Appendix: Bluetooth LE

Contents

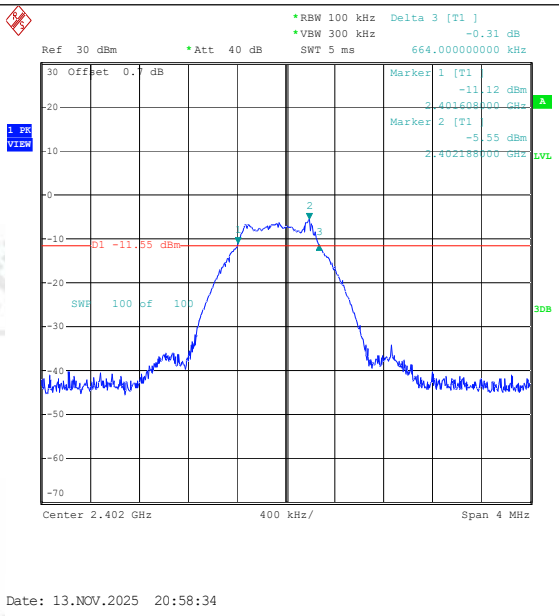
Appendix A: DTS Bandwidth 3
Test Result 3
Test Graphs 4
Appendix B: Occupied Channel Bandwidth 7
Test Result 7
Test Graphs 8
Appendix C: Maximum conducted output power 11
Test Result Peak 11
Test Graphs Peak 12
Appendix D: Maximum power spectral density 15
Test Result 15
Test Graphs 16
Appendix E: Band 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

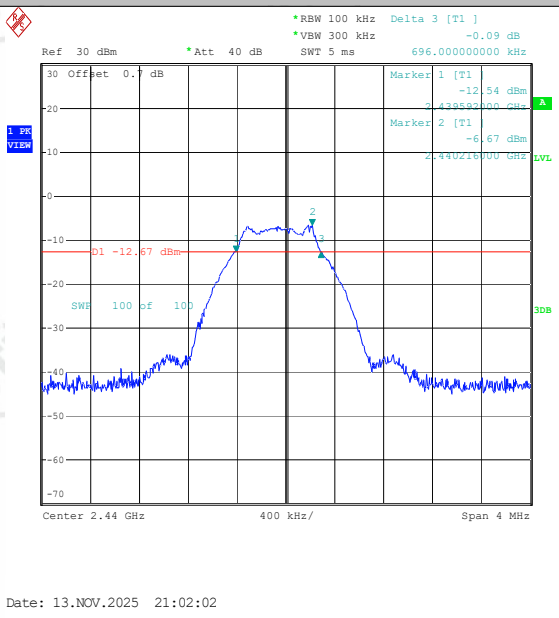
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.66	2401.61	2402.27	0.5	PASS
BLE_1M	Ant1	2440	0.70	2439.59	2440.29	0.5	PASS
BLE_1M	Ant1	2480	0.66	2479.61	2480.27	0.5	PASS
BLE_2M	Ant1	2402	1.24	2401.30	2402.54	0.5	PASS
BLE_2M	Ant1	2440	1.24	2439.30	2440.53	0.5	PASS
BLE_2M	Ant1	2480	1.23	2479.30	2480.53	0.5	PASS

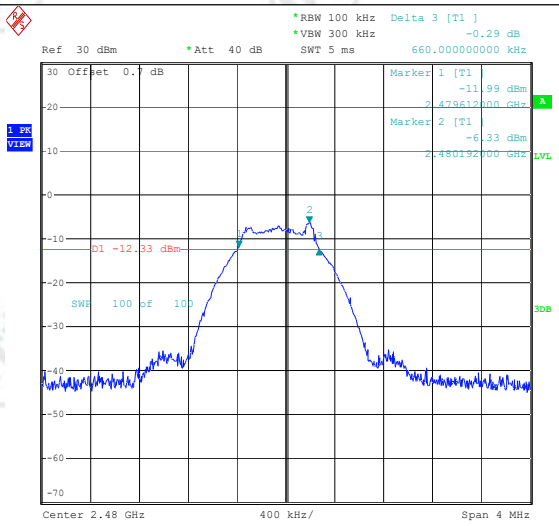
Test Graphs



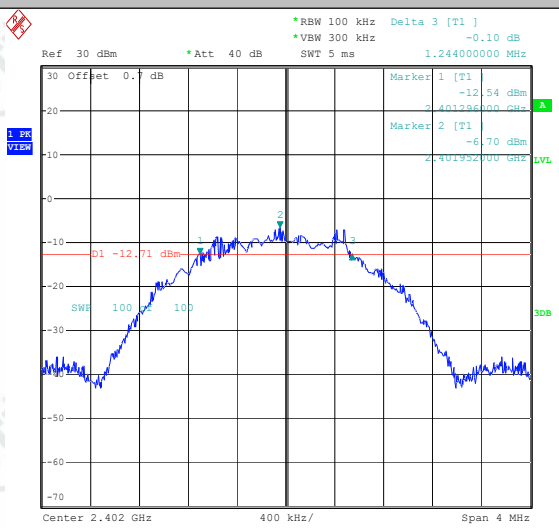
BLE_1M-Ant1-2402-PASS



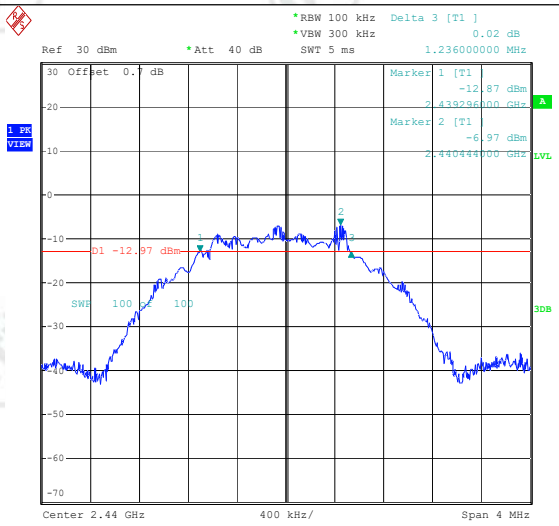
BLE_1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS

