

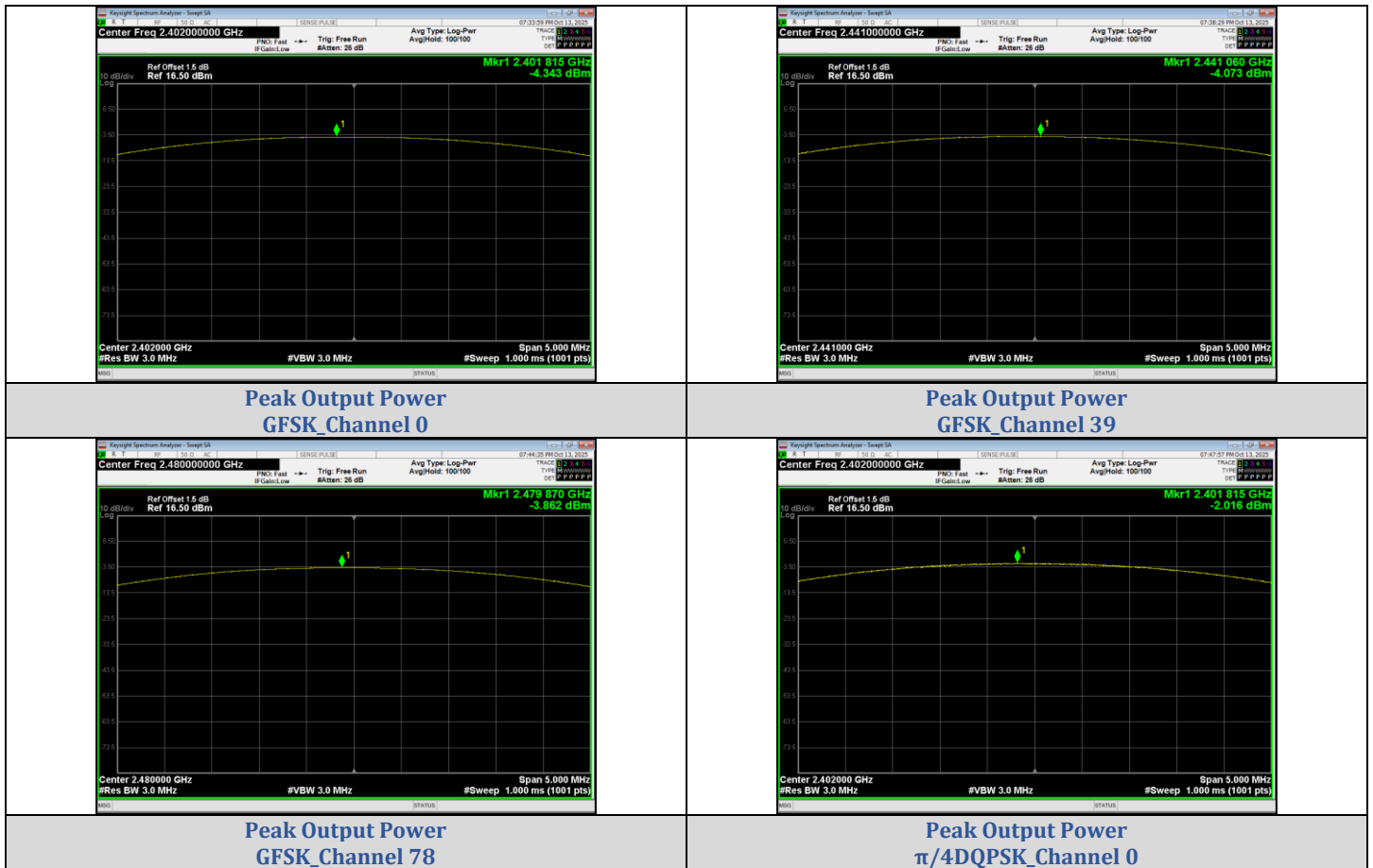
Appendix RF test data for BT

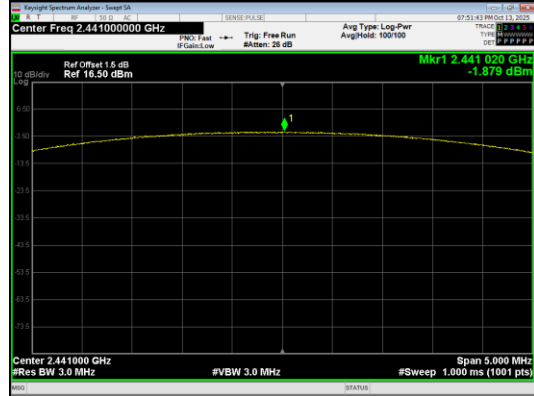
Conducted Output Power

Test Result

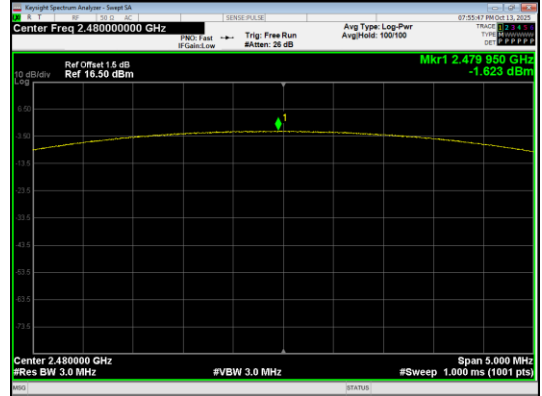
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
GFSK	DH5	0	-4.34	0.37	-4.65	≤20.97	PASS
		39	-4.07	0.39	-4.57		PASS
		78	-3.86	0.41	-4.18		PASS
$\pi/4$ DQPSK	2-DH5	0	-2.02	0.63	-4.96		PASS
		39	-1.88	0.65	-4.86		PASS
		78	-1.62	0.69	-4.60		PASS
8DPSK	3-DH5	0	-1.40	0.72	-5.00		PASS
		39	-1.32	0.74	-4.88		PASS
		78	-0.95	0.80	-4.61		PASS

Test Graphs

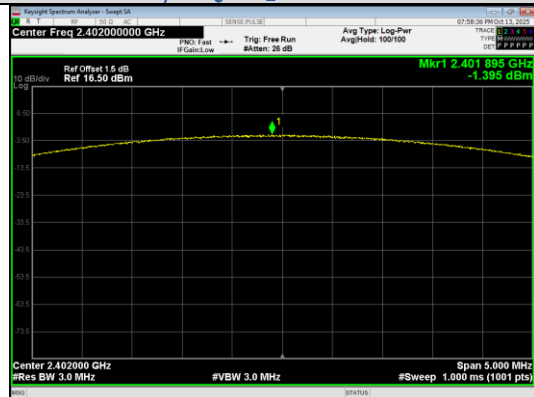




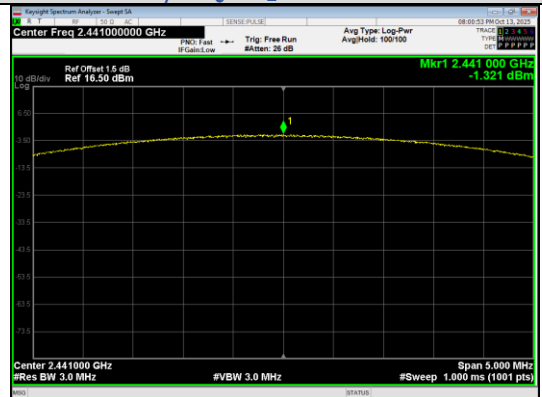
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



