

Appendix A

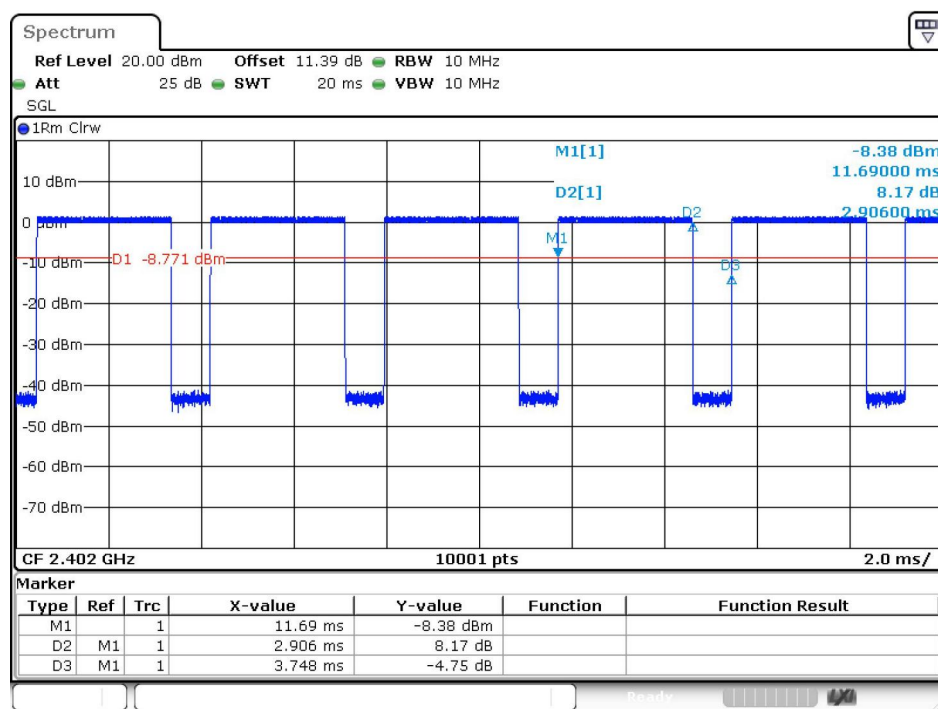
Report No.:	CISRR241015066
FCC ID:	2BLOE-TYD-KLD-001
Product Name:	Dinosaur Egg Starry Sky Projector
Model No.:	TYD-KLD-001
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Duty Cycle

Test Result

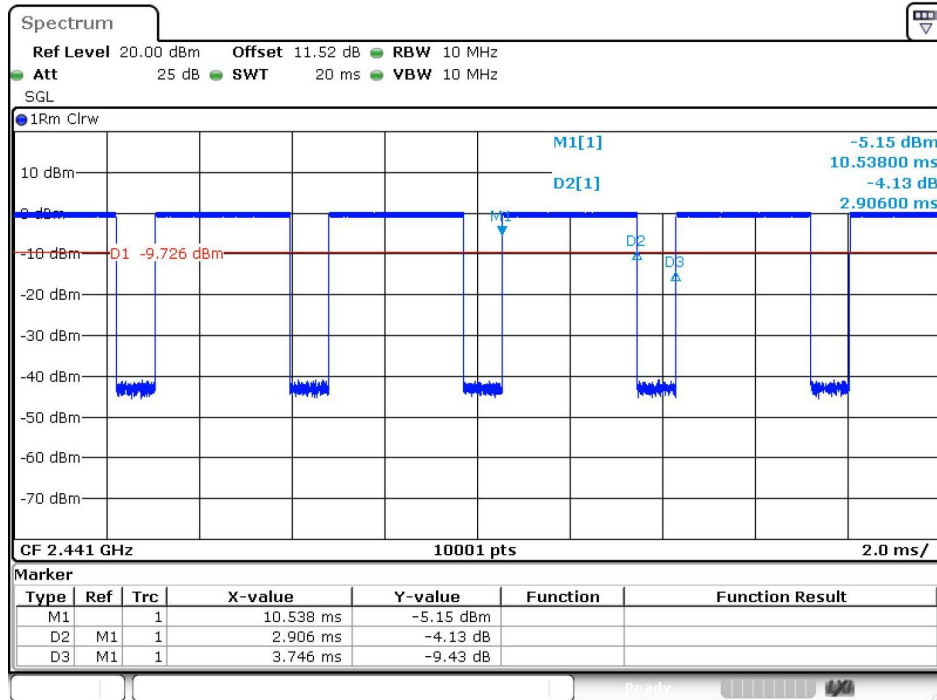
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.906	3.748	77.53	0.7753	1.1053	0.34
		39	2.906	3.746	77.58	0.7758	1.1025	0.34
		78	2.906	3.748	77.53	0.7753	1.1053	0.34
$\pi/4$ DQPSK	2-DH5	0	2.912	3.748	77.69	0.7769	1.0963	0.34
		39	2.912	3.748	77.69	0.7769	1.0963	0.34
		78	2.912	3.748	77.69	0.7769	1.0963	0.34
8DPSK	3-DH5	0	2.914	3.748	77.75	0.7775	1.093	0.34
		39	2.914	3.748	77.75	0.7775	1.093	0.34
		78	2.916	3.748	77.80	0.7780	1.0902	0.34

Test Graphs



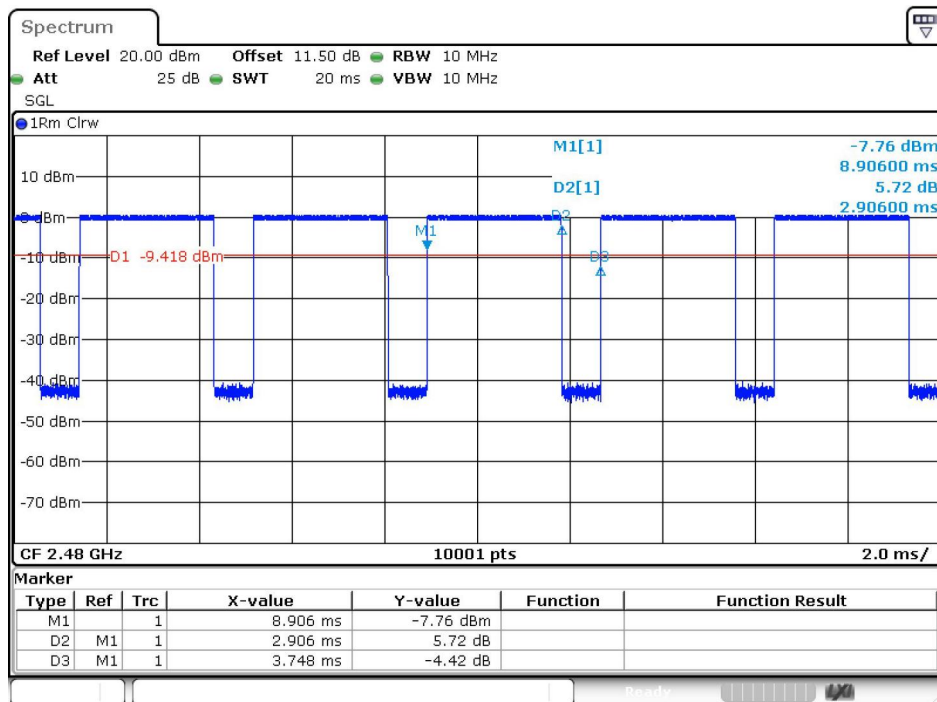
Date: 21.OCT.2024 11:32:02

GFSK(DH5)_Channel 0



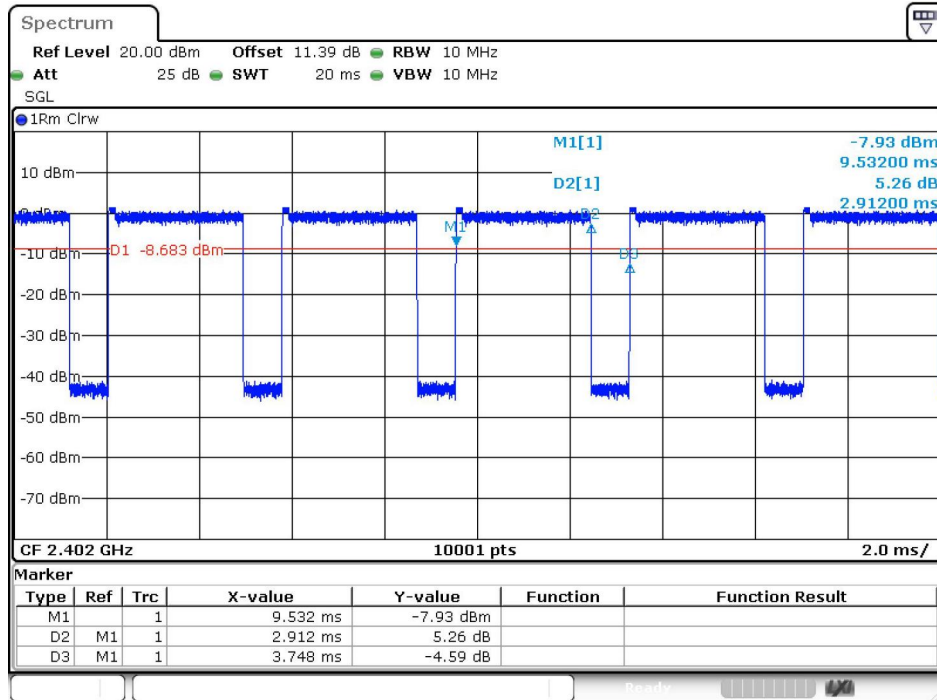
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GFSK(DH5)_Channel 39



