

Appendix RF test data for BT

Conducted Output Power

Test Result

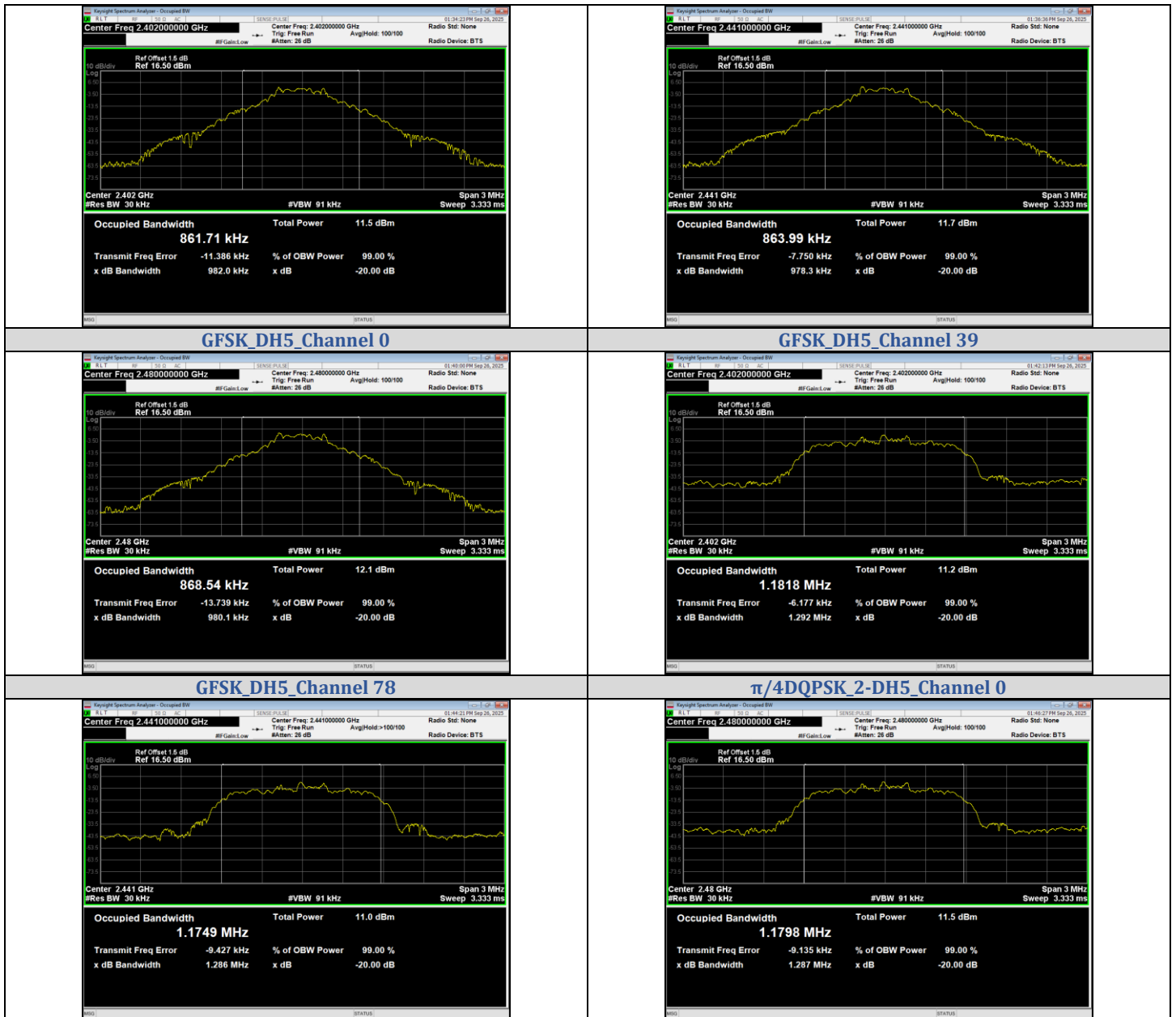
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	4.38	2.74	≤20.97	PASS
		39	4.42	2.77		PASS
		78	4.73	2.97		PASS
$\pi/4$ DQPSK	2-DH5	0	5.69	3.71	≤20.97	PASS
		39	5.63	3.66		PASS
		78	5.92	3.91		PASS
8DPSK	3-DH5	0	5.85	3.85		PASS
		39	5.28	3.37		PASS
		78	6.07	4.05		PASS

20dB Bandwidth

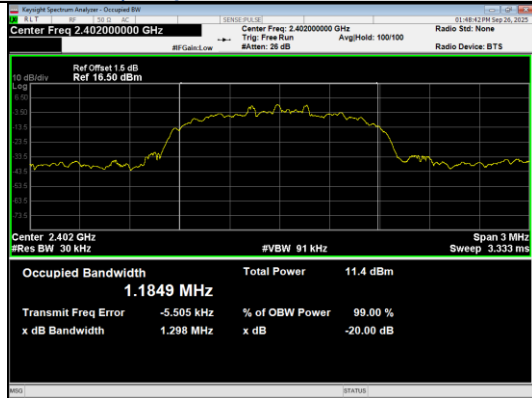
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9800
	39	2441 MHz	0.9800
	78	2480 MHz	0.9800
$\pi/4$ DQPSK	0	2402 MHz	1.290
	39	2441 MHz	1.290
	78	2480 MHz	1.290
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.300
	78	2480 MHz	1.300

