

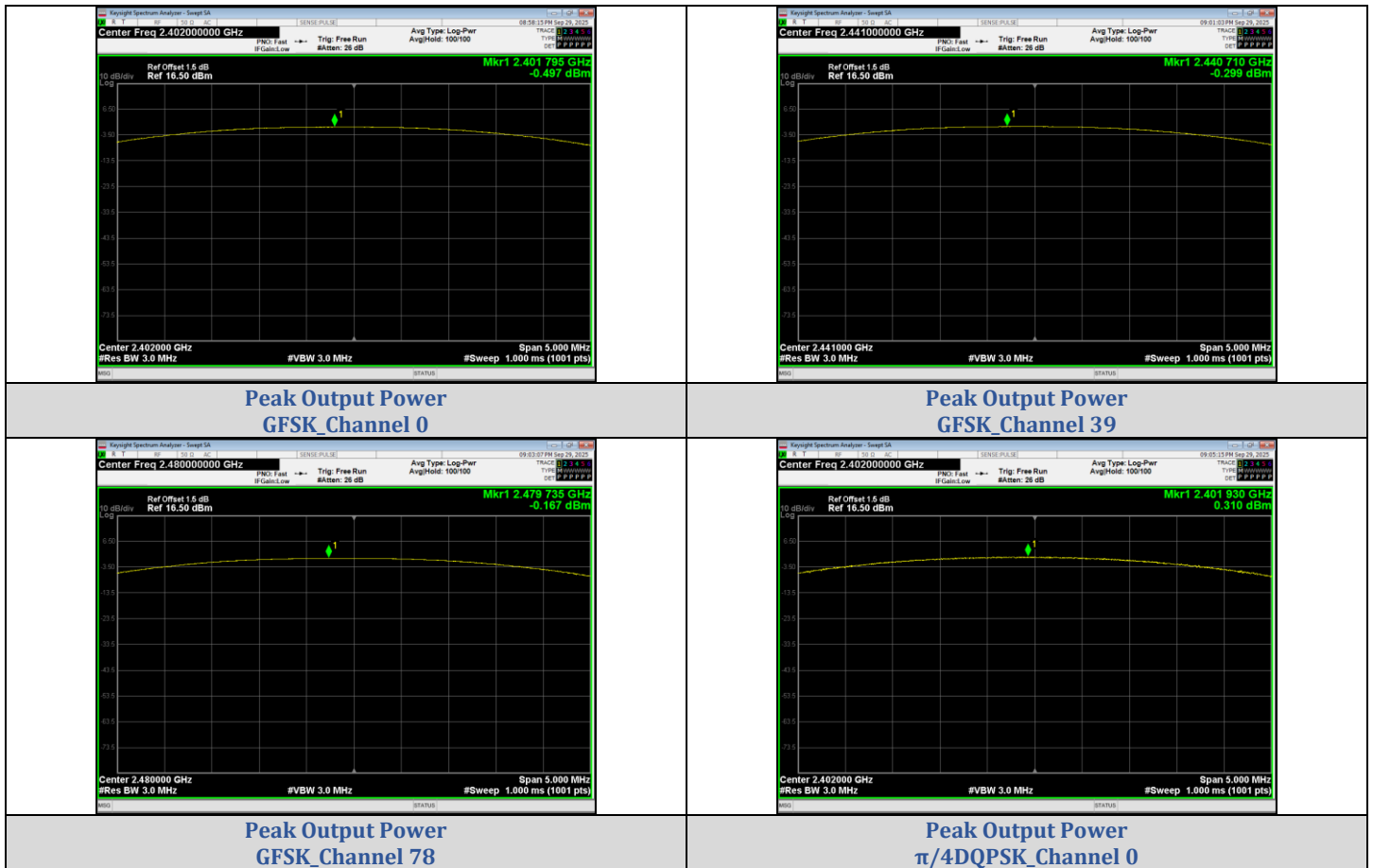
Appendix RF test data for BT

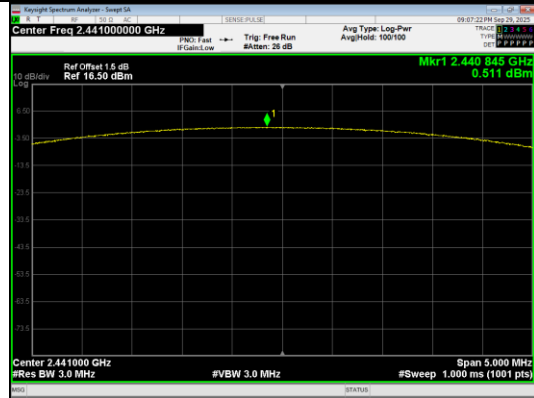
Conducted Output Power

Test Result

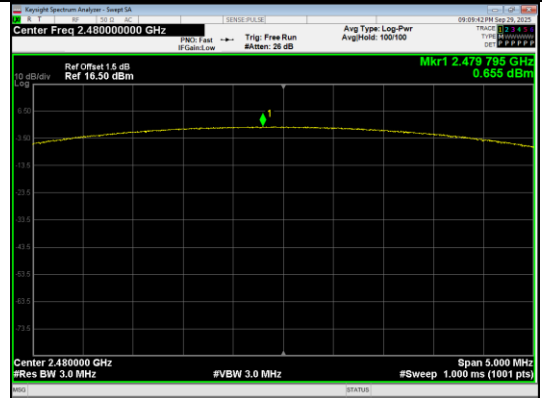
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-0.50	0.89	≤20.97	PASS
		39	-0.30	0.93		PASS
		78	-0.17	0.96		PASS
$\pi/4$ DQPSK	2-DH5	0	0.31	1.07		PASS
		39	0.51	1.12		PASS
		78	0.66	1.16		PASS
8DPSK	3-DH5	0	0.70	1.17		PASS
		39	0.93	1.24		PASS
		78	1.06	1.28		PASS

Test Graphs

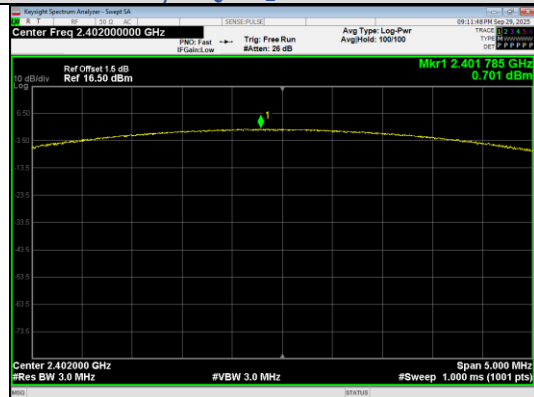




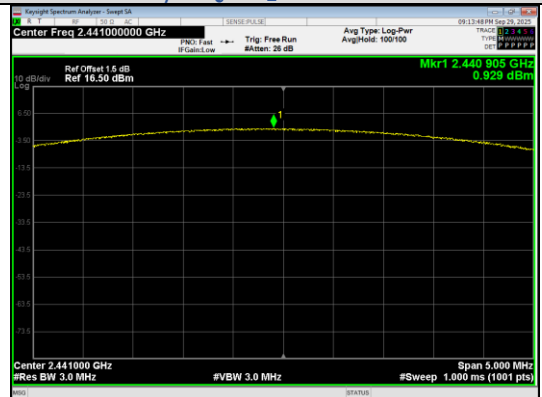
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



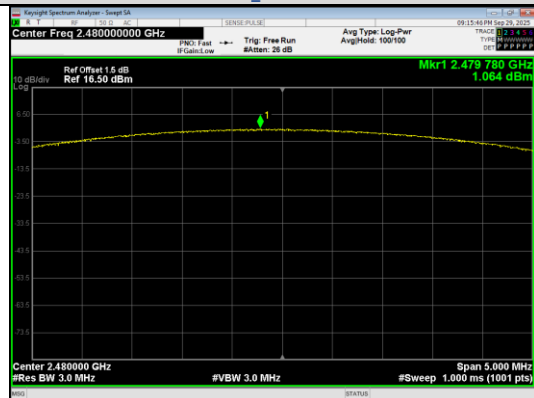
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



