

Appendix Report

Project No.:	CISR250408081
Test Engineer:	James Wang
Supervised by:	Rory Huang

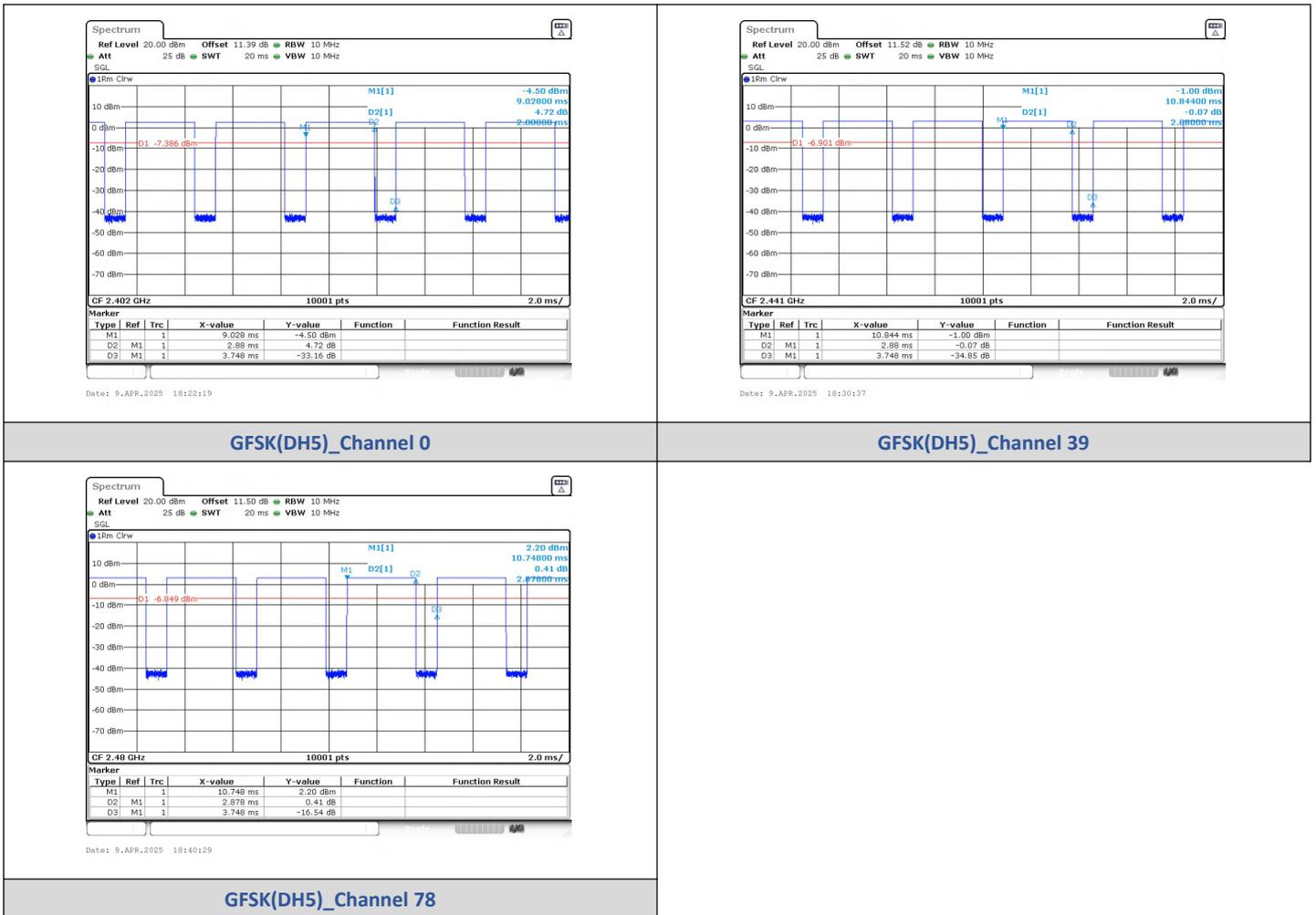
1) Duty Cycle

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	2.880	3.748	76.84	0.7684	1.1441	0.3472
		39	2.880	3.748	76.84	0.7684	1.1441	0.3472
		78	2.878	3.748	76.79	0.7679	1.147	0.3475

