



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Bluetooth Speaker

Test Model: VIBE GO

Environmental Conditions

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





B.1 DTS Bandwidth

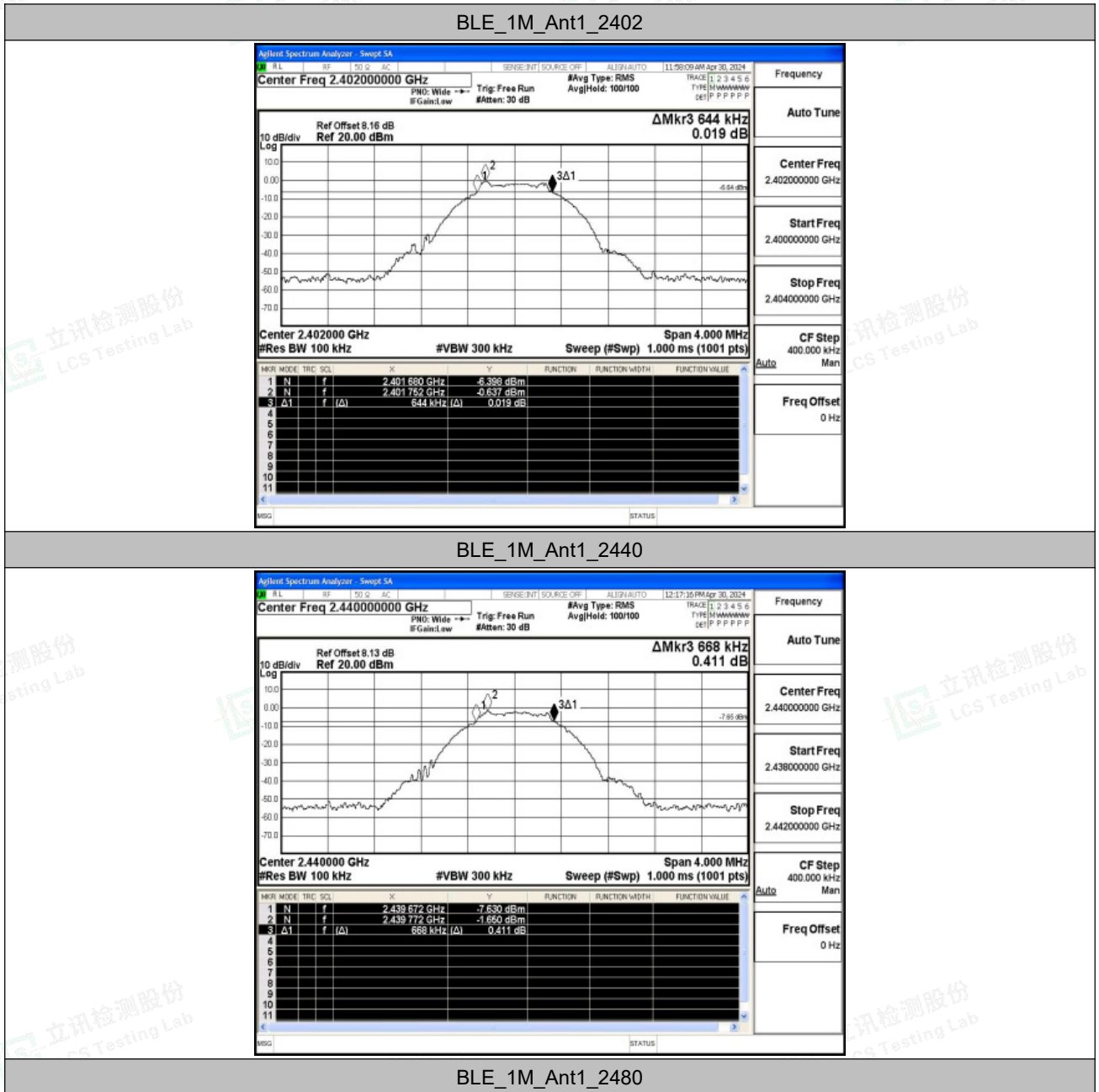
Test Result

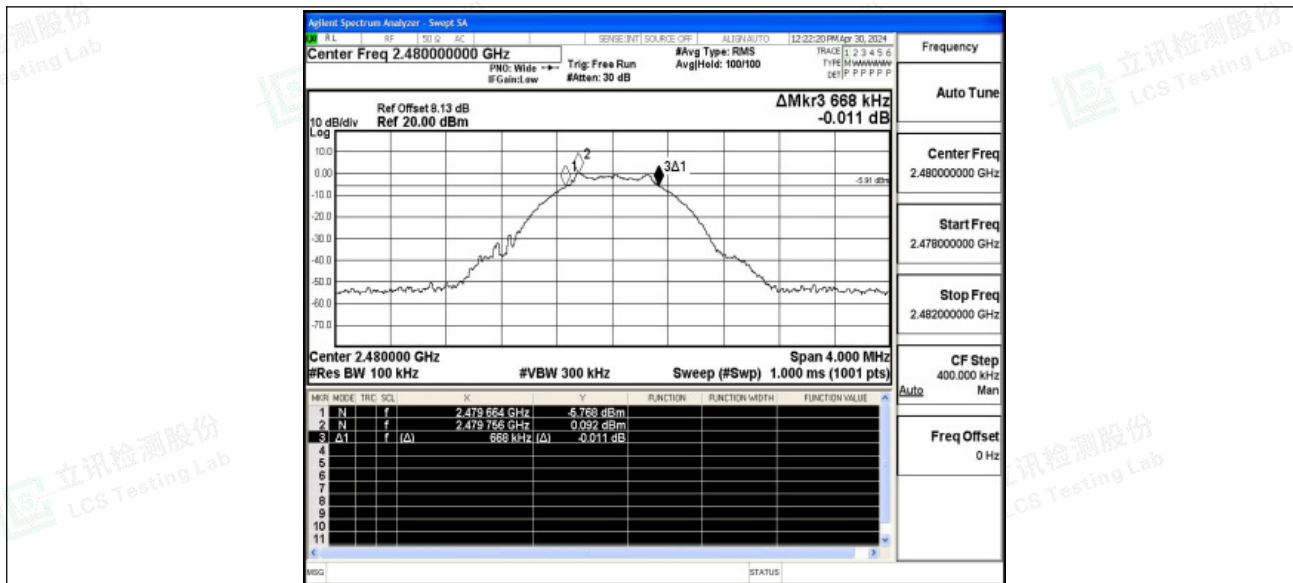
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.644	2401.680	2402.324	0.5	PASS
		2440	0.668	2439.672	2440.340	0.5	PASS
		2480	0.668	2479.664	2480.332	0.5	PASS
BLE_2M	Ant1	2402	1.136	2401.452	2402.588	0.5	PASS
		2440	1.136	2439.432	2440.568	0.5	PASS
		2480	1.072	2479.472	2480.544	0.5	PASS



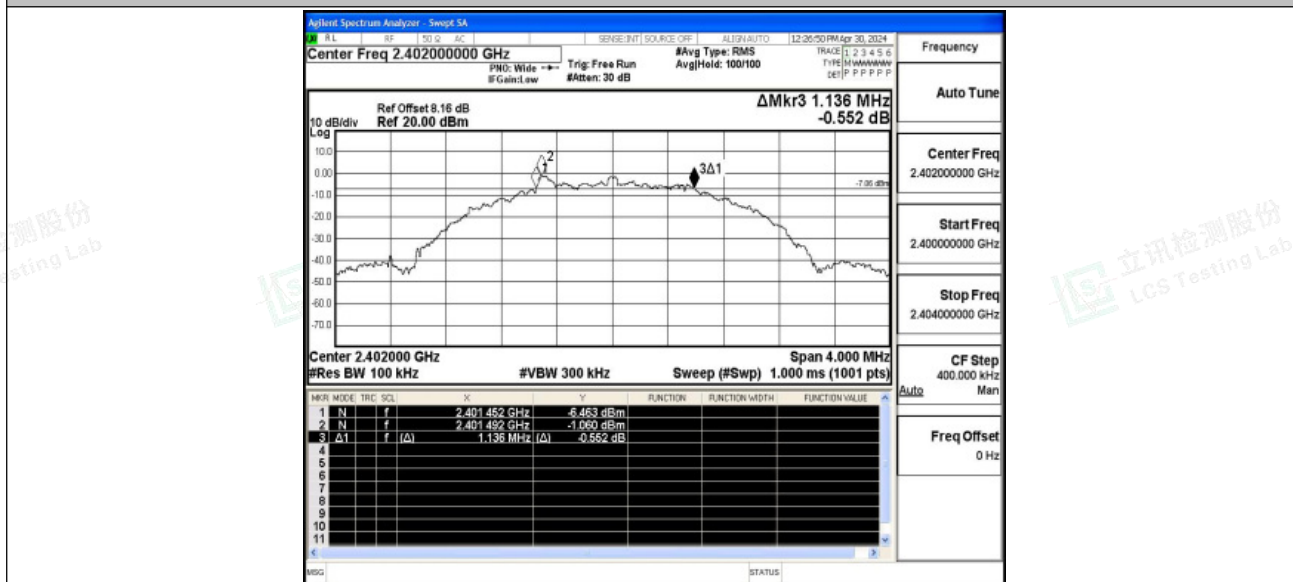


Test Graphs



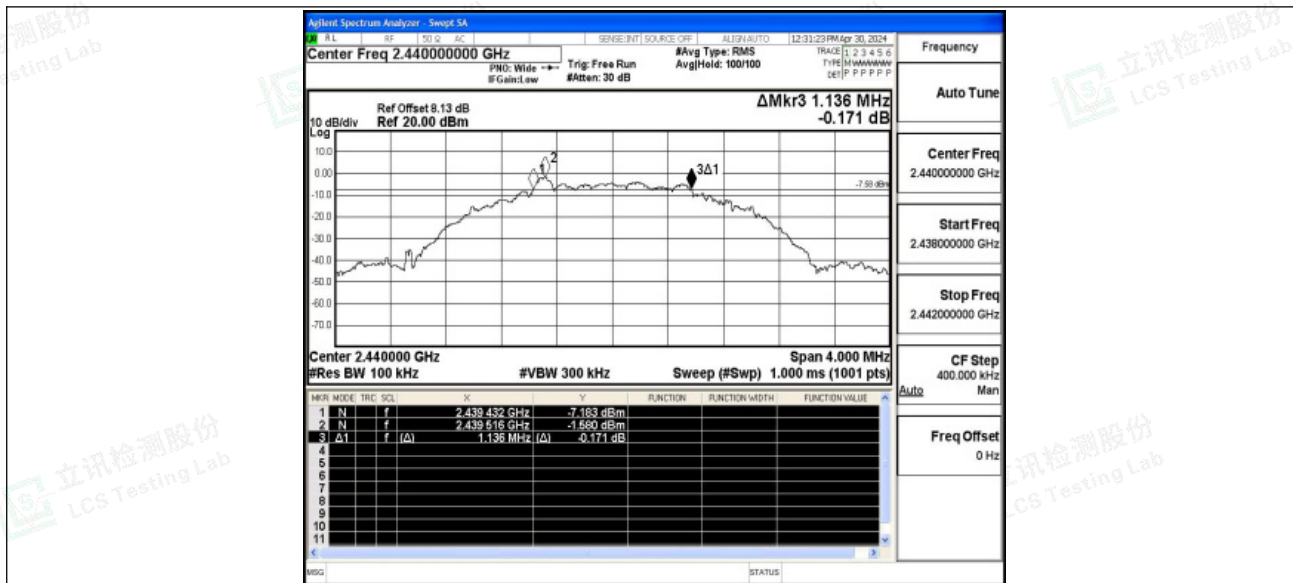


BLE_2M_Ant1_2402

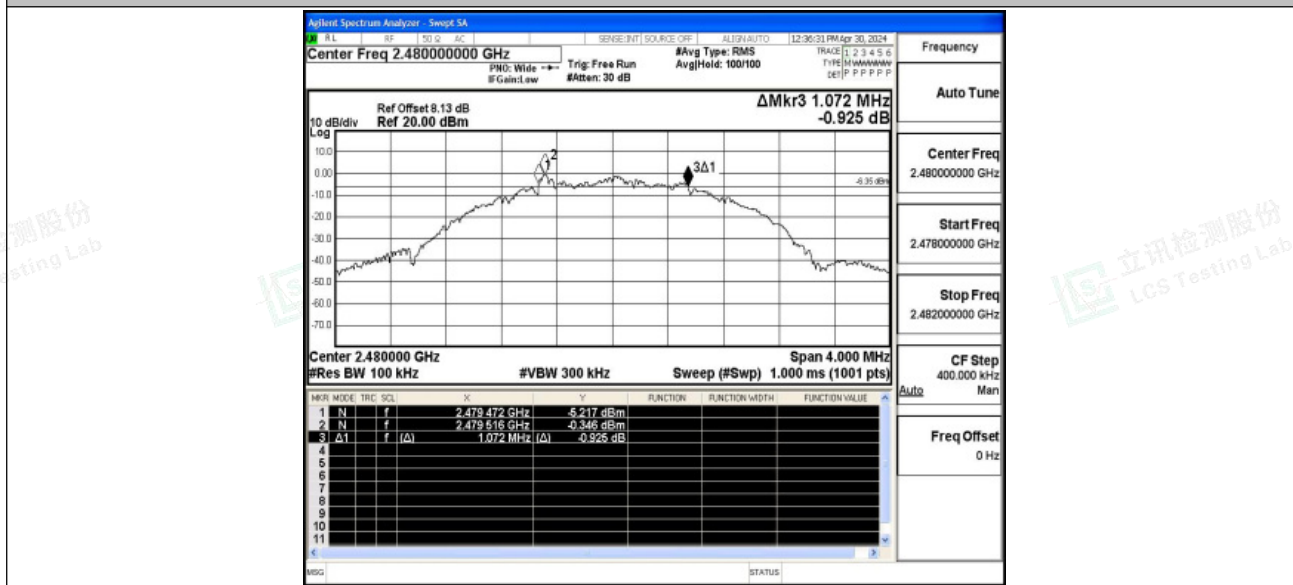


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.2 Maximum conducted output power

