



## Appendix A

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

Product Name: RGB Wireless headphone

Test Model: LS-HB2306

#### Environmental Conditions

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





### A.1 20dB Emission Bandwidth

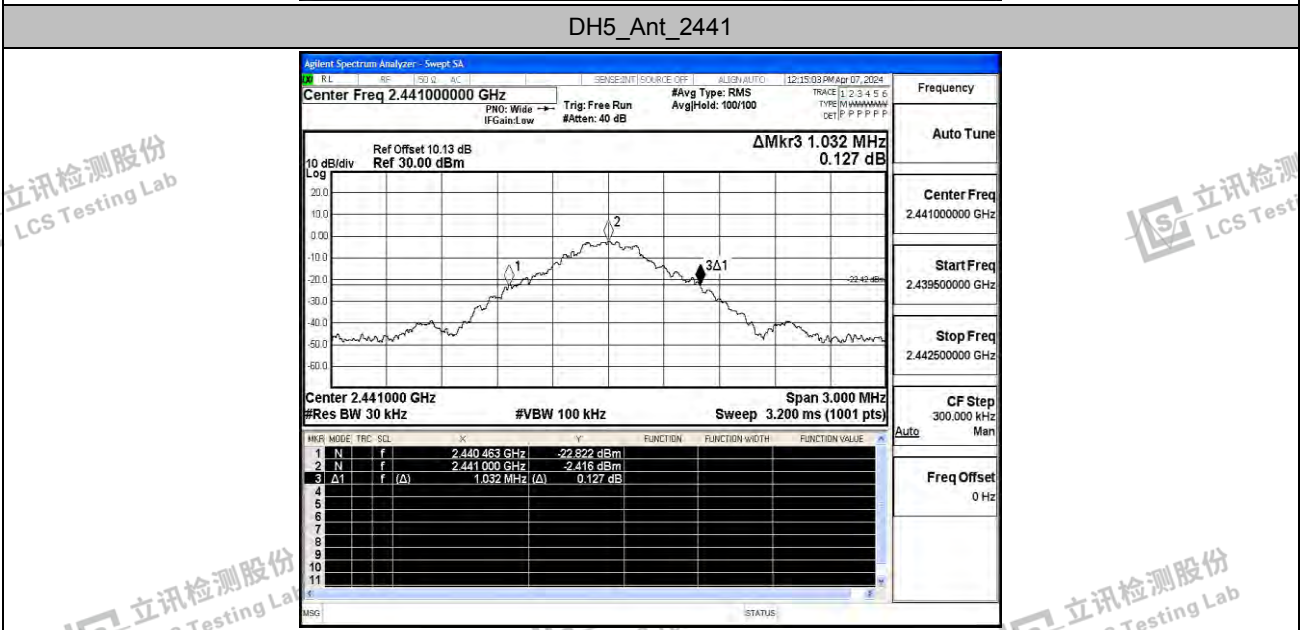
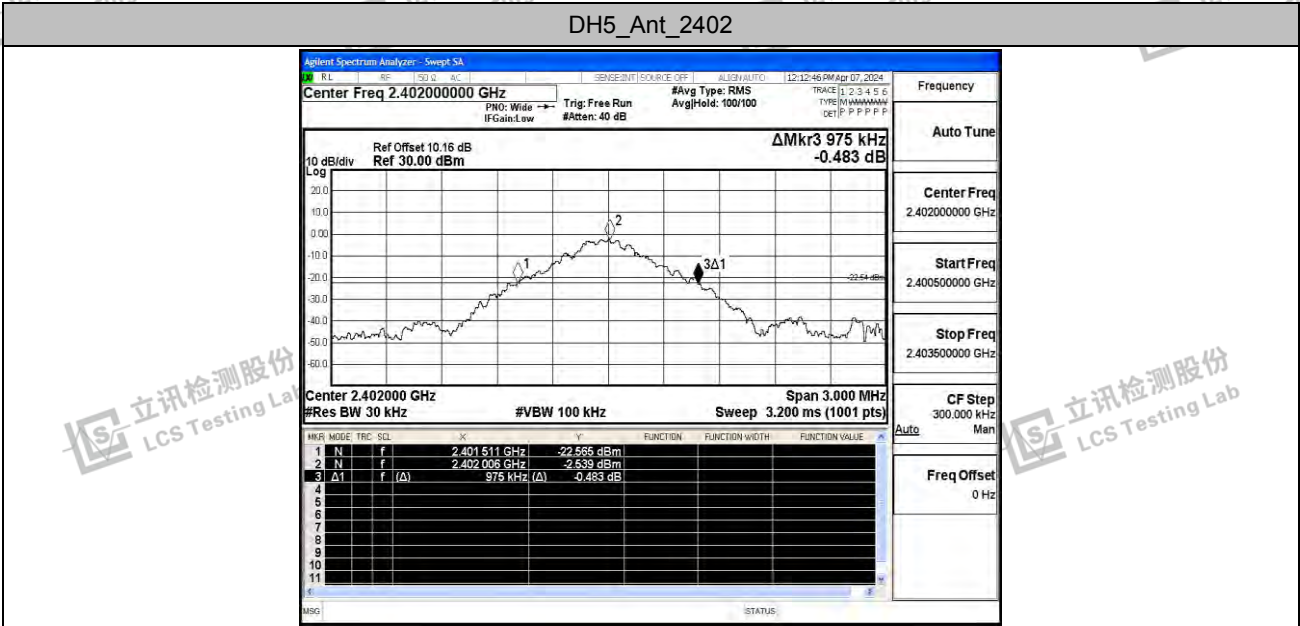
#### Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant	2402	0.975	2401.511	2402.486	---	---
		2441	1.032	2440.463	2441.495	---	---
		2480	1.017	2479.466	2480.483	---	---
2DH5	Ant	2402	1.314	2401.331	2402.645	---	---
		2441	1.293	2440.349	2441.642	---	---
		2480	1.293	2479.352	2480.645	---	---
3DH5	Ant	2402	1.296	2401.343	2402.639	---	---
		2441	1.281	2440.346	2441.627	---	---
		2480	1.308	2479.337	2480.645	---	---



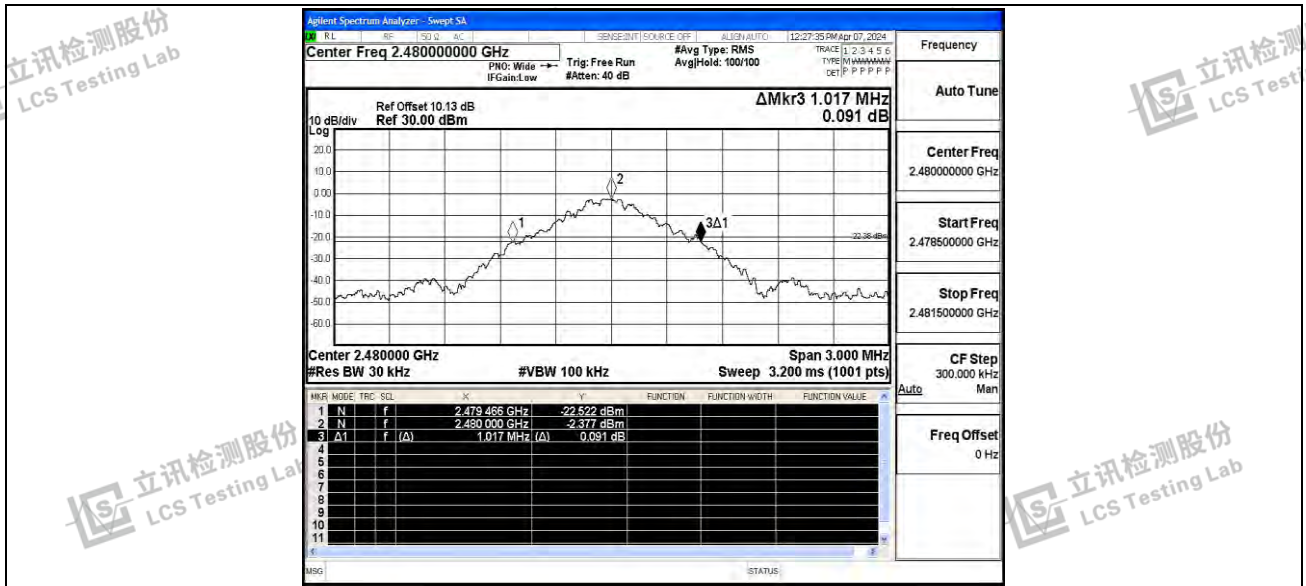


### Test Graphs

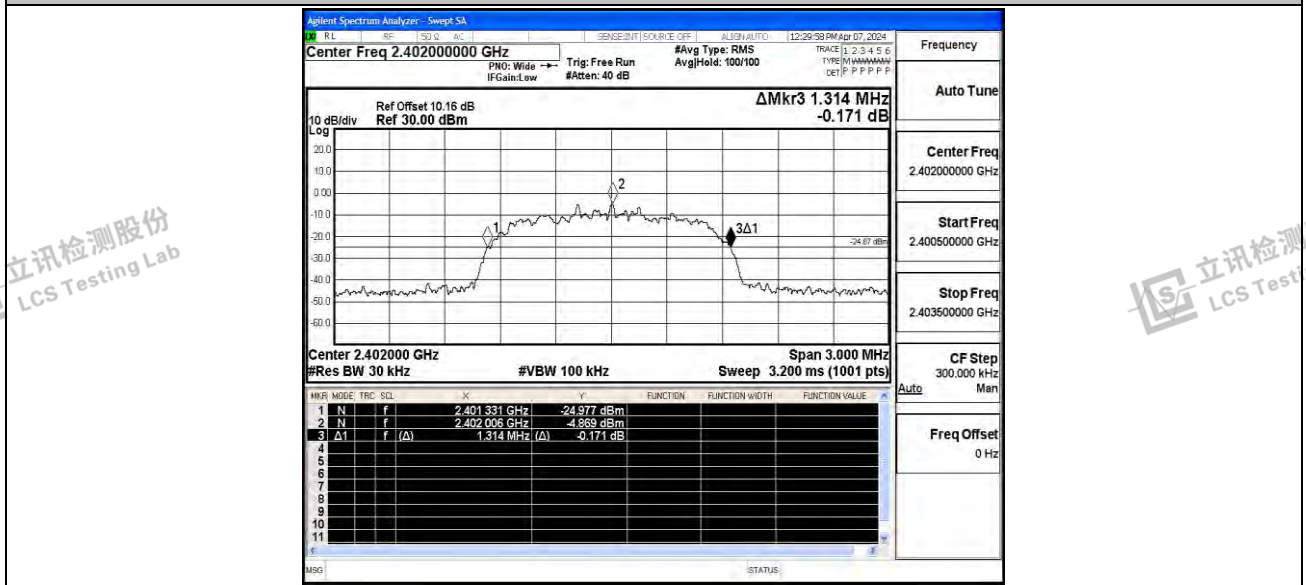


**DH5\_Ant\_2480**





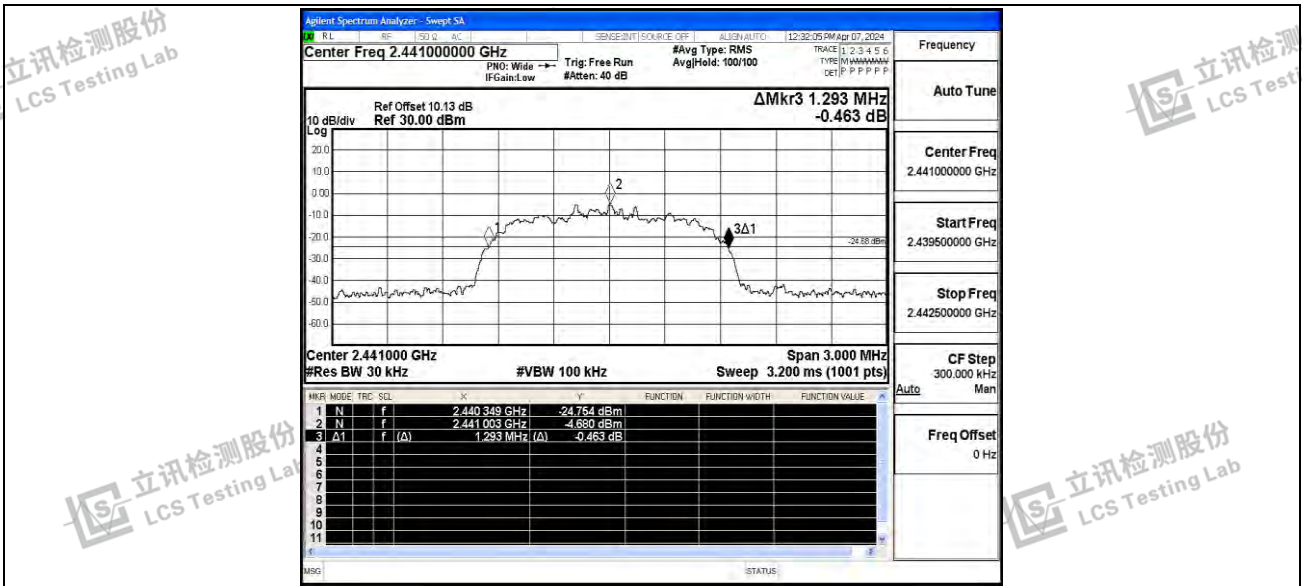
2DH5\_Ant\_2402



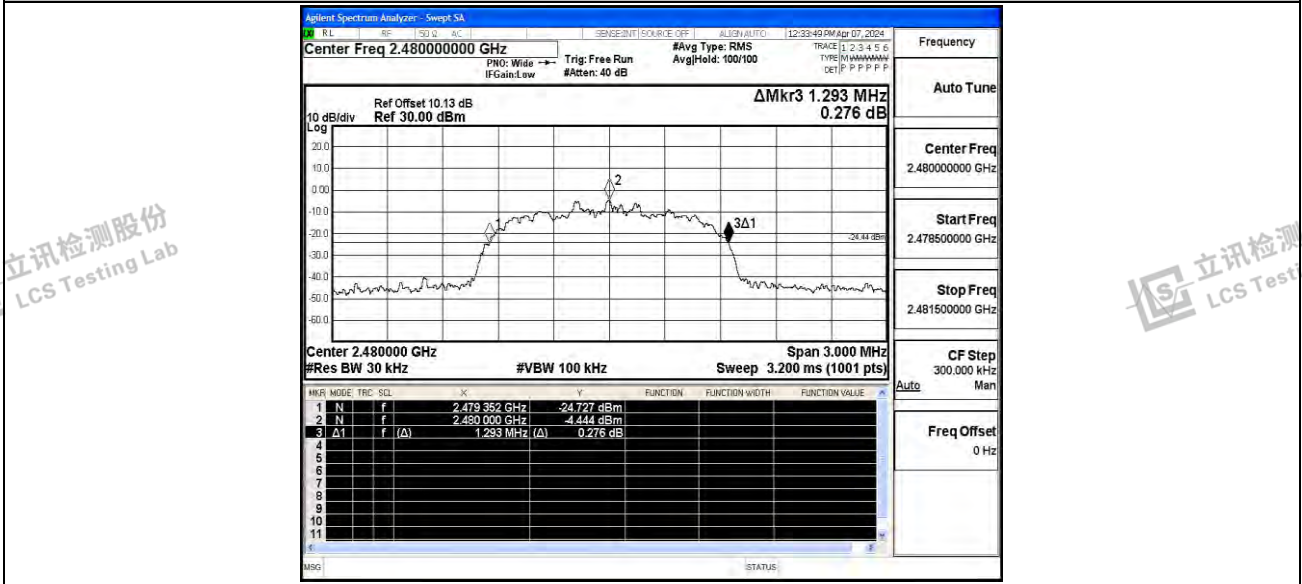
2DH5\_Ant\_2441





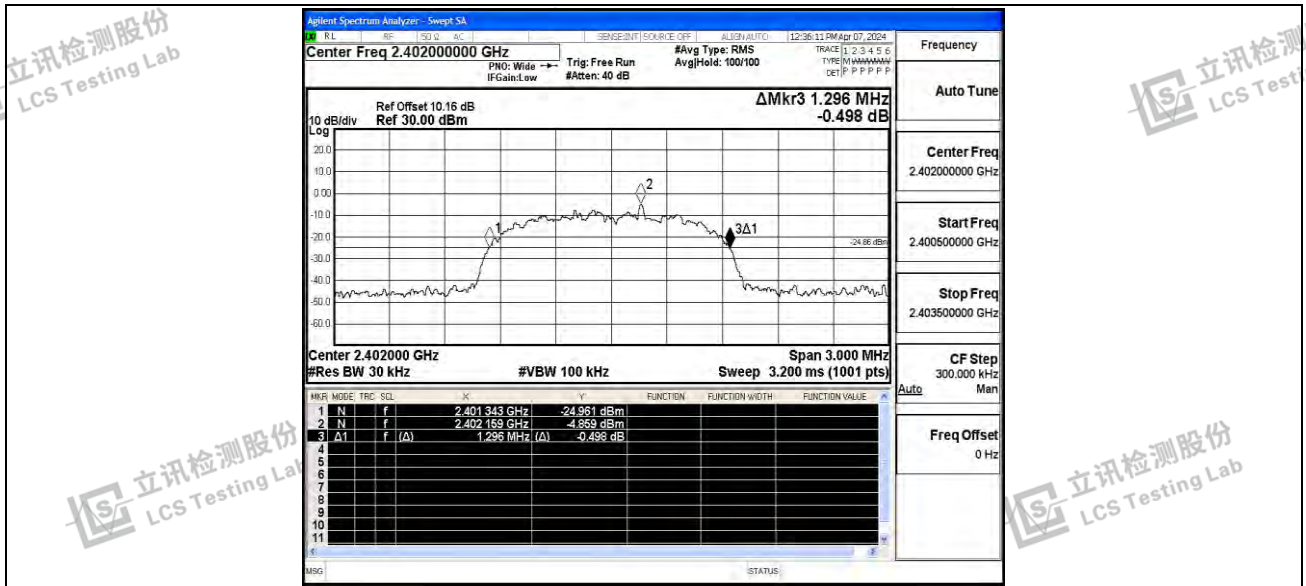


2DH5\_Ant\_2480

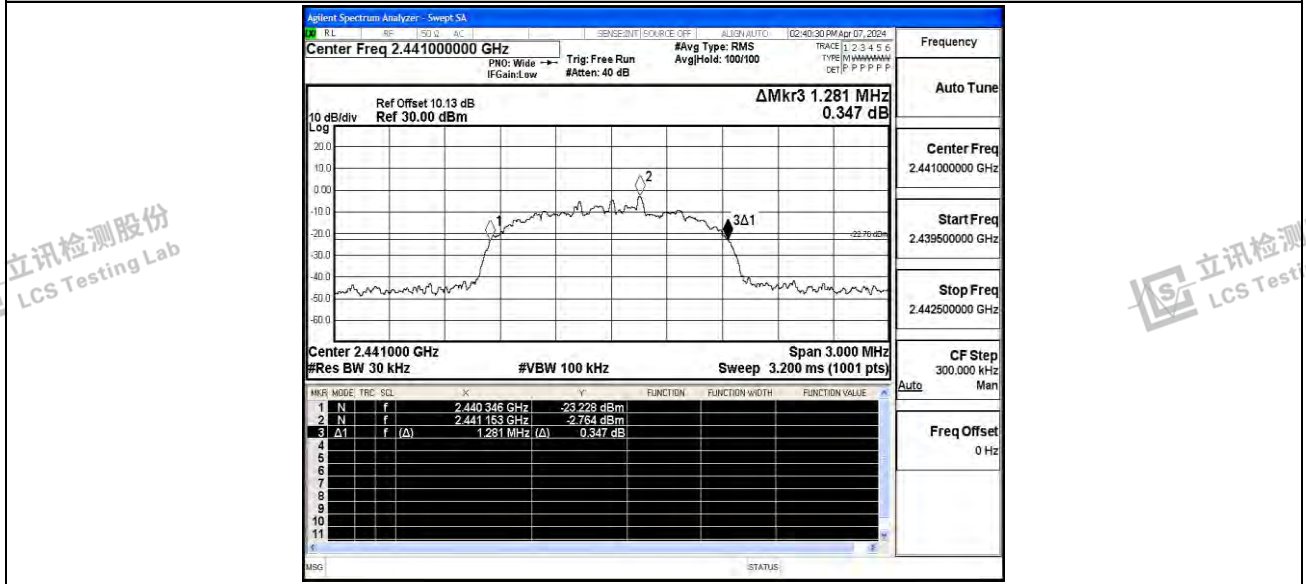


3DH5\_Ant\_2402



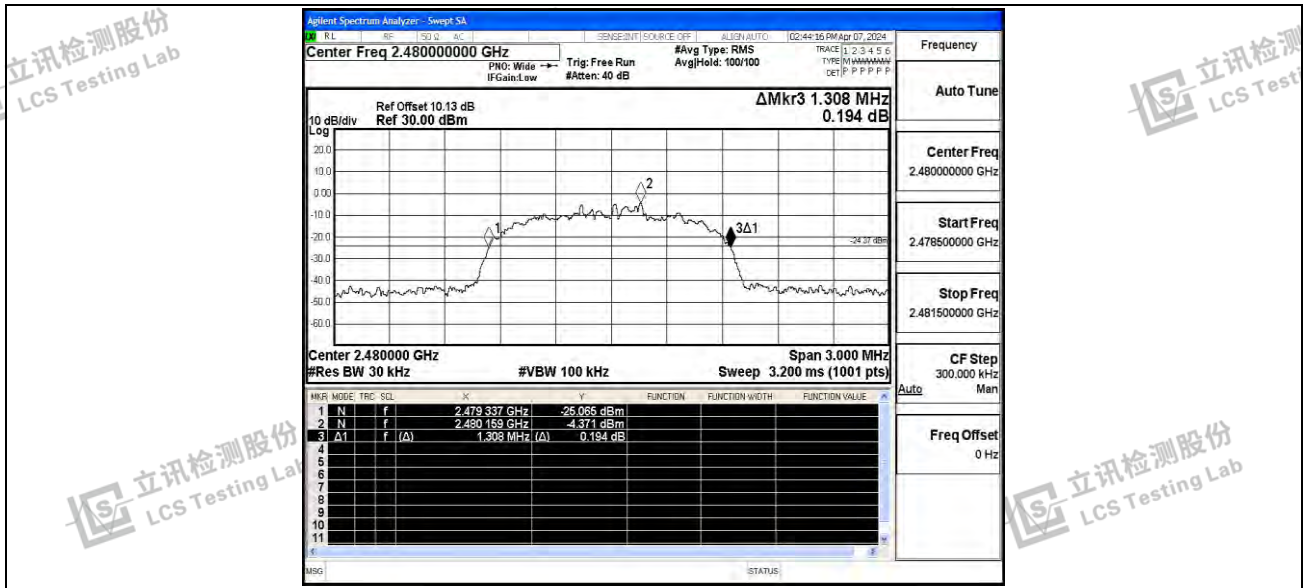


3DH5\_Ant\_2441



3DH5\_Ant\_2480







## A.2 Maximum conducted output power

### Test Result Peak

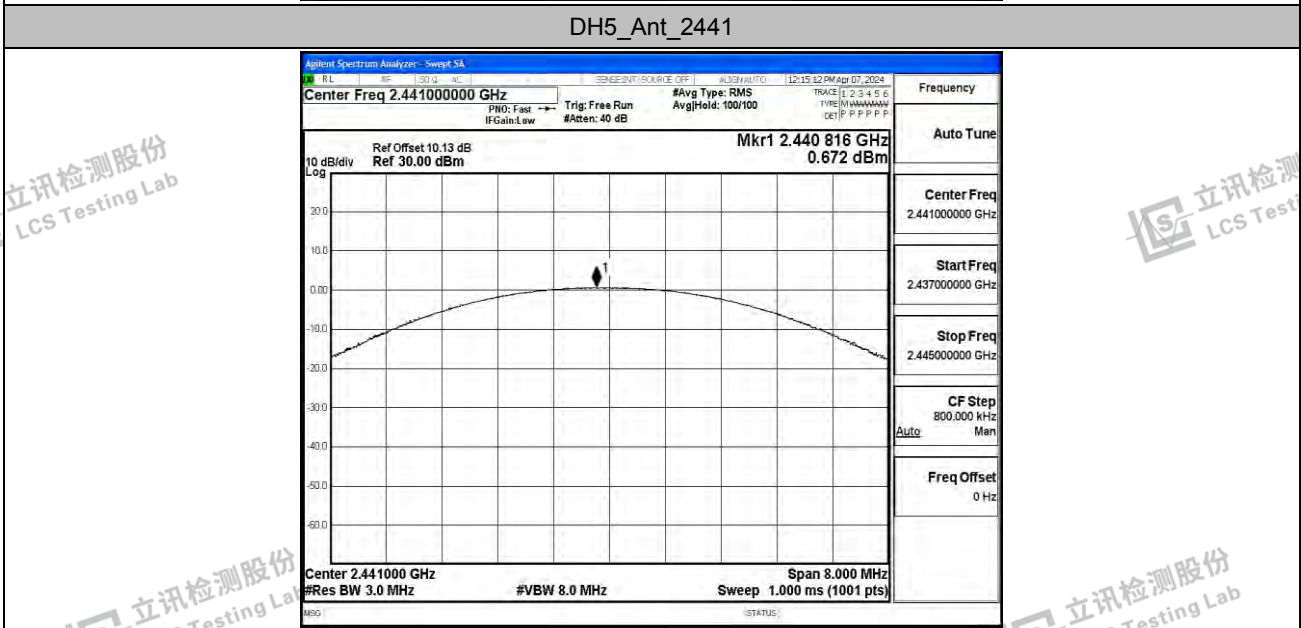
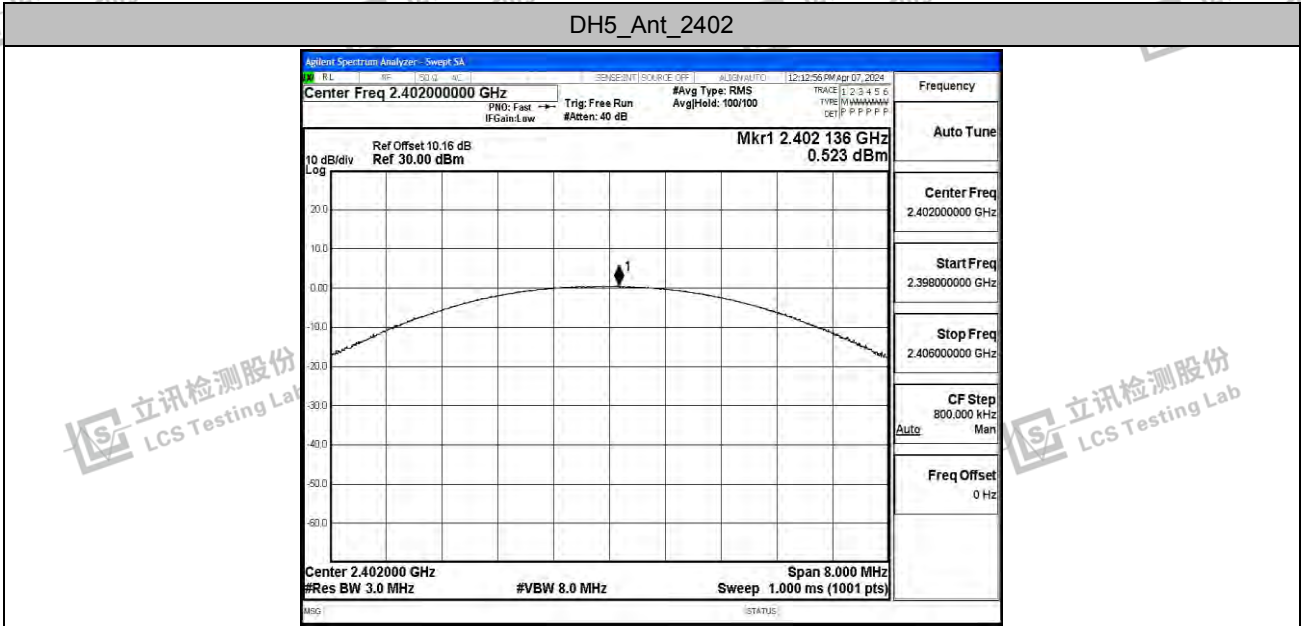
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant	2402	0.52	≤20.97	PASS
		2441	0.67	≤20.97	PASS
		2480	0.67	≤20.97	PASS
2DH5	Ant	2402	0.22	≤20.97	PASS
		2441	0.34	≤20.97	PASS
		2480	0.46	≤20.97	PASS
3DH5	Ant	2402	0.35	≤20.97	PASS
		2441	0.69	≤20.97	PASS
		2480	0.78	≤20.97	PASS





