

Appendix Test Data for BLE (Conducted Measurement)

Product Name: S11 Speaker Unit

Trade Mark: AIAIAI

Test Model: TMA-2 S11

FCC ID: 2AKSOTMA2-S1101

Environmental Conditions

Temperature:	25°C
Relative Humidity:	45%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

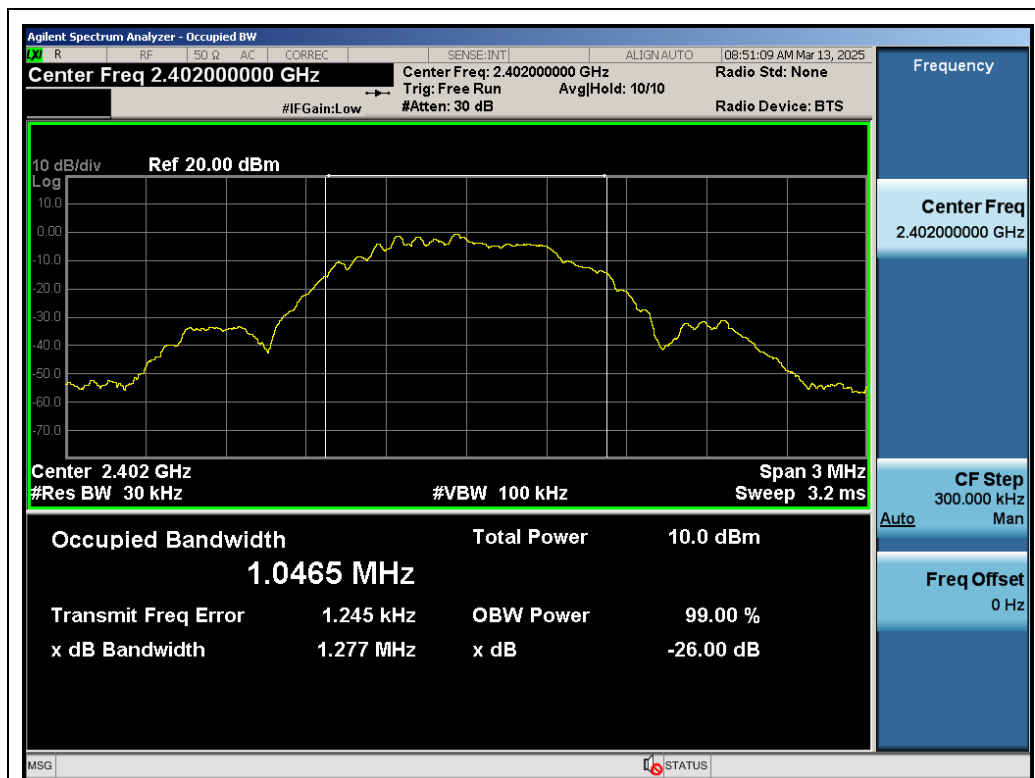
Appendix A: DTS Bandwidth & Occupied Channel Bandwidth

Test Result

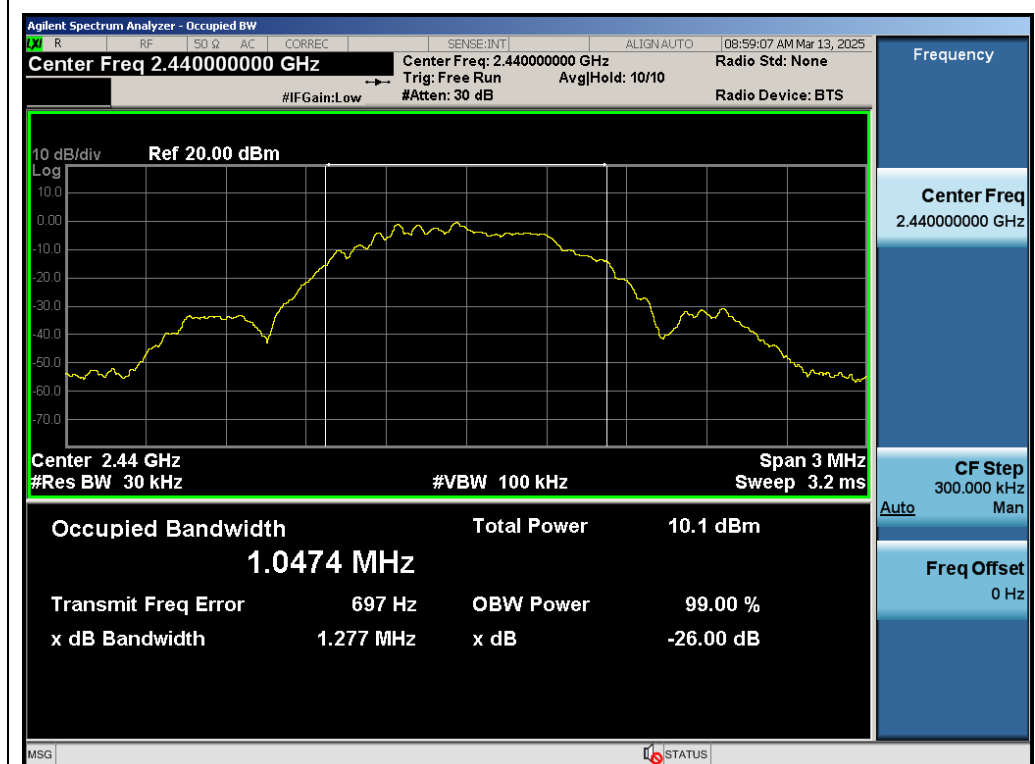
Test Mode	Test Frequency	Occupied Bandwidth (MHz)	DTS BW (MHz)	DTS BW Limits	Pass or Fail
GFSK_1Mbps	2402	1.047	0.721	≥ 0.5	Pass
	2440	1.047	0.724	≥ 0.5	Pass
	2480	1.048	0.719	≥ 0.5	Pass

