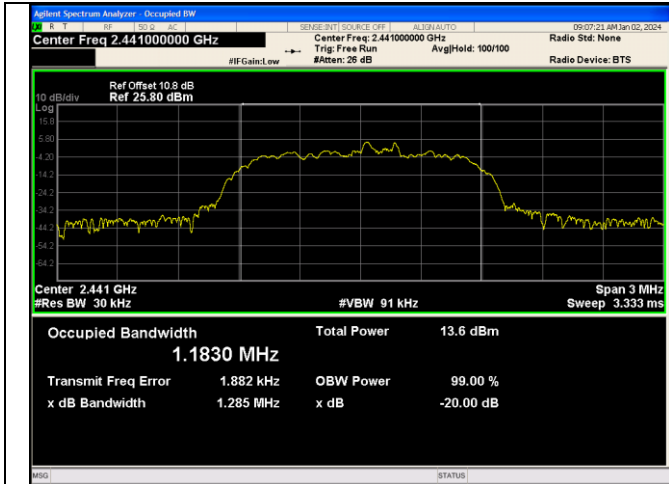


## A.2 20DB BANDWIDTH

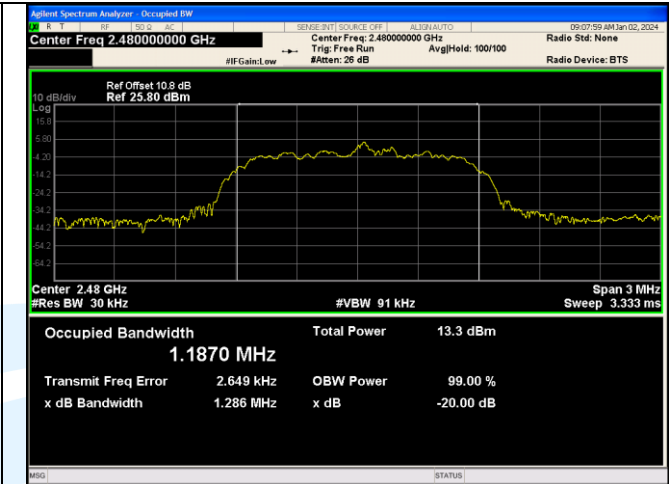
Modulation	Channel	Center Frequency (MHz)	20 dB Bandwidth (MHz)
GFSK	0	2402 MHz	0.9487
	39	2441 MHz	0.9420
	78	2480 MHz	0.9402
$\pi/4$ DQPSK	0	2402 MHz	1.285
	39	2441 MHz	1.285
	78	2480 MHz	1.286
8DPSK	0	2402 MHz	1.299
	39	2441 MHz	1.297
	78	2480 MHz	1.296

### Test Graphs

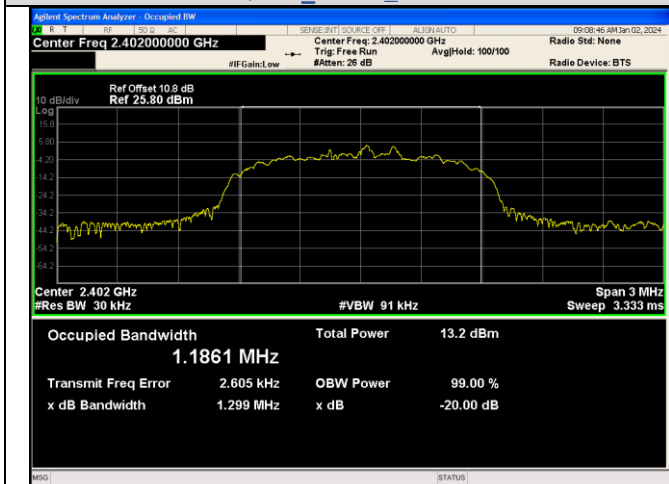




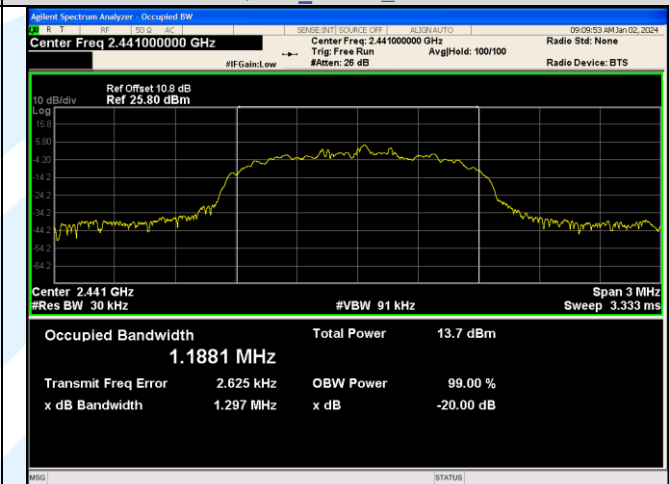
**π/4DQPSK\_2-DH5\_Channel 39**



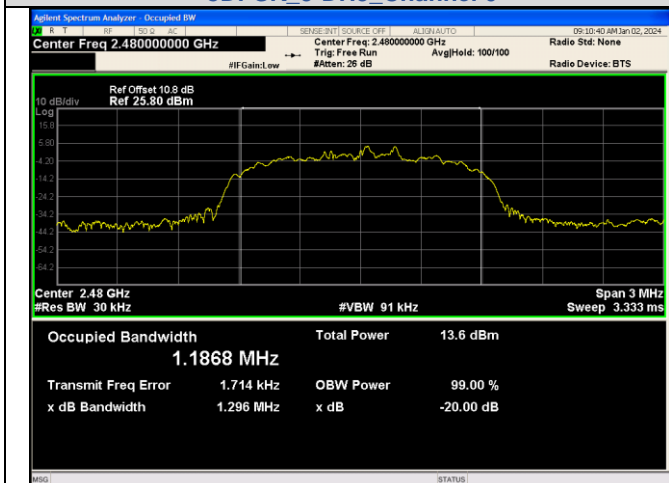
**π/4DQPSK\_2-DH5\_Channel 78**



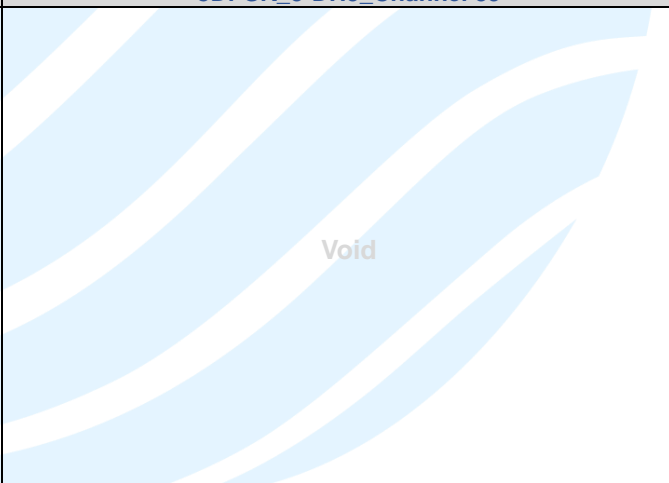
**8DPSK\_3-DH5\_Channel 0**



**8DPSK\_3-DH5\_Channel 39**



**8DPSK\_3-DH5\_Channel 78**



### A.3 CARRIER FREQUENCIES SEPARATION

Modulation	Packet	Left Center frequency (MHz)	Right Center frequency (MHz)	Hopping Frequency Separation (MHz)	Limit (MHz)	Result
GFSK	DH5	2439.838	2440.8449	1.0069	0.628	PASS
$\pi/4$ DQPSK	2-DH5	2440.0087	2441.0087	1.0000	0.857	PASS
8DPSK	3-DH5	2440.1644	2441.1644	1.0000	0.865	PASS

