



## Appendix A

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

Product Name: Mibro Earbuds 2

Test Model: XPEJ004

#### Environmental Conditions

Temperature:	23.8 °C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Mening Sou</i> Mening Sou
Supervised by:	<i>Li Huan</i> Li Huan





### A.1 20dB Emission Bandwidth

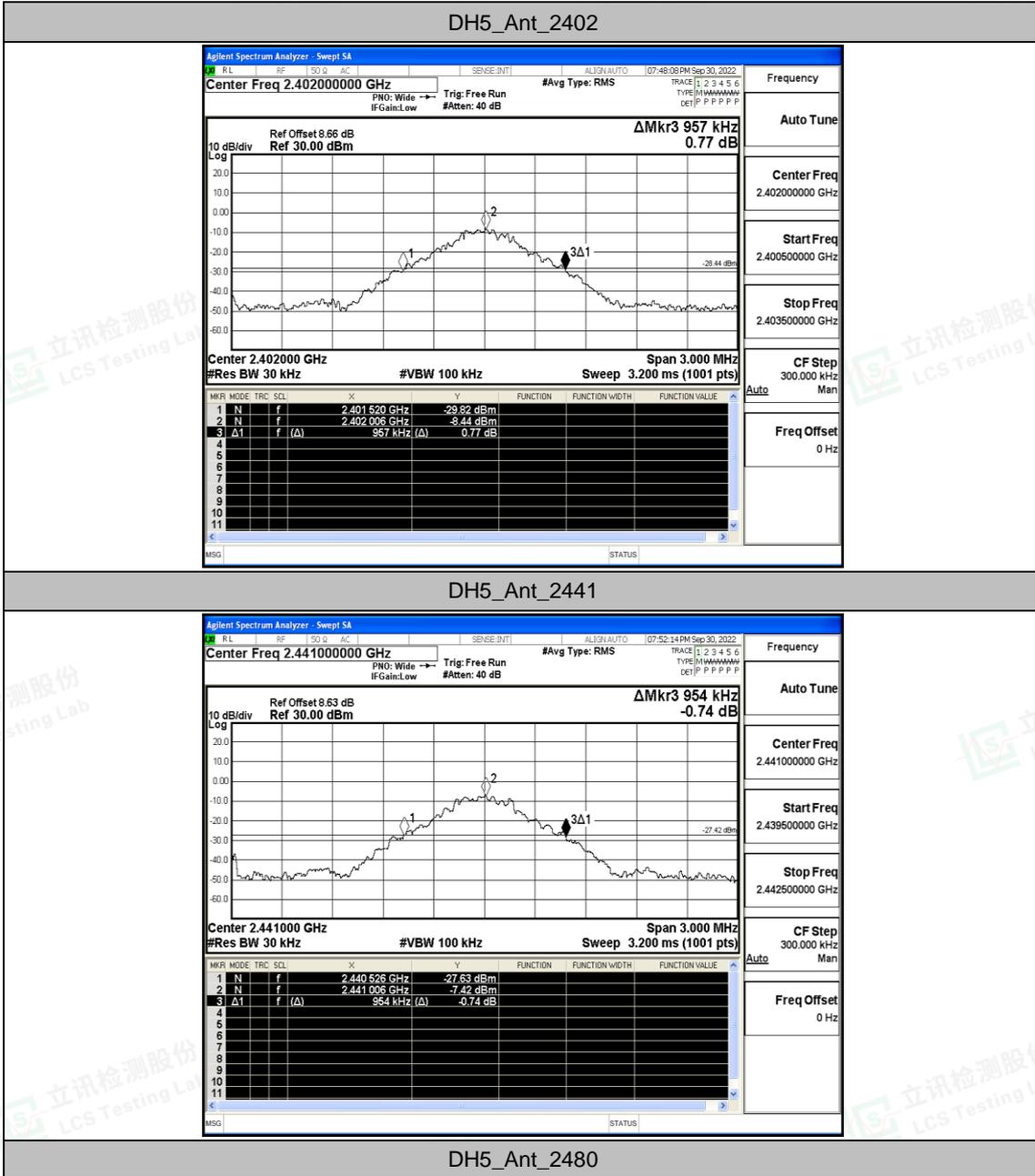
#### Test Result

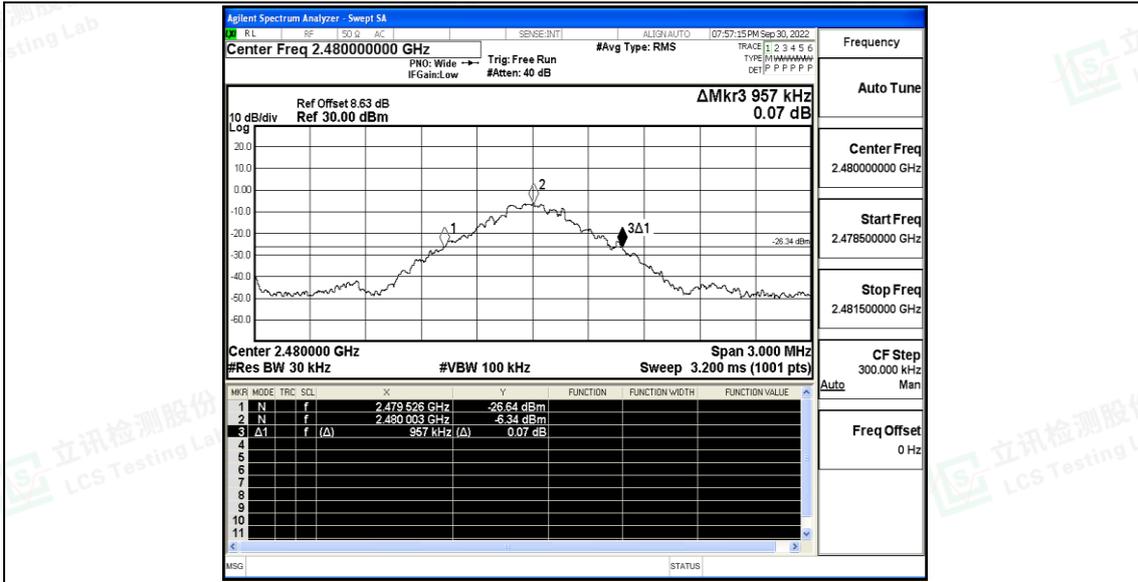
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant	2402	0.957	2401.520	2402.477	PASS
		2441	0.954	2440.526	2441.480	PASS
		2480	0.957	2479.526	2480.483	PASS
2DH5	Ant	2402	1.287	2401.358	2402.645	PASS
		2441	1.344	2440.316	2441.660	PASS
		2480	1.356	2479.313	2480.669	PASS
3DH5	Ant	2402	1.308	2401.337	2402.645	PASS
		2441	1.284	2440.358	2441.642	PASS
		2480	1.350	2479.319	2480.669	PASS



