

Appendix A

Report No.:	CISRR24040202501
FCC ID:	2BC25-YINPAGE-FREE1
Product Name:	Wireless earphone
Model No.:	YINPAGE Free 1
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

Conducted Peak Output Power

Test Result

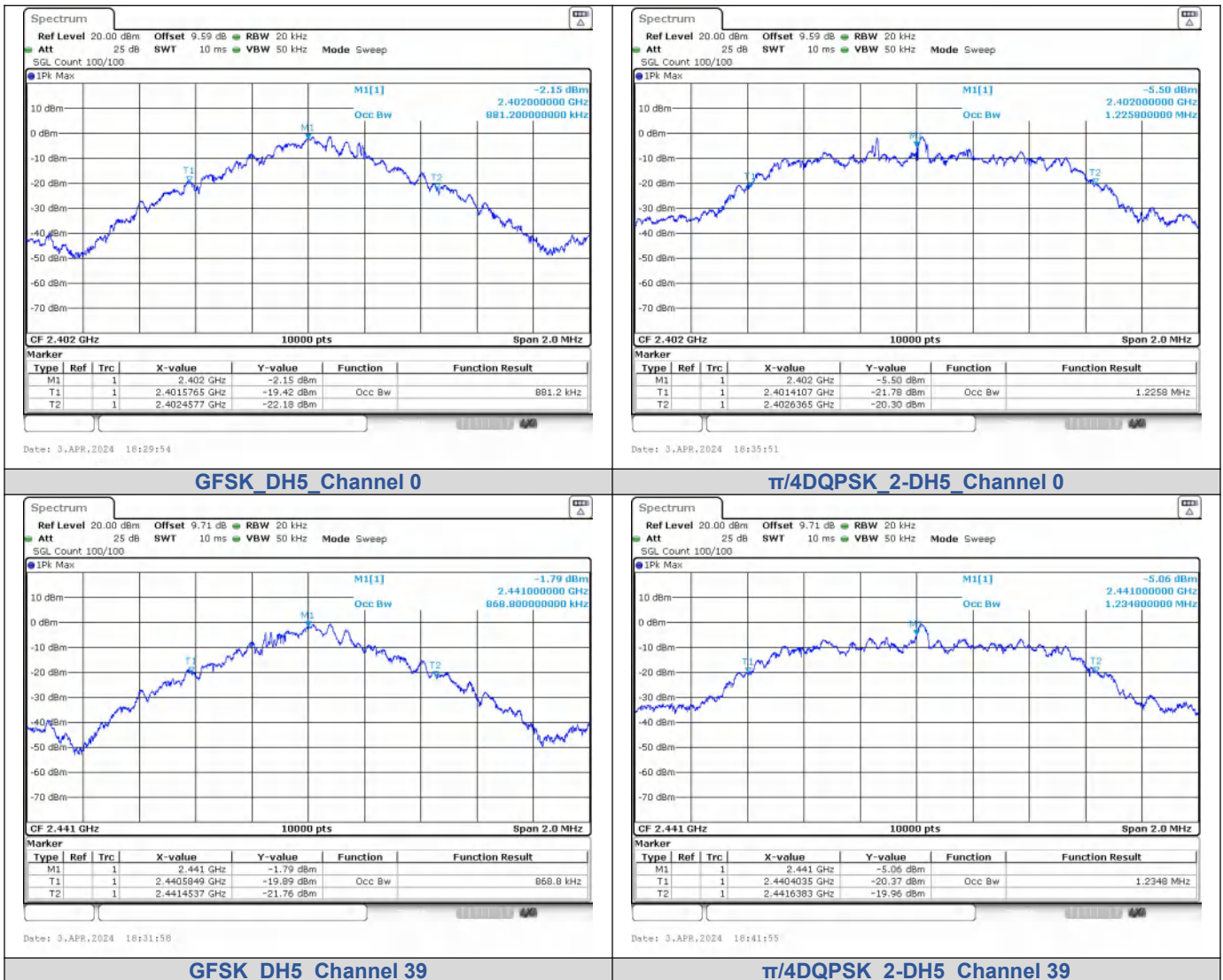
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	2.428	1.749	30	PASS
		39	2.982	1.987		PASS
		78	3.330	2.153		PASS
$\pi/4$ DQPSK	2-DH5	0	2.975	1.984	20.97	PASS
		39	3.362	2.169		PASS
		78	3.681	2.334		PASS
8DPSK	3-DH5	0	3.079	2.032		PASS
		39	3.467	2.222		PASS
		78	3.788	2.392		PASS

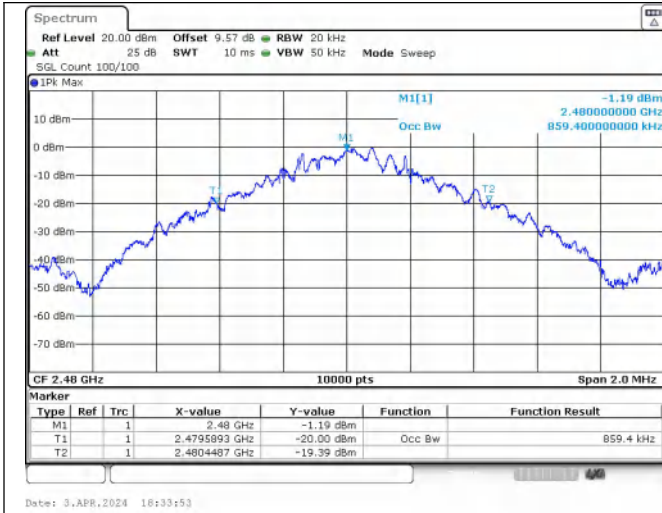
99% Bandwidth

Test Result

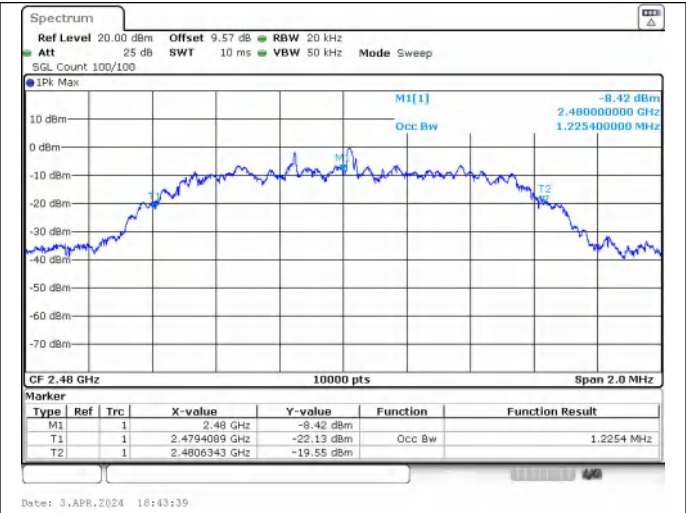
Modulation	Channel	99% BW (MHz)
GFSK	0	0.88120
	39	0.86880
	78	0.85940
$\pi/4$ DQPSK	0	1.2260
	39	1.2350
	78	1.2250
8DPSK	0	1.2340
	39	1.2300
	78	1.2230

Test Graphs

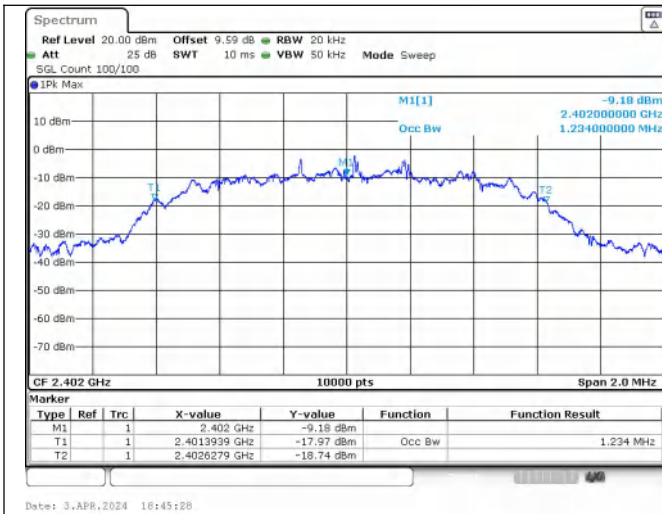




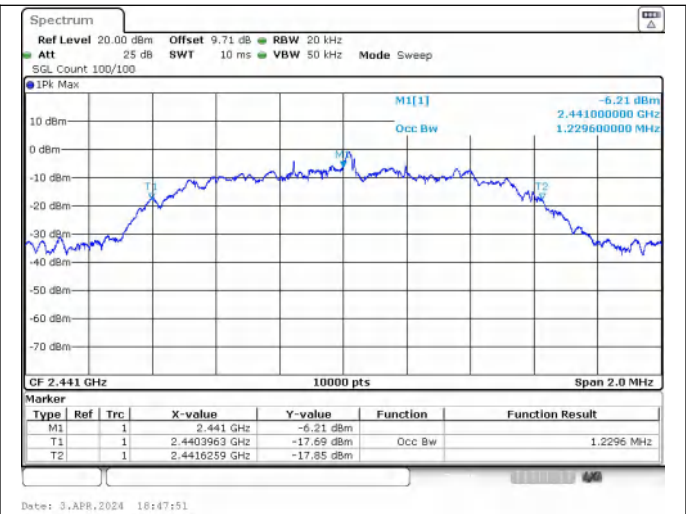
GFSK_DH5_Channel 78



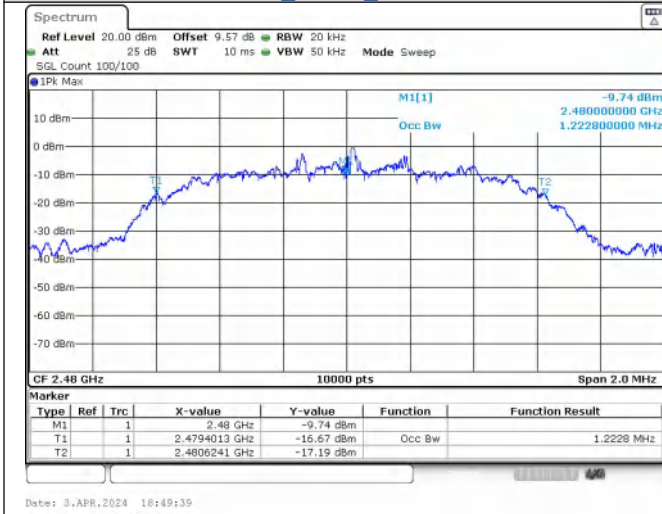
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