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

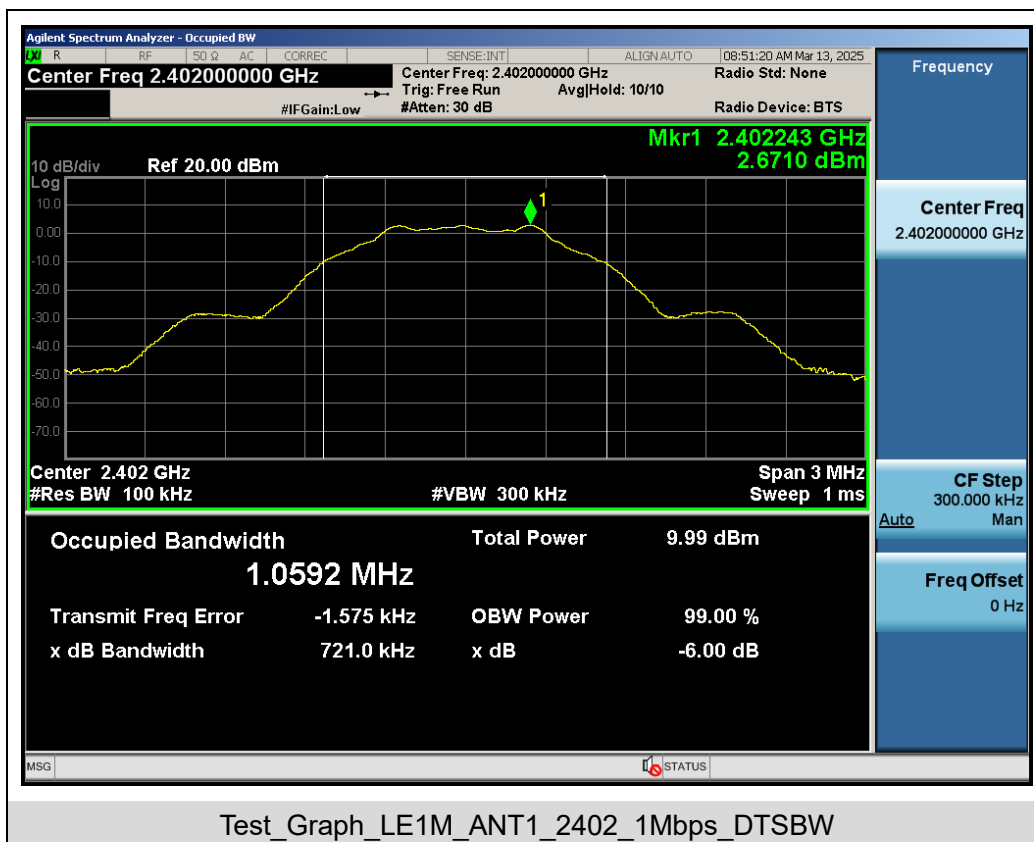
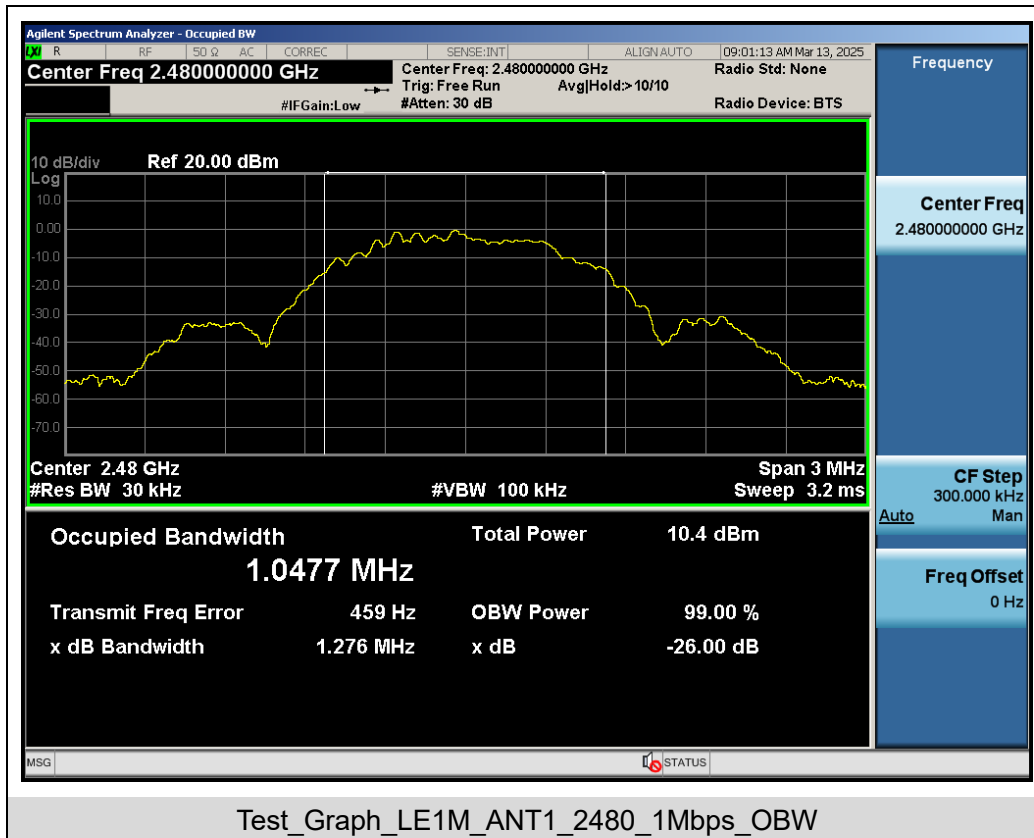
Test Graphs

