



Appendix B

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: DLP Smart Projector

Trade Mark: N/A

Test Model: P09-II

Environmental Conditions

Temperature:	25.8° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Sean She
Supervised by:	Eder Zhan

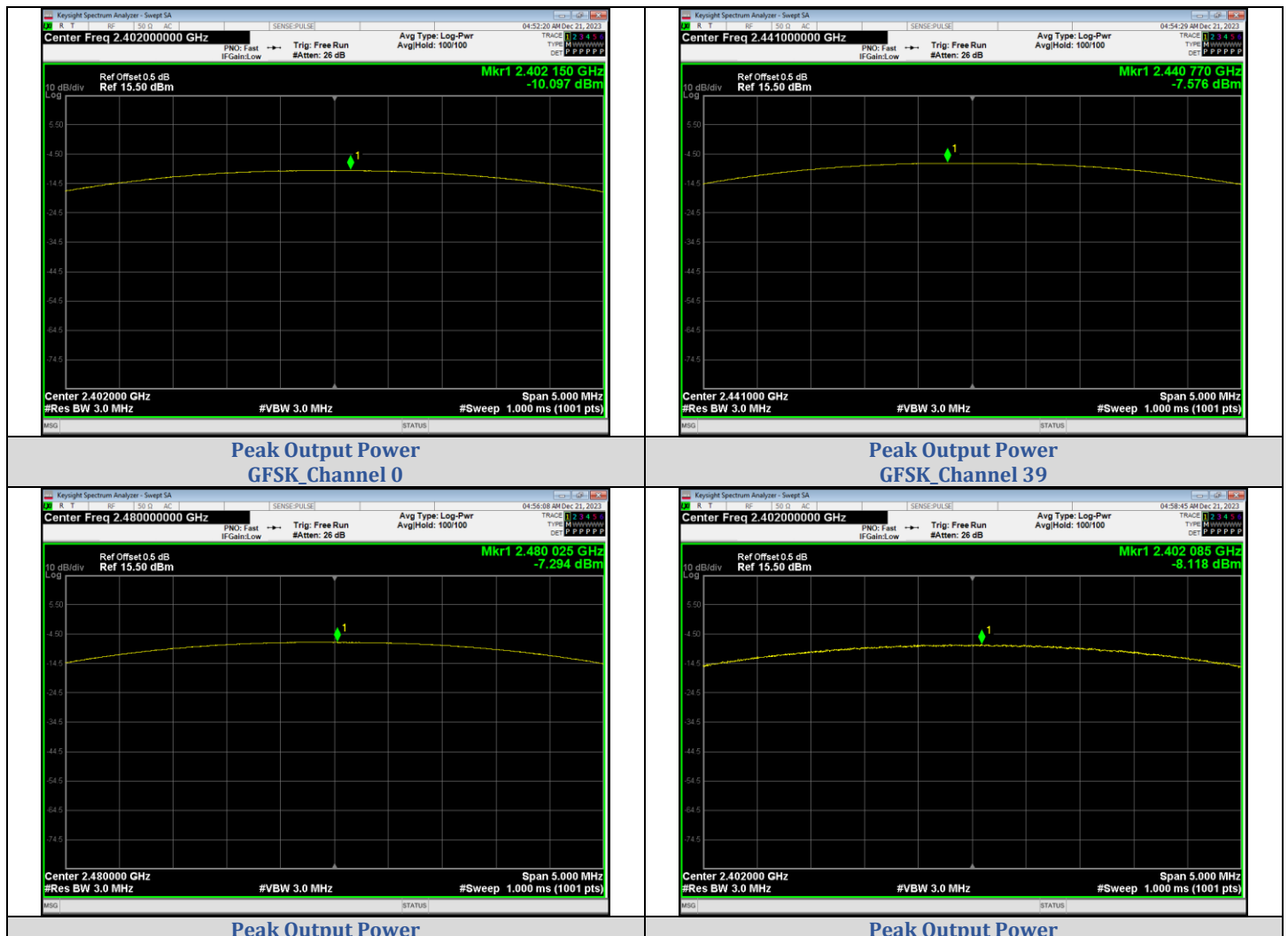


Conducted Peak Output Power

Test Result

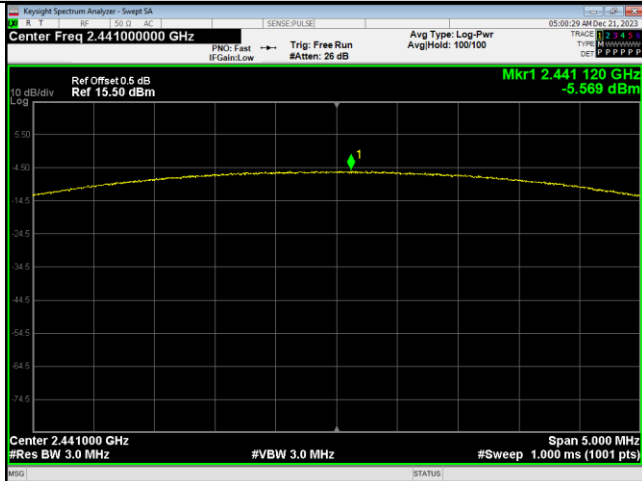
Modulation	Packet Type	Channel	Peak Output Power (dBm)	Peak Output Power (mW)	Max. Avg. Power (dBm)	Limit (dBm)	Result
GFSK	DH5	0	-10.097	0.098	None	30	PASS
		39	-7.576	0.175	None		PASS
		78	-7.294	0.186	None		PASS
$\pi/4$ DQPSK	2-DH5	0	-8.118	0.154	None	20.97	PASS
		39	-5.569	0.277	None		PASS
		78	-5.352	0.292	None		PASS
8DPSK	3-DH5	0	-7.850	0.164	None		PASS
		39	-5.302	0.295	None		PASS
		78	-5.044	0.313	None		PASS

Test Graphs

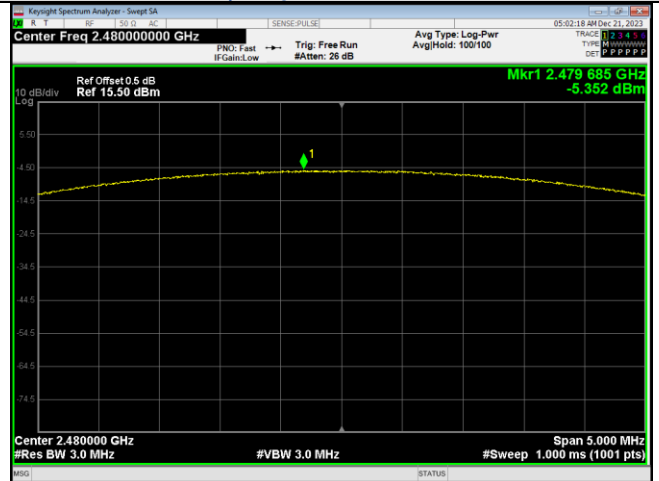




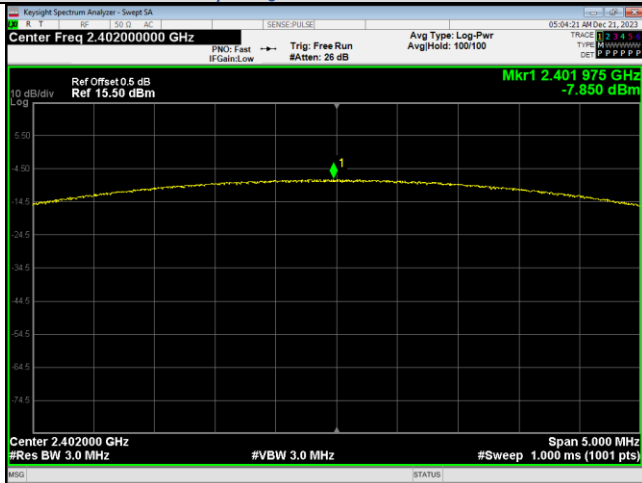
GFSK_Channel 78



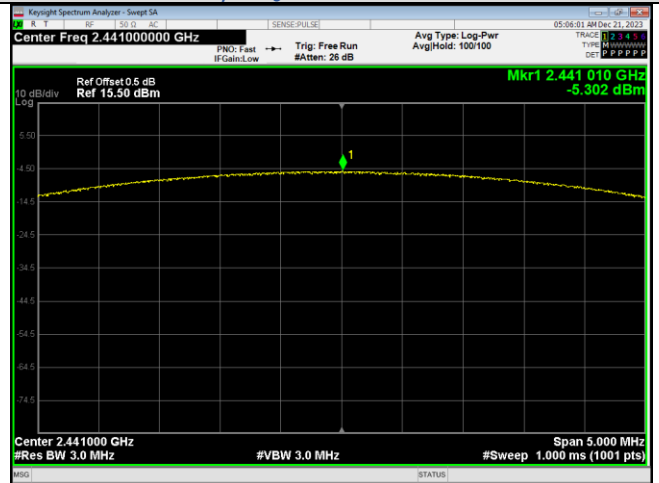
$\pi/4$ DQPSK_Channel 0



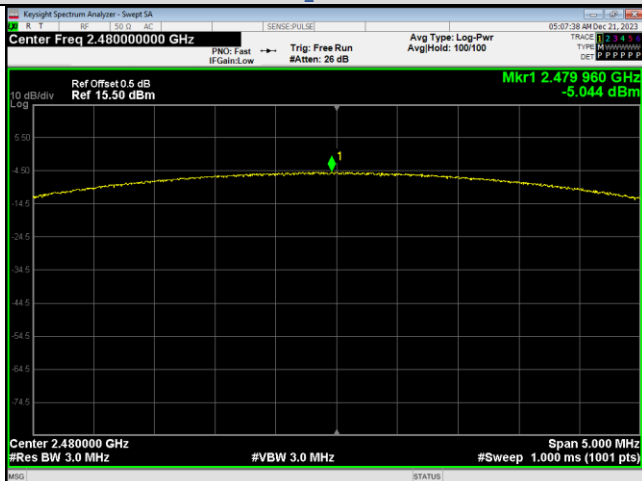
Peak Output Power
 $\pi/4$ DQPSK_Channel 39



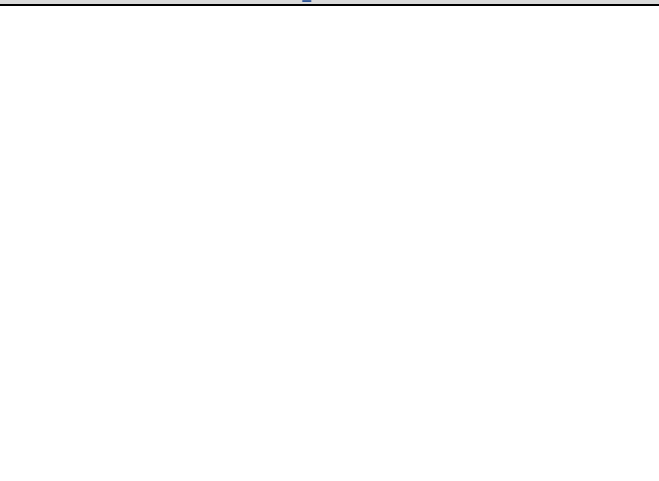
Peak Output Power
 $\pi/4$ DQPSK_Channel 78



