

Appendix A

Report No.:	CISRR24013016801
FCC ID:	2A3VP-Q36
Product Name:	Wireless gamepad
Model No.:	Q36
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Conducted Peak Output Power

Test Result

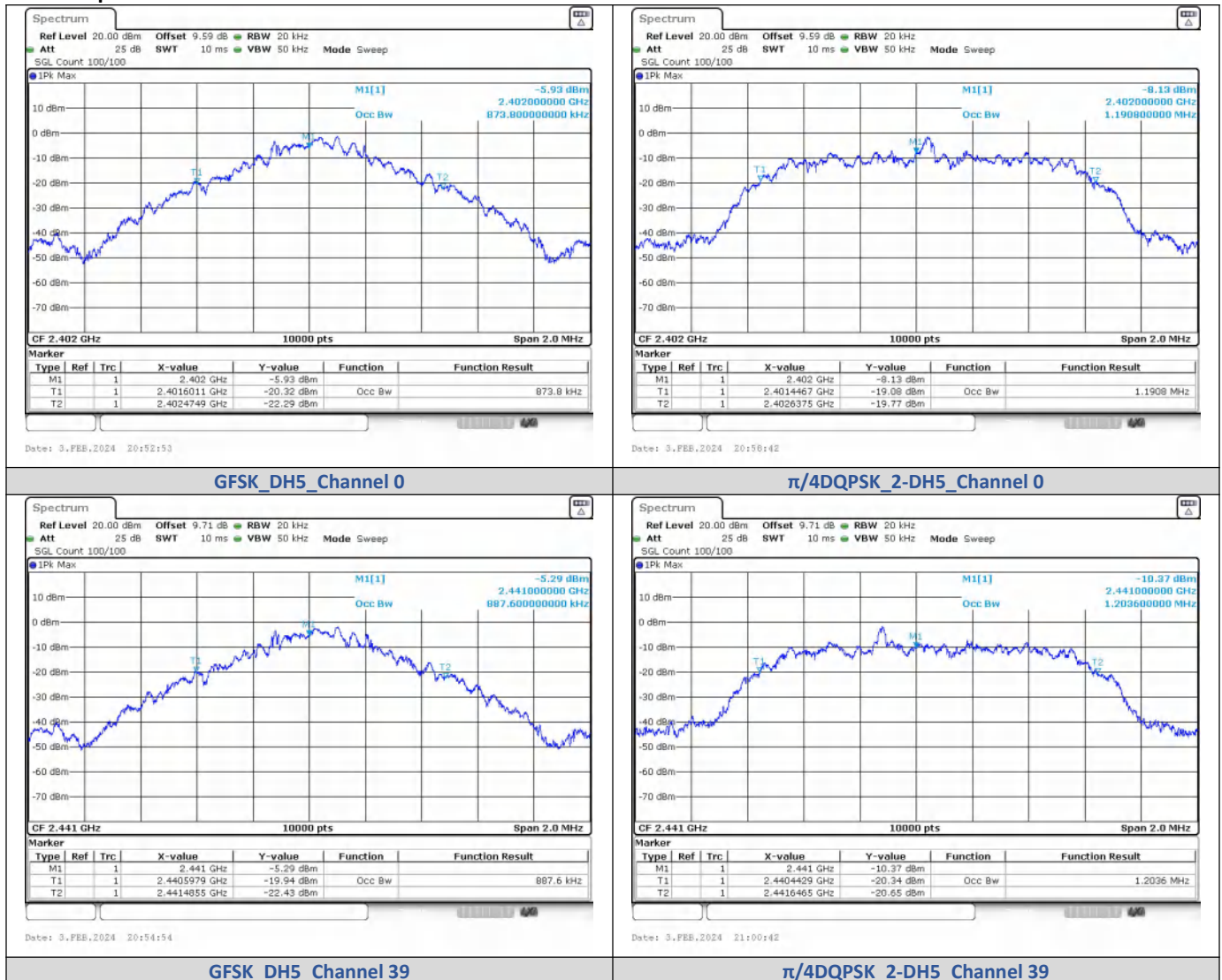
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	2.166	1.647	30	PASS
		39	1.983	1.579		PASS
		78	1.571	1.436		PASS
$\pi/4$ DQPSK	2-DH5	0	2.997	1.994	20.97	PASS
		39	2.766	1.890		PASS
		78	2.301	1.698		PASS
8DPSK	3-DH5	0	3.326	2.151		PASS
		39	3.115	2.049		PASS
		78	2.656	1.843		PASS

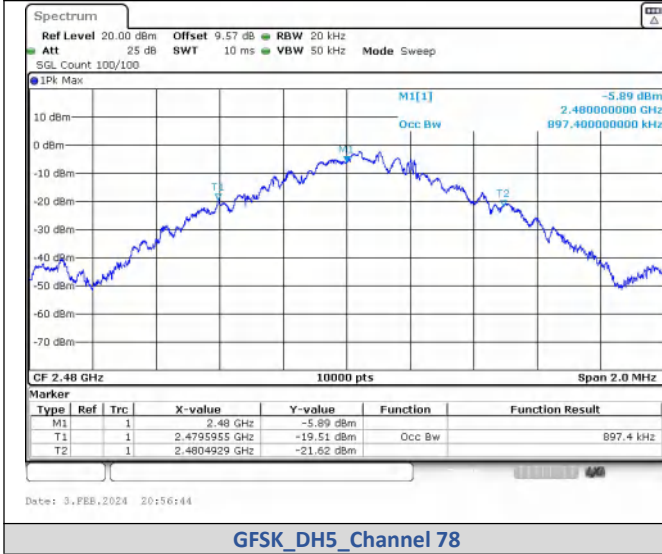
2) 99% Bandwidth

Test Result

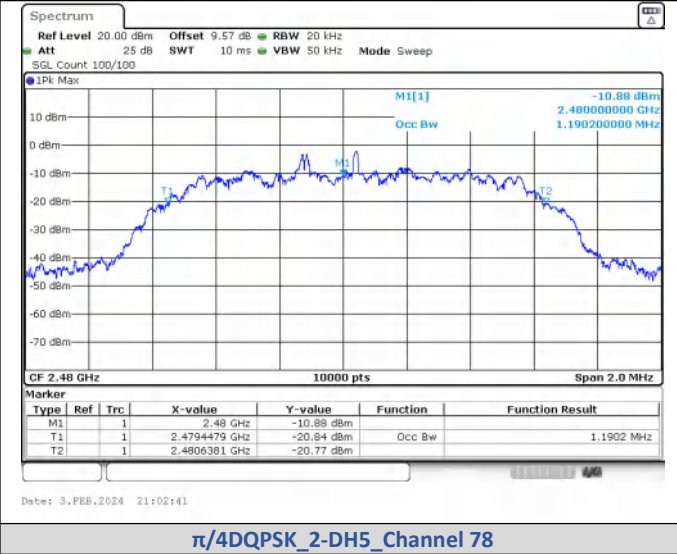
Modulation	Channel	99% BW (MHz)
GFSK	0	0.87380
	39	0.88760
	78	0.89740
$\pi/4$ DQPSK	0	1.1910
	39	1.2040
	78	1.1900
8DPSK	0	1.1890
	39	1.2050
	78	1.2110

Test Graphs

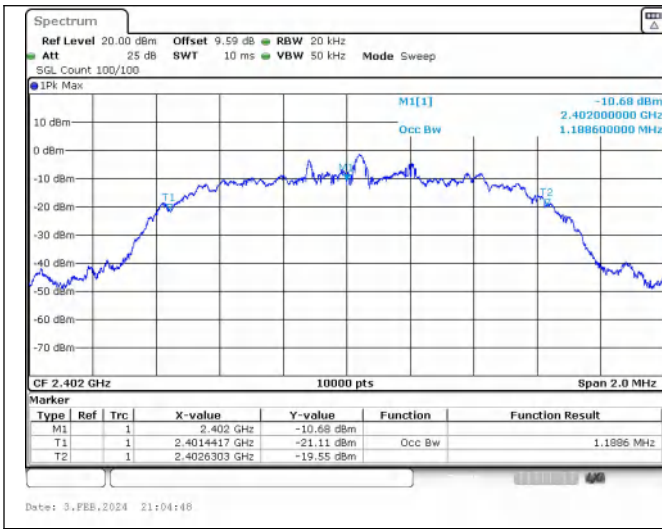




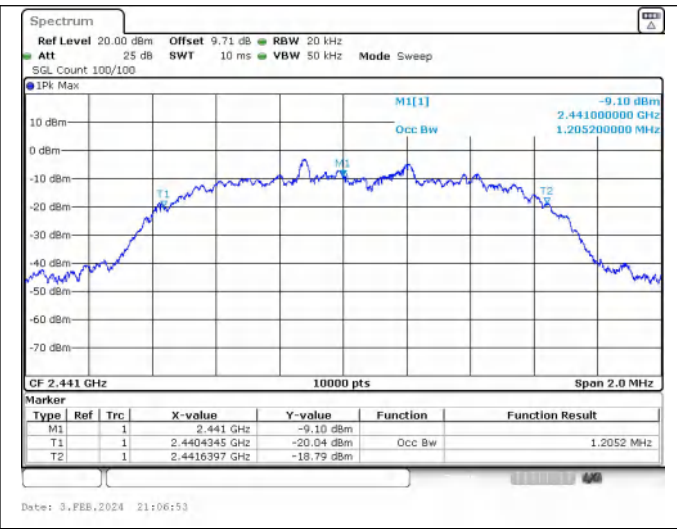
GFSK_DH5_Channel 78



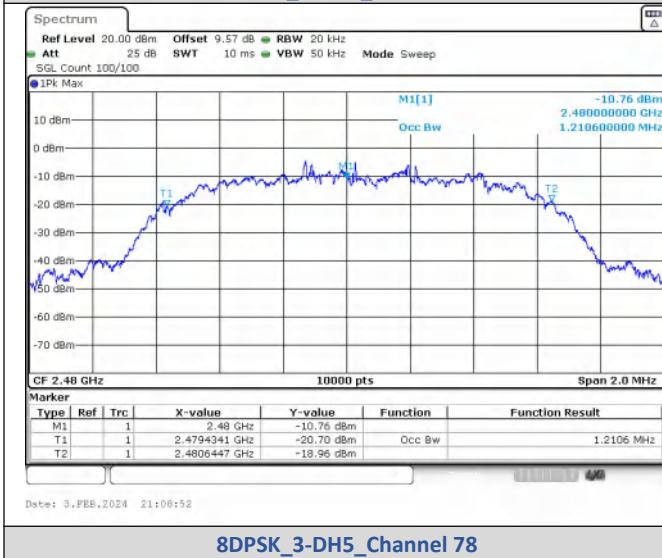
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



