



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: TS Smart Mortise Sectional TS Smart Panic Trim Lock

Test Model: e-Cronus-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



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A.1 DTS Bandwidth

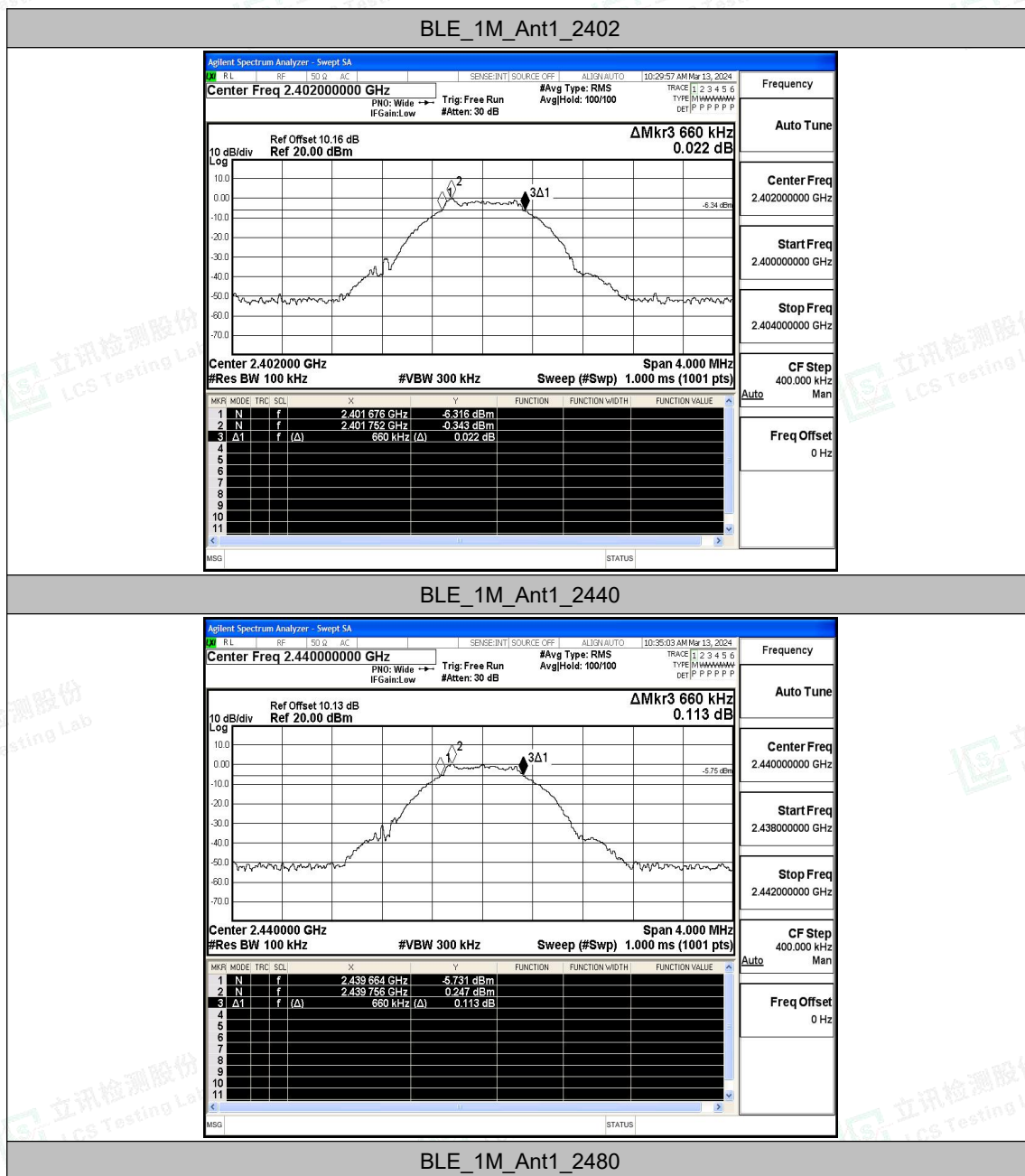
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.660	2401.676	2402.336	0.5	PASS
		2440	0.660	2439.664	2440.324	0.5	PASS
		2480	0.652	2479.680	2480.332	0.5	PASS
BLE_2M	Ant1	2402	1.116	2401.456	2402.572	0.5	PASS
		2440	1.164	2439.416	2440.580	0.5	PASS
		2480	1.124	2479.428	2480.552	0.5	PASS





Test Graphs

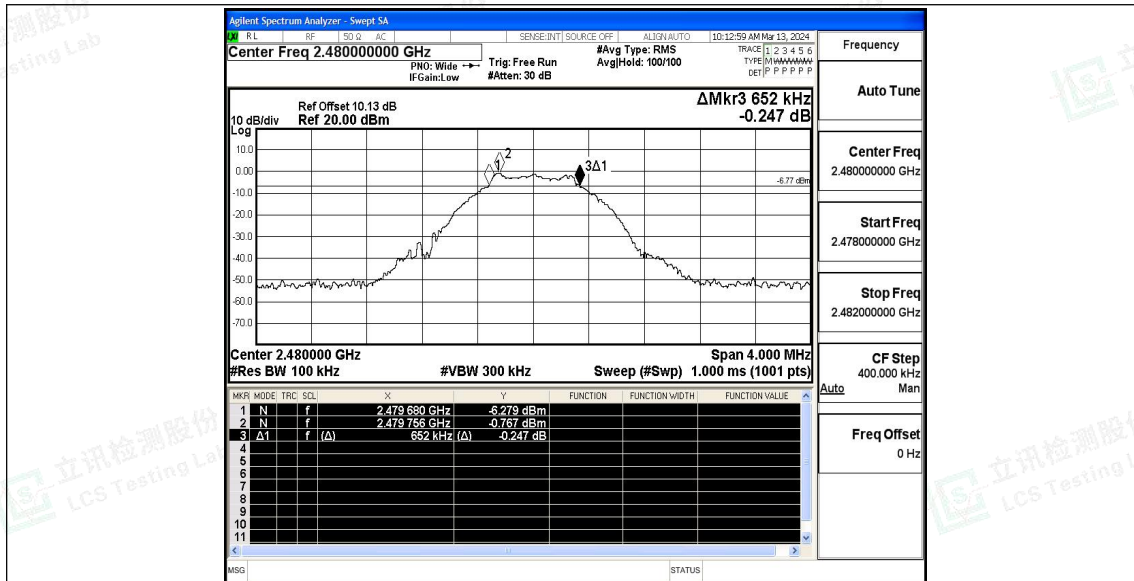


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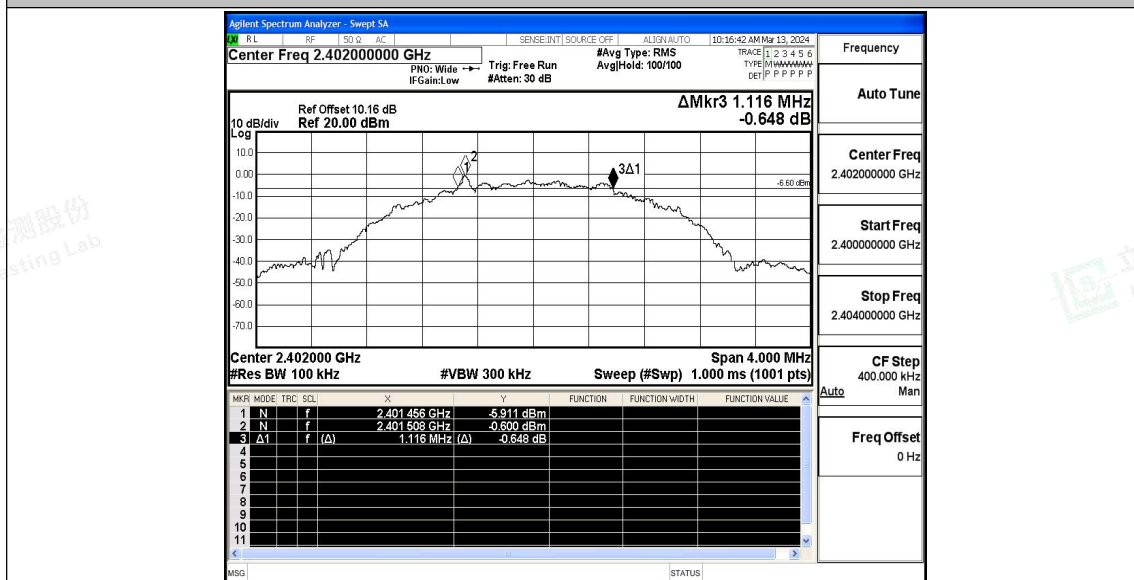
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BLE_2M_Ant1_2402



