

Appendix: Bluetooth LE

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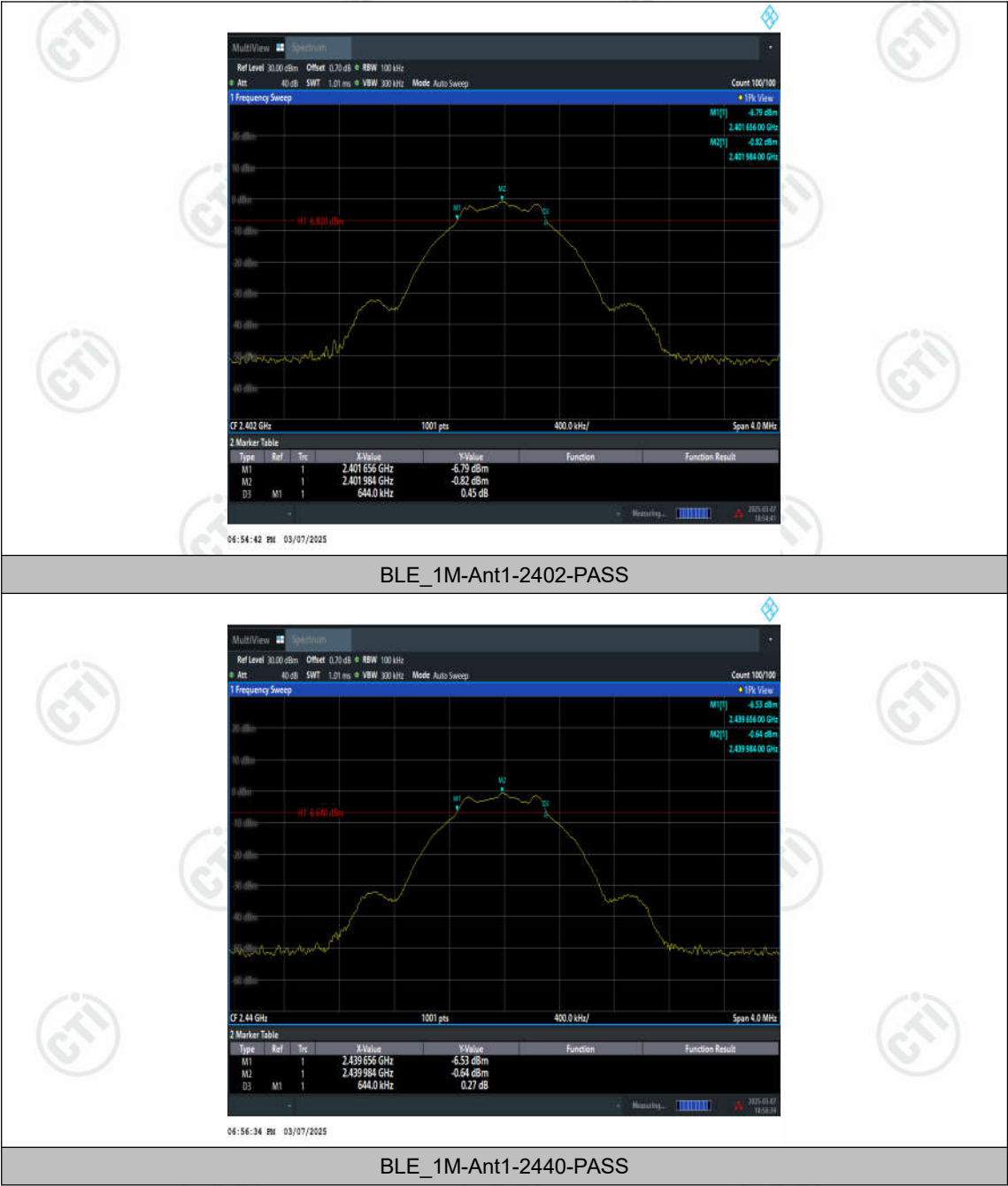
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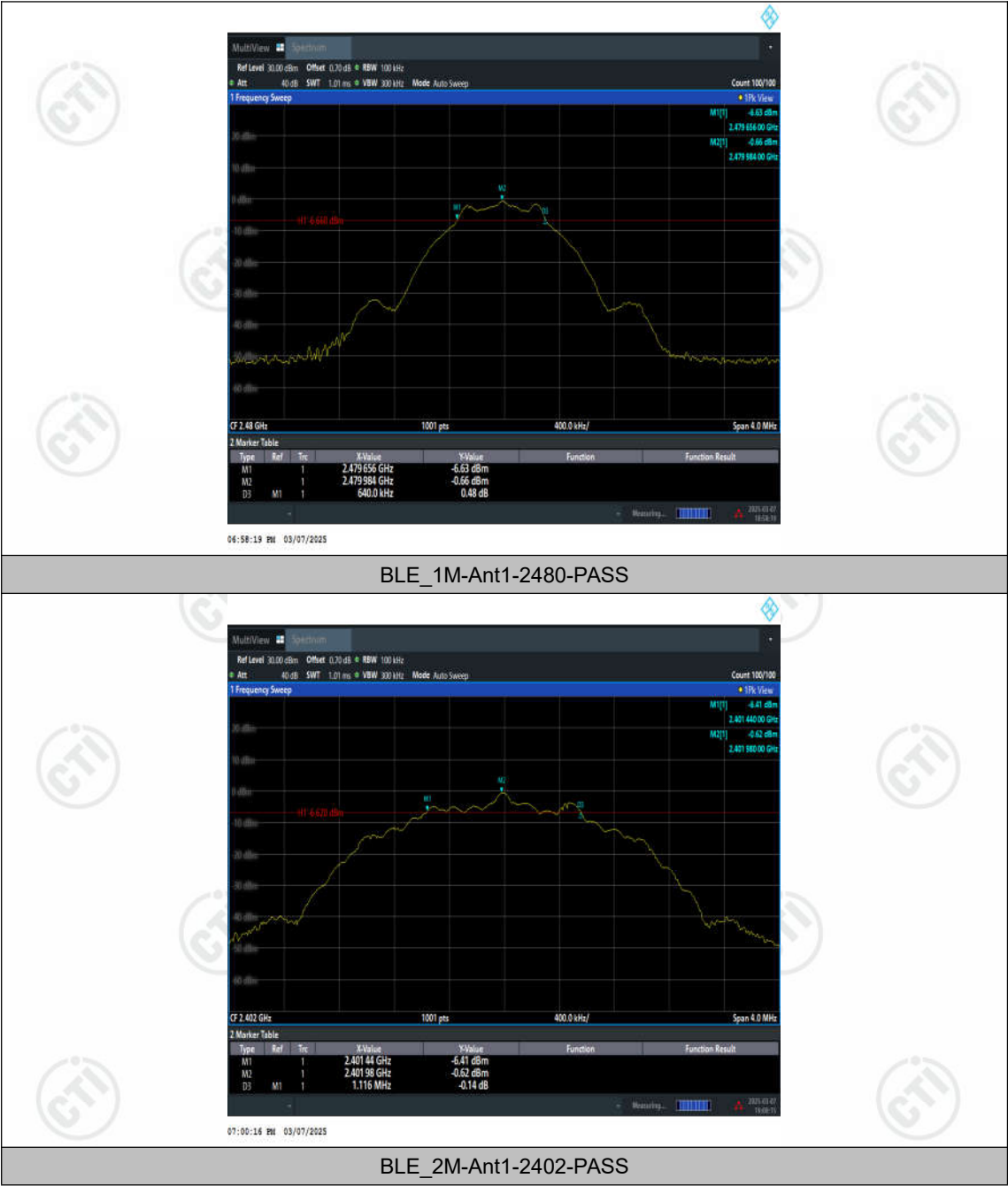
Appendix A: DTS Bandwidth

