

Appendix: Bluetooth LE

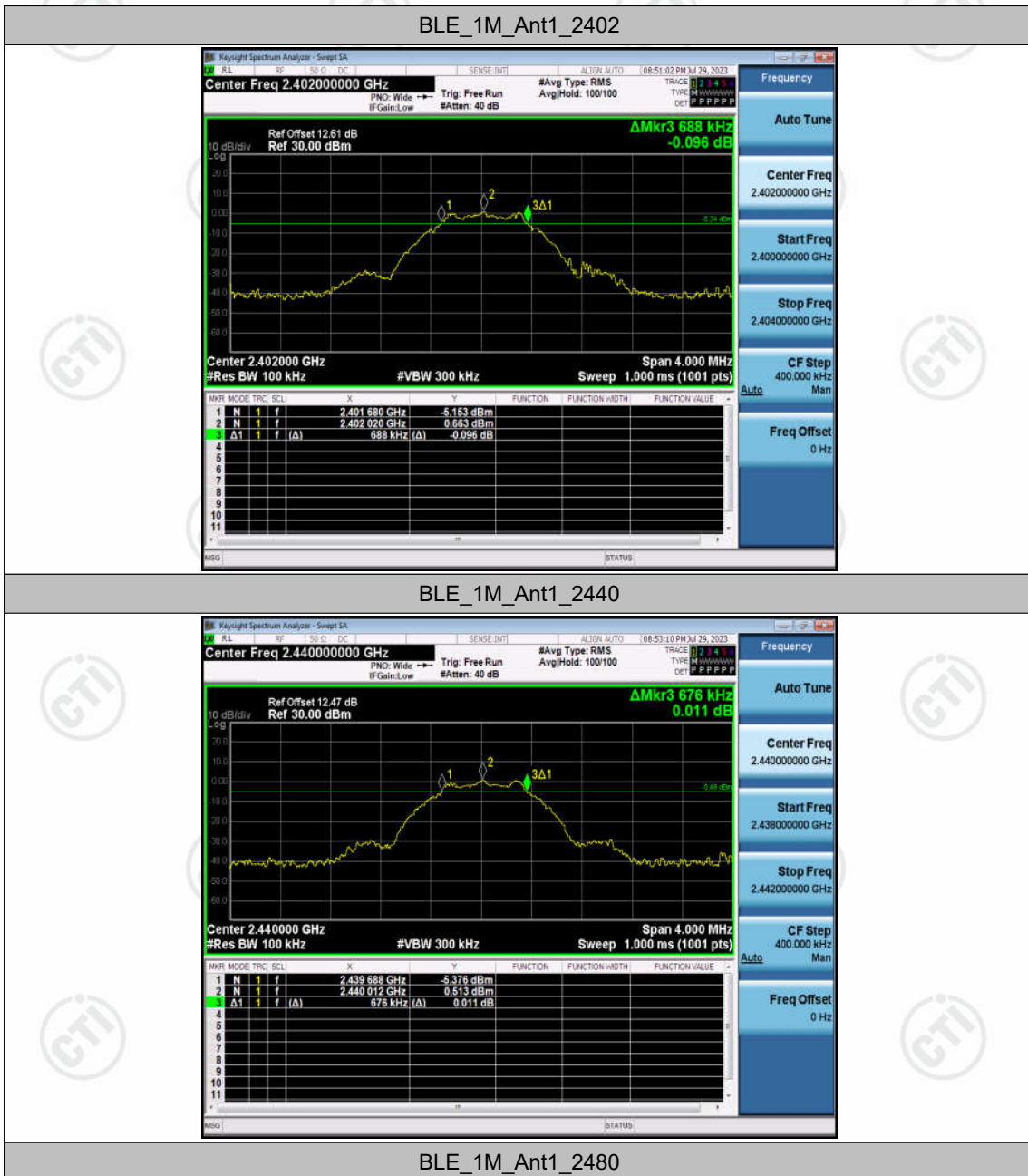
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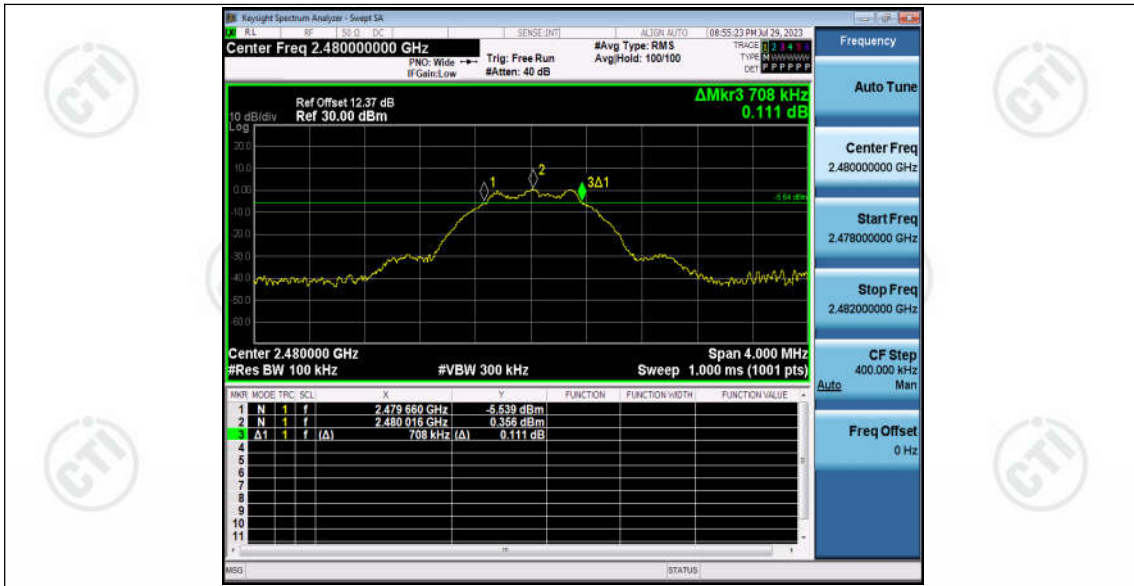
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Appendix A: DTS Bandwidth**Test Result**

Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.688	2401.680	2402.368	0.5	PASS
		2440	0.676	2439.688	2440.364	0.5	PASS
		2480	0.708	2479.660	2480.368	0.5	PASS
BLE_2M	Ant1	2402	1.140	2401.448	2402.588	0.5	PASS
		2440	1.140	2439.448	2440.588	0.5	PASS
		2480	1.072	2479.460	2480.532	0.5	PASS