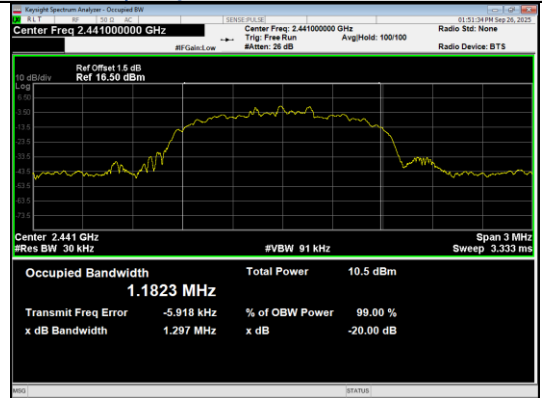
Test Graphs



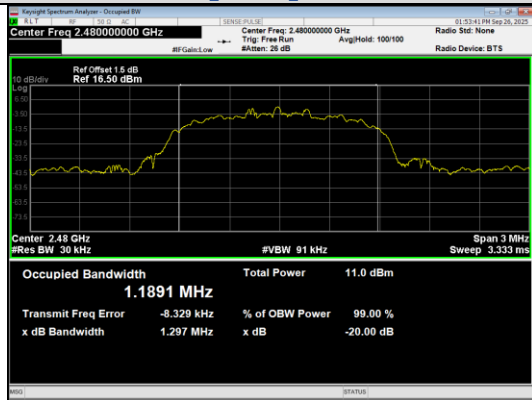
$\pi/4$ DQPSK 2-DH5_Channel 39



$\pi/4$ DQPSK 2-DH5_Channel 78



8DPSK 3-DH5_Channel 0



8DPSK 3-DH5_Channel 39

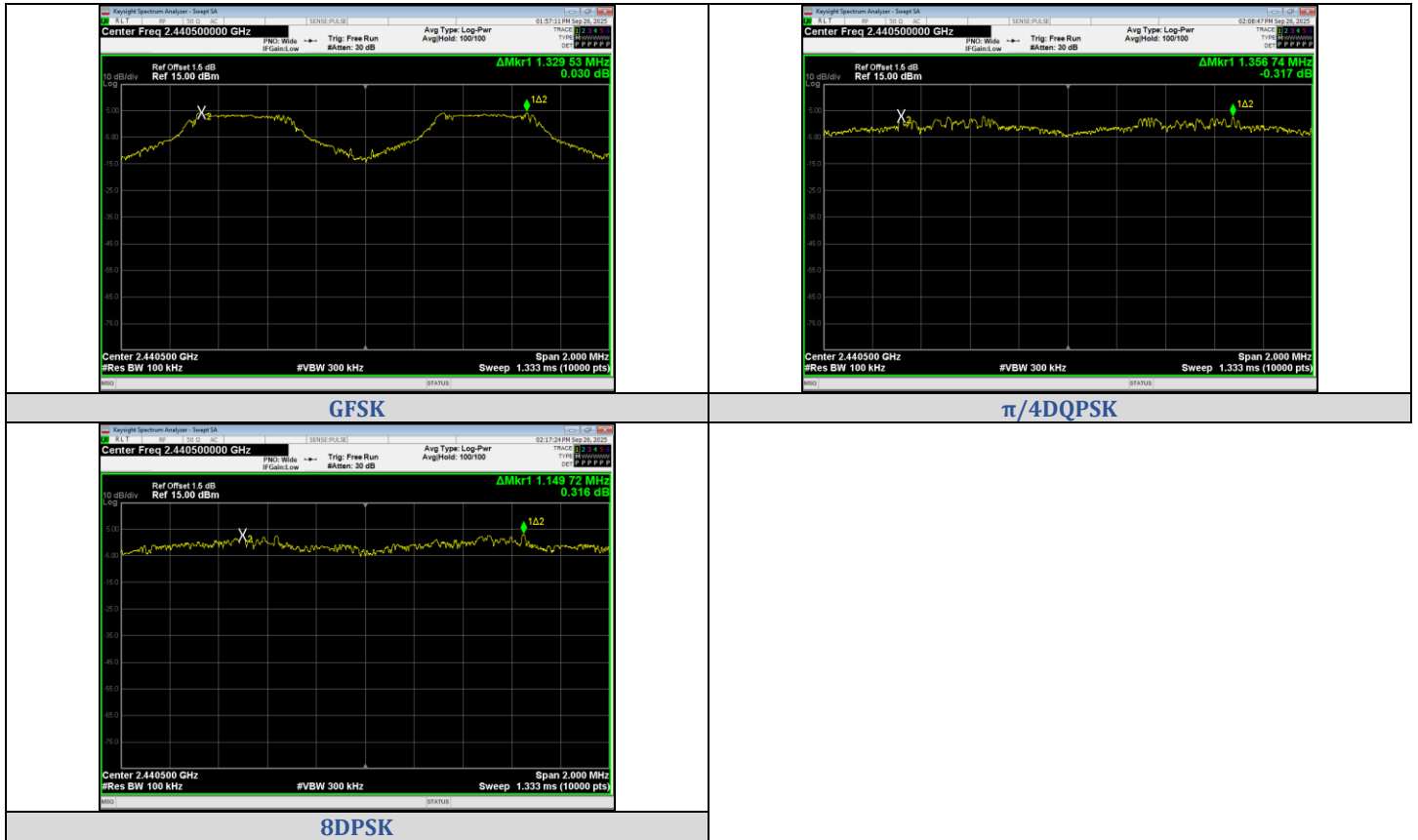
8DPSK 3-DH5_Channel 78

Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8304	2441.16	1.3295	0.65	PASS
$\pi/4$ DQPSK	2-DH5	2439.8178	2441.1746	1.3567	0.86	PASS
8DPSK	3-DH5	2439.997	2441.1468	1.1497	0.87	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

