

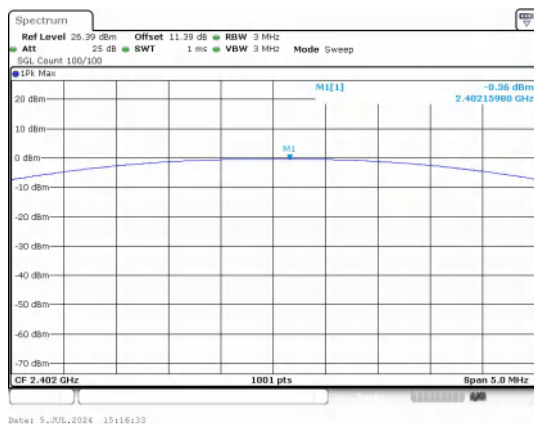
Appendix A

Report No.:	CISRR240625185
FCC ID:	2BG83-JX-05PRO
Product Name:	Intelligent clicker
Model No.:	JX-05pro
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

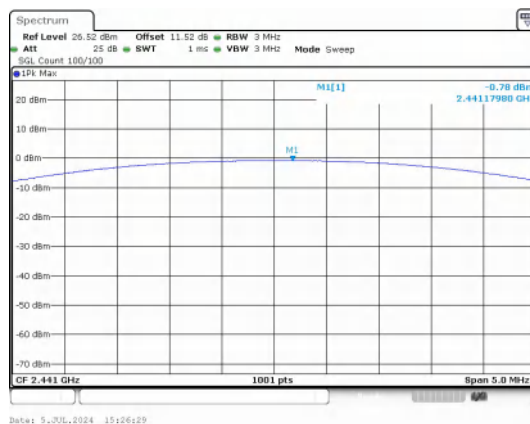
1) Conducted Peak Output Power

Test Result

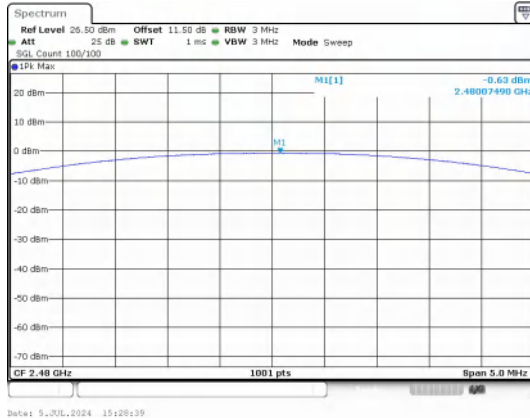
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-0.36	0.92	30	PASS
		39	-0.78	0.84		PASS
		78	-0.63	0.87		PASS
$\pi/4$ DQPSK	2-DH5	0	0.01	1.00	20.97	PASS
		39	-0.35	0.92		PASS
		78	-0.07	0.98		PASS
8DPSK	3-DH5	0	0.19	1.04		PASS
		39	-0.26	0.94		PASS
		78	0.11	1.03		PASS



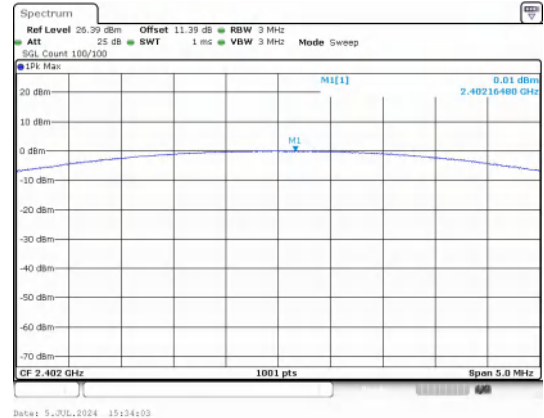
Peak Output Power
GFSK_Channel 0



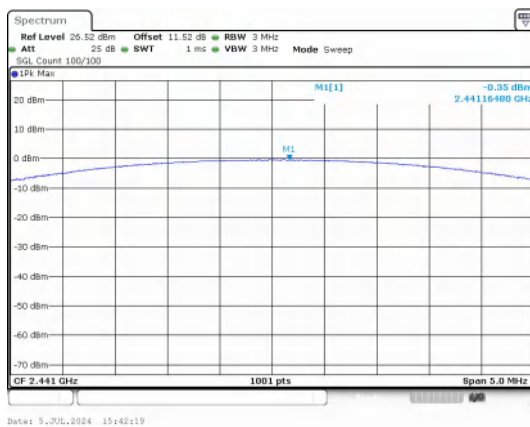
Peak Output Power
GFSK_Channel 39



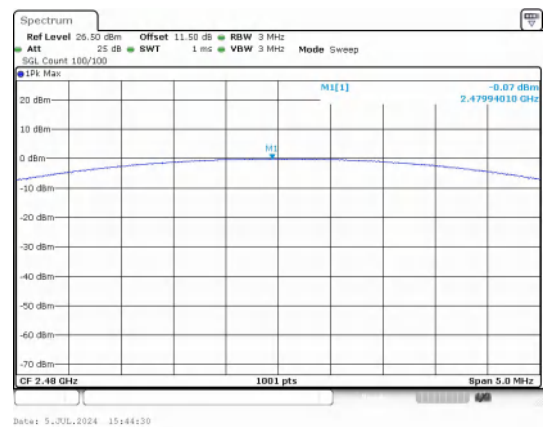
**Peak Output Power
GFSK_Channel 78**



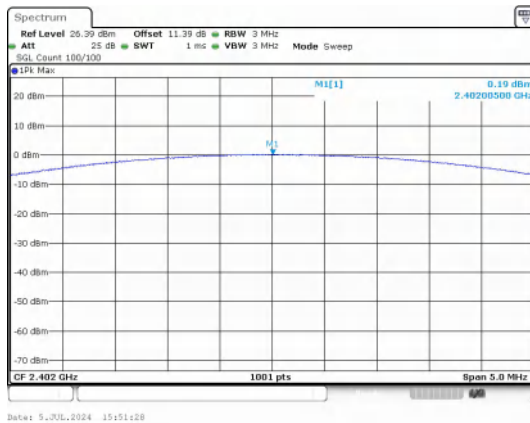
**Peak Output Power
 $\pi/4$ DQPSK_Channel 0**



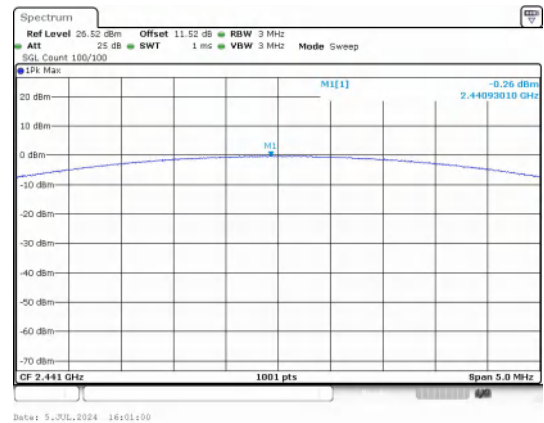
**Peak Output Power
 $\pi/4$ DQPSK_Channel 39**



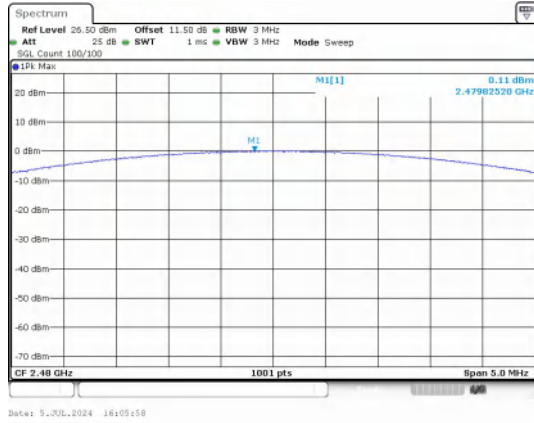
**Peak Output Power
 $\pi/4$ DQPSK_Channel 78**



**Peak Output Power
8DPSK_Channel 0**



**Peak Output Power
8DPSK_Channel 39**



Peak Output Power
8DPSK_Channel 78

2) 99% Bandwidth

Test Result

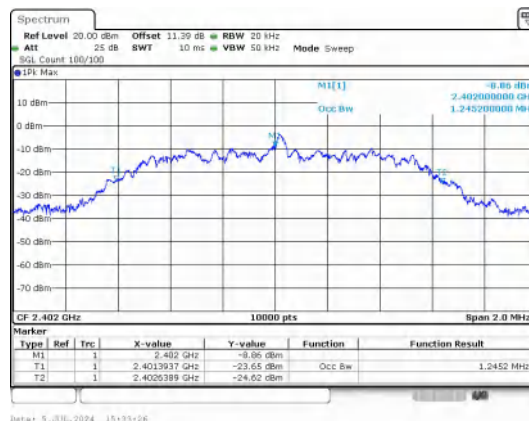
Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.9122
	39	2441	0.9122
	78	2480	0.9002
$\pi/4$ DQPSK	0	2402	1.2452
	39	2441	1.2552
	78	2480	1.2142
8DPSK	0	2402	1.2446
	39	2441	1.2374
	78	2480	1.2242

Test Graphs

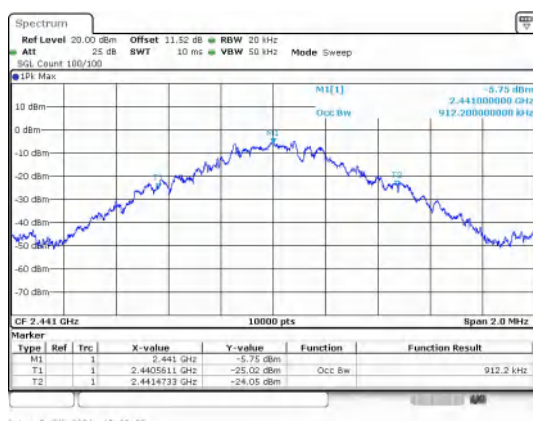


Date: 5-JUL-2024 15:15:56

GFSK_DH5_Channel 0

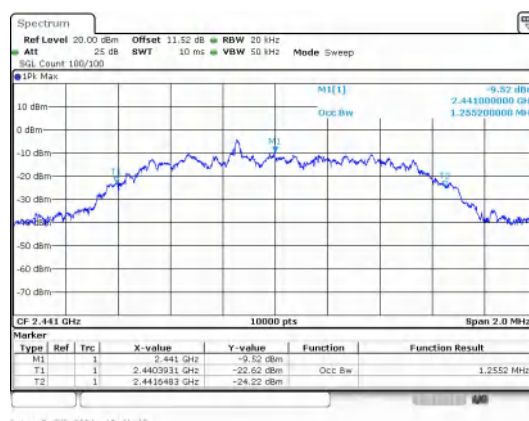


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 $\pi/4$ DQPSK_2-DH5_Channel 0


