

Appendix: Bluetooth LE

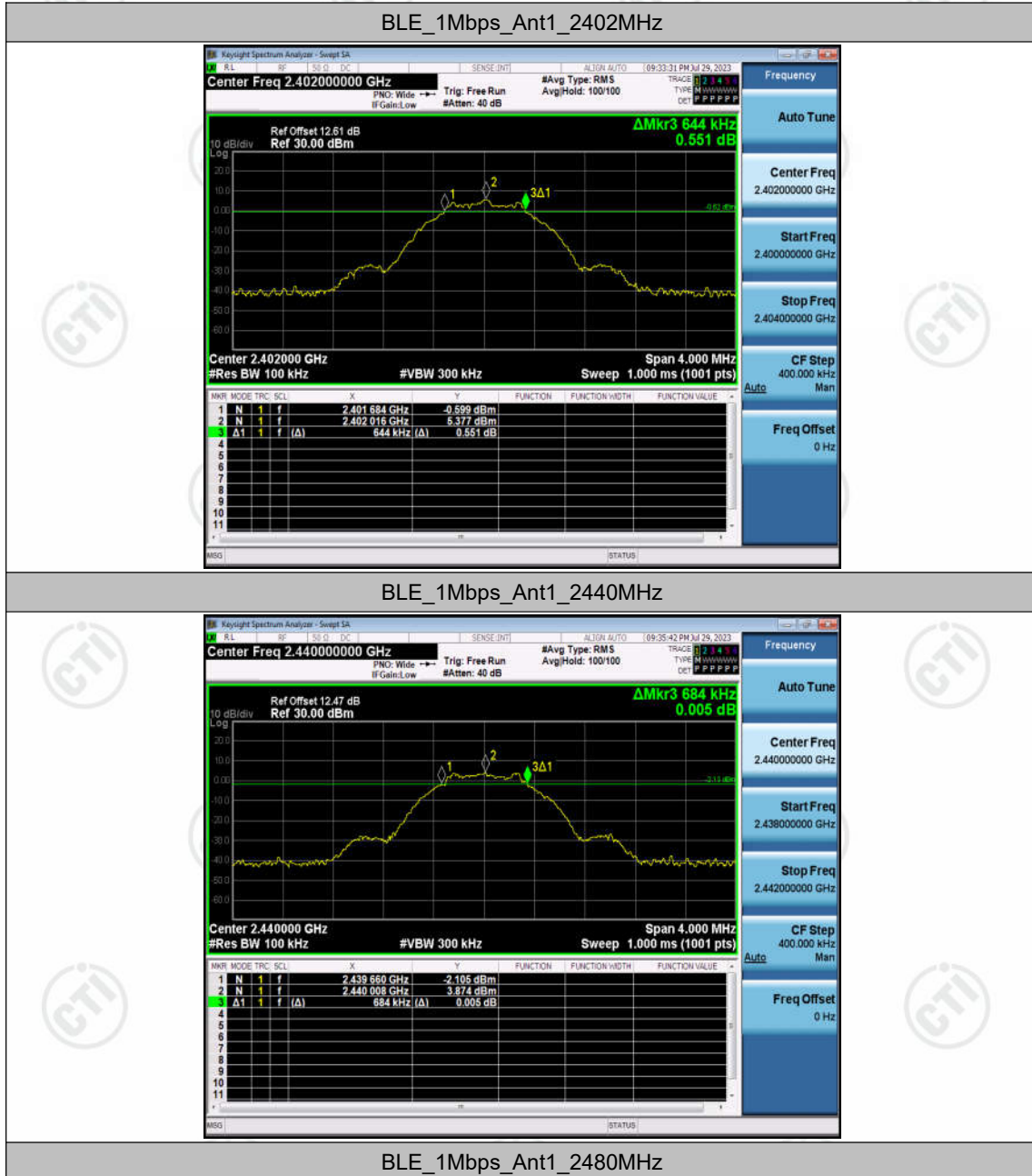
Contents

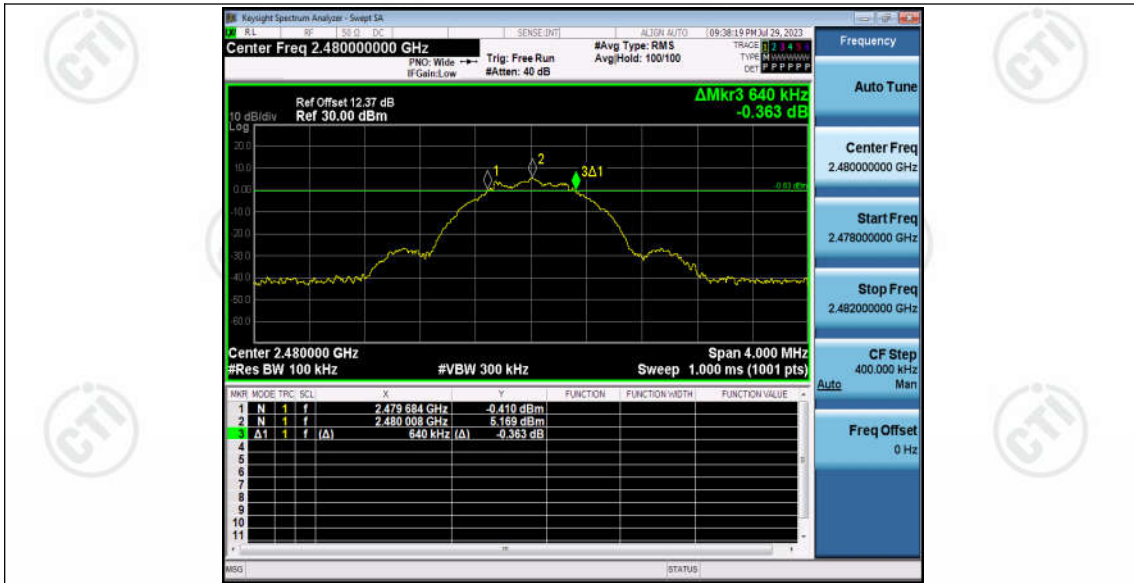
Appendix A: DTS Bandwidth	3
Test Result	3
Test Graphs	4
Appendix B: Occupied Channel Bandwidth	7
Test Result	7
Test Graphs	8
Appendix C: Maximum conducted output power	11
Test Result	11
Test Graphs	12
Appendix D: Maximum power spectral density	15
Test Result	15
Test Graphs	16
Appendix E: Band edge measurements	19
Test Result	19
Test Graphs	20
Appendix F: Conducted Spurious Emission	22
Test Result	22
Test Graphs	23

Appendix A: DTS Bandwidth**Test Result**

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1Mbps	Ant1	2402	0.644	2401.684	2402.328	0.5	PASS
		2440	0.684	2439.660	2440.344	0.5	PASS
		2480	0.640	2479.684	2480.324	0.5	PASS
BLE_2Mbps	Ant1	2402	1.128	2401.452	2402.580	0.5	PASS
		2440	0.940	2439.452	2440.392	0.5	PASS
		2480	1.156	2479.448	2480.604	0.5	PASS