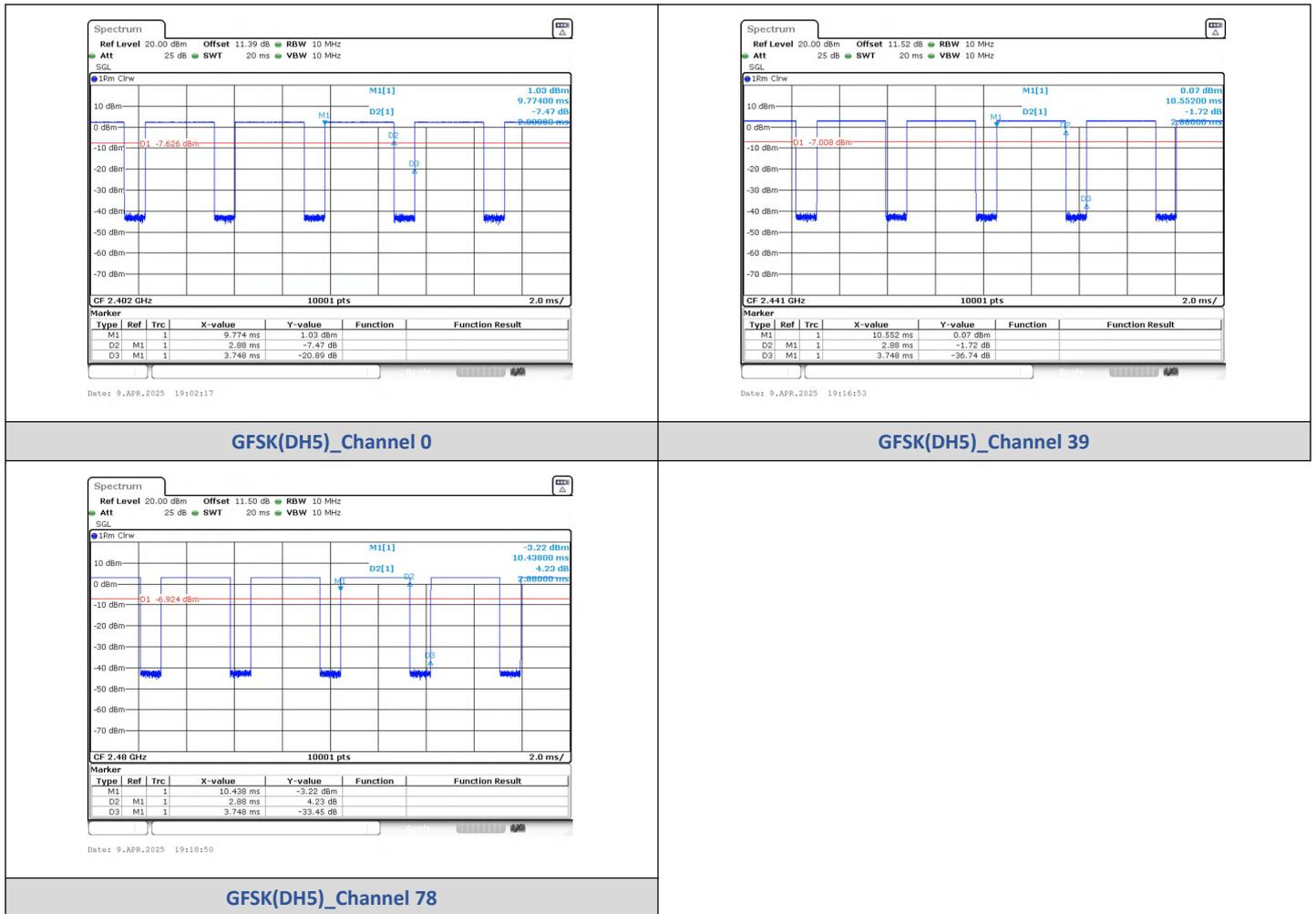
Test Graphs



Right:

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	2.880	3.748	76.84	0.7684	1.1441	0.3472
		78	2.880	3.748	76.84	0.7684	1.1441	0.3472

Test Graphs



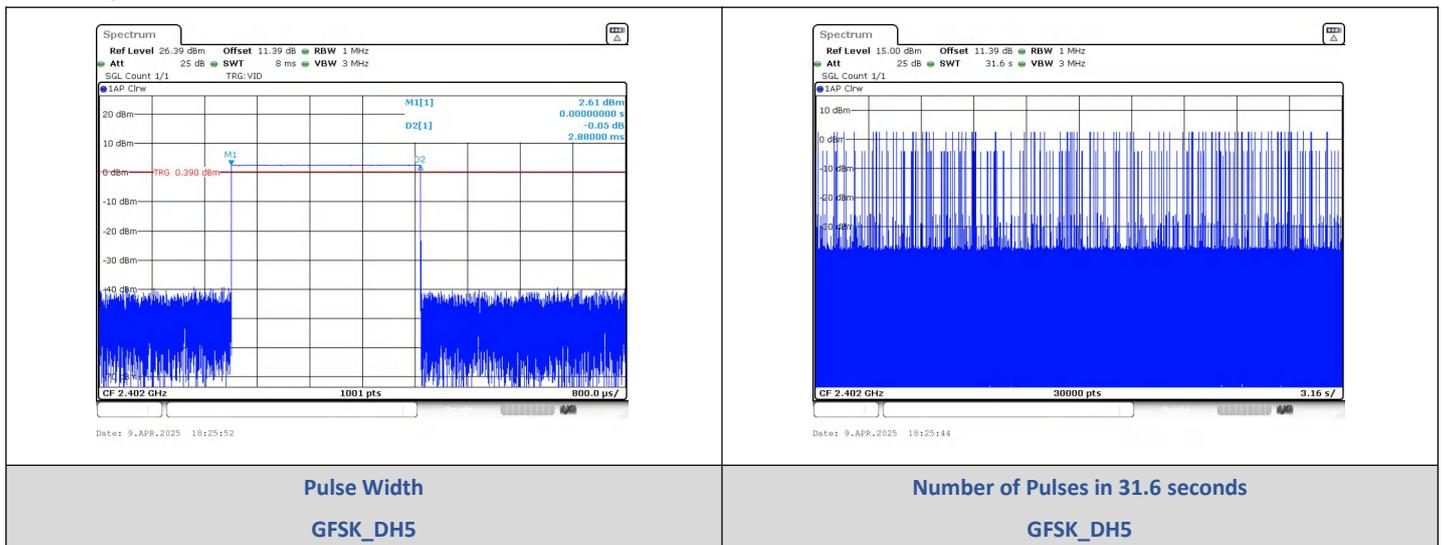
2) Dwell Time

Test Result

Left:

