



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth headset

Test Model: X50Pro

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Li Huan





A.1 20dB Emission Bandwidth

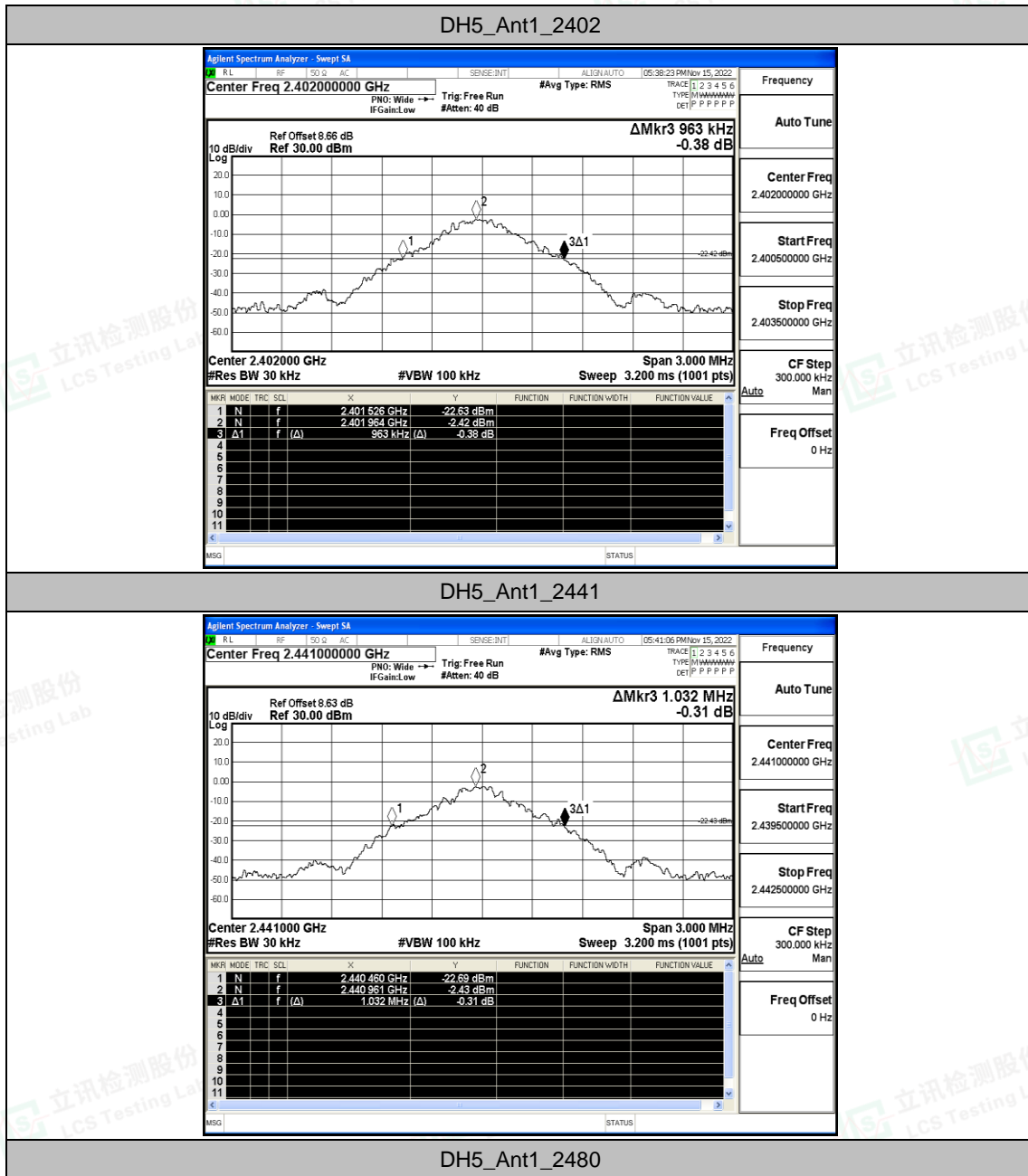
Test Result

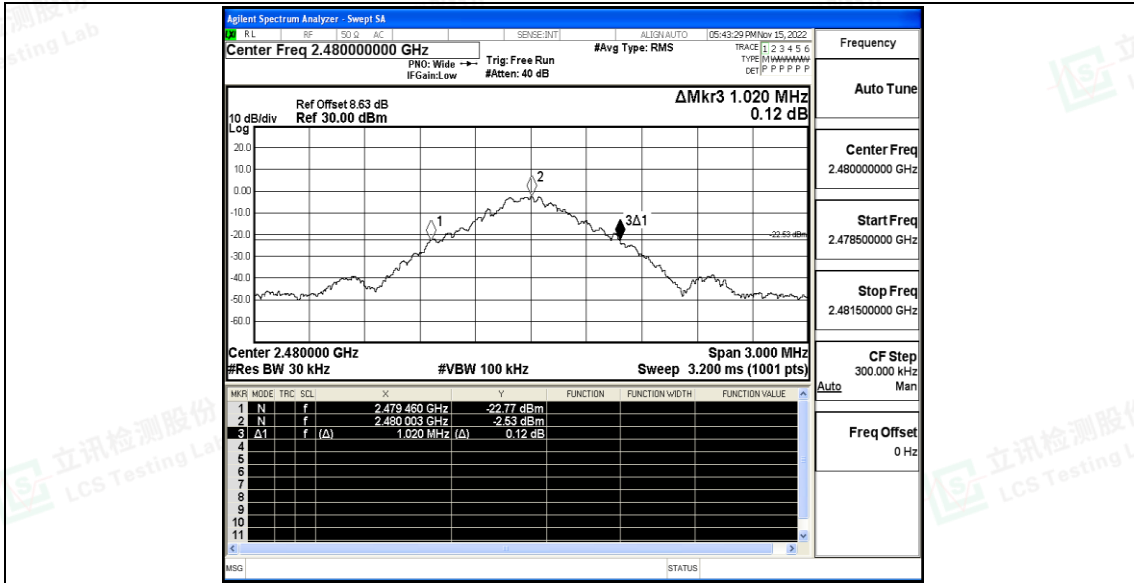
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	0.963	2401.526	2402.489	PASS
		2441	1.032	2440.460	2441.492	PASS
		2480	1.020	2479.460	2480.480	PASS
2DH5	Ant1	2402	1.329	2401.322	2402.651	PASS
		2441	1.314	2440.334	2441.648	PASS
		2480	1.359	2479.310	2480.669	PASS
3DH5	Ant1	2402	1.317	2401.331	2402.648	PASS
		2441	1.302	2440.334	2441.636	PASS
		2480	1.296	2479.340	2480.636	PASS



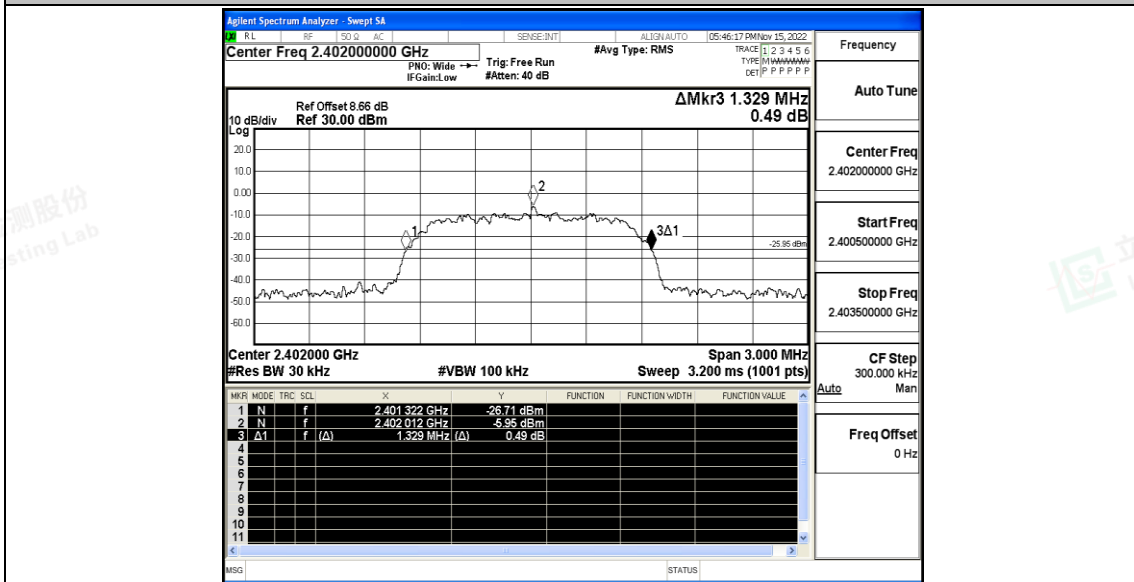


Test Graphs



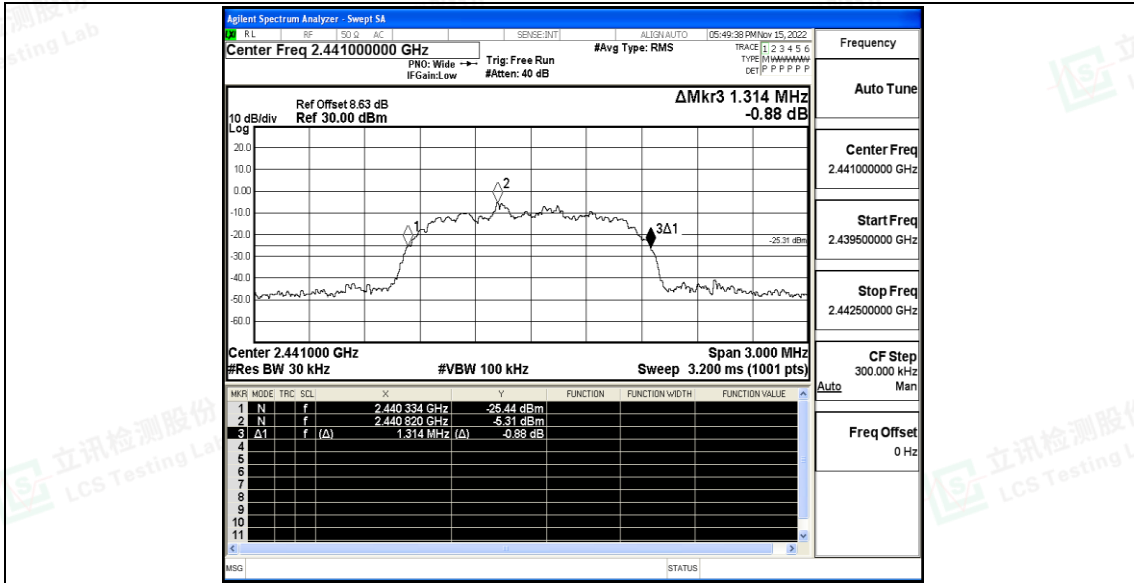


2DH5_Ant1_2402

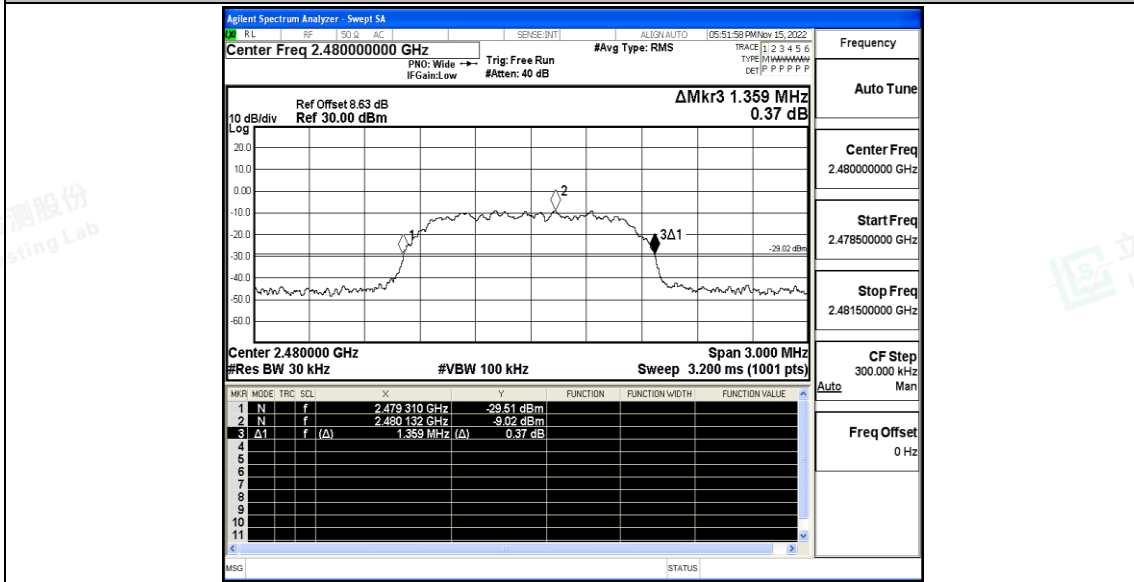


2DH5_Ant1_2441



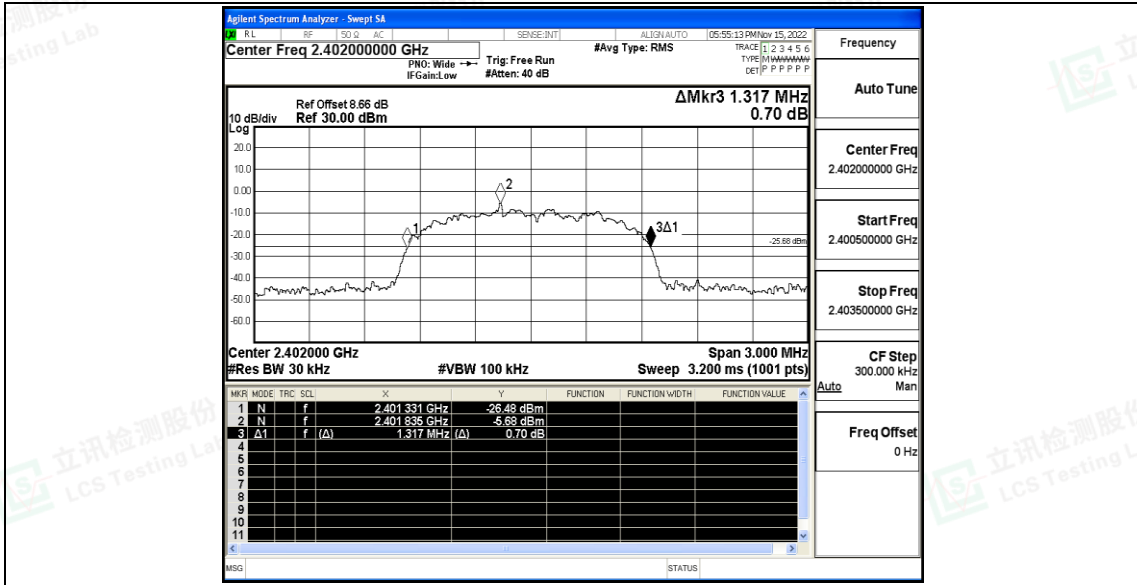


2DH5_Ant1_2480

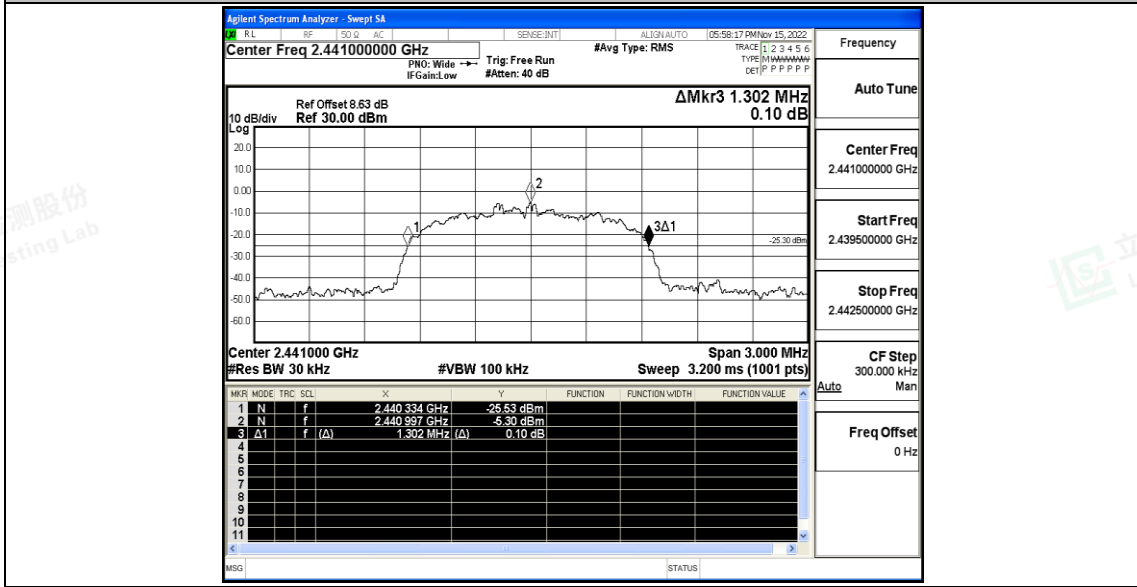


3DH5_Ant1_2402



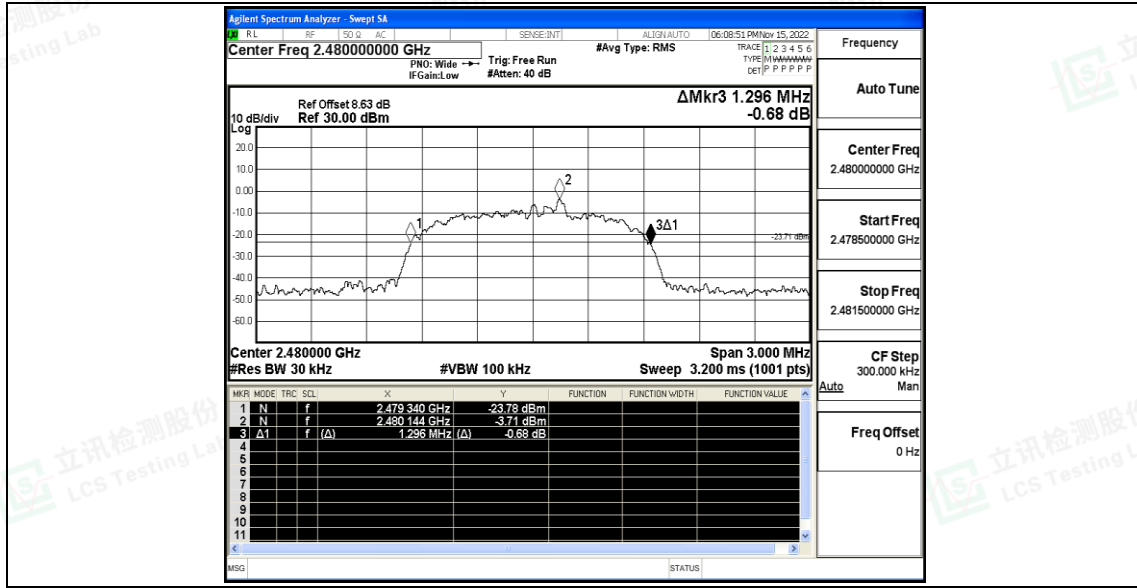


3DH5_Ant1_2441



3DH5_Ant1_2480







A.2 Maximum conducted output power

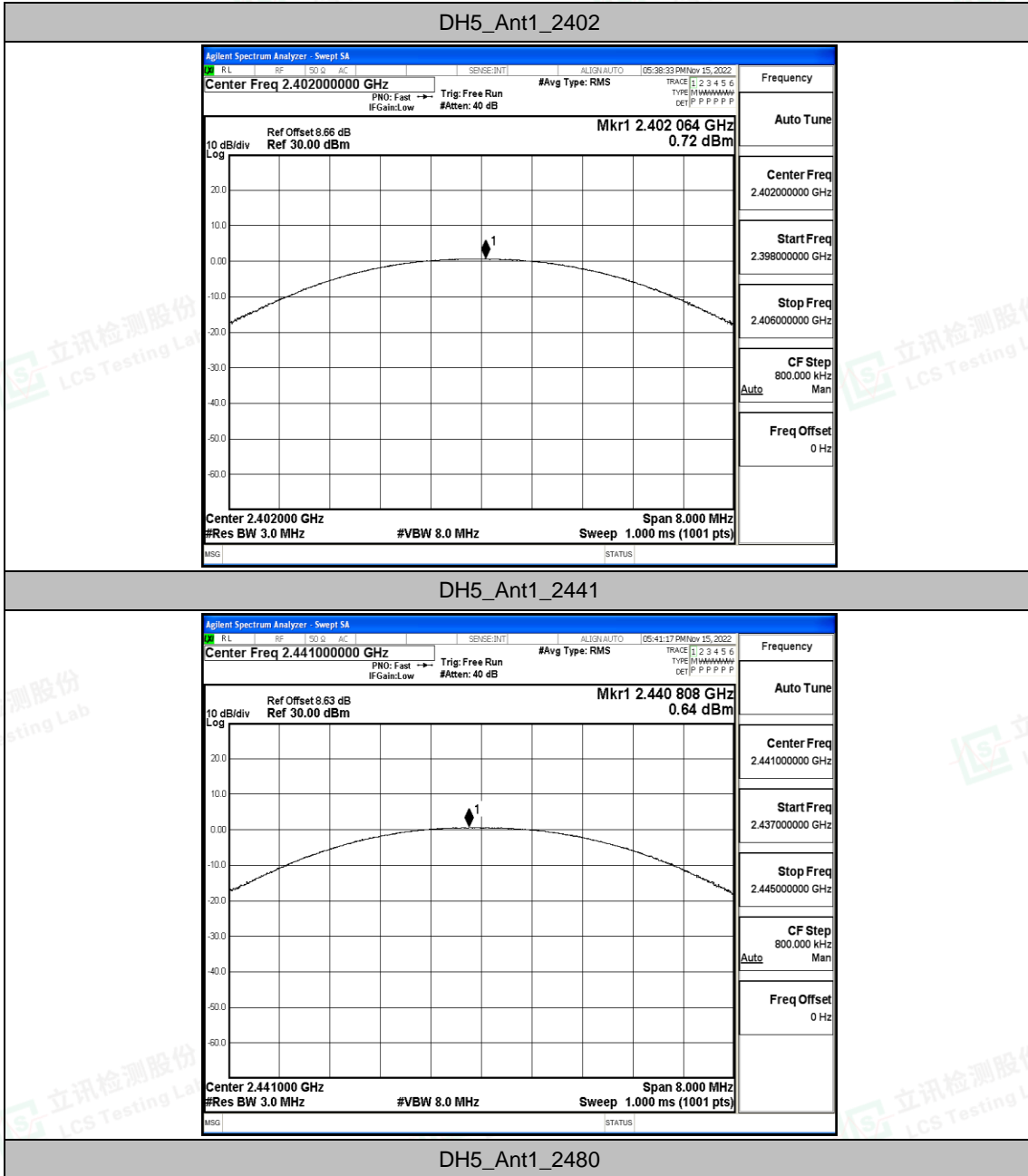
Test Result

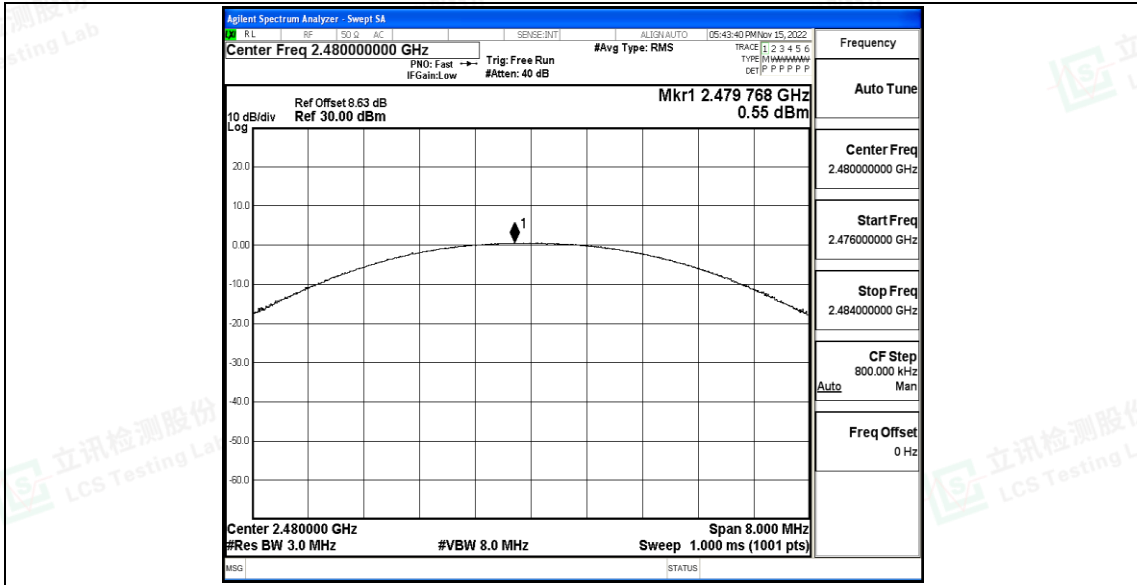
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.72	≤20.97	PASS
		2441	0.64	≤20.97	PASS
		2480	0.55	≤20.97	PASS
2DH5	Ant1	2402	0.38	≤20.97	PASS
		2441	0.34	≤20.97	PASS
		2480	0.22	≤20.97	PASS
3DH5	Ant1	2402	0.32	≤20.97	PASS
		2441	0.30	≤20.97	PASS
		2480	0.23	≤20.97	PASS