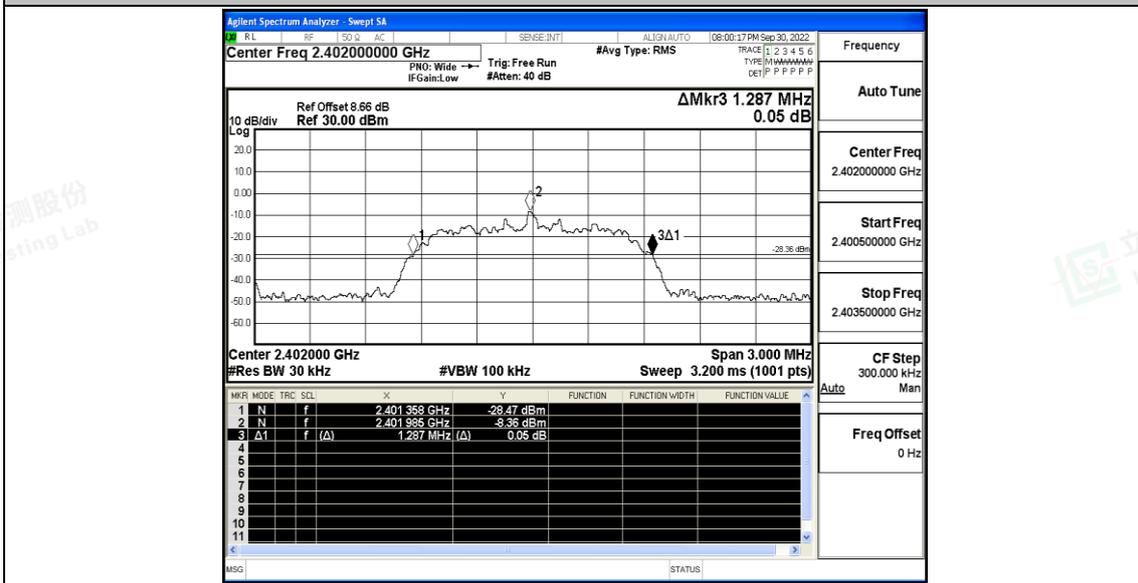


### Test Graphs



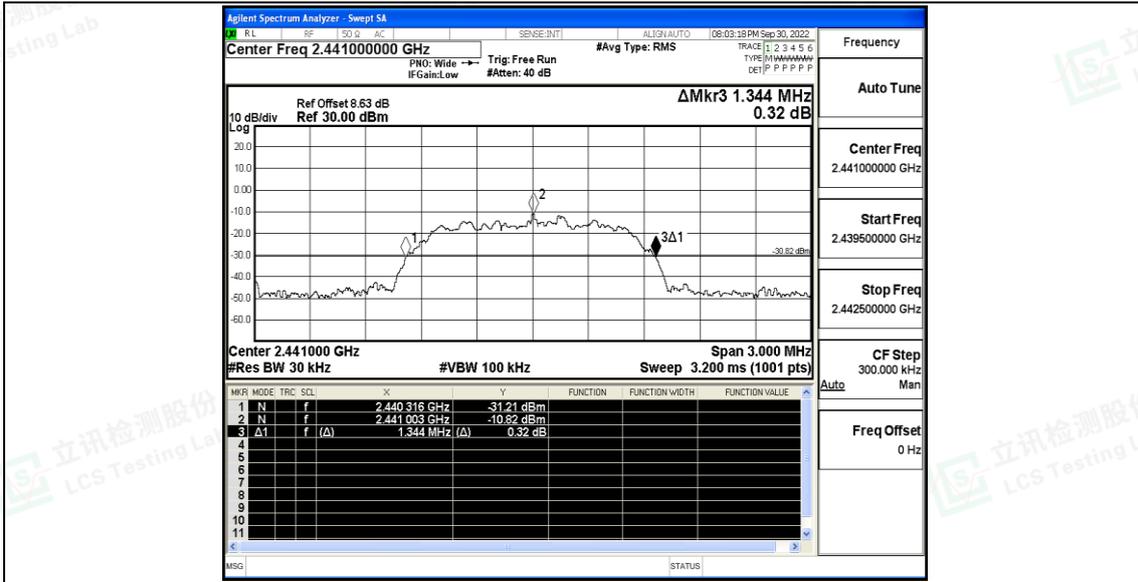


2DH5\_Ant\_2402

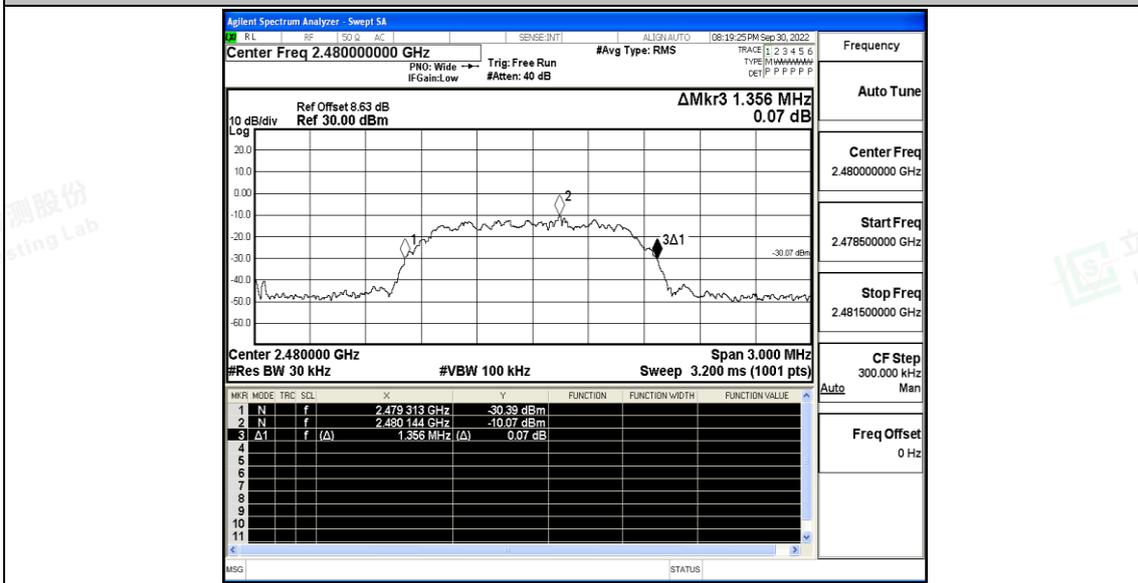


2DH5\_Ant\_2441



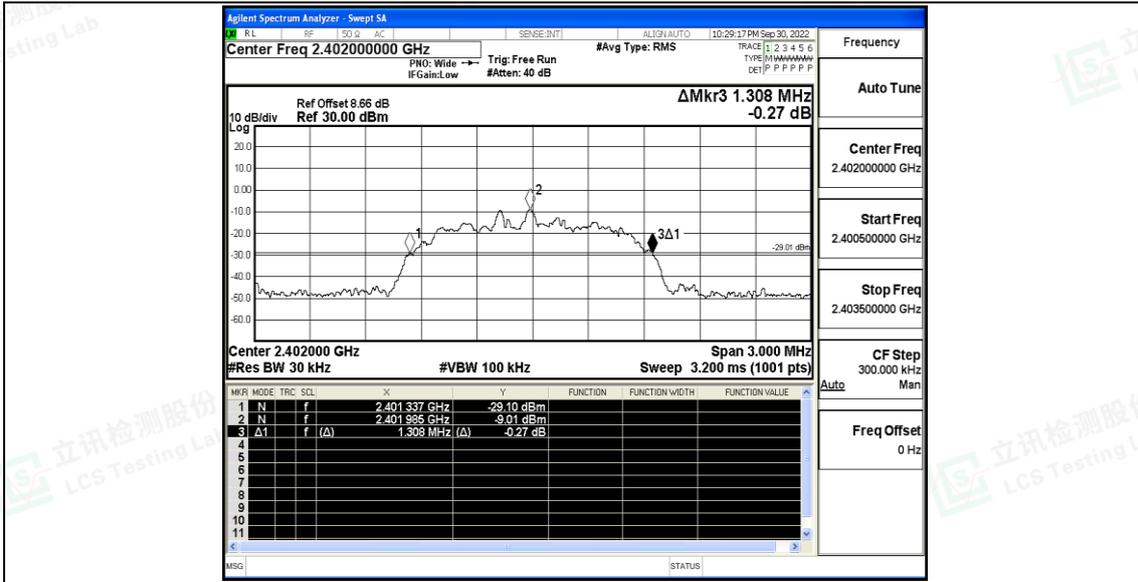


2DH5\_Ant\_2480

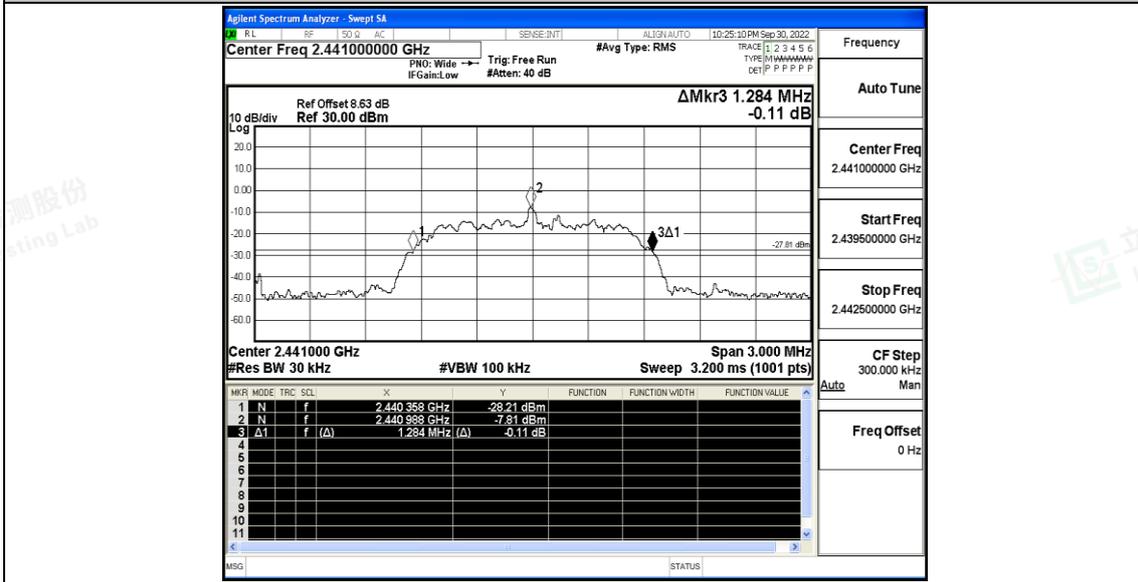


3DH5\_Ant\_2402



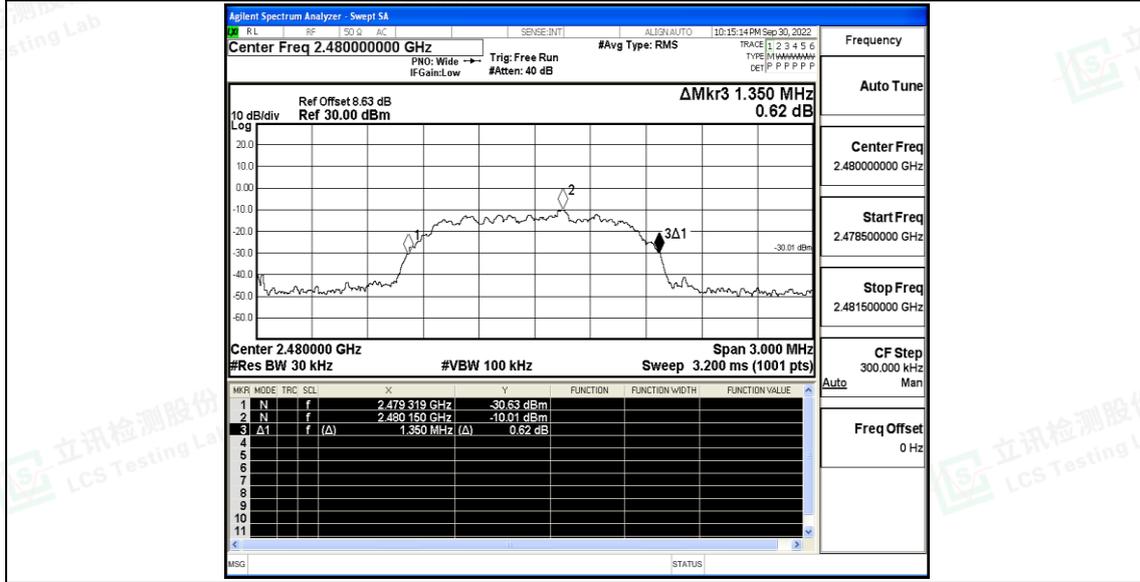


3DH5\_Ant\_2441



3DH5\_Ant\_2480







## A.2 Maximum conducted output power

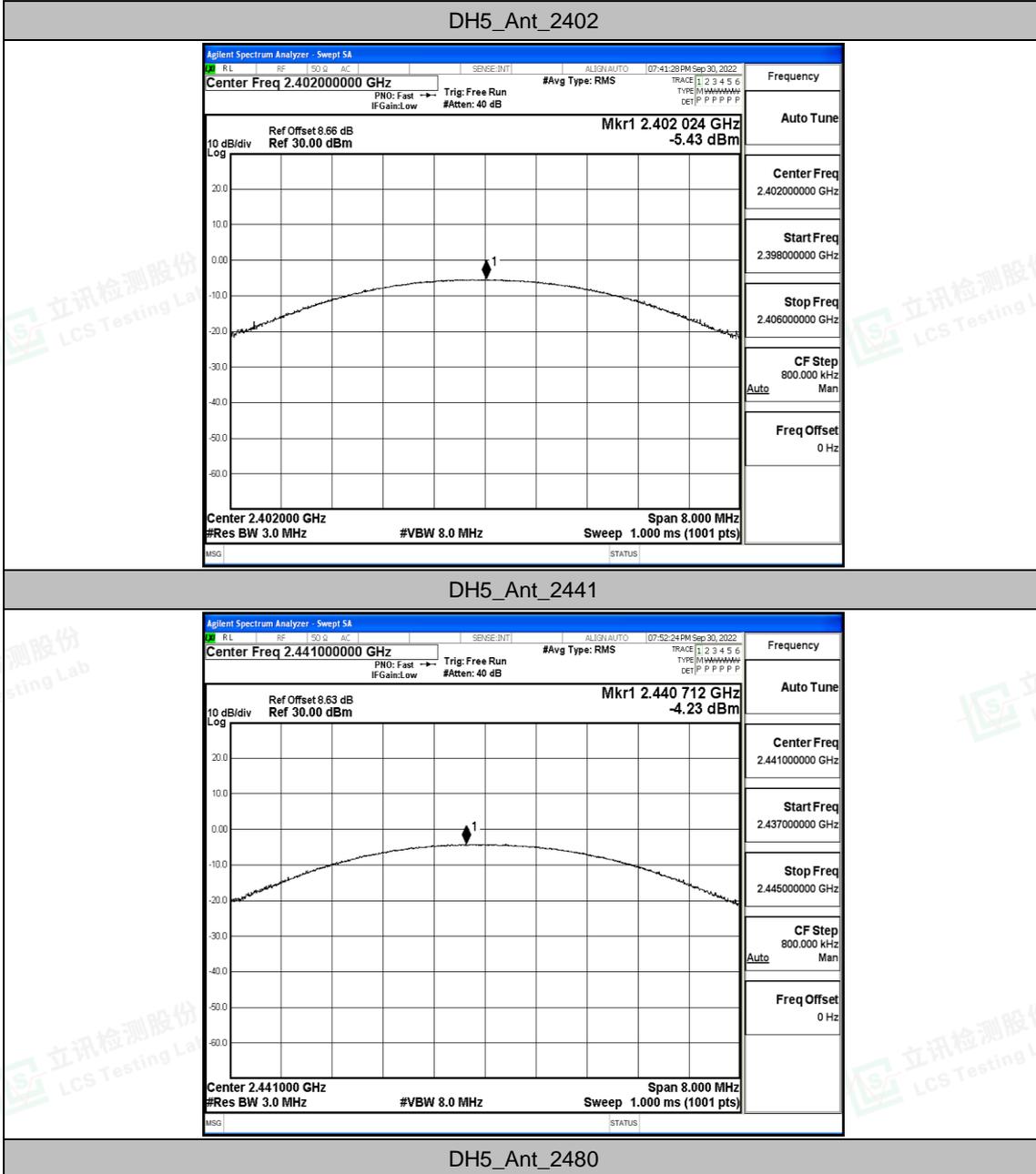
### Test Result

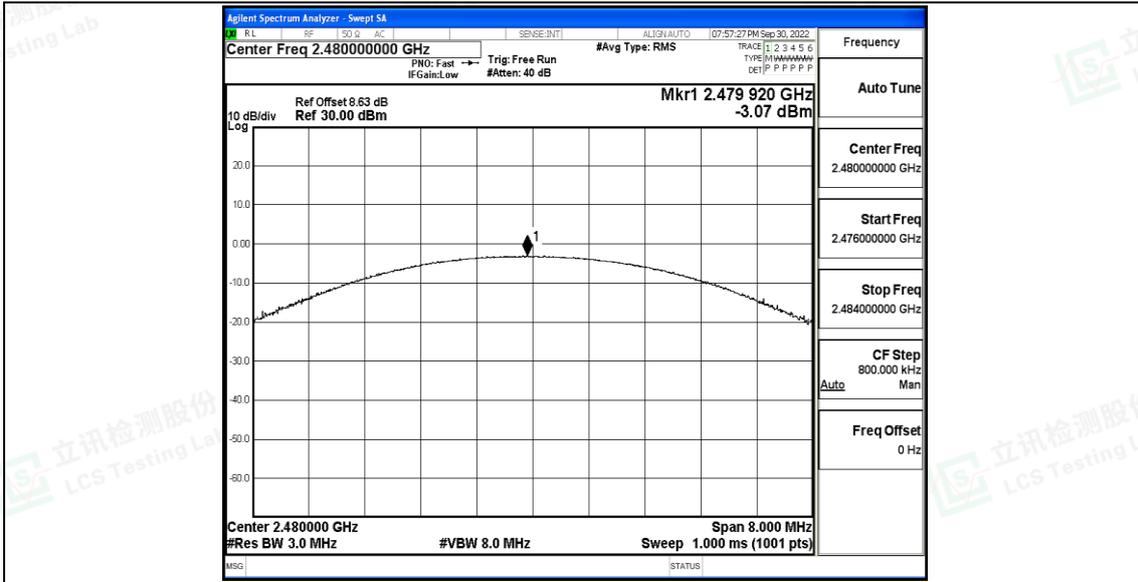
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant	2402	-5.43	≤20.97	PASS
		2441	-4.23	≤20.97	PASS
		2480	-3.07	≤20.97	PASS
2DH5	Ant	2402	-4.66	≤20.97	PASS
		2441	-4.60	≤20.97	PASS
		2480	-2.99	≤20.97	PASS
3DH5	Ant	2402	-5.36	≤20.97	PASS
		2441	-4.16	≤20.97	PASS
		2480	-2.86	≤20.97	PASS