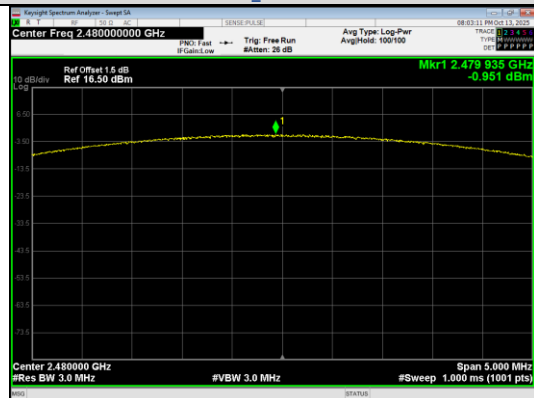
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



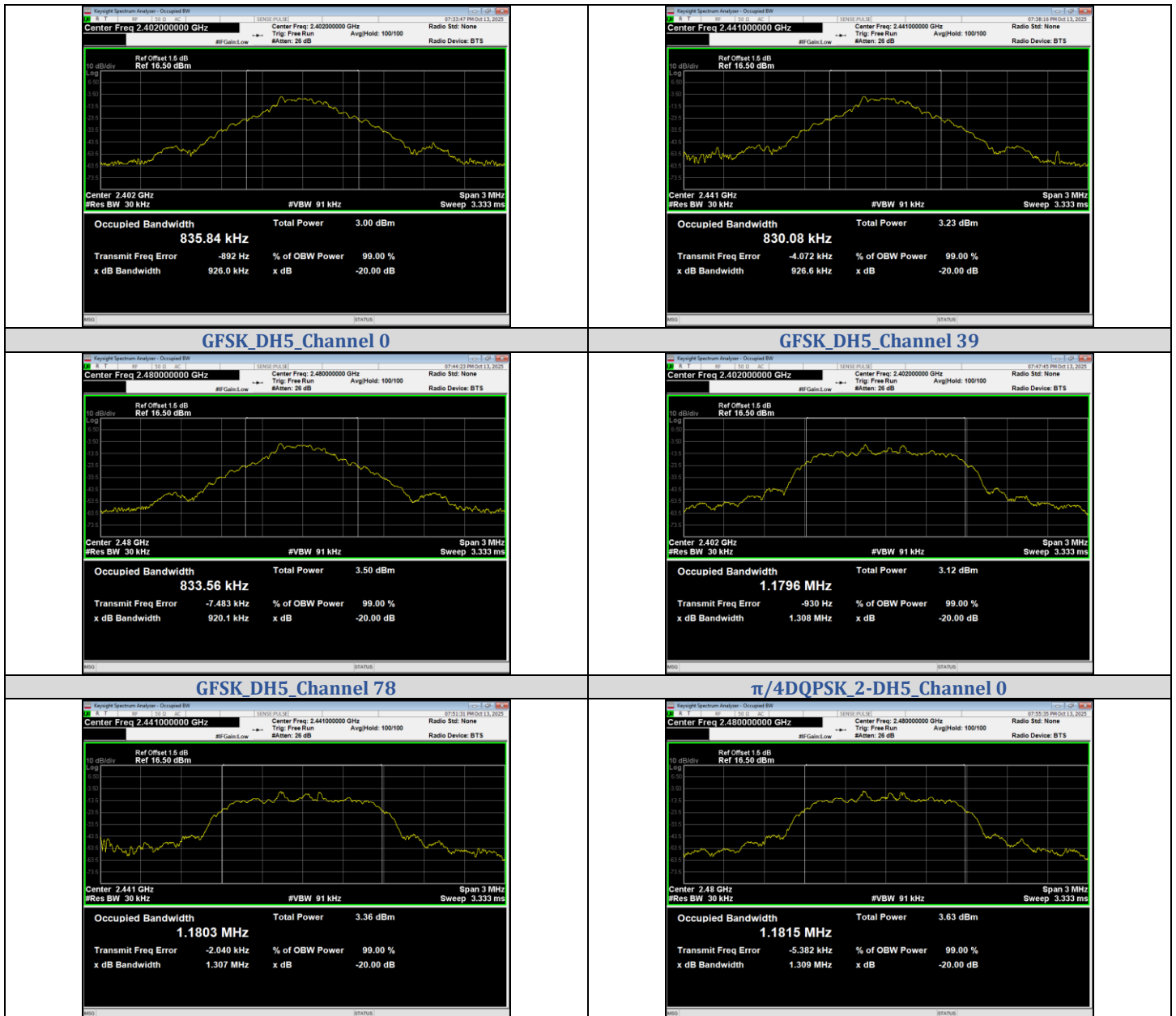
Peak Output Power
8DPSK_Channel 78

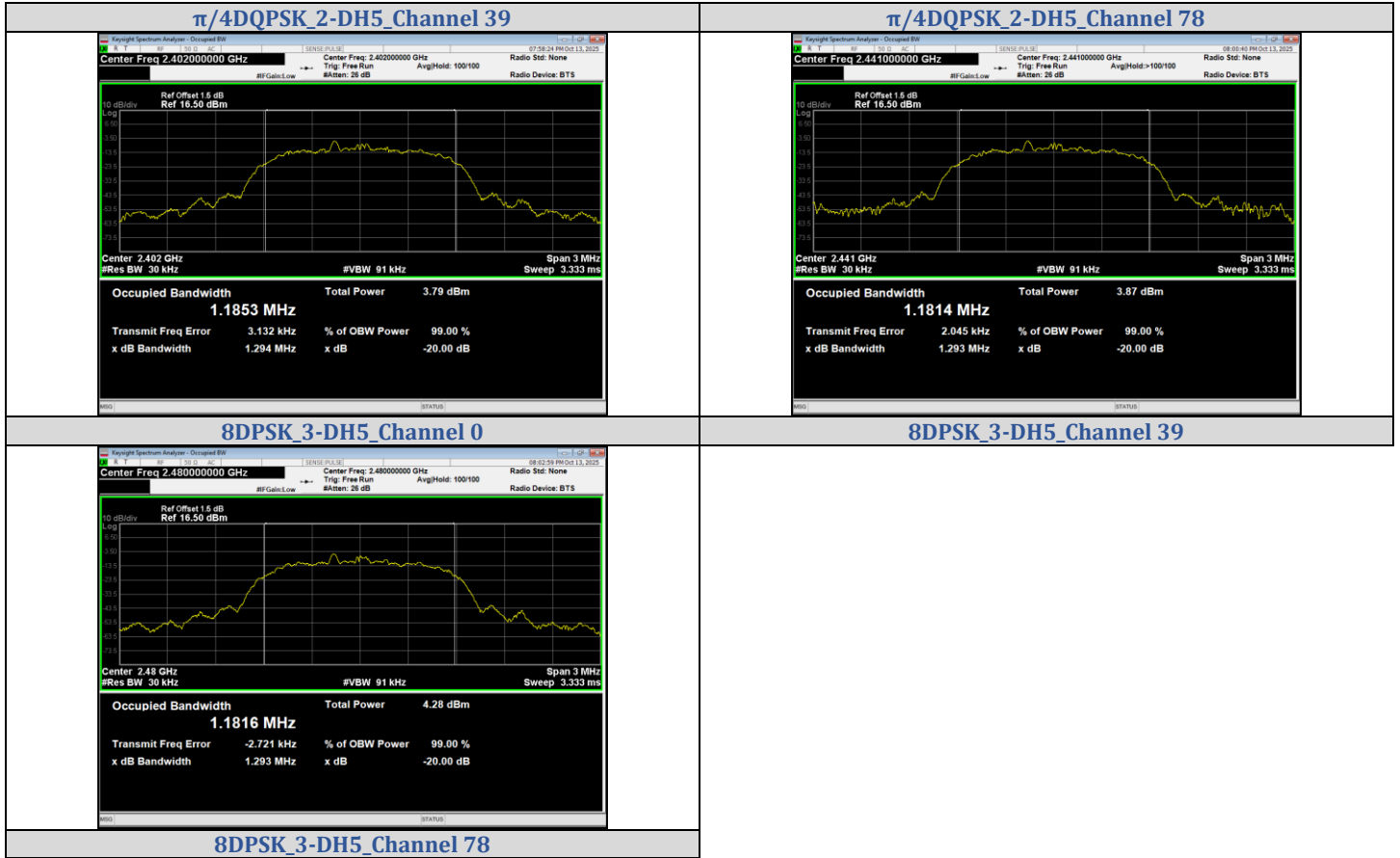
20dB Bandwidth

Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9300
	39	2441 MHz	0.9300
	78	2480 MHz	0.9200
$\pi/4$ DQPSK	0	2402 MHz	1.310
	39	2441 MHz	1.310
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.290
	39	2441 MHz	1.290
	78	2480 MHz	1.290

