Appendix A

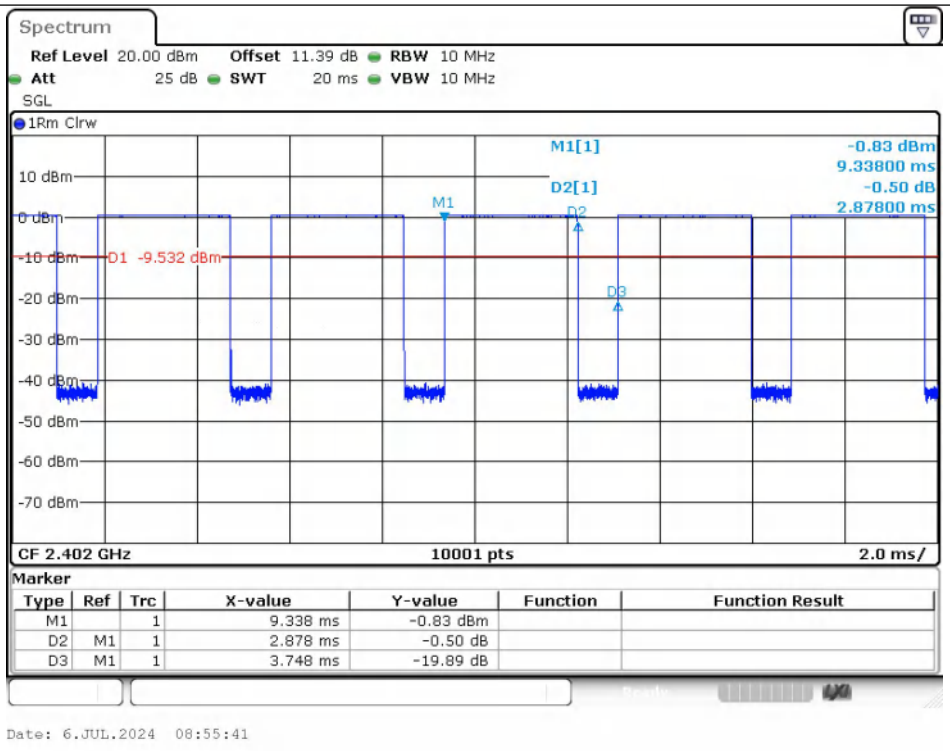
Report No.:	CISRR240605042
FCC ID:	2BG2M-P2961
Product Name:	A head-mounted Bluetooth headset
Model No.:	P2961
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

Duty Cycle

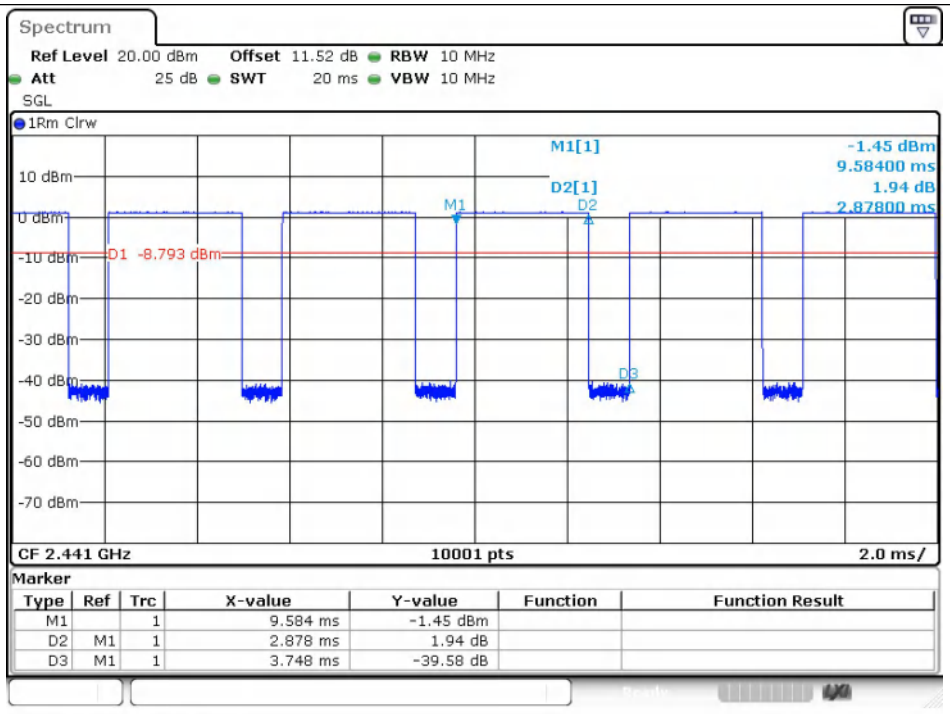
Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.878	3.748	76.79	0.7679	1.147	0.35
		39	2.878	3.748	76.79	0.7679	1.147	0.35
		78	2.880	3.748	76.84	0.7684	1.1441	0.35
π/4DQPSK	2-DH5	0	2.884	3.748	76.95	0.7695	1.1379	0.35
		39	2.884	3.748	76.95	0.7695	1.1379	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
8DPSK	3-DH5	0	2.888	3.748	77.05	0.7705	1.1323	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