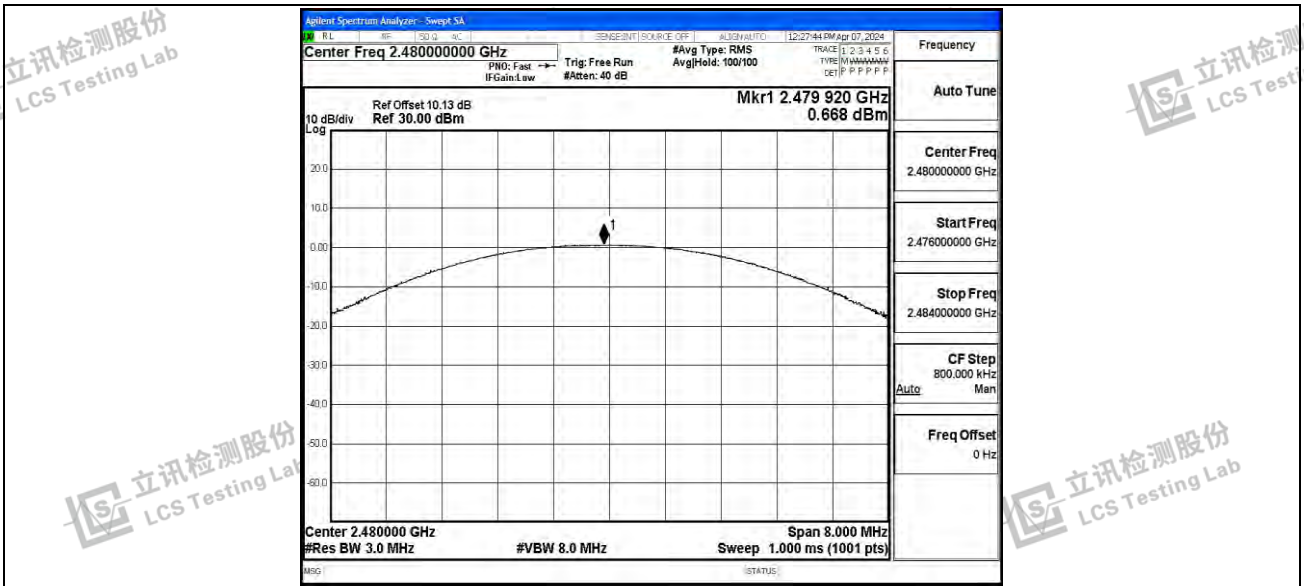


### Test Graphs

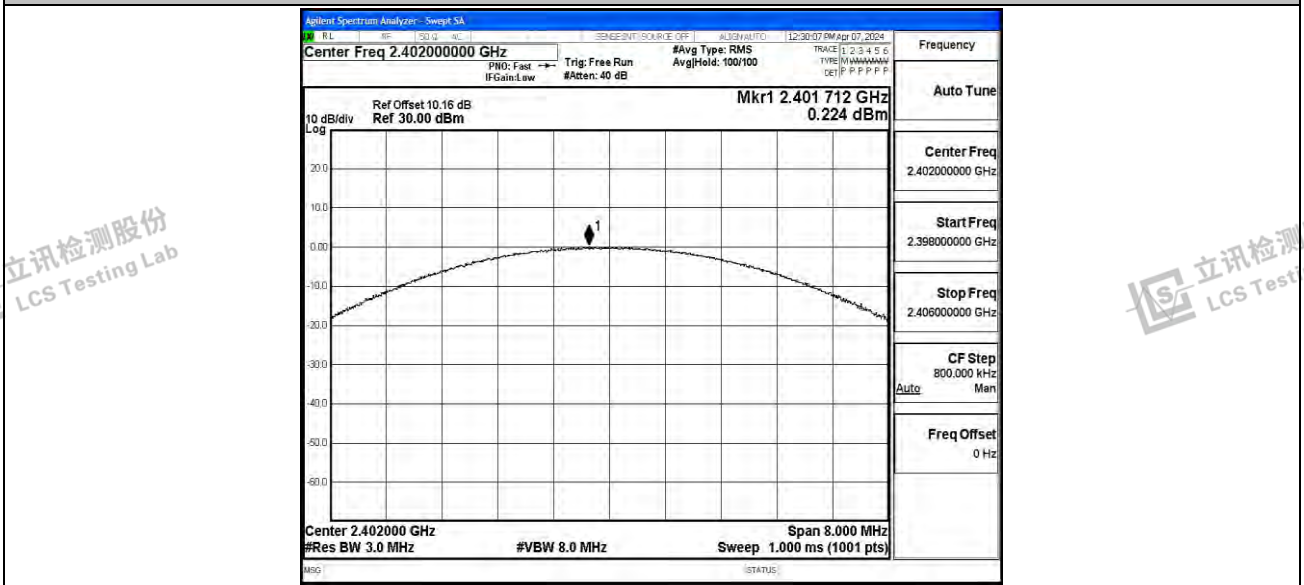


**DH5\_Ant\_2480**



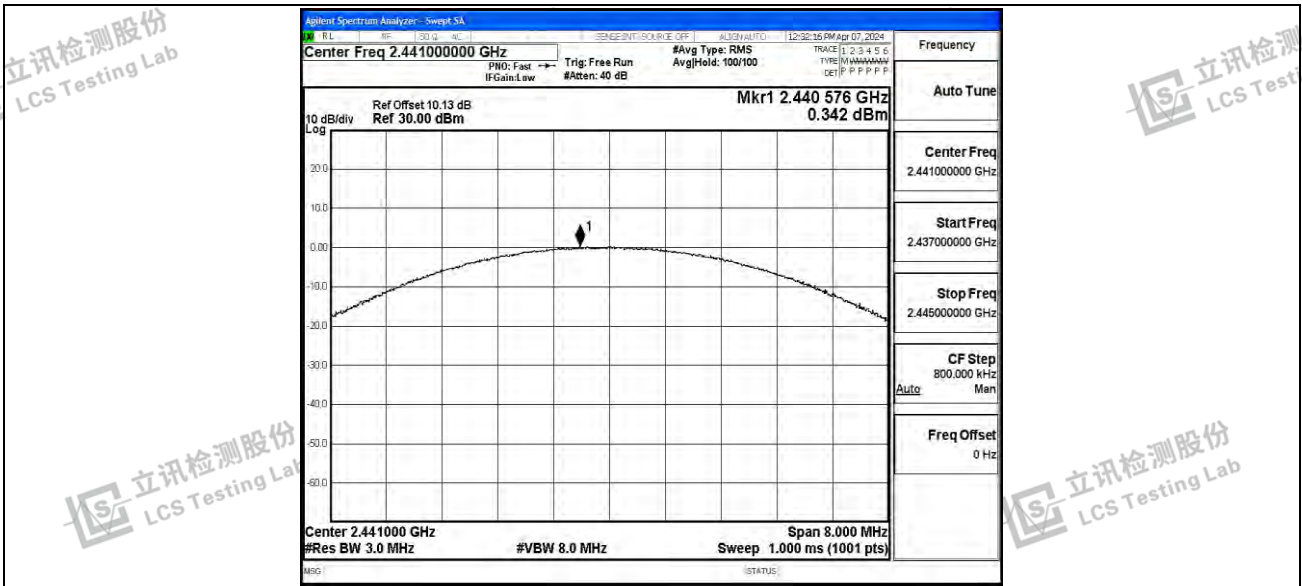


2DH5\_Ant\_2402

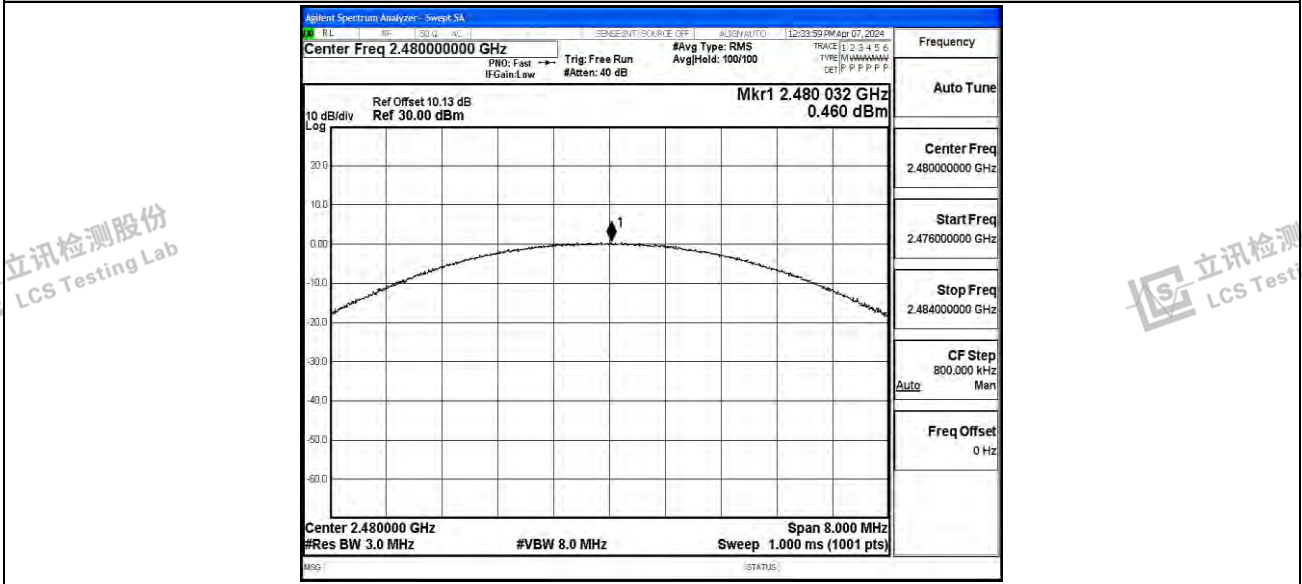


2DH5\_Ant\_2441



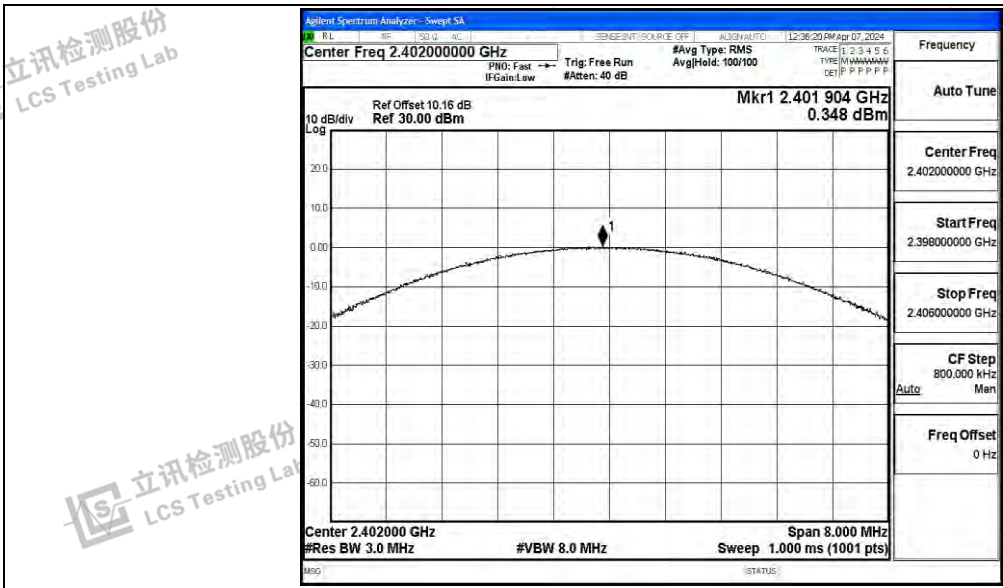


2DH5\_Ant\_2480

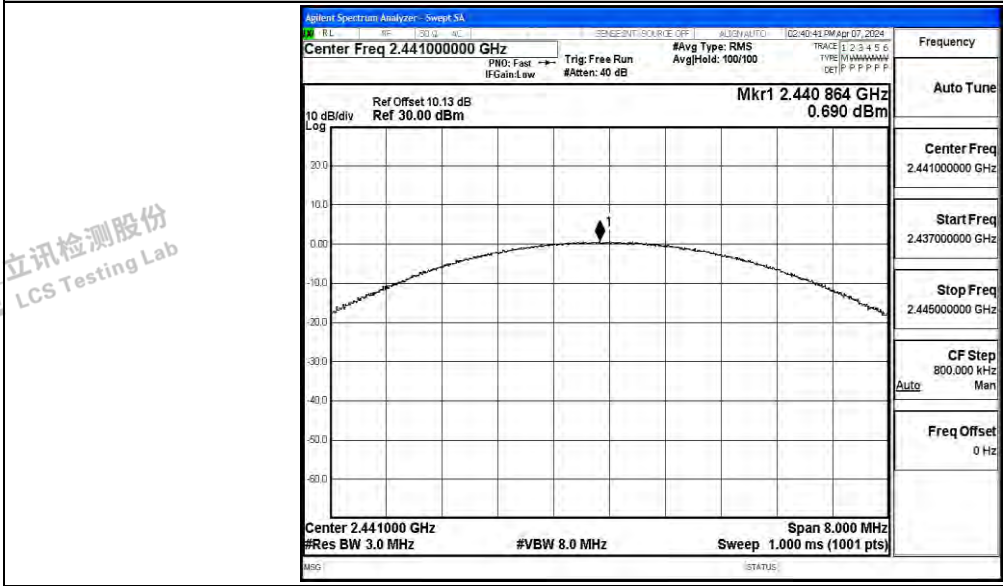


3DH5\_Ant\_2402





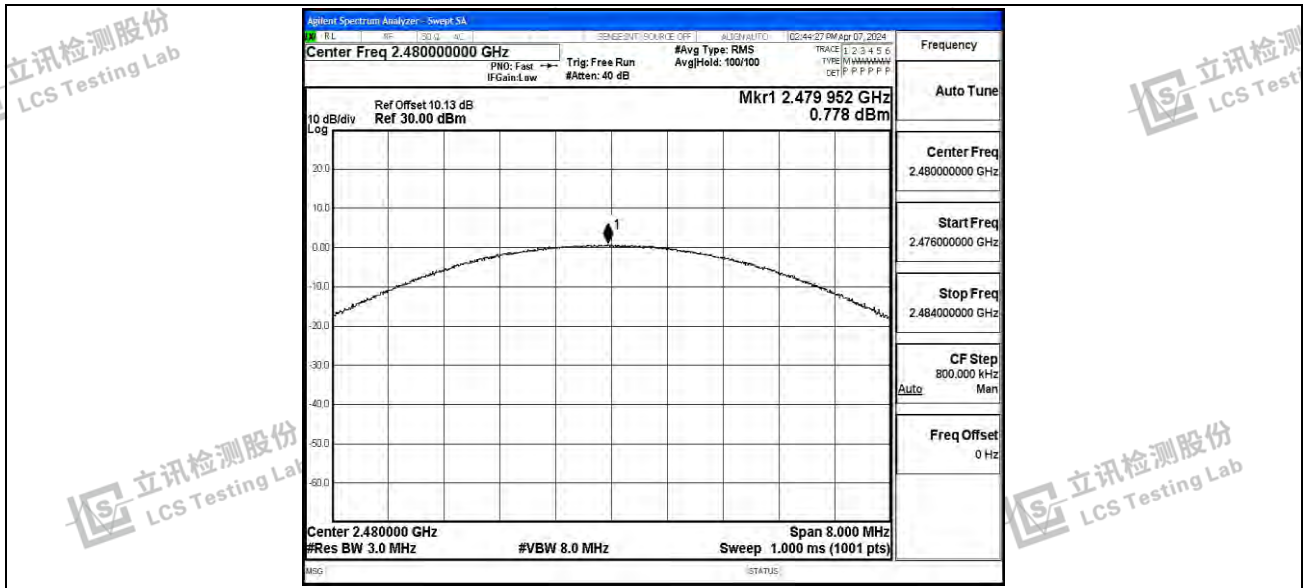
3DH5\_Ant\_2441



3DH5\_Ant\_2480







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### A.3 Carrier frequency separation

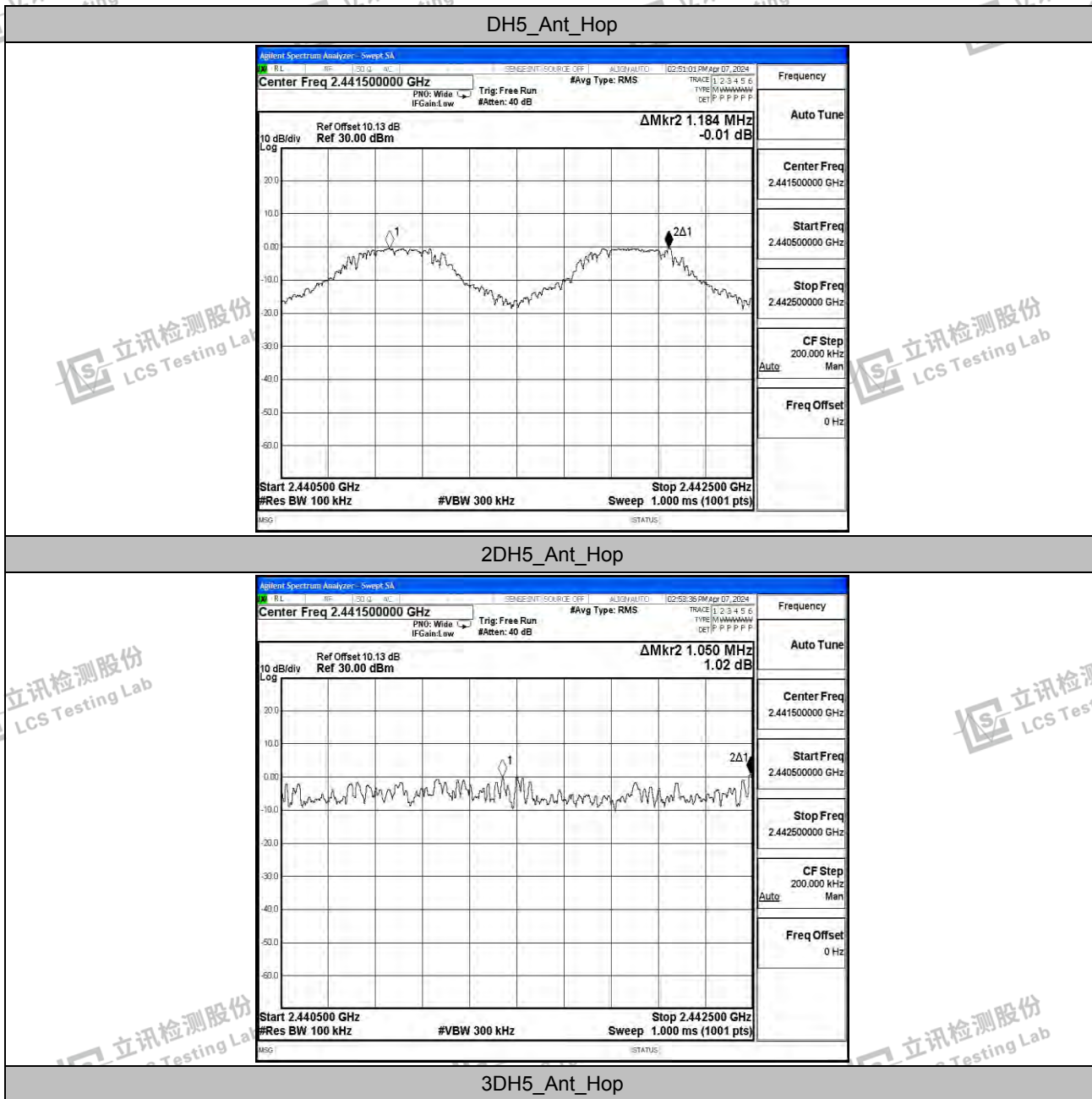
#### Test Result

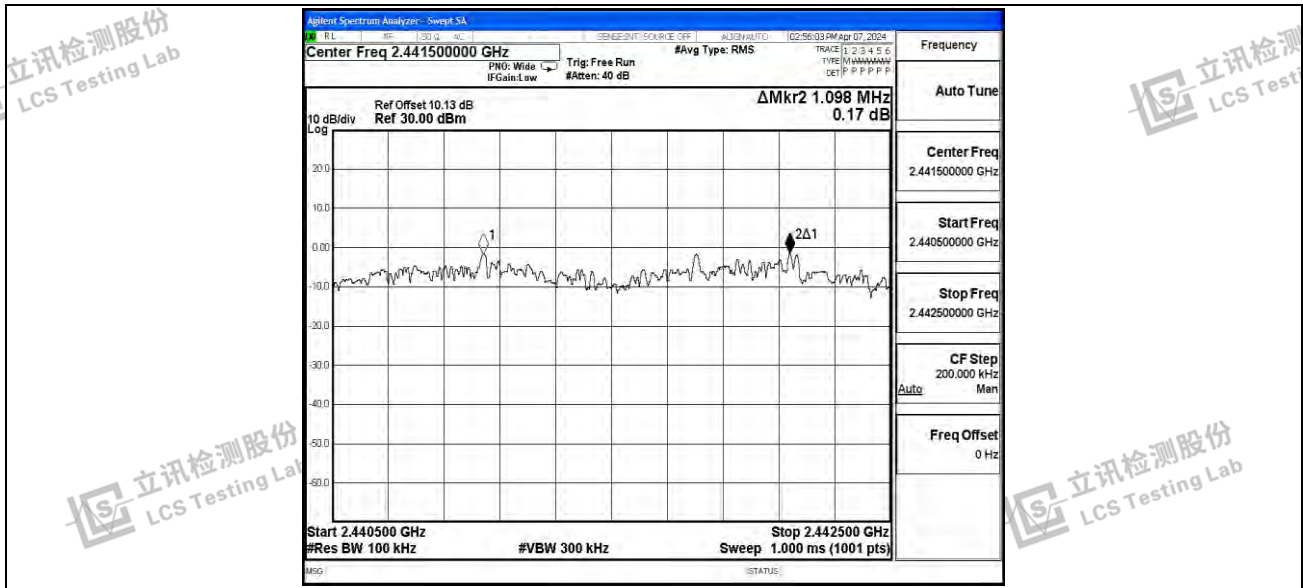
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	1.184	≥0.688	PASS
2DH5	Ant	Hop	1.05	≥0.876	PASS
3DH5	Ant	Hop	1.098	≥0.872	PASS





### Test Graphs





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### A.4 Time of occupancy

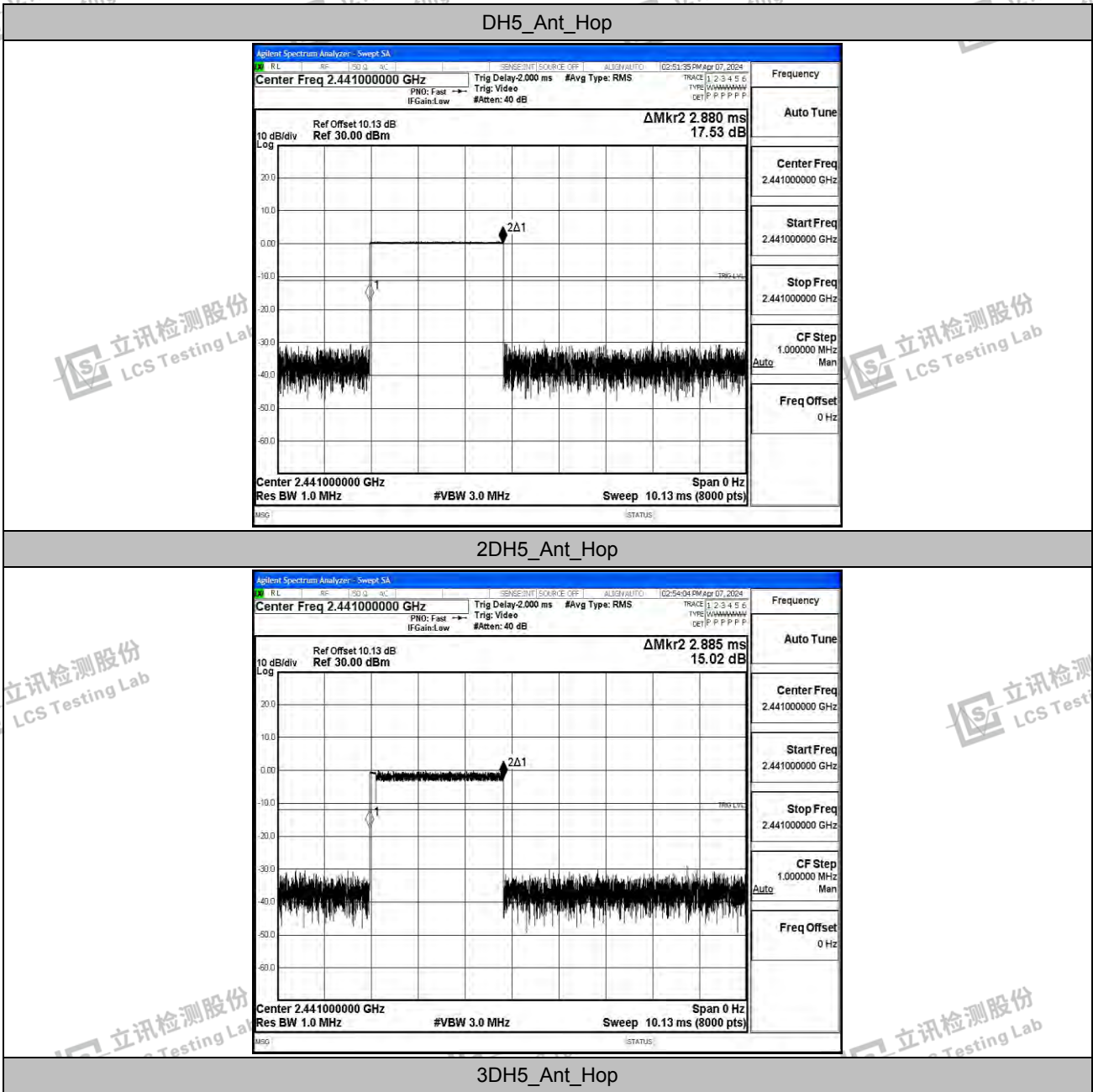
#### Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.885	106.67	0.308	≤0.4	PASS
3DH5	Ant	Hop	2.885	106.67	0.308	≤0.4	PASS

