



## Appendix A

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

Product Name: 4G FIXED WIRELESS PHONE

Test Model: LS830

#### Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan





### A.1 20dB Emission Bandwidth

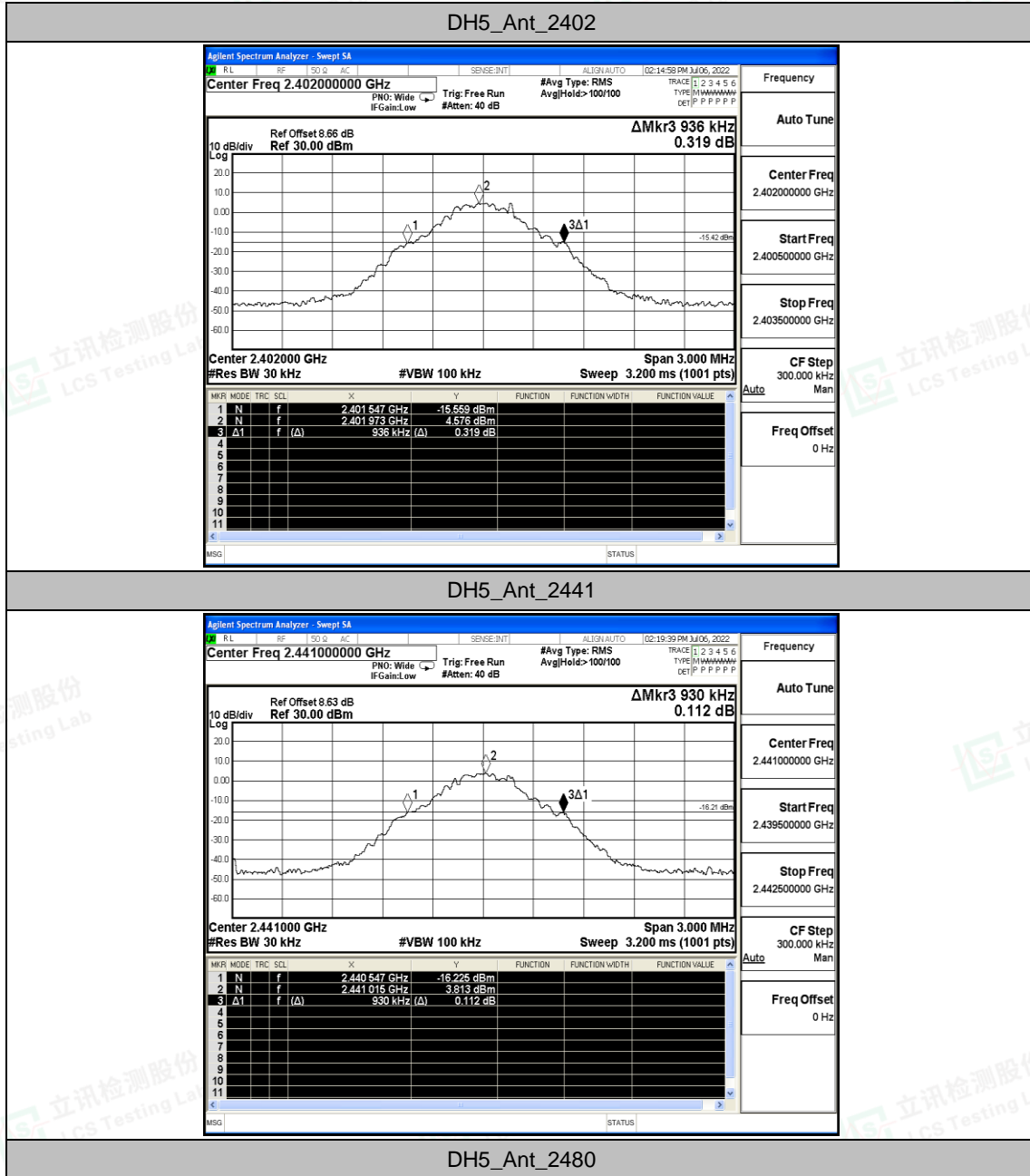
#### Test Result

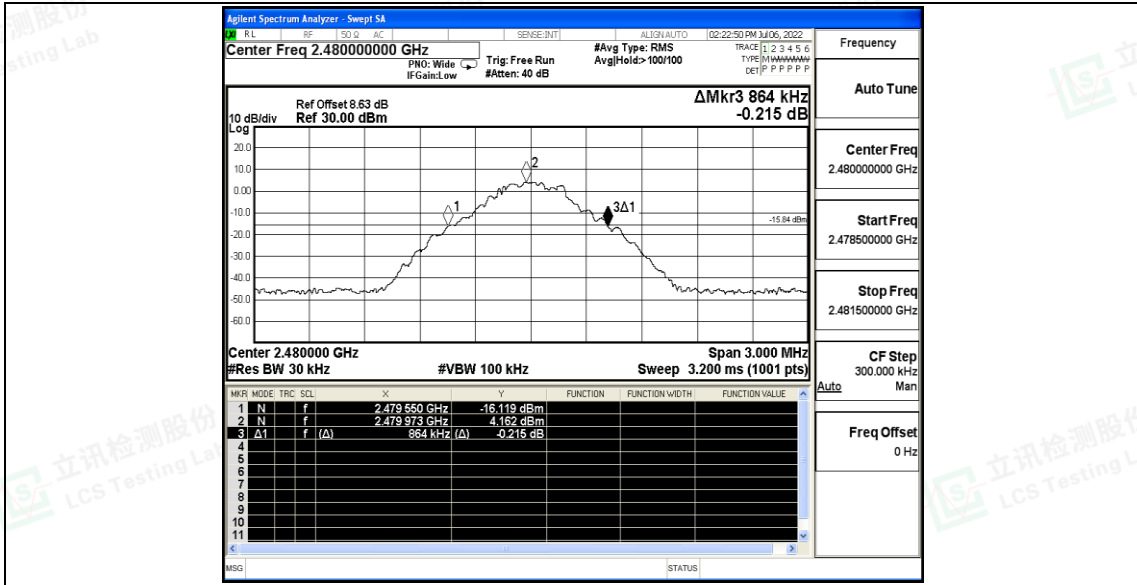
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant	2402	0.936	2401.547	2402.483	---
		2441	0.930	2440.547	2441.477	---
		2480	0.864	2479.550	2480.414	---
2DH5	Ant	2402	1.293	2401.364	2402.657	---
		2441	1.287	2440.364	2441.651	---
		2480	1.287	2479.364	2480.651	---
3DH5	Ant	2402	1.299	2401.352	2402.651	---
		2441	1.302	2440.349	2441.651	---
		2480	1.299	2479.349	2480.648	---



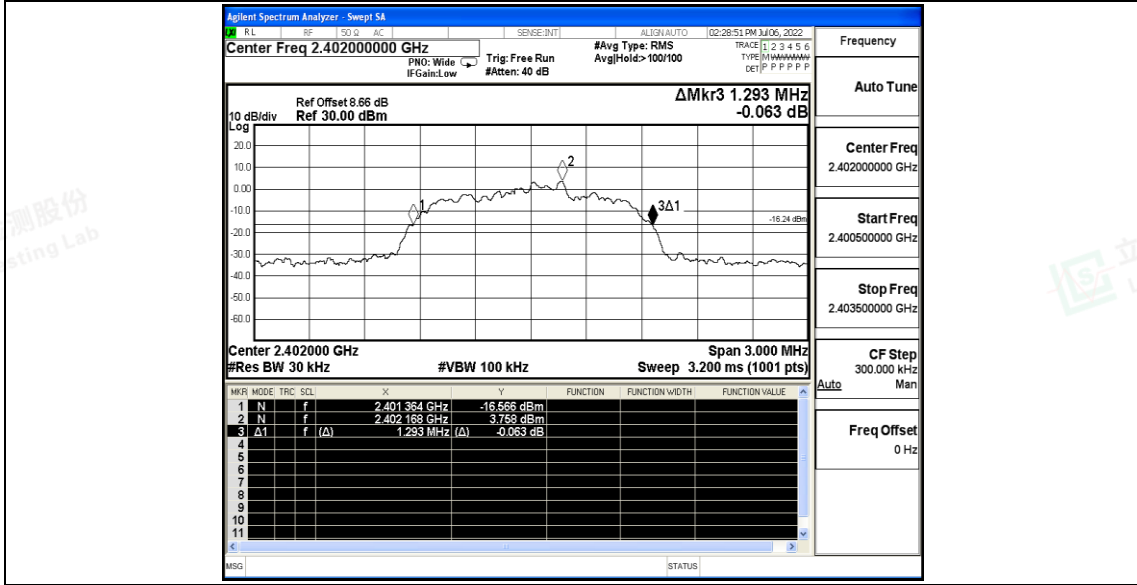


### Test Graphs



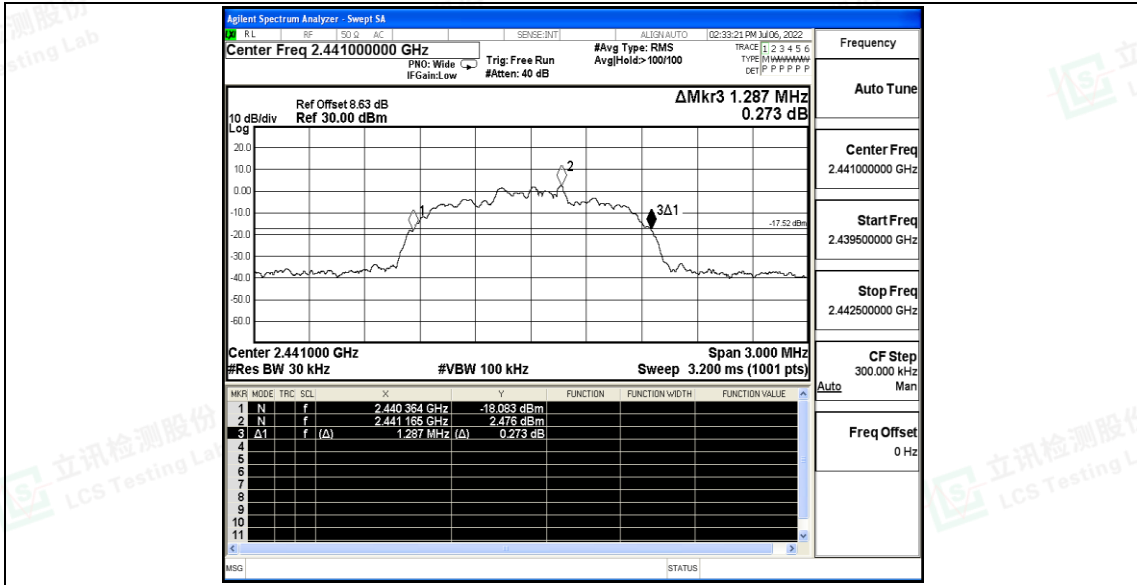


2DH5\_Ant\_2402

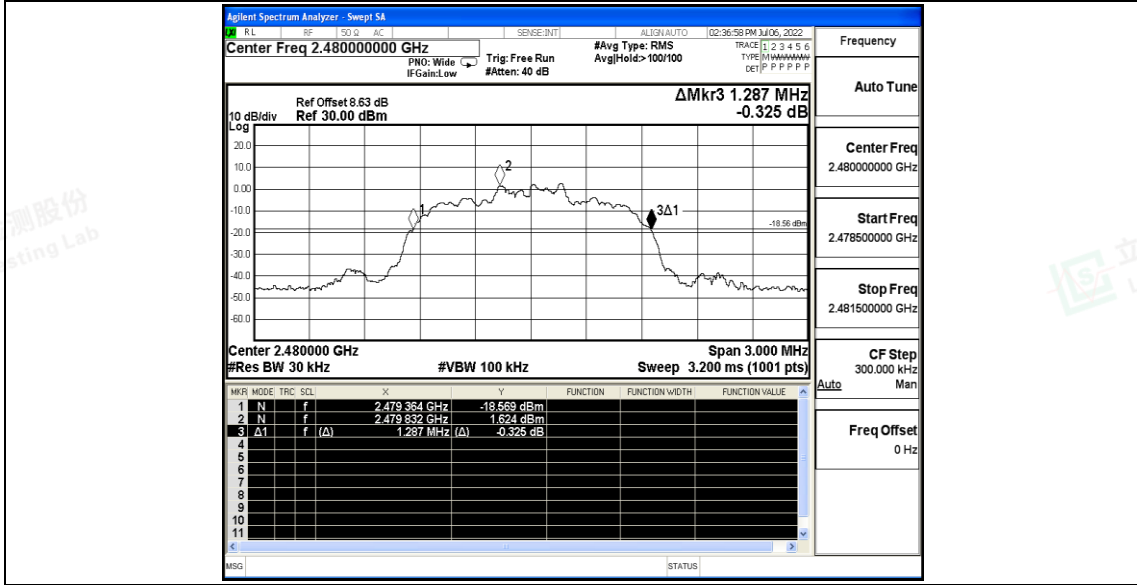


2DH5\_Ant\_2441



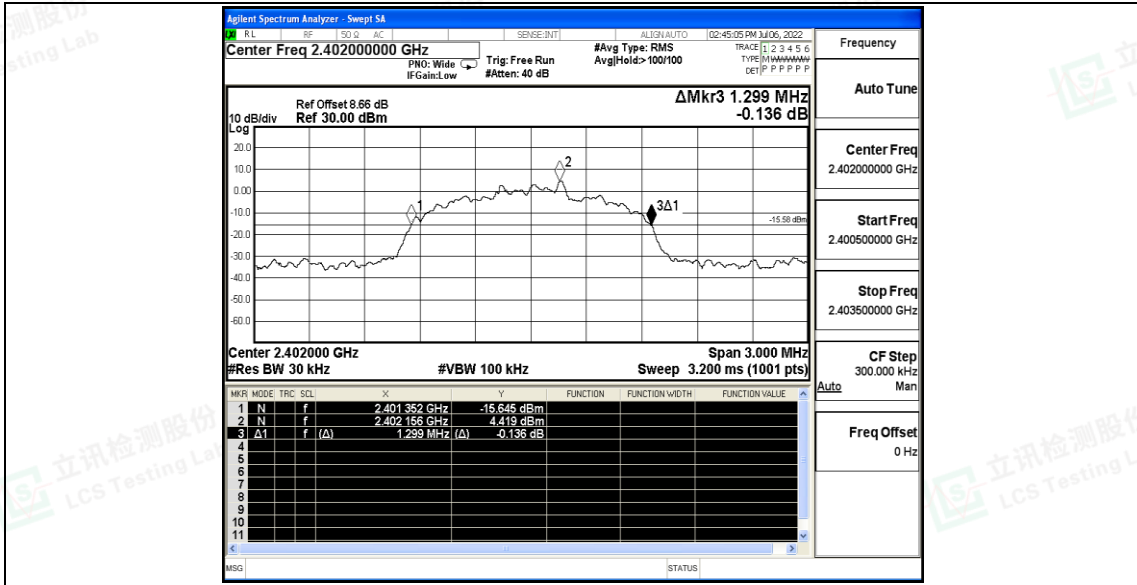


2DH5\_Ant\_2480

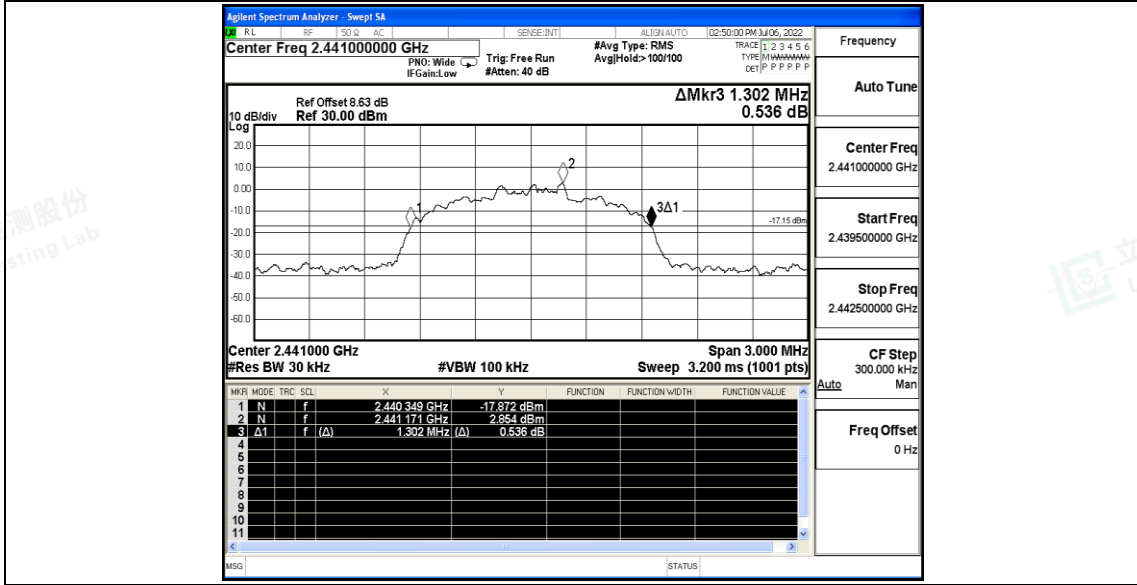


3DH5\_Ant\_2402



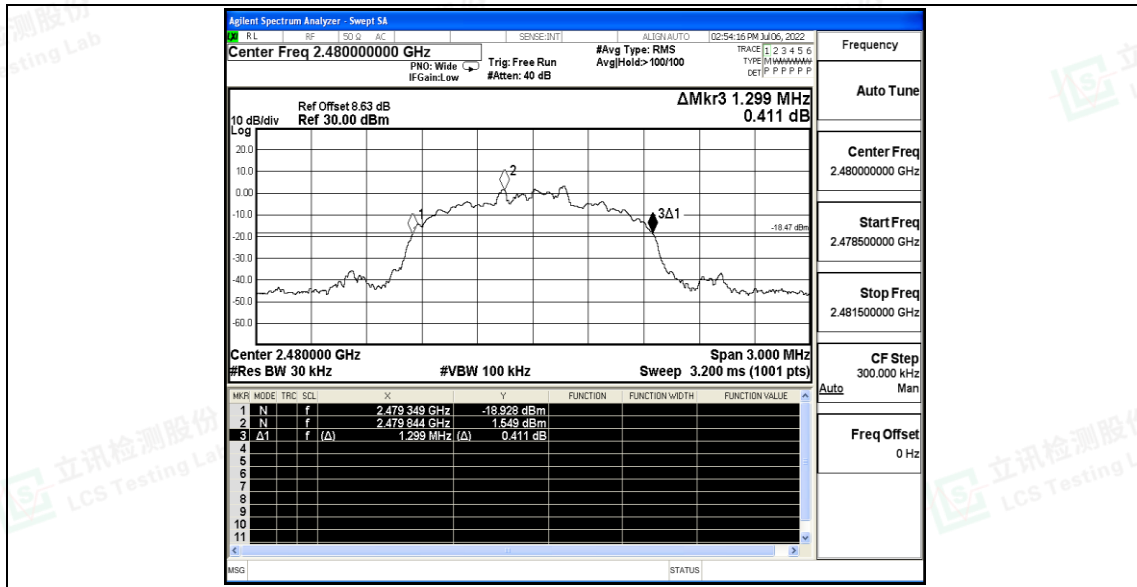


3DH5\_Ant\_2441



3DH5\_Ant\_2480







## A.2 Maximum conducted output power

### Test Result

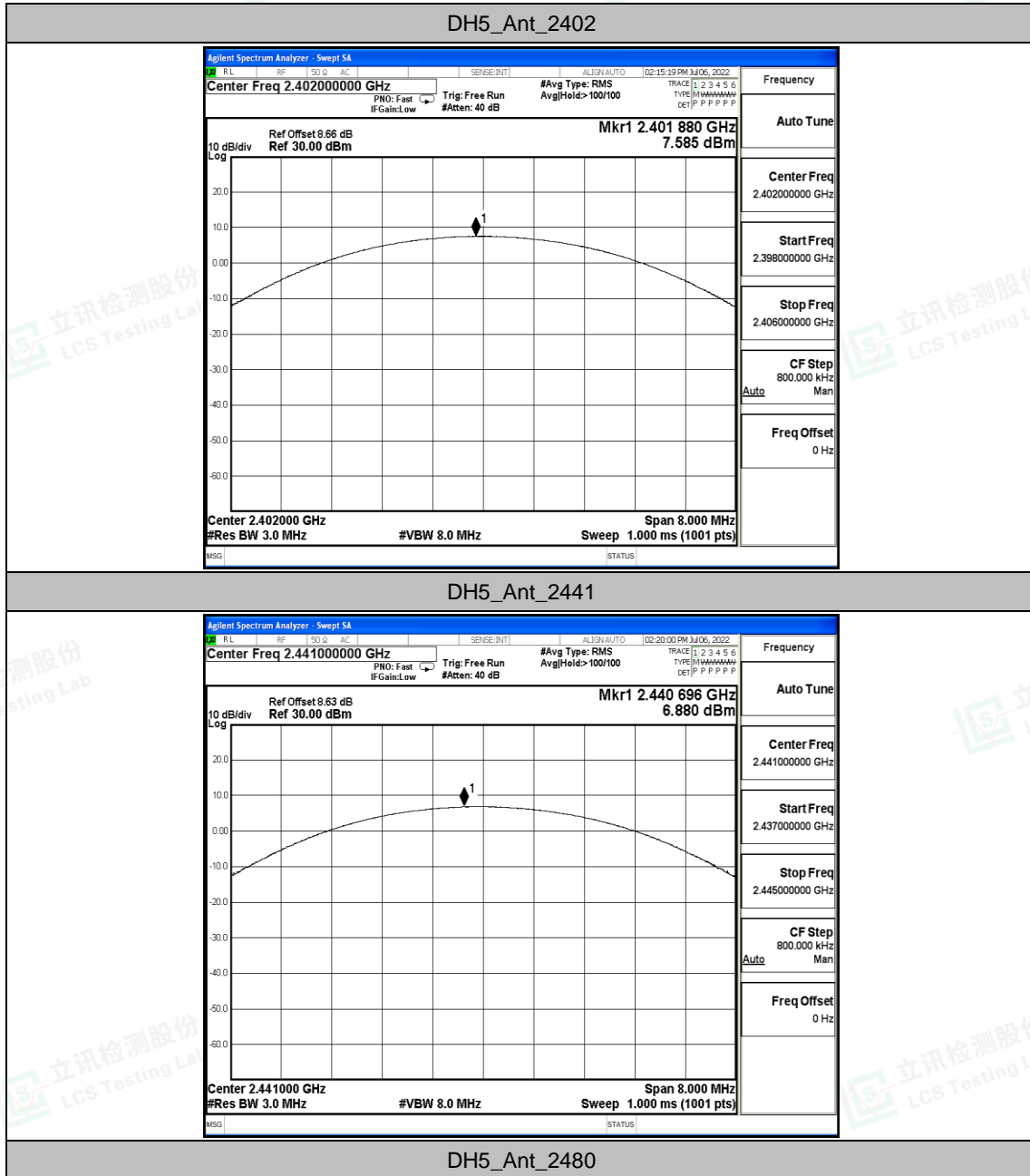
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	7.59	≤20.97	PASS
		2441	6.88	≤20.97	PASS
		2480	6.89	≤20.97	PASS
2DH5	Ant	2402	7.67	≤20.97	PASS
		2441	6.63	≤20.97	PASS
		2480	6.39	≤20.97	PASS
3DH5	Ant	2402	7.64	≤20.97	PASS
		2441	6.54	≤20.97	PASS
		2480	6.28	≤20.97	PASS