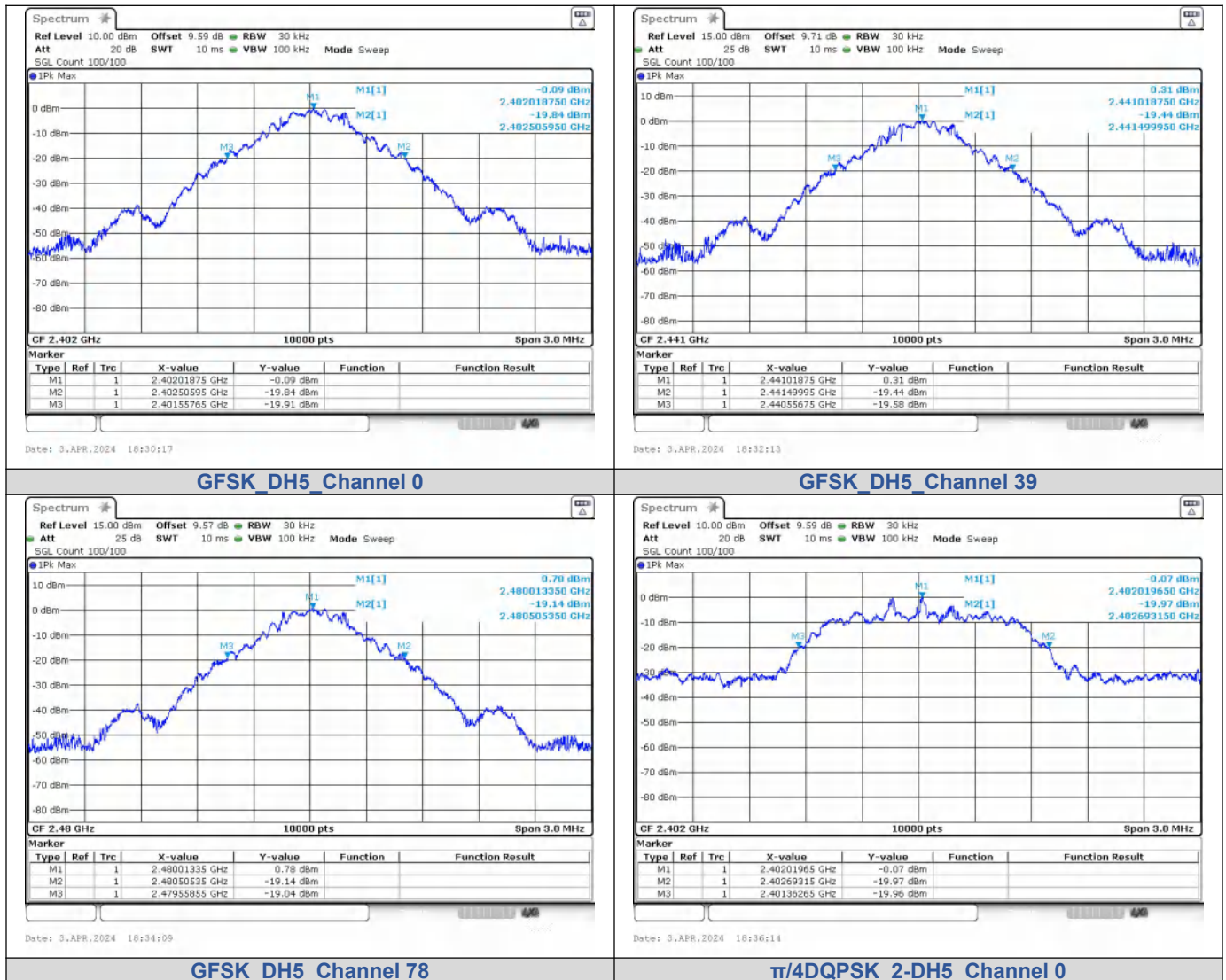
8DPSK_3-DH5_Channel 78

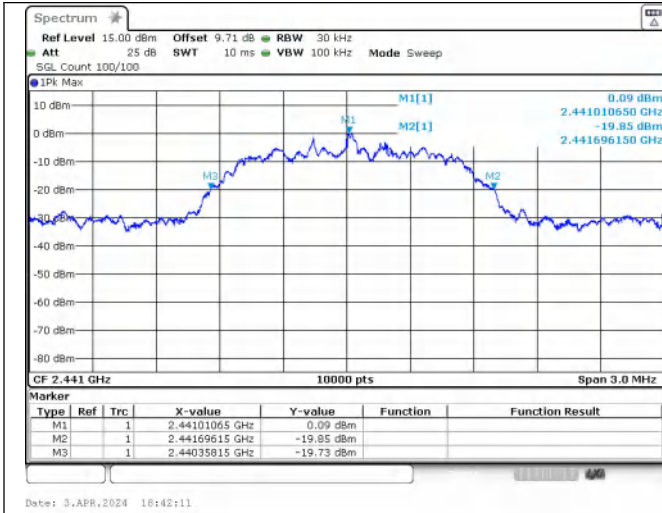
20dB Bandwidth

Test Result

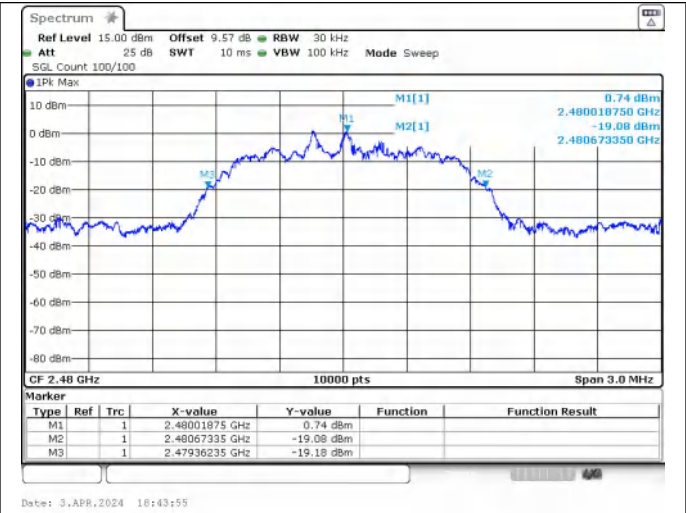
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9500
	39	2441 MHz	0.9400
	78	2480 MHz	0.9500
$\pi/4$ DQPSK	0	2402 MHz	1.330
	39	2441 MHz	1.340
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.340
	39	2441 MHz	1.310
	78	2480 MHz	1.310

Test Graphs

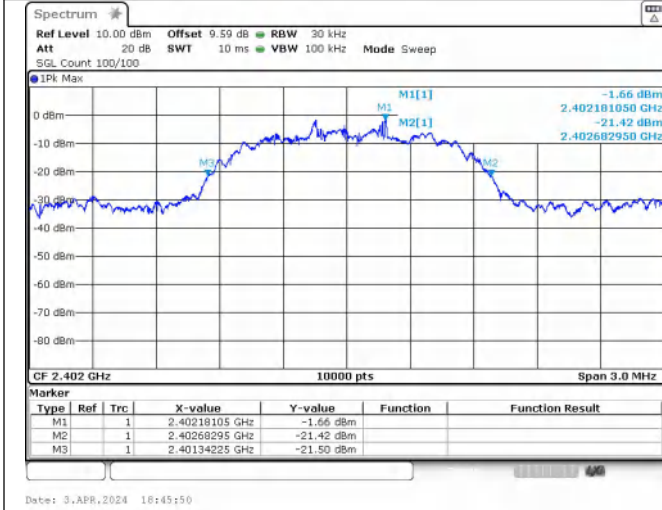




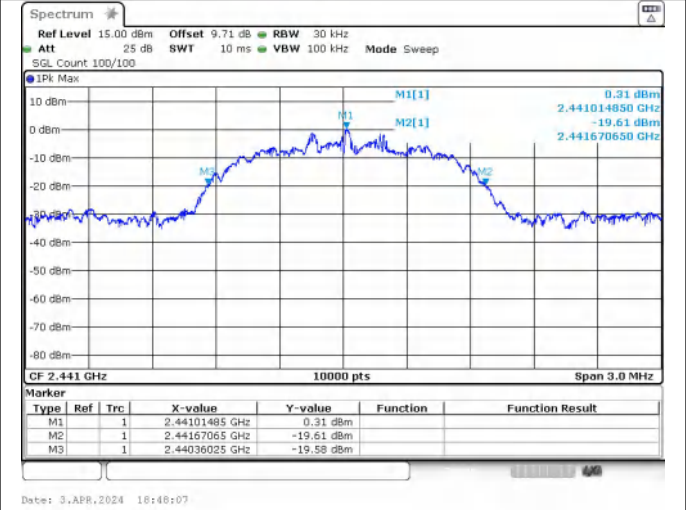
$\pi/4$ DQPSK_2-DH5_Channel 39



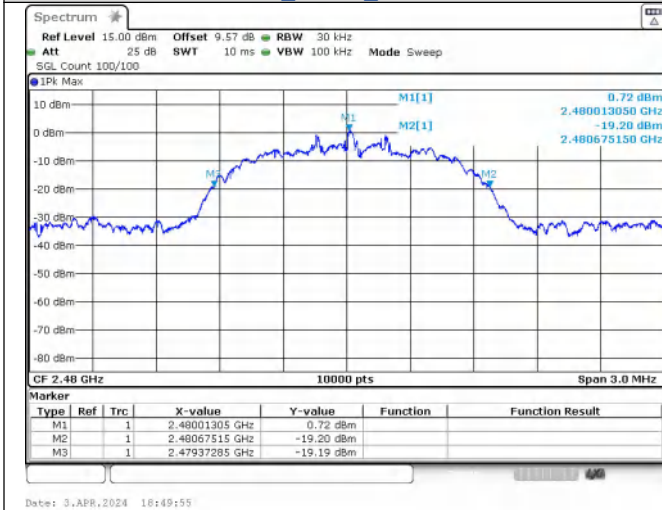
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



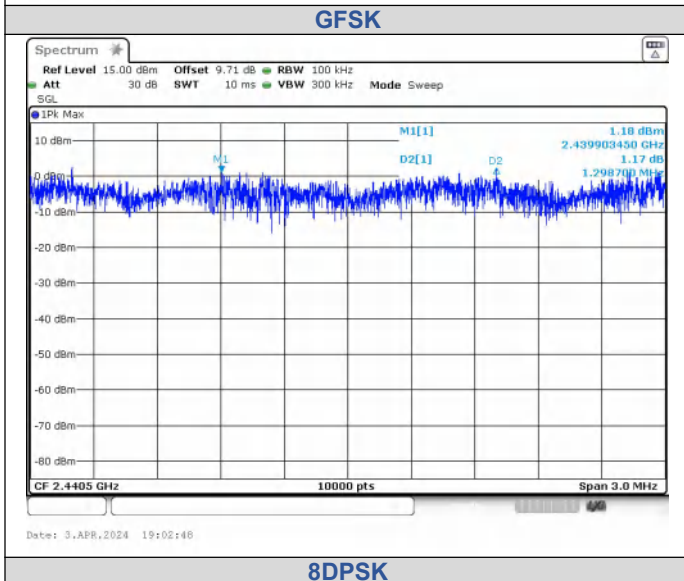
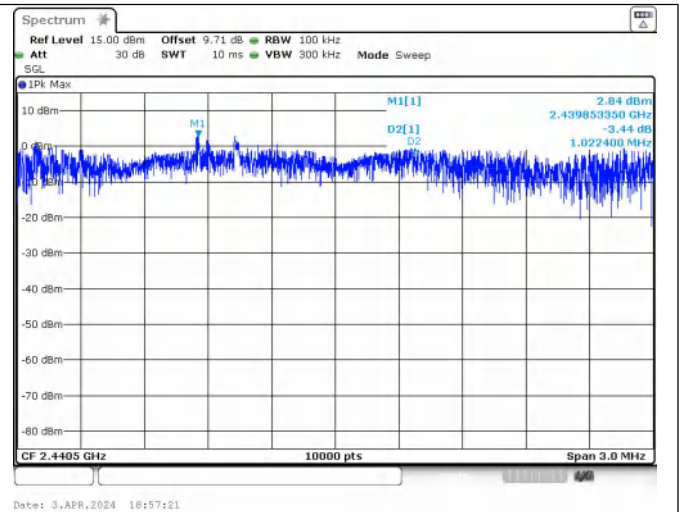
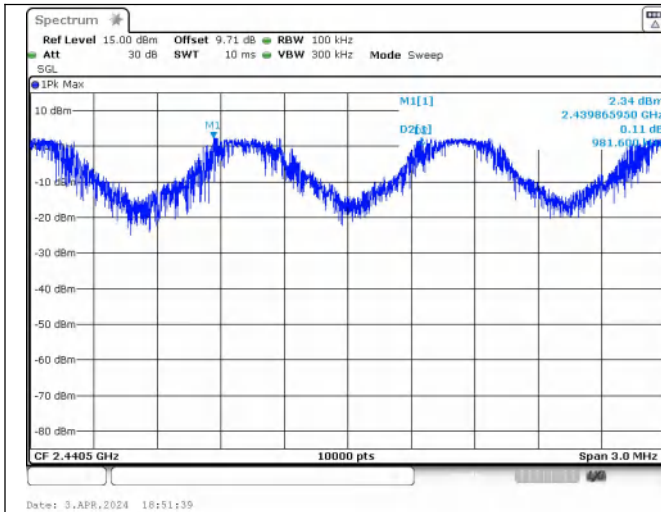
8DPSK_3-DH5_Channel 78

Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8659	2440.8475	0.9816	0.633	PASS
$\pi/4$ DQPSK	2-DH5	2439.8533	2440.8758	1.0224	0.887	PASS
8DPSK	3-DH5	2439.9034	2441.2022	1.2987	0.893	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

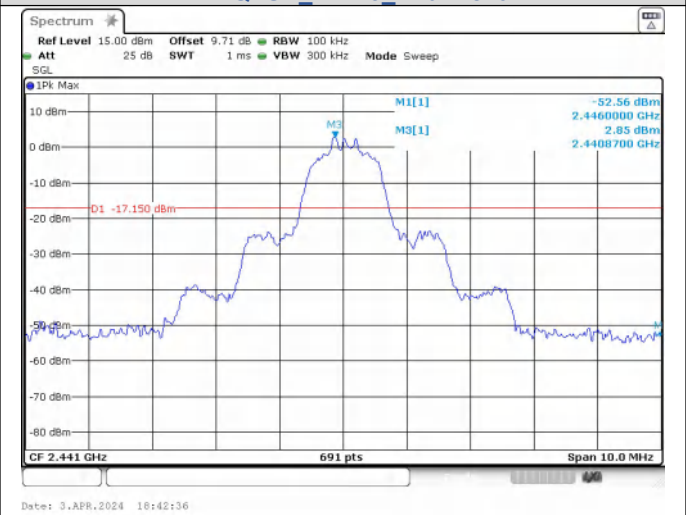
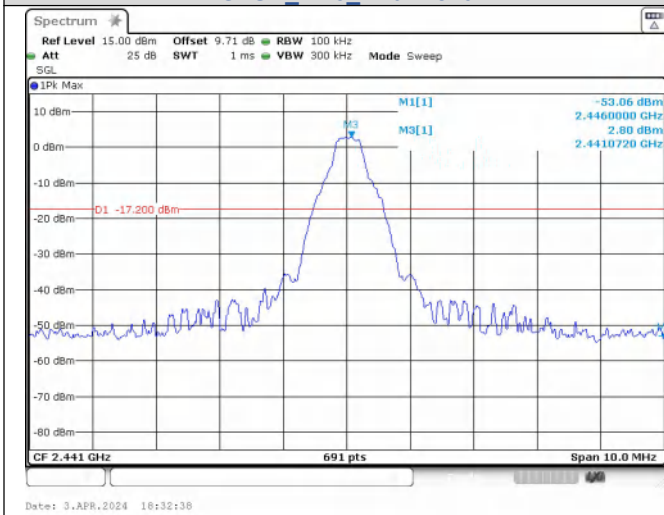
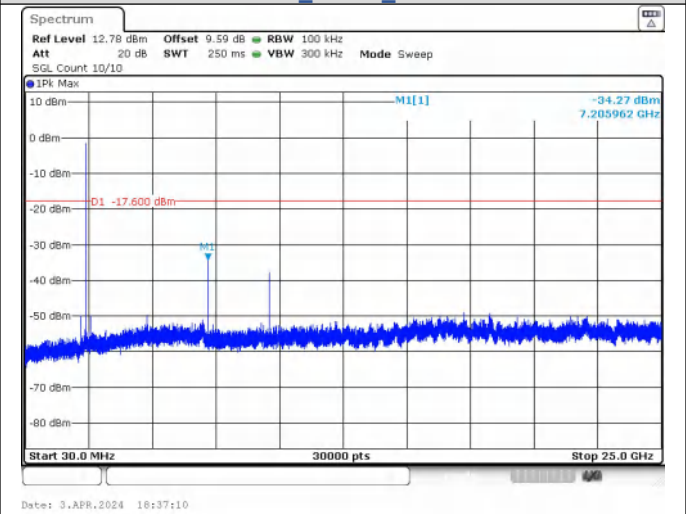
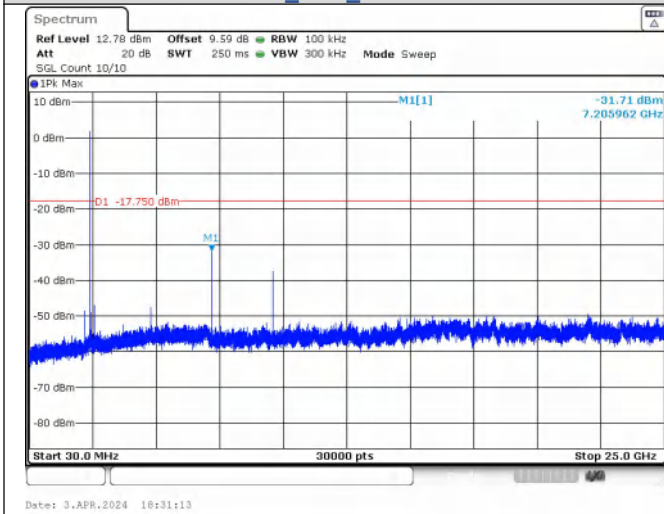
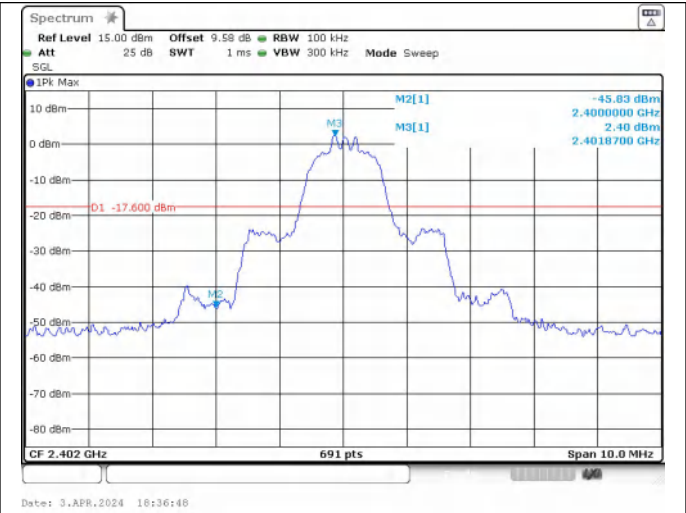
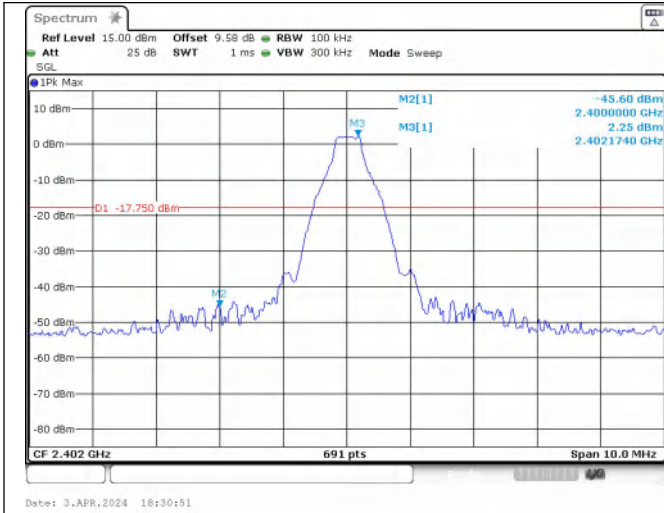
Non-Hopping

