

Appendix: Bluetooth LE

Contents

Appendix A: DTS Bandwidth 3

 Test Result 3

 Test Graphs 4

Appendix B: Occupied Channel Bandwidth 7

 Test Result 7

 Test Graphs 8

Appendix C: Maximum conducted output power 11

 Test Result 11

 Test Graphs 12

Appendix D: Maximum power spectral density 15

 Test Result 15

 Test Graphs 16

Appendix E: Band edge measurements 19

 Test Result 19

 Test Graphs 20

Appendix F: Conducted Spurious Emission 22

 Test Result 22

 Test Graphs 23

Appendix G: Duty Cycle 32

 Test Result 32

 Test Graphs 33

Appendix A: DTS Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	0.69	2401.64	2402.34	0.5	PASS
		2440	0.69	2439.65	2440.34	0.5	PASS
		2480	0.70	2479.64	2480.34	0.5	PASS
BLE_2M	Ant1	2404	1.18	2403.40	2404.58	0.5	PASS
		2440	1.17	2439.40	2440.58	0.5	PASS
		2478	1.18	2477.40	2478.59	0.5	PASS

Test Graphs





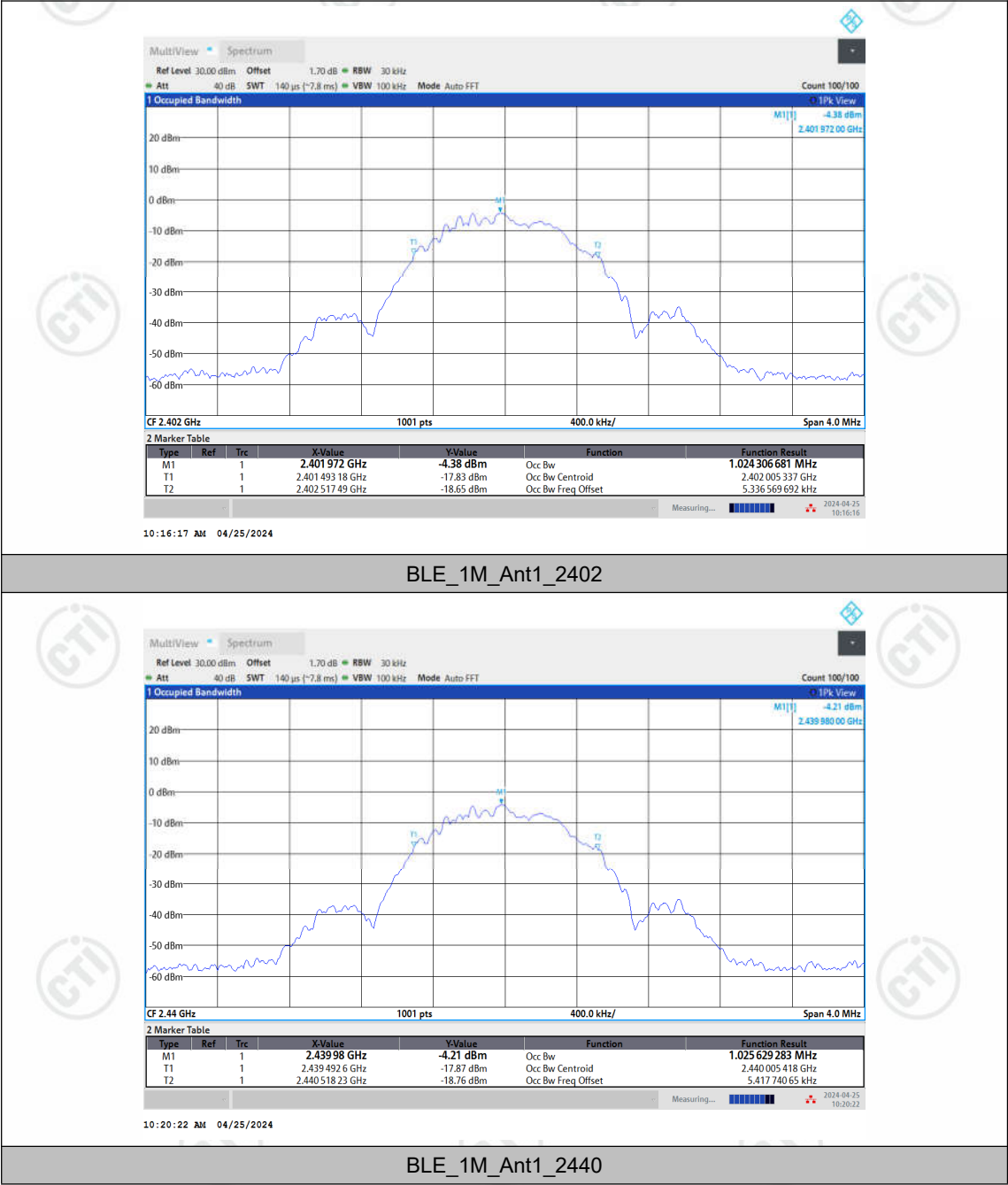


Appendix B: Occupied Channel Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.024	2401.493	2402.517	---	---
		2440	1.026	2439.493	2440.518	---	---
		2480	1.026	2479.492	2480.518	---	---
BLE_2M	Ant1	2404	2.026	2403.007	2405.034	---	---
		2440	2.025	2439.008	2441.033	---	---
		2478	2.023	2477.008	2479.031	---	---

Test Graphs







Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
BLE_1M	Ant1	2402	0.61	≤30	1.37	≤36	PASS
		2440	0.73	≤30	1.49	≤36	PASS
		2480	0.36	≤30	1.12	≤36	PASS
BLE_2M	Ant1	2404	0.71	≤30	1.47	≤36	PASS
		2440	0.82	≤30	1.58	≤36	PASS
		2478	0.5	≤30	1.26	≤36	PASS

