



## Appendix B

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

Product Name: 4G fixed wireless phone

Test Model: F40

#### Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
	<i>Nick Peng</i>
Supervised by:	Ling Zhu
	<i>Ling Zhu</i>





## B.1 DTS Bandwidth

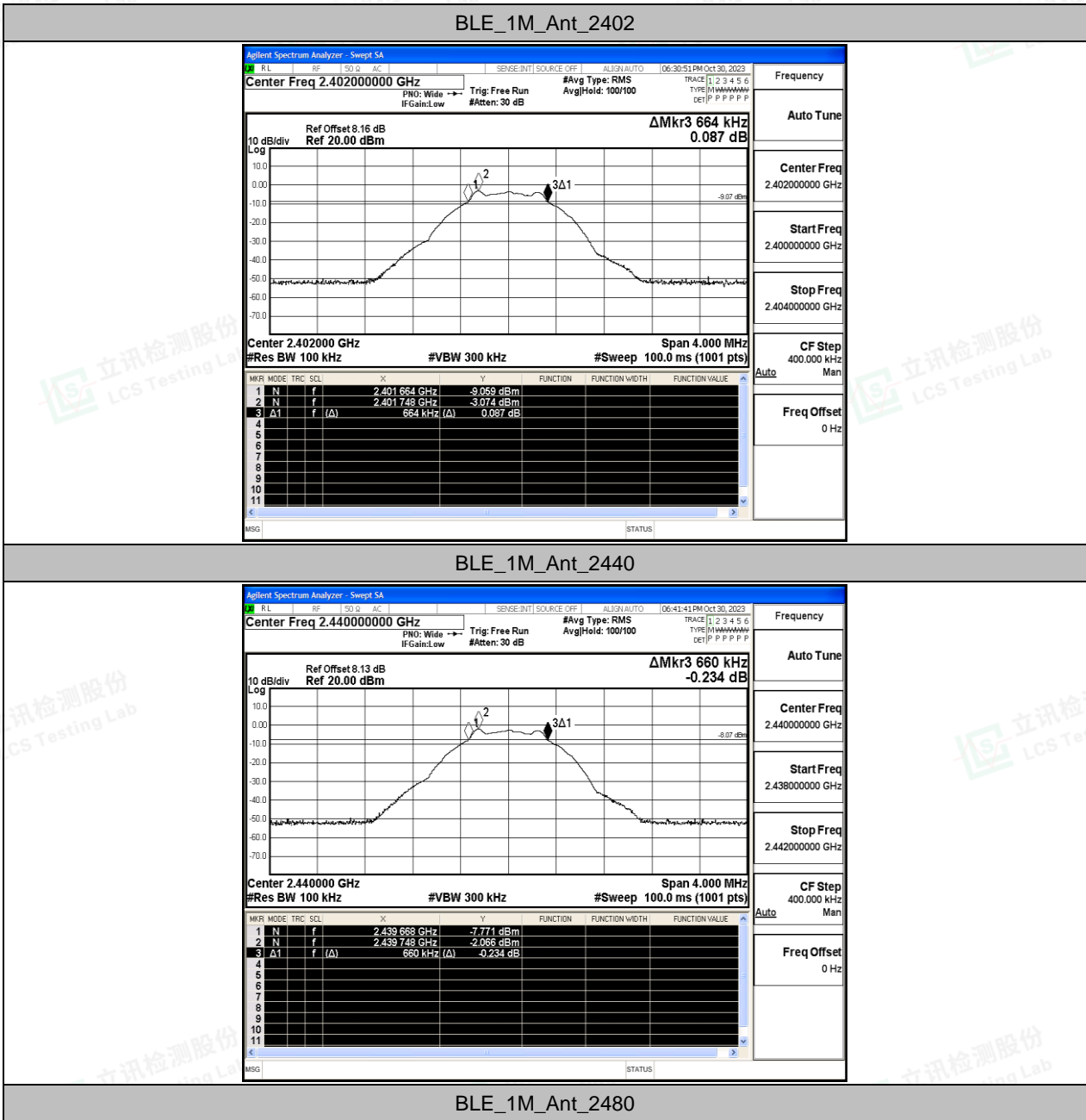
### Test Result

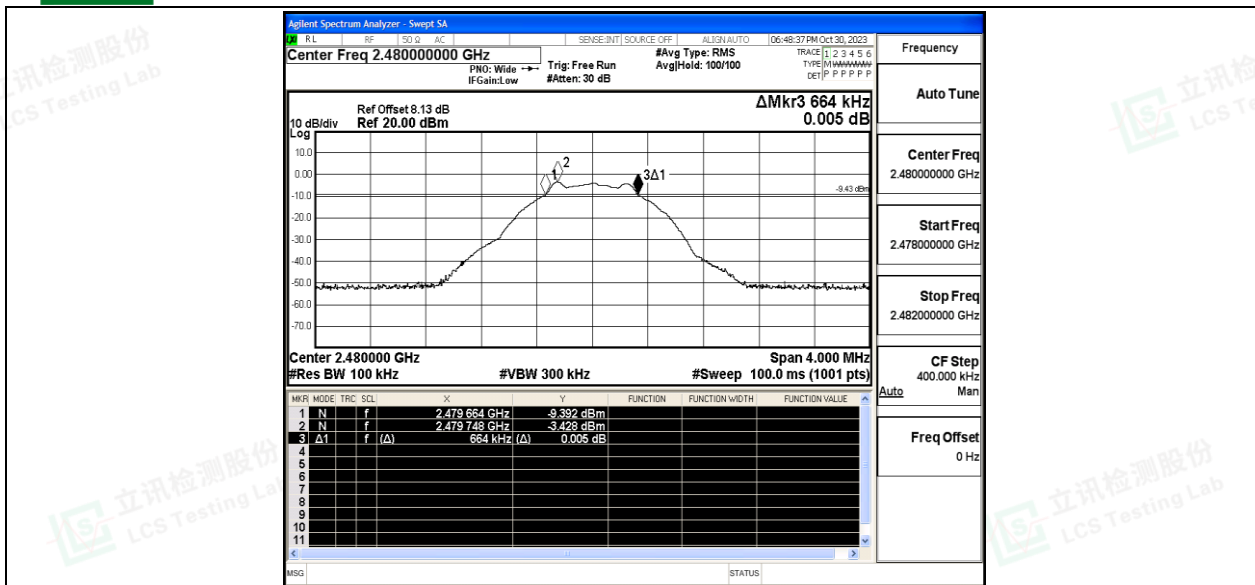
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant	2402	0.664	2401.664	2402.328	0.5	PASS
		2440	0.660	2439.668	2440.328	0.5	PASS
		2480	0.664	2479.664	2480.328	0.5	PASS
BLE_2M	Ant	2402	1.160	2401.408	2402.568	0.5	PASS
		2440	1.156	2439.412	2440.568	0.5	PASS
		2480	1.152	2479.412	2480.564	0.5	PASS