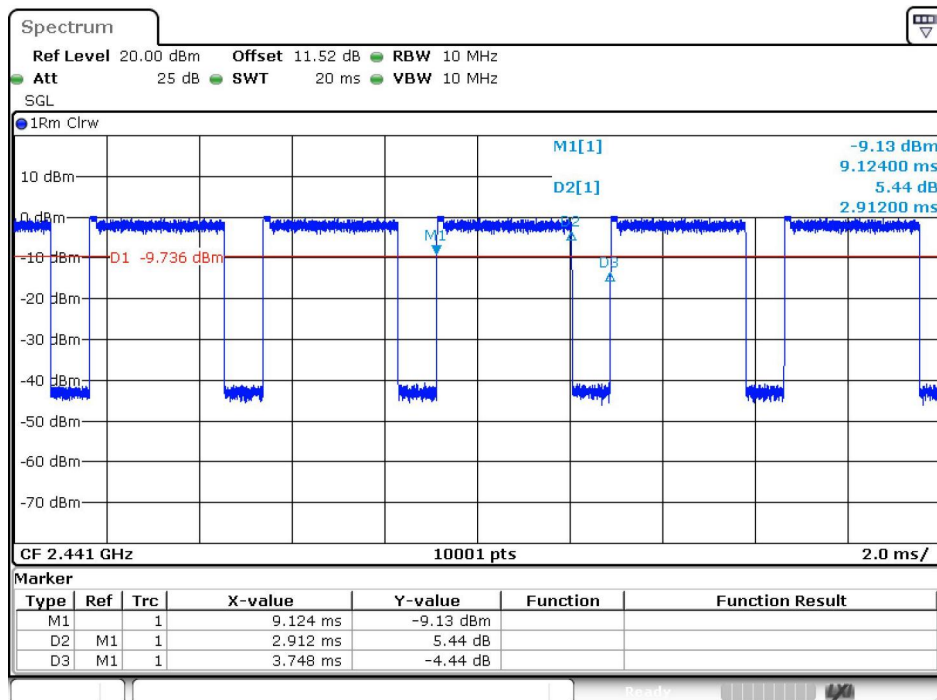
Date: 21.OCT.2024 11:42:09

GFSK(DH5)_Channel 78



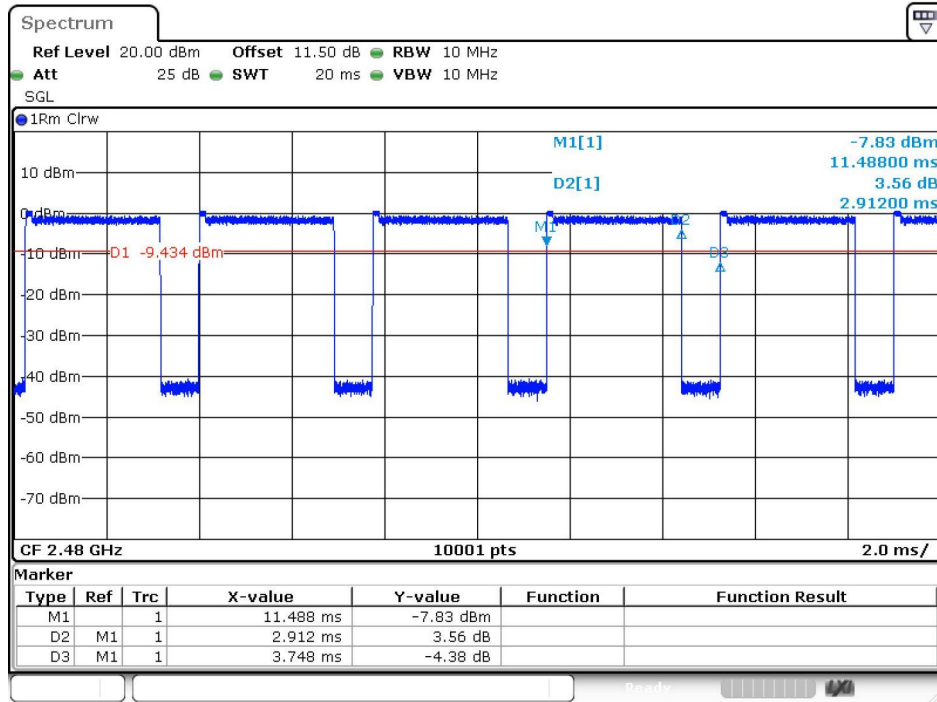
Date: 21.OCT.2024 11:44:38

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



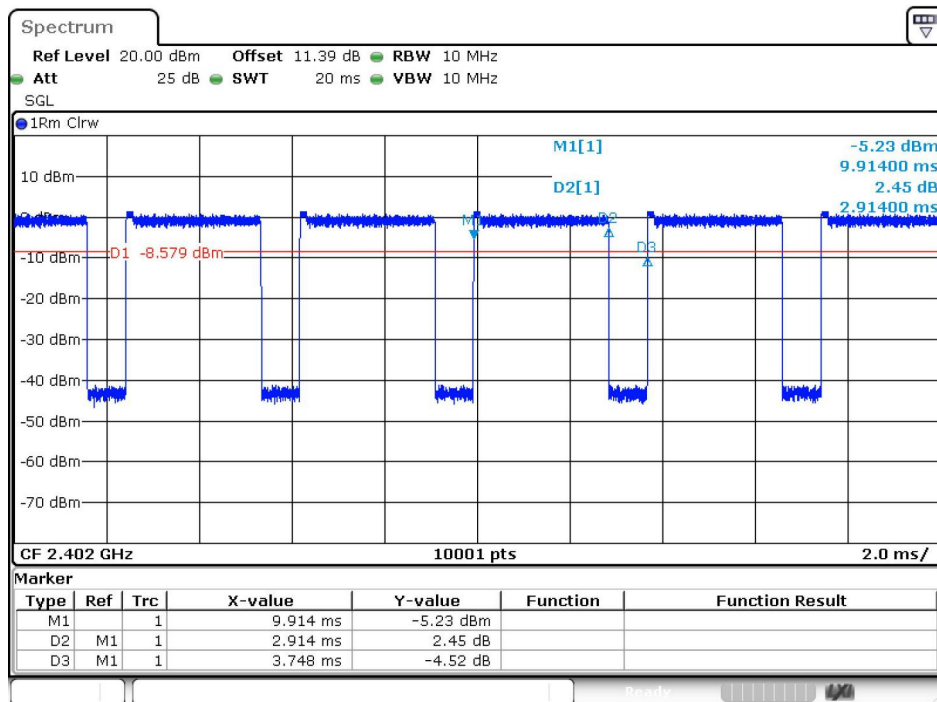
Date: 21.OCT.2024 11:50:28

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



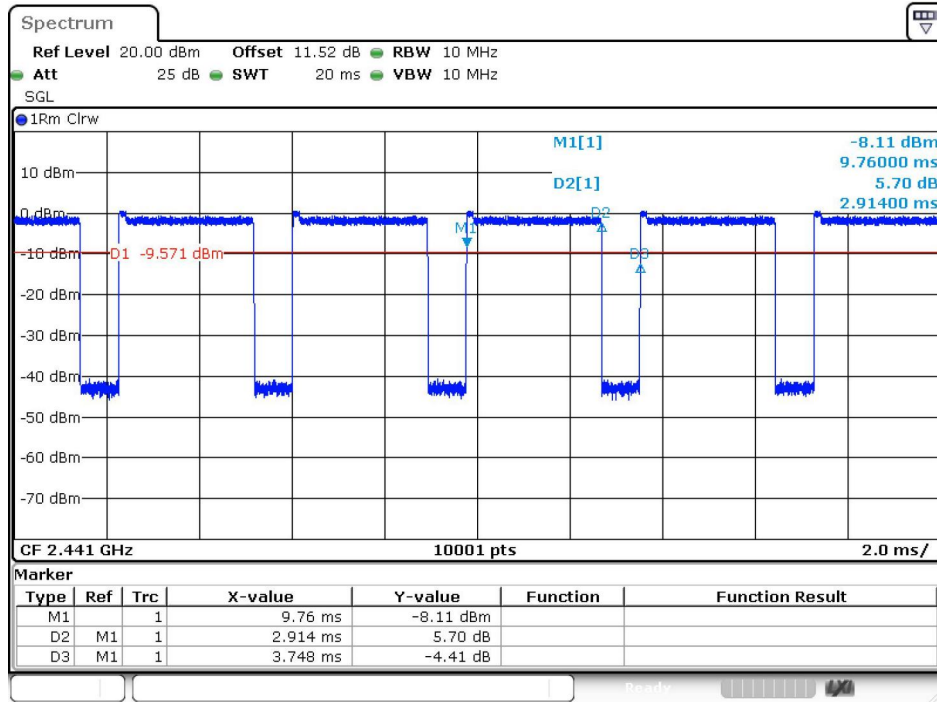
Date: 21.OCT.2024 11:52:27

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



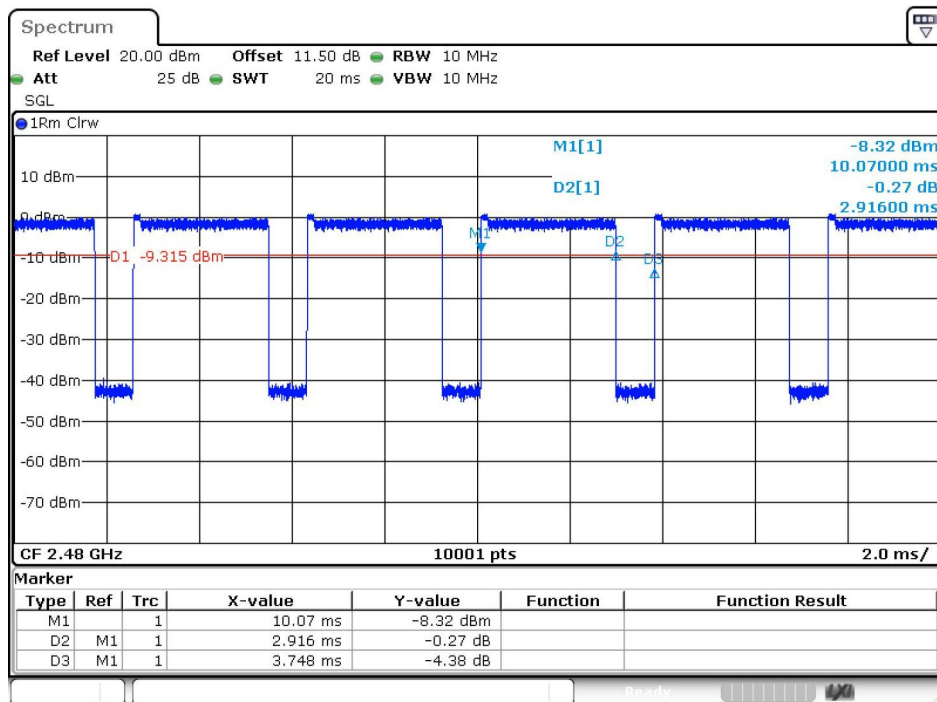
Date: 21.OCT.2024 11:54:35

8DPSK(3-DH5)_Channel 0



