

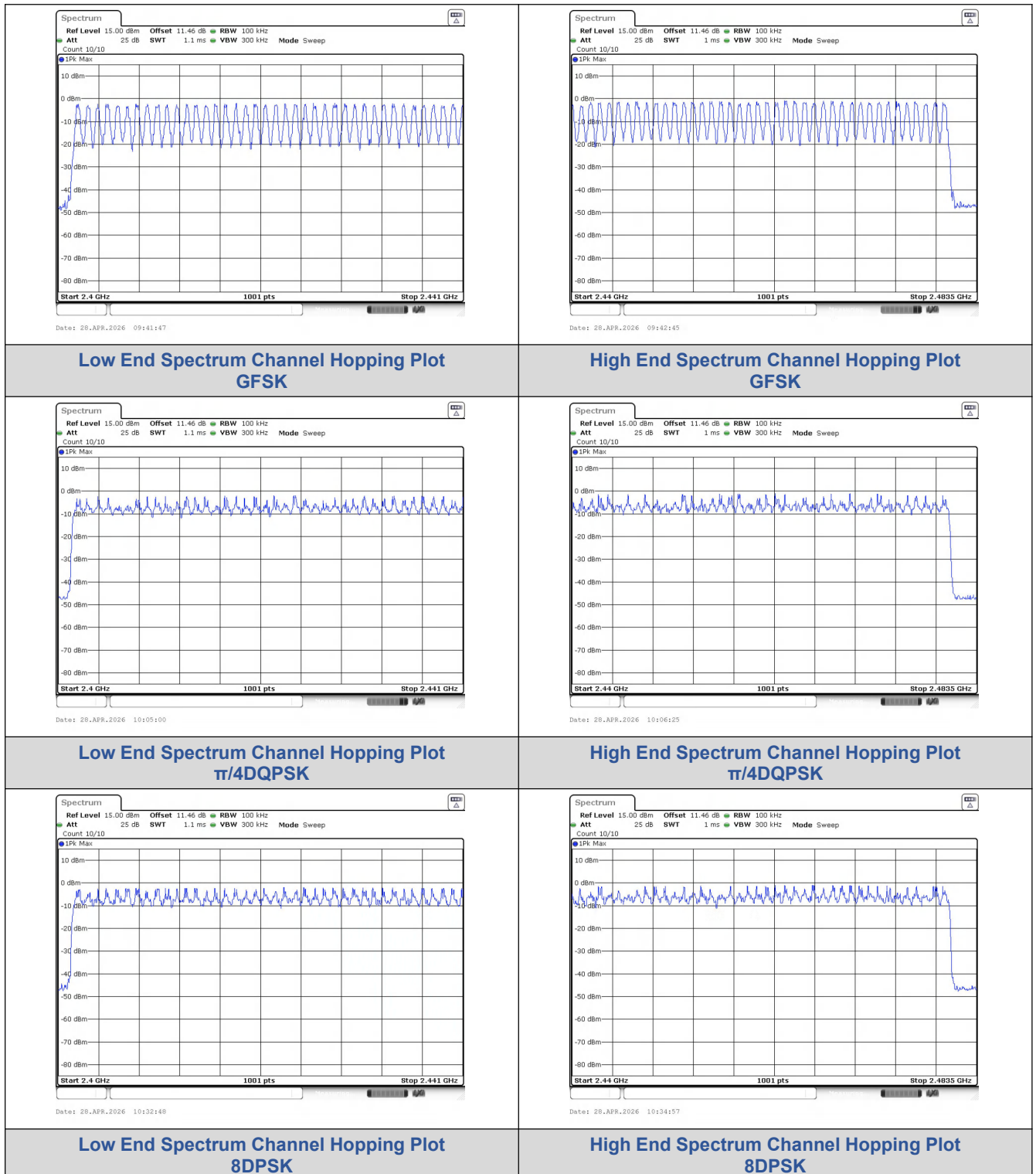
7.4. Number Of Hopping Channel

Test Result

Left:

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

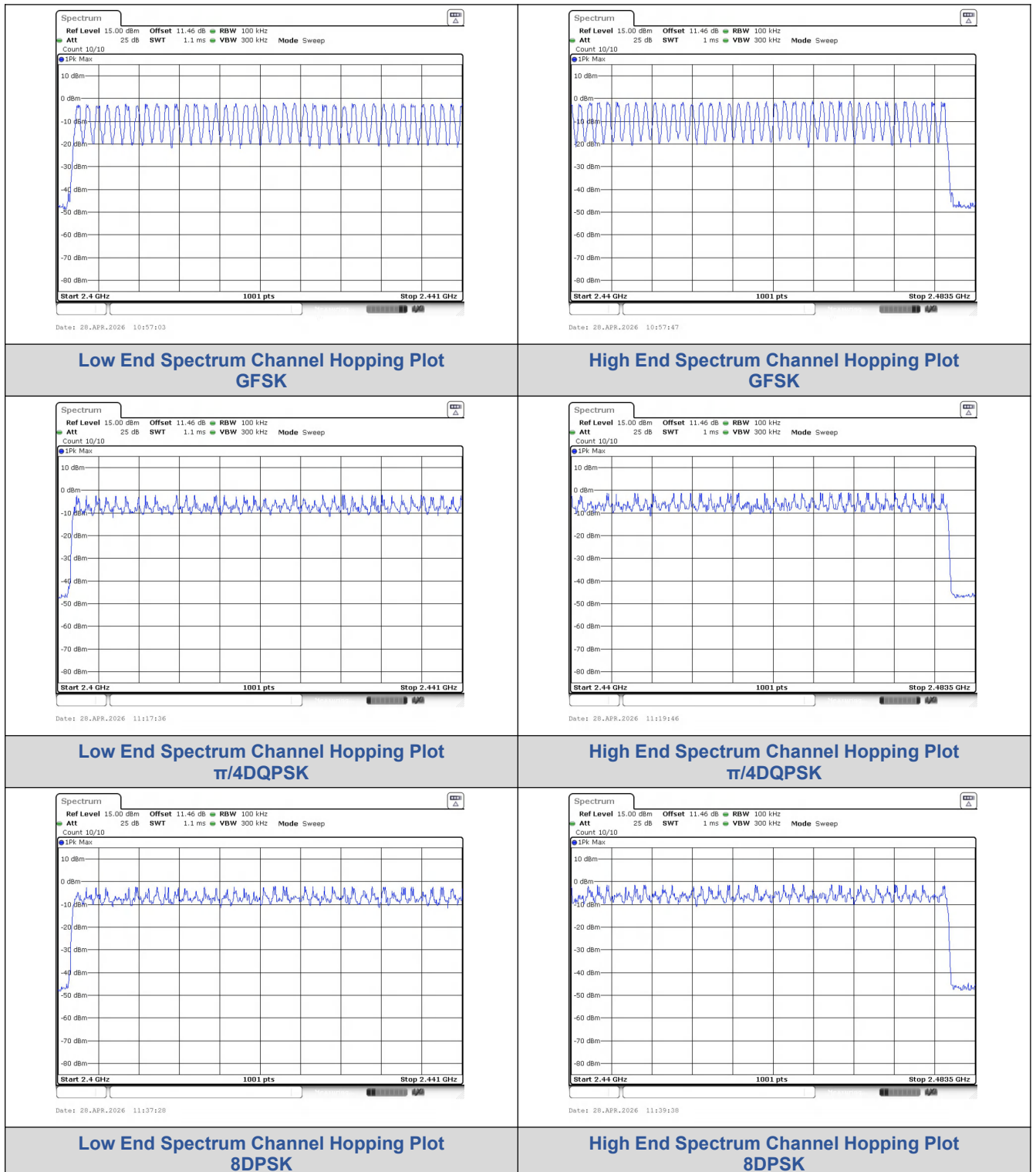
Test Graphs



Right:

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



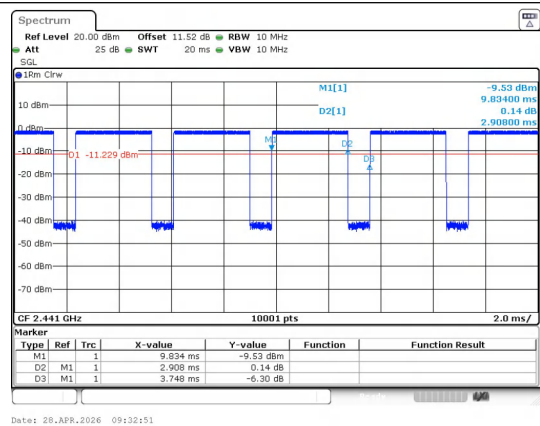
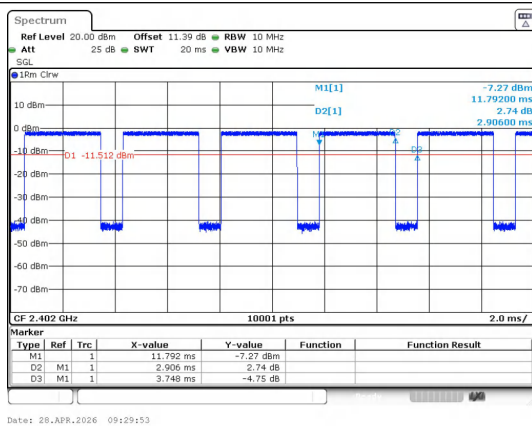
7.5. Duty Cycle

Test Result

Left:

