Appendix A

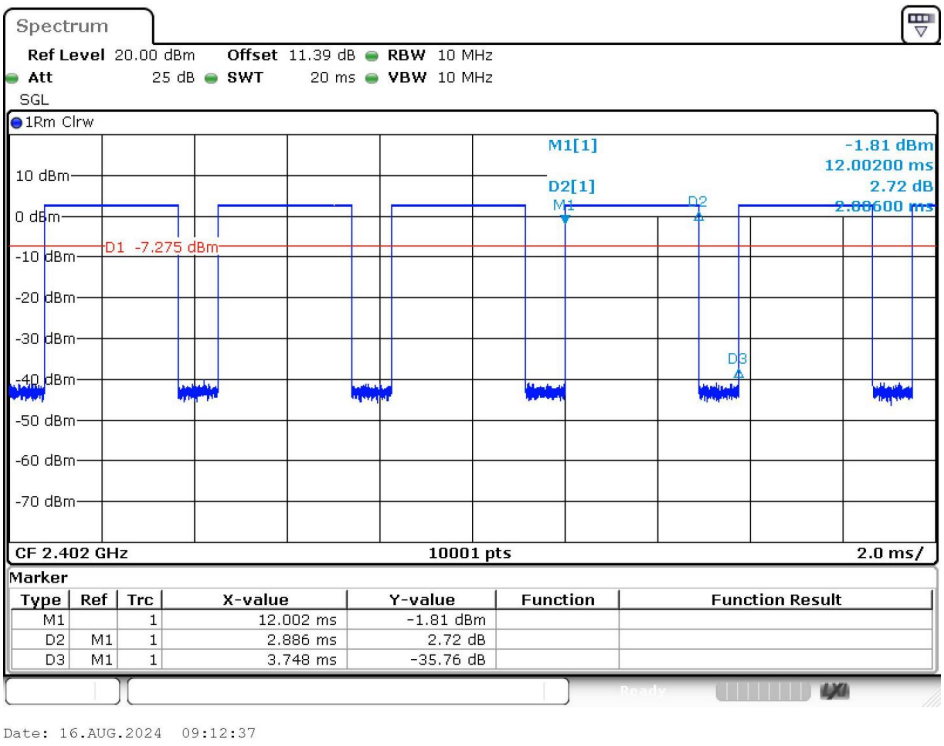
Report No.:	CISRR24081409201
FCC ID:	2BKDV-YQ-101
Product Name:	gamepad
Model No.:	YQ-101
Test Engineer:	Jimmy Huang
Supervised by:	Rory Huang

1) Duty Cycle

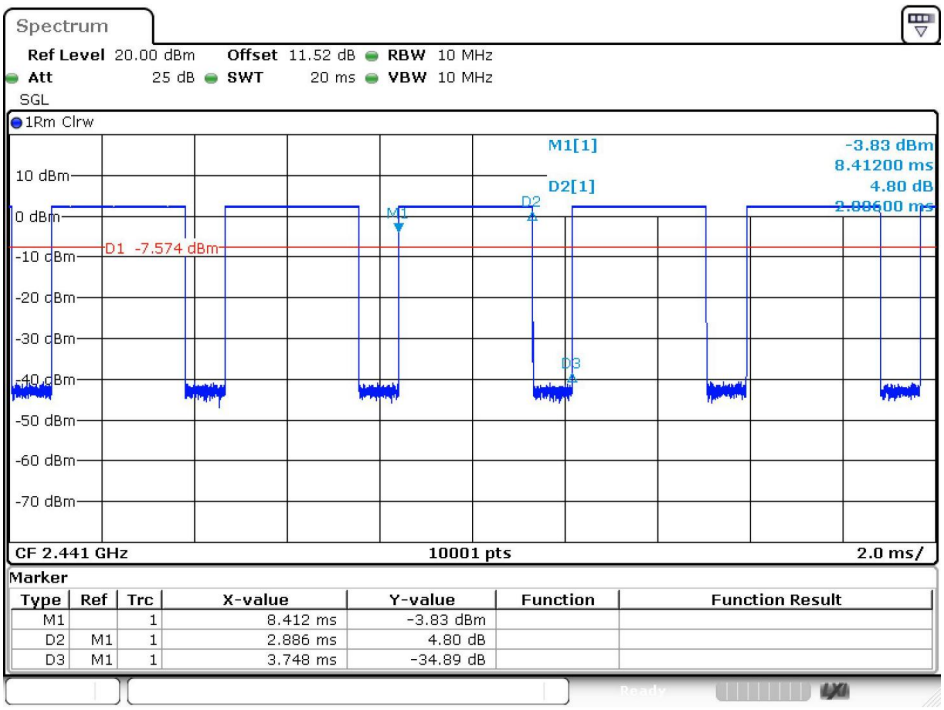
Test Result

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	0.35
		39	2.886	3.748	77.00	0.7700	1.1351	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
π/4DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.890	3.748	77.11	0.7711	1.1289	0.35
		78	2.890	3.748	77.11	0.7711	1.1289	0.35
8DPSK	3-DH5	0	2.894	3.748	77.21	0.7721	1.1233	0.35
		39	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.892	3.748	77.16	0.7716	1.1261	0.35

