

Appendix

BR&EDR Test Data

Conducted Test Data

Conducted Output Power

Test Result

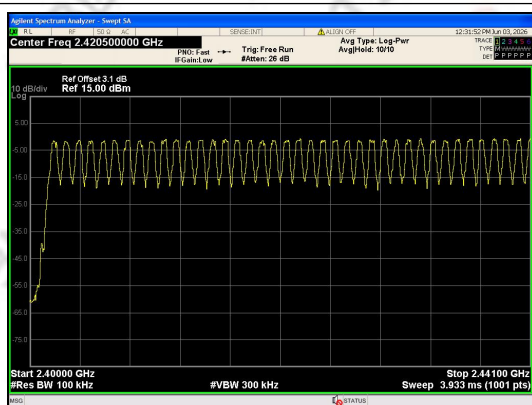
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	3.01	2.00	≤30	PASS
		39	3.13	2.06		PASS
		78	3.50	2.24		PASS
π/4DQPSK	2-DH5	0	5.19	3.31		PASS
		39	5.49	3.54		PASS
		78	5.63	3.66		PASS
8DPSK	3-DH5	0	5.68	3.70		PASS
		39	5.95	3.94		PASS
		78	6.23	4.20		PASS

Number of Hopping Frequencies

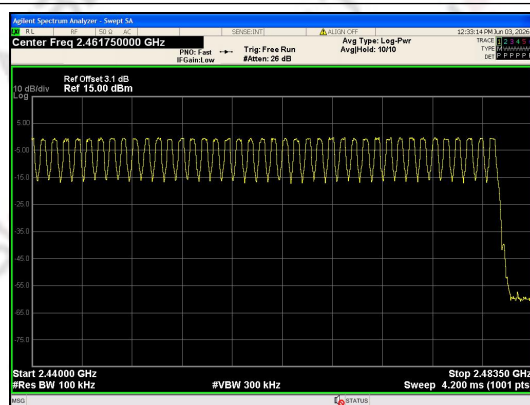
Test Result

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

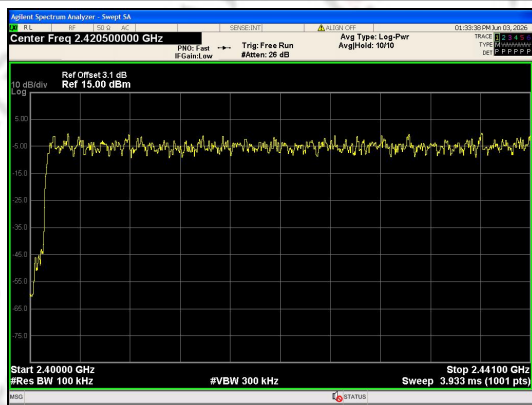
Test Graphs



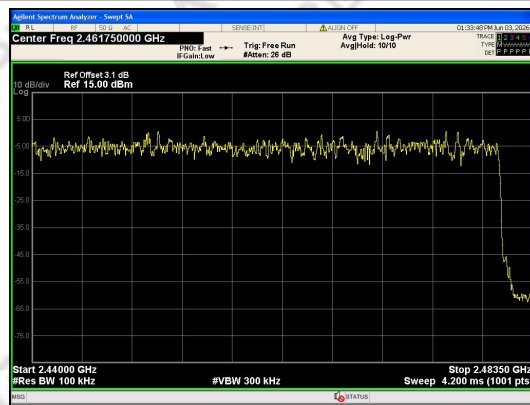
Low End Spectrum Channel Hopping Plot
GFSK



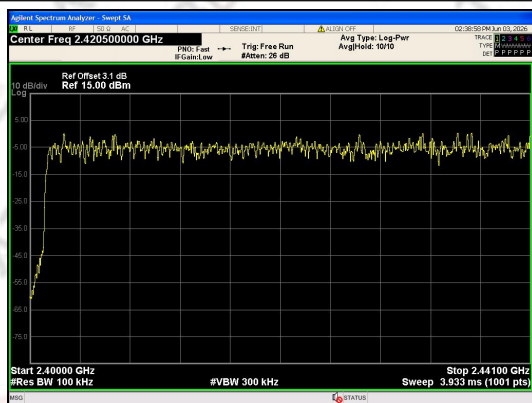
High End Spectrum Channel Hopping Plot
GFSK



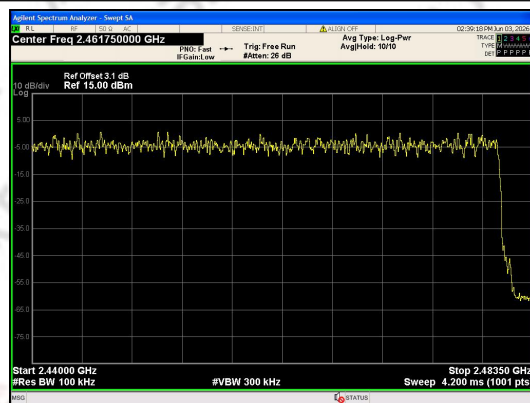
Low End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



