Appendix Test Data for BLE (Conducted Measurement)

Product Name: Watch Receiver

Trade Mark: Bellman & Symfon

Test Model: BE3330

FCC ID: 2APAKBE3330

Environmental Conditions

Temperature:	22.7℃
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

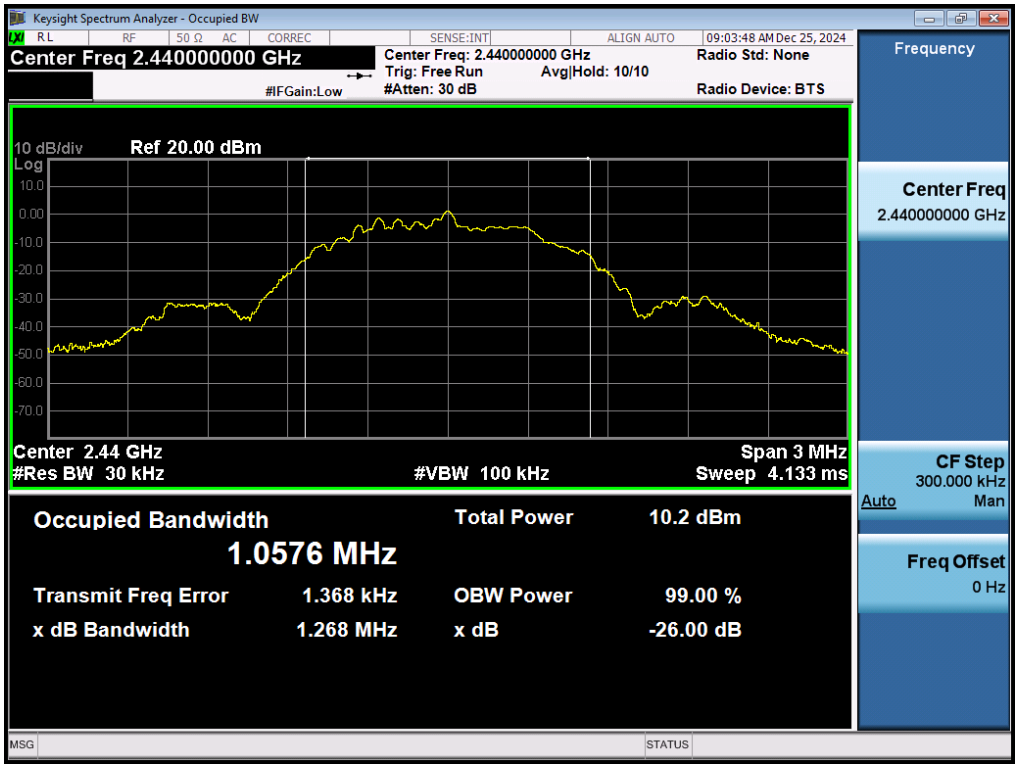
Appendix A: DTS Bandwidth & Occupied Channel Bandwidth

Test Result

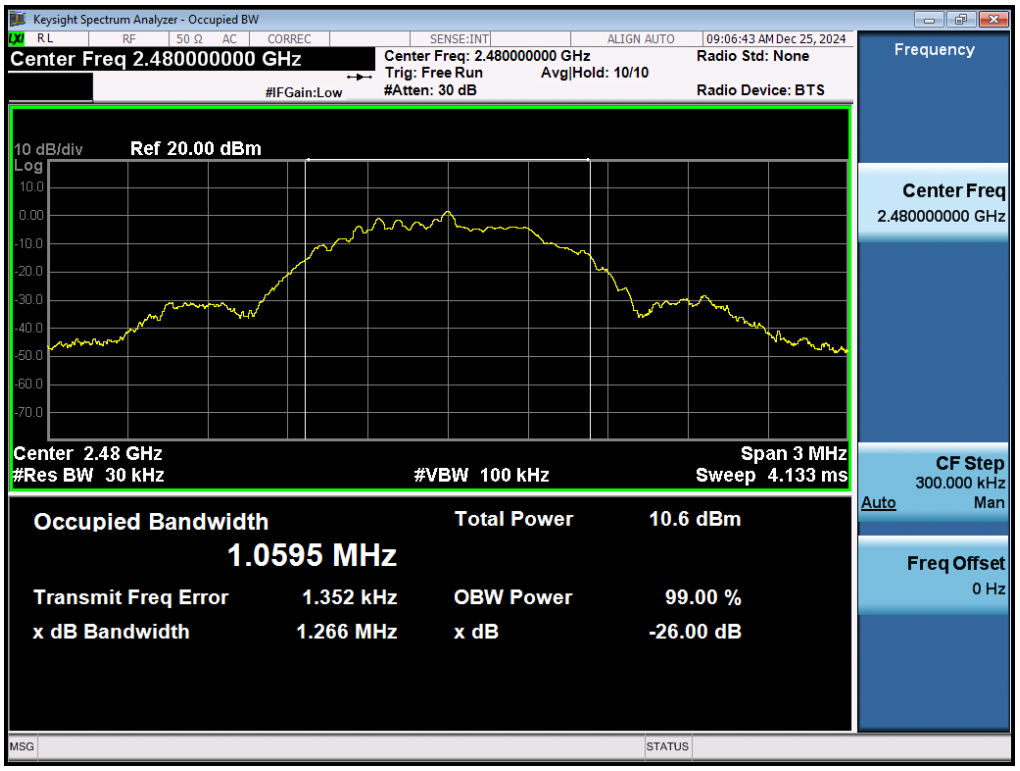
Test Mode	Test Frequency	Occupied Bandwidth (MHz)	DTS BW (MHz)	DTS BW Limits	Pass or Fail
GFSK_1Mbps	2402	1.056	0.698	⩾0.5	Pass
	2440	1.058	0.701	⩾0.5	Pass
	2480	1.060	0.696	⩾0.5	Pass