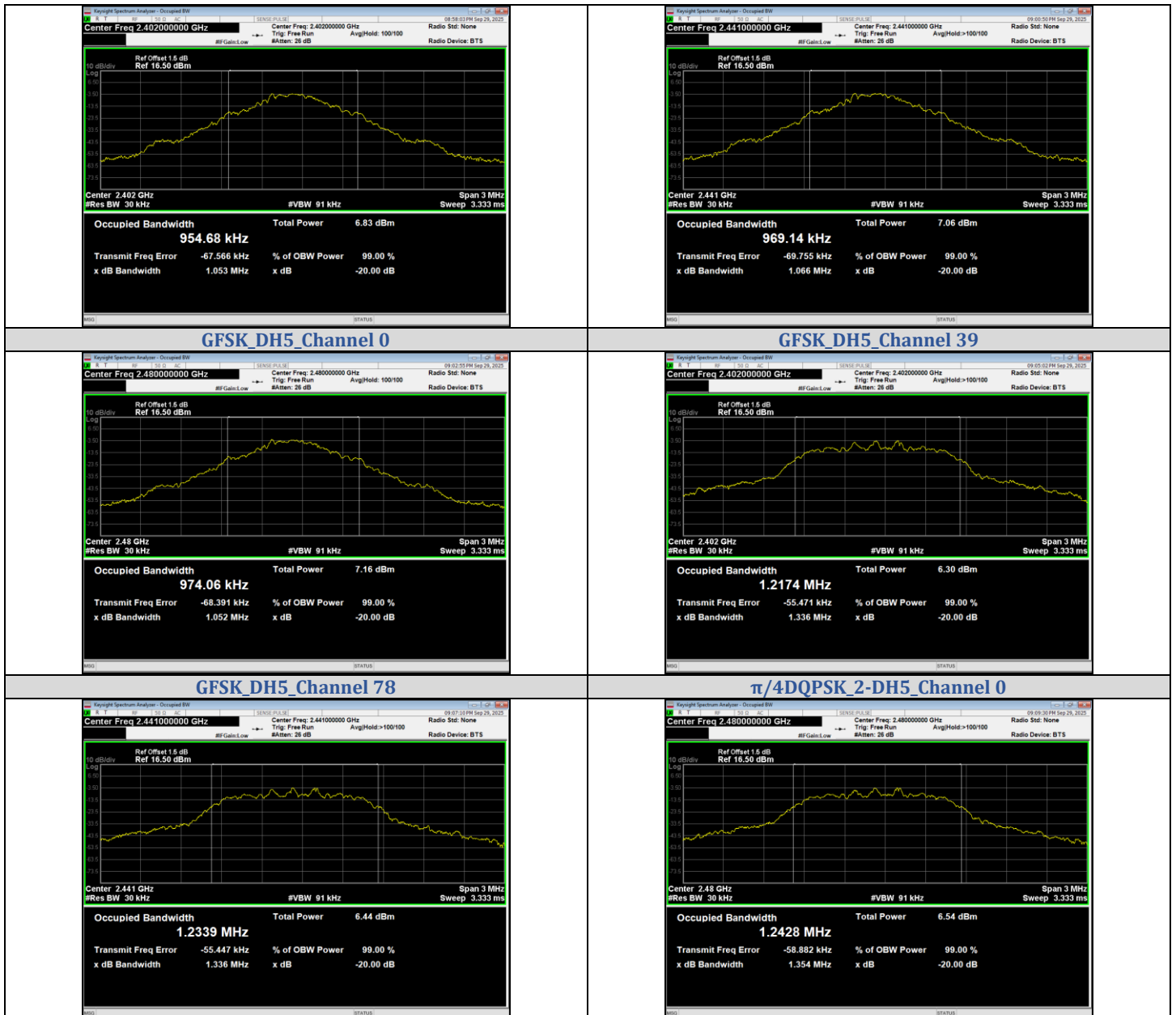
Peak Output Power
8DPSK_Channel 78

20dB Bandwidth

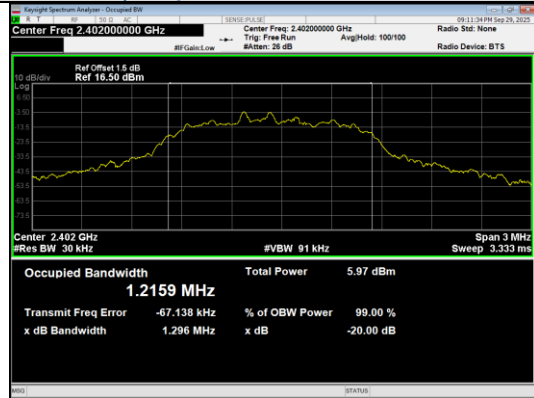
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.050
	39	2441 MHz	1.070
	78	2480 MHz	1.050
$\pi/4$ DQPSK	0	2402 MHz	1.340
	39	2441 MHz	1.340
	78	2480 MHz	1.350
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.290
	78	2480 MHz	1.290