High End Spectrum Channel Hopping Plot
 $\pi/4$ DQPSK



Low End Spectrum Channel Hopping Plot
8DPSK



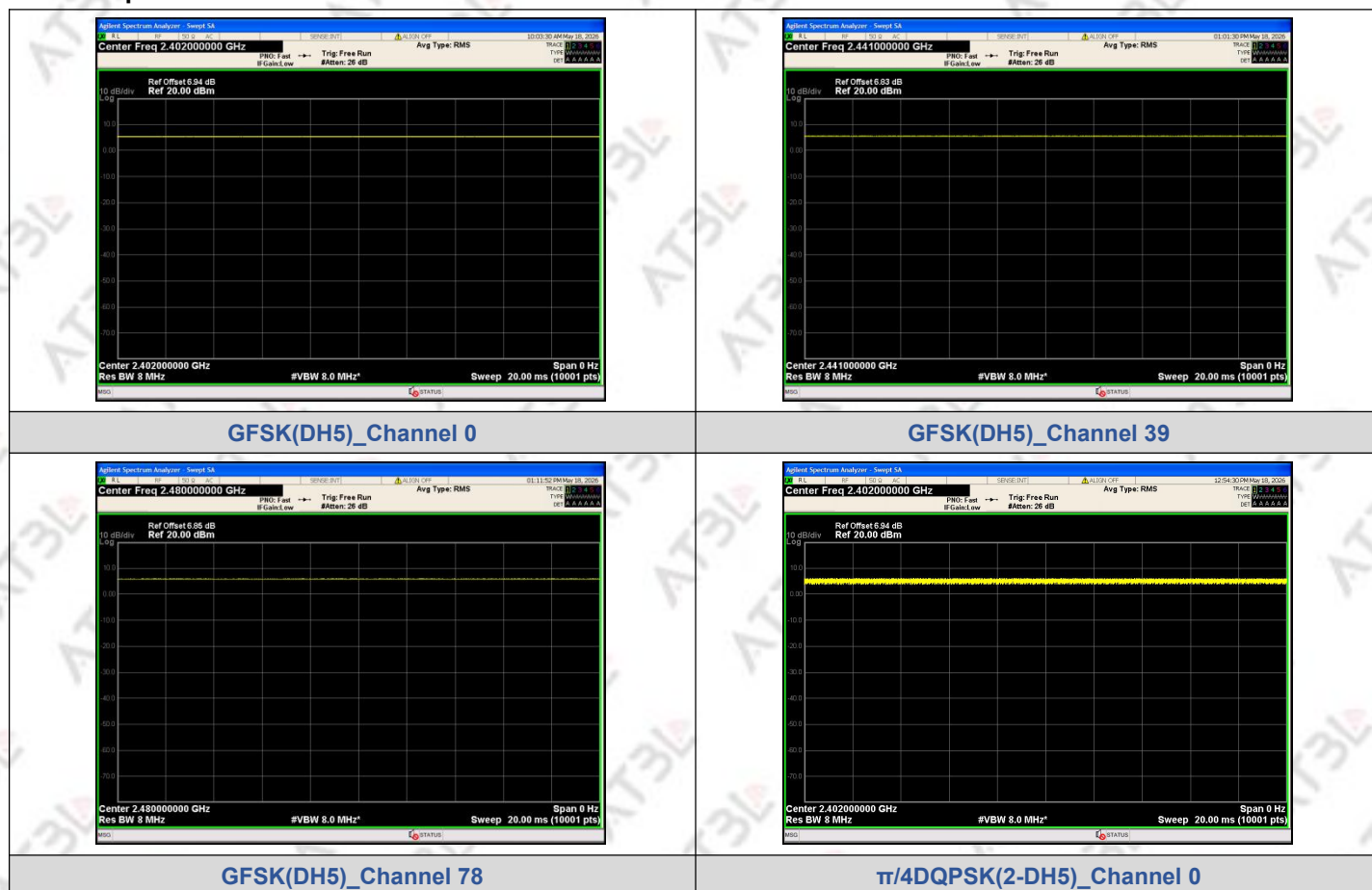
High End Spectrum Channel Hopping Plot
8DPSK