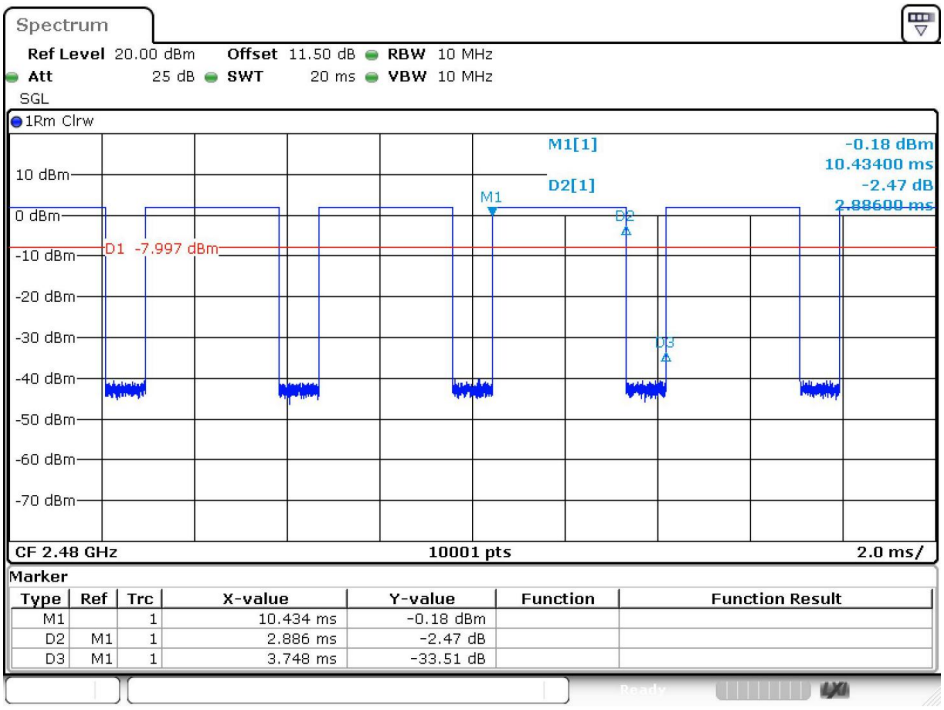
Test Graphs



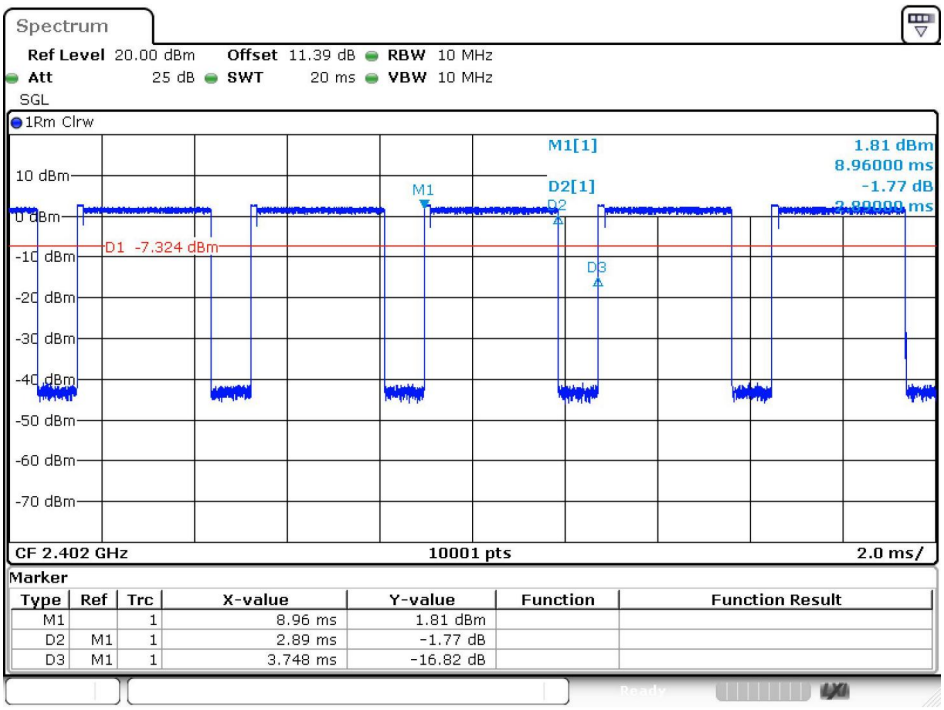
GFSK(DH5)_Channel 0



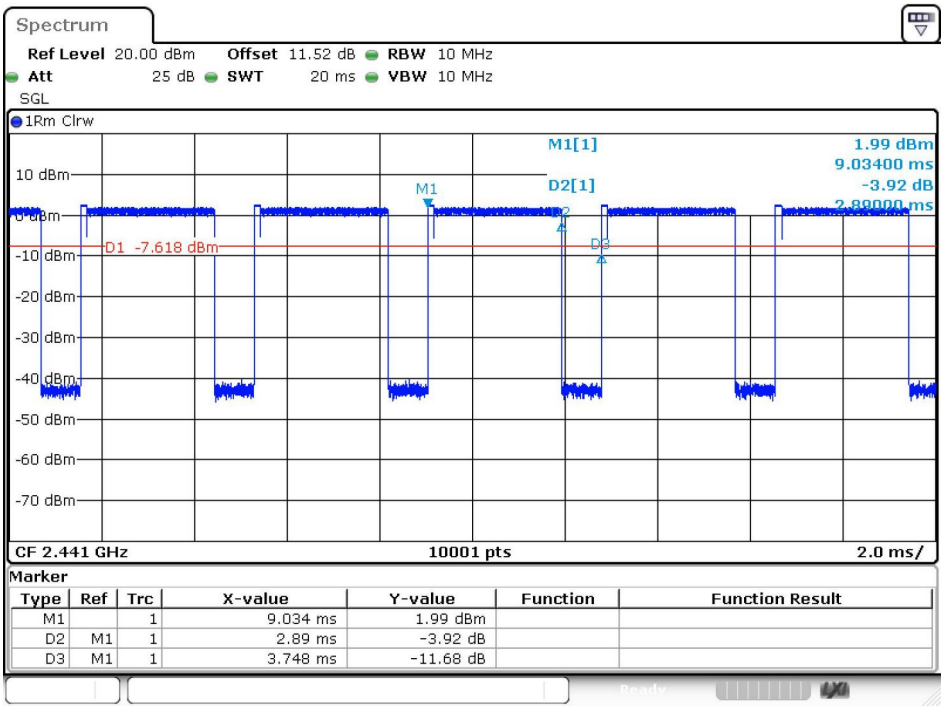
GFSK(DH5)_Channel 39



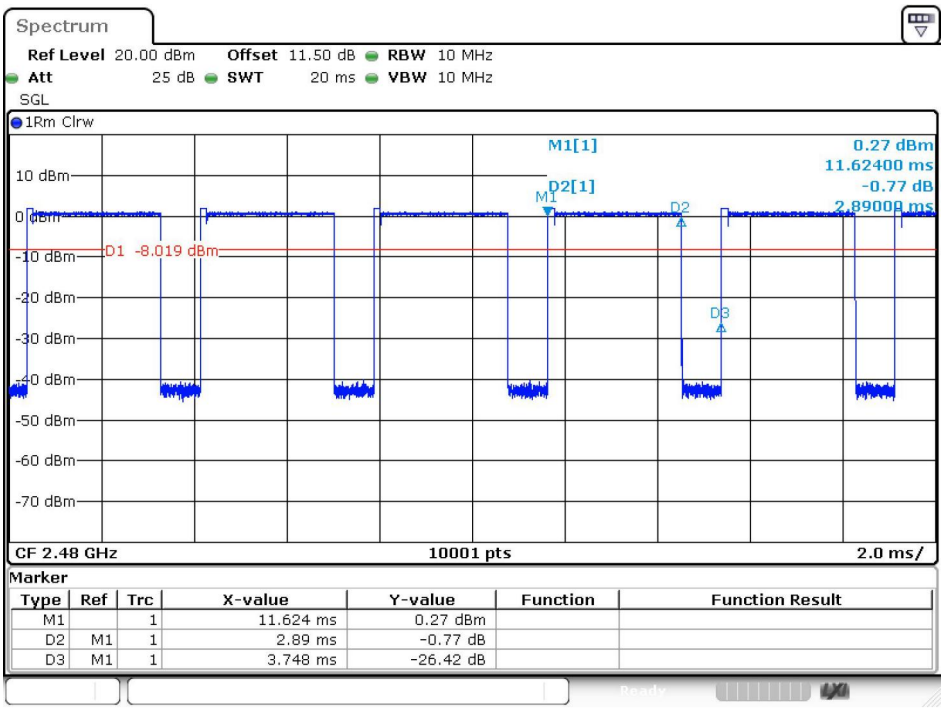
GFSK(DH5)_Channel 78



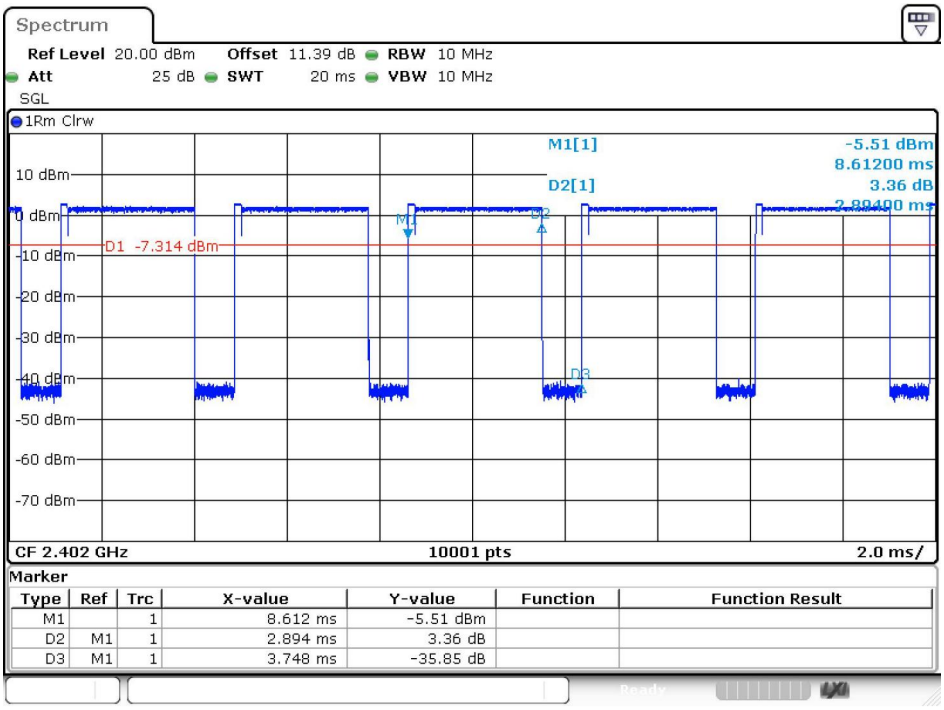
π/4DQPSK(2-DH5)_Channel 0



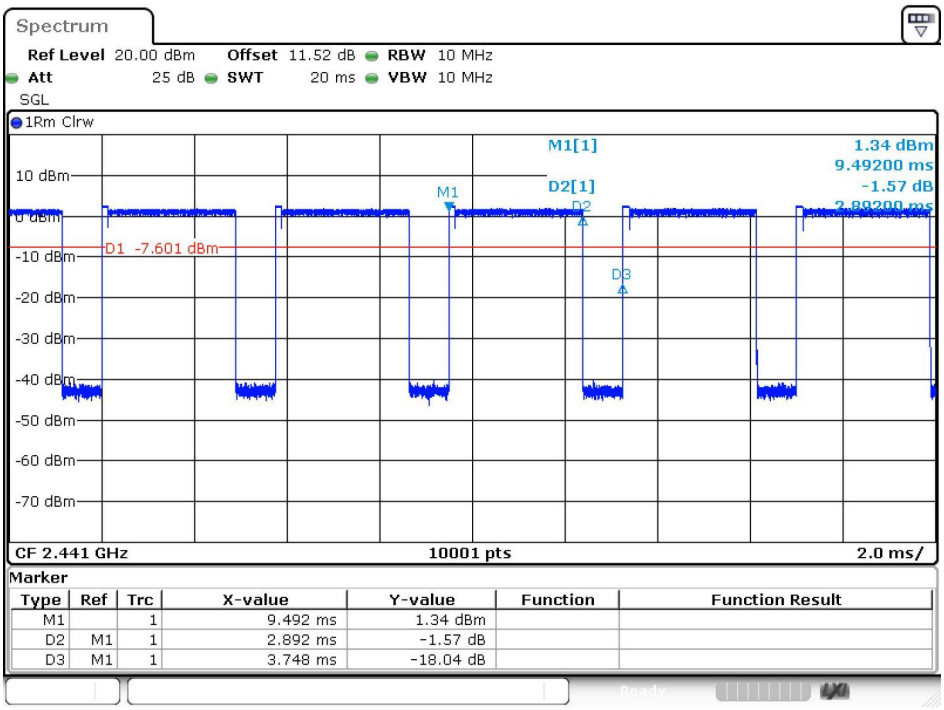
π/4DQPSK(2-DH5)_Channel 39



π/4DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



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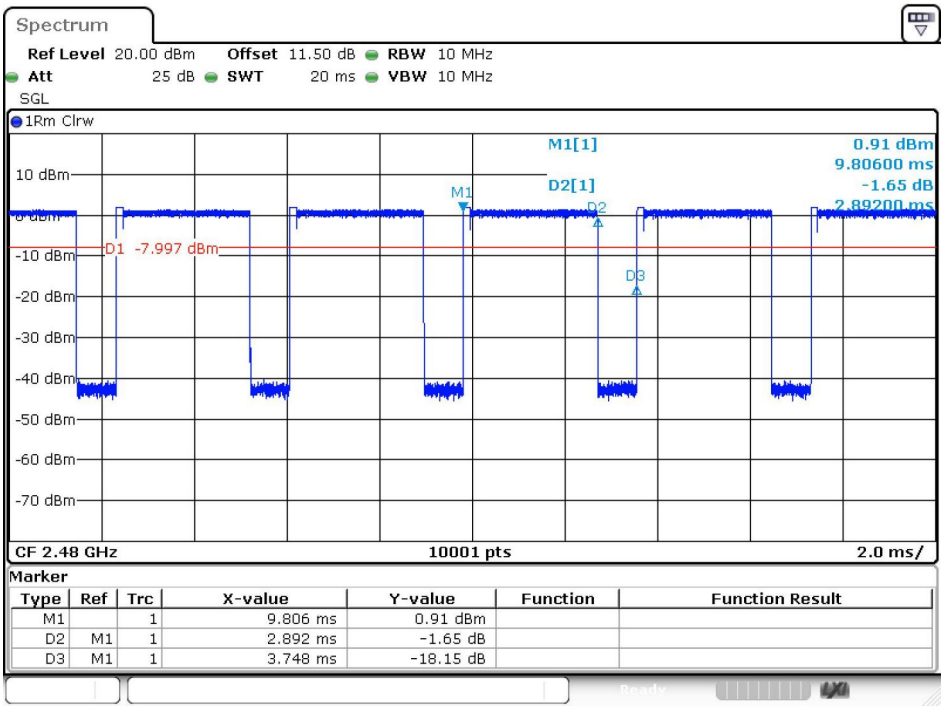
8DPSK(3-DH5)_Channel 39