Test Graphs

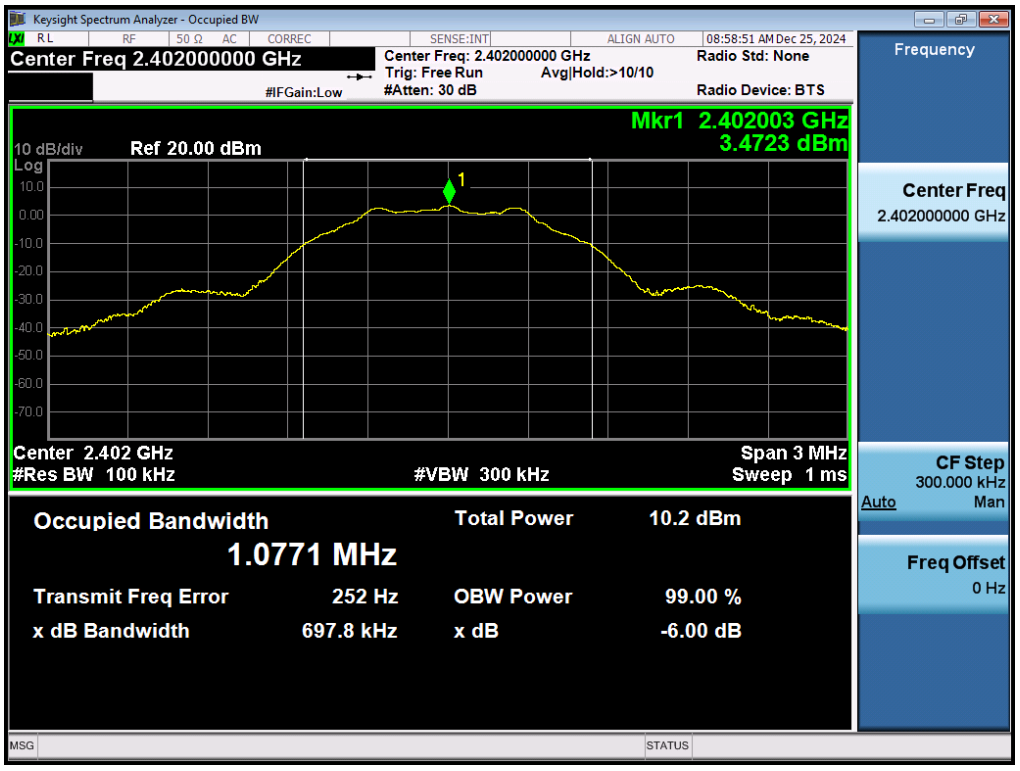
Test_Graph_LE1M_ANT1_2402_1Mbps_OBW



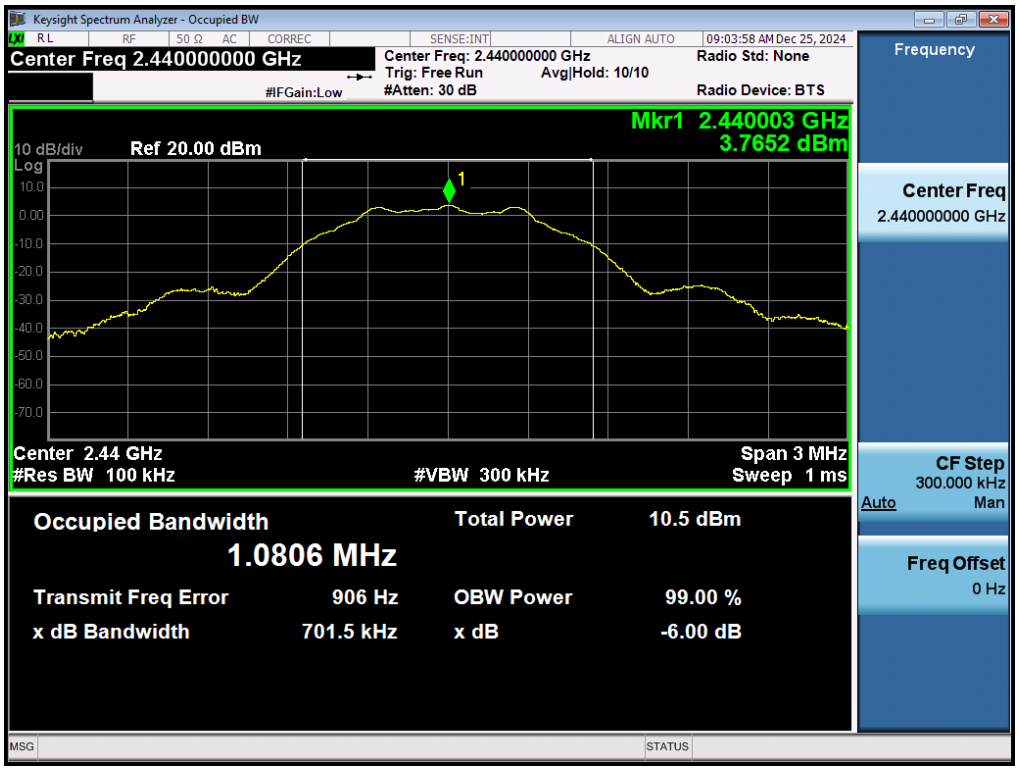
Test_Graph_LE1M_ANT1_2440_1Mbps_OBW



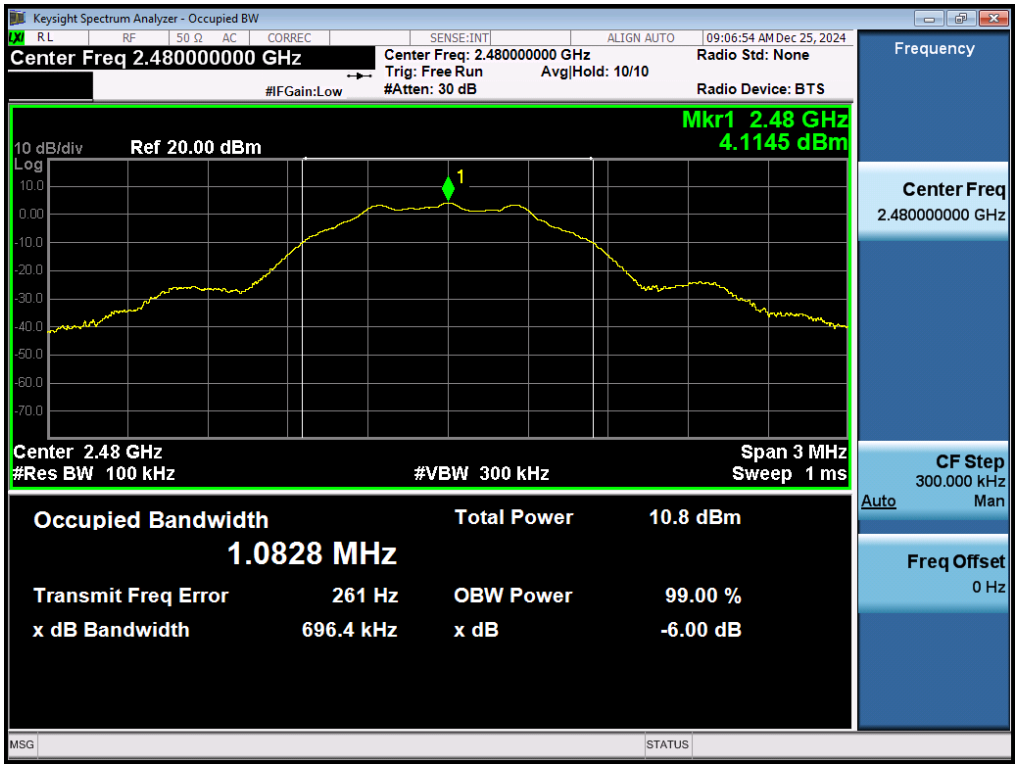
Test_Graph_LE1M_ANT1_2480_1Mbps_OBW



Test_Graph_LE1M_ANT1_2402_1Mbps_DTSBW



Test_Graph_LE1M_ANT1_2440_1Mbps_DTSBW



Test_Graph_LE1M_ANT1_2480_1Mbps_DTSBW

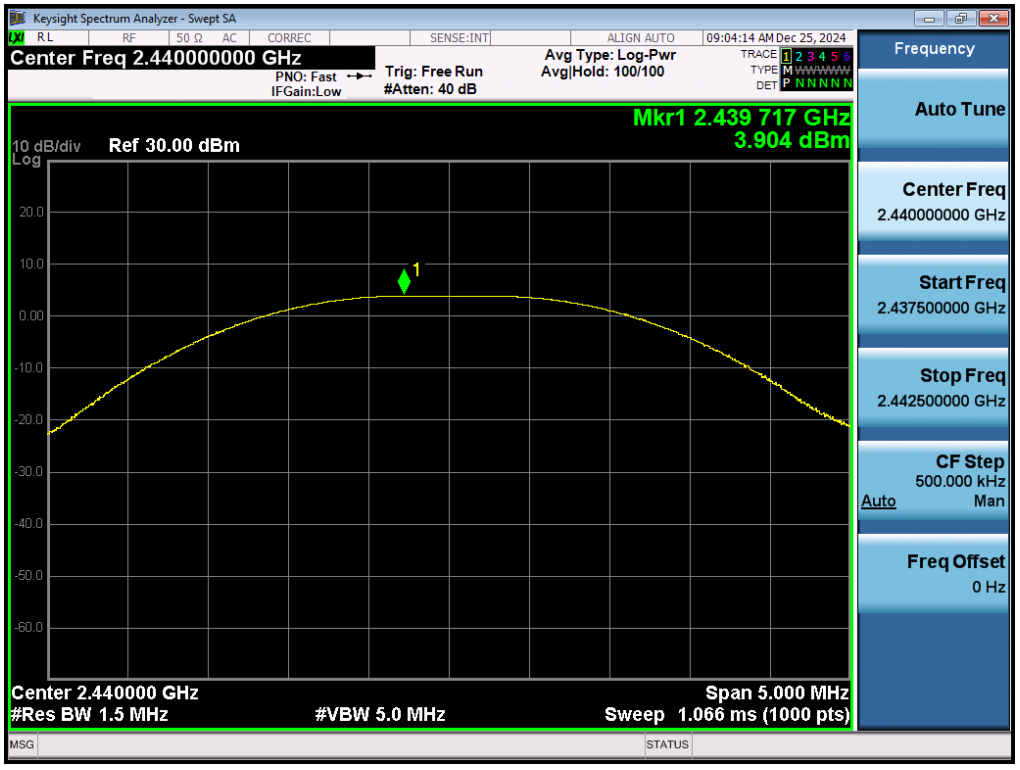
