Appendix A

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

Product Name: Bluetooth headset

Trade Mark: N/A

Test Model: Y1

Environmental Conditions

Temperature:	25.8° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Simba Huang
Supervised by:	Seal Chen

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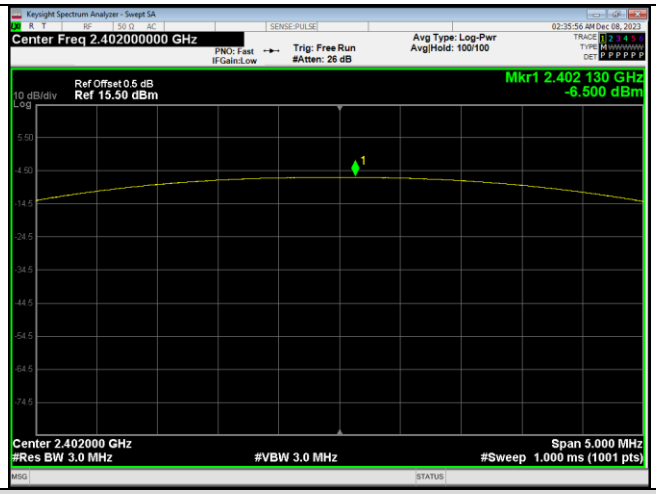
1. Conducted Peak Output Power

1.1 Test Result

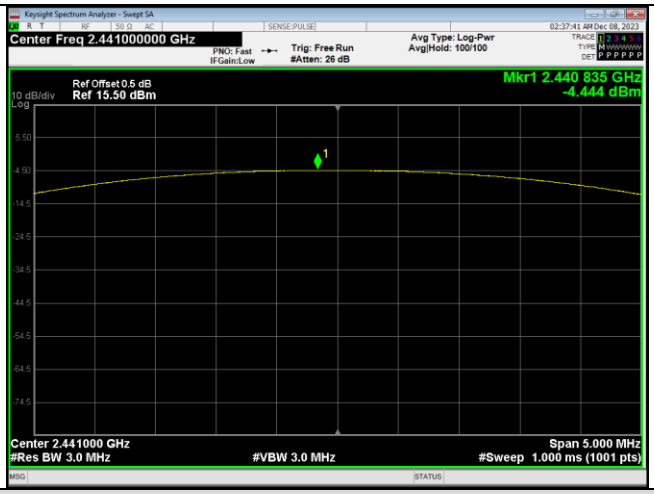
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-6.500	0.224	30	PASS
		39	-4.444	0.359		PASS
		78	-4.622	0.345		PASS
π/4DQPSK	2-DH5	0	-4.643	0.343	20.97	PASS
		39	-2.506	0.562		PASS
		78	-2.639	0.545		PASS
8DPSK	3-DH5	0	-4.329	0.369		PASS
		39	-2.215	0.600		PASS
		78	-2.378	0.578		PASS

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Power Limit (dBm)	ISED EIRP (dBm)	ISED EIRP Limit (dBm)	Result
GFSK	DH5	0	-6.500	30	-3.800	36.02	PASS
		39	-4.444	30	-1.744	36.02	PASS
		78	-4.622	30	-1.922	36.02	PASS
π/4DQPSK	2-DH5	0	-4.643	20.97	-1.943	36.02	PASS
		39	-2.506	20.97	0.194	36.02	PASS
		78	-2.639	20.97	0.061	36.02	PASS
8DPSK	3-DH5	0	-4.329	20.97	-1.629	36.02	PASS
		39	-2.215	20.97	0.485	36.02	PASS
		78	-2.378	20.97	0.322	36.02	PASS

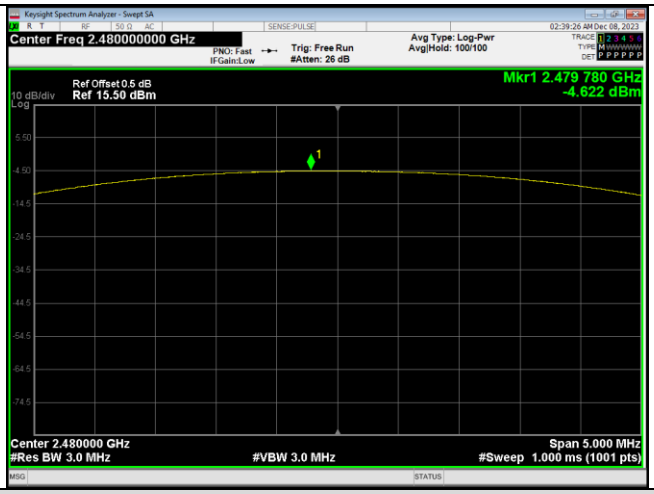
1.2 Test Graphs



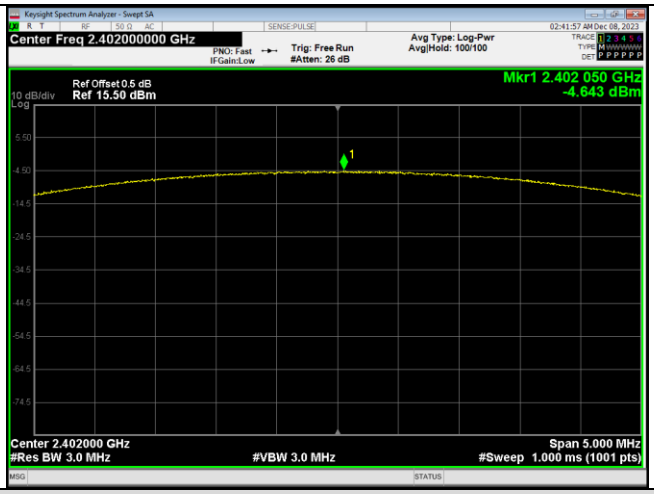
Peak Output Power
GFSK_Channel 0



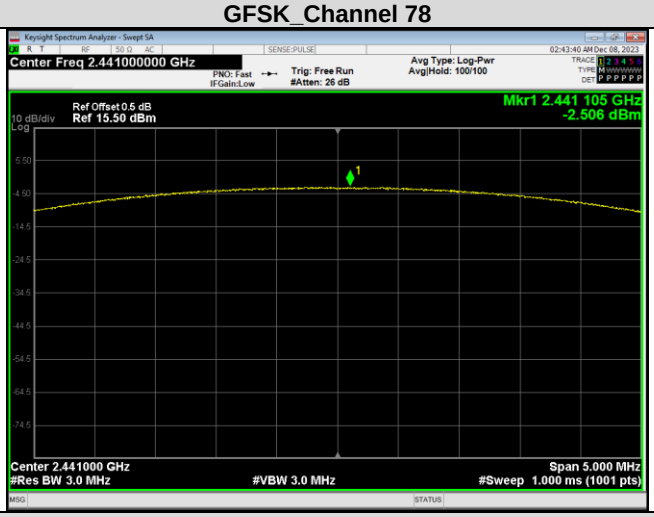
Peak Output Power
GFSK_Channel 39



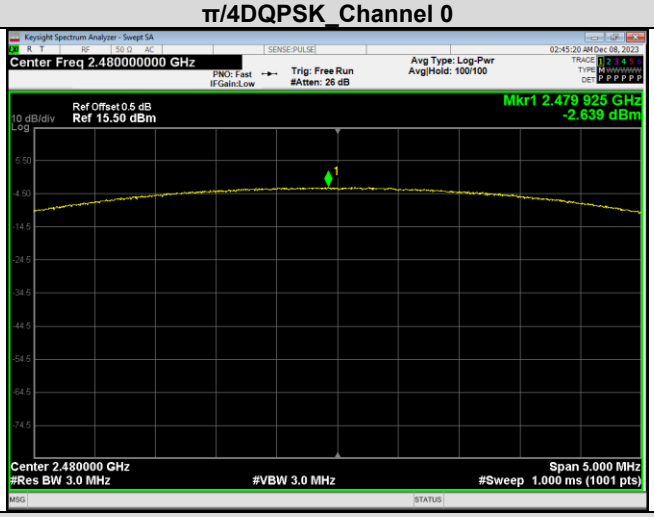
Peak Output Power
GFSK_Channel 78



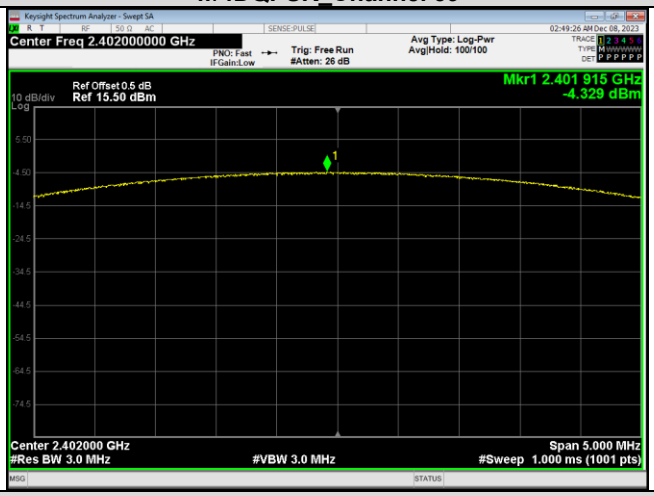
Peak Output Power
π/4DQPSK_Channel 0



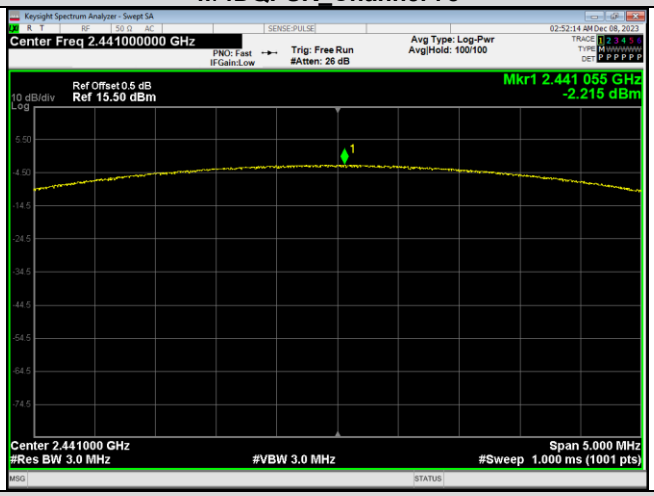
Peak Output Power
π/4DQPSK_Channel 39



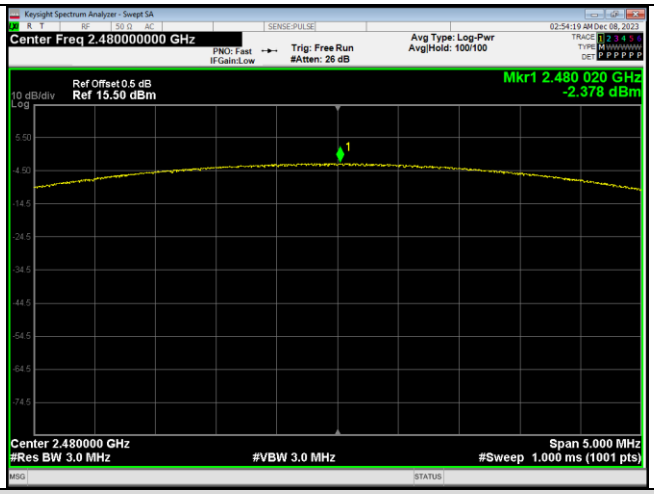
Peak Output Power
π/4DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39

