

Appendix Report

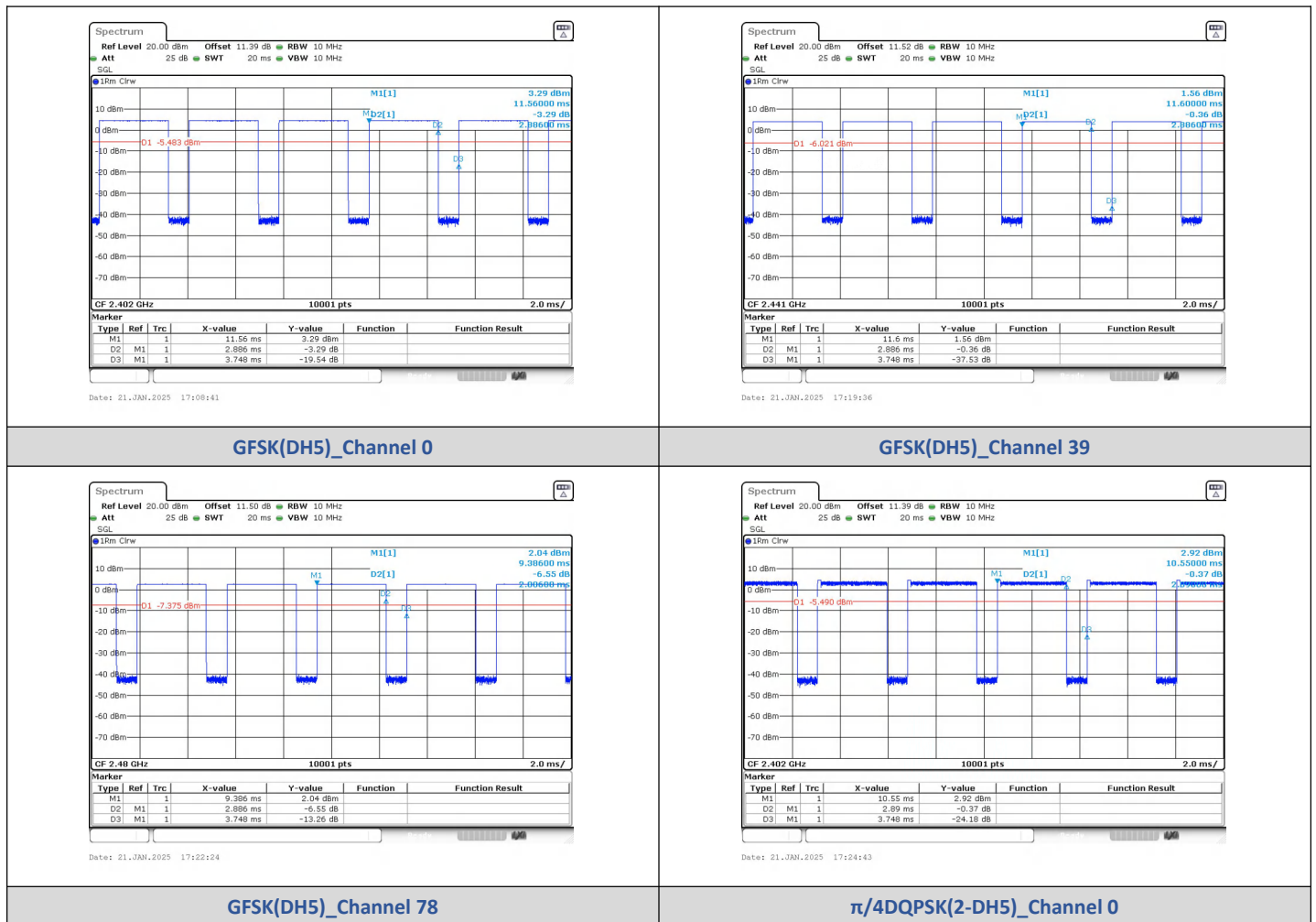
Report No.:	CISRR25011716204
Test Engineer:	Mark Fu
Supervised by:	Rory Huang