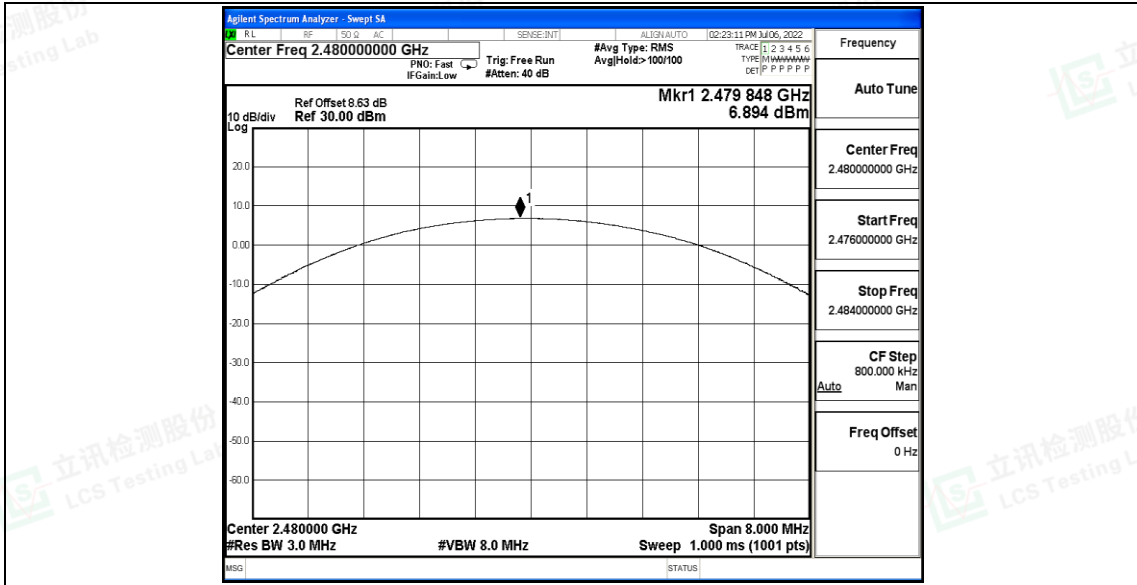




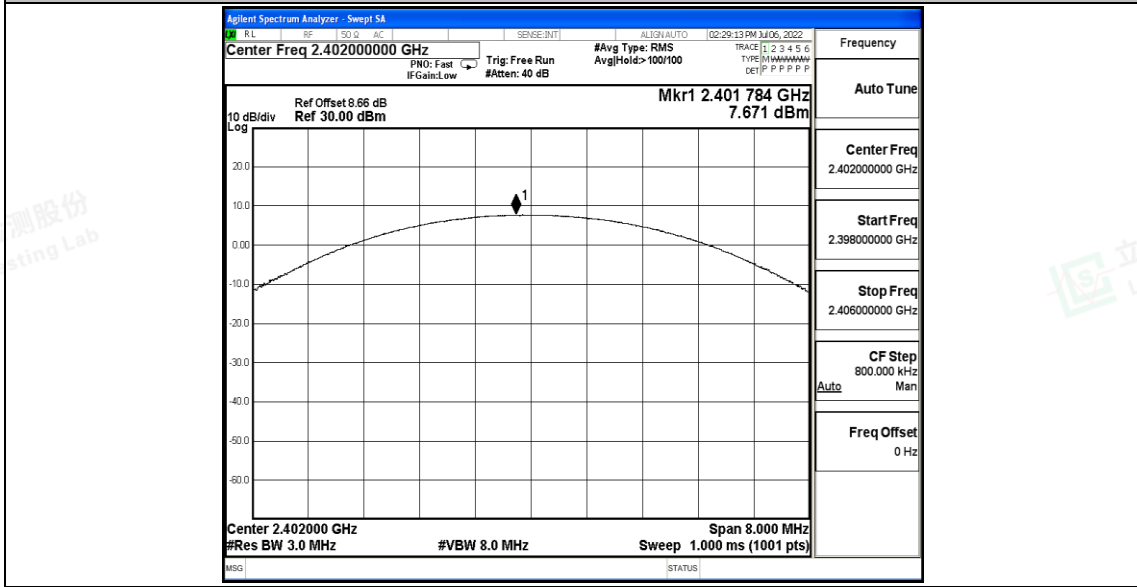


### Test Graphs



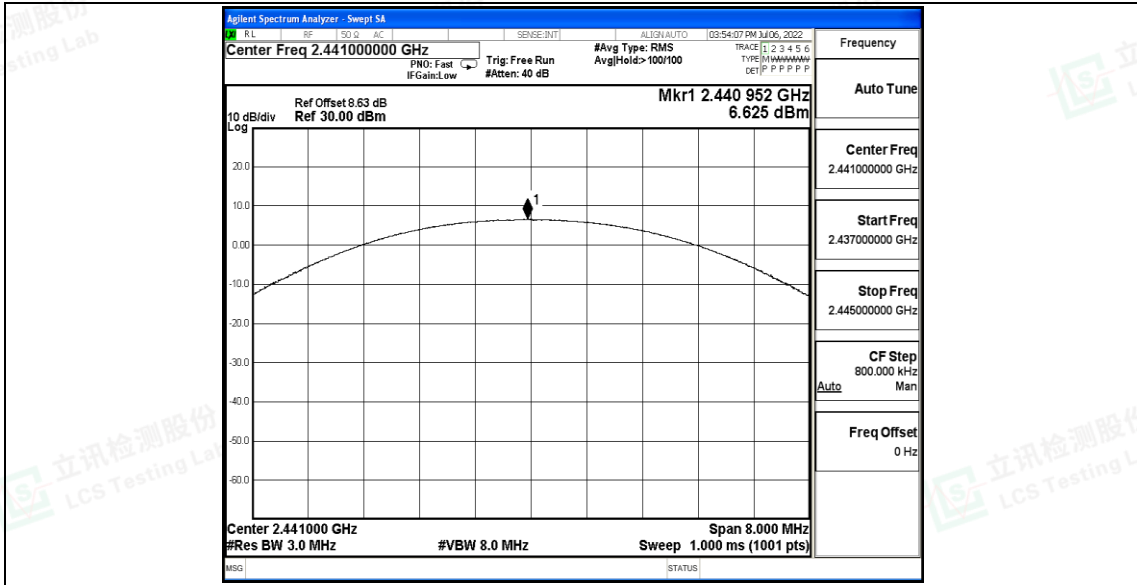


2DH5\_Ant\_2402

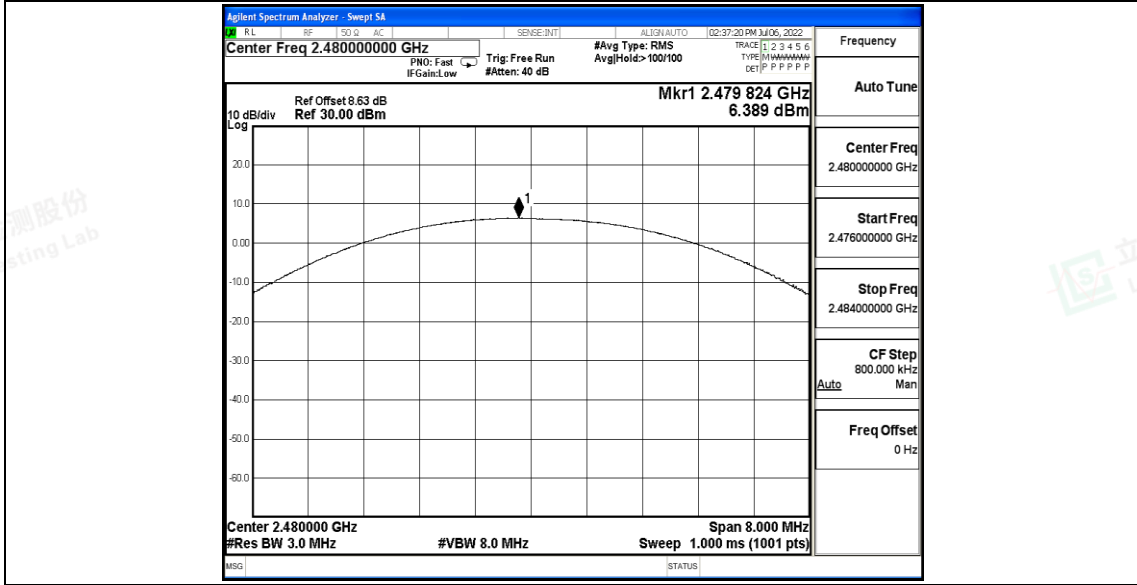


2DH5\_Ant\_2441



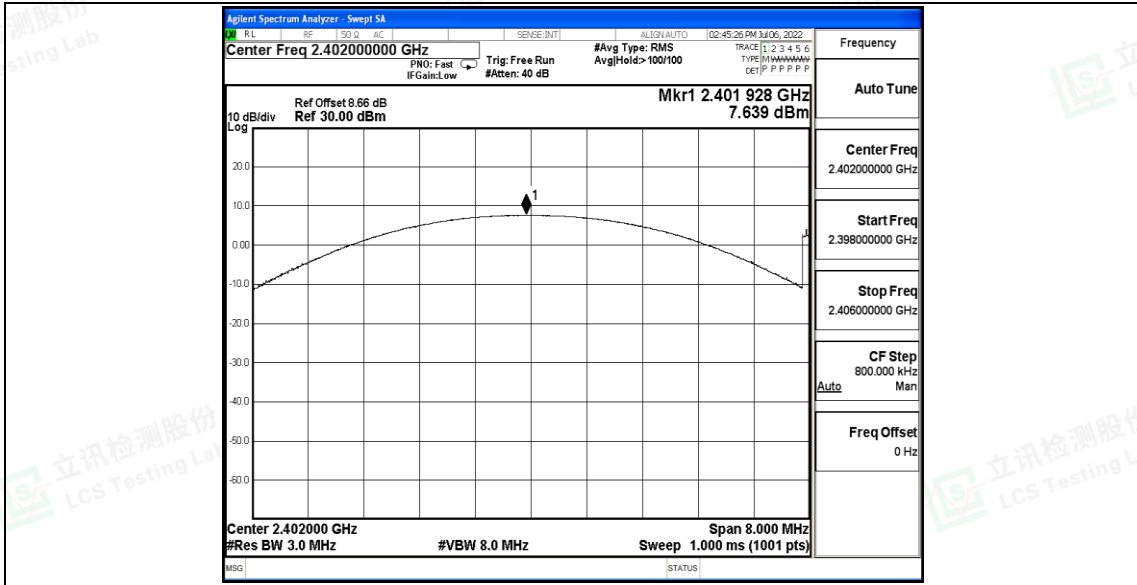


2DH5\_Ant\_2480

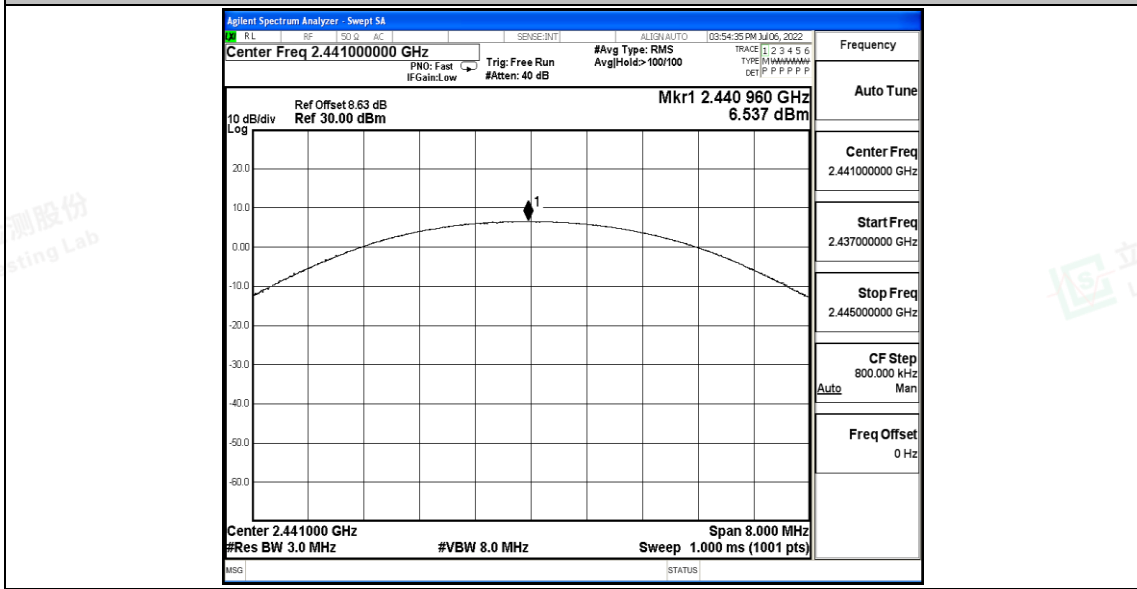


3DH5\_Ant\_2402



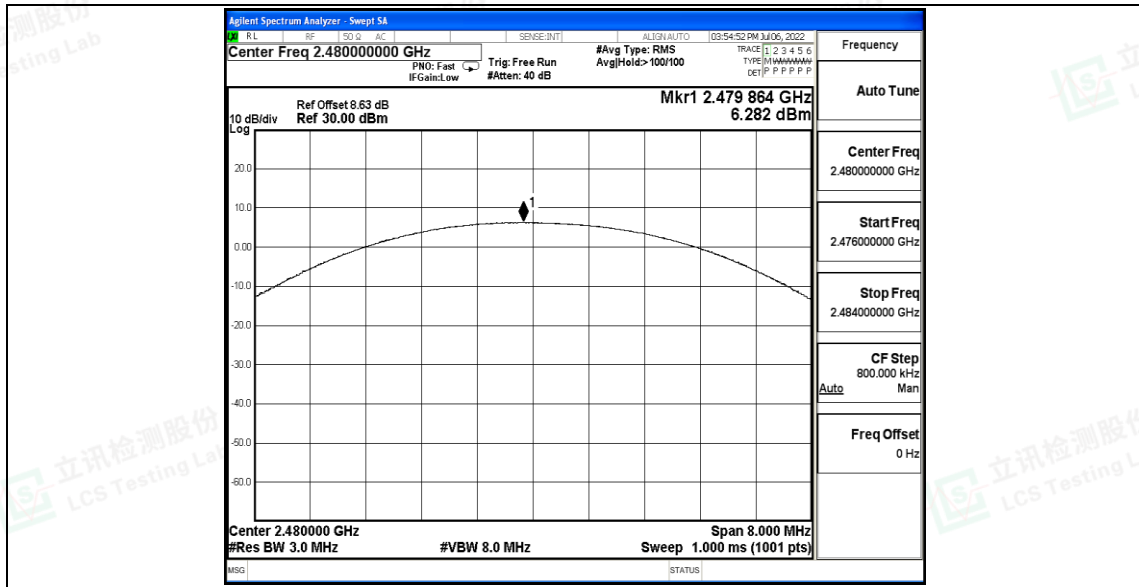


3DH5\_Ant\_2441



3DH5\_Ant\_2480







### A.3 Carrier frequency separation

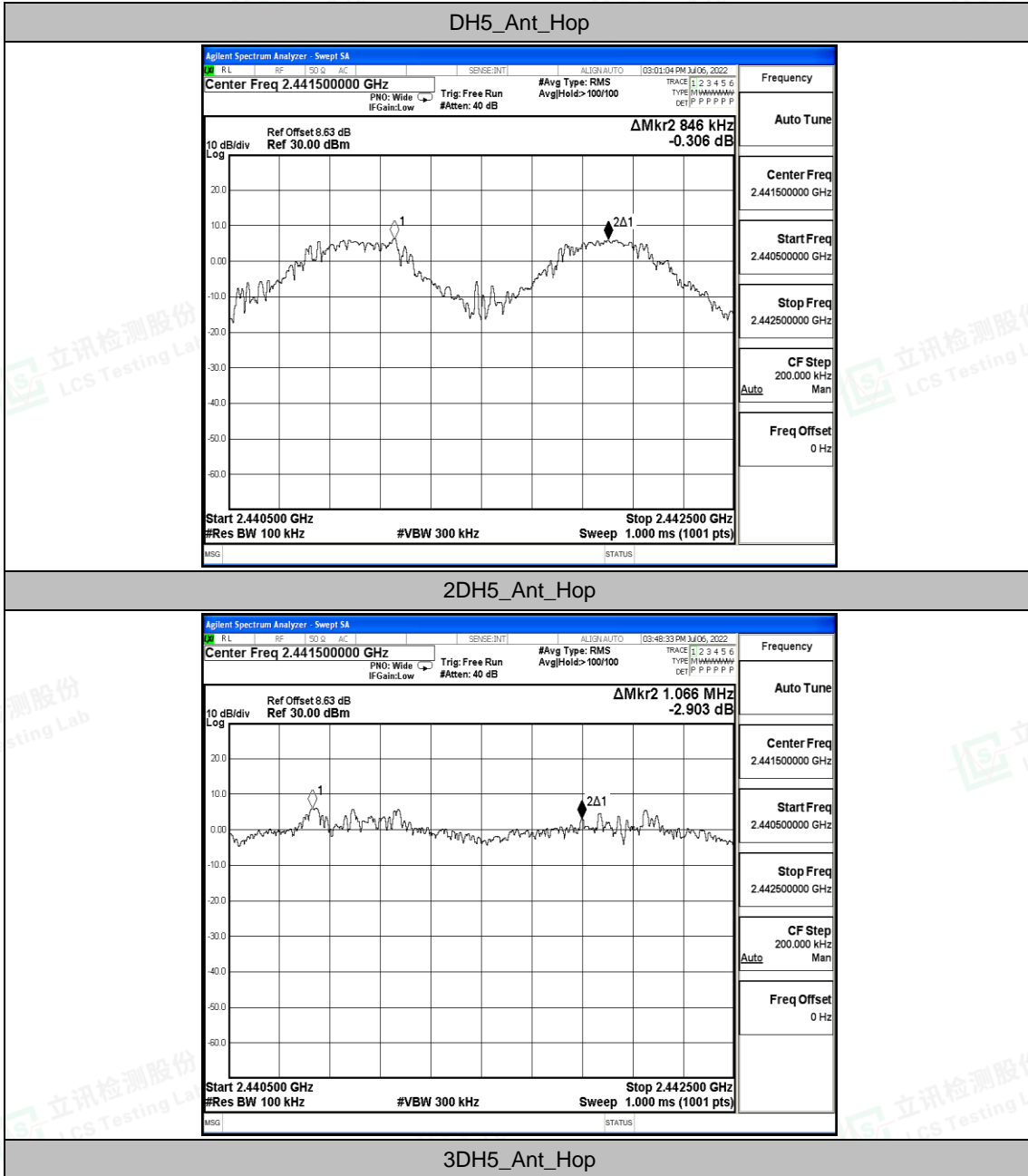
#### Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	0.846	≥0.624	PASS
2DH5	Ant	Hop	1.066	≥0.862	PASS
3DH5	Ant	Hop	0.88	≥0.868	PASS