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.880	95	273.6	< 400	PASS

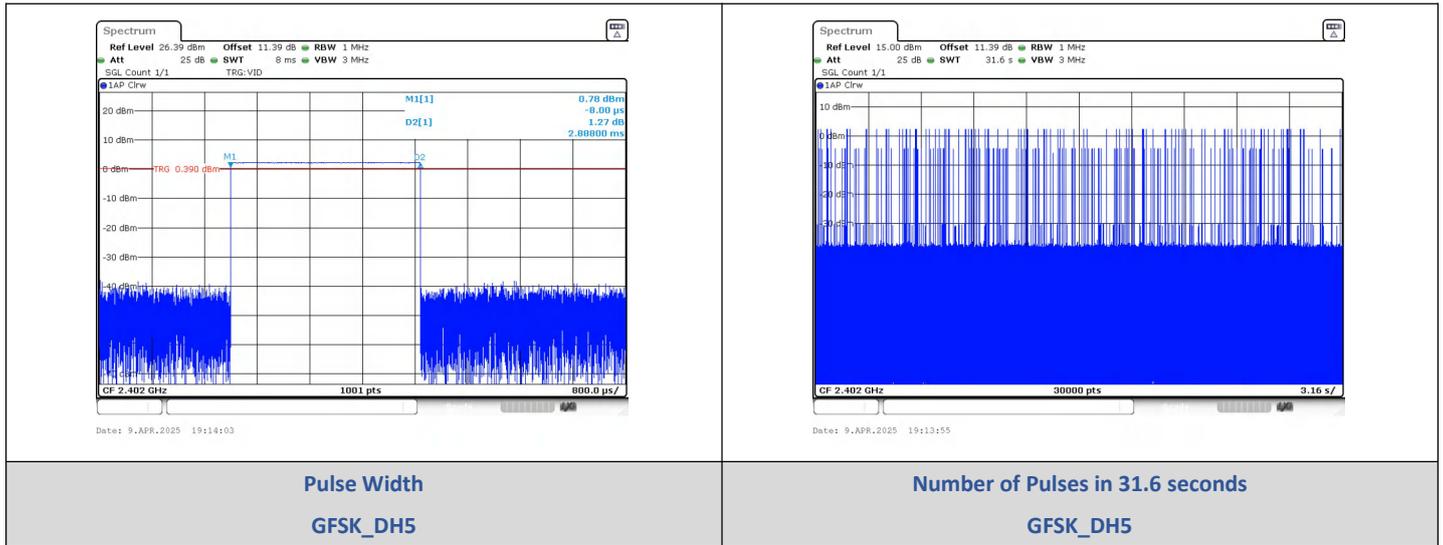
Test Graphs



Right:

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CHO (2402MHz)	2.888	106	306.13	< 400	PASS

Test Graphs



3) Number Of Hopping Channel

Test Result

Left:

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS

Test Graphs



Right:

Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS

Test Graphs



4) Conducted Output Power

Test Result

Left:

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	2.66	1.85	≤30	PASS
		39	3.11	2.05		PASS
		78	3.22	2.10		PASS

Test Graphs

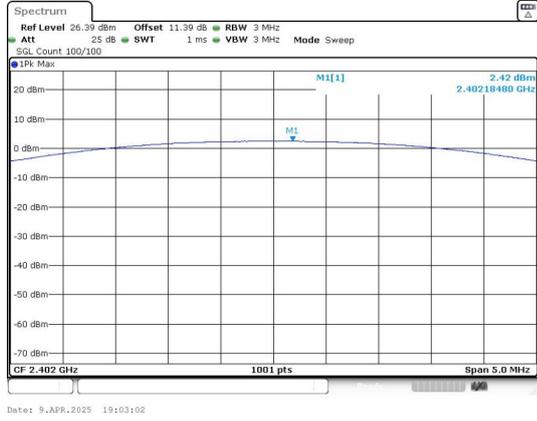


Right:

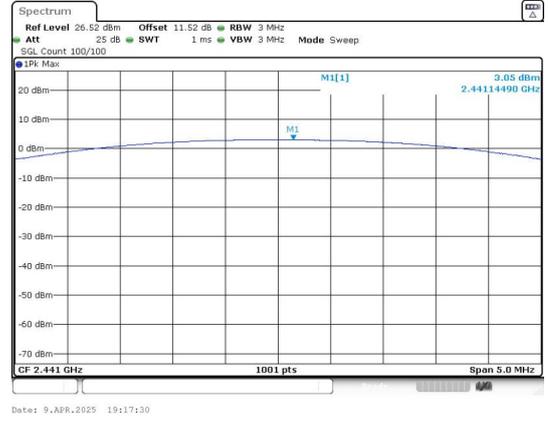
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	2.66	1.85	≤30	PASS
GFSK	DH5	39	3.11	2.05	≤30	PASS
GFSK	DH5	78	3.22	2.10	≤30	PASS