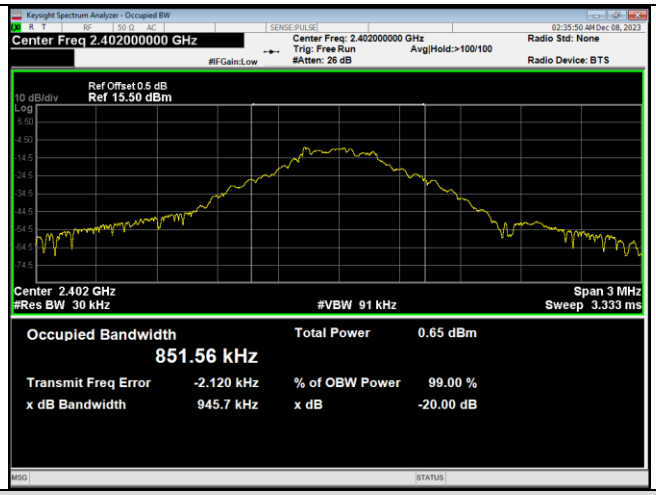
	
Peak Output Power 8DPSK_Channel 78	

2. 20dB Bandwidth

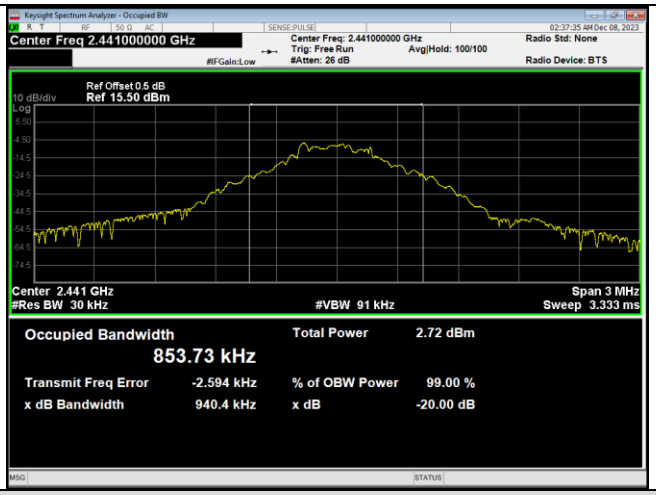
2.1 Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9457
	39	2441 MHz	0.9404
	78	2480 MHz	0.9423
π/4DQPSK	0	2402 MHz	1.286
	39	2441 MHz	1.288
	78	2480 MHz	1.286
8DPSK	0	2402 MHz	1.298
	39	2441 MHz	1.299
	78	2480 MHz	1.298

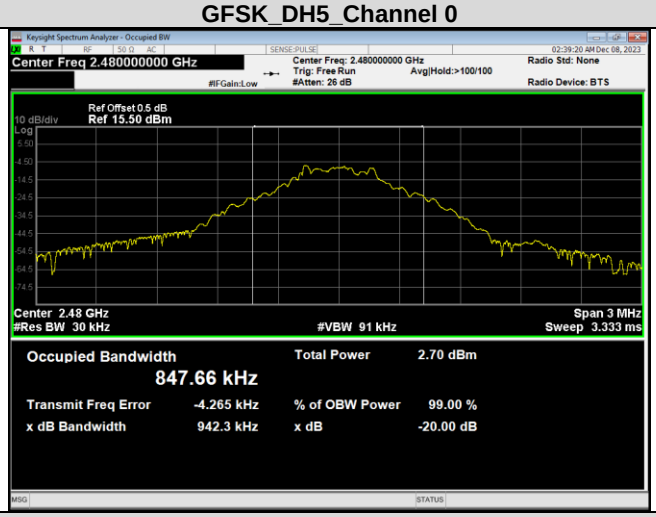
2.2 Test Graphs



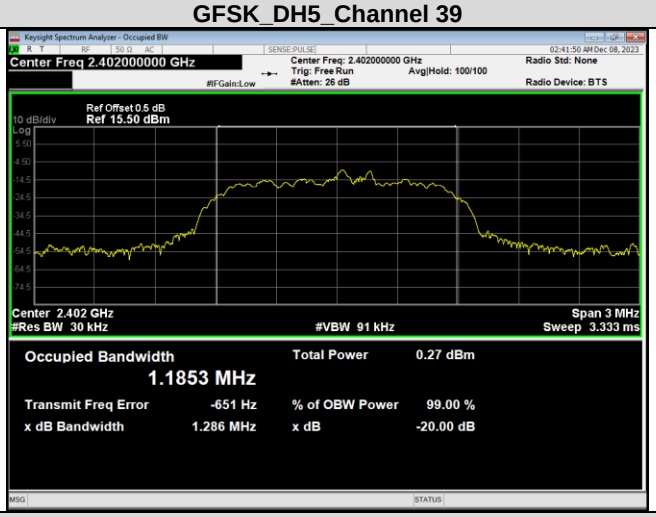
GFSK_DH5_Channel 0



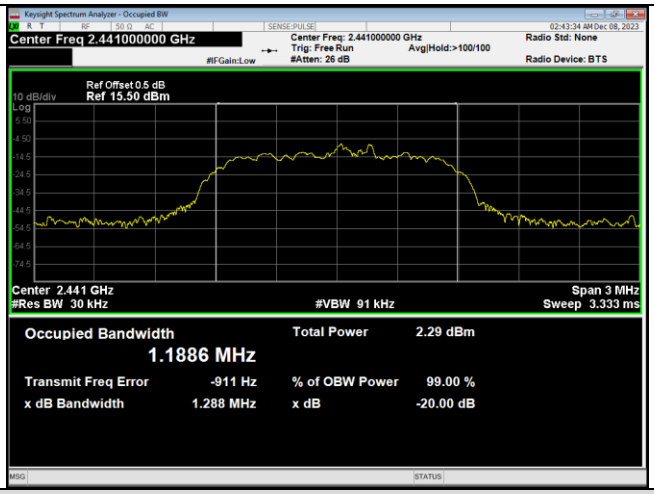
GFSK_DH5_Channel 39



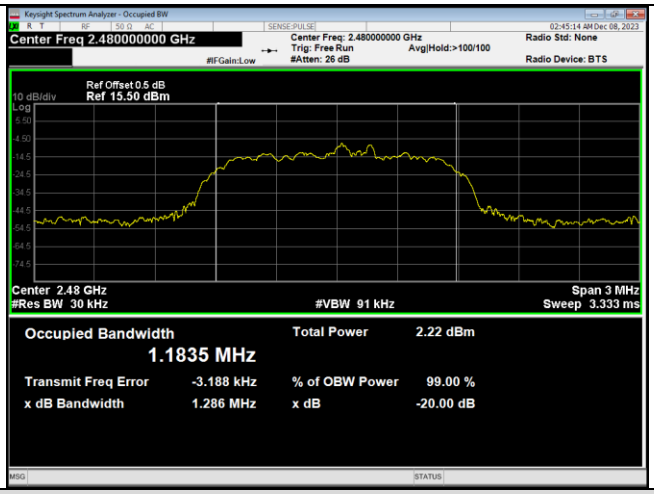
GFSK_DH5_Channel 78



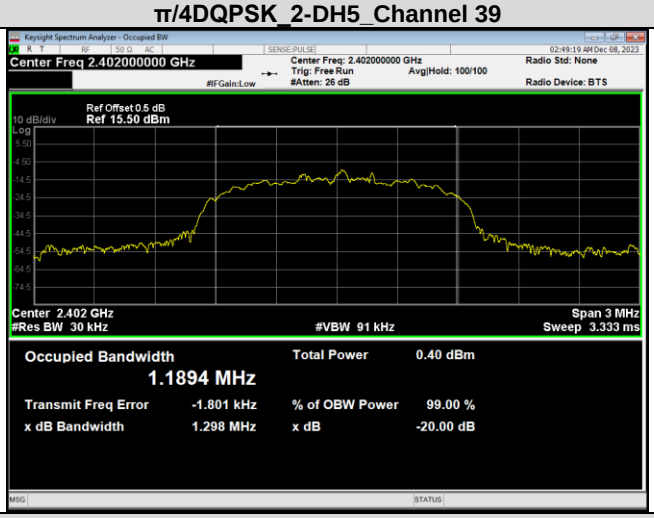
π/4DQPSK_2-DH5_Channel 0



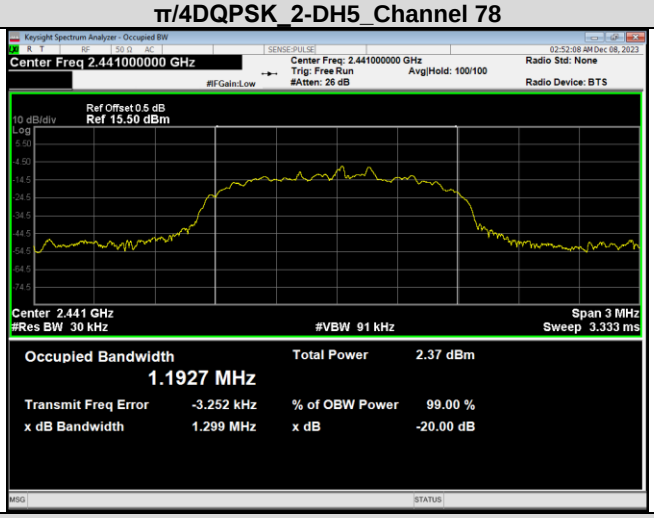
π/4DQPSK_2-DH5_Channel 39



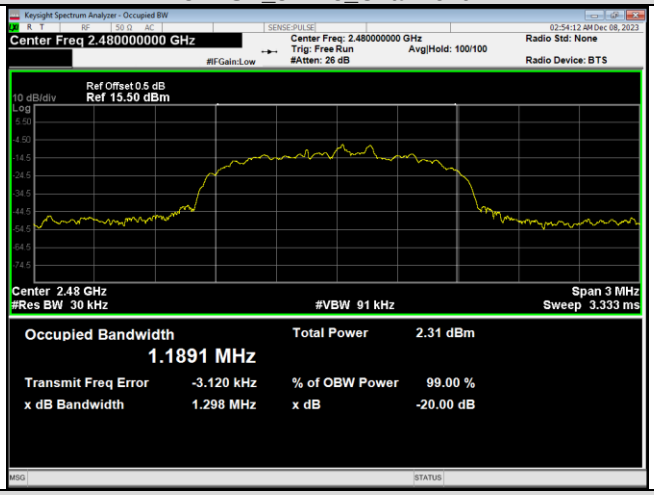
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