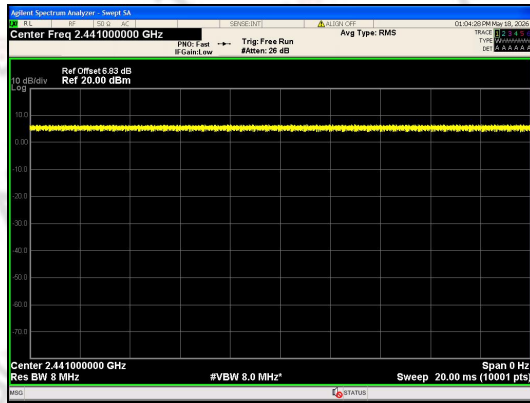
Duty Cycle

Test Result

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	20.000	20.000	100	1	0.0	0.0500
		39	20.000	20.000	100	1	0.0	0.0500
		78	20.000	20.000	100	1	0.0	0.0500
$\pi/4$ DQPSK	2-DH5	0	20.000	20.000	100	1	0.0	0.0500
		39	20.000	20.000	100	1	0.0	0.0500
		78	20.000	20.000	100	1	0.0	0.0500
8DPSK	3-DH5	0	20.000	20.000	100	1	0.0	0.0500
		39	20.000	20.000	100	1	0.0	0.0500
		78	20.000	20.000	100	1	0.0	0.0500

Test Graphs

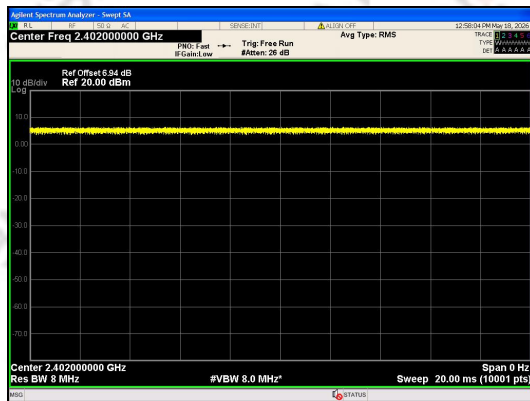




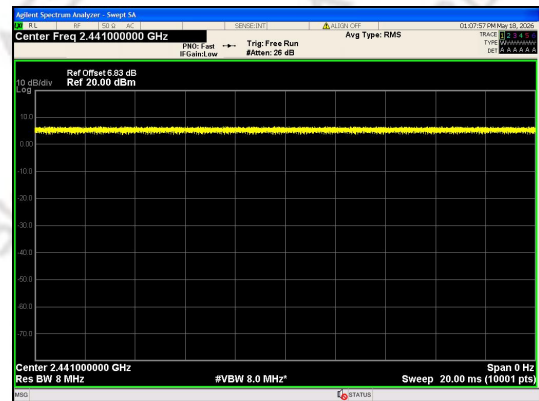
$\pi/4$ DQPSK(2-DH5)_Channel 39



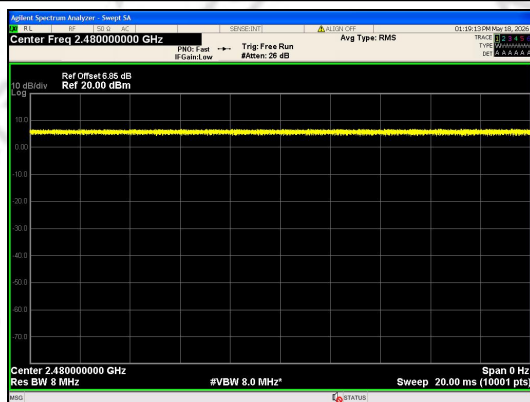
$\pi/4$ DQPSK(2-DH5)_Channel 78



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



8DPSK(3-DH5)_Channel 78

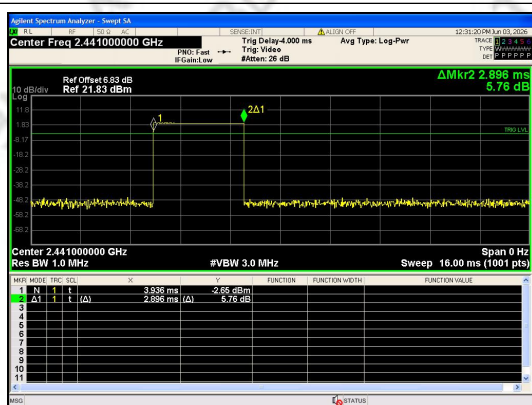
Dwell Time

Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	Hopping	2.896	112	324.35	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	91	263.54		PASS
8DPSK	3-DH5		2.896	98	283.81		PASS

