

Appendix A

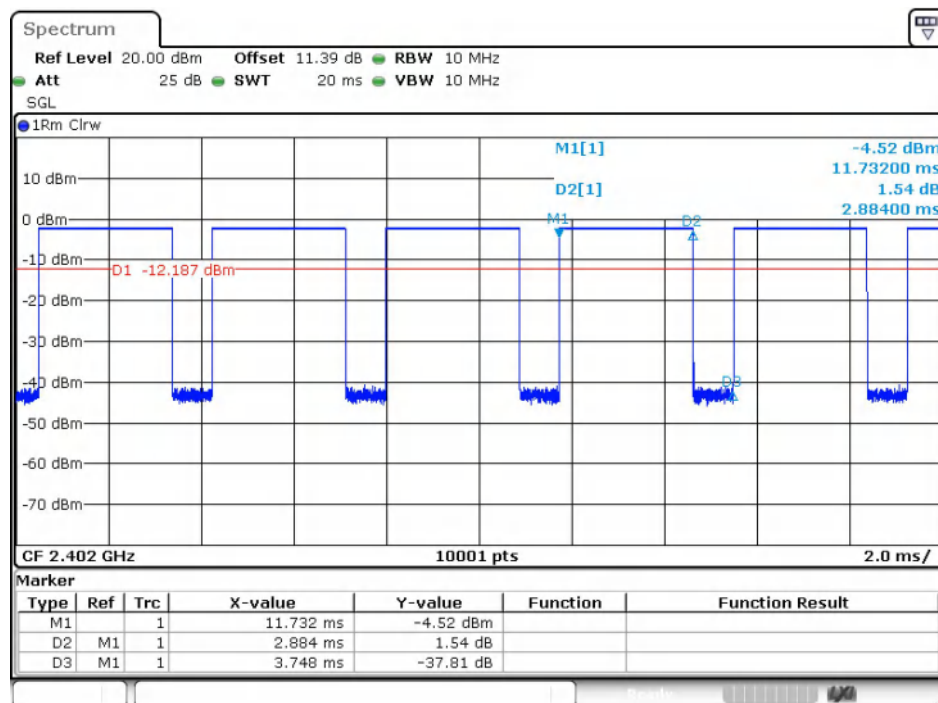
Report No.:	CISRR24090301001
FCC ID:	2BFQI-MK68
Product Name:	keyboard
Model No.:	MK68
Test Engineer:	Lucas Huang
Supervised by:	Rory Huang

1) Duty Cycle

Test Result

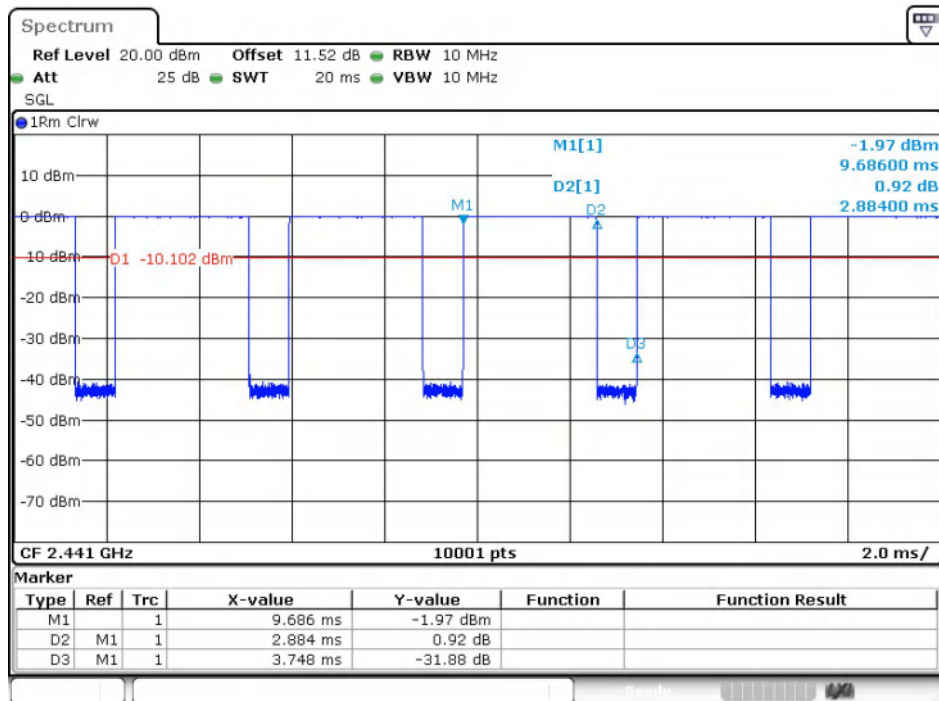
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
GFSK	DH5	0	2.884	3.748	76.95	0.7695	1.1379	0.35
		39	2.884	3.748	76.95	0.7695	1.1379	0.35
		78	2.886	3.748	77.00	0.7700	1.1351	0.35
$\pi/4$ DQPSK	2-DH5	0	2.892	3.748	77.16	0.7716	1.1261	0.35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