Date: 21.OCT.2024 12:00:04

8DPSK(3-DH5)_Channel 39



Date: 21.OCT.2024 12:02:03

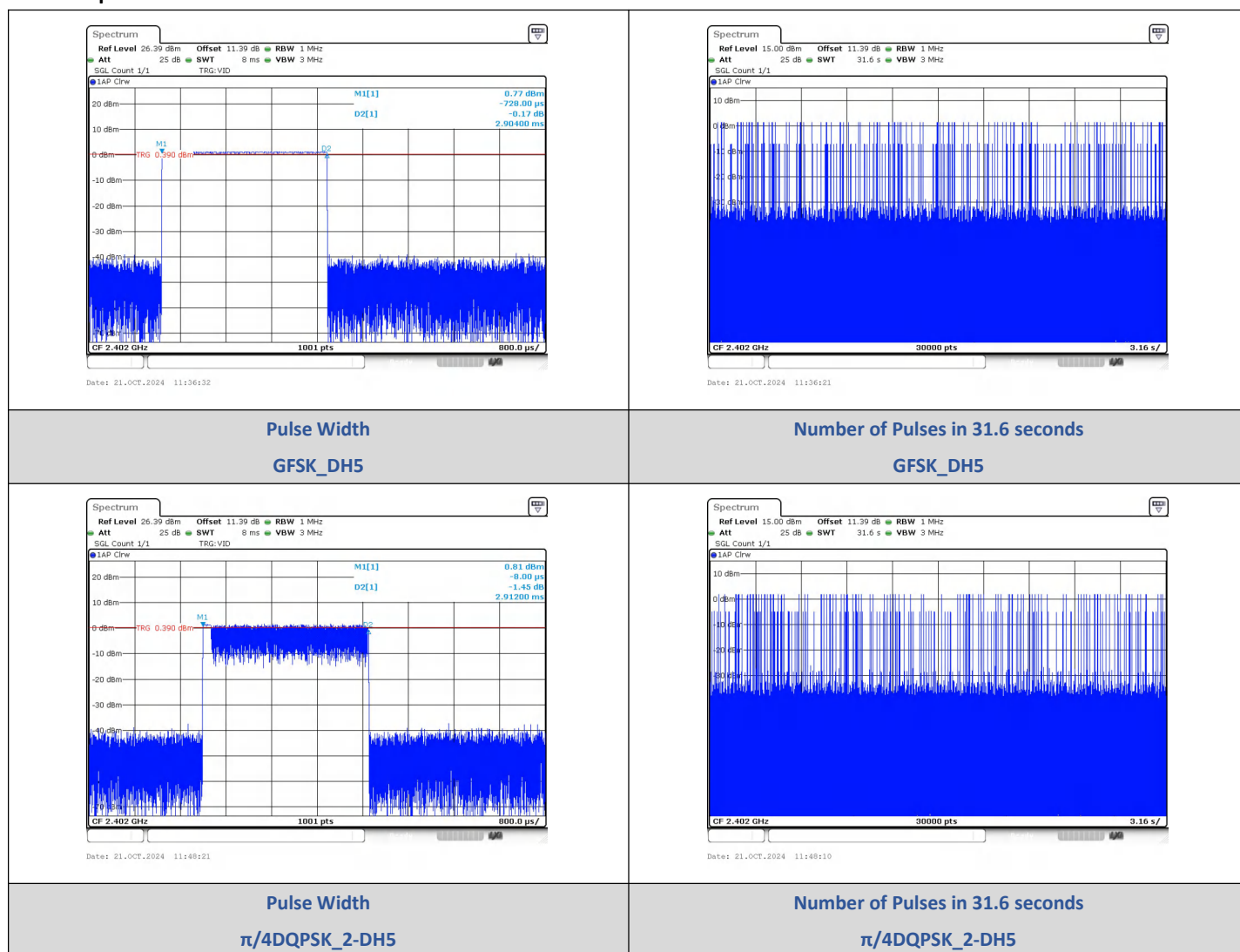
8DPSK(3-DH5)_Channel 78

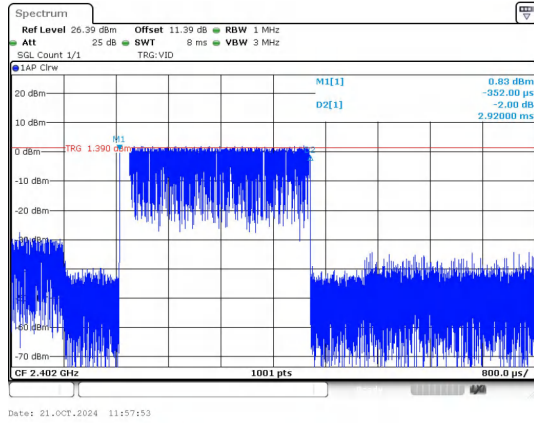
2) Dwell Time

Test Result

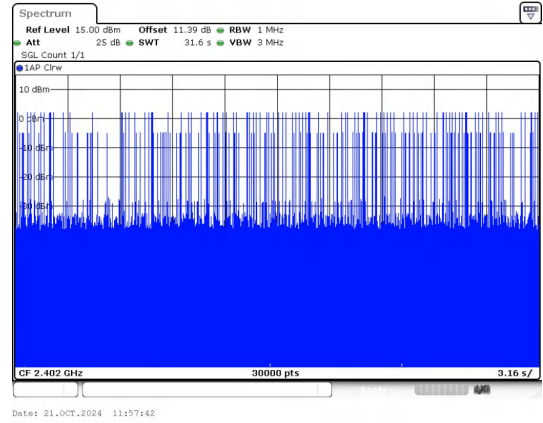
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.904	101	293.3	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.912	112	326.14		PASS
8DPSK	3-DH5		2.920	106	309.52		PASS

Test Graphs





Pulse Width
8DPSK_3-DH5



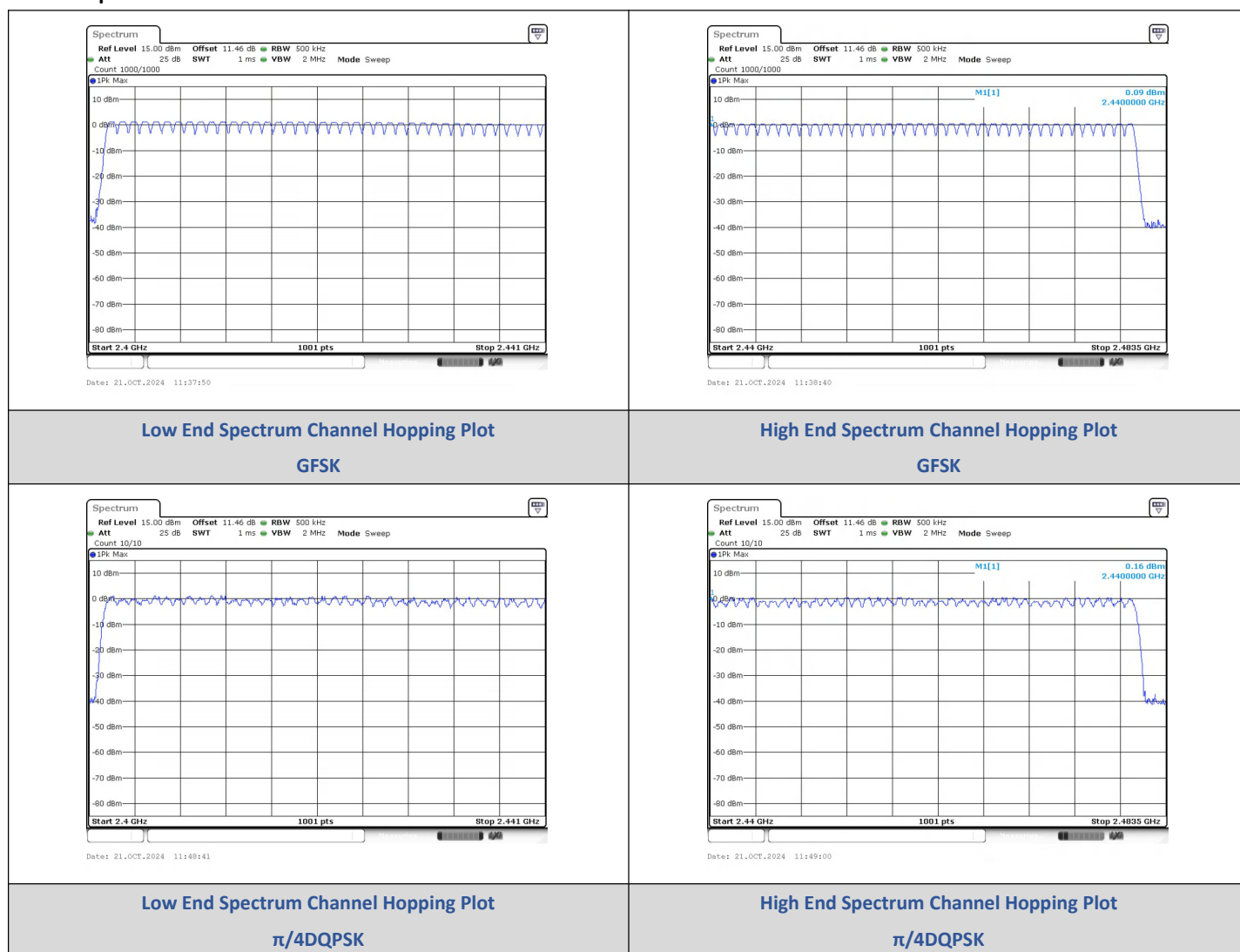
Number of Pulses in 31.6 seconds
8DPSK_3-DH5