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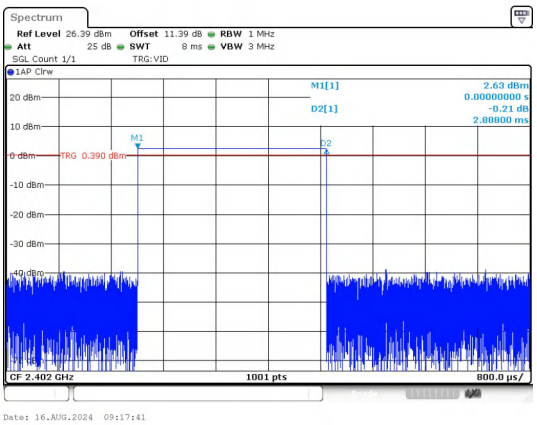
8DPSK(3-DH5)_Channel 78

2) Dwell Time

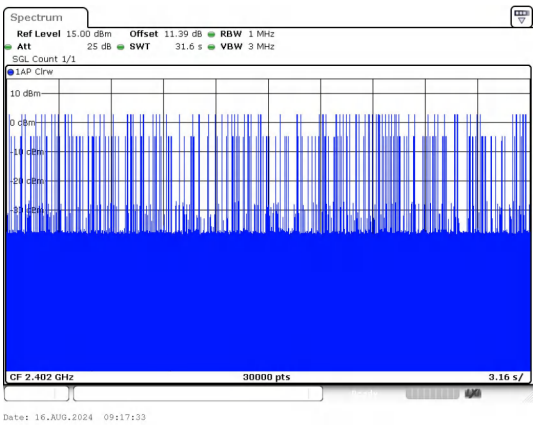
Test Result

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	103	297.46	< 400	PASS
π/4DQPSK	2-DH5		2.896	90	260.64		PASS
8DPSK	3-DH5		2.896	113	327.25		PASS

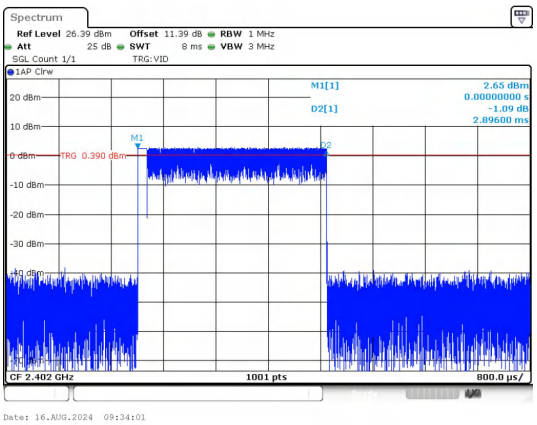
Test Graphs



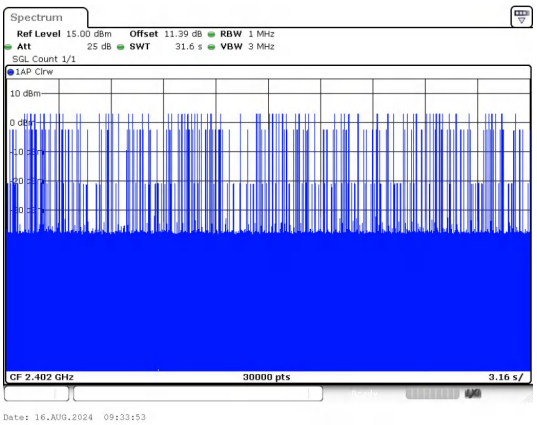
Pulse Width
GFSK_DH5



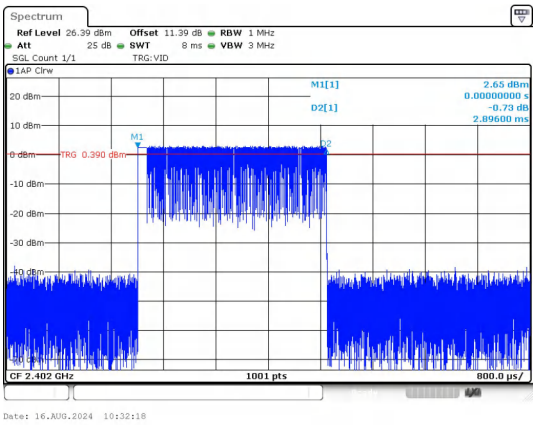
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
π/4DQPSK_2-DH5

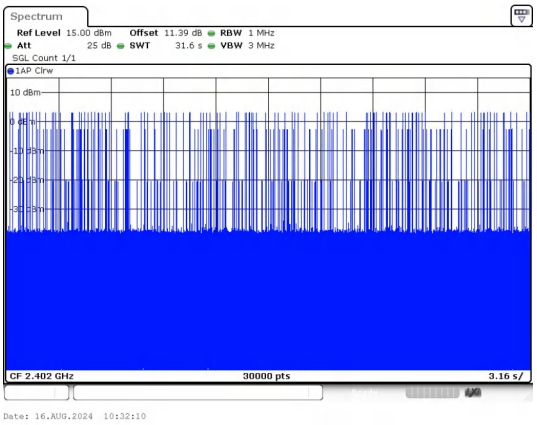


Number of Pulses in 31.6 seconds
π/4DQPSK_2-DH5



Pulse Width

8DPSK_3-DH5



Number of Pulses in 31.6 seconds

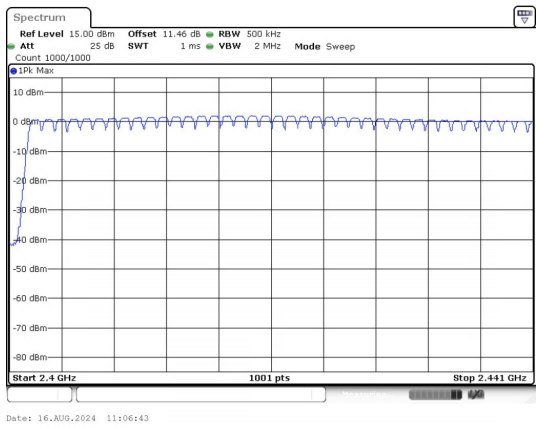
8DPSK_3-DH5

3) Number Of Hopping Channel

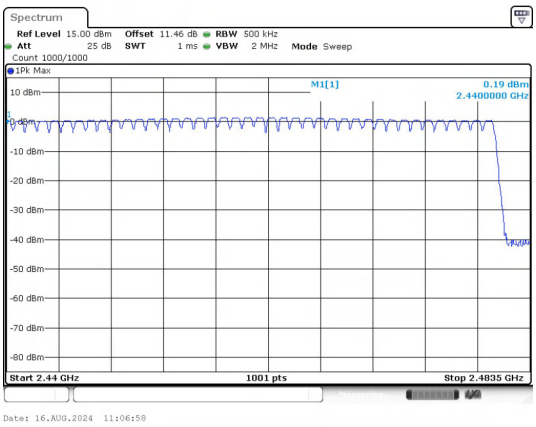
Test Result

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

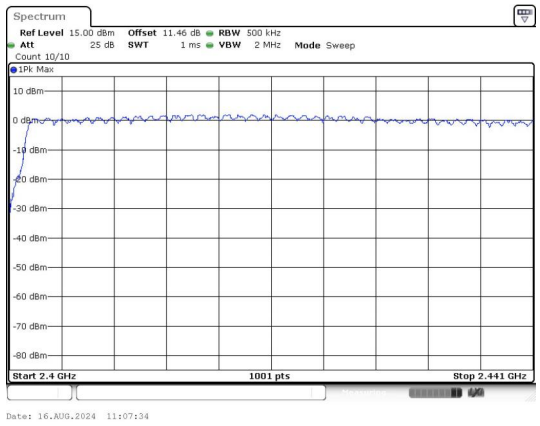
Test Graphs



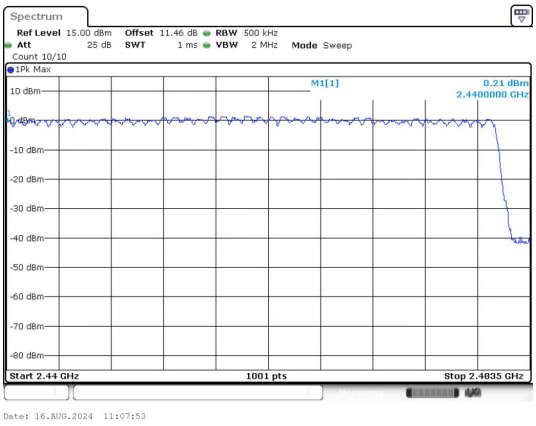
Low End Spectrum Channel Hopping Plot
GFSK



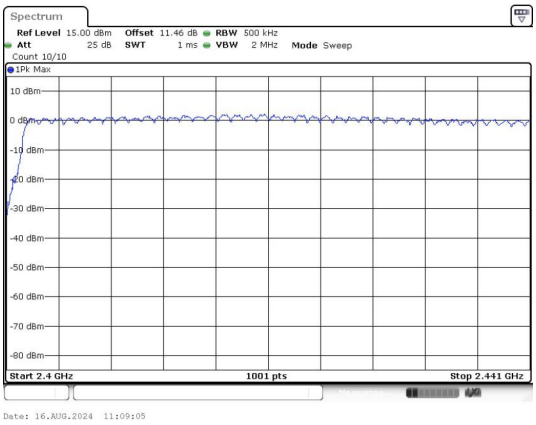
High End Spectrum Channel Hopping Plot
GFSK



