

Appendix Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: HELMET WIRELESS INTERCOM HEADSET

Trade Mark: N/A

Test Model: C9

FCC ID: 2AXEL-C9

Environmental Conditions

Temperature:	25.5℃
Relative Humidity:	52%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Max Zhang
NOTE	N/A

Appendix A: 20dB Emission Bandwidth& Occupied Channel

Bandwidth

Test Result

Test Mode	Test Frequency	99% Occupied Bandwidth	-20dB Bandwidth	Limits	Pass or Fail
GFSK	2402	0.907	1.035	N/A	Pass
	2441	0.897	1.016	N/A	Pass
	2480	0.904	1.015	N/A	Pass
π /4-DQPSK	2402	1.182	1.317	N/A	Pass
	2441	1.190	1.316	N/A	Pass
	2480	1.198	1.298	N/A	Pass

Test Graphs



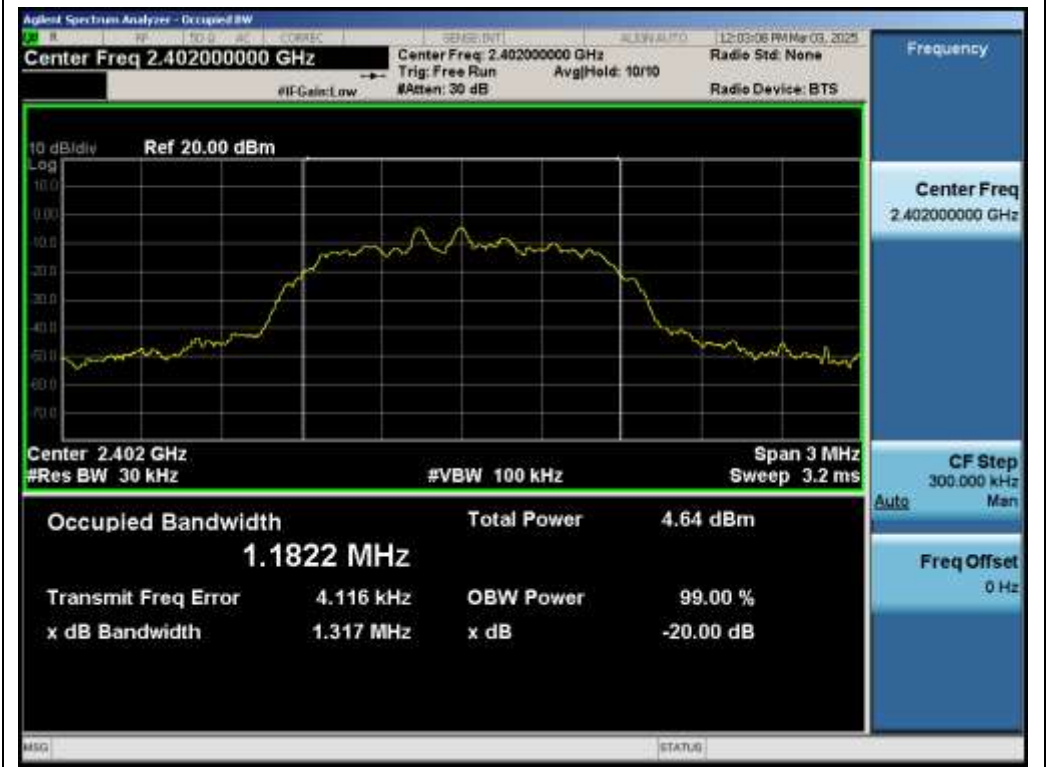
Test_Graph_BR_ANT1_2402_1Mbps_OBW



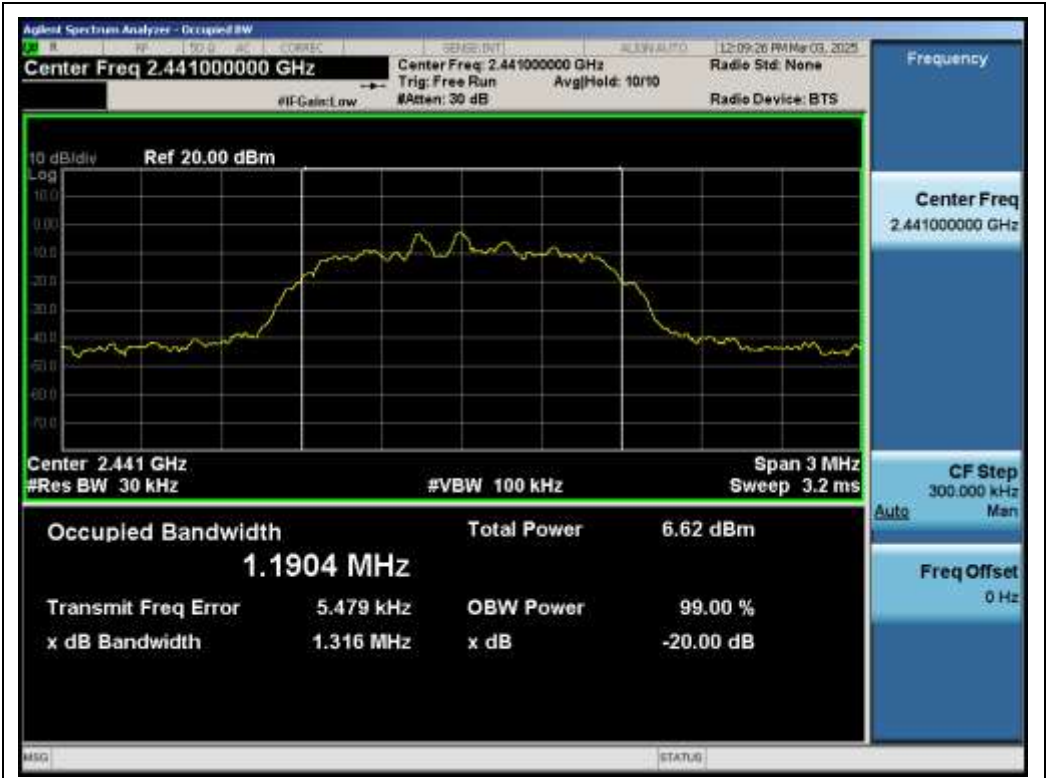
Test_Graph_BR_ANT1_2441_1Mbps_OBW



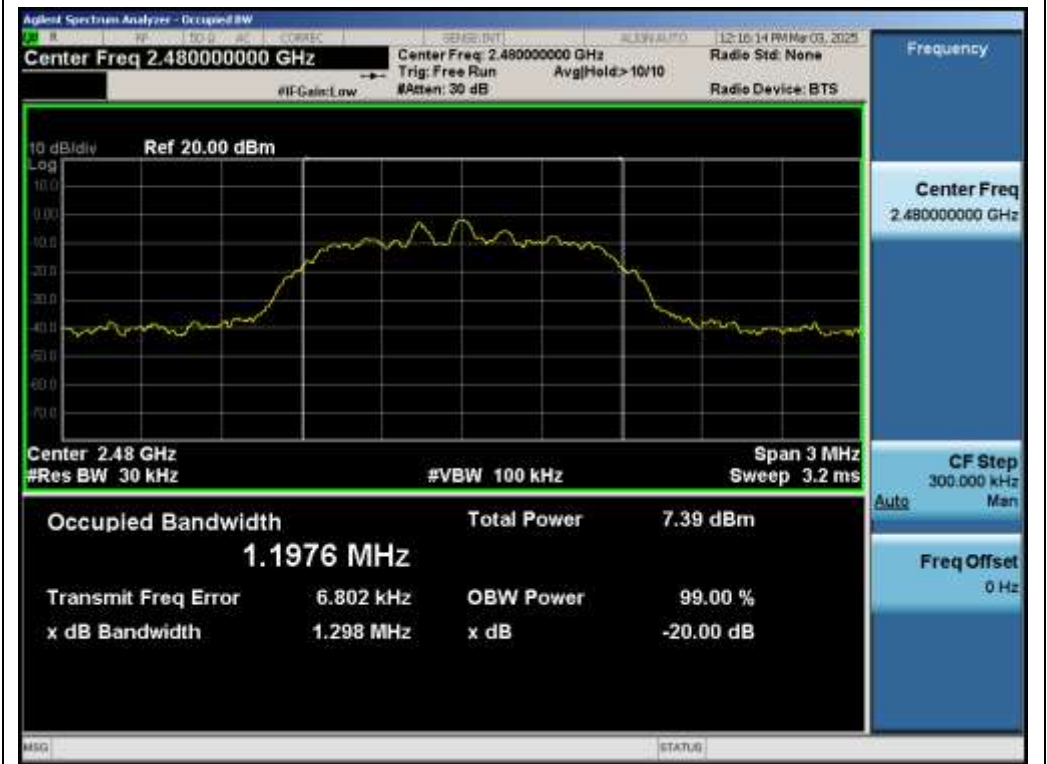
Test_Graph_BR_ANT1_2480_1Mbps_OBW



Test_Graph_EDR_ANT1_2402_2Mbps_OBW



Test_Graph_EDR_ANT1_2441_2Mbps_OBW



Test_Graph_EDR_ANT1_2480_2Mbps_OBW

Appendix B: Maximum peak conducted output power

Test Result

Test Mode	Test Frequency (MHz)	Peak Power (dBm)	Limits (dBm)	Pass or Fail
GFSK	2402	-2.982	≤ 21	Pass
	2441	-0.420	≤ 21	Pass
	2480	0.119	≤ 21	Pass
π /4-DQPSK	2402	-1.551	≤ 21	Pass
	2441	0.206	≤ 21	Pass
	2480	0.618	≤ 21	Pass

Test Graphs



Test_Graph_BR_ANT1_2402_1Mbps_Peak Power



Test_Graph_BR_ANT1_2441_1Mbps_Peak Power



Test_Graph_BR_ANT1_2480_1Mbps_Peak Power



Test_Graph_EDR_ANT1_2402_2Mbps_Peak Power



Test_Graph_EDR_ANT1_2441_2Mbps_Peak Power



Test_Graph_EDR_ANT1_2480_2Mbps_Peak Power

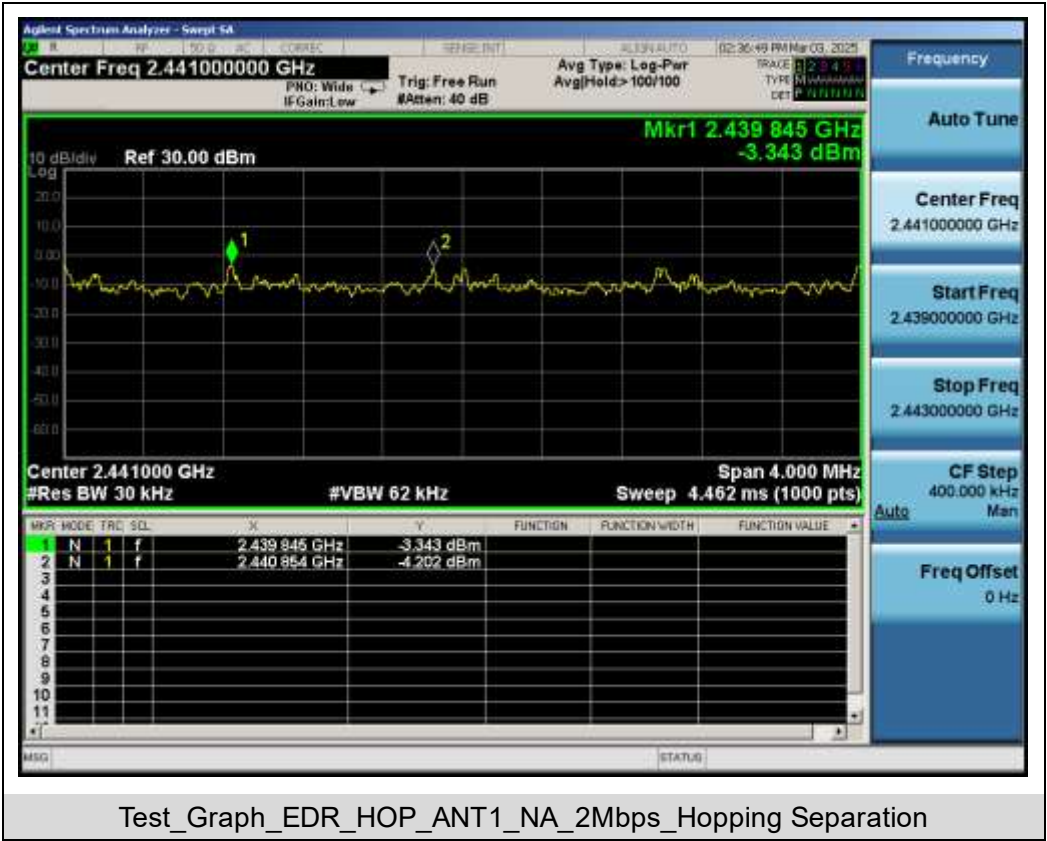
Appendix C: Carrier frequency separation