#### Test Graphs



### A.4 CONDUCTED OUT OF BAND EMISSION

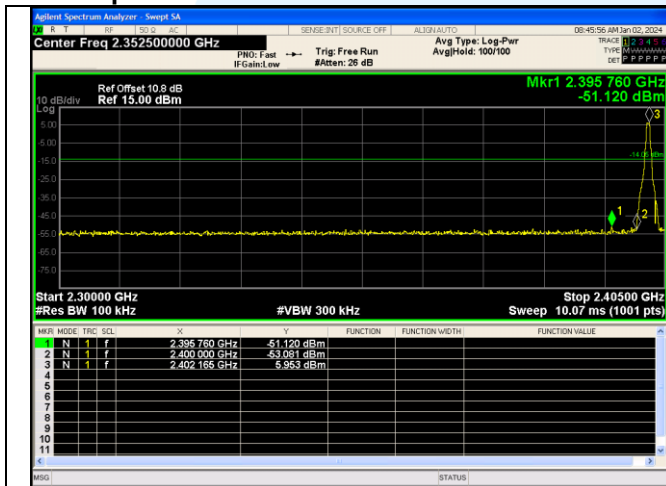
Non-Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	
GFSK	DH5	0	2400.00	-53.081	-14.05	-39.031	PASS	
			2395.76	-51.120	-14.05	-37.070	PASS	
			24282.7	-53.120	-14.05	-39.070	PASS	
		39	24323.9	-52.844	-13.48	-39.364	PASS	
			78	2483.50	-53.945	-13.62	-40.325	PASS
				24438.2	-53.546	-13.62	-39.926	PASS
π/4DQPSK	2-DH5	0	2400.00	-46.189	-14.1	-32.089	PASS	
			24848.9	-52.246	-14.1	-38.146	PASS	
		39	24937.0	-53.130	-13.67	-39.460	PASS	
			78	2483.50	-50.216	-13.64	-36.576	PASS
		24304.6		-52.744	-13.64	-39.104	PASS	
		8DPSK	3-DH5	0	2400.00	-47.189	-14.13	-33.059
24371.4	-52.850				-14.13	-38.720	PASS	
39	24971.3			-53.025	-13.76	-39.265	PASS	
	78			2483.50	-49.358	-13.55	-35.808	PASS
24282.1				-52.255	-13.55	-38.705	PASS	

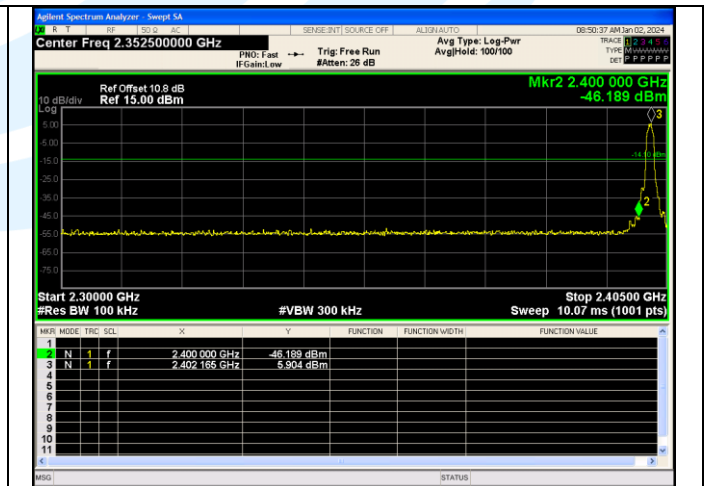
Hopping

Modulation	Packet	Channel	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
GFSK	DH5	Hopping	2397.02	-30.883	-14.01	-16.873	PASS
			2400.00	-46.559	-14.01	-32.549	PASS
			2483.50	-53.589	-13.26	-40.329	PASS
			2357.96	-51.392	-14.0	-37.392	PASS
			2400.00	-51.594	-14.0	-37.594	PASS
			2483.50	-52.582	-13.52	-39.062	PASS
π/4DQPSK	2-DH5		2397.02	-28.534	-14.03	-14.504	PASS
			2400.00	-42.273	-14.03	-28.243	PASS
			2483.50	-49.657	-13.54	-36.117	PASS
			2400.00	-47.635	-14.05	-33.585	PASS
			2483.50	-51.548	-13.45	-38.098	PASS
			8DPSK	3-DH5	2400.00	-46.905	-13.78
2483.50	-53.104	-13.4			-39.704	PASS	
2400.00	-47.036	-13.98			-33.056	PASS	
2483.50	-50.892	-13.61			-37.282	PASS	

### Test Graphs



Out Of Band Emission



Out Of Band Emission

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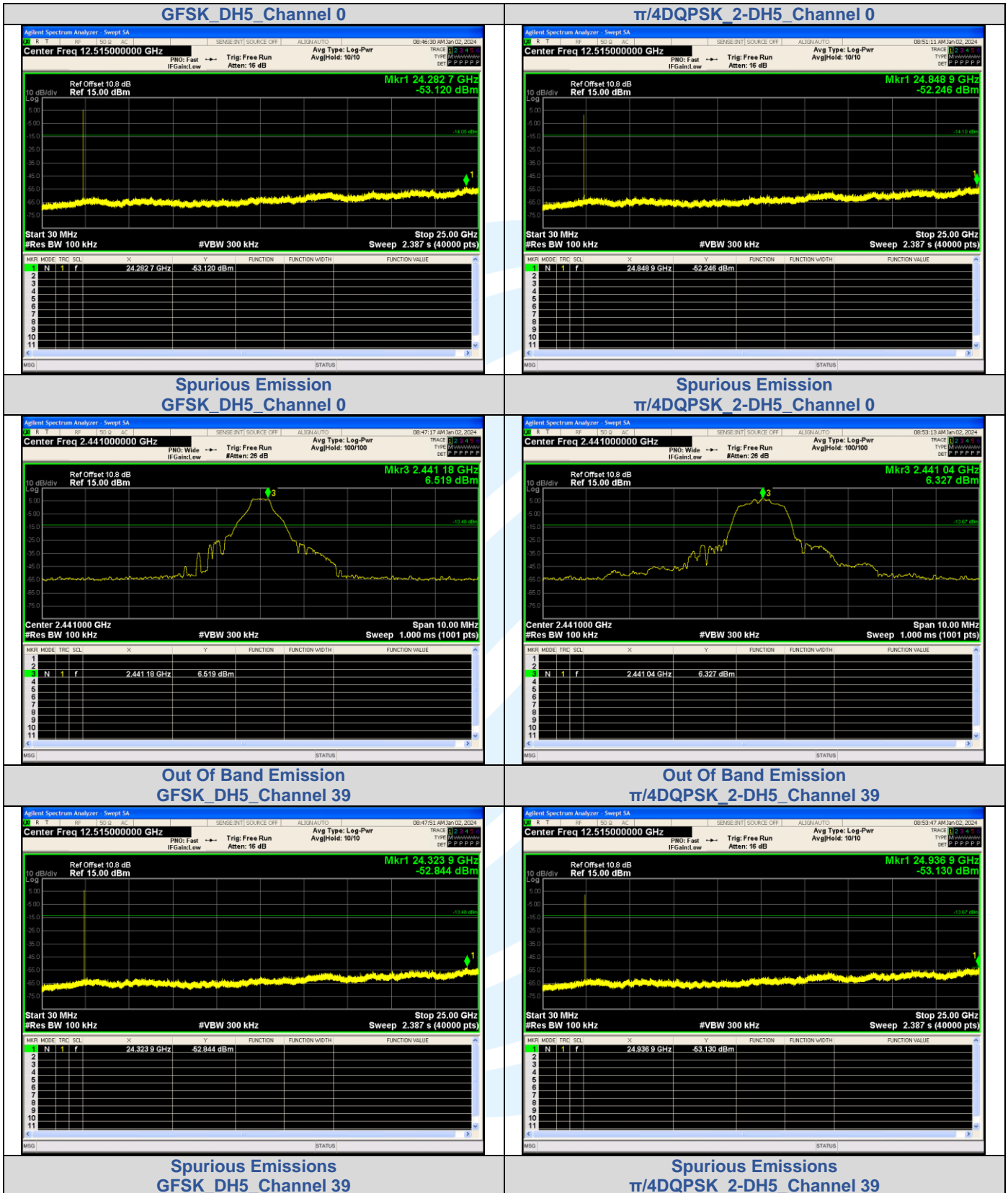
Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

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**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