Low End Spectrum Channel Hopping Plot
π/4DQPSK

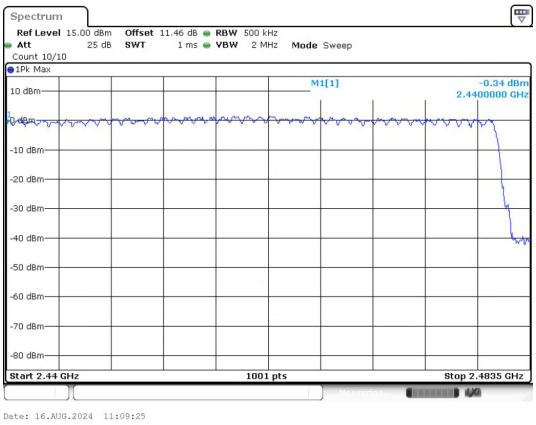


High End Spectrum Channel Hopping Plot
π/4DQPSK



Low End Spectrum Channel Hopping Plot

8DPSK



High End Spectrum Channel Hopping Plot

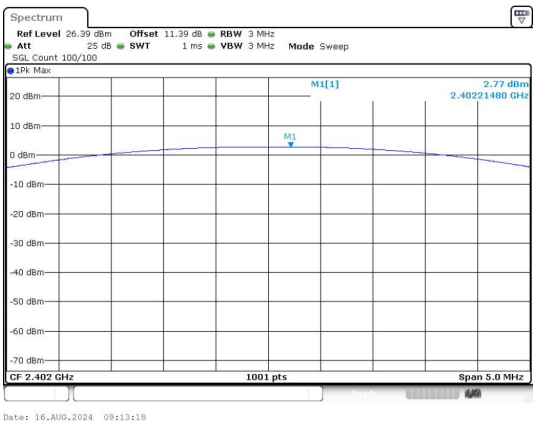
8DPSK

4) Conducted Peak Output Power

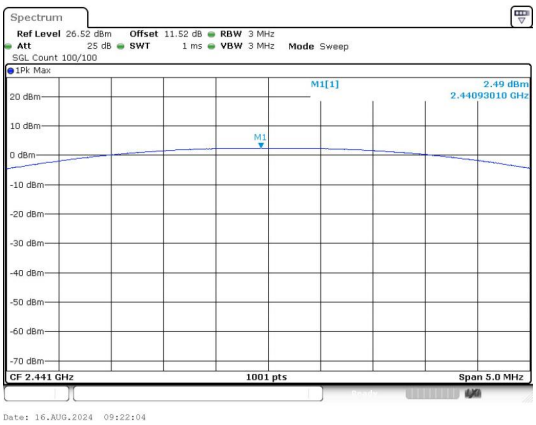
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)
GFSK	DH5	0	2.77	1.89	≤30
		39	2.49	1.78	
		78	2.05	1.60	
π/4DQPSK	2-DH5	0	3.28	2.13	≤20.97
		39	2.88	1.94	
		78	2.74	1.88	
8DPSK	3-DH5	0	3.32	2.15	
		39	2.27	1.69	
		78	2.20	1.66	

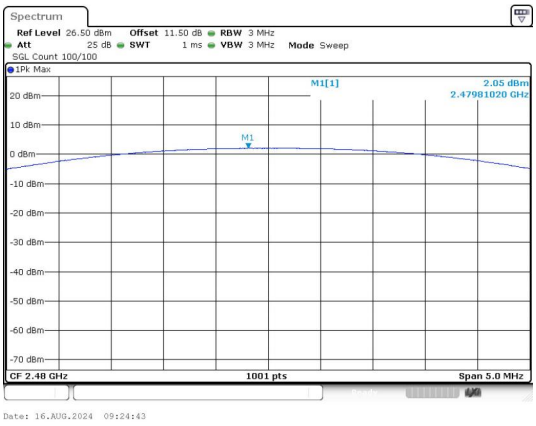
Test Graphs



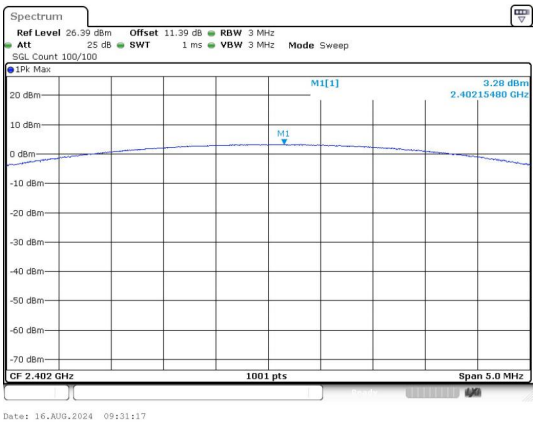
Peak Output Power
GFSK_Channel 0



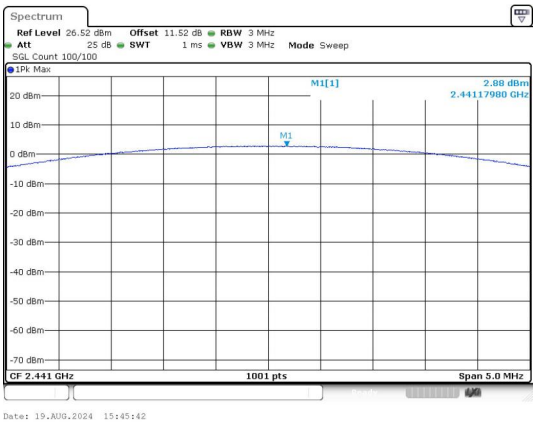
Peak Output Power
GFSK_Channel 39



Peak Output Power
GFSK_Channel 78

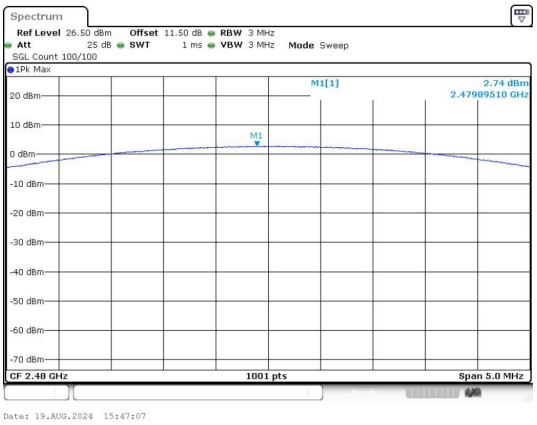


Peak Output Power
π/4DQPSK_Channel 0



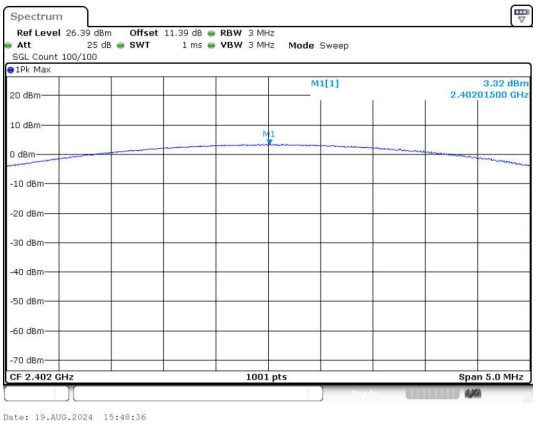
Peak Output Power

π/4DQPSK_Channel 39



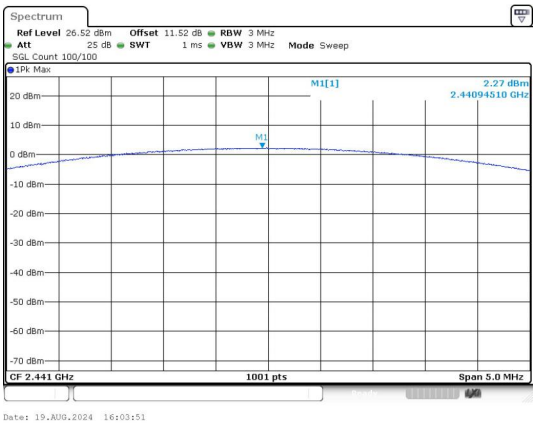
Peak Output Power

π/4DQPSK_Channel 78



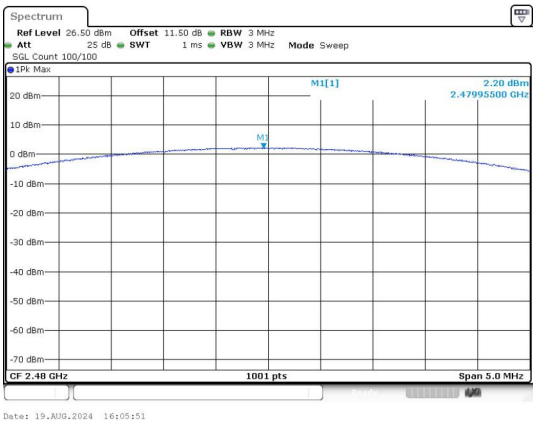
Peak Output Power

8DPSK_Channel 0



Peak Output Power

8DPSK_Channel 39



Peak Output Power

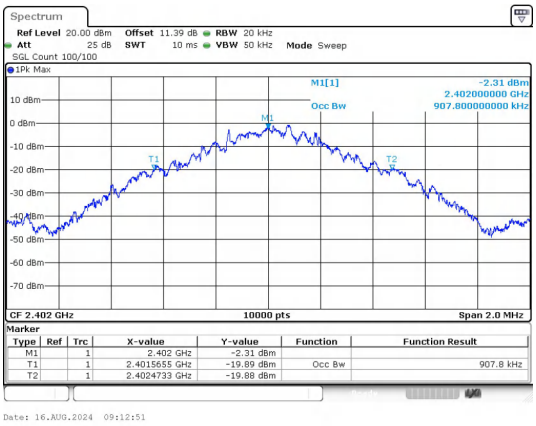
8DPSK_Channel 78

5) 99% Bandwidth

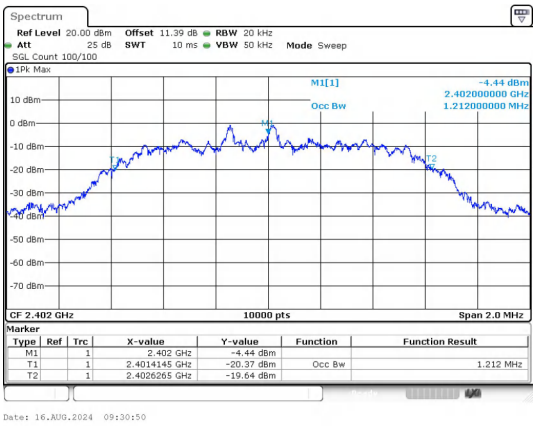
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.90780
	39	2441	0.90820
	78	2480	0.88620
π/4DQPSK	0	2402	1.2120
	39	2441	1.2006
	78	2480	1.1992
8DPSK	0	2402	1.2222
	39	2441	1.2128
	78	2480	1.2152