Test Graphs





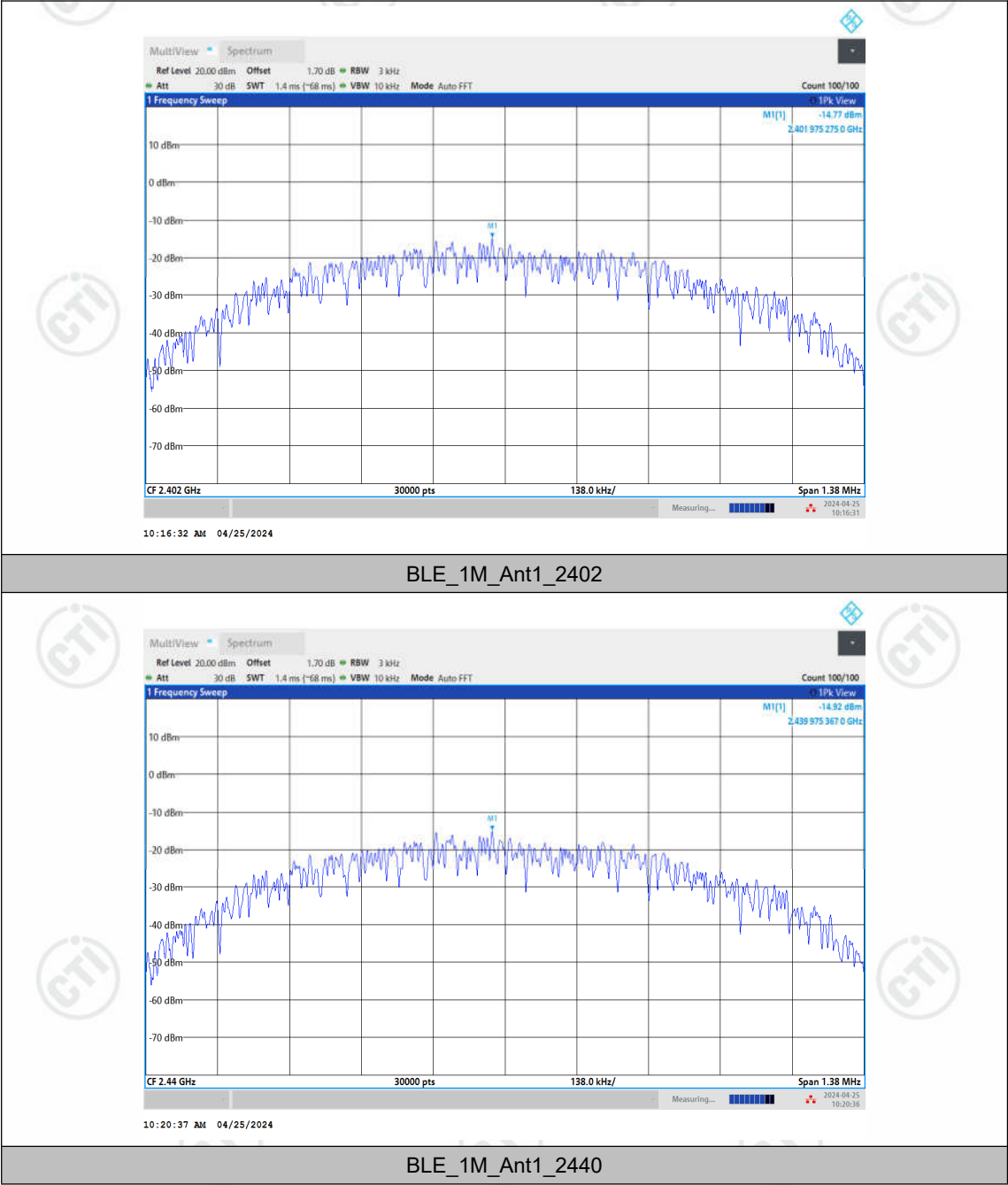


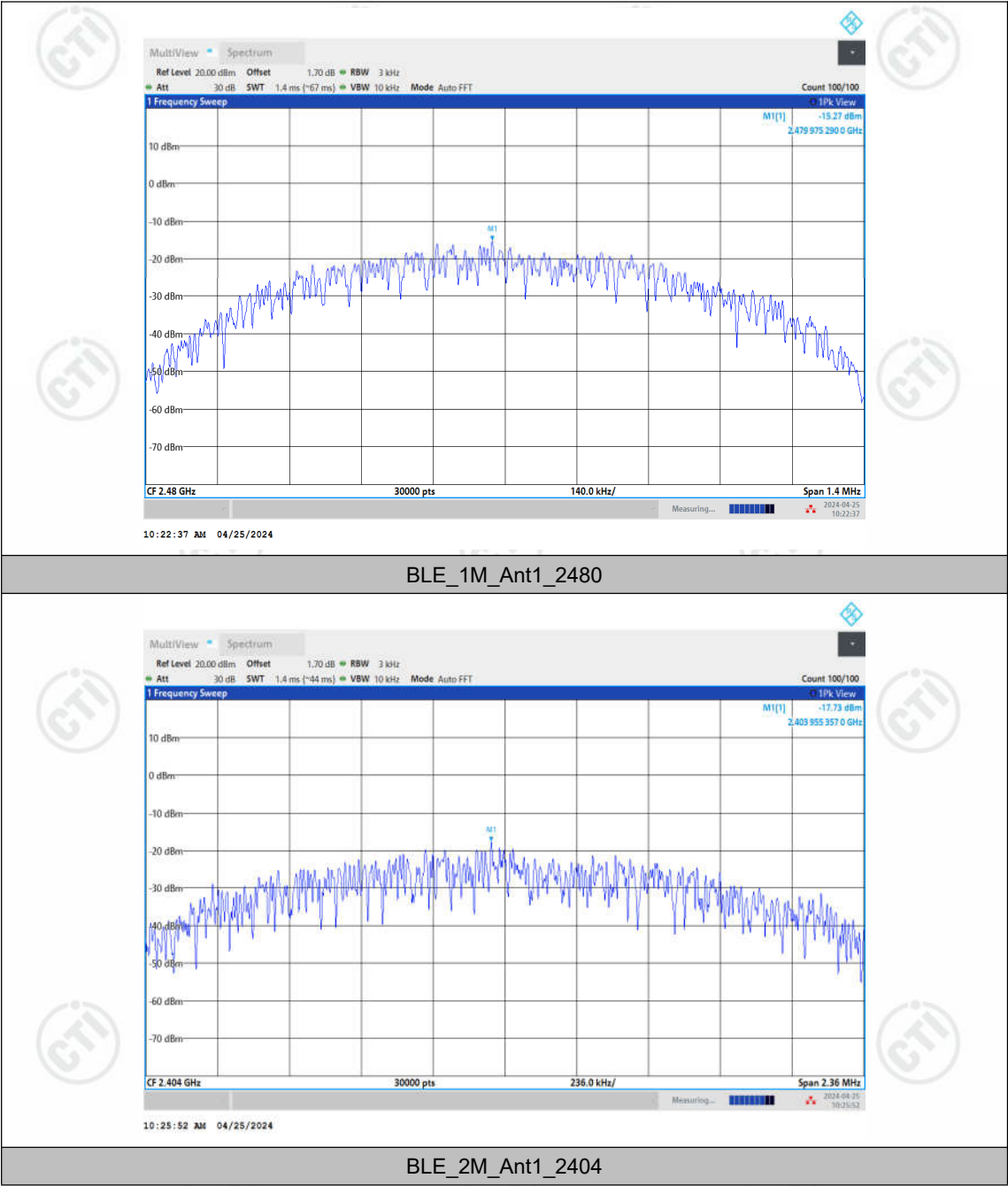
Appendix D: Maximum power spectral density