Peak Output Power
8DPSK_Channel 0



Peak Output Power
8DPSK_Channel 39



Peak Output Power
8DPSK_Channel 78

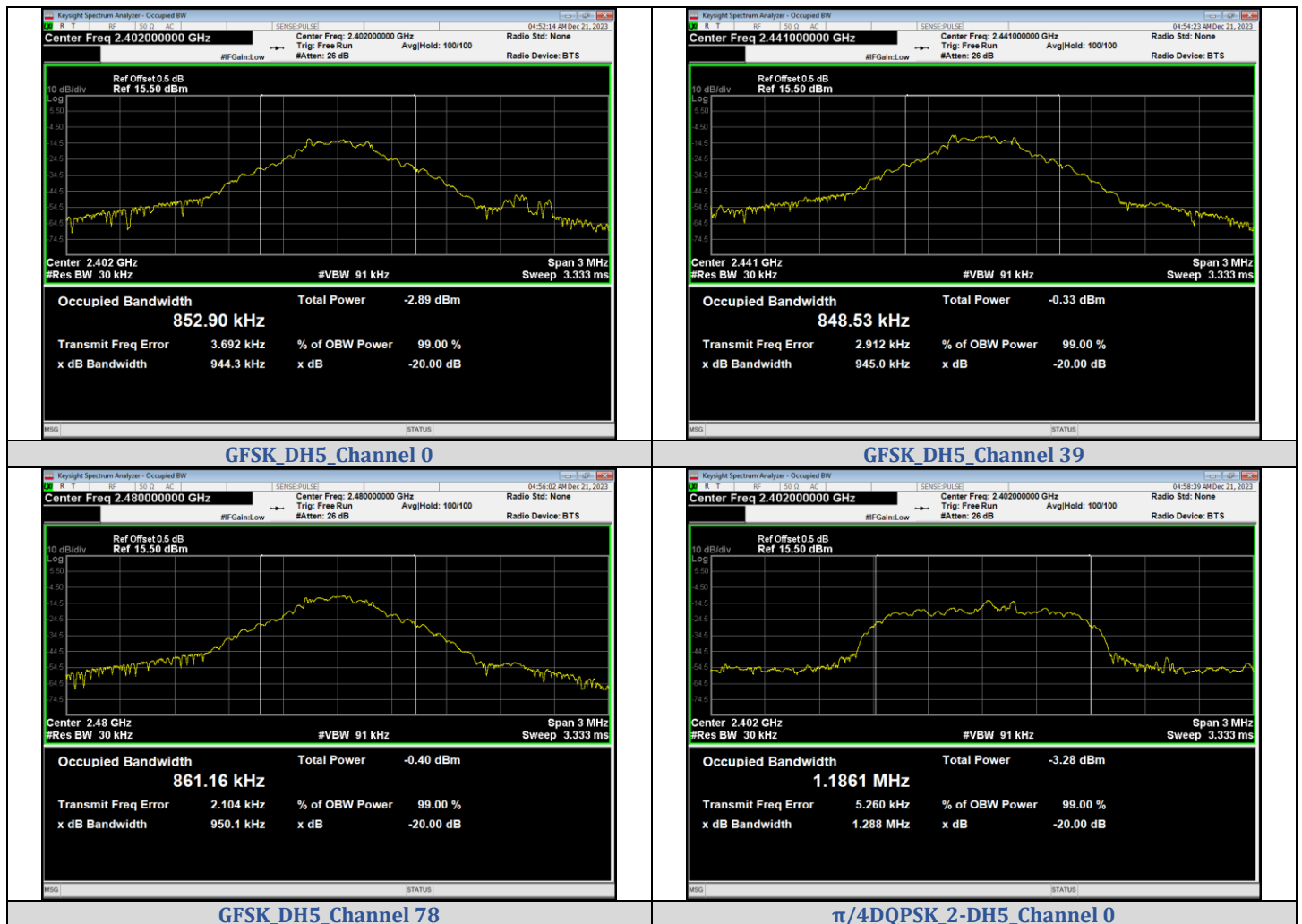


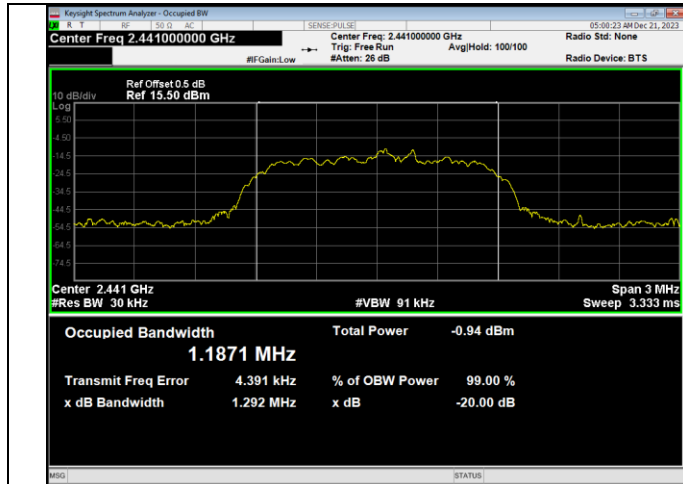
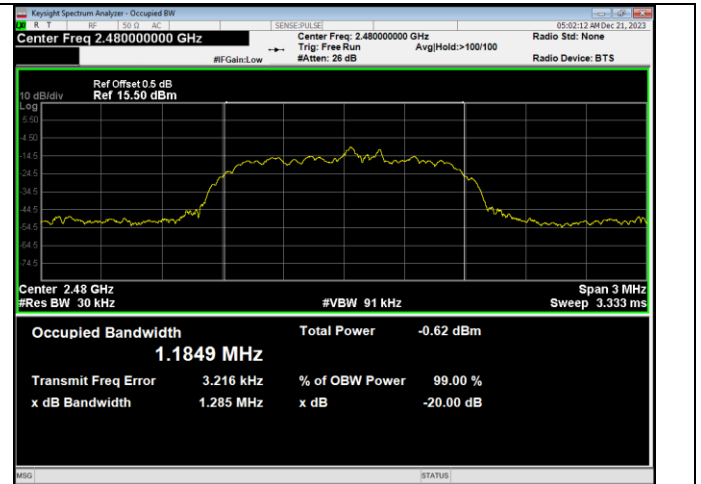
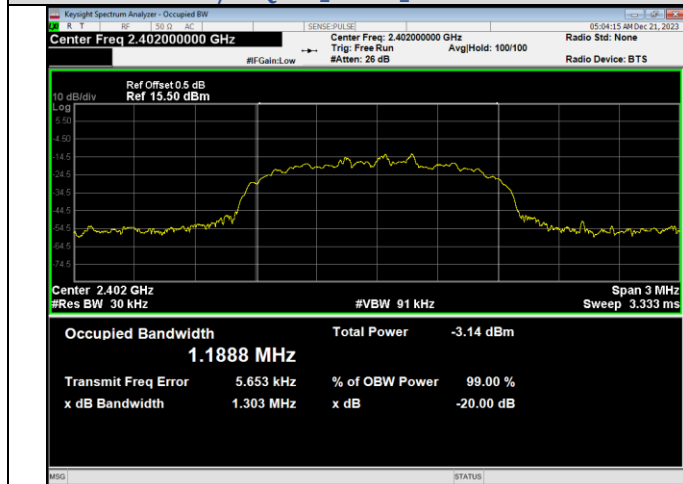
20dB Bandwidth

Test Result

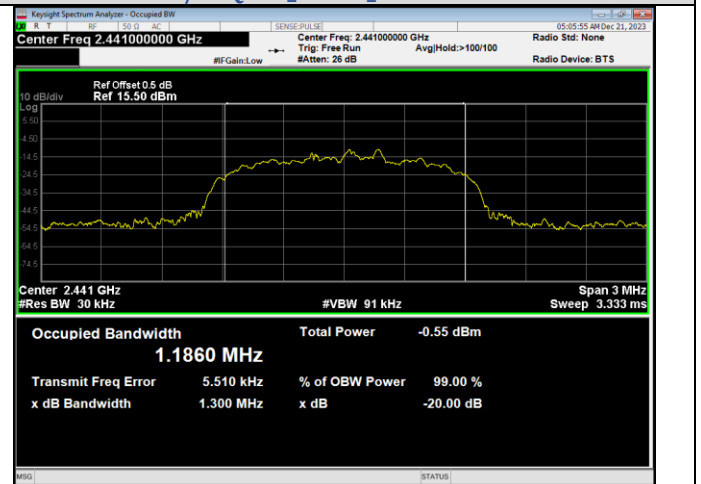
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9443
	39	2441 MHz	0.9450
	78	2480 MHz	0.9501
$\pi/4$ DQPSK	0	2402 MHz	1.288
	39	2441 MHz	1.292
	78	2480 MHz	1.285
8DPSK	0	2402 MHz	1.303
	39	2441 MHz	1.300
	78	2480 MHz	1.296

