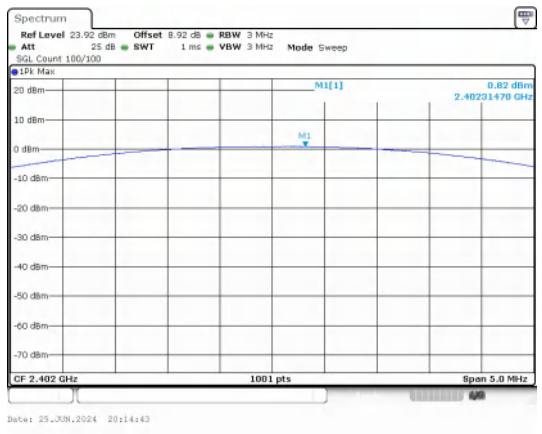
Appendix A

Report No.:	CISRR240518117
FCC ID:	2BGLH-S10
Product Name:	Bone Conduction Wireless Headphones
Model No.:	S10
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

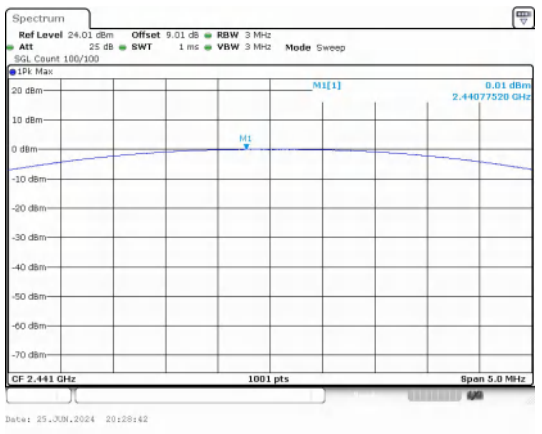
1) Conducted Peak Output Power

Test Result

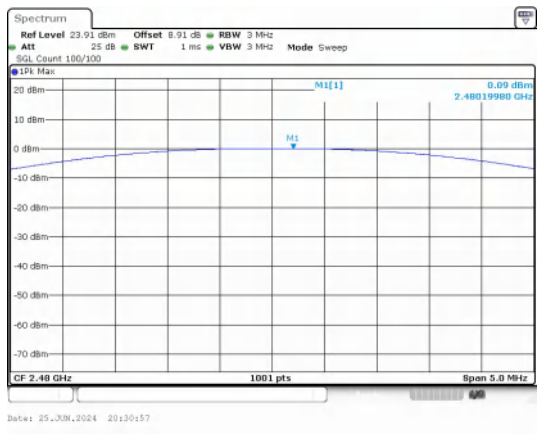
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	0.82	1.21	30	PASS
		39	0.01	1.00		PASS
		78	0.09	1.02		PASS
π/4DQPSK	2-DH5	0	1.22	1.32	20.97	PASS
		39	0.69	1.17		PASS
		78	0.67	1.17		PASS
8DPSK	3-DH5	0	1.46	1.40		PASS
		39	0.87	1.22		PASS
		78	0.83	1.21		PASS



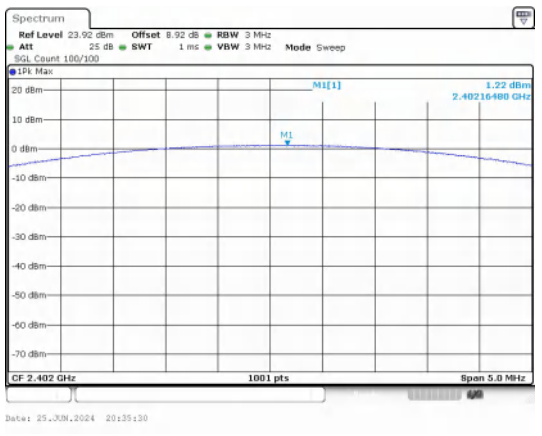
Peak Output Power
GFSK_Channel 0



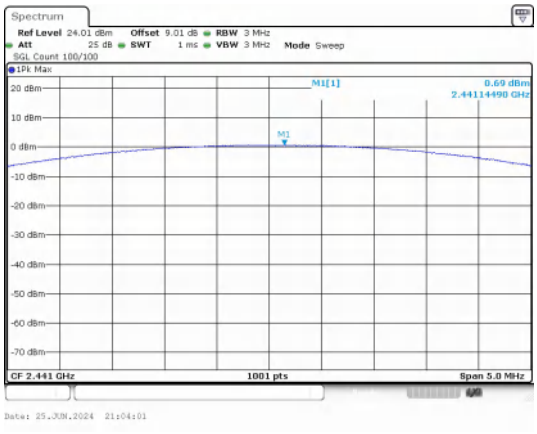
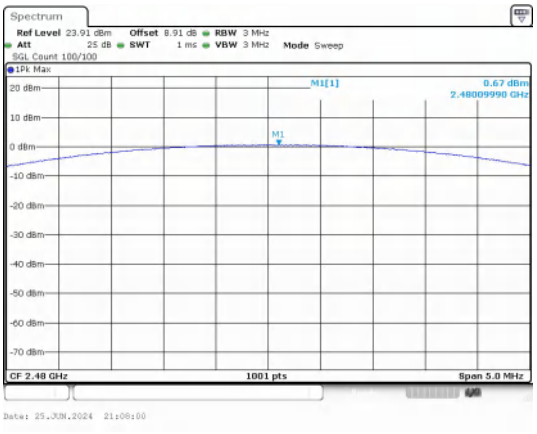
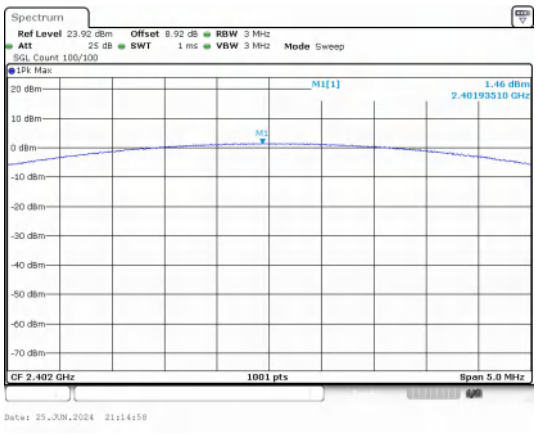
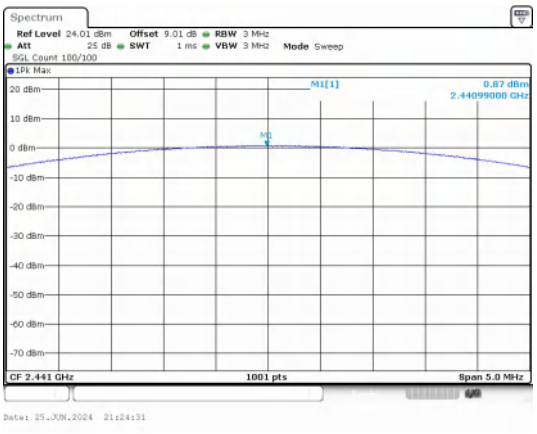
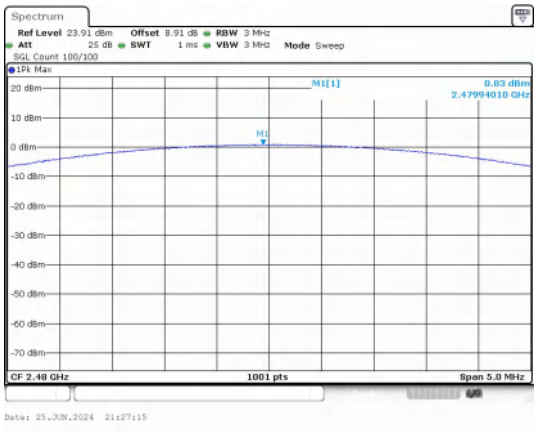
Peak Output Power
GFSK_Channel 39



Peak Output Power



Peak Output Power

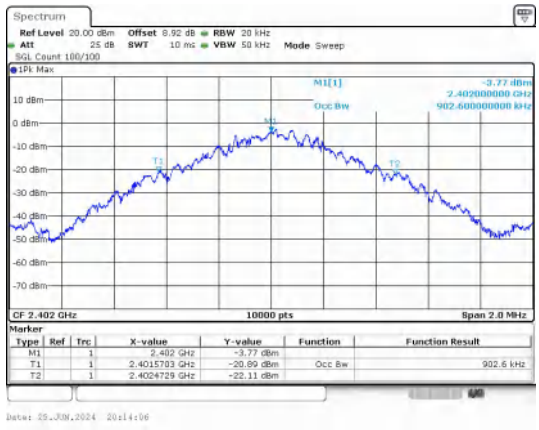
GFSK_Channel 78	π/4DQPSK_Channel 0
	
Peak Output Power **π/4DQPSK_Channel 39**	**Peak Output Power** **π/4DQPSK_Channel 78**
	
Peak Output Power **8DPSK_Channel 0**	**Peak Output Power** **8DPSK_Channel 39**
	
Peak Output Power **8DPSK_Channel 78**	

2) 99% Bandwidth

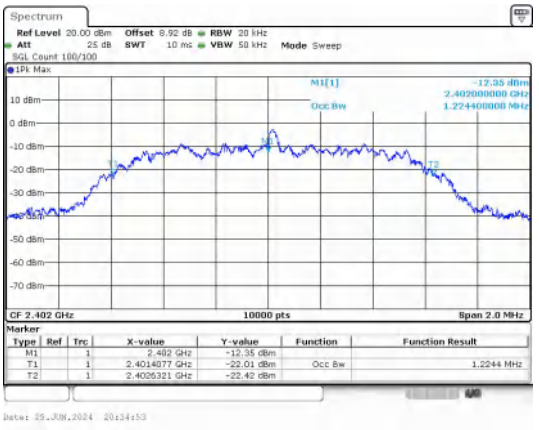
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.9026
	39	2441	0.9004
	78	2480	0.8866
π/4DQPSK	0	2402	1.2240
	39	2441	1.2058
	78	2480	1.2064
8DPSK	0	2402	1.2225
	39	2441	1.2126
	78	2480	1.2110