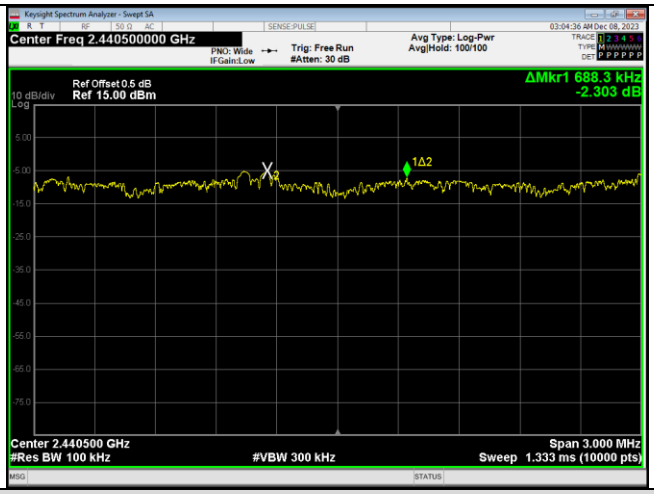
8DPSK_3-DH5_Channel 78

3. Carrier Frequencies Separation

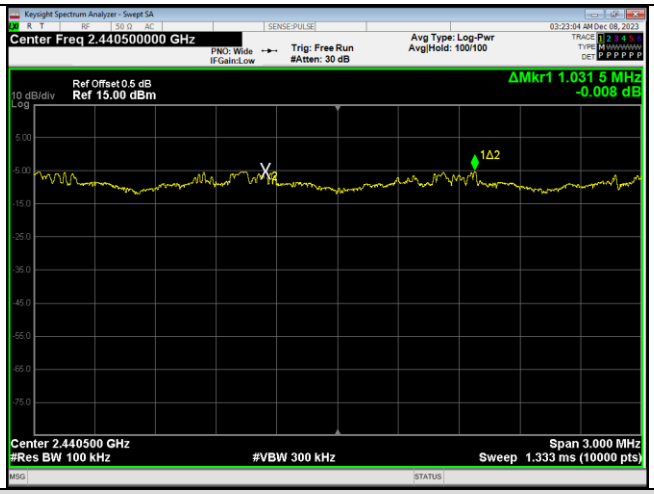
3.1 Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.1527	2440.841	0.6883	0.627	PASS
π/4DQPSK	2-DH5	2440.1449	2441.1764	1.0315	0.859	PASS
8DPSK	3-DH5	2440.1581	2441.1683	1.0102	0.866	PASS

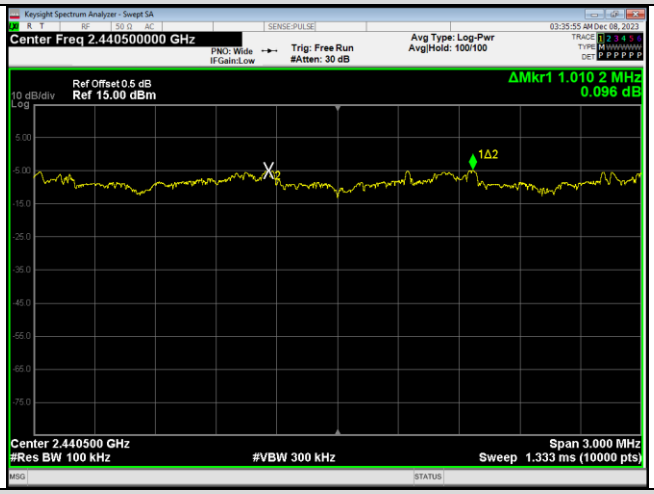
3.2 Test Graphs



GFSK



π/4DQPSK



8DPSK

4. Conducted Out Of Band Emission

4.1Test Result

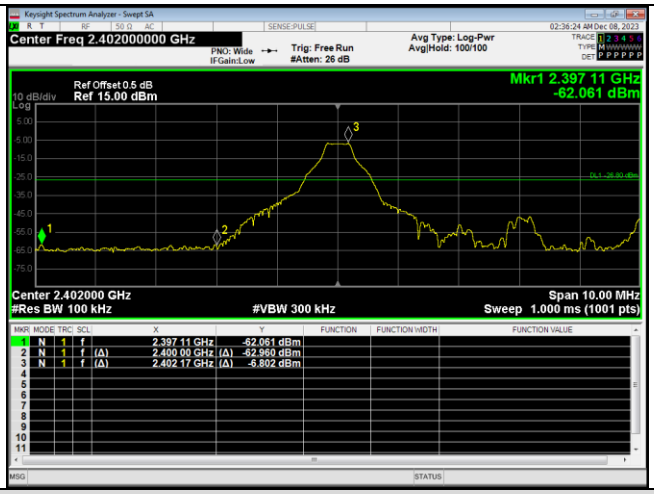
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-62.960	-26.8	-36.160	PASS
			2397.11	-62.061	-26.8	-35.261	PASS
			24510.6	-50.175	-26.8	-23.375	PASS
		39	24961.3	-49.974	-24.75	-25.224	PASS
		78	2483.50	-65.217	-24.92	-40.297	PASS
			24953.2	-48.916	-24.92	-23.996	PASS
π/4DQPSK	2-DH5	0	2400.00	-61.000	-26.95	-34.050	PASS
			24956.9	-49.903	-26.95	-22.953	PASS
		39	24951.9	-49.932	-24.89	-25.042	PASS
		78	2483.50	-62.835	-24.94	-37.895	PASS
			24643.5	-49.590	-24.94	-24.650	PASS
8DPSK	3-DH5	0	2400.00	-62.696	-26.83	-35.866	PASS
			2398.79	-61.560	-26.83	-34.730	PASS
			24727.2	-50.126	-26.83	-23.296	PASS
		39	2518.32	-49.062	-24.78	-24.282	PASS
		78	2483.50	-63.727	-25.01	-38.717	PASS
			24973.8	-49.245	-25.01	-24.235	PASS

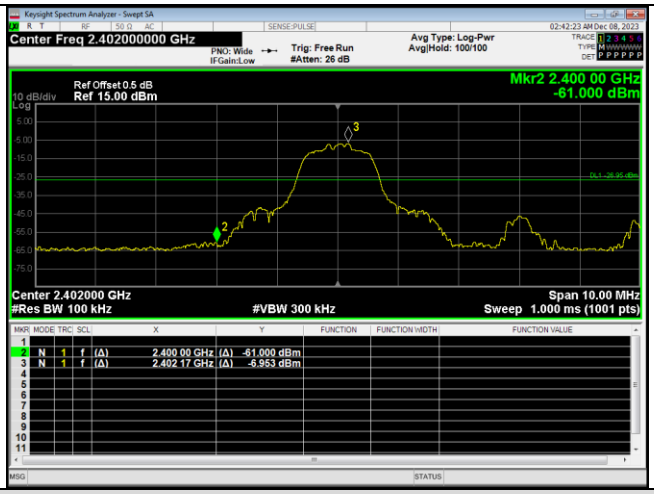
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2396.38	-61.806	-26.83	-34.976	PASS
			2400.00	-63.413	-26.83	-36.583	PASS
			2483.50	-63.240	-24.81	-38.430	PASS
π/4DQPSK	2-DH5		2395.62	-62.185	-27.18	-35.005	PASS
			2400.00	-63.414	-27.18	-36.234	PASS
			2483.50	-62.838	-25.75	-37.088	PASS
8DPSK	3-DH5		2396.69	-61.877	-26.55	-35.327	PASS
			2400.00	-62.793	-26.55	-36.243	PASS
			2483.50	-62.951	-24.92	-38.031	PASS

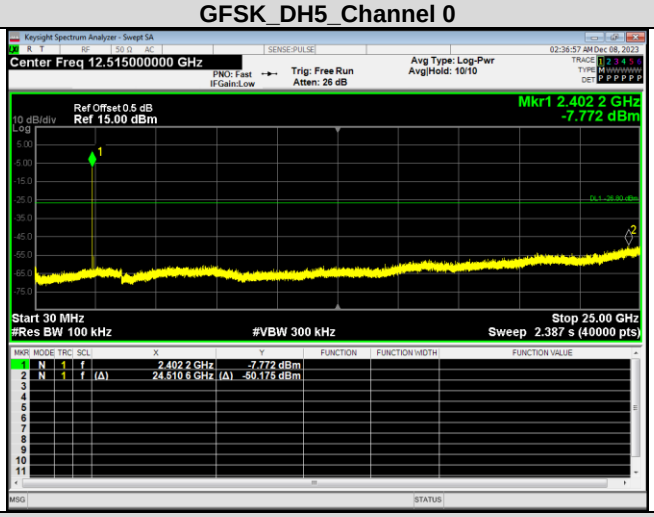
4.2 Test Graphs



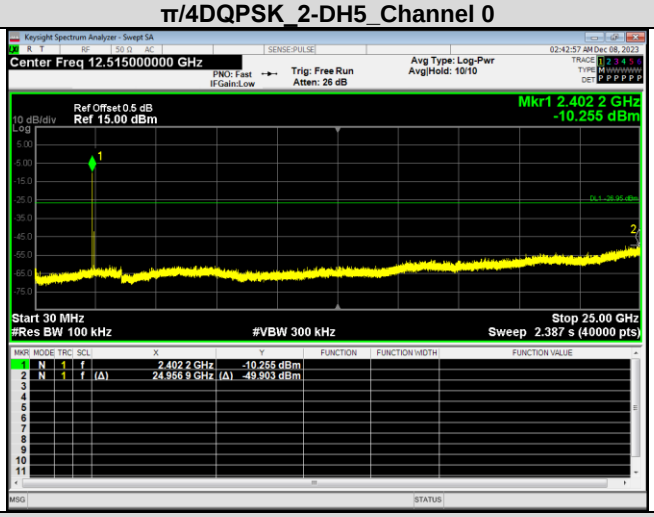
Out Of Band Emission
GFSK_DH5_Channel 0



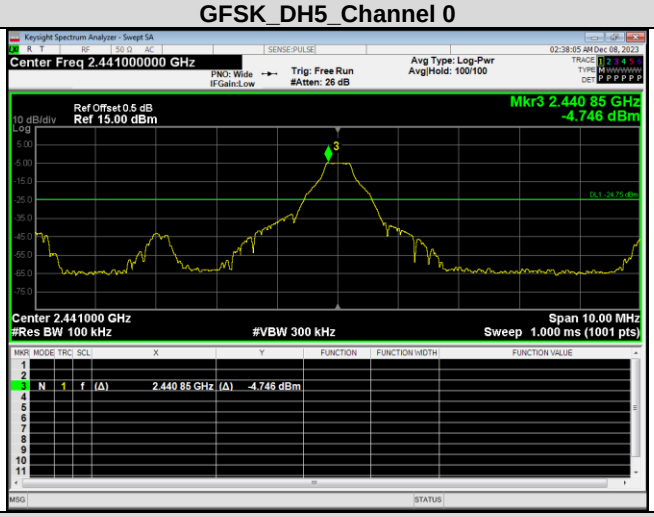
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 0