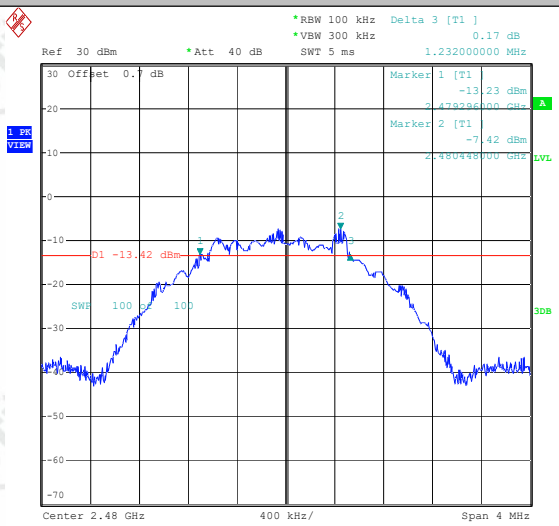


BLE_2M-Ant1-2402-PASS



Date: 13.NOV.2025 21:12:17

BLE_2M-Ant1-2440-PASS



Date: 13.NOV.2025 21:15:45

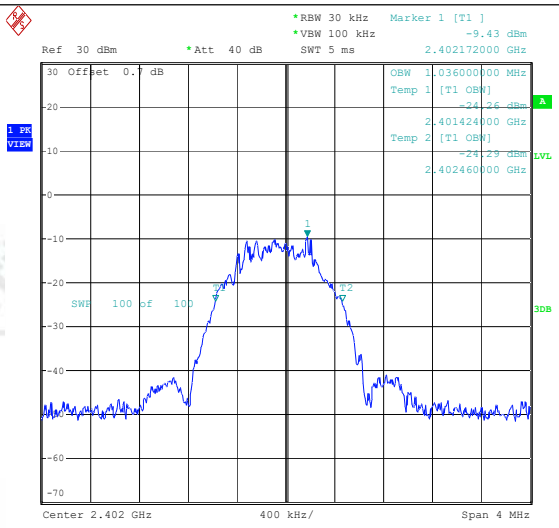
BLE_2M-Ant1-2480-PASS

Appendix B: Occupied Channel Bandwidth

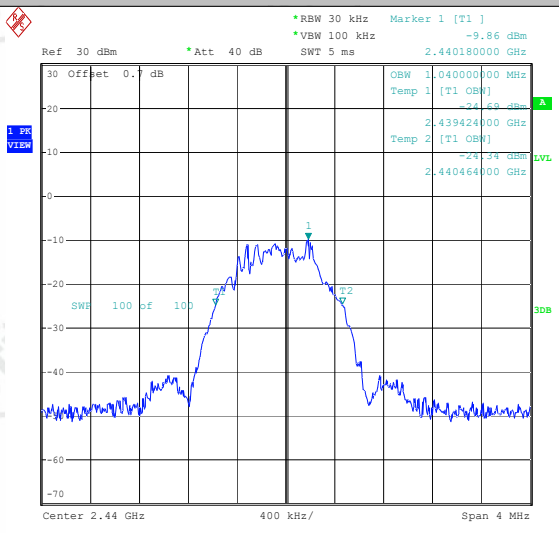
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0360	---	---
BLE_1M	Ant1	2440	1.0400	---	---
BLE_1M	Ant1	2480	1.0480	---	---
BLE_2M	Ant1	2402	2.0680	---	---
BLE_2M	Ant1	2440	2.0920	---	---
BLE_2M	Ant1	2480	2.0880	---	---