Test Graphs





BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



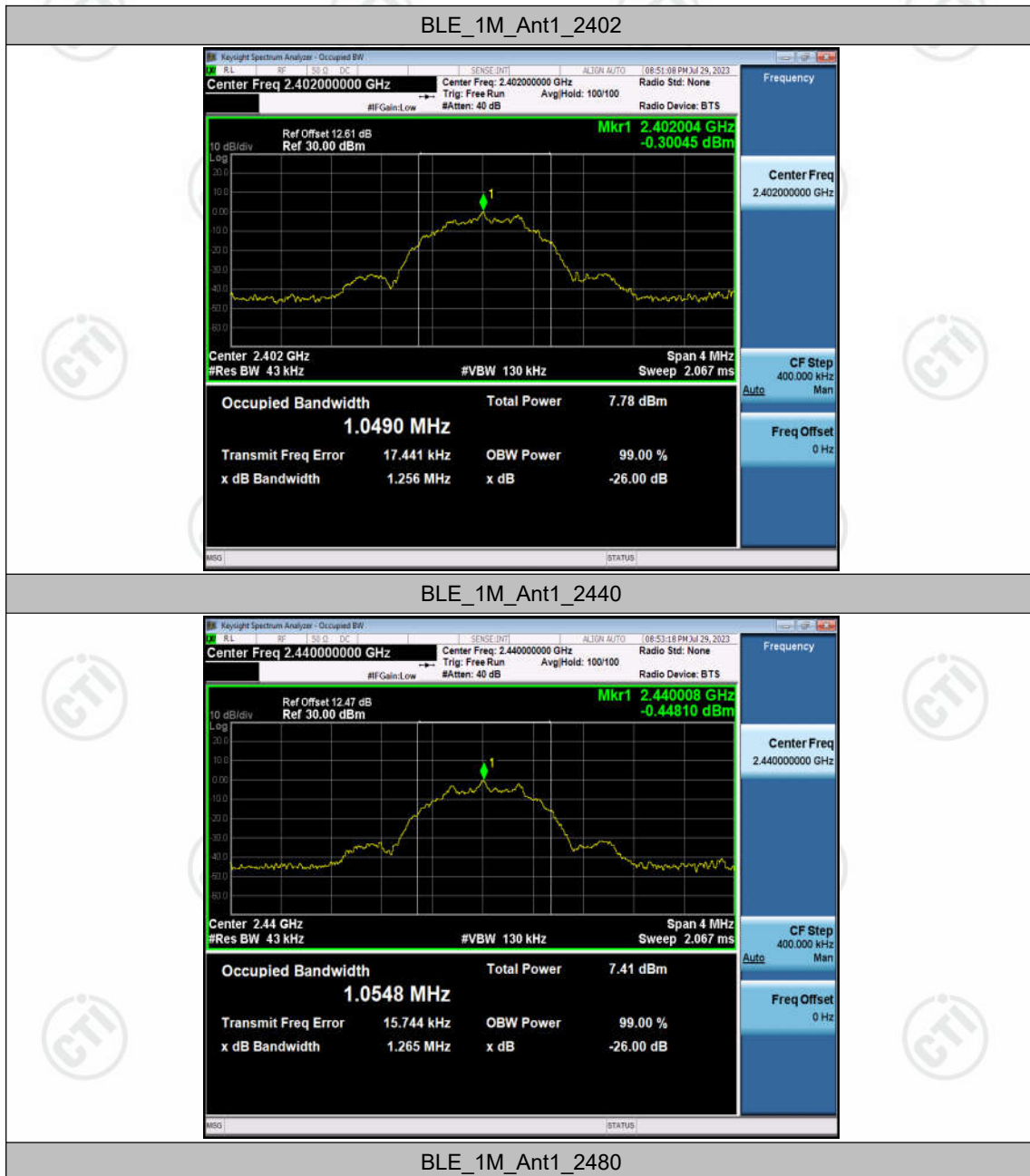
BLE_2M_Ant1_2480



Appendix B: Occupied Channel Bandwidth**Test Result**

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0490	2401.4929	2402.5419	---	---
		2440	1.0548	2439.4883	2440.5431	---	---
		2480	1.0568	2479.4910	2480.5478	---	---
BLE_2M	Ant1	2402	2.0476	2401.0078	2403.0554	---	---
		2440	2.0541	2439.0053	2441.0594	---	---
		2480	2.0435	2479.0005	2481.0440	---	---

Test Graphs





BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480

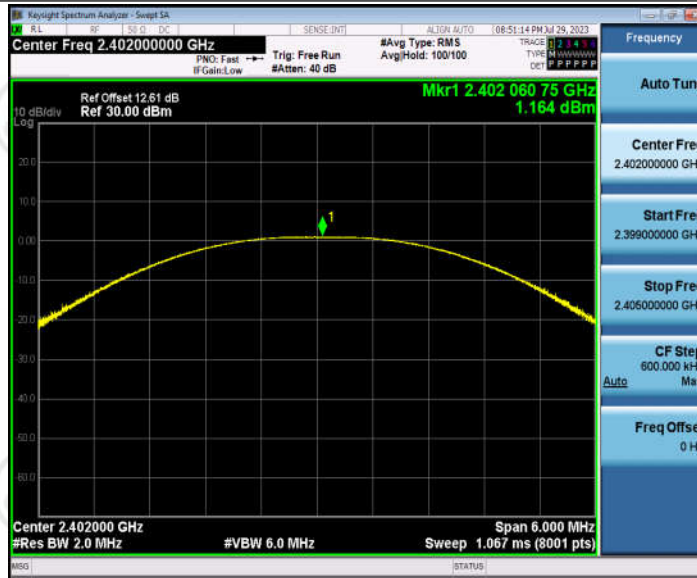


Appendix C: Maximum conducted output power**Test Result**

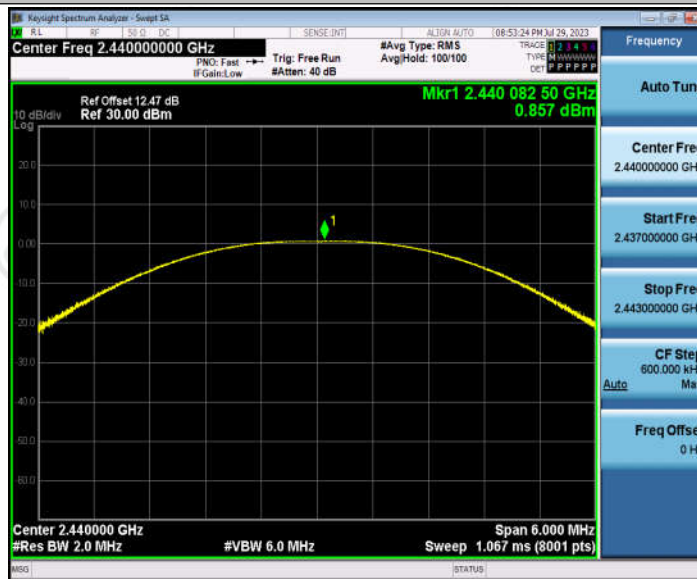
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.16	≤30	PASS
		2440	0.86	≤30	PASS
		2480	0.82	≤30	PASS
BLE_2M	Ant1	2402	1.13	≤30	PASS
		2440	0.86	≤30	PASS
		2480	0.82	≤30	PASS