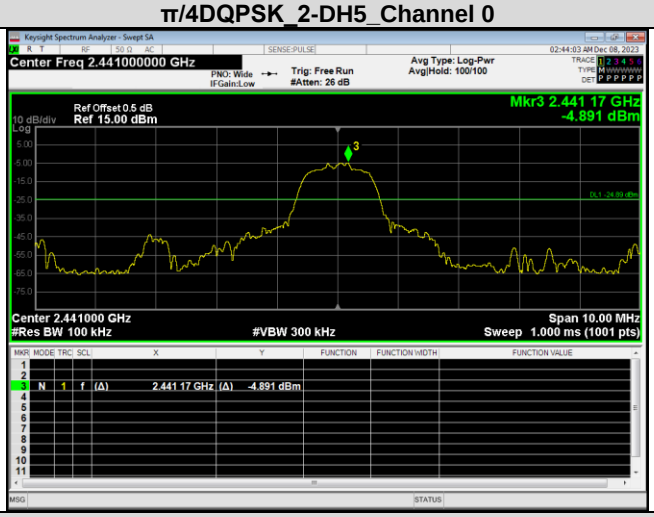
Spurious Emission
GFSK_DH5_Channel 0



Spurious Emission
π/4DQPSK_2-DH5_Channel 0



Out Of Band Emission
GFSK_DH5_Channel 39



Out Of Band Emission
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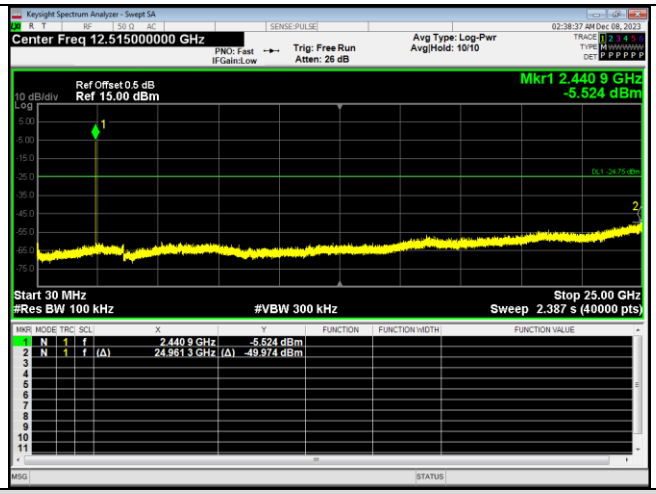
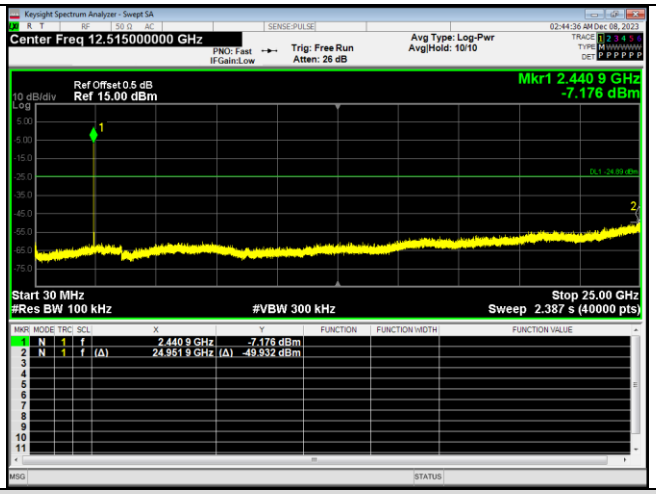
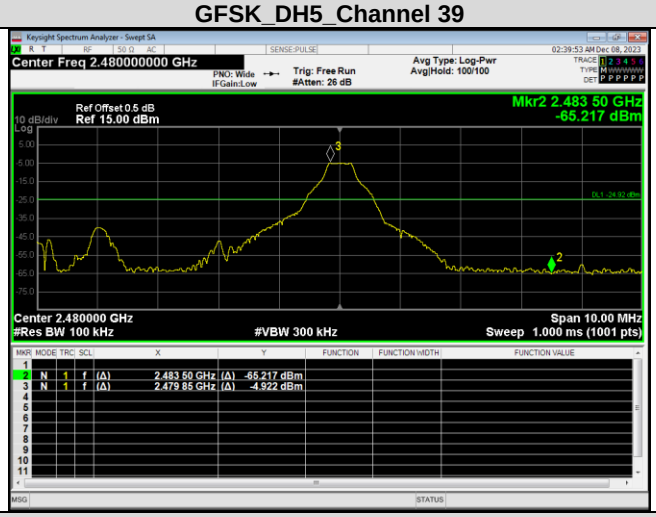


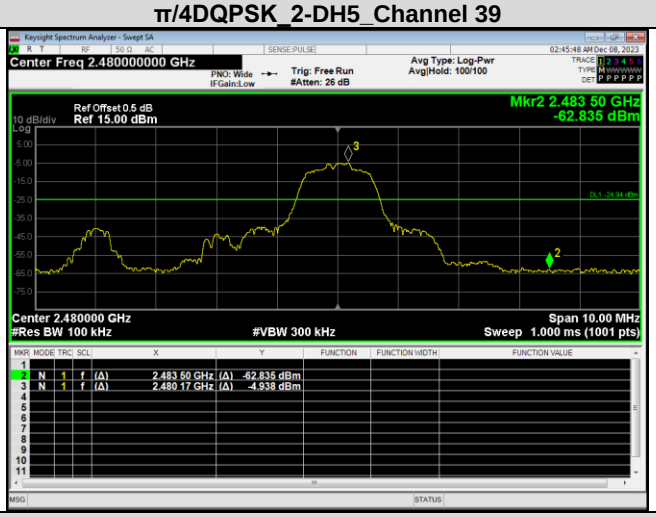
Spurious Emissions
GFSK_DH5_Channel 39



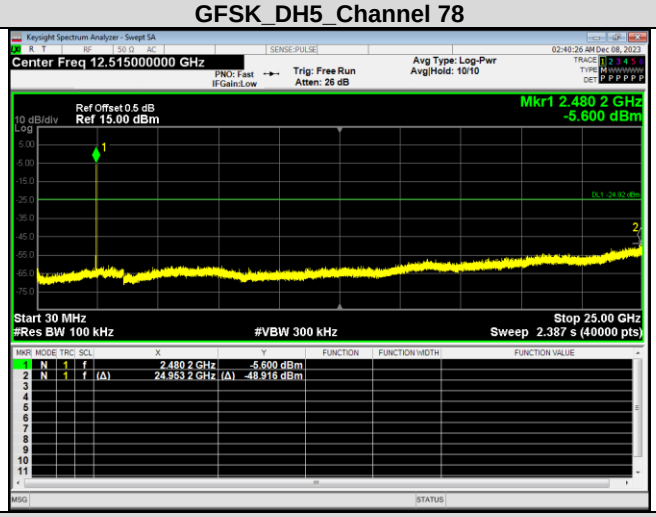
Spurious Emissions
π/4DQPSK_2-DH5_Channel 39



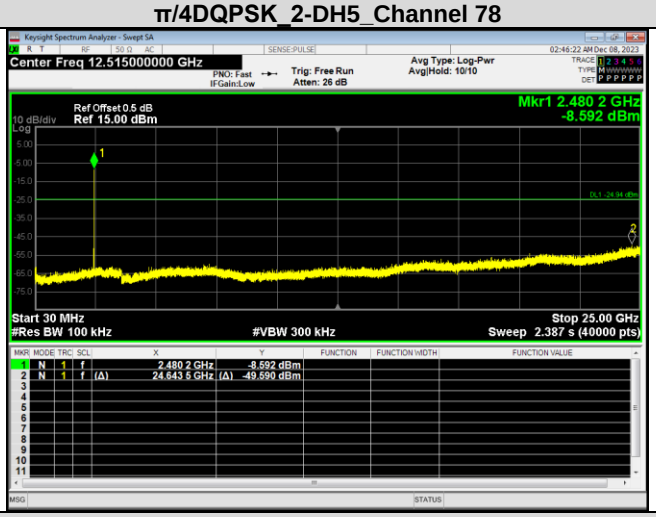
Out Of Band Emission
GFSK_DH5_Channel 78



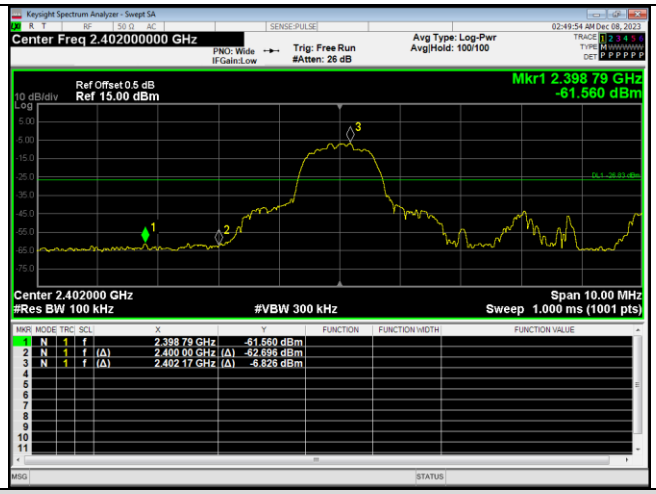
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 78



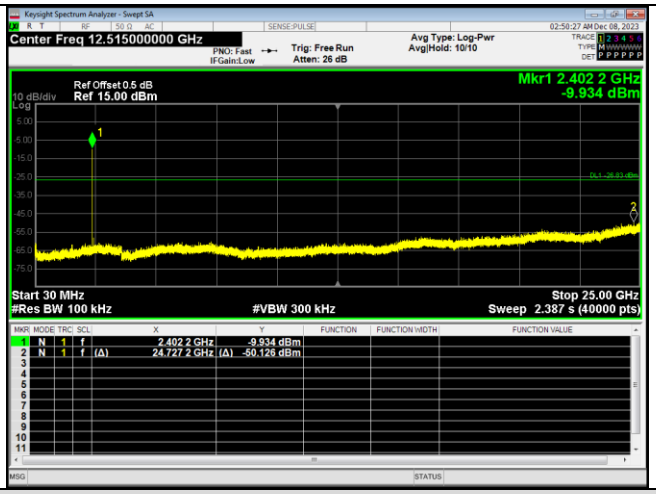
Spurious Emission
GFSK_DH5_Channel 78



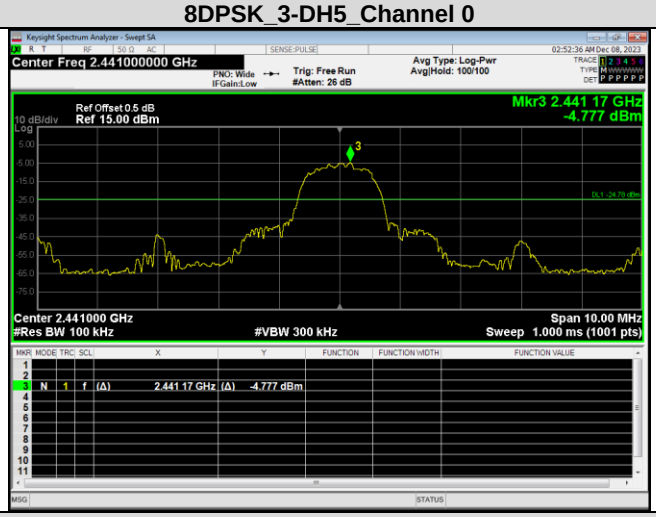
Spurious Emission
π/4DQPSK_2-DH5_Channel 78



