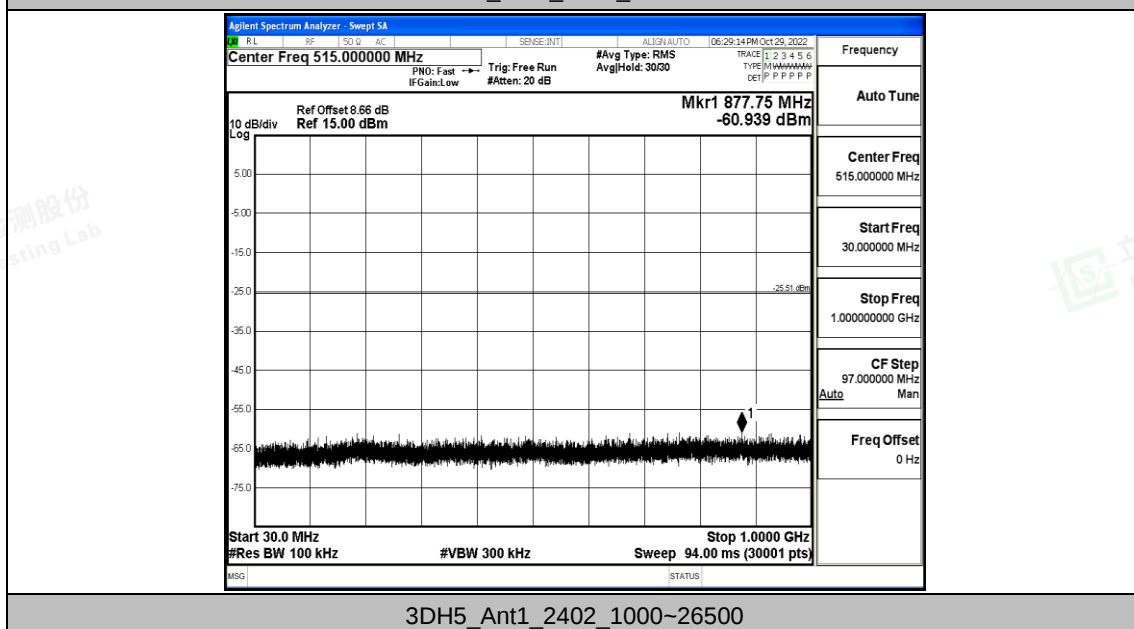
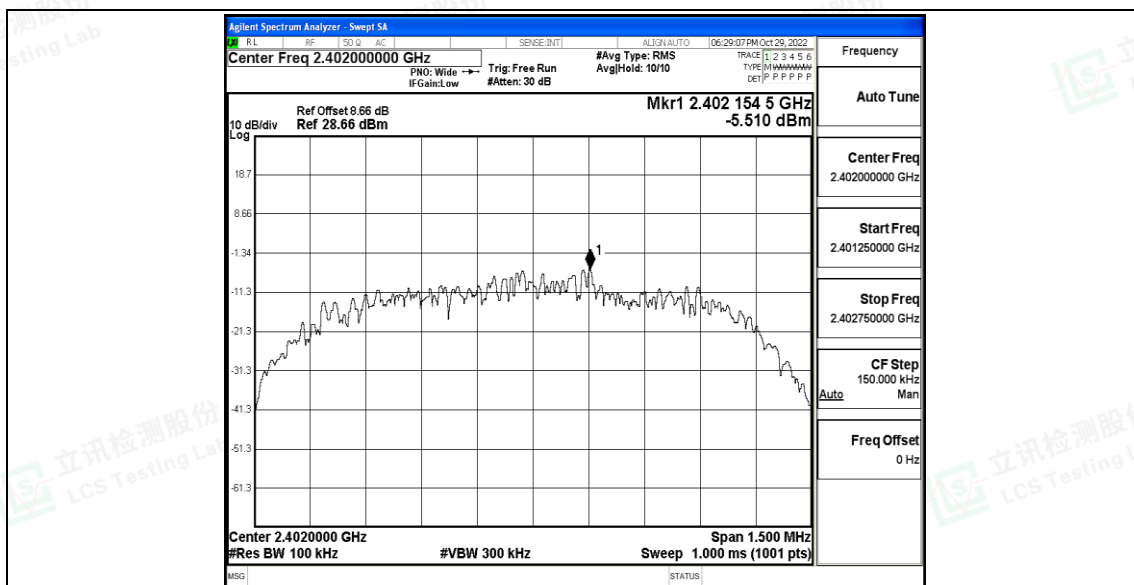