Note: Dwell time=Pulse time(ms)*Number of Pulses in 31.6 seconds

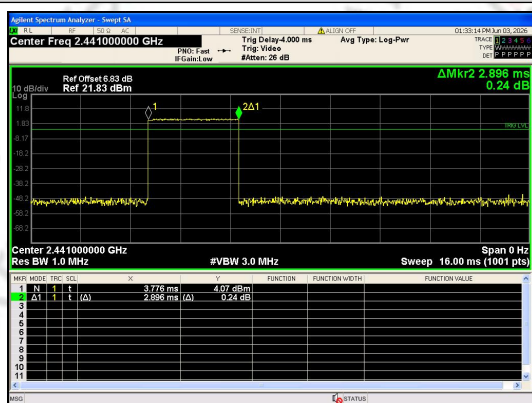
Test Graphs



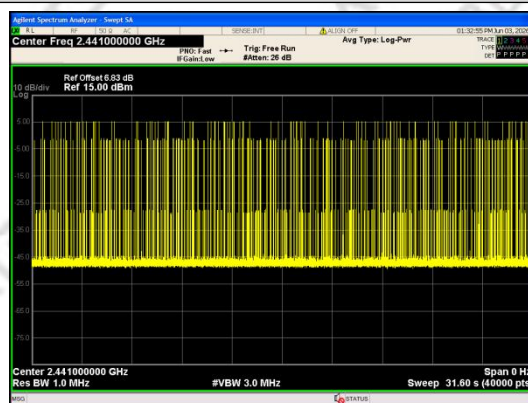
Pulse Width
GFSK_DH5



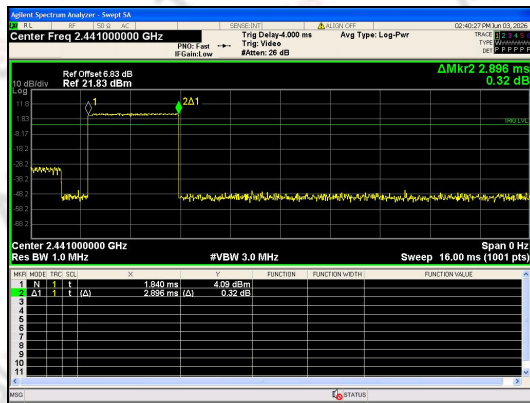
Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH5



Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5



Pulse Width
8DPSK_3-DH5



Number of Pulses in 31.6 seconds
8DPSK_3-DH5

99% Bandwidth

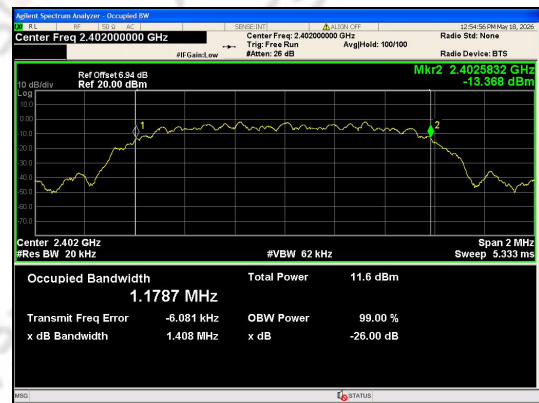
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.88325
	39	2441	0.88359
	78	2480	0.89047
π /4DQPSK	0	2402	1.1787
	39	2441	1.1777
	78	2480	1.1793
8DPSK	0	2402	1.1902
	39	2441	1.1871
	78	2480	1.1877

