



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: TS Smart Mortise Lock

Test Model: e-Kontos-7000-OS

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 DTS Bandwidth

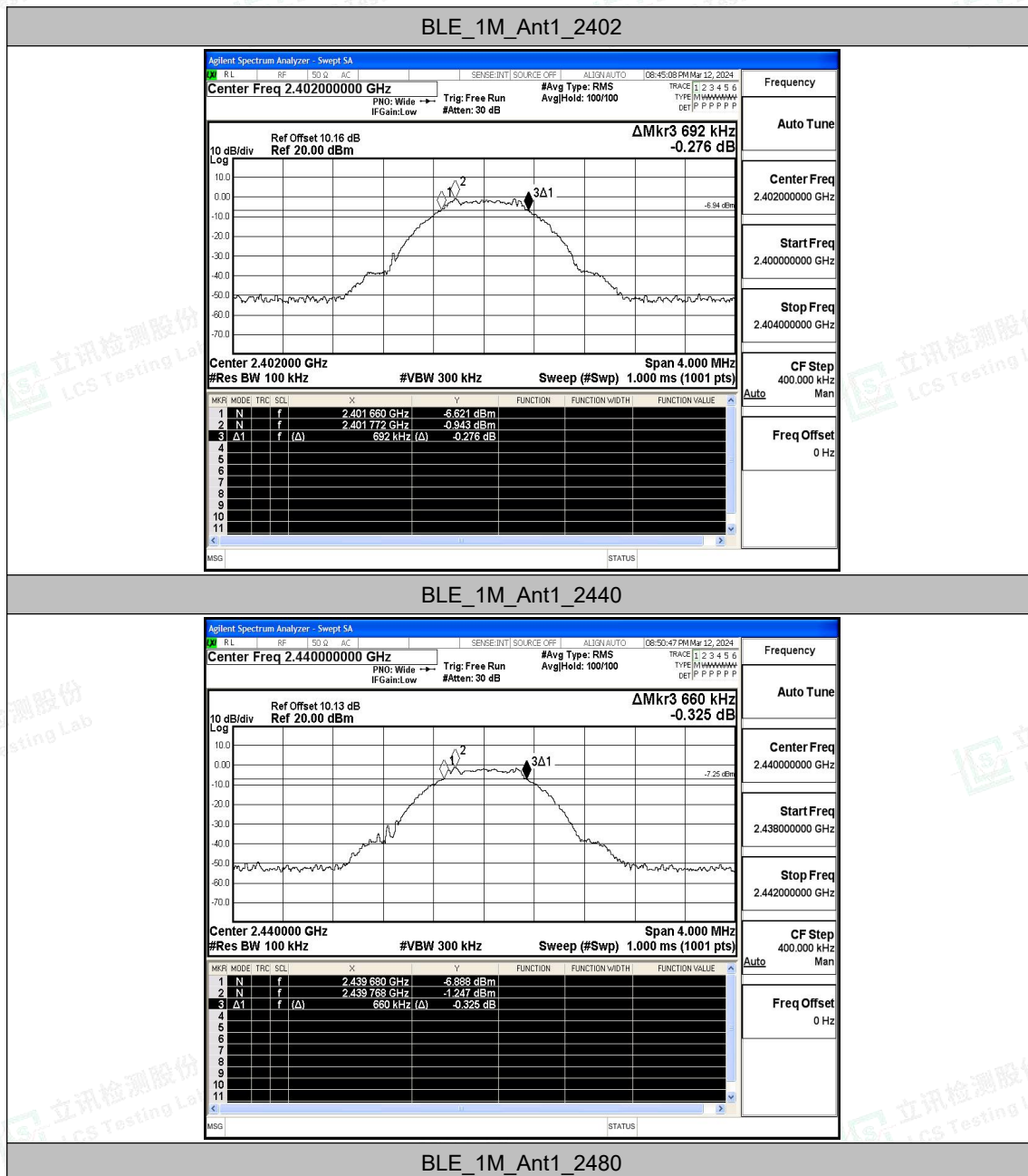
Test Result

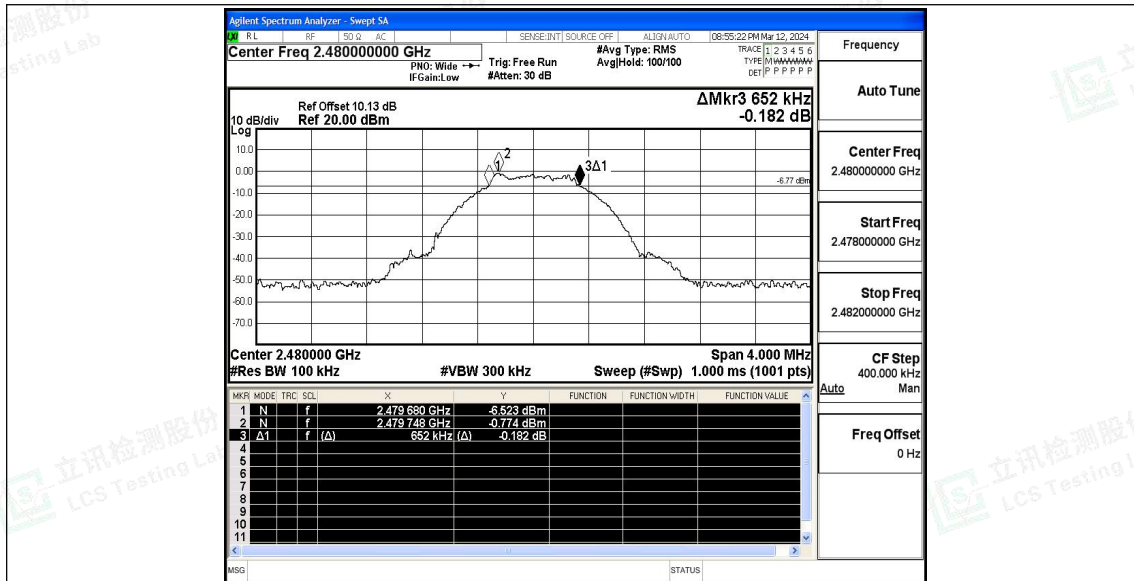
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.692	2401.660	2402.352	0.5	PASS
		2440	0.660	2439.680	2440.340	0.5	PASS
		2480	0.652	2479.680	2480.332	0.5	PASS
BLE_2M	Ant1	2402	1.256	2401.352	2402.608	0.5	PASS
		2440	1.144	2439.428	2440.572	0.5	PASS
		2480	1.280	2479.340	2480.620	0.5	PASS