Test Result

Test Mode	Channel Separation (MHz)	Limits (MHz)	Pass or Fail
π /4-DQPSK	1.009	0.878	Pass

Remark:For this test item, only the 2DH5 rate mode corresponding to the maximum power 8D PSK modulation is recorded.

Test Graphs

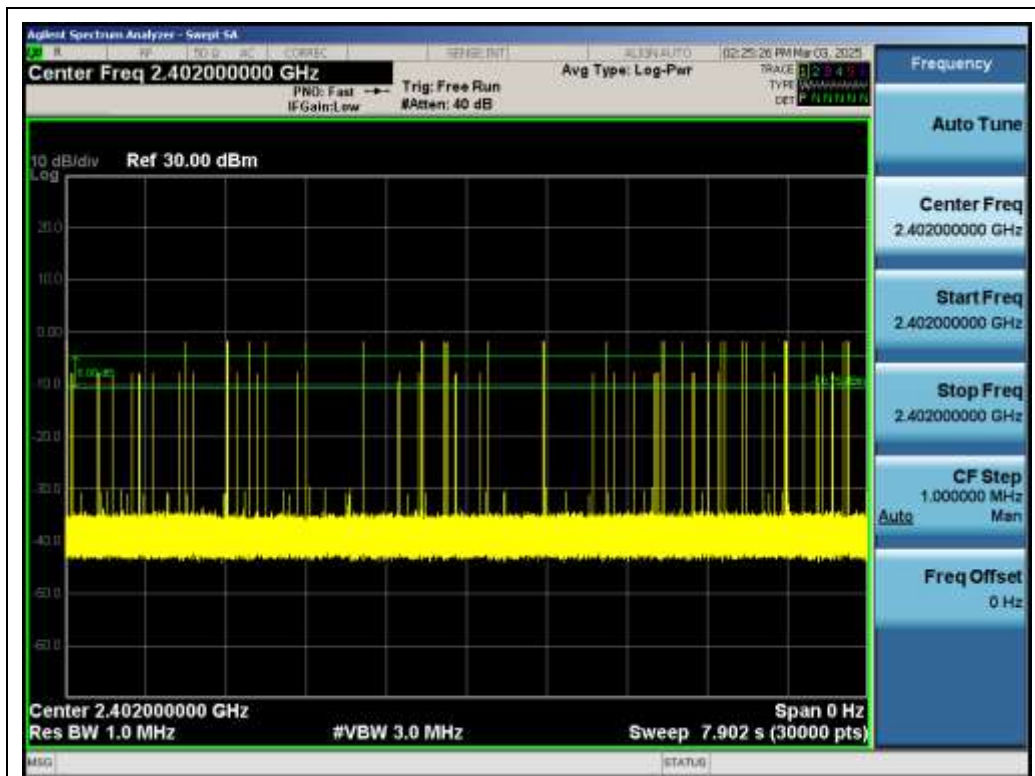


Appendix D: Time of occupancy

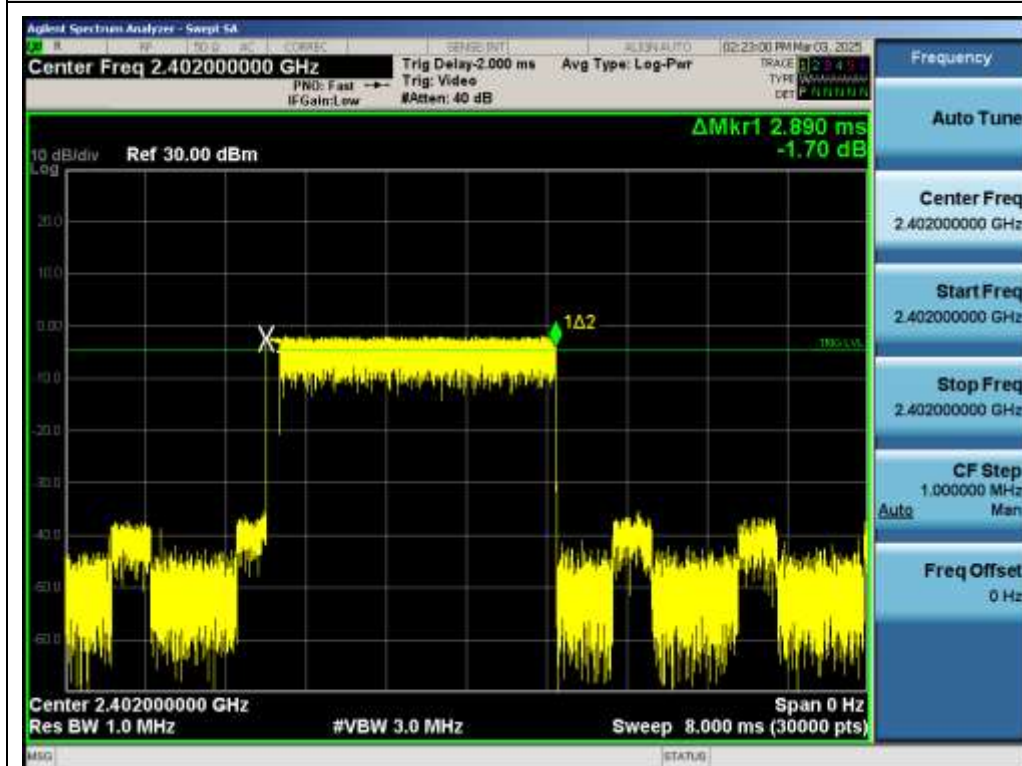
Test Result

Channel	Time of Pulse for 2DH5 (ms)	Number of hops in the period specified in the requirements	Dwell Time (ms)	Limit (ms)	Pass or Fail
2402	2.890	28.0*4	323.680	400	Pass
2441	2.890	26.0*4	300.560	400	Pass
2480	2.890	27.0*4	312.120	400	Pass

Test Graphs



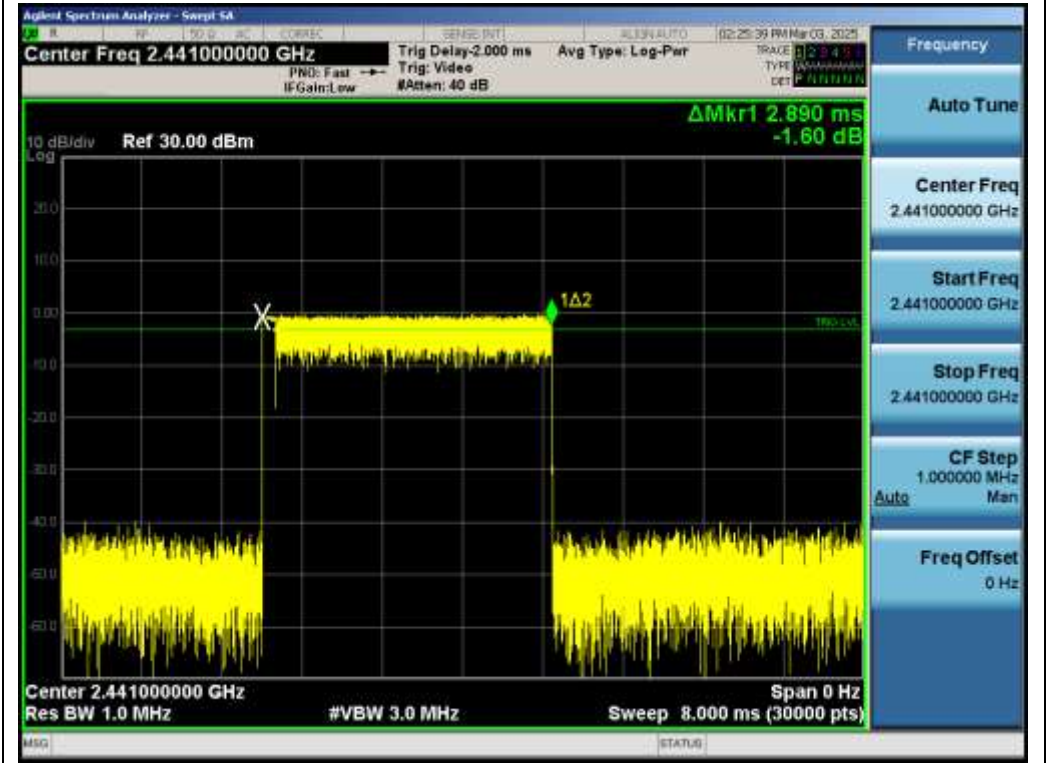
Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2402_Number of Burst



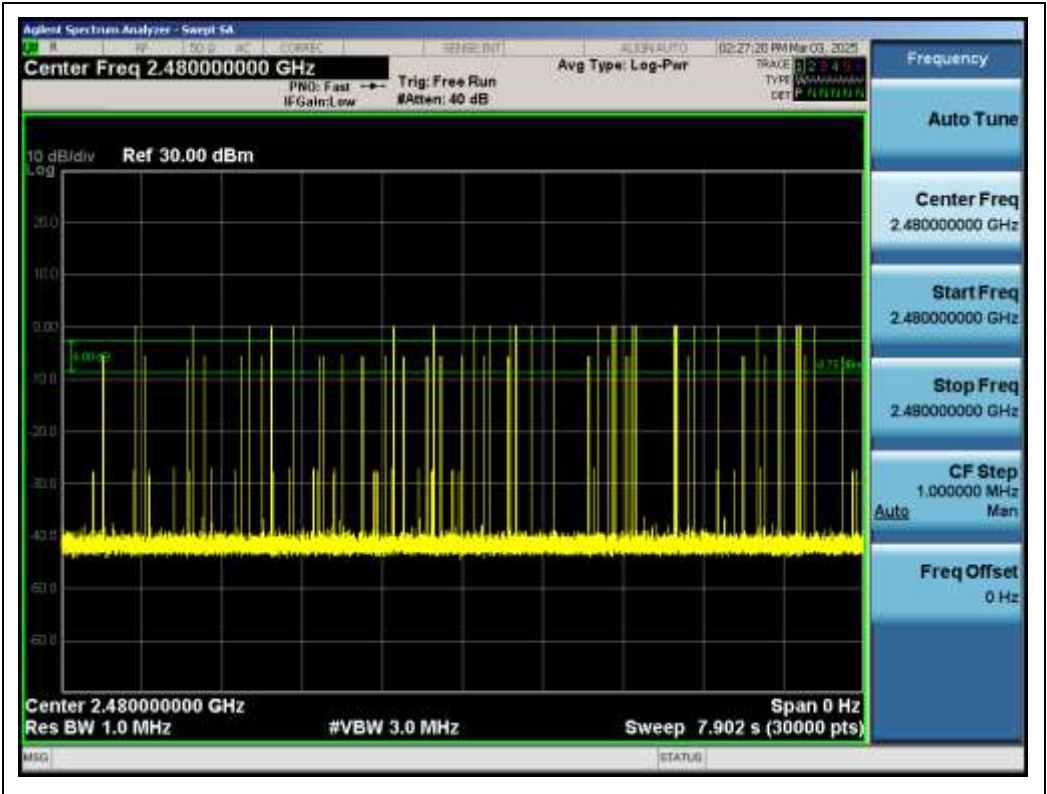
Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2402_Time per Burst