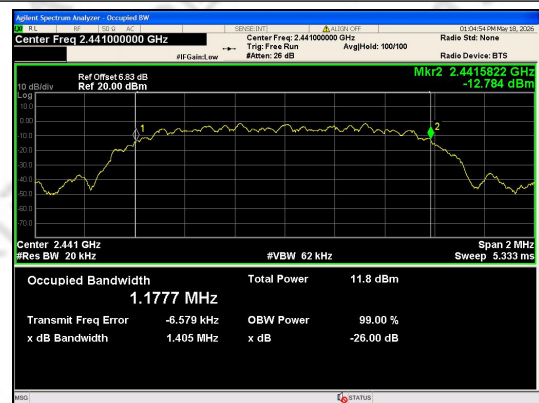
Test Graphs



GFSK_DH5_Channel 0

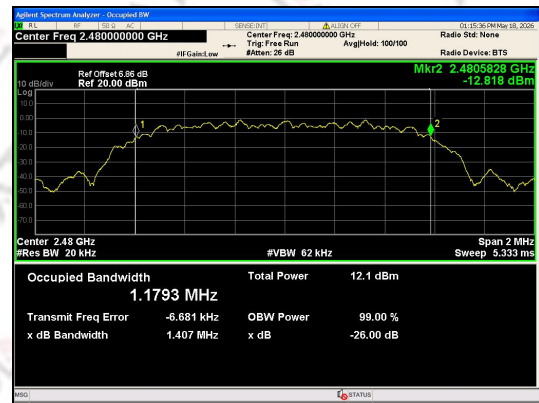

 π /4DQPSK_2-DH5_Channel 0


GFSK_DH5_Channel 39


 π /4DQPSK_2-DH5_Channel 39



GFSK_DH5_Channel 78

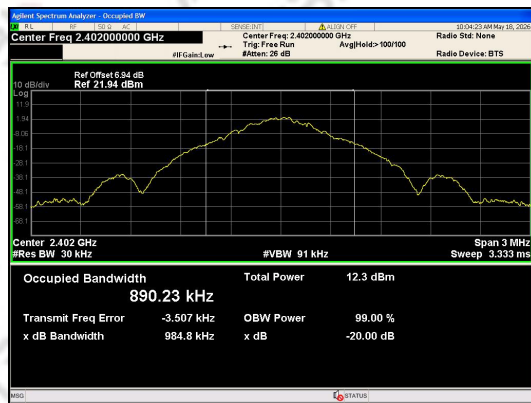

 $\pi/4$ DQPSK_2-DH5_Channel 78

20dB Bandwidth

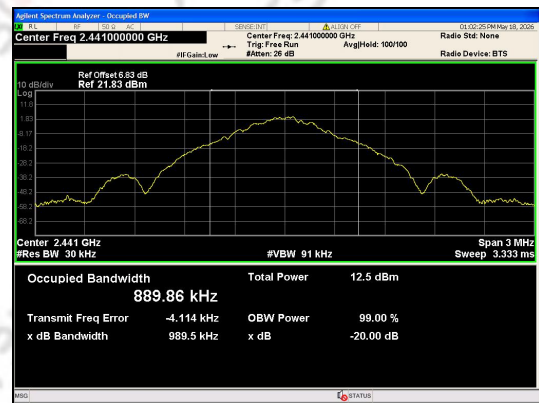
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9848
	39	2441 MHz	0.9895
	78	2480 MHz	0.9888
$\pi/4$ DQPSK	0	2402 MHz	1.344
	39	2441 MHz	1.344
	78	2480 MHz	1.344
8DPSK	0	2402 MHz	1.347
	39	2441 MHz	1.347
	78	2480 MHz	1.348

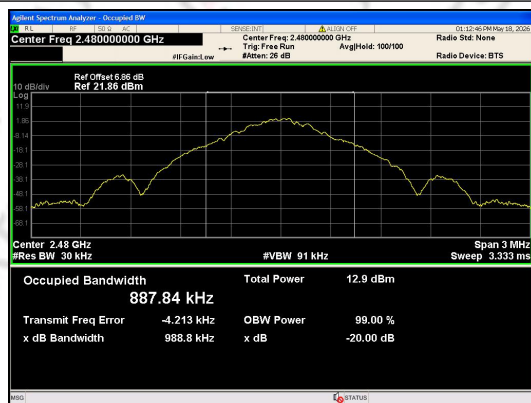
Test Graphs



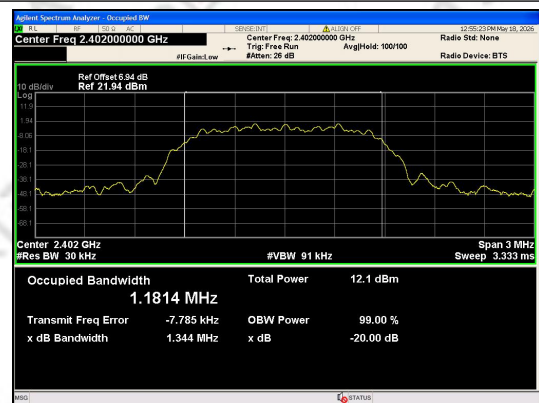
GFSK_DH5_Channel 0

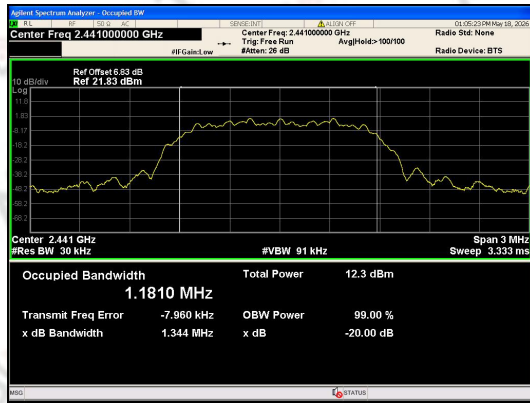
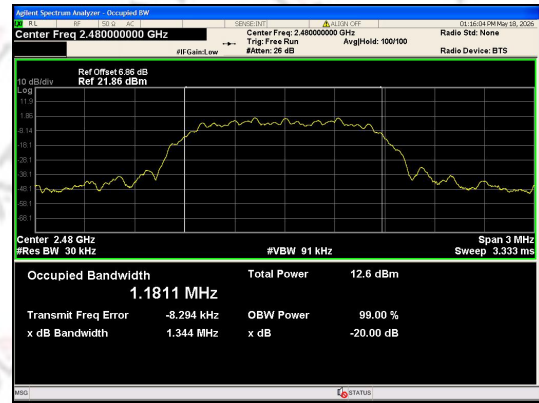
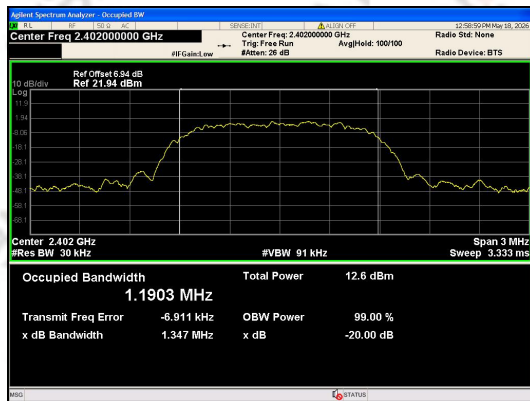