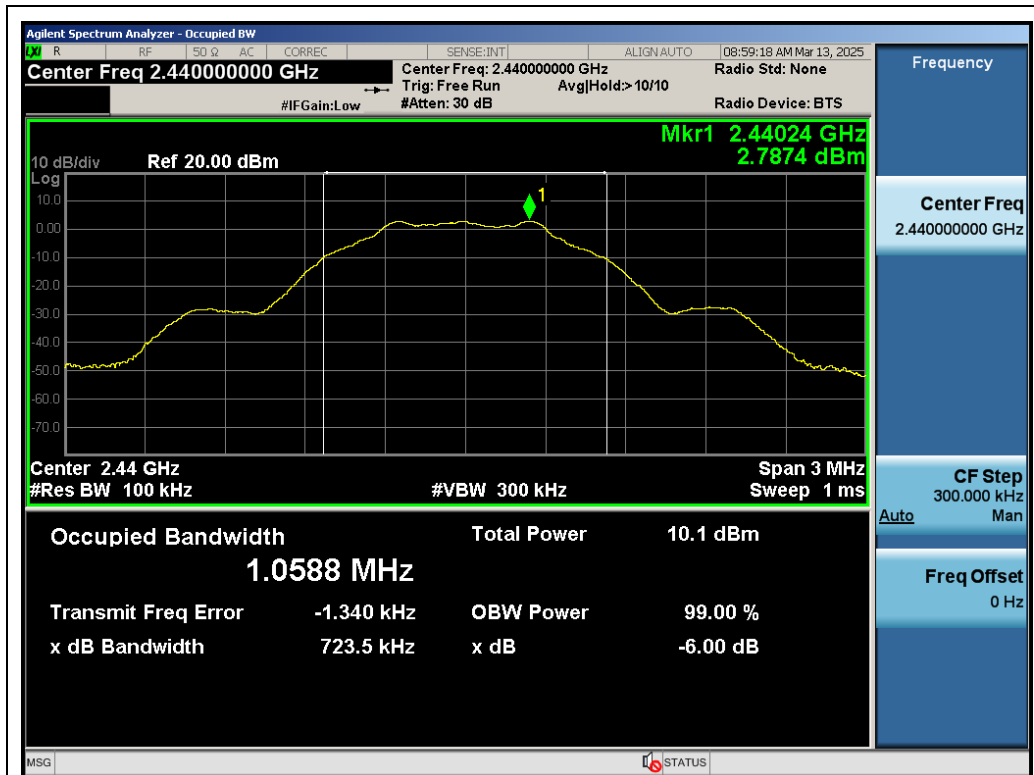


Test_Graph_LE1M_ANT1_2402_1Mbps_OBW

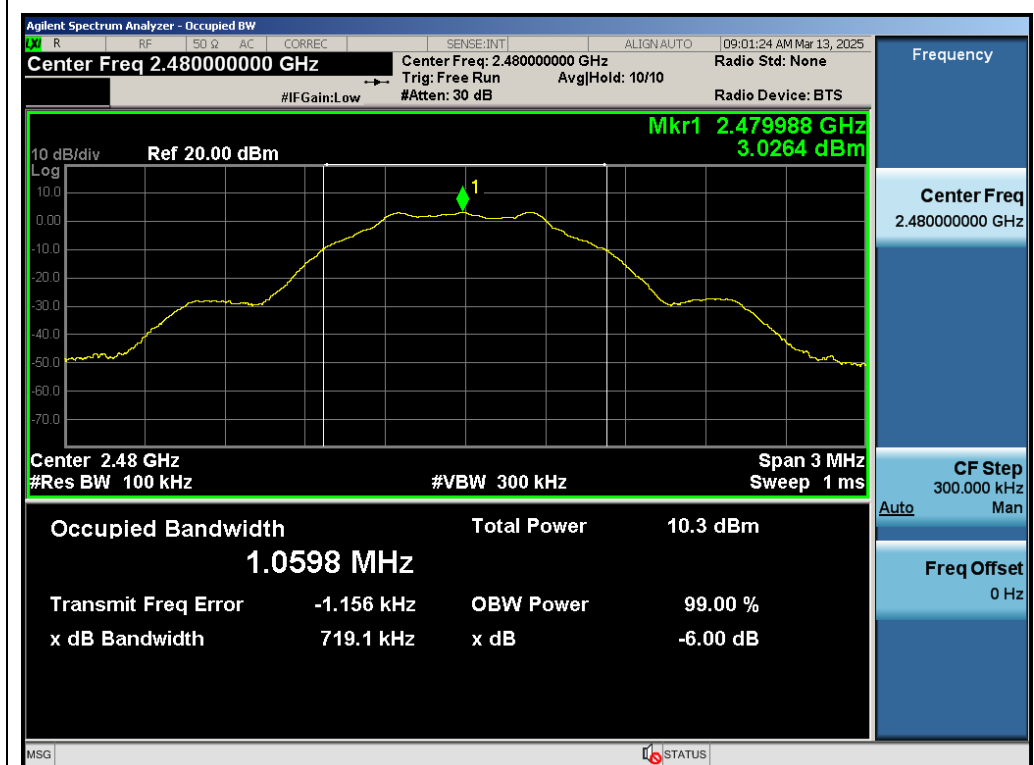


Test_Graph_LE1M_ANT1_2440_1Mbps_OBW





Test_Graph_LE1M_ANT1_2440_1Mbps_DTSBW



Test_Graph_LE1M_ANT1_2480_1Mbps_DTSBW

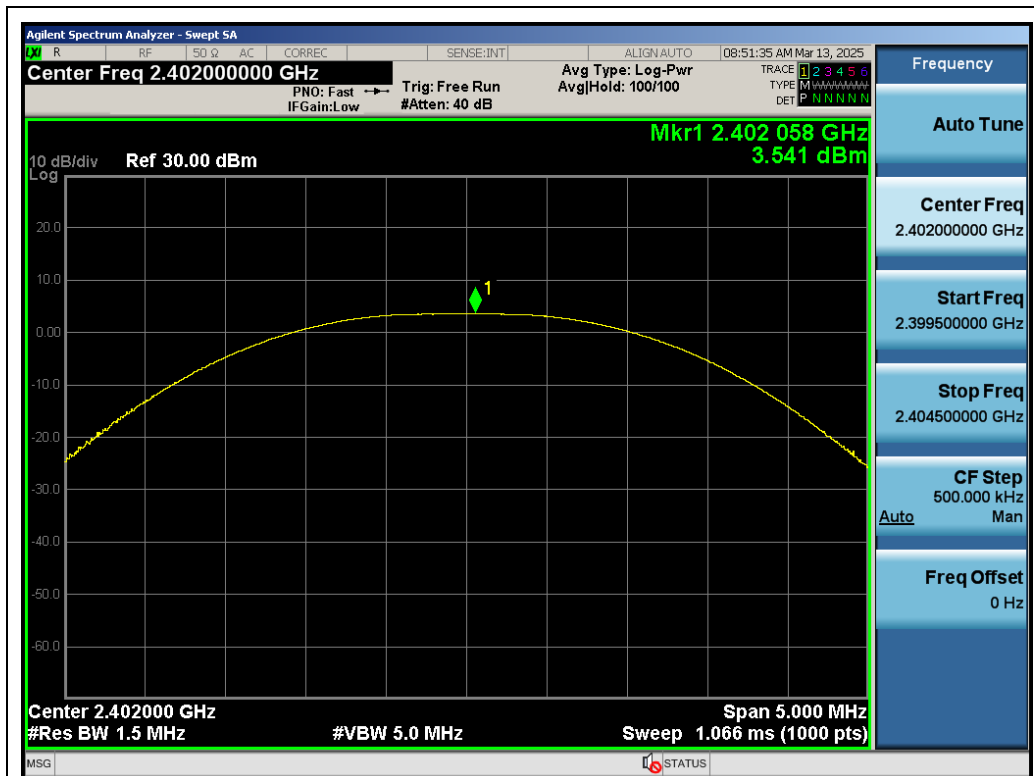
Appendix B: Maximum peak conducted output power

Test Result Peak

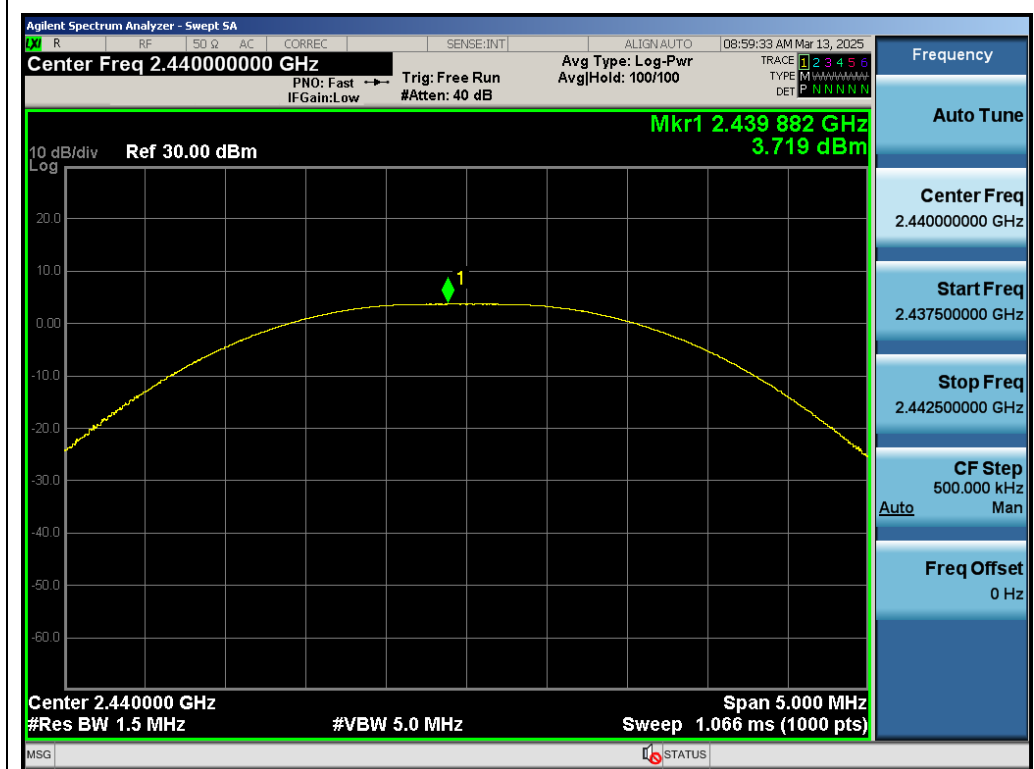
Test Mode	Test Frequency (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
GFSK_1Mbps	2402	3.541	≤ 30	Pass
	2440	3.719	≤ 30	Pass
	2480	3.866	≤ 30	Pass