Test Graphs

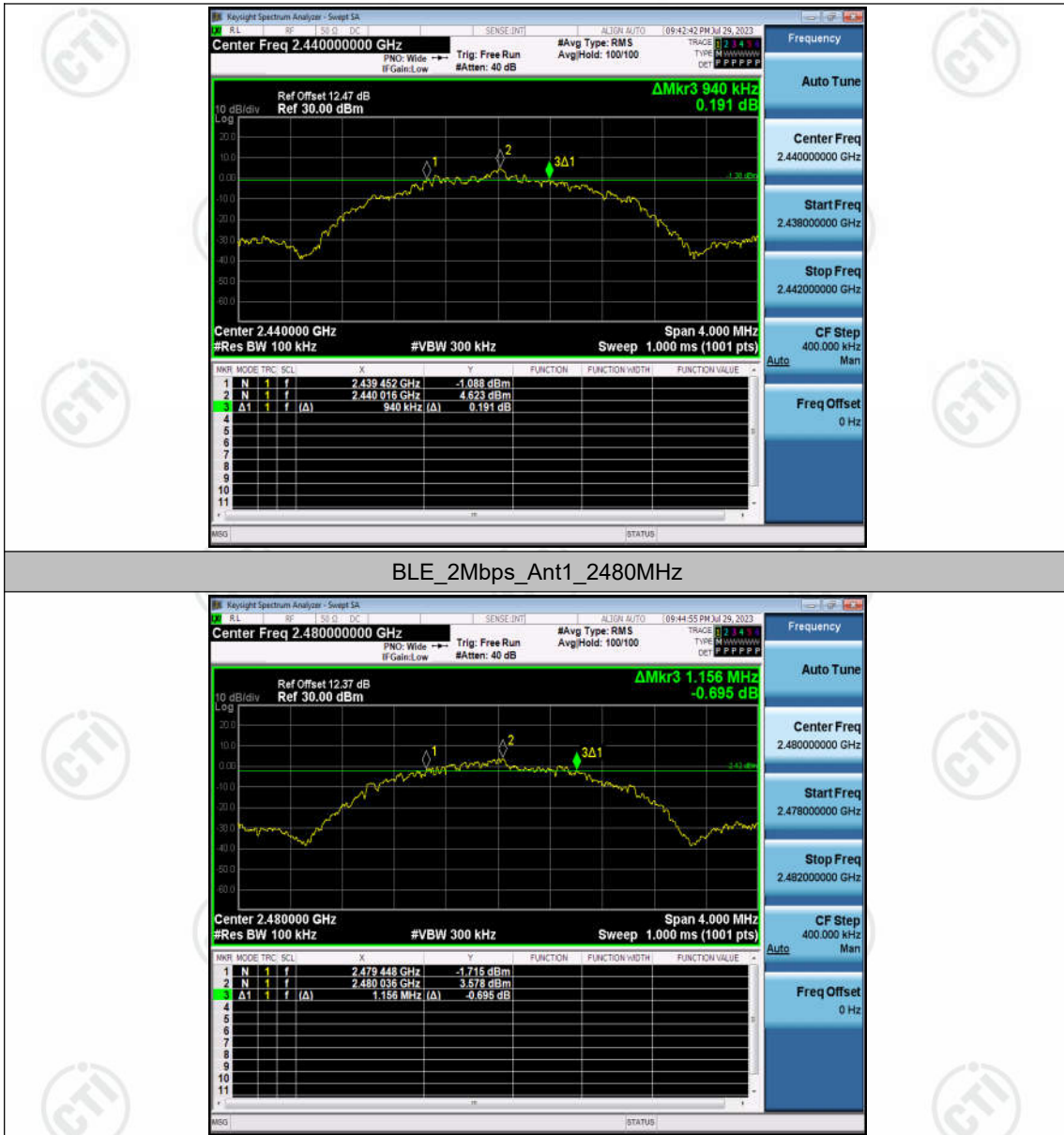




BLE_2Mbps_Ant1_2402MHz



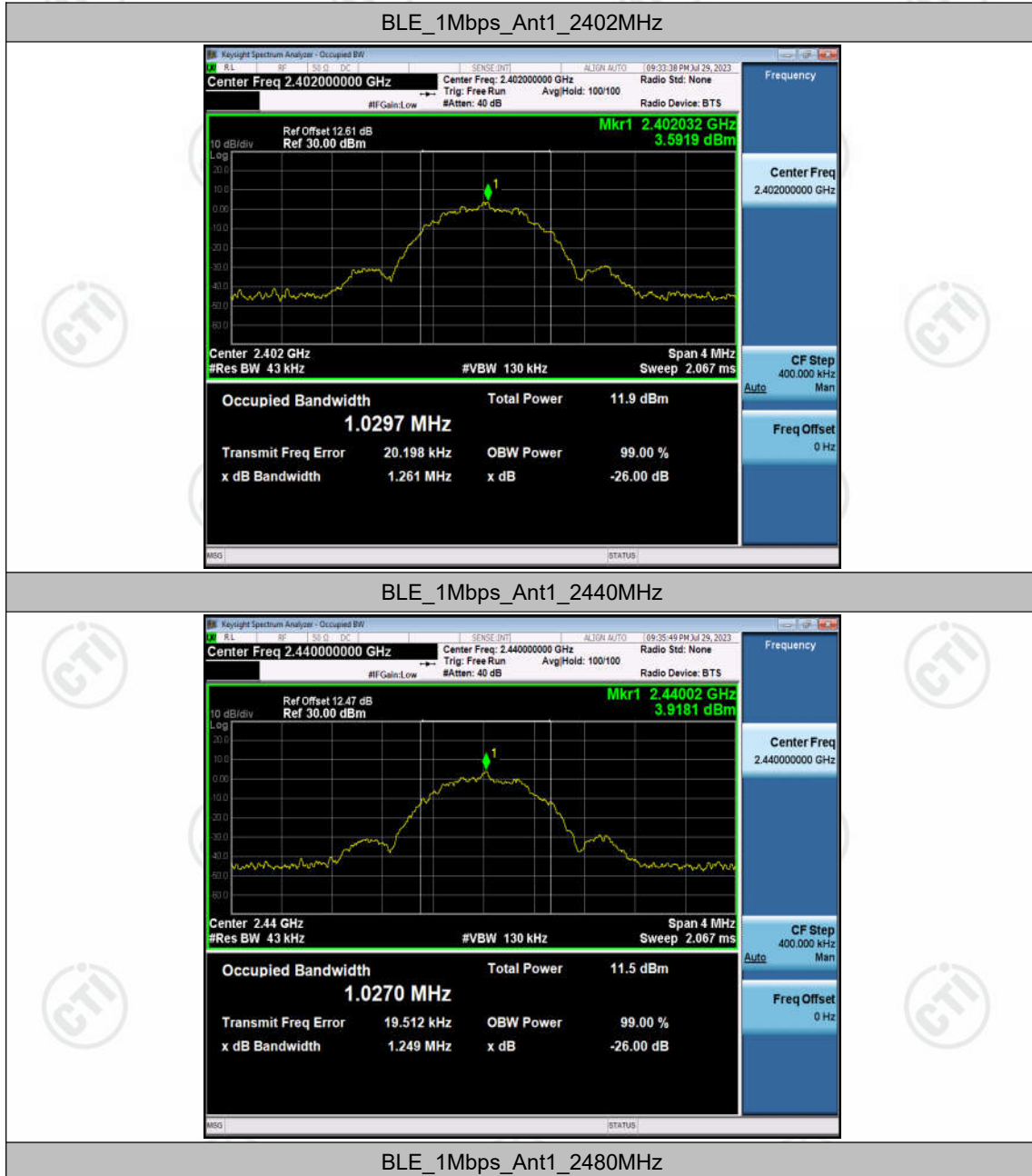
BLE_2Mbps_Ant1_2440MHz

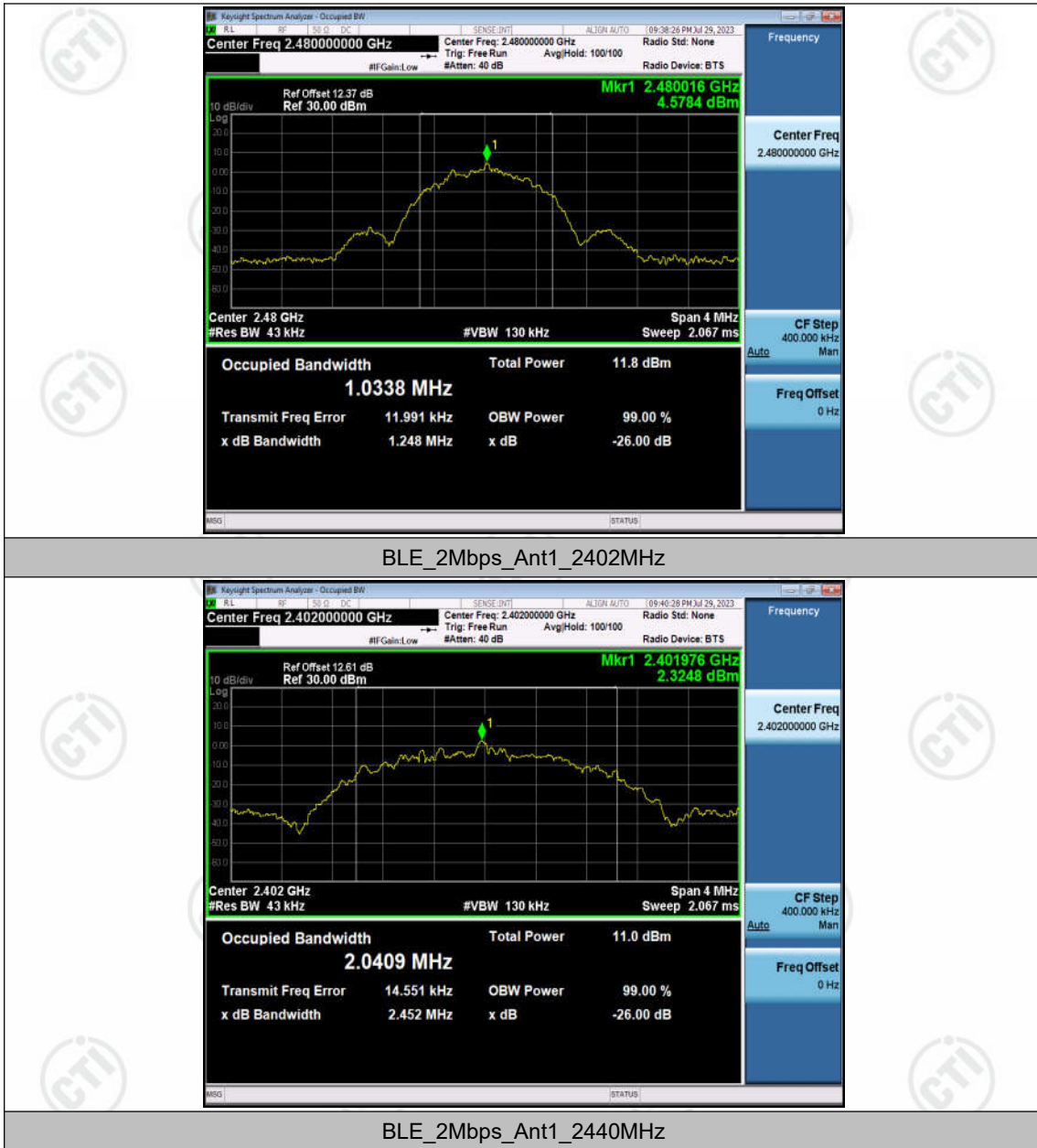


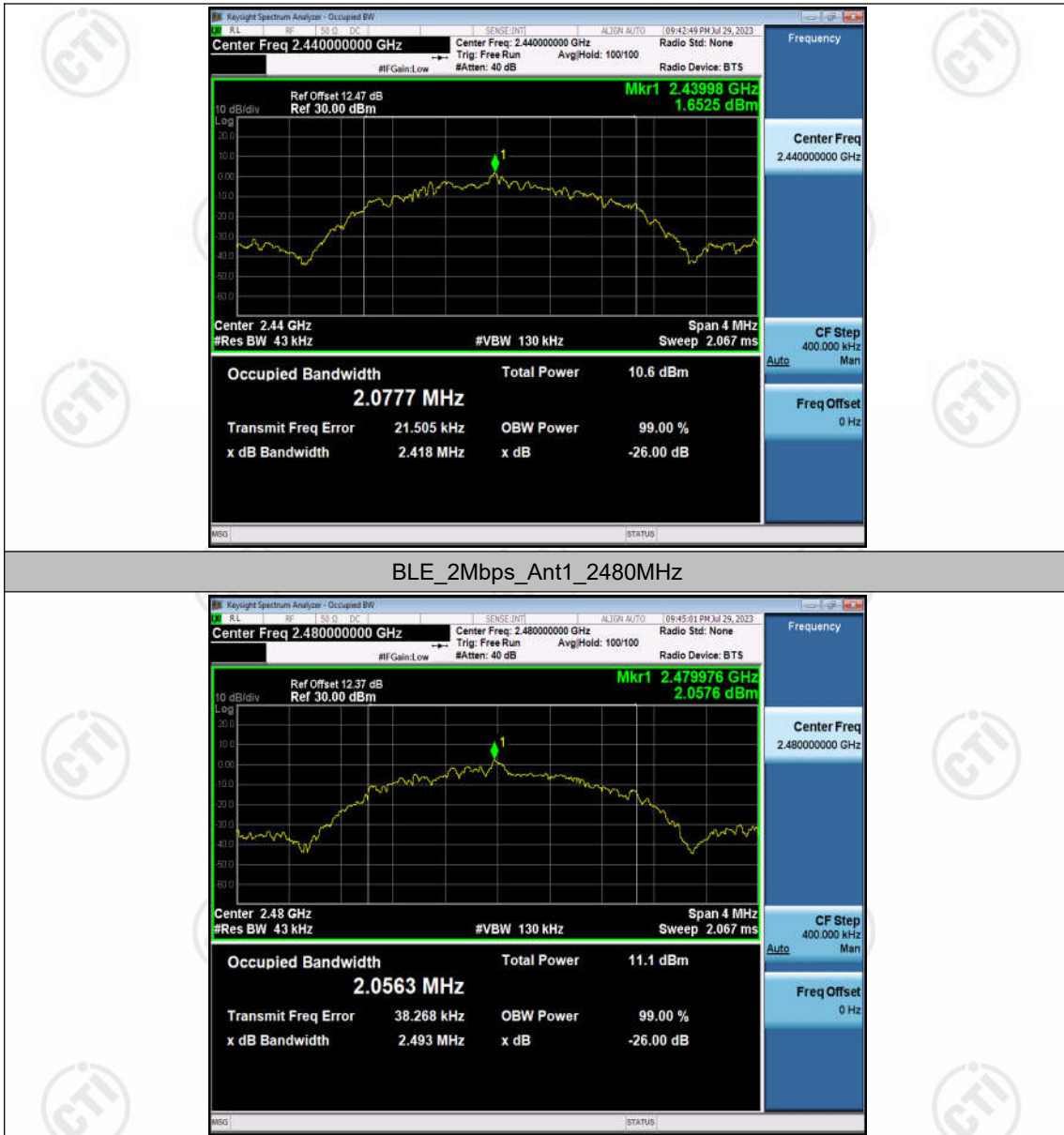
Appendix B: Occupied Channel Bandwidth**Test Result**

