

Appendix A

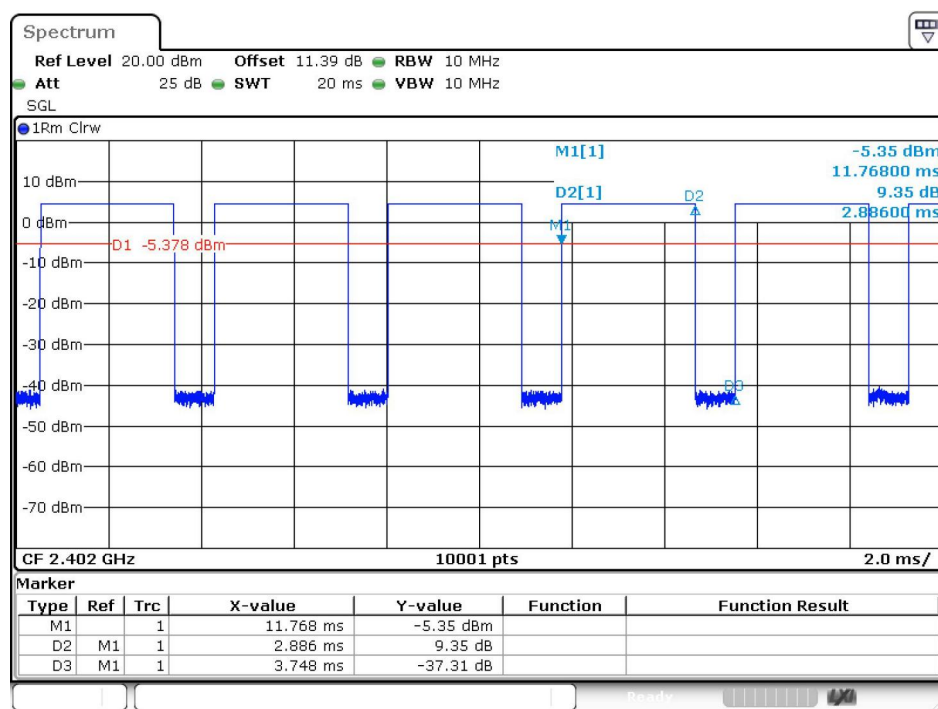
Report No.:	CISRR240913121
FCC ID:	2BGWC-K001
Product Name:	Wireless headset
Model No.:	K001
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Duty Cycle

Test Result

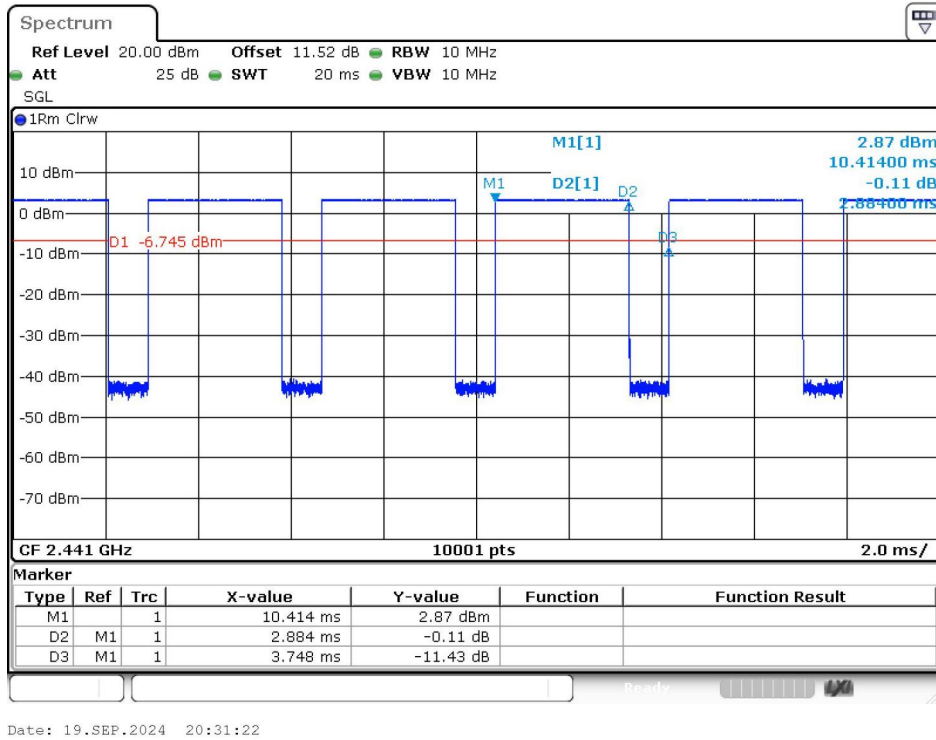
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.886	3.748	77.00	0.7700	1.1351	0.35
		39	2.884	3.748	76.95	0.7695	1.1379	0.35
		78	2.884	3.748	76.95	0.7695	1.1379	0.35
$\pi/4$ DQPSK	2-DH5	0	2.890	3.748	77.11	0.7711	1.1289	0.35
		39	2.890	3.748	77.11	0.7711	1.1289	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	2.892	3.748	77.16	0.7716	1.1261	0.35
		78	2.892	3.748	77.16	0.7716	1.1261	0.35