Test Graphs



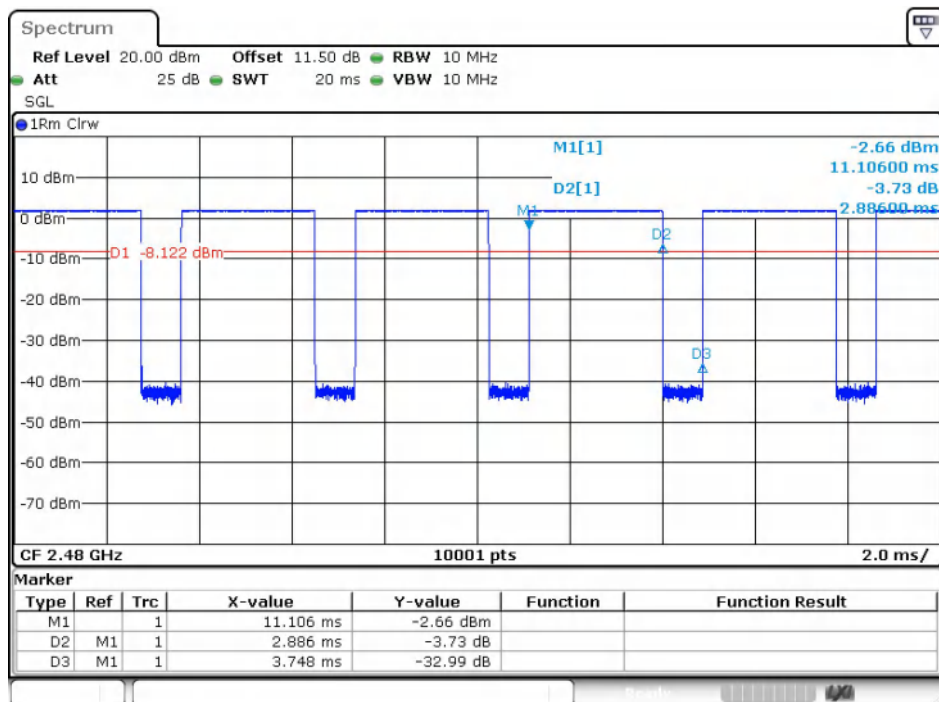
Date: 6.SEP.2024 09:35:33

GFSK(DH5)_Channel 0



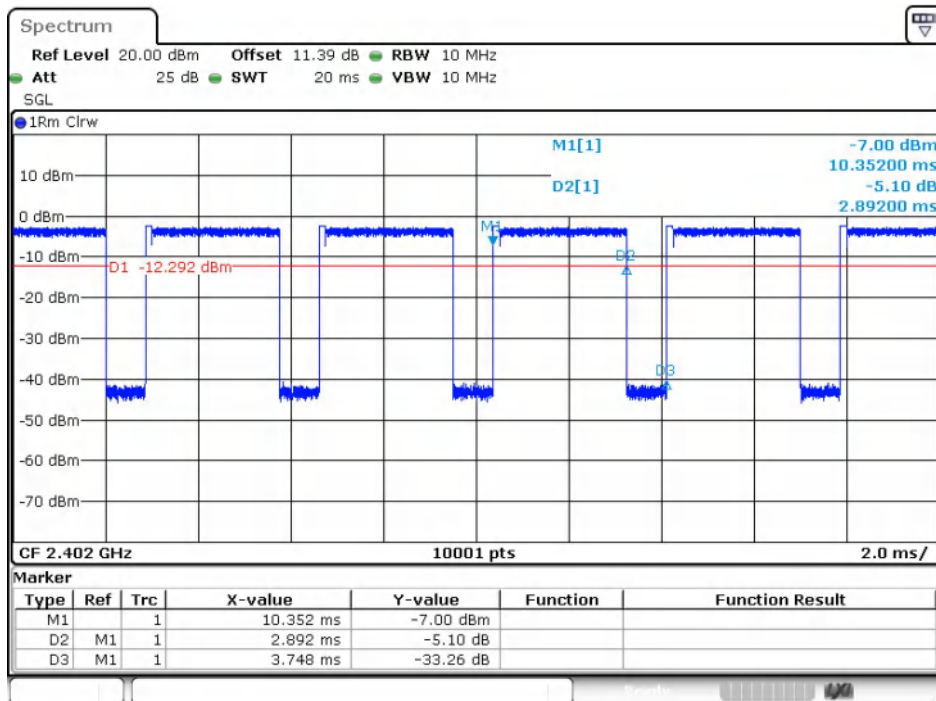
Date: 6,SEP.2024 09:42:34

GFSK(DH5)_Channel 39



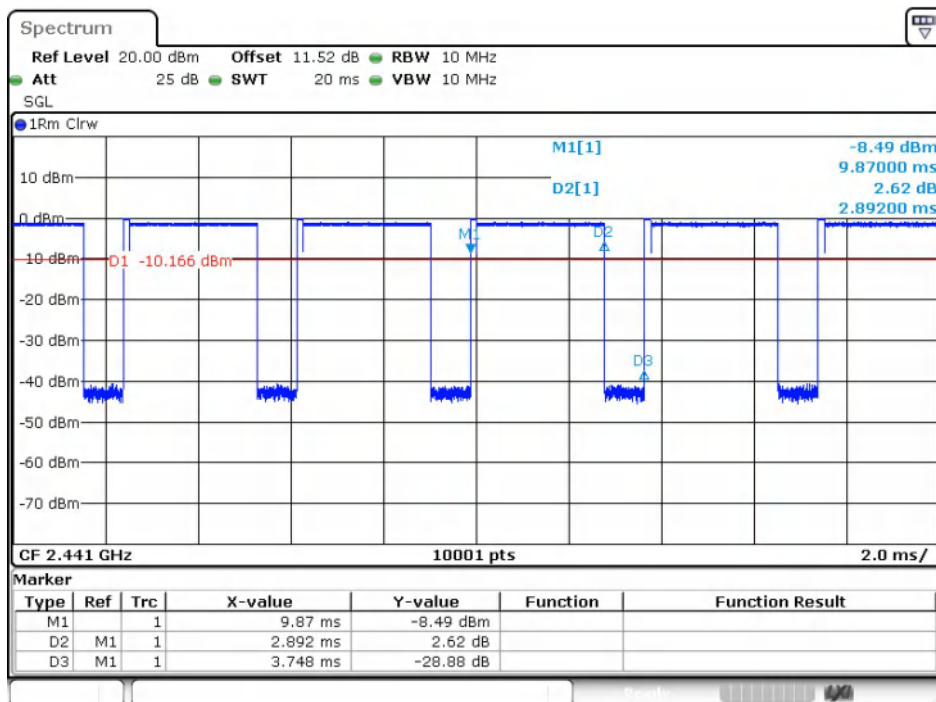
Date: 6,SEP.2024 09:46:37

GFSK(DH5)_Channel 78



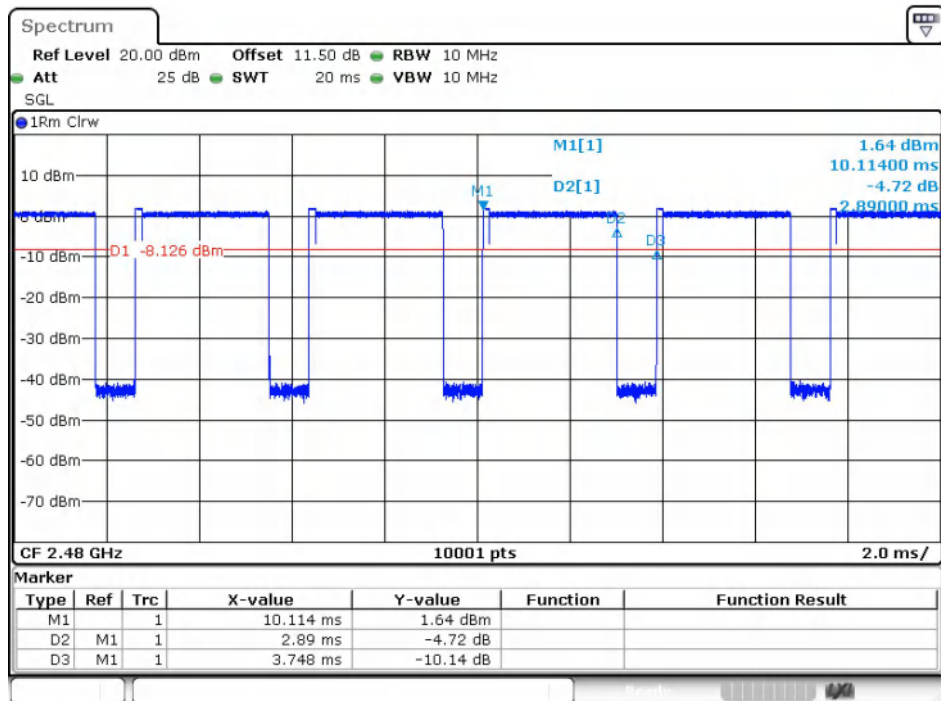
Date: 6,SEP.2024 09:49:36