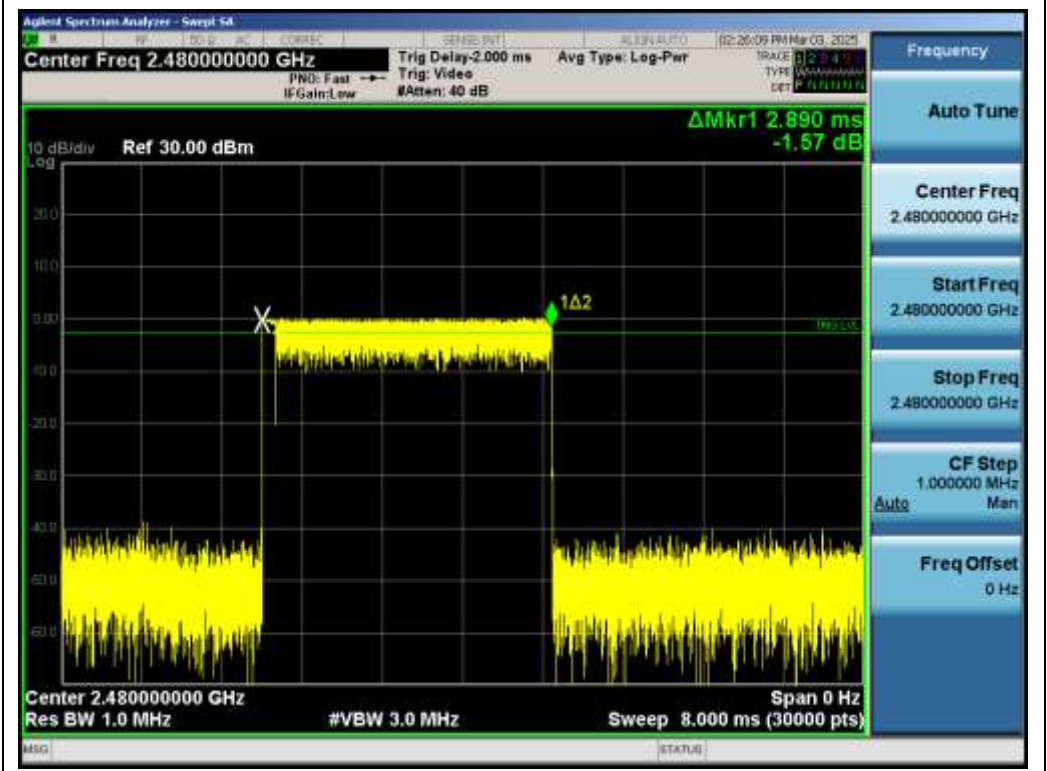
Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2441_Number of Burst



Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2441_Time per Burst



Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2480_Number of Busrt



Test_Graph_EDR_HOP_ANT1_NA_2Mbps_2480_Time per Burst

Remark:For this test item, only the 2DH5 rate mode corresponding to the maximum power π / π -DQPSK modulation is recorded.

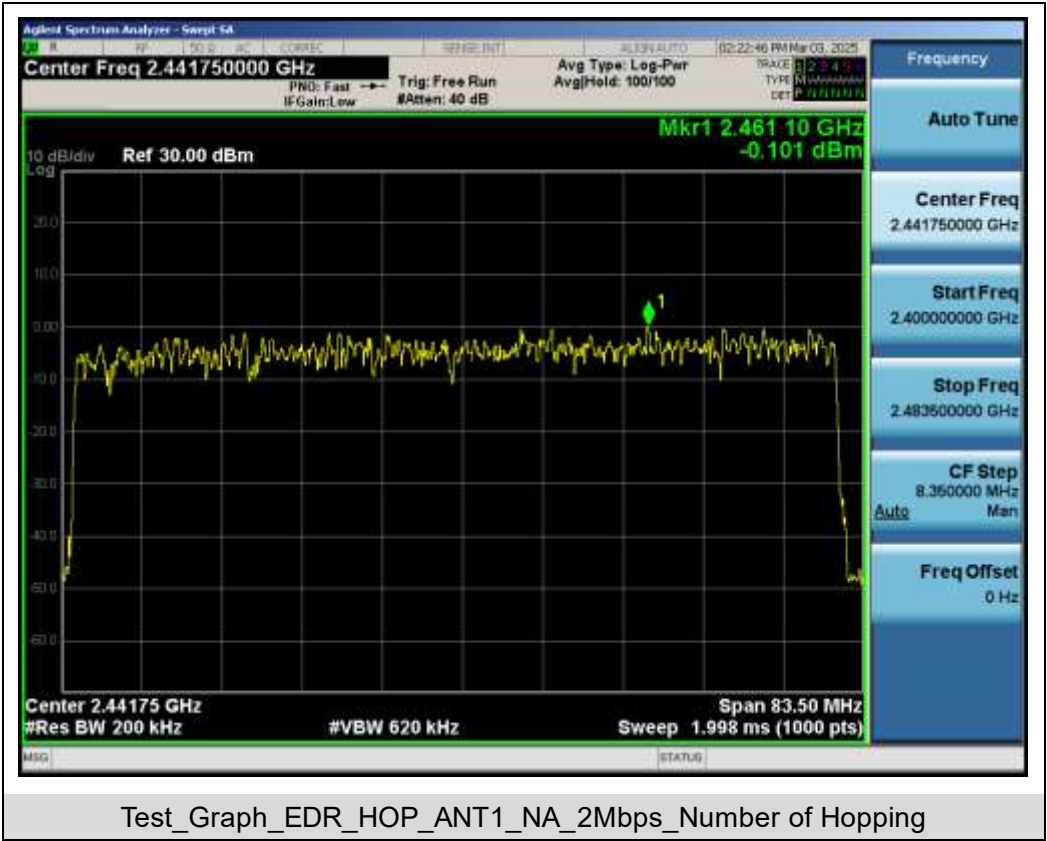
Appendix E: Number of hopping channels

Test Result

Test Mode	Number of Hopping Frequency	Limits	Pass or Fail
π /4-DQPSK	79	≥ 15	Pass

Remark: For this test item, only the 2DH5 rate mode corresponding to the maximum power π /4-DQPSK modulation is recorded.