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

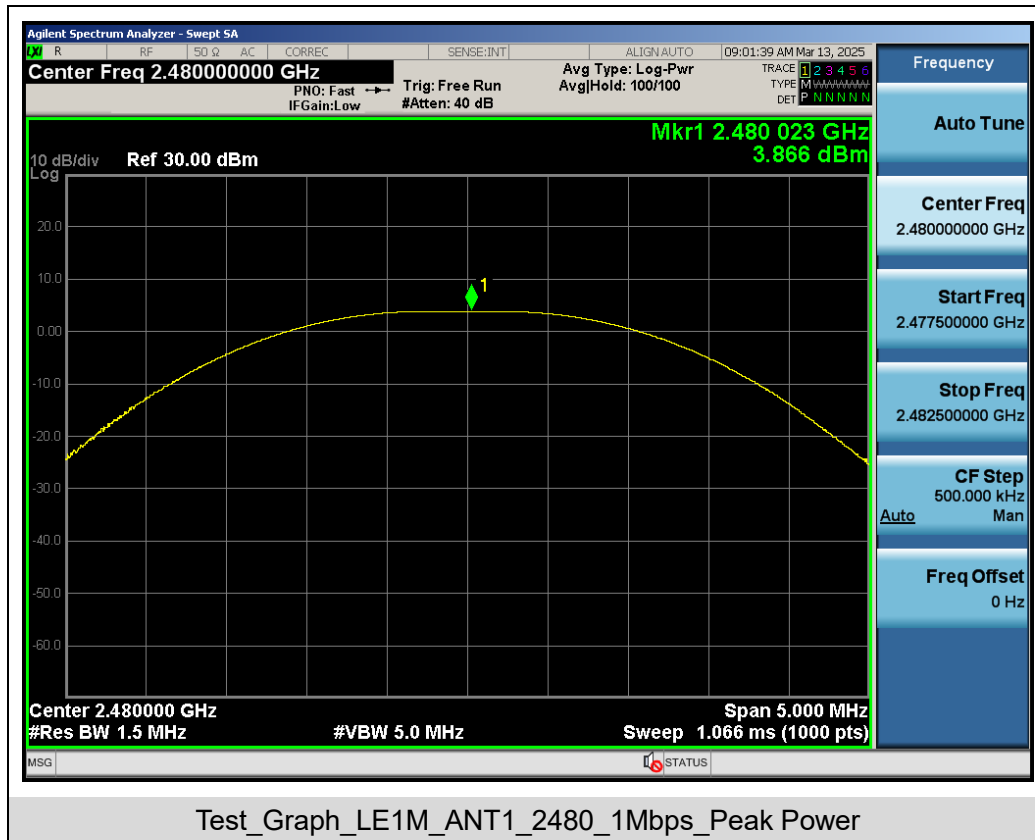
Test Graphs Peak



Test_Graph_LE1M_ANT1_2402_1Mbps_Peak Power



Test_Graph_LE1M_ANT1_2440_1Mbps_Peak Power



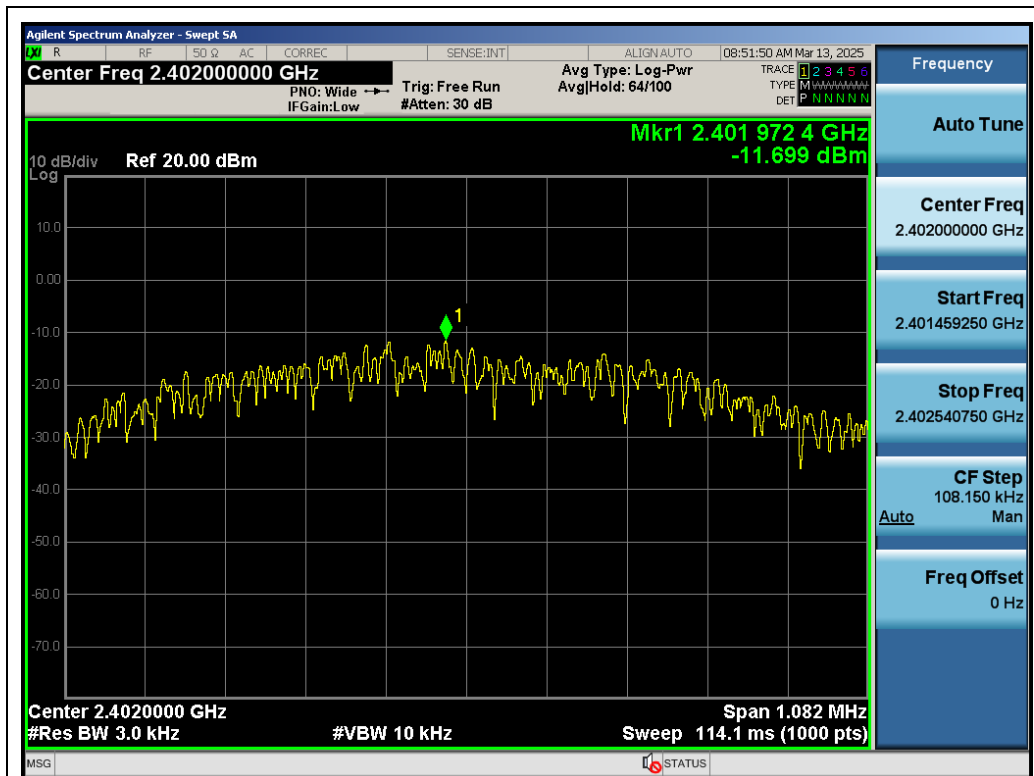
Appendix C: Maximum peak power spectral density

Test Result

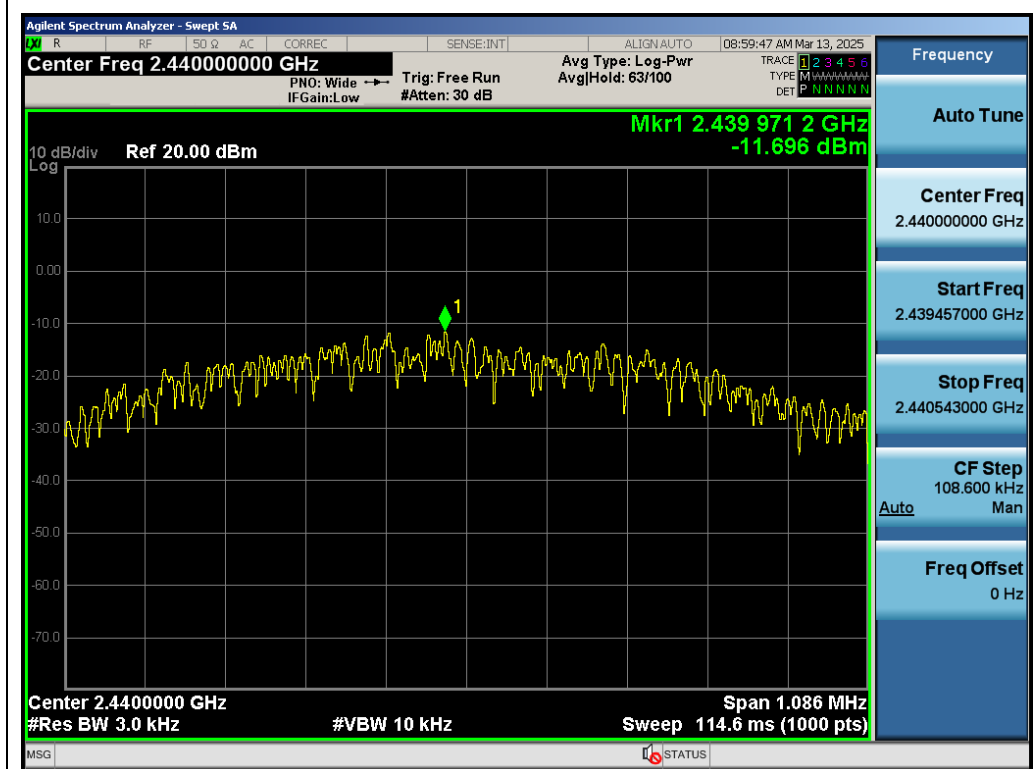
Test Mode	Test Frequency (MHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
GFSK_1Mbps	2402	-11.699	≤ 8	Pass
	2440	-11.696	≤ 8	Pass
	2480	-11.389	≤ 8	Pass