Test Graphs

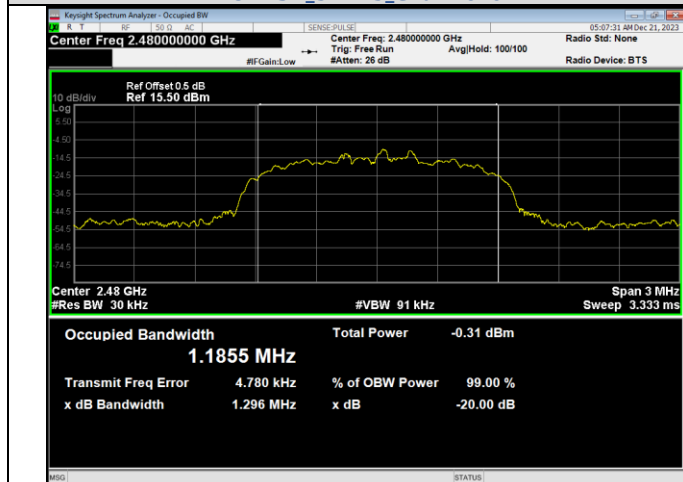


 $\pi/4$ DQPSK_2-DH5_Channel 39 $\pi/4$ DQPSK_2-DH5_Channel 78

8DPSK_3-DH5_Channel 0



8DPSK_3-DH5_Channel 78



8DPSK_3-DH5_Channel 78

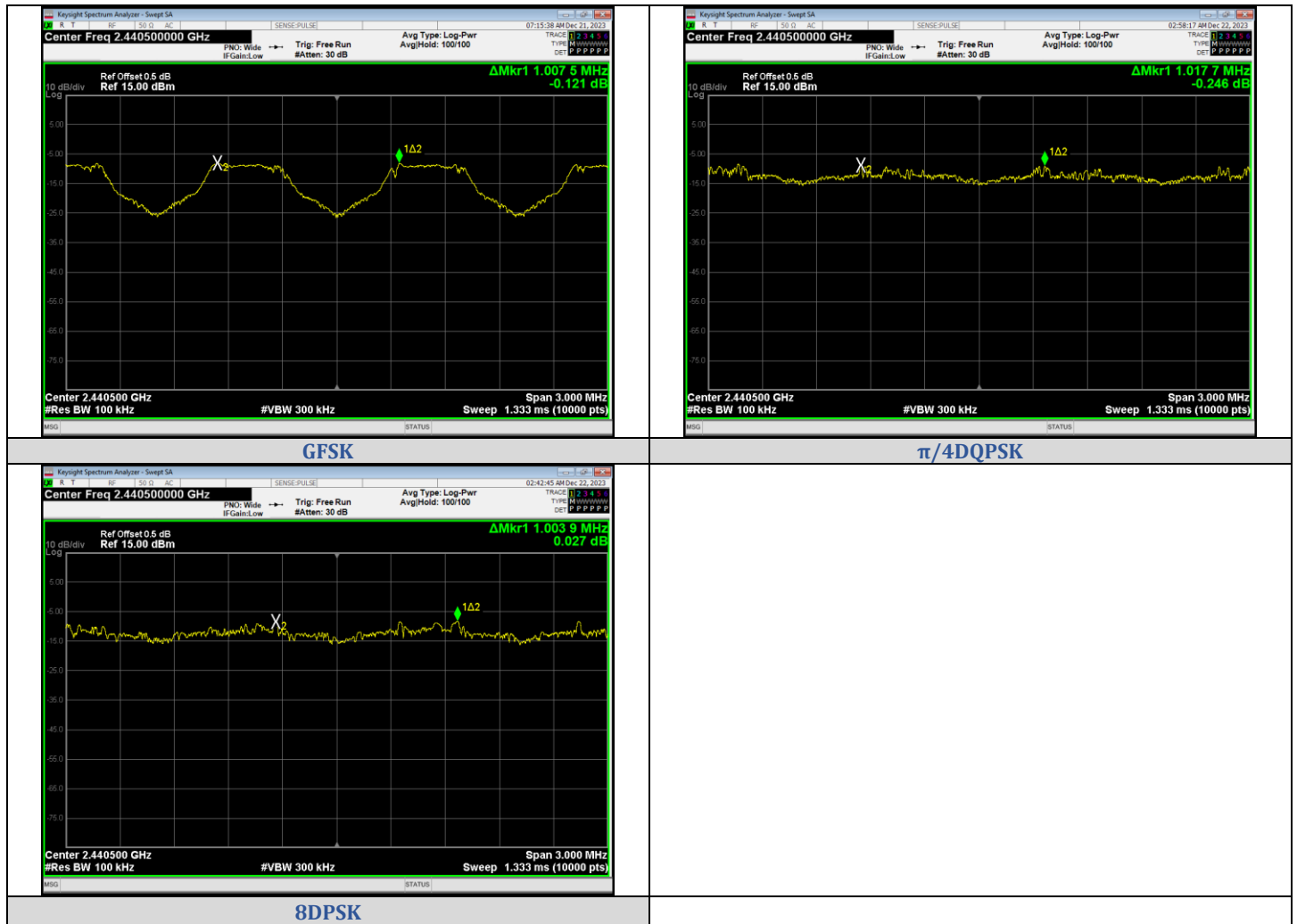


Carrier Frequencies Separation

Test Result

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.8383	2440.8458	1.0075	0.63	PASS
$\pi/4$ DQPSK	2-DH5	2439.8449	2440.8626	1.0177	0.861	PASS
8DPSK	3-DH5	2440.1623	2441.1662	1.0039	0.867	PASS

Test Graphs



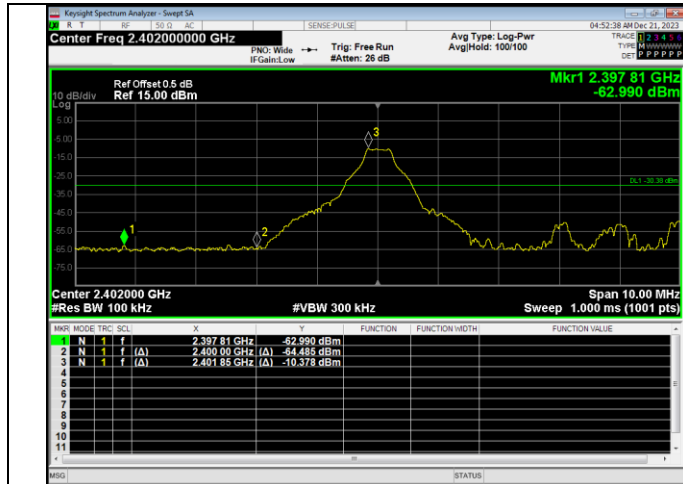
**Conducted Out Of Band Emission****Test Result****Non-Hopping**

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	0	2400.00	-64.485	-30.38	-34.105	PASS
			2397.81	-62.990	-30.38	-32.610	PASS
			24889.5	-49.800	-30.38	-19.420	PASS
		39	24961.3	-49.644	-27.9	-21.744	PASS
		78	2483.50	-63.959	-27.62	-36.339	PASS
			24949.4	-50.362	-27.62	-22.742	PASS
$\pi/4$ DQPSK	2-DH5	0	2400.00	-62.312	-30.45	-31.862	PASS
			2397.72	-61.965	-30.45	-31.515	PASS
			24545.5	-49.758	-30.45	-19.308	PASS
		39	24615.5	-49.601	-28.22	-21.381	PASS
		78	2483.50	-64.150	-27.89	-36.260	PASS
			24593.0	-50.076	-27.89	-22.186	PASS
8DPSK	3-DH5	0	2400.00	-62.190	-30.48	-31.710	PASS
			24868.9	-50.312	-30.48	-19.832	PASS
		39	24896.4	-49.975	-28.02	-21.955	PASS
		78	2483.50	-63.553	-27.63	-35.923	PASS
			24972.5	-50.544	-27.63	-22.914	PASS

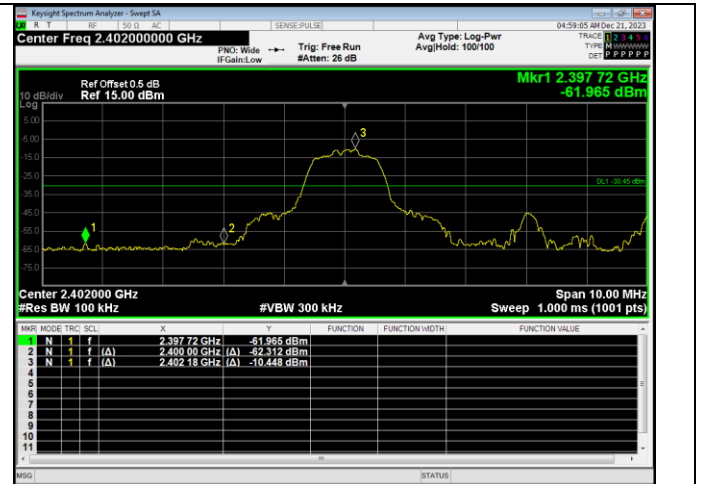
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2395.30	-62.193	-30.17	-32.023	PASS
			2400.00	-63.250	-30.17	-33.080	PASS
			2483.50	-62.695	-27.84	-34.855	PASS
$\pi/4$ DQPSK	2-DH5		2396.61	-63.283	-30.5	-32.783	PASS
			2400.00	-64.374	-30.5	-33.874	PASS
			2483.50	-63.239	-28.28	-34.959	PASS
8DPSK	3-DH5		2400.00	-62.267	-30.57	-31.697	PASS
			2483.50	-63.454	-27.77	-35.684	PASS

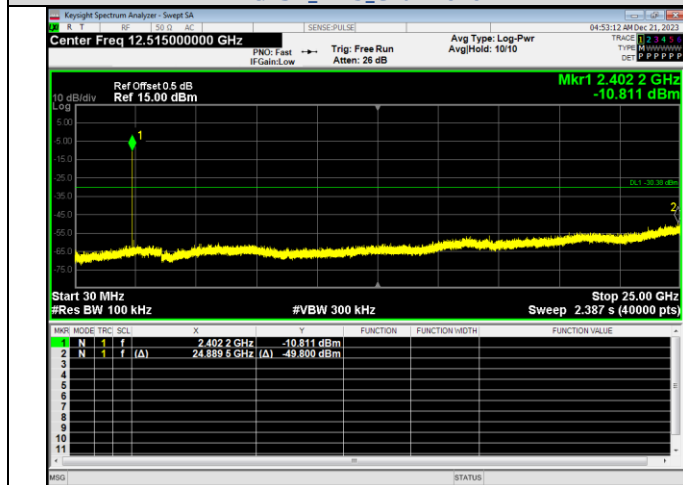
Test Graphs



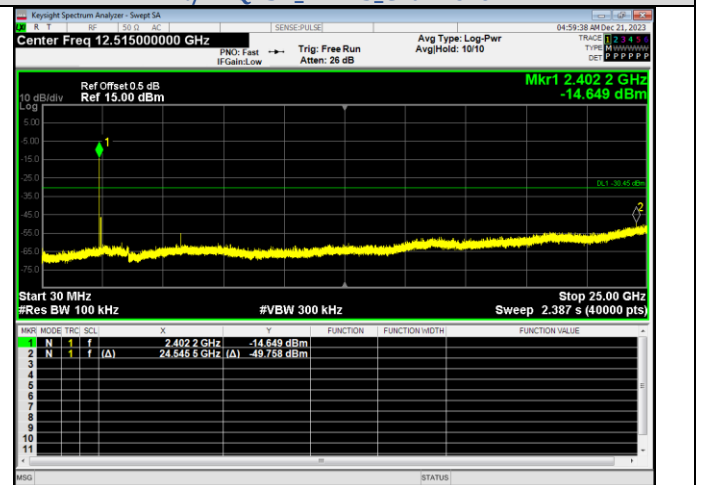
Out Of Band Emission
GFSK_DH5_Channel 0



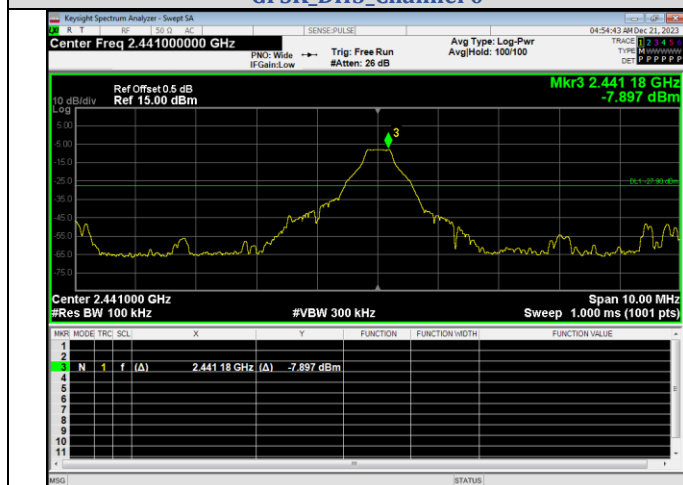
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