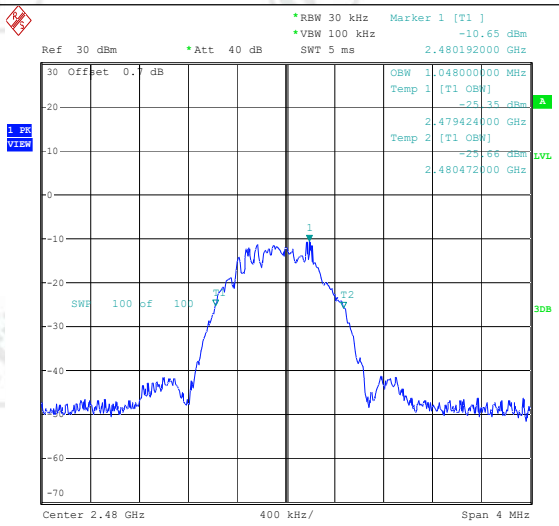
Test Graphs



BLE_1M-Ant1-2402

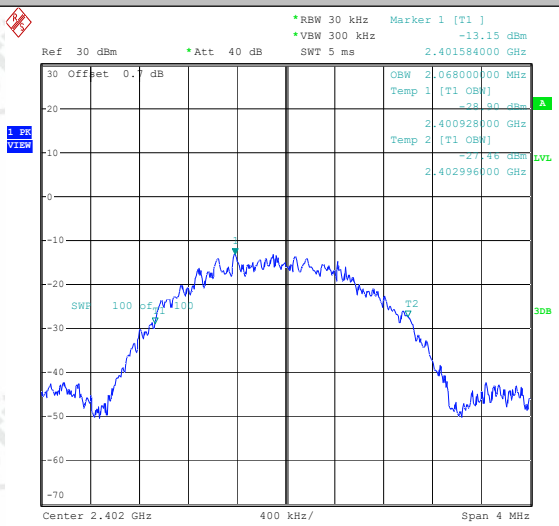


BLE_1M-Ant1-2440



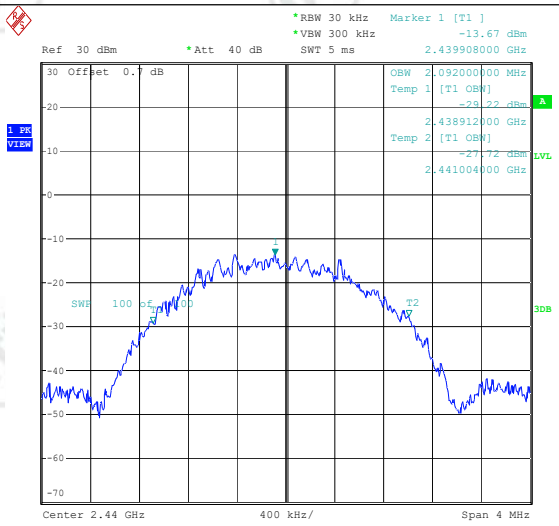
Date: 13.NOV.2025 21:05:59

BLE_1M-Ant1-2480

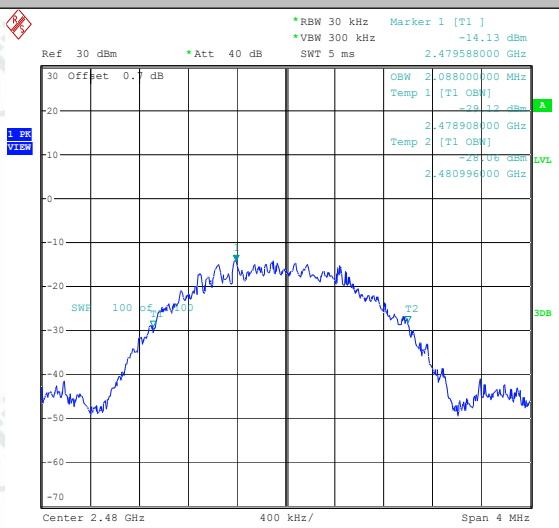


Date: 13.NOV.2025 21:09:21

BLE_2M-Ant1-2402



BLE_2M-Ant1-2440



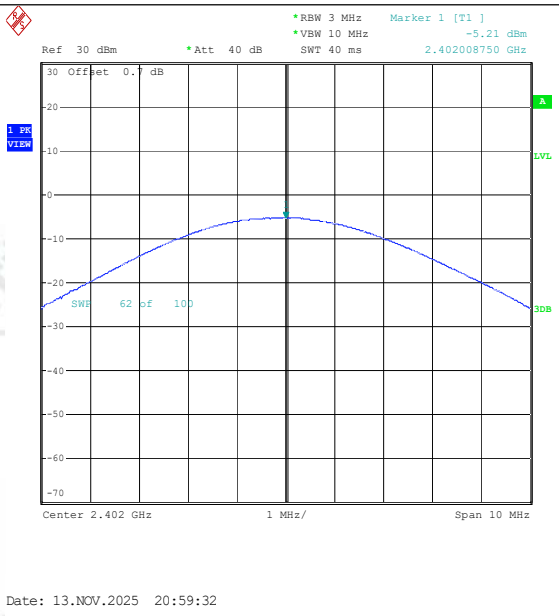
BLE_2M-Ant1-2480

Appendix C: Maximum conducted output power

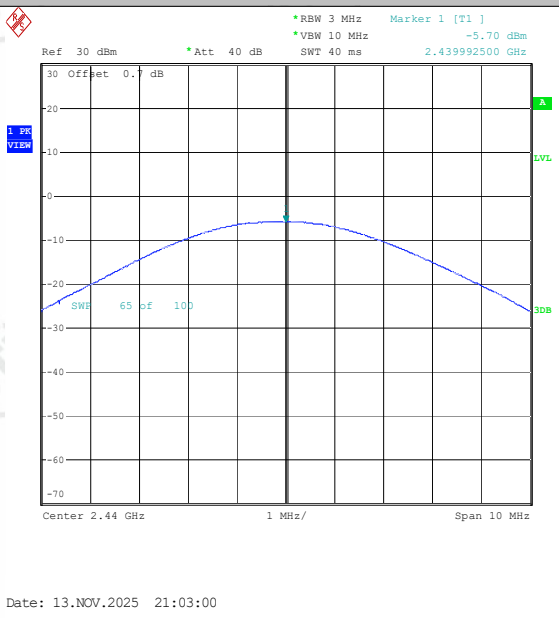
Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-5.21	≤30	PASS
BLE_1M	Ant1	2440	-5.70	≤30	PASS
BLE_1M	Ant1	2480	-6.06	≤30	PASS
BLE_2M	Ant1	2402	-5.14	≤30	PASS
BLE_2M	Ant1	2440	-5.64	≤30	PASS
BLE_2M	Ant1	2480	-6.05	≤30	PASS