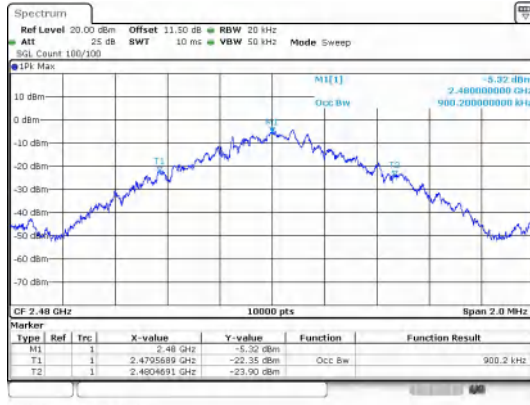
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GFSK_DH5_Channel 39

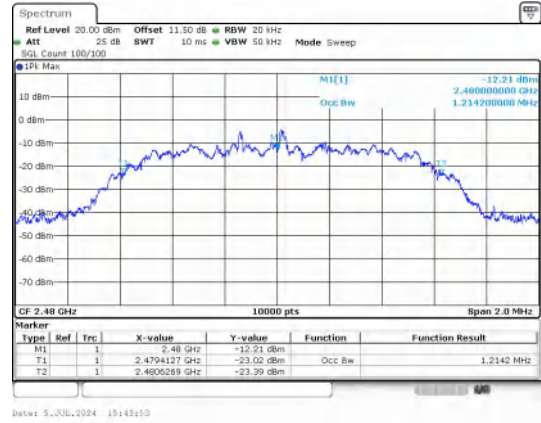


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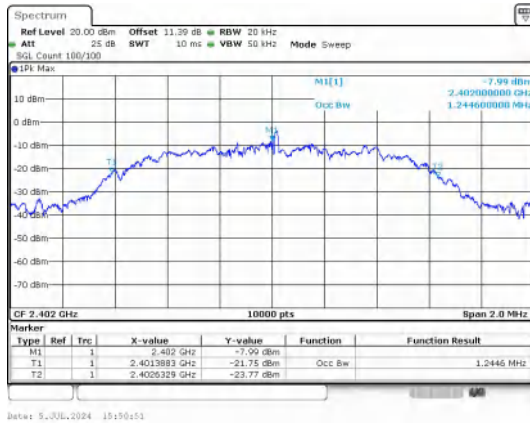
 $\pi/4$ DQPSK_2-DH5_Channel 39



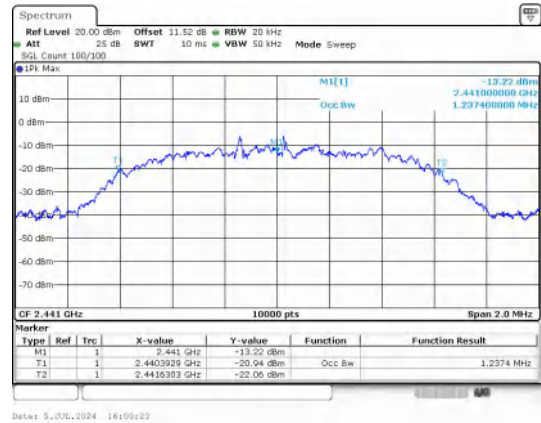
GFSK_DH5_Channel 78



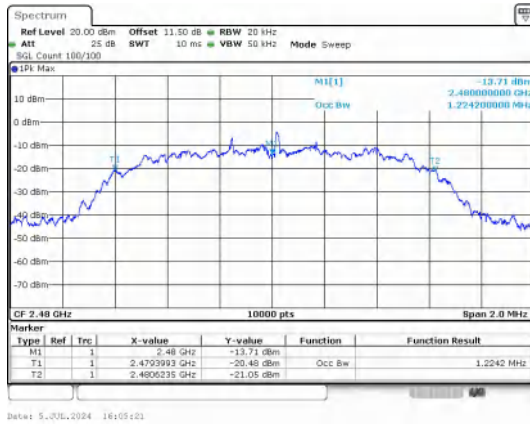
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39

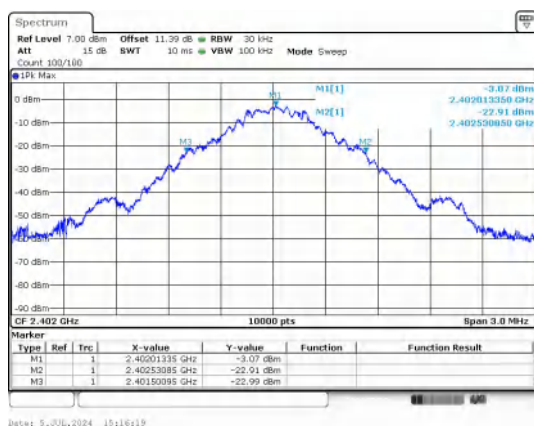


8DPSK_3-DH5_Channel 78

3) 20dB Bandwidth

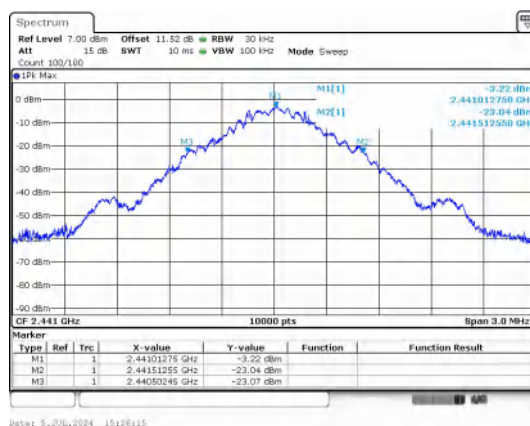
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.030
	39	2441 MHz	1.010
	78	2480 MHz	1.030
$\pi/4$ DQPSK	0	2402 MHz	1.340
	39	2441 MHz	1.330
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.300
	78	2480 MHz	1.290

