Appendix A

Report No.:	CISRR23122817201
FCC ID:	2BEBM-SV-01
Product Name:	Bluetooth headset
Model No.:	SV-01
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Conducted Peak Output Power

Test Result

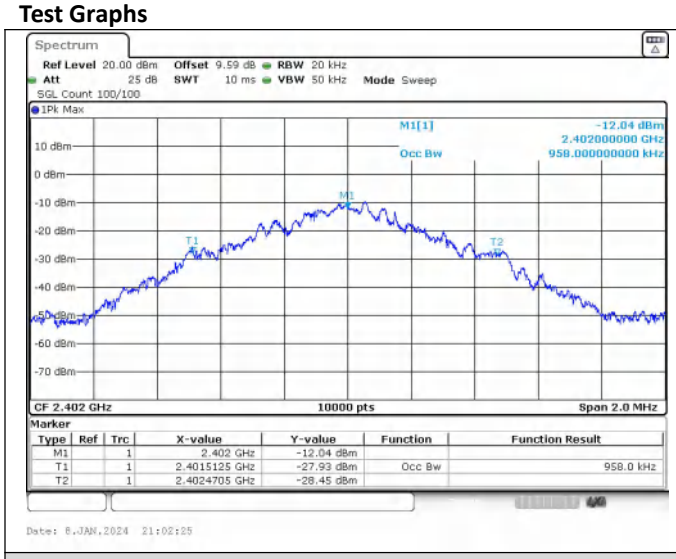
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-0.918	0.810	30	PASS
		39	-0.193	0.957		PASS
		78	-1.689	0.678		PASS
π/4DQPSK	2-DH5	0	-0.000	1.000	20.97	PASS
		39	0.673	1.168		PASS
		78	-0.765	0.838		PASS
8DPSK	3-DH5	0	0.154	1.036		PASS
		39	0.933	1.240		PASS
		78	-0.525	0.886		PASS

2) 99% Bandwidth

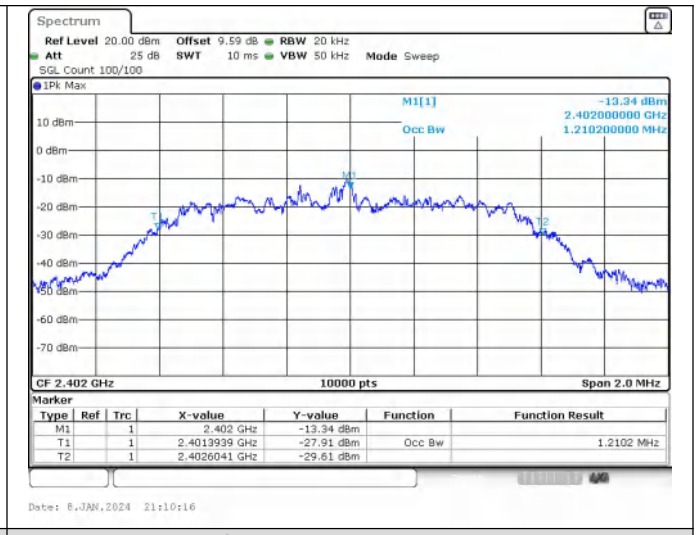
Test Result

Modulation	Channel	99% BW (MHz)
GFSK	0	0.95800
	39	0.96840
	78	0.96980
π/4DQPSK	0	1.2100
	39	1.2270
	78	1.2330
8DPSK	0	1.1830
	39	1.2070
	78	1.2020

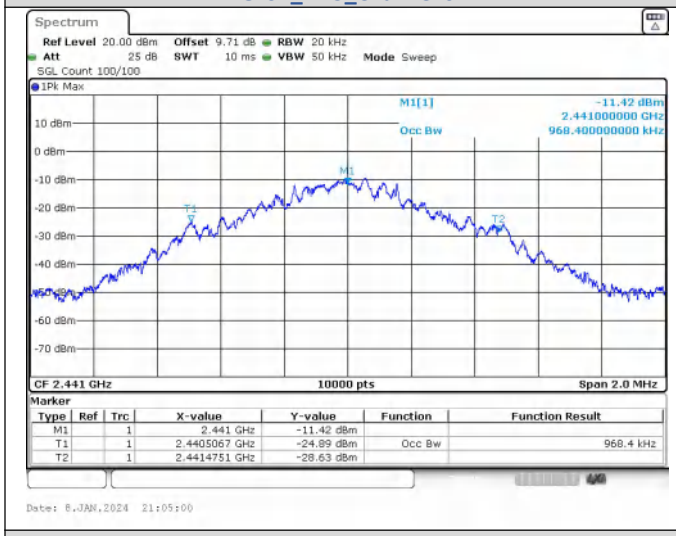
Test Graphs



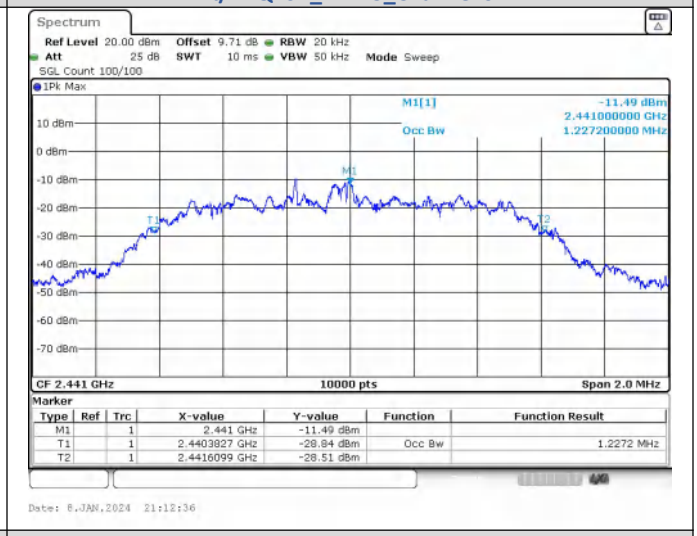
GFSK_DH5_Channel 0



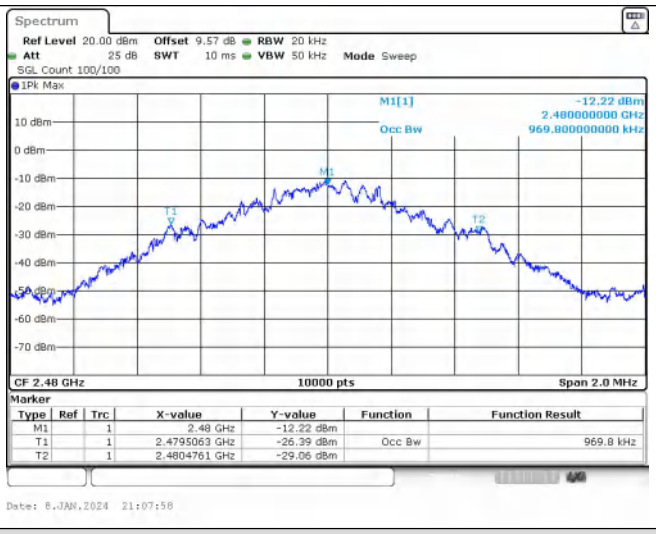
π/4DQPSK_2-DH5_Channel 0



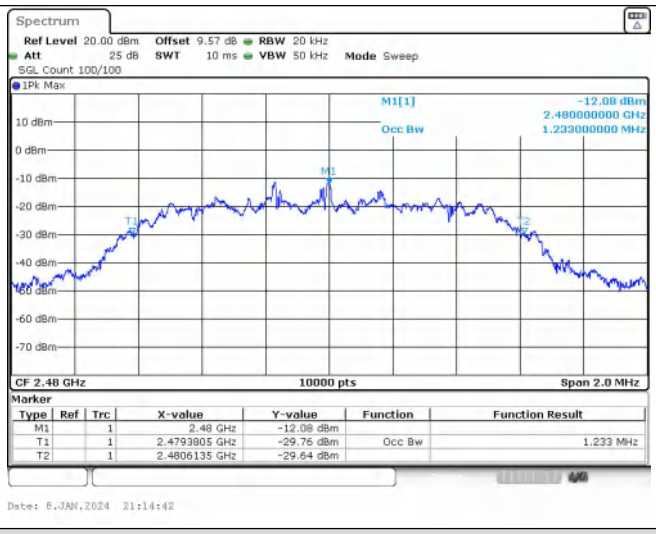
GFSK_DH5_Channel 39



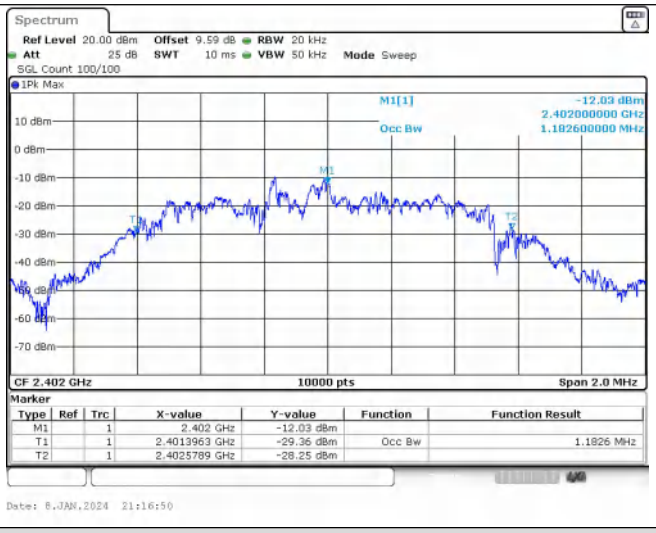
π/4DQPSK_2-DH5_Channel 39



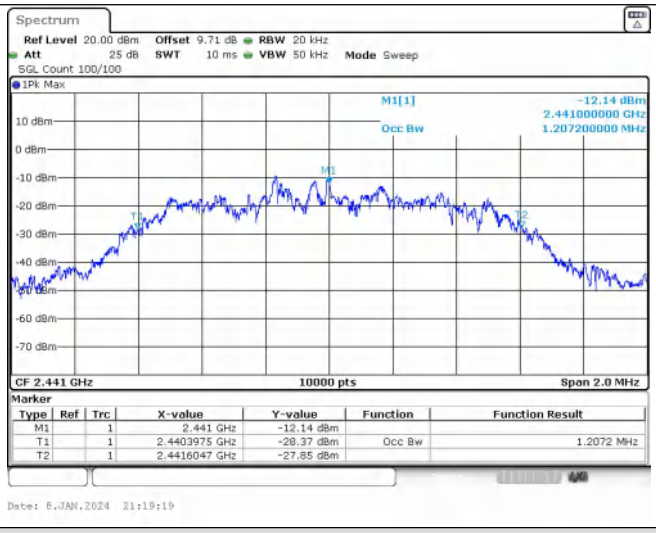
GFSK_DH5_Channel 78



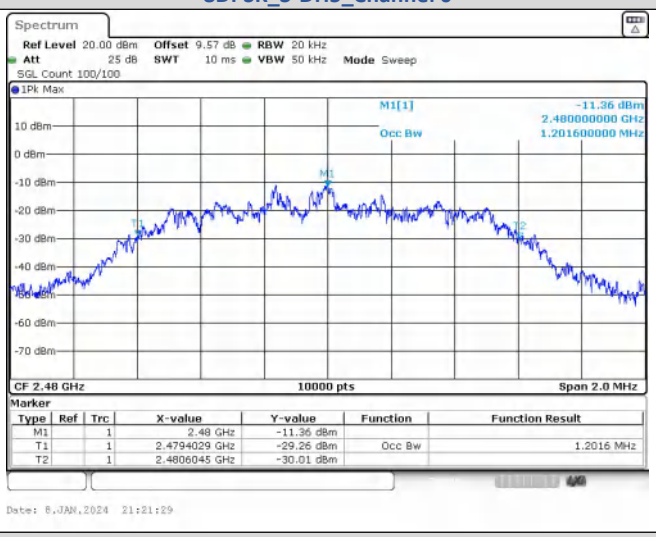
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