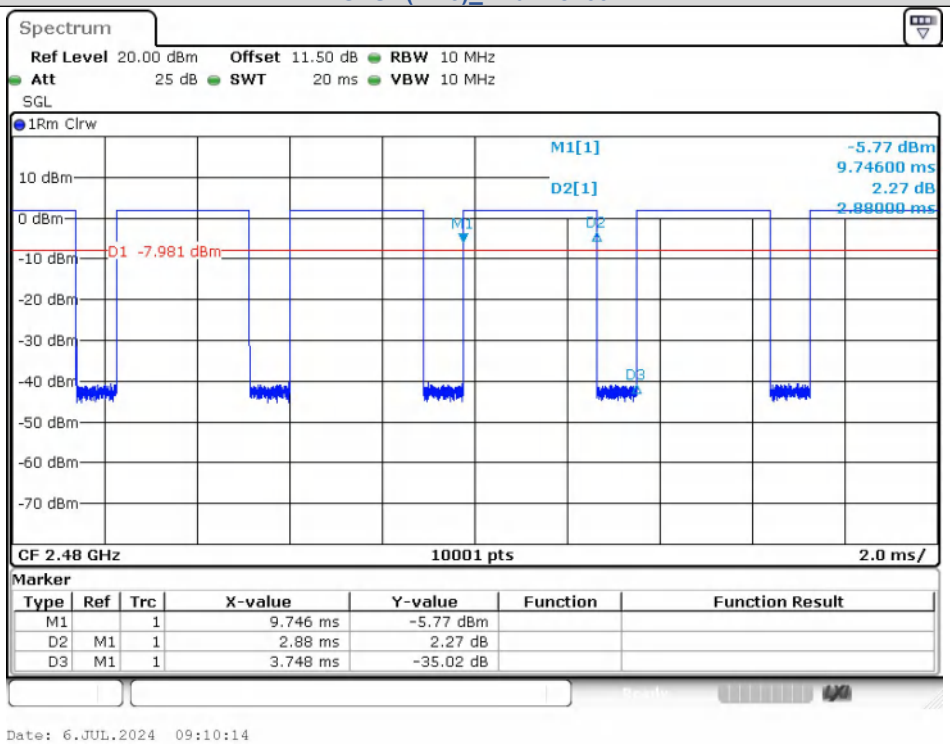
Test Graphs



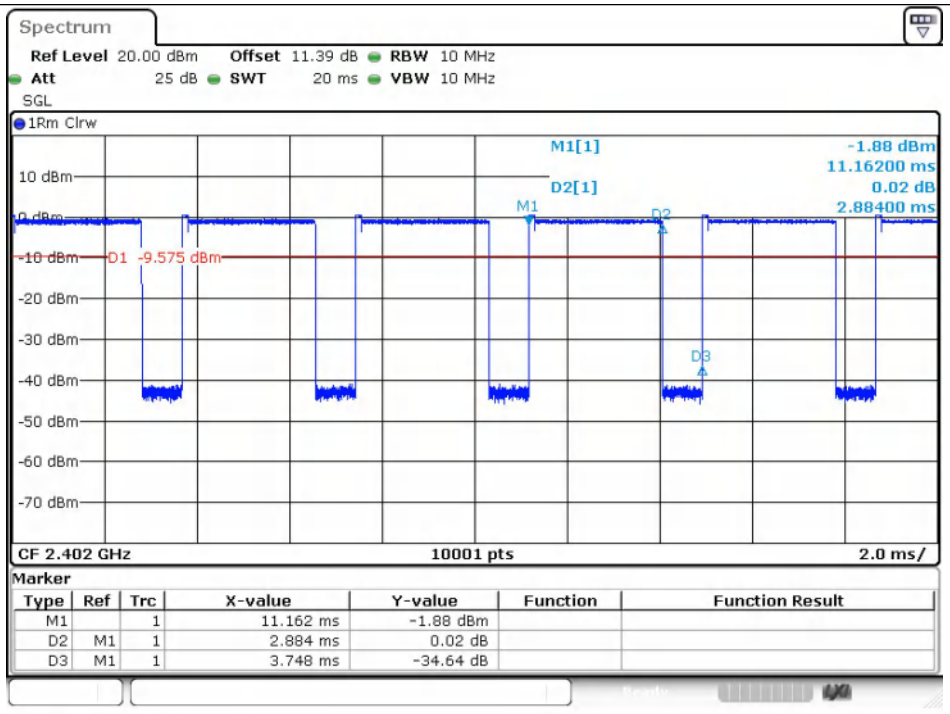
GFSK(DH5)_Channel 0



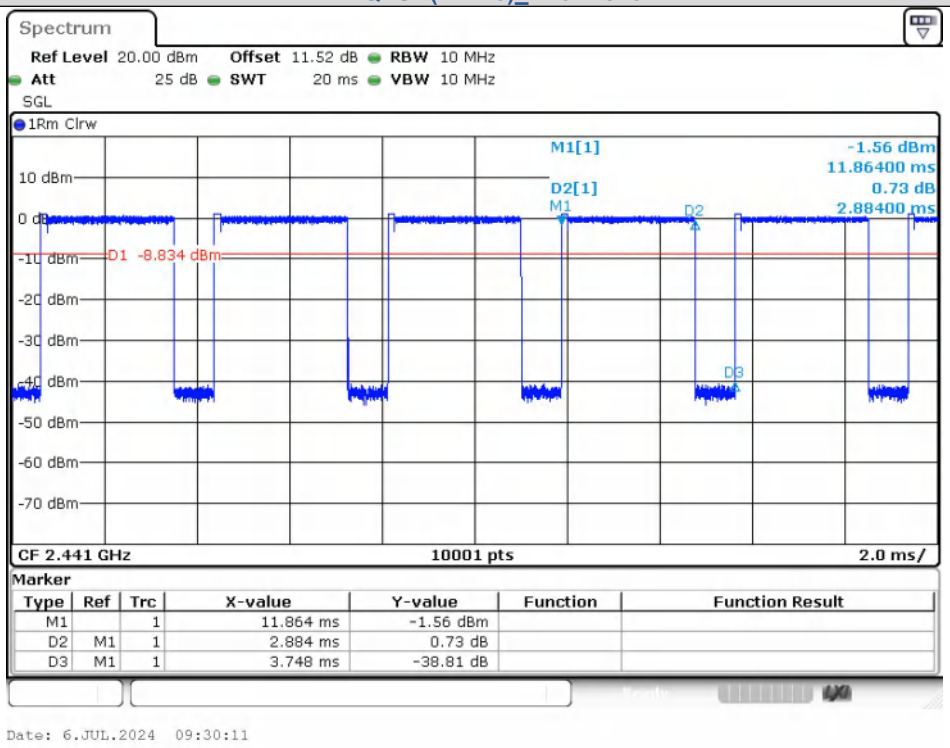
GFSK(DH5)_Channel 39



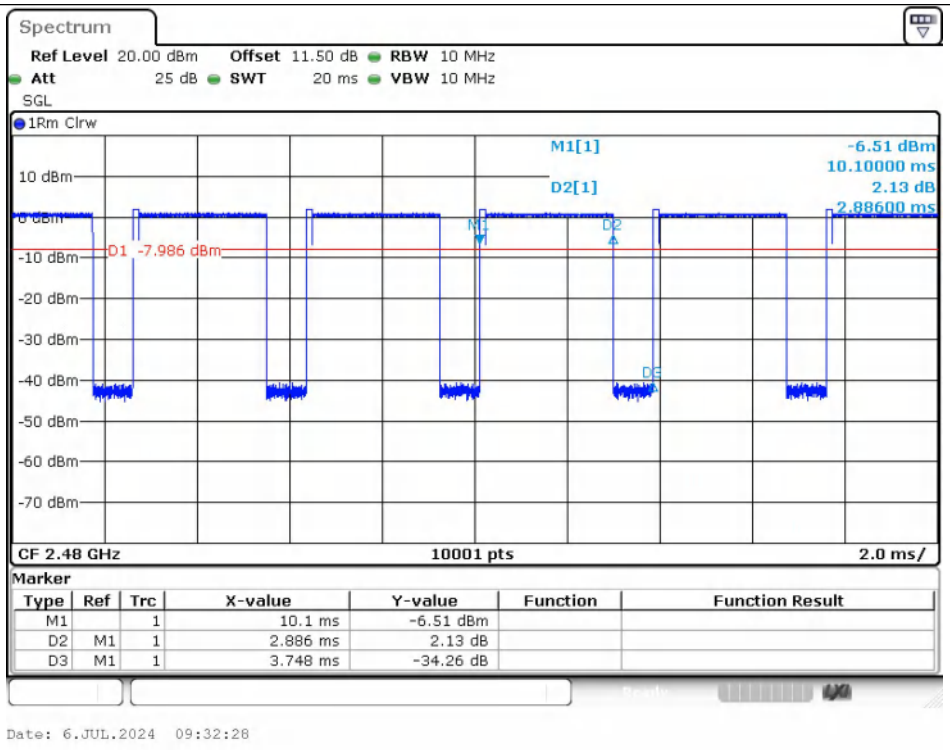
GFSK(DH5)_Channel 78



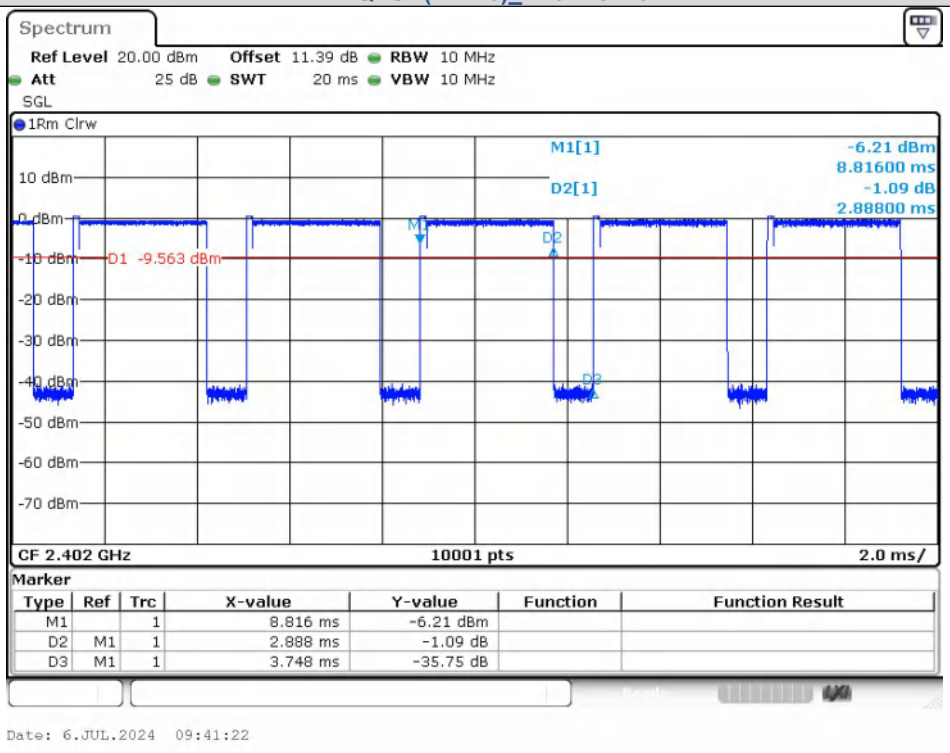
π/4DQPSK(2-DH5)_Channel 0



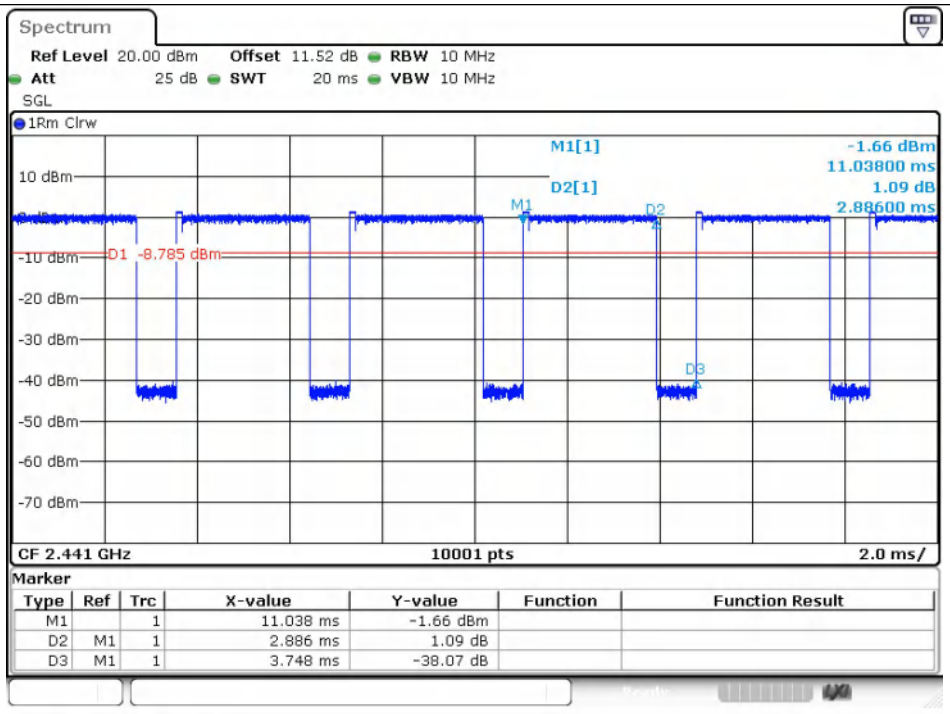
π/4DQPSK(2-DH5)_Channel 39



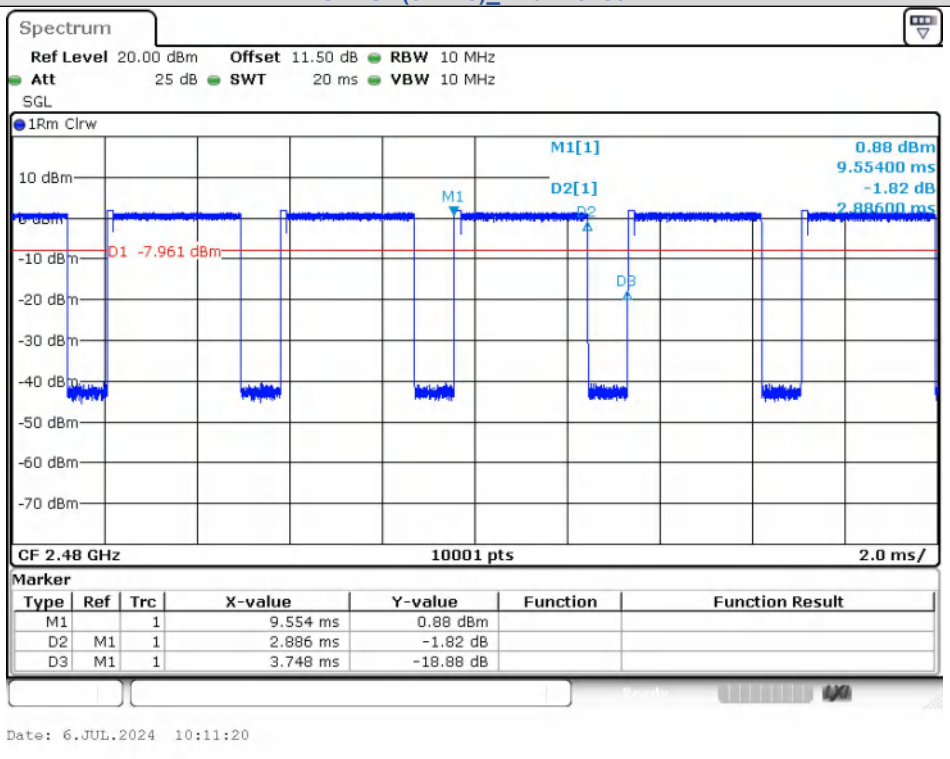
π/4DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