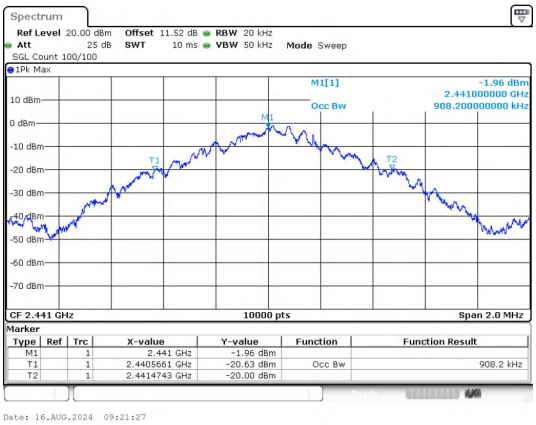
Test Graphs



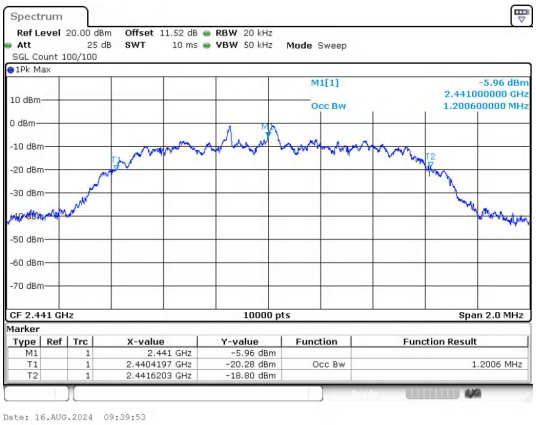
GFSK_DH5_Channel 0



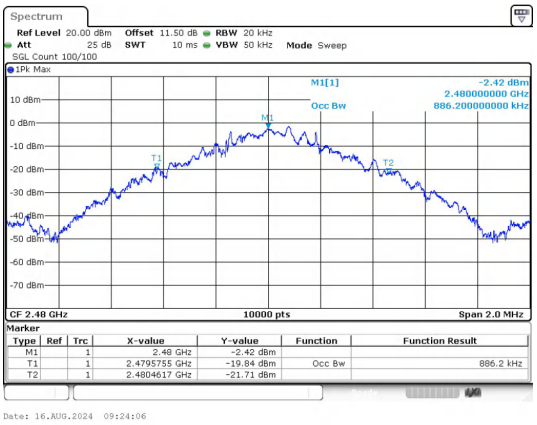
π/4DQPSK_2-DH5_Channel 0



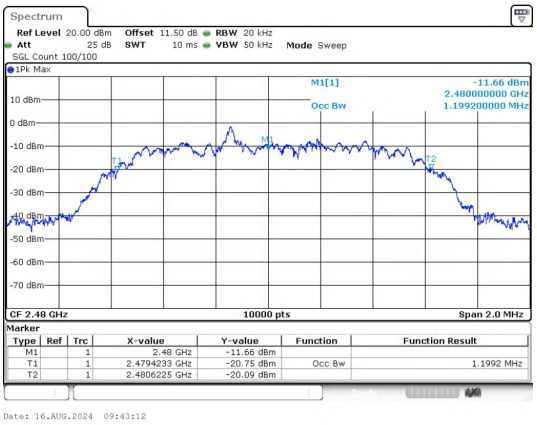
GFSK_DH5_Channel 39



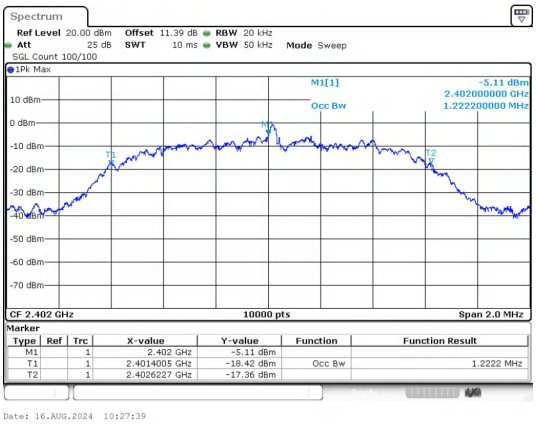
π/4DQPSK_2-DH5_Channel 39



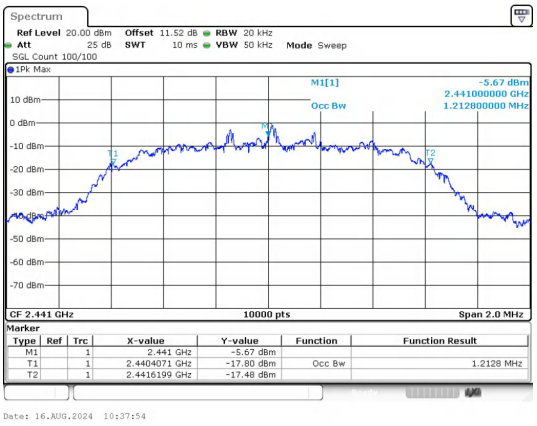
GFSK_DH5_Channel 78



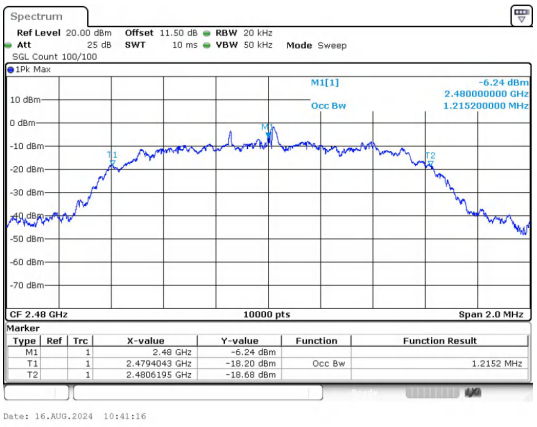
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



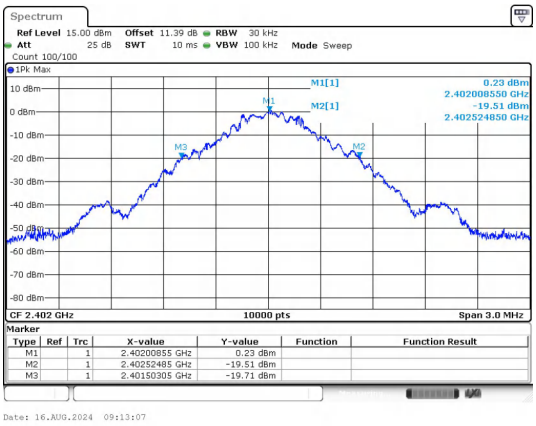
8DPSK_3-DH5_Channel 78

6) 20dB Bandwidth

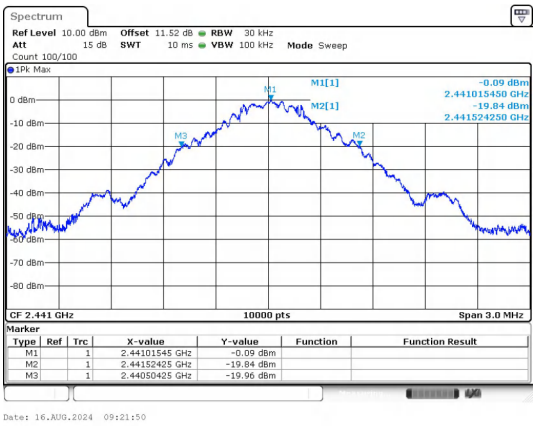
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.020
	39	2441 MHz	1.020
	78	2480 MHz	1.010
π/4DQPSK	0	2402 MHz	1.310
	39	2441 MHz	1.320
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.290
	78	2480 MHz	1.290