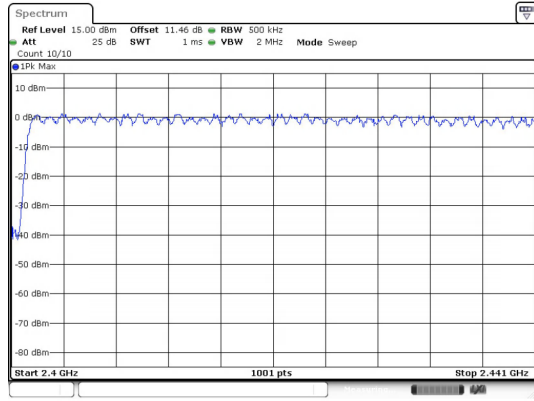
3) Number Of Hopping Channel

Test Result

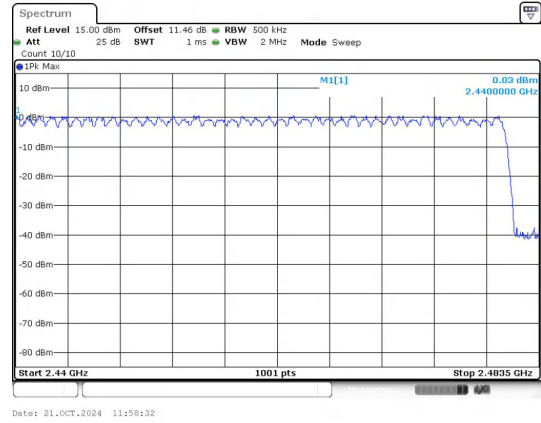
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



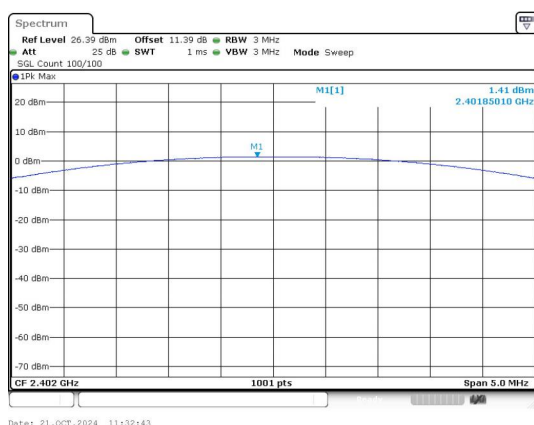
High End Spectrum Channel Hopping Plot
8DPSK

4) Conducted Peak Output Power

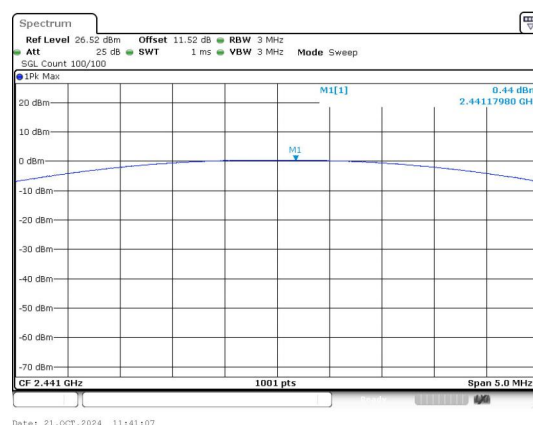
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	1.41	1.38	≤30	PASS
		39	0.44	1.11		PASS
		78	0.73	1.18		PASS
$\pi/4$ DQPSK	2-DH5	0	2.27	1.69	≤20.97	PASS
		39	1.21	1.32		PASS
		78	1.51	1.42		PASS
8DPSK	3-DH5	0	2.66	1.85		PASS
		39	1.52	1.42		PASS
		78	1.73	1.49		PASS

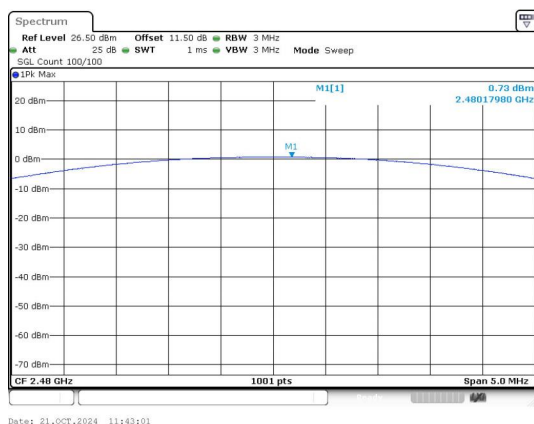
Test Graphs



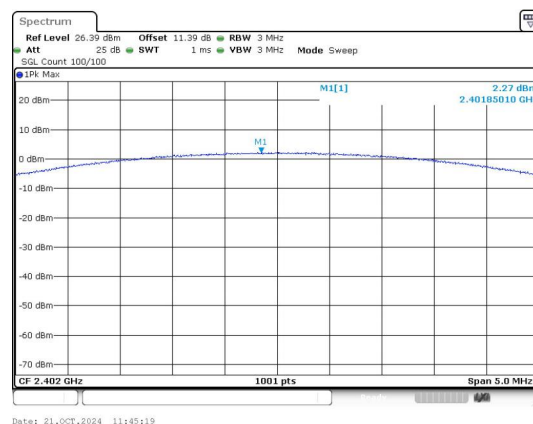
Peak Output Power
GFSK_Channel 0



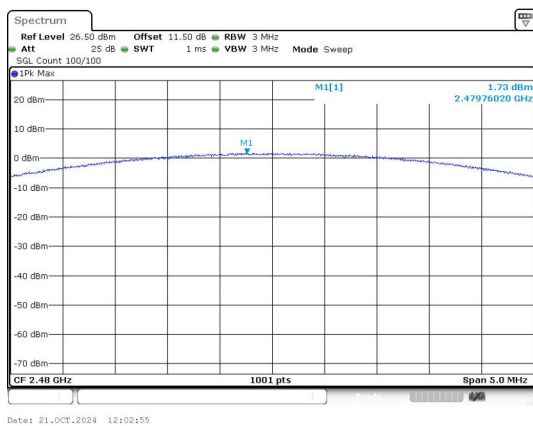
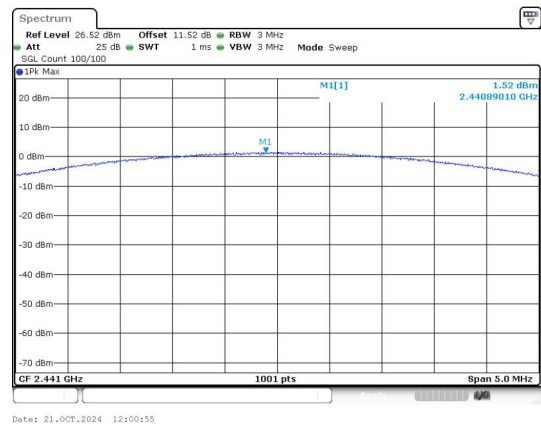
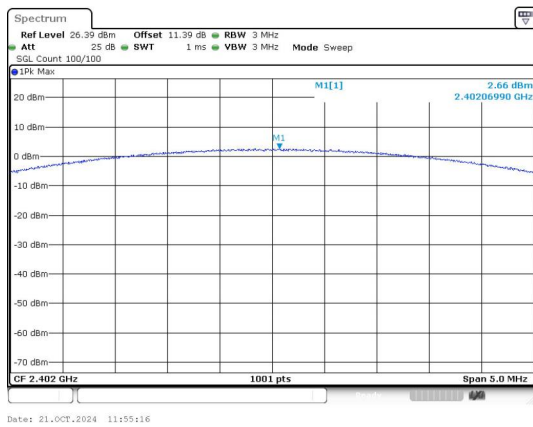
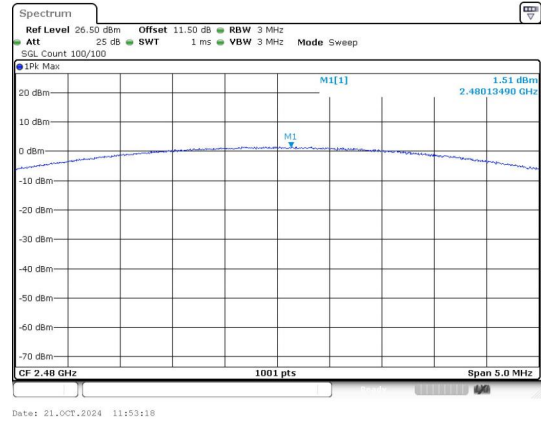
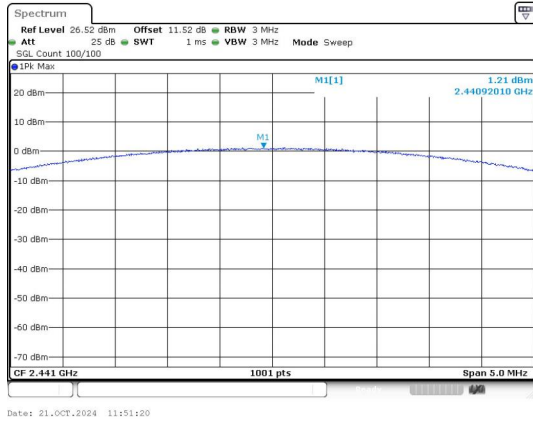
Peak Output Power
GFSK_Channel 39



