

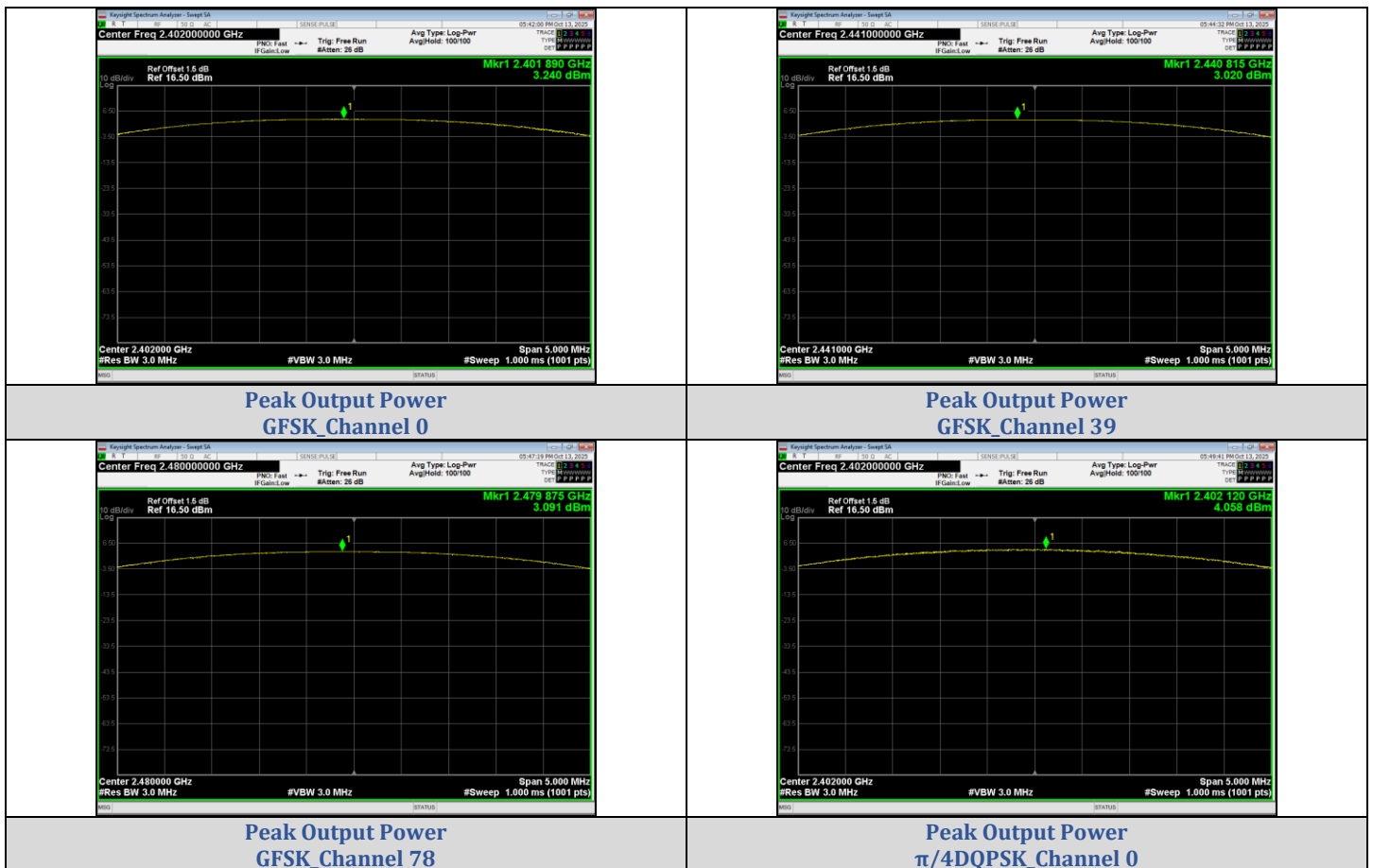
Appendix RF test data for BT

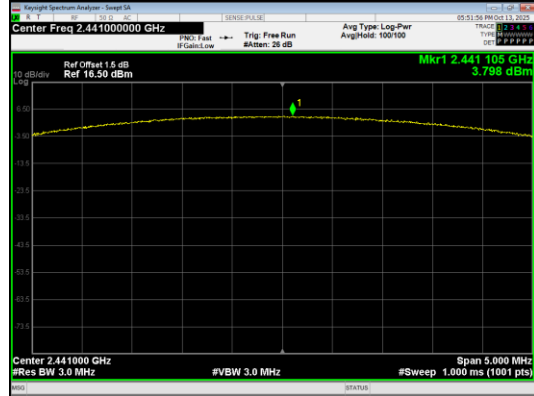
Conducted Output Power

Test Result

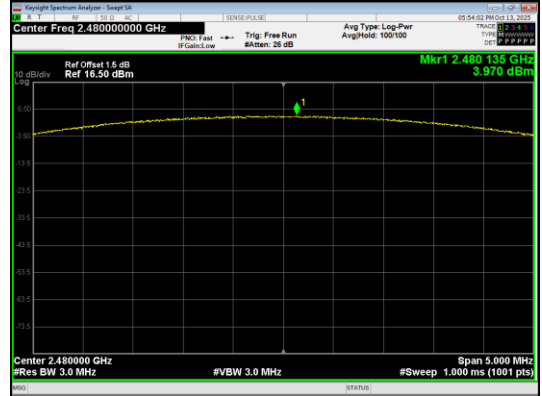
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	3.24	2.11	≤20.97	PASS
		39	3.02	2.00		PASS
		78	3.09	2.04		PASS
$\pi/4$ DQPSK	2-DH5	0	4.06	2.55		PASS
		39	3.80	2.40		PASS
		78	3.97	2.49		PASS
8DPSK	3-DH5	0	4.44	2.78		PASS
		39	4.25	2.66		PASS
		78	4.32	2.70		PASS

Test Graphs

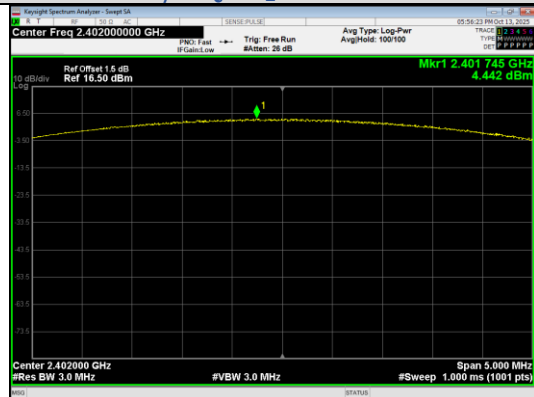




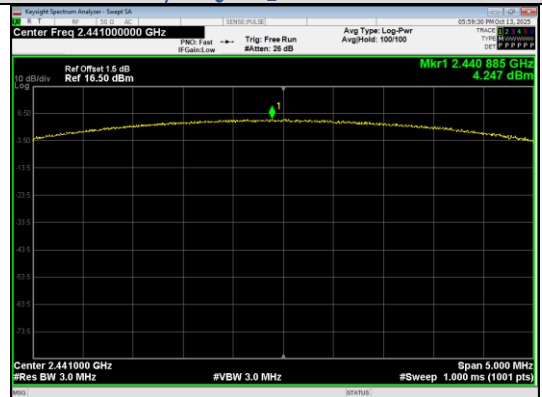
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



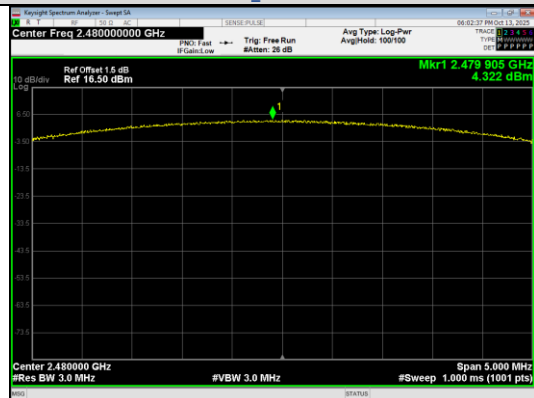
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