Appendix B: Maximum peak conducted output power

Test Result Peak

Test Mode	Test Frequency (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
GFSK_1Mbps	2402	3.591	≤30	Pass
	2440	3.904	≤30	Pass
	2480	4.150	≤30	Pass

Test Graphs Peak

Test_Graph_LE1M_ANT1_2402_1Mbps_Peak Power



Test_Graph_LE1M_ANT1_2440_1Mbps_Peak Power

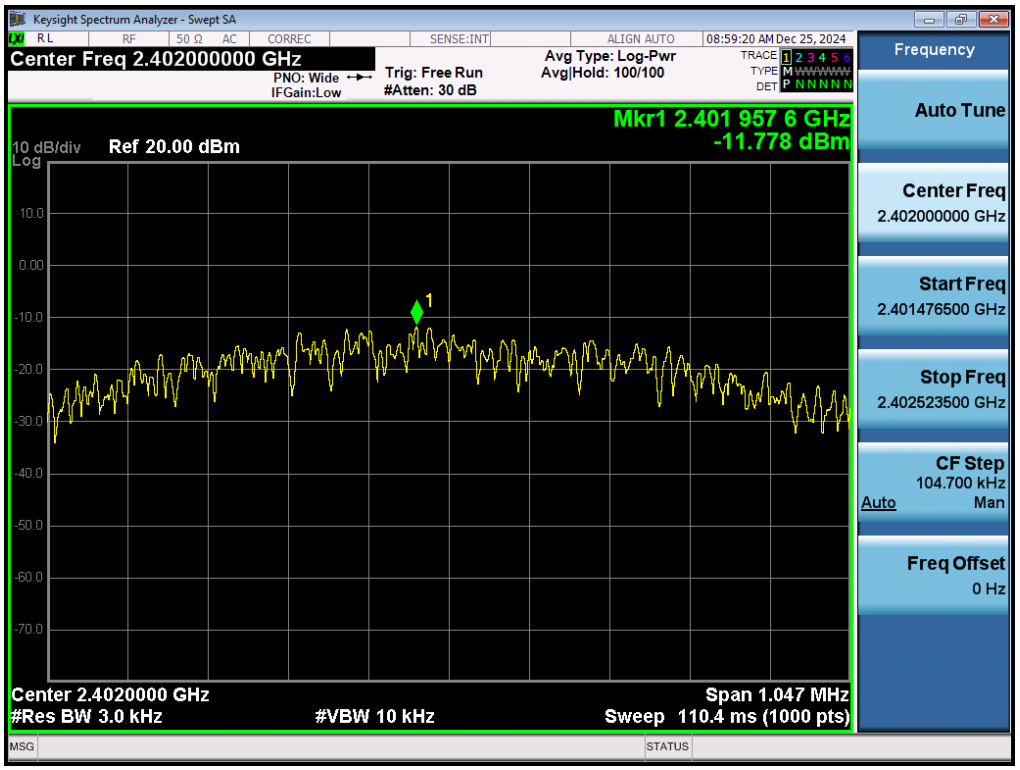
Test_Graph_LE1M_ANT1_2480_1Mbps_Peak Power