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



Date: 6,SEP.2024 09:55:52

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



Date: 6,SEP,2024 09:58:25

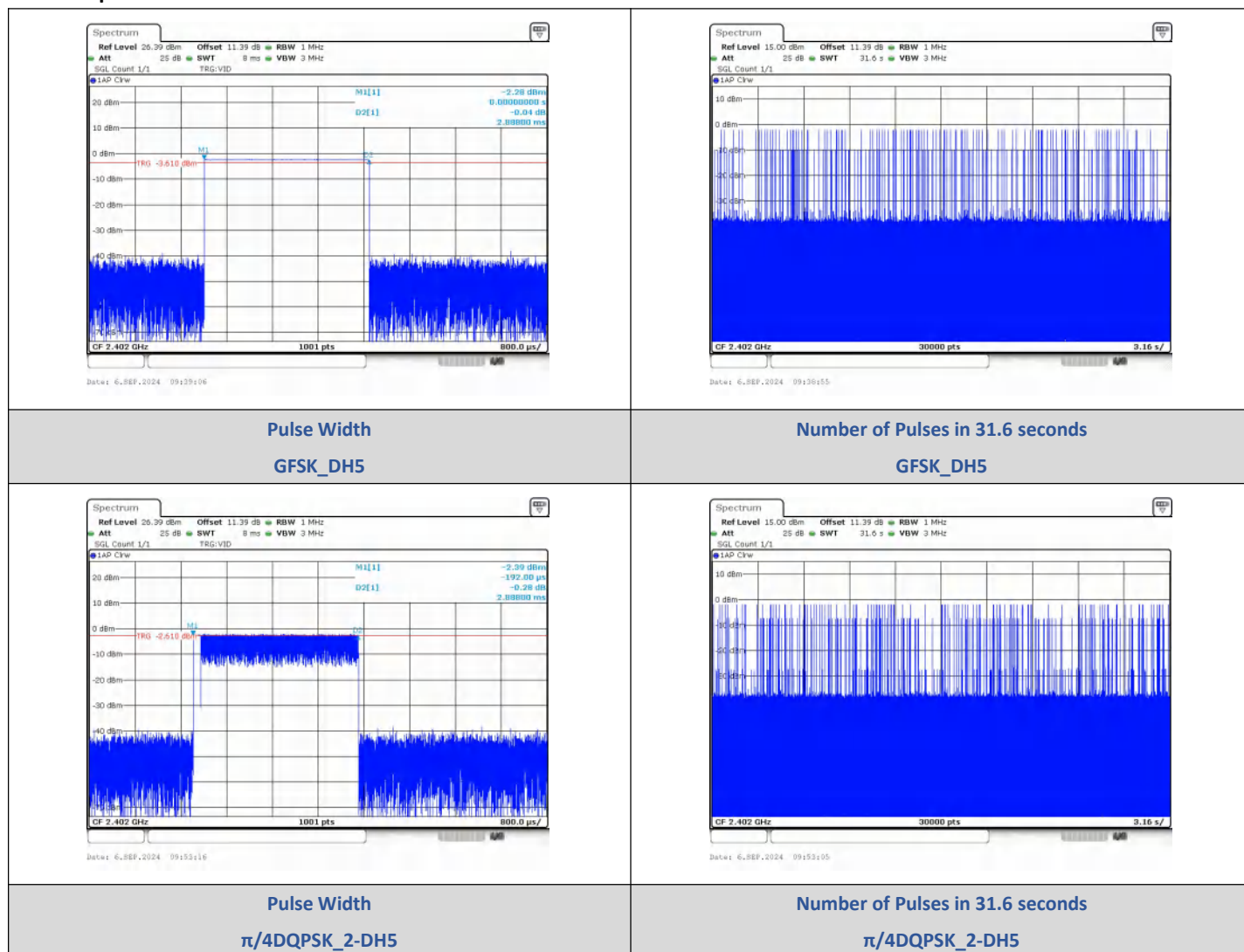
$\pi/4$ DQPSK(2-DH5)_Channel 78

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	113	326.34	< 400	PASS
$\pi/4$ DQPSK	2-DH5	(2402MHz)	2.888	111	320.57		PASS