Peak Output Power
GFSK_Channel 78



Peak Output Power
 $\pi/4$ DQPSK_Channel 0

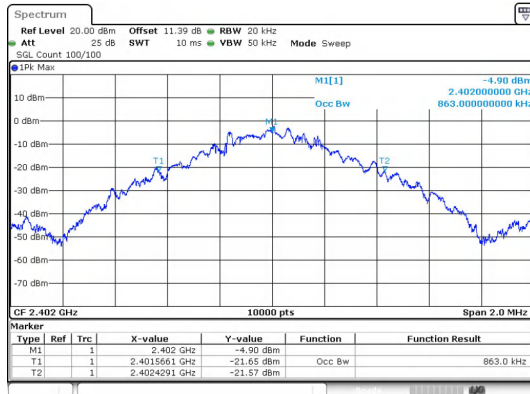


5) 99% Bandwidth

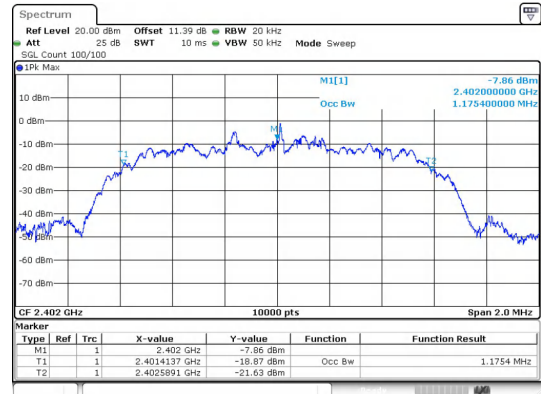
Test Result

Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.86300
	39	2441	0.85000
	78	2480	0.87360
$\pi/4$ DQPSK	0	2402	1.1754
	39	2441	1.1812
	78	2480	1.1736
8DPSK	0	2402	1.1734
	39	2441	1.1858
	78	2480	1.1848

Test Graphs

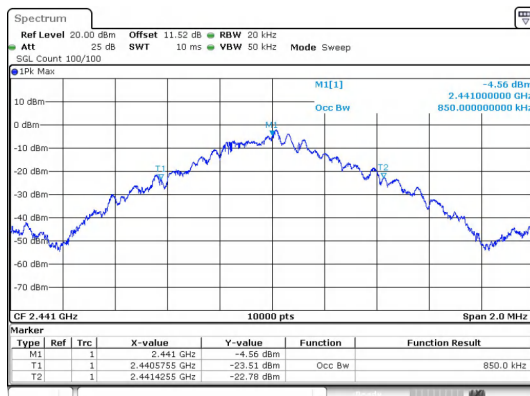


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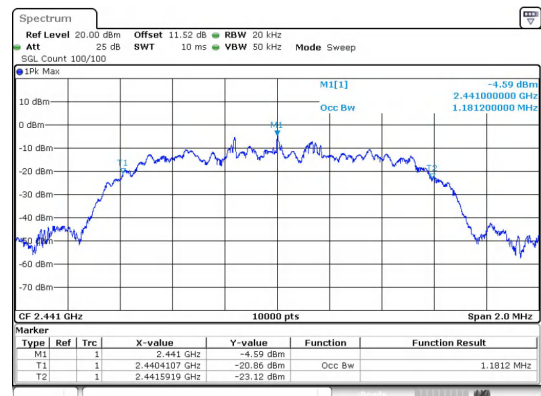


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GFSK_DH5_Channel 0

 $\pi/4$ DQPSK_2-DH5_Channel 0


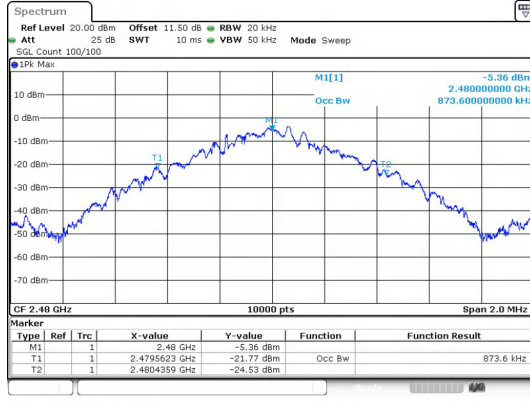
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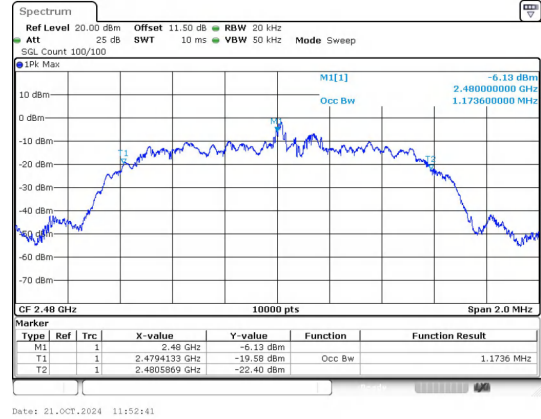
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GFSK_DH5_Channel 39

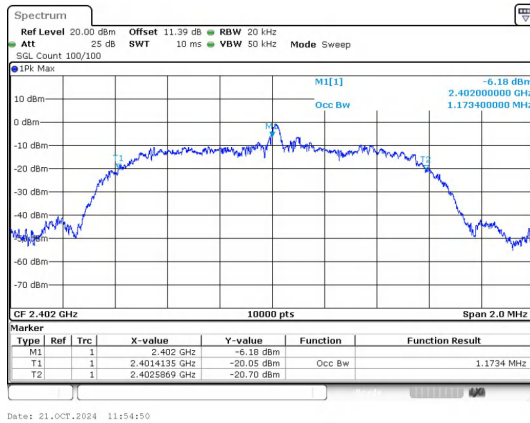
 $\pi/4$ DQPSK_2-DH5_Channel 39



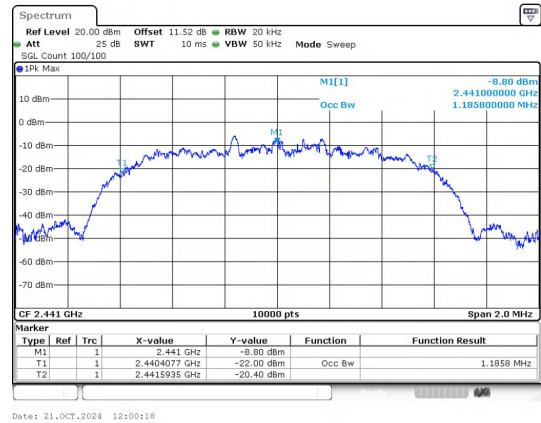
GFSK_DH5_Channel 78



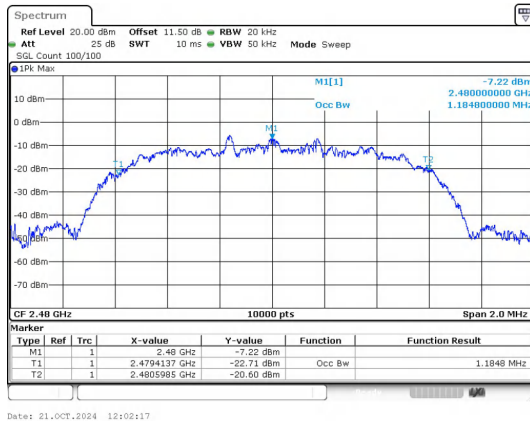
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



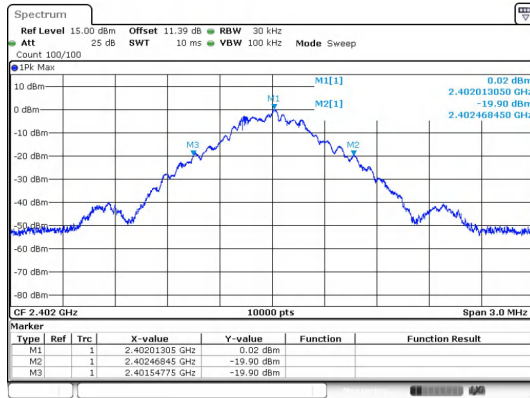
8DPSK_3-DH5_Channel 78

6) 20dB Bandwidth

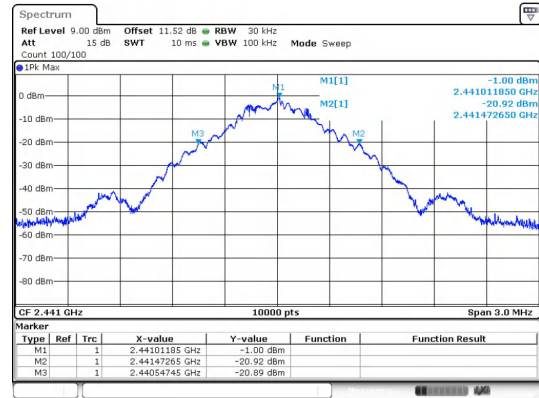
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9200
	39	2441 MHz	0.9200
	78	2480 MHz	0.9300
$\pi/4$ DQPSK	0	2402 MHz	1.230
	39	2441 MHz	1.230
	78	2480 MHz	1.200
8DPSK	0	2402 MHz	1.250
	39	2441 MHz	1.240
	78	2480 MHz	1.240