Test Graphs



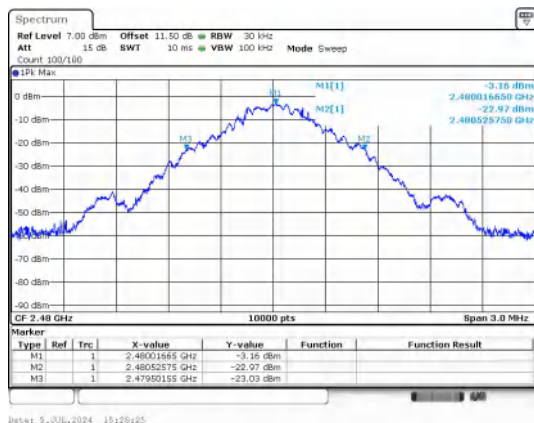
Date: 5-JUL-2024 15:18:19

GFSK_DH5_Channel 0



Date: 5-JUL-2024 15:18:15

GFSK_DH5_Channel 39



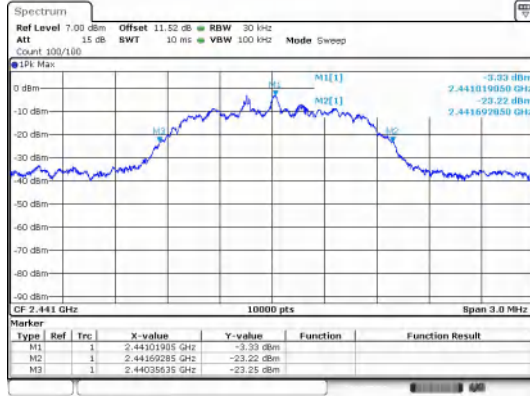
Date: 5-JUL-2024 15:18:25

GFSK_DH5_Channel 78



Date: 5-JUL-2024 15:13:49

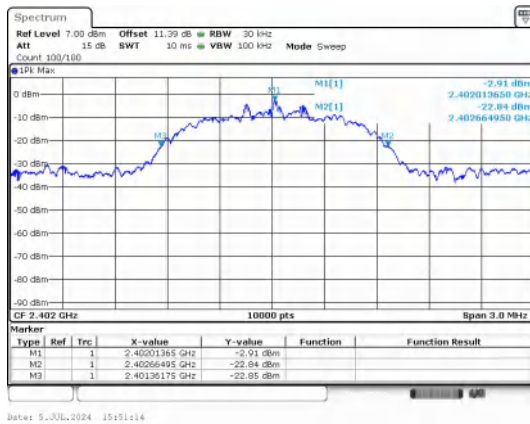
 $\pi/4$ DQPSK_2-DH5_Channel 0



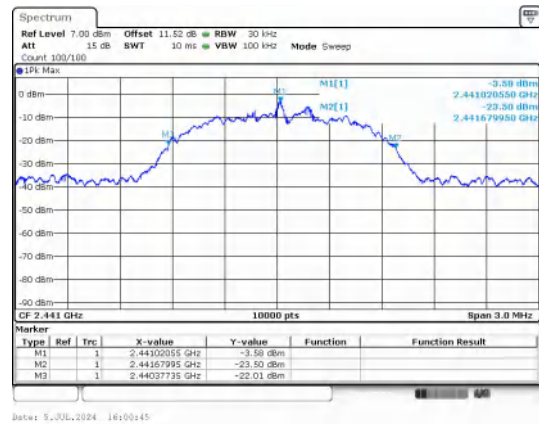
$\pi/4$ DQPSK_2-DH5_Channel 39



$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



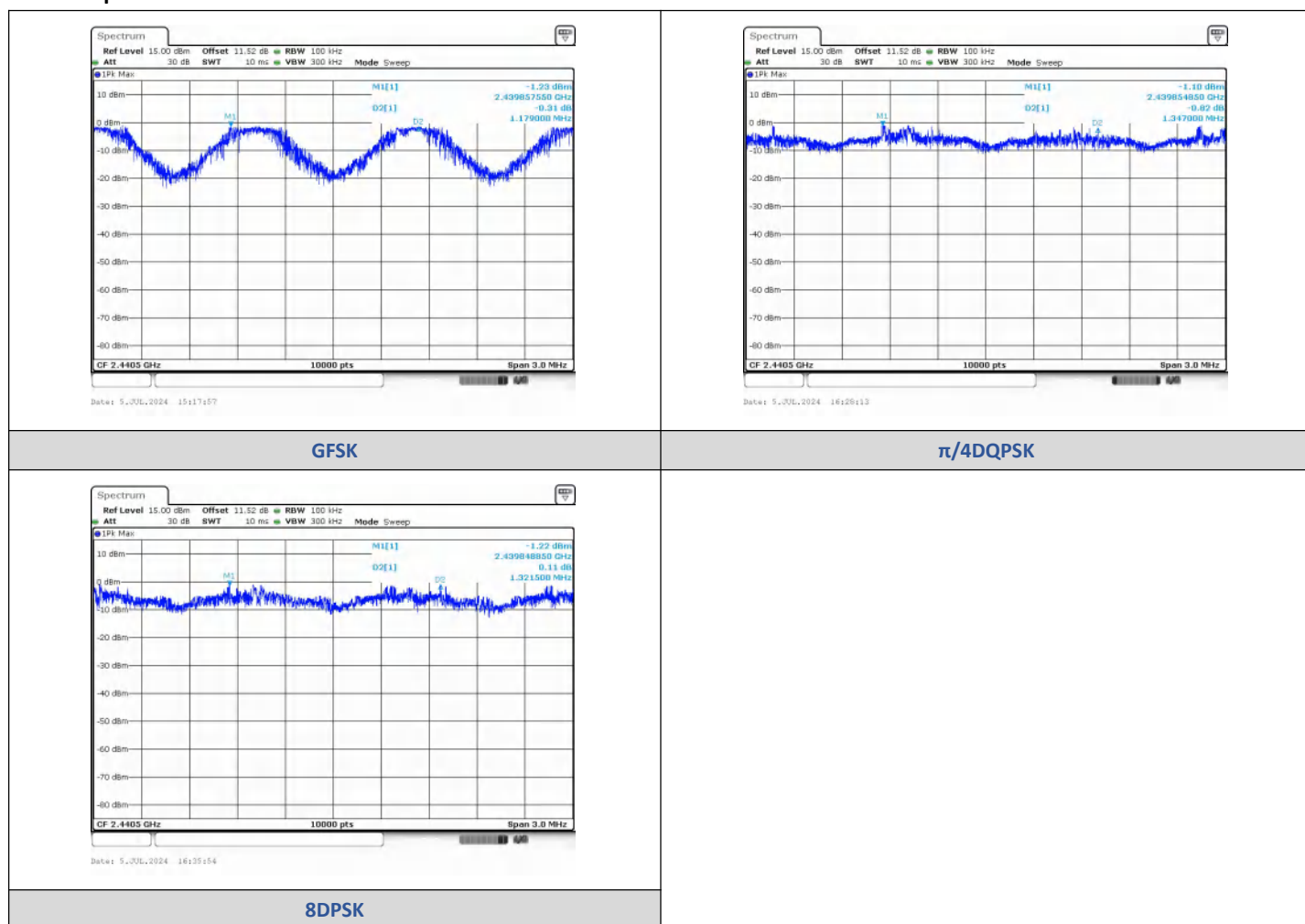
8DPSK_3-DH5_Channel 78

4) Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8576	2441.0365	1.1790	0.912	PASS
$\pi/4$ QPSK	2-DH5	2439.8549	2441.2018	1.3470	0.893	PASS
8DPSK	3-DH5	2439.8488	2441.1703	1.3215	0.867	PASS

Test Graphs



5) Conducted Out Of Band Emission

Test Result

Non-Hopping

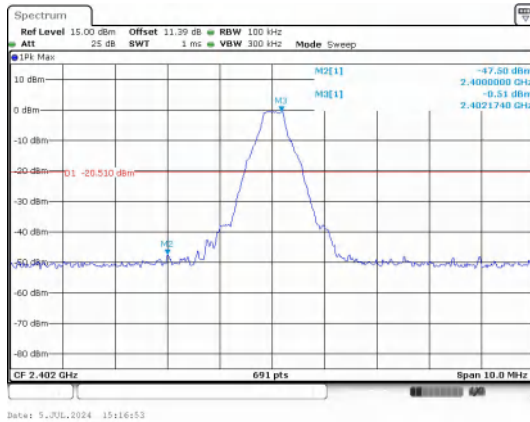
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-47.497	-20.51	-26.987	PASS
			7206.79	-34.501	-20.51	-13.991	PASS
			7322.49	-40.145	-20.99	-19.155	PASS
		39	2483.50	-49.989	-20.84	-29.149	PASS
		78	9920.20	-38.918	-20.84	-18.078	PASS
			2400.00	-41.732	-20.64	-21.092	PASS
$\pi/4$ DQPSK	2-DH5	0	7206.79	-37.441	-20.64	-16.801	PASS
			9763.72	-39.269	-20.99	-18.279	PASS
		39	2483.50	-49.092	-21.05	-28.042	PASS
		78	9920.20	-38.894	-21.05	-17.844	PASS
			2400.00	-39.904	-20.61	-19.294	PASS
8DPSK	3-DH5	0	7206.79	-37.054	-20.61	-16.444	PASS
			9763.72	-39.886	-21.4	-18.486	PASS
		39	2483.50	-50.148	-20.95	-29.198	PASS
		78	9920.20	-38.744	-20.95	-17.794	PASS
			2400.00	-47.497	-20.51	-26.987	PASS

Hopping

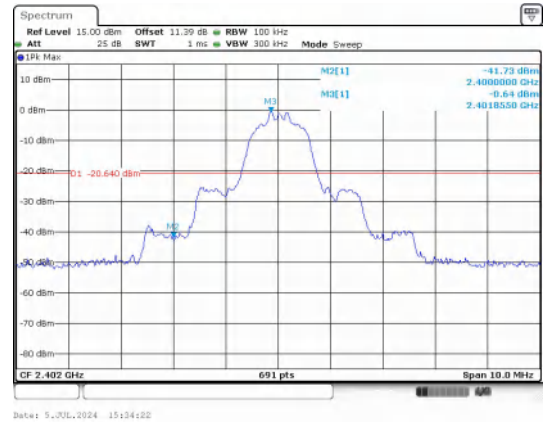
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2396.93	-48.415	-20.54	-27.875	PASS
			2400.00	-50.932	-20.54	-30.392	PASS
			2483.50	-49.337	-20.8	-28.537	PASS
			2395.35	-48.324	-20.41	-27.914	PASS
			2400.00	-49.704	-20.41	-29.294	PASS
			2483.50	-49.683	-21.08	-28.603	PASS
$\pi/4$ DQPSK	2-DH5		2400.00	-43.807	-20.56	-23.247	PASS
			2483.50	-48.891	-22.35	-26.541	PASS
			2400.00	-45.123	-20.56	-24.563	PASS
			2483.50	-50.169	-22.03	-28.139	PASS
8DPSK	3-DH5		2400.00	-41.848	-20.85	-20.998	PASS
			2483.50	-49.894	-21.53	-28.364	PASS
			2400.00	-42.471	-21.0	-21.471	PASS
			2483.50	-49.063	-20.95	-28.113	PASS
			2396.93	-48.415	-20.54	-27.875	PASS

			2400.00	-50.932	-20.54	-30.392	PASS
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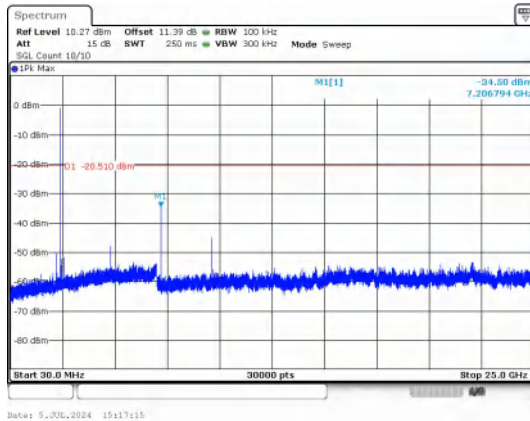
Test Graphs



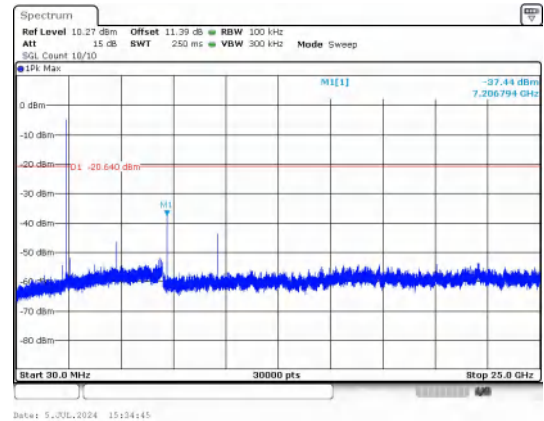
Out Of Band Emission
GFSK_DH5_Channel 0



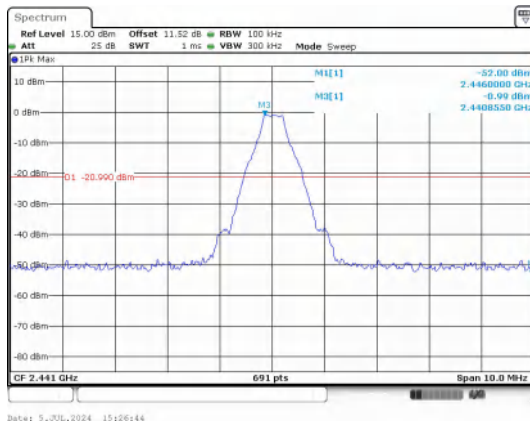
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