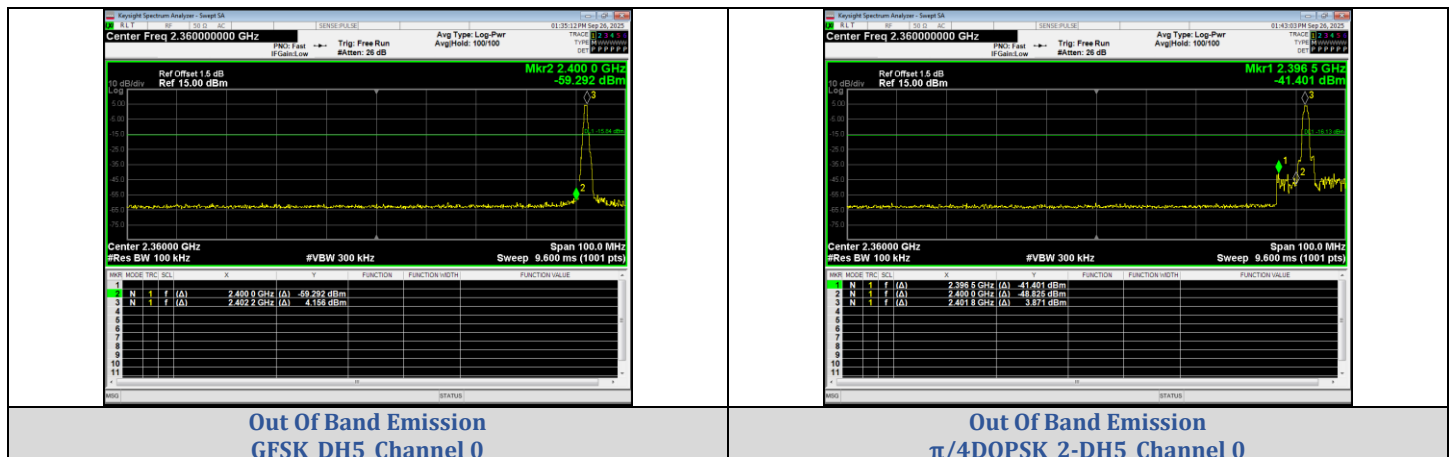
Non-Hopping

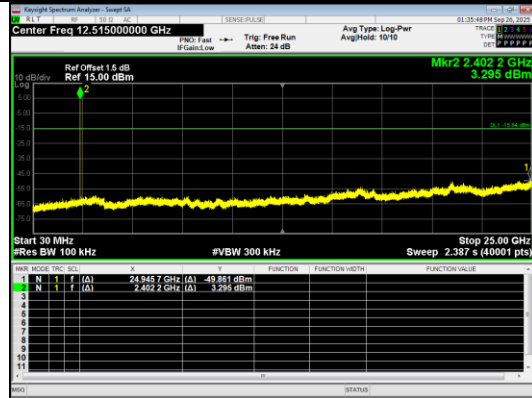
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-59.290	-15.84	-43.450	PASS
			24945.7	-49.861	-15.84	-34.021	PASS
		39	24837.1	-49.695	-15.81	-33.885	PASS
		78	2483.50	-48.990	-15.47	-33.520	PASS
			24857.7	-48.831	-15.47	-33.361	PASS
$\pi/4$ DQPSK	2-DH5	0	1746.70	-39.675	-16.13	-23.545	PASS
			2396.50	-41.401	-16.13	-25.271	PASS
			2400.00	-48.830	-16.13	-32.700	PASS
		39	24344.5	-49.877	-16.54	-33.337	PASS
		78	2483.50	-57.790	-16.1	-41.690	PASS
			24931.3	-48.879	-16.1	-32.779	PASS
8DPSK	3-DH5	0	2400.00	-50.450	-16.11	-34.340	PASS
			24993.1	-49.864	-16.11	-33.754	PASS
		39	24997.5	-49.117	-17.0	-32.117	PASS
		78	2483.50	-44.720	-15.86	-28.860	PASS
			24928.8	-49.405	-15.86	-33.545	PASS

Hopping

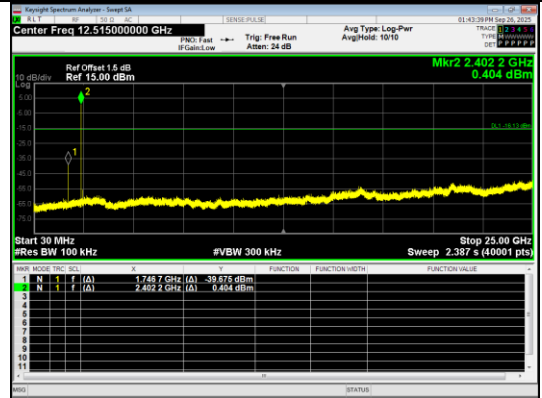
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.60	-57.393	-14.91	-42.483	PASS
			2400.00	-60.040	-14.91	-45.130	PASS
			2483.50	-62.140	-15.39	-46.750	PASS
$\pi/4$ DQPSK	2-DH5		2400.00	-41.160	-15.69	-25.470	PASS
			2483.50	-33.400	-14.11	-19.290	PASS
8DPSK	3-DH5		2400.00	-51.730	-15.21	-36.520	PASS
			2483.50	-59.670	-15.65	-44.020	PASS

Test Graphs

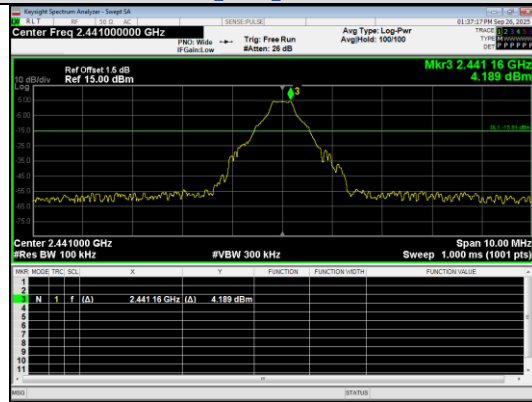




30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



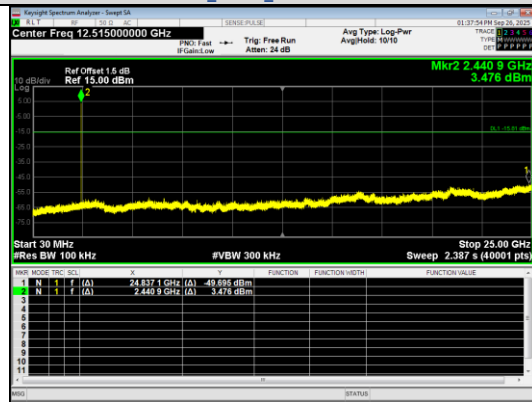
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



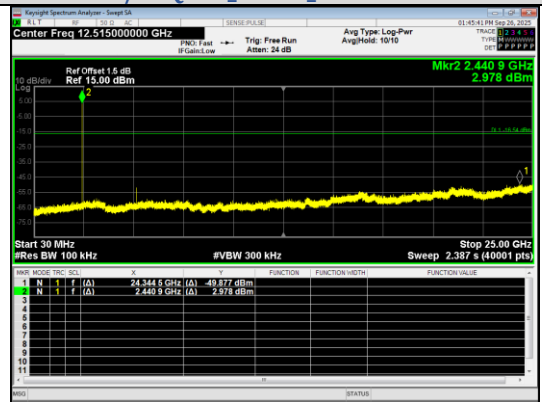
Out Of Band Emission
GFSK_DH5_Channel 39



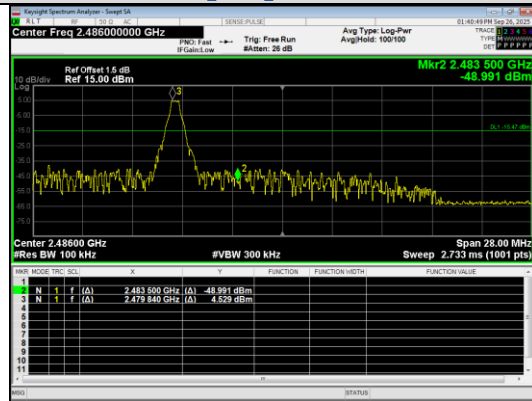
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



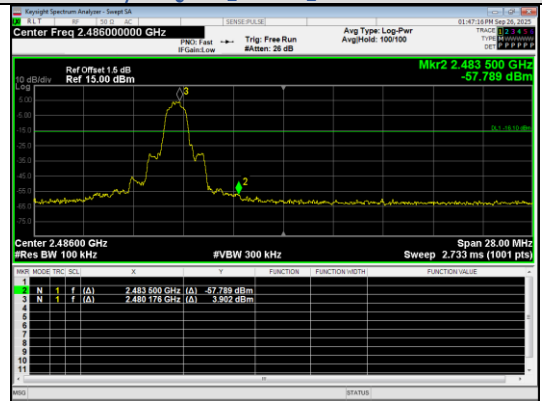
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39