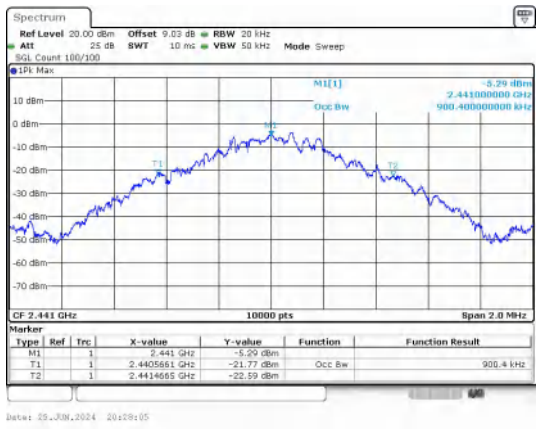
Test Graphs



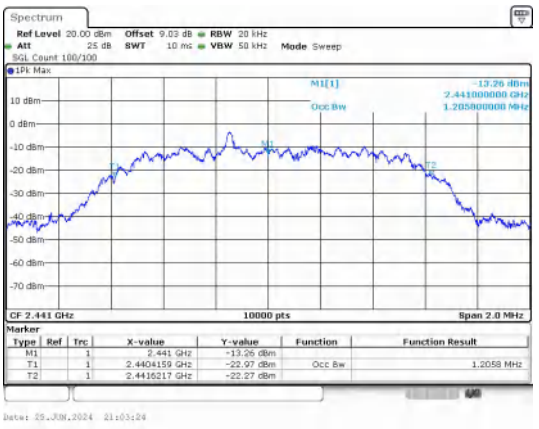
GFSK_DH5_Channel 0



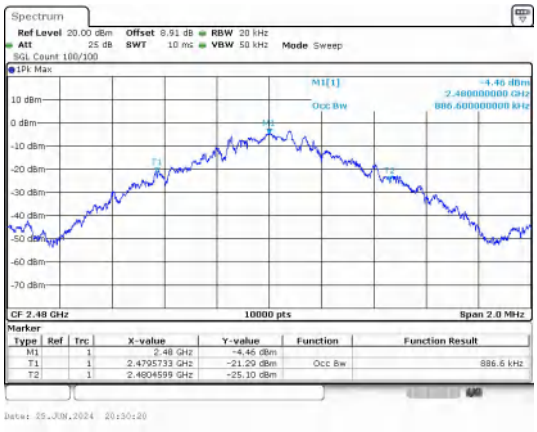
π/4DQPSK_2-DH5_Channel 0



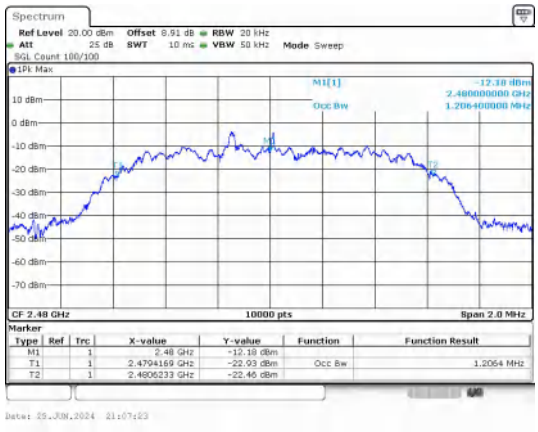
GFSK_DH5_Channel 39



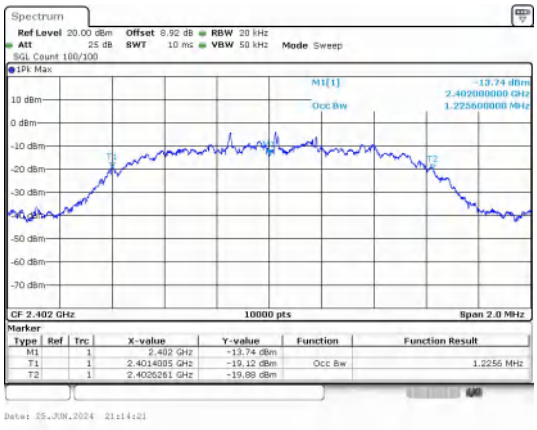
π/4DQPSK_2-DH5_Channel 39



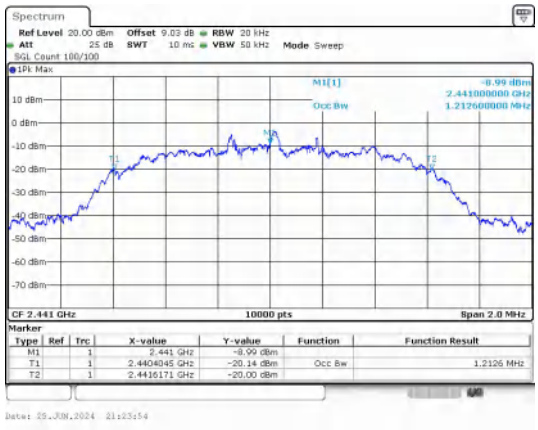
GFSK_DH5_Channel 78



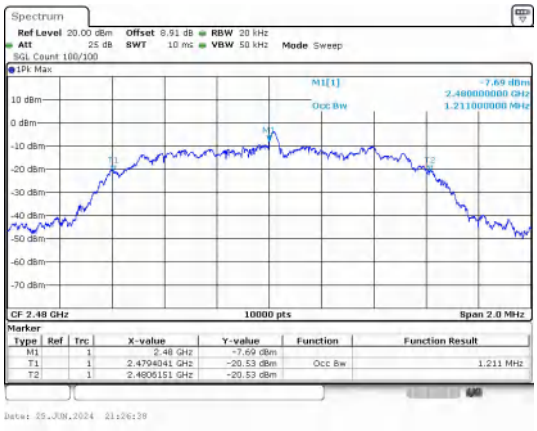
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



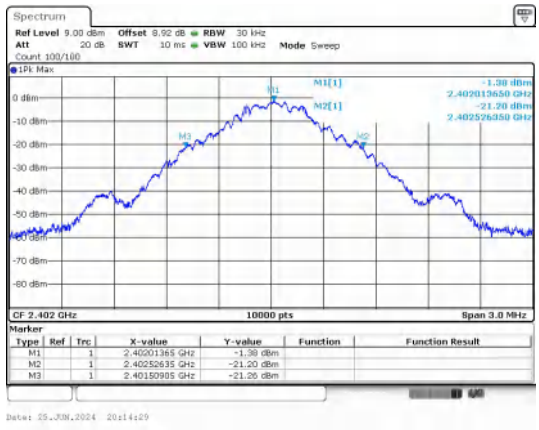
8DPSK_3-DH5_Channel 78

3) 20dB Bandwidth

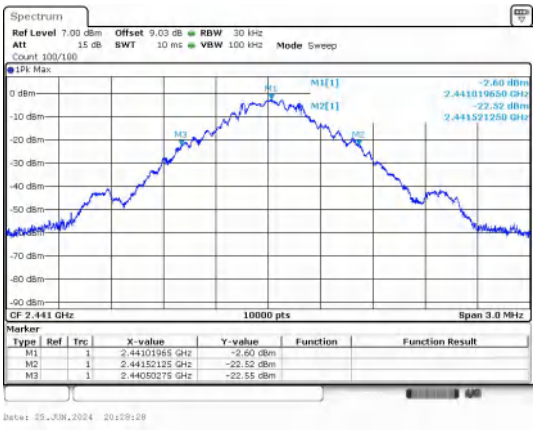
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.020
	39	2441 MHz	1.020
	78	2480 MHz	1.000
π/4DQPSK	0	2402 MHz	1.310
	39	2441 MHz	1.300
	78	2480 MHz	1.320
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.310
	78	2480 MHz	1.300