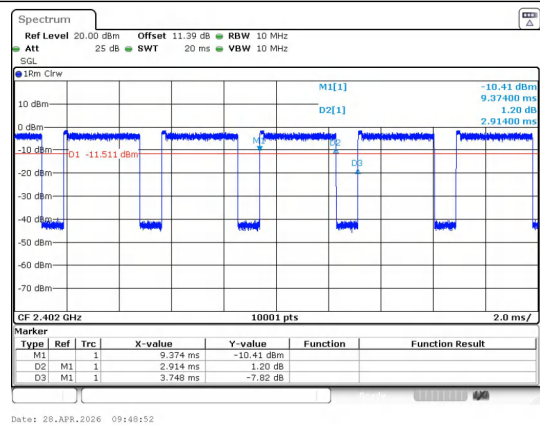
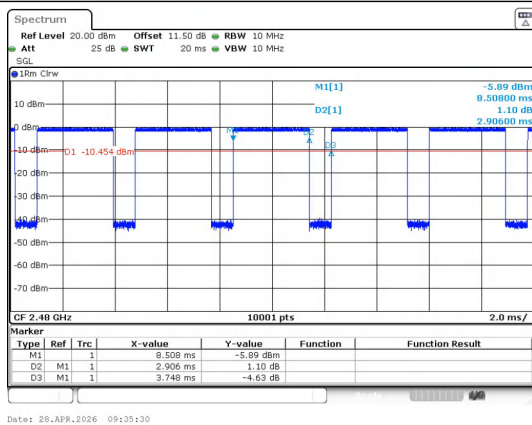
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.906	3.748	77.53	0.7753	1.1053	0.3441
		39	2.908	3.748	77.59	0.7759	1.1019	0.3439
		78	2.906	3.748	77.53	0.7753	1.1053	0.3441
$\pi/4$ DQPSK	2-DH5	0	2.914	3.748	77.75	0.7775	1.093	0.3432
		39	2.914	3.748	77.75	0.7775	1.093	0.3432
		78	2.912	3.748	77.69	0.7769	1.0963	0.3434
8DPSK	3-DH5	0	2.916	3.748	77.80	0.7780	1.0902	0.3429
		39	2.916	3.748	77.80	0.7780	1.0902	0.3429
		78	2.914	3.748	77.75	0.7775	1.093	0.3432

Test Graphs



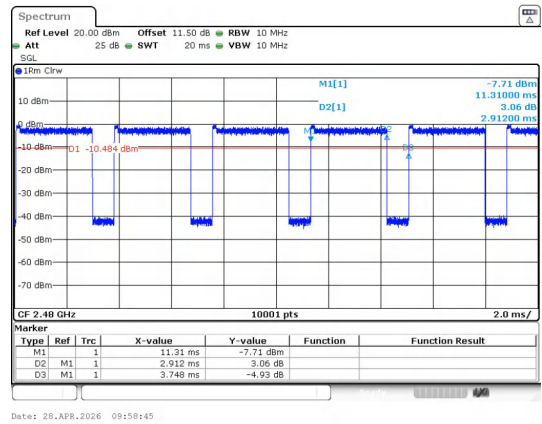
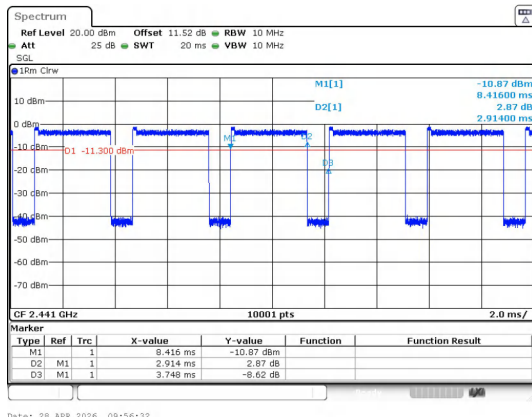
GFSK(DH5)_Channel 0

GFSK(DH5)_Channel 39

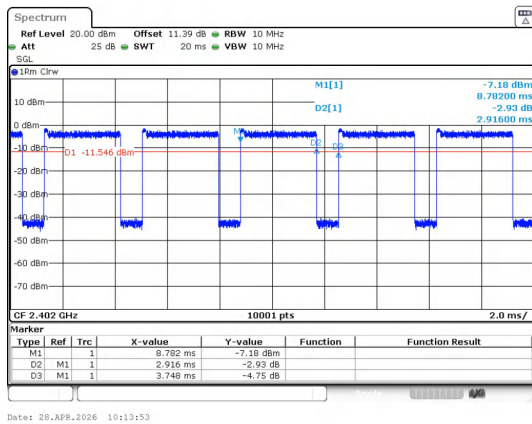


GFSK(DH5)_Channel 78

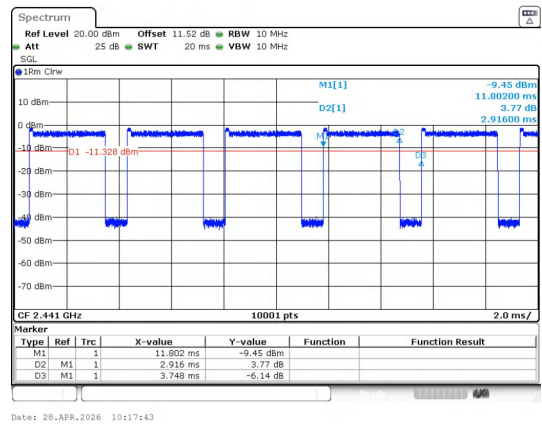
$\pi/4$ DQPSK(2-DH5)_Channel 0



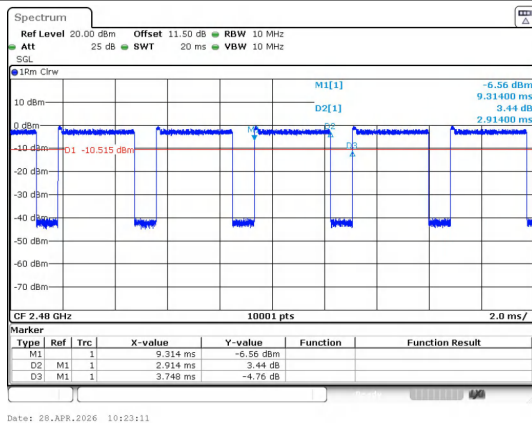
$\pi/4$ DQPSK(2-DH5)_Channel 39



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



8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39

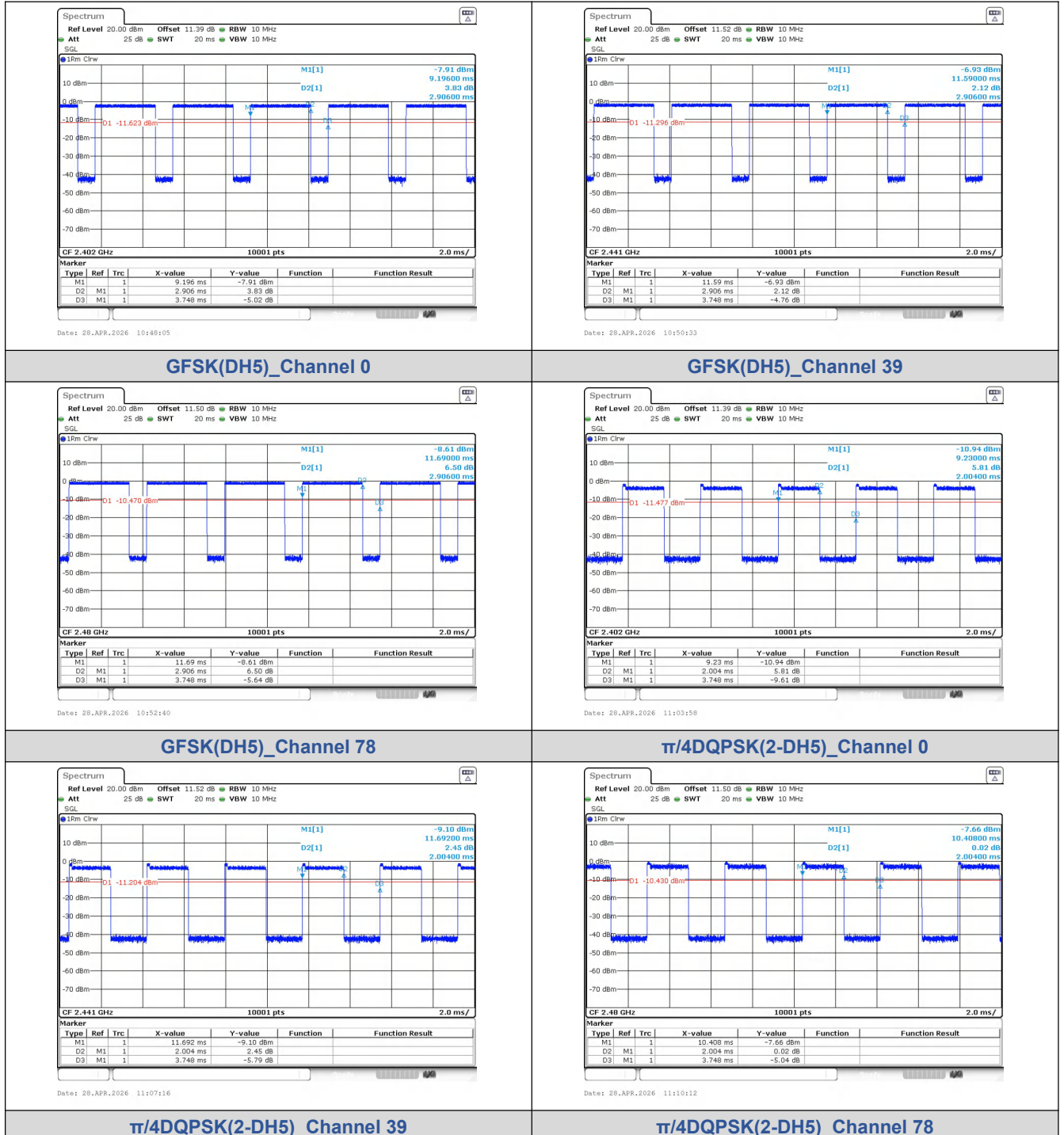
8DPSK(3-DH5)_Channel 78

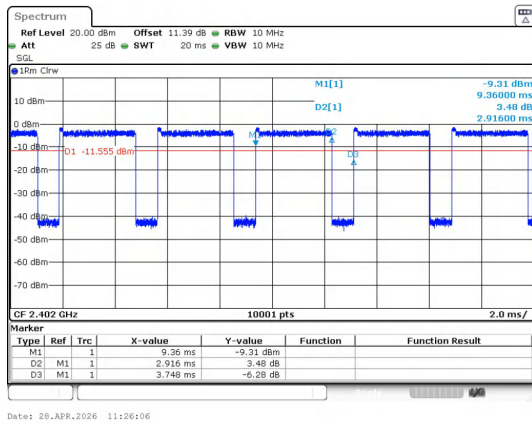
Right:

Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.906	3.748	77.53	0.7753	1.1053	0.3441
		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
$\pi/4$ DQPSK	2-DH5	0	2.004	3.748	53.47	0.5347	2.7189	0.4990
		39	2.004	3.748	53.47	0.5347	2.7189	0.4990
		78	2.004	3.748	53.47	0.5347	2.7189	0.4990
8DPSK	3-DH5	0	2.916	3.748	77.80	0.7780	1.0902	0.3429

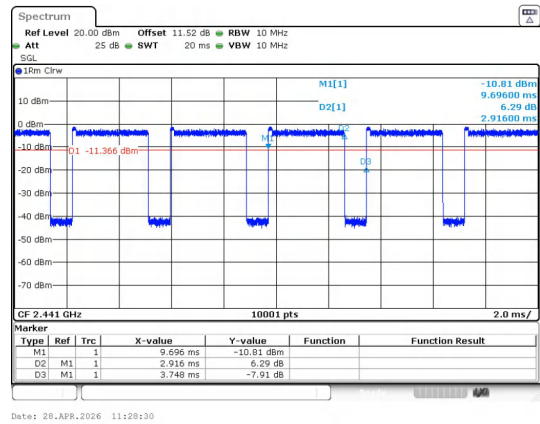
		39	2.916	3.748	77.80	0.7780	1.0902	0.3429
		78	2.916	3.748	77.80	0.7780	1.0902	0.3429

Test Graphs

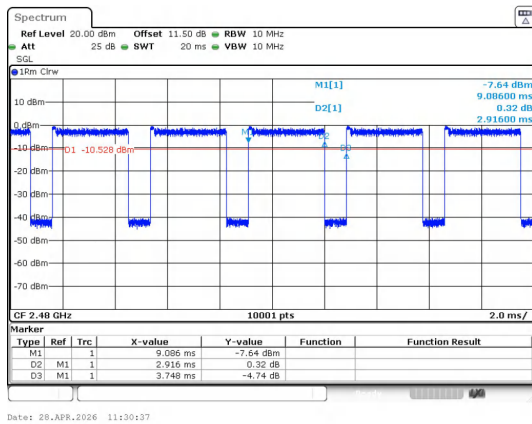




8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



8DPSK(3-DH5)_Channel 78

7.6. Dwell Time

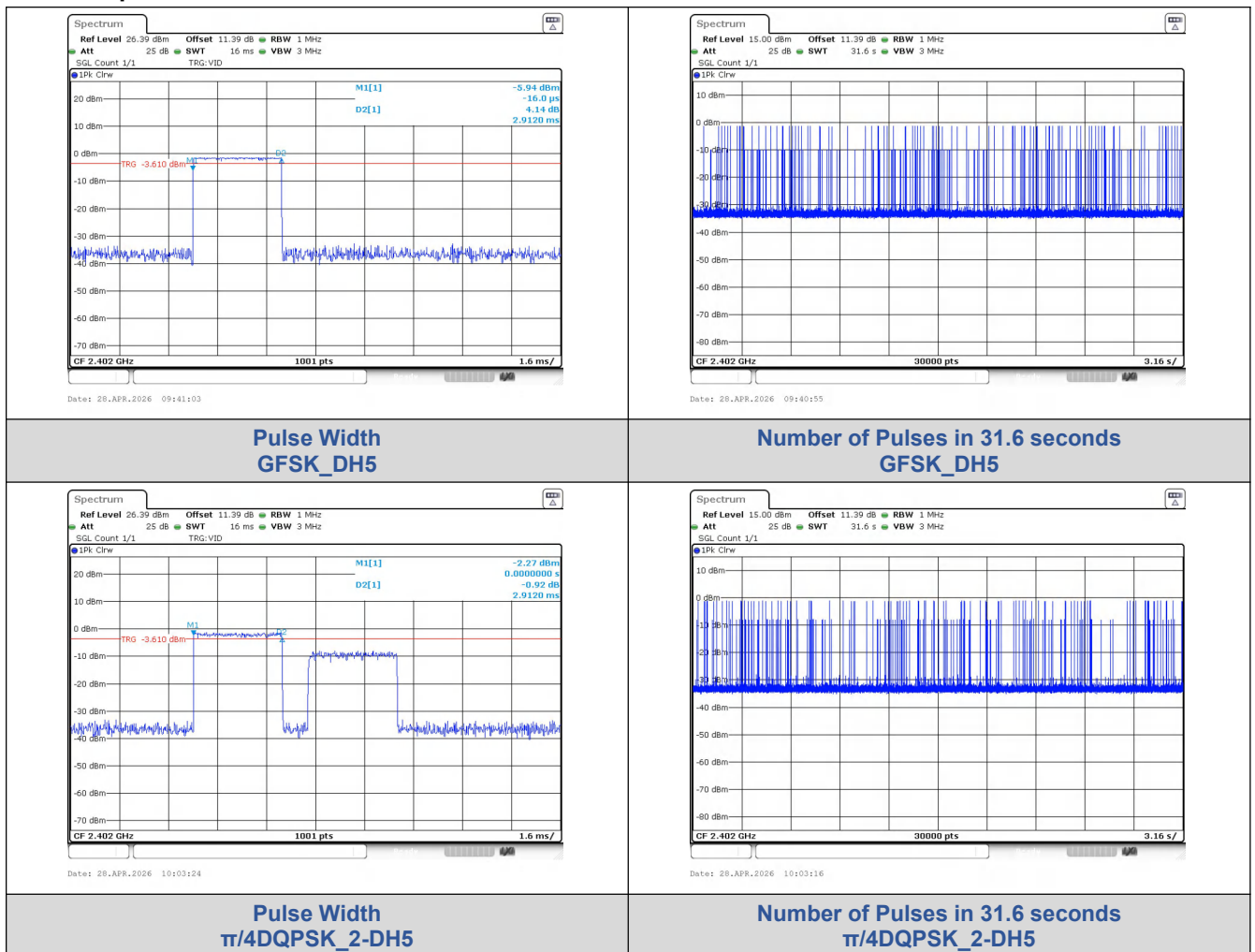
Test Result

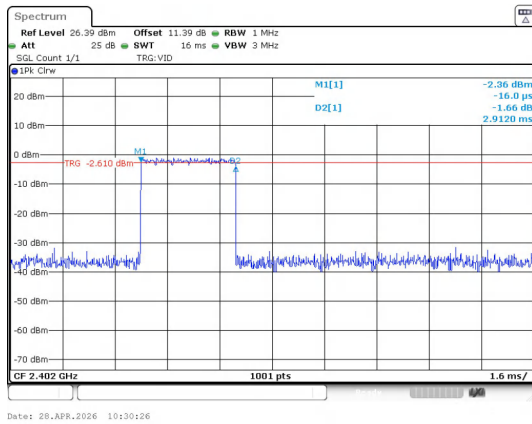
Left:

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	Hopping	2.912	97	282.46	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.912	102	297.02		PASS
8DPSK	3-DH5		2.912	104	302.85		PASS

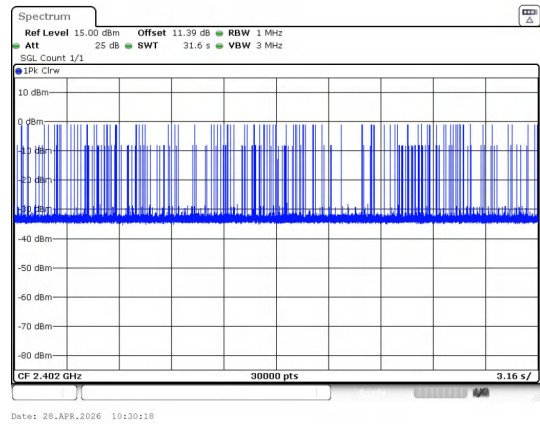
Note: Dwell time=Pulse time(ms)*Number of Pulses in 31.6 seconds

Test Graphs





**Pulse Width
8DPSK_3-DH5**



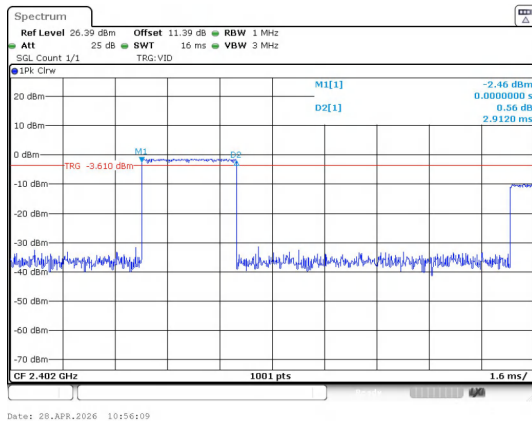
**Number of Pulses in 31.6 seconds
8DPSK_3-DH5**