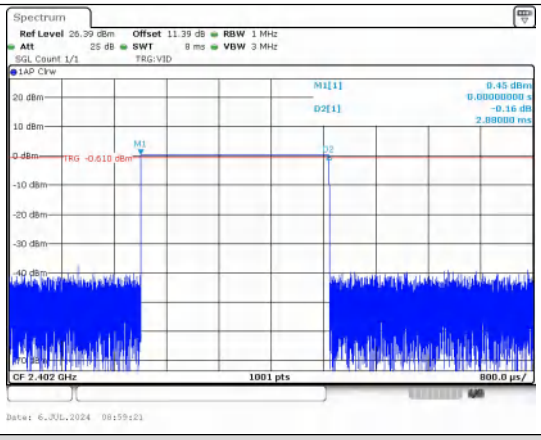
8DPSK(3-DH5)_Channel 78

Dwell Time

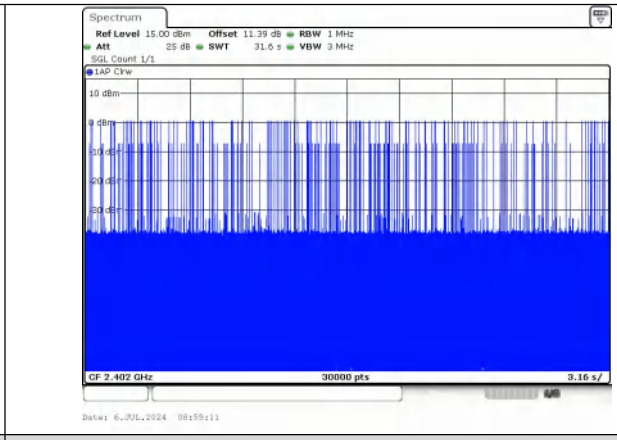
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.880	129	371.52	< 400	PASS
π/4DQPSK	2-DH5		2.888	89	257.03		PASS
8DPSK	3-DH5		2.888	103	297.46		PASS

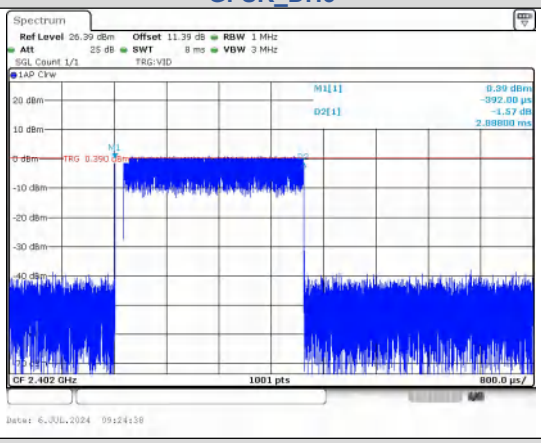
Test Graphs



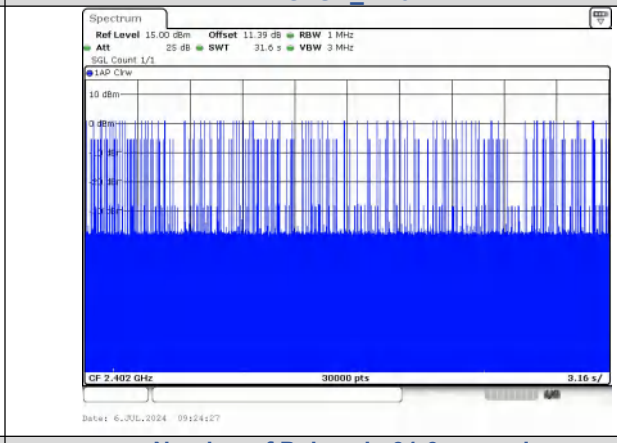
Pulse Width
GFSK_DH5



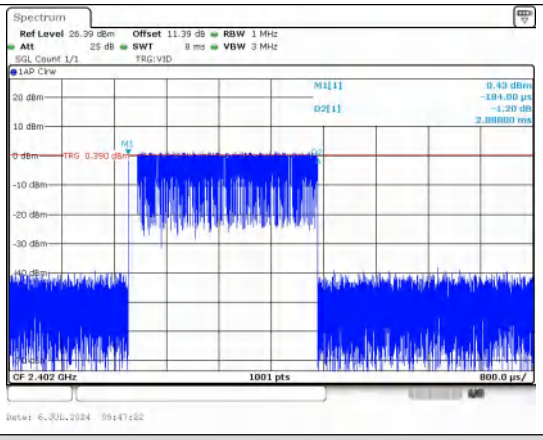
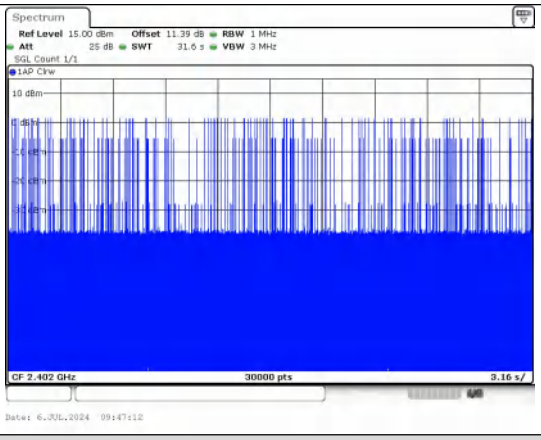
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
π/4DQPSK_2-DH5



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

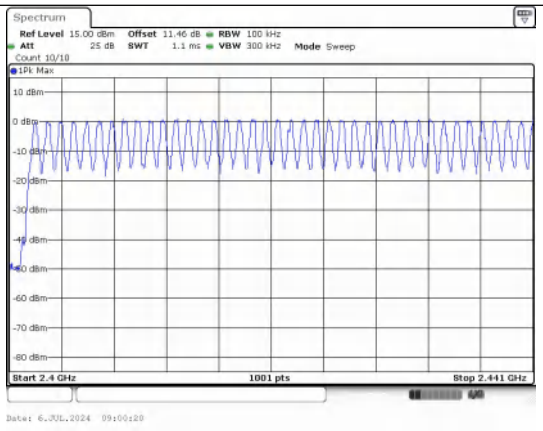
	
Pulse Width **8DPSK_3-DH5**	**Number of Pulses in 31.6 seconds** **8DPSK_3-DH5**

Number Of Hopping Channel

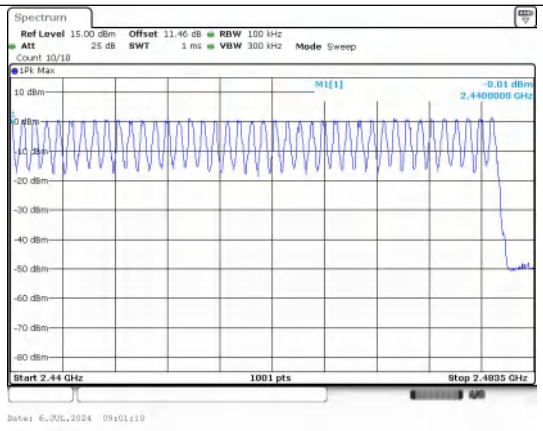
Test Result

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

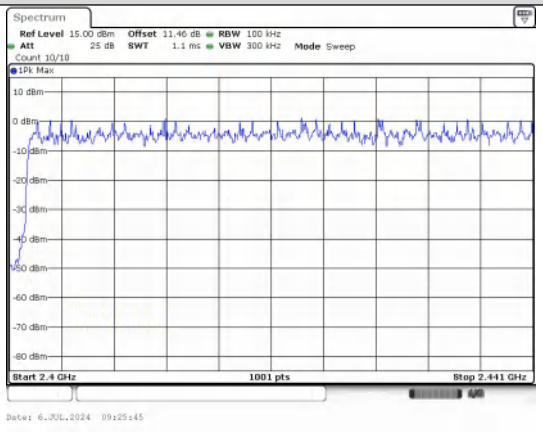
Test Graphs



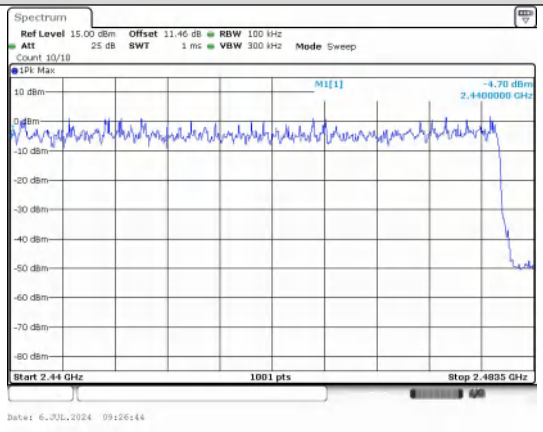
Low End Spectrum Channel Hopping Plot
GFSK



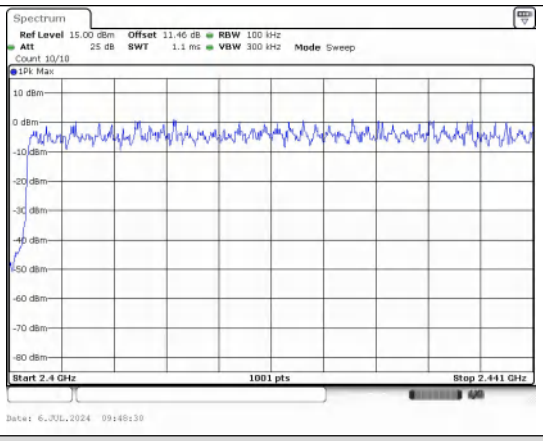
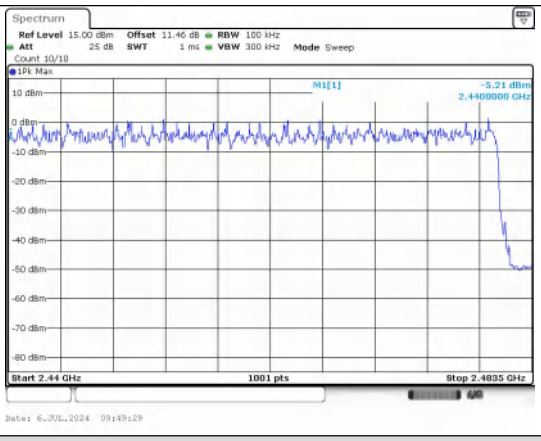
High End Spectrum Channel Hopping Plot
GFSK