Test Graphs

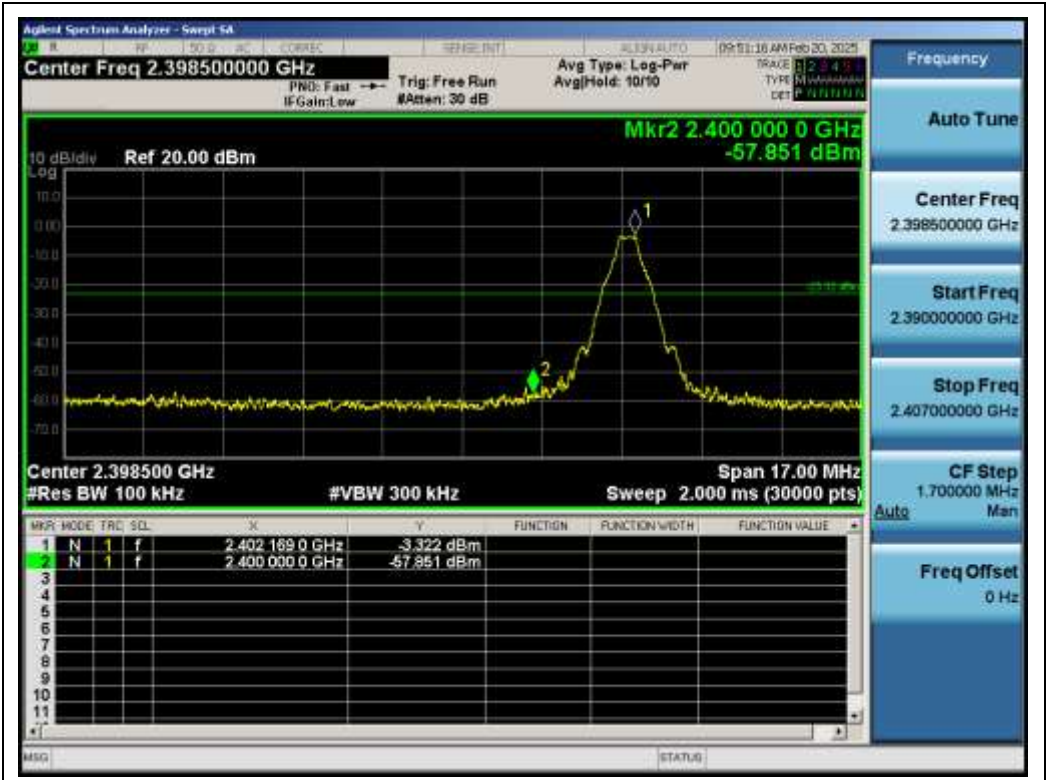


Appendix F: Band edge measurements

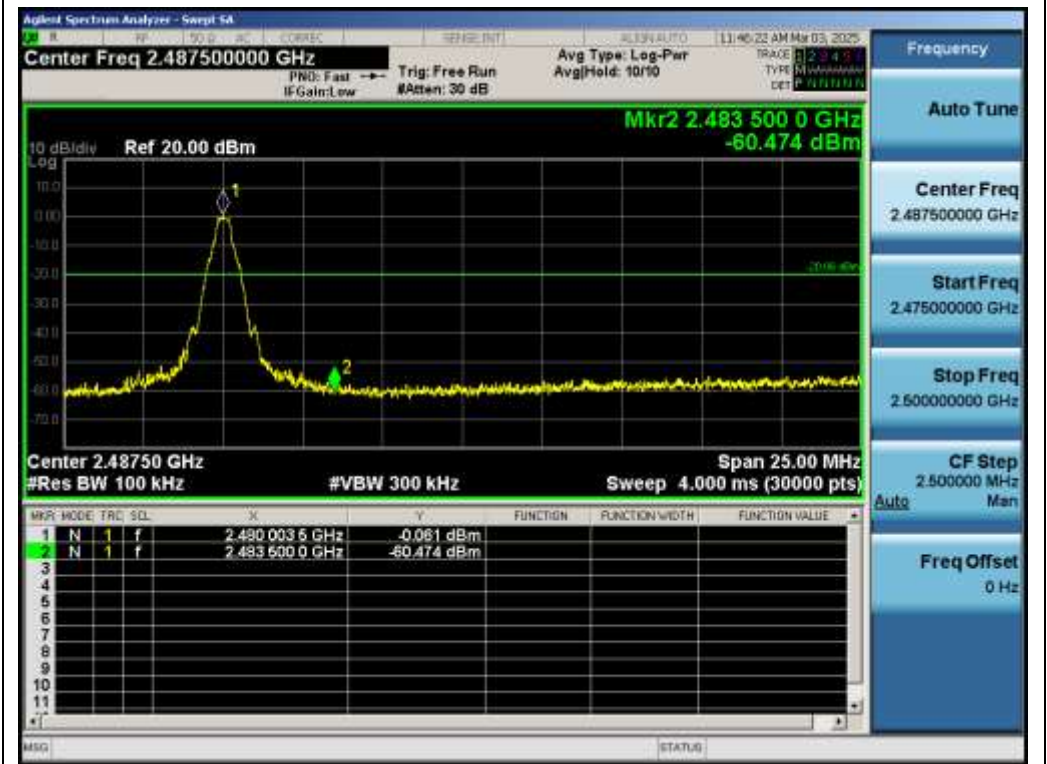
Test Result

Test Mode	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK	Low	2402	-3.322	-57.851	≤ -23.32	Pass
GFSK	High	2480	-0.061	-60.474	≤ -20.06	Pass
GFSK	Low	Hop_2402	-2.207	-55.386	≤ -22.21	Pass
GFSK	High	Hop_2480	-0.154	-55.816	≤ -20.15	Pass
$\pi/4$ -DQPSK	Low	2402	-2.654	-55.484	≤ -22.65	Pass
$\pi/4$ -DQPSK	High	2480	-0.297	-59.074	≤ -20.30	Pass
$\pi/4$ -DQPSK	Low	Hop_2402	-2.276	-56.889	≤ -22.28	Pass
$\pi/4$ -DQPSK	High	Hop_2480	-0.190	-55.120	≤ -20.19	Pass

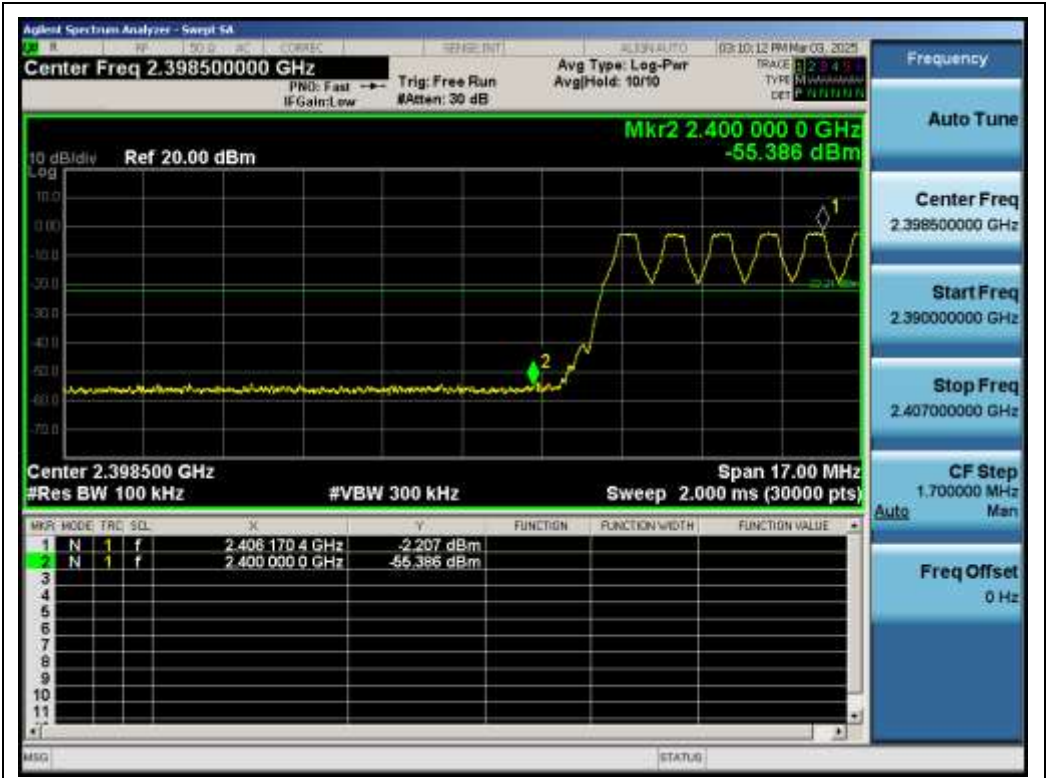
Test Graphs



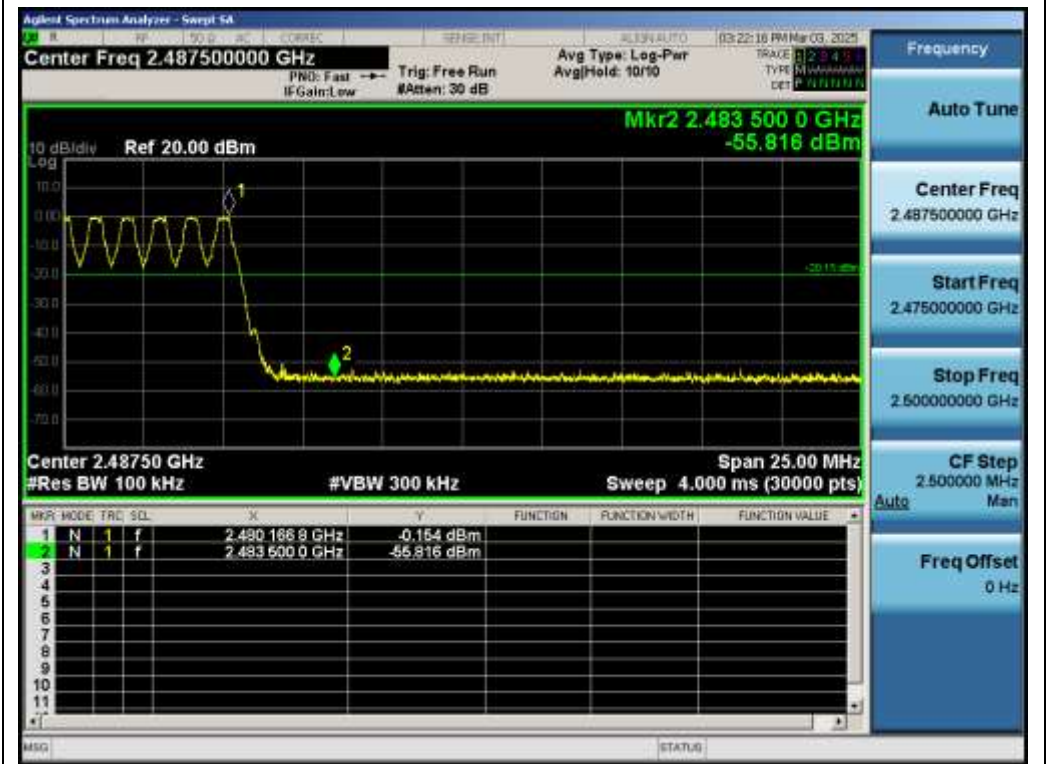
Test_Graph_BR_ANT1_2402_1Mbps_Lower Band Edge Emissions



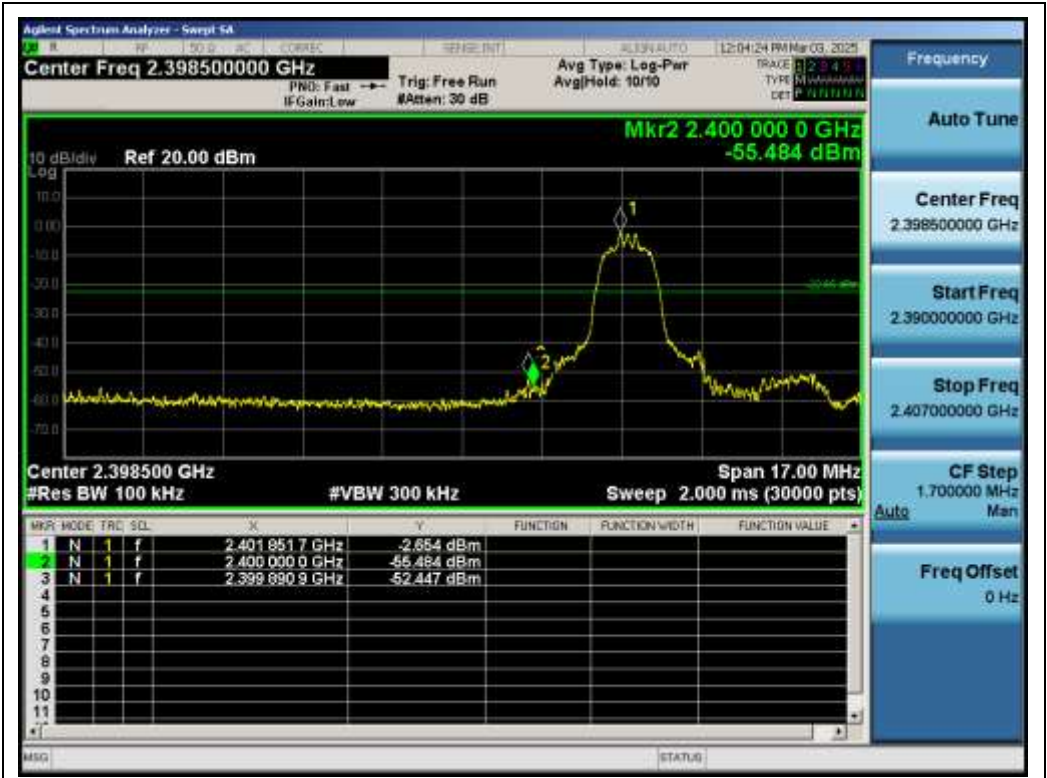
Test_Graph_BR_ANT1_2480_1Mbps_Higher Band Edge Emissions



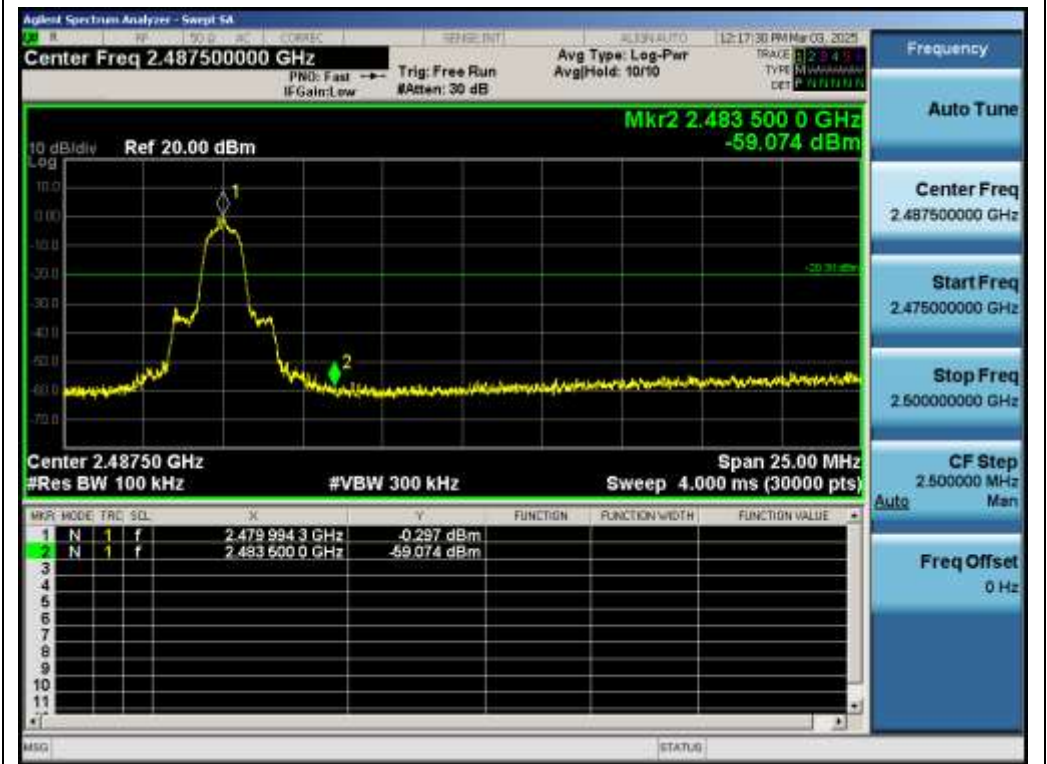
Test_Graph_BR_HOP_ANT1_NA_1Mbps_Lower Band Edge Emissions