Test Graphs

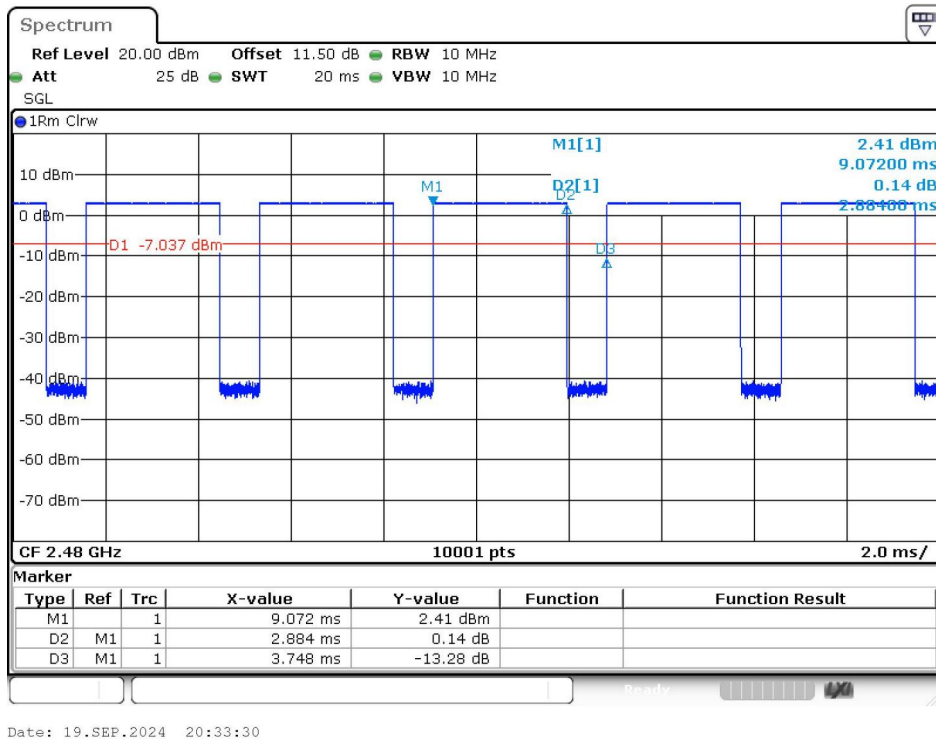


Date: 19.SEP.2024 20:25:58

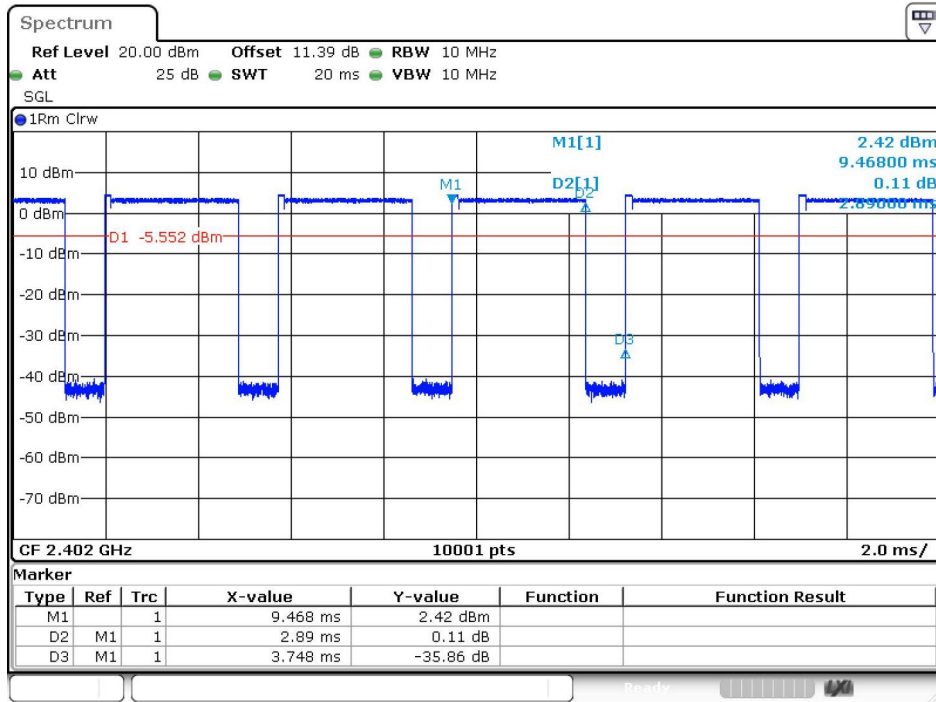
GFSK(DH5)_Channel 0



GFSK(DH5)_Channel 39

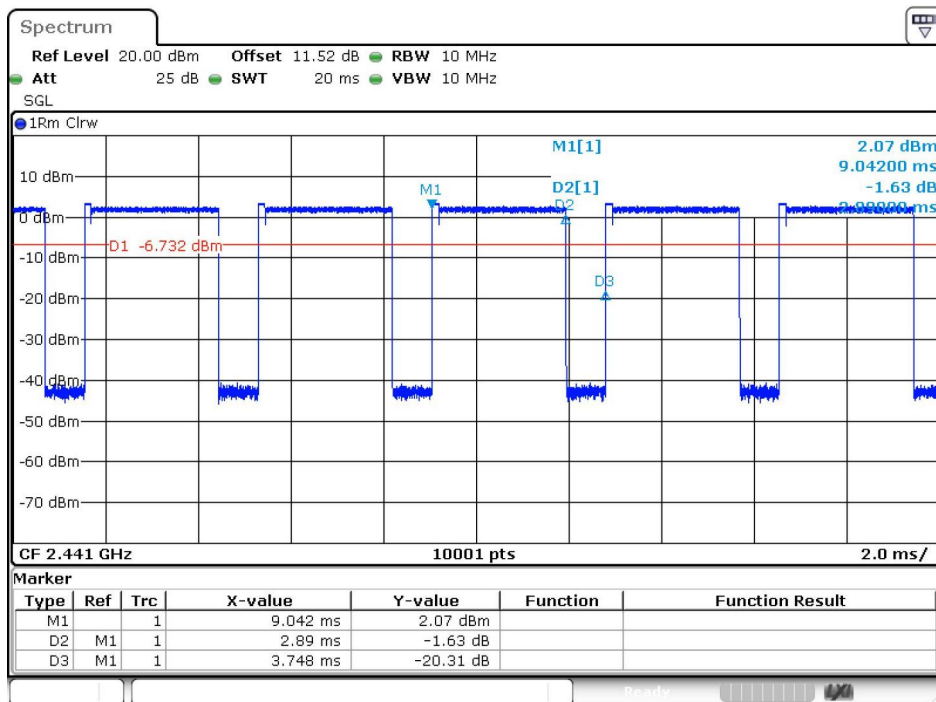


GFSK(DH5)_Channel 78



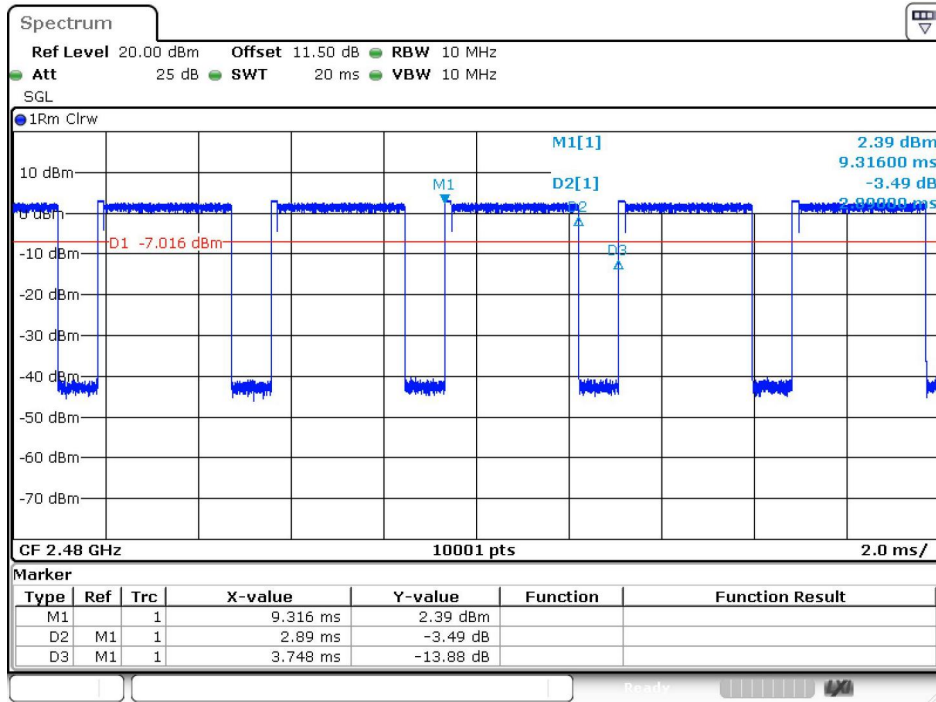
Date: 19,SEP,2024 20:35:52

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



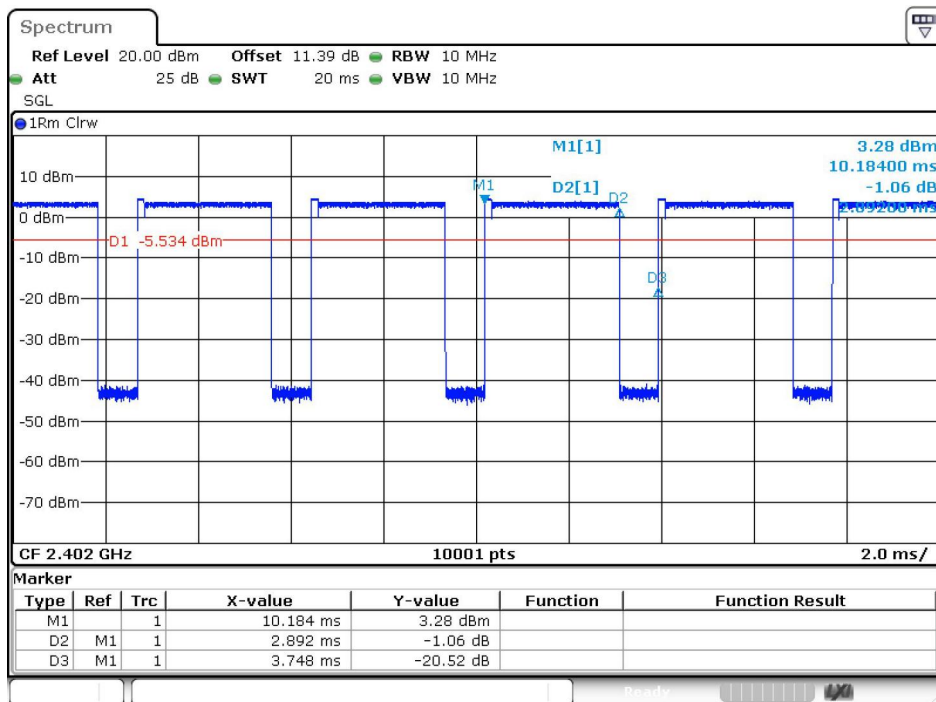
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$\pi/4$ DQPSK(2-DH5)_Channel 39



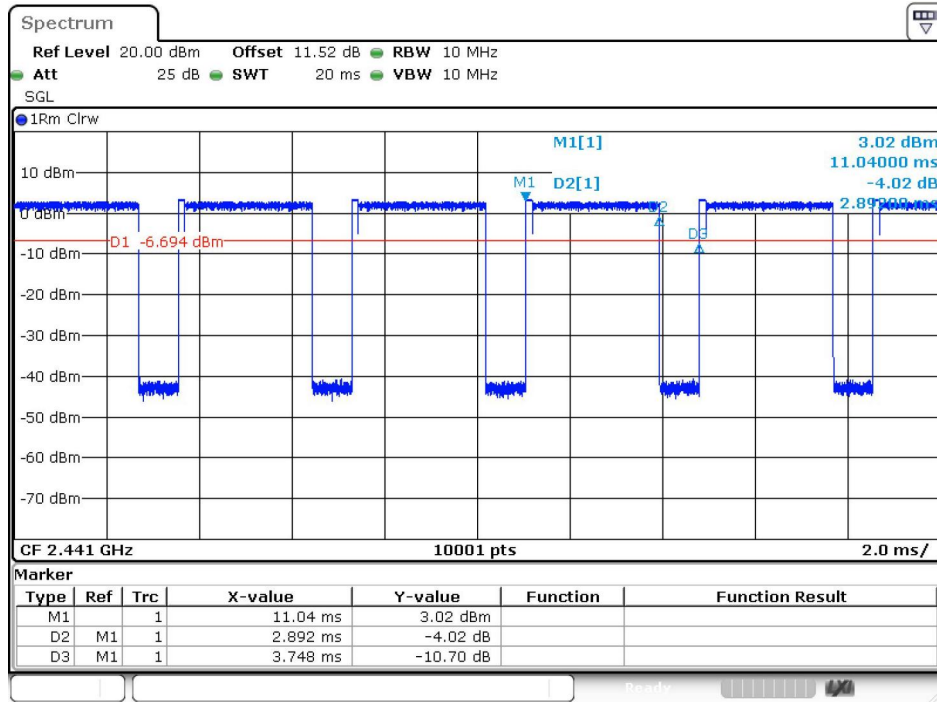
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$\pi/4$ DQPSK(2-DH5)_Channel 78