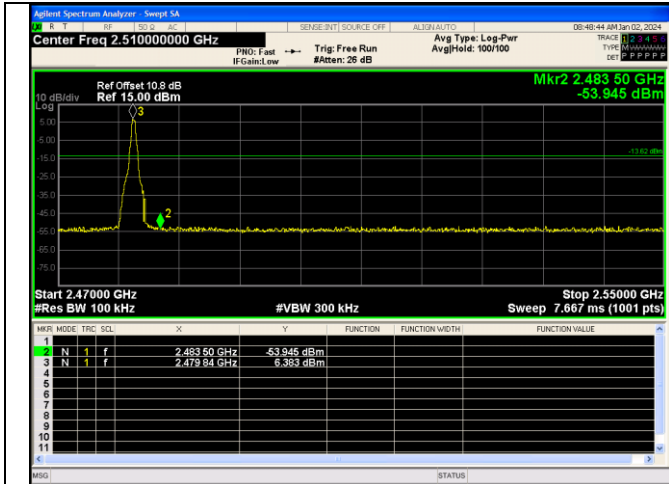
Tel: +86-755-28230888

Fax: +86-755-28230886

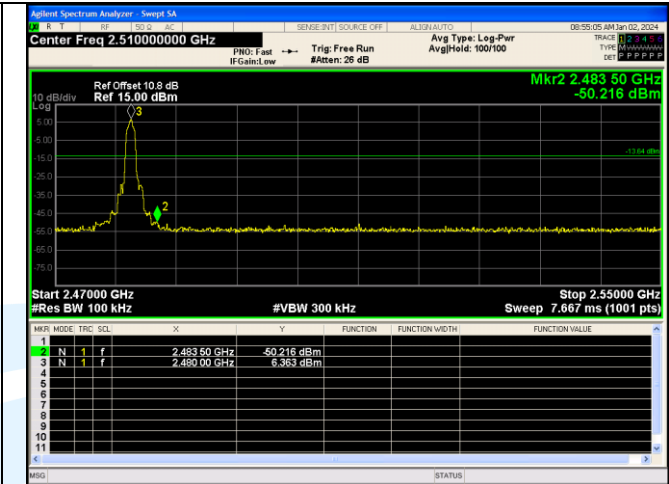
E-mail: info@uttlab.com

<http://www.uttlab.com>

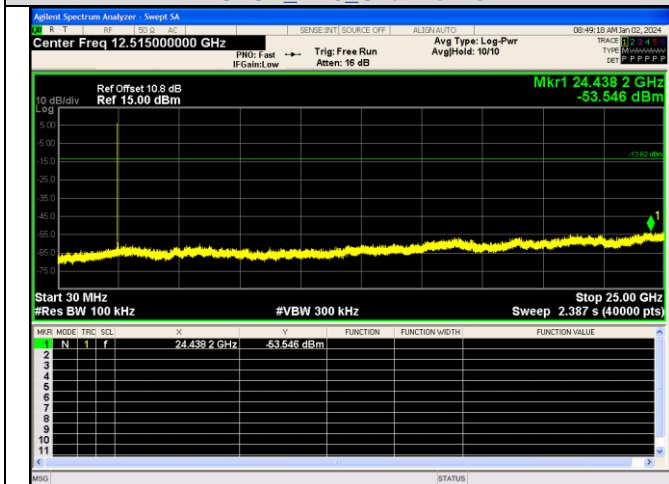
UTTR-RF-FCCPART15.247-V1.1



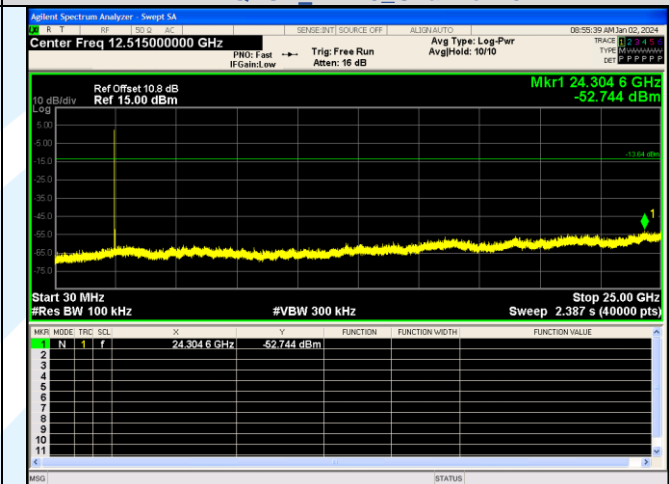
**Out Of Band Emission  
GFSK\_DH5\_Channel 78**



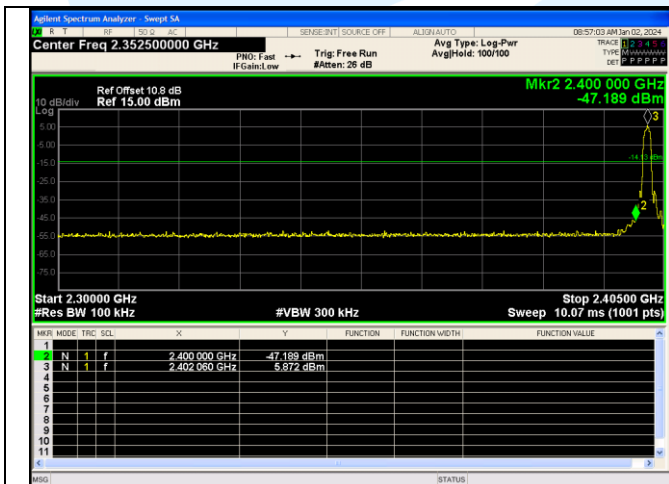
**Out Of Band Emission  
π/4DQPSK\_2-DH5\_Channel 78**



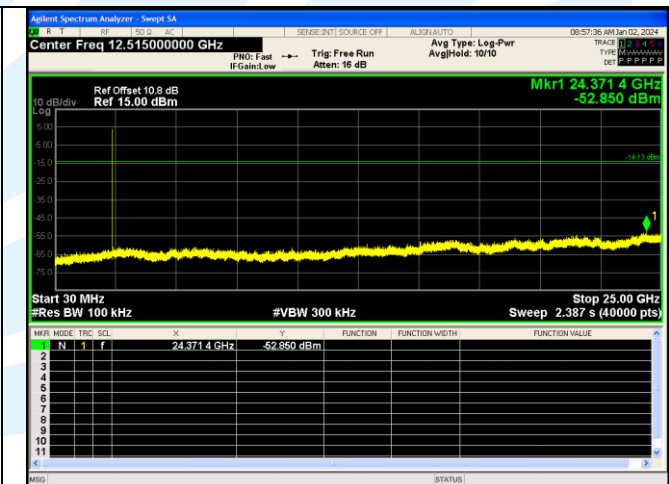
**Spurious Emission  
GFSK\_DH5\_Channel 78**



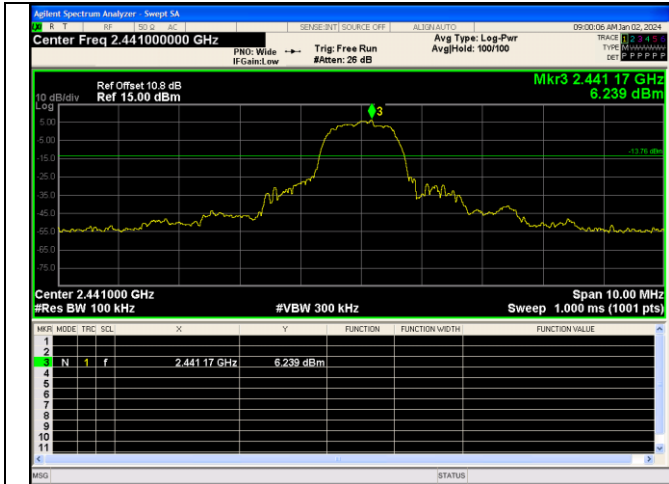
**Spurious Emission  
π/4DQPSK\_2-DH5\_Channel 78**



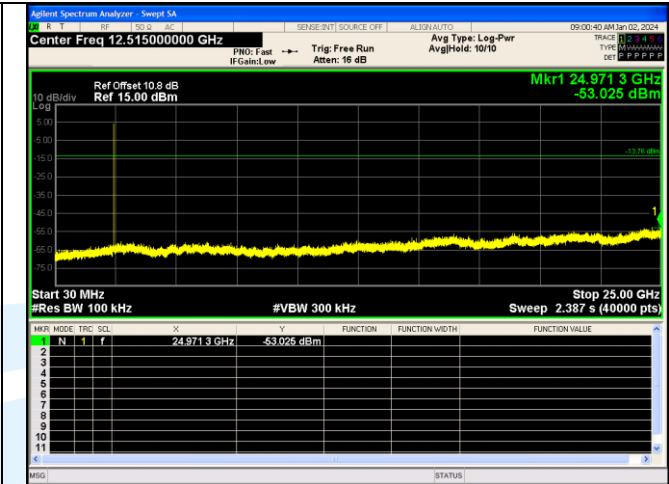
**Out Of Band Emission  
8DPSK\_3-DH5\_Channel 0**