Test Graphs

BLE_1M_Ant1_2402



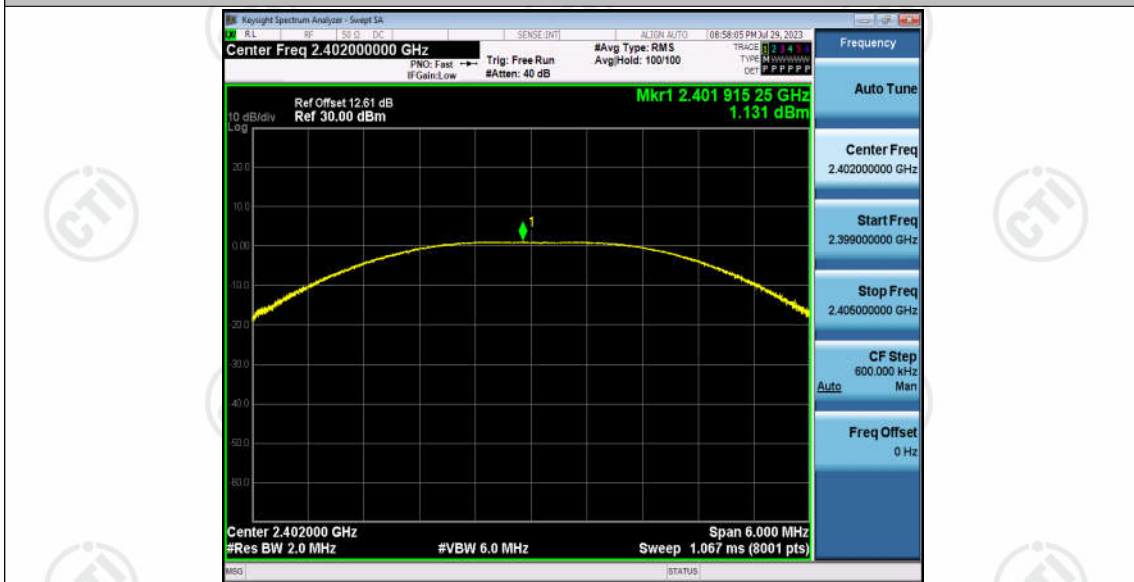
BLE_1M_Ant1_2440



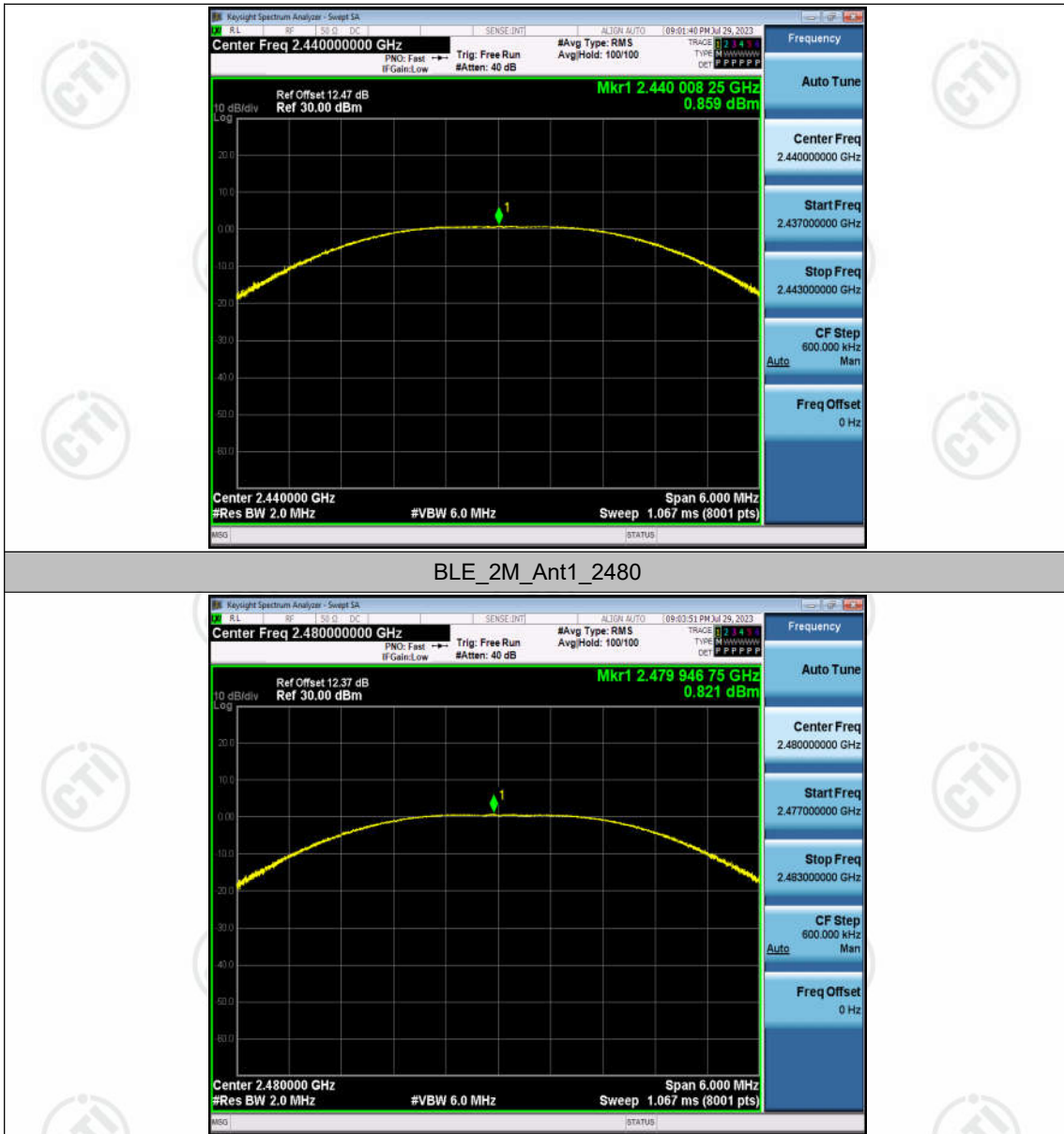
BLE_1M_Ant1_2480



BLE_2M_Ant1_2402



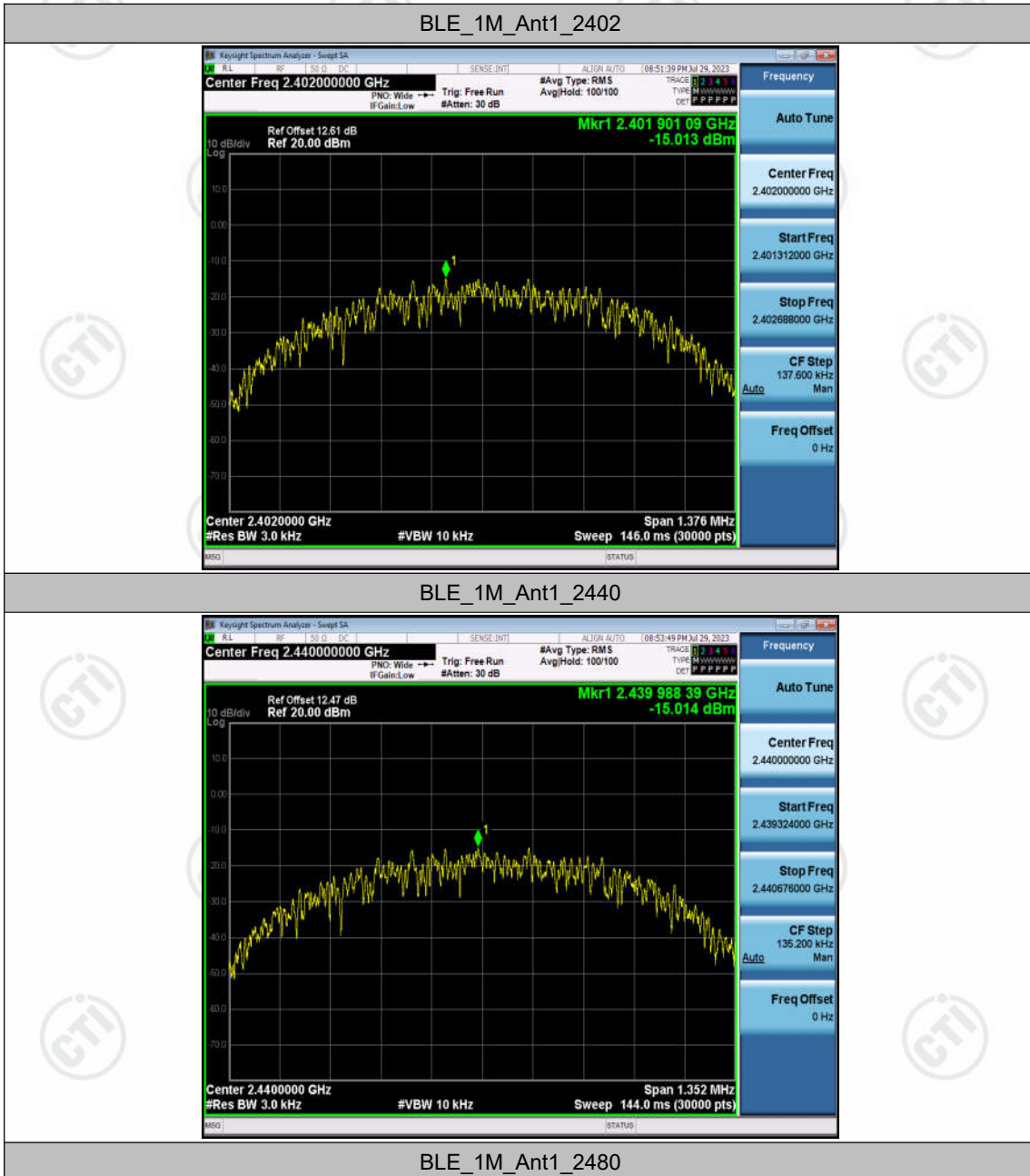
BLE_2M_Ant1_2440



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

Test Mode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.01	≤8.00	PASS
		2440	-15.01	≤8.00	PASS
		2480	-15.19	≤8.00	PASS
BLE_2M	Ant1	2402	-17.12	≤8.00	PASS
		2440	-17.2	≤8.00	PASS
		2480	-17.21	≤8.00	PASS

Test Graphs





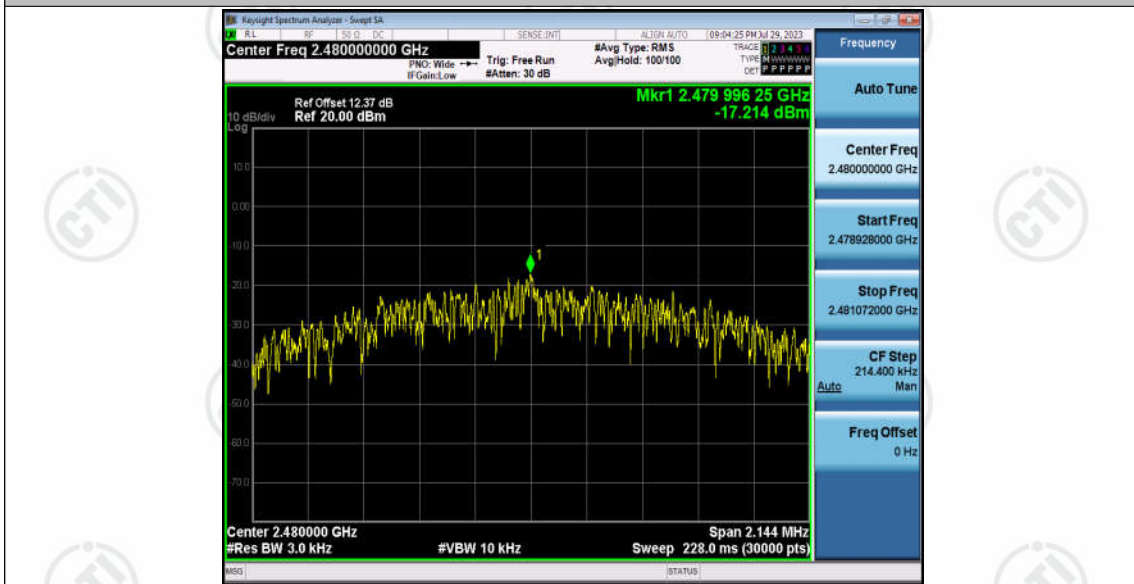
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