Right:

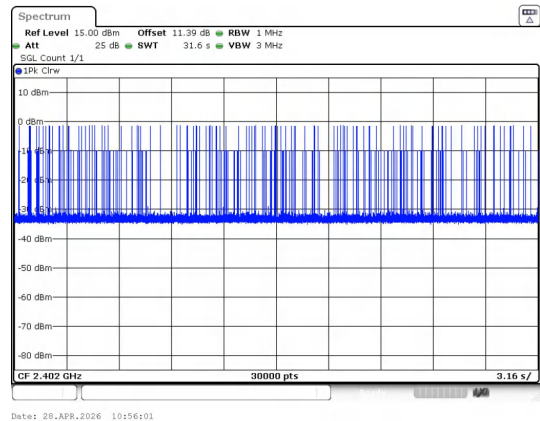
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	Hopping	2.912	106	308.67	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.000	106	212.0		PASS
8DPSK	3-DH5		2.928	108	316.22		PASS

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

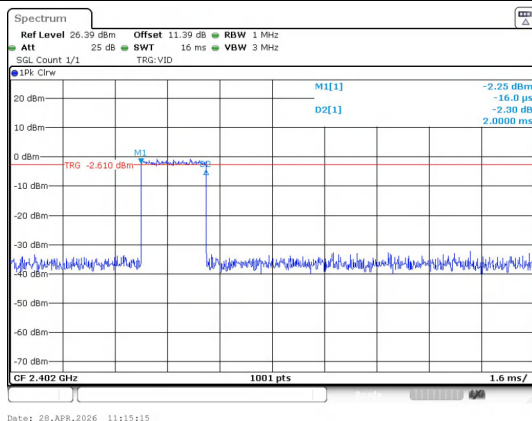
Test Graphs



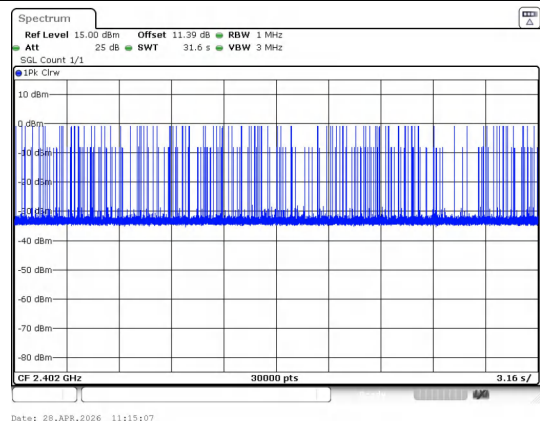
**Pulse Width
GFSK_DH5**



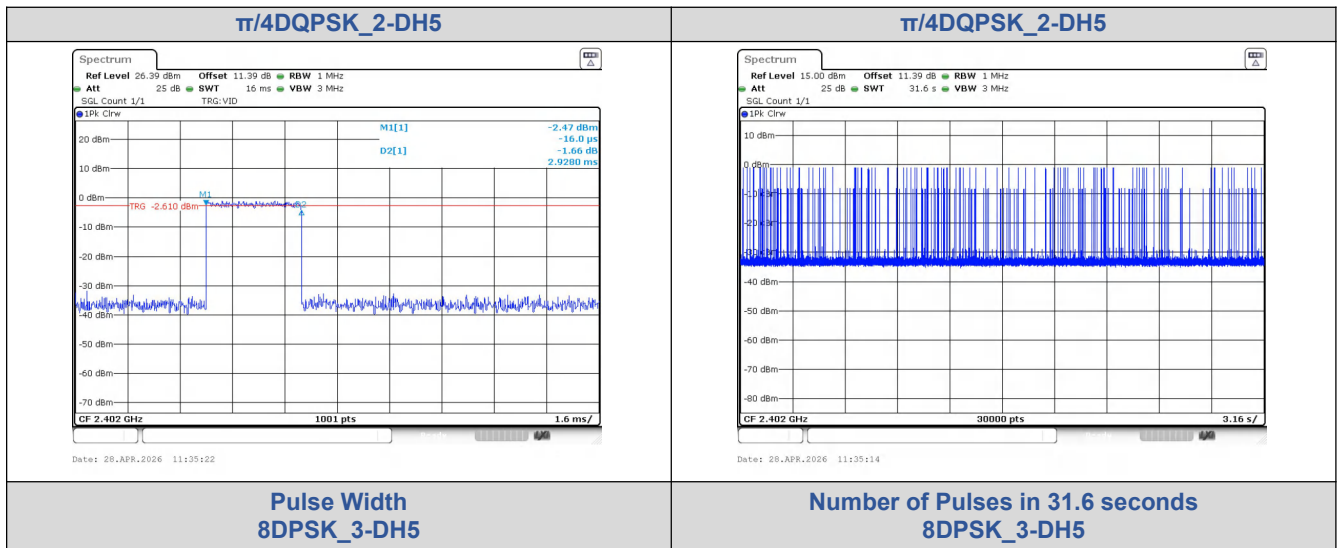
**Number of Pulses in 31.6 seconds
GFSK_DH5**



Pulse Width



Number of Pulses in 31.6 seconds



7.7. Conducted Out Of Band Emission

Test Result

Left:

Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2398.03	-46.535	-22.04	-24.495	PASS
			2400.00	-49.130	-22.04	-27.090	PASS
			4803.80	-40.207	-22.04	-18.167	PASS
		39	4882.09	-41.626	-21.85	-19.776	PASS
		78	2483.50	-46.570	-20.96	-25.610	PASS
			4959.49	-37.306	-20.96	-16.346	PASS
$\pi/4$ DQPSK	2-DH5	0	2398.66	-45.492	-22.12	-23.372	PASS
			2400.00	-47.370	-22.12	-25.250	PASS
			4804.70	-47.052	-22.12	-24.932	PASS
		39	4882.09	-44.371	-21.95	-22.421	PASS
		78	2483.50	-47.850	-21.09	-26.760	PASS
			4960.33	-41.882	-21.09	-20.792	PASS
8DPSK	3-DH5	0	2398.19	-46.819	-22.14	-24.679	PASS
			2400.00	-46.980	-22.14	-24.840	PASS
			4803.80	-45.978	-22.14	-23.838	PASS
		39	4882.09	-39.270	-21.9	-17.370	PASS
		78	2483.50	-48.980	-21.19	-27.790	PASS
			4960.33	-43.266	-21.19	-22.076	PASS

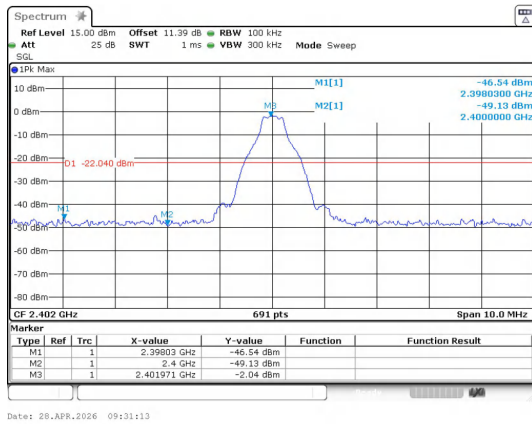
Note: input compensation coefficient (dB)= Cable Loss (dB)

Hopping

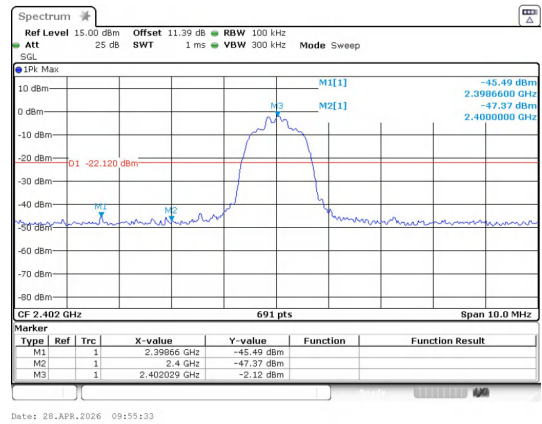
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2398.83	-45.062	-21.9	-23.162	PASS
			2400.00	-46.740	-21.9	-24.840	PASS
			2483.50	-46.390	-21.01	-25.380	PASS
$\pi/4$ DQPSK	2-DH5		2395.93	-45.013	-22.32	-22.693	PASS
			2400.00	-46.510	-22.32	-24.190	PASS
			2483.50	-46.470	-21.12	-25.350	PASS
8DPSK	3-DH5		2397.26	-44.970	-22.31	-22.660	PASS
			2400.00	-46.880	-22.31	-24.570	PASS
			2483.50	-46.410	-21.15	-25.260	PASS

Note: input compensation coefficient (dB)= Cable Loss (dB)