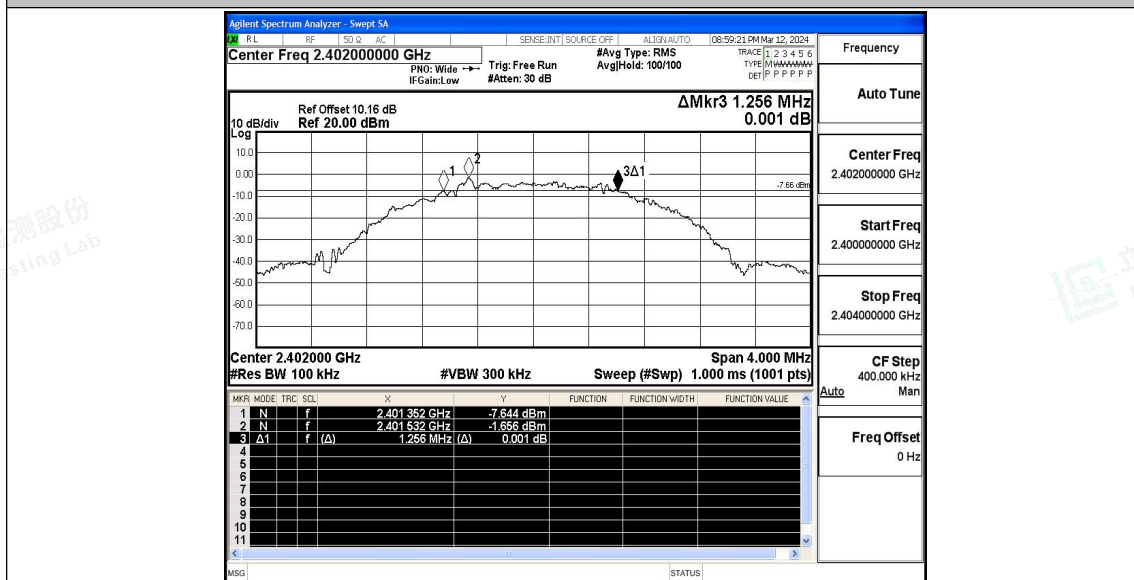


Test Graphs



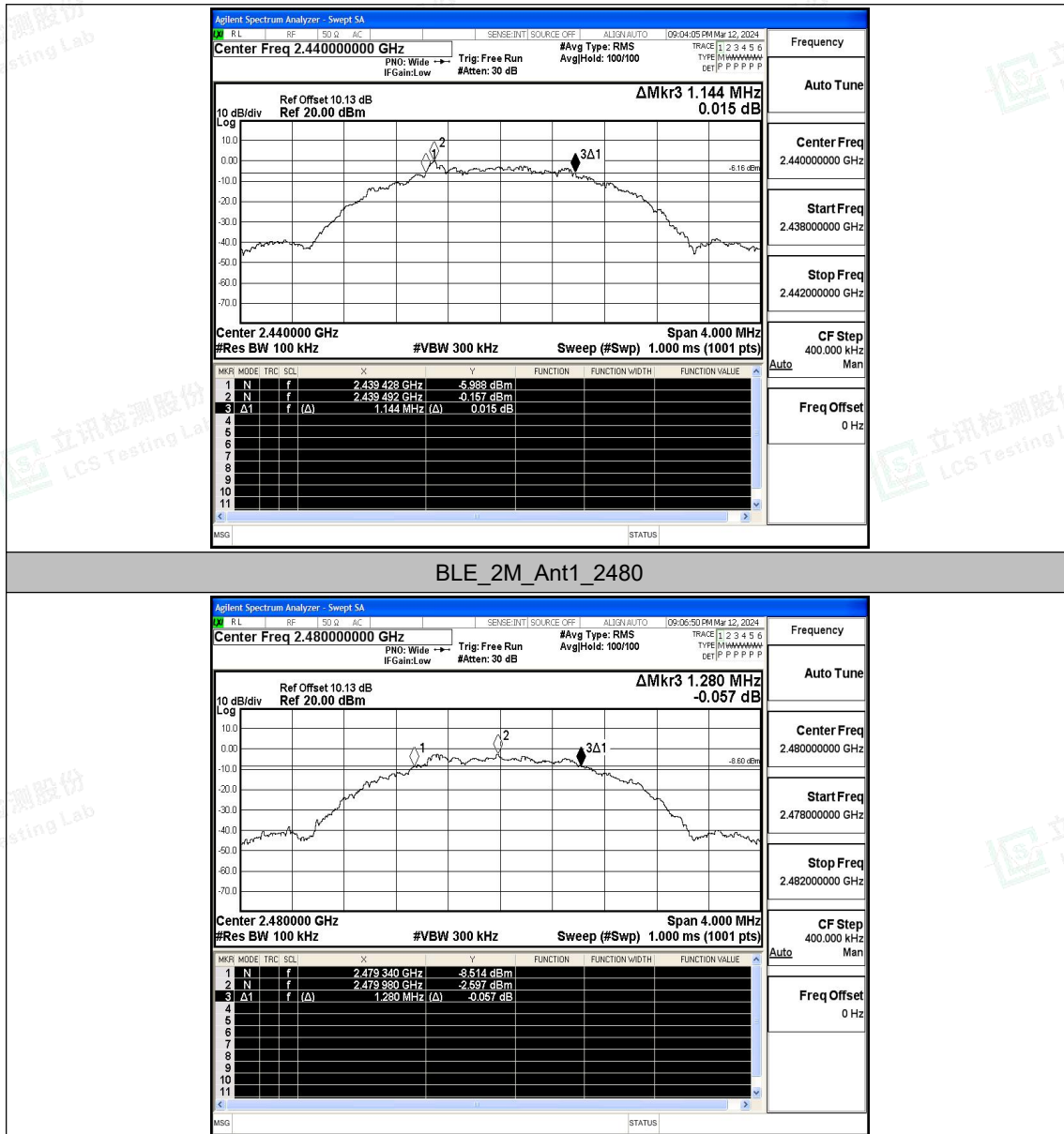


BLE_2M_Ant1_2402



BLE_2M_Ant1_2440







A.2 Maximum conducted output power

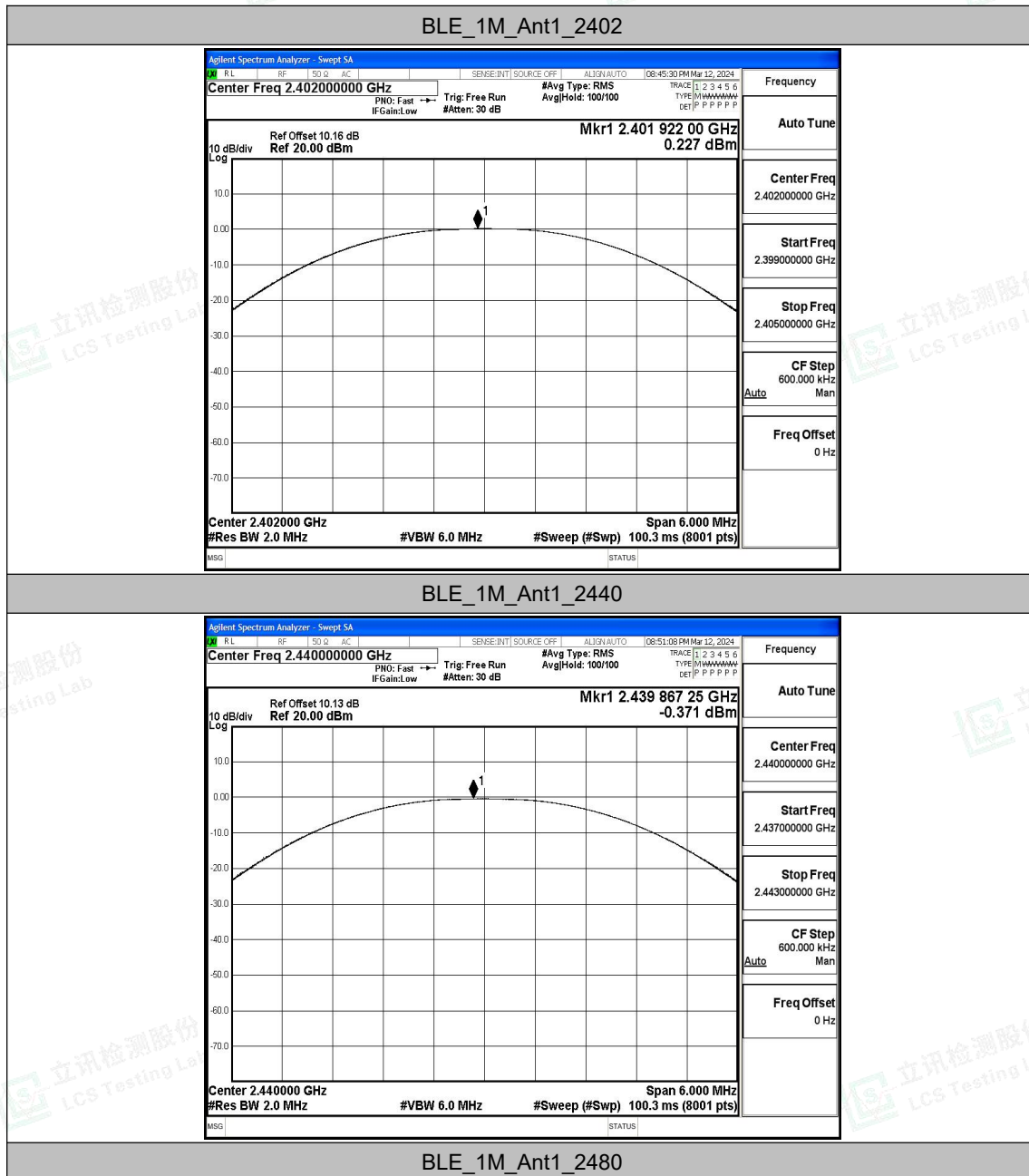
Test Result

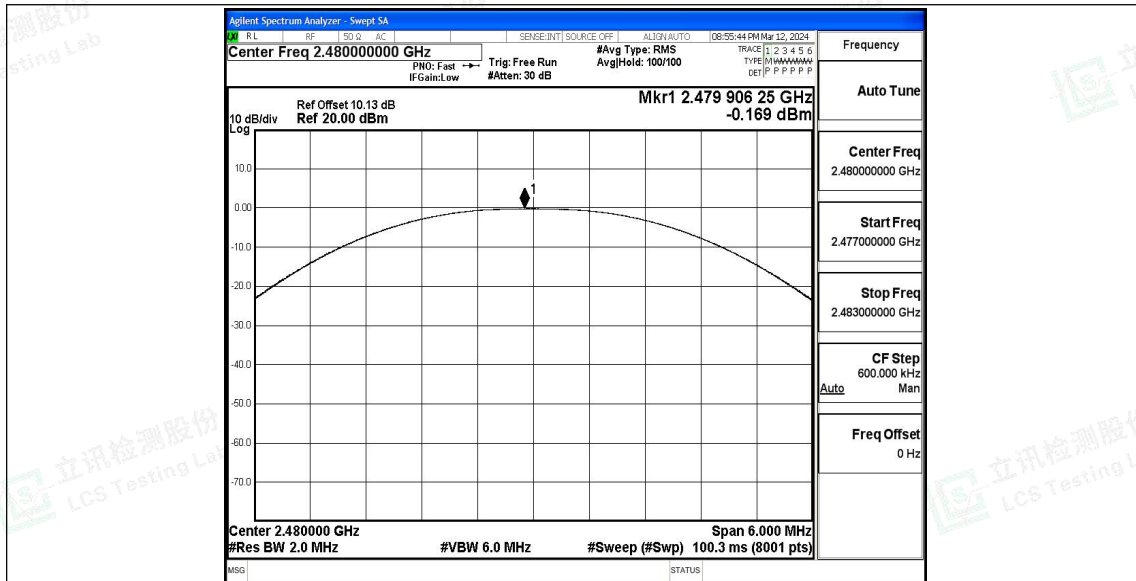
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.23	≤30	PASS
		2440	-0.37	≤30	PASS
		2480	-0.17	≤30	PASS
BLE_2M	Ant1	2402	0.08	≤30	PASS
		2440	0.58	≤30	PASS
		2480	-0.43	≤30	PASS