8DPSK_3-DH5_Channel 78

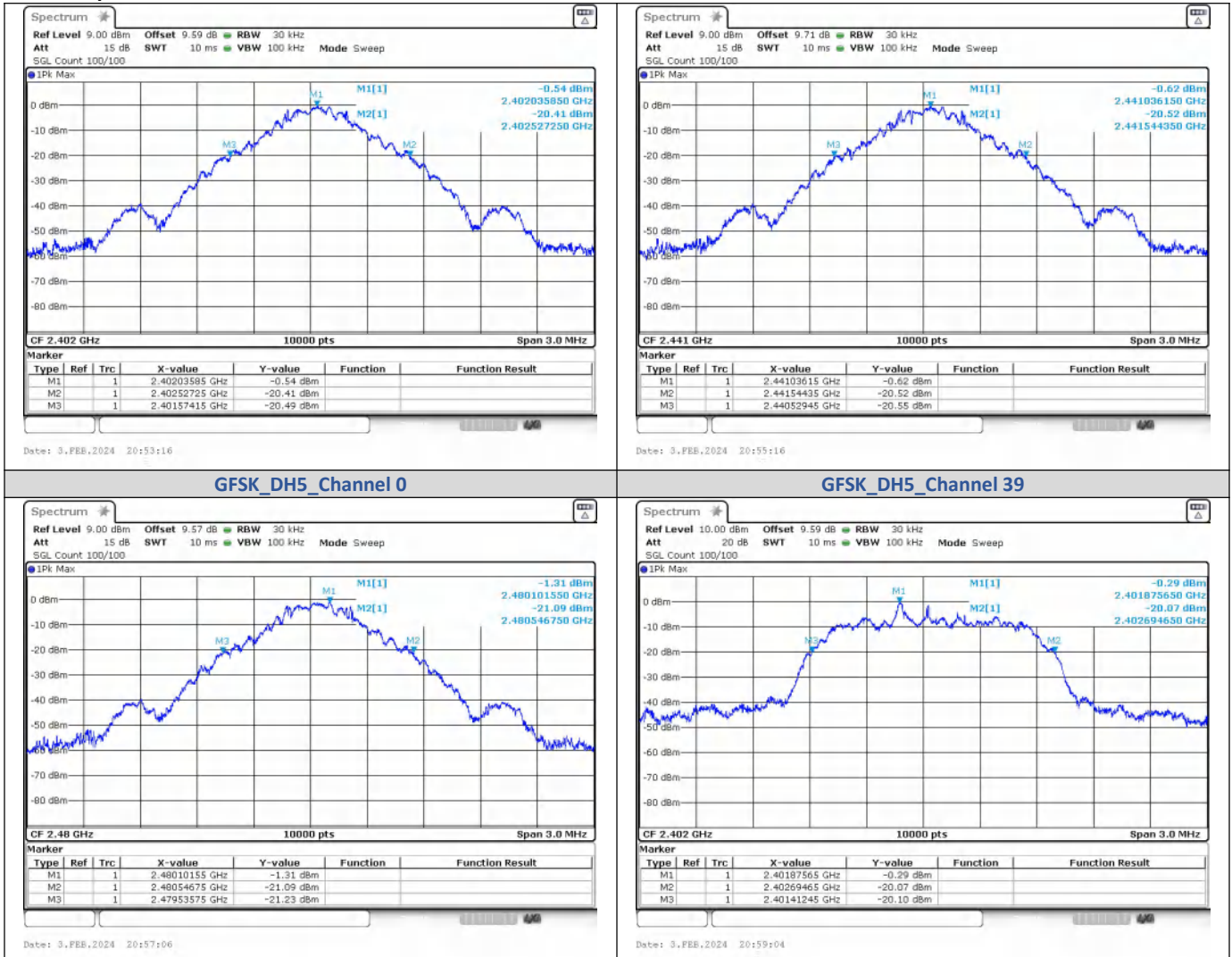
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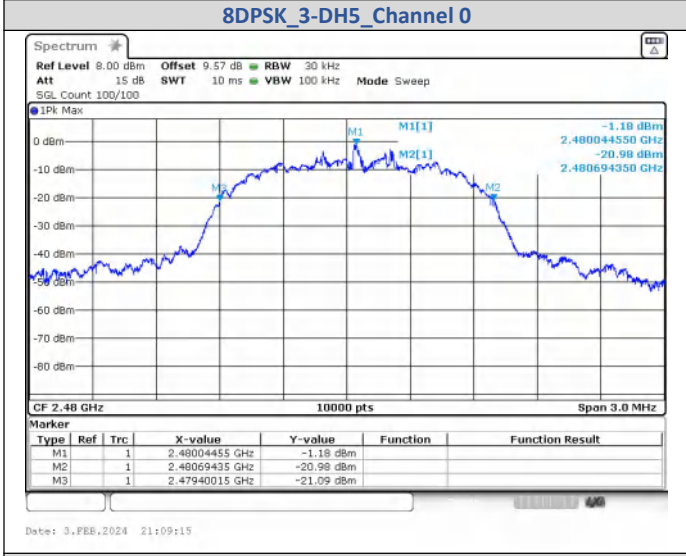
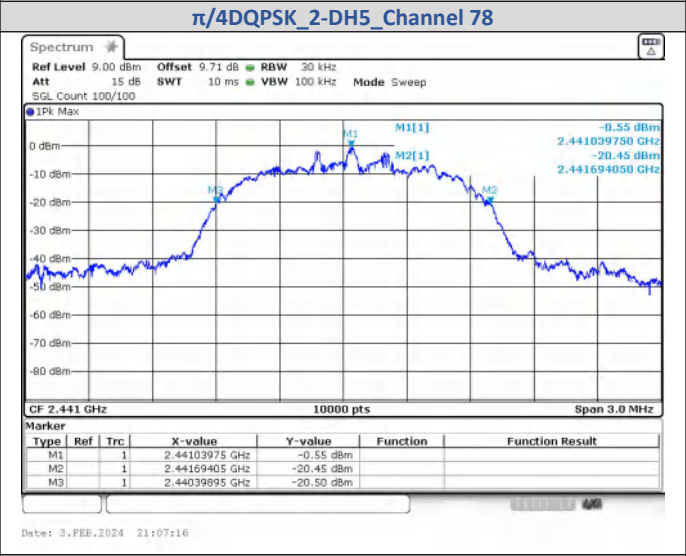
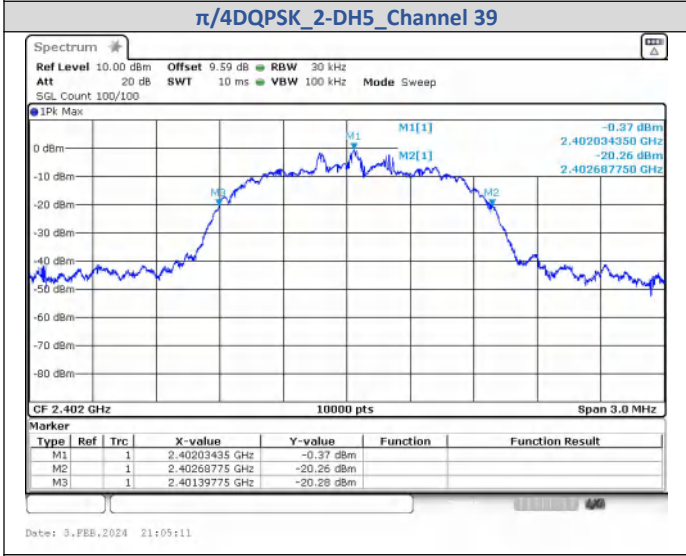
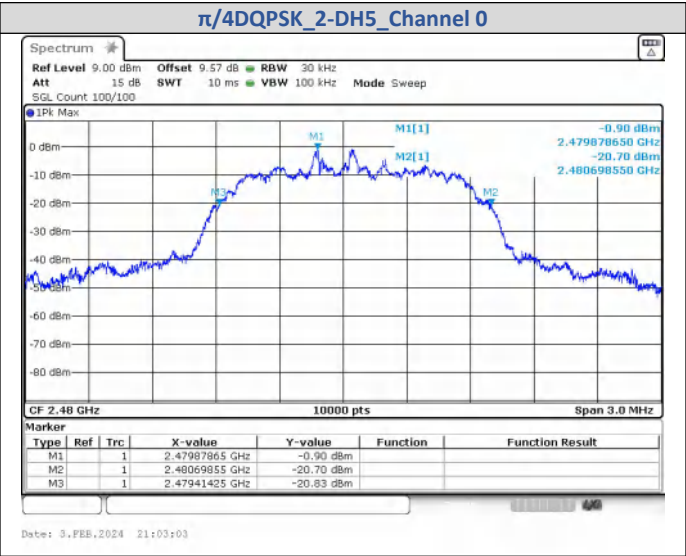
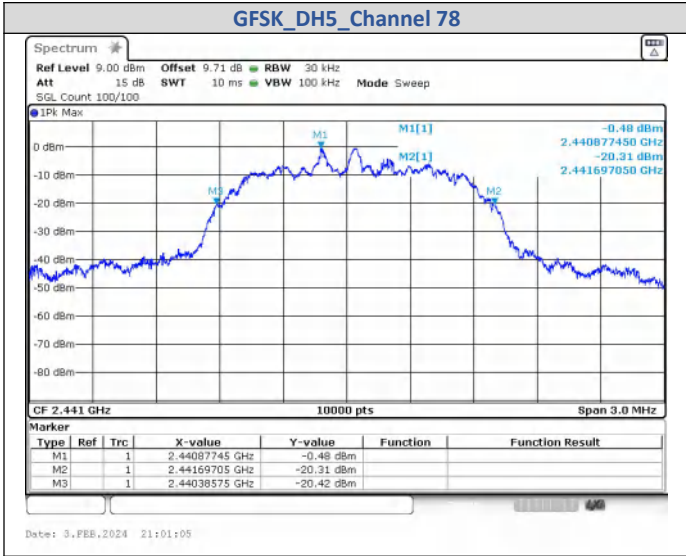
3) 20dB Bandwidth

Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9600
	39	2441 MHz	1.010
	78	2480 MHz	1.010
$\pi/4$ DQPSK	0	2402 MHz	1.280
	39	2441 MHz	1.310
	78	2480 MHz	1.290
8DPSK	0	2402 MHz	1.290
	39	2441 MHz	1.290
	78	2480 MHz	1.290

Test Graphs





8DPSK_3-DH5_Channel 39

Void

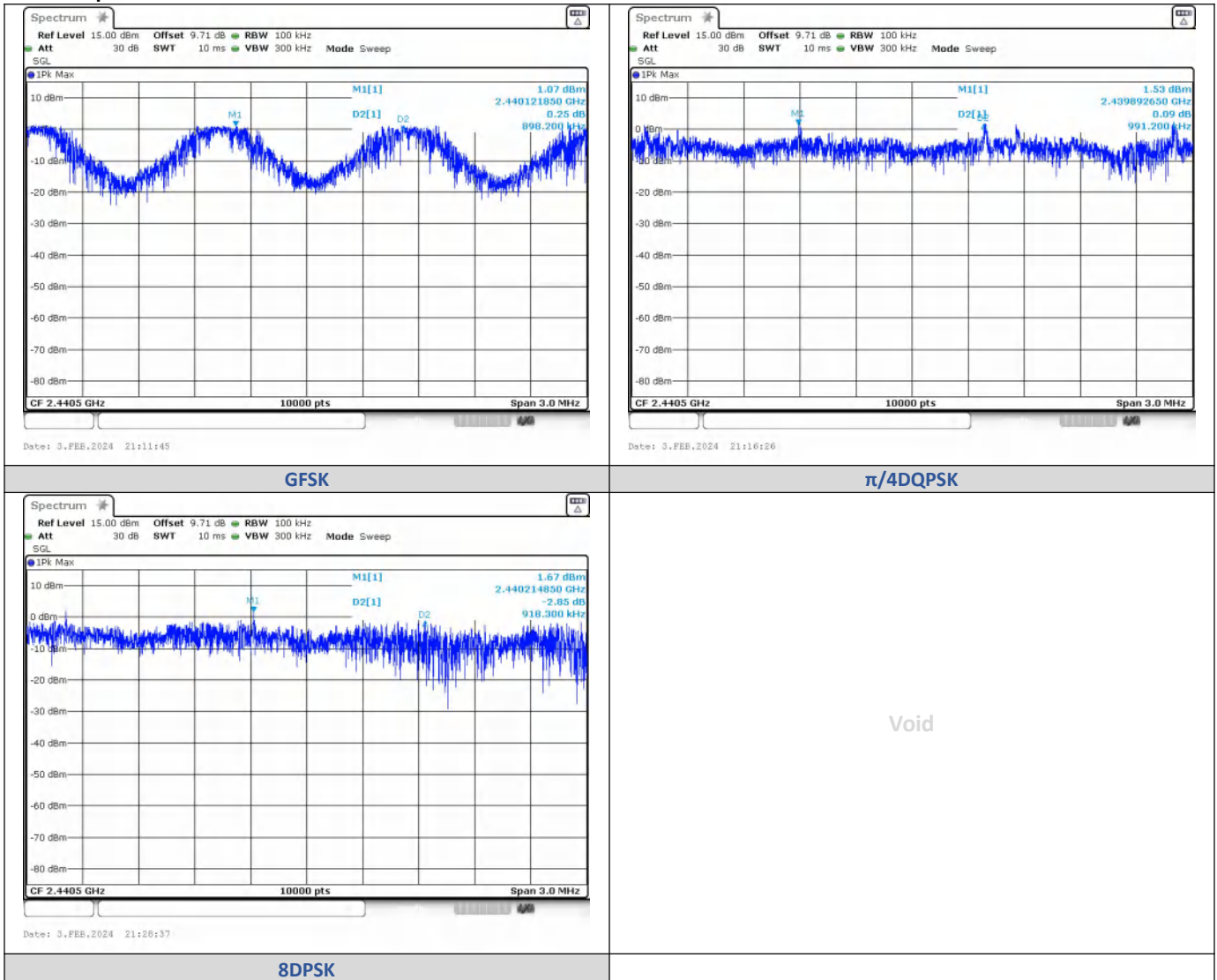
8DPSK_3-DH5_Channel 78

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	2440.1218	2441.0201	0.8982	0.64	PASS
$\pi/4$ DQPSK	2-DH5	2439.8926	2440.8839	0.9912	0.853	PASS
8DPSK	3-DH5	2440.2148	2441.1332	0.9183	0.86	PASS