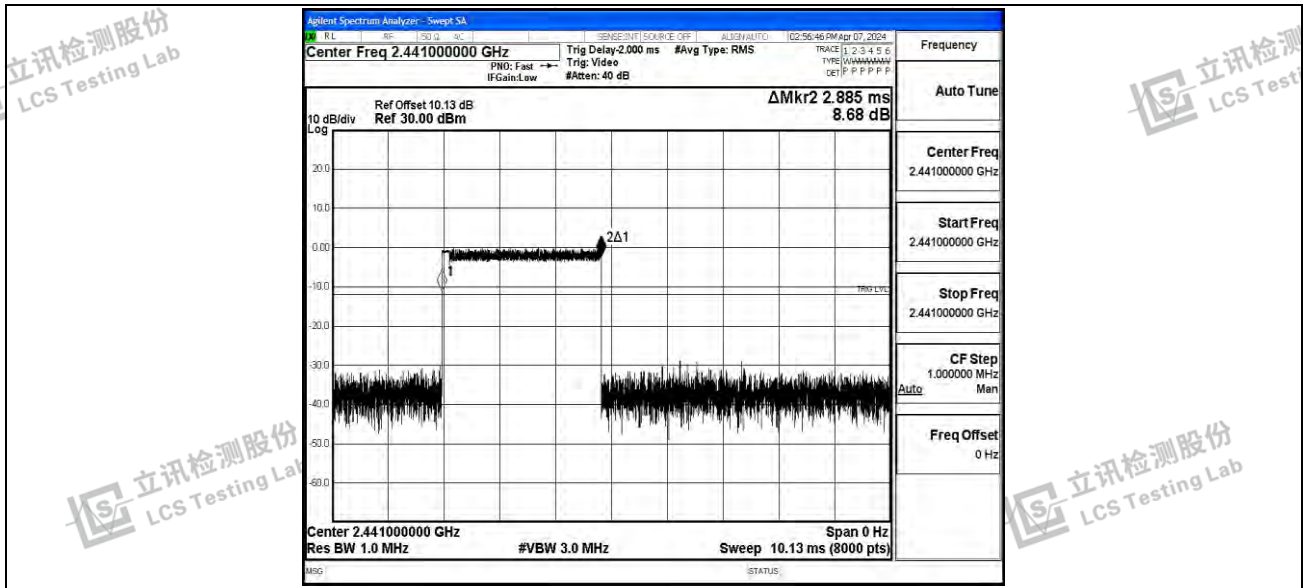




### Test Graphs









## A.5 Number of hopping channels

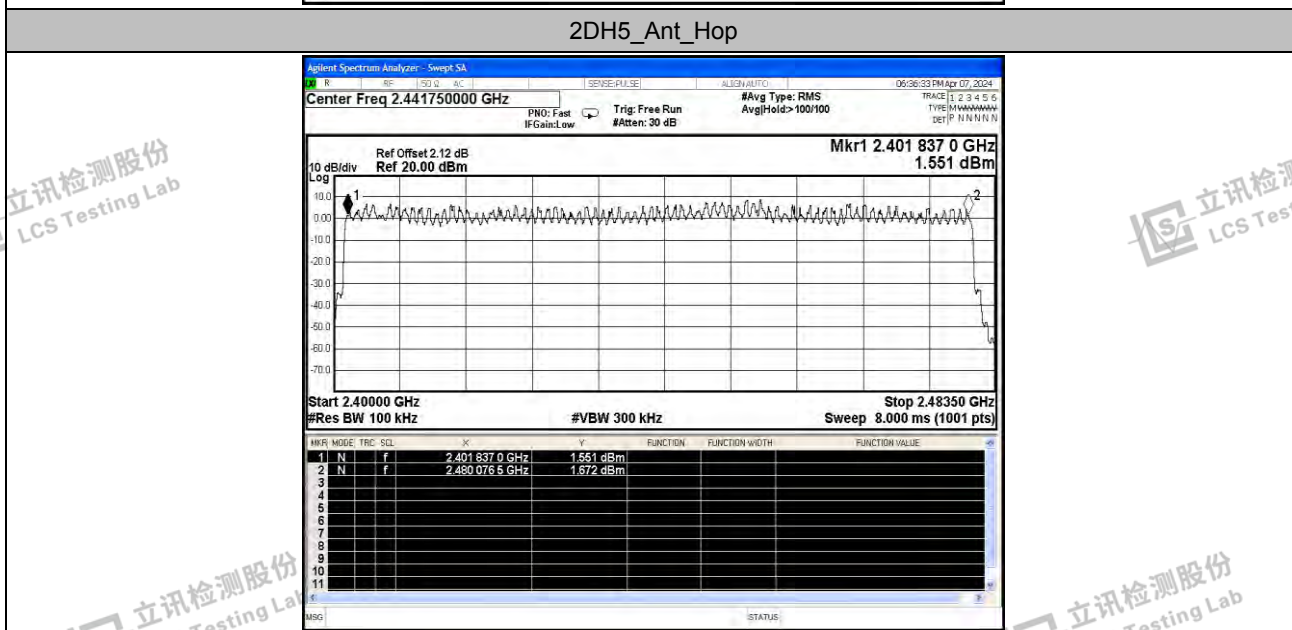
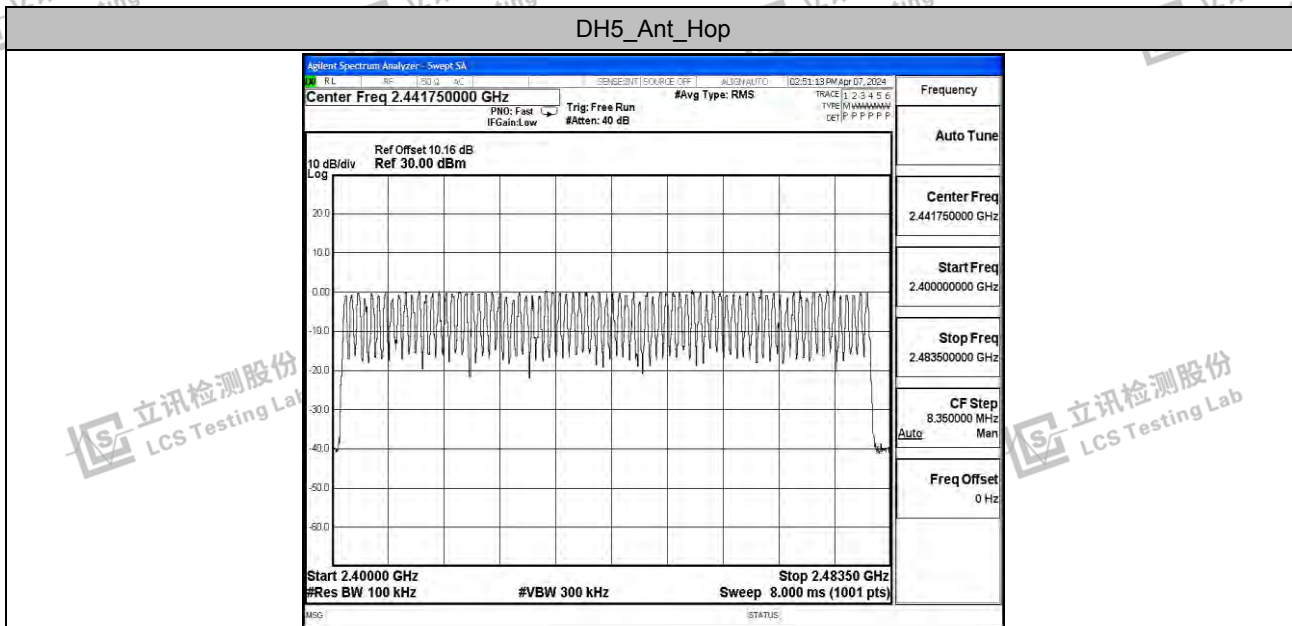
### Test Result

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



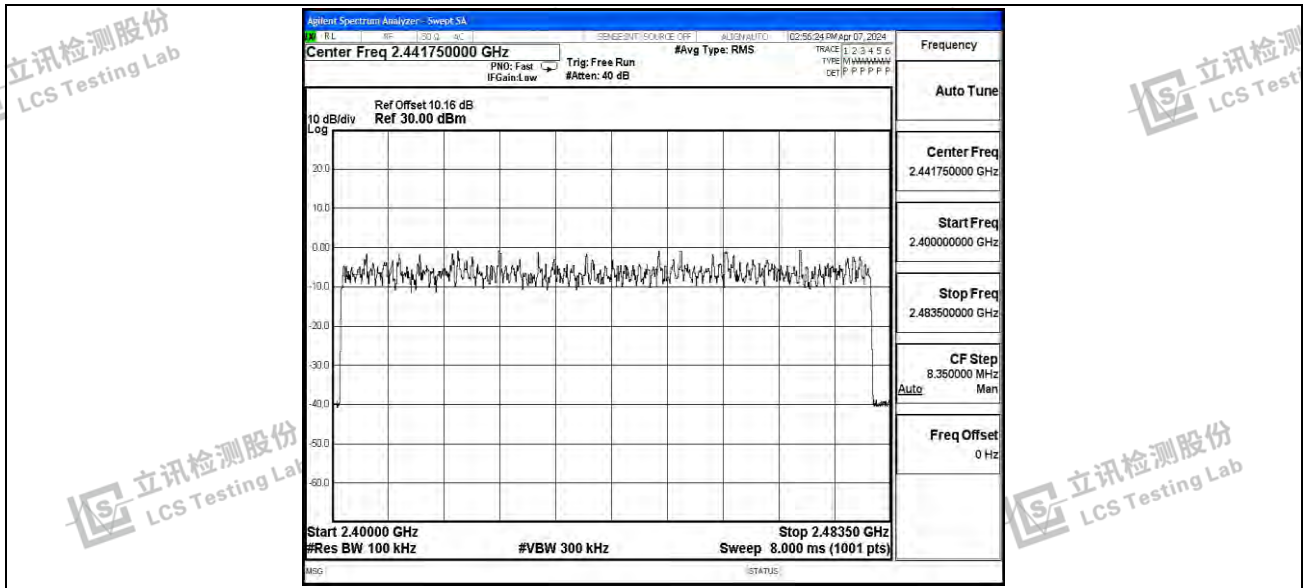


### Test Graphs



#### 3DH5\_Ant\_Hop





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### A.6 Band edge measurements

#### Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-0.31	-48.16	≤-20.31	PASS
		High	2480	-0.46	-48.93	≤-20.46	PASS
		Low	Hop_2402	-0.89	-47.68	≤-20.89	PASS
		High	Hop_2480	0.15	-47.12	≤-19.85	PASS
2DH5	Ant	Low	2402	-1.22	-48.67	≤-21.22	PASS
		High	2480	-1.55	-48.63	≤-21.55	PASS
		Low	Hop_2402	-5.05	-47.46	≤-25.05	PASS
		High	Hop_2480	-3.65	-47.01	≤-23.65	PASS
3DH5	Ant	Low	2402	-2.07	-48.38	≤-22.07	PASS
		High	2480	-1.41	-48.2	≤-21.41	PASS
		Low	Hop_2402	-2.14	-48.04	≤-22.14	PASS
		High	Hop_2480	-2.44	-47.65	≤-22.44	PASS