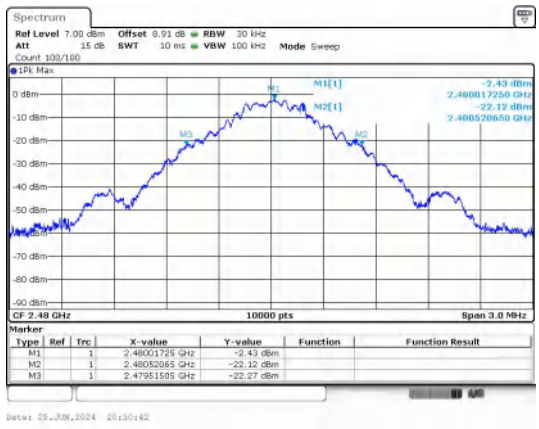
Test Graphs



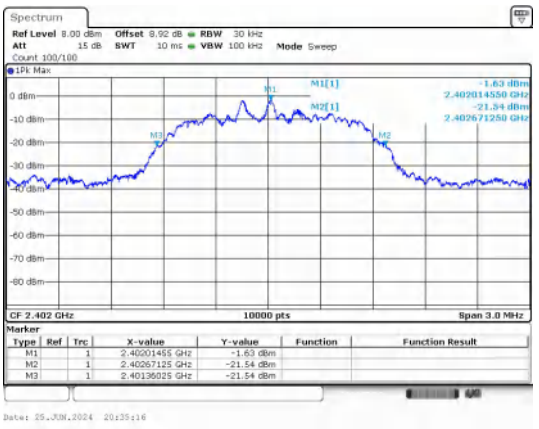
GFSK_DH5_Channel 0



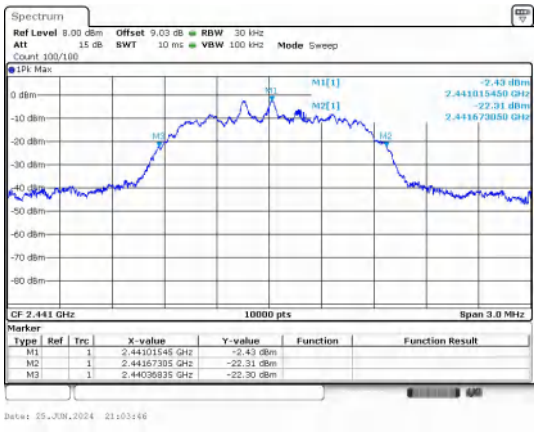
GFSK_DH5_Channel 39



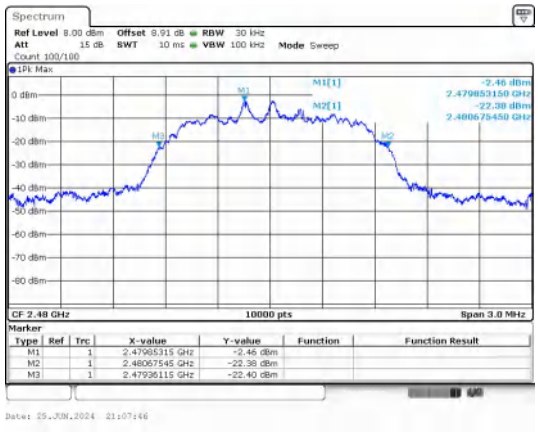
GFSK_DH5_Channel 78



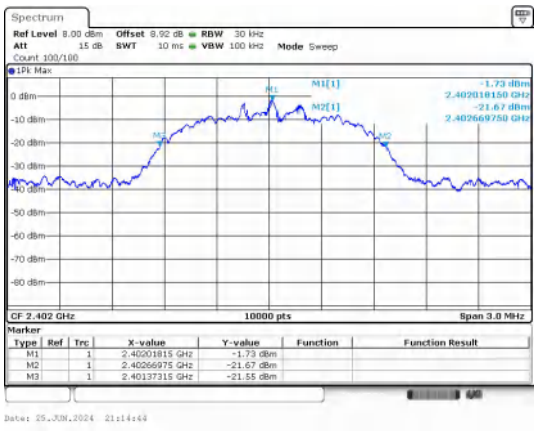
π/4DQPSK_2-DH5_Channel 0



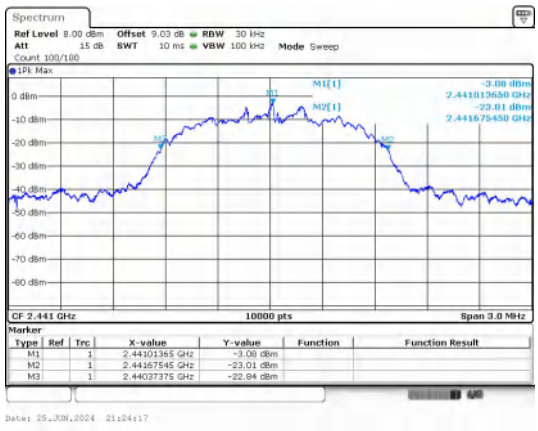
π/4DQPSK_2-DH5_Channel 39



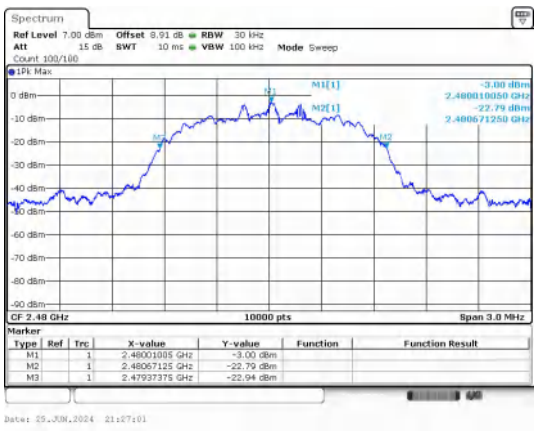
π/4DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



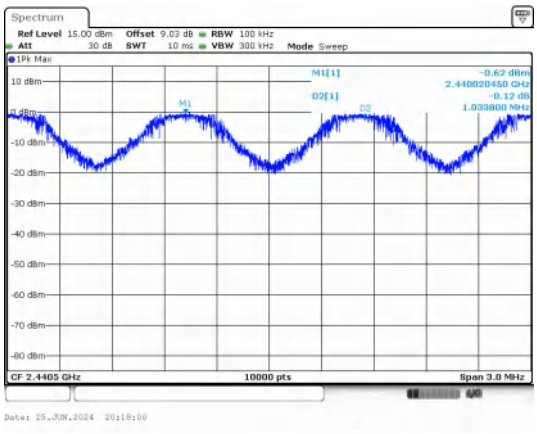
8DPSK_3-DH5_Channel 78

4) Carrier Frequencies Separation

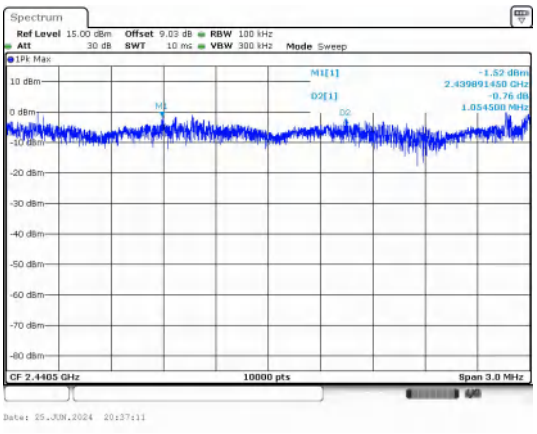
Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.0204	2441.0543	1.0338	1.02	PASS
π/4DQPSK	2-DH5	2439.8915	2440.9459	1.0545	0.873	PASS
8DPSK	3-DH5	2439.9538	2441.0239	1.0701	0.867	PASS

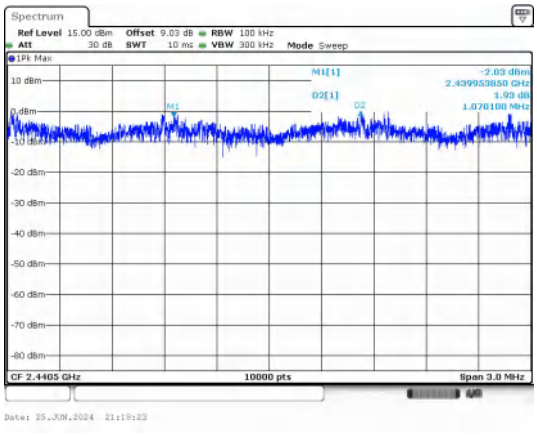
Test Graphs



GFSK



π/4DQPSK



8DPSK

5) Conducted Out Of Band Emission

Test Result

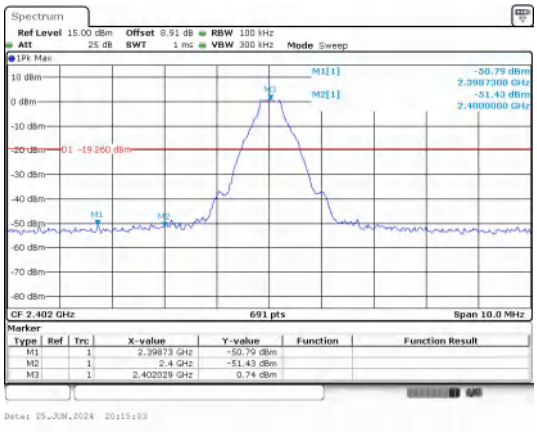
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2398.73	-50.785	-19.26	-31.525	PASS
			2400.00	-51.433	-19.26	-32.173	PASS
			7206.00	-43.261	-19.26	-24.001	PASS
		39	9764.55	-43.354	-20.08	-23.274	PASS
		78	2483.50	-53.712	-20.09	-33.622	PASS
			9920.20	-40.551	-20.09	-20.461	PASS
π/4DQPSK	2-DH5	0	2400.00	-47.897	-19.47	-28.427	PASS
			7205.96	-44.356	-19.47	-24.886	PASS
		39	9763.72	-42.317	-20.12	-22.197	PASS
		78	2483.50	-52.818	-20.15	-32.668	PASS
			9920.20	-40.901	-20.15	-20.751	PASS
8DPSK	3-DH5	0	2400.00	-48.726	-19.45	-29.276	PASS
			5172.57	-45.098	-19.45	-25.648	PASS
		39	9763.72	-42.655	-20.5	-22.155	PASS
		78	2483.50	-52.560	-20.51	-32.050	PASS
			9920.20	-40.961	-20.51	-20.451	PASS

Hopping

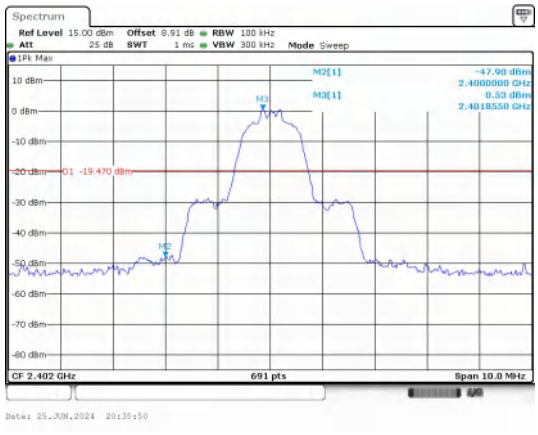
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2396.35	-50.296	-19.4	-30.896	PASS
			2400.00	-51.492	-19.4	-32.092	PASS
			2483.50	-51.105	-20.09	-31.015	PASS
			2395.15	-50.759	-19.25	-31.509	PASS
			2400.00	-50.775	-19.25	-31.525	PASS
			2483.50	-52.212	-20.14	-32.072	PASS
π/4DQPSK	2-DH5		2400.00	-47.340	-19.14	-28.200	PASS
			2483.50	-52.405	-21.15	-31.255	PASS
			2400.00	-50.554	-19.53	-31.024	PASS
			2483.50	-50.920	-20.64	-30.280	PASS
8DPSK	3-DH5		2397.44	-50.760	-19.66	-31.100	PASS
			2400.00	-51.359	-19.66	-31.699	PASS
			2483.50	-52.443	-20.24	-32.203	PASS
			2395.05	-50.727	-19.45	-31.277	PASS
			2400.00	-52.474	-19.45	-33.024	PASS
			2483.50	-52.858	-20.56	-32.298	PASS

Test Graphs



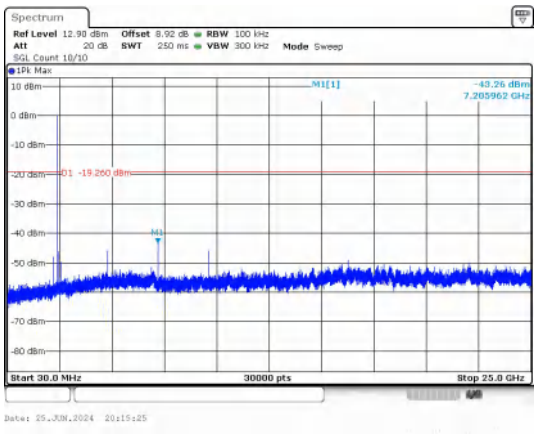
Out Of Band Emission

GFSK_DH5_Channel 0



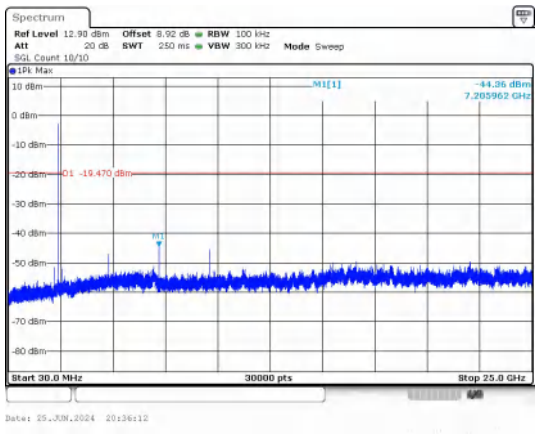
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 0