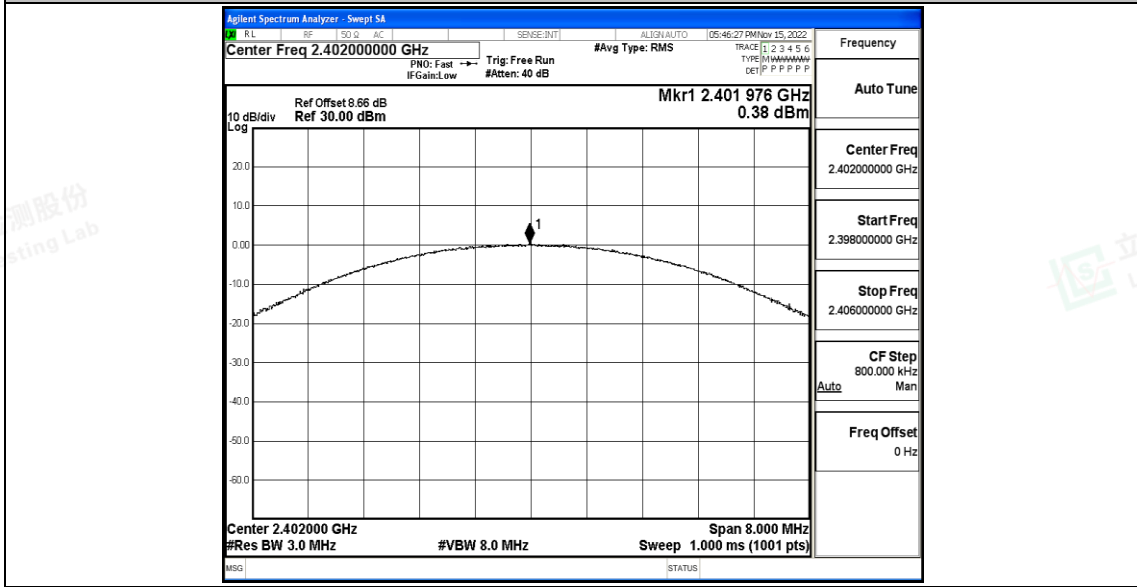


Test Graphs



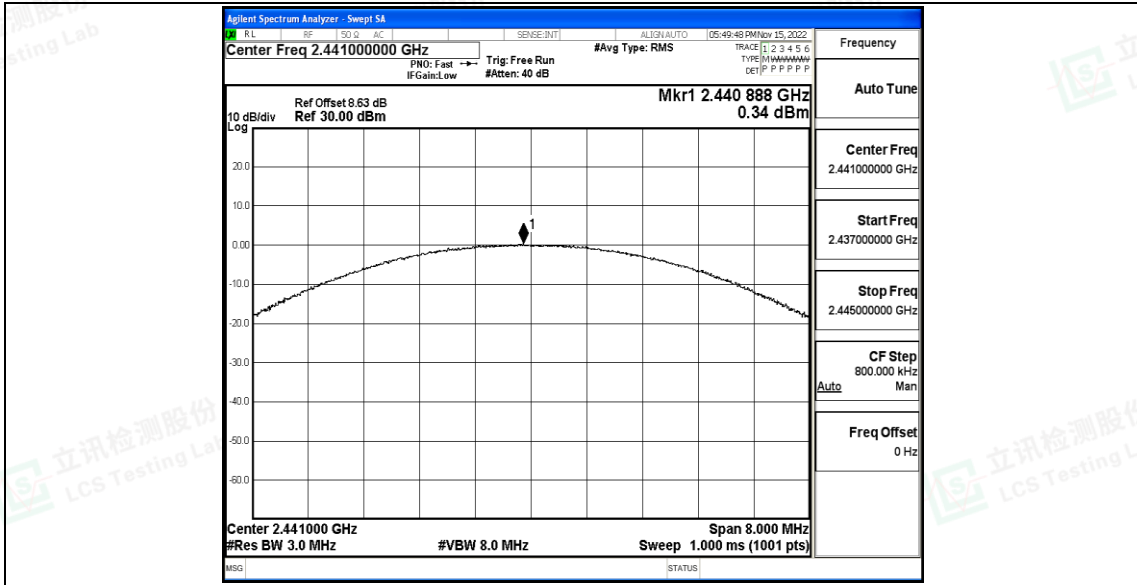


2DH5_Ant1_2402

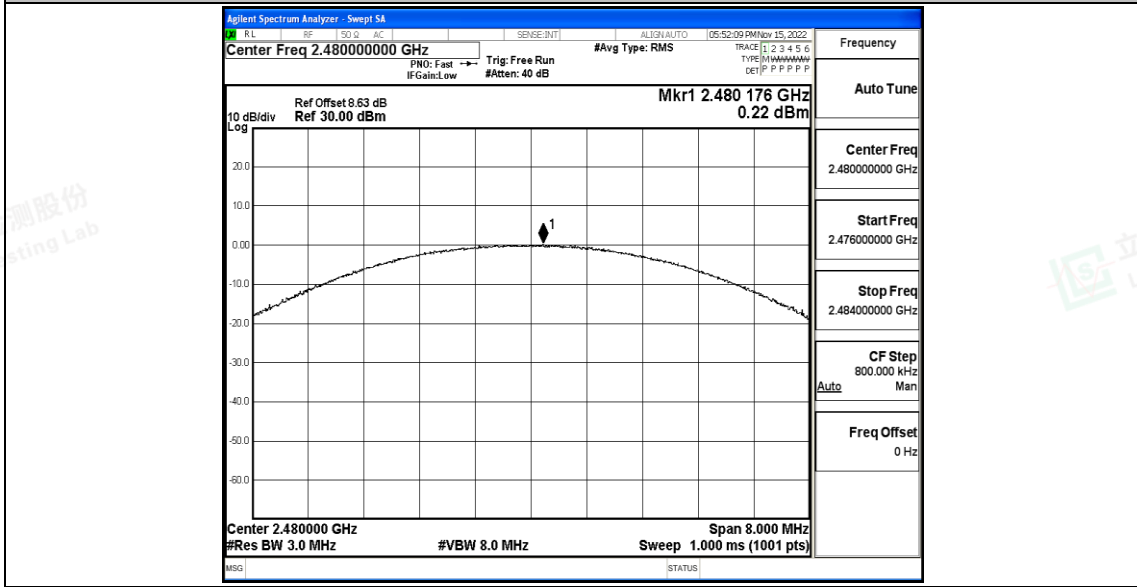


2DH5_Ant1_2441



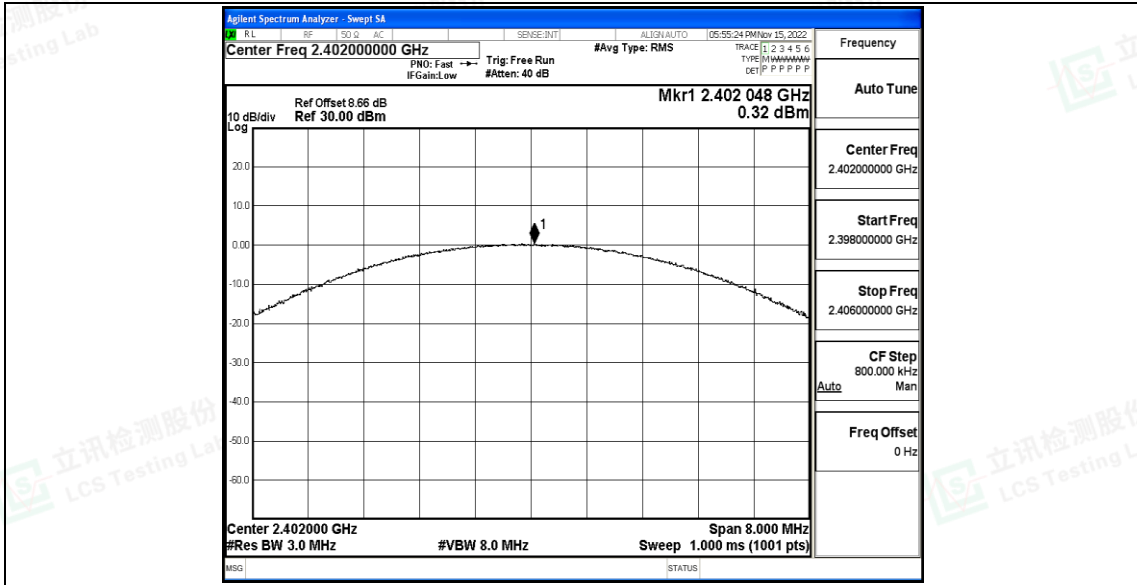


2DH5_Ant1_2480

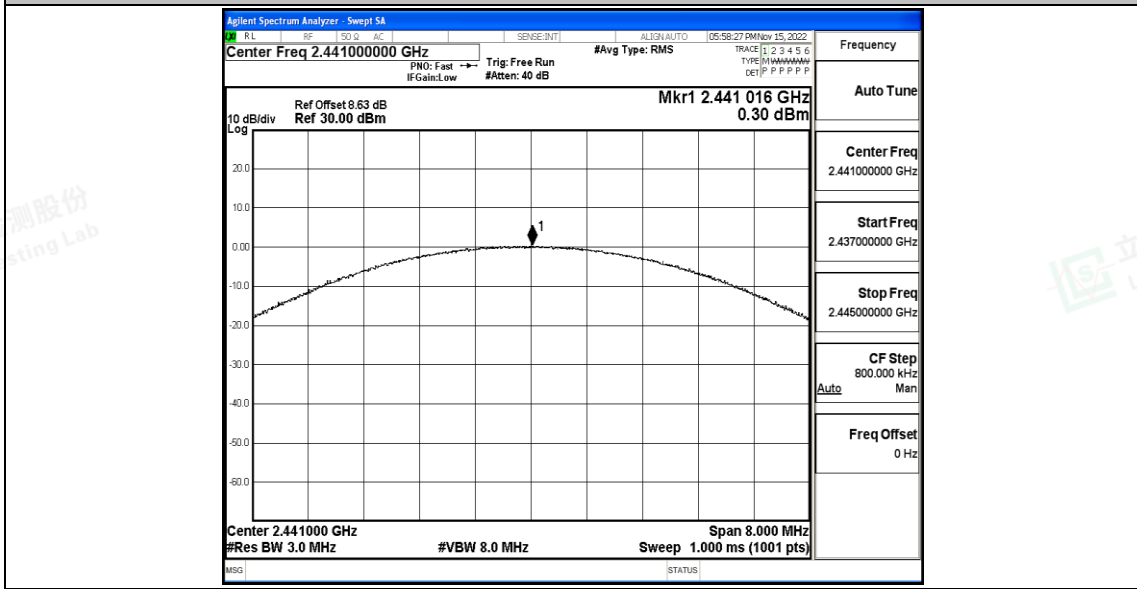


3DH5_Ant1_2402



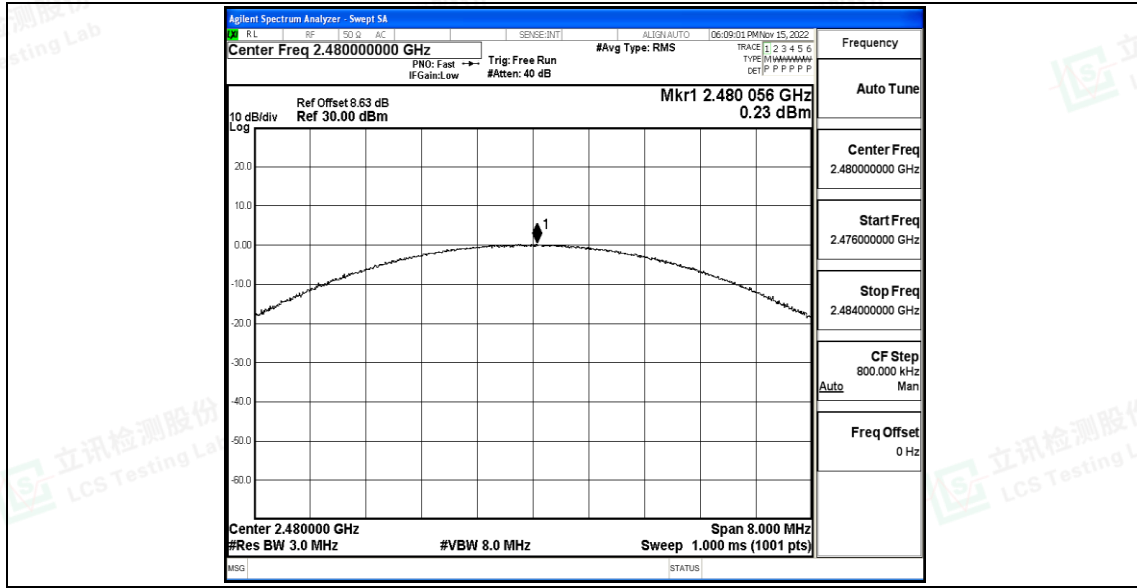


3DH5_Ant1_2441



3DH5_Ant1_2480







A.3 Carrier frequency separation

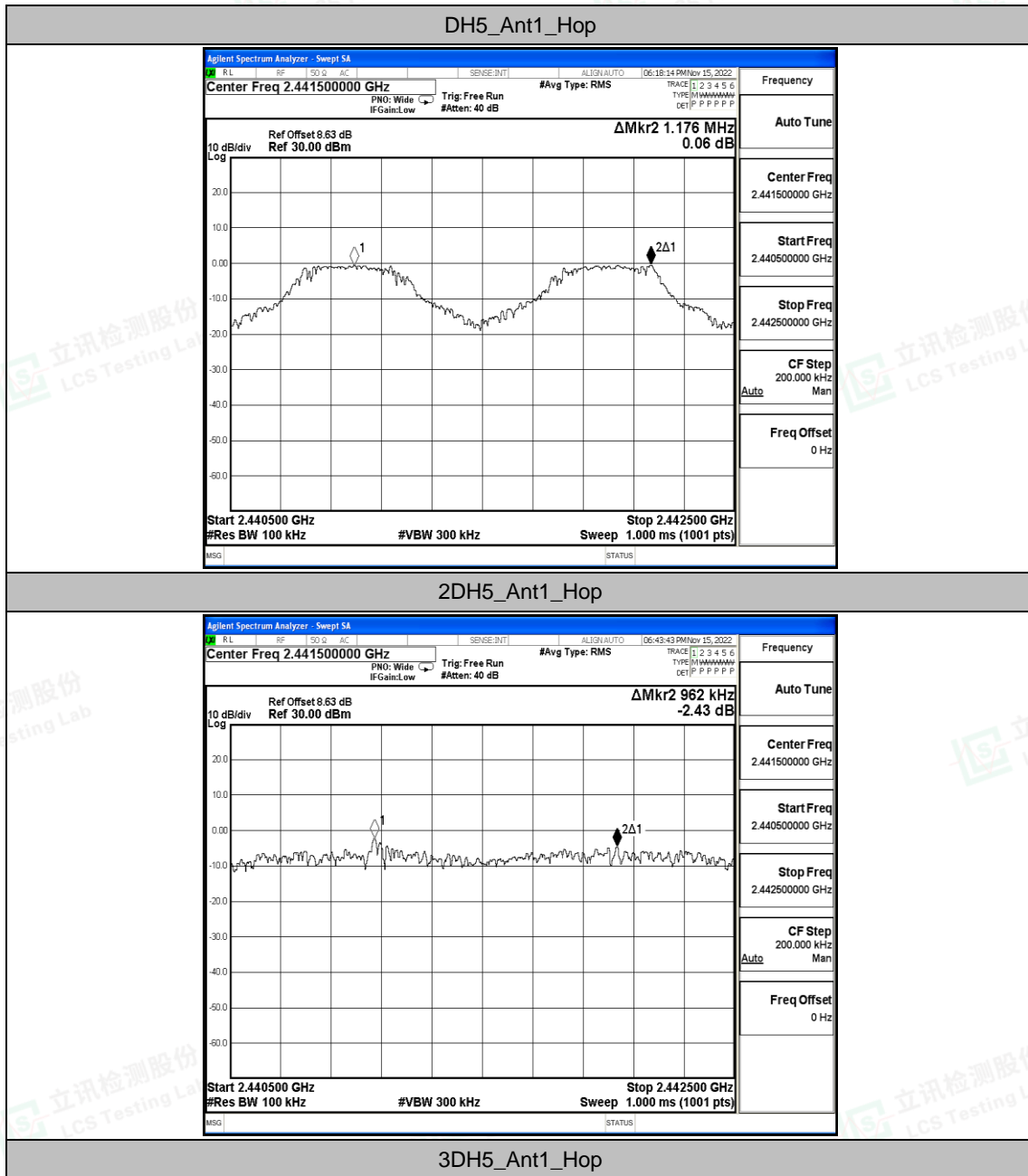
Test Result

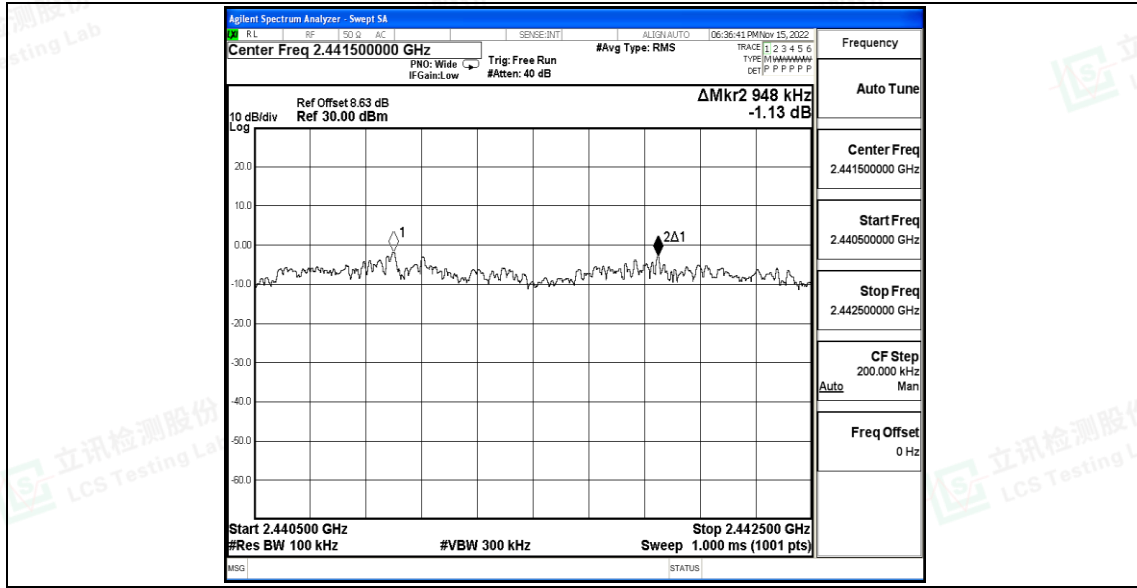
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.176	≥1.032	PASS
2DH5	Ant1	Hop	0.962	≥0.906	PASS
3DH5	Ant1	Hop	0.948	≥0.878	PASS





