Appendix: Bluetooth LE

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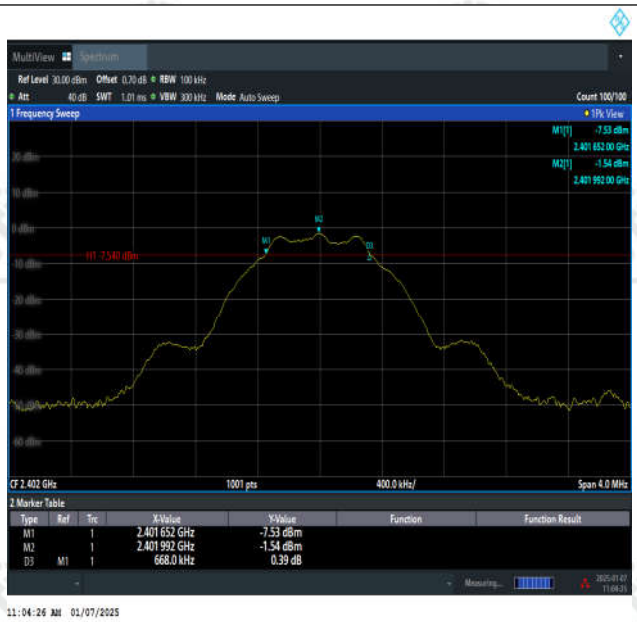
Appendix A: DTS Bandwidth

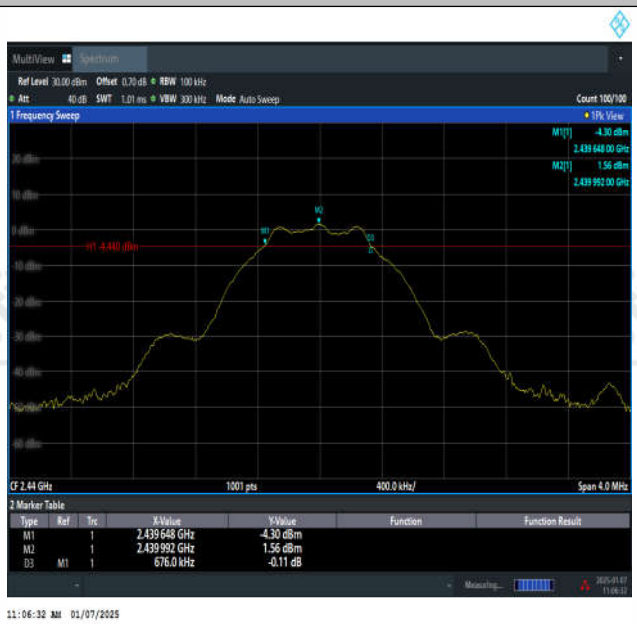
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.67	2401.65	2402.32	0.5	PASS
BLE_1M	Ant1	2440	0.68	2439.65	2440.32	0.5	PASS
BLE_1M	Ant1	2480	0.68	2479.64	2480.32	0.5	PASS
BLE_2M	Ant1	2402	1.12	2401.44	2402.55	0.5	PASS
BLE_2M	Ant1	2440	1.11	2439.45	2440.56	0.5	PASS
BLE_2M	Ant1	2480	1.12	2479.43	2480.55	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

BLE_2M-Ant1-2440-PASS

BLE_2M-Ant1-2480-PASS

Appendix B: Occupied Channel Bandwidth

Test Result

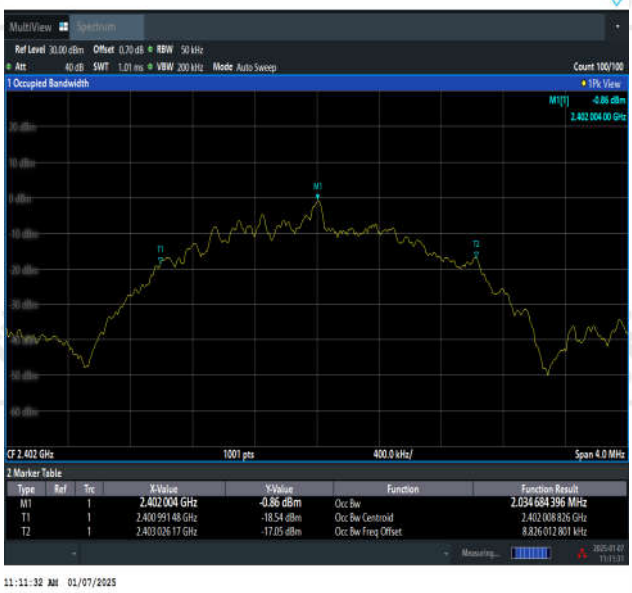
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.043	2401.4788	2402.5221	---	---
BLE_1M	Ant1	2440	1.04	2439.4785	2440.5188	---	---
BLE_1M	Ant1	2480	1.038	2479.4748	2480.5124	---	---
BLE_2M	Ant1	2402	2.035	2400.9915	2403.0262	---	---
BLE_2M	Ant1	2440	2.033	2438.9941	2441.0266	---	---
BLE_2M	Ant1	2480	2.038	2478.9854	2481.0234	---	---