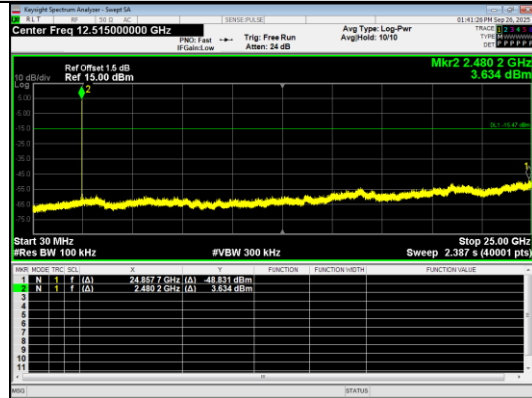


Out Of Band Emission



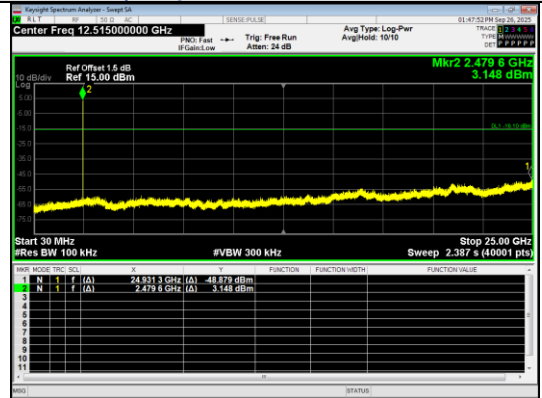
Out Of Band Emission

GFSK_DH5_Channel 78

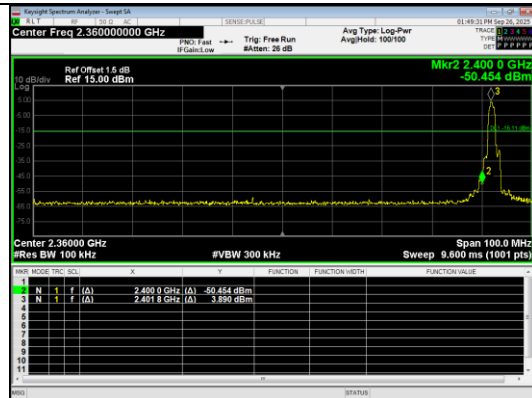


30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78

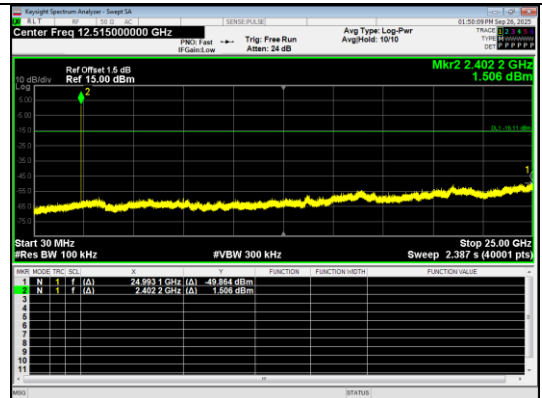
$\pi/4$ DQPSK_2-DH5_Channel 78



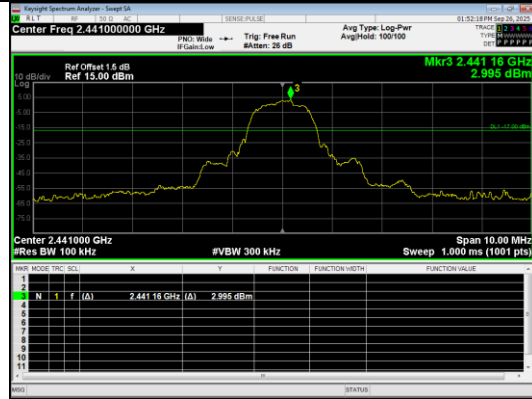
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



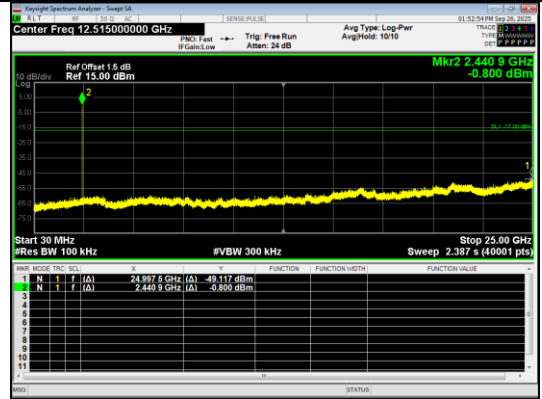
Out Of Band Emission
8DPSK_3-DH5_Channel 0



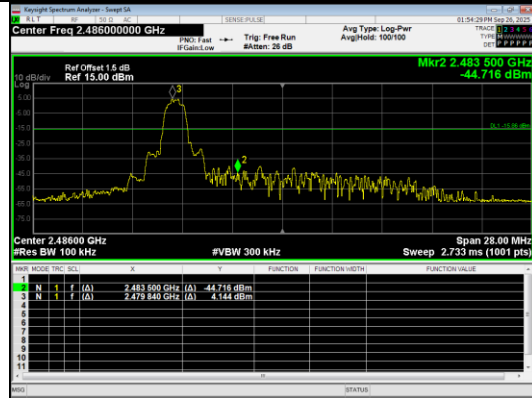
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



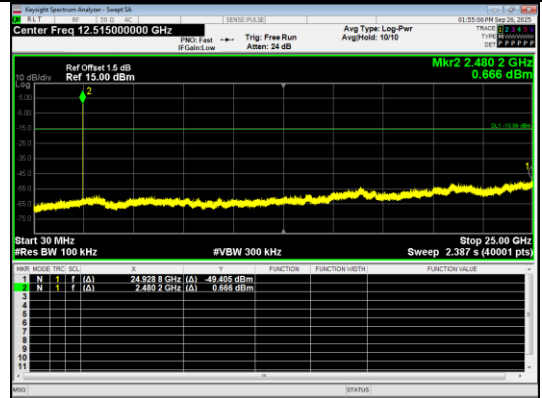
Out Of Band Emission
8DPSK_3-DH5_Channel 39



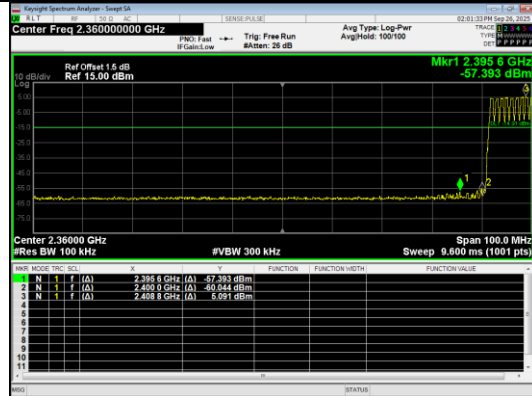
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



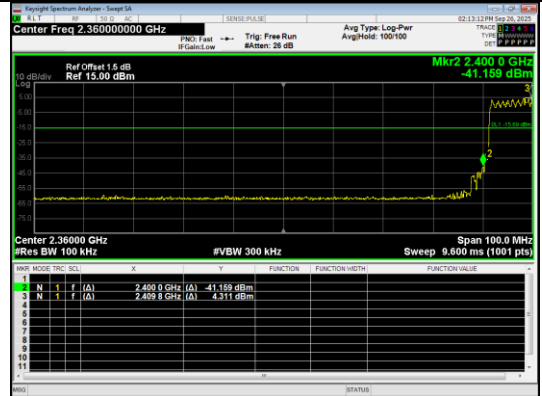
Out Of Band Emission
8DPSK_3-DH5_Channel 78



