

Appendix: Bluetooth LE

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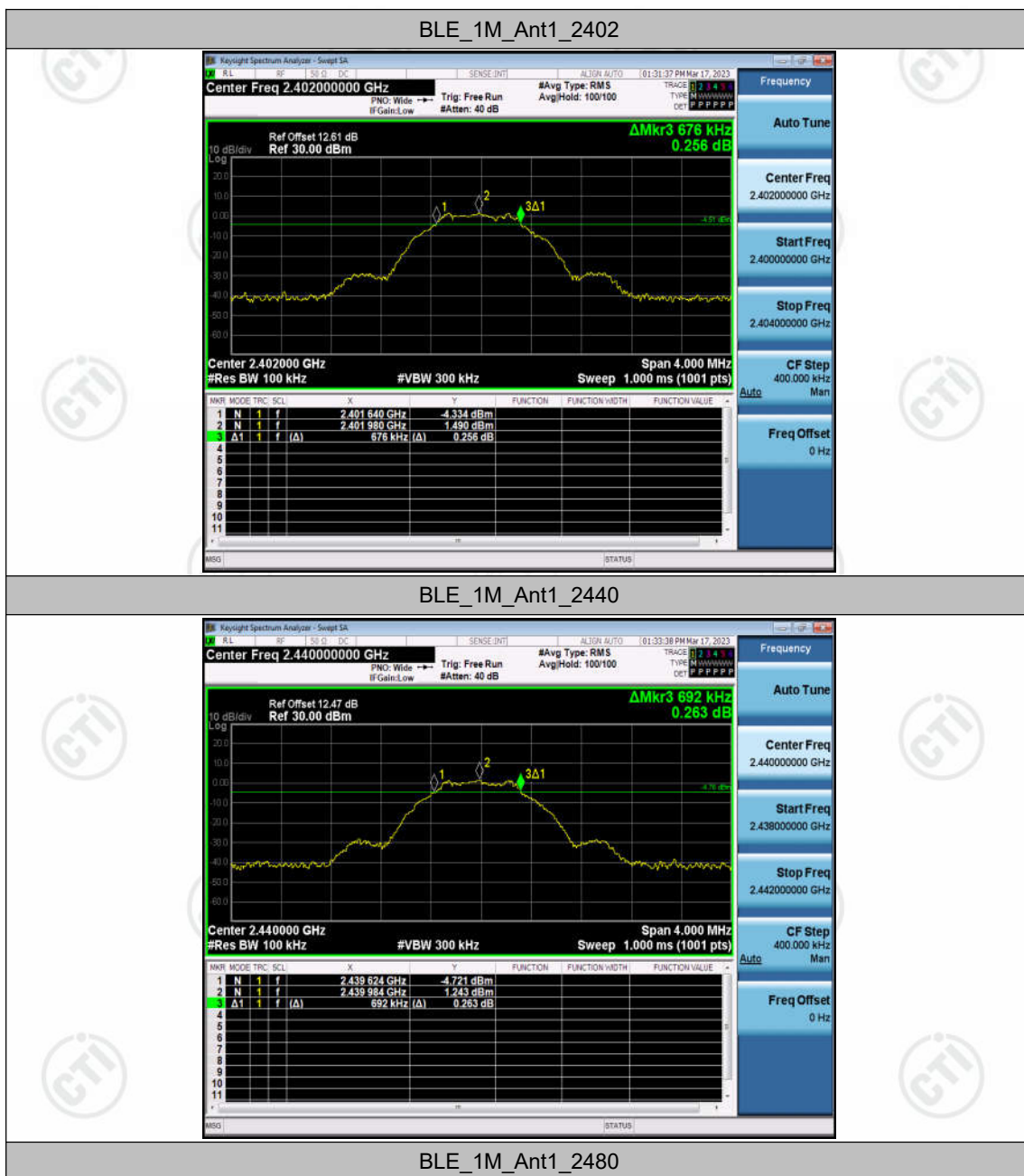
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Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.640	2402.316	0.5	PASS
		2440	0.692	2439.624	2440.316	0.5	PASS
		2480	0.684	2479.648	2480.332	0.5	PASS
BLE_2M	Ant1	2404	1.236	2403.332	2404.568	0.5	PASS
		2440	1.152	2439.416	2440.568	0.5	PASS
		2478	1.176	2477.408	2478.584	0.5	PASS