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1Mbps	Ant1	2402	1.0297	2401.5054	2402.5351	---	---
		2440	1.0270	2439.5060	2440.5330	---	---
		2480	1.0338	2479.4951	2480.5289	---	---
BLE_2Mbps	Ant1	2402	2.0409	2400.9941	2403.0350	---	---
		2440	2.0777	2438.9827	2441.0604	---	---
		2480	2.0563	2479.0101	2481.0664	---	---

Test Graphs





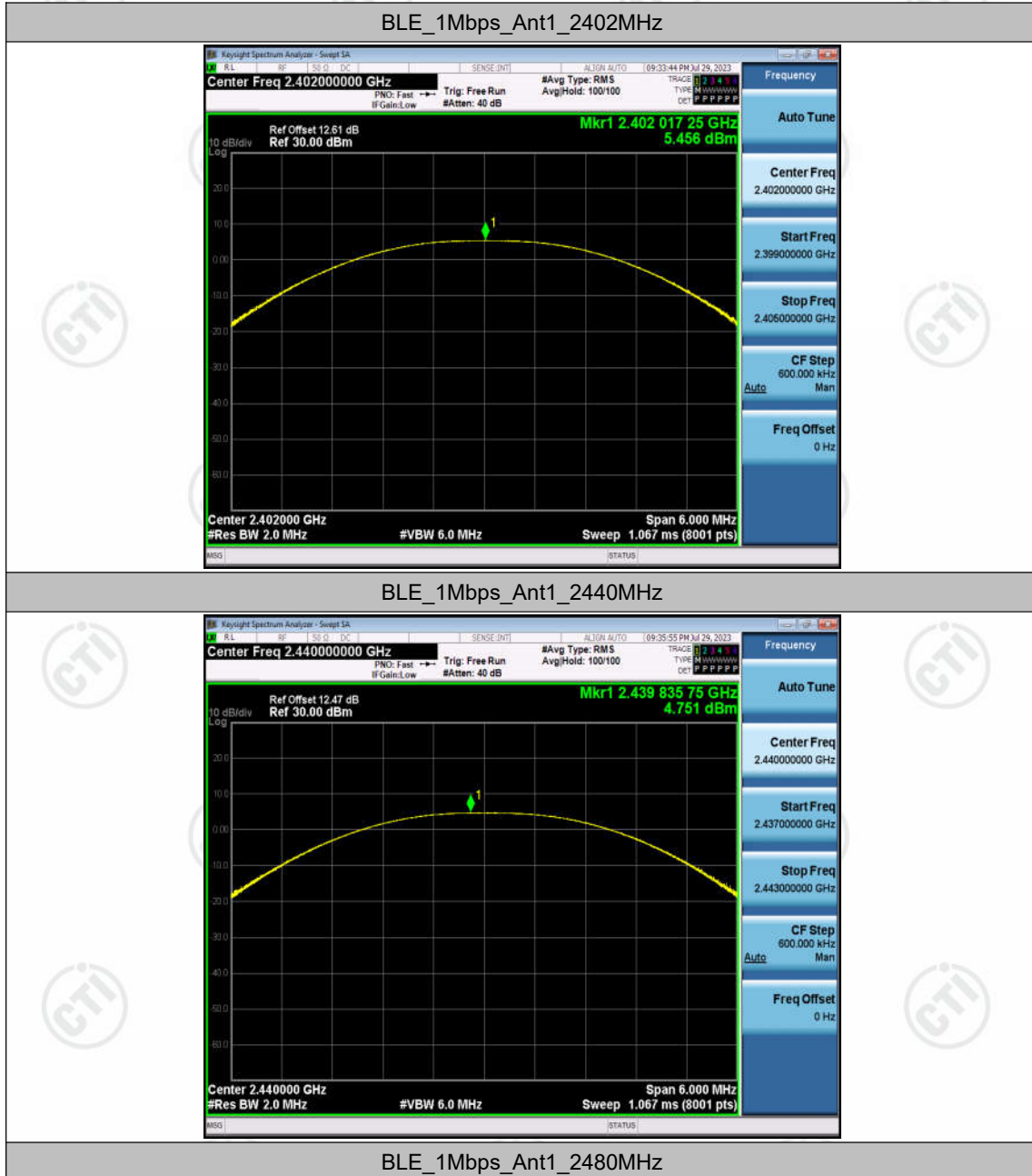


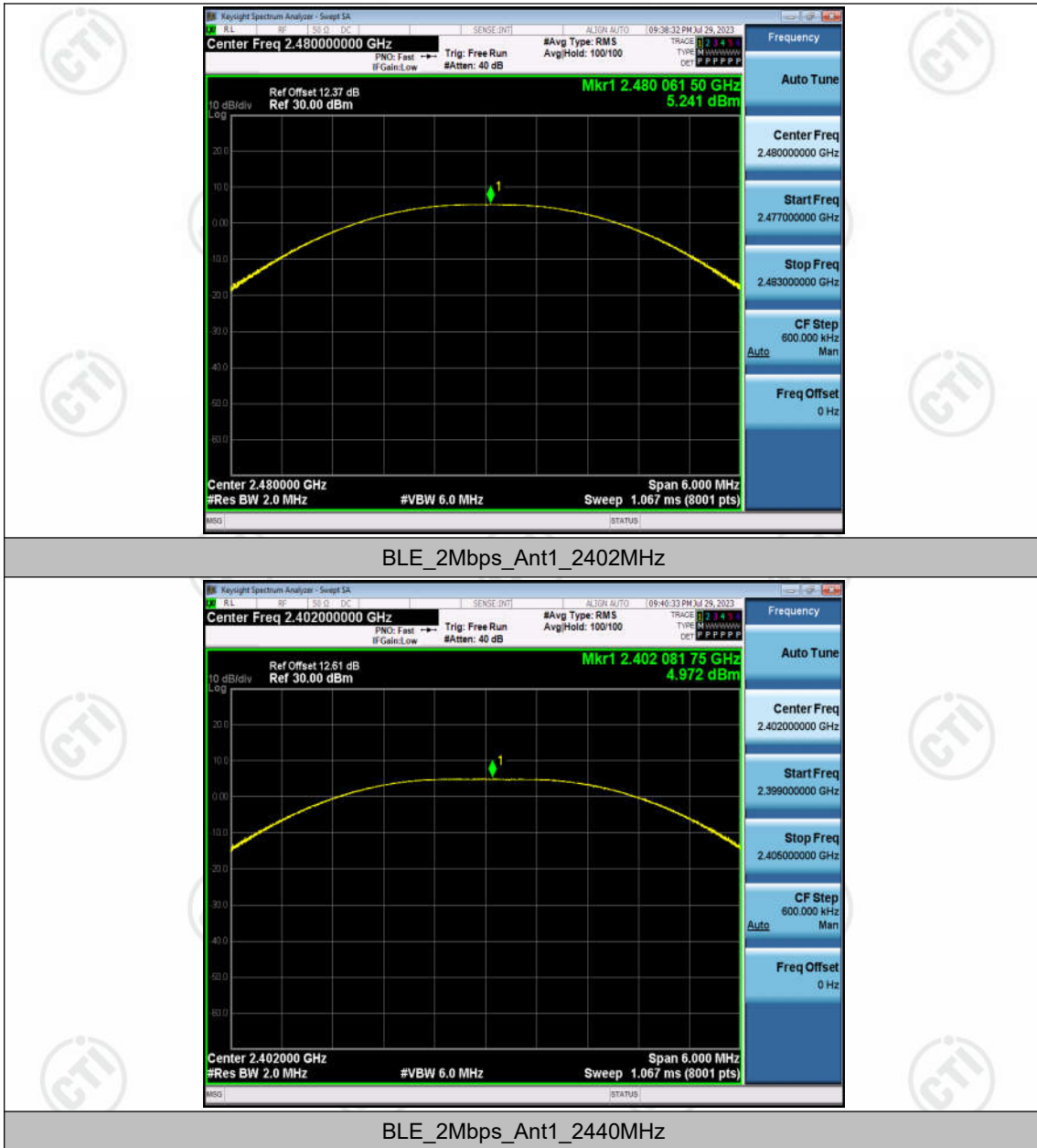
Appendix C: Maximum conducted output power