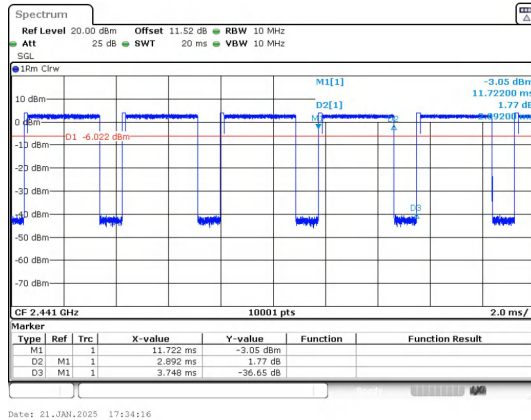
1) Duty Cycle

Test Result

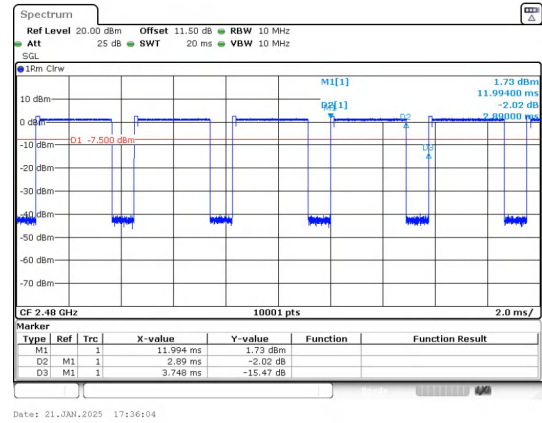
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.886	3.748	77.00	0.7700	1.1351	0.3465
		39	2.886	3.748	77.00	0.7700	1.1351	0.3465
		78	2.886	3.748	77.00	0.7700	1.1351	0.3465
$\pi/4$ DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.3460
		39	2.892	3.748	77.16	0.7716	1.1261	0.3458
		78	2.890	3.748	77.11	0.7711	1.1289	0.3460

Test Graphs





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



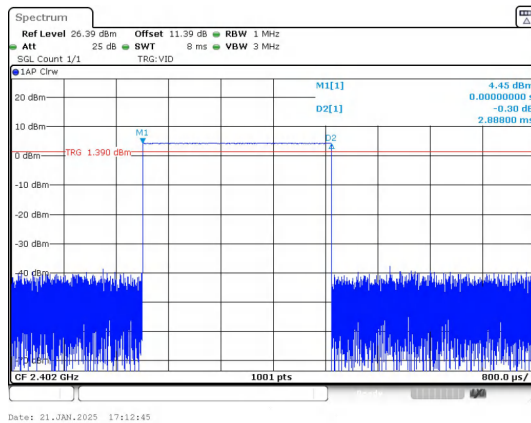
$\pi/4$ DQPSK(2-DH5)_Channel 78

2) Dwell Time

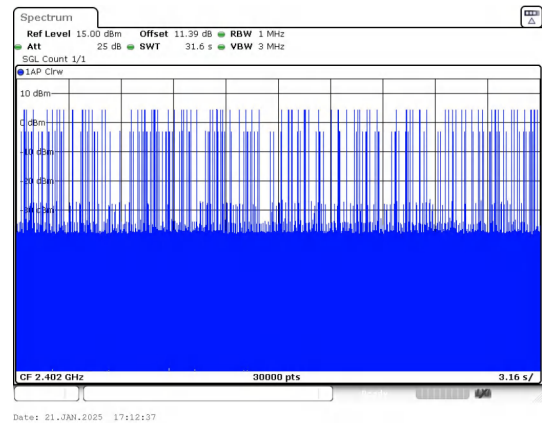
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0	2.888	96	277.25	< 400	PASS
$\pi/4$ DQPSK	2-DH5	(2402MHz)	2.896	118	341.73		PASS