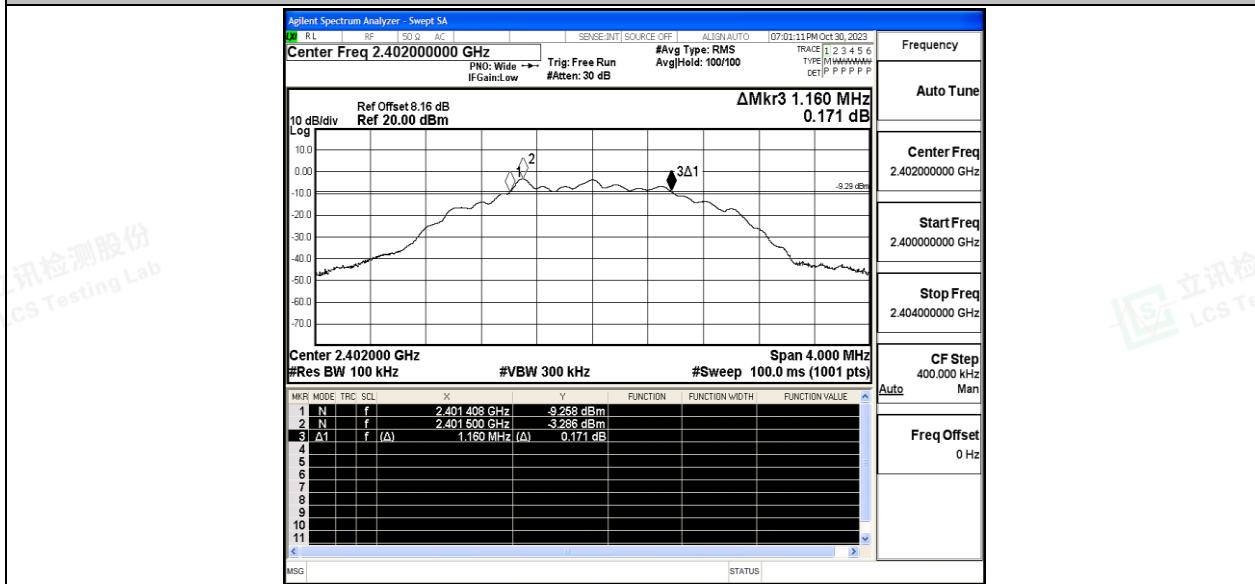


### Test Graphs



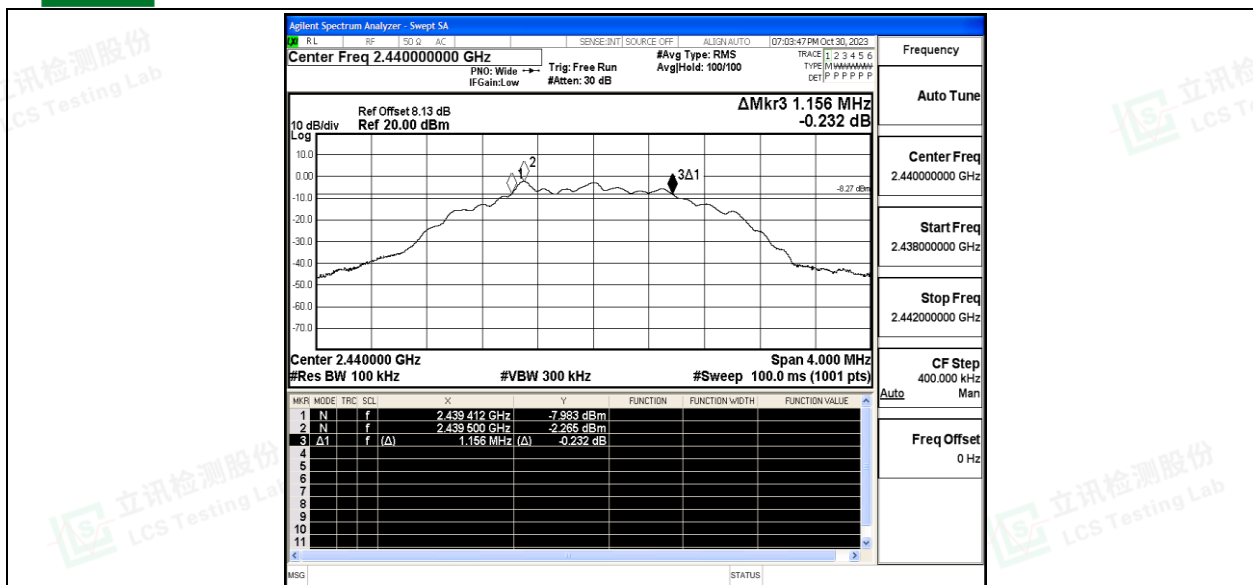


BLE\_2M\_Ant\_2402

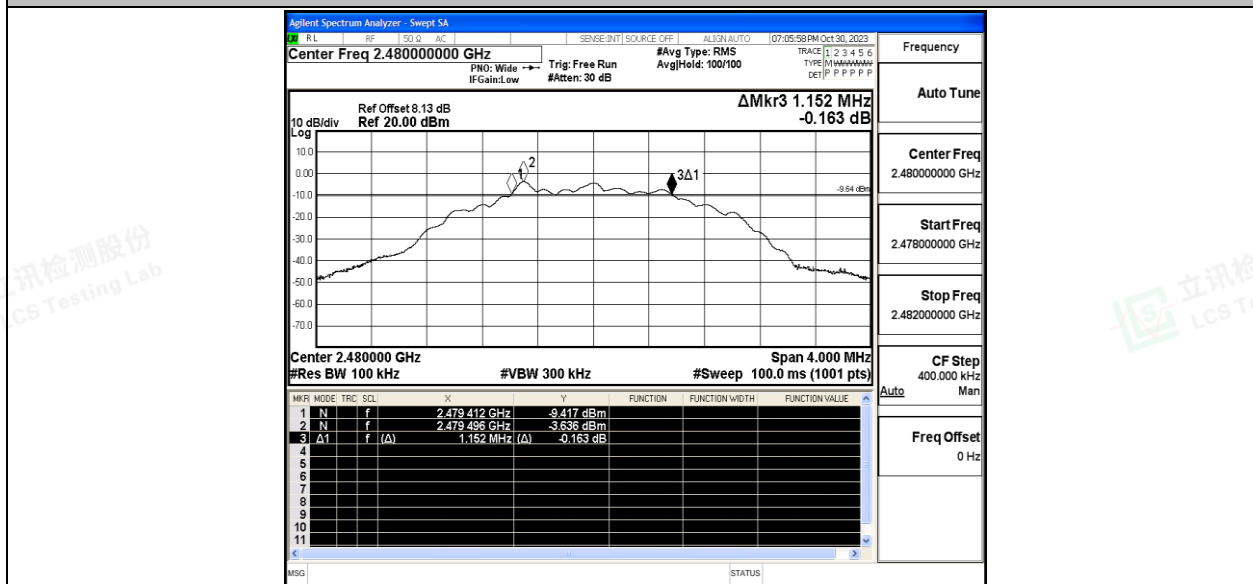


BLE\_2M\_Ant\_2440





BLE\_2M\_Ant\_2480





## B.2 Maximum conducted output power

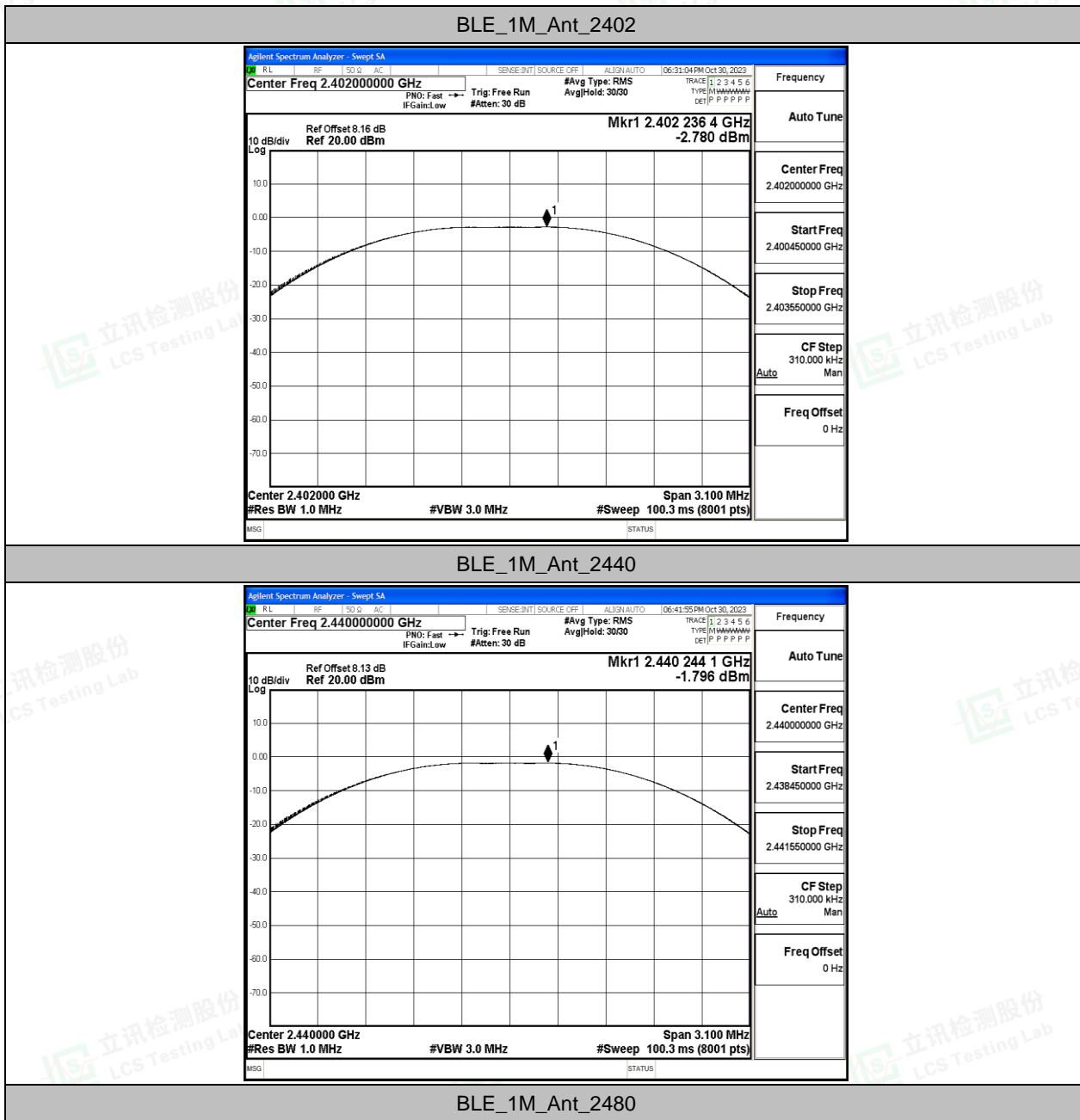
### Test Result

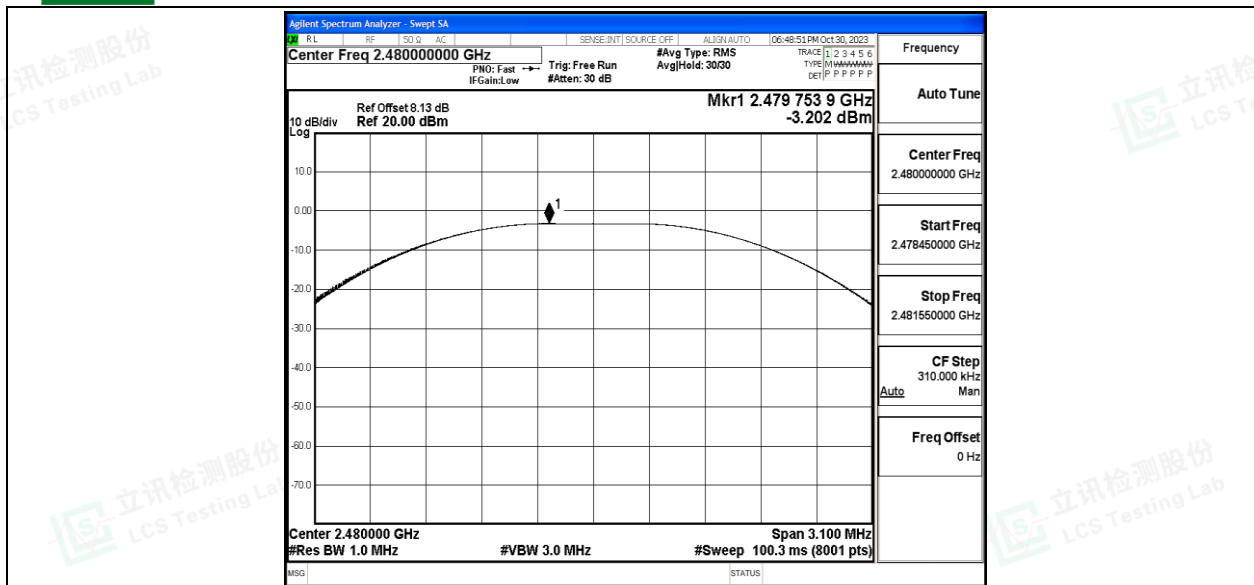
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant	2402	-2.78	≤30	PASS
		2440	-1.8	≤30	PASS
		2480	-3.2	≤30	PASS
BLE_2M	Ant	2402	-2.68	≤30	PASS
		2440	-1.68	≤30	PASS
		2480	-3.11	≤30	PASS