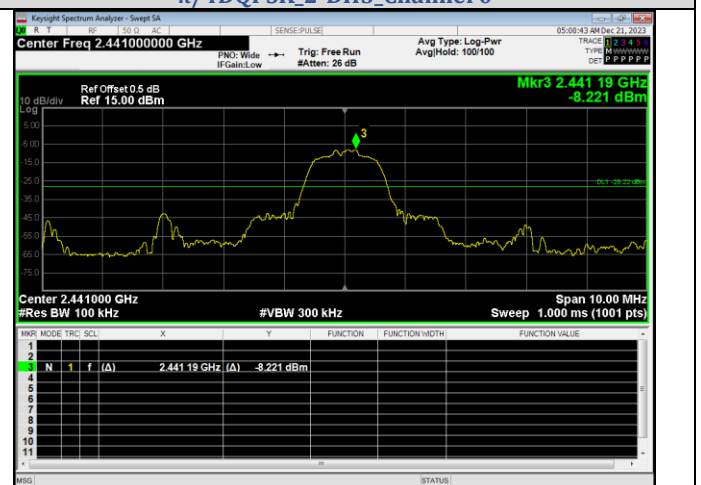
Spurious Emission
GFSK_DH5_Channel 0



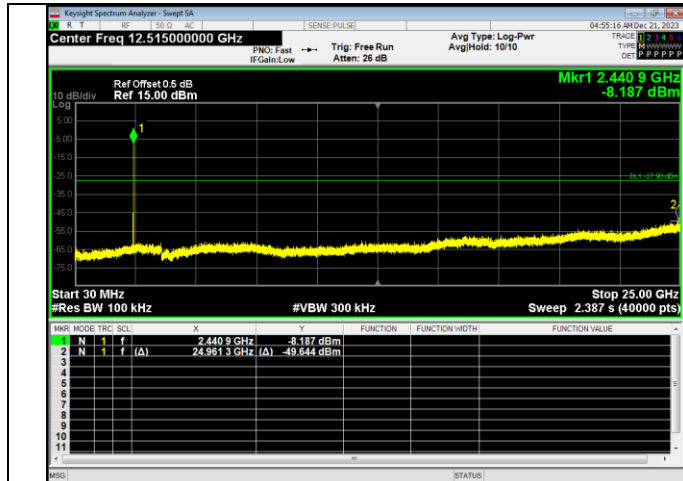
Spurious Emission
 $\pi/4$ DQPSK_2-DH5_Channel 0



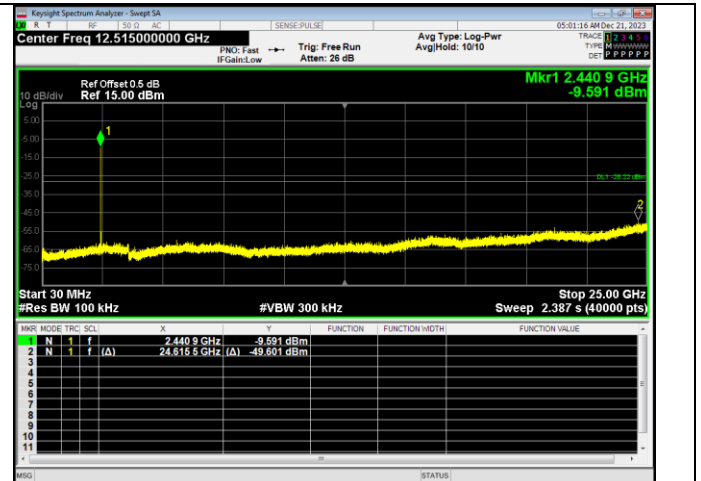
Out Of Band Emission
GFSK_DH5_Channel 39



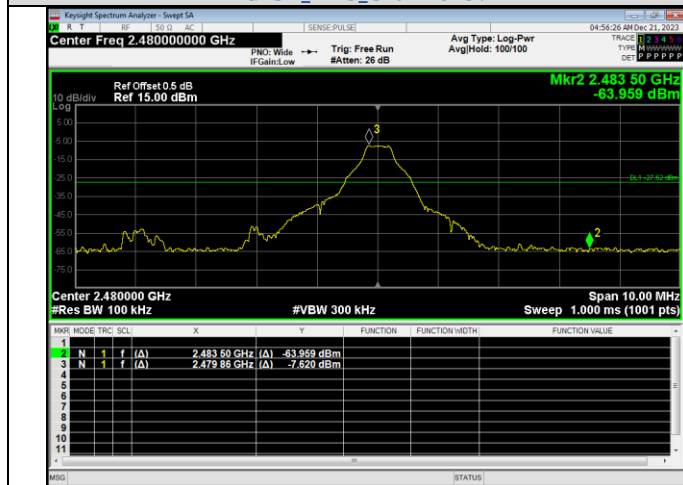
Out Of Band Emission
 $\pi/4$ DQPSK_2-DH5_Channel 39



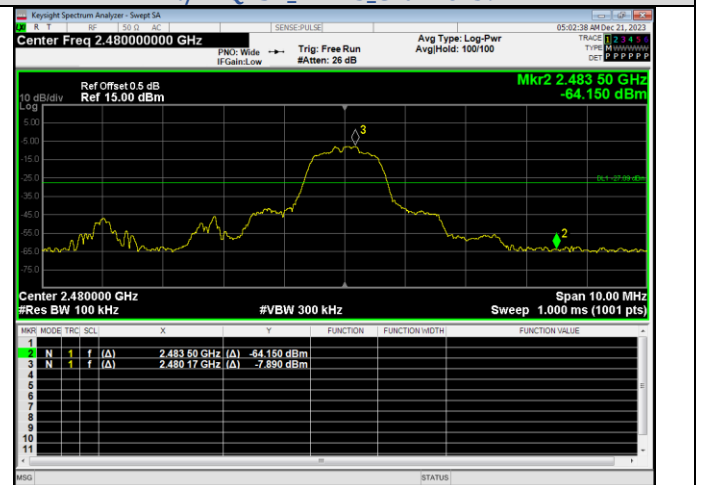
Spurious Emissions
GFSK_DH5_Channel 39



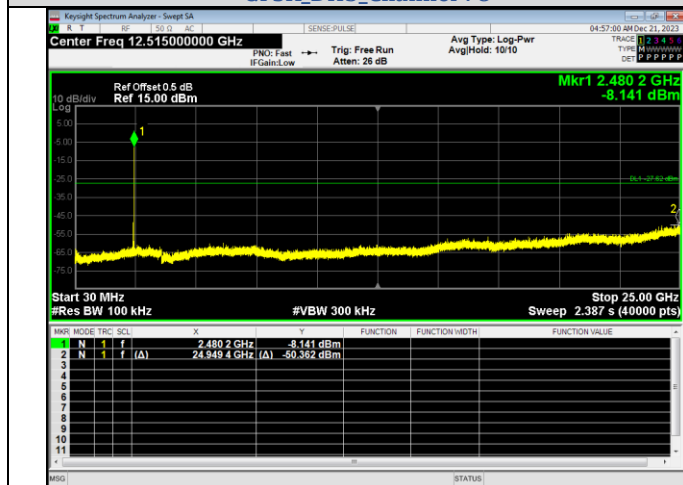
Spurious Emissions
 $\pi/4$ DQPSK 2-DH5_Channel 39



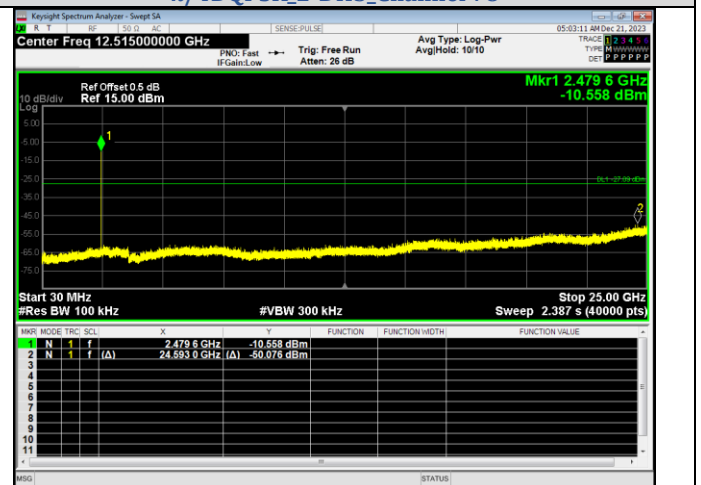
Out Of Band Emission
GFSK_DH5_Channel 78



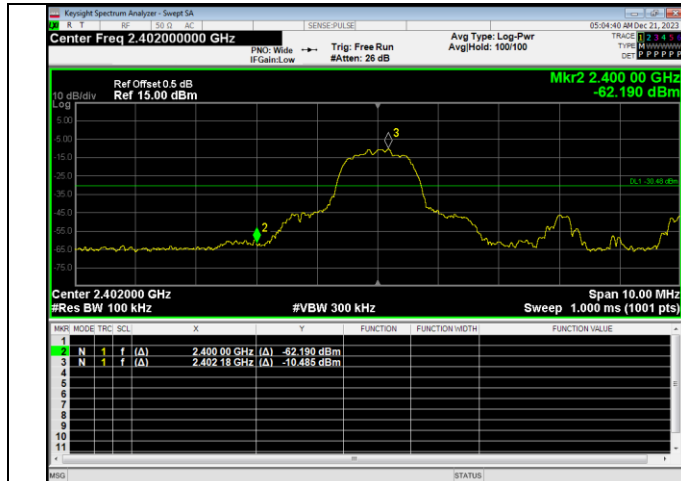
Out Of Band Emission
 $\pi/4$ DQPSK 2-DH5_Channel 78



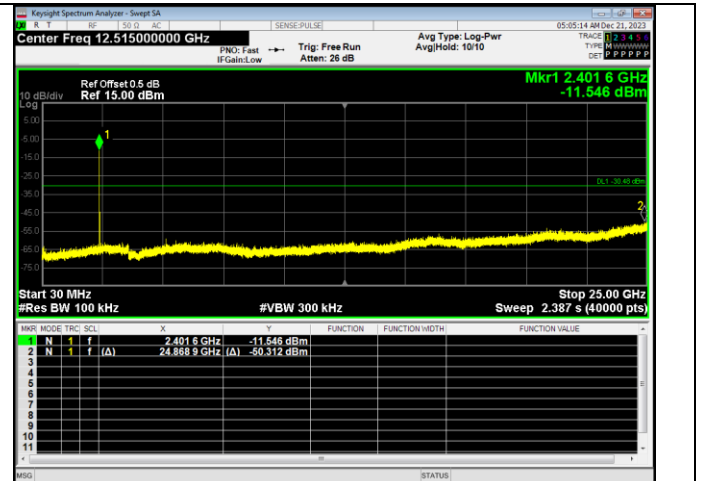
Spurious Emission
GFSK_DH5_Channel 78



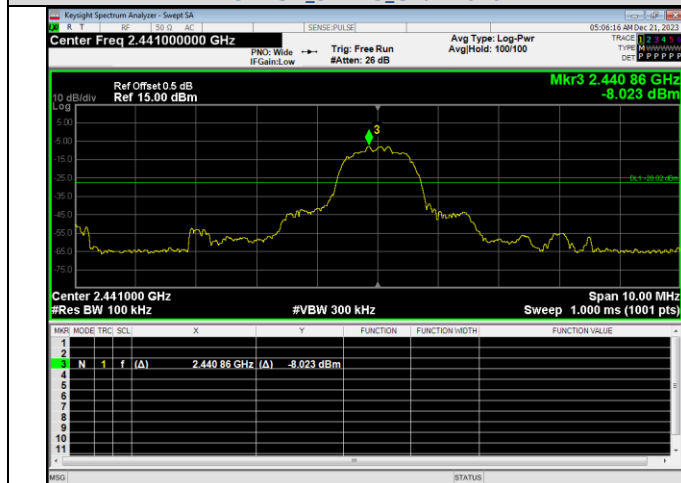
Spurious Emission
 $\pi/4$ DQPSK 2-DH5_Channel 78