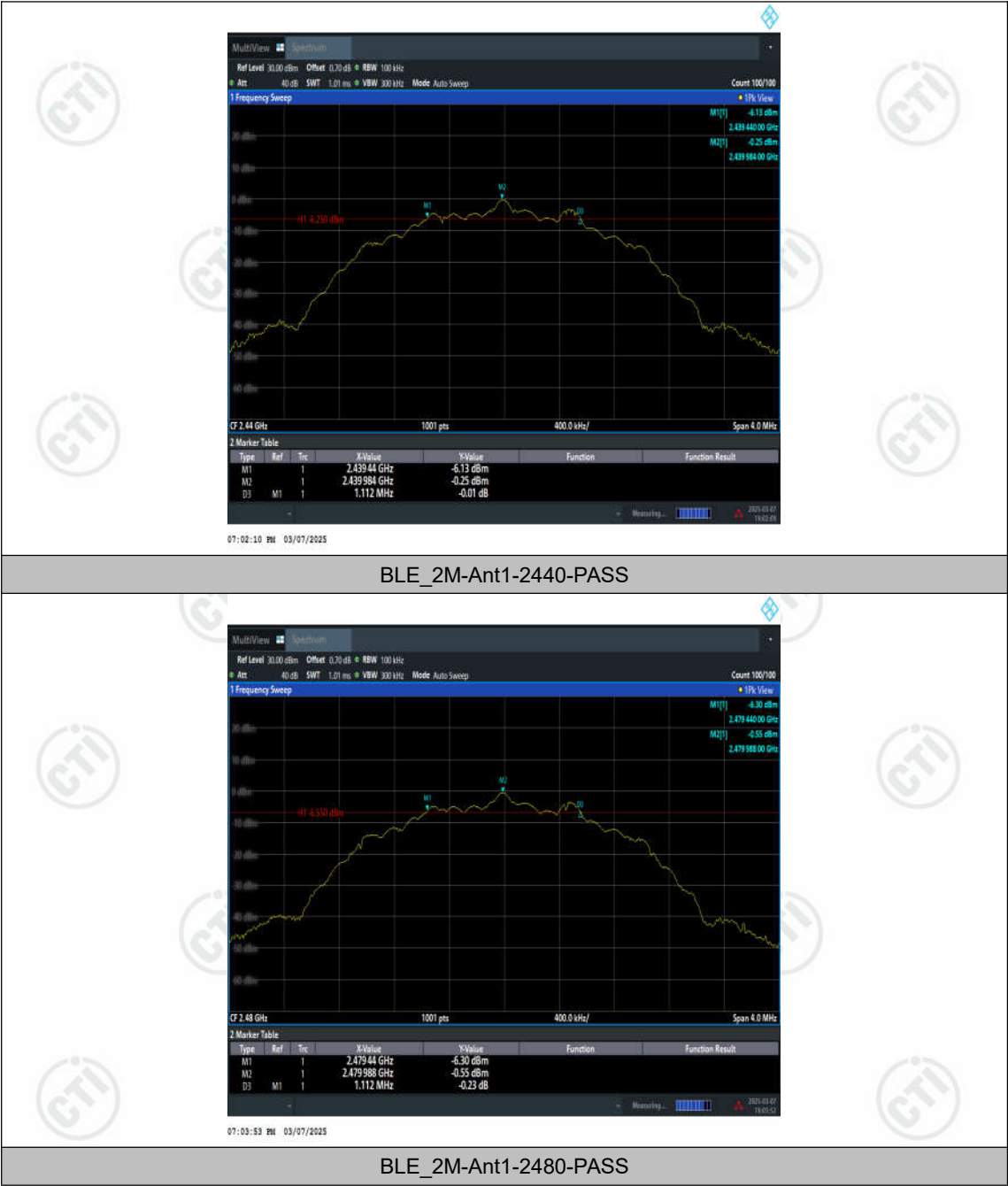
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.64	2401.66	2402.30	0.5	PASS
BLE_1M	Ant1	2440	0.64	2439.66	2440.30	0.5	PASS
BLE_1M	Ant1	2480	0.64	2479.66	2480.30	0.5	PASS
BLE_2M	Ant1	2402	1.12	2401.44	2402.56	0.5	PASS
BLE_2M	Ant1	2440	1.11	2439.44	2440.55	0.5	PASS
BLE_2M	Ant1	2480	1.11	2479.44	2480.55	0.5	PASS

Test Graphs







Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.019	2401.4740	2402.4935	---	---
BLE_1M	Ant1	2440	1.022	2439.4729	2440.4946	---	---
BLE_1M	Ant1	2480	1.024	2479.4708	2480.4943	---	---
BLE_2M	Ant1	2402	2.025	2400.9807	2403.0058	---	---
BLE_2M	Ant1	2440	2.021	2438.9809	2441.0021	---	---
BLE_2M	Ant1	2480	2.023	2478.9800	2481.0031	---	---