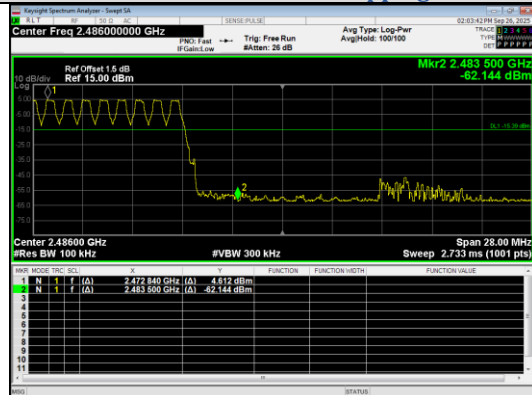
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



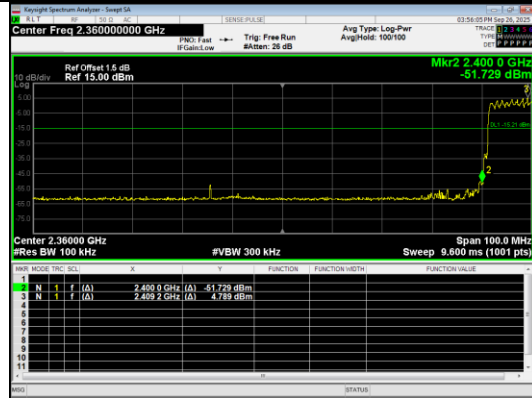
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



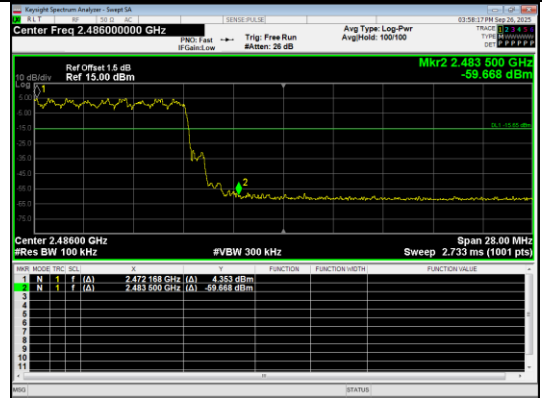
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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



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



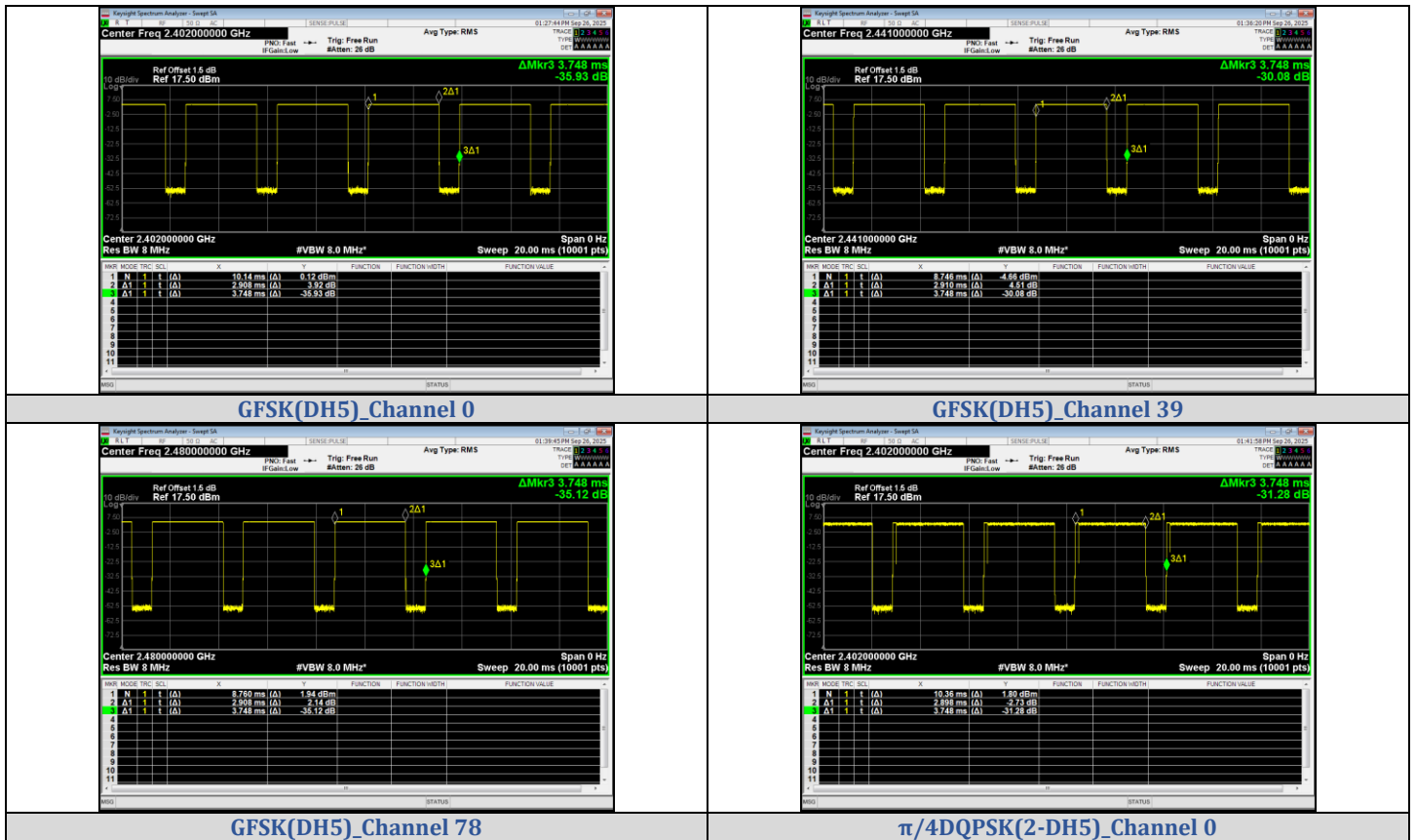
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

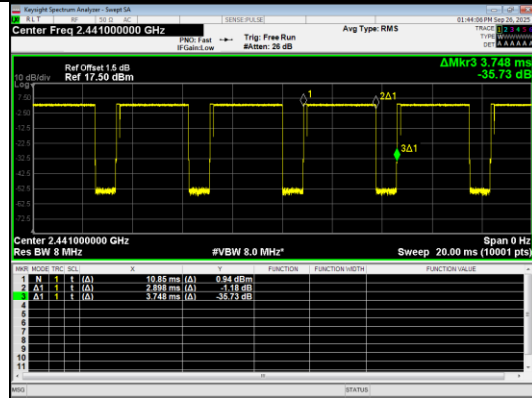
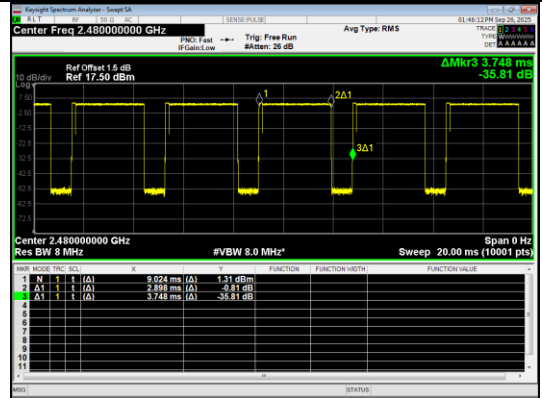
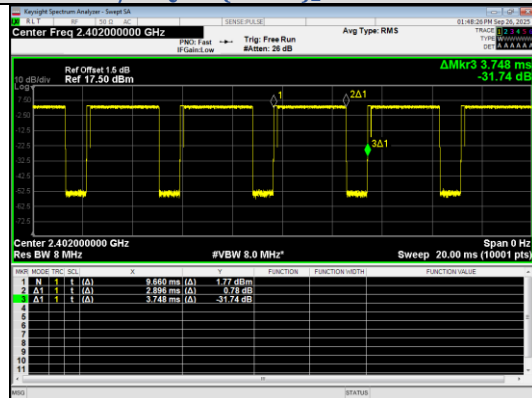
Duty Cycle