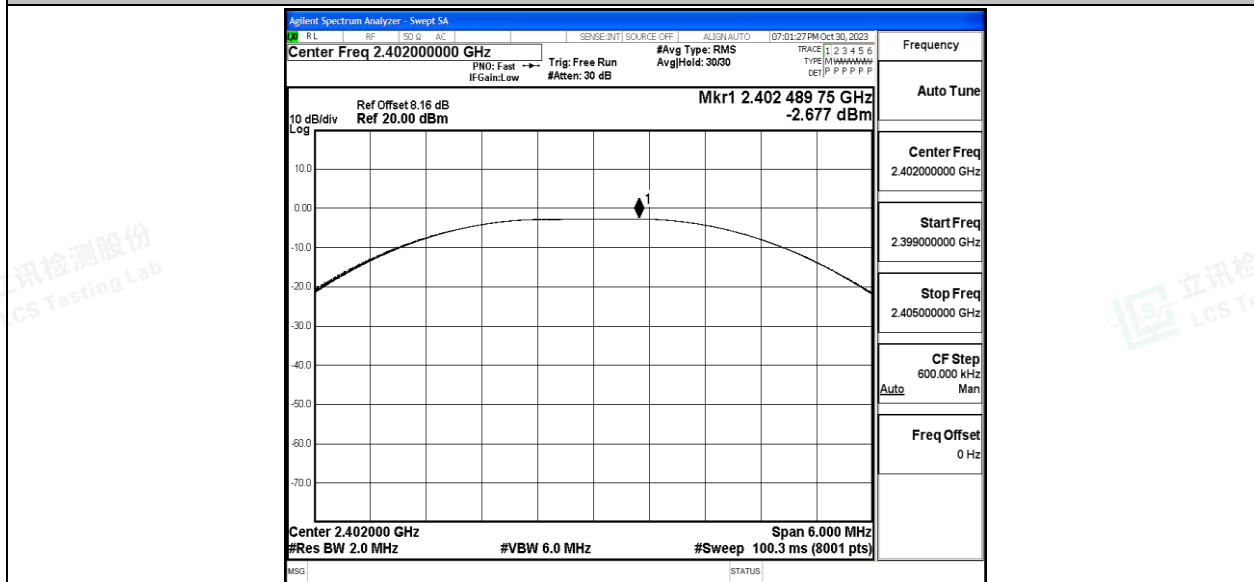


### Test Graphs





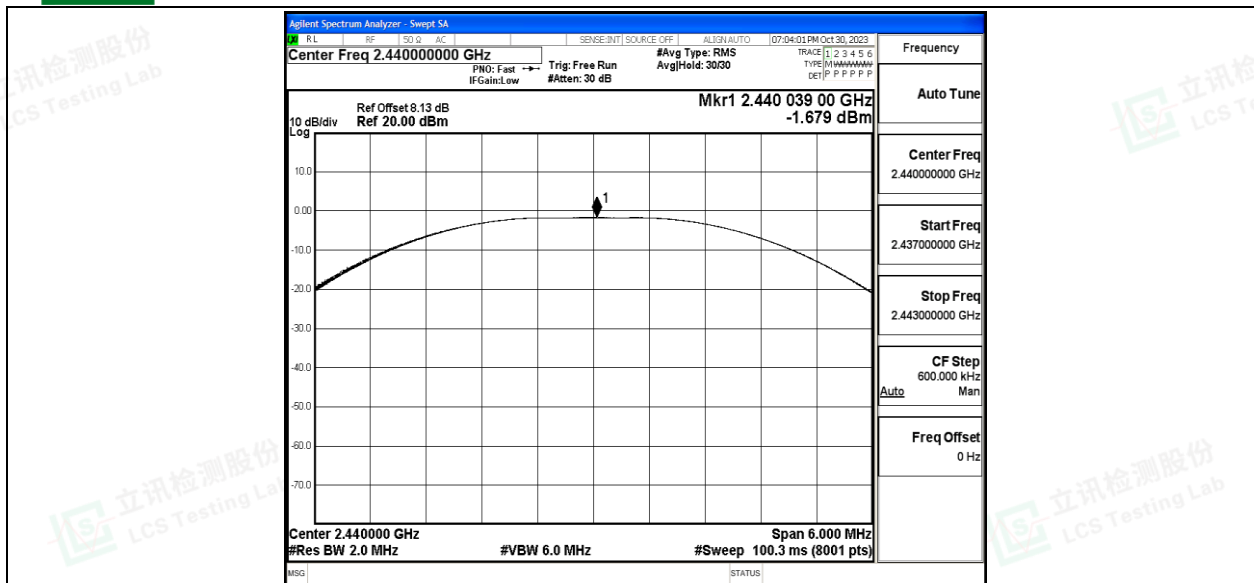
BLE\_2M\_Ant\_2402



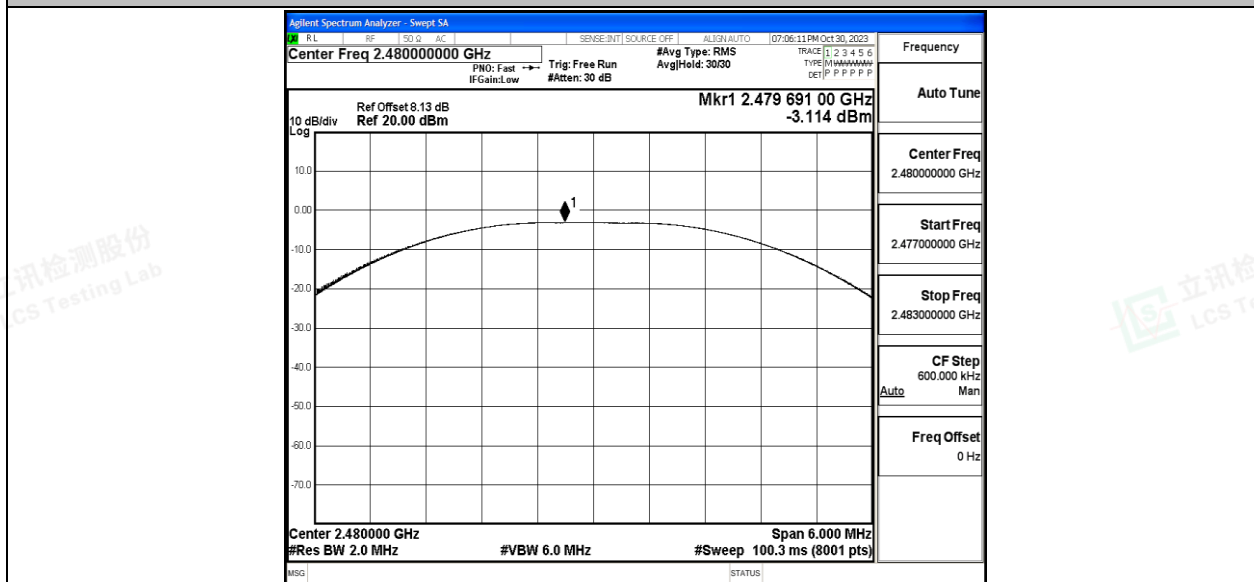
BLE\_2M\_Ant\_2440







BLE\_2M\_Ant\_2480





### B.3 Maximum power spectral density

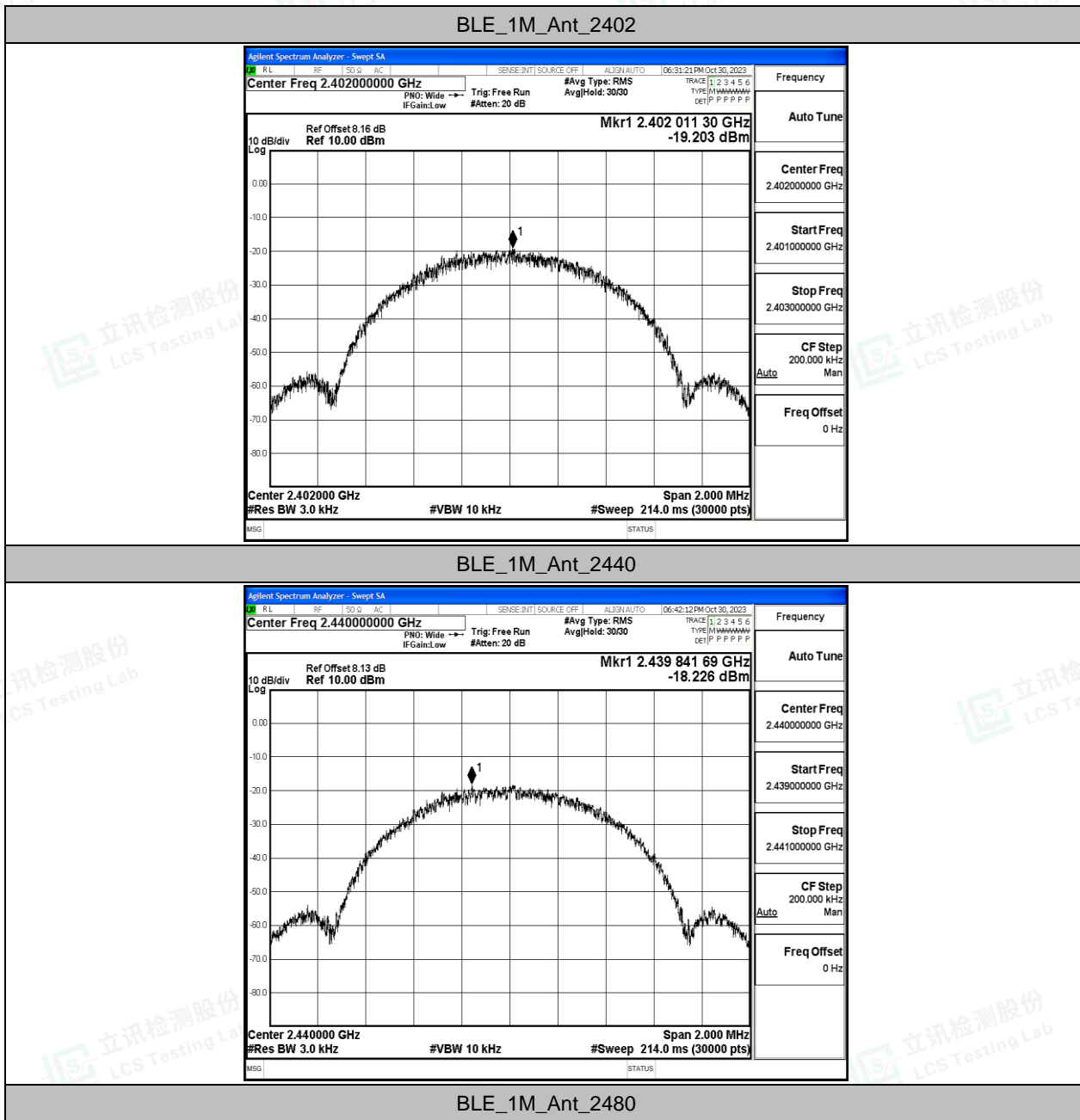
#### Test Result

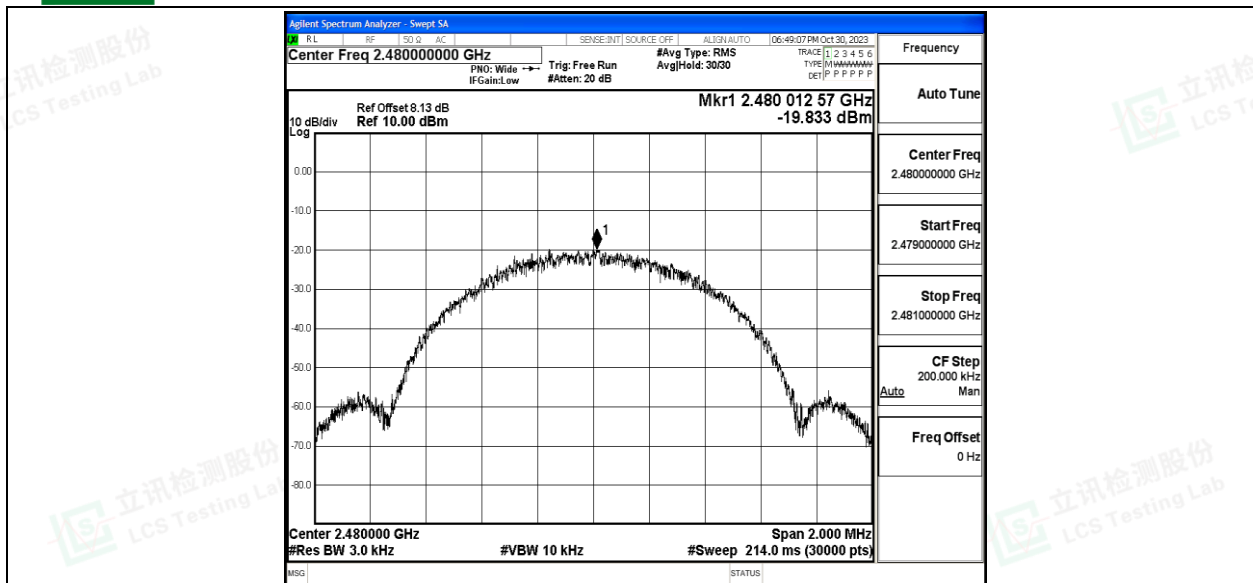
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant	2402	-19.2	≤8.00	PASS
		2440	-18.23	≤8.00	PASS
		2480	-19.83	≤8.00	PASS
BLE_2M	Ant	2402	-22.45	≤8.00	PASS
		2440	-21.38	≤8.00	PASS
		2480	-22.96	≤8.00	PASS