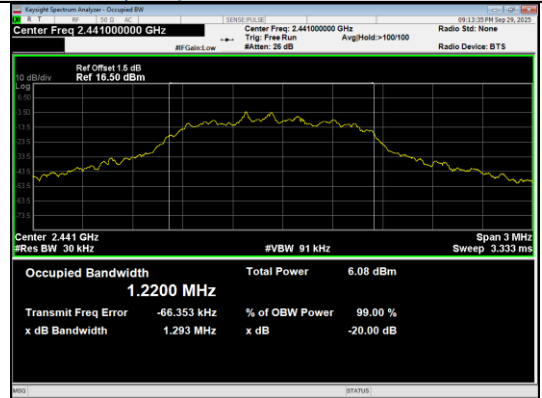
Test Graphs



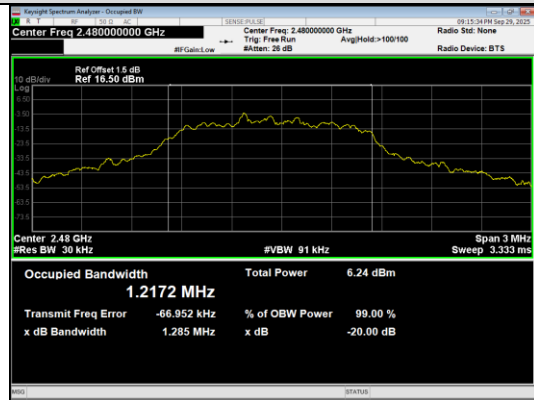
$\pi/4$ DQPSK 2-DH5_Channel 39



$\pi/4$ DQPSK 2-DH5_Channel 78



8DPSK 3-DH5_Channel 0



8DPSK 3-DH5_Channel 39

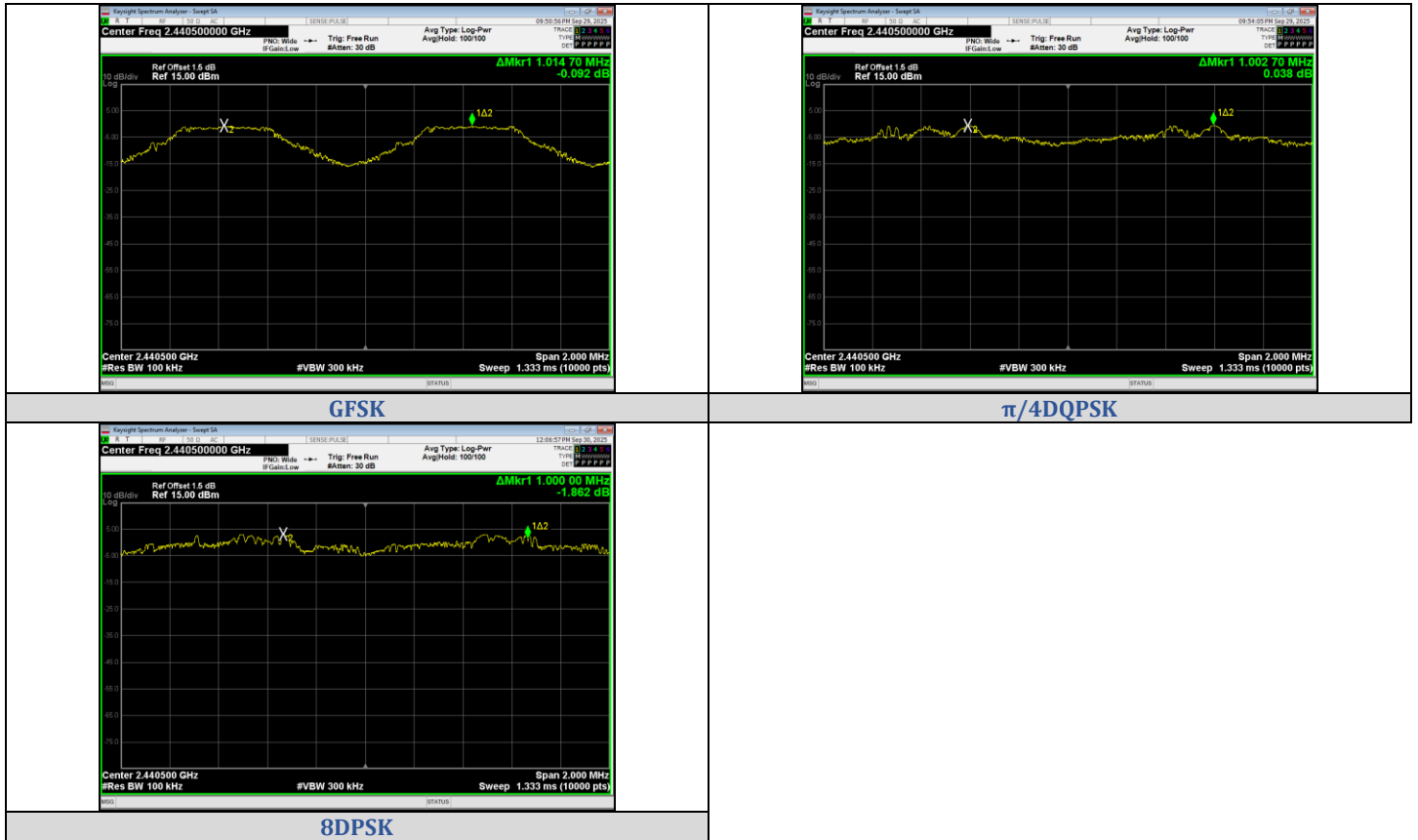
8DPSK 3-DH5_Channel 78

Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.9214	2440.9361	1.0147	0.99	PASS
$\pi/4$ DQPSK	2-DH5	2440.0907	2441.0934	1.0027	0.99	PASS
8DPSK	3-DH5	2440.1631	2440.9901	1	0.99	PASS

Test Graphs



Conducted Out Of Band Emission

Test Result

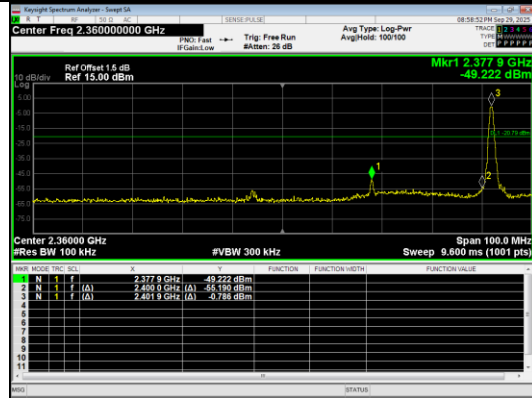
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	1763.50	-30.639	-20.79	-9.849	PASS
			2377.90	-49.222	-20.79	-28.432	PASS
			2400.00	-55.190	-20.79	-34.400	PASS
		39	4881.67	-44.190	-20.56	-23.630	PASS
		78	2483.50	-59.590	-20.36	-39.230	PASS
			4960.33	-45.263	-20.36	-24.903	PASS
$\pi/4$ DQPSK	2-DH5	0	2378.10	-50.288	-20.89	-29.398	PASS
			2400.00	-54.420	-20.89	-33.530	PASS
			24938.2	-48.516	-20.89	-27.626	PASS
		39	4881.67	-49.229	-20.73	-28.499	PASS
		78	1754.80	-27.079	-20.55	-6.529	PASS
			2483.50	-59.520	-20.55	-38.970	PASS
8DPSK	3-DH5	0	2400.00	-50.390	-20.98	-29.410	PASS
			24924.5	-47.865	-20.98	-26.885	PASS
		39	4881.67	-47.952	-20.64	-27.312	PASS
		78	2483.50	-60.240	-20.65	-39.590	PASS
			4959.70	-46.141	-20.65	-25.491	PASS

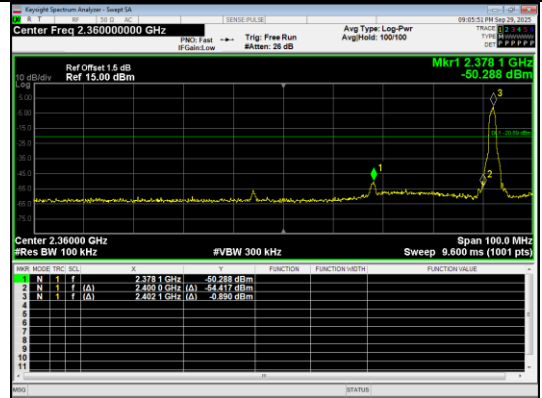
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2393.90	-48.527	-20.69	-27.837	PASS
			2400.00	-50.290	-20.69	-29.600	PASS
			2483.50	-56.840	-20.52	-36.320	PASS
$\pi/4$ DQPSK	2-DH5		2390.80	-50.491	-20.83	-29.661	PASS
			2400.00	-52.440	-20.83	-31.610	PASS
			2483.50	-55.300	-20.46	-34.840	PASS
8DPSK	3-DH5		2390.80	-50.203	-20.79	-29.413	PASS
			2400.00	-51.320	-20.79	-30.530	PASS
			2483.50	-54.310	-20.61	-33.700	PASS

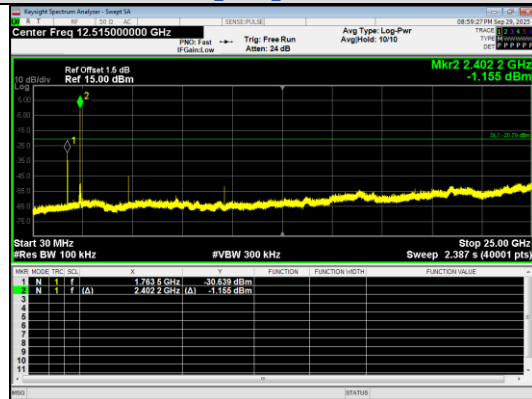
Test Graphs



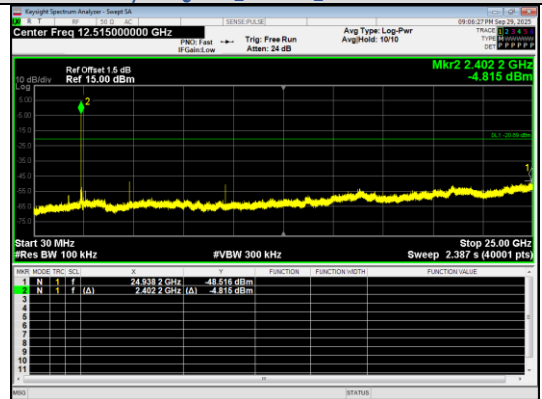
Out Of Band Emission
GFSK_DH5_Channel 0



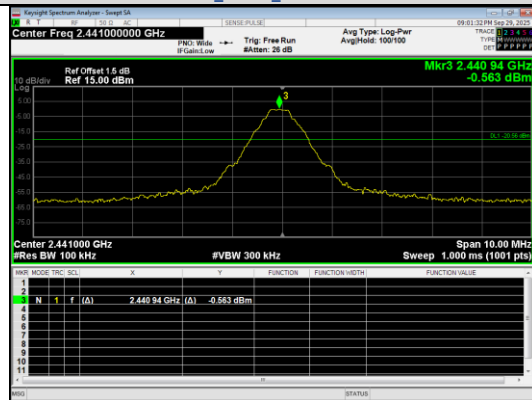
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