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

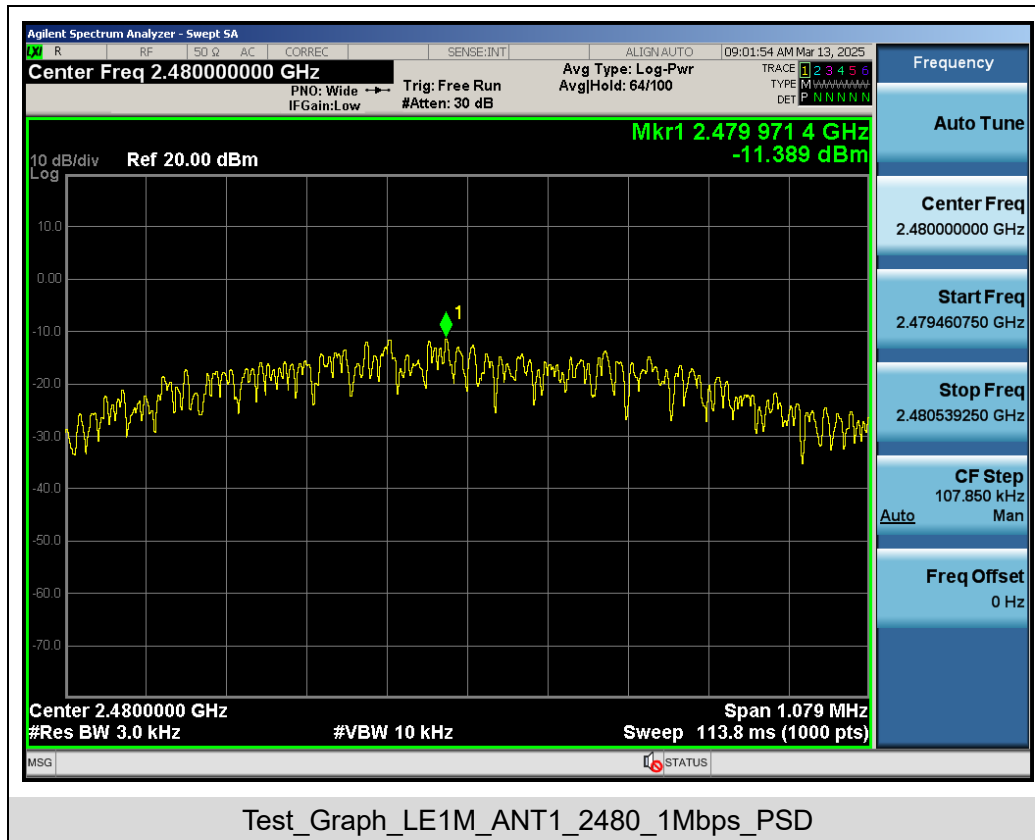
Test Graphs



Test_Graph_LE1M_ANT1_2402_1Mbps_PSD



Test_Graph_LE1M_ANT1_2440_1Mbps_PSD



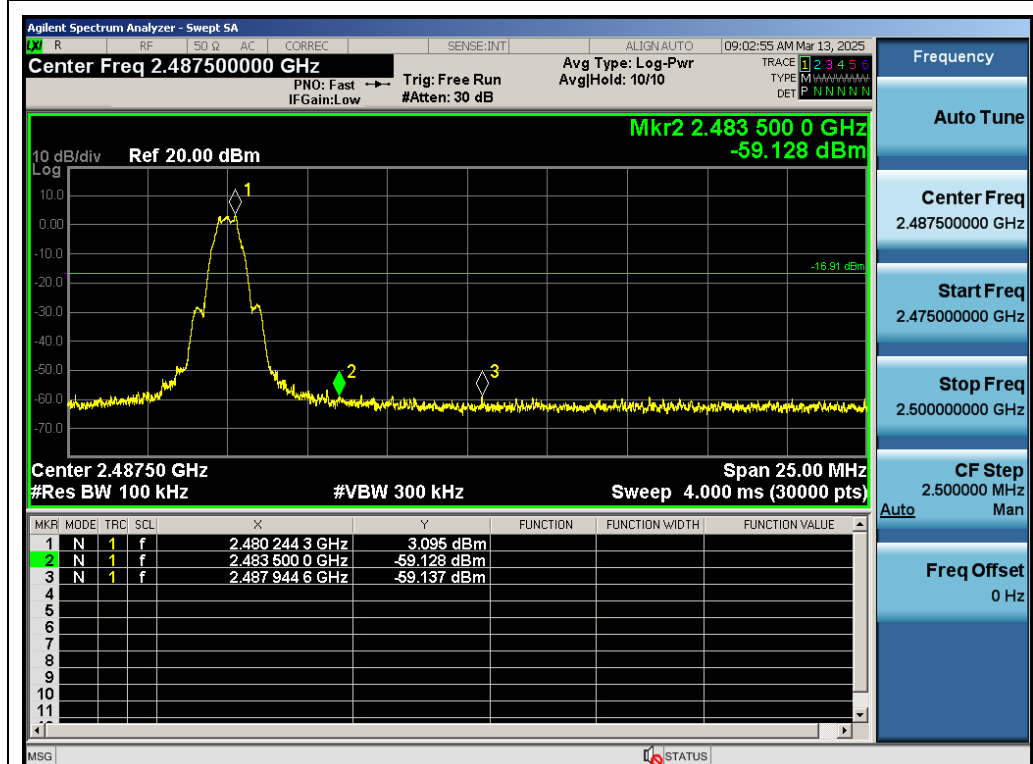
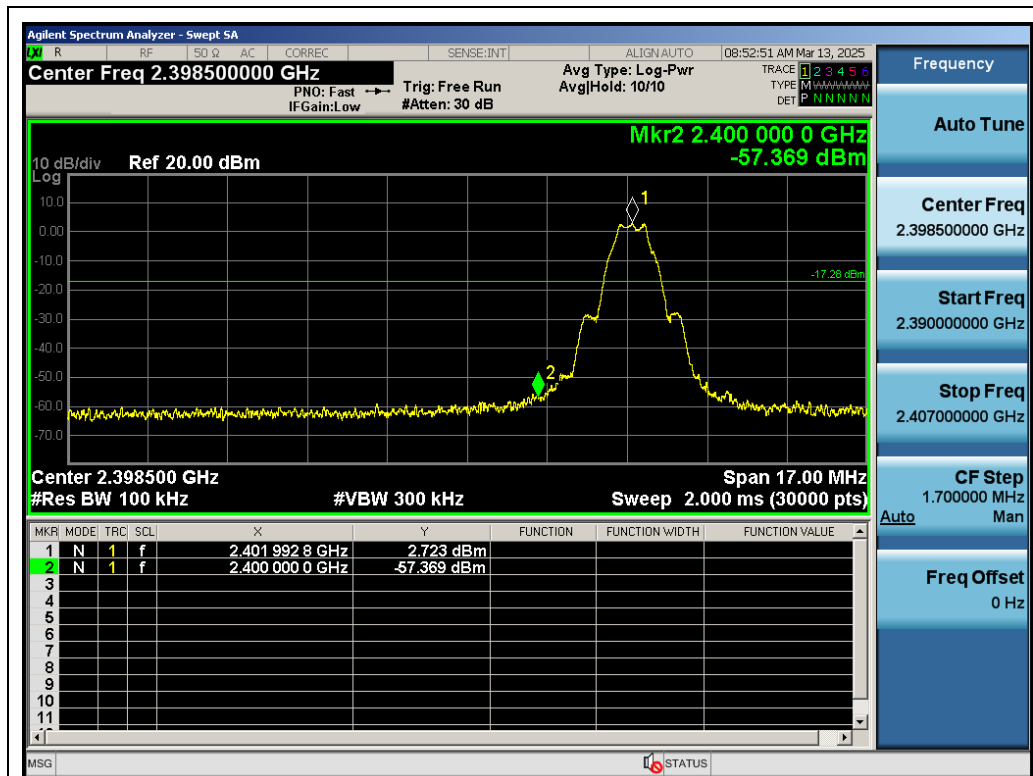
Appendix D: Band edge measurements

Test Result

Test Mode	Ch. Name	Frequency [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK_1Mbps	Low	2402	2.723	-57.369	≤-15.59	Pass
GFSK_1Mbps	High	2480	3.095	-59.128	≤-17.26	Pass