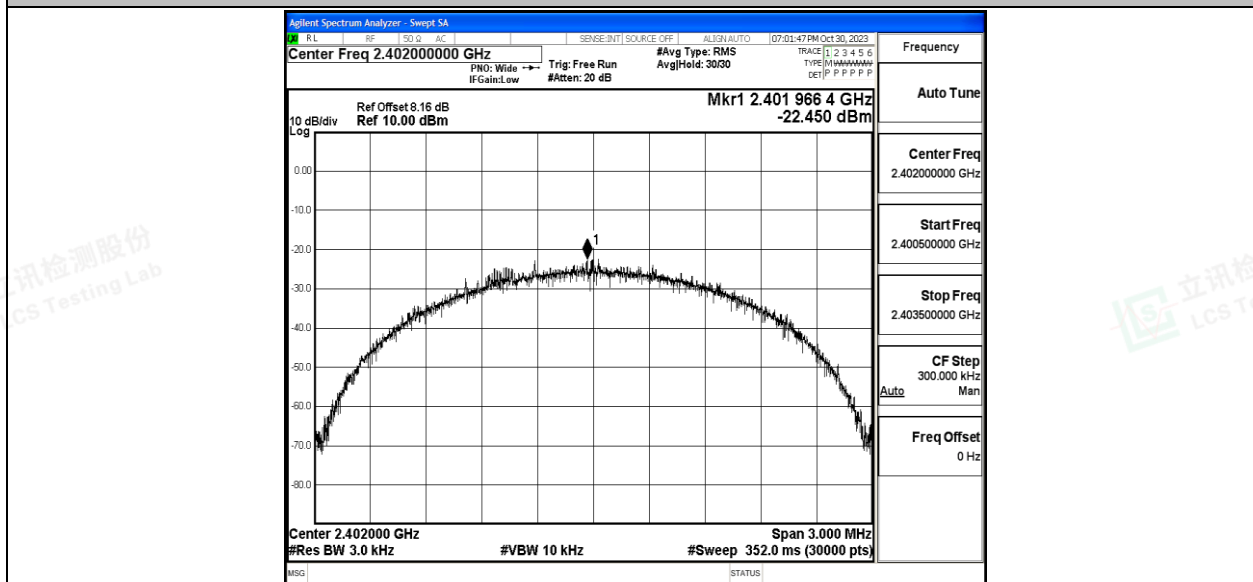


### Test Graphs



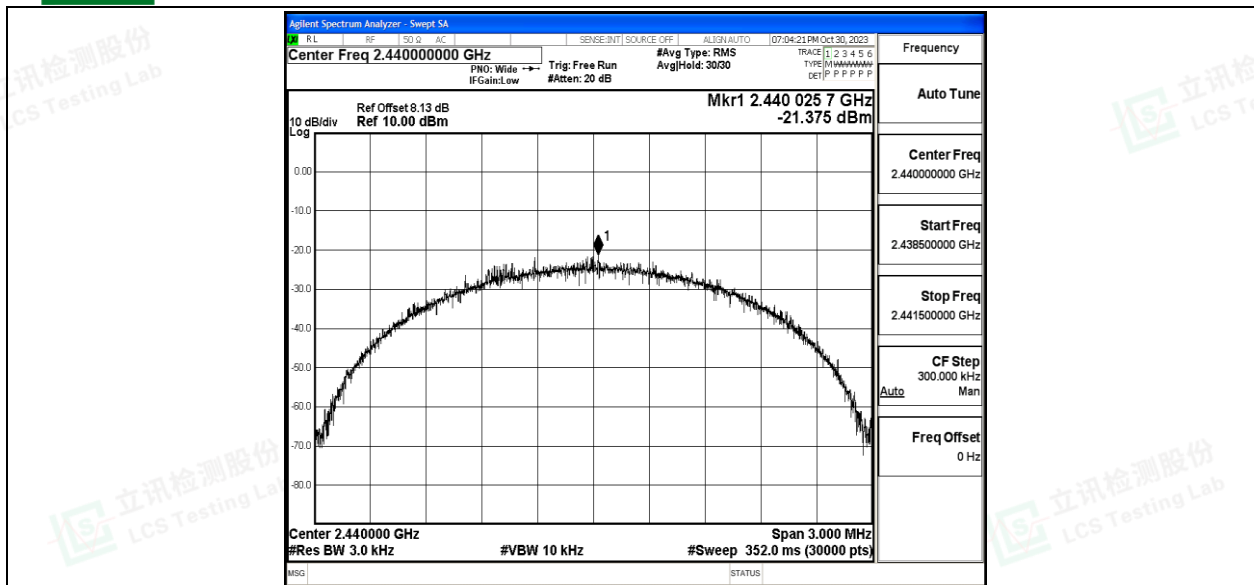


BLE\_2M\_Ant\_2402

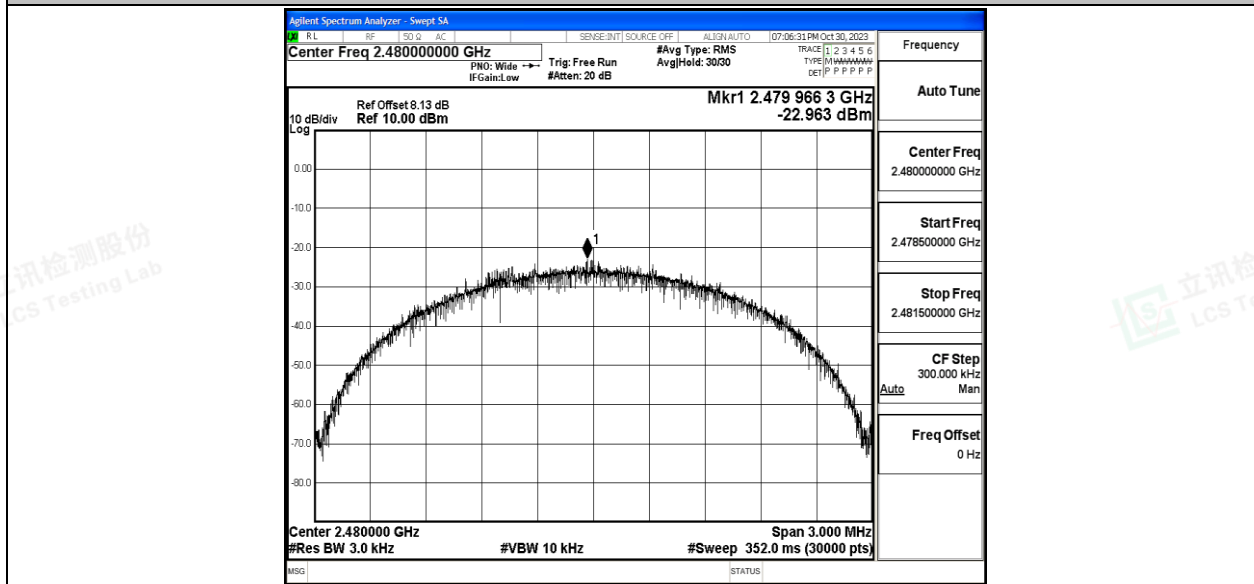


BLE\_2M\_Ant\_2440





BLE\_2M\_Ant\_2480





## B.4 Band edge measurements

### Test Result

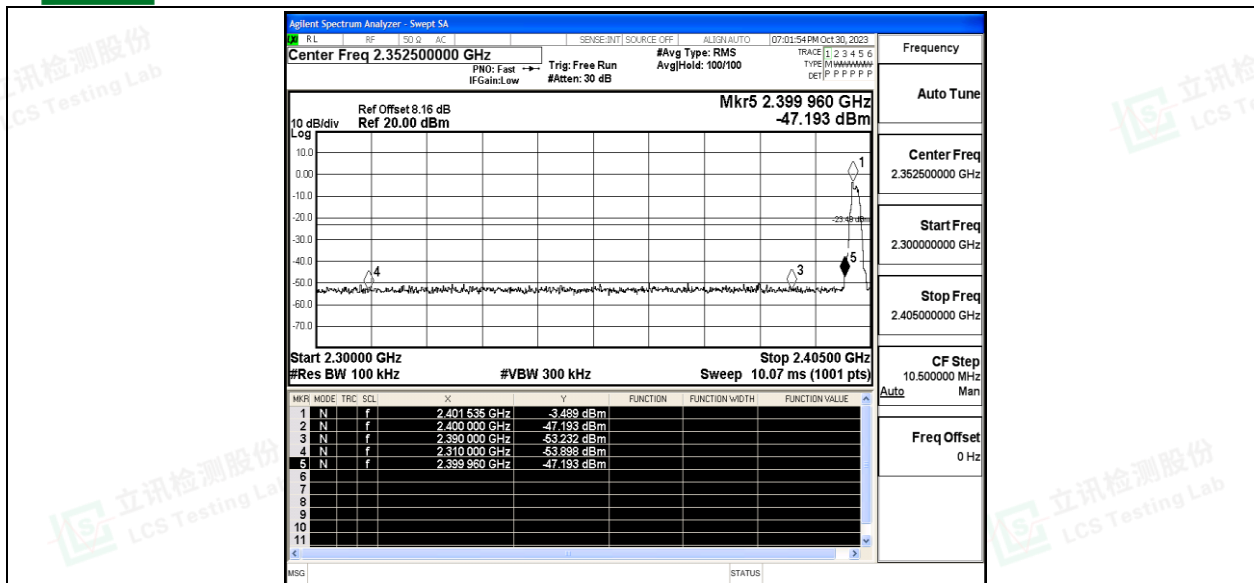
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant	Low	2402	-3.08	-49.44	≤-23.08	PASS
		High	2480	-3.55	-50.07	≤-23.55	PASS
BLE_2M	Ant	Low	2402	-3.49	-47.19	≤-23.49	PASS
		High	2480	-4.45	-49.73	≤-24.45	PASS



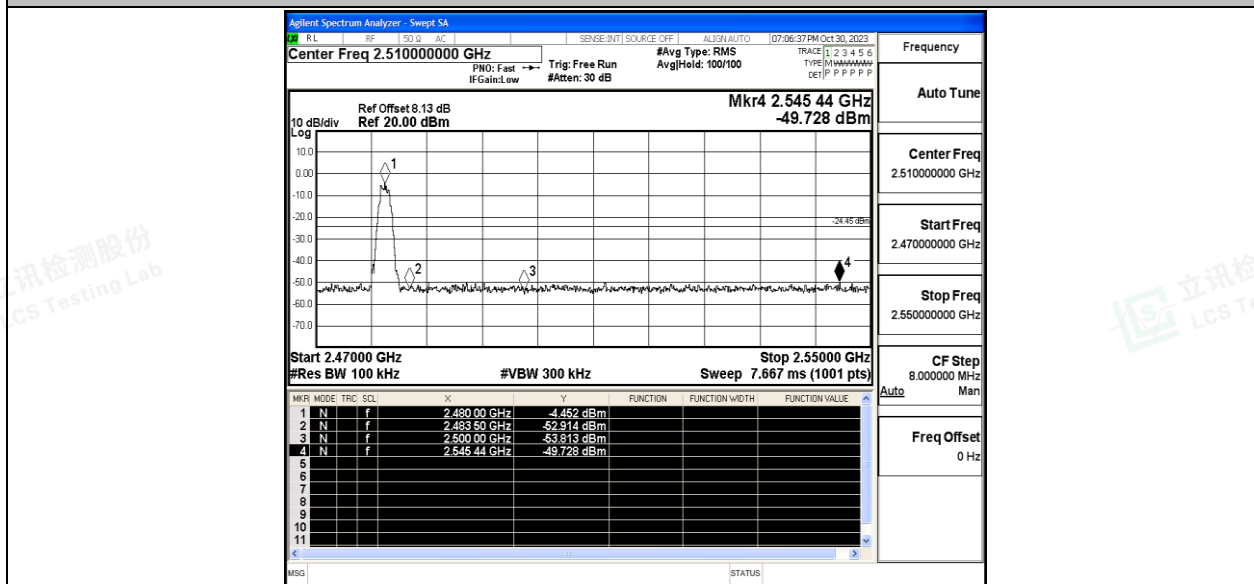


### Test Graphs





BLE\_2M\_Ant\_High\_2480







## B.5 Conducted Spurious Emission

### Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant	2402	Reference	-3.07	-3.07	---	PASS
			30~1000	-3.07	-62.04	≤-23.07	PASS
			1000~26500	-3.07	-49.03	≤-23.07	PASS
		2440	Reference	-2.05	-2.05	---	PASS
			30~1000	-2.05	-61.98	≤-22.05	PASS
			1000~26500	-2.05	-49.31	≤-22.05	PASS
		2480	Reference	-3.43	-3.43	---	PASS
			30~1000	-3.43	-61.16	≤-23.43	PASS
			1000~26500	-3.43	-48.99	≤-23.43	PASS
BLE_2M	Ant	2402	Reference	-3.83	-3.83	---	PASS
			30~1000	-3.83	-61.3	≤-23.83	PASS
			1000~26500	-3.83	-48.82	≤-23.83	PASS
		2440	Reference	-2.26	-2.26	---	PASS
			30~1000	-2.26	-61.16	≤-22.26	PASS
			1000~26500	-2.26	-48.78	≤-22.26	PASS
		2480	Reference	-3.66	-3.66	---	PASS
			30~1000	-3.66	-61.52	≤-23.66	PASS
			1000~26500	-3.66	-48.83	≤-23.66	PASS



Shenzhen LCS Compliance Testing Laboratory Ltd.

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

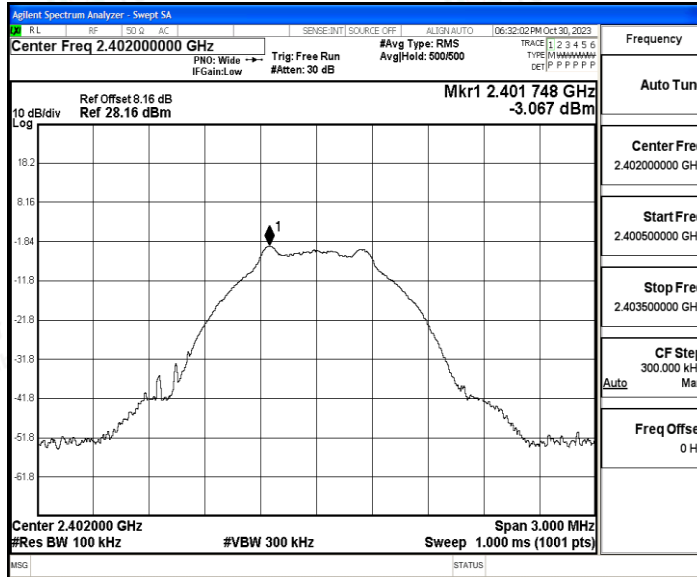
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