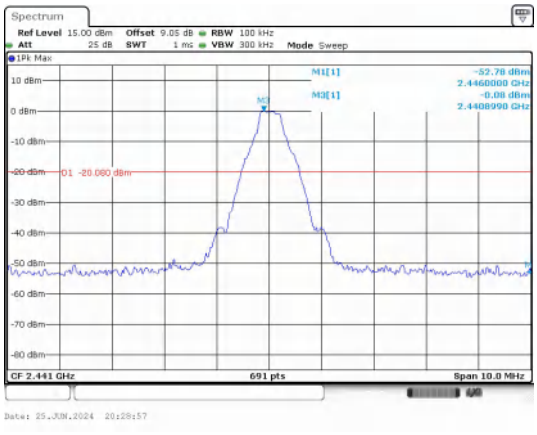
30.0 MHz - 25000.0 MHz

GFSK_DH5_Channel 0



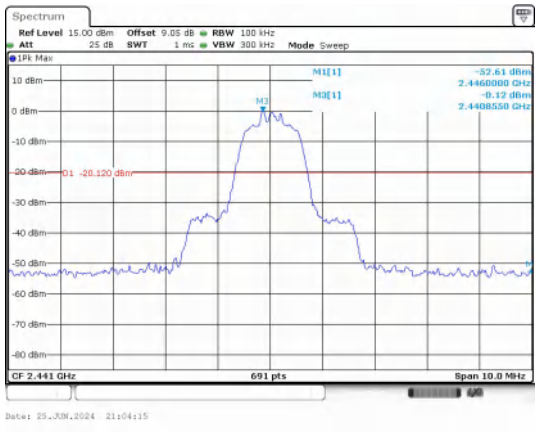
30.0 MHz - 25000.0 MHz

π/4DQPSK_2-DH5_Channel 0



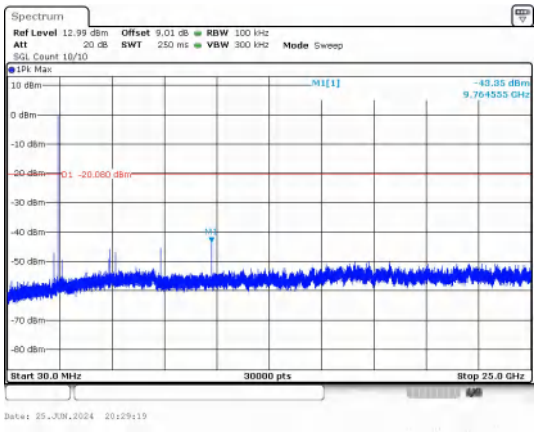
Out Of Band Emission

GFSK_DH5_Channel 39



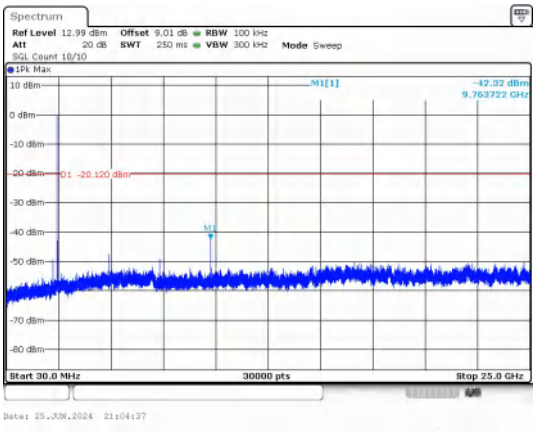
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 39



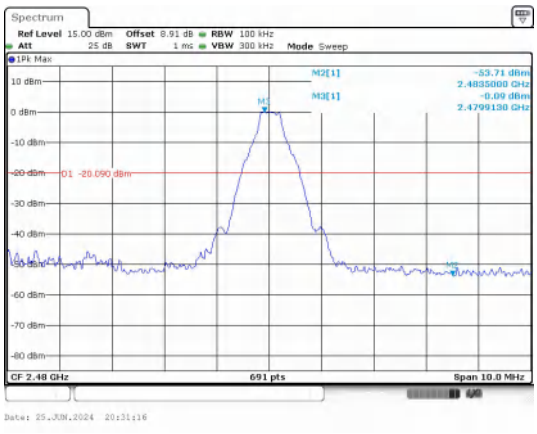
30.0 MHz - 25000.0 MHz

GFSK_DH5_Channel 39



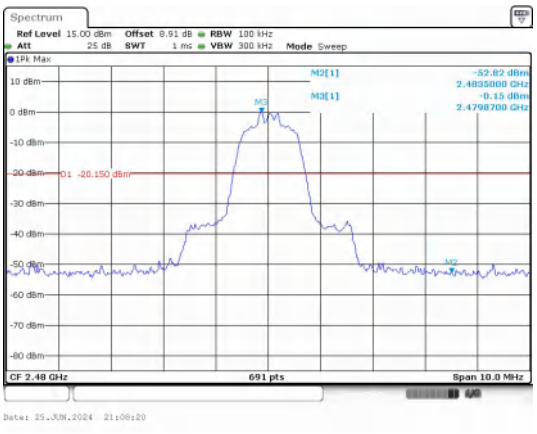
30.0 MHz - 25000.0 MHz

π/4DQPSK_2-DH5_Channel 39



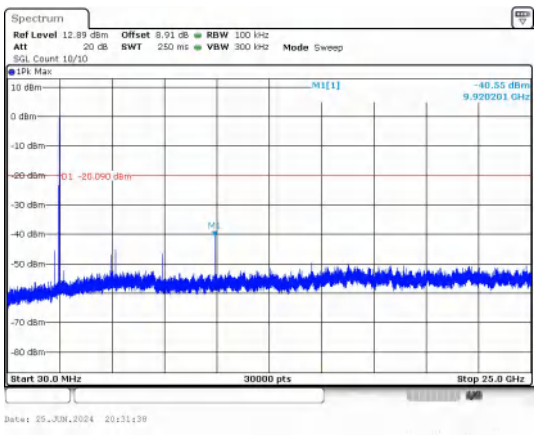
Out Of Band Emission

GFSK_DH5_Channel 78



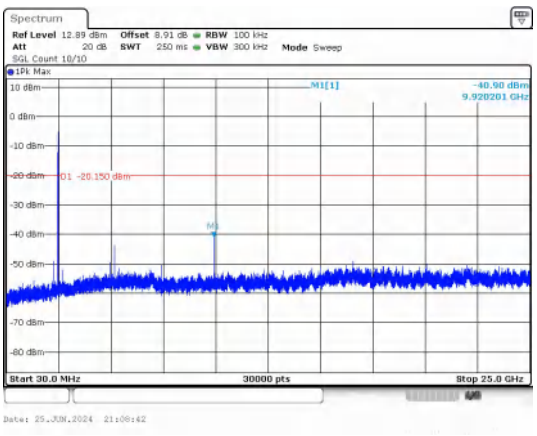
Out Of Band Emission

π/4DQPSK_2-DH5_Channel 78



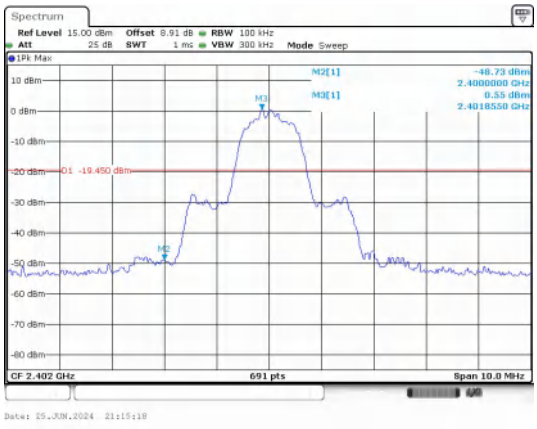
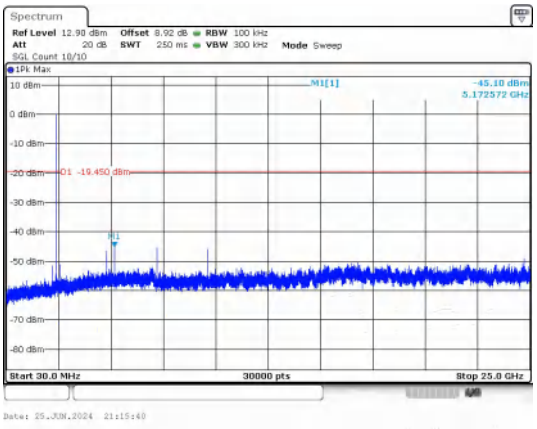
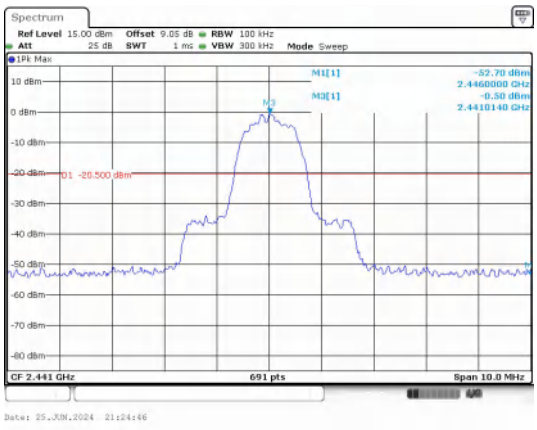
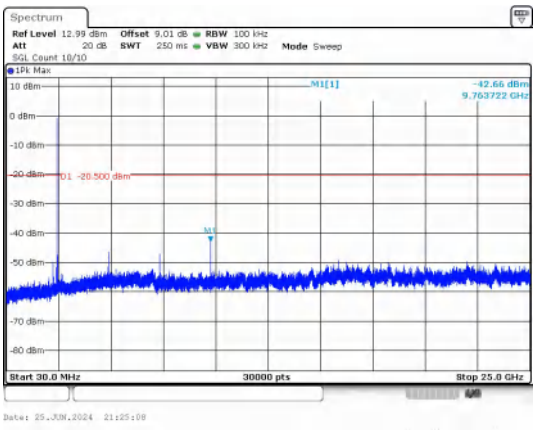
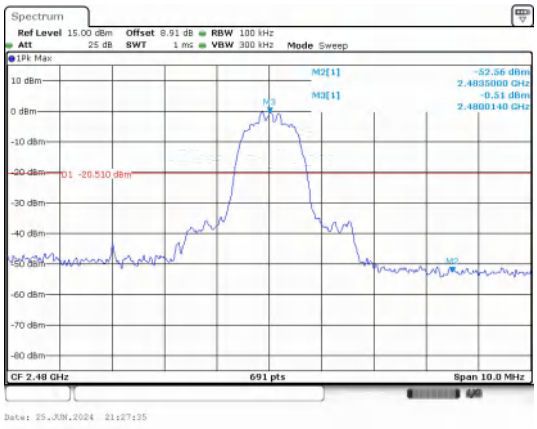
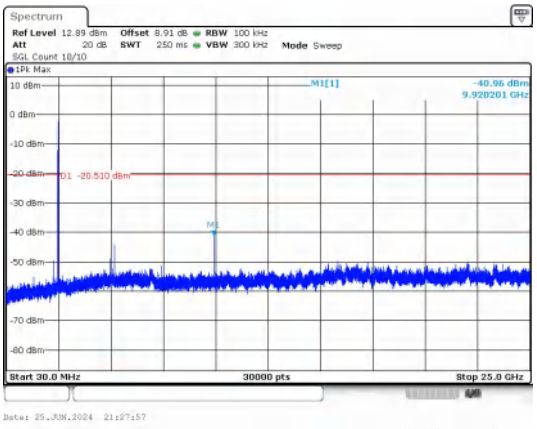
30.0 MHz - 25000.0 MHz