Test Graphs







A.4 Time of occupancy

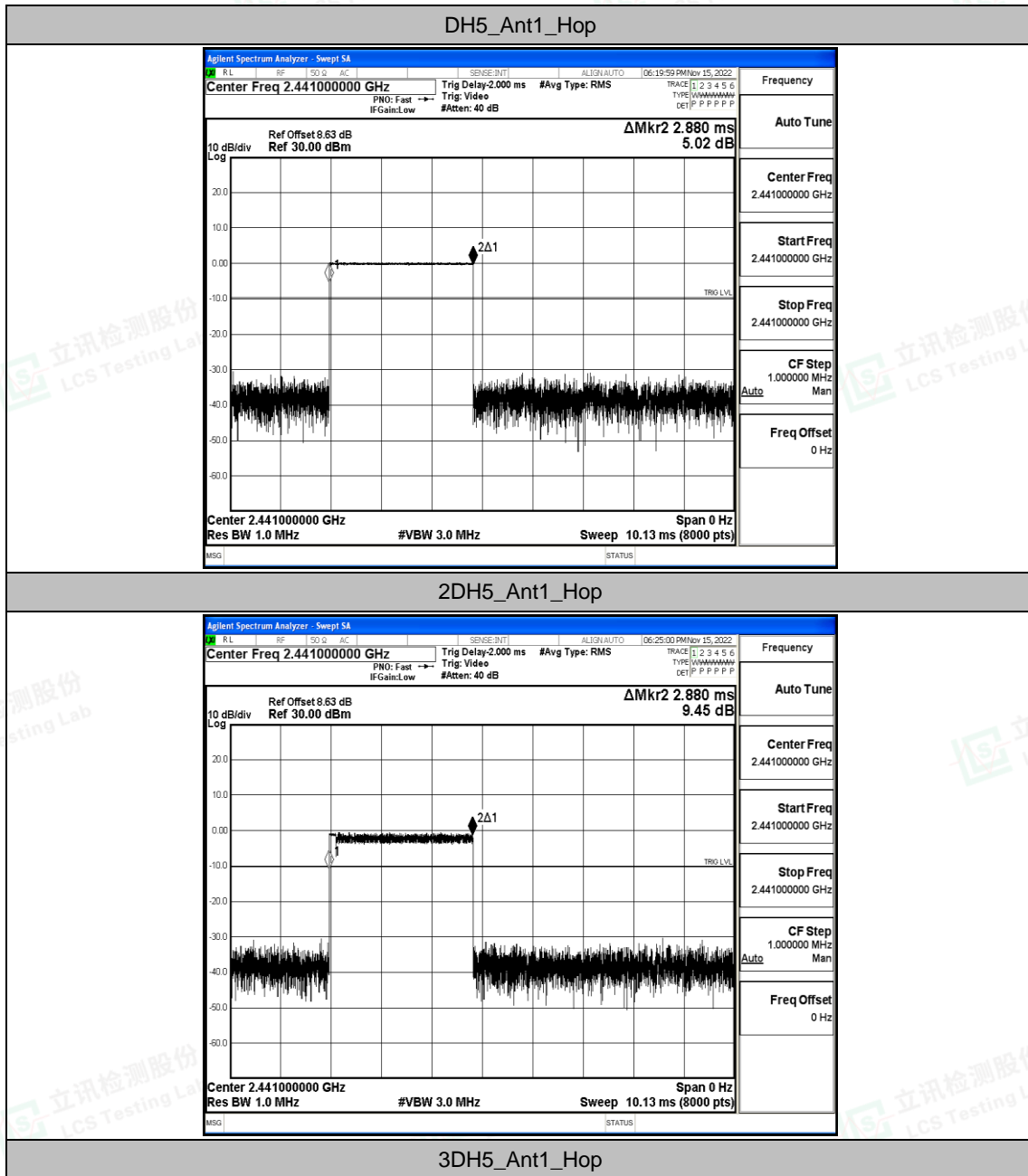
Test Result

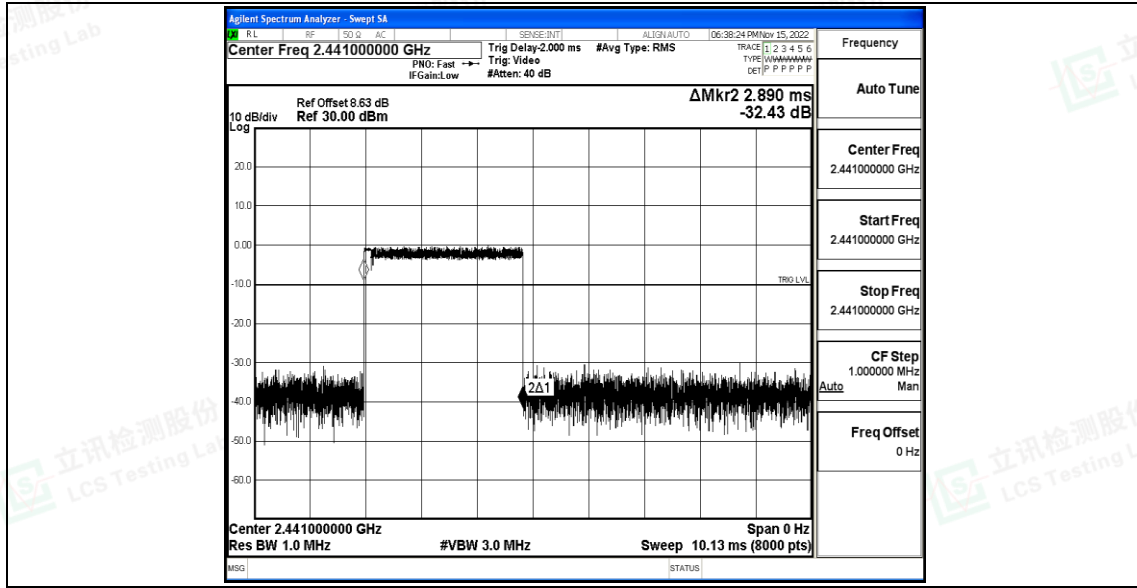
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant1	Hop	2.89	106.67	0.308	≤0.4	PASS





Test Graphs







A.5 Number of hopping channels

Test Result

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

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

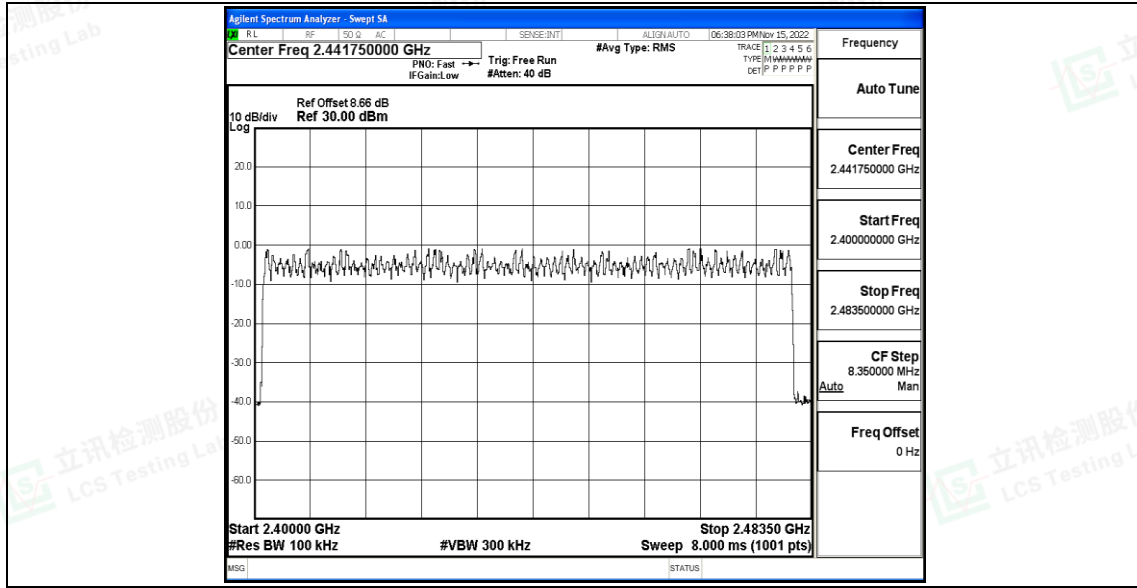
Scan code to check authenticity





Test Graphs







A.6 Band edge measurements

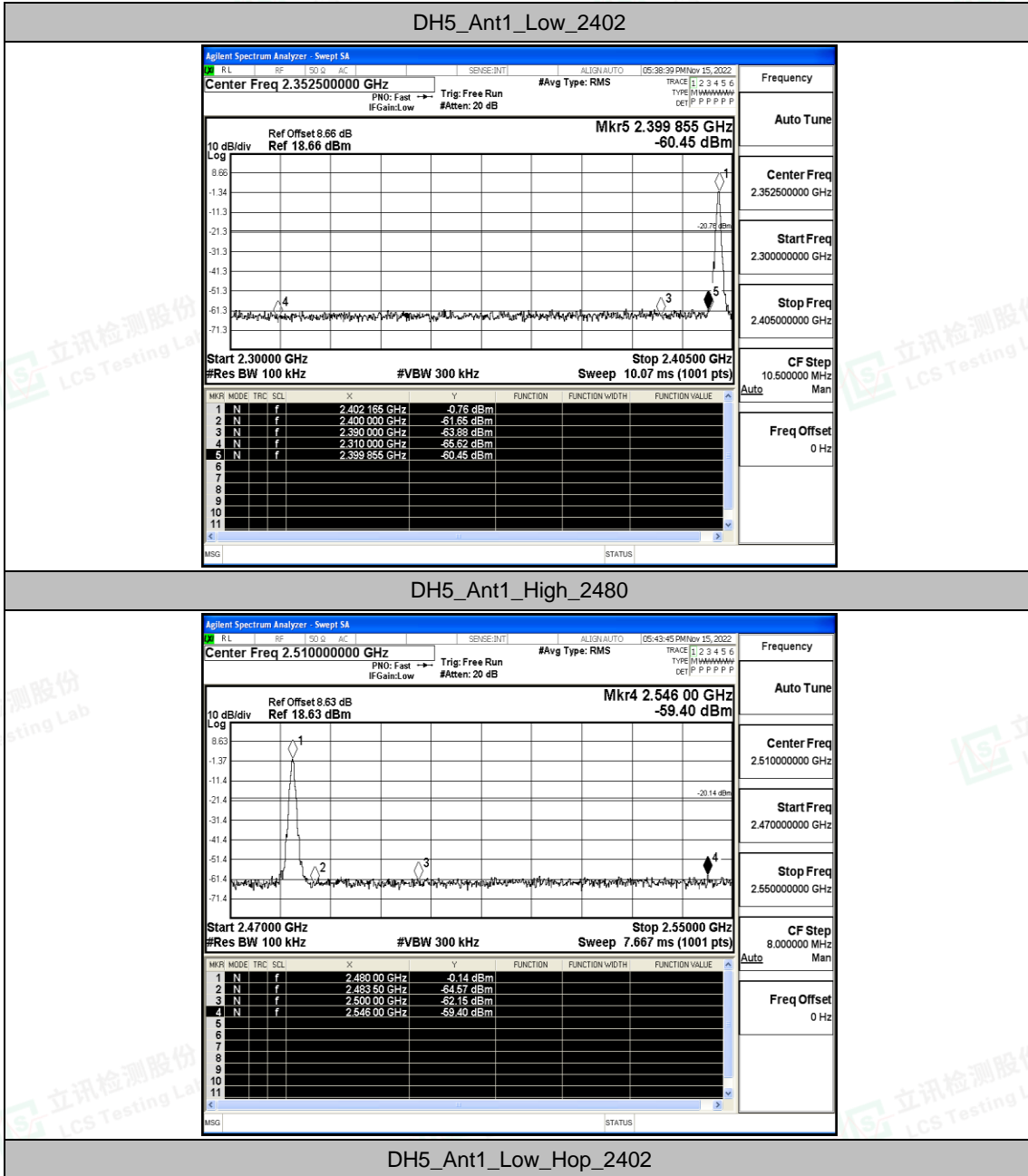
Test Result

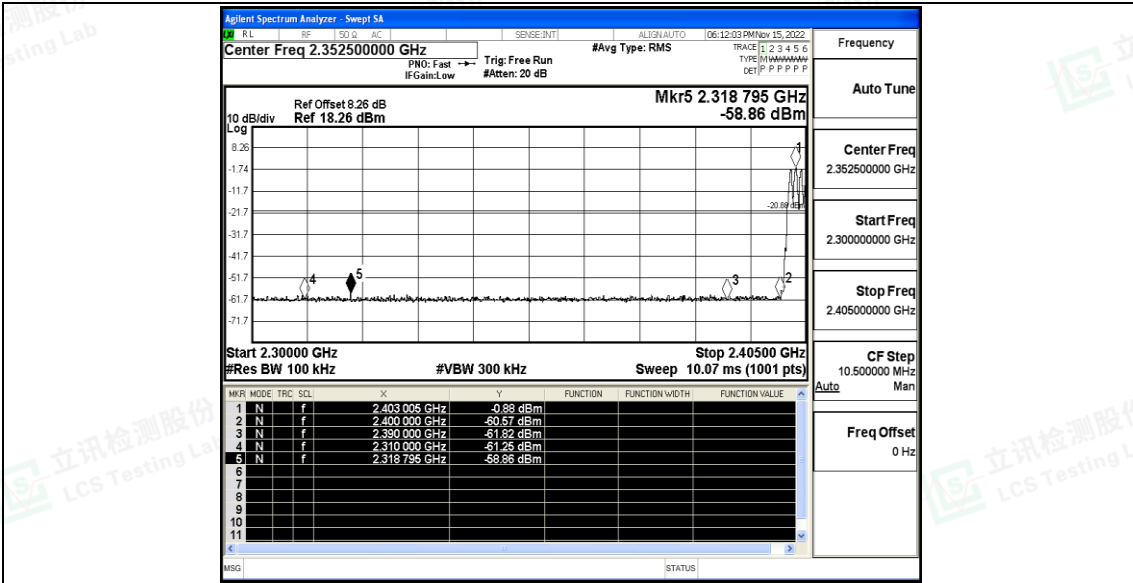
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.76	-60.45	≤-20.76	PASS
		High	2480	-0.14	-59.4	≤-20.14	PASS
		Low	Hop_2402	-0.88	-58.86	≤-20.88	PASS
		High	Hop_2480	-0.27	-57.81	≤-20.27	PASS
2DH5	Ant1	Low	2402	-4.65	-59.09	≤-24.65	PASS
		High	2480	-3.50	-58.52	≤-23.5	PASS
		Low	Hop_2402	-4.62	-59.16	≤-24.62	PASS
		High	Hop_2480	-1.41	-57.45	≤-21.41	PASS
3DH5	Ant1	Low	2402	-5.01	-56.94	≤-25.01	PASS
		High	2480	-5.77	-58.83	≤-25.77	PASS
		Low	Hop_2402	-4.71	-58.94	≤-24.71	PASS
		High	Hop_2480	-2.53	-57.32	≤-22.53	PASS