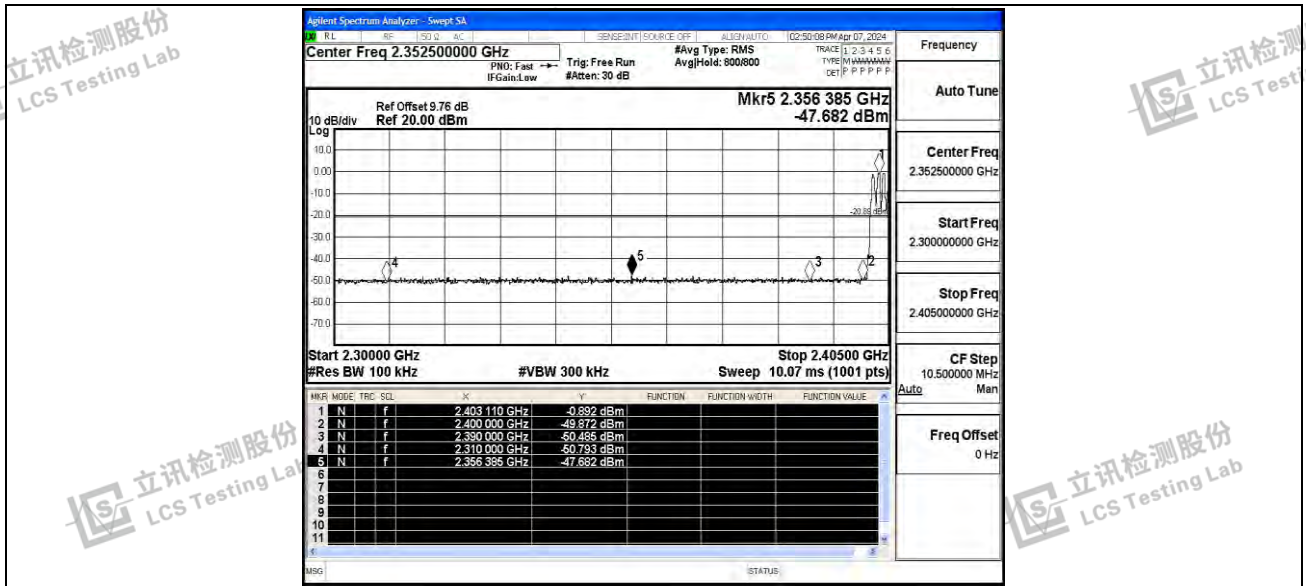




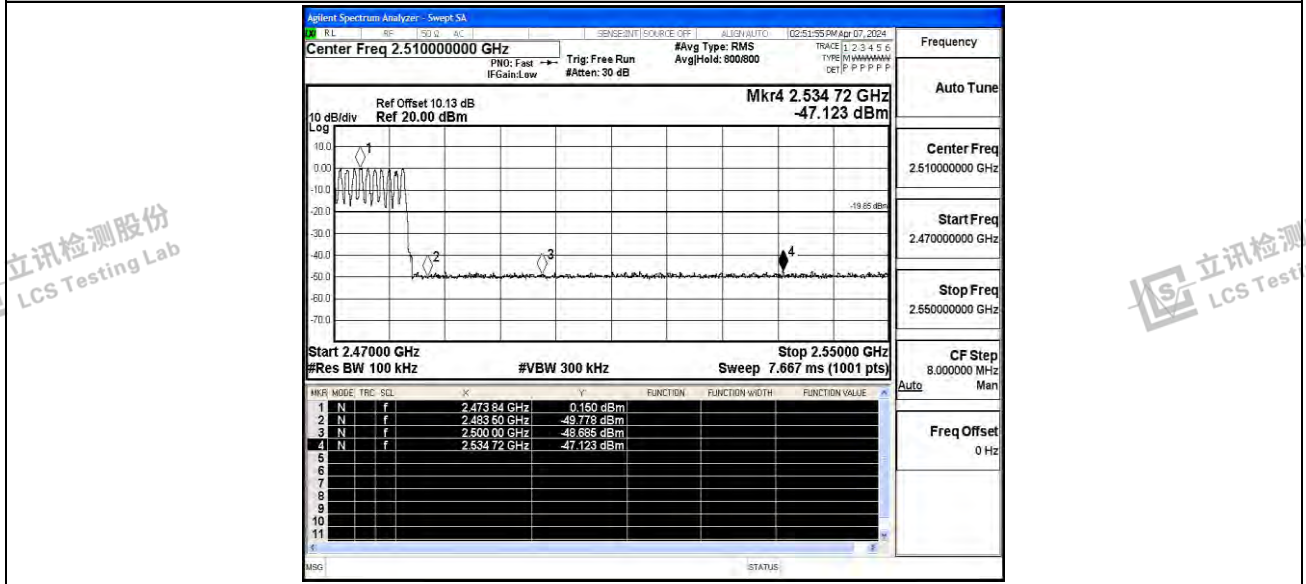


### Test Graphs



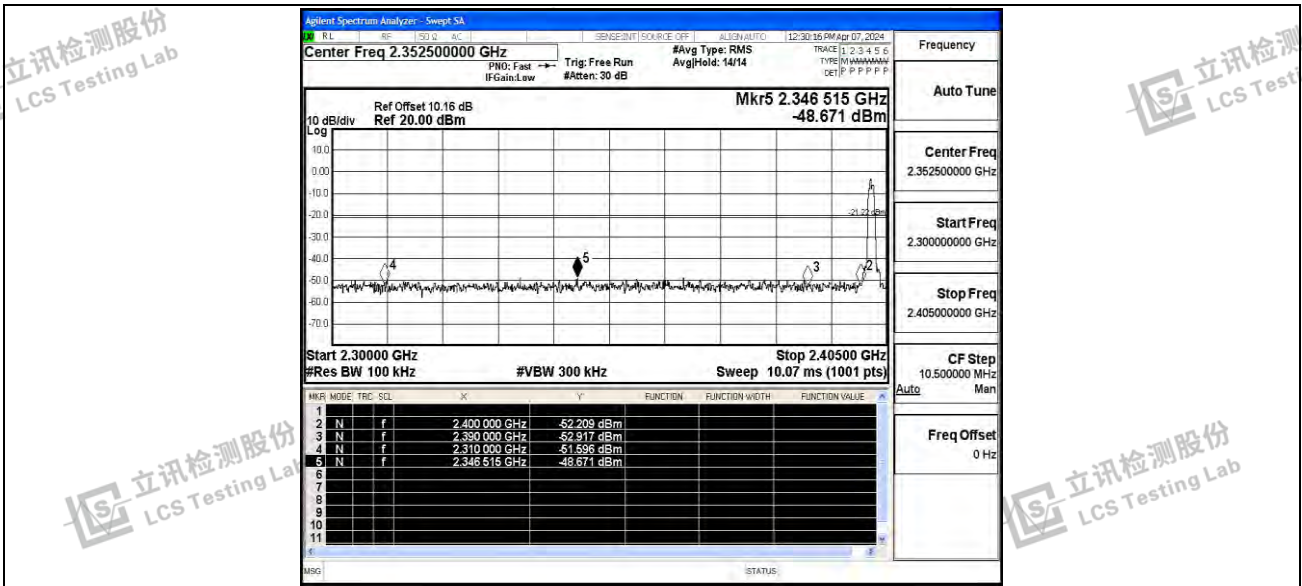


DH5\_Ant\_High\_Hop\_2480

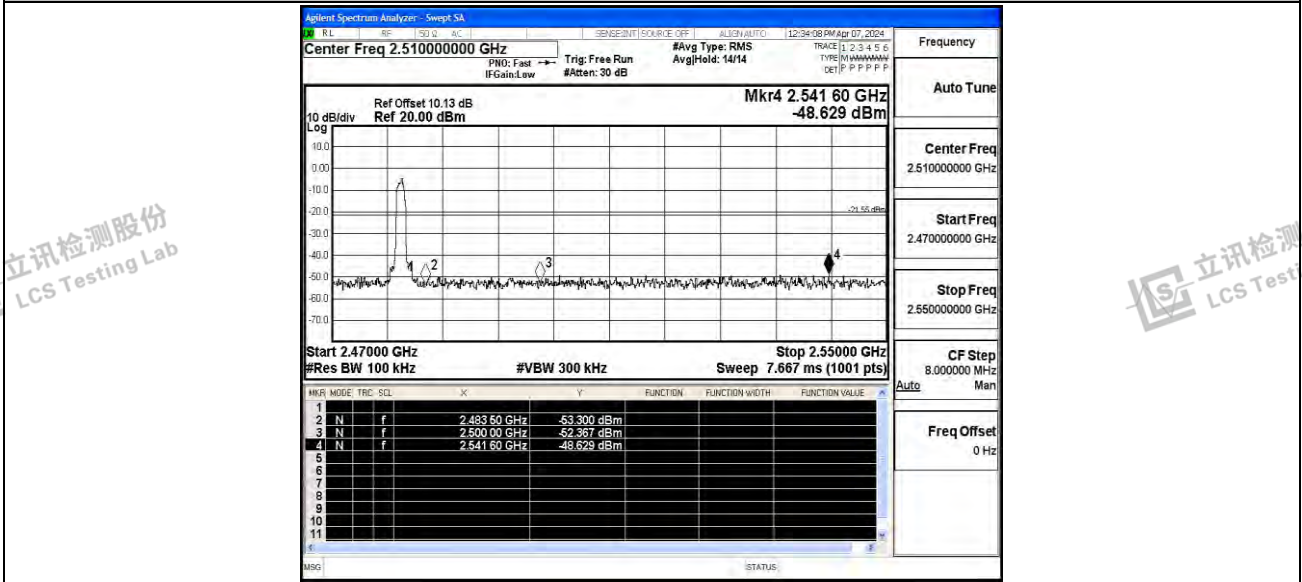


2DH5\_Ant\_Low\_2402





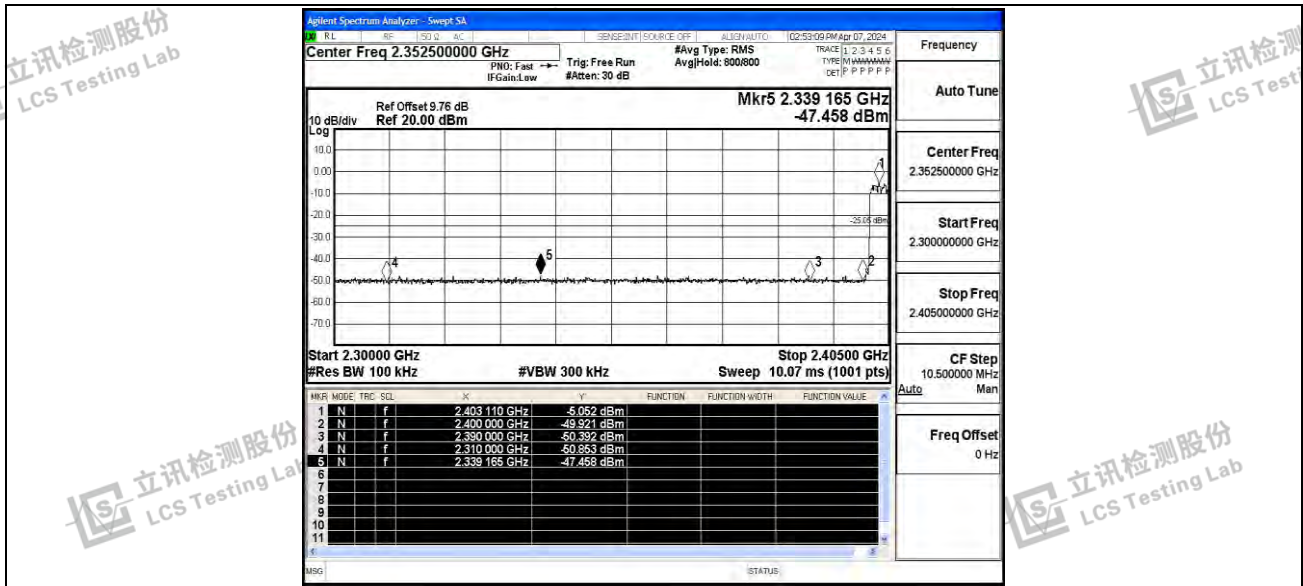
2DH5\_Ant\_High\_2480



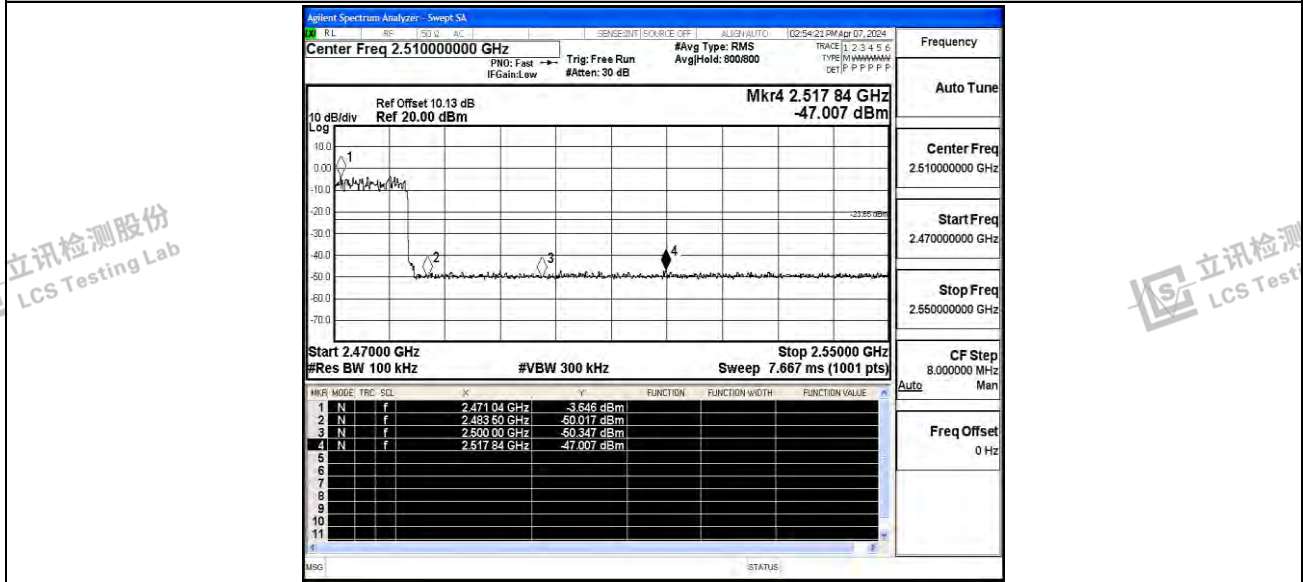
2DH5\_Ant\_Low\_Hop\_2402





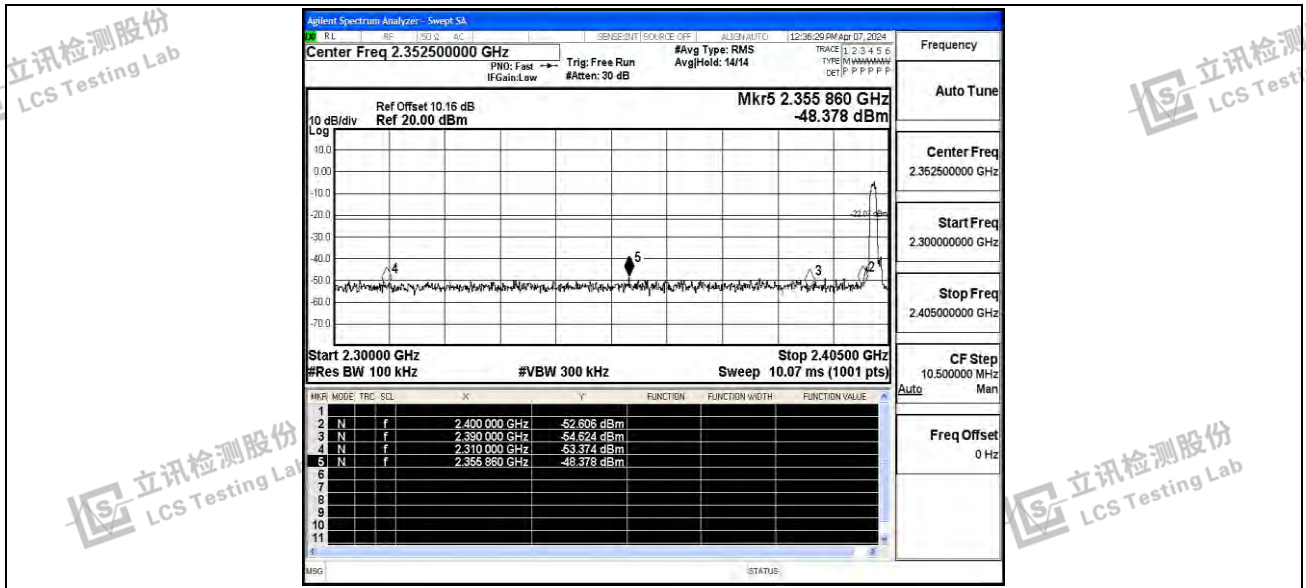


2DH5\_Ant\_High\_Hop\_2480

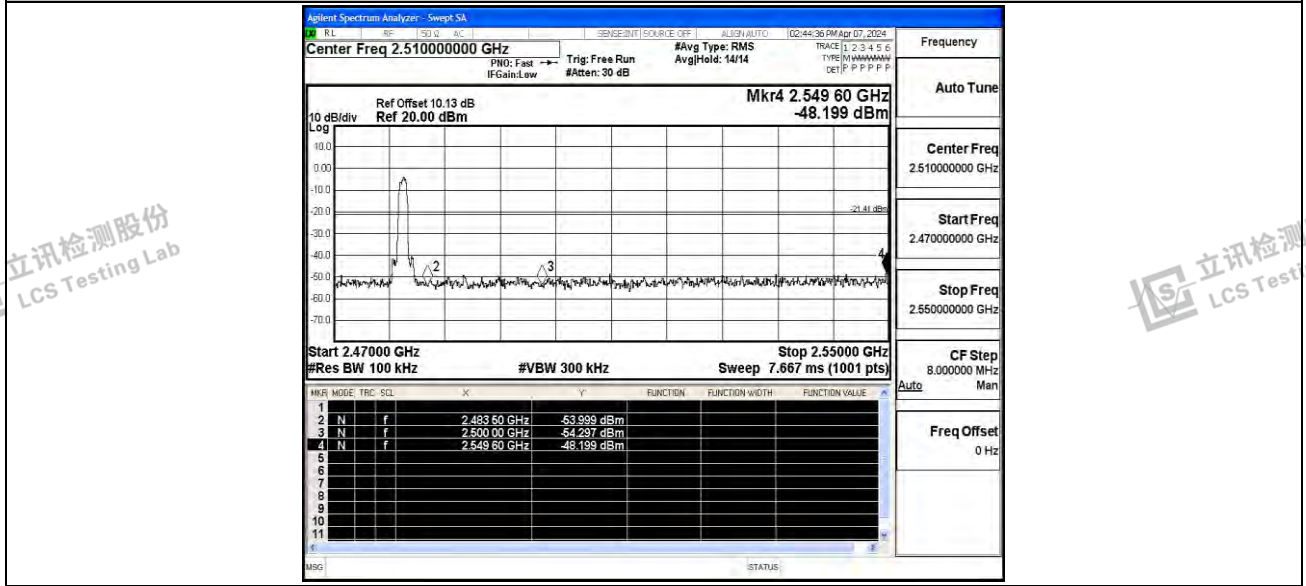


3DH5\_Ant\_Low\_2402





3DH5\_Ant\_High\_2480



3DH5\_Ant\_Low\_Hop\_2402



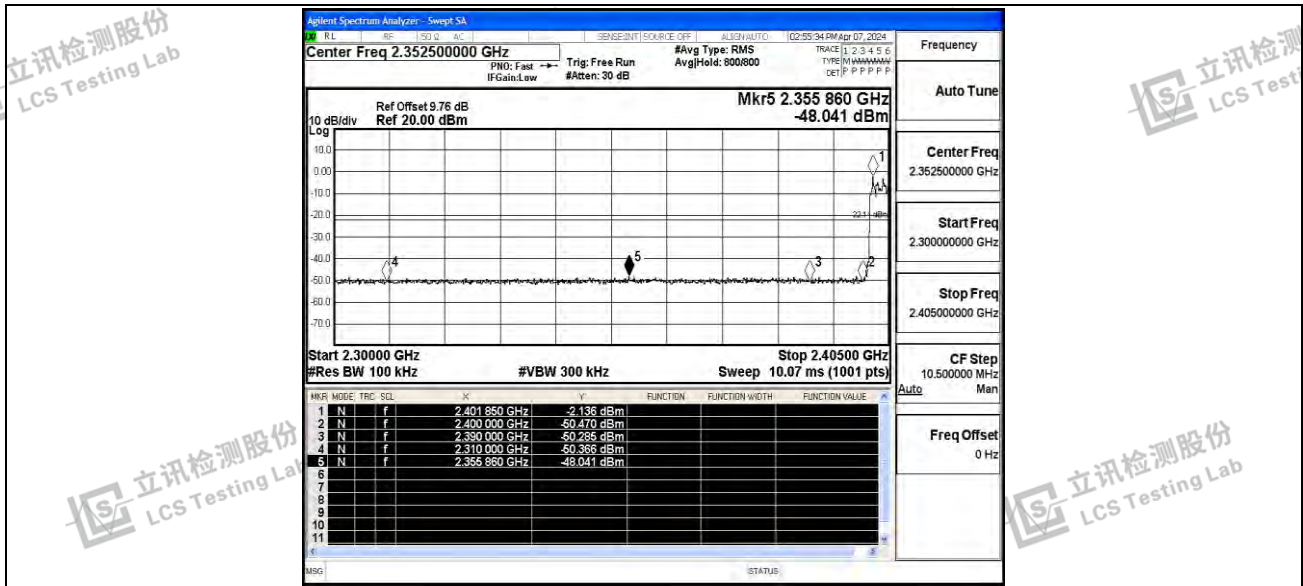
Shenzhen LCS Compliance Testing Laboratory Ltd.

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

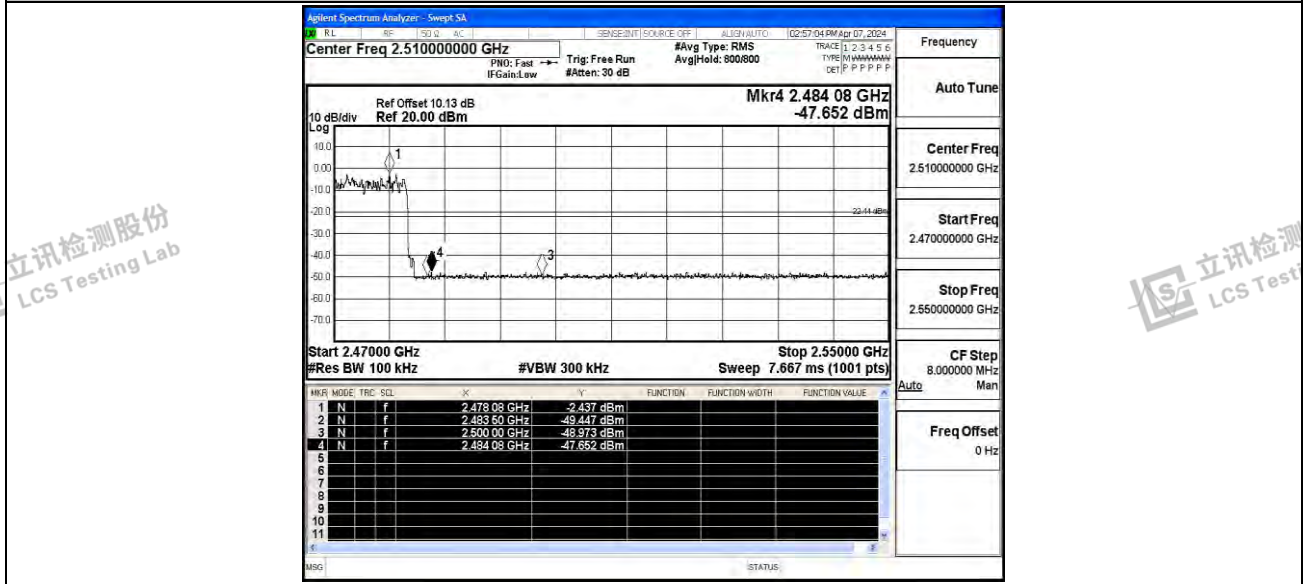
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity





3DH5\_Ant\_High\_Hop\_2480





### A.7 Conducted Spurious Emission

#### Test Result

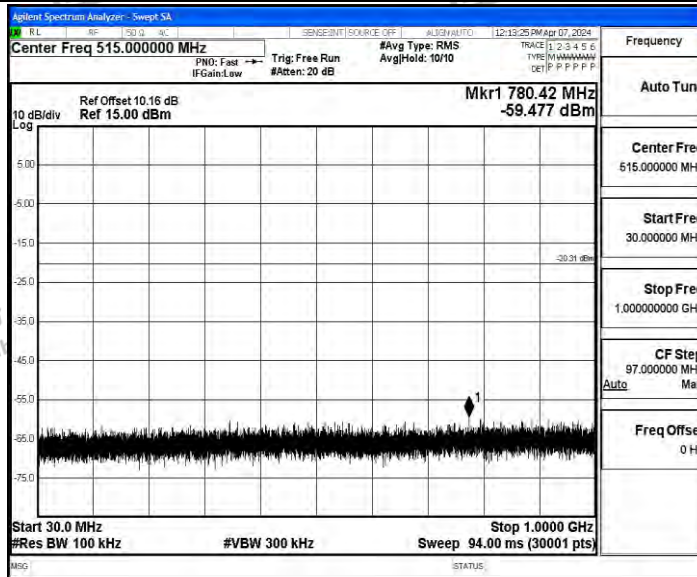
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	30~1000	-0.31	-59.48	≤-20.31	PASS
			1000~26500	-0.31	-47.21	≤-20.31	PASS
		2441	30~1000	-0.54	-60.03	≤-20.54	PASS
			1000~26500	-0.54	-47.28	≤-20.54	PASS
		2480	30~1000	-0.46	-59.55	≤-20.46	PASS
			1000~26500	-0.46	-46.81	≤-20.46	PASS
2DH5	Ant	2402	30~1000	-1.22	-58.68	≤-21.22	PASS
			1000~26500	-1.22	-46.73	≤-21.22	PASS
		2441	30~1000	-1.05	-59.57	≤-21.05	PASS
			1000~26500	-1.05	-46.92	≤-21.05	PASS
		2480	30~1000	-1.55	-59.38	≤-21.55	PASS
			1000~26500	-1.55	-47.37	≤-21.55	PASS
3DH5	Ant	2402	30~1000	-2.07	-59.66	≤-22.07	PASS
			1000~26500	-2.07	-47.46	≤-22.07	PASS
		2441	30~1000	-4.20	-59.27	≤-24.2	PASS
			1000~26500	-4.20	-47.41	≤-24.2	PASS
		2480	30~1000	-1.41	-59.57	≤-21.41	PASS
			1000~26500	-1.41	-47.08	≤-21.41	PASS