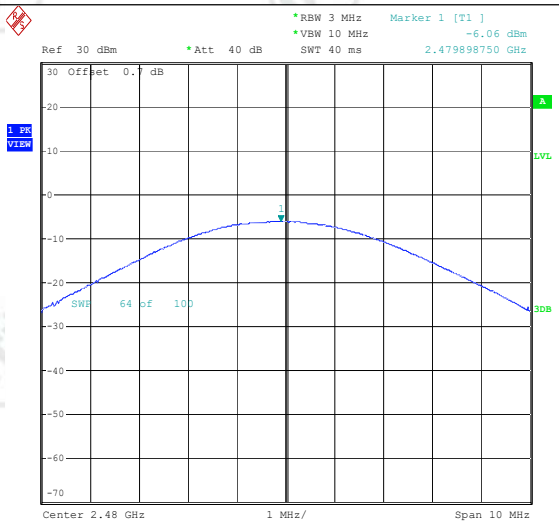
Test Graphs Peak



BLE_1M-Ant1-2402-PASS

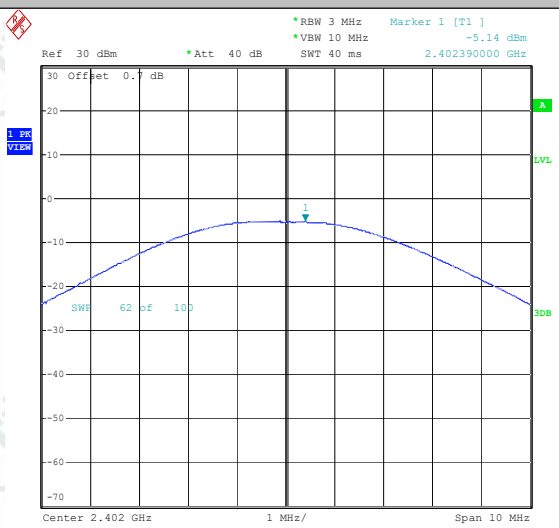


BLE_1M-Ant1-2440-PASS



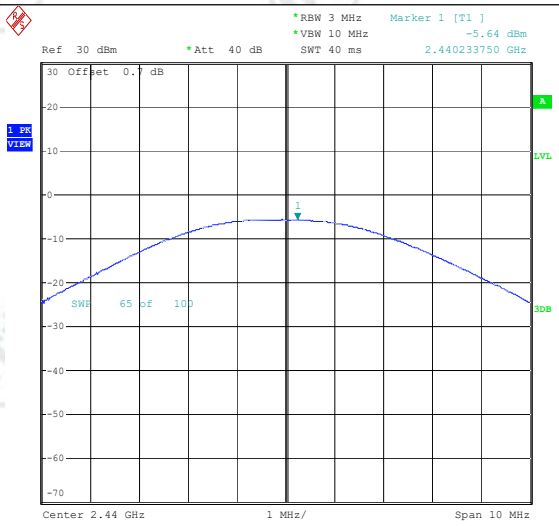
Date: 13.NOV.2025 21:06:13

BLE_1M-Ant1-2480-PASS



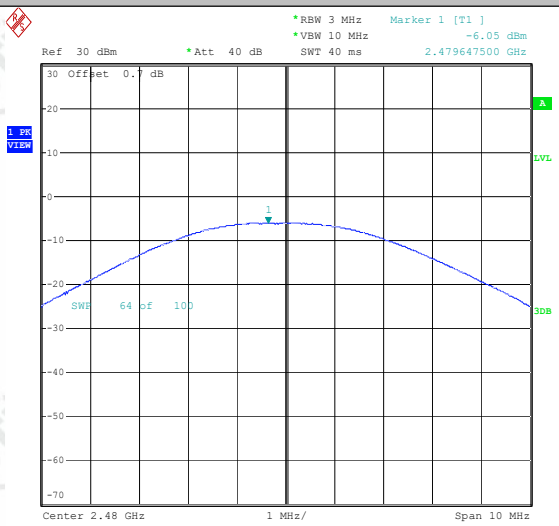
Date: 13.NOV.2025 21:09:35

BLE_2M-Ant1-2402-PASS



Date: 13.NOV.2025 21:13:14

BLE_2M-Ant1-2440-PASS



Date: 13.NOV.2025 21:16:42

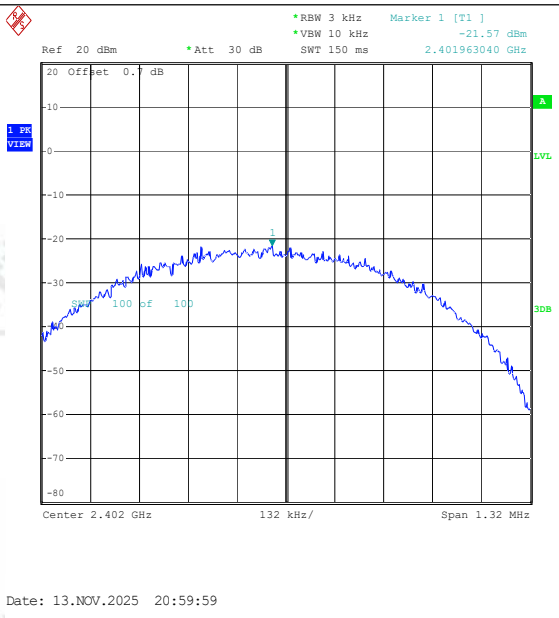
BLE_2M-Ant1-2480-PASS

Appendix D: Maximum power spectral density

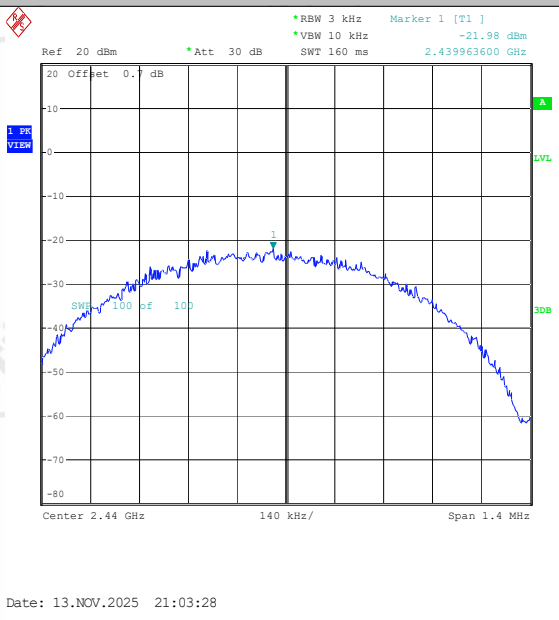
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-21.57	≤8.00	PASS
BLE_1M	Ant1	2440	-21.98	≤8.00	PASS
BLE_1M	Ant1	2480	-22.49	≤8.00	PASS
BLE_2M	Ant1	2402	-24.72	≤8.00	PASS
BLE_2M	Ant1	2440	-25.12	≤8.00	PASS
BLE_2M	Ant1	2480	-25.66	≤8.00	PASS