Test Graphs





BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



BLE_2M_Ant1_2478

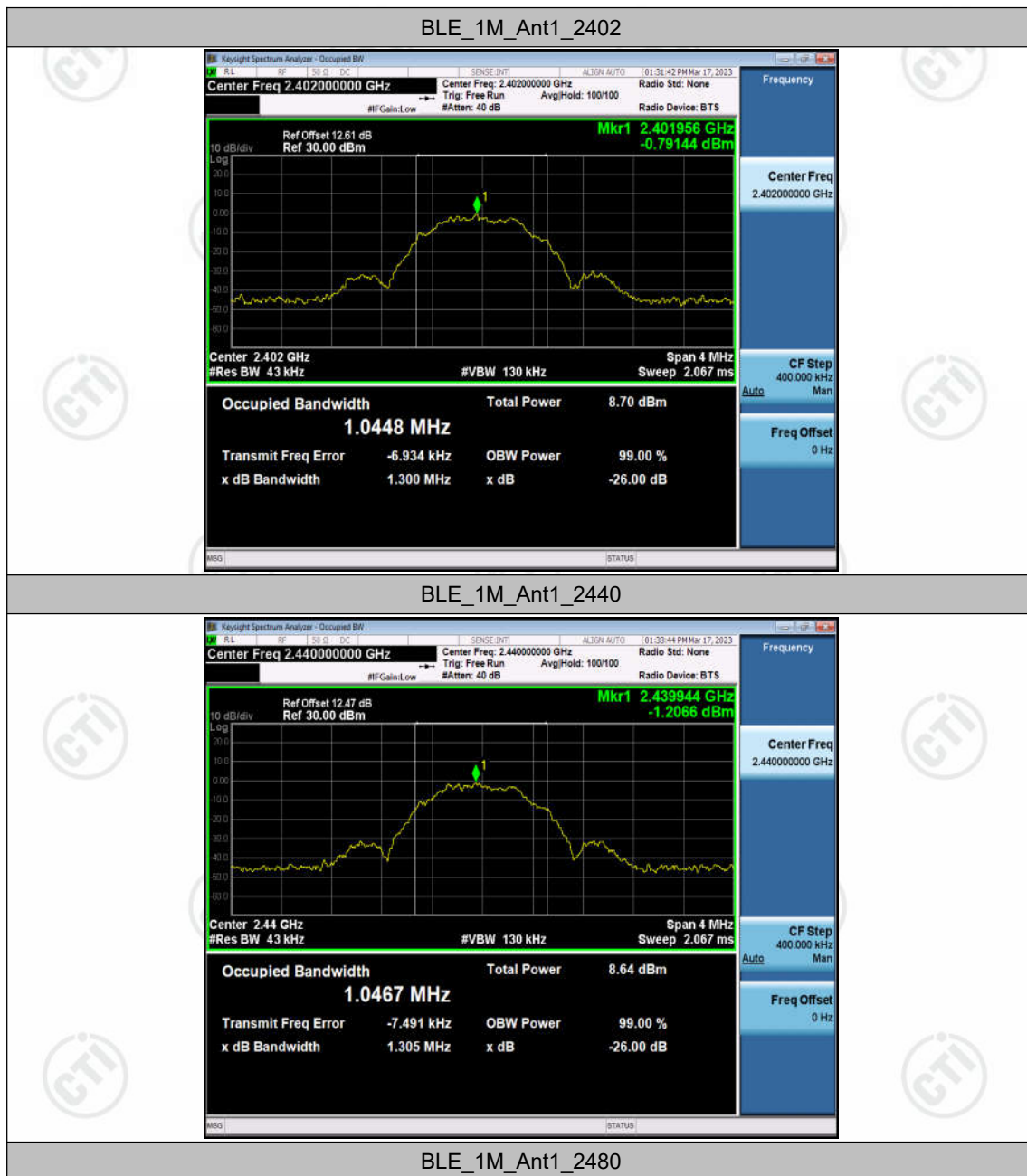


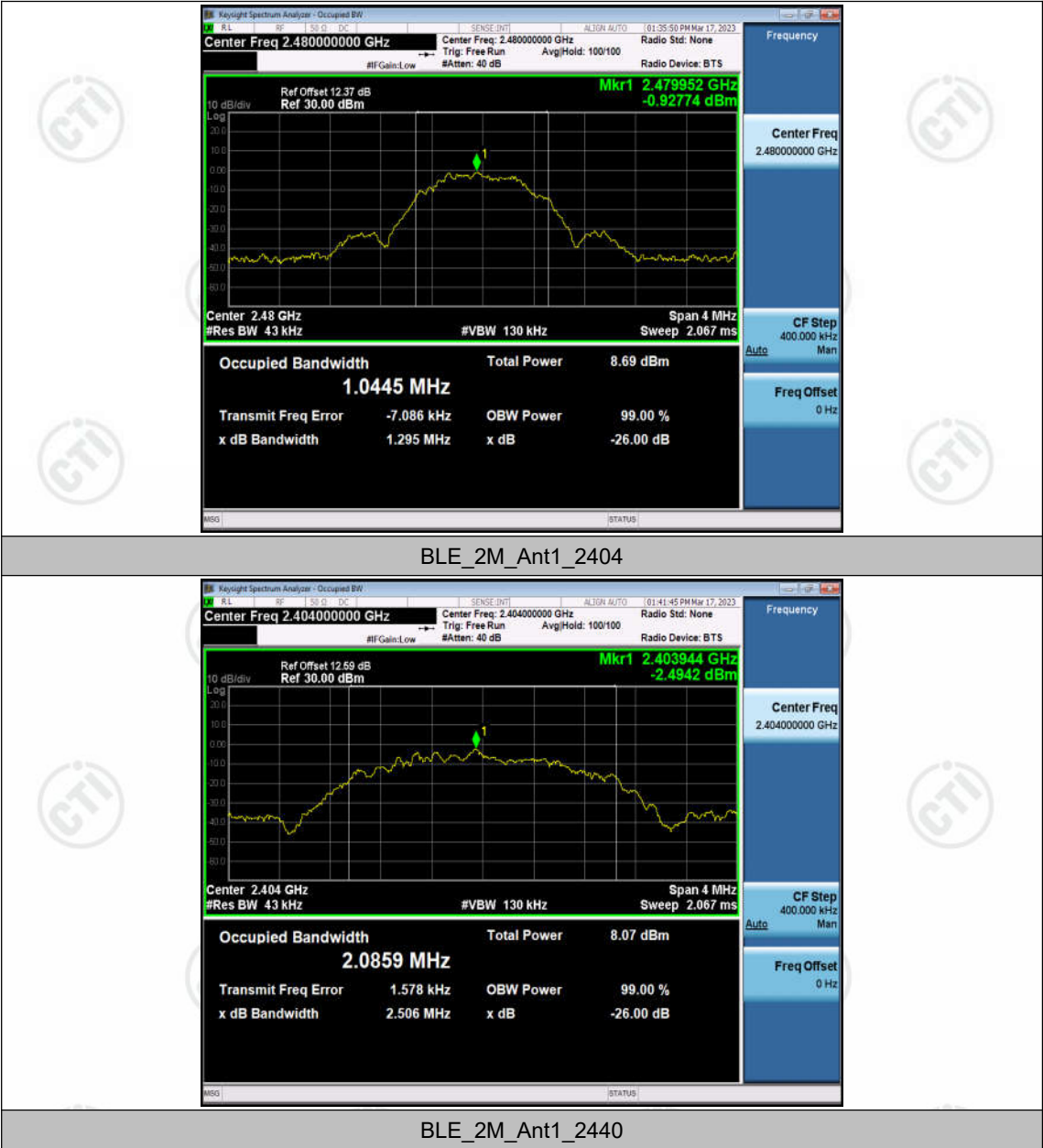
Appendix B: Occupied Channel Bandwidth

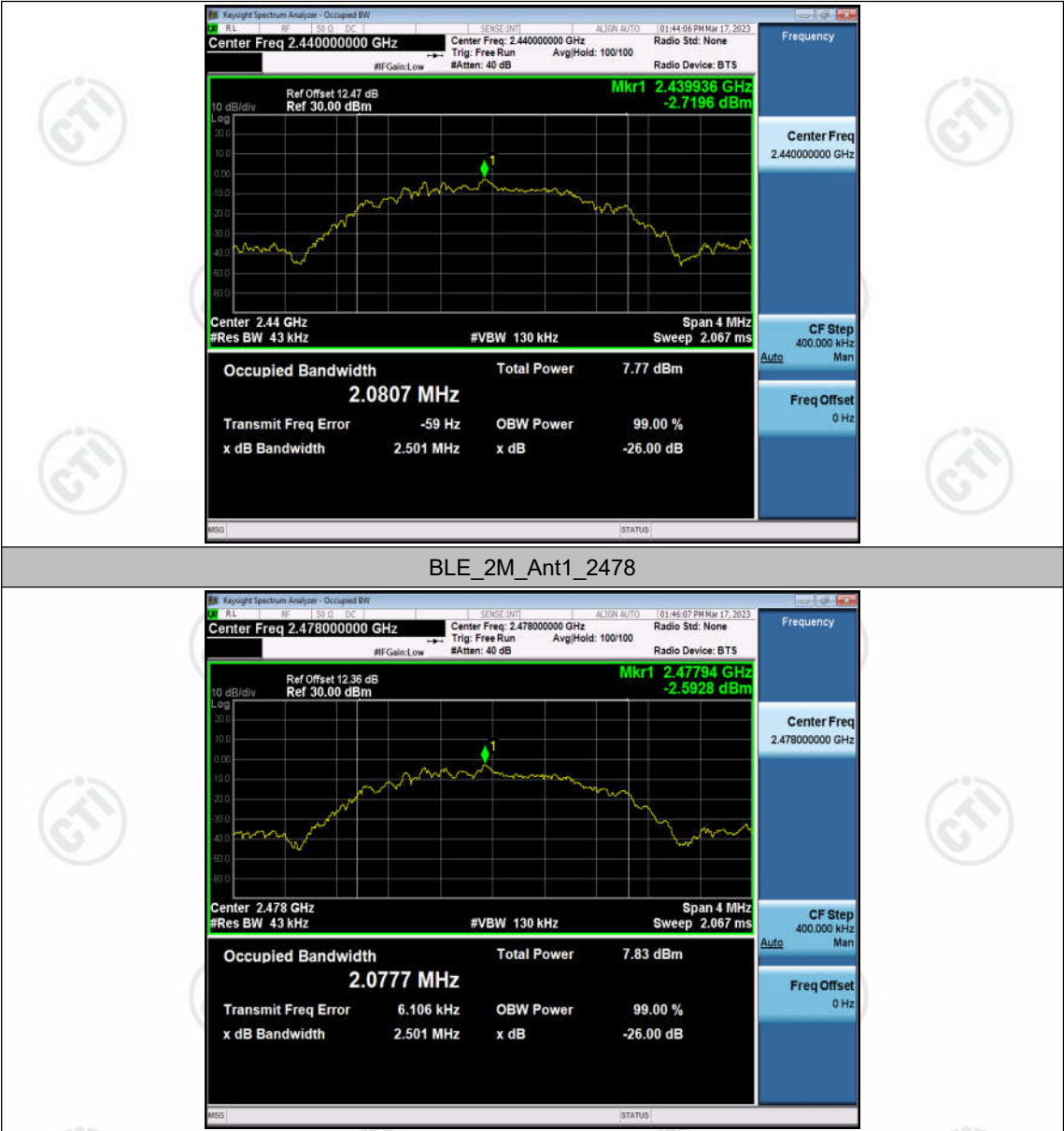
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0448	2401.4707	2402.5155	---	---
		2440	1.0467	2439.4692	2440.5159	---	---
		2480	1.0445	2479.4707	2480.5152	---	---
BLE_2M	Ant1	2404	2.0859	2402.9586	2405.0445	---	---
		2440	2.0807	2438.9596	2441.0403	---	---
		2478	2.0777	2476.9673	2479.0450	---	---

Test Graphs







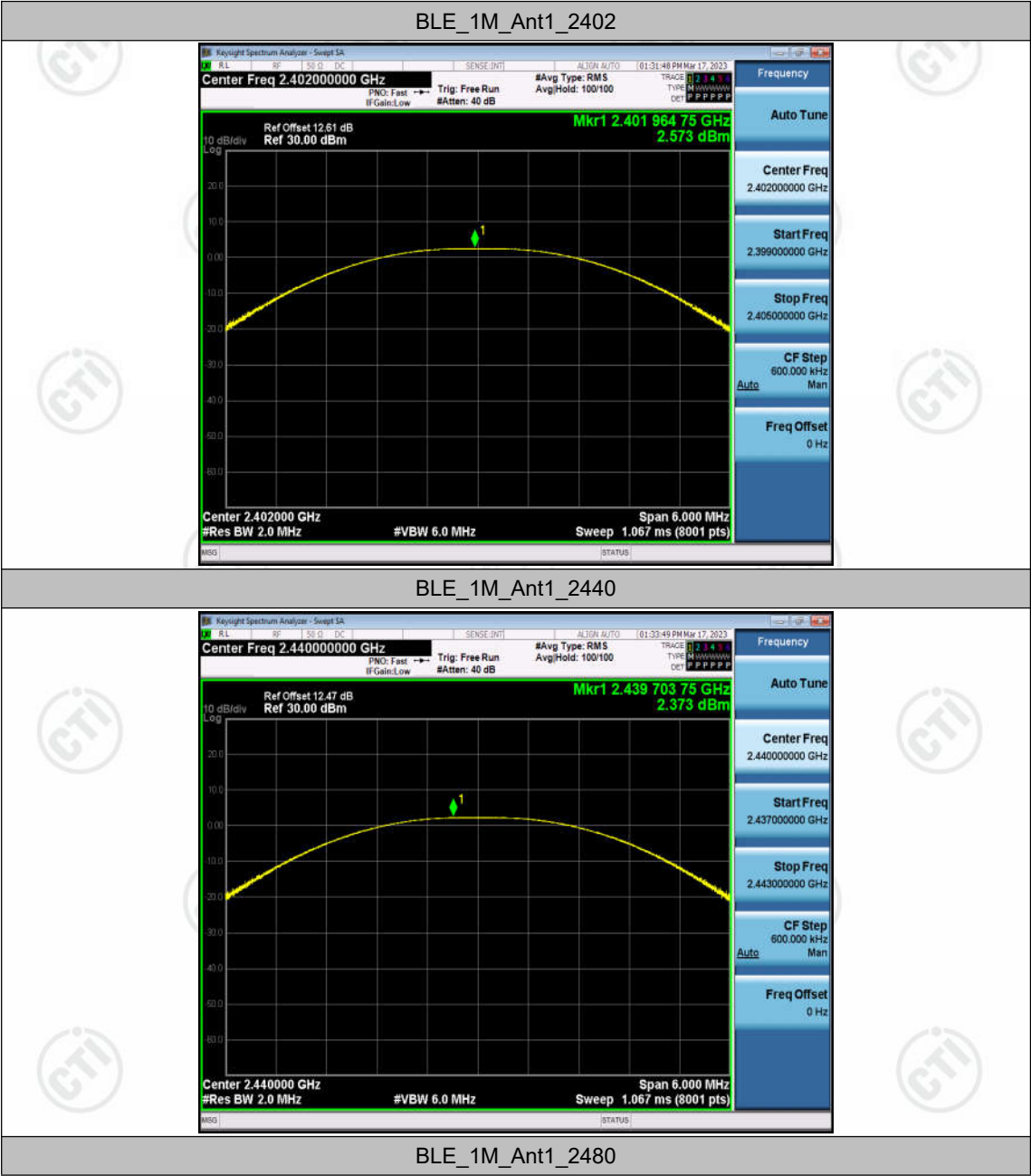
Appendix C: Maximum conducted output power