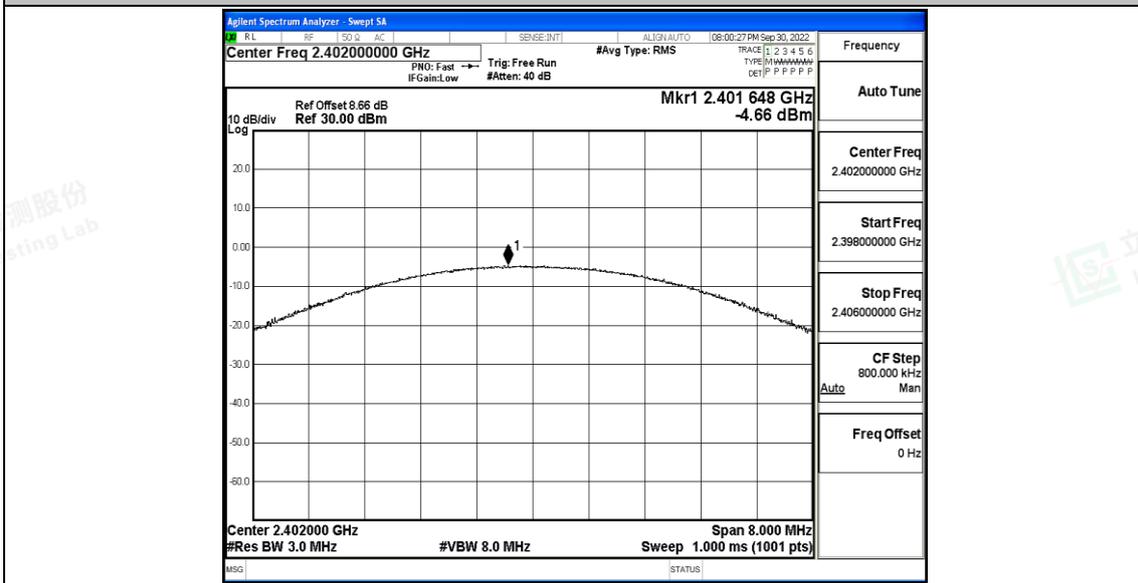


### Test Graphs



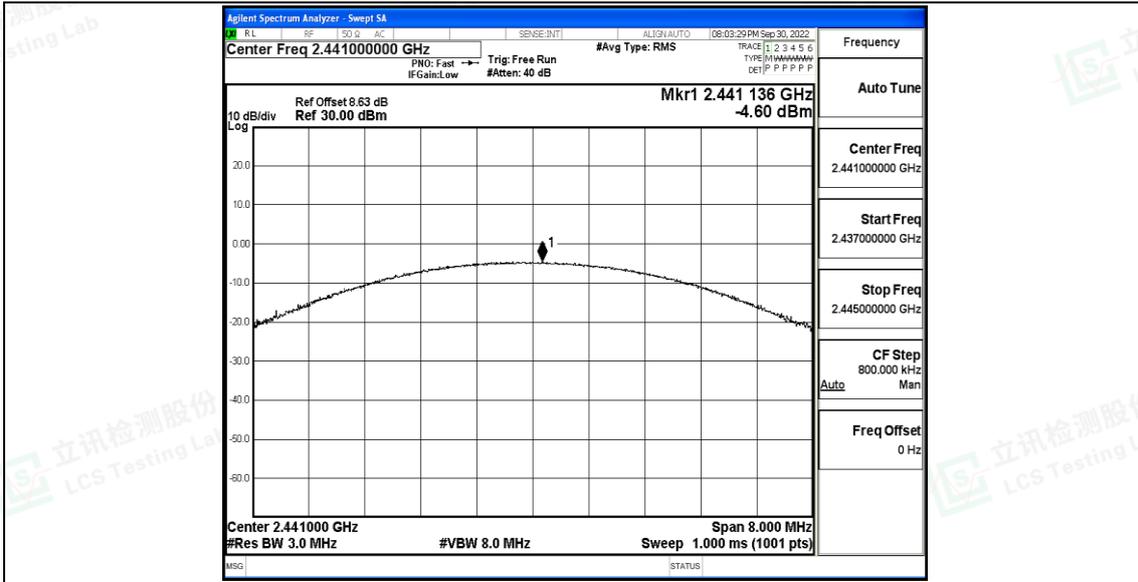


2DH5\_Ant\_2402

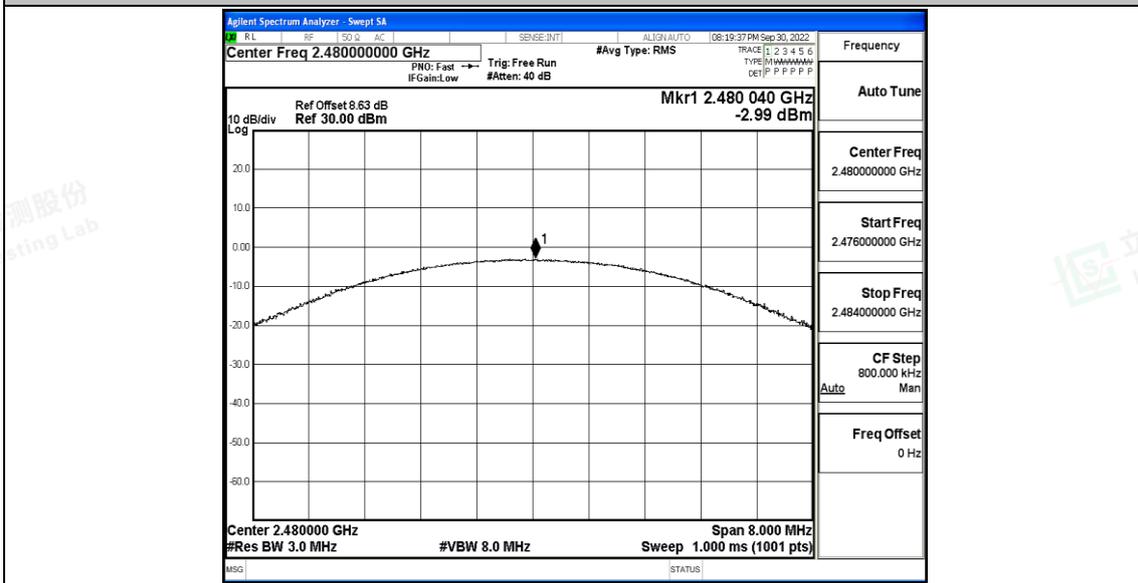


2DH5\_Ant\_2441



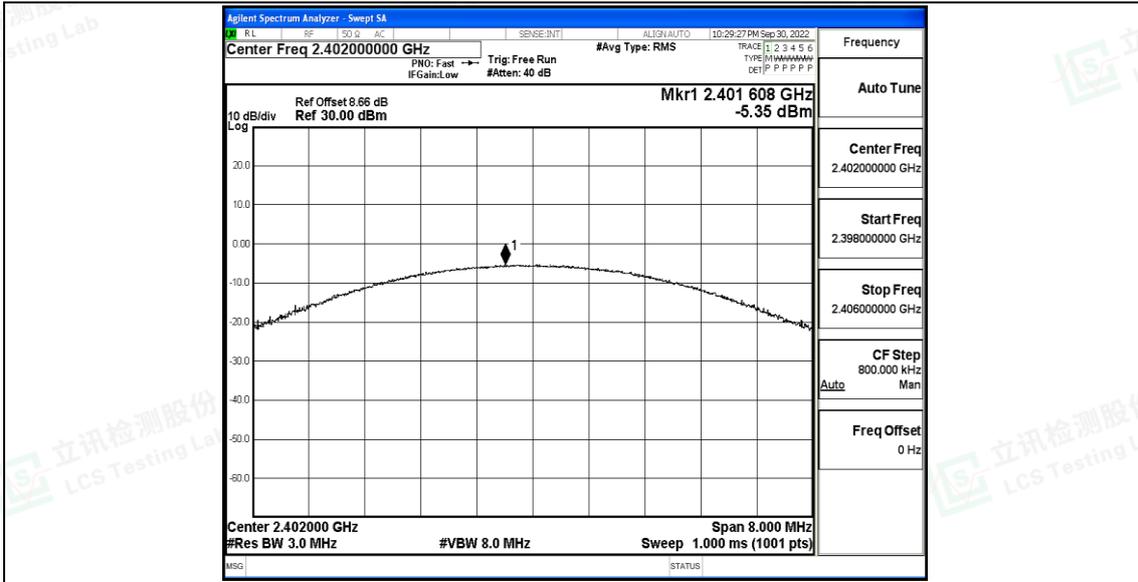


2DH5\_Ant\_2480

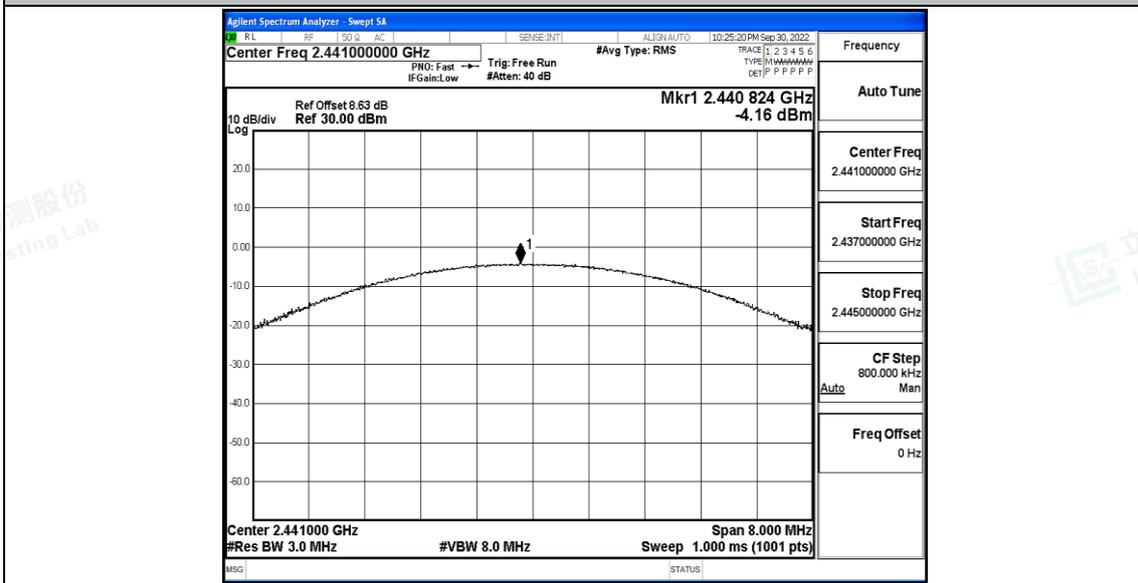


3DH5\_Ant\_2402



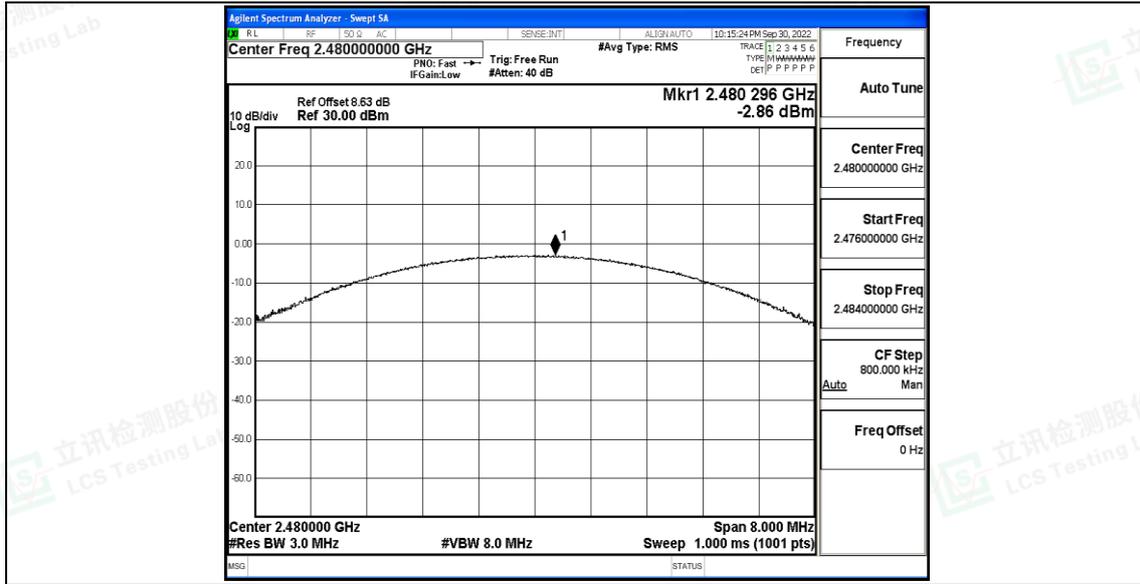


3DH5\_Ant\_2441



3DH5\_Ant\_2480







### A.3 Carrier frequency separation

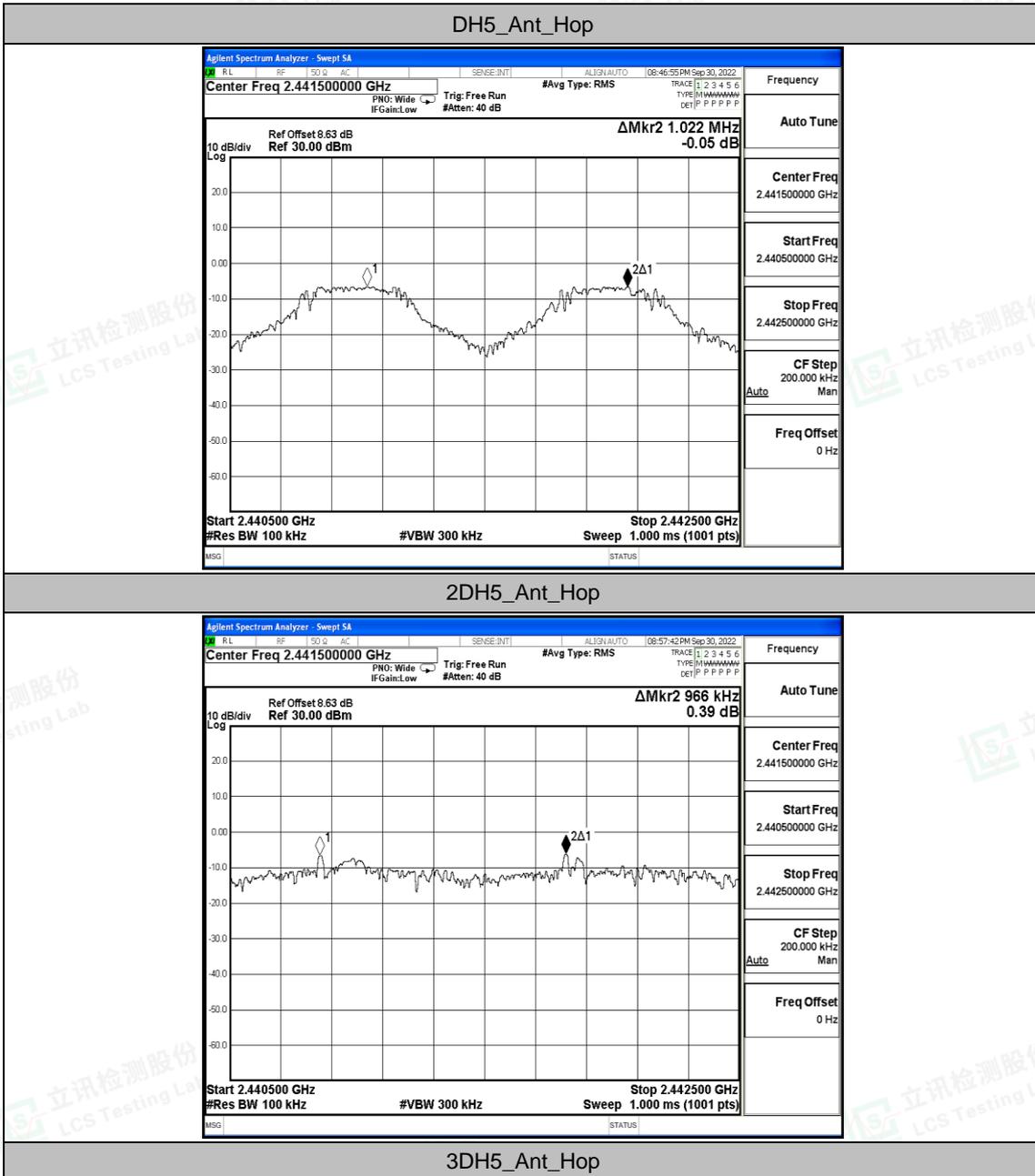
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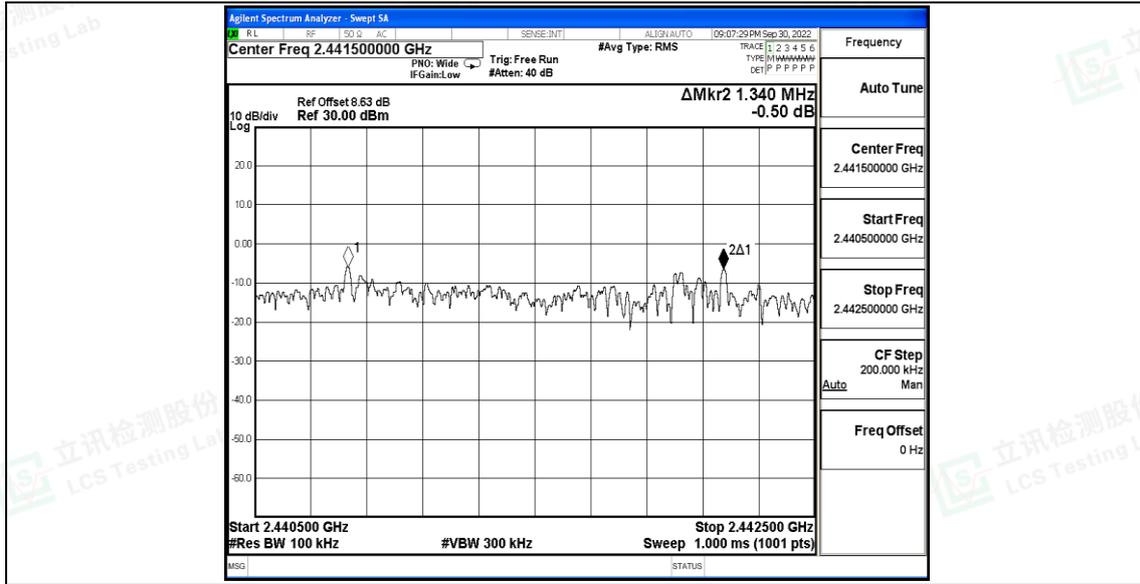
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant	Hop	1.022	≥0.638	PASS
2DH5	Ant	Hop	0.966	≥0.904	PASS
3DH5	Ant	Hop	1.34	≥0.900	PASS





### Test Graphs







### A.4 Time of occupancy

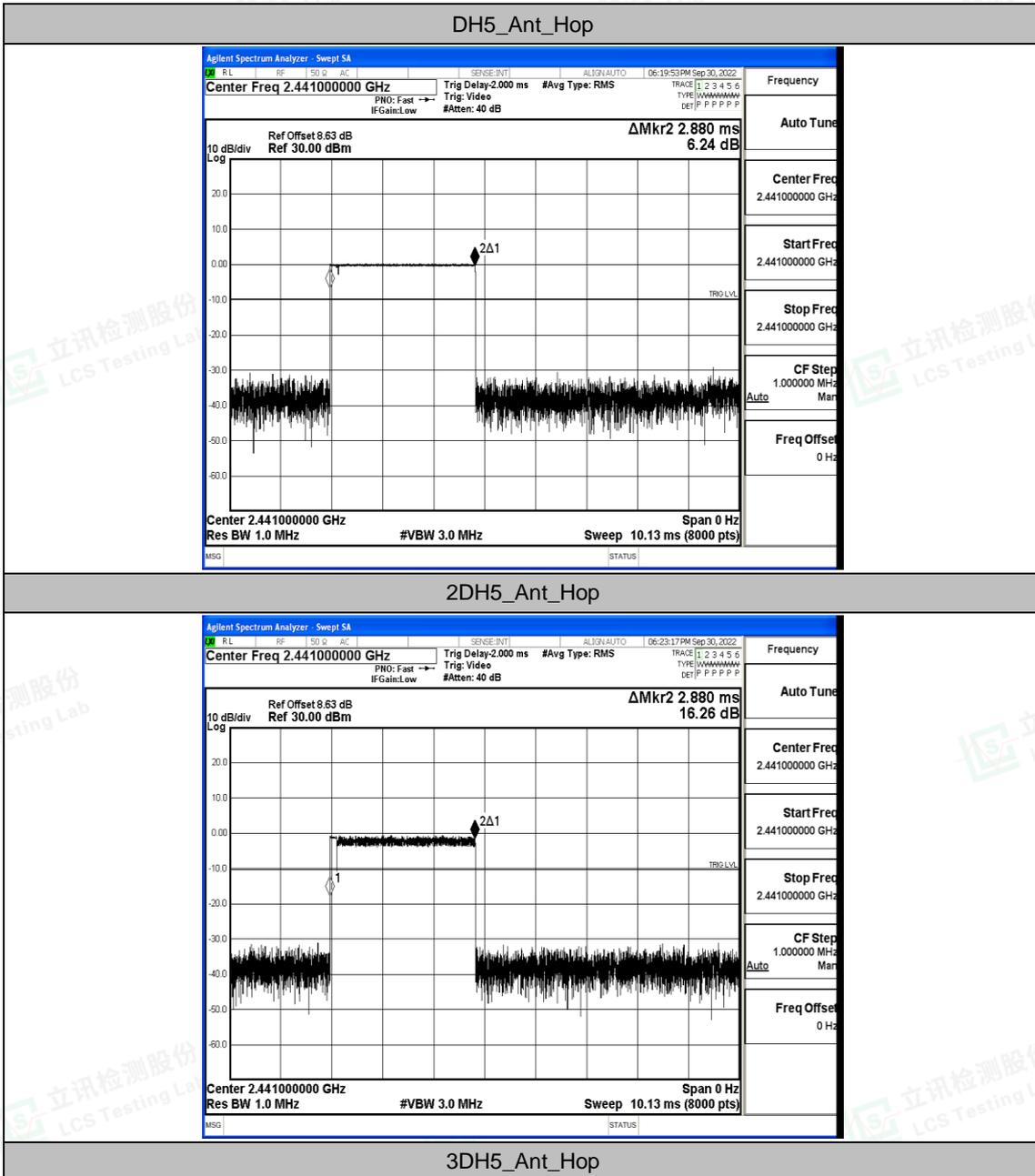
#### Test Result

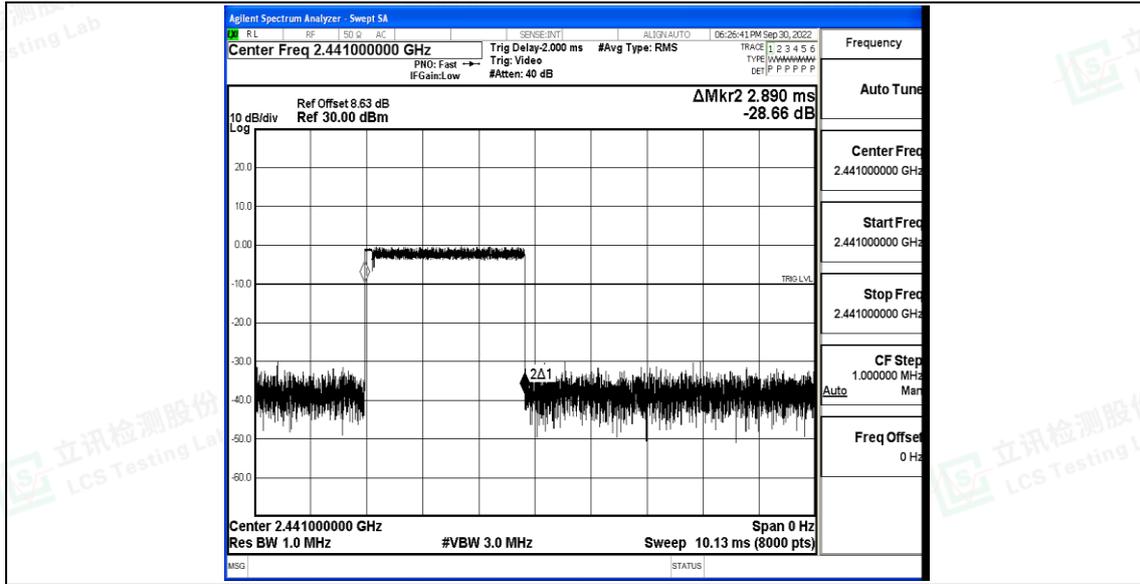
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant	Hop	2.88	106.67	0.307	≤0.4	PASS
3DH5	Ant	Hop	2.89	106.67	0.308	≤0.4	PASS





### 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

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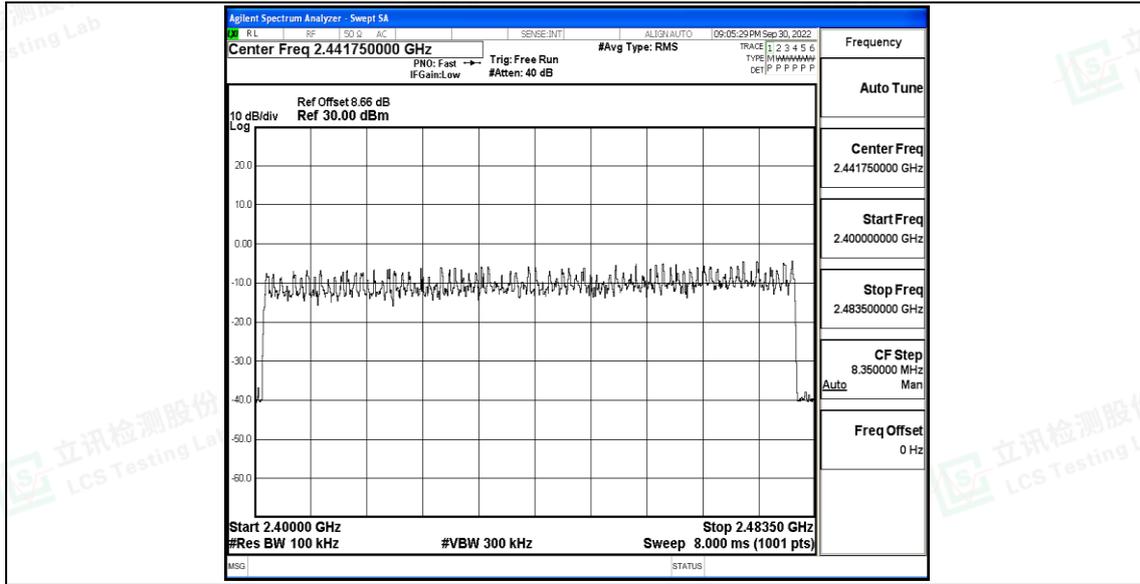
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### Test Graphs







### A.6 Band edge measurements

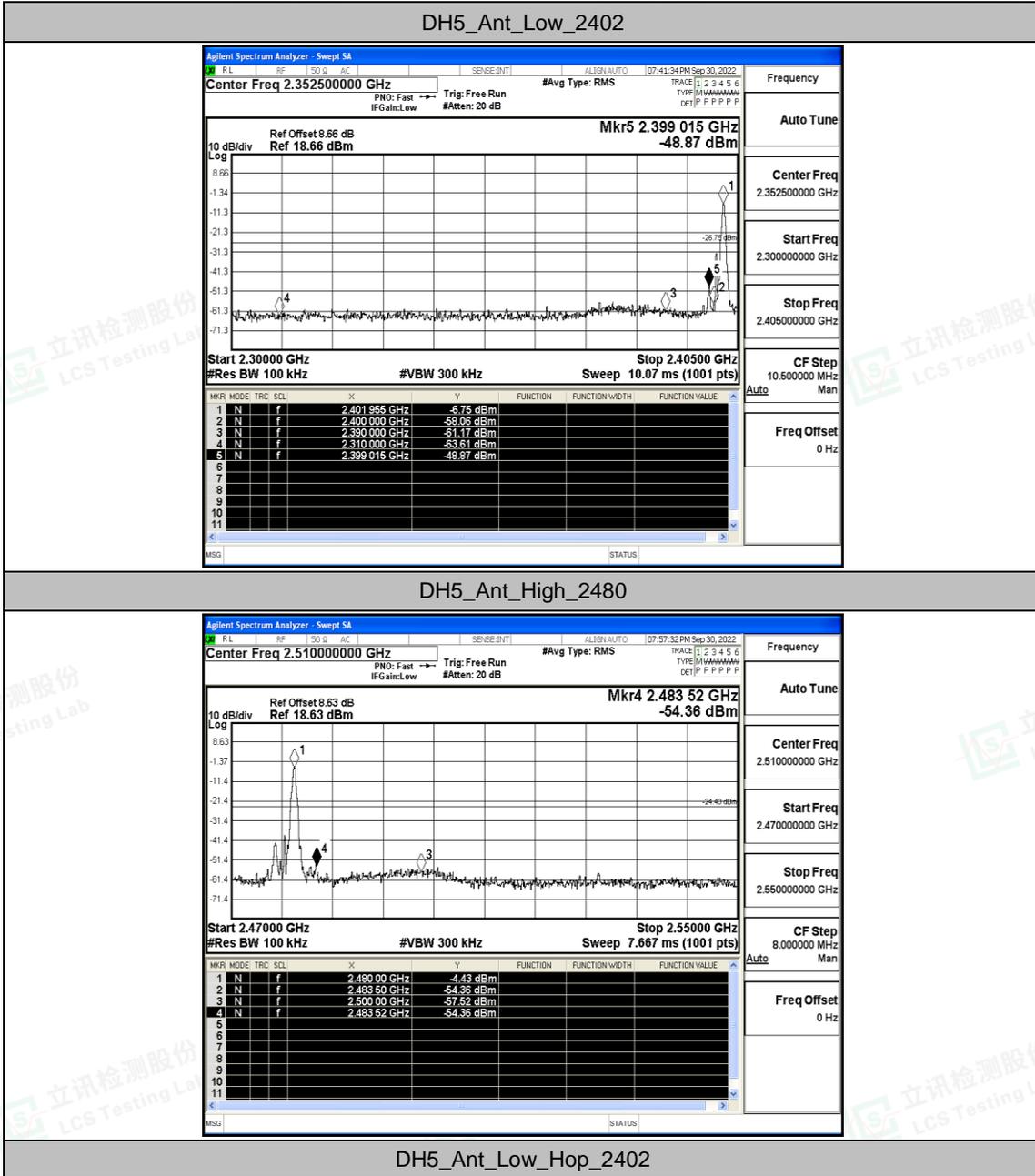
#### Test Result

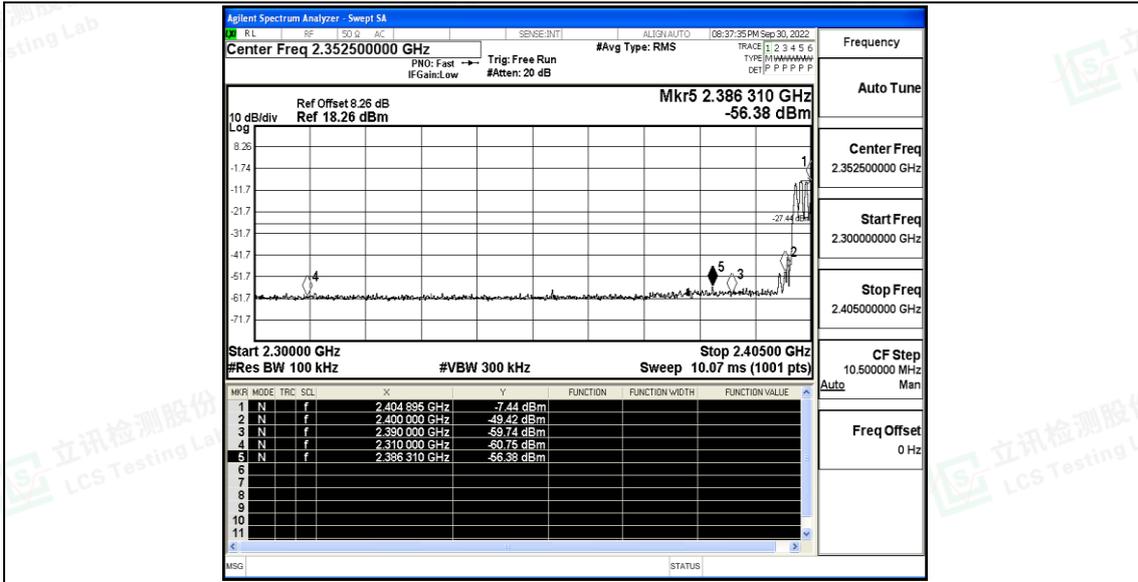
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	Low	2402	-6.75	-48.87	≤-26.75	PASS
		High	2480	-4.43	-54.36	≤-24.43	PASS
		Low	Hop_2402	-7.44	-56.38	≤-27.44	PASS
		High	Hop_2480	-4.96	-55.62	≤-24.96	PASS
2DH5	Ant	Low	2402	-9.27	-49.35	≤-29.27	PASS
		High	2480	-4.40	-55.46	≤-24.4	PASS
		Low	Hop_2402	-9.14	-57.53	≤-29.14	PASS
		High	Hop_2480	-5.71	-56.56	≤-25.71	PASS
3DH5	Ant	Low	2402	-10.37	-52.67	≤-30.37	PASS
		High	2480	-6.05	-55.36	≤-26.05	PASS
		Low	Hop_2402	-8.46	-57.77	≤-28.46	PASS
		High	Hop_2480	-5.76	-55.92	≤-25.76	PASS