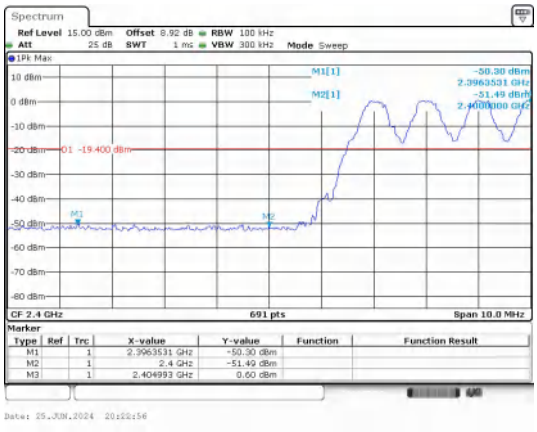
GFSK_DH5_Channel 78



30.0 MHz - 25000.0 MHz

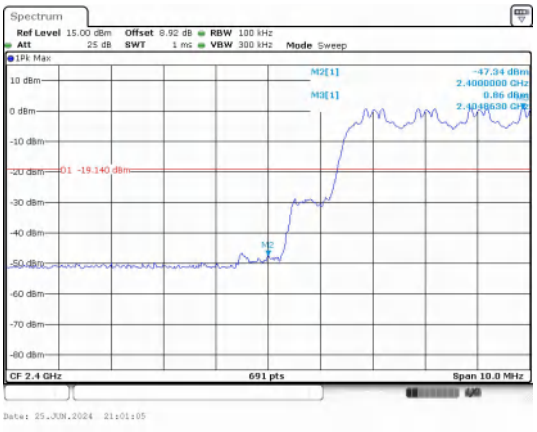
π/4DQPSK_2-DH5_Channel 78

	
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**



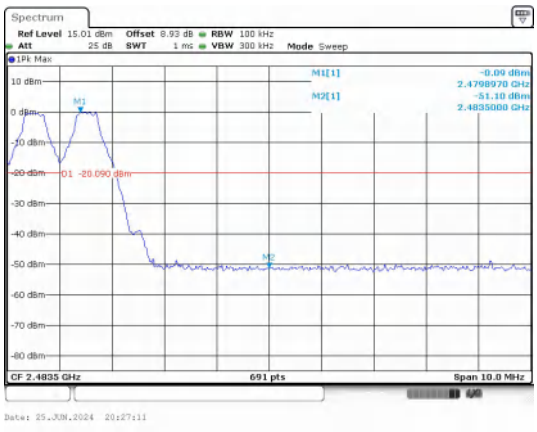
Out Of Band Emission(Left)

GFSK_DH5_Channel Hopping



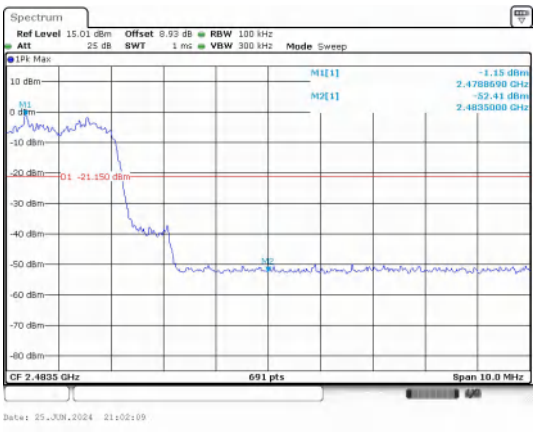
Out Of Band Emission(Left)

π/4DQPSK_2-DH5_Channel Hopping



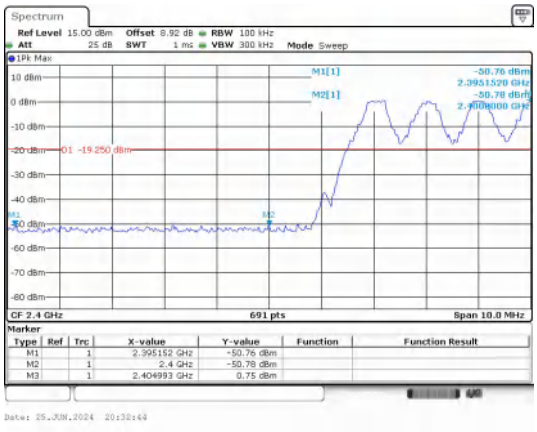
Out Of Band Emission(Right)

GFSK_DH5_Channel Hopping



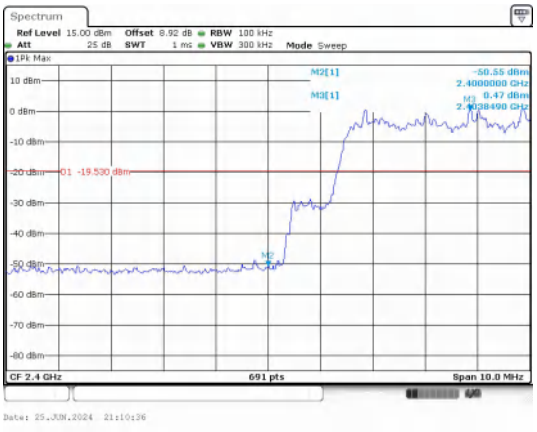
Out Of Band Emission(Right)

π/4DQPSK_2-DH5_Channel Hopping



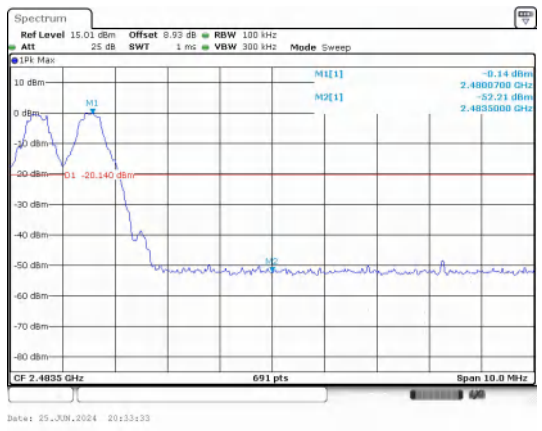
Out Of Band Emission(Left)

GFSK_DH5_Channel Hopping



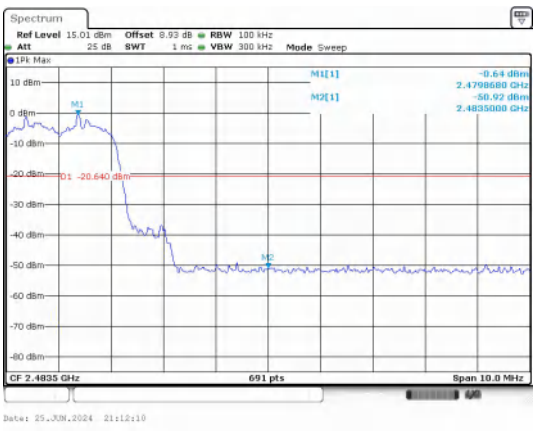
Out Of Band Emission(Left)

π/4DQPSK_2-DH5_Channel Hopping



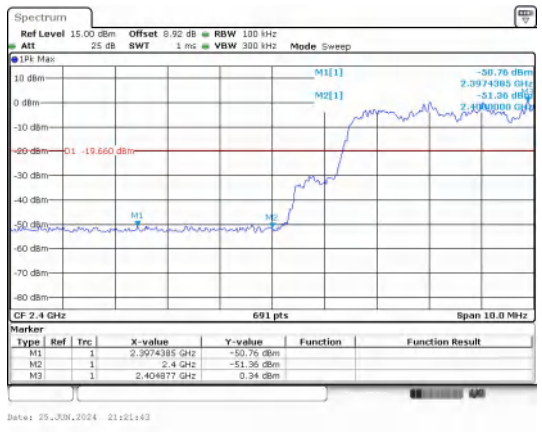
Out Of Band Emission(Right)

GFSK_DH5_Channel Hopping



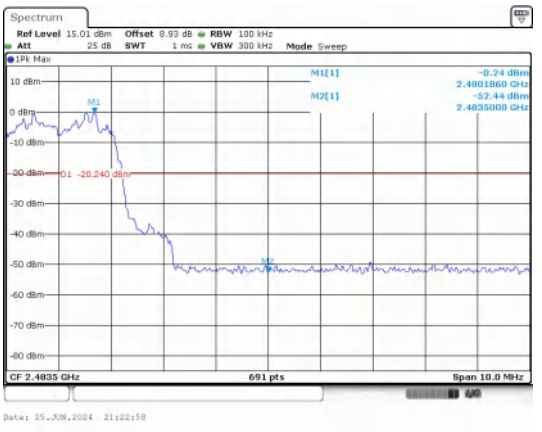
Out Of Band Emission(Right)

π/4DQPSK_2-DH5_Channel Hopping



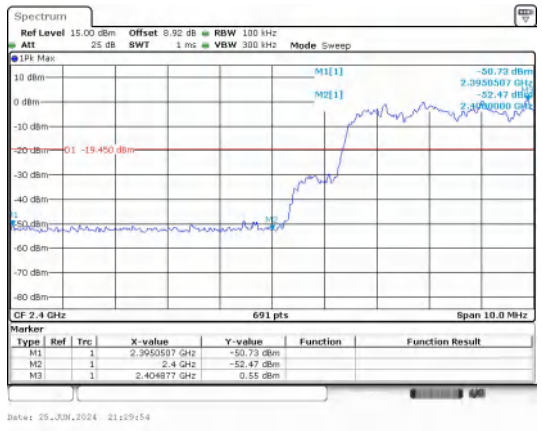
Out Of Band Emission(Left)