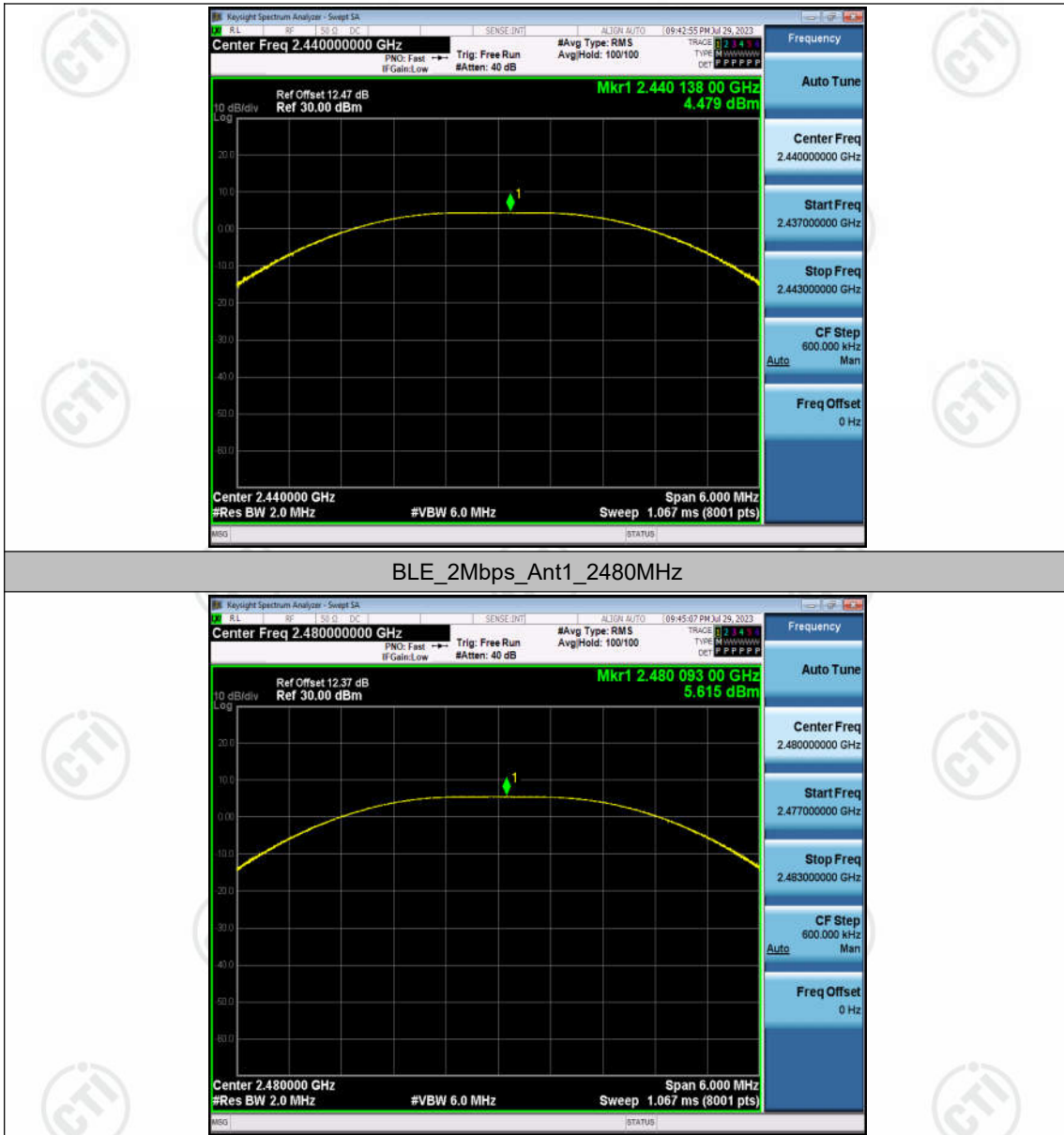
Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
BLE_1Mbps	Ant1	2402	5.46	≤30	PASS
		2440	4.75	≤30	PASS
		2480	5.24	≤30	PASS
BLE_2Mbps	Ant1	2402	4.97	≤30	PASS
		2440	4.48	≤30	PASS
		2480	5.62	≤30	PASS