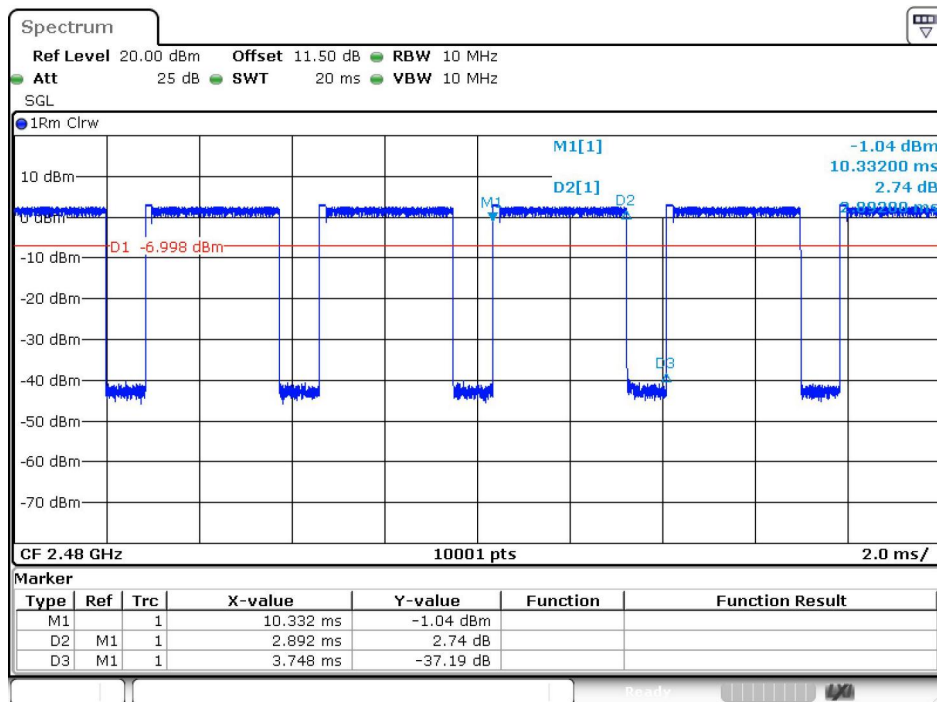
Date: 19,SEP,2024 20:46:00

8DPSK(3-DH5)_Channel 0



Date: 19.SEP.2024 20:51:39

8DPSK(3-DH5)_Channel 39



Date: 19.SEP.2024 20:53:48

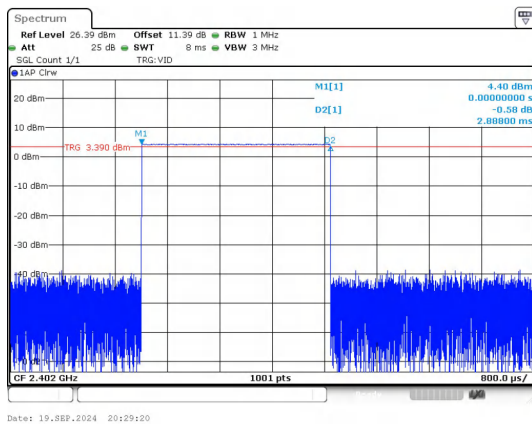
8DPSK(3-DH5)_Channel 78

2) Dwell Time

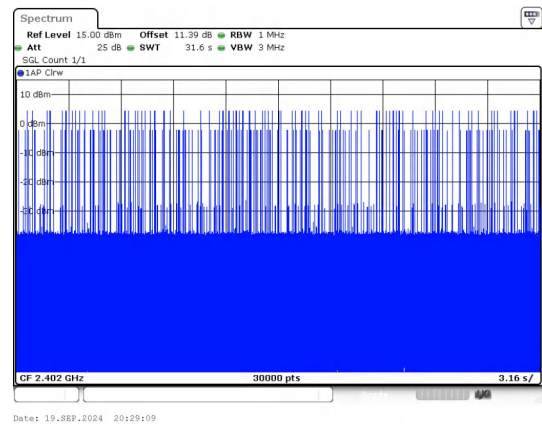
Test Result

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH0 (2402MHz)	2.888	93	268.58	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.888	112	323.46		PASS
8DPSK	3-DH5		2.896	100	289.6		PASS

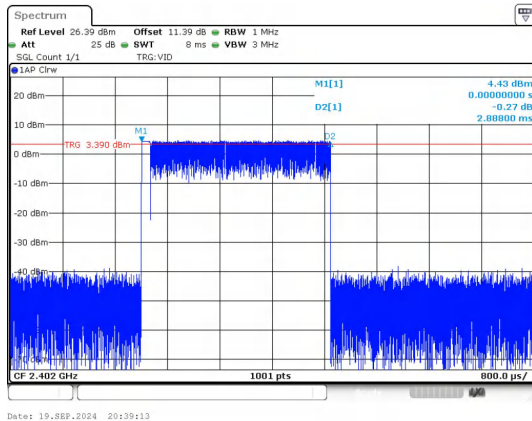
Test Graphs



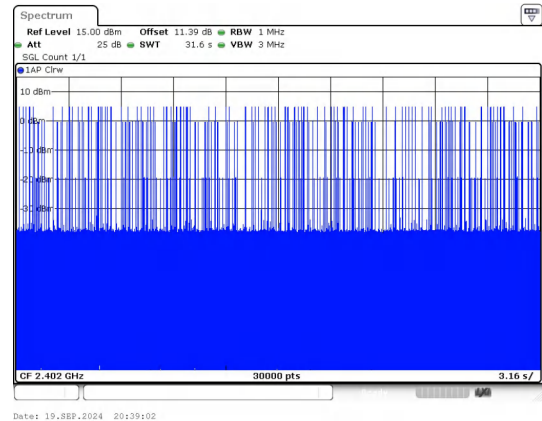
Pulse Width
GFSK_DH5



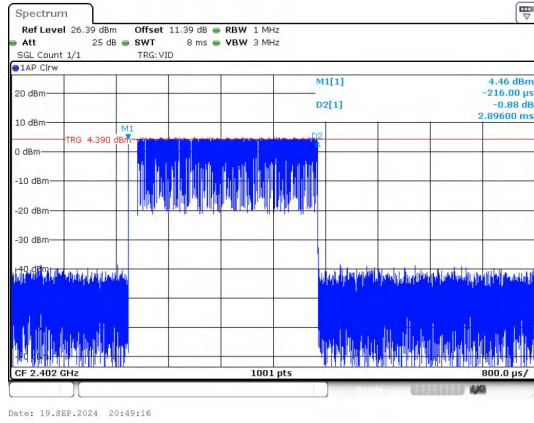
Number of Pulses in 31.6 seconds
GFSK_DH5



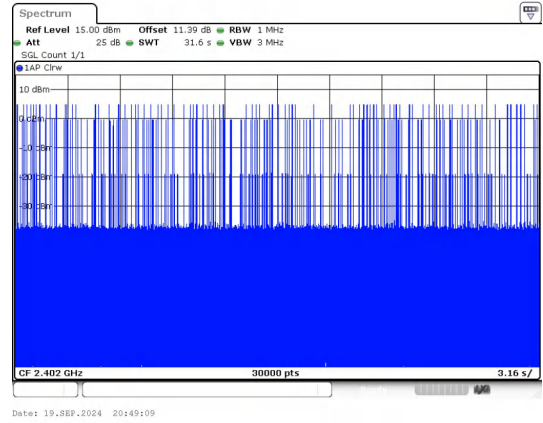
Pulse Width
 $\pi/4$ DQPSK_2-DH5



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



Pulse Width
8DPSK_3-DH5



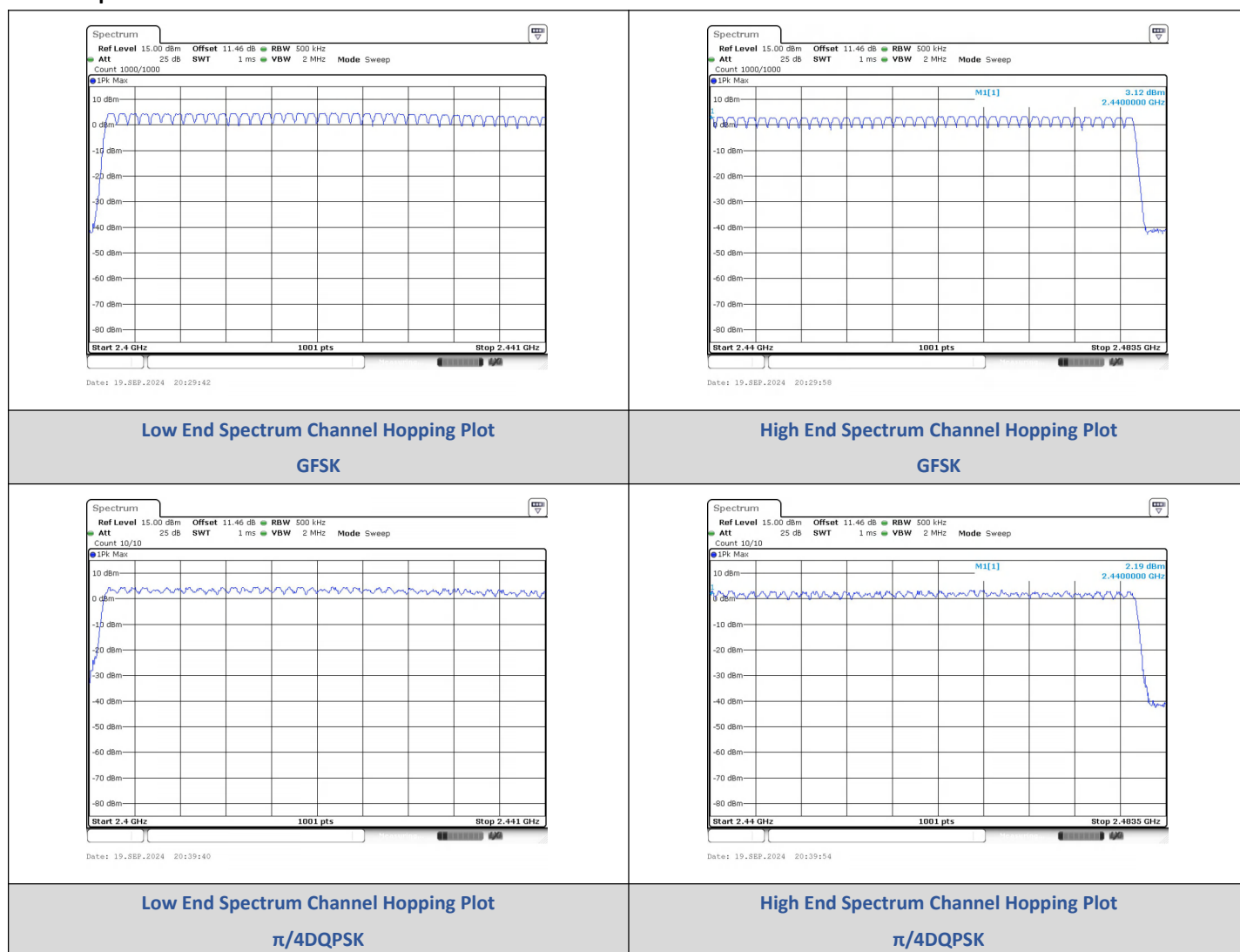
Number of Pulses in 31.6 seconds
8DPSK_3-DH5