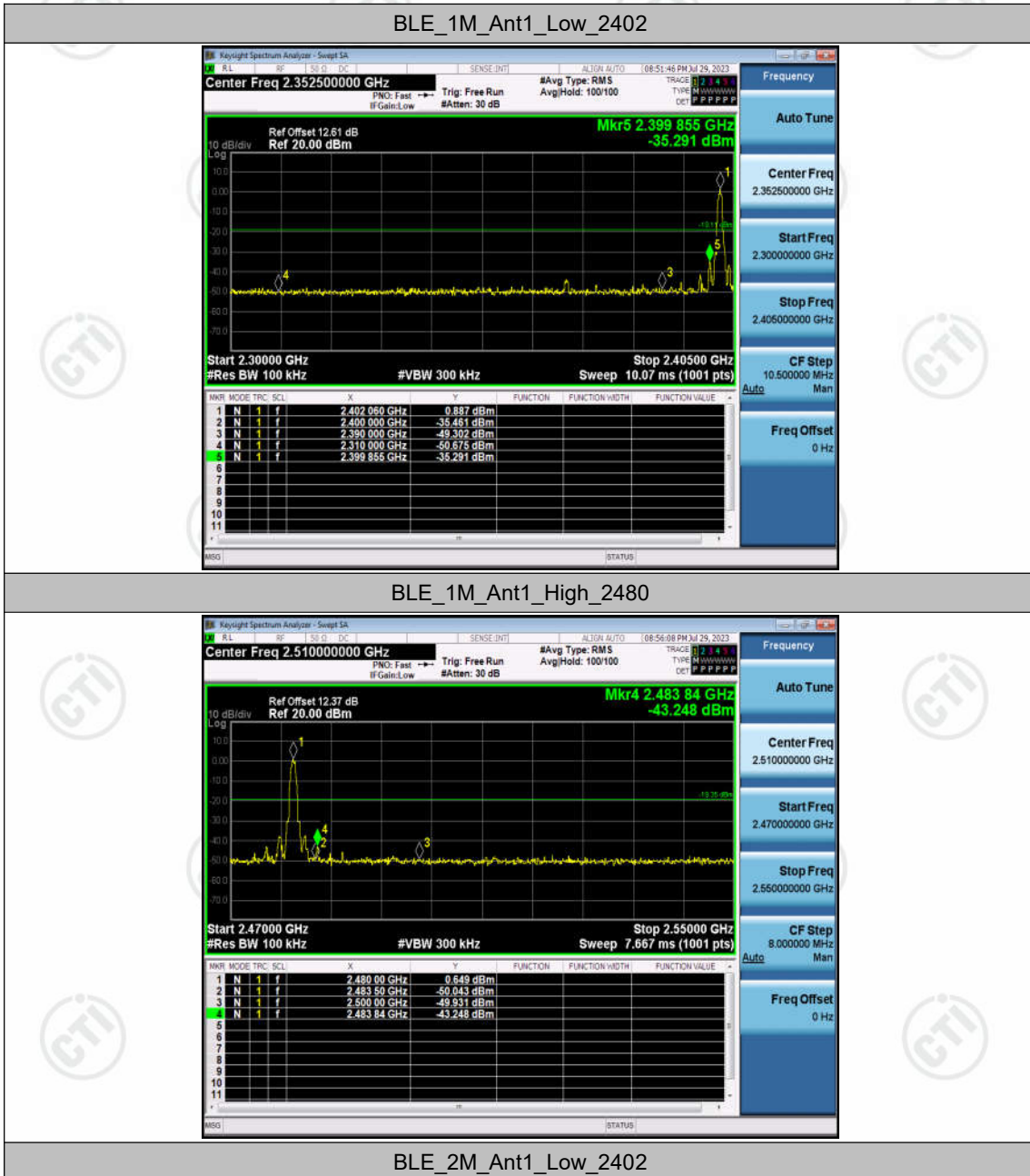
BLE_2M_Ant1_2480

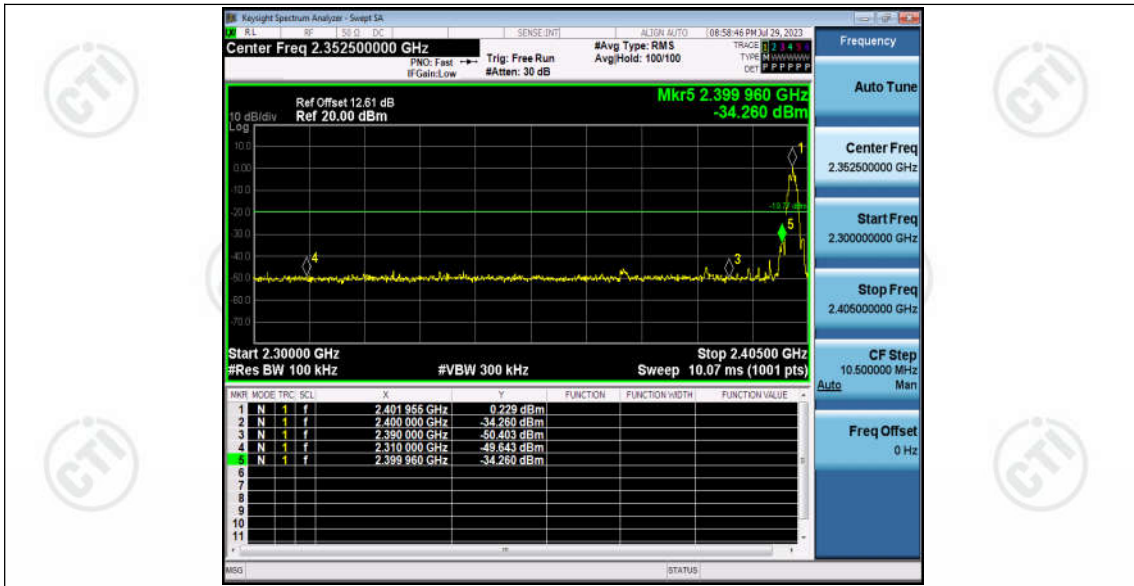


Appendix E: Band edge measurements**Test Result**

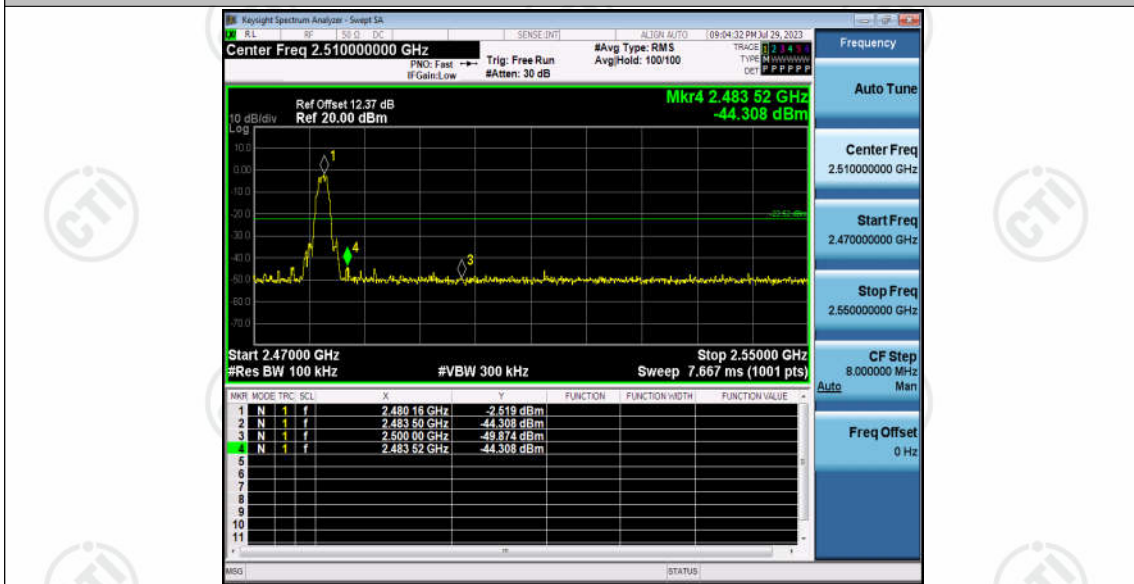
Test Mode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.89	-35.29	≤-19.11	PASS
		High	2480	0.65	-43.25	≤-19.35	PASS
BLE_2M	Ant1	Low	2402	0.23	-34.26	≤-19.77	PASS
		High	2480	-2.52	-44.31	≤-22.52	PASS