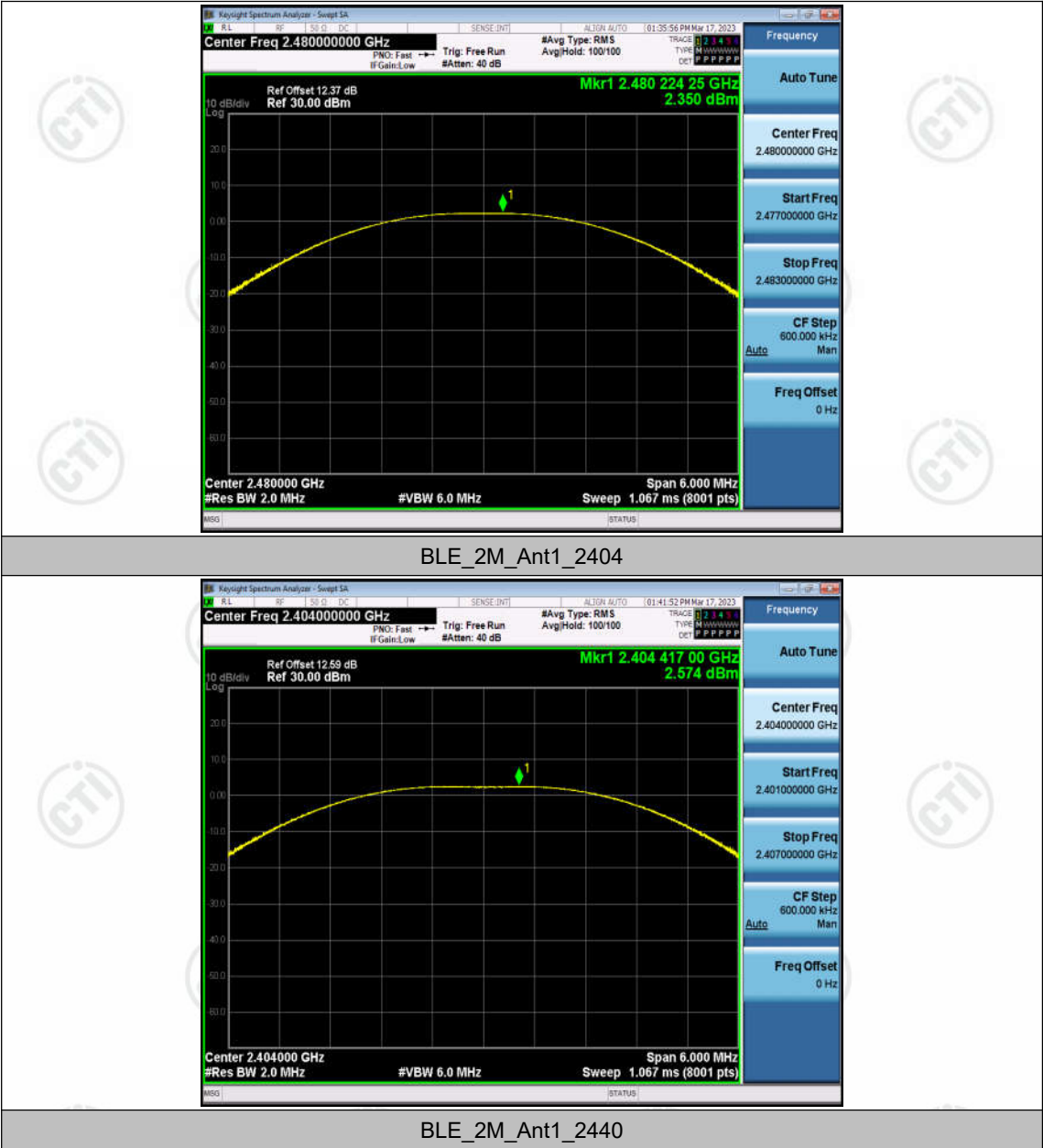
Test Result Peak

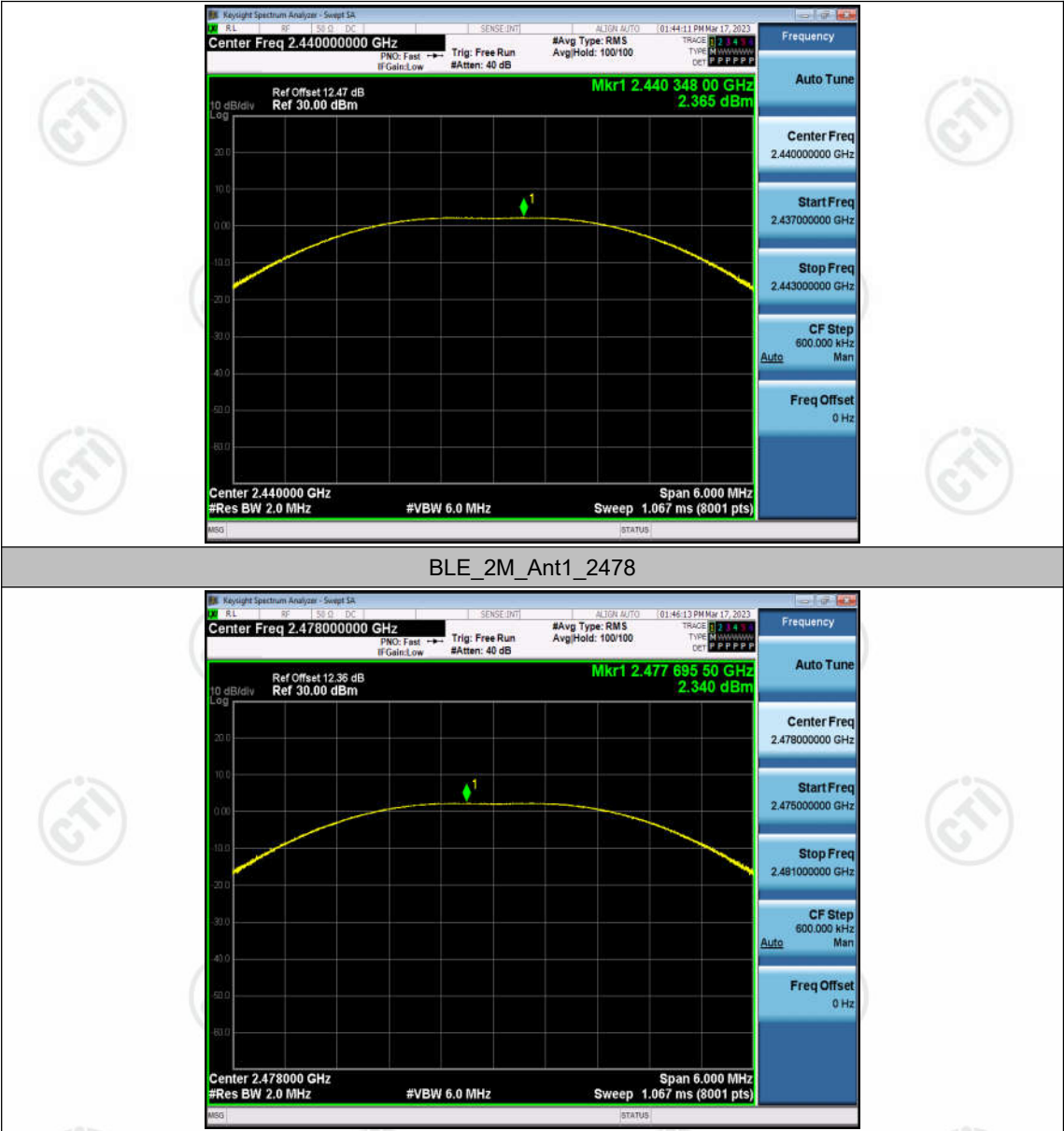
TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	EIRP[dBm]	EIRP Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.57	≤30	7.18	≤36	PASS
		2440	2.37	≤30	6.98	≤36	PASS
		2480	2.35	≤30	6.96	≤36	PASS
BLE_2M	Ant1	2404	2.57	≤30	7.18	≤36	PASS
		2440	2.37	≤30	6.98	≤36	PASS
		2478	2.34	≤30	6.95	≤36	PASS

Note: EIRP[dBm]=Conducted Peak Power[dBm]+antenna gain(dBi)