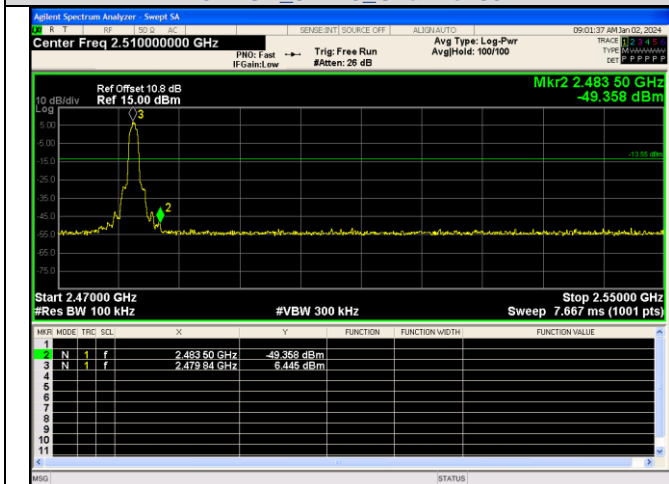
**Spurious Emission  
8DPSK\_3-DH5\_Channel 0**



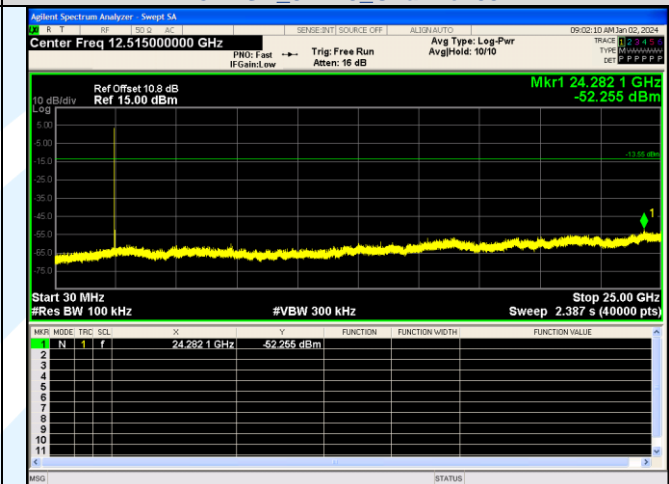
**Out Of Band Emission  
8DPSK\_3-DH5\_Channel 39**



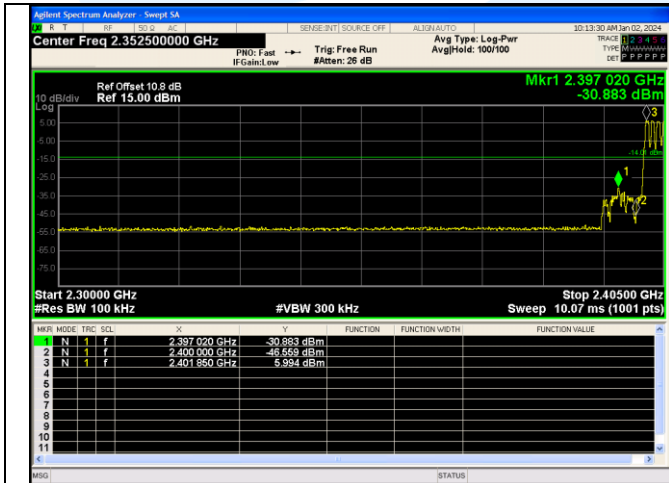
**Spurious Emissions  
8DPSK\_3-DH5\_Channel 39**



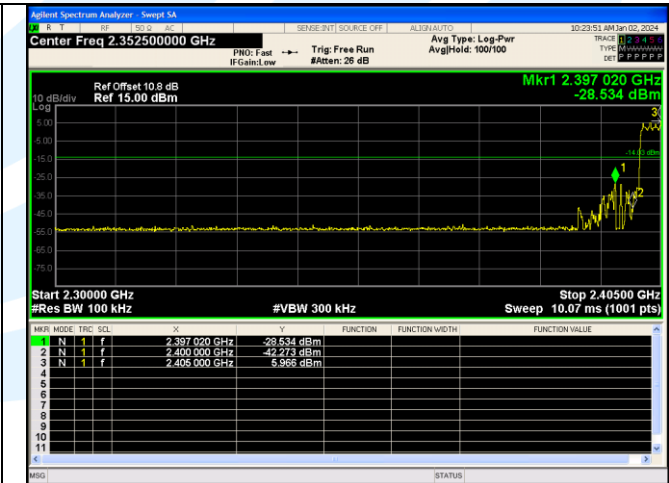
**Out Of Band Emission  
8DPSK\_3-DH5\_Channel 78**



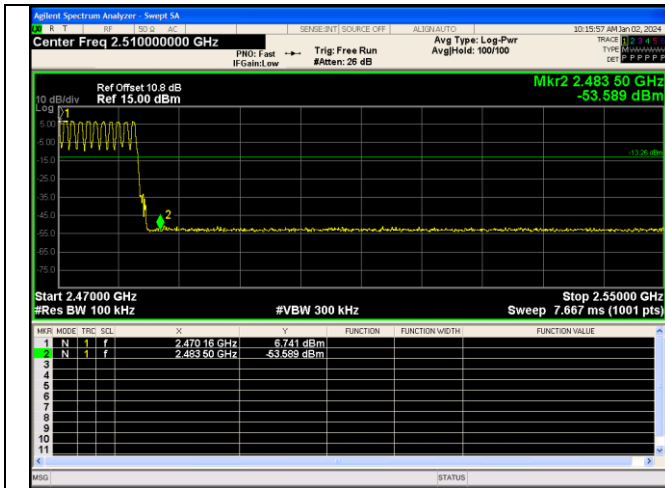
**Spurious Emission  
8DPSK\_3-DH5\_Channel 78**



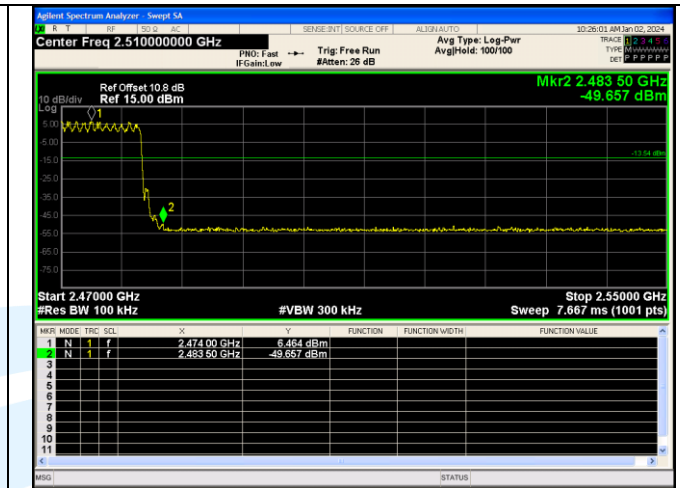
**Out Of Band Emission(Left)  
GFSK\_DH5\_Channel Hopping**



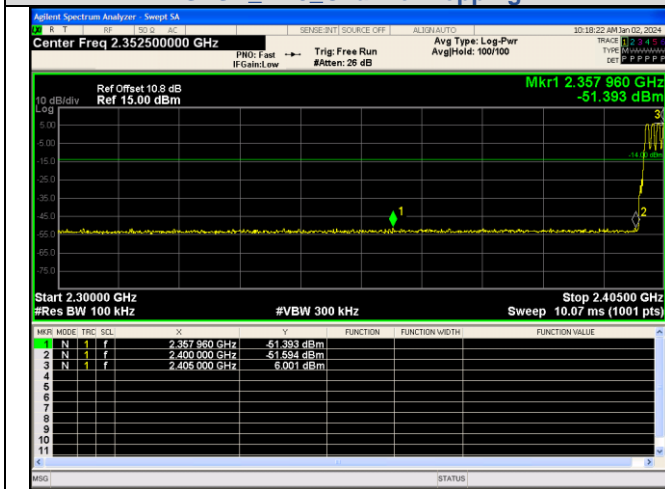
**Out Of Band Emission(Left)  
π/4DQPSK\_2-DH5\_Channel Hopping**