Test Graphs



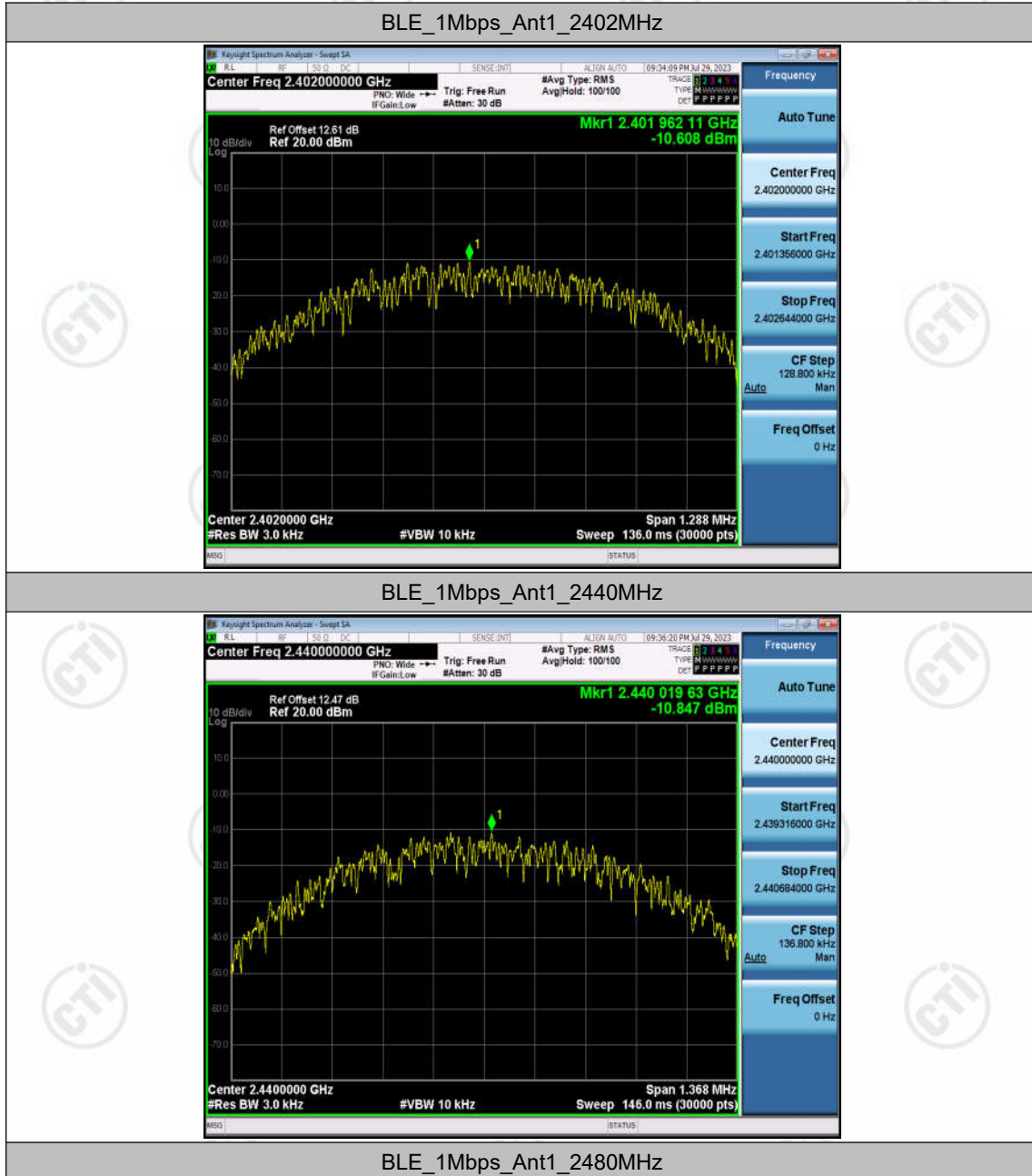


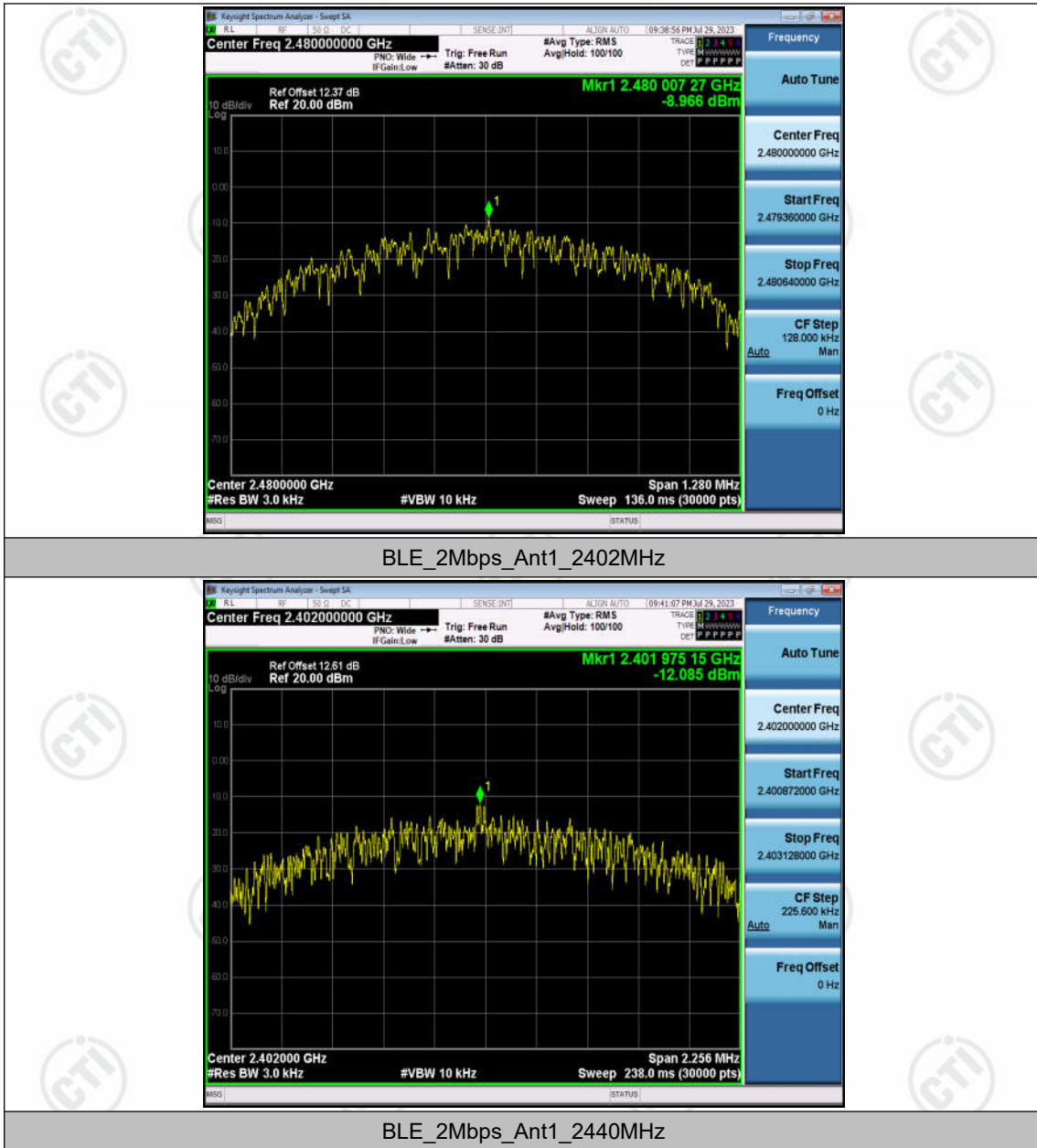


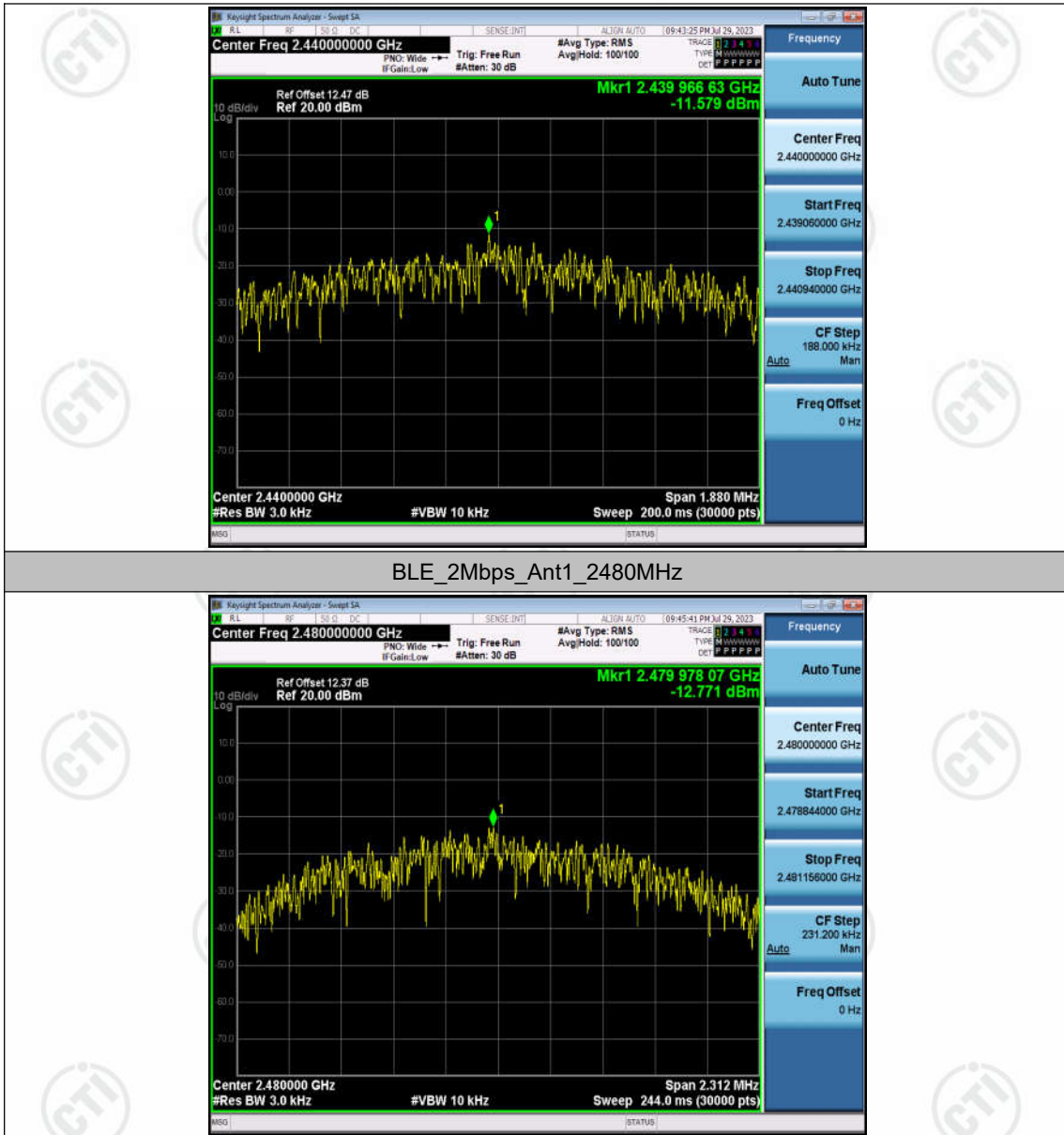
Appendix D: Maximum power spectral density**Test Result**

Test Mode	Antenna	Frequency [MHz]	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
BLE_1Mbps	Ant1	2402	-10.61	≤8.00	PASS
		2440	-10.85	≤8.00	PASS
		2480	-8.97	≤8.00	PASS
BLE_2Mbps	Ant1	2402	-12.09	≤8.00	PASS
		2440	-11.58	≤8.00	PASS
		2480	-12.77	≤8.00	PASS