Test Graphs Peak





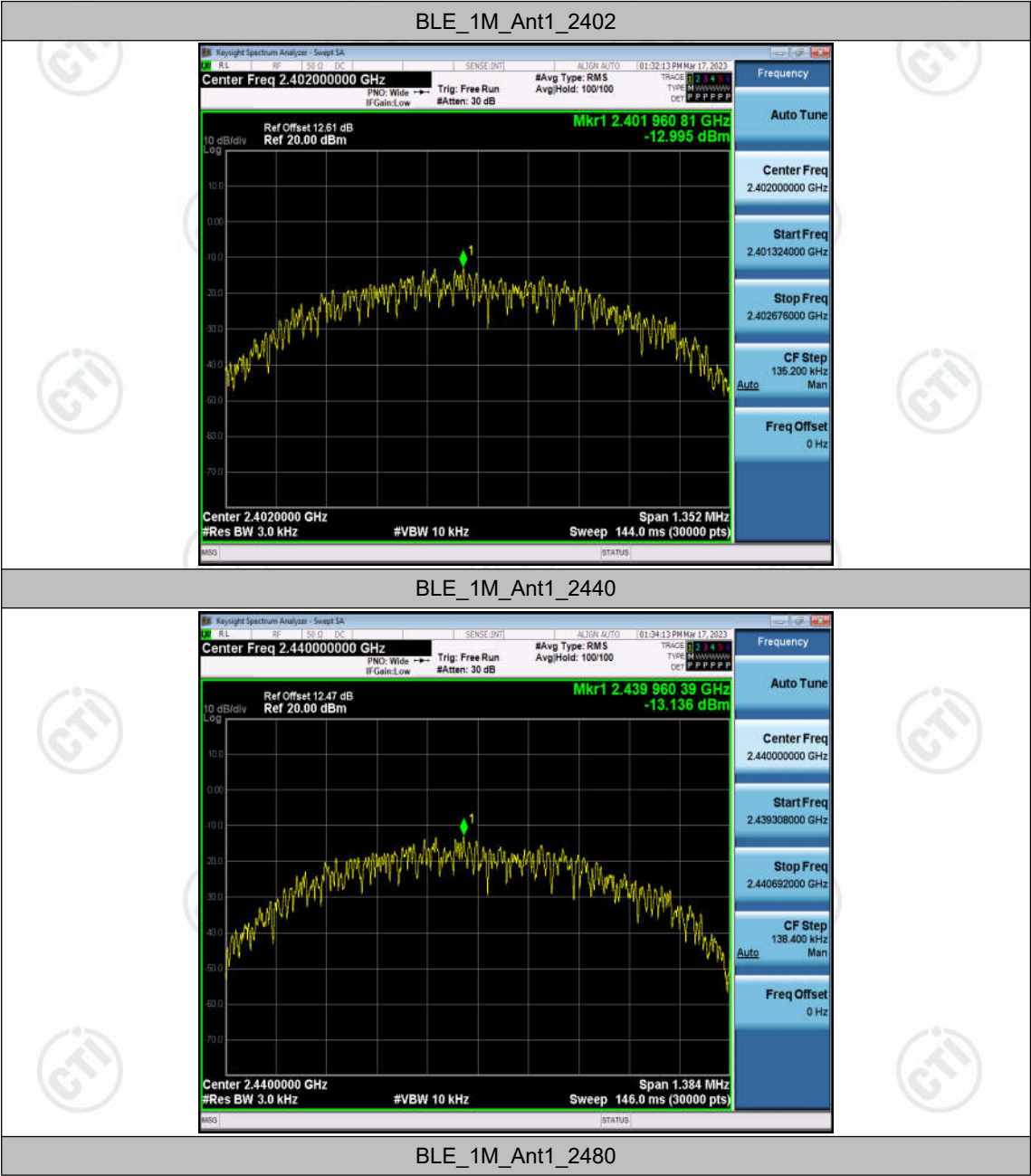


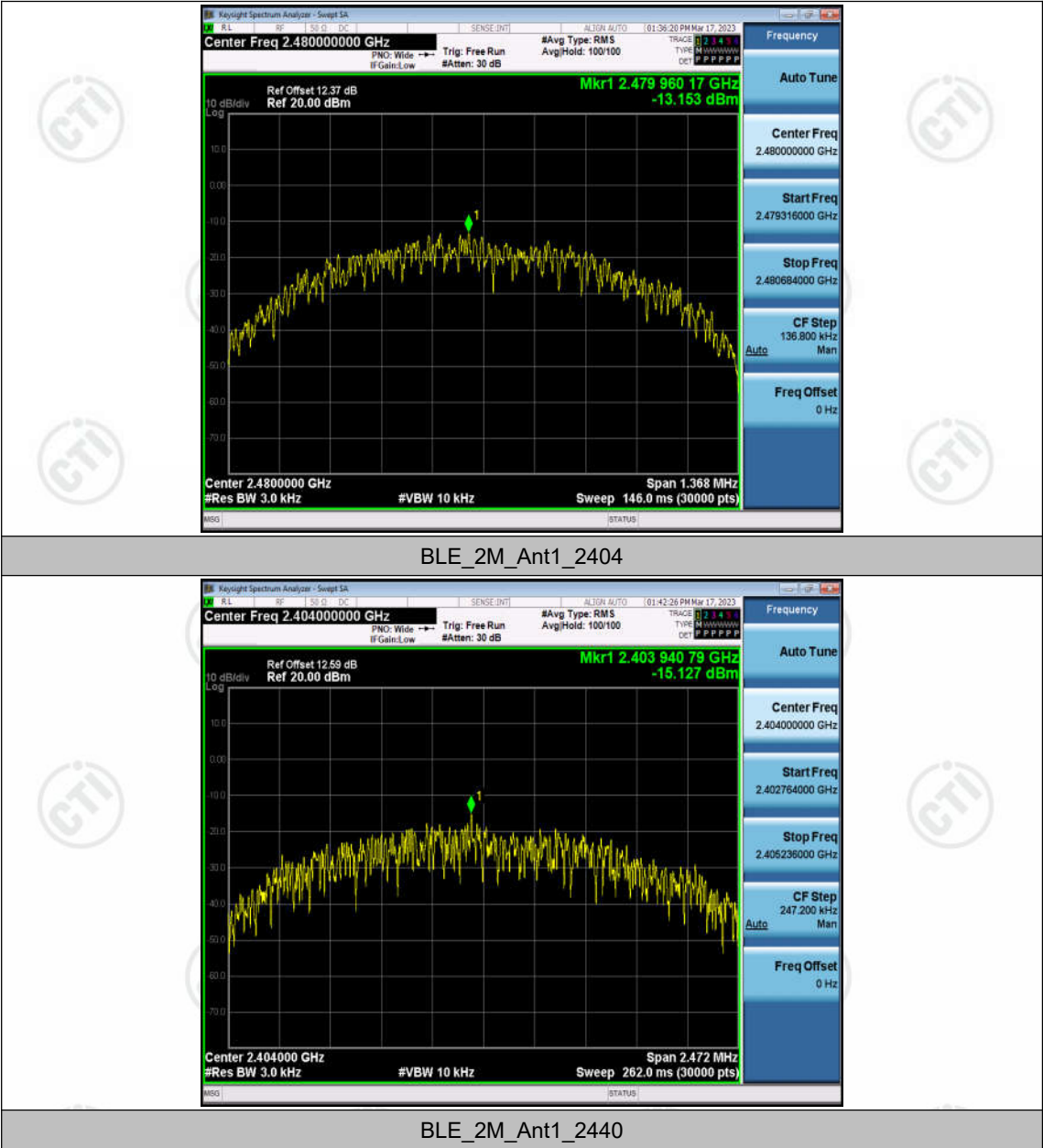
Appendix D: Maximum power spectral density

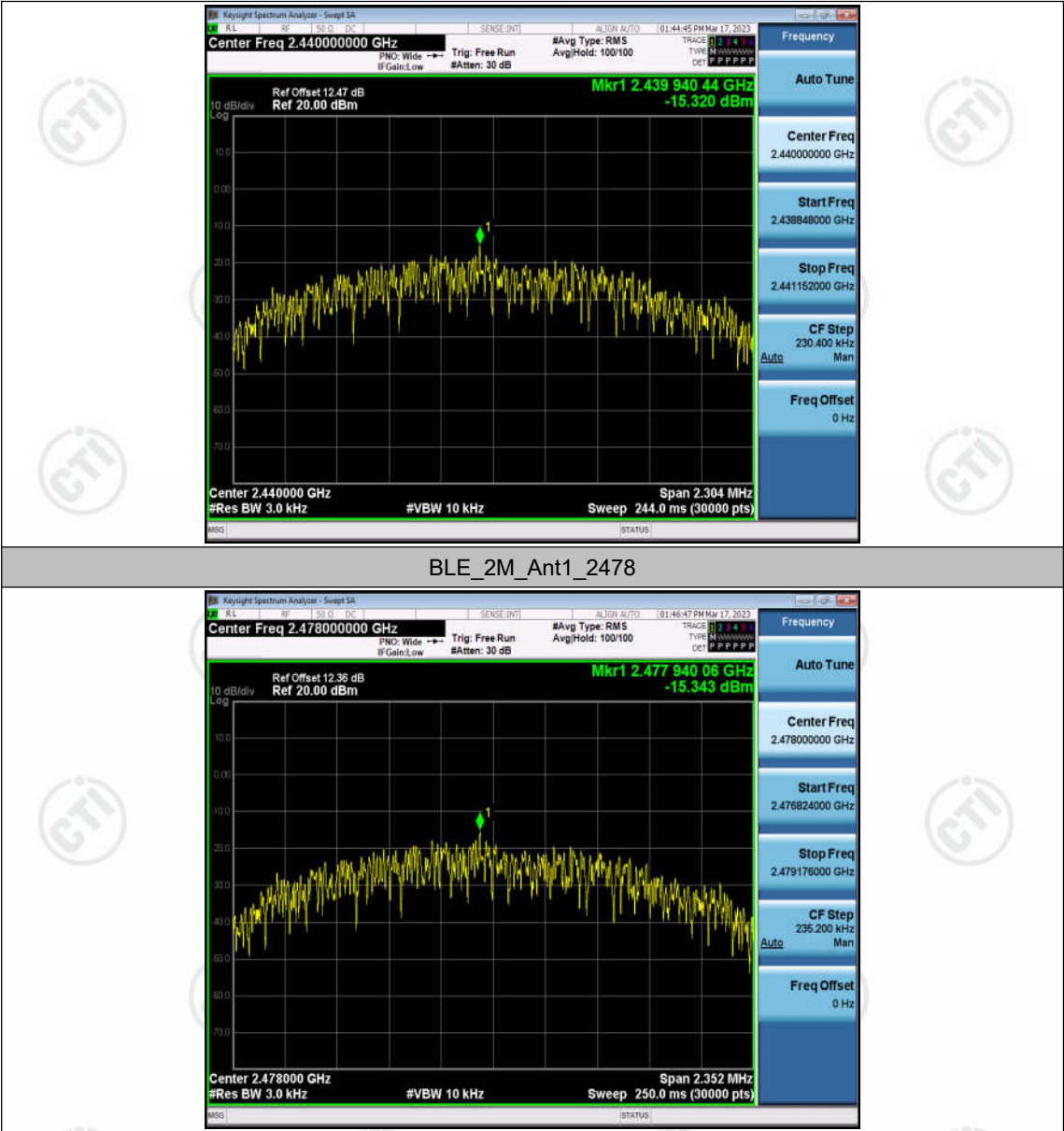
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13	≤8.00	PASS
		2440	-13.14	≤8.00	PASS
		2480	-13.15	≤8.00	PASS
BLE_2M	Ant1	2404	-15.13	≤8.00	PASS
		2440	-15.32	≤8.00	PASS
		2478	-15.34	≤8.00	PASS