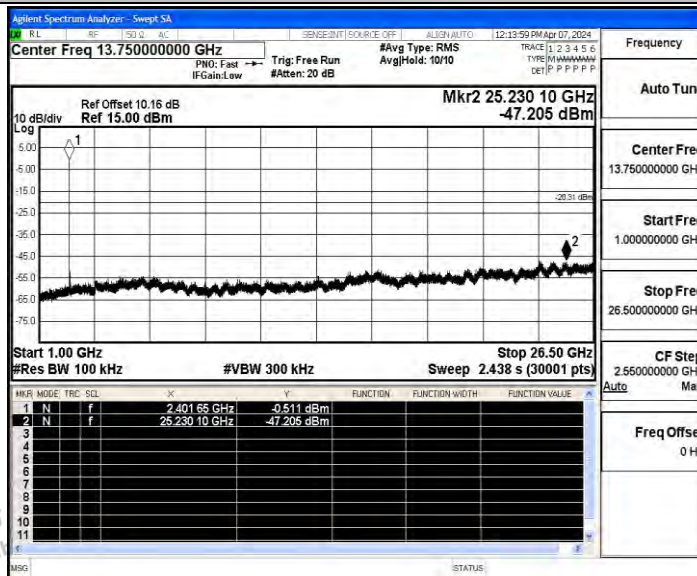


### Test Graphs

DH5\_Ant\_2402\_30~1000

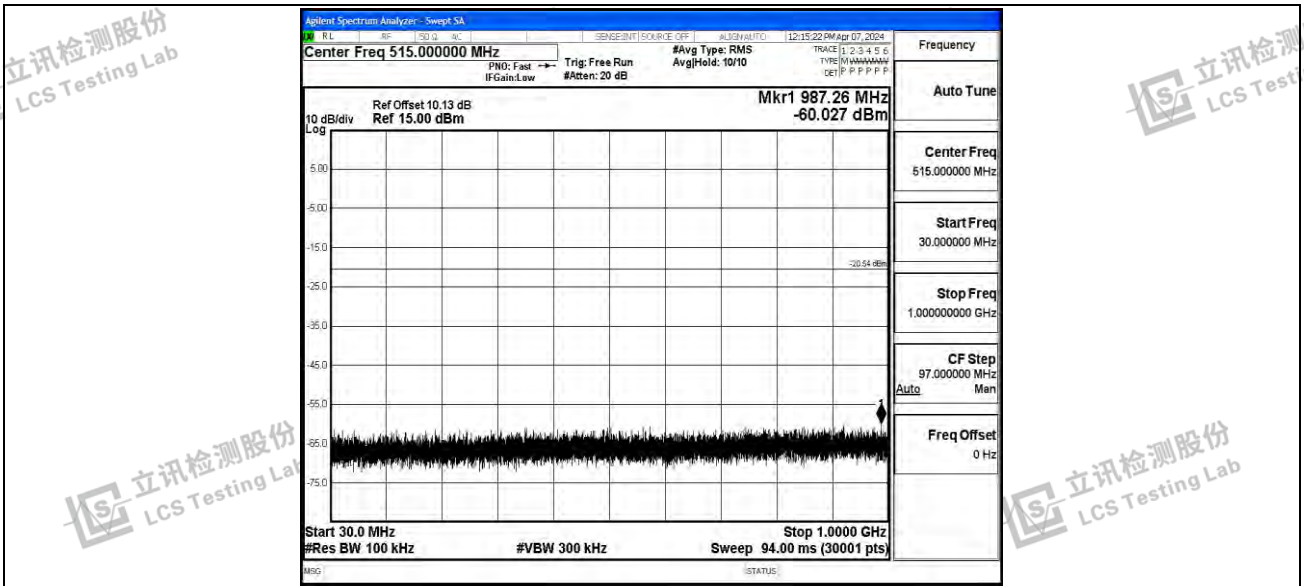


DH5\_Ant\_2402\_1000~26500

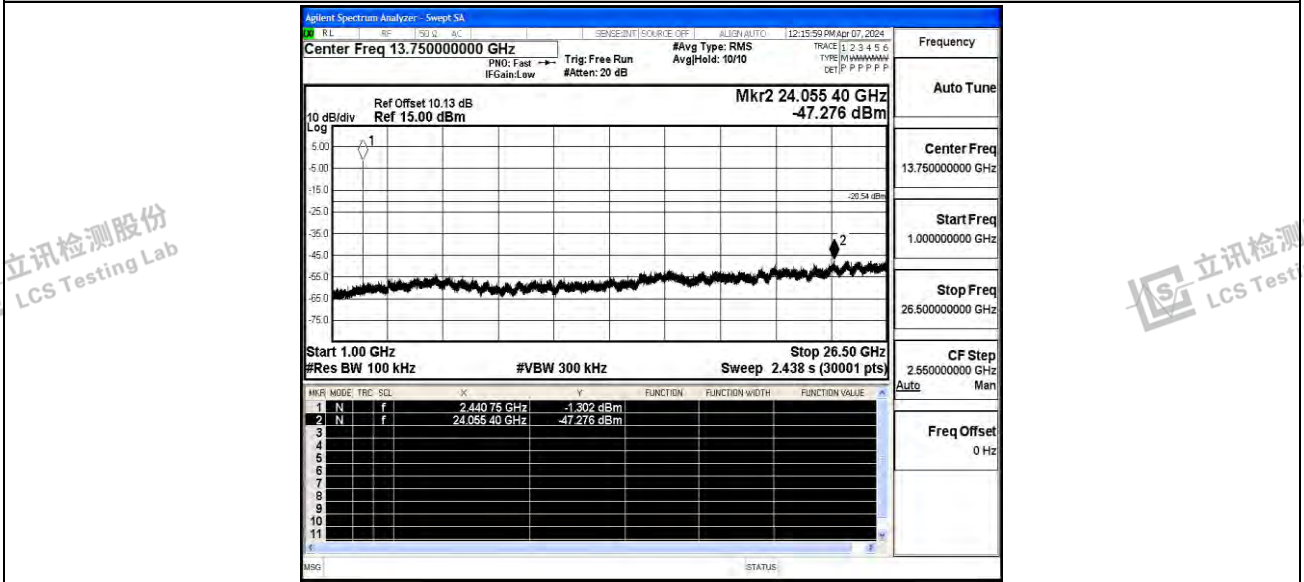


DH5\_Ant\_2441\_30~1000





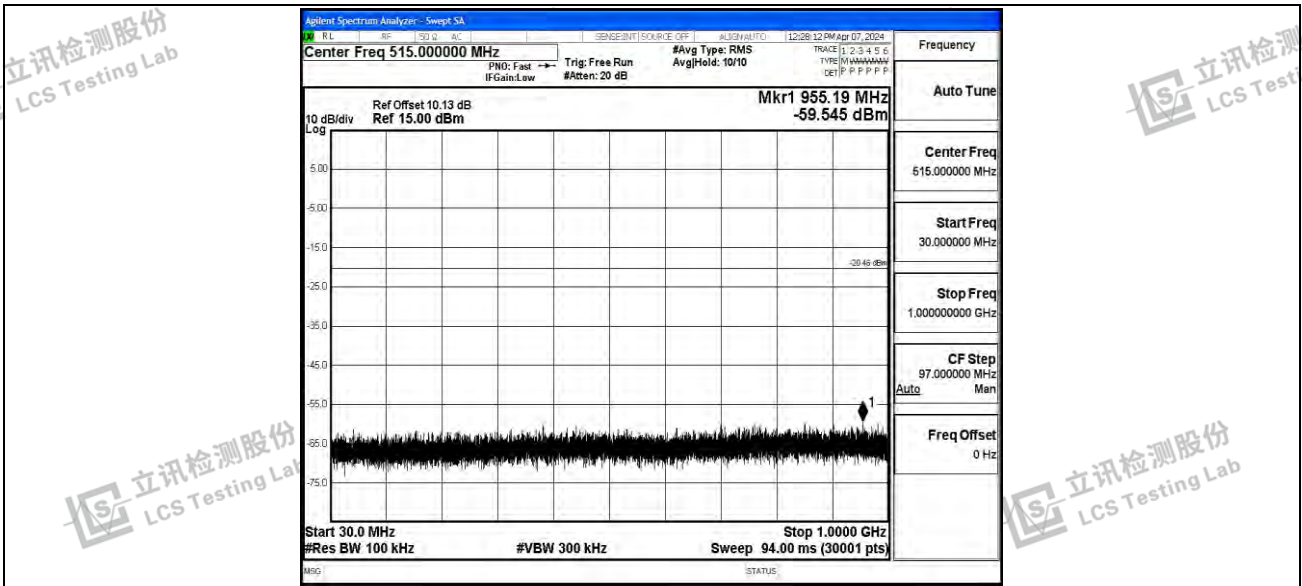
DH5\_Ant\_2441\_1000~26500



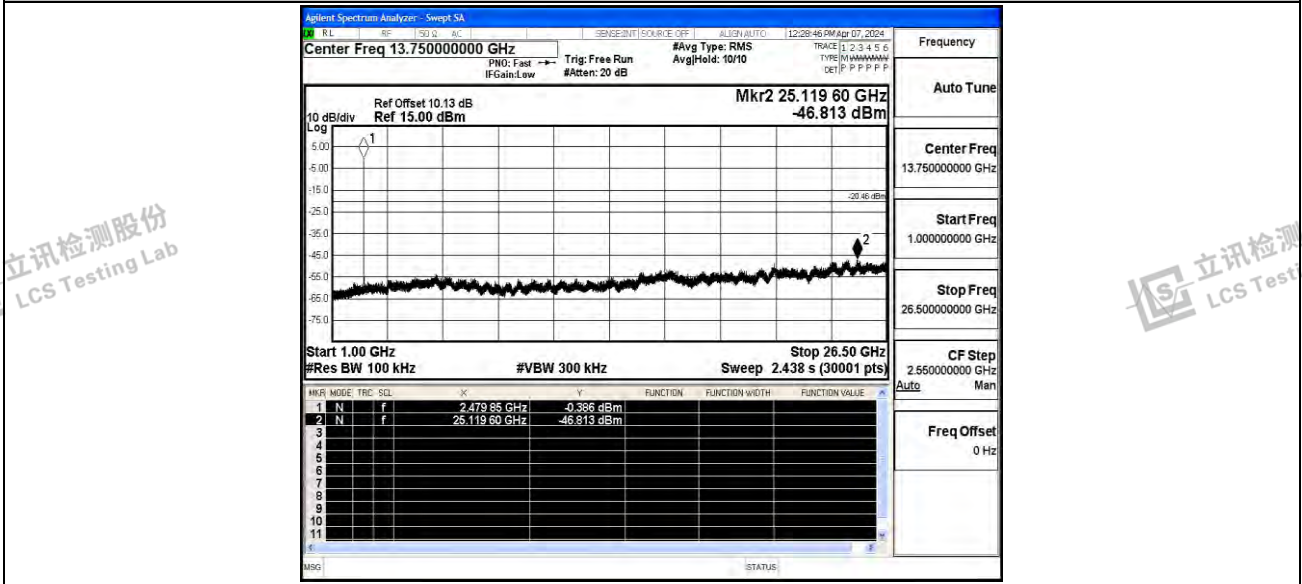
DH5\_Ant\_2480\_30~1000







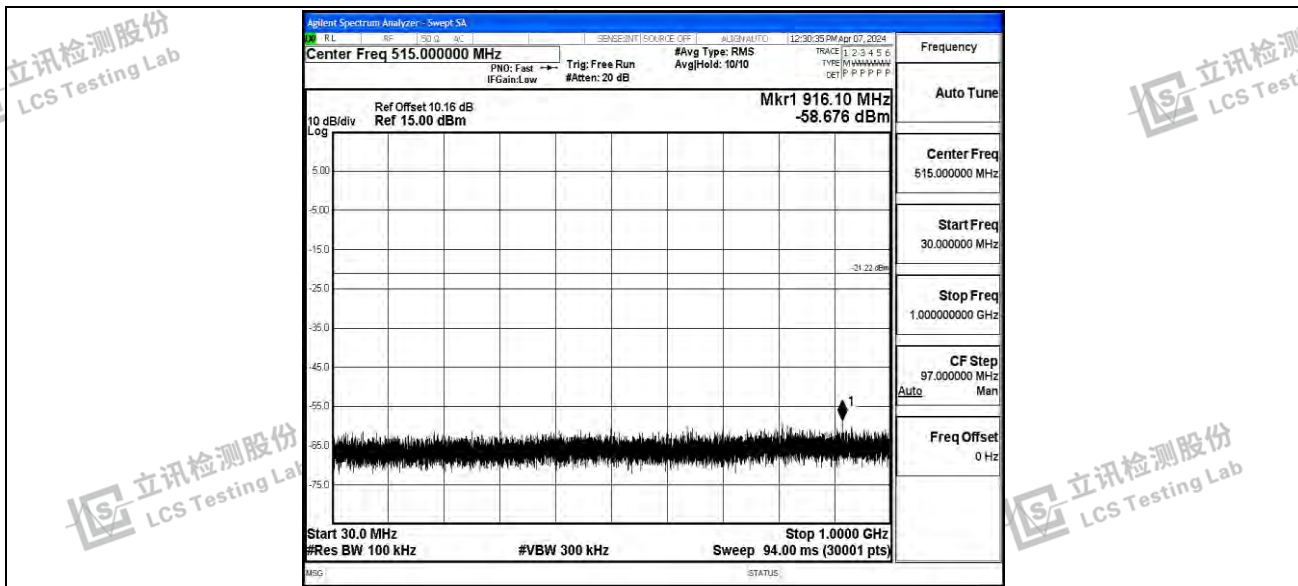
DH5\_Ant\_2480\_1000~26500



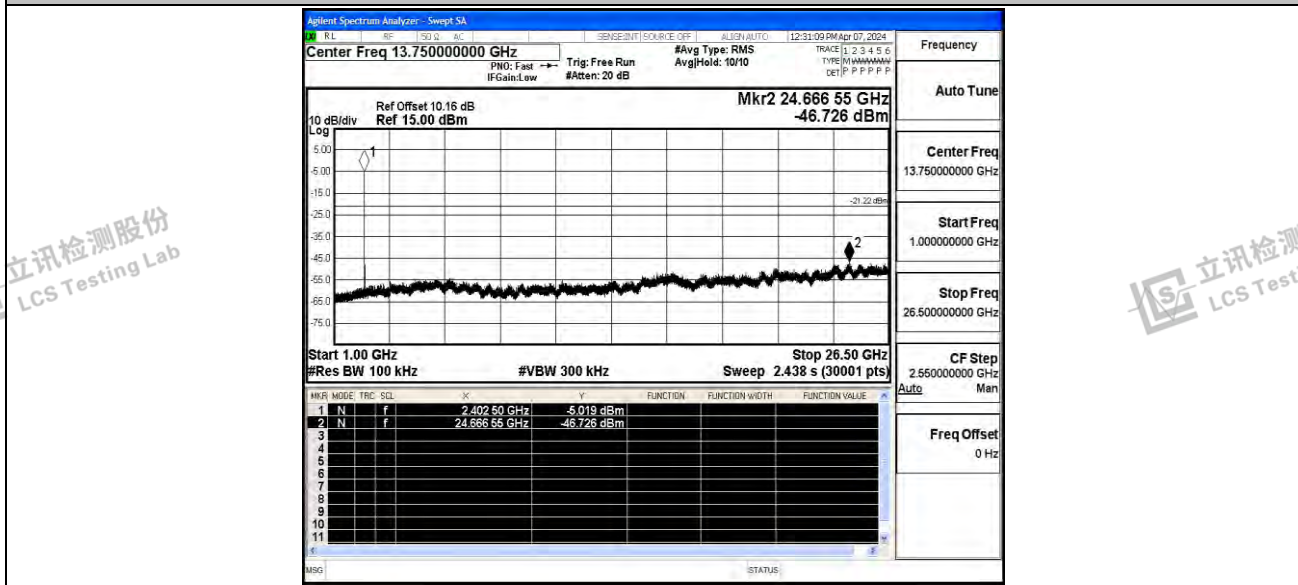
2DH5\_Ant\_2402\_30~1000





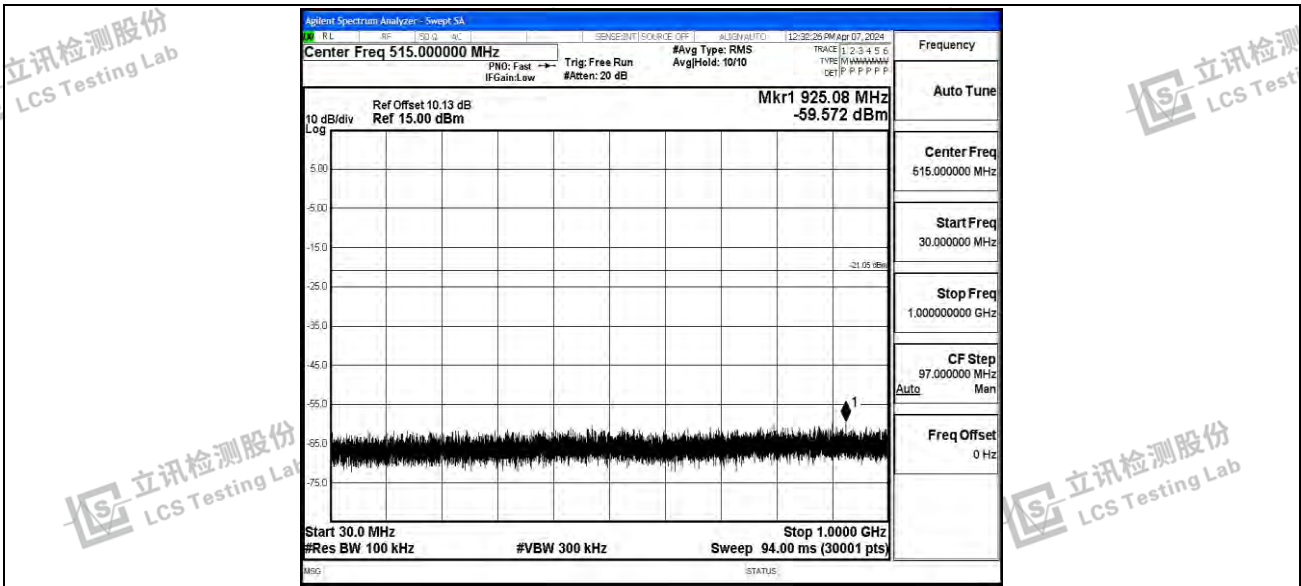


2DH5\_Ant\_2402\_1000~26500

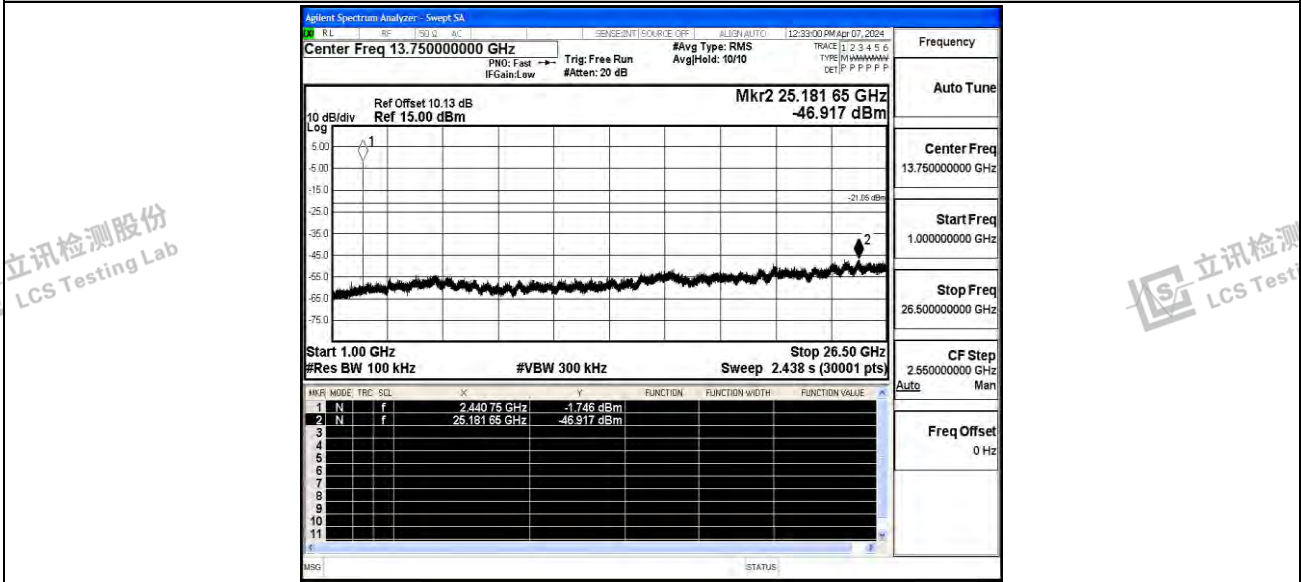


2DH5\_Ant\_2441\_30~1000



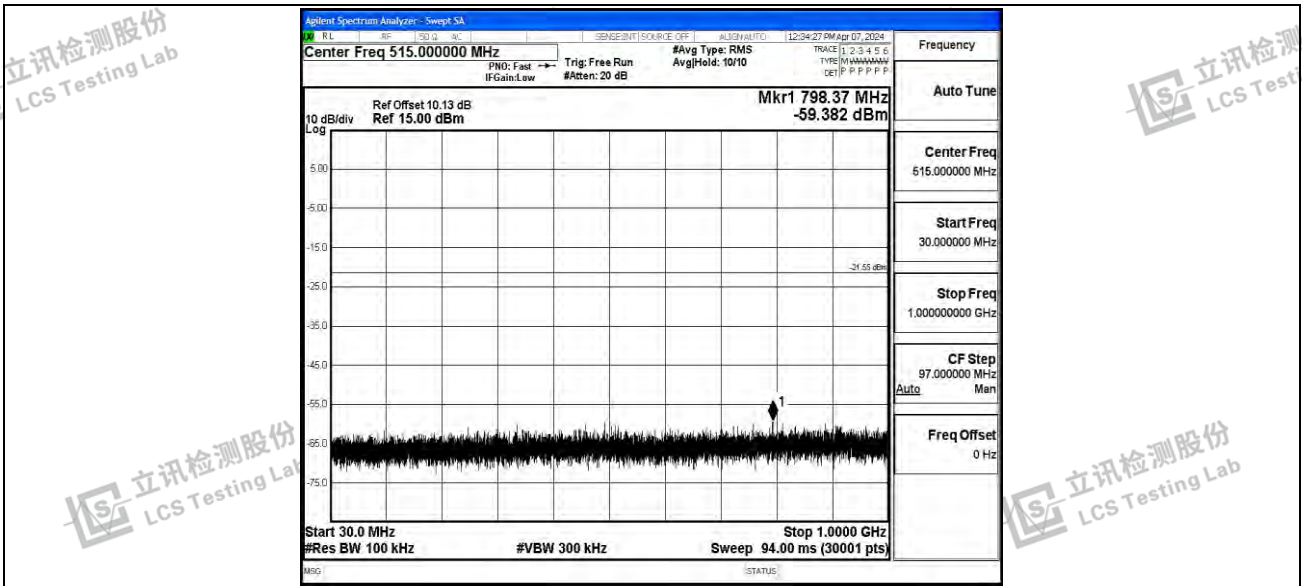


2DH5\_Ant\_2441\_1000~26500

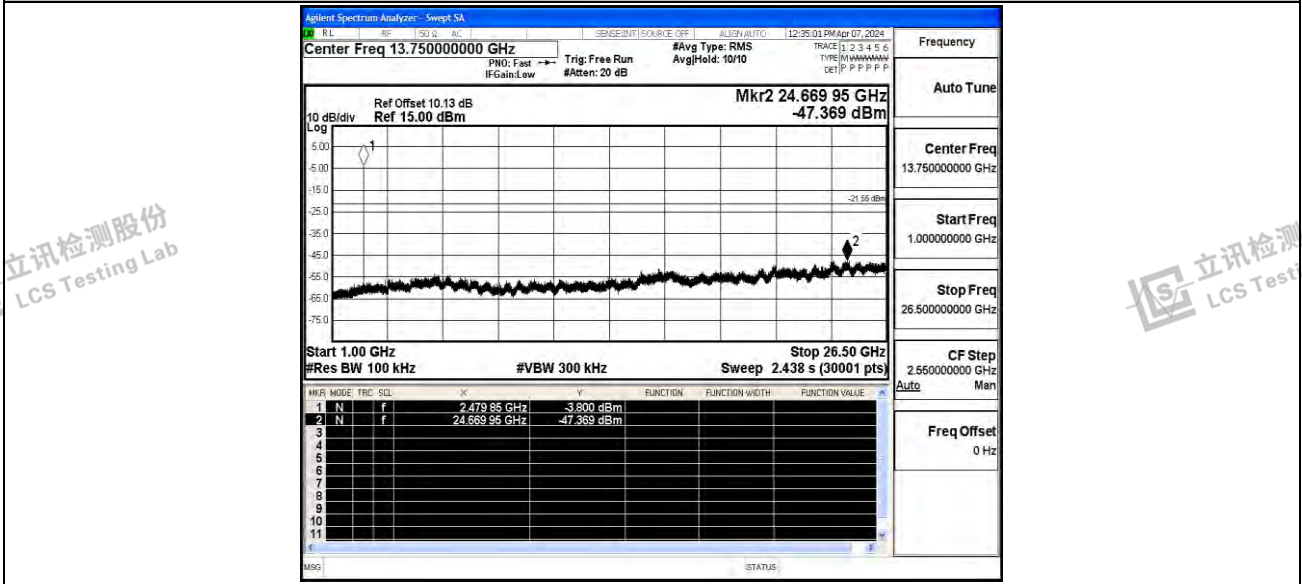


2DH5\_Ant\_2480\_30~1000



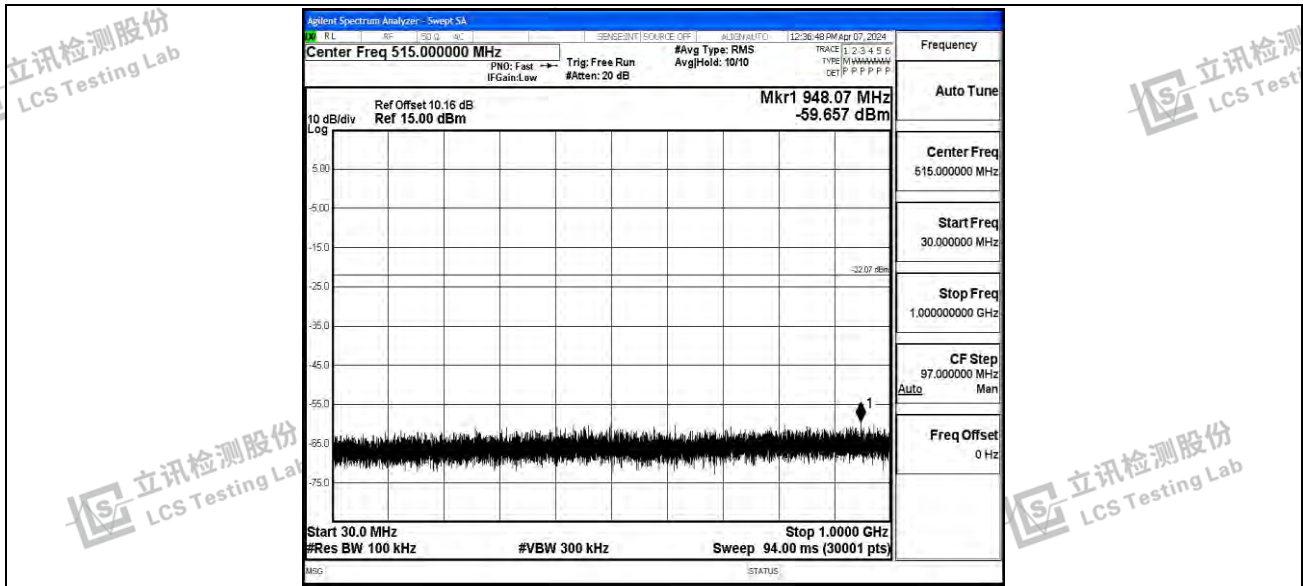


2DH5\_Ant\_2480\_1000~26500

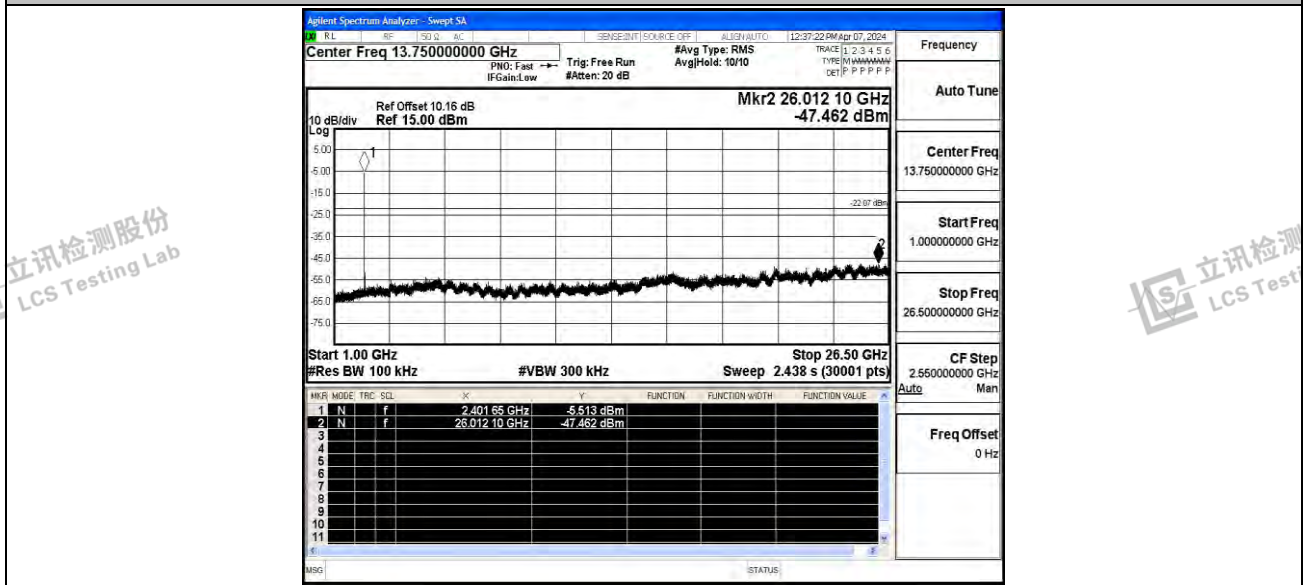


3DH5\_Ant\_2402\_30~1000





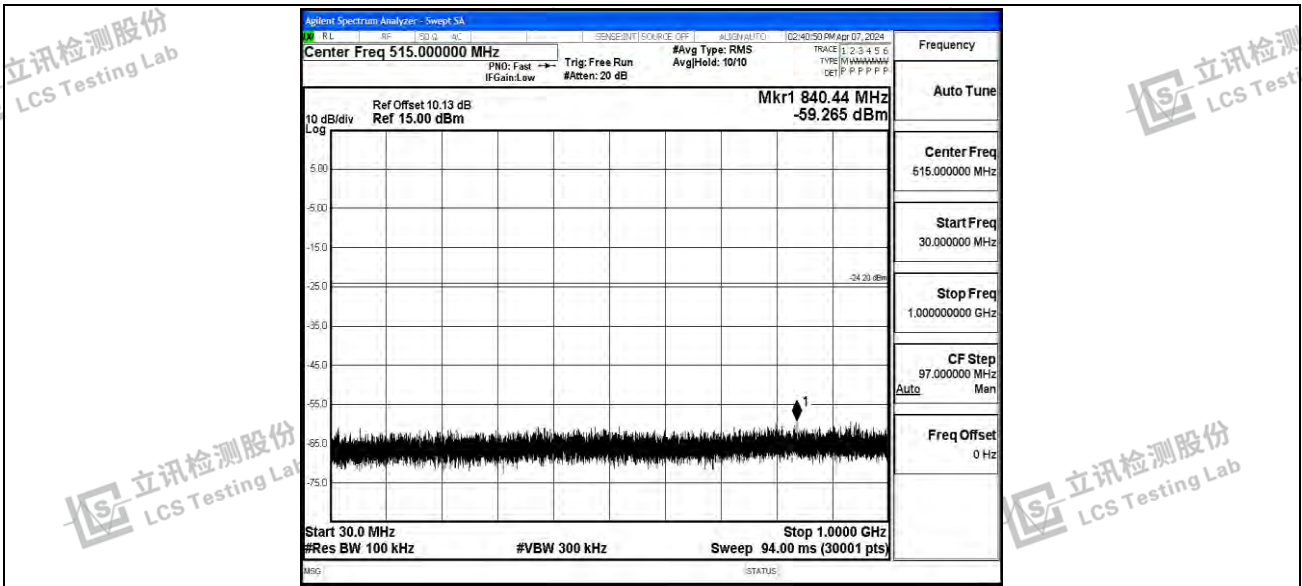
3DH5\_Ant\_2402\_1000~26500



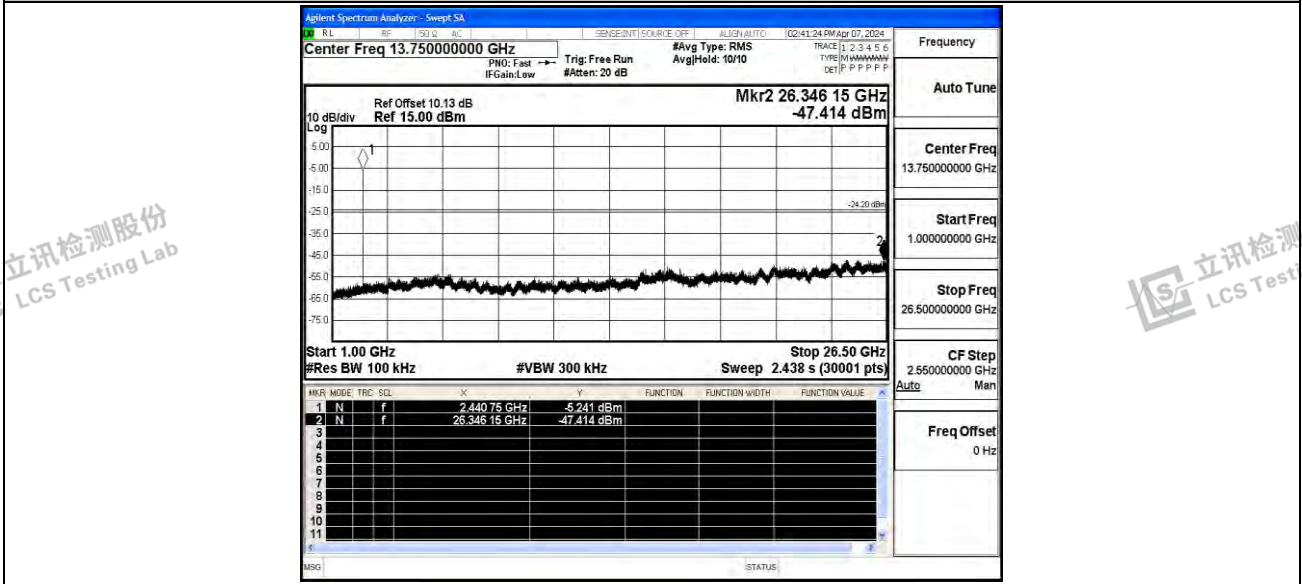
3DH5\_Ant\_2441\_30~1000







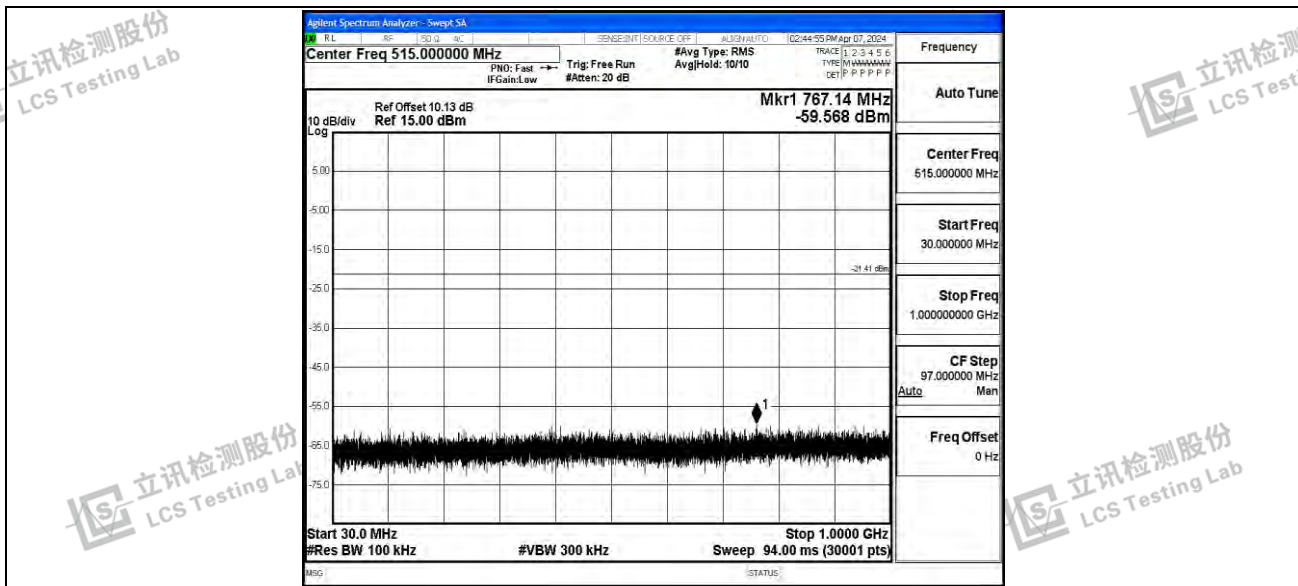
3DH5\_Ant\_2441\_1000~26500



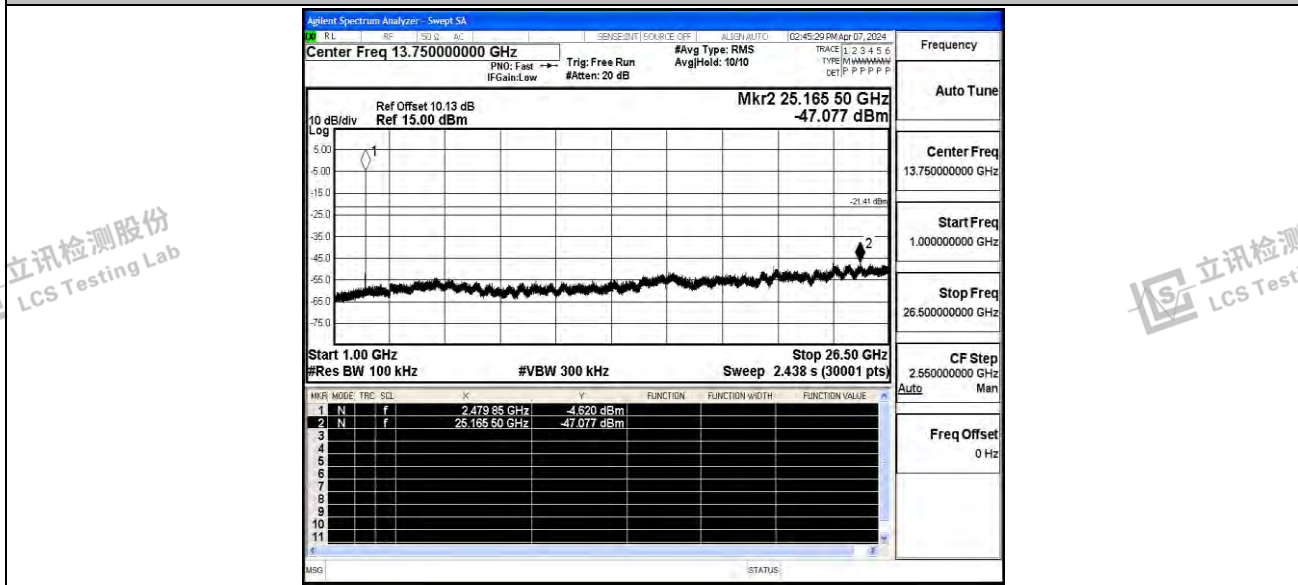
3DH5\_Ant\_2480\_30~1000







3DH5\_Ant\_2480\_1000~26500





### Reference Level

### Test Result

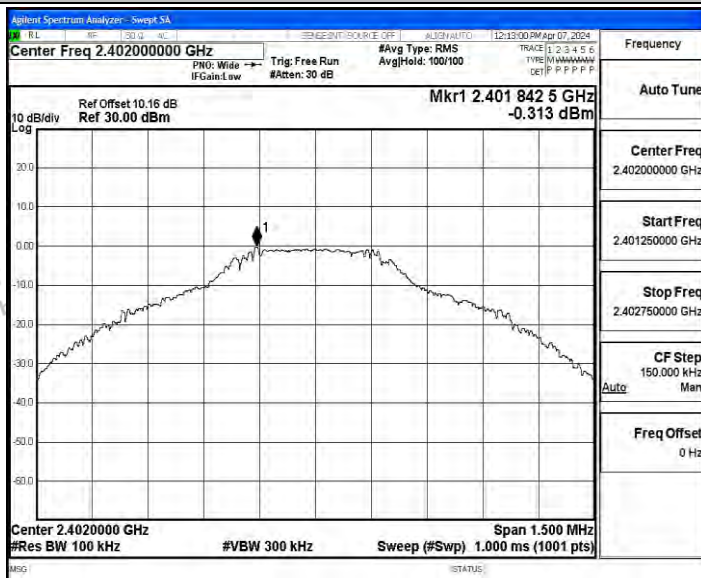
TestMode	Antenna	ChName	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	2401.84	-0.31	---	PASS
		2441	2441.03	-0.54	---	PASS
		2480	2480.04	-0.46	---	PASS
2DH5	Ant	2402	2401.82	-1.22	---	PASS
		2441	2440.83	-1.05	---	PASS
		2480	2479.99	-1.55	---	PASS
3DH5	Ant	2402	2402.13	-2.07	---	PASS
		2441	2441.09	-4.20	---	PASS
		2480	2480.07	-1.41	---	PASS