Test Graphs

BLE_1M-Ant1-2402

BLE_1M-Ant1-2440

BLE_1M-Ant1-2480



BLE_2M-Ant1-2402

BLE_2M-Ant1-2440

BLE_2M-Ant1-2480

Appendix C: Maximum conducted output power

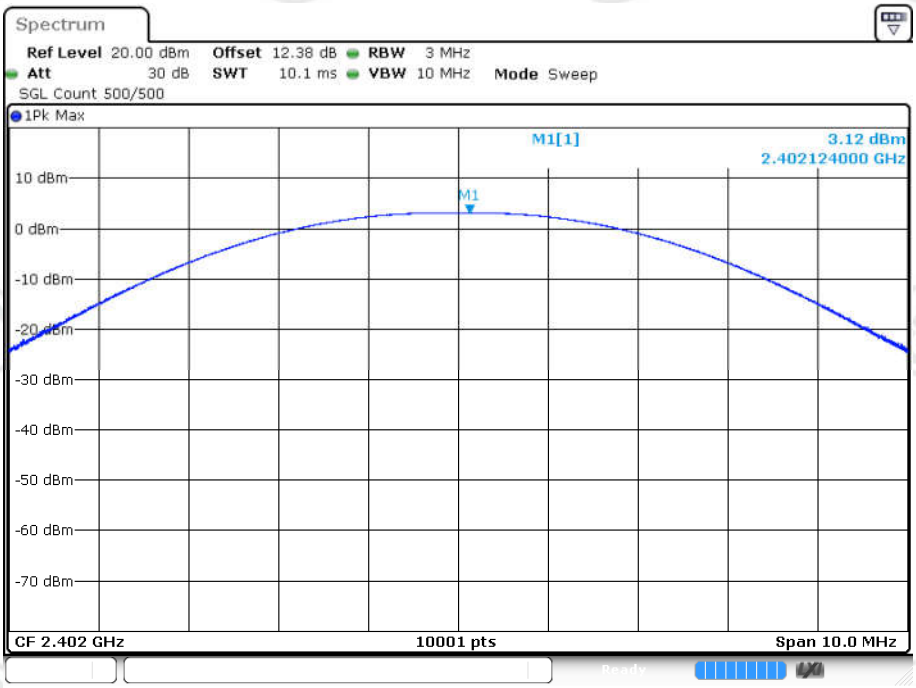
Test Result

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit(dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	**3.12**	30	Pass
NVNT	BLE 1M	2440	Ant1	2.83	30	Pass
NVNT	BLE 1M	2480	Ant1	2.82	30	Pass
NVNT	BLE 2M	2402	Ant1	3.11	30	Pass
NVNT	BLE 2M	2440	Ant1	2.83	30	Pass
NVNT	BLE 2M	2480	Ant1	2.84	30	Pass