Test Graphs





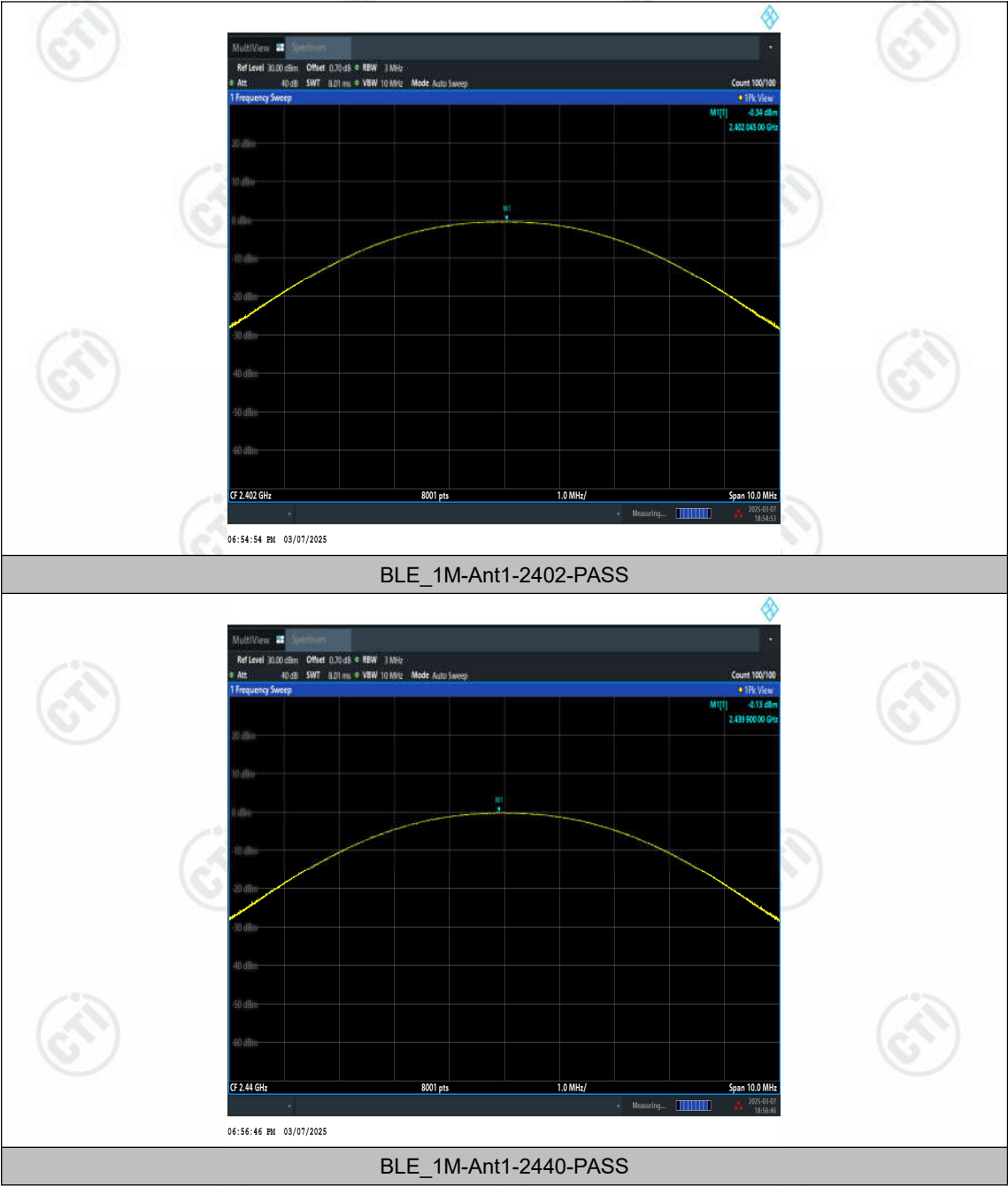


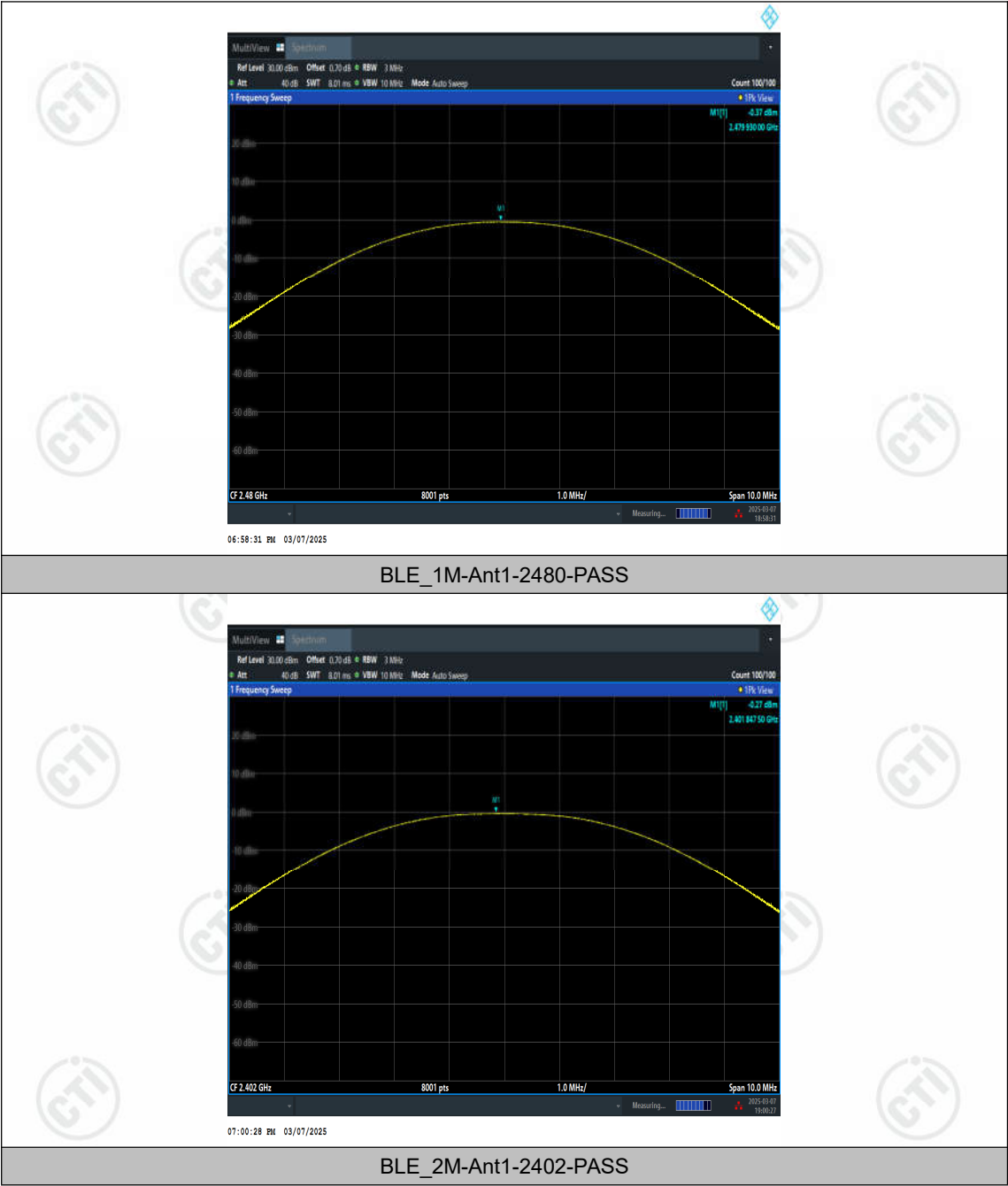
Appendix C: Maximum conducted output power

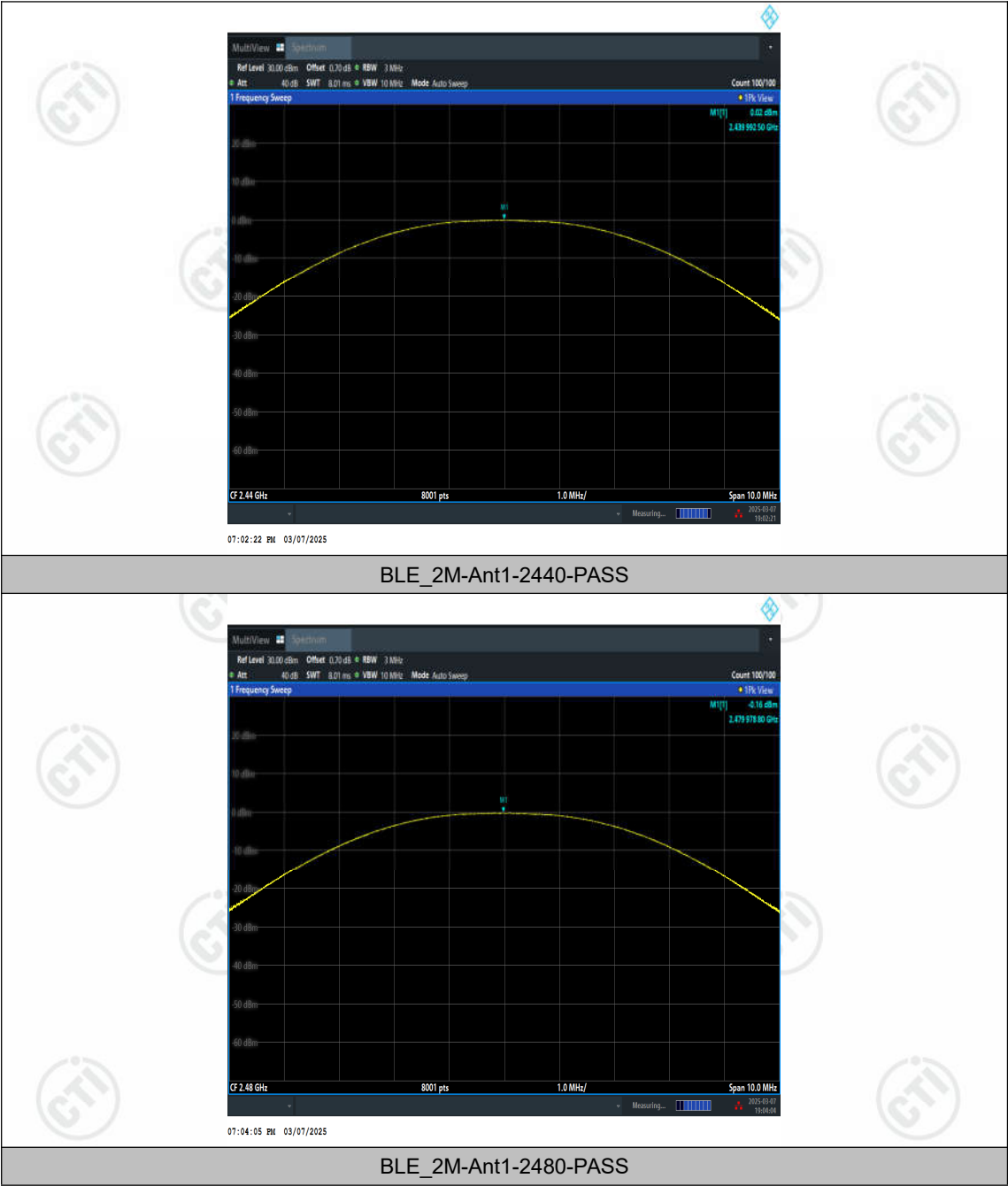
Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-0.34	≤30	PASS
BLE_1M	Ant1	2440	-0.13	≤30	PASS
BLE_1M	Ant1	2480	-0.37	≤30	PASS
BLE_2M	Ant1	2402	-0.27	≤30	PASS
BLE_2M	Ant1	2440	0.02	≤30	PASS
BLE_2M	Ant1	2480	-0.16	≤30	PASS