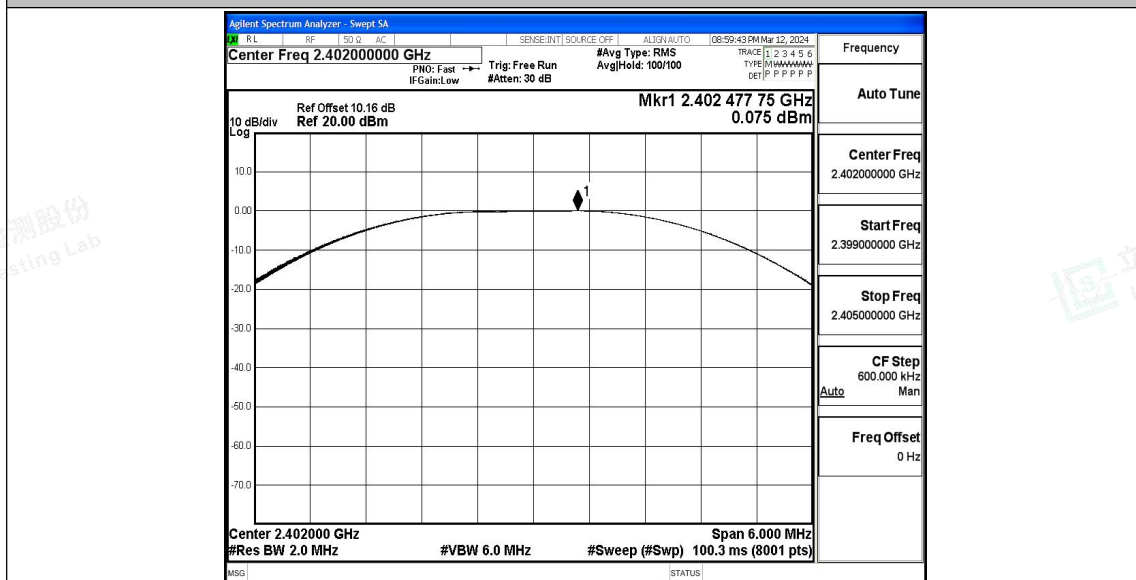


Test Graphs



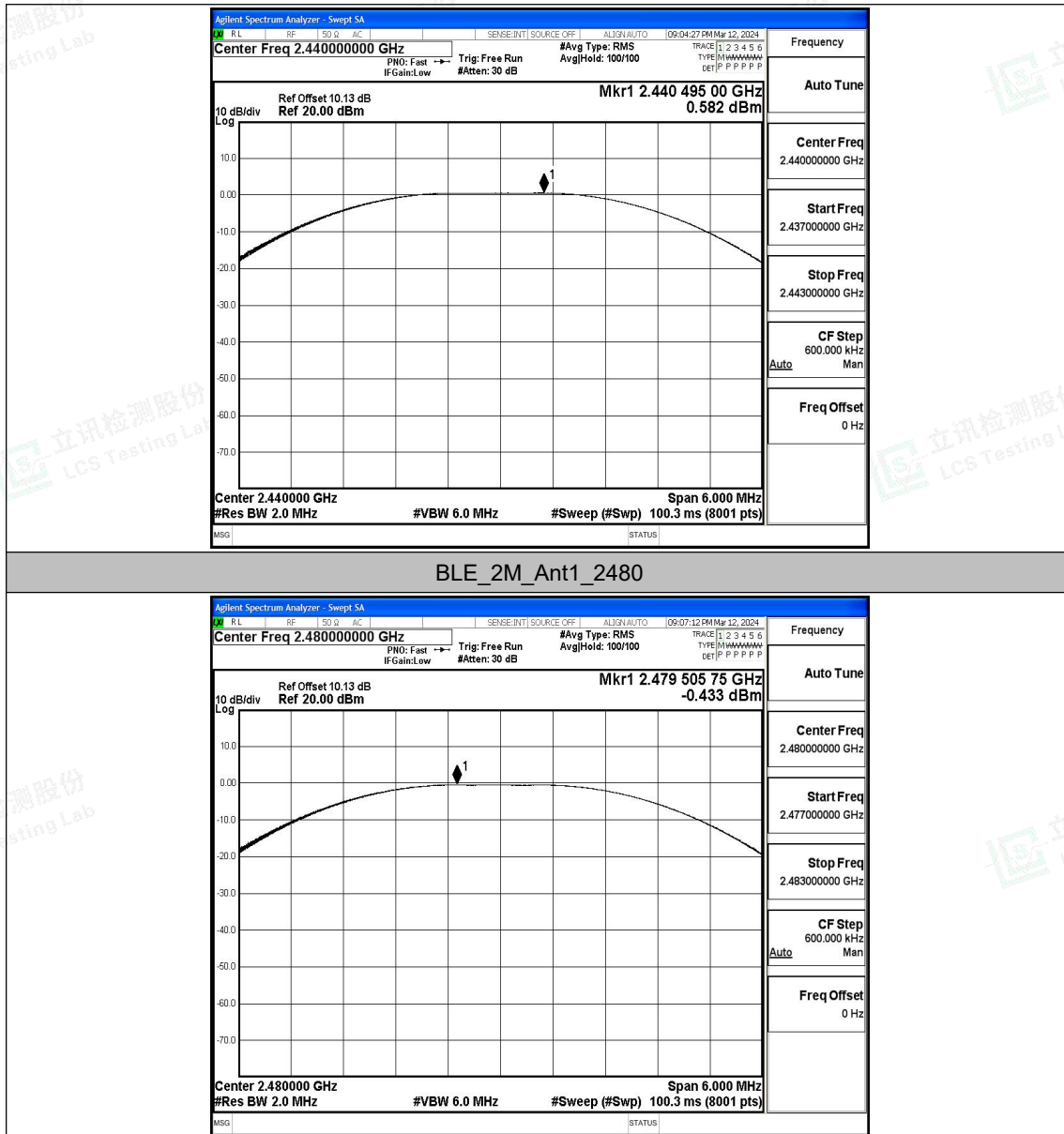


BLE_2M_Ant1_2402



BLE_2M_Ant1_2440







A.3 Maximum power spectral density

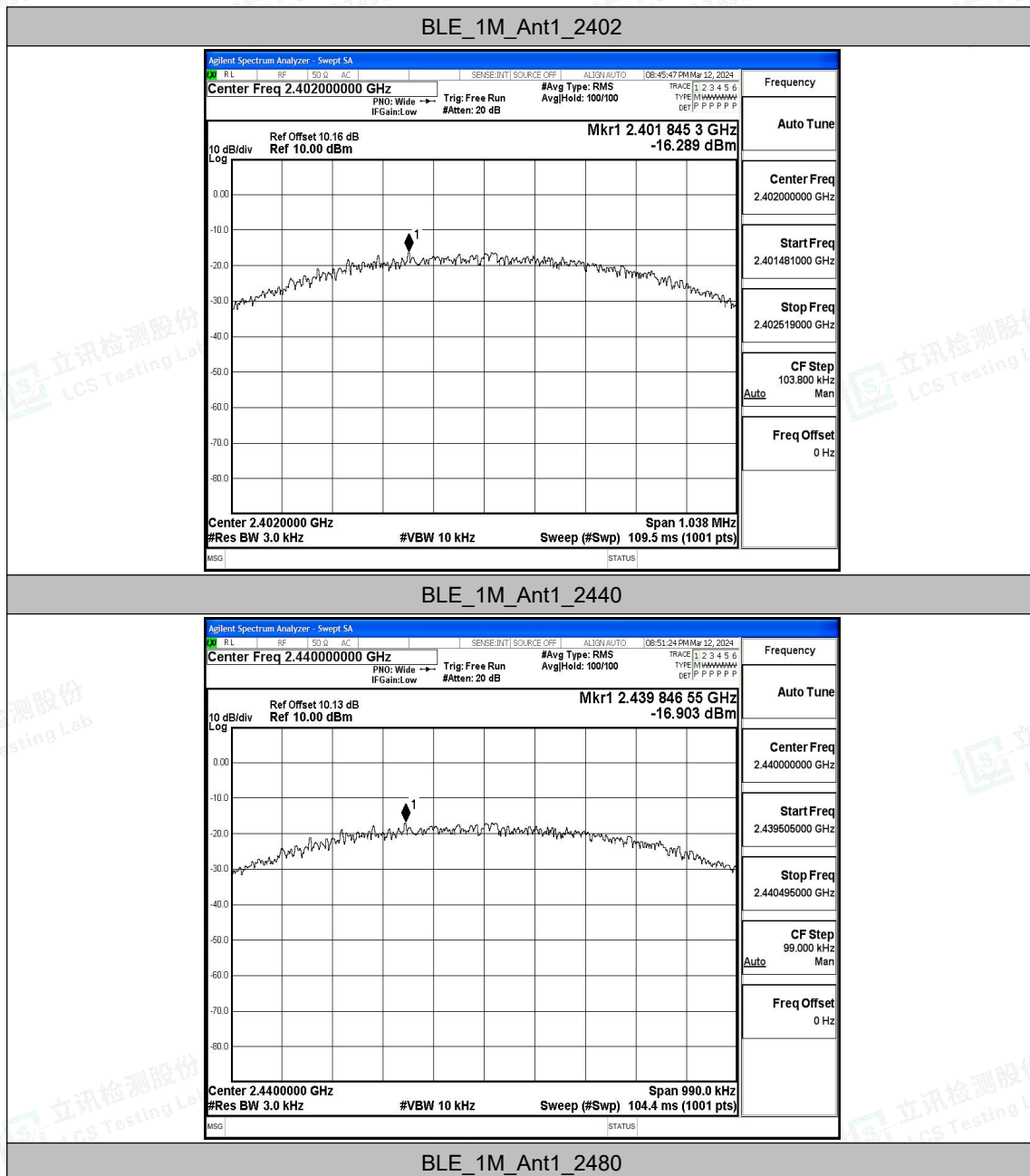
Test Result