Test Graphs



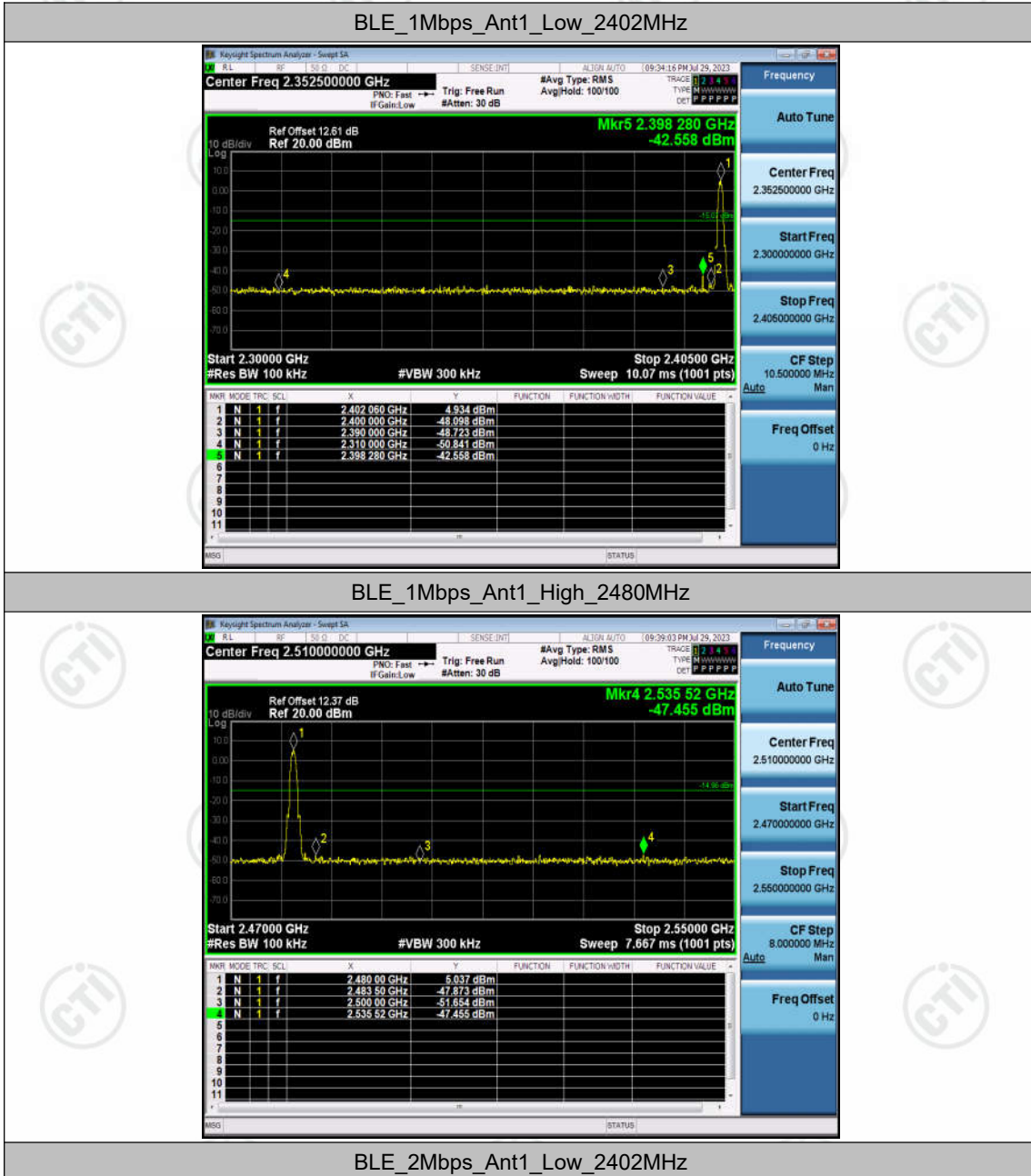


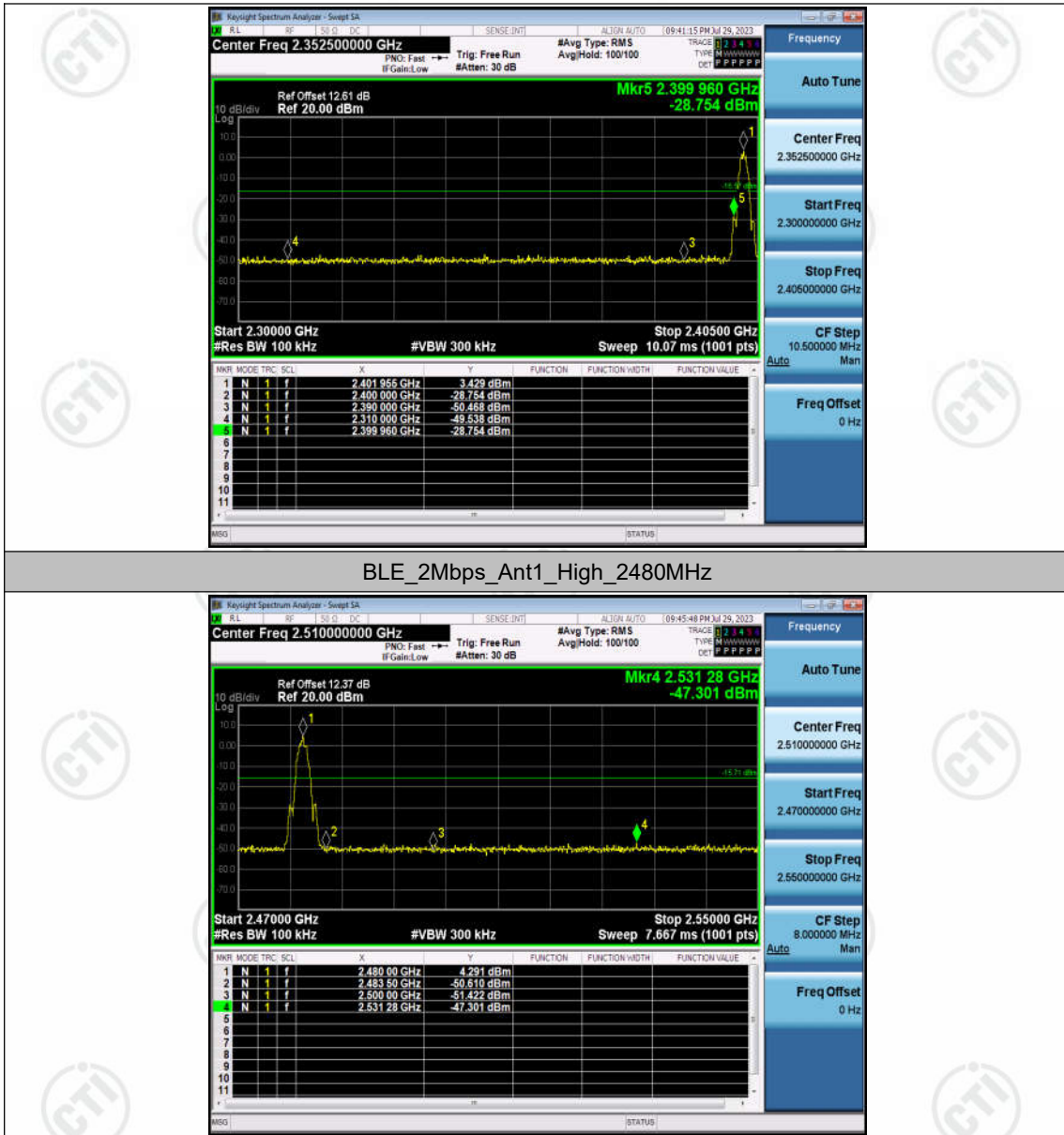


Appendix E: Band edge measurements**Test Result**

Test Mode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1Mbps	Ant1	Low	2402	4.93	-42.56	≤-15.07	PASS
		High	2480	5.04	-47.46	≤-14.96	PASS
BLE_2Mbps	Ant1	Low	2402	3.43	-28.75	≤-16.57	PASS
		High	2480	4.29	-47.3	≤-15.71	PASS

Test Graphs



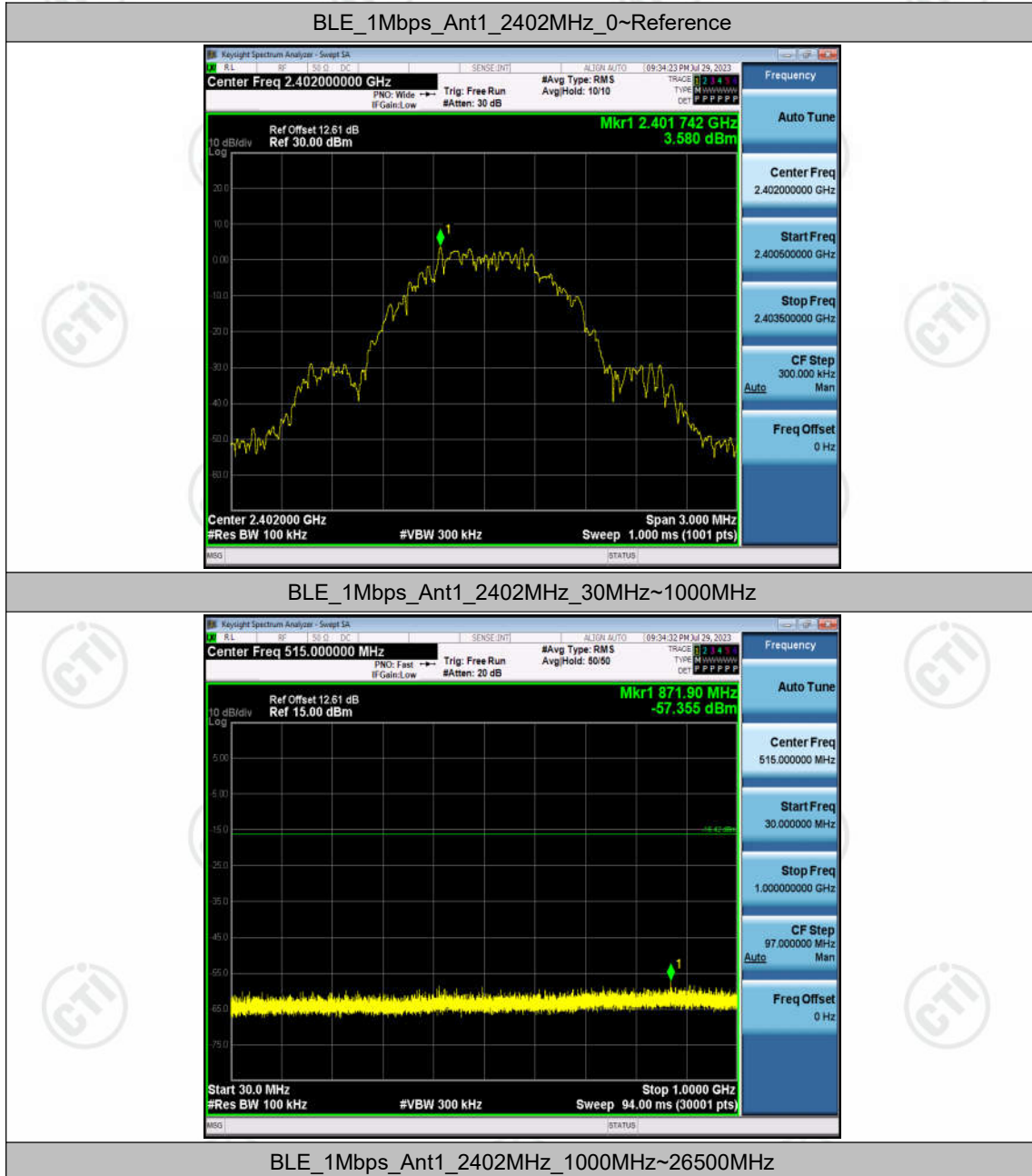


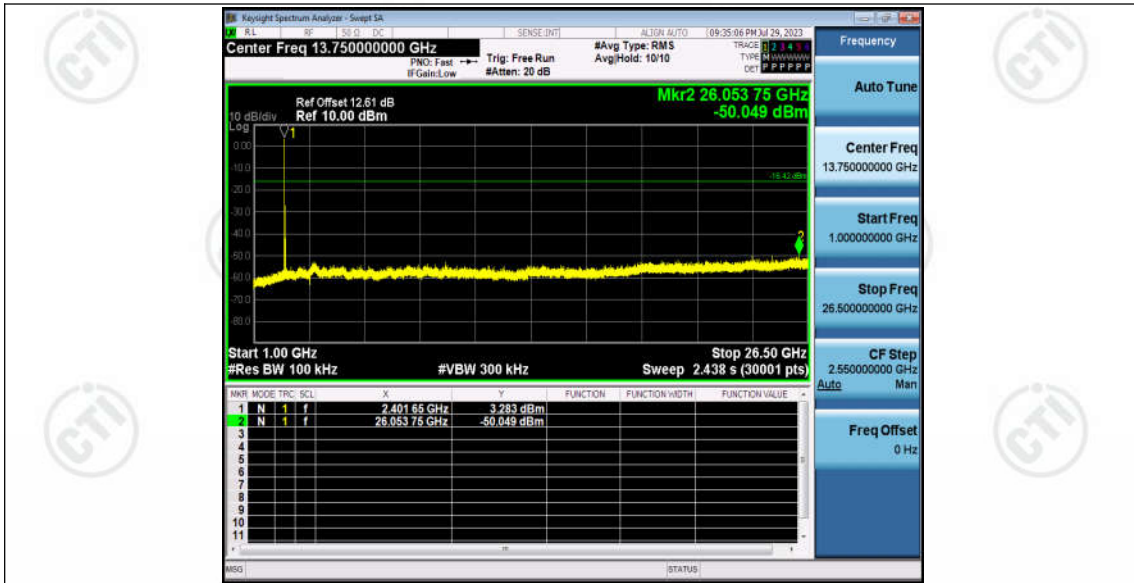
Appendix F: Conducted Spurious Emission

Test Result

Test Mode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1Mbps	Ant1	2402	Reference	3.58	3.58	---	PASS
			30~1000	3.58	-57.36	≤-16.42	PASS
			1000~26500	3.58	-50.05	≤-16.42	PASS
		2440	Reference	3.84	3.84	---	PASS
			30~1000	3.84	-58.07	≤-16.16	PASS
			1000~26500	3.84	-50.74	≤-16.16	PASS
		2480	Reference	3.59	3.59	---	PASS
			30~1000	3.59	-58.19	≤-16.41	PASS
			1000~26500	3.59	-50.56	≤-16.41	PASS
BLE_2Mbps	Ant1	2402	Reference	2.55	2.55	---	PASS
			30~1000	2.55	-57.54	≤-17.45	PASS
			1000~26500	2.55	-50.66	≤-17.45	PASS
		2440	Reference	3.57	3.57	---	PASS
			30~1000	3.57	-58.26	≤-16.43	PASS
			1000~26500	3.57	-50.12	≤-16.43	PASS
		2480	Reference	4.71	4.71	---	PASS
			30~1000	4.71	-58.24	≤-15.29	PASS
			1000~26500	4.71	-50.54	≤-15.29	PASS