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

Test Graphs



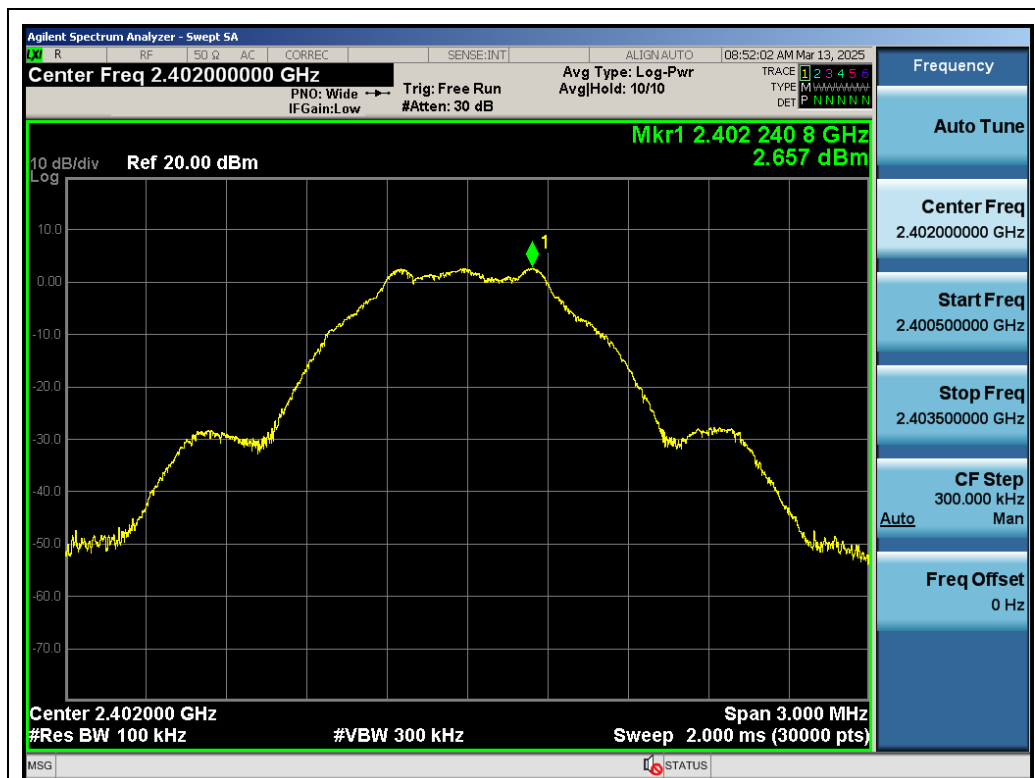
Appendix E: Conducted Spurious Emission

Test Result

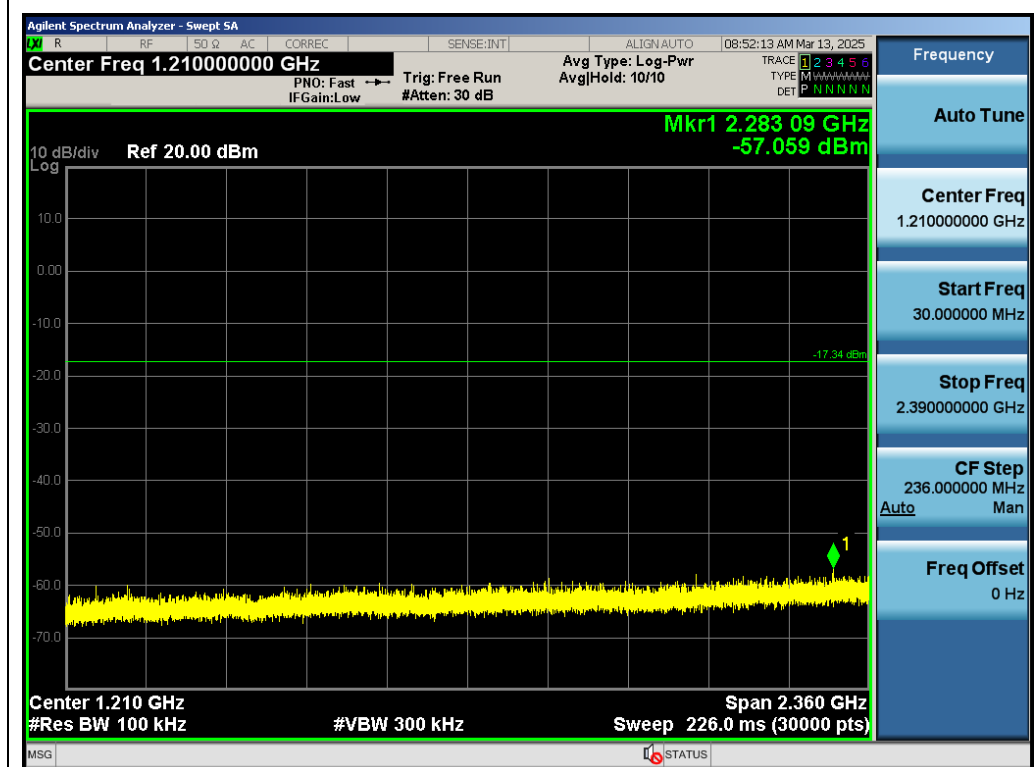
Test Mode	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK_1Mbps	2402	0~Reference	2.657	2.657	---	Pass
GFSK_1Mbps	2402	30~2390	2.657	-57.059	≤ -17.34	Pass
GFSK_1Mbps	2402	2483.5~25000	2.657	-49.062	≤ -17.34	Pass
GFSK_1Mbps	2440	0~Reference	2.762	2.762	---	Pass
GFSK_1Mbps	2440	30~2400	2.762	-57.146	≤ -17.24	Pass
GFSK_1Mbps	2440	2483.5~25000	2.762	-48.863	≤ -17.24	Pass
GFSK_1Mbps	2480	0~Reference	3.015	3.015	---	Pass
GFSK_1Mbps	2480	30~2400	3.015	-57.661	≤ -16.99	Pass
GFSK_1Mbps	2480	2500~26500	3.015	-49.130	≤ -16.99	Pass