Test Graphs Peak





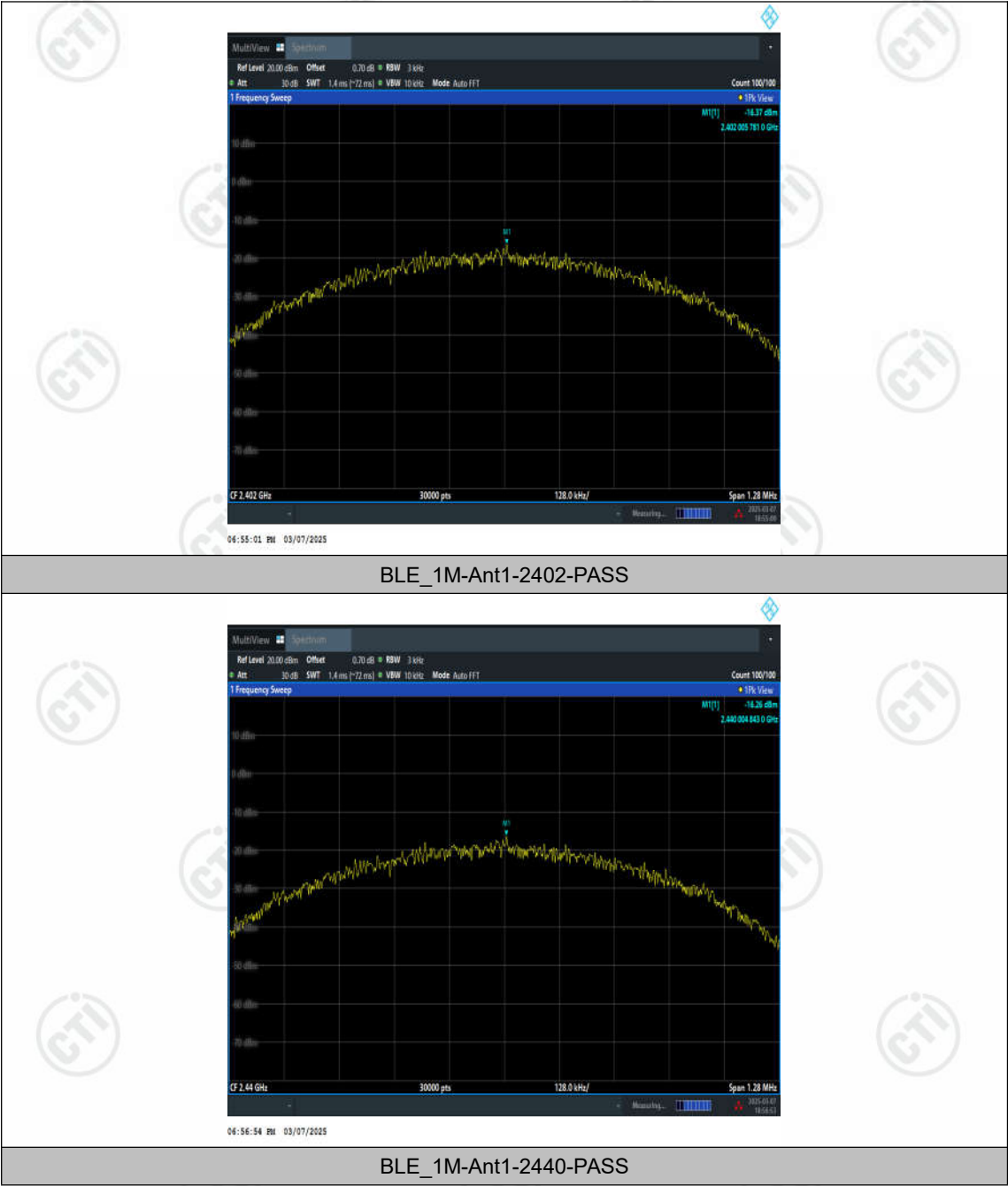


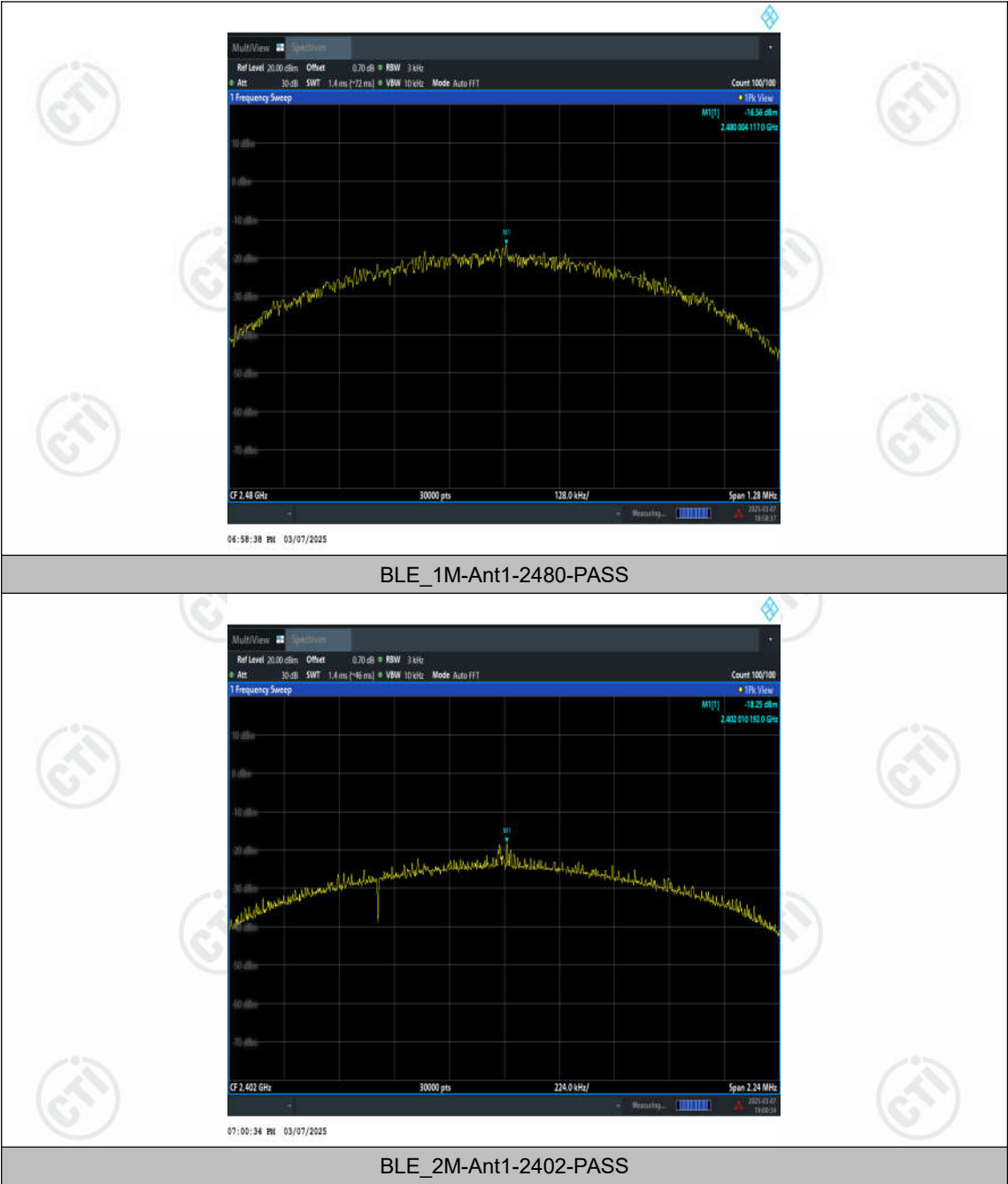
Appendix D: Maximum power spectral density

