

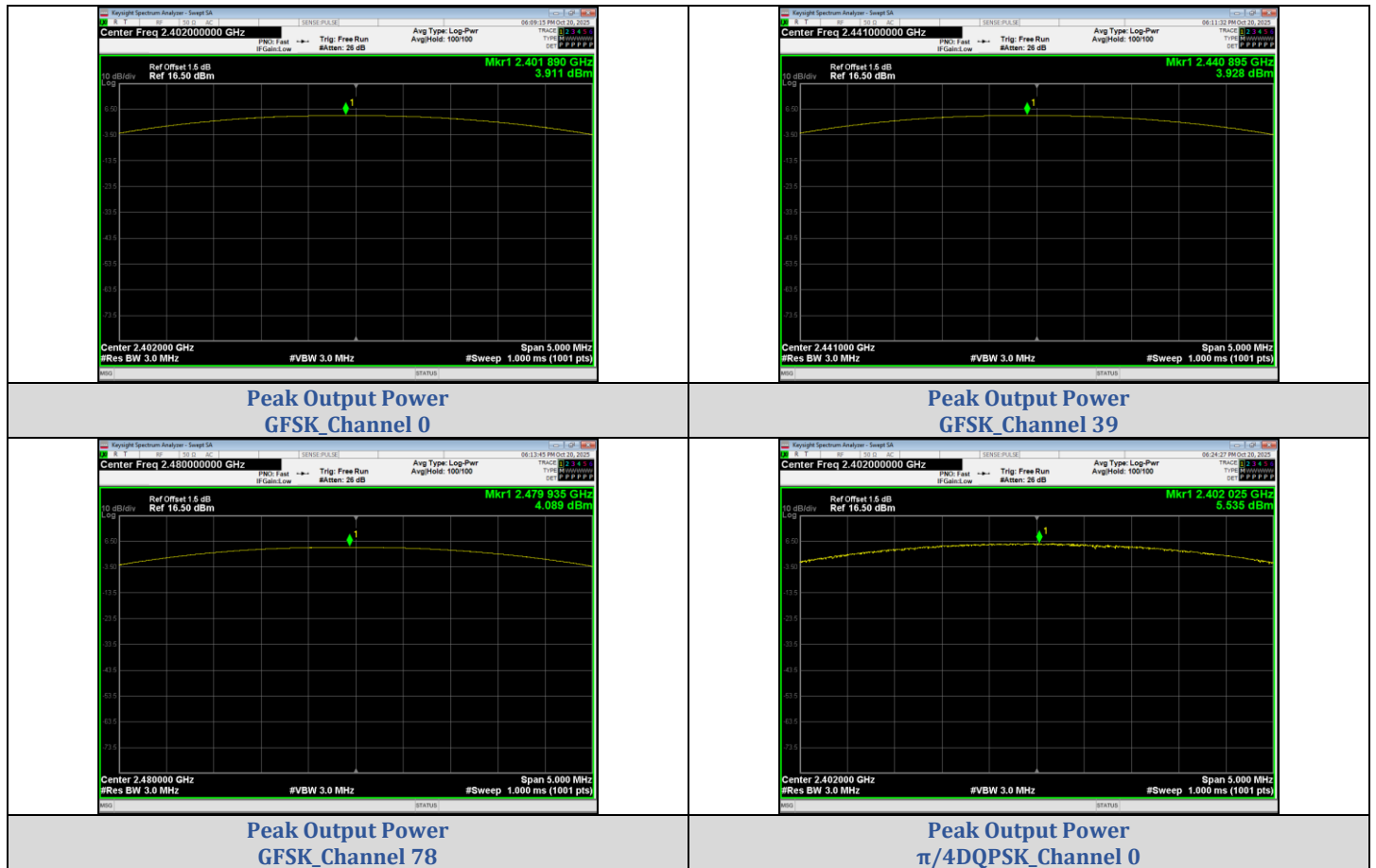
Appendix RF test data for BT

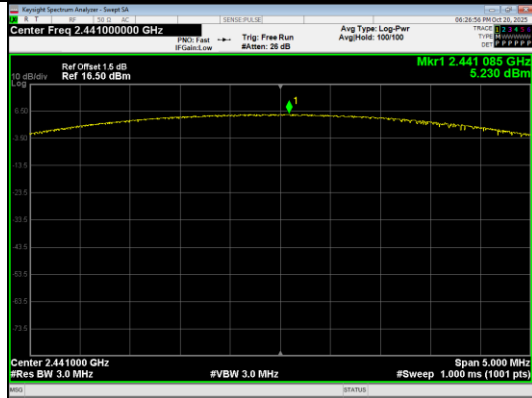
Conducted Output Power

Test Result

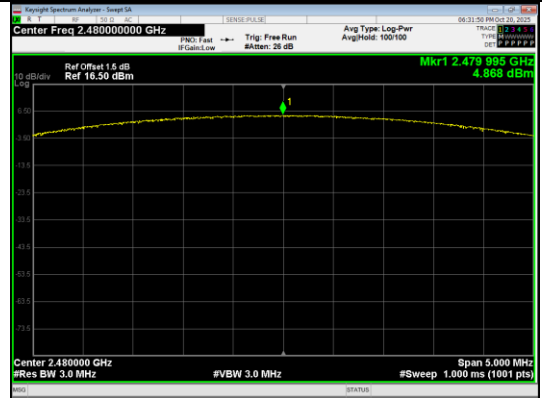
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
GFSK	DH5	0	3.91	2.46	3.65	≤30	PASS
		39	3.93	2.47	3.86		PASS
		78	4.09	2.56	3.90		PASS
$\pi/4$ DQPSK	2-DH5	0	5.54	3.58	3.02	≤20.97	PASS
		39	5.23	3.33	2.59		PASS
		78	4.87	3.07	2.35		PASS
8DPSK	3-DH5	0	4.68	2.94	1.51		PASS
		39	4.72	2.96	1.49		PASS
		78	4.61	2.89	1.40		PASS

Test Graphs

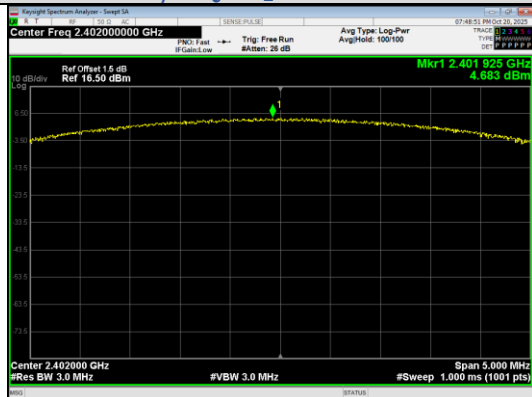




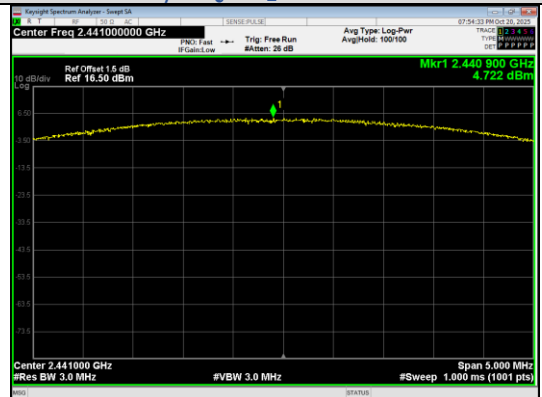
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



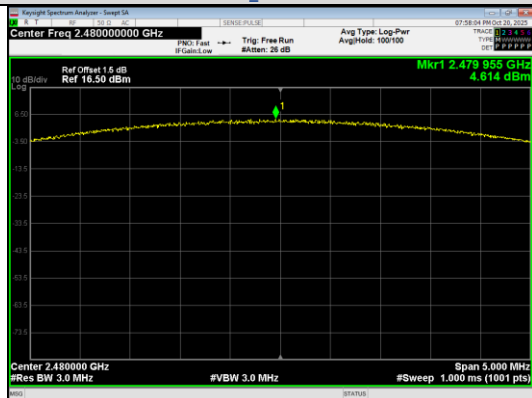
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