Out Of Band Emission
8DPSK_3-DH5_Channel 0



Spurious Emission
8DPSK_3-DH5_Channel 0



Out Of Band Emission
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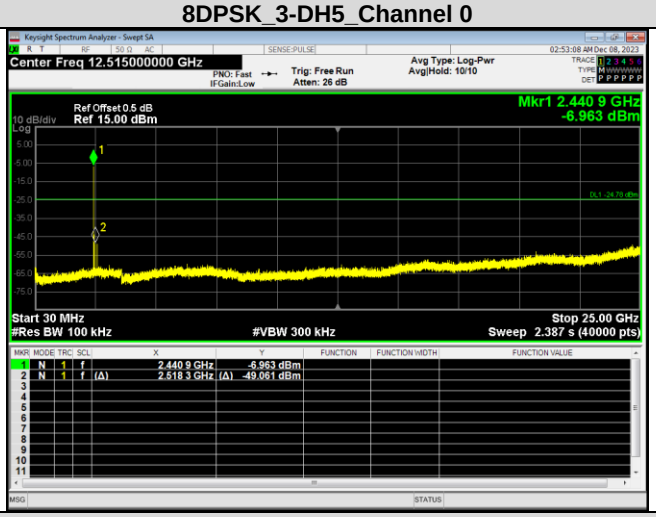
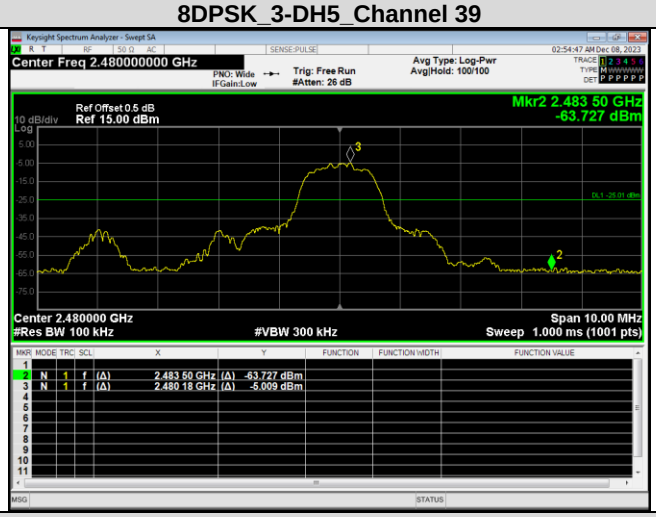
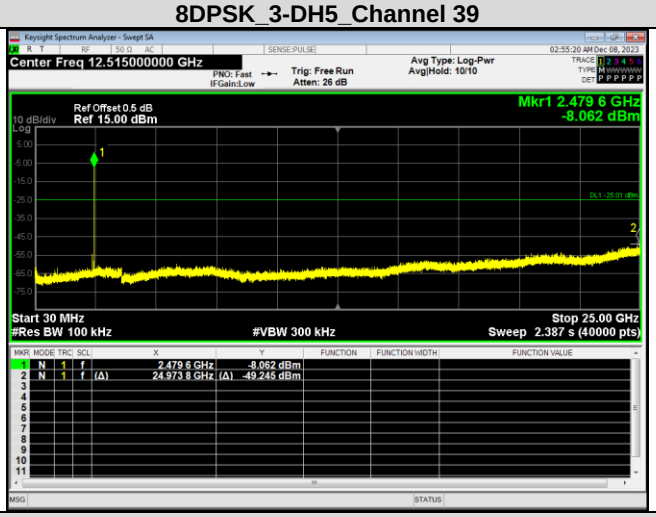


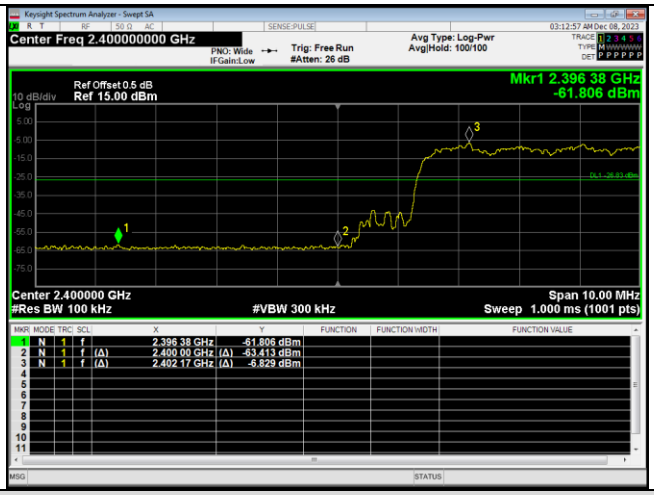
Spurious Emissions
8DPSK_3-DH5_Channel 39



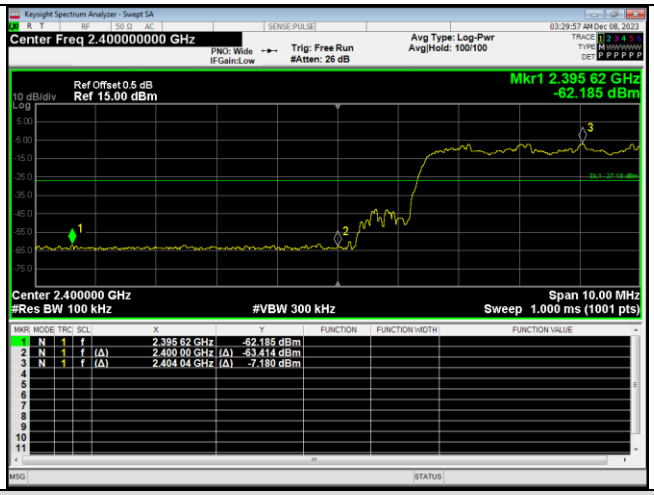
Out Of Band Emission
8DPSK_3-DH5_Channel 78



Spurious Emission
8DPSK_3-DH5_Channel 78

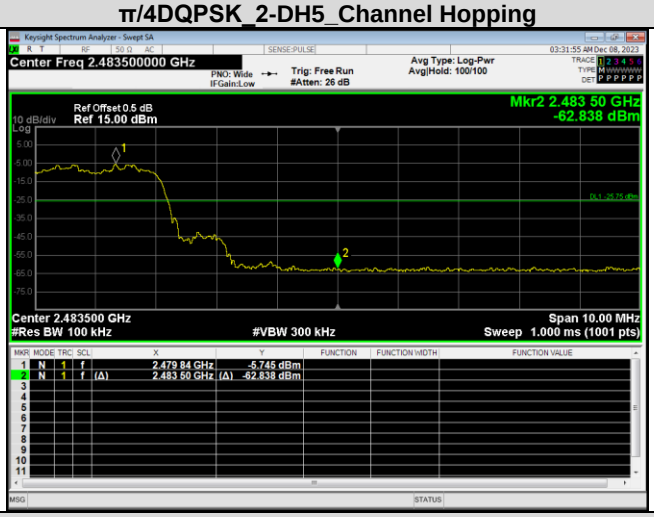


Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping

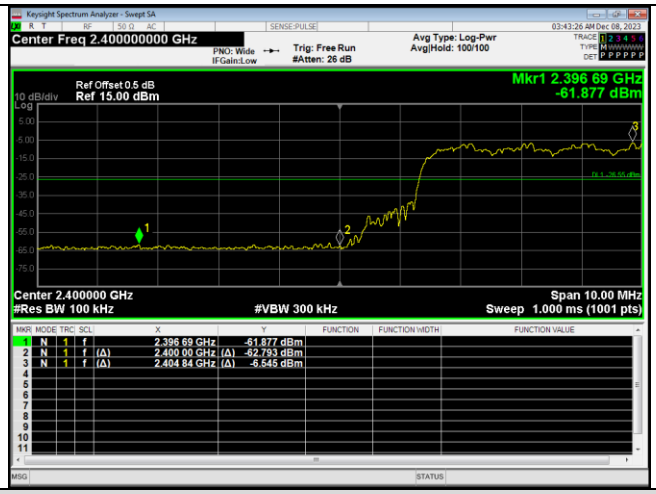


Out Of Band Emission(Left)
π/4DQPSK_2-DH5_Channel Hopping

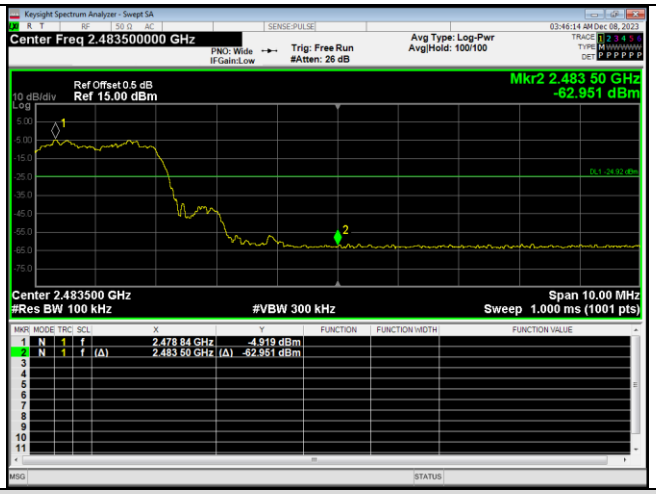
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



Out Of Band Emission(Right)
π/4DQPSK_2-DH5_Channel Hopping



Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



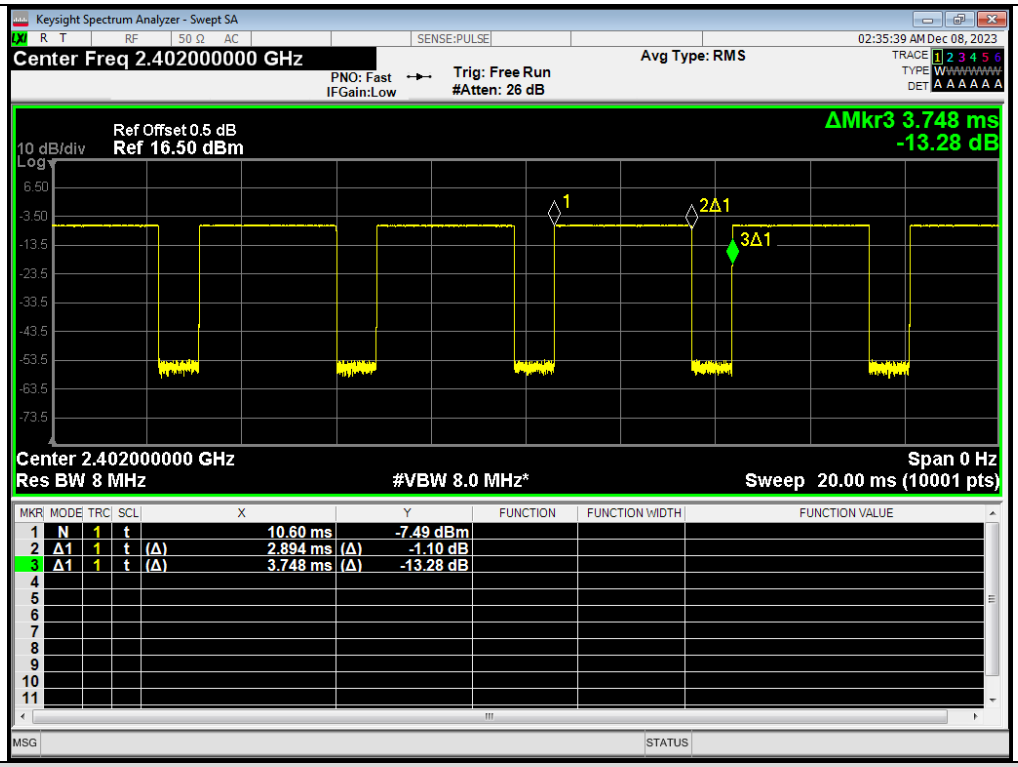
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