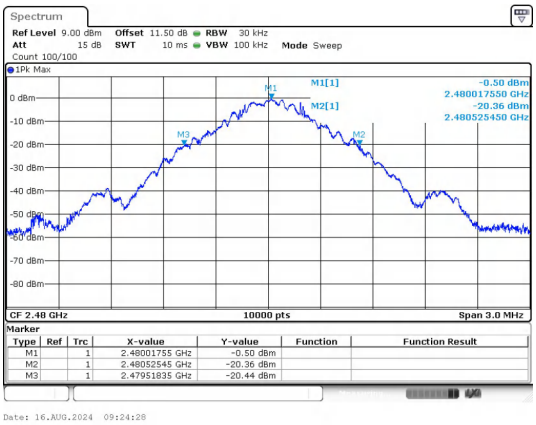
Test Graphs



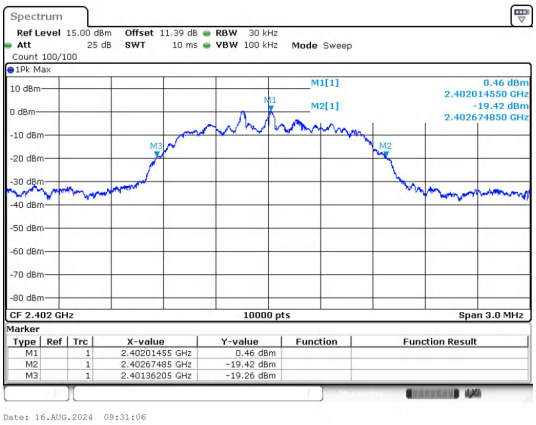
GFSK_DH5_Channel 0



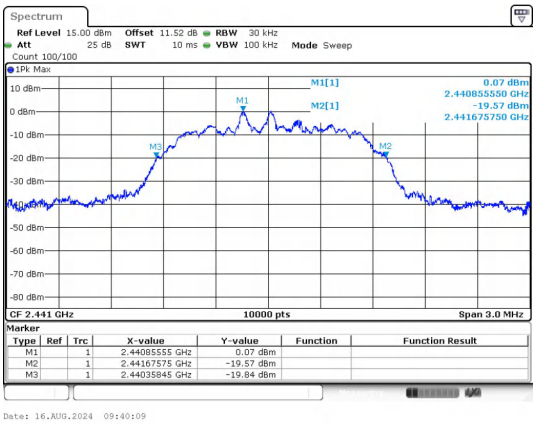
GFSK_DH5_Channel 39



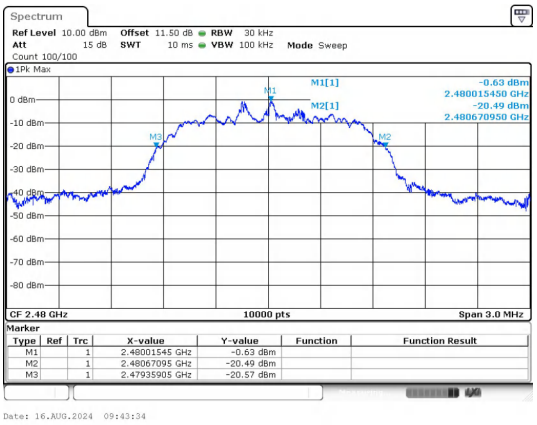
GFSK_DH5_Channel 78



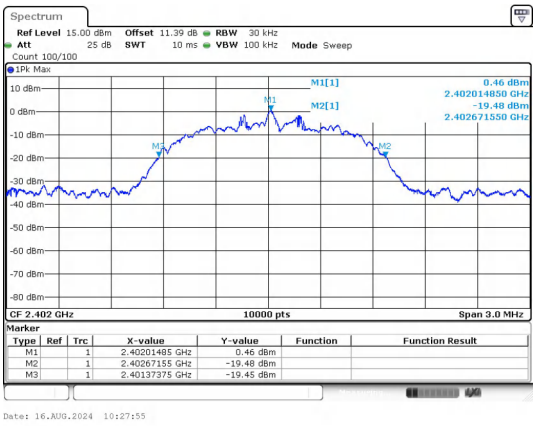
π/4DQPSK_2-DH5_Channel 0



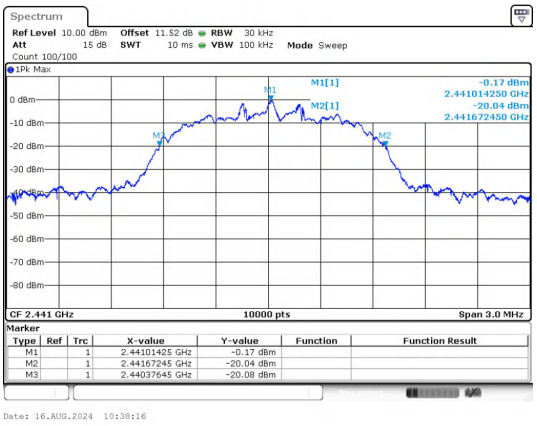
π/4DQPSK_2-DH5_Channel 39



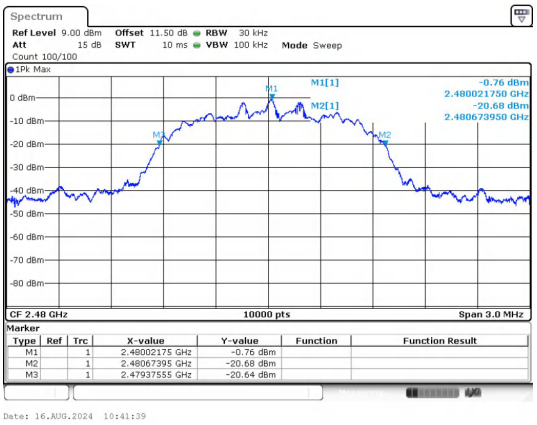
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



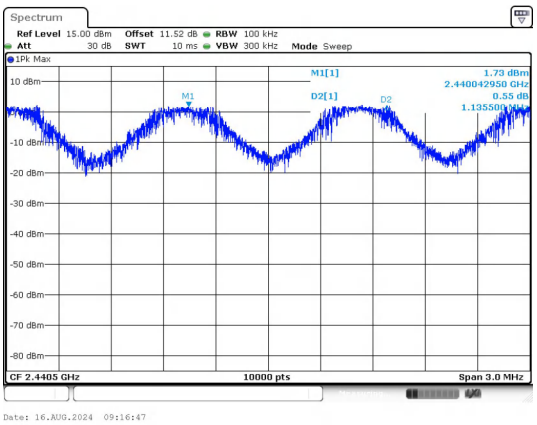
8DPSK_3-DH5_Channel 78

7) Carrier Frequencies Separation

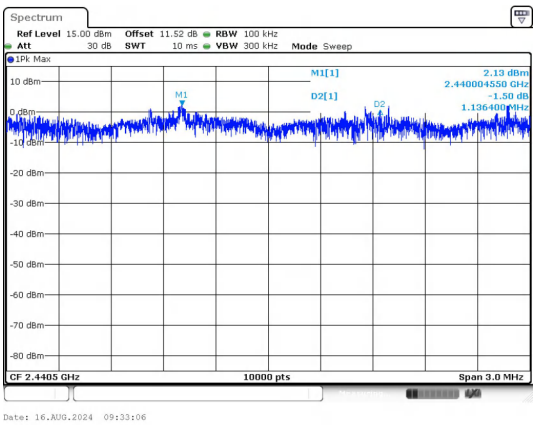
Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.043	2441.1784	1.1355	1.020	PASS
π/4DQPSK	2-DH5	2440.0046	2441.1409	1.1364	0.873	PASS
8DPSK	3-DH5	2439.8263	2441.1878	1.3614	0.867	PASS

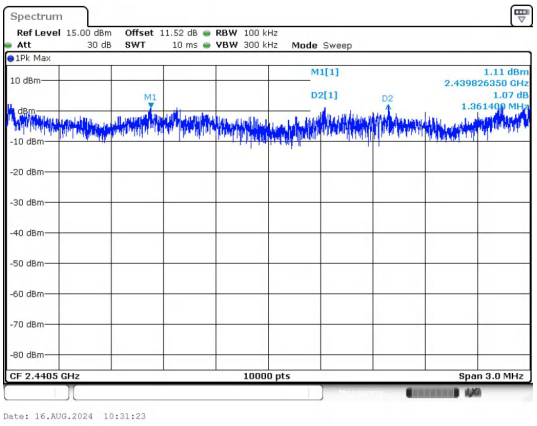
Test Graphs



GFSK



π/4DQPSK



8DPSK

8) Conducted Out Of Band Emission

Test Result

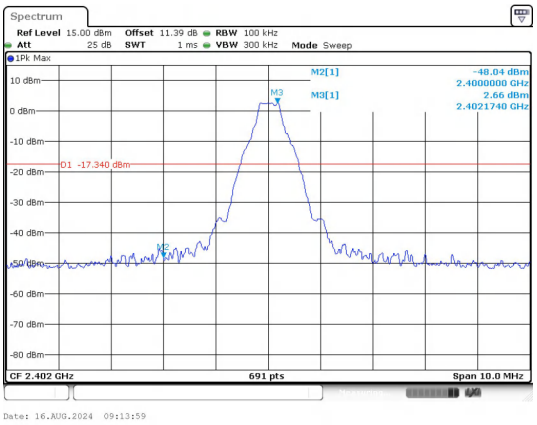
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2399.00	-47.619	-17.34	-30.279	PASS
			2400.00	-48.044	-17.34	-30.704	PASS
			7206.80	-39.324	-17.34	-21.984	PASS
		39	9763.72	-40.969	-17.64	-23.329	PASS
		78	2483.50	-50.246	-18.07	-32.176	PASS
			9920.20	-39.080	-18.07	-21.010	PASS
π/4DQPSK	2-DH5	0	2400.00	-44.337	-17.41	-26.927	PASS
			7205.96	-37.335	-17.41	-19.925	PASS
		39	9763.72	-40.913	-17.98	-22.933	PASS
		78	2483.50	-50.729	-18.12	-32.609	PASS
			9920.20	-39.386	-18.12	-21.266	PASS
8DPSK	3-DH5	0	2400.00	-46.890	-17.49	-29.400	PASS
			7206.79	-44.144	-17.49	-26.654	PASS
		39	9763.72	-40.604	-17.96	-22.644	PASS
		78	2483.50	-51.308	-18.14	-33.168	PASS
			9920.20	-38.902	-18.14	-20.762	PASS