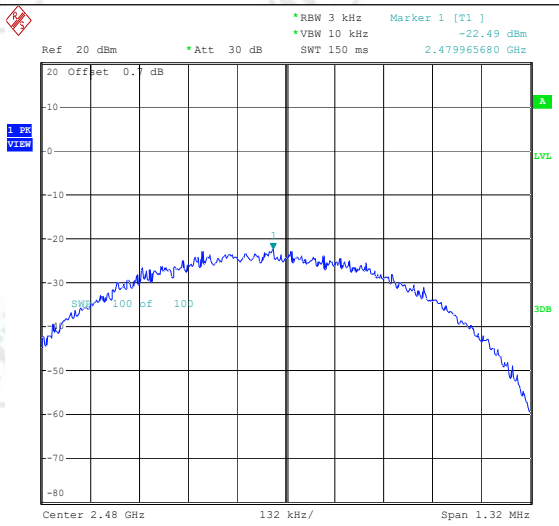
Test Graphs



BLE_1M-Ant1-2402-PASS

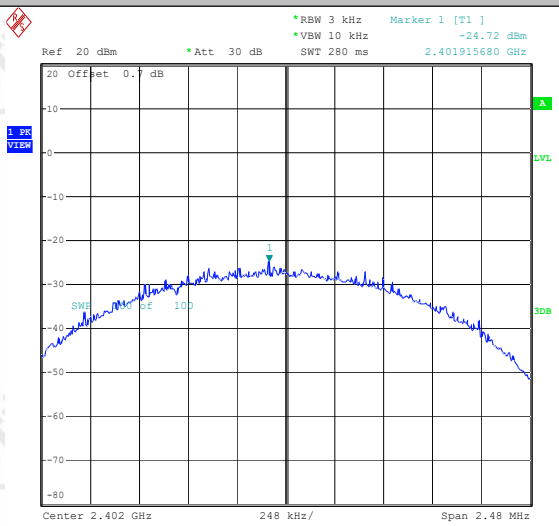


BLE_1M-Ant1-2440-PASS



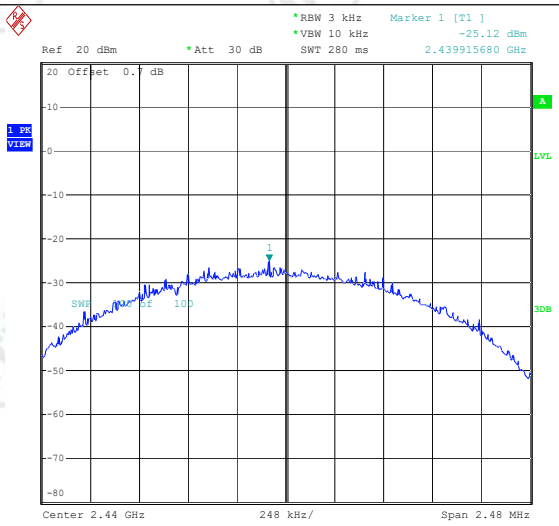
Date: 13.NOV.2025 21:06:39

BLE_1M-Ant1-2480-PASS



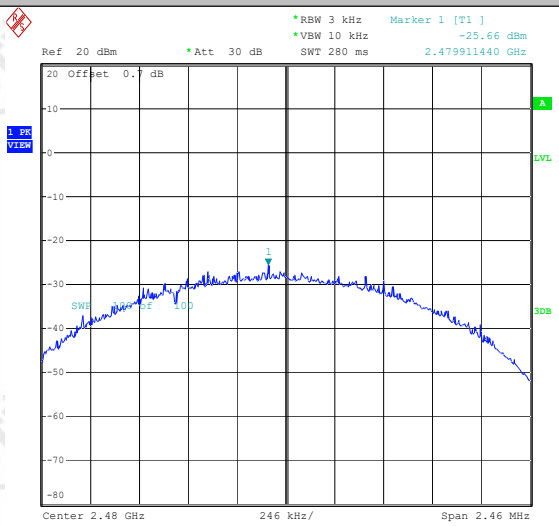
Date: 13.NOV.2025 21:10:19

BLE_2M-Ant1-2402-PASS



Date: 13.NOV.2025 21:13:58

BLE_2M-Ant1-2440-PASS



Date: 13.NOV.2025 21:17:26

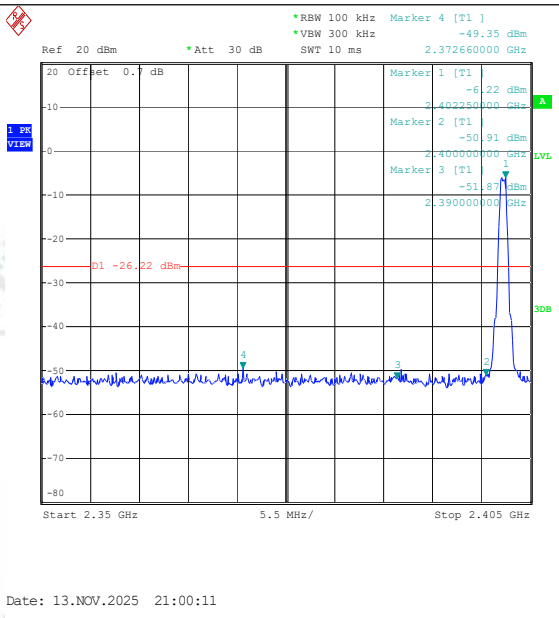
BLE_2M-Ant1-2480-PASS

Appendix E: Band edge measurements

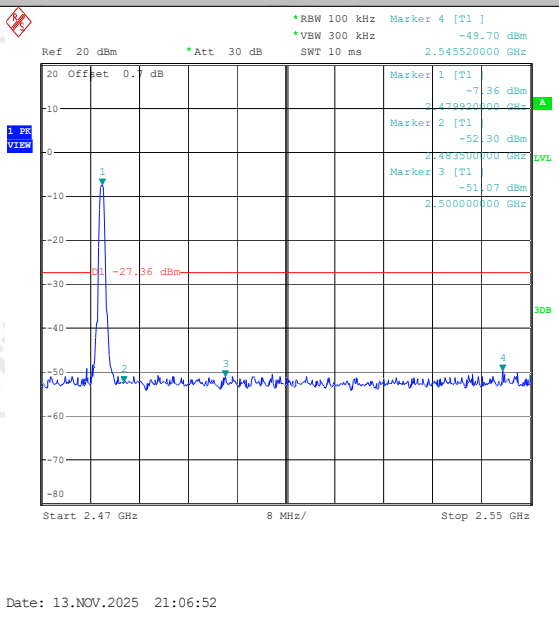
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-6.22	-49.35	≤-26.22	PASS
BLE_1M	Ant1	High	2480	-7.36	-49.7	≤-27.36	PASS
BLE_2M	Ant1	Low	2402	-6.80	-38.75	≤-26.8	PASS
BLE_2M	Ant1	High	2480	-8.50	-49.9	≤-28.5	PASS

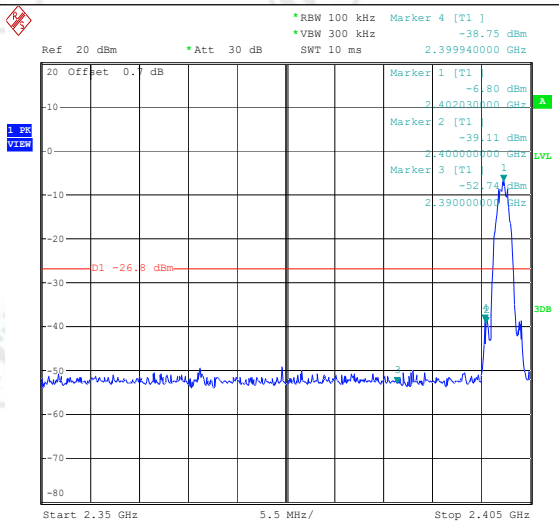
Test Graphs



BLE_1M-Ant1-2402-PASS

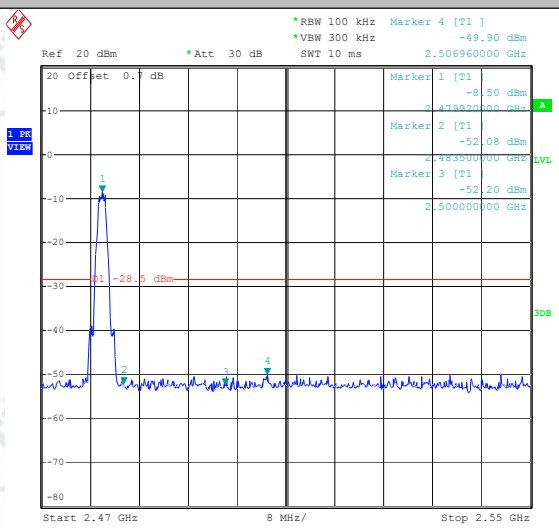


BLE_1M-Ant1-2480-PASS



Date: 13.NOV.2025 21:10:31

BLE_2M-Ant1-2402-PASS



Date: 13.NOV.2025 21:17:38

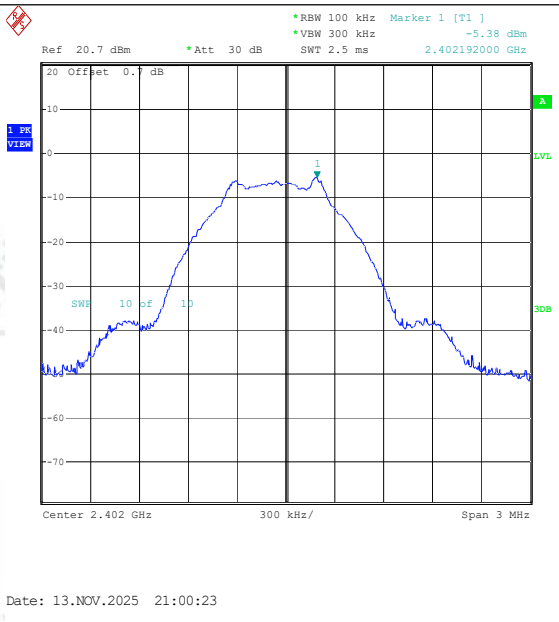
BLE_2M-Ant1-2480-PASS

Appendix F: Conducted Spurious Emission

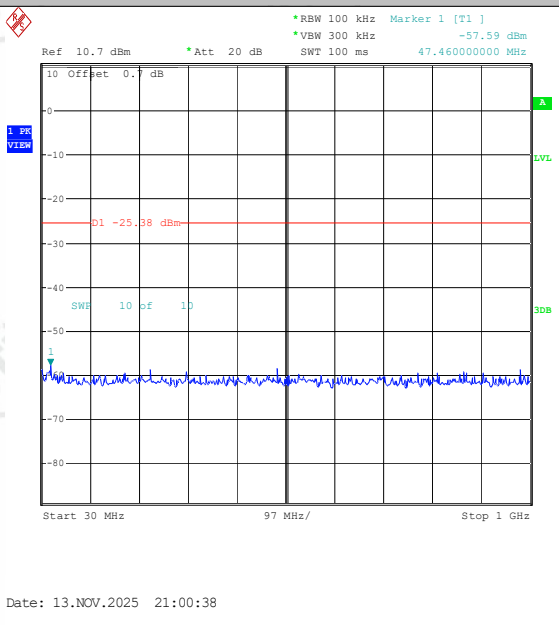
Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-5.38	-5.38	---	PASS
BLE_1M	Ant1	2402	30~1000	-5.38	-57.59	≤-25.38	PASS
BLE_1M	Ant1	2402	1000~26500	-5.38	-39.13	≤-25.38	PASS
BLE_1M	Ant1	2440	0~Reference	-5.81	-5.81	---	PASS
BLE_1M	Ant1	2440	30~1000	-5.81	-58.81	≤-25.81	PASS
BLE_1M	Ant1	2440	1000~26500	-5.81	-32.99	≤-25.81	PASS
BLE_1M	Ant1	2480	0~Reference	-6.32	-6.32	---	PASS
BLE_1M	Ant1	2480	30~1000	-6.32	-58.33	≤-26.32	PASS
BLE_1M	Ant1	2480	1000~26500	-6.32	-37.61	≤-26.32	PASS
BLE_2M	Ant1	2402	0~Reference	-6.40	-6.40	---	PASS
BLE_2M	Ant1	2402	30~1000	-6.40	-58.7	≤-26.4	PASS
BLE_2M	Ant1	2402	1000~26500	-6.40	-41.06	≤-26.4	PASS
BLE_2M	Ant1	2440	0~Reference	-6.84	-6.84	---	PASS
BLE_2M	Ant1	2440	30~1000	-6.84	-58.13	≤-26.84	PASS
BLE_2M	Ant1	2440	1000~26500	-6.84	-38.35	≤-26.84	PASS
BLE_2M	Ant1	2480	0~Reference	-7.36	-7.36	---	PASS
BLE_2M	Ant1	2480	30~1000	-7.36	-58.87	≤-27.36	PASS
BLE_2M	Ant1	2480	1000~26500	-7.36	-40.06	≤-27.36	PASS