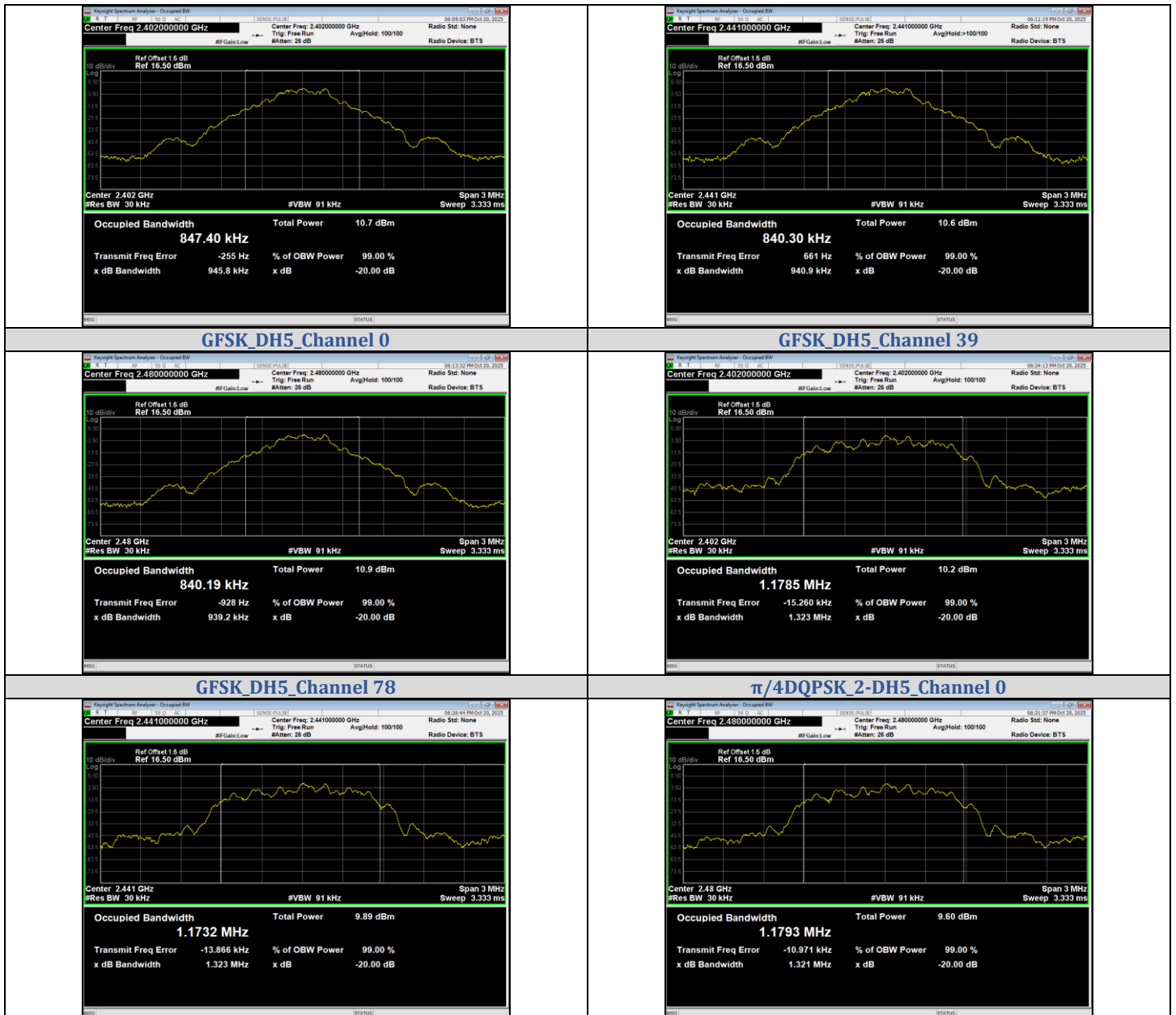
Peak Output Power
8DPSK_Channel 78

20dB Bandwidth

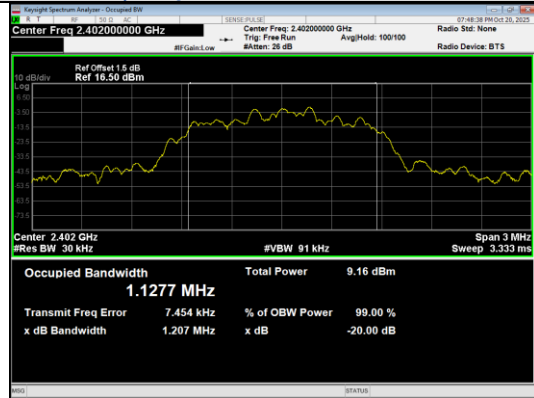
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9500
	39	2441 MHz	0.9400
	78	2480 MHz	0.9400
$\pi/4$ DQPSK	0	2402 MHz	1.320
	39	2441 MHz	1.320
	78	2480 MHz	1.320
8DPSK	0	2402 MHz	1.210
	39	2441 MHz	1.200
	78	2480 MHz	1.210