Test Graphs

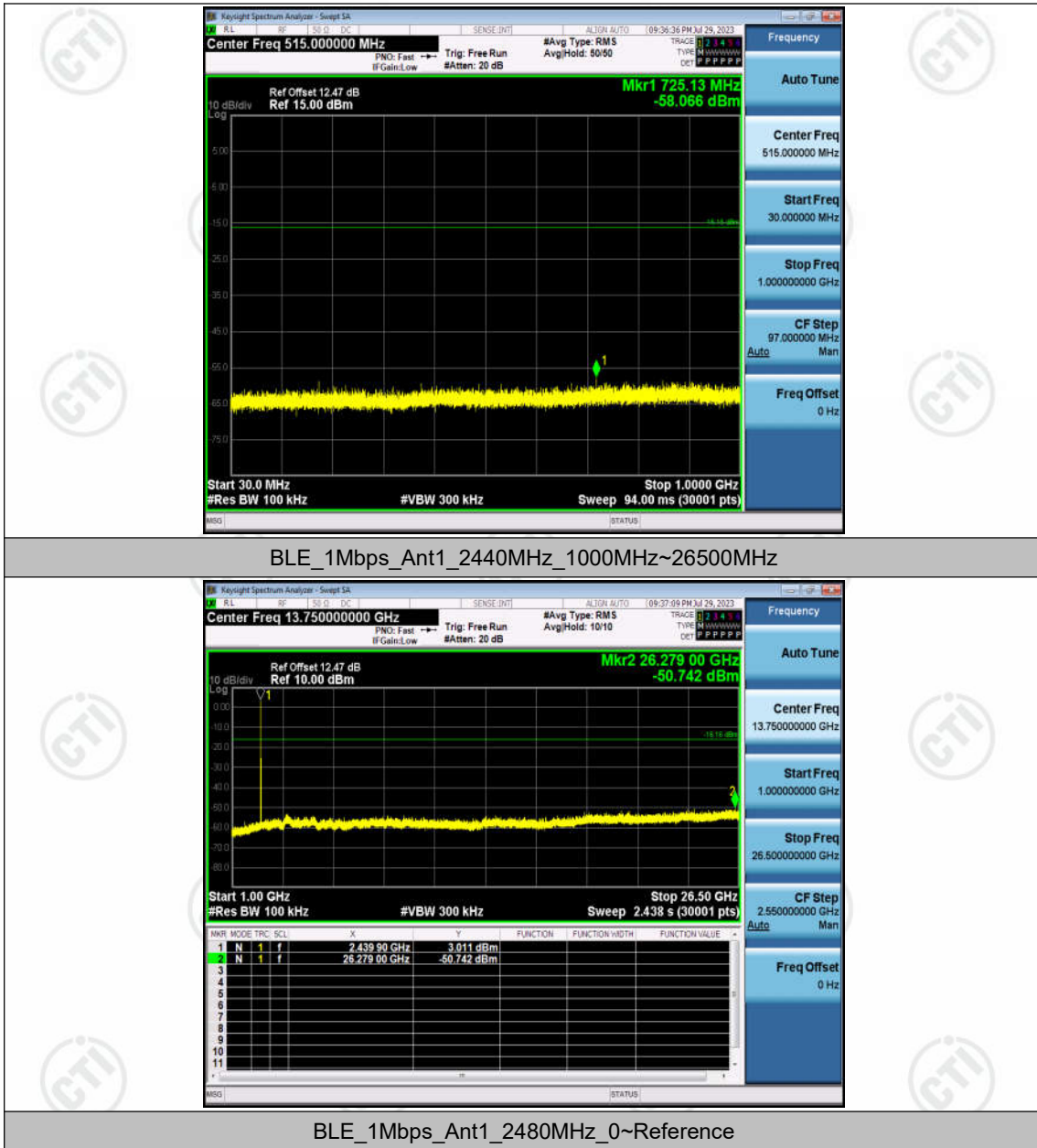




BLE_1Mbps_Ant1_2440MHz_0~Reference

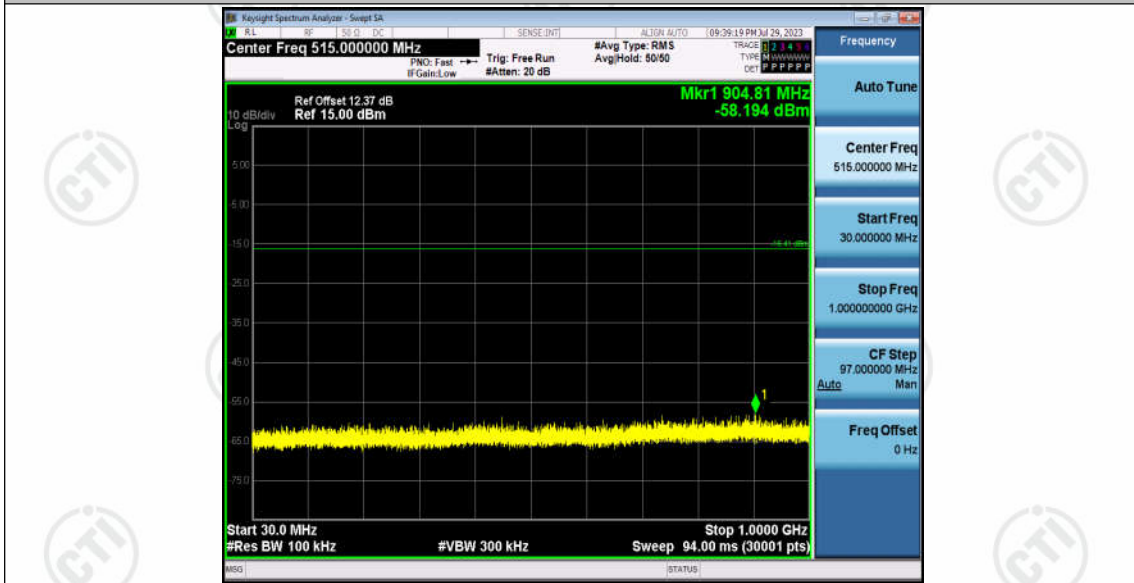


BLE_1Mbps_Ant1_2440MHz_30MHz~1000MHz

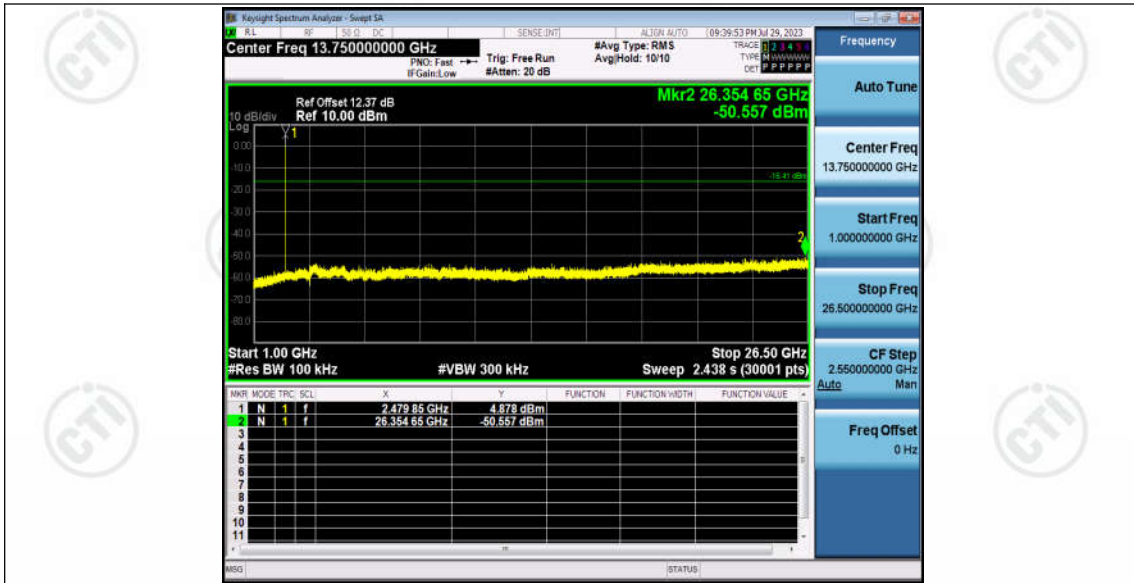




BLE_1Mbps_Ant1_2480MHz_30MHz~1000MHz



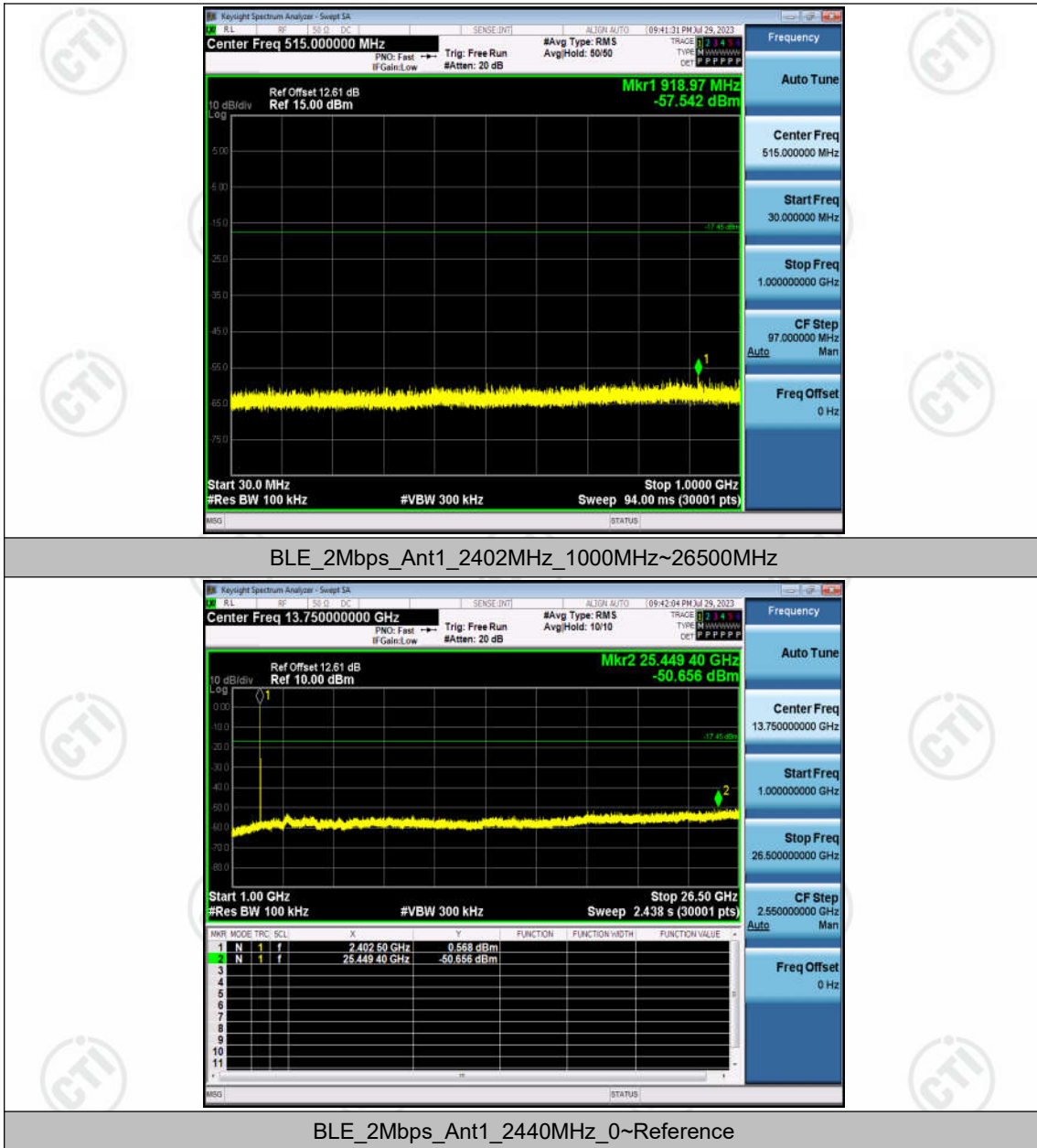
BLE_1Mbps_Ant1_2480MHz_1000MHz~26500MHz

