

Appendix Test Data for BLE (Conducted Measurement)

Product Name: Bridge Transceiver

Trade Mark: Bellman & Symfon

Test Model: BE1521-433

FCC ID: 2APAKBE1521

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: DTS Bandwidth& Occupied Channel Bandwidth

Test Result

Test Mode	Test Frequency	Occupied Bandwidth (MHz)	DTS BW (MHz)	DTS BW Limits	Pass or Fail
GFSK_1Mbps	2402	1.061	0.703	≥ 0.5	Pass
	2440	1.057	0.690	≥ 0.5	Pass
	2480	1.054	0.692	≥ 0.5	Pass

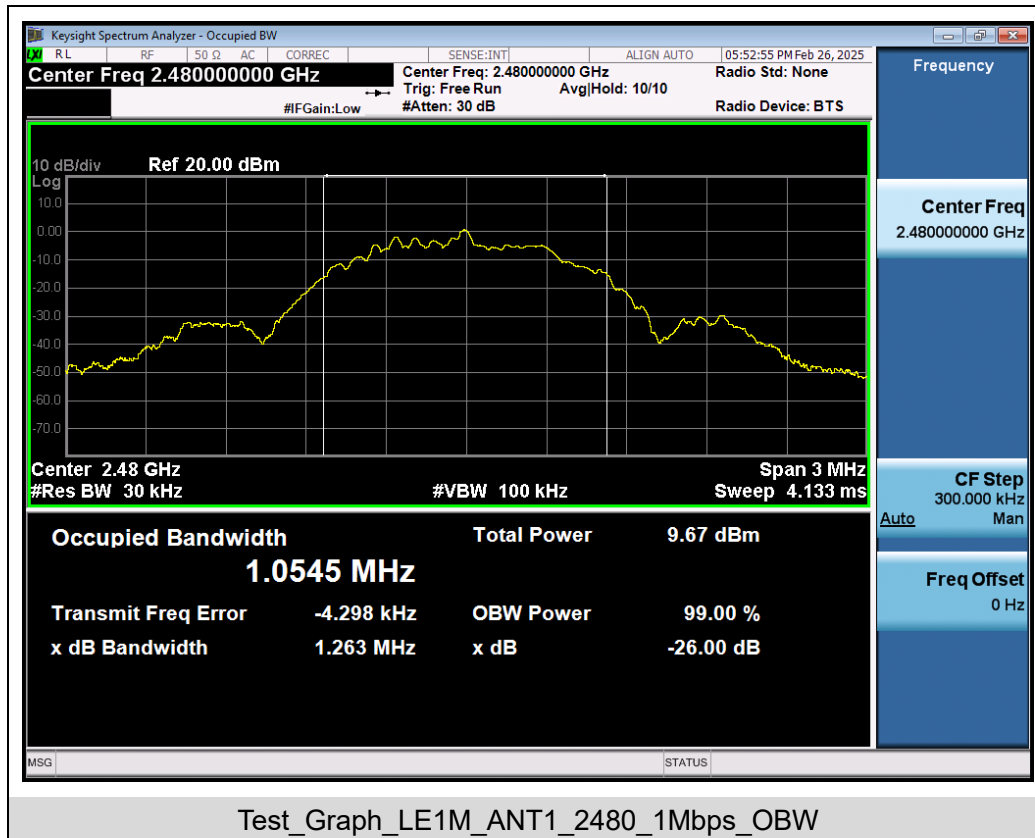
Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_OBW