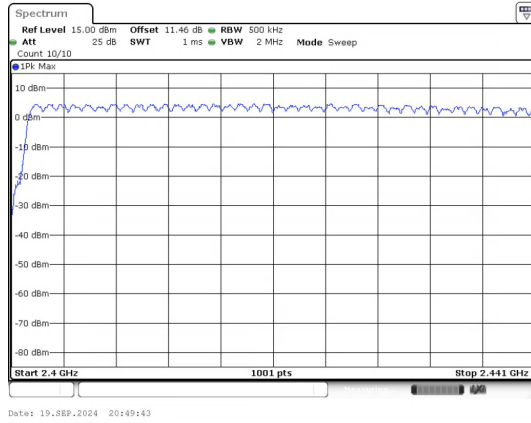
3) Number Of Hopping Channel

Test Result

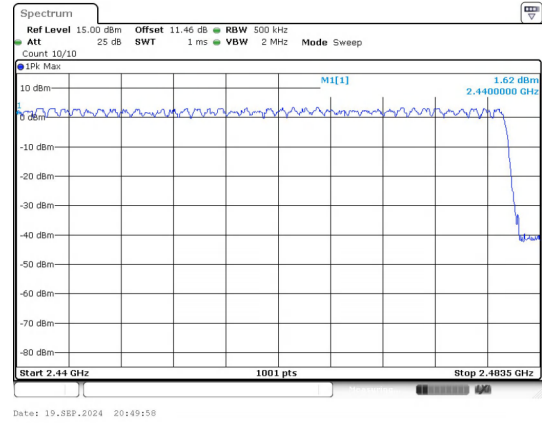
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



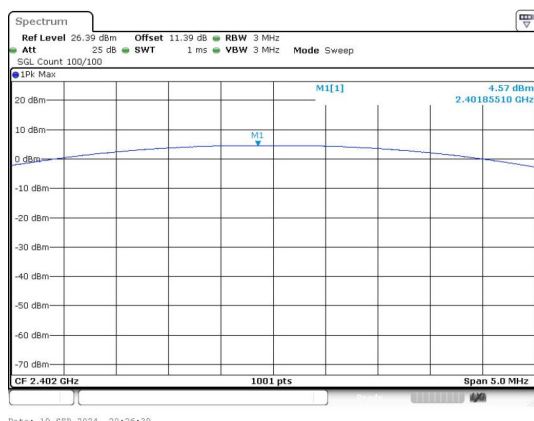
High End Spectrum Channel Hopping Plot
8DPSK

4) Conducted Peak Output Power

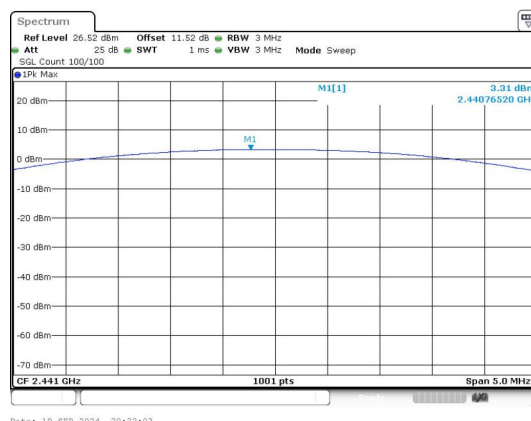
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	4.57	2.86	≤30	PASS
		39	3.31	2.14		PASS
		78	3.01	2.00		PASS
$\pi/4$ DQPSK	2-DH5	0	5.06	3.20	≤20.97	PASS
		39	3.97	2.50		PASS
		78	3.79	2.40		PASS
8DPSK	3-DH5	0	5.25	3.35		PASS
		39	4.18	2.62		PASS
		78	4.10	2.57		PASS

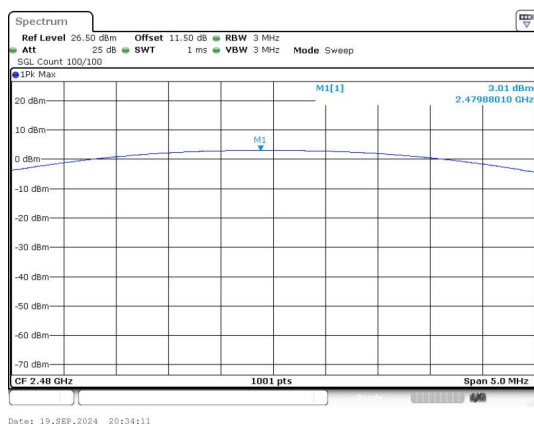
Test Graphs



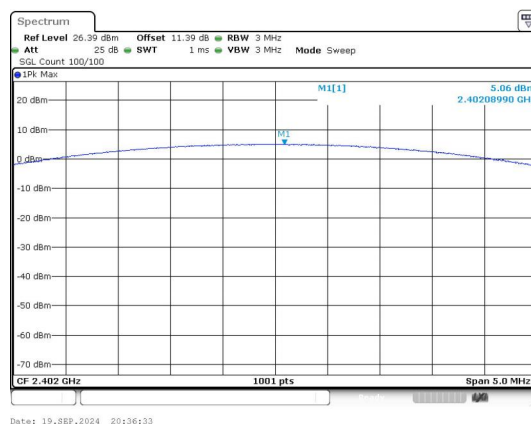
Peak Output Power
GFSK_Channel 0



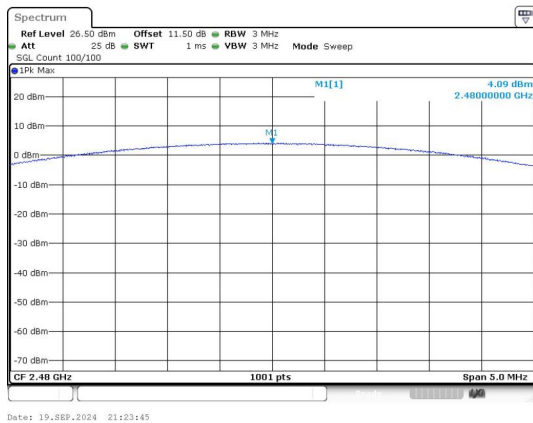
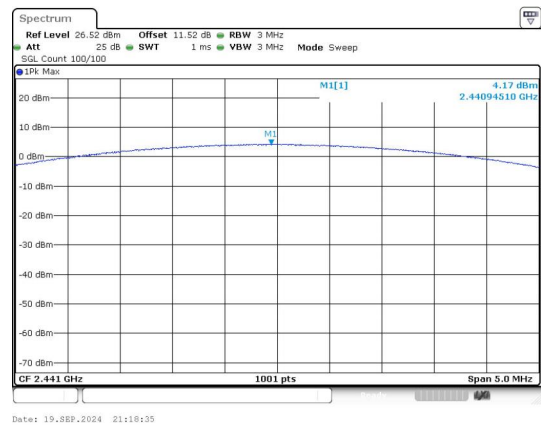
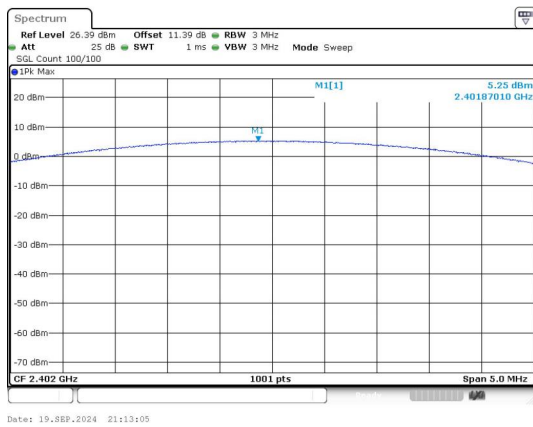
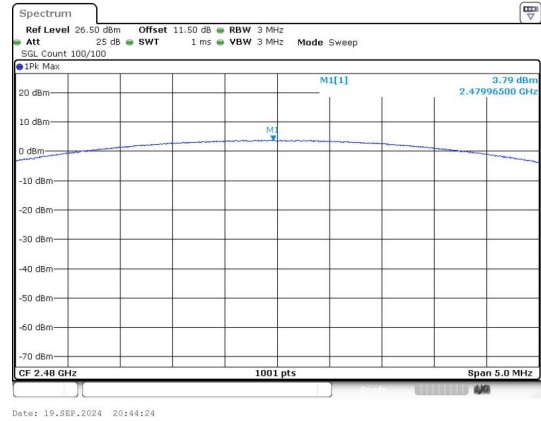
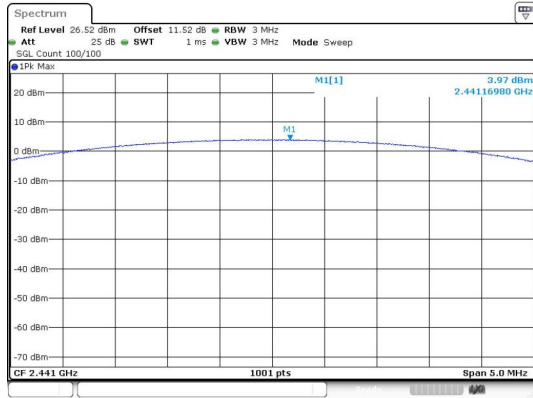
Peak Output Power
GFSK_Channel 39