Appendix C: Maximum peak power spectral density

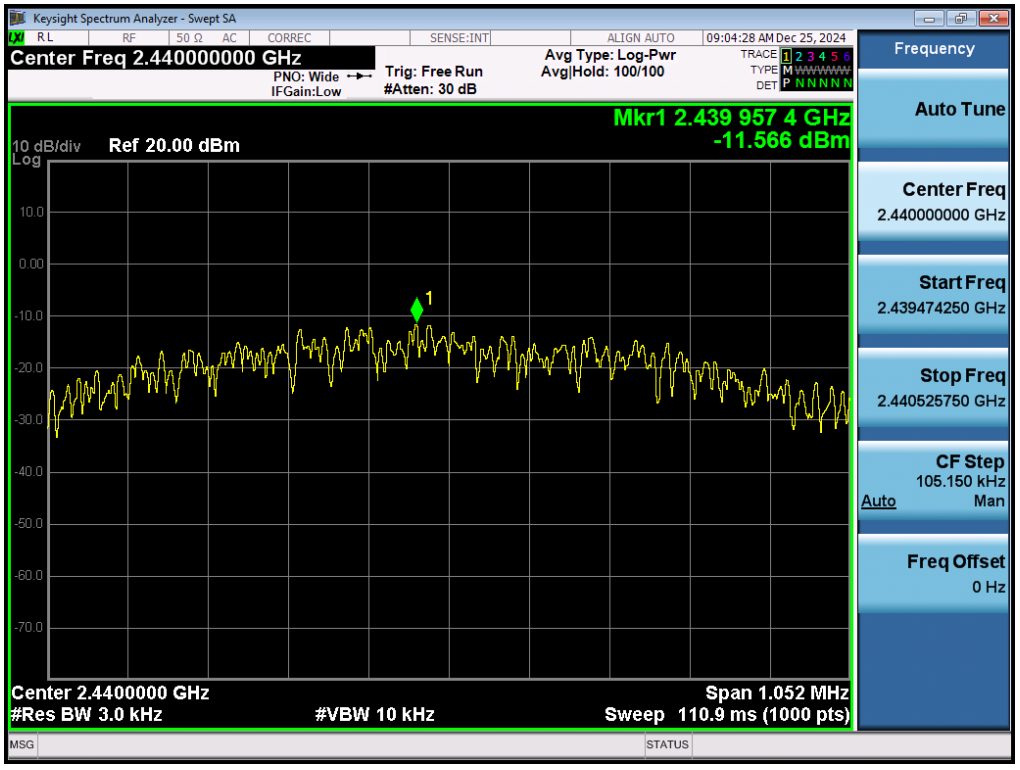
Test Result

Test Mode	Test Frequency (MHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
GFSK_1Mbps	2402	-11.778	≤8	Pass
	2440	-11.566	≤8	Pass
	2480	-11.274	≤8	Pass

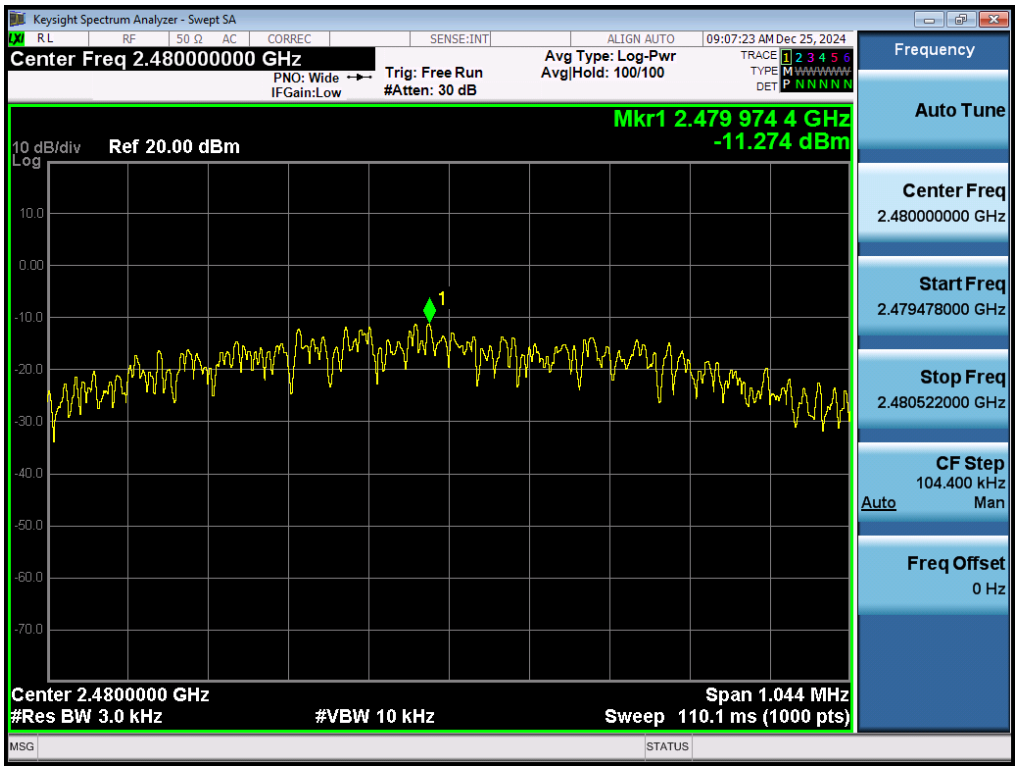
Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_PSD