Test Graphs

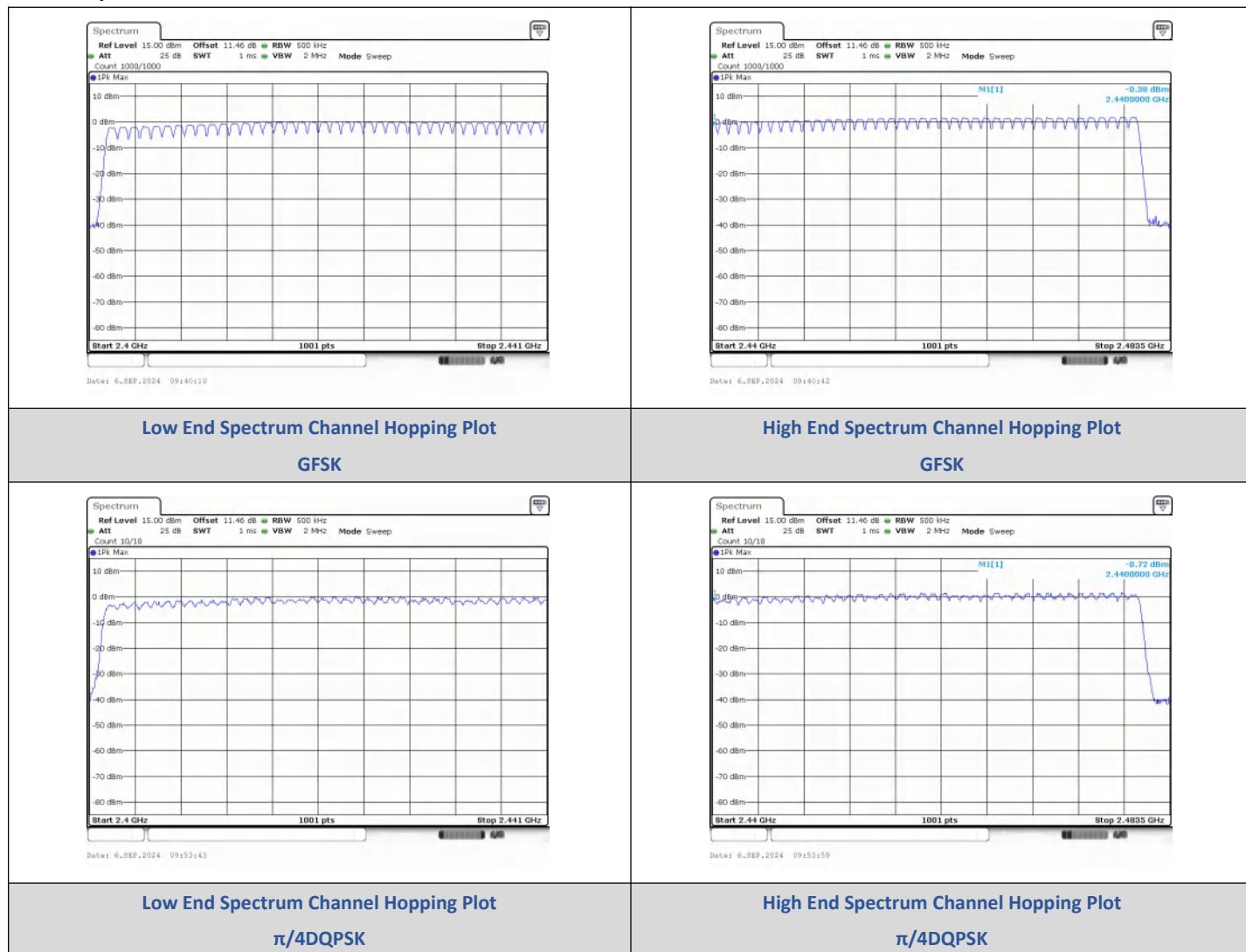


3) Number Of Hopping Channel

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

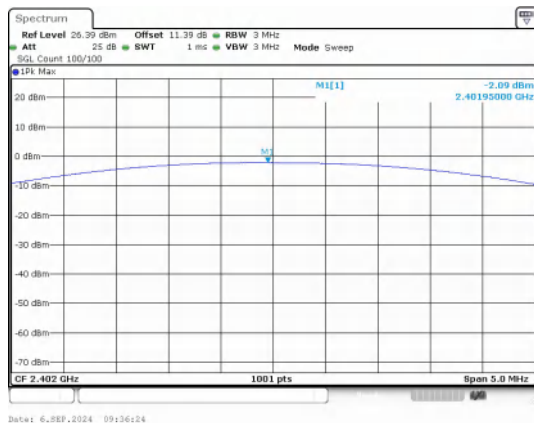


4) Conducted Peak Output Power

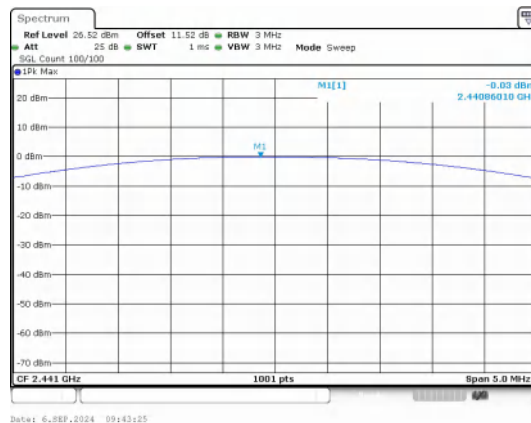
Test Result

Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Limit (dBm)	Result
GFSK	DH5	0	-2.09	0.62	≤30	PASS
		39	-0.03	0.99		PASS
		78	1.91	1.55		PASS
$\pi/4$ DQPSK	2-DH5	0	-1.58	0.70	≤20.97	PASS
		39	0.46	1.11		PASS
		78	2.54	1.79		PASS