GFSK	DH5	0	2.42	1.75	≤30	PASS
		39	3.05	2.02		PASS
		78	3.19	2.08		PASS

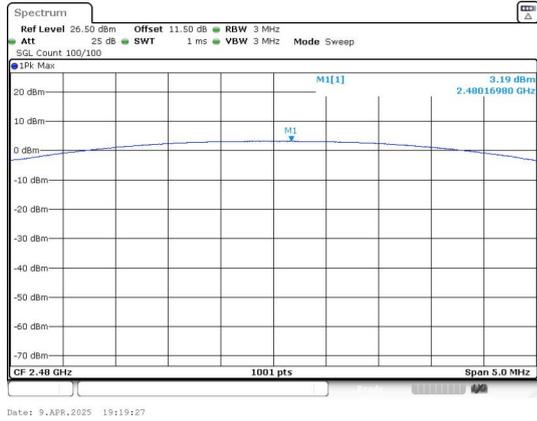
Test Graphs



**Peak Output Power
GFSK_Channel 0**



**Peak Output Power
GFSK_Channel 39**



**Peak Output Power
GFSK_Channel 78**

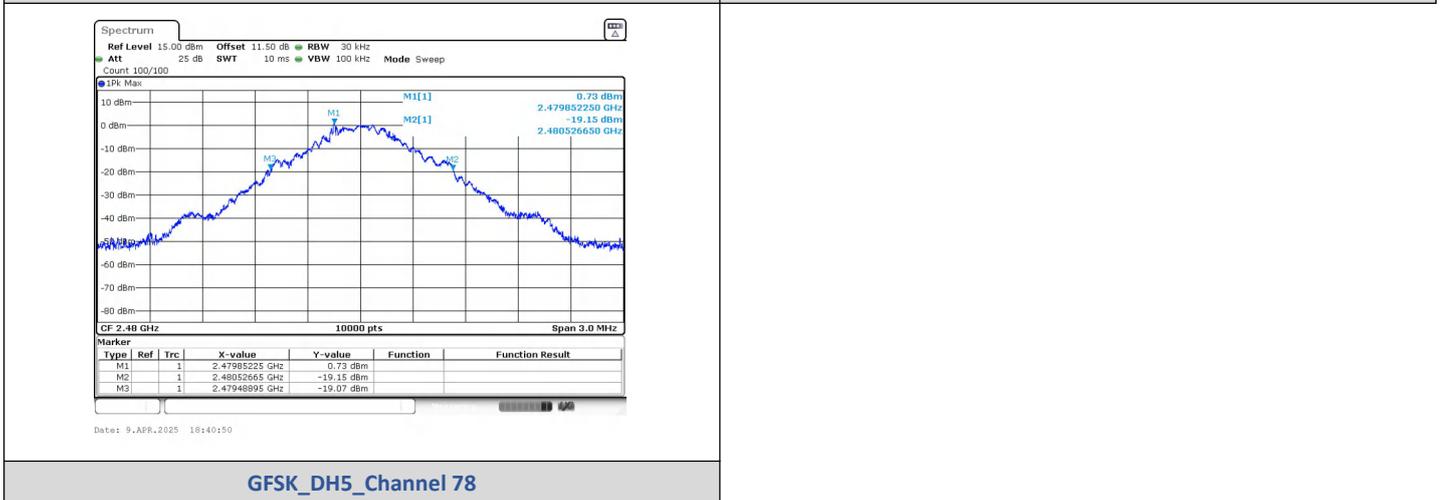
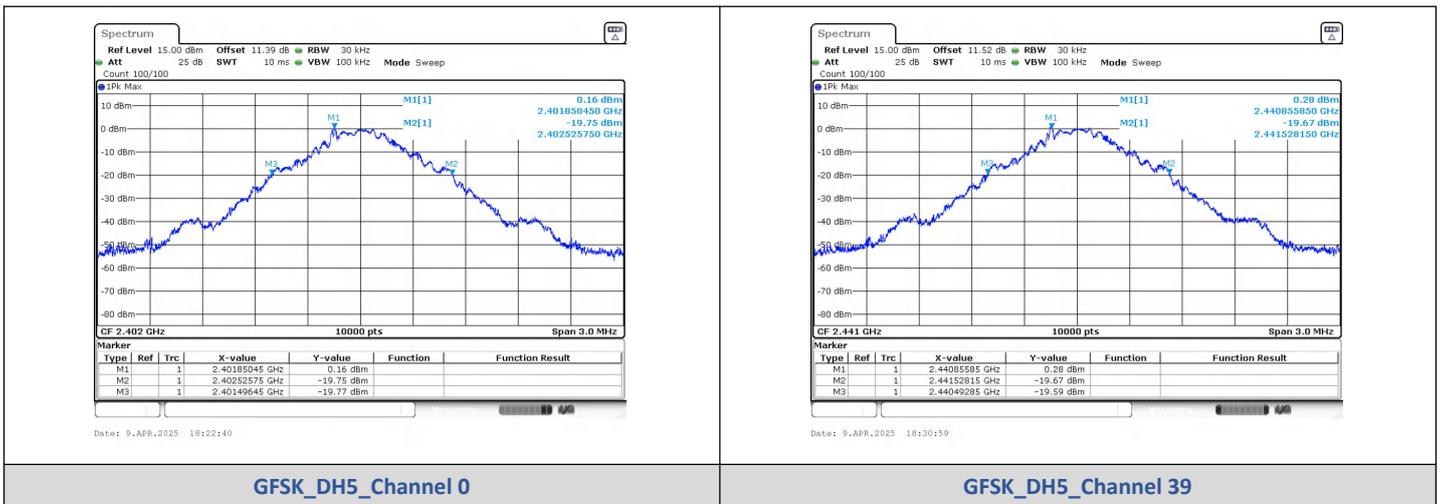
5) 20dB Bandwidth