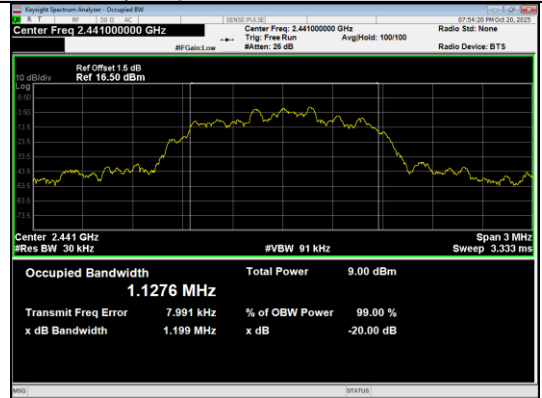
Test Graphs



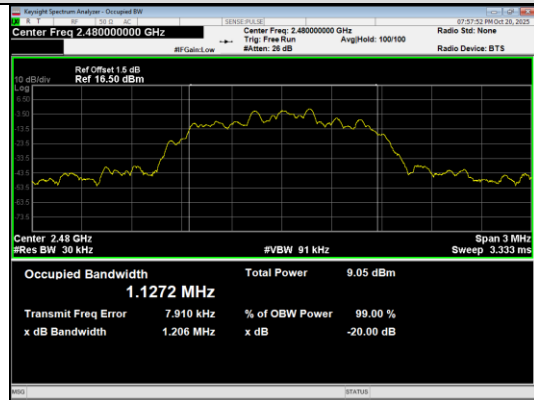
$\pi/4$ DQPSK 2-DH5_Channel 39



$\pi/4$ DQPSK 2-DH5_Channel 78



8DPSK 3-DH5_Channel 0



8DPSK 3-DH5_Channel 39

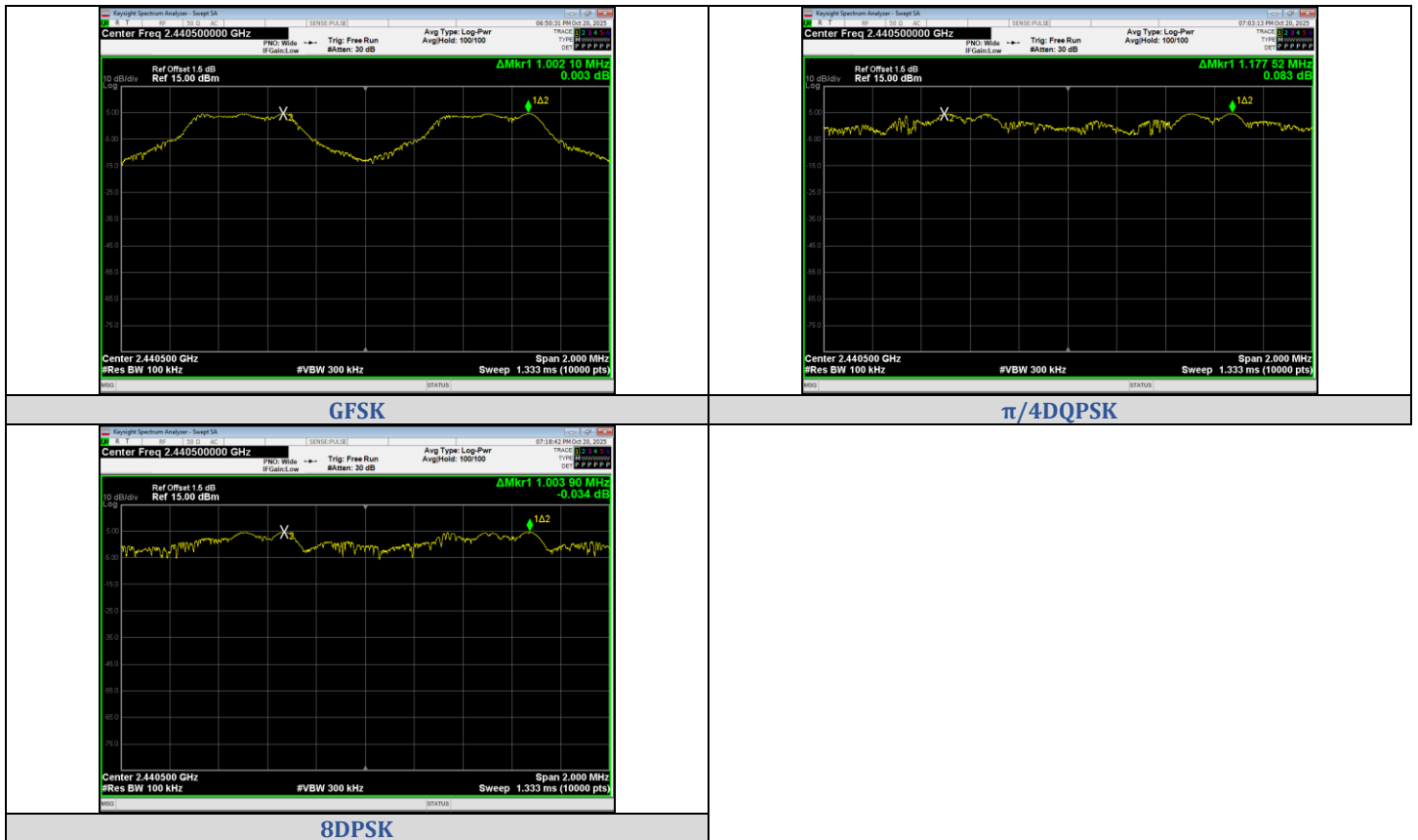
8DPSK 3-DH5_Channel 78

Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.1645	2441.1666	1.0021	0.99	PASS
$\pi/4$ DQPSK	2-DH5	2439.9936	2441.1712	1.1775	0.99	PASS
8DPSK	3-DH5	2440.1687	2441.1726	1.0039	0.99	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

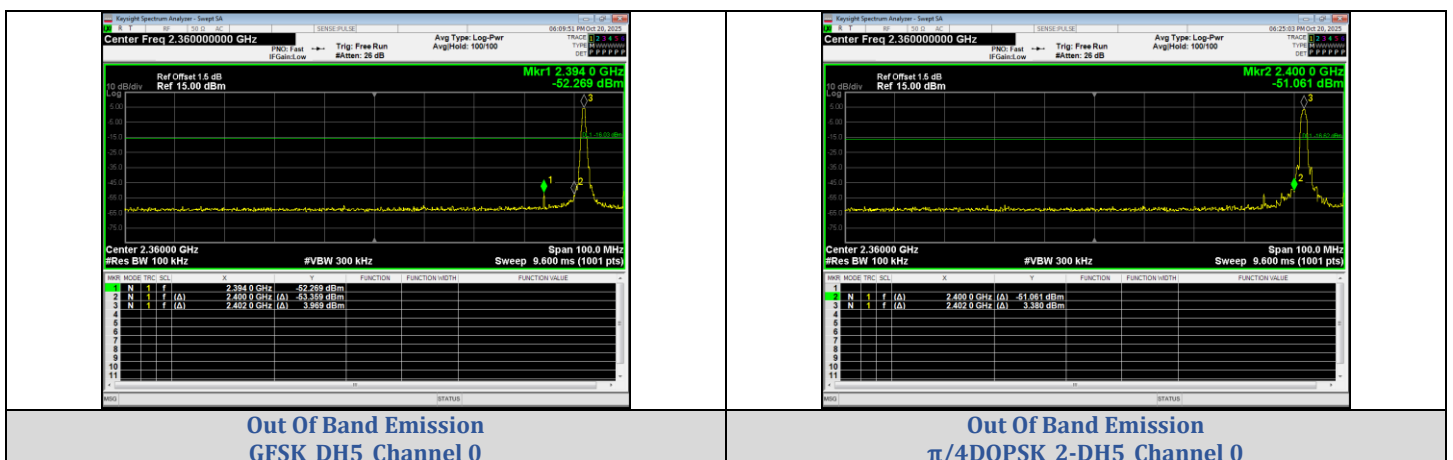
Non-Hopping

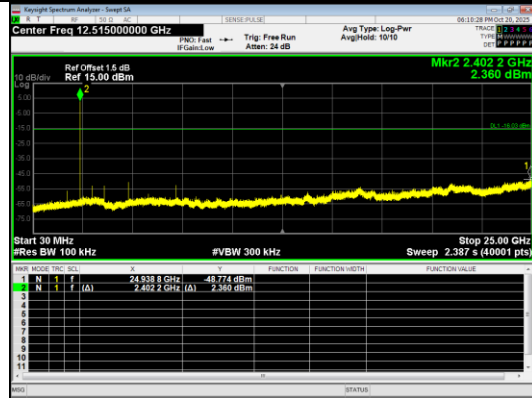
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2394.00	-52.269	-16.03	-36.239	PASS
			2400.00	-53.360	-16.03	-37.330	PASS
			24938.8	-48.774	-16.03	-32.744	PASS
		39	24998.1	-48.663	-16.02	-32.643	PASS
		78	2483.50	-59.060	-15.88	-43.180	PASS
			24998.8	-48.440	-15.88	-32.560	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-51.060	-16.62	-34.440	PASS
			24950.7	-48.858	-16.62	-32.238	PASS
		39	7322.49	-48.679	-16.87	-31.809	PASS
		78	2483.50	-54.040	-17.26	-36.780	PASS
			4959.70	-48.483	-17.26	-31.223	PASS
8DPSK	3-DH5	0	2400.00	-49.390	-18.11	-31.280	PASS
			24902.0	-49.022	-18.11	-30.912	PASS
		39	24959.4	-49.407	-18.02	-31.387	PASS
		78	2483.50	-53.130	-18.18	-34.950	PASS
			24792.8	-48.932	-18.18	-30.752	PASS

Hopping

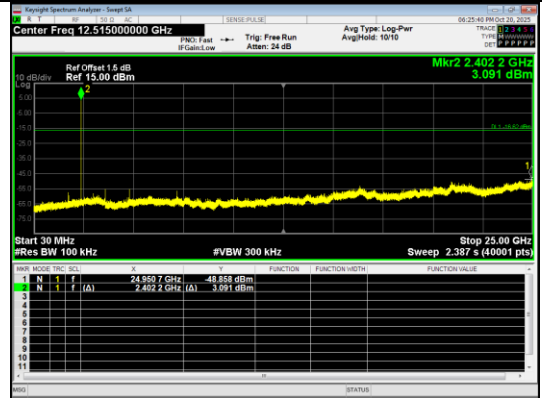
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.00	-51.250	-15.26	-35.990	PASS
			2400.00	-53.010	-15.26	-37.750	PASS
			2483.50	-57.720	-15.12	-42.600	PASS
$\pi/4$ DQPSK	2-DH5		2400.00	-50.560	-15.23	-35.330	PASS
			2483.50	-50.350	-15.14	-35.210	PASS
8DPSK	3-DH5		2400.00	-44.680	-15.2	-29.480	PASS
			2483.50	-50.070	-15.07	-35.000	PASS

Test Graphs

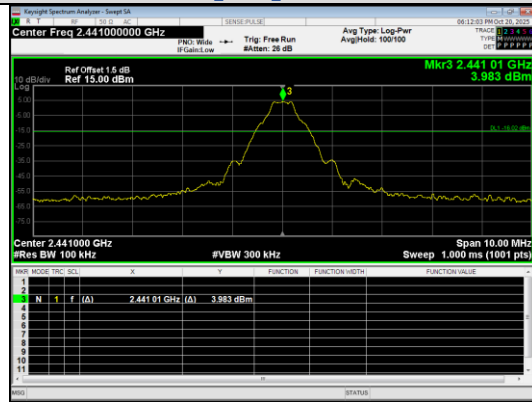




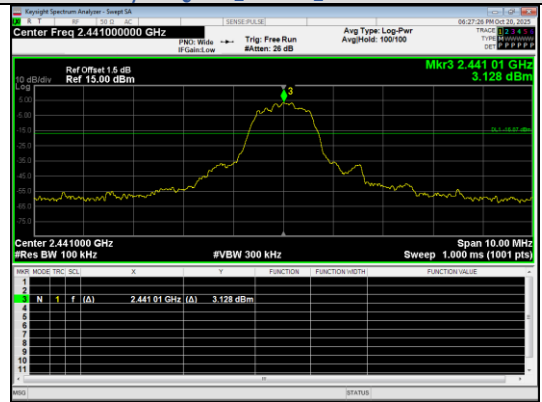
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