BLE_2M_Ant1_2440

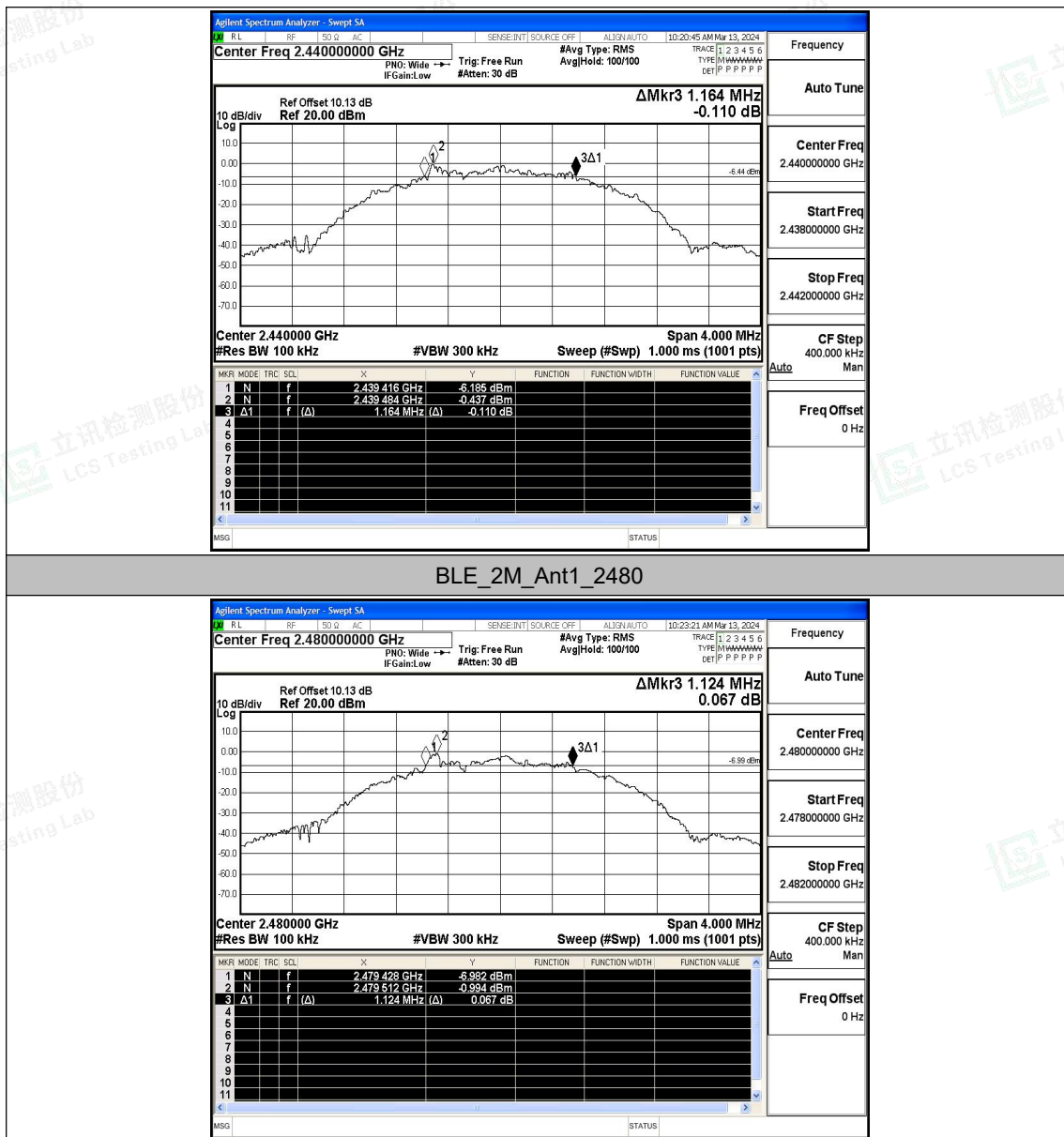


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A.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.17	≤30	PASS
		2440	0.78	≤30	PASS
		2480	-0.25	≤30	PASS
BLE_2M	Ant1	2402	0.12	≤30	PASS
		2440	0.60	≤30	PASS
		2480	-0.41	≤30	PASS



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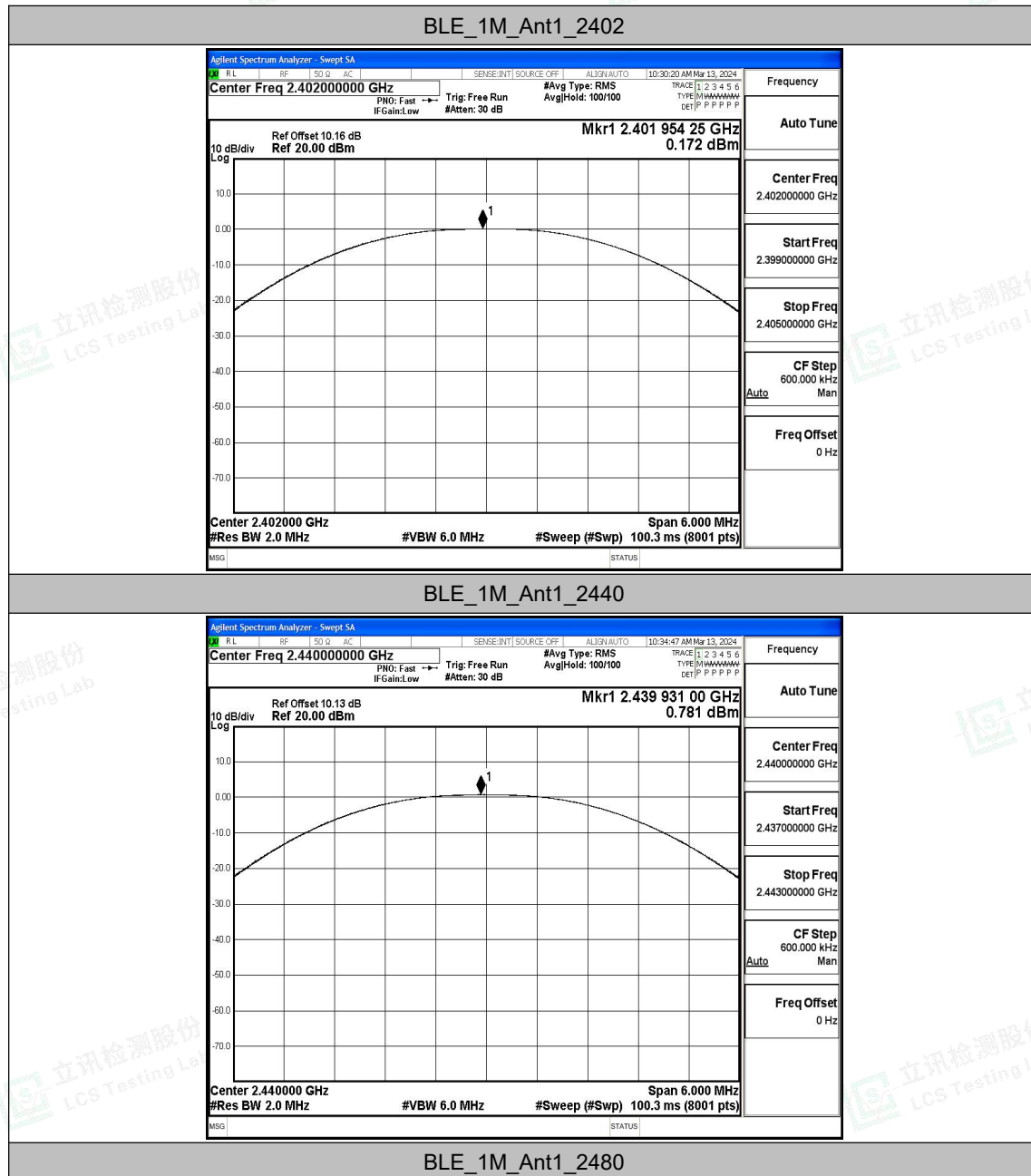
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Test Graphs