Test Graphs



5) Conducted Out Of Band Emission

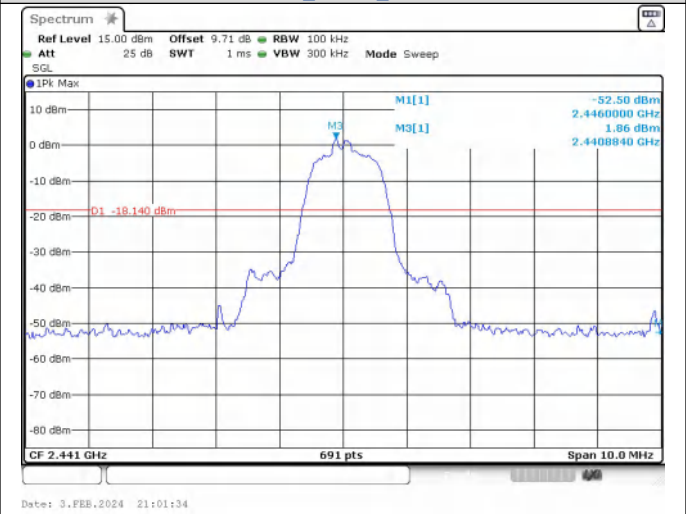
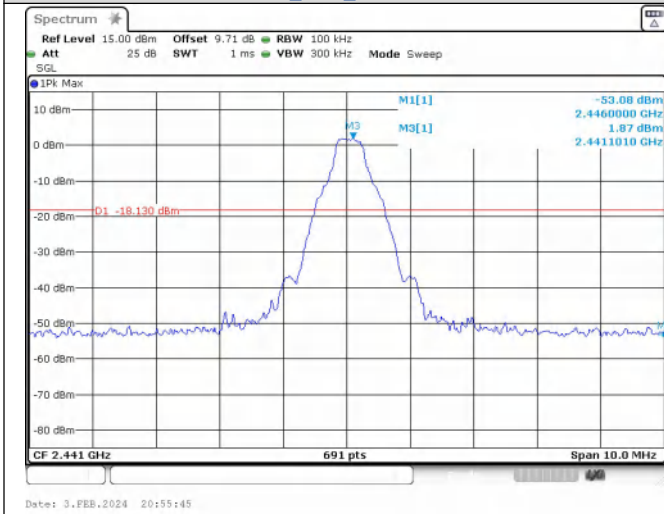
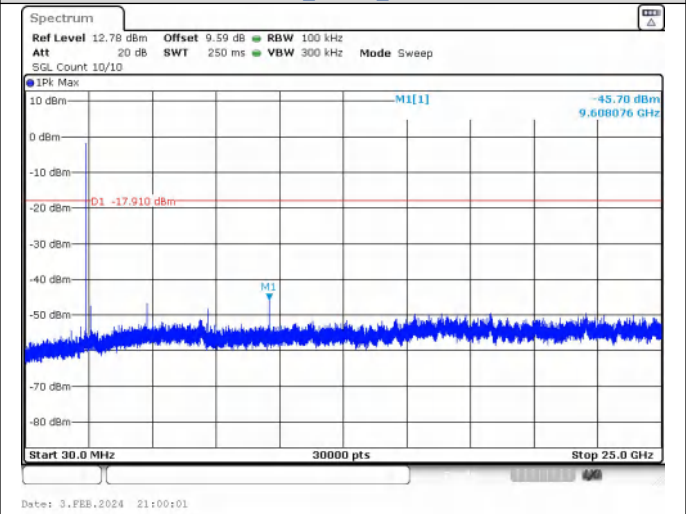
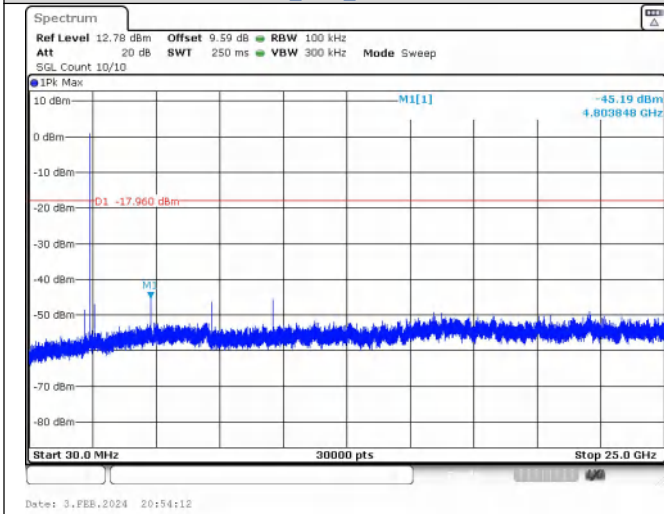
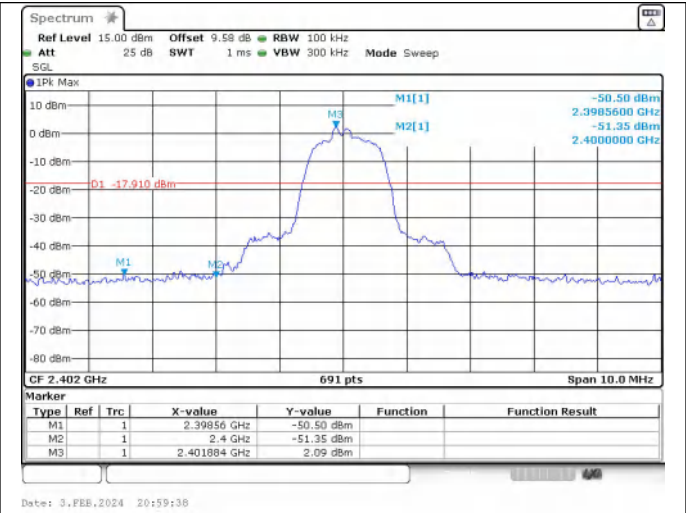
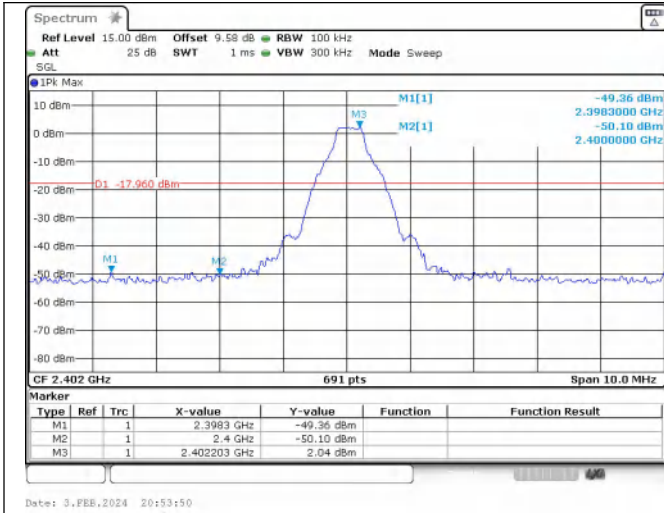
Test Result Non-Hopping