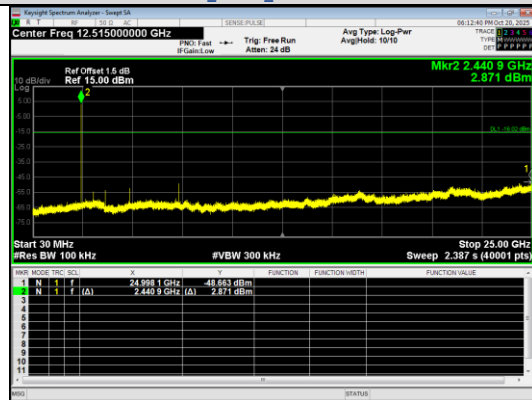
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



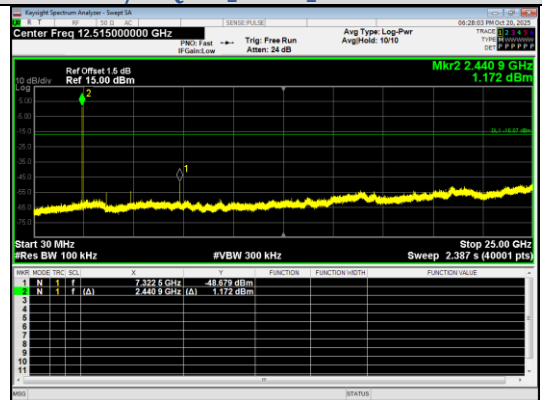
Out Of Band Emission
GFSK_DH5_Channel 39



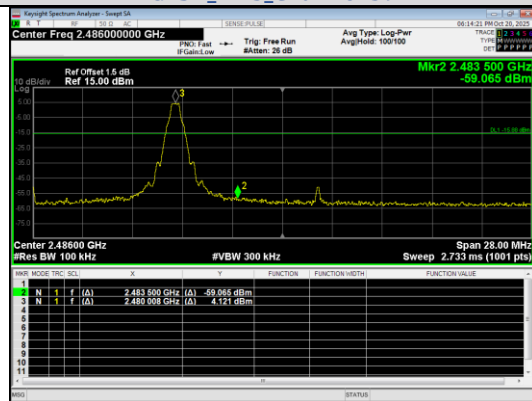
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



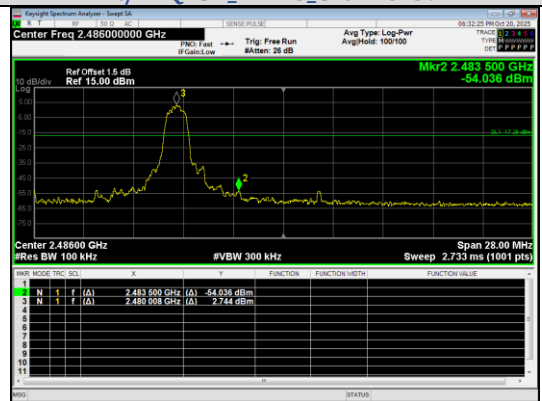
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



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

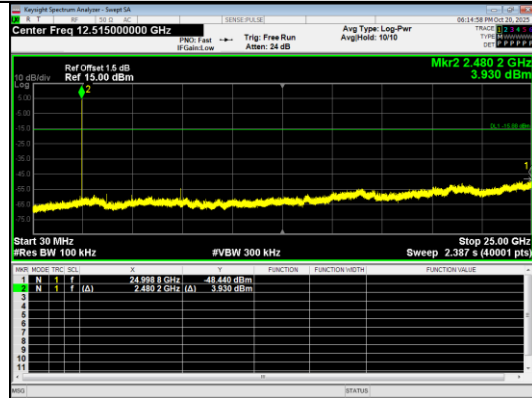


Out Of Band Emission



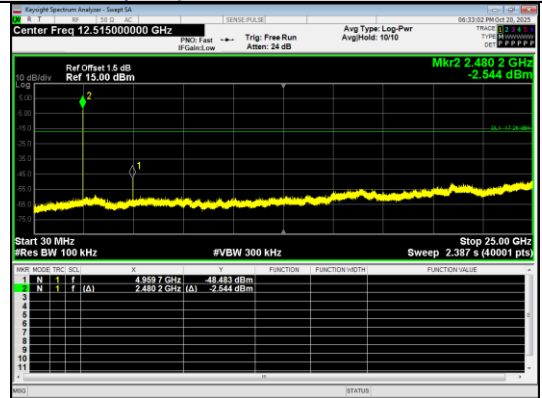
Out Of Band Emission

GFSK_DH5_Channel 78

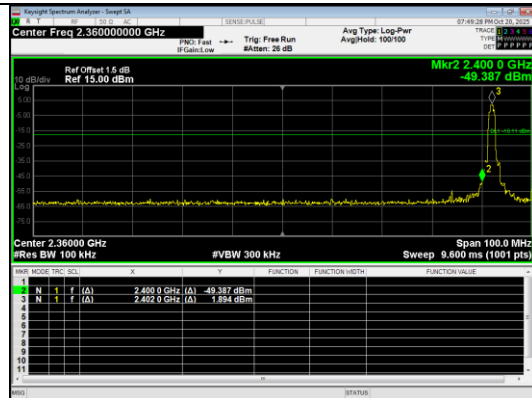


30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78

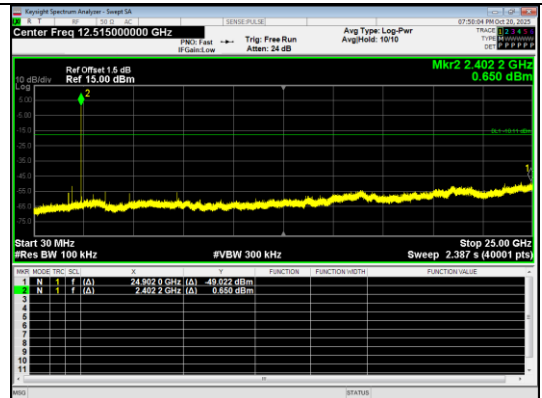
$\pi/4$ DQPSK_2-DH5_Channel 78



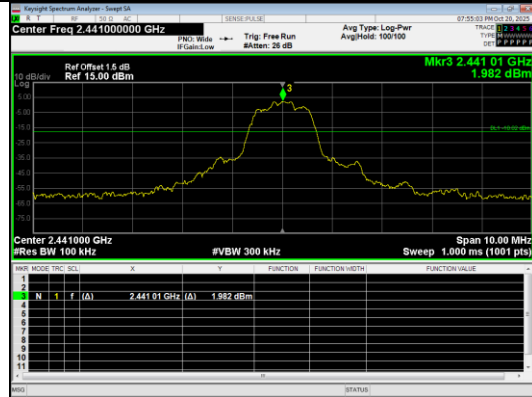
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



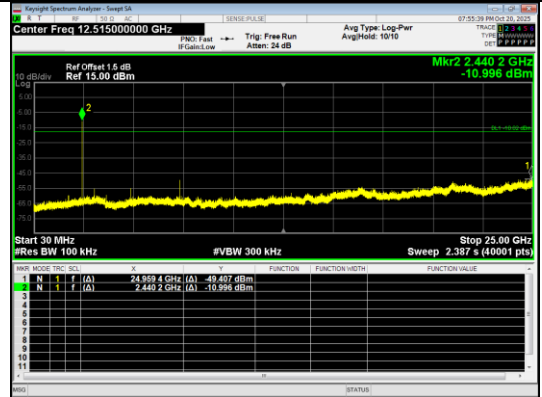
Out Of Band Emission
8DPSK_3-DH5_Channel 0



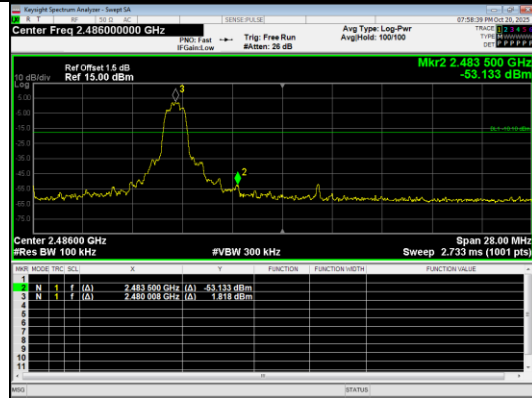
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