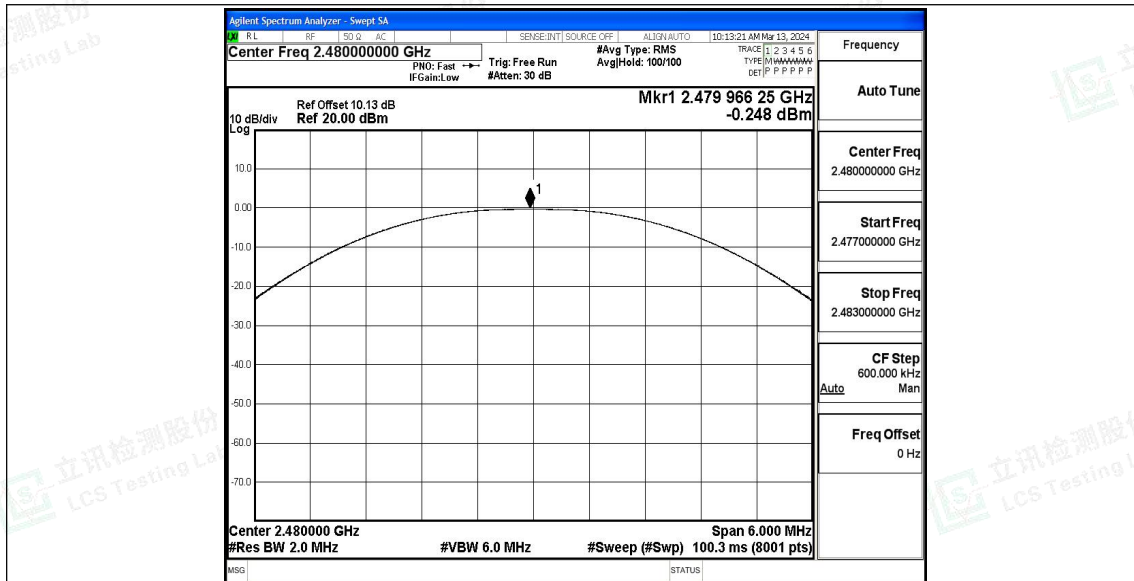


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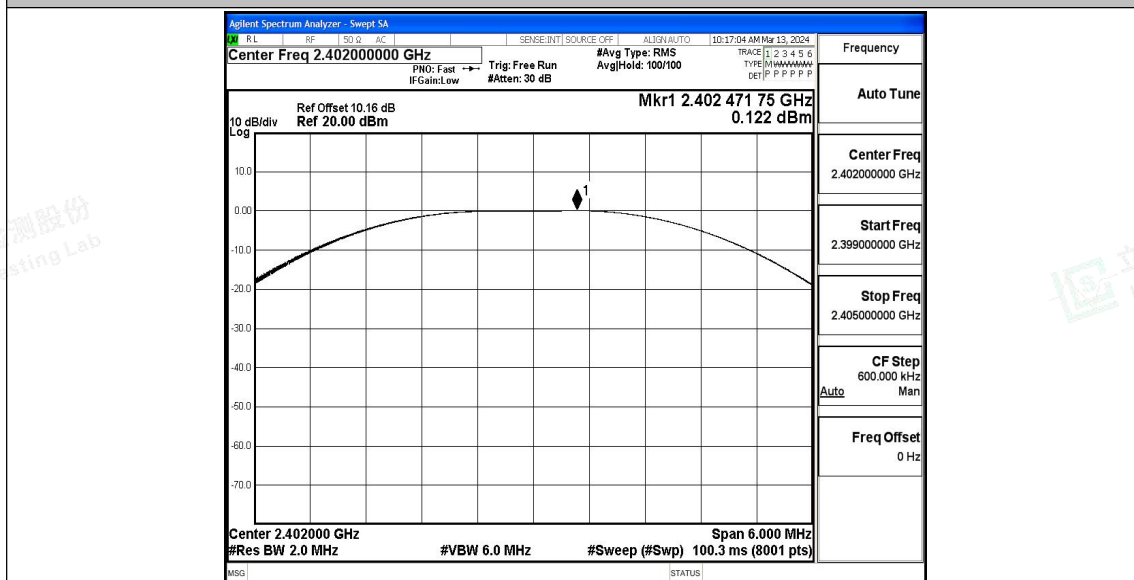
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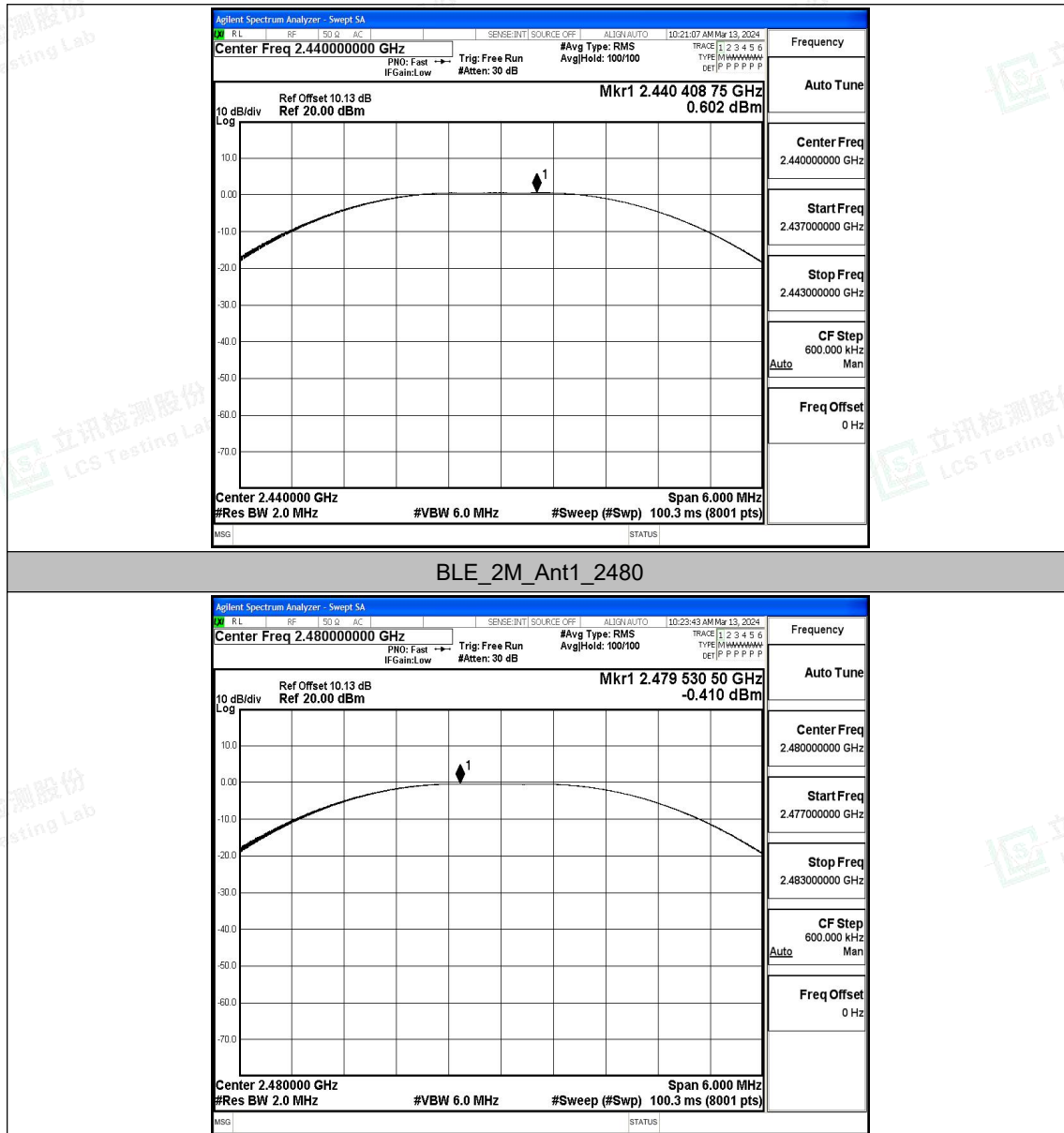