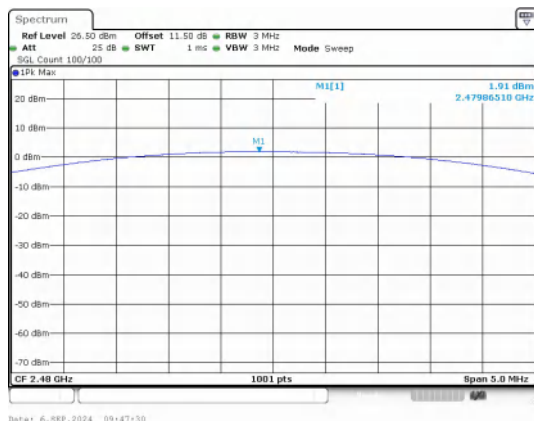
Test Graphs



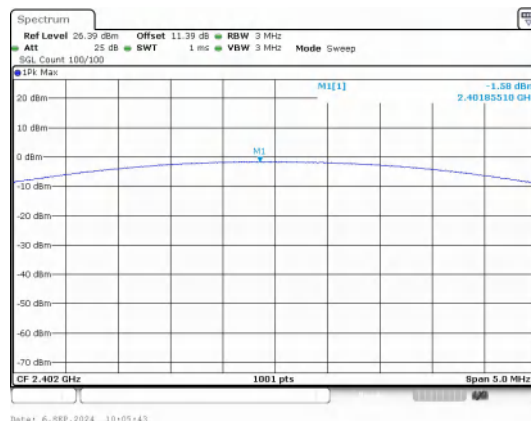
Peak Output Power
GFSK_Channel 0



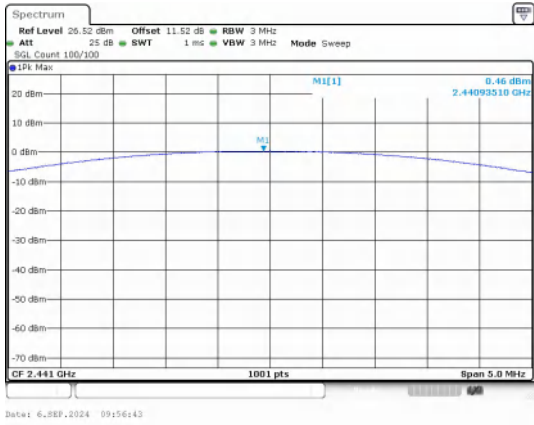
Peak Output Power
GFSK_Channel 39



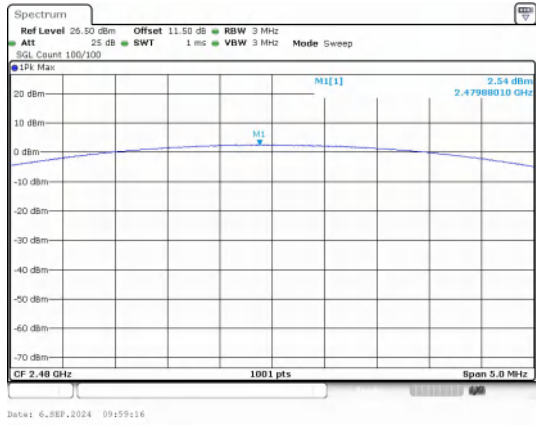
Peak Output Power
GFSK_Channel 78



Peak Output Power
 $\pi/4$ DQPSK_Channel 0



Peak Output Power
 $\pi/4$ DQPSK_Channel 39



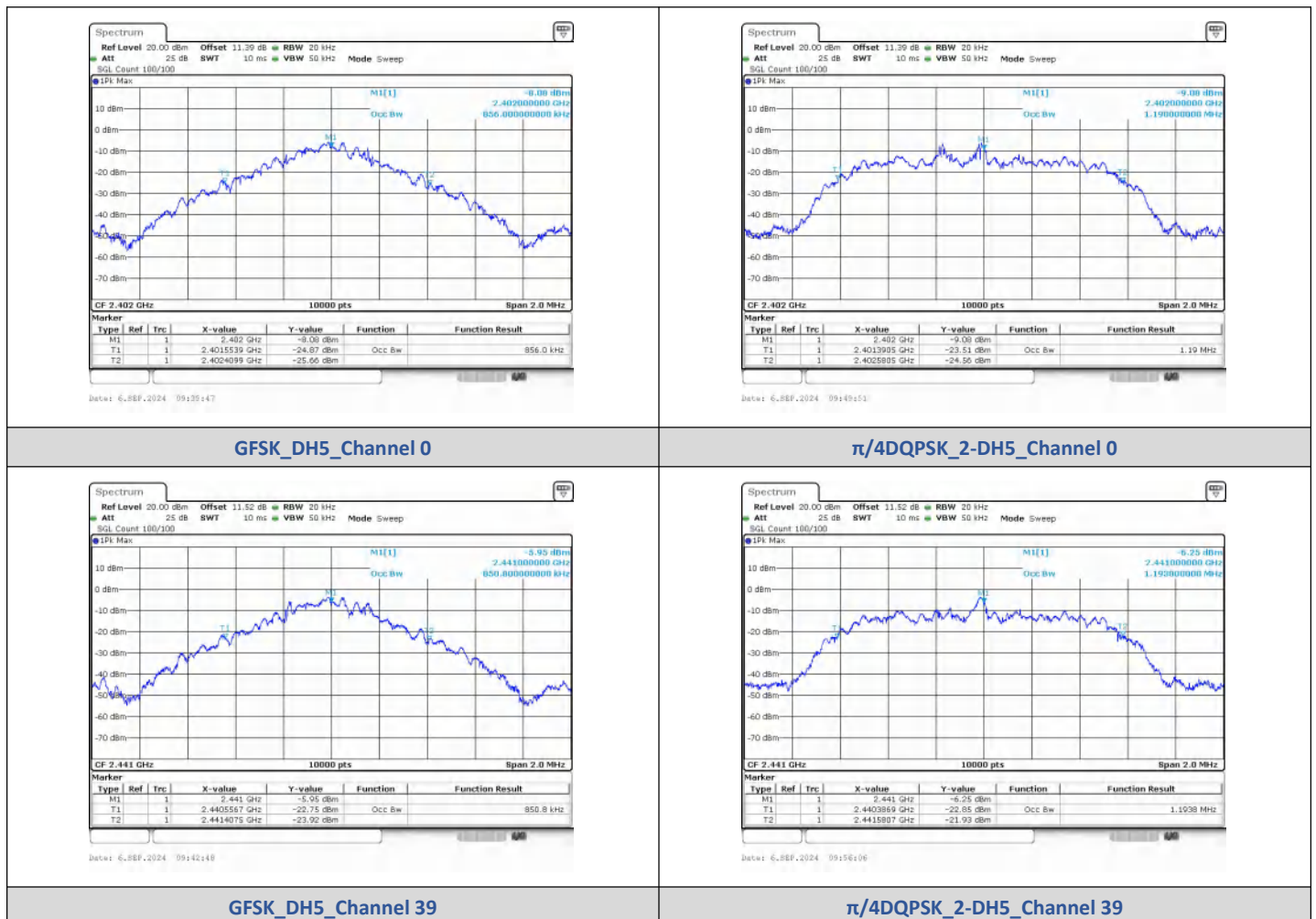
Peak Output Power
 $\pi/4$ DQPSK_Channel 78

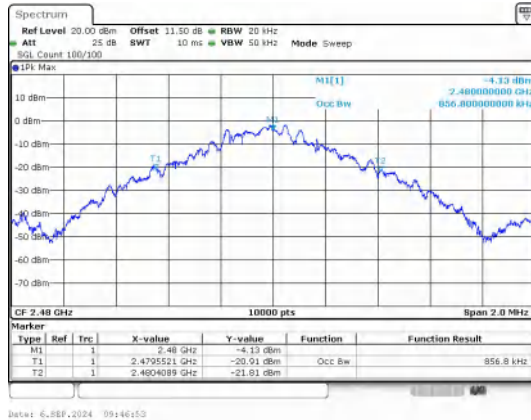
5) 99% Bandwidth

Test Result

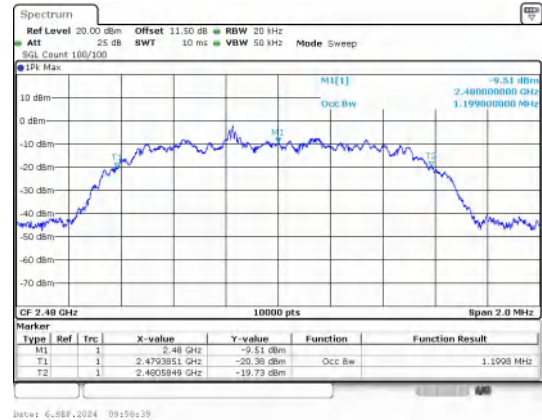
Modulation	Channel	Center Frequency (MHz)	99% BW (MHz)
GFSK	0	2402	0.85600
	39	2441	0.85080
	78	2480	0.85680
$\pi/4$ DQPSK	0	2402	1.1900
	39	2441	1.1938
	78	2480	1.1998