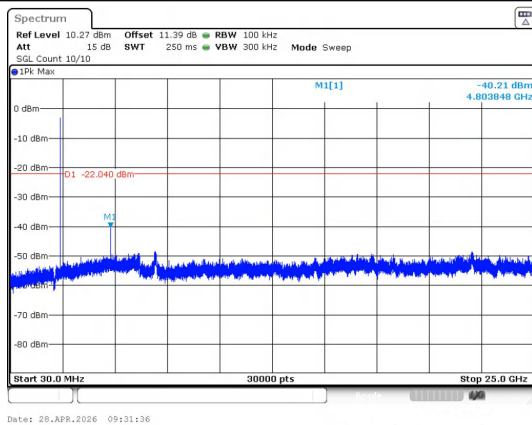
Test Graphs



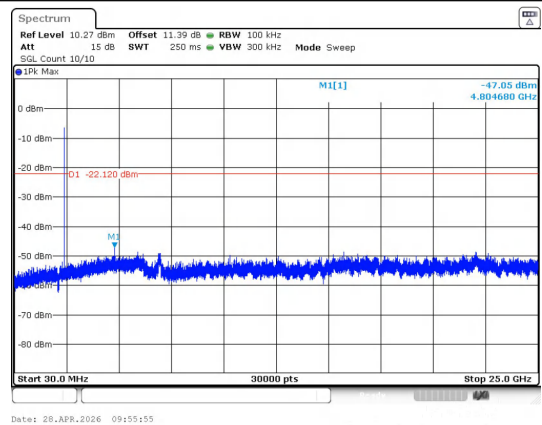
**Out Of Band Emission
GFSK_DH5_Channel 0**



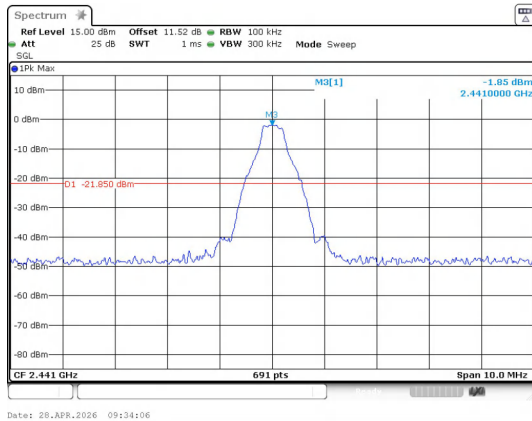
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0**



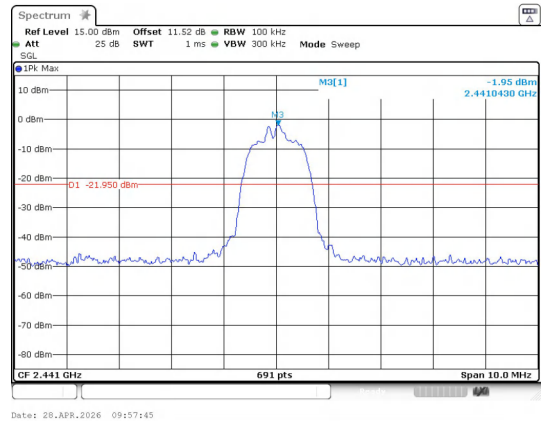
**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0**



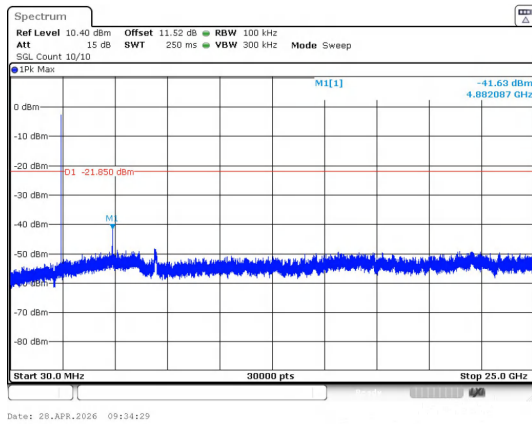
**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0**



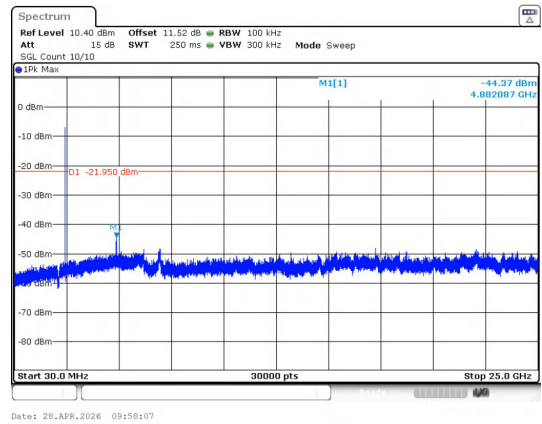
**Out Of Band Emission
GFSK_DH5_Channel 39**



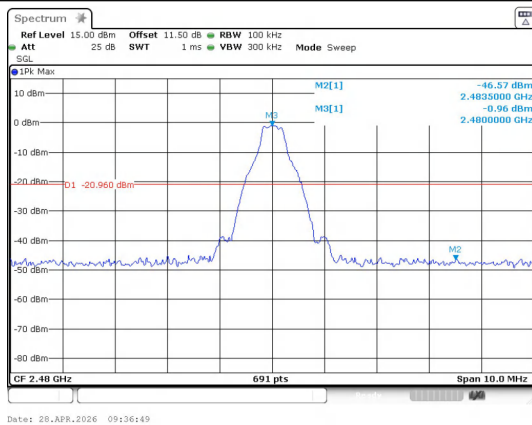
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39**



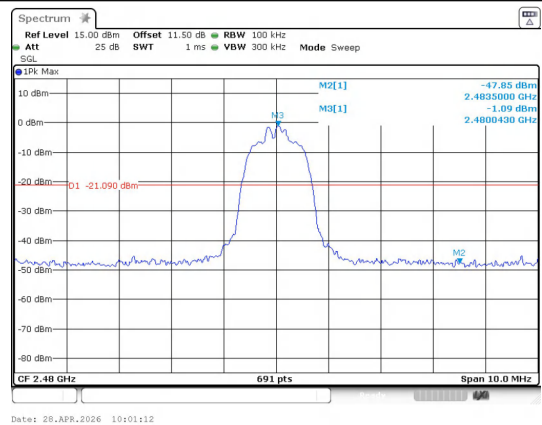
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



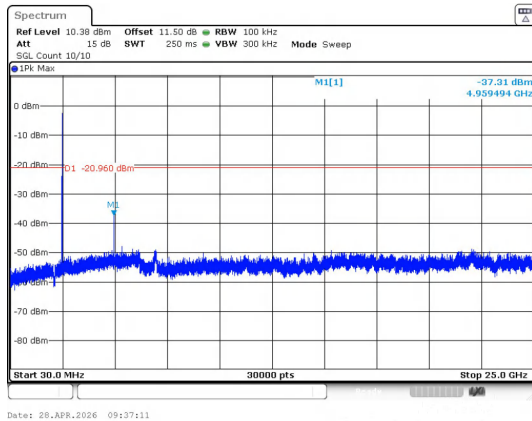
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



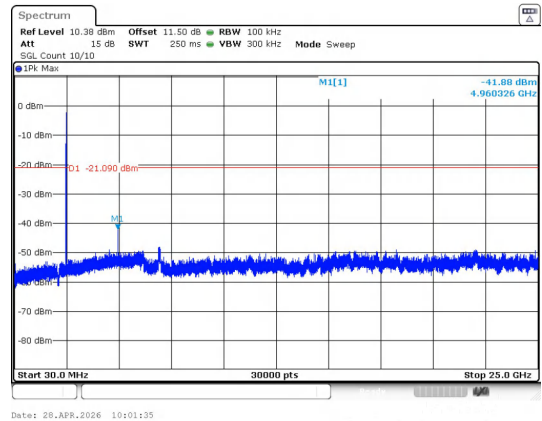
Out Of Band Emission
GFSK_DH5_Channel 78



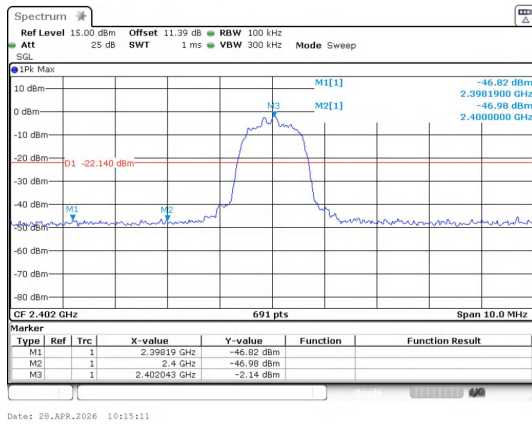
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



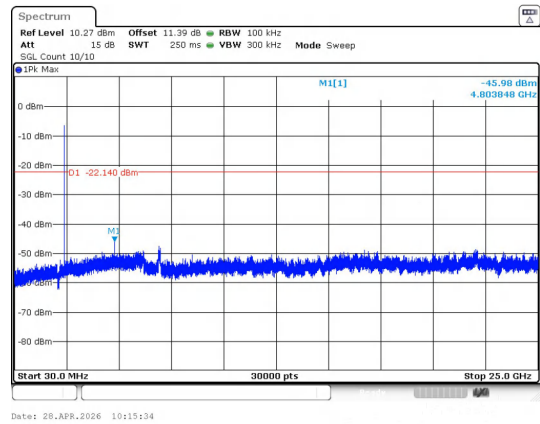
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



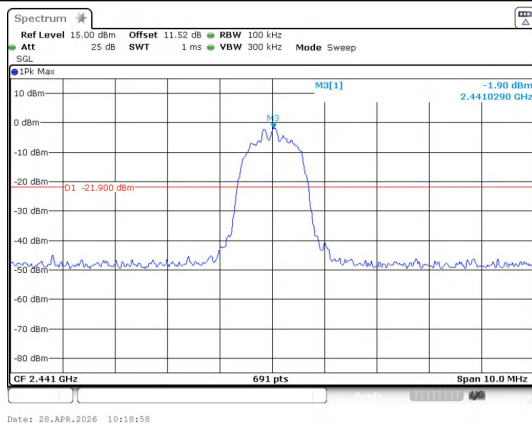
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