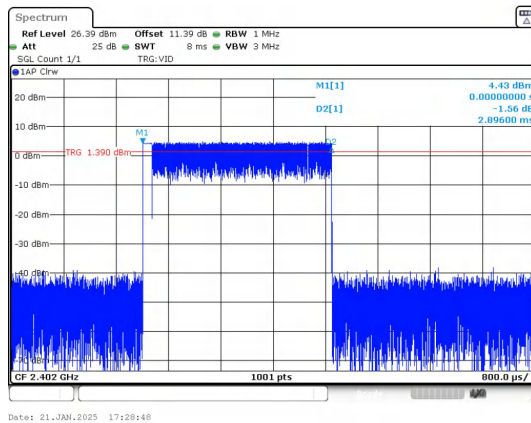
Test Graphs



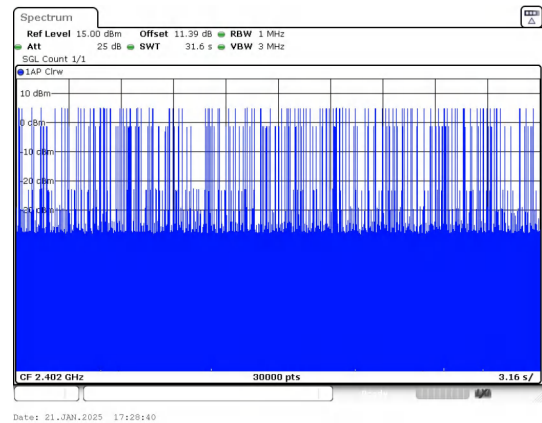
Pulse Width
GFSK_DH5



Number of Pulses in 31.6 seconds
GFSK_DH5



Pulse Width
 $\pi/4$ DQPSK_2-DH5



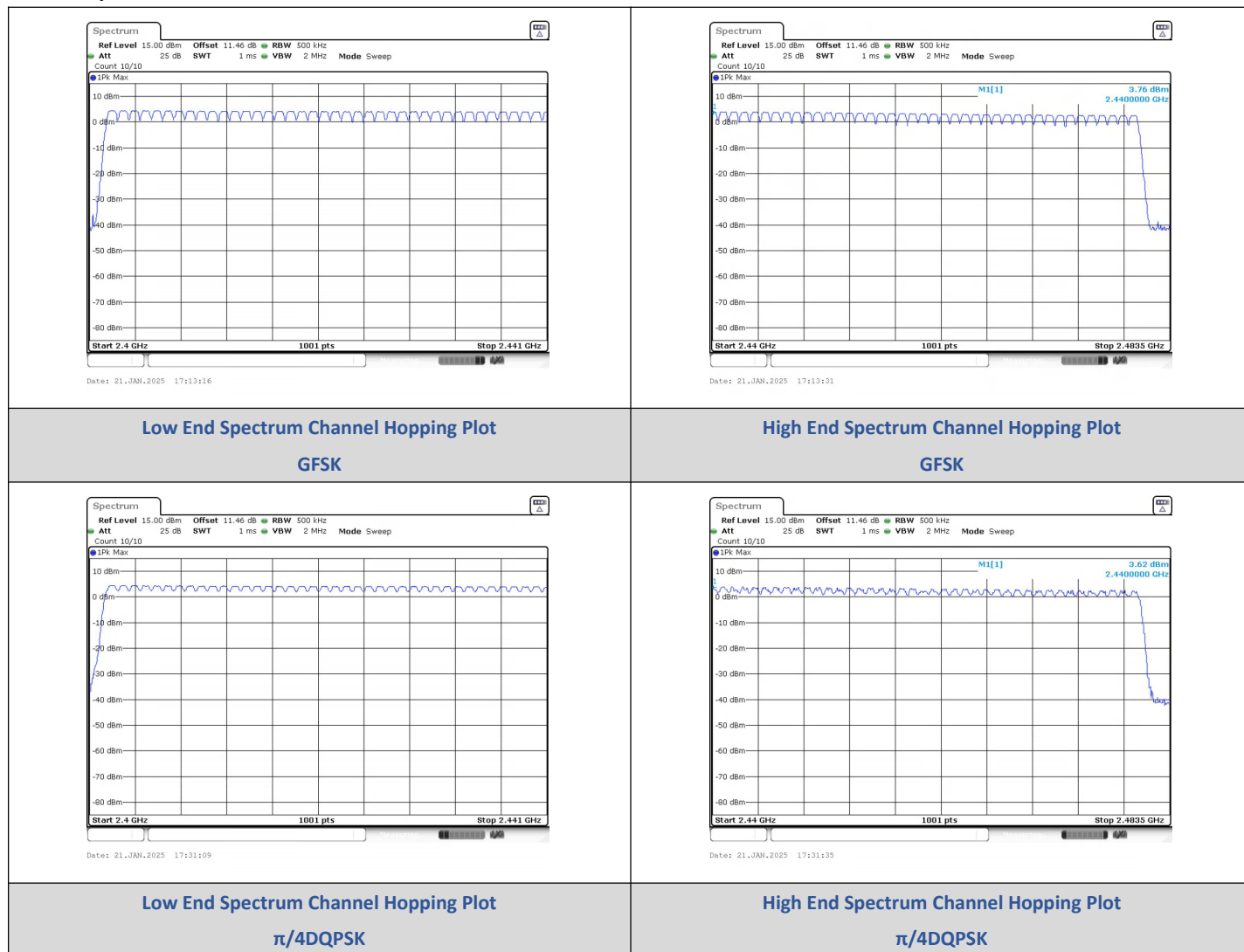
Number of Pulses in 31.6 seconds
 $\pi/4$ DQPSK_2-DH5