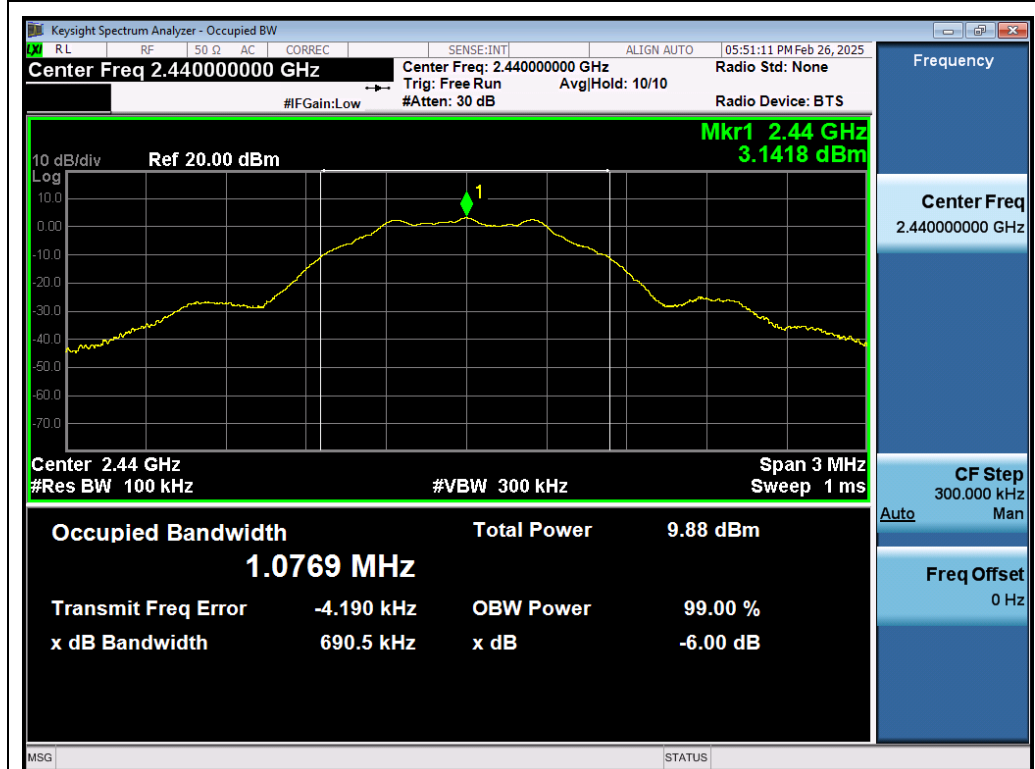
Test_Graph_LE1M_ANT1_2440_1Mbps_OBW



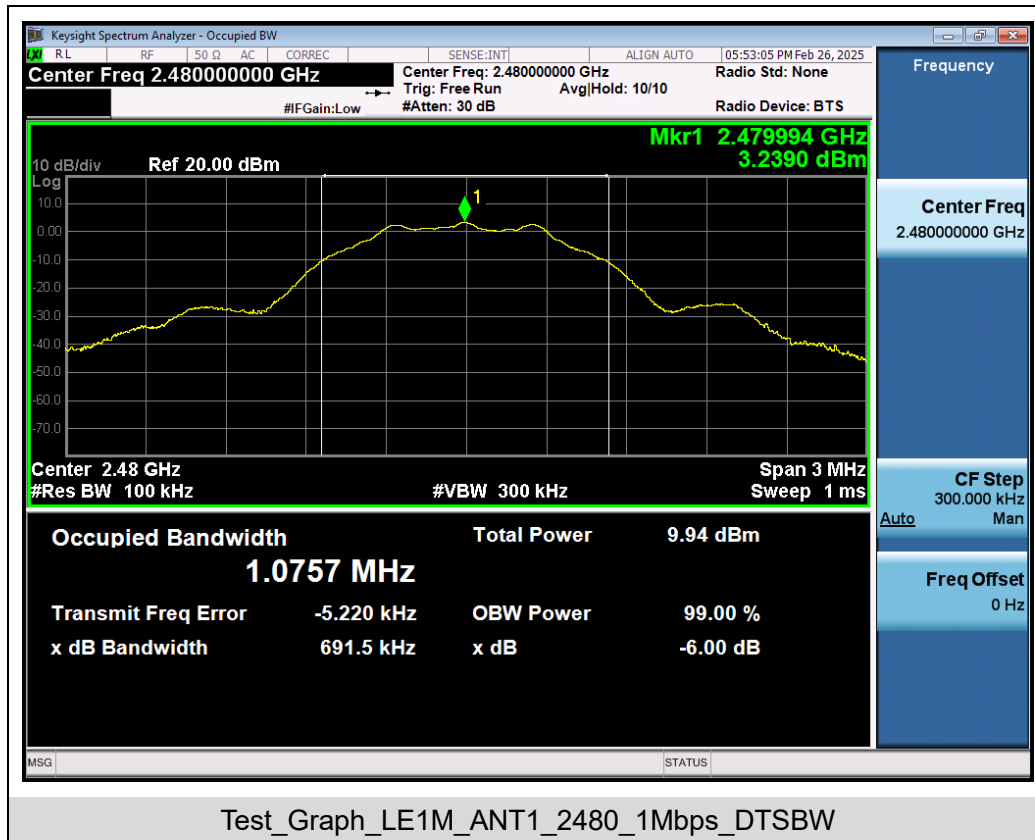
Test Graphs of DTS Bandwidth



Test_Graph_LE1M_ANT1_2402_1Mbps_DTSBW



Test_Graph_LE1M_ANT1_2440_1Mbps_DTSBW

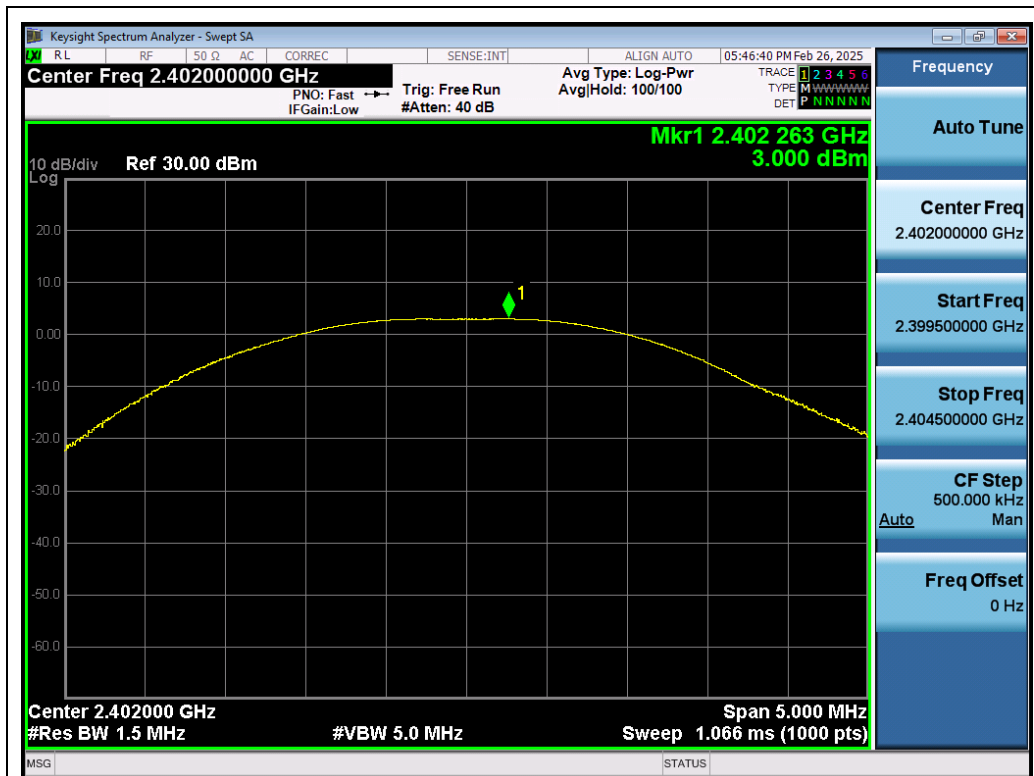


Appendix B: Maximum peak conducted output power

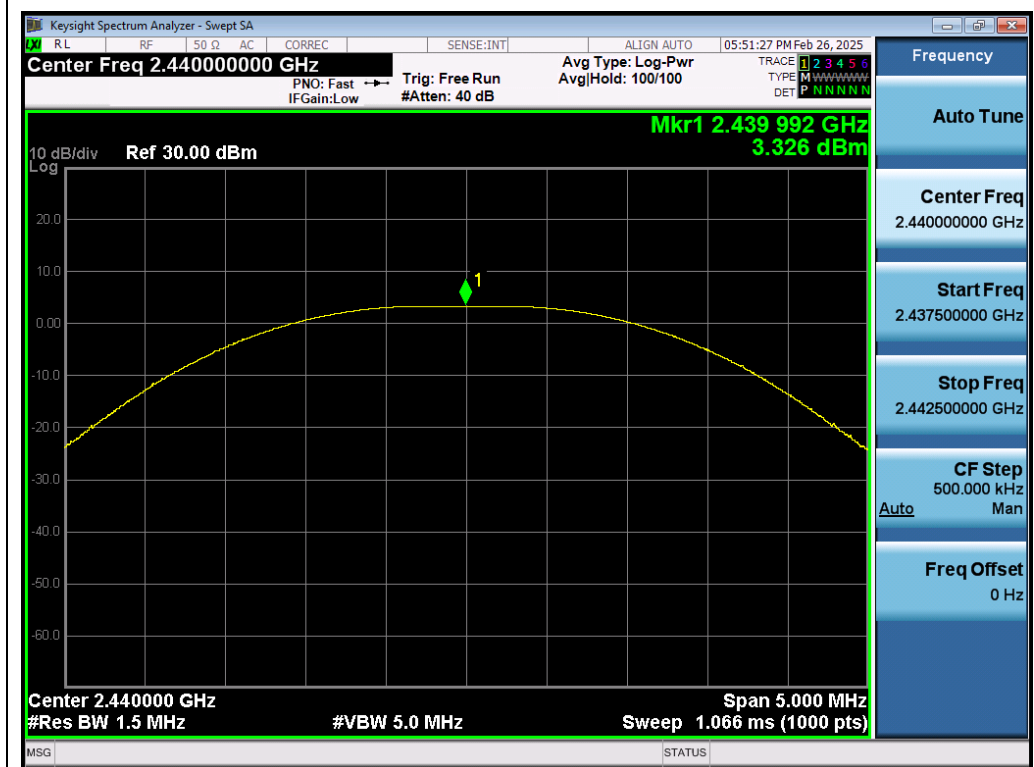
Test Result Peak

Test Mode	Test Frequency (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
GFSK_1Mbps	2402	3.000	≤ 30	Pass
	2440	3.326	≤ 30	Pass
	2480	3.309	≤ 30	Pass