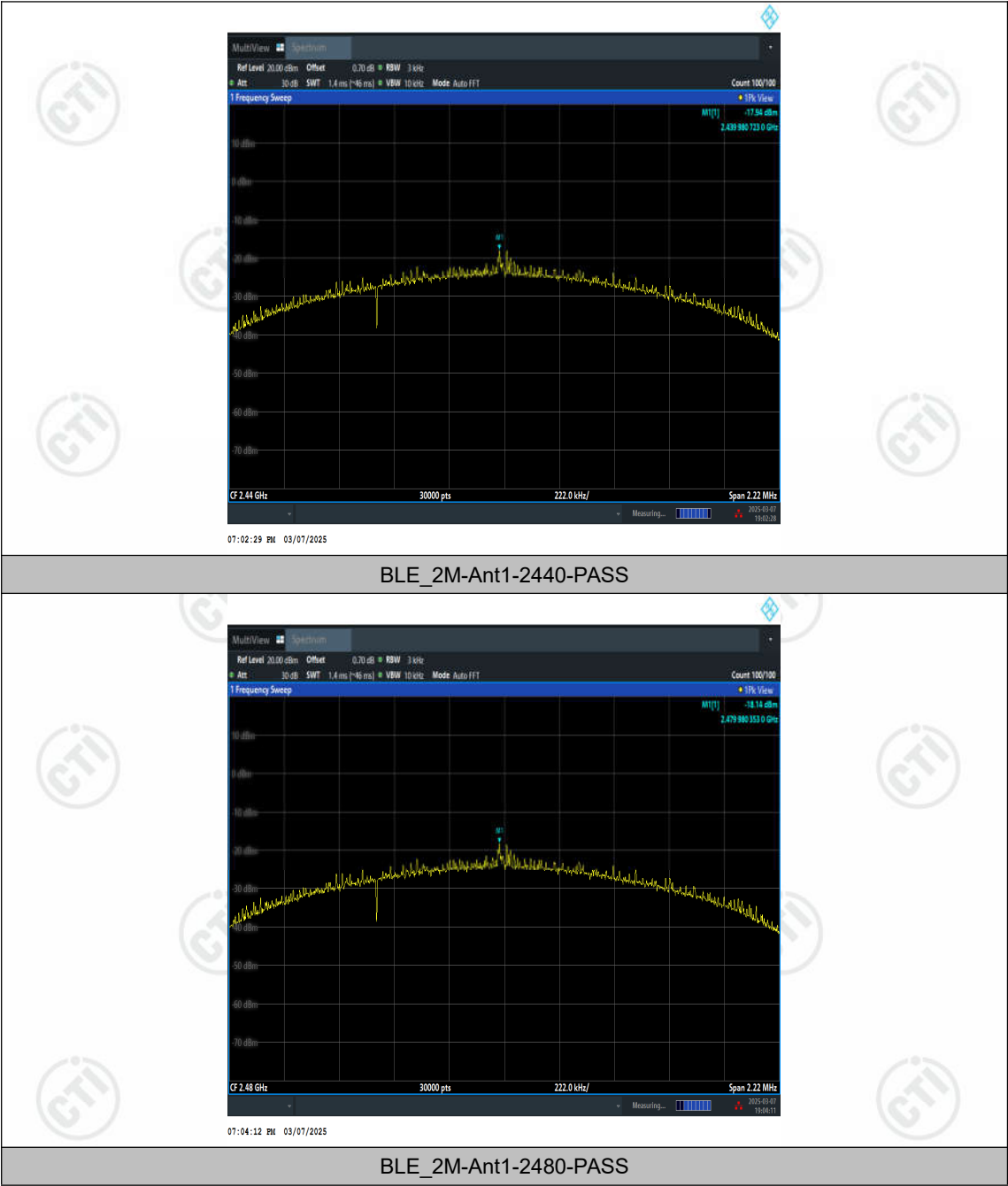
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-16.37	≤8.00	PASS
BLE_1M	Ant1	2440	-16.26	≤8.00	PASS
BLE_1M	Ant1	2480	-16.56	≤8.00	PASS
BLE_2M	Ant1	2402	-18.25	≤8.00	PASS
BLE_2M	Ant1	2440	-17.94	≤8.00	PASS
BLE_2M	Ant1	2480	-18.14	≤8.00	PASS

Test Graphs







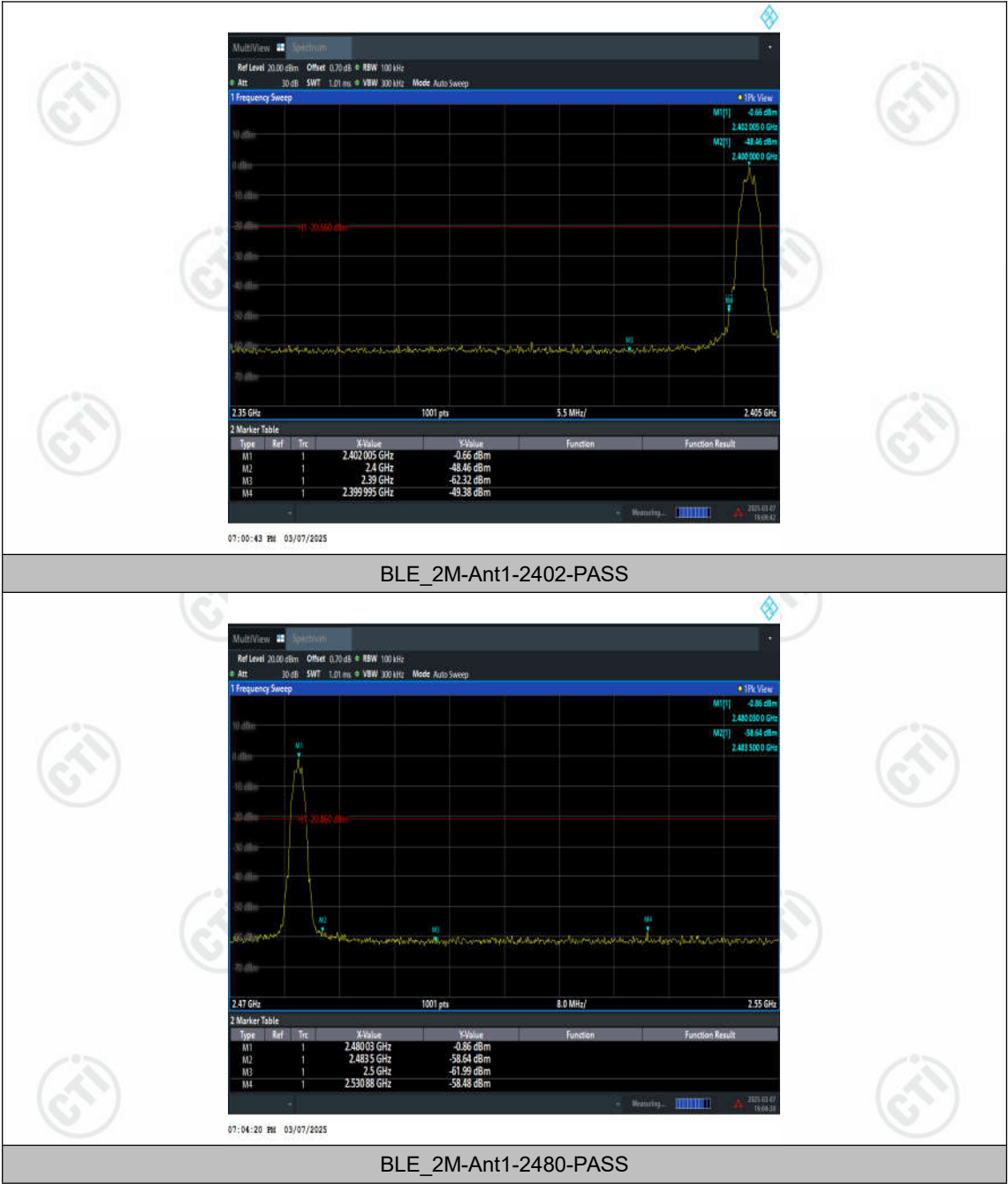
Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.79	-55.92	≤-20.79	PASS
BLE_1M	Ant1	High	2480	-1.00	-57.88	≤-21	PASS
BLE_2M	Ant1	Low	2402	-0.66	-49.38	≤-20.66	PASS
BLE_2M	Ant1	High	2480	-0.86	-58.48	≤-20.86	PASS

