

Appendix: Bluetooth LE

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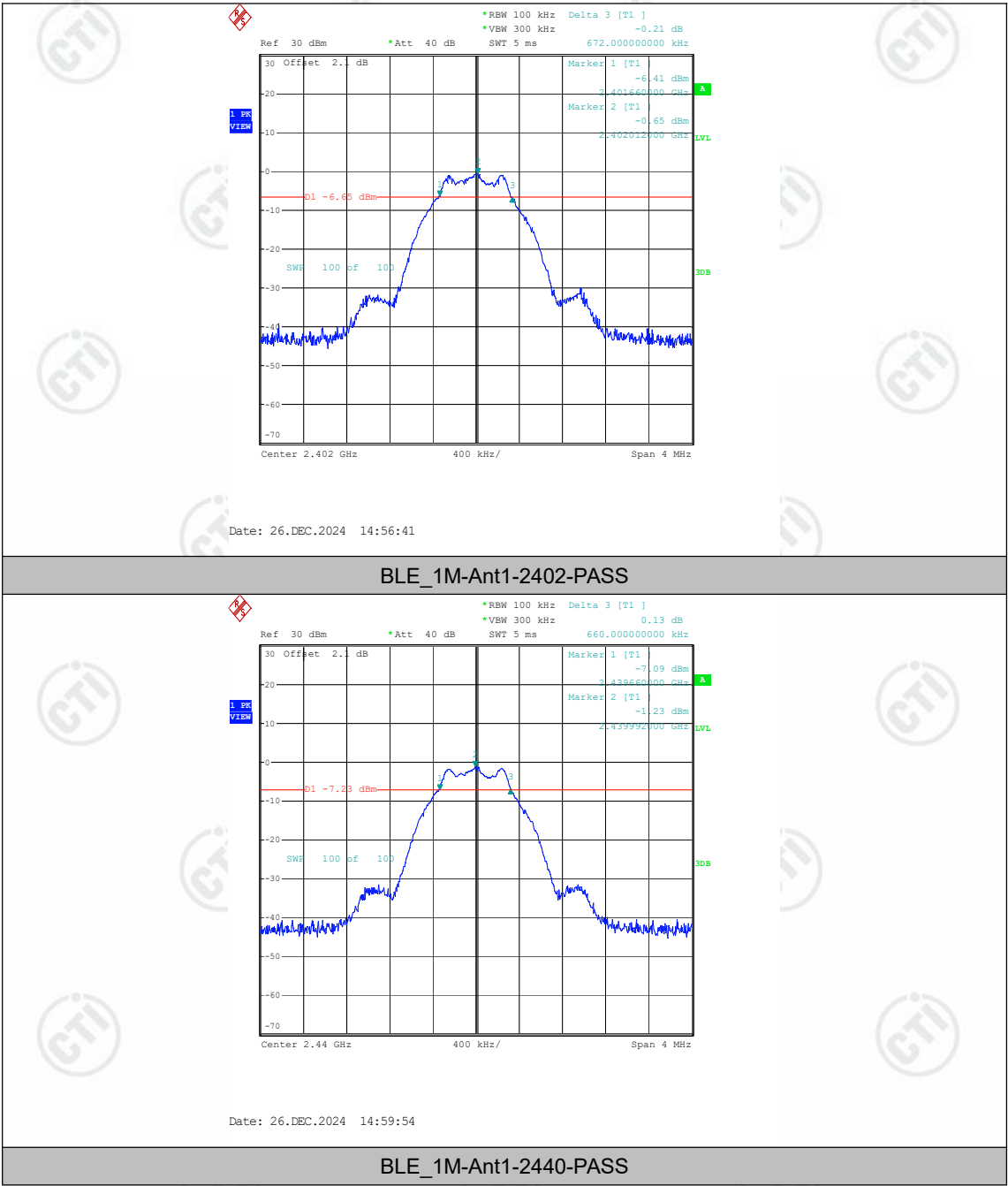
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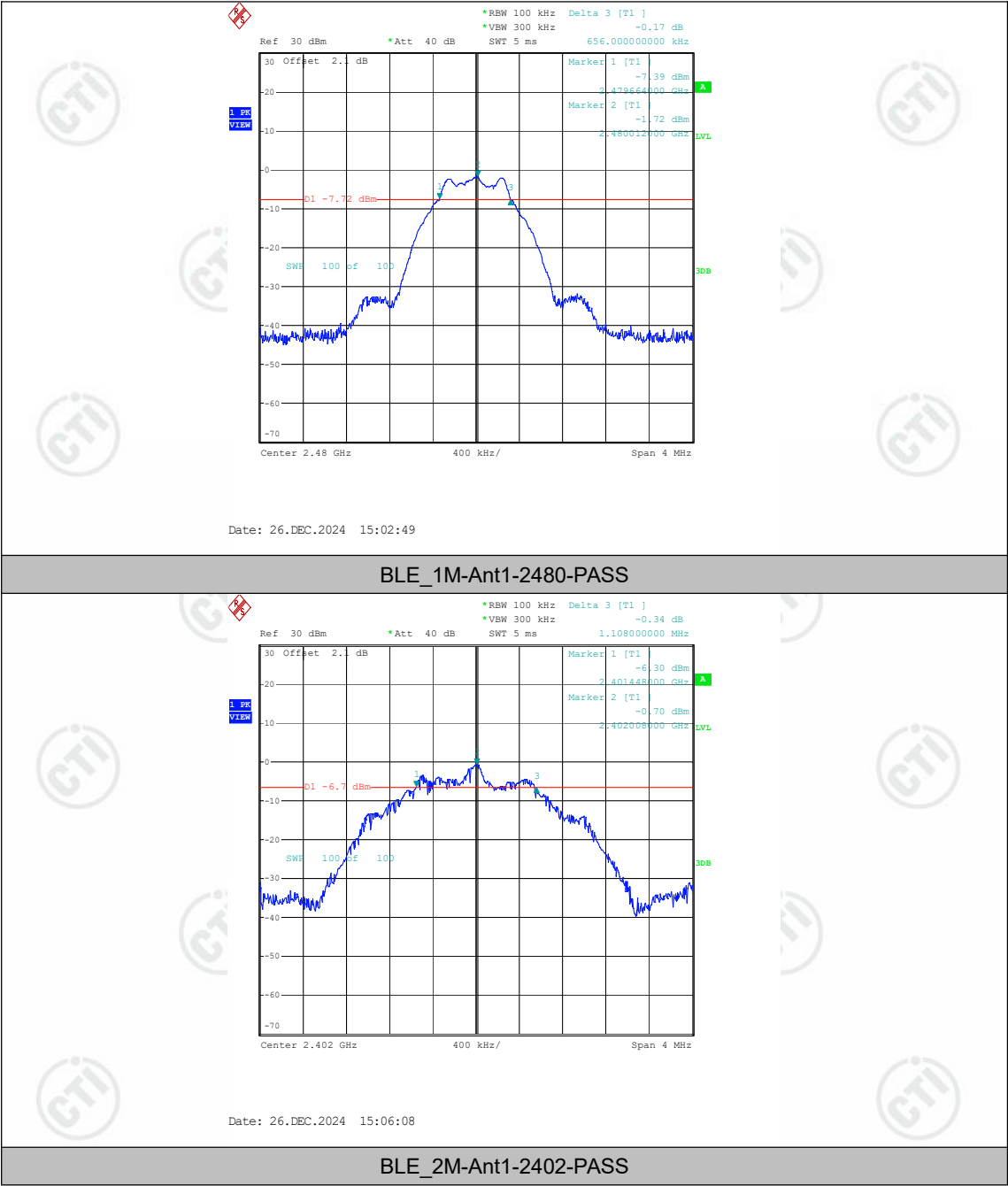
Appendix A: DTS Bandwidth

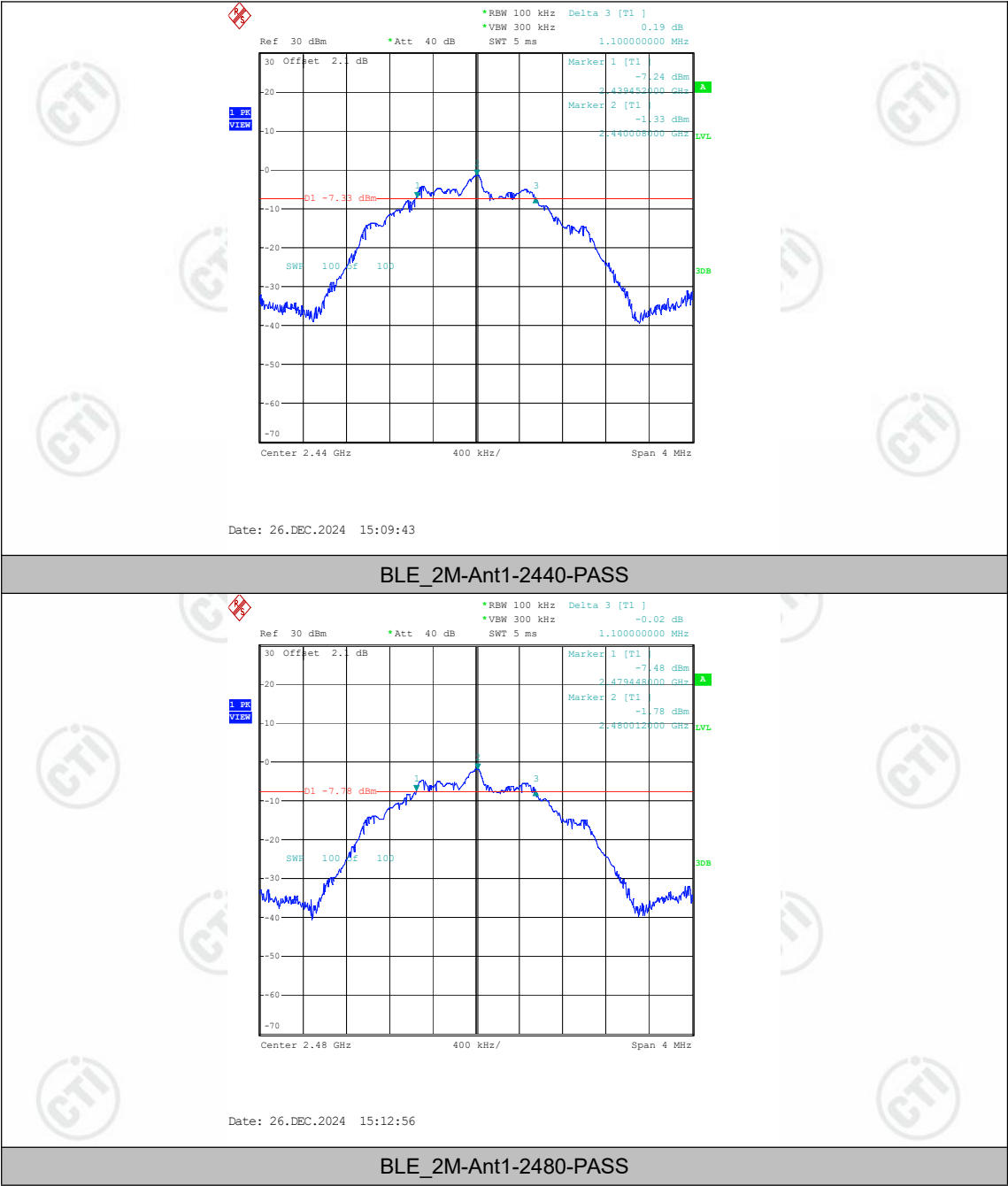
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.67	2401.66	2402.33	0.5	PASS
BLE_1M	Ant1	2440	0.66	2439.66	2440.32	0.5	PASS
BLE_1M	Ant1	2480	0.66	2479.66	2480.32	0.5	PASS
BLE_2M	Ant1	2402	1.11	2401.45	2402.56	0.5	PASS
BLE_2M	Ant1	2440	1.10	2439.45	2440.55	0.5	PASS
BLE_2M	Ant1	2480	1.10	2479.45	2480.55	0.5	PASS