8DPSK_3-DH5_Channel Hopping



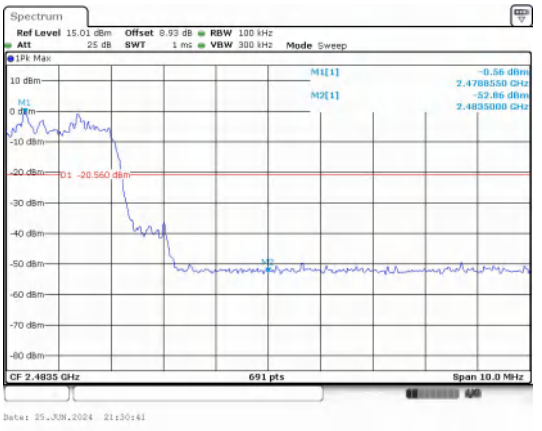
Out Of Band Emission(Right)

8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Left)

8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Right)

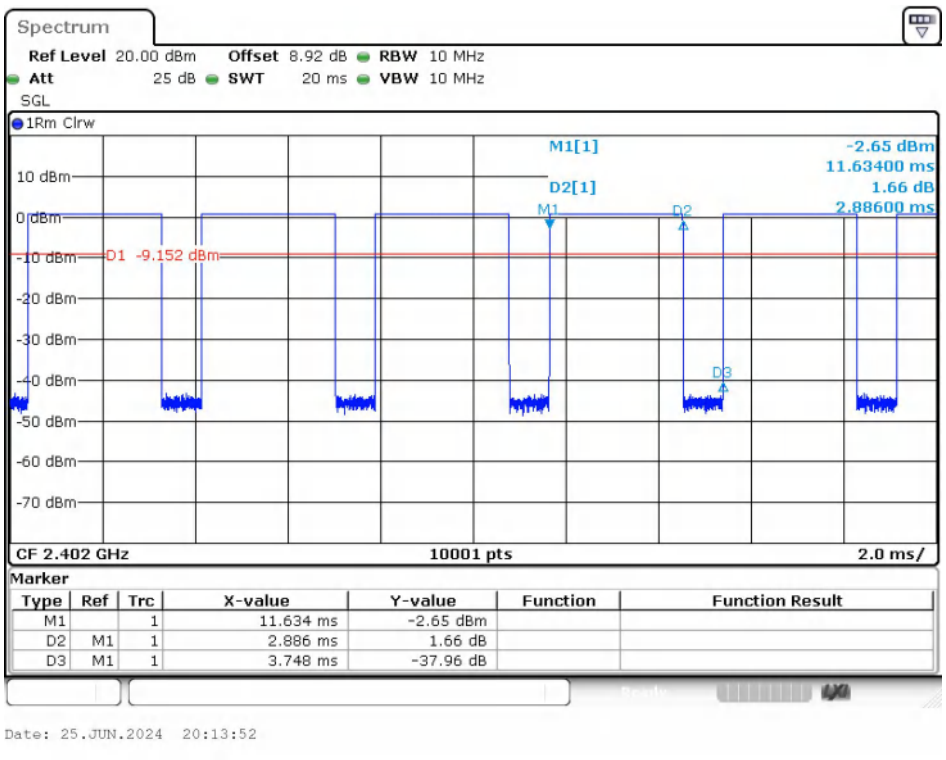
8DPSK_3-DH5_Channel Hopping

6) Duty Cycle

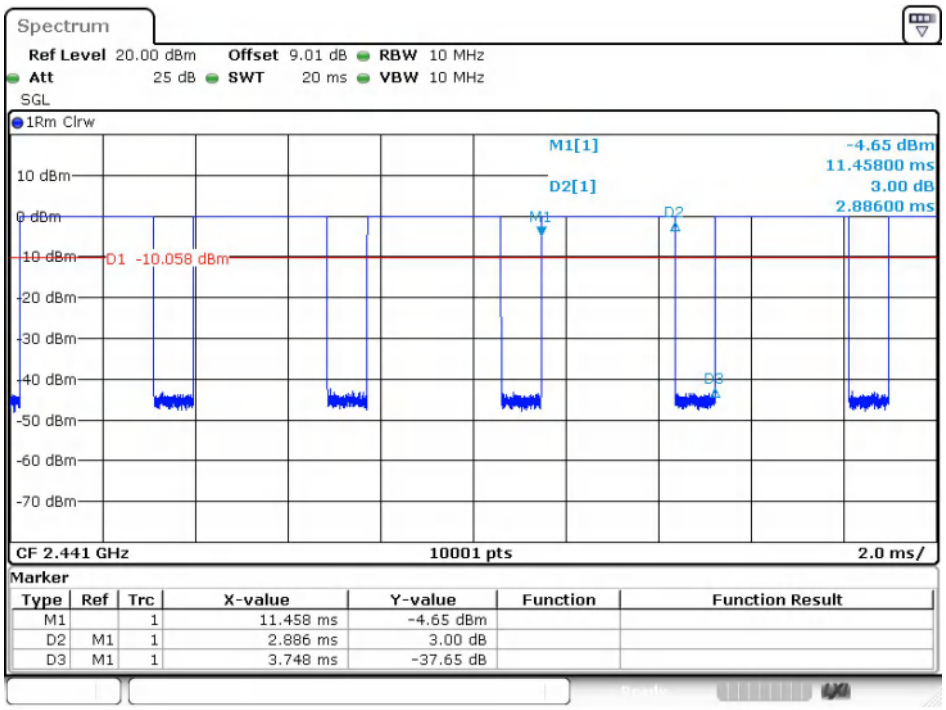
Test Result

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	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	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.892	3.748	77.16	0.7716	1.1261	0.35
8DPSK	3-DH5	0	2.894	3.748	77.21	0.7721	1.1233	0.35
		39	2.894	3.748	77.21	0.7721	1.1233	0.35
		78	2.892	3.748	77.16	0.7716	1.1261	0.35