Test Result

Left:

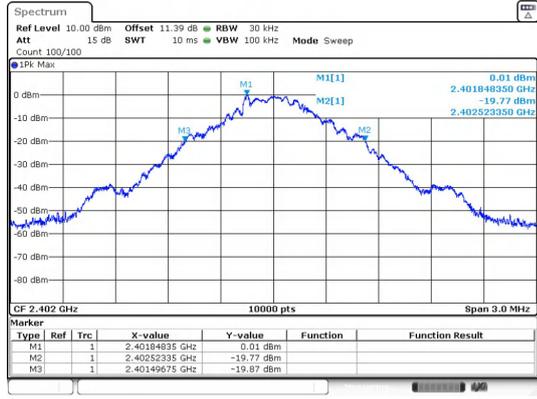
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.03
	39	2441 MHz	1.03
	78	2480 MHz	1.03

Test Graphs



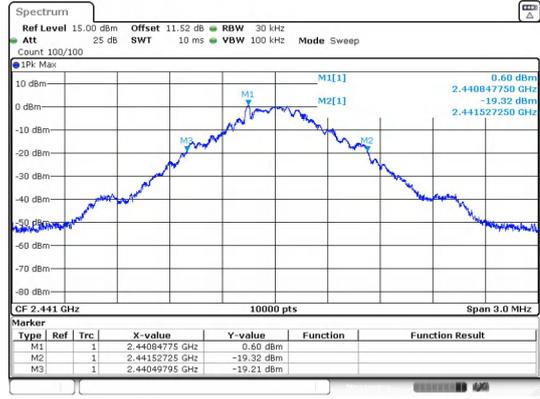
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.07
	39	2441 MHz	1.07
	78	2480 MHz	1.07

Test Graphs



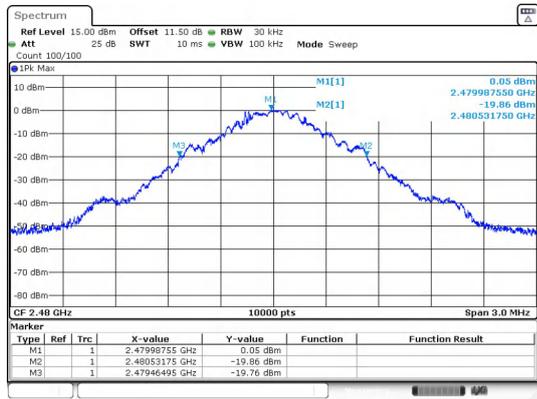
Date: 9.APR.2025 19:02:45

GFSK_DH5_Channel 0



Date: 9.APR.2025 19:17:14

GFSK_DH5_Channel 39



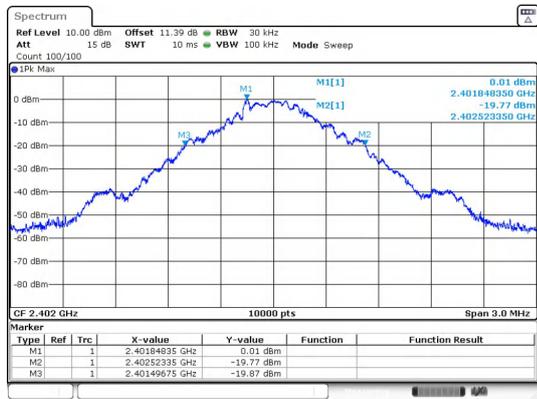
Date: 9.APR.2025 19:19:11

GFSK_DH5_Channel 78

Right:

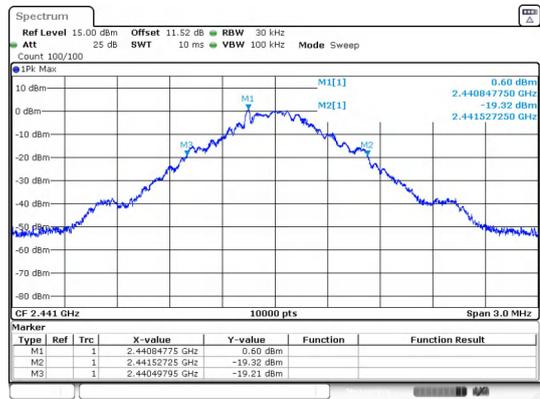
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.07
	39	2441 MHz	1.07
	78	2480 MHz	1.07

