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 F: Band edge measurements 19
Test Result 19
Test Graphs 20
Appendix G: Conducted Spurious Emission 22
Test Result 22
Test Graphs 23
Appendix H: Duty Cycle 32
Test Result 32
Test Graphs 33

Appendix A: DTS Bandwidth

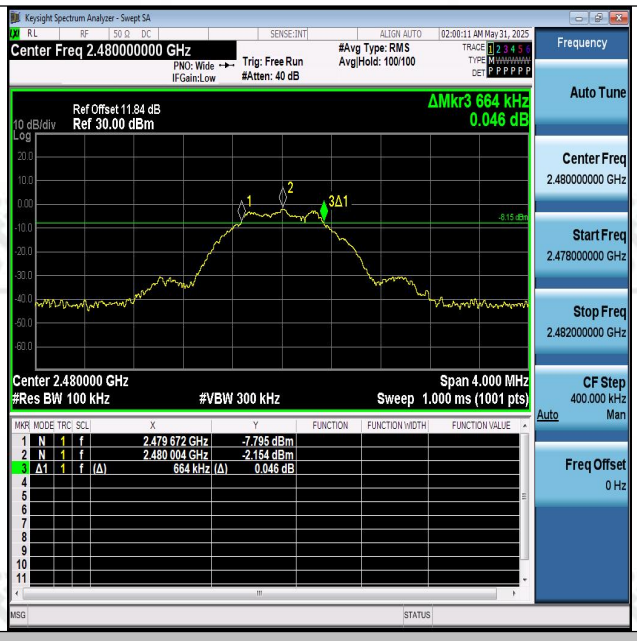
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.644	2402.356	0.5	PASS
BLE_1M	Ant1	2440	0.728	2439.632	2440.360	0.5	PASS
BLE_1M	Ant1	2480	0.664	2479.672	2480.336	0.5	PASS
BLE_2M	Ant1	2402	1.236	2401.352	2402.588	0.5	PASS
BLE_2M	Ant1	2440	1.136	2439.444	2440.580	0.5	PASS
BLE_2M	Ant1	2480	1.120	2479.448	2480.568	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