Test Graphs



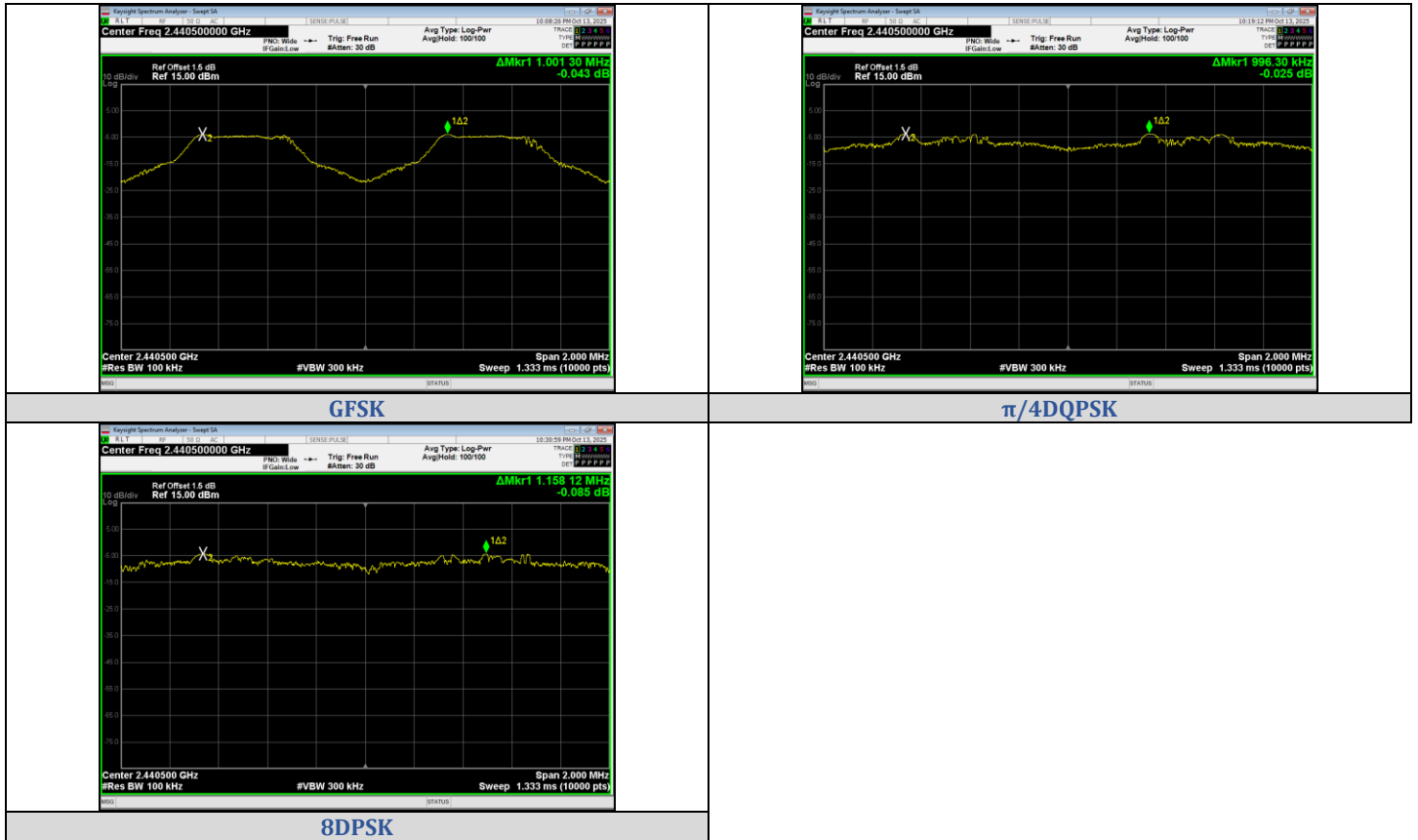


Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8346	2440.8359	1.0013	0.620	PASS
$\pi/4$ DQPSK	2-DH5	2439.8354	2440.8317	0.9963	0.873	PASS
8DPSK	3-DH5	2439.8356	2440.9937	1.1581	0.860	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

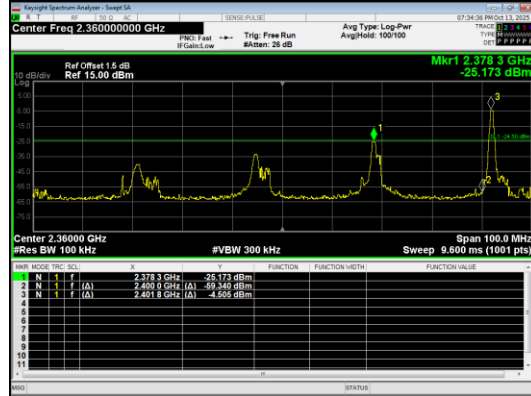
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2378.30	-25.174	-24.5	-0.674	PASS
			2378.40	-26.342	-24.5	-1.842	PASS
			2400.00	-59.340	-24.5	-34.840	PASS
		39	2393.41	-34.839	-24.33	-10.509	PASS
		78	2483.50	-59.620	-23.96	-35.660	PASS
			4960.33	-37.759	-23.96	-13.799	PASS
$\pi/4$ DQPSK	2-DH5	0	2378.30	-25.338	-24.61	-0.728	PASS
			2378.40	-26.542	-24.61	-1.932	PASS
			2400.00	-55.690	-24.61	-31.080	PASS
		39	4882.30	-38.252	-24.38	-13.872	PASS
		78	2483.50	-60.630	-23.98	-36.650	PASS
			2503.90	-38.867	-23.98	-14.887	PASS
8DPSK	3-DH5	0	2377.80	-29.108	-24.46	-4.648	PASS
			2378.20	-25.286	-24.46	-0.826	PASS
			2400.00	-57.260	-24.46	-32.800	PASS
		39	2393.41	-34.498	-24.33	-10.168	PASS
		78	2483.50	-61.380	-24.0	-37.380	PASS
			4960.33	-37.319	-24.0	-13.319	PASS

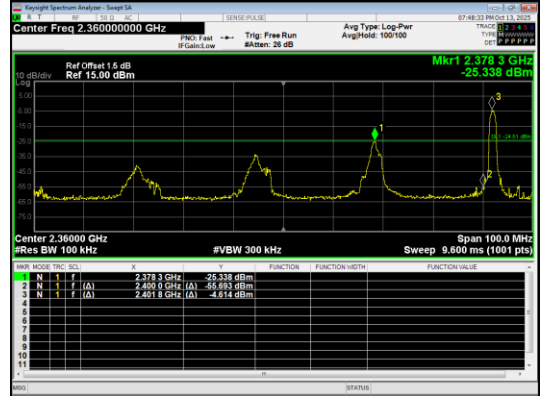
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2398.90	-58.028	-14.88	-43.148	PASS
			2400.00	-59.910	-14.88	-45.030	PASS
			2483.50	-58.740	-15.22	-43.520	PASS
π/4DQPSK	2-DH5		2391.80	-46.055	-15.72	-30.335	PASS
			2400.00	-52.420	-15.72	-36.700	PASS
			2483.50	-54.070	-15.85	-38.220	PASS
8DPSK	3-DH5		2400.00	-53.450	-15.36	-38.090	PASS
			2483.50	-58.860	-15.76	-43.100	PASS