Test Graphs

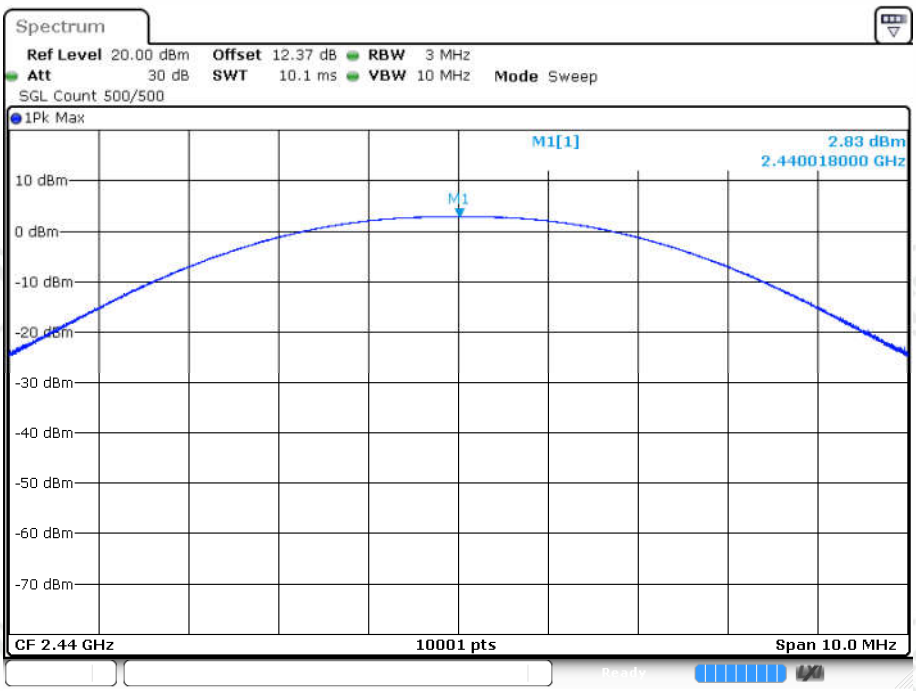
Test Graphs

Peak Power NVNT BLE 1M 2402MHz Ant1



Date: 26.DEC.2024 12:45:10

Peak Power NVNT BLE 1M 2440MHz Ant1



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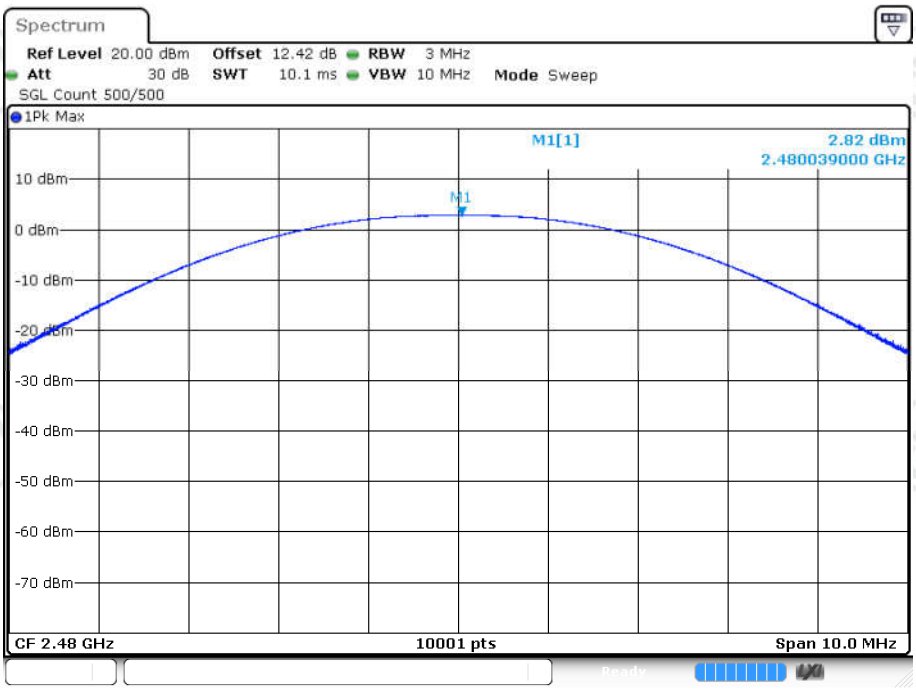
Peak Power NVNT BLE 1M 2480MHz Ant1



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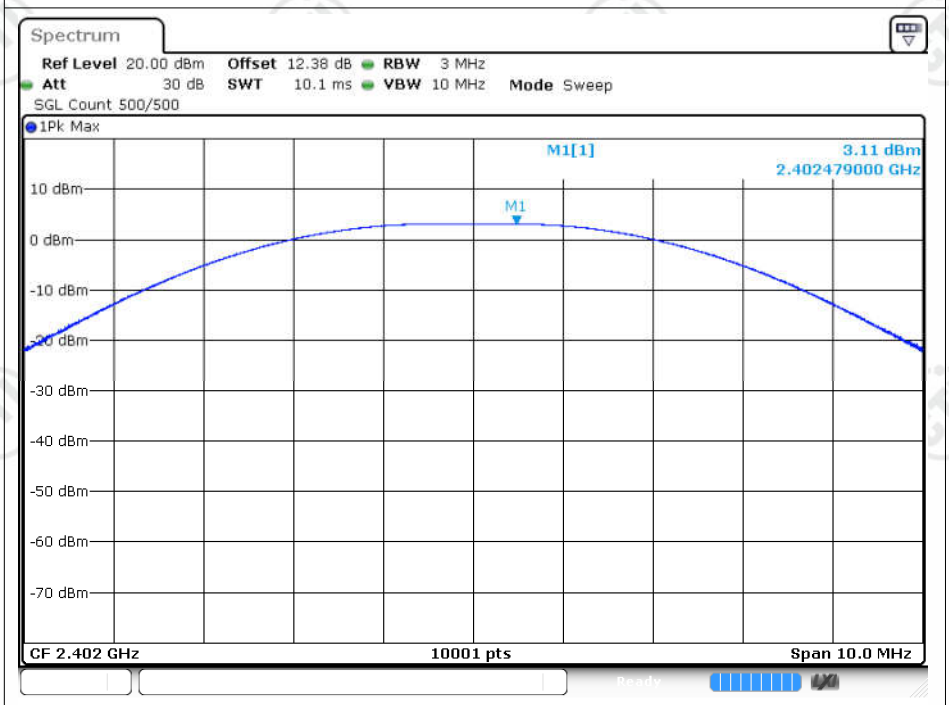
Peak Power NVNT BLE 2M 2402MHz Ant1



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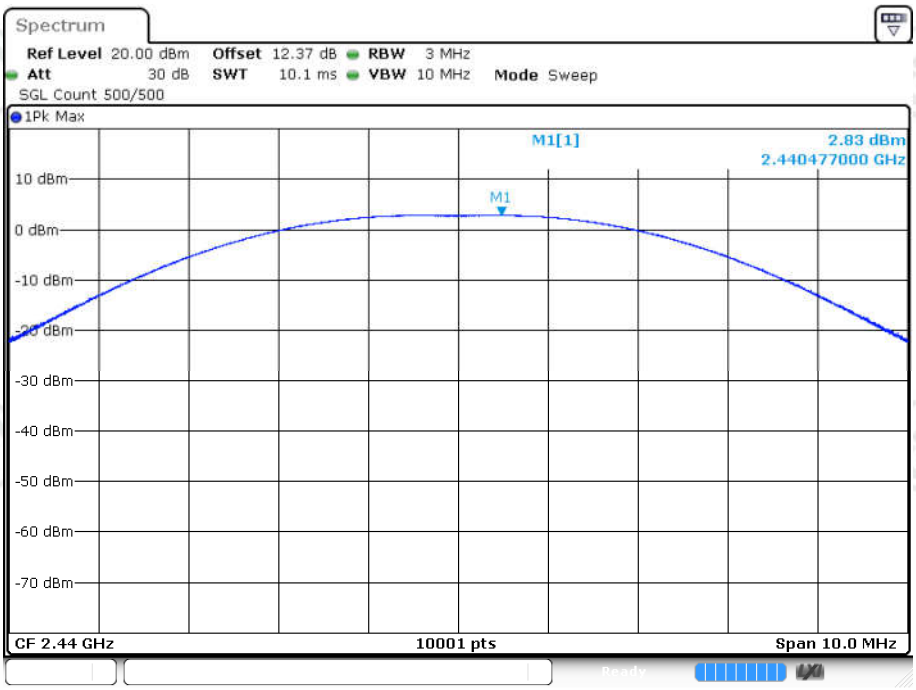
Peak Power NVNT BLE 2M 2440MHz Ant1