8DPSK_3-DH5_Channel 78

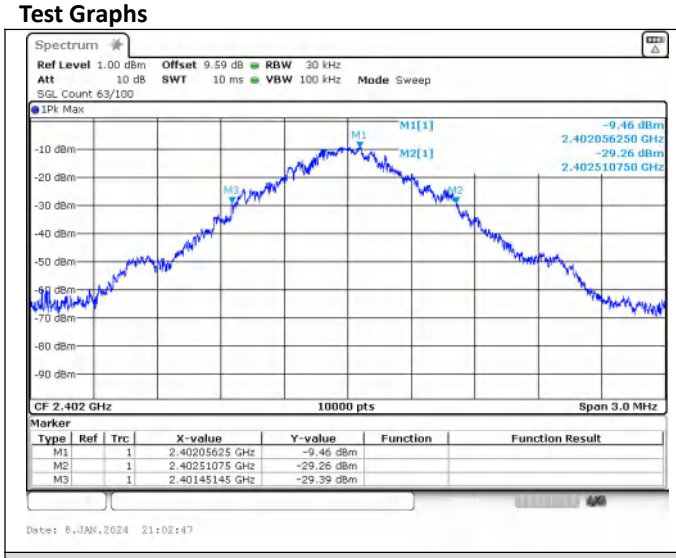
Void

3) 20dB Bandwidth

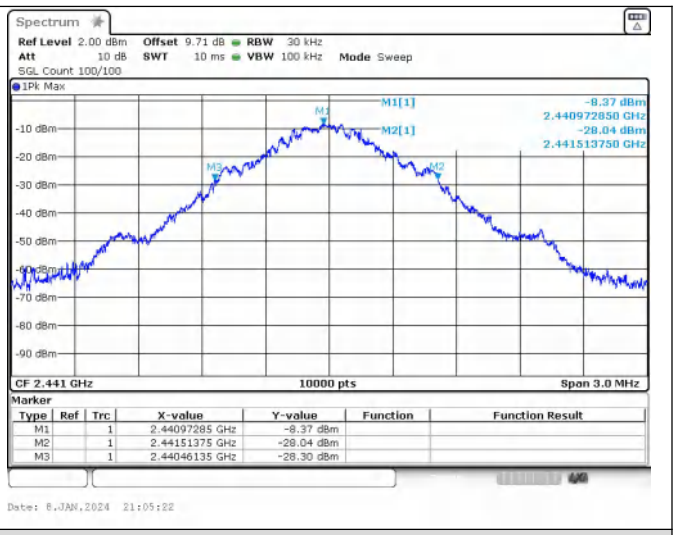
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.060
	39	2441 MHz	1.050
	78	2480 MHz	1.060
π/4DQPSK	0	2402 MHz	1.310
	39	2441 MHz	1.300
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.290
	39	2441 MHz	1.300
	78	2480 MHz	1.300

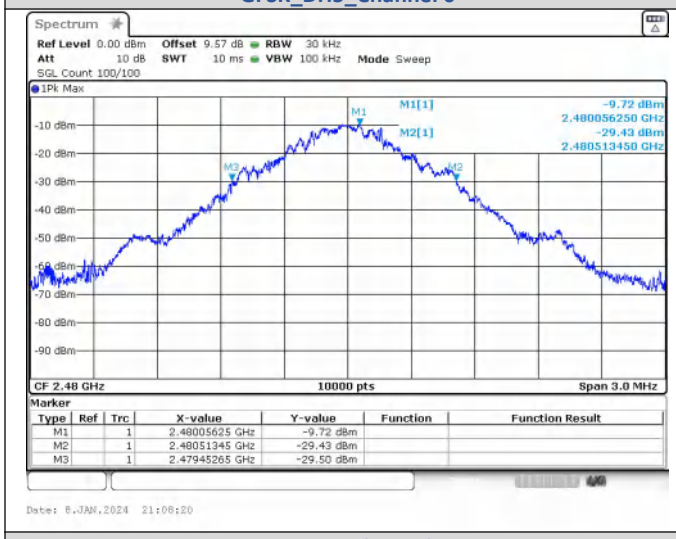
Test Graphs



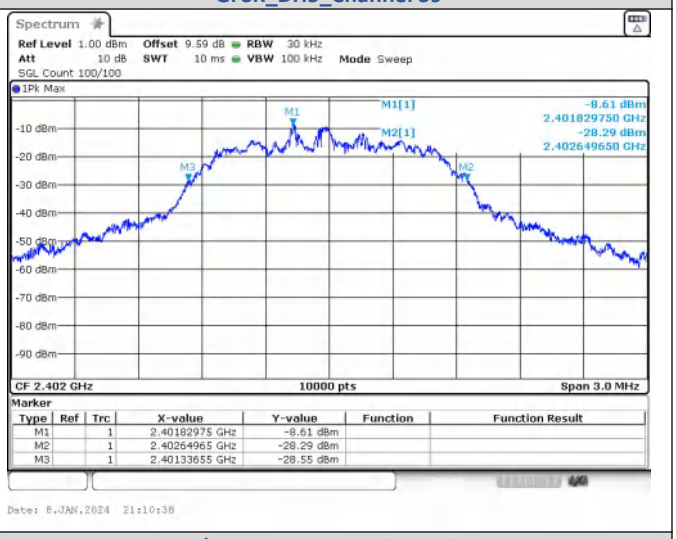
GFSK_DH5_Channel 0



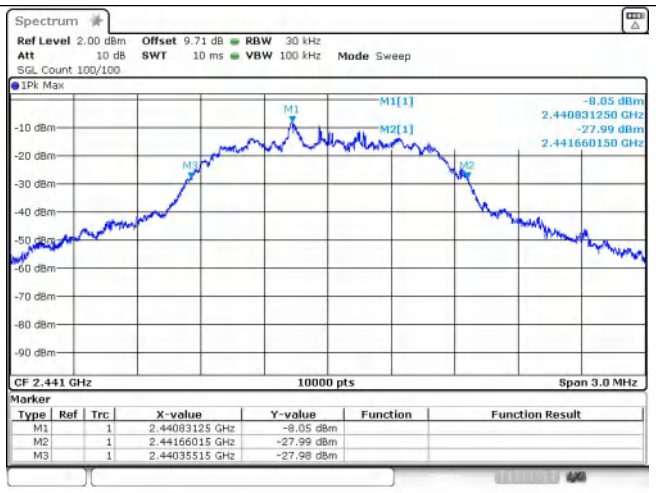
GFSK_DH5_Channel 39



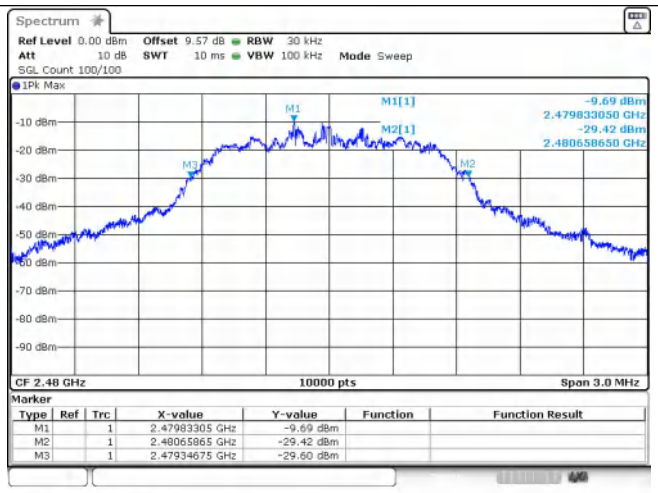
GFSK_DH5_Channel 78



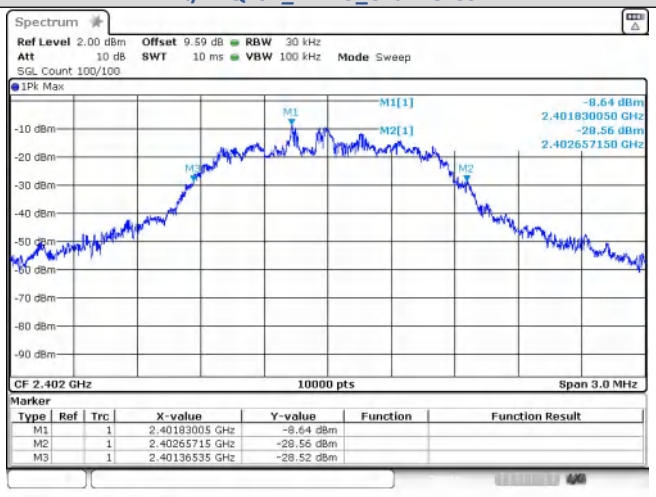
π/4DQPSK_2-DH5_Channel 0



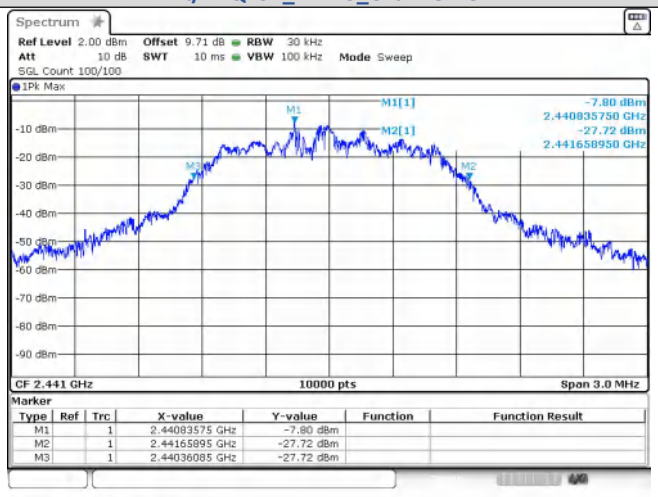
π/4DQPSK_2-DH5_Channel 39



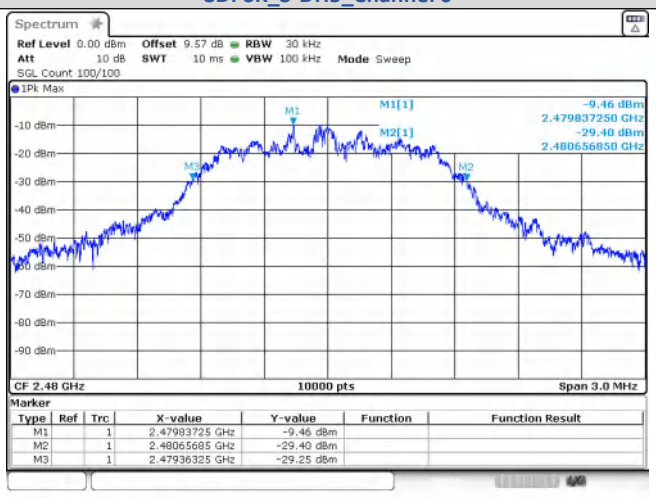
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



8DPSK_3-DH5_Channel 78

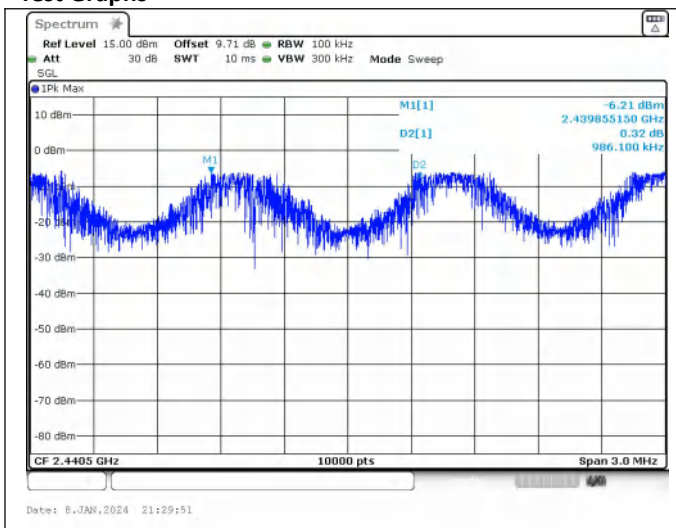
Void

4) Carrier Frequencies Separation

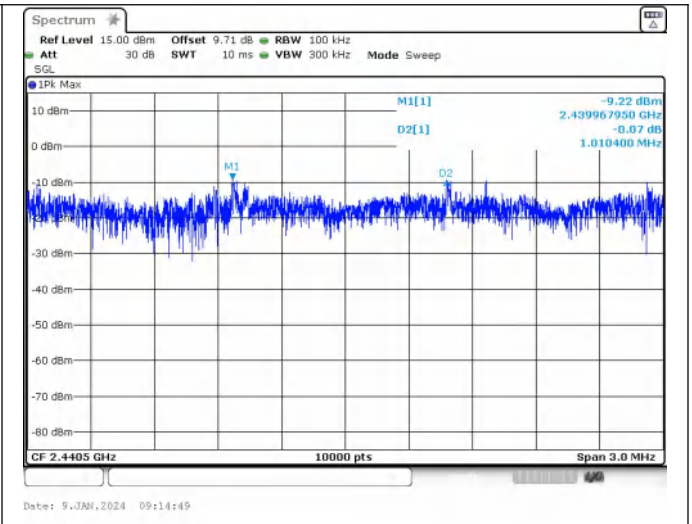
Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8551	2440.8412	0.9861	0.707	PASS
π/4DQPSK	2-DH5	2439.968	2440.9783	1.0104	0.873	PASS
8DPSK	3-DH5	2439.898	2440.9489	1.0100	0.86	PASS