Test Graphs







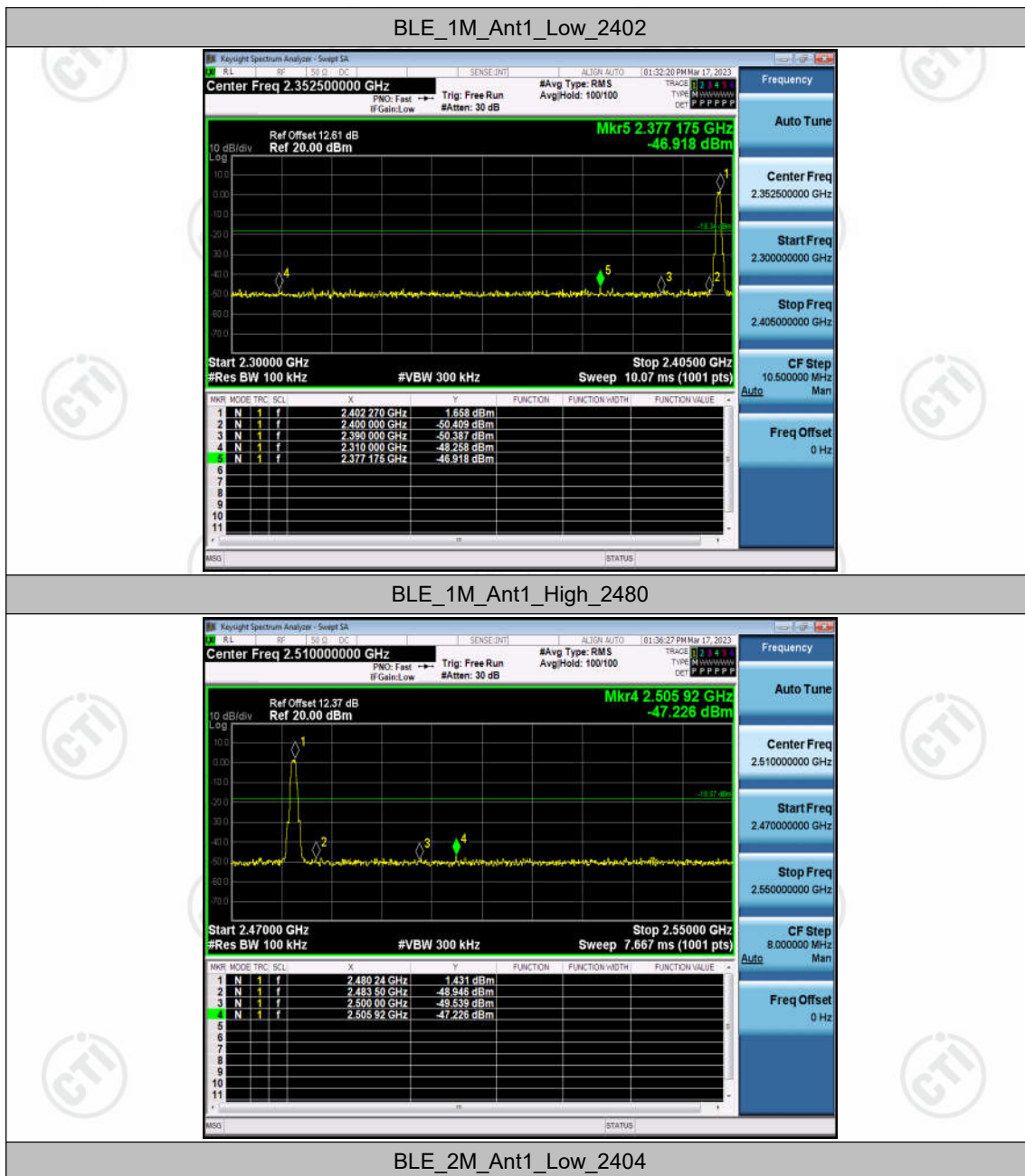
BLE_2M_Ant1_2478

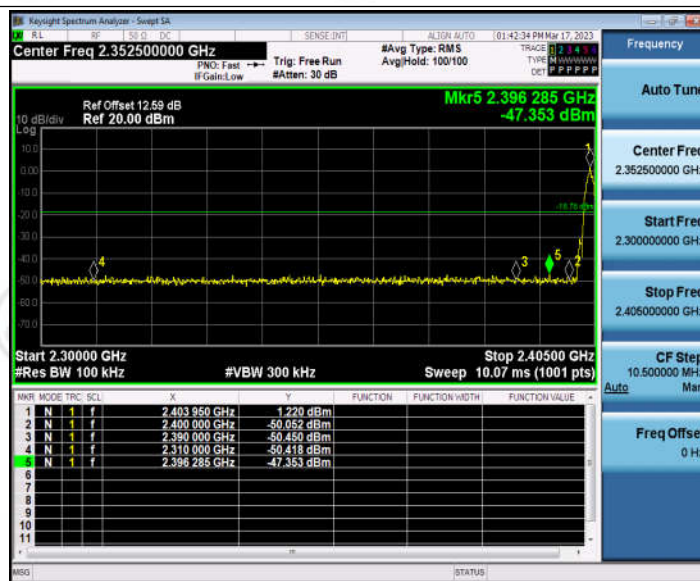
Appendix F: Band edge measurements

Test Result

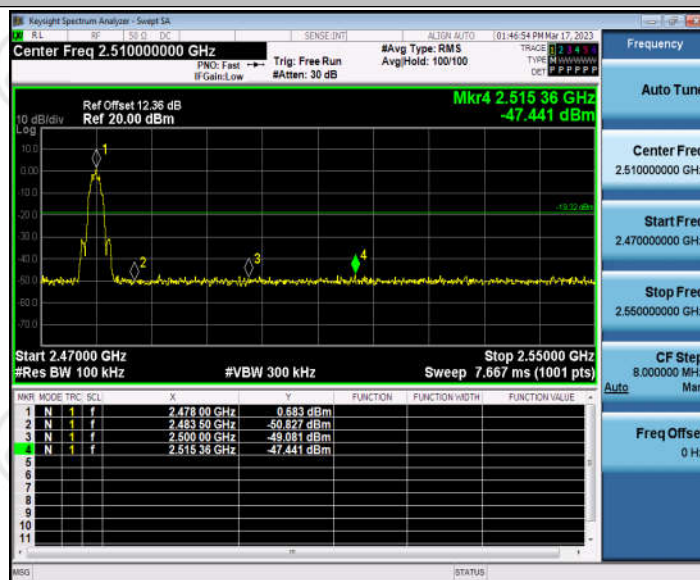
TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.66	-46.92	≤-18.34	PASS
		High	2480	1.43	-47.23	≤-18.57	PASS
BLE_2M	Ant1	Low	2404	1.22	-47.35	≤-18.78	PASS
		High	2478	0.68	-47.44	≤-19.32	PASS

Test Graphs





BLE_2M_Ant1_High_2478

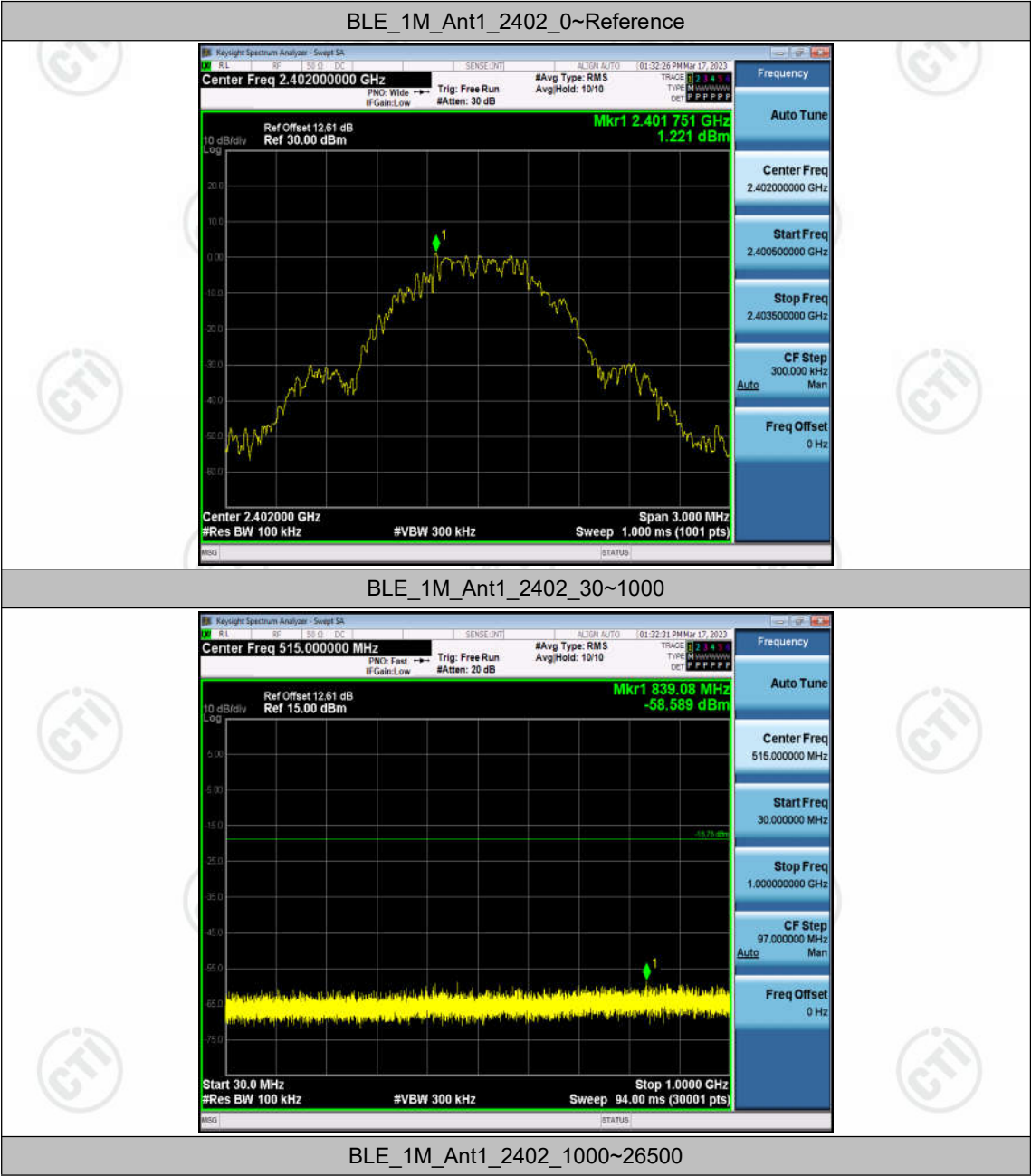


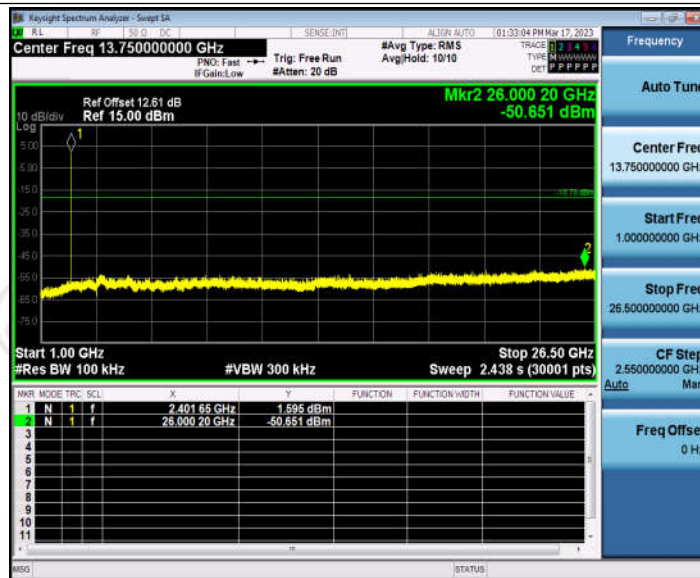
Appendix G: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	1.22	1.22	---	PASS
			30~1000	1.22	-58.59	≤-18.78	PASS
			1000~26500	1.22	-50.65	≤-18.78	PASS
		2440	Reference	1.26	1.26	---	PASS
			30~1000	1.26	-58.85	≤-18.74	PASS
			1000~26500	1.26	-50.71	≤-18.74	PASS
		2480	Reference	1.18	1.18	---	PASS
			30~1000	1.18	-58.72	≤-18.82	PASS
			1000~26500	1.18	-50.51	≤-18.82	PASS
BLE_2M	Ant1	2404	Reference	-1.63	-1.63	---	PASS
			30~1000	-1.63	-59.17	≤-21.63	PASS
			1000~26500	-1.63	-50.39	≤-21.63	PASS
		2440	Reference	0.81	0.81	---	PASS
			30~1000	0.81	-58.74	≤-19.19	PASS
			1000~26500	0.81	-50.69	≤-19.19	PASS
		2478	Reference	-2.14	-2.14	---	PASS
			30~1000	-2.14	-59.1	≤-22.14	PASS
			1000~26500	-2.14	-50.52	≤-22.14	PASS