Test_Graph_BR_HOP_ANT1_NA_1Mbps_Higher Band Edge Emissions



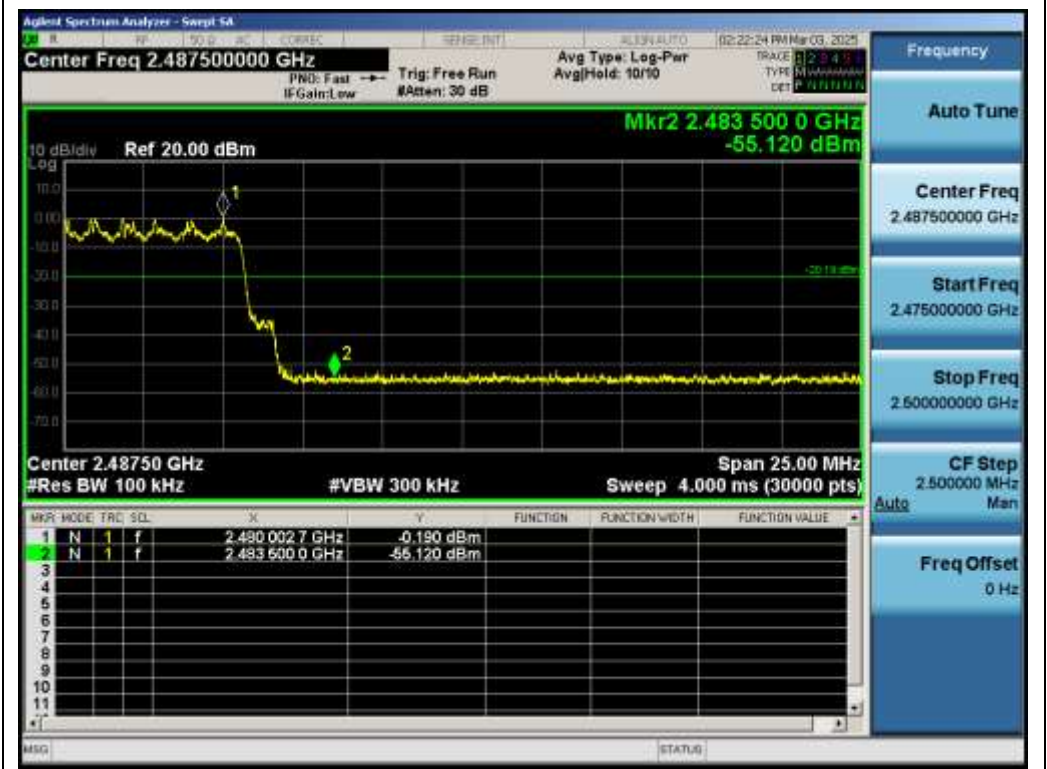
Test_Graph_EDR_ANT1_2402_2Mbps_Lower Band Edge Emissions



Test_Graph_EDR_ANT1_2480_2Mbps_Higher Band Edge Emissions



Test_Graph_EDR_HOP_ANT1_NA_2Mbps_Lower Band Edge Emissions



Test_Graph_EDR_HOP_ANT1_NA_2Mbps_Higher Band Edge Emissions

Appendix G: Conducted Spurious Emission

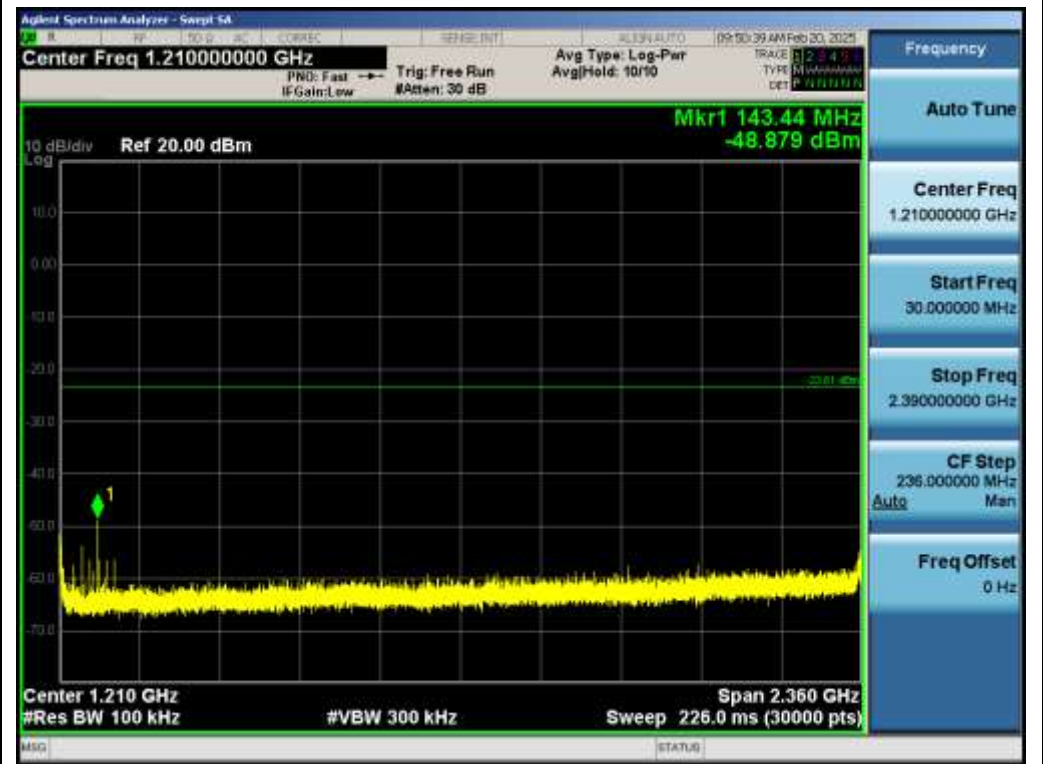
Test Result

Test Mode	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
GFSK	2402	0~Reference	-3.606	-3.606	---	PASS
GFSK	2402	30~2390	-3.606	-48.879	≤ -23.61	PASS
GFSK	2402	2483.5~25000	-3.606	-48.983	≤ -23.61	PASS
GFSK	2441	0~Reference	-0.715	-0.715	---	PASS
GFSK	2441	30~2400	-0.715	-56.329	≤ -20.72	PASS
GFSK	2441	2483.5~25000	-0.715	-47.490	≤ -20.72	PASS
GFSK	2480	0~Reference	-0.175	-0.175	---	PASS
GFSK	2480	30~2400	-0.175	-56.765	≤ -20.18	PASS
GFSK	2480	2500~25000	-0.175	-41.852	≤ -20.18	PASS
$\pi/4$ -DQPSK	2402	0~Reference	-2.560	-2.560	---	PASS
$\pi/4$ -DQPSK	2402	30~2390	-2.560	-53.553	≤ -22.56	PASS
$\pi/4$ -DQPSK	2402	2483.5~25000	-2.560	-49.038	≤ -22.56	PASS
$\pi/4$ -DQPSK	2441	0~Reference	-0.889	-0.889	---	PASS
$\pi/4$ -DQPSK	2441	30~2400	-0.889	-57.623	≤ -20.89	PASS
$\pi/4$ -DQPSK	2441	2483.5~25000	-0.889	-48.136	≤ -20.89	PASS
$\pi/4$ -DQPSK	2480	0~Reference	-0.137	-0.137	---	PASS
$\pi/4$ -DQPSK	2480	30~2400	-0.137	-56.366	≤ -20.14	PASS
$\pi/4$ -DQPSK	2480	2500~25000	-0.137	-48.593	≤ -20.14	PASS