Test Graphs



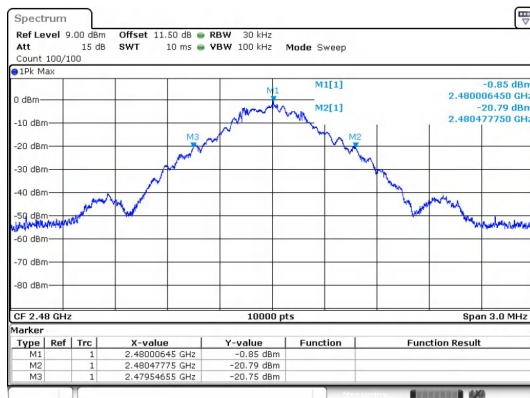
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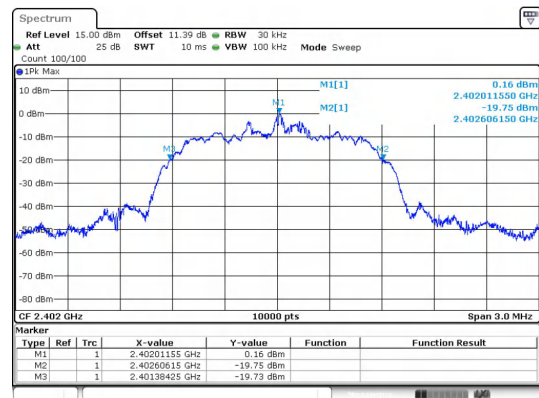
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GFSK_DH5_Channel 0

GFSK_DH5_Channel 39



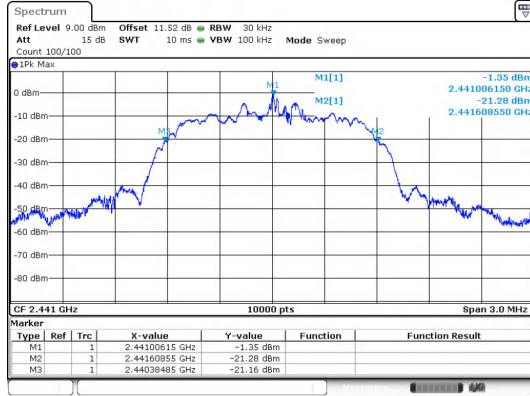
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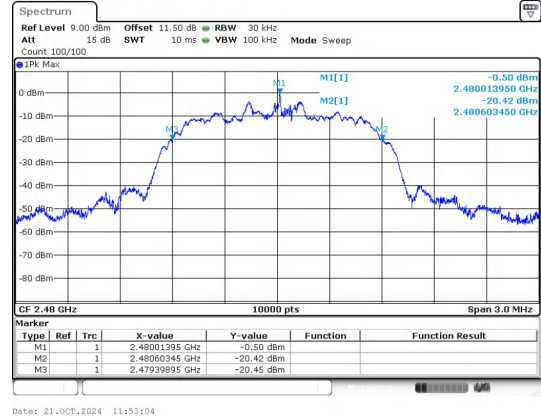
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GFSK_DH5_Channel 78

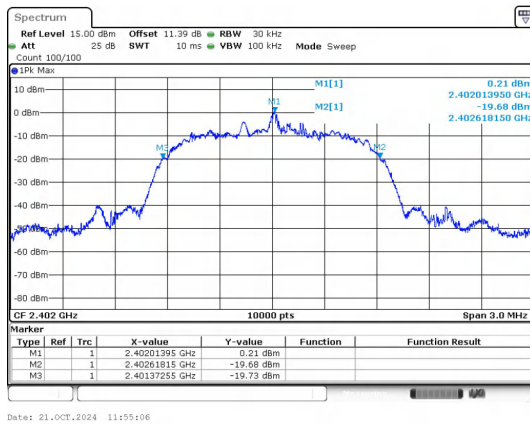
 $\pi/4$ DQPSK_2-DH5_Channel 0



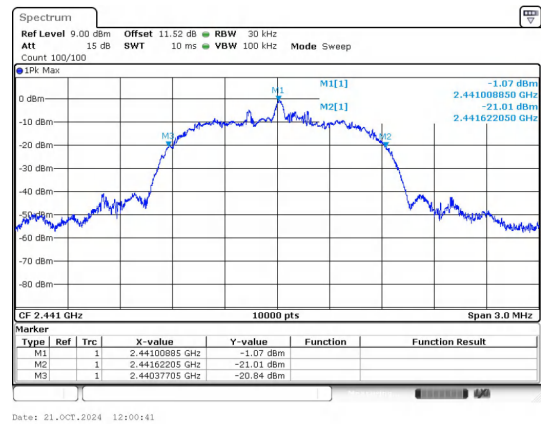
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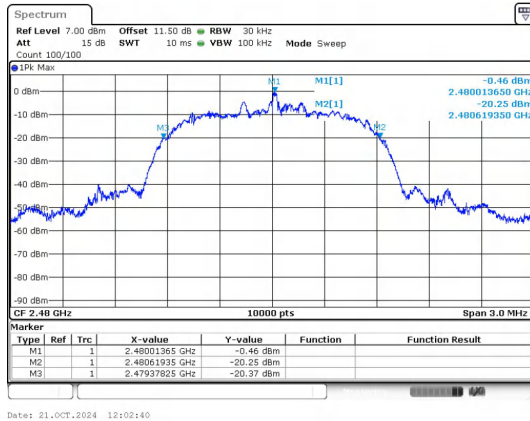
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



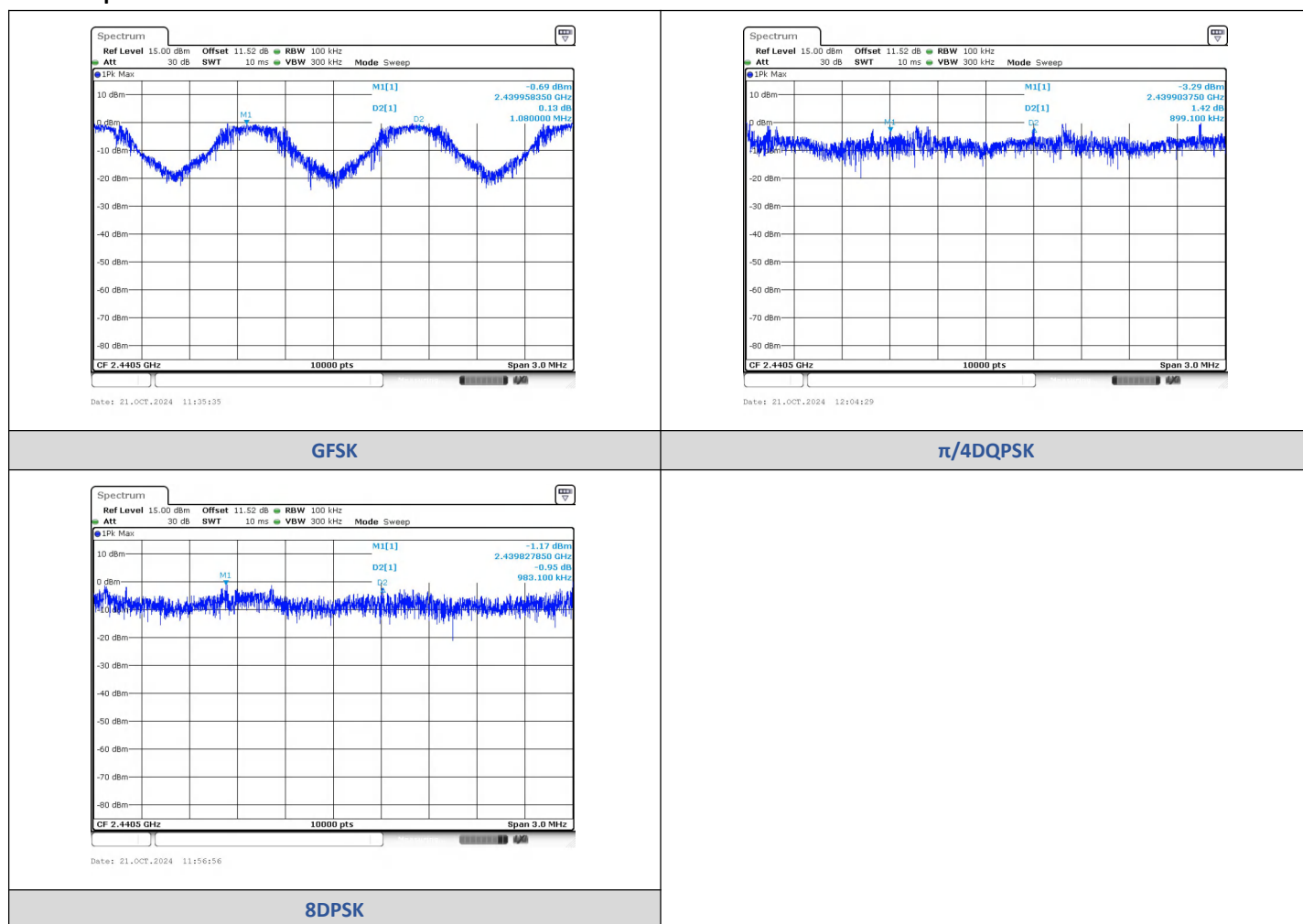
8DPSK_3-DH5_Channel 78

7) Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.9583	2441.0383	1.0800	0.9300	PASS
$\pi/4$ DQPSK	2-DH5	2439.9037	2440.8029	0.8991	0.82	PASS
8DPSK	3-DH5	2439.8279	2440.811	0.9831	0.833	PASS

Test Graphs



8) Conducted Out Of Band Emission

Test Result

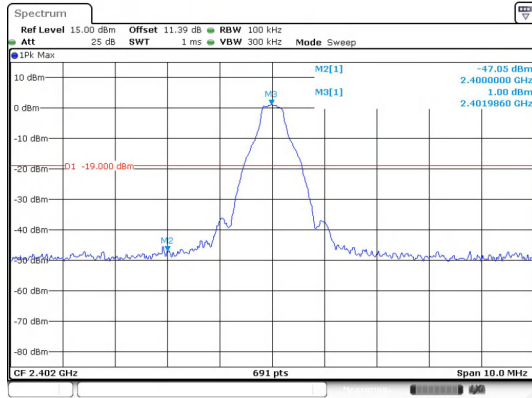
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-47.050	-19.0	-28.050	PASS
			4803.85	-40.891	-19.0	-21.891	PASS
		39	4882.09	-45.909	-20.11	-25.799	PASS
		78	2483.50	-48.191	-19.78	-28.411	PASS
			4960.33	-45.878	-19.78	-26.098	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-47.494	-18.88	-28.614	PASS
			4803.85	-39.635	-18.88	-20.755	PASS
		39	4882.09	-48.264	-20.2	-28.064	PASS
		78	2483.50	-49.886	-19.75	-30.136	PASS
			4959.49	-47.569	-19.75	-27.819	PASS
8DPSK	3-DH5	0	2400.00	-46.955	-18.9	-28.055	PASS
			4803.85	-45.341	-18.9	-26.441	PASS
		39	4882.09	-48.564	-20.04	-28.524	PASS
		78	2483.50	-48.526	-19.61	-28.916	PASS
			4960.33	-49.990	-19.61	-30.380	PASS