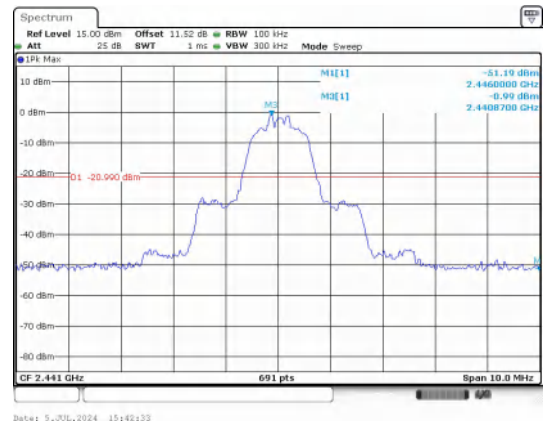
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



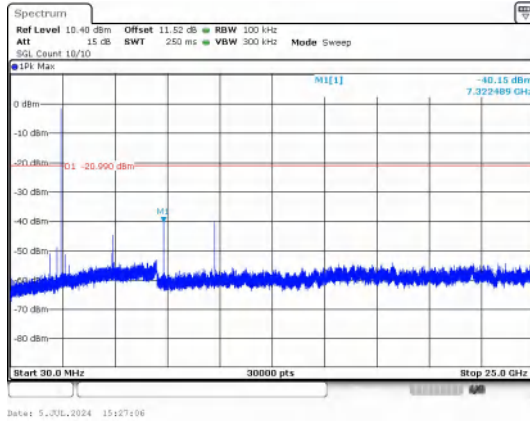
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



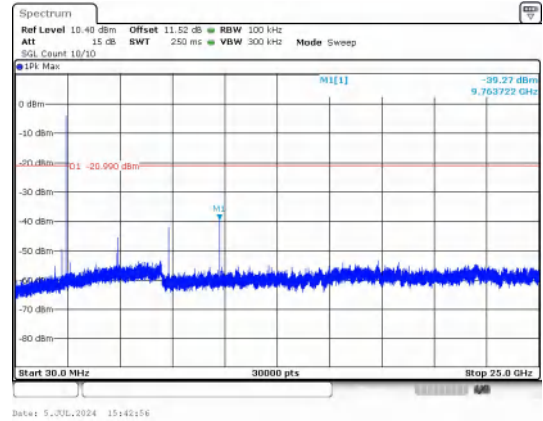
Out Of Band Emission
GFSK_DH5_Channel 39



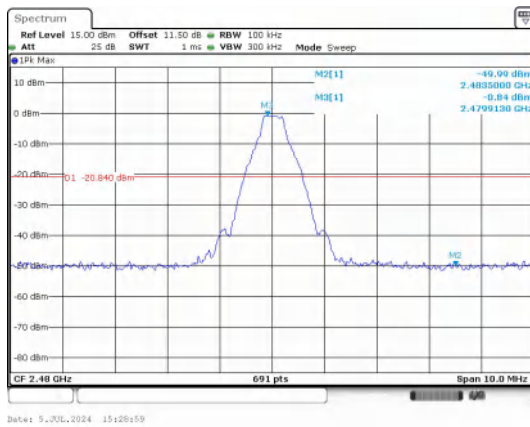
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



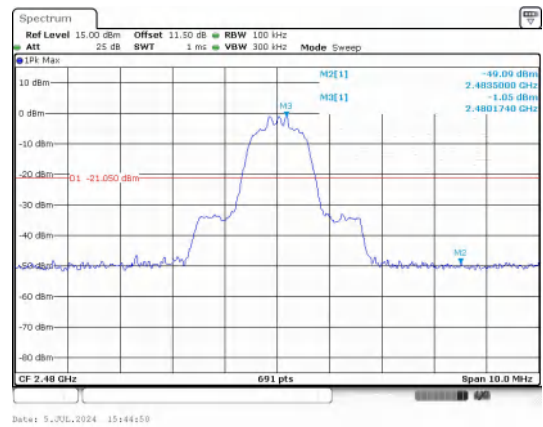
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



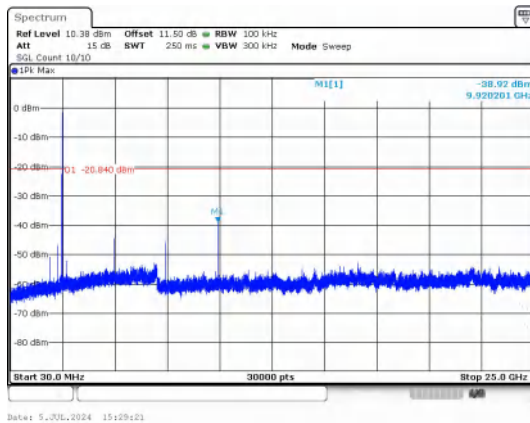
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 $\pi/4$ DQPSK_2-DH5_Channel 39



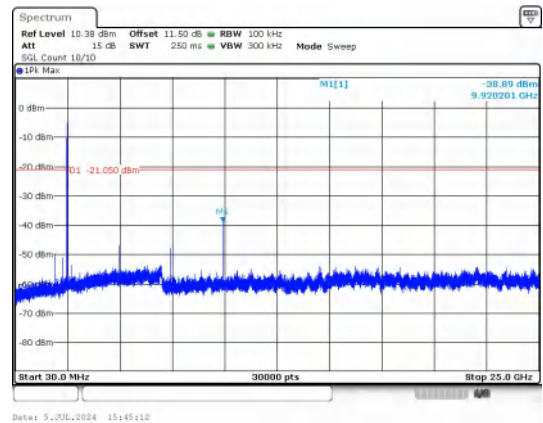
Out Of Band Emission
GFSK_DH5_Channel 78



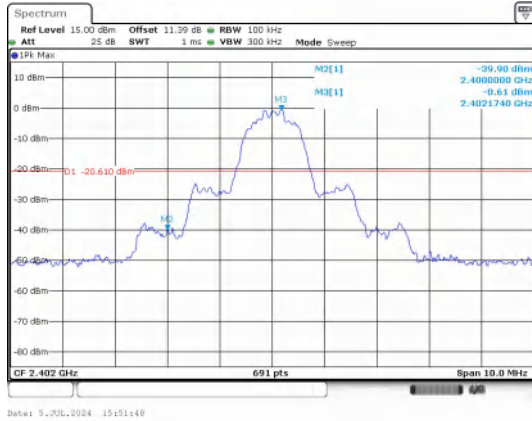
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



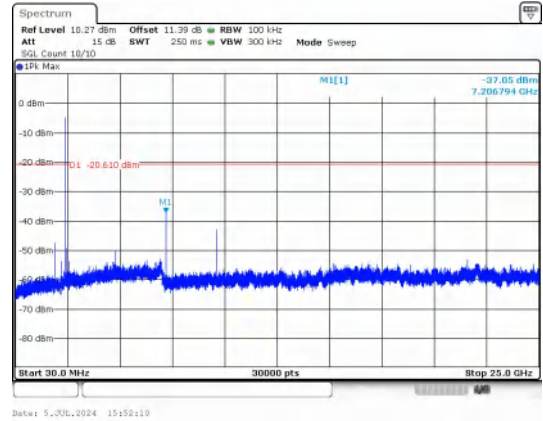
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



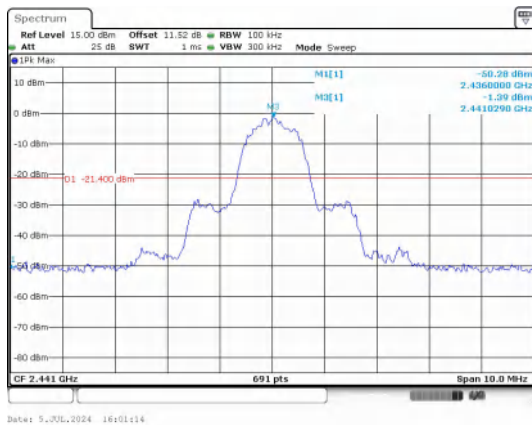
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 $\pi/4$ DQPSK_2-DH5_Channel 78



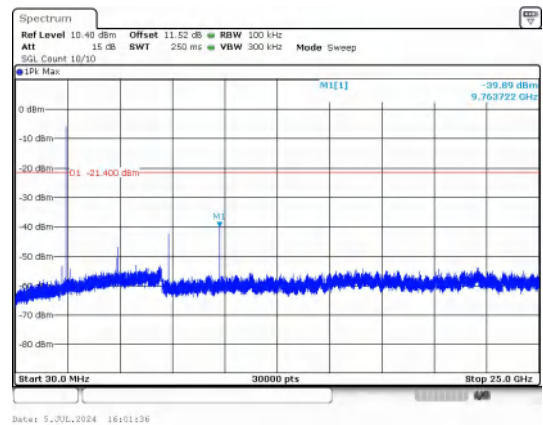
Out Of Band Emission
8DPSK_3-DH5_Channel 0



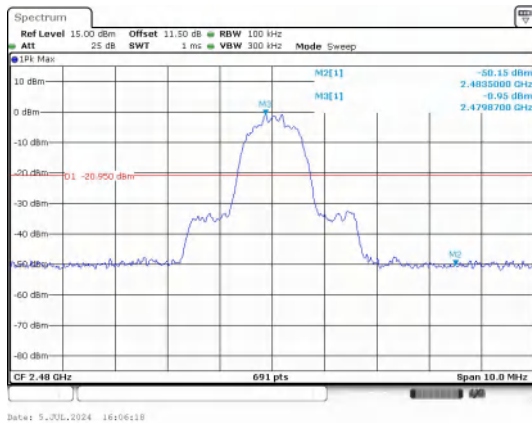
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



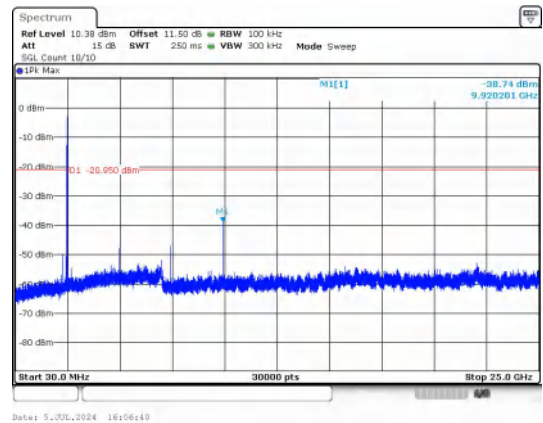
Out Of Band Emission
8DPSK_3-DH5_Channel 39