Peak Output Power
GFSK_Channel 78



Peak Output Power
 $\pi/4$ DQPSK_Channel 0

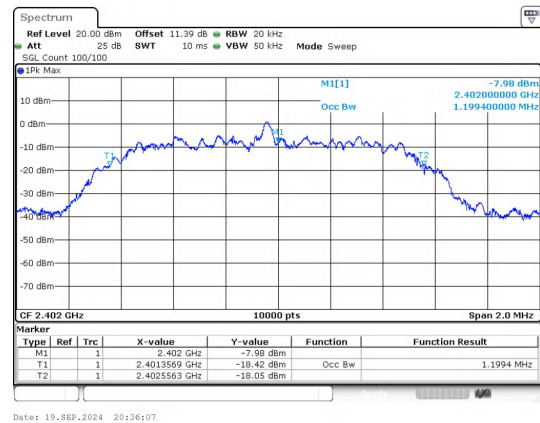
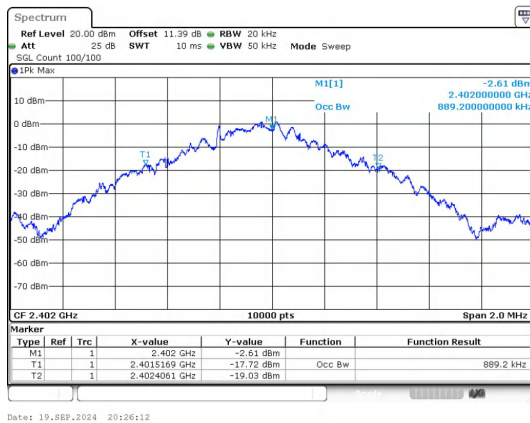


5) 99% Bandwidth

Test Result

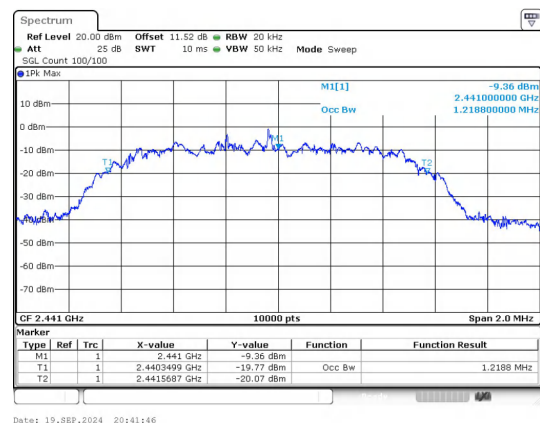
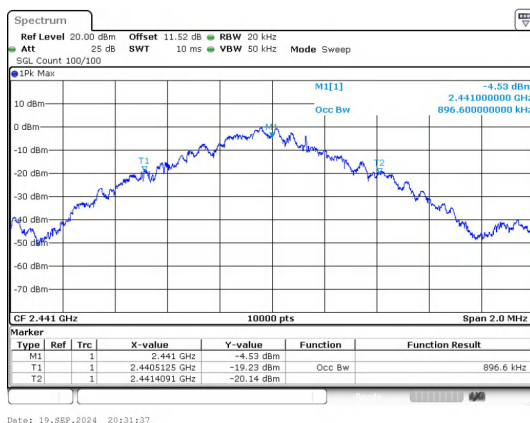
Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.88920
	39	2441	0.89660
	78	2480	0.89020
$\pi/4$ DQPSK	0	2402	1.1994
	39	2441	1.2188
	78	2480	1.1998
8DPSK	0	2402	1.2188
	39	2441	1.2106
	78	2480	1.2070

Test Graphs



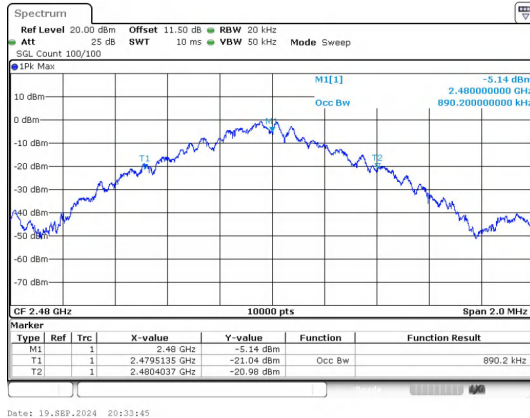
GFSK_DH5_Channel 0

$\pi/4$ DQPSK_2-DH5_Channel 0

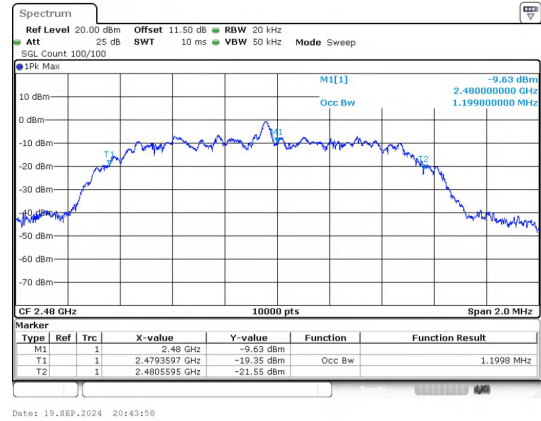


GFSK_DH5_Channel 39

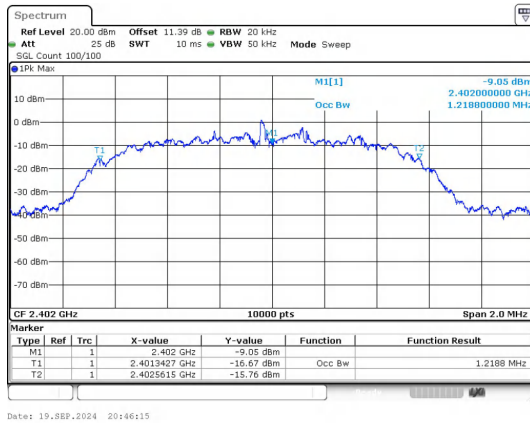
$\pi/4$ DQPSK_2-DH5_Channel 39



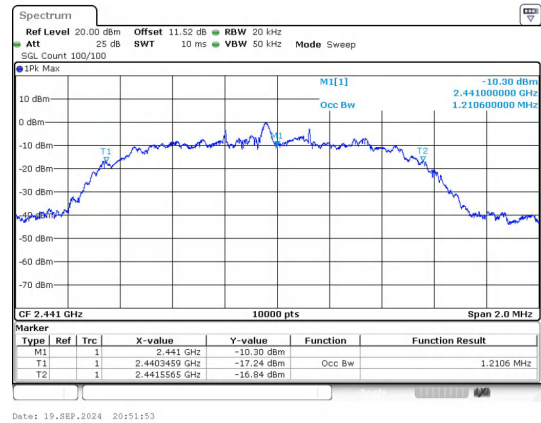
GFSK_DH5_Channel 78



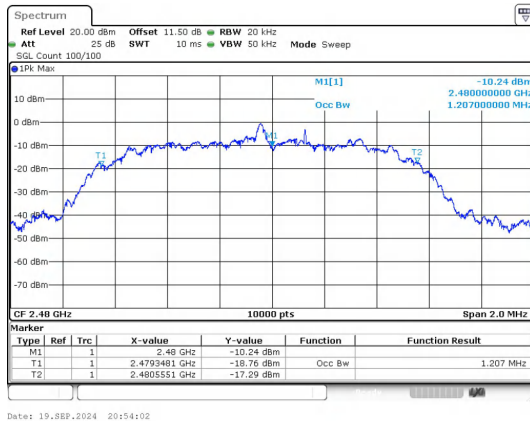
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



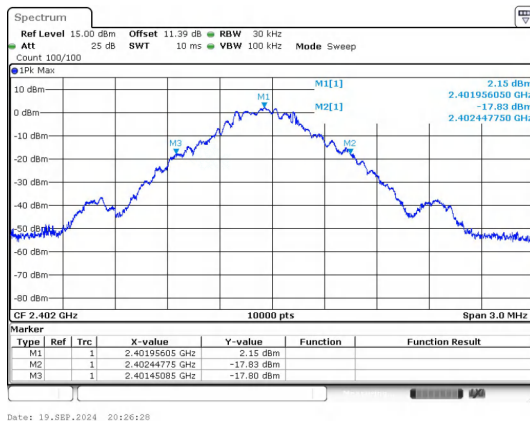
8DPSK_3-DH5_Channel 78

6) 20dB Bandwidth

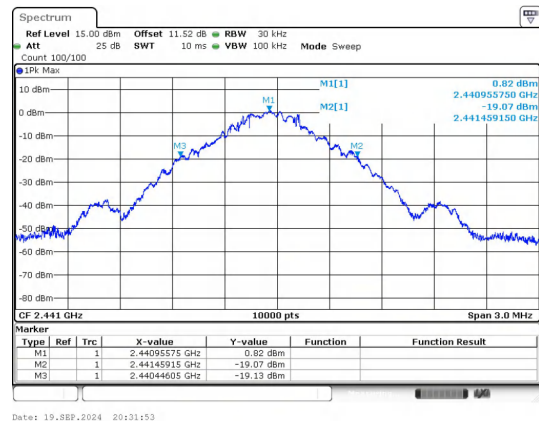
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	1.000
	39	2441 MHz	1.010
	78	2480 MHz	0.9900
$\pi/4$ DQPSK	0	2402 MHz	1.300
	39	2441 MHz	1.310
	78	2480 MHz	1.310
8DPSK	0	2402 MHz	1.300
	39	2441 MHz	1.310
	78	2480 MHz	1.290

