

Appendix: Bluetooth LE

Contents

Appendix A: DTS Bandwidth 3

 Test Result..... 3

 Test Graphs..... 4

Appendix B: Occupied Channel Bandwidth 5

 Test Result..... 5

 Test Graphs..... 6

Appendix C: Maximum conducted output power 7

 Test Result Peak..... 7

 Test Graphs Peak..... 8

Appendix D: Maximum power spectral density 9

 Test Result..... 9

 Test Graphs..... 10

Appendix E: Band edge measurements 11

 Test Result..... 11

 Test Graphs..... 12

Appendix F: Conducted Spurious Emission 13

 Test Result..... 13

 Test Graphs..... 14

Appendix G: Duty Cycle 17

 Test Result..... 17

 Test Graphs..... 18

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	2401.60	2402.27	0.5	PASS
BLE_1M	Ant1	2440	0.67	2439.60	2440.27	0.5	PASS
BLE_1M	Ant1	2480	0.68	2479.60	2480.28	0.5	PASS
BLE_2M	Ant1	2402	1.24	2401.29	2402.54	0.5	PASS
BLE_2M	Ant1	2440	1.24	2439.29	2440.53	0.5	PASS
BLE_2M	Ant1	2480	1.25	2479.28	2480.53	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	1.0250	2401.4298	2402.4548	---	---
BLE_1M	Ant1	2440	1.0266	2439.4269	2440.4535	---	---
BLE_1M	Ant1	2480	1.0320	2479.4245	2480.4565	---	---
BLE_2M	Ant1	2402	2.0574	2400.9263	2402.9837	---	---
BLE_2M	Ant1	2440	2.0605	2438.9238	2440.9844	---	---
BLE_2M	Ant1	2480	2.0647	2478.9192	2480.9839	---	---