Test_Graph_LE1M_ANT1_2440_1Mbps_PSD



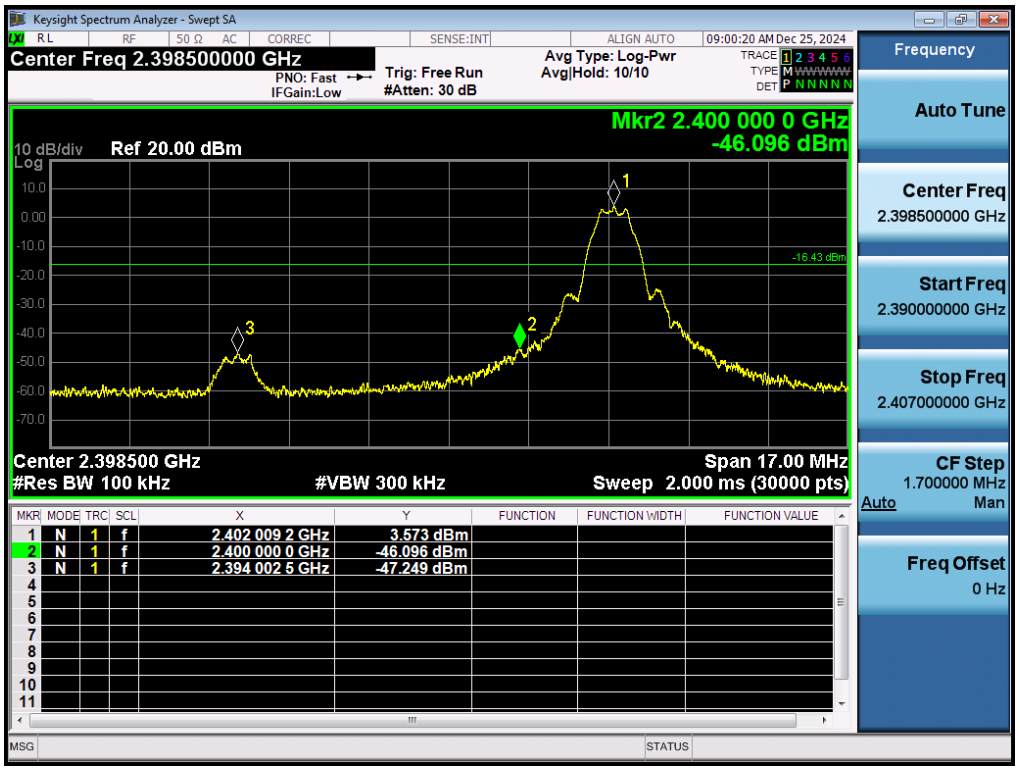
Test_Graph_LE1M_ANT1_2480_1Mbps_PSD

Appendix D: Band edge measurements

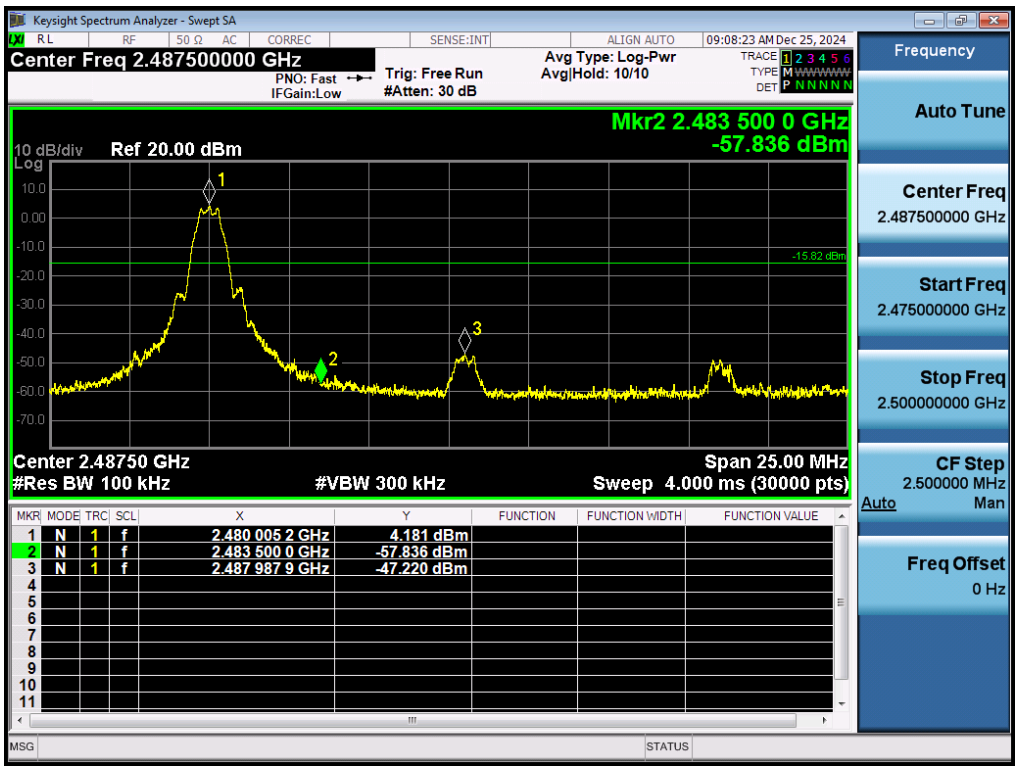
Test Result

Test Mode	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK_1Mbps	Low	2402	3.573	-46.096	≤-16.43	Pass
GFSK_1Mbps	High	2480	4.181	-57.836	≤-15.82	Pass

Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_Lower Band Edge Emissions



Test_Graph_LE1M_ANT1_2480_1Mbps_Higher Band Edge Emissions

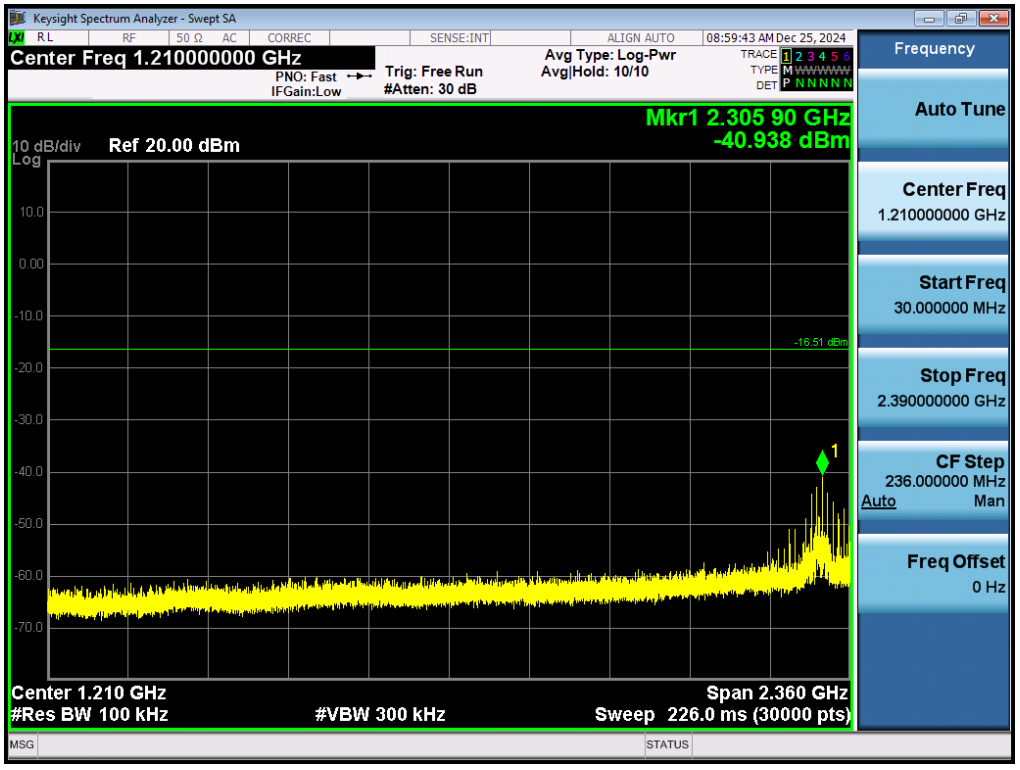
Appendix E: Conducted Spurious Emission

Test Result

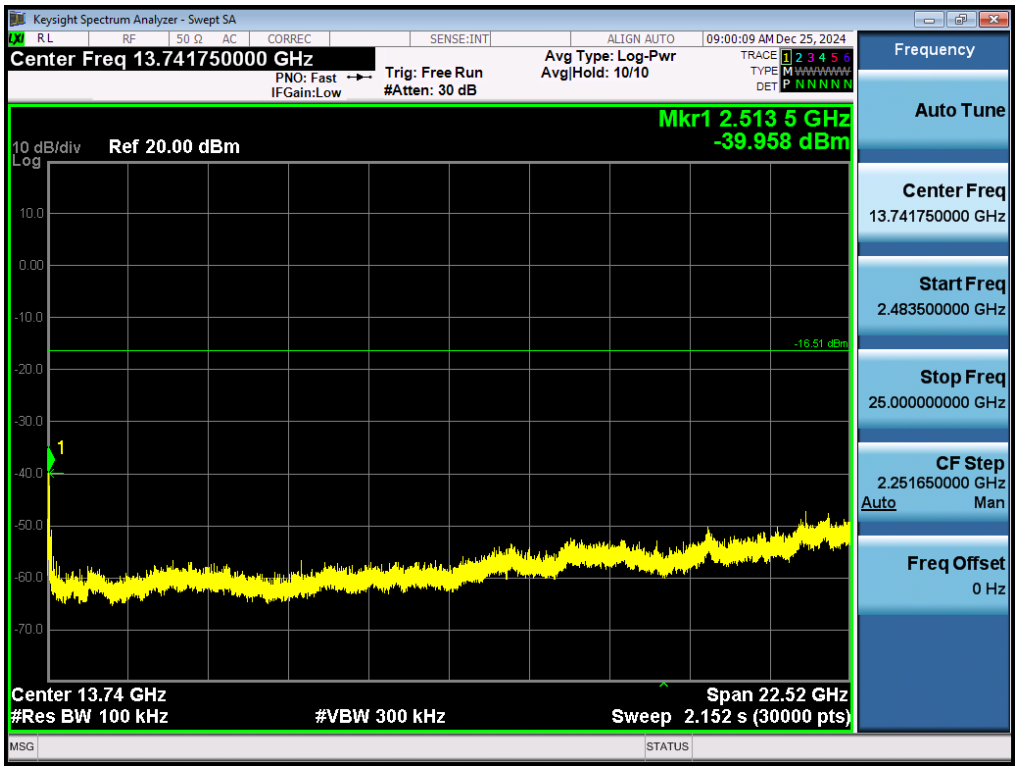
Test Mode	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK_1Mbps	2402	0~Reference	3.488	3.488	---	Pass
GFSK_1Mbps	2402	30~2390	3.488	-40.938	≤-16.51	Pass
GFSK_1Mbps	2402	2483.5~25000	3.488	-39.958	≤-16.51	Pass
GFSK_1Mbps	2440	0~Reference	3.799	3.799	---	Pass
GFSK_1Mbps	2440	30~2400	3.799	-40.184	≤-16.20	Pass
GFSK_1Mbps	2440	2483.5~25000	3.799	-39.785	≤-16.20	Pass
GFSK_1Mbps	2480	0~Reference	4.130	4.130	---	Pass
GFSK_1Mbps	2480	30~2400	4.130	-40.365	≤-15.87	Pass
GFSK_1Mbps	2480	2500~26500	4.130	-39.762	≤-15.87	Pass