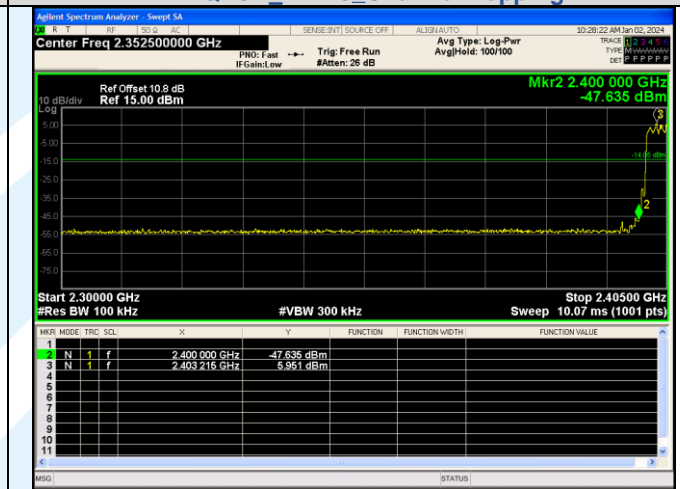
Out Of Band Emission(Right)  
GFSK\_DH5\_Channel Hopping



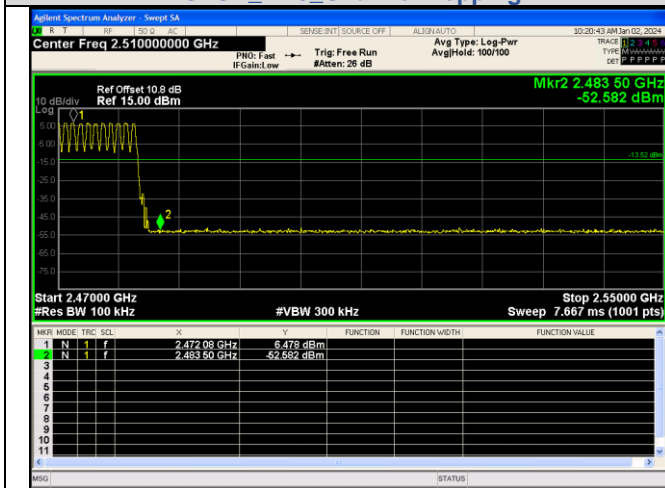
Out Of Band Emission(Right)  
 $\pi/4$ DQPSK\_2-DH5\_Channel Hopping



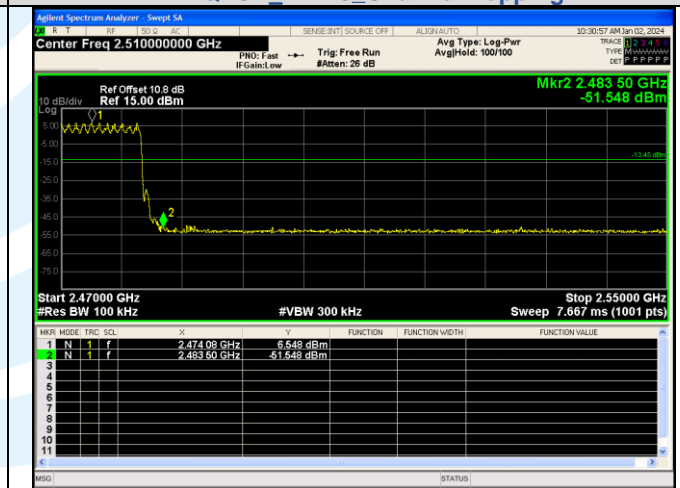
Out Of Band Emission(Left)  
GFSK\_DH5\_Channel Hopping



Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH5\_Channel Hopping

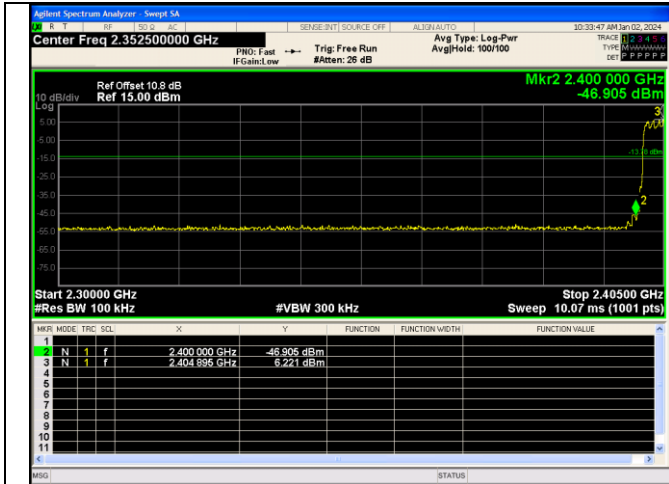


Out Of Band Emission(Right)  
GFSK\_DH5\_Channel Hopping

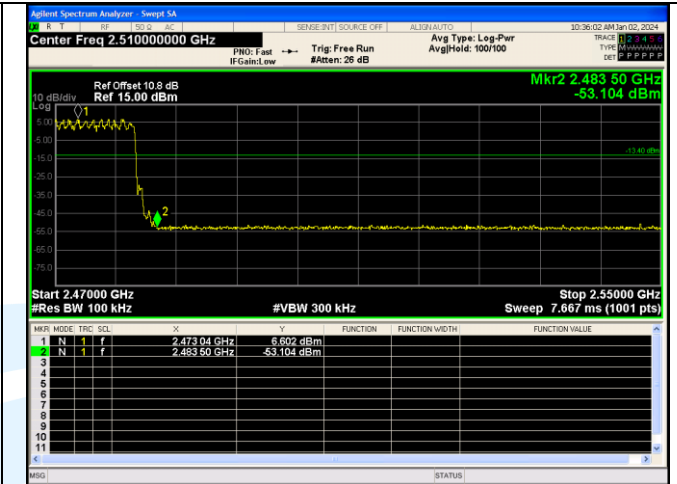


Out Of Band Emission(Right)  
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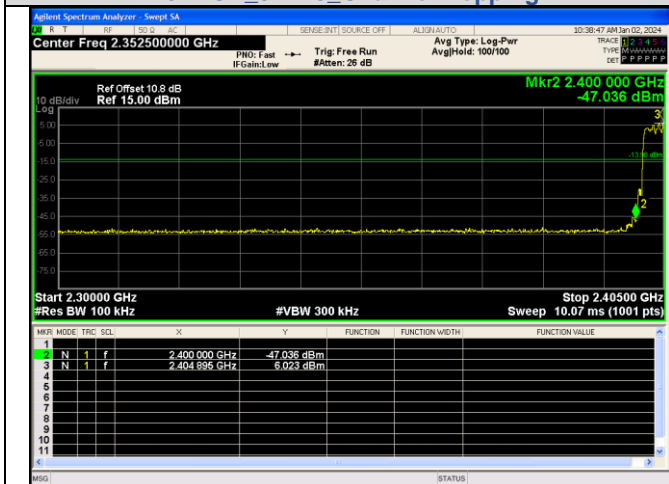




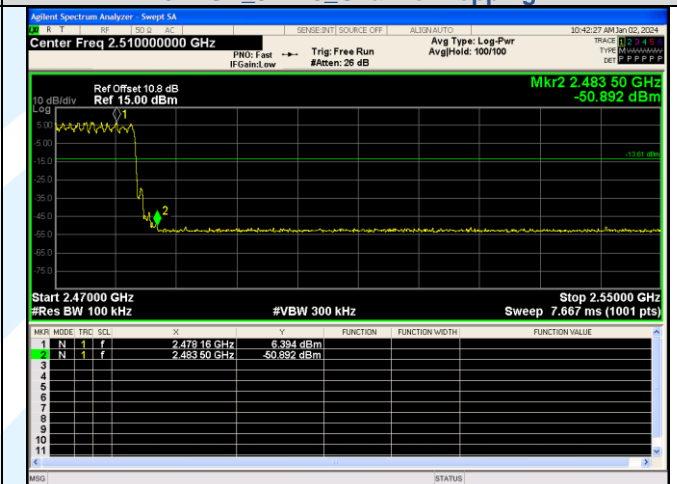
Out Of Band Emission(Left)  
8DPSK\_3-DH5\_Channel Hopping