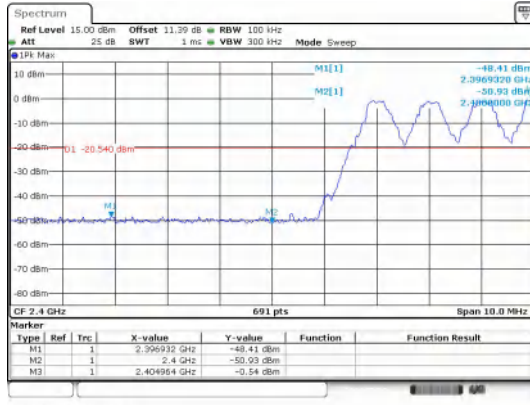
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



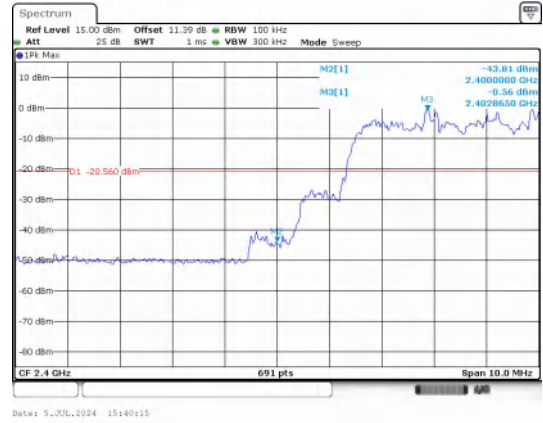
Out Of Band Emission
8DPSK_3-DH5_Channel 78



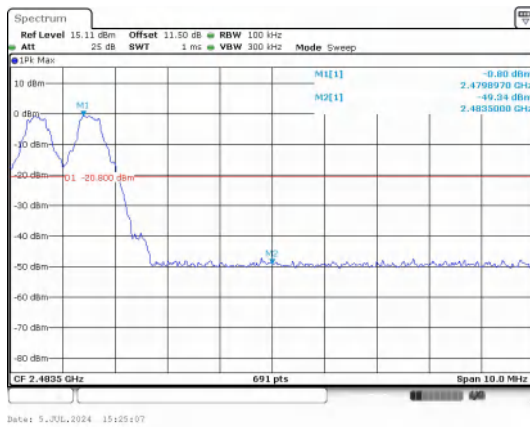
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



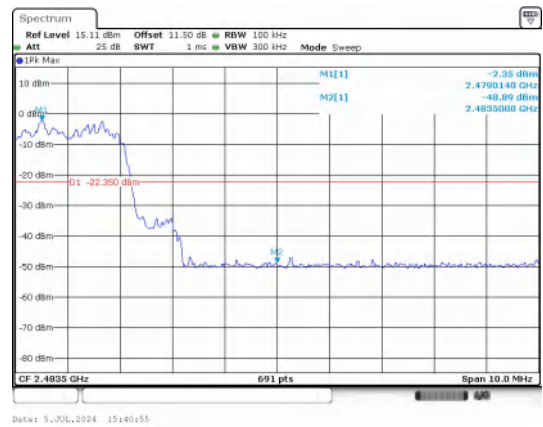
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



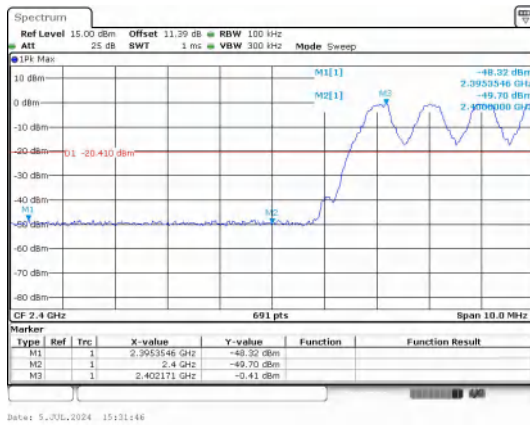
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



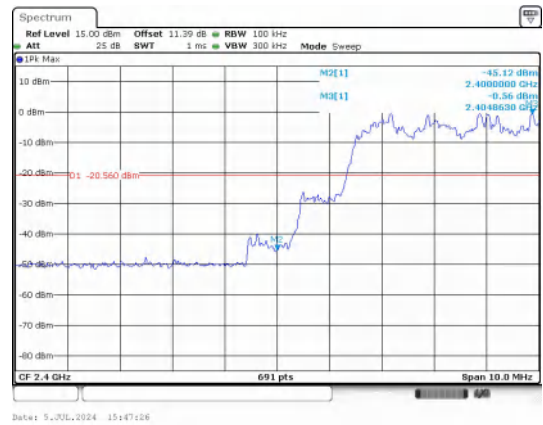
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



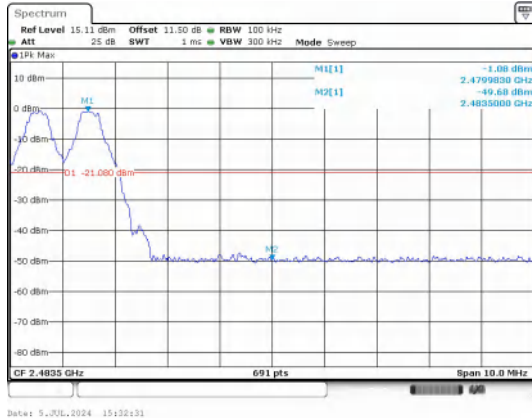
Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



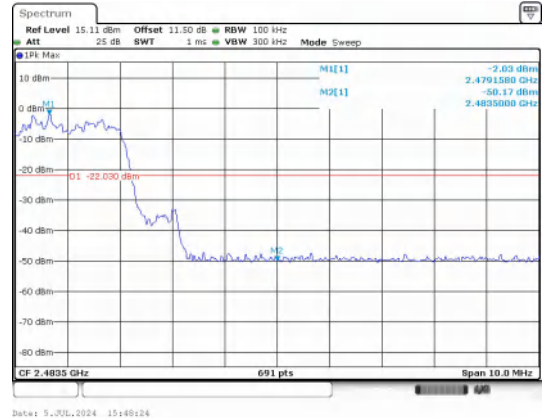
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



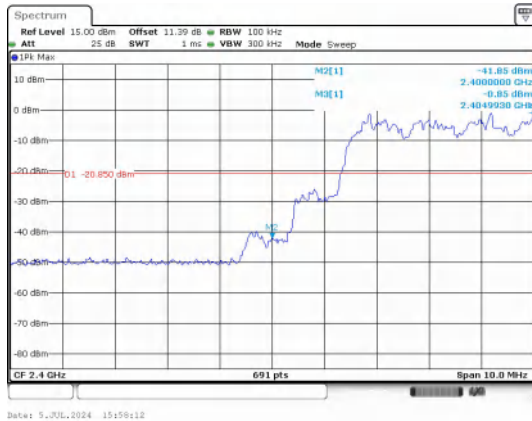
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



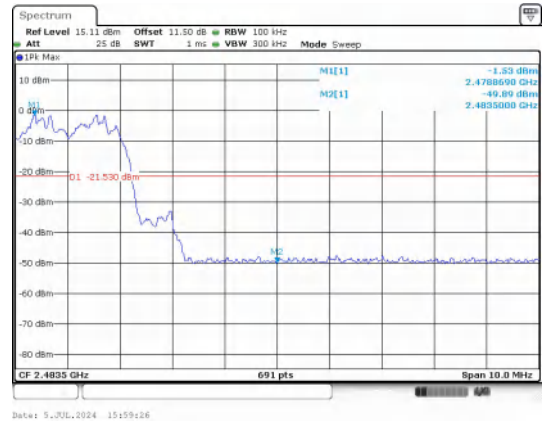
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



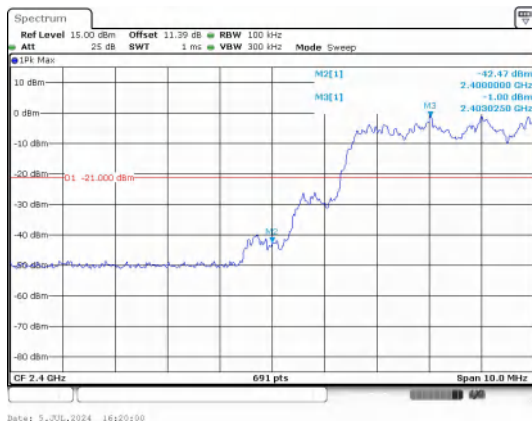
Out Of Band Emission(Right)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



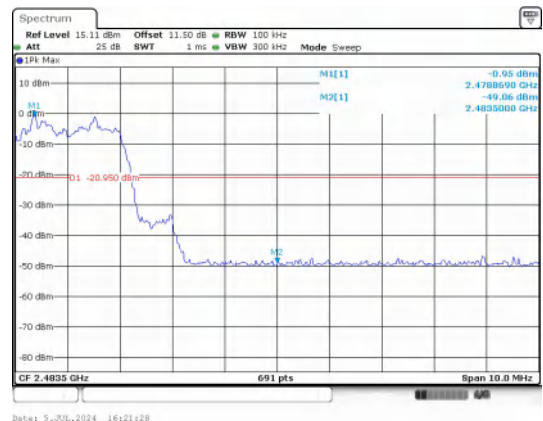
Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping