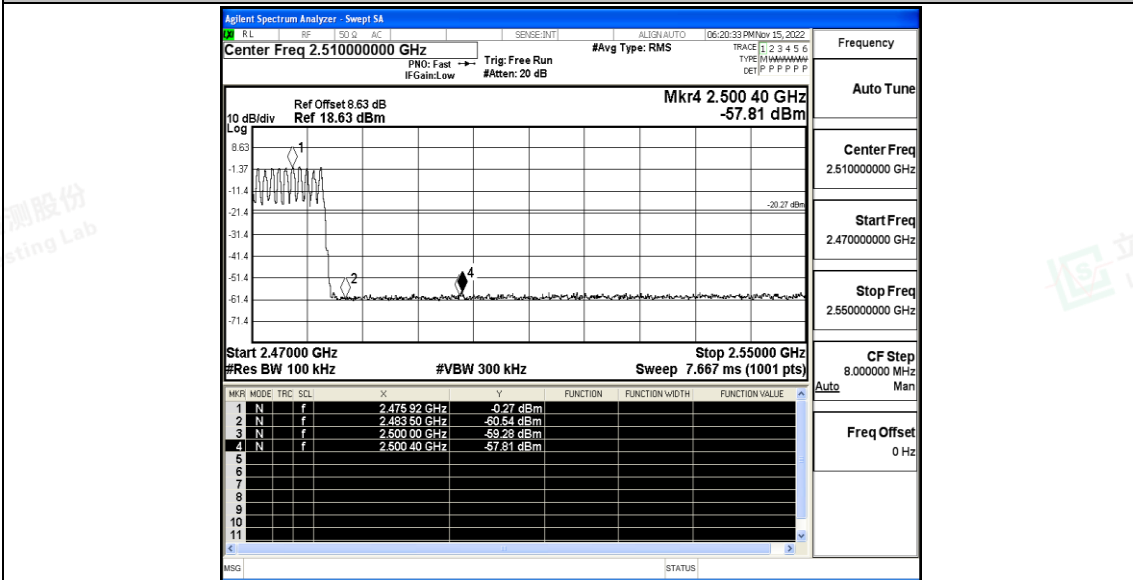


Test Graphs



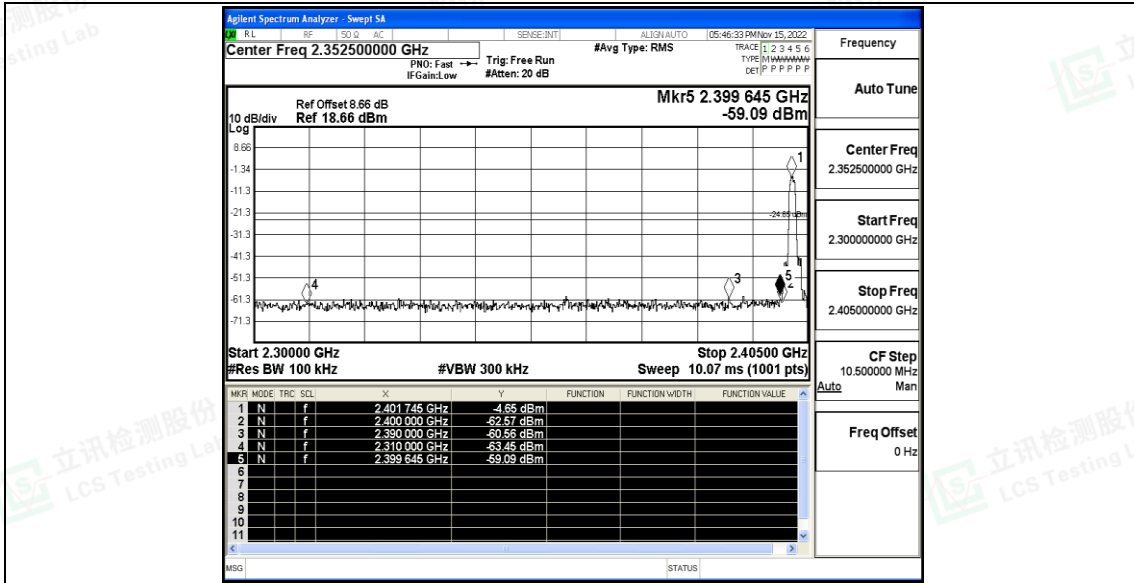


DH5_Ant1_High_Hop_2480

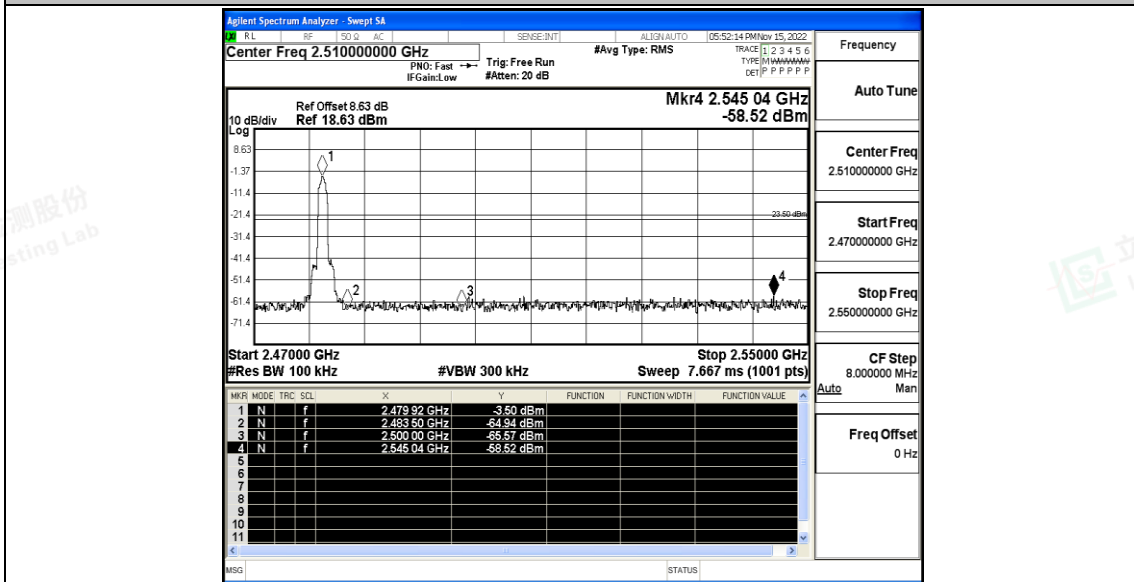


2DH5_Ant1_Low_2402



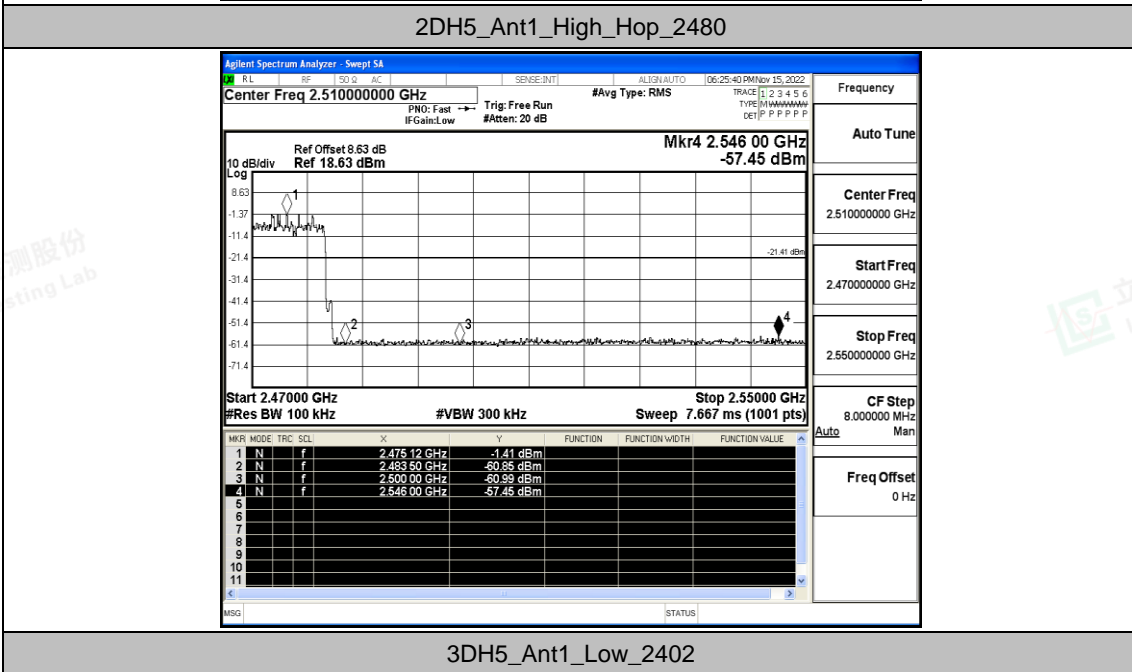
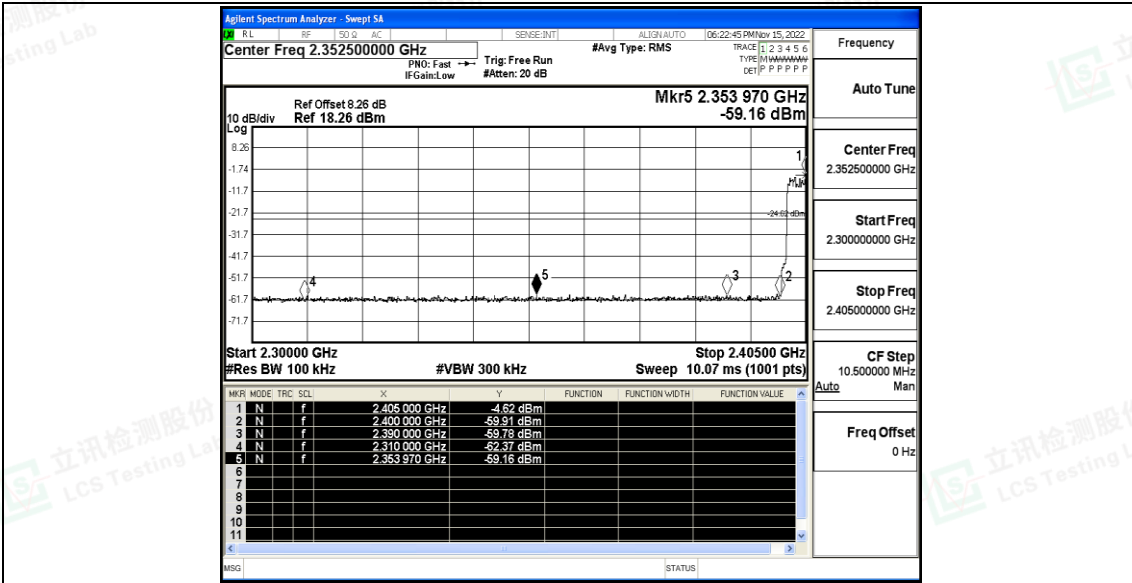


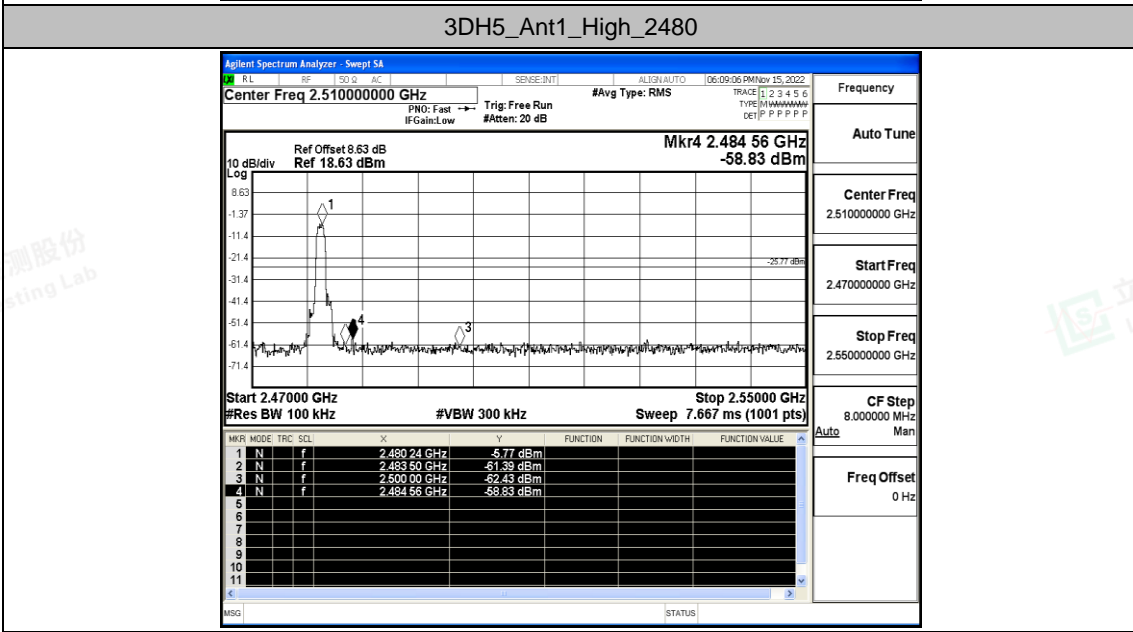
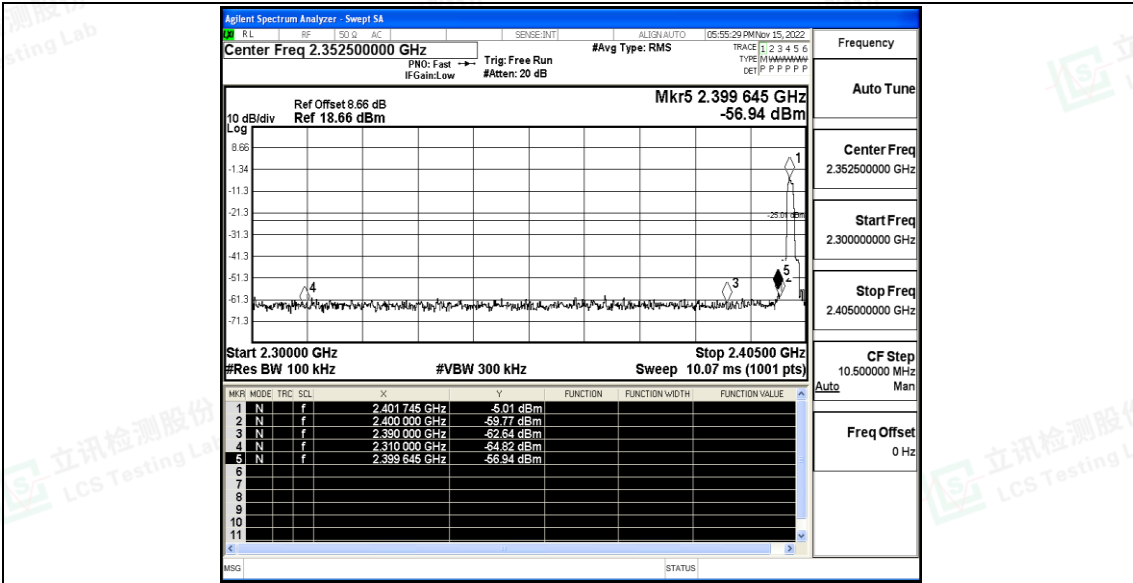
2DH5_Ant1_High_2480

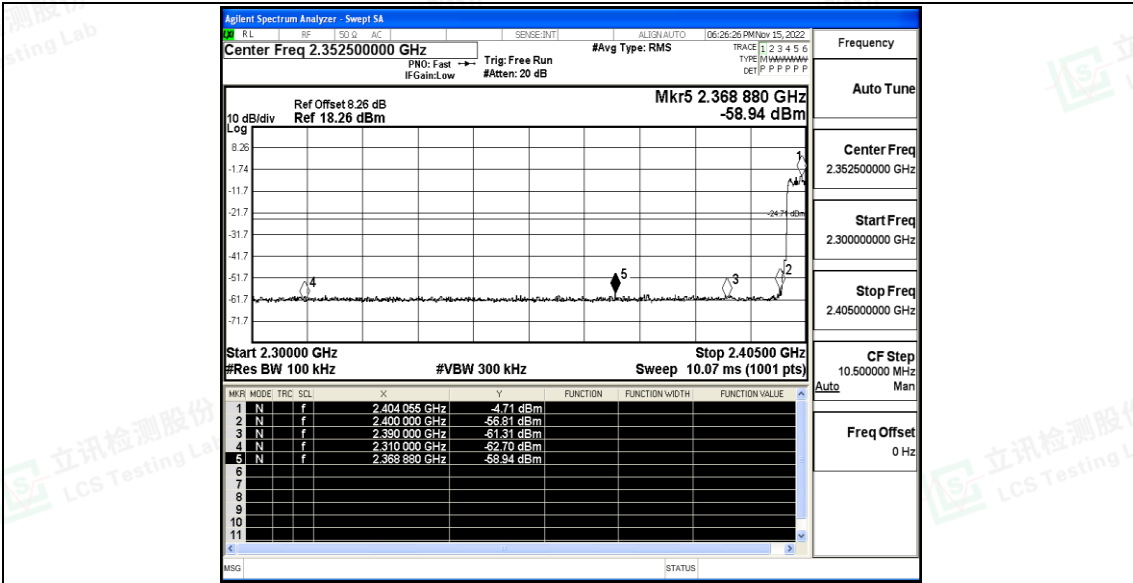


2DH5_Ant1_Low_Hop_2402

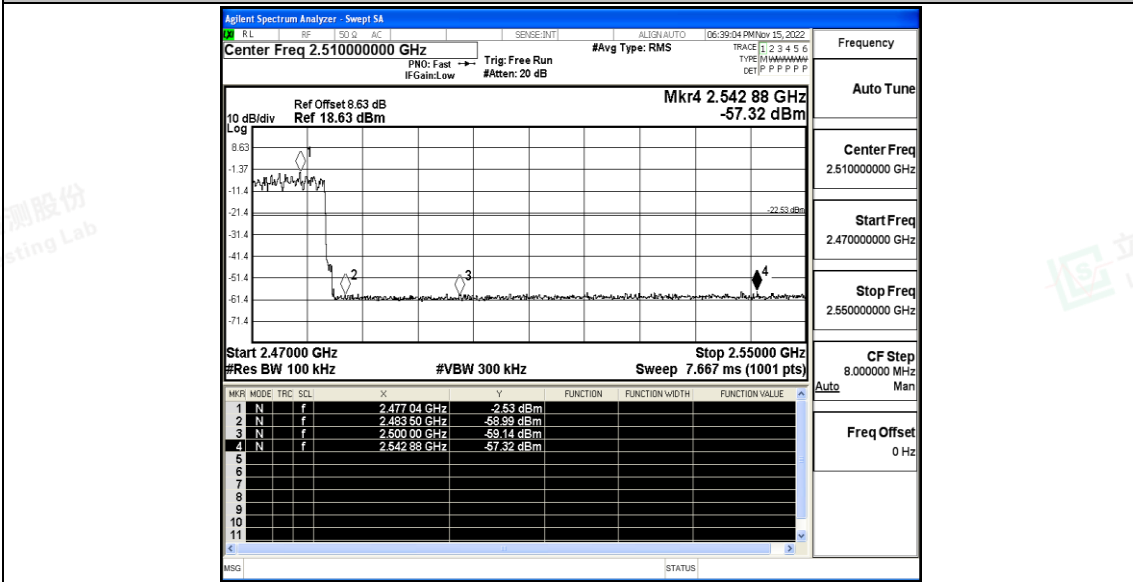








3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

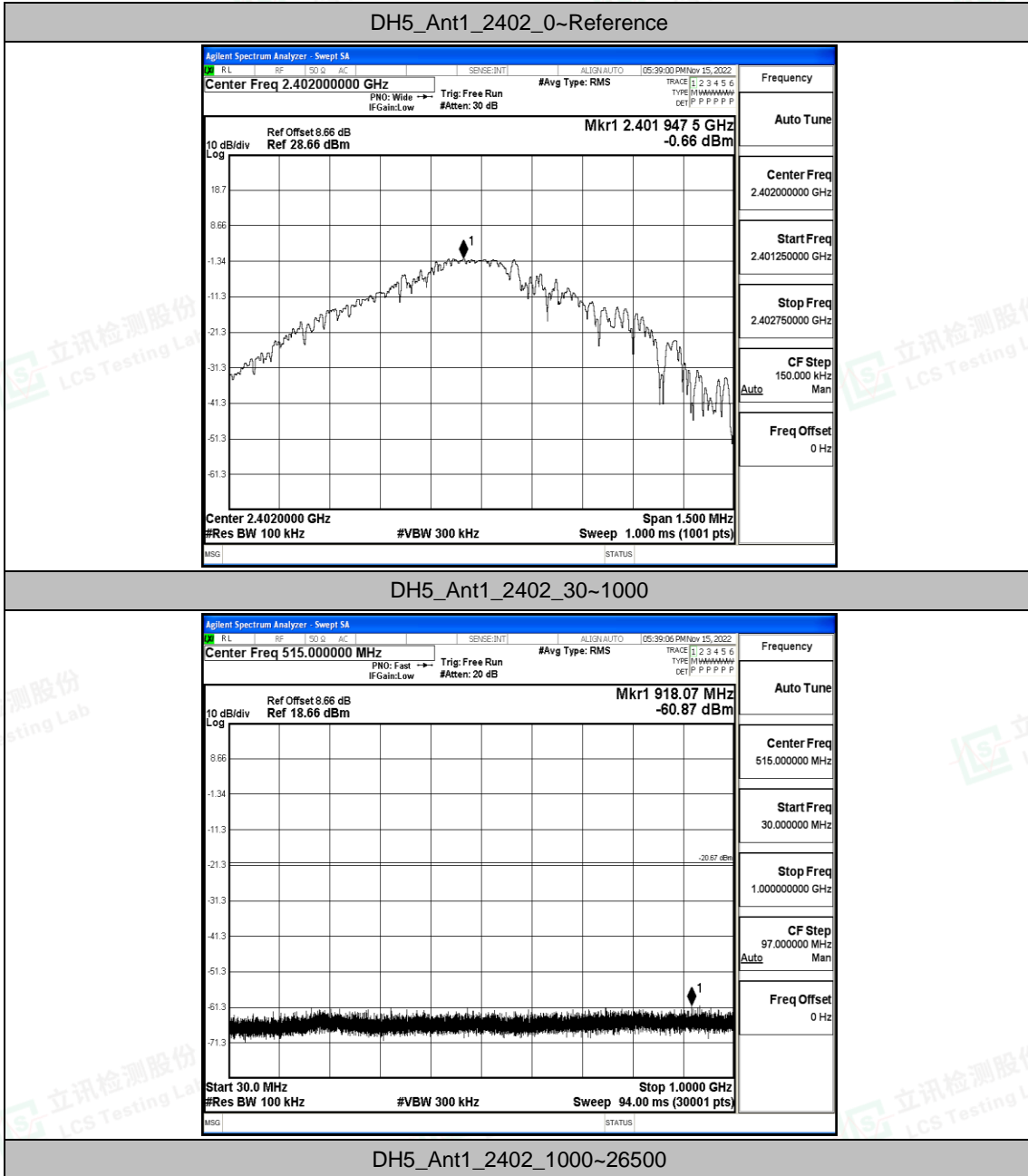
Test Result

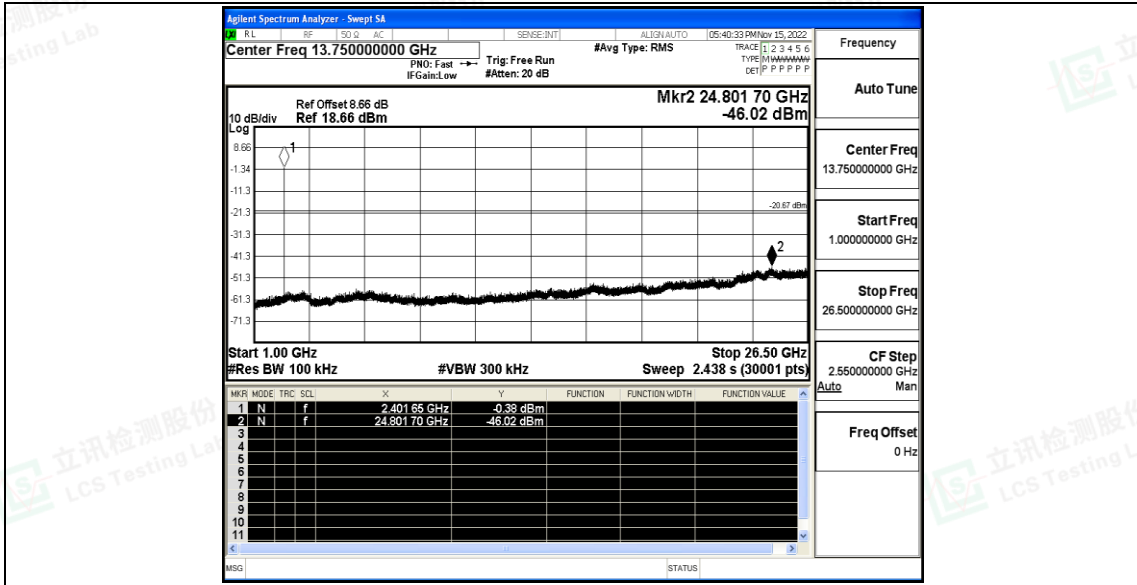
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.67	-0.67	---	PASS
			30~1000	-0.67	-60.87	≤-20.67	PASS
			1000~26500	-0.67	-46.02	≤-20.67	PASS
		2441	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-60.8	≤-20.71	PASS
			1000~26500	-0.71	-46.11	≤-20.71	PASS
		2480	Reference	-0.95	-0.95	---	PASS
			30~1000	-0.95	-60.29	≤-20.95	PASS
			1000~26500	-0.95	-45.97	≤-20.95	PASS
2DH5	Ant1	2402	Reference	-4.71	-4.71	---	PASS
			30~1000	-4.71	-60.29	≤-24.71	PASS
			1000~26500	-4.71	-45.7	≤-24.71	PASS
		2441	Reference	-4.83	-4.83	---	PASS
			30~1000	-4.83	-60.6	≤-24.83	PASS
			1000~26500	-4.83	-46.58	≤-24.83	PASS
		2480	Reference	-6.05	-6.05	---	PASS
			30~1000	-6.05	-60.97	≤-26.05	PASS
			1000~26500	-6.05	-46.45	≤-26.05	PASS
3DH5	Ant1	2402	Reference	-4.63	-4.63	---	PASS
			30~1000	-4.63	-60.66	≤-24.63	PASS
			1000~26500	-4.63	-45.49	≤-24.63	PASS
		2441	Reference	-4.71	-4.71	---	PASS
			30~1000	-4.71	-60.32	≤-24.71	PASS
			1000~26500	-4.71	-45.46	≤-24.71	PASS
		2480	Reference	-5.01	-5.01	---	PASS
			30~1000	-5.01	-60.52	≤-25.01	PASS
			1000~26500	-5.01	-45.43	≤-25.01	PASS