5. Duty Cycle

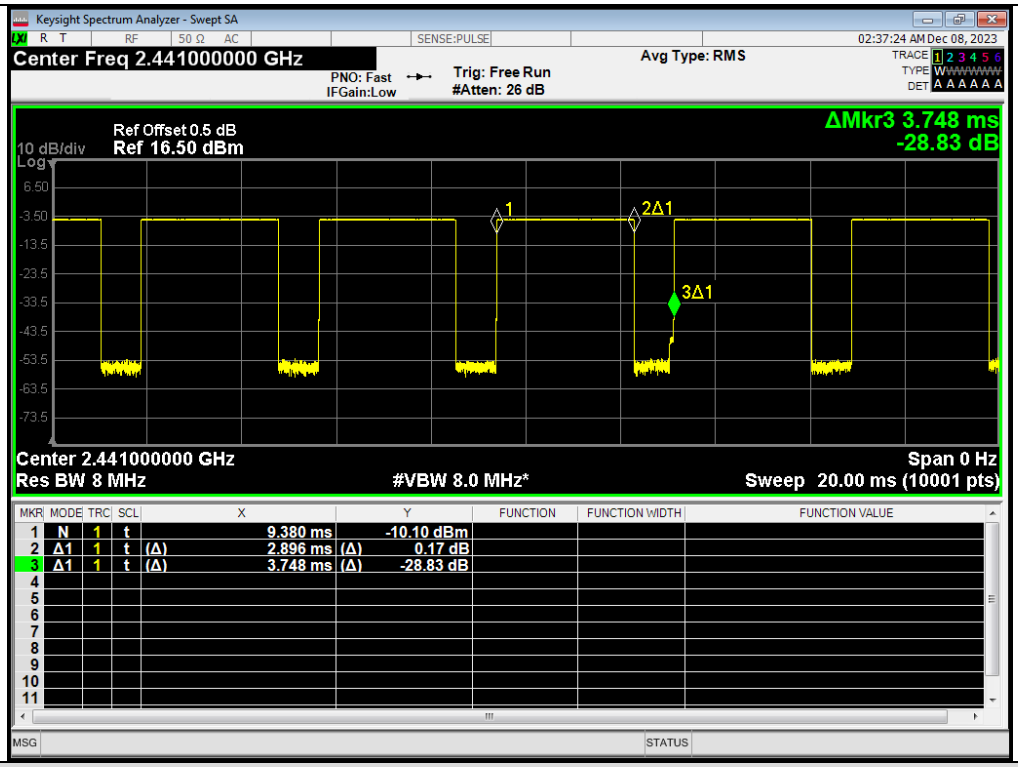
5.1 Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
GFSK	DH5	0	2.894	3.748	77.21	0.7721	1.1233
		39	2.896	3.748	77.27	0.7727	1.1199
		78	2.896	3.748	77.27	0.7727	1.1199
π/4DQPSK	2-DH5	0	2.882	3.748	76.89	0.7689	1.1413
		39	2.884	3.748	76.95	0.7695	1.1379
		78	2.884	3.748	76.95	0.7695	1.1379
8DPSK	3-DH5	0	2.882	3.748	76.89	0.7689	1.1413
		39	2.882	3.748	76.89	0.7689	1.1413
		78	2.882	3.748	76.89	0.7689	1.1413