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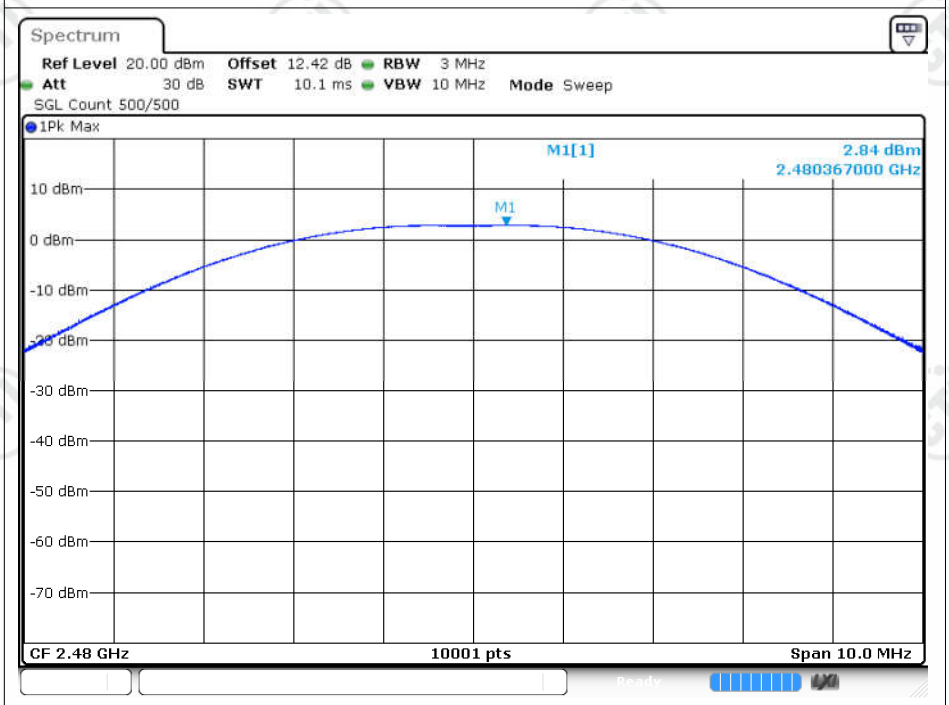
Peak Power NVNT BLE 2M 2480MHz Ant1



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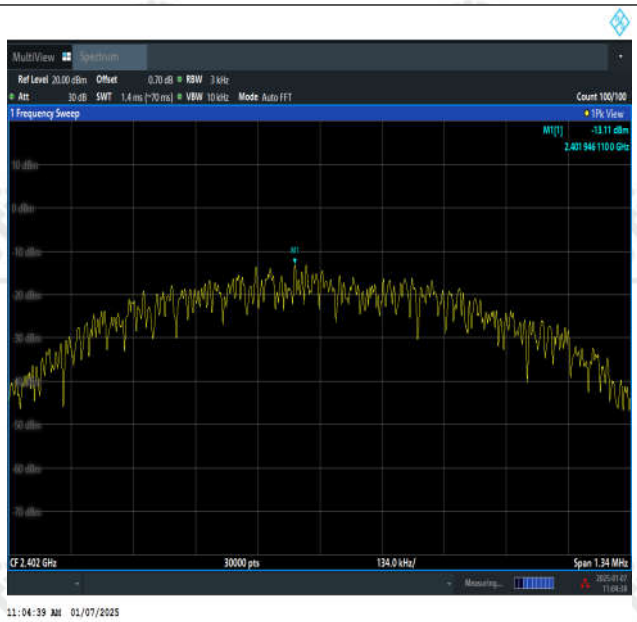
Appendix D: Maximum power spectral density