### Test Graphs









## A.4 Time of occupancy

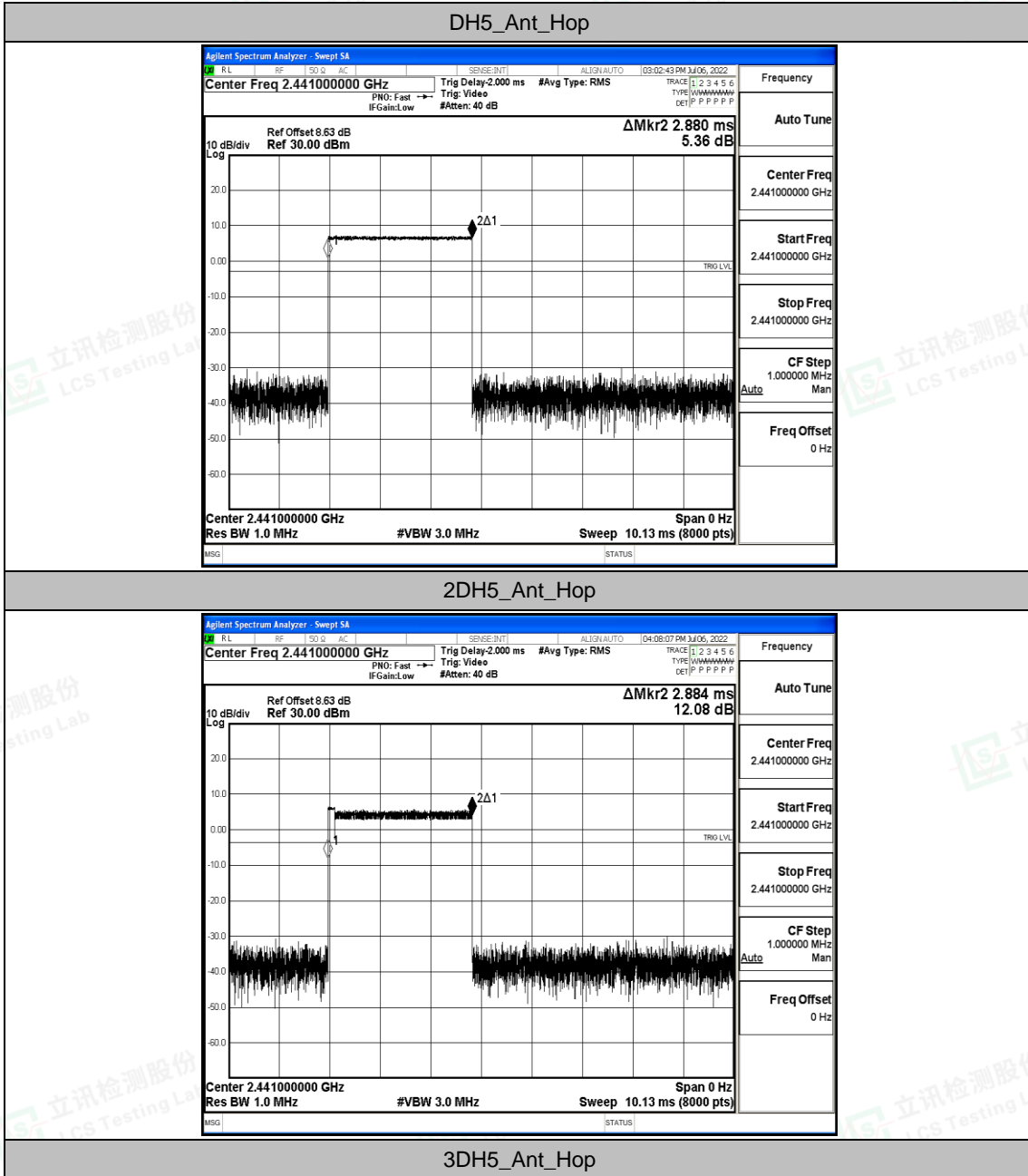
### Test Result

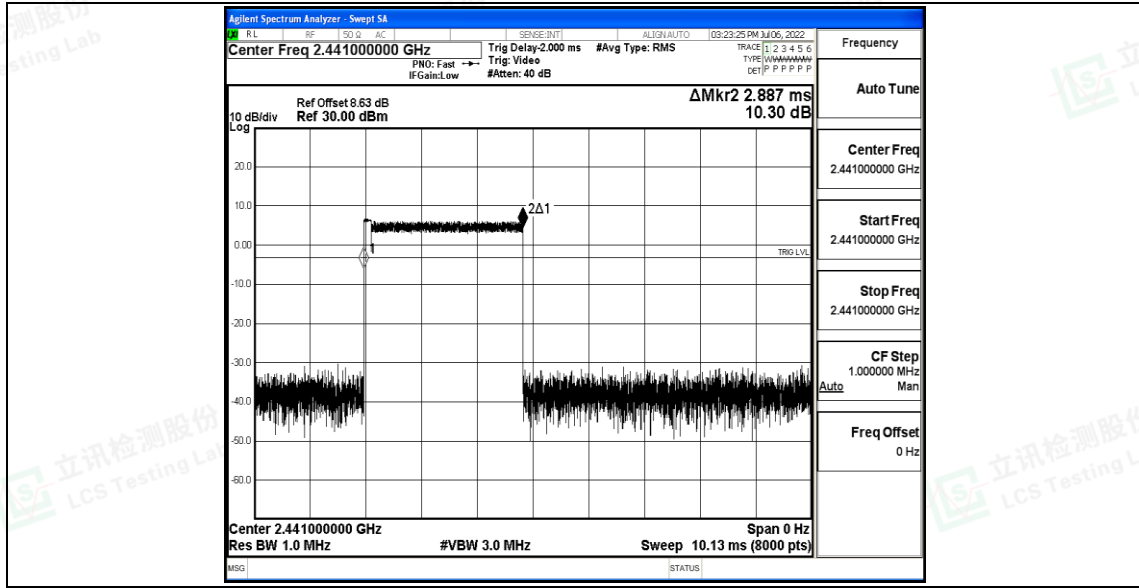
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant	Hop	2.89	106.67	0.308	≤0.4	PASS





### Test Graphs







## A.5 Number of hopping channels

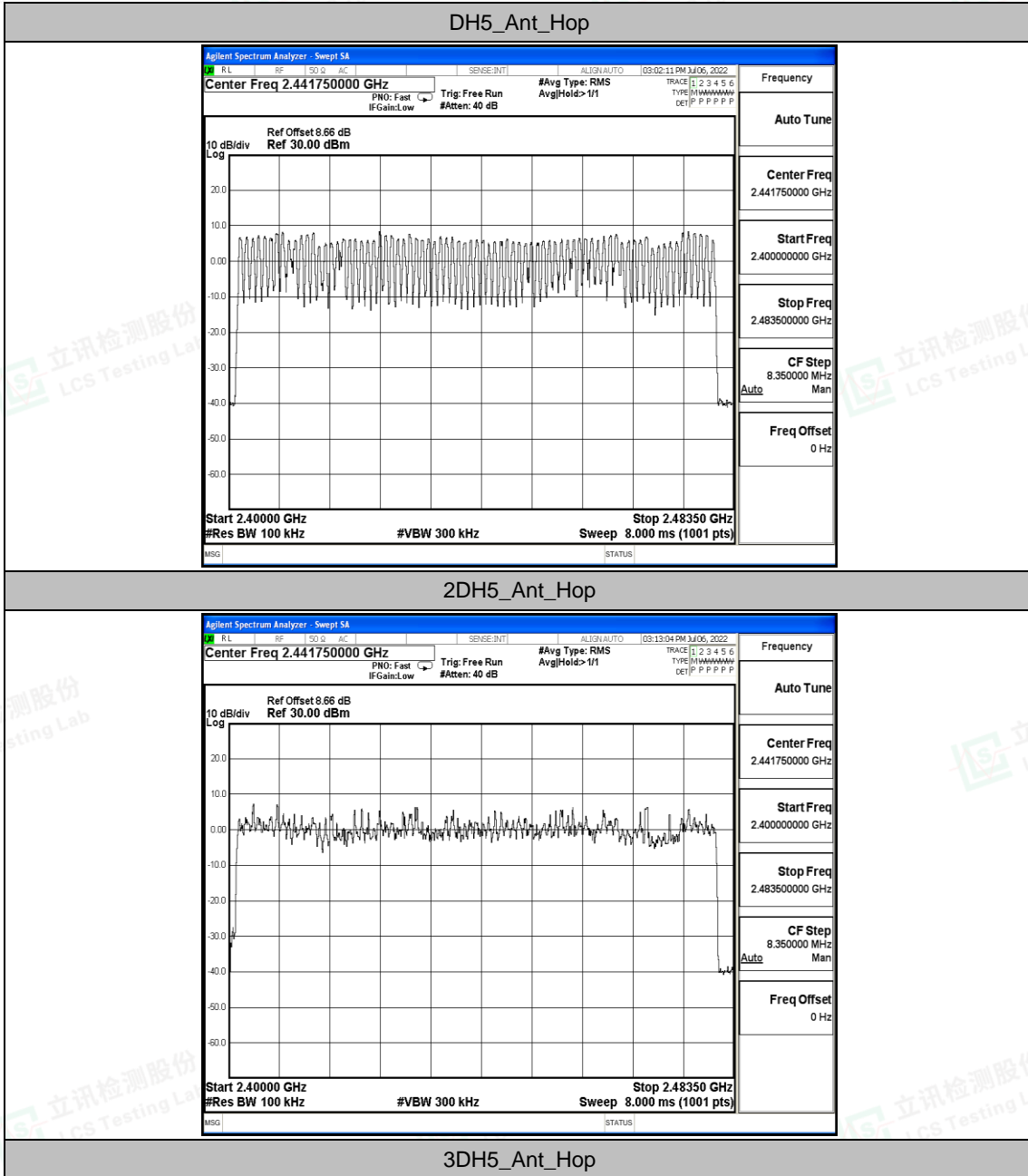
### Test Result

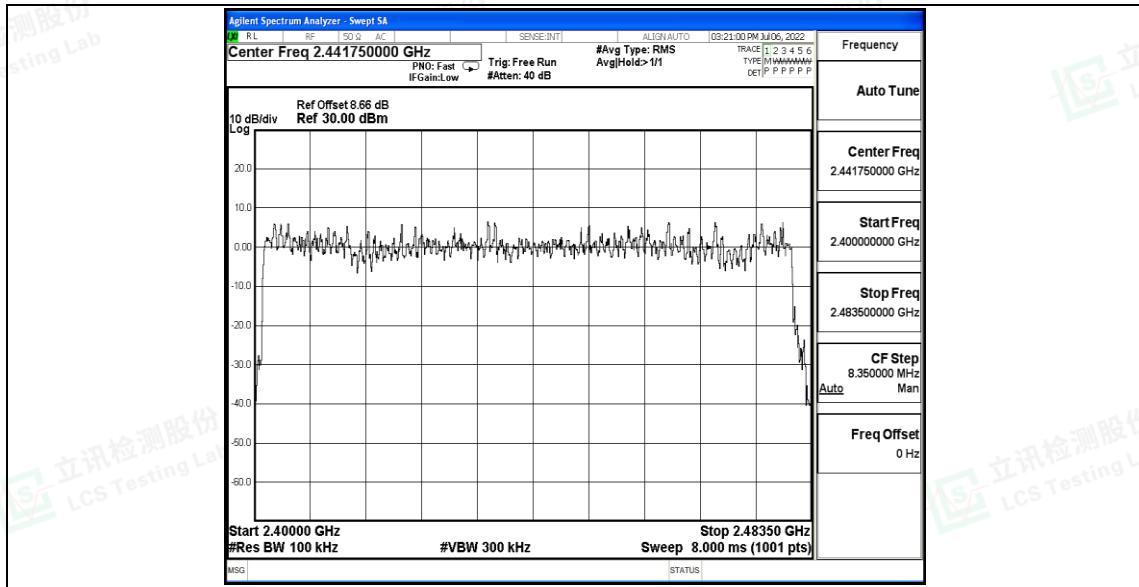
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant	Hop	79	≥15	PASS
2DH5	Ant	Hop	79	≥15	PASS
3DH5	Ant	Hop	79	≥15	PASS





### Test Graphs







### A.6 Band edge measurements

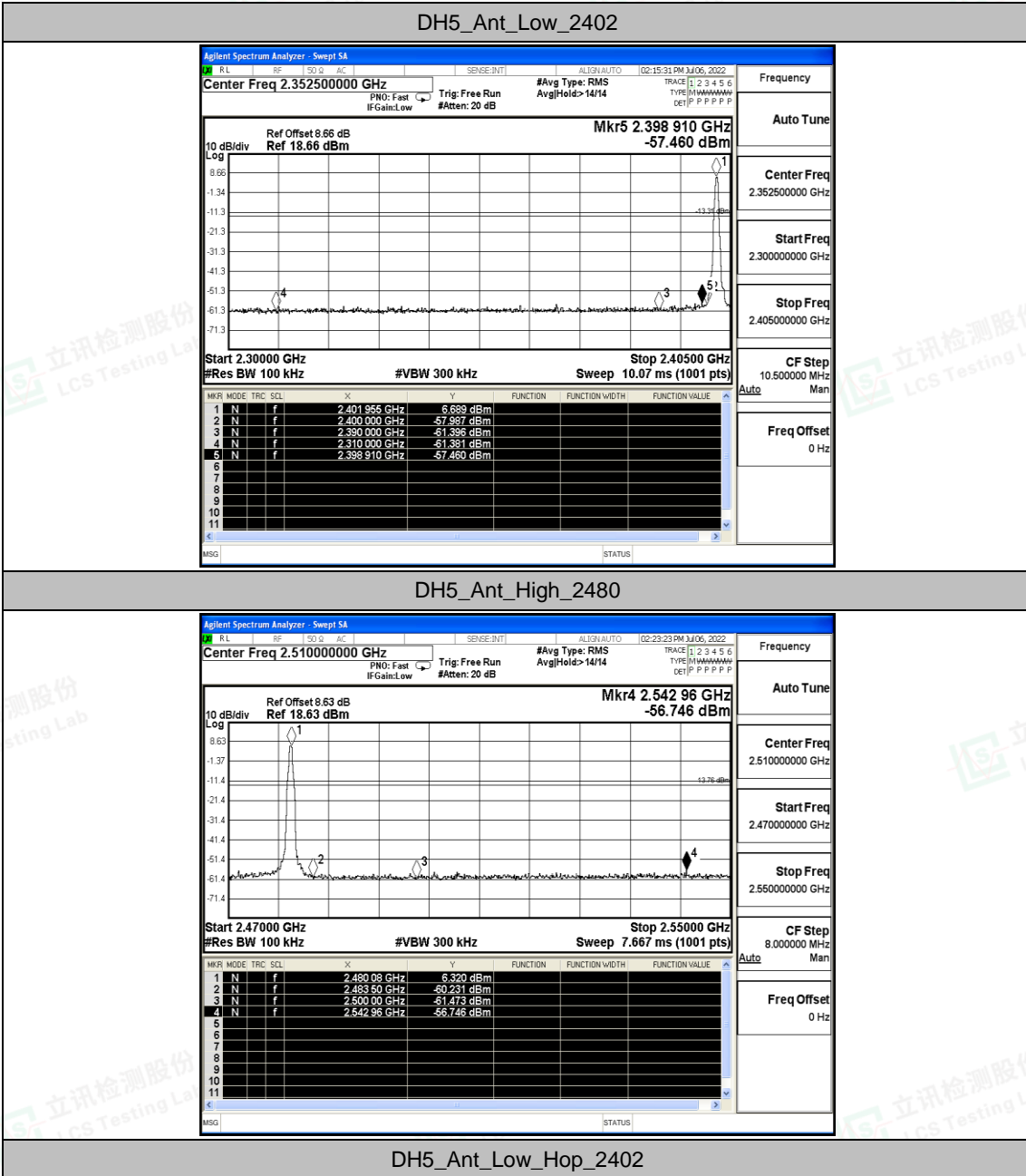
#### Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	6.69	-57.46	≤-13.31	PASS
		High	2480	6.24	-56.75	≤-13.76	PASS
		Low	Hop_2402	6.24	-58.85	≤-13.77	PASS
		High	Hop_2480	7.97	-57.42	≤-12.03	PASS
2DH5	Ant	Low	2402	4.91	-48.49	≤-15.09	PASS
		High	2480	5.95	-57.65	≤-14.05	PASS
		Low	Hop_2402	2.47	-58.92	≤-17.53	PASS
		High	Hop_2480	5.26	-57.84	≤-14.74	PASS
3DH5	Ant	Low	2402	5.89	-48.33	≤-14.11	PASS
		High	2480	5.64	-57.75	≤-14.36	PASS
		Low	Hop_2402	3.47	-58.91	≤-16.53	PASS
		High	Hop_2480	4.87	-57.99	≤-15.13	PASS