Test Result

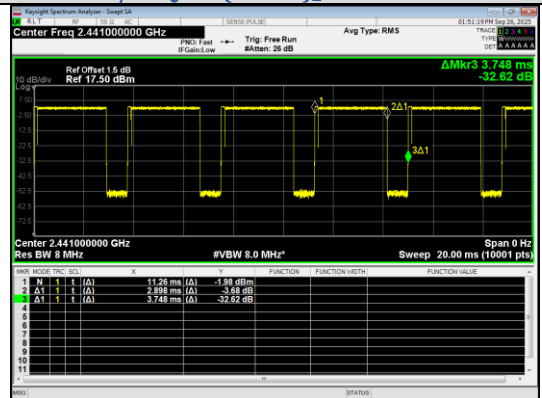
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.908	3.748	77.59	0.7759	1.1019	0.3439
		39	2.910	3.748	77.64	0.7764	1.0991	0.3436
		78	2.908	3.748	77.59	0.7759	1.1019	0.3439
$\pi/4$ DQPSK	2-DH5	0	2.898	3.748	77.32	0.7732	1.1171	0.3451
		39	2.898	3.748	77.32	0.7732	1.1171	0.3451
		78	2.898	3.748	77.32	0.7732	1.1171	0.3451
8DPSK	3-DH5	0	2.896	3.748	77.27	0.7727	1.1199	0.3453
		39	2.898	3.748	77.32	0.7732	1.1171	0.3451
		78	2.898	3.748	77.32	0.7732	1.1171	0.3451