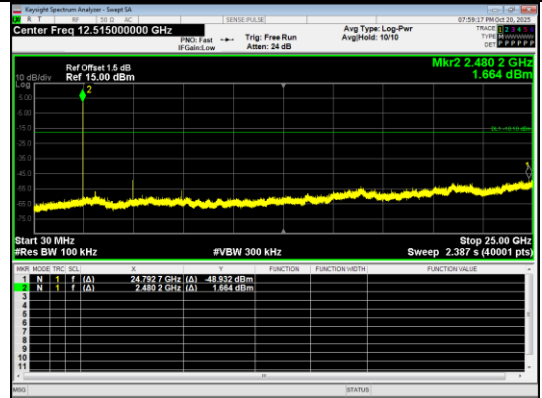
Out Of Band Emission
8DPSK_3-DH5_Channel 39



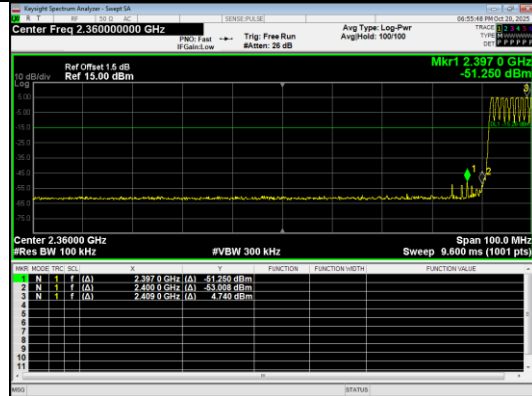
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



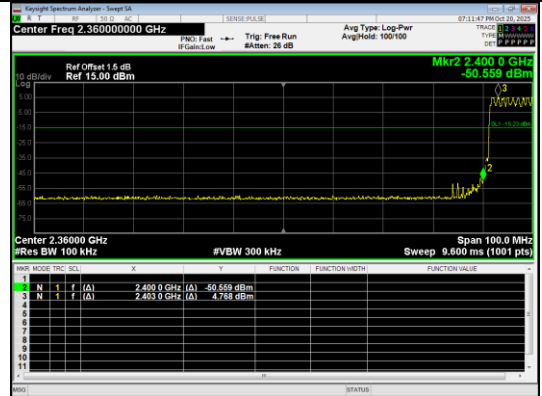
Out Of Band Emission
8DPSK_3-DH5_Channel 78



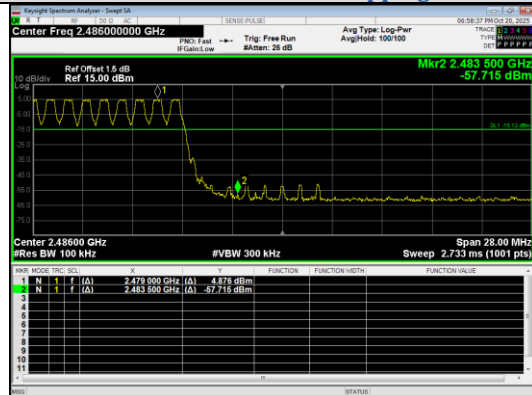
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



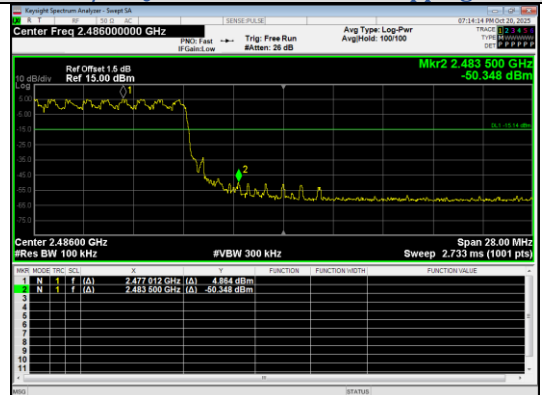
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



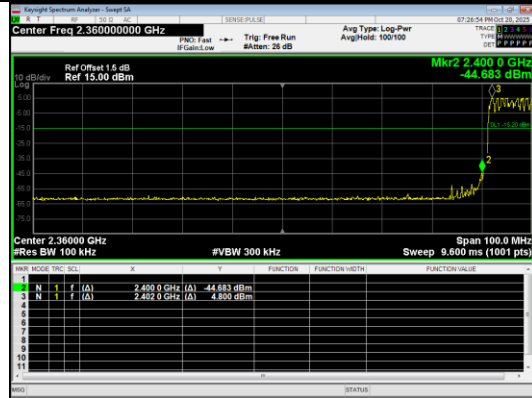
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



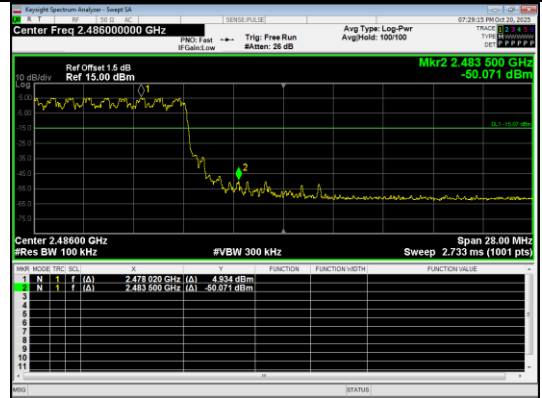
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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



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



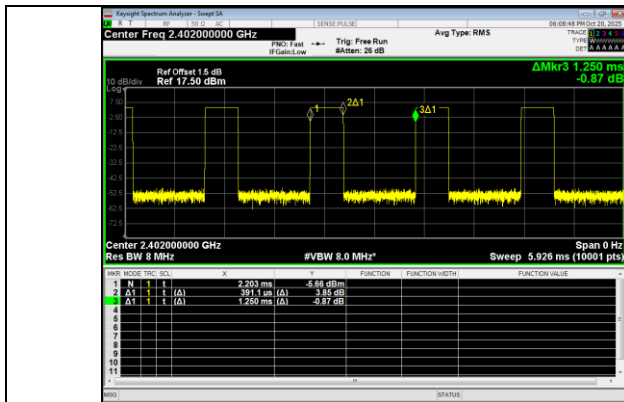
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

Duty Cycle

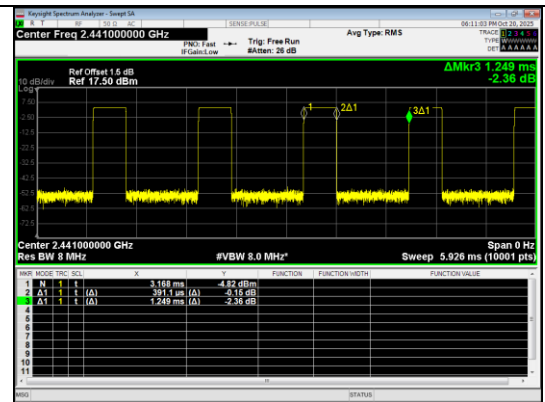
Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	0.391	1.250	31.29	0.3129	5.0459	2.5575
		39	0.391	1.249	31.31	0.3131	5.0432	2.5575
		78	0.391	1.249	31.31	0.3131	5.0432	2.5575
$\pi/4$ DQPSK	2-DH5	0	0.286	1.249	22.87	0.2287	6.4073	3.4965
		39	0.285	1.249	22.82	0.2282	6.4168	3.5088
		78	0.286	1.250	22.85	0.2285	6.4111	3.4965
8DPSK	3-DH5	0	0.244	1.249	19.50	0.1950	7.0997	4.0984
		39	0.244	1.250	19.49	0.1949	7.1019	4.0984
		78	0.244	1.249	19.50	0.1950	7.0997	4.0984