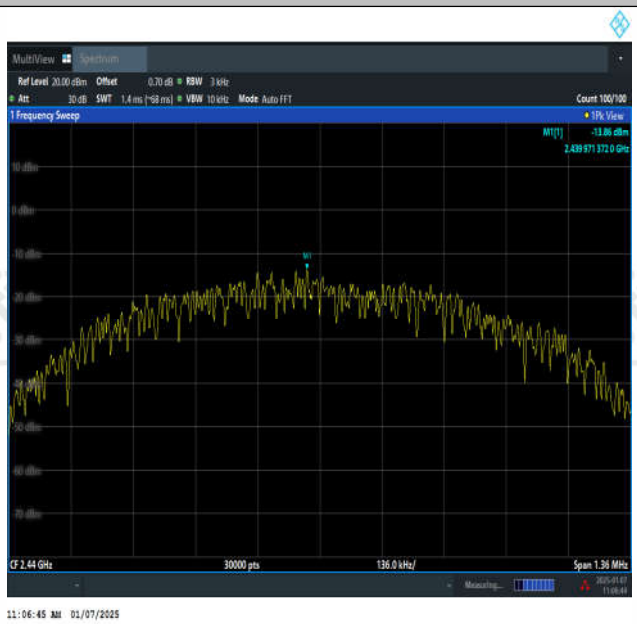
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.11	≤8.00	PASS
BLE_1M	Ant1	2440	-13.86	≤8.00	PASS
BLE_1M	Ant1	2480	-14.26	≤8.00	PASS
BLE_2M	Ant1	2402	-15.76	≤8.00	PASS
BLE_2M	Ant1	2440	-16.45	≤8.00	PASS
BLE_2M	Ant1	2480	-16.37	≤8.00	PASS

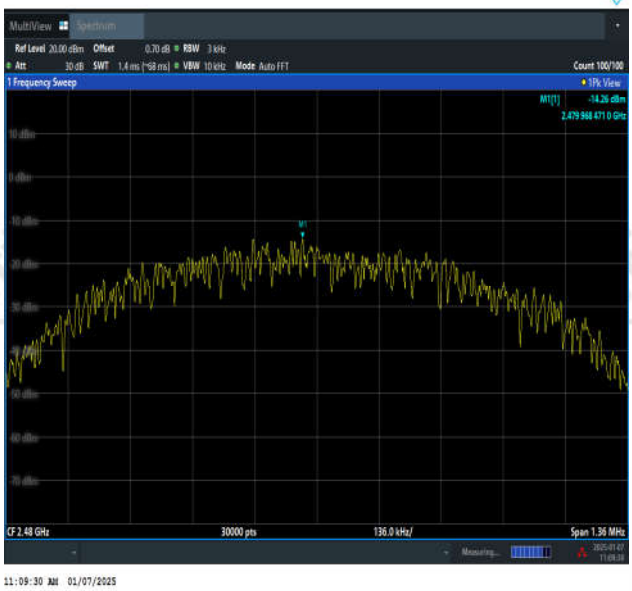
Test Graphs



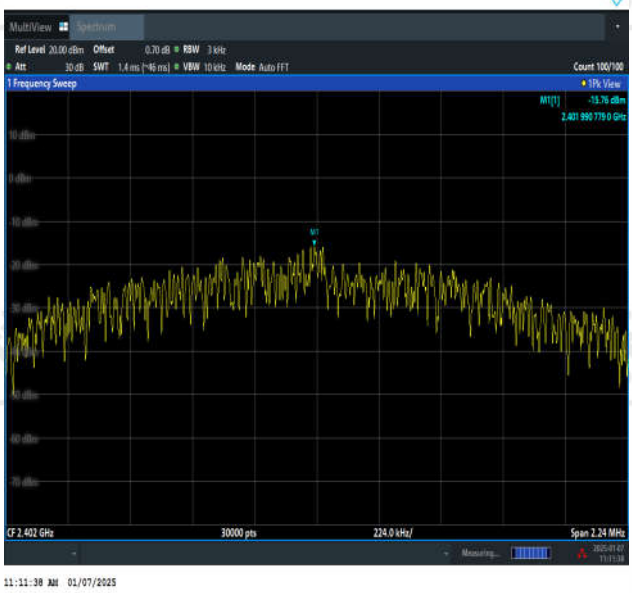
BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2440-PASS