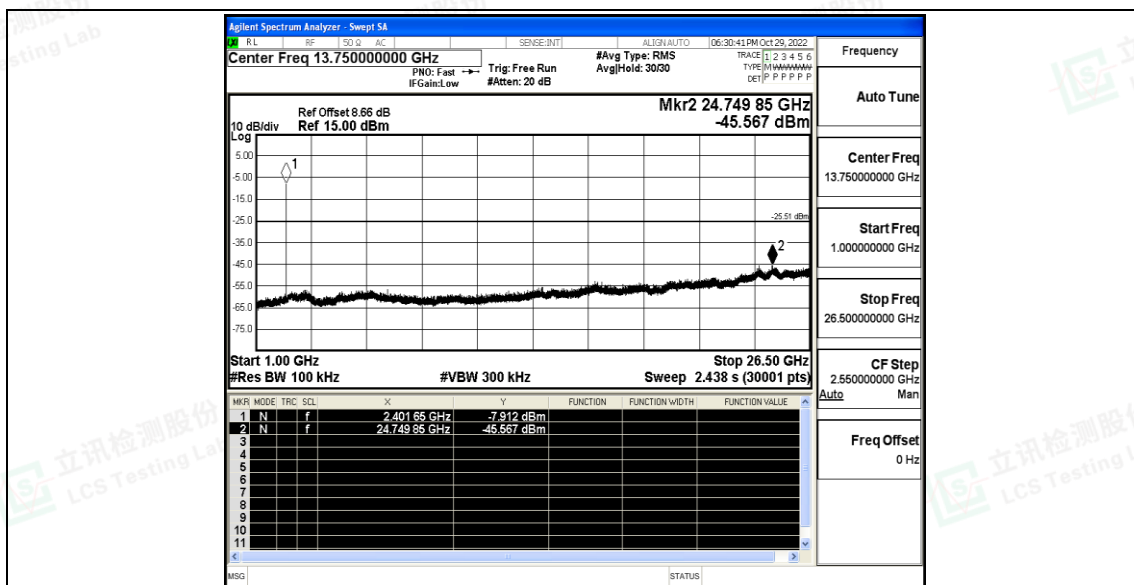
2DH5_Ant1_2480_1000~26500



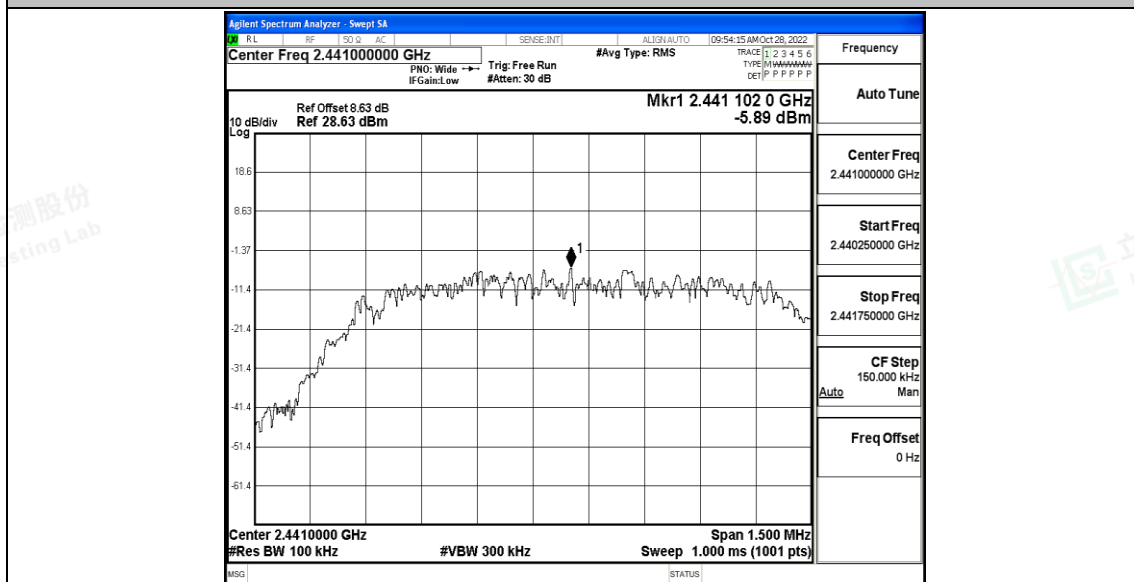
3DH5_Ant1_2402_0~Reference





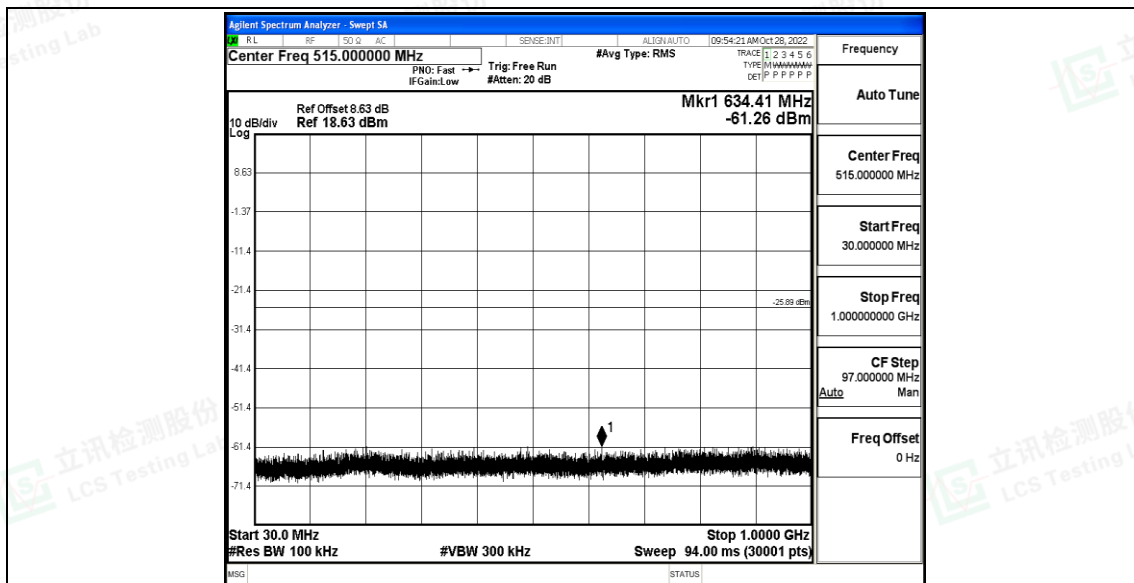


3DH5_Ant1_2441_0~Reference