Out Of Band Emission(Right)  
8DPSK\_3-DH5\_Channel Hopping



Out Of Band Emission(Left)  
8DPSK\_3-DH5\_Channel Hopping

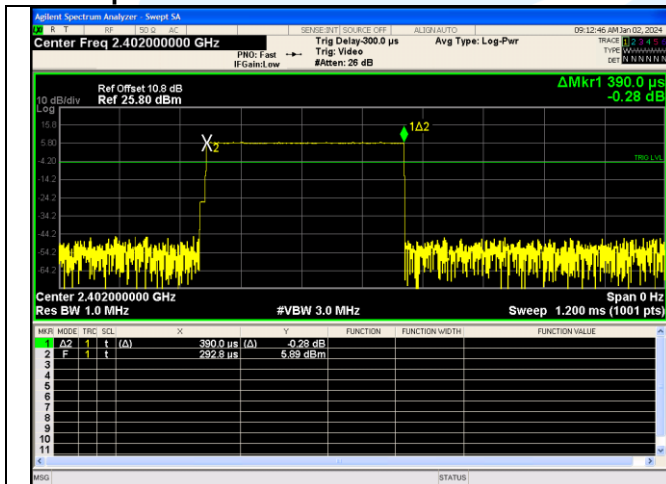


Out Of Band Emission(Right)  
8DPSK\_3-DH5\_Channel Hopping

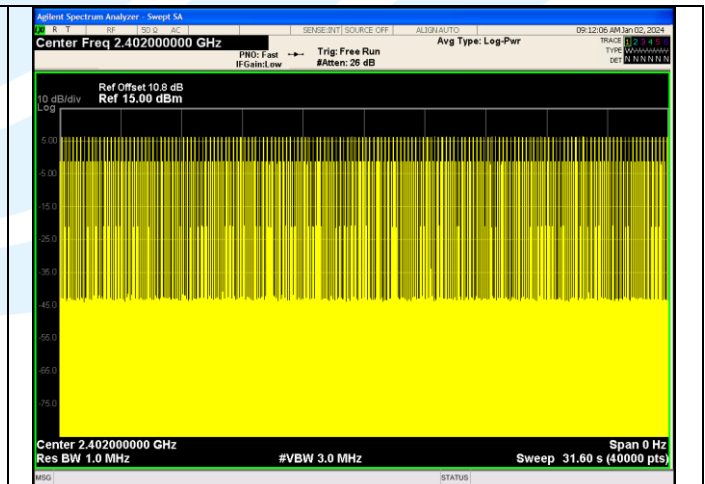
### A.5 DWELL TIME

Modulation	Packet	Channel	Pulse Width (ms)	Number of Pulses in 31.6 seconds	Dwell Time (ms)	Limit (ms)	Result
GFSK	DH1	CH0 (2402MHz)	0.3900	318	124.02	< 400	PASS
	DH1	CH78 (2480MHz)	0.3912	317	124.01		PASS
	DH3	CH0 (2402MHz)	1.656	160	264.96		PASS
	DH3	CH78 (2480MHz)	1.656	157	259.99		PASS
	DH5	CH0 (2402MHz)	2.896	97	280.91		PASS
	DH5	CH78 (2480MHz)	2.888	107	309.02		PASS
$\pi/4$ DQPSK	2-DH1	CH0 (2402MHz)	0.3828	312	119.43		PASS
	2-DH1	CH78 (2480MHz)	0.3840	317	121.73		PASS
	2-DH3	CH0 (2402MHz)	1.632	152	248.06		PASS
	2-DH3	CH78 (2480MHz)	1.632	151	246.43		PASS
	2-DH5	CH0 (2402MHz)	2.880	109	313.92		PASS
	2-DH5	CH78 (2480MHz)	2.880	118	339.84		PASS
8DPSK	3-DH1	CH0 (2402MHz)	0.3804	317	120.59		PASS
	3-DH1	CH78 (2480MHz)	0.3816	311	118.68		PASS
	3-DH3	CH0 (2402MHz)	1.632	158	257.86		PASS
	3-DH3	CH78 (2480MHz)	1.632	164	267.65		PASS
	3-DH5	CH0 (2402MHz)	2.880	94	270.72		PASS
	3-DH5	CH78 (2480MHz)	2.880	113	325.44		PASS

### Test Graphs



Pulse Width  
GFSK\_DH1



Number of Pulses in 31.6 seconds  
GFSK\_DH1

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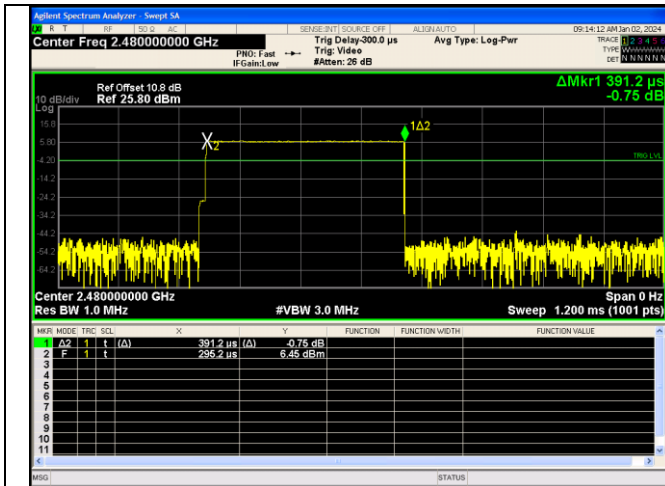
Tel: +86-755-28230888

Fax: +86-755-28230886

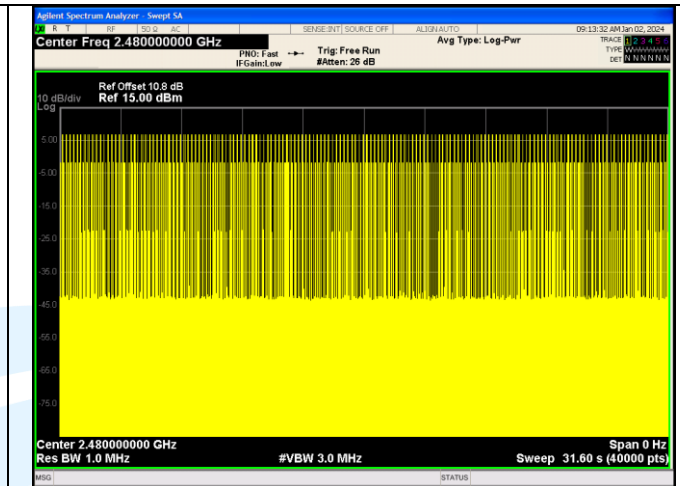
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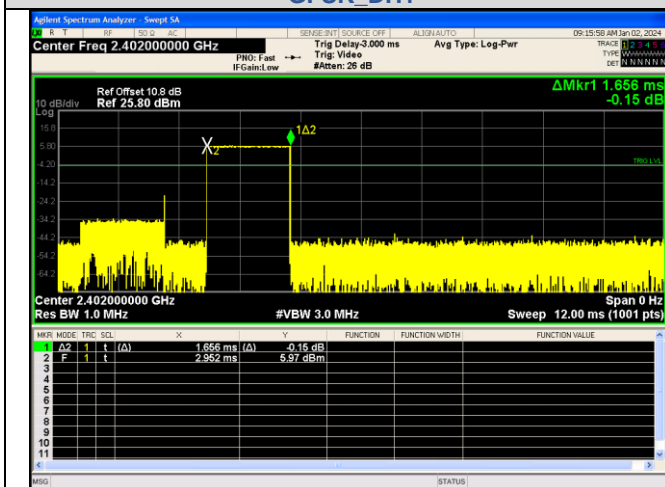
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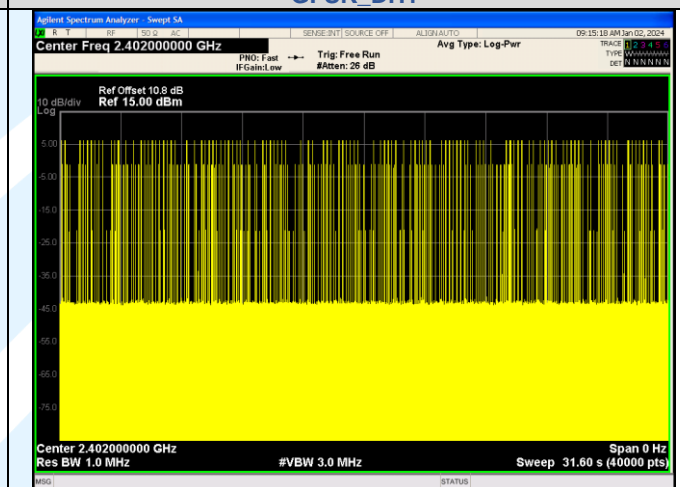
**Pulse Width  
GFSK DH1**