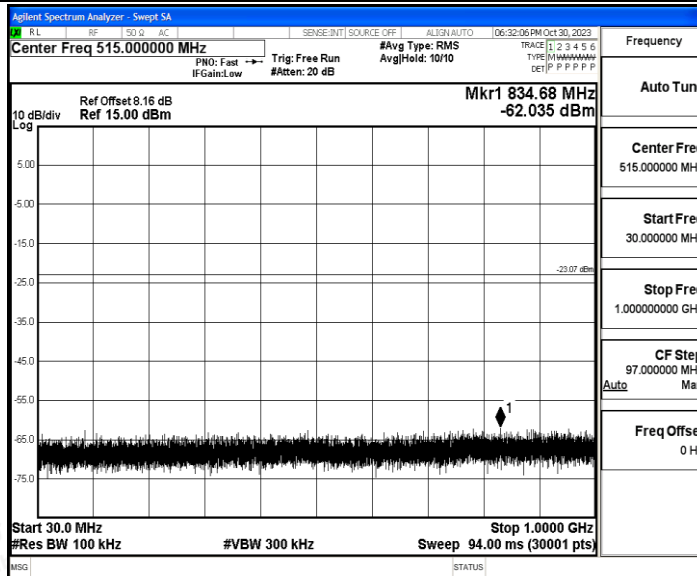


### Test Graphs

BLE\_1M\_Ant\_2402\_0~Reference

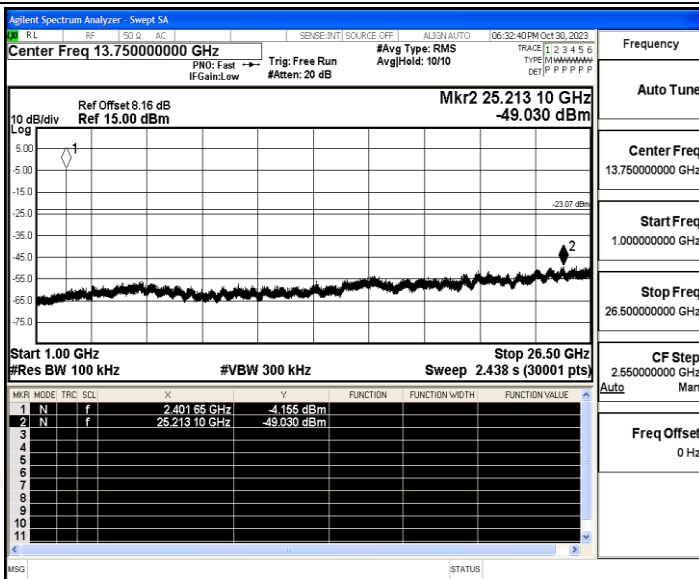


BLE\_1M\_Ant\_2402\_30~1000

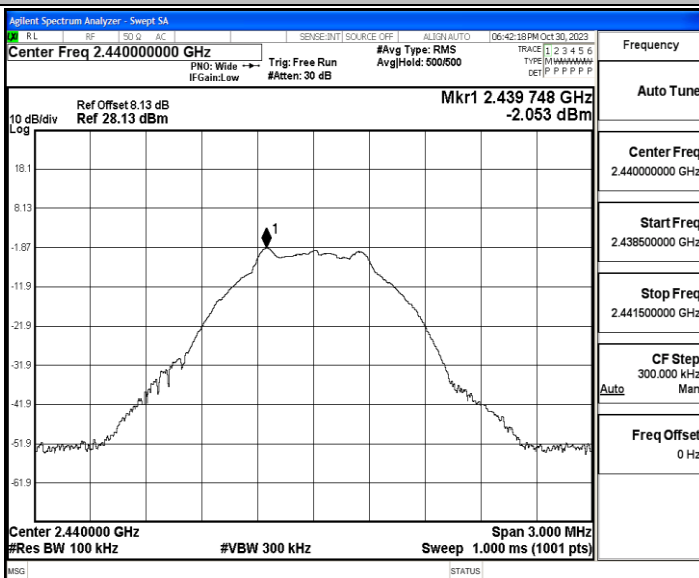


BLE\_1M\_Ant\_2402\_1000~26500



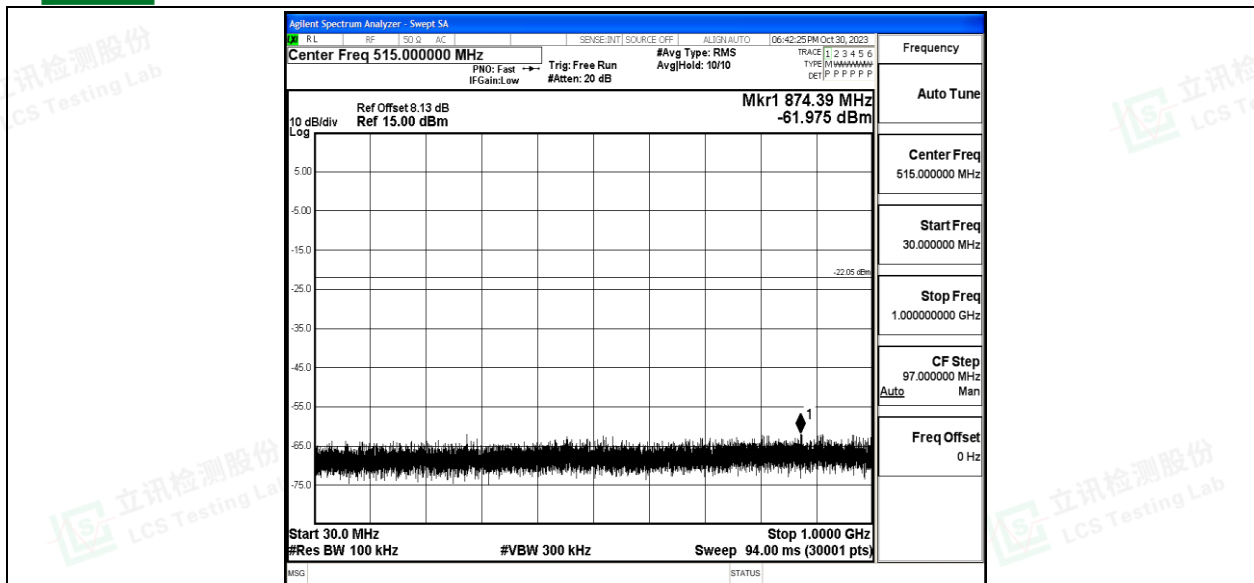


BLE\_1M\_Ant\_2440\_0~Reference

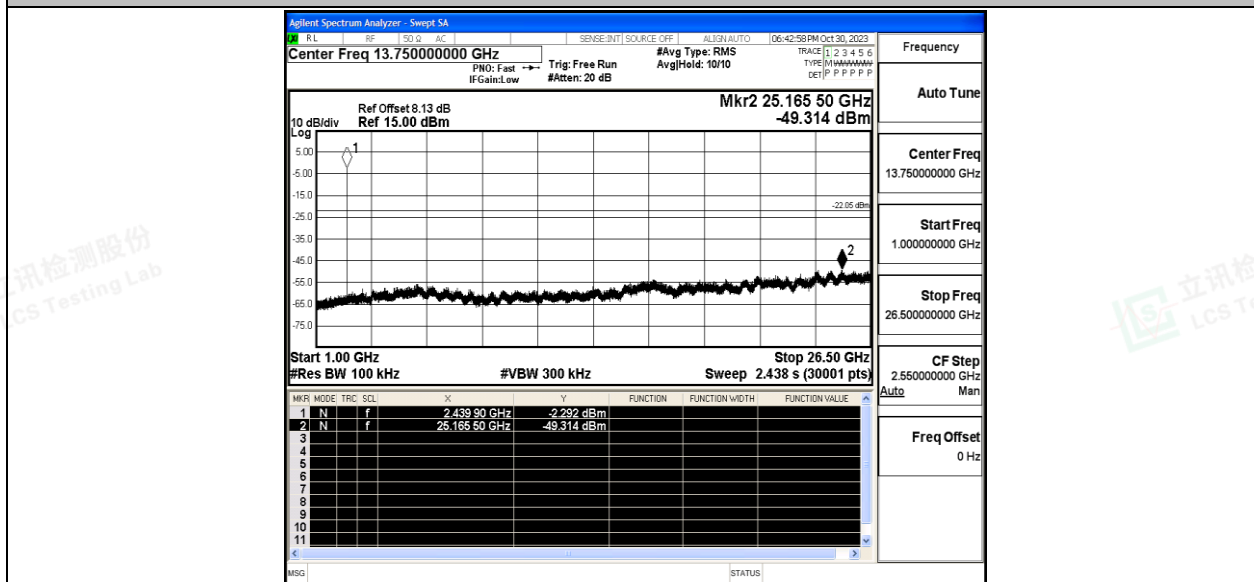


BLE\_1M\_Ant\_2440\_30~1000



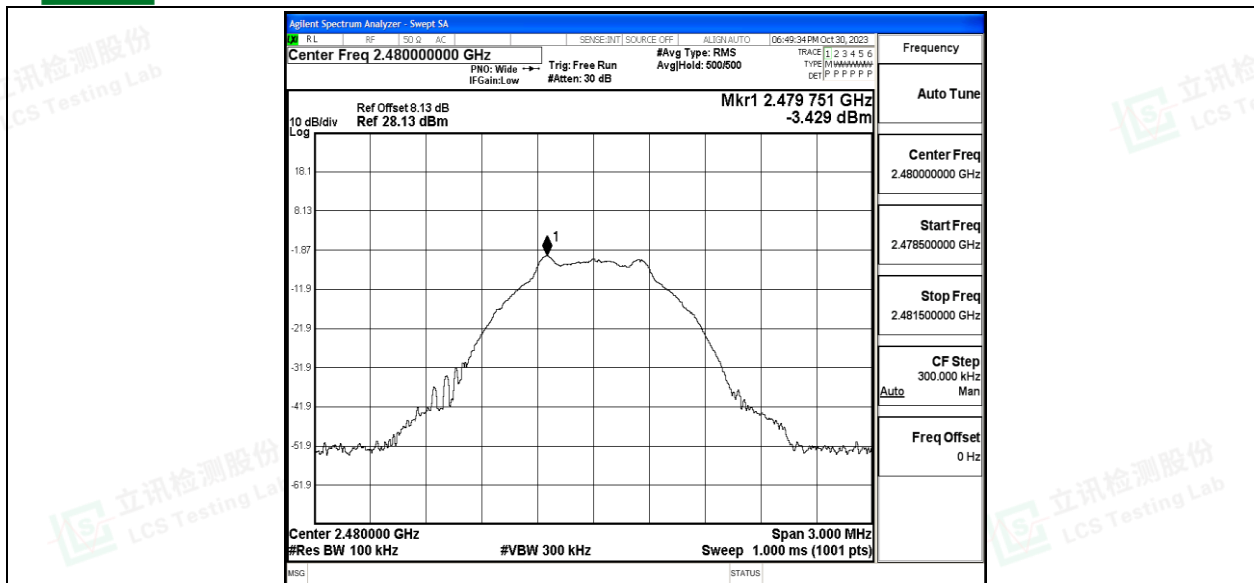


BLE\_1M\_Ant\_2440\_1000~26500

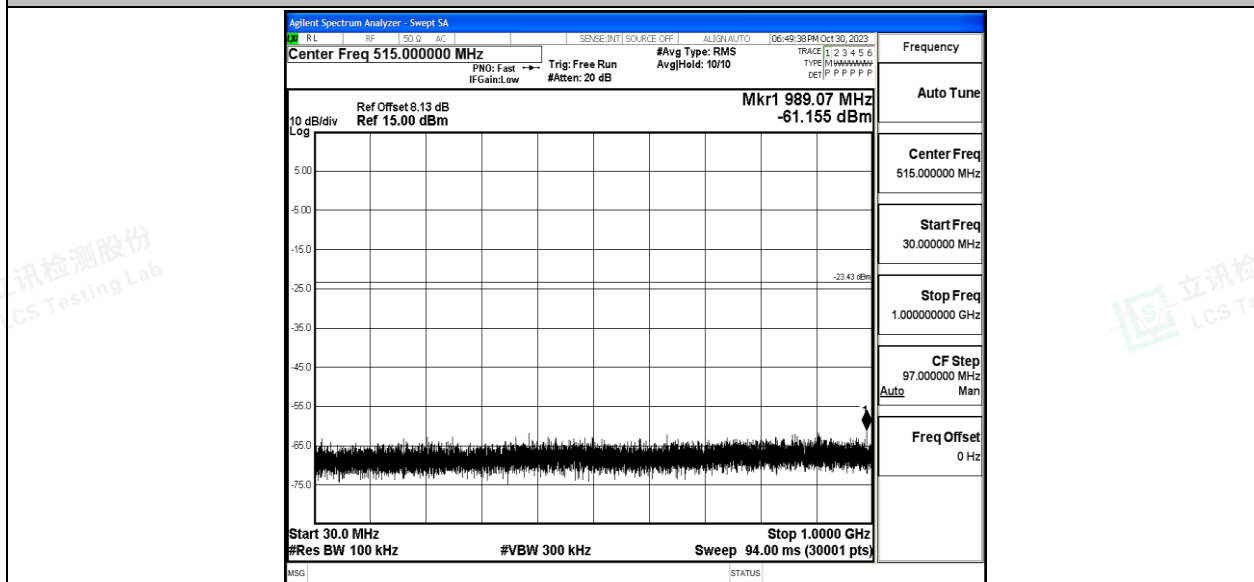


BLE\_1M\_Ant\_2480\_0~Reference



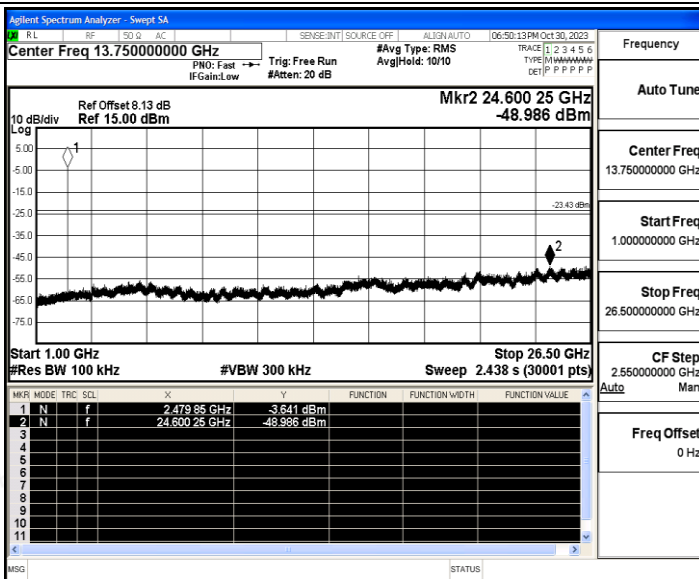