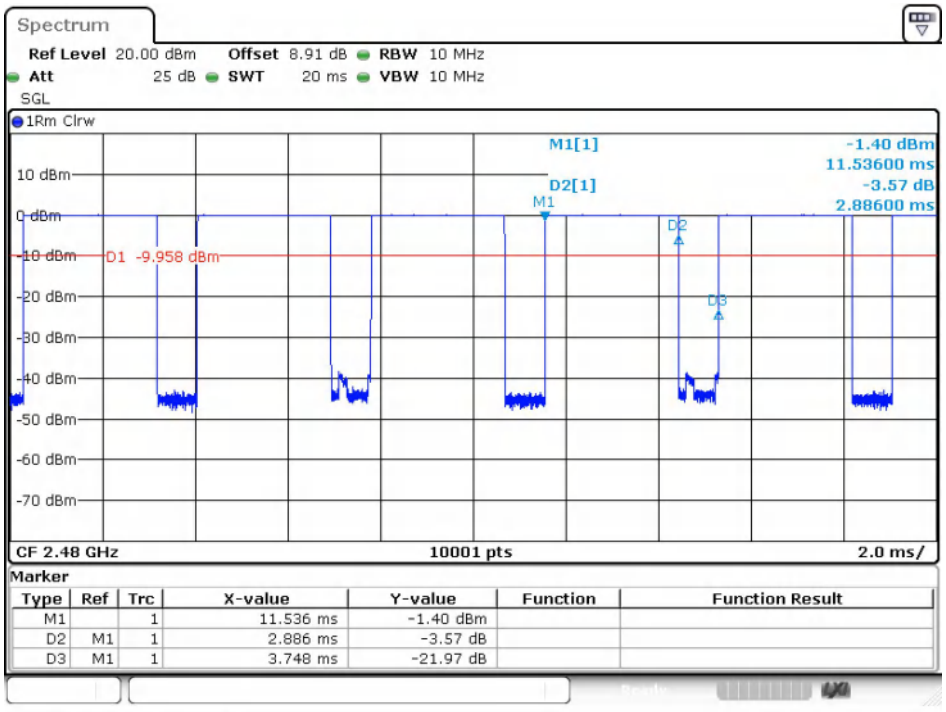
Test Graphs



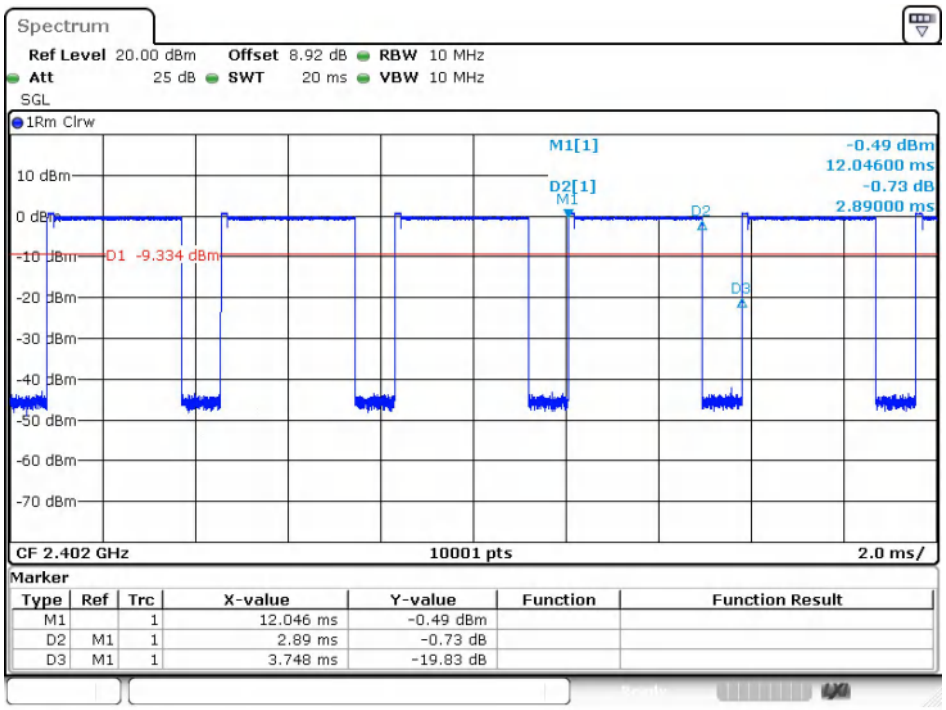
GFSK(DH5)_Channel 0



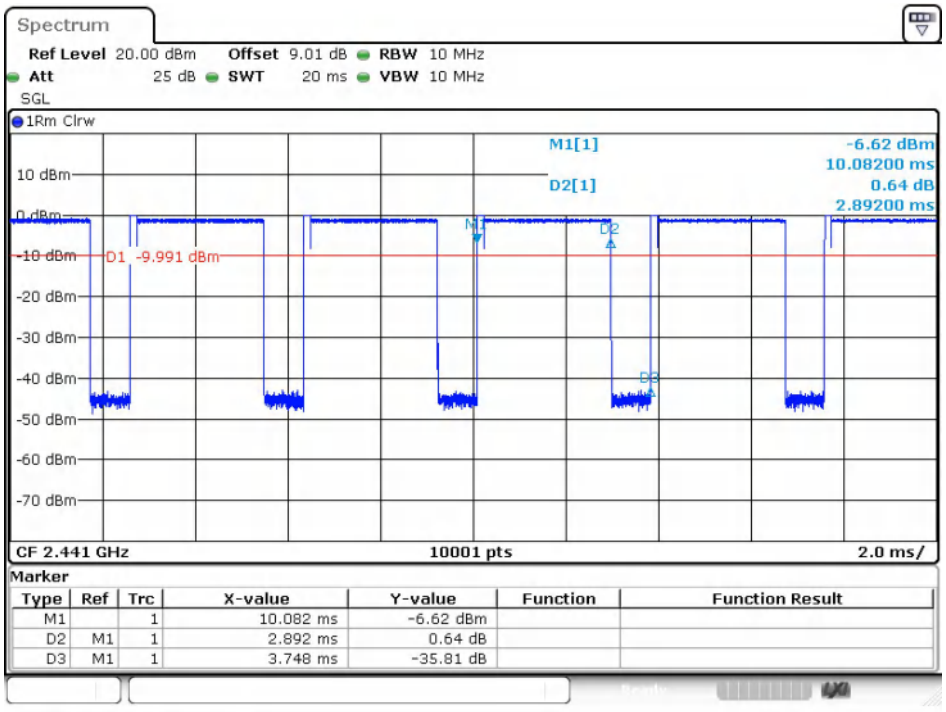
GFSK(DH5)_Channel 39



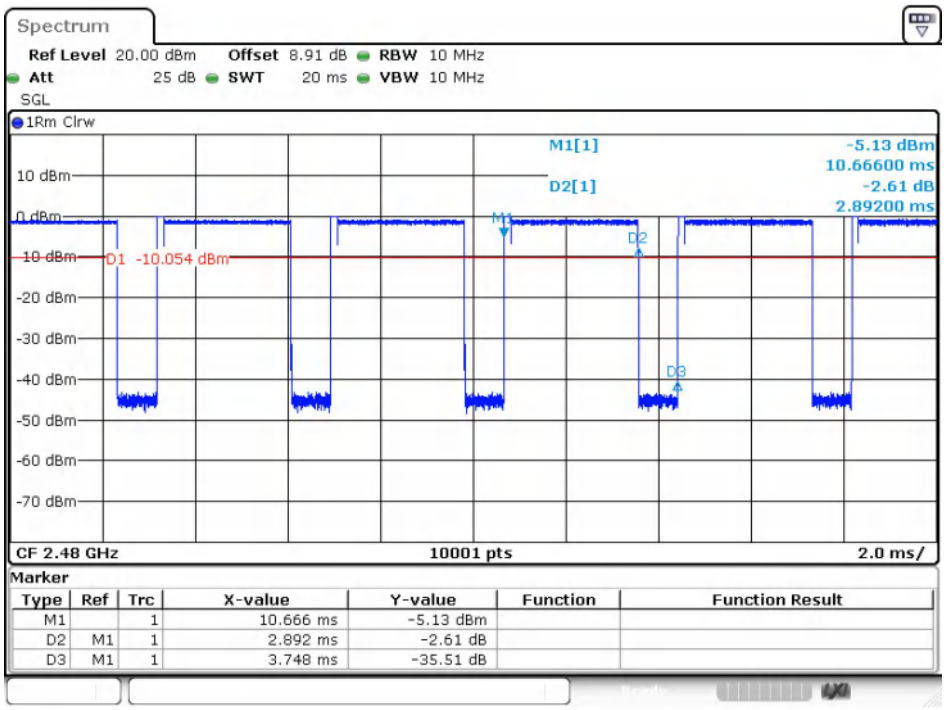
GFSK(DH5)_Channel 78



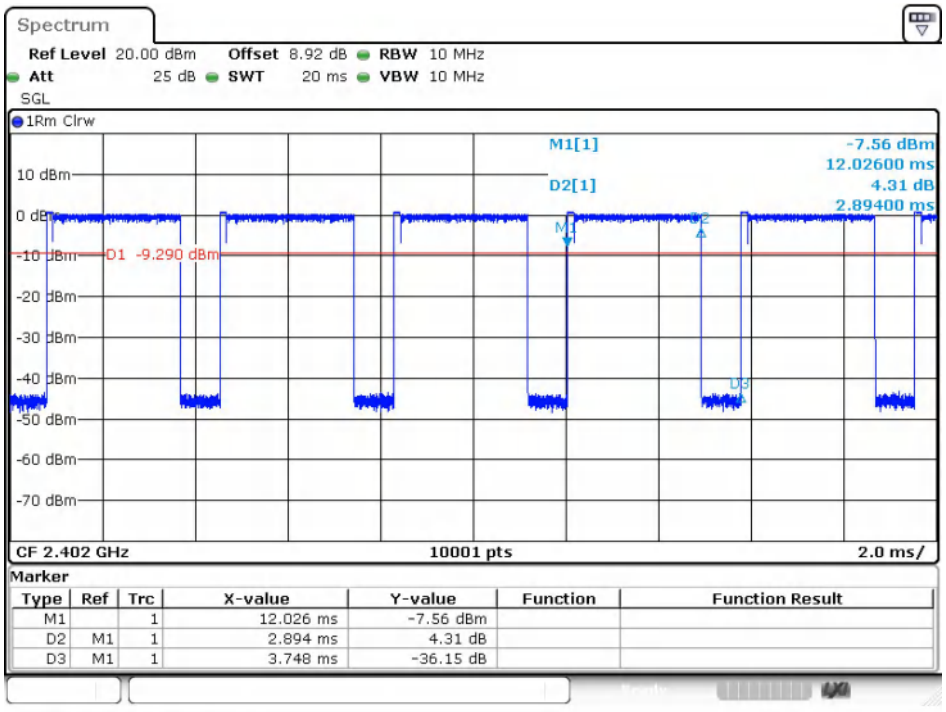
π/4DQPSK(2-DH5)_Channel 0



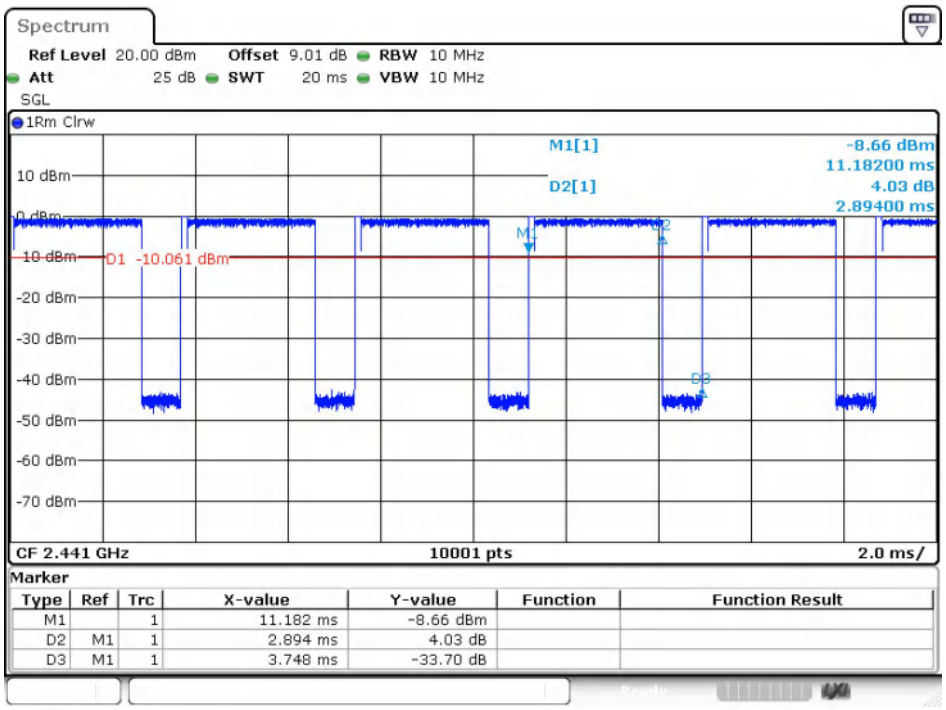
π/4DQPSK(2-DH5)_Channel 39



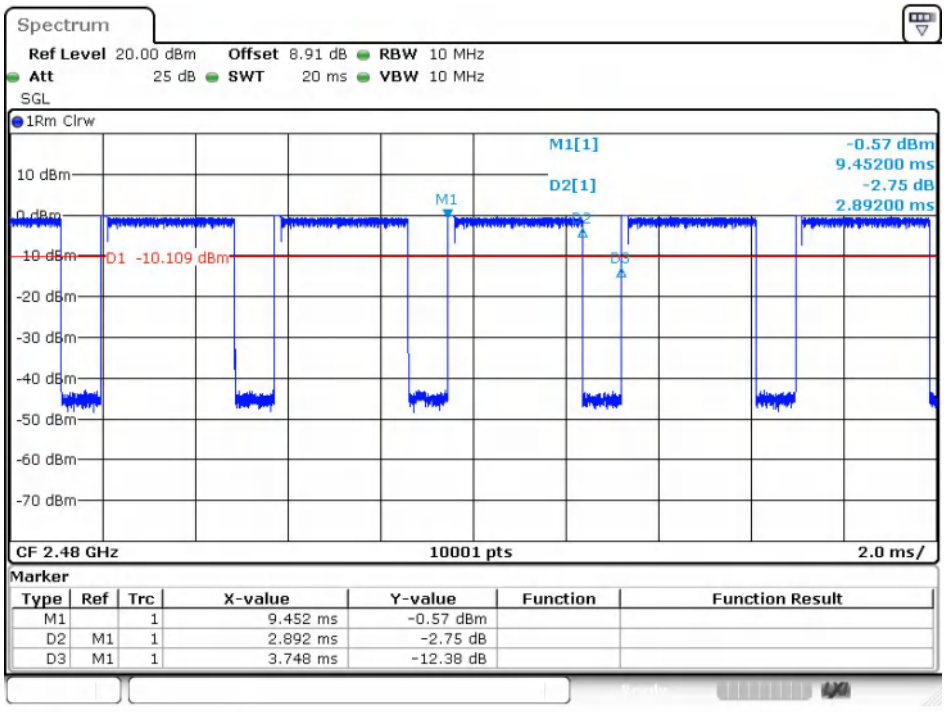
π/4DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