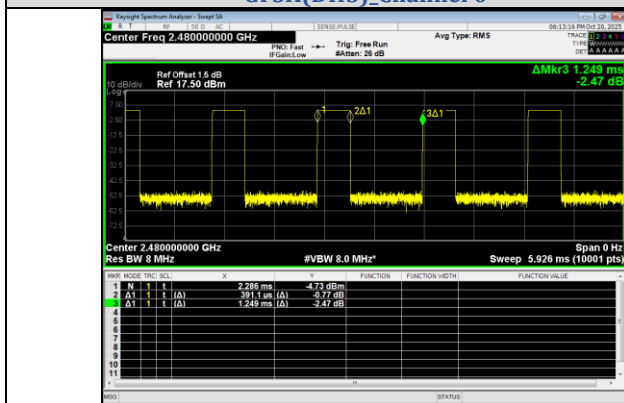
Test Graphs



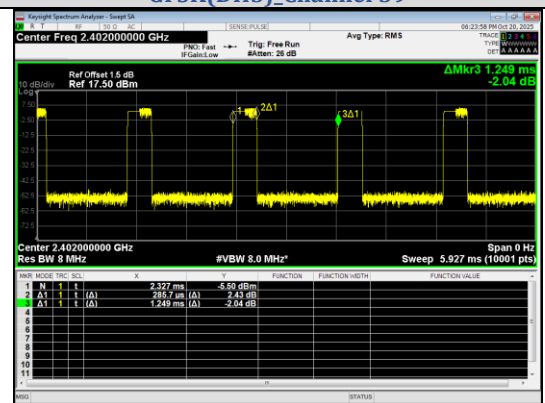
GFSK(DH5)_Channel 0



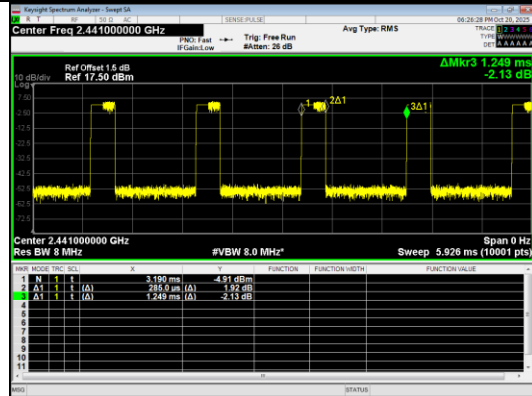
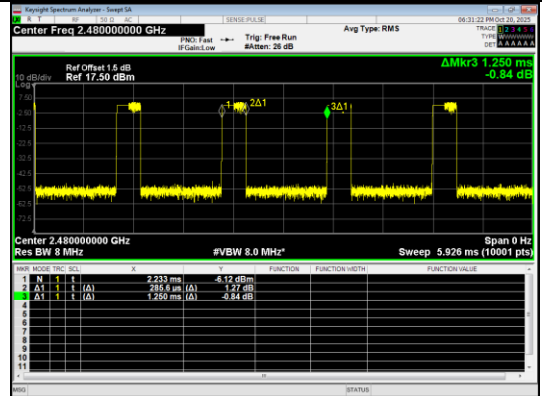
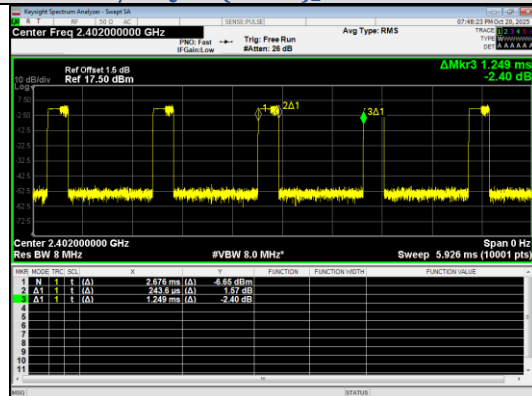
GFSK(DH5)_Channel 39