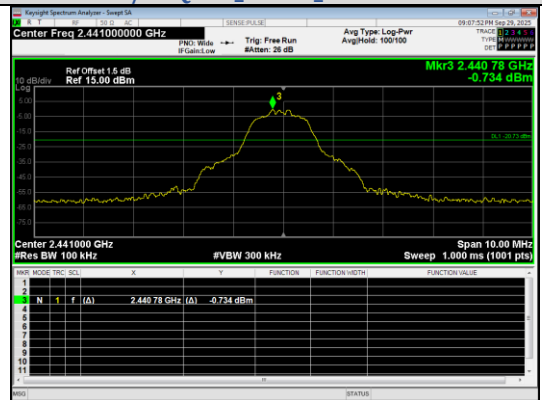
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



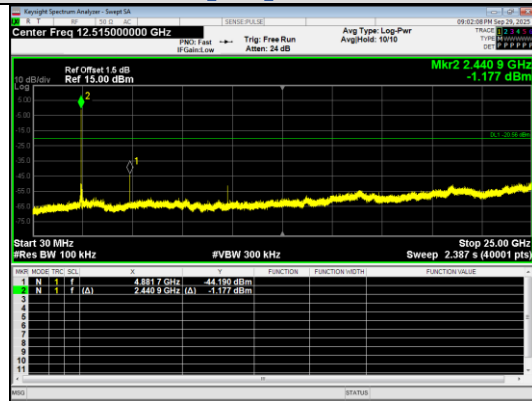
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



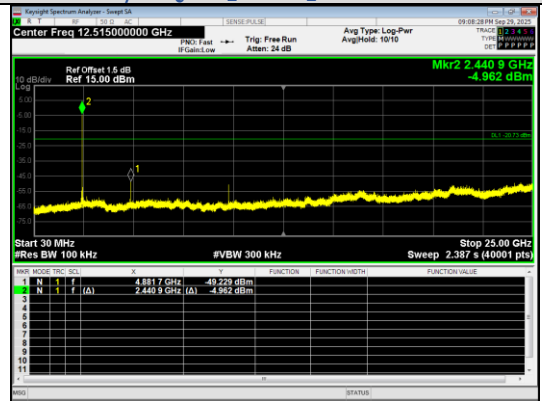
Out Of Band Emission
GFSK_DH5_Channel 39



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

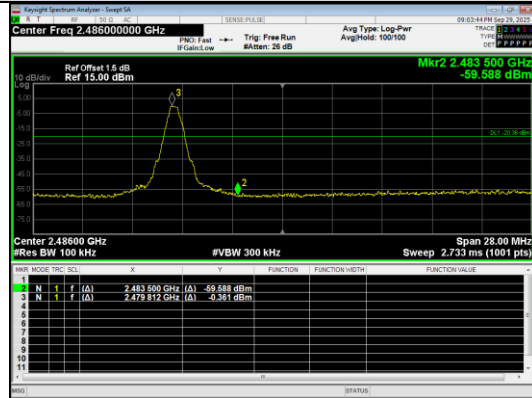


30.0 MHz - 25000.0 MHz

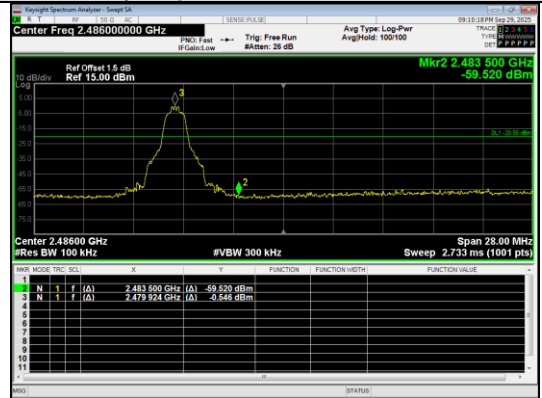


30.0 MHz - 25000.0 MHz

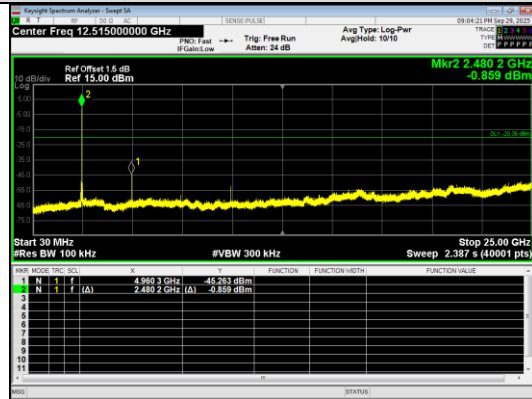
GFSK_DH5_Channel 39



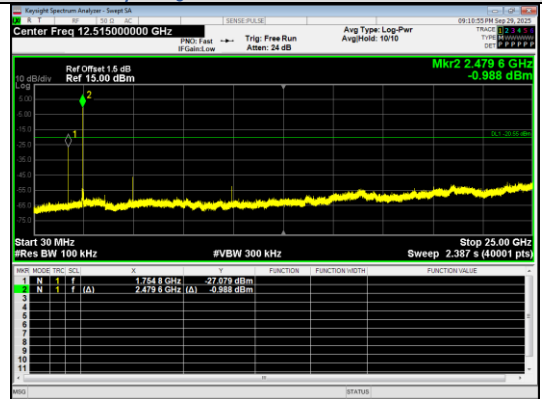
$\pi/4$ DQPSK_2-DH5_Channel 39



Out Of Band Emission GFSK_DH5_Channel 78

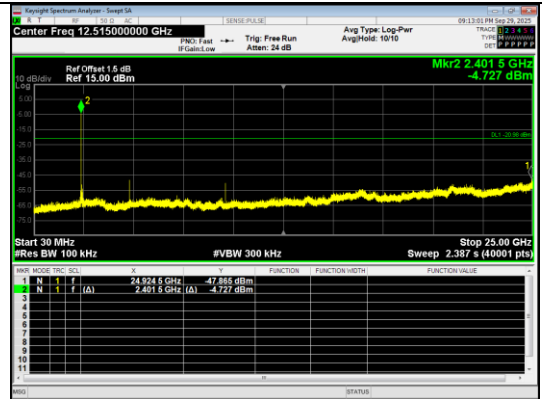
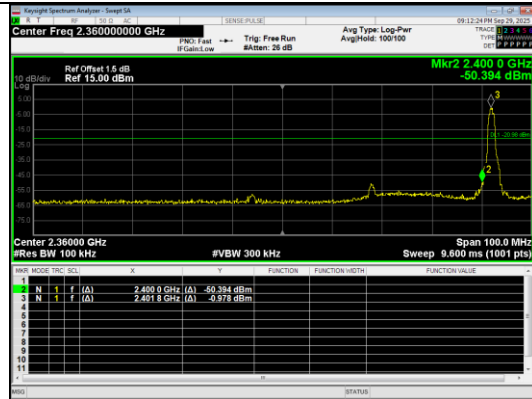


Out Of Band Emission $\pi/4$ DQPSK_2-DH5_Channel 78



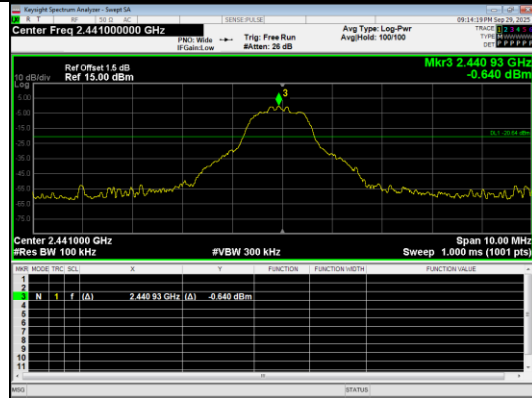
30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 78