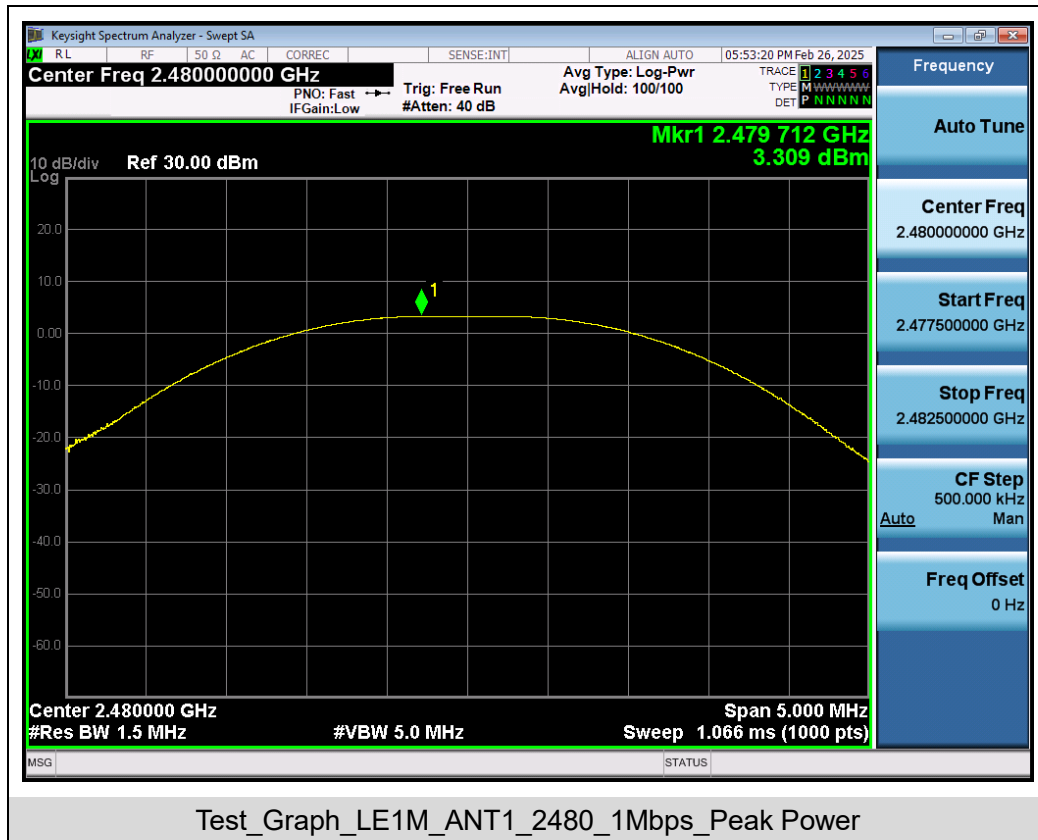
Test Graphs Peak



Test_Graph_LE1M_ANT1_2402_1Mbps_Peak Power



Test_Graph_LE1M_ANT1_2440_1Mbps_Peak Power

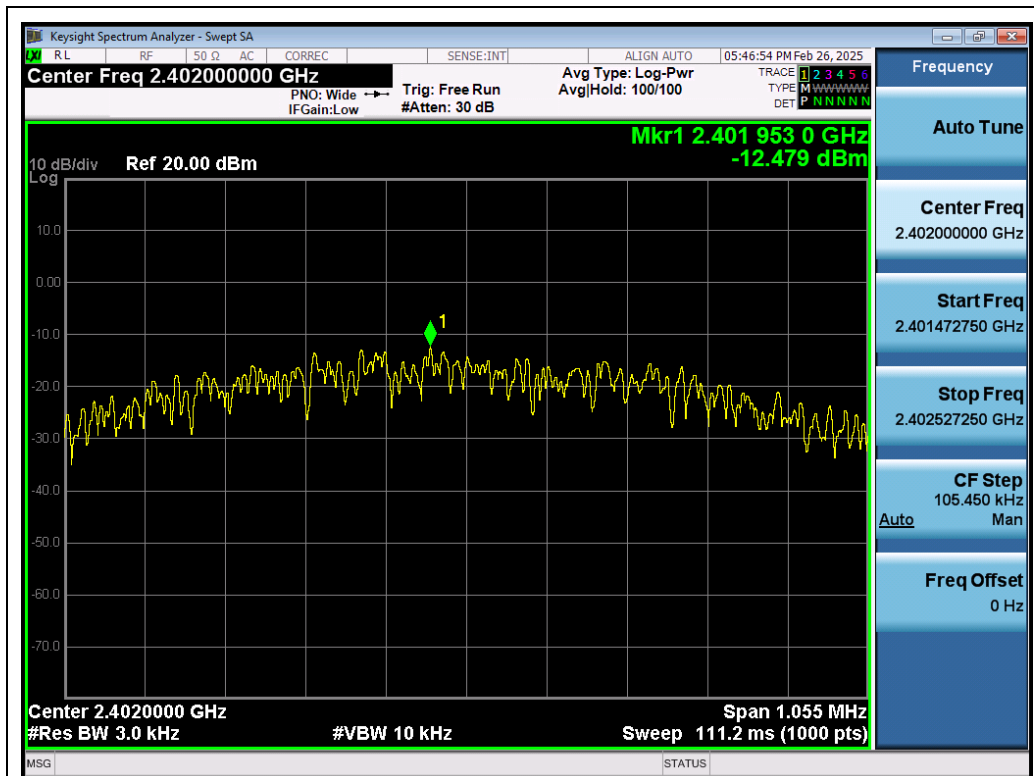


Appendix C: Maximum peak power spectral density

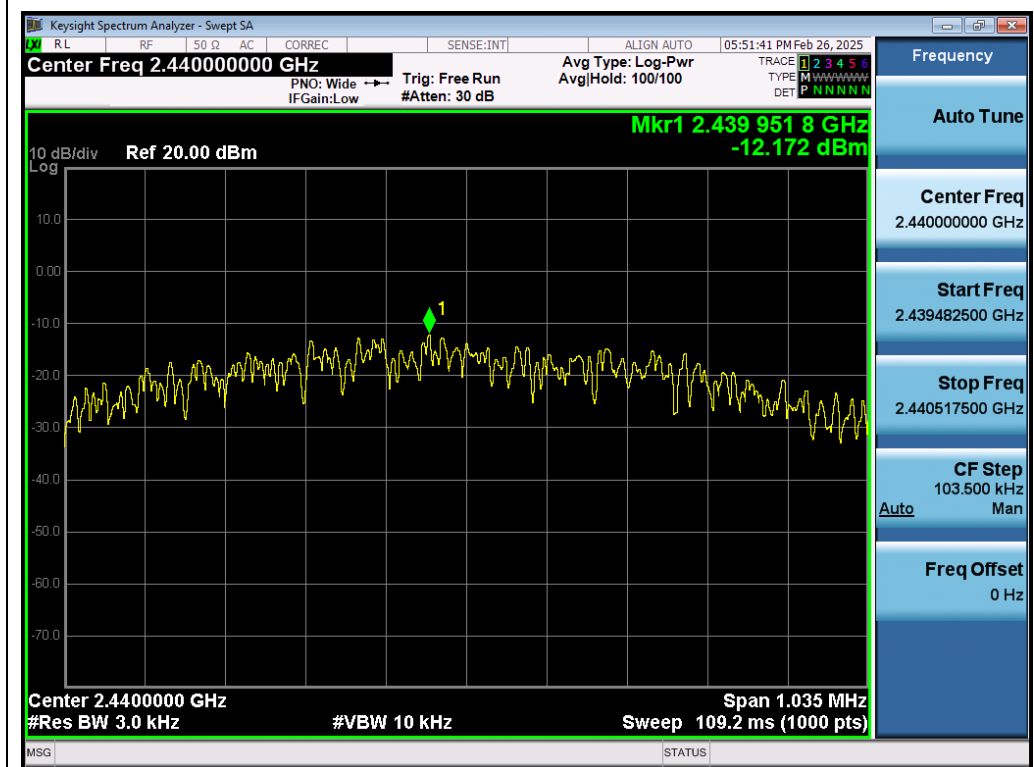