Test Graphs

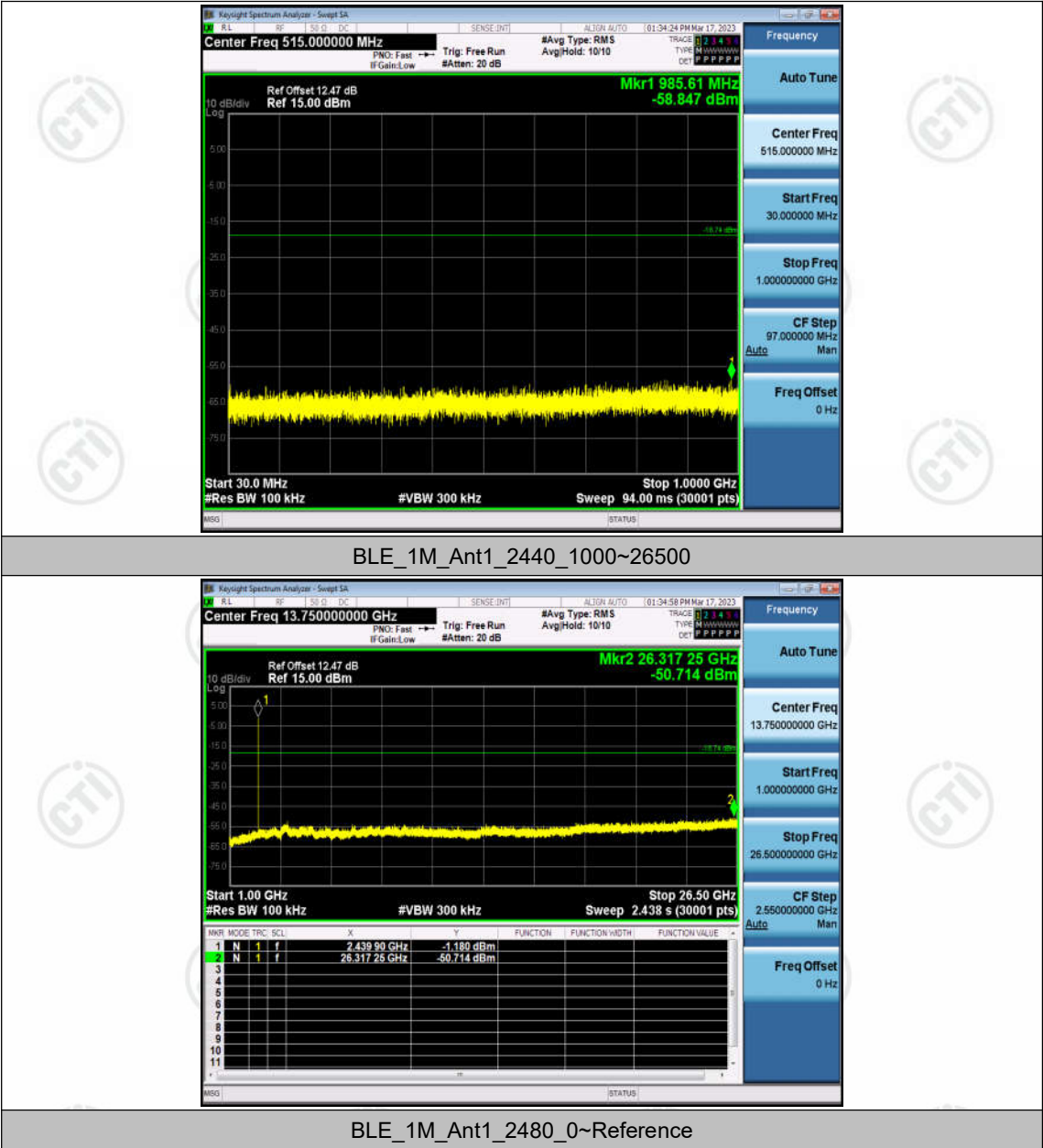


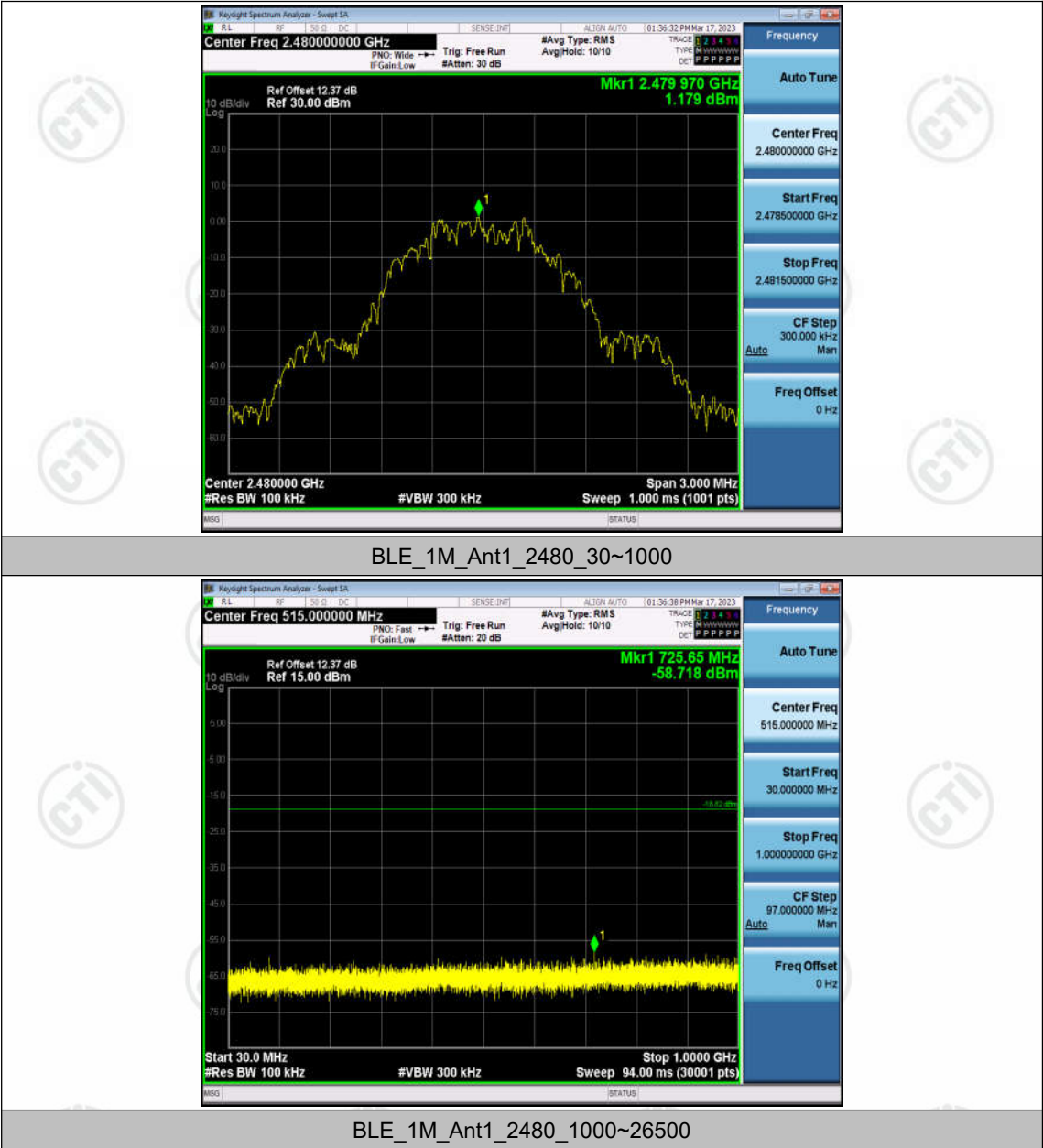


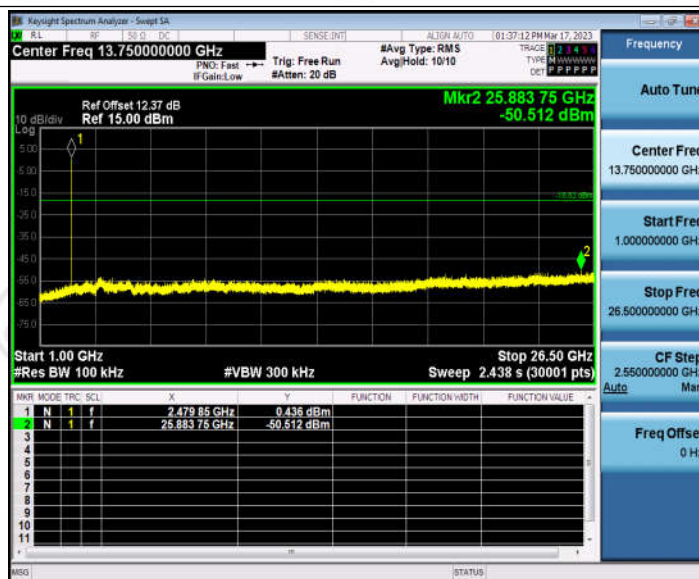
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