Test Graphs





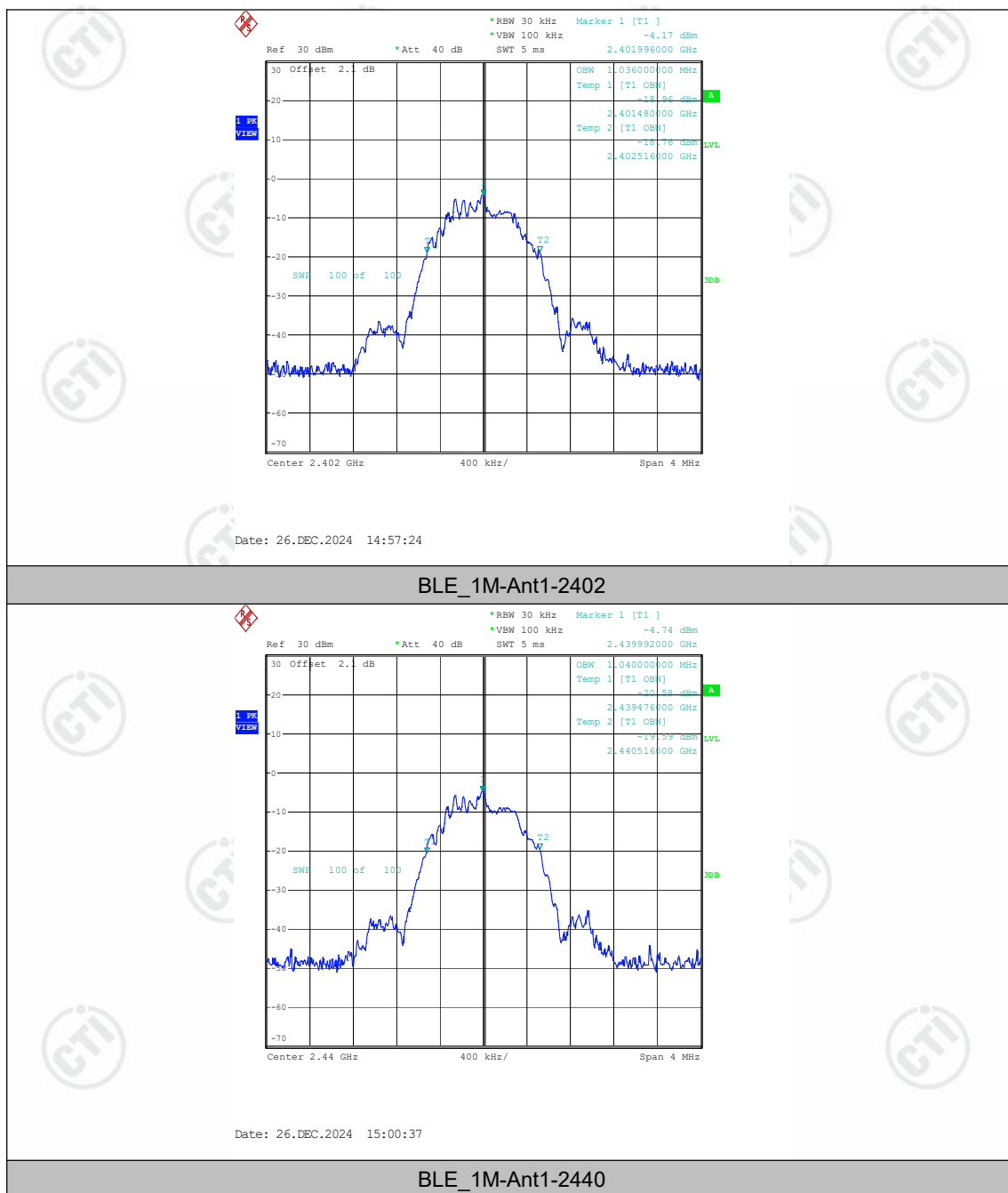


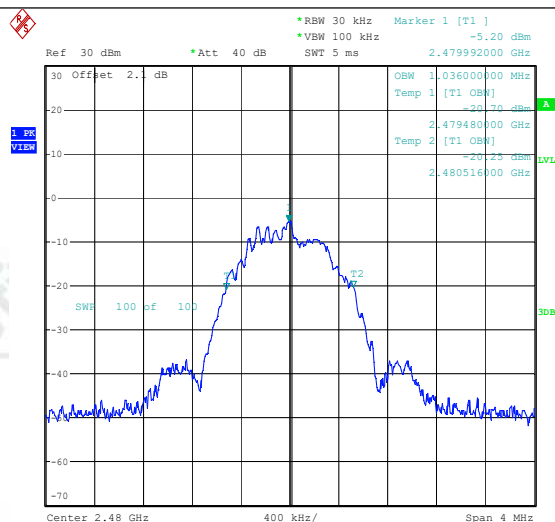
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.036	2401.480	2402.516	---	---
BLE_1M	Ant1	2440	1.04	2439.476	2440.516	---	---
BLE_1M	Ant1	2480	1.036	2479.480	2480.516	---	---
BLE_2M	Ant1	2402	2.08	2400.976	2403.056	---	---
BLE_2M	Ant1	2440	2.076	2438.976	2441.052	---	---
BLE_2M	Ant1	2480	2.084	2478.972	2481.056	---	---

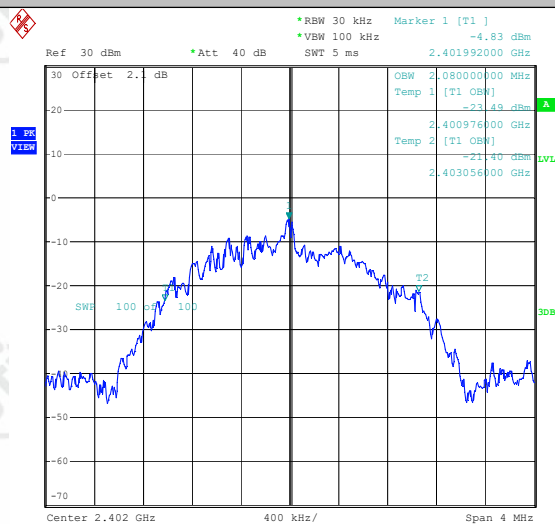
Test Graphs





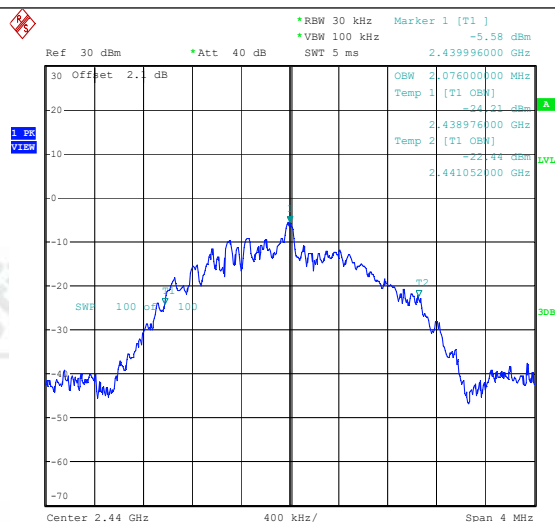
Date: 26.DEC.2024 15:03:32

BLE_1M-Ant1-2480



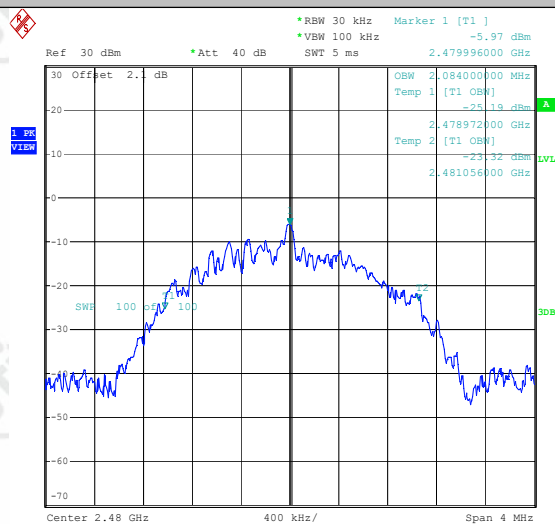
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BLE_2M-Ant1-2402