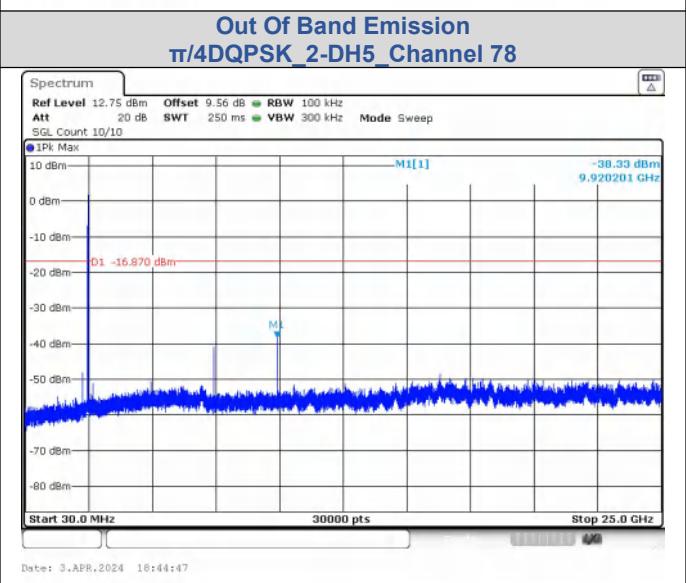
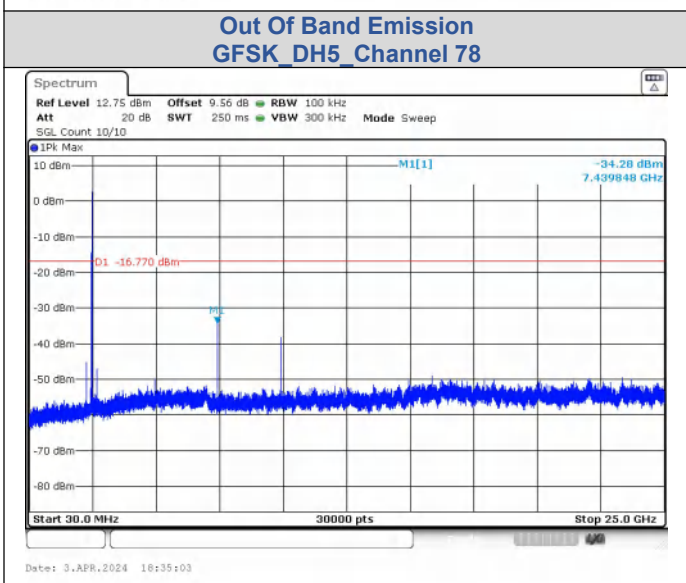
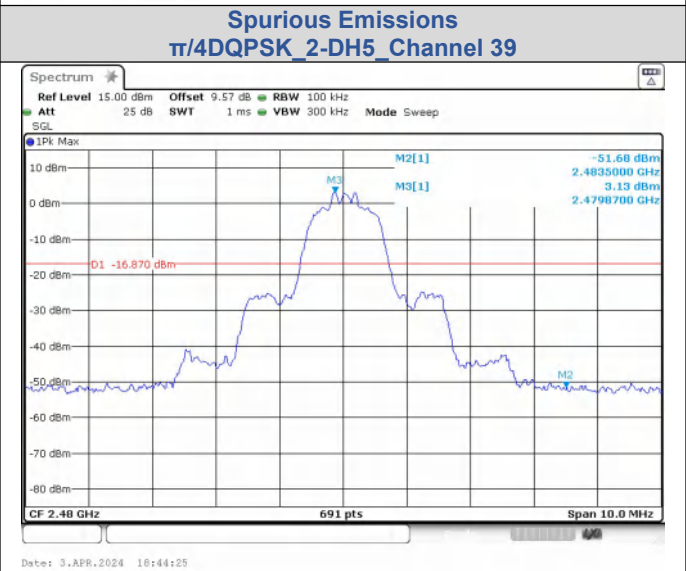
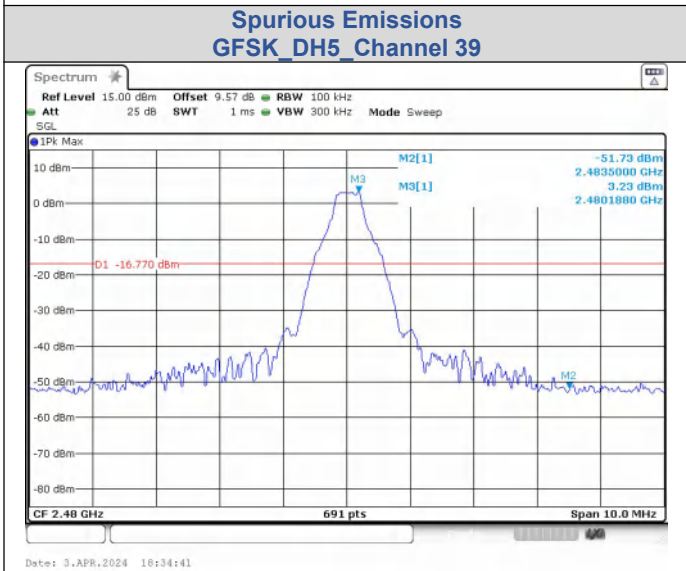
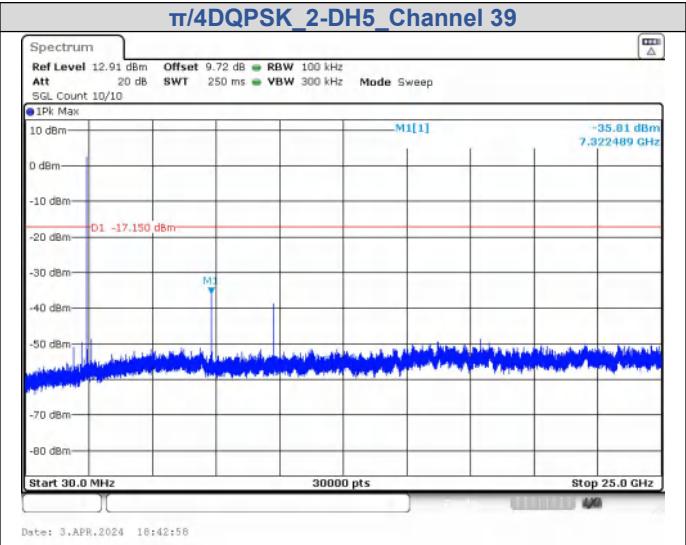
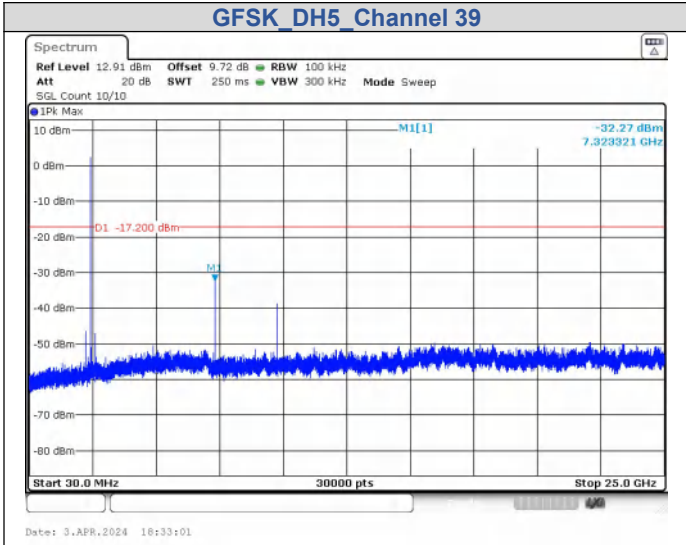
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-45.599	-17.75	-27.849	PASS
			7205.96	-31.712	-17.75	-13.962	PASS
		39	7323.32	-32.272	-17.2	-15.072	PASS
		78	2483.50	-51.727	-16.77	-34.957	PASS
			7439.85	-34.284	-16.77	-17.514	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-45.834	-17.6	-28.234	PASS
			7205.96	-34.268	-17.6	-16.668	PASS
		39	7322.49	-35.809	-17.15	-18.659	PASS
		78	2483.50	-51.683	-16.87	-34.813	PASS
			9920.20	-38.332	-16.87	-21.462	PASS
8DPSK	3-DH5	0	2400.00	-45.075	-17.82	-27.255	PASS
			7205.96	-36.306	-17.82	-18.486	PASS
		39	7322.49	-35.625	-17.32	-18.305	PASS
		78	2483.50	-51.296	-16.82	-34.476	PASS
			9920.20	-38.603	-16.82	-21.783	PASS

Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2396.54	-49.530	-17.85	-31.680	PASS
			2400.00	-52.442	-17.85	-34.592	PASS
			2483.50	-52.457	-16.95	-35.507	PASS
			2398.94	-49.521	-17.79	-31.731	PASS
			2400.00	-49.735	-17.79	-31.945	PASS
			2483.50	-51.369	-17.17	-34.199	PASS
$\pi/4$ DQPSK	2-DH5		2400.00	-46.048	-18.07	-27.978	PASS
			2483.50	-51.559	-16.78	-34.779	PASS
			2398.67	-49.617	-19.25	-30.367	PASS
			2400.00	-50.057	-19.25	-30.807	PASS
8DPSK	3-DH5		2483.50	-51.181	-17.5	-33.681	PASS
			2395.98	-50.745	-14.86	-35.885	PASS
		2400.00	-51.783	-14.86	-36.923	PASS	
		2483.50	-50.564	-15.76	-34.804	PASS	
		2400.00	-49.436	-14.87	-34.566	PASS	
		2483.50	-50.818	-16.05	-34.768	PASS	

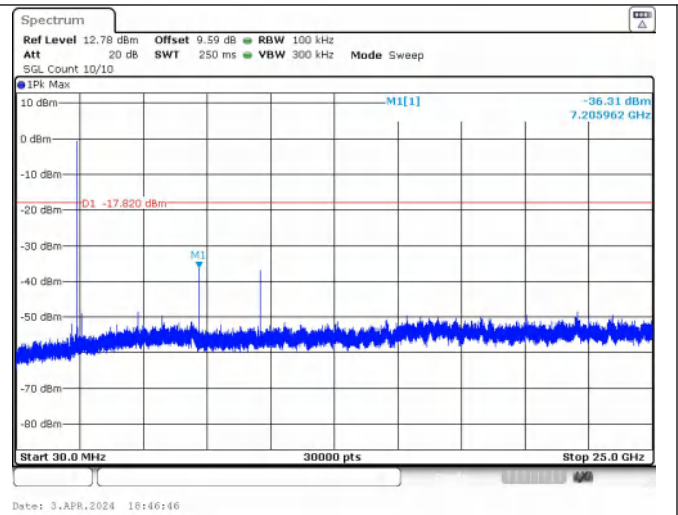
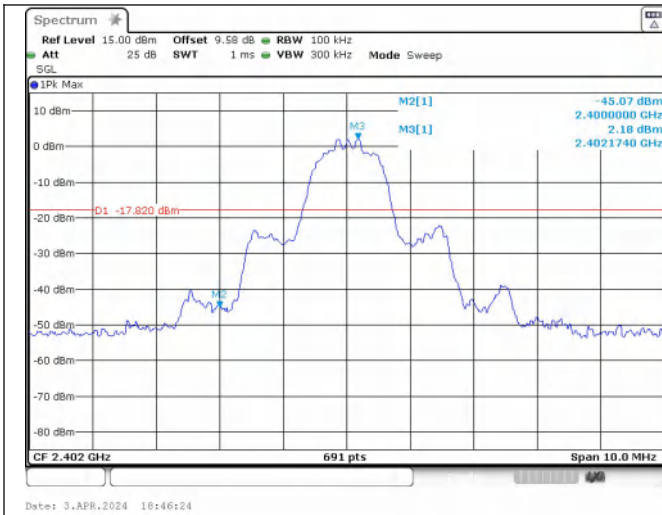
Test Graphs





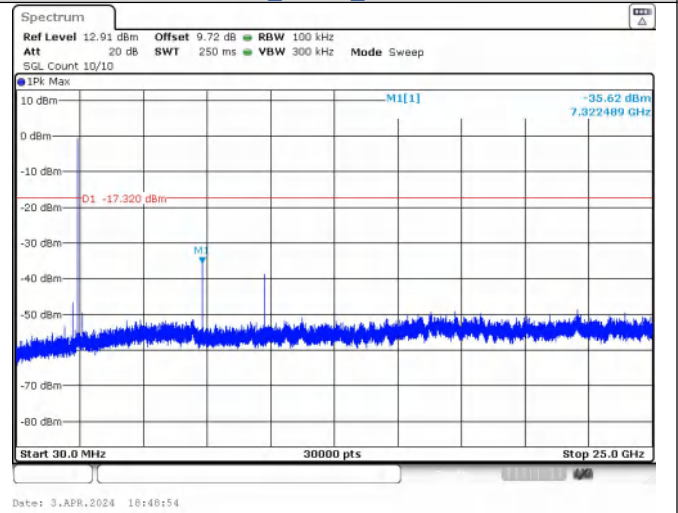
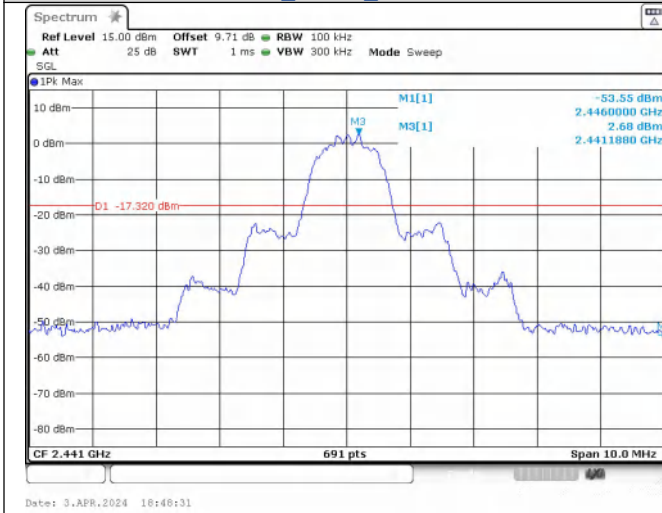
**Spurious Emission
GFSK_DH5_Channel 78**