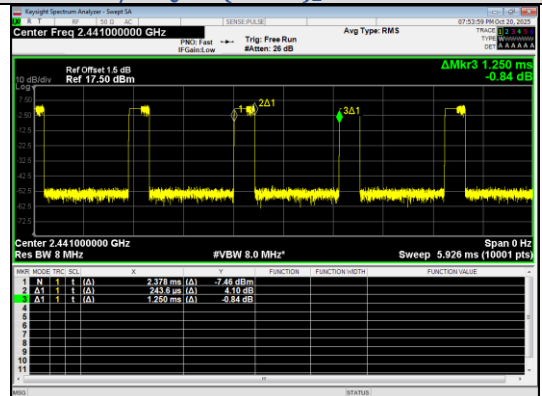
GFSK(DH5)_Channel 78



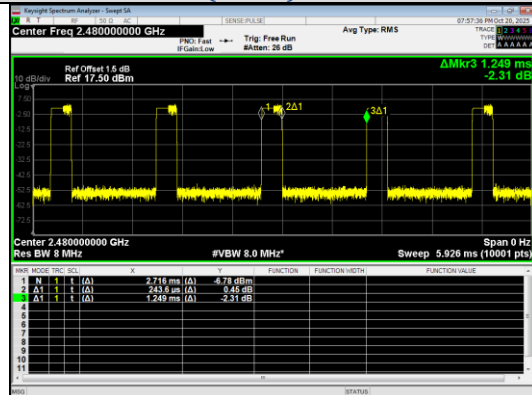
$\pi/4$ DQPSK(2-DH5)_Channel 0


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

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


8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



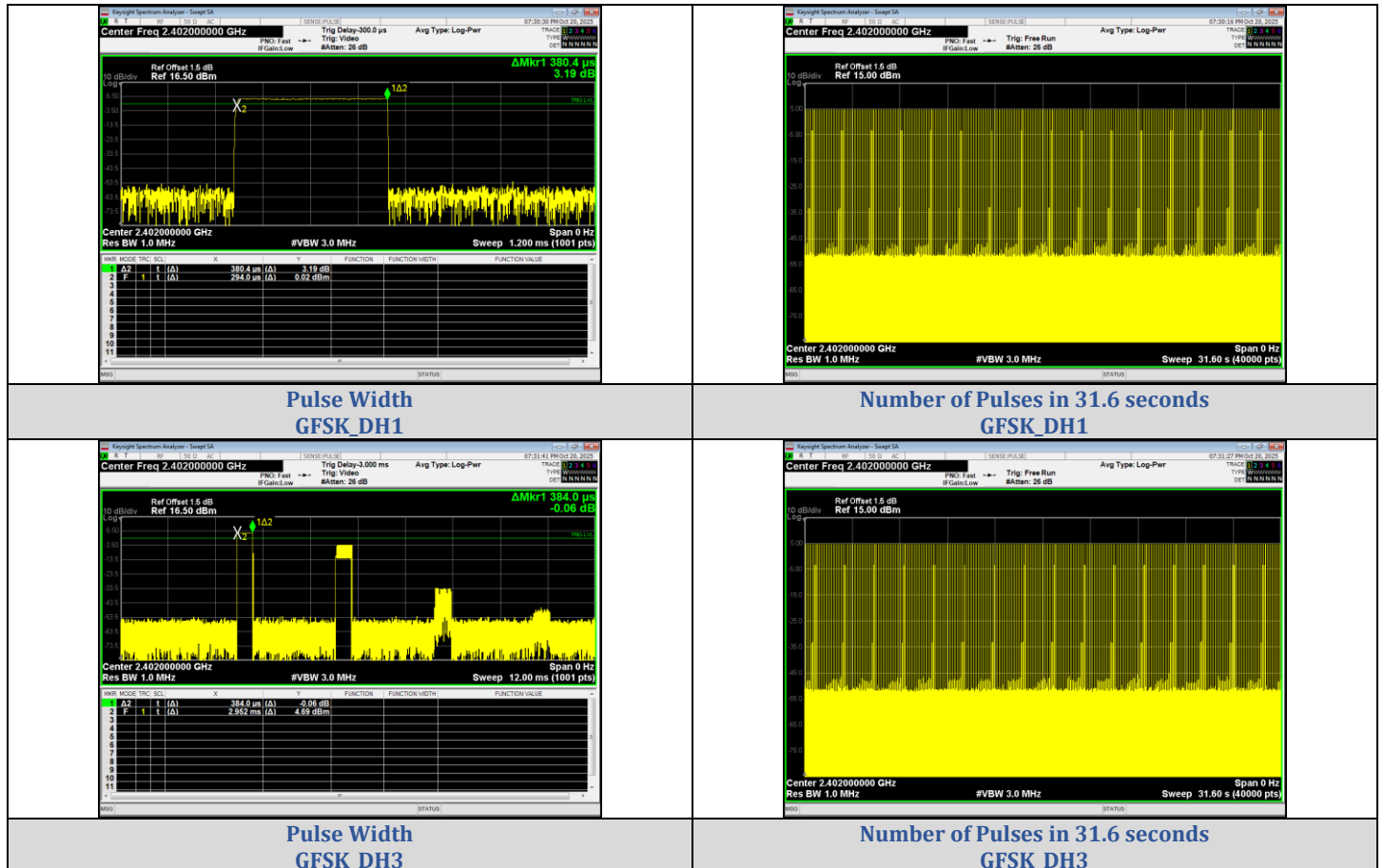
8DPSK(3-DH5)_Channel 78

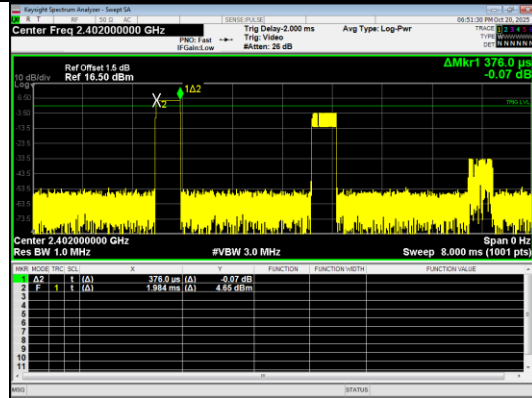
Dwell Time

Test Result

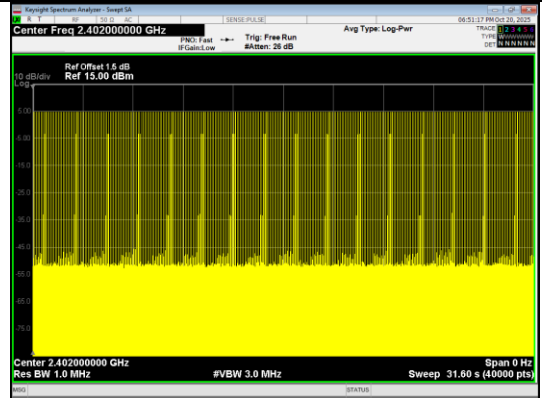
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	Hopping	0.3804	319	121.35	< 400	PASS
	DH3		0.3840	319	122.5		PASS
	DH5		0.3760	320	120.32		PASS
$\pi/4$ DQPSK	2-DH1		0.2820	319	89.96		PASS
	2-DH3		0.2640	319	84.22		PASS
	2-DH5		0.2720	319	86.77		PASS
8DPSK	3-DH1		0.2376	319	75.79		PASS
	3-DH3		0.2400	319	76.56		PASS
	3-DH5		0.2400	319	76.56		PASS

Test Graphs

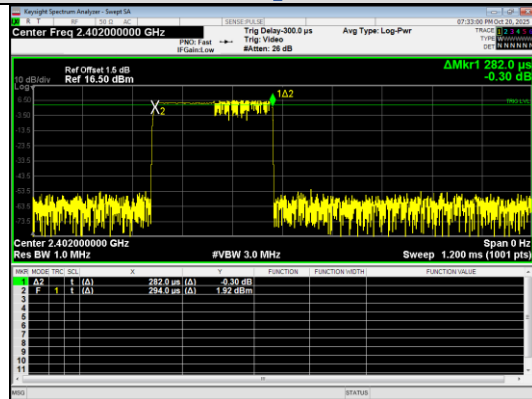




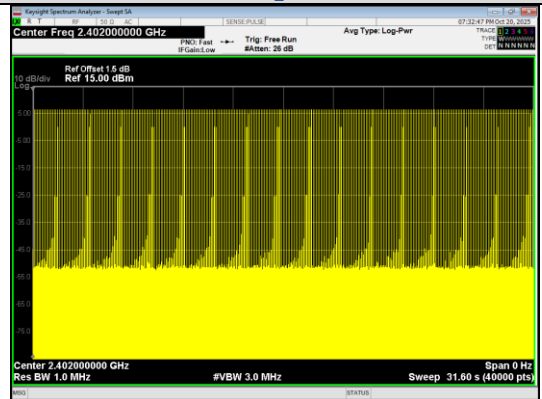
Pulse Width
GFSK_DH5



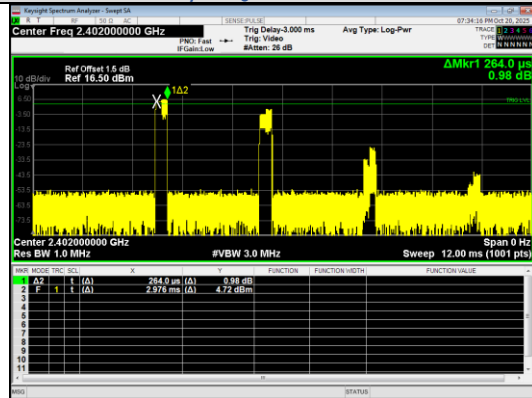
Number of Pulses in 31.6 seconds
GFSK_DH5



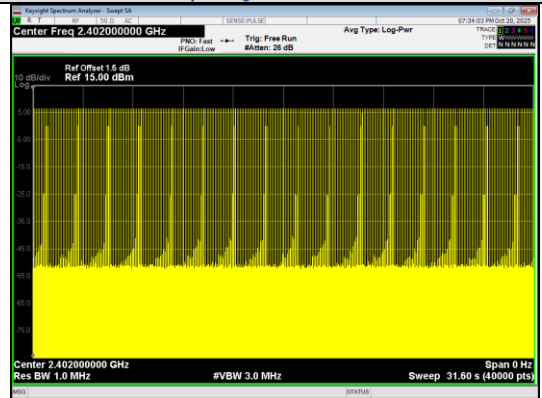
Pulse Width
 $\pi/4$ DQPSK_2-DH1



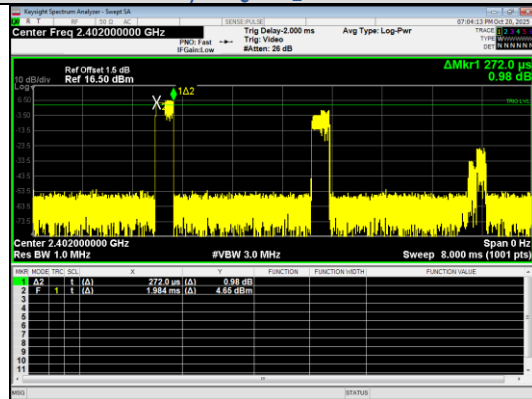
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH1