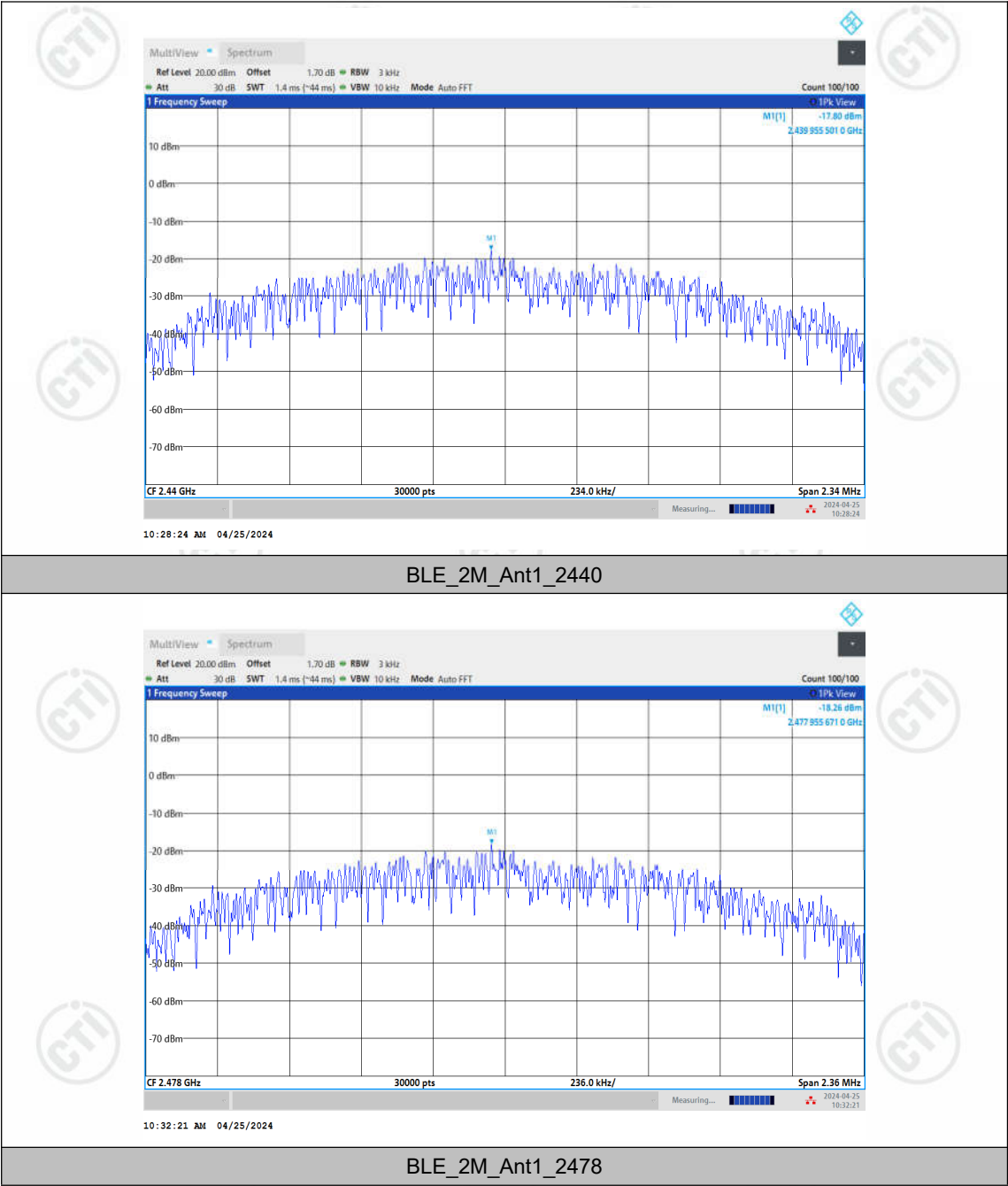
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.77	≤8.00	PASS
		2440	-14.92	≤8.00	PASS
		2480	-15.27	≤8.00	PASS
BLE_2M	Ant1	2404	-17.73	≤8.00	PASS
		2440	-17.8	≤8.00	PASS
		2478	-18.26	≤8.00	PASS