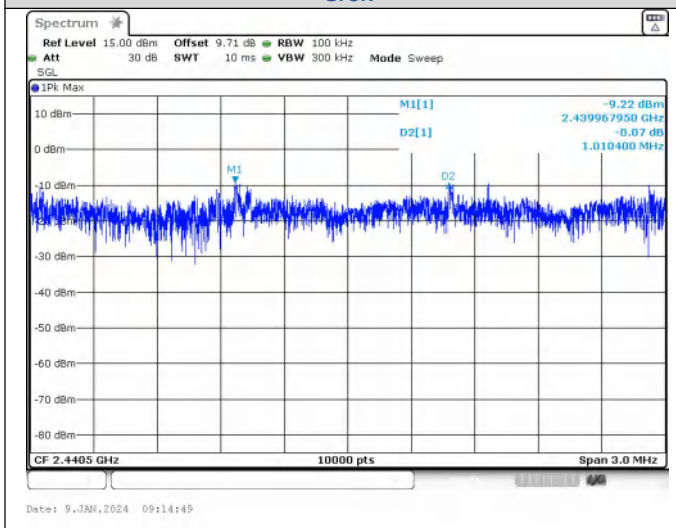
Test Graphs



GFSK



π/4DQPSK



8DPSK

Void

5) Conducted Out Of Band Emission

Test Result

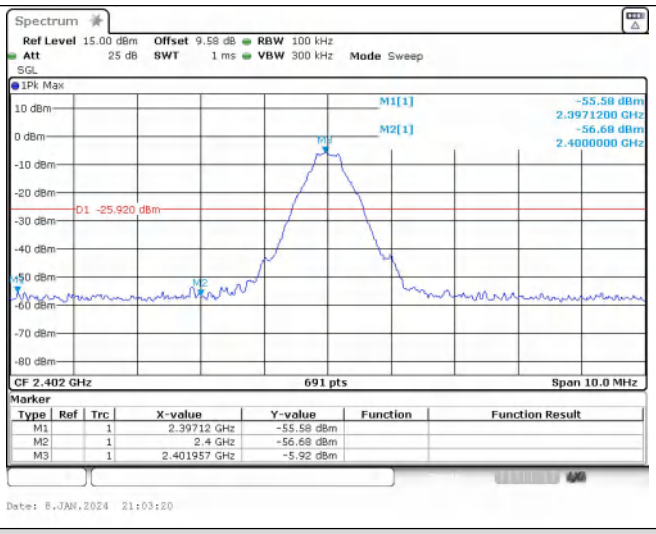
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-56.683	-25.92	-30.763	PASS
			2397.12	-55.581	-25.92	-29.661	PASS
			9608.10	-53.068	-25.92	-27.148	PASS
		39	9763.72	-46.325	-25.5	-20.825	PASS
		78	2483.50	-56.470	-26.8	-29.670	PASS
			9920.20	-49.887	-26.8	-23.087	PASS
π/4DQPSK	2-DH5	0	2400.00	-56.674	-26.04	-30.634	PASS
			2398.32	-55.385	-26.04	-29.345	PASS
			9608.10	-50.316	-26.04	-24.276	PASS
		39	9763.72	-45.507	-25.41	-20.097	PASS
		78	2483.50	-57.008	-26.85	-30.158	PASS
			9920.20	-48.852	-26.85	-22.002	PASS
8DPSK	3-DH5	0	2400.00	-56.987	-25.83	-31.157	PASS
			2398.83	-55.381	-25.83	-29.551	PASS
			9608.10	-52.312	-25.83	-26.482	PASS
		39	9763.72	-44.871	-25.53	-19.341	PASS
		78	2483.50	-57.885	-26.74	-31.145	PASS
			9920.20	-49.591	-26.74	-22.851	PASS

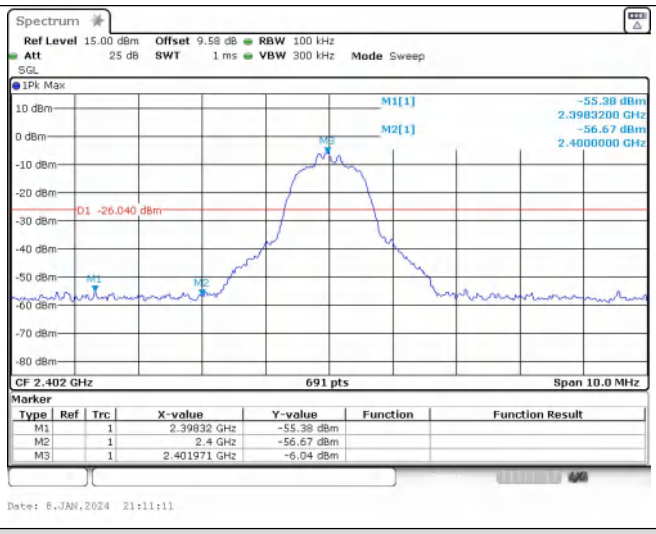
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.90	-55.255	-26.25	-29.005	PASS
			2400.00	-57.528	-26.25	-31.278	PASS
			2483.50	-56.336	-27.15	-29.186	PASS
			2396.69	-55.661	-25.86	-29.801	PASS
			2400.00	-58.080	-25.86	-32.220	PASS
			2483.50	-57.140	-26.34	-30.800	PASS
π/4DQPSK	2-DH5		2396.63	-54.628	-27.7	-26.928	PASS
			2400.00	-56.265	-27.7	-28.565	PASS
			2483.50	-56.776	-31.87	-24.906	PASS
			2398.73	-55.299	-28.34	-26.959	PASS
			2400.00	-56.515	-28.34	-28.175	PASS
			2483.50	-56.465	-31.2	-25.265	PASS
8DPSK	3-DH5		2398.31	-55.154	-28.42	-26.734	PASS
			2400.00	-57.080	-28.42	-28.660	PASS
			2483.50	-56.003	-29.85	-26.153	PASS
			2396.12	-55.222	-28.24	-26.982	PASS
			2400.00	-57.551	-28.24	-29.311	PASS
			2483.50	-56.482	-29.64	-26.842	PASS

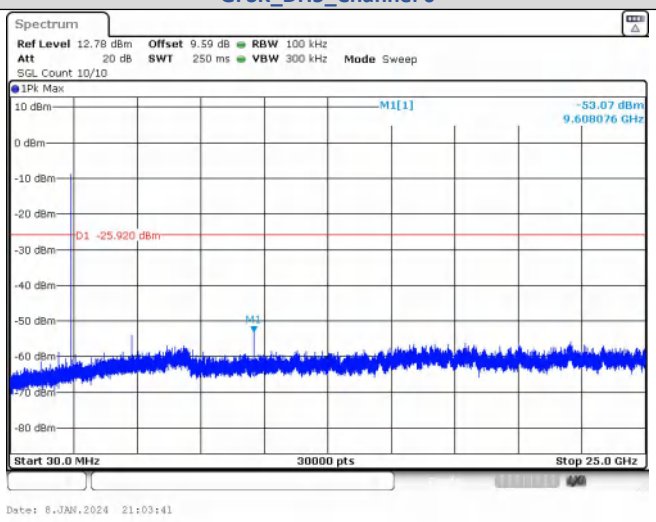
Test Graphs



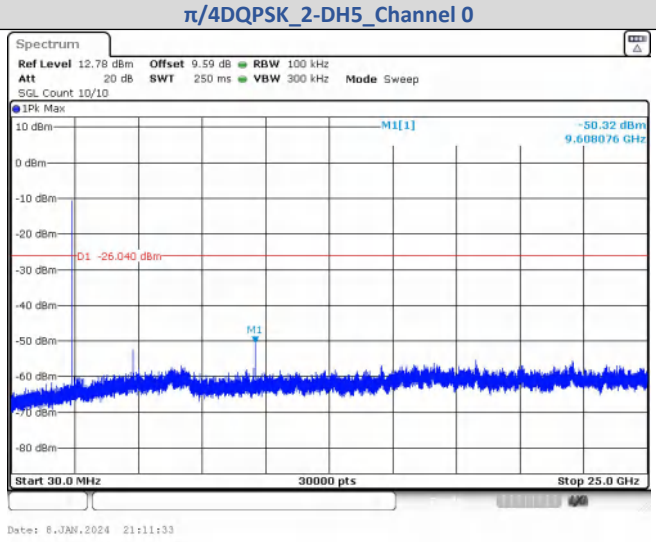
Out Of Band Emission
GFSK_DH5_Channel 0



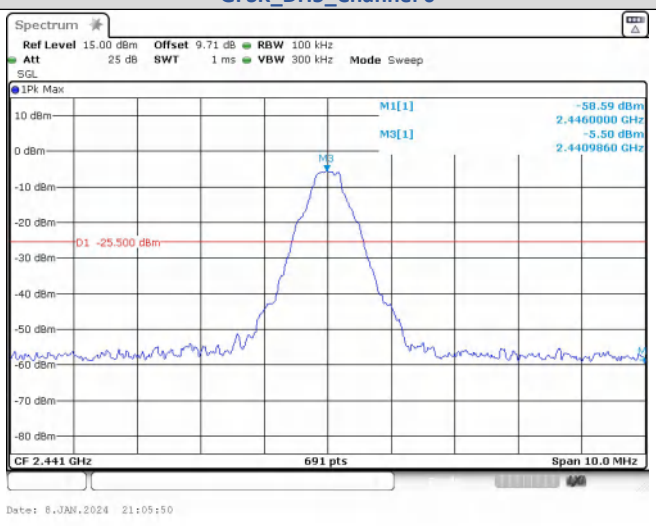
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 0