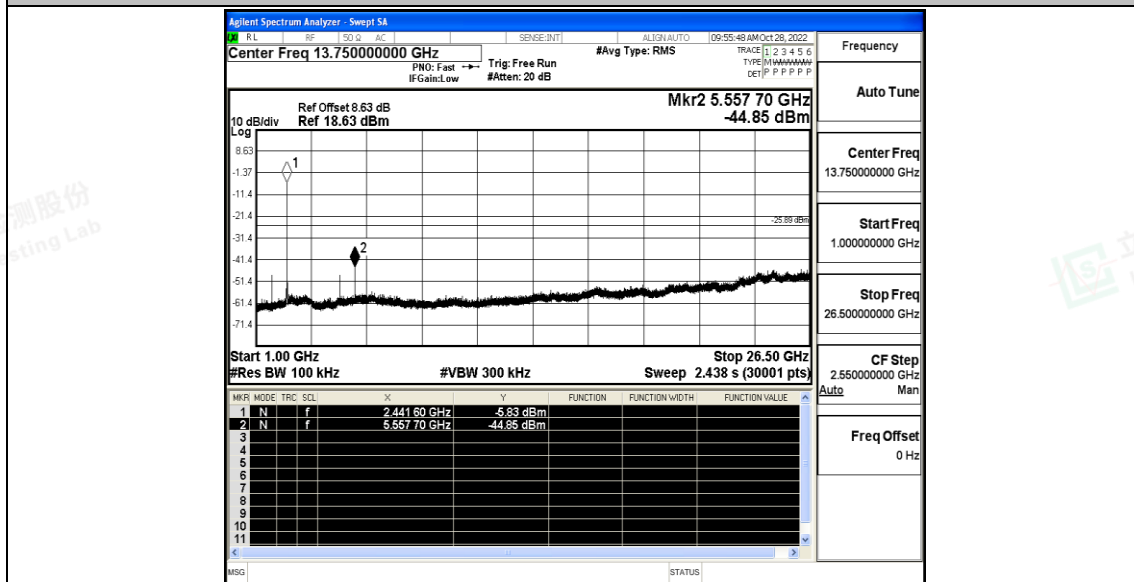


3DH5_Ant1_2441_30~1000



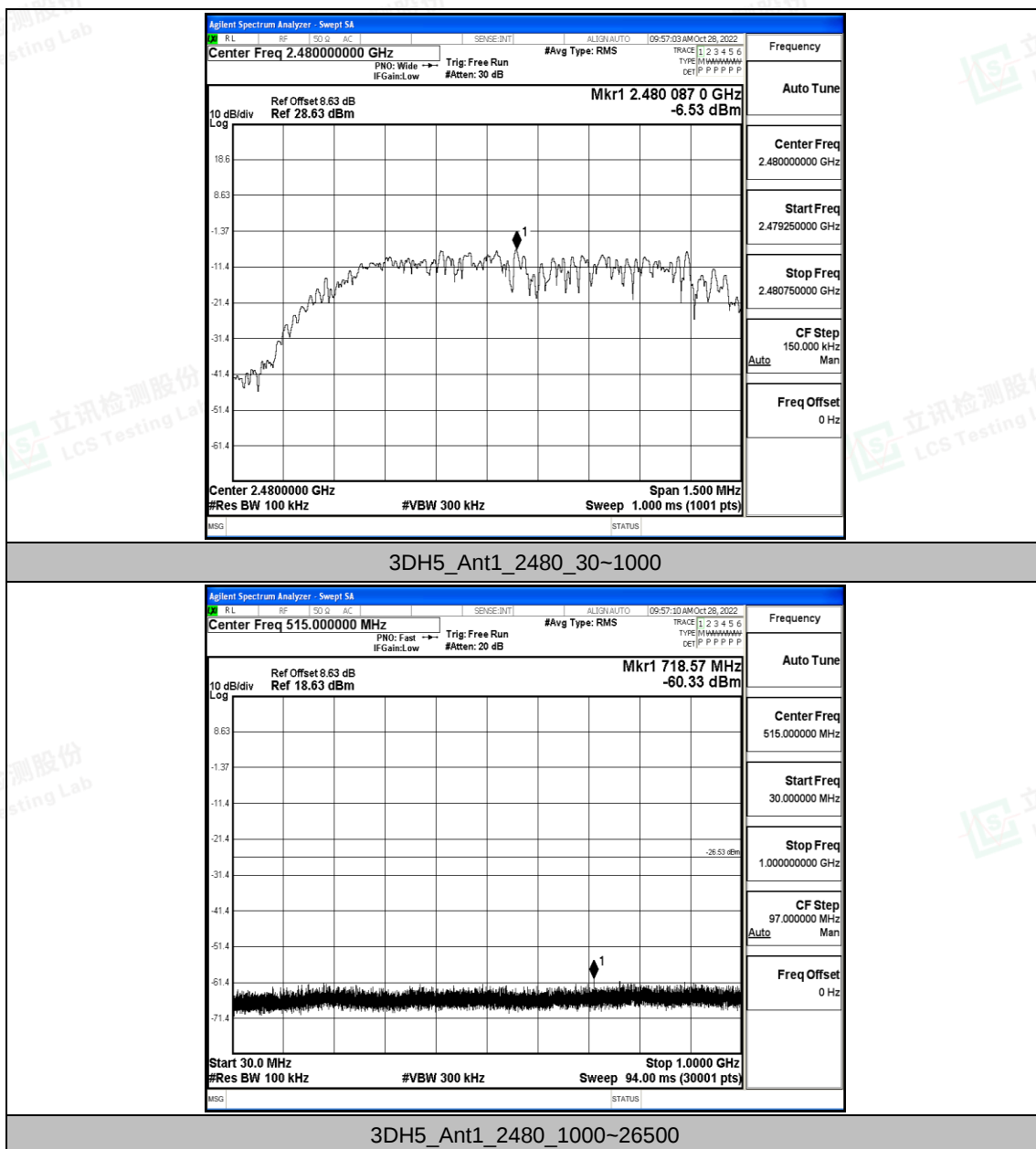


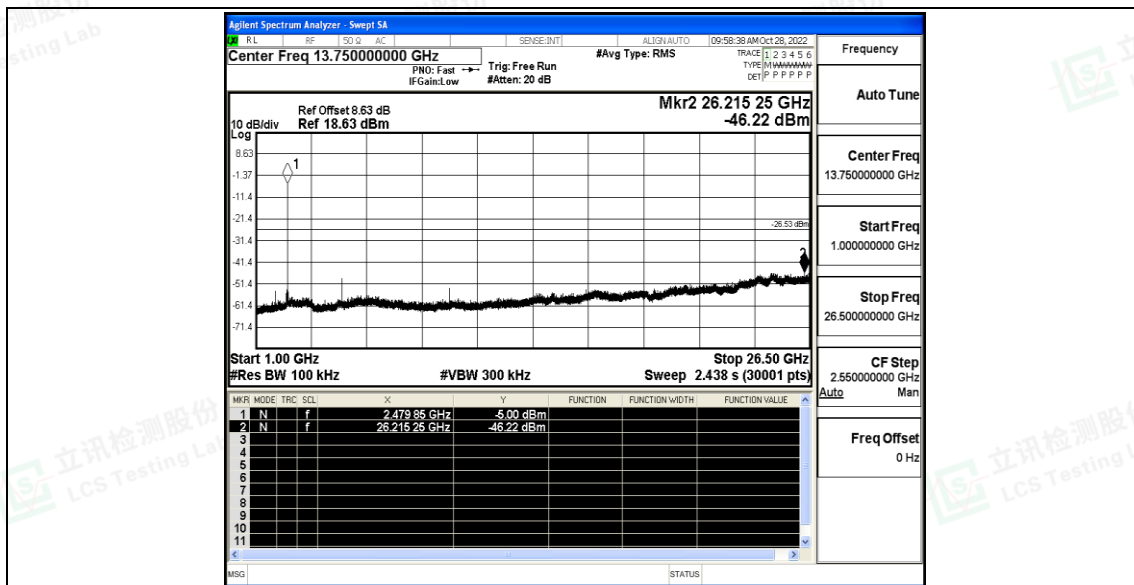
3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference









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	-58.02	≤-41.20	37.18	≤54	PASS
				AV	2378.120	-53.33	≤-41.20	41.87	≤54	PASS
				AV	2390.000	-54.66	≤-41.20	40.54	≤54	PASS
				Peak	2310.000	-48.97	≤-21.20	46.23	≤74	PASS
				Peak	2376.755	-44.03	≤-21.20	51.17	≤74	PASS
				Peak	2390.000	-51.18	≤-21.20	44.02	≤74	PASS
		High	2480	AV	2483.500	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2483.520	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2500.000	-52.38	≤-41.20	42.82	≤54	PASS
				Peak	2483.500	-44.82	≤-21.20	50.38	≤74	PASS
				Peak	2484.080	-43.63	≤-21.20	51.57	≤74	PASS
				Peak	2500.000	-46.89	≤-21.20	48.31	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-49.53	≤-21.20	45.67	≤74	PASS
				Peak	2389.040	-44.47	≤-21.20	50.73	≤74	PASS
				Peak	2390.000	-45.83	≤-21.20	49.37	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-44.1	≤-21.20	51.10	≤74	PASS
				Peak	2490.640	-42.9	≤-21.20	52.30	≤74	PASS
				Peak	2500.000	-45.04	≤-21.20	50.16	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-58.14	≤-41.20	37.06	≤54	PASS
				AV	2380.850	-53.18	≤-41.20	42.02	≤54	PASS
				AV	2390.000	-54.34	≤-41.20	40.86	≤54	PASS
				Peak	2310.000	-52.88	≤-21.20	42.32	≤74	PASS
				Peak	2387.360	-45.36	≤-21.20	49.84	≤74	PASS
				Peak	2390.000	-48.59	≤-21.20	46.61	≤74	PASS
		High	2480	AV	2483.500	-49.81	≤-41.20	45.39	≤54	PASS
				AV	2483.520	-49.81	≤-41.20	45.39	≤54	PASS
				AV	2500.000	-52.21	≤-41.20	42.99	≤54	PASS
				Peak	2483.500	-45.9	≤-21.20	49.30	≤74	PASS
				Peak	2498.640	-43.79	≤-21.20	51.41	≤74	PASS
				Peak	2500.000	-47	≤-21.20	48.20	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-50.27	≤-21.20	44.93	≤74	PASS
				Peak	2384.105	-44.25	≤-21.20	50.95	≤74	PASS
				Peak	2390.000	-46.78	≤-21.20	48.42	≤74	PASS
		High	Hop_24	Peak	2483.500	-45.28	≤-21.20	49.92	≤74	PASS





3DH5	Ant1		80	Peak	2496.160	-43.26	≤ -21.20	51.94	≤ 74	PASS
				Peak	2500.000	-48.41	≤ -21.20	46.79	≤ 74	PASS
		Low	2402	AV	2310.000	-58.13	≤ -41.20	37.07	≤ 54	PASS
				AV	2378.435	-53.07	≤ -41.20	42.13	≤ 54	PASS
				AV	2390.000	-54.46	≤ -41.20	40.74	≤ 54	PASS
				Peak	2310.000	-52.48	≤ -21.20	42.72	≤ 74	PASS
				Peak	2382.530	-44.49	≤ -21.20	50.71	≤ 74	PASS
				Peak	2390.000	-50.54	≤ -21.20	44.66	≤ 74	PASS
		High	2480	AV	2483.500	-49.78	≤ -41.20	45.42	≤ 54	PASS
				AV	2483.520	-49.78	≤ -41.20	45.42	≤ 54	PASS
				AV	2500.000	-52.23	≤ -41.20	42.97	≤ 54	PASS
				Peak	2483.500	-44.11	≤ -21.20	51.09	≤ 74	PASS
				Peak	2495.920	-43.5	≤ -21.20	51.70	≤ 74	PASS
				Peak	2500.000	-46.69	≤ -21.20	48.51	≤ 74	PASS
		Low	Hop_24 02	Peak	2310.000	-49.9	≤ -21.20	45.30	≤ 74	PASS
				Peak	2385.365	-42.87	≤ -21.20	52.33	≤ 74	PASS
				Peak	2390.000	-45.83	≤ -21.20	49.37	≤ 74	PASS
		High	Hop_24 80	Peak	2483.500	-44.92	≤ -21.20	50.28	≤ 74	PASS
				Peak	2491.520	-42.39	≤ -21.20	52.81	≤ 74	PASS
				Peak	2500.000	-46.45	≤ -21.20	48.75	≤ 74	PASS

Note:

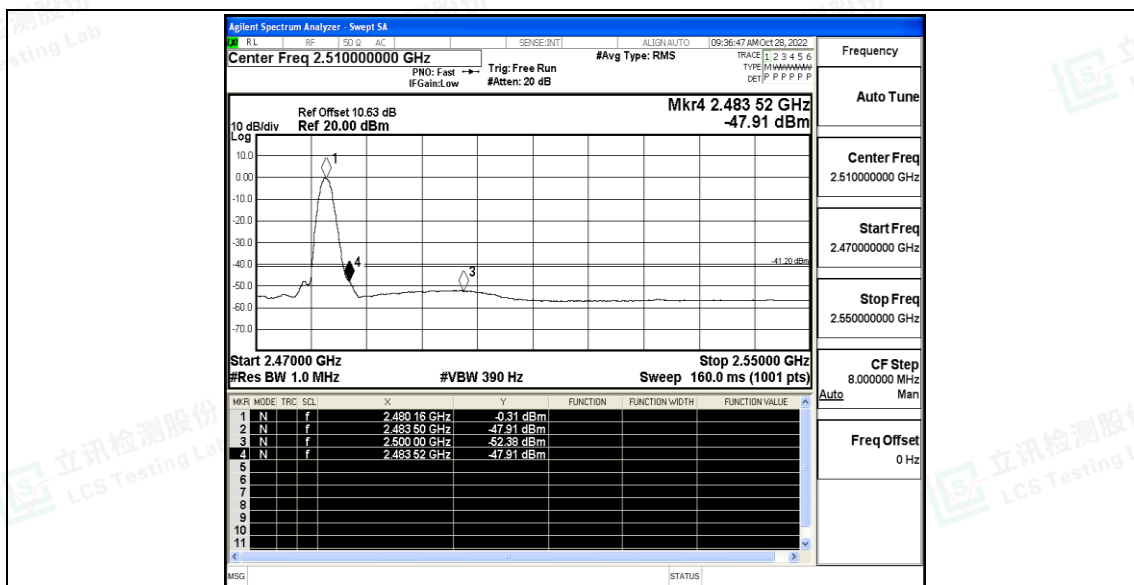
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