**Spurious Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78**



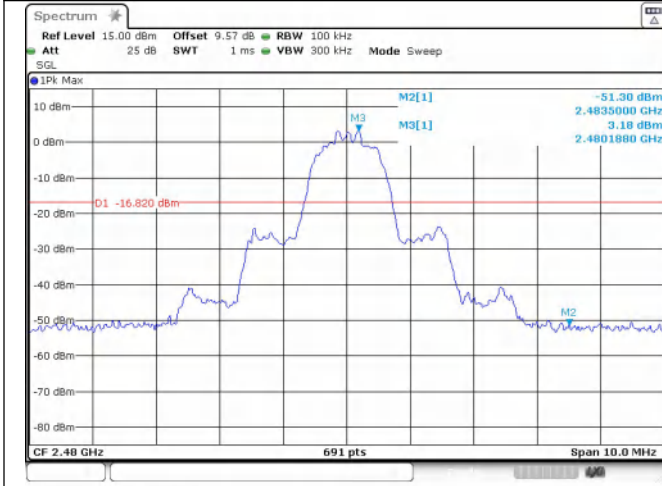
**Out Of Band Emission
8DPSK_3-DH5_Channel 0**

**Spurious Emission
8DPSK_3-DH5_Channel 0**



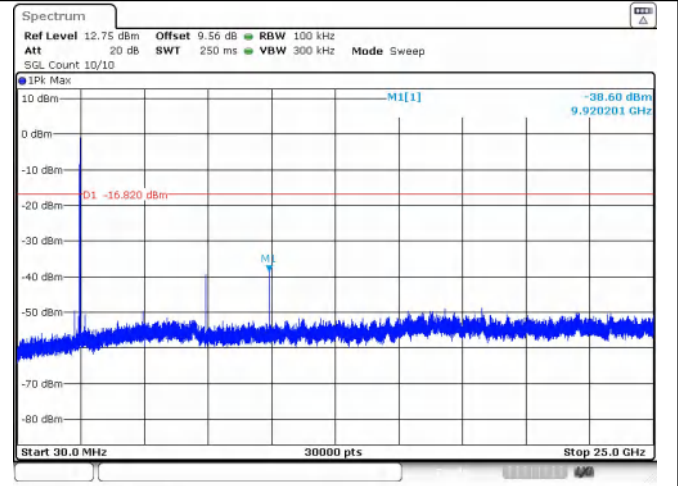
**Out Of Band Emission
8DPSK_3-DH5_Channel 39**

**Spurious Emissions
8DPSK_3-DH5_Channel 39**



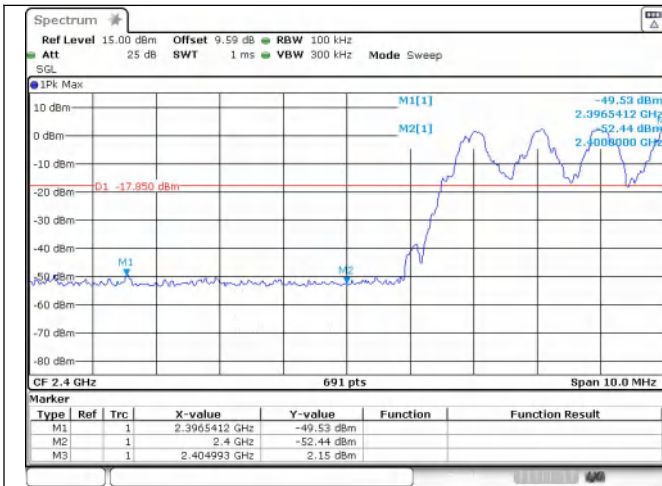
Date: 3.APR.2024 18:50:24

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



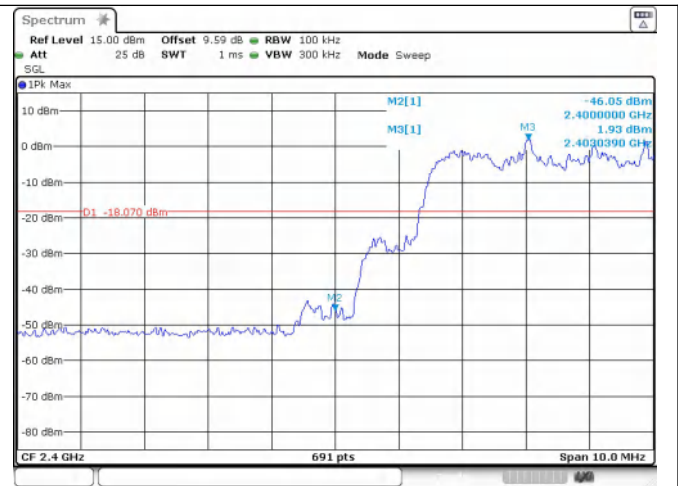
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**Spurious Emission
8DPSK_3-DH5_Channel 78**



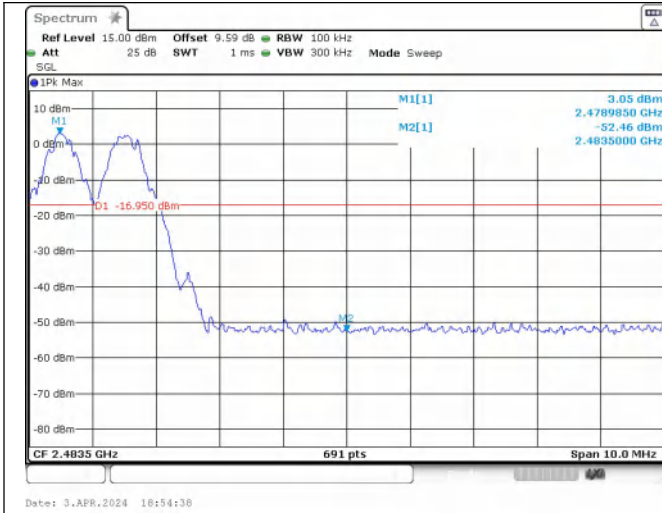
Date: 3.APR.2024 18:54:20

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

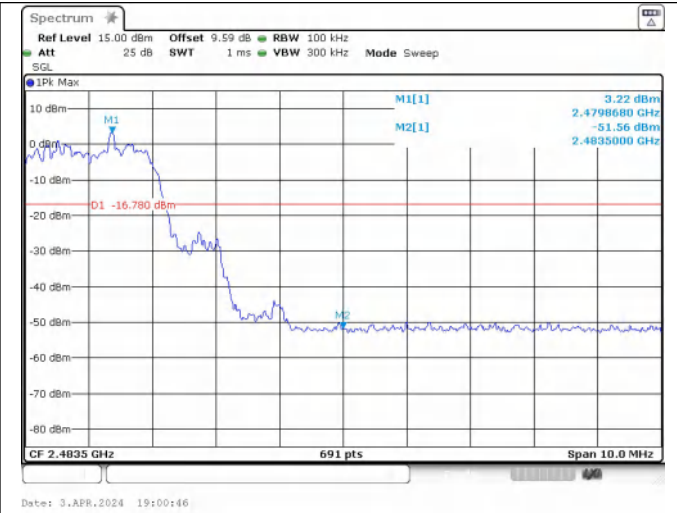


Date: 3.APR.2024 19:00:21

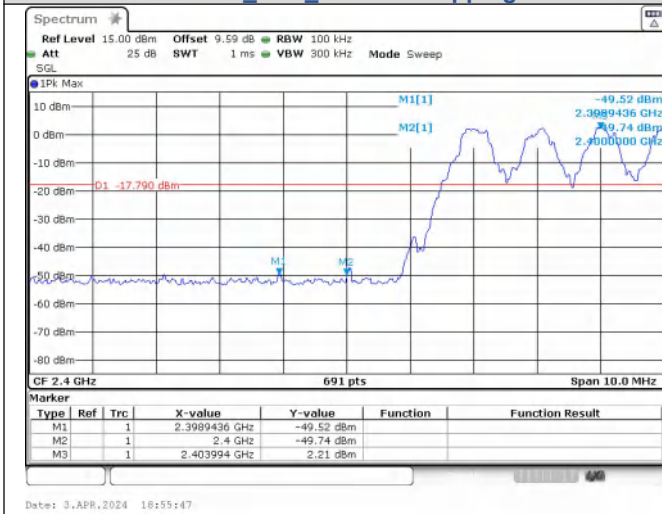
**Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping**



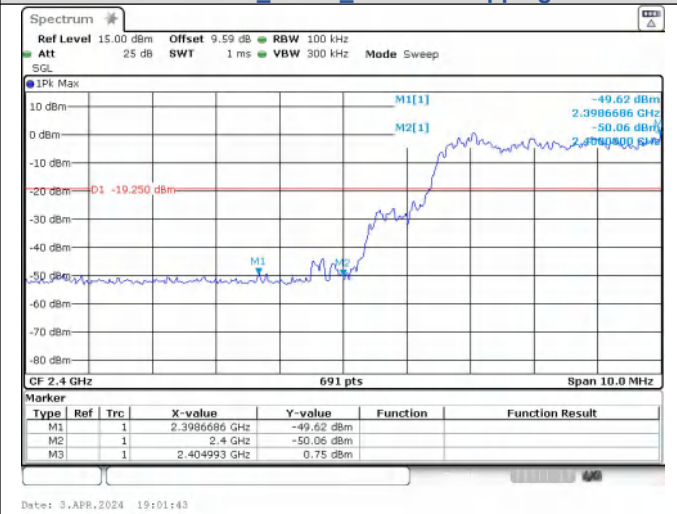
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



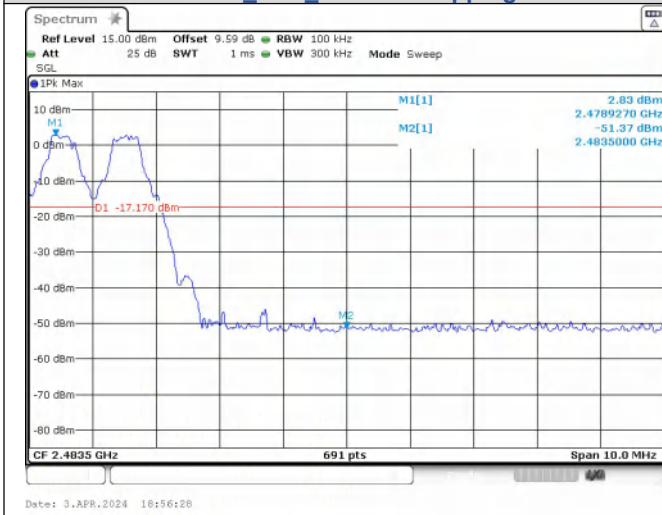
Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



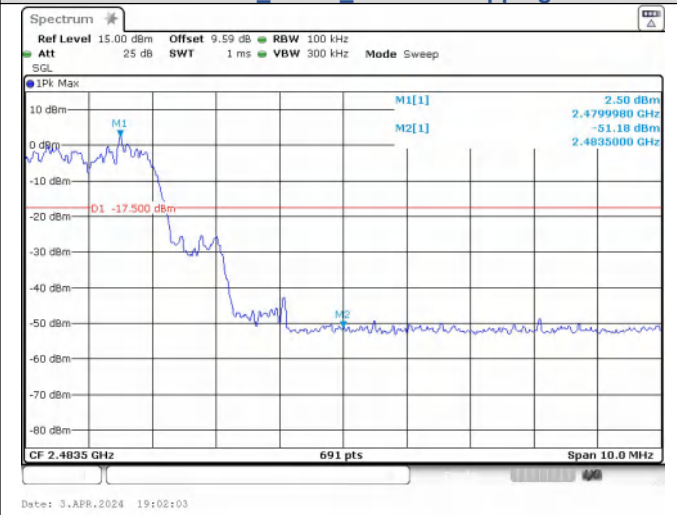
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