3) 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

Test Graphs

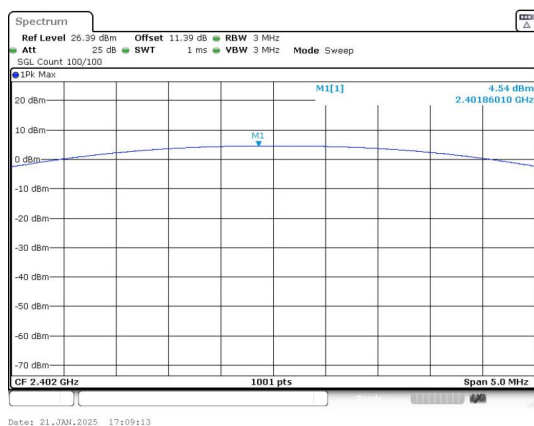


4) Conducted Output Power

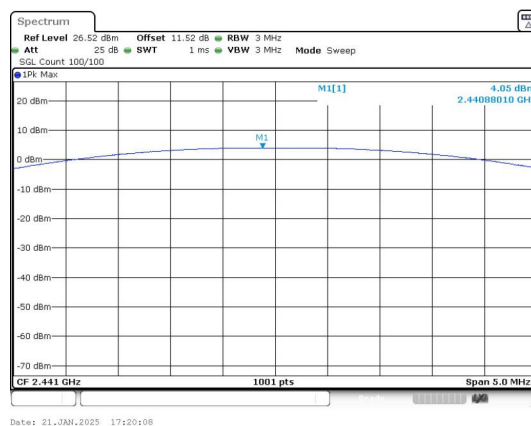
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	4.54	2.84	≤30	PASS
		39	4.05	2.54		PASS
		78	2.69	1.86		PASS
$\pi/4$ DQPSK	2-DH5	0	5.34	3.42	≤20.97	PASS
		39	4.84	3.05		PASS
		78	3.43	2.20		PASS

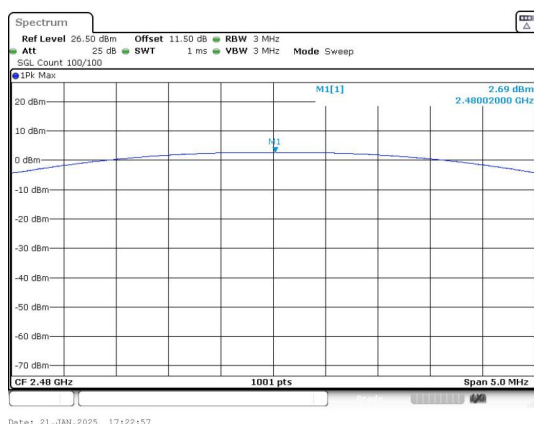
Test Graphs



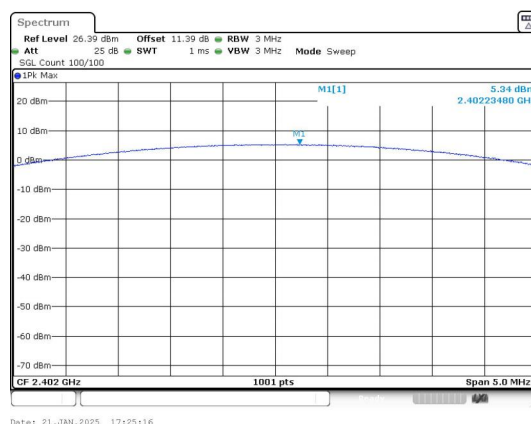
Peak Output Power
GFSK_Channel 0



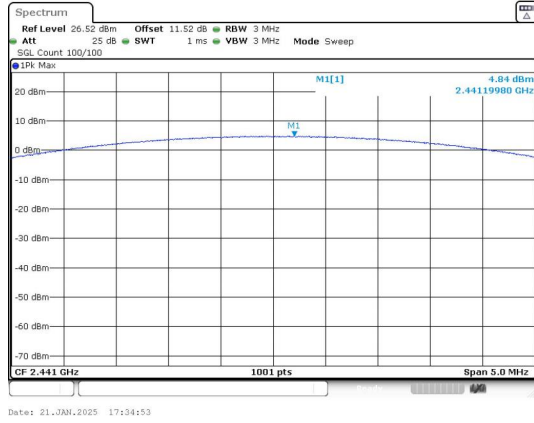
Peak Output Power
GFSK_Channel 39



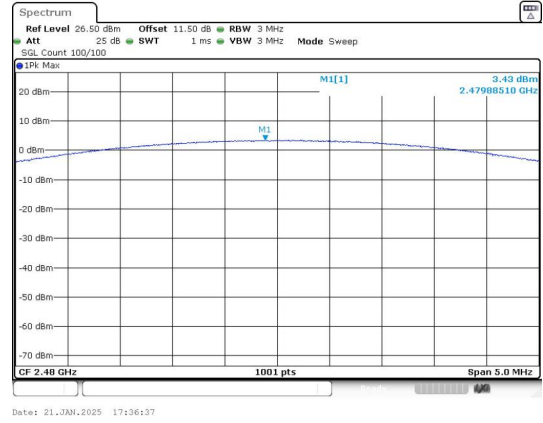
Peak Output Power
GFSK_Channel 78



Peak Output Power
 $\pi/4$ DQPSK_Channel 0



Peak Output Power
 $\pi/4$ DQPSK_Channel 39



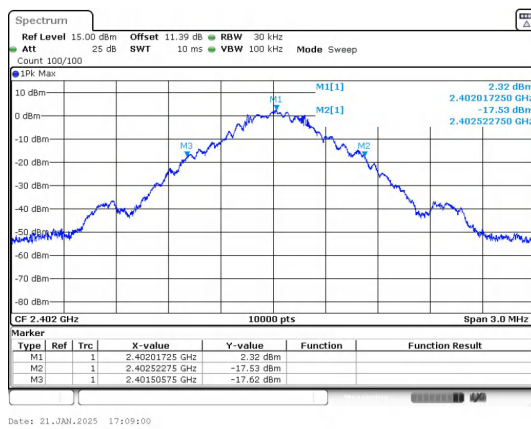
Peak Output Power
 $\pi/4$ DQPSK_Channel 78