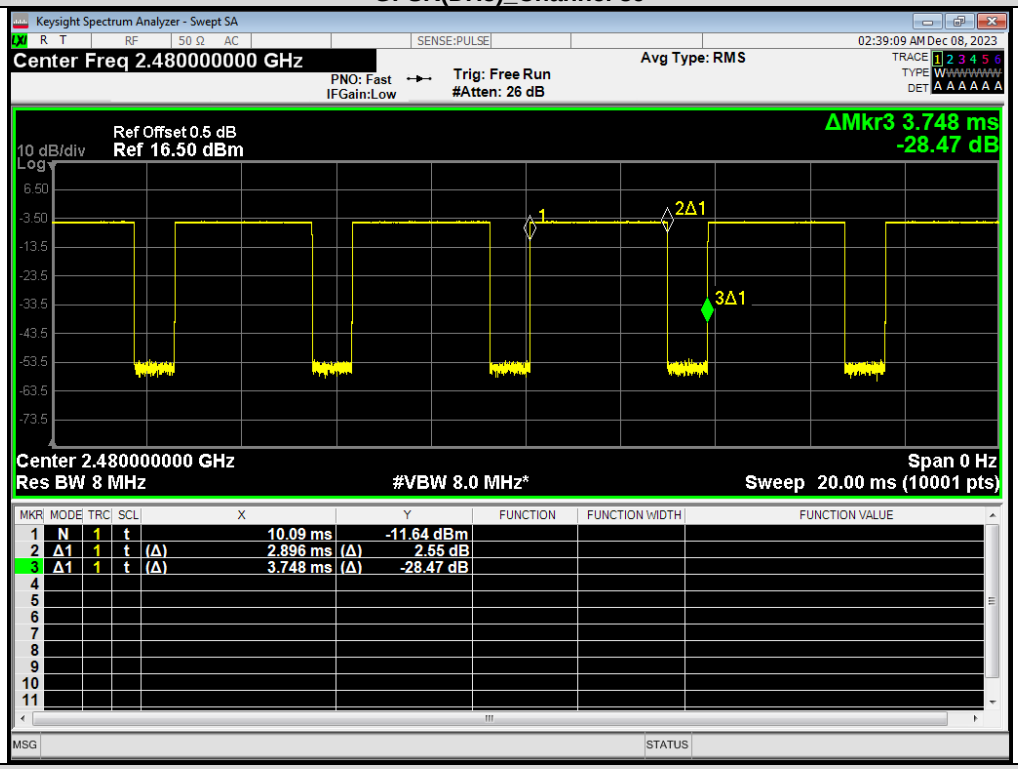
5.2 Test Graphs



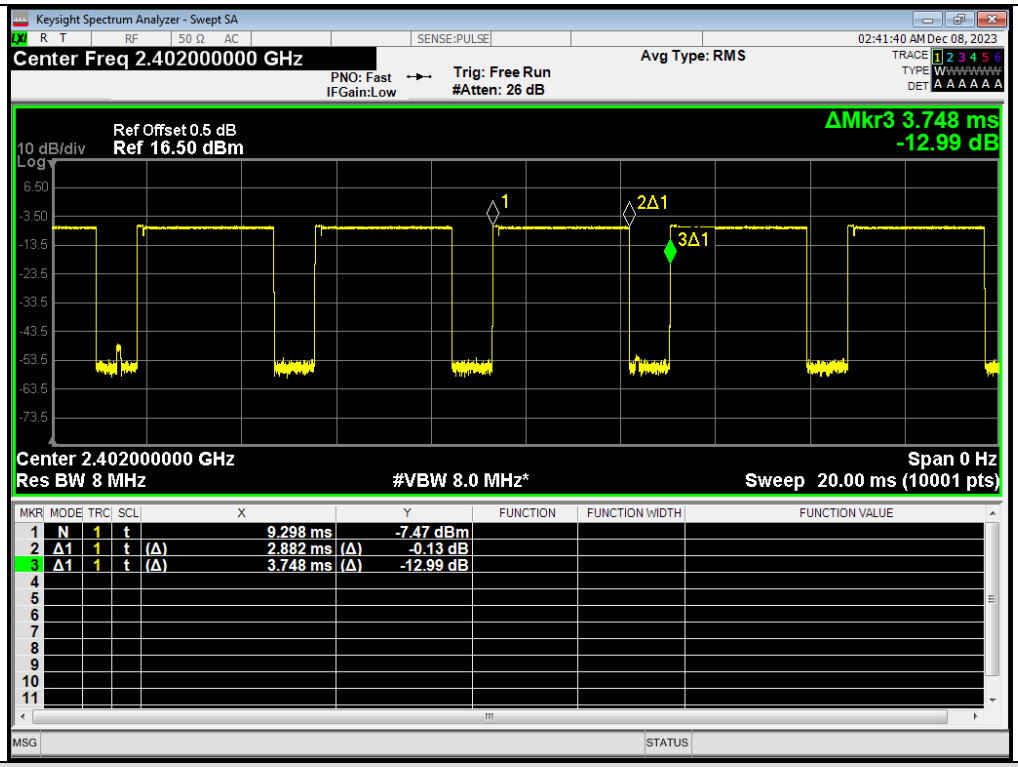
GFSK(DH5)_Channel 0



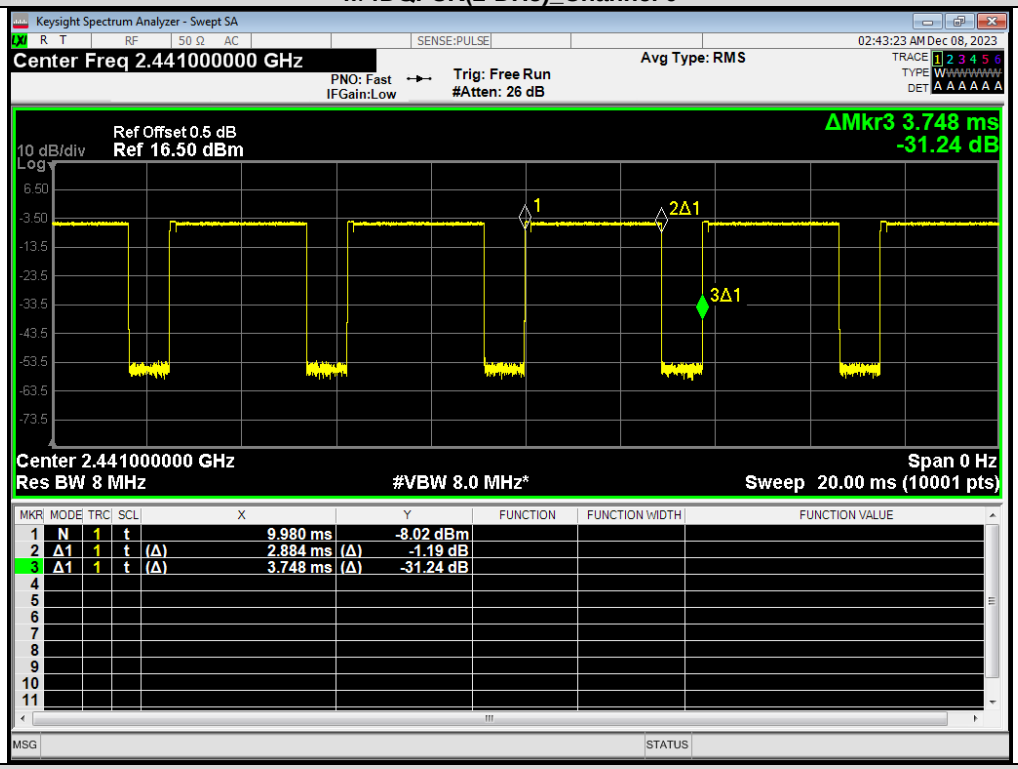
GFSK(DH5)_Channel 39



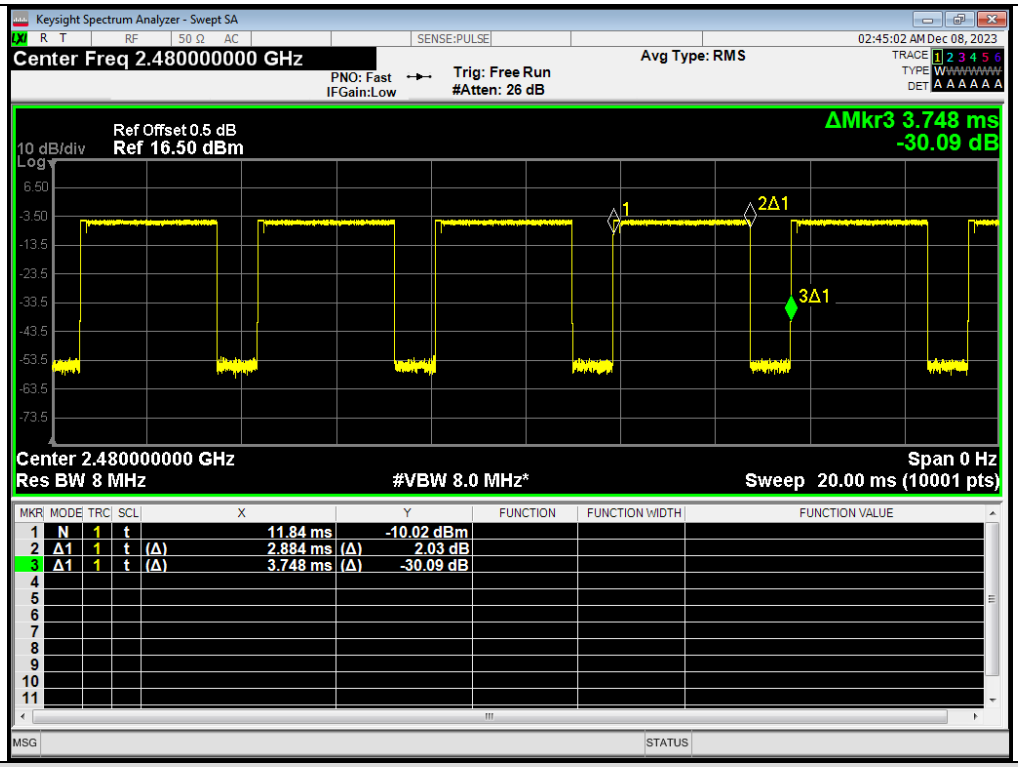
GFSK(DH5)_Channel 78



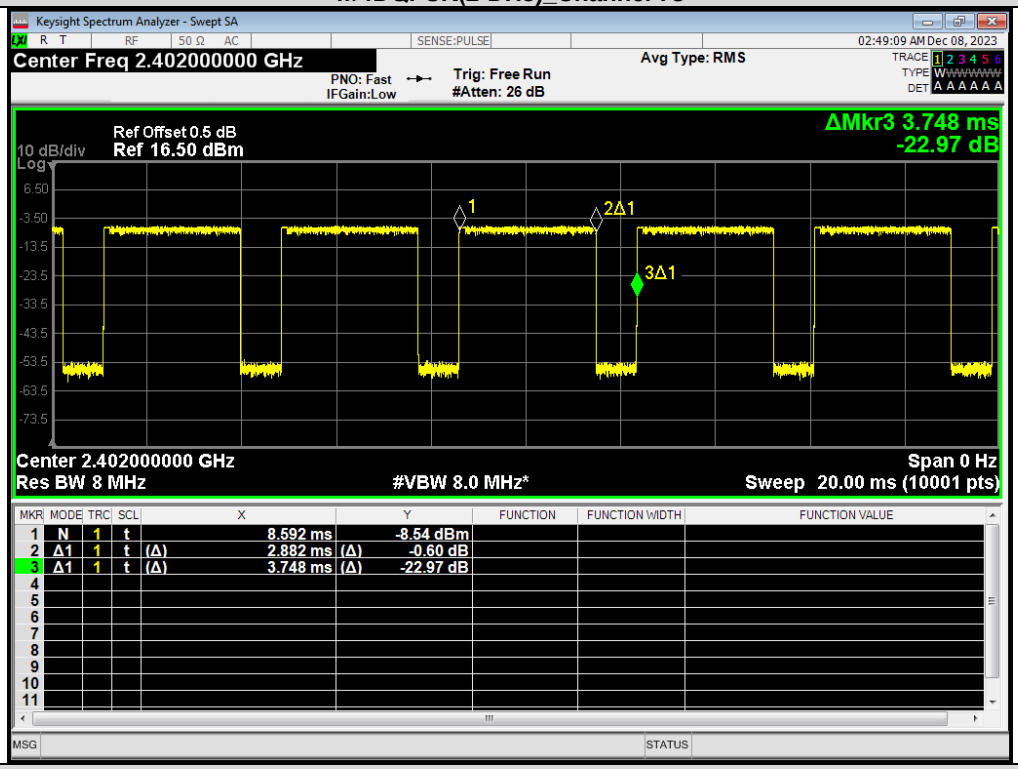
π/4DQPSK(2-DH5)_Channel 0



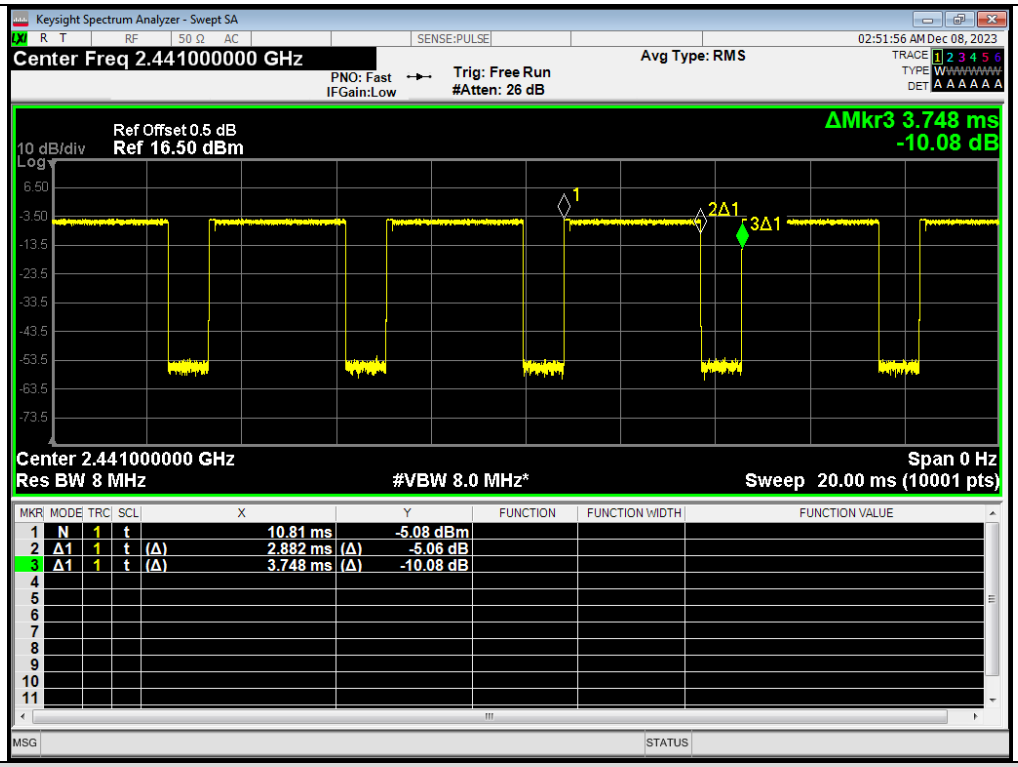
π/4DQPSK(2-DH5)_Channel 39



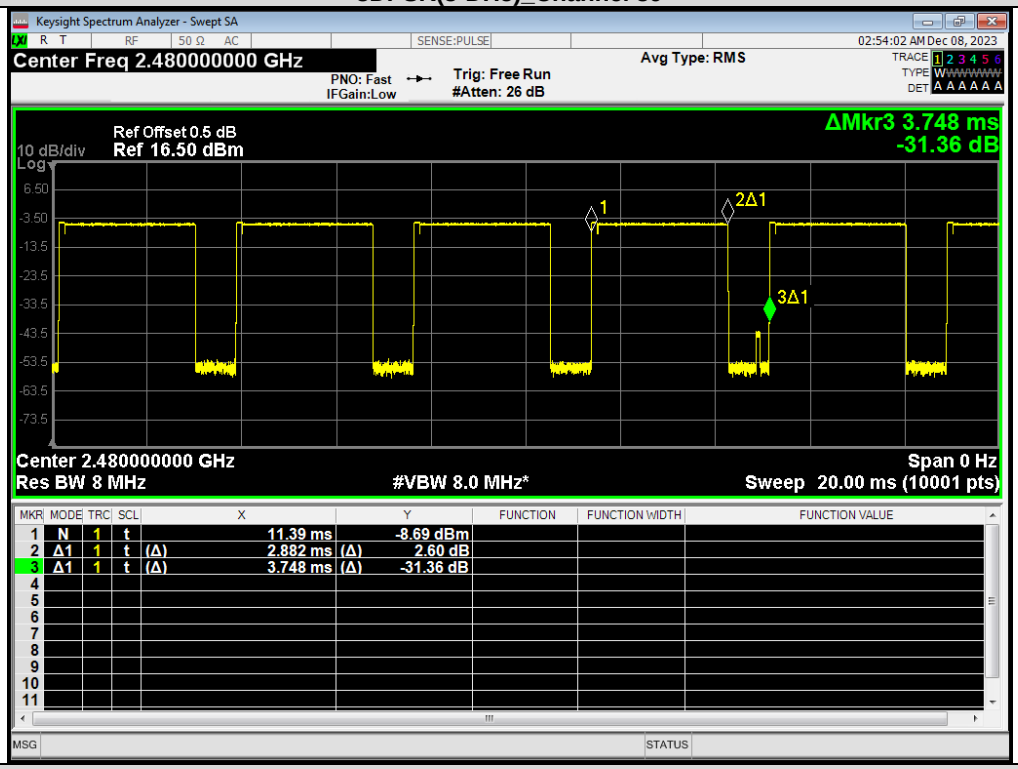
π/4DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



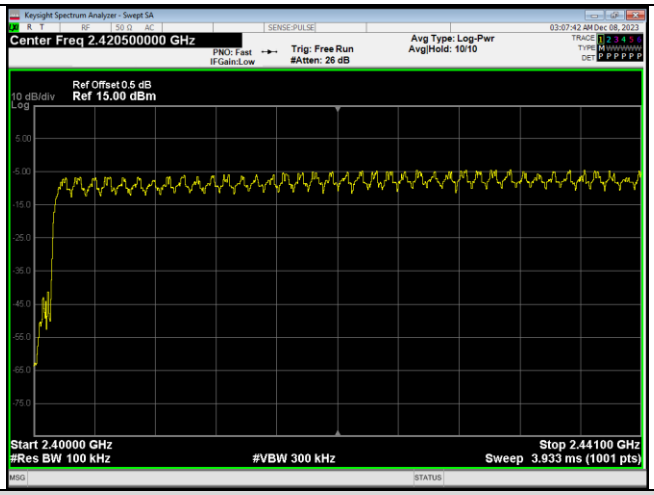
8DPSK(3-DH5)_Channel 78

6. Number Of Hopping Channel

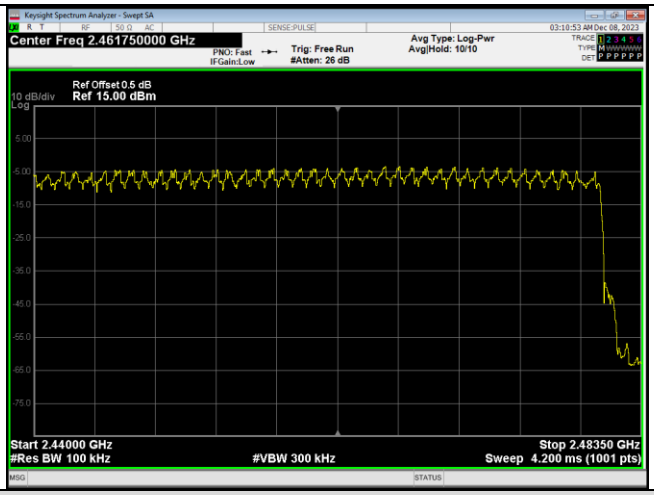
6.1 Test Result

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
π/4DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