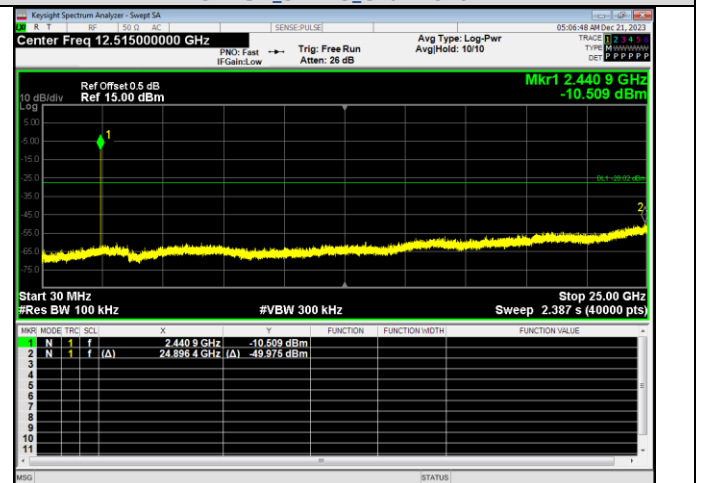
Out Of Band Emission
8DPSK_3-DH5_Channel 0



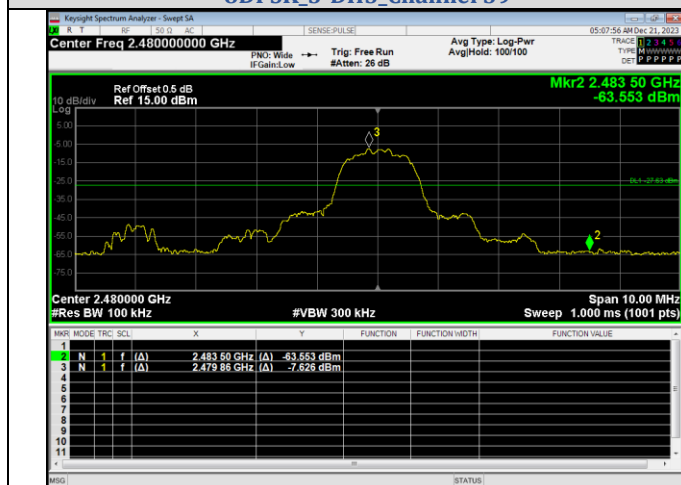
Spurious Emission
8DPSK_3-DH5_Channel 0



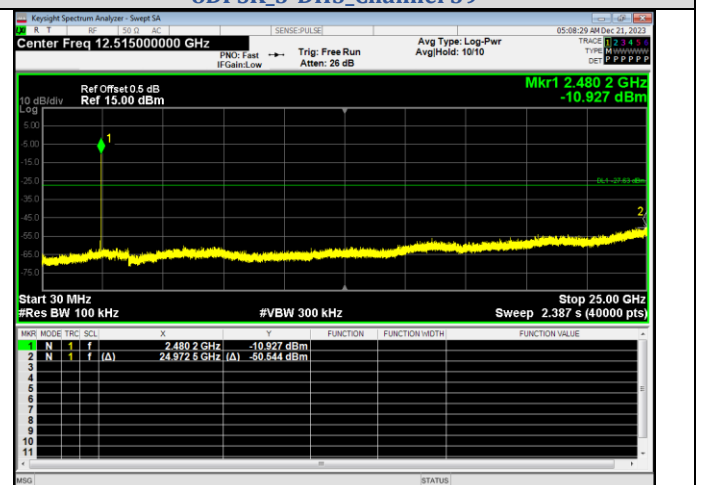
Out Of Band Emission
8DPSK_3-DH5_Channel 39



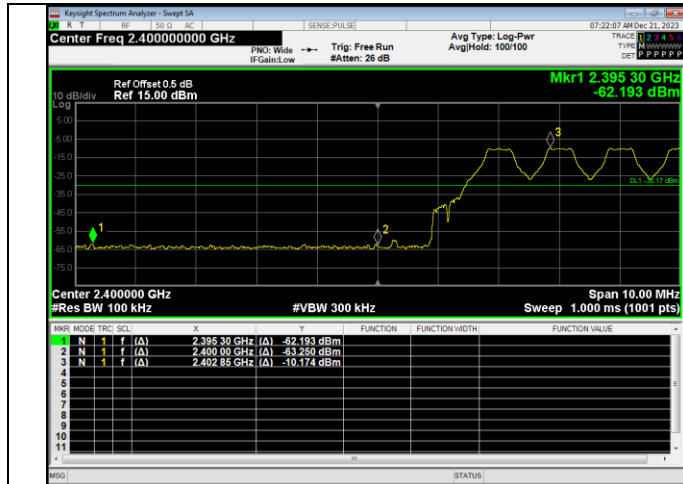
Spurious Emissions
8DPSK_3-DH5_Channel 39



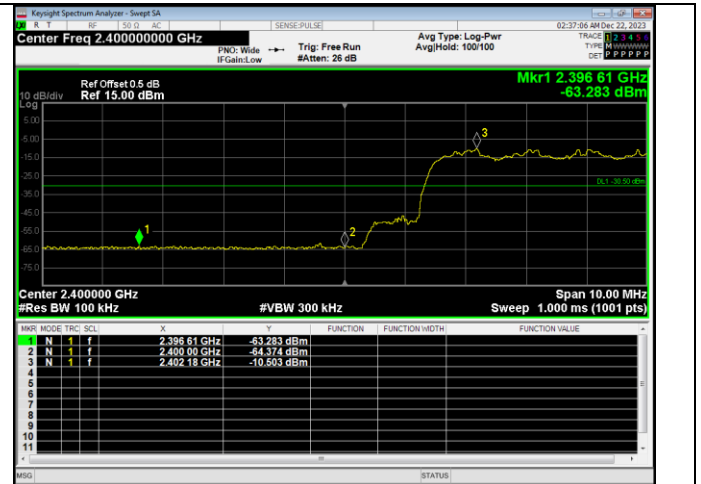
Out Of Band Emission
8DPSK_3-DH5_Channel 78



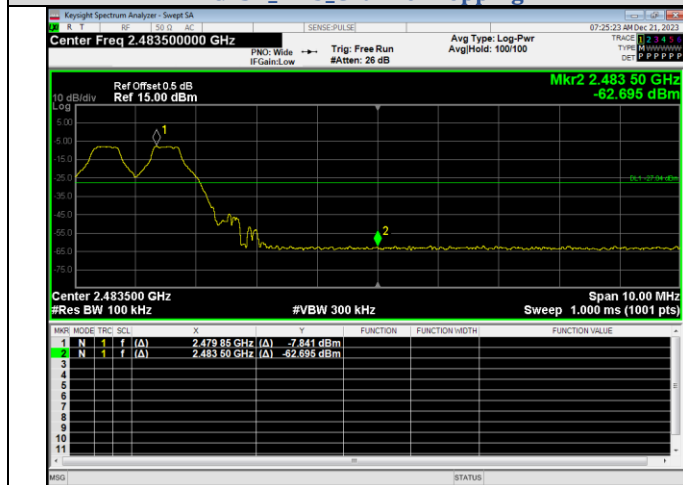
Spurious Emission
8DPSK_3-DH5_Channel 78



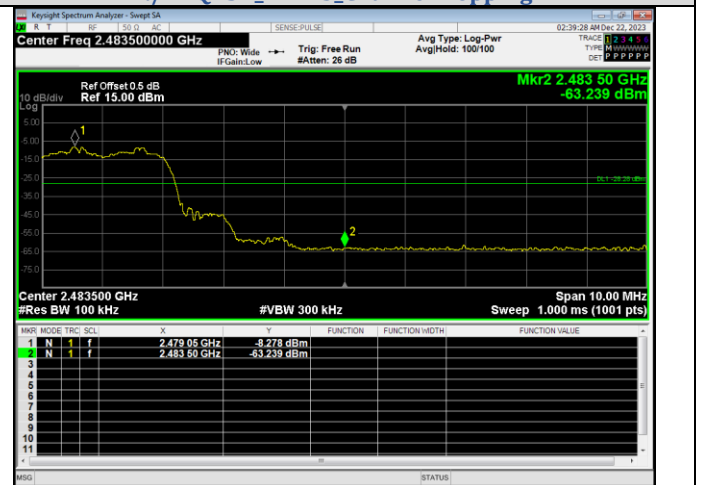
Out Of Band Emission(Left)
GFSK_DH5_Channel Hopping



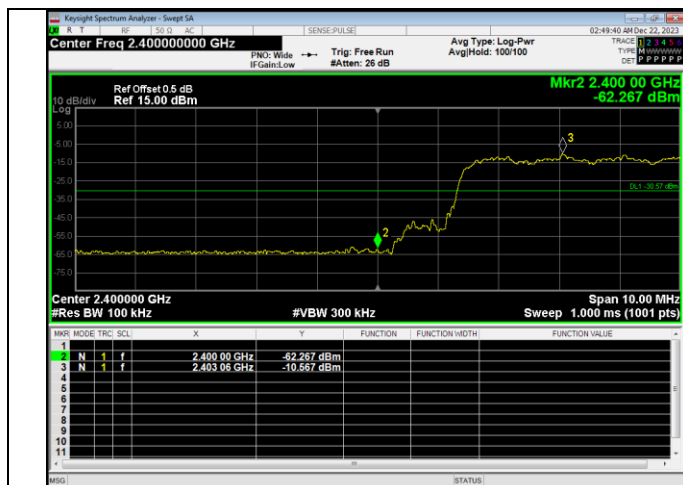
Out Of Band Emission(Left)
 $\pi/4$ DQPSK_2-DH5_Channel Hopping



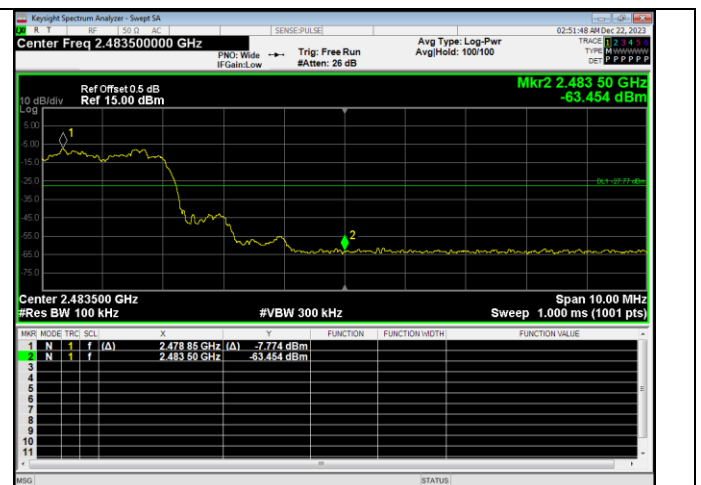
Out Of Band Emission(Right)
GFSK_DH5_Channel Hopping