Test Result

Test Mode	Test Frequency (MHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
GFSK_1Mbps	2402	-12.479	≤ 8	Pass
	2440	-12.172	≤ 8	Pass
	2480	-12.146	≤ 8	Pass

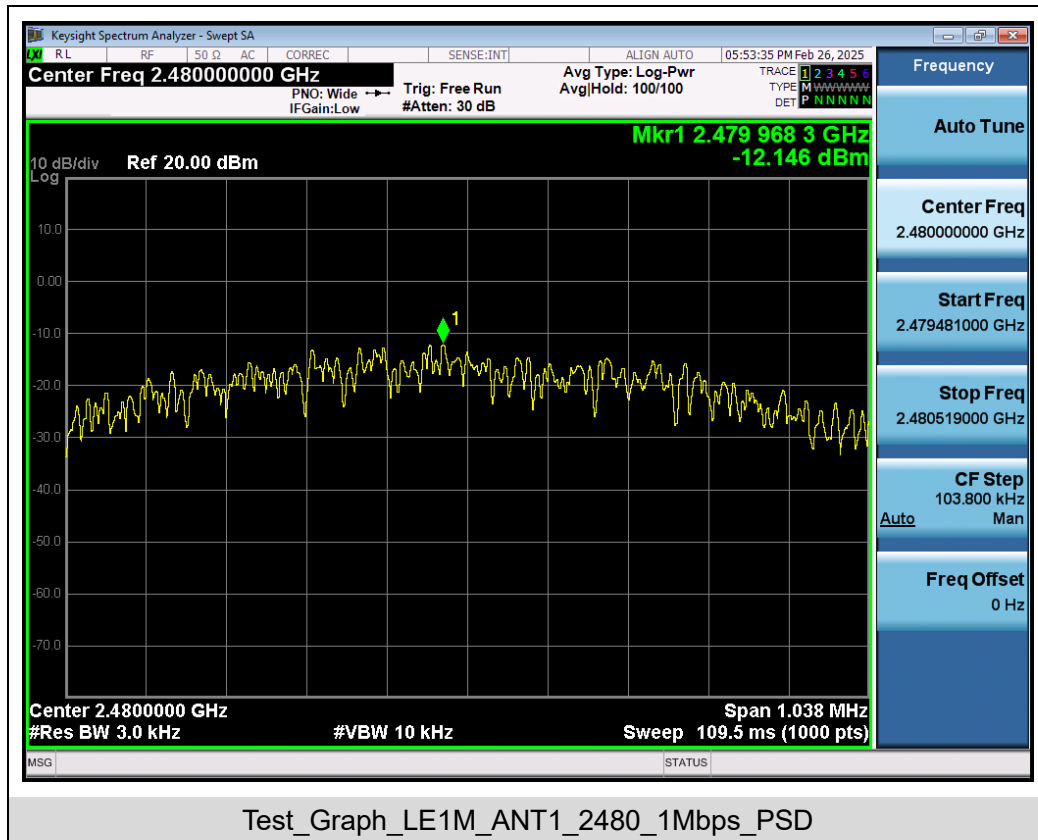
Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_PSD