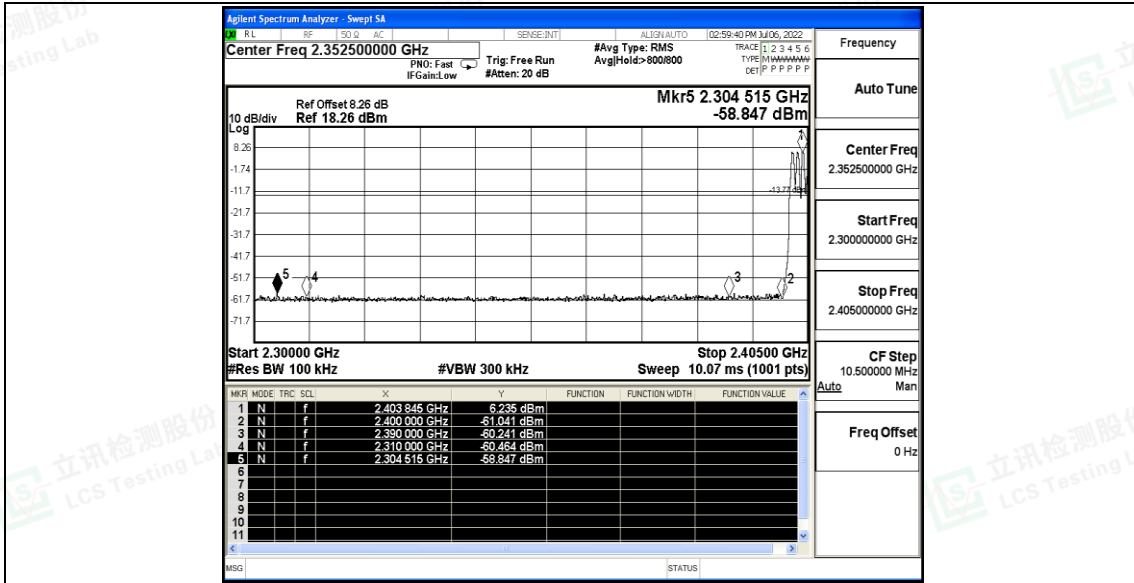




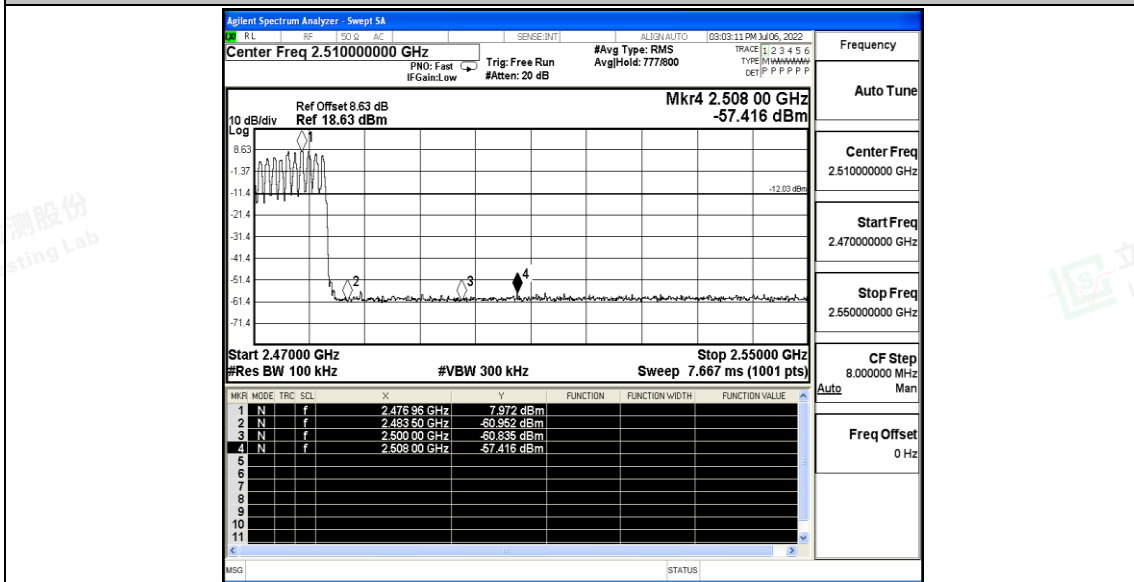
### Test Graphs





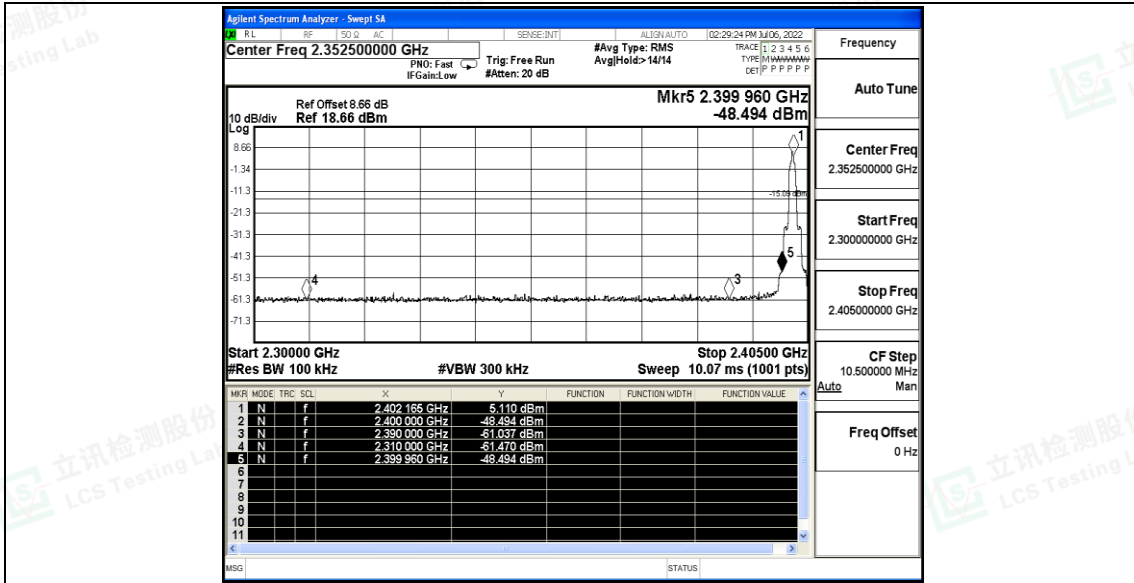


DH5\_Ant\_High\_Hop\_2480

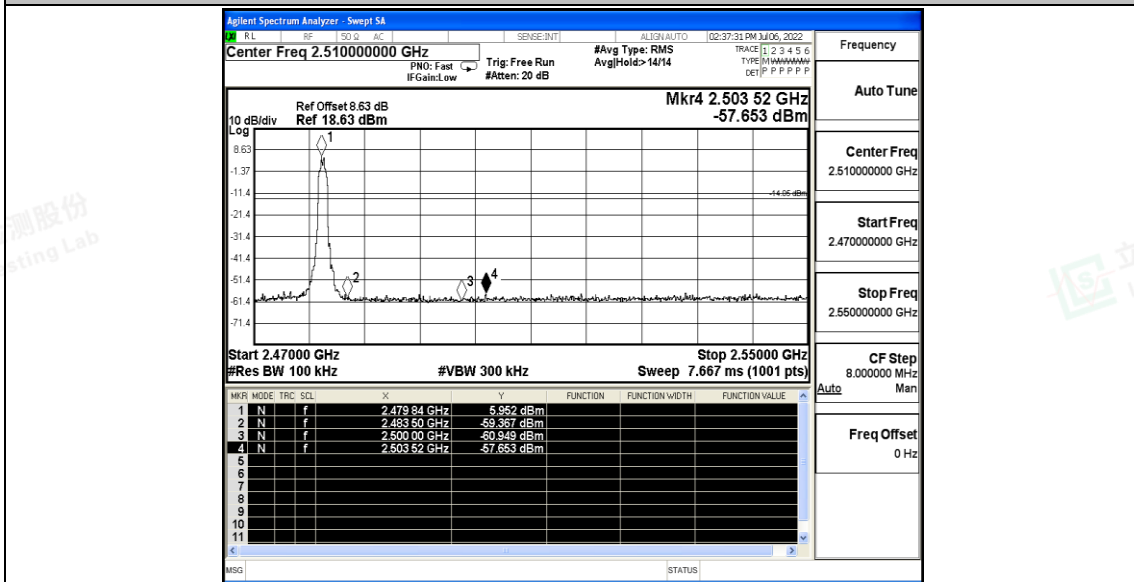


2DH5\_Ant\_Low\_2402



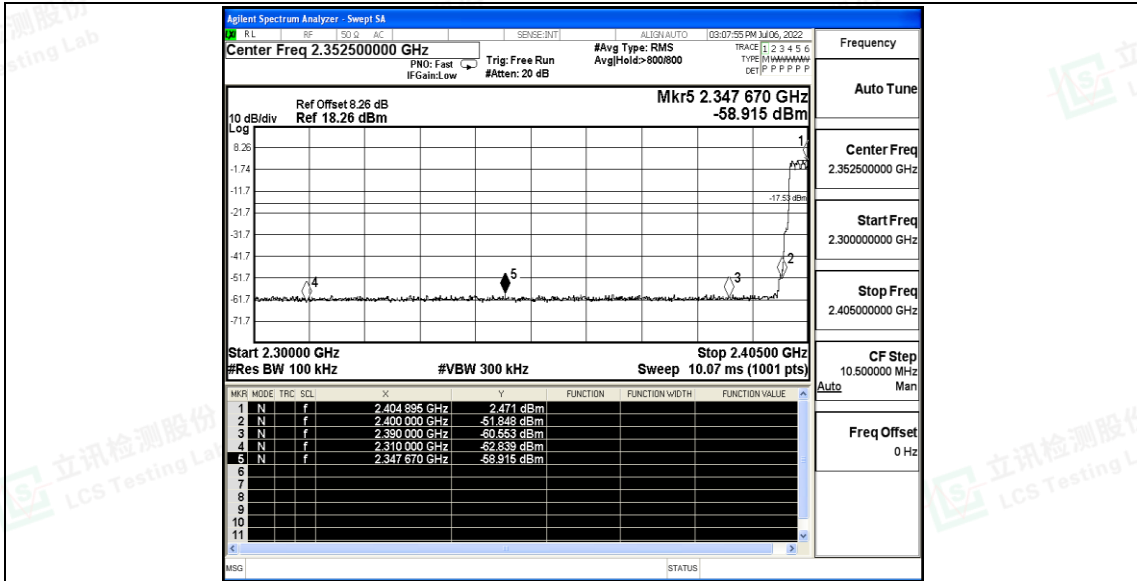


2DH5\_Ant\_High\_2480

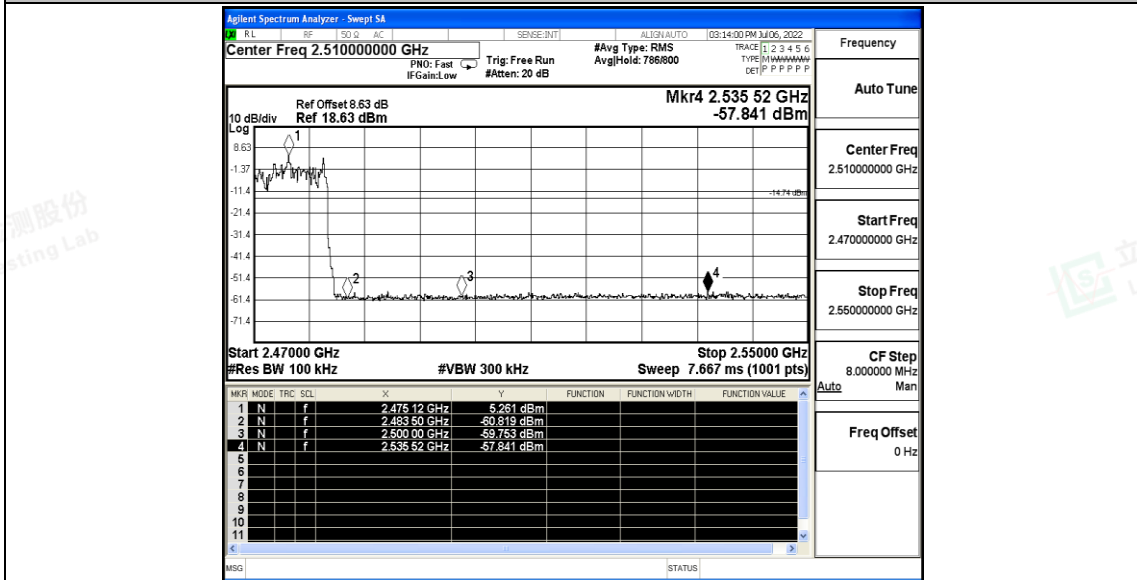


2DH5\_Ant\_Low\_Hop\_2402



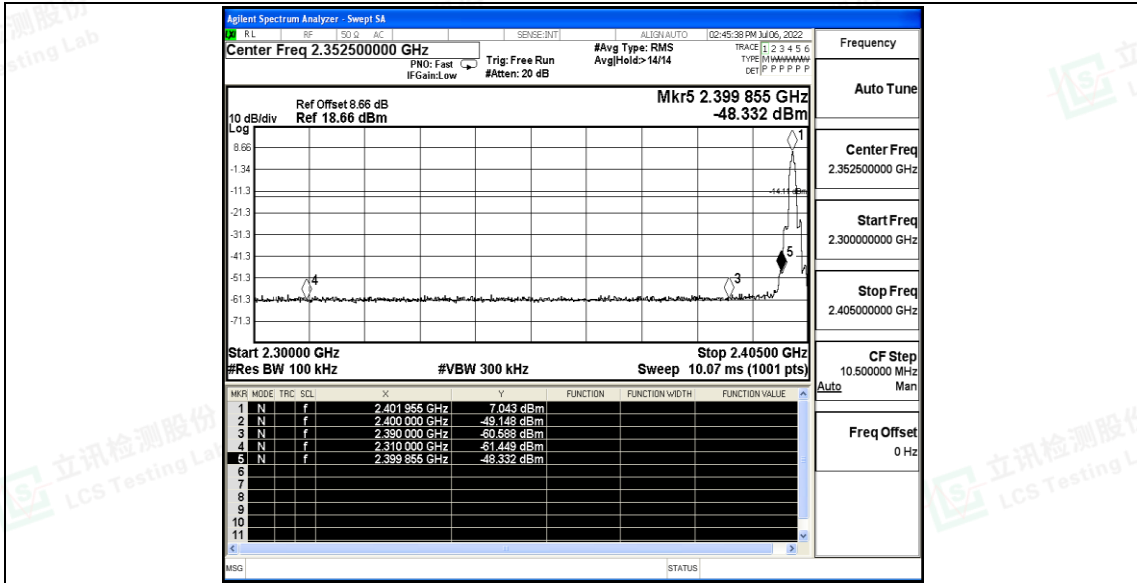


2DH5\_Ant\_High\_Hop\_2480

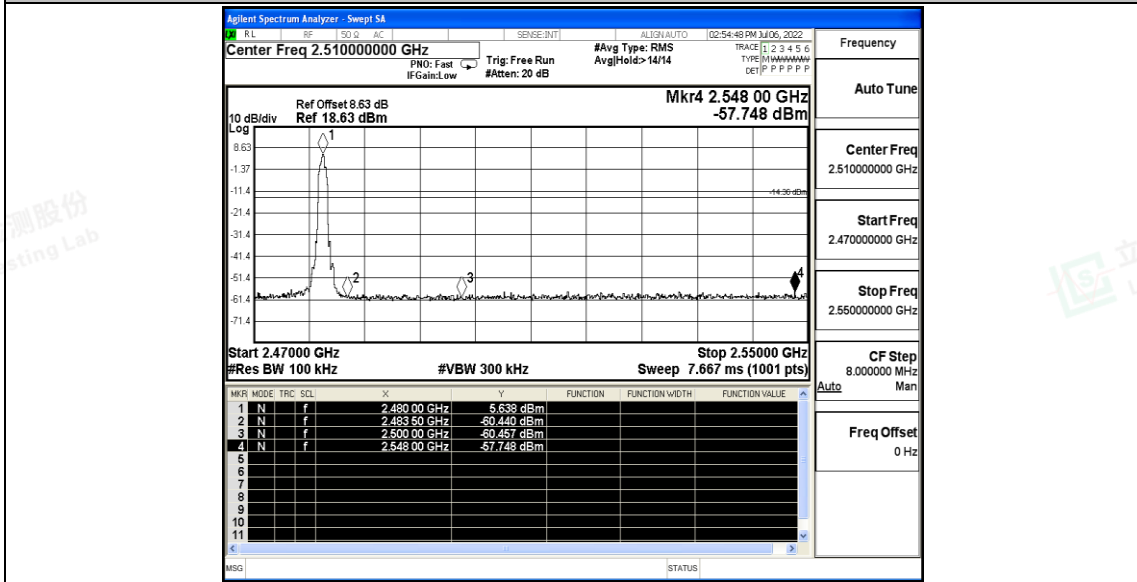


3DH5\_Ant\_Low\_2402



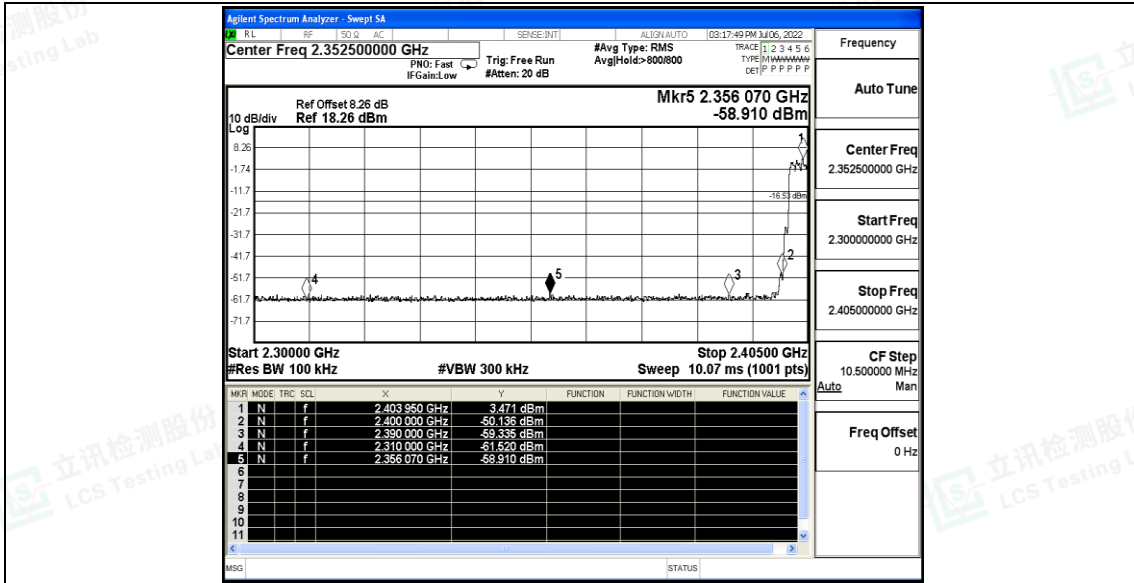


3DH5\_Ant\_High\_2480

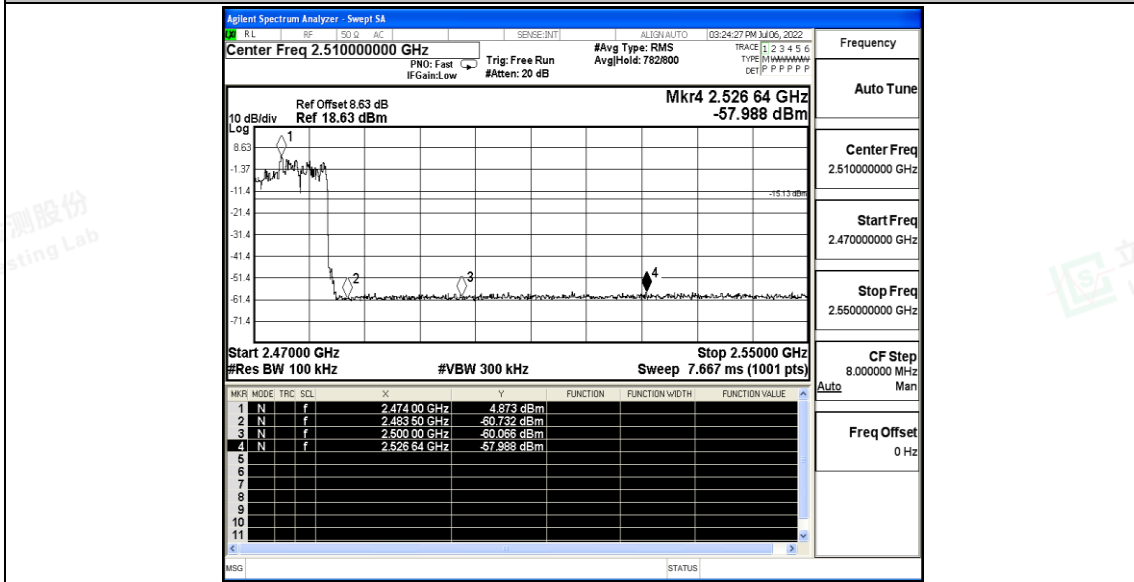


3DH5\_Ant\_Low\_Hop\_2402





3DH5\_Ant\_High\_Hop\_2480





### A.7 Conducted Spurious Emission

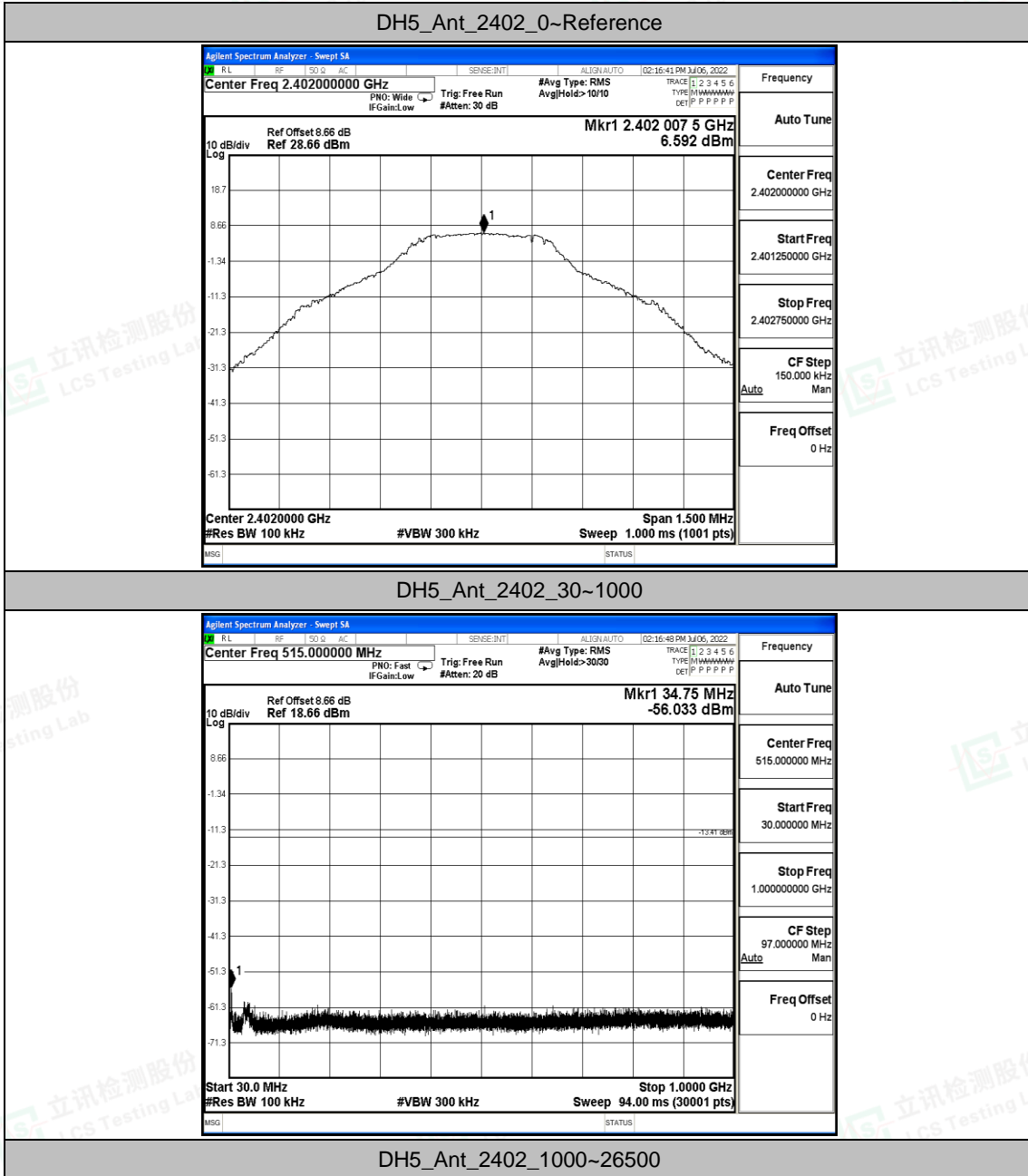
#### Test Result

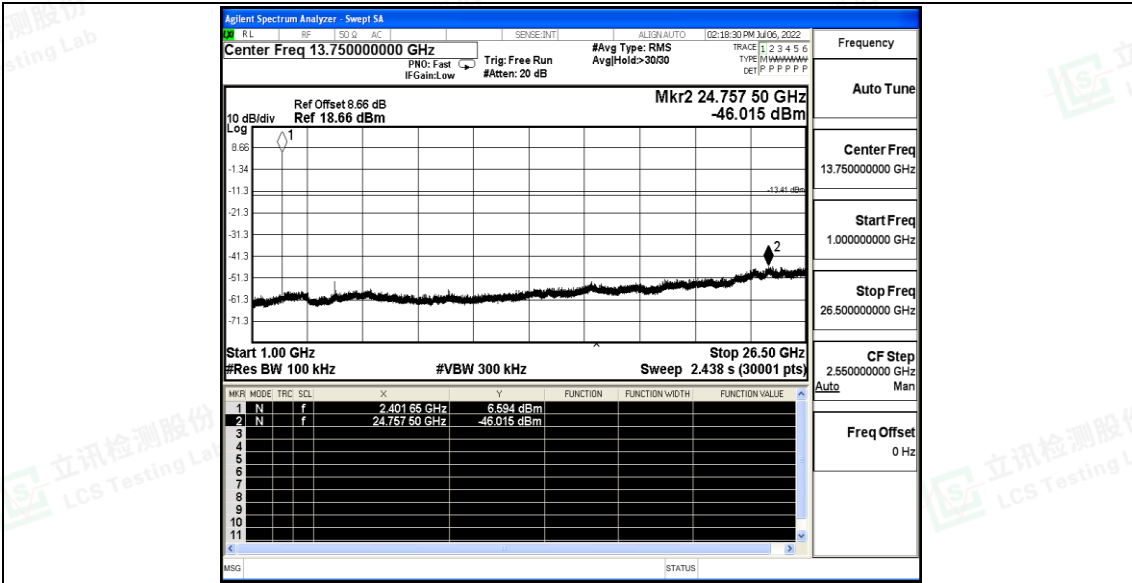
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	6.59	6.59	---	PASS
			30~1000	6.59	-56.03	≤-13.41	PASS
			1000~26500	6.59	-46.02	≤-13.41	PASS
		2441	Reference	6.07	6.07	---	PASS
			30~1000	6.07	-56.85	≤-13.93	PASS
			1000~26500	6.07	-45.4	≤-13.93	PASS
		2480	Reference	6.09	6.09	---	PASS
			30~1000	6.09	-55.78	≤-13.91	PASS
			1000~26500	6.09	-45.34	≤-13.91	PASS
2DH5	Ant	2402	Reference	6.97	6.97	---	PASS
			30~1000	6.97	-36.63	≤-13.03	PASS
			1000~26500	6.97	-46.61	≤-13.03	PASS
		2441	Reference	5.37	5.37	---	PASS
			30~1000	5.37	-43.54	≤-14.63	PASS
			1000~26500	5.37	-36.1	≤-14.63	PASS
		2480	Reference	5.29	5.29	---	PASS
			30~1000	5.29	-41.55	≤-14.71	PASS
			1000~26500	5.29	-45.97	≤-14.71	PASS
3DH5	Ant	2402	Reference	6.83	6.83	---	PASS
			30~1000	6.83	-57.1	≤-13.17	PASS
			1000~26500	6.83	-45.68	≤-13.17	PASS
		2441	Reference	5.99	5.99	---	PASS
			30~1000	5.99	-40.3	≤-14.01	PASS
			1000~26500	5.99	-46.28	≤-14.01	PASS
		2480	Reference	6.00	6.00	---	PASS
			30~1000	6.00	-50.34	≤-14	PASS
			1000~26500	6.00	-46.24	≤-14	PASS