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



Out Of Band Emission(Right)



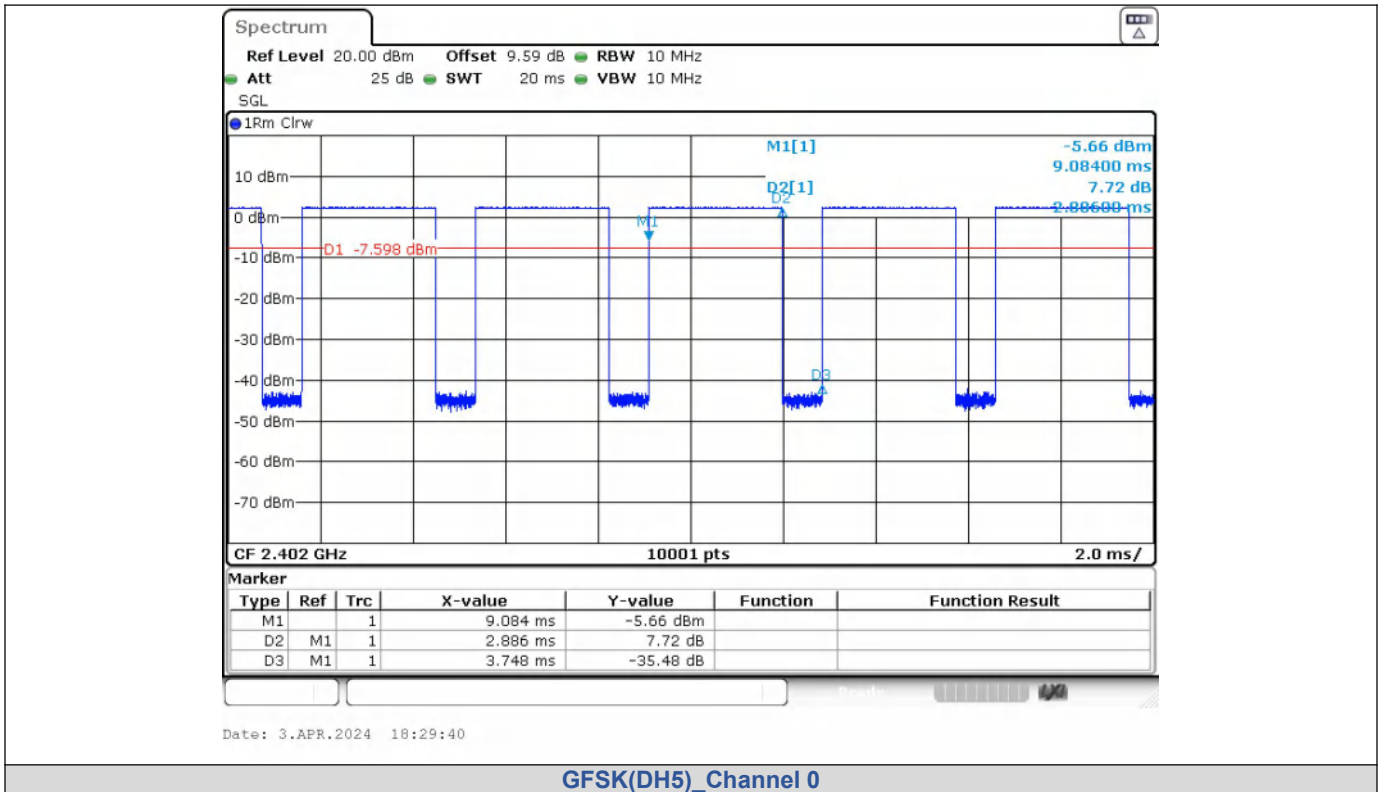
Out Of Band Emission(Right)

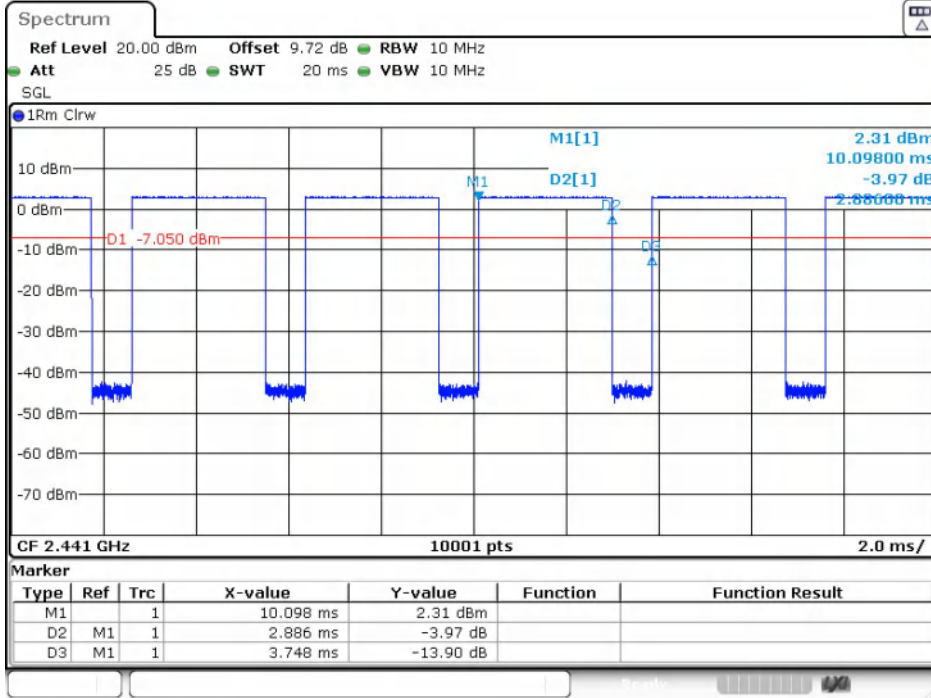
Duty Cycle

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	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.890	3.748	77.11	0.7711	1.1289	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	2.894	3.748	77.21	0.7721	1.1233	0.35