Test Graphs



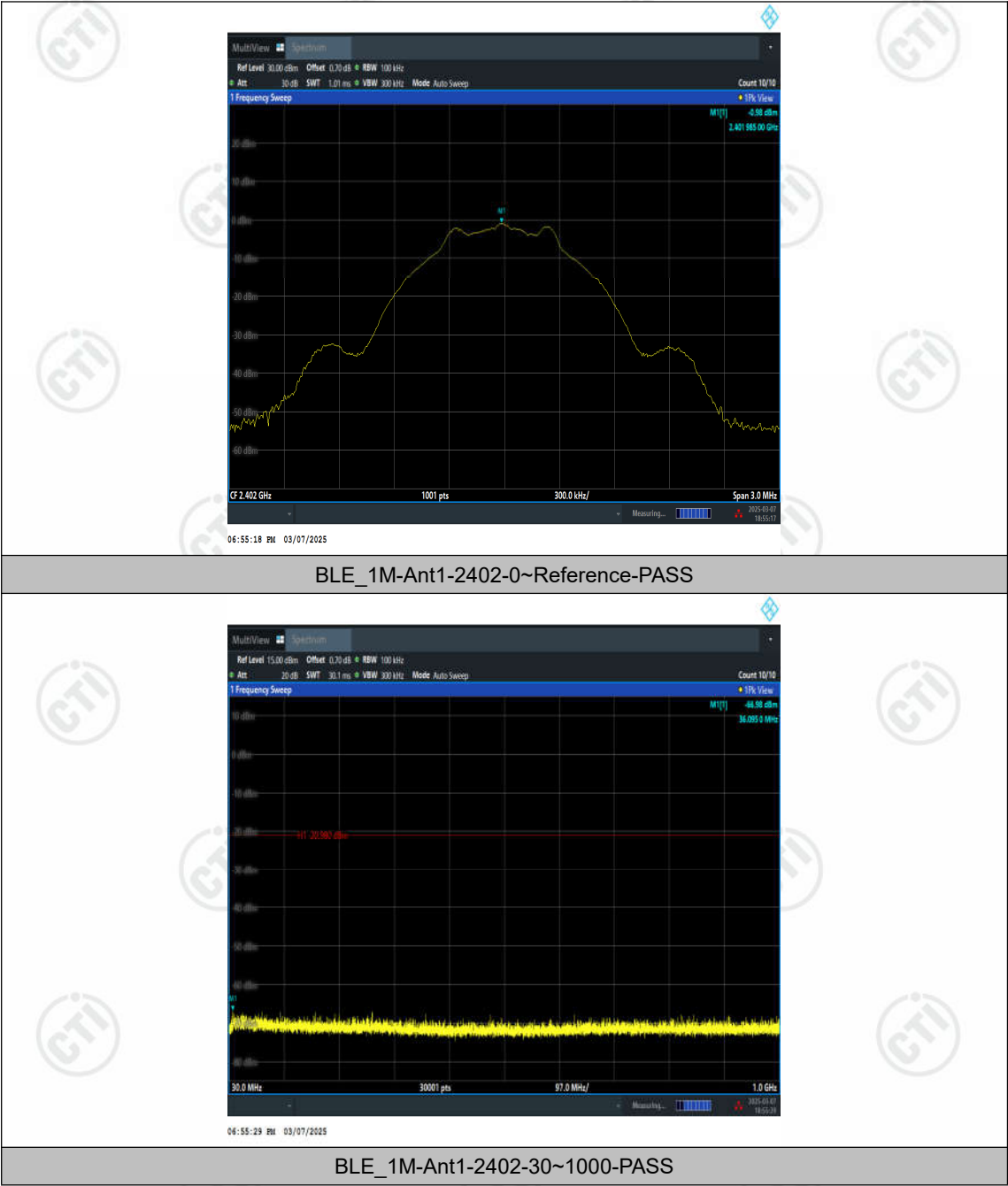


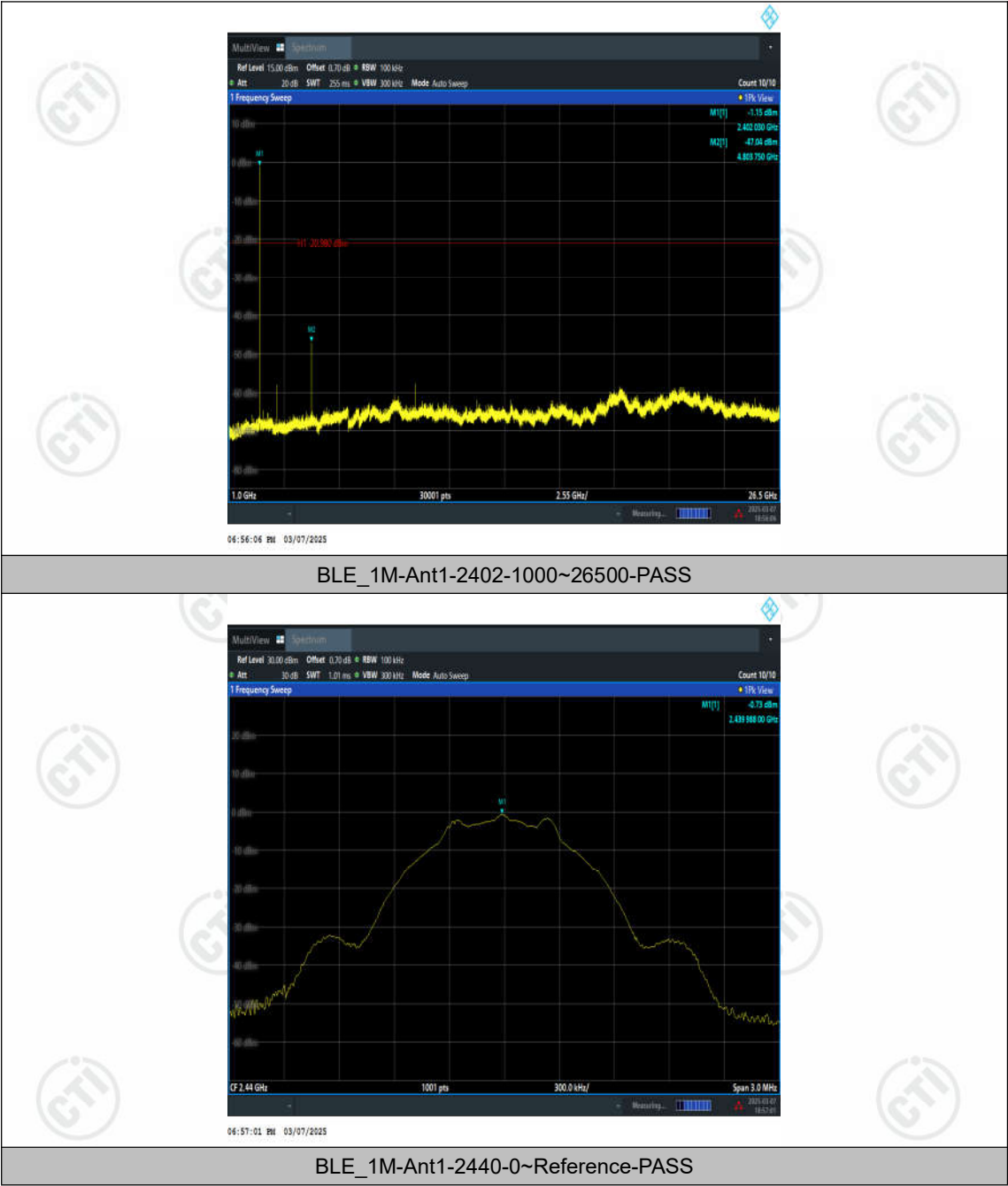
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-0.98	-0.98	---	PASS
BLE_1M	Ant1	2402	30~1000	-0.98	-66.98	≤-20.98	PASS
BLE_1M	Ant1	2402	1000~26500	-0.98	-47.04	≤-20.98	PASS
BLE_1M	Ant1	2440	0~Reference	-0.73	-0.73	---	PASS
BLE_1M	Ant1	2440	30~1000	-0.73	-66.78	≤-20.73	PASS
BLE_1M	Ant1	2440	1000~26500	-0.73	-52.48	≤-20.73	PASS
BLE_1M	Ant1	2480	0~Reference	-0.83	-0.83	---	PASS
BLE_1M	Ant1	2480	30~1000	-0.83	-66.92	≤-20.83	PASS
BLE_1M	Ant1	2480	1000~26500	-0.83	-56.59	≤-20.83	PASS
BLE_2M	Ant1	2402	0~Reference	-0.67	-0.67	---	PASS
BLE_2M	Ant1	2402	30~1000	-0.67	-66.71	≤-20.67	PASS
BLE_2M	Ant1	2402	1000~26500	-0.67	-46.47	≤-20.67	PASS
BLE_2M	Ant1	2440	0~Reference	-0.54	-0.54	---	PASS
BLE_2M	Ant1	2440	30~1000	-0.54	-67.11	≤-20.54	PASS
BLE_2M	Ant1	2440	1000~26500	-0.54	-50.58	≤-20.54	PASS
BLE_2M	Ant1	2480	0~Reference	-0.61	-0.61	---	PASS
BLE_2M	Ant1	2480	30~1000	-0.61	-66.1	≤-20.61	PASS
BLE_2M	Ant1	2480	1000~26500	-0.61	-57.97	≤-20.61	PASS