Test Graphs





BLE_2M_Ant1_High_2480

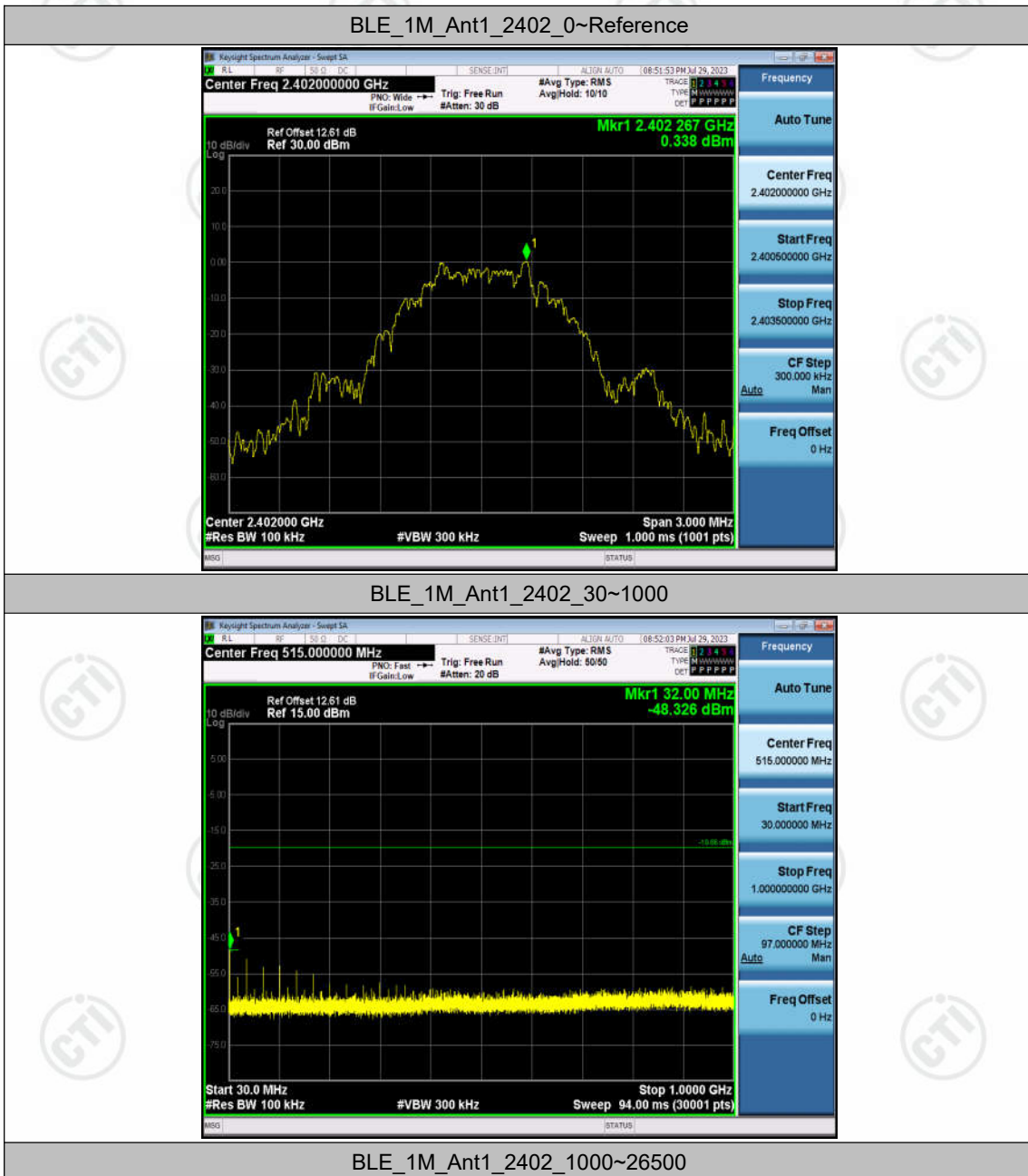


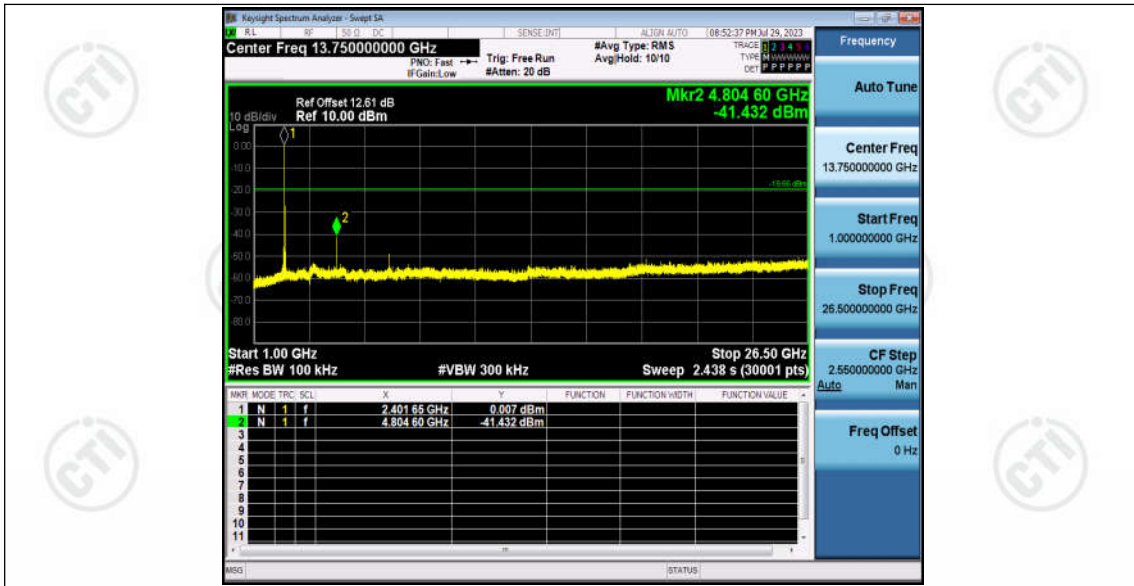
Appendix F: Conducted Spurious Emission

Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.34	0.34	---	PASS
			30~1000	---	-48.33	≤-19.66	PASS
			1000~26500	---	-41.43	≤-19.66	PASS
		2440	Reference	-0.07	-0.07	---	PASS
			30~1000	---	-48.27	≤-20.07	PASS
			1000~26500	---	-40.5	≤-20.07	PASS
		2480	Reference	0.21	0.21	---	PASS
			30~1000	---	-48.44	≤-19.79	PASS
			1000~26500	---	-41.6	≤-19.79	PASS
BLE_2M	Ant1	2402	Reference	-0.28	-0.28	---	PASS
			30~1000	---	-48.44	≤-20.28	PASS
			1000~26500	---	-43.14	≤-20.28	PASS
		2440	Reference	0.17	0.17	---	PASS
			30~1000	---	-48.51	≤-19.83	PASS
			1000~26500	---	-45.81	≤-19.83	PASS
		2480	Reference	-3.92	-3.92	---	PASS
			30~1000	---	-48.71	≤-23.92	PASS
			1000~26500	---	-45.81	≤-23.92	PASS

Test Graphs





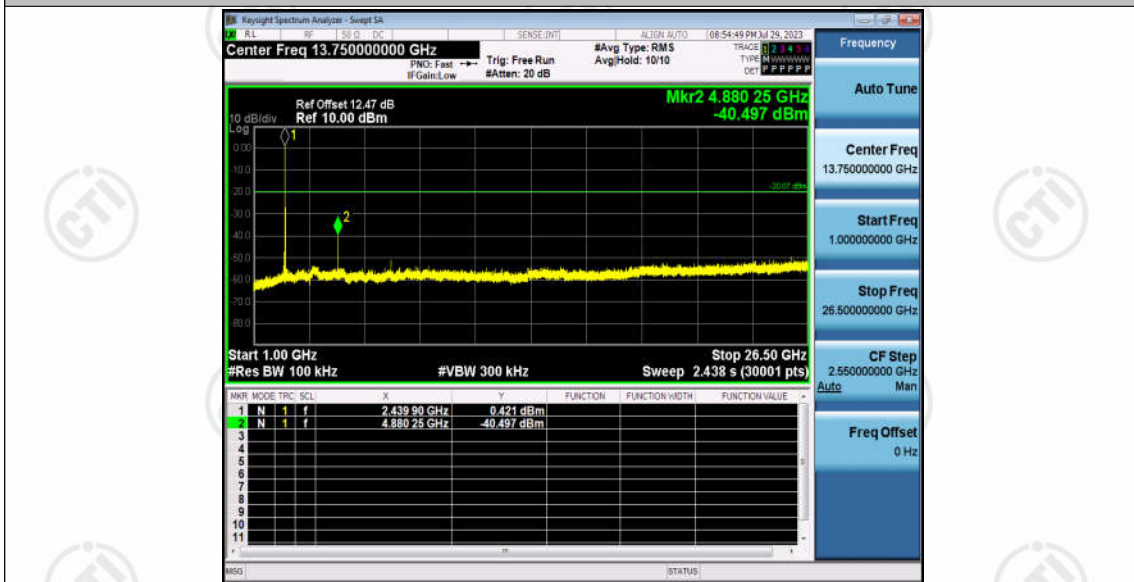
BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000