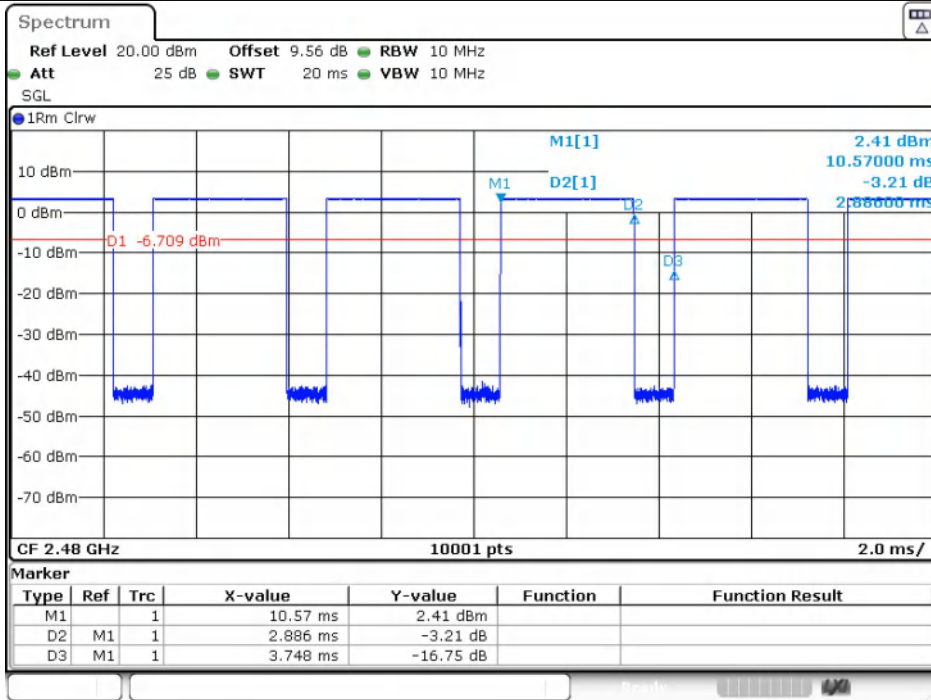
Test Graphs





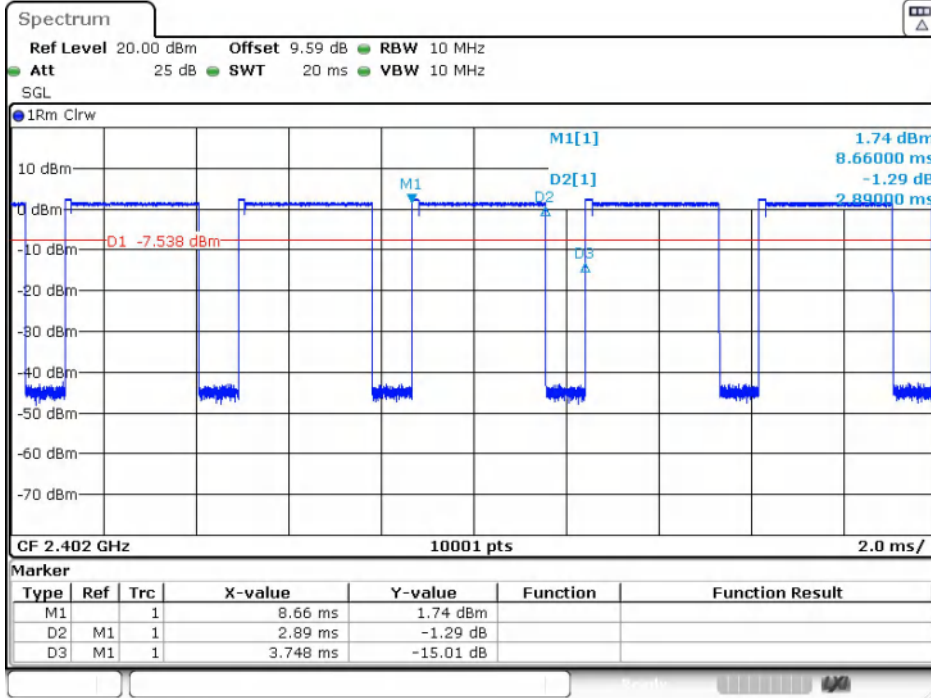
Date: 3.APR.2024 18:31:43

GFSK(DH5)_Channel 39



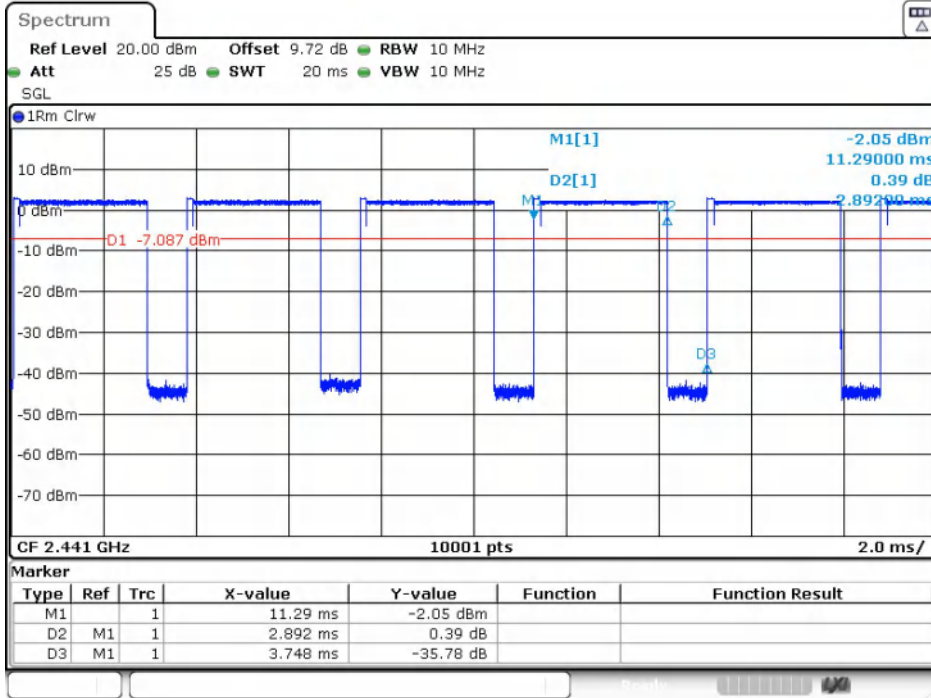
Date: 3.APR.2024 18:33:39

GFSK(DH5)_Channel 78



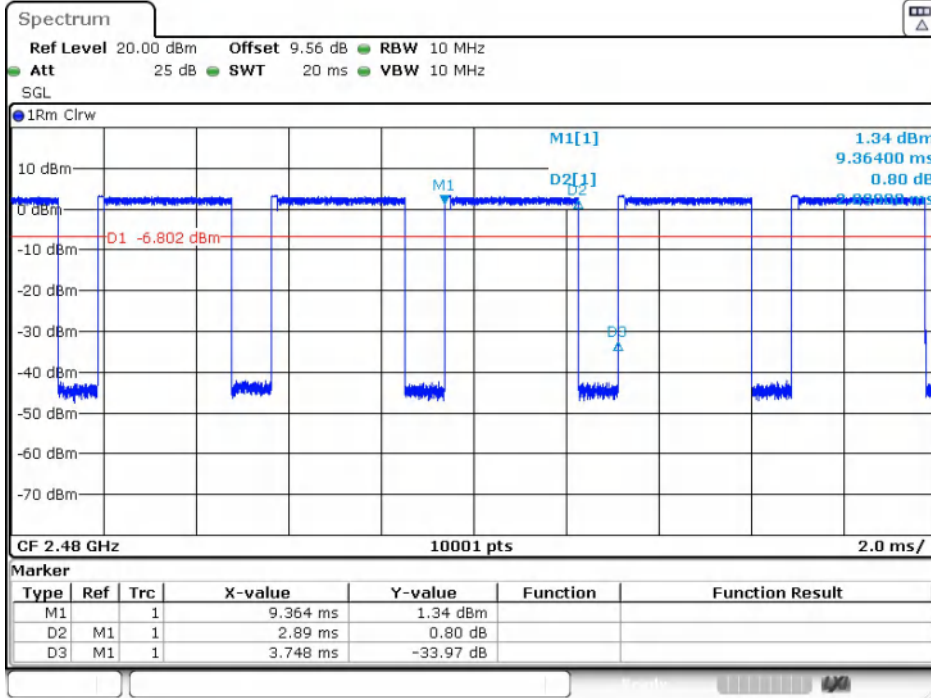
Date: 3.APR.2024 18:35:37

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



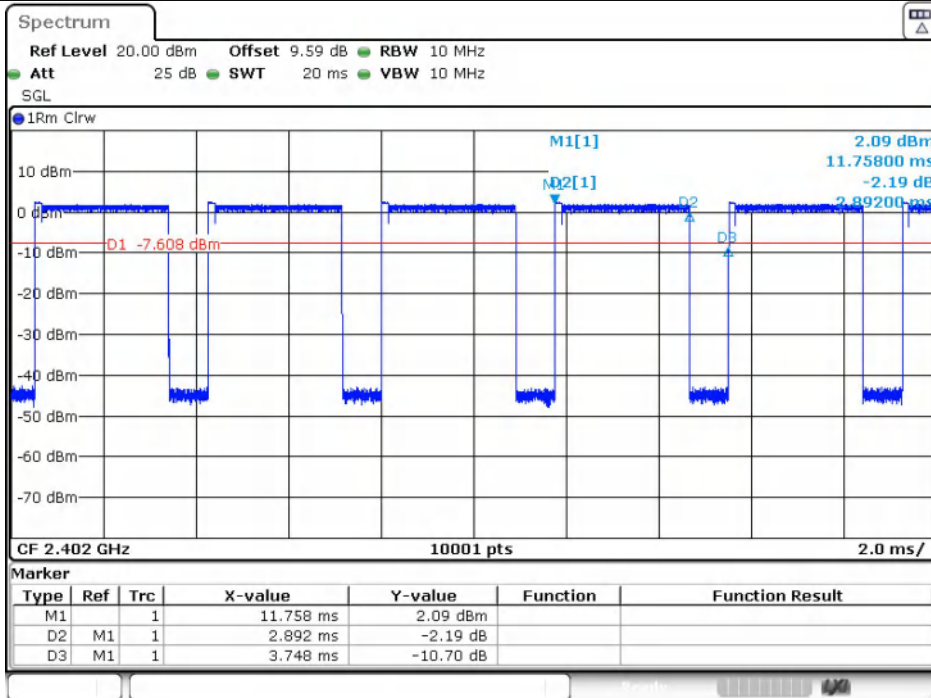
Date: 3.APR.2024 18:41:41

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



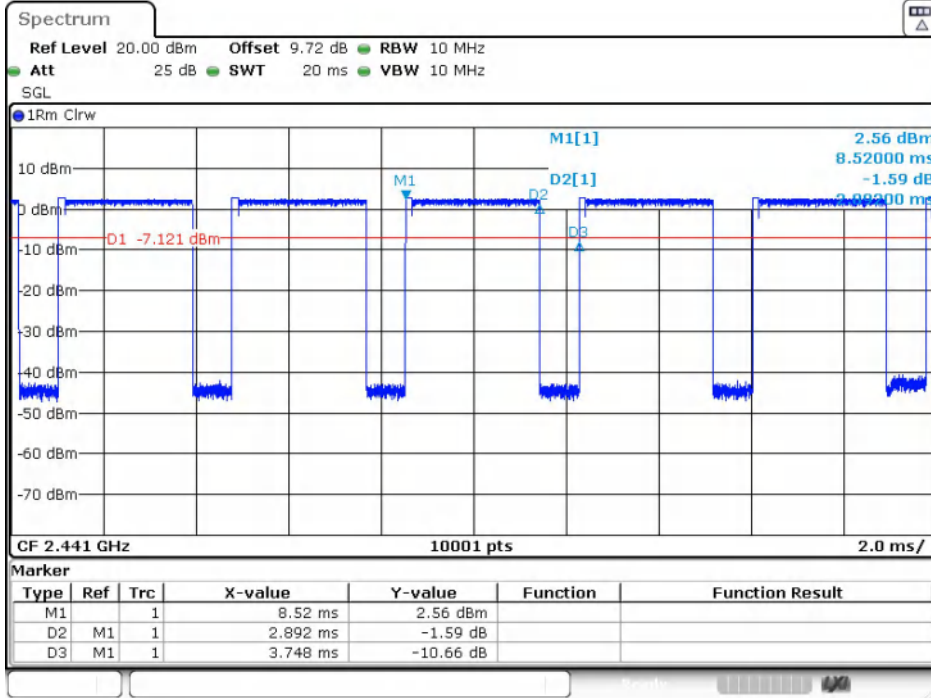
Date: 3.APR.2024 18:43:25

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



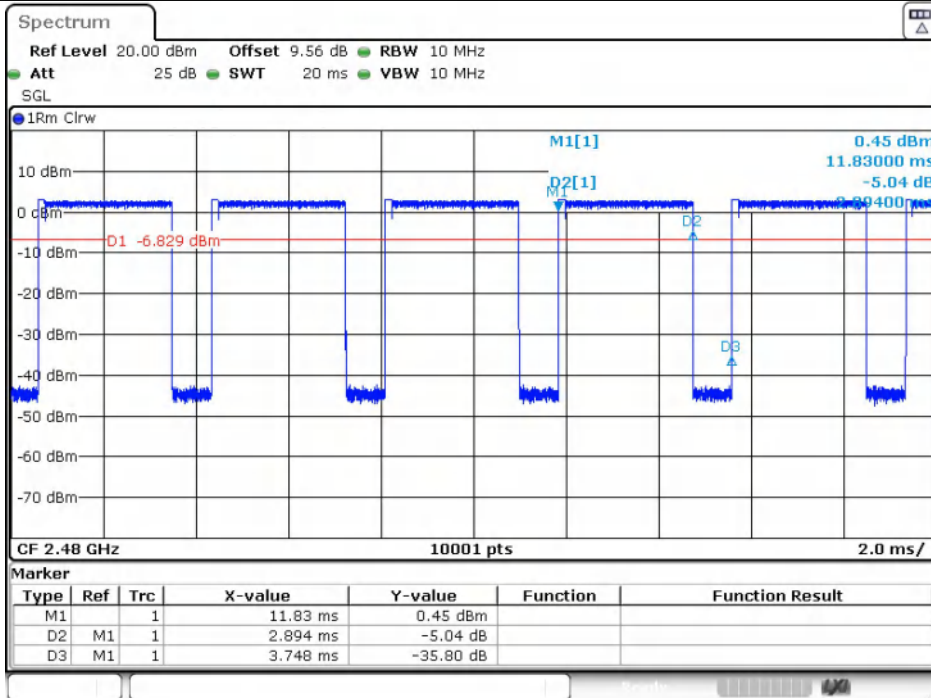
Date: 3.APR.2024 18:45:14

8DPSK(3-DH5)_Channel 0



Date: 3.APR.2024 18:47:37

8DPSK(3-DH5)_Channel 39



Date: 3.APR.2024 18:49:25

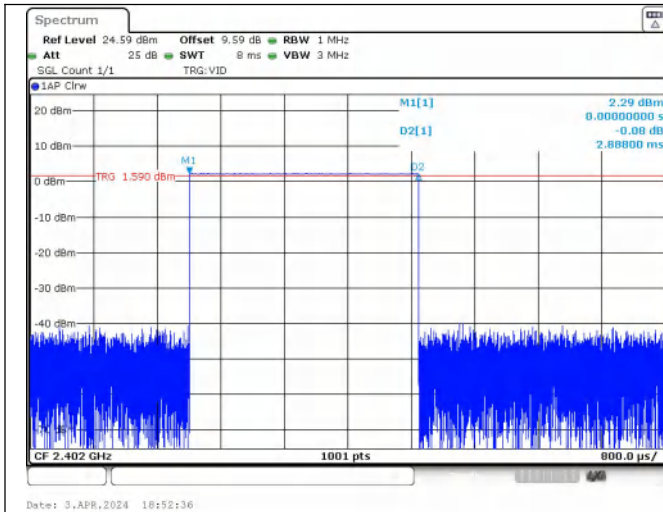
8DPSK(3-DH5)_Channel 78

Dwell Time

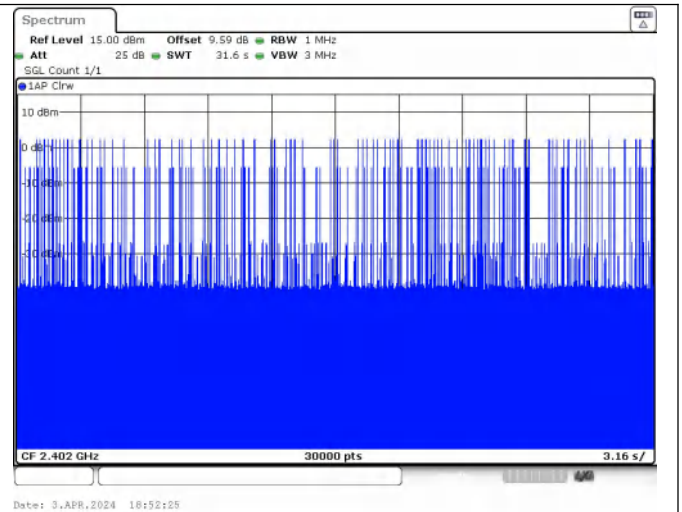
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.888	109	314.79	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	108	312.77		PASS
8DPSK	3-DH5		0.4880	165	80.52		PASS