Test Graphs





GFSK_DH5_Channel 78



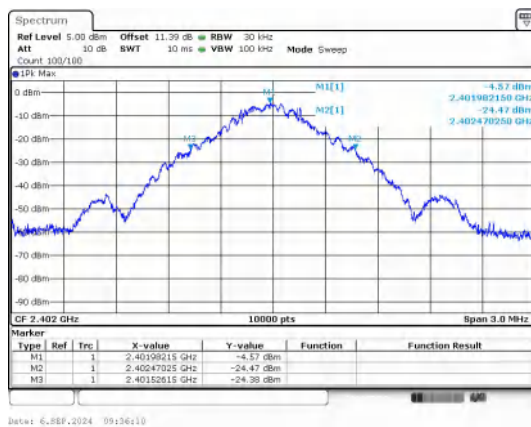
$\pi/4$ DQPSK_2-DH5_Channel 78

6) 20dB Bandwidth

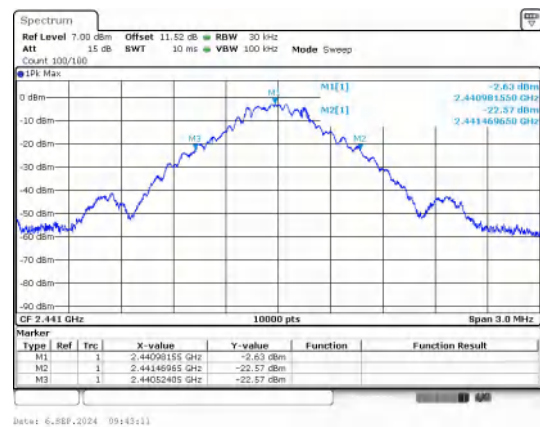
Test Result

Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9400
	39	2441 MHz	0.9500
	78	2480 MHz	0.9400
π /4DQPSK	0	2402 MHz	1.310
	39	2441 MHz	1.310
	78	2480 MHz	1.320

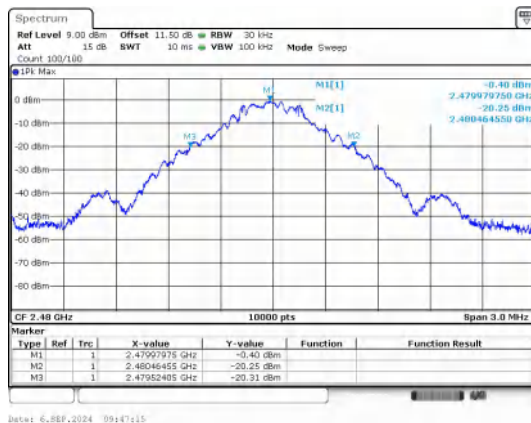
Test Graphs



GFSK_DH5_Channel 0



GFSK_DH5_Channel 39

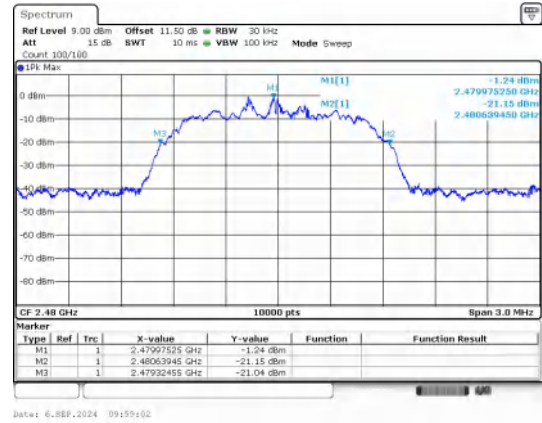


GFSK_DH5_Channel 78


 π /4DQPSK_2-DH5_Channel 0



$\pi/4$ DQPSK_2-DH5_Channel 39



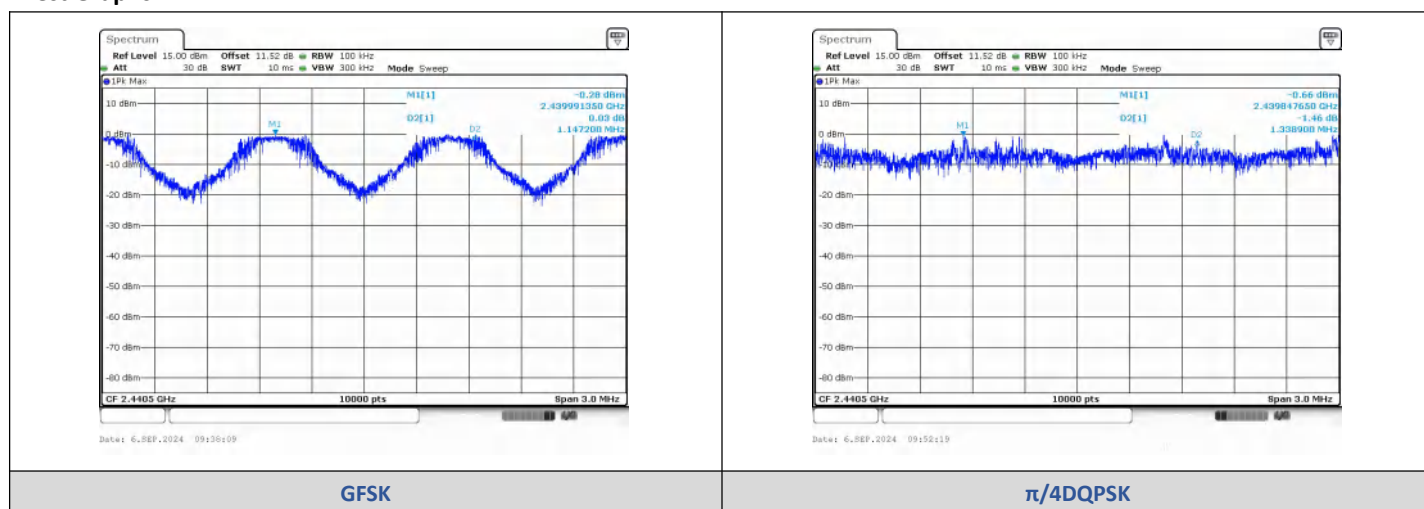
$\pi/4$ DQPSK_2-DH5_Channel 78

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	2439.9913	2441.1386	1.1472	0.950	PASS
$\pi/4$ DQPSK	2-DH5	2439.8477	2441.1865	1.3389	0.873	PASS