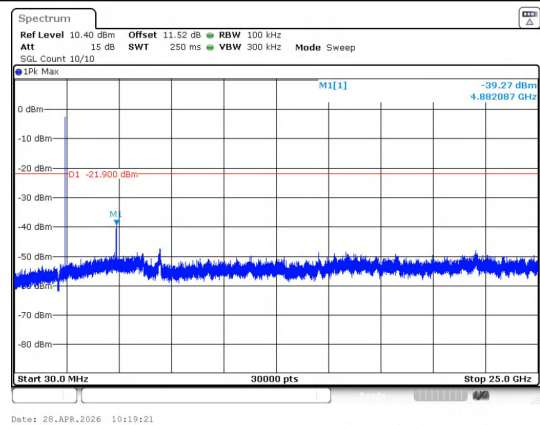
**Out Of Band Emission
8DPSK_3-DH5_Channel 0**



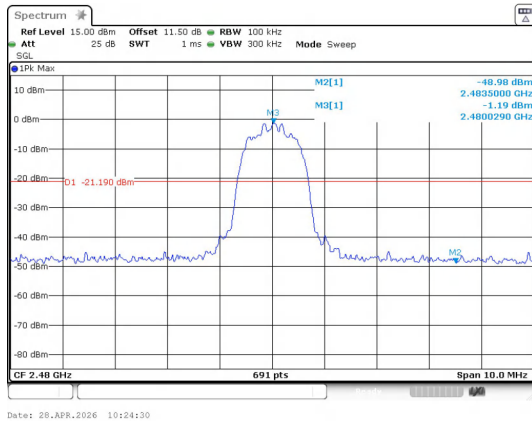
**30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0**



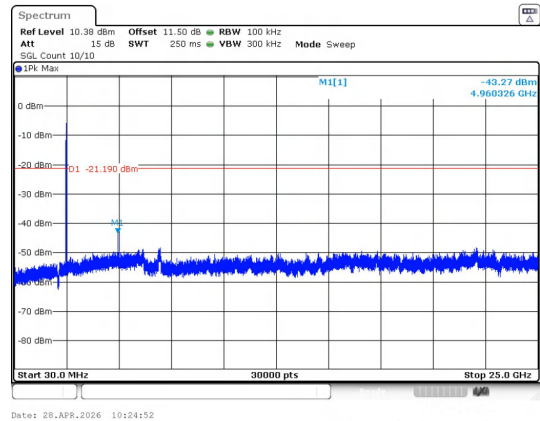
**Out Of Band Emission
8DPSK_3-DH5_Channel 39**



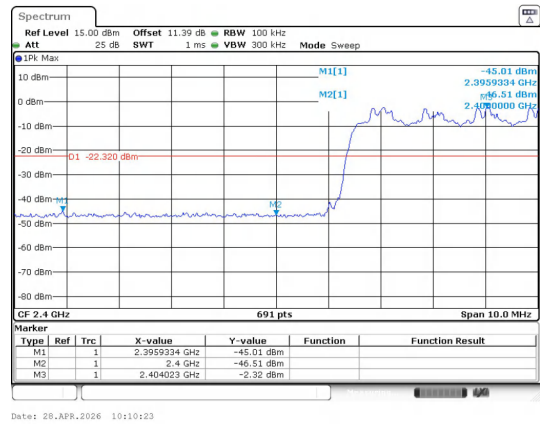
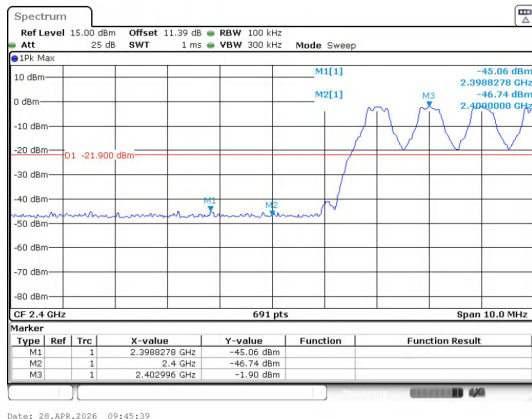
**30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39**



**Out Of Band Emission
8DPSK_3-DH5_Channel 78**

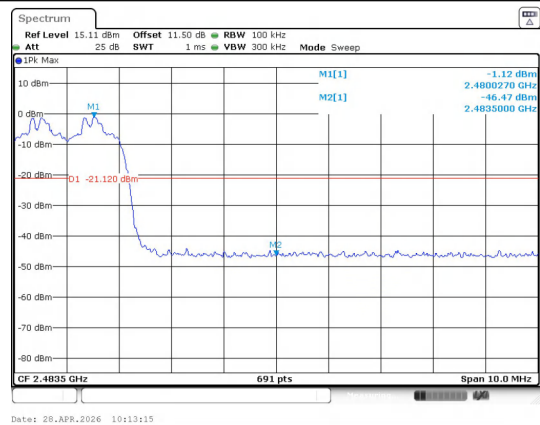
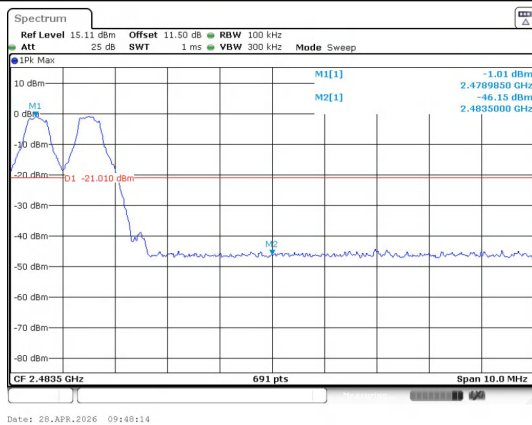


**30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78**



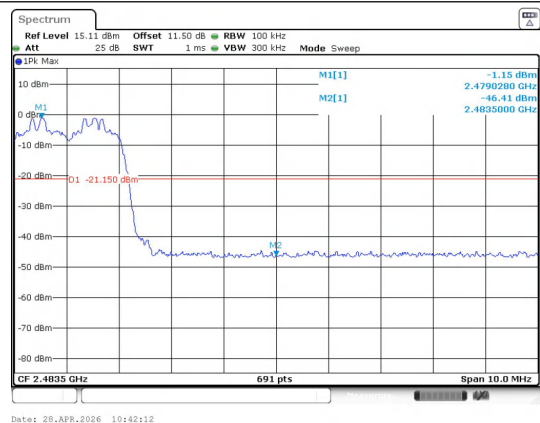
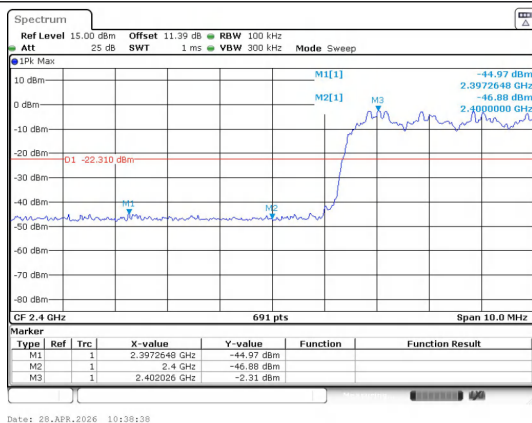
**Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping**

**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**

**Right:
Non-Hopping**

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2398.67	-45.475	-22.01	-23.465	PASS
			2400.00	-48.390	-22.01	-26.380	PASS
			4803.80	-43.930	-22.01	-21.920	PASS

		39	4882.09	-40.052	-21.66	-18.392	PASS
		78	2483.50	-48.060	-20.84	-27.220	PASS
			4959.49	-38.151	-20.84	-17.311	PASS
		0	2398.18	-46.475	-22.01	-24.465	PASS
			2400.00	-47.450	-22.01	-25.440	PASS
			4803.80	-47.736	-22.01	-25.726	PASS
$\pi/4$ DQPSK	2-DH5	39	4882.09	-40.102	-21.87	-18.232	PASS
		78	2483.50	-47.630	-21.12	-26.510	PASS
			4960.33	-44.172	-21.12	-23.052	PASS
		0	2398.70	-46.418	-22.19	-24.228	PASS
			2400.00	-46.970	-22.19	-24.780	PASS
			4804.70	-47.156	-22.19	-24.966	PASS
8DPSK	3-DH5	39	4882.09	-44.427	-22.06	-22.367	PASS
		78	2483.50	-47.330	-21.22	-26.110	PASS
			4960.33	-41.902	-21.22	-20.682	PASS