Test Graphs



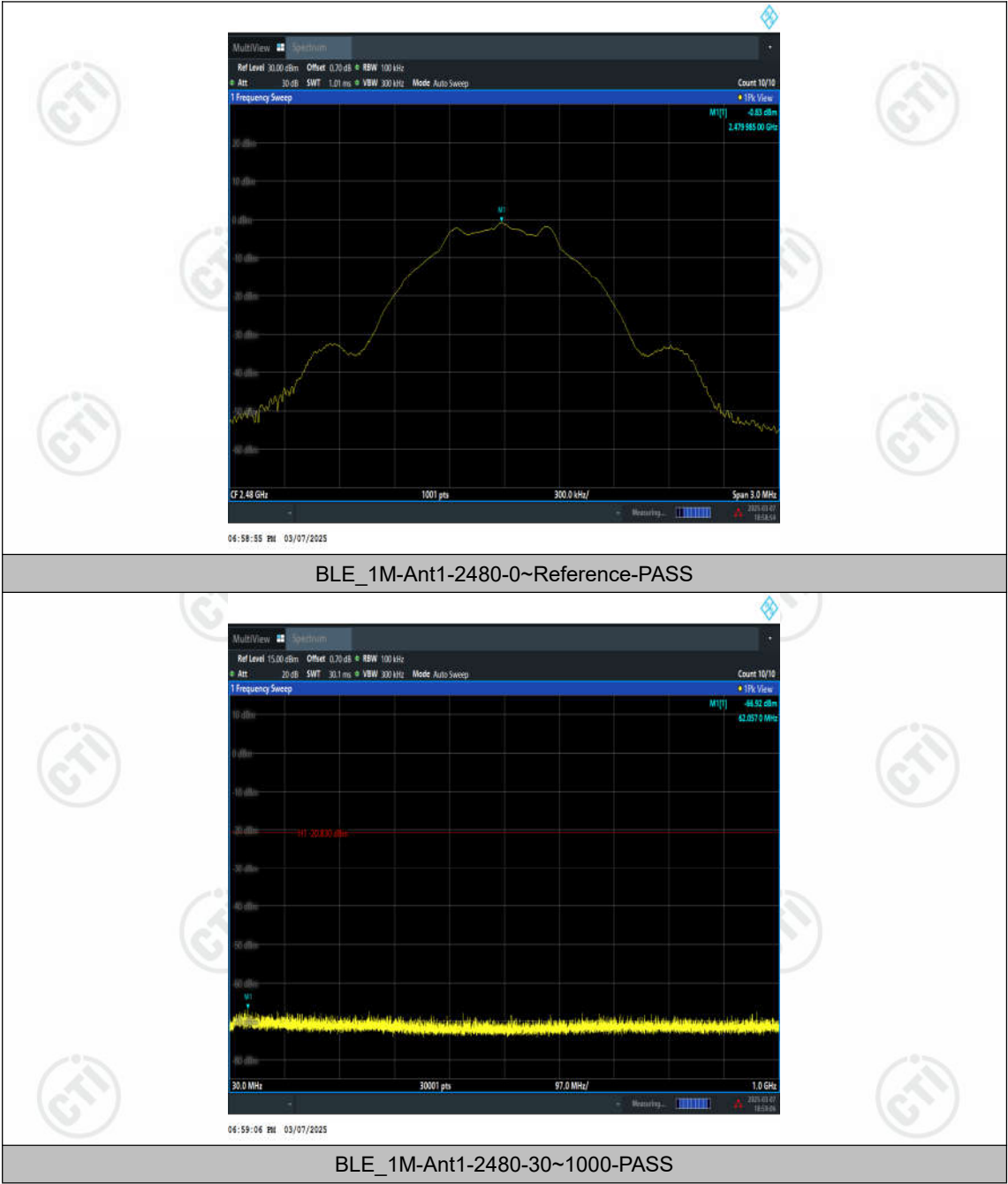


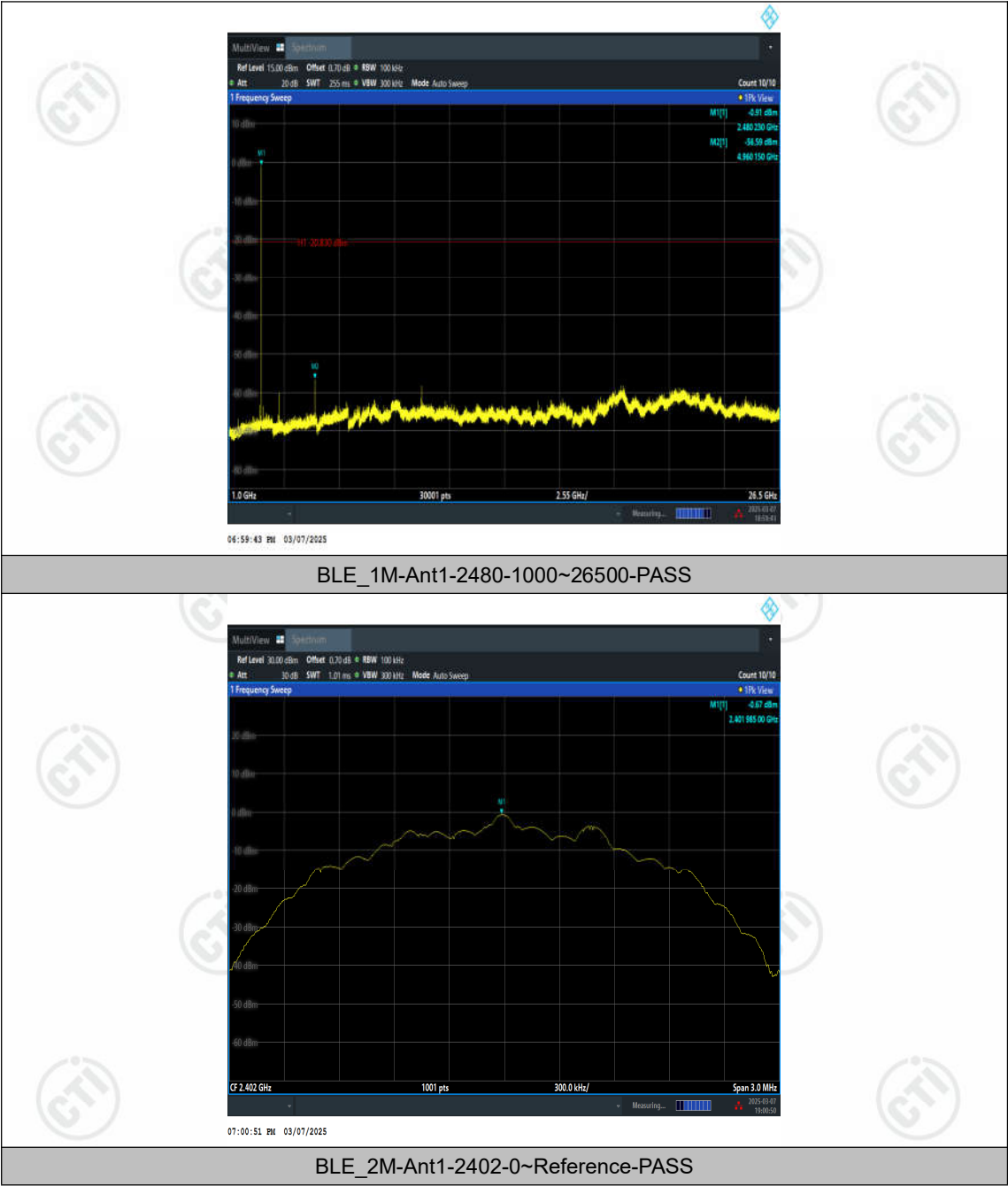


BLE_1M-Ant1-2440-30~1000-PASS



BLE_1M-Ant1-2440-1000~26500-PASS







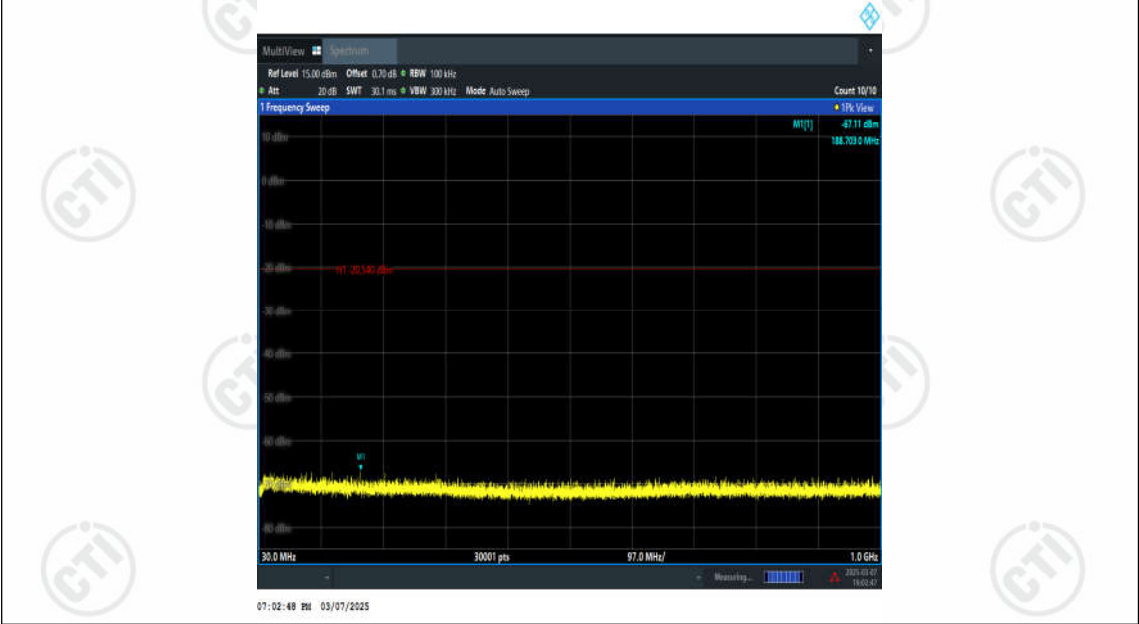
BLE_2M-Ant1-2402-30~1000-PASS



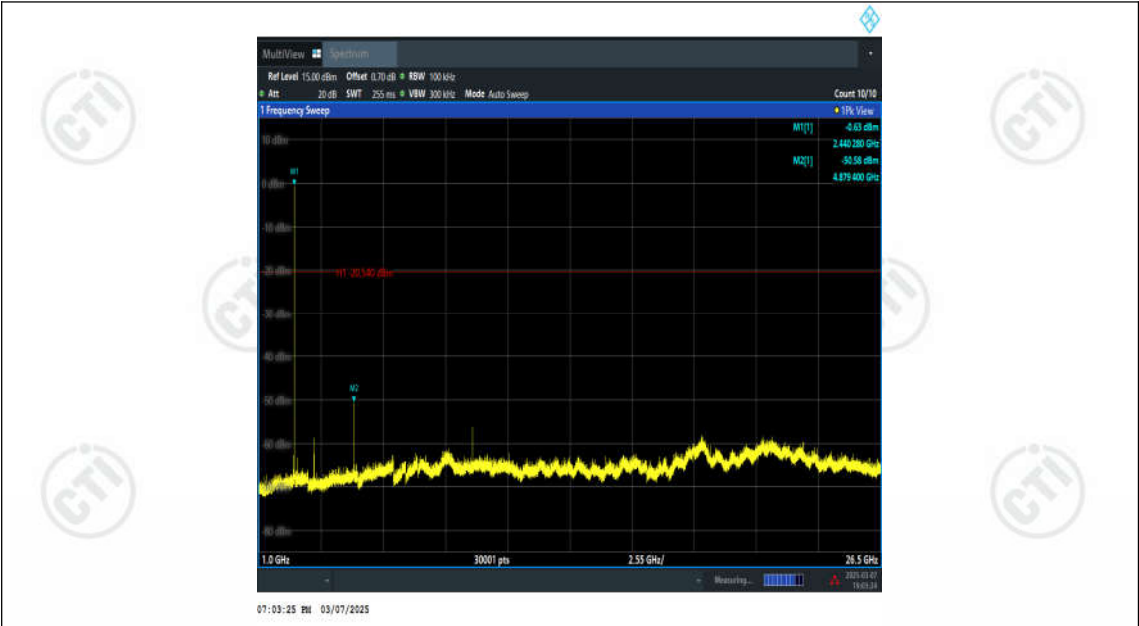
BLE_2M-Ant1-2402-1000~26500-PASS



BLE_2M-Ant1-2440-0~Reference-PASS



BLE_2M-Ant1-2440-30~1000-PASS



BLE_2M-Ant1-2440-1000~26500-PASS



BLE_2M-Ant1-2480-0~Reference-PASS



BLE_2M-Ant1-2480-30~1000-PASS