Date: 26.DEC.2024 15:10:26

BLE_2M-Ant1-2440

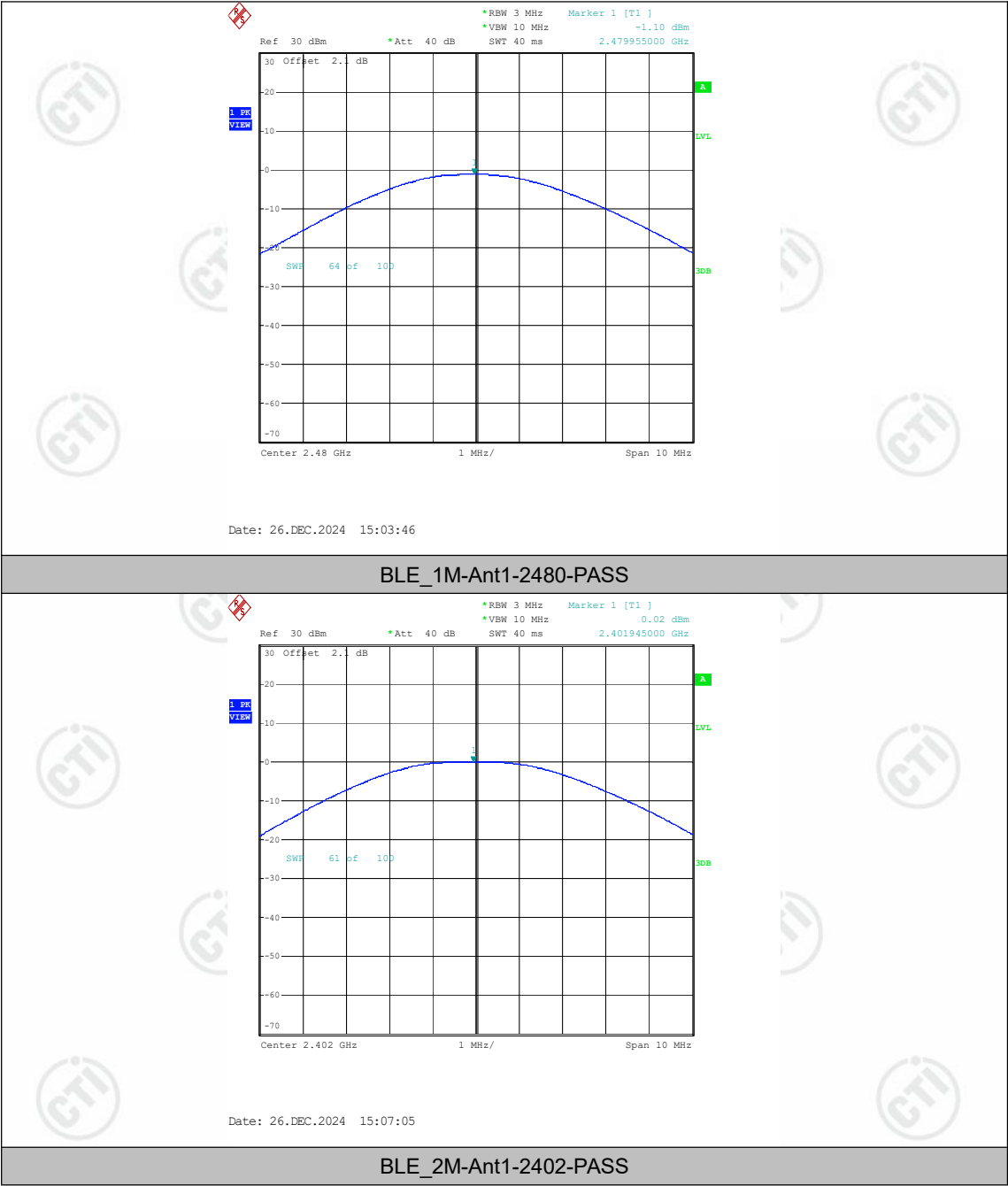


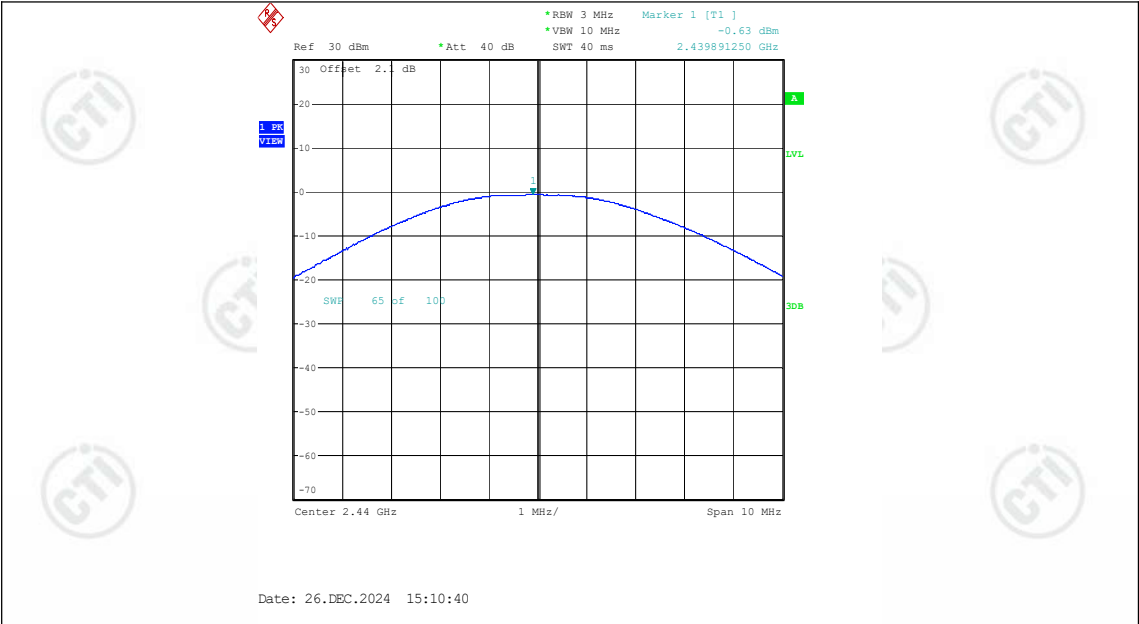
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BLE_2M-Ant1-2480

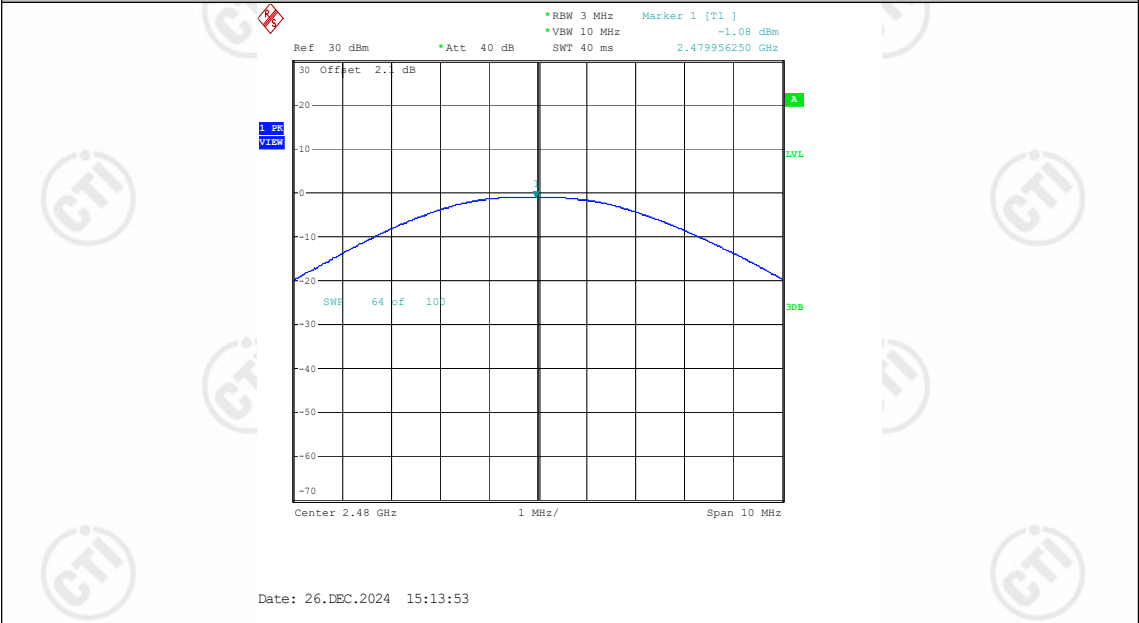
Appendix C: Maximum conducted output power**Test Result**

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0	≤30	PASS
BLE_1M	Ant1	2440	-0.63	≤30	PASS
BLE_1M	Ant1	2480	-1.10	≤30	PASS
BLE_2M	Ant1	2402	0.02	≤30	PASS
BLE_2M	Ant1	2440	-0.63	≤30	PASS
BLE_2M	Ant1	2480	-1.08	≤30	PASS





BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS

Appendix D: Maximum power spectral density

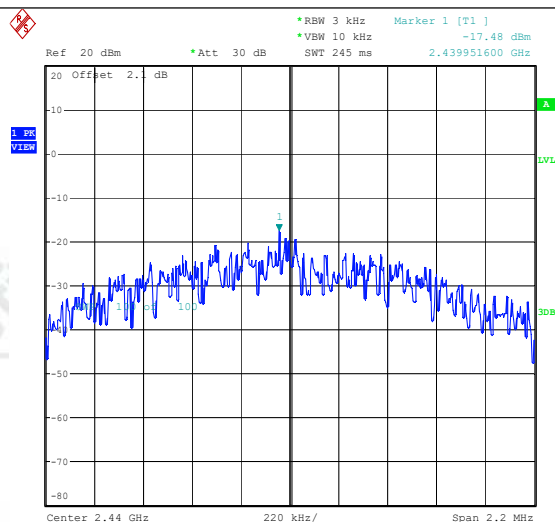
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.94	≤8.00	PASS
BLE_1M	Ant1	2440	-15.73	≤8.00	PASS
BLE_1M	Ant1	2480	-16.34	≤8.00	PASS
BLE_2M	Ant1	2402	-16.65	≤8.00	PASS
BLE_2M	Ant1	2440	-17.48	≤8.00	PASS
BLE_2M	Ant1	2480	-18.10	≤8.00	PASS

[illegible]