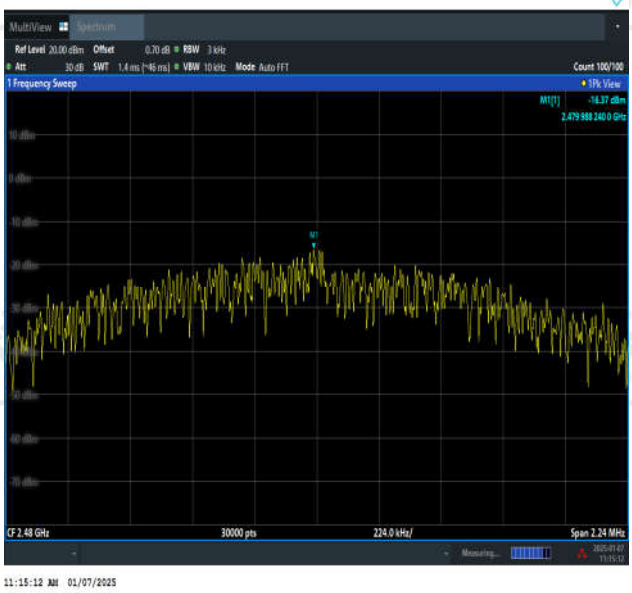


BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS

BLE_2M-Ant1-2440-PASS



BLE_2M-Ant1-2480-PASS

Appendix E: Band edge measurements

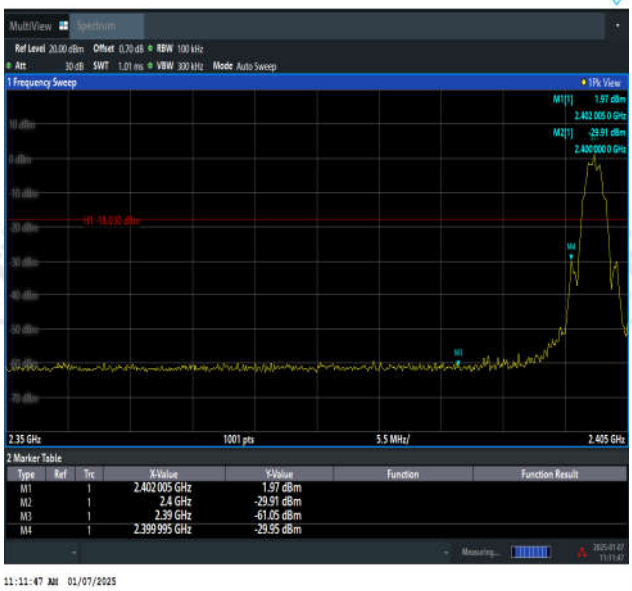
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.08	-46.17	≤-17.92	PASS
BLE_1M	Ant1	High	2480	1.34	-44.03	≤-18.66	PASS
BLE_2M	Ant1	Low	2402	1.97	-29.95	≤-18.03	PASS
BLE_2M	Ant1	High	2480	1.48	-43.56	≤-18.52	PASS

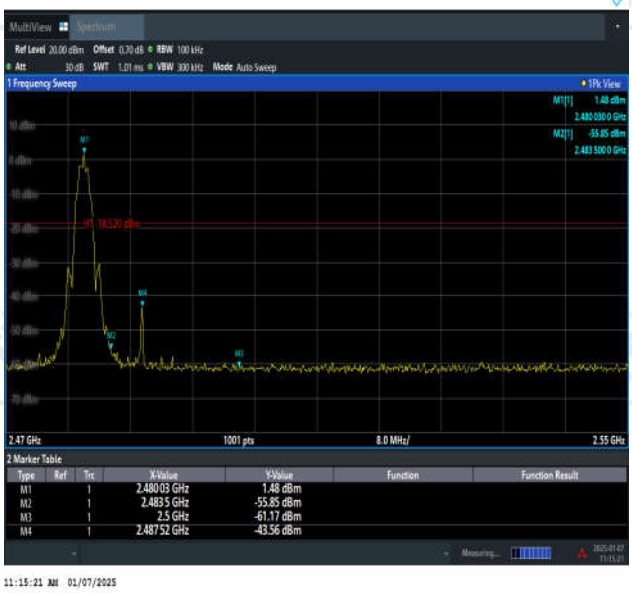
Test Graphs

BLE_1M-Ant1-2402-PASS

BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



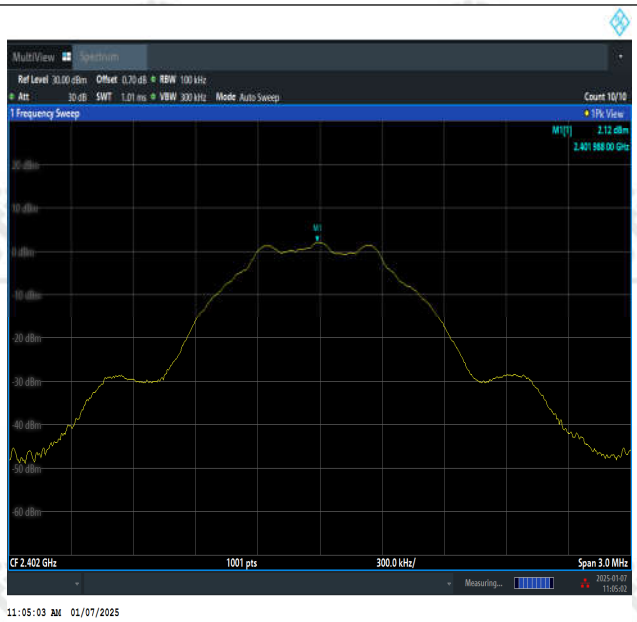
BLE_2M-Ant1-2480-PASS

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	2.12	2.12	---	PASS
BLE_1M	Ant1	2402	30~1000	2.12	-67.48	≤-17.88	PASS
BLE_1M	Ant1	2402	1000~26500	2.12	-60.7	≤-17.88	PASS
BLE_1M	Ant1	2440	0~Reference	1.50	1.50	---	PASS
BLE_1M	Ant1	2440	30~1000	1.50	-67.53	≤-18.5	PASS
BLE_1M	Ant1	2440	1000~26500	1.50	-60.86	≤-18.5	PASS
BLE_1M	Ant1	2480	0~Reference	1.37	1.37	---	PASS
BLE_1M	Ant1	2480	30~1000	1.37	-67.19	≤-18.63	PASS
BLE_1M	Ant1	2480	1000~26500	1.37	-59.85	≤-18.63	PASS
BLE_2M	Ant1	2402	0~Reference	2.02	2.02	---	PASS
BLE_2M	Ant1	2402	30~1000	2.02	-67.28	≤-17.98	PASS
BLE_2M	Ant1	2402	1000~26500	2.02	-58.65	≤-17.98	PASS
BLE_2M	Ant1	2440	0~Reference	1.41	1.41	---	PASS
BLE_2M	Ant1	2440	30~1000	1.41	-66.96	≤-18.59	PASS
BLE_2M	Ant1	2440	1000~26500	1.41	-60.61	≤-18.59	PASS
BLE_2M	Ant1	2480	0~Reference	1.50	1.50	---	PASS
BLE_2M	Ant1	2480	30~1000	1.50	-66.78	≤-18.5	PASS
BLE_2M	Ant1	2480	1000~26500	1.50	-60.32	≤-18.5	PASS