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

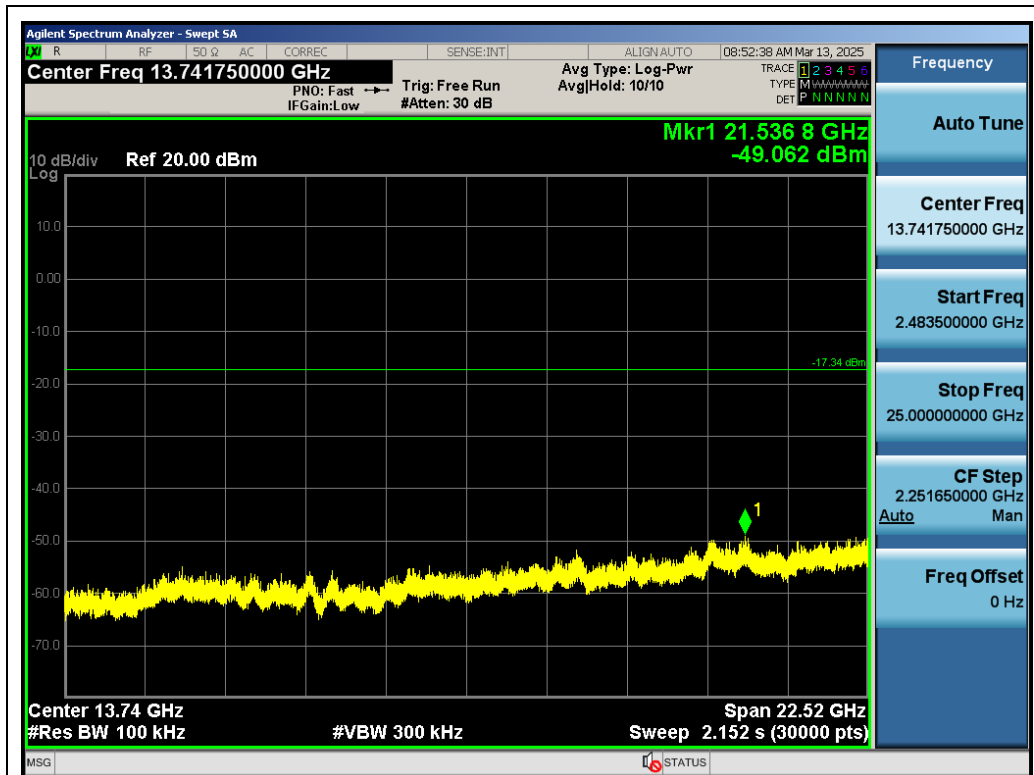
Test Graphs



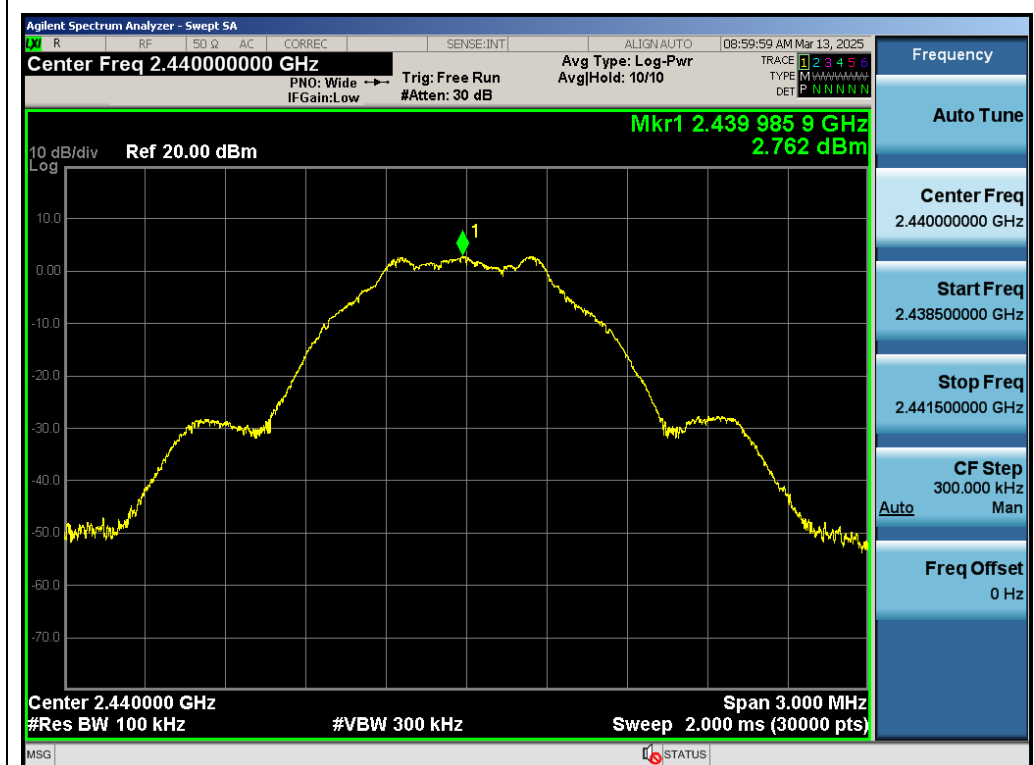
Test_Graph_LE1M_ANT1_2402_1Mbps_Reference Level



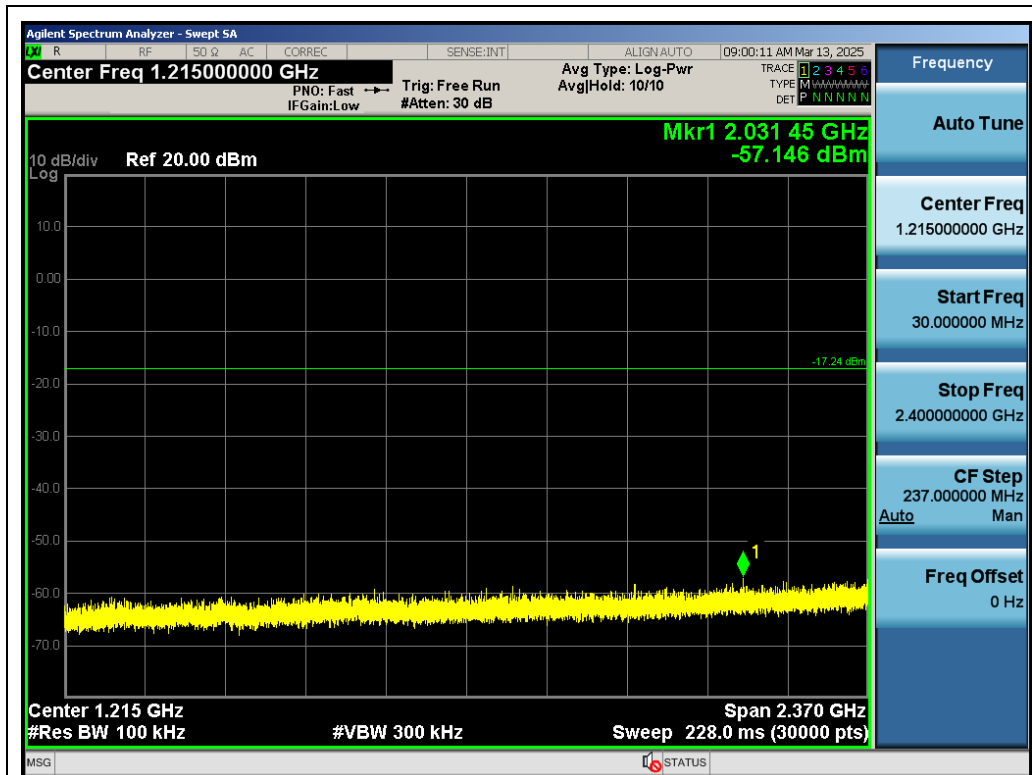
Test_Graph_LE1M_ANT1_2402_1Mbps_Lower Band Emissions



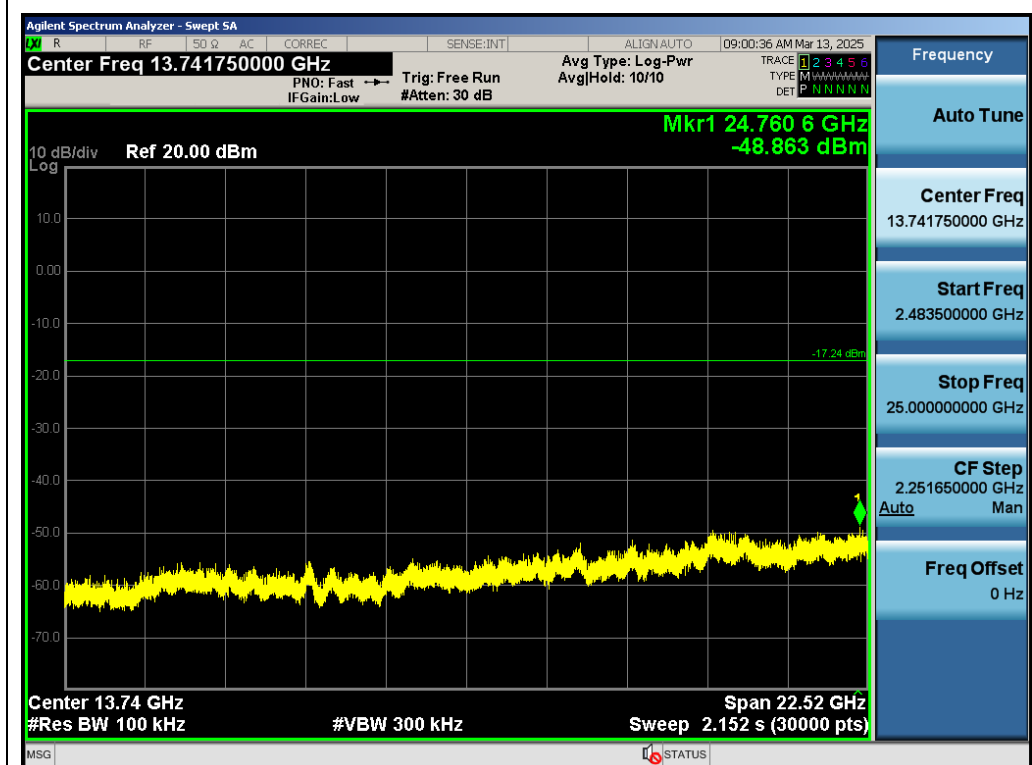
Test_Graph_LE1M_ANT1_2402_1Mbps_Higher Band Emissions