Out Of Band Emission(Left)
8DPSK_3-DH5_Channel Hopping



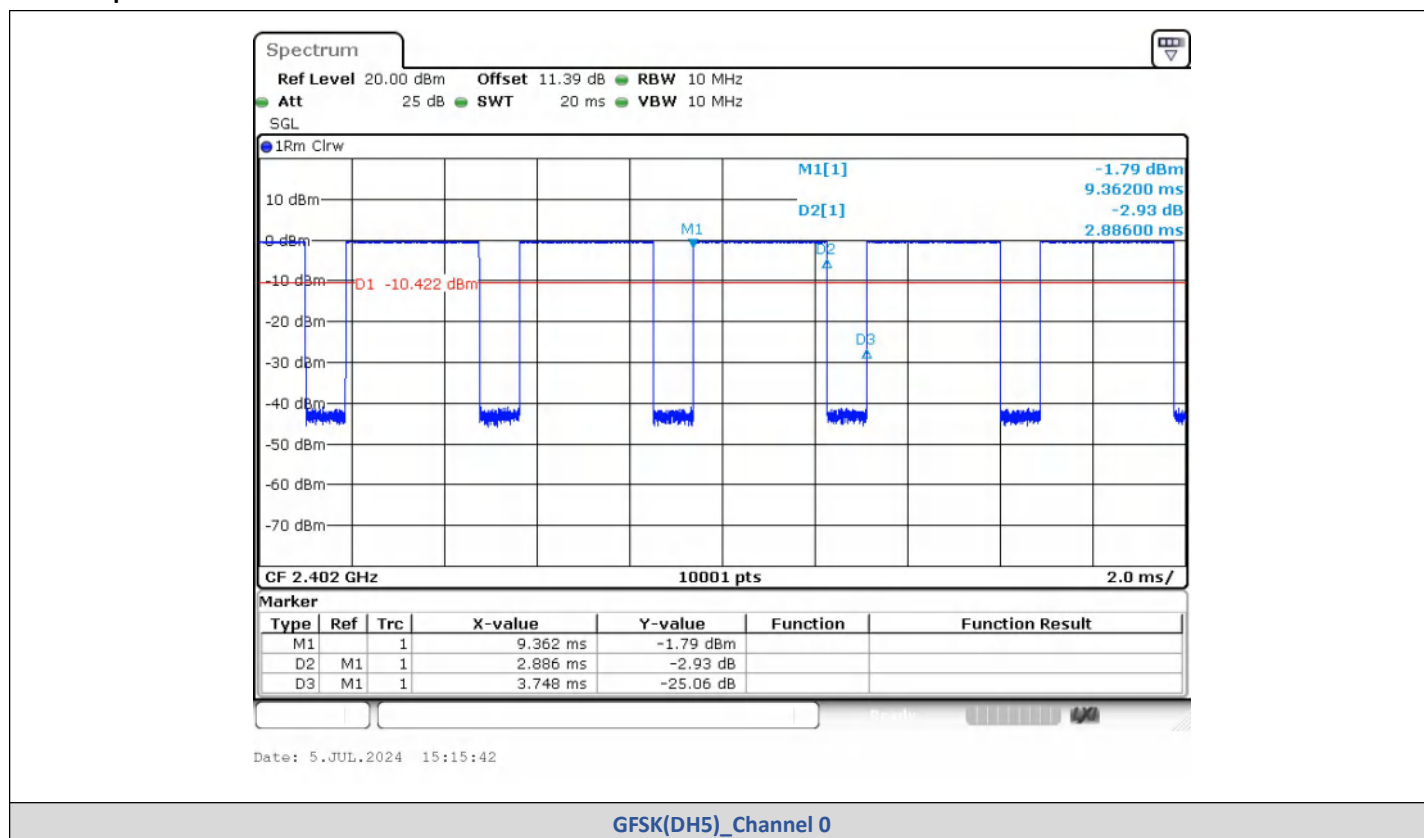
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

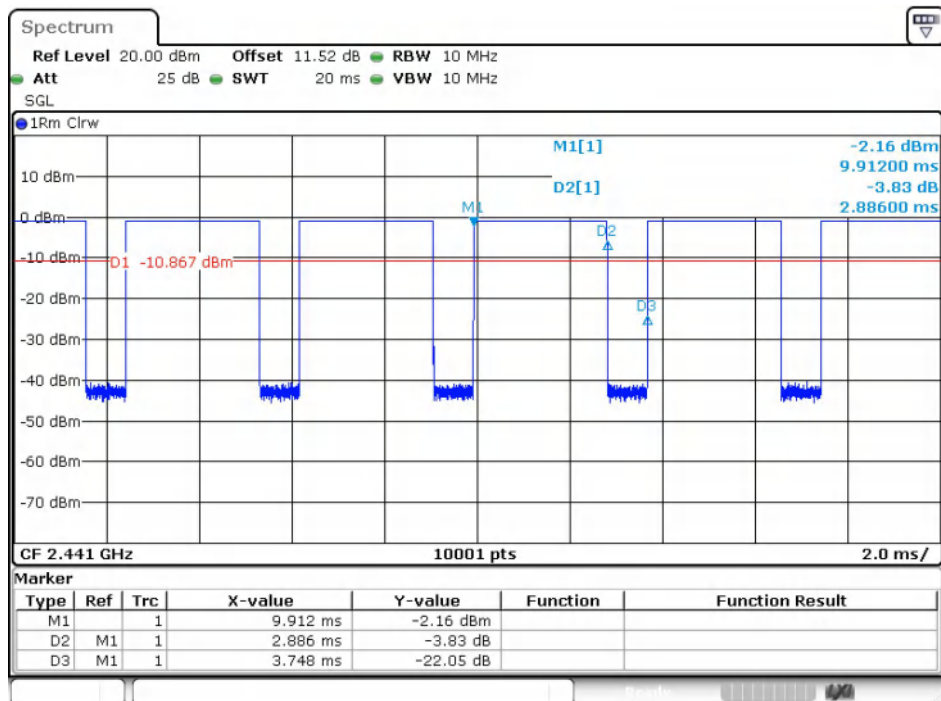
6) Duty Cycle

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	0.35
		39	2.886	3.748	77.00	0.7700	1.1351	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
$\pi/4$ DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.890	3.748	77.11	0.7711	1.1289	0.35
8DPSK	3-DH5	0	2.892	3.748	77.16	0.7716	1.1261	0.35
		39	2.894	3.748	77.21	0.7721	1.1233	0.35
		78	2.894	3.748	77.21	0.7721	1.1233	0.35