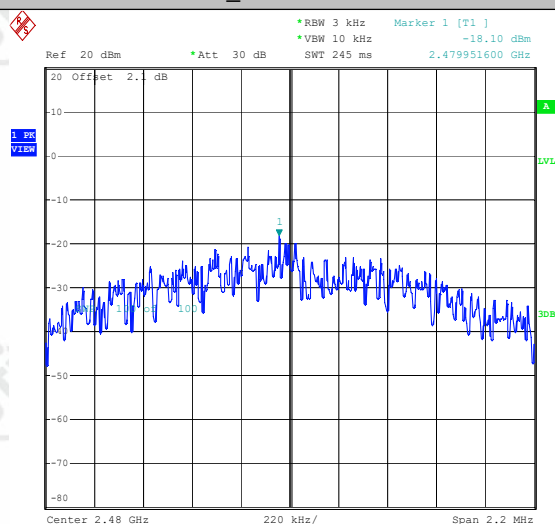
Date: 26.DEC.2024 15:07:44

Hotline:400-6788-333 www.cti-cert.com E-mail:info@cti-cert.com Complaint call:0755-33681700 Complaint E-mail:complaint@cti-cert.com



Date: 26.DEC.2024 15:11:18

BLE 2M-Ant1-2440-PASS



Date: 26.DEC.2024 15:14:31

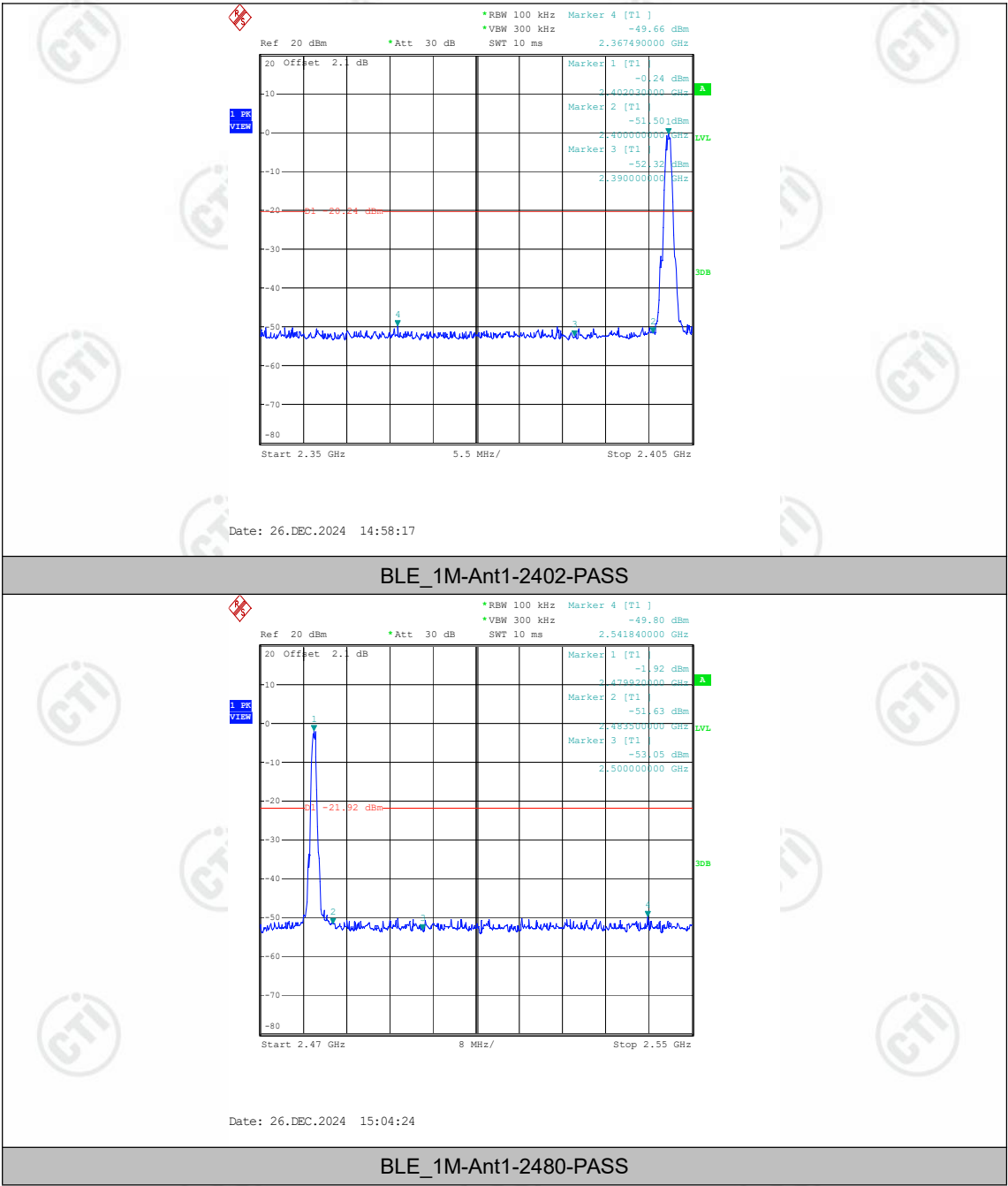
BLE_2M-Ant1-2480-PASS

Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.24	-49.66	≤-20.24	PASS
BLE_1M	Ant1	High	2480	-1.92	-49.8	≤-21.92	PASS
BLE_2M	Ant1	Low	2402	-0.31	-34.79	≤-20.31	PASS
BLE_2M	Ant1	High	2480	-1.90	-49.72	≤-21.9	PASS