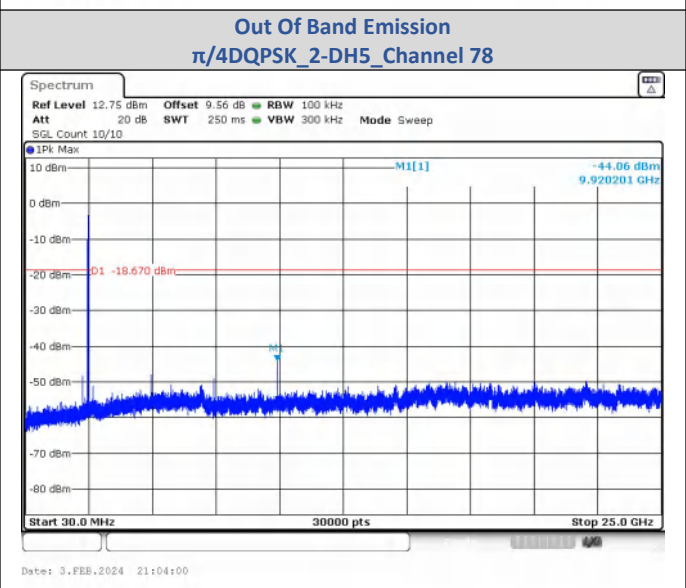
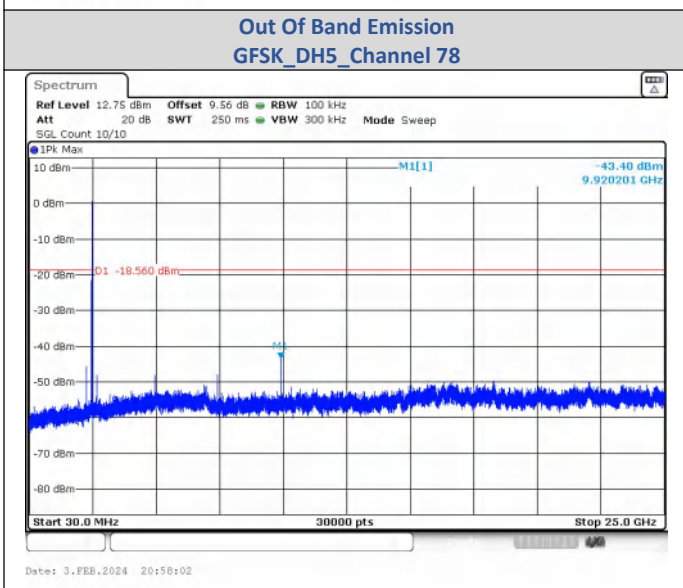
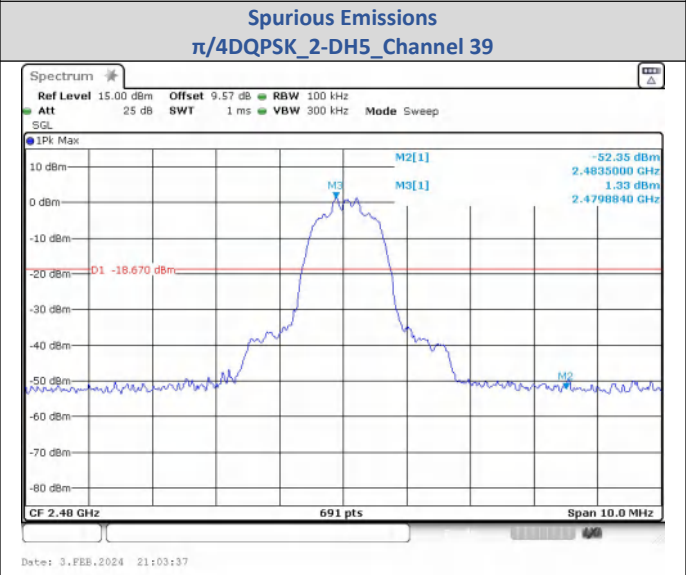
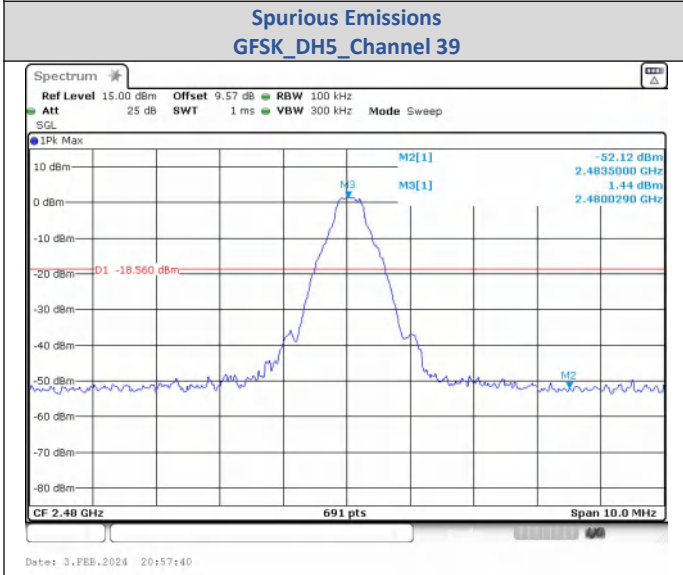
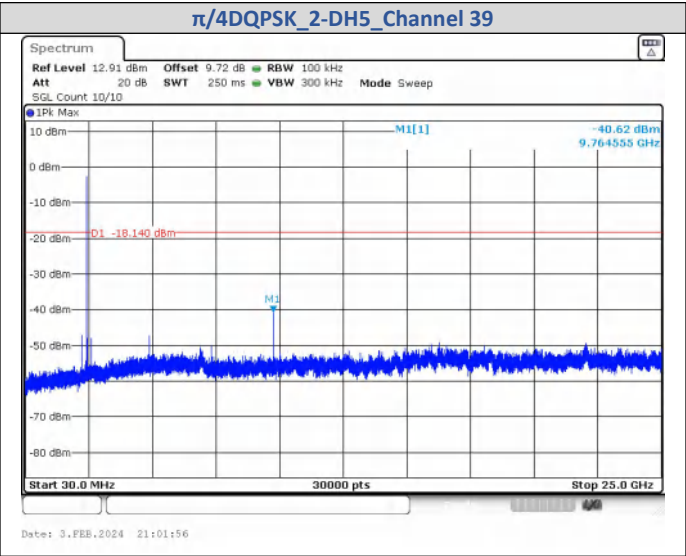
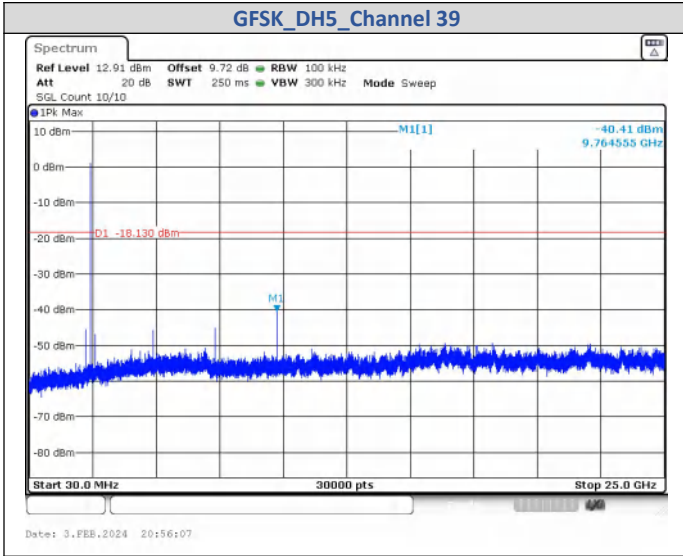
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	
GFSK	DH5	0	2400.00	-50.098	-17.96	-32.138	PASS	
			2398.30	-49.356	-17.96	-31.396	PASS	
			4803.80	-45.189	-17.96	-27.229	PASS	
		78	9764.55	-40.411	-18.13	-22.281	PASS	
			2483.50	-52.116	-18.56	-33.556	PASS	
			9920.20	-43.405	-18.56	-24.845	PASS	
$\pi/4$ DQPSK	2-DH5	0	2400.00	-51.348	-17.91	-33.438	PASS	
			2398.56	-50.500	-17.91	-32.590	PASS	
			9608.10	-45.702	-17.91	-27.792	PASS	
		39	9764.55	-40.620	-18.14	-22.480	PASS	
			78	2483.50	-52.353	-18.67	-33.683	PASS
				9920.20	-44.063	-18.67	-25.393	PASS
8DPSK	3-DH5	0	2400.00	-46.232	-18.16	-28.072	PASS	
			9608.08	-45.131	-18.16	-26.971	PASS	
		39	9764.55	-40.357	-18.17	-22.187	PASS	
			78	2483.50	-50.255	-18.71	-31.545	PASS
		9920.20		-44.398	-18.71	-25.688	PASS	

Hopping

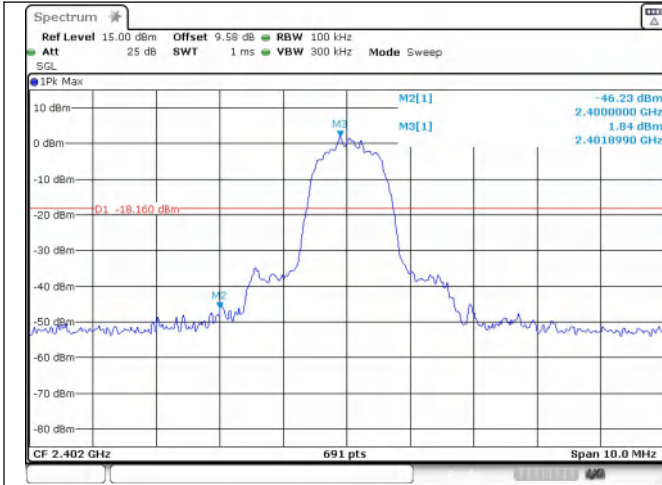
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.99	-50.114	-18.03	-32.084	PASS
			2400.00	-52.025	-18.03	-33.995	PASS
			2483.50	-53.251	-18.93	-34.321	PASS
			2398.28	-50.048	-18.67	-31.378	PASS
			2400.00	-51.484	-18.67	-32.814	PASS
			2483.50	-52.774	-19.02	-33.754	PASS
$\pi/4$ DQPSK	2-DH5		2395.59	-49.999	-18.05	-31.949	PASS
			2400.00	-51.649	-18.05	-33.599	PASS
			2483.50	-51.996	-18.69	-33.306	PASS
			2396.09	-49.525	-18.23	-31.295	PASS
			2400.00	-51.760	-18.23	-33.530	PASS
			2483.50	-51.801	-21.31	-30.491	PASS
8DPSK	3-DH5	2396.40	-49.894	-21.2	-28.694	PASS	
		2400.00	-52.606	-21.2	-31.406	PASS	
		2483.50	-50.844	-22.4	-28.444	PASS	
		2396.96	-50.337	-18.49	-31.847	PASS	
		2400.00	-51.532	-18.49	-33.042	PASS	
		2483.50	-50.694	-19.39	-31.304	PASS	

Test Graphs



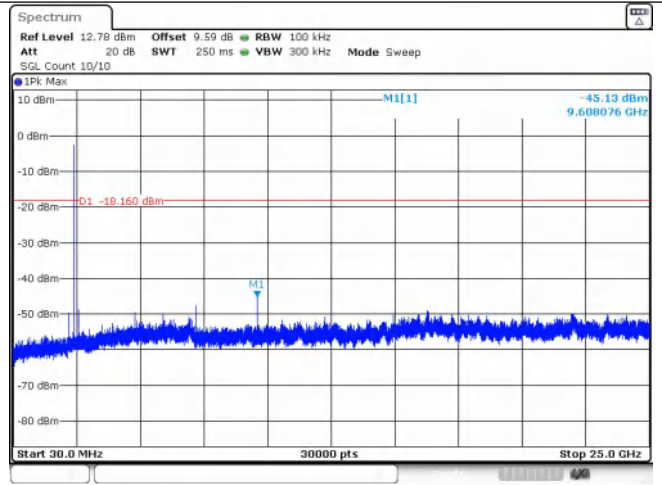


Spurious Emission
GFSK_DH5_Channel 78



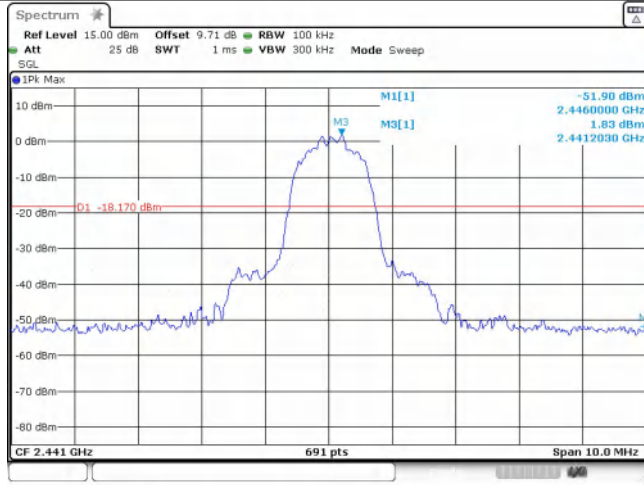
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Spurious Emission
 $\pi/4$ QPSK_2-DH5_Channel 78