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

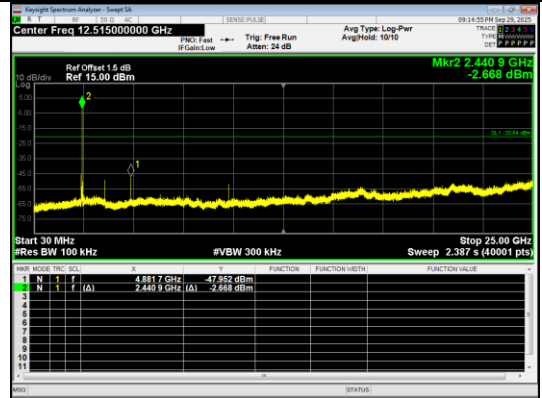


Out Of Band Emission 8DPSK_3-DH5_Channel 0

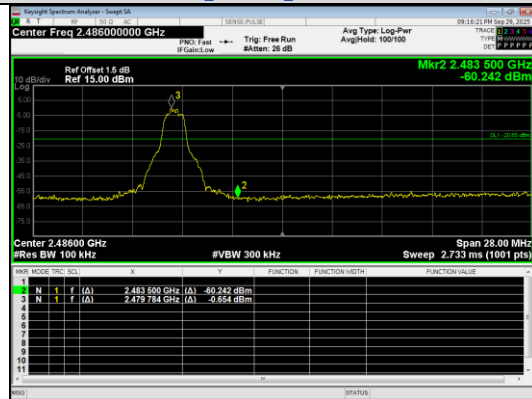
30.0 MHz - 25000.0 MHz 8DPSK_3-DH5_Channel 0



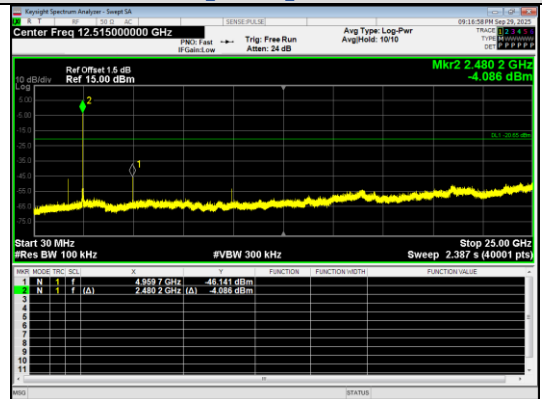
Out Of Band Emission
8DPSK_3-DH5_Channel 39



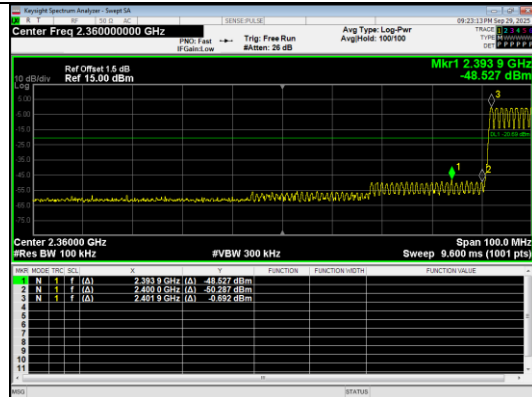
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



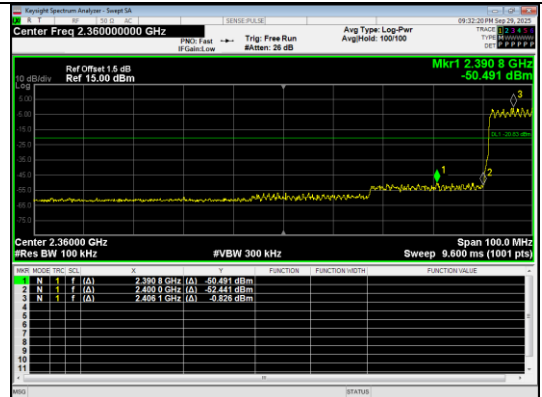
Out Of Band Emission
8DPSK_3-DH5_Channel 78



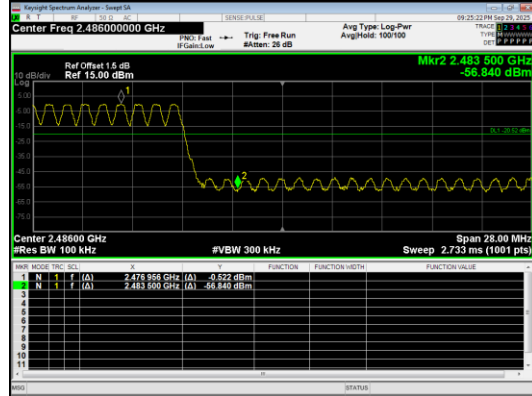
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



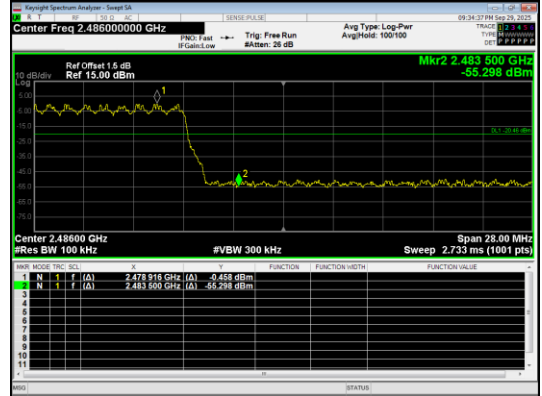
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



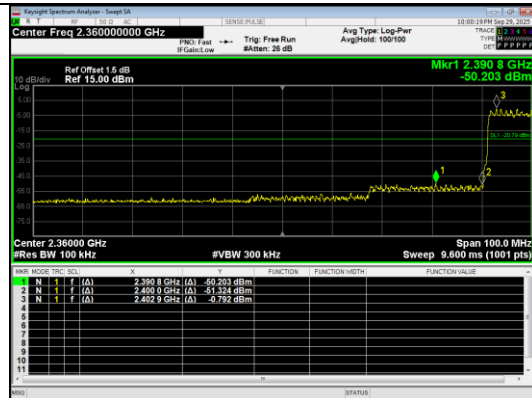
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



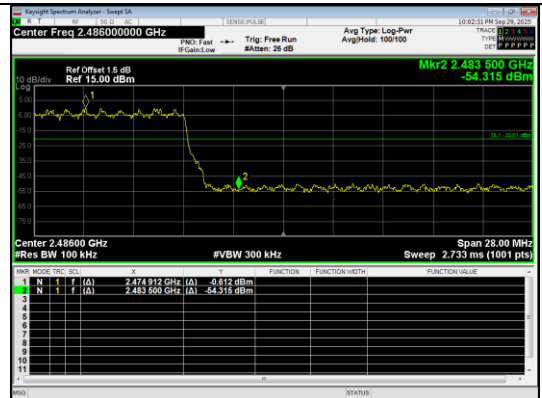
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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

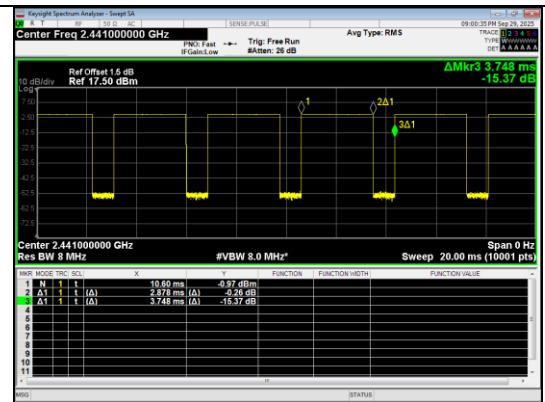
Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.880	3.748	76.84	0.7684	1.1441	0.3472
		39	2.878	3.748	76.79	0.7679	1.147	0.3475
		78	2.880	3.748	76.84	0.7684	1.1441	0.3472
$\pi/4$ DQPSK	2-DH5	0	2.884	3.748	76.95	0.7695	1.1379	0.3467
		39	2.886	3.748	77.00	0.7700	1.1351	0.3465
		78	2.886	3.748	77.00	0.7700	1.1351	0.3465
8DPSK	3-DH5	0	2.886	3.748	77.00	0.7700	1.1351	0.3465
		39	2.886	3.748	77.00	0.7700	1.1351	0.3465
		78	2.888	3.748	77.05	0.7705	1.1323	0.3463