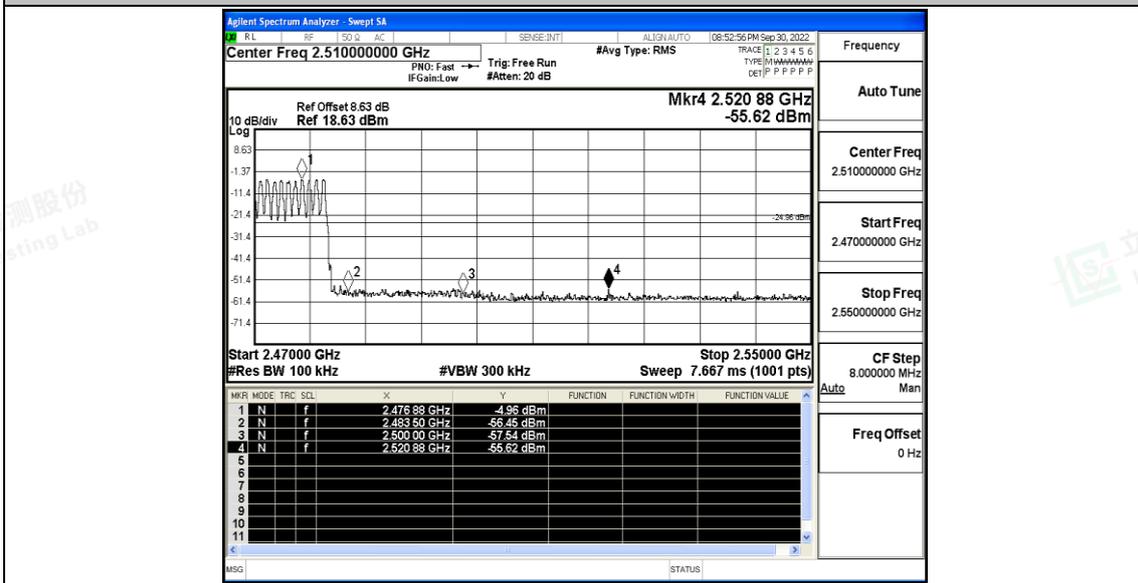


### Test Graphs





DH5\_Ant\_High\_Hop\_2480



2DH5\_Ant\_Low\_2402

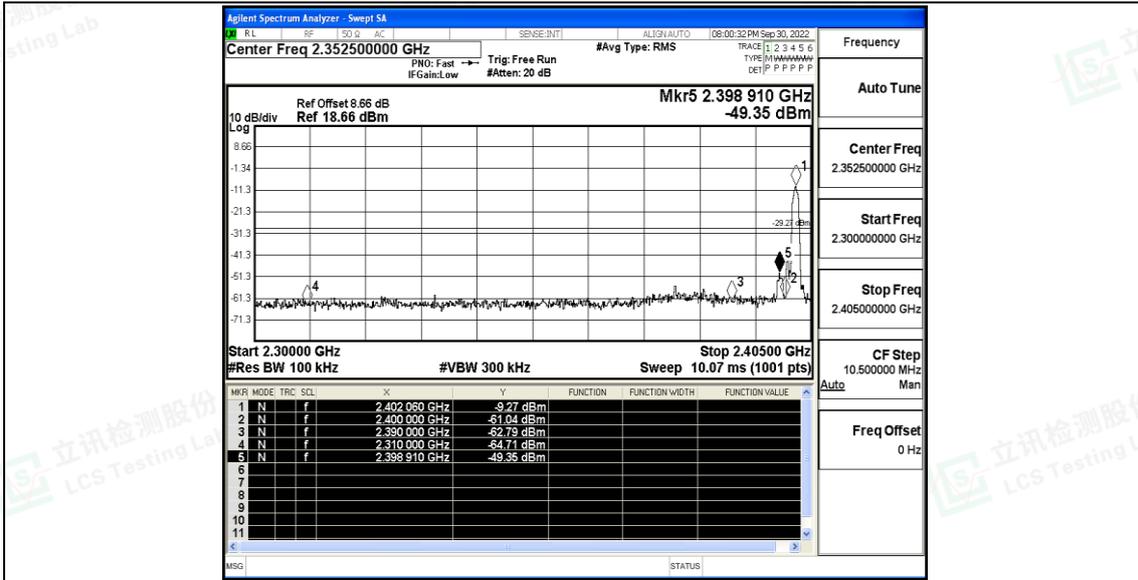


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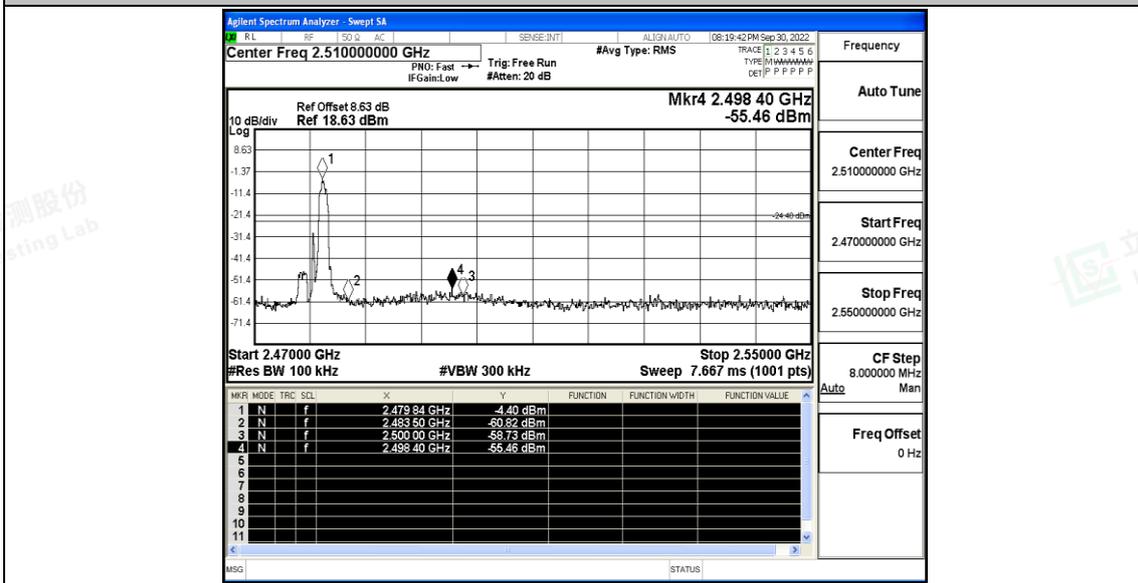
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2DH5\_Ant\_High\_2480



2DH5\_Ant\_Low\_Hop\_2402

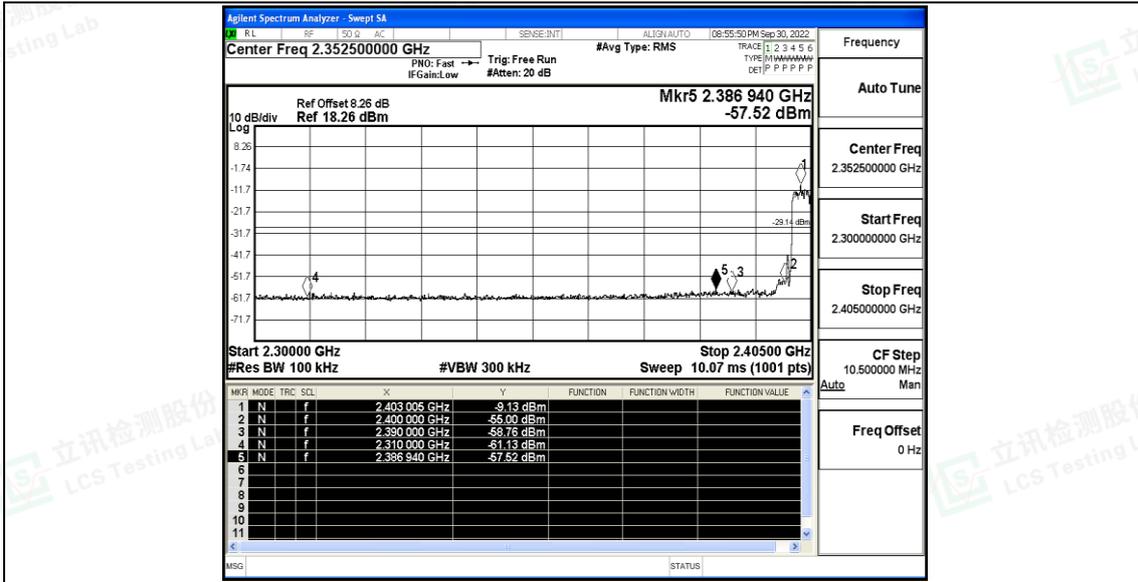


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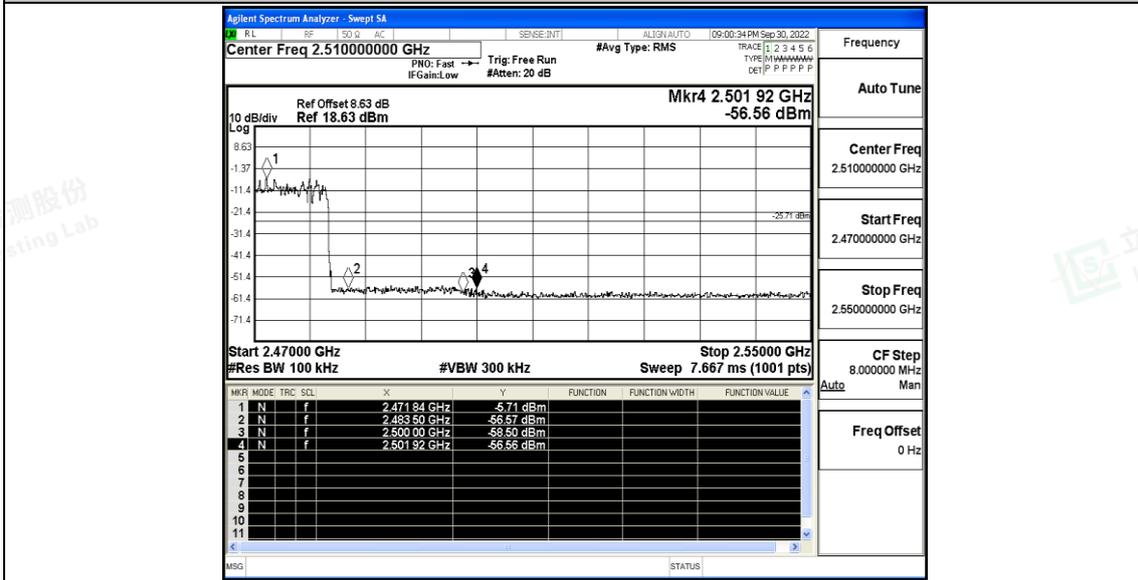
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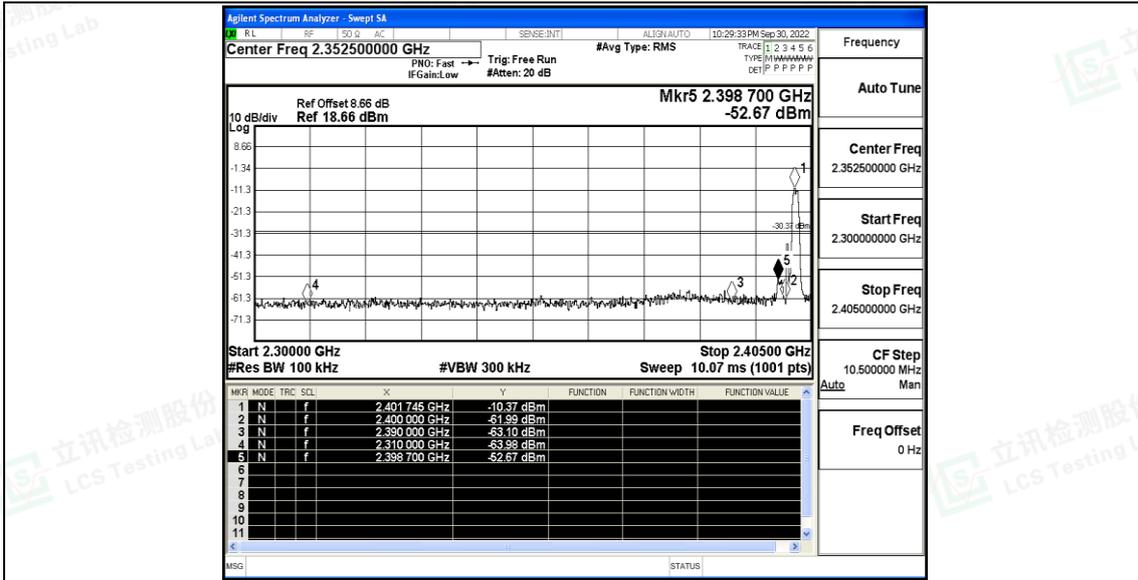


2DH5\_Ant\_High\_Hop\_2480

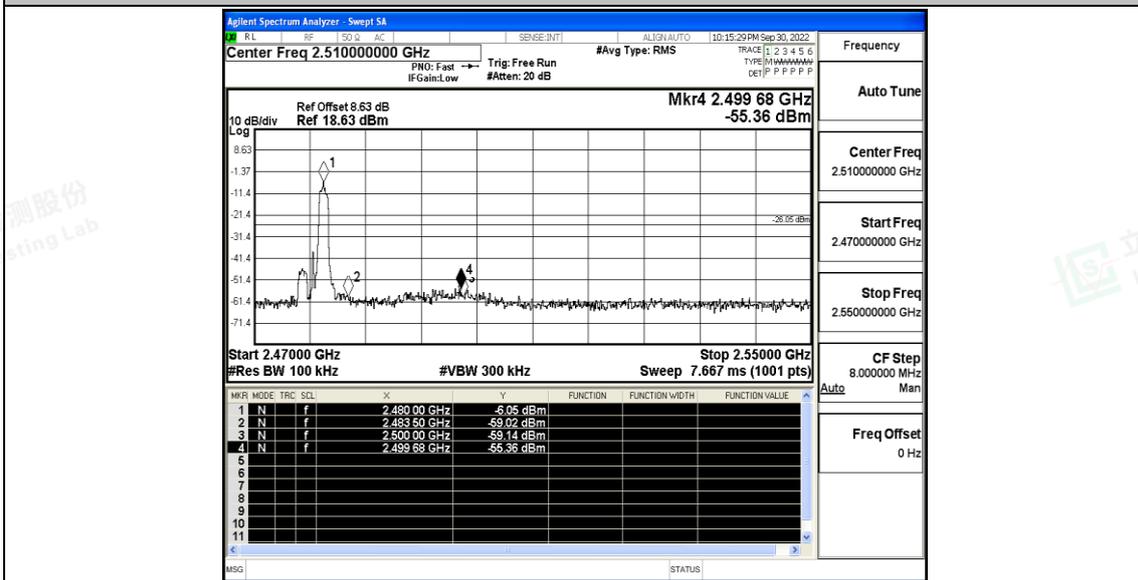


3DH5\_Ant\_Low\_2402





3DH5\_Ant\_High\_2480



3DH5\_Ant\_Low\_Hop\_2402

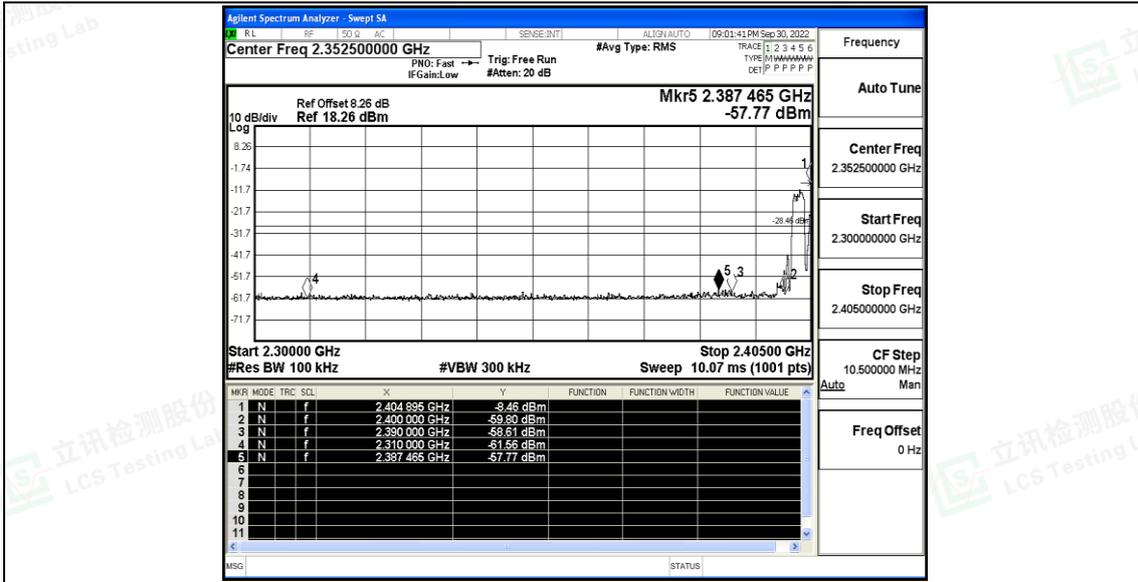


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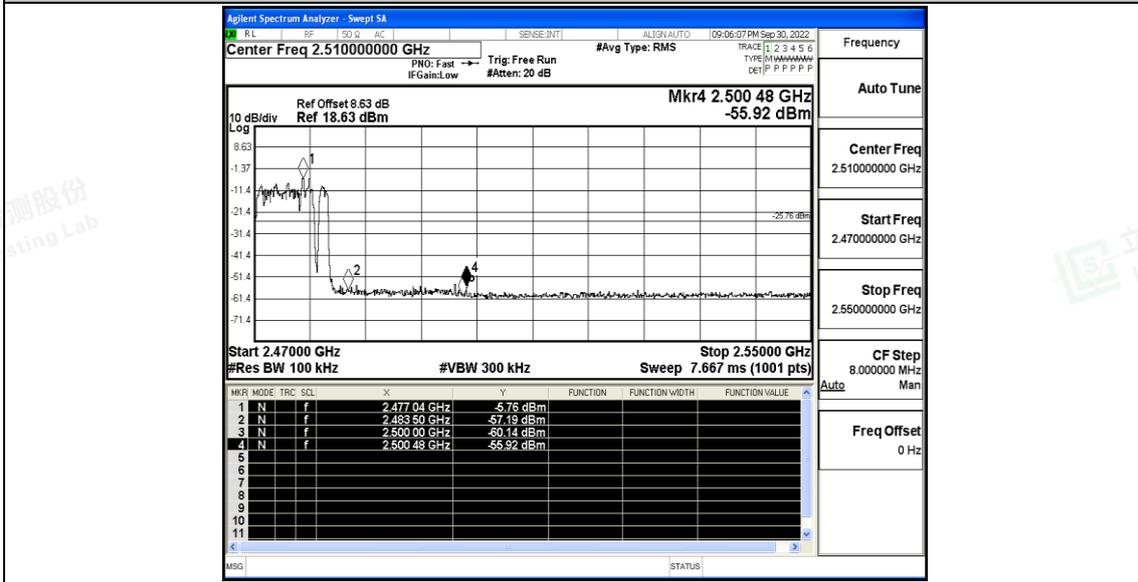
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3DH5\_Ant\_High\_Hop\_2480





## A.7 Conducted Spurious Emission

### Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant	2402	Reference	-6.74	-6.74	---	PASS
			30~1000	-6.74	-60.77	≤-26.74	PASS
			1000~26500	-6.74	-45.98	≤-26.74	PASS
		2441	Reference	-6.88	-6.88	---	PASS
			30~1000	-6.88	-53.59	≤-26.88	PASS
			1000~26500	-6.88	-45.42	≤-26.88	PASS
		2480	Reference	-5.29	-5.29	---	PASS
			30~1000	-5.29	-60.9	≤-25.29	PASS
			1000~26500	-5.29	-45.92	≤-25.29	PASS
2DH5	Ant	2402	Reference	-10.84	-10.84	---	PASS
			30~1000	-10.84	-60.67	≤-30.84	PASS
			1000~26500	-10.84	-46.25	≤-30.84	PASS
		2441	Reference	-9.81	-9.81	---	PASS
			30~1000	-9.81	-60.62	≤-29.81	PASS
			1000~26500	-9.81	-44.57	≤-29.81	PASS
		2480	Reference	-7.00	-7.00	---	PASS
			30~1000	-7.00	-60.85	≤-27	PASS
			1000~26500	-7.00	-46.18	≤-27	PASS
3DH5	Ant	2402	Reference	-7.05	-7.05	---	PASS
			30~1000	-7.05	-59.88	≤-27.05	PASS
			1000~26500	-7.05	-45.94	≤-27.05	PASS
		2441	Reference	-8.91	-8.91	---	PASS
			30~1000	-8.91	-60.68	≤-28.91	PASS
			1000~26500	-8.91	-46.04	≤-28.91	PASS
		2480	Reference	-8.20	-8.20	---	PASS
			30~1000	-8.20	-60.43	≤-28.2	PASS
			1000~26500	-8.20	-45.7	≤-28.2	PASS