Test_Graph_LE1M_ANT1_2440_1Mbps_PSD

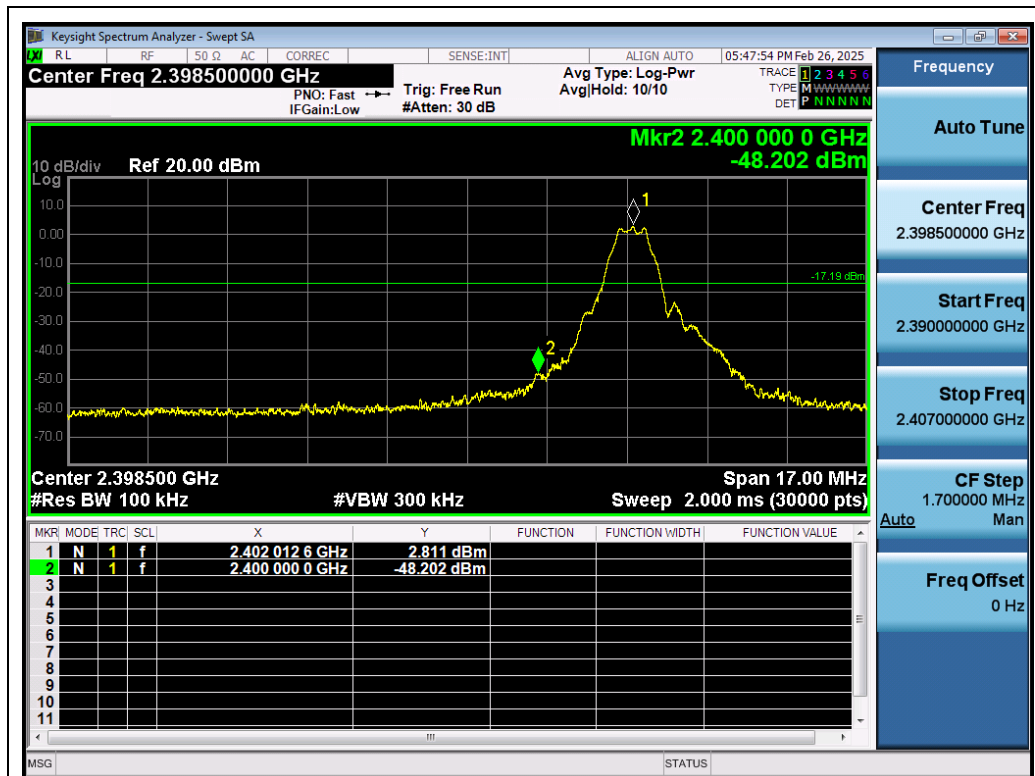


Appendix D: Band edge measurements

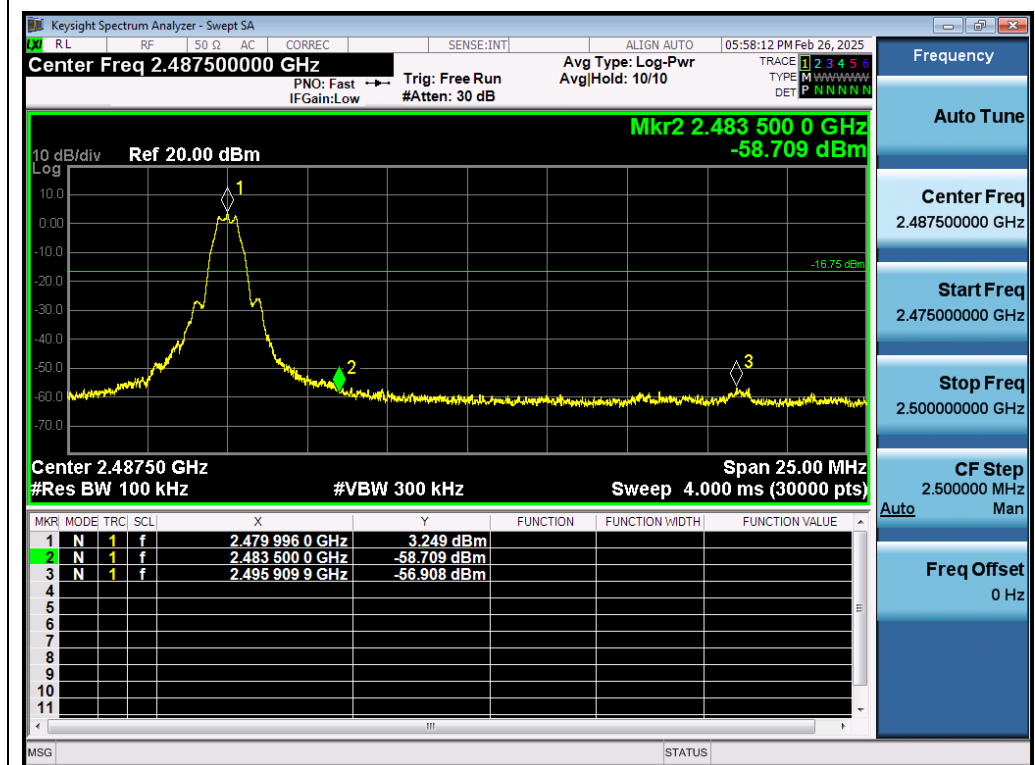
Test Result

Test Mode	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Low	2402	2.811	-48.202	≤ -15.59	PASS
BLE_1M	High	2480	3.249	-58.709	≤ -17.26	PASS

Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_Lower Band Edge Emissions



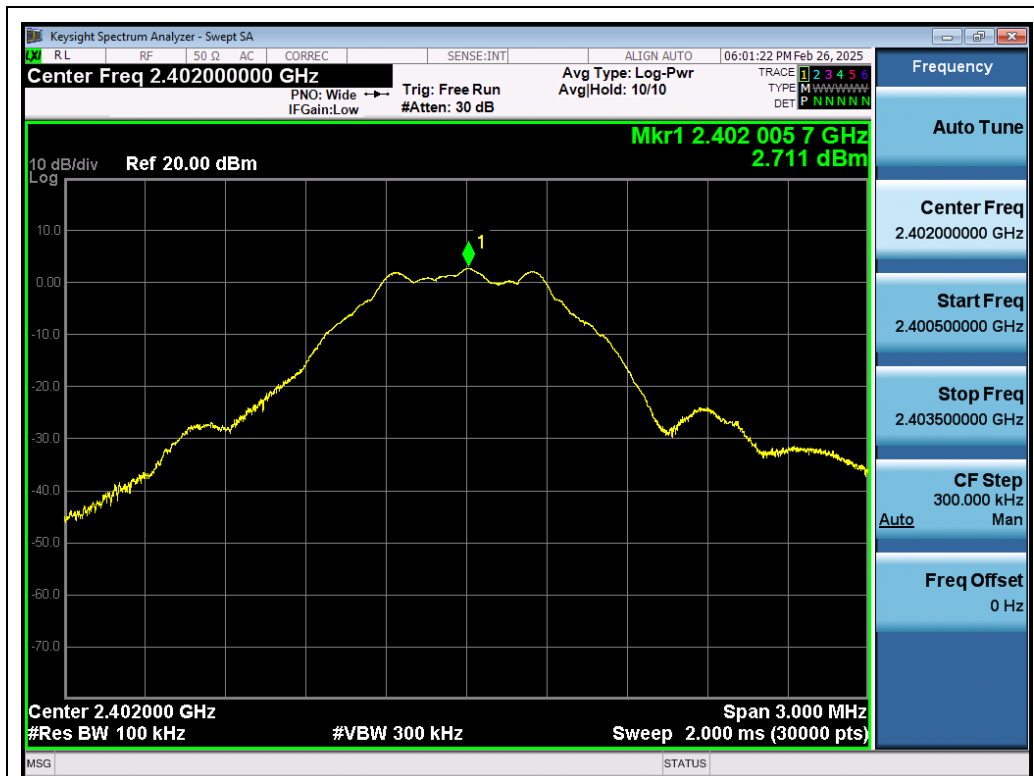
Test_Graph_LE1M_ANT1_2480_1Mbps_Higher Band Edge Emissions