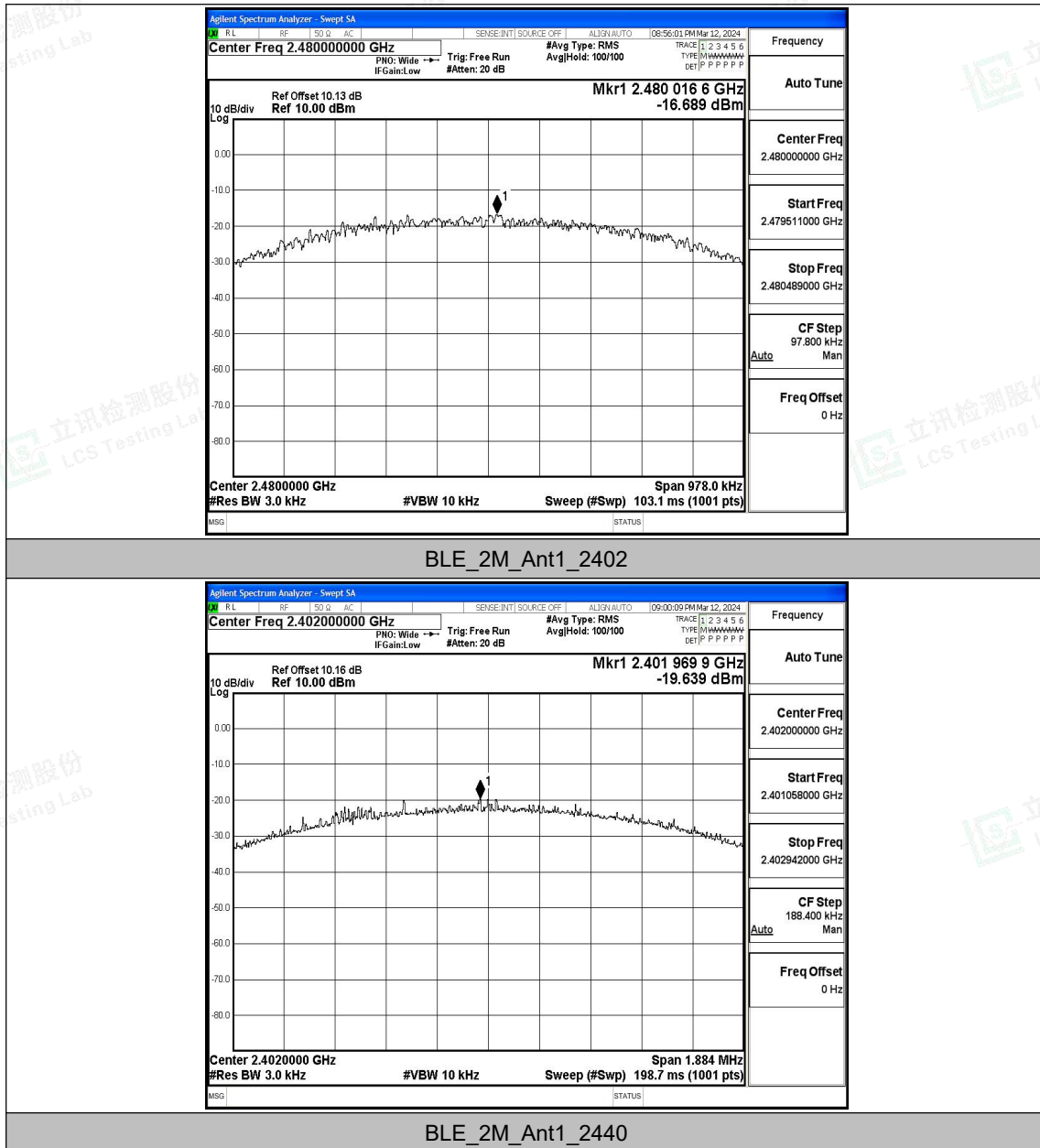
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.29	≤8.00	PASS
		2440	-16.90	≤8.00	PASS
		2480	-16.69	≤8.00	PASS
BLE_2M	Ant1	2402	-19.64	≤8.00	PASS
		2440	-18.92	≤8.00	PASS
		2480	-20.02	≤8.00	PASS