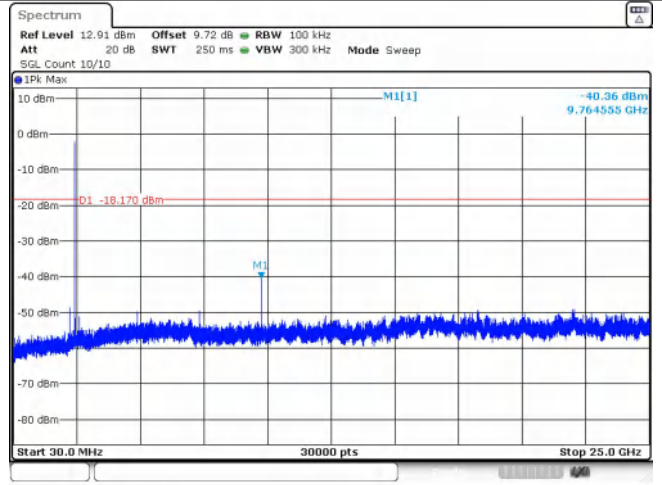
Date: 3.FEB.2024 21:06:07

Out Of Band Emission
8DPSK_3-DH5_Channel 0



Date: 3.FEB.2024 21:07:45

Spurious Emission
8DPSK_3-DH5_Channel 0



Date: 3.FEB.2024 21:08:07

Out Of Band Emission
8DPSK_3-DH5_Channel 39

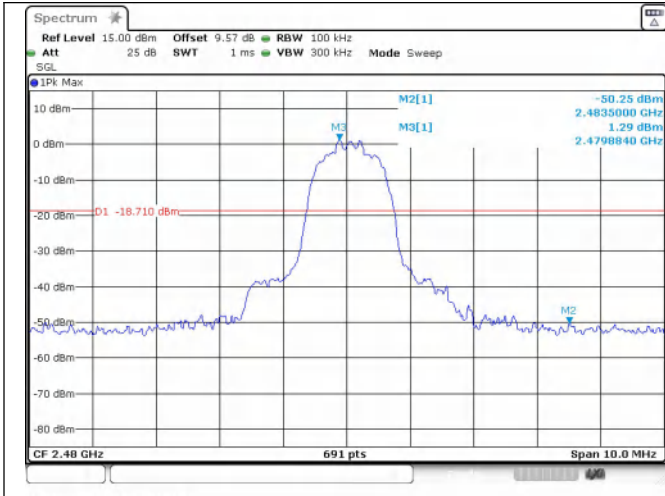


Date: 3.FEB.2024 21:07:45

Spurious Emissions
8DPSK_3-DH5_Channel 39

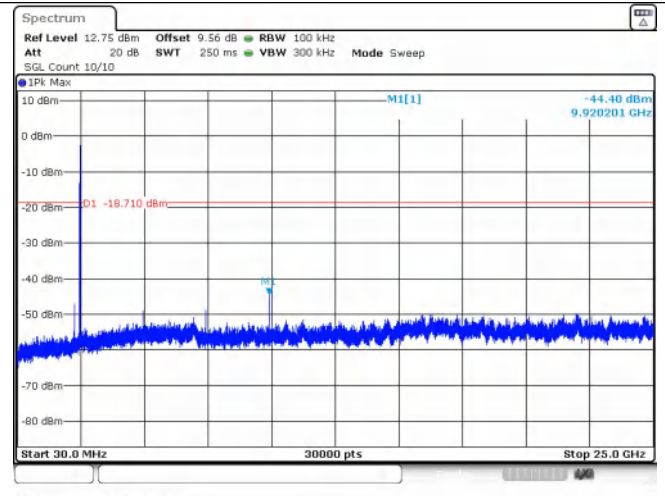


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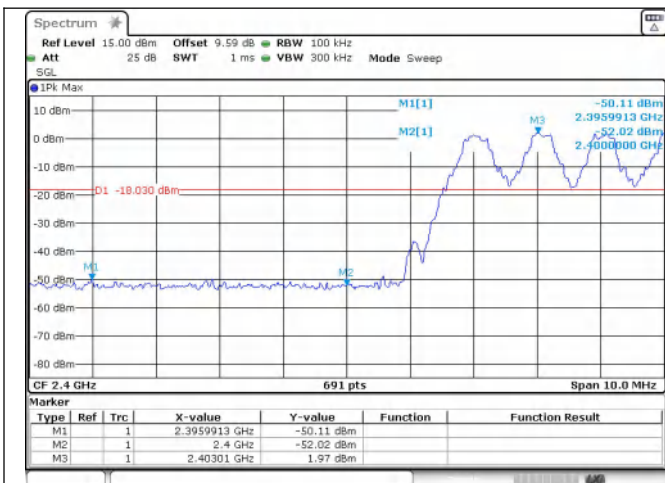
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**Out Of Band Emission
8DPSK_3-DH5_Channel 78**



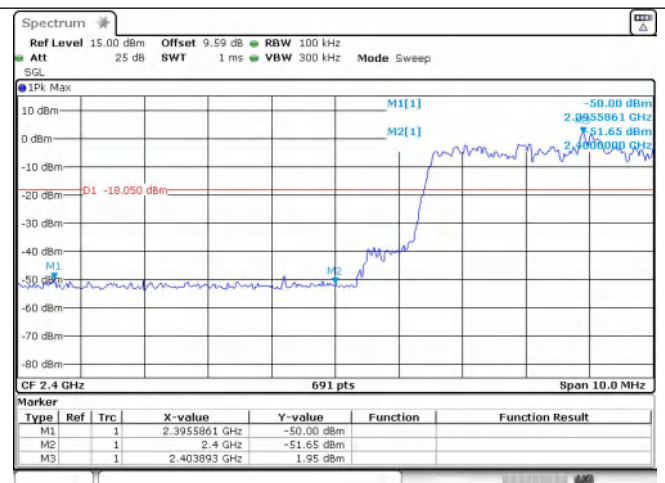
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**Spurious Emission
8DPSK_3-DH5_Channel 78**



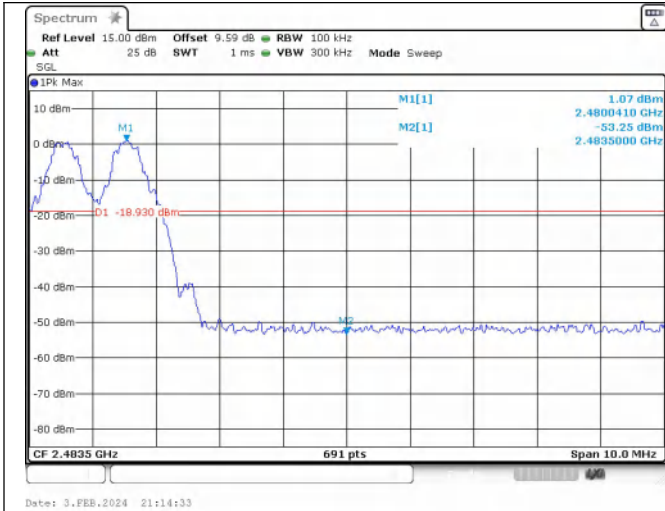
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**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**

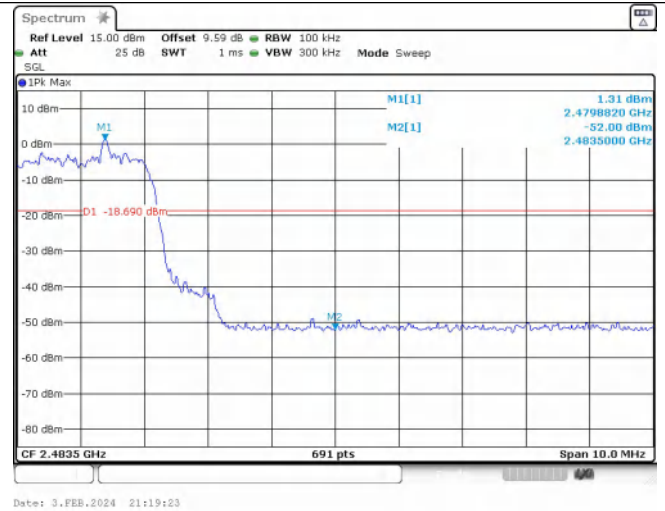


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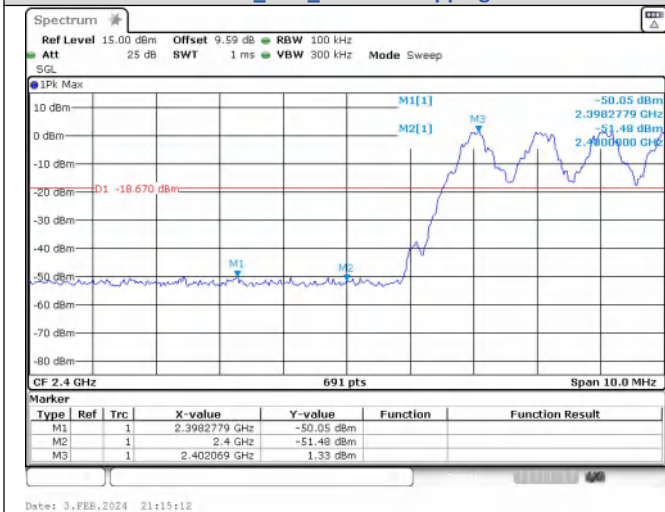
**Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping**



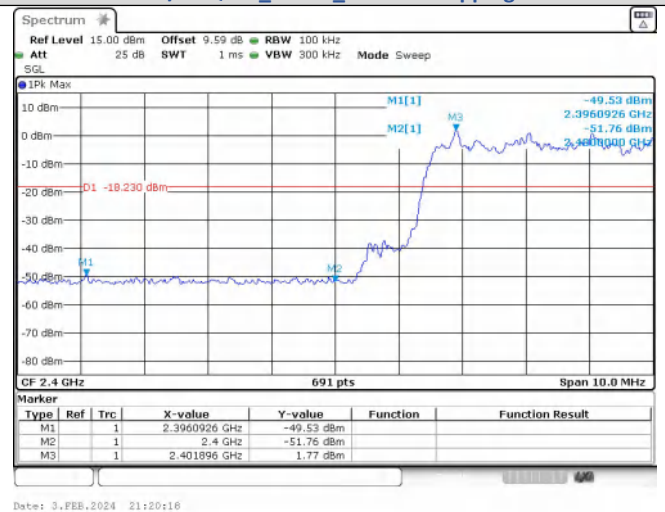
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



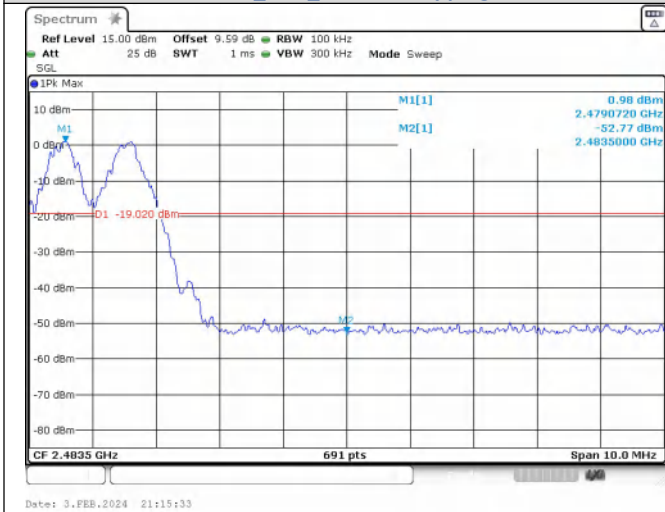
Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



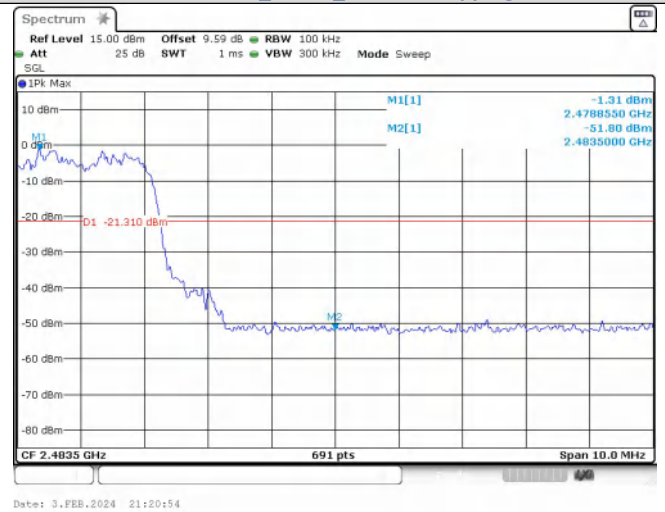
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping

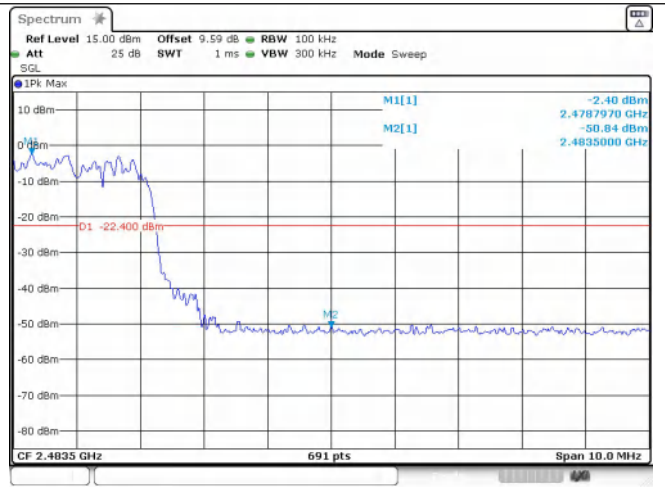
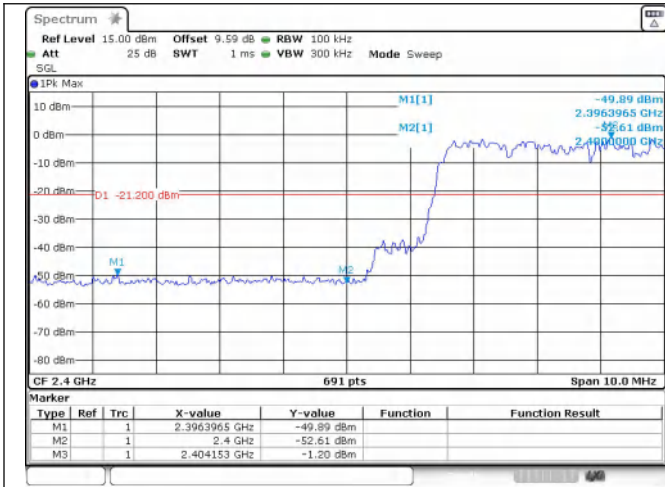