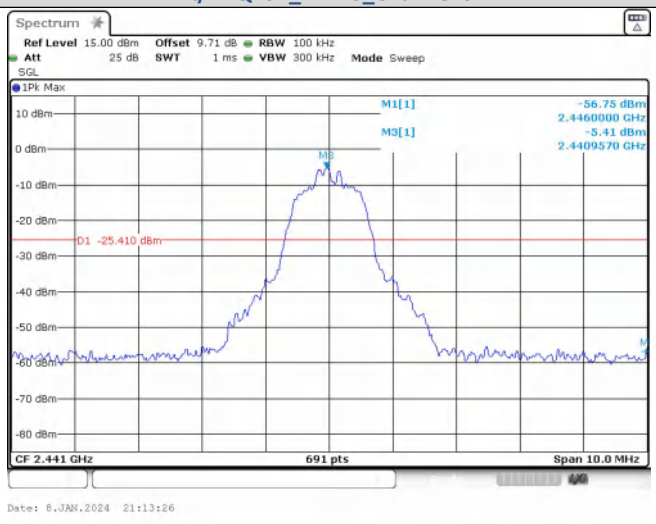
Spurious Emission
GFSK_DH5_Channel 0



Spurious Emission
π/4DQPSK_2-DH5_Channel 0

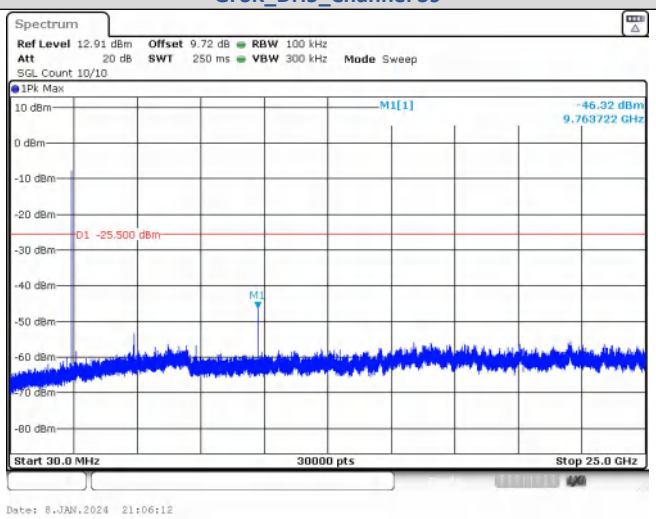


Out Of Band Emission

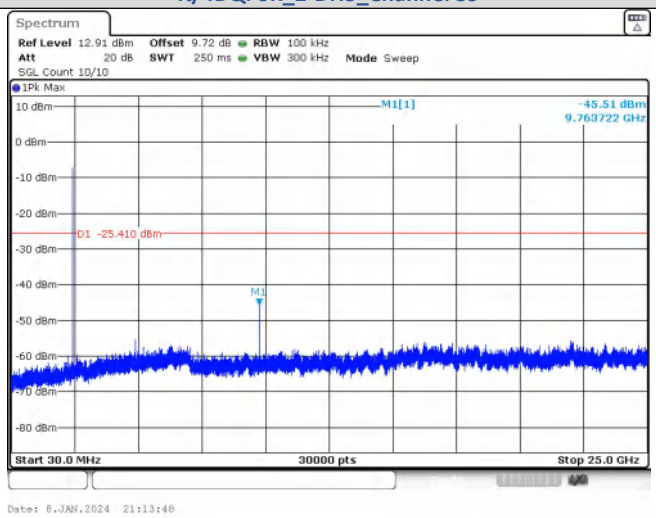


Out Of Band Emission

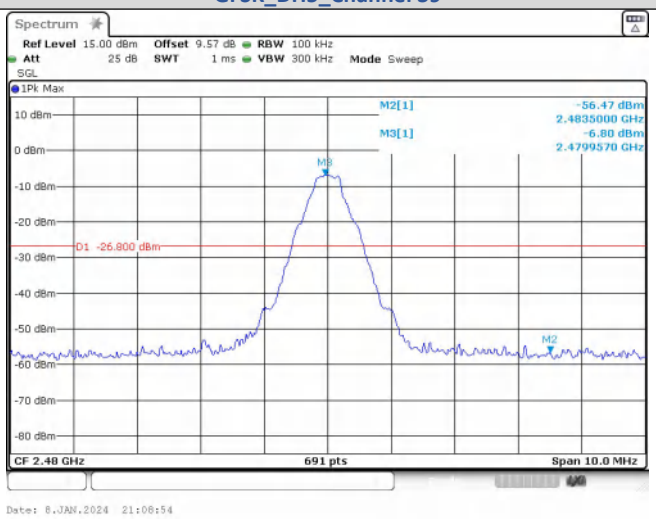
GFSK_DH5_Channel 39



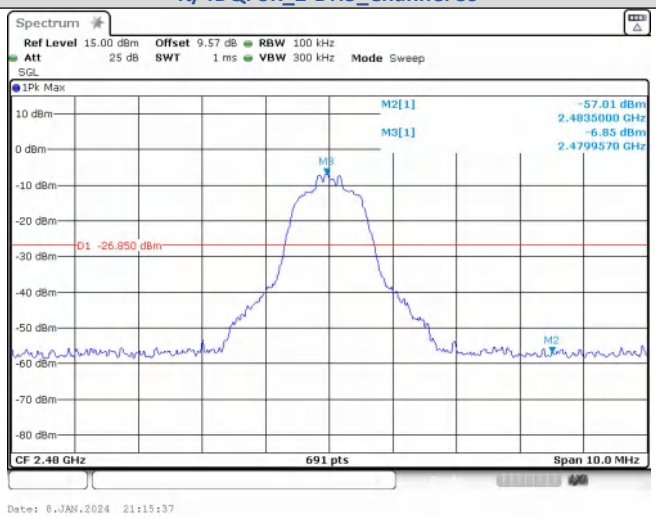
π/4DQPSK_2-DH5_Channel 39



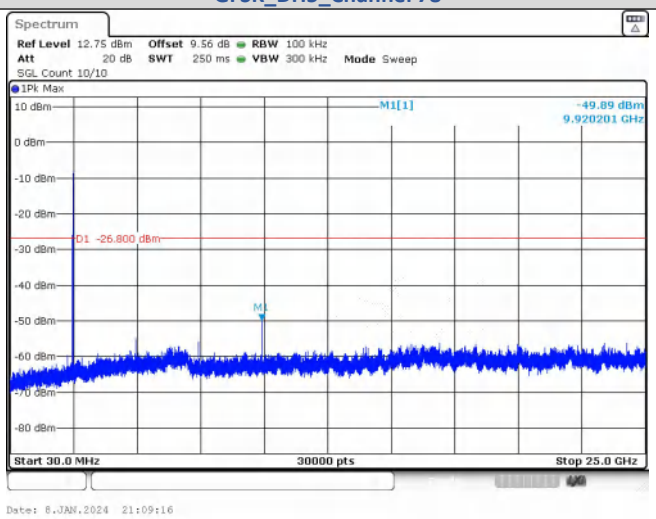
Spurious Emissions GFSK_DH5_Channel 39



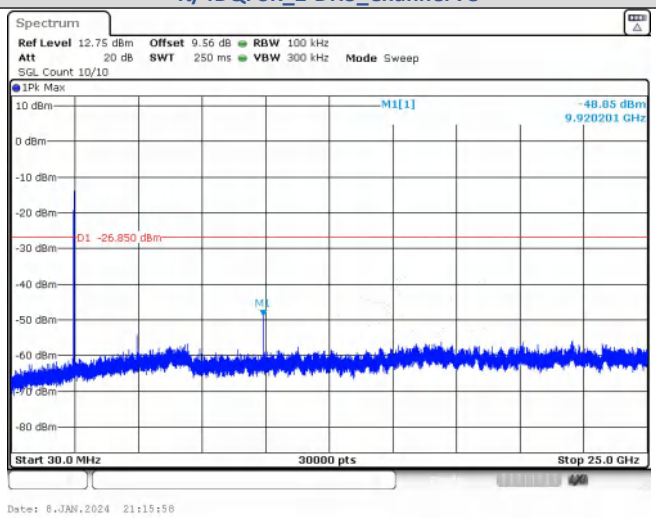
Spurious Emissions π/4DQPSK_2-DH5_Channel 39

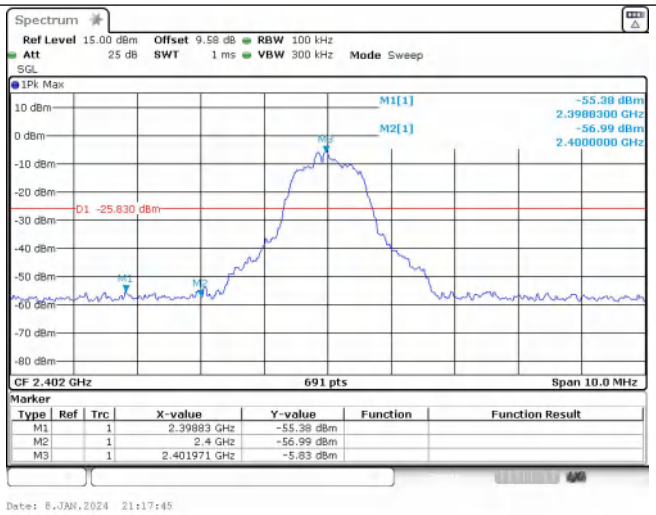
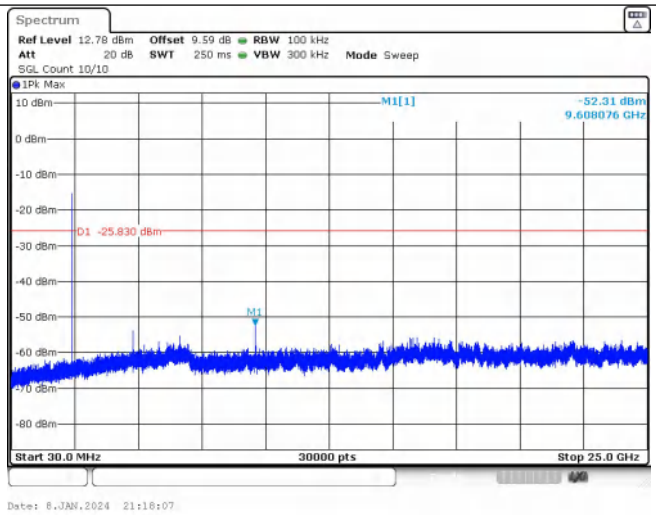
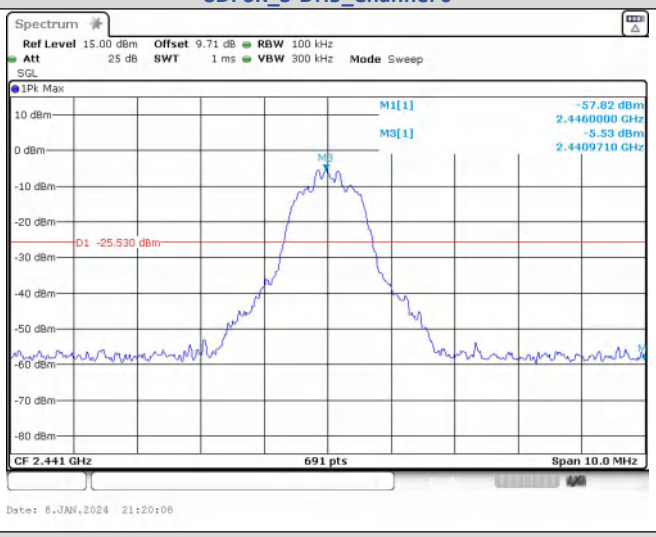
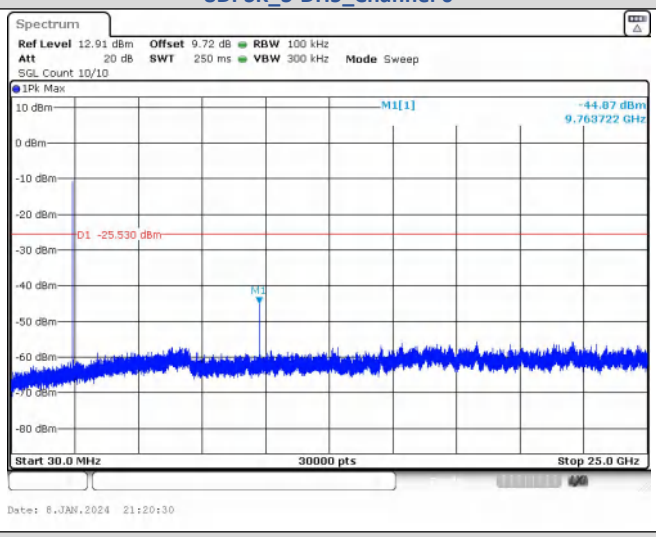


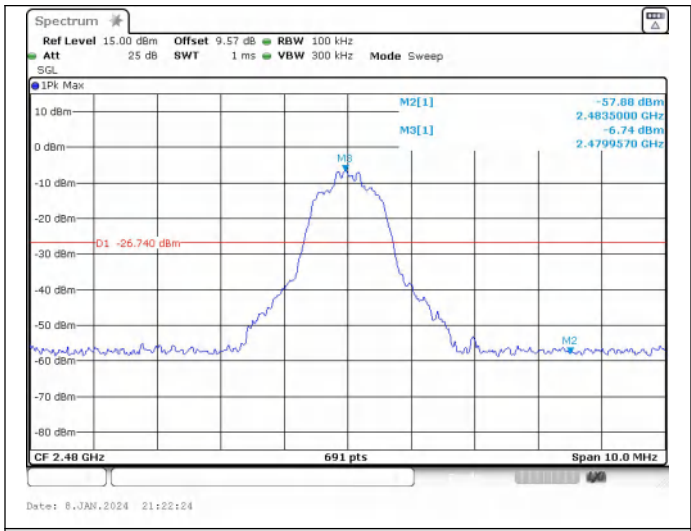
Out Of Band Emission GFSK_DH5_Channel 78



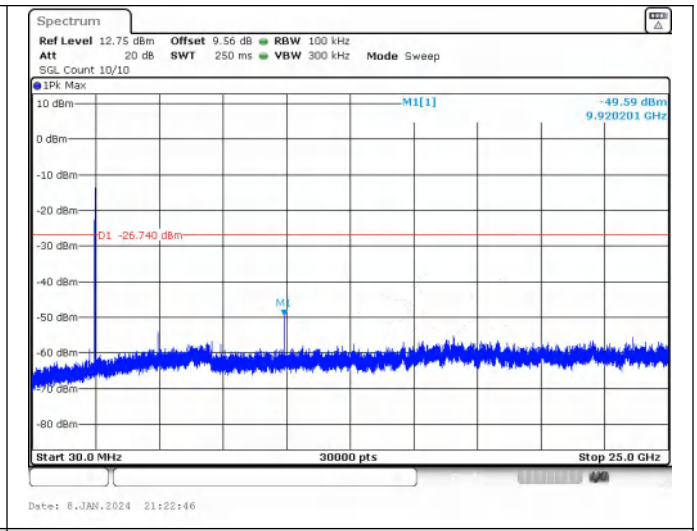
Out Of Band Emission π/4DQPSK_2-DH5_Channel 78



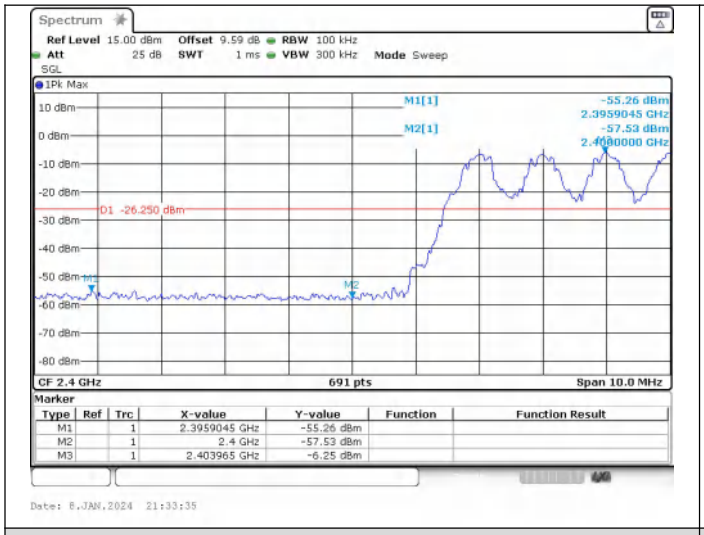
Spurious Emission GFSK_DH5_Channel 78	Spurious Emission π/4DQPSK_2-DH5_Channel 78
	