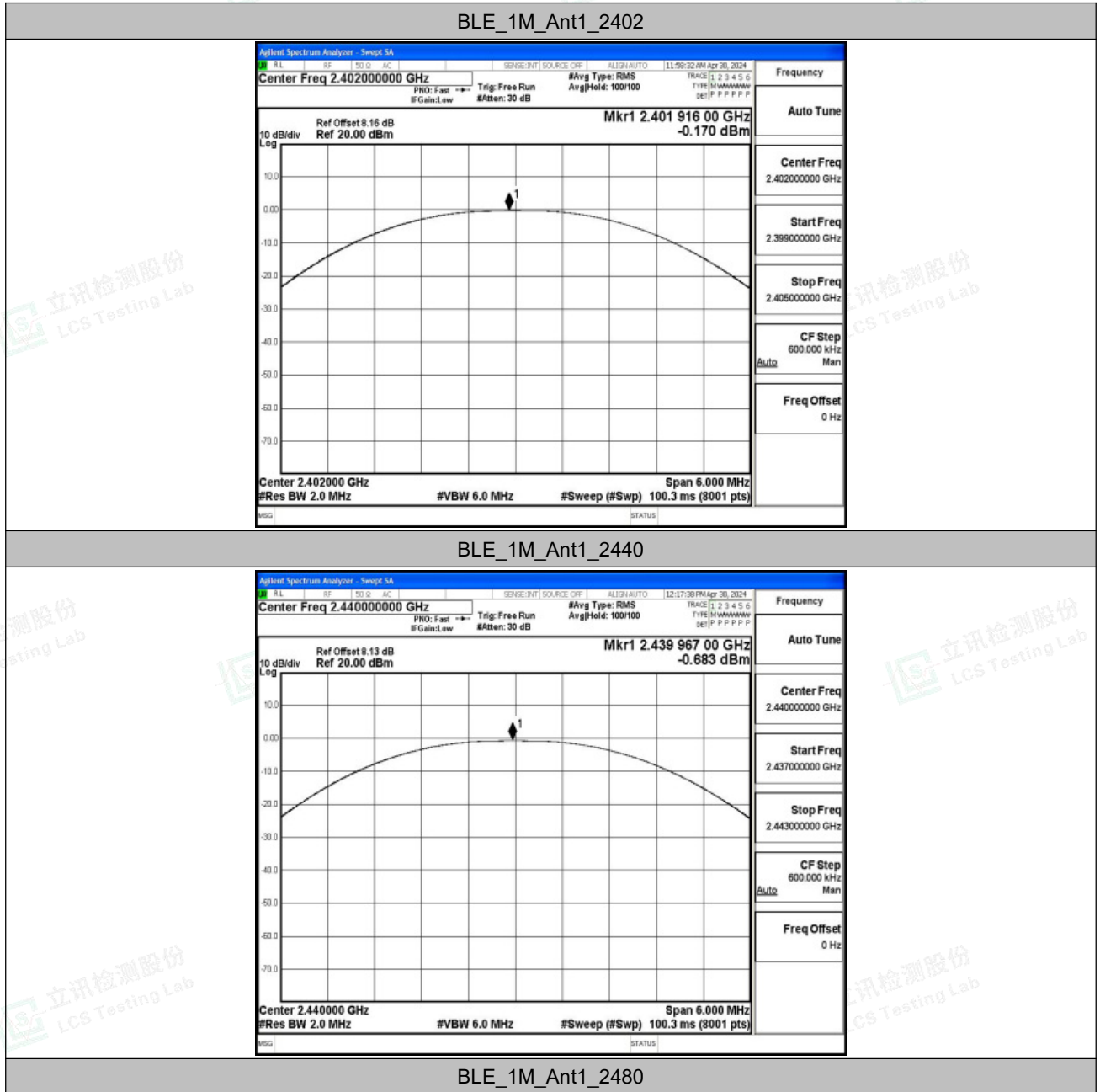
Test Result

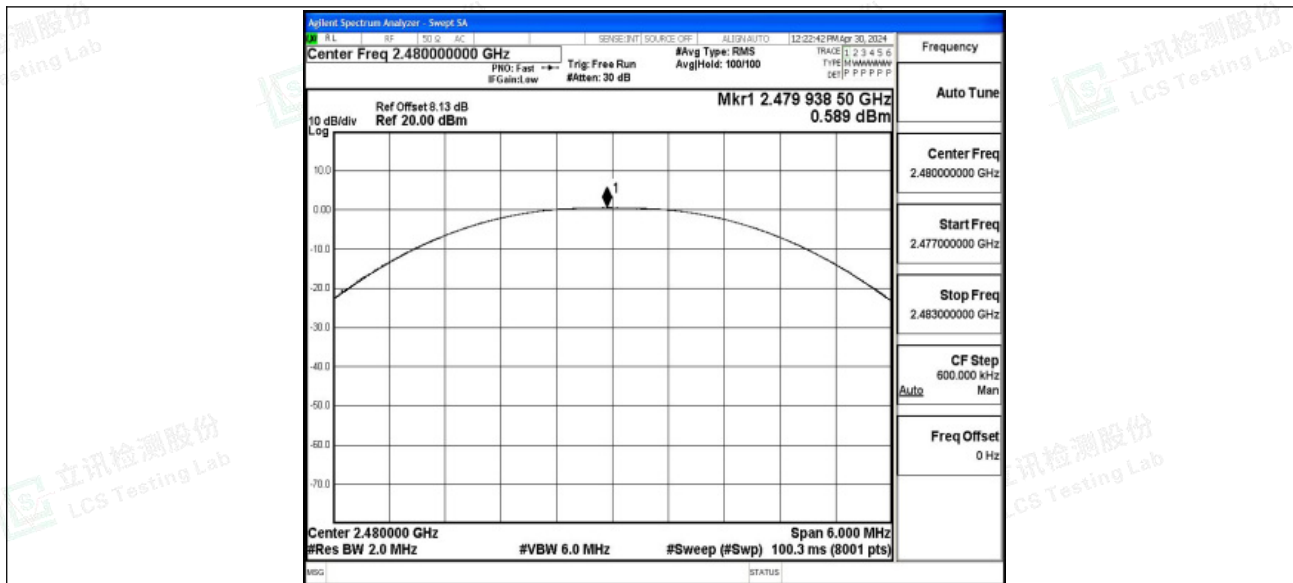
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.17	≤30	PASS
		2440	-0.68	≤30	PASS
		2480	0.59	≤30	PASS
BLE_2M	Ant1	2402	-0.25	≤30	PASS
		2440	-0.93	≤30	PASS
		2480	0.27	≤30	PASS



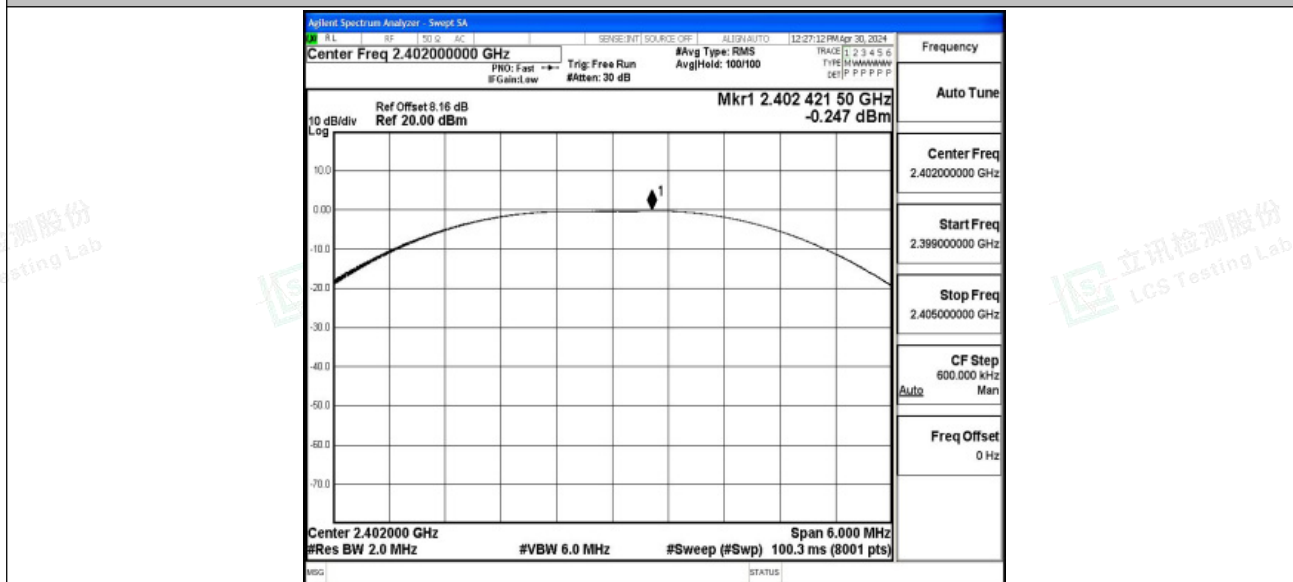


Test Graphs



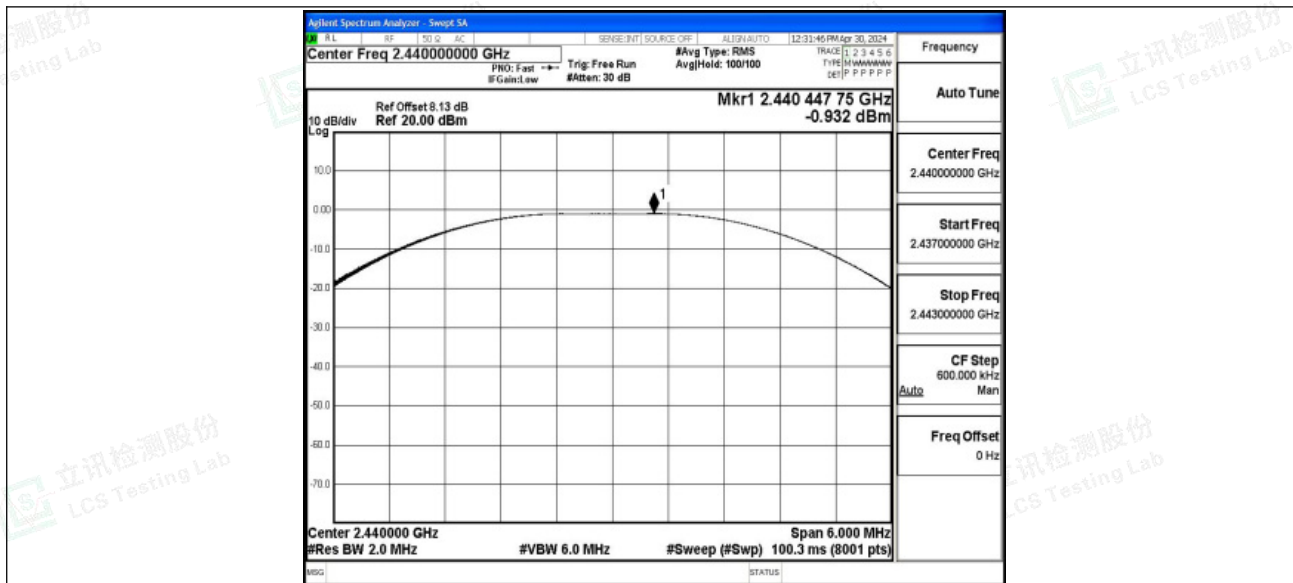


BLE_2M_Ant1_2402

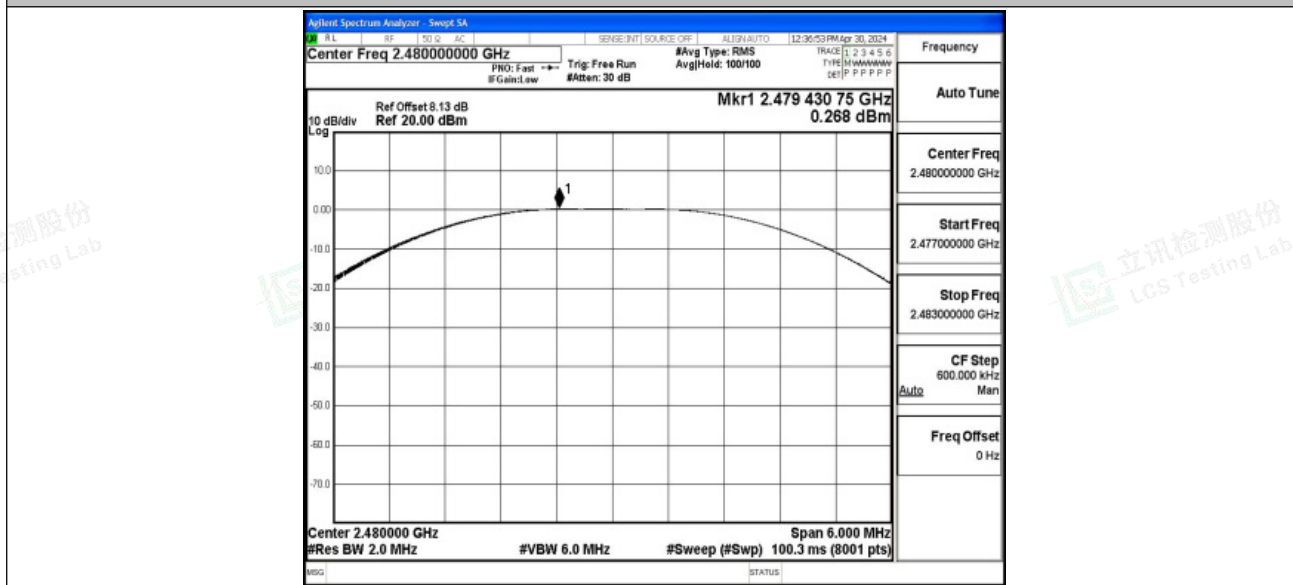


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.3 Maximum power spectral density