GFSK_DH5_Channel 39

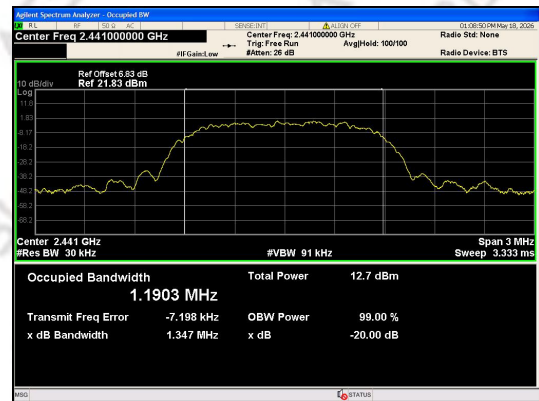


GFSK_DH5_Channel 78

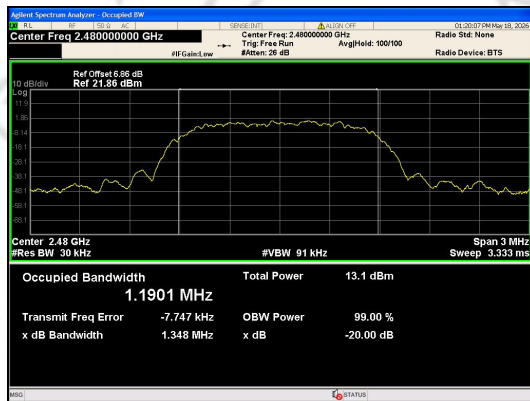

 $\pi/4$ DQPSK_2-DH5_Channel 0


 $\pi/4$ DQPSK_2-DH5_Channel 39

 $\pi/4$ DQPSK_2-DH5_Channel 78


8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



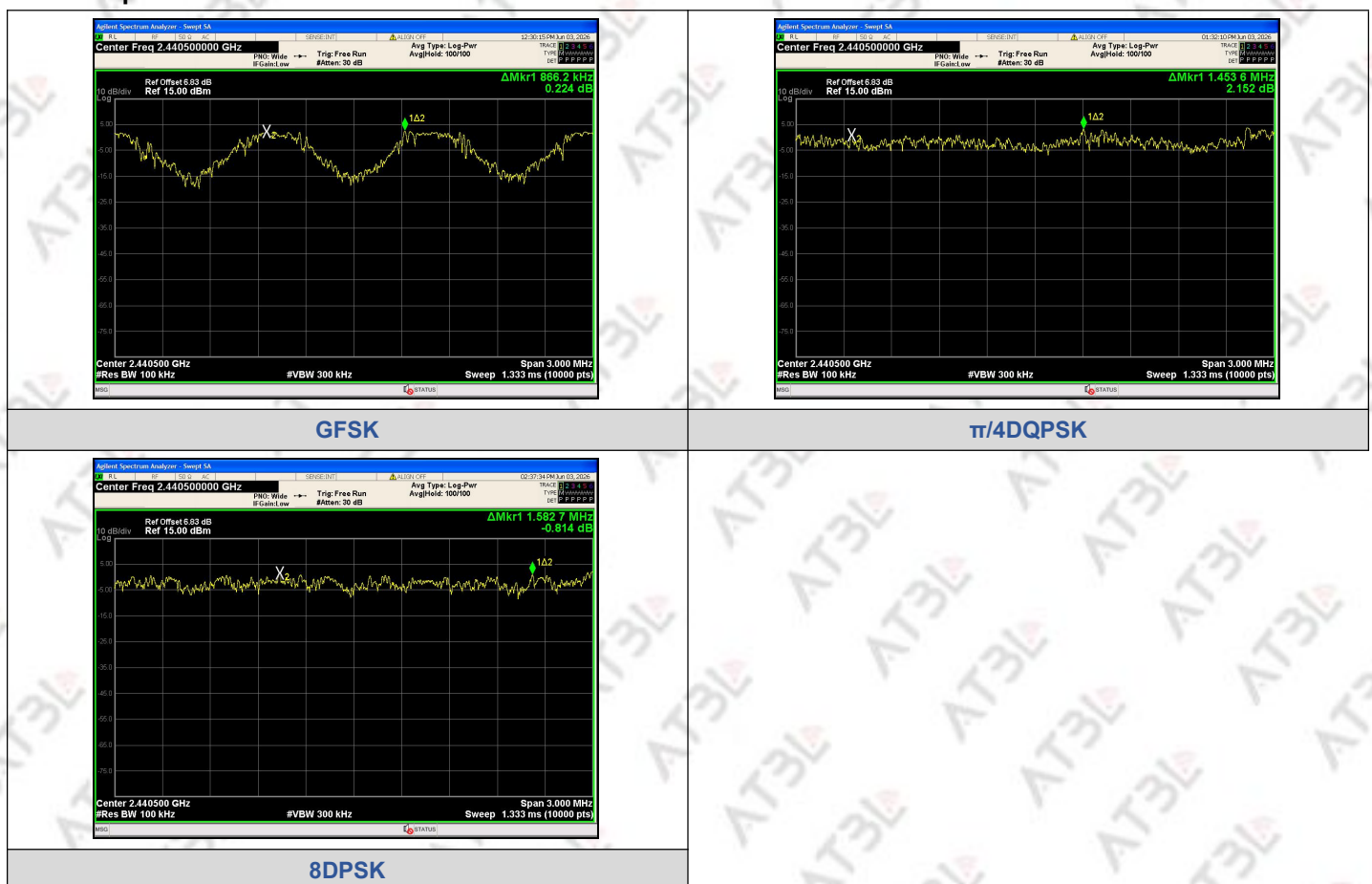
8DPSK_3-DH5_Channel 78

Carrier Frequency Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Minimum Limit (MHz)	Result
GFSK	DH5	2439.9529	2440.8191	0.8662	0.66	PASS