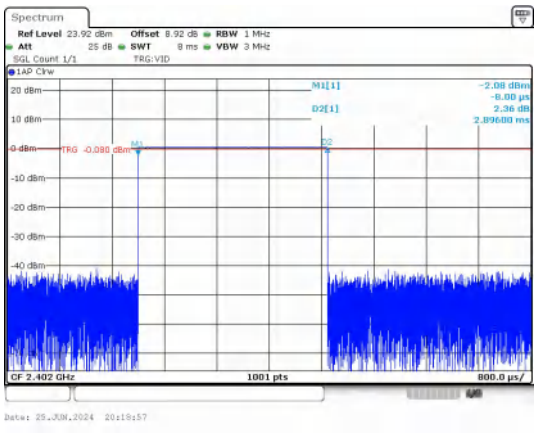
8DPSK(3-DH5)_Channel 78

7) Dwell Time

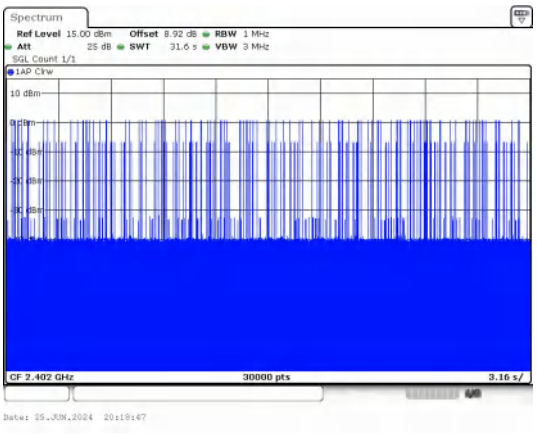
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.896	111	321.46	< 400	PASS
π/4DQPSK	2-DH5		2.896	105	304.08		PASS
8DPSK	3-DH5		2.896	109	315.66		PASS

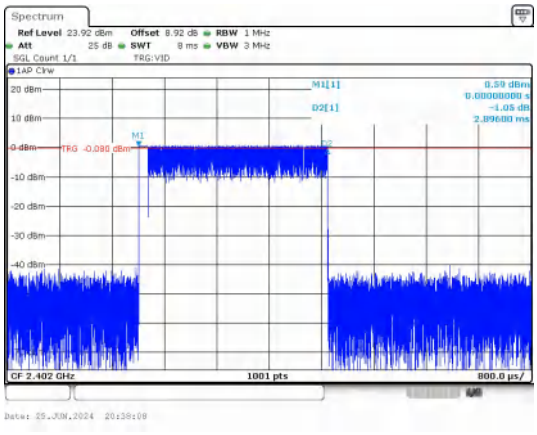
Test Graphs



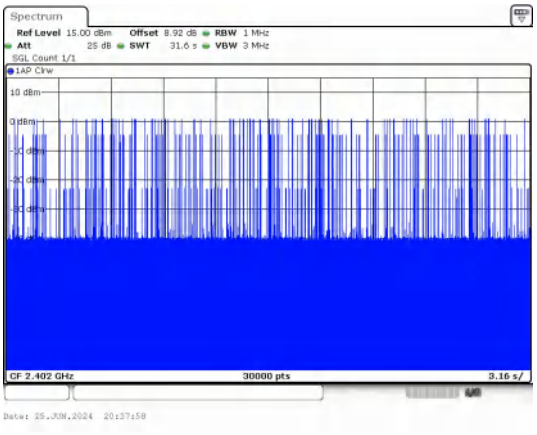
Pulse Width
GFSK_DH5



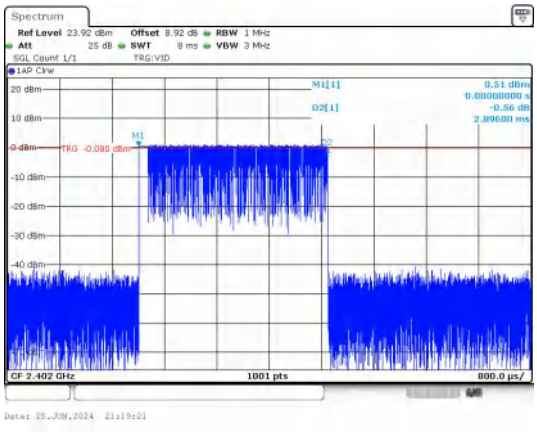
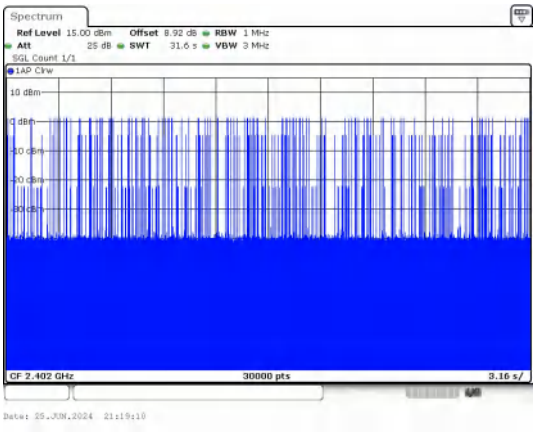
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
π/4DQPSK_2-DH5



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

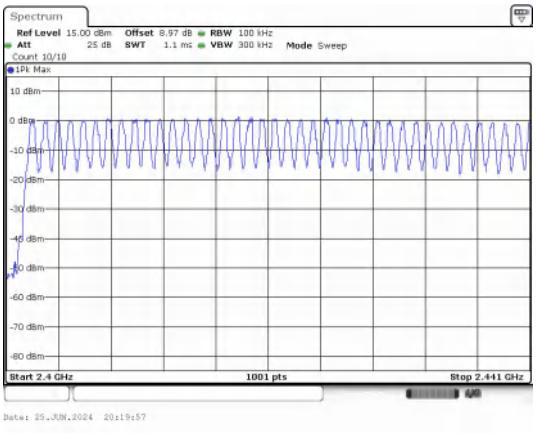
	
Pulse Width **8DPSK_3-DH5**	**Number of Pulses in 31.6 seconds** **8DPSK_3-DH5**

8) Number Of Hopping Channel

Test Result

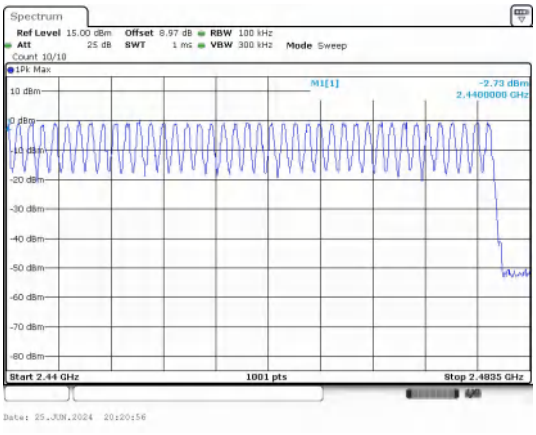
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
π/4DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs



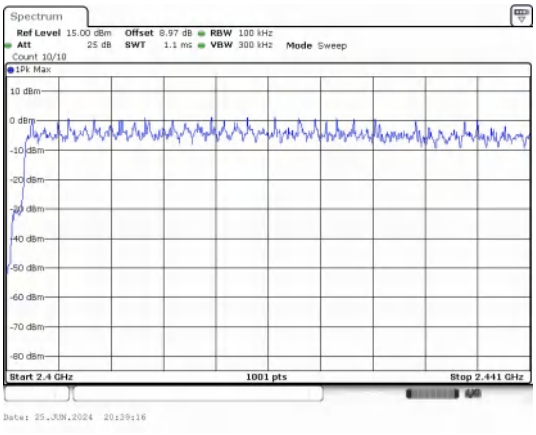
Low End Spectrum Channel Hopping Plot

GFSK



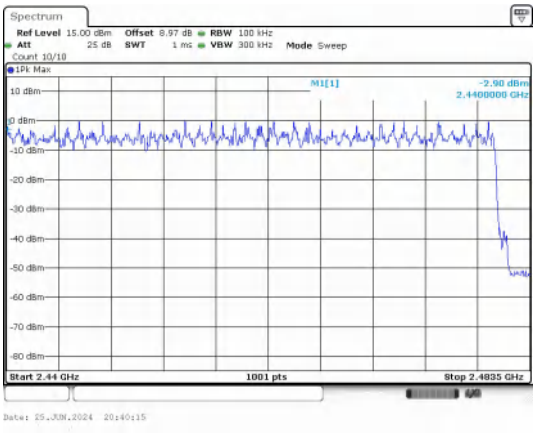
High End Spectrum Channel Hopping Plot

GFSK



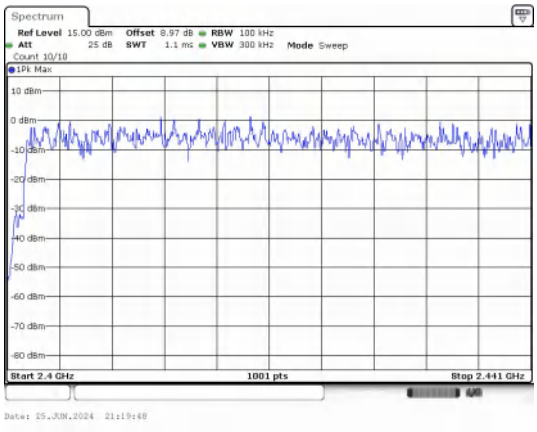
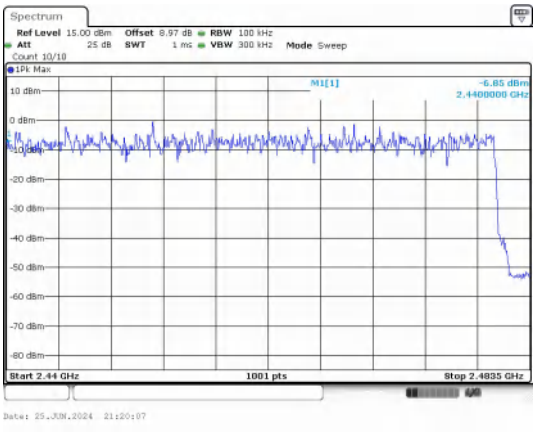
Low End Spectrum Channel Hopping Plot

π/4DQPSK



High End Spectrum Channel Hopping Plot

π/4DQPSK

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