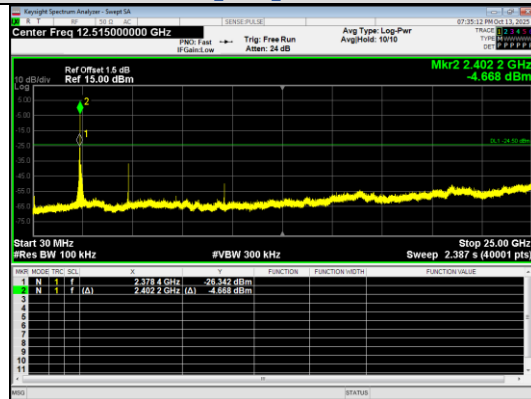
Test Graphs



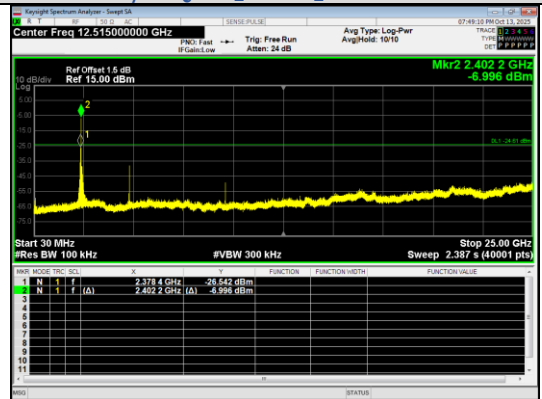
Out Of Band Emission
GFSK_DH5_Channel 0



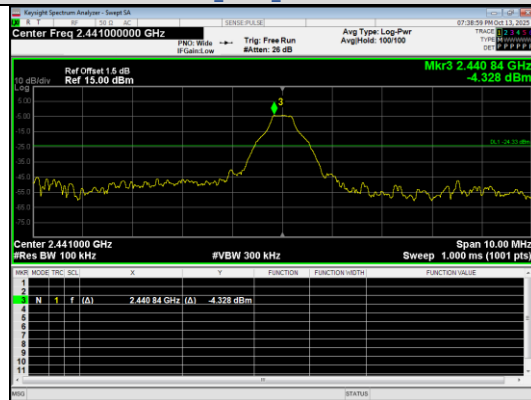
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



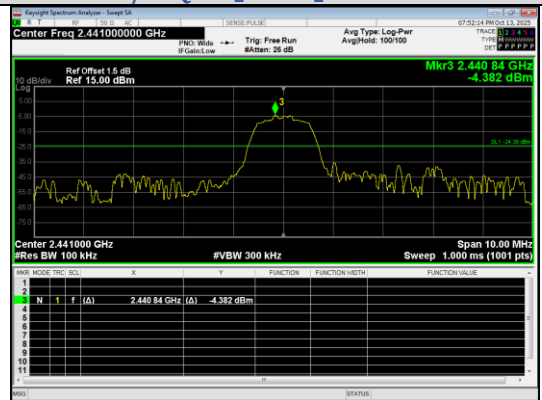
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



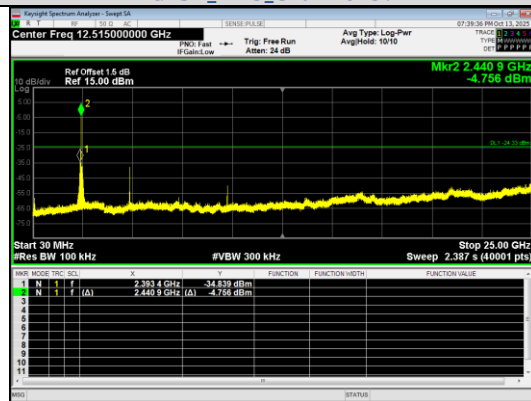
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



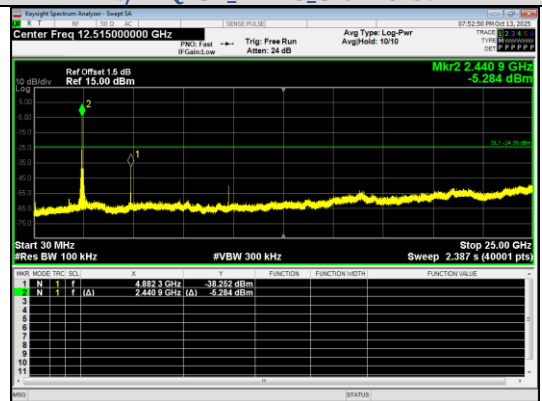
Out Of Band Emission
GFSK_DH5_Channel 39