BLE_2M_Ant1_2402



BLE_2M_Ant1_2440







A.3 Maximum power spectral density

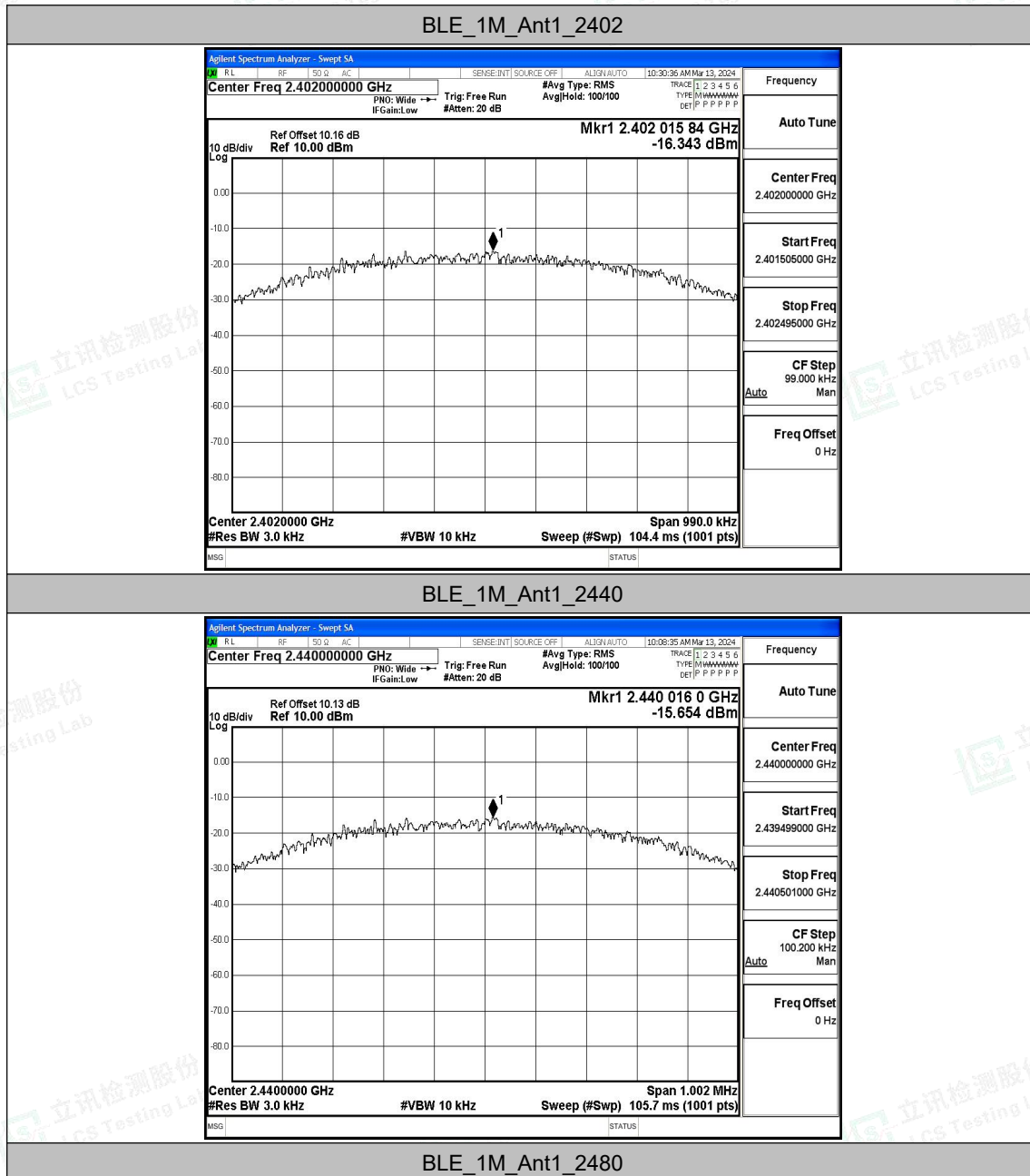
Test Result

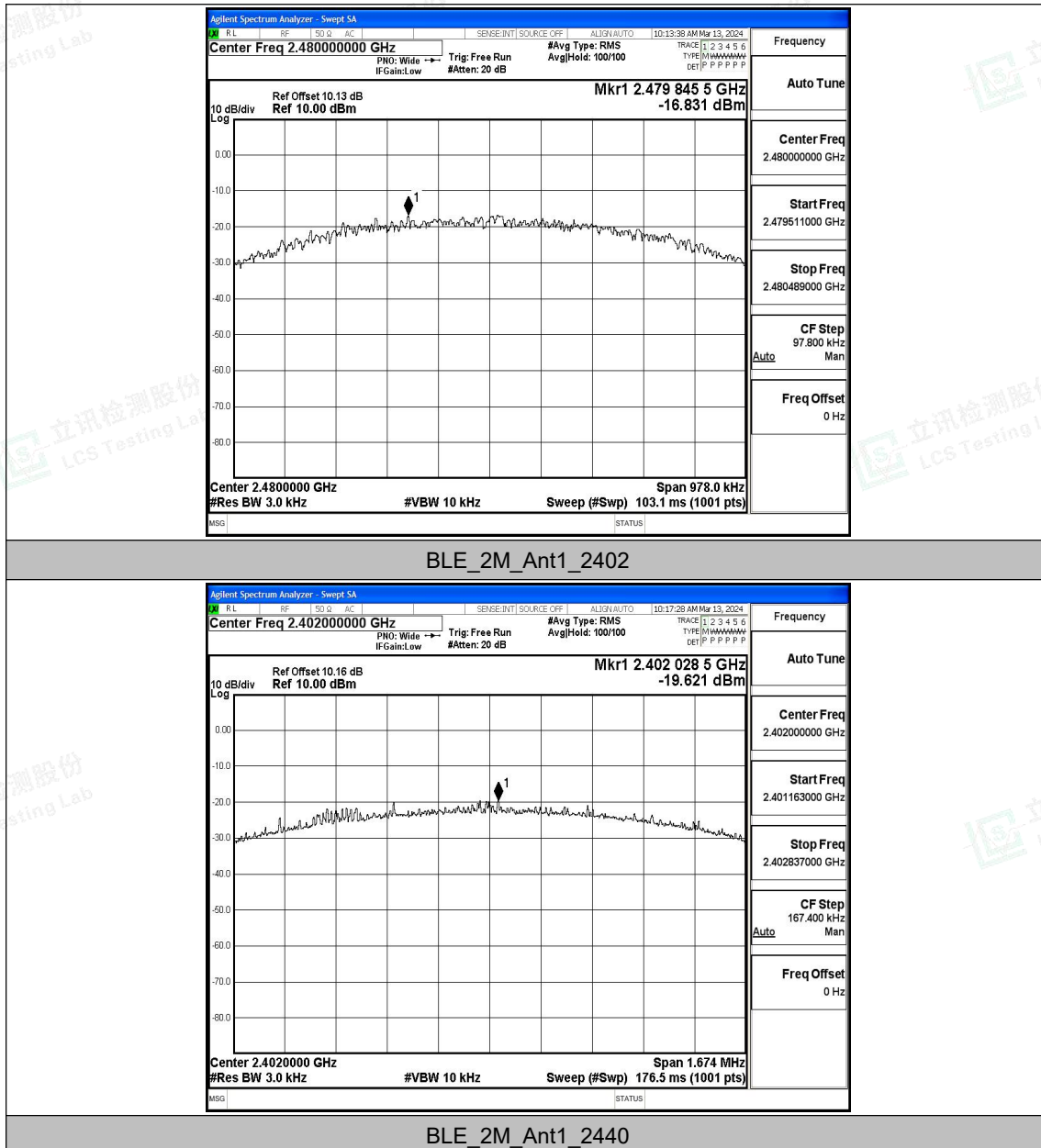
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.34	≤8.00	PASS
		2440	-15.65	≤8.00	PASS
		2480	-16.83	≤8.00	PASS
BLE_2M	Ant1	2402	-19.62	≤8.00	PASS
		2440	-18.80	≤8.00	PASS
		2480	-20.20	≤8.00	PASS