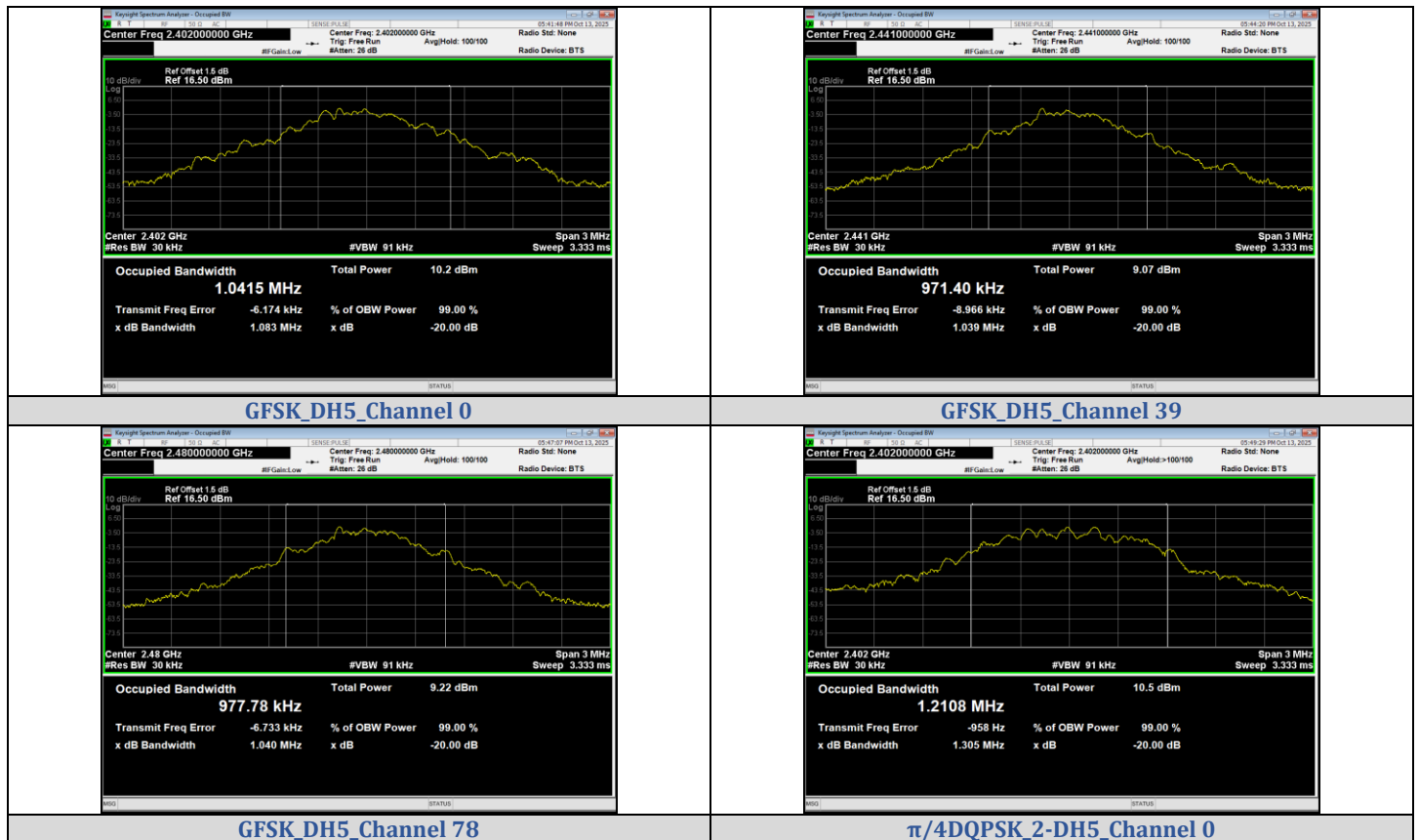
Peak Output Power
8DPSK_Channel 78

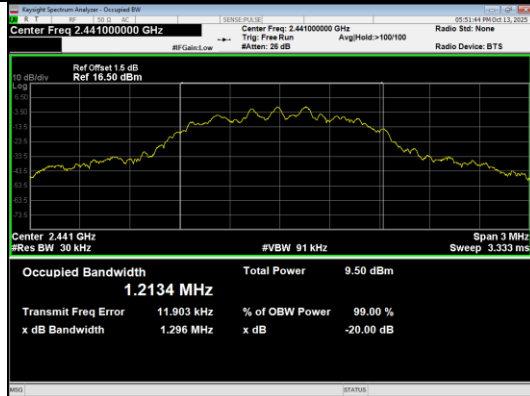
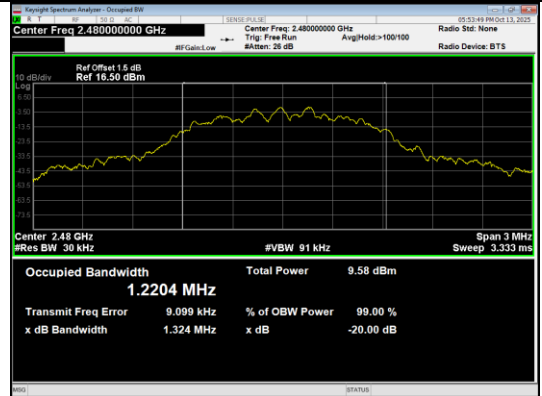
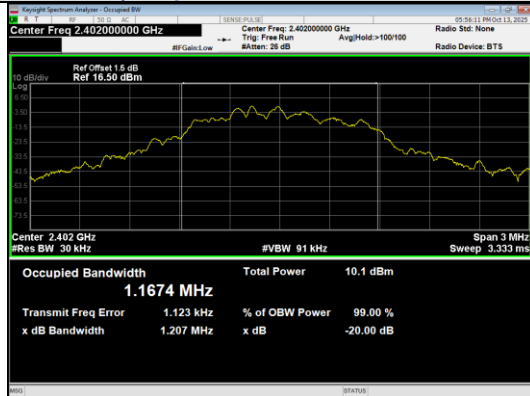
20dB Bandwidth

Test Result

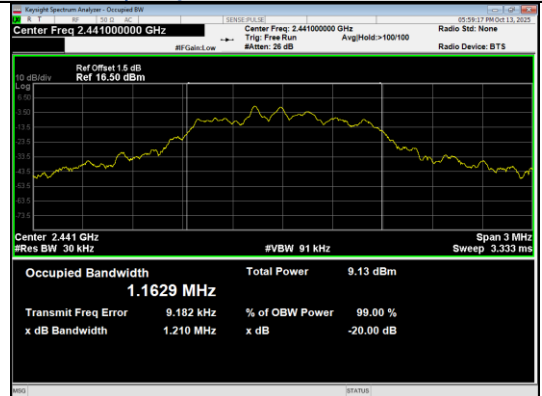
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.080
	39	2441 MHz	1.040
	78	2480 MHz	1.040
$\pi/4$ DQPSK	0	2402 MHz	1.300
	39	2441 MHz	1.300
	78	2480 MHz	1.320
8DPSK	0	2402 MHz	1.210
	39	2441 MHz	1.210
	78	2480 MHz	1.200