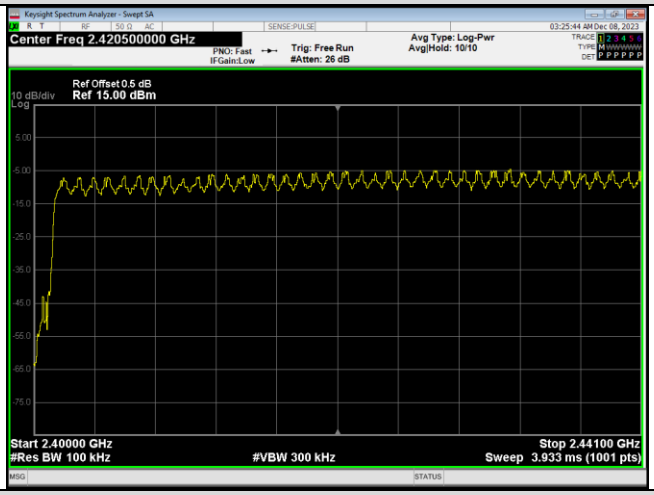
6.2 Test Graphs



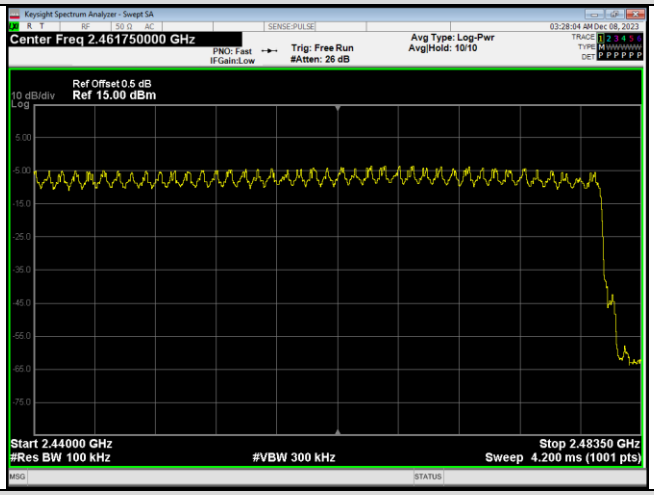
Low End Spectrum Channel Hopping Plot
GFSK



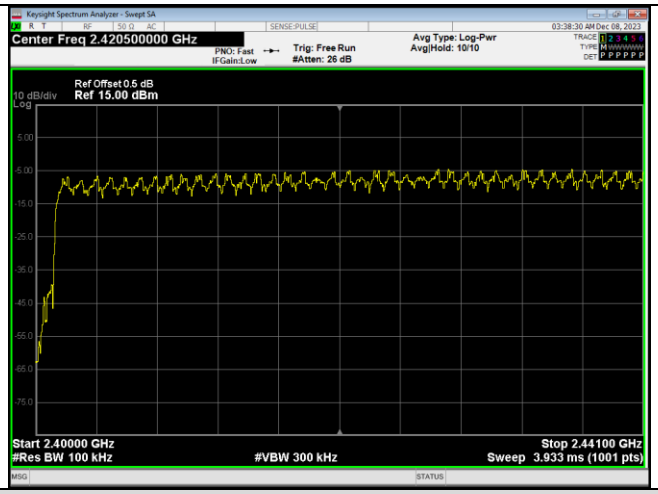
High End Spectrum Channel Hopping Plot
GFSK



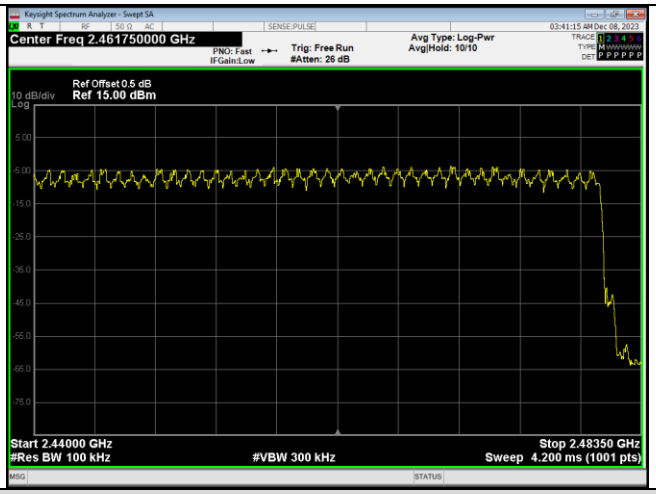
Low End Spectrum Channel Hopping Plot
π/4DQPSK



High End Spectrum Channel Hopping Plot
π/4DQPSK



Low End Spectrum Channel Hopping Plot
8DPSK



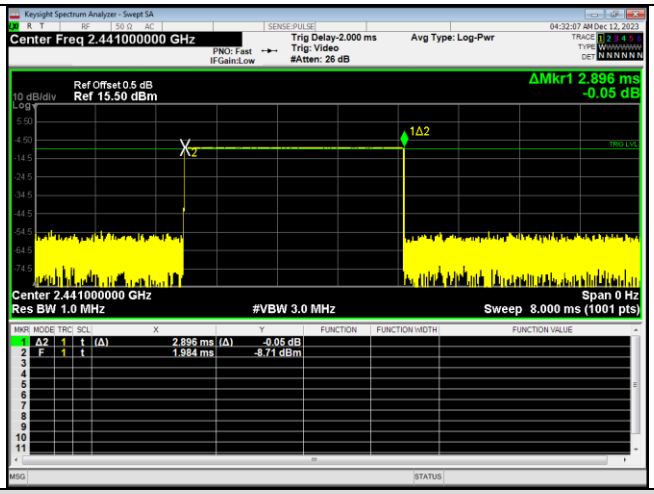
High End Spectrum Channel Hopping Plot
8DPSK

7. Dwell Time

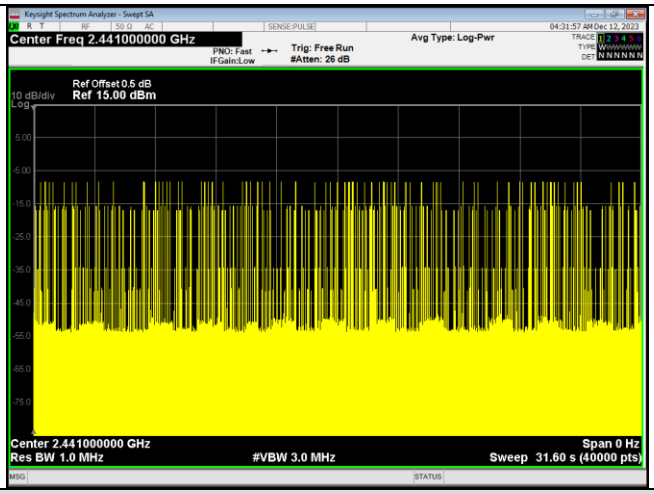
7.1 Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH39 (2441MHz)	2.896	97	280.91	< 400	PASS
π/4DQPSK	2-DH5		2.888	111	320.57		PASS
8DPSK	3-DH5		2.880	110	316.8		PASS

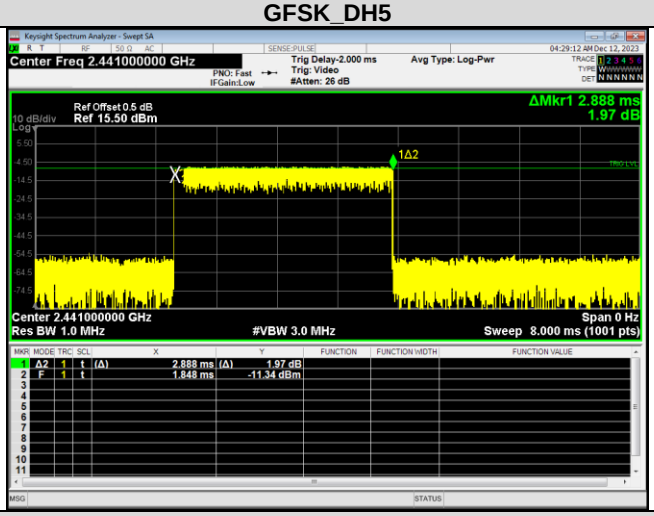
7.2 Test Graphs



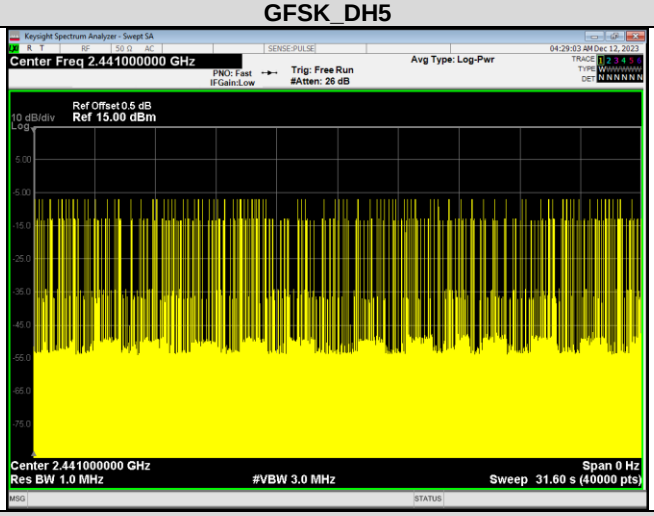
Pulse Width
GFSK_DH5



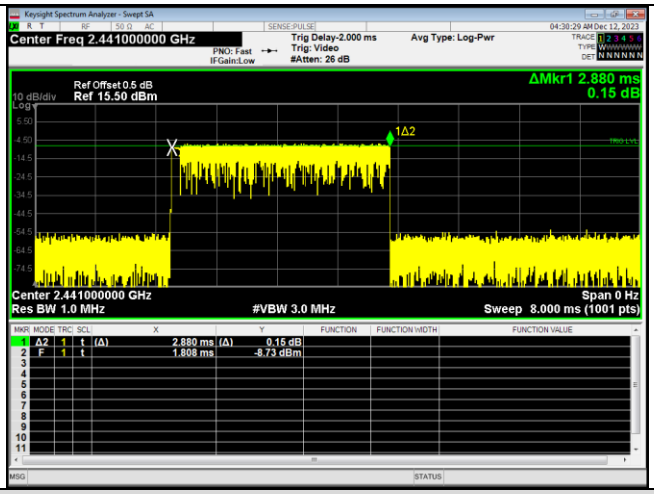
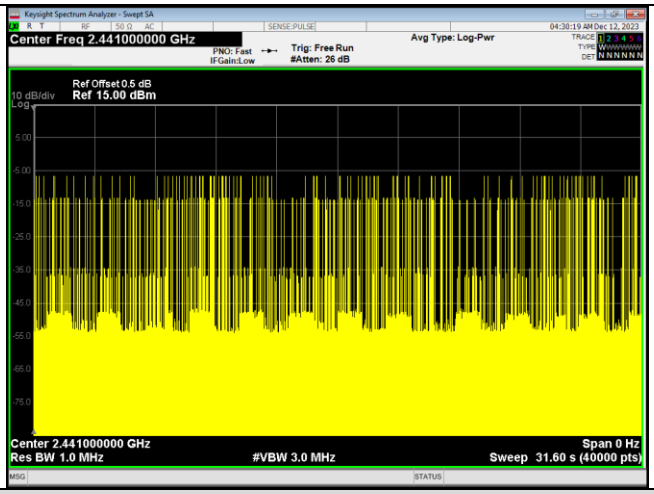
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
π/4DQPSK_2-DH5



Number of Pulses in 31.6 seconds
π/4DQPSK_2-DH5

	
Pulse Width **8DPSK_3-DH5**	**Number of Pulses in 31.6 seconds** **8DPSK_3-DH5**

---The End---