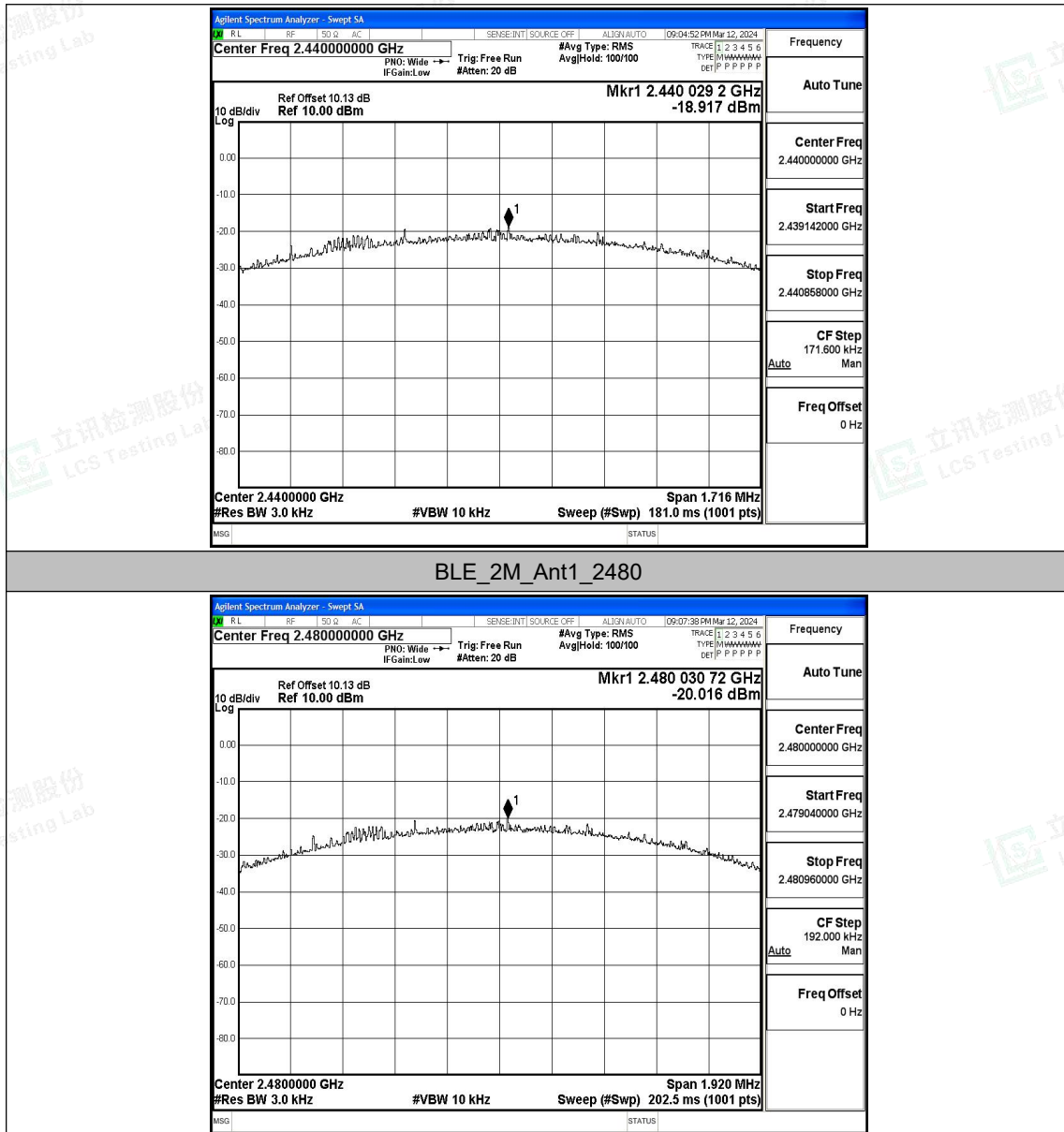




Test Graphs









A.4 Band edge measurements

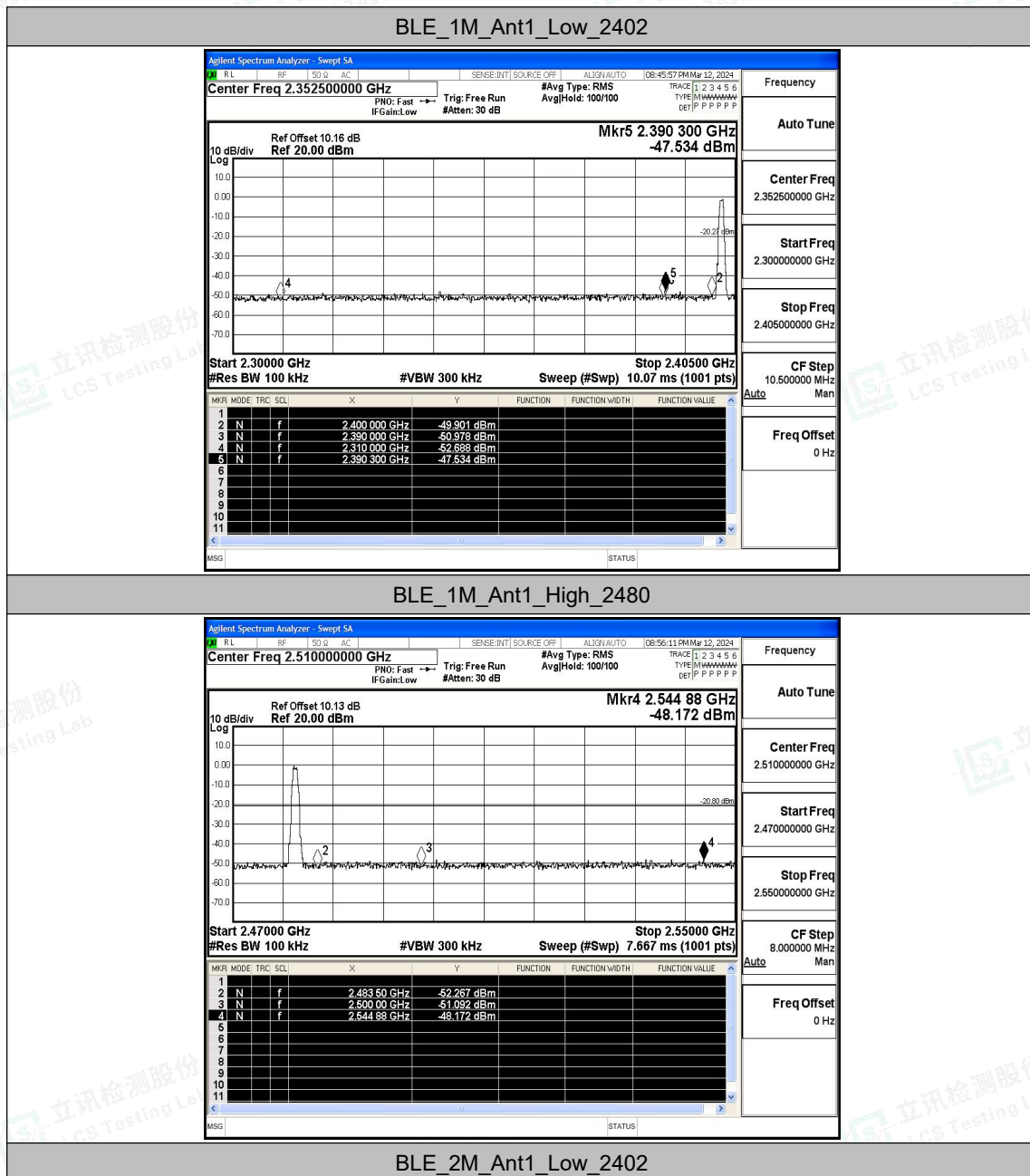
Test Result

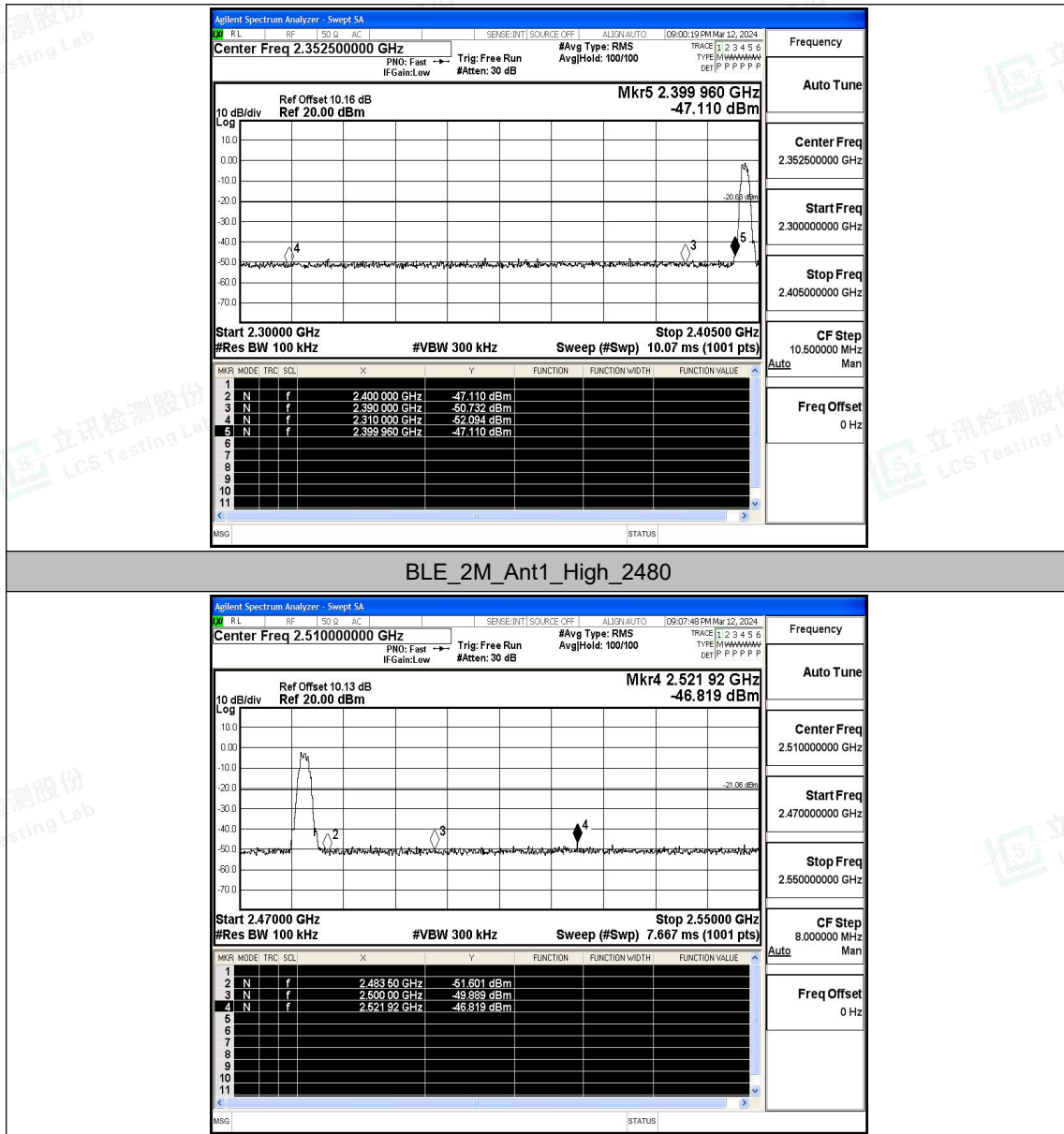
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.27	-47.53	≤-20.27	PASS
		High	2480	-0.80	-48.17	≤-20.8	PASS
BLE_2M	Ant1	Low	2402	-0.68	-47.11	≤-20.68	PASS
		High	2480	-1.06	-46.82	≤-21.06	PASS