Test Graphs

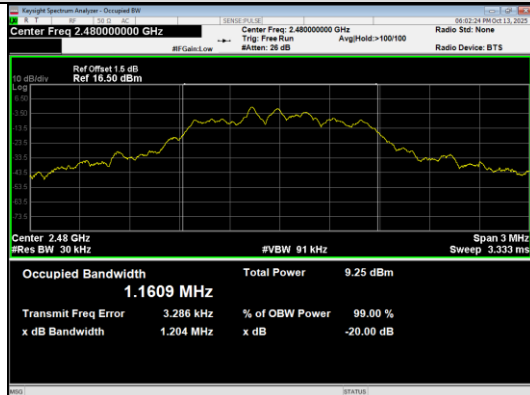



 $\pi/4$ DQPSK 2-DH5_Channel 39

 $\pi/4$ DQPSK 2-DH5_Channel 78


8DPSK 3-DH5_Channel 0



8DPSK 3-DH5_Channel 39



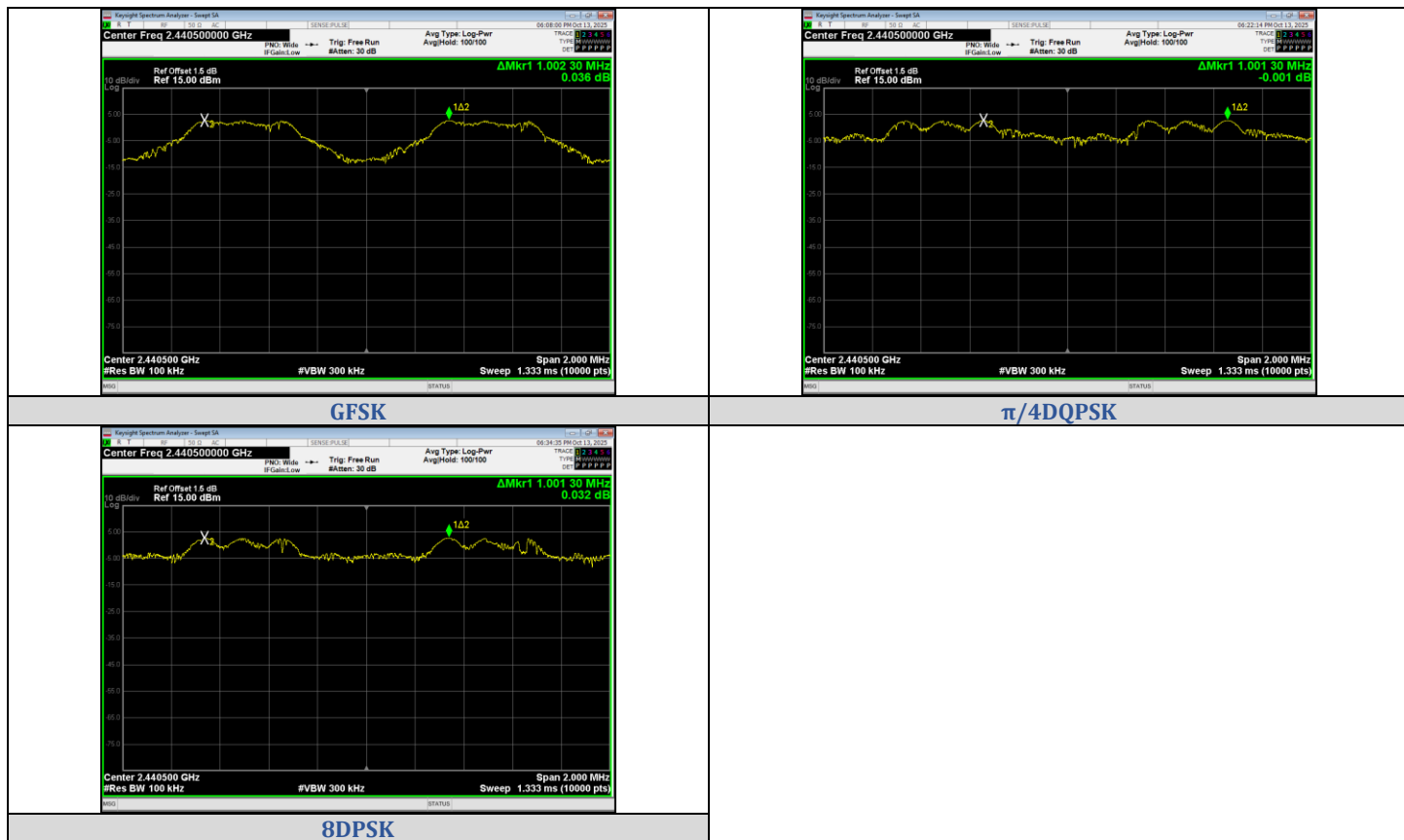
8DPSK 3-DH5_Channel 78

Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8366	2440.8389	1.0023	0.720	PASS
$\pi/4$ DQPSK	2-DH5	2440.1551	2441.1564	1.0013	0.880	PASS
8DPSK	3-DH5	2439.8368	2440.8381	1.0013	0.807	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

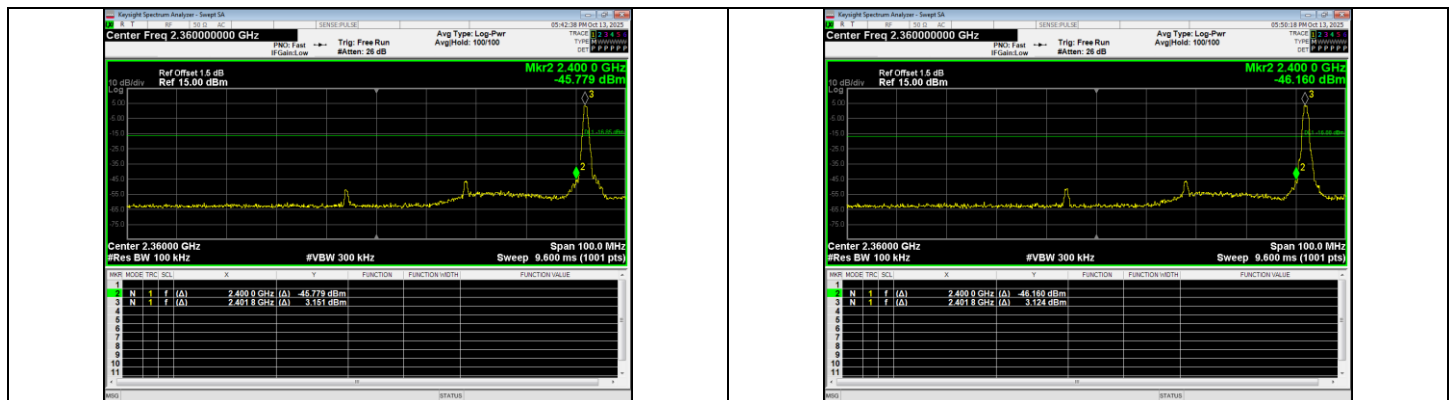
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-45.780	-16.85	-28.930	PASS
			4804.26	-42.367	-16.85	-25.517	PASS
		39	4804.26	-38.484	-17.27	-21.214	PASS
			2483.50	-55.200	-17.23	-37.970	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-46.160	-16.88	-29.280	PASS
			4803.64	-39.559	-16.88	-22.679	PASS
		39	1764.17	-17.999	-17.25	-0.749	PASS
			2483.50	-56.270	-17.18	-39.090	PASS
8DPSK	3-DH5	0	2378.00	-46.381	-16.83	-29.551	PASS
			2400.00	-46.590	-16.83	-29.760	PASS
		39	4804.30	-42.644	-16.83	-25.814	PASS
			4803.64	-39.554	-17.27	-22.284	PASS
		78	1763.54	-38.318	-17.25	-21.068	PASS
			2483.50	-51.760	-17.25	-34.510	PASS

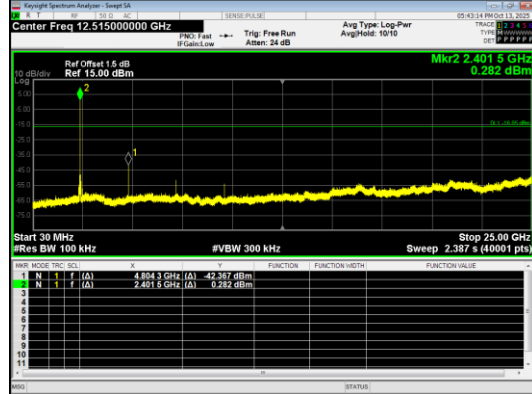
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2377.80	-45.658	-16.81	-28.848	PASS
			2400.00	-46.870	-16.81	-30.060	PASS
			2483.50	-53.570	-17.2	-36.370	PASS
$\pi/4$ DQPSK	2-DH5		2377.80	-46.178	-16.8	-29.378	PASS
			2400.00	-46.760	-16.8	-29.960	PASS
			2483.50	-54.140	-17.16	-36.980	PASS
8DPSK	3-DH5		2377.70	-46.112	-16.77	-29.342	PASS
			2400.00	-47.090	-16.77	-30.320	PASS
			2483.50	-52.080	-17.21	-34.870	PASS