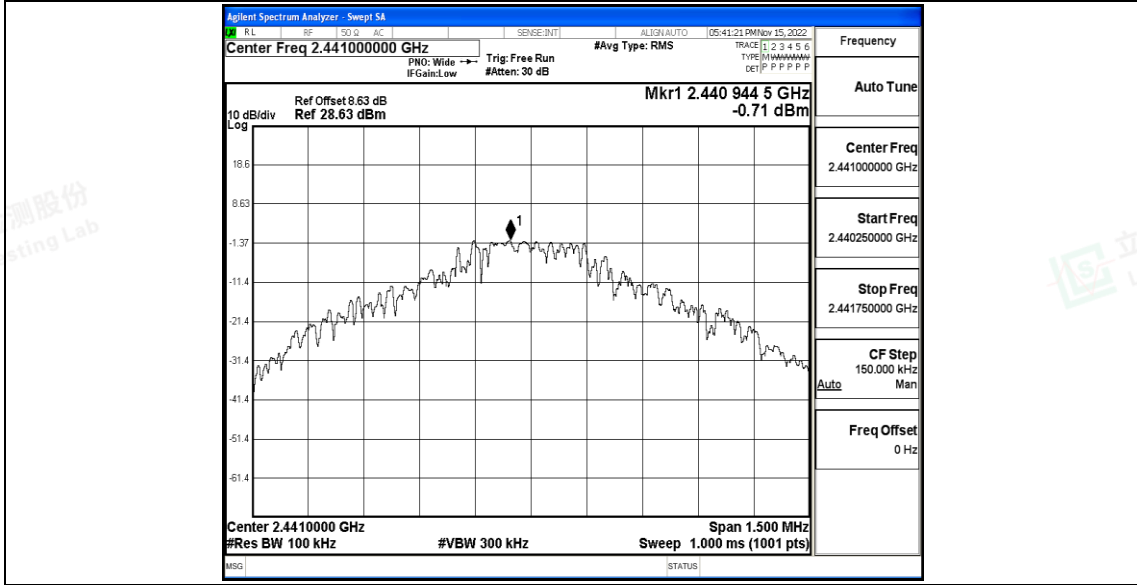


Test Graphs



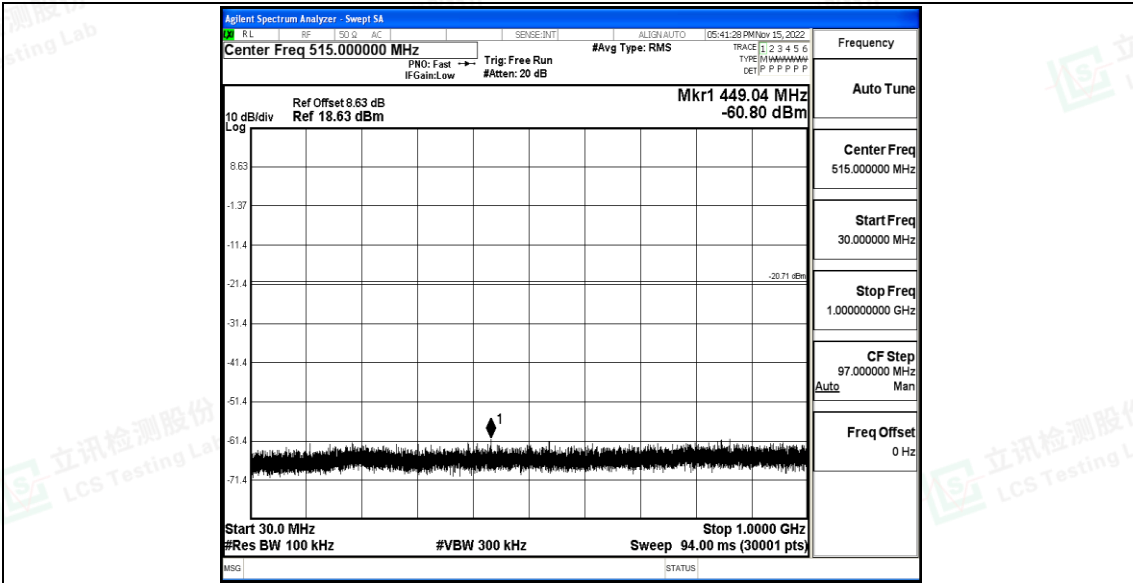


DH5_Ant1_2441_0-Reference

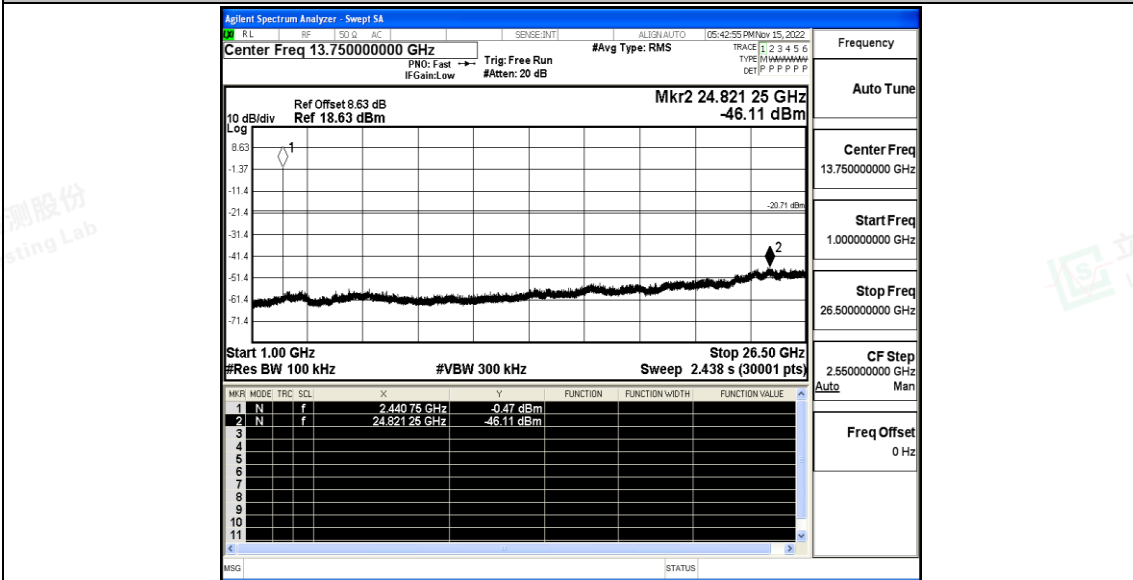


DH5_Ant1_2441_30~1000



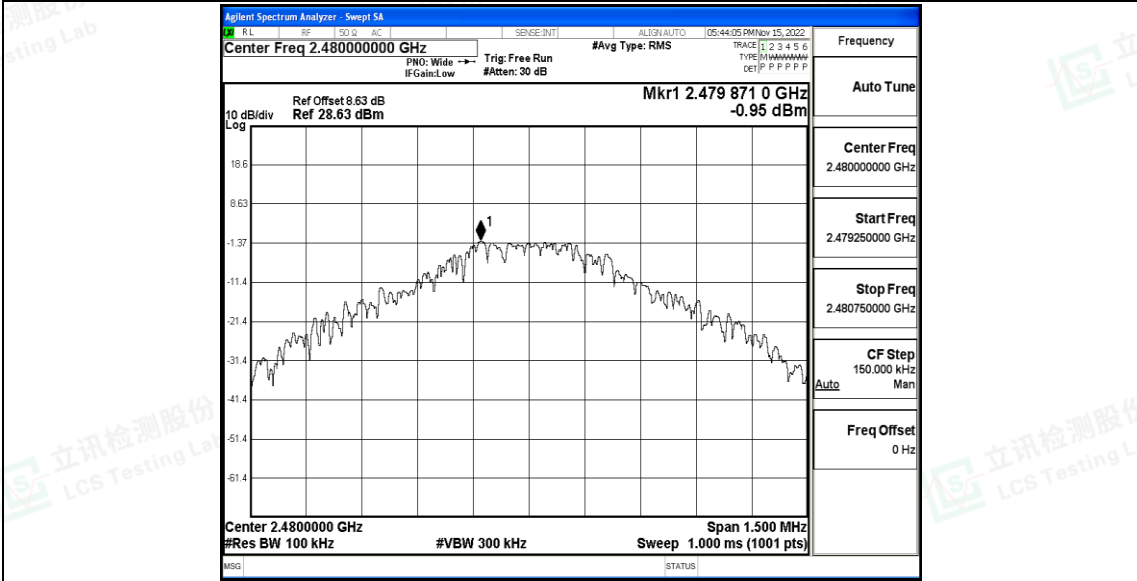


DH5_Ant1_2441_1000~26500

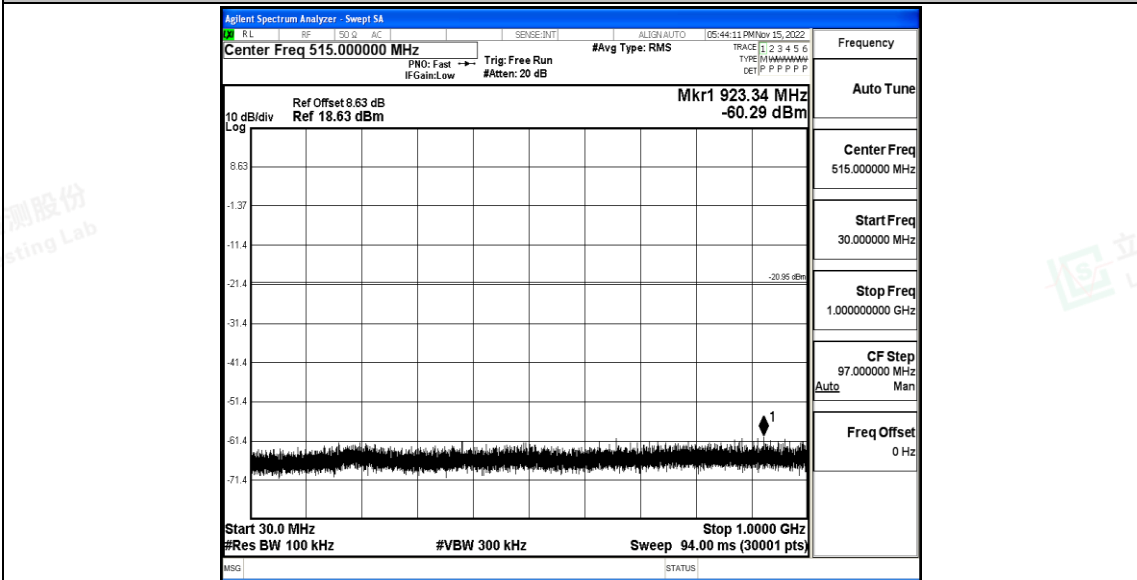


DH5_Ant1_2480_0~Reference



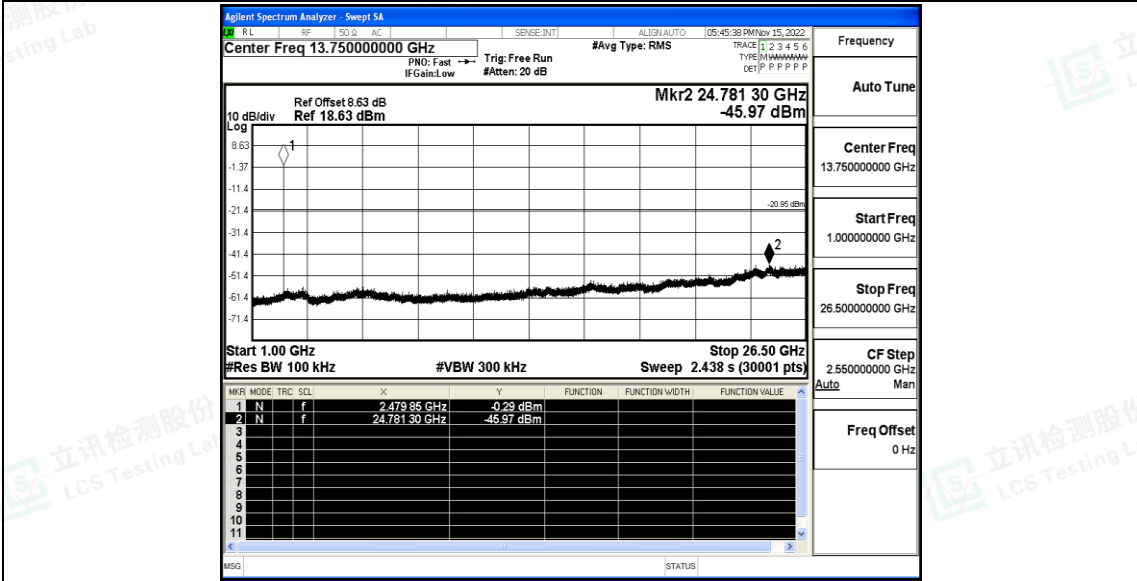


DH5_Ant1_2480_30~1000

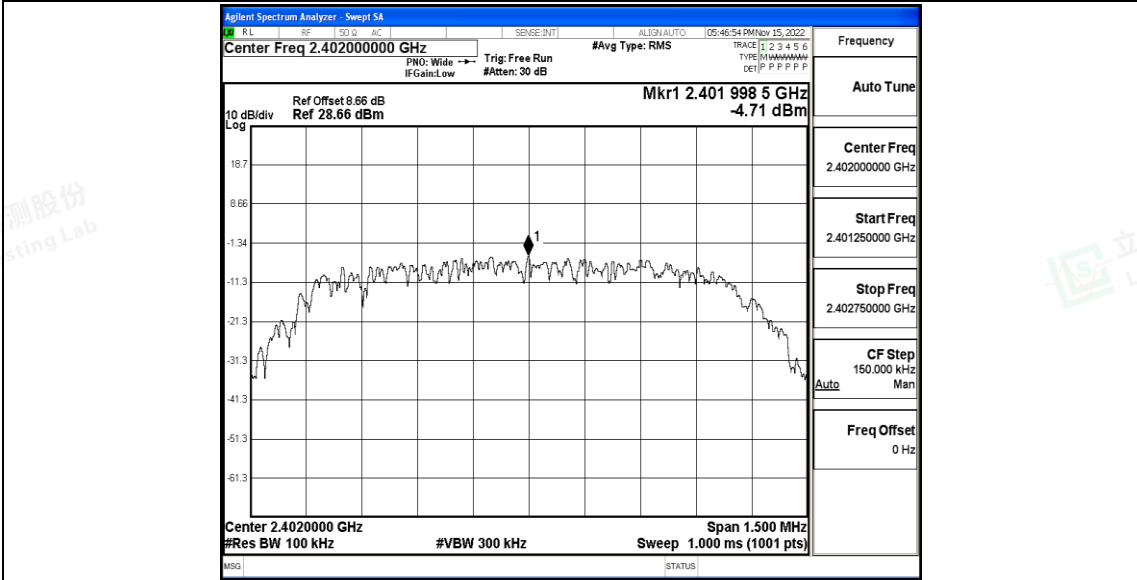


DH5_Ant1_2480_1000~26500



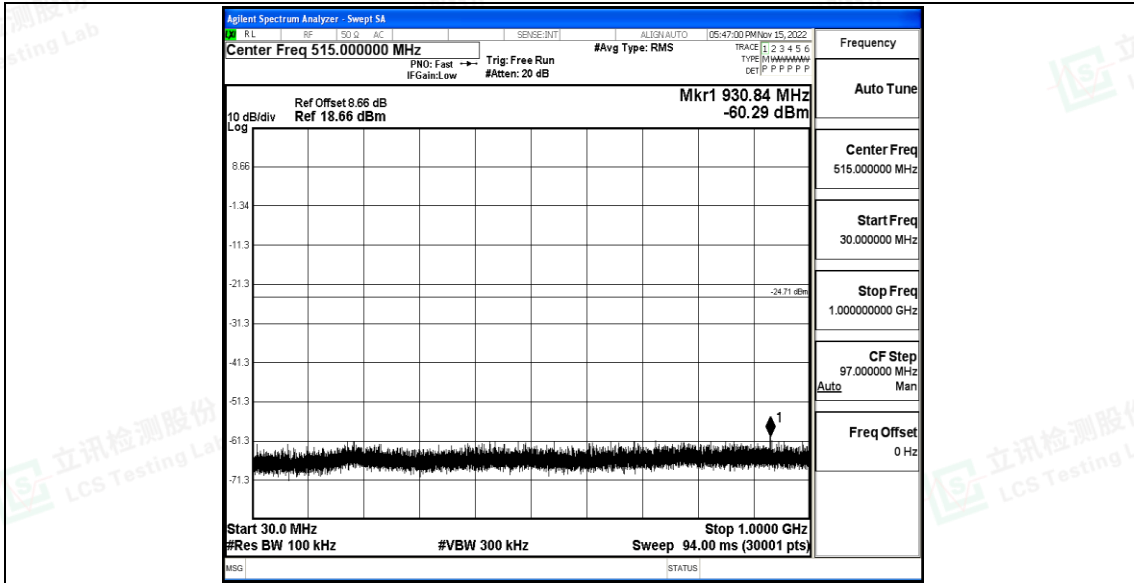


2DH5_Ant1_2402_0~Reference

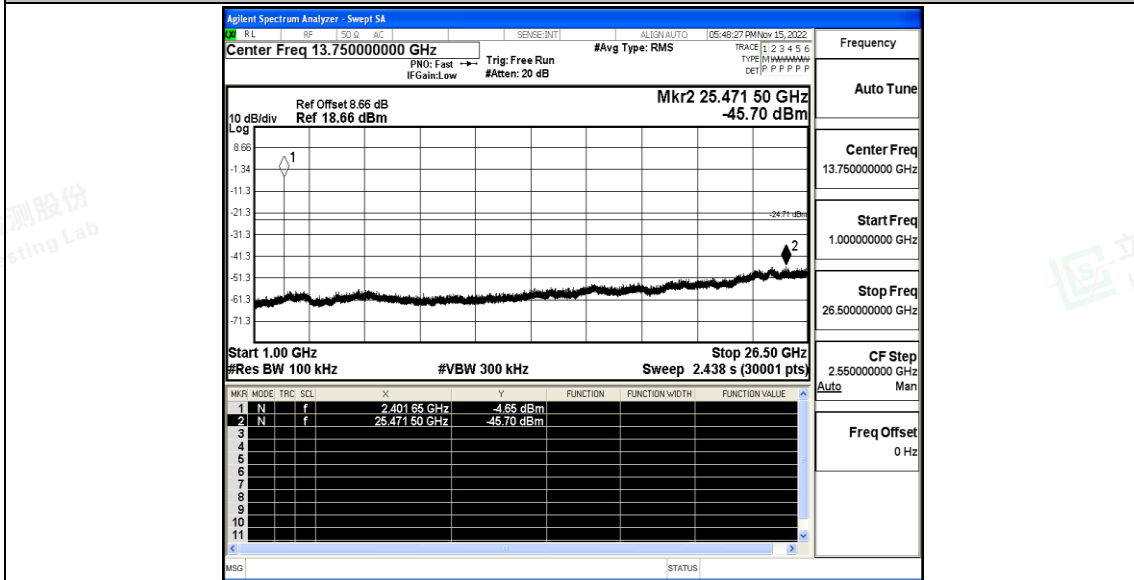


2DH5_Ant1_2402_30~1000



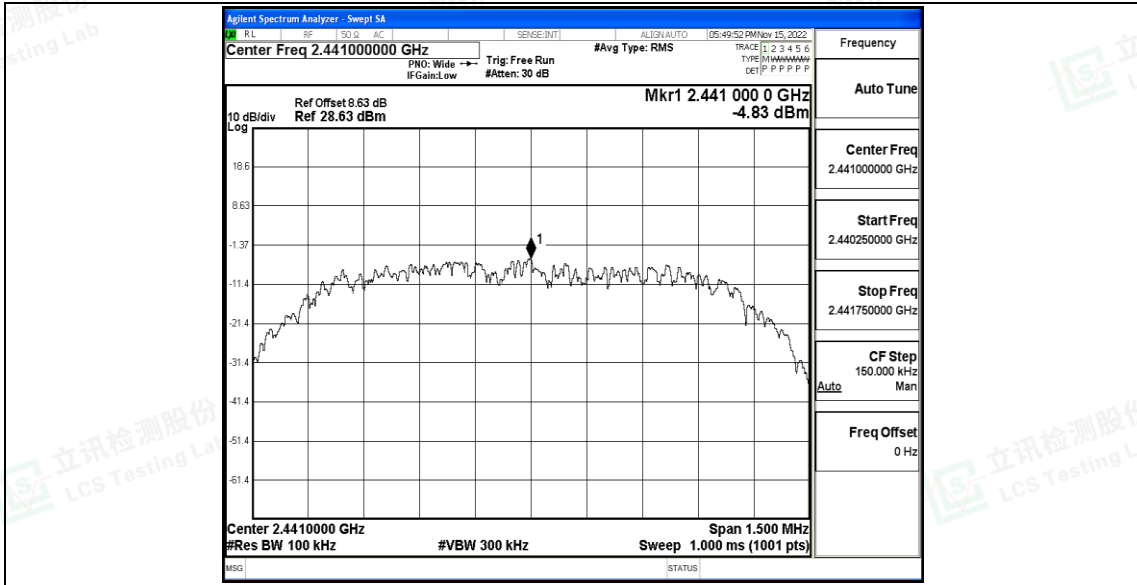


2DH5_Ant1_2402_1000~26500

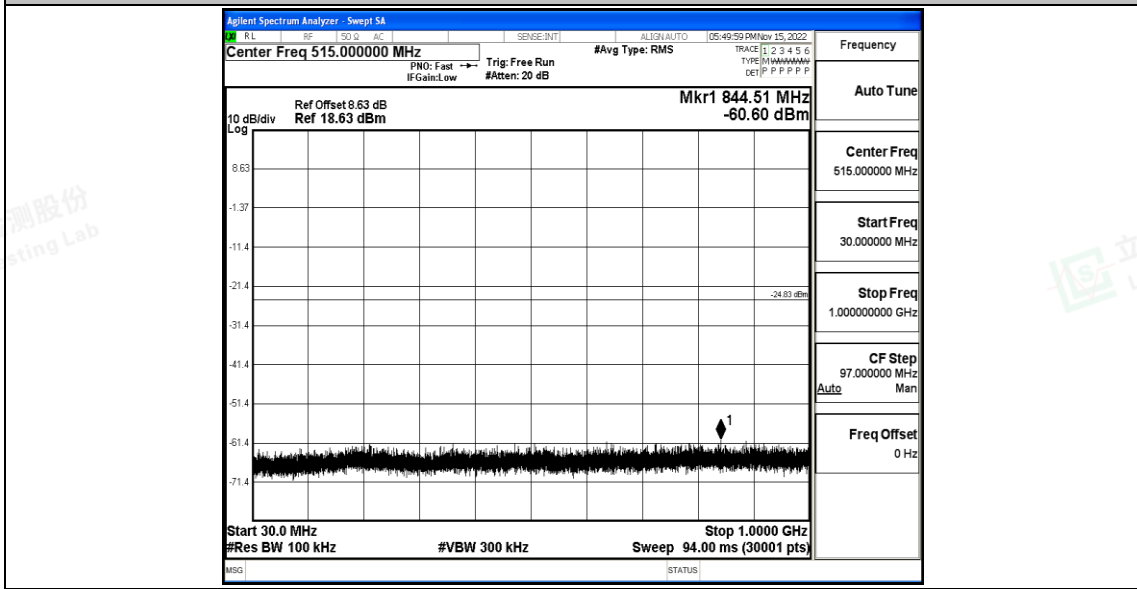


2DH5_Ant1_2441_0~Reference