$\pi/4$ DQPSK	2-DH5	2439.3501	2440.8038	1.4536	0.896	PASS
8DPSK	3-DH5	2440.0354	2441.6181	1.5827	0.899	PASS

Test Graphs



Conducted Spurious & Band Edge Emission

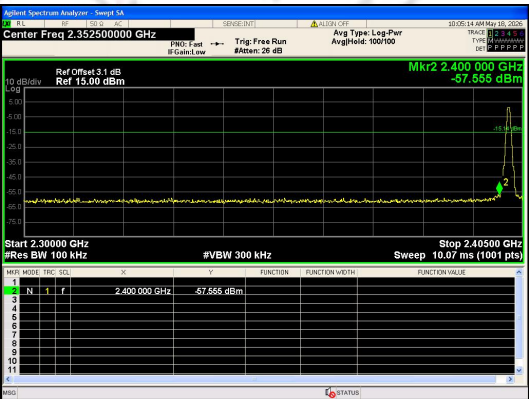
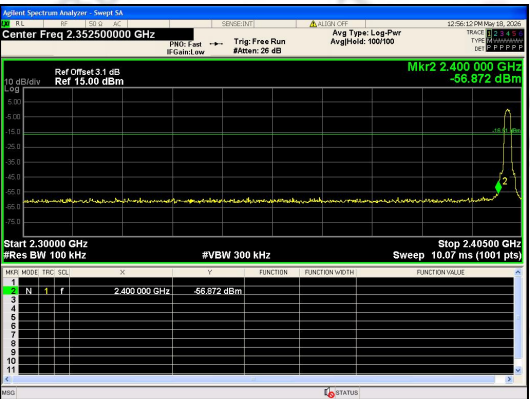
Note: The maximum loss of the test system for testing at 30MHz-26.5GHz is 17.2dB. The offset on the test chart is the offset of the main frequency, and the margin is sufficient to offset the difference between the maximum loss of the system and the offset of the main frequency.