5) 20dB Bandwidth

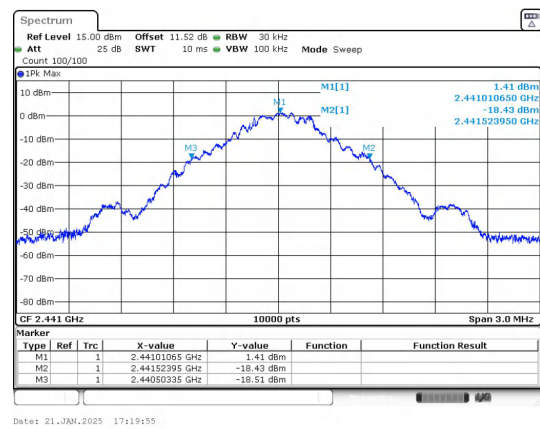
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.010
	39	2441 MHz	1.020
	78	2480 MHz	1.010
$\pi/4$ DQPSK	0	2402 MHz	1.300
	39	2441 MHz	1.320
	78	2480 MHz	1.310

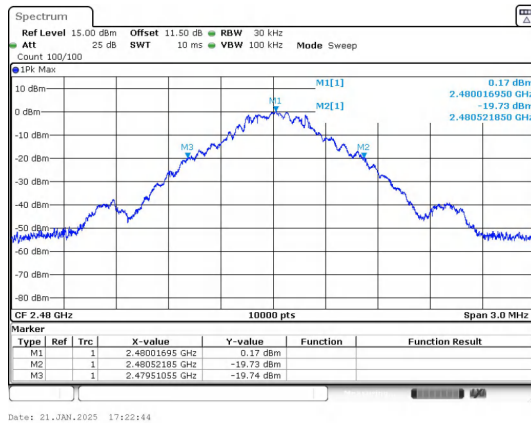
Test Graphs



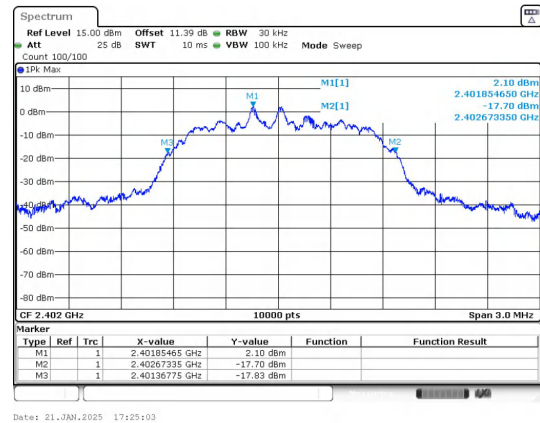
GFSK_DH5_Channel 0

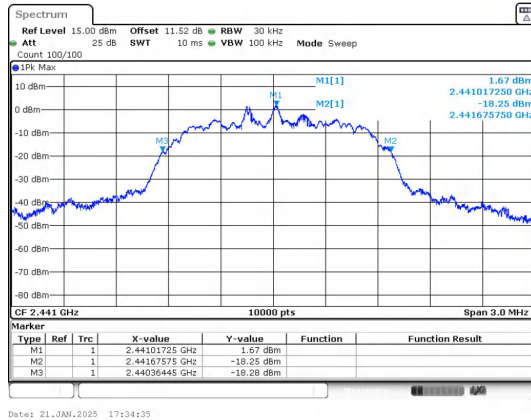


GFSK_DH5_Channel 39

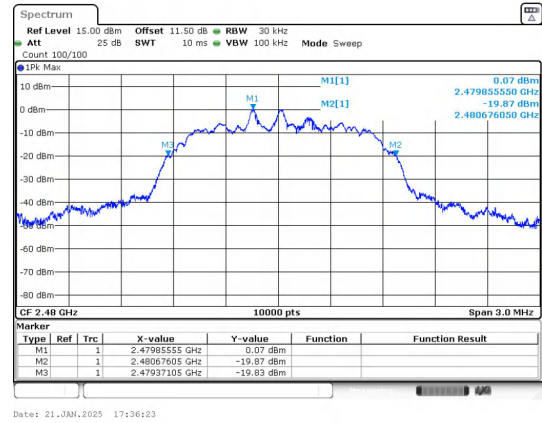


GFSK_DH5_Channel 78


 $\pi/4$ DQPSK_2-DH5_Channel 0



$\pi/4$ DQPSK_2-DH5_Channel 39



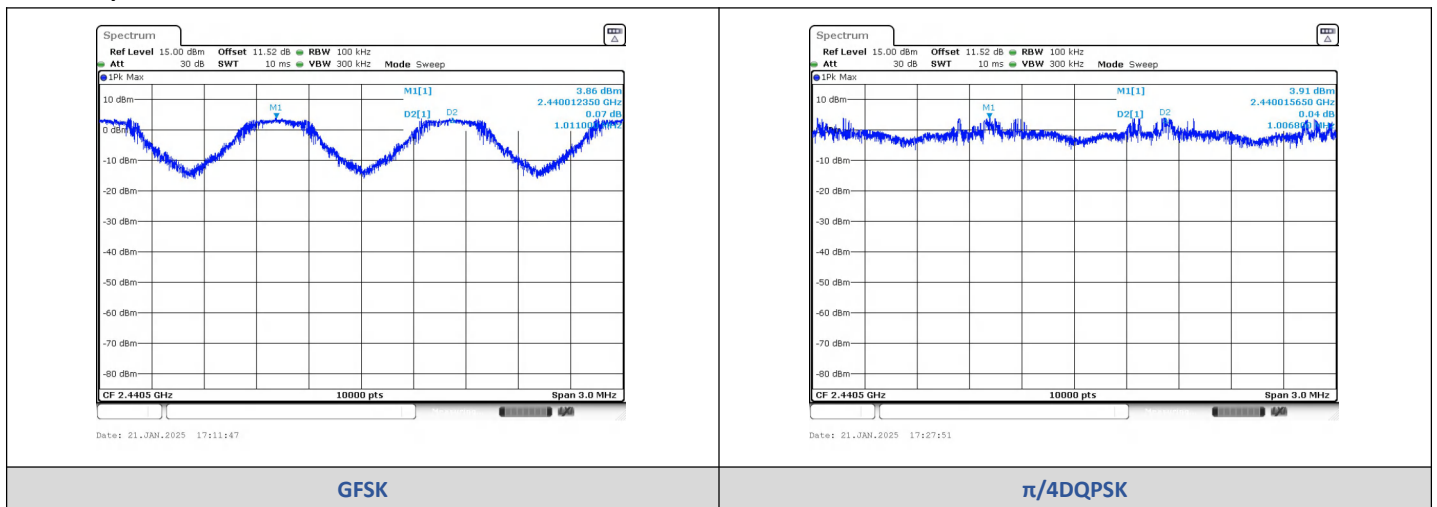
$\pi/4$ DQPSK_2-DH5_Channel 78

6) Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2440.0123	2441.0233	1.0110	1.01	PASS
$\pi/4$ DQPSK	2-DH5	2440.0156	2441.0224	1.0068	0.867	PASS

Test Graphs



7) Conducted Out Of Band Emission

Test Result