Test Graphs



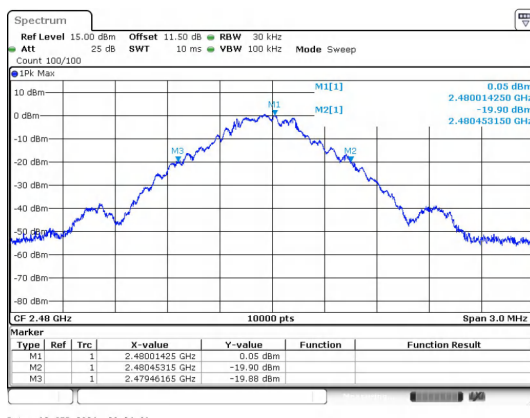
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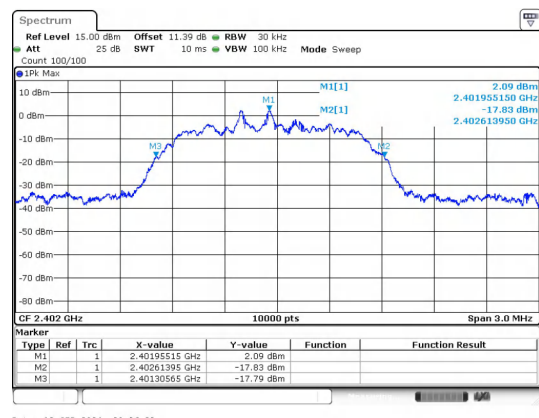
Date: 19. SEP. 2024 20:13:53

GFSK_DH5_Channel 0

GFSK_DH5_Channel 39



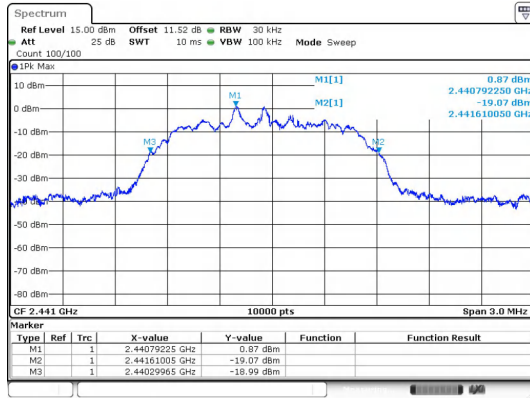
Date: 19. SEP. 2024 20:13:01



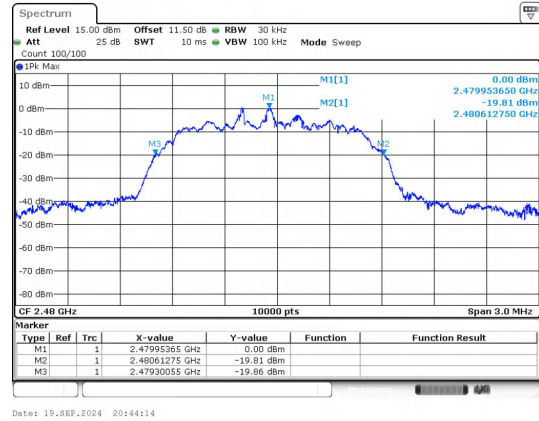
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GFSK_DH5_Channel 78

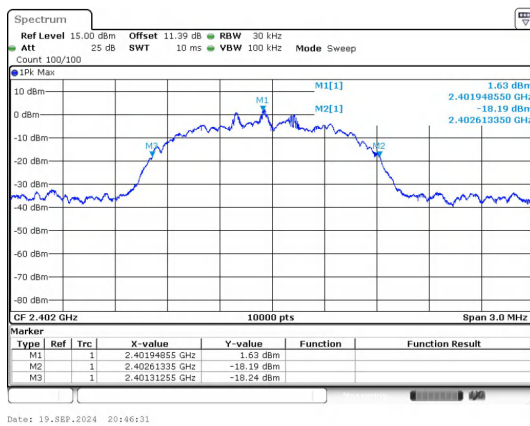
 $\pi/4$ DQPSK_2-DH5_Channel 0



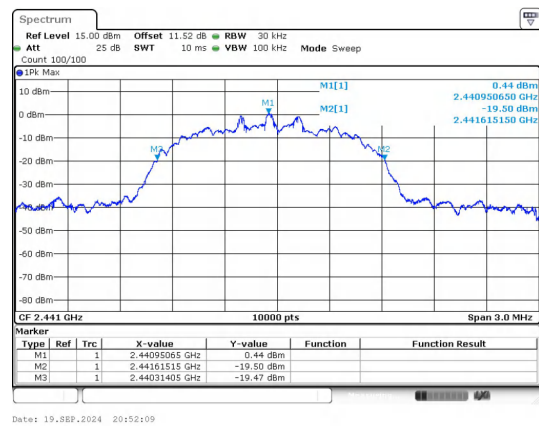
$\pi/4$ DQPSK_2-DH5_Channel 39



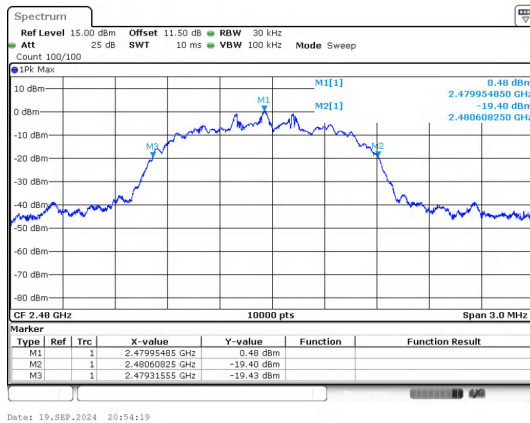
$\pi/4$ DQPSK_2-DH5_Channel 78



8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 39



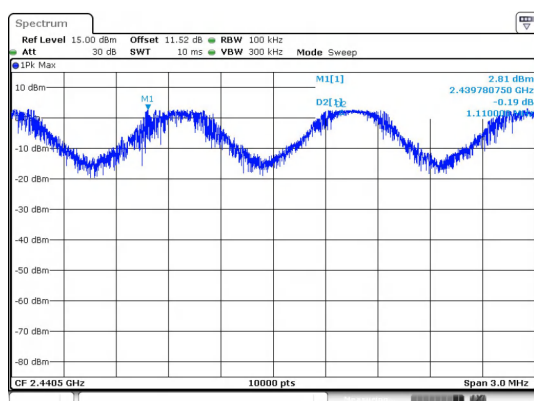
8DPSK_3-DH5_Channel 78

7) Carrier Frequencies Separation

Test Result

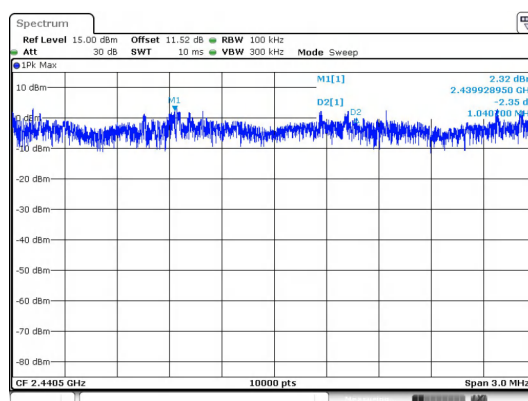
Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.7807	2440.8908	1.1100	1.010	PASS
$\pi/4$ DQPSK	2-DH5	2439.9289	2440.9697	1.0407	0.867	PASS
8DPSK	3-DH5	2439.8086	2440.8137	1.0050	0.867	PASS

Test Graphs

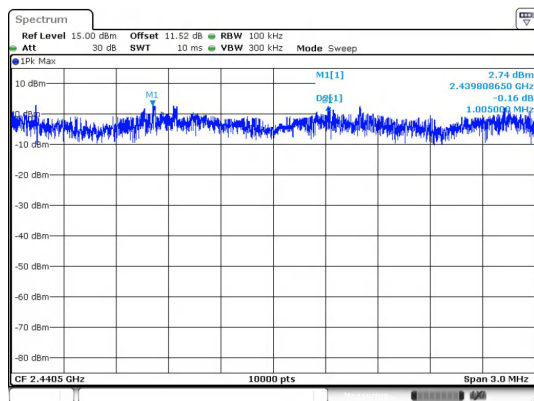


Date: 19.SEP.2024 20:28:23

GFSK



Date: 19.SEP.2024 20:38:15

 $\pi/4$ DQPSK


Date: 19.SEP.2024 21:14:52

8DPSK

8) Conducted Out Of Band Emission

Test Result

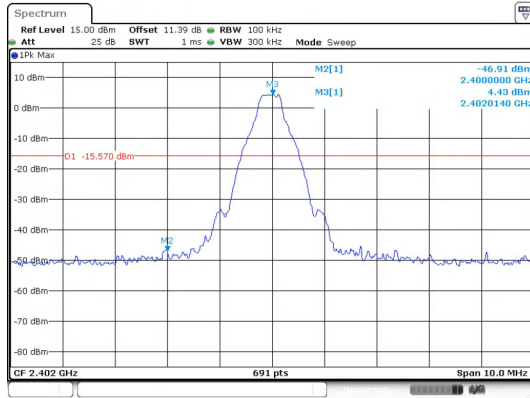
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-46.914	-15.57	-31.344	PASS
			7205.13	-38.390	-15.57	-22.820	PASS
		39	7322.49	-43.464	-16.89	-26.574	PASS
		78	2287.70	-42.279	-17.16	-25.119	PASS
			2483.50	-50.806	-17.16	-33.646	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-47.160	-15.63	-31.530	PASS
			7205.96	-42.316	-15.63	-26.686	PASS
		39	7323.32	-47.277	-16.76	-30.517	PASS
		78	2483.50	-50.282	-17.1	-33.182	PASS
			9920.20	-45.598	-17.1	-28.498	PASS
8DPSK	3-DH5	0	2400.00	-48.551	-15.59	-32.961	PASS
			7205.13	-37.285	-15.59	-21.695	PASS
		39	7322.49	-45.777	-16.81	-28.967	PASS
		78	2483.50	-49.493	-16.73	-32.763	PASS
			9920.20	-38.708	-16.73	-21.978	PASS