Test Graphs

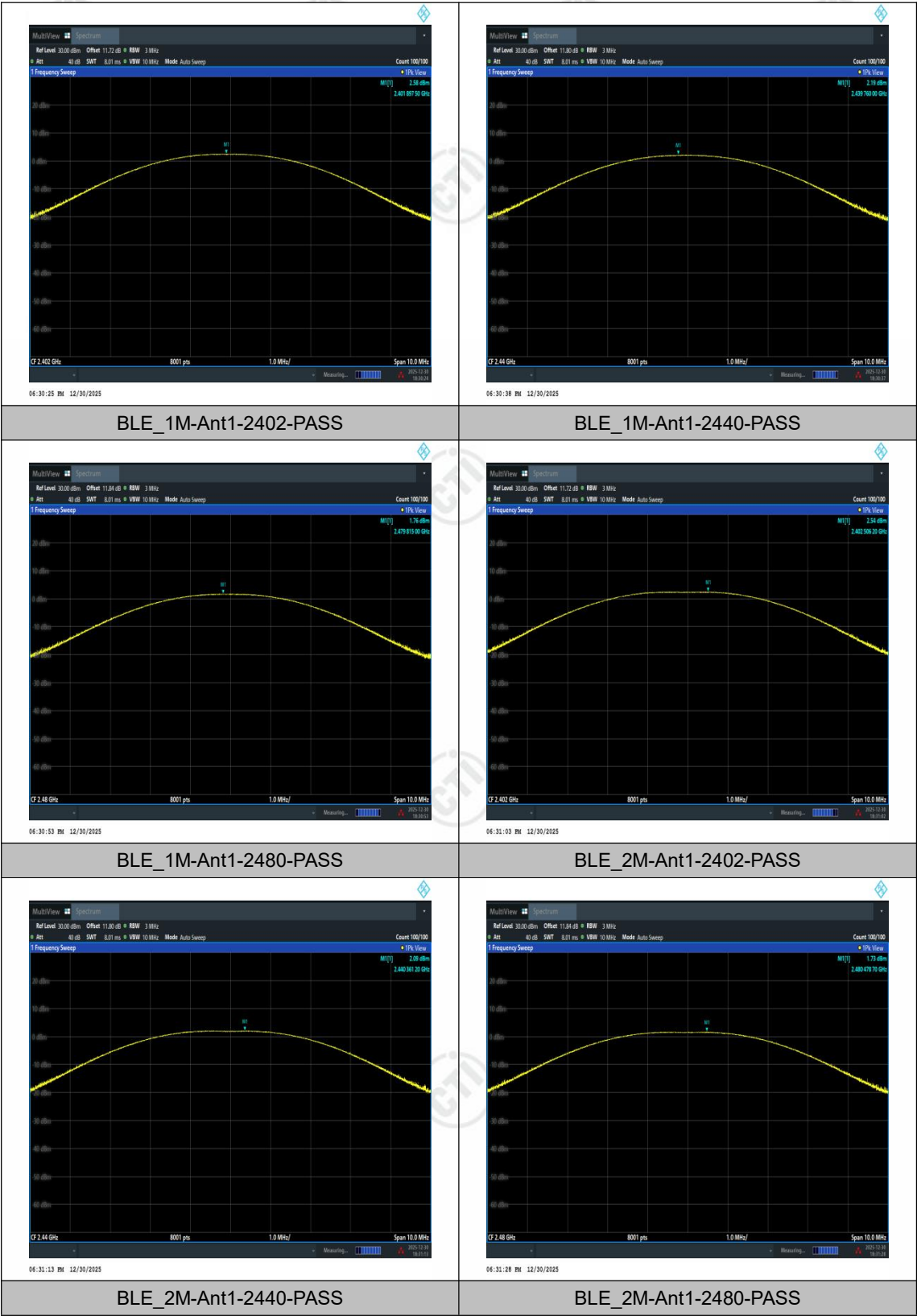


Appendix C: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.58	≤30	4.51	≤36	PASS
BLE_1M	Ant1	2440	2.19	≤30	4.12	≤36	PASS
BLE_1M	Ant1	2480	1.76	≤30	3.69	≤36	PASS
BLE_2M	Ant1	2402	2.54	≤30	4.47	≤36	PASS
BLE_2M	Ant1	2440	2.09	≤30	4.02	≤36	PASS
BLE_2M	Ant1	2480	1.73	≤30	3.66	≤36	PASS