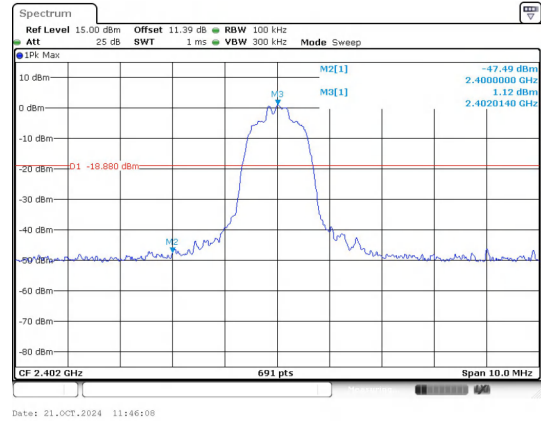
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.05	-45.876	-19.24	-26.636	PASS
			2400.00	-47.831	-19.24	-28.591	PASS
			2483.50	-49.038	-20.28	-28.758	PASS
$\pi/4$ DQPSK	2-DH5		2396.76	-46.875	-20.96	-25.915	PASS
			2400.00	-47.381	-20.96	-26.421	PASS
			2483.50	-50.220	-23.18	-27.040	PASS
8DPSK	3-DH5		2395.04	-47.272	-21.96	-25.312	PASS
			2400.00	-50.669	-21.96	-28.709	PASS
			2483.50	-50.148	-21.58	-28.568	PASS

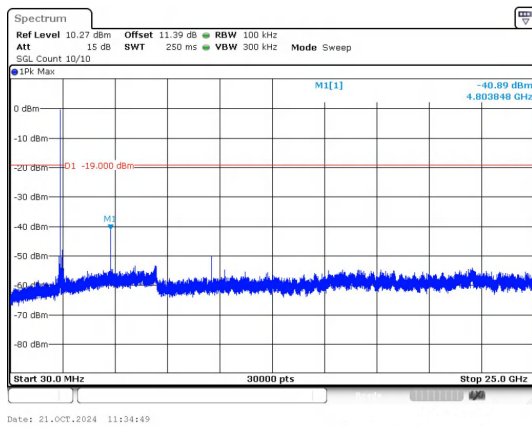
Test Graphs



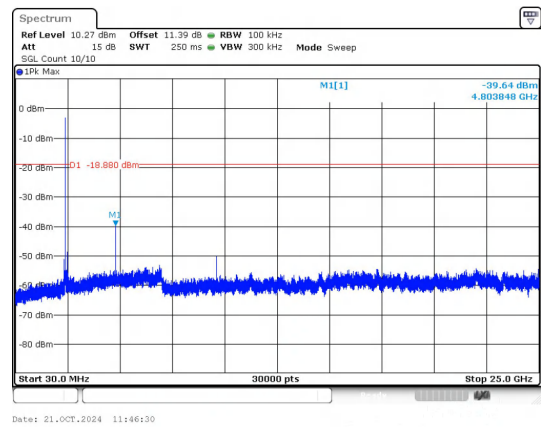
Out Of Band Emission
GFSK_DH5_Channel 0



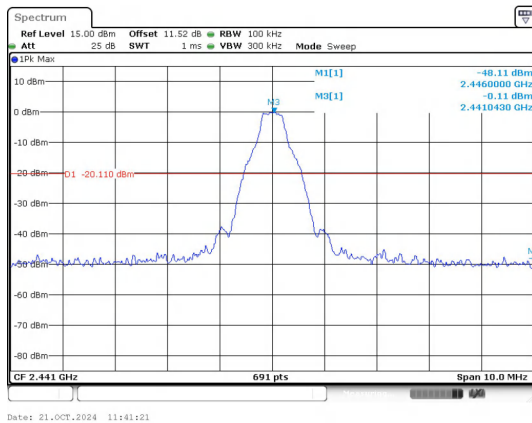
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



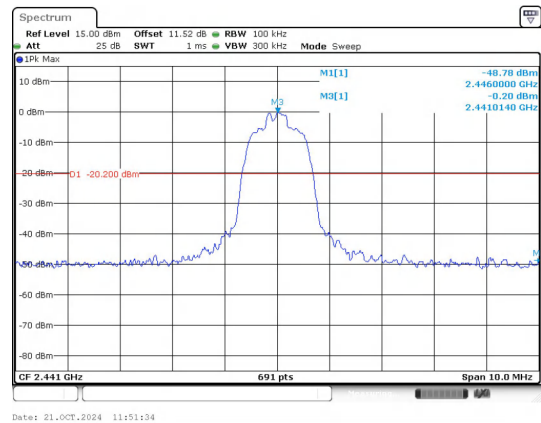
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



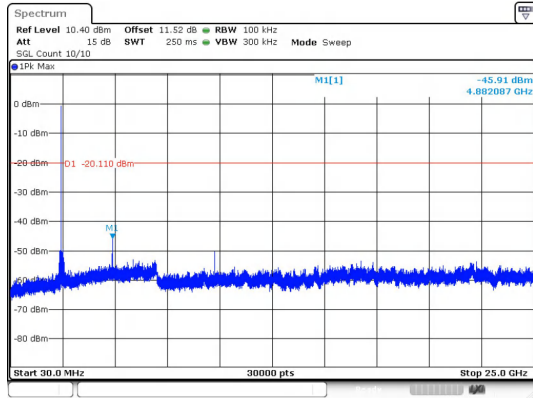
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 0



Out Of Band Emission
GFSK_DH5_Channel 39

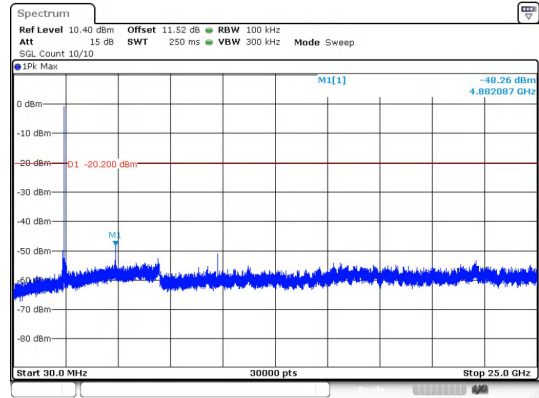


Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



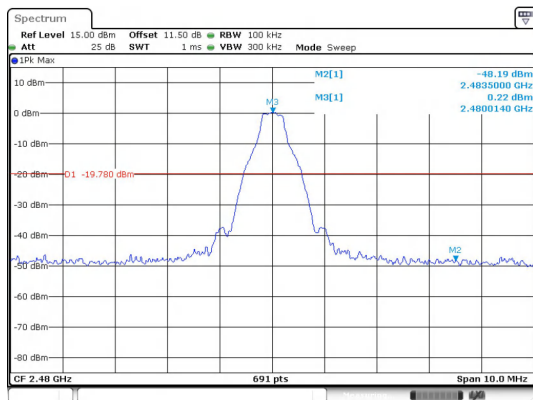
Date: 21.OCT.2024 11:41:43

30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



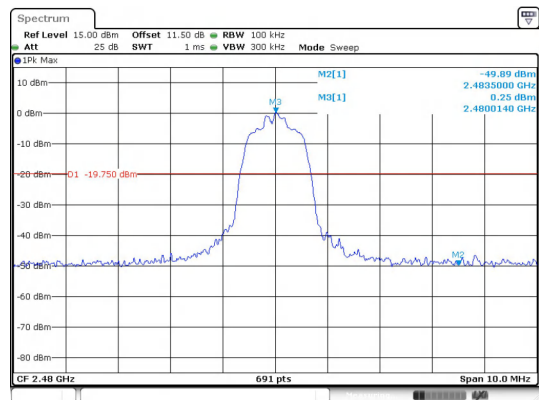
Date: 21.OCT.2024 11:51:56

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



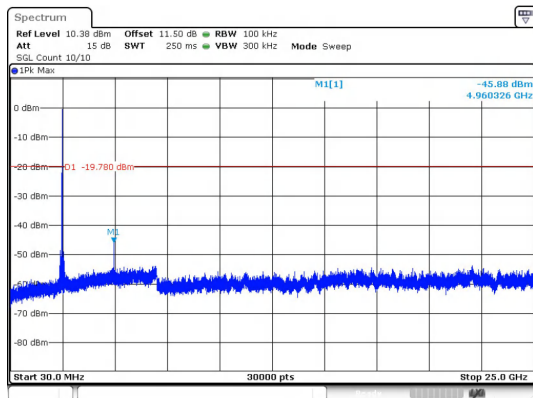
Date: 21.OCT.2024 11:43:20

Out Of Band Emission
GFSK_DH5_Channel 78



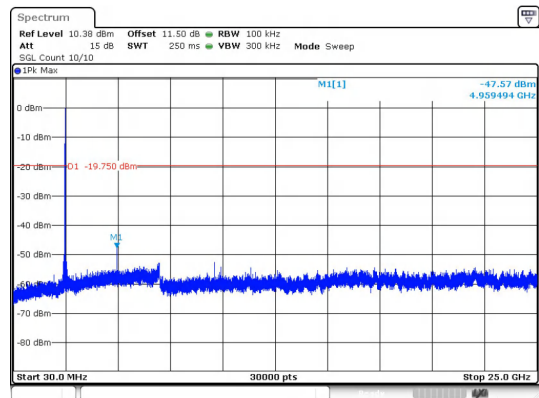
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Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