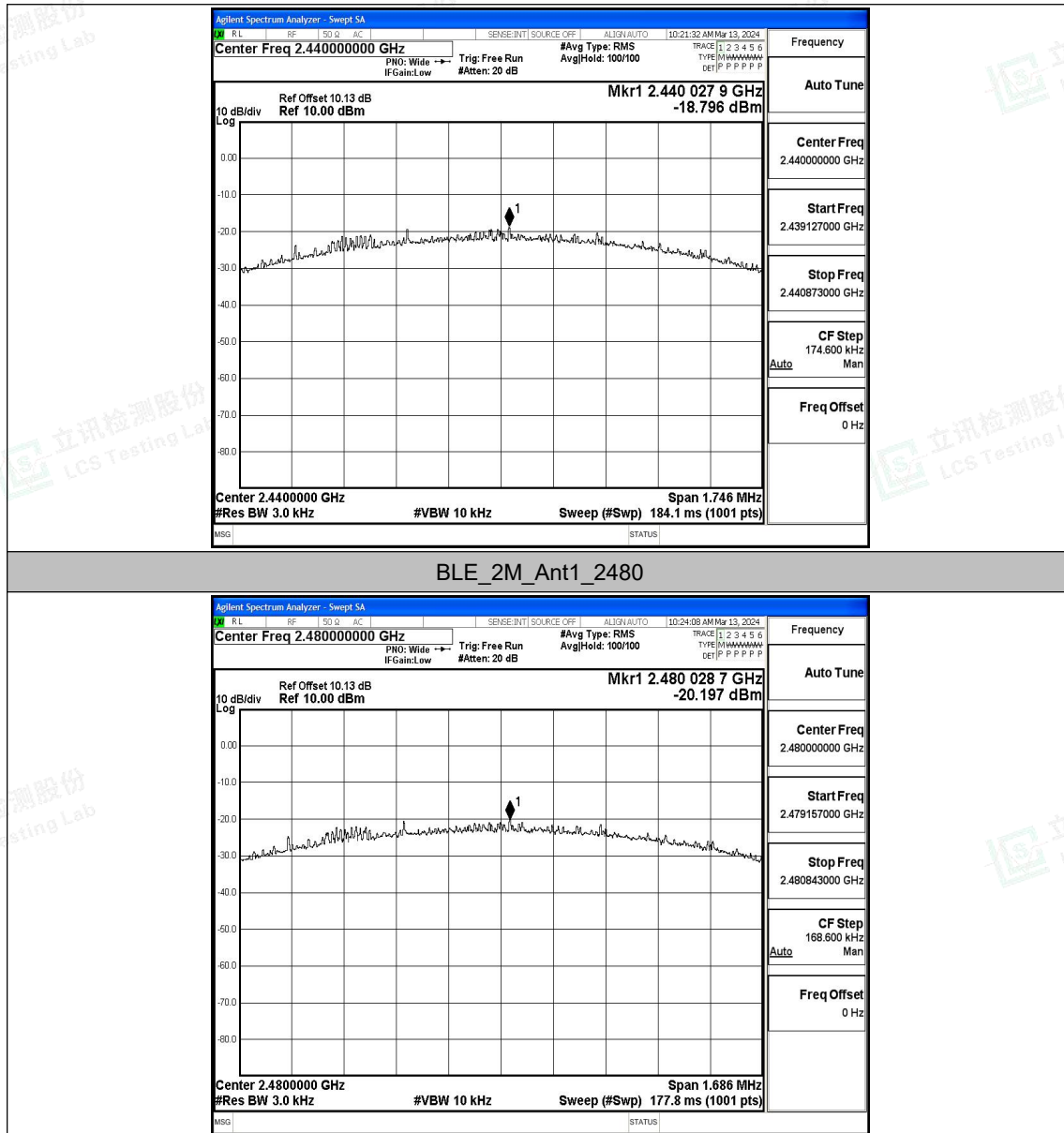




Test Graphs









A.4 Band edge measurements

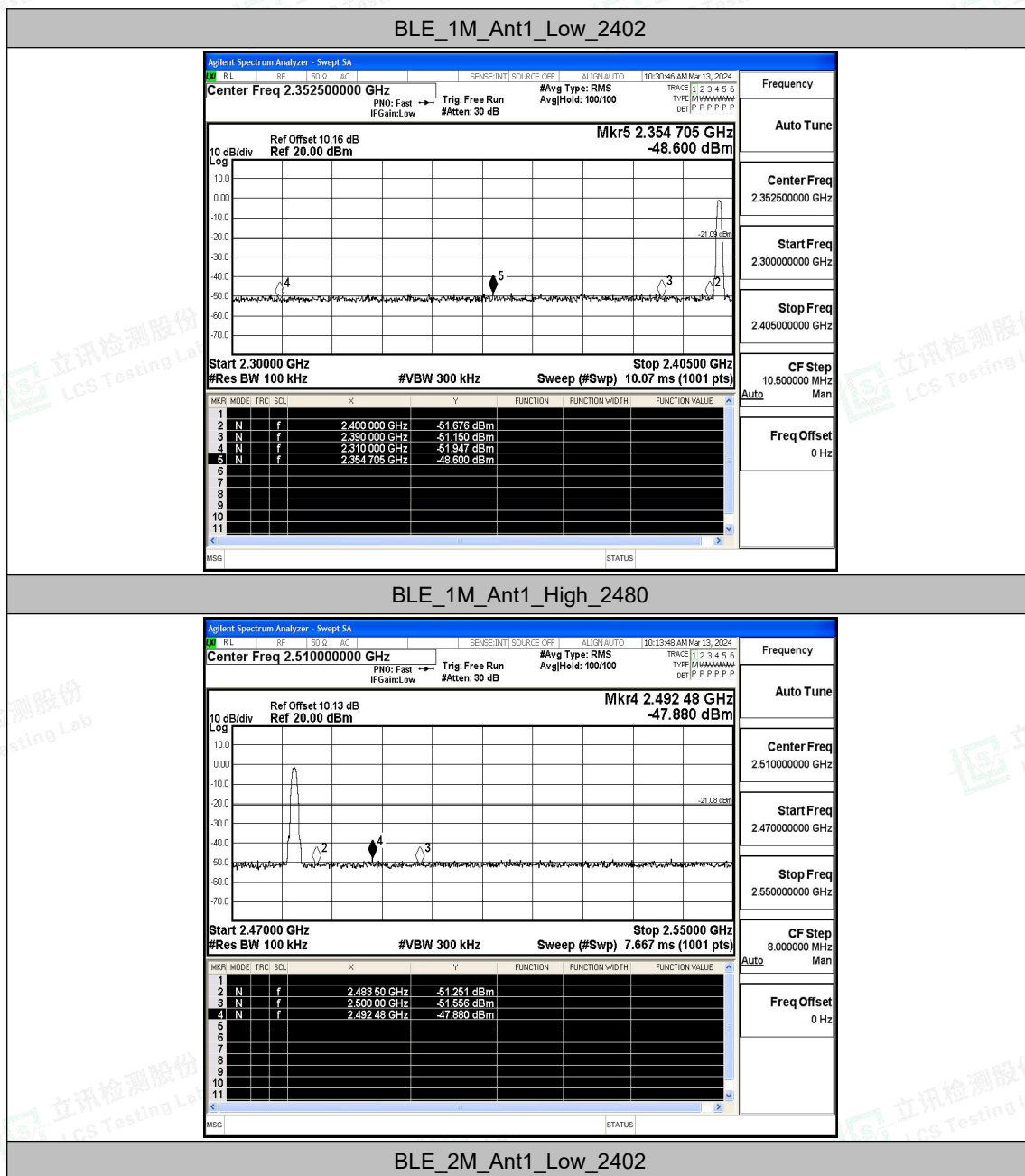
Test Result

TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.09	-48.6	≤-21.09	PASS
		High	2480	-1.08	-47.88	≤-21.08	PASS
BLE_2M	Ant1	Low	2402	-0.96	-45.44	≤-20.96	PASS
		High	2480	-0.94	-46.83	≤-20.94	PASS