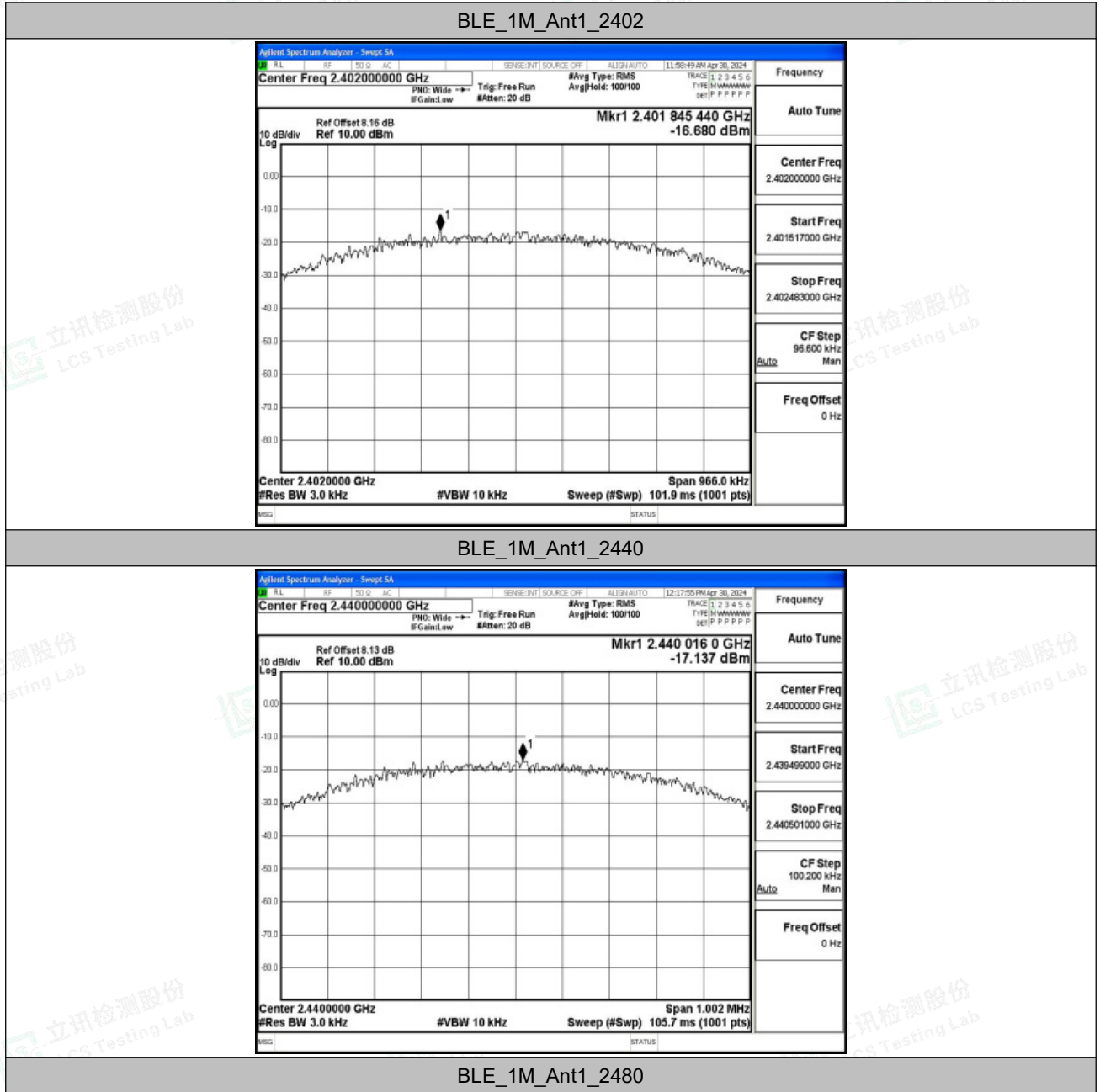
Test Result

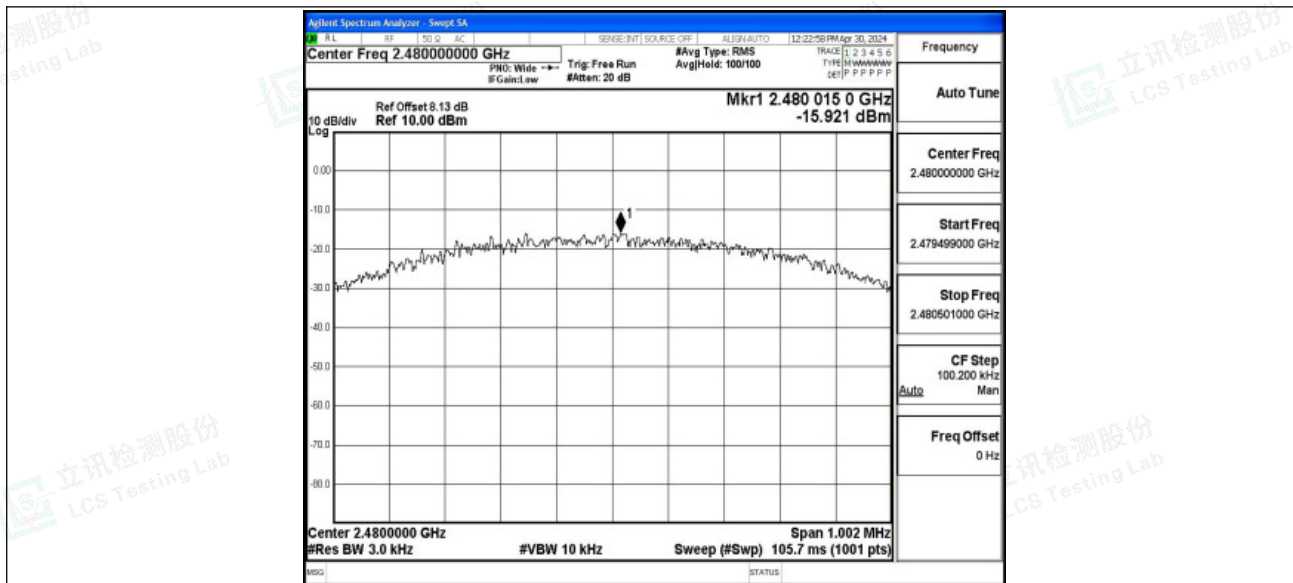
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.68	≤8.00	PASS
		2440	-17.14	≤8.00	PASS
		2480	-15.92	≤8.00	PASS
BLE_2M	Ant1	2402	-19.80	≤8.00	PASS
		2440	-20.31	≤8.00	PASS
		2480	-19.29	≤8.00	PASS



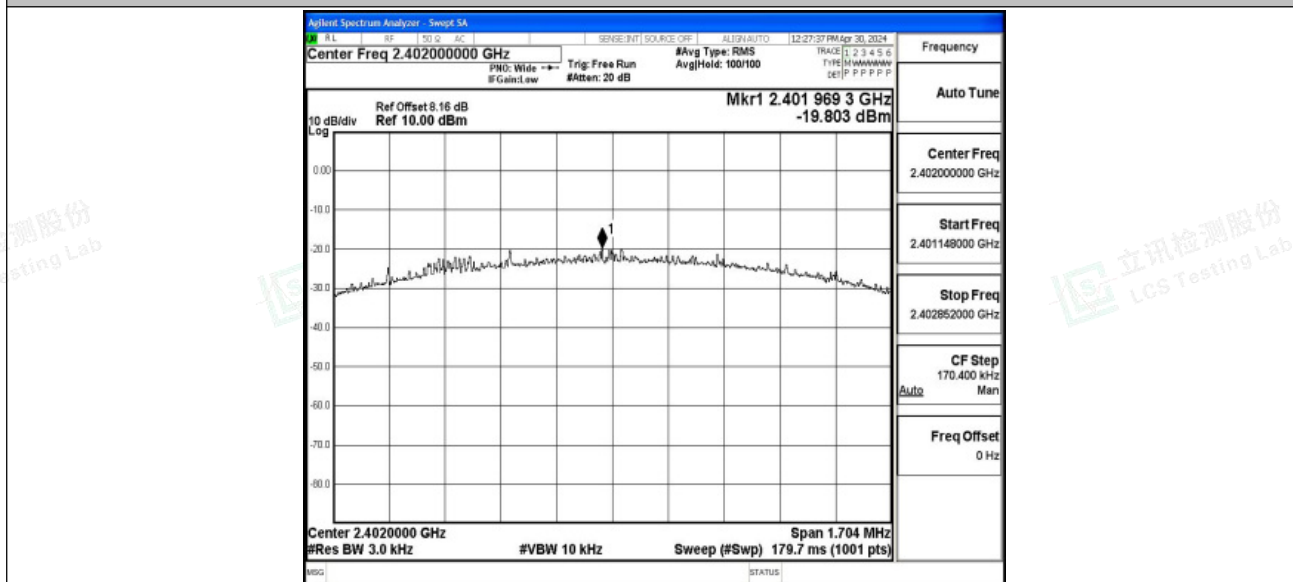


Test Graphs



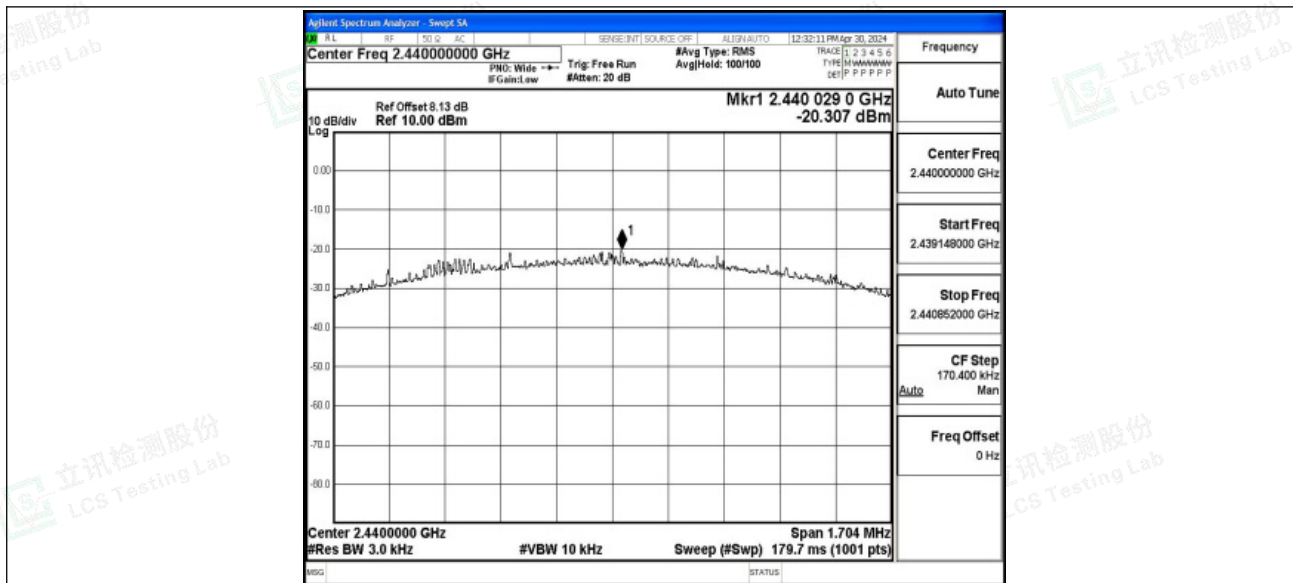


BLE_2M_Ant1_2402

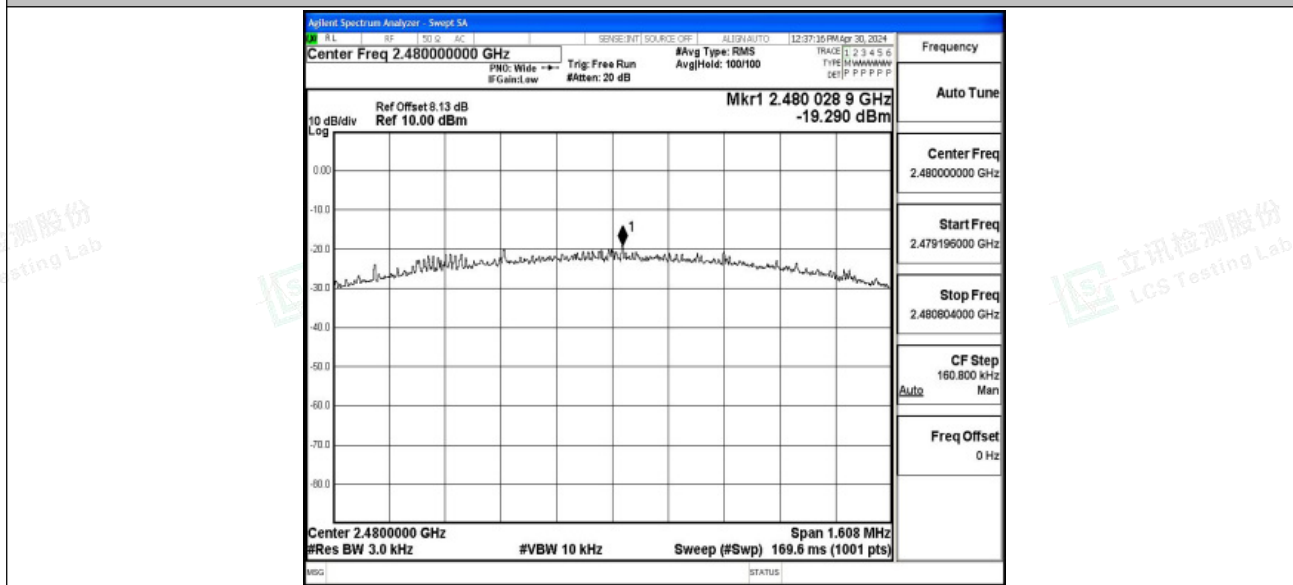


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.67	-49.94	≤-20.67	PASS
		High	2480	-0.48	-50.04	≤-20.48	PASS
BLE_2M	Ant1	Low	2402	-0.88	-45.45	≤-20.88	PASS
		High	2480	-0.26	-50.04	≤-20.26	PASS

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

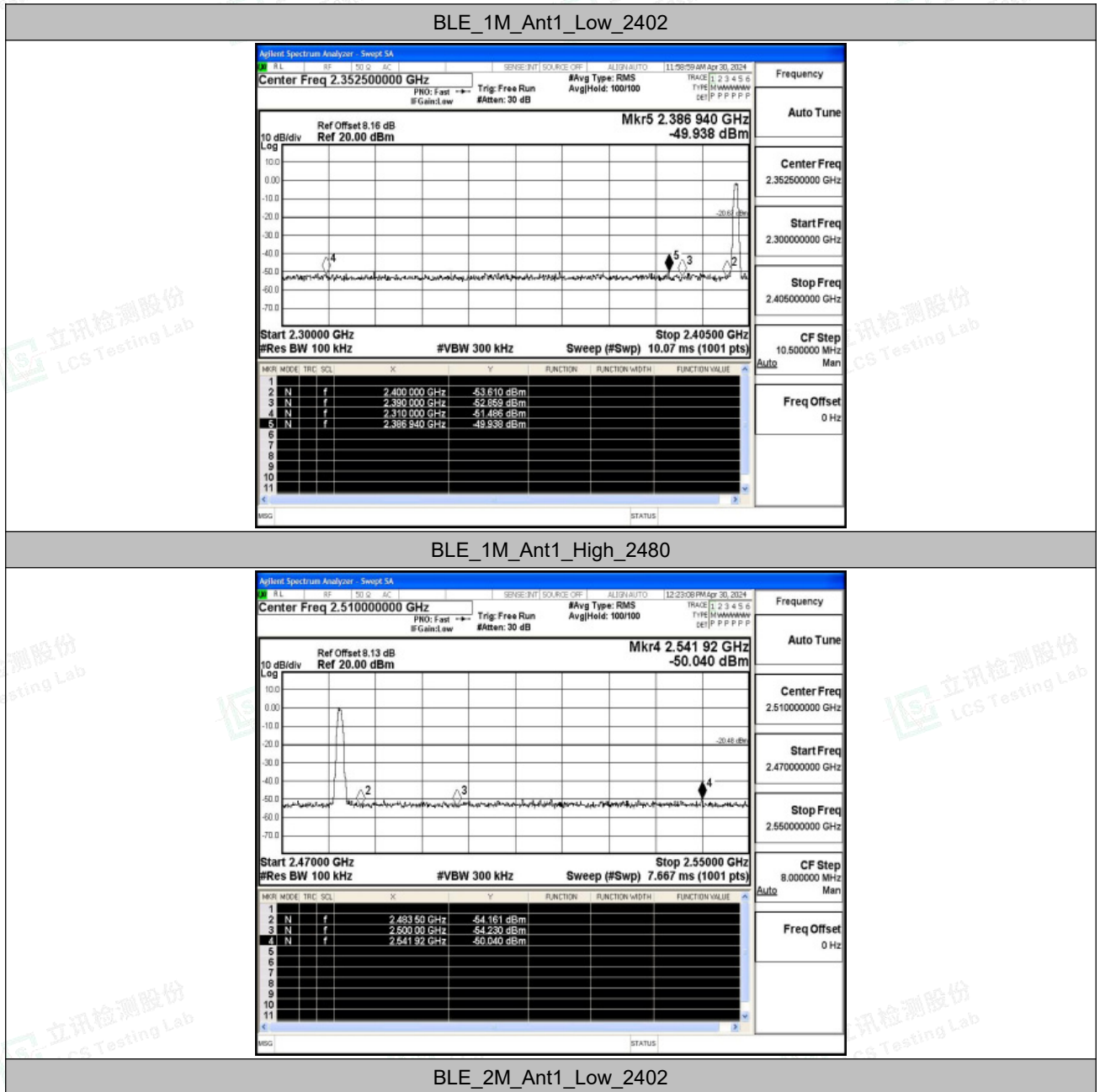
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