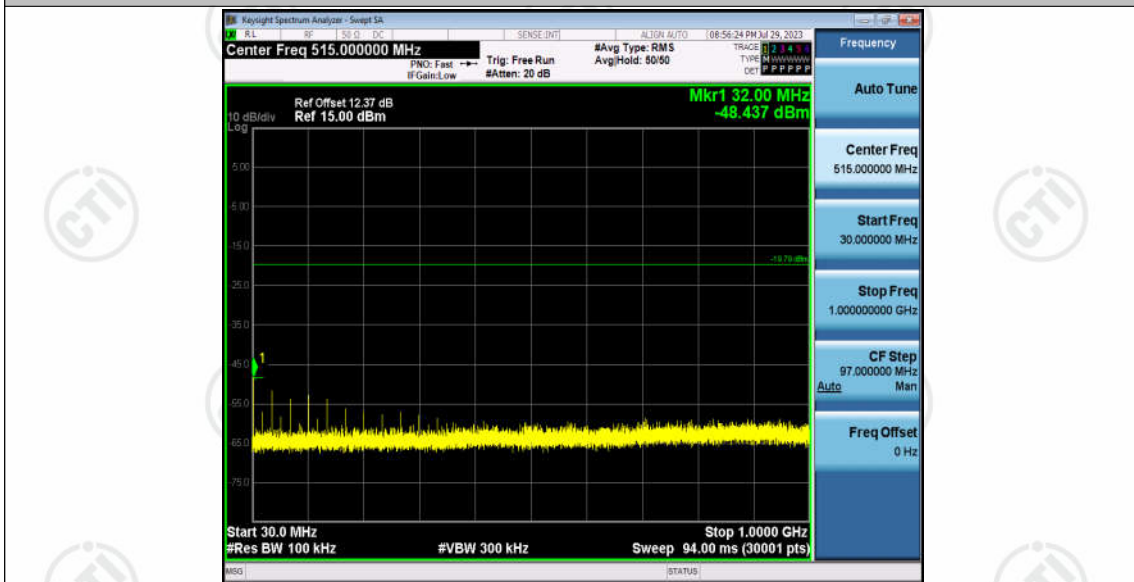
BLE_1M_Ant1_2440_1000~26500



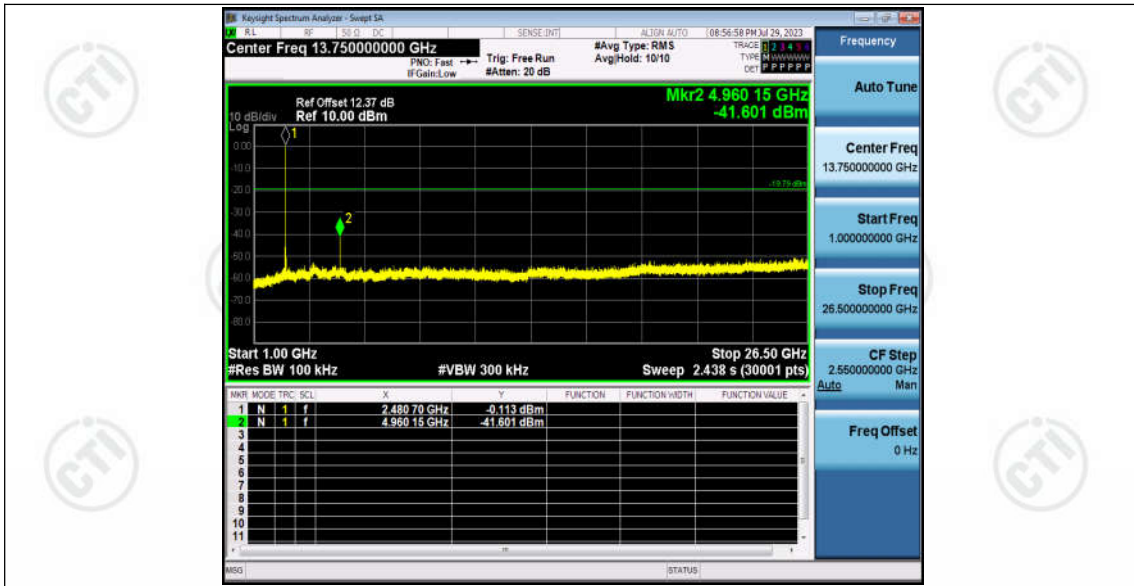
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500