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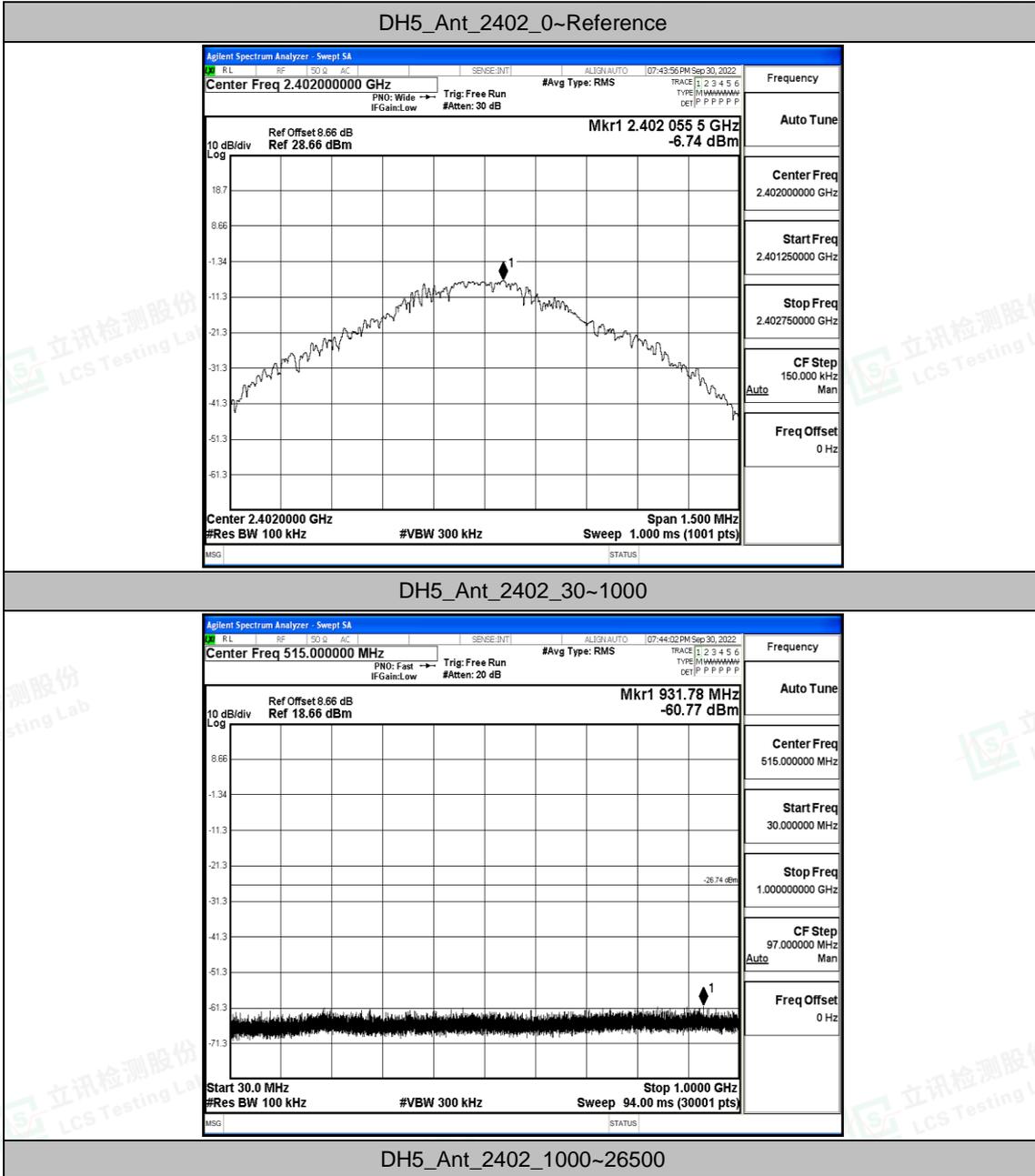
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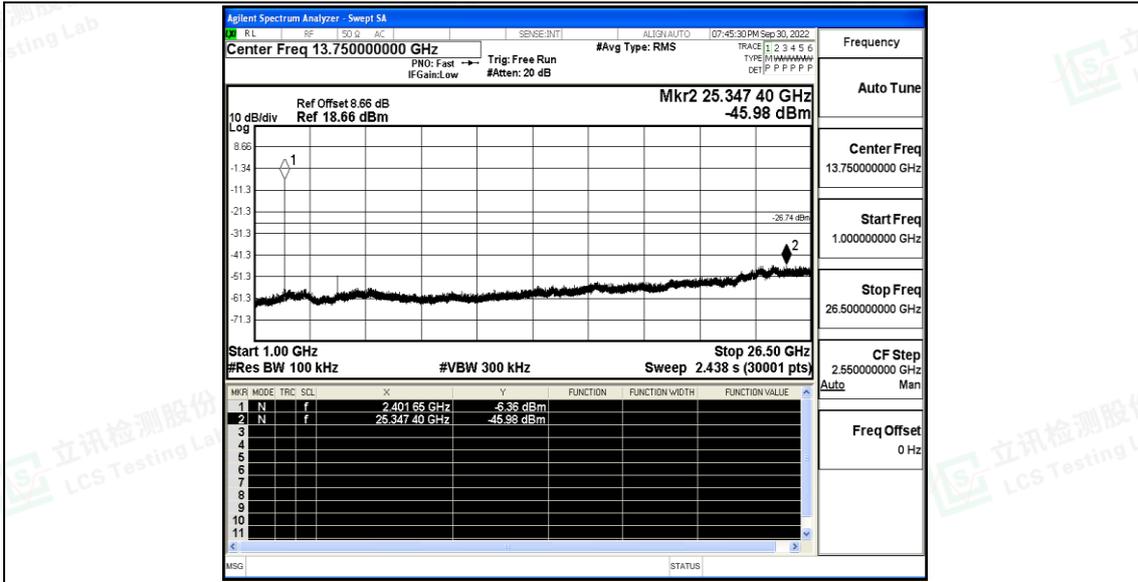
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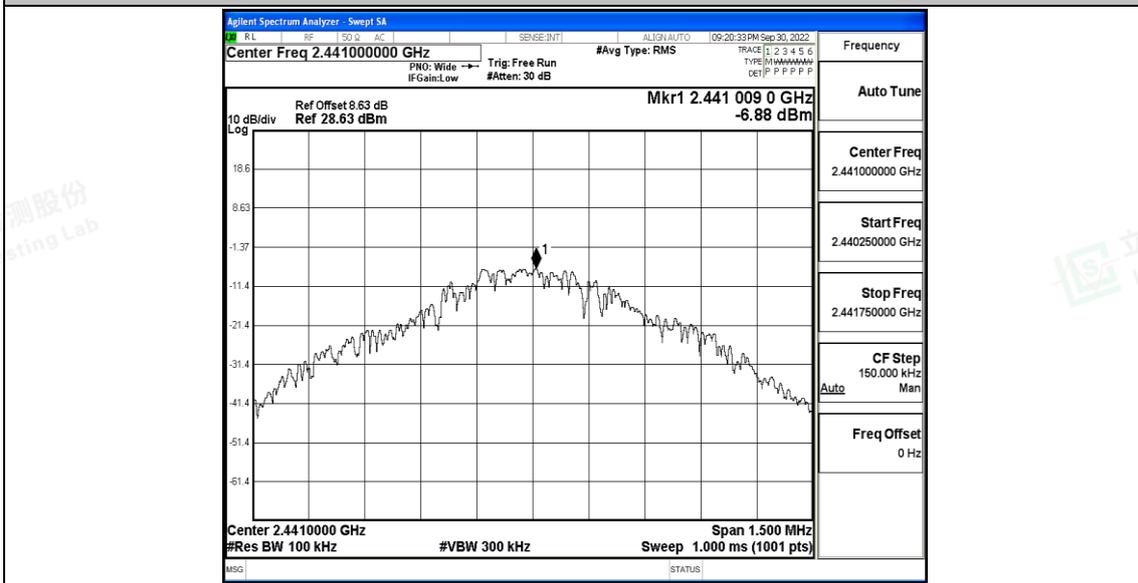


### Test Graphs



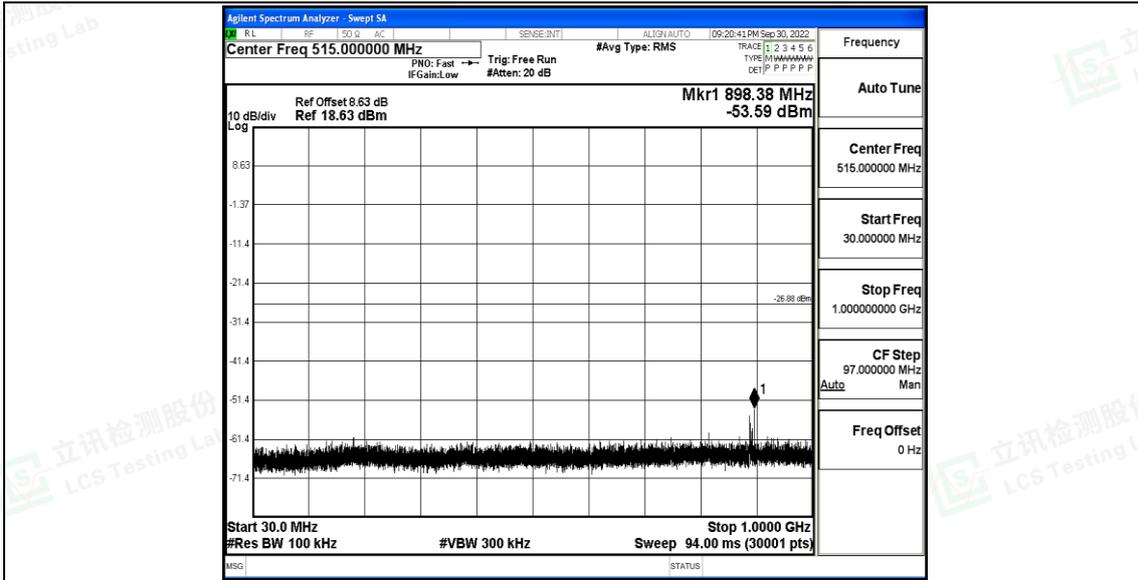


DH5\_Ant\_2441\_0~Reference

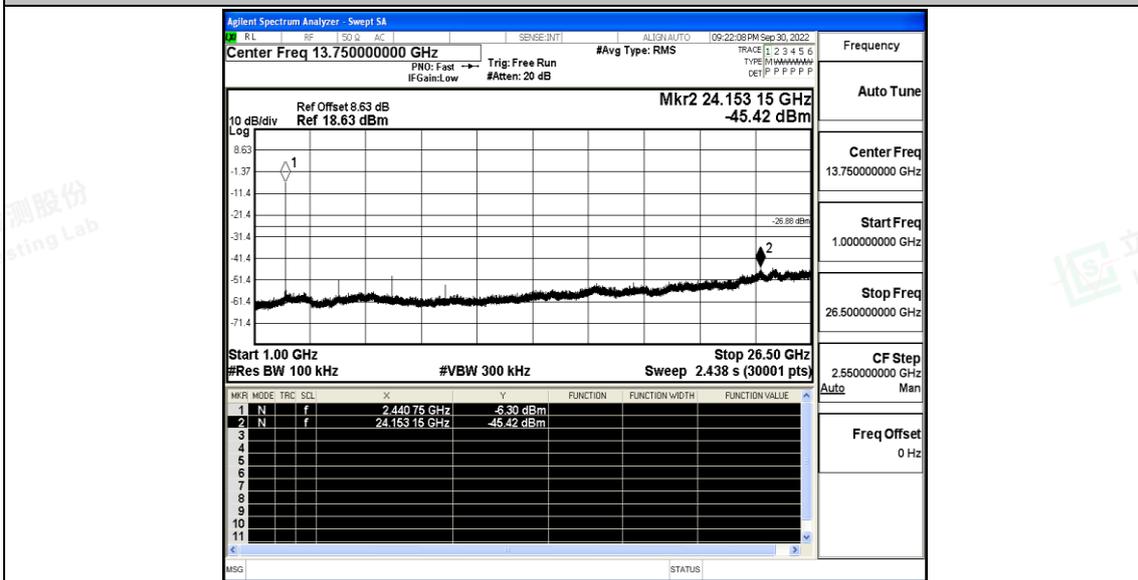


DH5\_Ant\_2441\_30~1000





DH5\_Ant\_2441\_1000~26500



DH5\_Ant\_2480\_0~Reference

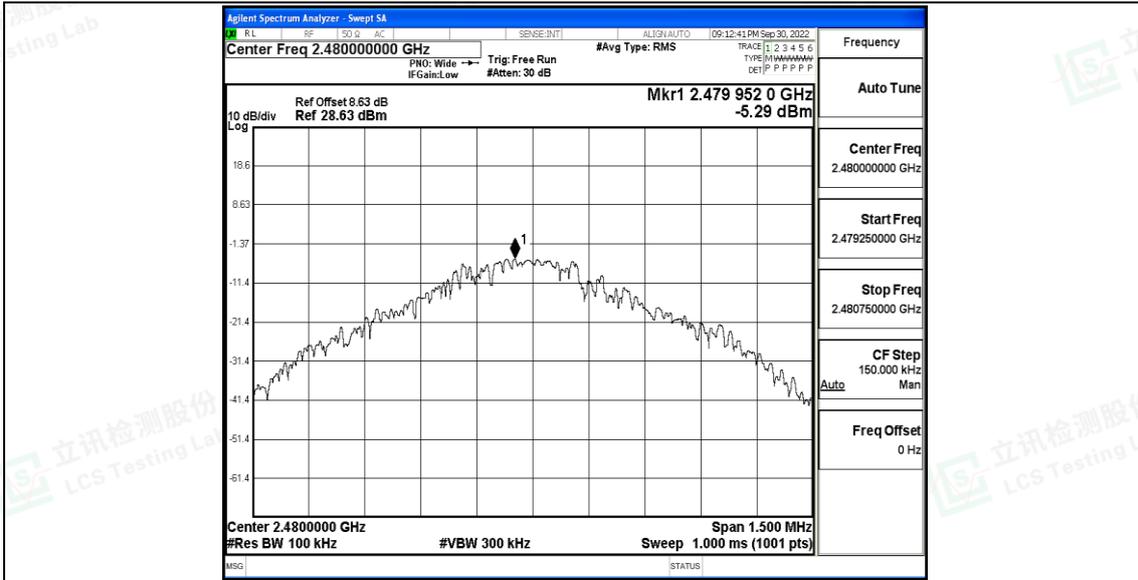


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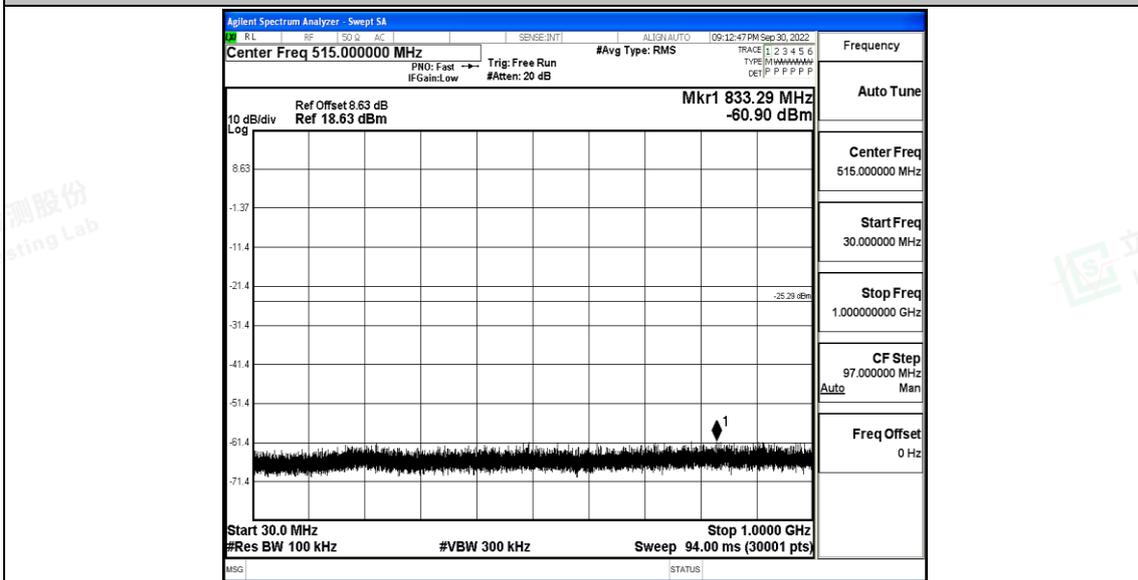
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DH5\_Ant\_2480\_30~1000



DH5\_Ant\_2480\_1000~26500

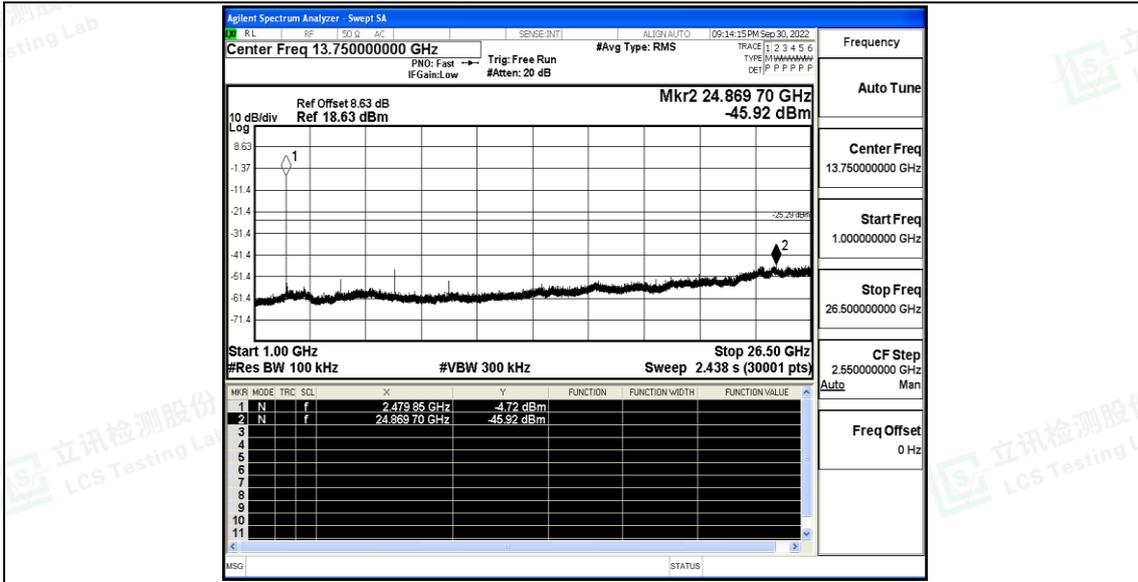


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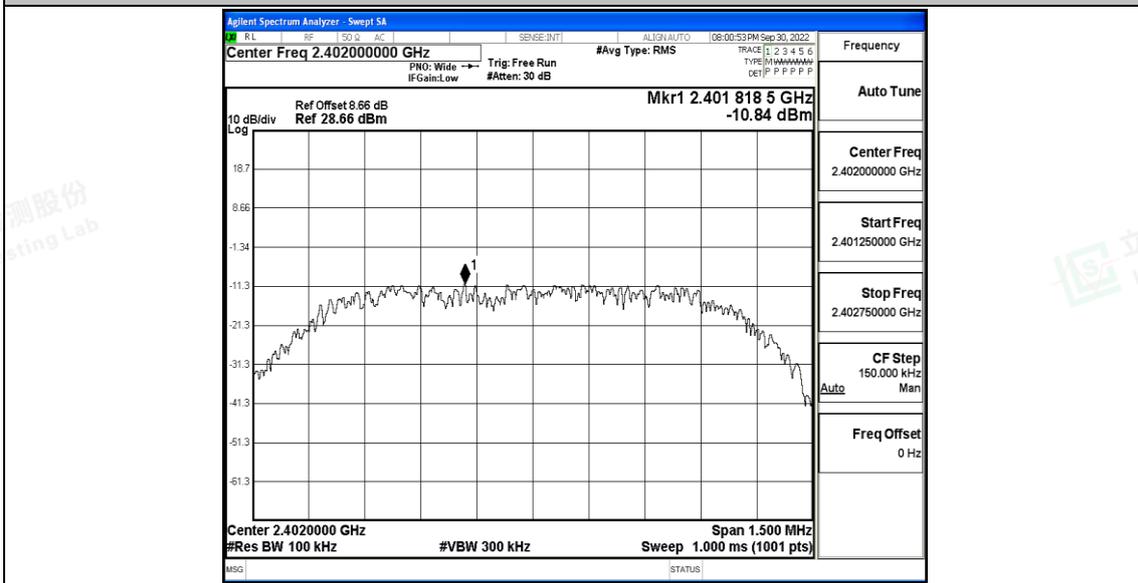
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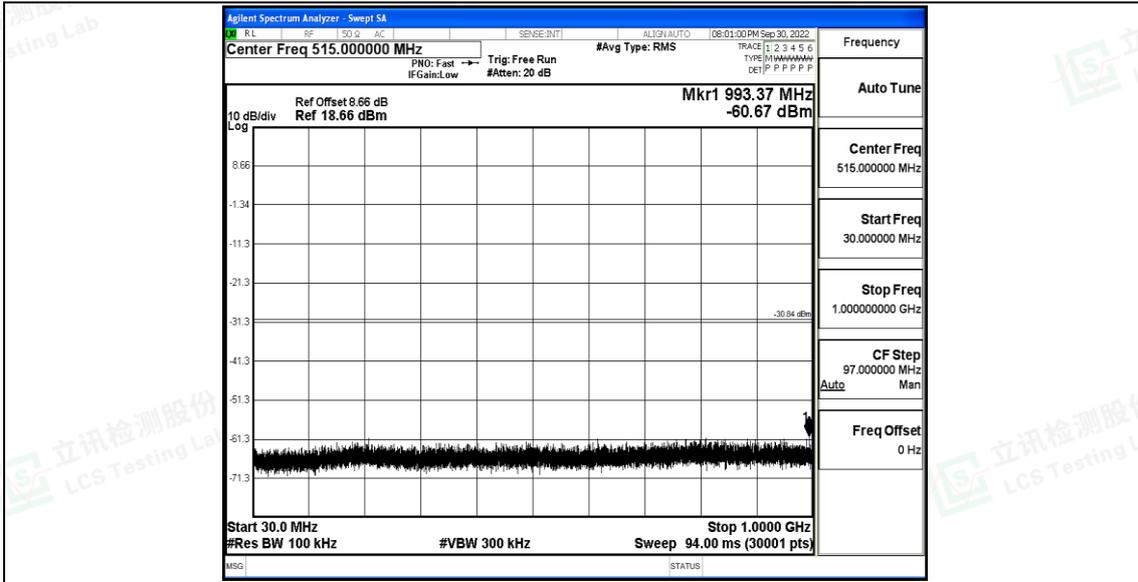