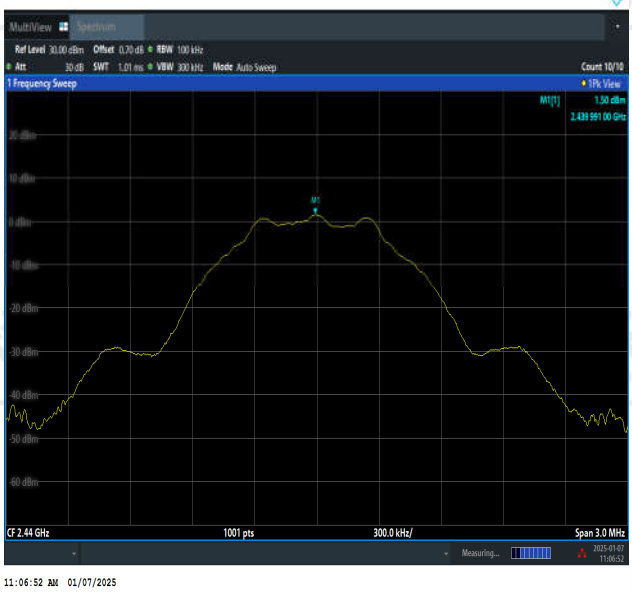
Test Graphs



BLE_1M-Ant1-2402-0~Reference-PASS

BLE_1M-Ant1-2402-30~1000-PASS

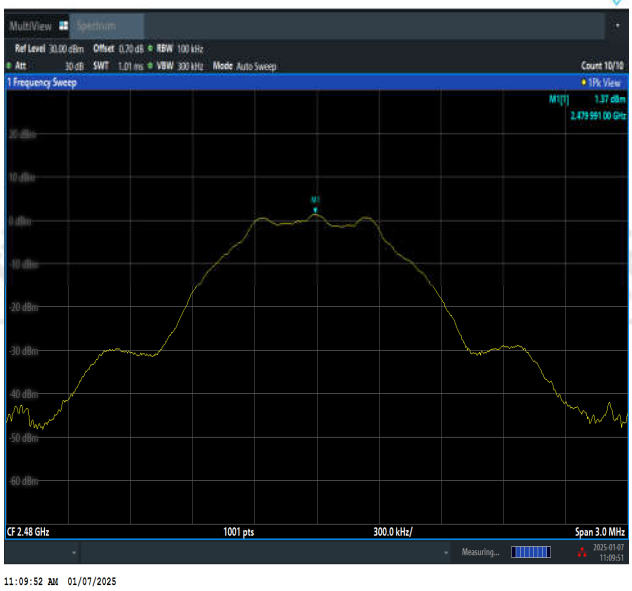
BLE_1M-Ant1-2402-1000~26500-PASS



BLE_1M-Ant1-2440-0~Reference-PASS

BLE_1M-Ant1-2440-30~1000-PASS

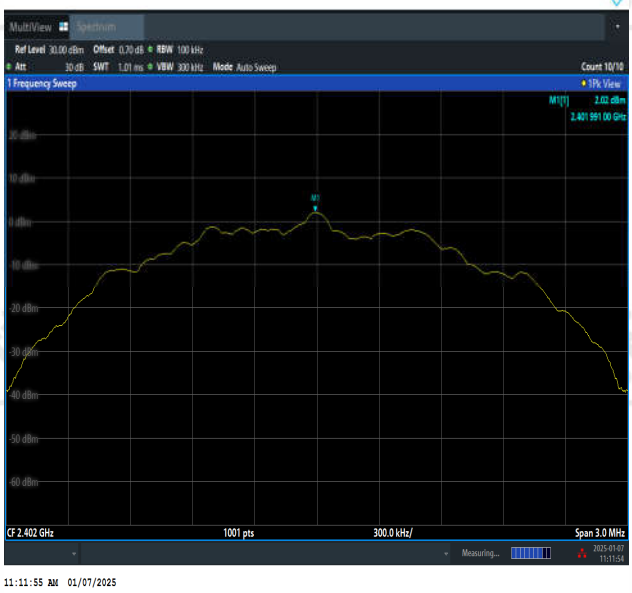
BLE_1M-Ant1-2440-1000~26500-PASS



BLE_1M-Ant1-2480-0~Reference-PASS

BLE_1M-Ant1-2480-30~1000-PASS

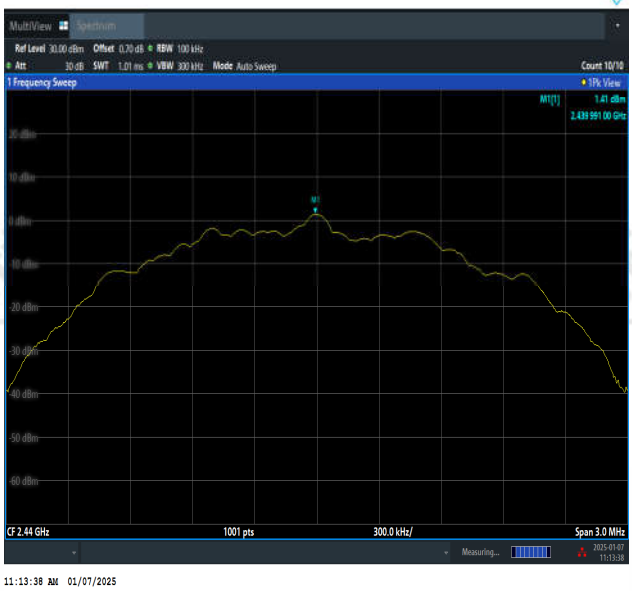
BLE_1M-Ant1-2480-1000~26500-PASS



BLE_2M-Ant1-2402-0~Reference-PASS

BLE_2M-Ant1-2402-30~1000-PASS

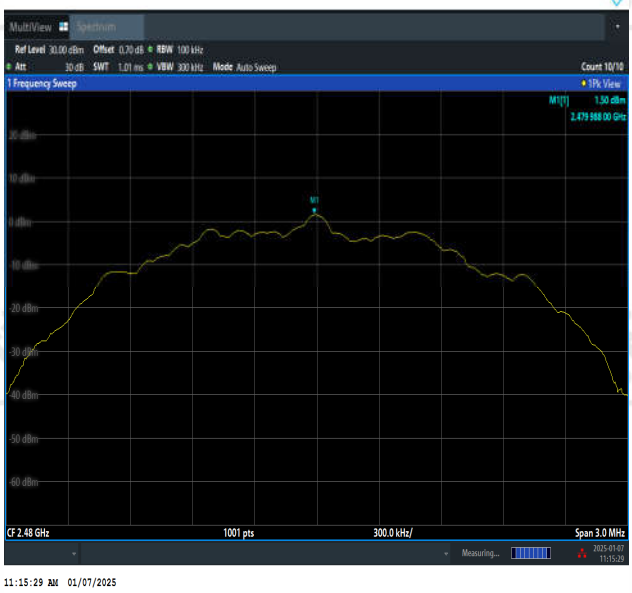