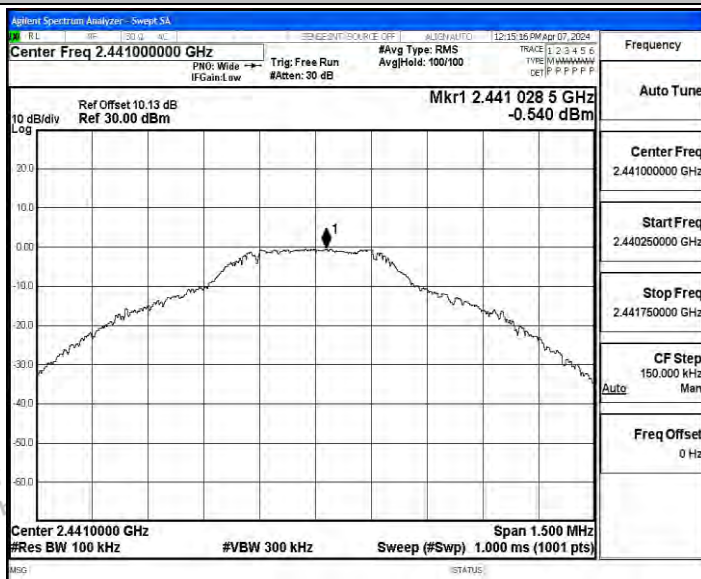


### Test Graphs

DH5\_Ant\_2402

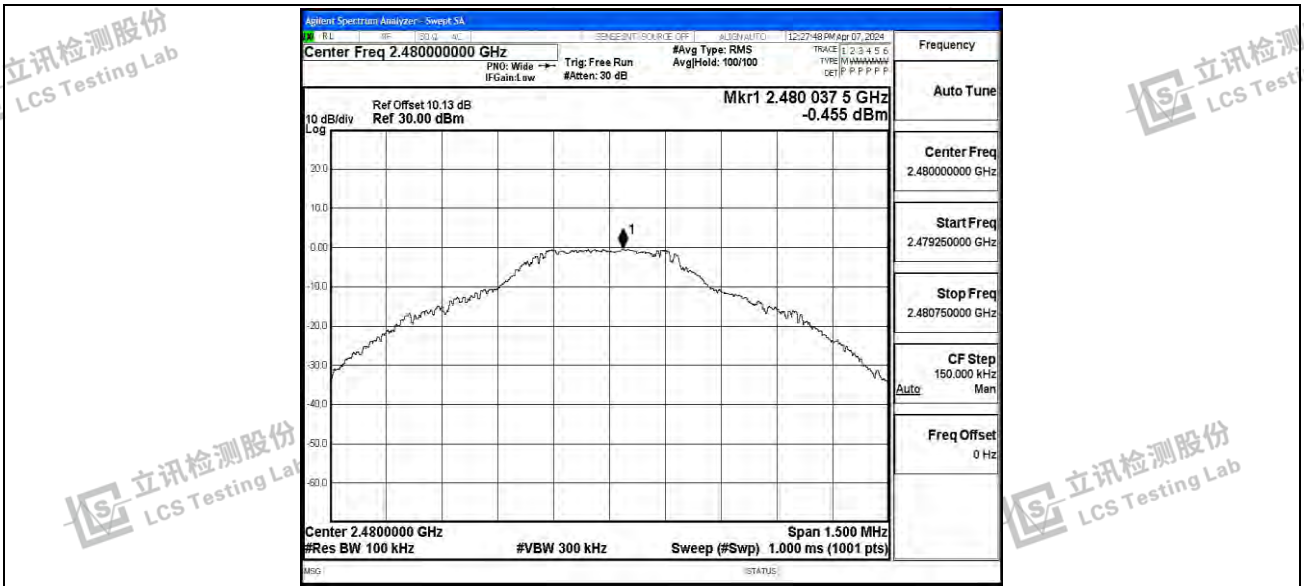


DH5\_Ant\_2441

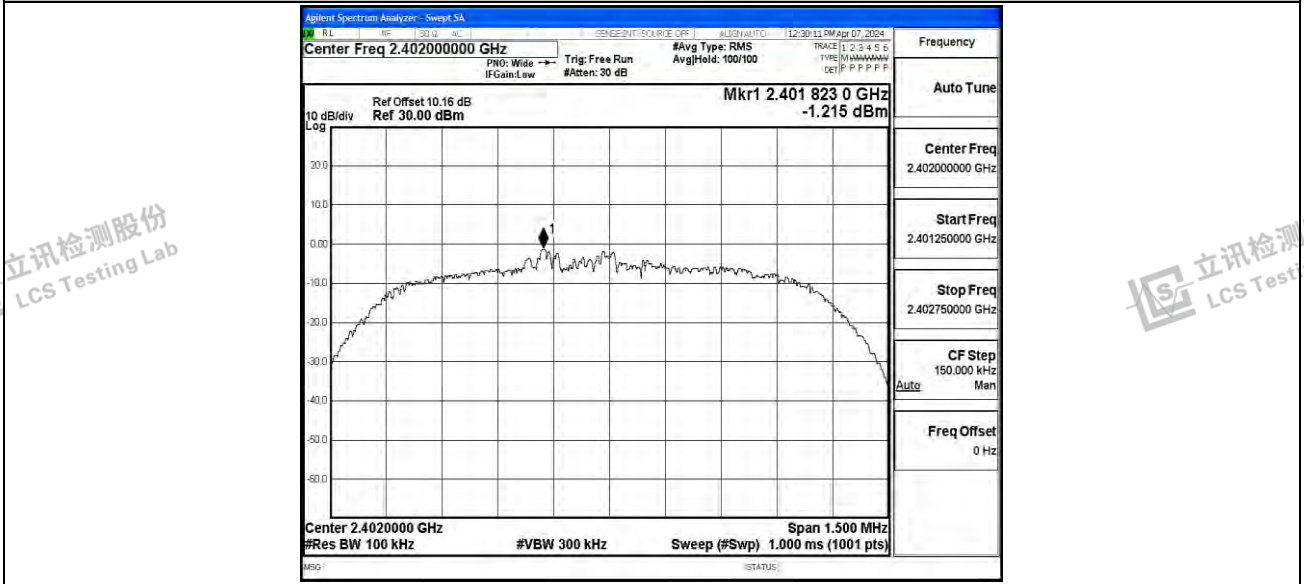


DH5\_Ant\_2480





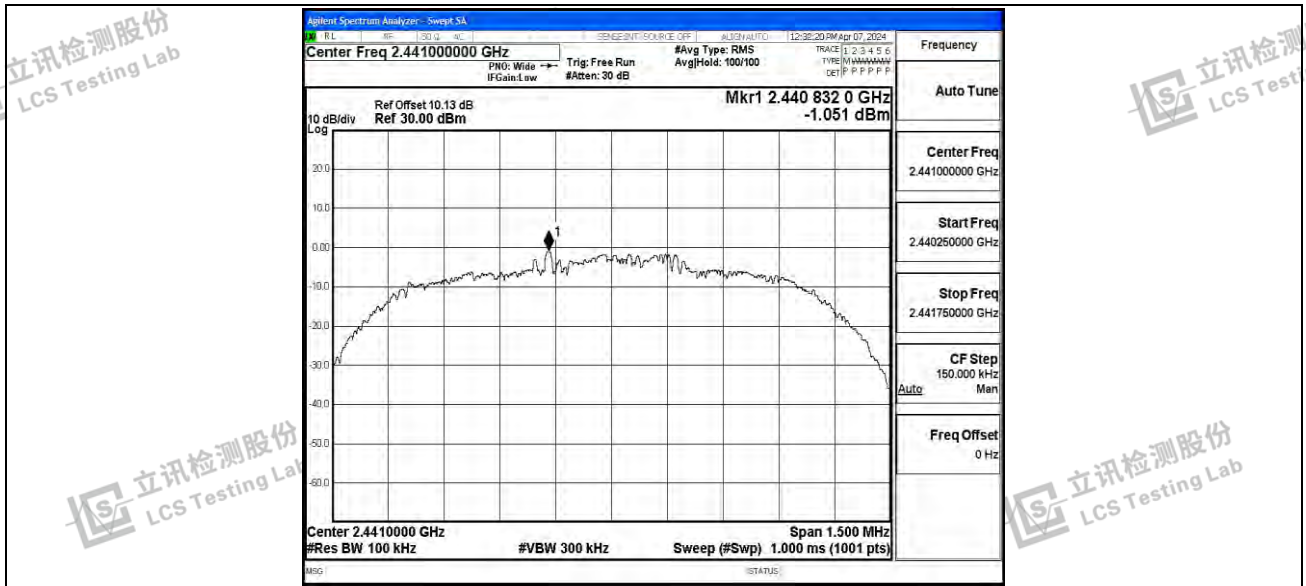
2DH5\_Ant\_2402



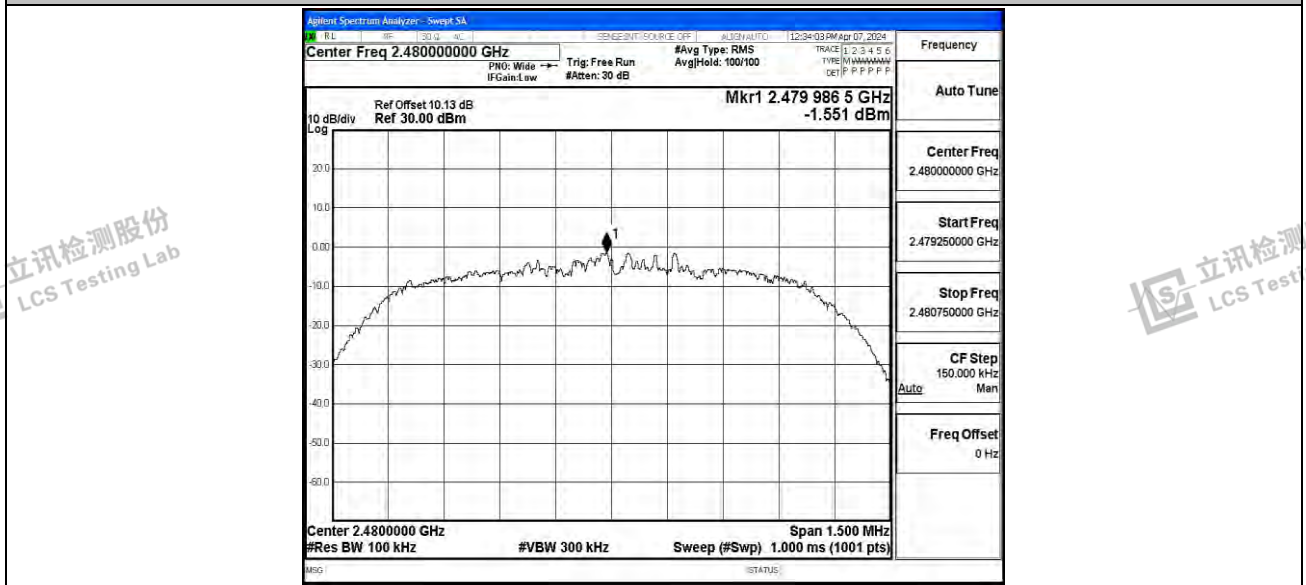
2DH5\_Ant\_2441







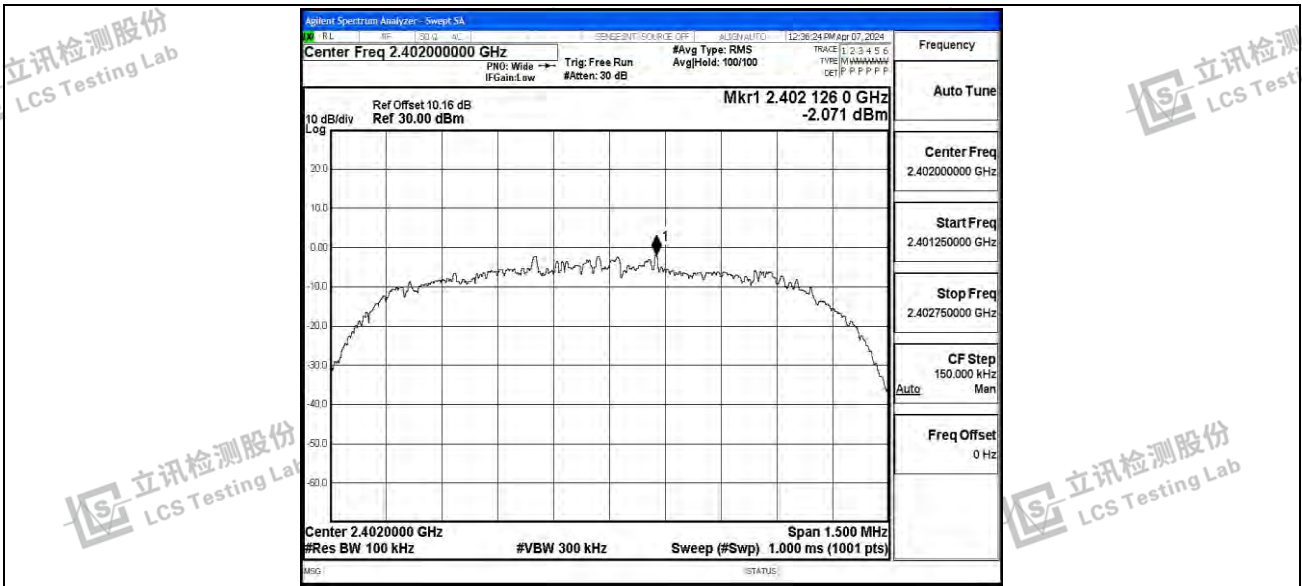
2DH5\_Ant\_2480



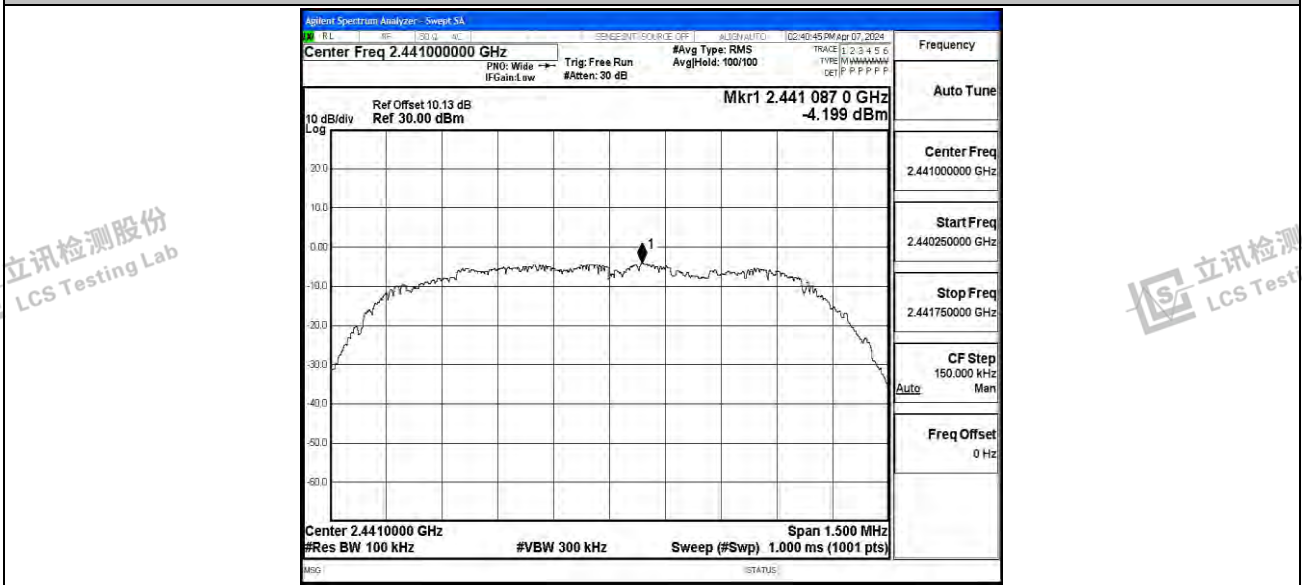
3DH5\_Ant\_2402





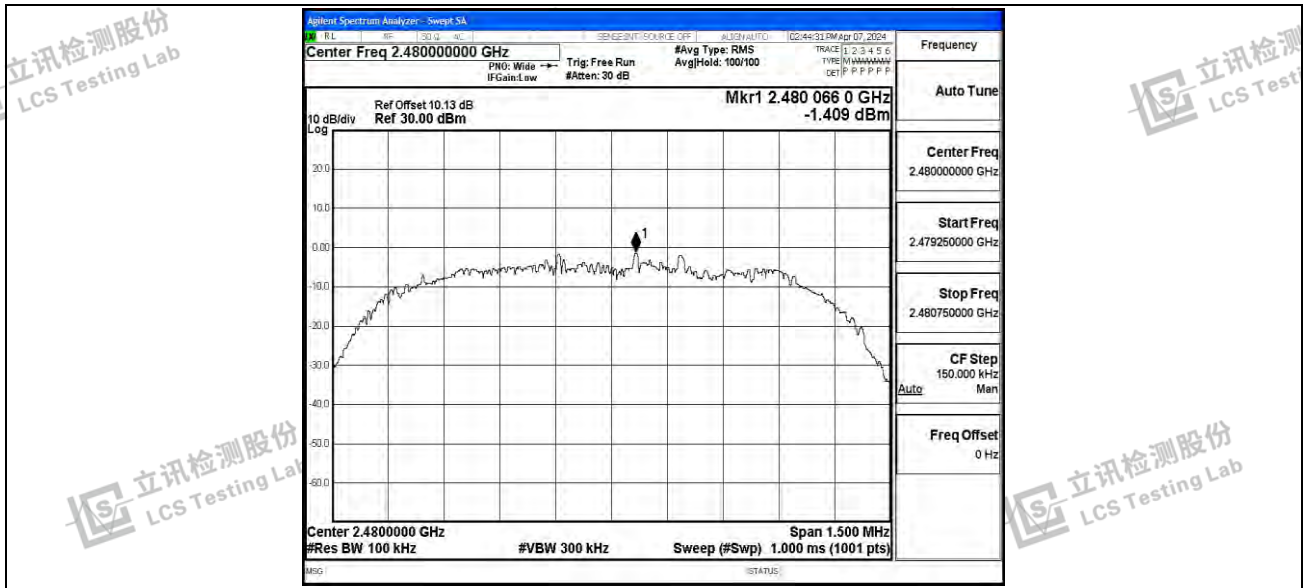


3DH5\_Ant\_2441



3DH5\_Ant\_2480







### A.8 Duty Cycle

#### Test Result

TestMode	Antenna	Frequency[M Hz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[kHz]
DH5	Ant	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.88	3.75	76.80	1.15	0.35
2DH5	Ant	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.89	3.75	77.07	1.13	0.35
3DH5	Ant	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.88	3.75	76.80	1.15	0.35