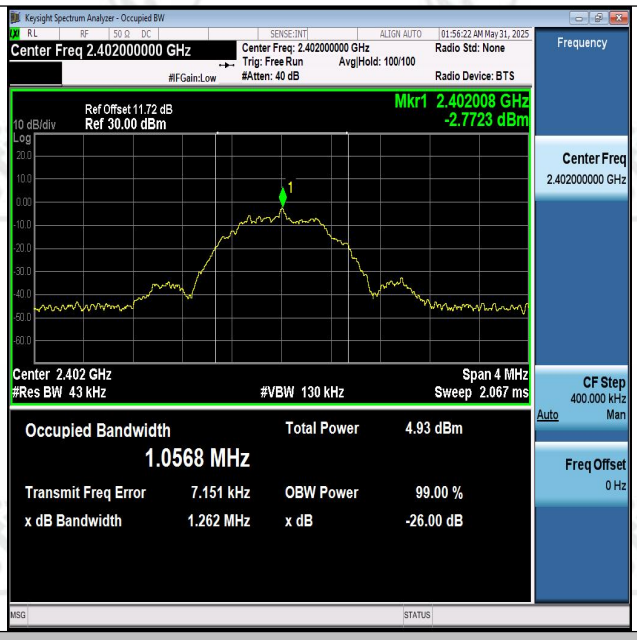
BLE_2M-Ant1-2480-PASS

Appendix B: Occupied Channel Bandwidth

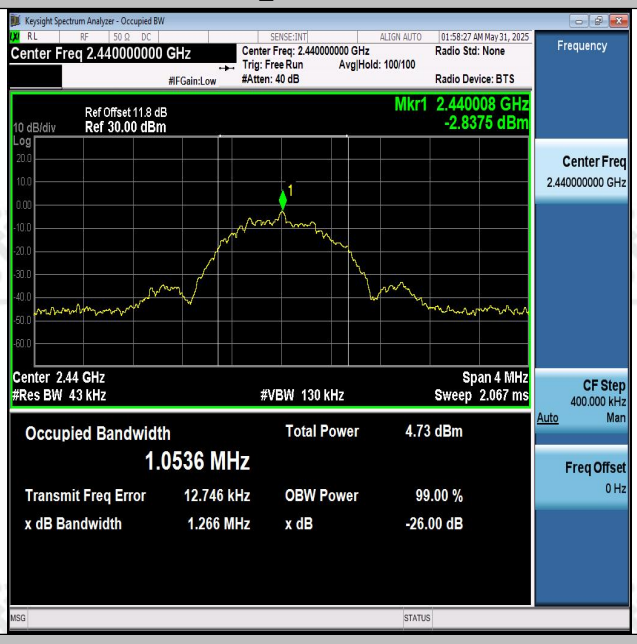
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0568	2401.4788	2402.5356	---	---
BLE_1M	Ant1	2440	1.0536	2439.4860	2440.5396	---	---
BLE_1M	Ant1	2480	1.0637	2479.4791	2480.5428	---	---
BLE_2M	Ant1	2402	2.0802	2400.9817	2403.0619	---	---
BLE_2M	Ant1	2440	2.0685	2438.9908	2441.0593	---	---
BLE_2M	Ant1	2480	2.0718	2478.9900	2481.0618	---	---

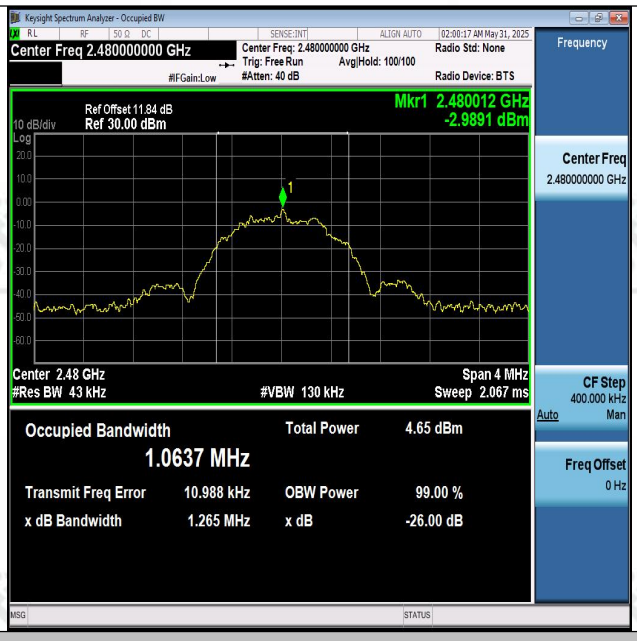
Test Graphs



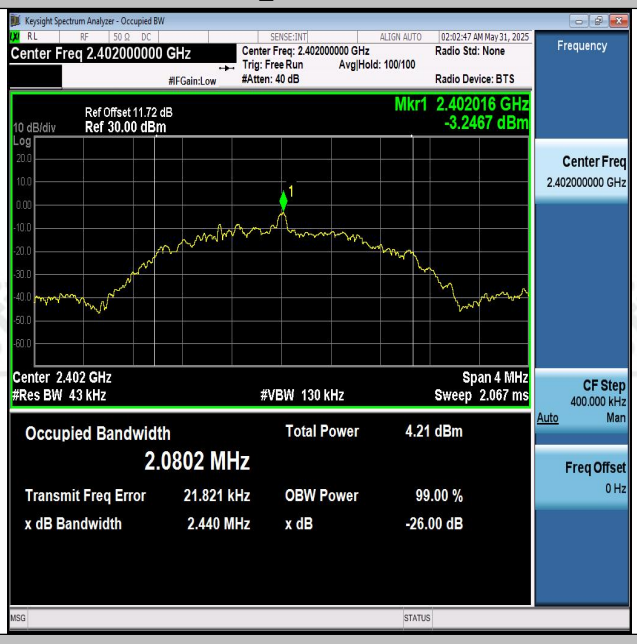
BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480