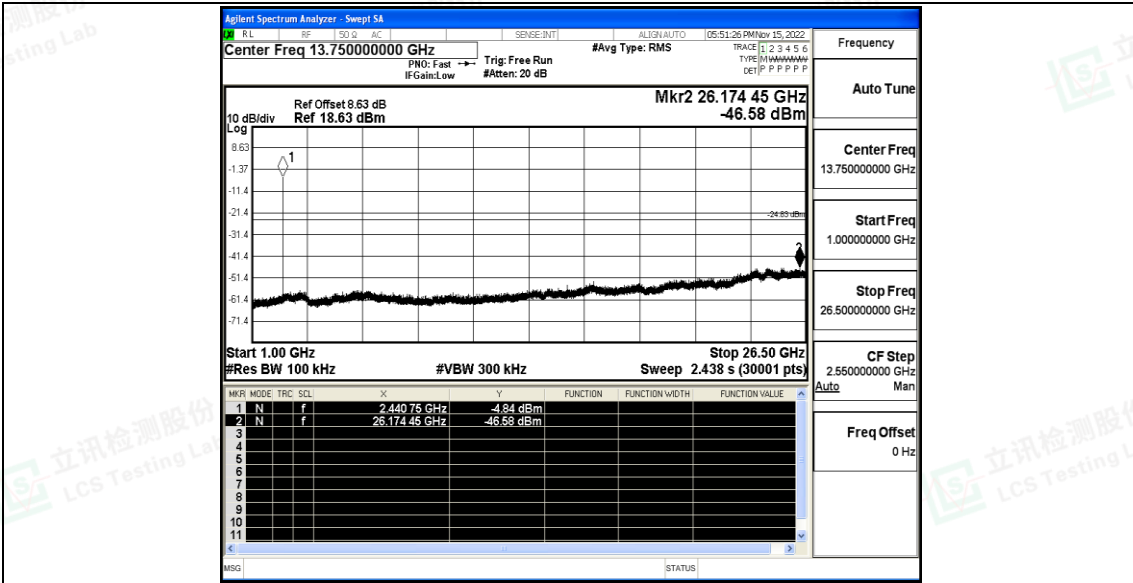


2DH5_Ant1_2441_30~1000

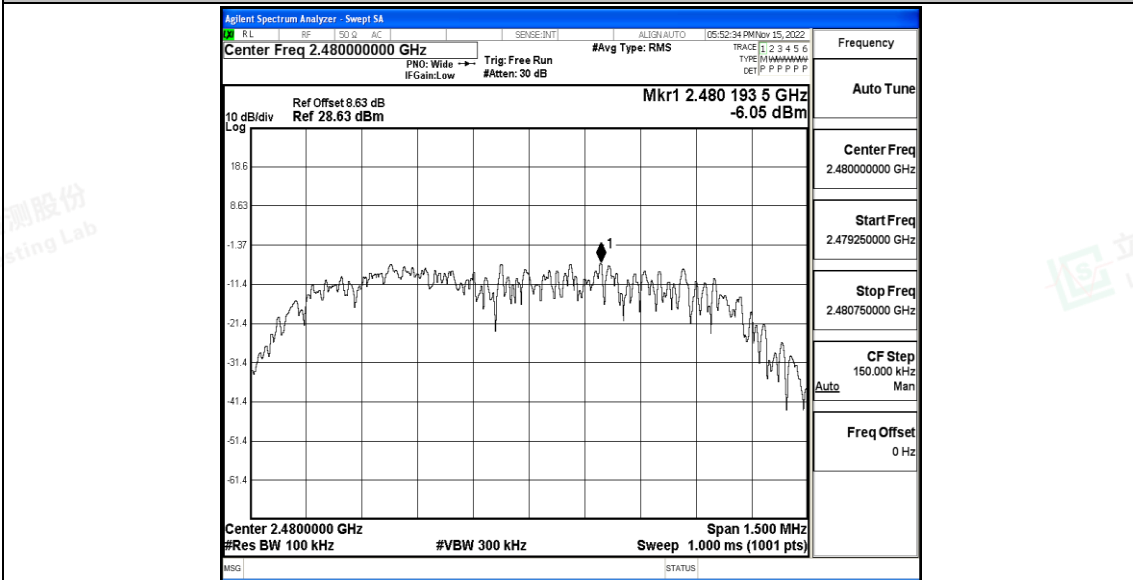


2DH5_Ant1_2441_1000~26500



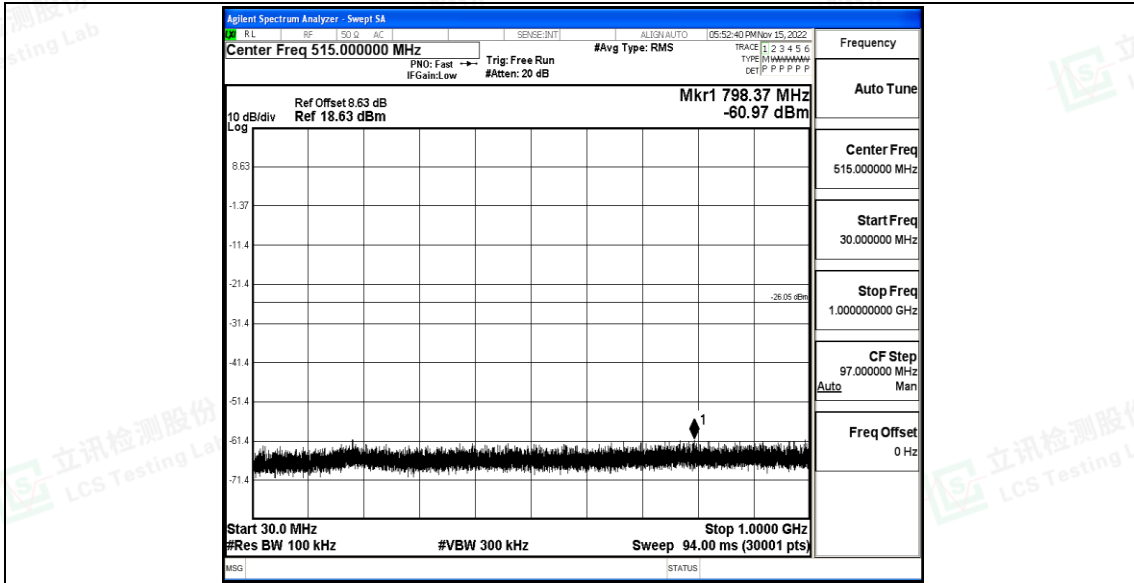


2DH5_Ant1_2480_0~Reference

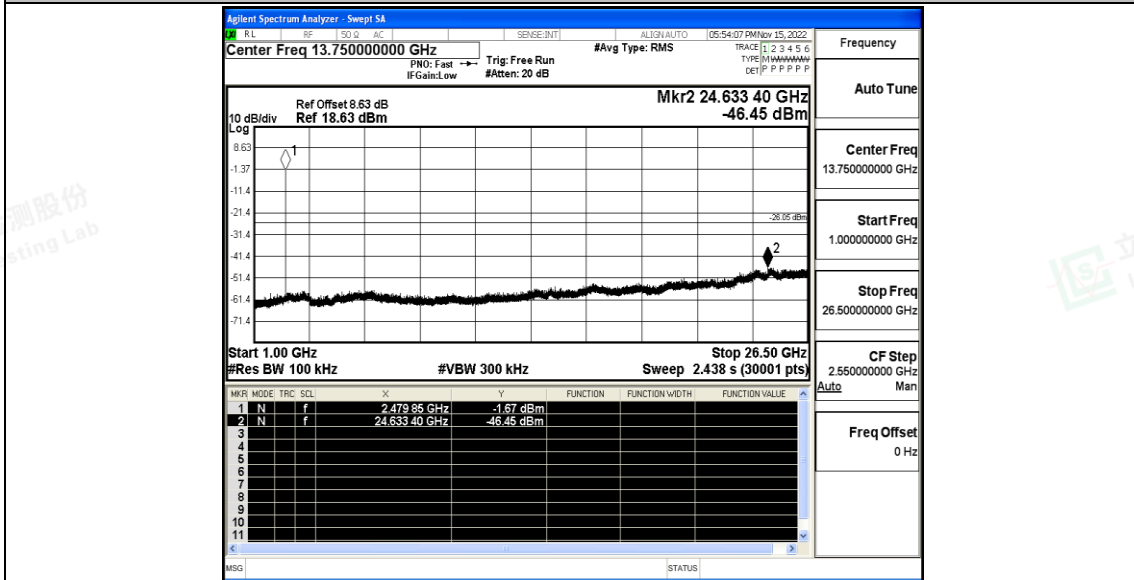


2DH5_Ant1_2480_30~1000



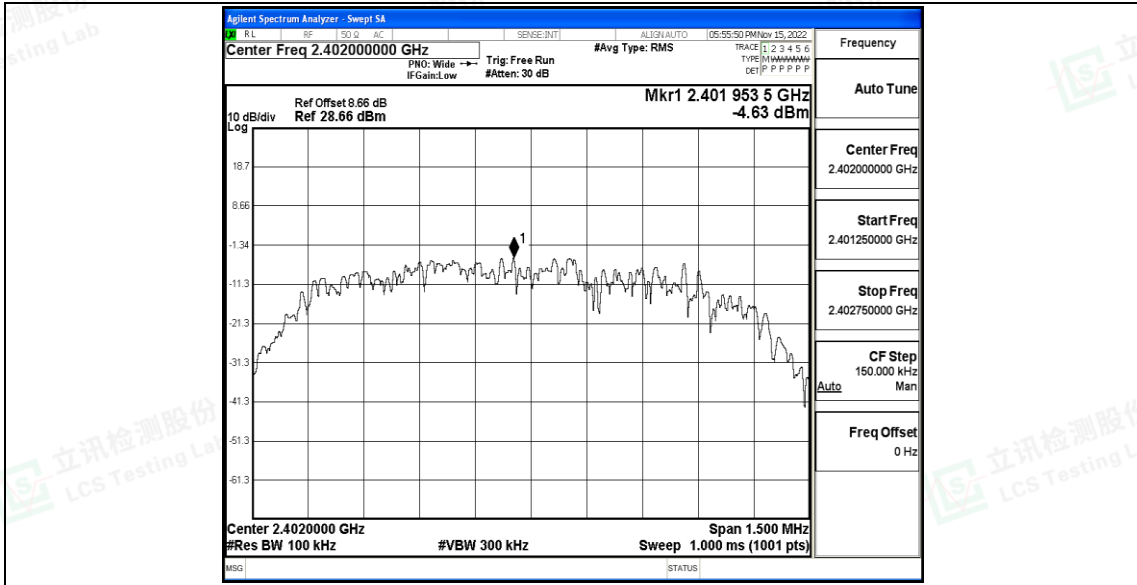


2DH5_Ant1_2480_1000-26500

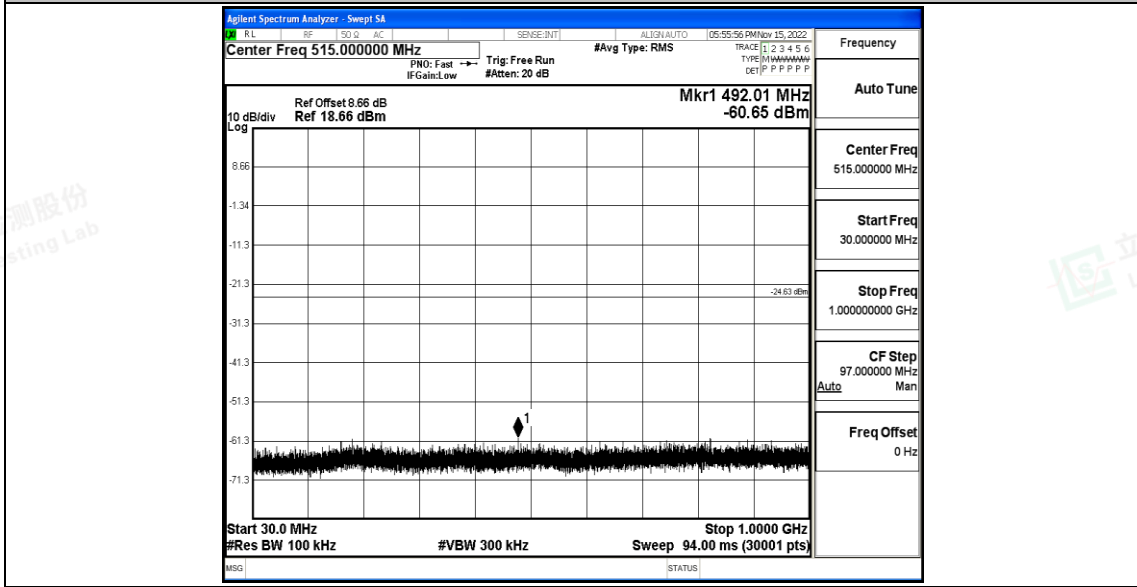


3DH5_Ant1_2402_0-Reference



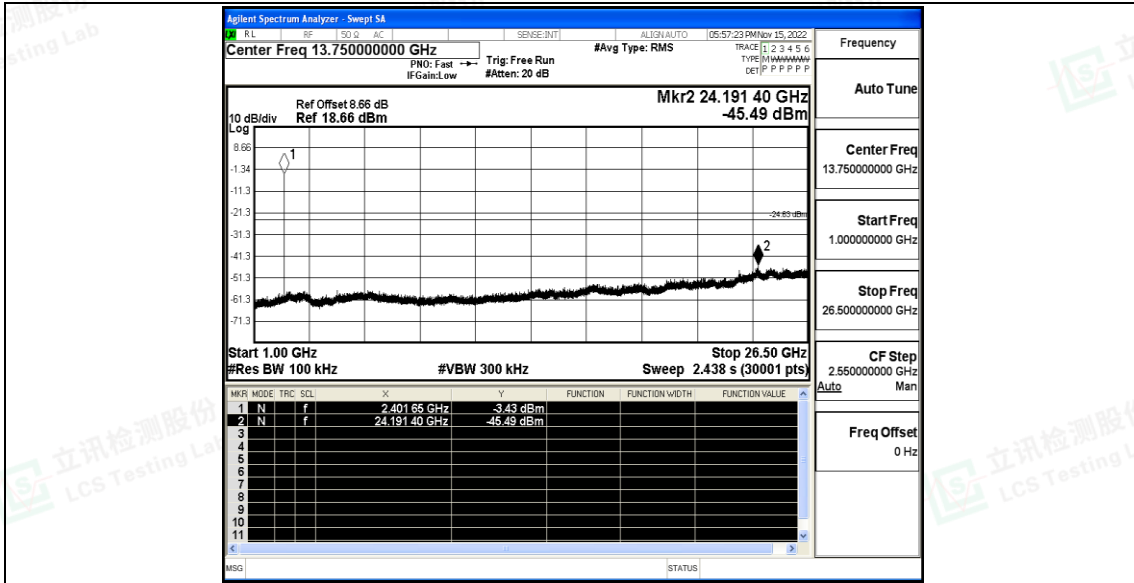


3DH5_Ant1_2402_30~1000

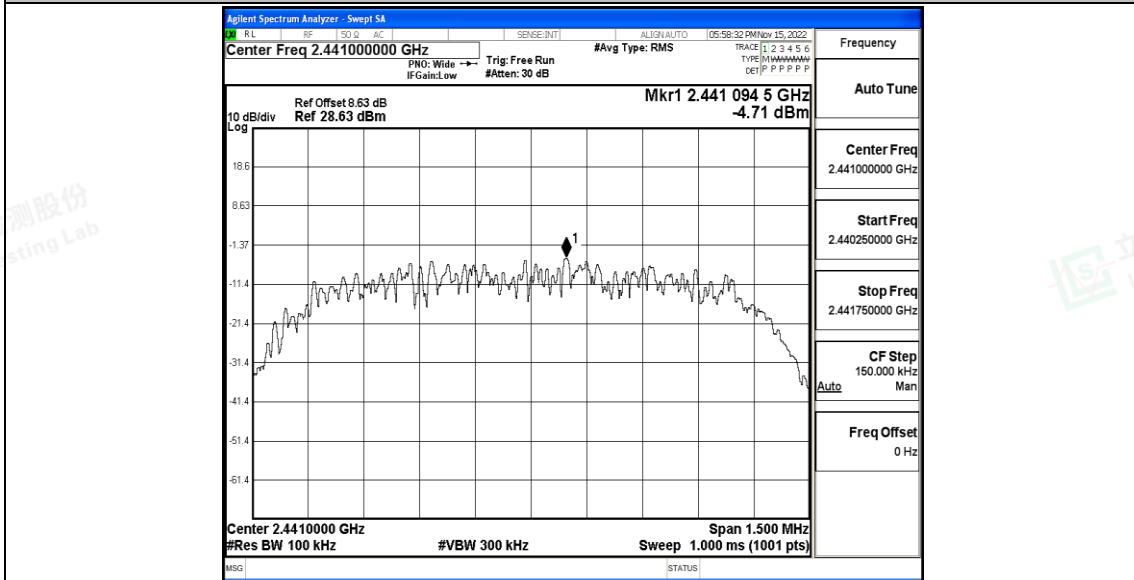


3DH5_Ant1_2402_1000~26500



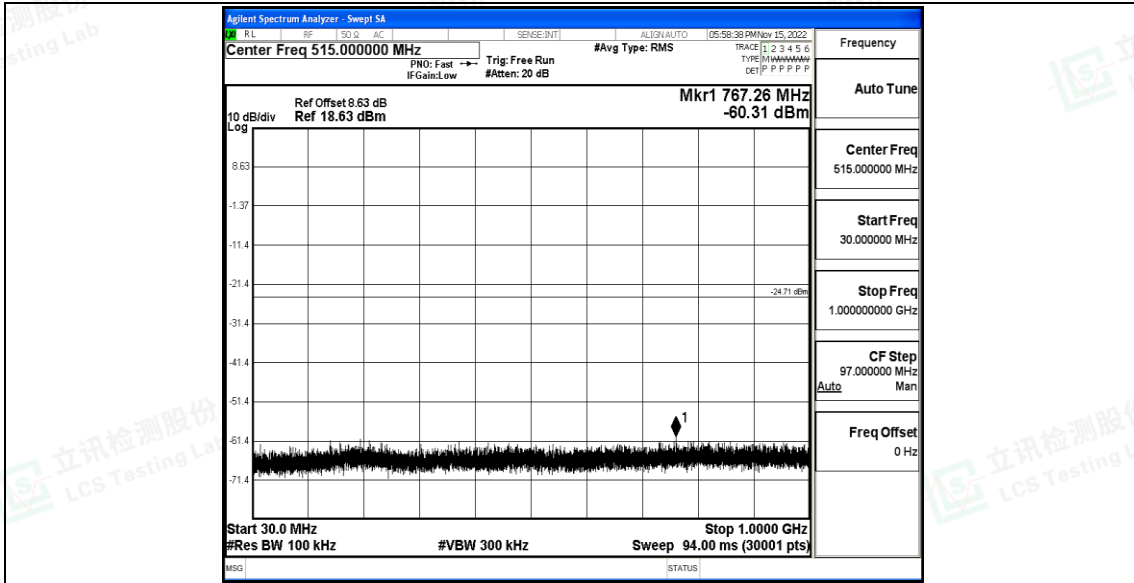


3DH5_Ant1_2441_0~Reference

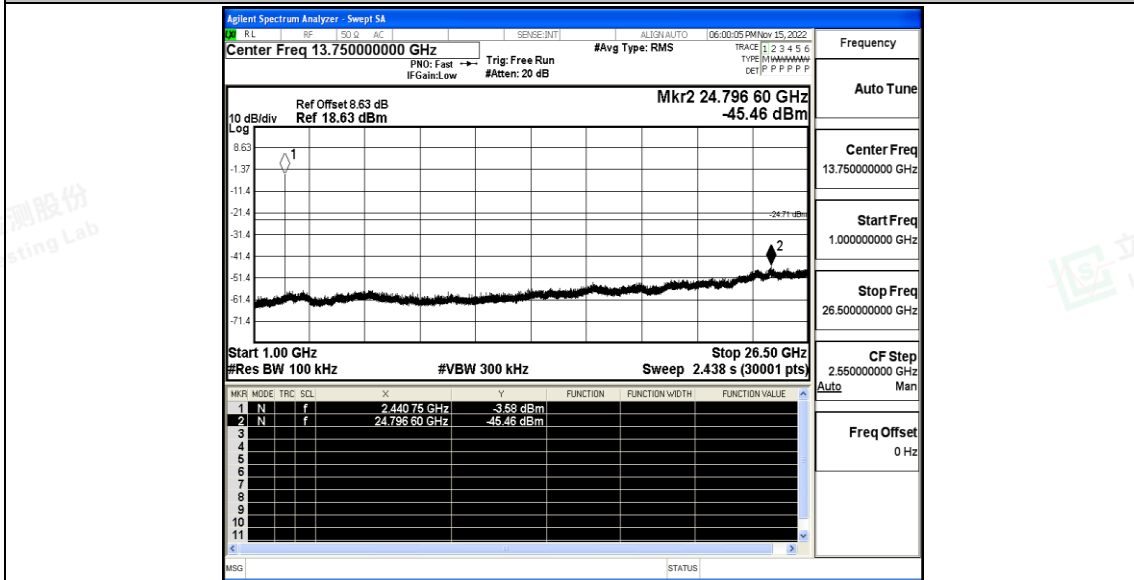


3DH5_Ant1_2441_30~1000



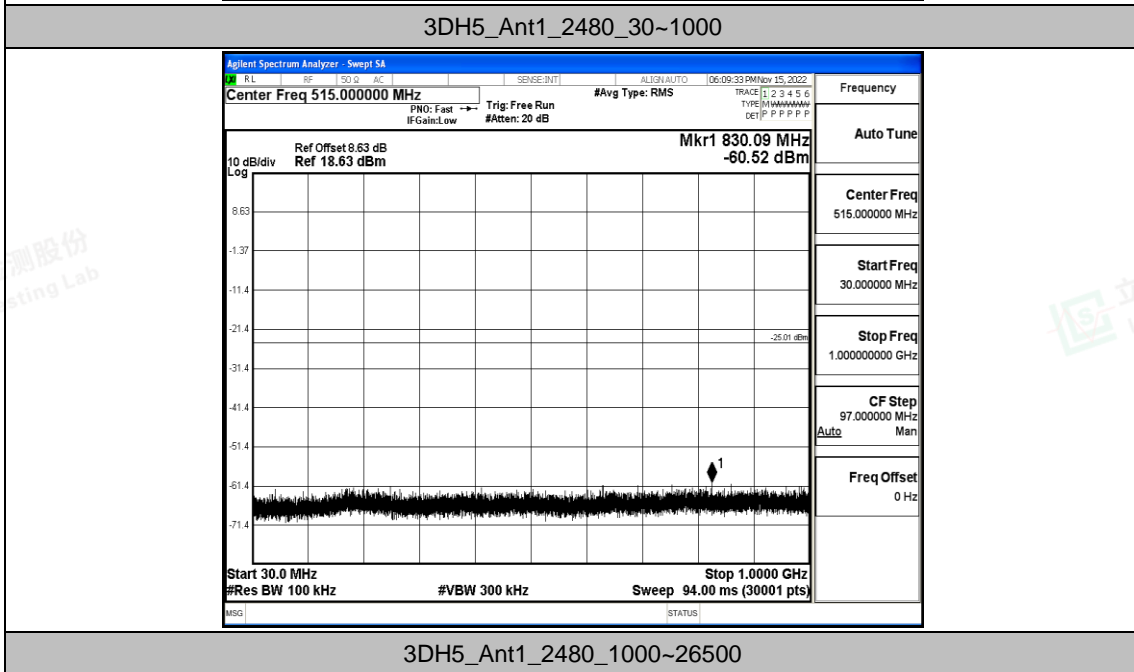
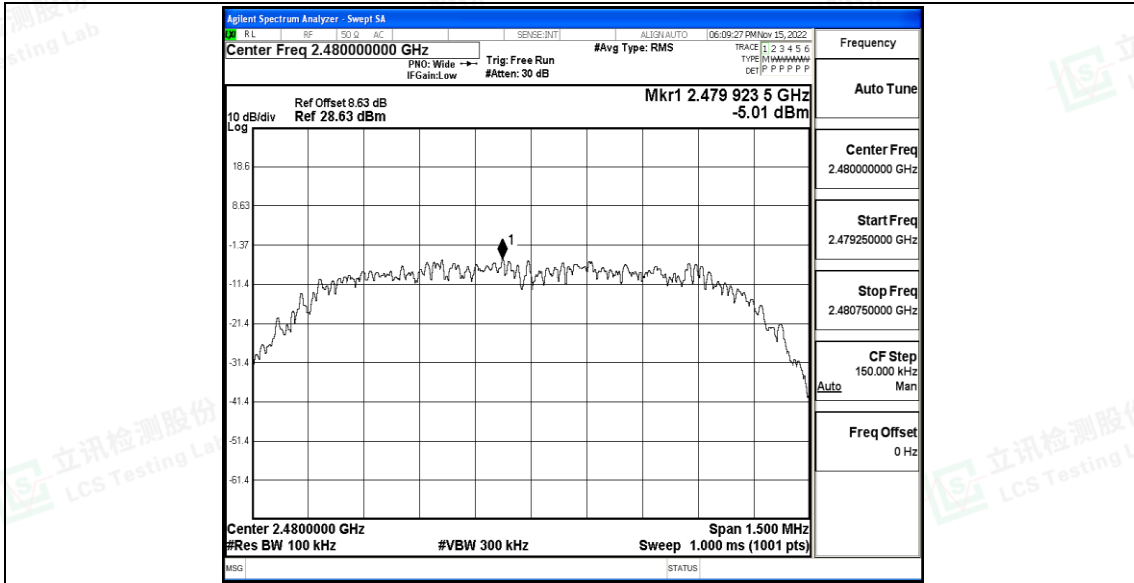