BLE_2M-Ant1-2402-1000~26500-PASS



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

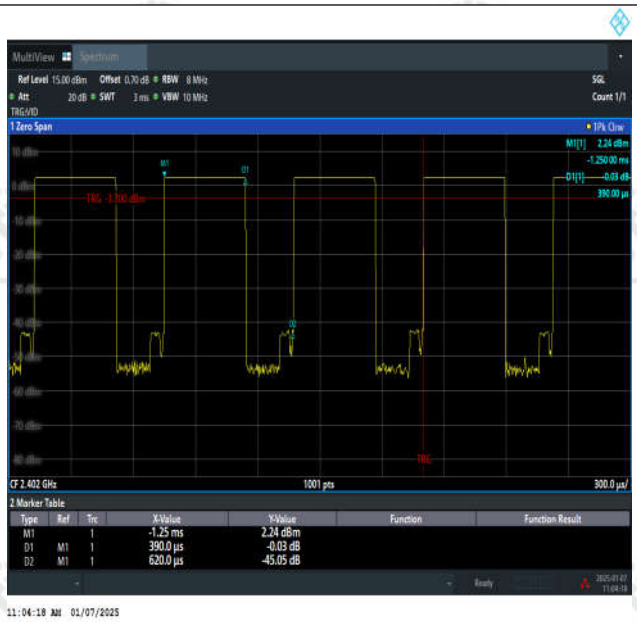
BLE_2M-Ant1-2480-1000~26500-PASS

Appendix G: Duty Cycle

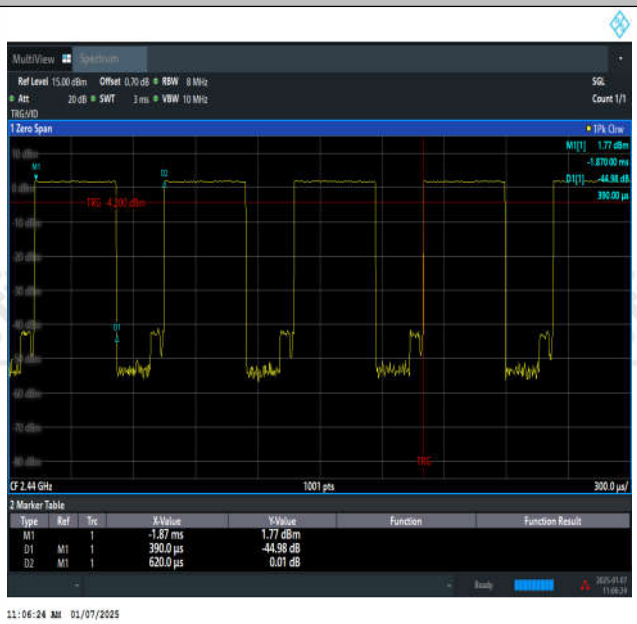
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.39	0.62	62.90	2.01
BLE_1M	Ant1	2440	0.39	0.62	62.90	2.01
BLE_1M	Ant1	2480	0.39	0.62	62.90	2.01
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

Test Graphs



NTNV-BLE_1M-Ant1-2402



NTNV-BLE_1M-Ant1-2440

NTNV-BLE_1M-Ant1-2480

NTNV-BLE_2M-Ant1-2402

NTNV-BLE_2M-Ant1-2440

NTNV-BLE_2M-Ant1-2480

END OF REPORT