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

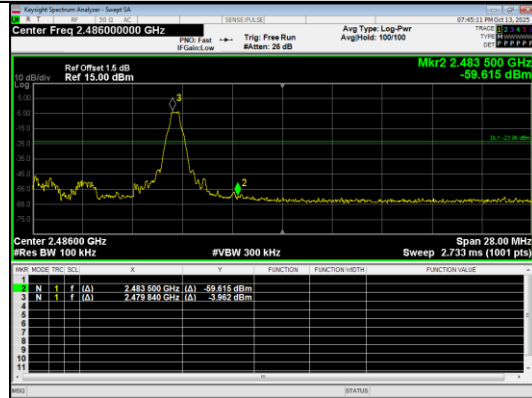


30.0 MHz - 25000.0 MHz

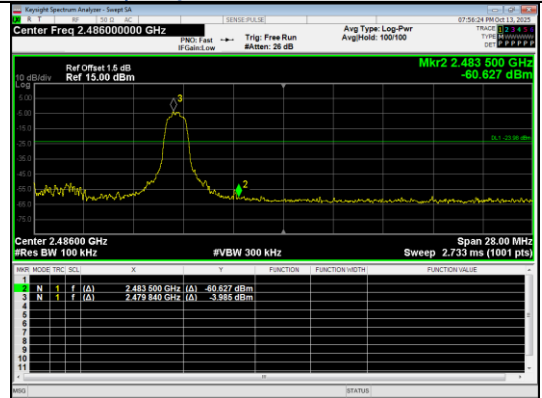


30.0 MHz - 25000.0 MHz

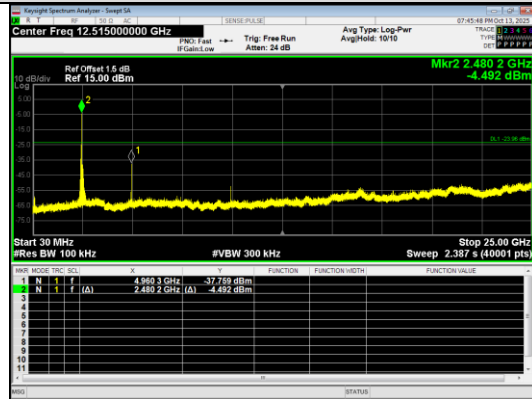
GFSK_DH5_Channel 39



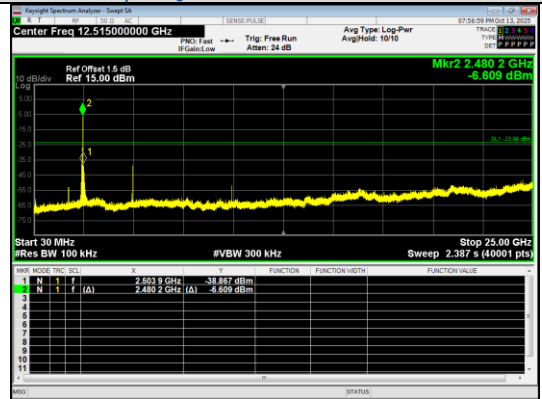
$\pi/4$ DQPSK 2-DH5_Channel 39



Out Of Band Emission GFSK_DH5_Channel 78

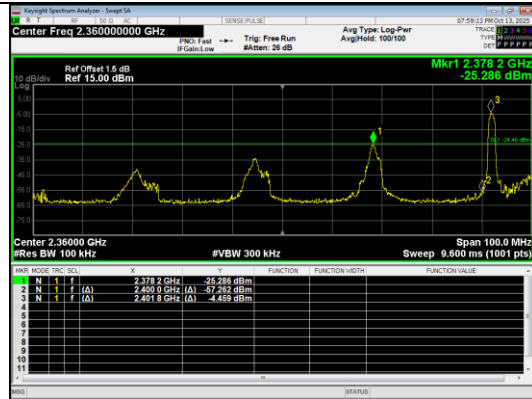


Out Of Band Emission $\pi/4$ DQPSK 2-DH5_Channel 78

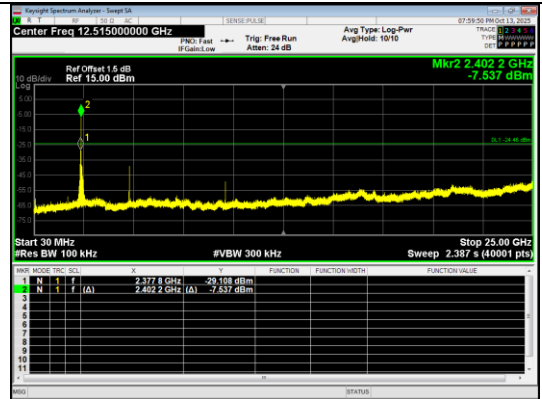


30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 78

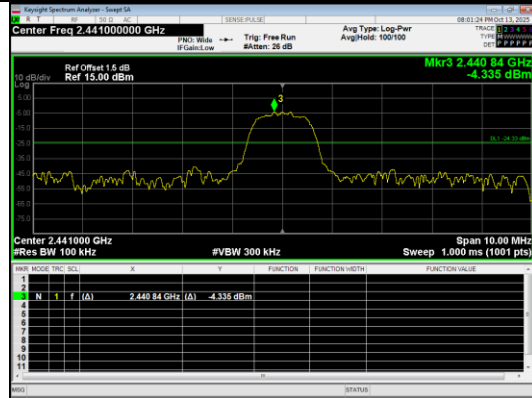
30.0 MHz - 25000.0 MHz $\pi/4$ DQPSK 2-DH5_Channel 78



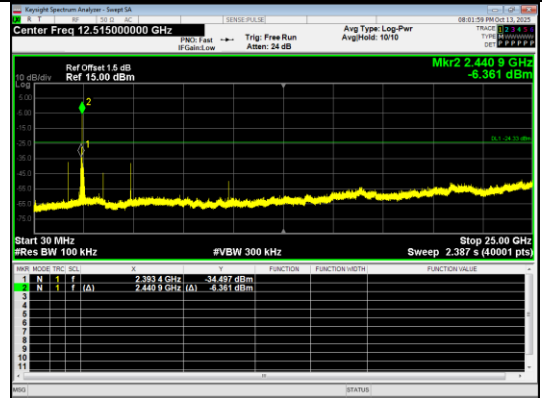
Out Of Band Emission 8DPSK_3-DH5_Channel 0



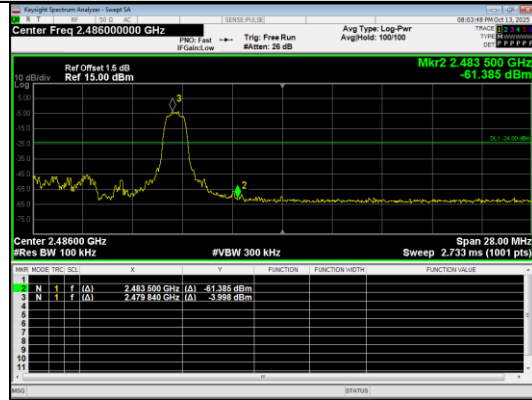
30.0 MHz - 25000.0 MHz 8DPSK_3-DH5_Channel 0



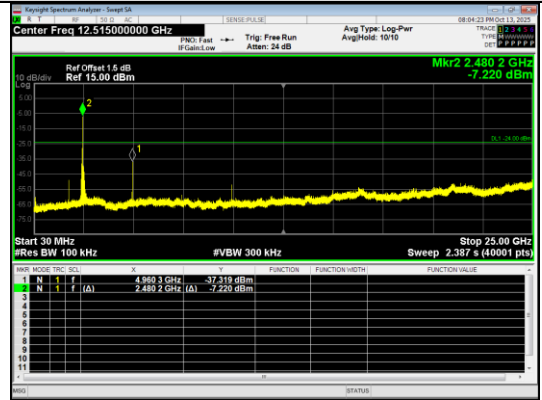
Out Of Band Emission
8DPSK_3-DH5_Channel 39



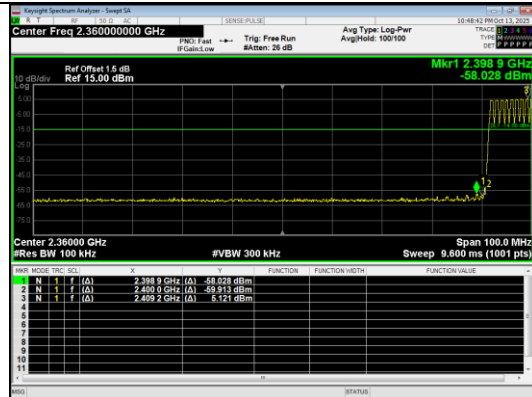
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



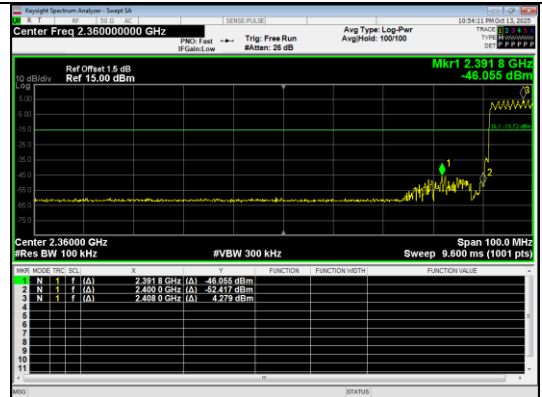
Out Of Band Emission
8DPSK_3-DH5_Channel 78



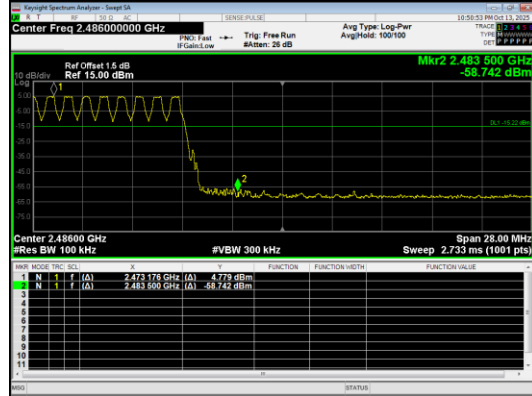
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