BLE_2M-Ant1-2402

BLE_2M-Ant1-2440

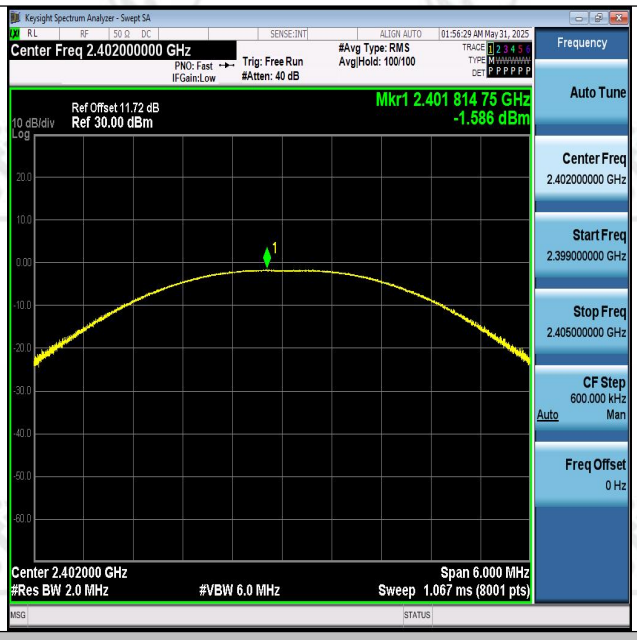
BLE_2M-Ant1-2480

Appendix C: Maximum conducted output power

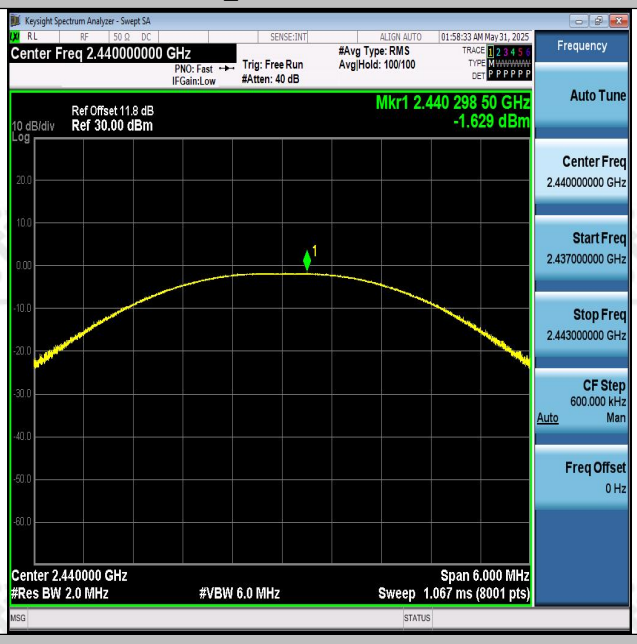
Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.59	≤30	PASS
BLE_1M	Ant1	2440	-1.63	≤30	PASS
BLE_1M	Ant1	2480	-1.70	≤30	PASS
BLE_2M	Ant1	2402	**-1.59**	≤30	PASS
BLE_2M	Ant1	2440	-1.64	≤30	PASS
BLE_2M	Ant1	2480	-1.67	≤30	PASS