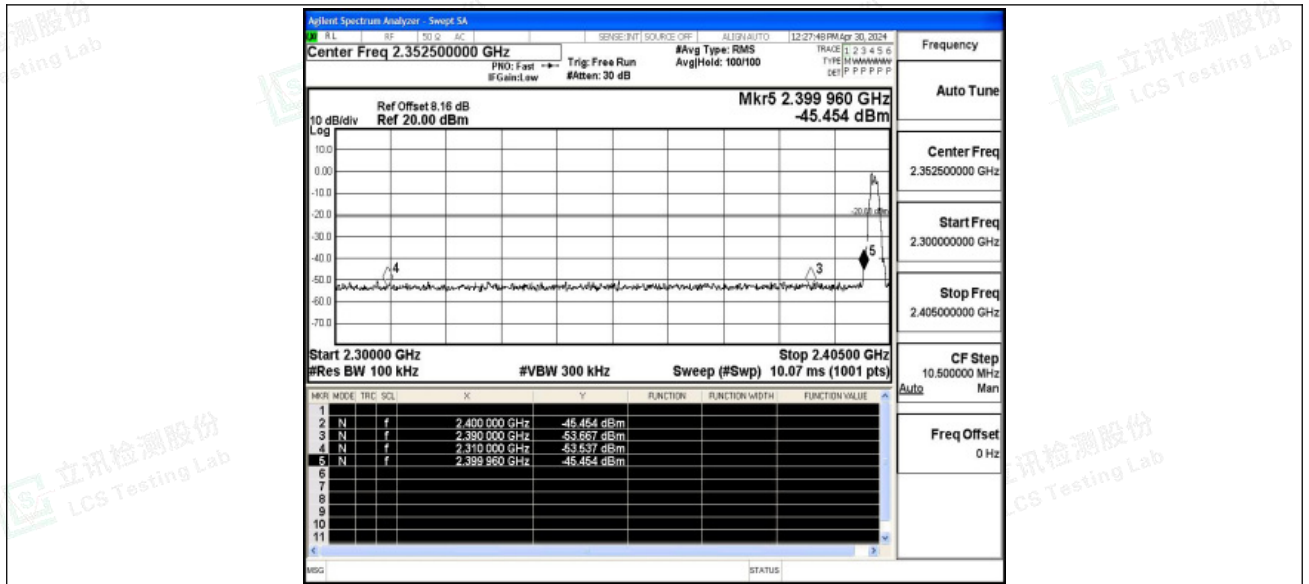
Scan code to check authenticity



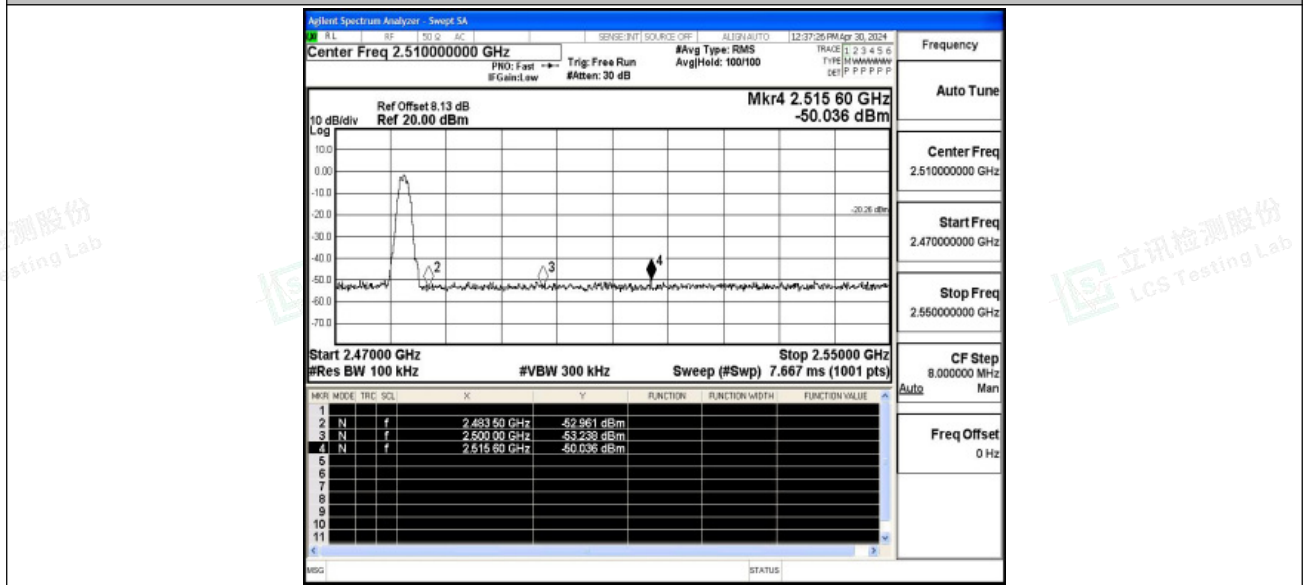


Test Graphs





BLE_2M_Ant1_High_2480





B.5 Conducted Spurious Emission

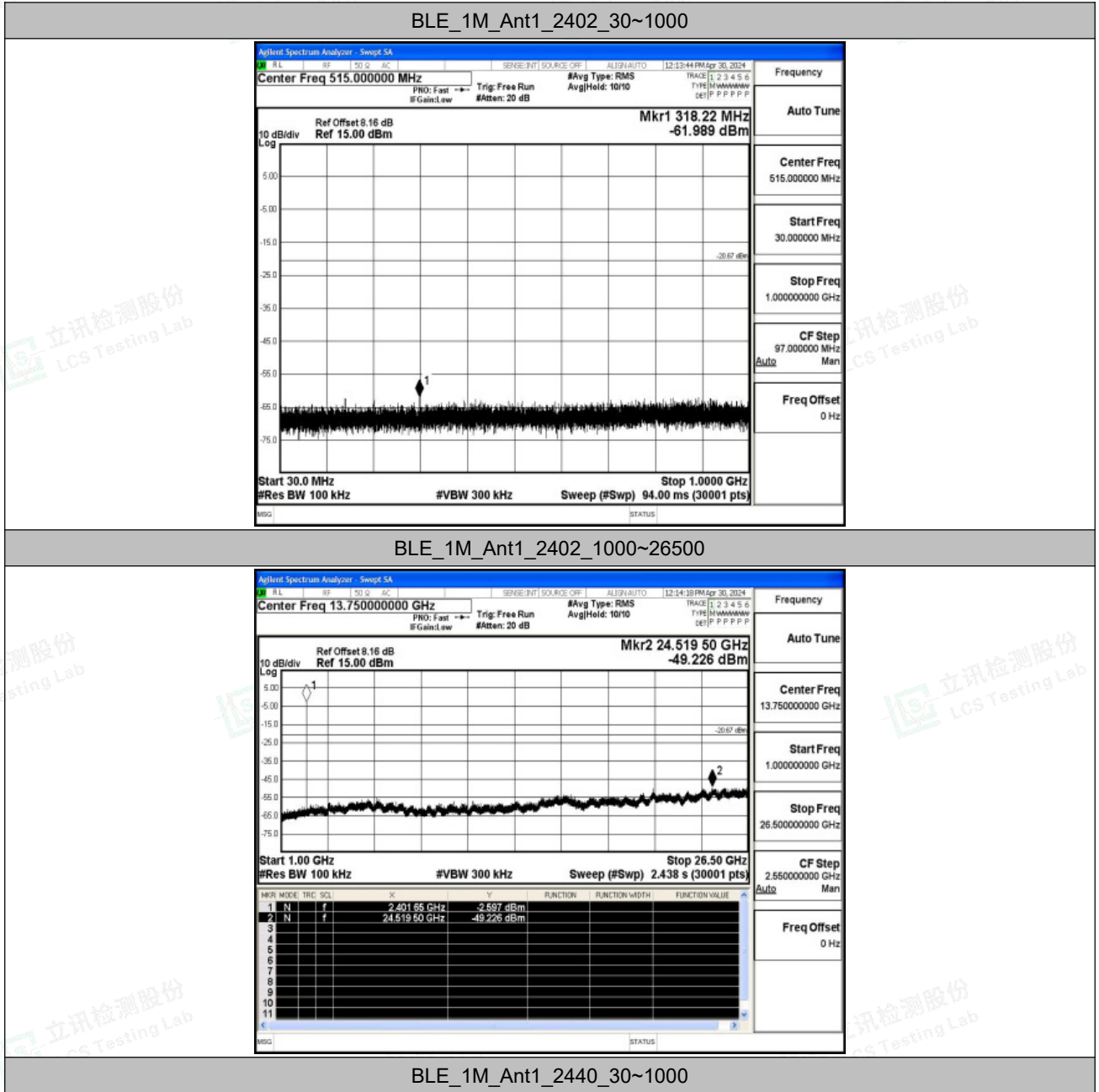
Test Result

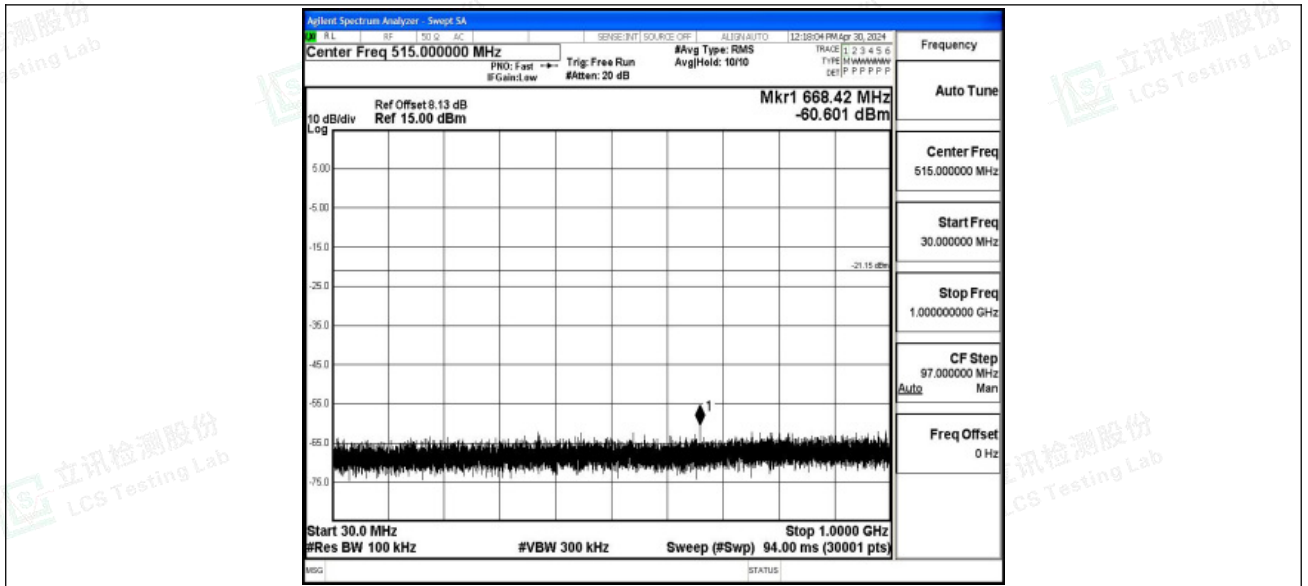
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-0.67	-61.99	≤-20.67	PASS
			1000~26500	-0.67	-49.23	≤-20.67	PASS
		2440	30~1000	-1.15	-60.6	≤-21.15	PASS
			1000~26500	-1.15	-49.33	≤-21.15	PASS
		2480	30~1000	-0.48	-60.98	≤-20.48	PASS
			1000~26500	-0.48	-49.07	≤-20.48	PASS
BLE_2M	Ant1	2402	30~1000	-0.88	-61.4	≤-20.88	PASS
			1000~26500	-0.88	-49.17	≤-20.88	PASS
		2440	30~1000	-1.46	-61.45	≤-21.46	PASS
			1000~26500	-1.46	-49.23	≤-21.46	PASS
		2480	30~1000	-0.26	-61.44	≤-20.26	PASS
			1000~26500	-0.26	-49.18	≤-20.26	PASS