Test Graphs

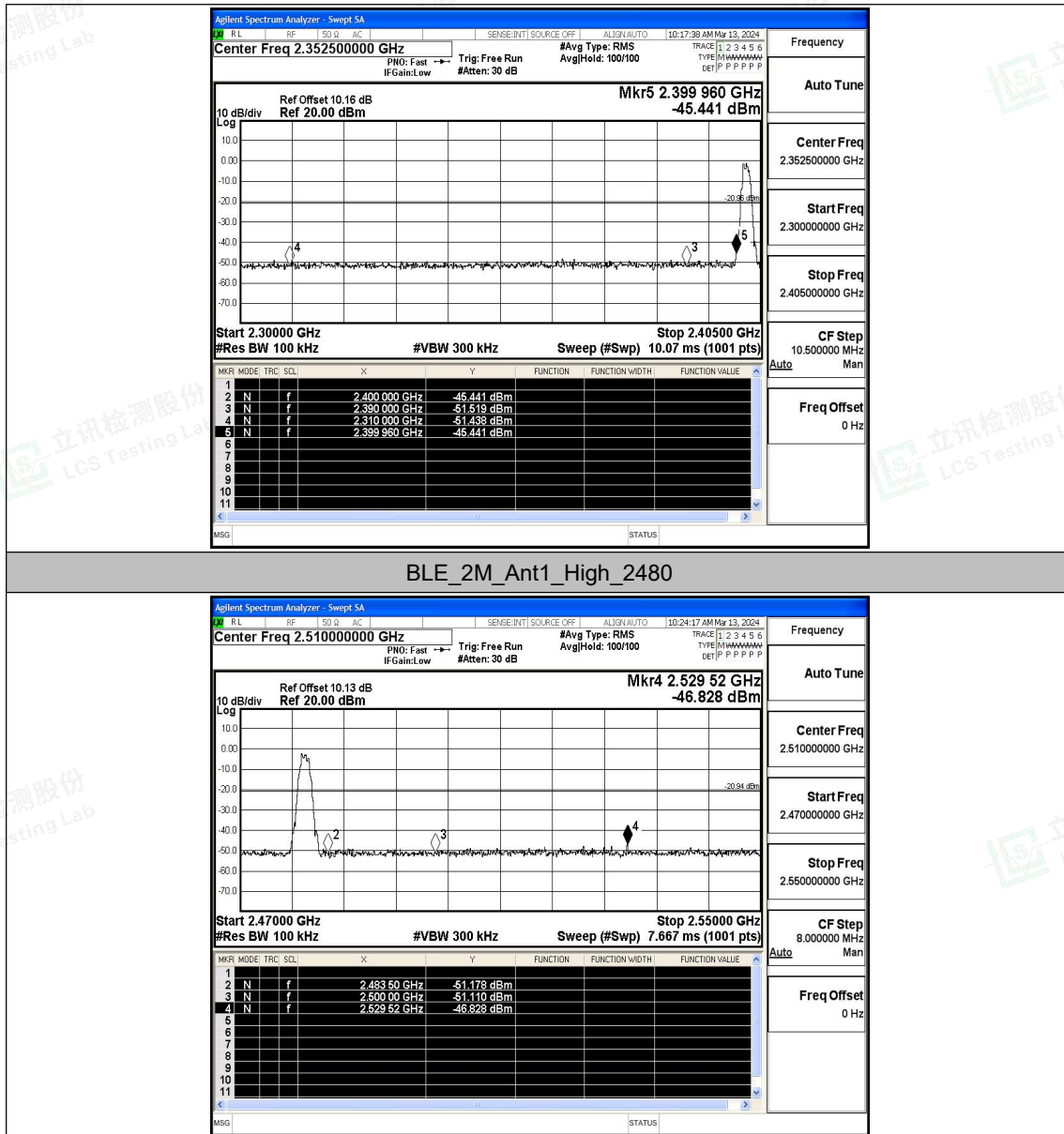


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A.5 Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-1.09	-59.48	≤-21.09	PASS
			1000~26500	-1.09	-47.64	≤-21.09	PASS
		2440	30~1000	0.28	-58.35	≤-19.72	PASS
			1000~26500	0.28	-47.36	≤-19.72	PASS
		2480	30~1000	-1.08	-59.85	≤-21.08	PASS
			1000~26500	-1.08	-47.47	≤-21.08	PASS
BLE_2M	Ant1	2402	30~1000	-0.96	-60.35	≤-20.96	PASS
			1000~26500	-0.96	-47.02	≤-20.96	PASS
		2440	30~1000	-2.84	-59.78	≤-22.84	PASS
			1000~26500	-2.84	-47.33	≤-22.84	PASS
		2480	30~1000	-0.94	-59.91	≤-20.94	PASS
			1000~26500	-0.94	-47.39	≤-20.94	PASS



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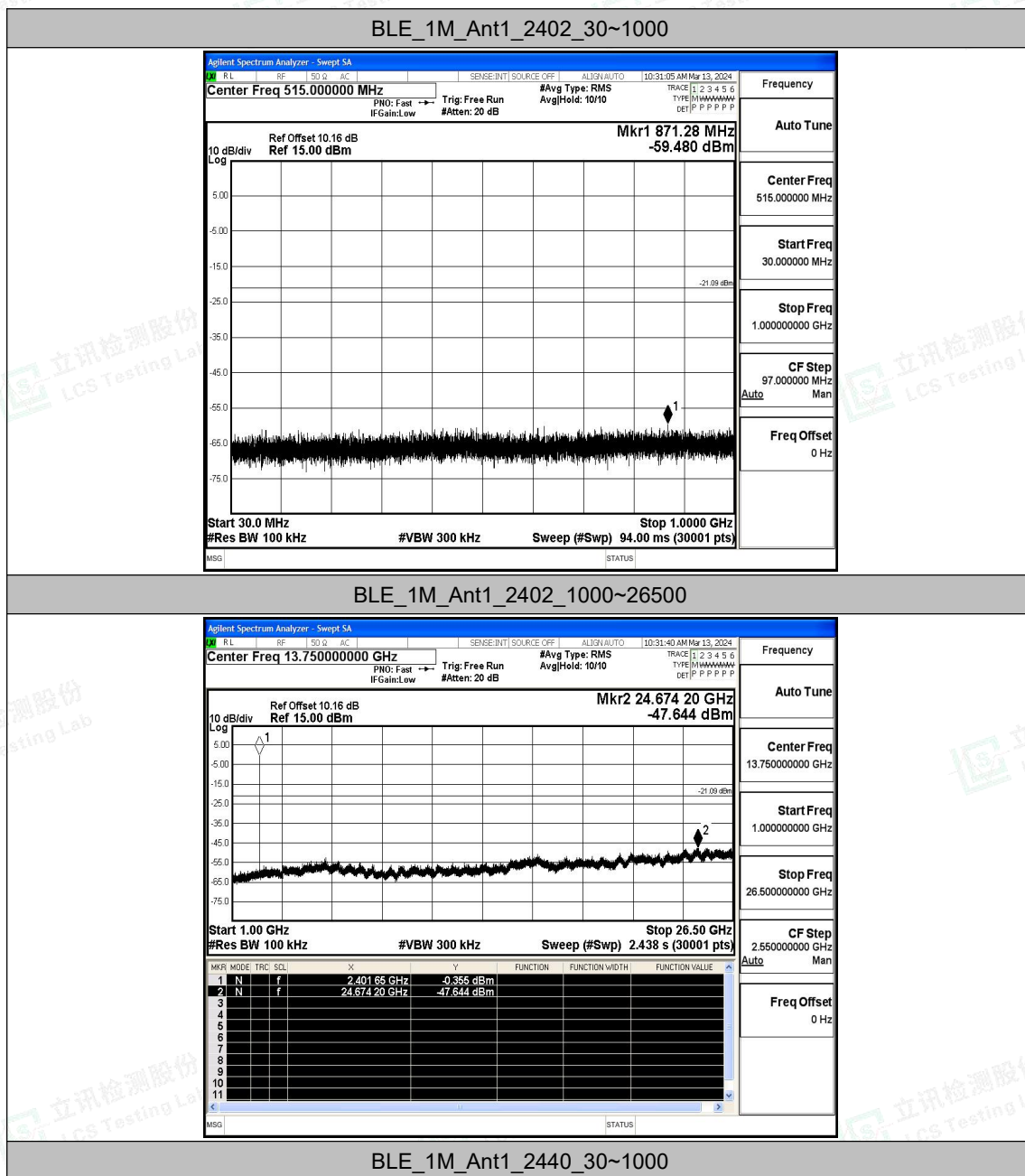
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Test Graphs