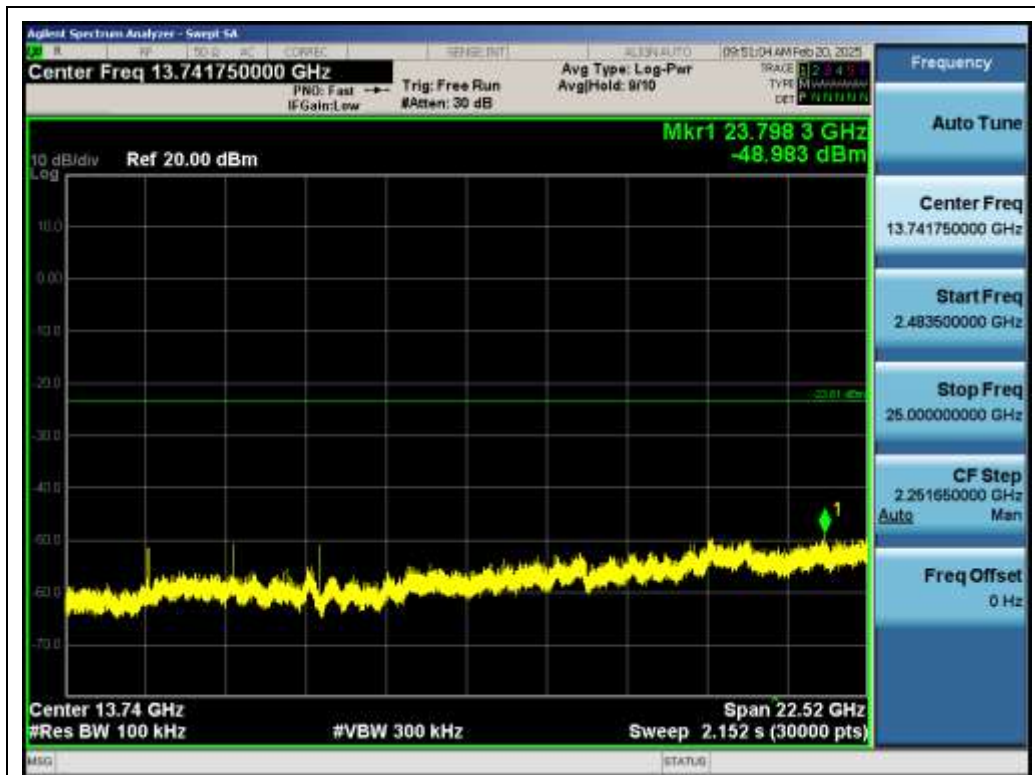
Test Graphs



Test_Graph_BR_ANT1_2402_1Mbps_Reference Level



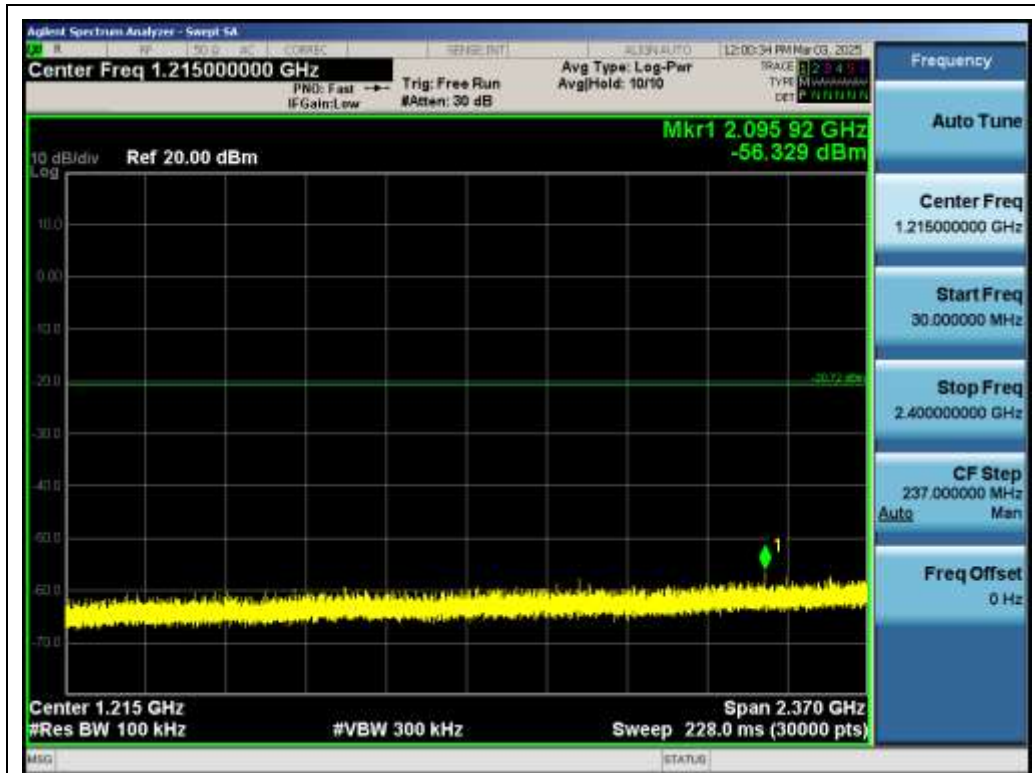
Test_Graph_BR_ANT1_2402_1Mbps_Lower Band Emissions



Test_Graph_BR_ANT1_2402_1Mbps_Higher Band Emissions



Test_Graph_BR_ANT1_2441_1Mbps_Reference Level



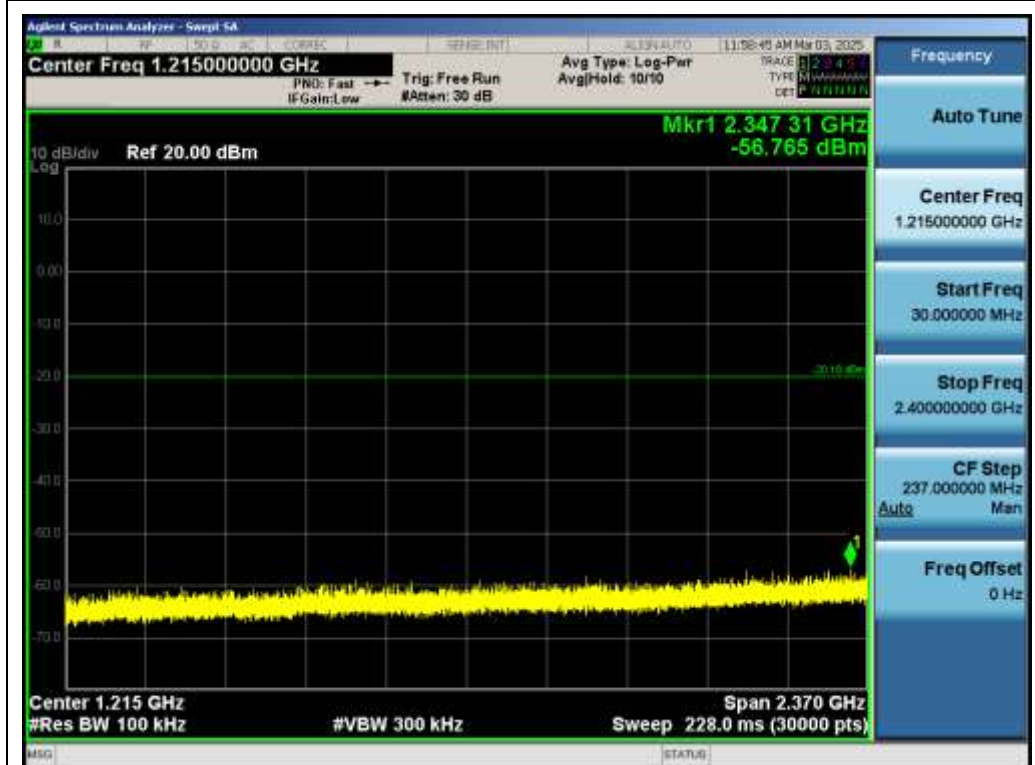
Test_Graph_BR_ANT1_2441_1Mbps_Lower Band Emissions



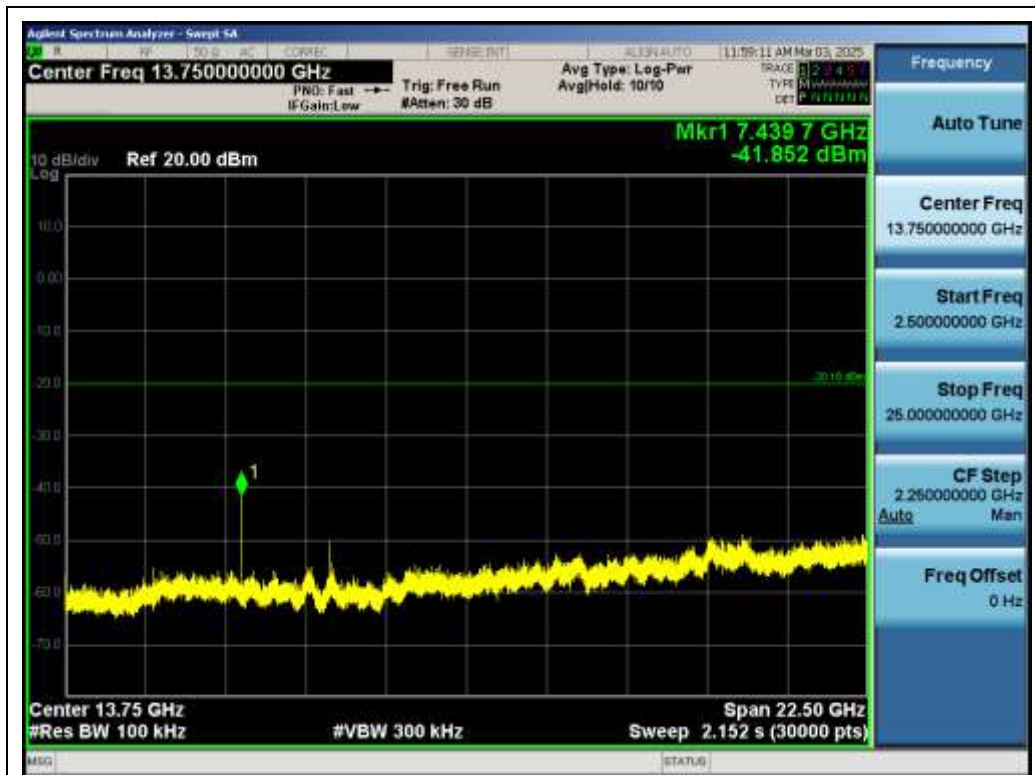
Test_Graph_BR_ANT1_2441_1Mbps_Higher Band Emissions



Test_Graph_BR_ANT1_2480_1Mbps_Reference Level



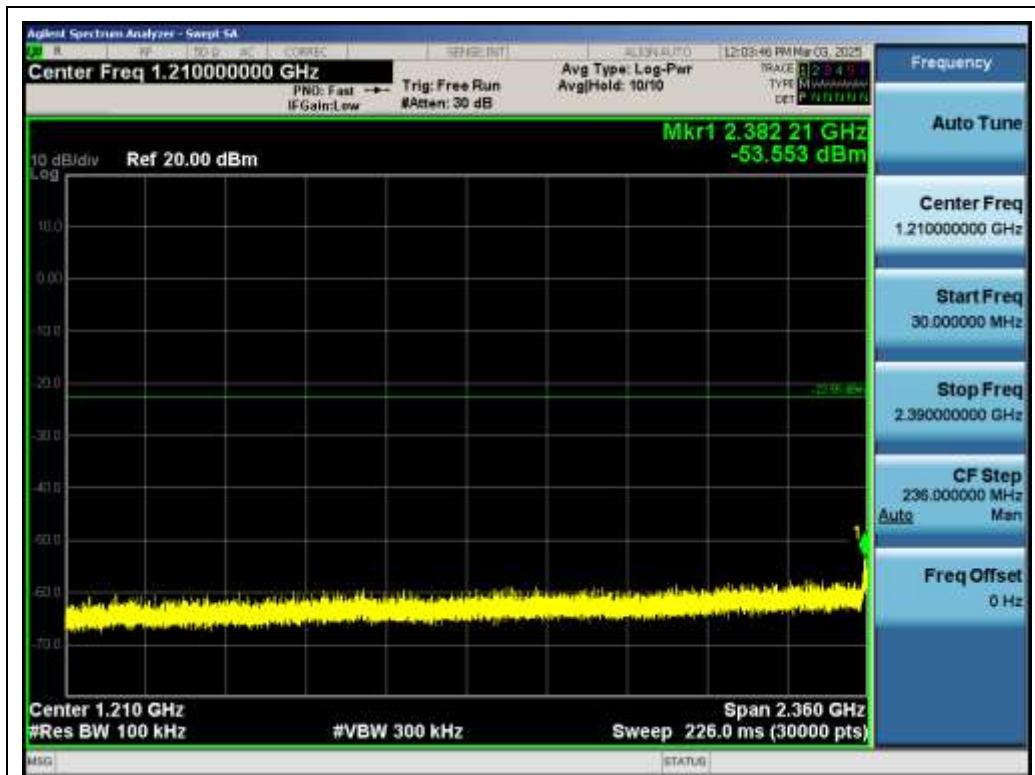
Test_Graph_BR_ANT1_2480_1Mbps_Lower Band Emissions