Test Graphs

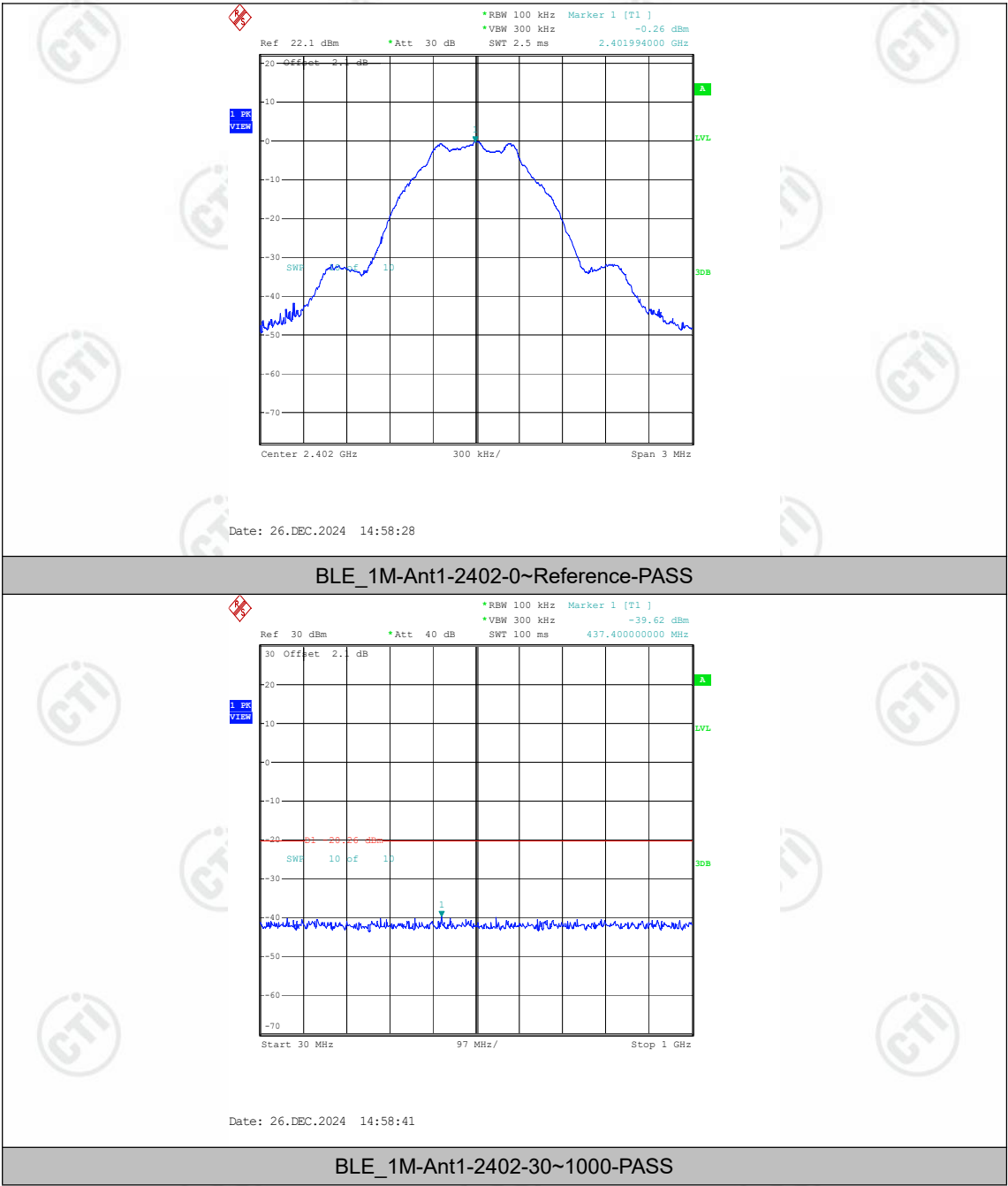


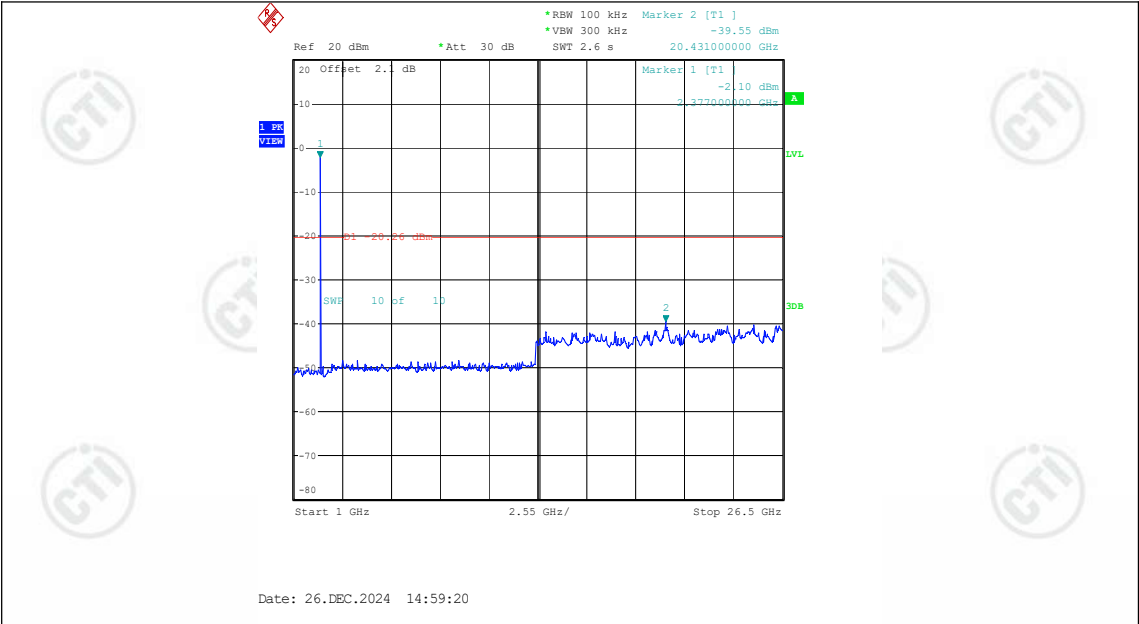
Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.26	-0.26	---	PASS
BLE_1M	Ant1	2402	30~1000	-0.26	-39.62	≤-20.26	PASS
BLE_1M	Ant1	2402	1000~26500	-0.26	-39.55	≤-20.26	PASS
BLE_1M	Ant1	2440	Reference	-1.03	-1.03	---	PASS
BLE_1M	Ant1	2440	30~1000	-1.03	-39.7	≤-21.03	PASS
BLE_1M	Ant1	2440	1000~26500	-1.03	-39.65	≤-21.03	PASS
BLE_1M	Ant1	2480	Reference	-1.74	-1.74	---	PASS
BLE_1M	Ant1	2480	30~1000	-1.74	-38.76	≤-21.74	PASS
BLE_1M	Ant1	2480	1000~26500	-1.74	-40.56	≤-21.74	PASS
BLE_2M	Ant1	2402	Reference	-0.40	-0.40	---	PASS
BLE_2M	Ant1	2402	30~1000	-0.40	-39.27	≤-20.4	PASS
BLE_2M	Ant1	2402	1000~26500	-0.40	-40.11	≤-20.4	PASS
BLE_2M	Ant1	2440	Reference	-1.18	-1.18	---	PASS
BLE_2M	Ant1	2440	30~1000	-1.18	-39.87	≤-21.18	PASS
BLE_2M	Ant1	2440	1000~26500	-1.18	-40.21	≤-21.18	PASS
BLE_2M	Ant1	2480	Reference	-1.80	-1.80	---	PASS
BLE_2M	Ant1	2480	30~1000	-1.80	-39.53	≤-21.8	PASS
BLE_2M	Ant1	2480	1000~26500	-1.80	-40.07	≤-21.8	PASS