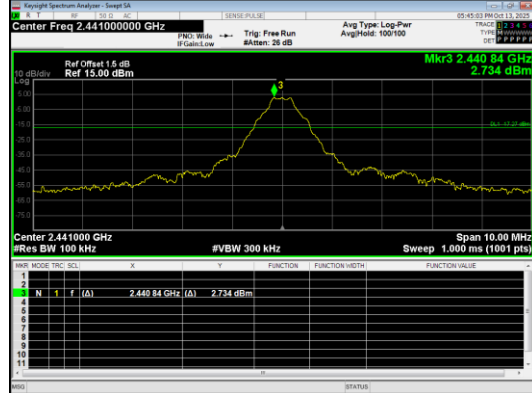
Test Graphs



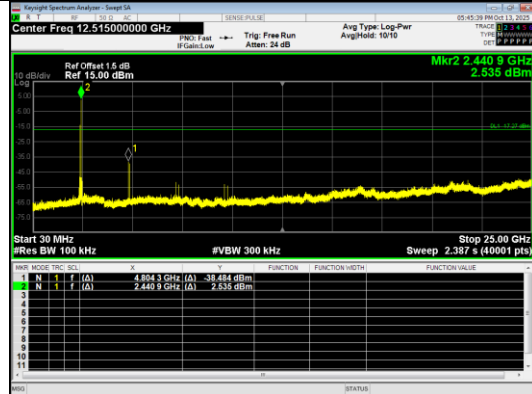
Out Of Band Emission GFSK_DH5_Channel 0



30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 0

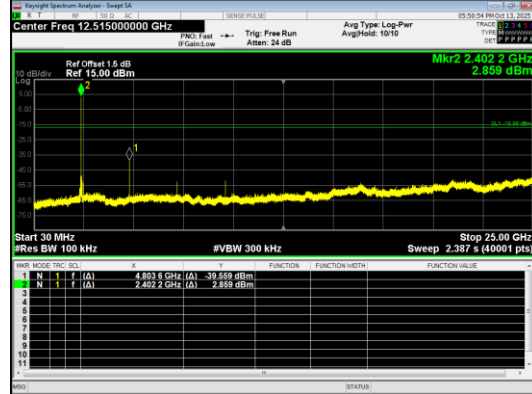


Out Of Band Emission GFSK_DH5_Channel 39

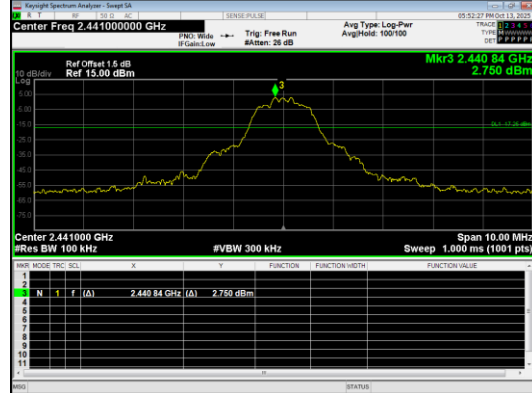


30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 39

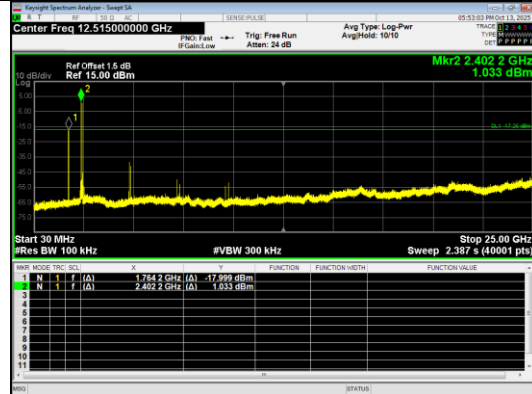
Out Of Band Emission $\pi/4$ DQPSK_2-DH5_Channel 0



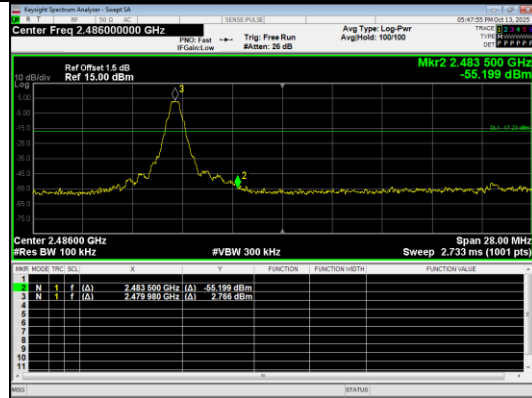
30.0 MHz - 25000.0 MHz $\pi/4$ DQPSK_2-DH5_Channel 0



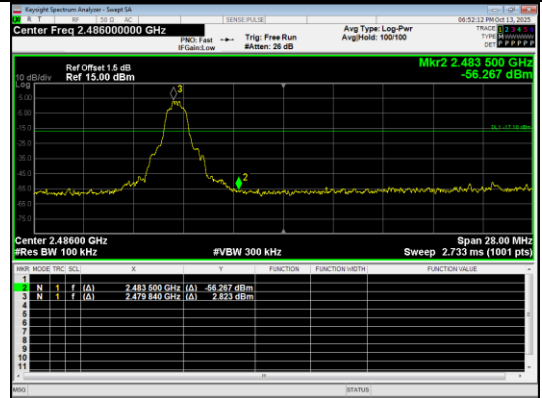
Out Of Band Emission $\pi/4$ DQPSK_2-DH5_Channel 39



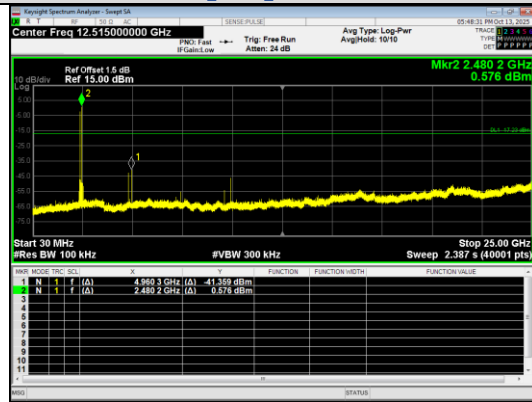
30.0 MHz - 25000.0 MHz $\pi/4$ DQPSK_2-DH5_Channel 39



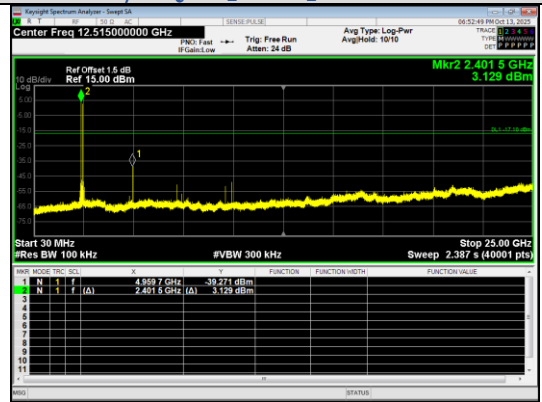
Out Of Band Emission
GFSK_DH5_Channel 78



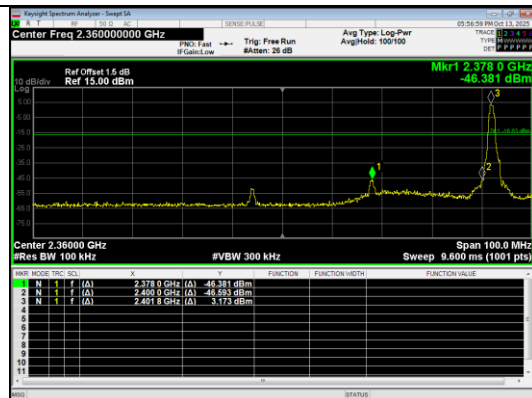
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



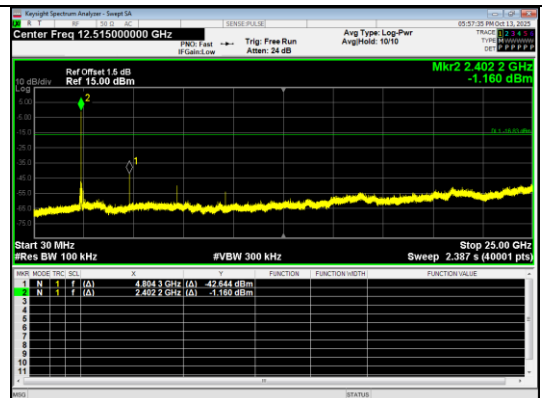
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



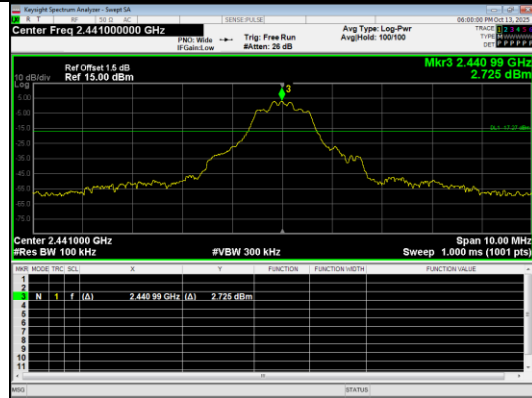
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



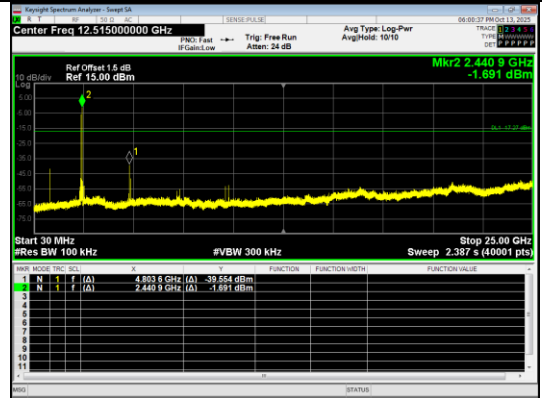
Out Of Band Emission
8DPSK_3-DH5_Channel 0