Test Graphs







A.5 Conducted Spurious Emission

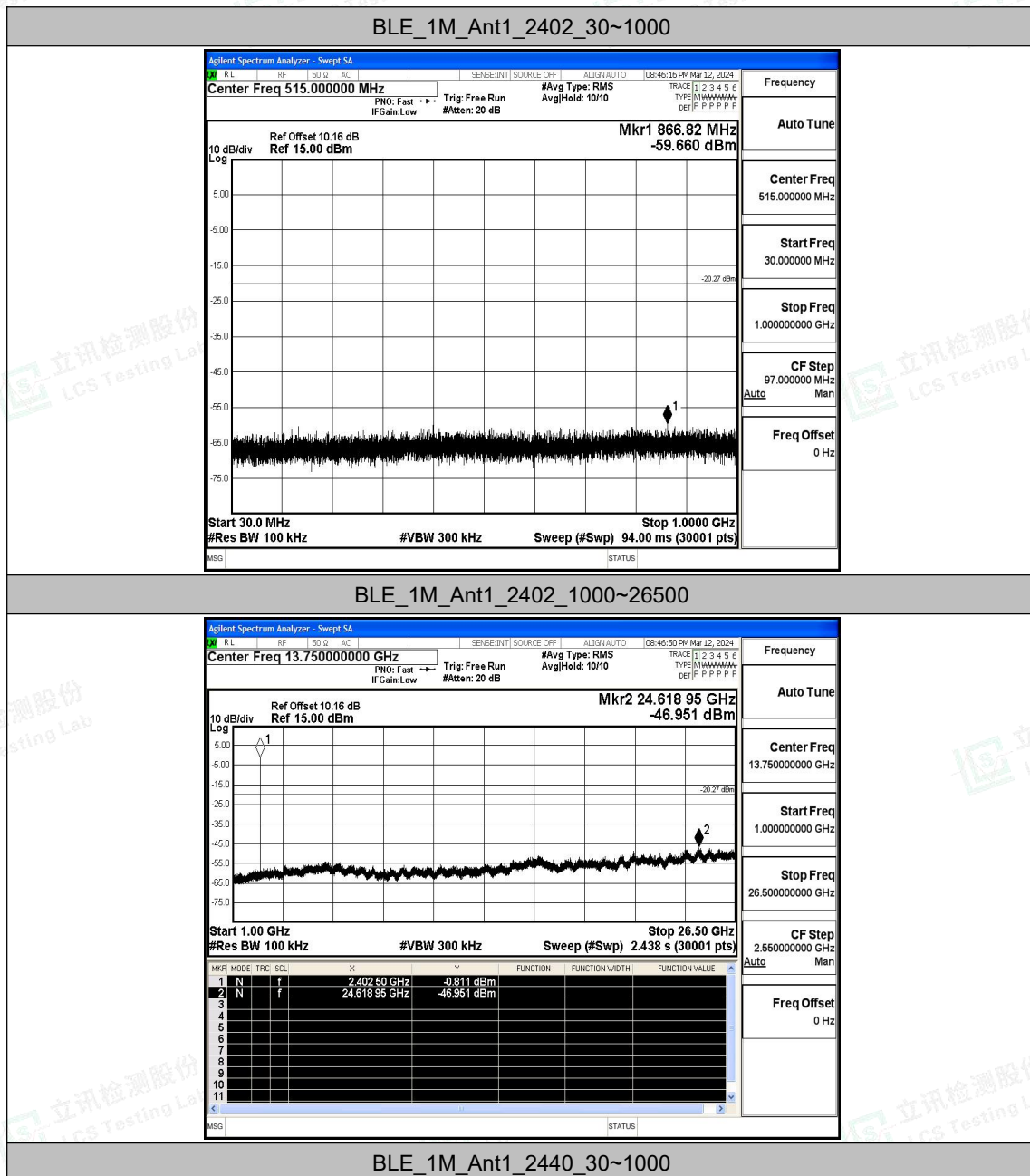
Test Result

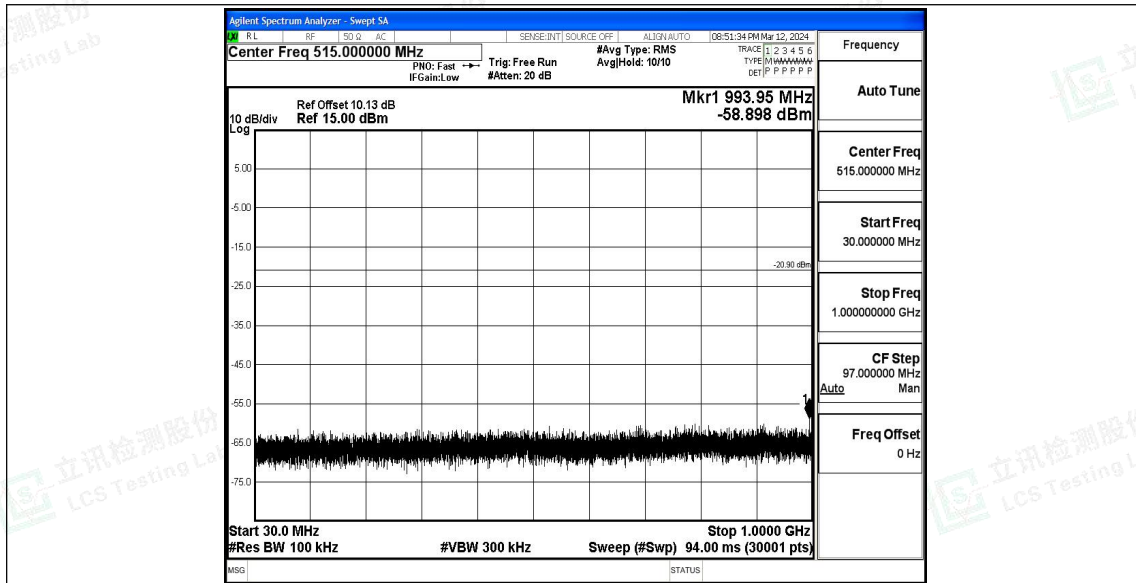
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-0.27	-59.66	≤-20.27	PASS
			1000~26500	-0.27	-46.95	≤-20.27	PASS
		2440	30~1000	-0.90	-58.9	≤-20.9	PASS
			1000~26500	-0.90	-47.21	≤-20.9	PASS
		2480	30~1000	-0.80	-59.86	≤-20.8	PASS
			1000~26500	-0.80	-46.92	≤-20.8	PASS
BLE_2M	Ant1	2402	30~1000	-0.68	-59.89	≤-20.68	PASS
			1000~26500	-0.68	-47.8	≤-20.68	PASS
		2440	30~1000	-0.18	-60.11	≤-20.18	PASS
			1000~26500	-0.18	-46.39	≤-20.18	PASS
		2480	30~1000	-1.06	-59.74	≤-21.06	PASS
			1000~26500	-1.06	-46.94	≤-21.06	PASS