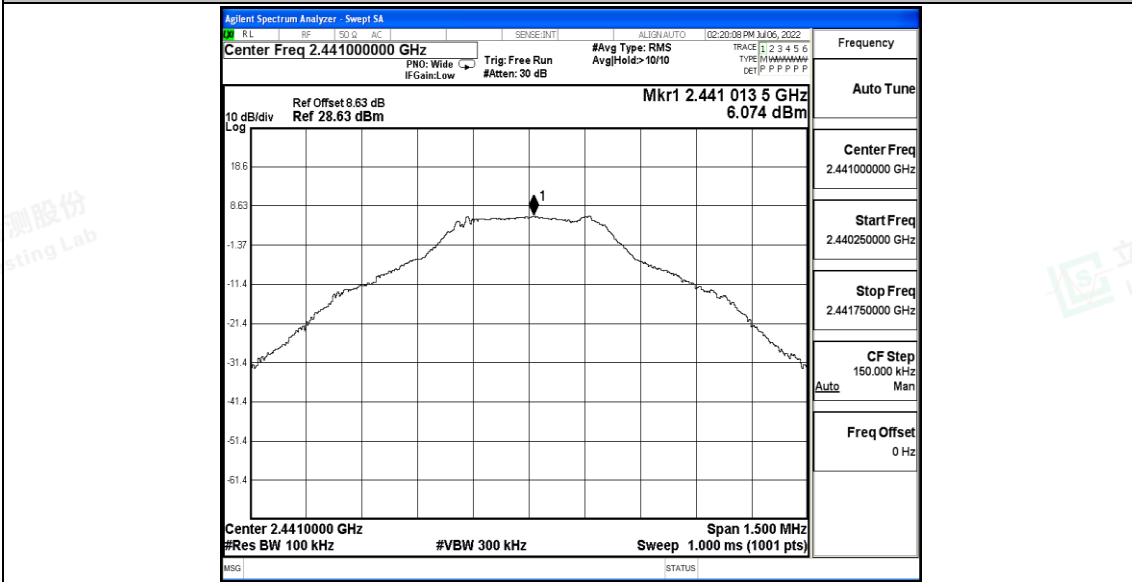


### Test Graphs





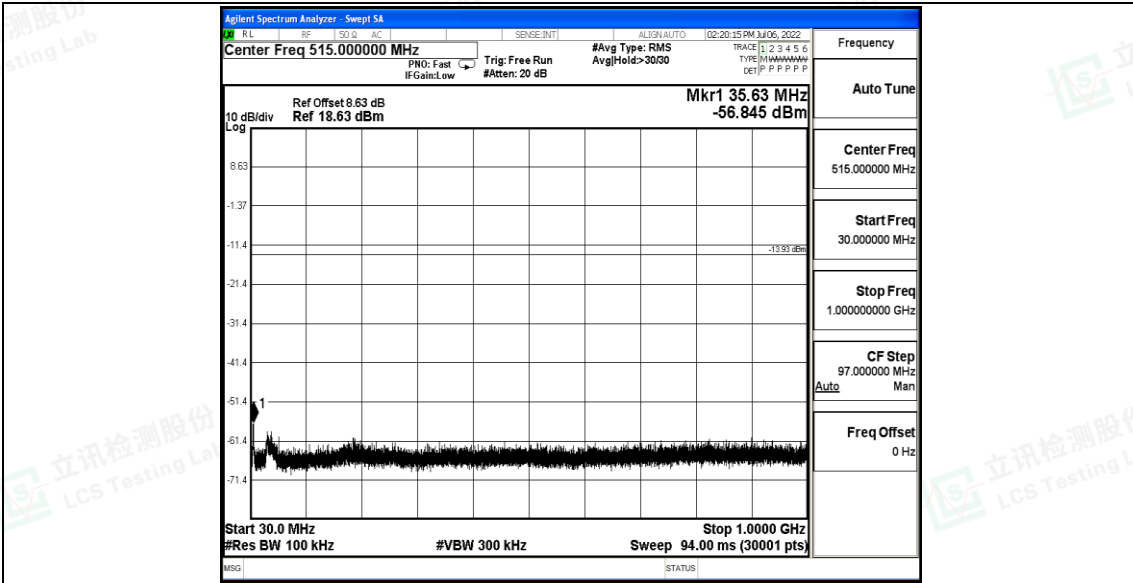
DH5\_Ant\_2441\_0~Reference



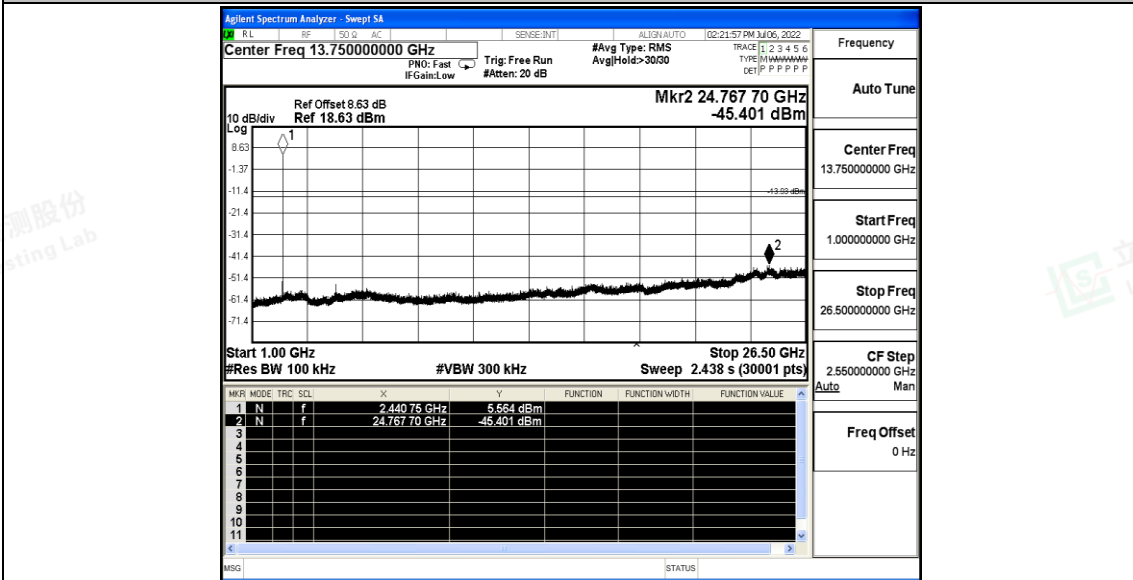
DH5\_Ant\_2441\_30~1000





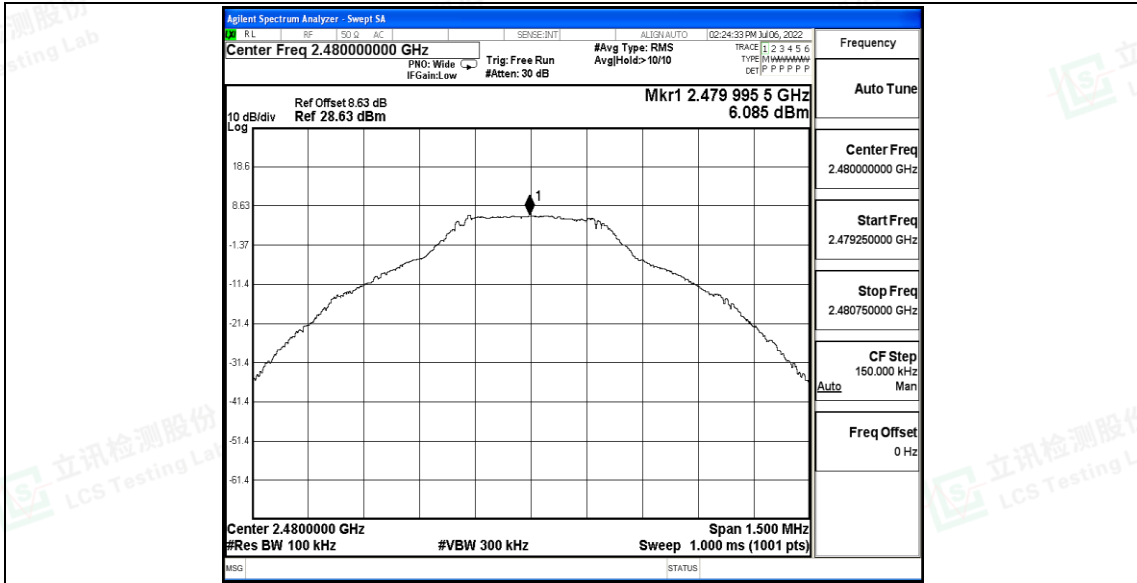


DH5\_Ant\_2441\_1000~26500

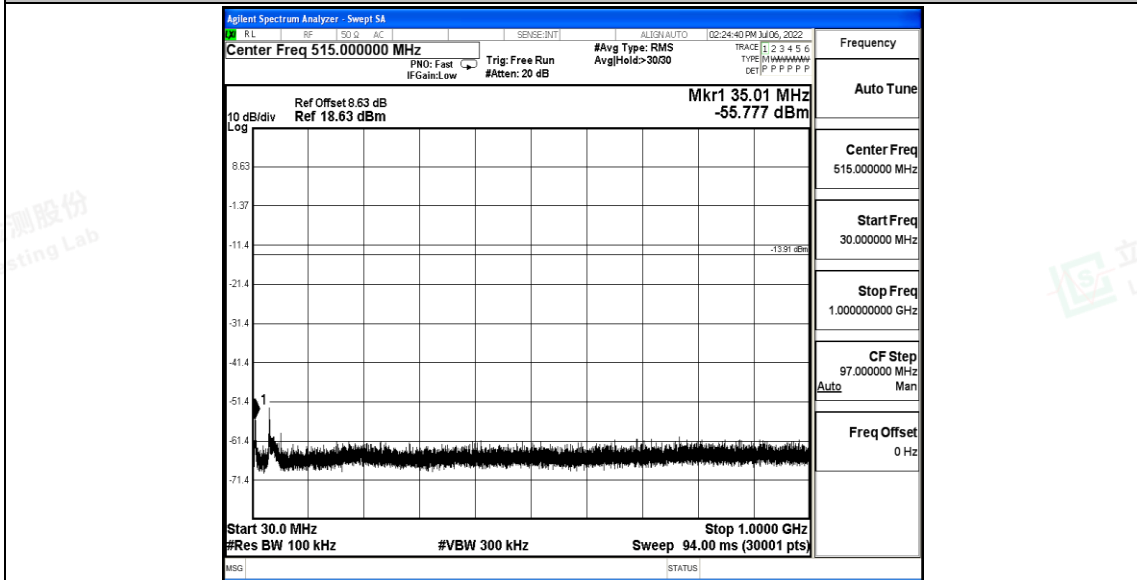


DH5\_Ant\_2480\_0~Reference



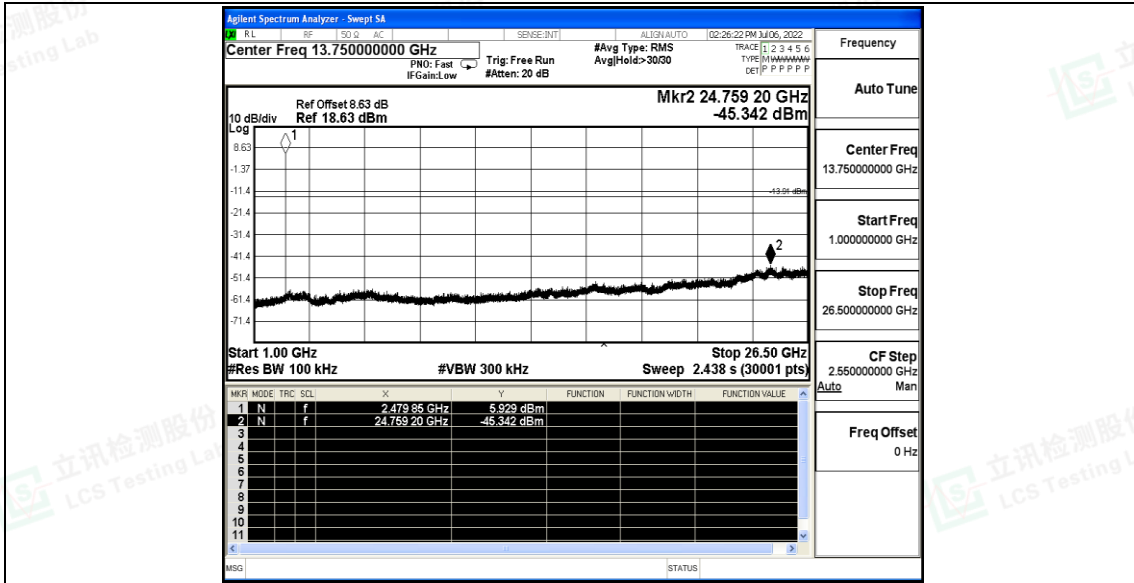


DH5\_Ant\_2480\_30~1000

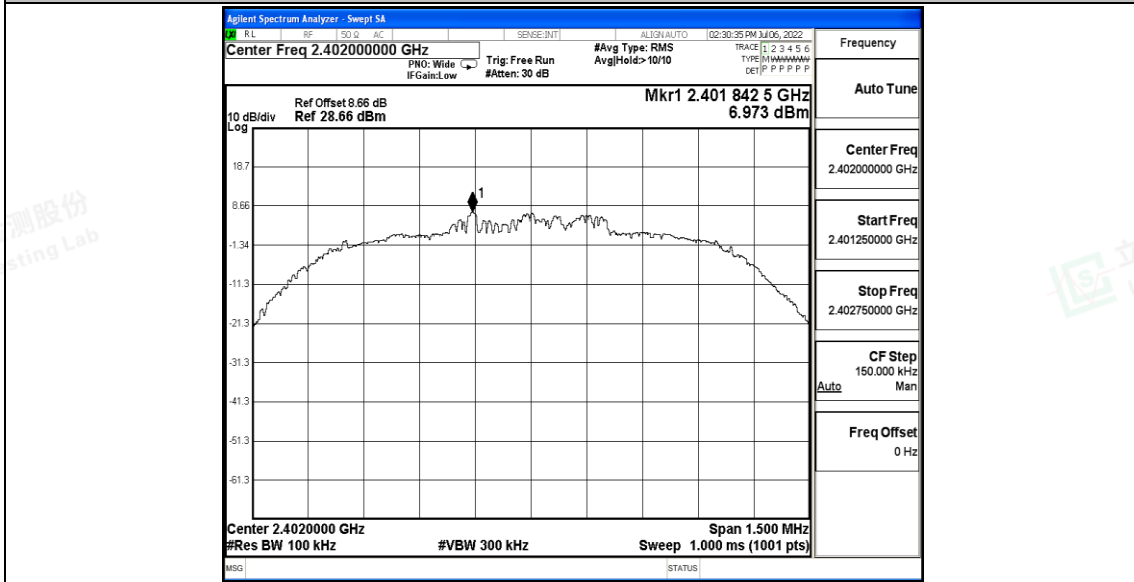


DH5\_Ant\_2480\_1000~26500



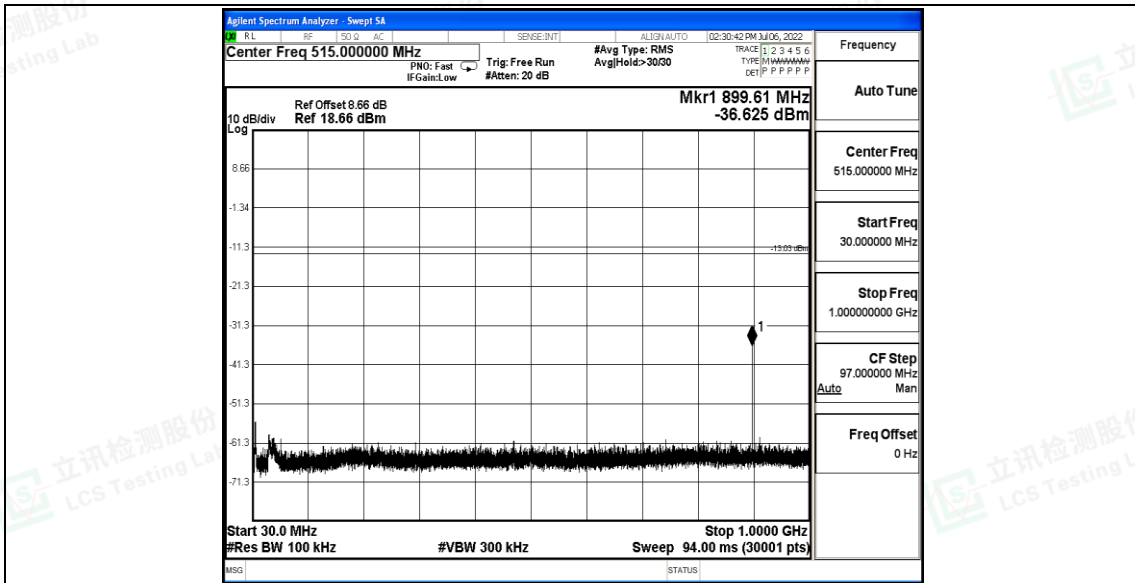


2DH5\_Ant\_2402\_0-Reference

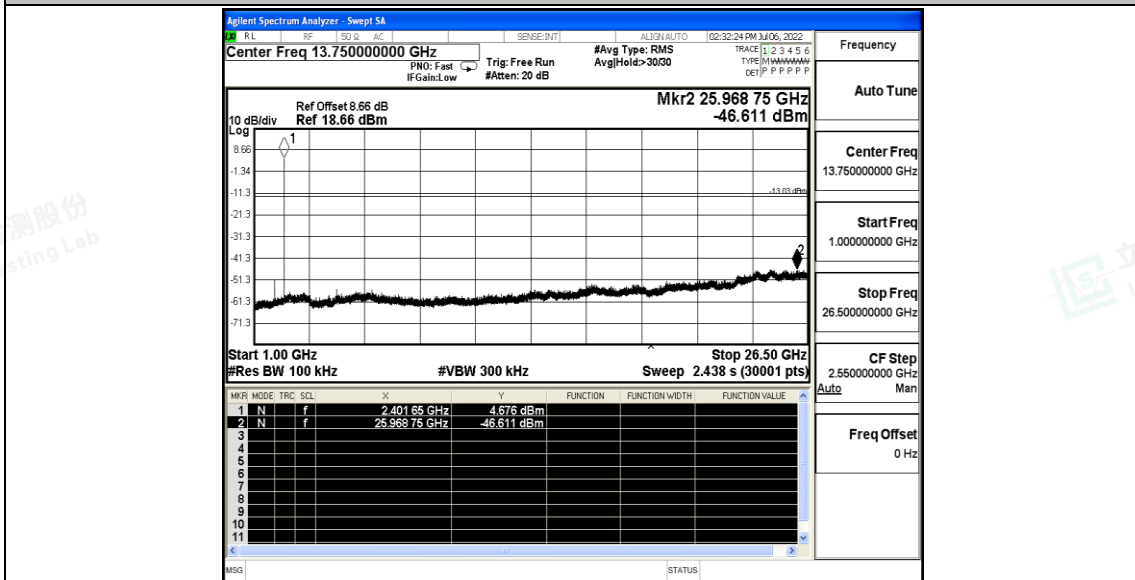


2DH5\_Ant\_2402\_30~1000



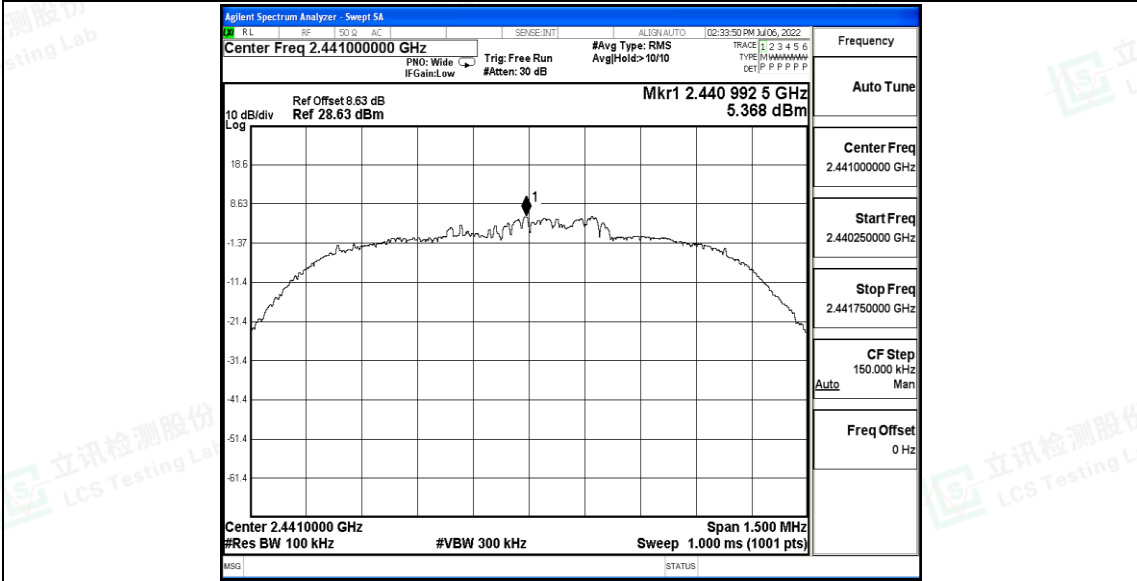


2DH5\_Ant\_2402\_1000~26500

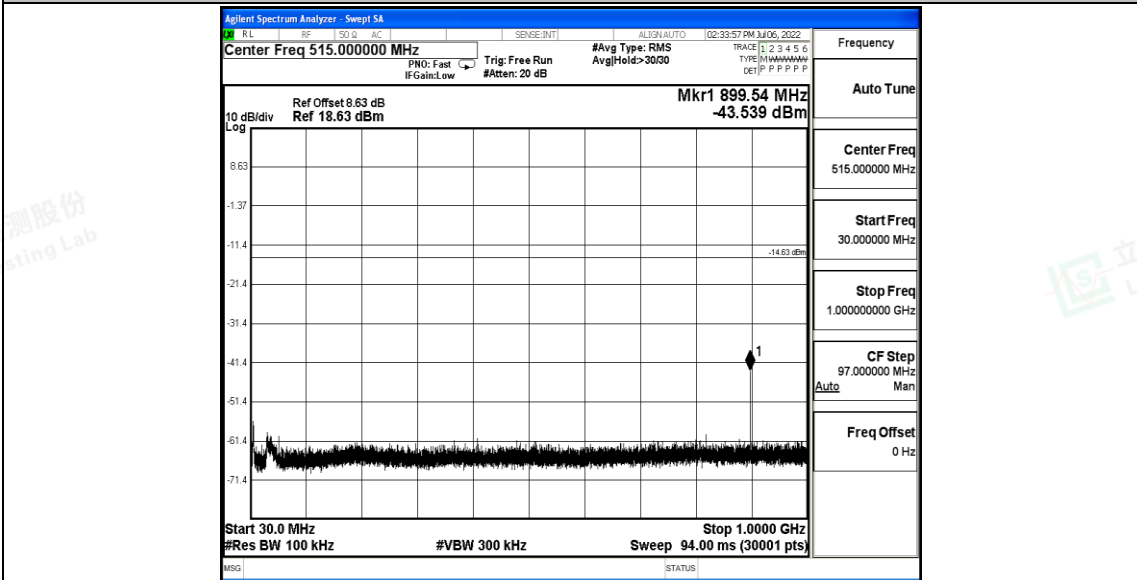


2DH5\_Ant\_2441\_0-Reference



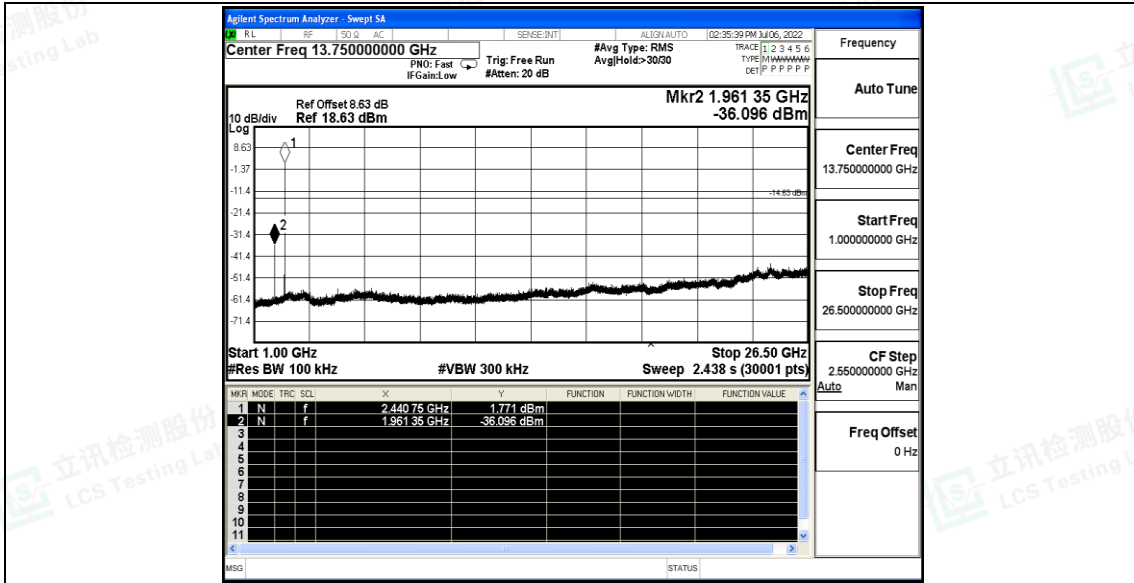


2DH5\_Ant\_2441\_30~1000

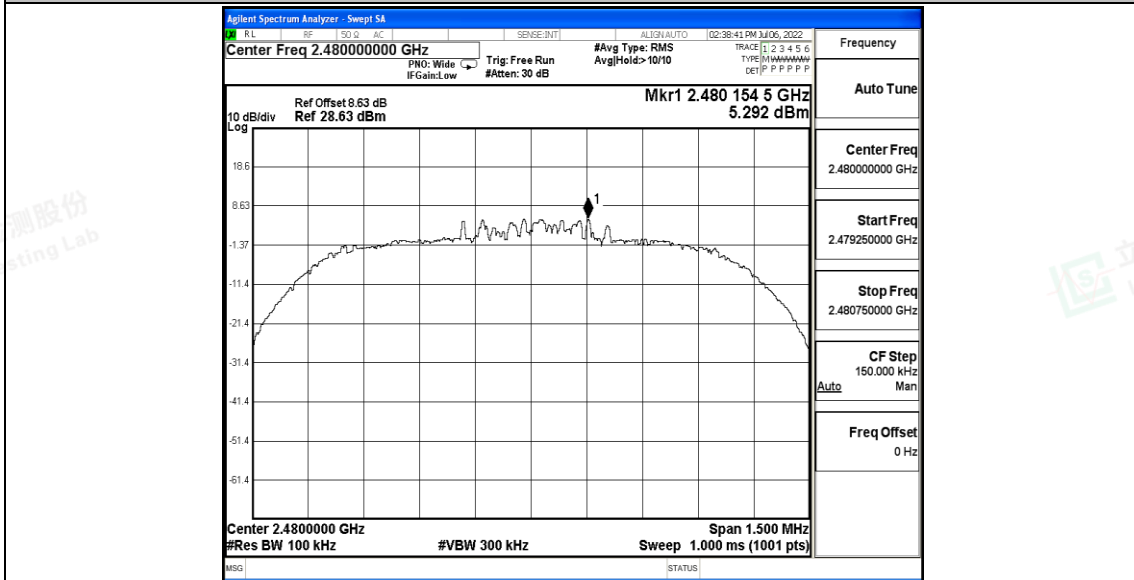


2DH5\_Ant\_2441\_1000~26500



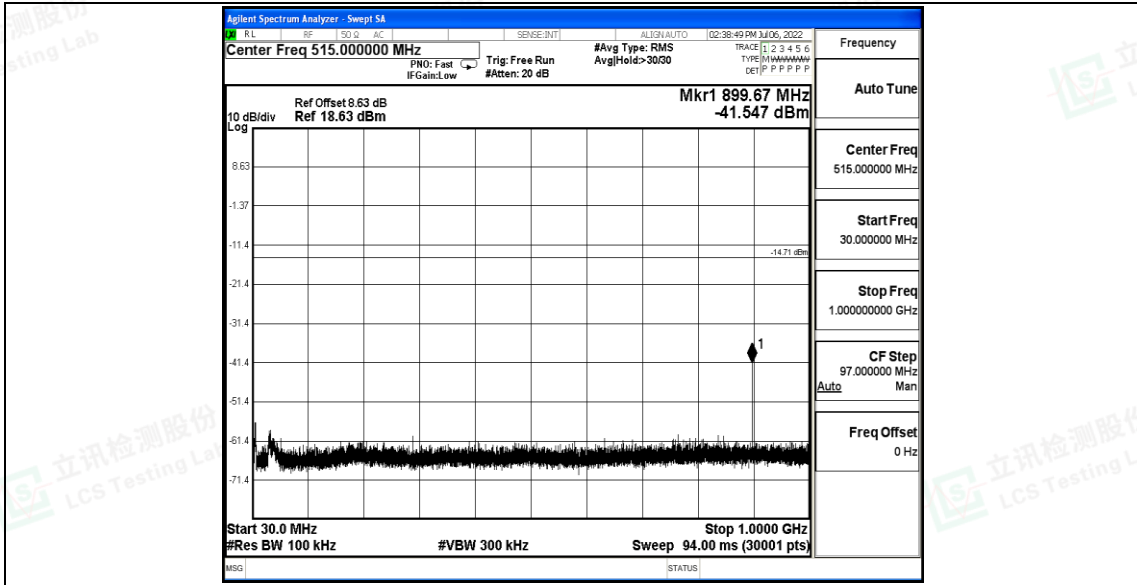


2DH5\_Ant\_2480\_0-Reference

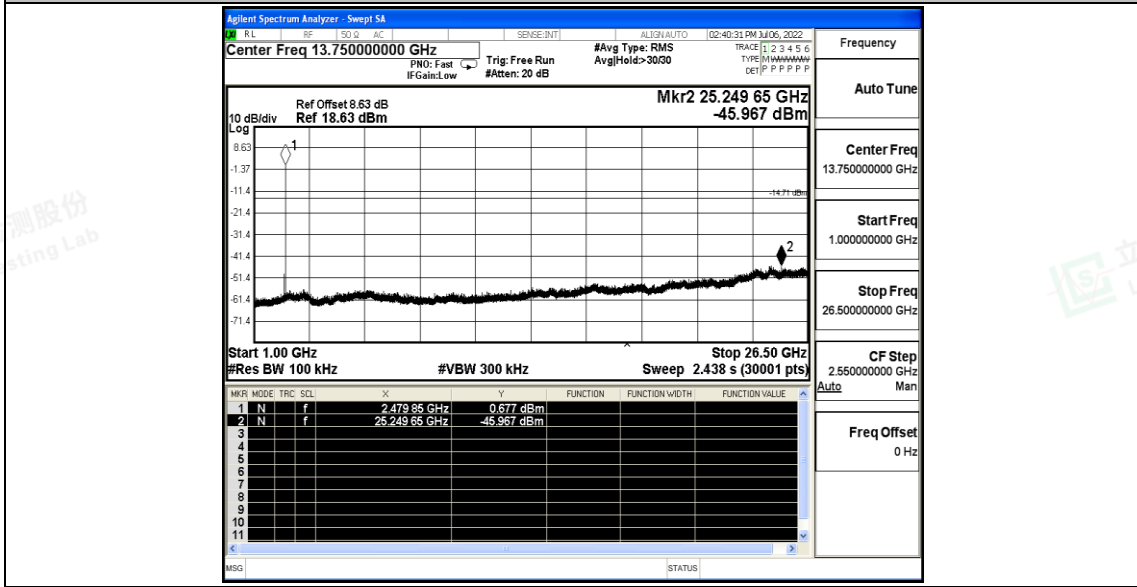


2DH5\_Ant\_2480\_30-1000



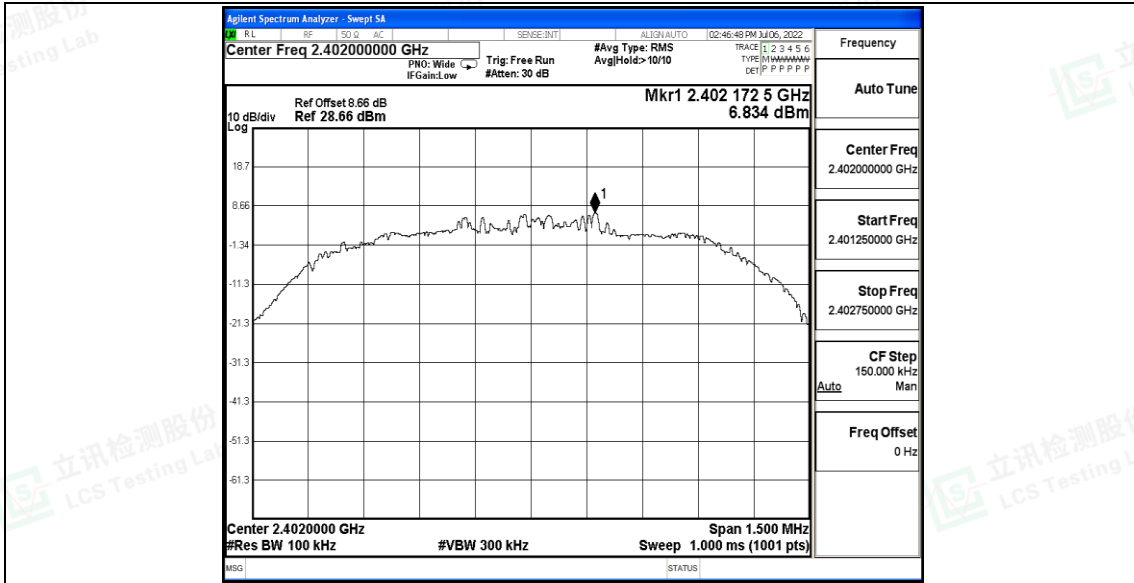


2DH5\_Ant\_2480\_1000~26500

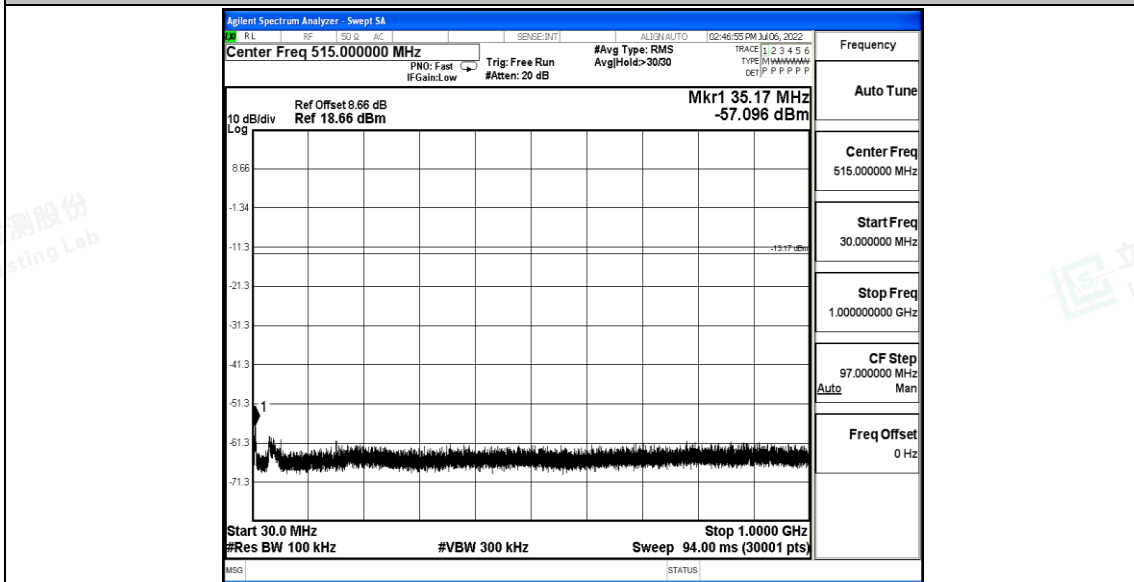


3DH5\_Ant\_2402\_0-Reference