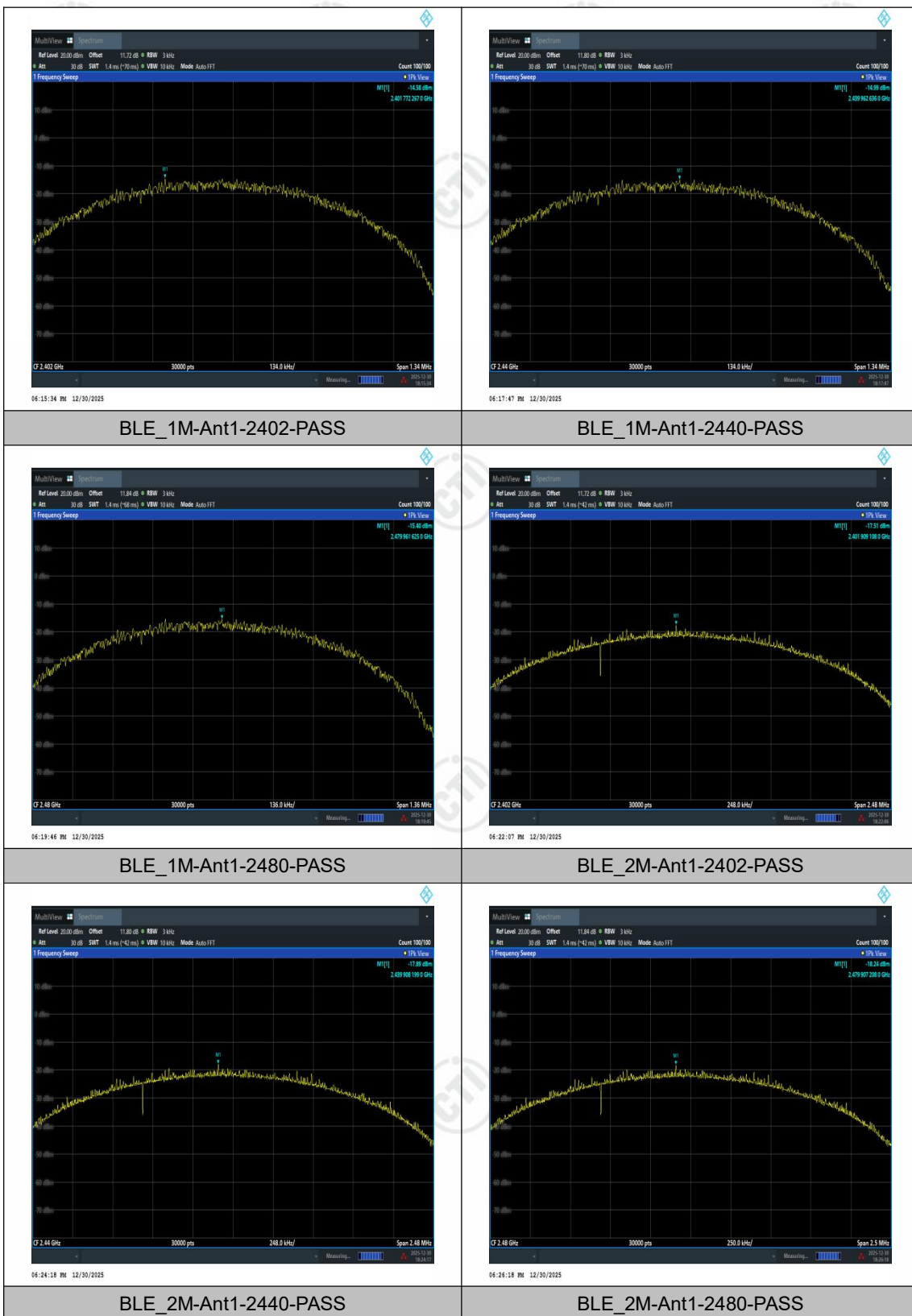
Test Graphs Peak



Appendix D: Maximum power spectral density**Test Result**

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.58	≤8.00	PASS
BLE_1M	Ant1	2440	-14.99	≤8.00	PASS
BLE_1M	Ant1	2480	-15.40	≤8.00	PASS
BLE_2M	Ant1	2402	-17.51	≤8.00	PASS
BLE_2M	Ant1	2440	-17.89	≤8.00	PASS
BLE_2M	Ant1	2480	-18.24	≤8.00	PASS