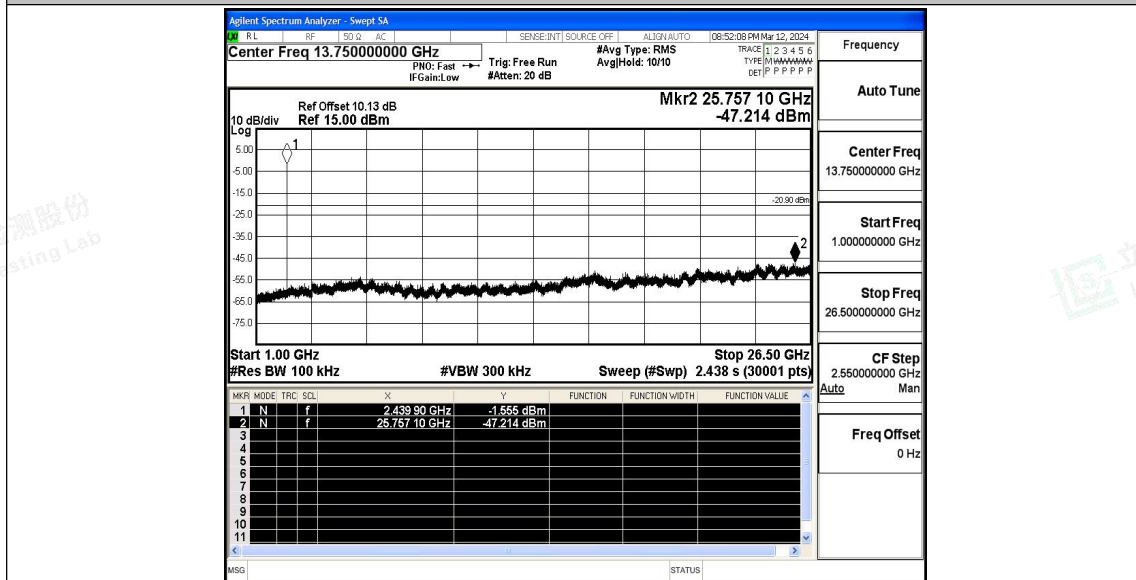


Test Graphs



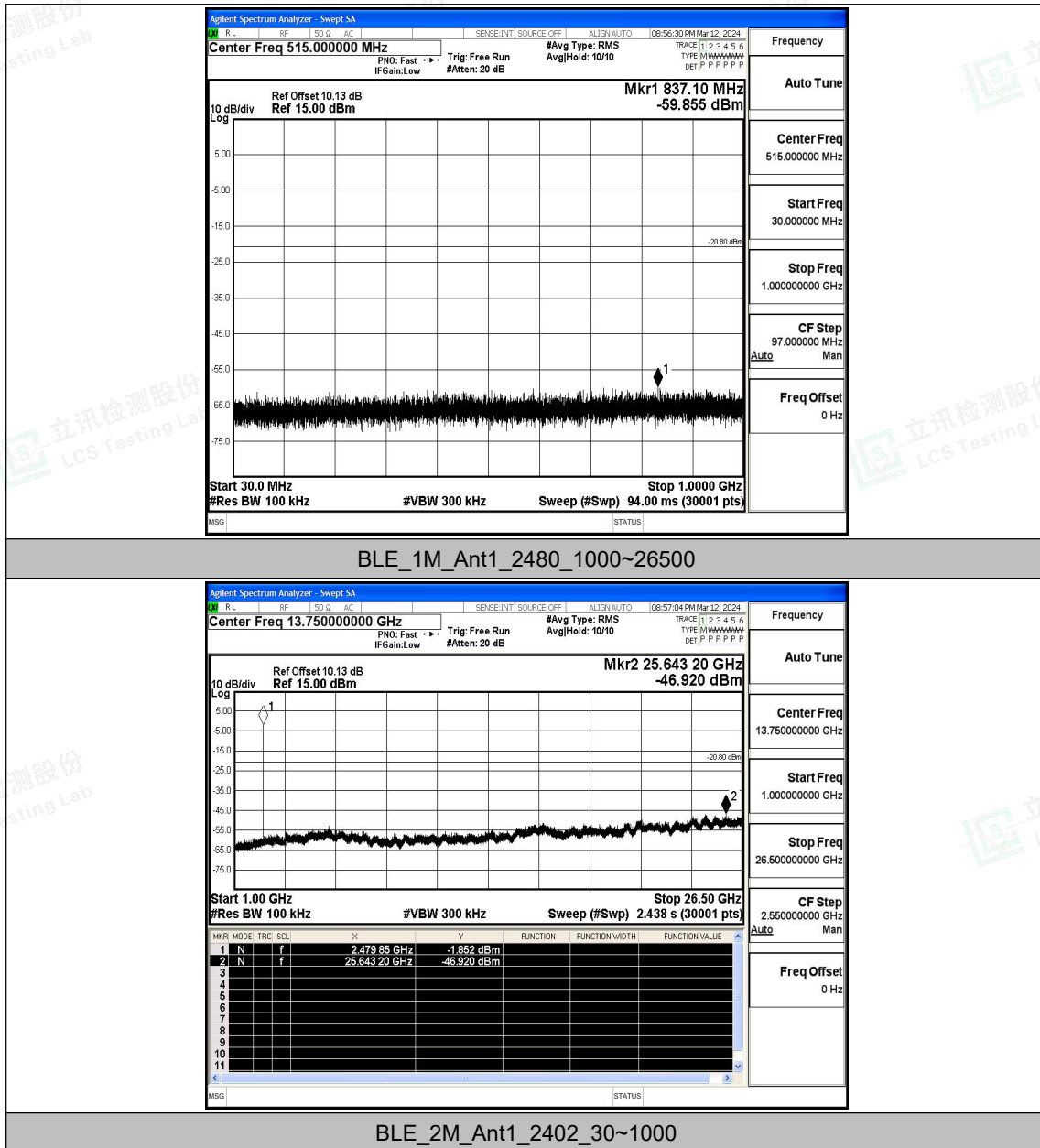


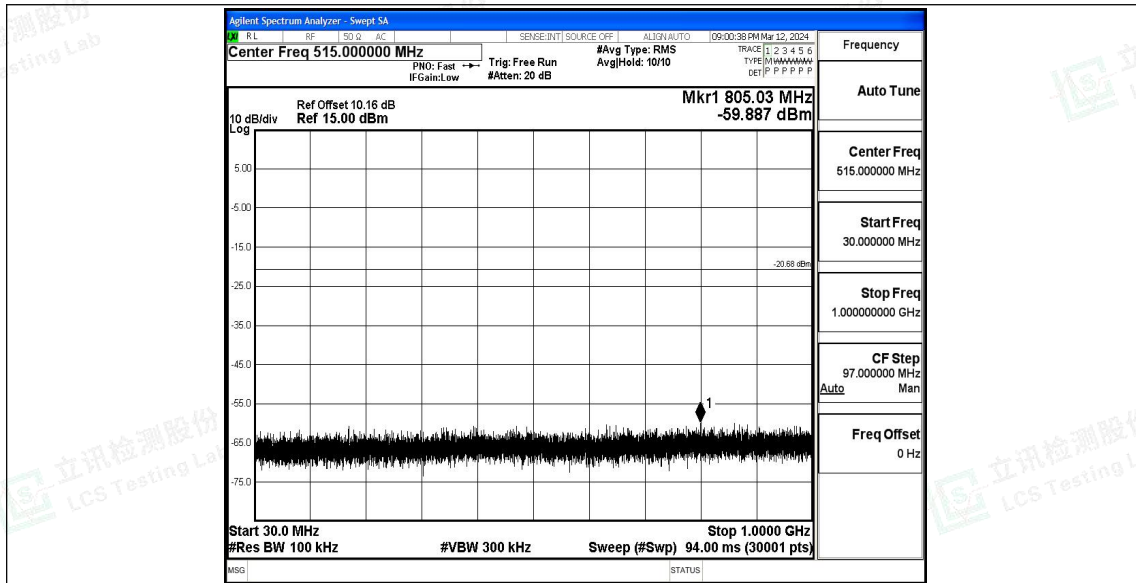
BLE_1M_Ant1_2440_1000~26500



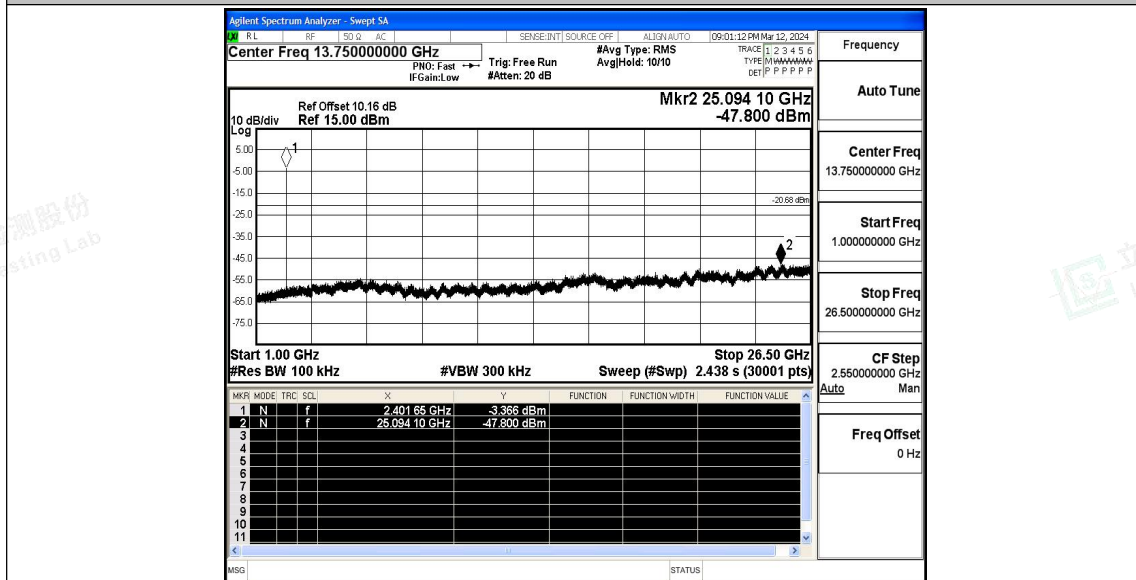
BLE_1M_Ant1_2480_30~1000





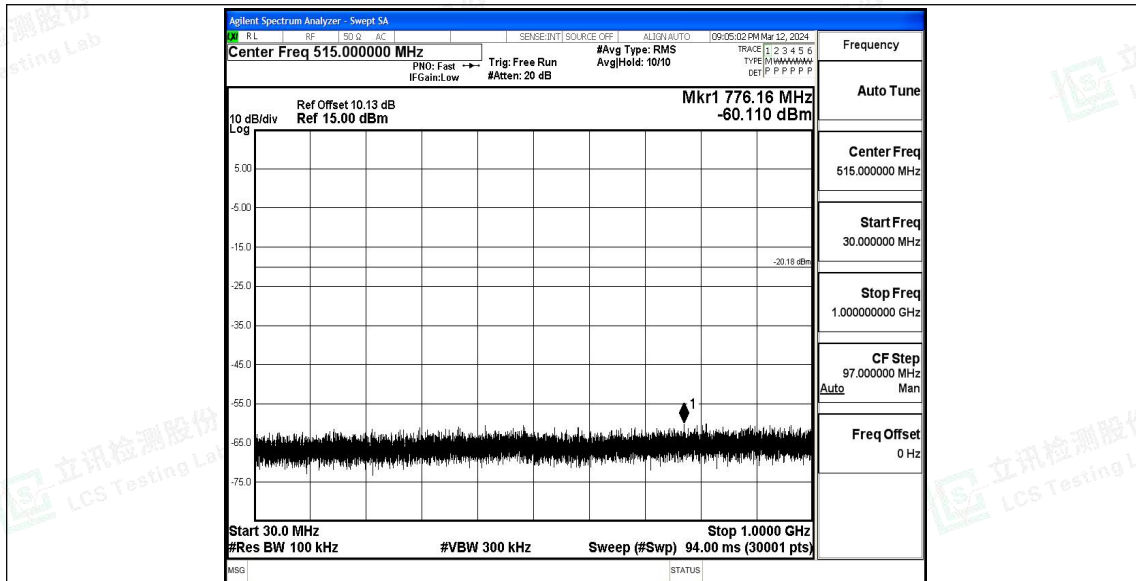


BLE_2M_Ant1_2402_1000~26500

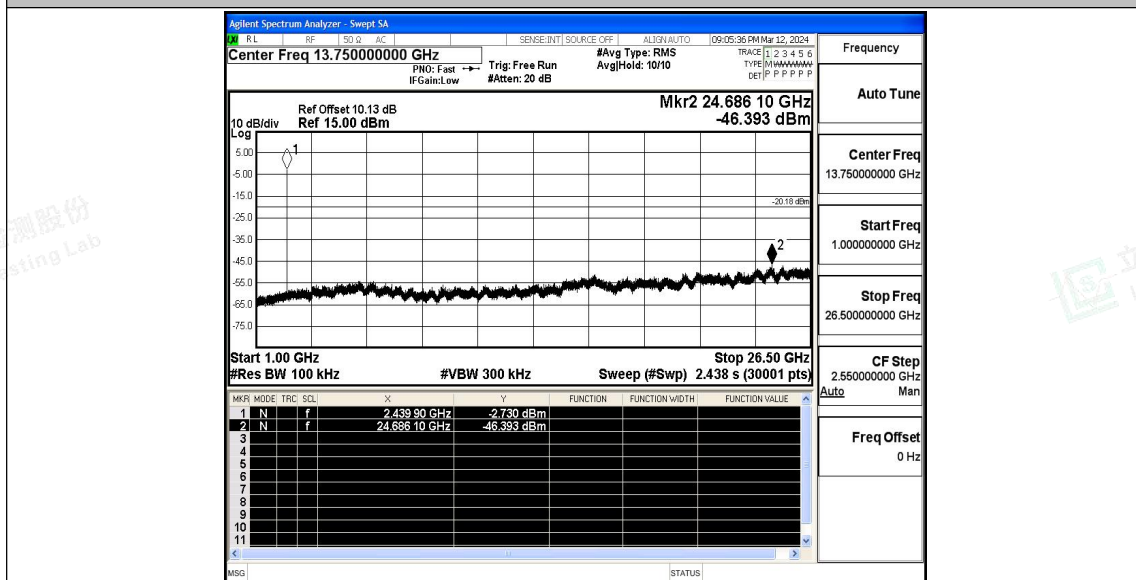