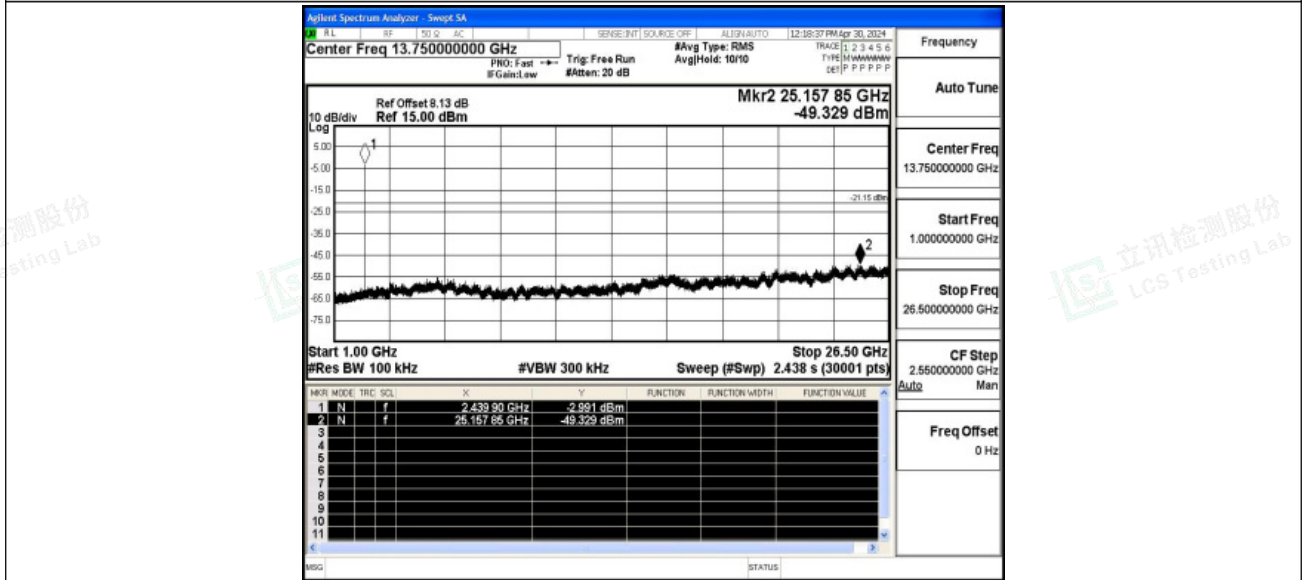


Test Graphs



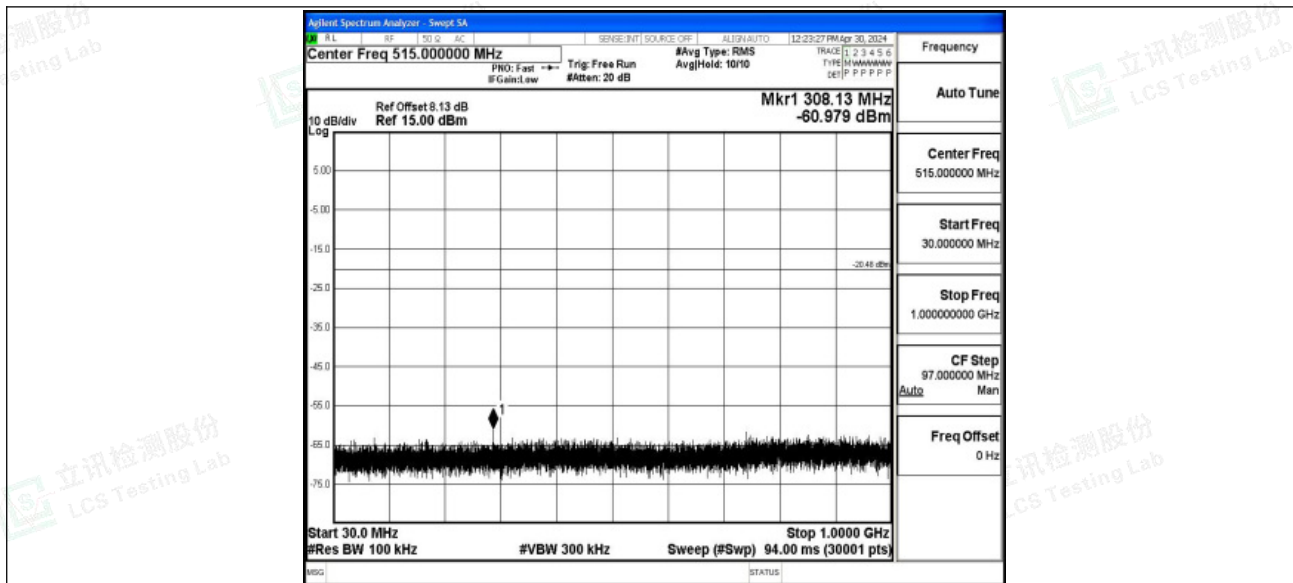


BLE_1M_Ant1_2440_1000~26500

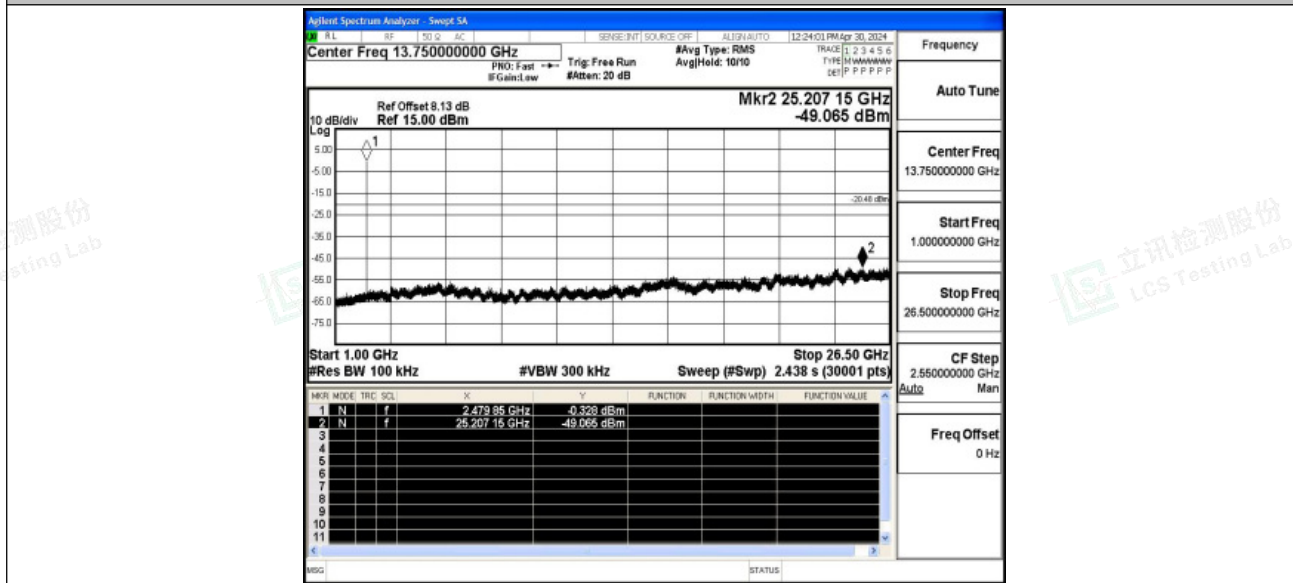


BLE_1M_Ant1_2480_30~1000



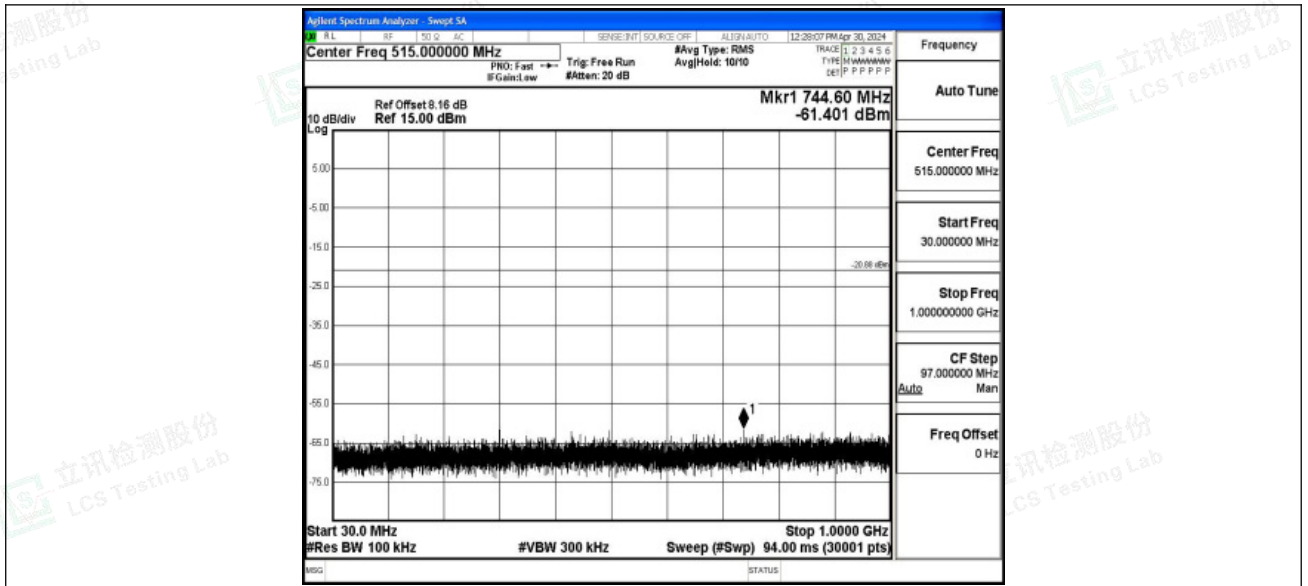


BLE_1M_Ant1_2480_1000~26500

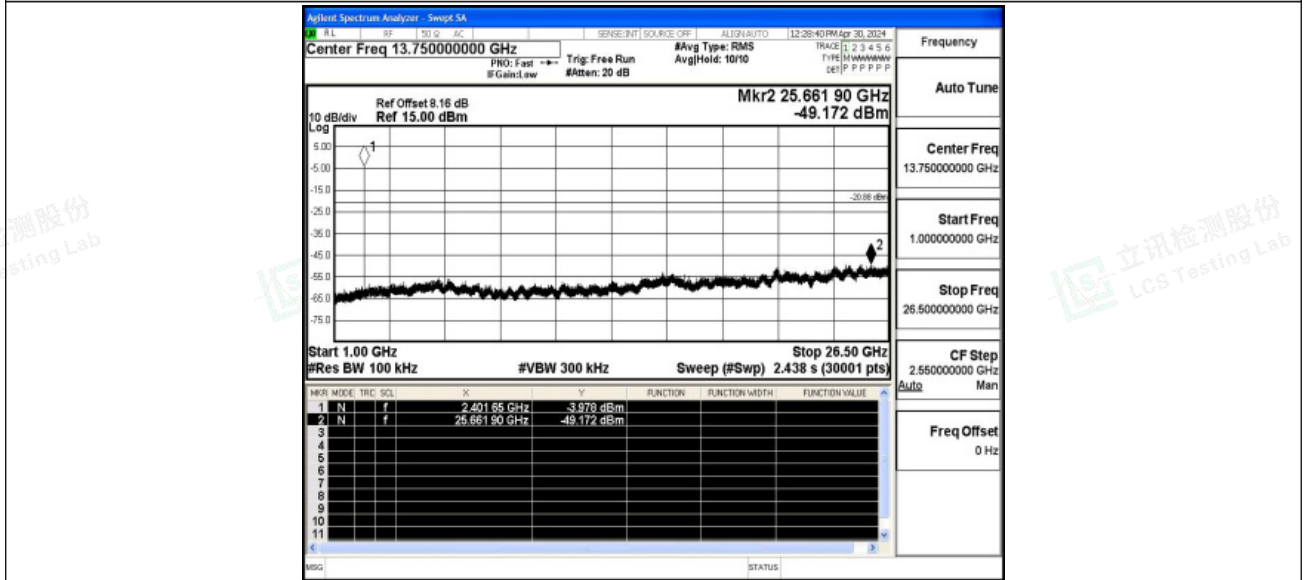


BLE_2M_Ant1_2402_30~1000



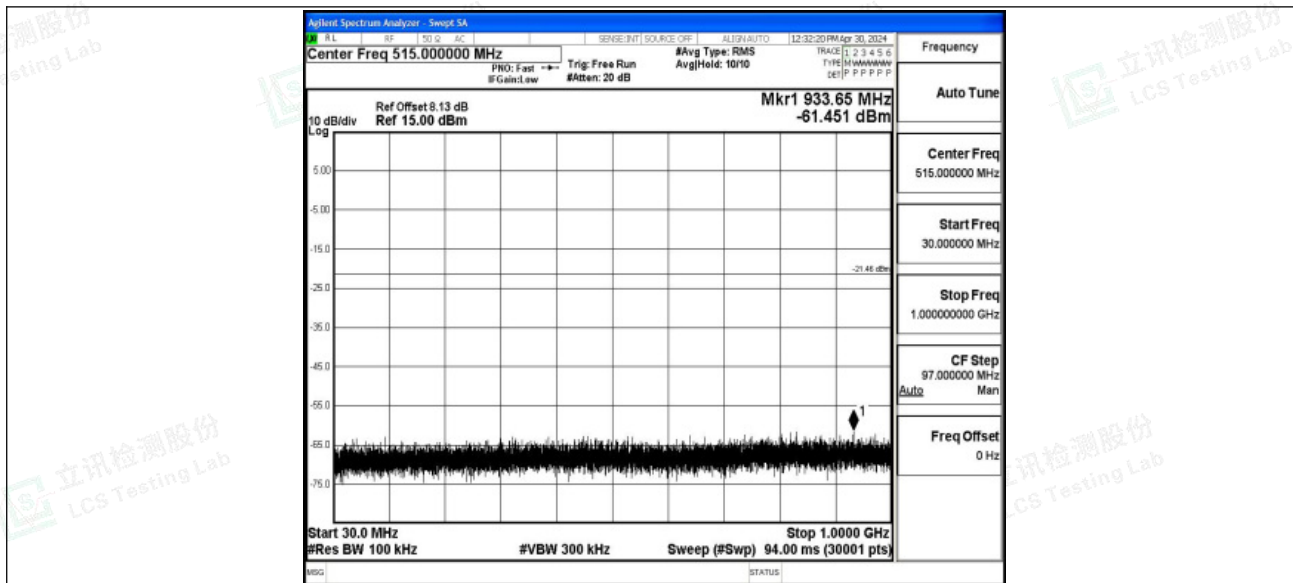


BLE_2M_Ant1_2402_1000~26500

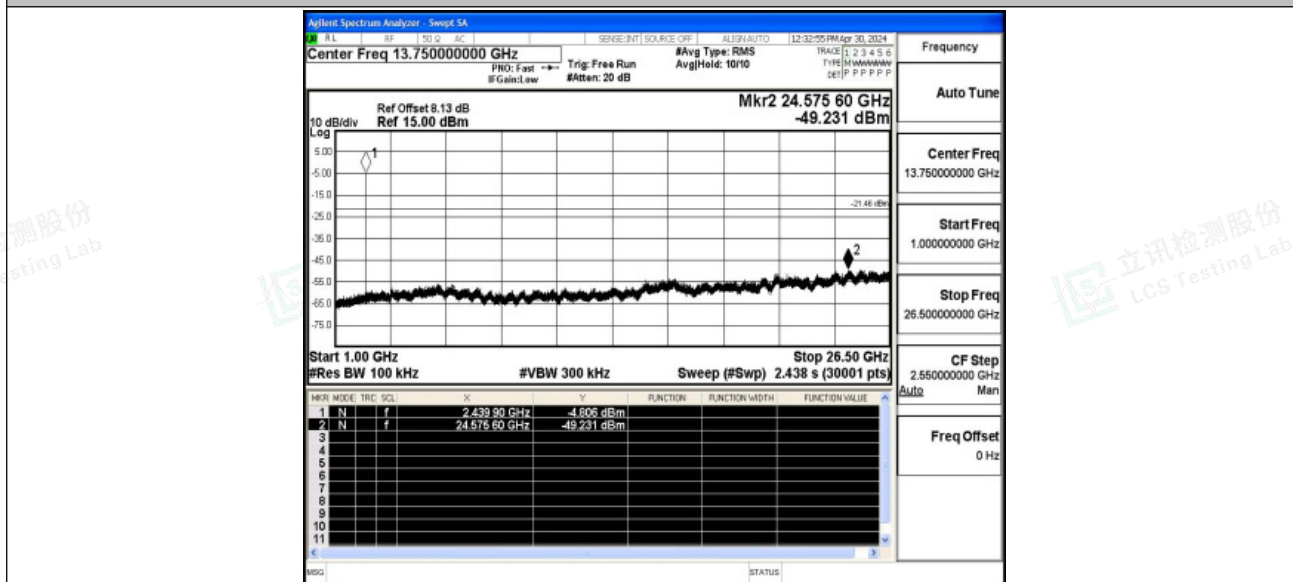


BLE_2M_Ant1_2440_30~1000