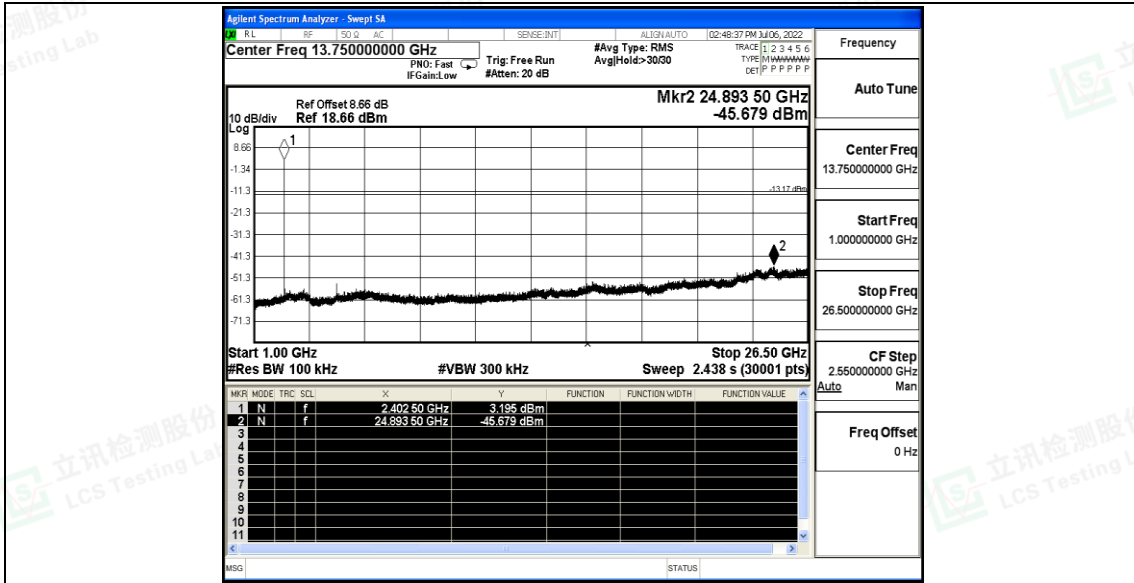
3DH5\_Ant\_2402\_30~1000



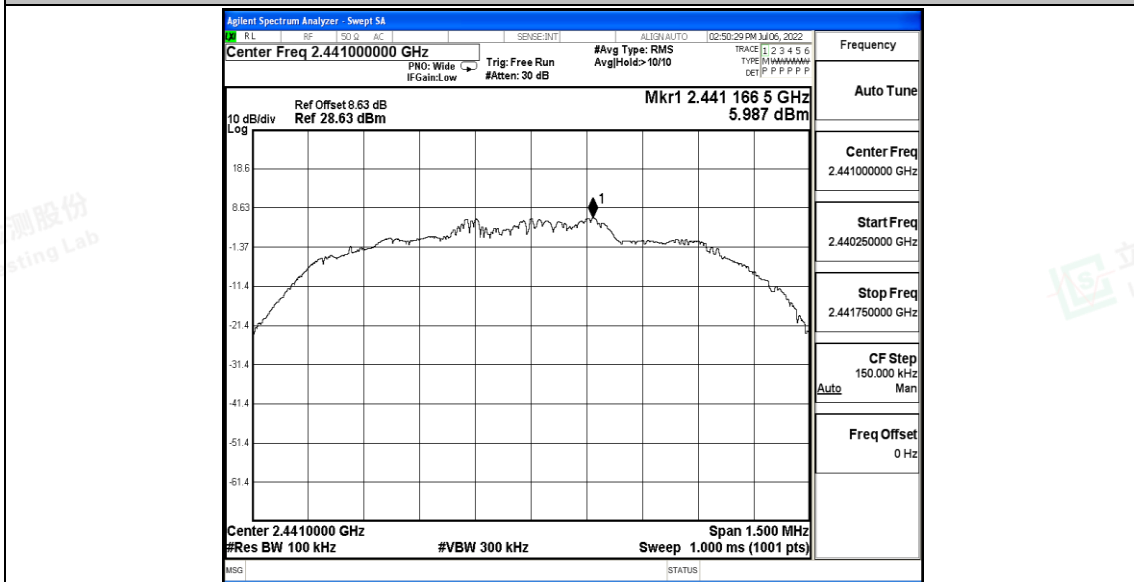
3DH5\_Ant\_2402\_1000~26500





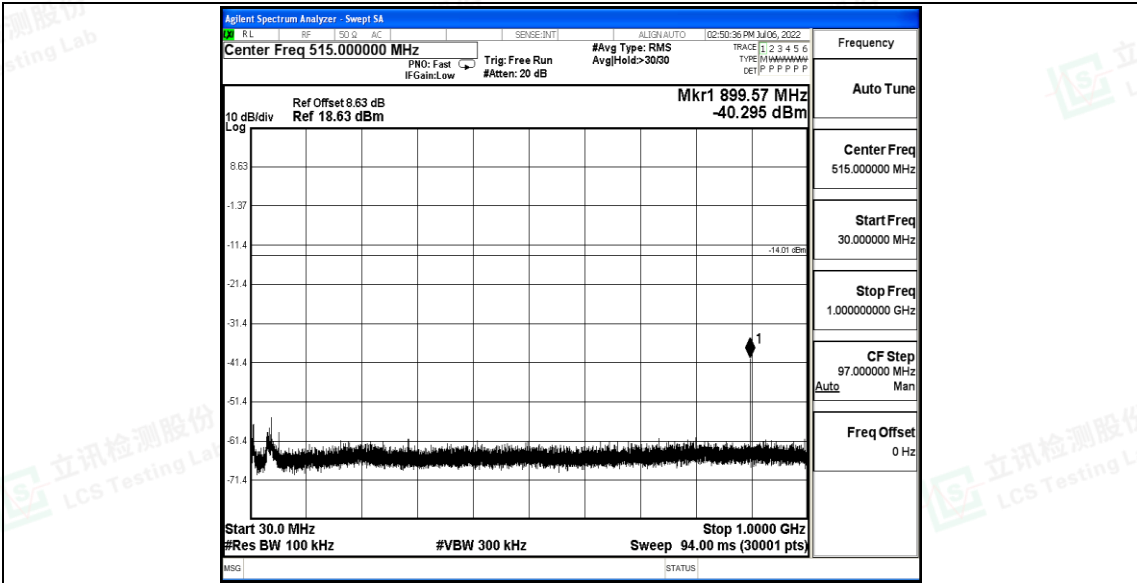


3DH5\_Ant\_2441\_0-Reference

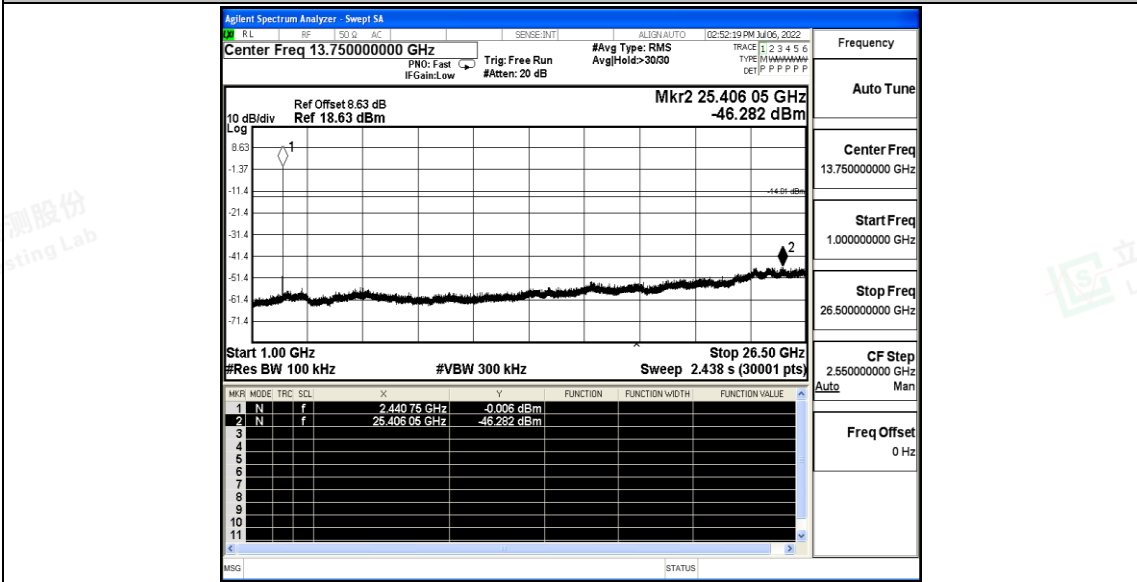


3DH5\_Ant\_2441\_30~1000



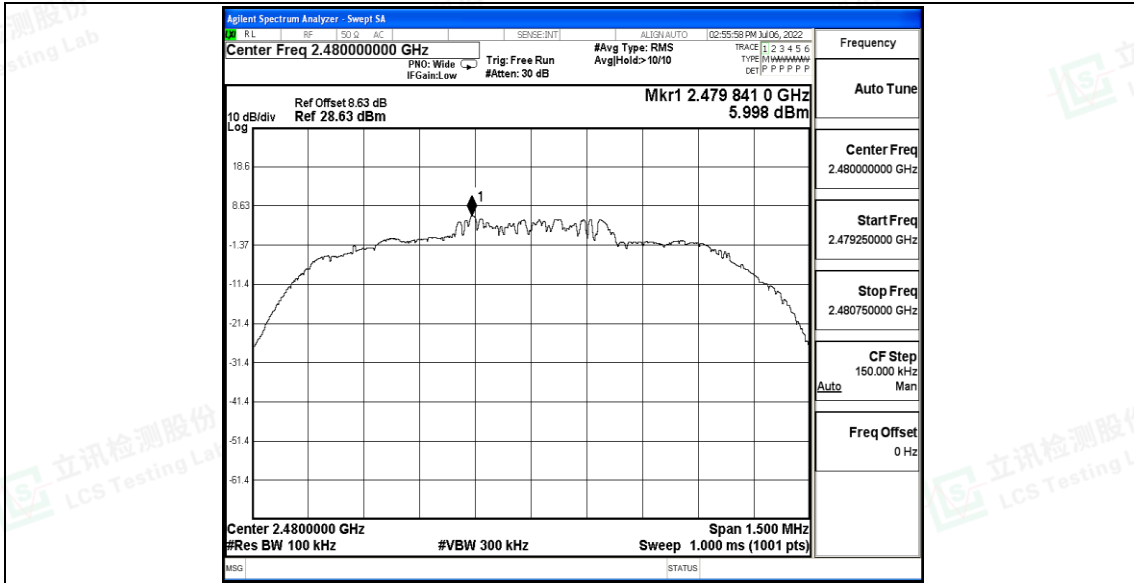


3DH5\_Ant\_2441\_1000~26500

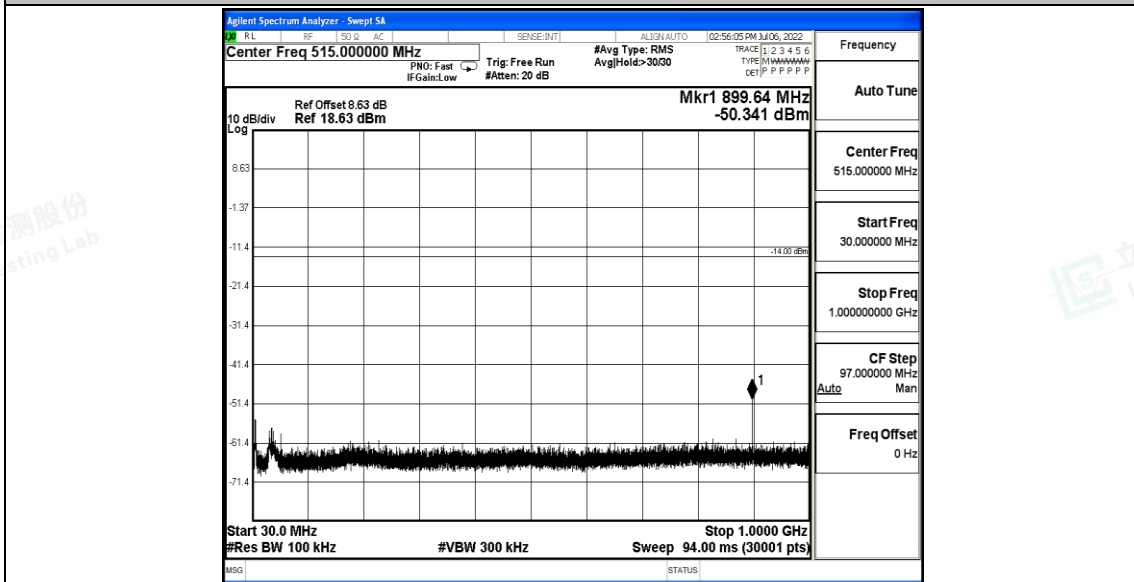


3DH5\_Ant\_2480\_0-Reference



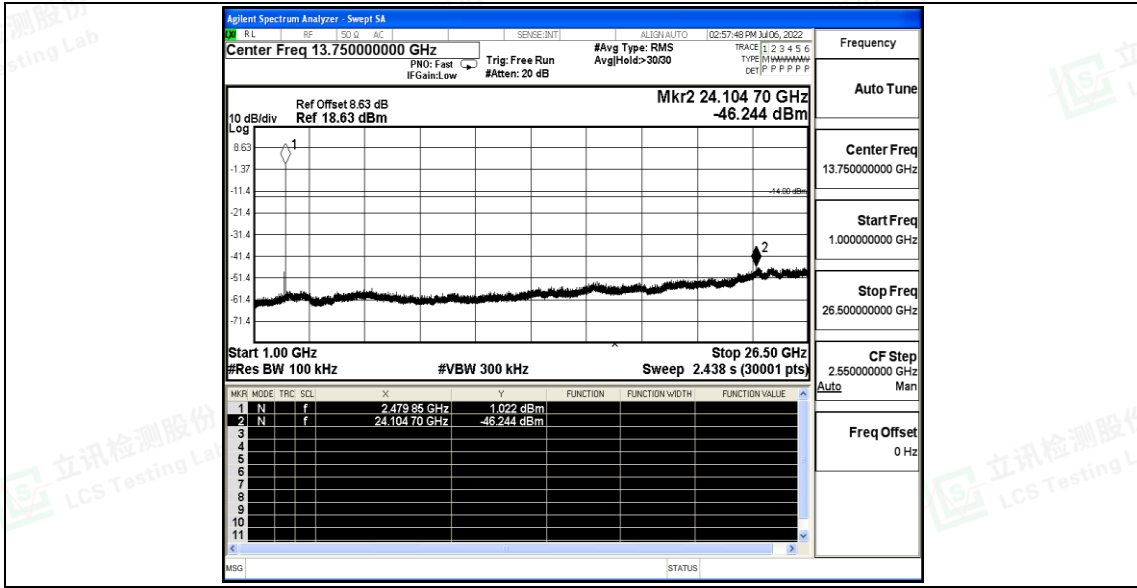


3DH5\_Ant\_2480\_30~1000



3DH5\_Ant\_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	Ant	Low	2402	AV	2310.000	-58.01	≤-41.20	37.19	≤54	PASS
				AV	2389.985	-57.04	≤-41.20	38.16	≤54	PASS
				AV	2390.000	-57.04	≤-41.20	38.16	≤54	PASS
				Peak	2310.000	-48.69	≤-21.20	46.51	≤74	PASS
				Peak	2348.090	-45.82	≤-21.20	49.38	≤74	PASS
				Peak	2390.000	-47.57	≤-21.20	47.63	≤74	PASS
		High	2480	AV	2483.500	-51.61	≤-41.20	43.59	≤54	PASS
				AV	2483.520	-51.61	≤-41.20	43.59	≤54	PASS
				AV	2500.000	-57.02	≤-41.20	38.18	≤54	PASS
				Peak	2483.500	-39.89	≤-21.20	55.31	≤74	PASS
				Peak	2483.520	-39.89	≤-21.20	55.31	≤74	PASS
				Peak	2500.000	-47.26	≤-21.20	47.94	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-58.01	≤-41.20	37.19	≤54	PASS