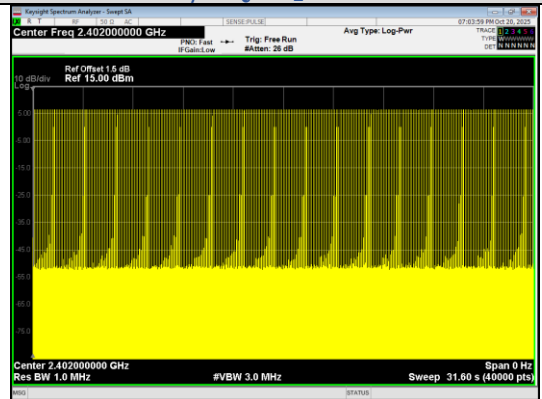
Pulse Width
 $\pi/4$ DQPSK_2-DH3



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

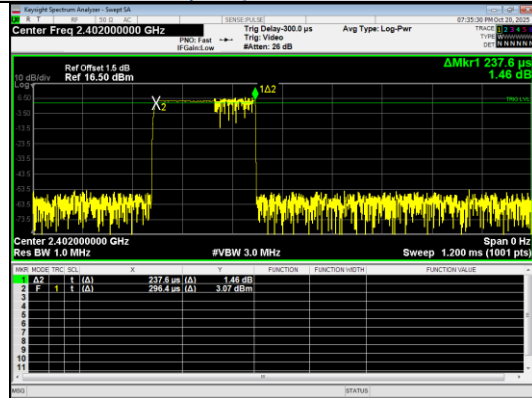


Pulse Width

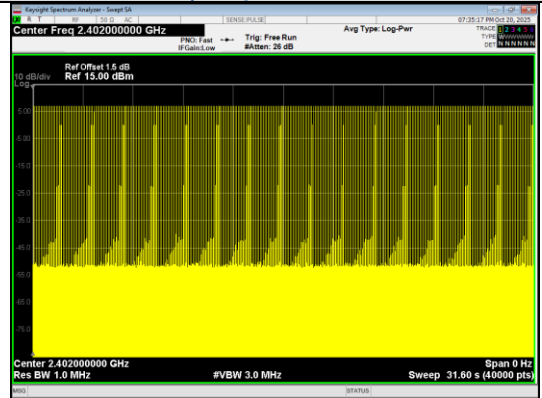


Number of Pulses in 31.6 seconds

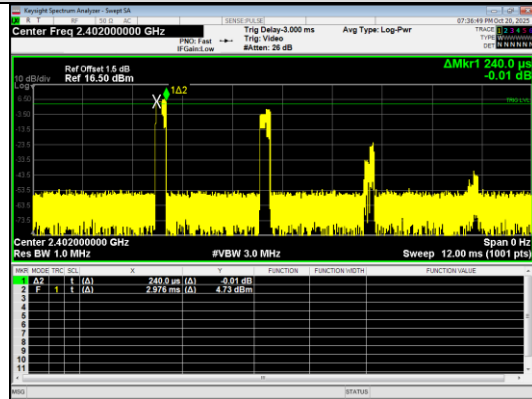
$\pi/4$ DQPSK_2-DH5



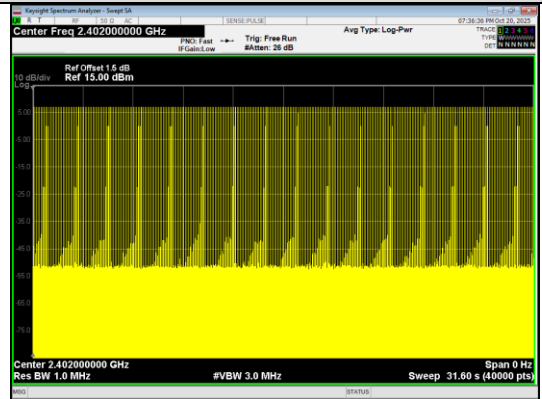
$\pi/4$ DQPSK_2-DH5



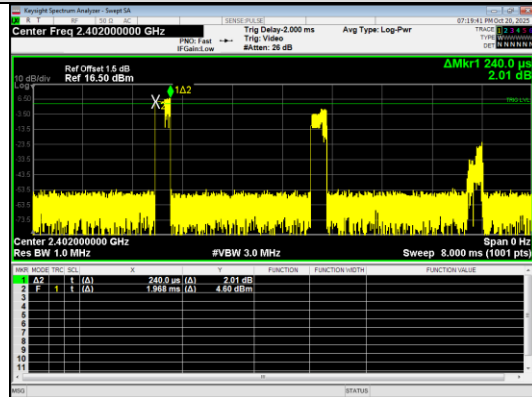
Pulse Width 8DPSK_3-DH1



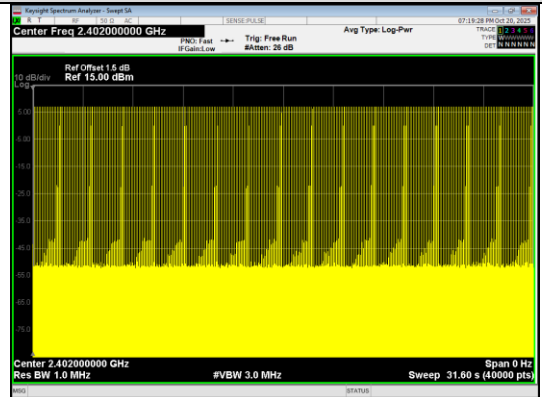
Number of Pulses in 31.6 seconds 8DPSK_3-DH1



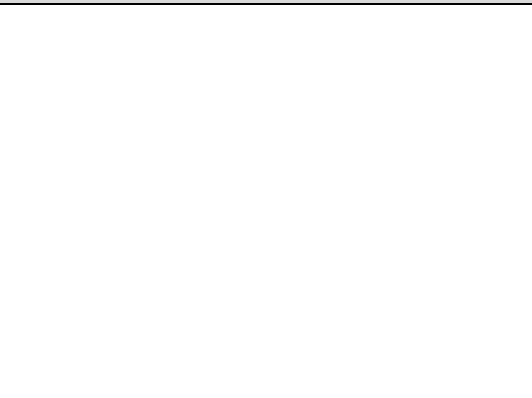
Pulse Width 8DPSK_3-DH3



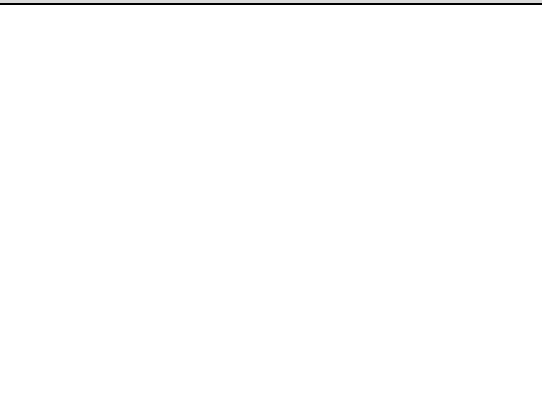
Number of Pulses in 31.6 seconds 8DPSK_3-DH3



Pulse Width 8DPSK_3-DH5



Number of Pulses in 31.6 seconds 8DPSK_3-DH5

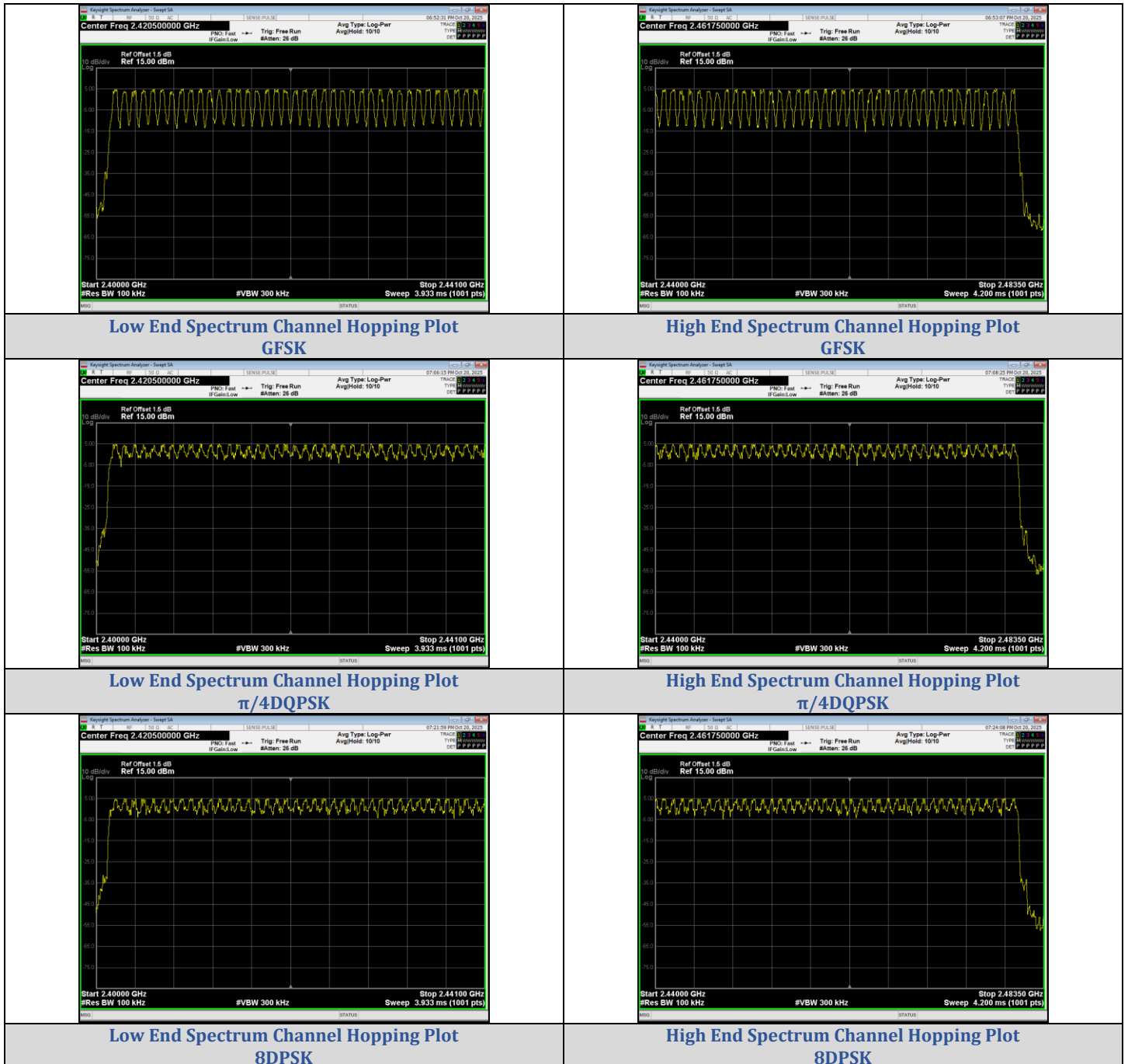


Number Of Hopping Channel

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 *****