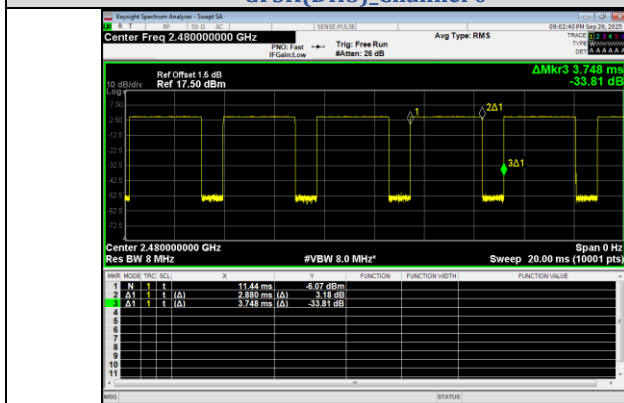
Test Graphs



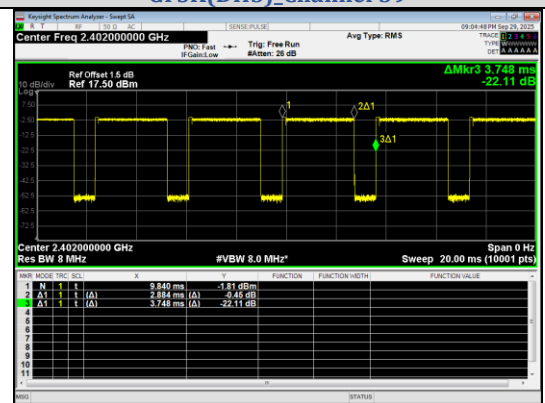
GFSK(DH5)_Channel 0



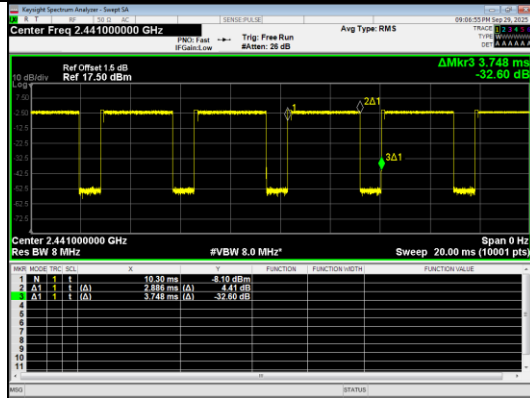
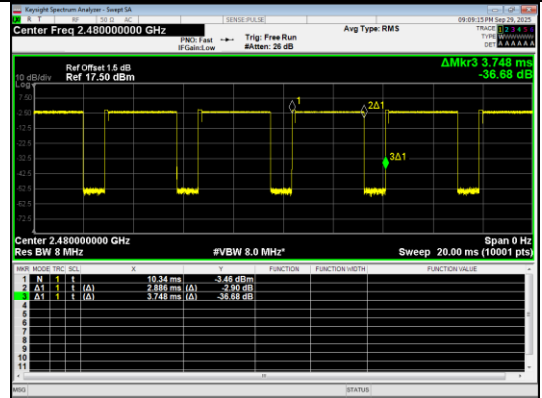
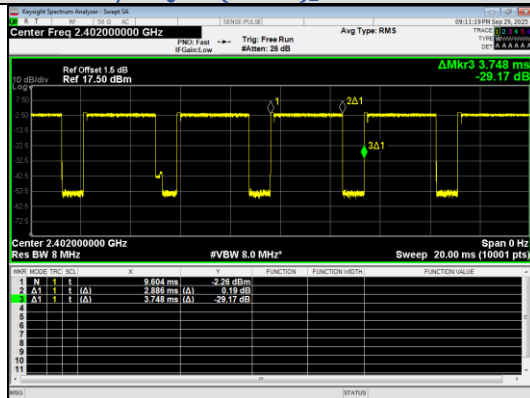
GFSK(DH5)_Channel 39