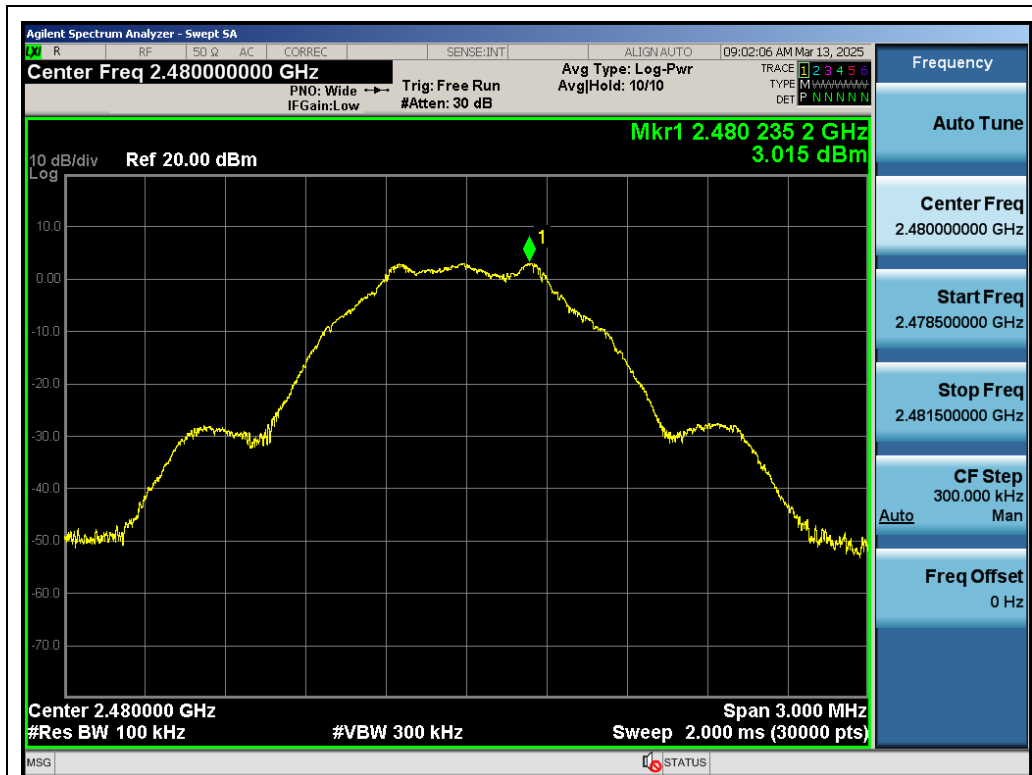
Test_Graph_LE1M_ANT1_2440_1Mbps_Reference Level



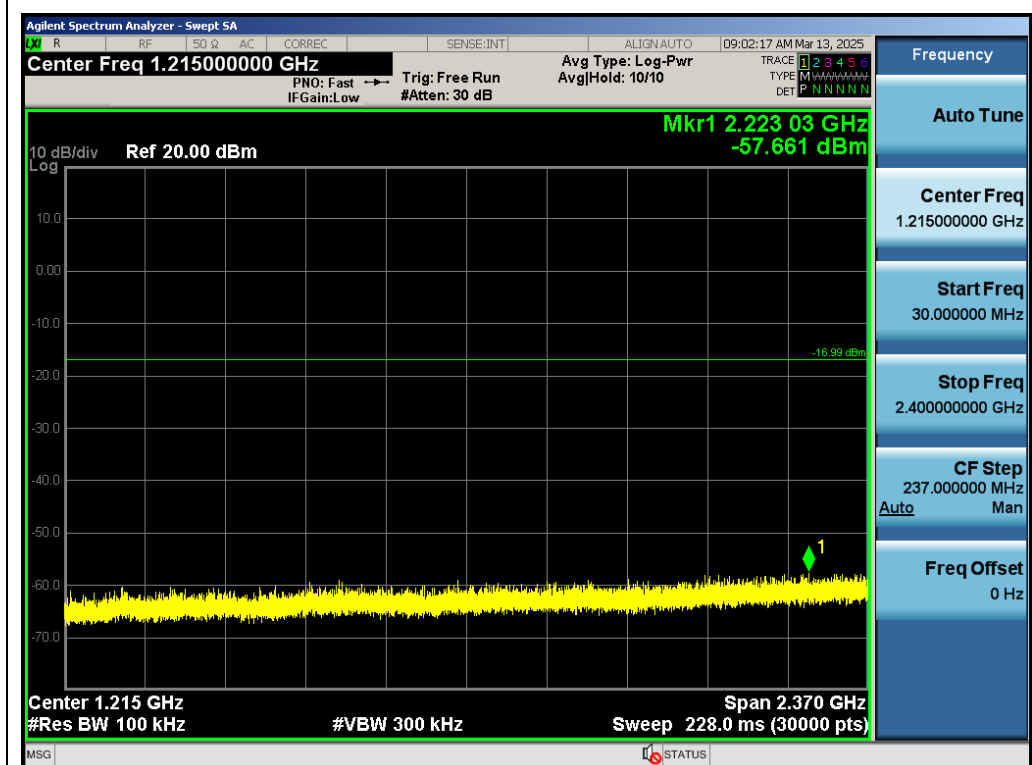
Test_Graph_LE1M_ANT1_2440_1Mbps_Lower Band Emissions



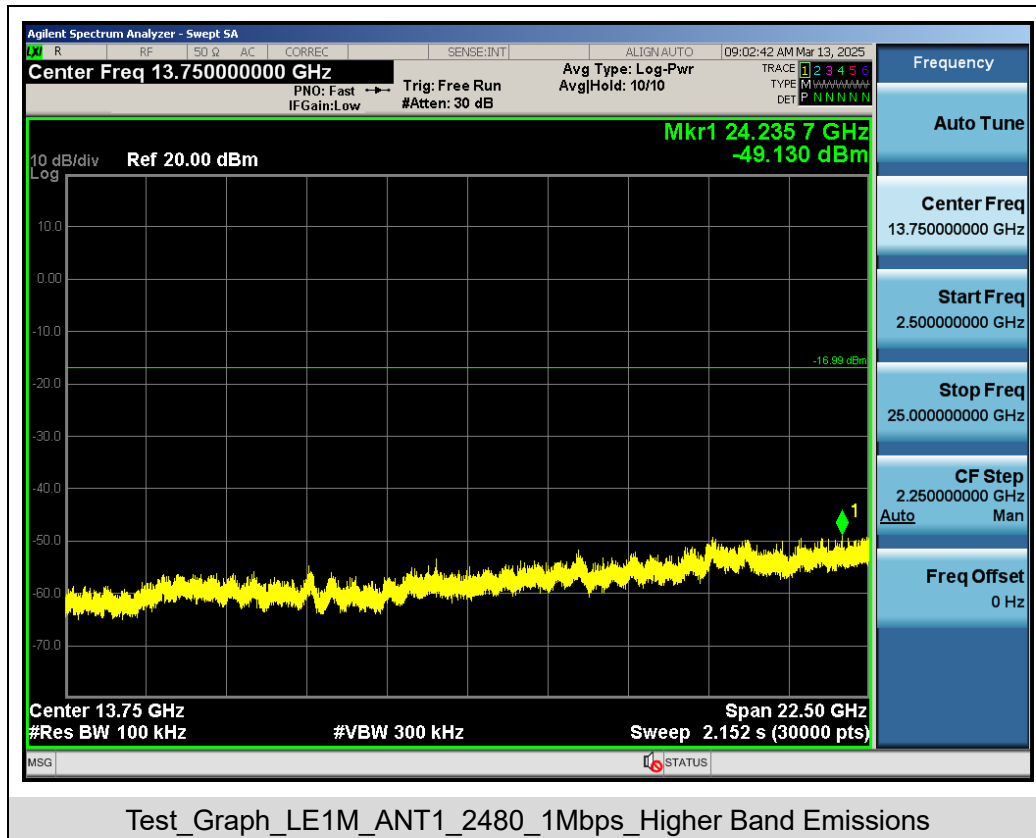
Test_Graph_LE1M_ANT1_2440_1Mbps_Higher Band Emissions



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]
GFSK_1Mbps	2402	0.38	0.62	60.75	2.16
GFSK_1Mbps	2440	0.38	0.62	60.75	2.16
GFSK_1Mbps	2480	0.38	0.62	60.75	2.16

Remark: The factor had been edited in the “Input Correction” of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

Test Graphs