Test Graphs

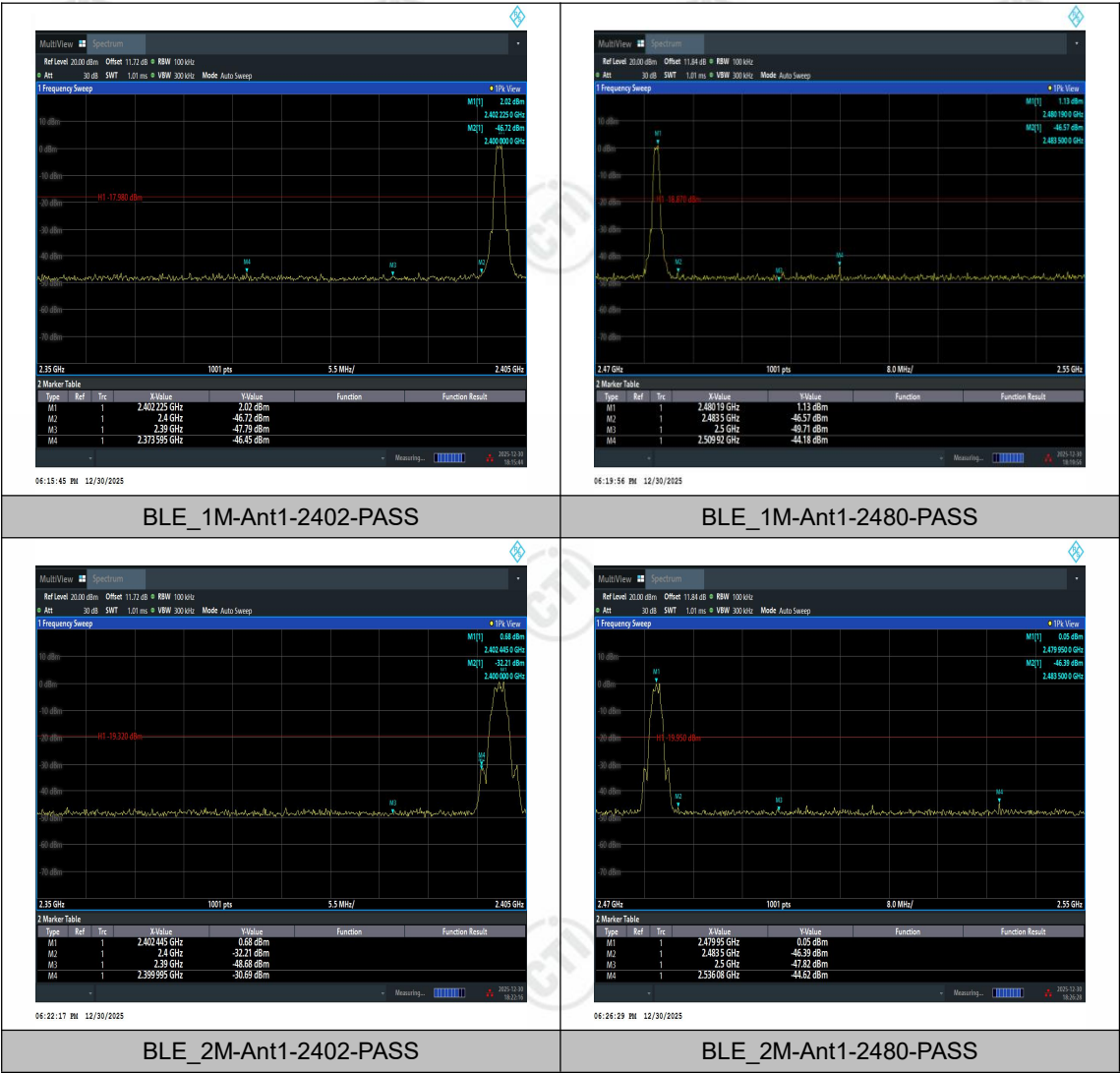


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.02	-46.45	≤-17.98	PASS
BLE_1M	Ant1	High	2480	1.13	-44.18	≤-18.87	PASS
BLE_2M	Ant1	Low	2402	0.68	-30.69	≤-19.32	PASS
BLE_2M	Ant1	High	2480	0.05	-44.62	≤-19.95	PASS