Test Graphs





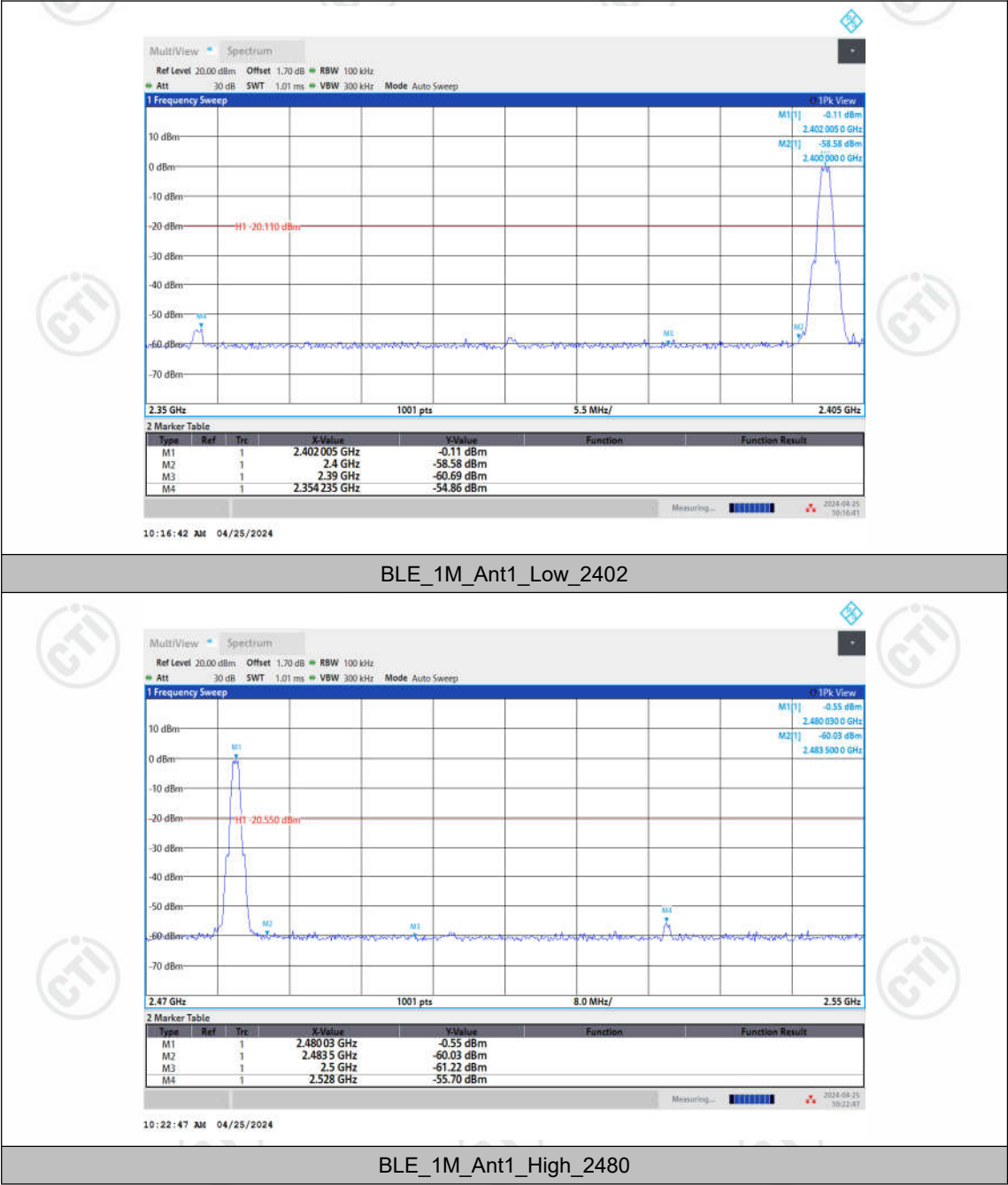


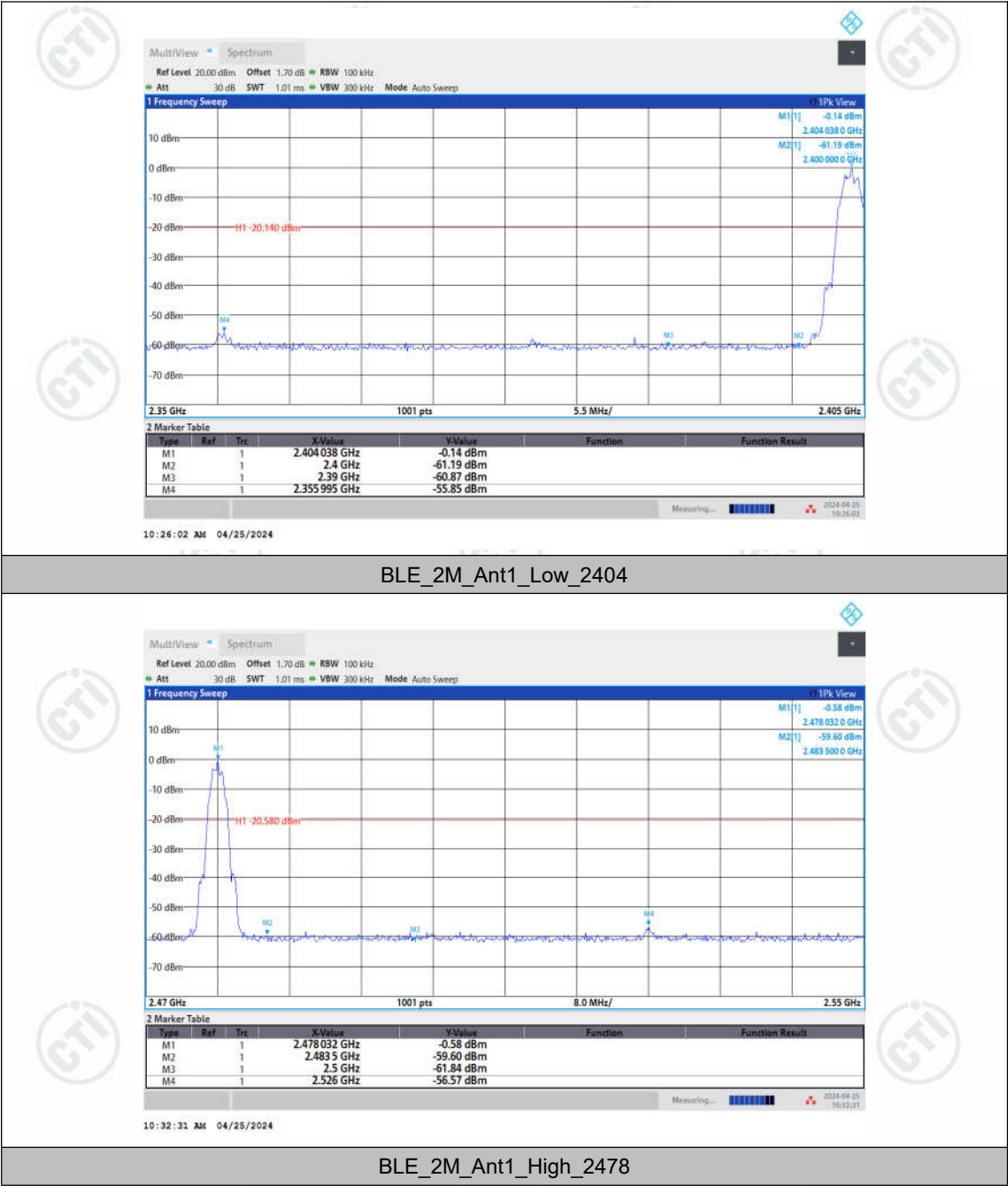
Appendix E: Band edge measurements

Test Result

Test Mode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.11	-54.86	≤-20.11	PASS
		High	2480	-0.55	-55.7	≤-20.55	PASS
BLE_2M	Ant1	Low	2404	-0.14	-55.85	≤-20.14	PASS
		High	2478	-0.58	-56.57	≤-20.58	PASS