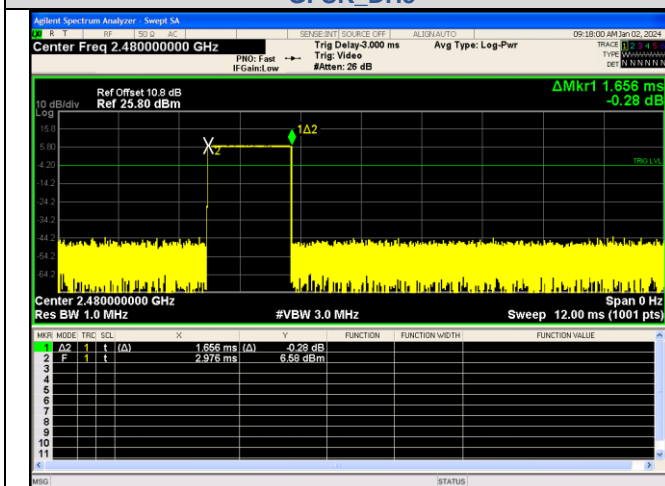
**Number of Pulses in 31.6 seconds  
GFSK DH1**



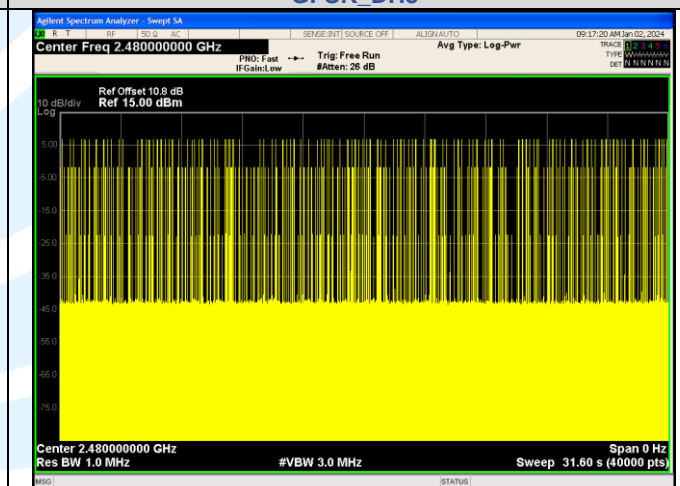
**Pulse Width  
GFSK DH3**



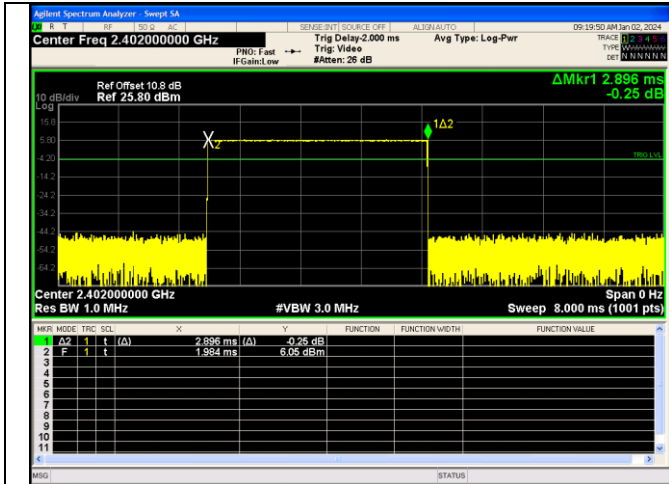
**Number of Pulses in 31.6 seconds  
GFSK DH3**



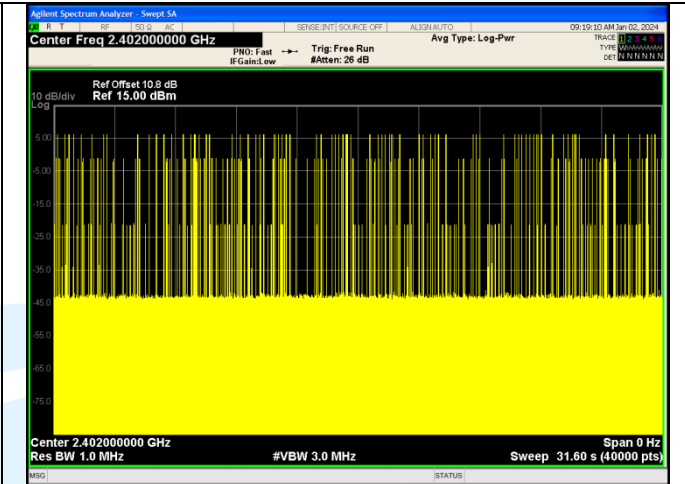
**Pulse Width  
GFSK DH3**



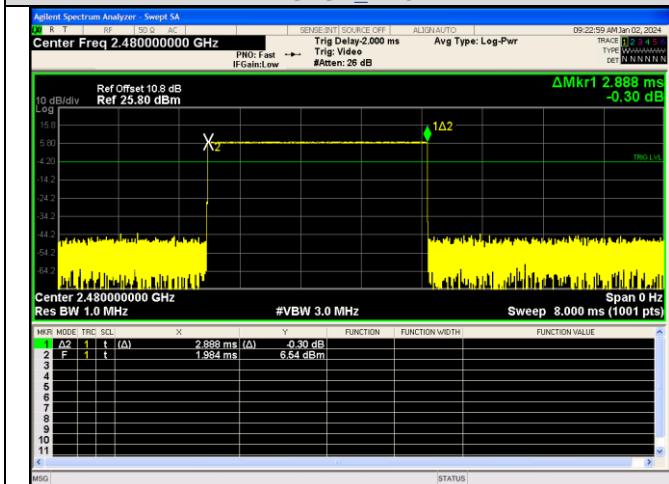
**Number of Pulses in 31.6 seconds  
GFSK DH3**



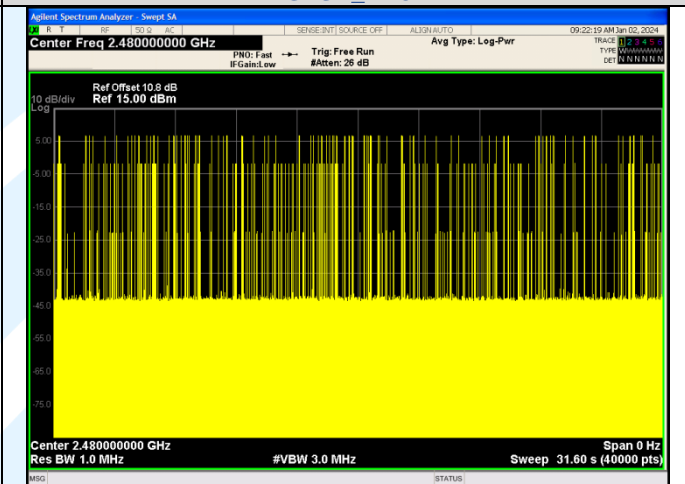
Pulse Width  
GFSK DH5



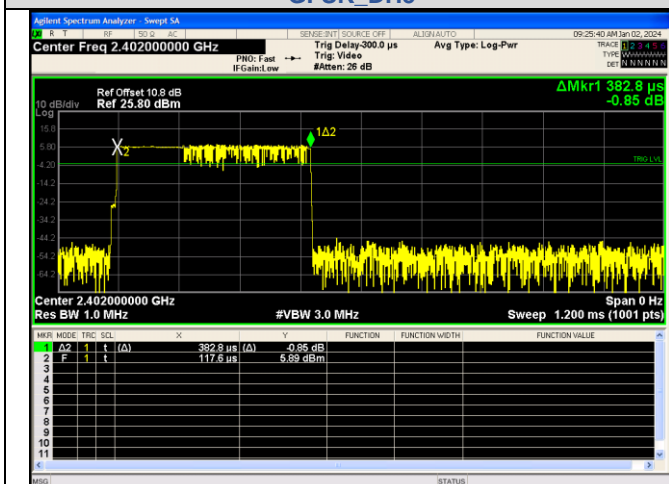
Number of Pulses in 31.6 seconds  
GFSK DH5