Test_Graph_BR_ANT1_2480_1Mbps_Higher Band Emissions



Test_Graph_EDR_ANT1_2402_2Mbps_Reference Level



Test_Graph_EDR_ANT1_2402_2Mbps_Lower Band Emissions



Test_Graph_EDR_ANT1_2402_2Mbps_Higher Band Emissions



Test_Graph_EDR_ANT1_2441_2Mbps_Reference Level



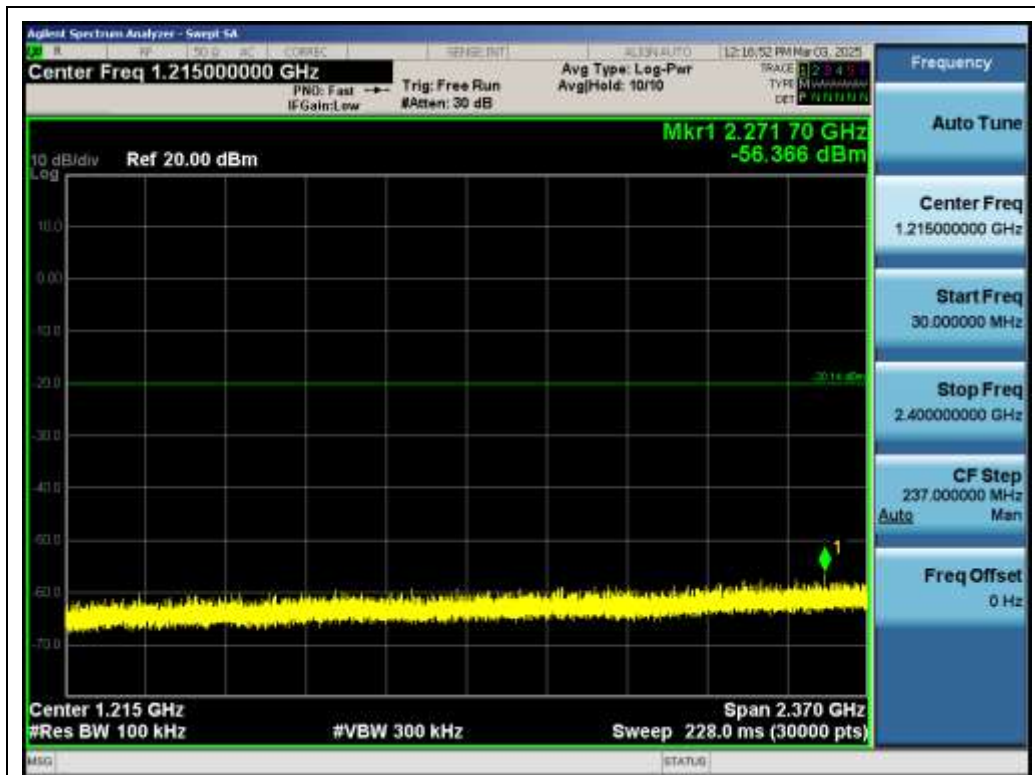
Test_Graph_EDR_ANT1_2441_2Mbps_Lower Band Emissions



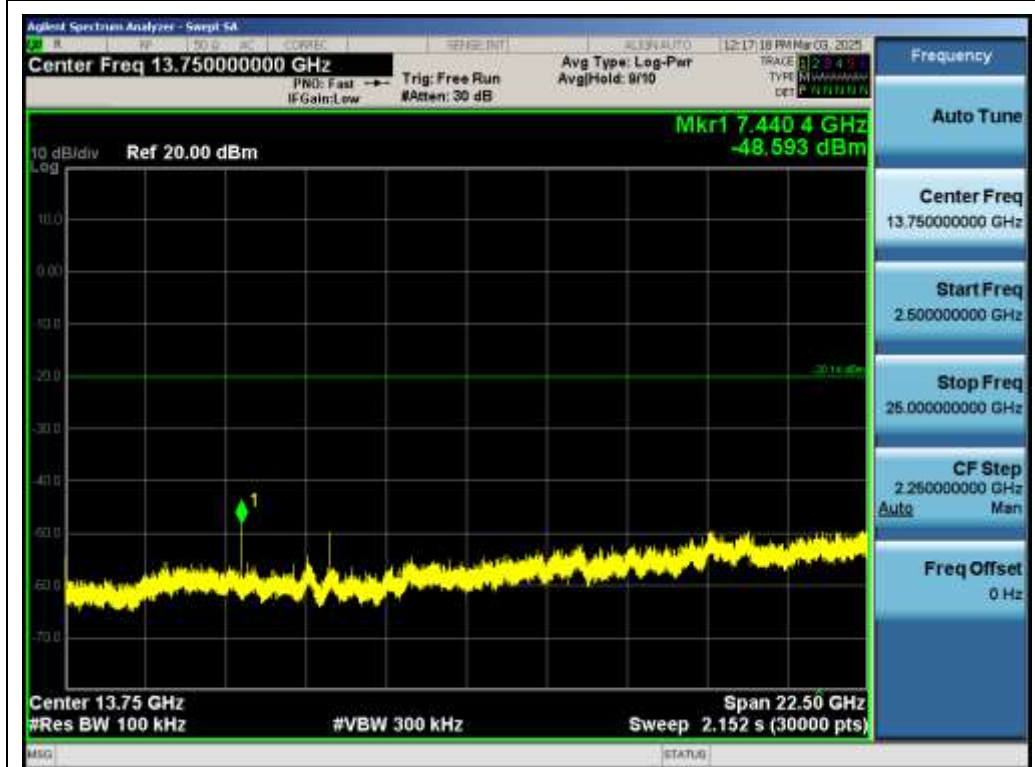
Test_Graph_EDR_ANT1_2441_2Mbps_Higher Band Emissions



Test_Graph_EDR_ANT1_2480_2Mbps_Reference Level



Test_Graph_EDR_ANT1_2480_2Mbps_Lower Band Emissions



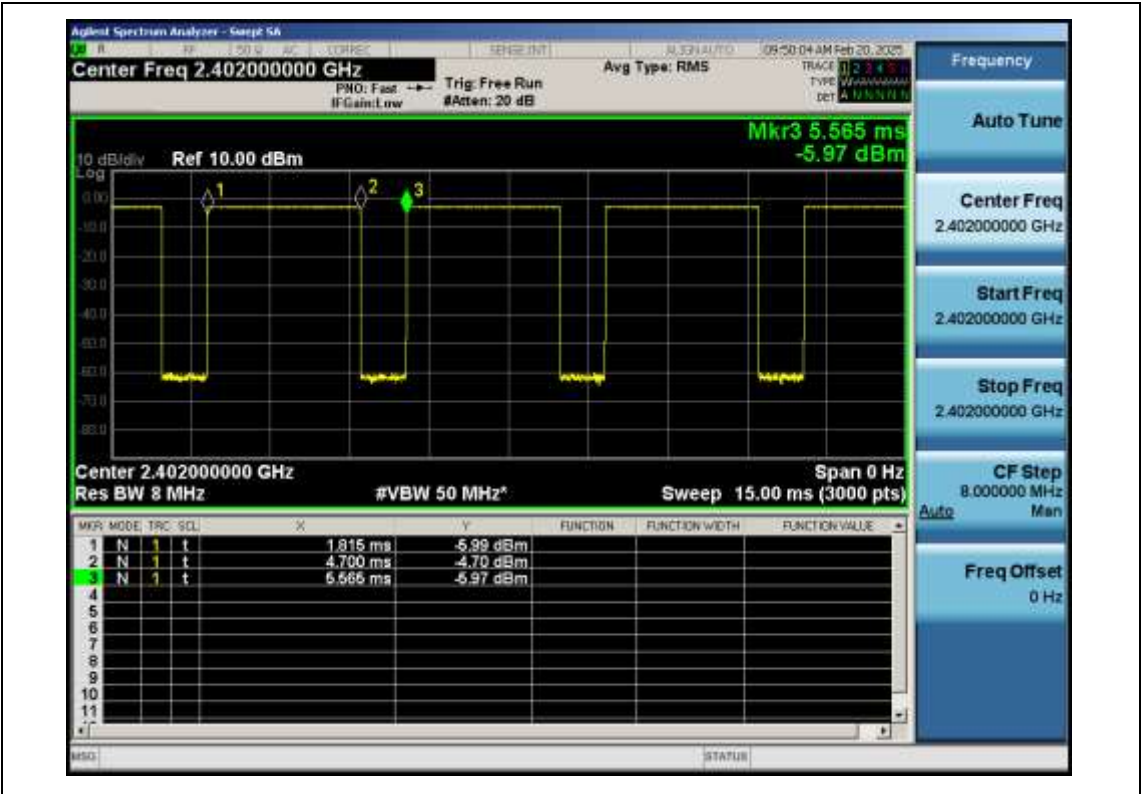
Test_Graph_EDR_ANT1_2480_2Mbps_Higher Band Emissions

Appendix H: Duty Cycle

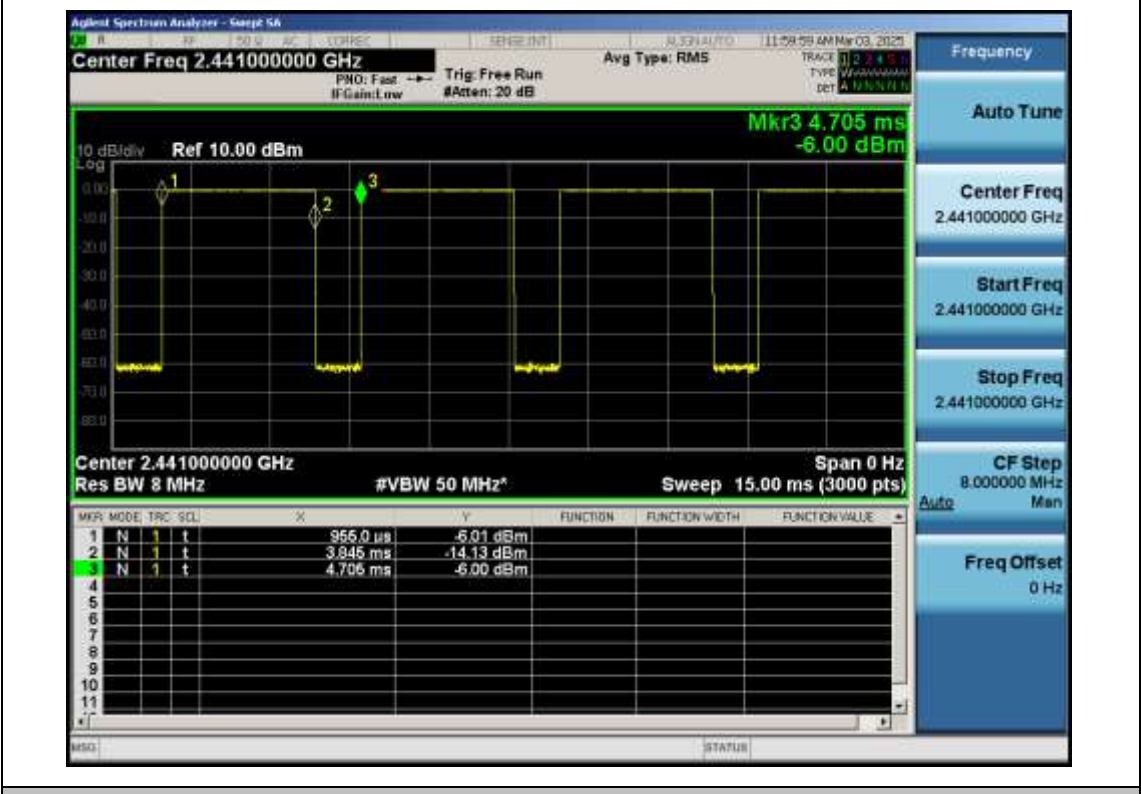
Test Result

Test Mode	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
GFSK	2402	2.89	3.75	76.93	1.14
GFSK	2441	2.89	3.75	77.07	1.13
GFSK	2480	2.89	3.75	77.13	1.13
$\pi/4$ -DQPSK	2402	2.89	3.75	77.20	1.12
$\pi/4$ -DQPSK	2441	2.89	3.75	77.26	1.12
$\pi/4$ -DQPSK	2480	2.89	3.75	77.11	1.13