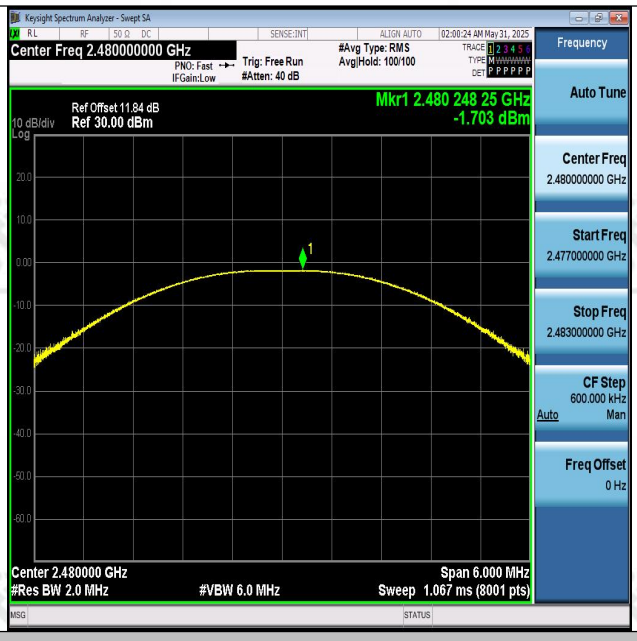
Test Graphs Peak



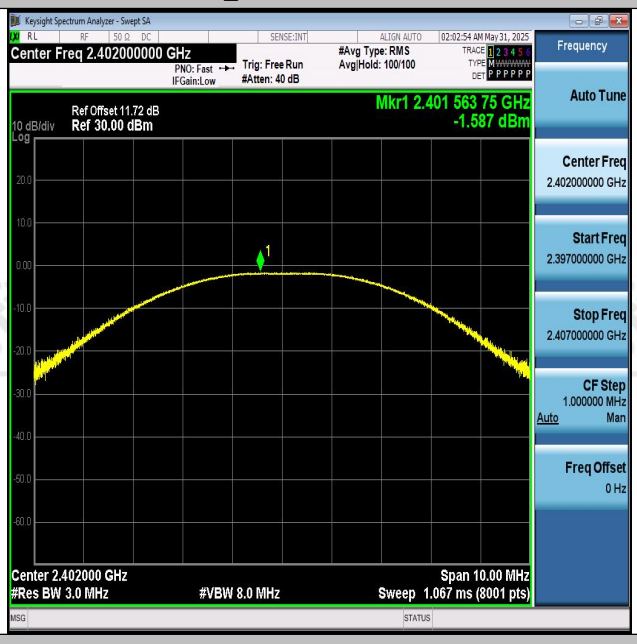
BLE_1M-Ant1-2402-PASS



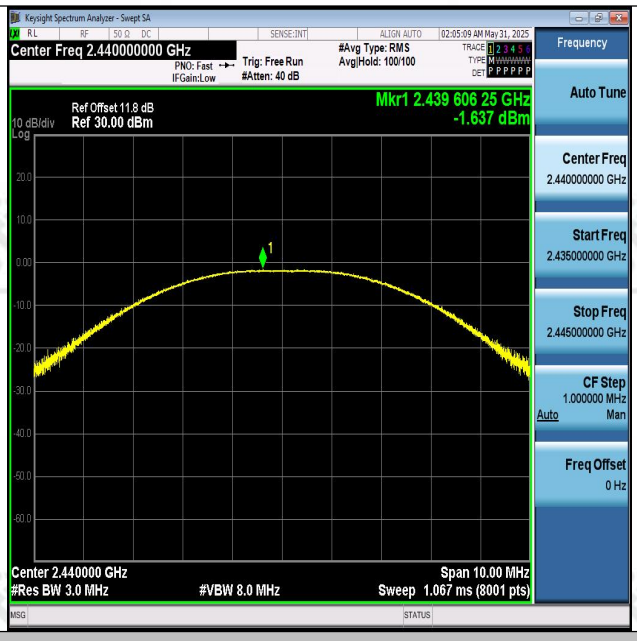
BLE_1M-Ant1-2440-PASS



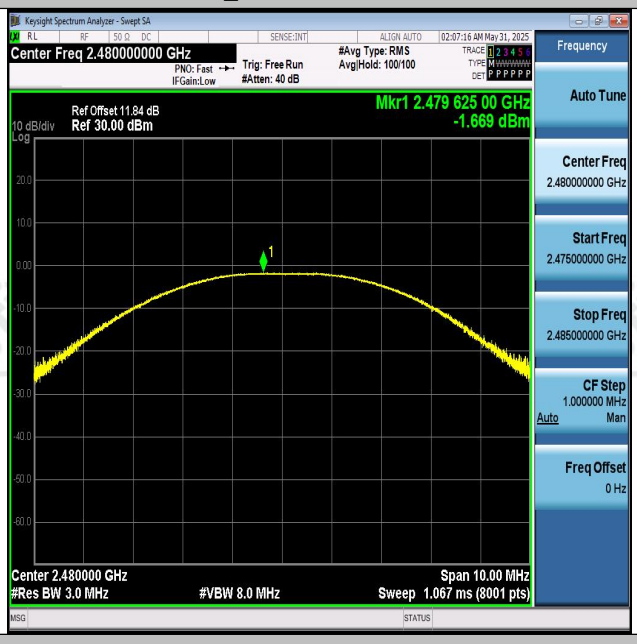
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