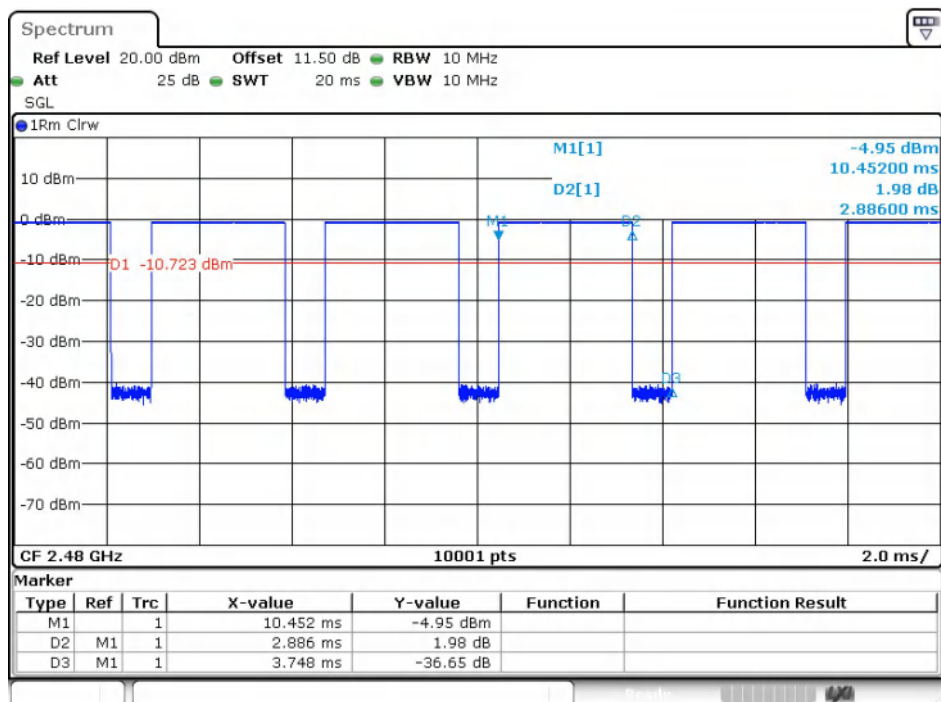
Test Graphs





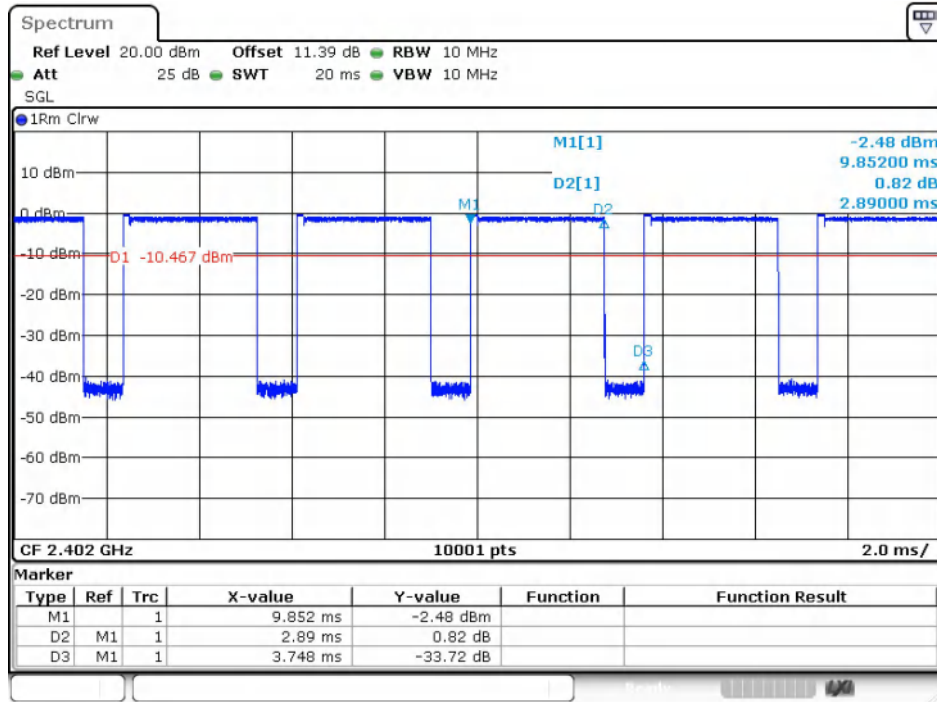
Date: 5.JUL.2024 15:25:38

GFSK(DH5)_Channel 39



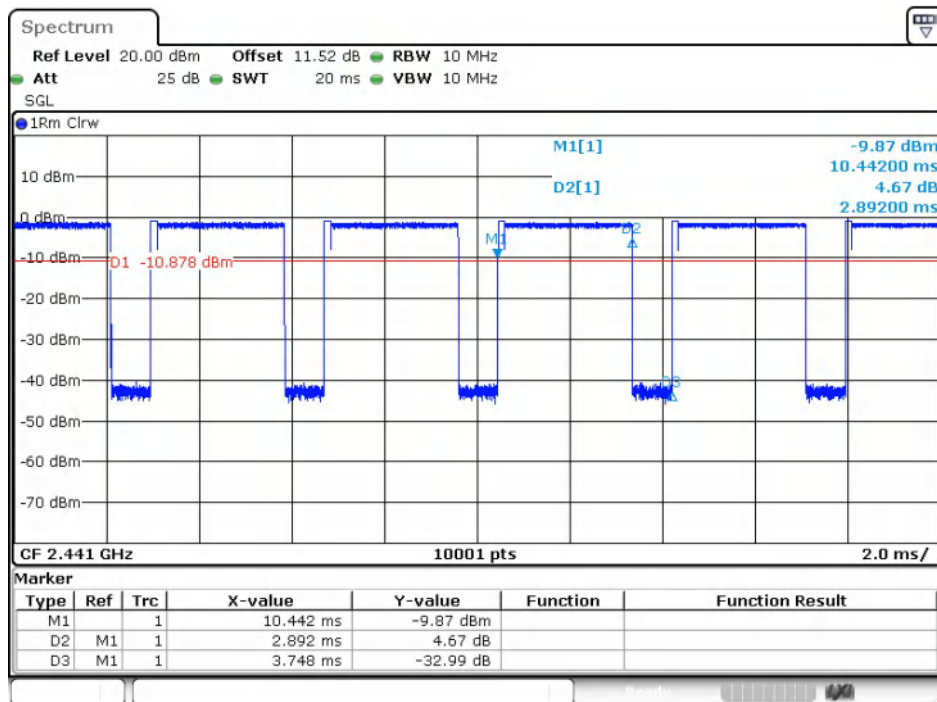
Date: 5.JUL.2024 15:27:48

GFSK(DH5)_Channel 78



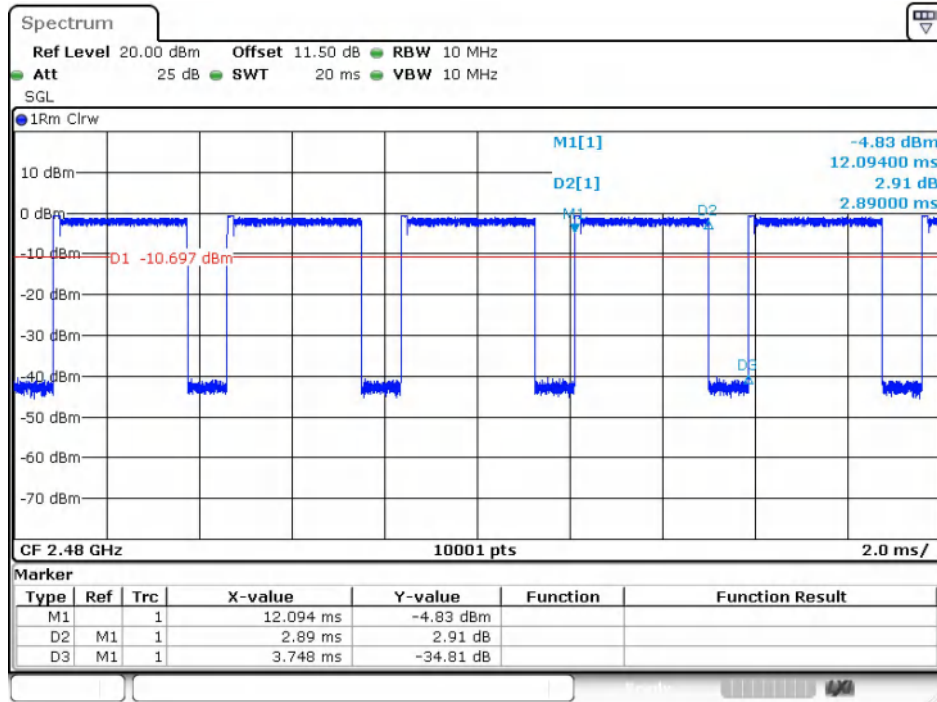
Date: 5.JUL.2024 15:33:11

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



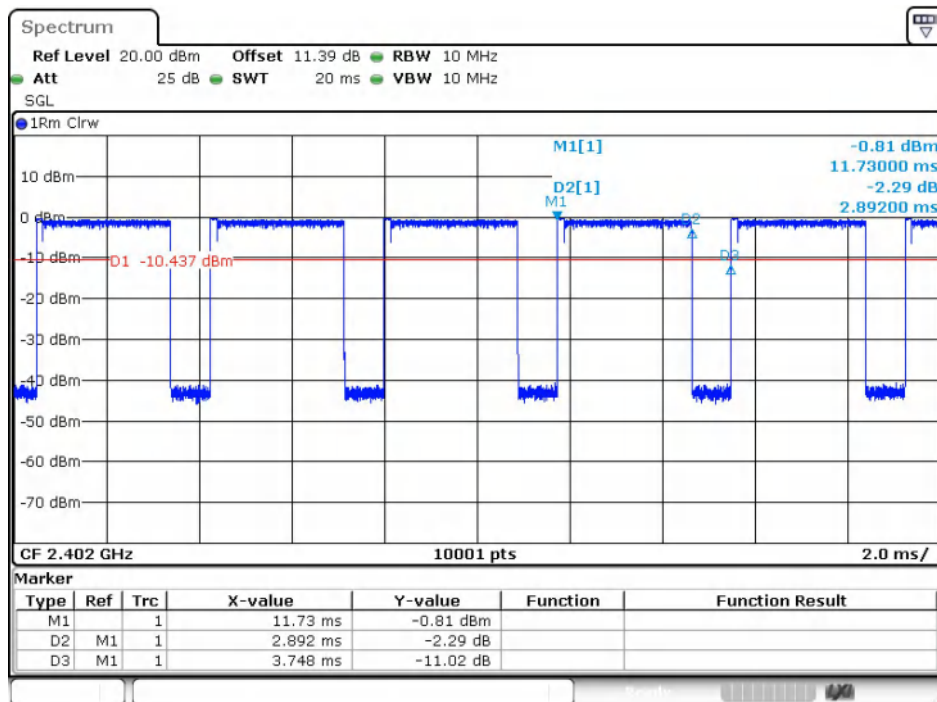
Date: 5.JUL.2024 15:41:27

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



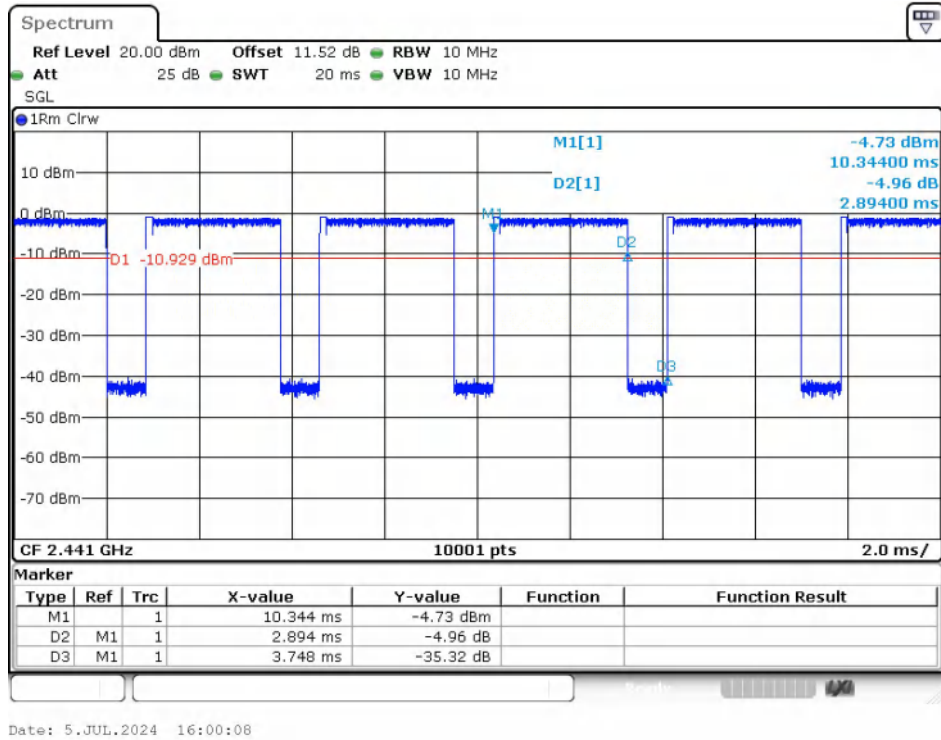
Date: 5.JUL.2024 15:43:39

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

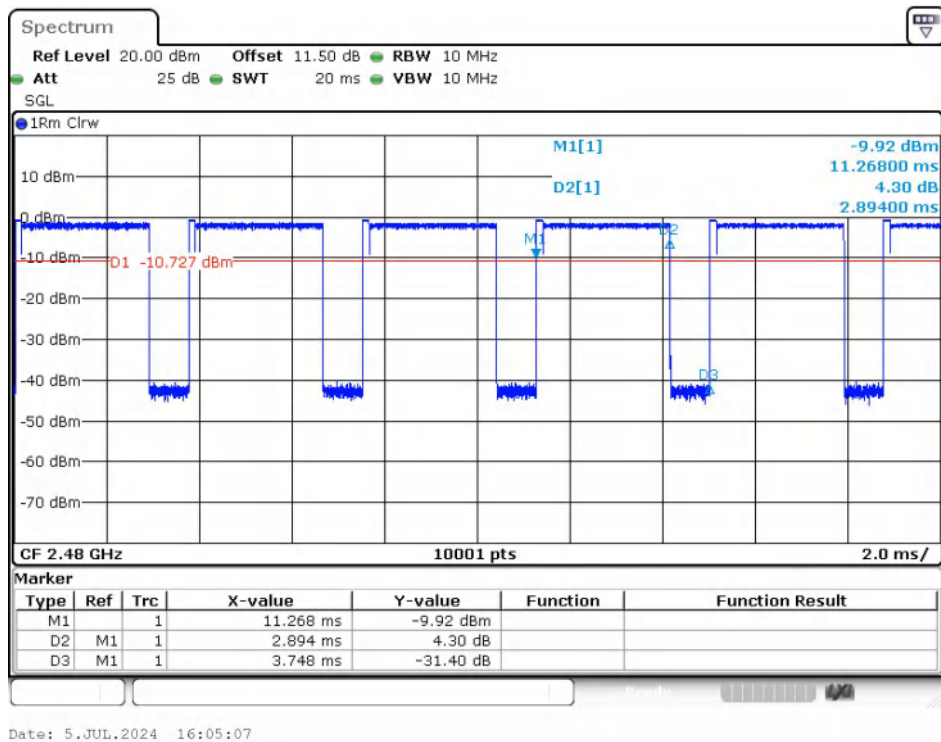