Test Graphs

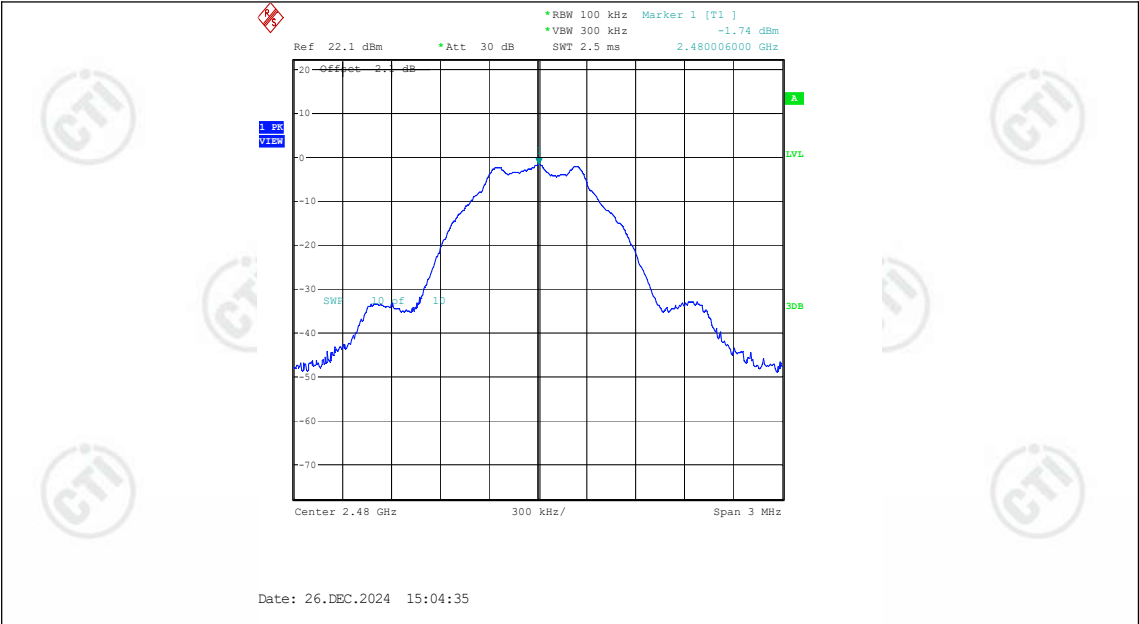




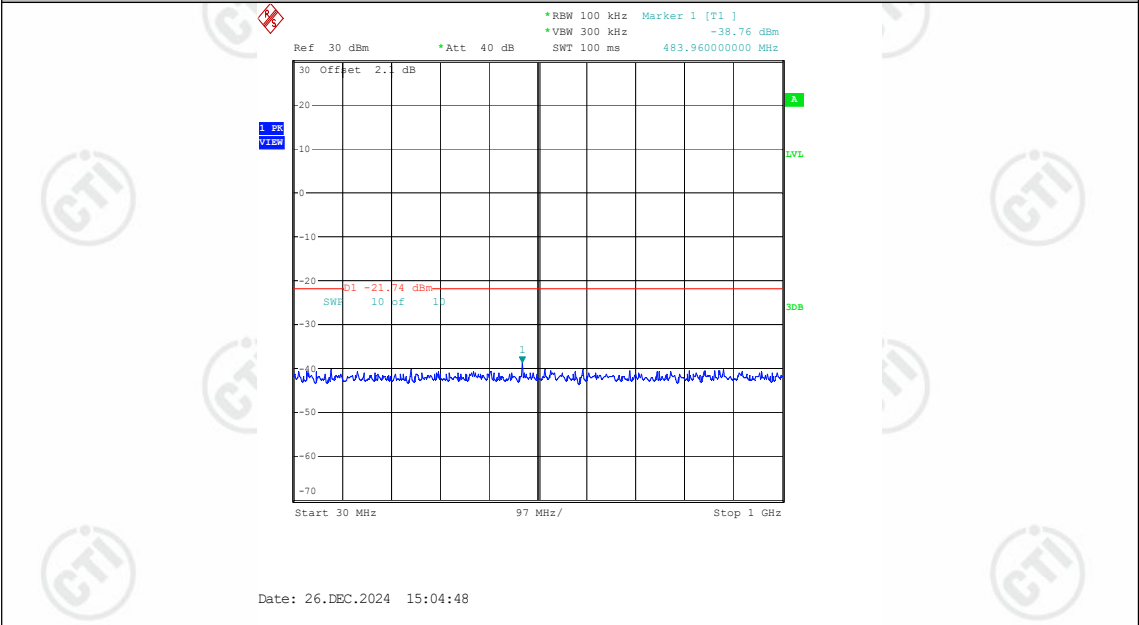
BLE_1M-Ant1-2402-1000~26500-PASS



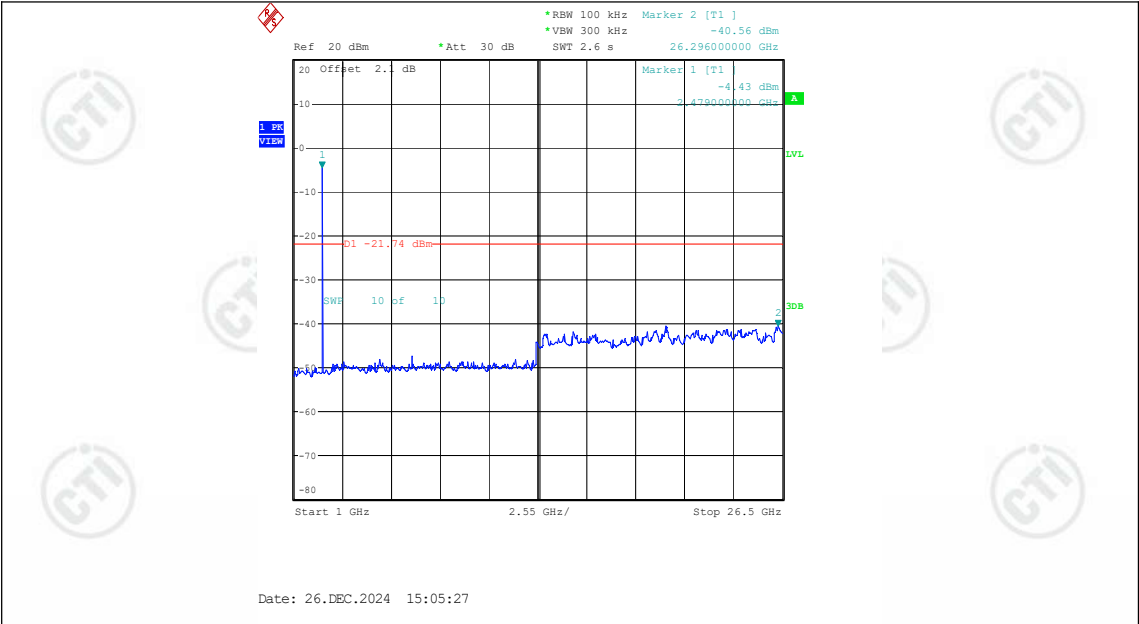
BLE_1M-Ant1-2440-0~Reference-PASS



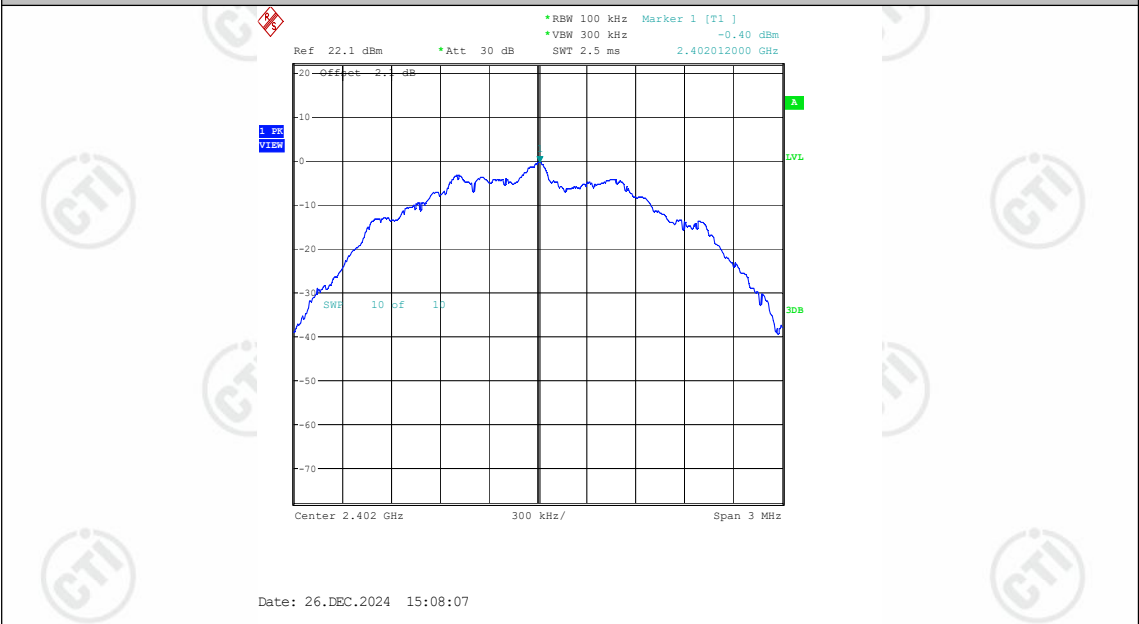
BLE_1M-Ant1-2480-0~Reference-PASS



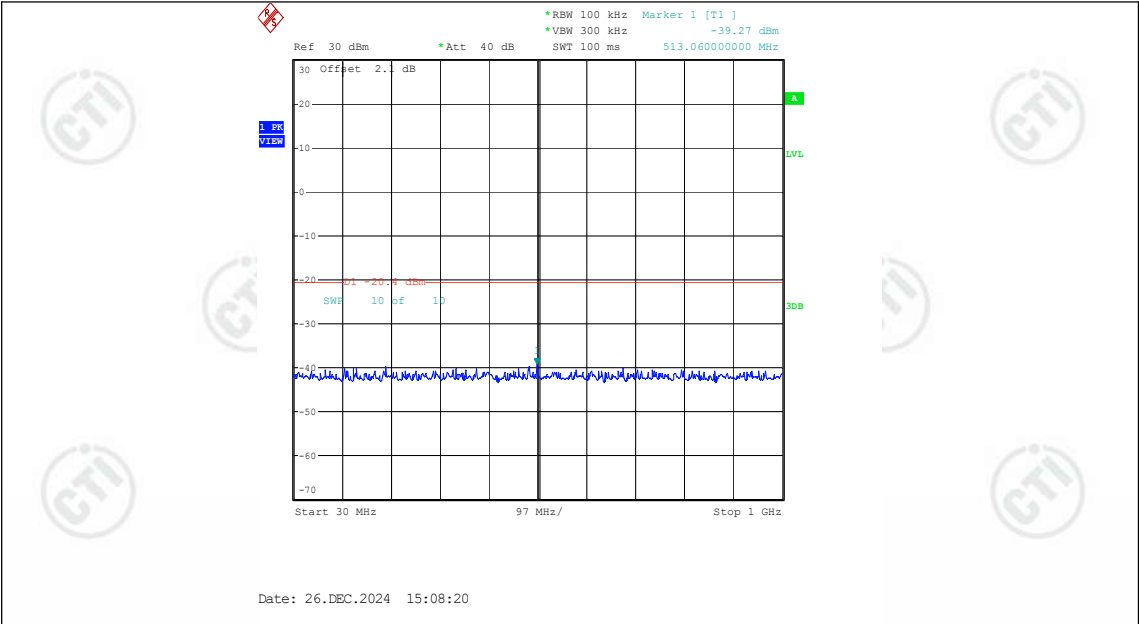
BLE_1M-Ant1-2480-30~1000-PASS



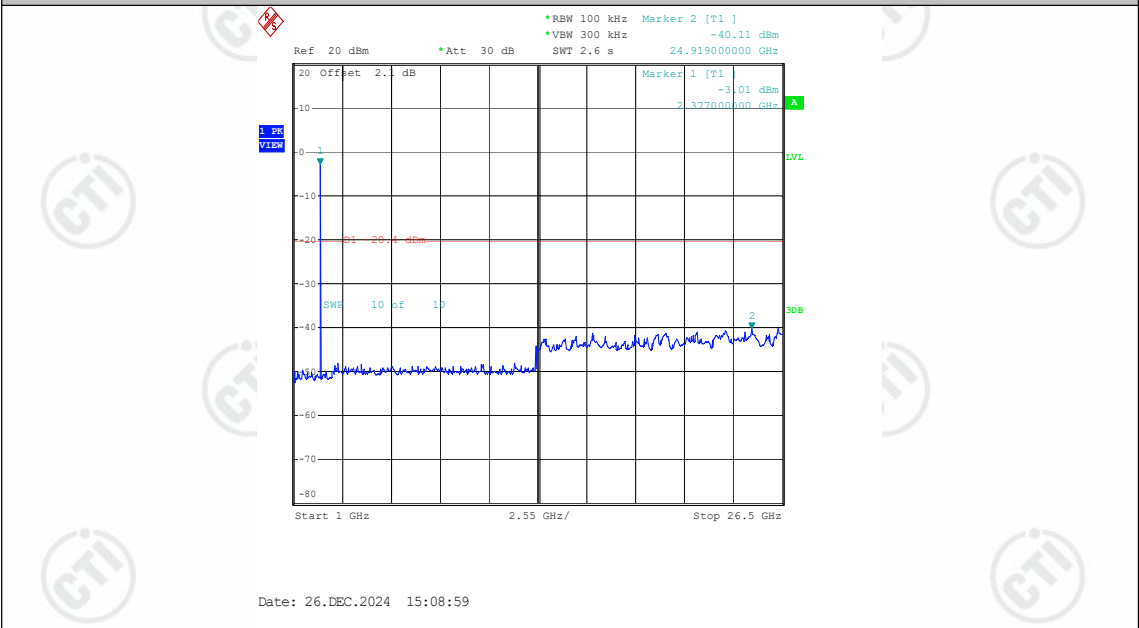