Hopping

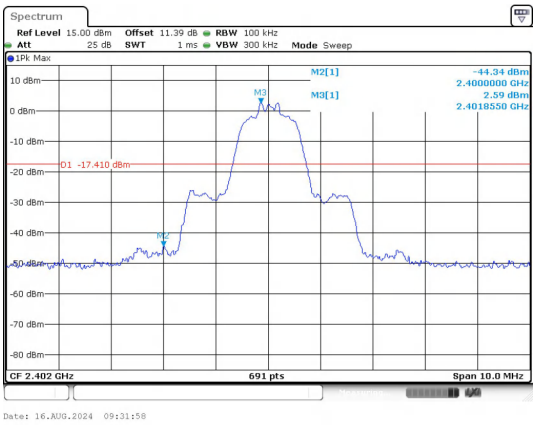
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.99	-48.483	-17.64	-30.843	PASS
			2400.00	-50.157	-17.64	-32.517	PASS
			2483.50	-49.467	-18.55	-30.917	PASS
π/4DQPSK	2-DH5		2400.00	-46.727	-17.18	-29.547	PASS
			2483.50	-49.565	-20.34	-29.225	PASS
8DPSK	3-DH5		2398.86	-47.970	-17.69	-30.280	PASS
			2400.00	-48.750	-17.69	-31.060	PASS
			2483.50	-48.041	-19.15	-28.891	PASS

Test Graphs



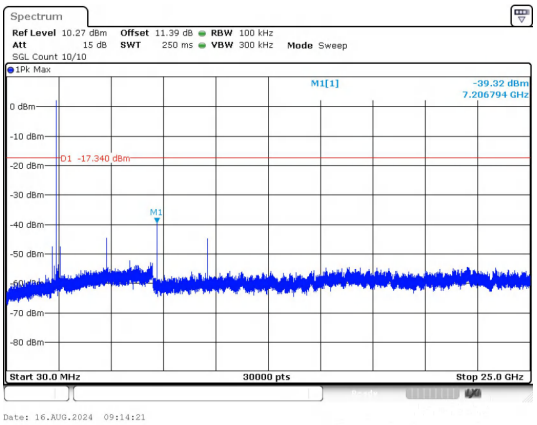
Out Of Band Emission

GFSK_DH5_Channel 0



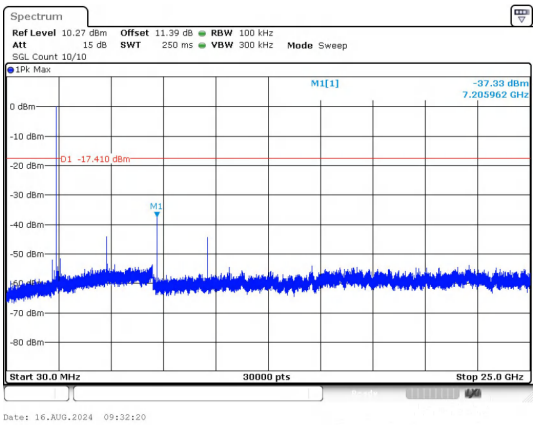
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 0



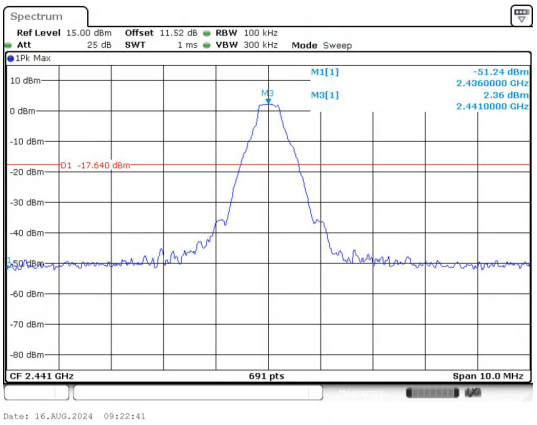
30.0 MHz - 25000.0 MHz

GFSK_DH5_Channel 0



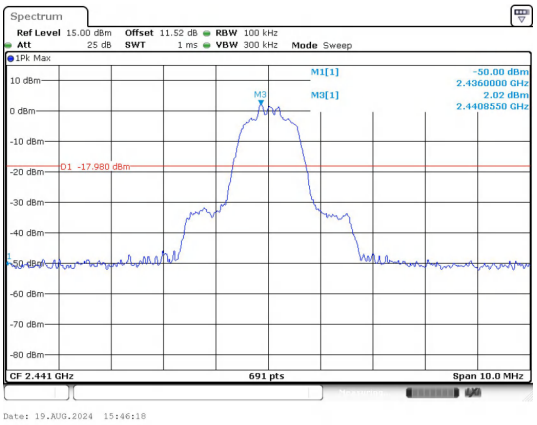
30.0 MHz - 25000.0 MHz

π/4DQPSK_2-DH5_Channel 0



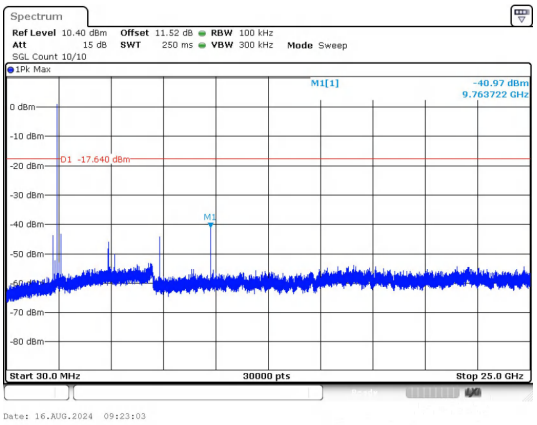
Out Of Band Emission

GFSK_DH5_Channel 39



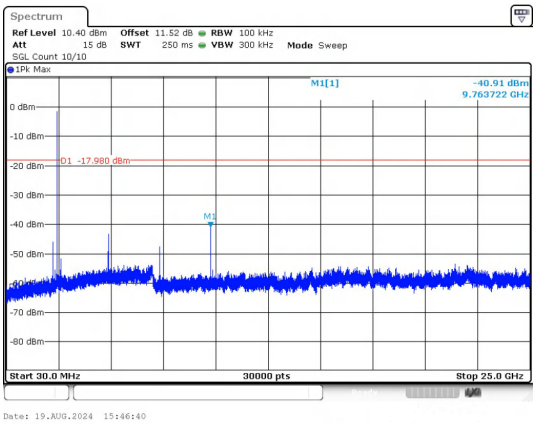
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 39



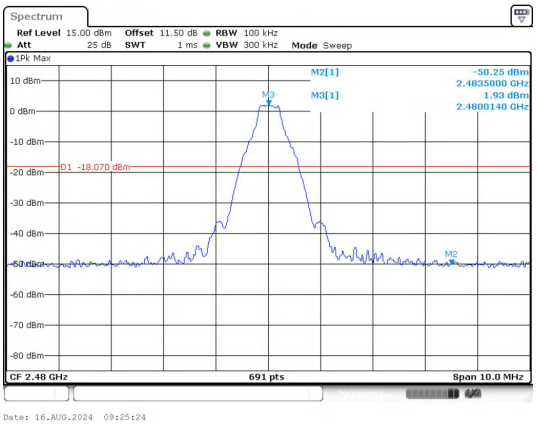
30.0 MHz - 25000.0 MHz

GFSK_DH5_Channel 39



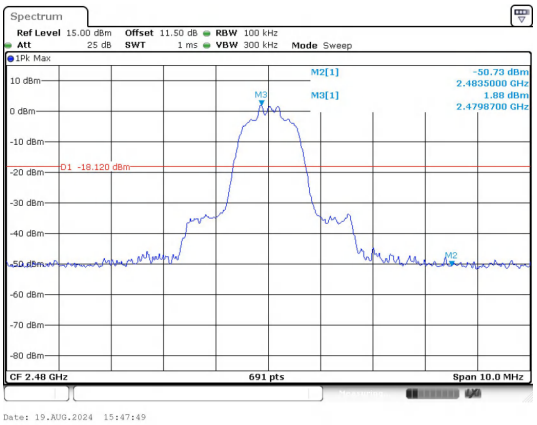
30.0 MHz - 25000.0 MHz

π/4DQPSK_2-DH5_Channel 39



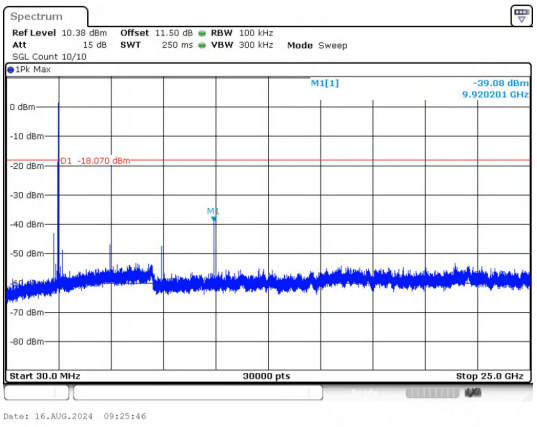
Out Of Band Emission

GFSK_DH5_Channel 78



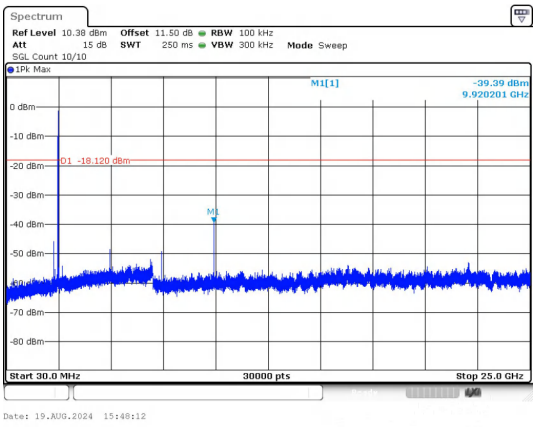
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 78