Low End Spectrum Channel Hopping Plot
π/4DQPSK



High End Spectrum Channel Hopping Plot
π/4DQPSK

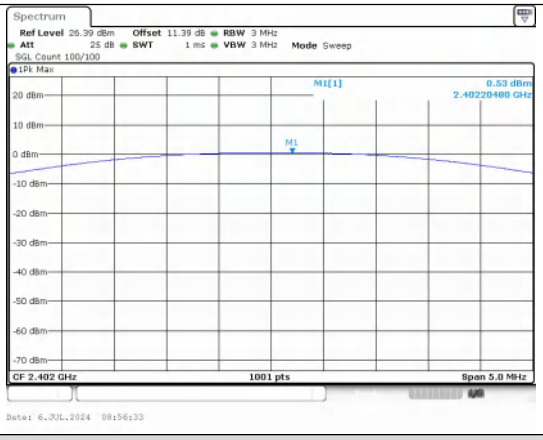
	
Low End Spectrum Channel Hopping Plot 8DPSK	**High End Spectrum Channel Hopping Plot 8DPSK**

Conducted Peak Output Power

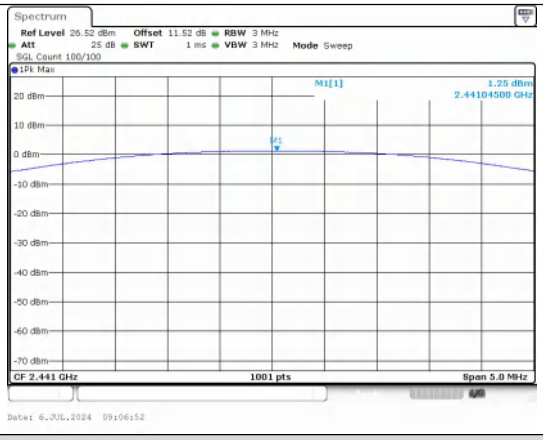
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	0.53	1.13	≤30	PASS
		39	1.25	1.33		PASS
		78	2.07	1.61		PASS
π/4DQPSK	2-DH5	0	1.41	1.38	≤20.97	PASS
		39	2.08	1.61		PASS
		78	2.90	1.95		PASS
8DPSK	3-DH5	0	1.78	1.51		PASS
		39	2.50	1.78		PASS
		78	3.32	2.15		PASS

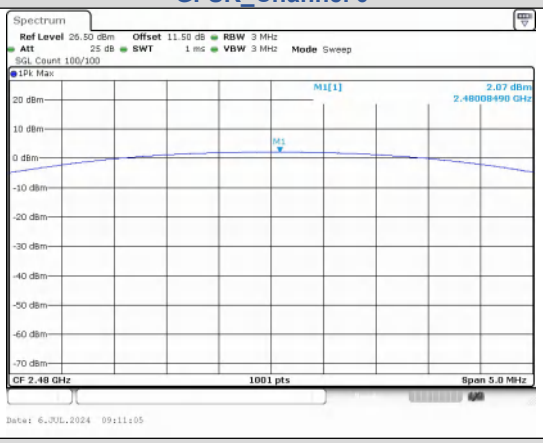
Test Graphs



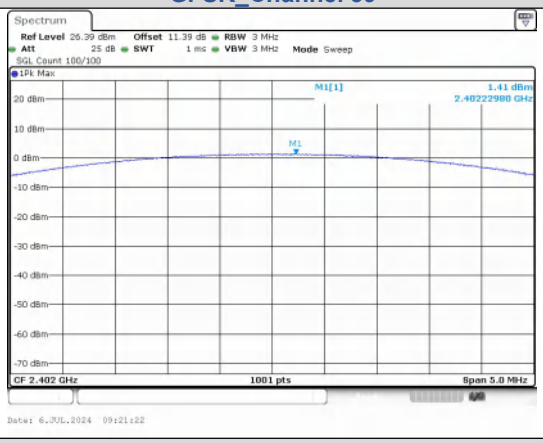
Peak Output Power
GFSK_Channel 0



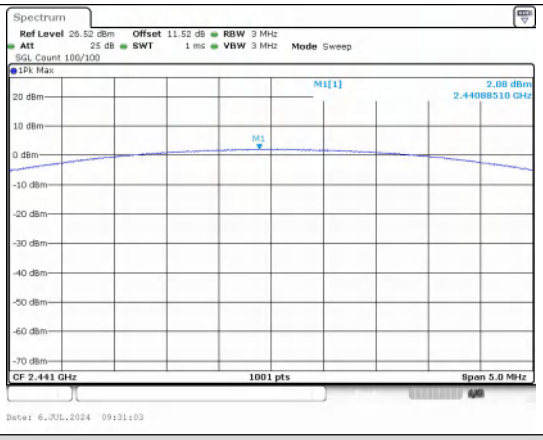
Peak Output Power
GFSK_Channel 39



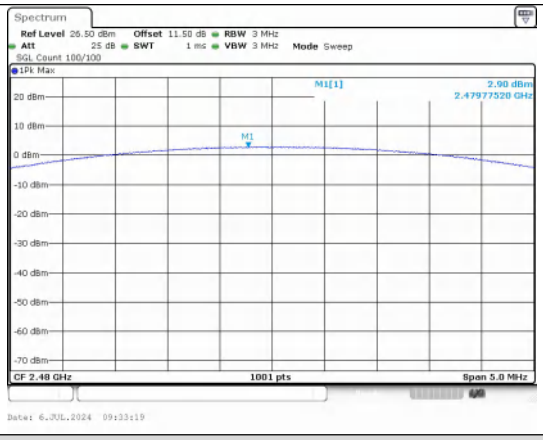
Peak Output Power
GFSK_Channel 78



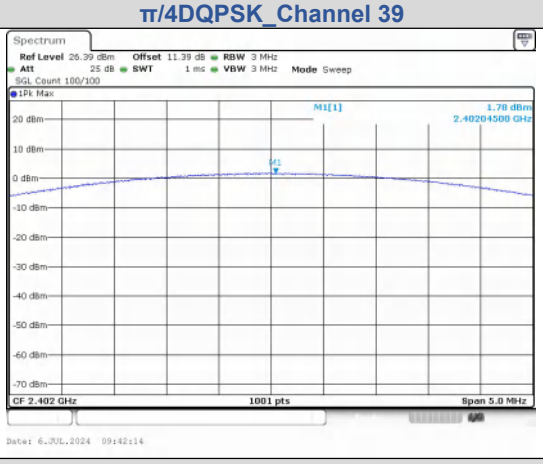
Peak Output Power
π/4DQPSK_Channel 0



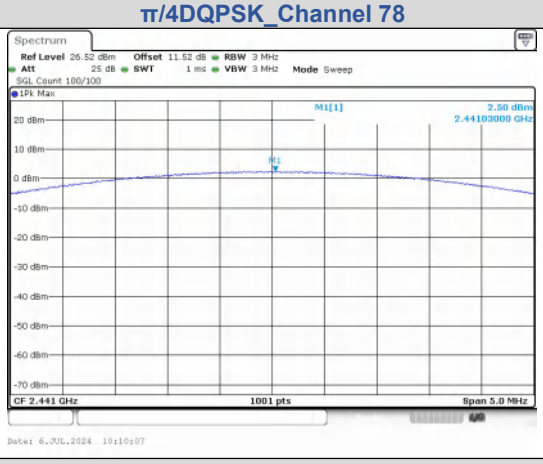
Peak Output Power
π/4DQPSK_Channel 39



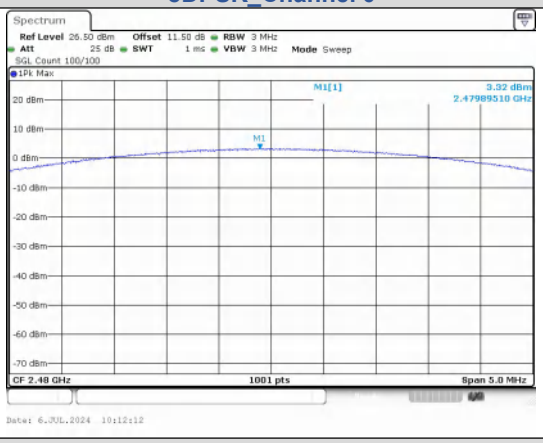
Peak Output Power
π/4DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



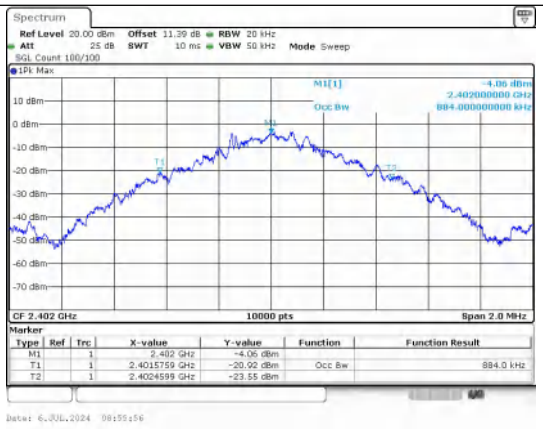
Peak Output Power
8DPSK_Channel 78

99% Bandwidth

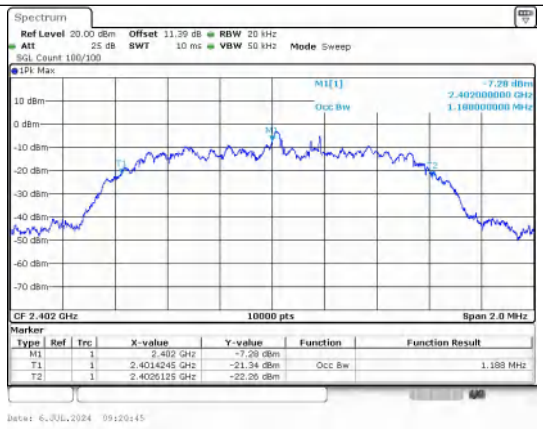
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.88400
	39	2441	0.90160
	78	2480	0.92400
π/4DQPSK	0	2402	1.1880
	39	2441	1.2088
	78	2480	1.1980
8DPSK	0	2402	1.2080
	39	2441	1.2118
	78	2480	1.2122