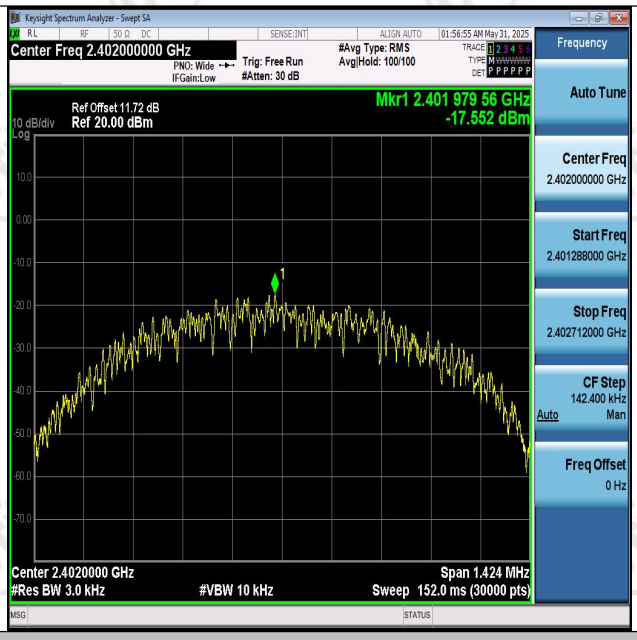
BLE_2M-Ant1-2480-PASS

Appendix D: Maximum power spectral density

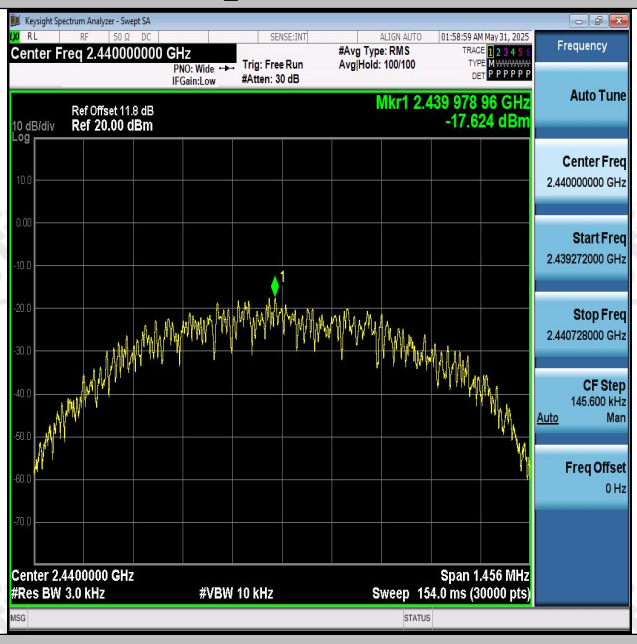
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-17.55	≤8.00	PASS
BLE_1M	Ant1	2440	-17.62	≤8.00	PASS
BLE_1M	Ant1	2480	-17.61	≤8.00	PASS
BLE_2M	Ant1	2402	-19.89	≤8.00	PASS
BLE_2M	Ant1	2440	-20.01	≤8.00	PASS
BLE_2M	Ant1	2480	-19.98	≤8.00	PASS