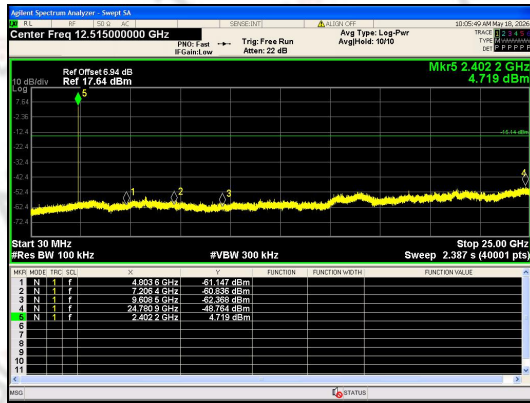
Test Result Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-57.555	-15.14	-42.415	PASS
			4803.64	-61.148	-15.14	-46.008	PASS
			7206.38	-60.836	-15.14	-45.696	PASS
			9608.49	-62.367	-15.14	-47.227	PASS
			24780.9	-48.764	-15.14	-33.624	PASS
		39	4881.05	-61.781	-14.95	-46.831	PASS
			7323.74	-61.331	-14.95	-46.381	PASS
			9763.31	-63.521	-14.95	-48.571	PASS
			24766.5	-48.652	-14.95	-33.702	PASS
		78	2483.50	-58.655	-14.58	-44.075	PASS
			4959.70	-62.067	-14.58	-47.487	PASS
			7439.22	-61.245	-14.58	-46.665	PASS
			9919.37	-62.353	-14.58	-47.773	PASS
			24985.6	-48.940	-14.58	-34.360	PASS
π/4DQPSK	2-DH5	0	2400.00	-56.872	-16.51	-40.362	PASS
			4803.02	-60.853	-16.51	-44.343	PASS
			7205.75	-61.217	-16.51	-44.707	PASS
			9607.24	-61.701	-16.51	-45.191	PASS
			24706.0	-48.524	-16.51	-32.014	PASS
		39	4882.30	-61.523	-16.33	-45.193	PASS
			7323.74	-62.411	-16.33	-46.081	PASS
			9764.55	-62.310	-16.33	-45.980	PASS
			24670.4	-48.764	-16.33	-32.434	PASS
		78	2483.50	-58.882	-16.01	-42.872	PASS
			4960.95	-60.416	-16.01	-44.406	PASS
			7439.85	-61.654	-16.01	-45.644	PASS
			9920.62	-60.673	-16.01	-44.663	PASS
			24693.5	-49.280	-16.01	-33.270	PASS
8DPSK	3-DH5	0	2400.00	-55.593	-16.19	-39.403	PASS
			4804.89	-61.125	-16.19	-44.935	PASS
			7205.13	-61.437	-16.19	-45.246	PASS
			9607.24	-61.349	-16.19	-45.159	PASS
			24666.7	-48.169	-16.19	-31.979	PASS

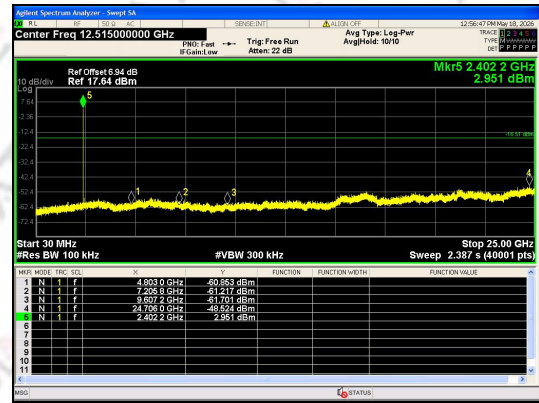
		39	4881.05	-61.853	-16.06	-45.793	PASS		
			7323.74	-60.909	-16.06	-44.849	PASS		
			9764.55	-62.982	-16.06	-46.922	PASS		
			24867.7	-47.897	-16.06	-31.837	PASS		
		78	2483.50	-58.301	-15.7	-42.601	PASS		
			4959.70	-61.939	-15.7	-46.239	PASS		
			7440.47	-60.289	-15.7	-44.589	PASS		
			9919.37	-63.799	-15.7	-48.099	PASS		
					24665.4	-48.898	-15.7	-33.198	PASS
			Note: input compensation coefficient (dB)= Cable Loss (dB)						

Test Graphs



30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



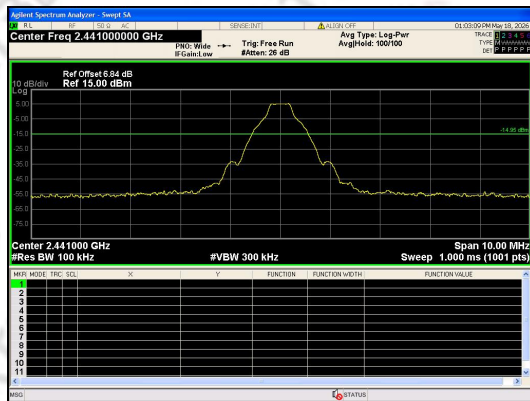
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



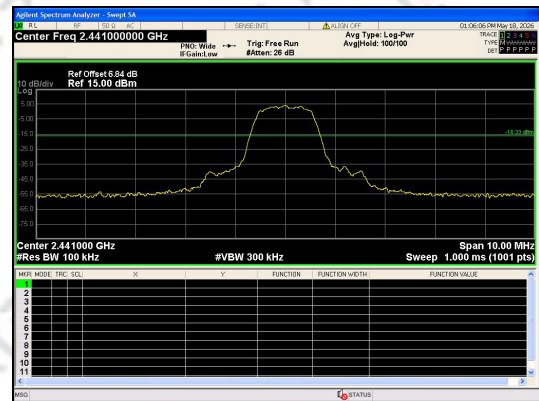
In-Band Reference Level
GFSK_DH5_Channel 39



In-Band Reference Level
 $\pi/4$ DQPSK_2-DH5_Channel 39



Out Of Band Emission
GFSK_DH5_Channel 39



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