Non-Hopping

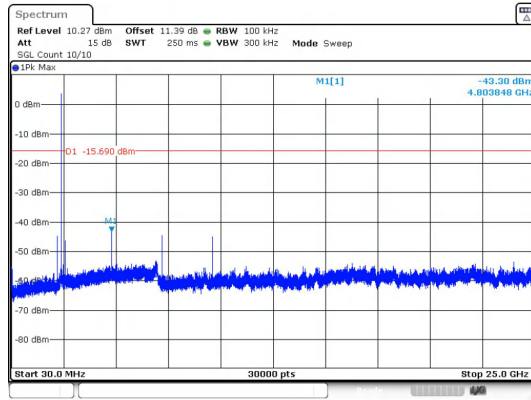
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-47.670	-15.69	-31.980	PASS
			4803.85	-43.296	-15.69	-27.606	PASS
		39	2249.42	-42.565	-16.05	-26.515	PASS
		78	2483.50	-49.640	-17.39	-32.250	PASS
			9920.20	-40.571	-17.39	-23.181	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-44.560	-15.76	-28.800	PASS
			9608.08	-44.119	-15.76	-28.359	PASS
		39	9763.72	-42.833	-16.12	-26.713	PASS
		78	2483.50	-50.990	-17.63	-33.360	PASS
			9920.20	-40.027	-17.63	-22.397	PASS

Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2398.42	-47.497	-15.63	-31.867	PASS
			2400.00	-48.830	-15.63	-33.200	PASS
			2483.50	-48.840	-17.67	-31.170	PASS
$\pi/4$ DQPSK	2-DH5		2398.08	-48.601	-16.19	-32.411	PASS
			2400.00	-51.570	-16.19	-35.380	PASS
			2483.50	-49.500	-17.55	-31.950	PASS