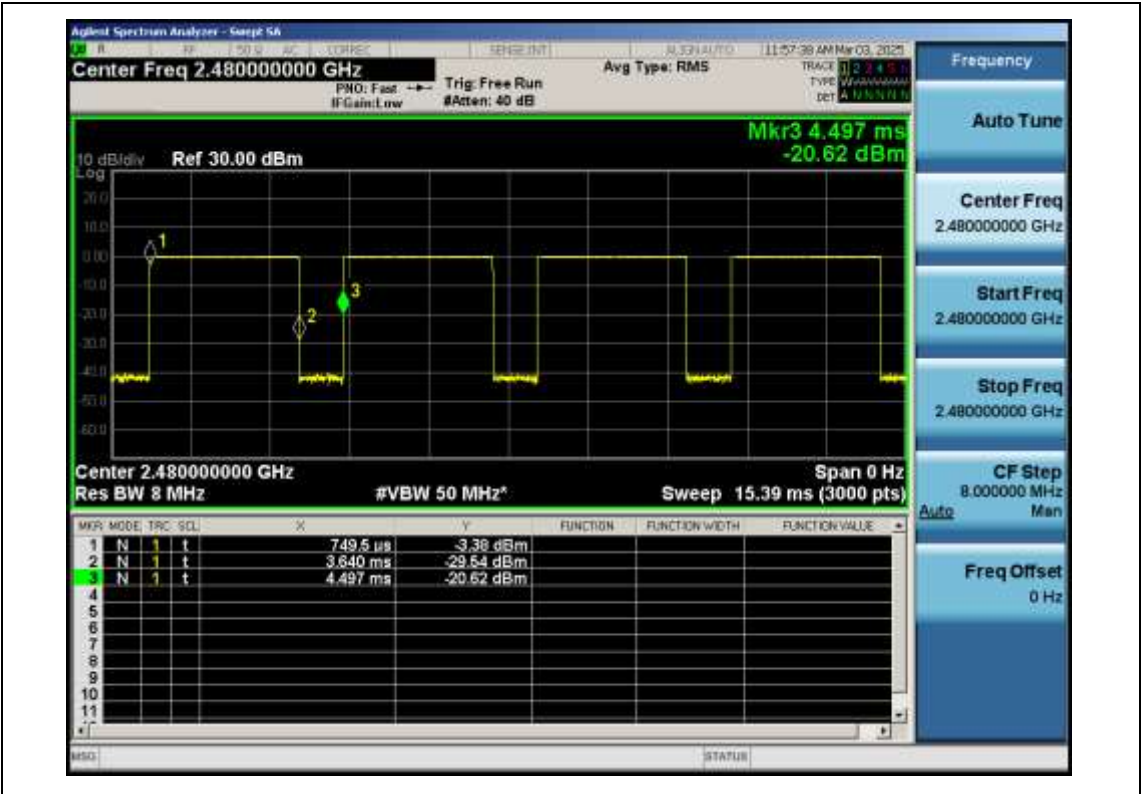
Test Graphs



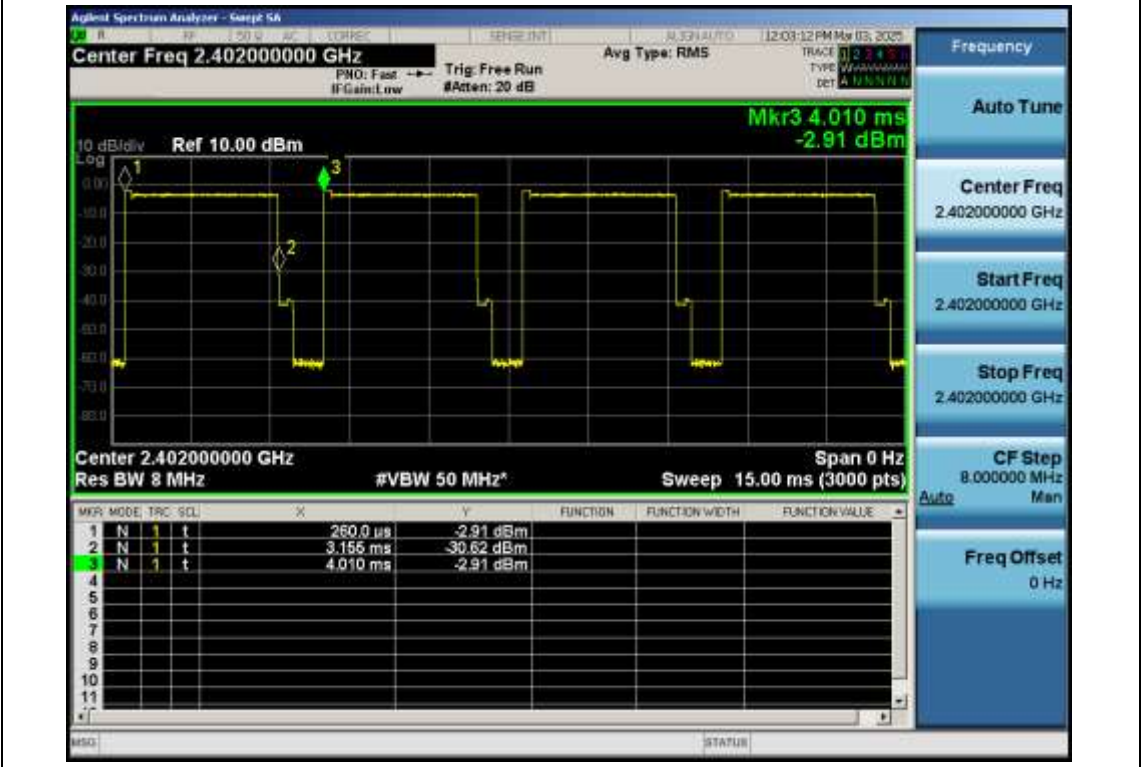
BR-GFSK-Ant1-2402



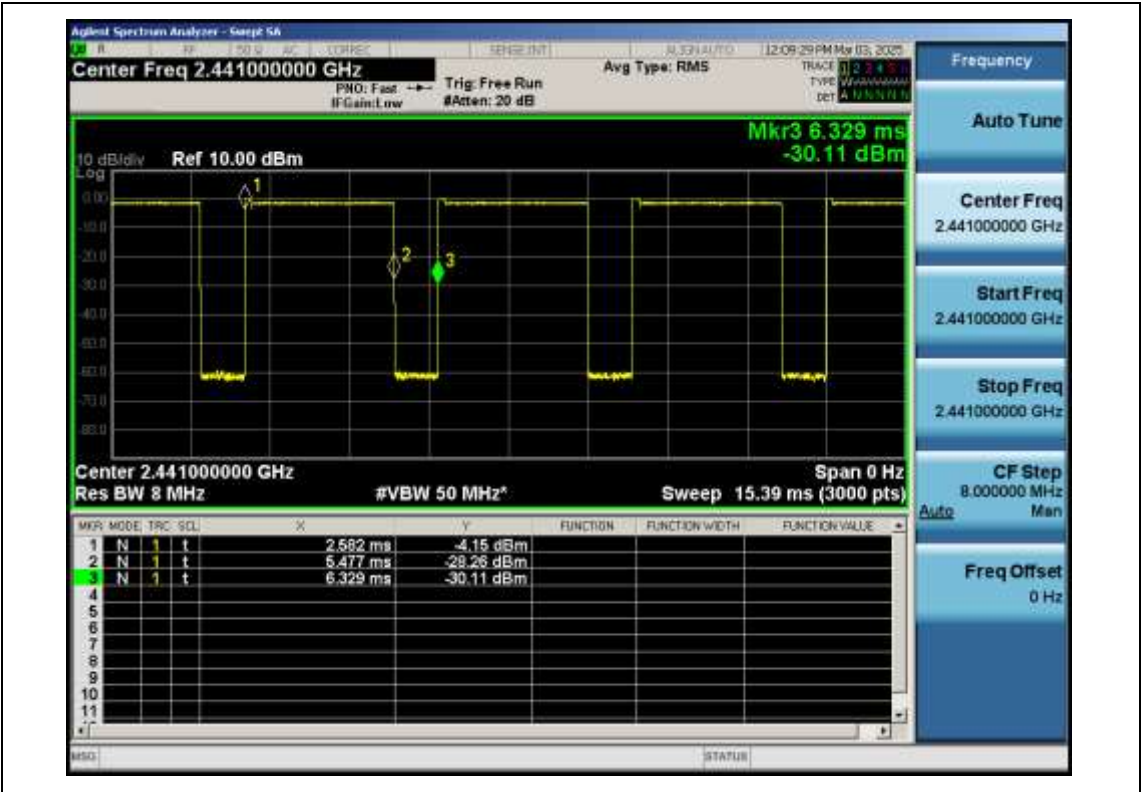
BR-GFSK-Ant1-2441



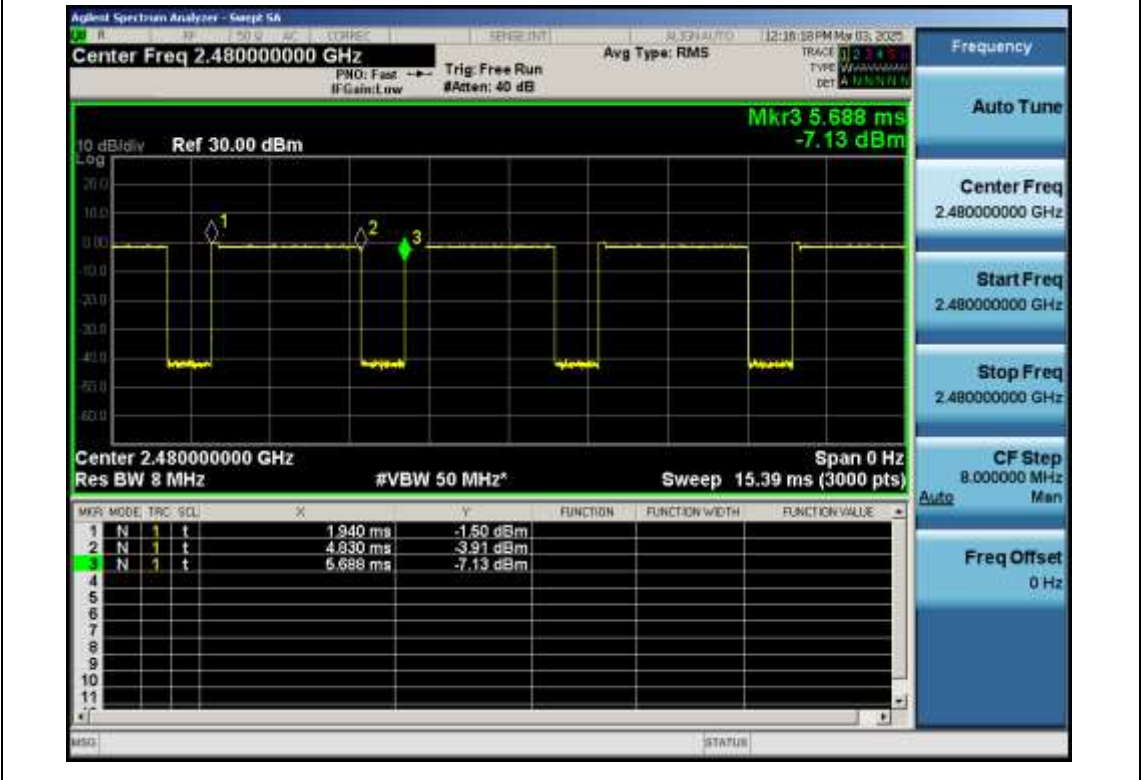
BR-GFSK-Ant1-2480



EDR- $\pi/4$ -DQPSK-Ant1-2402



EDR-π /4-DQPSK-Ant1-2441



EDR-π /4-DQPSK-Ant1-2480