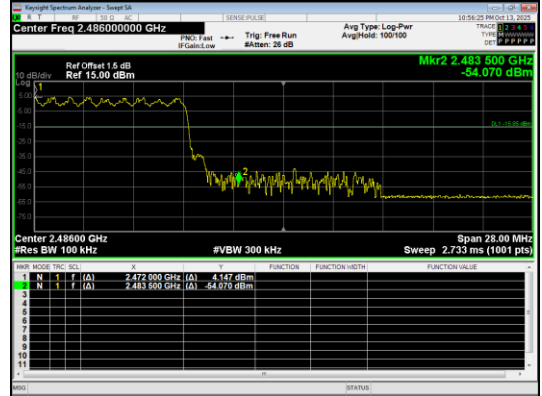
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



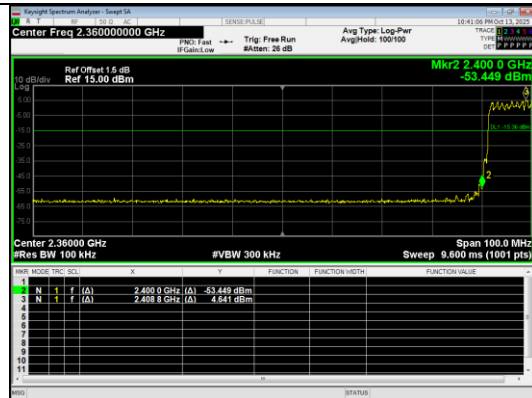
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



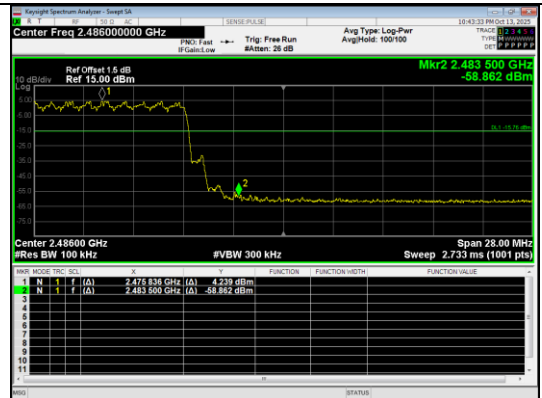
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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

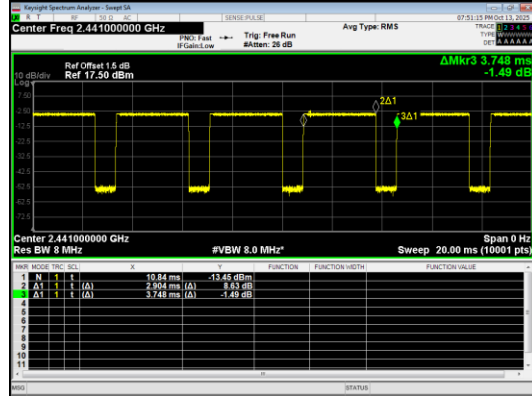
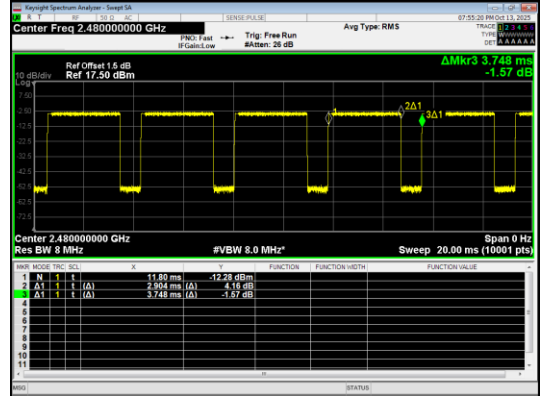
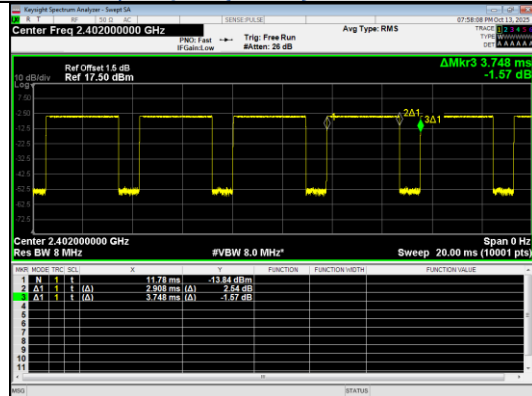
Duty Cycle

Test Result

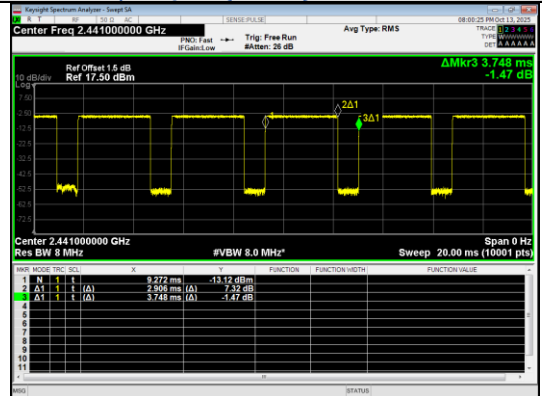
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.900	3.748	77.37	0.7737	1.1143	0.3448
		39	2.898	3.748	77.32	0.7732	1.1171	0.3451
		78	2.898	3.748	77.32	0.7732	1.1171	0.3451
$\pi/4$ DQPSK	2-DH5	0	2.904	3.748	77.48	0.7748	1.1081	0.3444
		39	2.904	3.748	77.48	0.7748	1.1081	0.3444
		78	2.904	3.748	77.48	0.7748	1.1081	0.3444
8DPSK	3-DH5	0	2.908	3.748	77.59	0.7759	1.1019	0.3439
		39	2.906	3.748	77.53	0.7753	1.1053	0.3441
		78	2.906	3.748	77.53	0.7753	1.1053	0.3441