BLE_1M-Ant1-2480-1000~26500-PASS



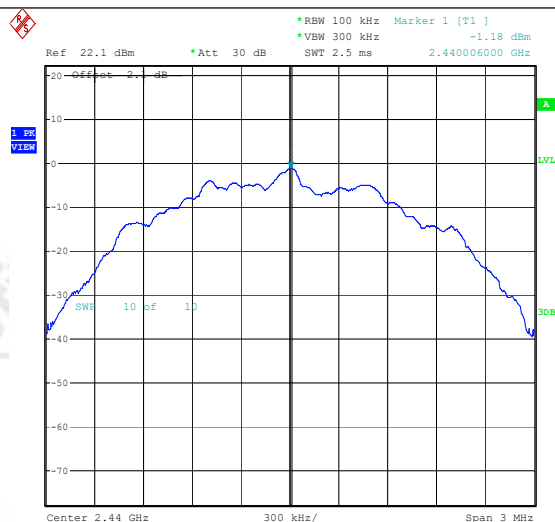
BLE_2M-Ant1-2402-0~Reference-PASS



BLE_2M-Ant1-2402-30~1000-PASS

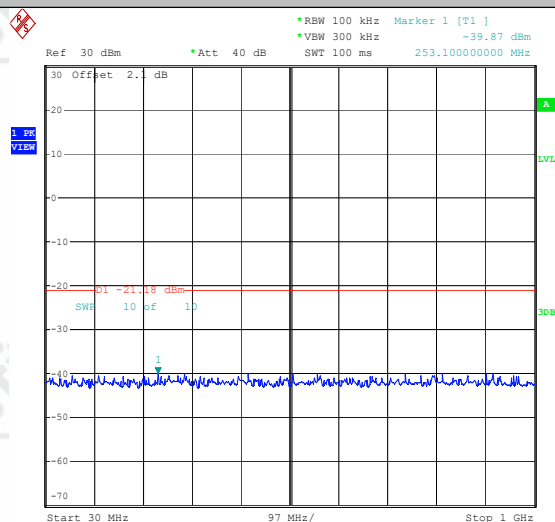


BLE_2M-Ant1-2402-1000~26500-PASS



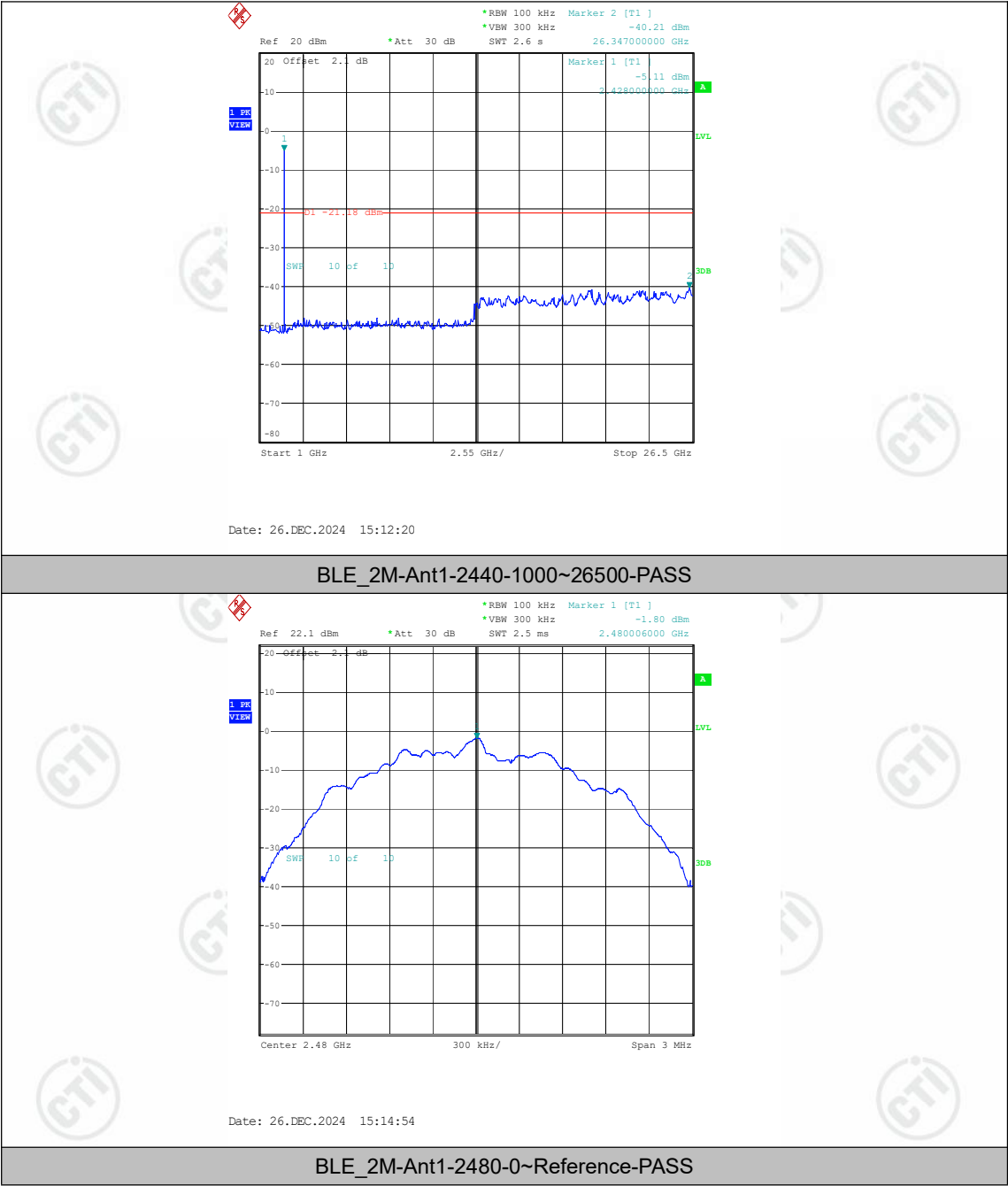
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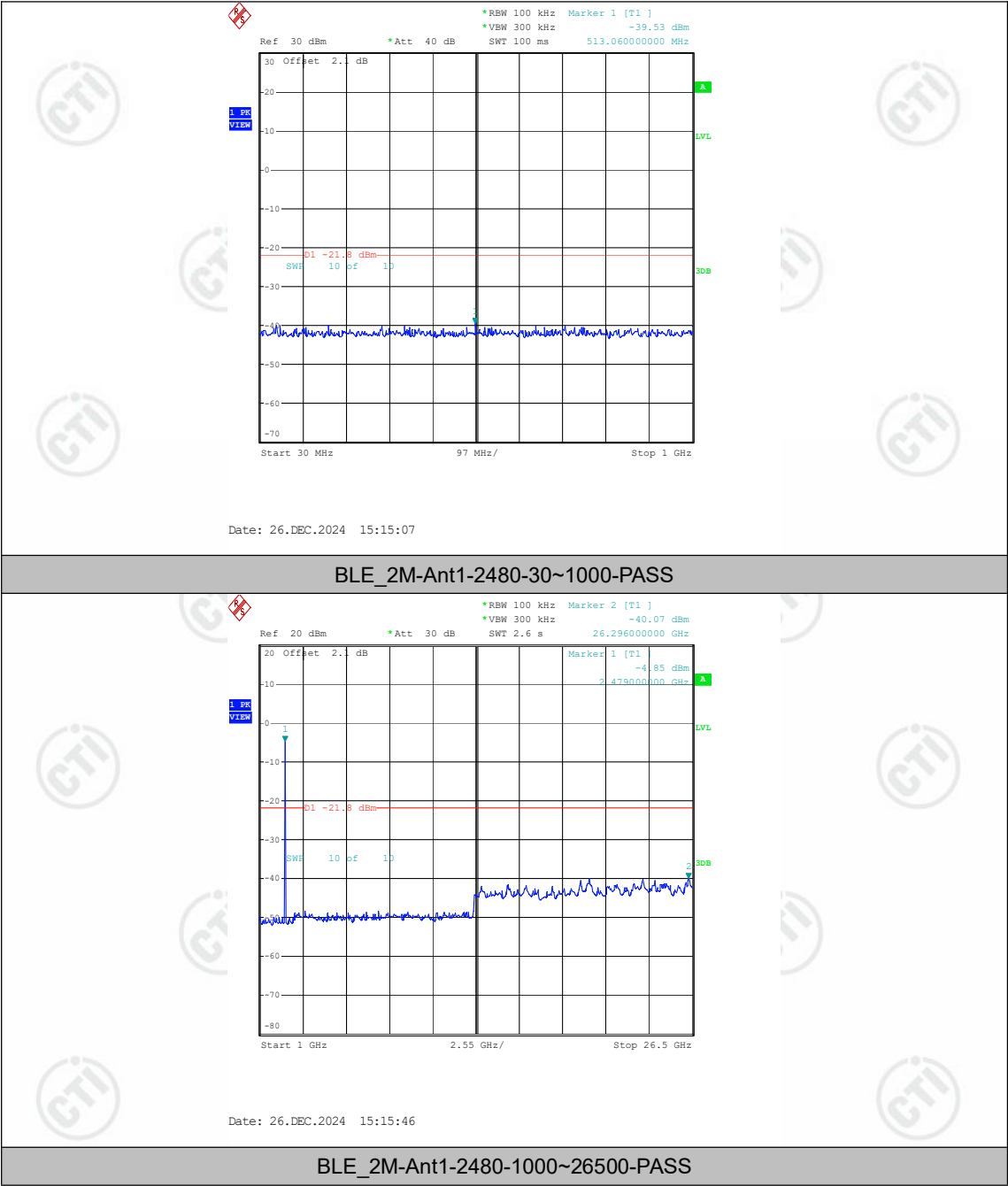
BLE 2M-Ant1-2440-0~Reference-PASS