Test Graphs

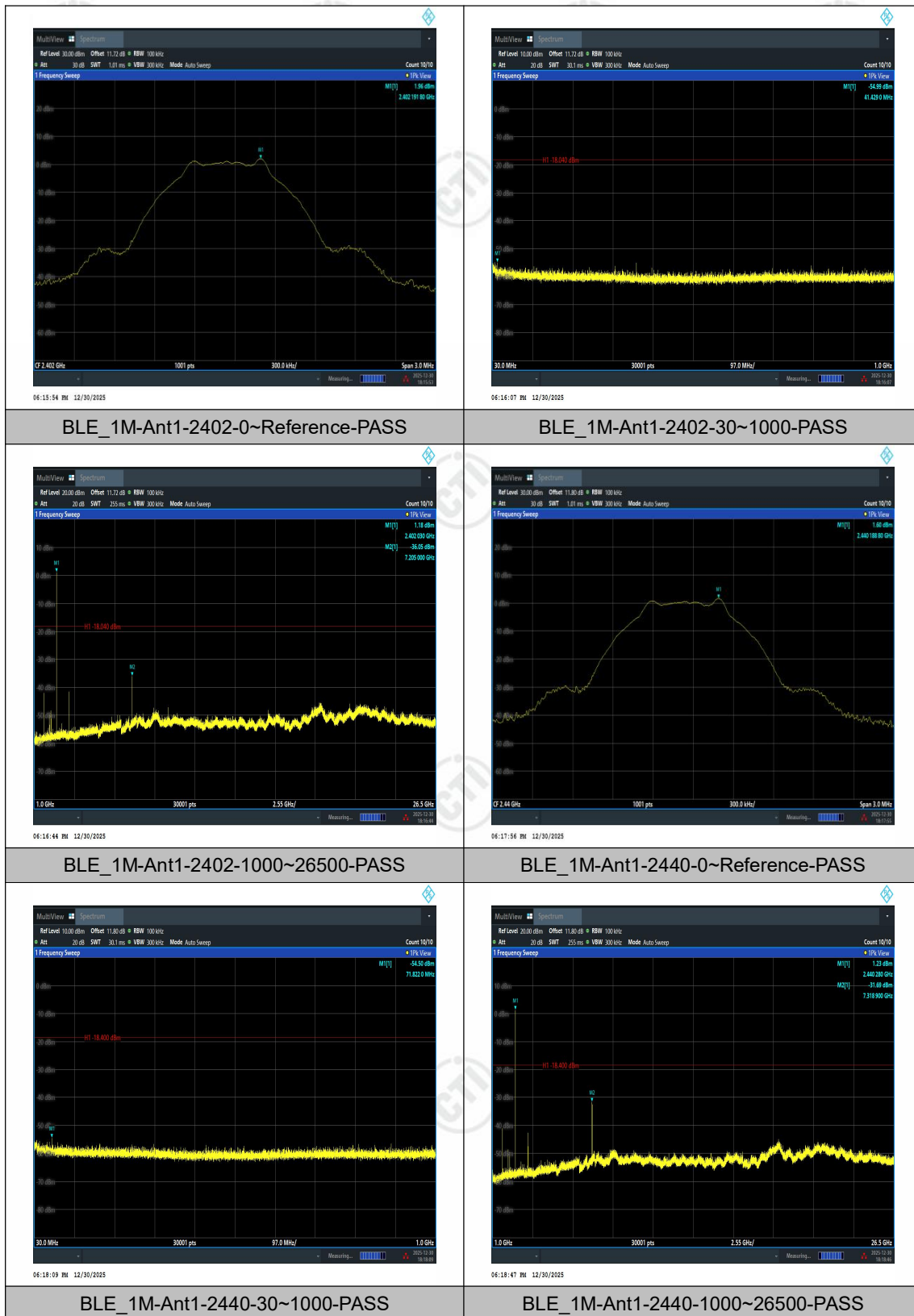


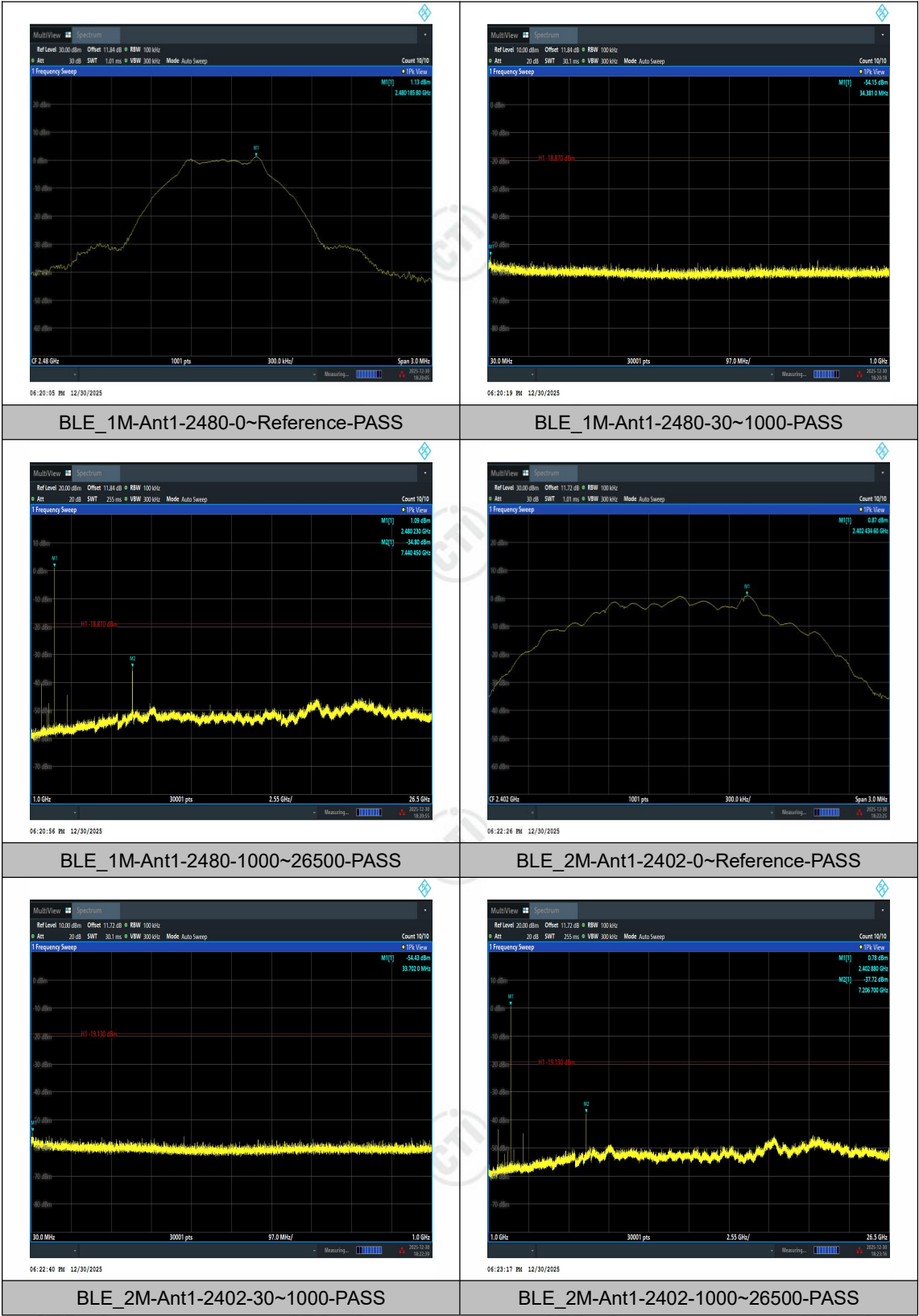
Appendix F: Conducted Spurious Emission

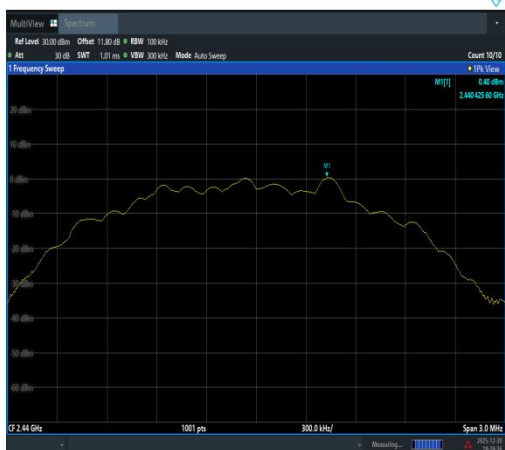
Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	1.96	1.96	---	PASS
BLE_1M	Ant1	2402	30~1000	1.96	-54.99	≤-18.04	PASS
BLE_1M	Ant1	2402	1000~26500	1.96	-36.05	≤-18.04	PASS
BLE_1M	Ant1	2440	0~Reference	1.60	1.60	---	PASS
BLE_1M	Ant1	2440	30~1000	1.60	-54.5	≤-18.4	PASS
BLE_1M	Ant1	2440	1000~26500	1.60	-31.69	≤-18.4	PASS
BLE_1M	Ant1	2480	0~Reference	1.13	1.13	---	PASS
BLE_1M	Ant1	2480	30~1000	1.13	-54.15	≤-18.87	PASS
BLE_1M	Ant1	2480	1000~26500	1.13	-34.8	≤-18.87	PASS
BLE_2M	Ant1	2402	0~Reference	0.87	0.87	---	PASS
BLE_2M	Ant1	2402	30~1000	0.87	-54.43	≤-19.13	PASS
BLE_2M	Ant1	2402	1000~26500	0.87	-37.72	≤-19.13	PASS
BLE_2M	Ant1	2440	0~Reference	0.40	0.40	---	PASS
BLE_2M	Ant1	2440	30~1000	0.40	-55.66	≤-19.6	PASS
BLE_2M	Ant1	2440	1000~26500	0.40	-34.29	≤-19.6	PASS
BLE_2M	Ant1	2480	0~Reference	0.18	0.18	---	PASS
BLE_2M	Ant1	2480	30~1000	0.18	-55.26	≤-19.82	PASS
BLE_2M	Ant1	2480	1000~26500	0.18	-37.77	≤-19.82	PASS