BLE_2M-Ant1-2480-1000~26500-PASS

Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	2.10	2.50	84.00	0.76
BLE_1M	Ant1	2440	2.10	2.51	83.67	0.77
BLE_1M	Ant1	2480	2.10	2.50	84.00	0.76
BLE_2M	Ant1	2402	1.06	1.88	56.38	2.49
BLE_2M	Ant1	2440	1.06	1.88	56.38	2.49
BLE_2M	Ant1	2480	1.06	1.88	56.38	2.49

Test Graphs

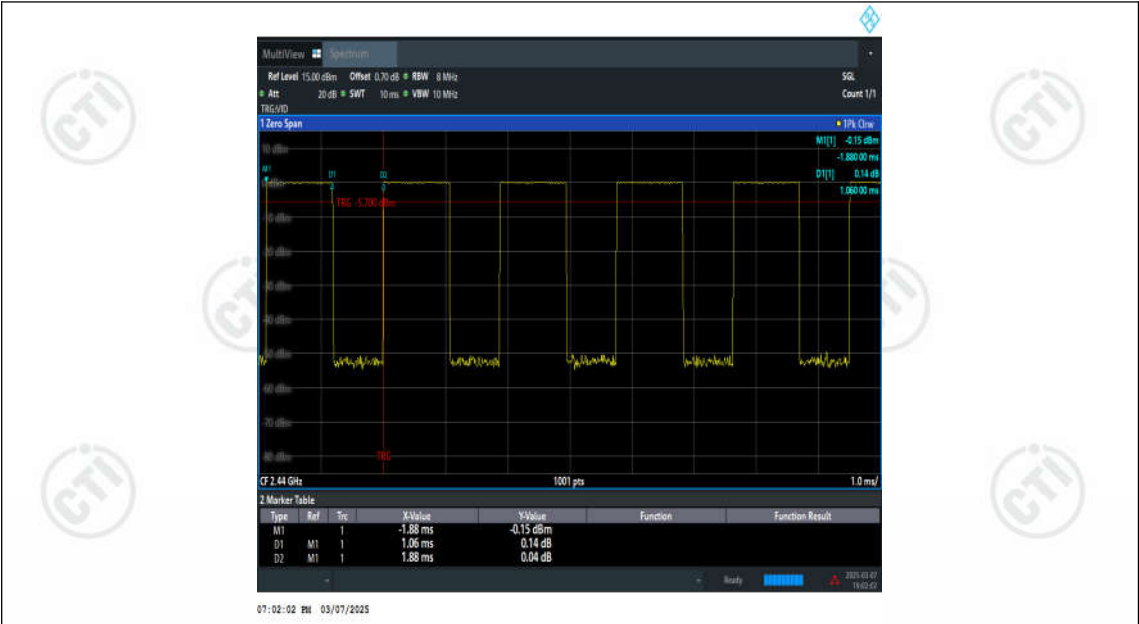


NTNV-BLE_1M-Ant1-2402



NTNV-BLE_1M-Ant1-2440





NTNV-BLE_2M-Ant1-2440



NTNV-BLE_2M-Ant1-2480

END OF REPORT