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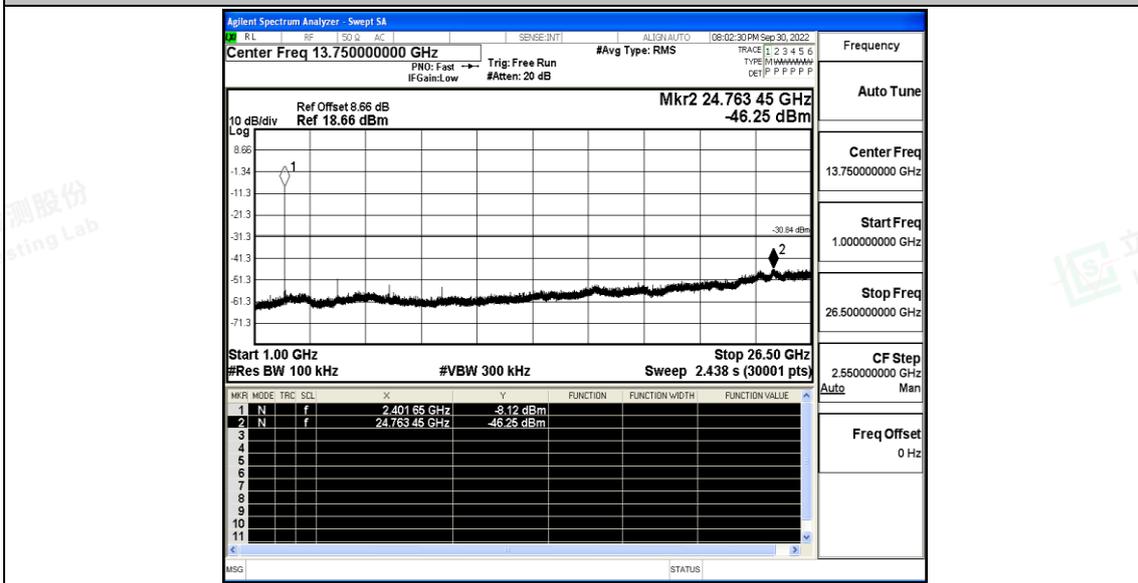


2DH5\_Ant\_2402\_30~1000



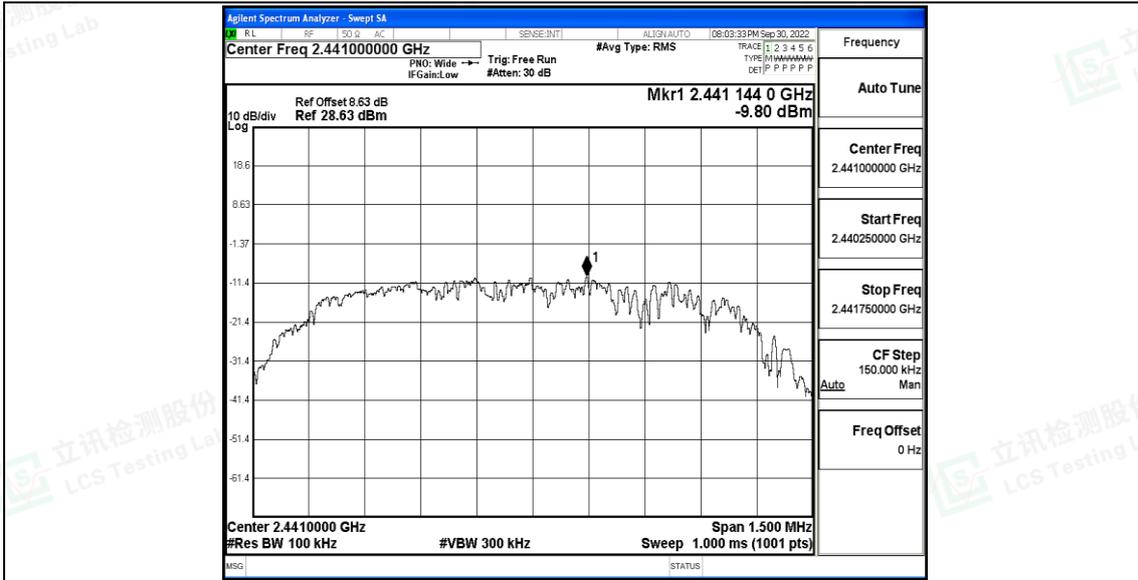


2DH5\_Ant\_2402\_1000~26500

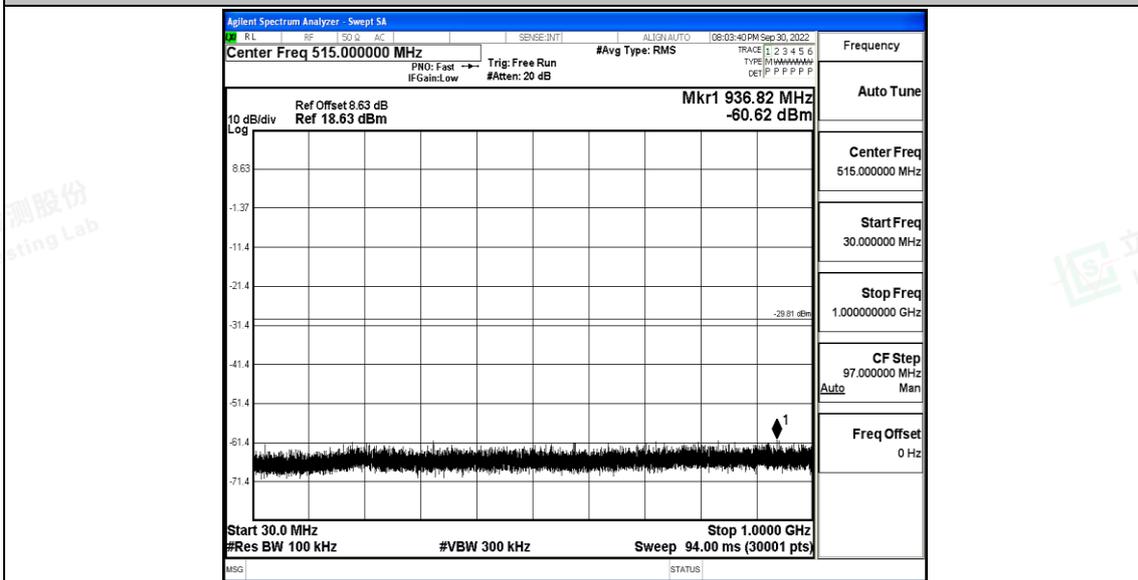


2DH5\_Ant\_2441\_0~Reference



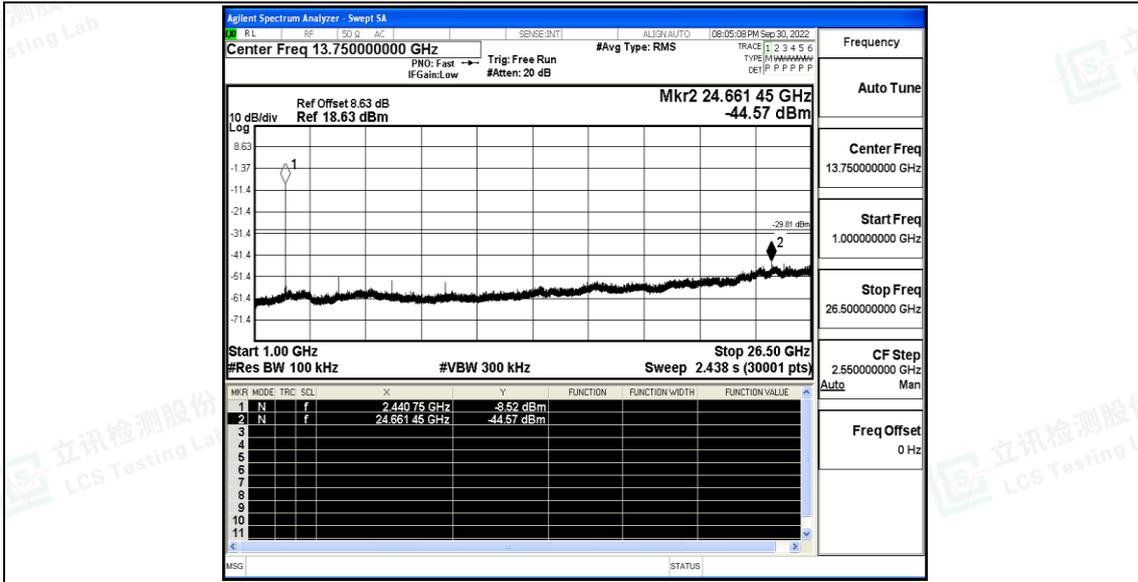


2DH5\_Ant\_2441\_30~1000

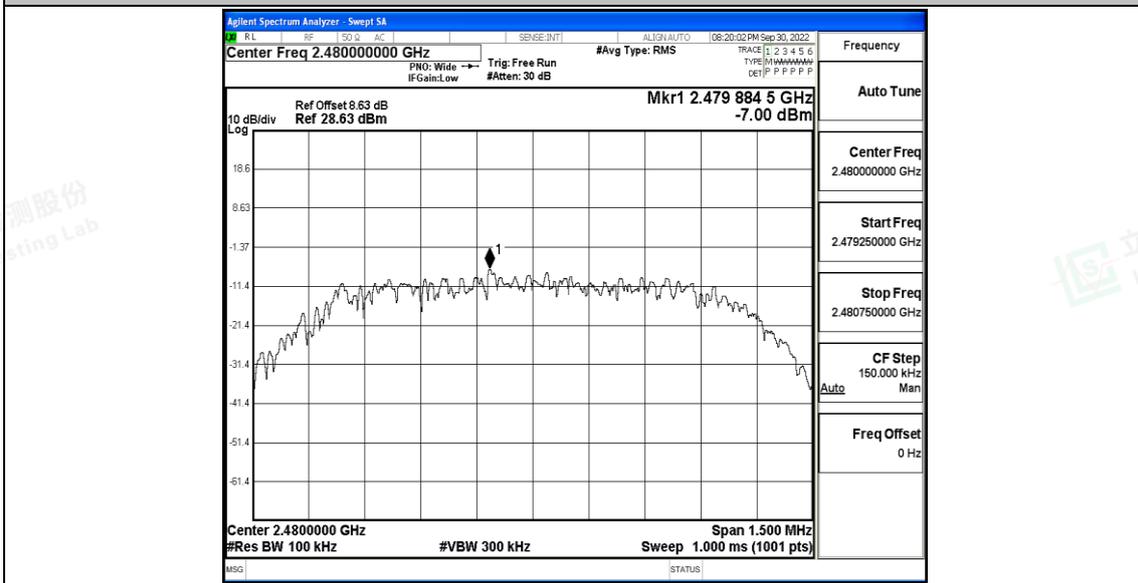


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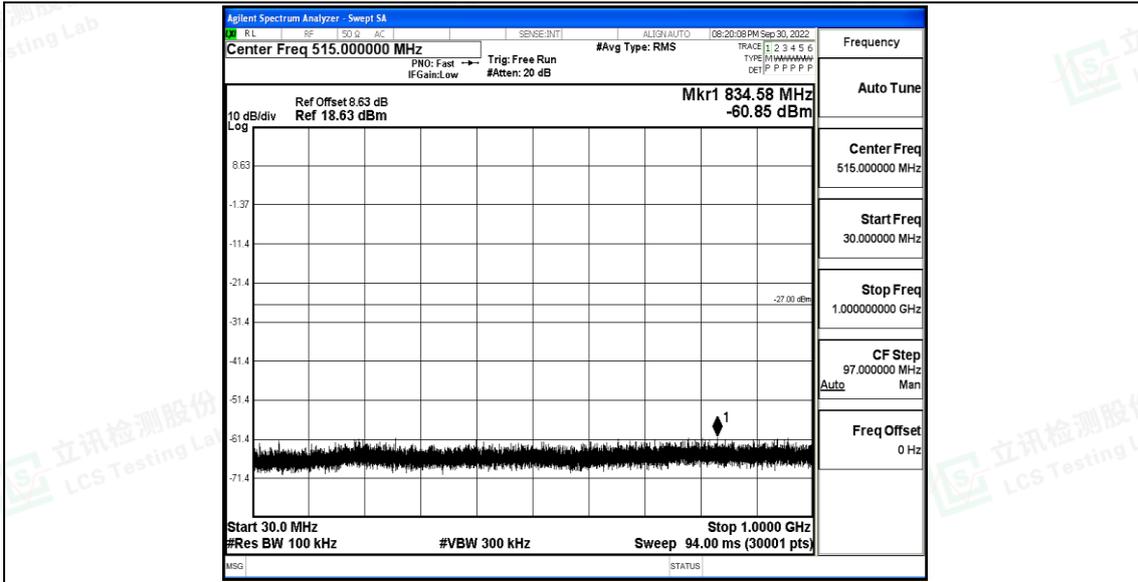


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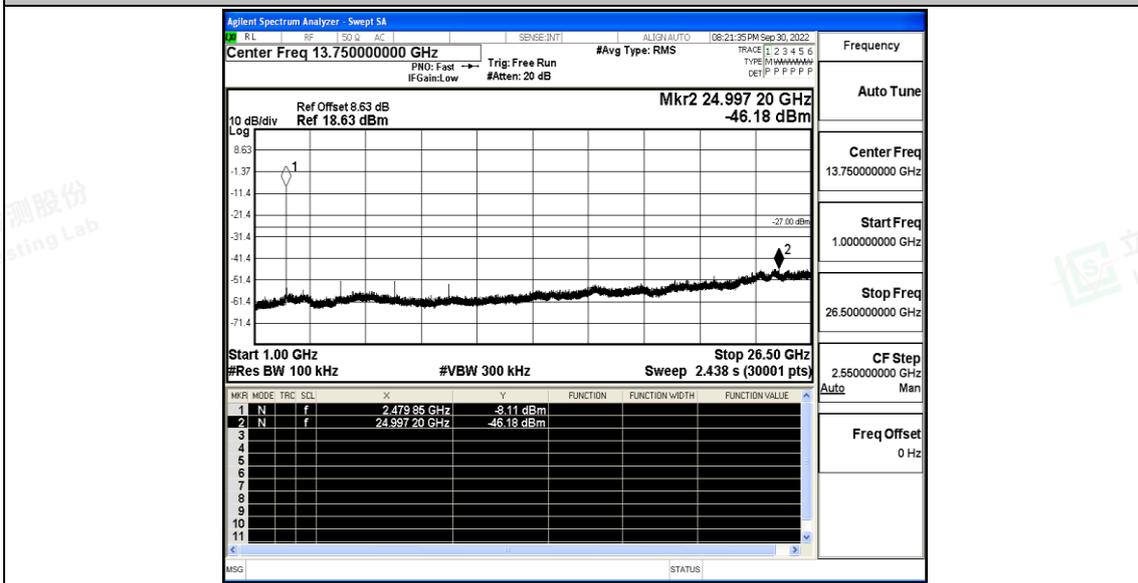


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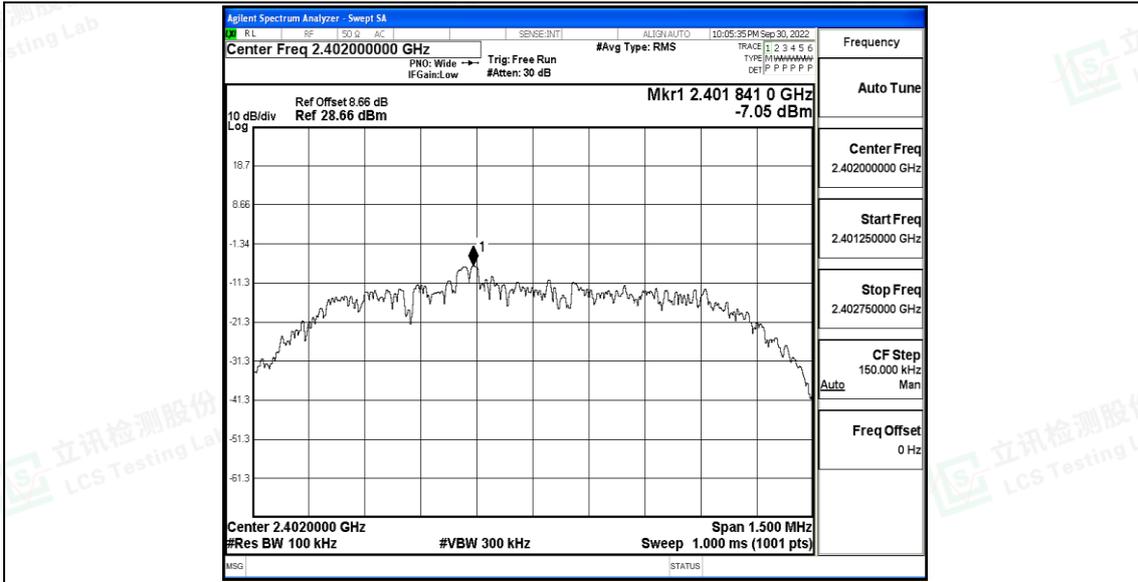