Test Graphs

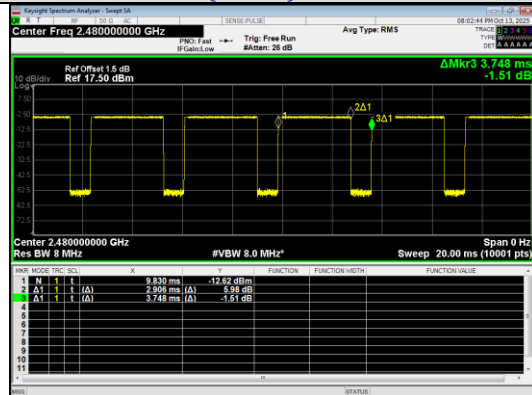



 $\pi/4$ DQPSK(2-DH5)_Channel 39

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


8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



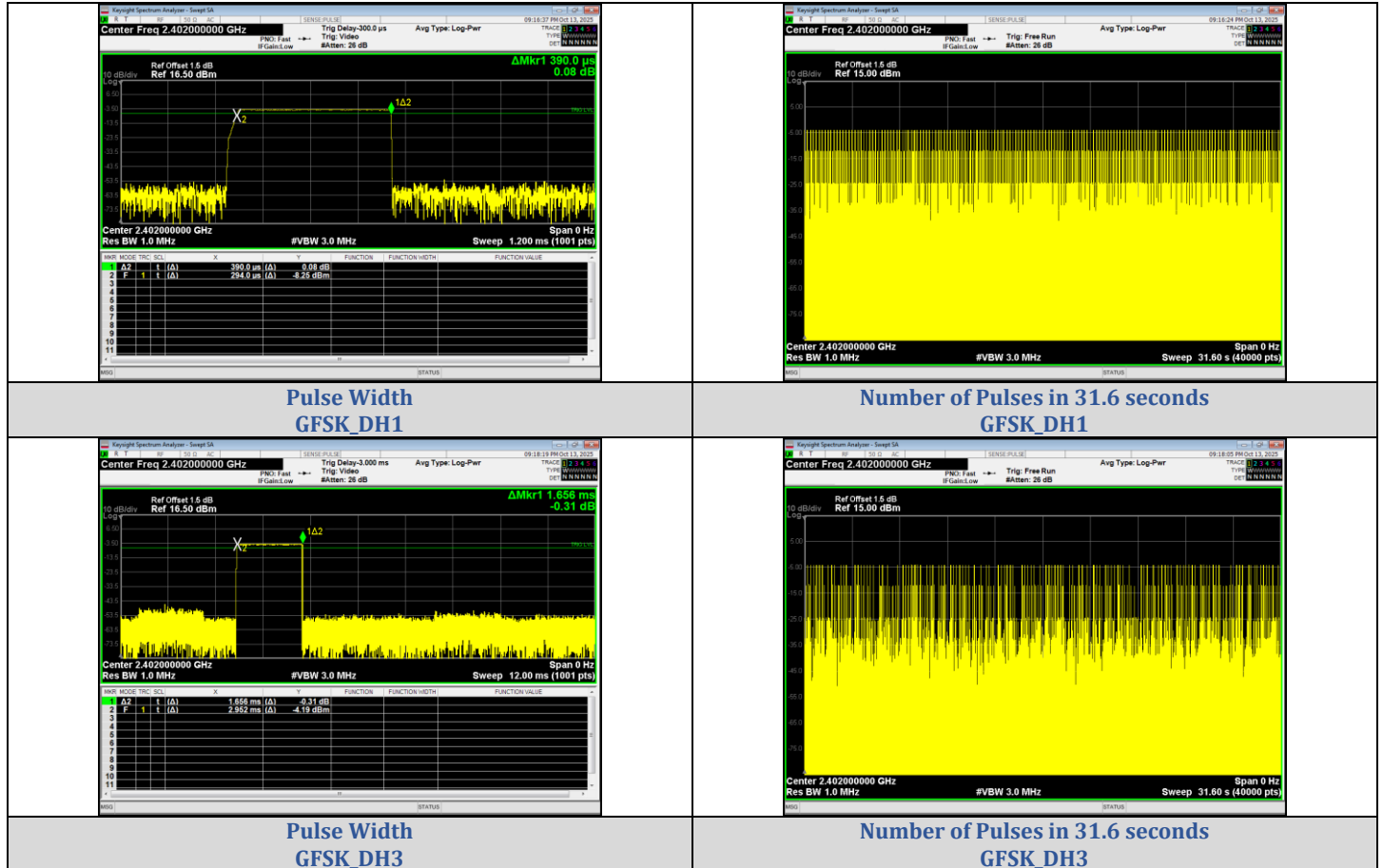
8DPSK(3-DH5)_Channel 78

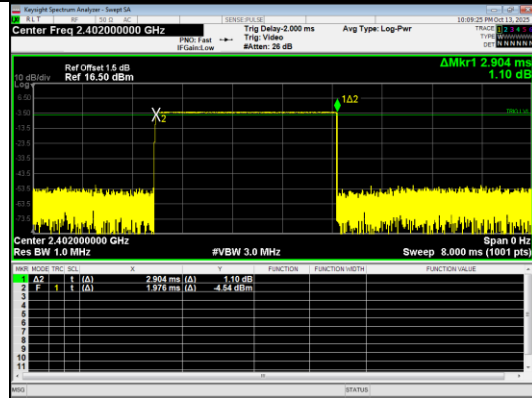
Dwell Time

Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	Hopping	0.3900	319	124.41	< 400	PASS
	DH3		1.656	162	268.27		PASS
	DH5		2.904	112	325.25		PASS
$\pi/4$ DQPSK	2-DH1		0.3972	319	126.71		PASS
	2-DH3		1.668	163	271.88		PASS
	2-DH5		2.904	116	336.86		PASS
8DPSK	3-DH1		0.3984	318	126.69		PASS
	3-DH3		1.656	155	256.68		PASS
	3-DH5		2.904	102	296.21		PASS

Test Graphs

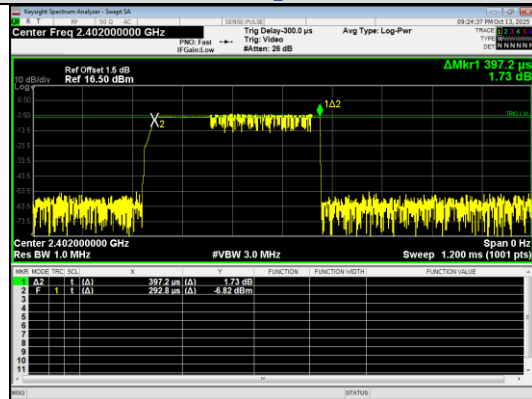




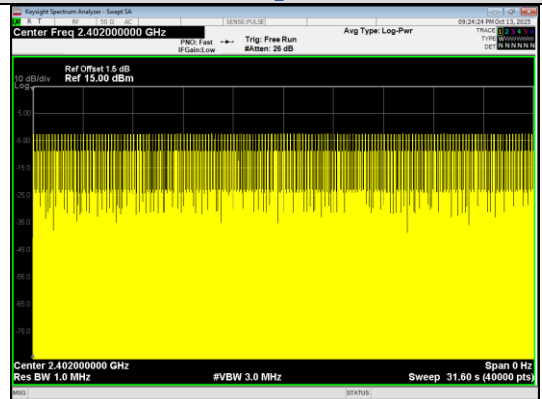
Pulse Width
GFSK_DH5



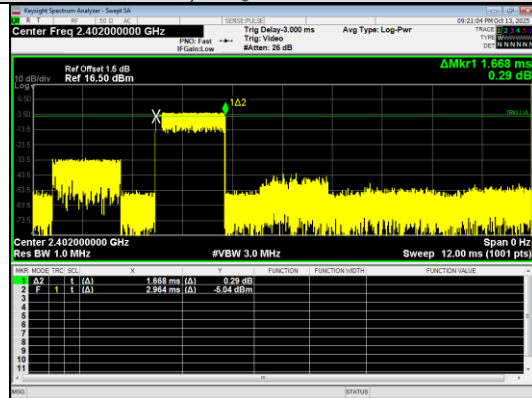
Number of Pulses in 31.6 seconds
GFSK_DH5



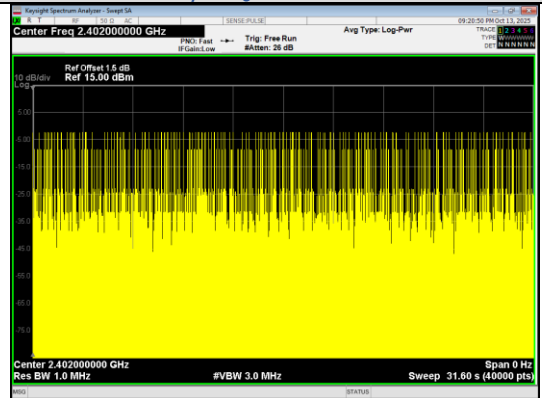
Pulse Width
 $\pi/4$ DQPSK_2-DH1



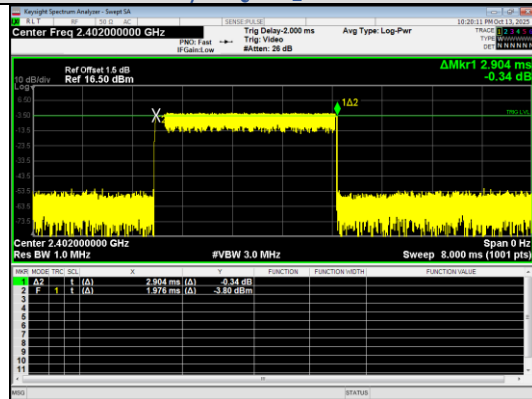
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH1