Date: 26.DEC.2024 15:11:41

BLE_2M-Ant1-2440-30~1000-PASS





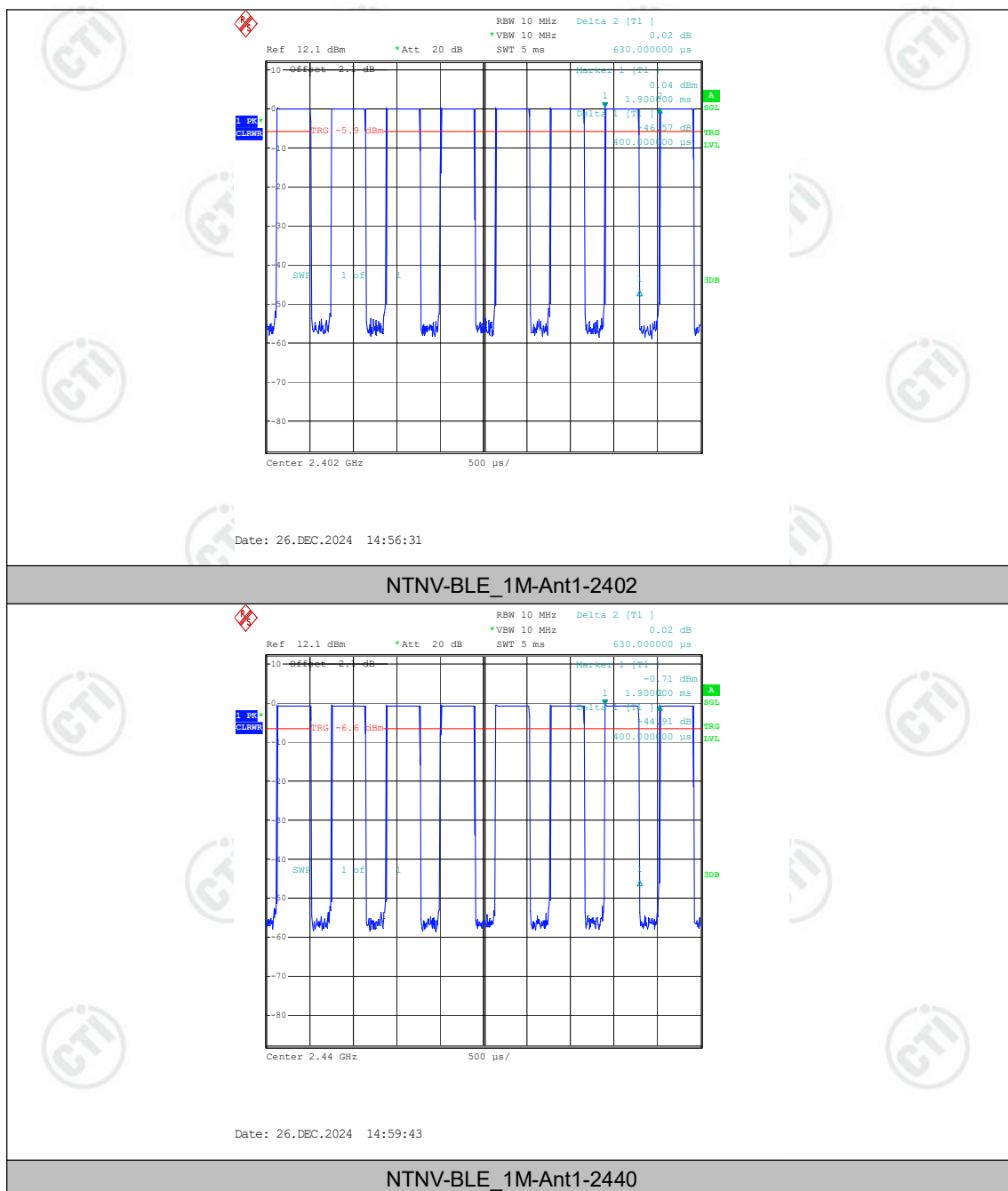
Appendix G: Duty Cycle

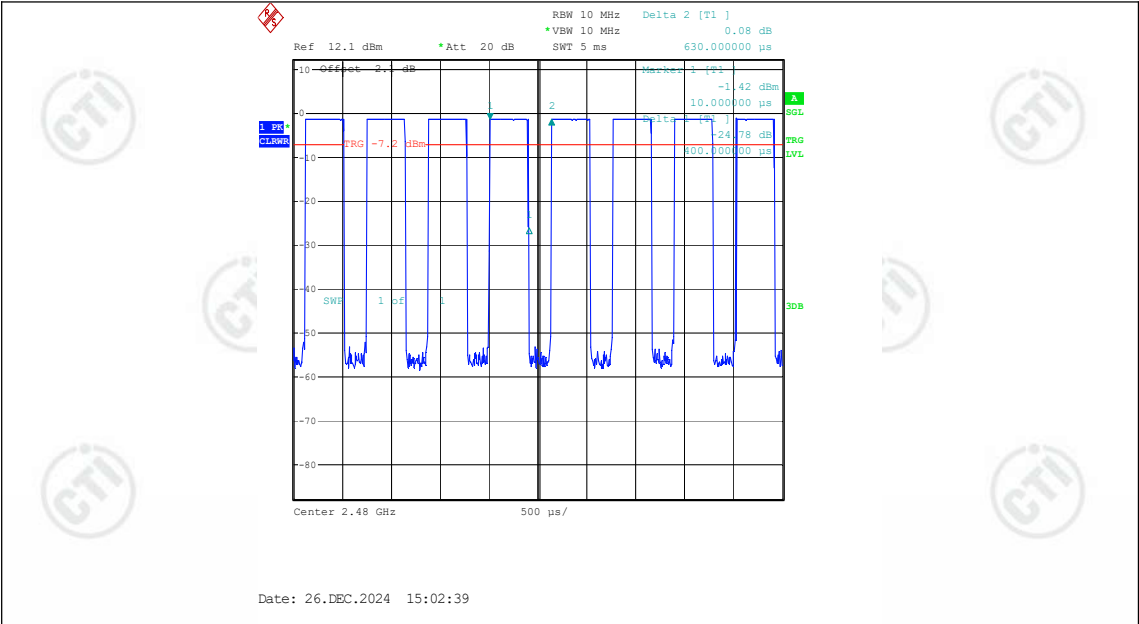
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.40	0.63	63.49	1.97
BLE_1M	Ant1	2440	0.40	0.63	63.49	1.97
BLE_1M	Ant1	2480	0.40	0.63	63.49	1.97
BLE_2M	Ant1	2402	0.21	0.63	33.33	4.77
BLE_2M	Ant1	2440	0.21	0.63	33.33	4.77
BLE_2M	Ant1	2480	0.21	0.63	33.33	4.77

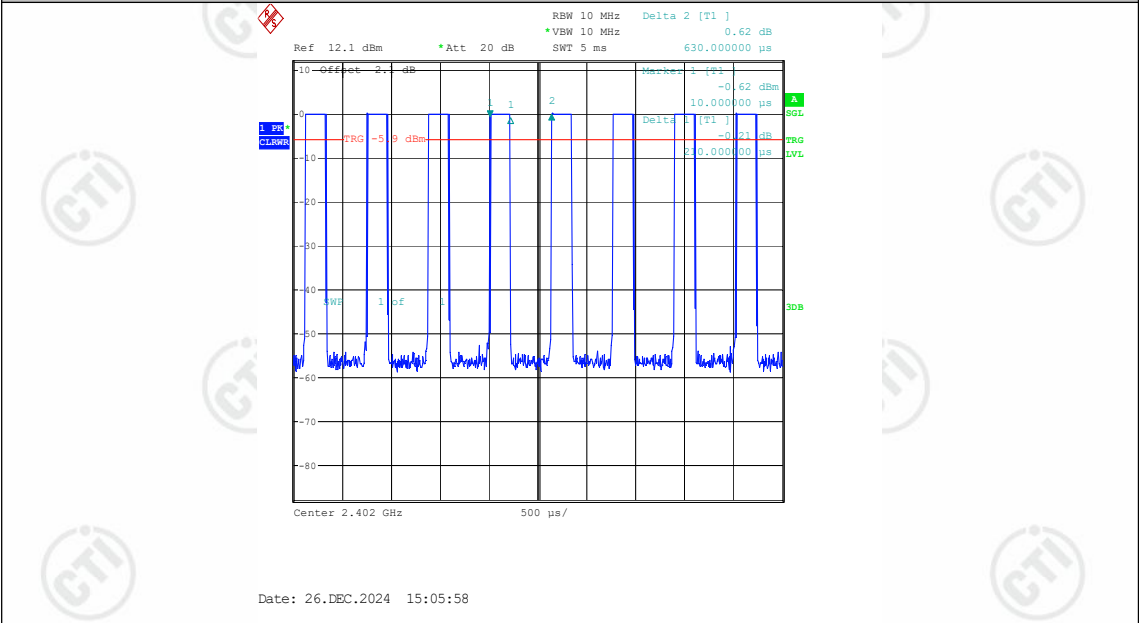
Note:Duty Cycle Factor[dB]=-10*Ig(Duty Cycle);

Test Graphs

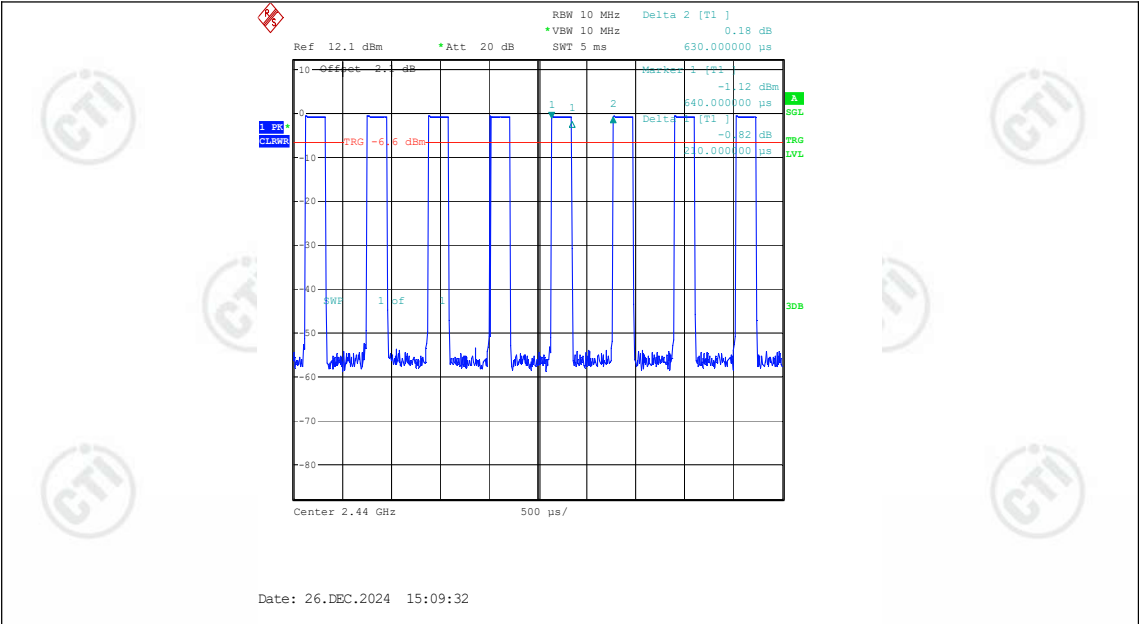




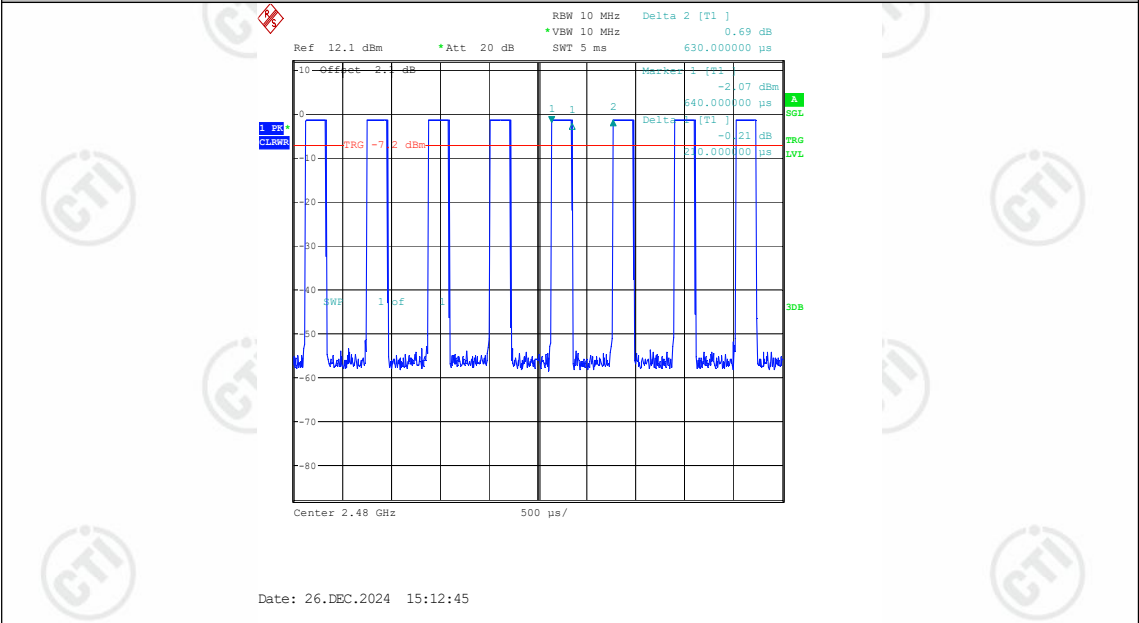
NTNV-BLE_1M-Ant1-2480



NTNV-BLE_2M-Ant1-2402



NTNV-BLE_2M-Ant1-2440



NTNV-BLE_2M-Ant1-2480

END OF REPORT