2DH5\_Ant\_2480\_1000~26500

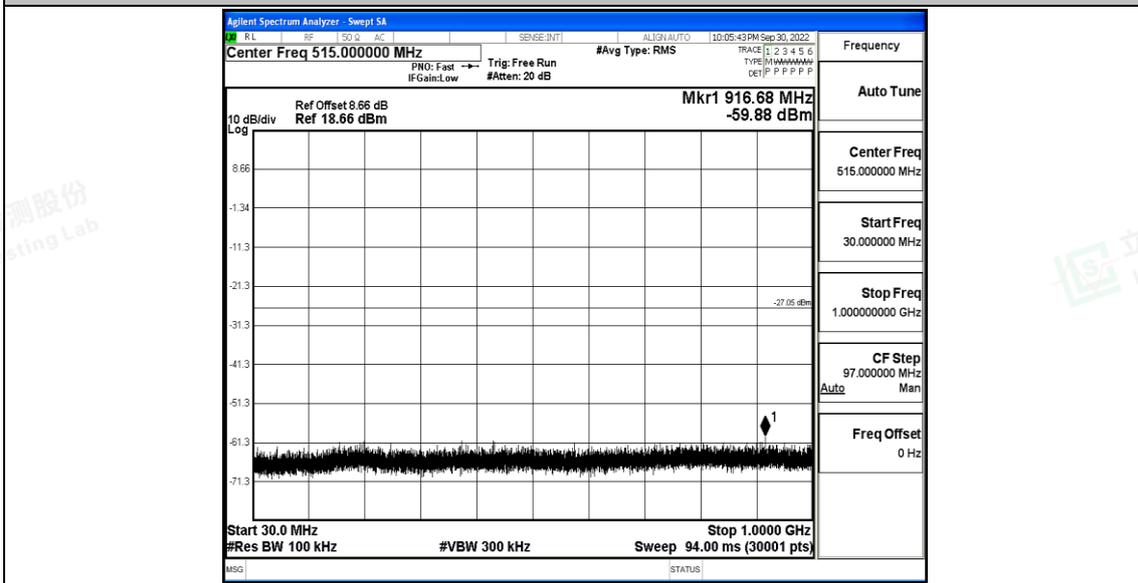


3DH5\_Ant\_2402\_0~Reference



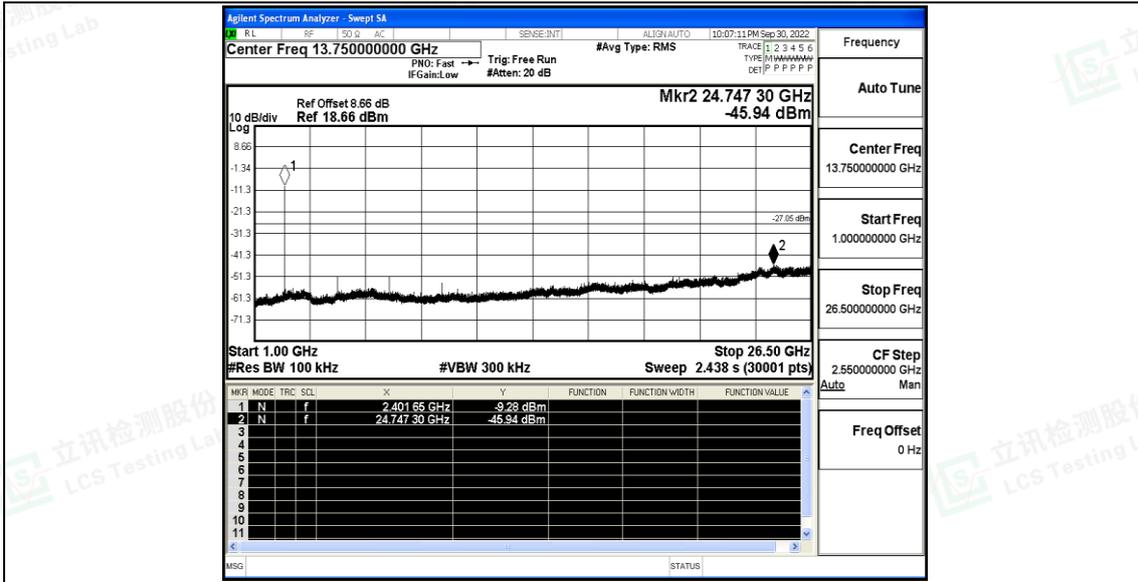


3DH5\_Ant\_2402\_30~1000

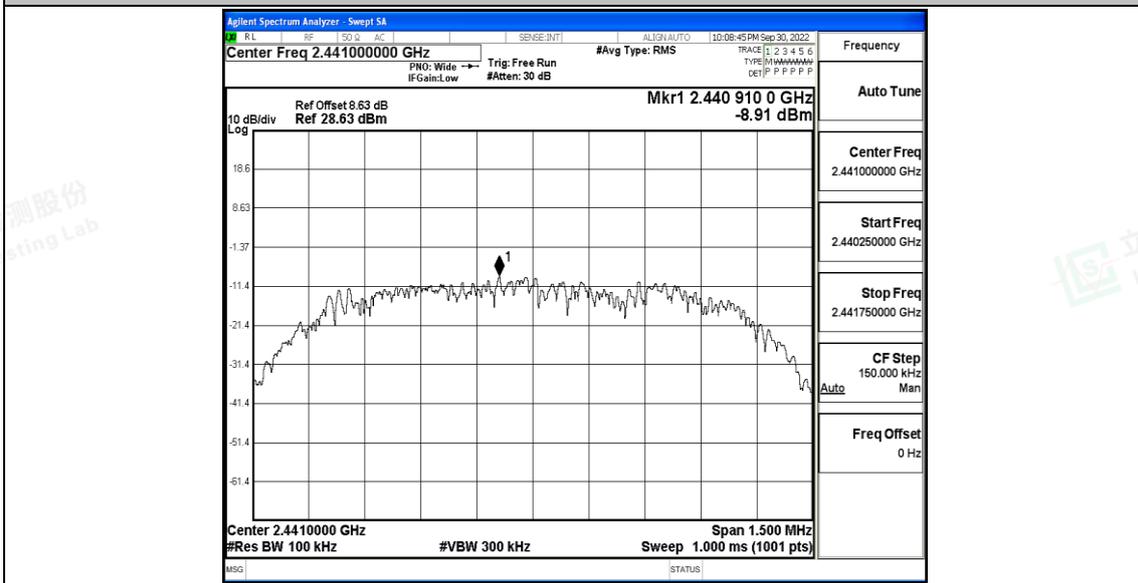


3DH5\_Ant\_2402\_1000~26500





3DH5\_Ant\_2441\_0-Reference



3DH5\_Ant\_2441\_30~1000

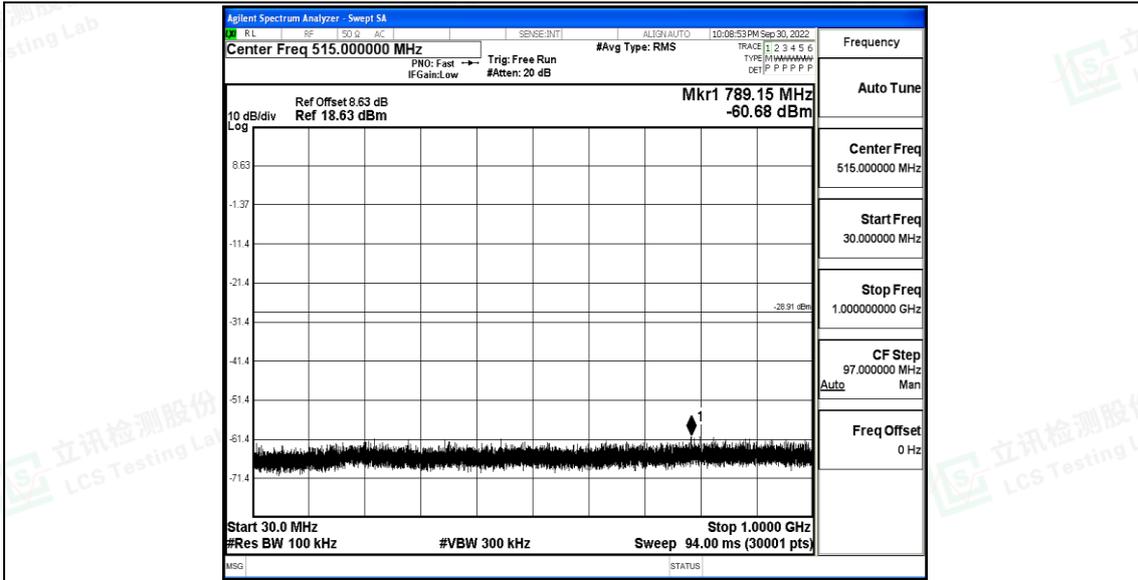


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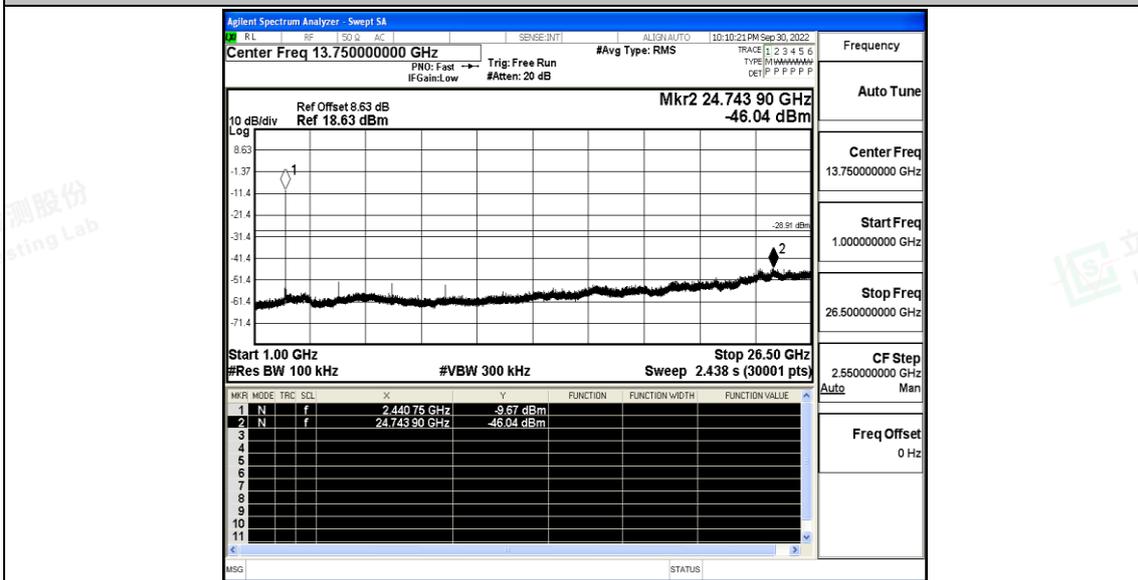
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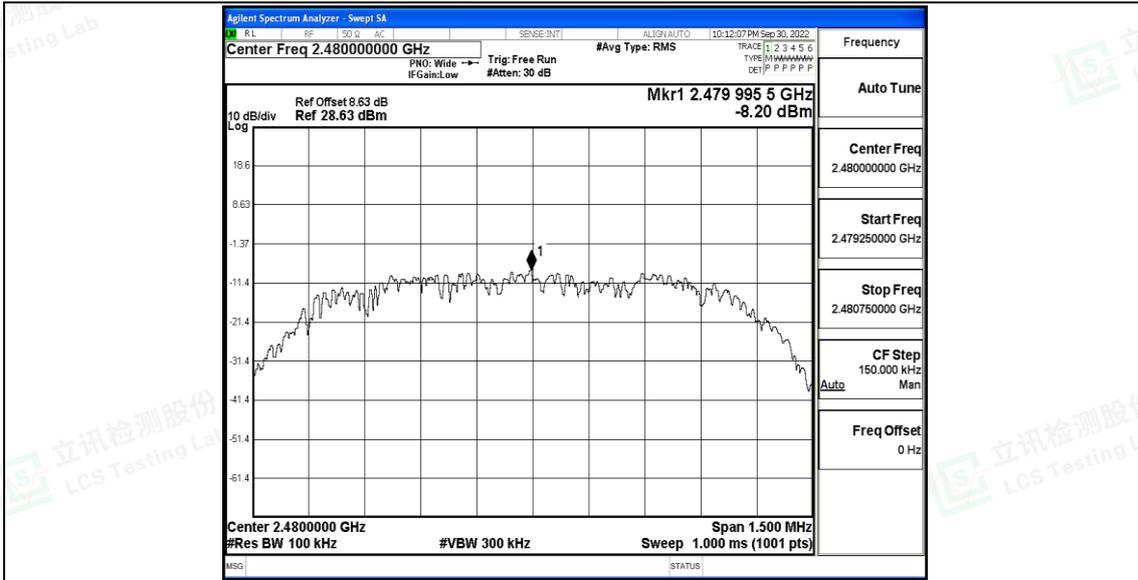


3DH5\_Ant\_2441\_1000~26500

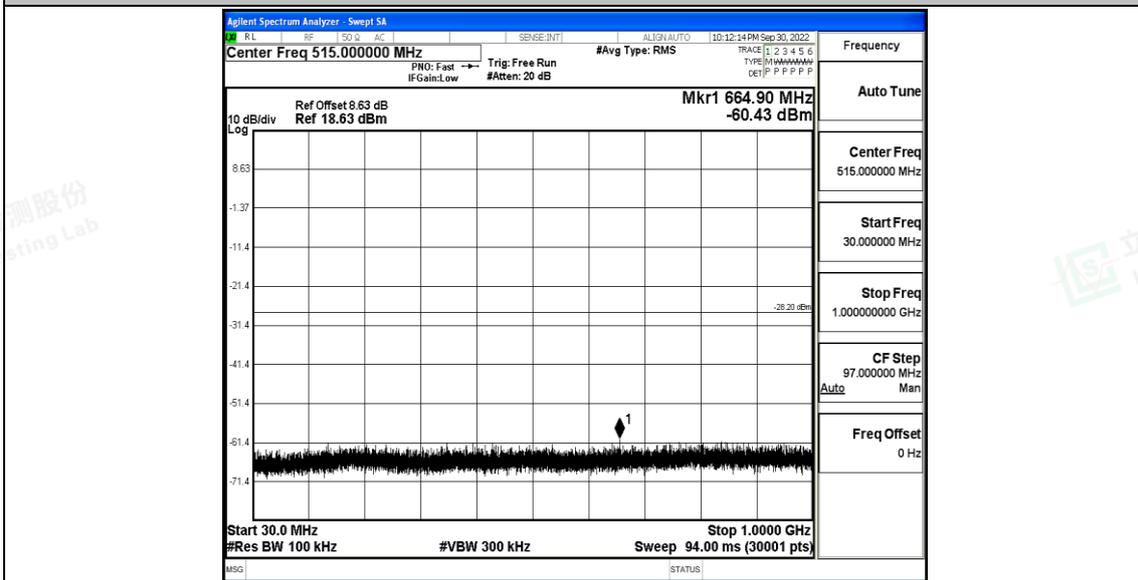


3DH5\_Ant\_2480\_0~Reference



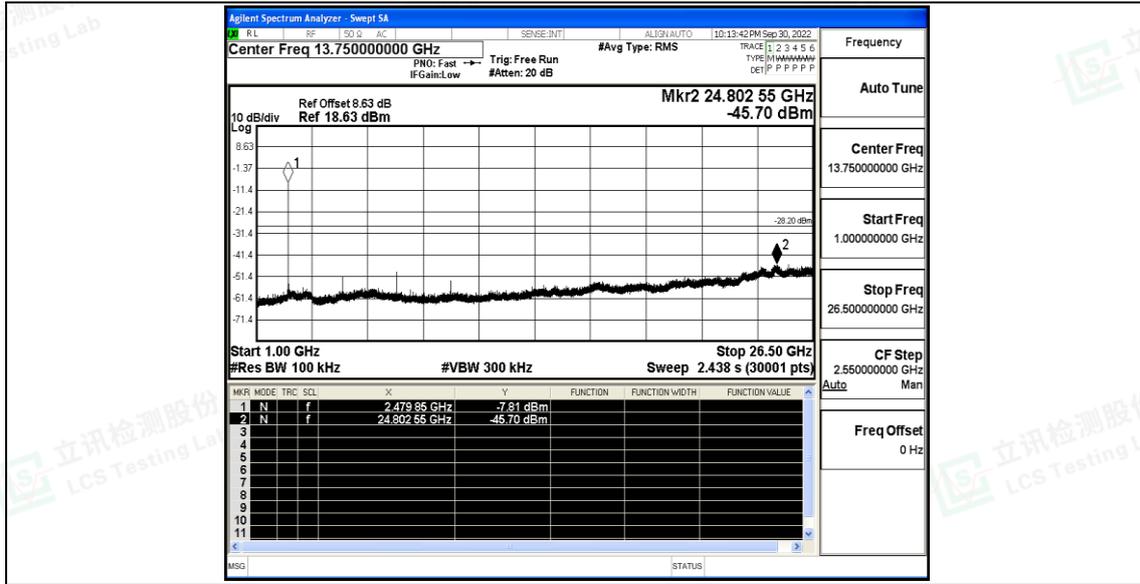


3DH5\_Ant\_2480\_30~1000



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	-58.38	≤-41.20	36.82	≤54	PASS
				AV	2380.850	-54.98	≤-41.20	40.22	≤54	PASS
				AV	2390.000	-56.19	≤-41.20	39.01	≤54	PASS
				Peak	2310.000	-53.85	≤-21.20	41.35	≤74	PASS
				Peak	2378.435	-45.45	≤-21.20	49.75	≤74	PASS
				Peak	2390.000	-49.07	≤-21.20	46.13	≤74	PASS
		High	2480	AV	2483.500	-52.27	≤-41.20	42.93	≤54	PASS
				AV	2498.560	-52.12	≤-41.20	43.08	≤54	PASS
				AV	2500.000	-52.16	≤-41.20	43.04	≤54	PASS
				Peak	2483.500	-48.29	≤-21.20	46.91	≤74	PASS
				Peak	2499.680	-43.7	≤-21.20	51.50	≤74	PASS
				Peak	2500.000	-46.18	≤-21.20	49.02	≤74	PASS
2DH5	Ant	Low	2402	AV	2310.000	-58.19	≤-41.20	37.01	≤54	PASS
				AV	2379.590	-53.97	≤-41.20	41.23	≤54	PASS
				AV	2390.000	-55.71	≤-41.20	39.49	≤54	PASS
				Peak	2310.000	-53.56	≤-21.20	41.64	≤74	PASS
				Peak	2383.895	-44.92	≤-21.20	50.28	≤74	PASS
				Peak	2390.000	-51.89	≤-21.20	43.31	≤74	PASS
		High	2480	AV	2483.500	-53.34	≤-41.20	41.86	≤54	PASS
				AV	2499.440	-52.03	≤-41.20	43.17	≤54	PASS
				AV	2500.000	-52.09	≤-41.20	43.11	≤54	PASS
				Peak	2483.500	-46.6	≤-21.20	48.60	≤74	PASS
				Peak	2497.760	-43.27	≤-21.20	51.93	≤74	PASS
				Peak	2500.000	-44.6	≤-21.20	50.60	≤74	PASS
3DH5	Ant	Low	2402	AV	2310.000	-57.77	≤-41.20	37.43	≤54	PASS
				AV	2379.485	-54.12	≤-41.20	41.08	≤54	PASS
				AV	2390.000	-55.46	≤-41.20	39.74	≤54	PASS
				Peak	2310.000	-54.29	≤-21.20	40.91	≤74	PASS
				Peak	2381.480	-45.74	≤-21.20	49.46	≤74	PASS
				Peak	2390.000	-51.42	≤-21.20	43.78	≤74	PASS
		High	2480	AV	2483.500	-53.28	≤-41.20	41.92	≤54	PASS
				AV	2498.880	-51.87	≤-41.20	43.33	≤54	PASS
				AV	2500.000	-52.17	≤-41.20	43.03	≤54	PASS
				Peak	2483.500	-47.12	≤-21.20	48.08	≤74	PASS



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			Peak	2497.440	-43.52	≤-21.20	51.68	≤74	PASS
			Peak	2500.000	-47.58	≤-21.20	47.62	≤74	PASS

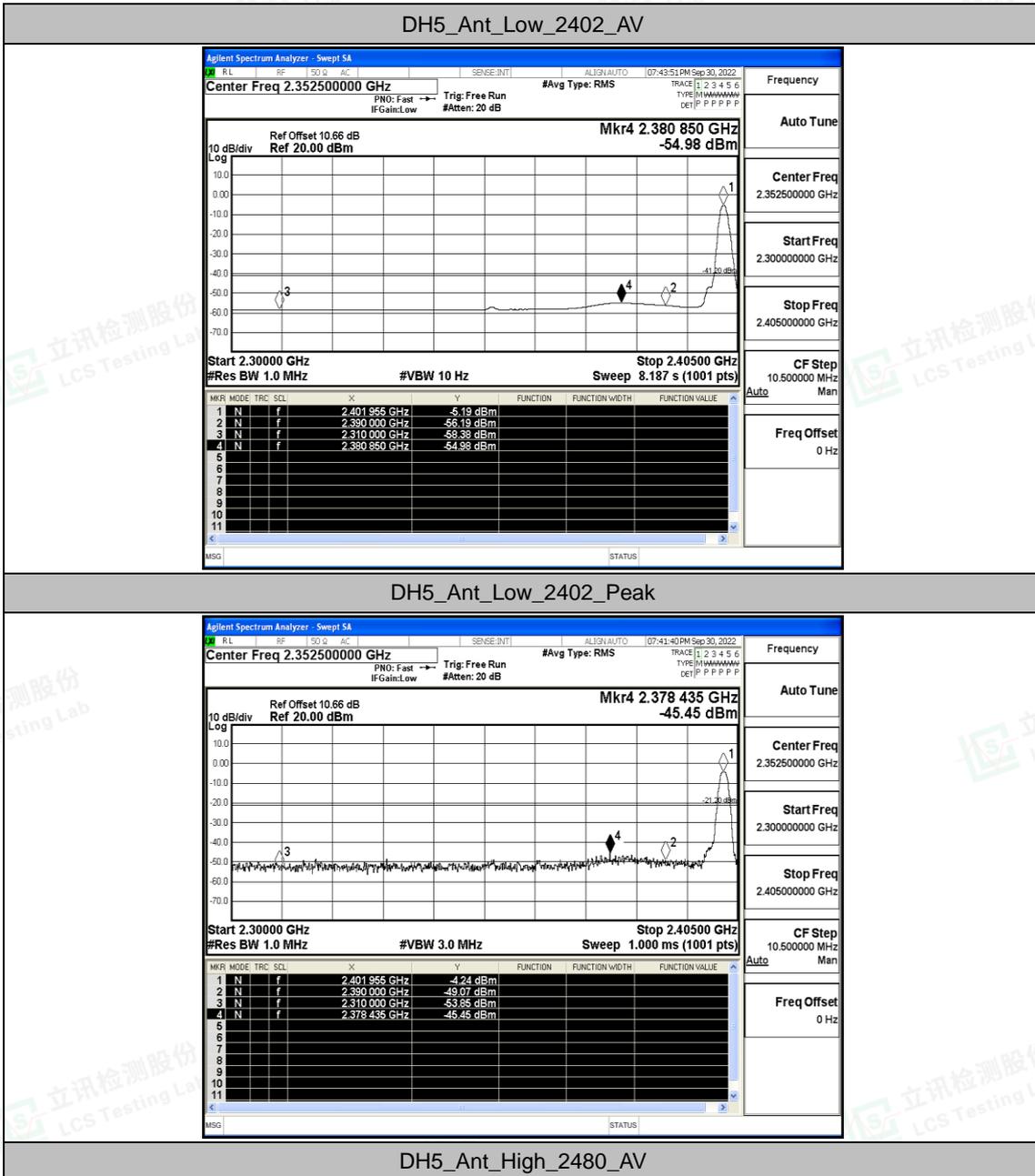
Note:

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

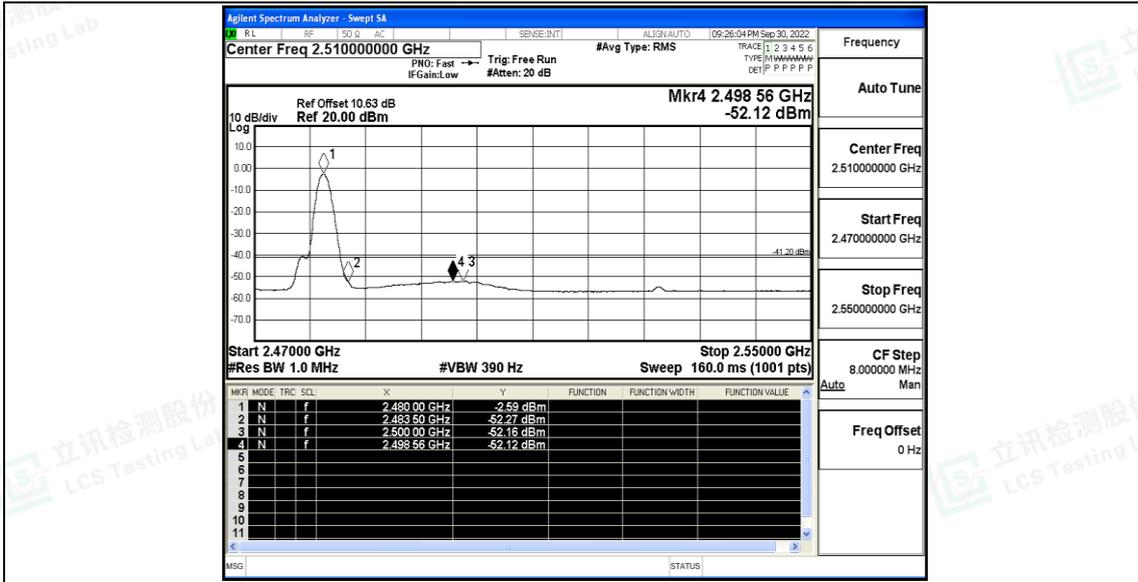


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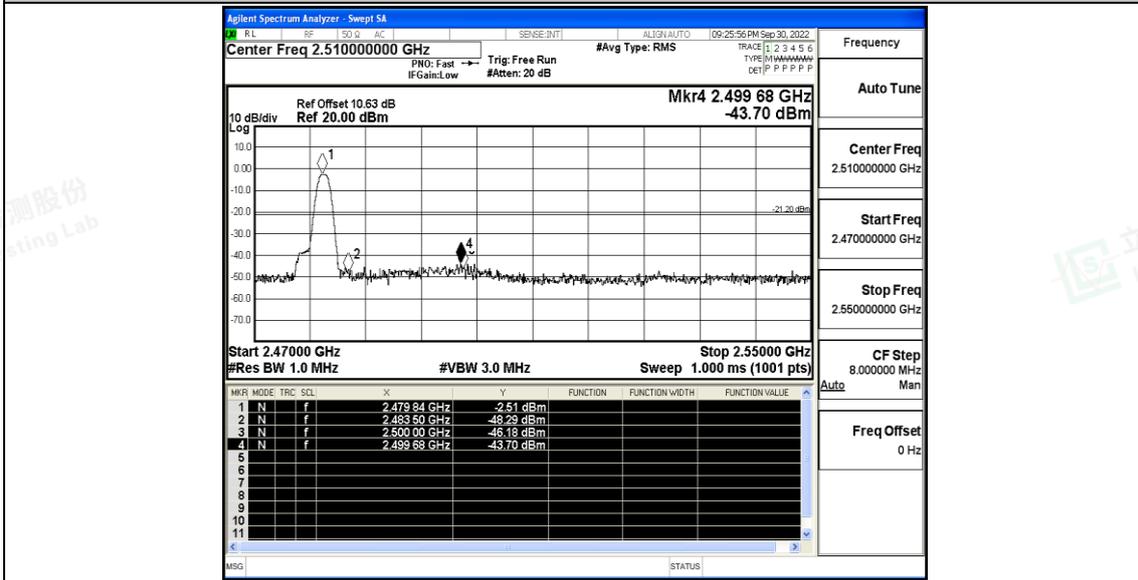
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DH5\_Ant\_High\_2480\_Peak



2DH5\_Ant\_Low\_2402\_AV

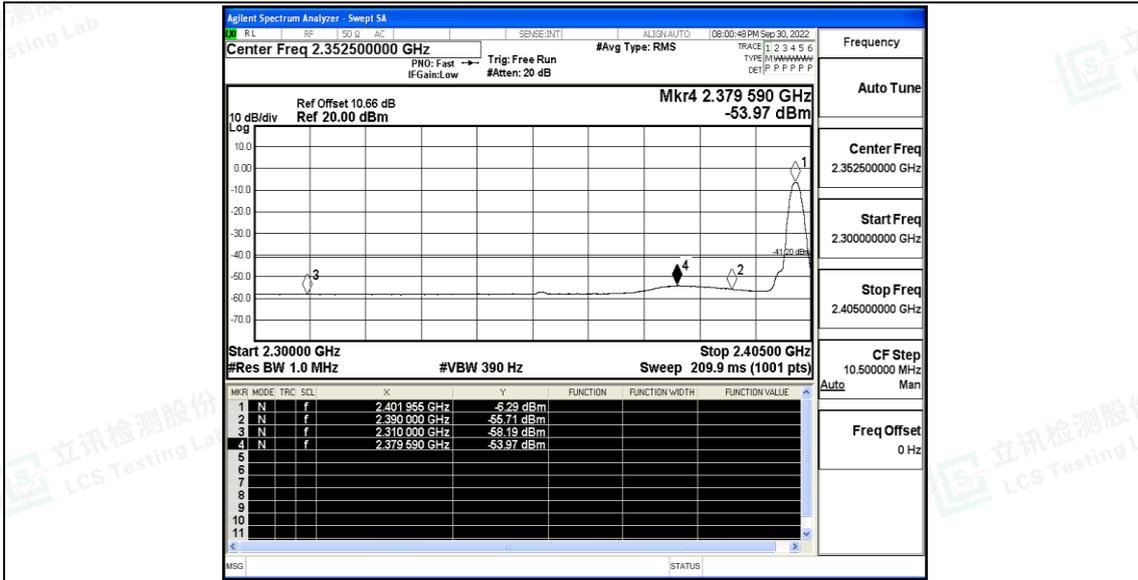


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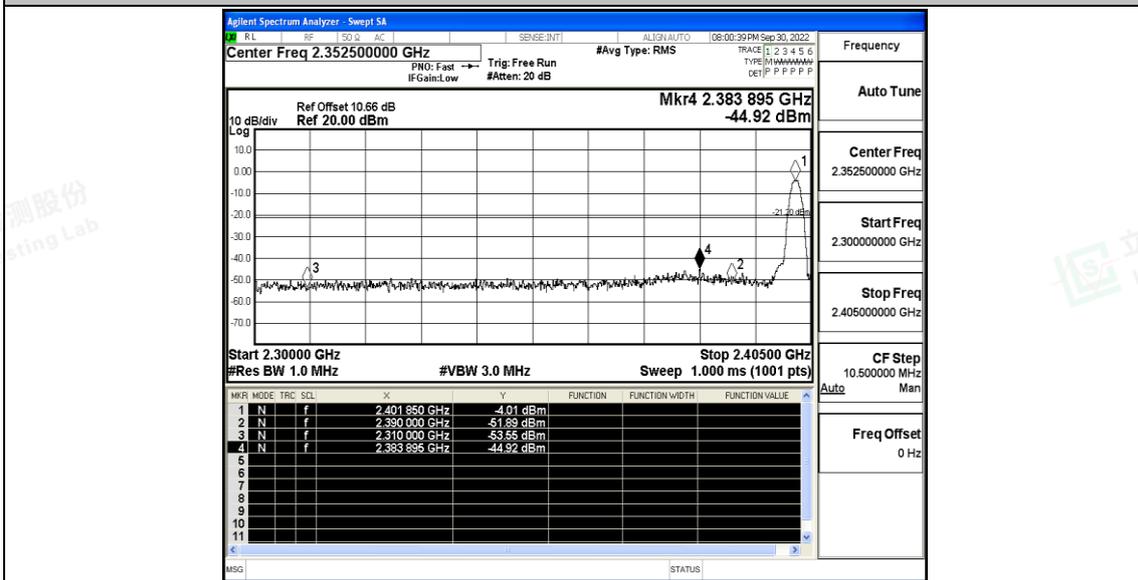
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2DH5\_Ant\_Low\_2402\_Peak



2DH5\_Ant\_High\_2480\_AV

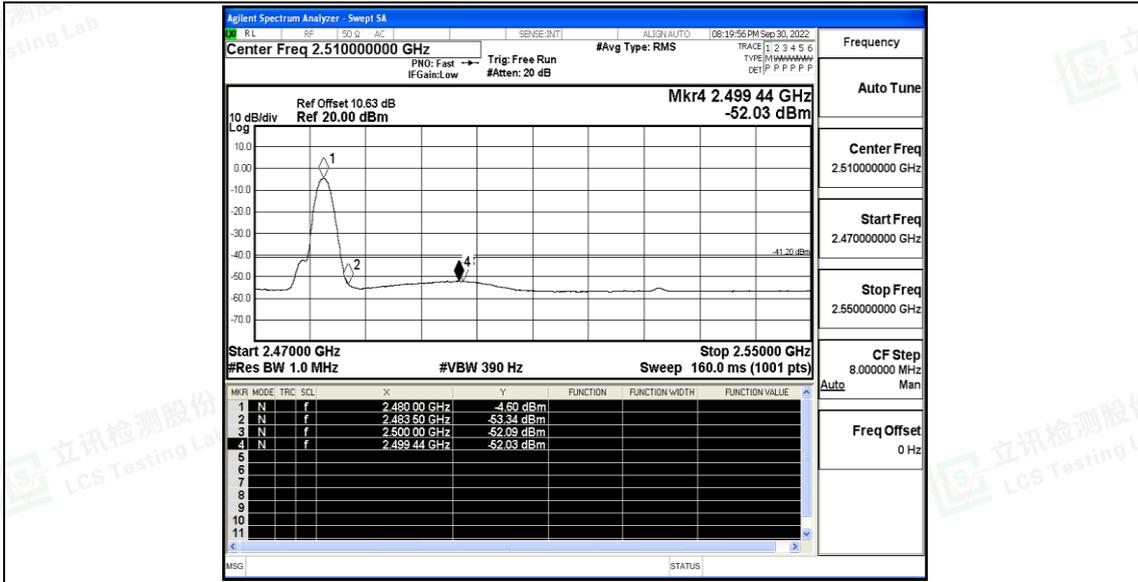


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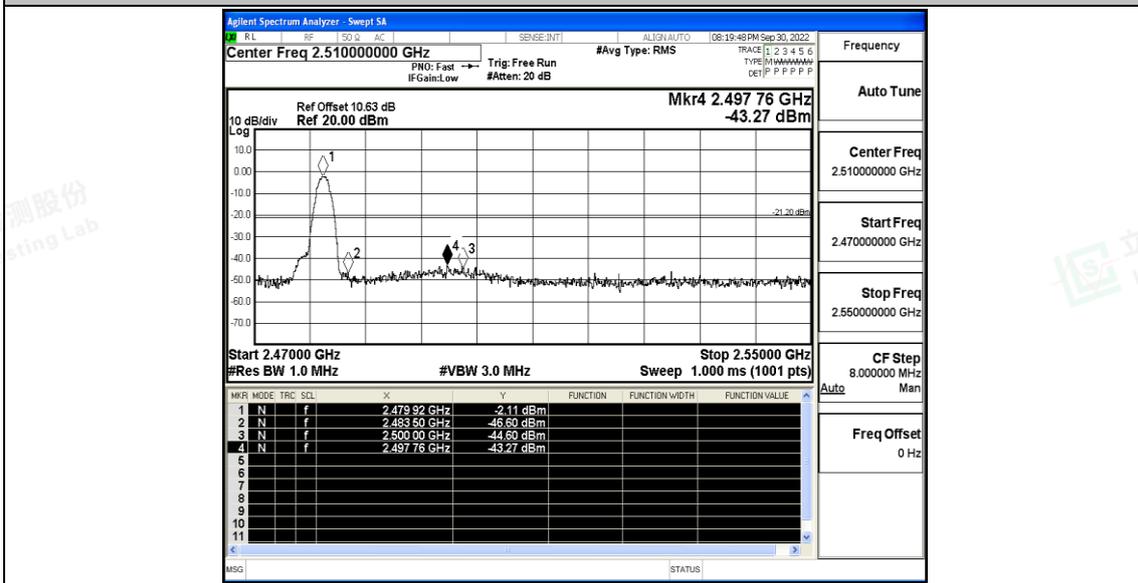
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2DH5\_Ant\_High\_2480\_Peak



3DH5\_Ant\_Low\_2402\_AV

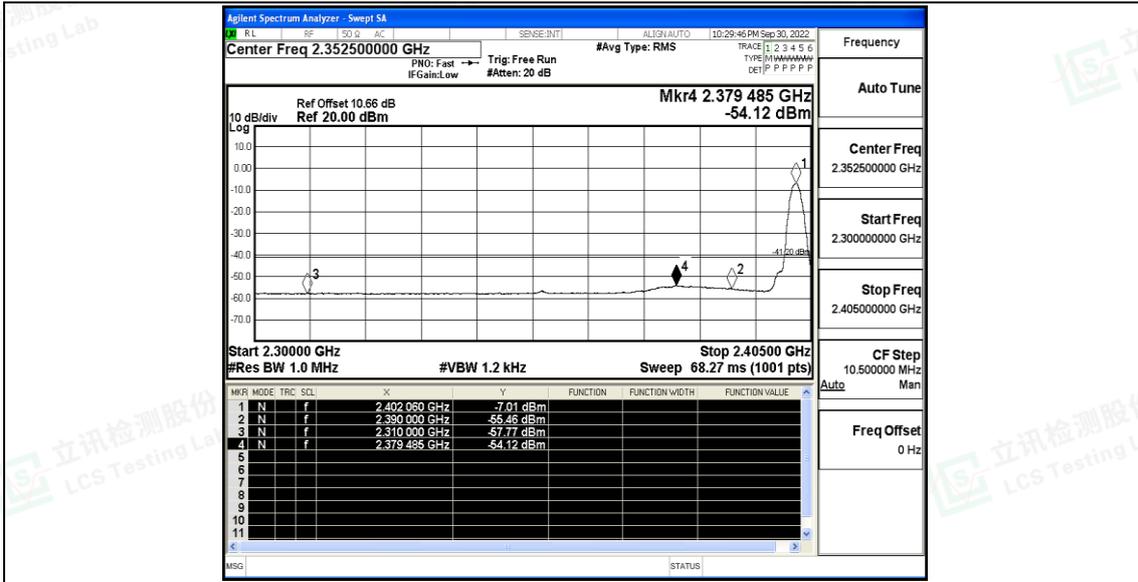


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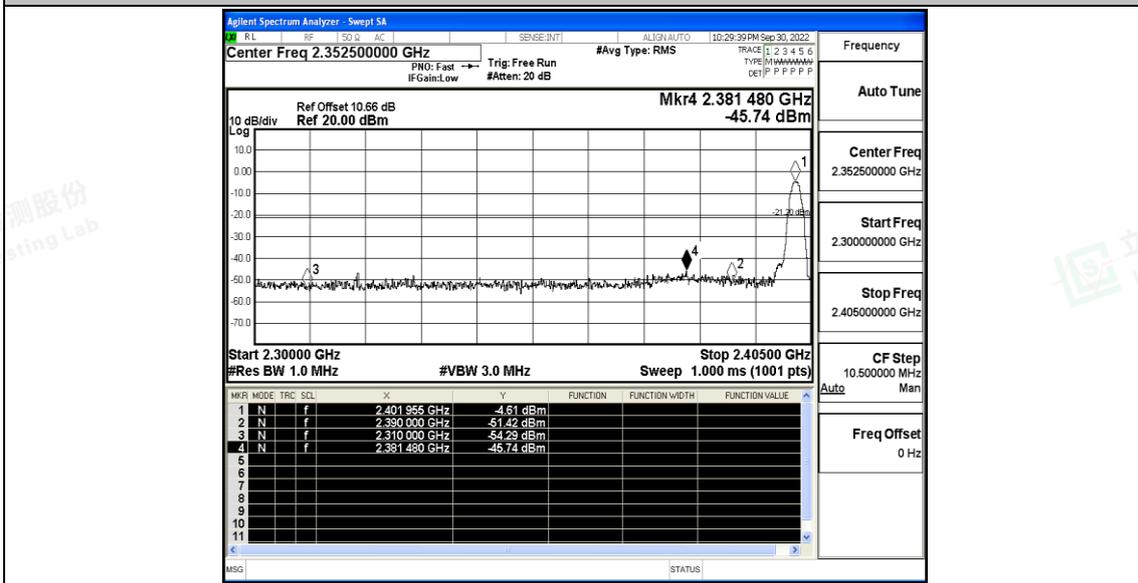
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3DH5\_Ant\_Low\_2402\_Peak



3DH5\_Ant\_High\_2480\_AV

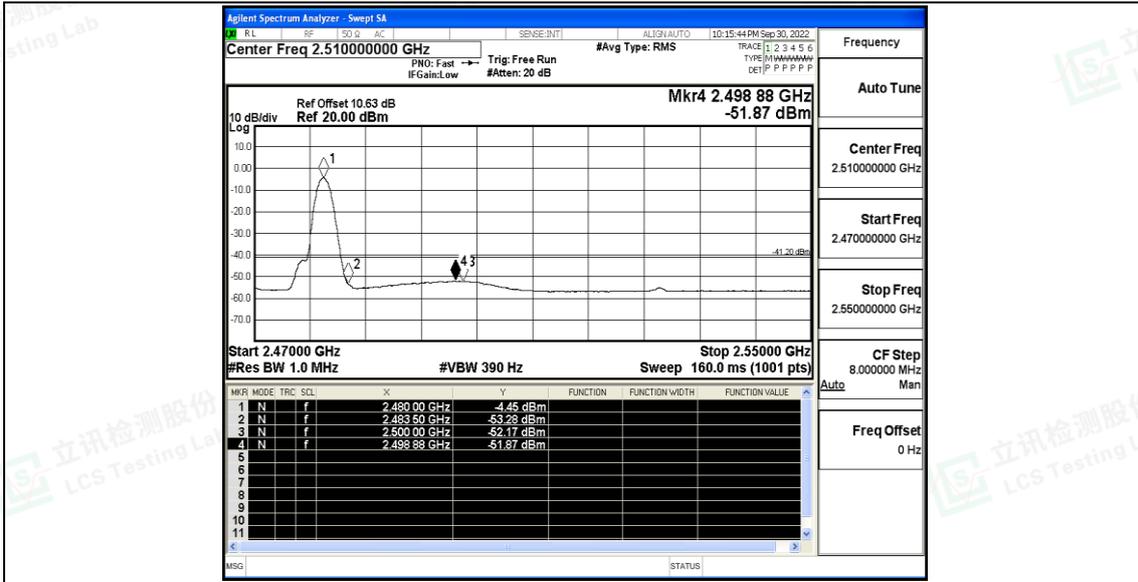


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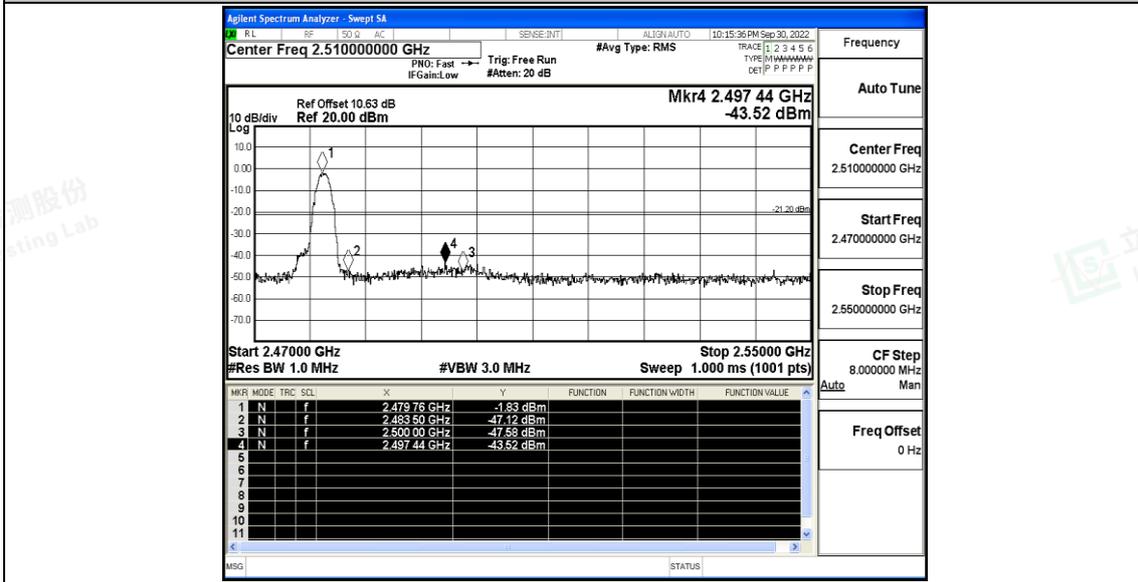
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3DH5\_Ant\_High\_2480\_Peak



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