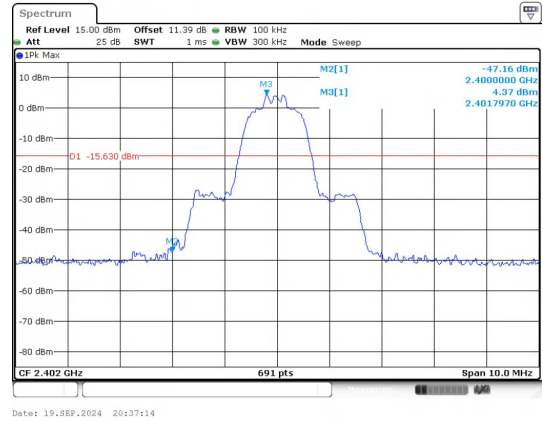
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2398.67	-48.326	-15.89	-32.436	PASS
			2400.00	-50.975	-15.89	-35.085	PASS
			2483.50	-49.467	-17.33	-32.137	PASS
$\pi/4$ DQPSK	2-DH5		2397.25	-48.393	-17.71	-30.683	PASS
			2400.00	-48.781	-17.71	-31.071	PASS
			2483.50	-49.752	-20.26	-29.492	PASS
8DPSK	3-DH5		2398.49	-48.996	-17.12	-31.876	PASS
			2400.00	-49.394	-17.12	-32.274	PASS
			2483.50	-49.874	-17.2	-32.674	PASS

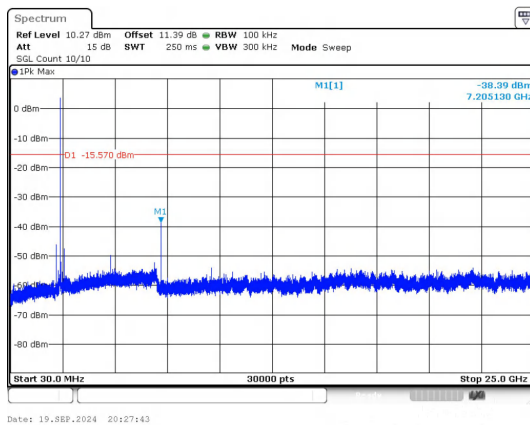
Test Graphs



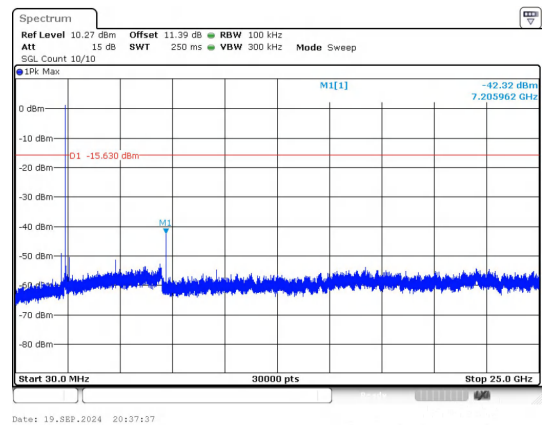
Out Of Band Emission
GFSK_DH5_Channel 0



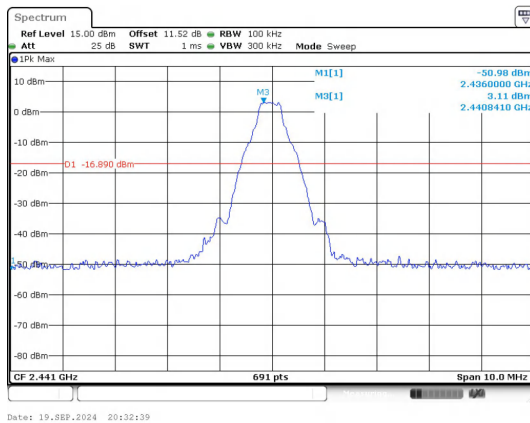
Out Of Band Emission
 $\pi/4$ QPSK_2-DH5_Channel 0



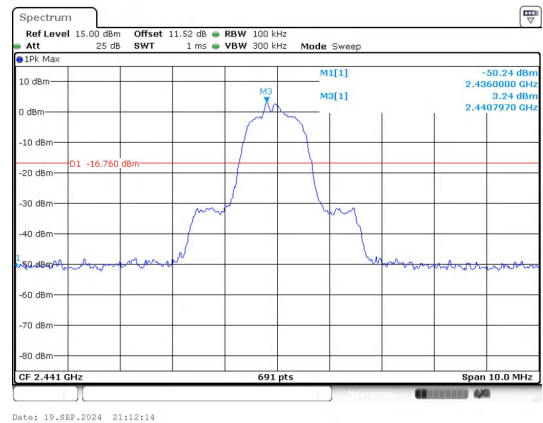
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 0



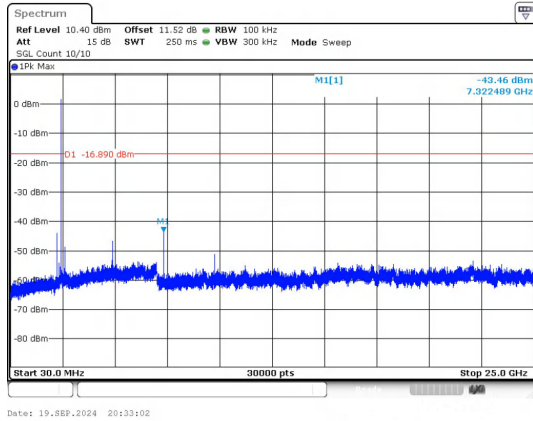
30.0 MHz - 25000.0 MHz
 $\pi/4$ QPSK_2-DH5_Channel 0



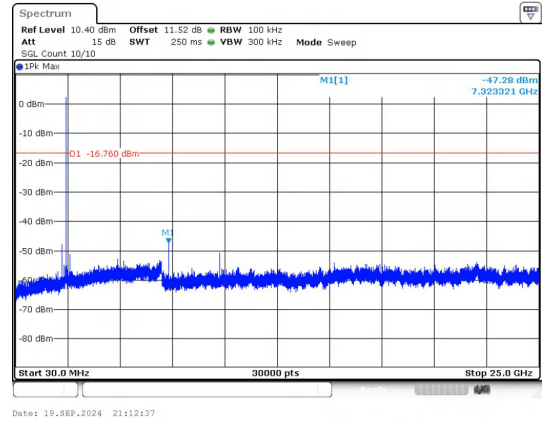
Out Of Band Emission
GFSK_DH5_Channel 39



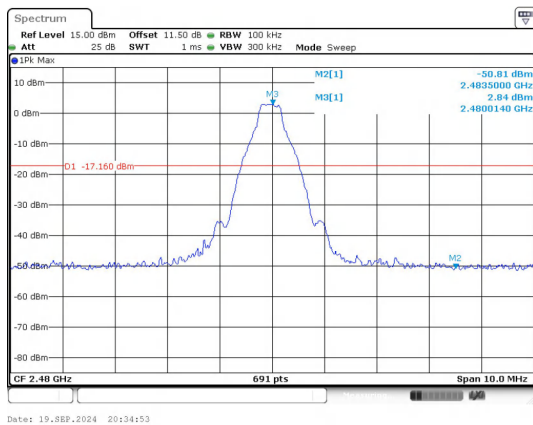
Out Of Band Emission
 $\pi/4$ QPSK_2-DH5_Channel 39



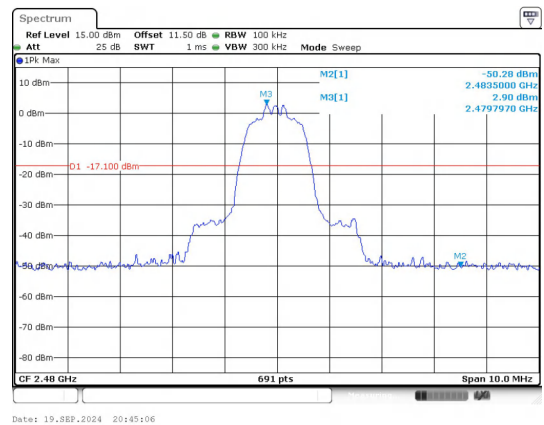
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 39



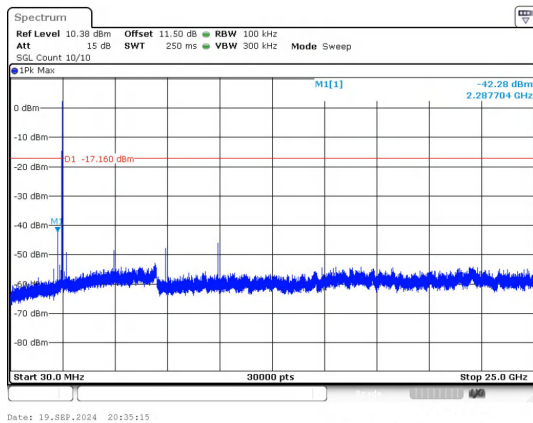
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 39



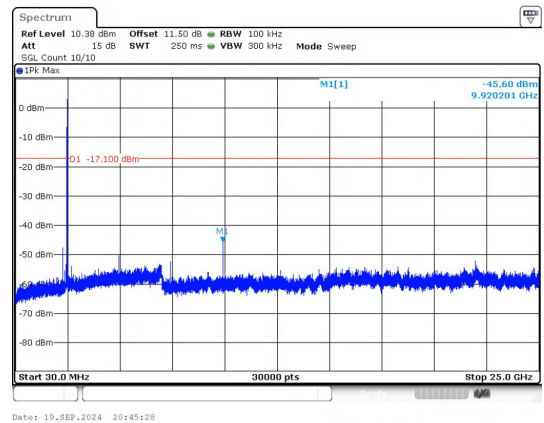
Out Of Band Emission
GFSK_DH5_Channel 78