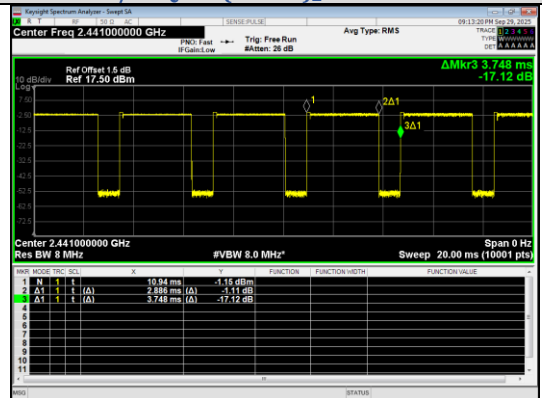
GFSK(DH5)_Channel 78



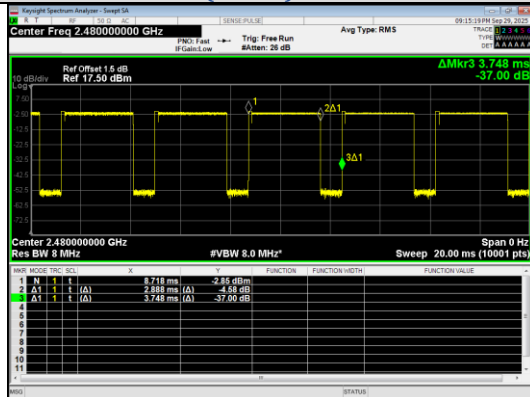
$\pi/4$ DQPSK(2-DH5)_Channel 0


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

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


8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



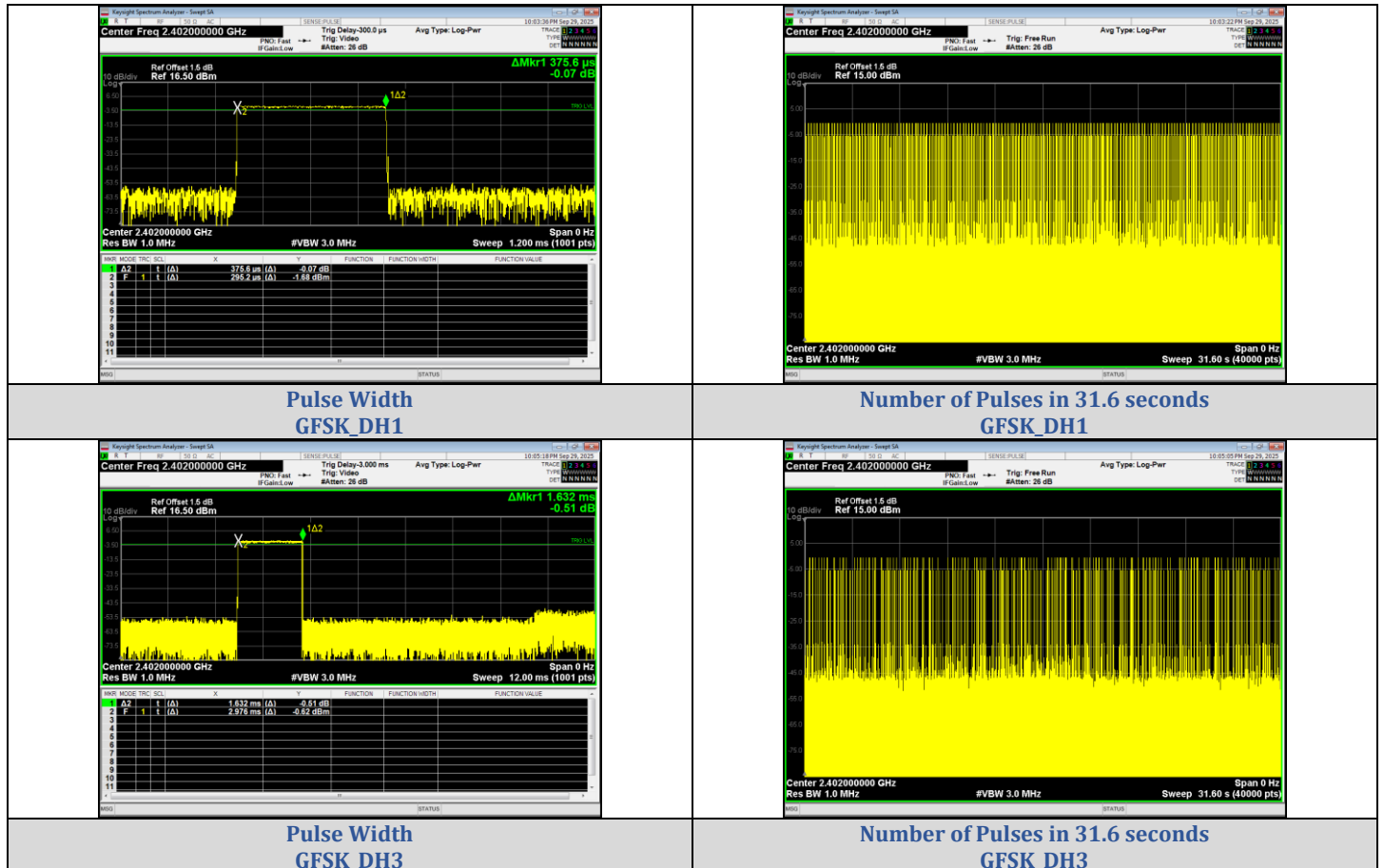
8DPSK(3-DH5)_Channel 78

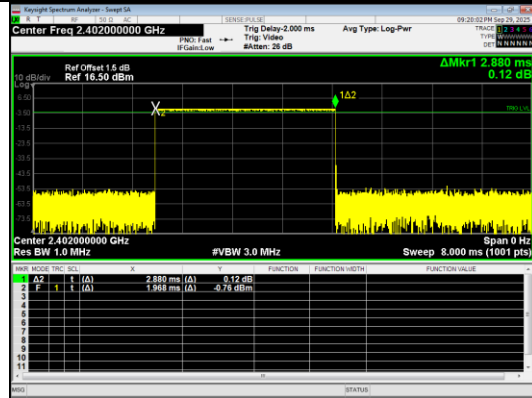
Dwell Time

Test Result

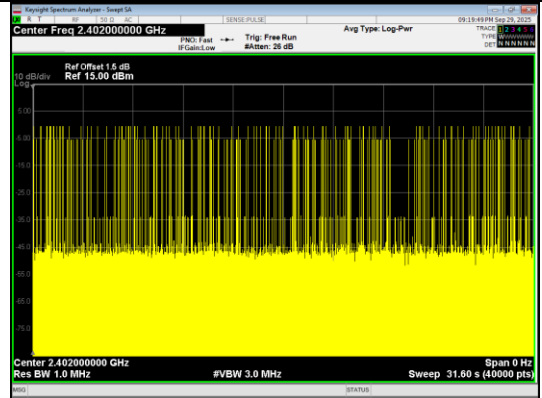
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	Hopping	0.3756	313	117.56	< 400	PASS
	DH3		1.632	159	259.49		PASS
	DH5		2.880	111	319.68		PASS
$\pi/4$ DQPSK	2-DH1		0.3840	315	120.96		PASS
	2-DH3		1.632	159	259.49		PASS
	2-DH5		2.880	114	328.32		PASS
8DPSK	3-DH1		0.3852	318	122.49		PASS
	3-DH3		1.632	161	262.75		PASS
	3-DH5		2.896	105	304.08		PASS

Test Graphs

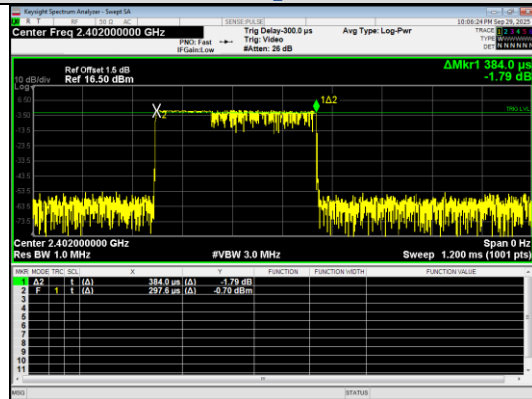




Pulse Width
GFSK_DH5



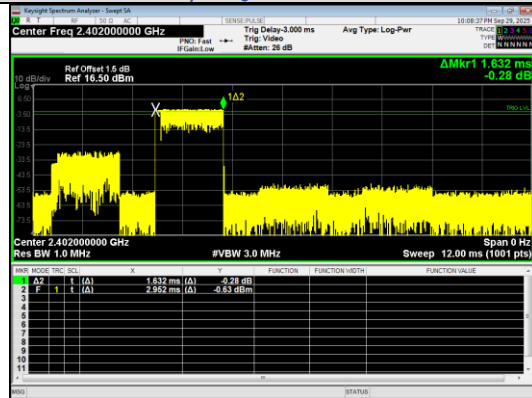
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH1



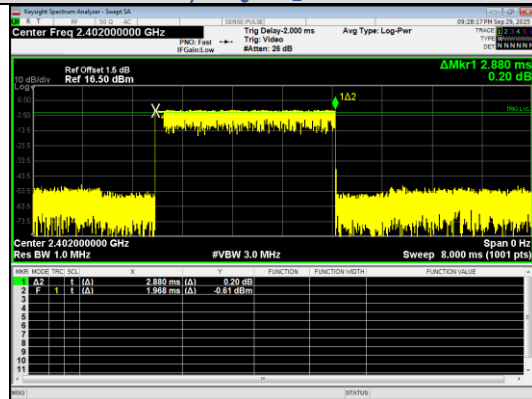
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH1