Out Of Band Emission 8DPSK_3-DH5_Channel 0	**Spurious Emission 8DPSK_3-DH5_Channel 0**
	
Out Of Band Emission 8DPSK_3-DH5_Channel 39	**Spurious Emissions 8DPSK_3-DH5_Channel 39**



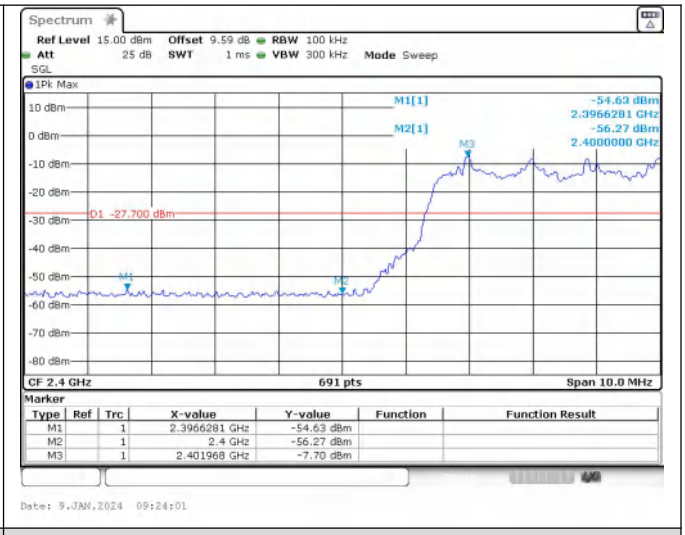
Out Of Band Emission
8DPSK_3-DH5_Channel 78



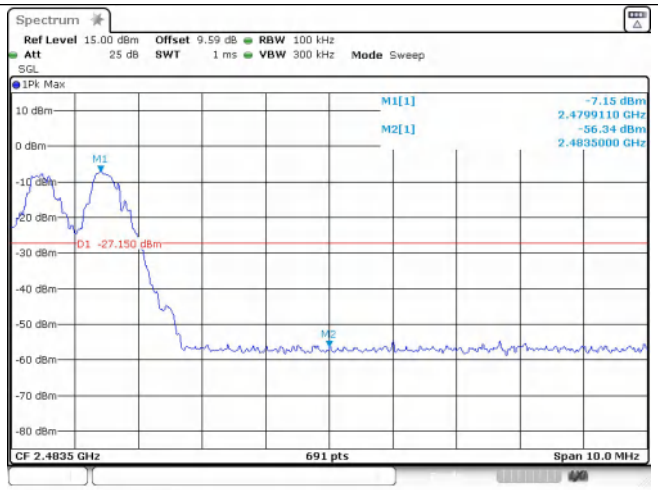
Spurious Emission
8DPSK_3-DH5_Channel 78



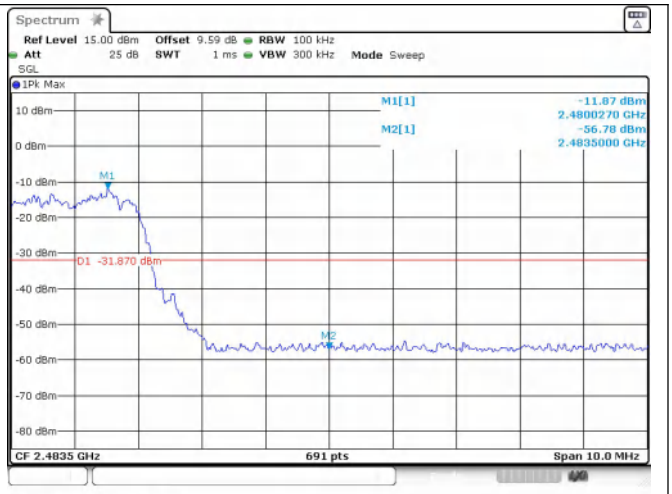
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



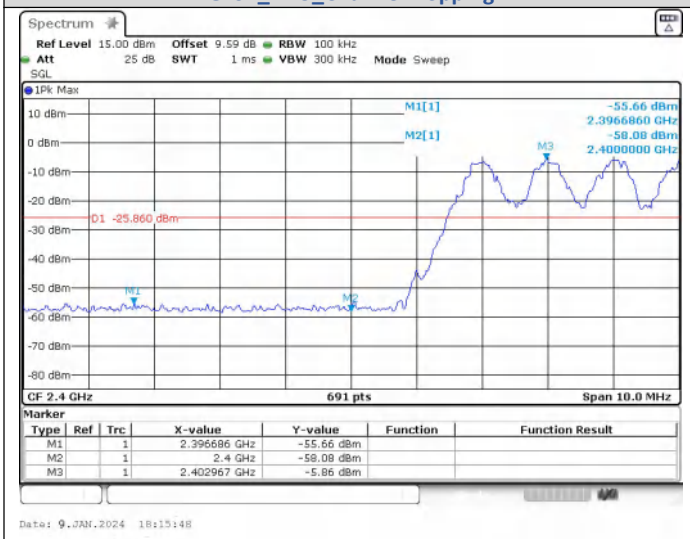
Out Of Band Emission(Left)
π/4DQPSK_2-DH5_Channel Hopping



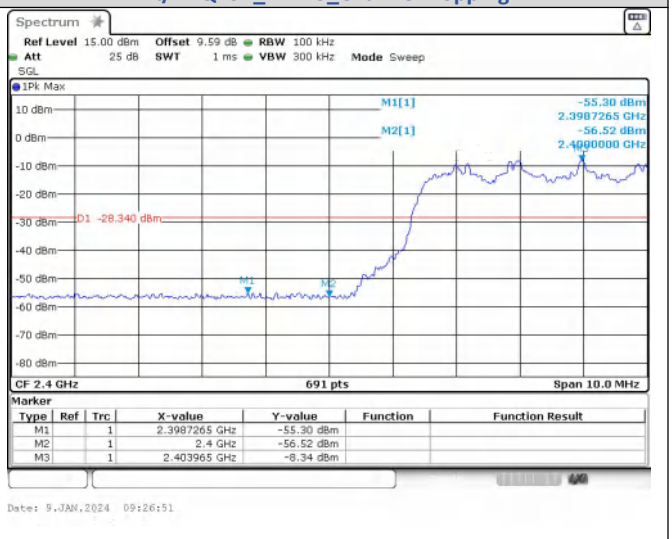
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



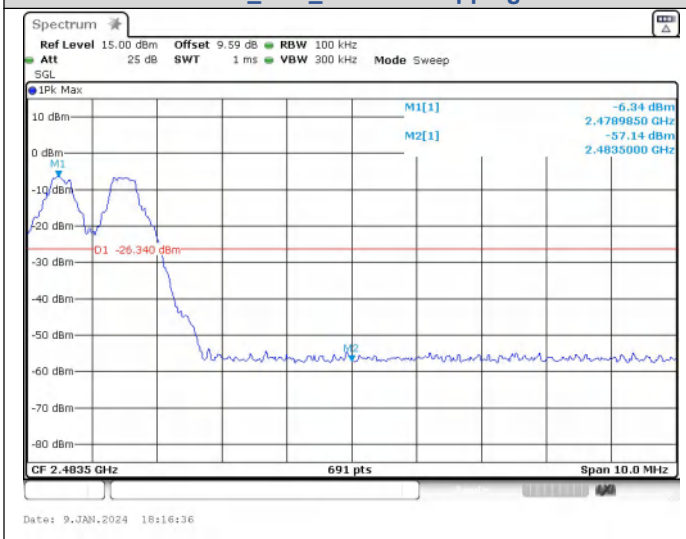
Out Of Band Emission(Right)
π/4DQPSK_2-DH5_Channel Hopping

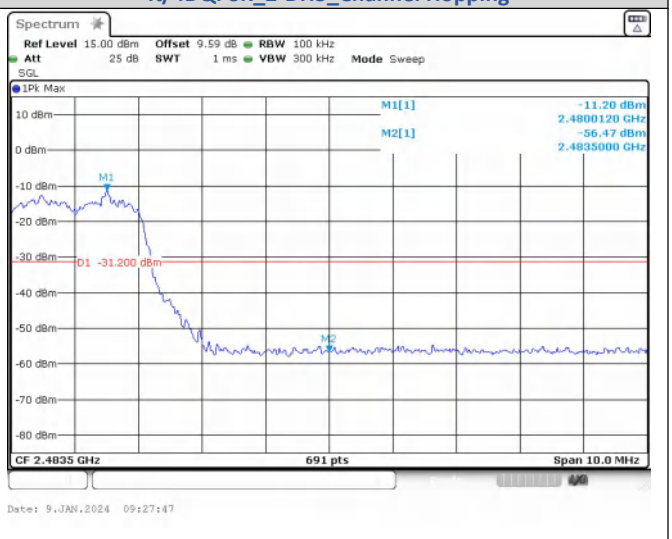


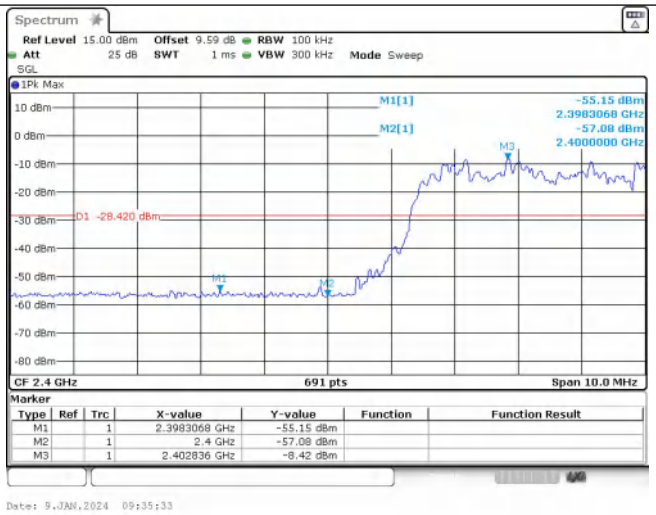
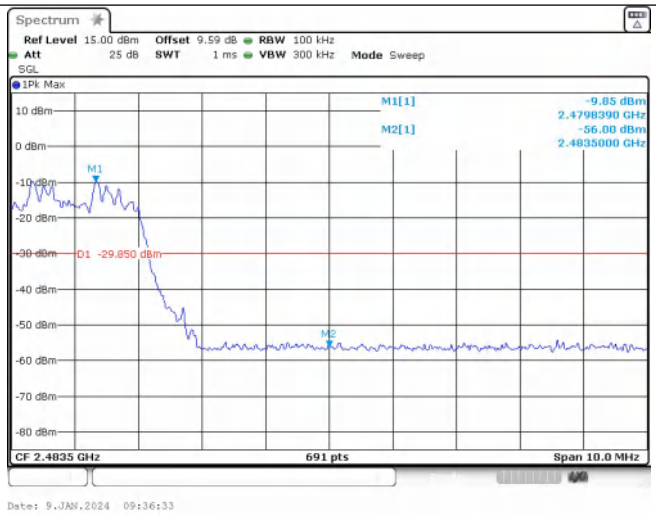
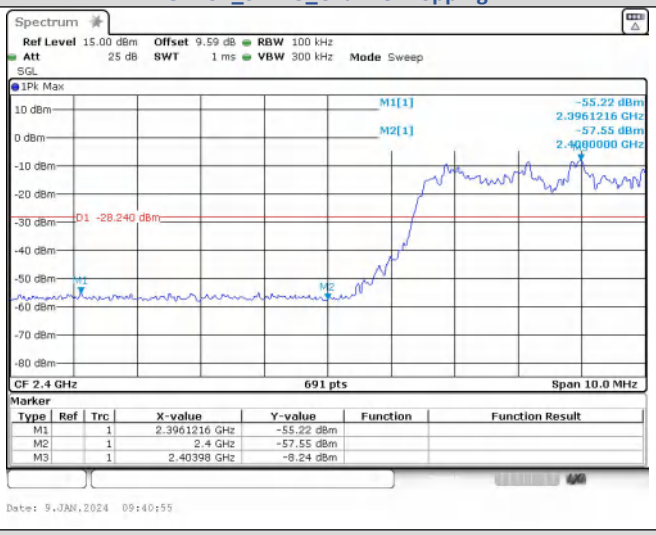
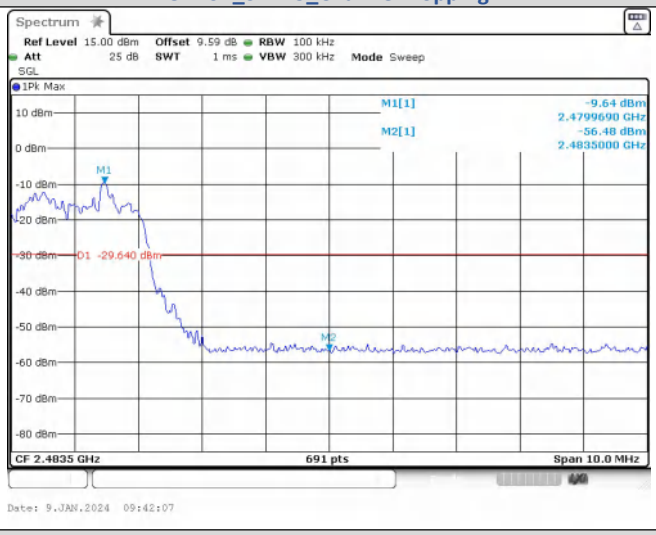
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