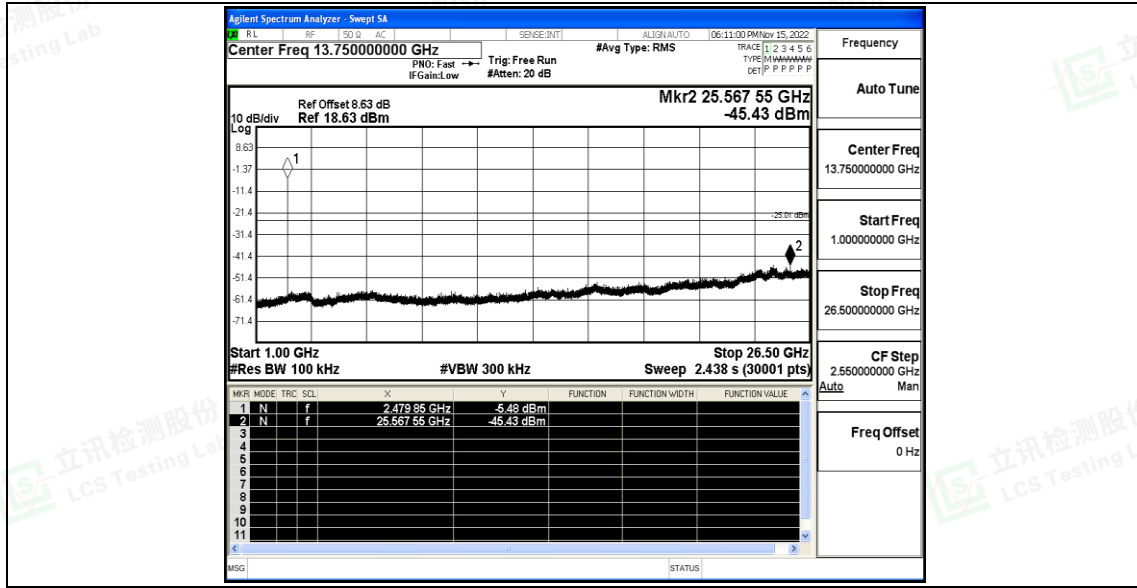
3DH5_Ant1_2441_1000-26500



3DH5_Ant1_2480_0-Reference









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	-58.18	≤-41.20	37.02	≤54	PASS		
				AV	2389.670	-57.65	≤-41.20	37.55	≤54	PASS		
				AV	2390.000	-57.73	≤-41.20	37.47	≤54	PASS		
				Peak	2310.000	-54.17	≤-21.20	41.03	≤74	PASS		
				Peak	2326.460	-48.68	≤-21.20	46.52	≤74	PASS		
				Peak	2390.000	-49.42	≤-21.20	45.78	≤74	PASS		
		High	2480	AV	2483.500	-55.48	≤-41.20	39.72	≤54	PASS		
				AV	2483.520	-55.48	≤-41.20	39.72	≤54	PASS		
				AV	2500.000	-57.35	≤-41.20	37.85	≤54	PASS		
				Peak	2483.500	-52.24	≤-21.20	42.96	≤74	PASS		
				Peak	2488.960	-47.49	≤-21.20	47.71	≤74	PASS		
				Peak	2500.000	-51.04	≤-21.20	44.16	≤74	PASS		
		Low	Hop_2402	Peak	2310.000	-50.23	≤-21.20	44.97	≤74	PASS		
				Peak	2387.675	-47.61	≤-21.20	47.59	≤74	PASS		
				Peak	2390.000	-50.92	≤-21.20	44.28	≤74	PASS		
		High	Hop_2480	Peak	2483.500	-49.87	≤-21.20	45.33	≤74	PASS		
				Peak	2494.960	-46.88	≤-21.20	48.32	≤74	PASS		
				Peak	2500.000	-47.43	≤-21.20	47.77	≤74	PASS		
		2DH5	Ant1	Low	2402	AV	2310.000	-58.16	≤-41.20	37.04	≤54	PASS
						AV	2384.420	-57.6	≤-41.20	37.60	≤54	PASS
						AV	2390.000	-57.8	≤-41.20	37.40	≤54	PASS
Peak	2310.000					-52.95	≤-21.20	42.25	≤74	PASS		
Peak	2387.255					-49.02	≤-21.20	46.18	≤74	PASS		
Peak	2390.000					-51.66	≤-21.20	43.54	≤74	PASS		
High	2480			AV	2483.500	-55.26	≤-41.20	39.94	≤54	PASS		
				AV	2483.520	-55.26	≤-41.20	39.94	≤54	PASS		
				AV	2500.000	-57.34	≤-41.20	37.86	≤54	PASS		
				Peak	2483.500	-50.3	≤-21.20	44.90	≤74	PASS		
				Peak	2494.800	-48.63	≤-21.20	46.57	≤74	PASS		
				Peak	2500.000	-53.36	≤-21.20	41.84	≤74	PASS		
Low	Hop_2402			Peak	2310.000	-49.88	≤-21.20	45.32	≤74	PASS		
				Peak	2376.020	-46.79	≤-21.20	48.41	≤74	PASS		
				Peak	2390.000	-49.4	≤-21.20	45.80	≤74	PASS		
High	Hop_2480			Peak	2483.500	-48.97	≤-21.20	46.23	≤74	PASS		
				Peak	2495.920	-46.19	≤-21.20	49.01	≤74	PASS		





3DH5	Ant1	Low	2402	Peak	2500.000	-48.18	≤-21.20	47.02	≤74	PASS
				AV	2310.000	-58.2	≤-41.20	37.00	≤54	PASS
				AV	2388.935	-57.68	≤-41.20	37.52	≤54	PASS
				AV	2390.000	-57.84	≤-41.20	37.36	≤54	PASS
				Peak	2310.000	-51.42	≤-21.20	43.78	≤74	PASS
				Peak	2384.630	-48.75	≤-21.20	46.45	≤74	PASS
		High	2480	AV	2483.500	-55.33	≤-41.20	39.87	≤54	PASS
				AV	2483.520	-55.33	≤-41.20	39.87	≤54	PASS
				AV	2500.000	-57.28	≤-41.20	37.92	≤54	PASS
				Peak	2483.500	-50.63	≤-21.20	44.57	≤74	PASS
				Peak	2499.120	-48.7	≤-21.20	46.50	≤74	PASS
				Peak	2500.000	-51.45	≤-21.20	43.75	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-49.43	≤-21.20	45.77	≤74	PASS
				Peak	2387.045	-47.34	≤-21.20	47.86	≤74	PASS
				Peak	2390.000	-50.37	≤-21.20	44.83	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-49.09	≤-21.20	46.11	≤74	PASS
				Peak	2489.200	-47.49	≤-21.20	47.71	≤74	PASS
				Peak	2500.000	-48.79	≤-21.20	46.41	≤74	PASS

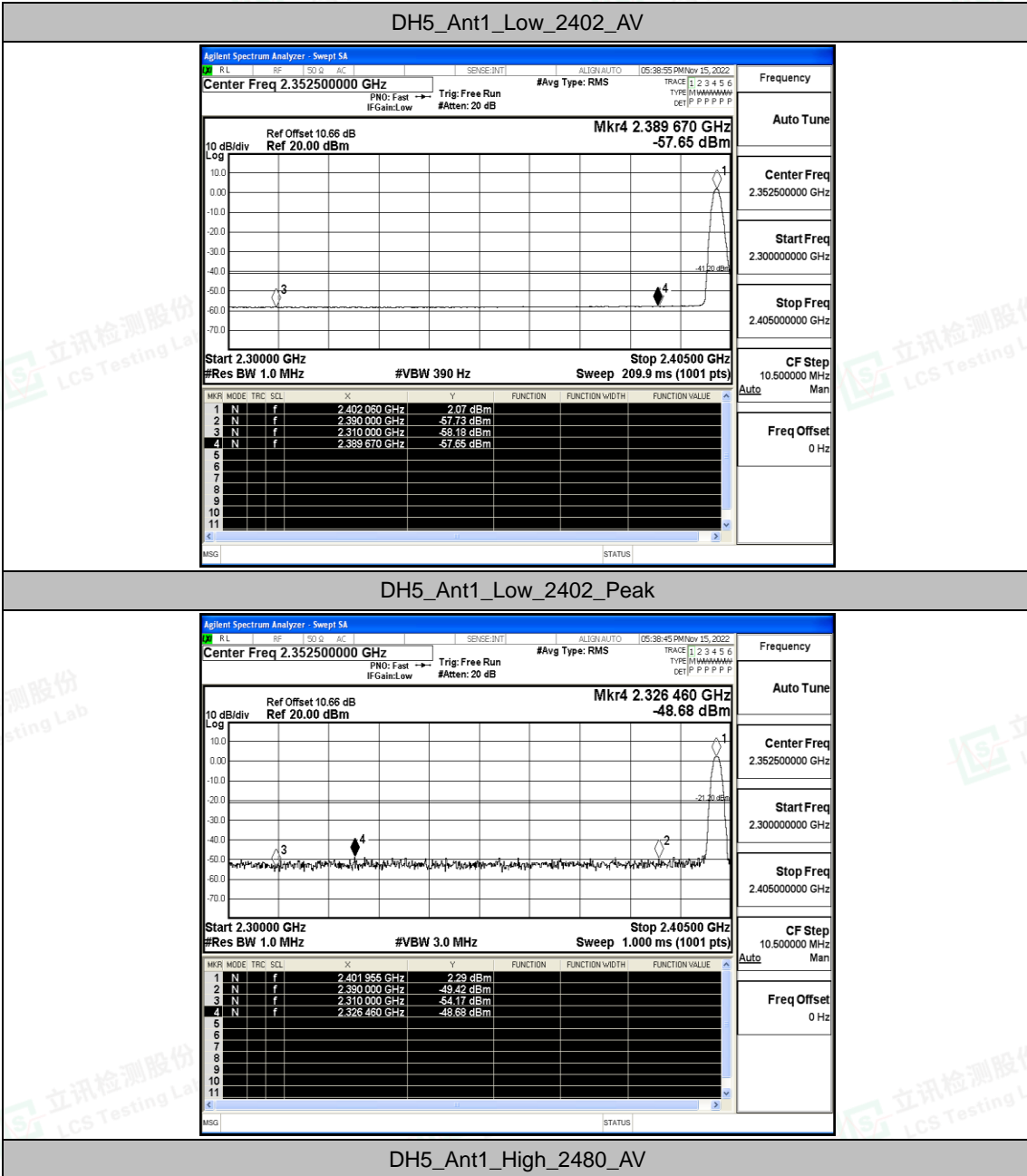
Note:

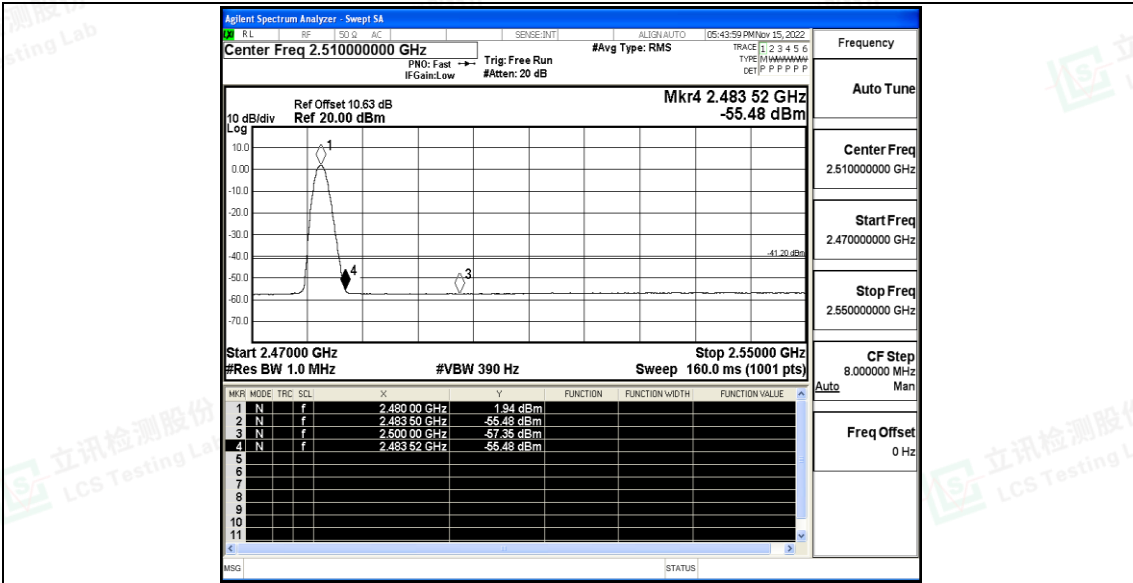
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