Test Graphs



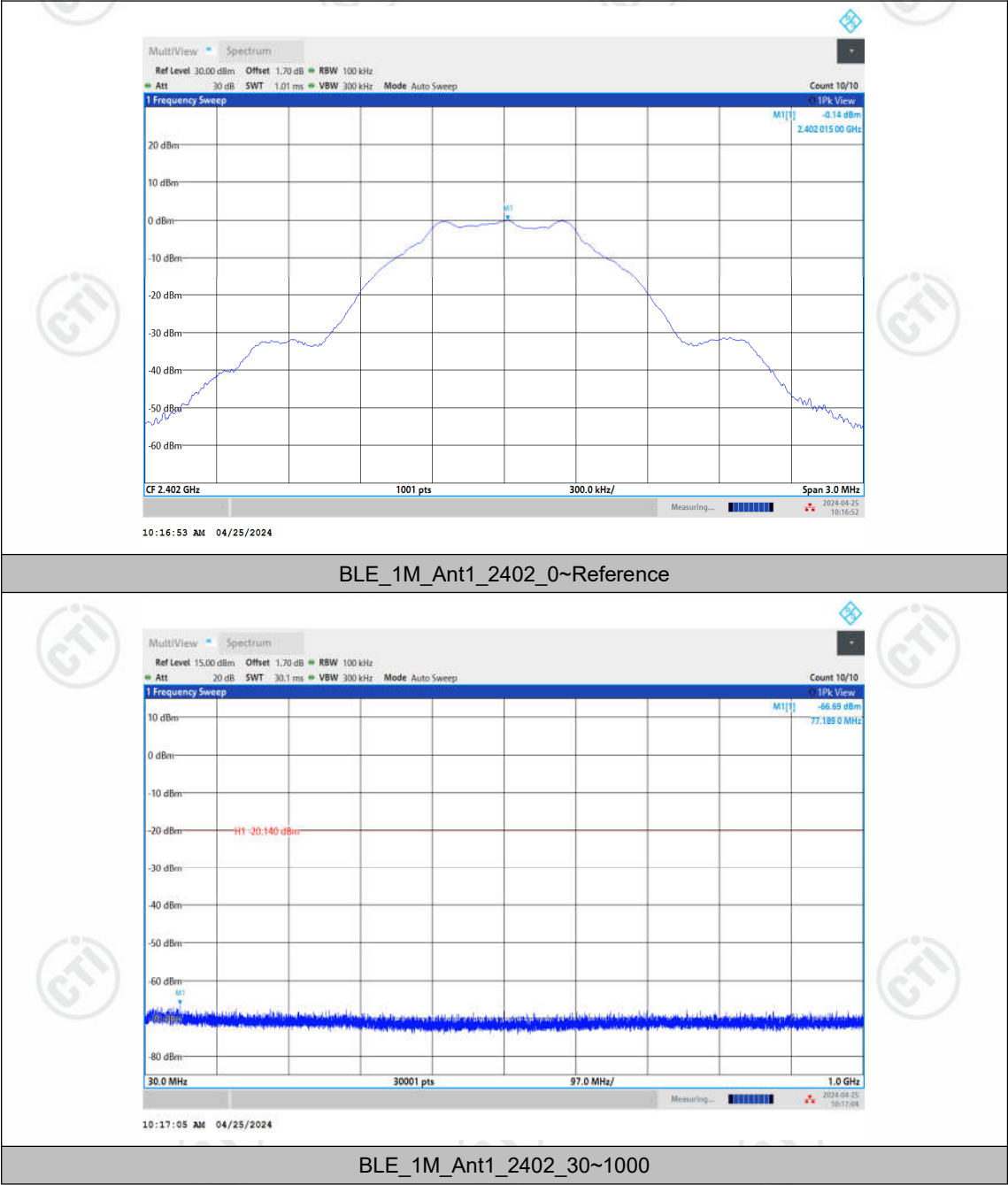


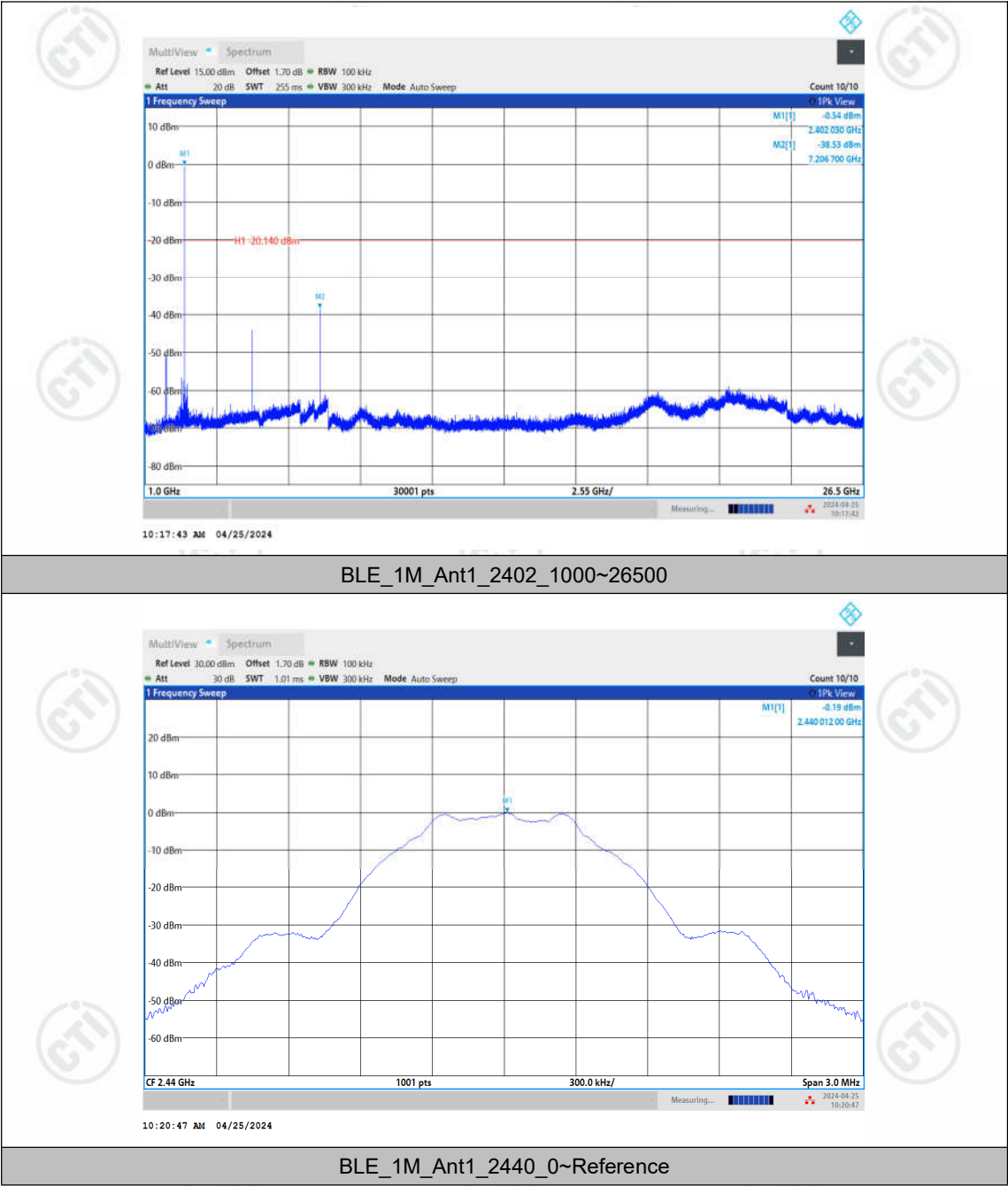
Appendix F: Conducted Spurious Emission

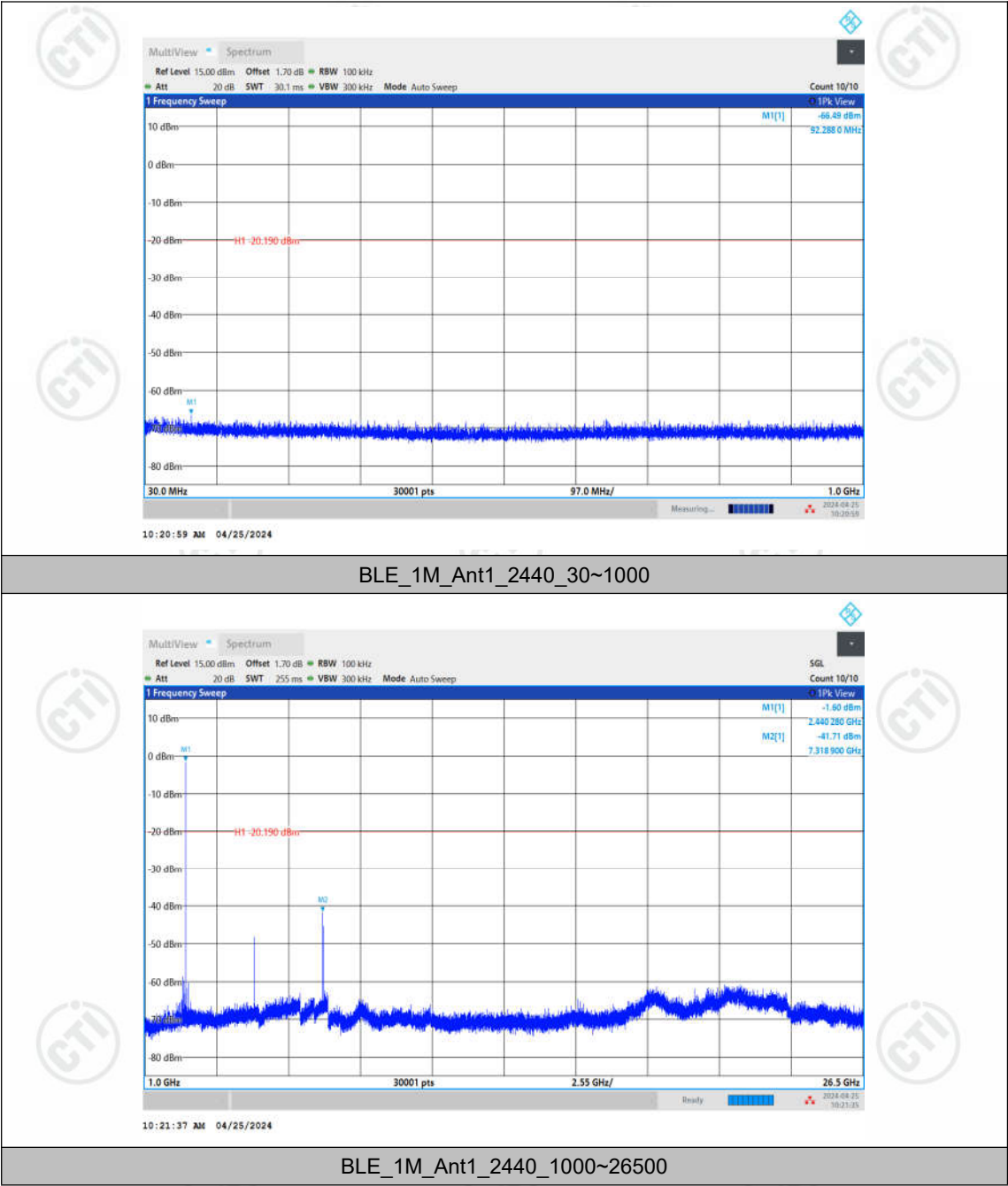
Test Result

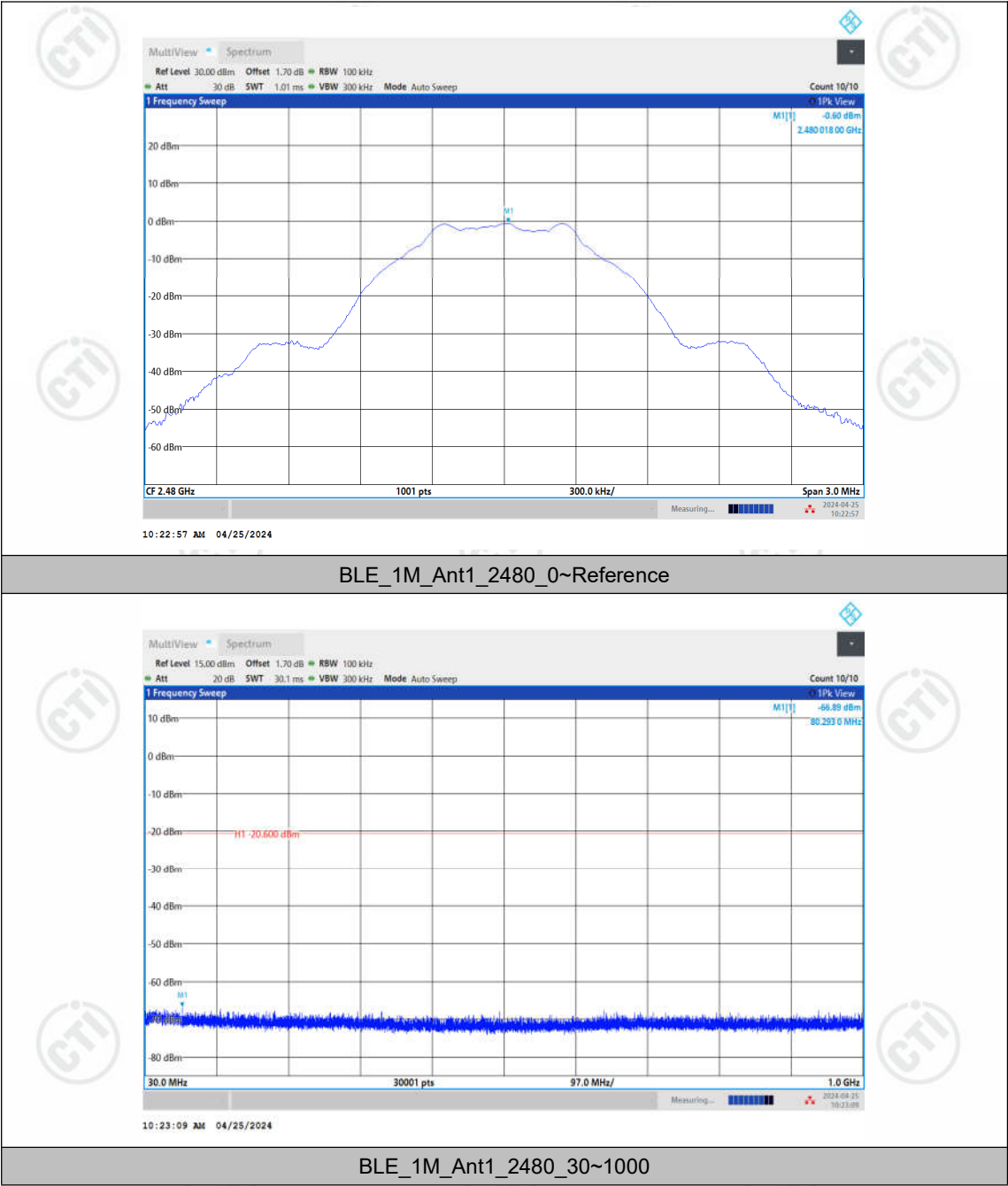
Test Mode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.14	-0.14	---	PASS
			30~1000	-0.14	-66.69	≤ -20.14	PASS
			1000~26500	-0.14	-38.53	≤ -20.14	PASS
		2440	Reference	-0.19	-0.19	---	PASS
			30~1000	-0.19	-66.49	≤ -20.19	PASS
			1000~26500	-0.19	-41.71	≤ -20.19	PASS
		2480	Reference	-0.60	-0.60	---	PASS
			30~1000	-0.60	-66.89	≤ -20.6	PASS
			1000~26500	-0.60	-40.88	≤ -20.6	PASS
BLE_2M	Ant1	2404	Reference	-0.18	-0.18	---	PASS
			30~1000	-0.18	-66.5	≤ -20.18	PASS
			1000~26500	-0.18	-42.5	≤ -20.18	PASS
		2440	Reference	-0.20	-0.20	---	PASS
			30~1000	-0.20	-67.08	≤ -20.2	PASS
			1000~26500	-0.20	-46.22	≤ -20.2	PASS
		2478	Reference	-0.63	-0.63	---	PASS
			30~1000	-0.63	-66.25	≤ -20.63	PASS
			1000~26500	-0.63	-43.89	≤ -20.63	PASS