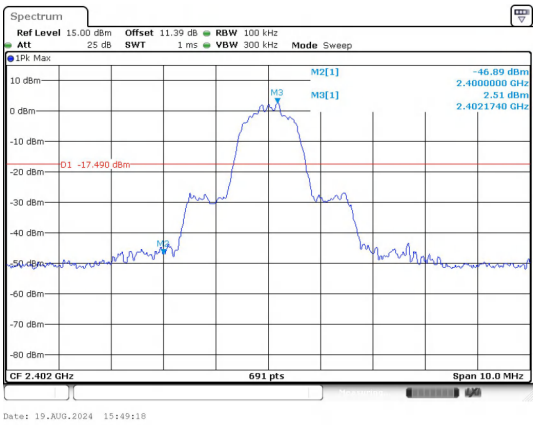
30.0 MHz - 25000.0 MHz

GFSK_DH5_Channel 78



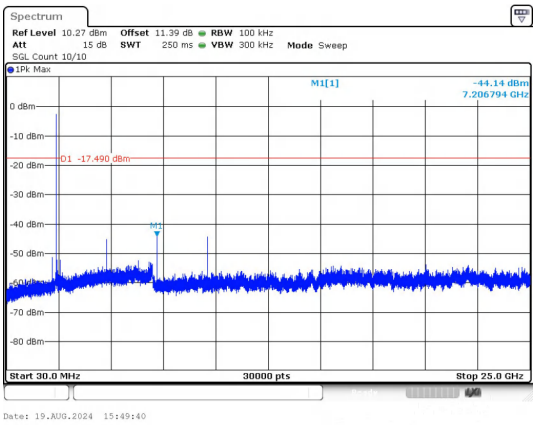
30.0 MHz - 25000.0 MHz

π/4DQPSK_2-DH5_Channel 78



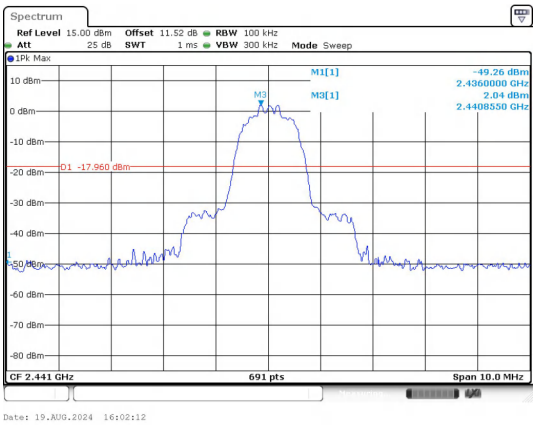
Out Of Band Emission

8DPSK_3-DH5_Channel 0



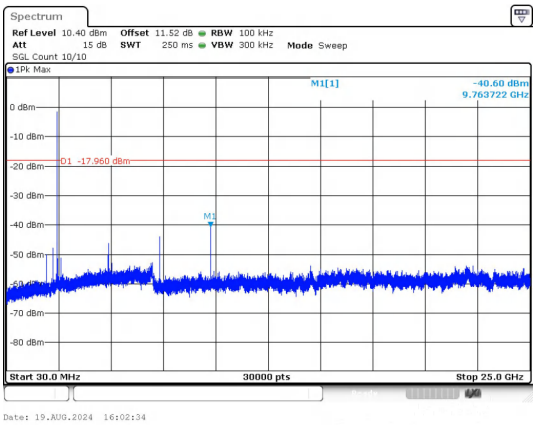
30.0 MHz - 25000.0 MHz

8DPSK_3-DH5_Channel 0



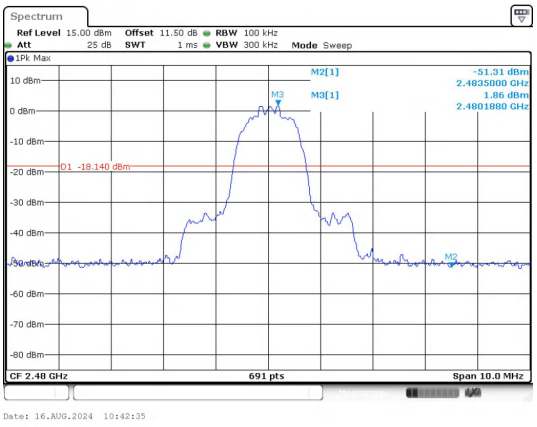
Out Of Band Emission

8DPSK_3-DH5_Channel 39



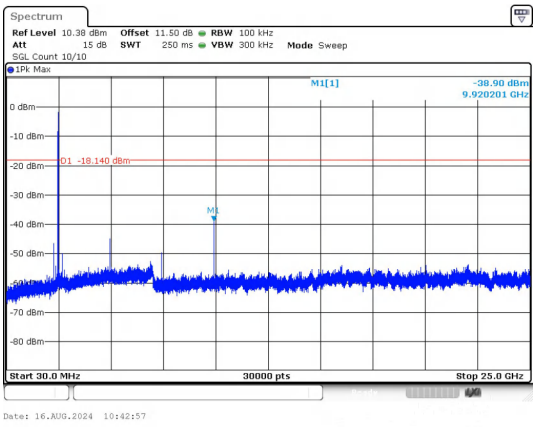
30.0 MHz - 25000.0 MHz

8DPSK_3-DH5_Channel 39



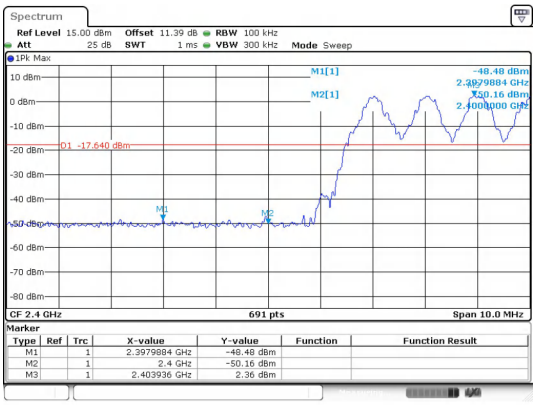
Out Of Band Emission

8DPSK_3-DH5_Channel 78



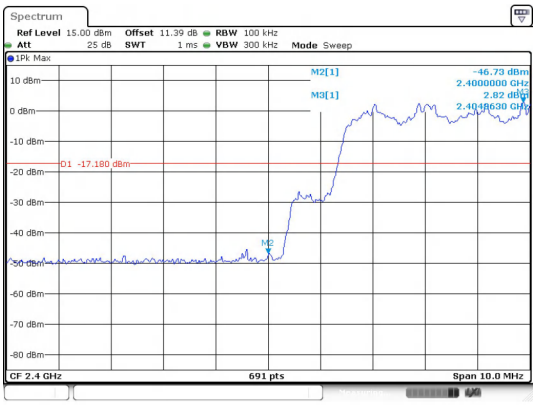
30.0 MHz - 25000.0 MHz

8DPSK_3-DH5_Channel 78



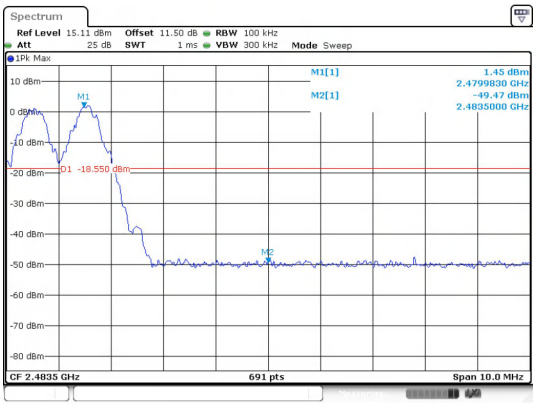
Out Of Band Emission(Left)

GFSK_DH5_Channel Hopping



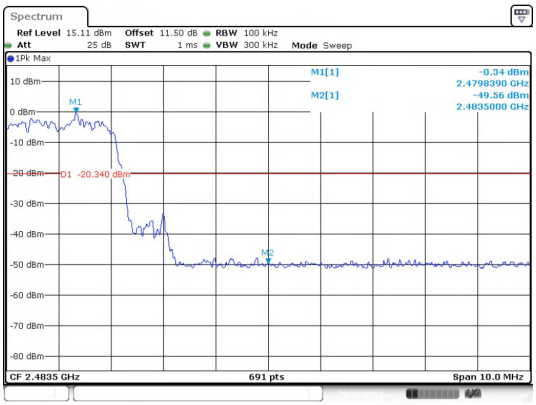
Out Of Band Emission(Left)

π/4DQPSK_2-DH5_Channel Hopping



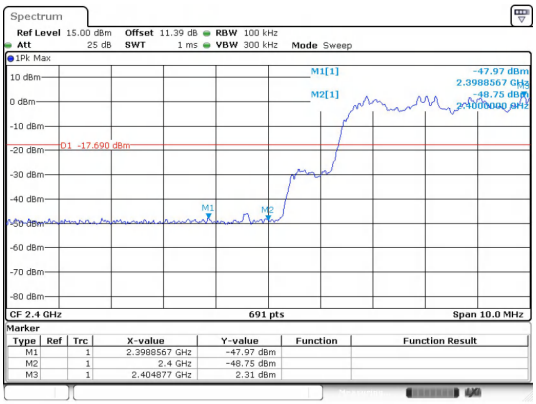
Out Of Band Emission(Right)

GFSK_DH5_Channel Hopping



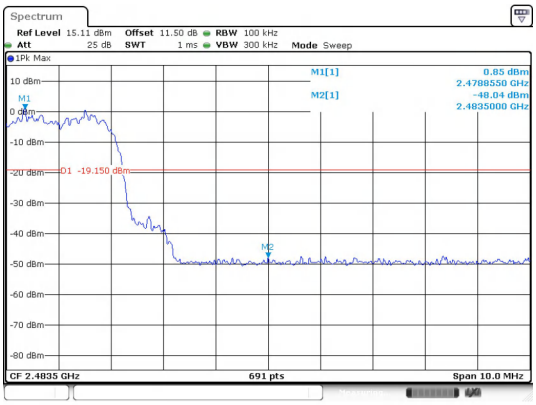
Out Of Band Emission(Right)

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