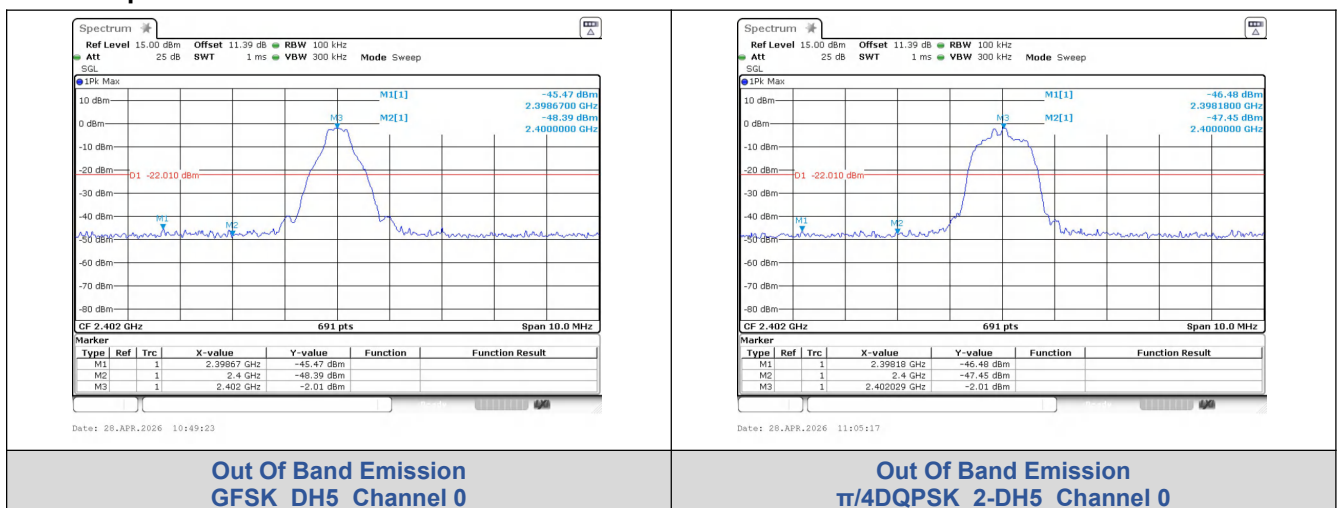
Note: input compensation coefficient (dB)= Cable Loss (dB)

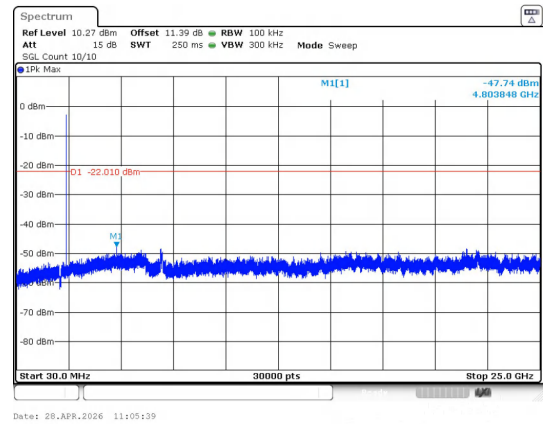
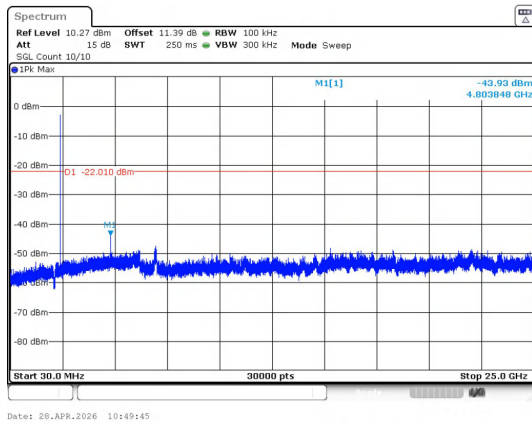
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.30	-45.533	-22.1	-23.433	PASS
			2400.00	-47.390	-22.1	-25.290	PASS
			2483.50	-46.450	-20.86	-25.590	PASS
π/4DQPSK	2-DH5		2398.87	-44.785	-22.31	-22.475	PASS
			2400.00	-46.840	-22.31	-24.530	PASS
			2483.50	-46.220	-21.08	-25.140	PASS
8DPSK	3-DH5		2396.02	-44.535	-22.55	-21.985	PASS
			2400.00	-46.780	-22.55	-24.230	PASS
			2483.50	-46.060	-21.19	-24.870	PASS

Note: input compensation coefficient (dB)= Cable Loss (dB)

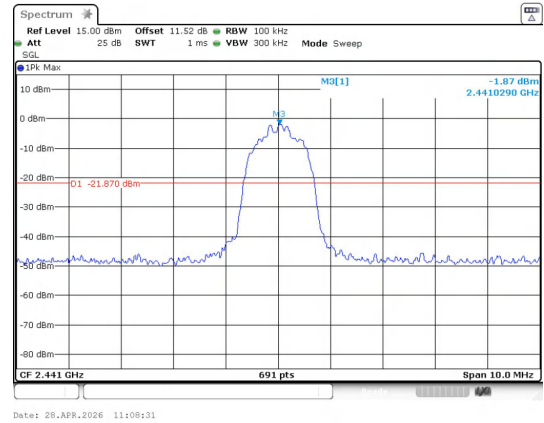
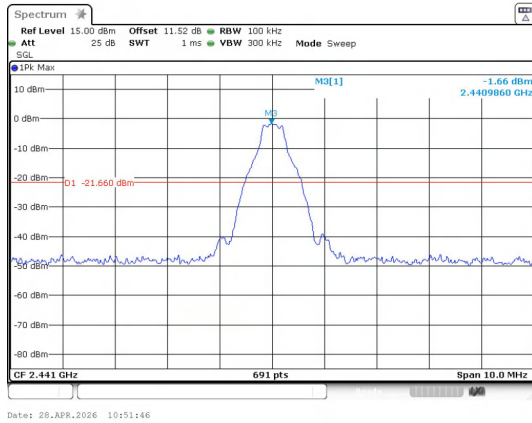
Test Graphs





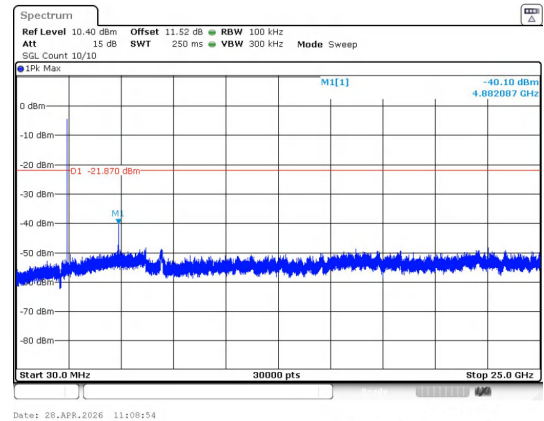
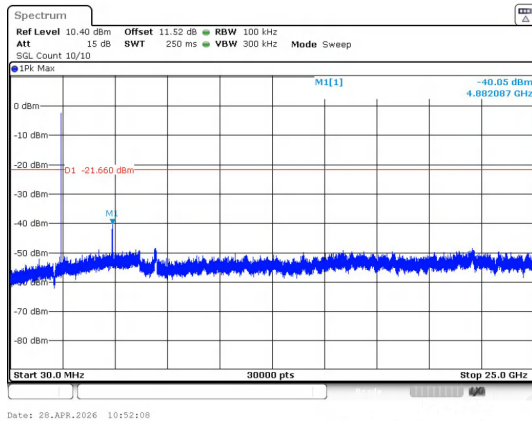
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0

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



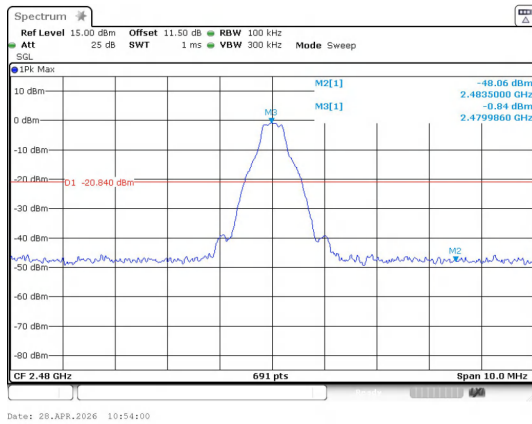
Out Of Band Emission
GFSK_DH5_Channel 39

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

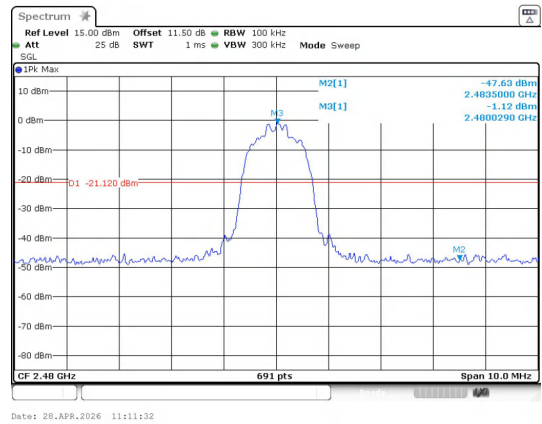


30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39

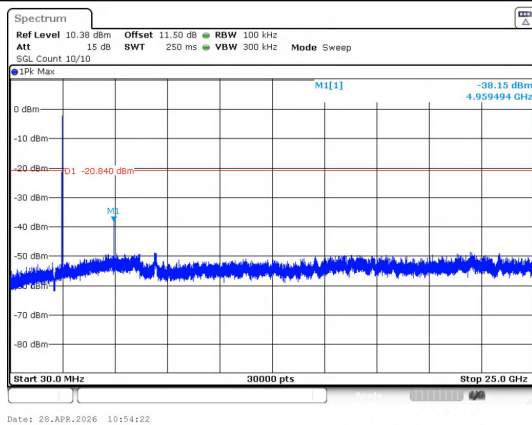
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



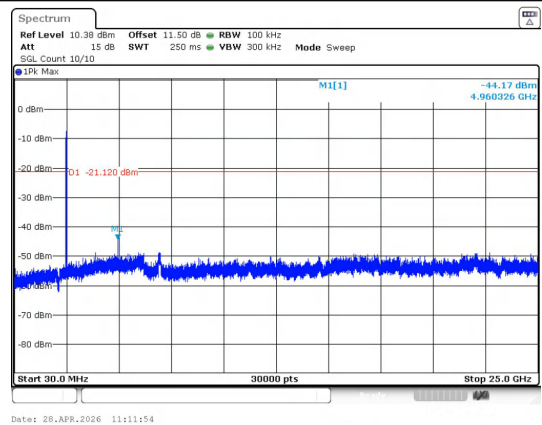
**Out Of Band Emission
GFSK_DH5_Channel 78**