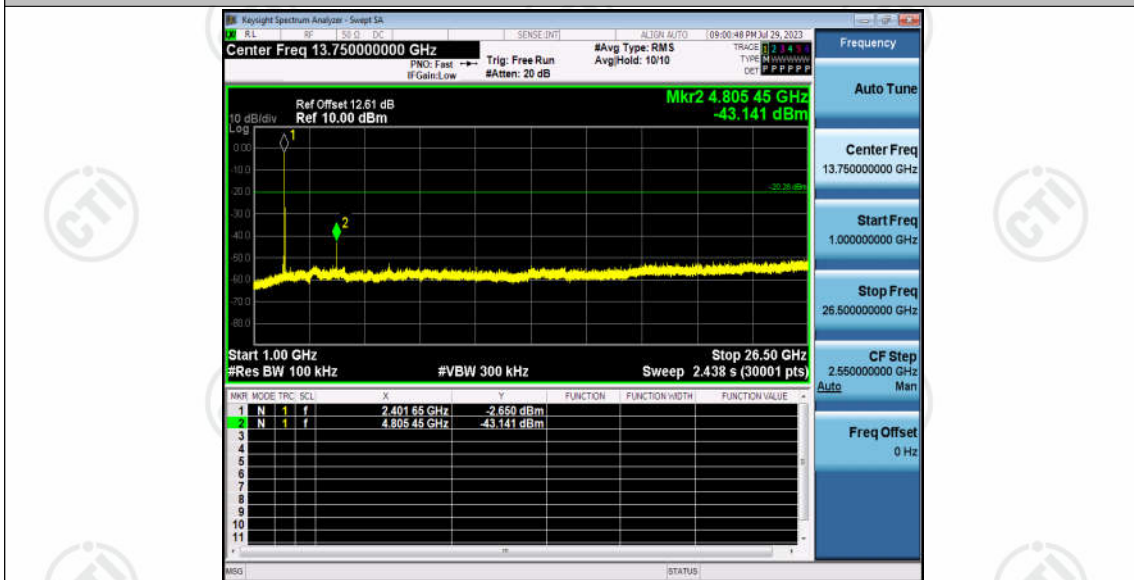
BLE_2M_Ant1_2402_0~Reference



BLE_2M_Ant1_2402_30~1000



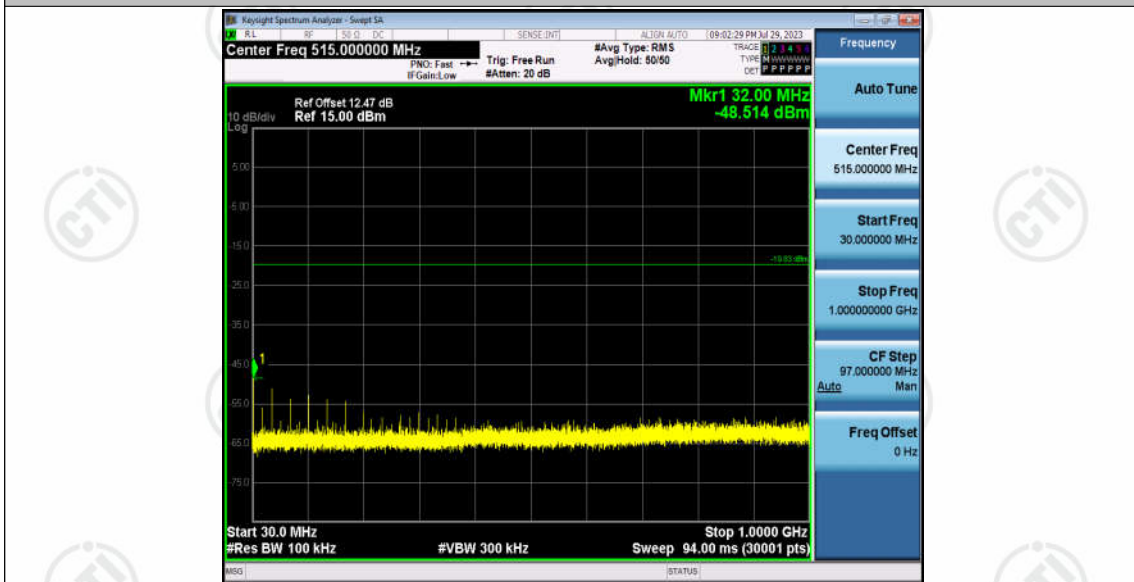
BLE_2M_Ant1_2402_1000~26500



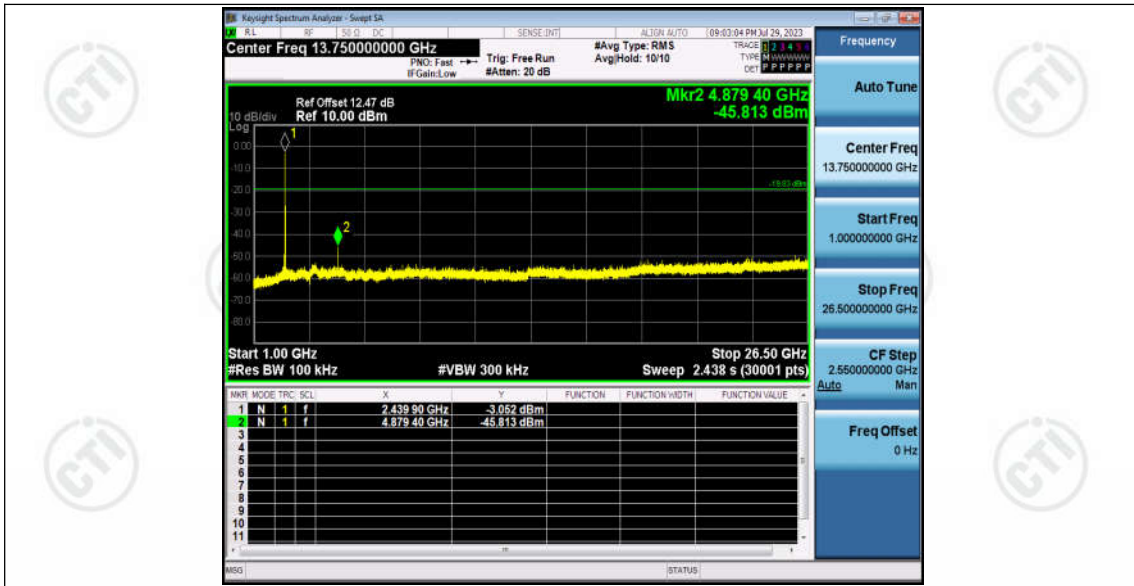
BLE_2M_Ant1_2440_0~Reference



BLE_2M_Ant1_2440_30~1000



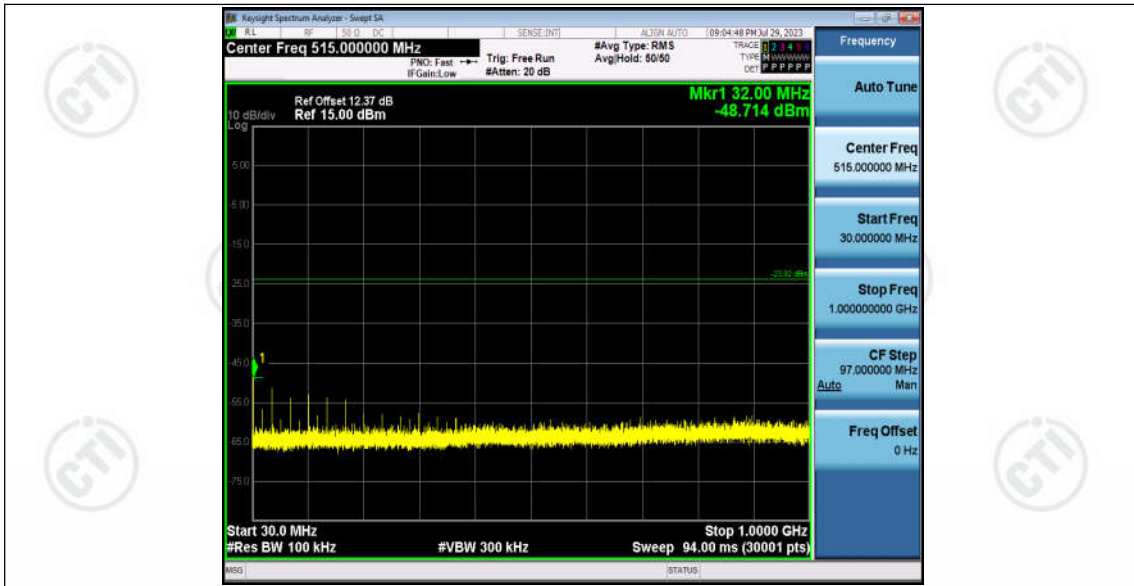
BLE_2M_Ant1_2440_1000~26500



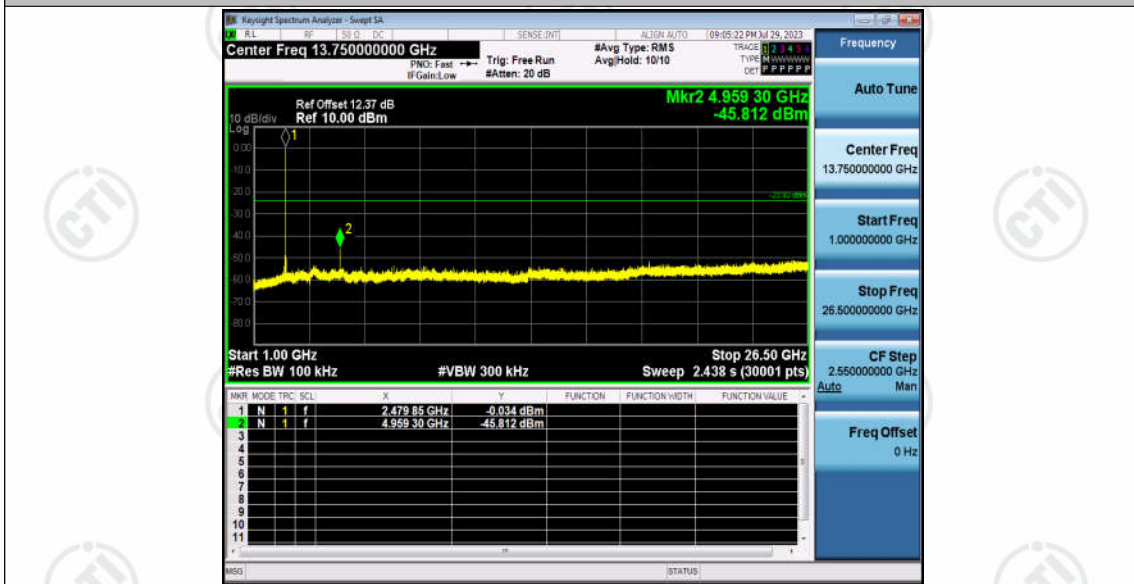
BLE_2M_Ant1_2480_0~Reference



BLE_2M_Ant1_2480_30~1000



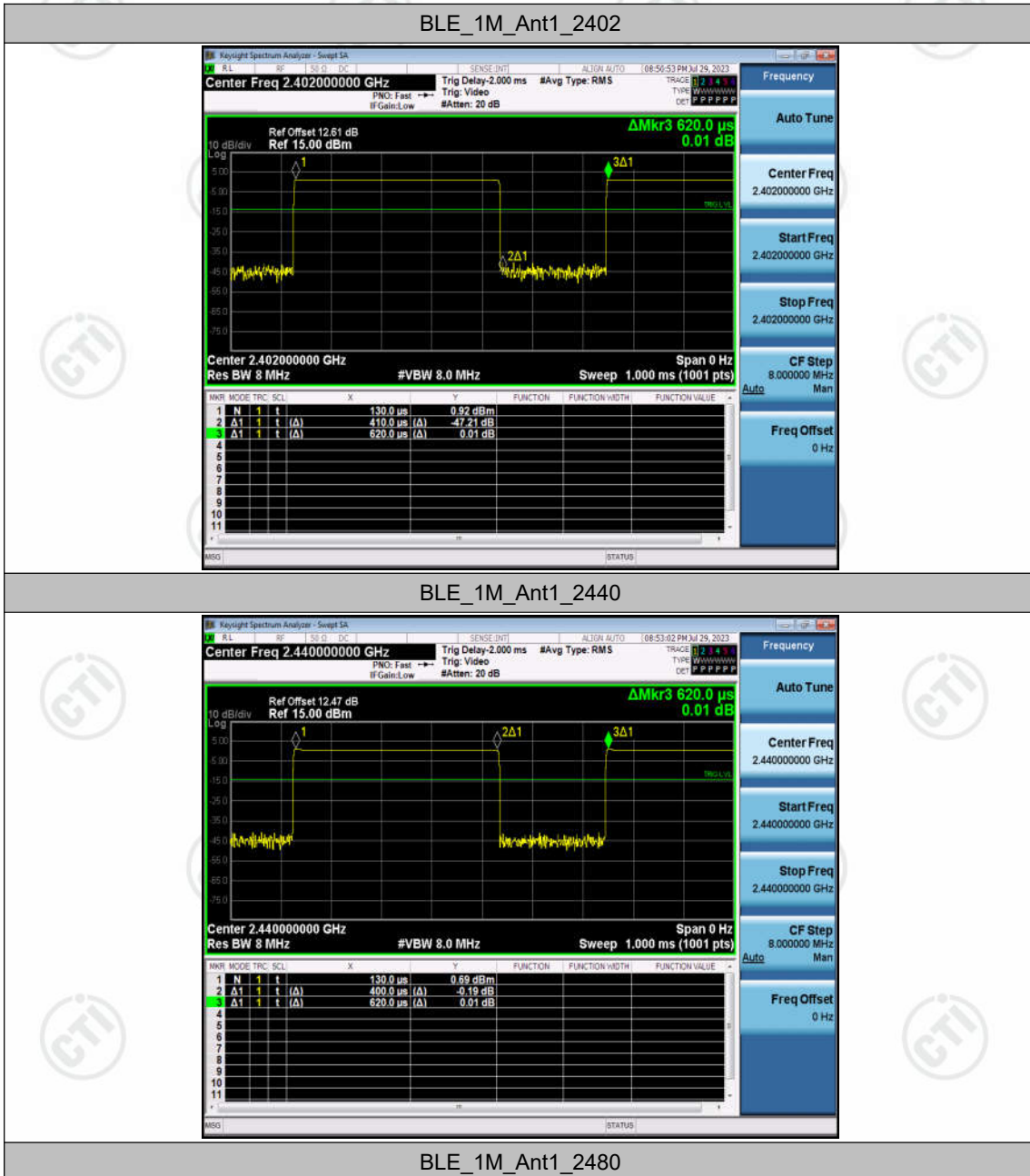
BLE_2M_Ant1_2480_1000~26500