Test Graphs



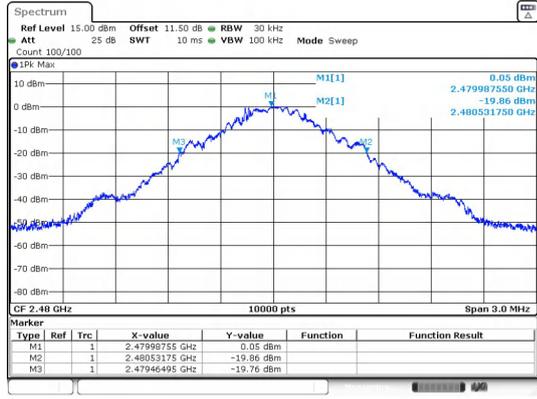
Date: 9.APR.2025 19:02:45

GFSK_DH5_Channel 0



Date: 9.APR.2025 19:17:14

GFSK_DH5_Channel 39



GFSK_DH5_Channel 78

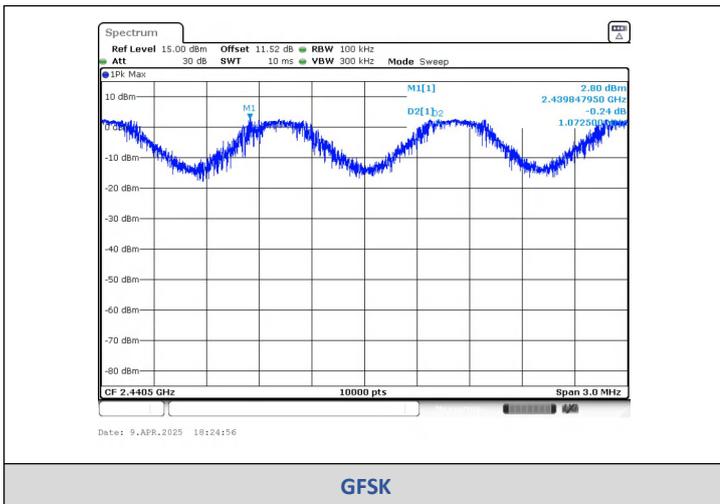
6) Carrier Frequencies Separation

Test Result

Left:

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8479	2440.9205	1.0725	1.03	PASS

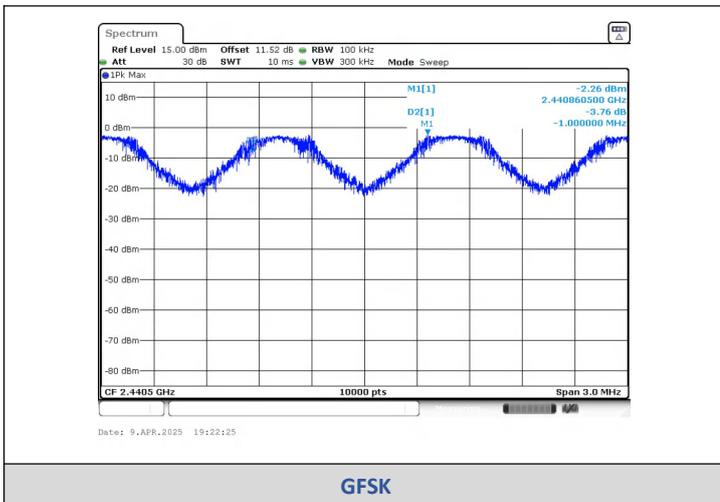
Test Graphs



Right:

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.184	2440.861	1	1.07	PASS

Test Graphs



7) Conducted Out Of Band Emission

Test Result

Left:

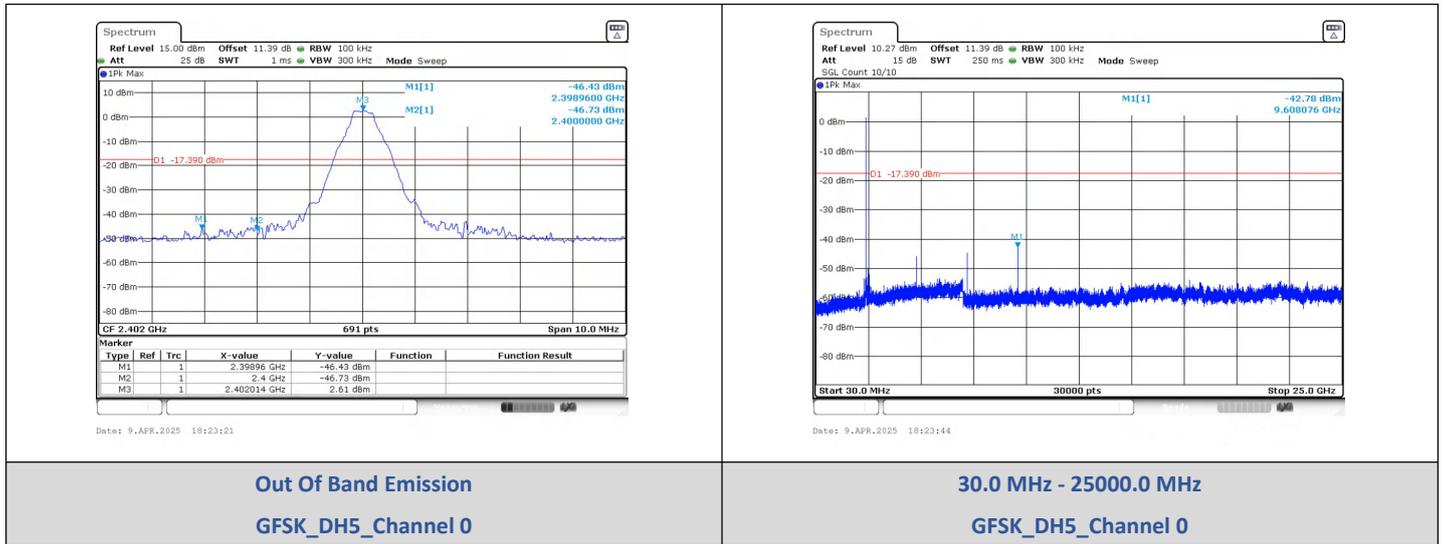
Non-Hopping

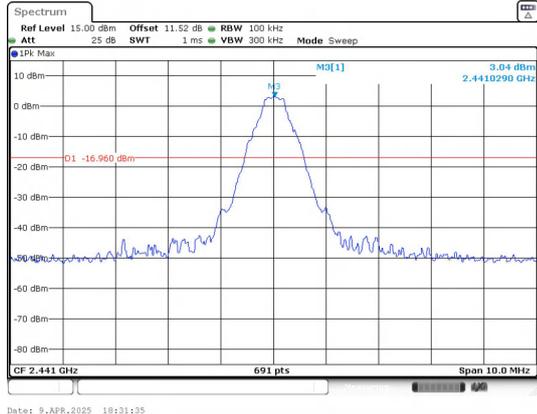
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2398.96	-46.433	-17.39	-29.043	PASS
			2400.00	-46.730	-17.39	-29.340	PASS
			9608.10	-42.776	-17.39	-25.386	PASS
		39	9763.72	-43.993	-16.96	-27.033	PASS
		78	2483.50	-49.110	-16.85	-32.260	PASS
9920.20	-43.514		-16.85	-26.664	PASS		

Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.48	-47.629	-17.42	-30.209	PASS
			2400.00	-48.460	-17.42	-31.040	PASS
			2483.50	-49.050	-16.86	-32.190	PASS