BLE_2M_Ant1_2440_30~1000



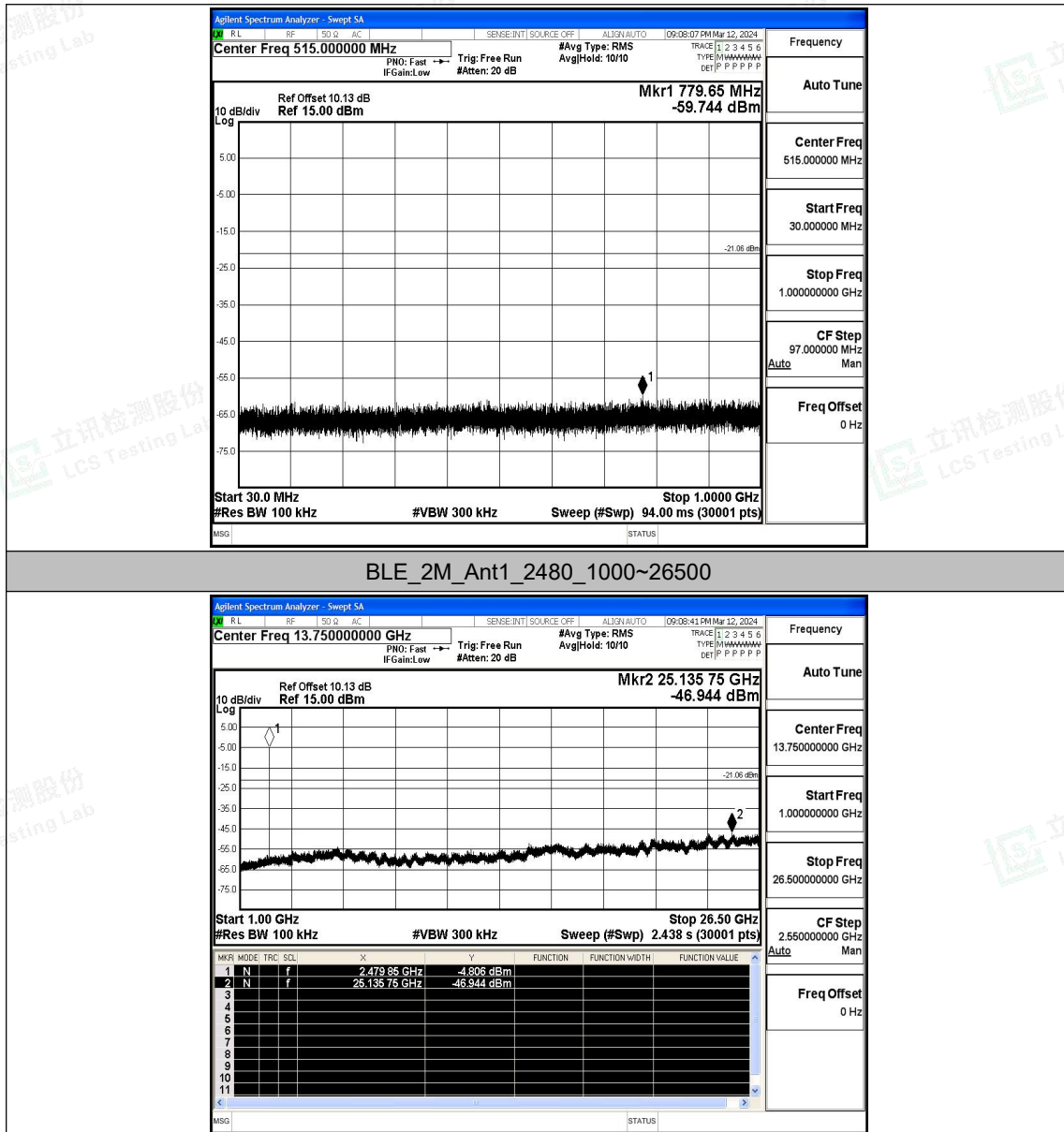


BLE_2M_Ant1_2440_1000~26500



BLE_2M_Ant1_2480_30~1000







Reference level measurement

Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.75	-0.27
		2440	2439.75	-0.90
		2480	2479.74	-0.80
BLE_2M	Ant1	2402	2401.50	-0.68
		2440	2439.52	-0.18
		2480	2479.51	-1.06