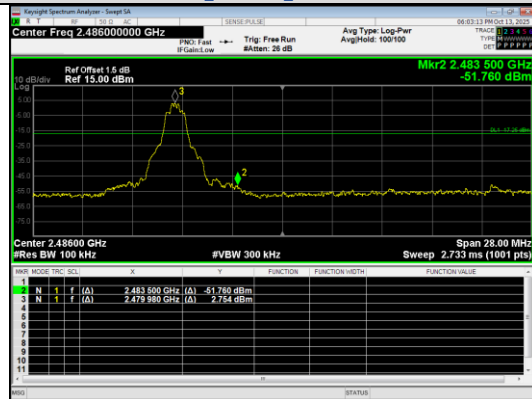
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



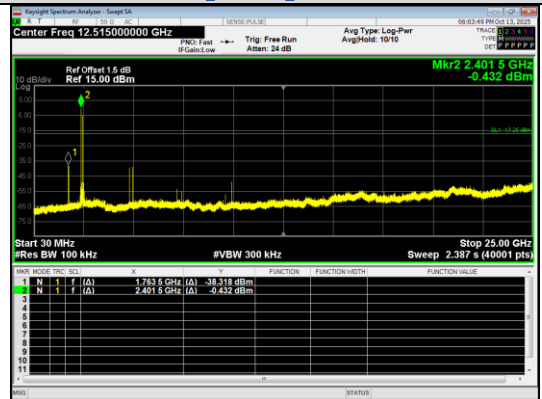
Out Of Band Emission
8DPSK_3-DH5_Channel 39



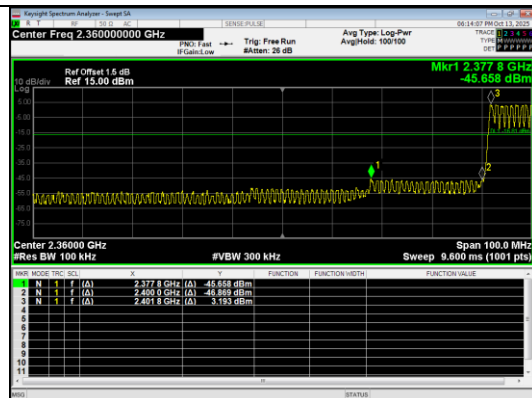
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



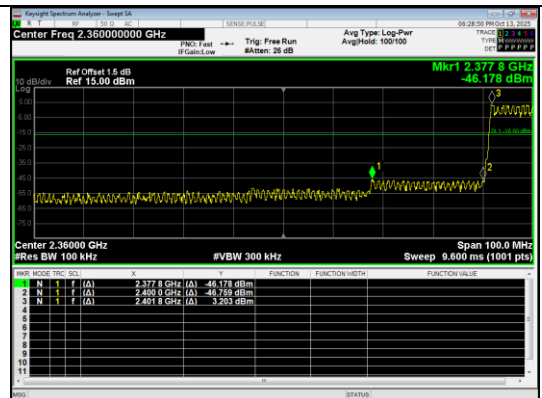
Out Of Band Emission
8DPSK_3-DH5_Channel 78



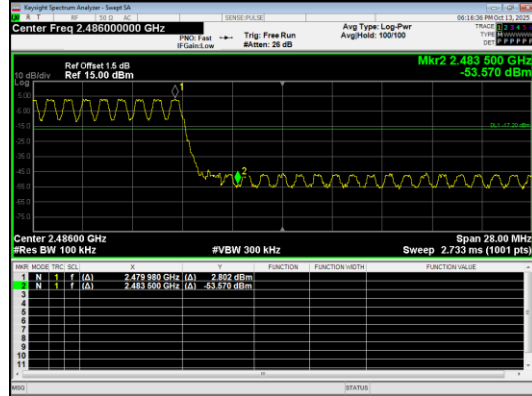
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



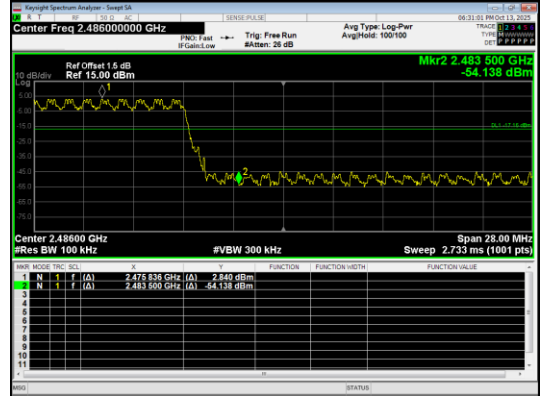
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



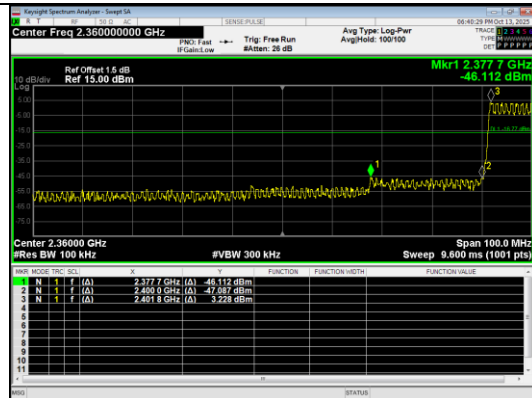
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



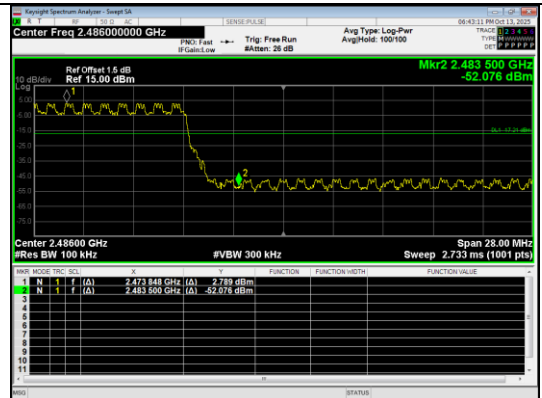
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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



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



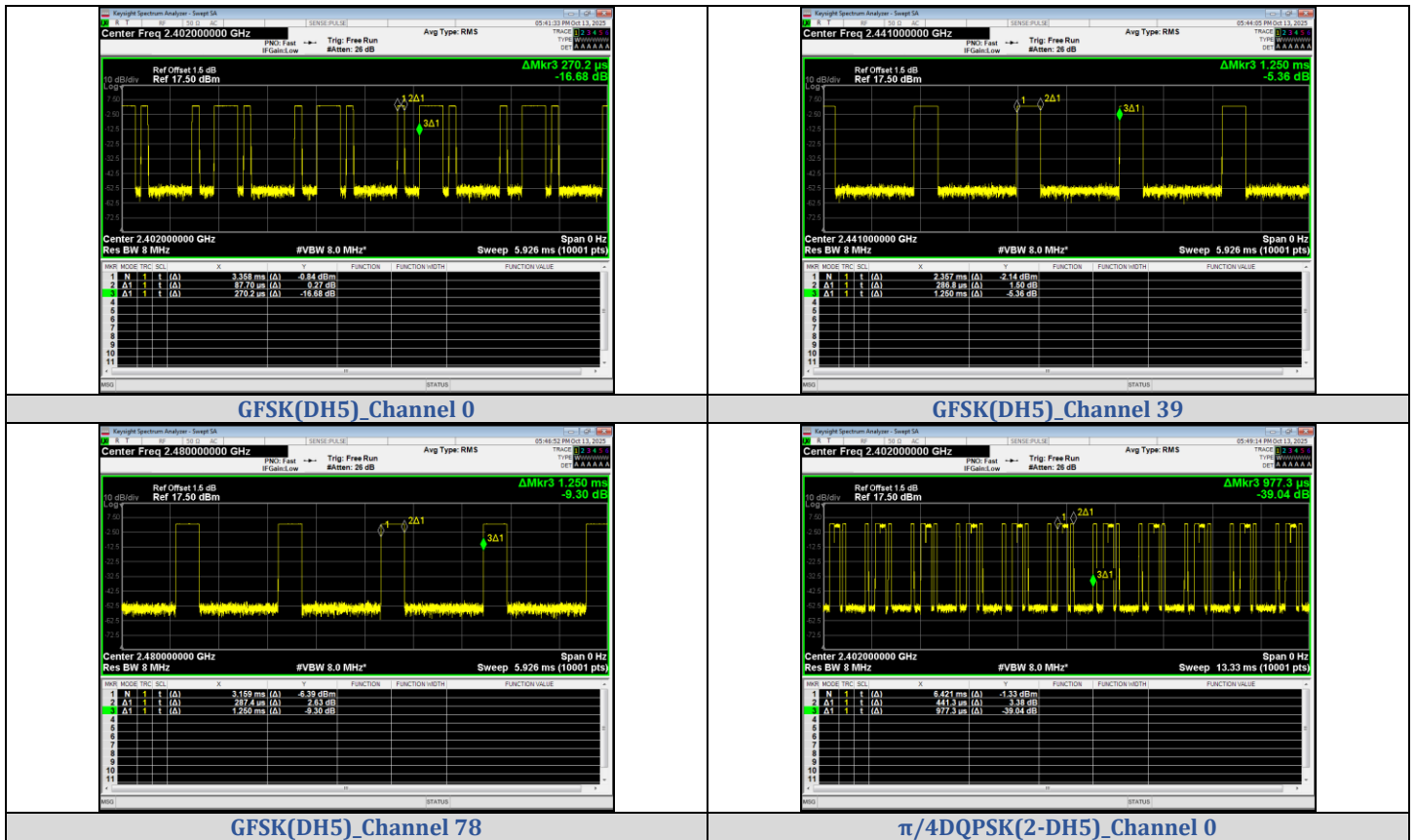
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