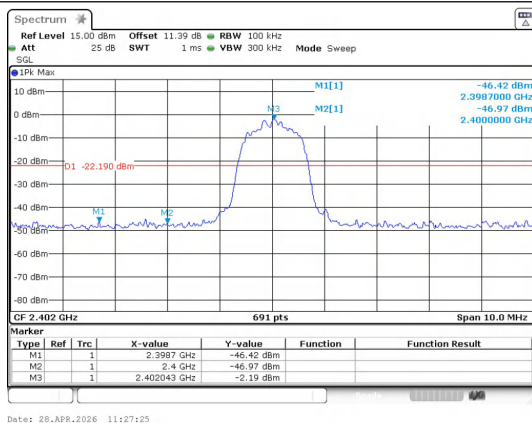
**Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78**



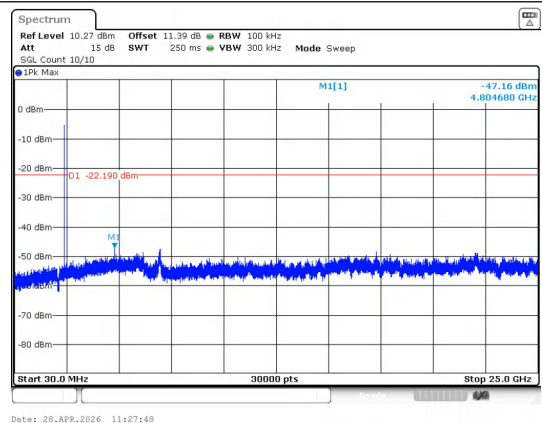
**30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78**



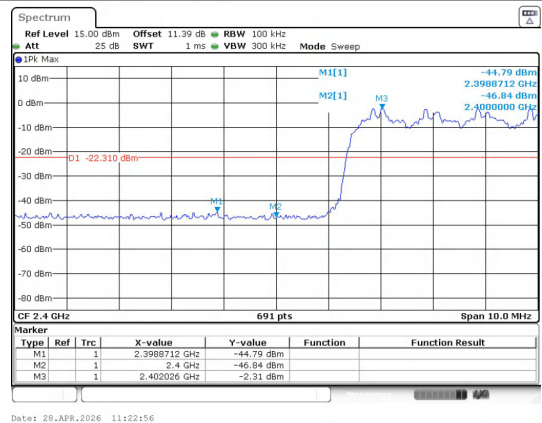
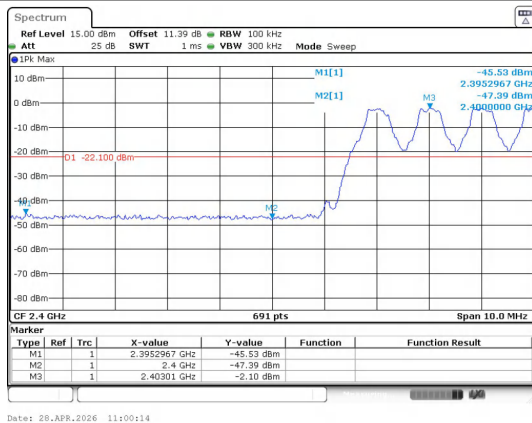
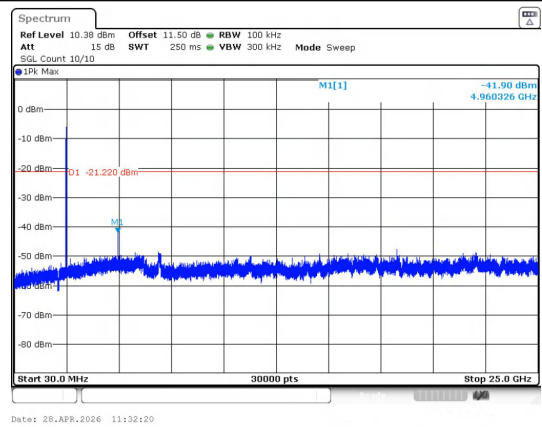
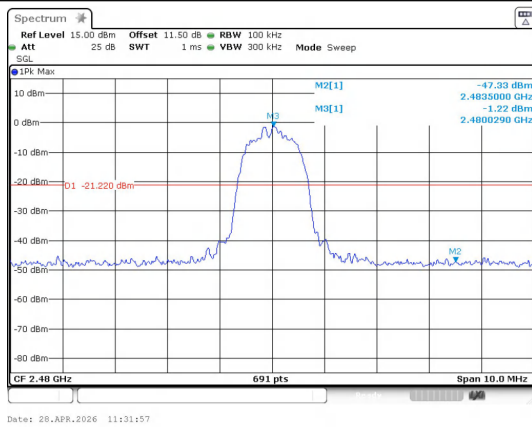
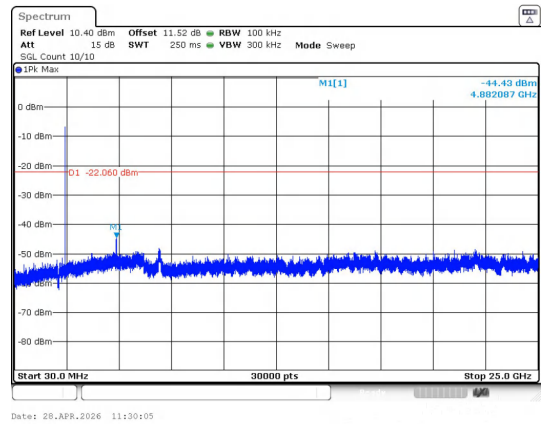
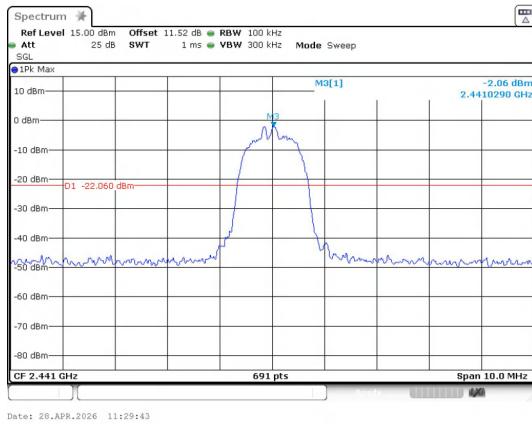
**30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78**

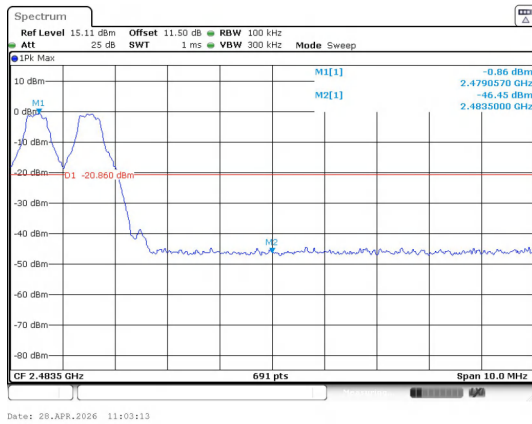


**Out Of Band Emission
8DPSK_3-DH5_Channel 0**

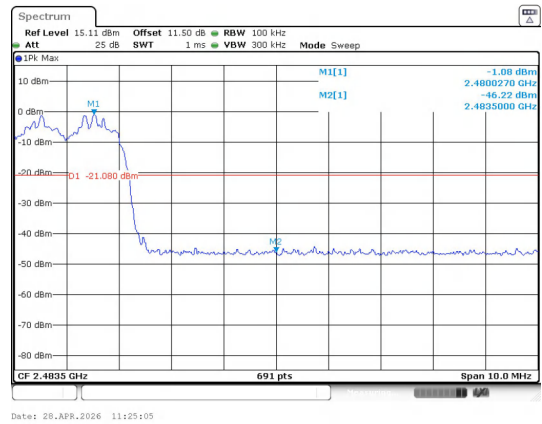


**30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0**

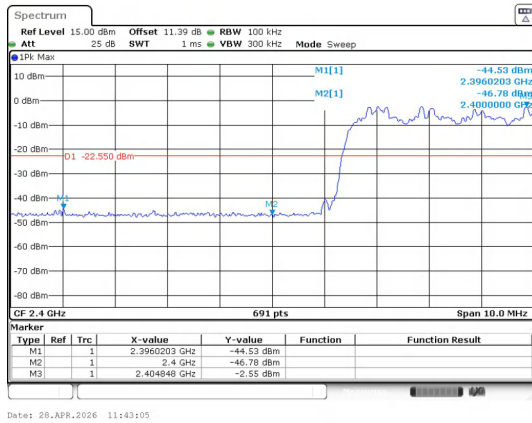




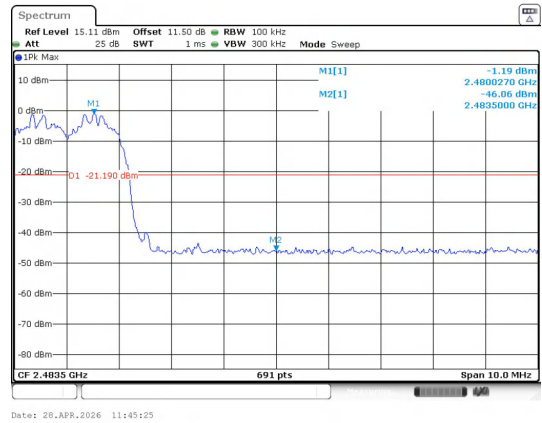
**Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping**



**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**

-----End of the report-----