BLE\_1M\_Ant\_2480\_30~1000

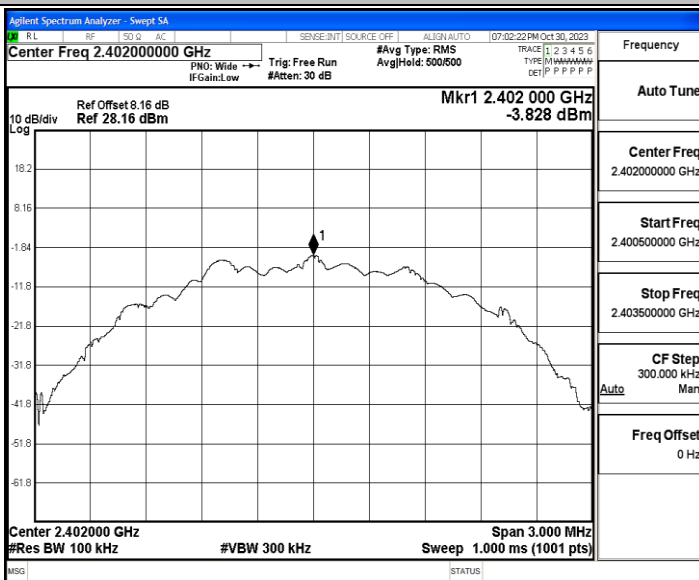


BLE\_1M\_Ant\_2480\_1000~26500



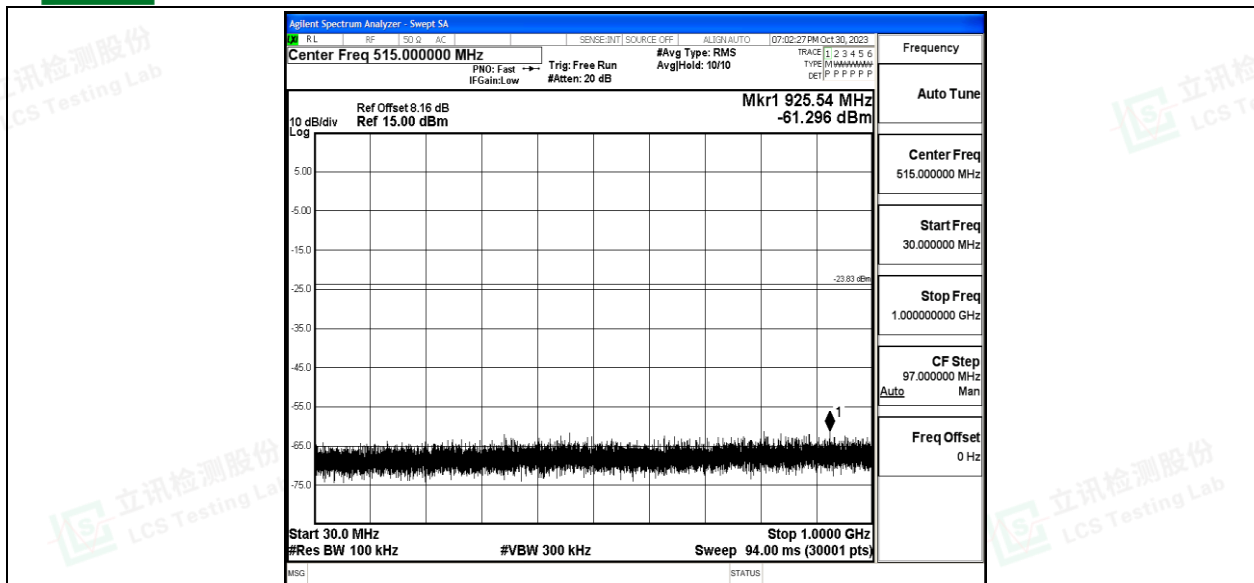


BLE\_2M\_Ant\_2402\_0~Reference

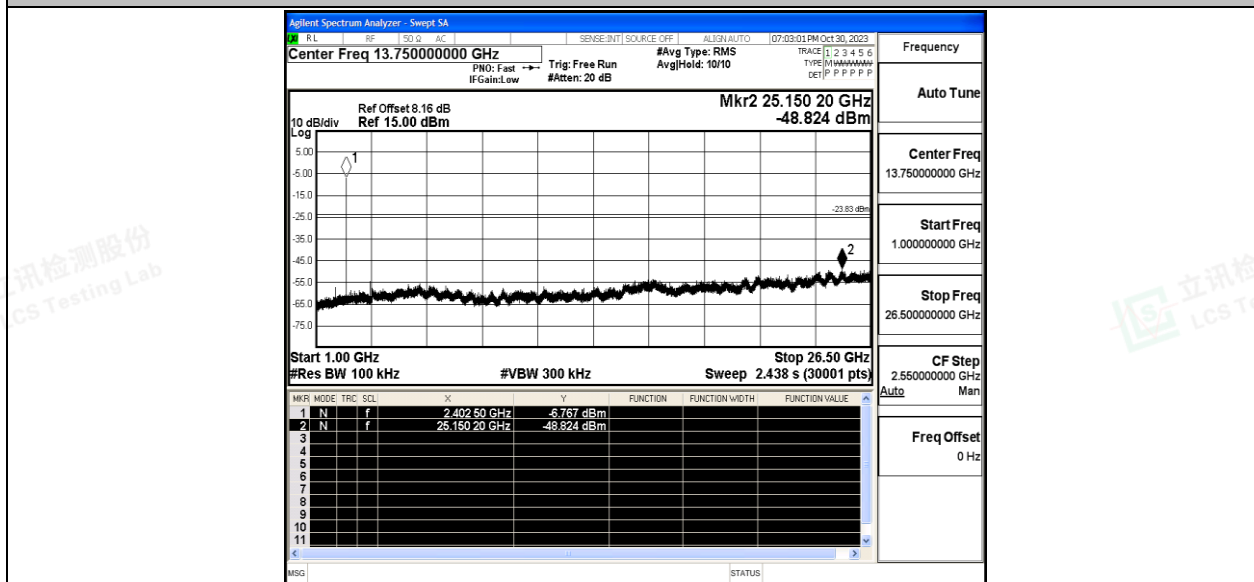


BLE\_2M\_Ant\_2402\_30~1000



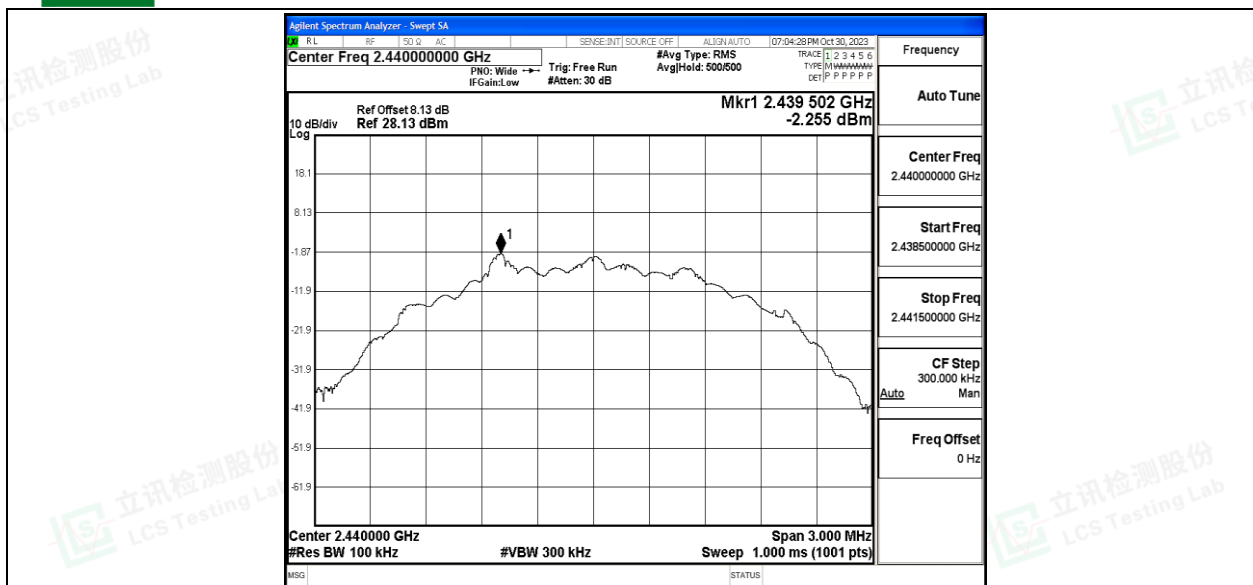


BLE\_2M\_Ant\_2402\_1000-26500

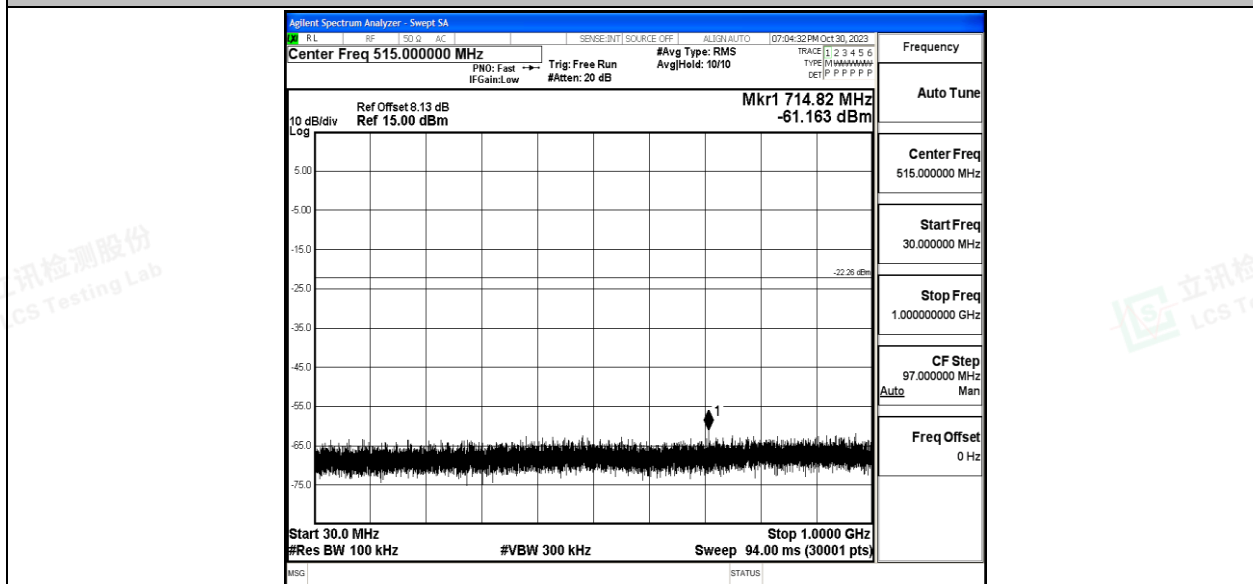


BLE\_2M\_Ant\_2440\_0-Reference





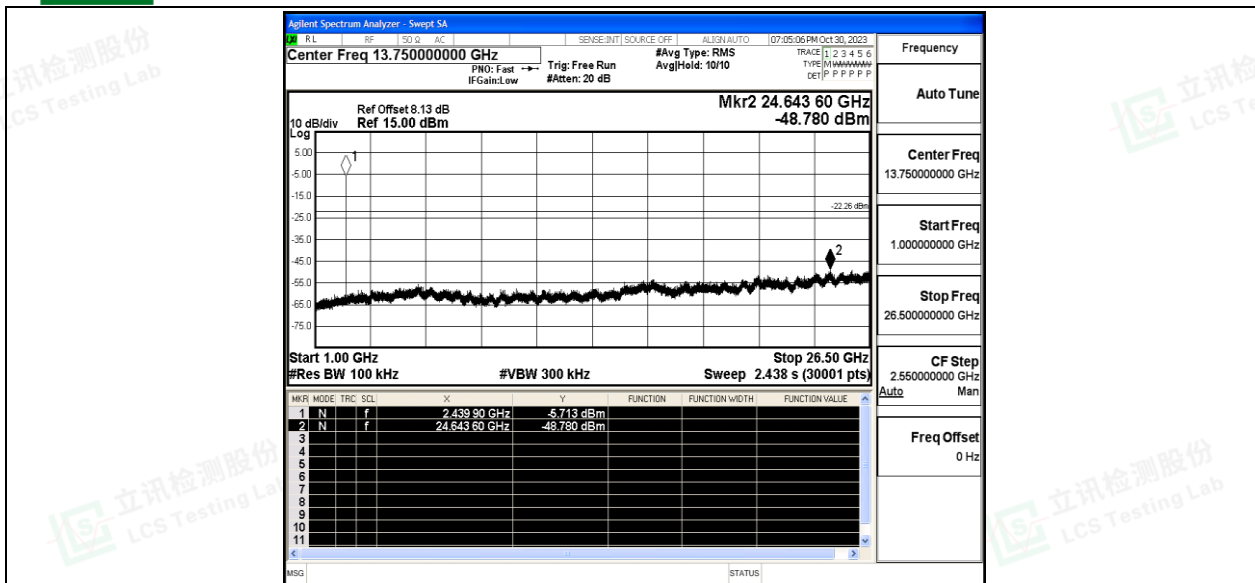
BLE\_2M\_Ant\_2440\_30~1000



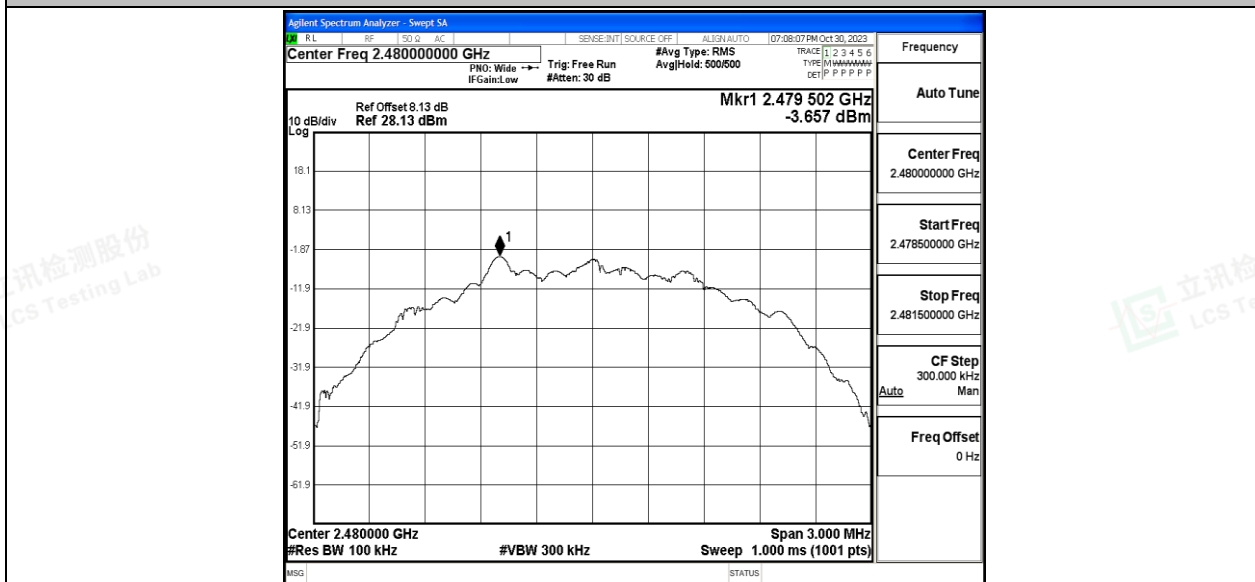
BLE\_2M\_Ant\_2440\_1000~26500