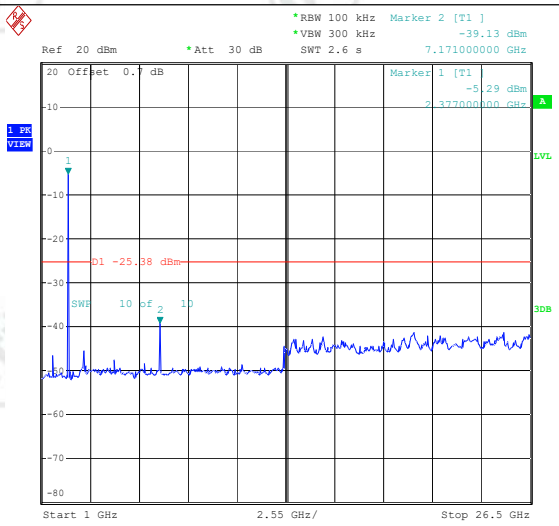
Test Graphs



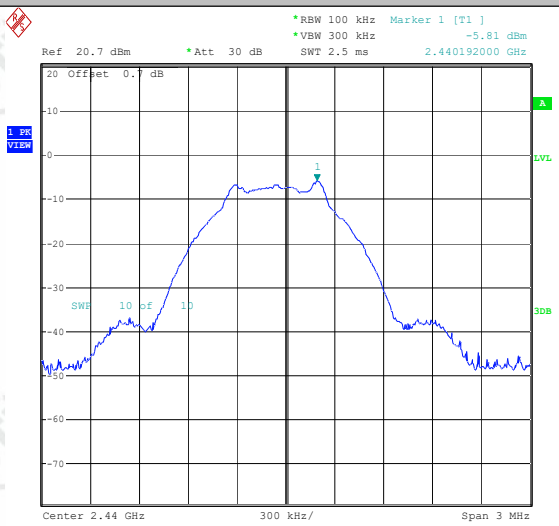
BLE_1M-Ant1-2402-0~Reference-PASS



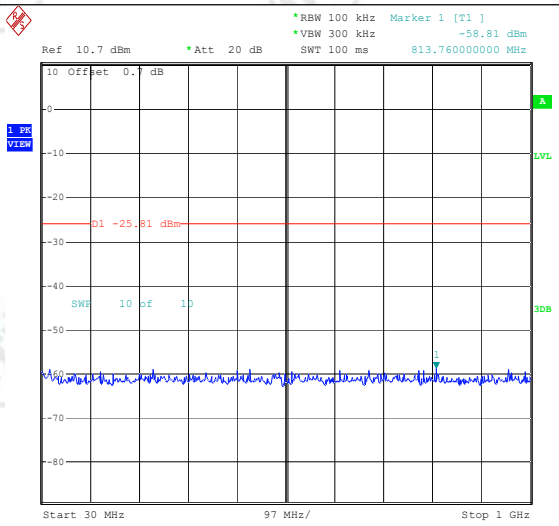
BLE_1M-Ant1-2402-30~1000-PASS



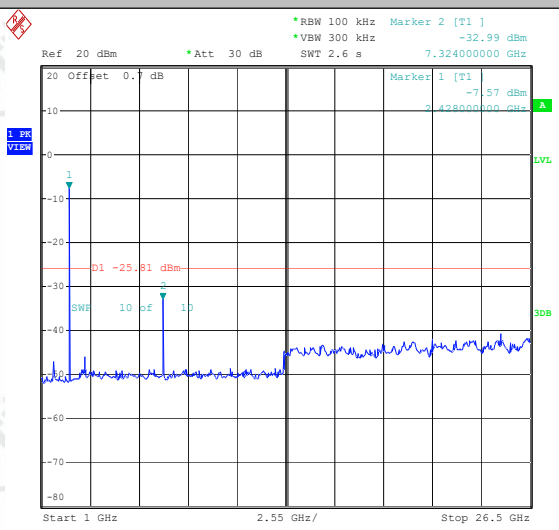
BLE_1M-Ant1-2402-1000~26500-PASS



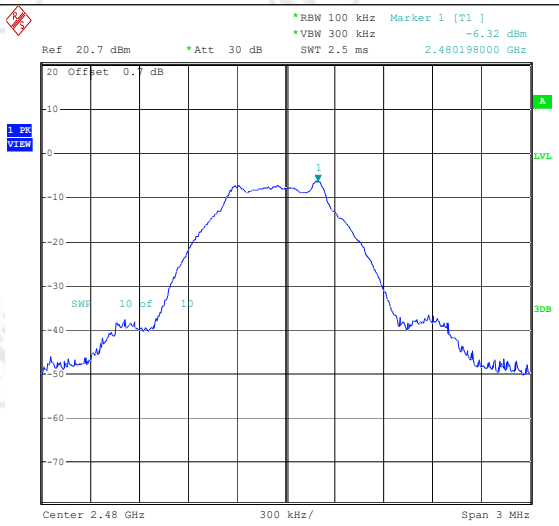
BLE_1M-Ant1-2440-0~Reference-PASS



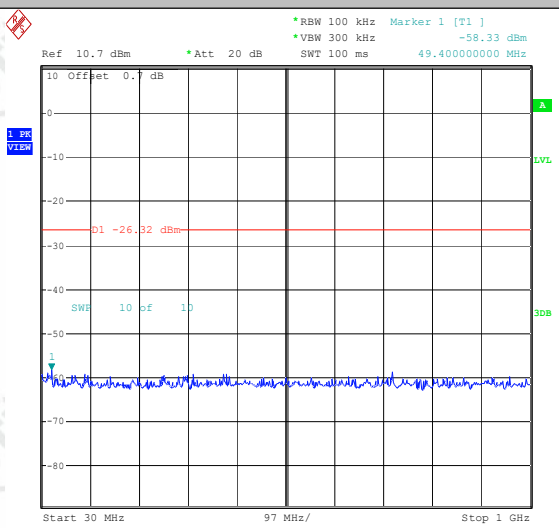
BLE_1M-Ant1-2440-30~1000-PASS



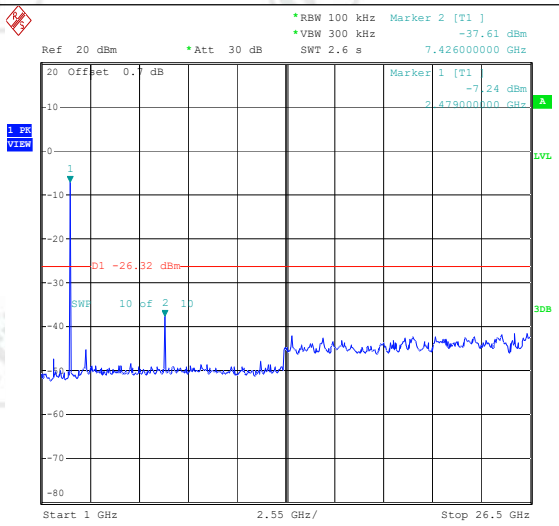
BLE_1M-Ant1-2440-1000~26500-PASS



BLE_1M-Ant1-2480-0~Reference-PASS

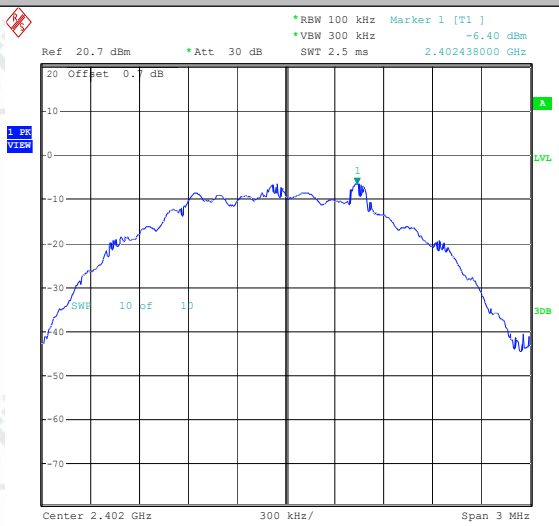


BLE_1M-Ant1-2480-30~1000-PASS



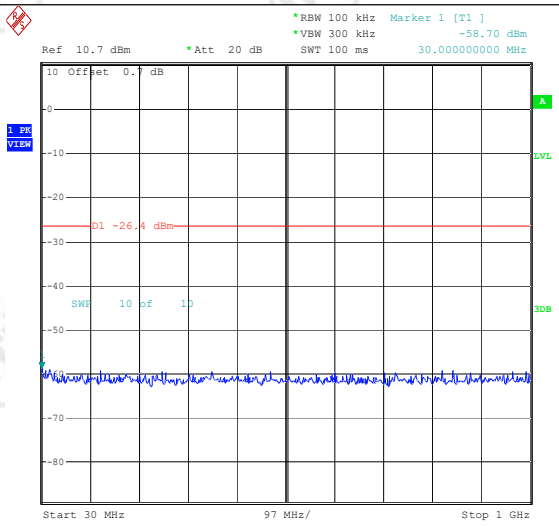