				AV	2388.725	-57.09	≤-41.20	38.11	≤54	PASS
				AV	2390.000	-57.13	≤-41.20	38.07	≤54	PASS
				Peak	2310.000	-49.03	≤-21.20	46.17	≤74	PASS
				Peak	2380.325	-46.27	≤-21.20	48.93	≤74	PASS
				Peak	2390.000	-48.19	≤-21.20	47.01	≤74	PASS
		High	2480	AV	2483.500	-51.64	≤-41.20	43.56	≤54	PASS
				AV	2483.520	-51.64	≤-41.20	43.56	≤54	PASS
				AV	2500.000	-57.06	≤-41.20	38.14	≤54	PASS
				Peak	2483.500	-46.85	≤-21.20	48.35	≤74	PASS
				Peak	2484.240	-41.98	≤-21.20	53.22	≤74	PASS
				Peak	2500.000	-45.8	≤-21.20	49.40	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-58	≤-41.20	37.20	≤54	PASS
				AV	2389.880	-57.06	≤-41.20	38.14	≤54	PASS
				AV	2390.000	-57.14	≤-41.20	38.06	≤54	PASS
				Peak	2310.000	-48.78	≤-21.20	46.42	≤74	PASS
				Peak	2388.935	-43.42	≤-21.20	51.78	≤74	PASS
				Peak	2390.000	-45.64	≤-21.20	49.56	≤74	PASS
		High	2480	AV	2483.500	-51.73	≤-41.20	43.47	≤54	PASS
				AV	2483.520	-51.8	≤-41.20	43.40	≤54	PASS
				AV	2500.000	-57.07	≤-41.20	38.13	≤54	PASS
				Peak	2483.500	-46.16	≤-21.20	49.04	≤74	PASS
Peak	2499.840	-45.64	≤-21.20	49.56	≤74	PASS				





				Peak	2500.000	-47.19	≤-21.20	48.01	≤74	PASS
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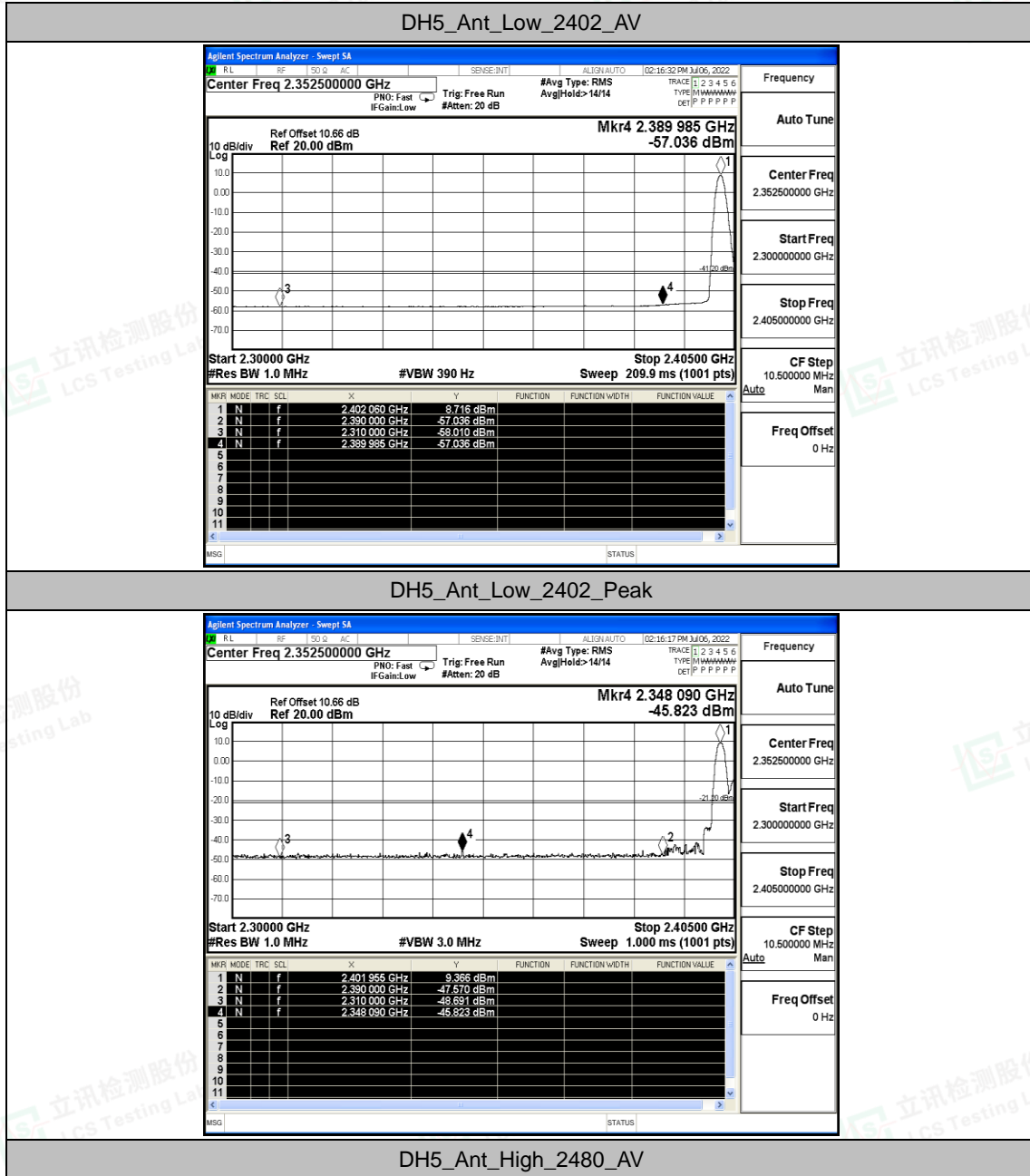
Note:

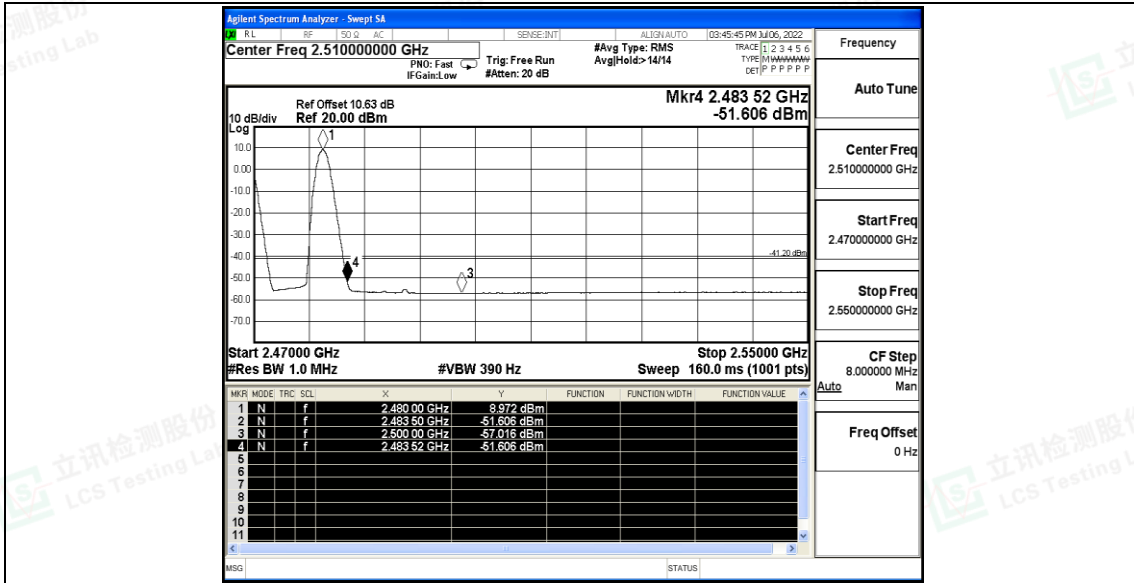
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



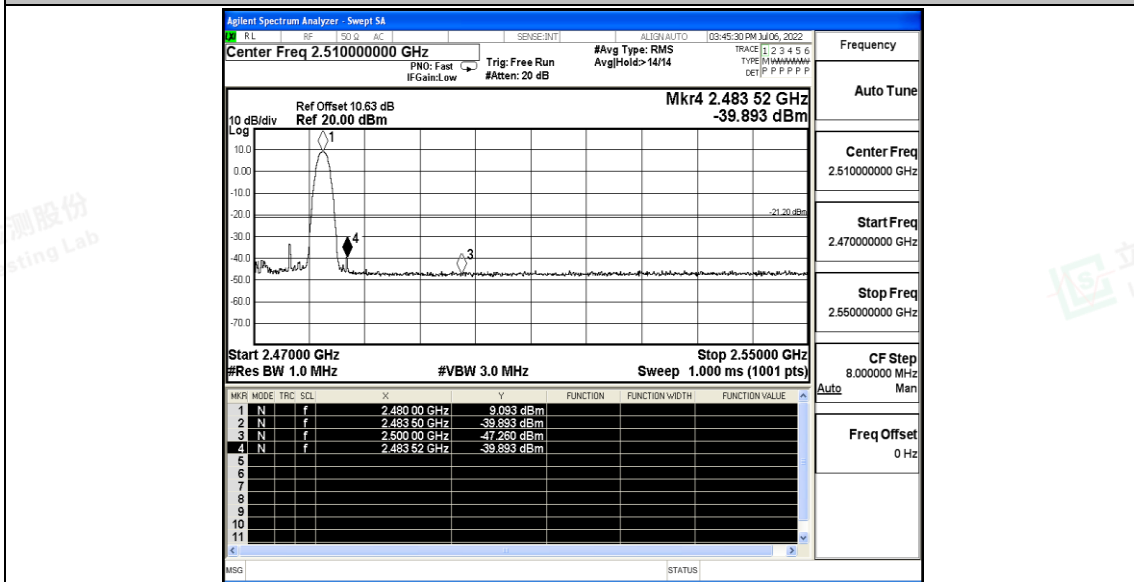


### Test Graphs





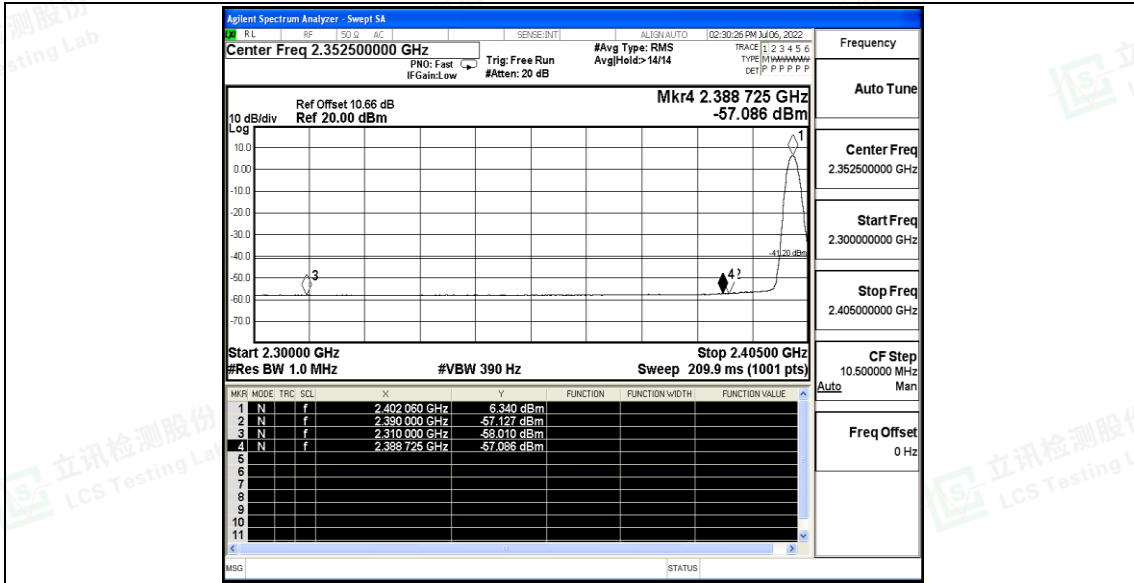
DH5\_Ant\_High\_2480\_Peak



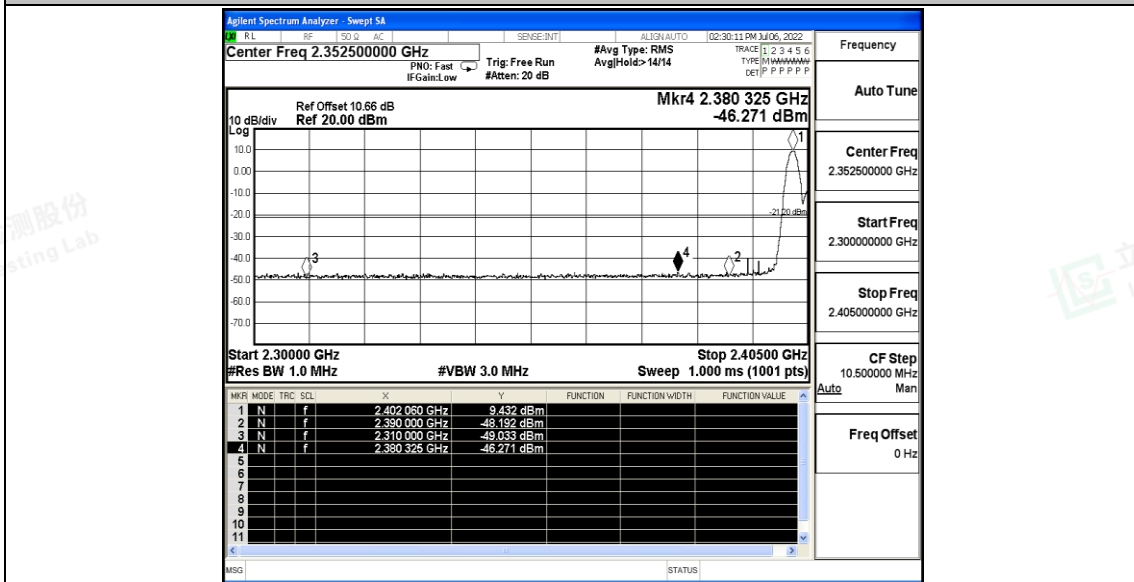
2DH5\_Ant\_Low\_2402\_AV





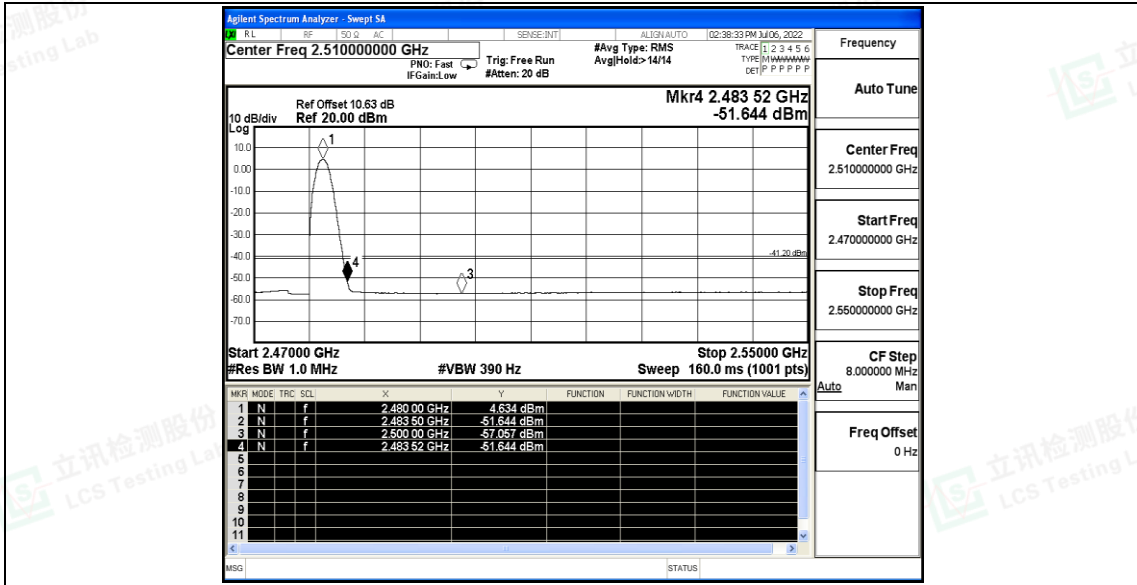


2DH5\_Ant\_Low\_2402\_Peak

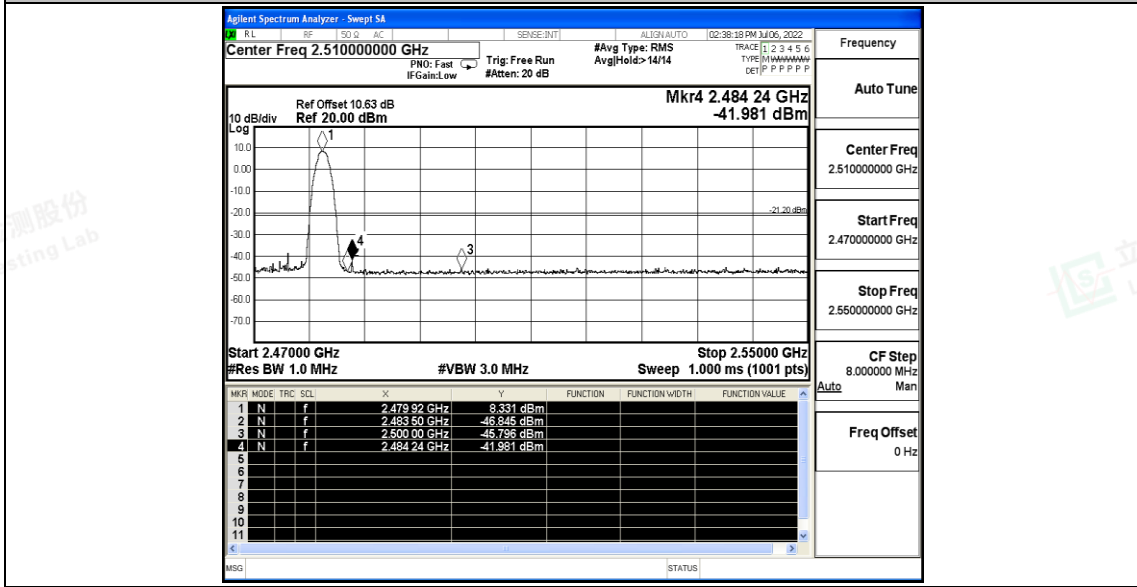


2DH5\_Ant\_High\_2480\_AV



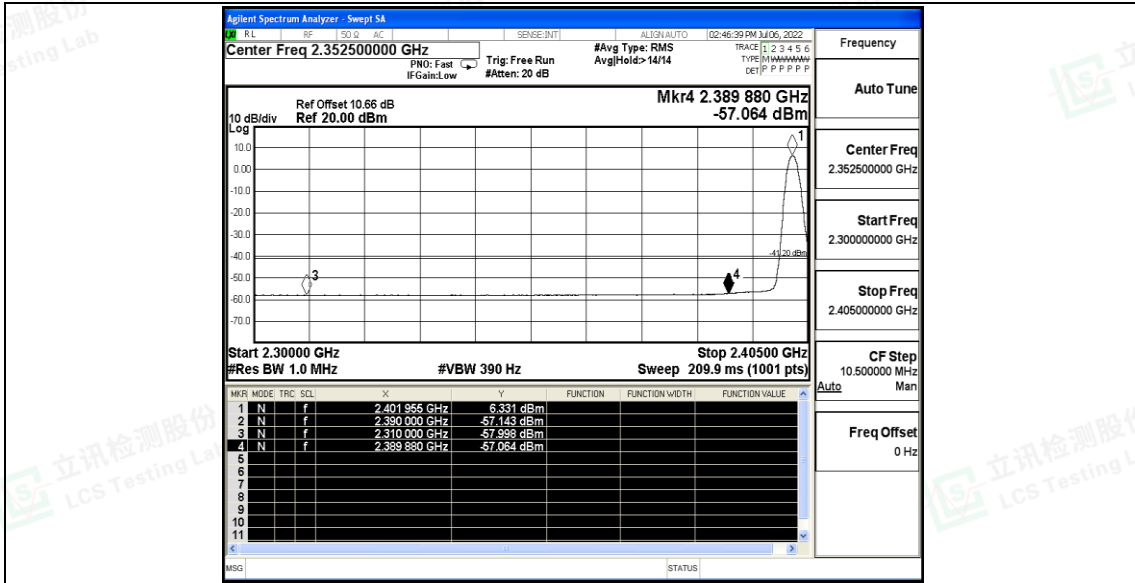


2DH5\_Ant\_High\_2480\_Peak

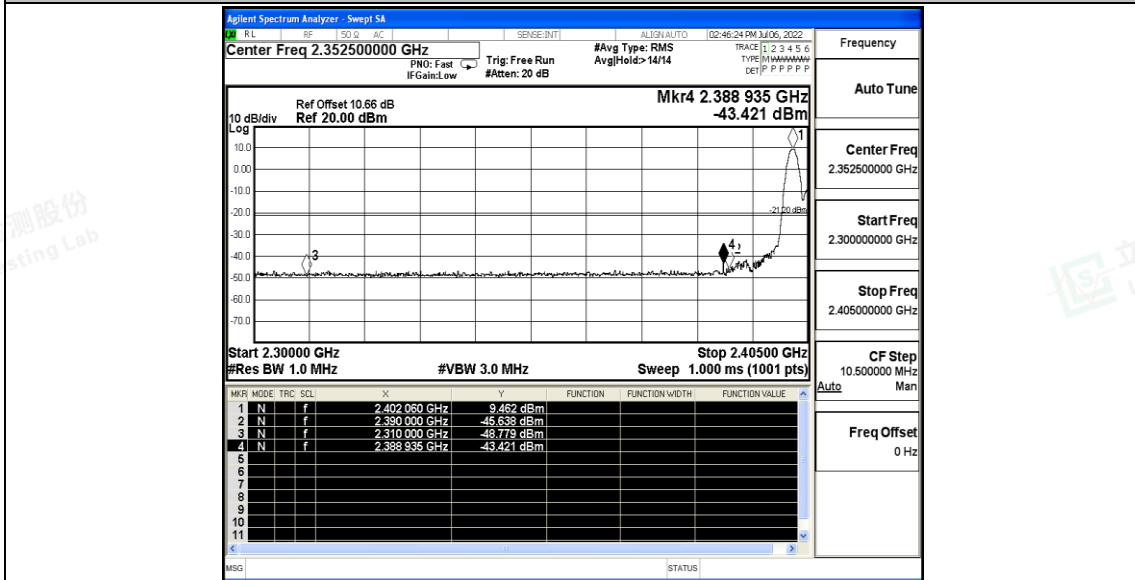


3DH5\_Ant\_Low\_2402\_AV



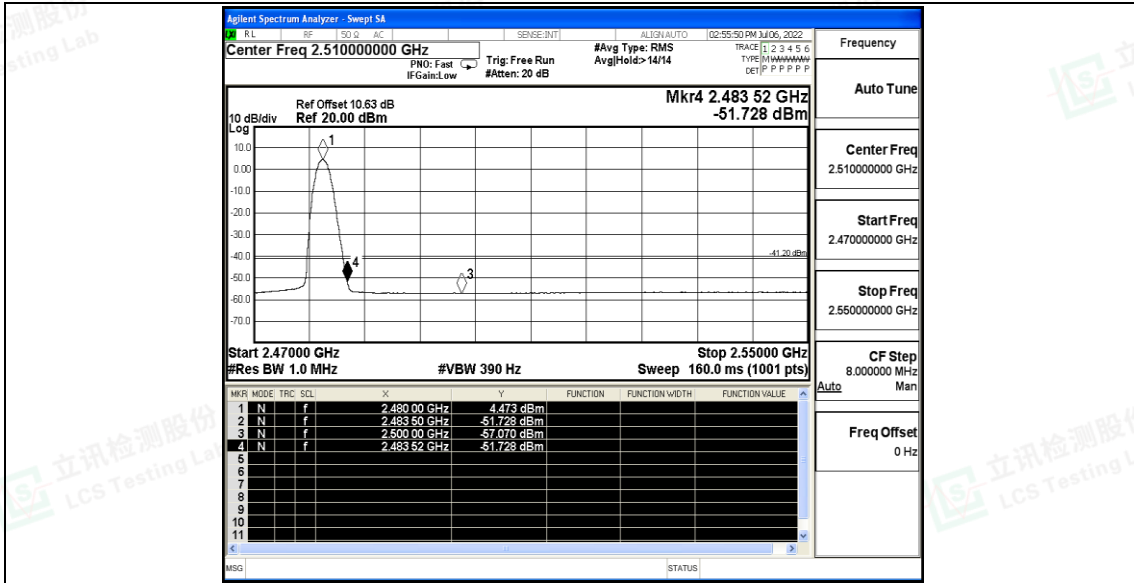


3DH5\_Ant\_Low\_2402\_Peak



3DH5\_Ant\_High\_2480\_AV





3DH5\_Ant\_High\_2480\_Peak