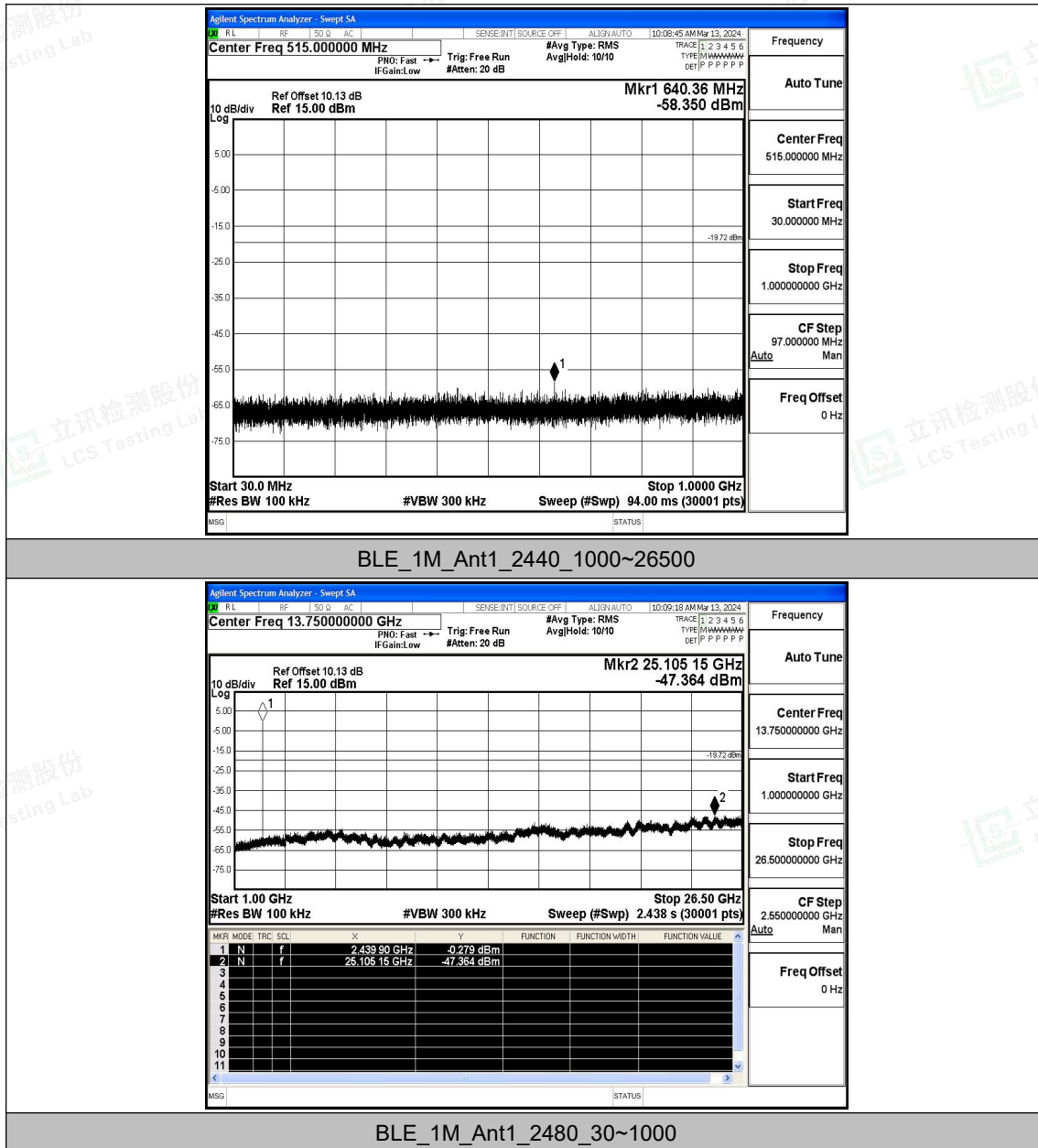


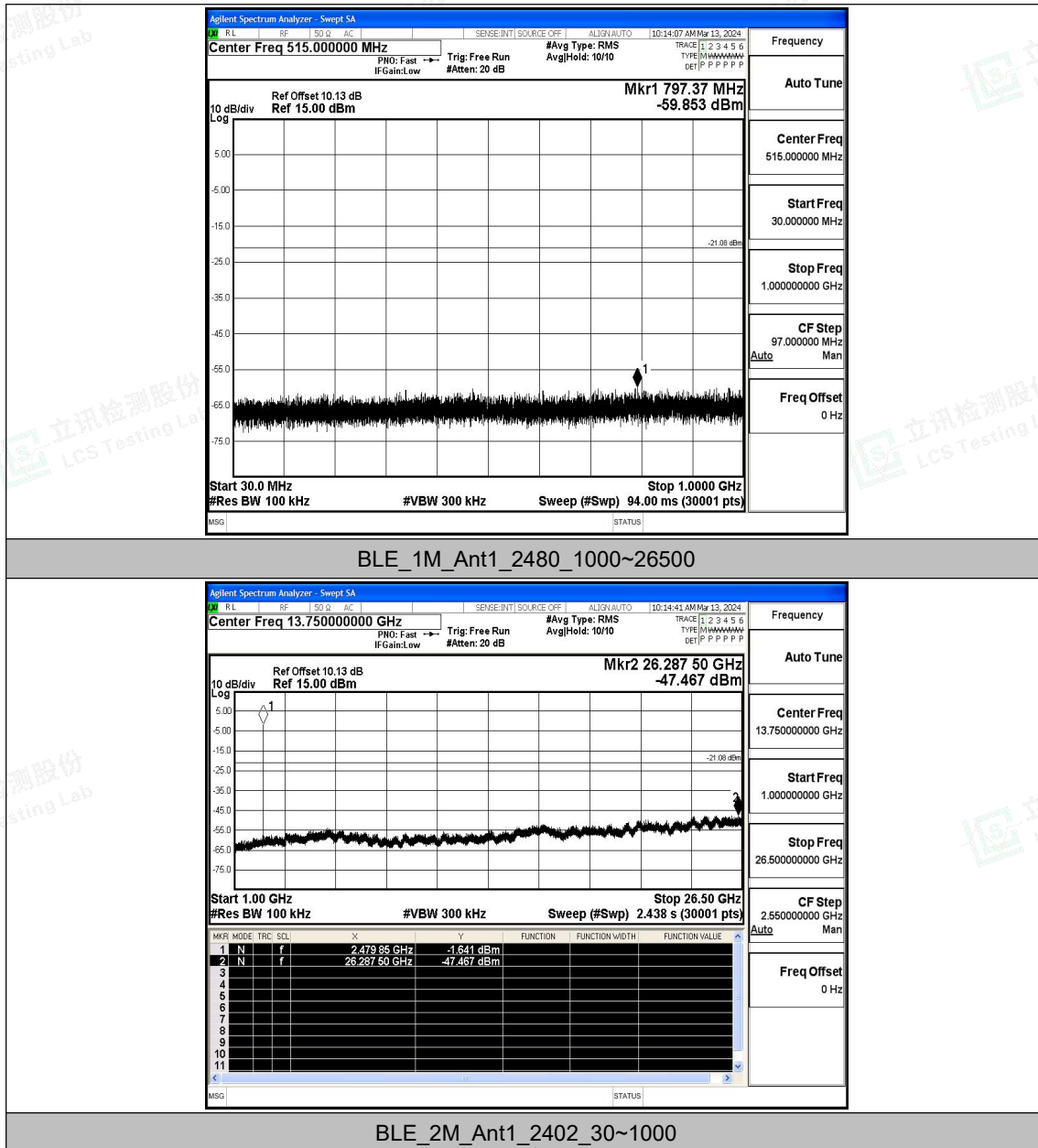
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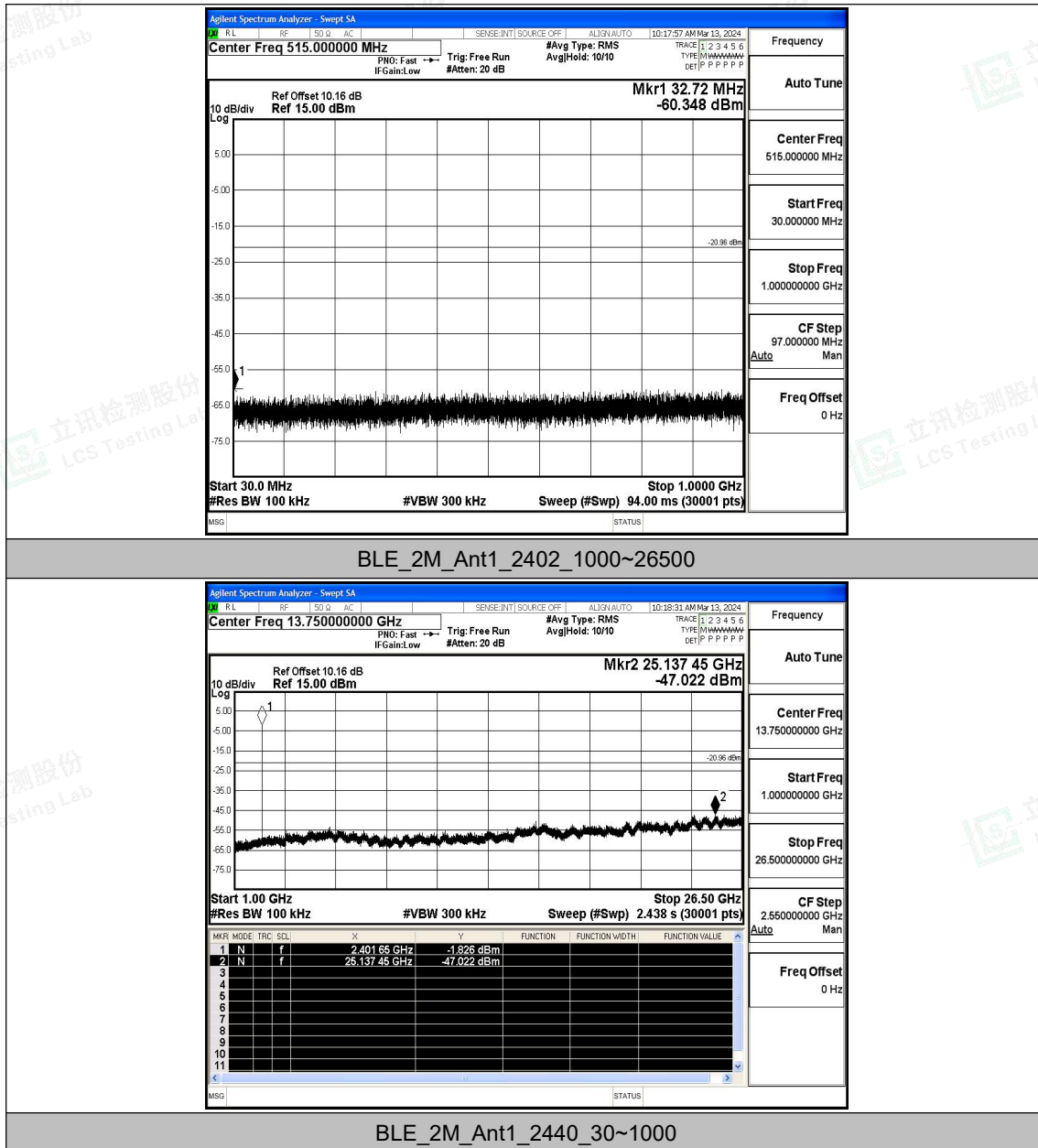
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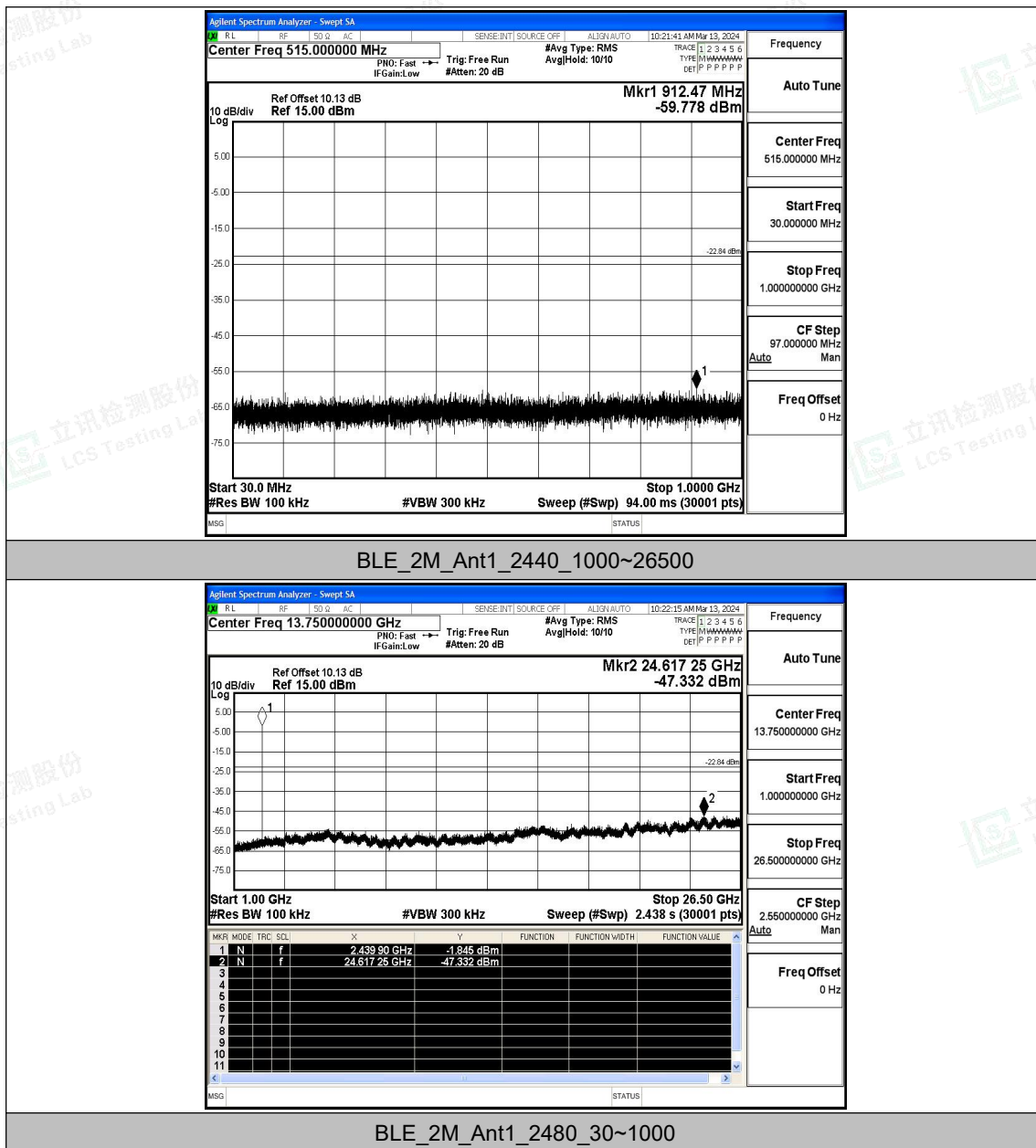