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



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



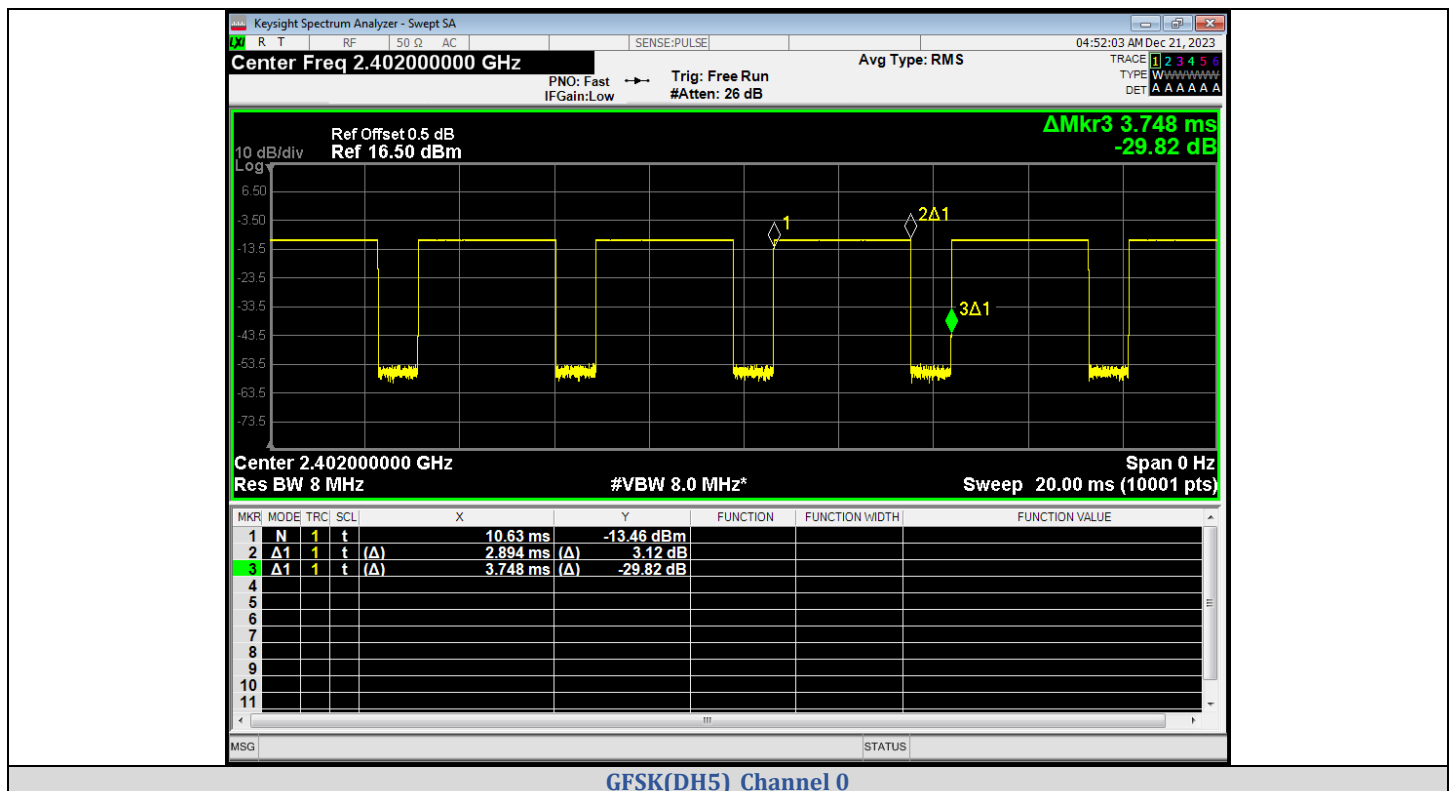
Out Of Band Emission(Right)
8DPSK_3-DH5_Channel Hopping

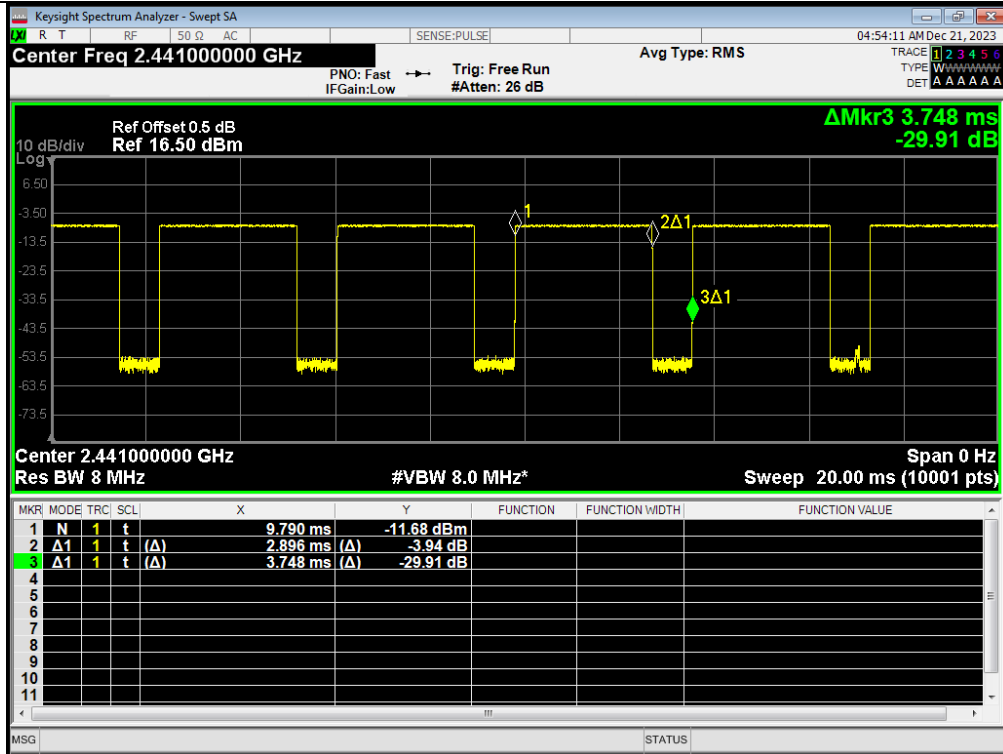


Duty Cycle Test Result

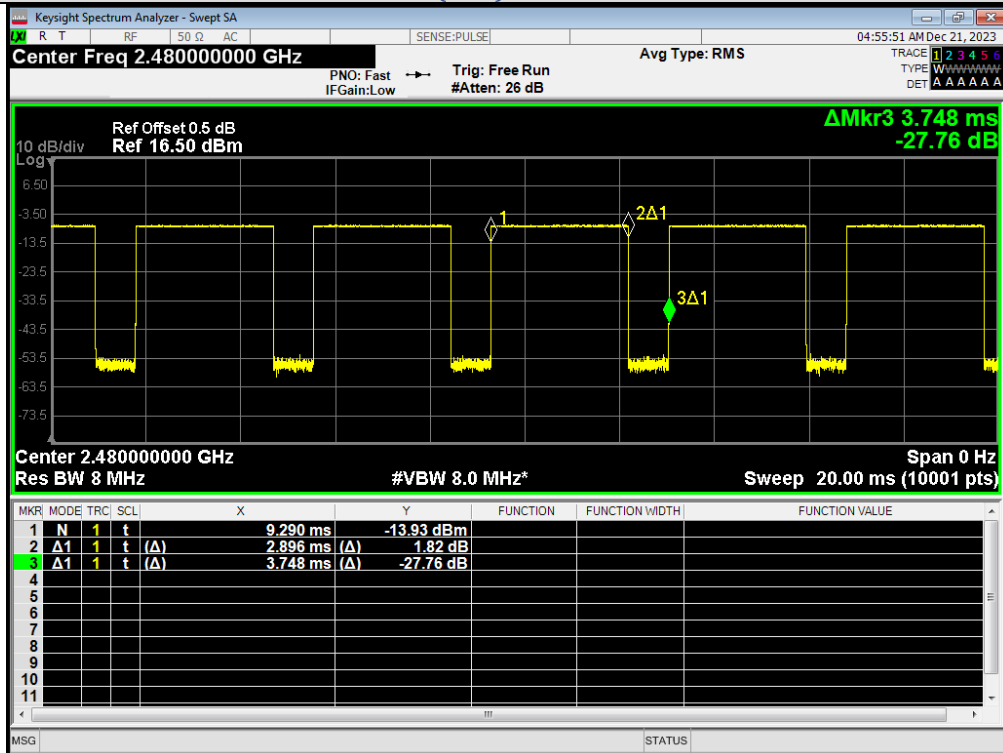
Modulation	Packets	Channel	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)
GFSK	DH5	0	2.894	3.748	77.21	0.7721	1.1233
		39	2.896	3.748	77.27	0.7727	1.1199
		78	2.896	3.748	77.27	0.7727	1.1199
$\pi/4$ DQPSK	2-DH5	0	2.884	3.748	76.95	0.7695	1.1379
		39	2.884	3.748	76.95	0.7695	1.1379
		78	2.884	3.748	76.95	0.7695	1.1379
8DPSK	3-DH5	0	2.882	3.748	76.89	0.7689	1.1413
		39	2.882	3.748	76.89	0.7689	1.1413
		78	2.884	3.748	76.95	0.7695	1.1379