Date: 13.NOV.2025 21:07:58

BLE_1M-Ant1-2480-1000~26500-PASS

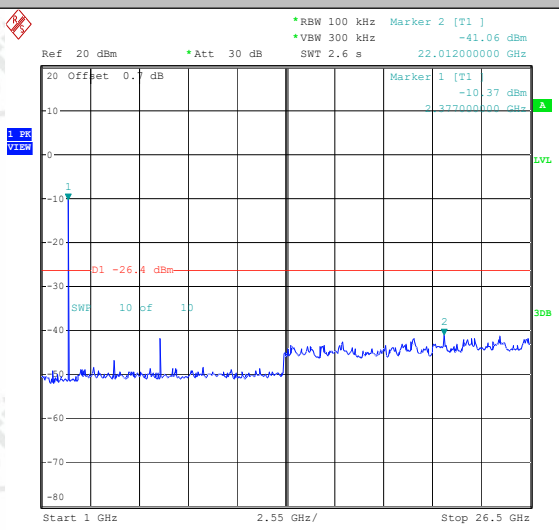


Date: 13.NOV.2025 21:10:43

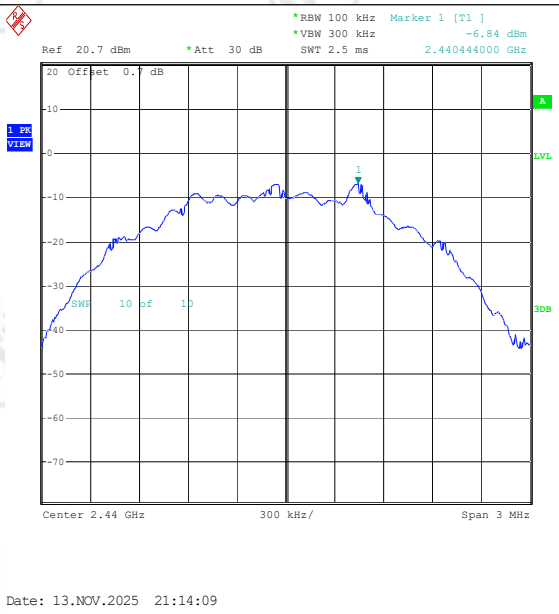
BLE_2M-Ant1-2402-0~Reference-PASS



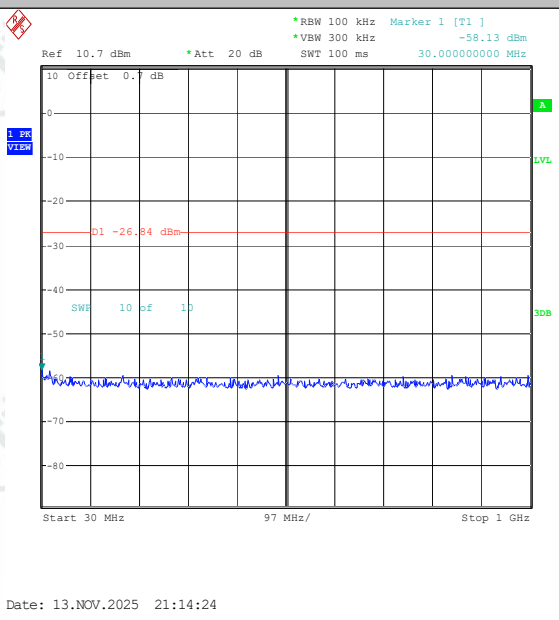
BLE_2M-Ant1-2402-30~1000-PASS



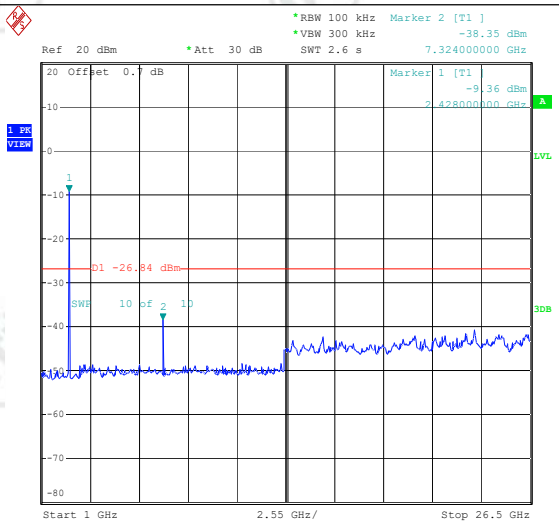
BLE_2M-Ant1-2402-1000~26500-PASS



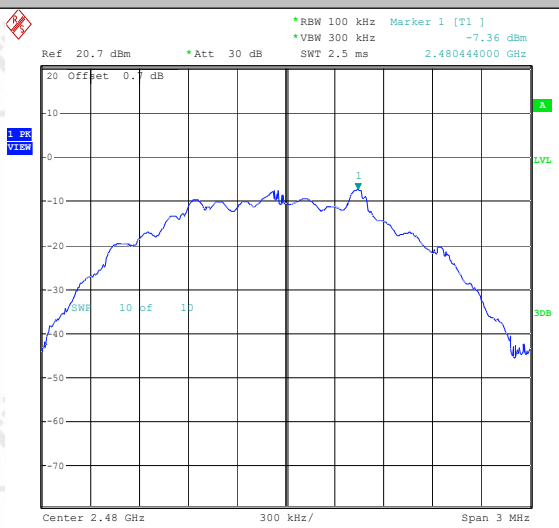
BLE_2M-Ant1-2440-0~Reference-PASS



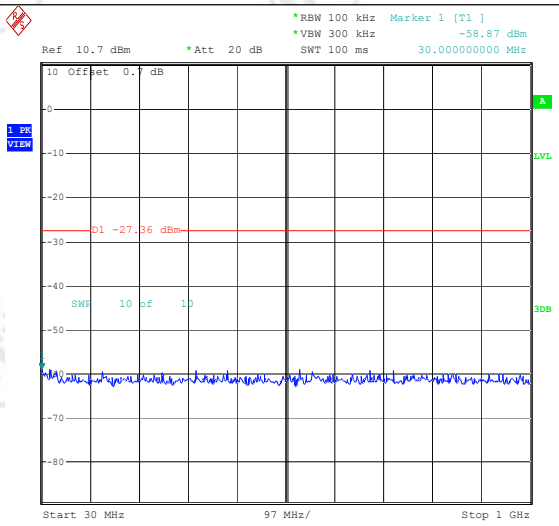
BLE_2M-Ant1-2440-30~1000-PASS



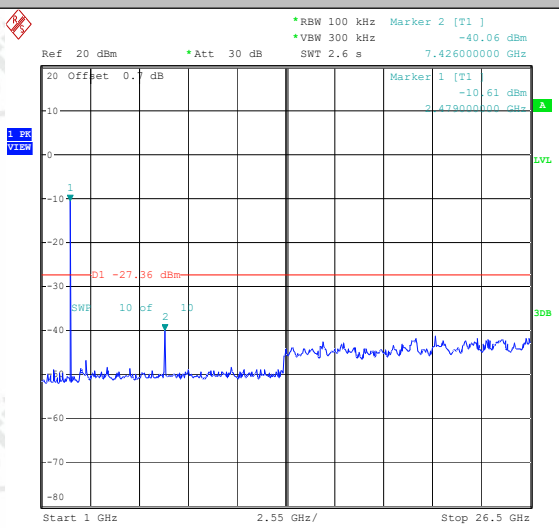
BLE_2M-Ant1-2440-1000~26500-PASS



BLE_2M-Ant1-2480-0~Reference-PASS