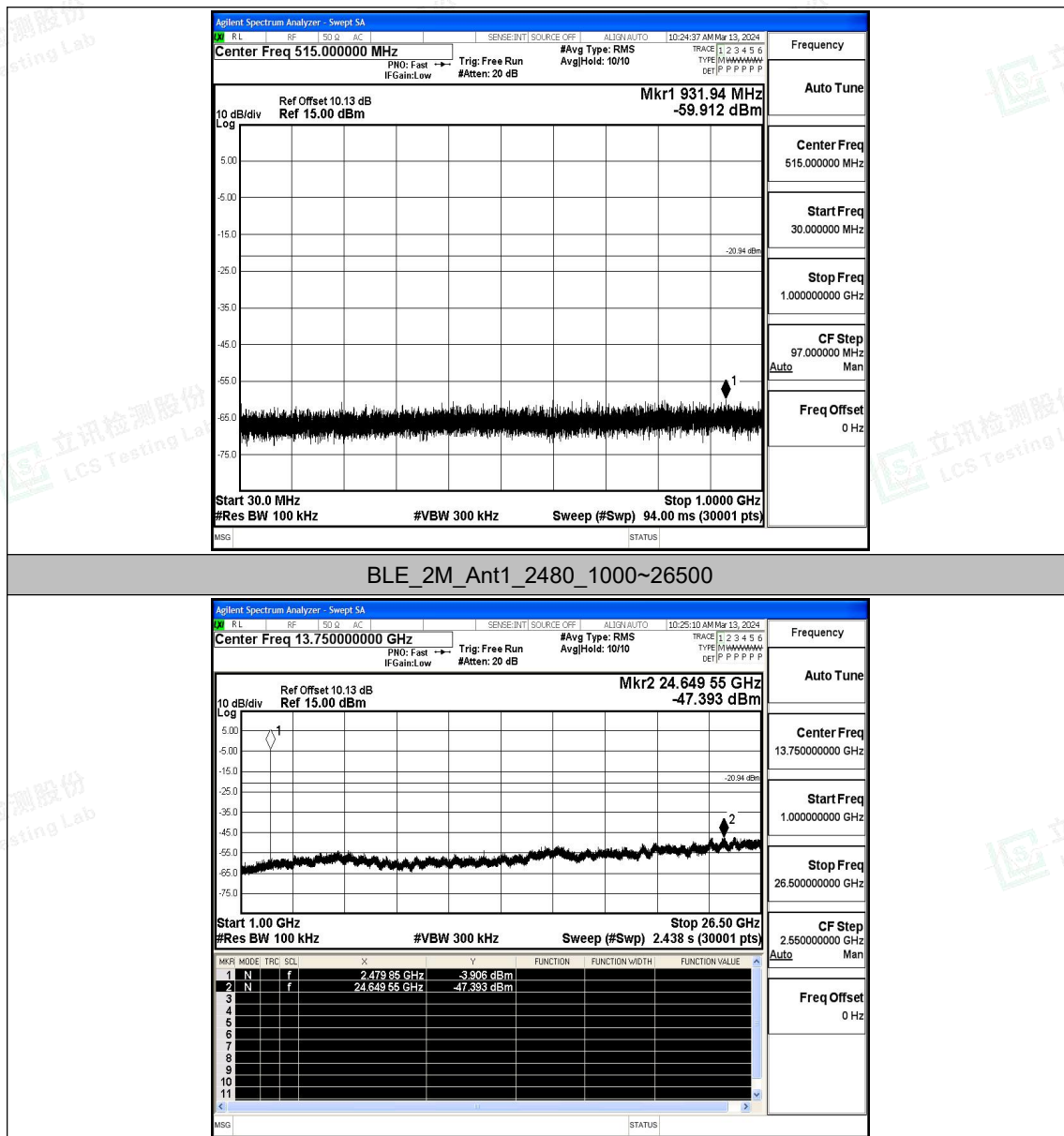
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Reference level measurement

Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.24	-1.09
		2440	2439.75	0.28
		2480	2479.77	-1.08
BLE_2M	Ant1	2402	2401.49	-0.96
		2440	2440.19	-2.84
		2480	2479.50	-0.94