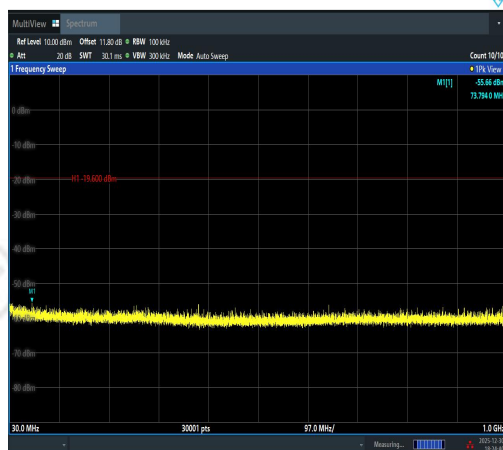
Test Graphs



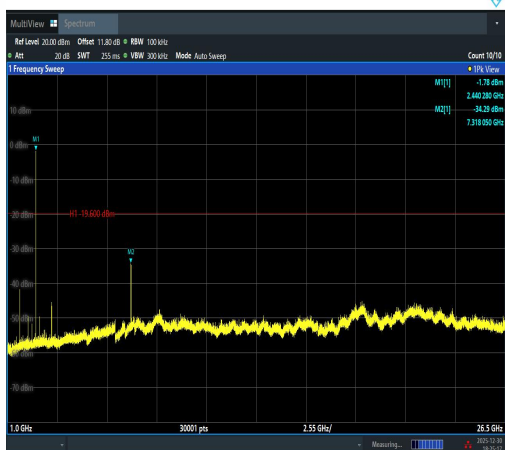




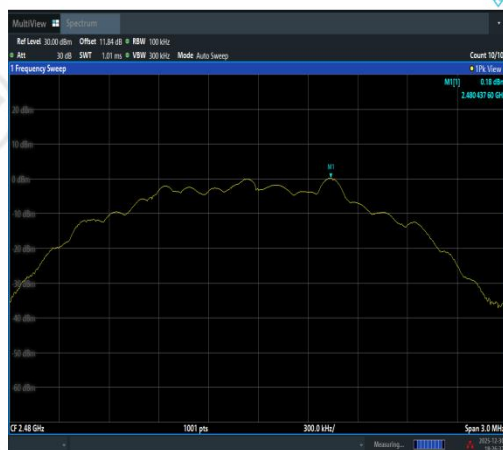
BLE_2M-Ant1-2440-0~Reference-PASS



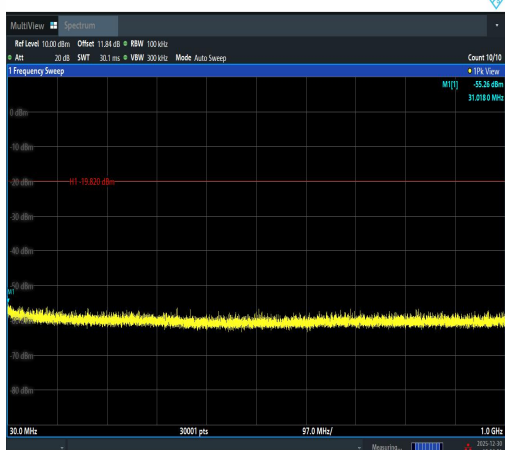
BLE_2M-Ant1-2440-30~1000-PASS



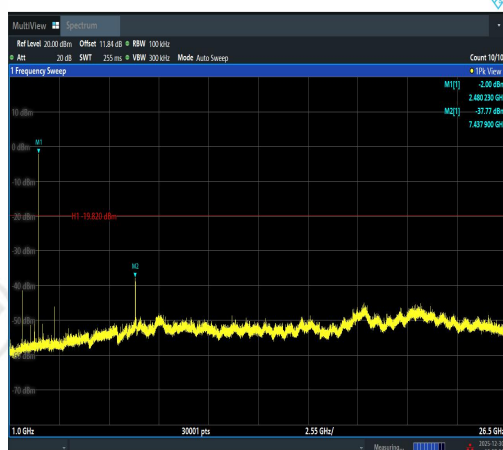
BLE_2M-Ant1-2440-1000~26500-PASS



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	2.12	2.50	84.80	0.72
BLE_1M	Ant1	2440	2.12	2.50	84.80	0.72
BLE_1M	Ant1	2480	2.13	2.51	84.86	0.71
BLE_2M	Ant1	2402	1.06	1.87	56.68	2.47
BLE_2M	Ant1	2440	1.06	1.87	56.68	2.47
BLE_2M	Ant1	2480	1.06	1.87	56.68	2.47

Test Graphs



*** End of Report ***