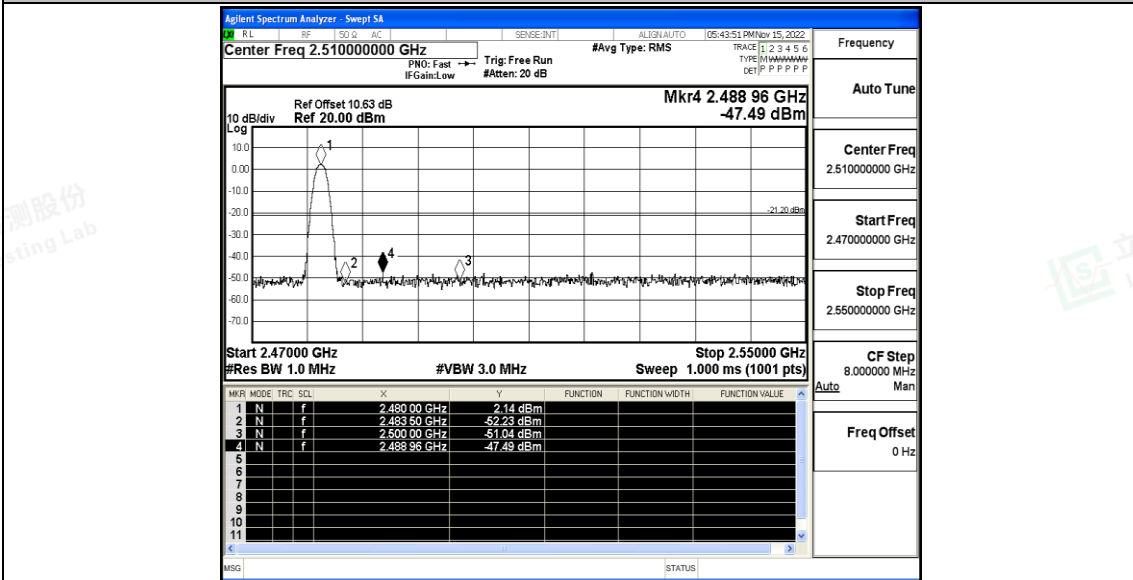


Test Graphs



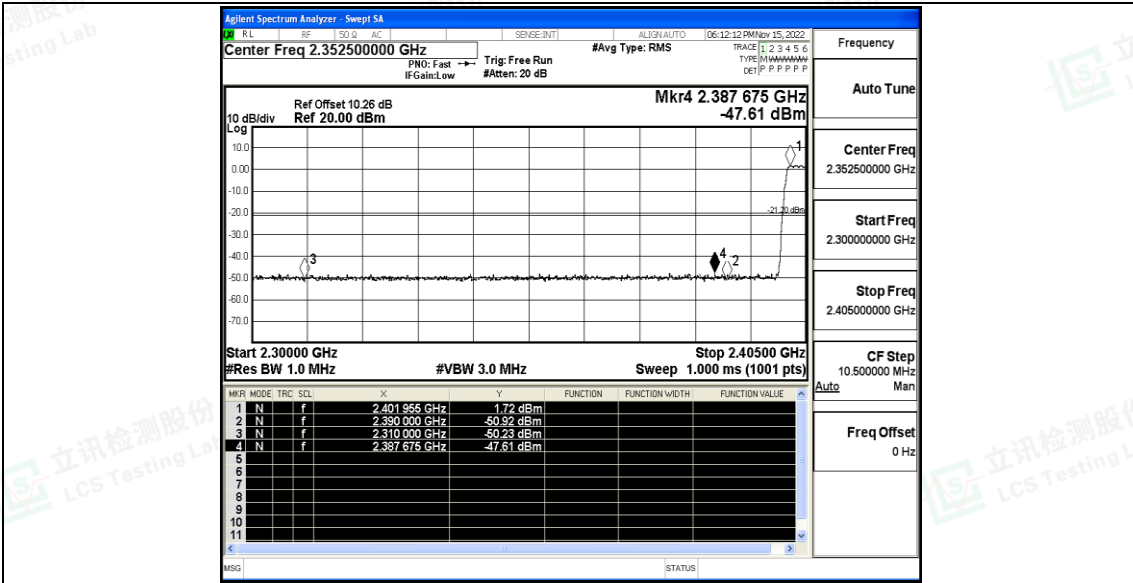


DH5_Ant1_High_2480_Peak

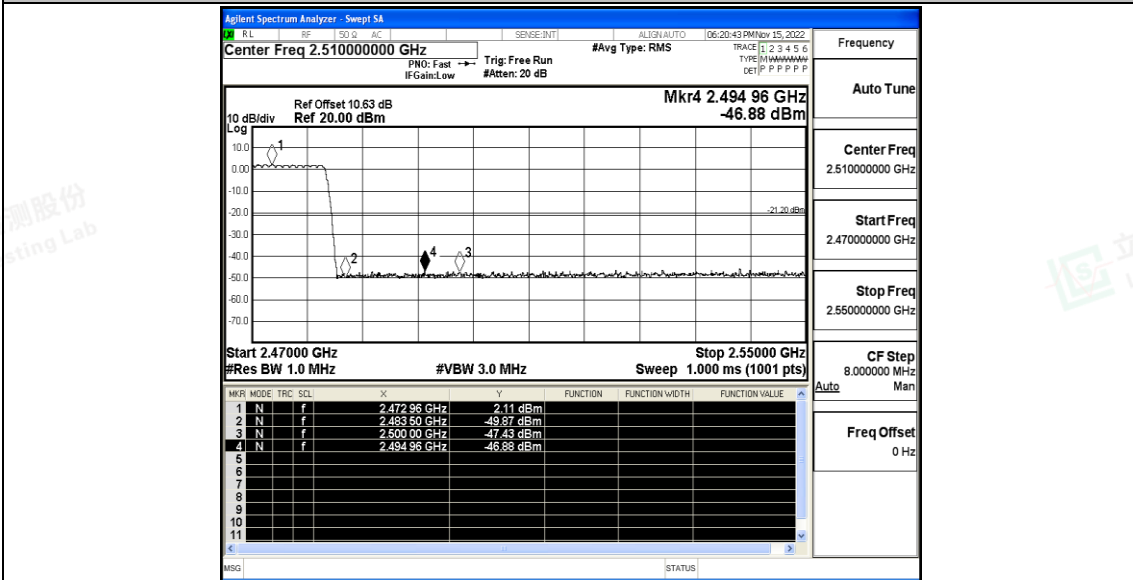


DH5_Ant1_Low_Hop_2402_Peak



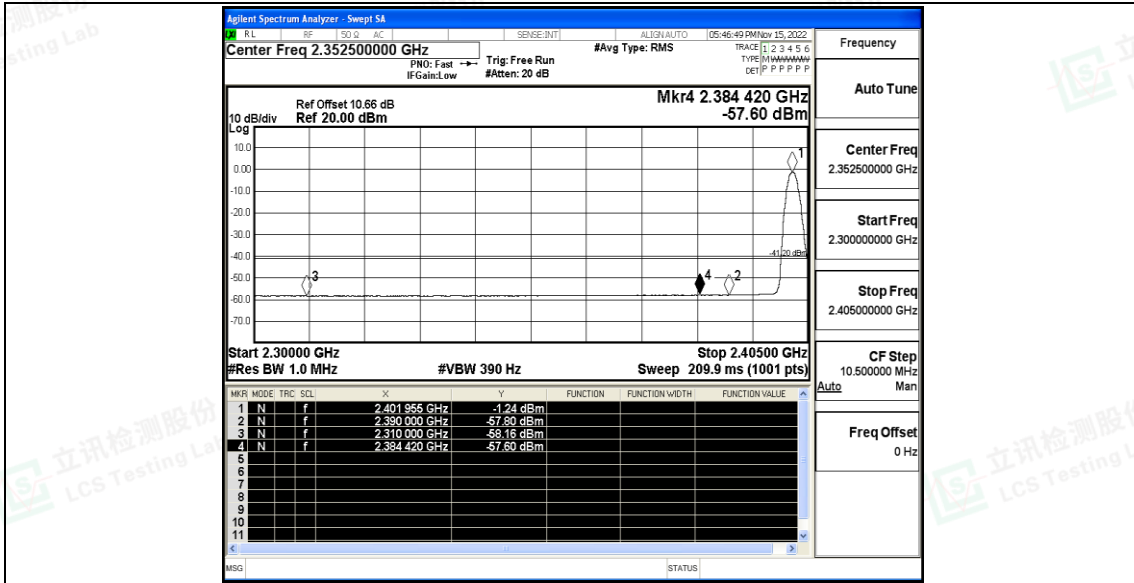


DH5_Ant1_High_Hop_2480_Peak

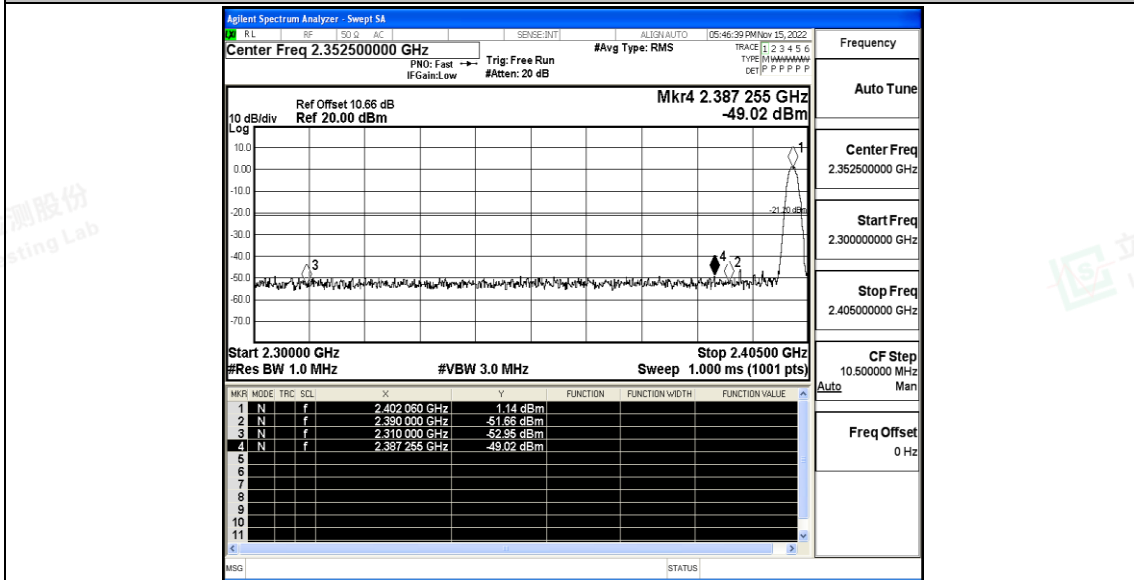


2DH5_Ant1_Low_2402_AV



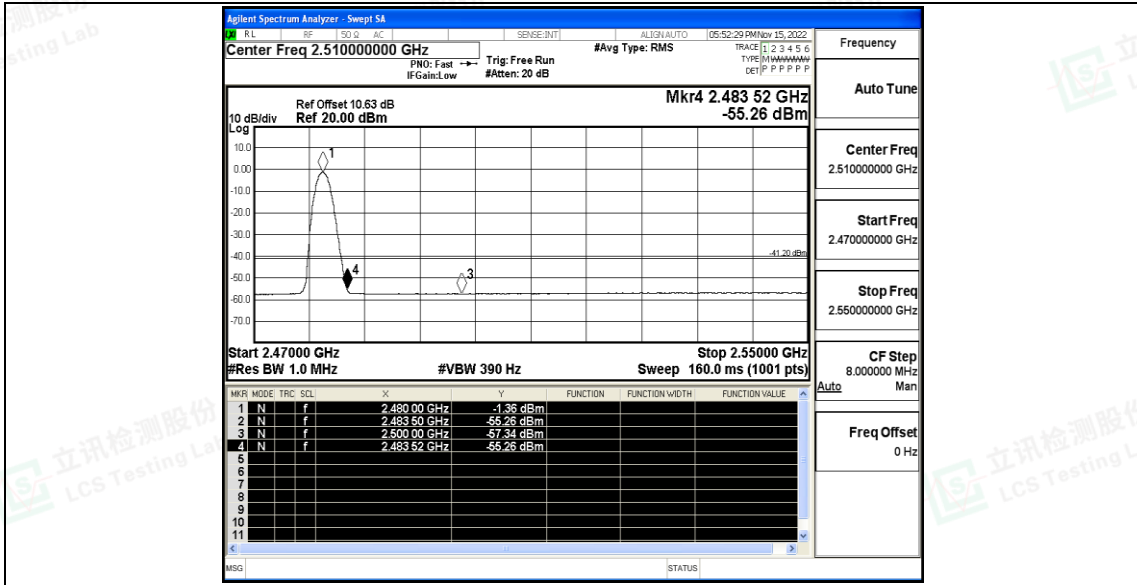


2DH5_Ant1_Low_2402_Peak

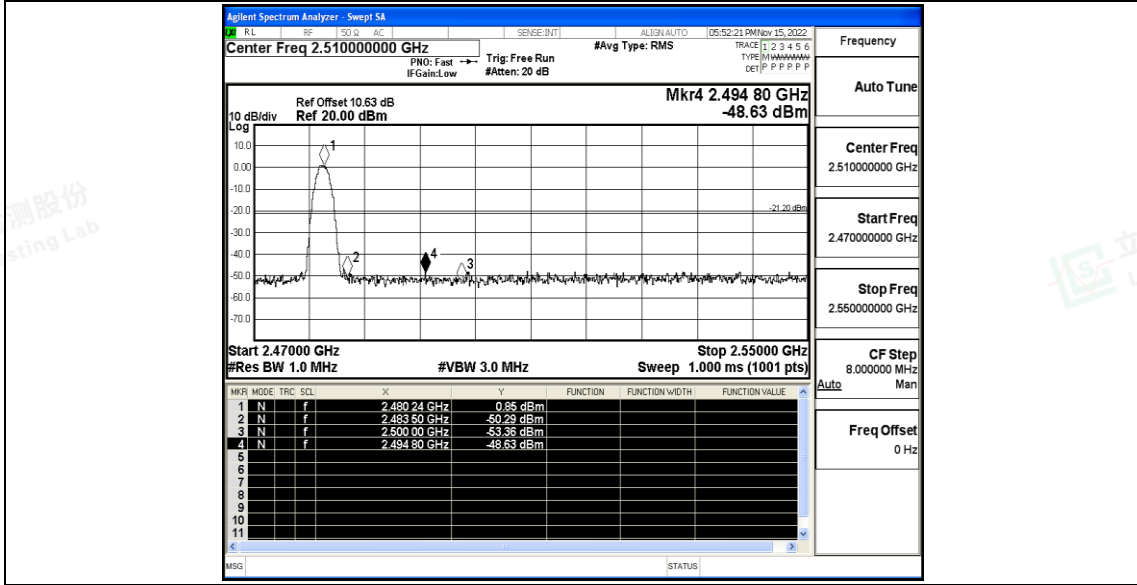


2DH5_Ant1_High_2480_AV



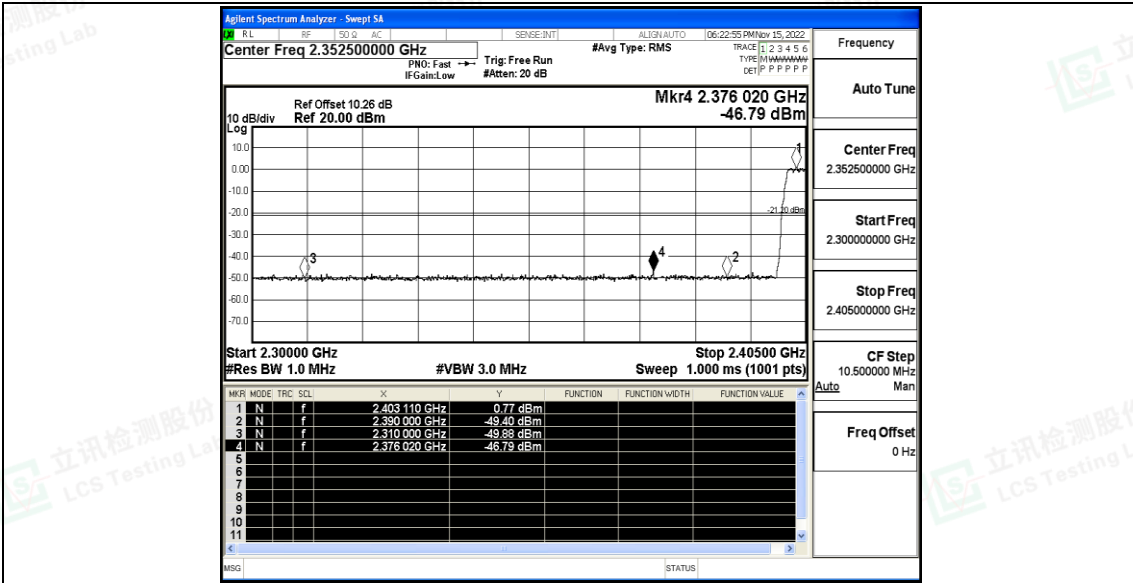


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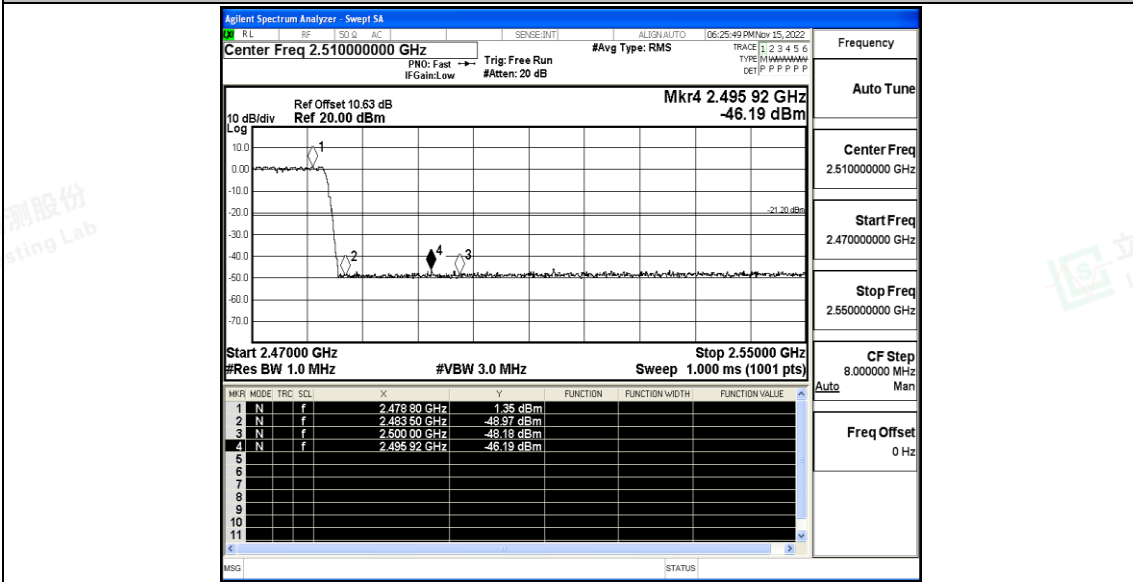


2DH5_Ant1_Low_Hop_2402_Peak



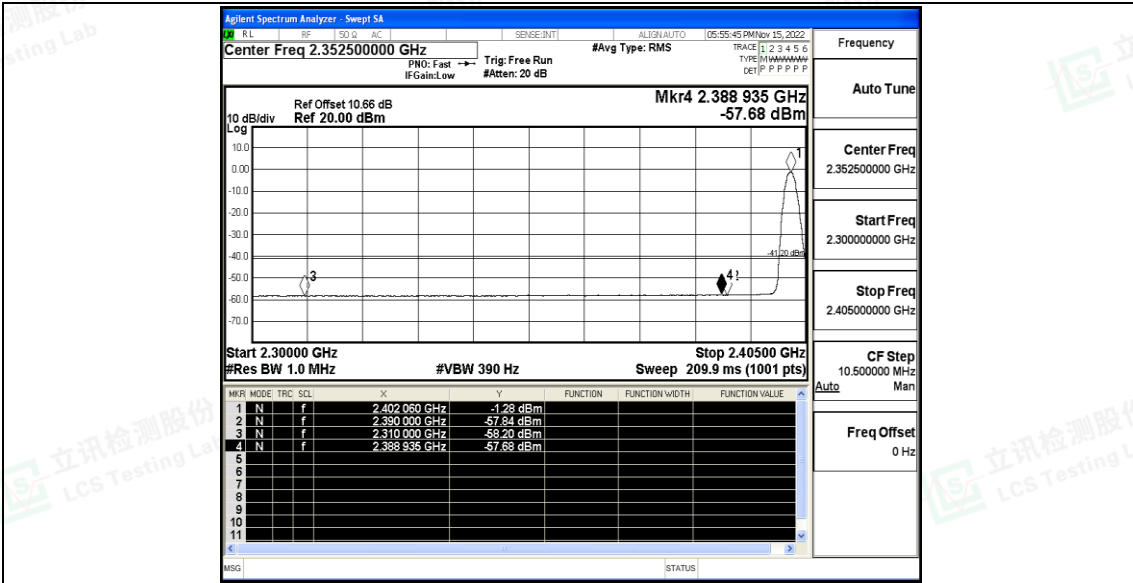


2DH5_Ant1_High_Hop_2480_Peak

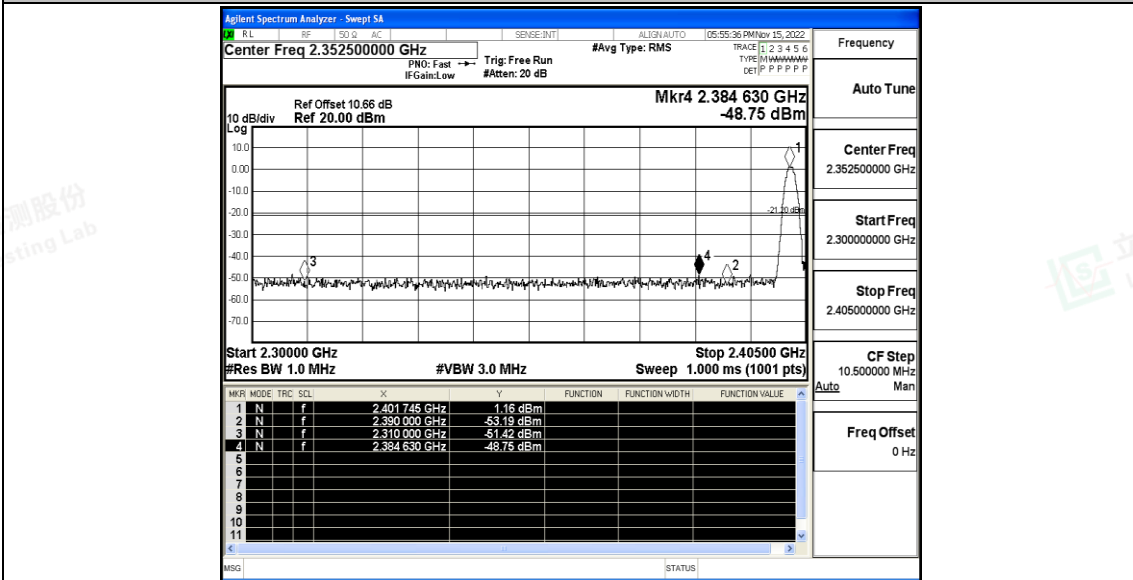


3DH5_Ant1_Low_2402_AV



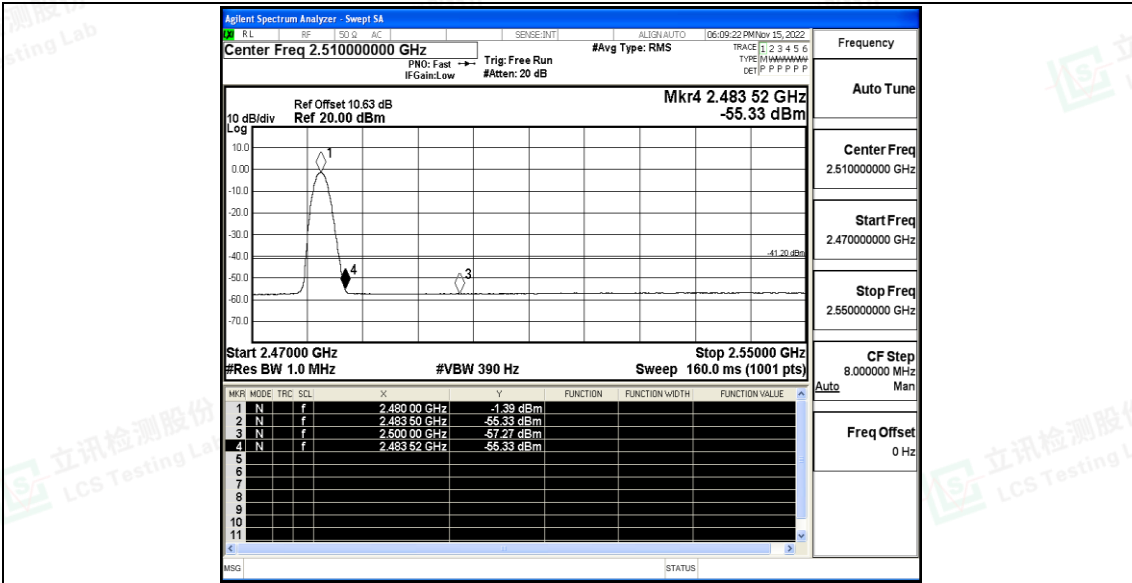


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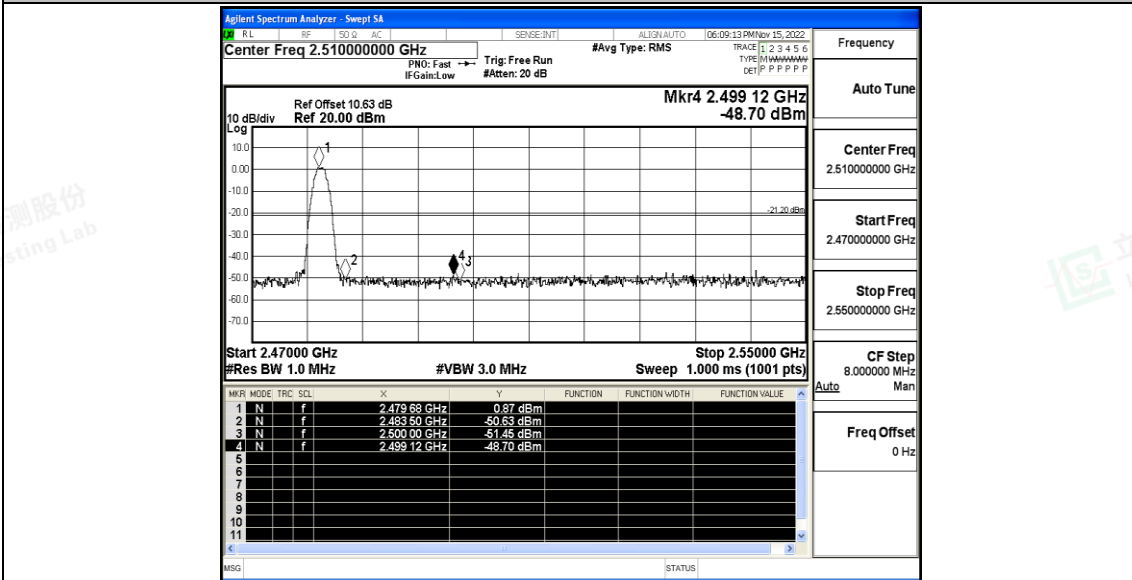


3DH5_Ant1_High_2480_AV



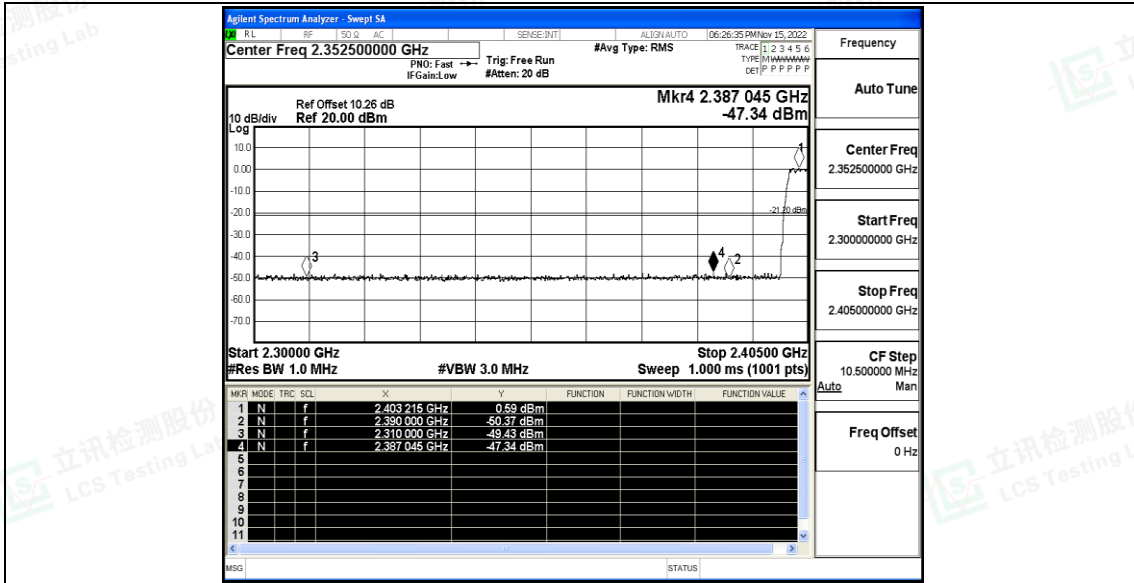


3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak





3DH5_Ant1_High_Hop_2480_Peak