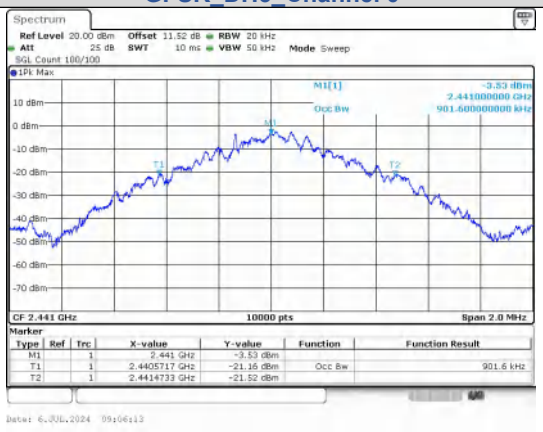
Test Graphs



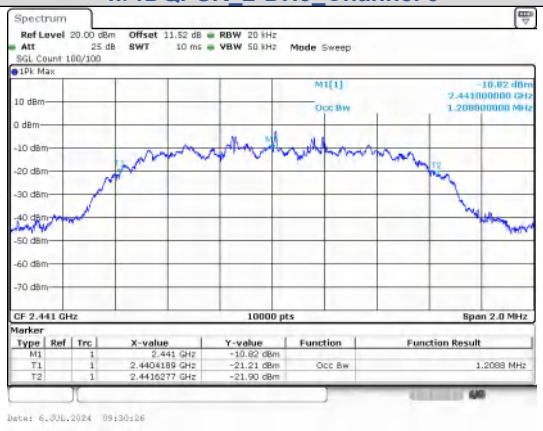
GFSK_DH5_Channel 0



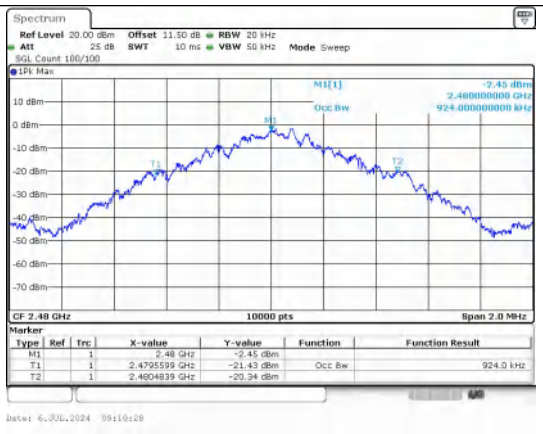
π/4DQPSK_2-DH5_Channel 0



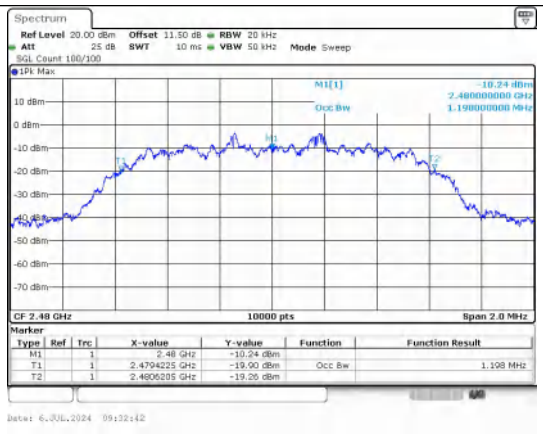
GFSK_DH5_Channel 39



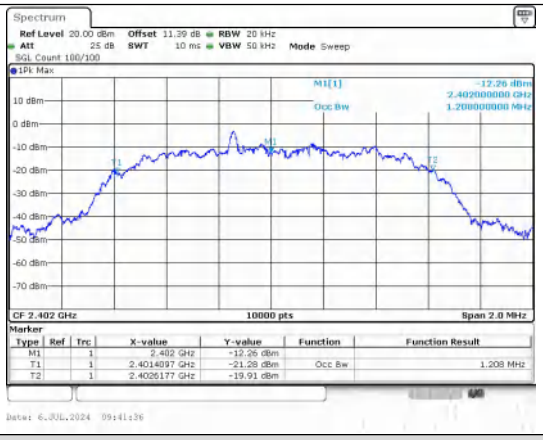
π/4DQPSK_2-DH5_Channel 39



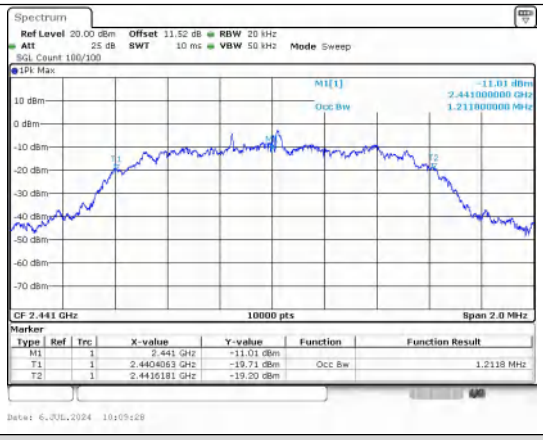
GFSK_DH5_Channel 78



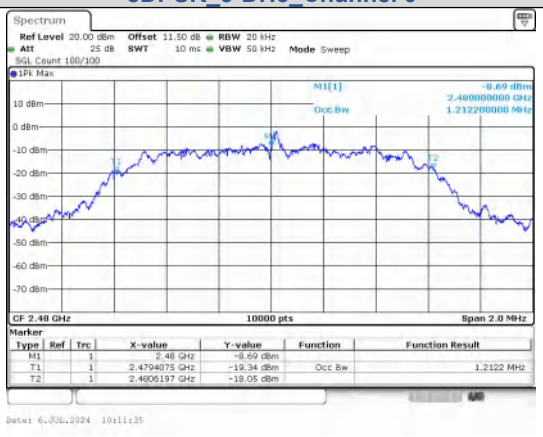
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