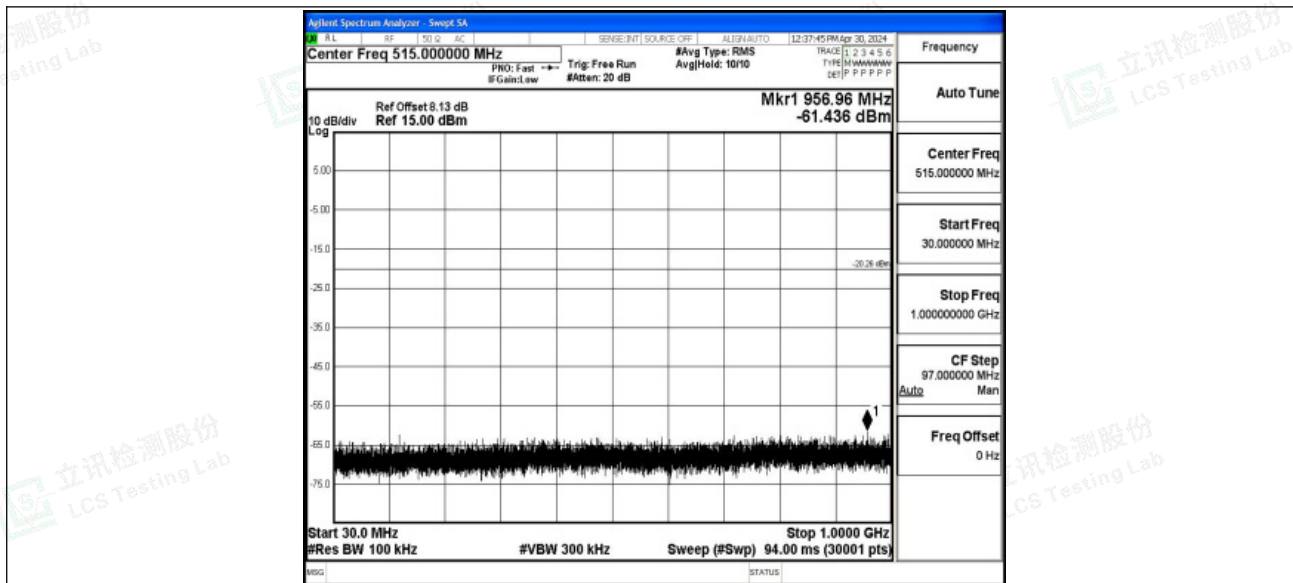


BLE_2M_Ant1_2440_1000~26500

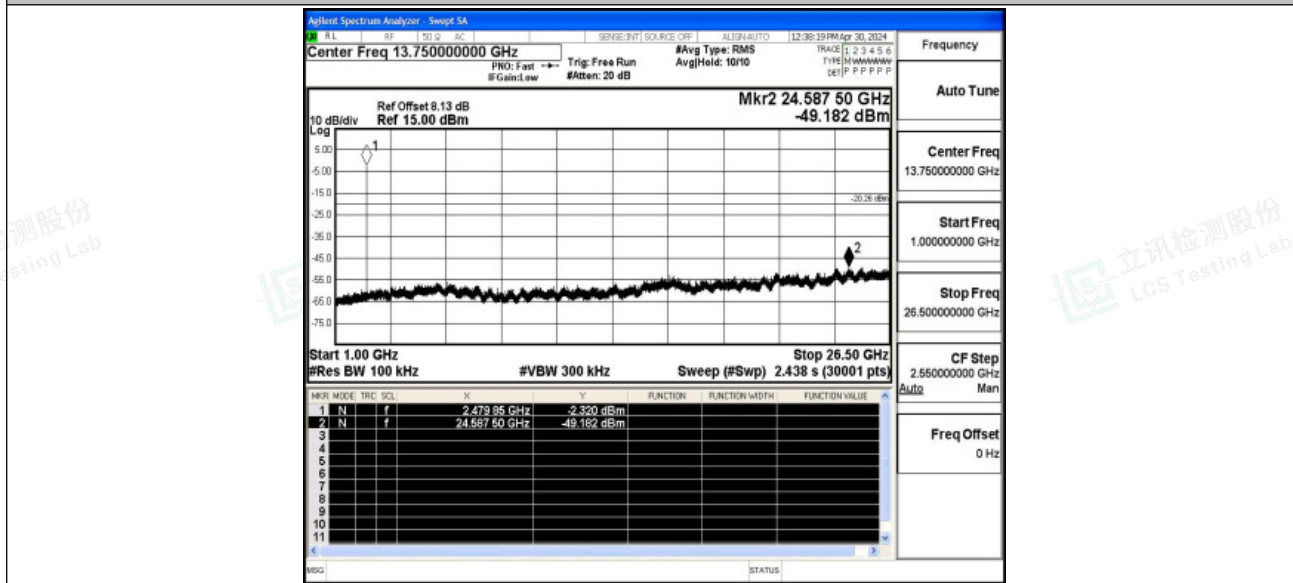


BLE_2M_Ant1_2480_30~1000





BLE_2M_Ant1_2480_1000~26500





Reference level measurement

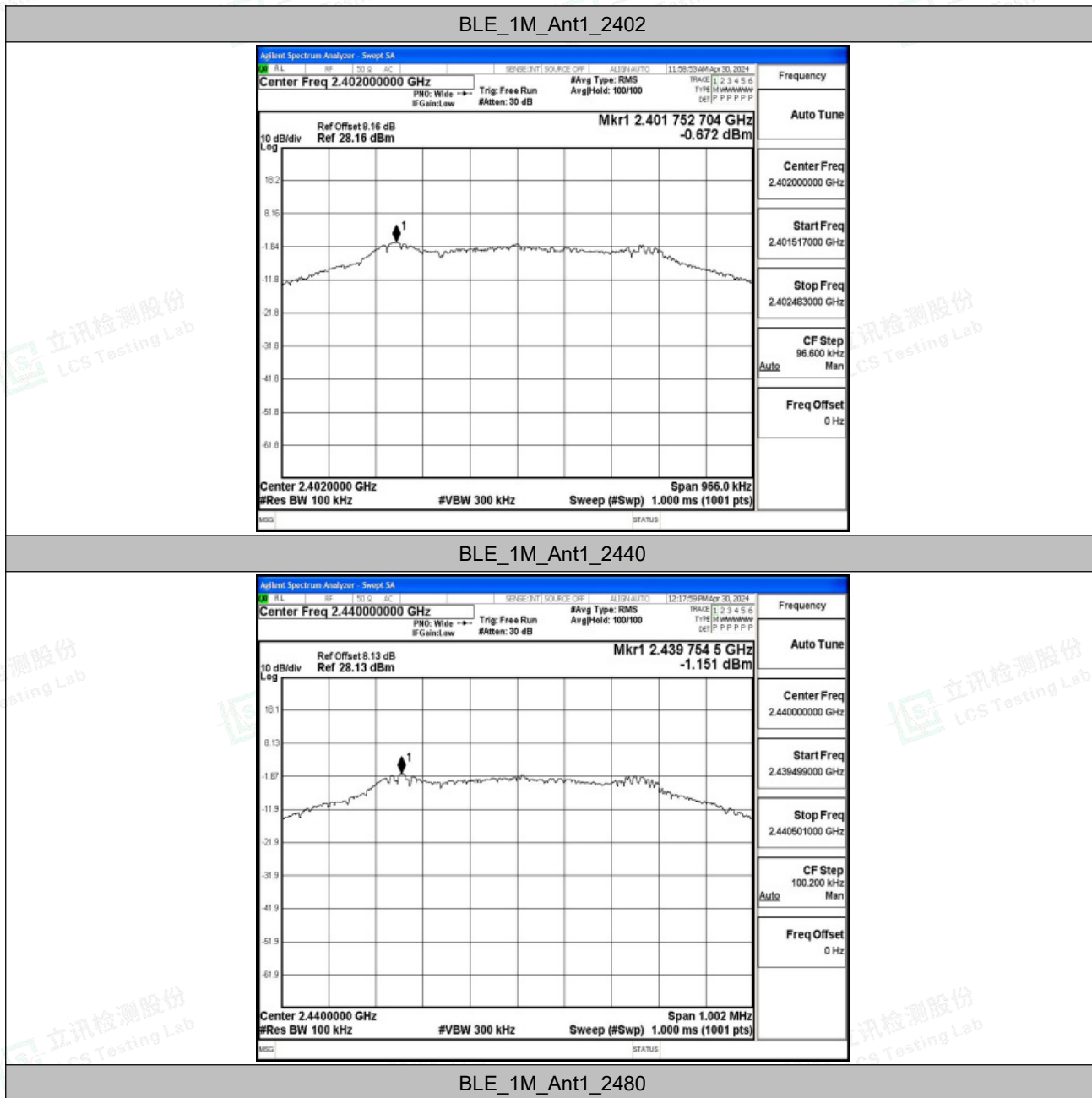
Test Result

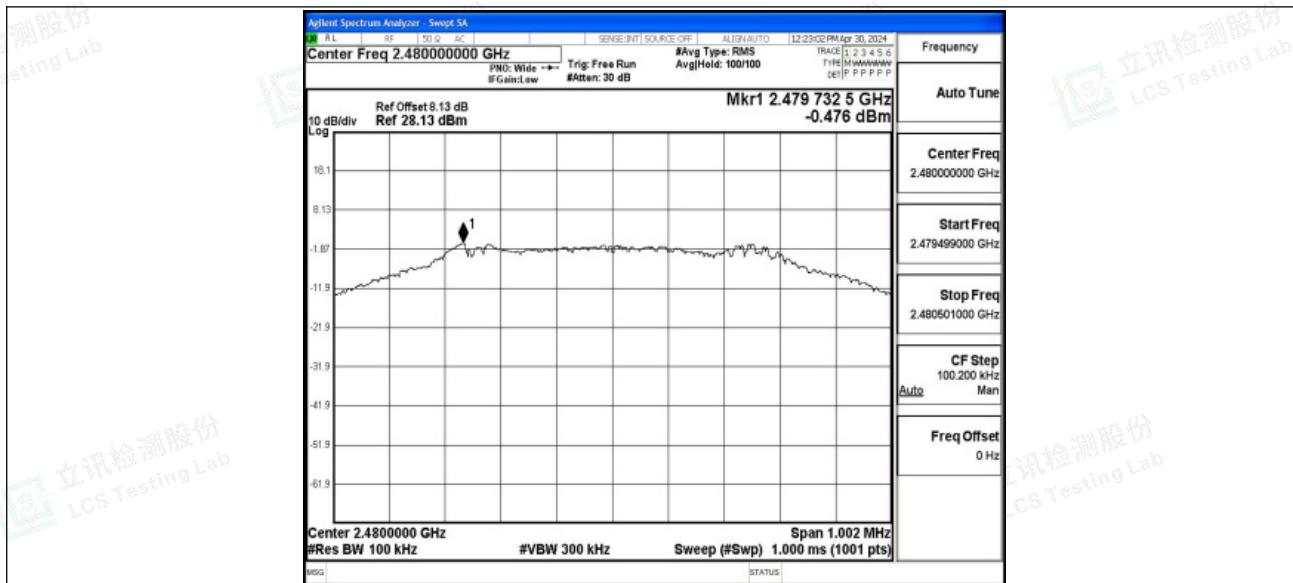
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.75	-0.67
		2440	2439.75	-1.15
		2480	2479.73	-0.48
BLE_2M	Ant1	2402	2401.51	-0.88
		2440	2439.50	-1.46
		2480	2479.51	-0.26