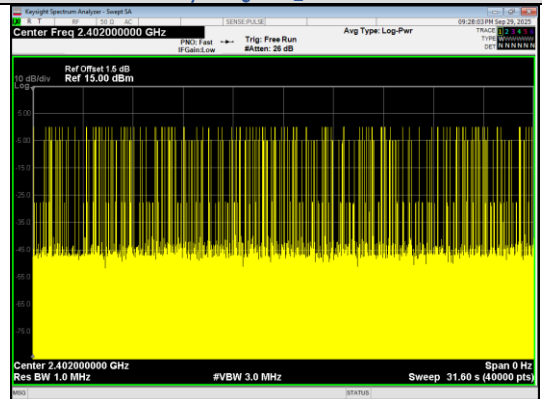
Pulse Width
 $\pi/4$ DQPSK_2-DH3



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

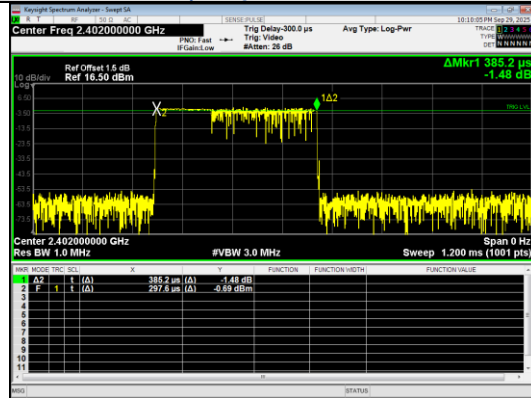


Pulse Width

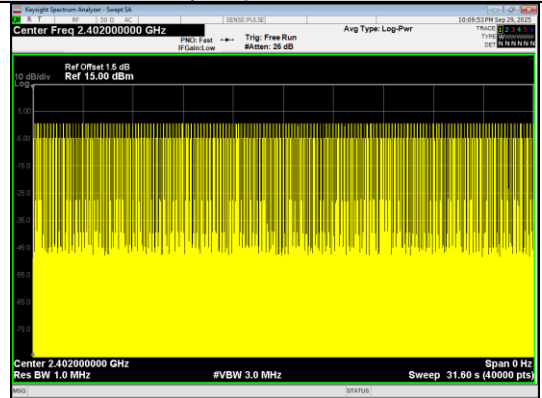


Number of Pulses in 31.6 seconds

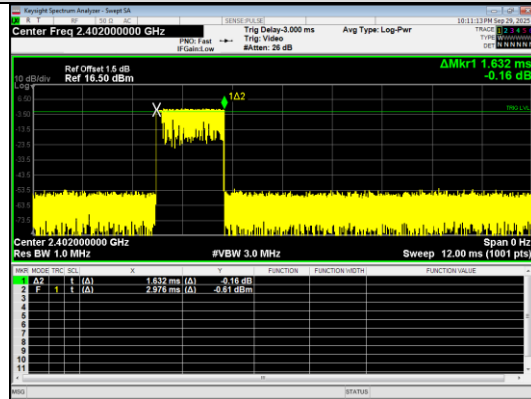
$\pi/4$ DQPSK_2-DH5



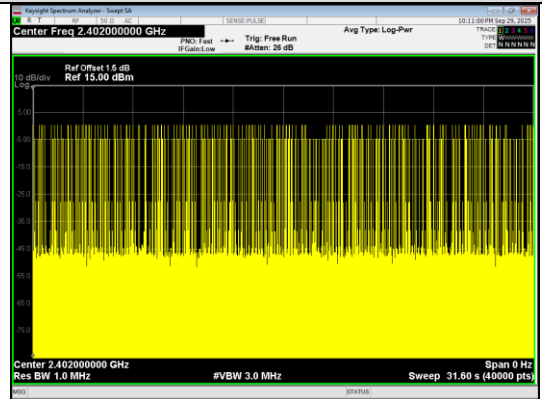
$\pi/4$ DQPSK_2-DH5



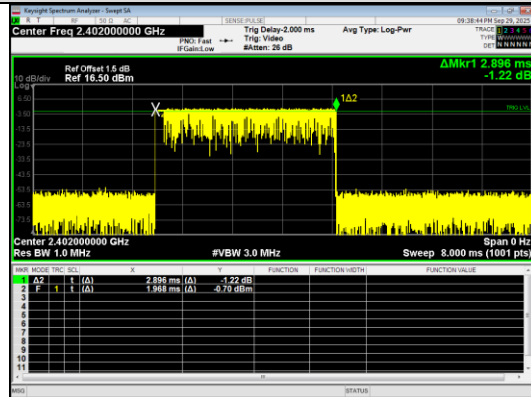
Pulse Width 8DPSK_3-DH1



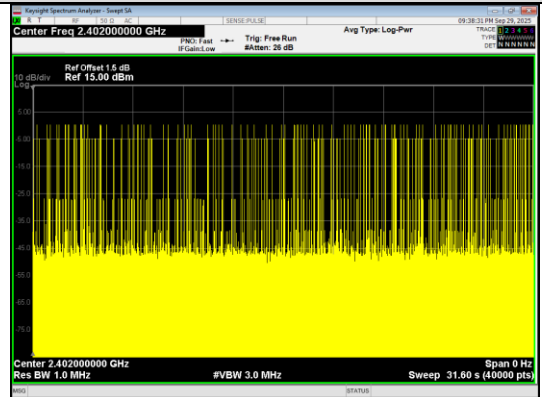
Number of Pulses in 31.6 seconds 8DPSK_3-DH1



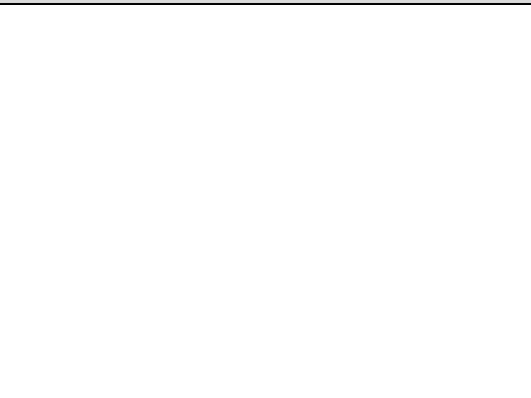
Pulse Width 8DPSK_3-DH3



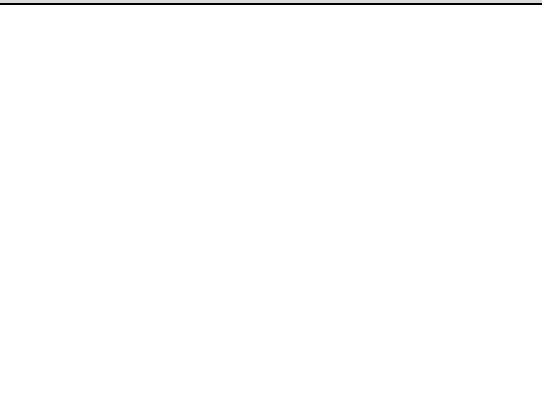
Number of Pulses in 31.6 seconds 8DPSK_3-DH3



Pulse Width 8DPSK_3-DH5



Number of Pulses in 31.6 seconds 8DPSK_3-DH5

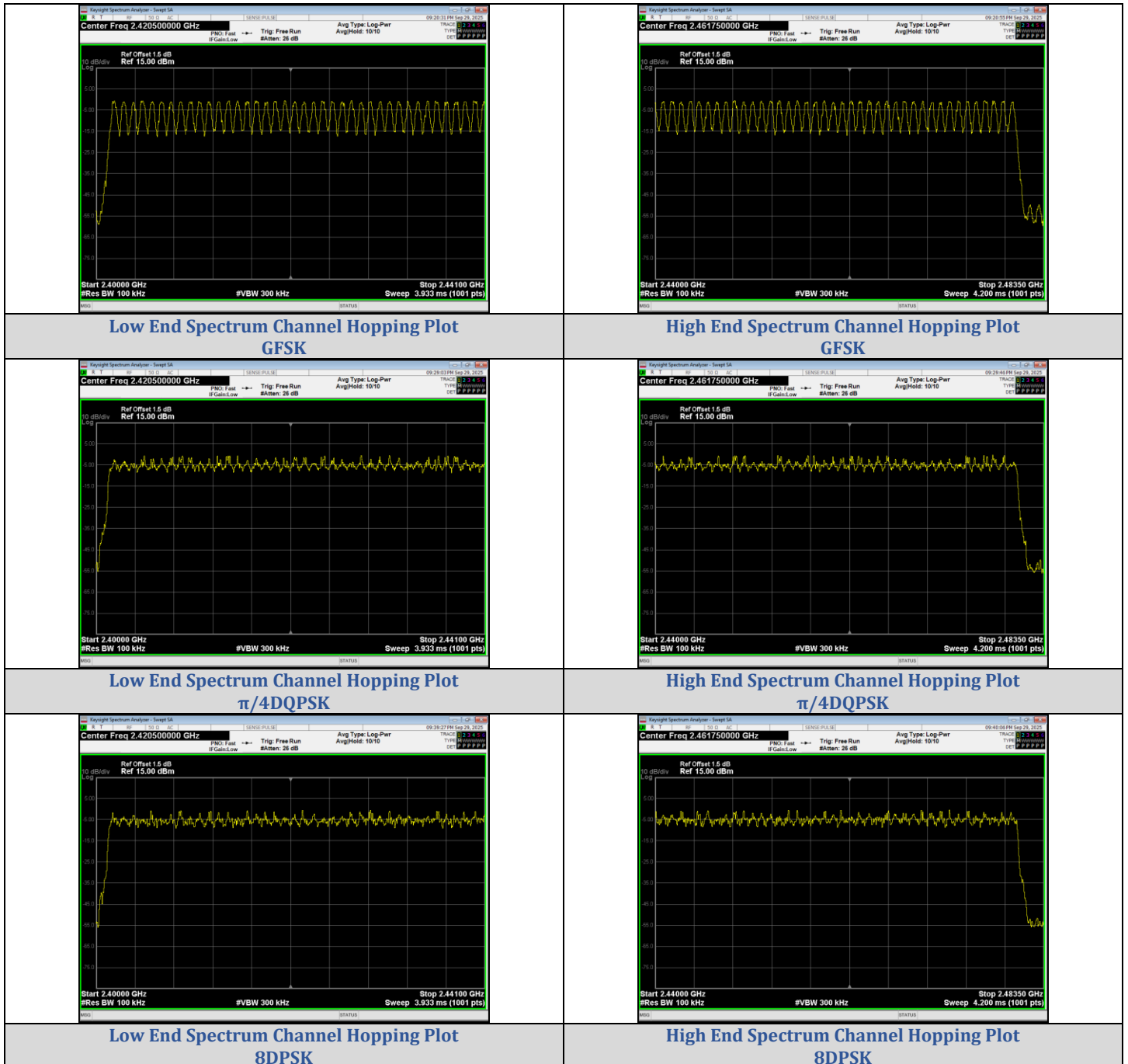


Number Of Hopping Channel

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 *****