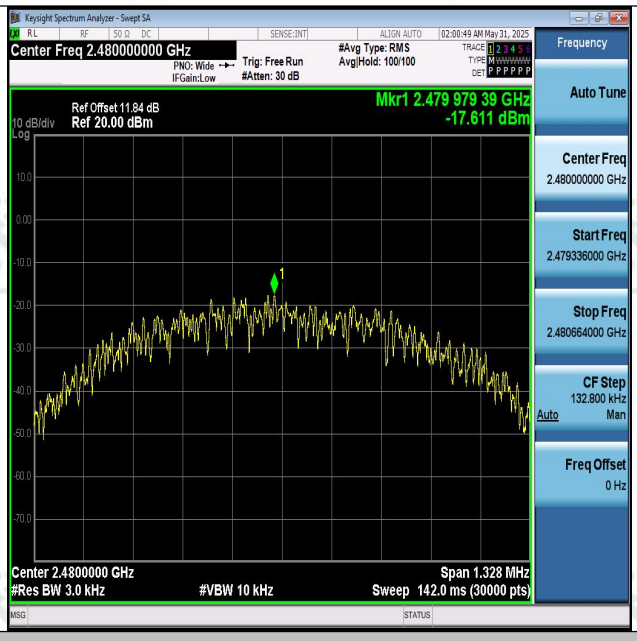
Test Graphs



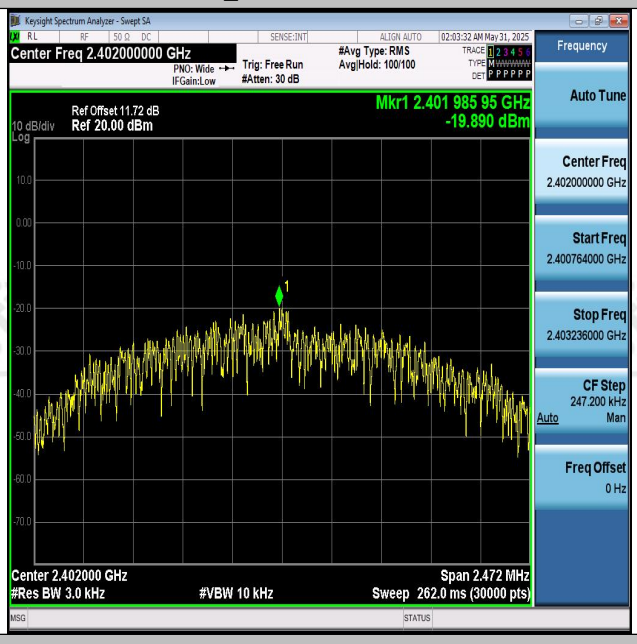
BLE_1M-Ant1-2402-PASS



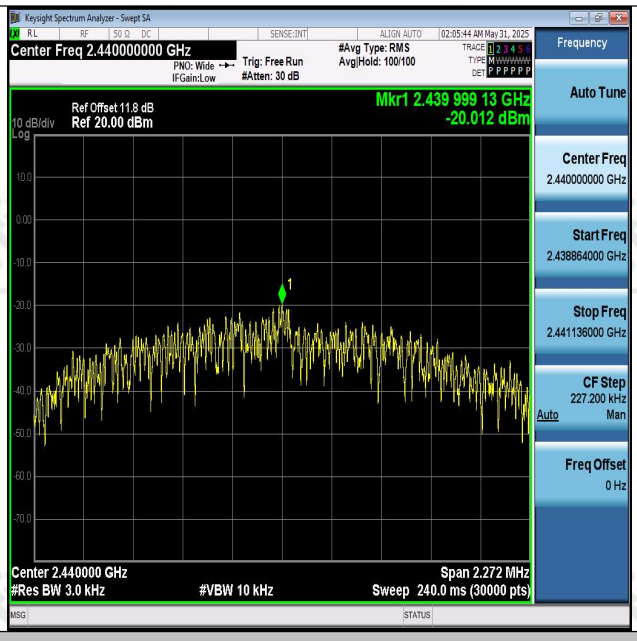
BLE_1M-Ant1-2440-PASS



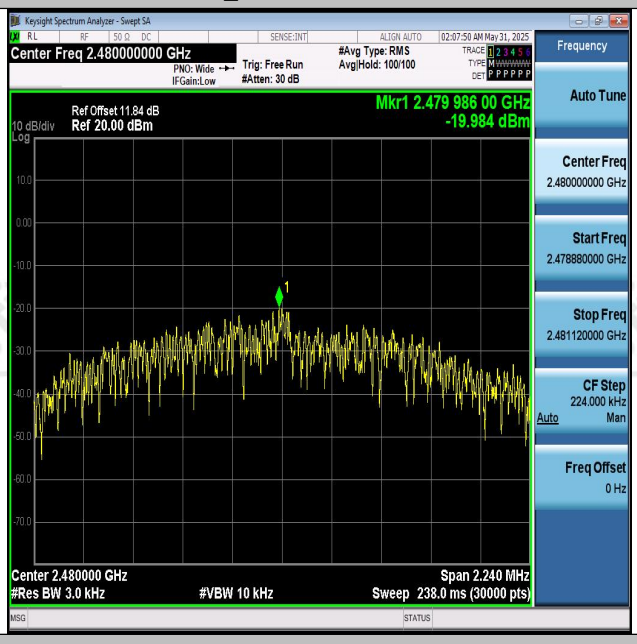
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