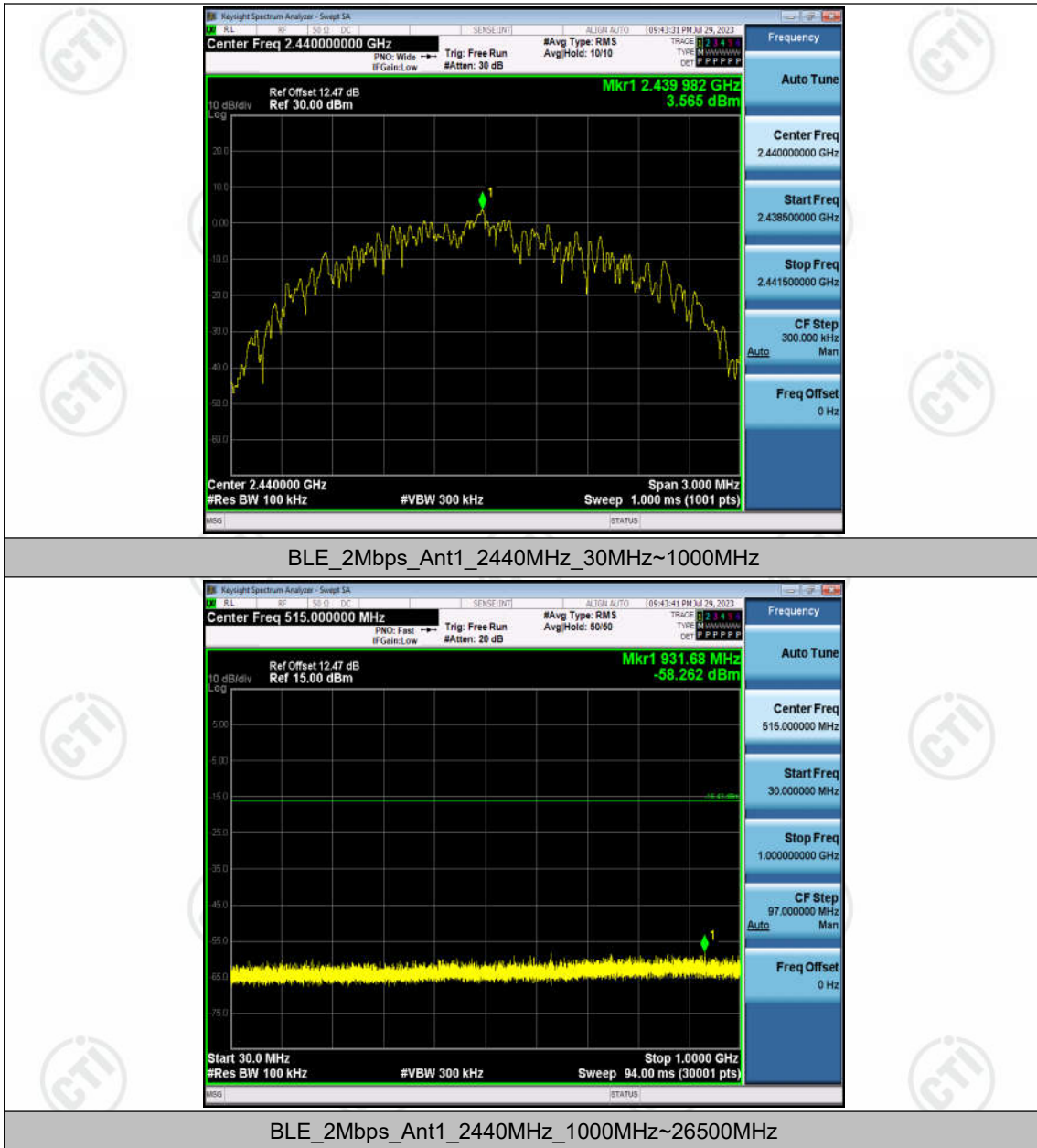


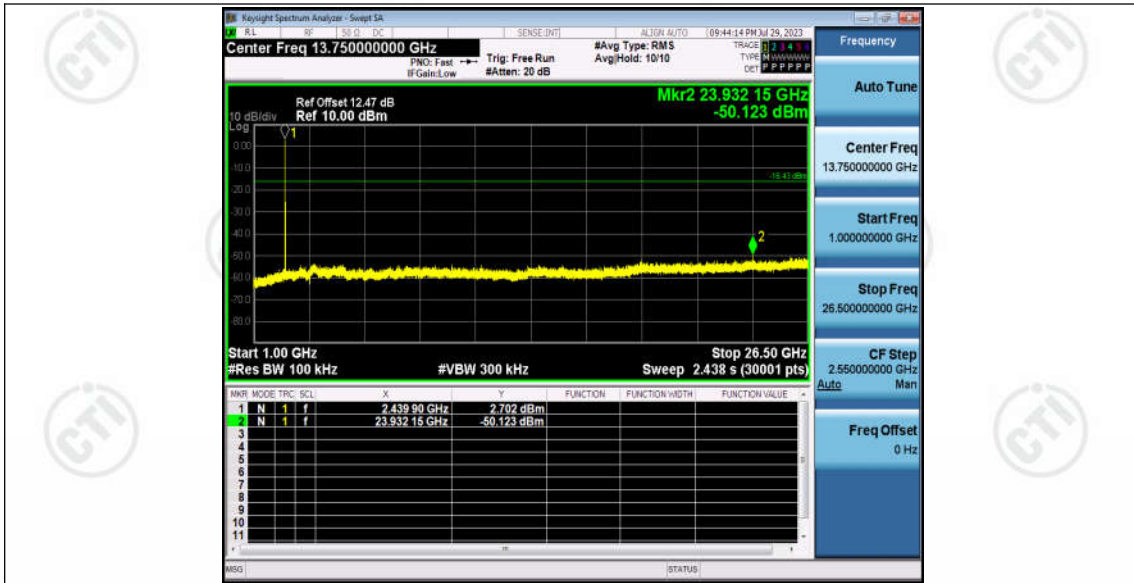
BLE_2Mbps_Ant1_2402MHz_0~Reference



BLE_2Mbps_Ant1_2402MHz_30MHz~1000MHz



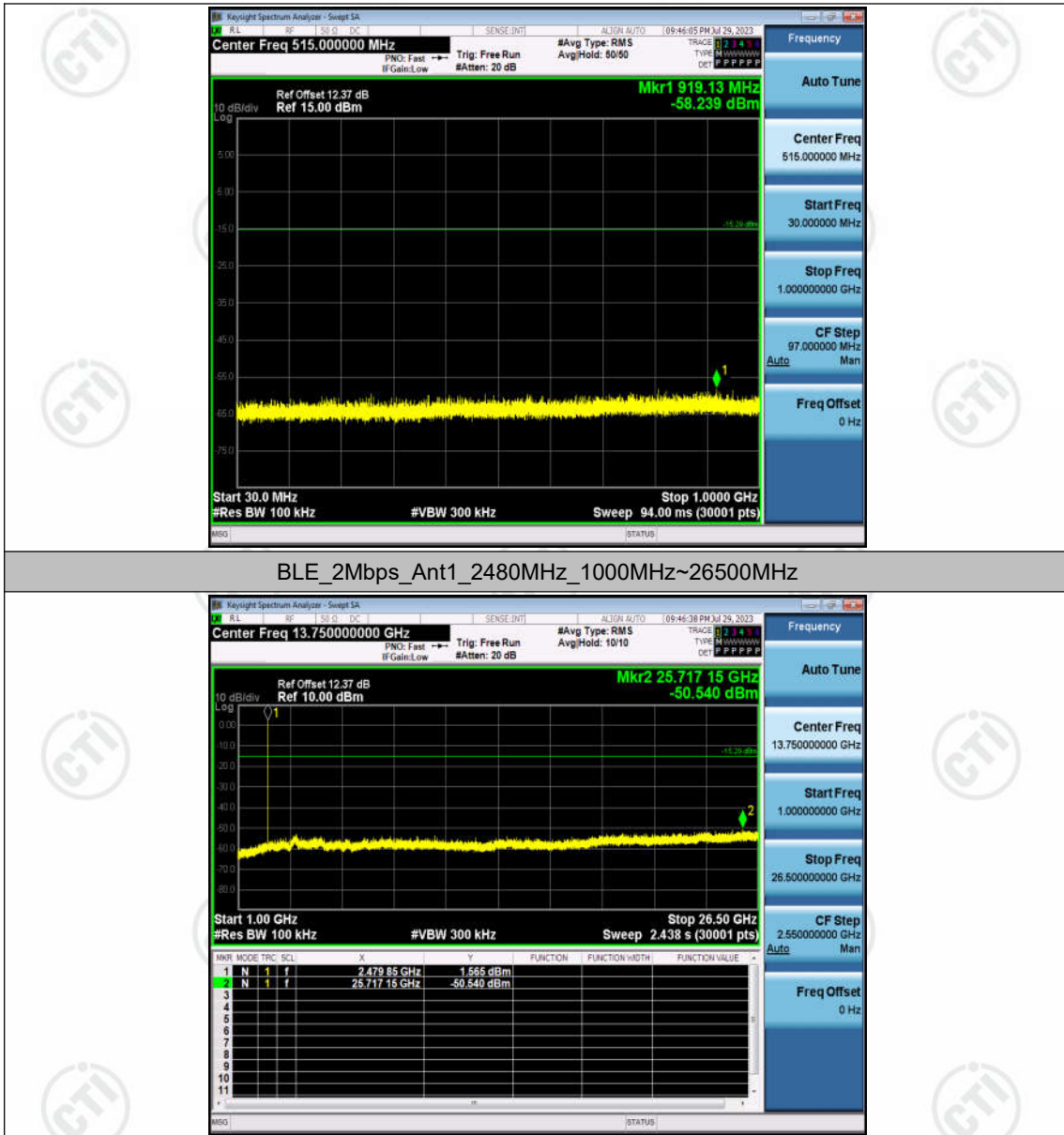




BLE_2Mbps_Ant1_2480MHz_0~Reference



BLE_2Mbps_Ant1_2480MHz_30MHz~1000MHz



*** End of Report ***