Date: 5.JUL.2024 15:50:37

8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



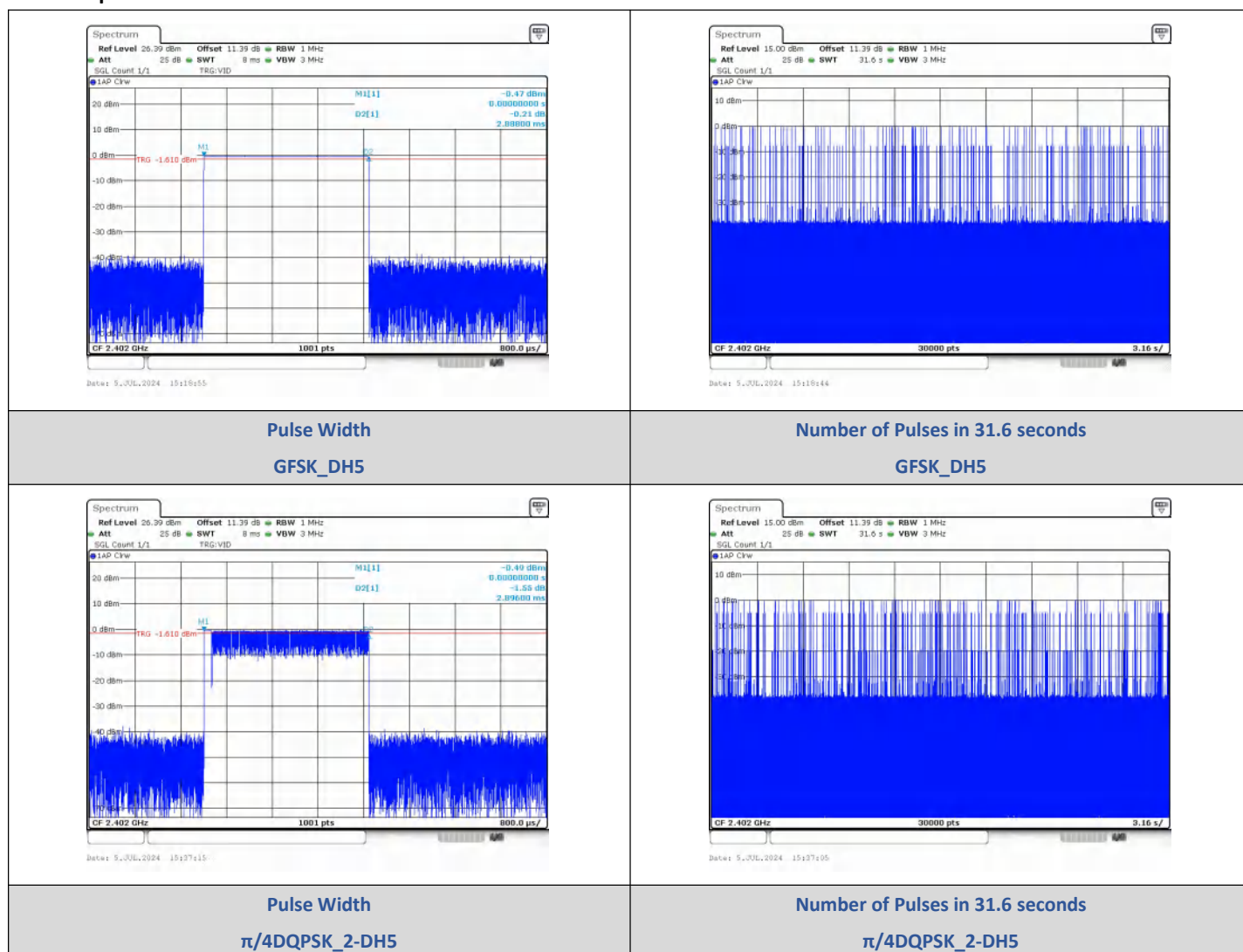
8DPSK(3-DH5)_Channel 78

7) 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 (2402MHz)	2.888	93	268.58	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.896	103	298.29		PASS
8DPSK	3-DH5		2.896	92	266.43		PASS

Test Graphs



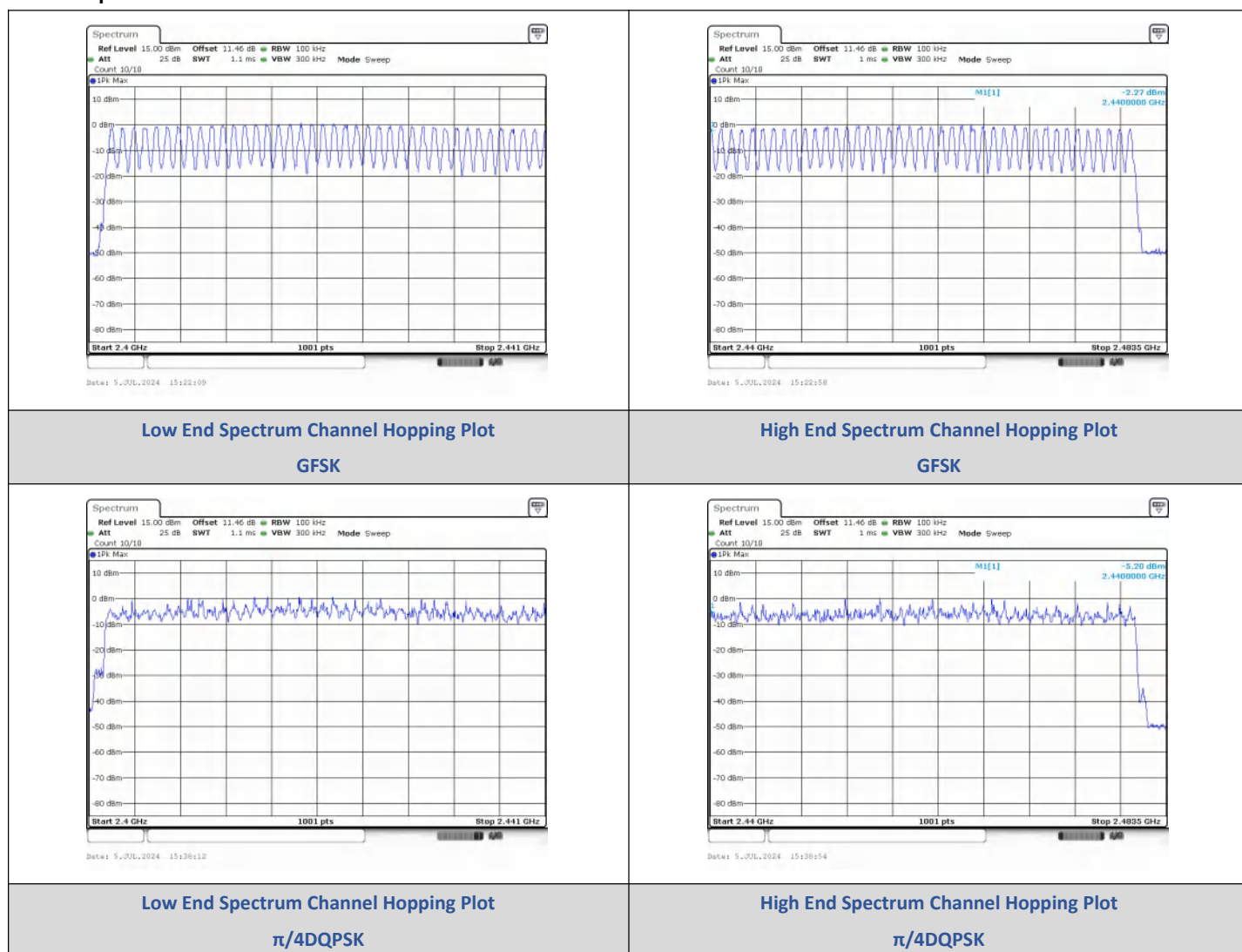


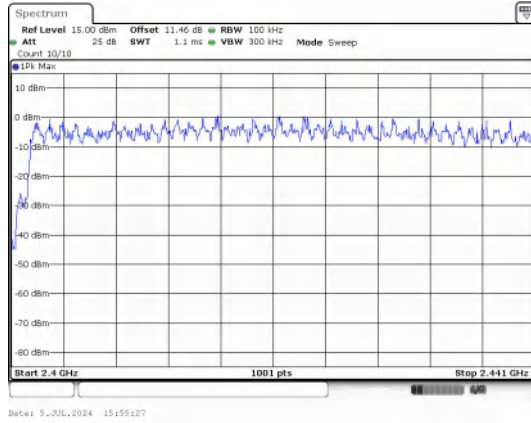
8) Number Of Hopping Channel

Test Result

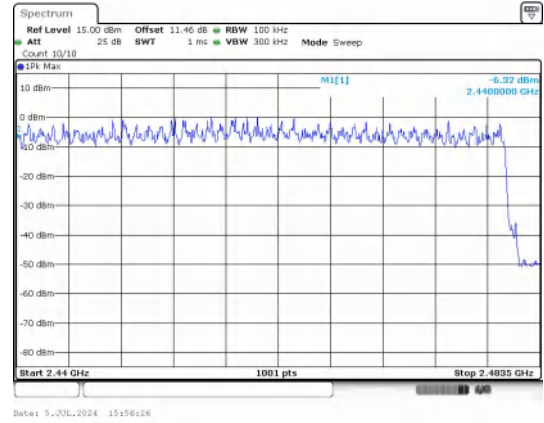
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



High End Spectrum Channel Hopping Plot
8DPSK