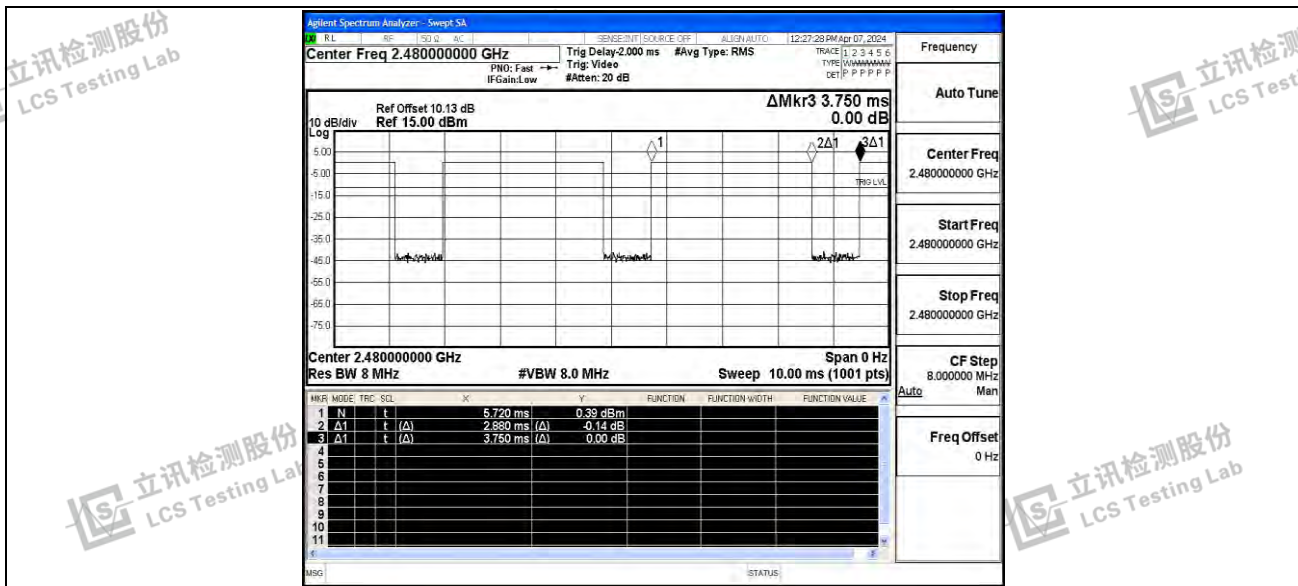




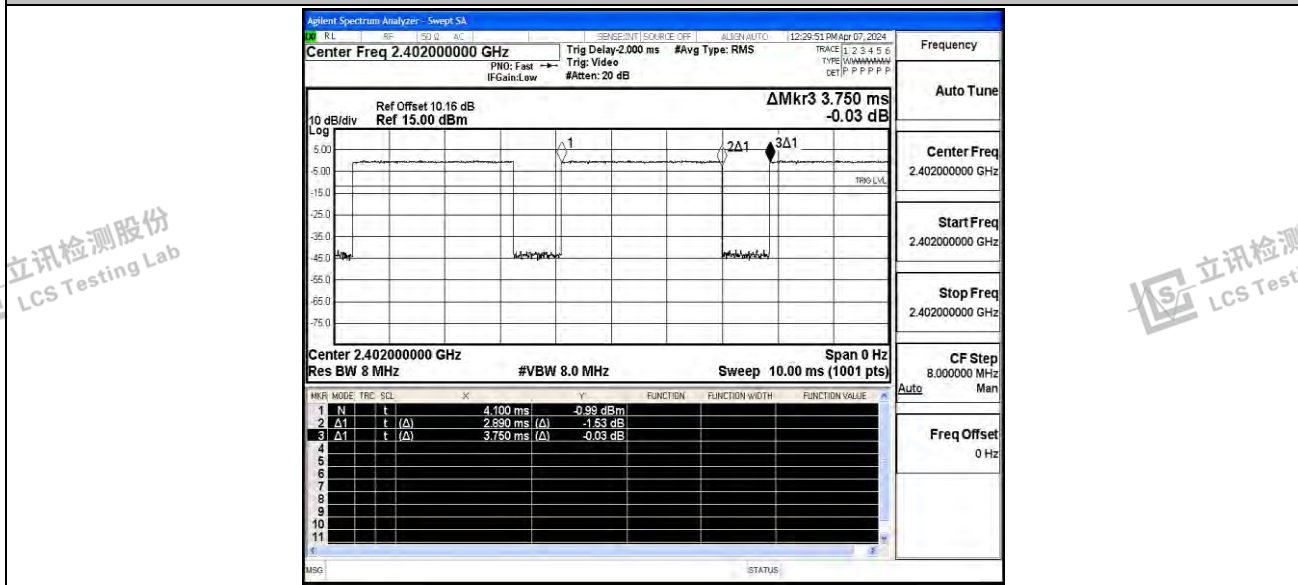
### Test Graphs





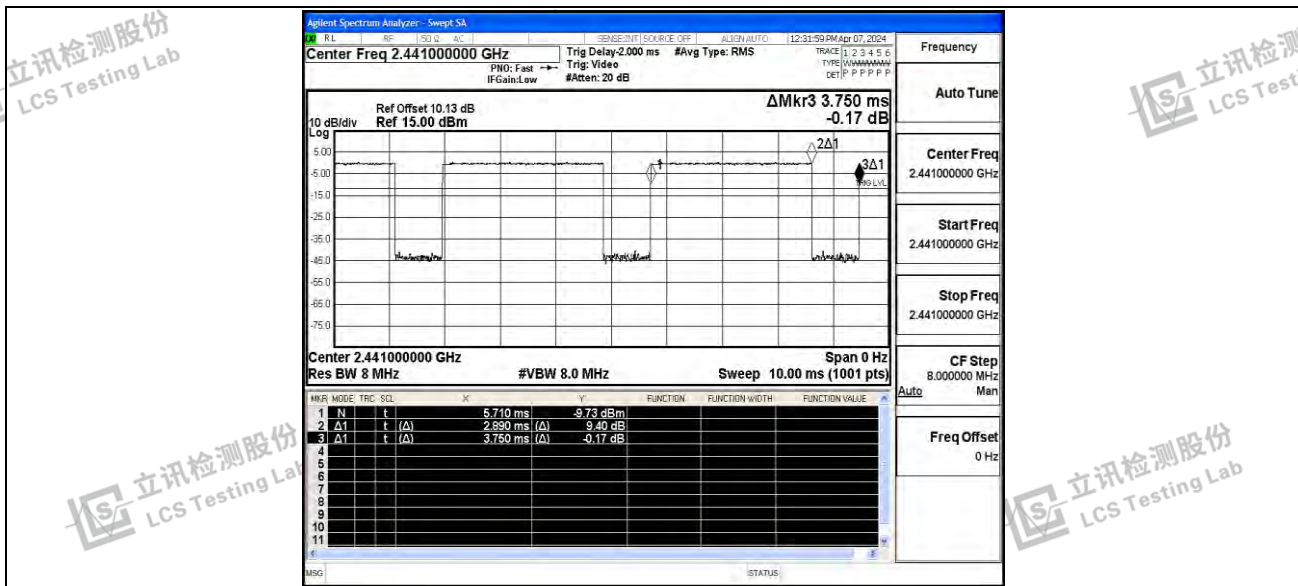


2DH5\_Ant\_2402

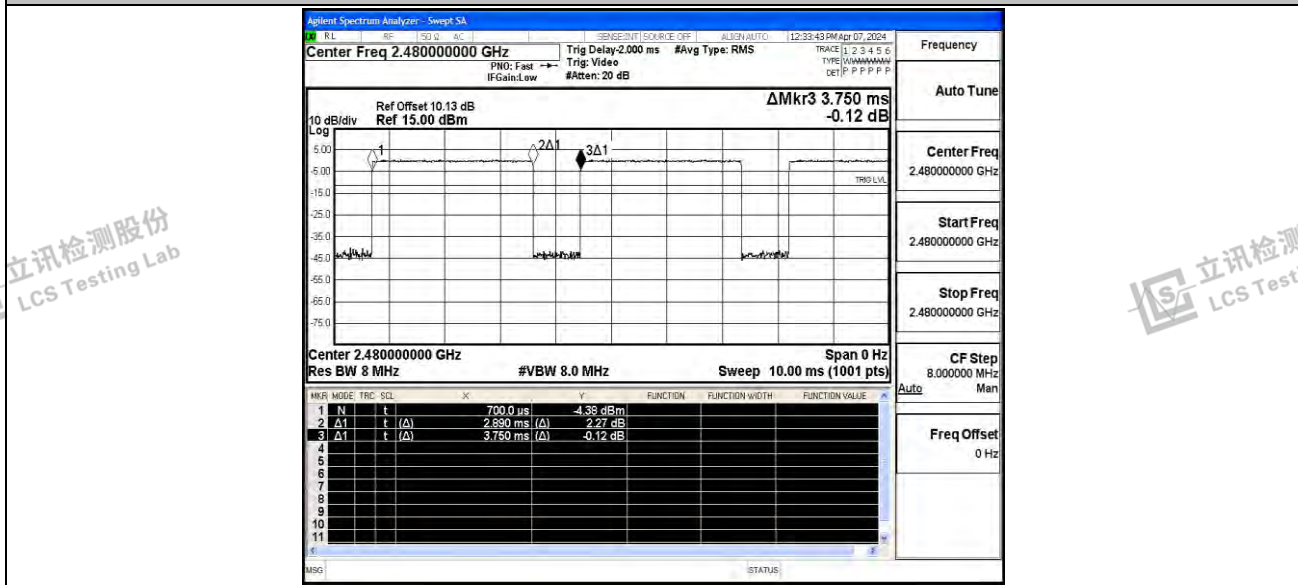


2DH5\_Ant\_2441



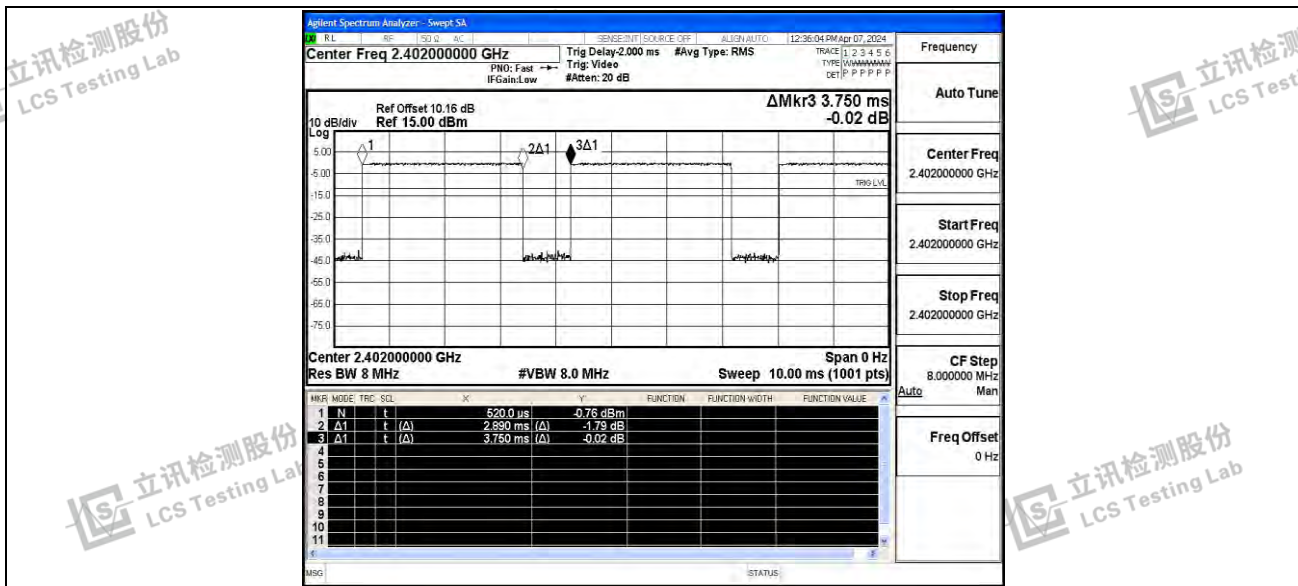


2DH5\_Ant\_2480

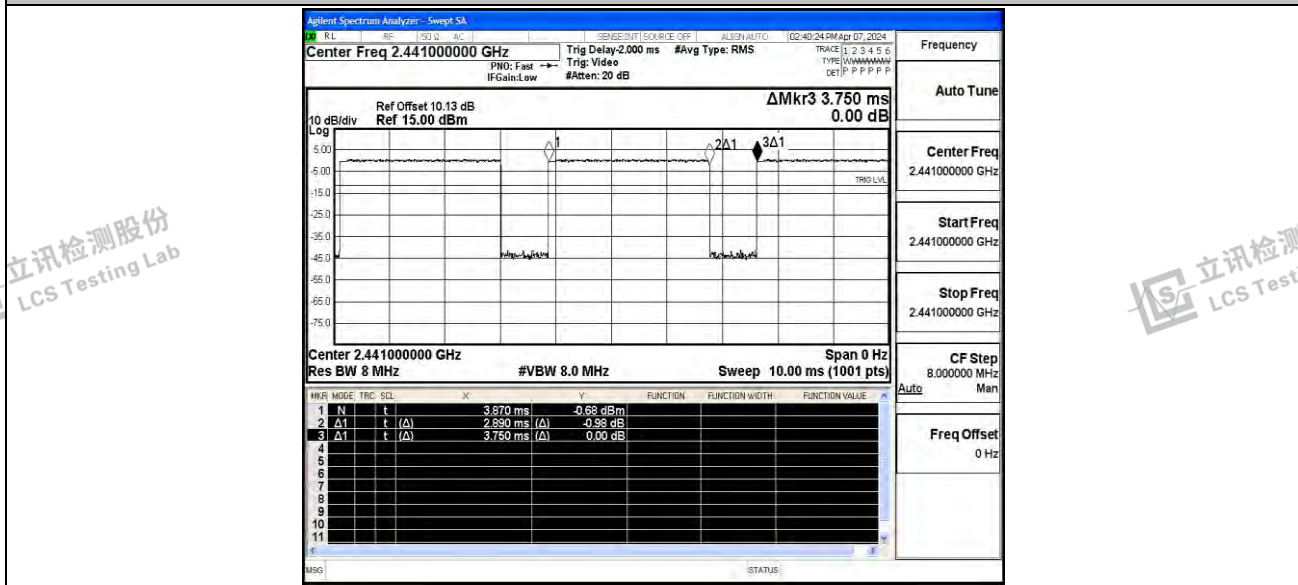


3DH5\_Ant\_2402



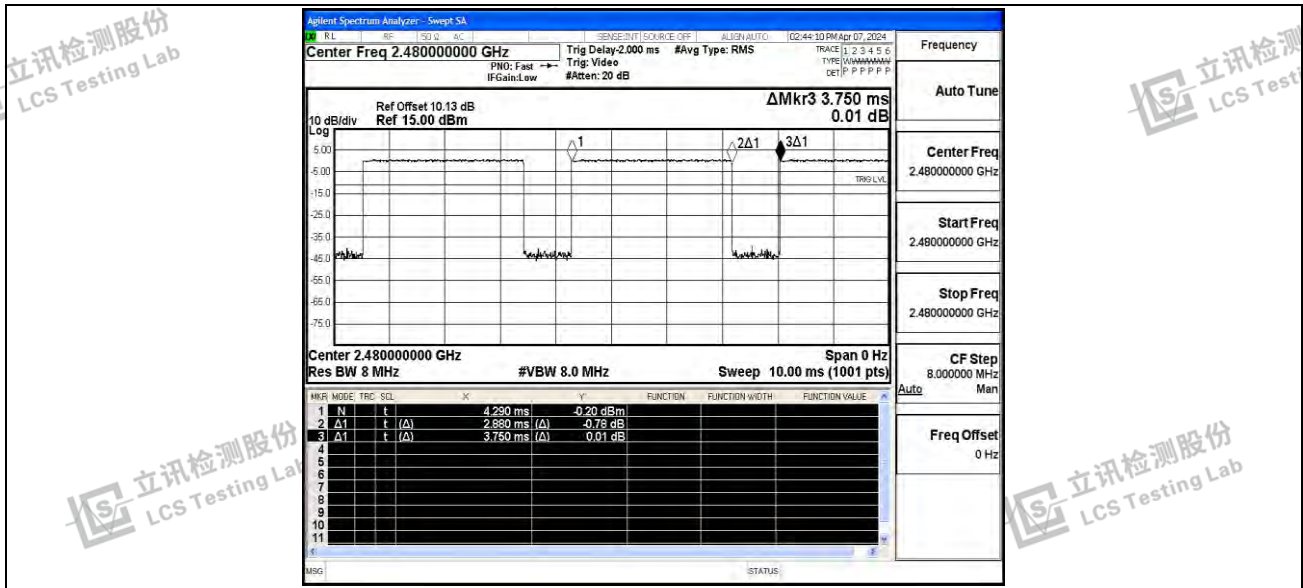


3DH5\_Ant\_2441



3DH5\_Ant\_2480









### A.9 Emissions in Restricted Bands

#### Test Result

TestMod e	Antenn a	ChNam e	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m ]	Verdict
DH5	Ant	Low	2402	AV	2310.000	-46.59	≤-41.20	48.61	≤54	PASS
				AV	2375.705	-45.86	≤-41.20	49.34	≤54	PASS
				AV	2390.000	-46.54	≤-41.20	48.66	≤54	PASS
				Peak	2310.000	-40.32	≤-21.20	54.88	≤74	PASS
				Peak	2382.950	-37.08	≤-21.20	58.12	≤74	PASS
				Peak	2390.000	-40.95	≤-21.20	54.25	≤74	PASS
		High	2480	AV	2483.500	-45.81	≤-41.20	49.39	≤54	PASS
				AV	2491.360	-45.59	≤-41.20	49.61	≤54	PASS
				AV	2500.000	-46.26	≤-41.20	48.94	≤54	PASS
				Peak	2483.500	-38.15	≤-21.20	57.05	≤74	PASS
				Peak	2485.600	-34.6	≤-21.20	60.60	≤74	PASS
				Peak	2500.000	-39.99	≤-21.20	55.21	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.11	≤-21.20	55.09	≤74	PASS
				Peak	2383.895	-36.72	≤-21.20	58.48	≤74	PASS
				Peak	2390.000	-40.2	≤-21.20	55.00	≤74	PASS
		High	Hop_2480	Peak	2483.500	-37.75	≤-21.20	57.45	≤74	PASS
				Peak	2489.840	-35.84	≤-21.20	59.36	≤74	PASS
				Peak	2500.000	-39.02	≤-21.20	56.18	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-47.37	≤-41.20	47.83	≤54	PASS
				AV	2384.420	-45.76	≤-41.20	49.44	≤54	PASS
				AV	2390.000	-46.6	≤-41.20	48.60	≤54	PASS
				Peak	2310.000	-39.23	≤-21.20	55.97	≤74	PASS
				Peak	2347.250	-37.12	≤-21.20	58.08	≤74	PASS
				Peak	2390.000	-37.54	≤-21.20	57.66	≤74	PASS
		High	2480	AV	2483.500	-46.84	≤-41.20	48.36	≤54	PASS
				AV	2499.680	-45.64	≤-41.20	49.56	≤54	PASS
				AV	2500.000	-46.23	≤-41.20	48.97	≤54	PASS
				Peak	2483.500	-37.94	≤-21.20	57.26	≤74	PASS
				Peak	2487.280	-35.65	≤-21.20	59.55	≤74	PASS
				Peak	2500.000	-39.83	≤-21.20	55.37	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.04	≤-21.20	55.16	≤74	PASS
				Peak	2376.230	-36.62	≤-21.20	58.58	≤74	PASS
				Peak	2390.000	-39.79	≤-21.20	55.41	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.86	≤-21.20	54.34	≤74	PASS
				Peak	2499.040	-36.75	≤-21.20	58.45	≤74	PASS





3DH5	Ant	Low	2402	Peak	2500.000	-39.1	≤-21.20	56.10	≤74	PASS		
				AV	2310.000	-47.14	≤-41.20	48.06	≤54	PASS		
				AV	2382.635	-45.82	≤-41.20	49.38	≤54	PASS		
				AV	2390.000	-46.84	≤-41.20	48.36	≤54	PASS		
				Peak	2310.000	-40.89	≤-21.20	54.31	≤74	PASS		
				Peak	2344.415	-36.86	≤-21.20	58.34	≤74	PASS		
		High	2480	Peak	2390.000	-40.83	≤-21.20	54.37	≤74	PASS		
				AV	2483.500	-46.55	≤-41.20	48.65	≤54	PASS		
				AV	2489.360	-45.47	≤-41.20	49.73	≤54	PASS		
				AV	2500.000	-46.29	≤-41.20	48.91	≤54	PASS		
				Peak	2483.500	-40.53	≤-21.20	54.67	≤74	PASS		
				Peak	2487.600	-37.15	≤-21.20	58.05	≤74	PASS		
		Low	Hop_240 2	Peak	2500.000	-39.18	≤-21.20	56.02	≤74	PASS		
				Peak	2310.000	-42.15	≤-21.20	53.05	≤74	PASS		
				Peak	2379.380	-36.38	≤-21.20	58.82	≤74	PASS		
		High	Hop_248 0	Peak	2390.000	-40.51	≤-21.20	54.69	≤74	PASS		
				Peak	2483.500	-39.45	≤-21.20	55.75	≤74	PASS		
				Peak	2487.200	-36.97	≤-21.20	58.23	≤74	PASS		
						Peak	2500.000	-39.63	≤-21.20	55.57	≤74	PASS

Note:

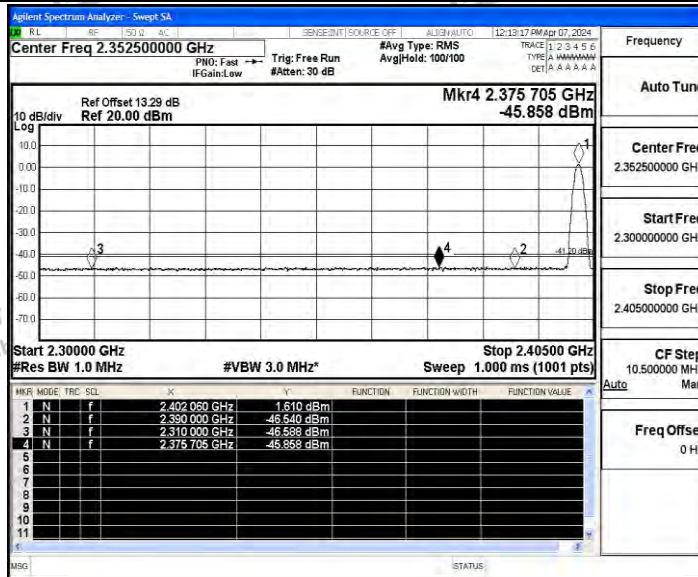
- The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