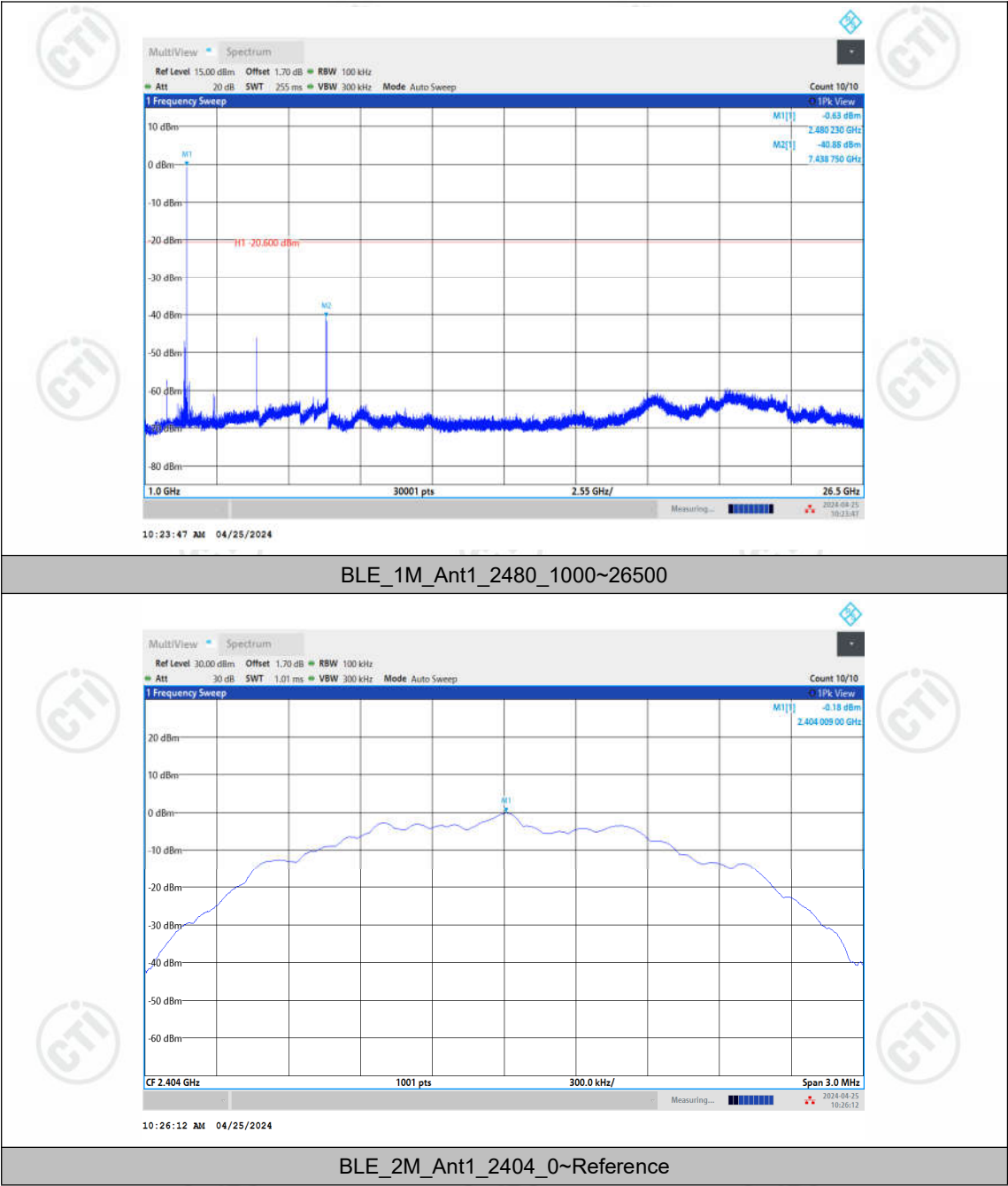
Test Graphs

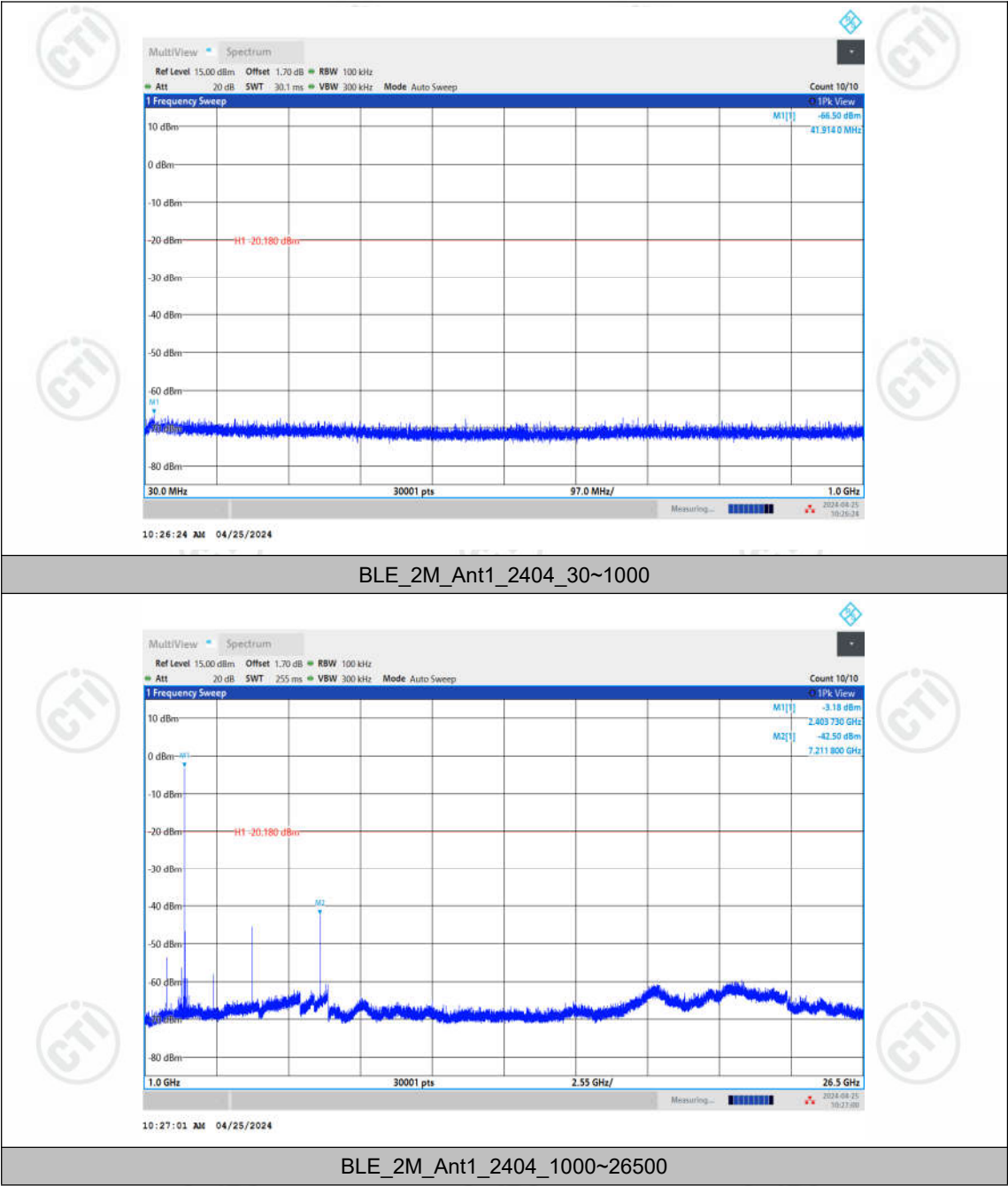


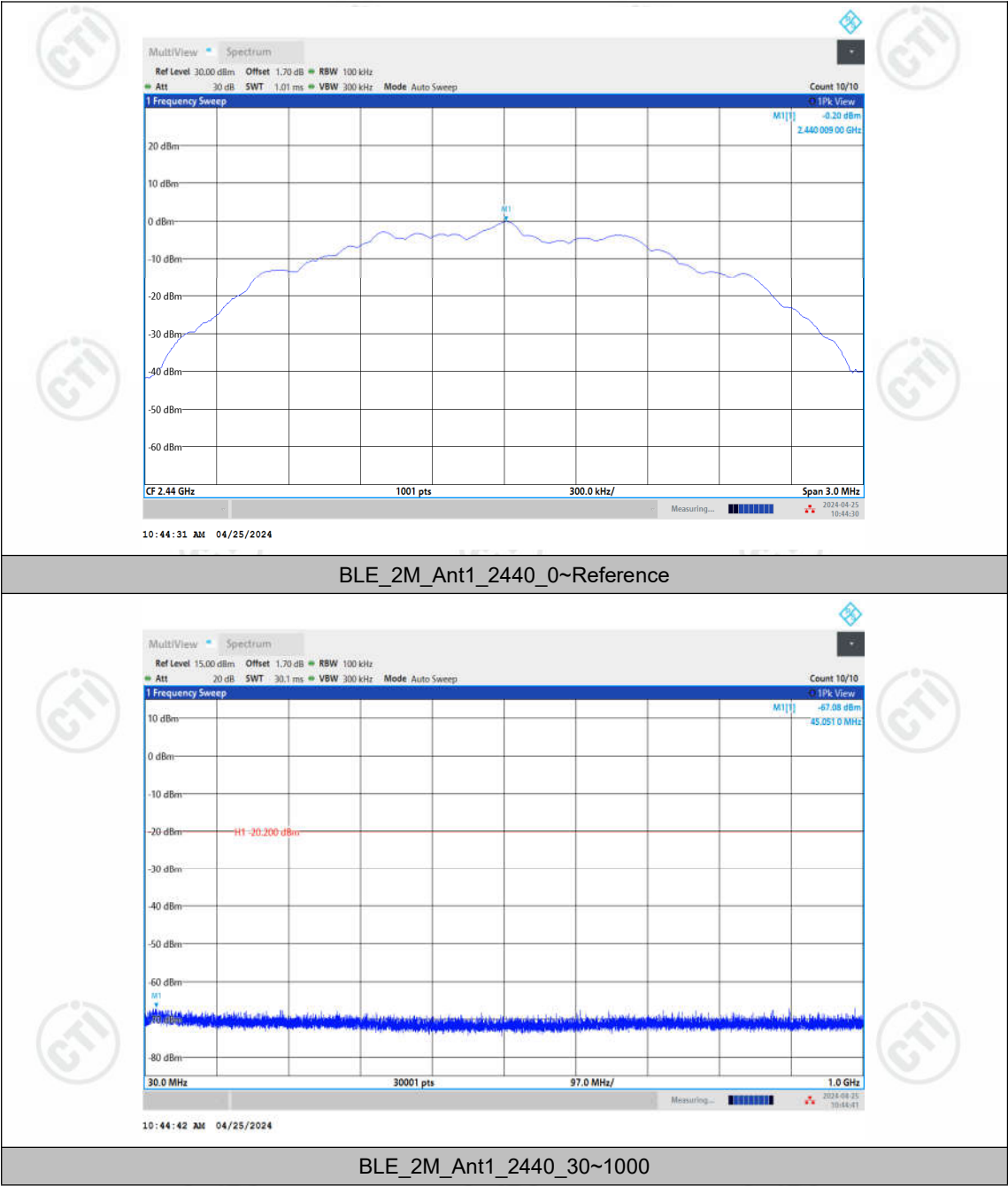


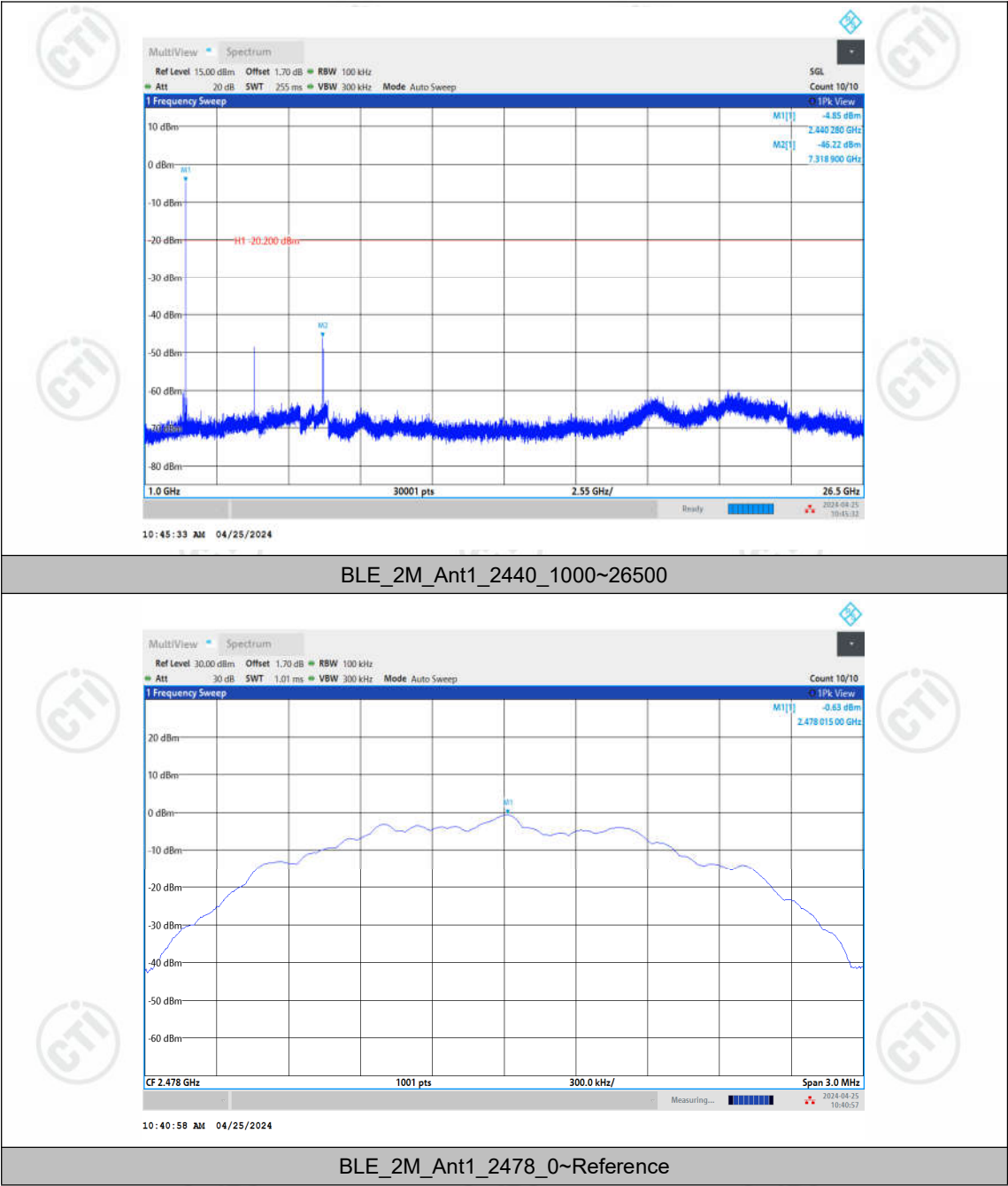


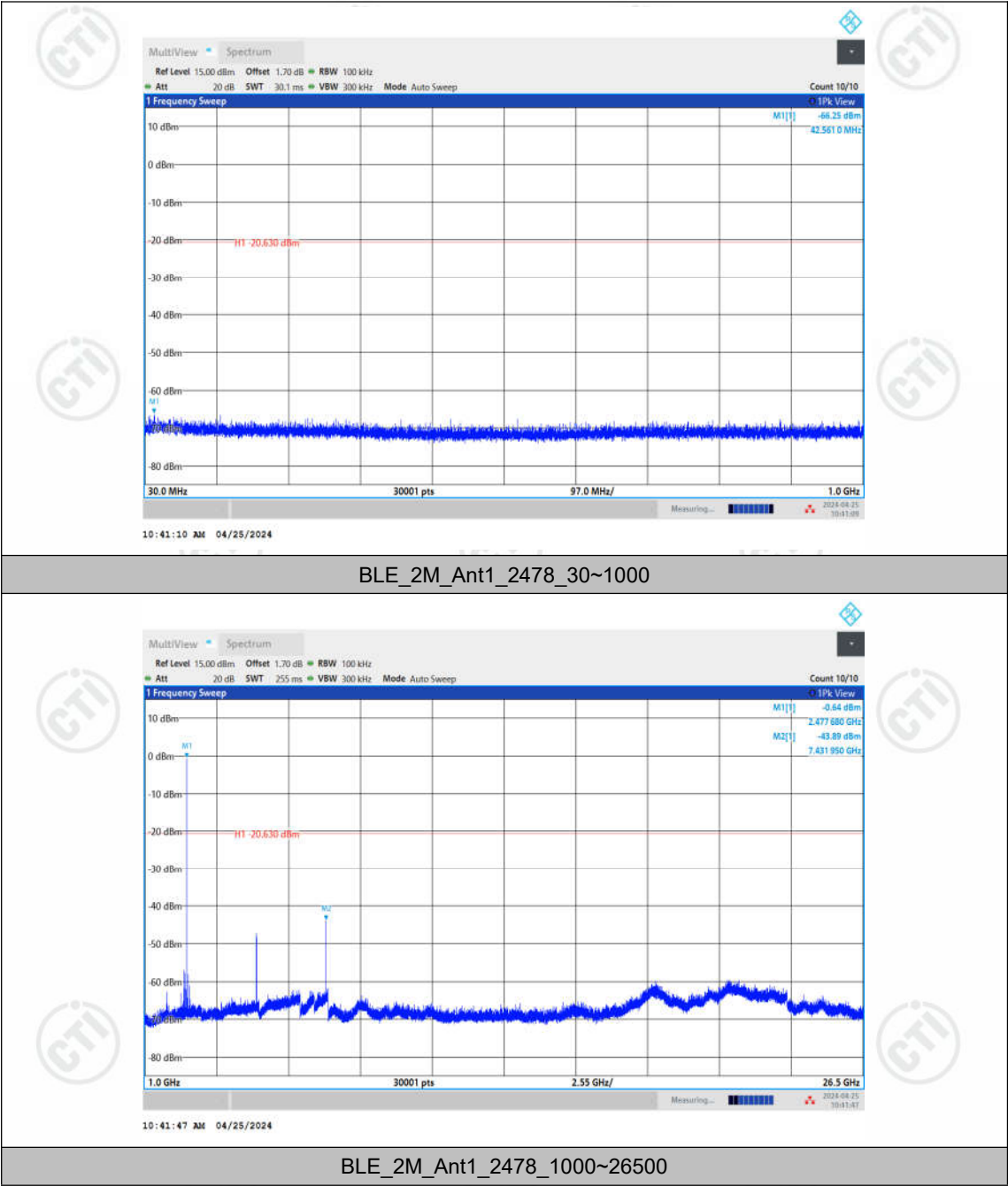












Appendix G: Duty Cycle

Test Result

Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20
		2440	0.38	0.63	60.32	2.20
		2480	0.38	0.63	60.32	2.20
BLE_2M	Ant1	2404	0.20	0.63	31.75	4.98
		2440	0.20	0.63	31.75	4.98
		2478	0.20	0.63	31.75	4.98

Note:Duty Cycle Factor[dB]=10*Ig(Duty Cycle);

Test Graphs







*** End of Report ***