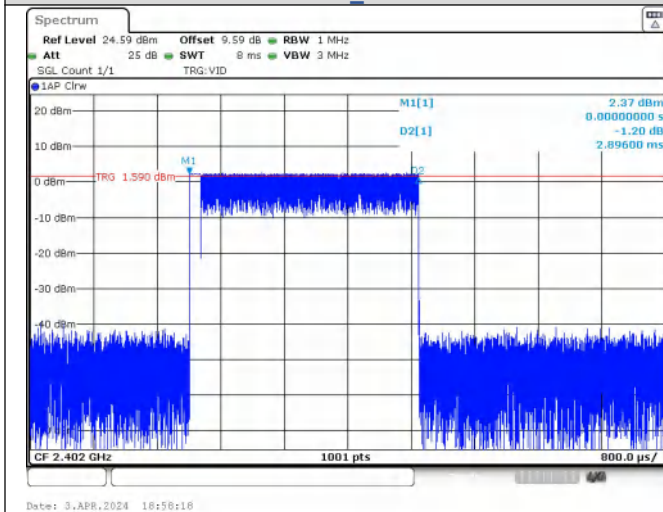
Test Graphs



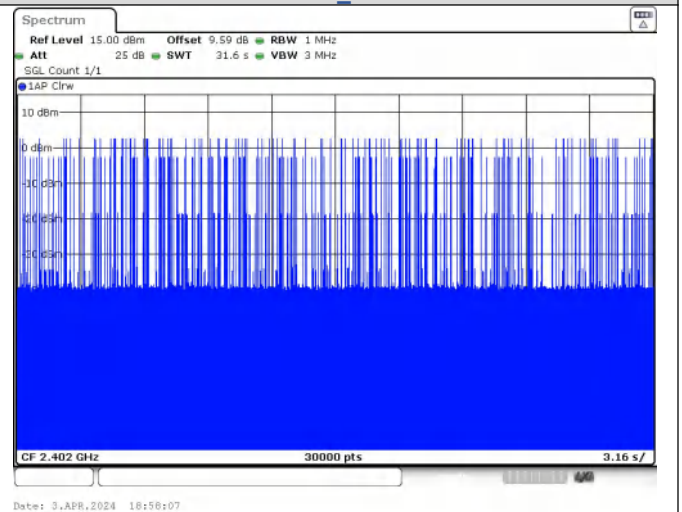
**Pulse Width
GFSK_DH5**



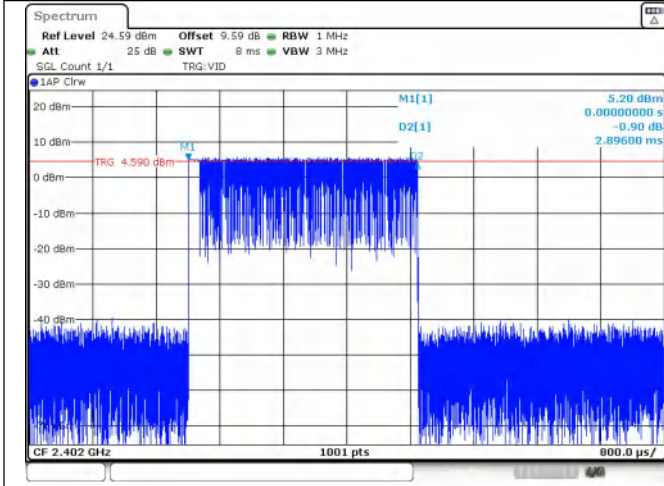
**Number of Pulses in 31.6 seconds
GFSK_DH5**



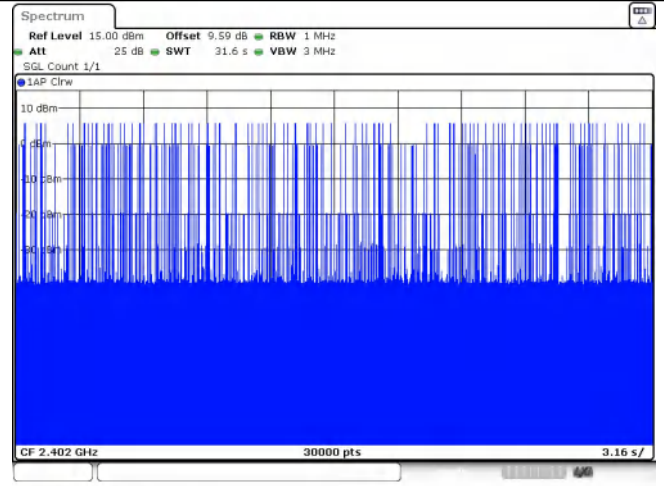
**Pulse Width
 $\pi/4$ DQPSK_2-DH5**



**Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5**



**Pulse Width
8DPSK_3-DH5**



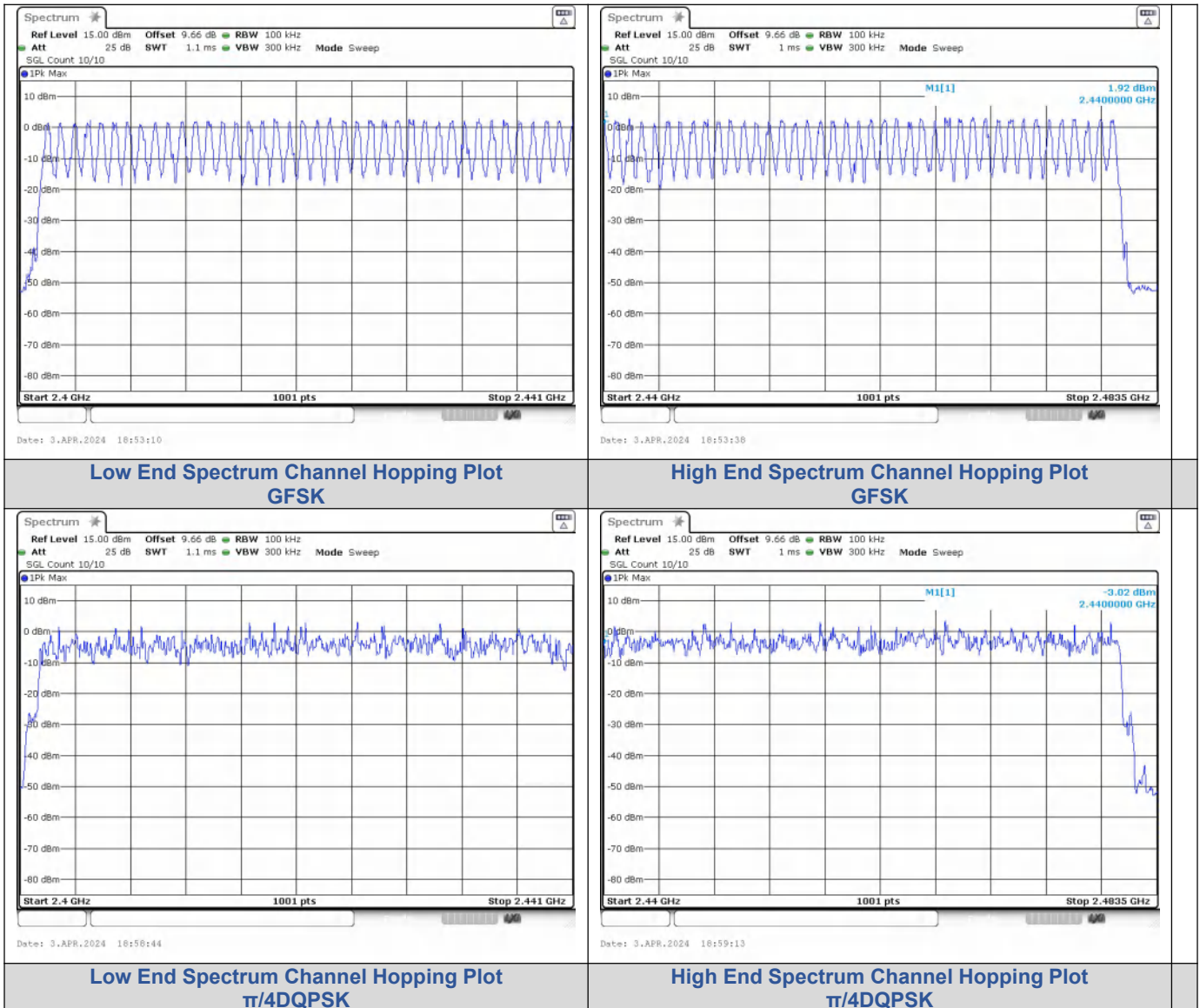
**Number of Pulses in 31.6 seconds
8DPSK_3-DH5**

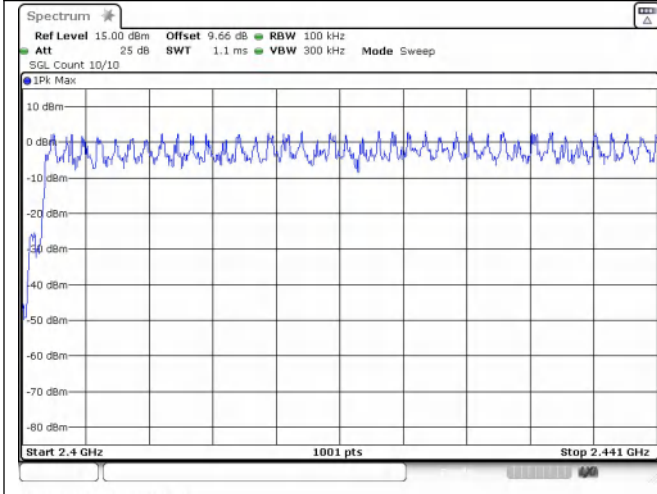
Number Of Hopping Channel

Test Result

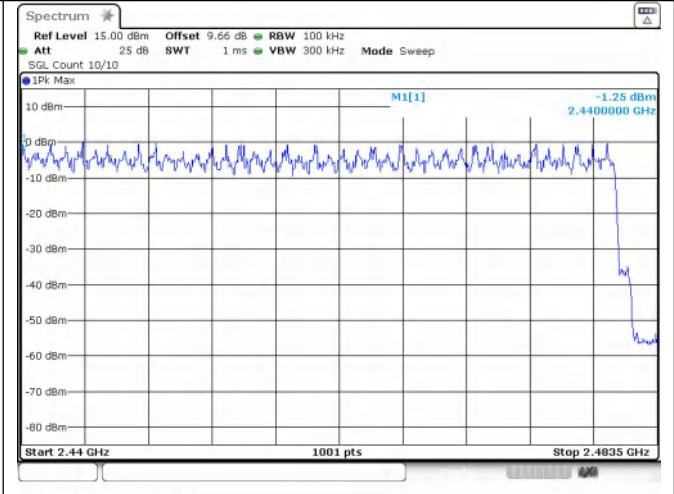
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





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



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