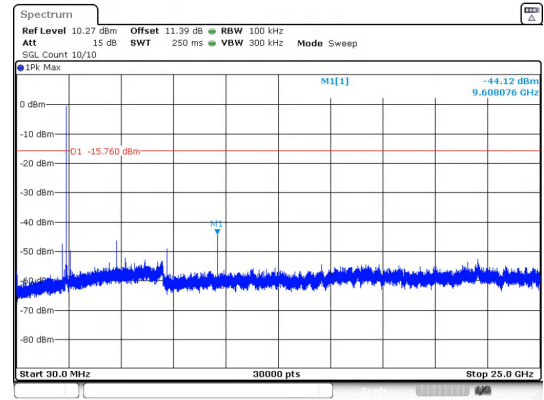
Test Graphs

Out Of Band Emission GFSK_DH5_Channel 0	Out Of Band Emission $\pi/4$DQPSK_2-DH5_Channel 0
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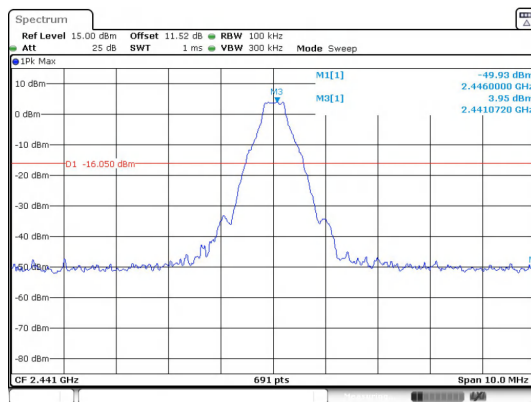
Date: 21.JAN.2025 17:38:52

30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



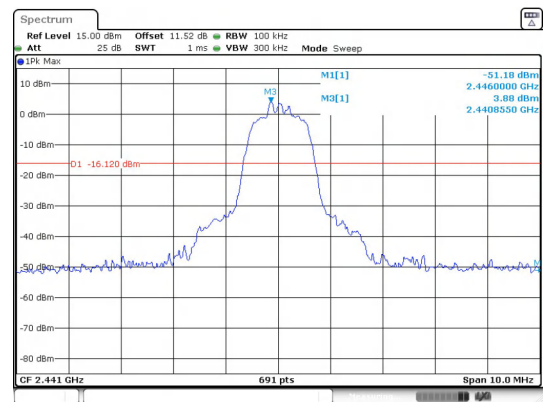
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30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



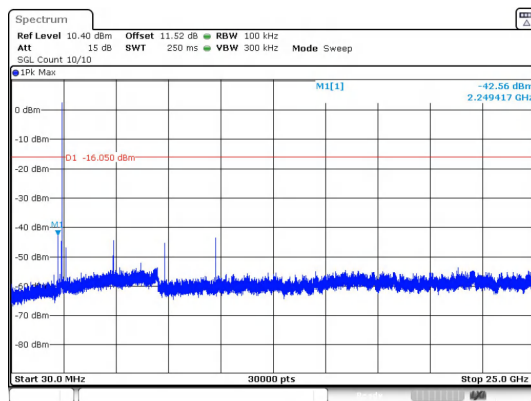
Date: 21.JAN.2025 17:20:26

Out Of Band Emission
GFSK_DH5_Channel 39



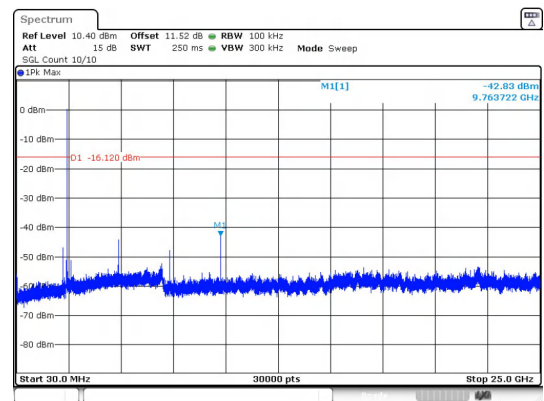
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Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



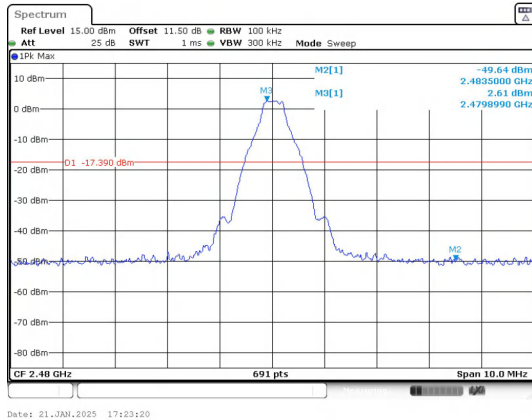
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30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39