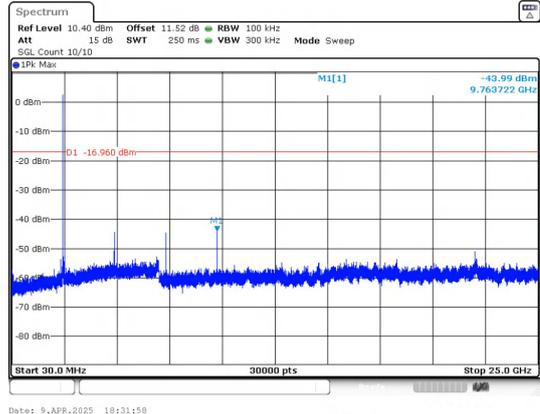
Test Graphs





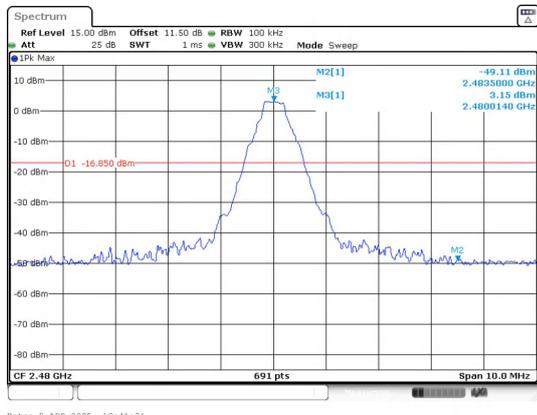
Date: 9.APR.2025 18:31:35

Out Of Band Emission
GFSK_DH5_Channel 39



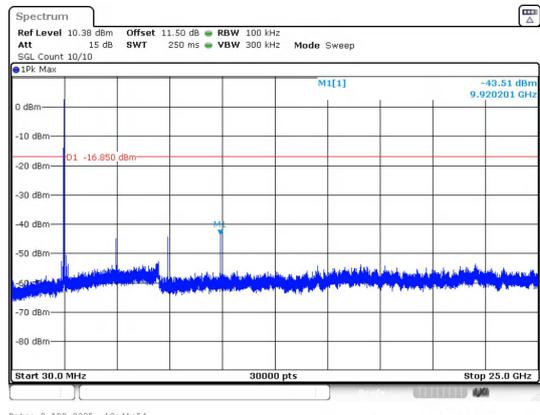
Date: 9.APR.2025 18:31:58

30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



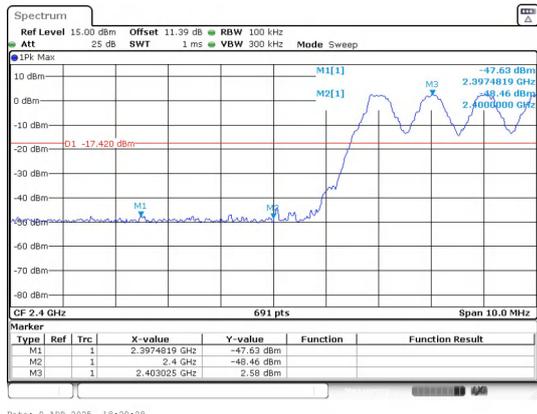
Date: 9.APR.2025 18:41:31

Out Of Band Emission
GFSK_DH5_Channel 78



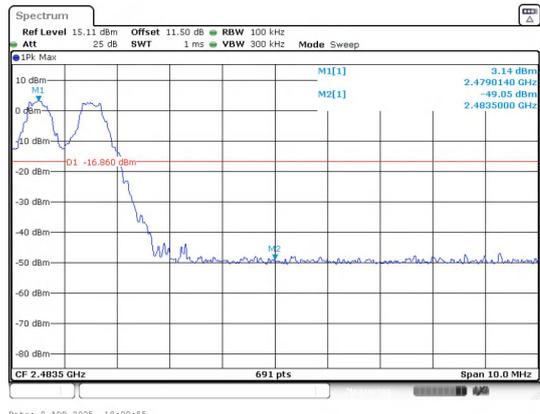
Date: 9.APR.2025 18:41:54

30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



Date: 9.APR.2025 18:29:28

Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



Date: 9.APR.2025 18:29:55

Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping

Right:
Non-Hopping

Modulation	Packet	Channel	OOB Emission	OOB Emission	Limit	Over Limit	Result
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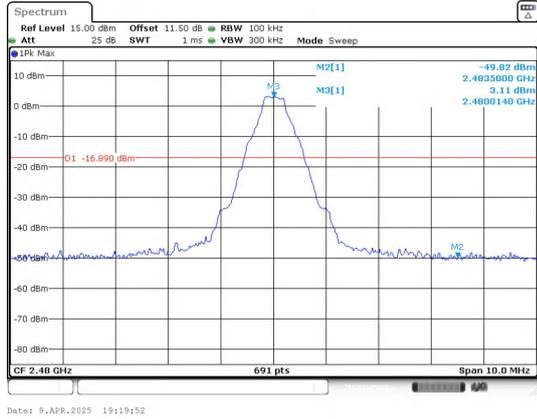
			Frequency (MHz)	Level (dBm)	(dBm)	(dB)	
GFSK	DH5	0	2400.00	-47.680	-17.69	-29.990	PASS
			9608.08	-41.238	-17.69	-23.548	PASS
		39	7323.32	-44.613	-17.22	-27.393	PASS
		78	2483.50	-49.820	-16.89	-32.930	PASS
			4960.33	-43.127	-16.89	-26.237	PASS

Hopping

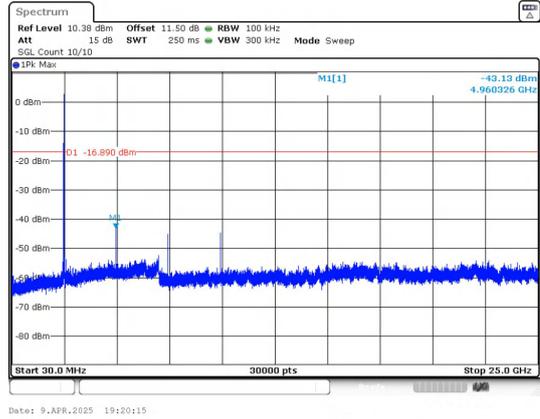
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.77	-48.597	-17.81	-30.787	PASS
			2400.00	-50.640	-17.81	-32.830	PASS
			2483.50	-50.060	-17.29	-32.770	PASS

Test Graphs

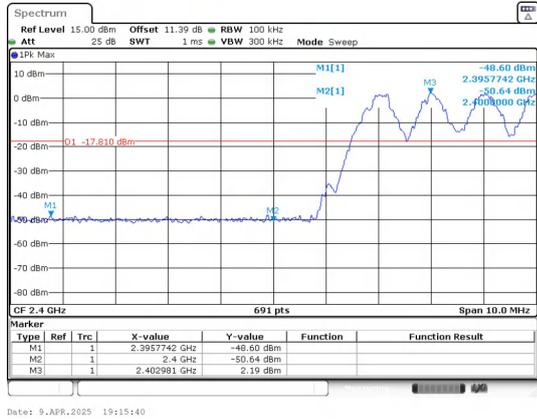
<p>Out Of Band Emission GFSK_DH5_Channel 0</p>	<p>30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 0</p>
<p>Out Of Band Emission GFSK_DH5_Channel 39</p>	<p>30.0 MHz - 25000.0 MHz GFSK_DH5_Channel 39</p>



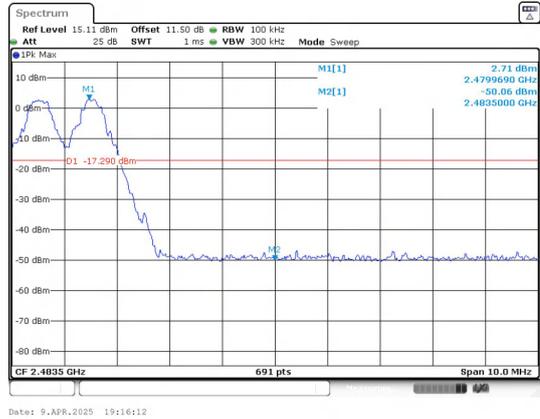
Out Of Band Emission
GFSK_DH5_Channel 78



30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping

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