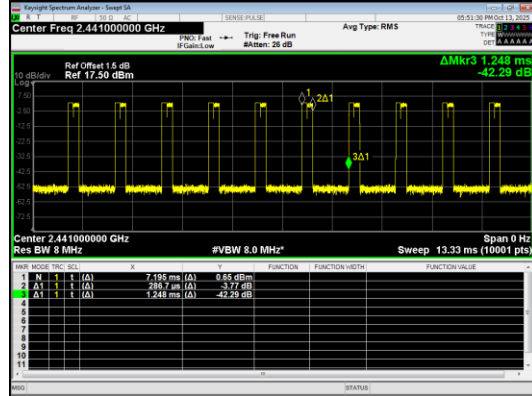
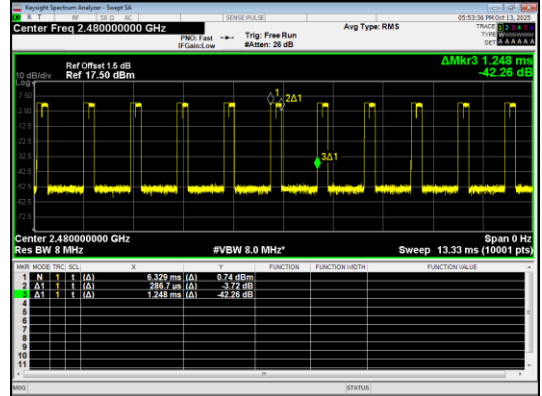
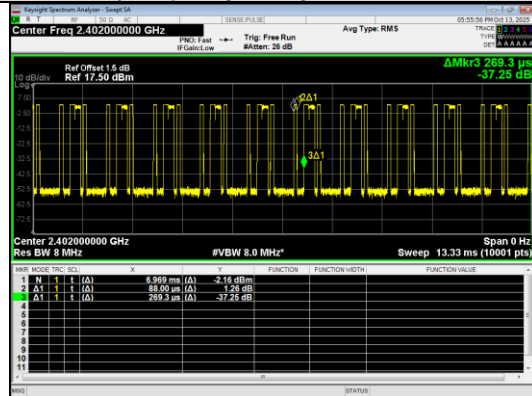
Duty Cycle

Test Result

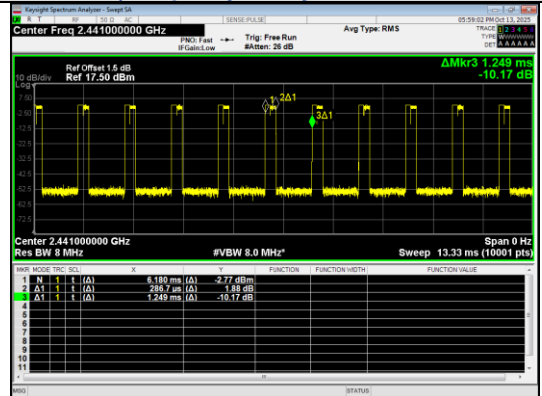
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	0.088	0.270	32.46	0.3246	4.8865	11.3636
		39	0.287	1.250	22.95	0.2295	6.3922	3.4843
		78	0.287	1.250	23.00	0.2300	6.3827	3.4843
$\pi/4$ DQPSK	2-DH5	0	0.441	0.977	45.16	0.4516	3.4525	2.2676
		39	0.287	1.248	22.97	0.2297	6.3884	3.4843
		78	0.287	1.248	22.97	0.2297	6.3884	3.4843
8DPSK	3-DH5	0	0.088	0.269	32.67	0.3267	4.8585	11.3636
		39	0.287	1.249	22.95	0.2295	6.3922	3.4843
		78	0.287	1.249	22.95	0.2295	6.3922	3.4843