Test Graphs

Test_Graph_LE1M_ANT1_2402_1Mbps_Reference Level

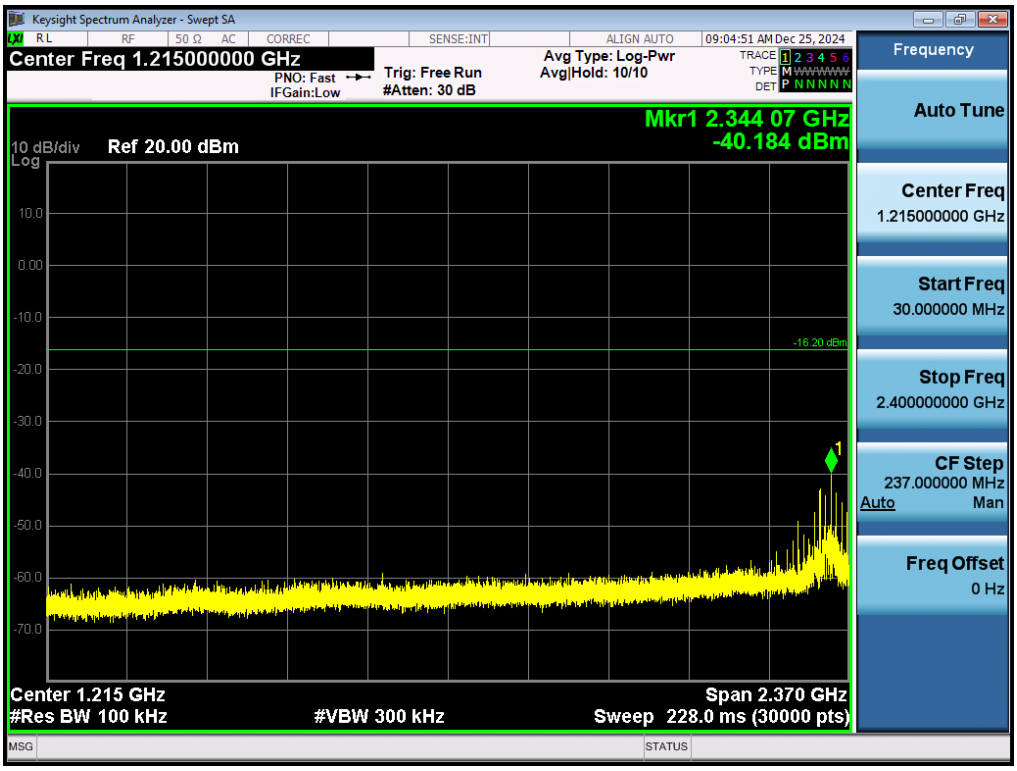


Test_Graph_LE1M_ANT1_2402_1Mbps_Lower Band Emissions

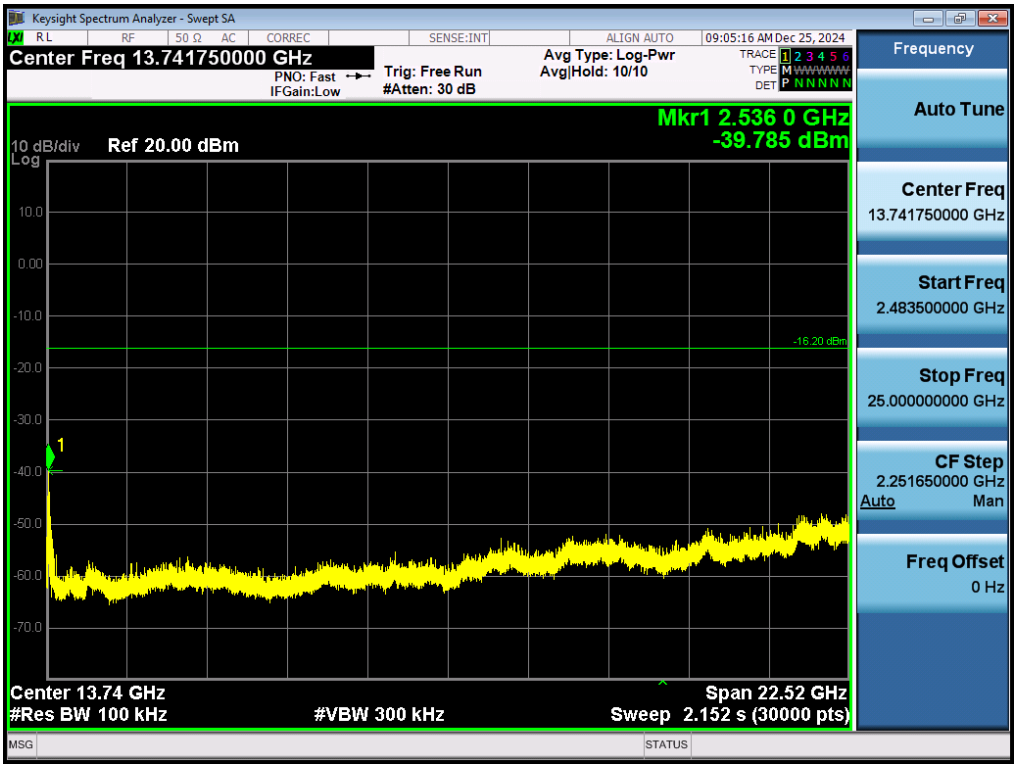


Test_Graph_LE1M_ANT1_2402_1Mbps_Higher Band Emissions

Test_Graph_LE1M_ANT1_2440_1Mbps_Reference Level

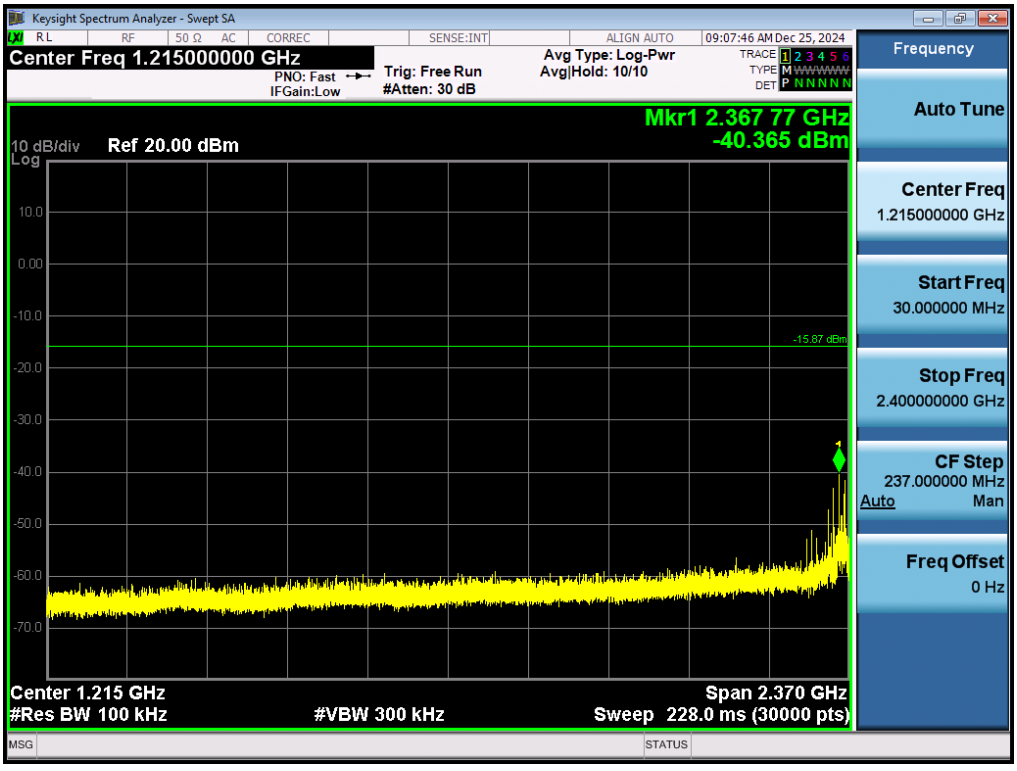


Test_Graph_LE1M_ANT1_2440_1Mbps_Lower Band Emissions

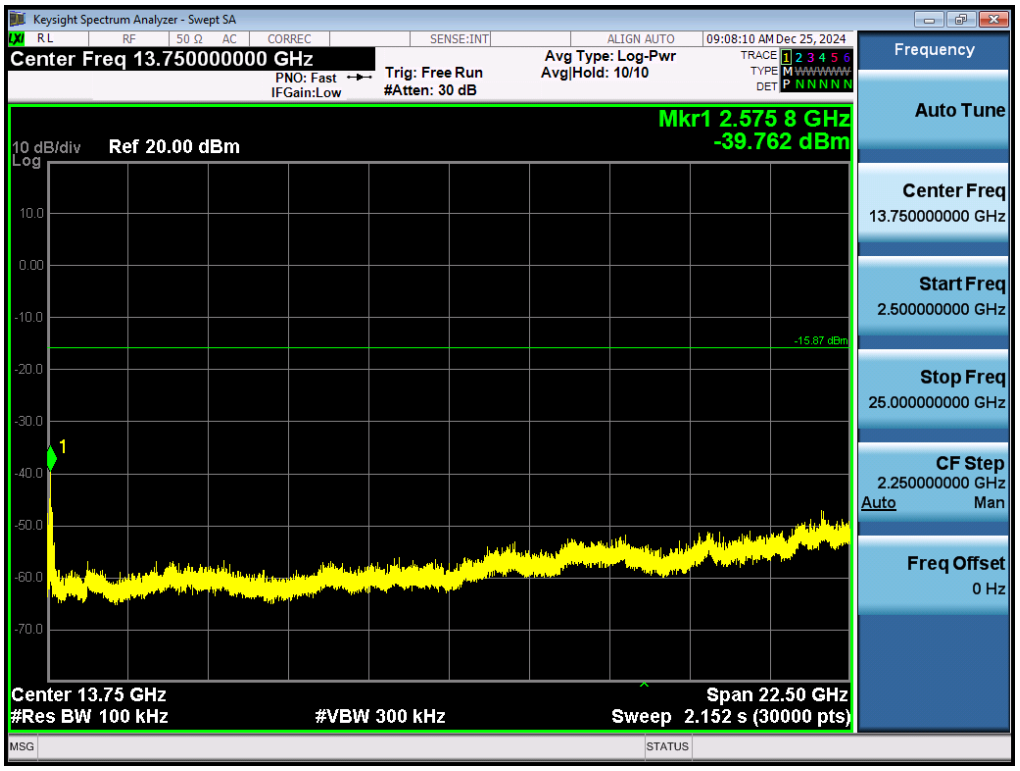


Test_Graph_LE1M_ANT1_2440_1Mbps_Higher Band Emissions

Test_Graph_LE1M_ANT1_2480_1Mbps_Reference Level