Appendix E: Conducted Spurious Emission

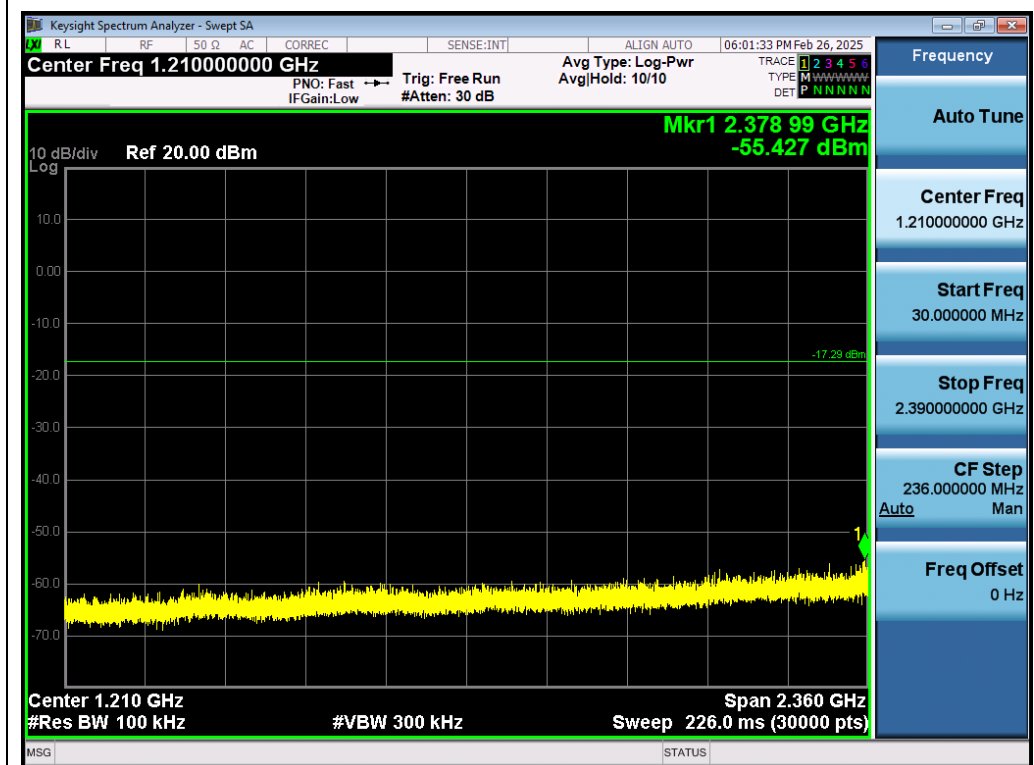
Test Result

Test Mode	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	2402	0~Reference	2.711	2.711	---	PASS
BLE_1M	2402	30~2390	2.711	-55.427	≤-15.59	PASS
BLE_1M	2402	2483.5~25000	2.711	-46.287	≤-15.59	PASS
BLE_1M	2440	0~Reference	3.168	3.168	---	PASS
BLE_1M	2440	30~2400	3.168	-55.600	≤-16.13	PASS
BLE_1M	2440	2483.5~25000	3.168	-47.735	≤-16.13	PASS
BLE_1M	2480	0~Reference	3.259	3.259	---	PASS
BLE_1M	2480	30~2400	3.259	-53.152	≤-17.34	PASS
BLE_1M	2480	2500~26500	3.259	-47.863	≤-17.34	PASS

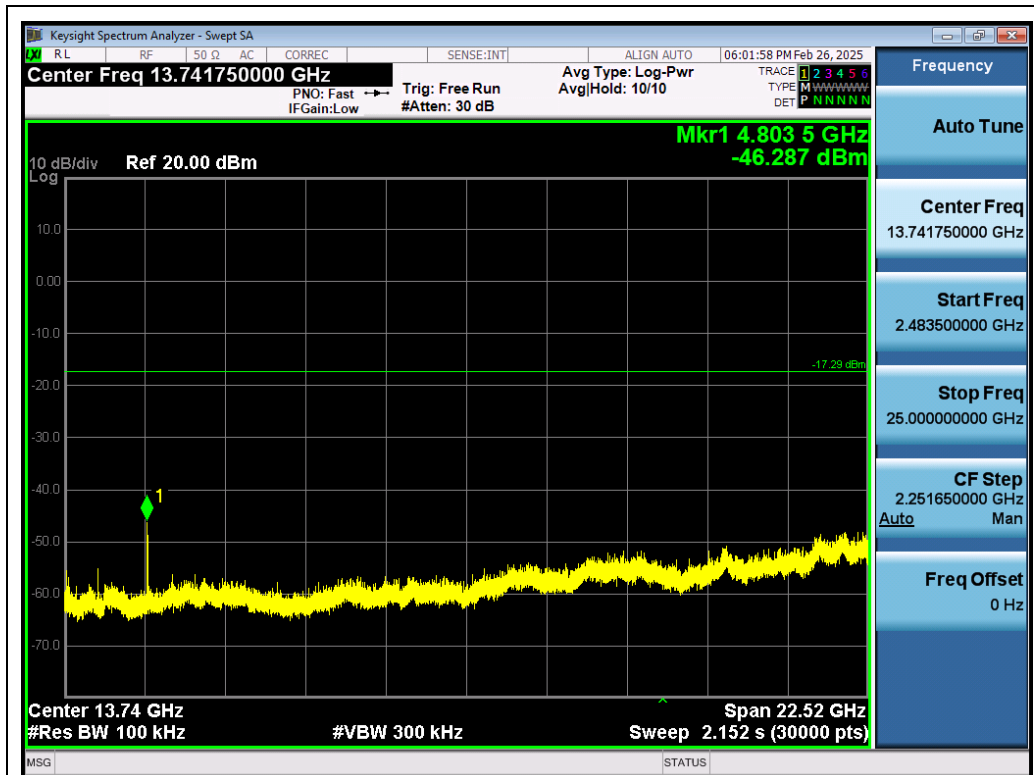
Test Graphs



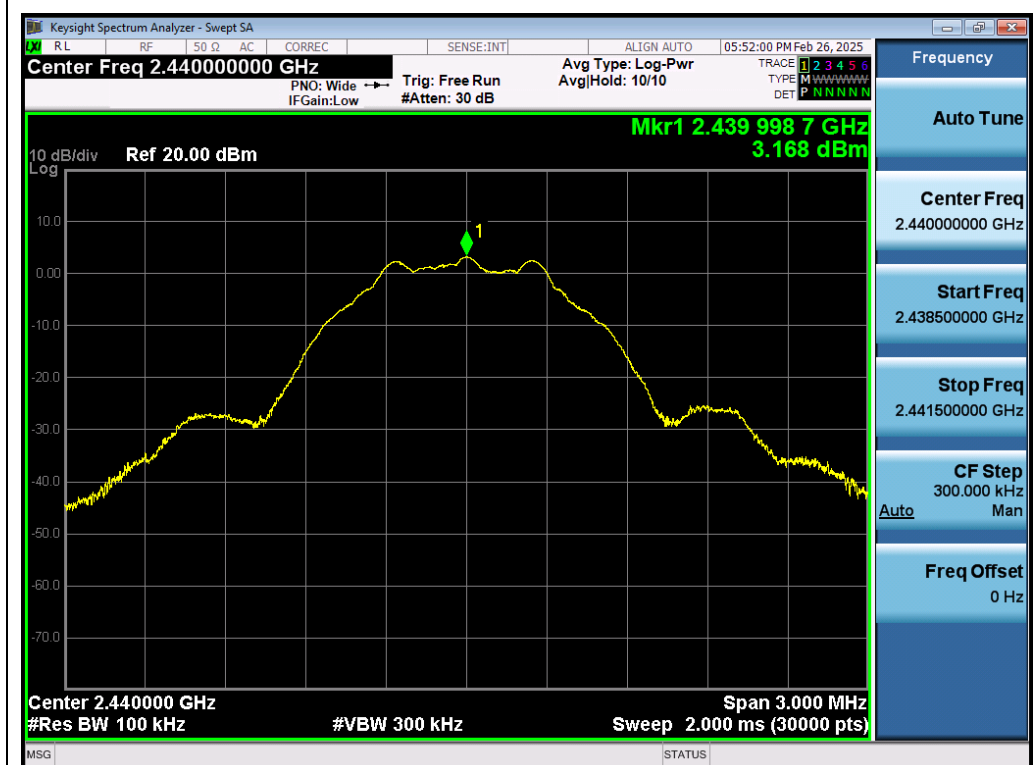
Test_Graph_LE1M_ANT1_2402_1Mbps_Reference Level