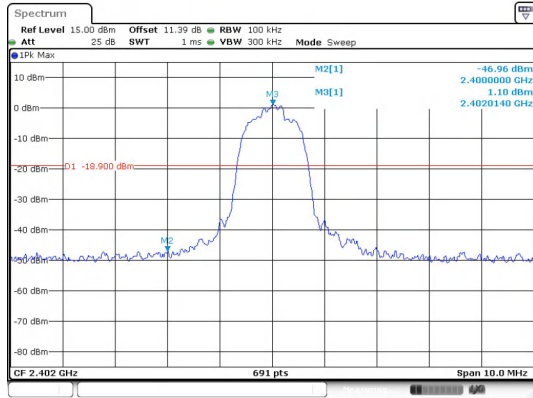
Date: 21.OCT.2024 11:43:42

30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78

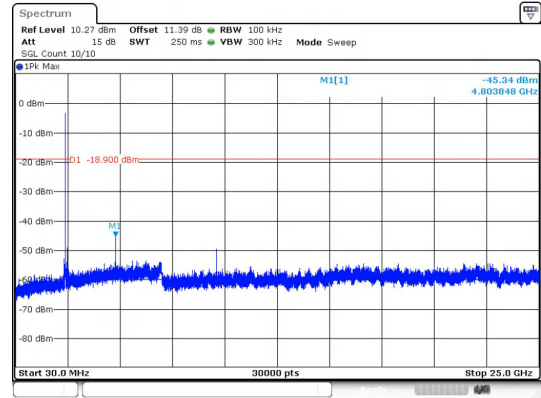


Date: 21.OCT.2024 11:54:00

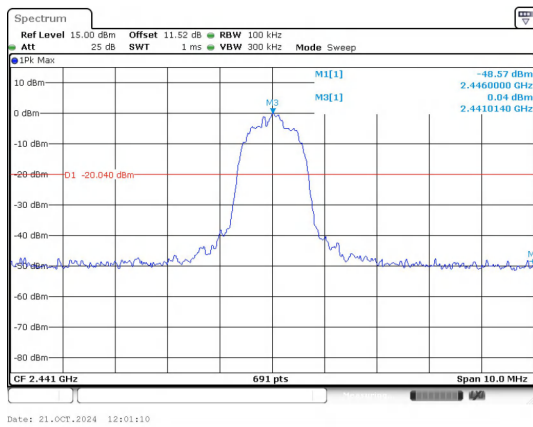
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



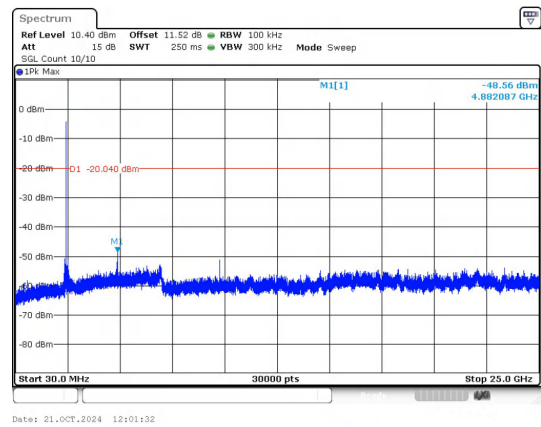
Out Of Band Emission
8DPSK_3-DH5_Channel 0



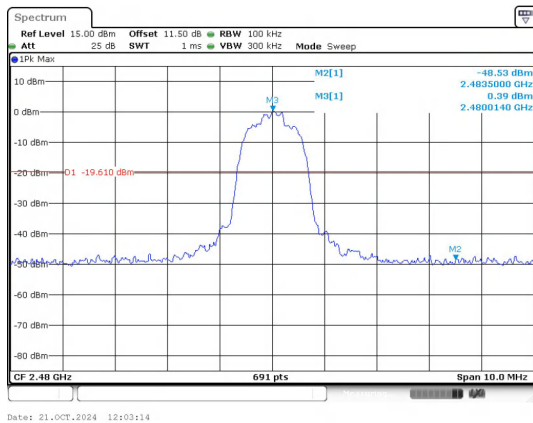
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



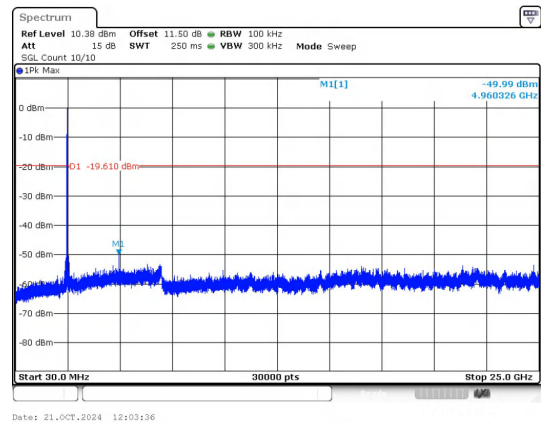
Out Of Band Emission
8DPSK_3-DH5_Channel 39



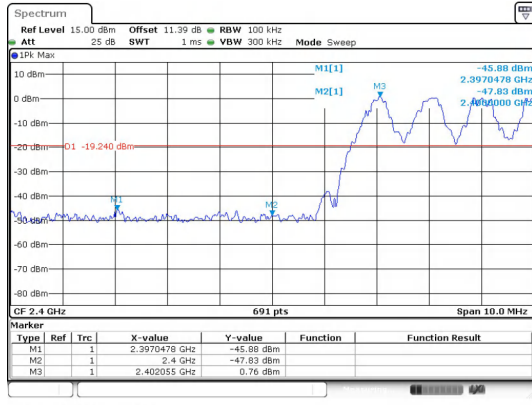
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39



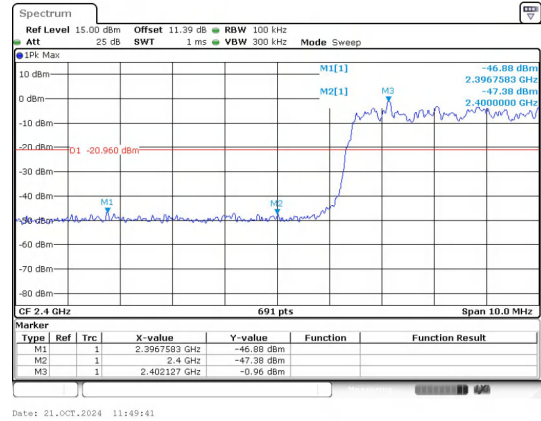
Out Of Band Emission
8DPSK_3-DH5_Channel 78



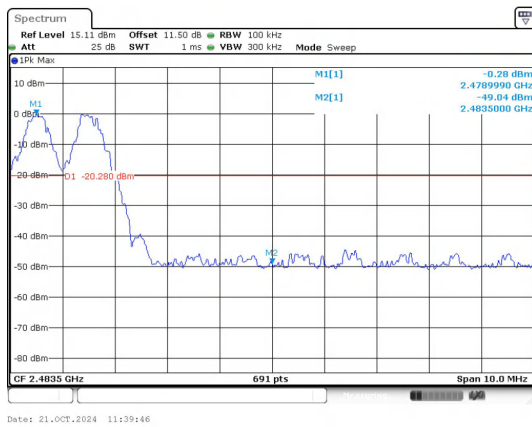
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



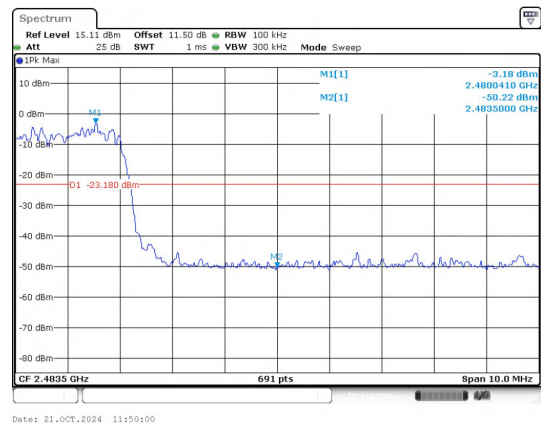
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



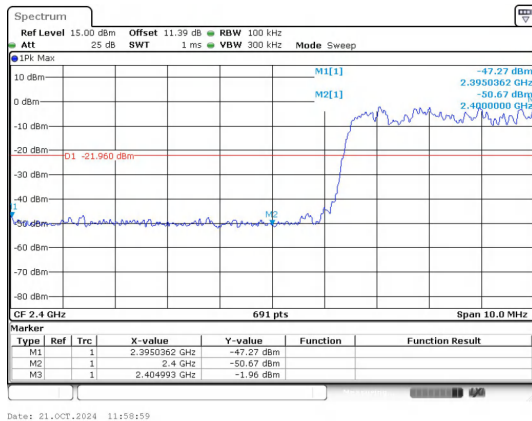
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



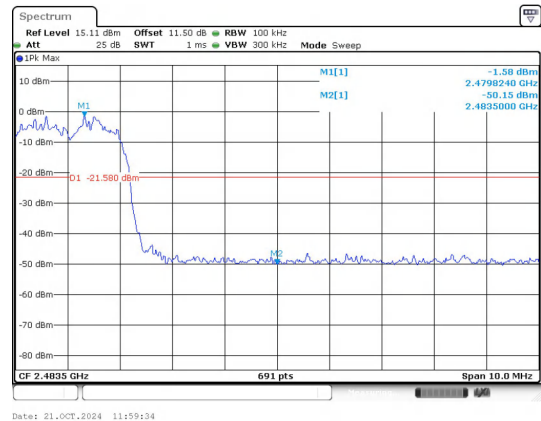
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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