Test_Graph_LE1M_ANT1_2480_1Mbps_Lower Band Emissions



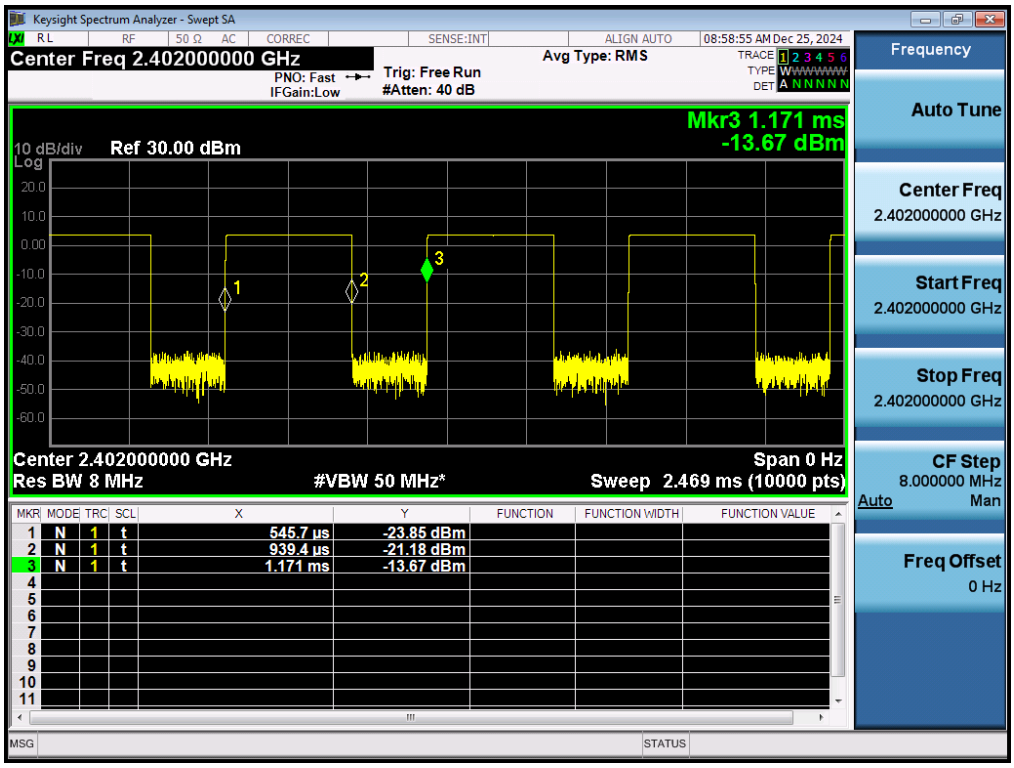
Test_Graph_LE1M_ANT1_2480_1Mbps_Higher Band Emissions

Appendix F: Duty Cycle

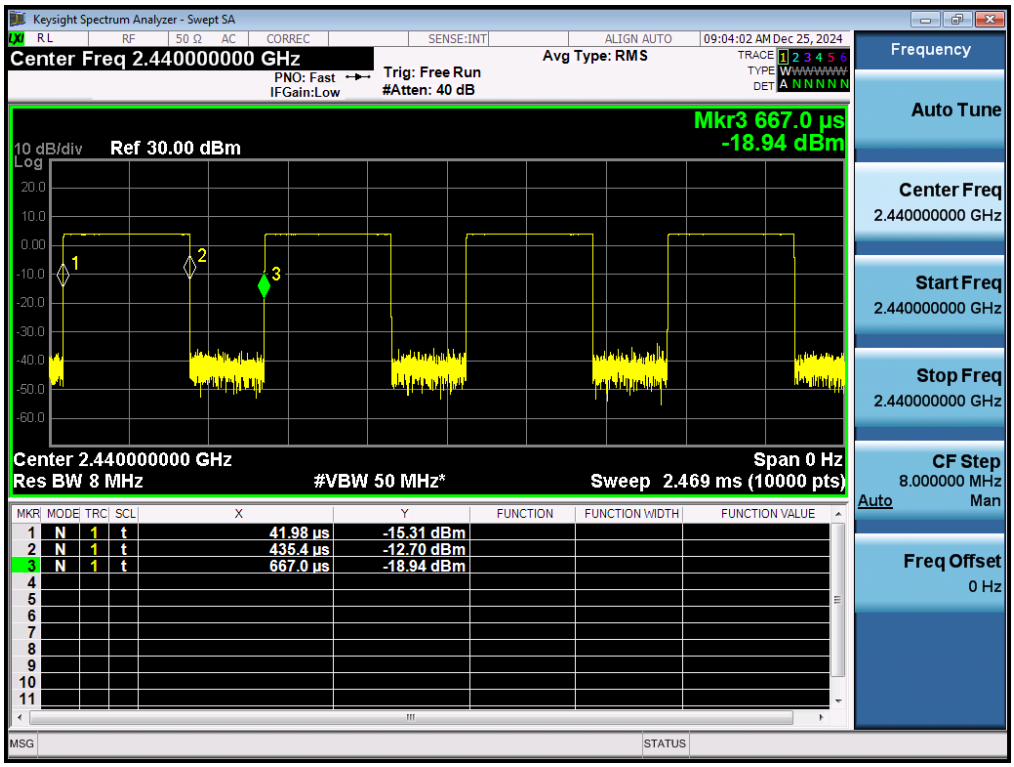
Test Result

Test Mode	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
GFSK_1Mbps	2402	0.394	0.625	62.96	2.01
GFSK_1Mbps	2440	0.016	0.247	6.31	12
GFSK_1Mbps	2480	0.394	0.625	62.99	2.01

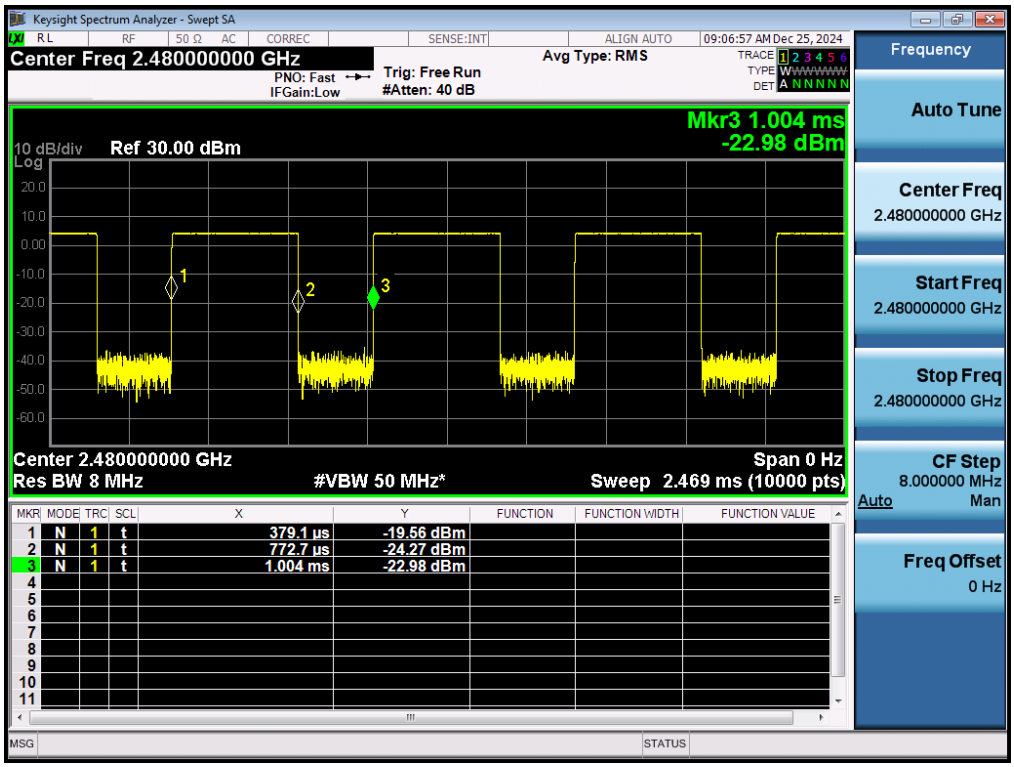
Test Graphs



BLE_1M-Ant1-2402



BLE_1M-Ant1-2440



BLE_1M-Ant1-2480