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





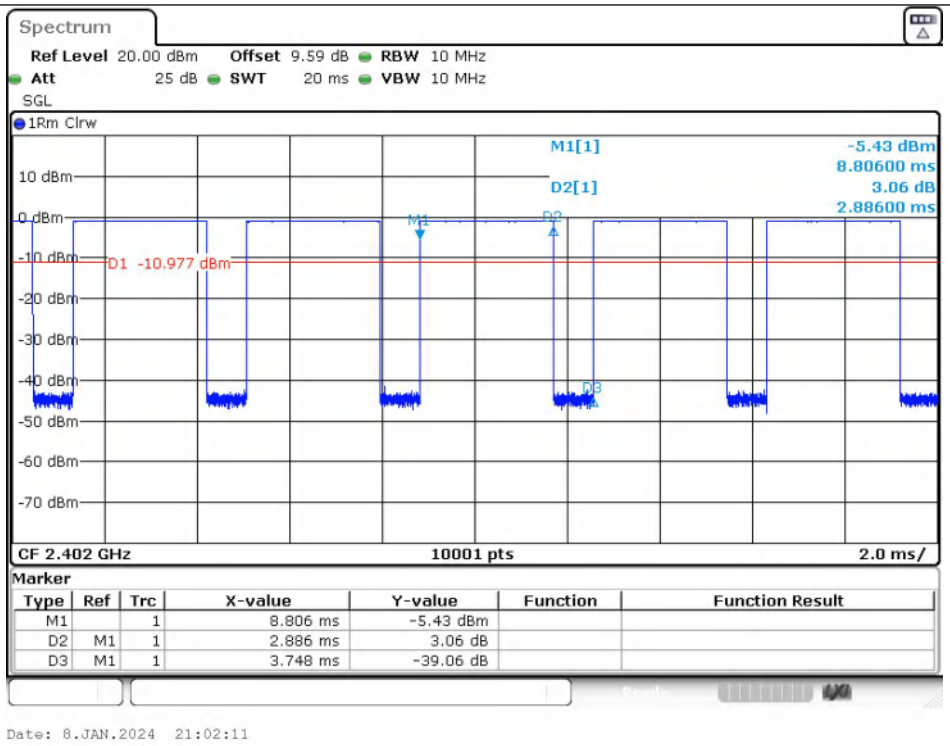
Out Of Band Emission(Right) GFSK_DH5_Channel Hopping	Out Of Band Emission(Right) π/4DQPSK_2-DH5_Channel Hopping
	
Out Of Band Emission(Left) 8DPSK_3-DH5_Channel Hopping	Out Of Band Emission(Right) 8DPSK_3-DH5_Channel Hopping
	
Out Of Band Emission(Left) 8DPSK_3-DH5_Channel Hopping	Out Of Band Emission(Right) 8DPSK_3-DH5_Channel Hopping

6) Duty Cycle

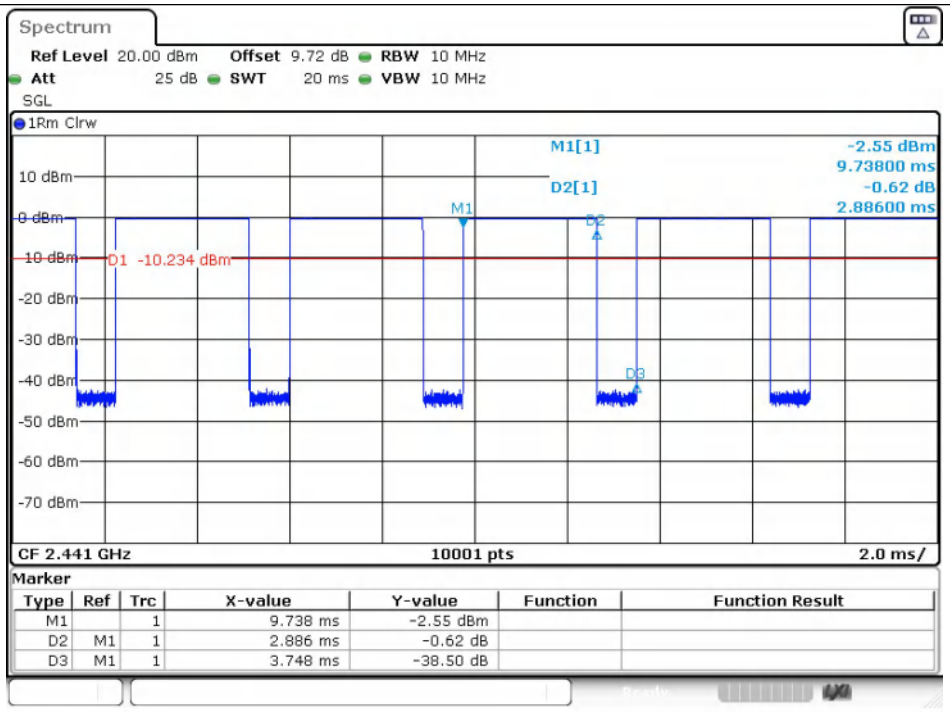
Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.886	3.748	77.00	0.7700	1.1351	
		39	2.886	3.748	77.00	0.7700	1.1351	
		78	2.886	3.748	77.00	0.7700	1.1351	
π/4DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	
		39	2.890	3.748	77.11	0.7711	1.1289	
		78	2.892	3.748	77.16	0.7716	1.1261	
8DPSK	3-DH5	0	2.890	3.748	23.91	0.2391	6.2142	
		39	2.890	3.748	23.85	0.2385	6.2251	
		78	2.890	3.748	23.85	0.2385	6.2251	

Test Graphs



GFSK(DH5)_Channel 0

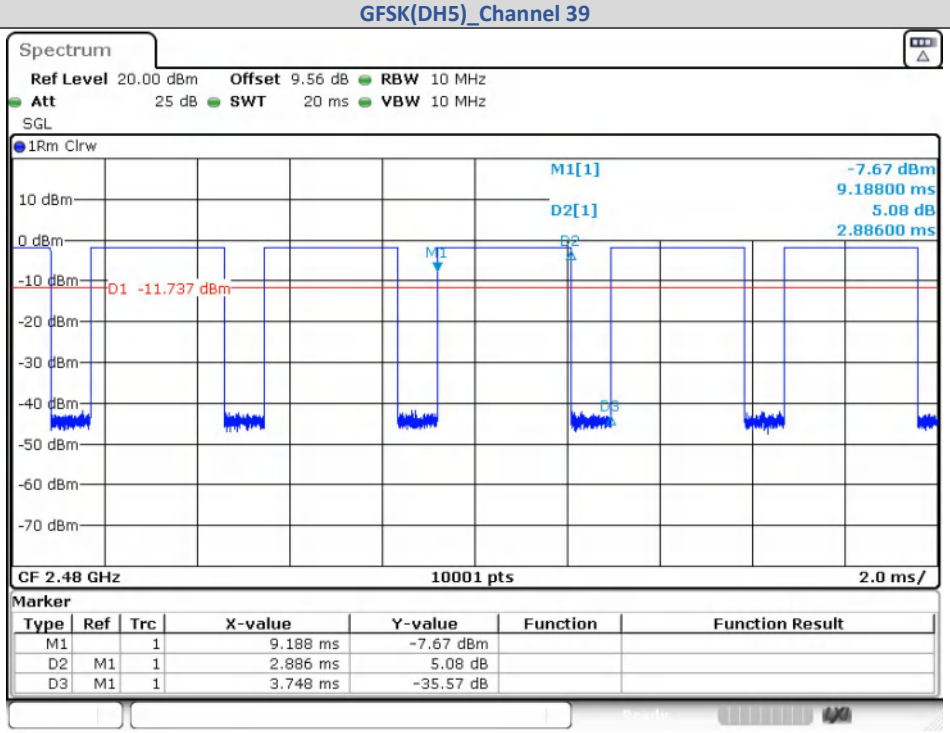


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	9.738 ms	-2.55 dBm		
D2	M1	1	2.886 ms	-0.62 dB		
D3	M1	1	3.748 ms	-38.50 dB		

Date: 8.JAN.2024 21:04:47

GFSK(DH5)_Channel 39

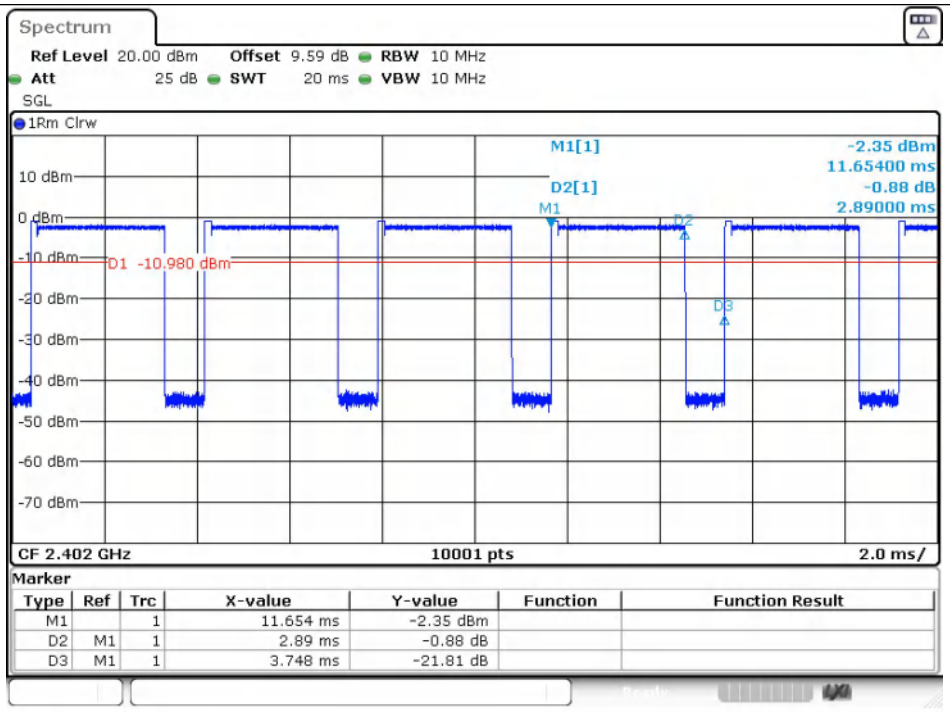


Marker

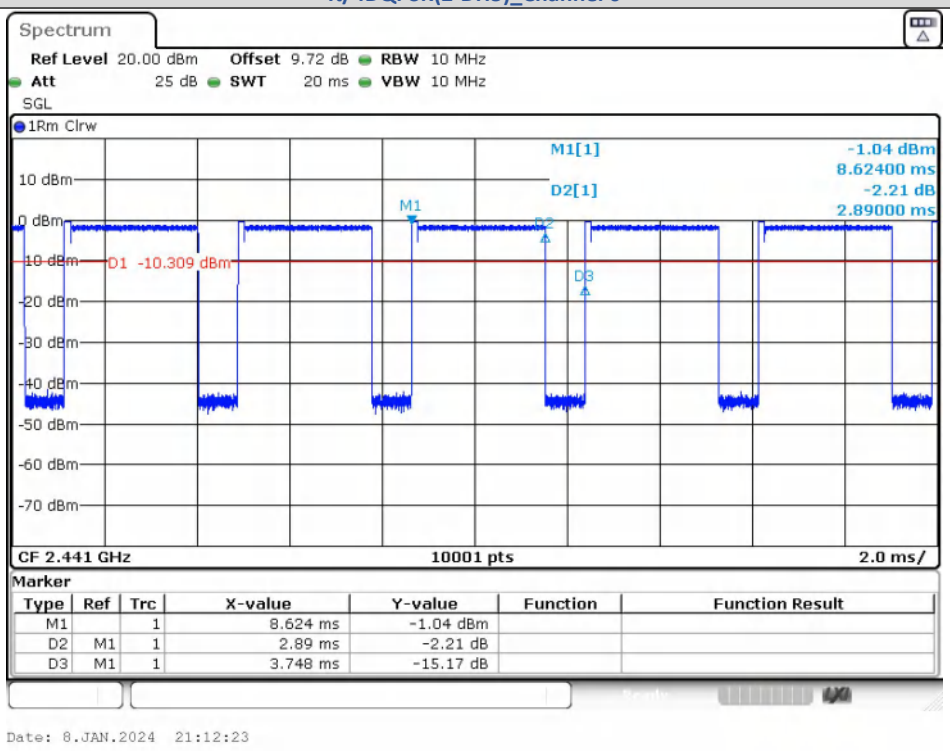
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	9.188 ms	-7.67 dBm		
D2	M1	1	2.886 ms	5.08 dB		
D3	M1	1	3.748 ms	-35.57 dB		