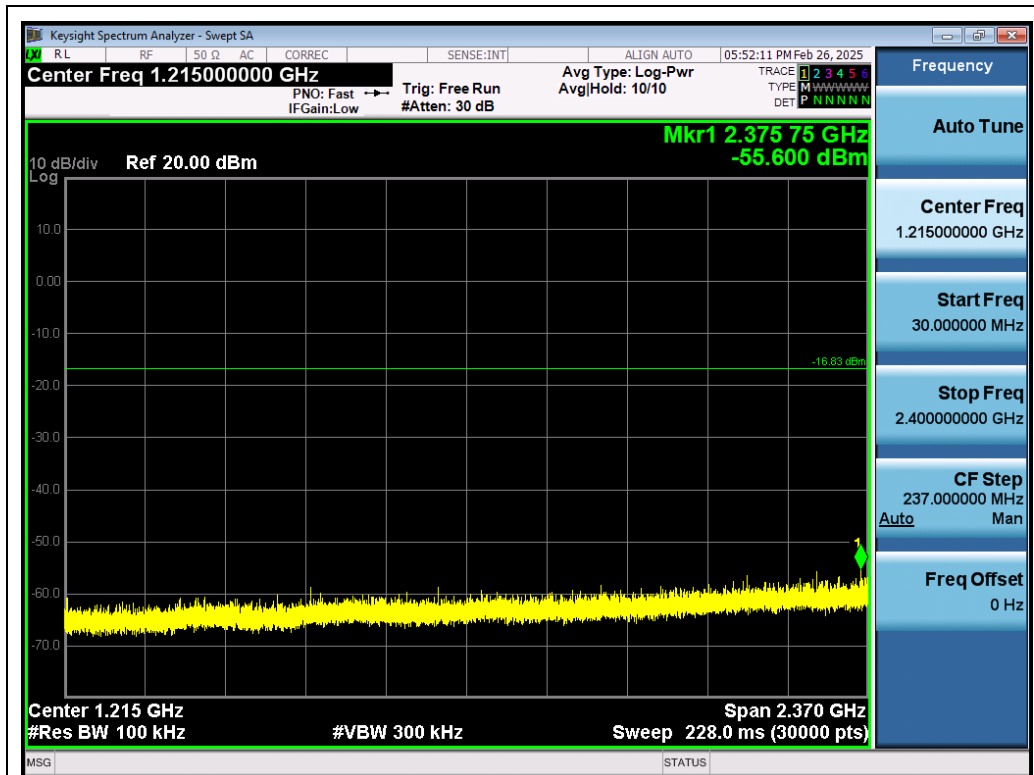
Test_Graph_LE1M_ANT1_2402_1Mbps_Lower Band Emissions



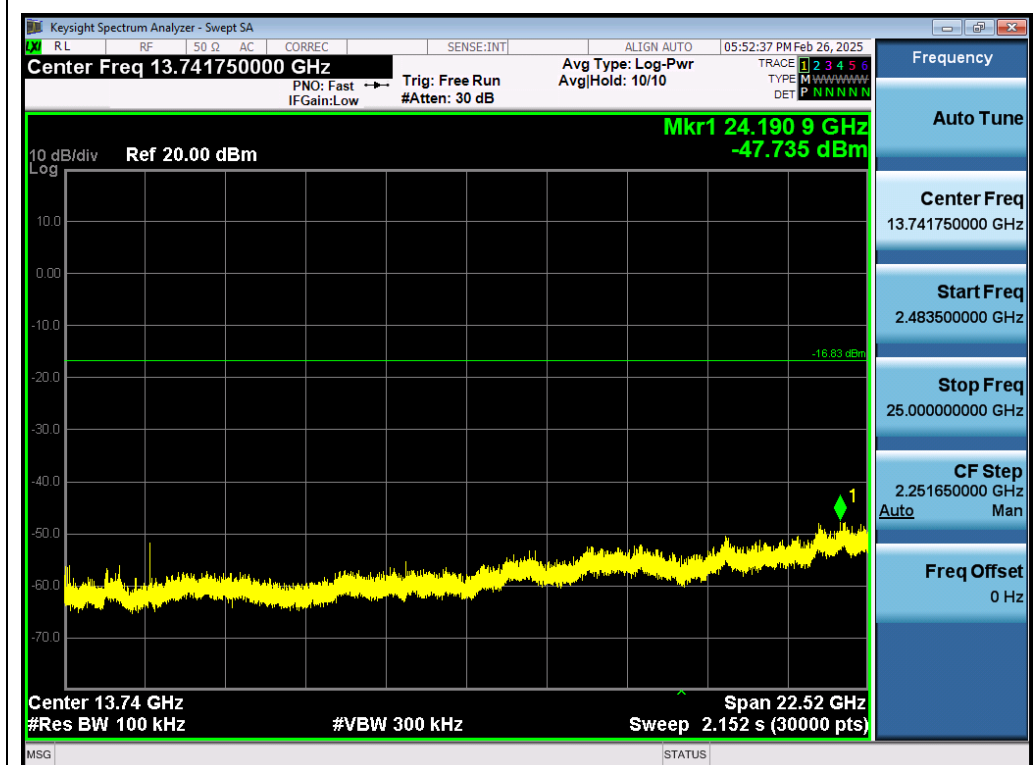
Test_Graph_LE1M_ANT1_2402_1Mbps_Higher Band Emissions



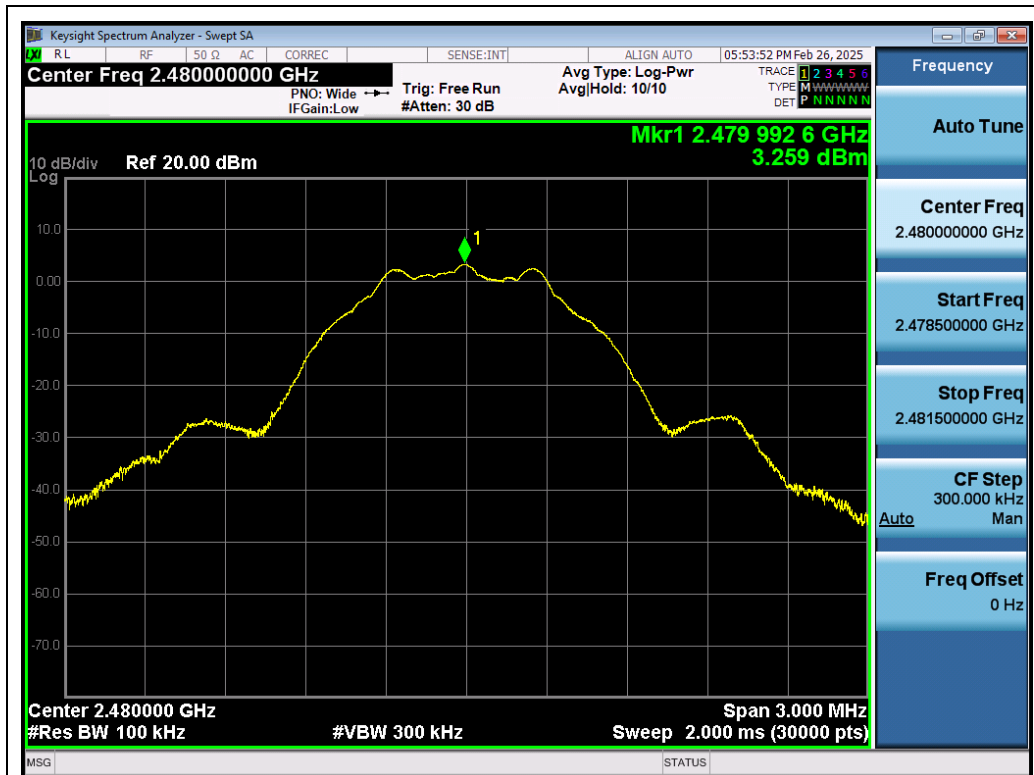
Test_Graph_LE1M_ANT1_2440_1Mbps_Reference Level