Out Of Band Emission(Right)



Out Of Band Emission(Right)

GFSK_DH5_Channel Hopping **$\pi/4$ DQPSK_2-DH5_Channel Hopping**

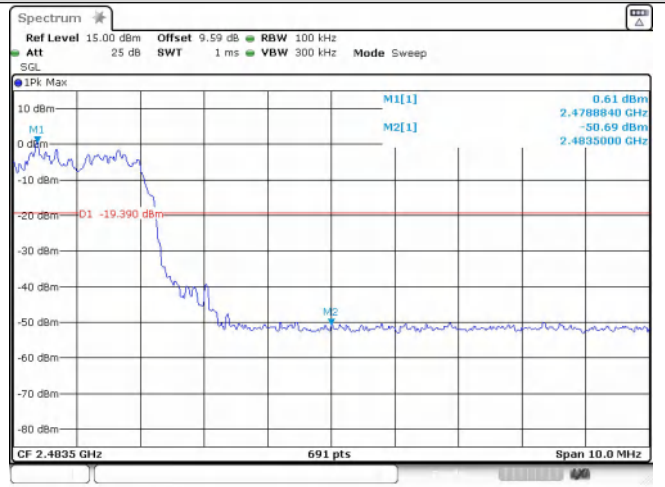
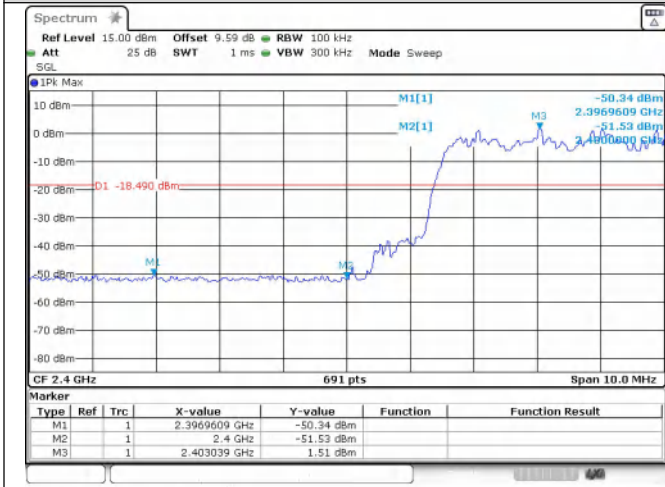


Date: 3.FEB.2024 21:25:55

Date: 3.FEB.2024 21:26:14

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

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



Date: 3.FEB.2024 21:27:24

Date: 3.FEB.2024 21:27:54

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

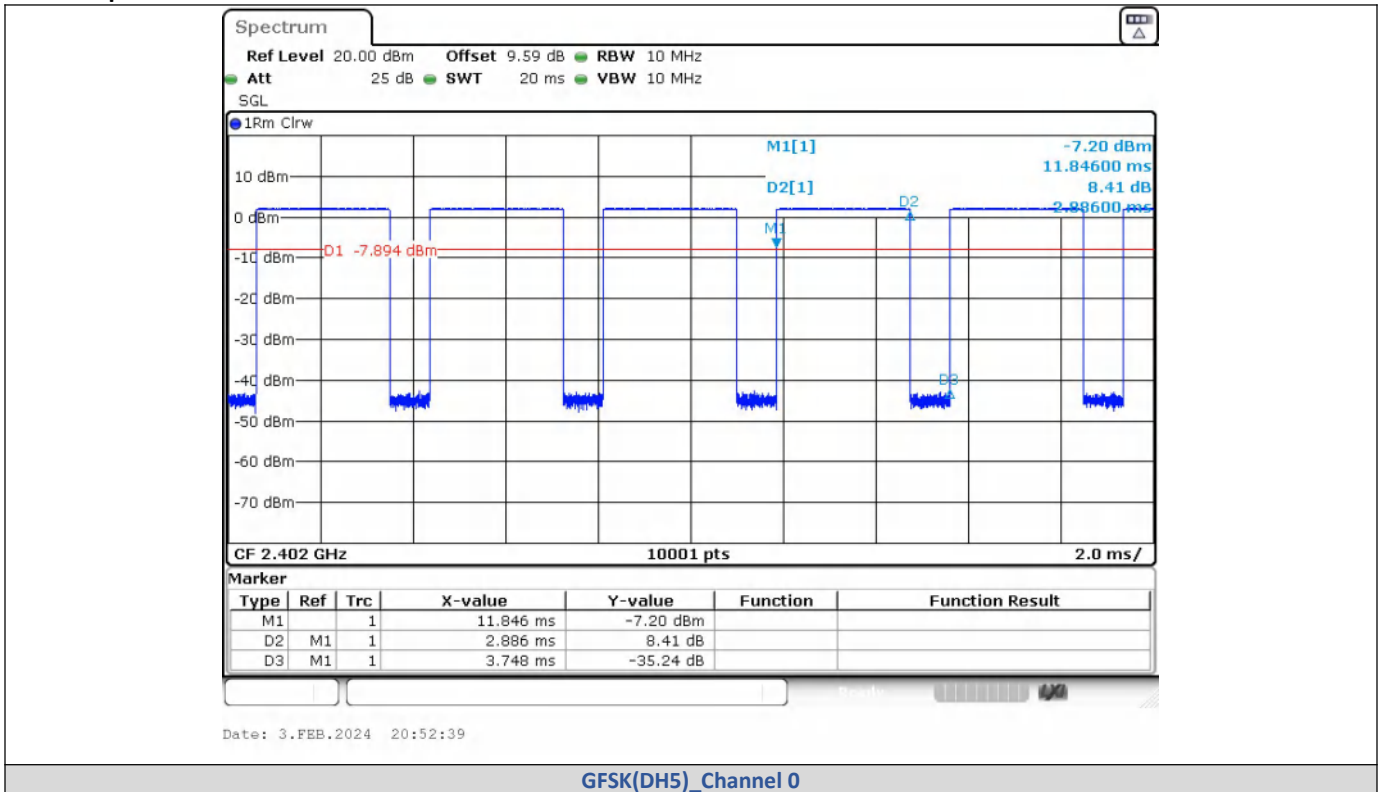
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

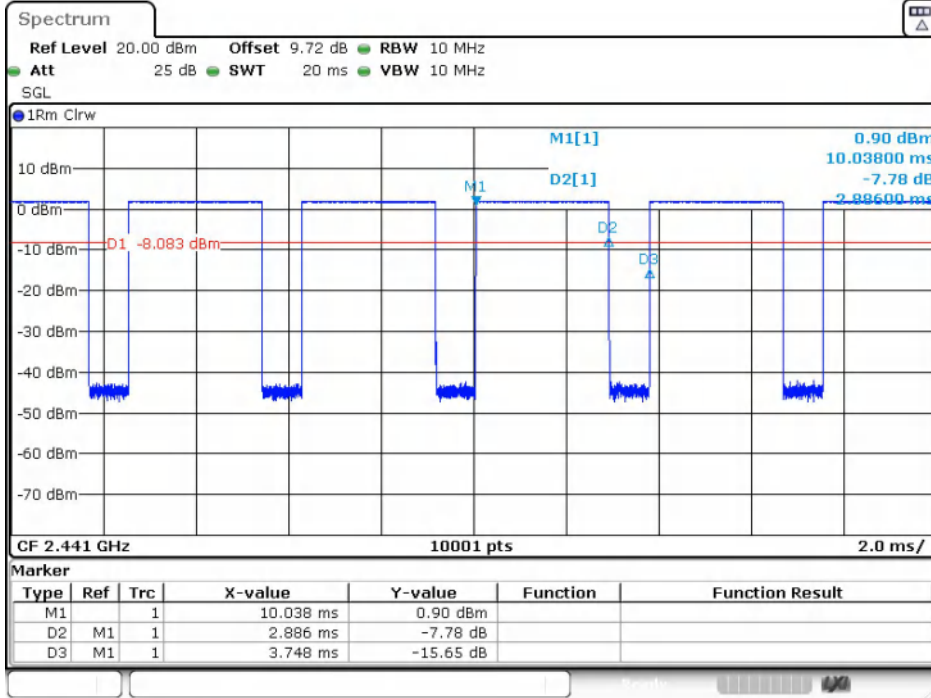
6) Duty Cycle

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
$\pi/4$ DQPSK	2-DH5	0	2.892	3.748	77.16	0.7716	1.1261	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	2.892	3.748	77.16	0.7716	1.1261	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

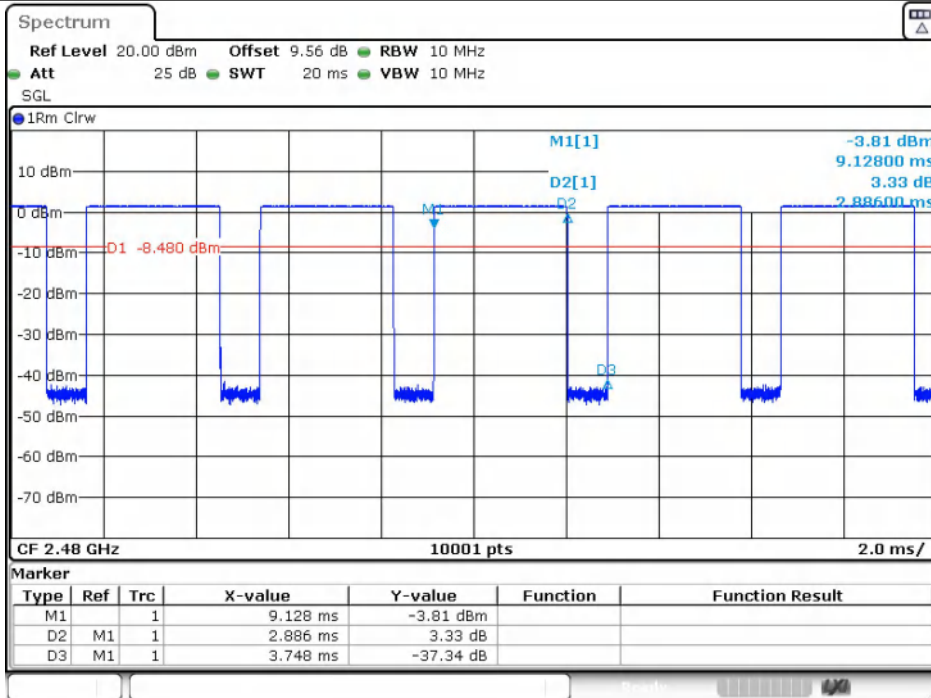
Test Graphs





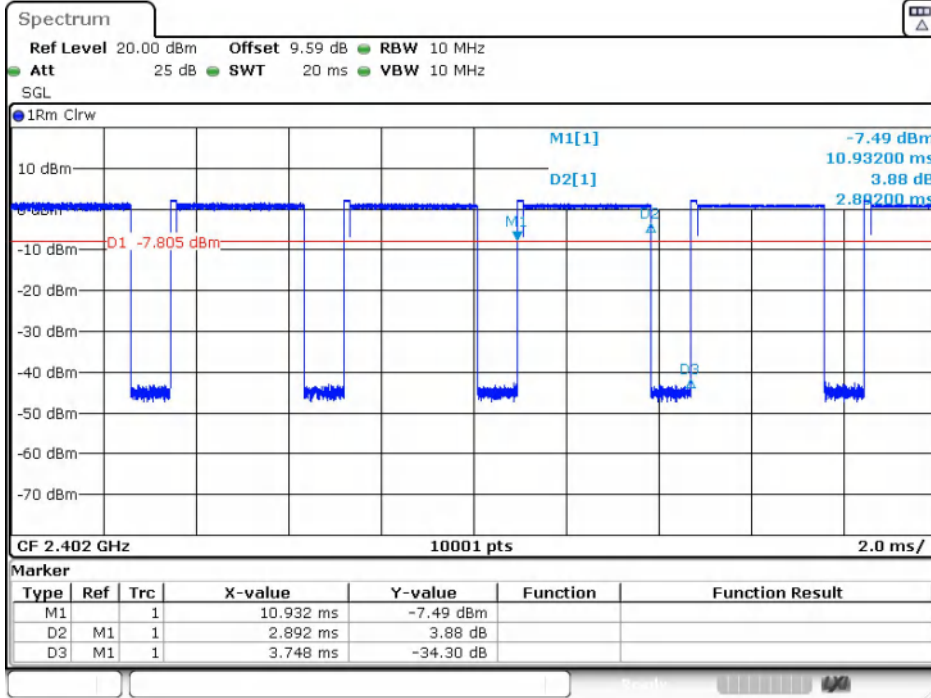
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GFSK(DH5)_Channel 39