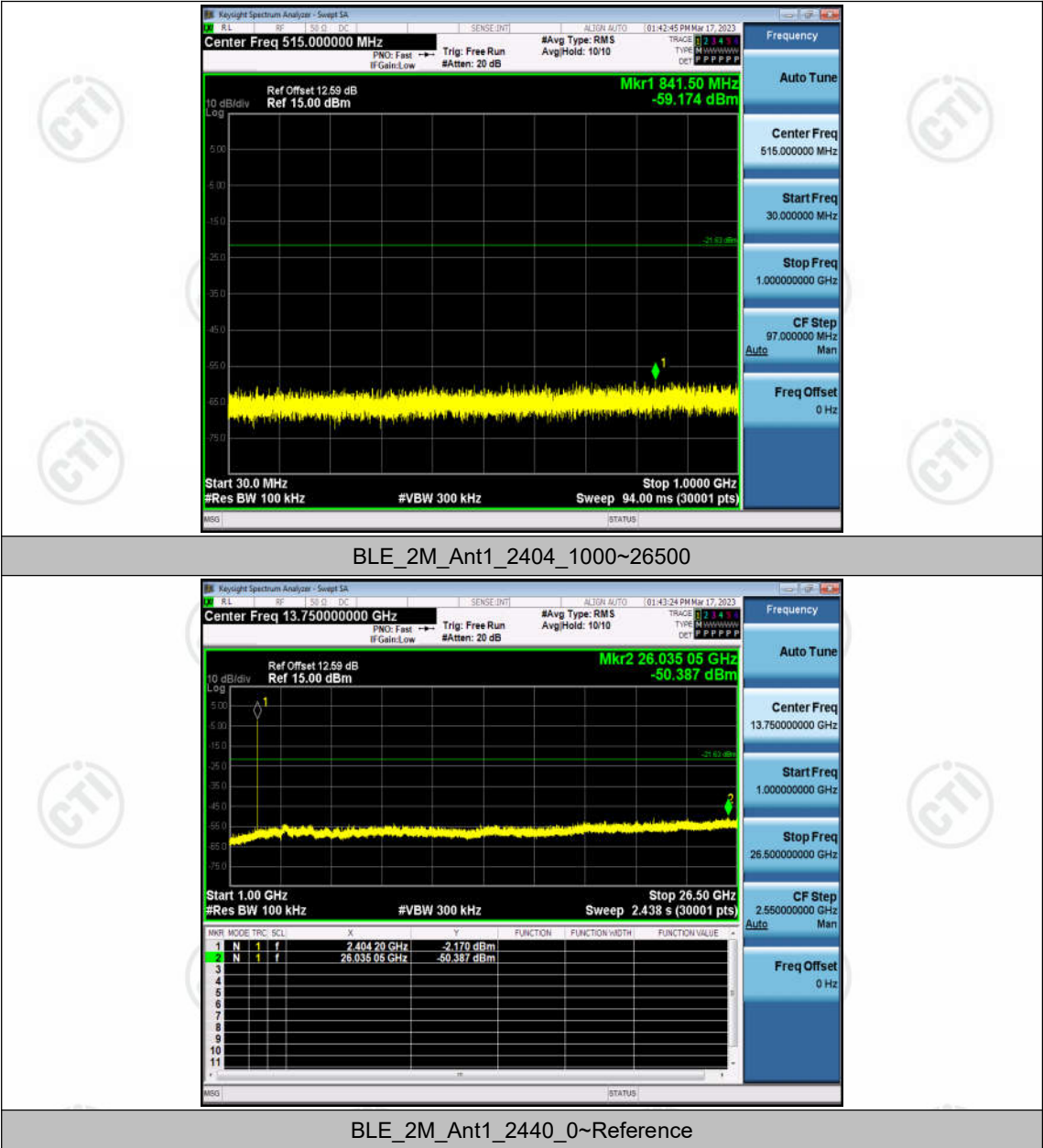


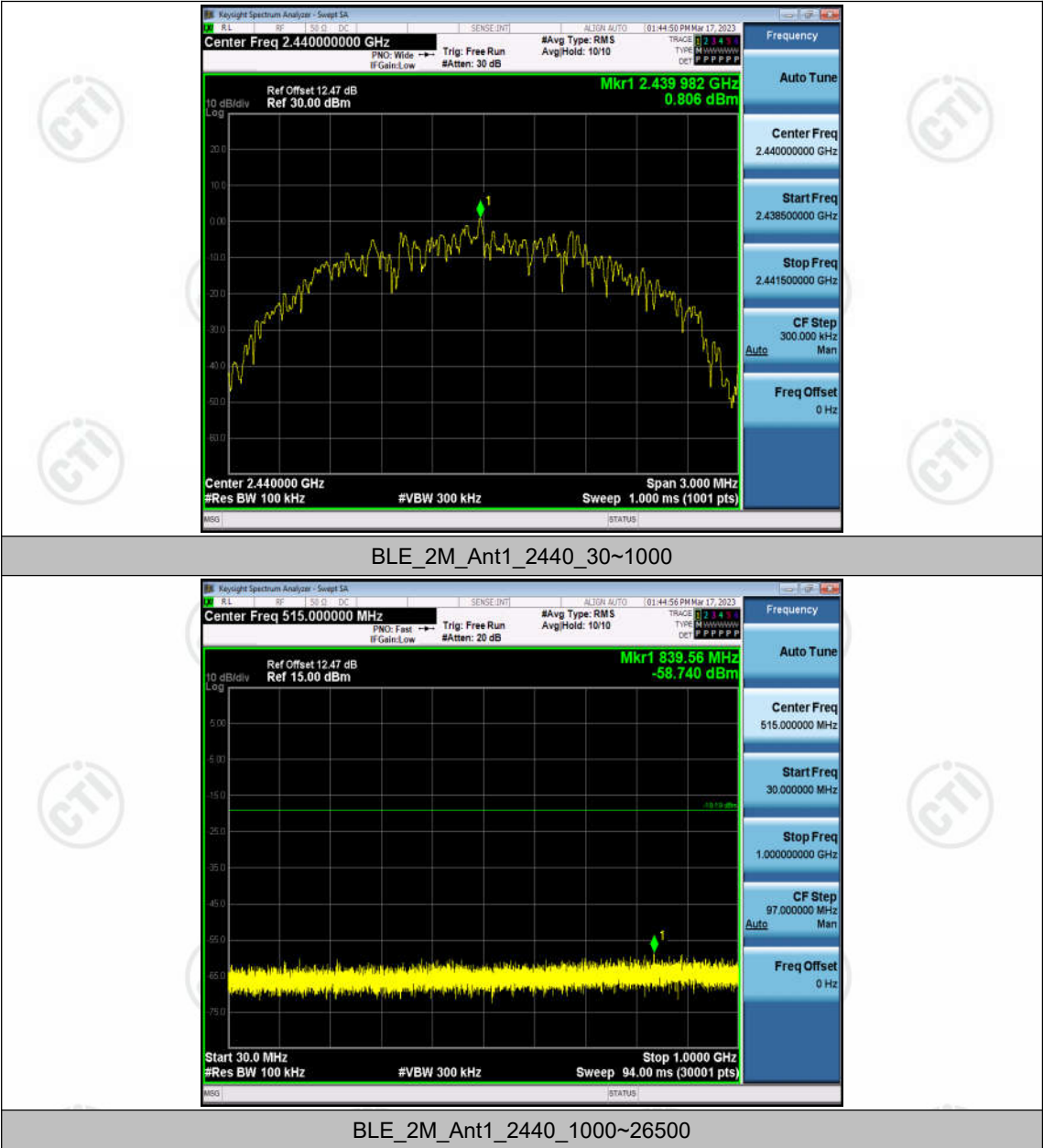


BLE_2M_Ant1_2404_0~Reference



BLE_2M_Ant1_2404_30~1000



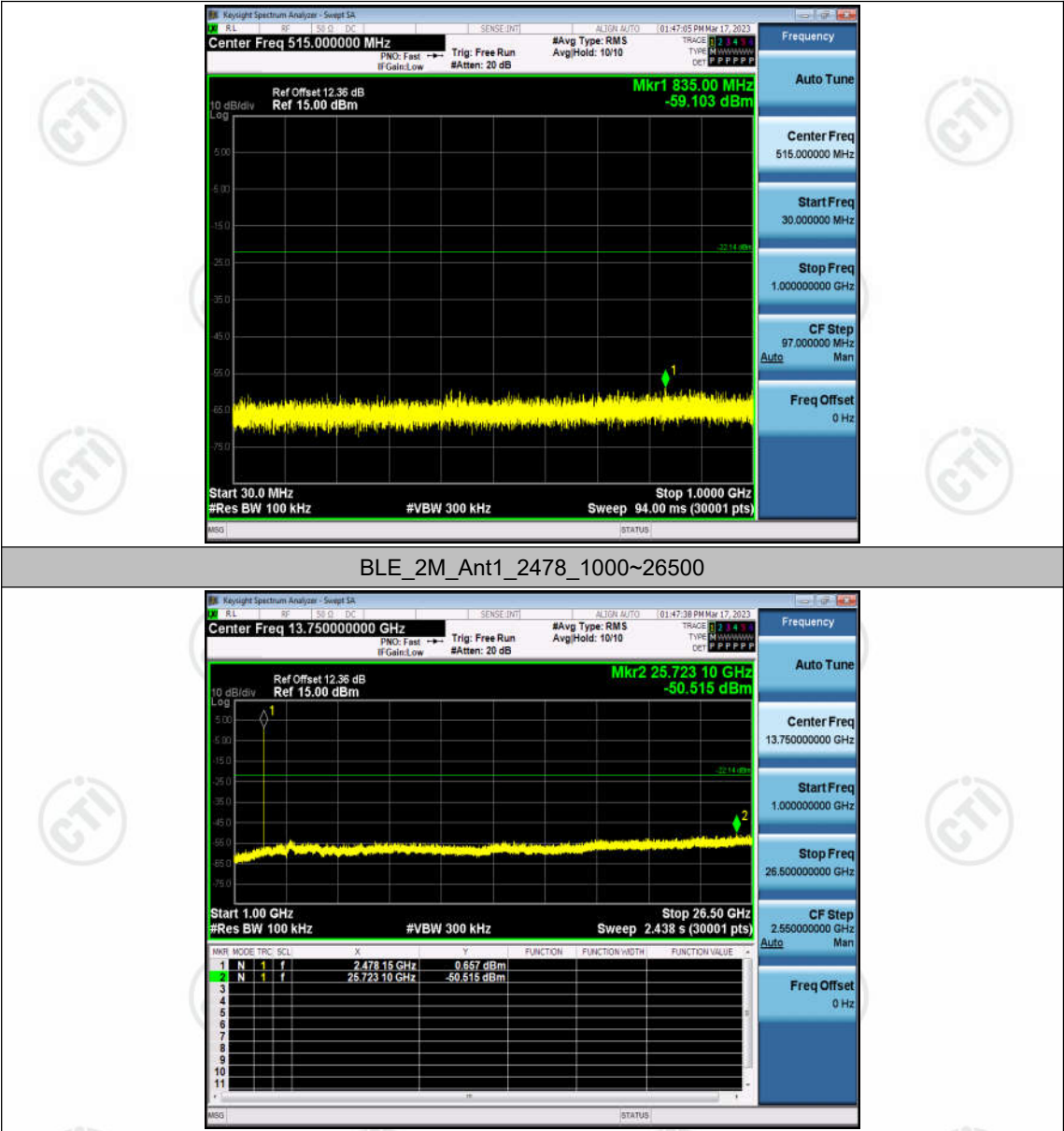




BLE_2M_Ant1_2478_0~Reference



BLE_2M_Ant1_2478_30~1000

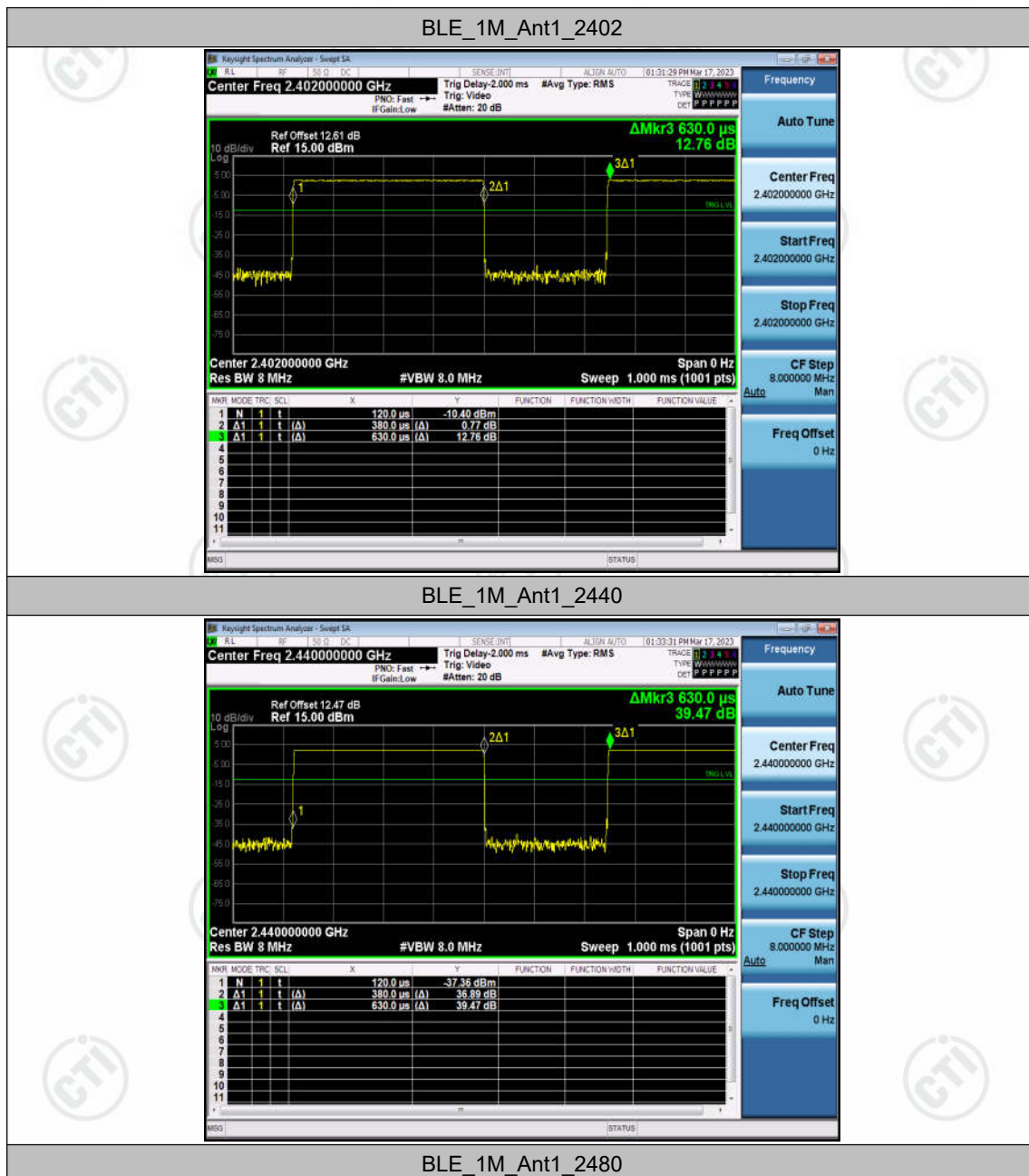


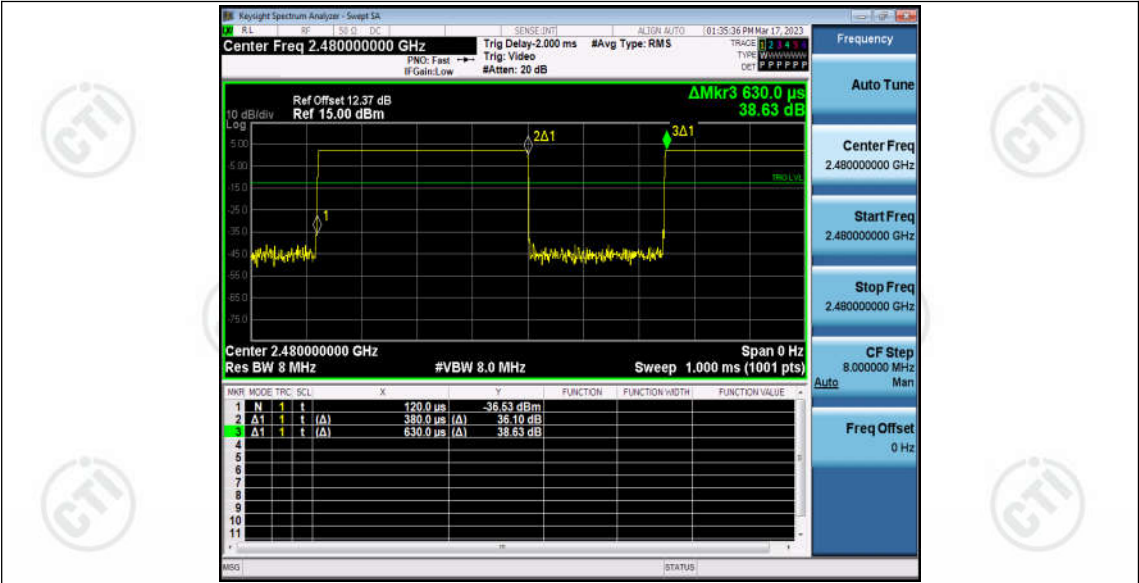
Appendix H: Duty Cycle

Test Result