Test Graphs



8) Conducted Out Of Band Emission

Test Result

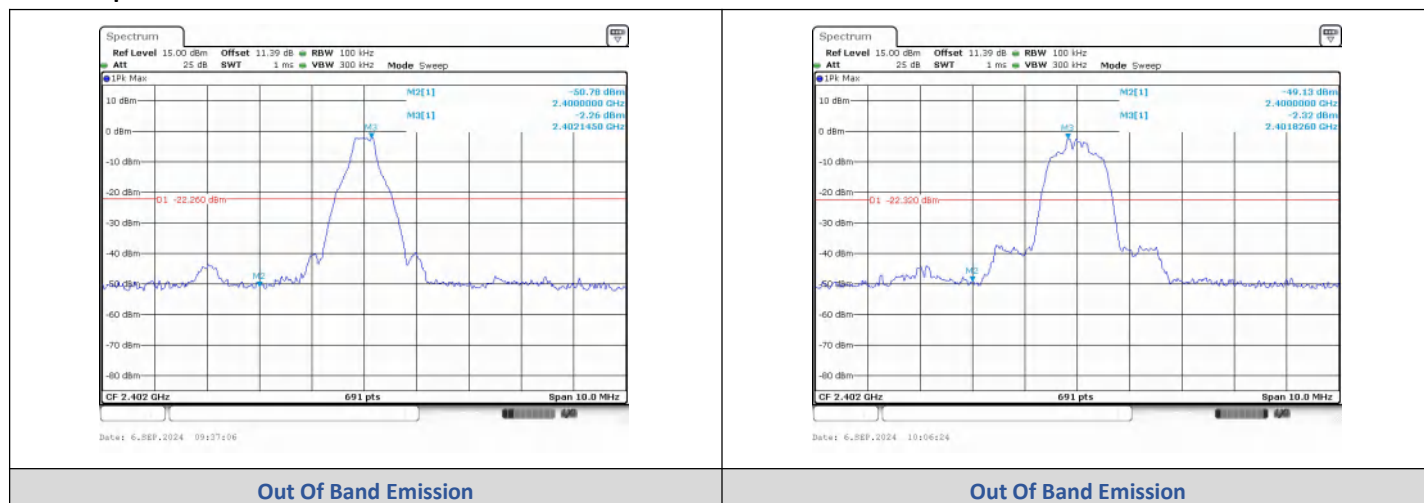
Non-Hopping

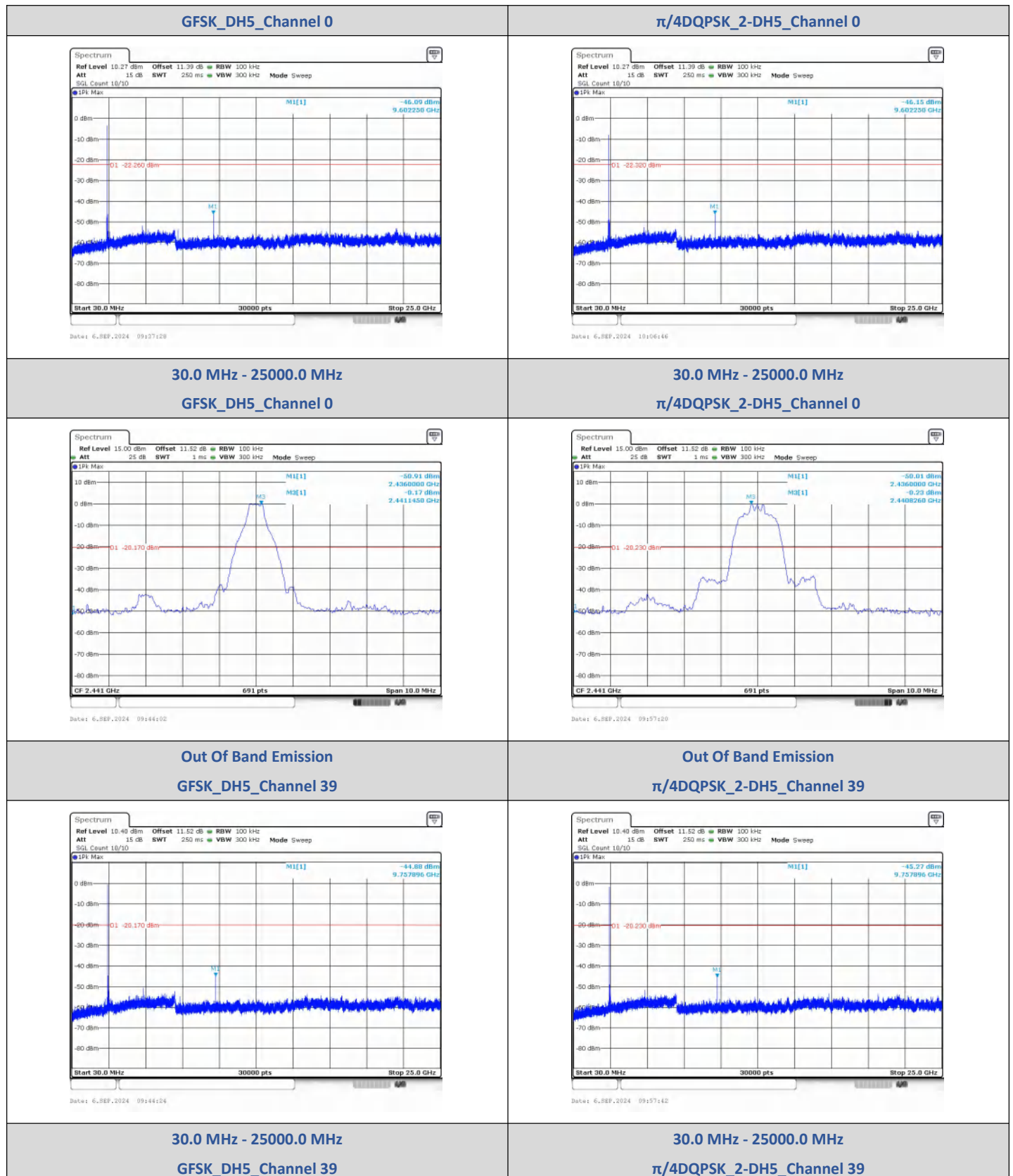
Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2399.00	-43.997	-22.26	-21.737	PASS
			2400.00	-50.783	-22.26	-28.523	PASS
			9602.20	-46.088	-22.26	-23.828	PASS
		39	9757.90	-44.884	-20.17	-24.714	PASS
		78	2384.25	-42.992	-18.24	-24.752	PASS
			2483.50	-48.535	-18.24	-30.295	PASS
$\pi/4$ DQPSK	2-DH5	0	2399.00	-44.677	-22.32	-22.357	PASS
			2400.00	-49.129	-22.32	-26.809	PASS
			9602.20	-46.154	-22.32	-23.834	PASS
		39	9757.90	-45.267	-20.23	-25.037	PASS
		78	2483.50	-50.985	-18.15	-32.835	PASS
			9914.37	-46.863	-18.15	-28.713	PASS