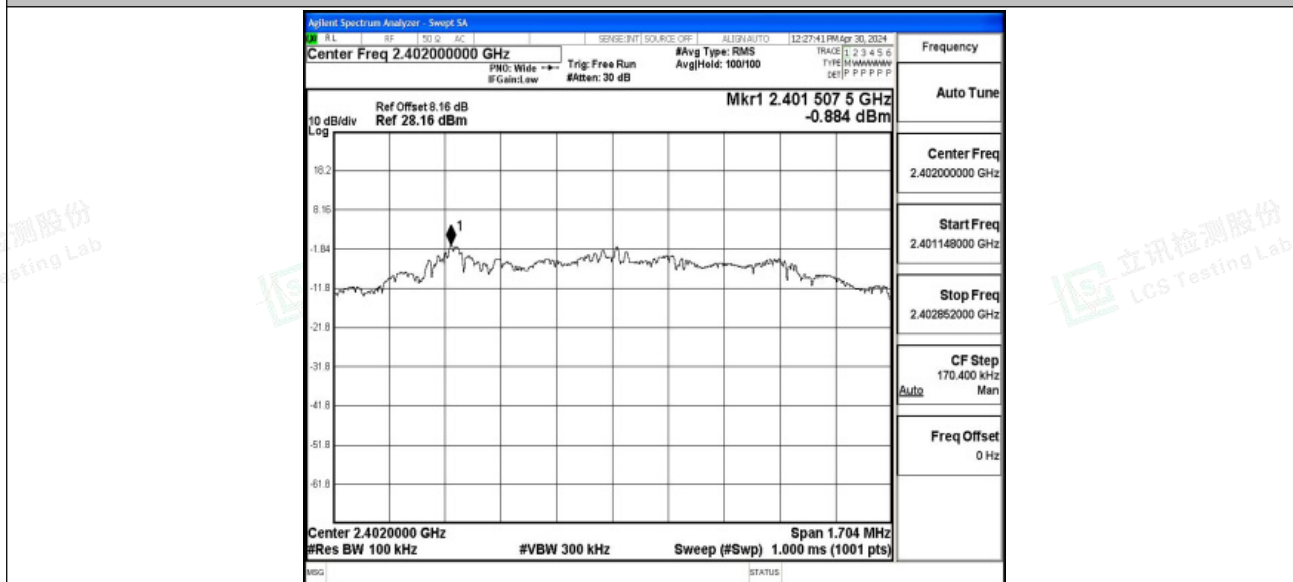


Test Graphs



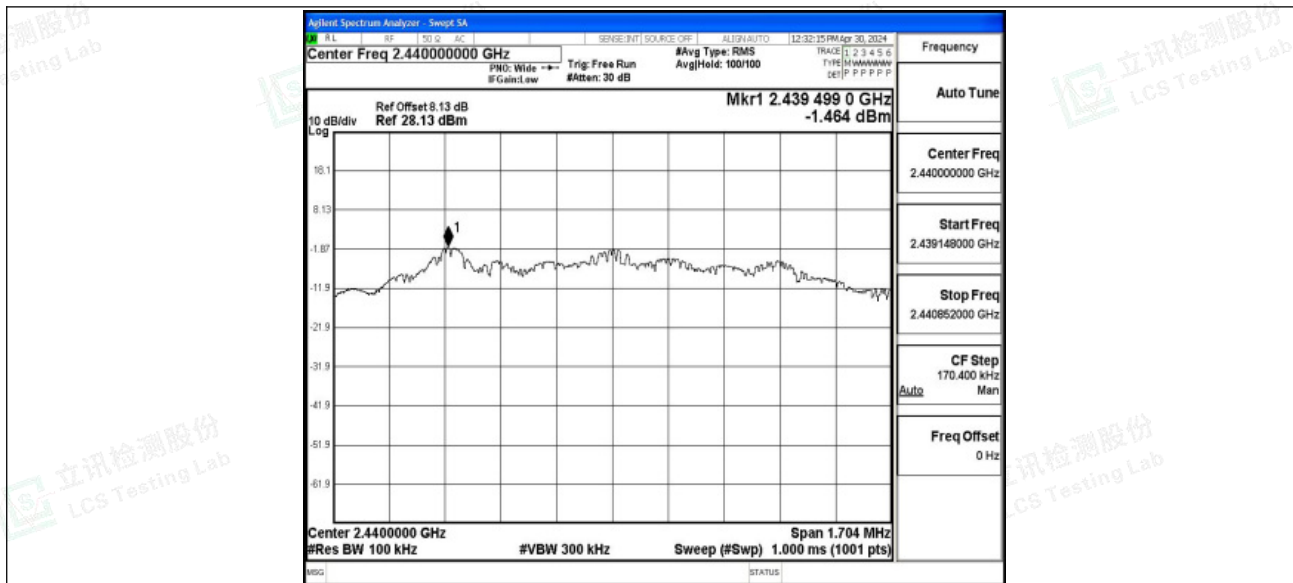


BLE_2M_Ant1_2402

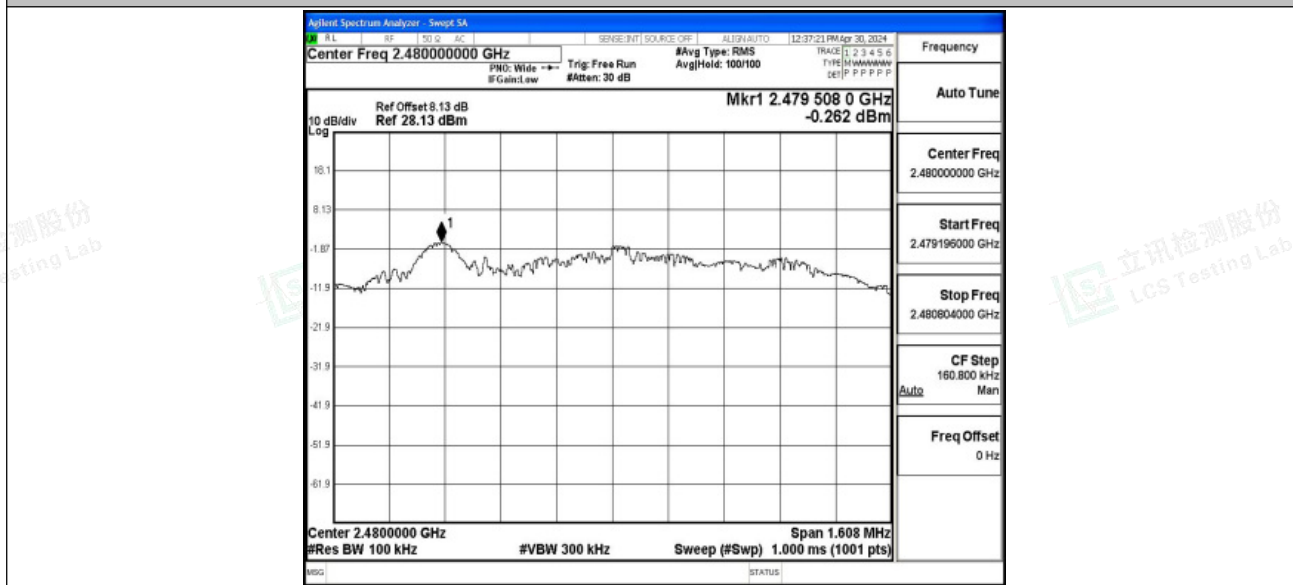


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.6 Duty Cycle

Test Result

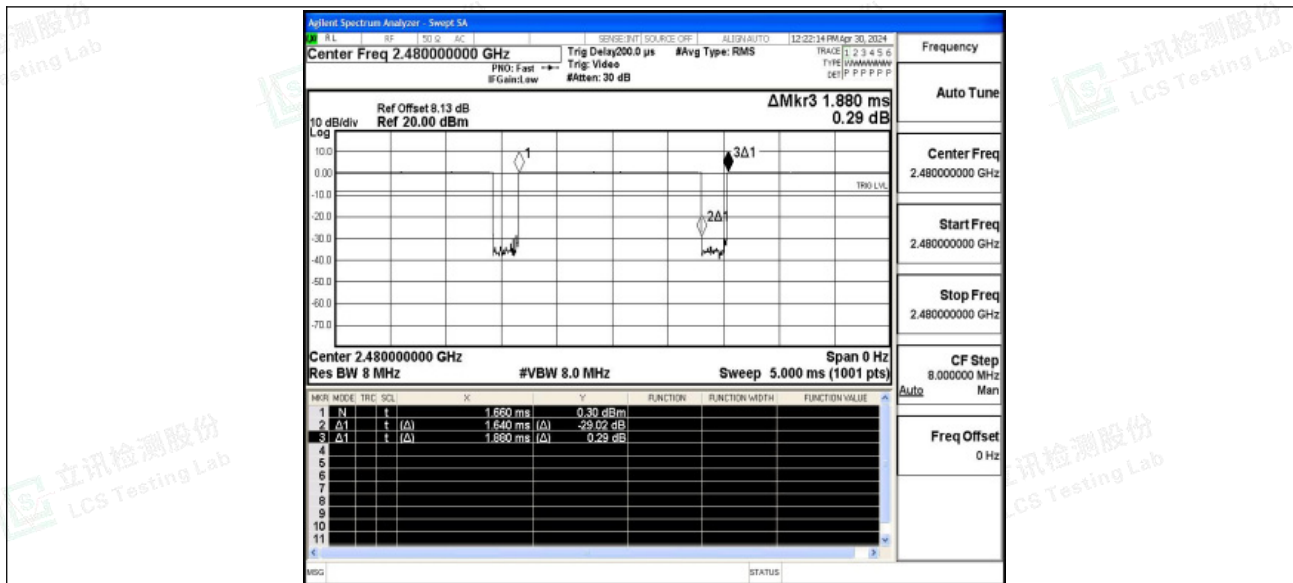
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	1.64	1.88	87.23	0.59	0.61
		2440	1.64	1.88	87.23	0.59	0.61
		2480	1.64	1.88	87.23	0.59	0.61
BLE_2M	Ant1	2402	0.83	1.25	66.40	1.78	1.20
		2440	0.83	1.25	66.40	1.78	1.20
		2480	0.83	1.25	66.40	1.78	1.20



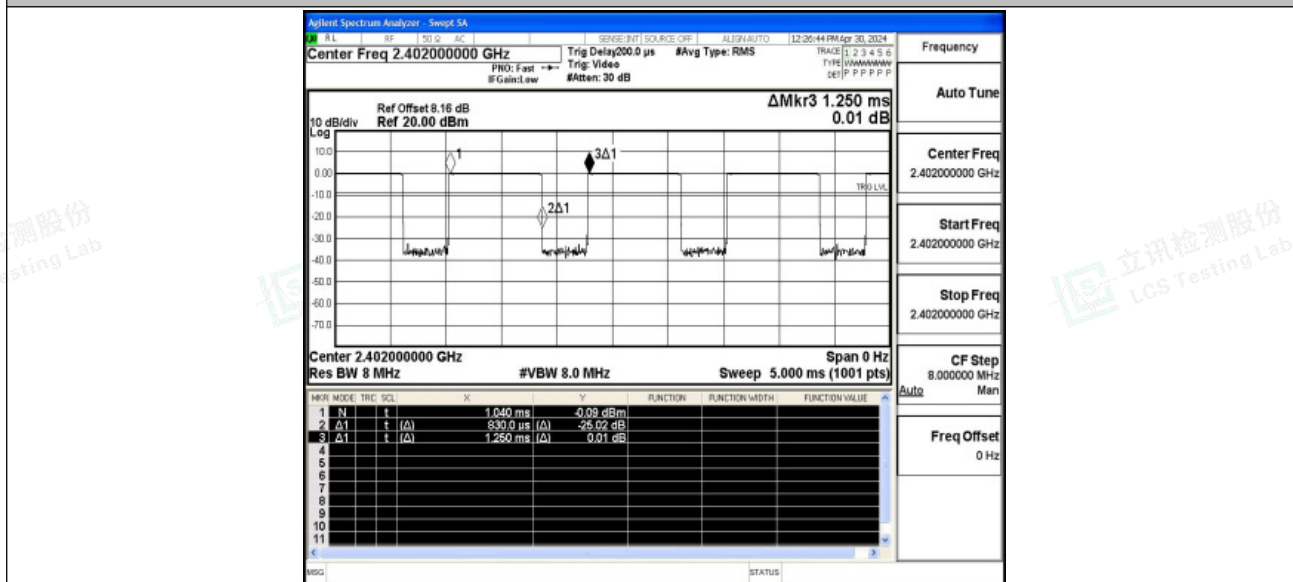


Test Graphs



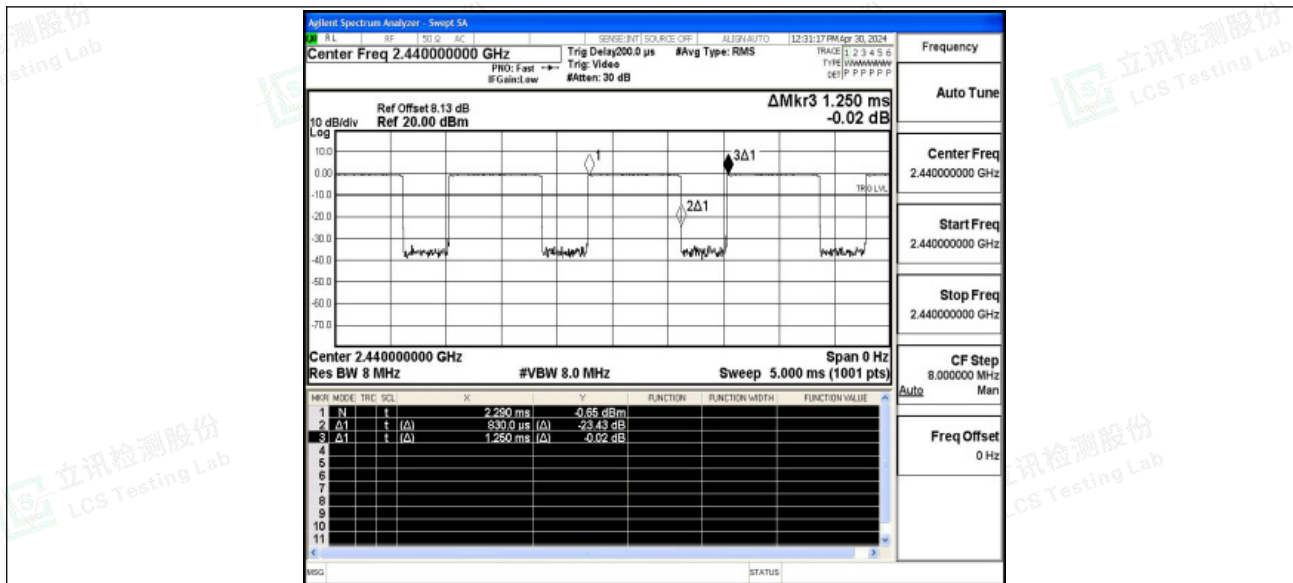


BLE_2M_Ant1_2402

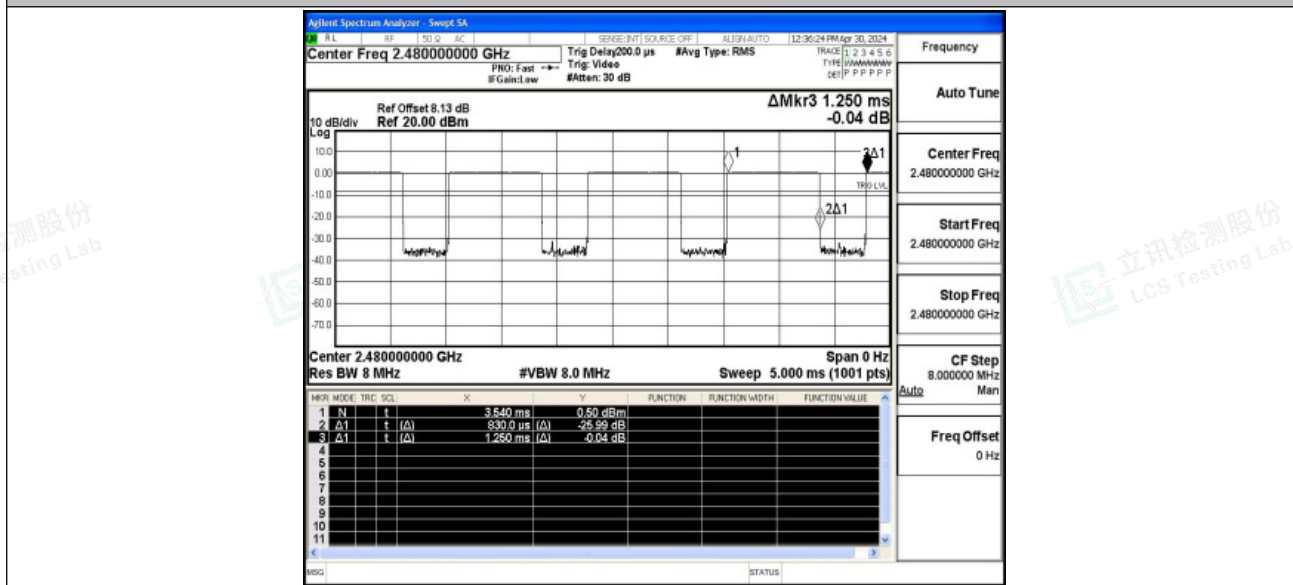


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	Channel	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2383.580	-48.23	≤-41.20	46.97	≤54	PASS
				AV	2390.000	-48.83	≤-41.20	46.37	≤54	PASS
				Peak	2310.000	-43.36	≤-21.20	51.84	≤74	PASS
				Peak	2366.675	-37.83	≤-21.20	57.37	≤74	PASS
				Peak	2390.000	-40.77	≤-21.20	54.43	≤74	PASS
		High	2480	AV	2483.500	-49.19	≤-41.20	46.01	≤54	PASS
				AV	2489.920	-48.13	≤-41.20	47.07	≤54	PASS
				AV	2500.000	-48.63	≤-41.20	46.57	≤54	PASS
				Peak	2483.500	-41.88	≤-21.20	53.32	≤74	PASS
				Peak	2484.800	-38.79	≤-21.20	56.41	≤74	PASS
				Peak	2500.000	-41.64	≤-21.20	53.56	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-48.73	≤-41.20	46.47	≤54	PASS
				AV	2377.700	-47.36	≤-41.20	47.84	≤54	PASS
				AV	2390.000	-48.54	≤-41.20	46.66	≤54	PASS
				Peak	2310.000	-40.47	≤-21.20	54.73	≤74	PASS
				Peak	2368.775	-38.67	≤-21.20	56.53	≤74	PASS
				Peak	2390.000	-41.11	≤-21.20	54.09	≤74	PASS
		High	2480	AV	2483.500	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2488.880	-47.04	≤-41.20	48.16	≤54	PASS
				AV	2500.000	-47.6	≤-41.20	47.60	≤54	PASS
				Peak	2483.500	-42.64	≤-21.20	52.56	≤74	PASS
				Peak	2494.720	-38.29	≤-21.20	56.91	≤74	PASS
				Peak	2500.000	-41.23	≤-21.20	53.97	≤74	PASS