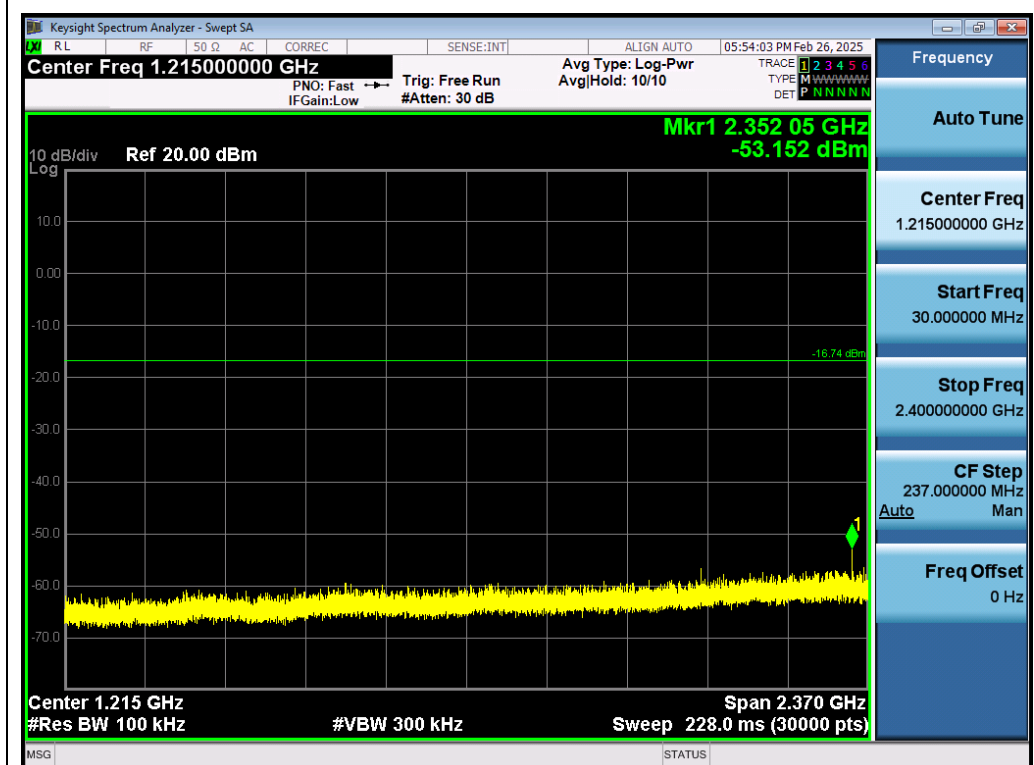
Test_Graph_LE1M_ANT1_2440_1Mbps_Lower Band Emissions



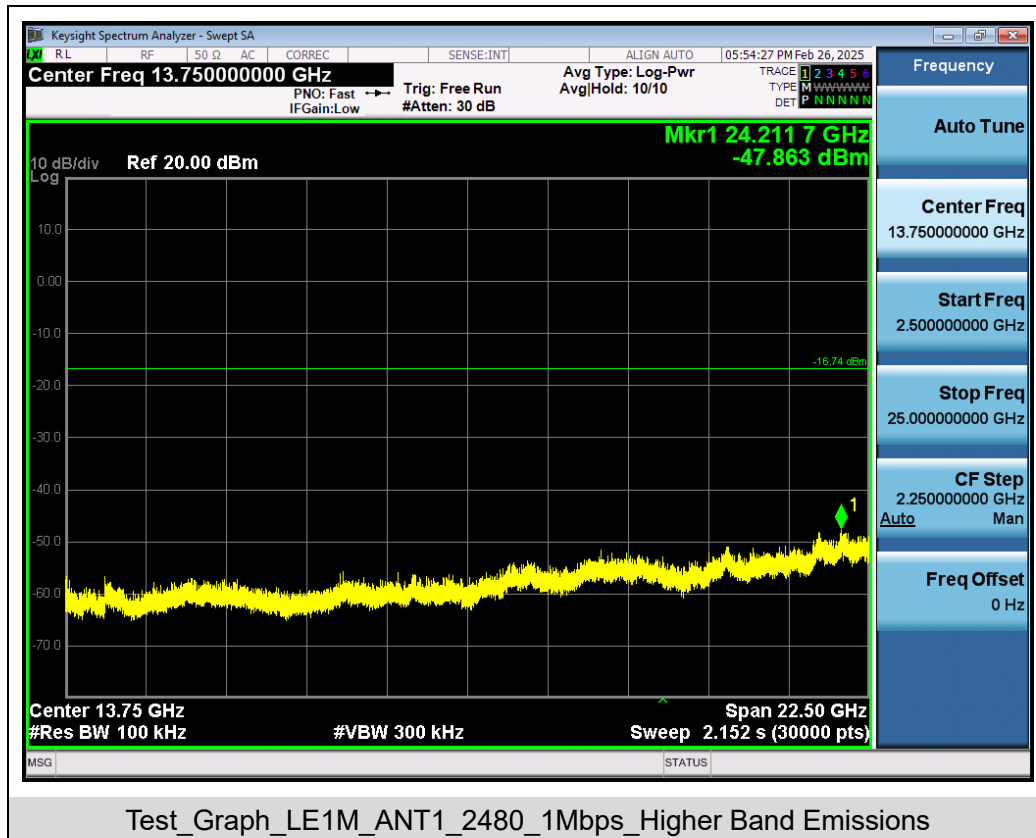
Test_Graph_LE1M_ANT1_2440_1Mbps_Higher Band Emissions



Test_Graph_LE1M_ANT1_2480_1Mbps_Reference Level



Test_Graph_LE1M_ANT1_2480_1Mbps_Lower Band Emissions



Appendix F: Duty Cycle

Test Result

Test Mode	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
BLE_1M	2402	0.39	0.63	62.92	2.01
BLE_1M	2440	0.39	0.63	62.93	2.01
BLE_1M	2480	0.39	0.62	62.98	2.01

Test Graphs