BLE_2M-Ant1-2480-30~1000-PASS



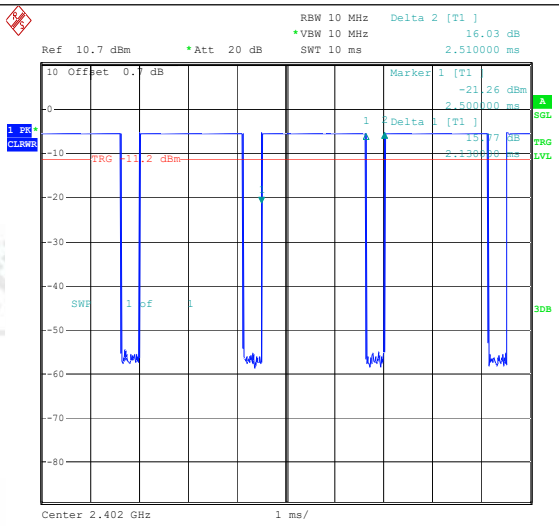
BLE_2M-Ant1-2480-1000~26500-PASS

Appendix G: Duty Cycle

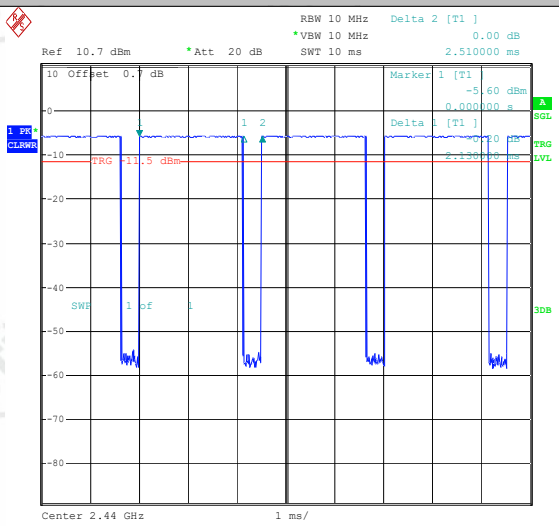
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	2.13	2.51	84.86	0.71
BLE_1M	Ant1	2440	2.13	2.51	84.86	0.71
BLE_1M	Ant1	2480	2.12	2.50	84.80	0.72
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	1.07	1.88	56.91	2.45

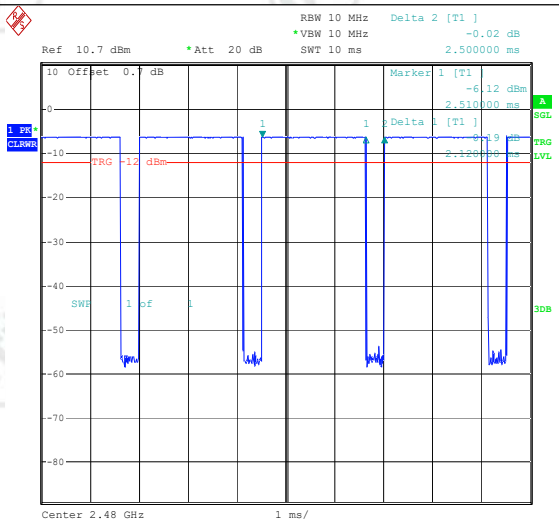
Test Graphs



NTNV-BLE_1M-Ant1-2402

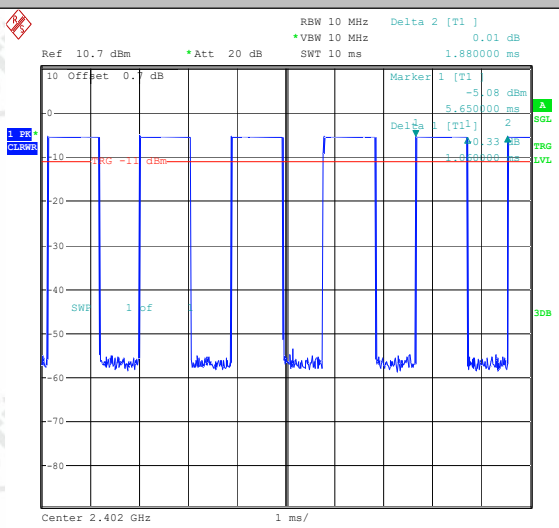


NTNV-BLE_1M-Ant1-2440



Date: 13.NOV.2025 21:05:03

NTNV-BLE_1M-Ant1-2480



Date: 13.NOV.2025 21:08:26

NTNV-BLE_2M-Ant1-2402