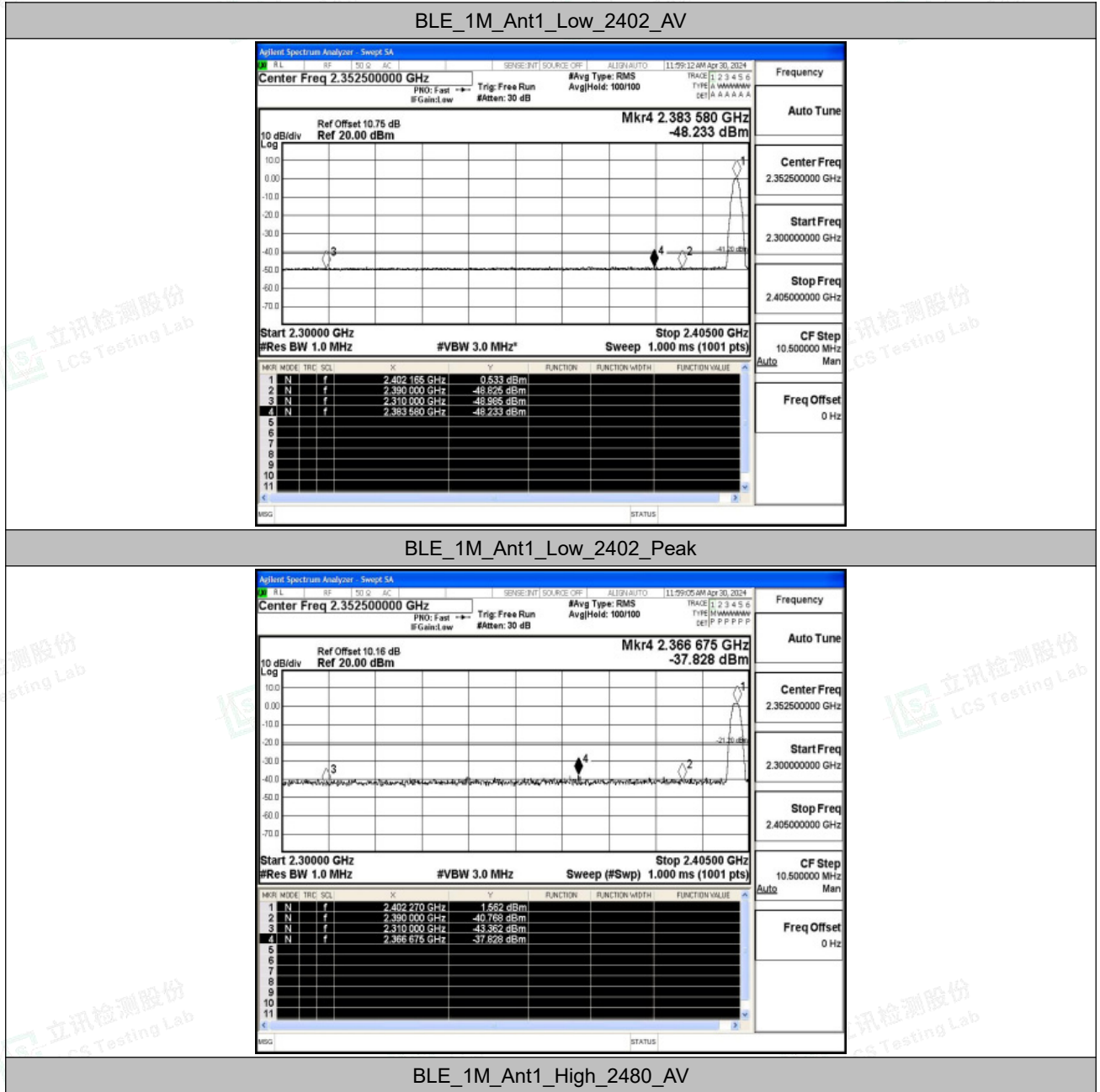
Note:

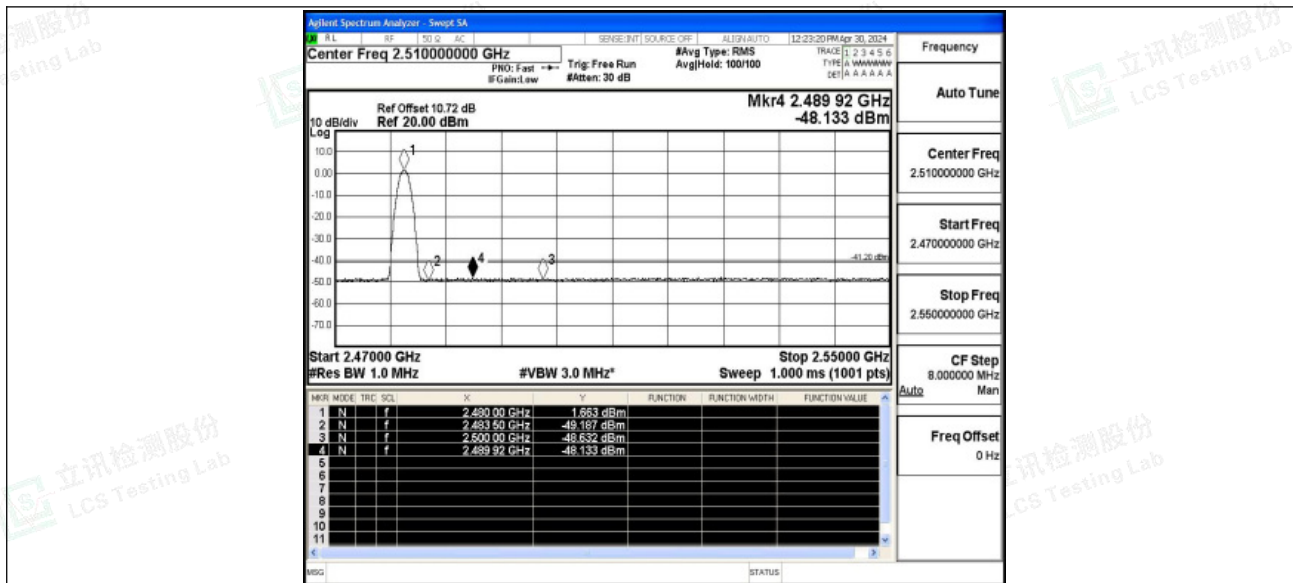
- The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



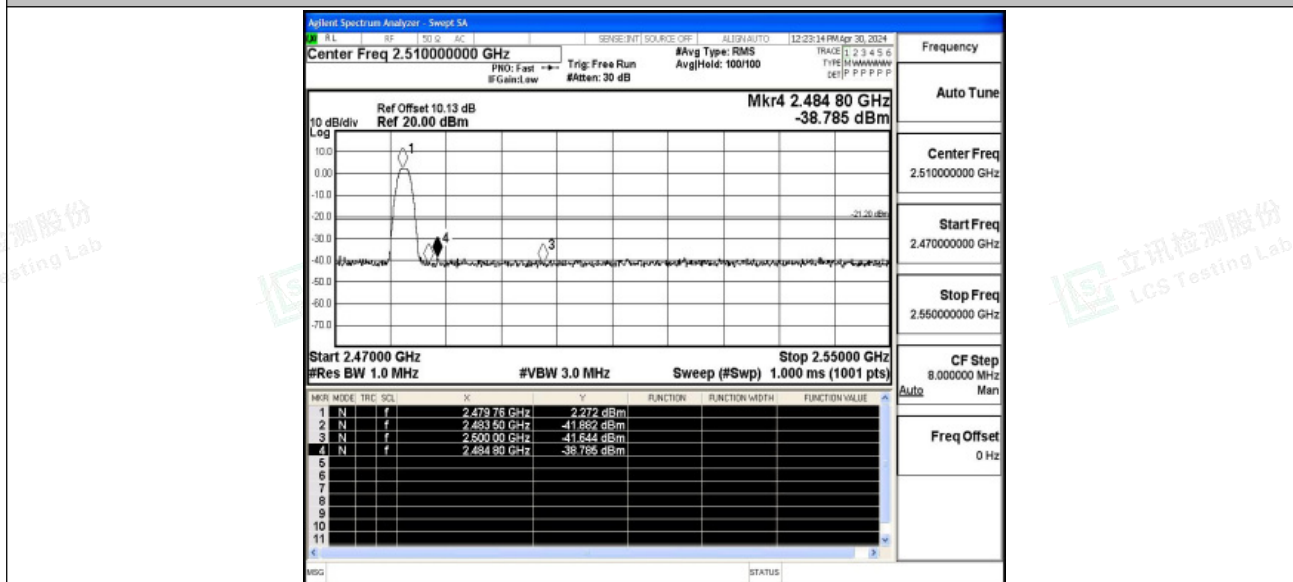


Test Graphs



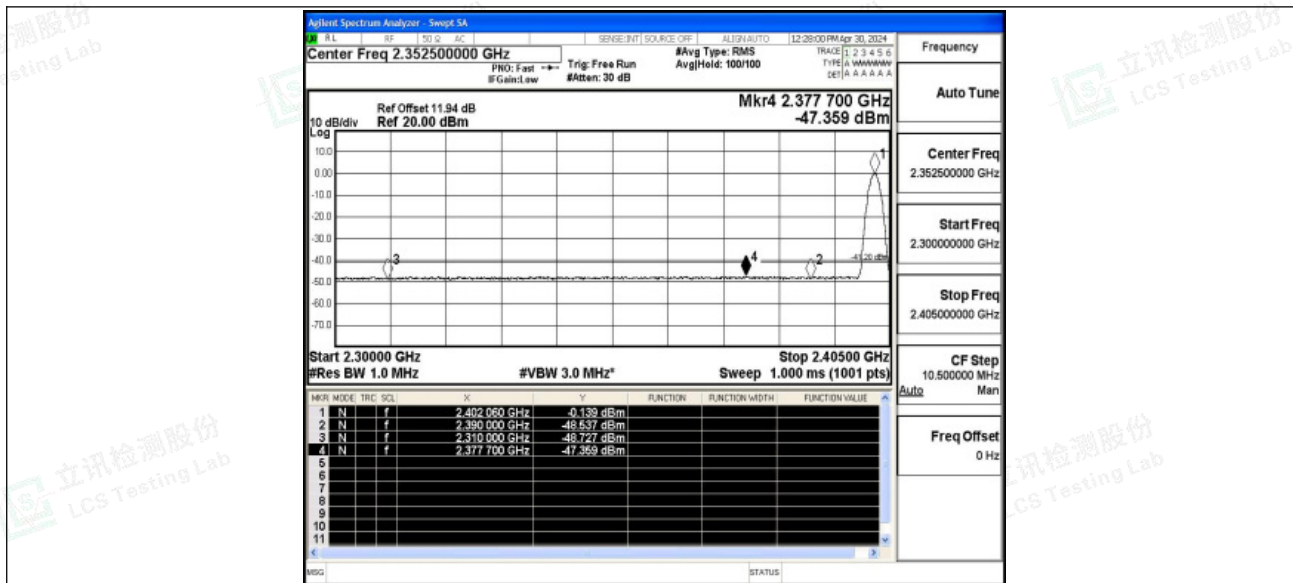


BLE_1M_Ant1_High_2480_Peak

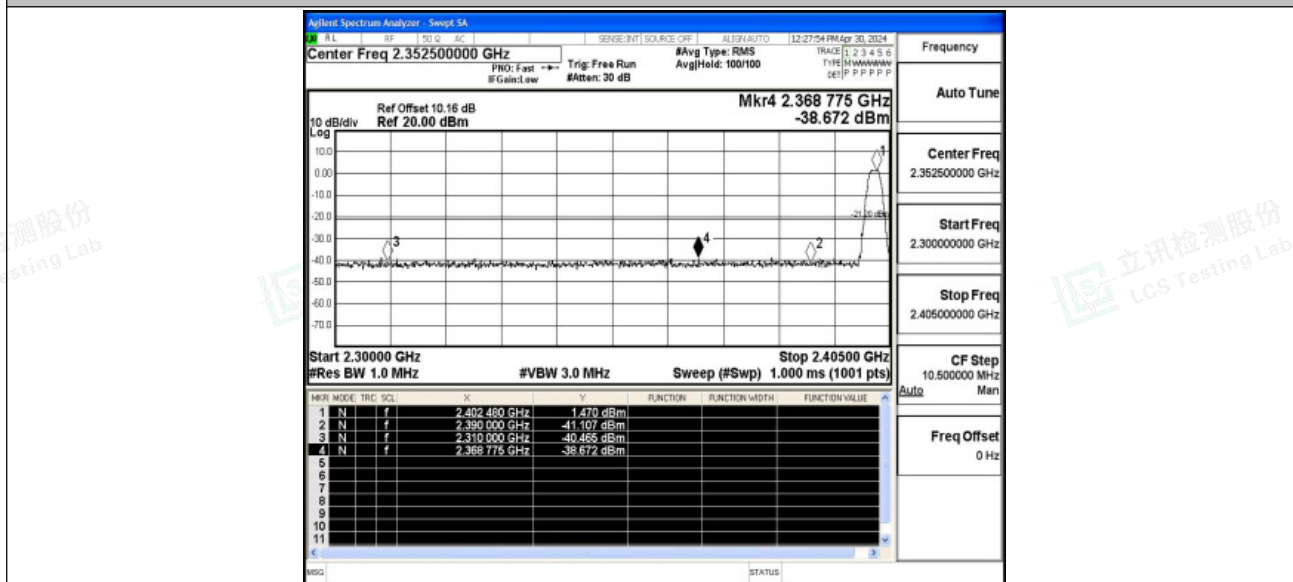


BLE_2M_Ant1_Low_2402_AV



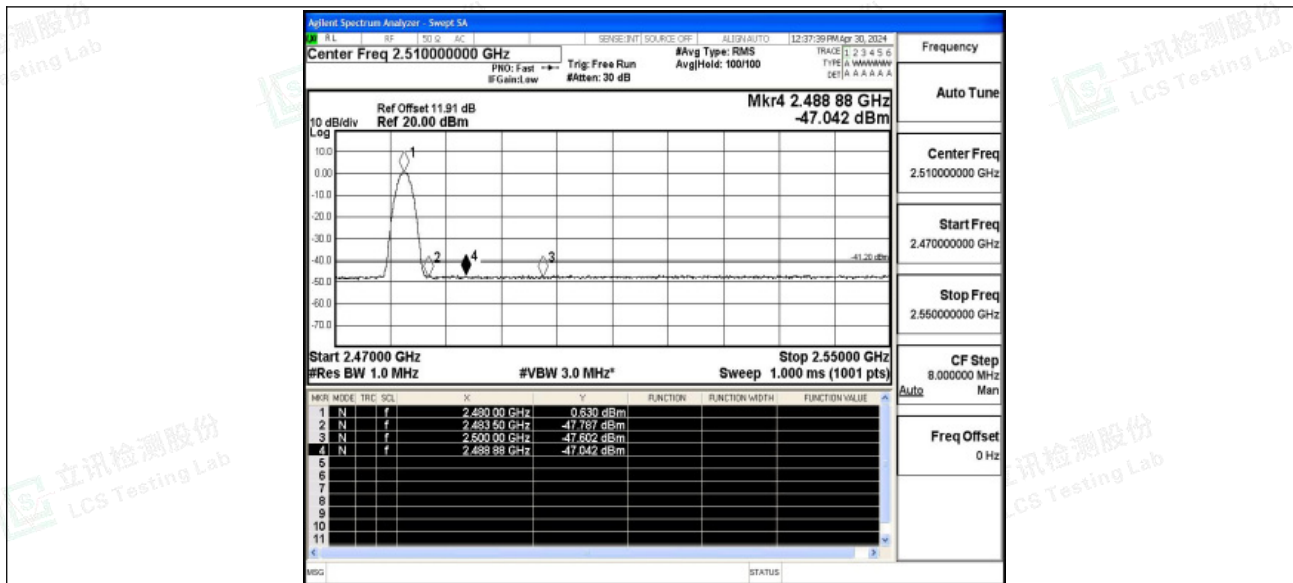


BLE_2M_Ant1_Low_2402_Peak



BLE_2M_Ant1_High_2480_AV





BLE_2M_Ant1_High_2480_Peak