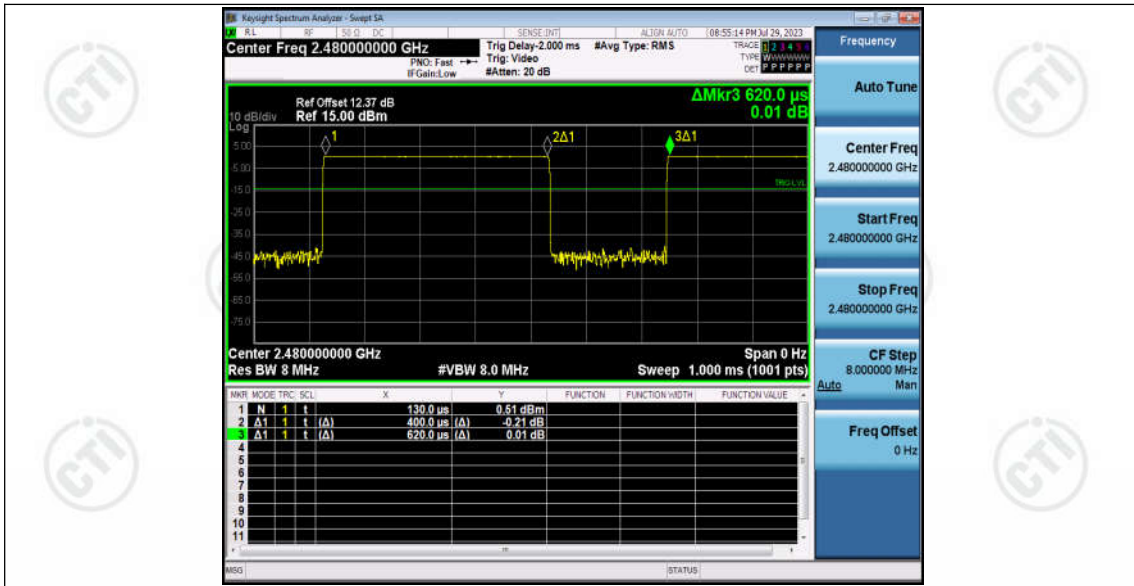


Appendix G: Duty Cycle**Test Result**

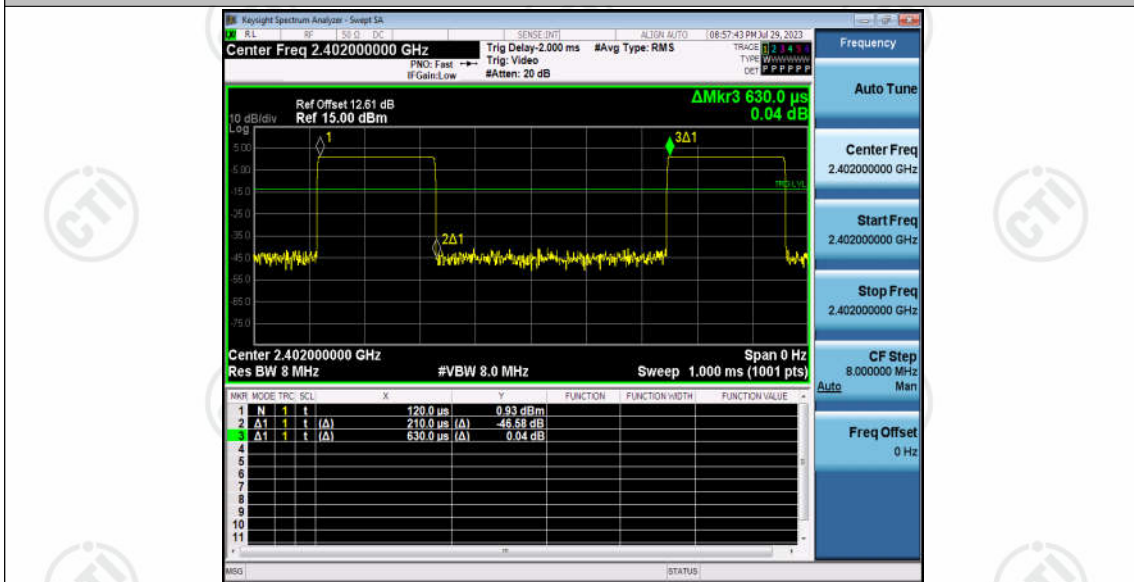
Test Mode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.41	0.62	66.13	1.80
		2440	0.40	0.62	64.52	1.90
		2480	0.40	0.62	64.52	1.90
BLE_2M	Ant1	2402	0.21	0.63	33.33	4.77
		2440	0.21	0.62	33.87	4.70
		2480	0.21	0.62	33.87	4.70

Test Graphs

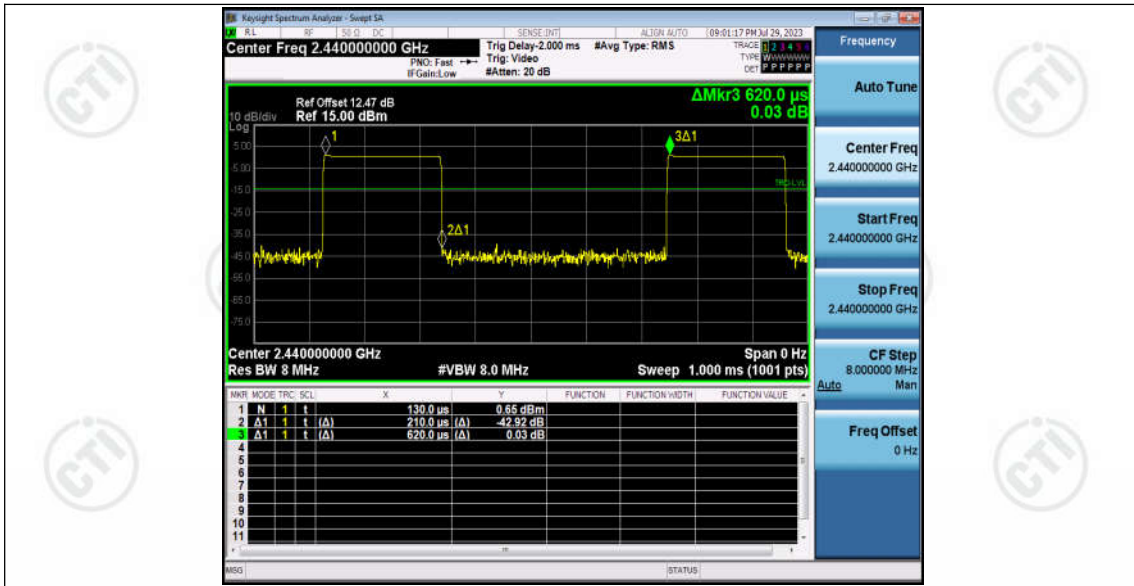




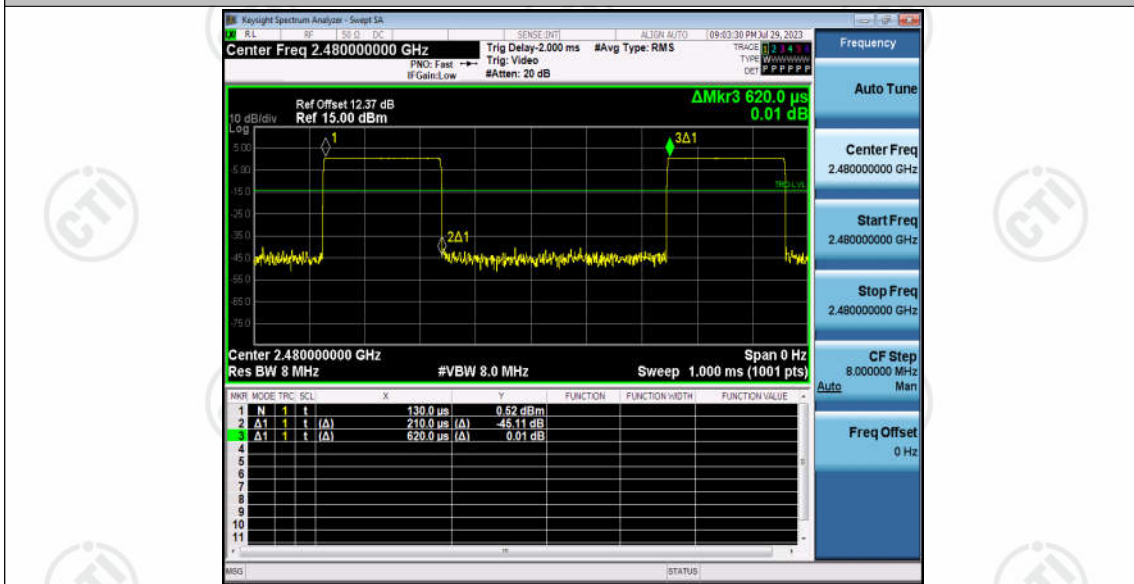
BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



BLE_2M_Ant1_2480



*** End of Report ***