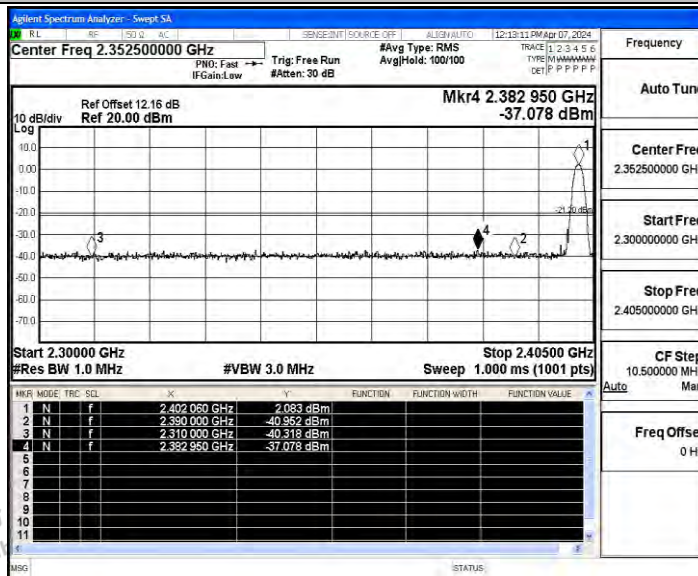


### Test Graphs

#### DH5\_Ant\_Low\_2402\_AV

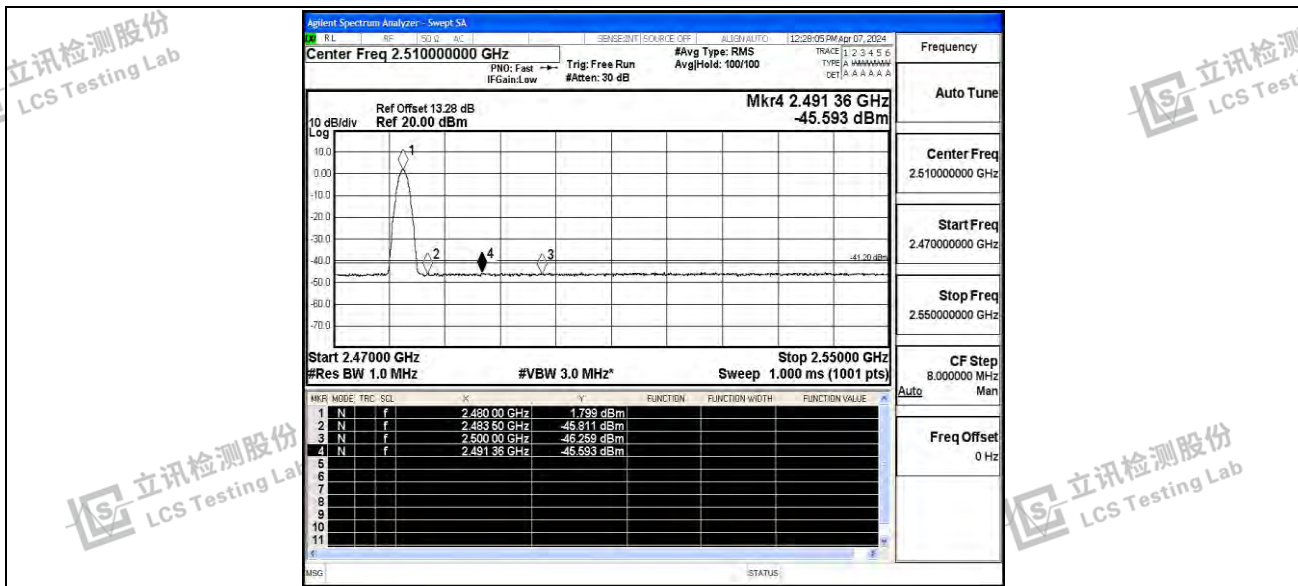


#### DH5\_Ant\_Low\_2402\_Peak

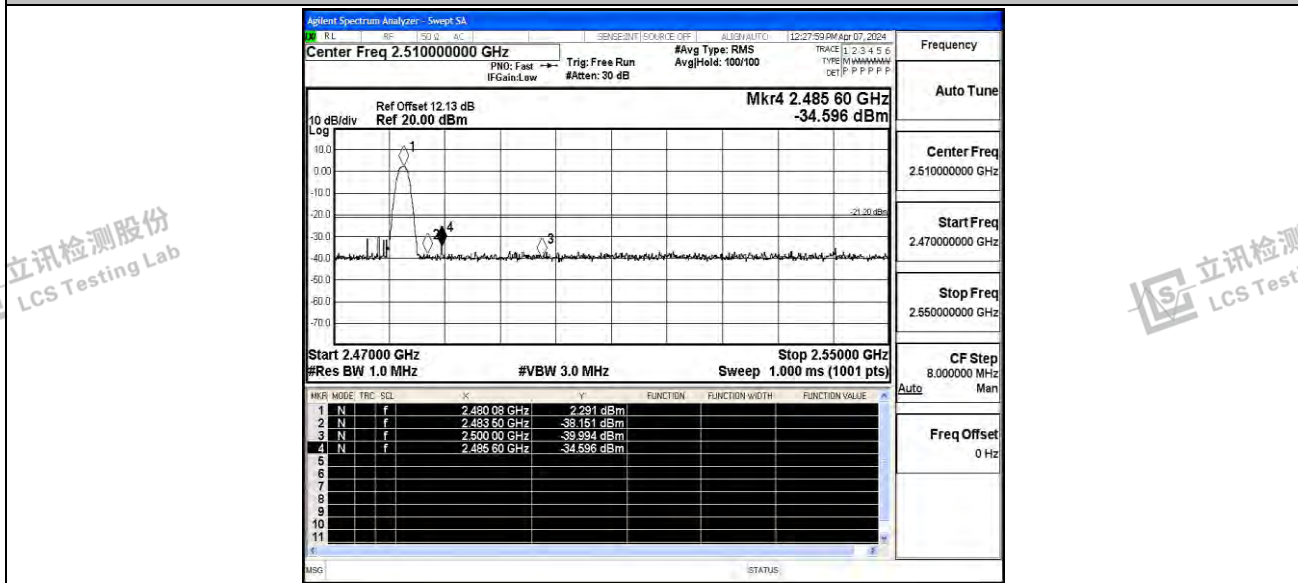


#### DH5\_Ant\_High\_2480\_AV





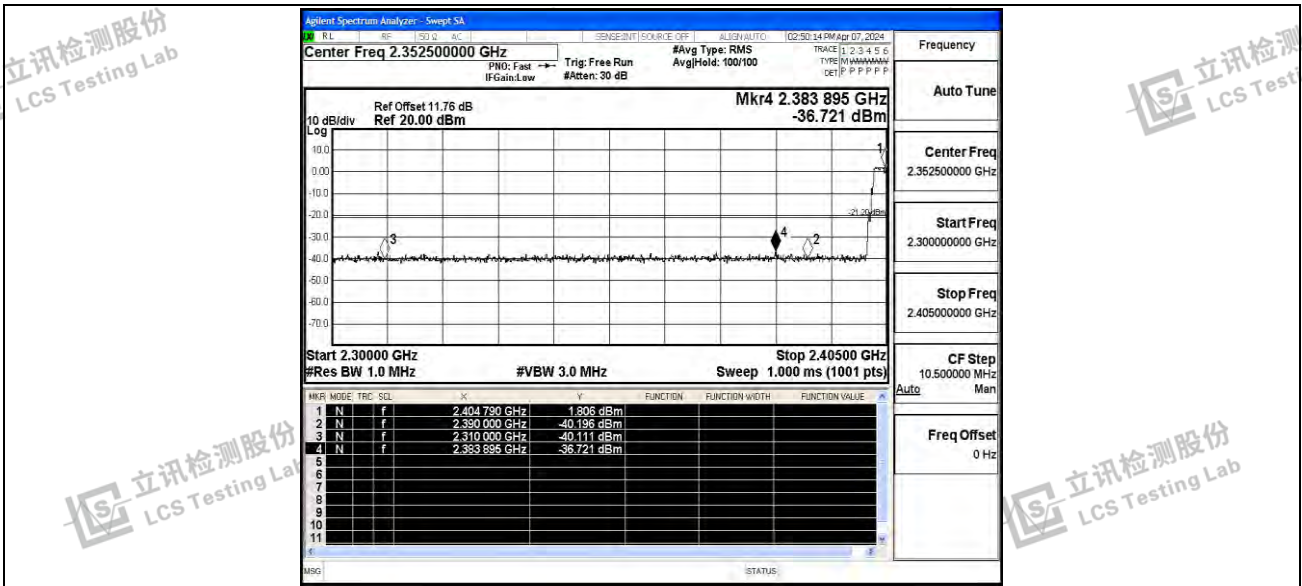
DH5\_Ant\_High\_2480\_Peak



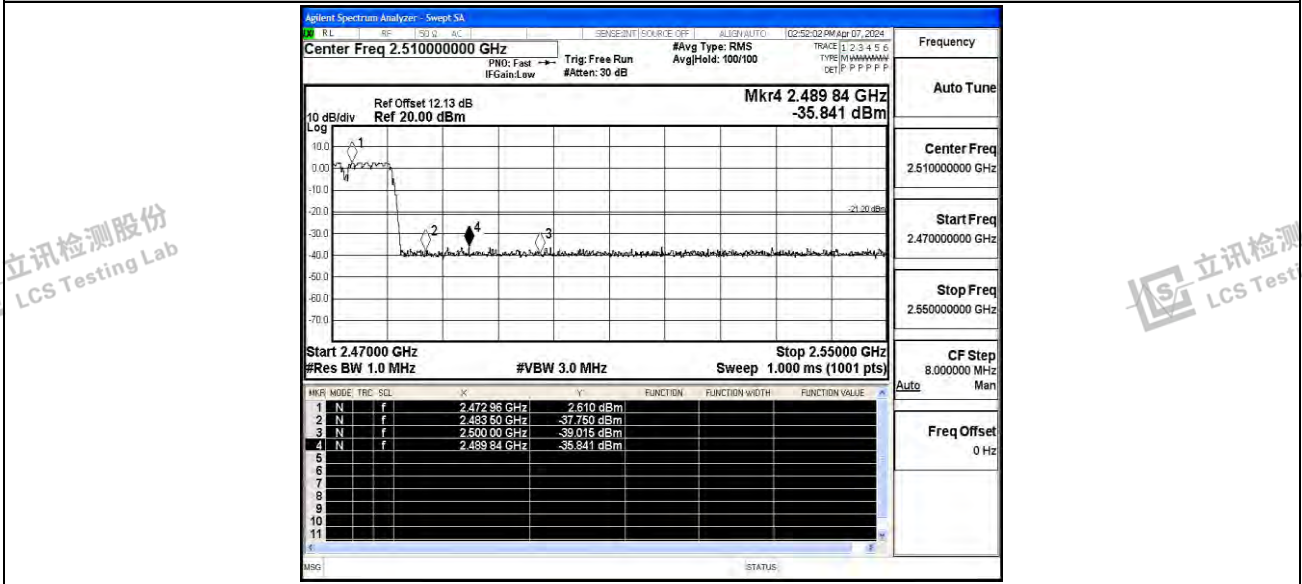
DH5\_Ant\_Low\_Hop\_2402\_Peak





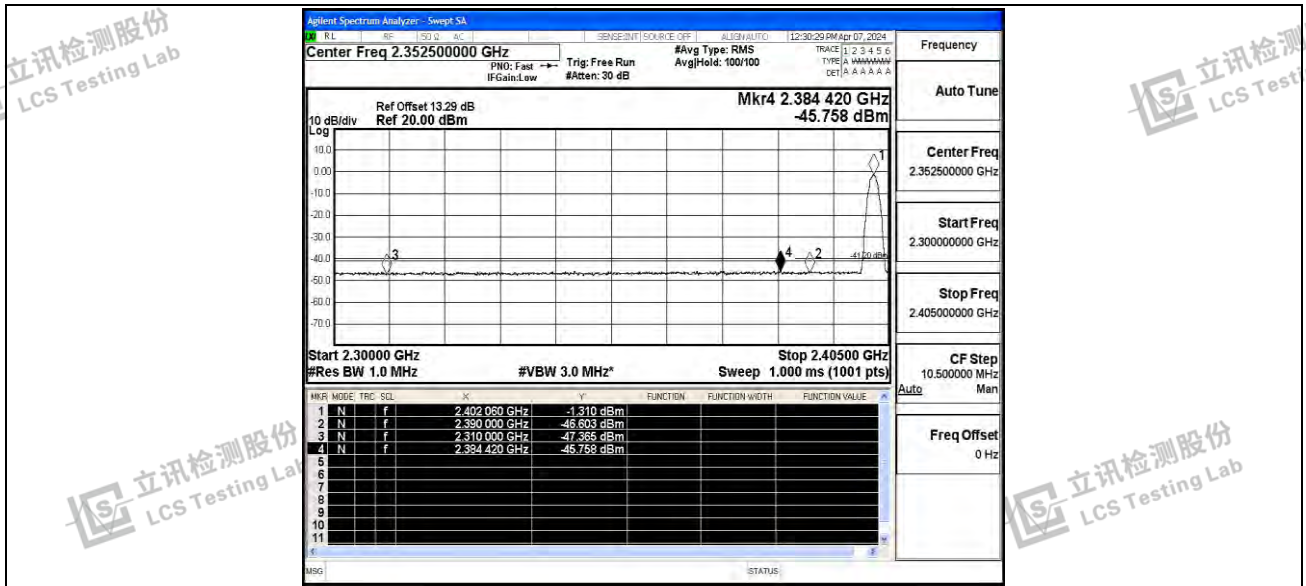


DH5\_Ant\_High\_Hop\_2480\_Peak

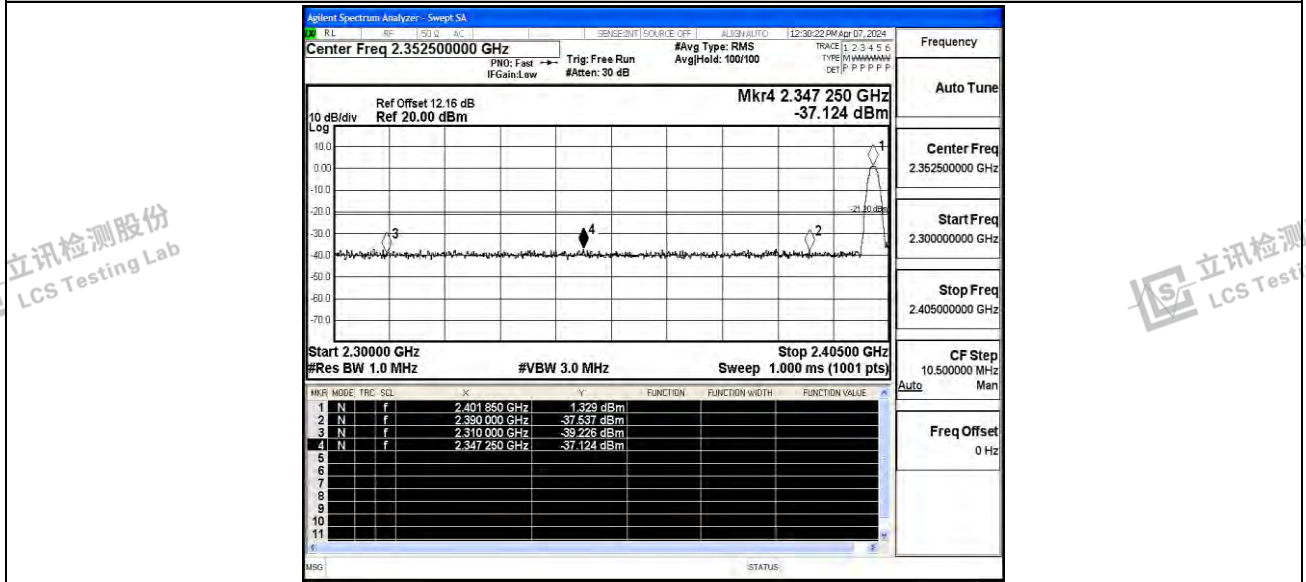


2DH5\_Ant\_Low\_2402\_AV



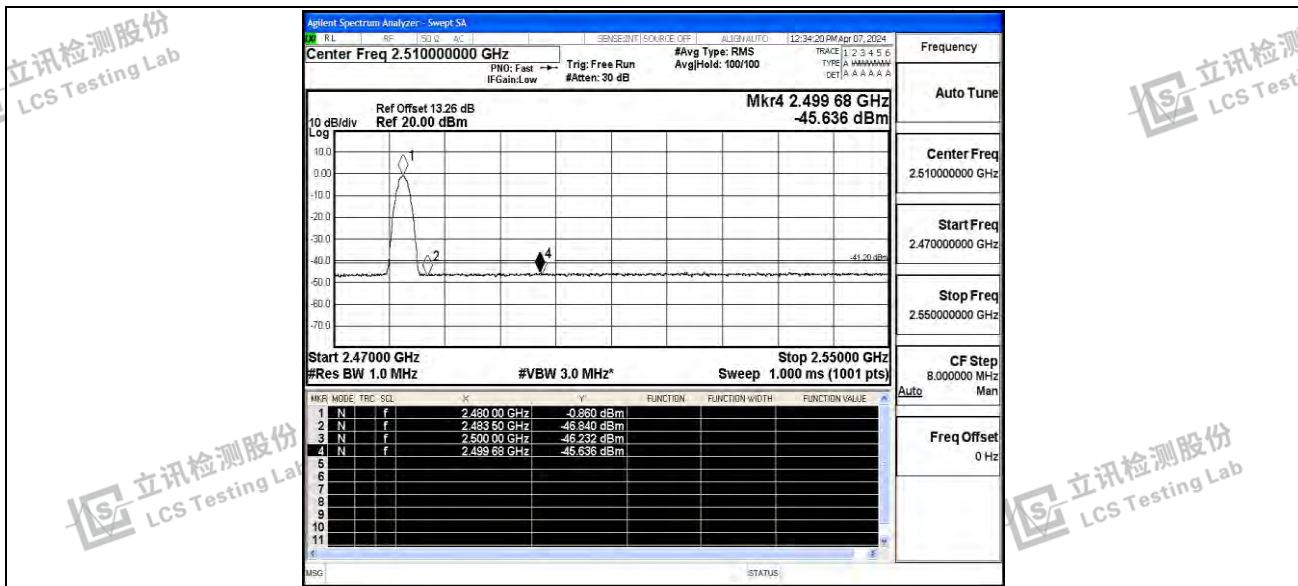


2DH5\_Ant\_Low\_2402\_Peak

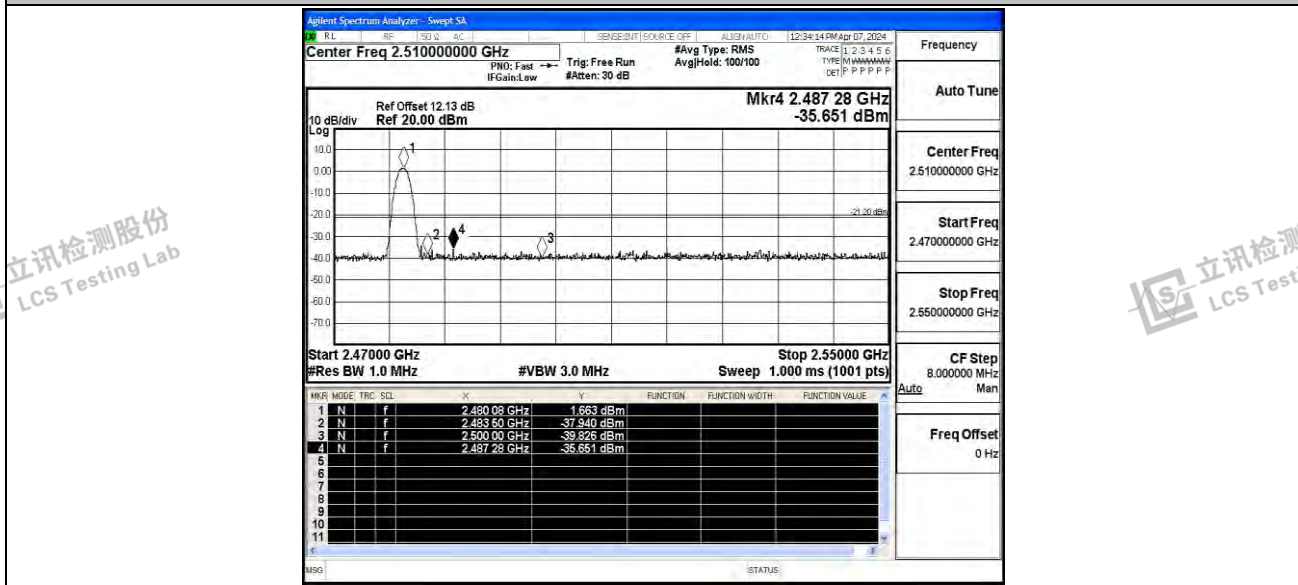


2DH5\_Ant\_High\_2480\_AV





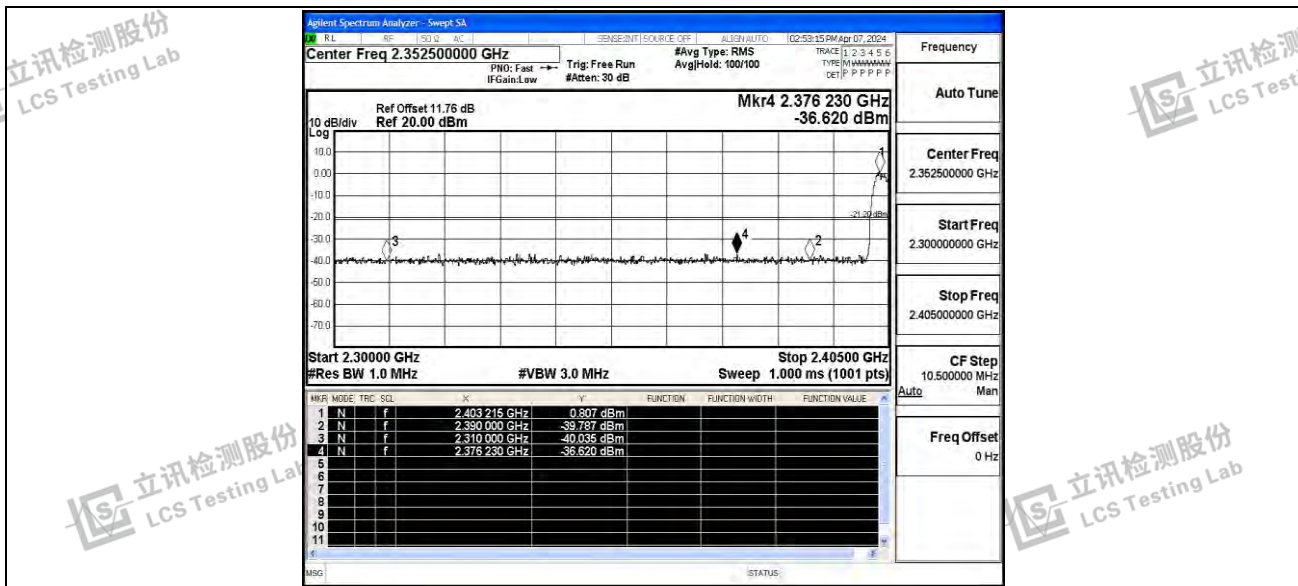
2DH5\_Ant\_High\_2480\_Peak



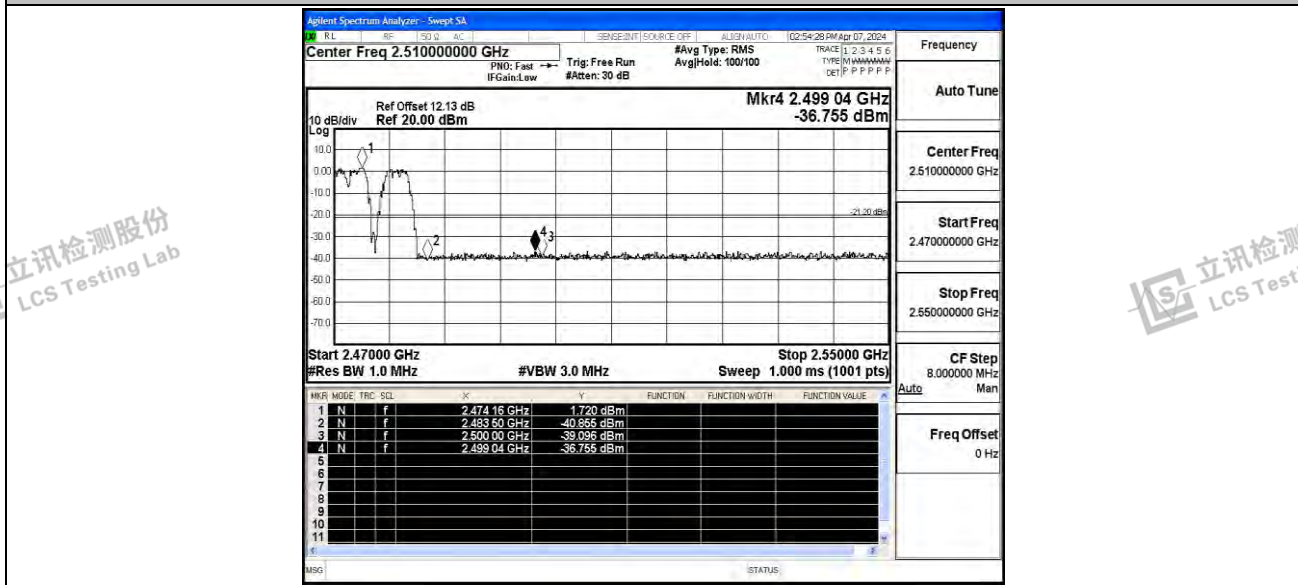
2DH5\_Ant\_Low\_Hop\_2402\_Peak







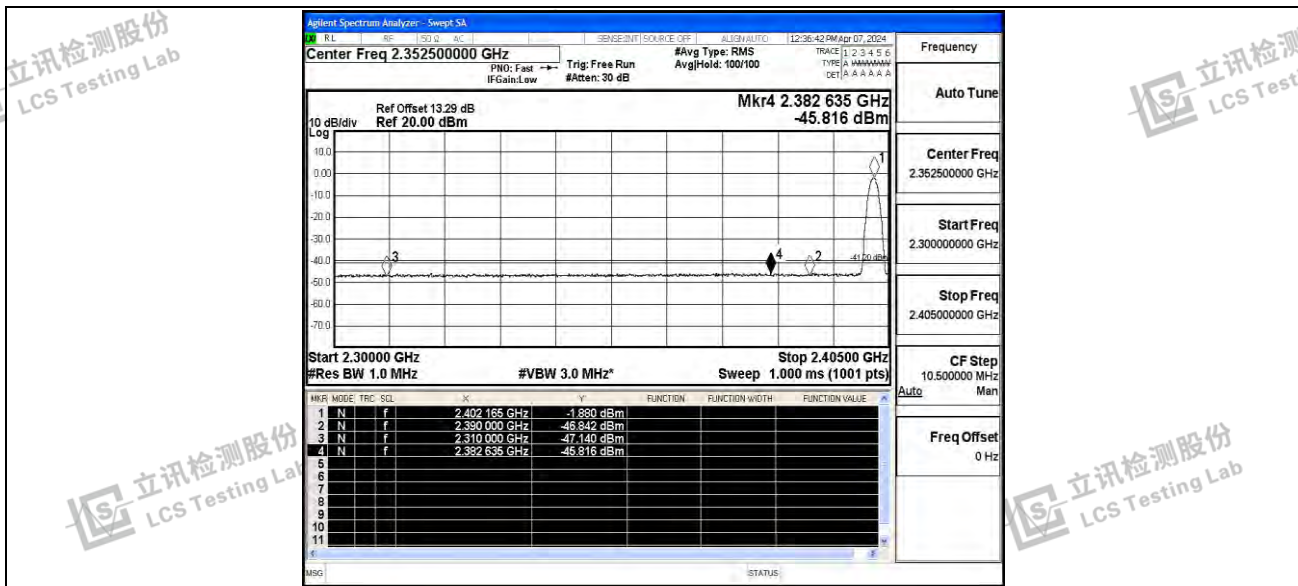
2DH5\_Ant\_High\_Hop\_2480\_Peak



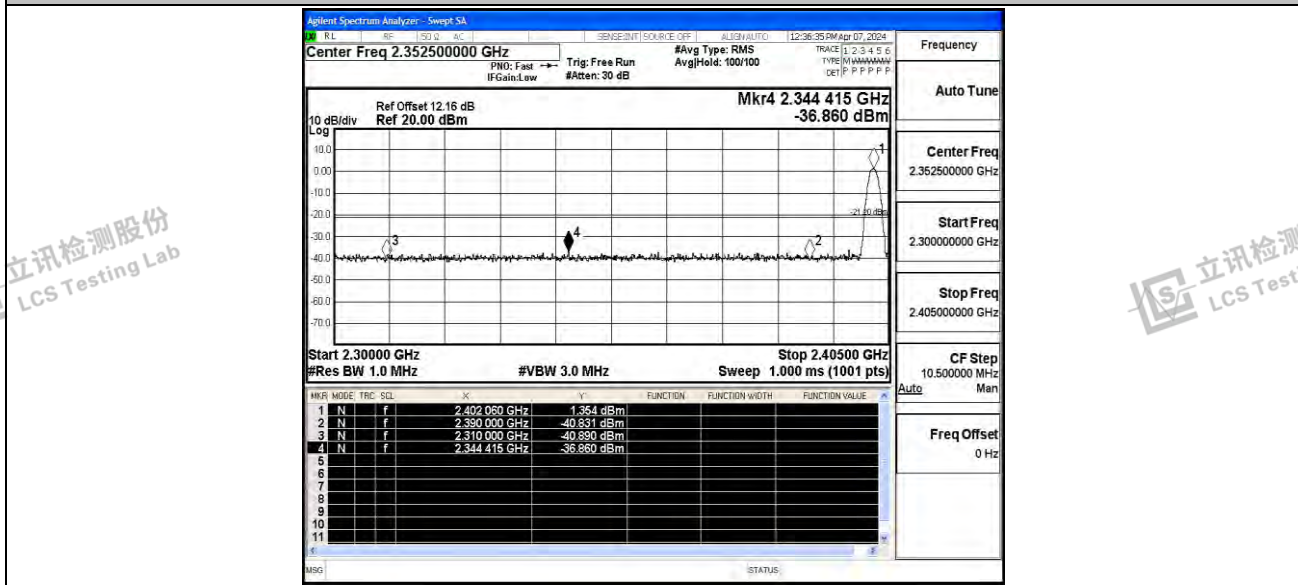
3DH5\_Ant\_Low\_2402\_AV





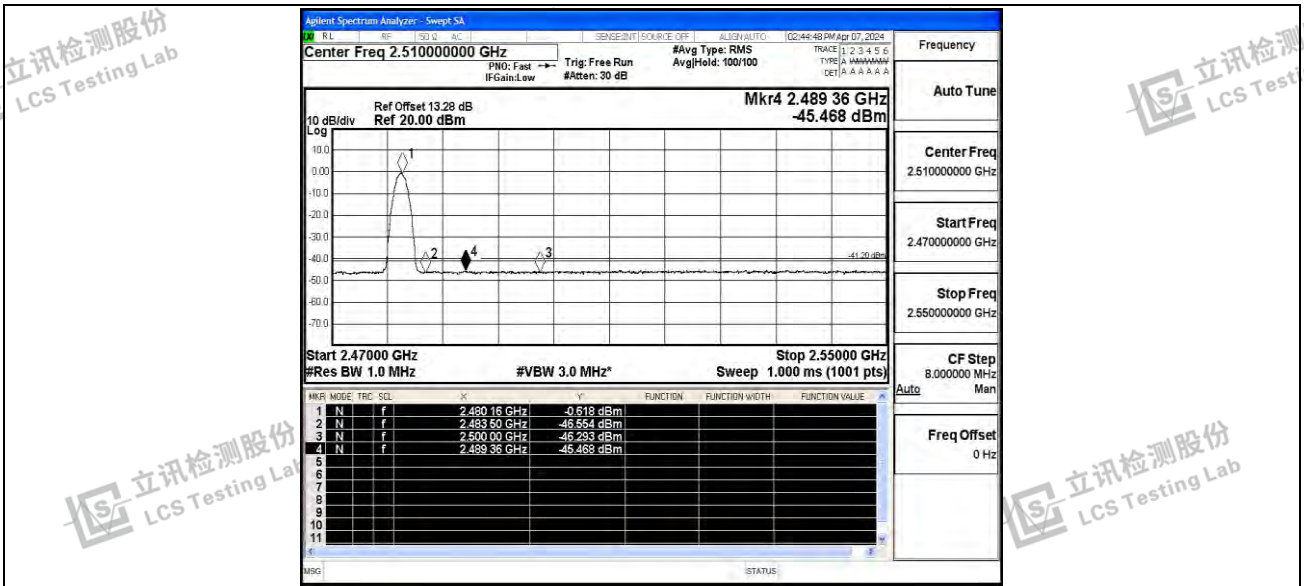


3DH5\_Ant\_Low\_2402\_Peak

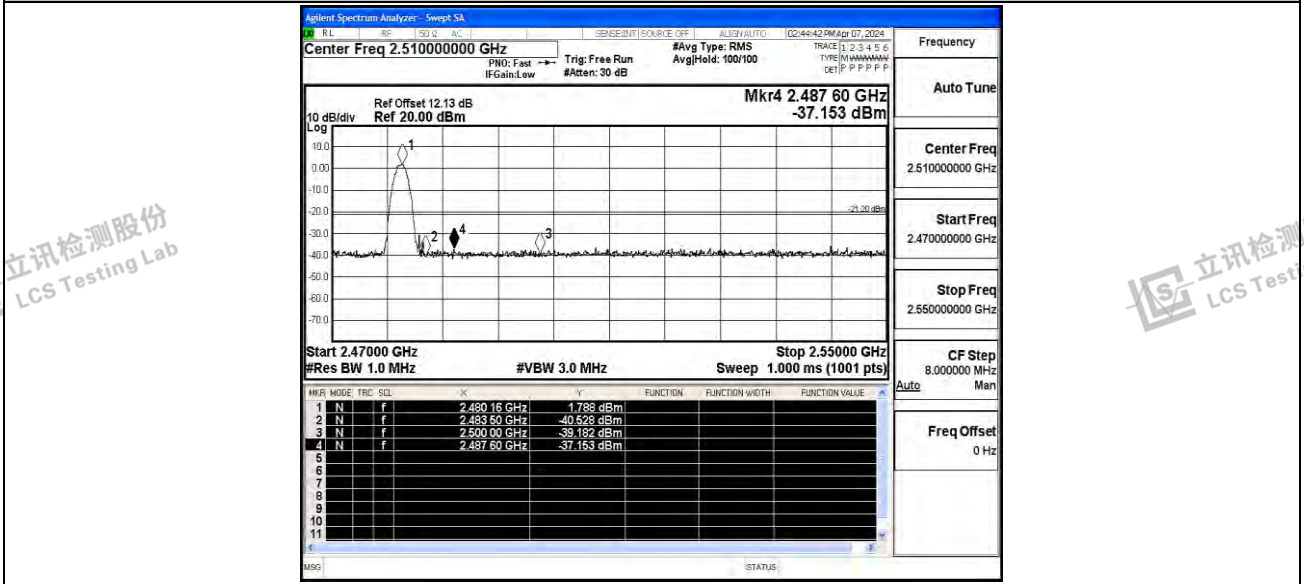


3DH5\_Ant\_High\_2480\_AV



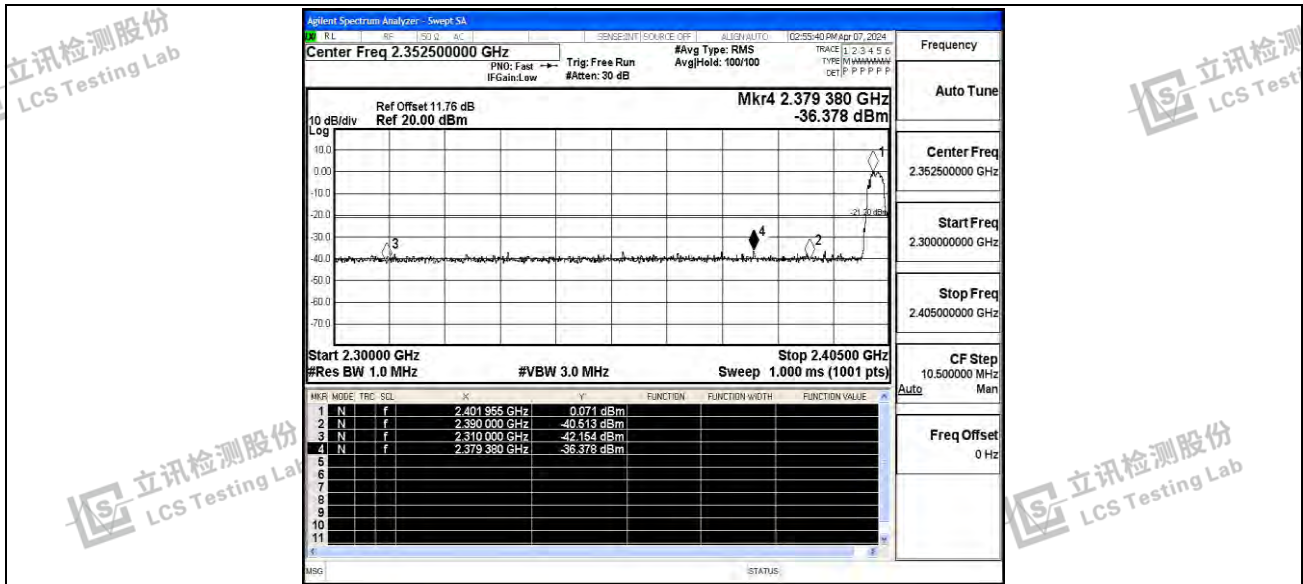


3DH5\_Ant\_High\_2480\_Peak



3DH5\_Ant\_Low\_Hop\_2402\_Peak





3DH5\_Ant\_High\_Hop\_2480\_Peak