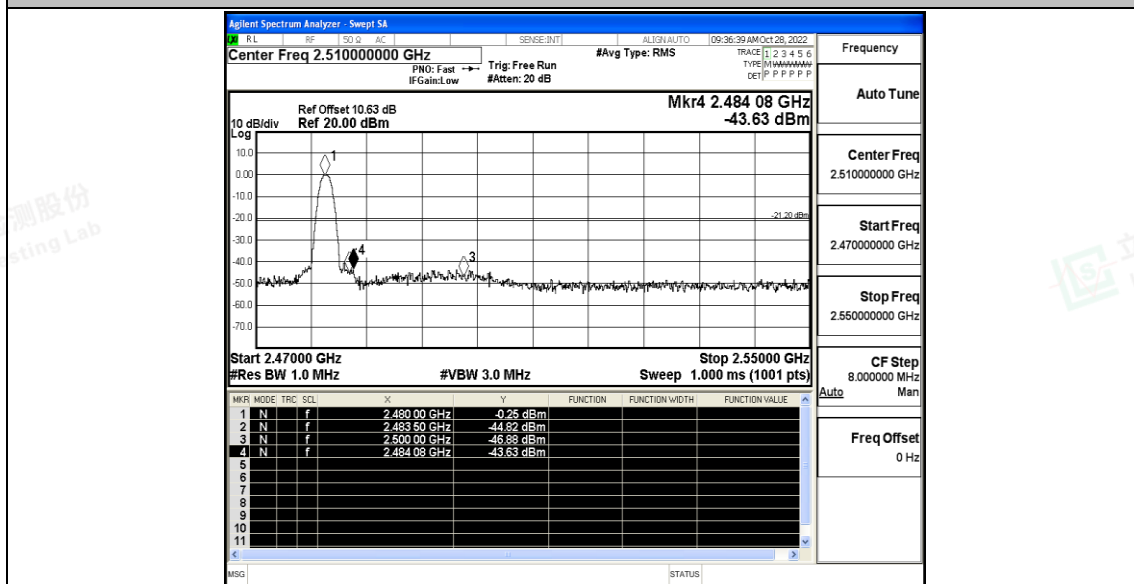


Test Graphs



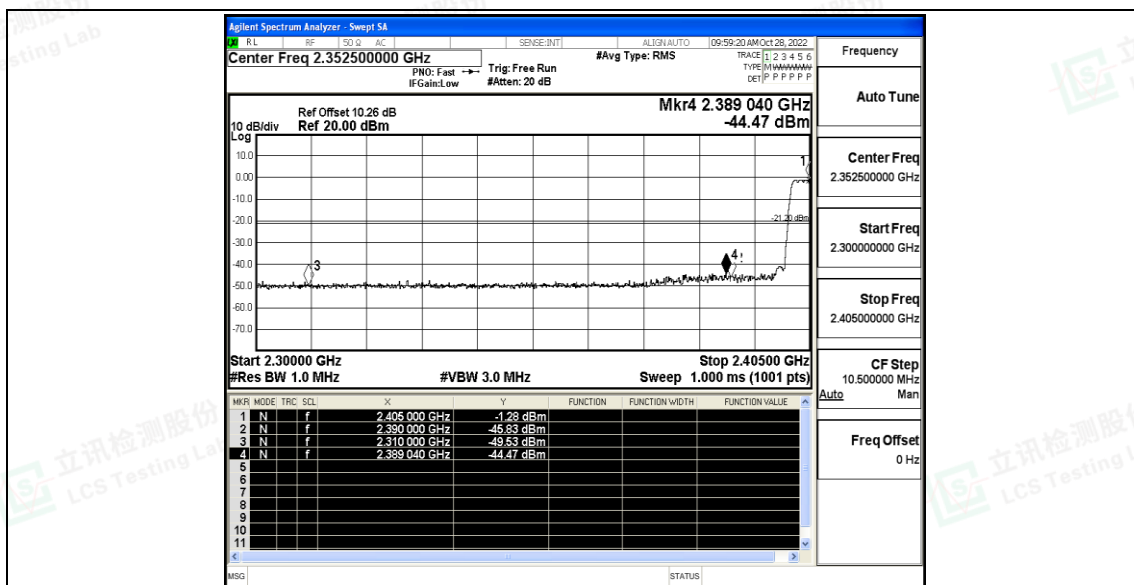


DH5_Ant1_High_2480_Peak

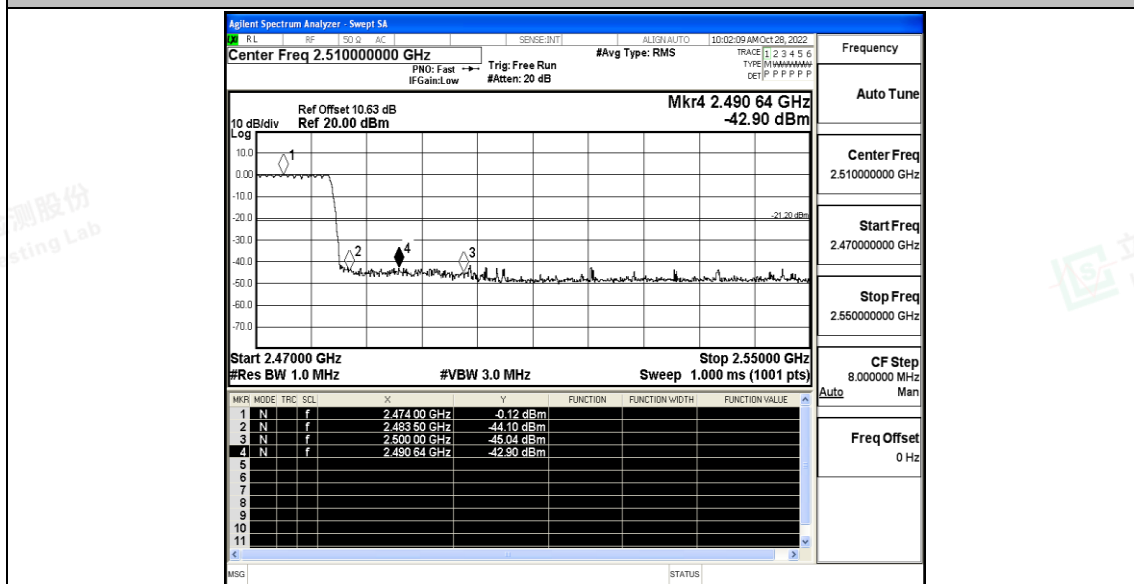


DH5_Ant1_Low_Hop_2402_Peak



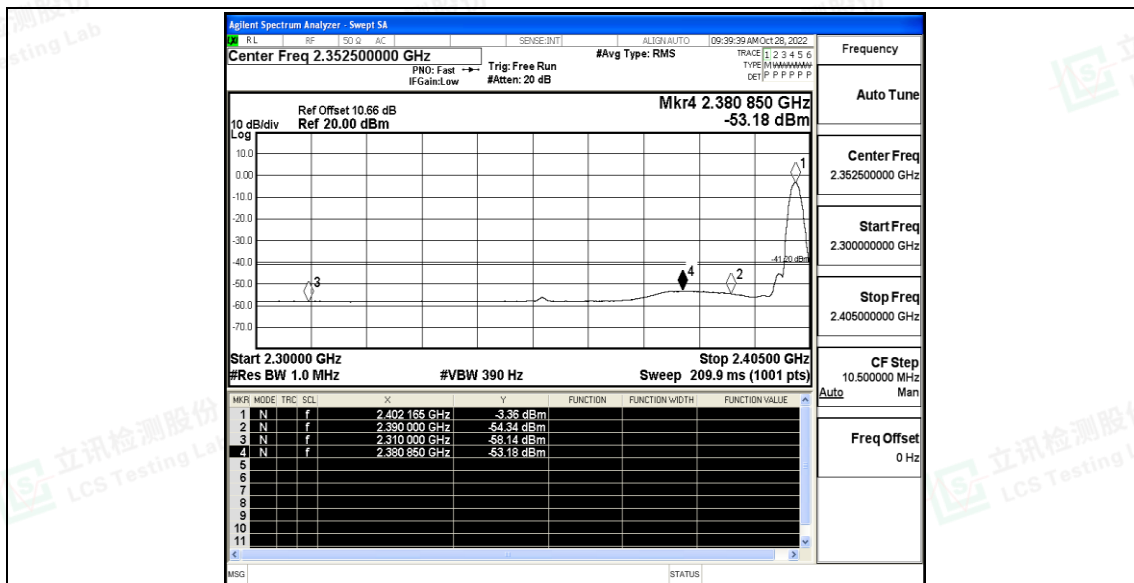