Pulse Width
 $\pi/4$ DQPSK_2-DH3



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

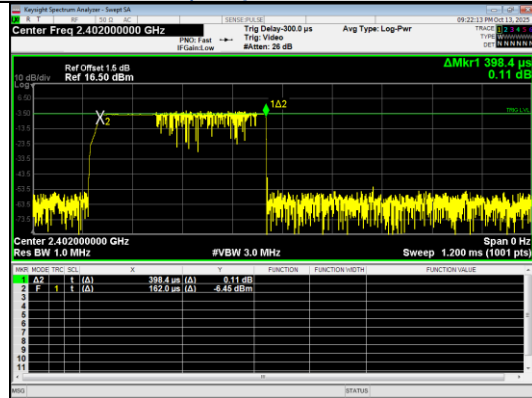


Pulse Width

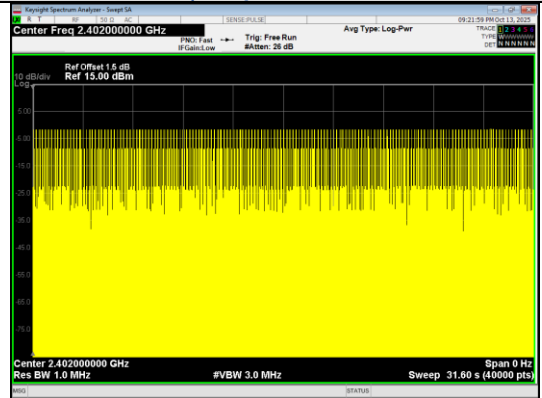


Number of Pulses in 31.6 seconds

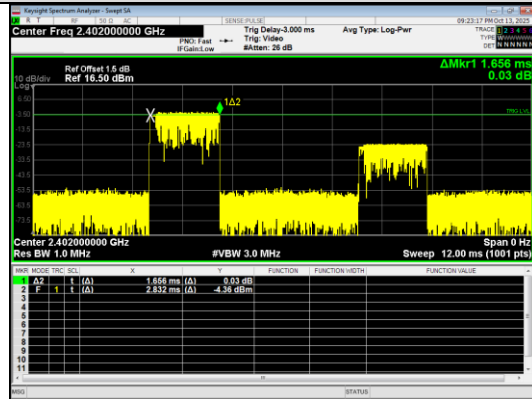
$\pi/4$ DQPSK_2-DH5



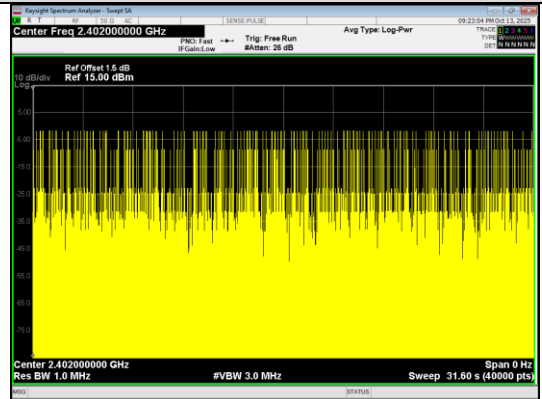
$\pi/4$ DQPSK_2-DH5



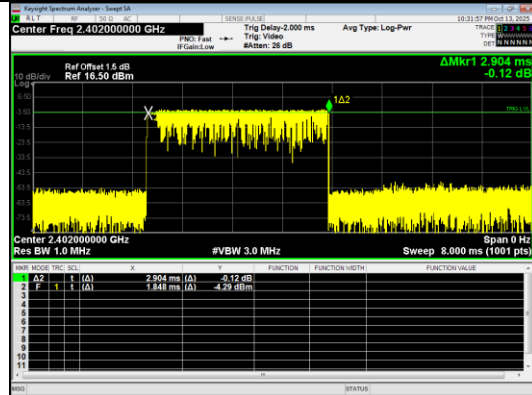
Pulse Width 8DPSK_3-DH1



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

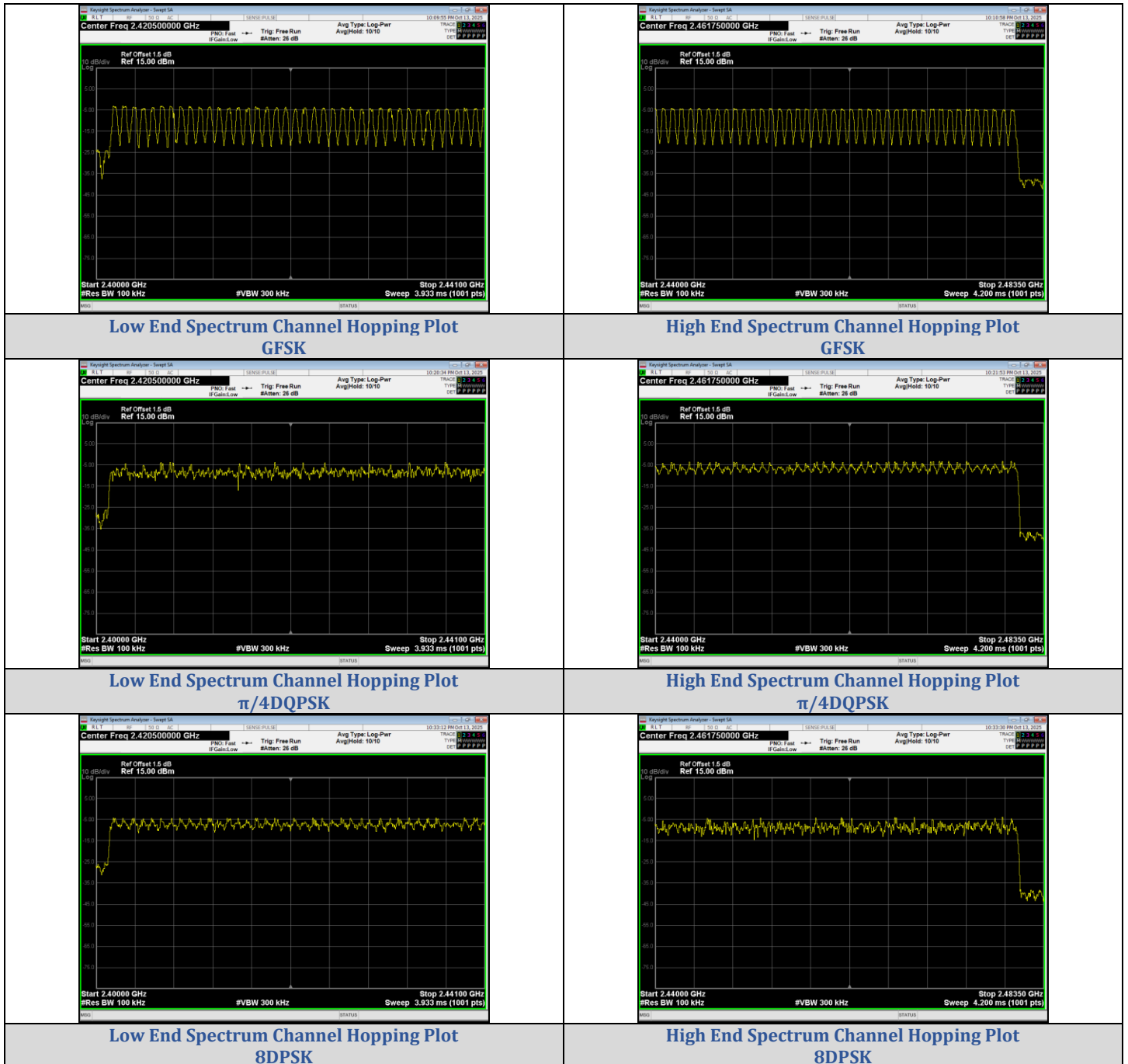
Number of Pulses in 31.6 seconds 8DPSK_3-DH5

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 *****