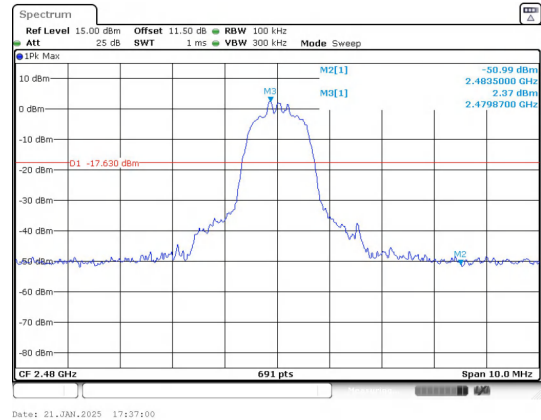


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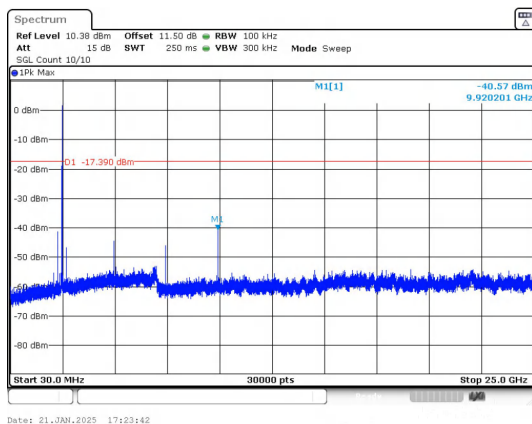
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



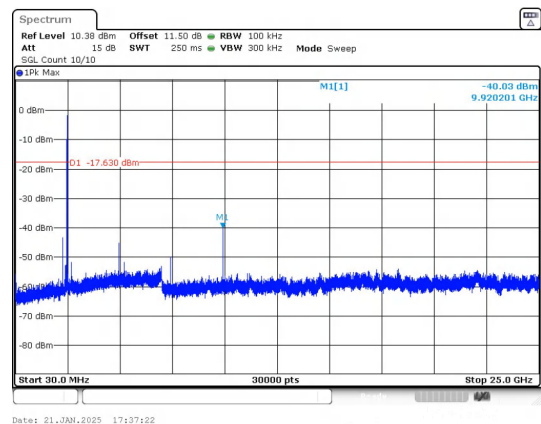
Out Of Band Emission
GFSK_DH5_Channel 78



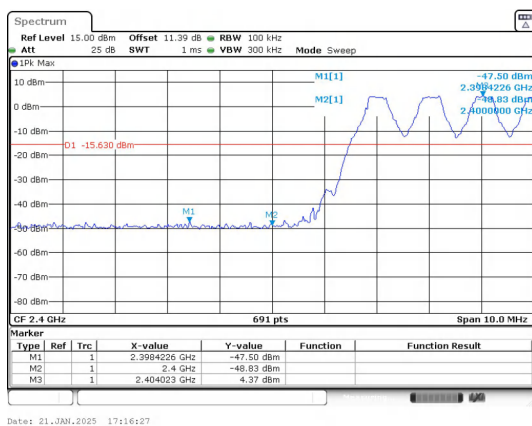
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



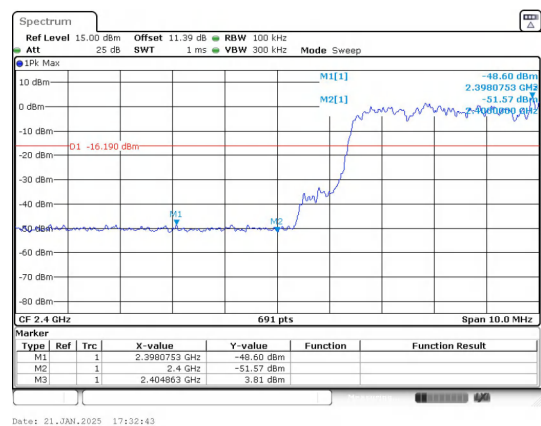
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



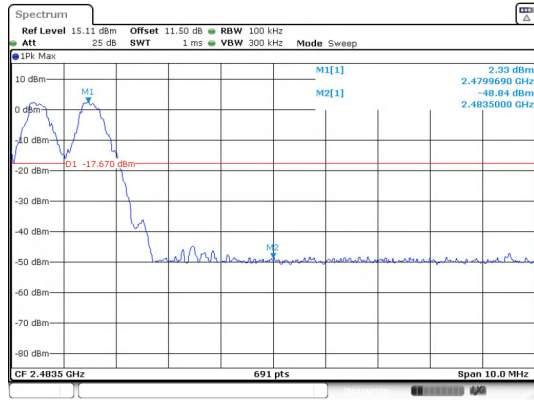
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



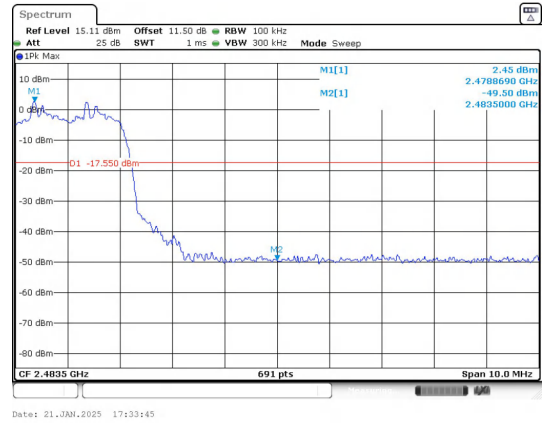
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



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

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