DH5_Ant1_High_Hop_2480_Peak

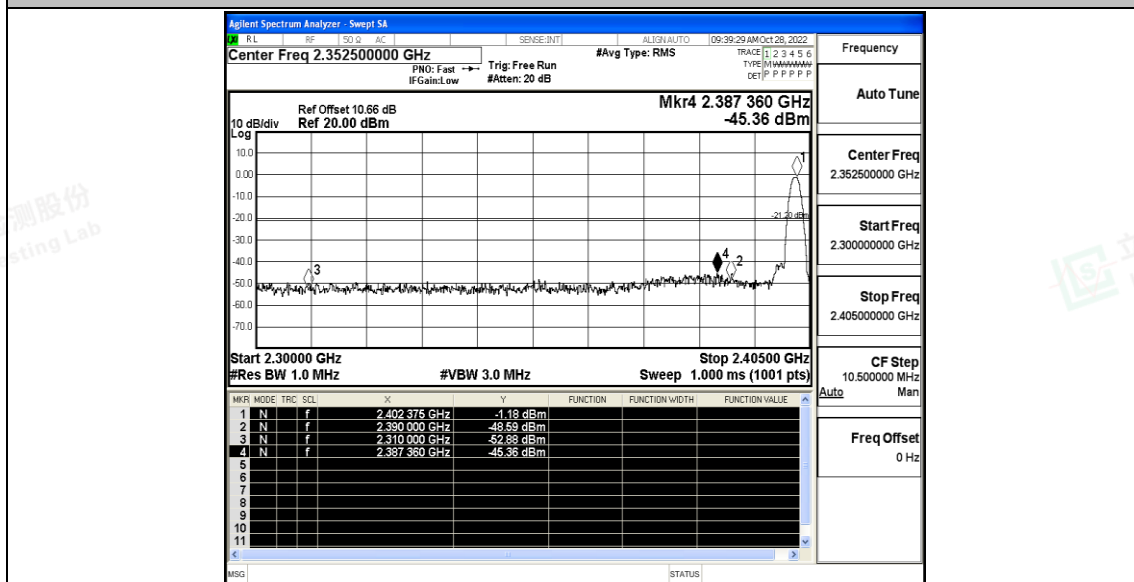


2DH5_Ant1_Low_2402_AV



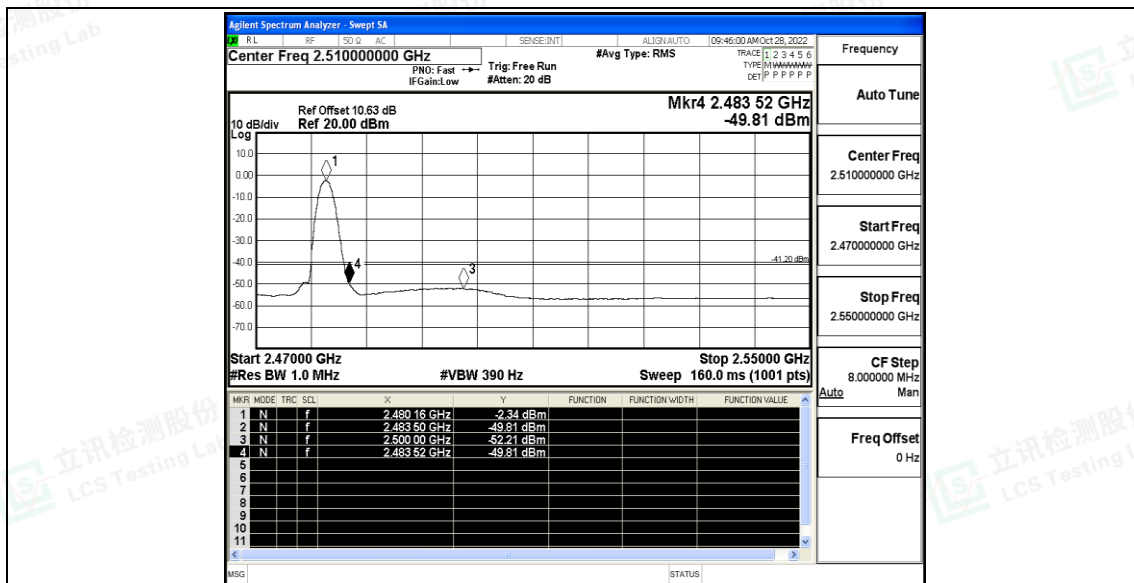


2DH5_Ant1_Low_2402_Peak

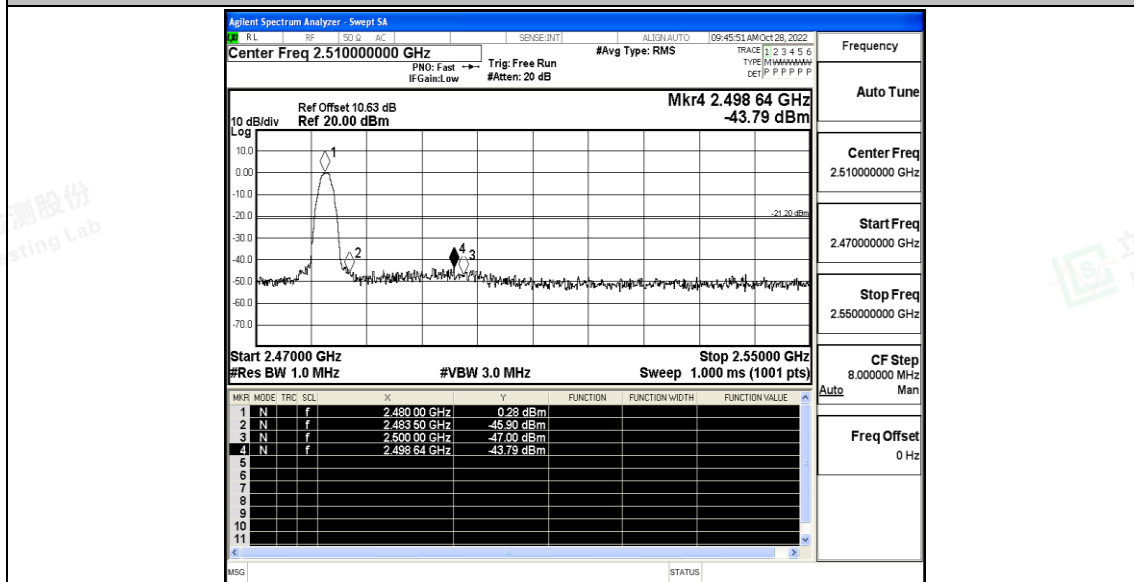


2DH5_Ant1_High_2480_AV