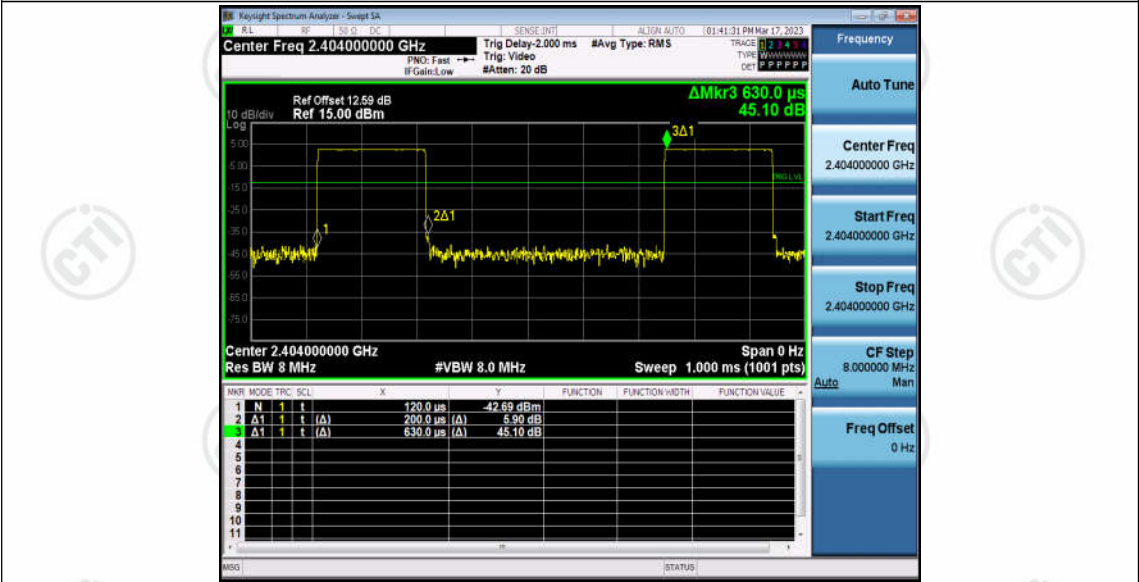
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20
		2440	0.38	0.63	60.32	2.20
		2480	0.38	0.63	60.32	2.20
BLE_2M	Ant1	2404	0.20	0.63	31.75	4.98
		2440	0.20	0.63	31.75	4.98
		2478	0.20	0.63	31.75	4.98

Test Graphs

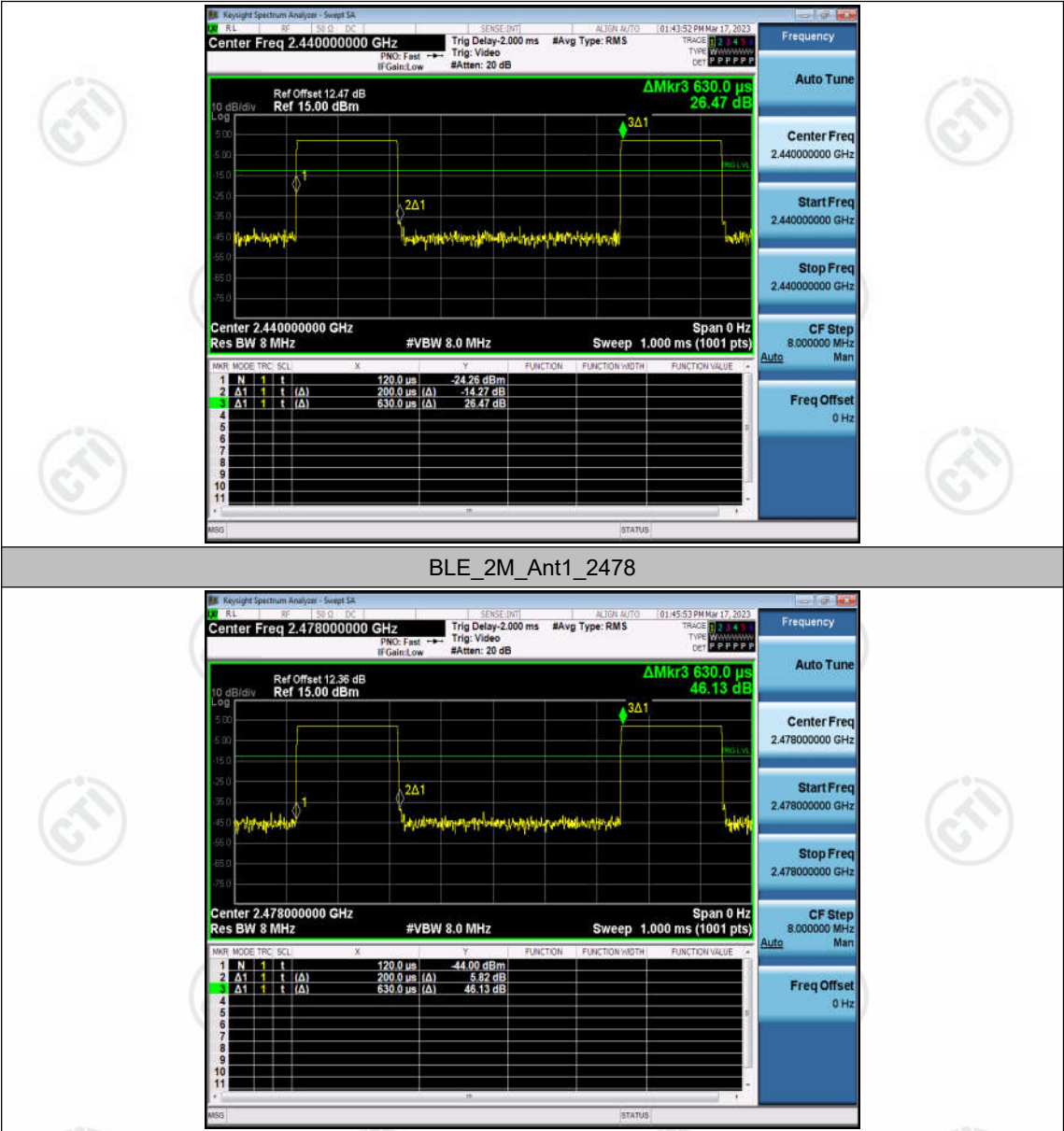




BLE_2M_Ant1_2404



BLE_2M_Ant1_2440



END OF REPORT