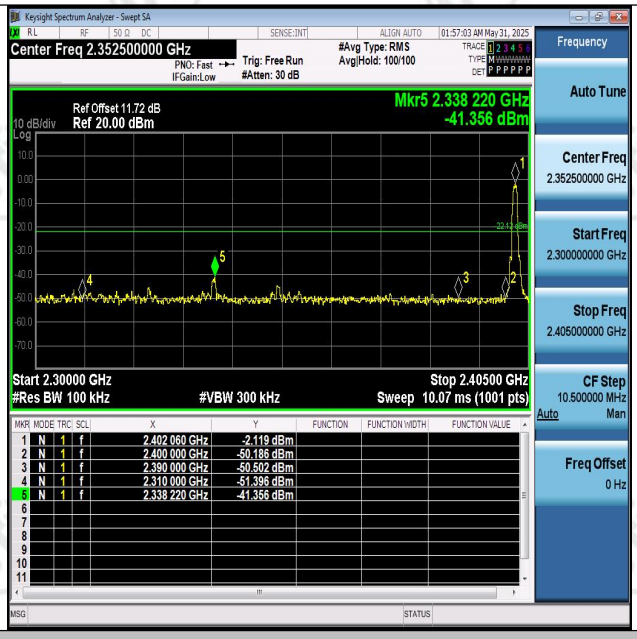
BLE_2M-Ant1-2480-PASS

Appendix F: Band edge measurements

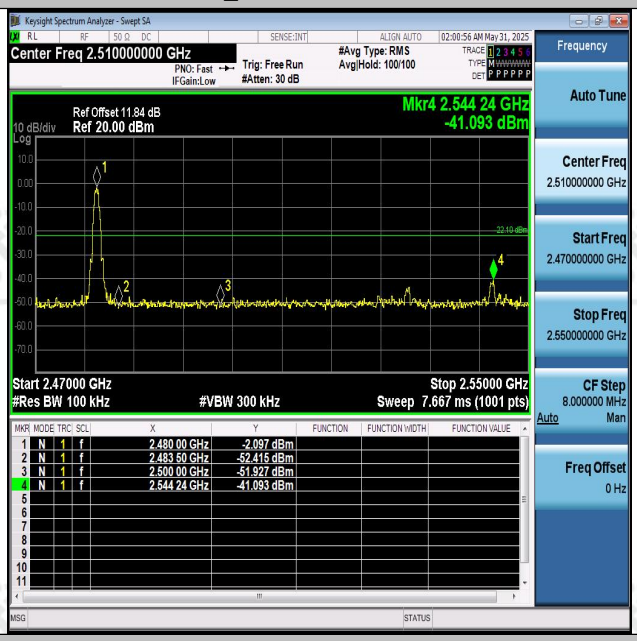
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-2.12	-41.36	≤-22.12	PASS
BLE_1M	Ant1	High	2480	-2.10	-41.09	≤-22.1	PASS
BLE_2M	Ant1	Low	2402	-2.02	-33.61	≤-22.02	PASS
BLE_2M	Ant1	High	2480	-2.08	-41.1	≤-22.08	PASS

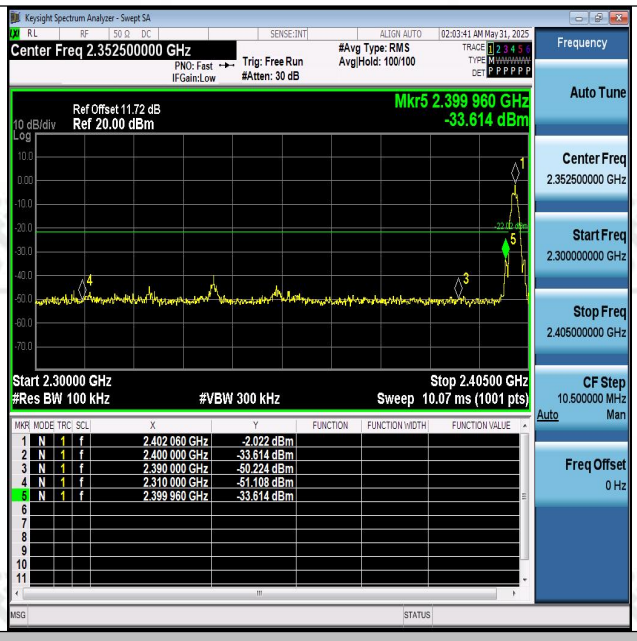
Test Graphs



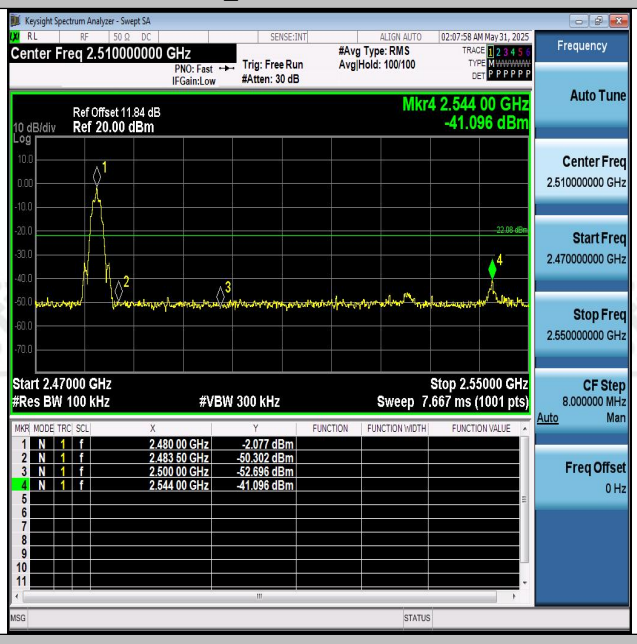
BLE_1M-Ant1-2402-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2480-PASS