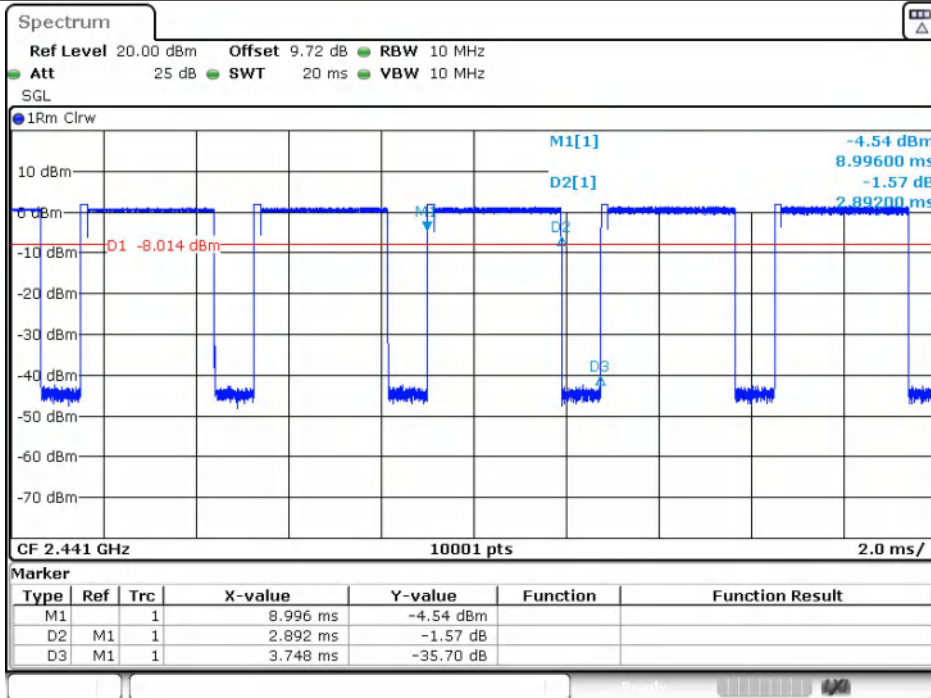
Date: 3.FEB.2024 20:56:30

GFSK(DH5)_Channel 78



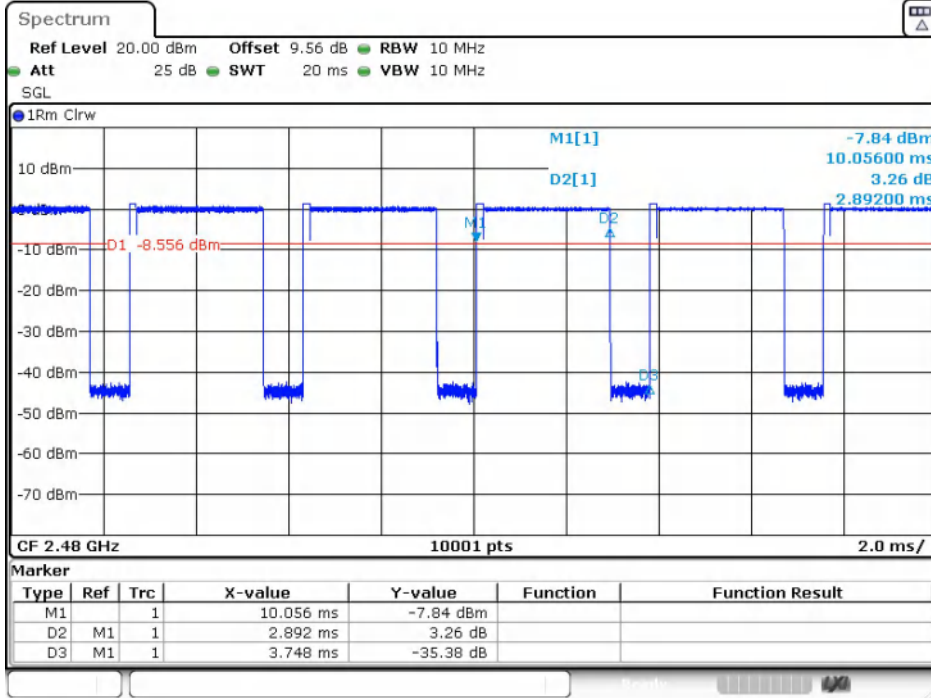
Date: 3.FEB.2024 20:58:27

$\pi/4$ DQPSK(2-DH5)_Channel 0



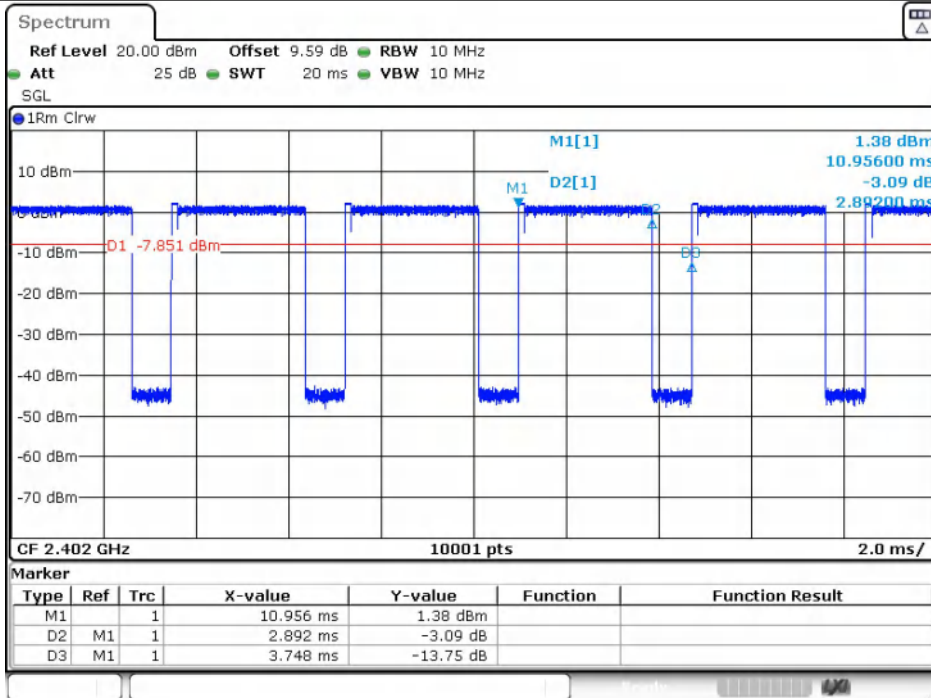
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$\pi/4$ DQPSK(2-DH5)_Channel 39



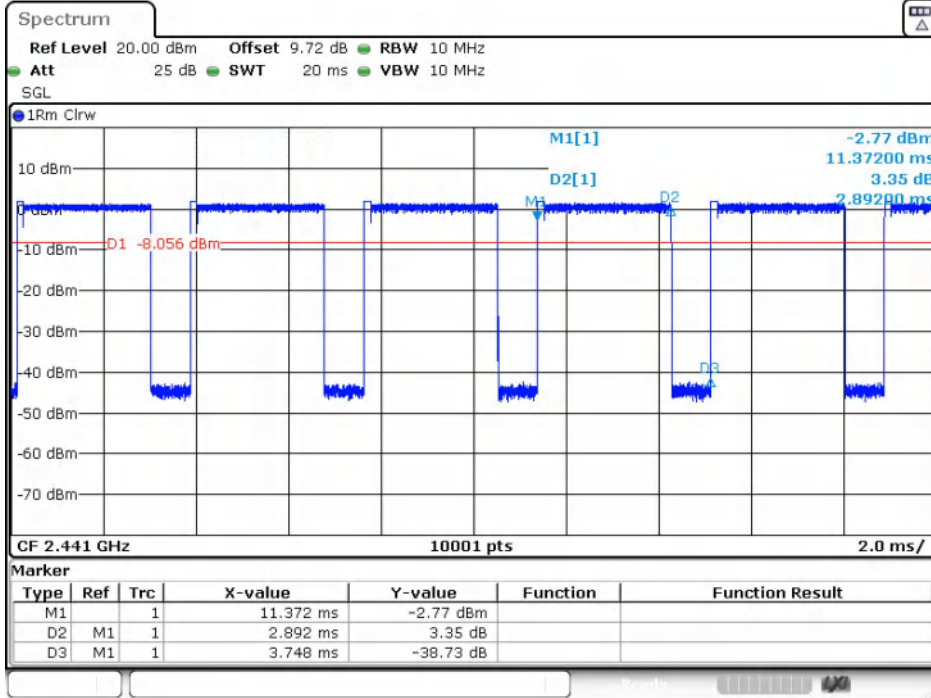
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$\pi/4$ DQPSK(2-DH5)_Channel 78