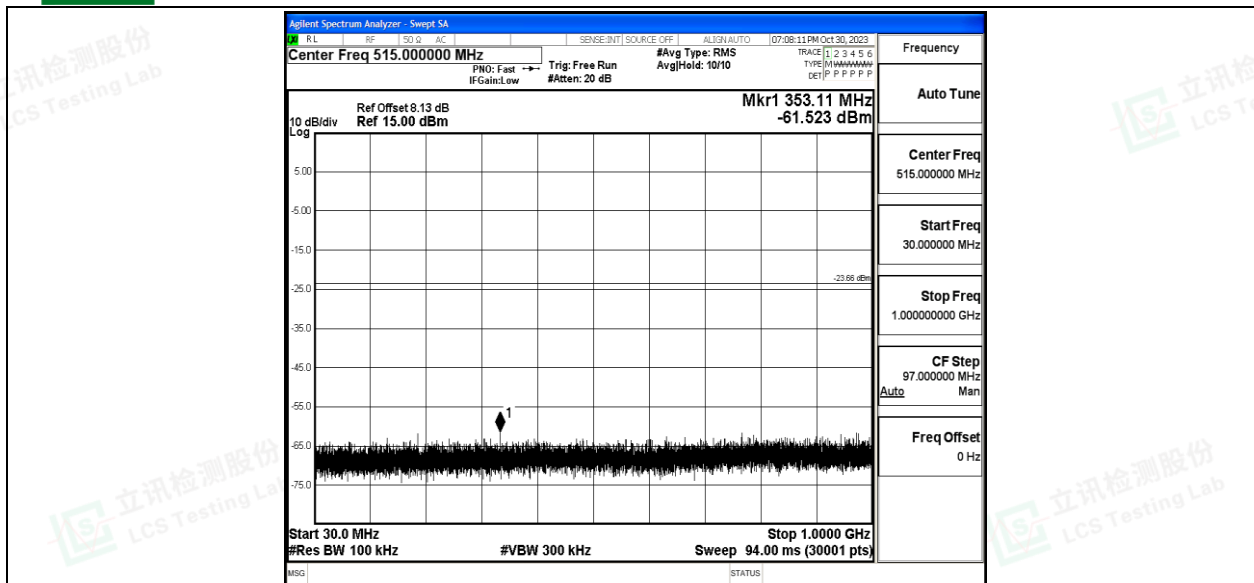


BLE\_2M\_Ant\_2480\_0~Reference

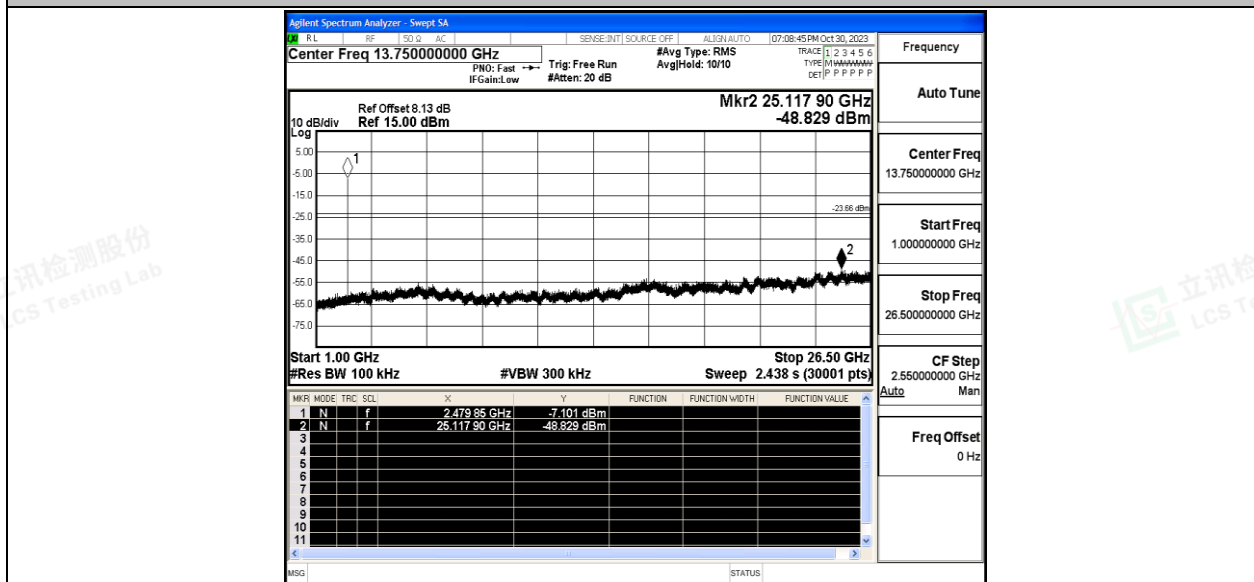


BLE\_2M\_Ant\_2480\_30~100





BLE\_2M\_Ant\_2480\_1000~26500





## B.6 Duty Cycle

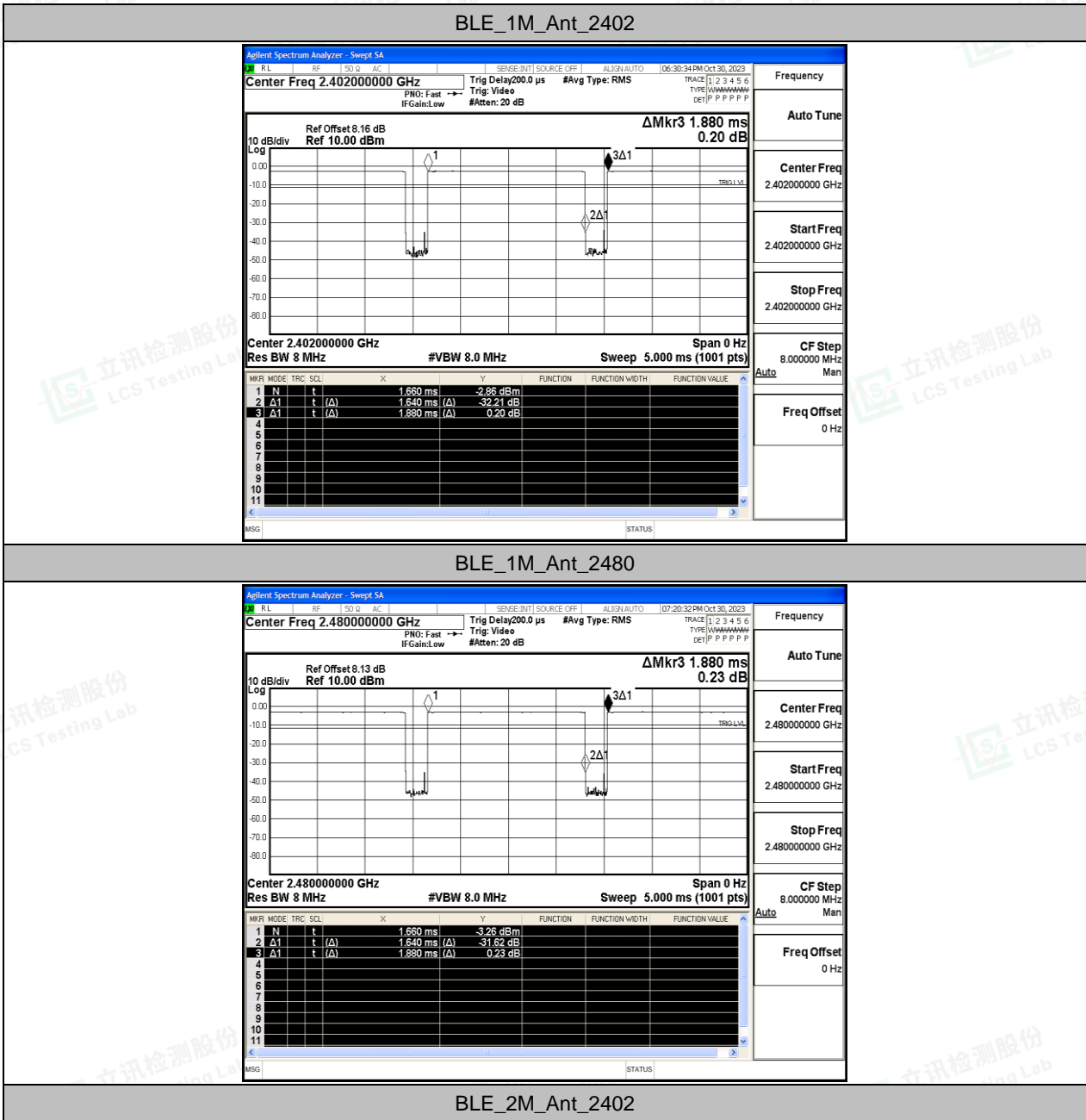
### Test Result

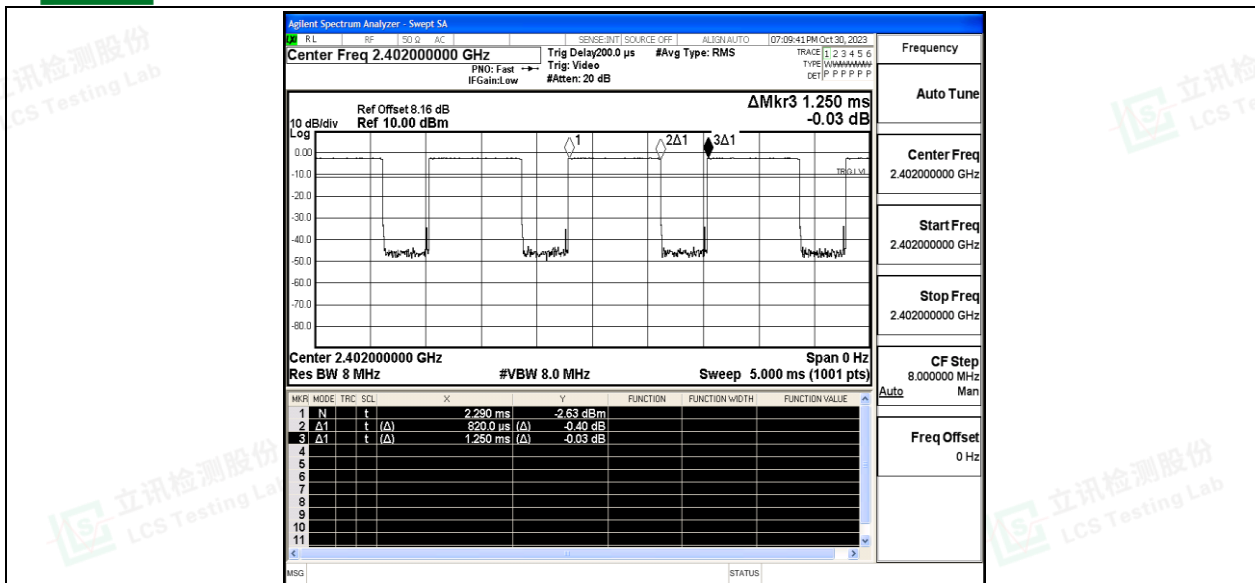
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	1/T	Limit	Verdict
BLE_1M	Ant	2402	1.64	1.88	0.8723	87.23	0.59	0.61	---	---
		2480	1.64	1.88	0.8723	87.23	0.59	0.61	---	---
BLE_2M	Ant	2402	0.82	1.25	0.6560	65.60	1.83	1.22	---	---
		2480	0.82	1.25	0.6560	65.60	1.83	1.22	---	---