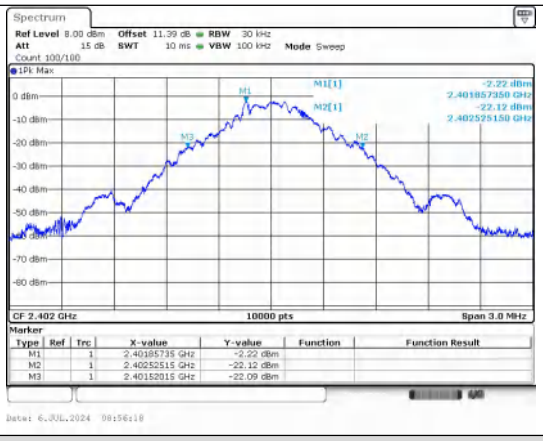
8DPSK_3-DH5_Channel 78

20dB Bandwidth

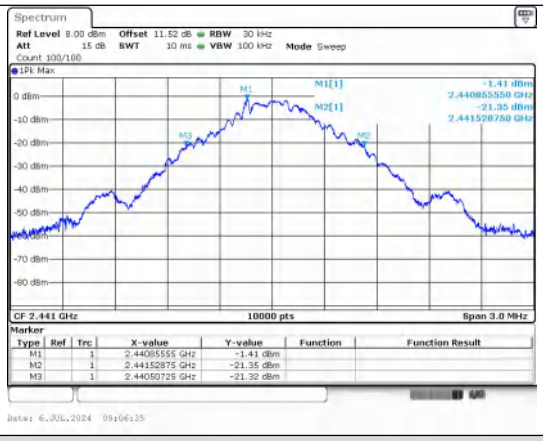
Test Result

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

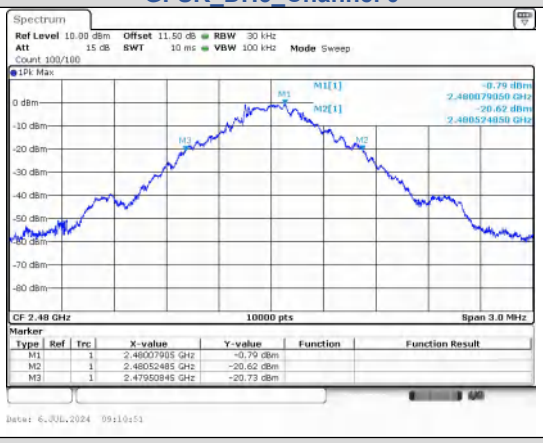
Test Graphs



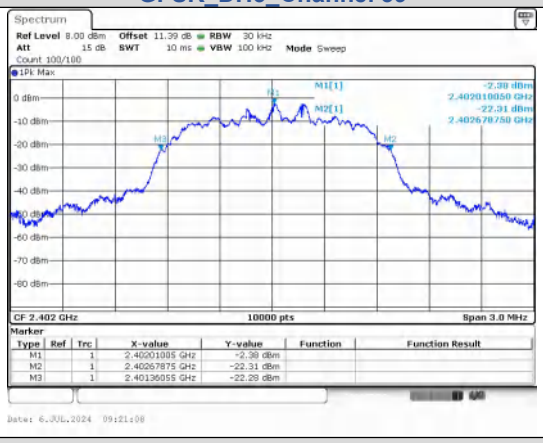
GFSK_DH5_Channel 0



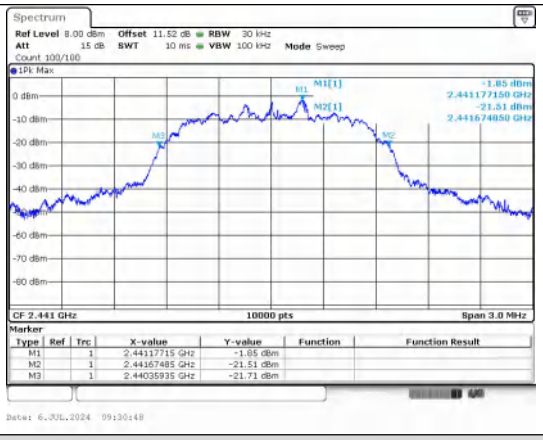
GFSK_DH5_Channel 39



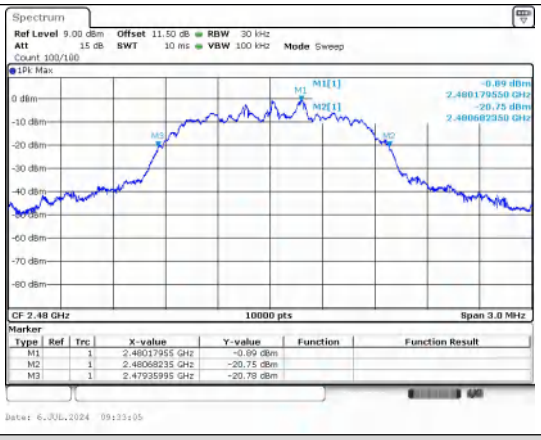
GFSK_DH5_Channel 78



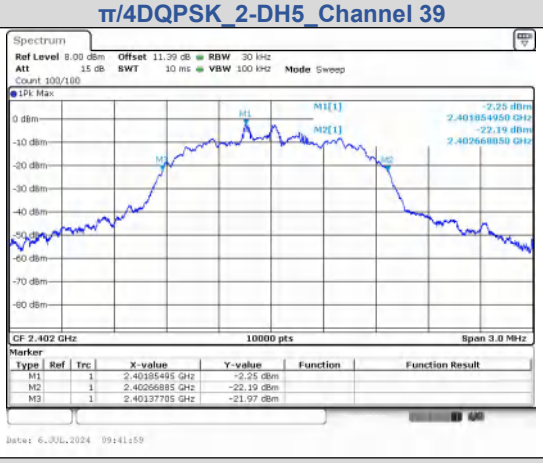
π/4DQPSK_2-DH5_Channel 0



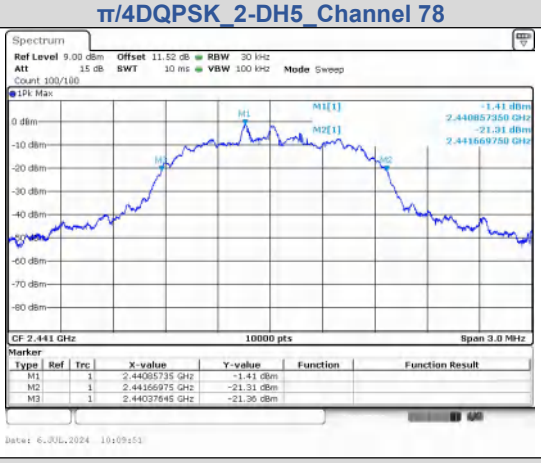
π/4DQPSK_2-DH5_Channel 39



π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39

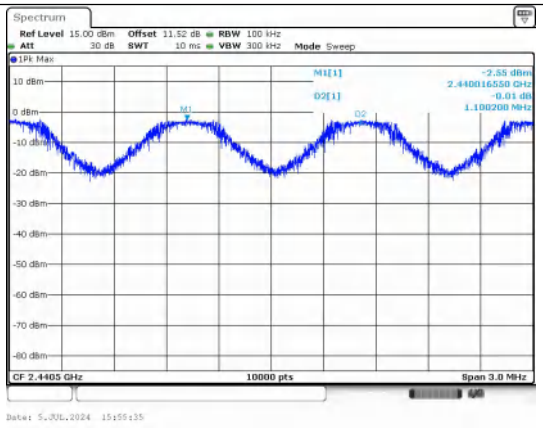
8DPSK_3-DH5_Channel 78

Carrier Frequencies Separation

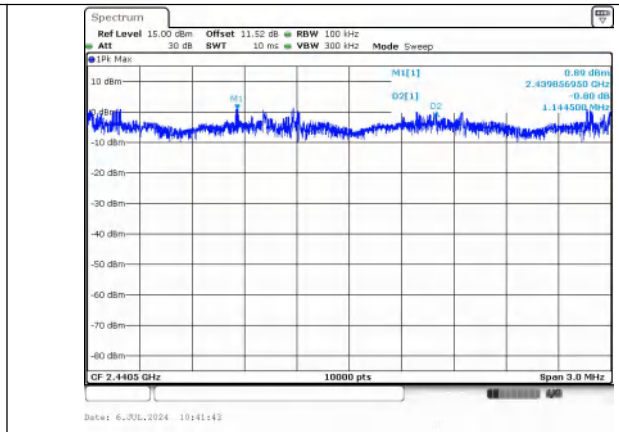
Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.1655	2441.2657	1.1002	1.020	PASS
π/4DQPSK	2-DH5	2439.8569	2441.0015	1.1445	0.88	PASS
8DPSK	3-DH5	2439.8578	2441.1653	1.3074	0.86	PASS

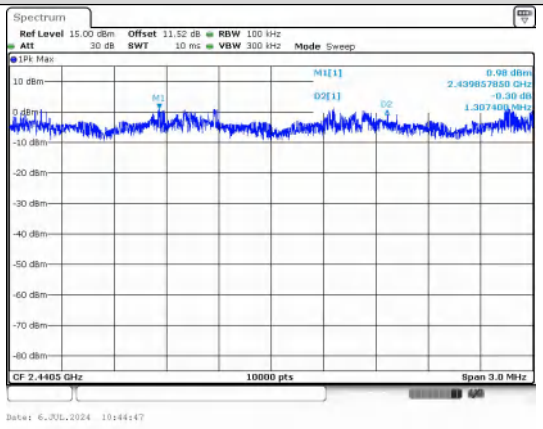
Test Graphs



GFSK



π/4DQPSK



8DPSK

Conducted Out Of Band Emission

Test Result

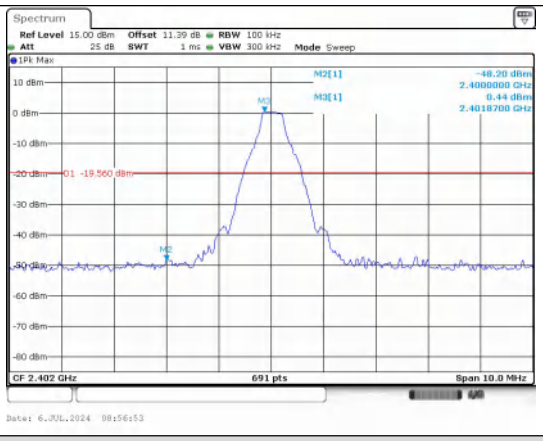
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-48.204	-19.56	-28.644	PASS
			4803.85	-46.858	-19.56	-27.298	PASS
		39	4882.09	-44.088	-18.85	-25.238	PASS
		78	2483.50	-49.468	-18.04	-31.428	PASS
			4960.33	-43.933	-18.04	-25.893	PASS
π/4DQPSK	2-DH5	0	2400.00	-47.590	-19.55	-28.040	PASS
			9608.08	-47.604	-19.55	-28.054	PASS
		39	9763.72	-46.458	-18.95	-27.508	PASS
		78	2483.50	-50.132	-18.1	-32.032	PASS
			4960.33	-46.508	-18.1	-28.408	PASS
8DPSK	3-DH5	0	2400.00	-47.730	-19.6	-28.130	PASS
			9608.08	-47.230	-19.6	-27.630	PASS
		39	9763.72	-48.121	-18.86	-29.261	PASS
		78	2483.50	-50.915	-18.03	-32.885	PASS
			4960.33	-45.614	-18.03	-27.584	PASS

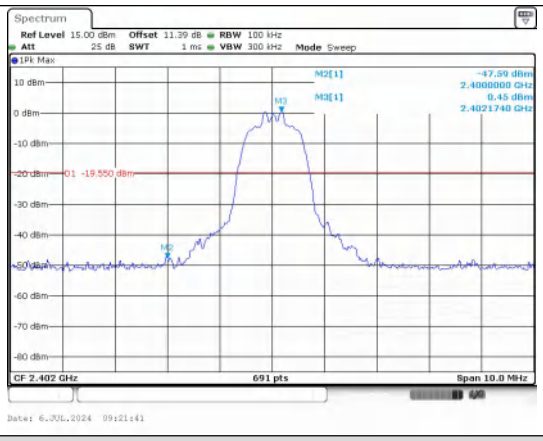
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2396.12	-47.590	-19.55	-28.040	PASS
			2400.00	-48.921	-19.55	-29.371	PASS
			2483.50	-47.697	-18.12	-29.577	PASS
			2395.11	-47.647	-19.51	-28.137	PASS
			2400.00	-49.334	-19.51	-29.824	PASS
			2483.50	-47.829	-18.08	-29.749	PASS
π/4DQPSK	2-DH5		2396.05	-48.295	-19.62	-28.675	PASS
			2400.00	-49.239	-19.62	-29.619	PASS
			2483.50	-48.213	-19.17	-29.043	PASS
			2397.19	-48.231	-21.59	-26.641	PASS
			2400.00	-48.872	-21.59	-27.282	PASS
			2483.50	-48.413	-18.11	-30.303	PASS
8DPSK	3-DH5		2396.63	-46.552	-19.51	-27.042	PASS
			2400.00	-47.775	-19.51	-28.265	PASS
			2483.50	-48.699	-18.06	-30.639	PASS
			2397.71	-47.758	-19.51	-28.248	PASS
			2400.00	-48.419	-19.51	-28.909	PASS
			2483.50	-46.971	-18.41	-28.561	PASS

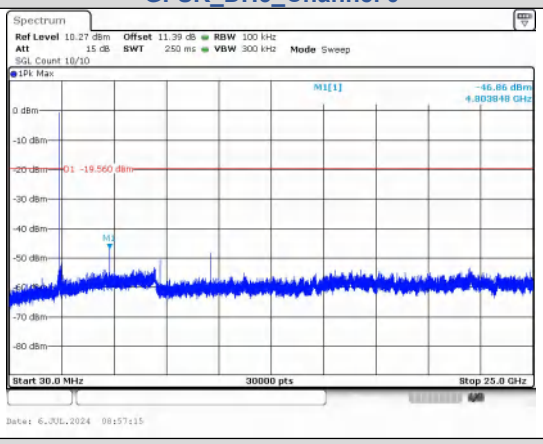
Test Graphs



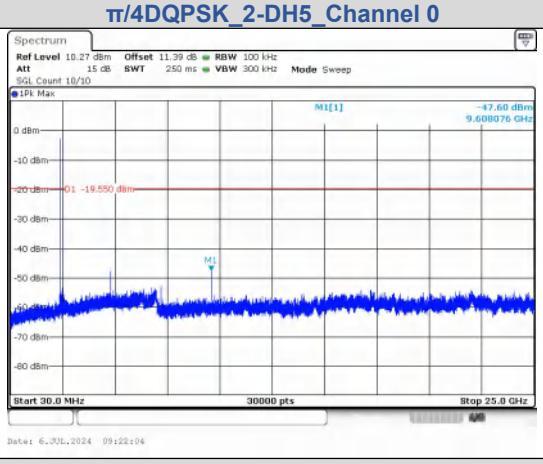
Out Of Band Emission
GFSK_DH5_Channel 0



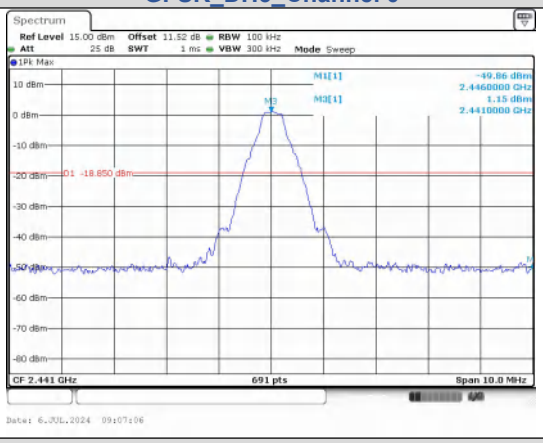
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 0