Date: 8.JAN.2024 21:07:44

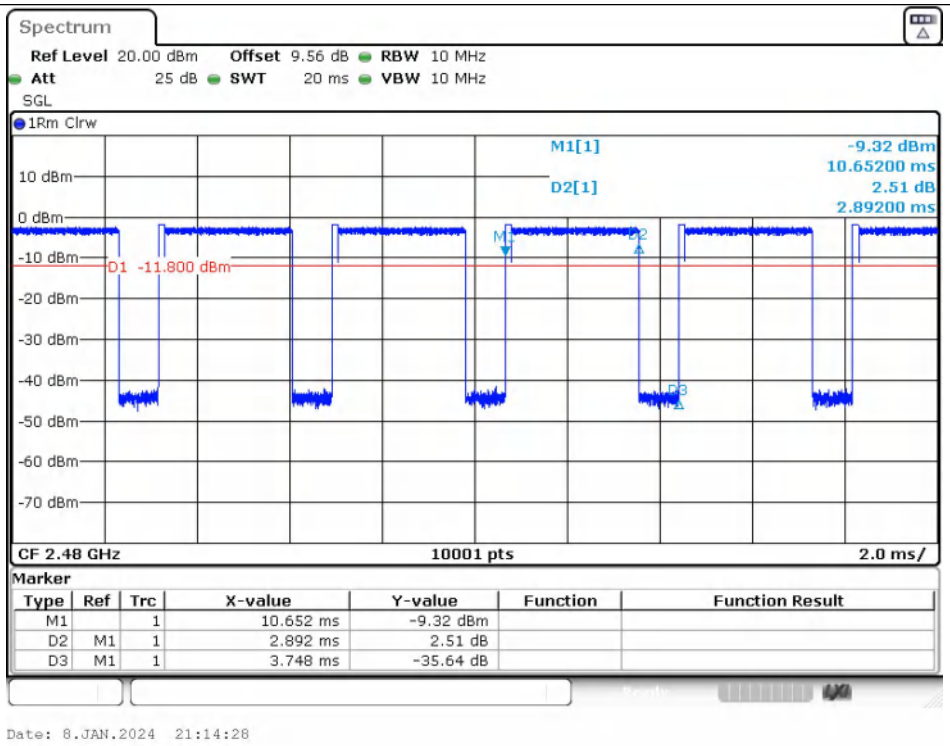
GFSK(DH5)_Channel 78



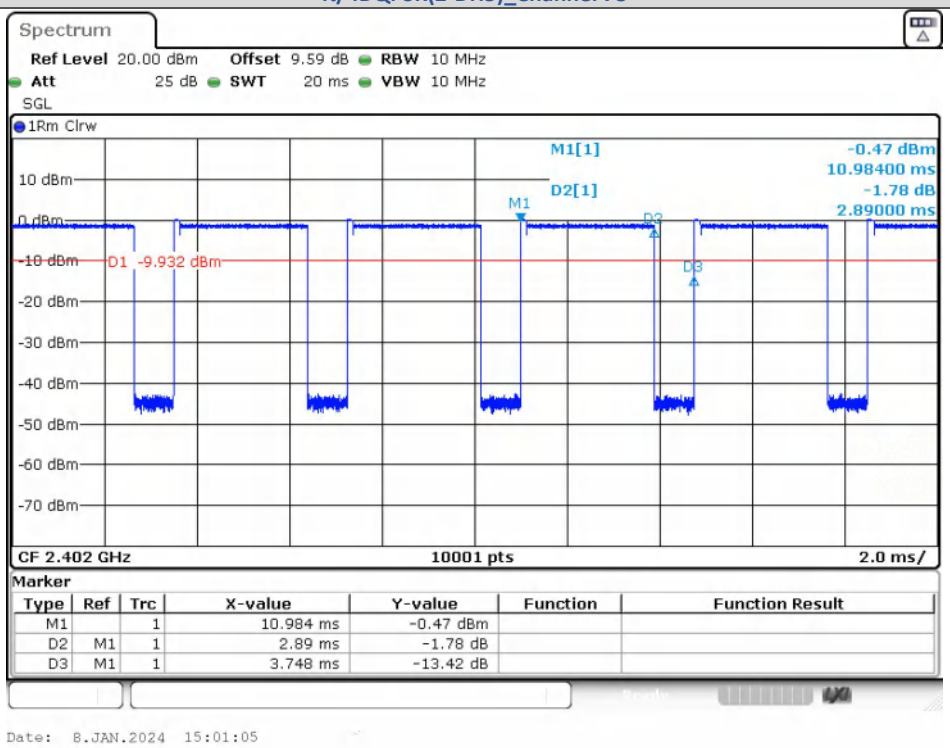
π/4DQPSK(2-DH5)_Channel 0



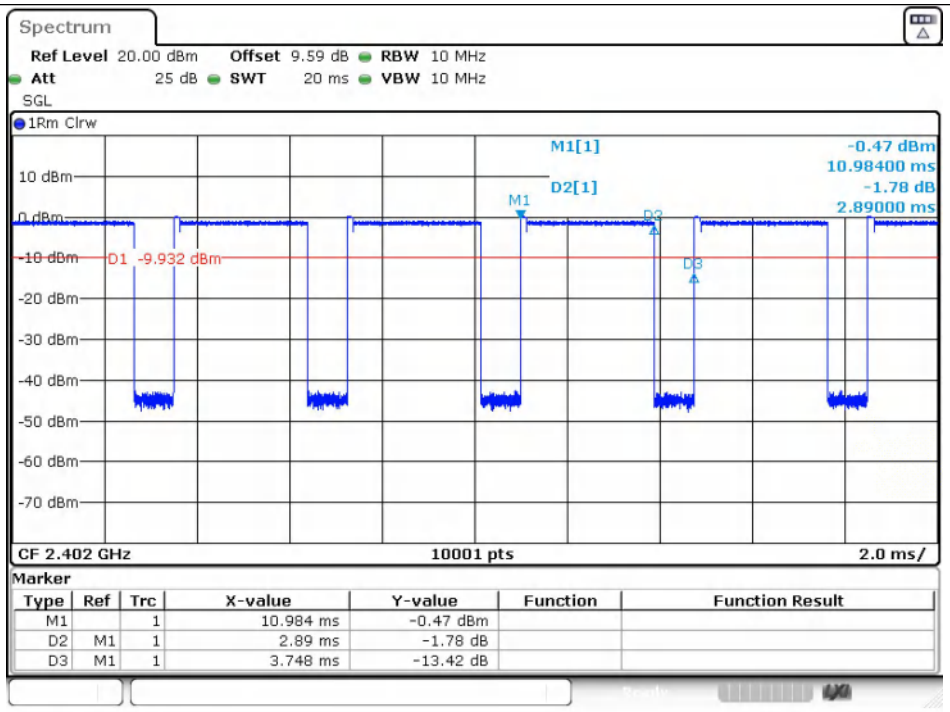
π/4DQPSK(2-DH5)_Channel 39



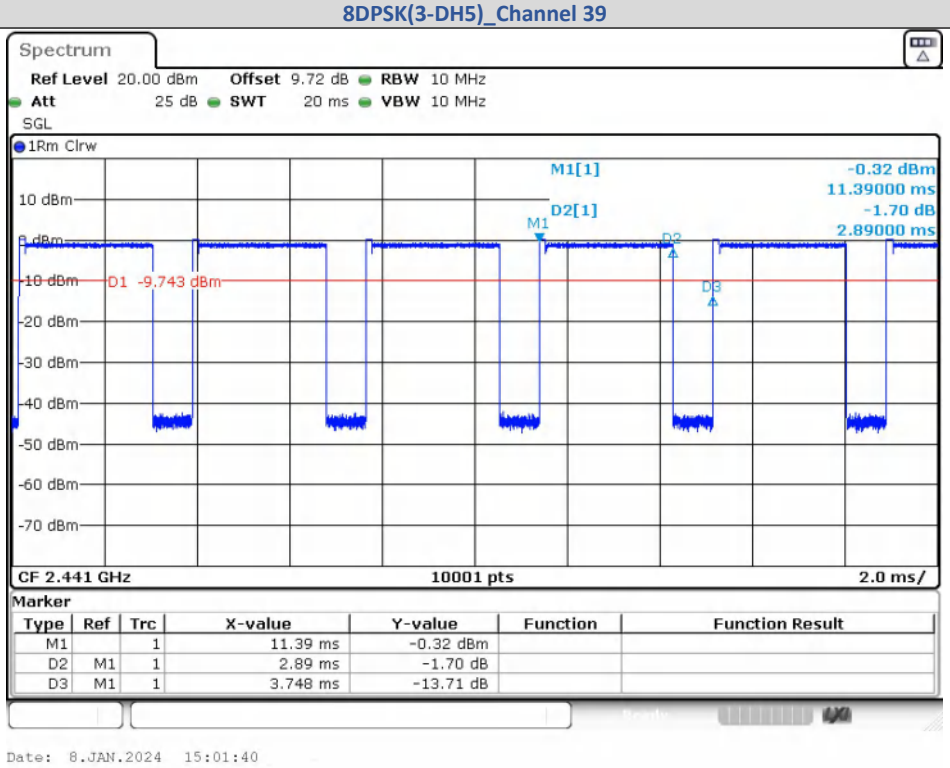
π/4DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



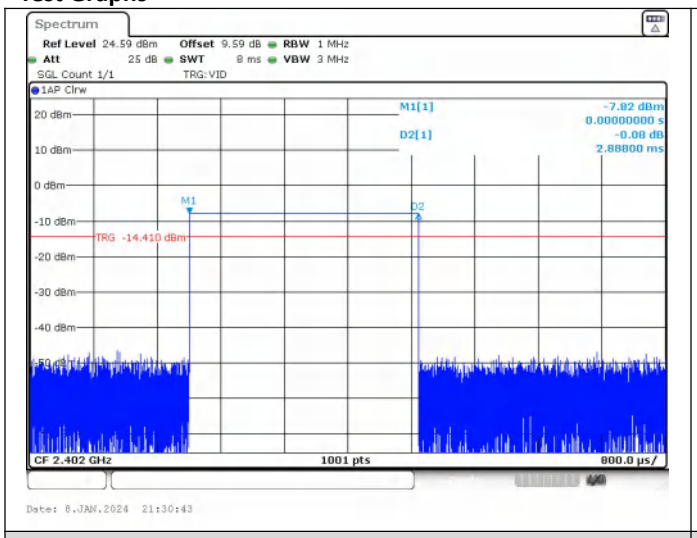
8DPSK(3-DH5)_Channel 78

7) Dwell Time

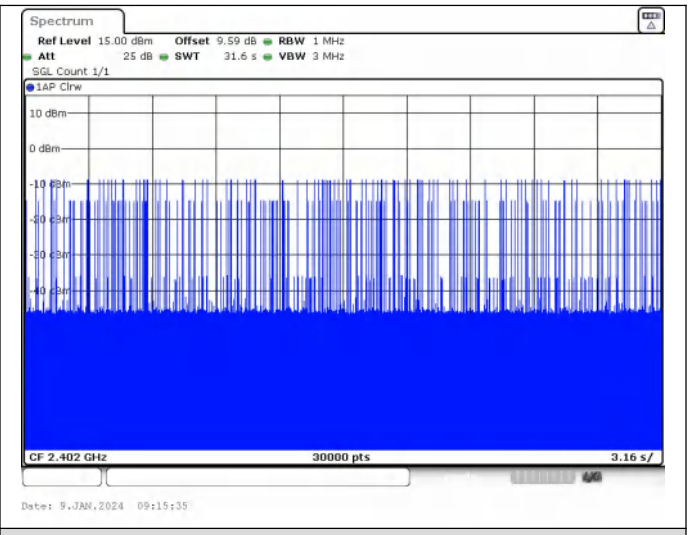
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.888	100	280.09	< 400	PASS
π/4DQPSK	2-DH5		2.896	97	280.91		PASS
8DPSK	3-DH5		2.896	115	203.04		PASS