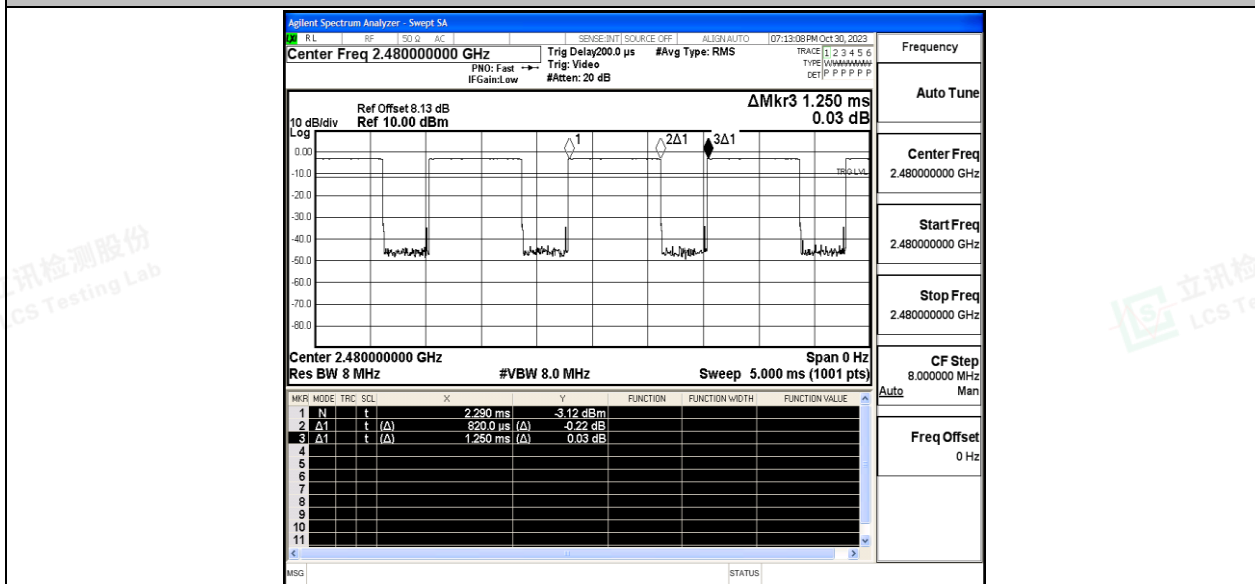


### Test Graphs





BLE\_2M\_Ant\_2480





## B.7 Emissions in Restricted Bands

### Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant	Low	2402	AV	2310.000	-48.97	≤-41.20	46.23	≤54	PASS
				AV	2383.265	-48.48	≤-41.20	46.72	≤54	PASS
				AV	2390.000	-48.72	≤-41.20	46.48	≤54	PASS
				Peak	2310.000	-42.28	≤-21.20	52.92	≤74	PASS
				Peak	2344.835	-39.25	≤-21.20	55.95	≤74	PASS
				Peak	2390.000	-41.3	≤-21.20	53.90	≤74	PASS
		High	2480	AV	2483.500	-48.62	≤-41.20	46.58	≤54	PASS
				AV	2483.520	-49.21	≤-41.20	45.99	≤54	PASS
				AV	2500.000	-47.52	≤-41.20	47.68	≤54	PASS
				Peak	2483.500	-38.98	≤-21.20	56.22	≤74	PASS
				Peak	2483.520	-38.98	≤-21.20	56.22	≤74	PASS
				Peak	2500.000	-43.63	≤-21.20	51.57	≤74	PASS
BLE_2M	Ant	Low	2402	AV	2310.000	-48.81	≤-41.20	46.39	≤54	PASS
				AV	2380.220	-47.98	≤-41.20	47.22	≤54	PASS
				AV	2390.000	-48.38	≤-41.20	46.82	≤54	PASS
				Peak	2310.000	-41.65	≤-21.20	53.55	≤74	PASS
				Peak	2366.570	-38.16	≤-21.20	57.04	≤74	PASS
				Peak	2390.000	-42.34	≤-21.20	52.86	≤74	PASS
		High	2480	AV	2483.500	-48.42	≤-41.20	46.78	≤54	PASS
				AV	2483.520	-48.42	≤-41.20	46.78	≤54	PASS
				AV	2500.000	-48.99	≤-41.20	46.21	≤54	PASS
				Peak	2483.500	-42.94	≤-21.20	52.26	≤74	PASS
				Peak	2485.760	-39.78	≤-21.20	55.42	≤74	PASS
				Peak	2500.000	-42.59	≤-21.20	52.61	≤74	PASS

Note:

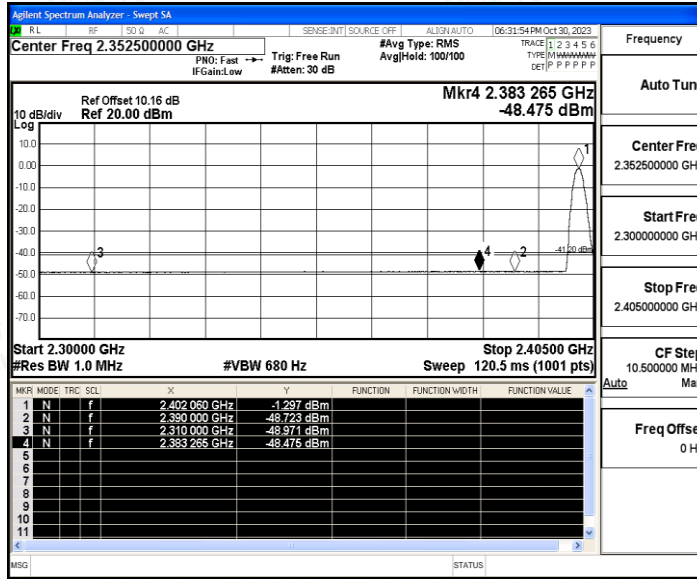
- The Antenna Gain is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



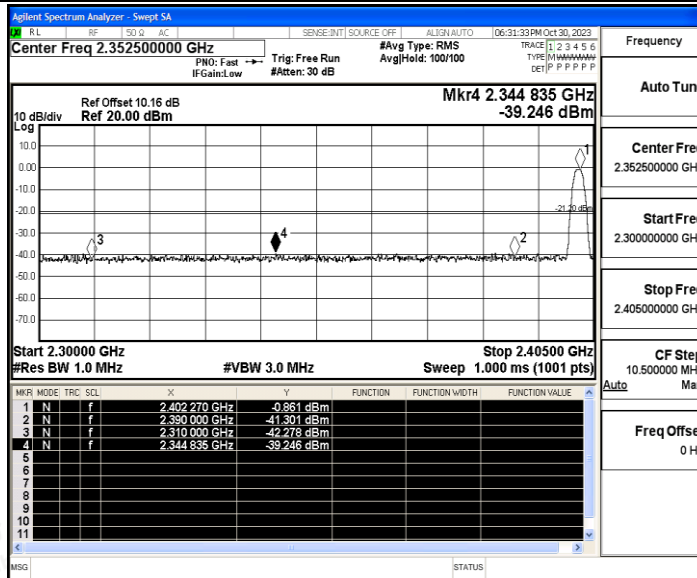


### Test Graphs

#### BLE\_1M\_Ant\_Low\_2402\_AV

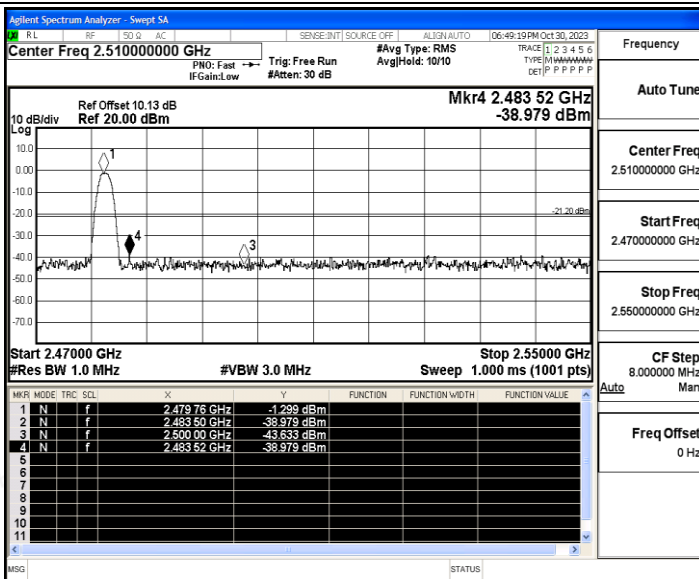


#### BLE\_1M\_Ant\_Low\_2402\_Peak

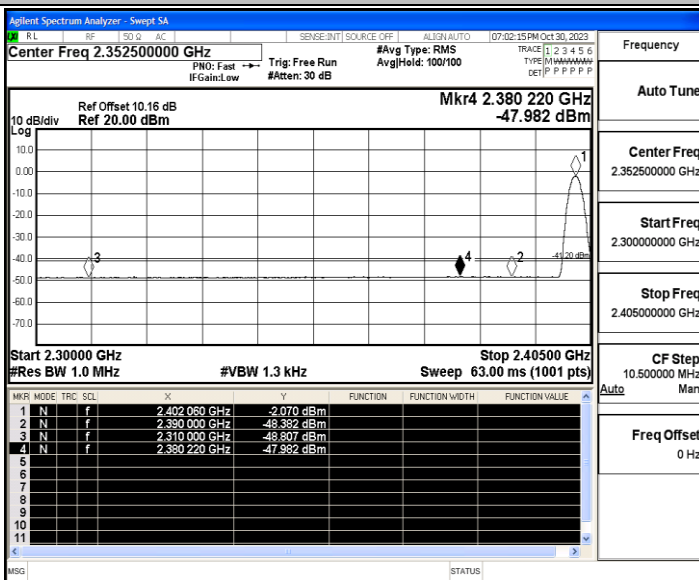


#### BLE\_1M\_Ant\_High\_2480\_Peak





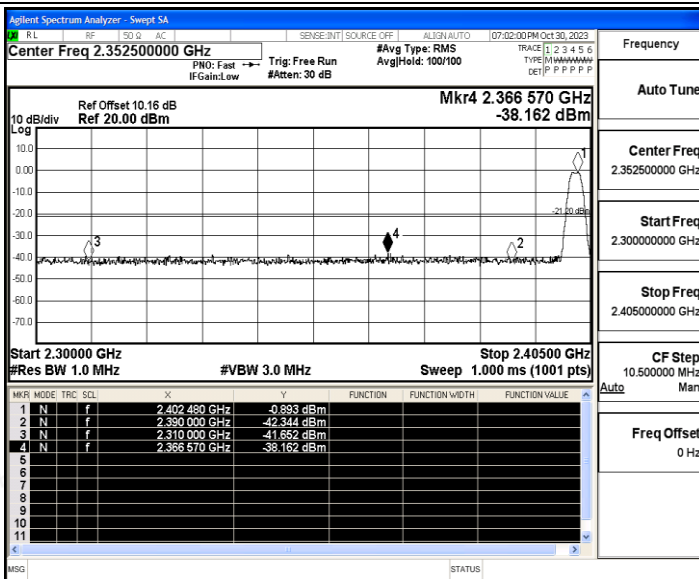
BLE\_2M\_Ant\_Low\_2402\_AV



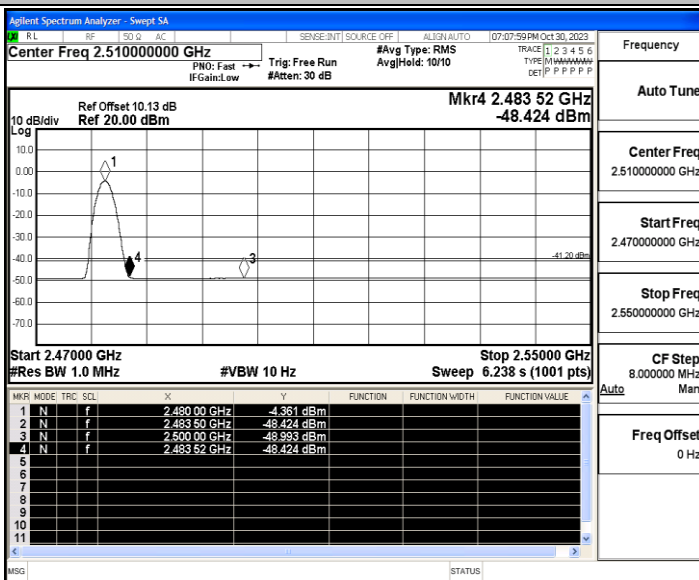
BLE\_2M\_Ant\_Low\_2402\_Peak







BLE\_2M\_Ant\_High\_2480\_AV



BLE\_2M\_Ant\_High\_2480\_Peak