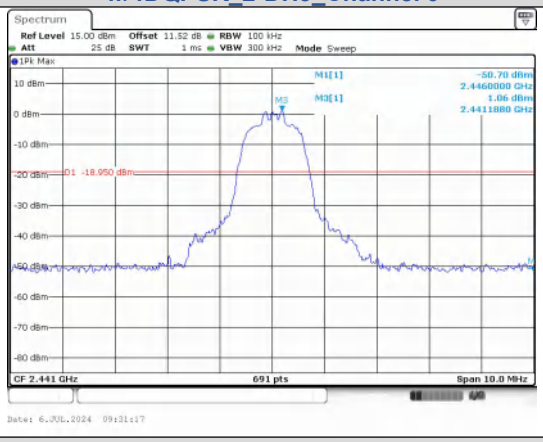
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



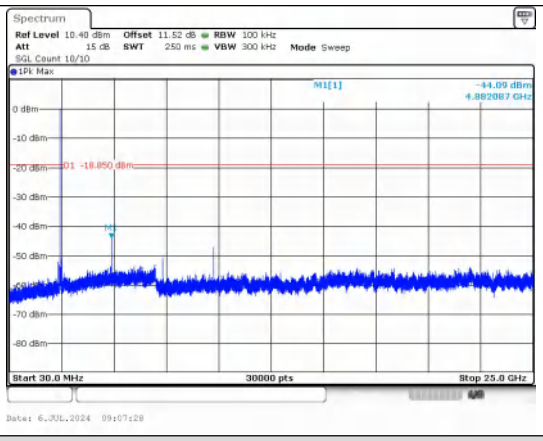
30.0 MHz - 25000.0 MHz
π/4DQPSK_2-DH5_Channel 0



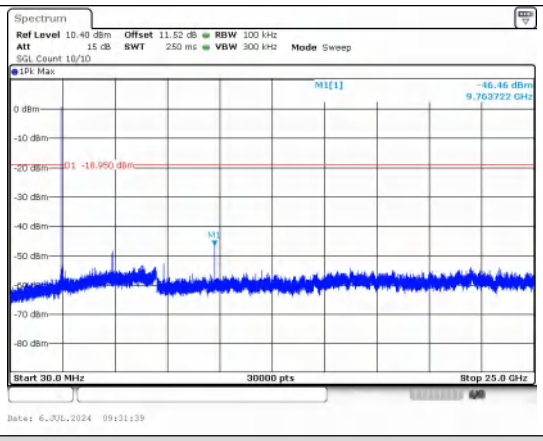
Out Of Band Emission
GFSK_DH5_Channel 39



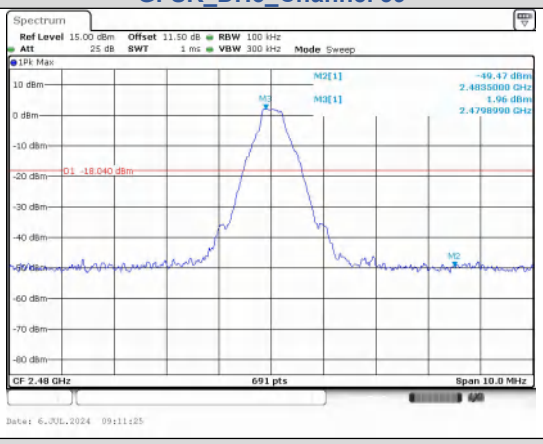
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 39



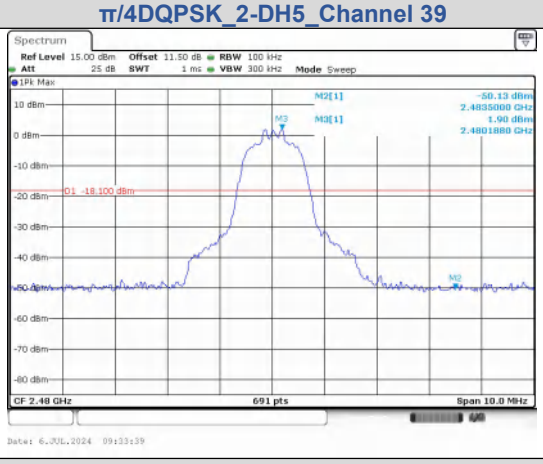
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



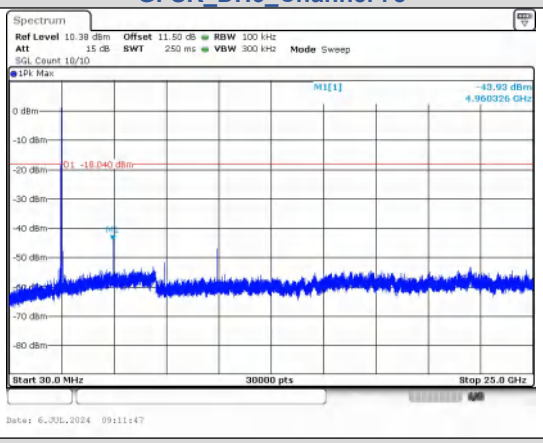
30.0 MHz - 25000.0 MHz
π/4DQPSK_2-DH5_Channel 39



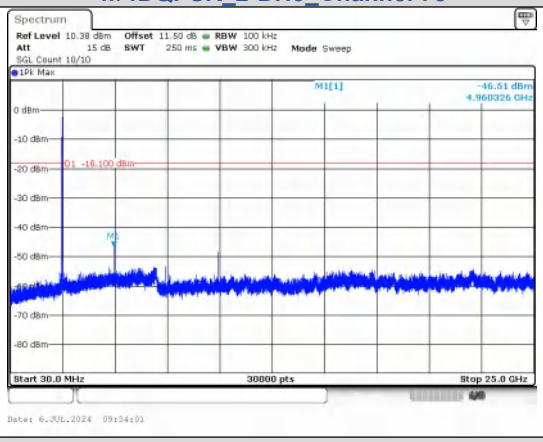
Out Of Band Emission
GFSK_DH5_Channel 78



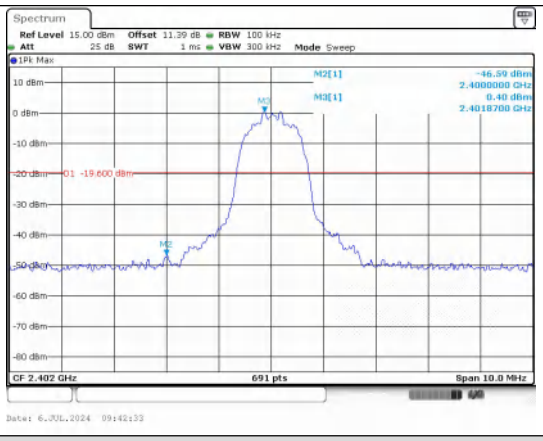
Out Of Band Emission
π/4DQPSK_2-DH5_Channel 78



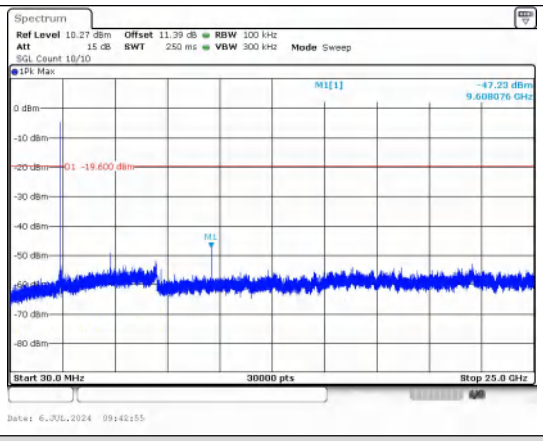
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



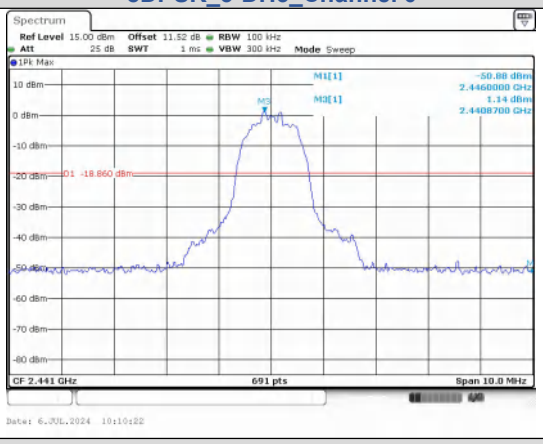
30.0 MHz - 25000.0 MHz
π/4DQPSK_2-DH5_Channel 78



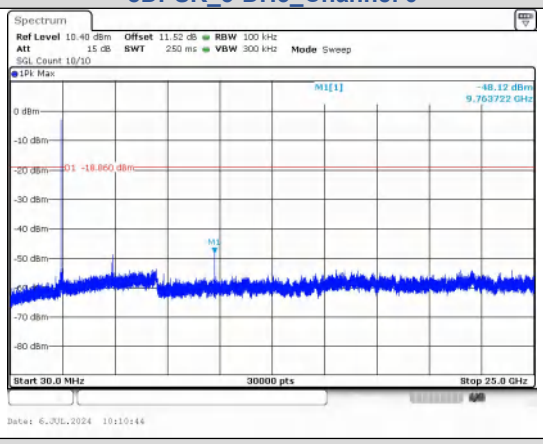
Out Of Band Emission
8DPSK_3-DH5_Channel 0



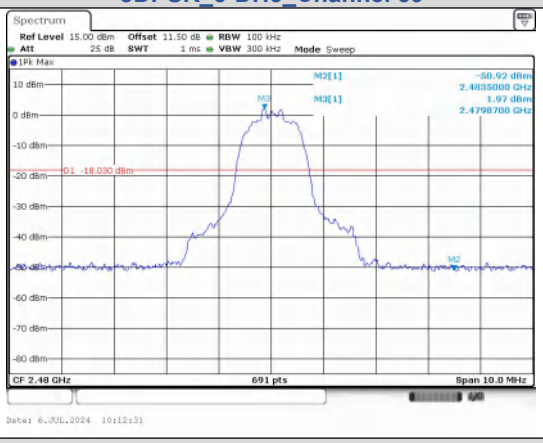
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