Test Graphs

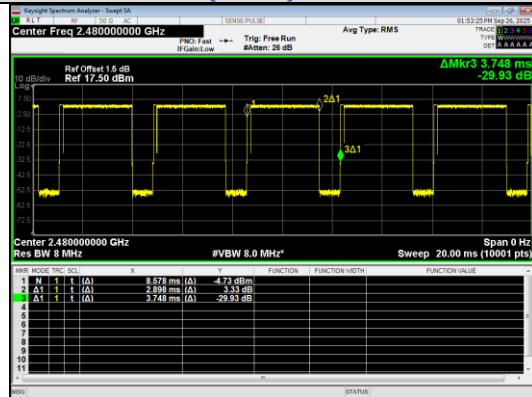



 $\pi/4$ DQPSK(2-DH5)_Channel 39

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


8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



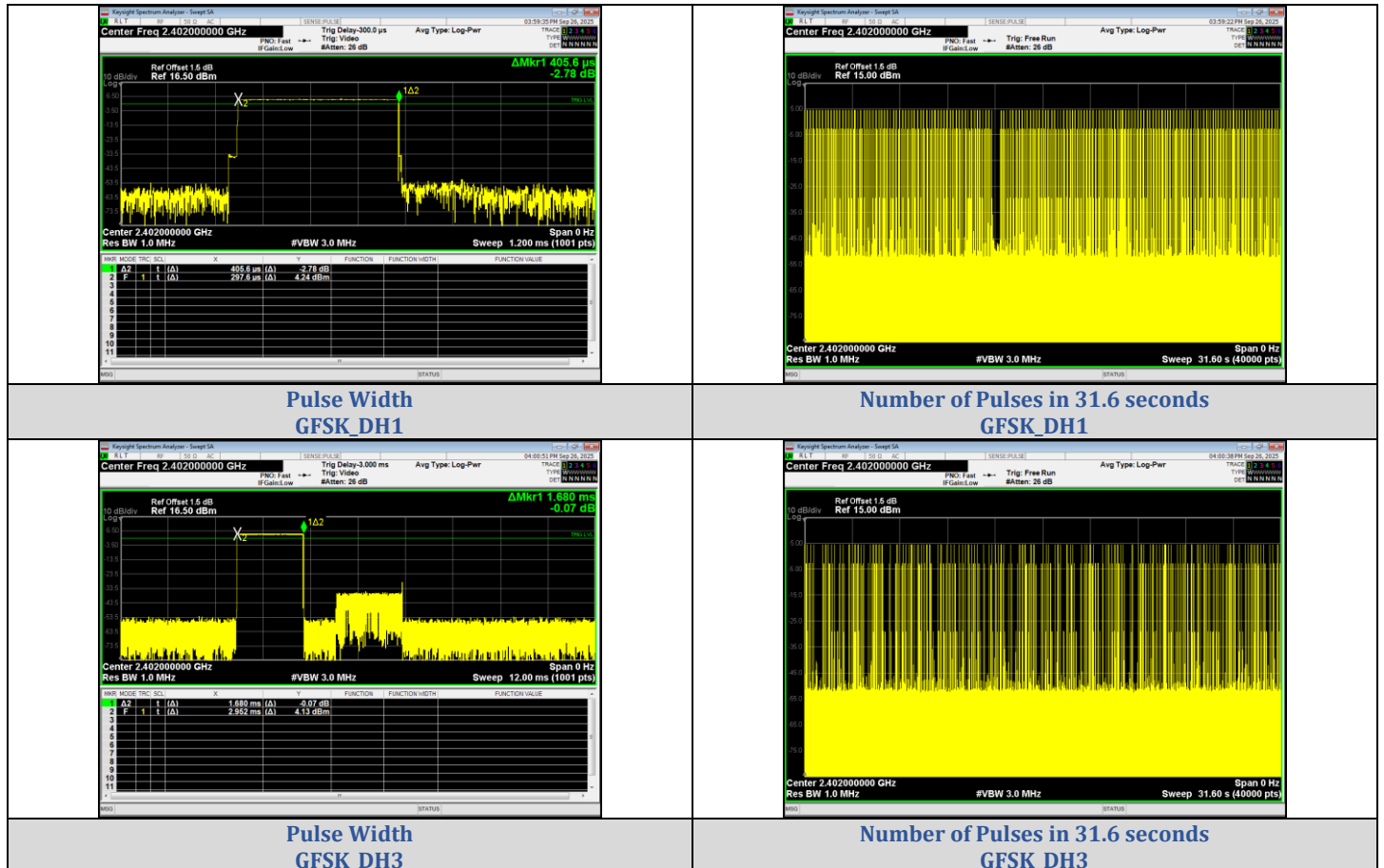
8DPSK(3-DH5)_Channel 78

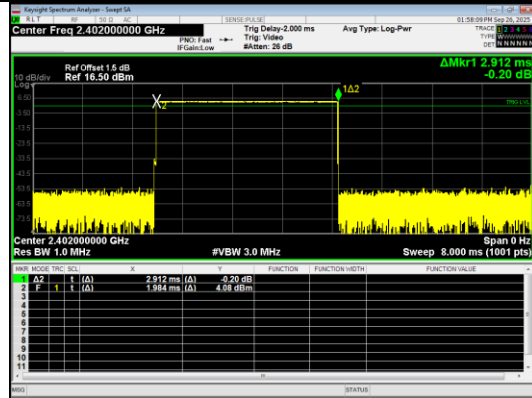
Dwell Time

Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	Hopping	0.4056	310	125.74	< 400	PASS
	DH3		1.680	159	267.12		PASS
	DH5		2.912	109	317.41		PASS
$\pi/4$ DQPSK	2-DH1		0.3972	315	125.12		PASS
	2-DH3		1.632	163	266.02		PASS
	2-DH5		2.896	107	309.87		PASS
8DPSK	3-DH1		0.3960	309	122.36		PASS
	3-DH3		1.656	154	255.02		PASS
	3-DH5		2.896	105	304.08		PASS

Test Graphs

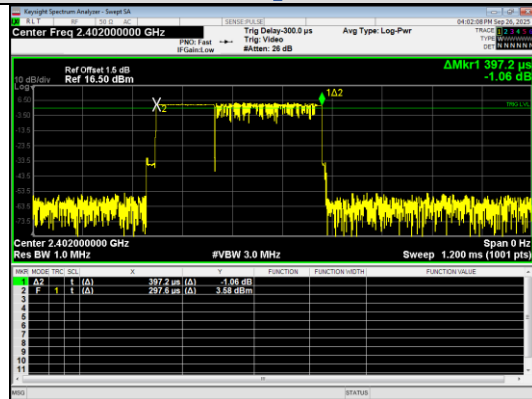




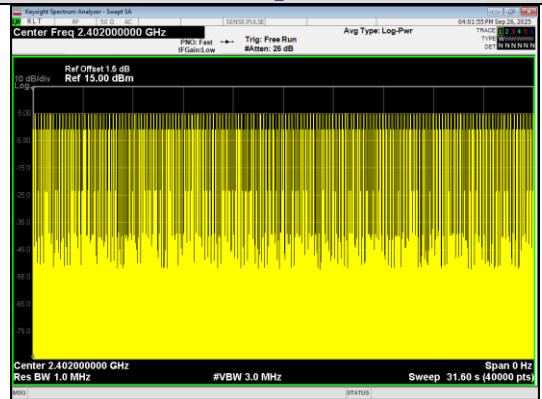
Pulse Width
GFSK_DH5



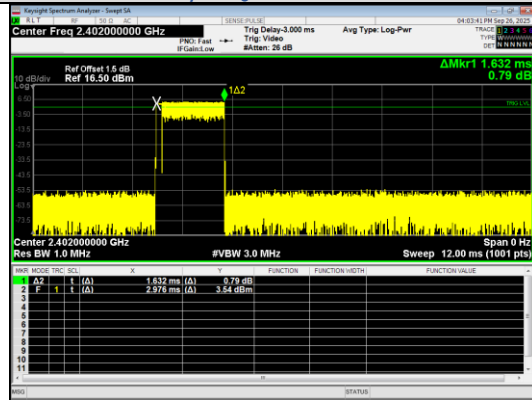
Number of Pulses in 31.6 seconds
GFSK_DH5



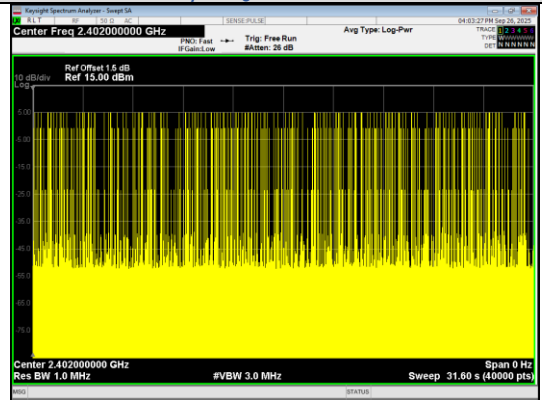
Pulse Width
 $\pi/4$ QPSK_2-DH1



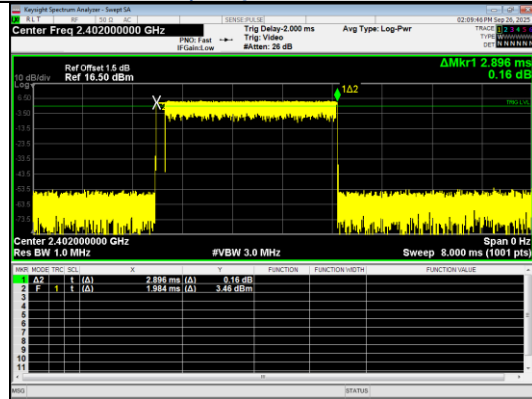
Number of Pulses in 31.6 seconds
 $\pi/4$ QPSK_2-DH1