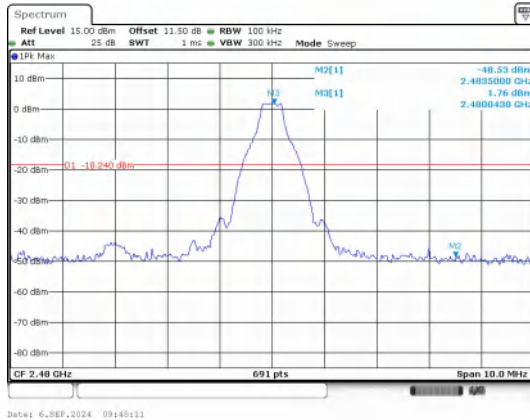
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2400.00	-44.807	-22.32	-22.487	PASS
			2483.50	-49.508	-18.45	-31.058	PASS
π/4DQPSK	2-DH5		2395.98	-47.611	-22.15	-25.461	PASS
			2400.00	-49.583	-22.15	-27.433	PASS
			2483.50	-48.986	-18.25	-30.736	PASS

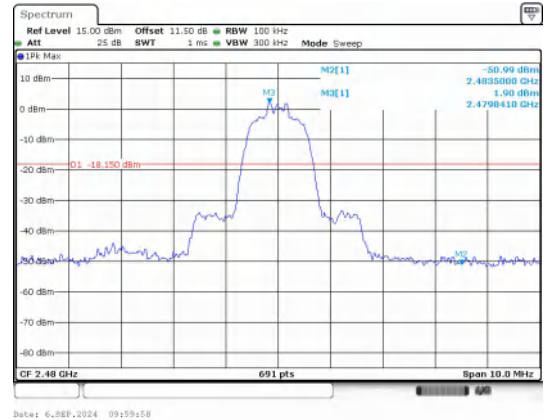
Test Graphs



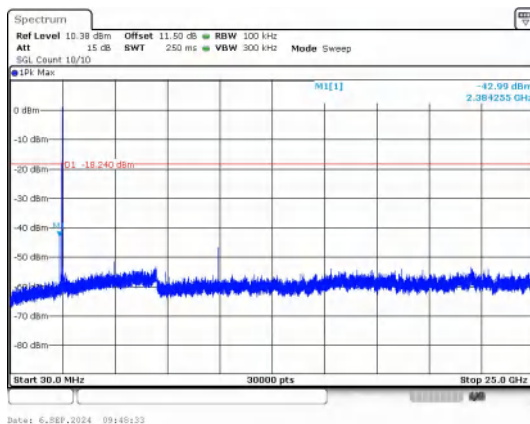




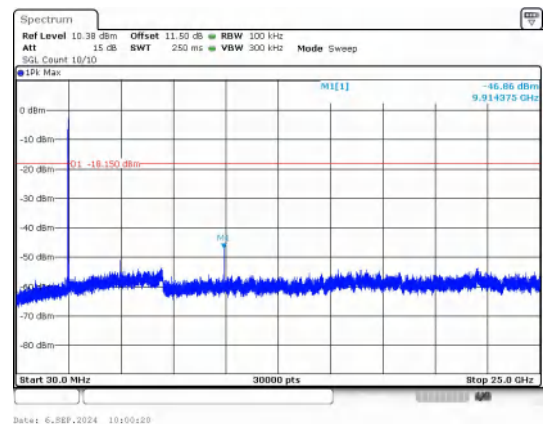
Out Of Band Emission
GFSK_DH5_Channel 78



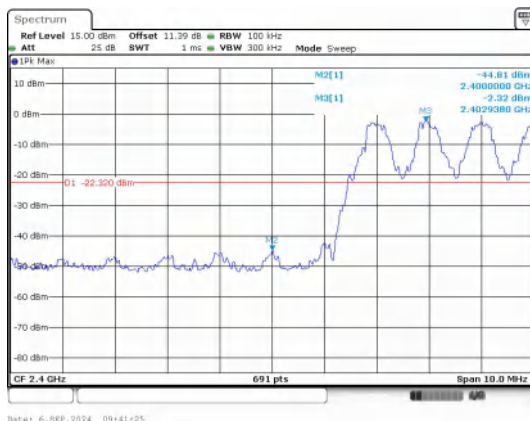
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 78



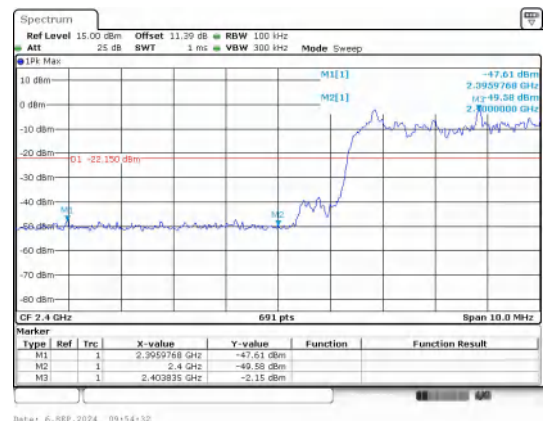
30.0 MHz - 25000.0 MHz
GFSK_DH5_Channel 78



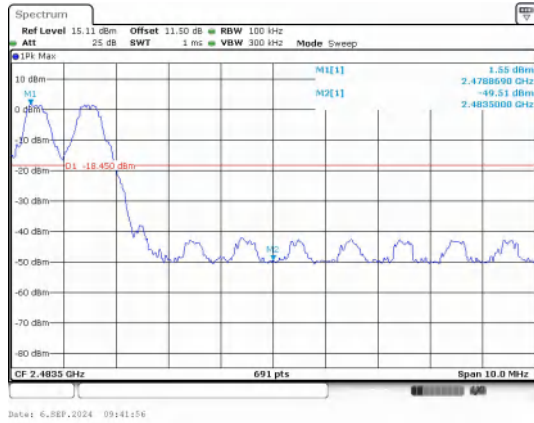
30.0 MHz - 25000.0 MHz
 $\pi/4$ DQPSK_2-DH5_Channel 78



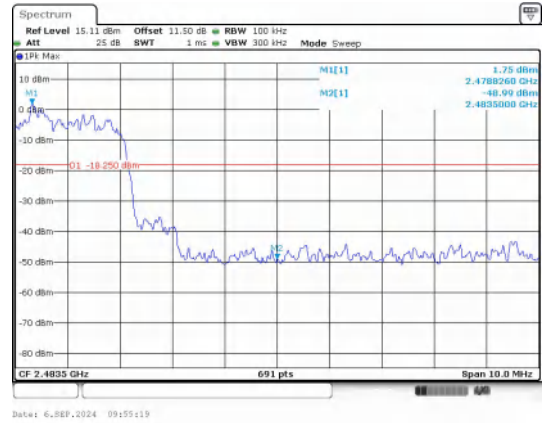
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



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