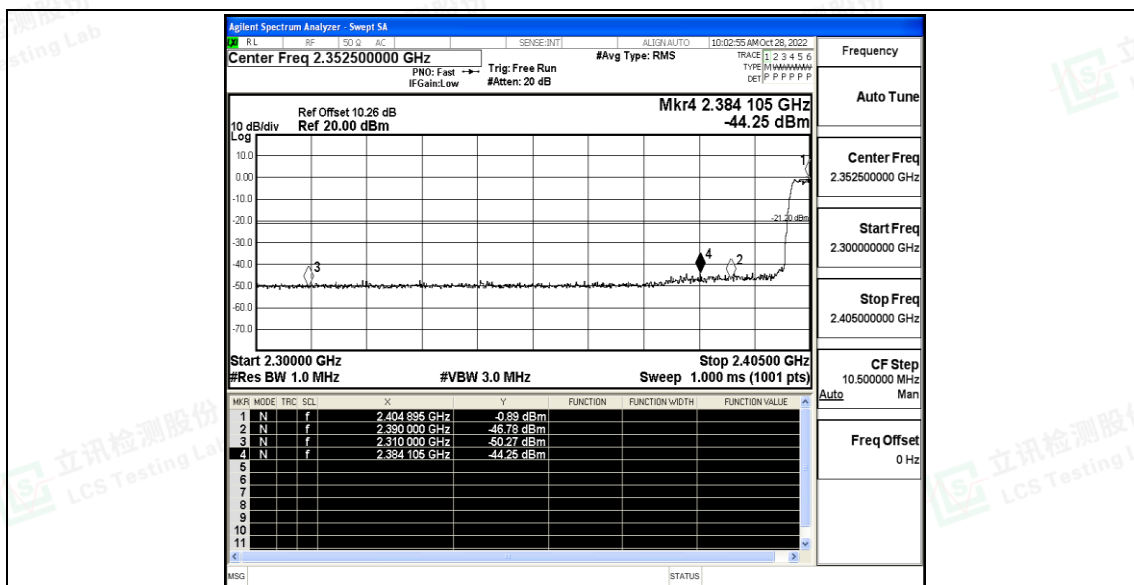


2DH5_Ant1_High_2480_Peak

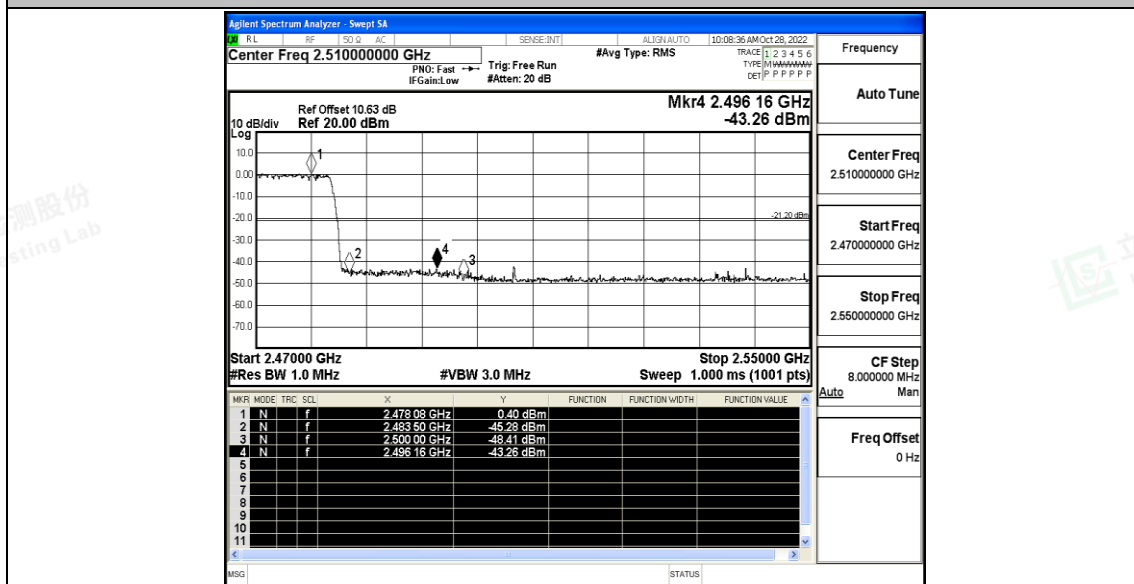


2DH5_Ant1_Low_Hop_2402_Peak



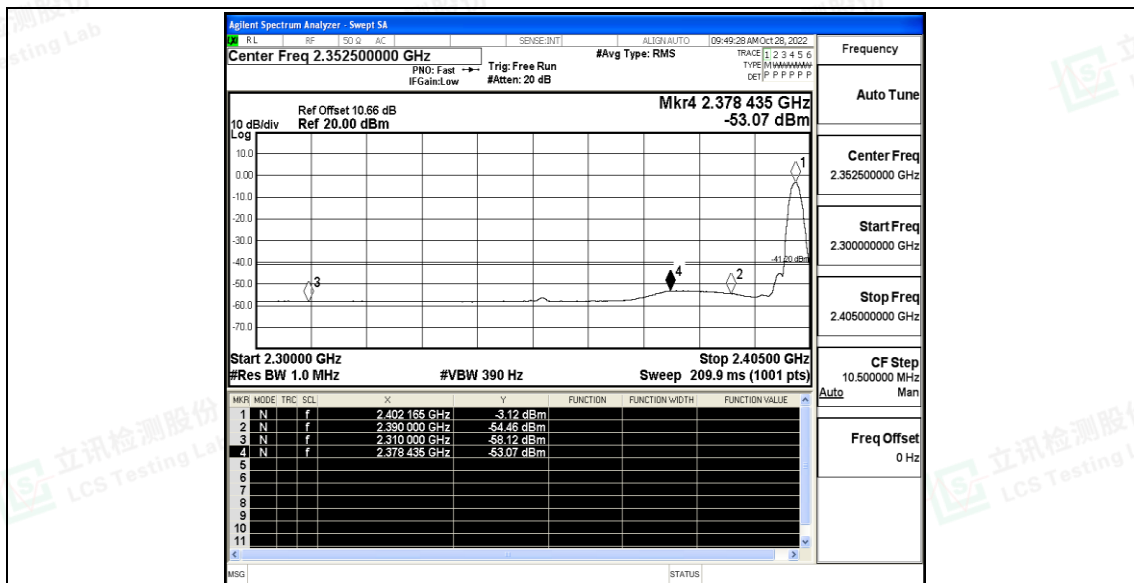


2DH5_Ant1_High_Hop_2480_Peak

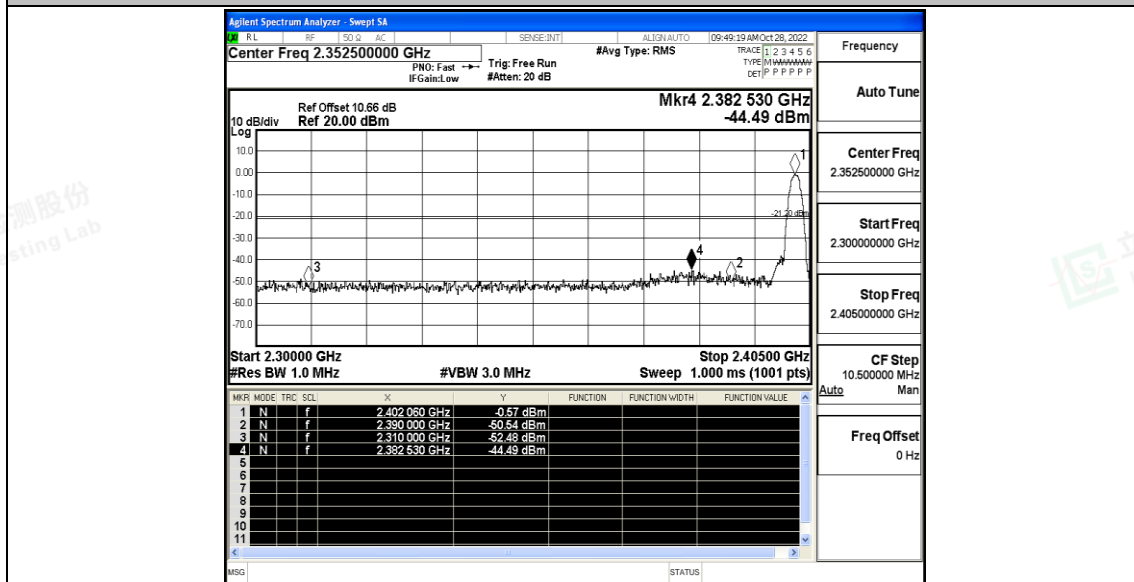