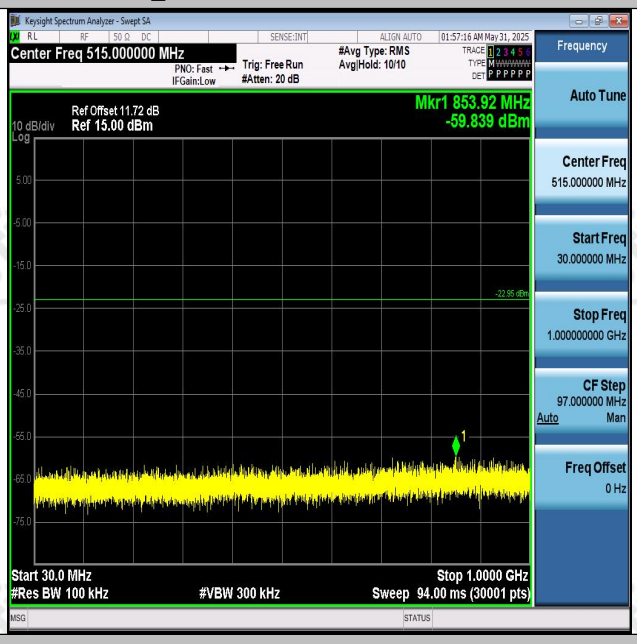
Appendix G: Conducted Spurious Emission

Test Result

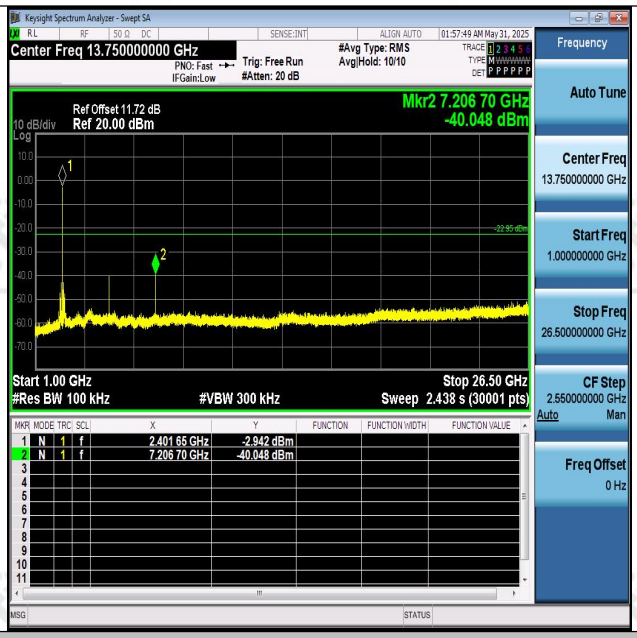
TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-2.95	-2.95	---	PASS
BLE_1M	Ant1	2402	30~1000	-2.95	-59.84	≤-22.95	PASS
BLE_1M	Ant1	2402	1000~26500	-2.95	-40.05	≤-22.95	PASS
BLE_1M	Ant1	2440	0~Reference	-3.12	-3.12	---	PASS
BLE_1M	Ant1	2440	30~1000	-3.12	-60.1	≤-23.12	PASS
BLE_1M	Ant1	2440	1000~26500	-3.12	-38.57	≤-23.12	PASS
BLE_1M	Ant1	2480	0~Reference	-3.21	-3.21	---	PASS
BLE_1M	Ant1	2480	30~1000	-3.21	-58.67	≤-23.21	PASS
BLE_1M	Ant1	2480	1000~26500	-3.21	-38.18	≤-23.21	PASS
BLE_2M	Ant1	2402	0~Reference	-2.15	-2.15	---	PASS
BLE_2M	Ant1	2402	30~1000	-2.15	-60.25	≤-22.15	PASS
BLE_2M	Ant1	2402	1000~26500	-2.15	-40.12	≤-22.15	PASS
BLE_2M	Ant1	2440	0~Reference	-2.16	-2.16	---	PASS
BLE_2M	Ant1	2440	30~1000	-2.16	-59.92	≤-22.16	PASS
BLE_2M	Ant1	2440	1000~26500	-2.16	-40.63	≤-22.16	PASS
BLE_2M	Ant1	2480	0~Reference	-2.23	-2.23	---	PASS
BLE_2M	Ant1	2480	30~1000	-2.23	-59.71	≤-22.23	PASS
BLE_2M	Ant1	2480	1000~26500	-2.23	-41.67	≤-22.23	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