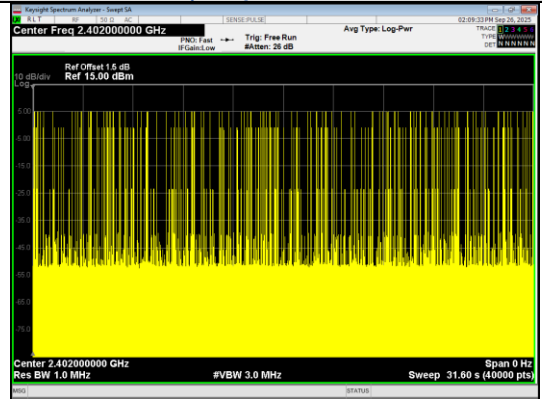
Pulse Width
 $\pi/4$ QPSK_2-DH3



Number of Pulses in 31.6 seconds
 $\pi/4$ QPSK_2-DH3

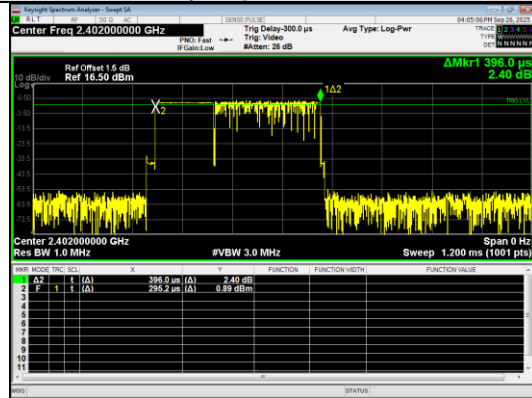


Pulse Width

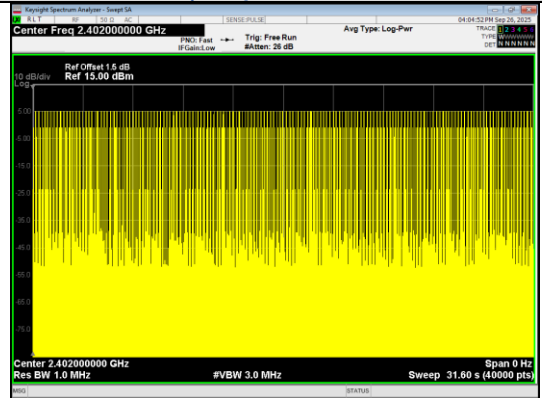


Number of Pulses in 31.6 seconds

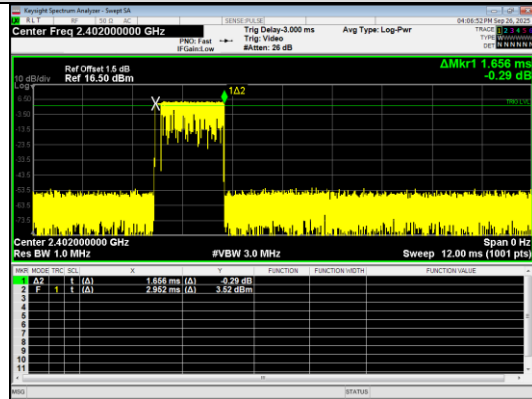
$\pi/4$ DQPSK_2-DH5



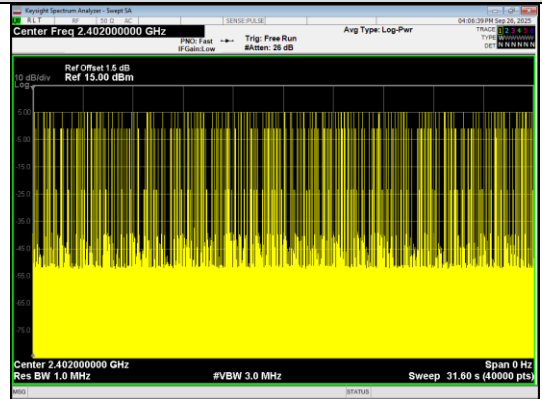
$\pi/4$ DQPSK_2-DH5



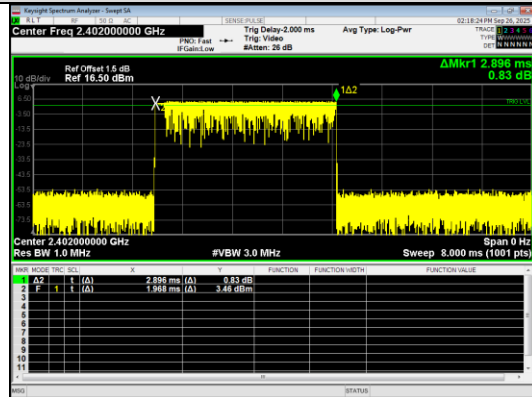
Pulse Width 8DPSK_3-DH1



Number of Pulses in 31.6 seconds 8DPSK_3-DH1



Pulse Width 8DPSK_3-DH3



Number of Pulses in 31.6 seconds 8DPSK_3-DH3



Pulse Width 8DPSK_3-DH5

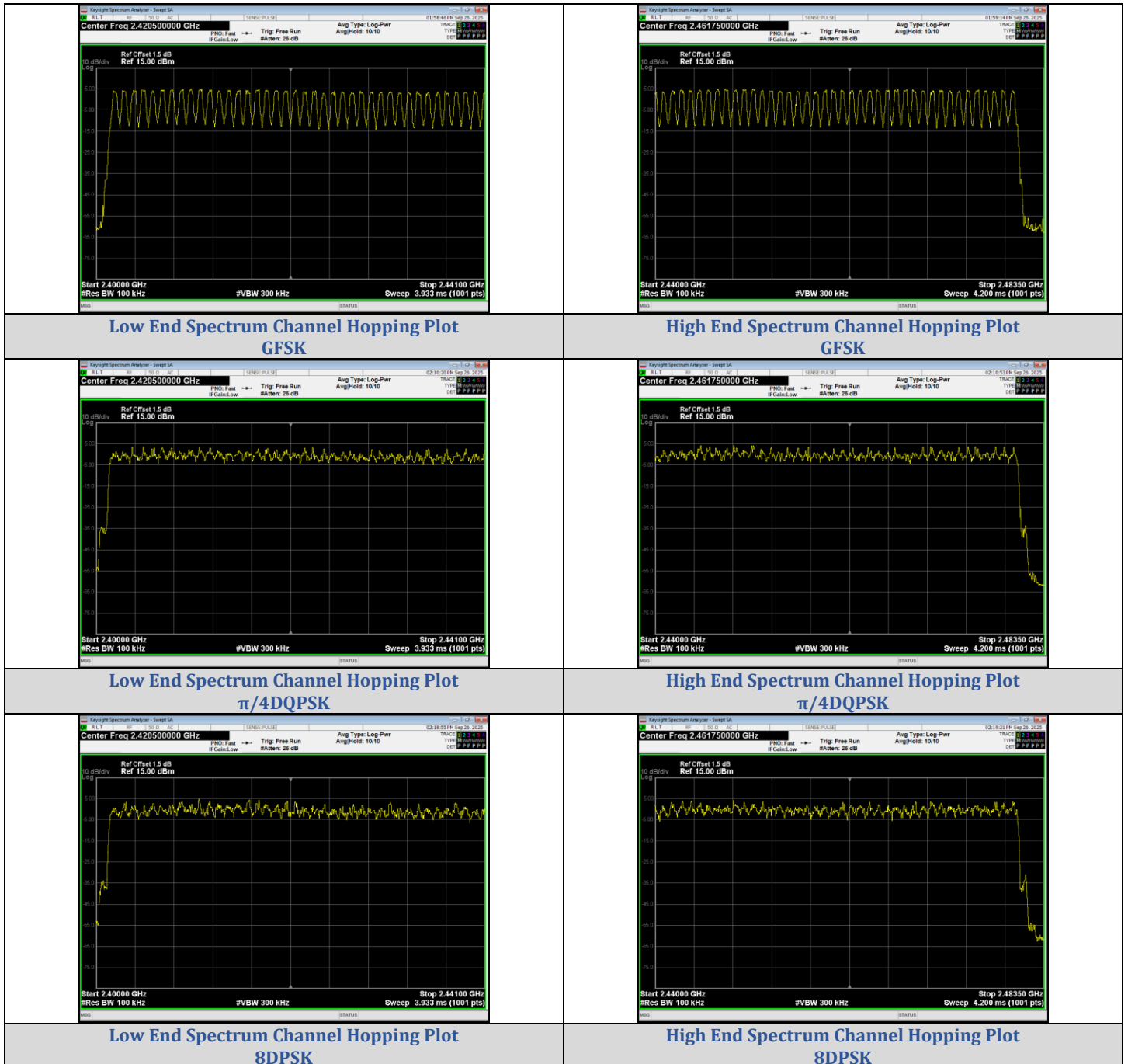
Number of Pulses in 31.6 seconds 8DPSK_3-DH5

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



***** End of Report *****