Test Graphs

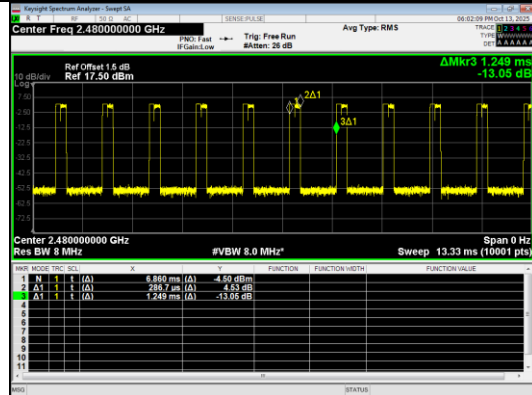



 $\pi/4$ DQPSK(2-DH5)_Channel 39

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


8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



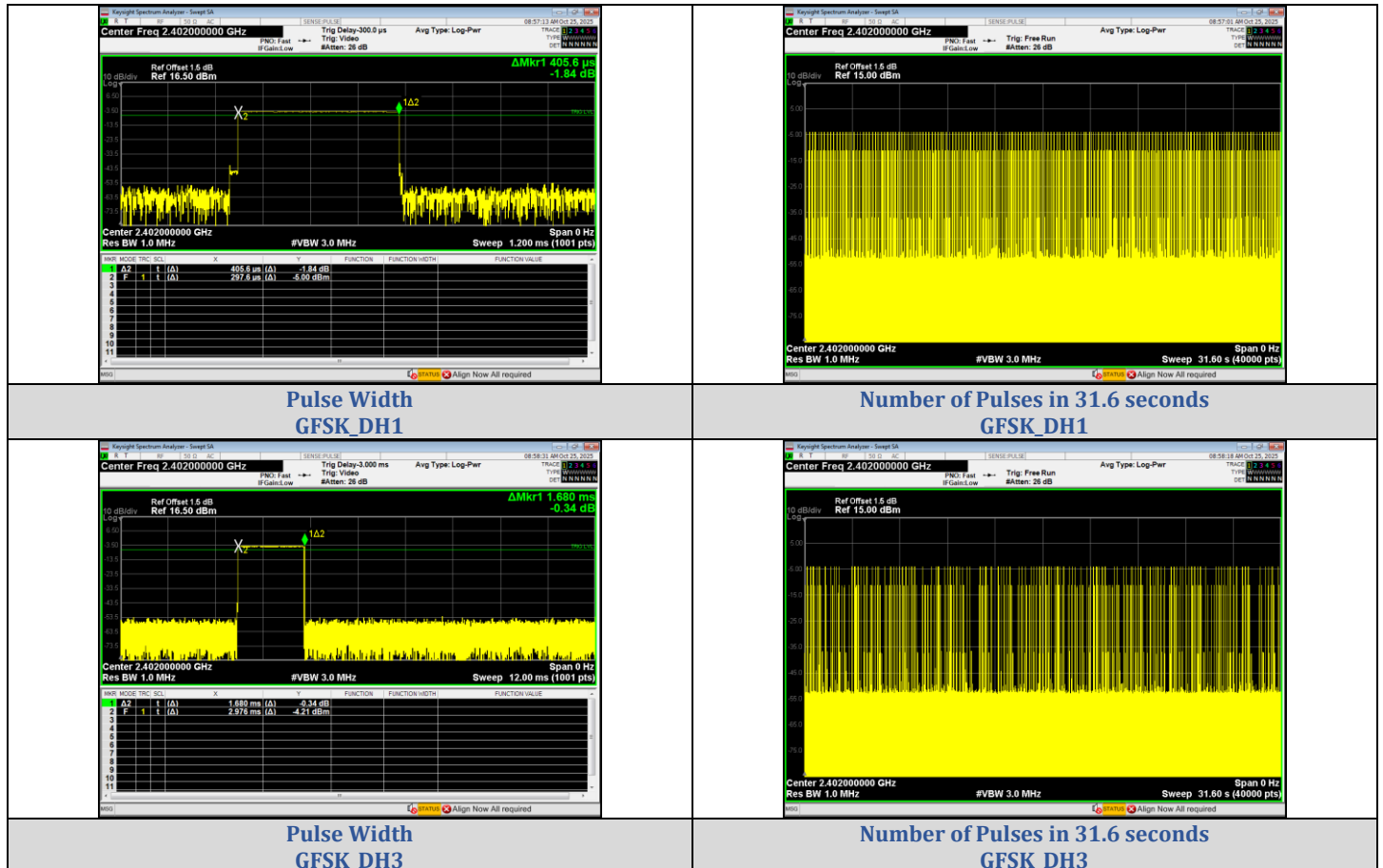
8DPSK(3-DH5)_Channel 78

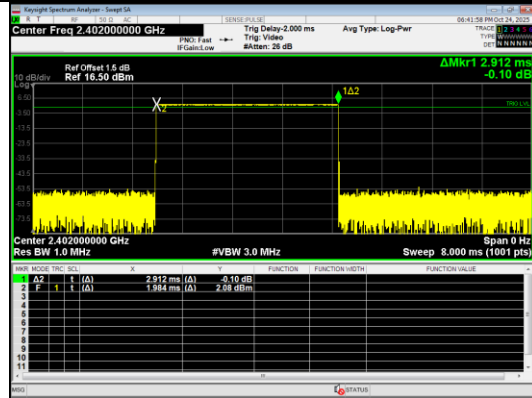
Dwell Time

Test Result

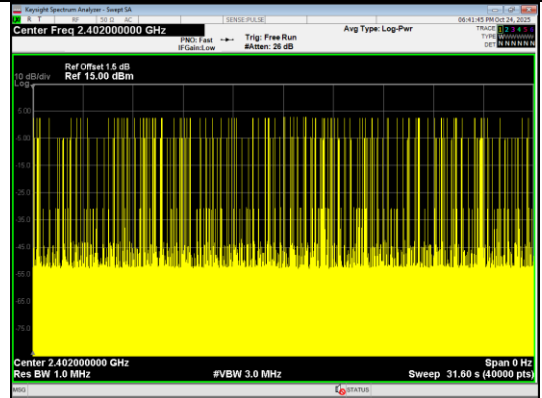
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	Hopping	0.4056	317	128.58	< 400	PASS
	DH3		1.680	162	272.16		PASS
	DH5		2.912	105	305.76		PASS
$\pi/4$ DQPSK	2-DH1		0.3972	317	125.91		PASS
	2-DH3		1.656	156	258.34		PASS
	2-DH5		2.896	103	298.29		PASS
8DPSK	3-DH1		0.3960	318	125.93		PASS
	3-DH3		1.656	156	258.34		PASS
	3-DH5		2.896	97	280.91		PASS

Test Graphs

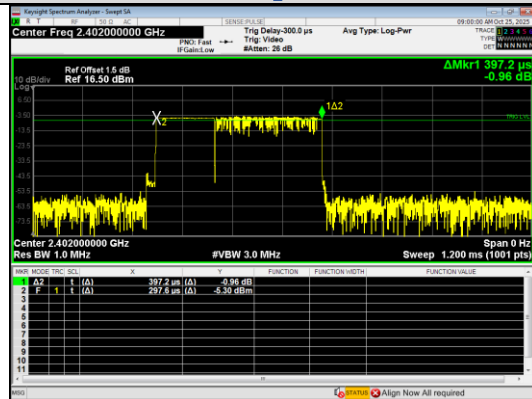




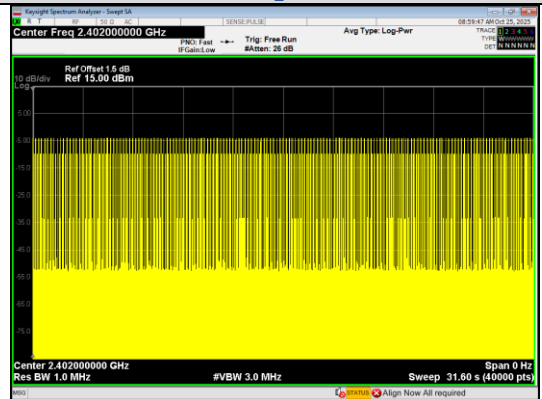
Pulse Width
GFSK_DH5



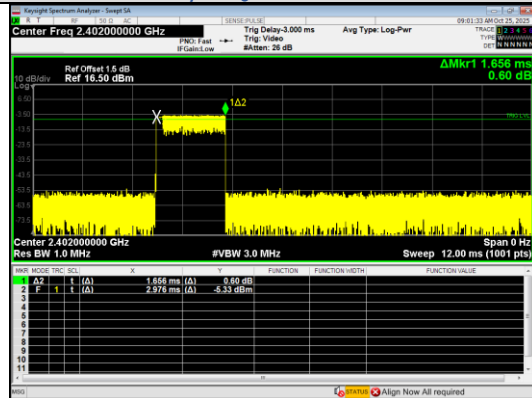
Number of Pulses in 31.6 seconds
GFSK_DH5



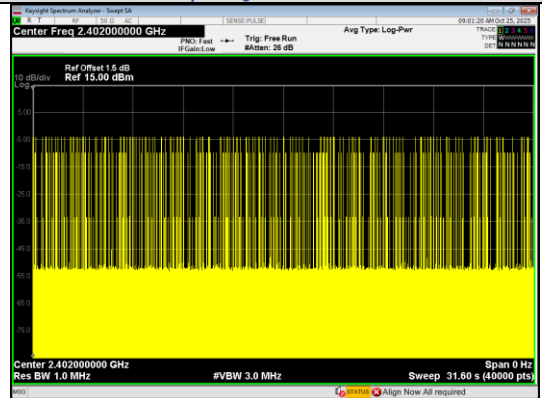
Pulse Width
 $\pi/4$ DQPSK_2-DH1



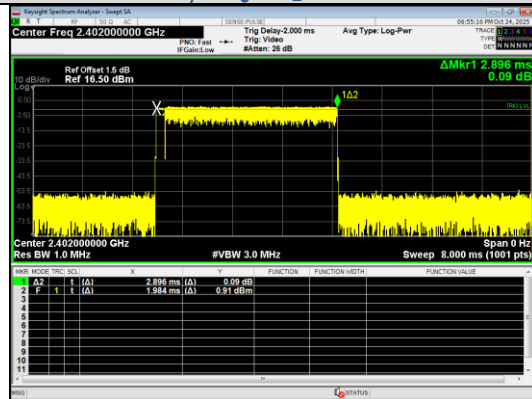
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH1