3DH5_Ant1_Low_2402_AV



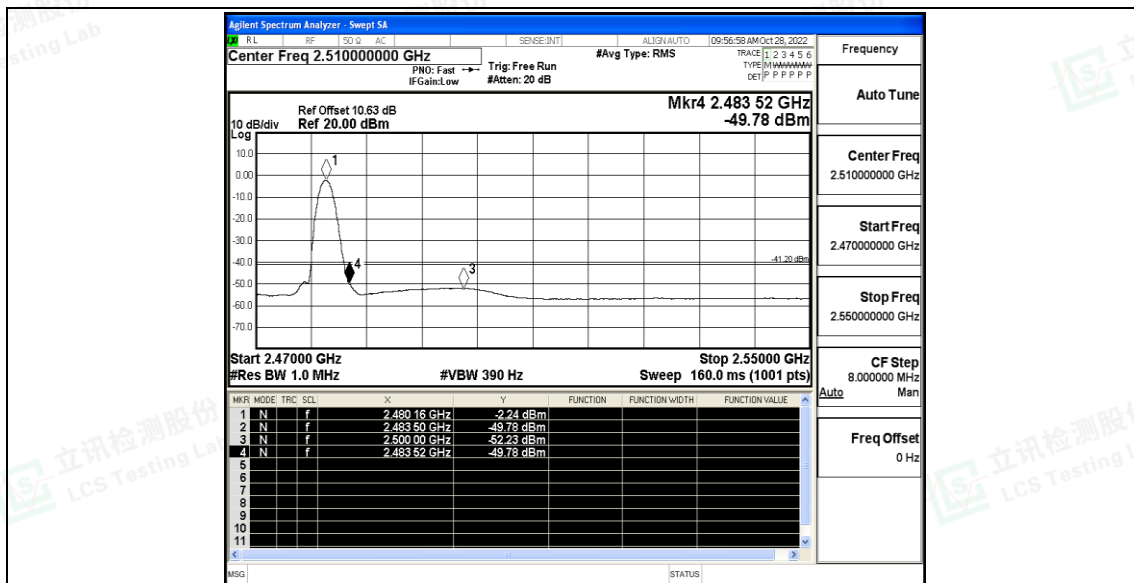


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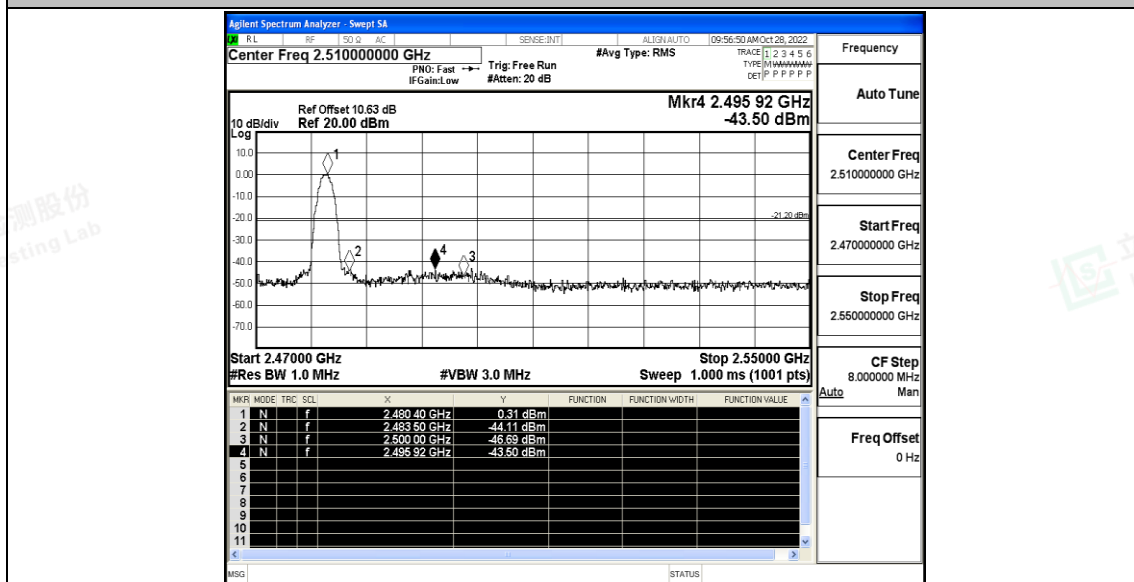


3DH5_Ant1_High_2480_AV





3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