Test Graphs

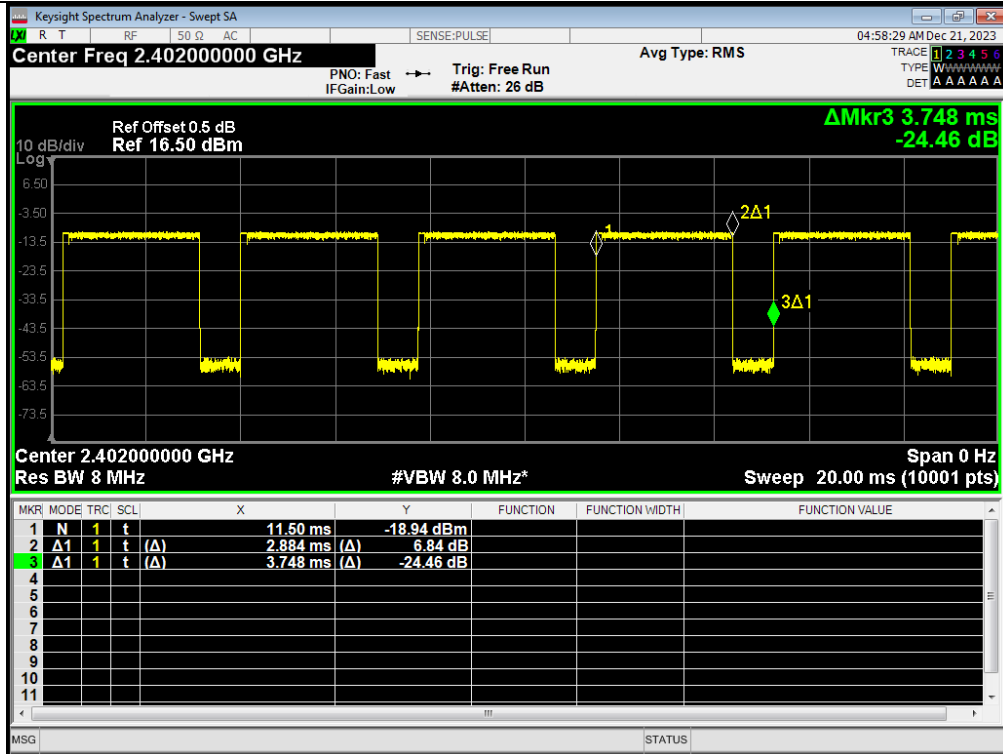
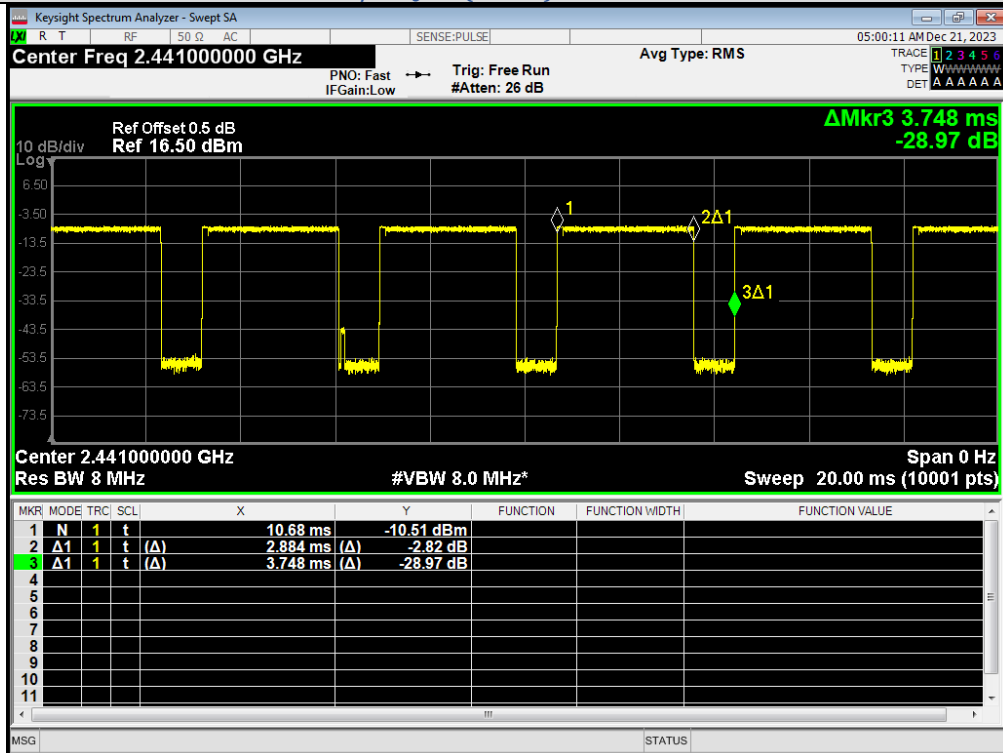


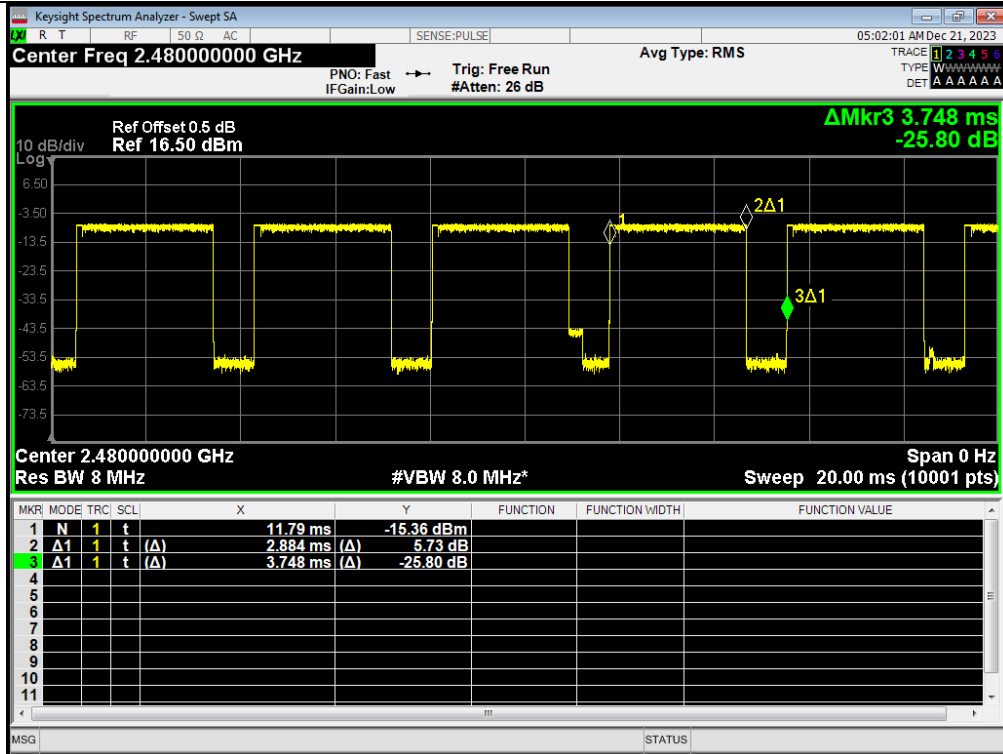
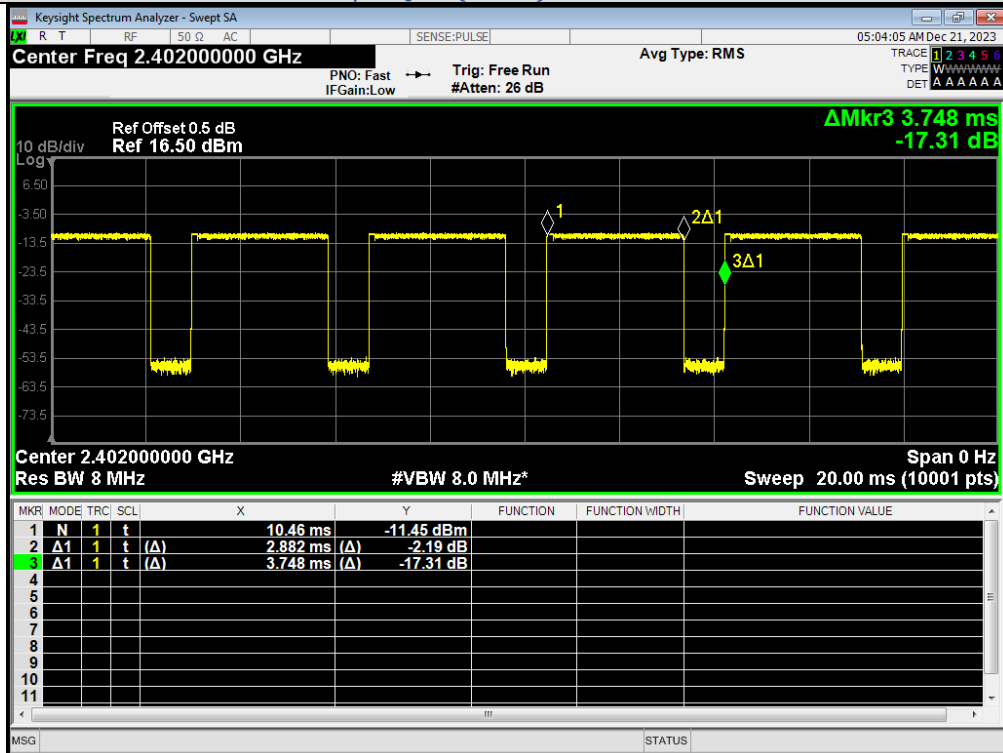