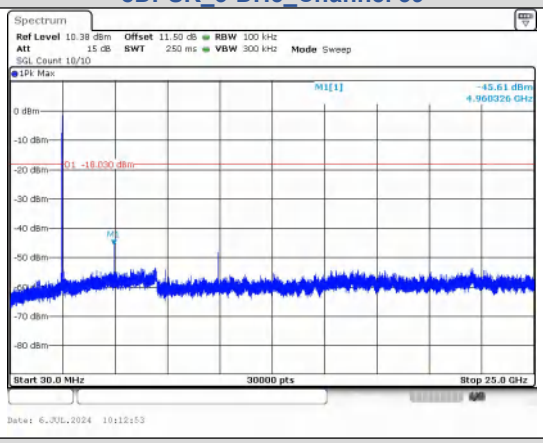
Out Of Band Emission
8DPSK_3-DH5_Channel 39



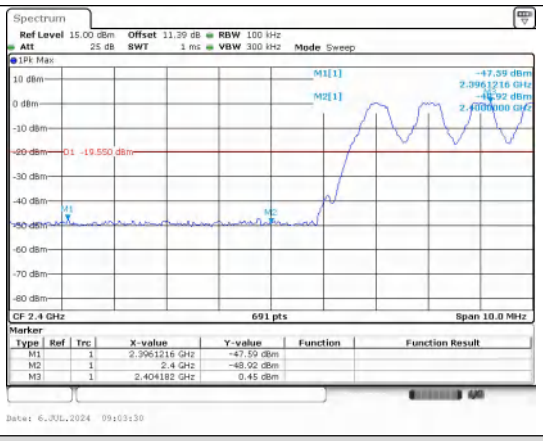
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



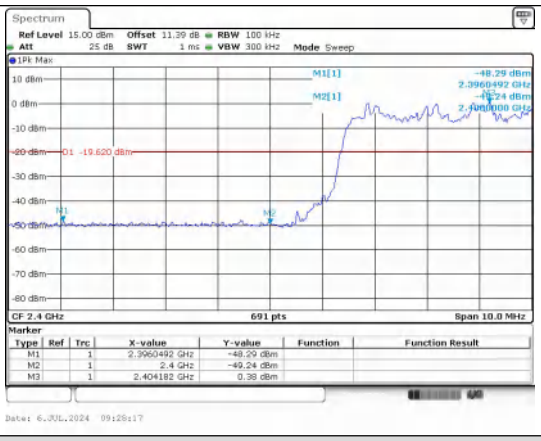
Out Of Band Emission
8DPSK_3-DH5_Channel 78



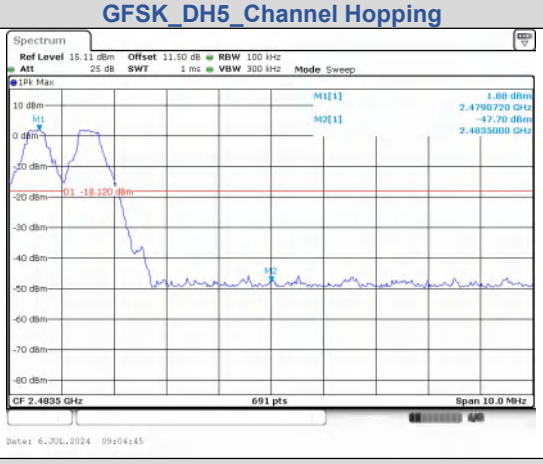
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



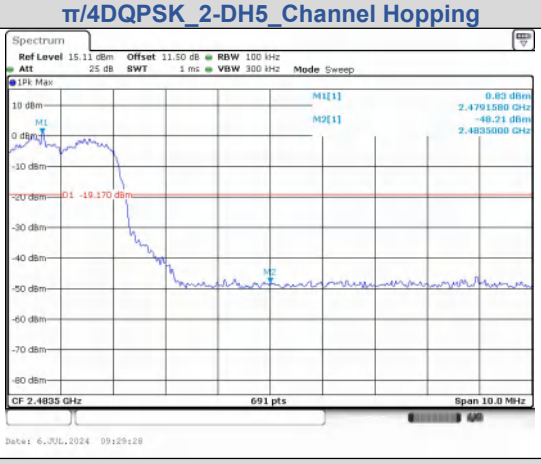
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



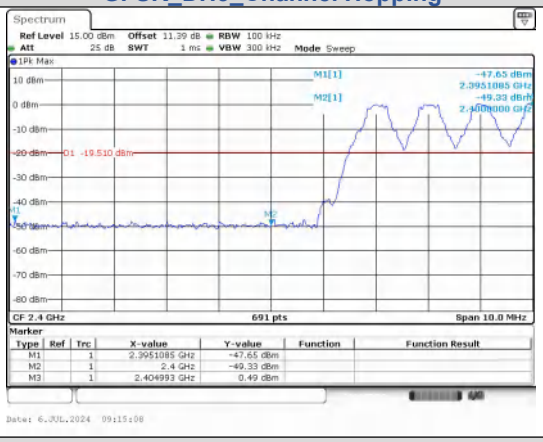
Out Of Band Emission(Left)
π/4DQPSK_2-DH5_Channel Hopping



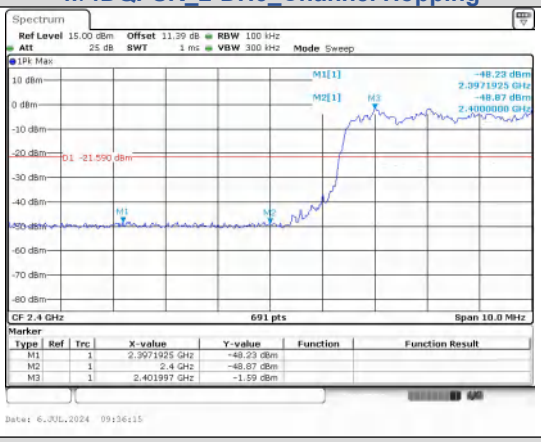
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



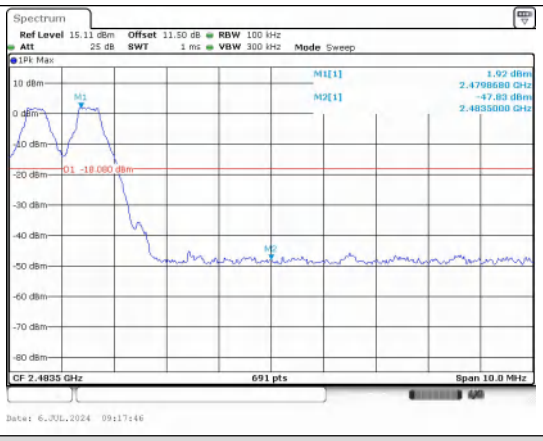
Out Of Band Emission(Right)
π/4DQPSK_2-DH5_Channel Hopping



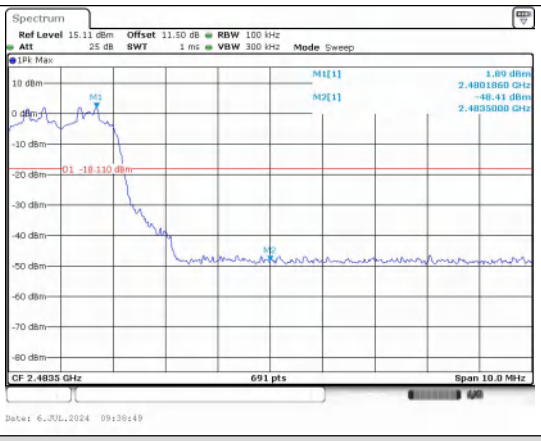
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



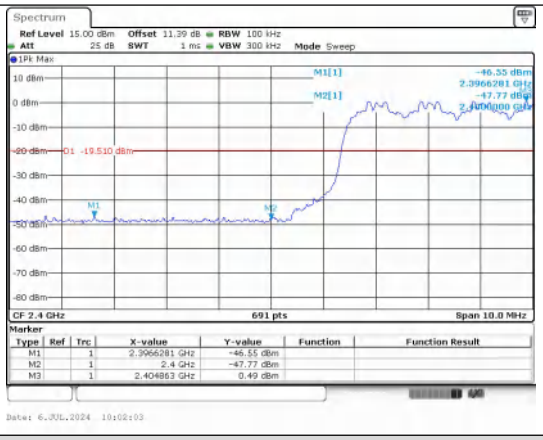
Out Of Band Emission(Left)
π/4DQPSK_2-DH5_Channel Hopping



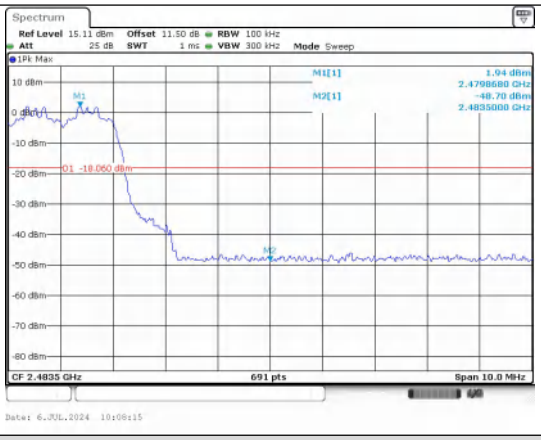
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



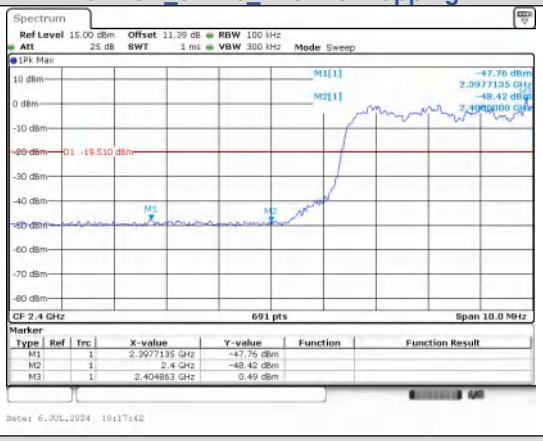
Out Of Band Emission(Right)
π/4DQPSK_2-DH5_Channel Hopping



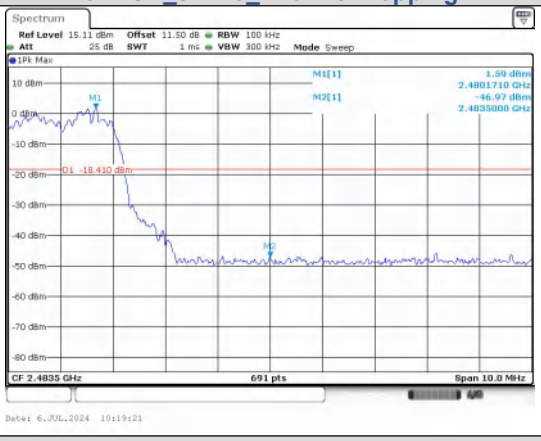
Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



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