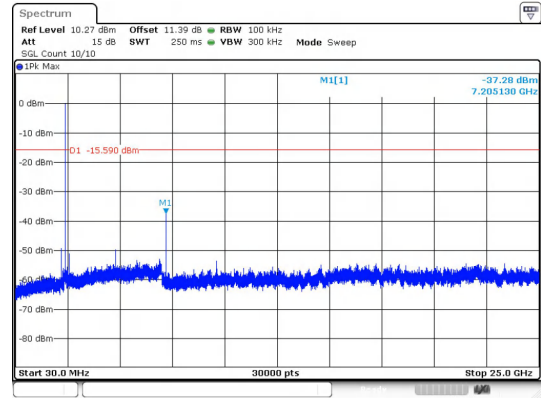
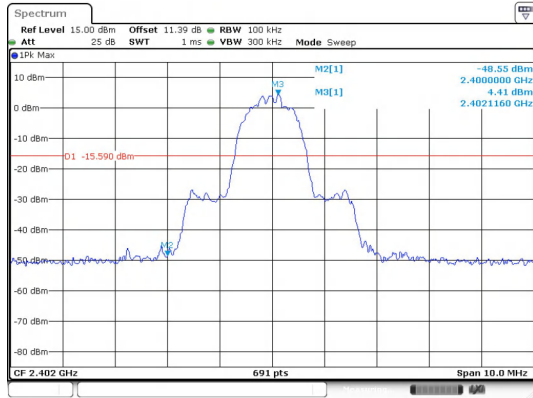
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78

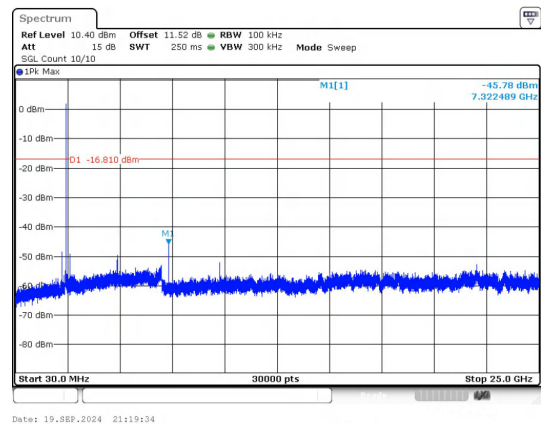
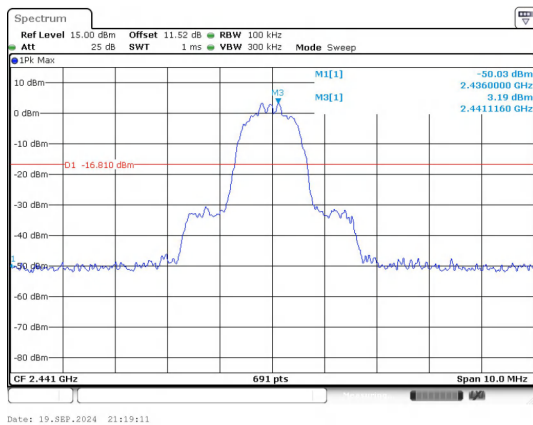


30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



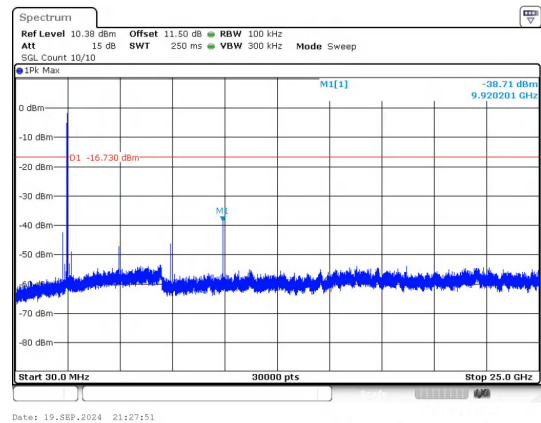
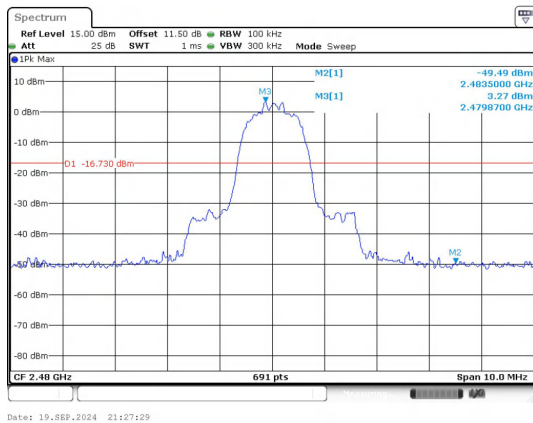
Out Of Band Emission
8DPSK_3-DH5_Channel 0

30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 0



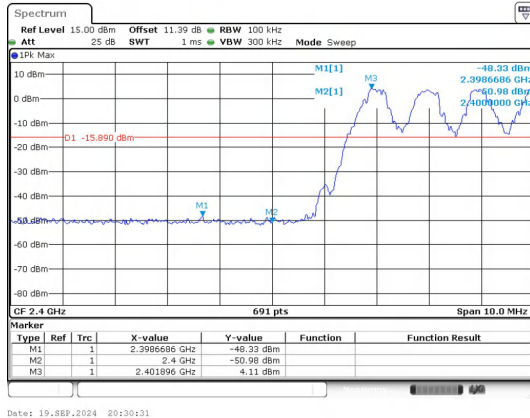
Out Of Band Emission
8DPSK_3-DH5_Channel 39

30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 39

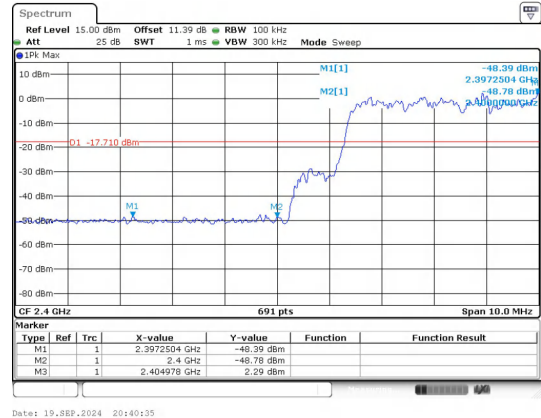


Out Of Band Emission
8DPSK_3-DH5_Channel 78

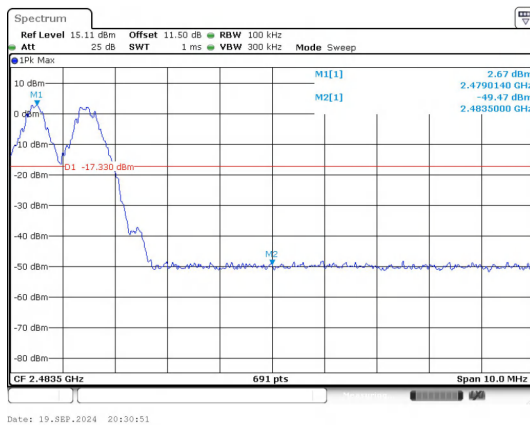
30.0 MHz - 25000.0 MHz
8DPSK_3-DH5_Channel 78



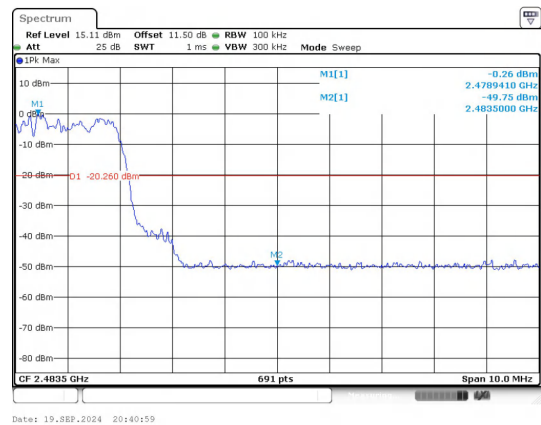
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



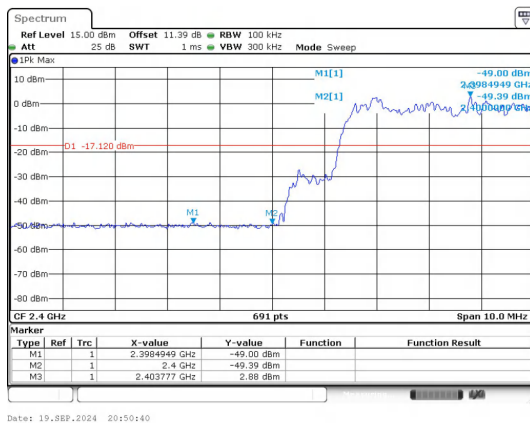
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



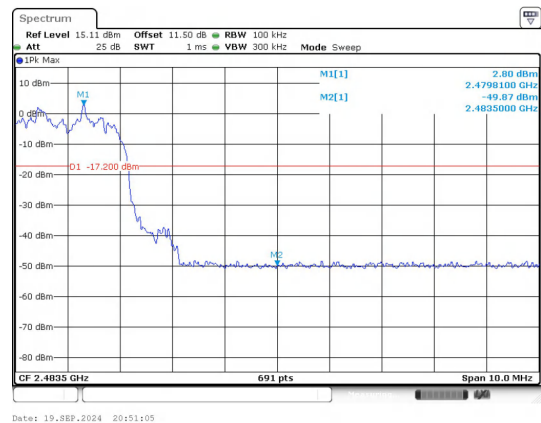
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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