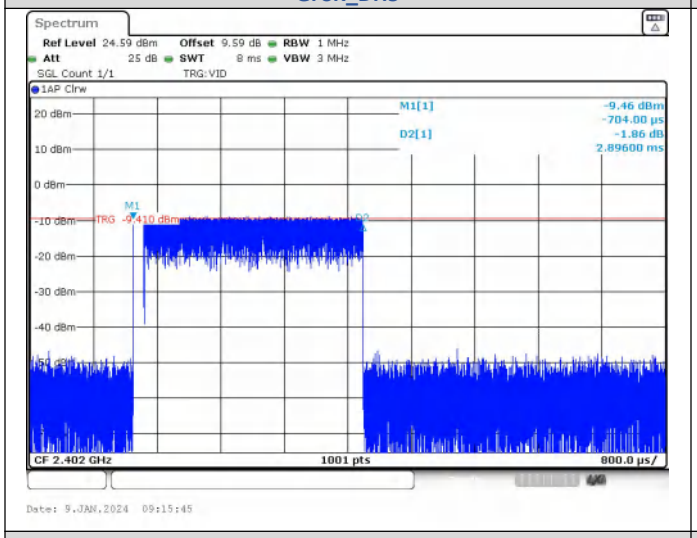
Test Graphs



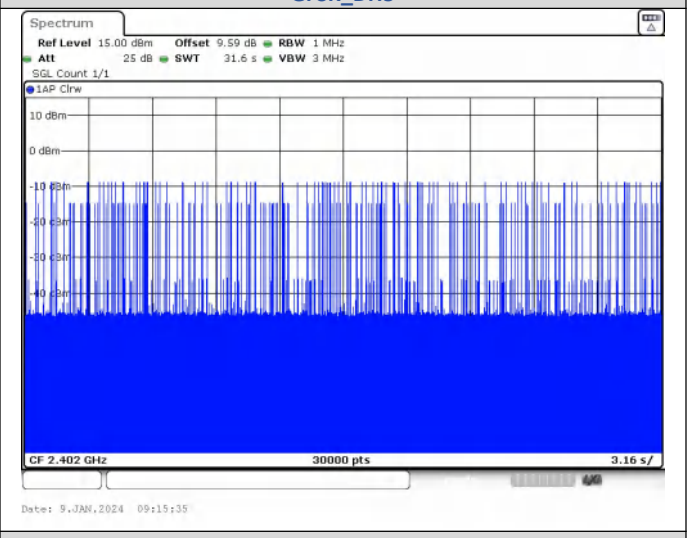
Pulse Width
GFSK_DH5



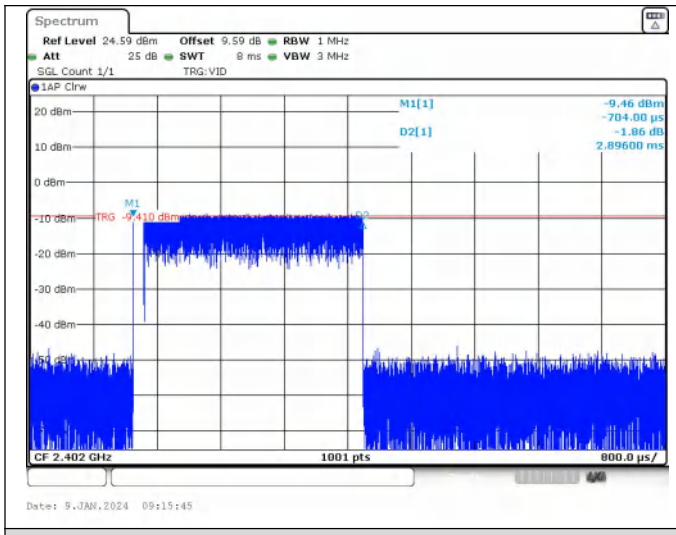
Number of Pulses in 31.6 seconds
GFSK_DH5



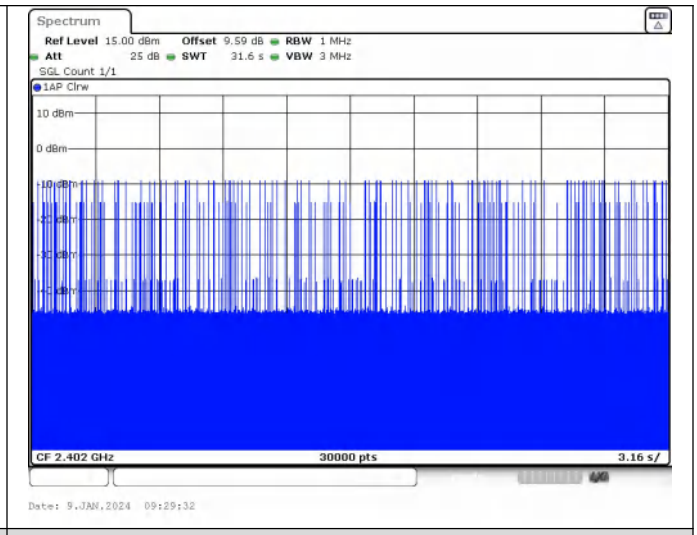
Pulse Width
π/4DQPSK_2-DH5



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



Pulse Width
8DPSK_3-DH5



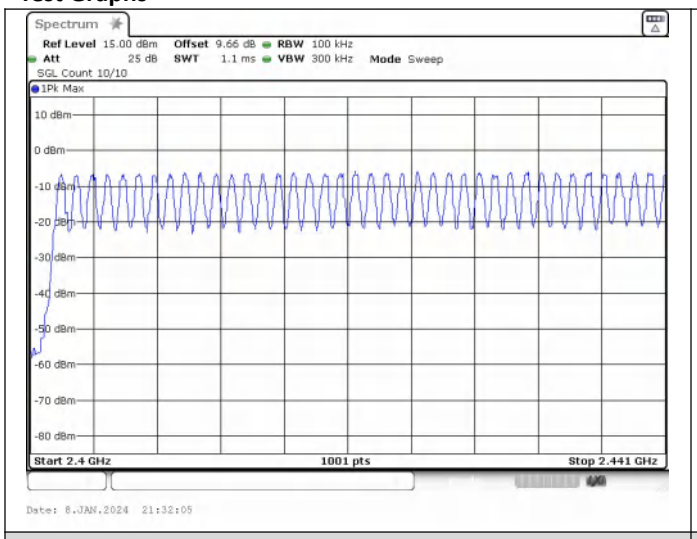
Number of Pulses in 31.6 seconds
8DPSK_3-DH5

8) Number Of Hopping Channel

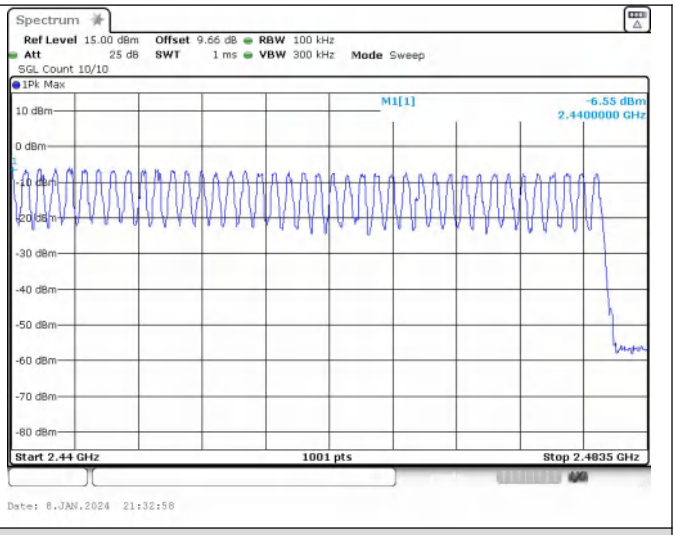
Test Result

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

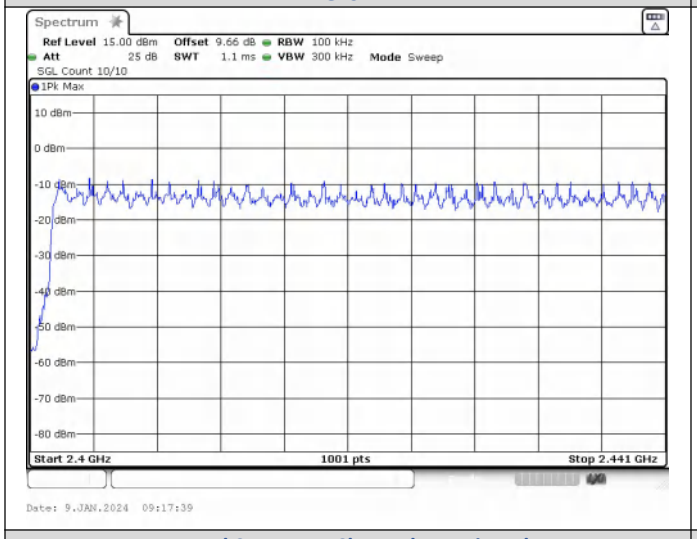
Test Graphs



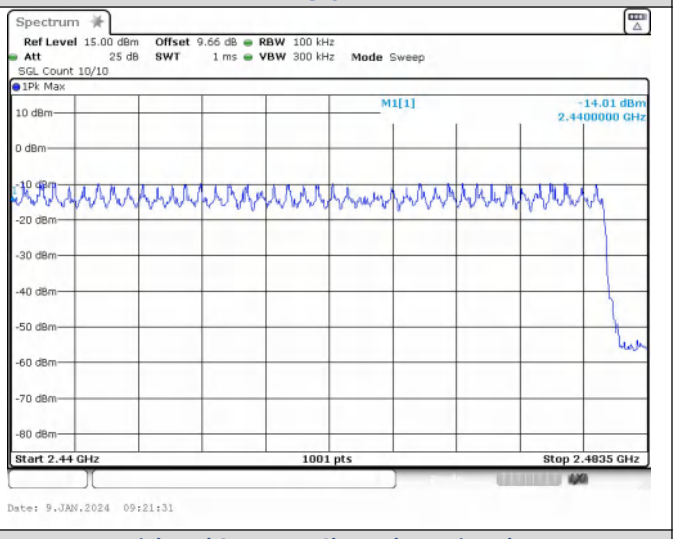
Low End Spectrum Channel Hopping Plot
GFSK



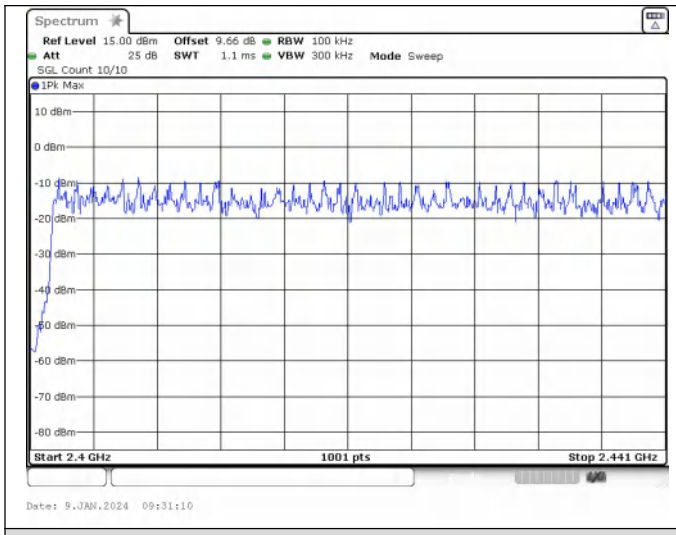
High End Spectrum Channel Hopping Plot
GFSK



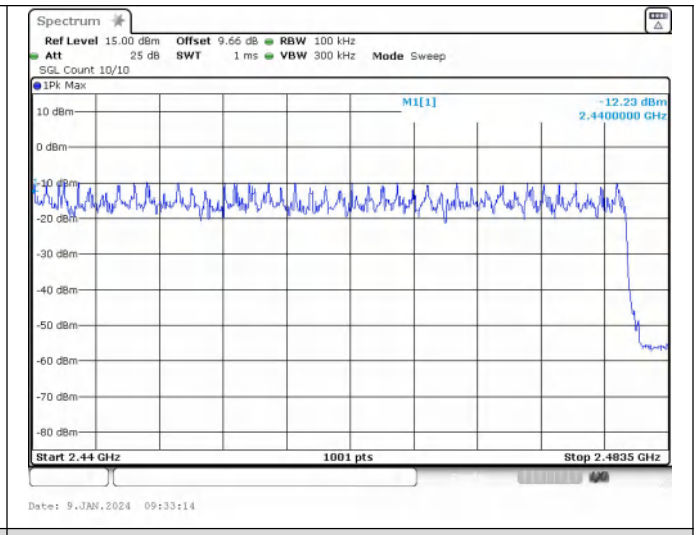
Low End Spectrum Channel Hopping Plot
π/4DQPSK



High End Spectrum Channel Hopping Plot
π/4DQPSK



Low End Spectrum Channel Hopping Plot
8DPSK



High End Spectrum Channel Hopping Plot
8DPSK