GFSK(DH5)_Channel 39

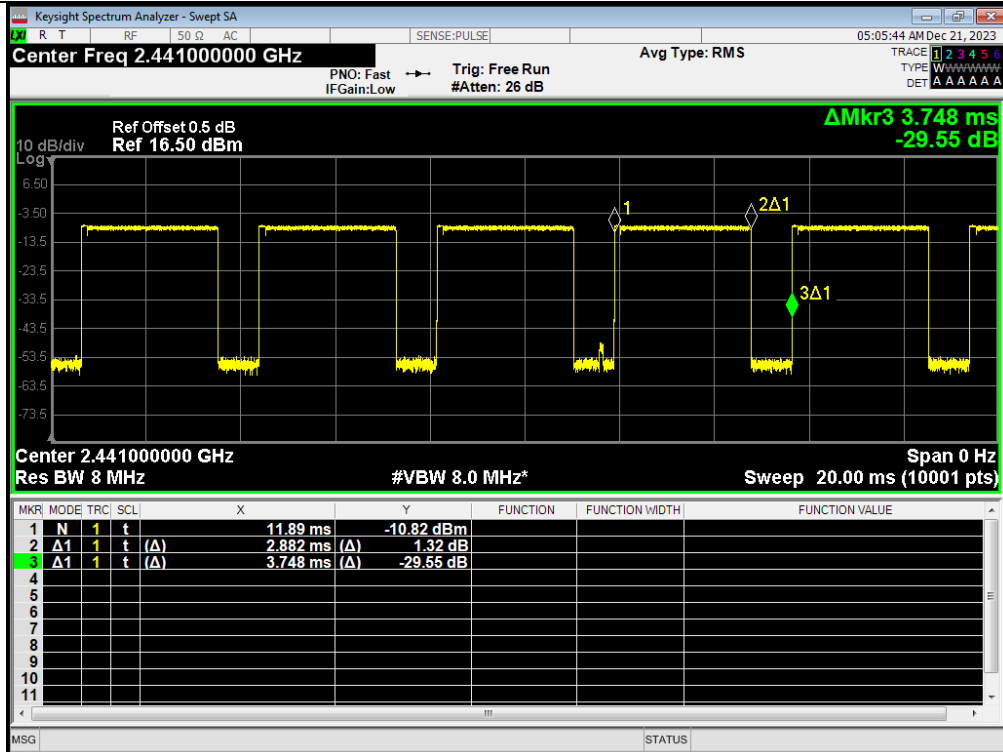


GFSK(DH5)_Channel 78

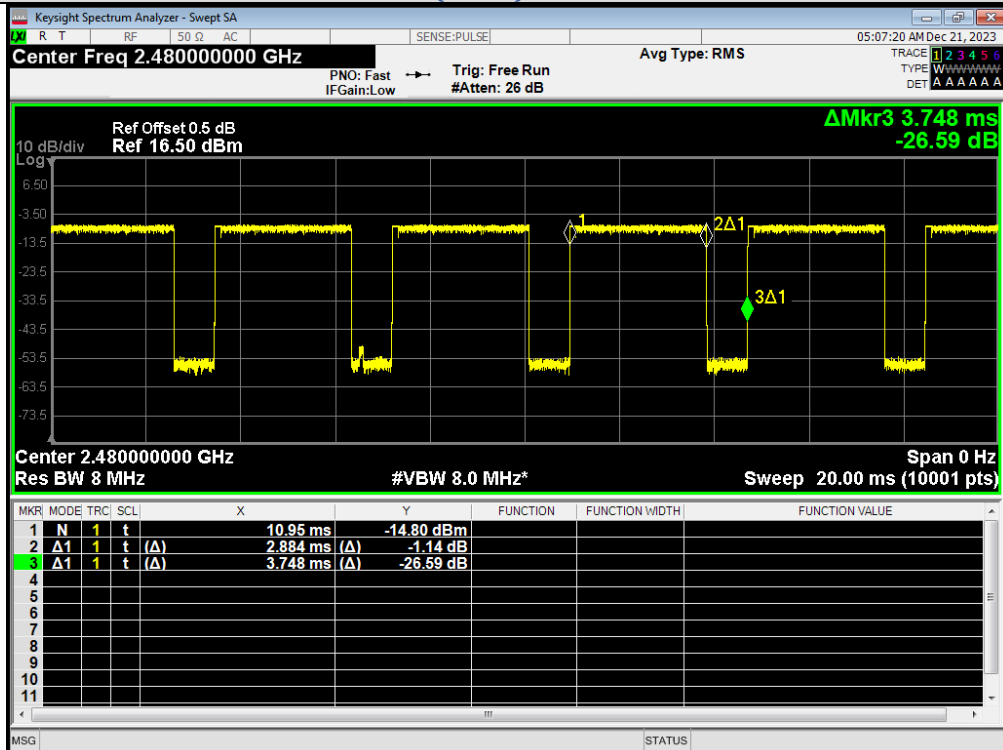
 $\pi/4$ DQPSK(2-DH5)_Channel 0 $\pi/4$ DQPSK(2-DH5)_Channel 39

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

8DPSK(3-DH5)_Channel 0



8DPSK(3-DH5)_Channel 39



8DPSK(3-DH5)_Channel 78



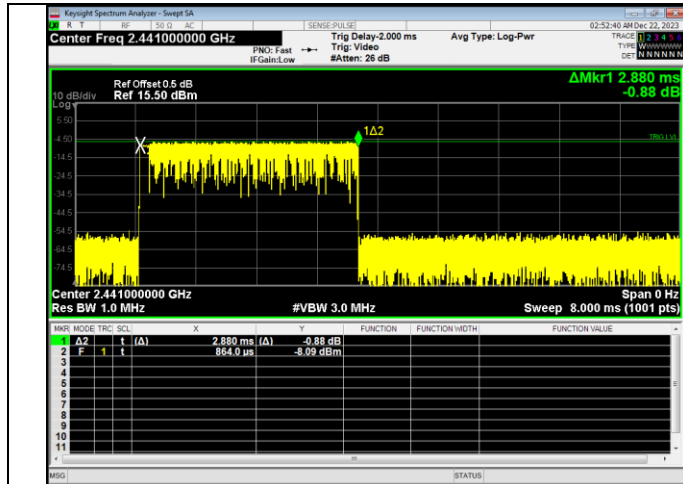
Dwell Time

Test Result

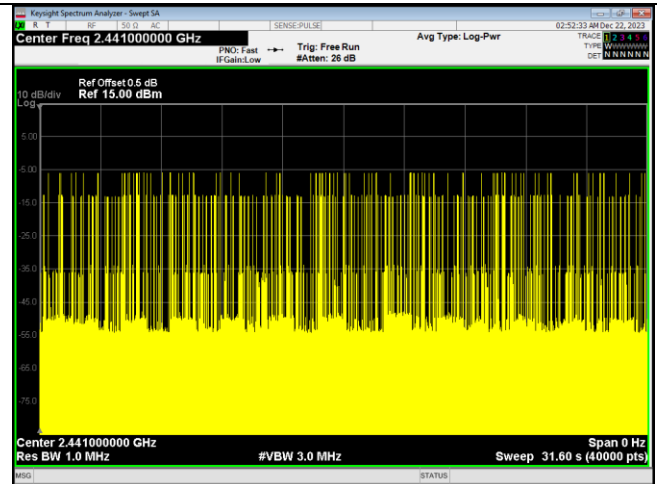
Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH5	CH39 (2441MHz)	2.896	119	344.62	< 400	PASS
$\pi/4$ DQPSK	2-DH5		2.880	94	270.72		PASS
8DPSK	3-DH5		2.880	90	259.2		PASS

Test Graphs





Pulse Width
8DPSK_3-DH5



Number of Pulses in 31.6 seconds
8DPSK_3-DH5

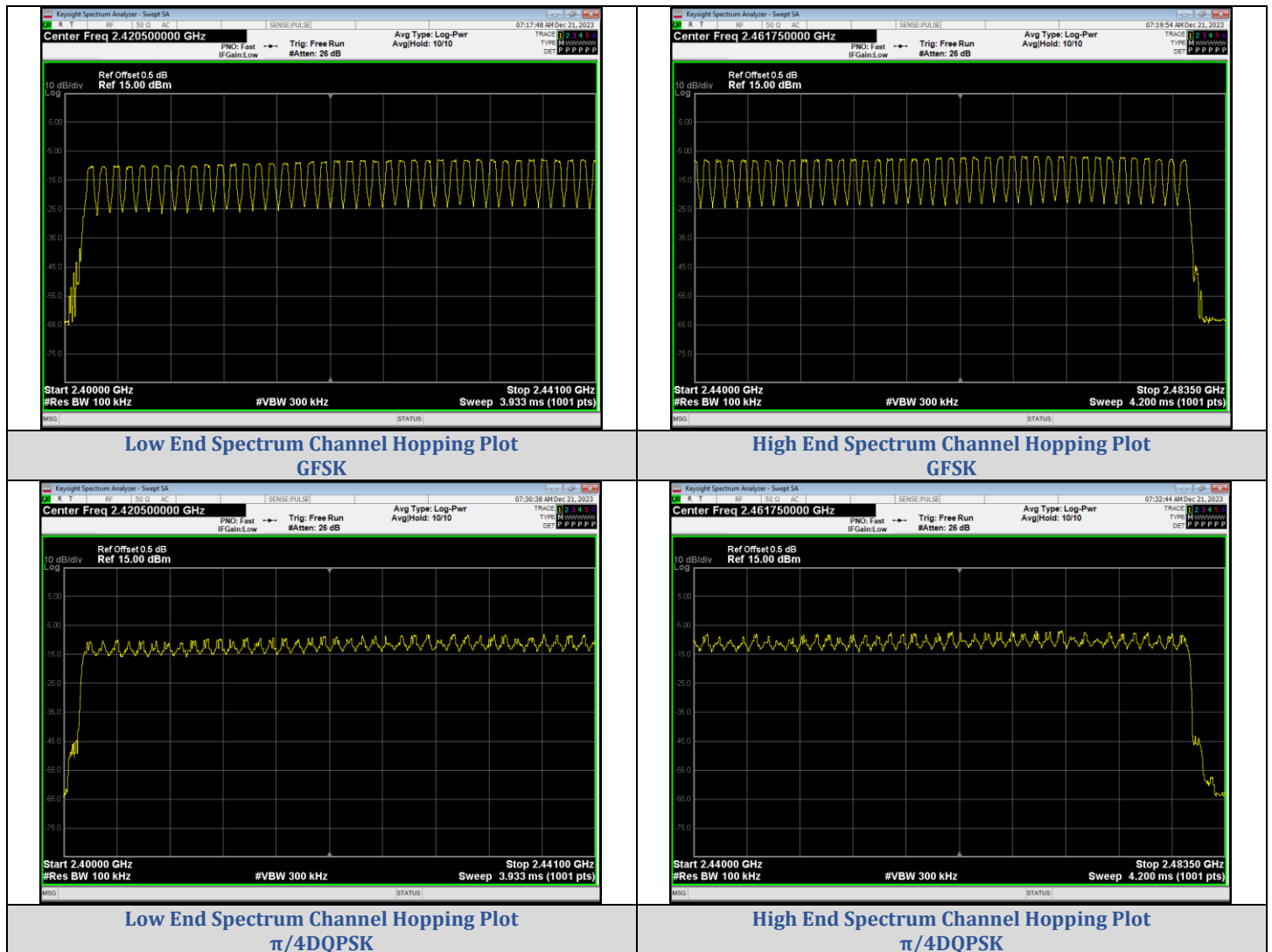


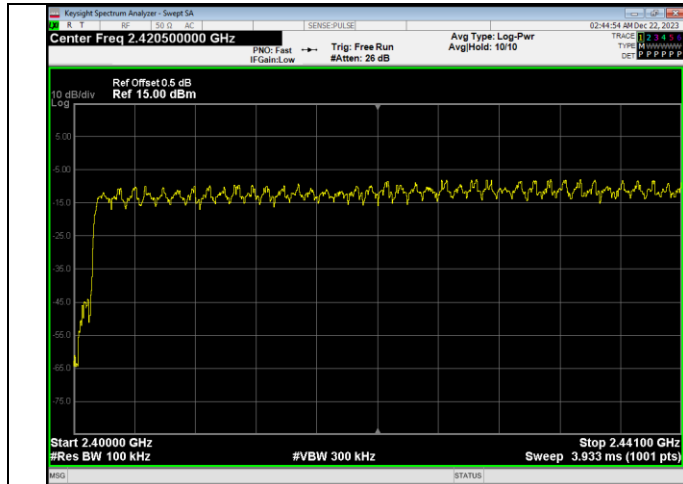
Number Of Hopping Channel

Test Result

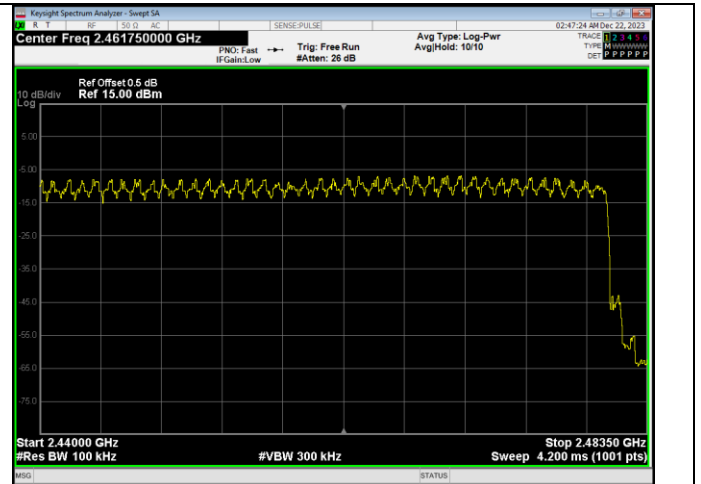
Modulation	Packet	Number of Hopping Channel	Limit	Result
GFSK	DH5	79	15	PASS
$\pi/4$ DQPSK	2-DH5	79	15	PASS
8DPSK	3-DH5	79	15	PASS

Test Graphs





Low End Spectrum Channel Hopping Plot
8DPSK



High End Spectrum Channel Hopping Plot
8DPSK