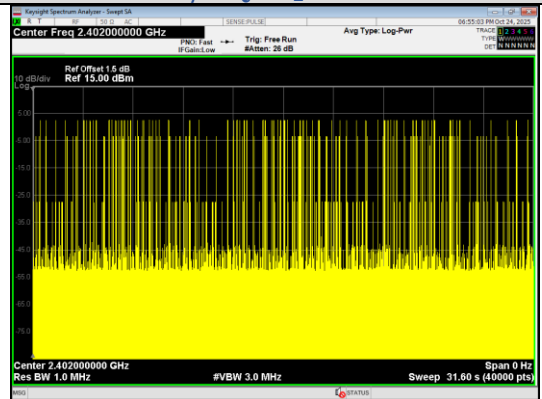
Pulse Width
 $\pi/4$ DQPSK_2-DH3



Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH3

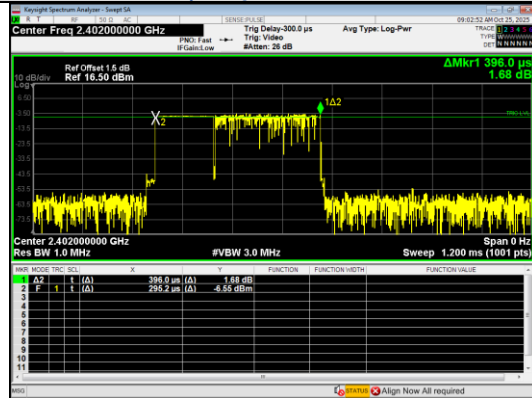


Pulse Width

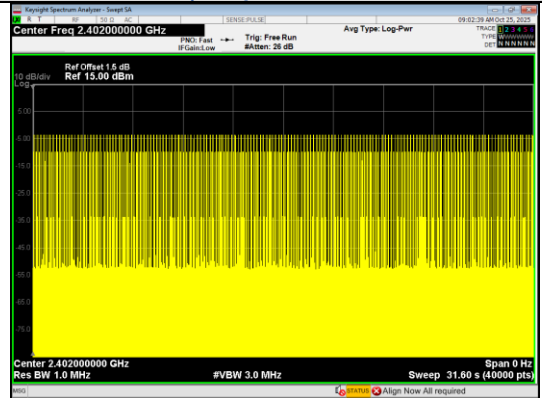


Number of Pulses in 31.6 seconds

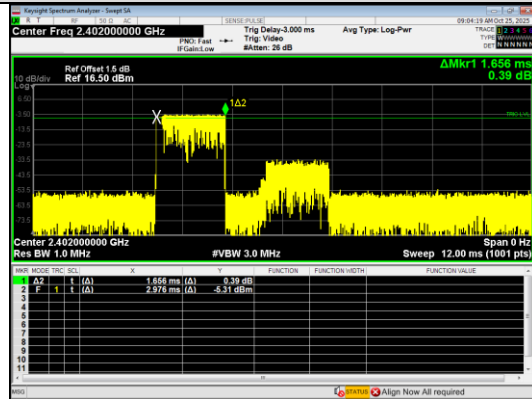
$\pi/4$ DQPSK_2-DH5



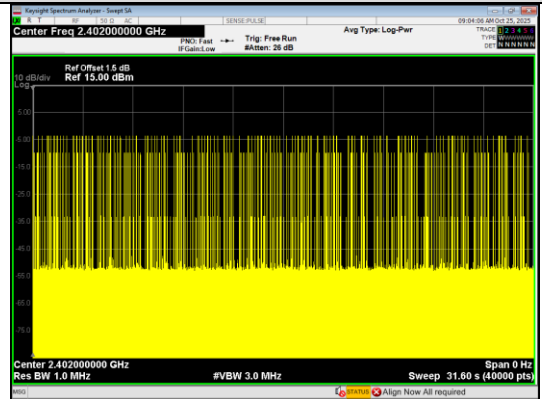
$\pi/4$ DQPSK_2-DH5



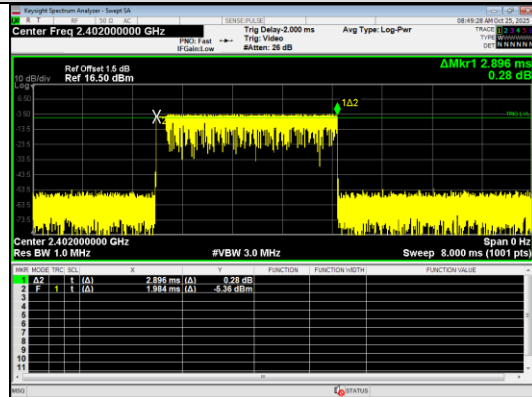
Pulse Width 8DPSK_3-DH1



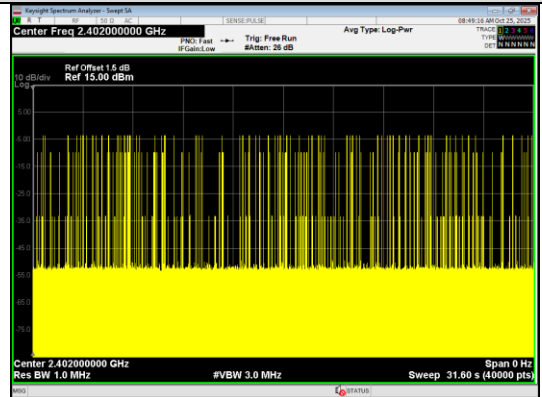
Number of Pulses in 31.6 seconds 8DPSK_3-DH1



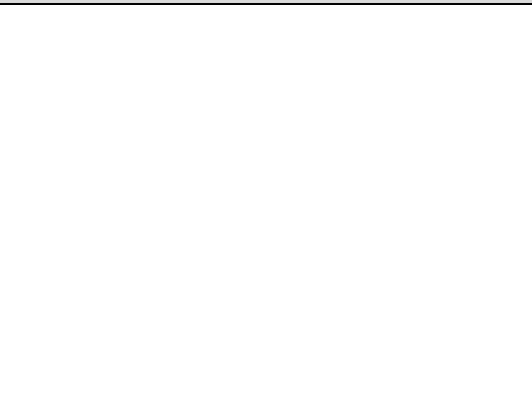
Pulse Width 8DPSK_3-DH3



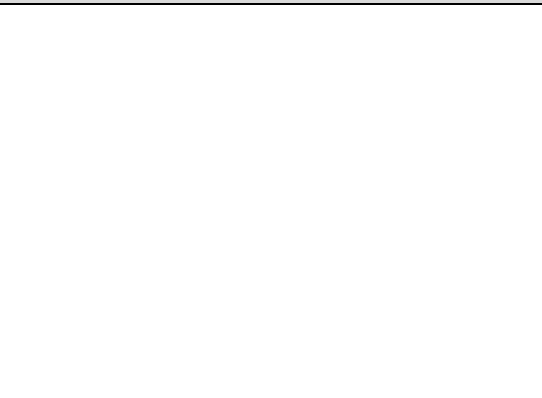
Number of Pulses in 31.6 seconds 8DPSK_3-DH3



Pulse Width 8DPSK_3-DH5



Number of Pulses in 31.6 seconds 8DPSK_3-DH5

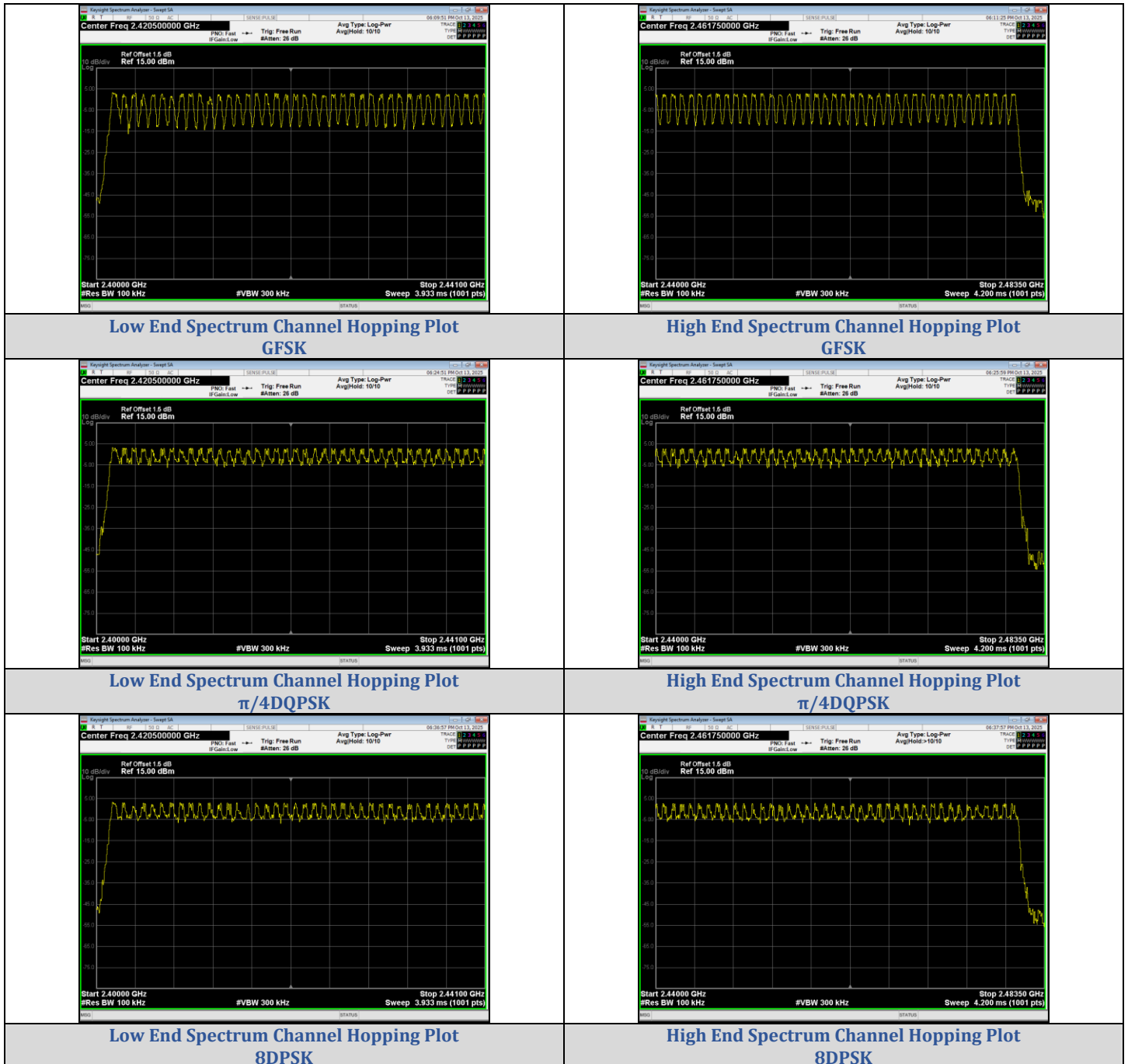


Number Of Hopping Channel

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 *****