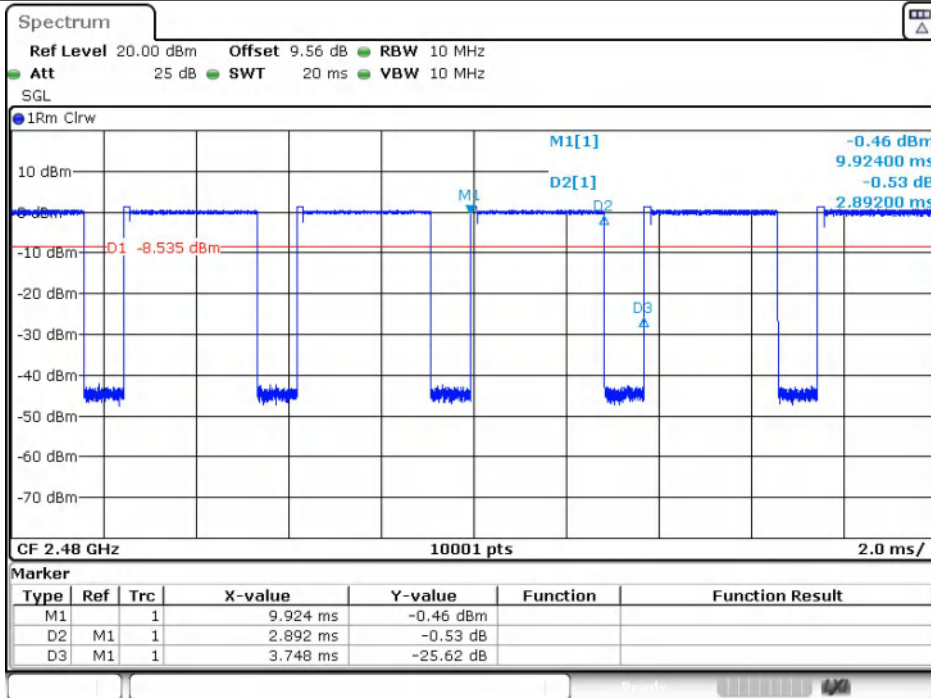
Date: 3.FEB.2024 21:04:34

8DPSK(3-DH5)_Channel 0



Date: 3.FEB.2024 21:06:38

8DPSK(3-DH5)_Channel 39



Date: 3.FEB.2024 21:08:38

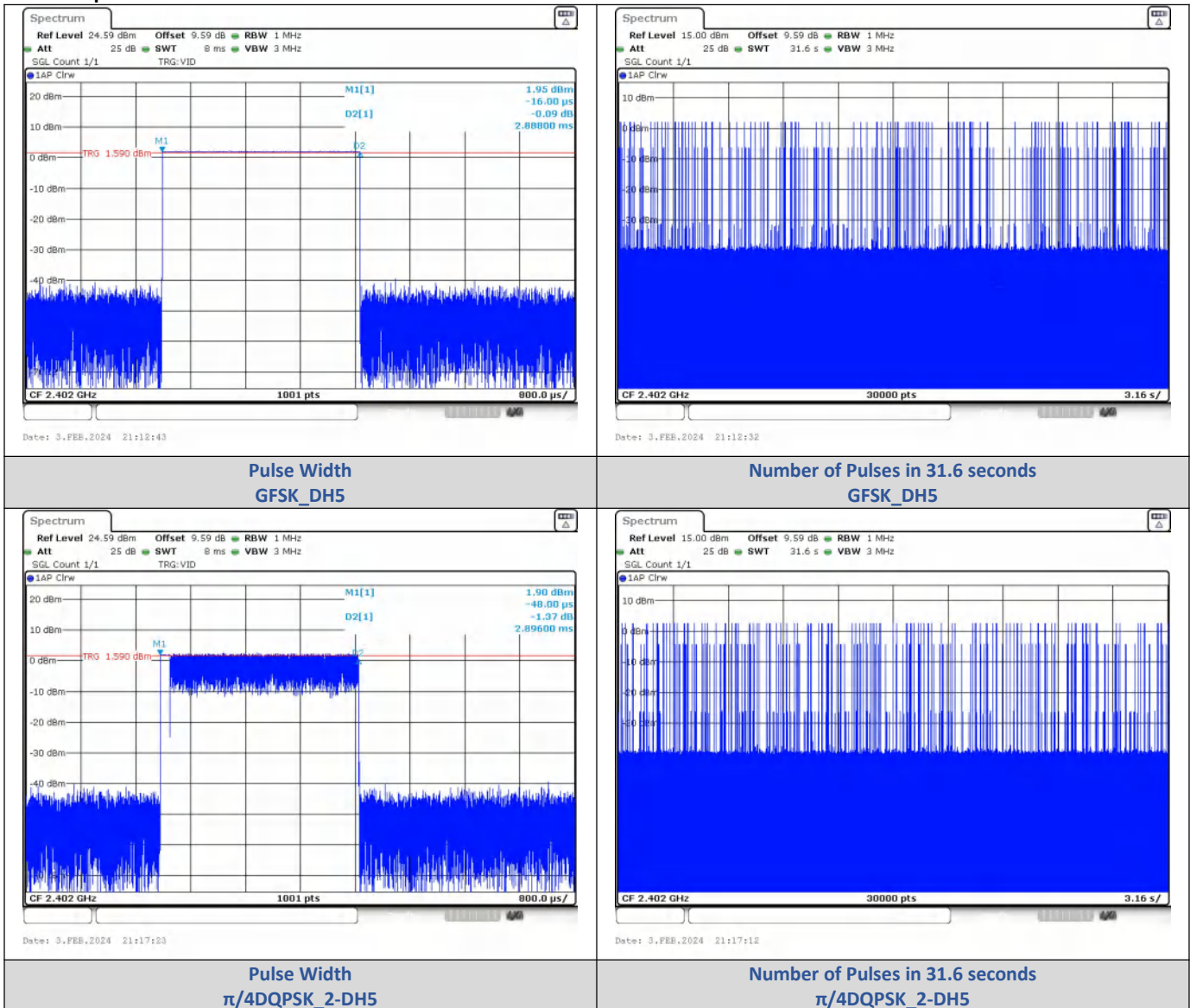
8DPSK(3-DH5)_Channel 78

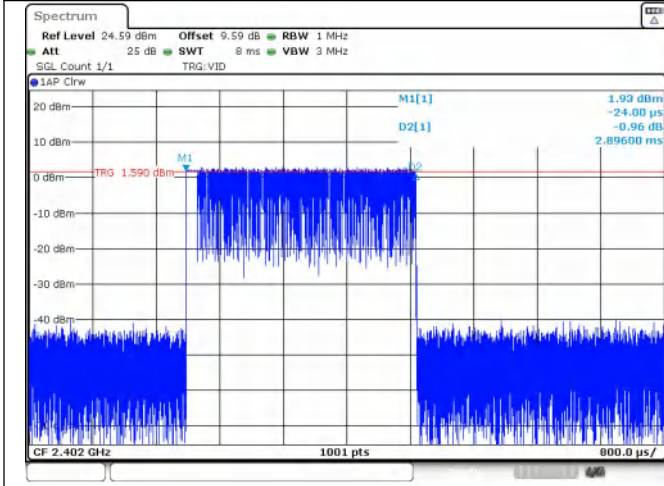
7) Dwell Time

Test Result

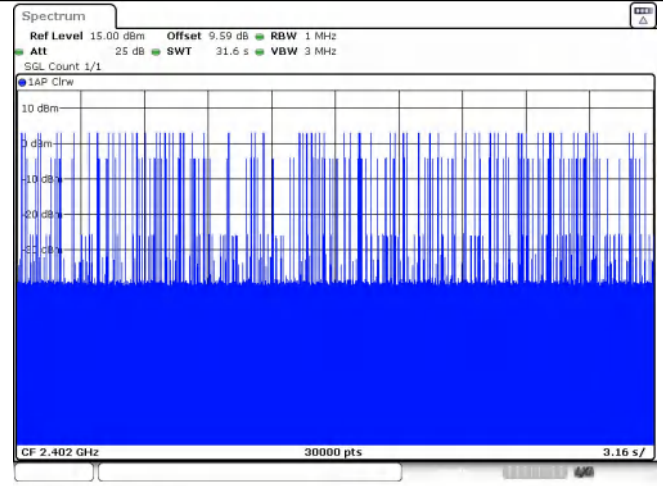
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.888	110	317.68	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	115	333.04		PASS
8DPSK	3-DH5		2.896	88	254.85		PASS

Test Graphs





Pulse Width
8DPSK_3-DH5



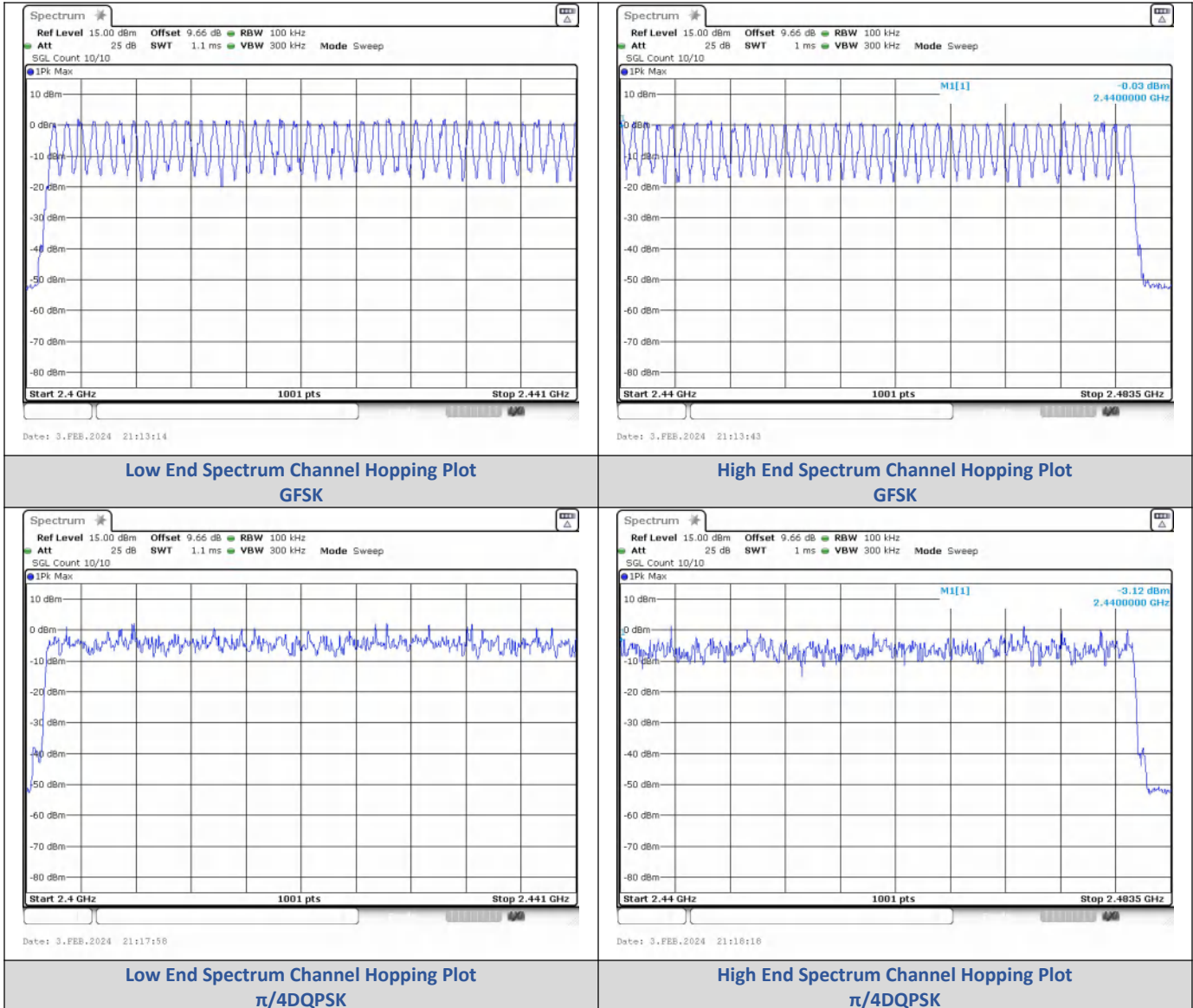
Number of Pulses in 31.6 seconds
8DPSK_3-DH5

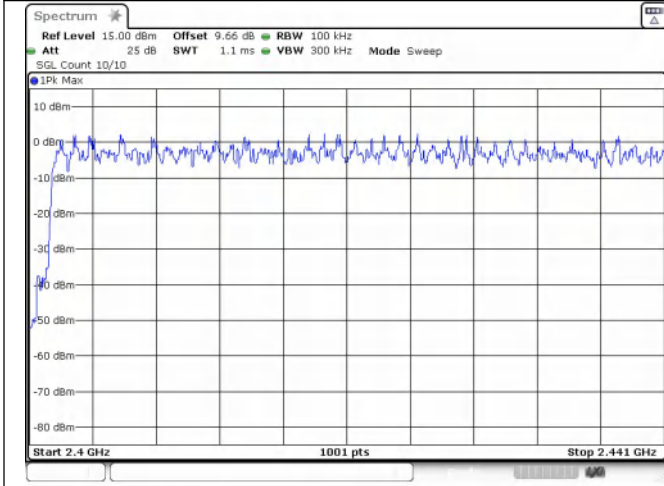
8) Number Of Hopping Channel

Test Result

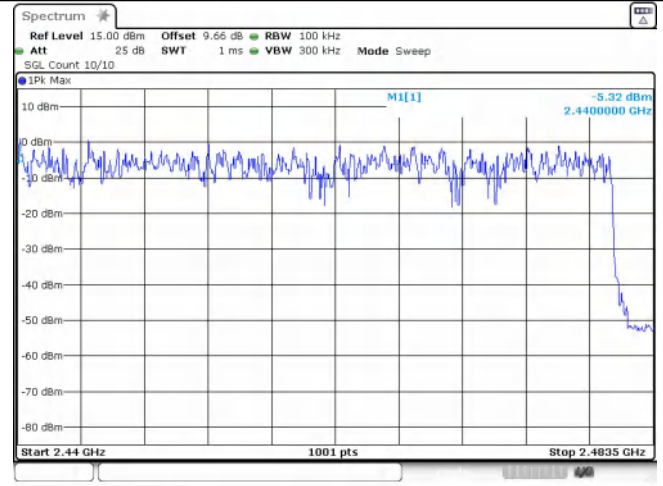
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



High End Spectrum Channel Hopping Plot
8DPSK