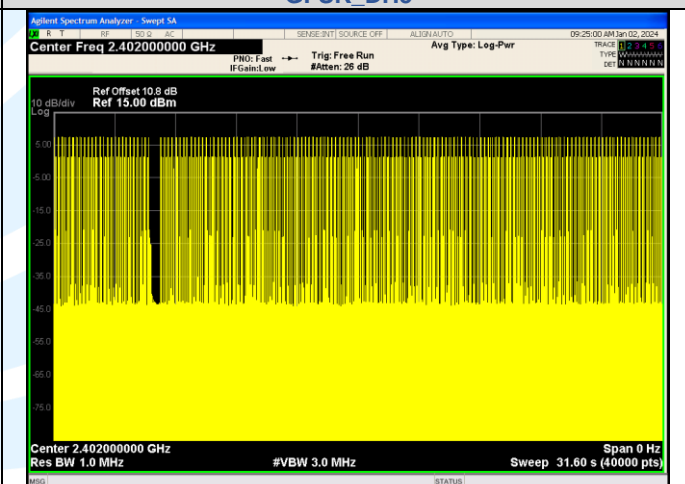
Pulse Width  
GFSK DH5



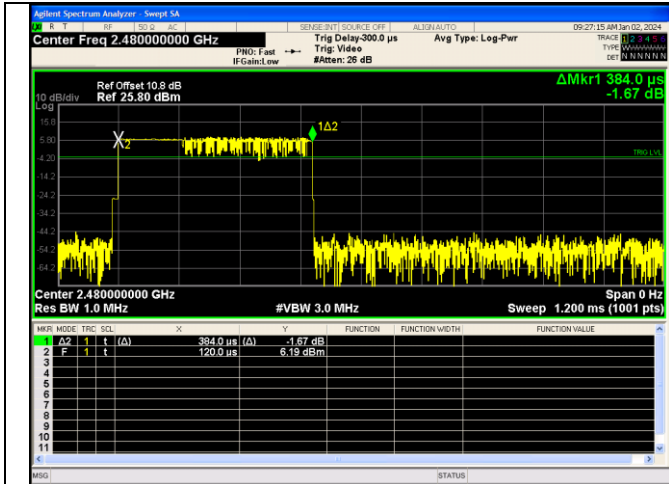
Number of Pulses in 31.6 seconds  
GFSK DH5



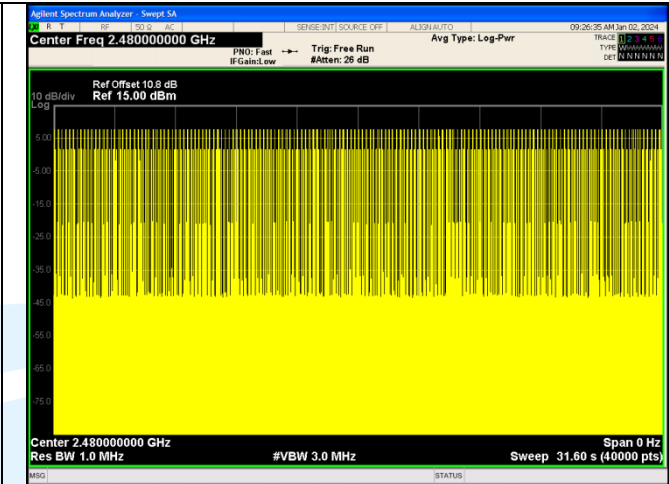
Pulse Width  
 $\pi/4$ DQPSK 2-DH1



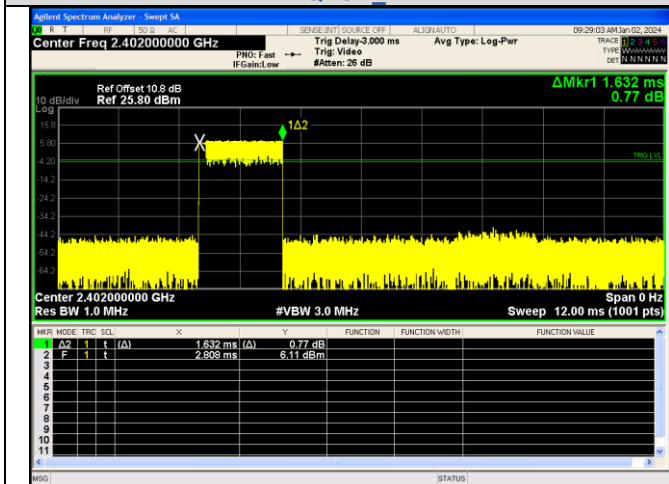
Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK 2-DH1



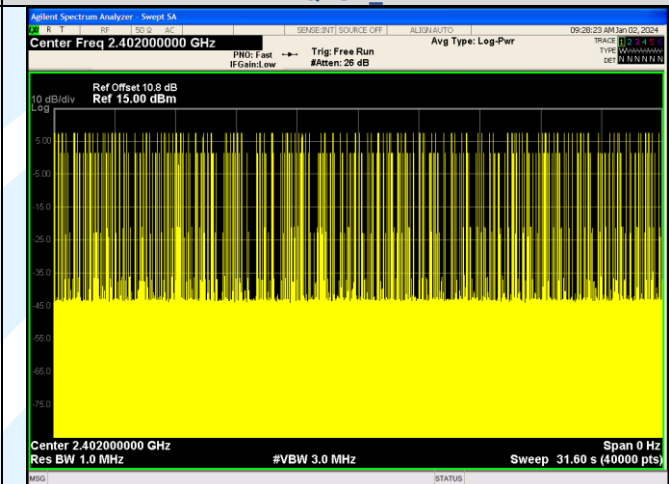
**Pulse Width**  
 **$\pi/4$ DQPSK 2-DH1**



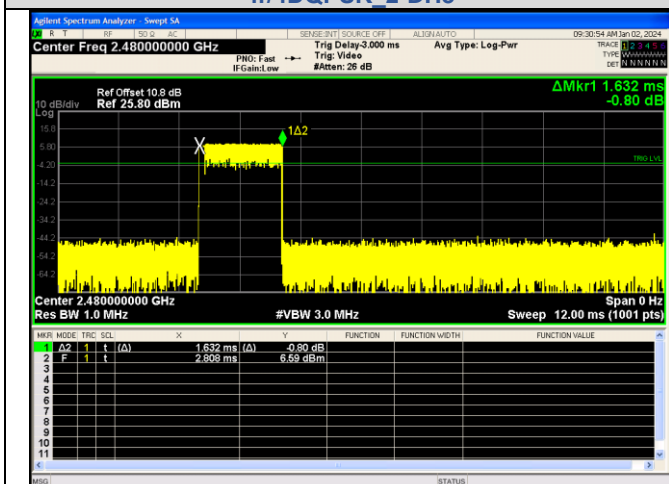
**Number of Pulses in 31.6 seconds**  
 **$\pi/4$ DQPSK 2-DH1**



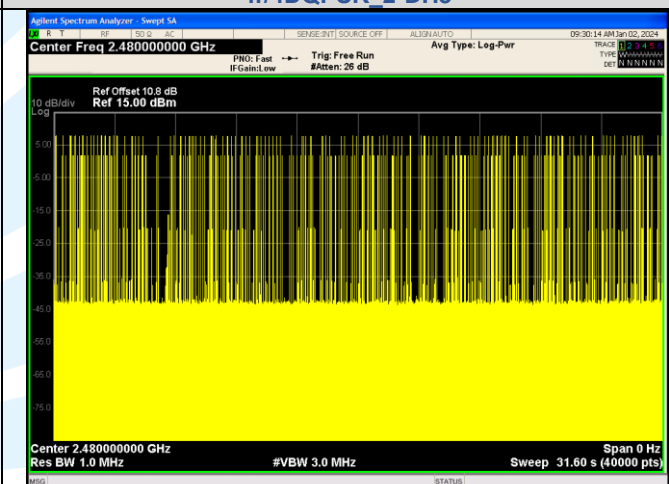
**Pulse Width**  
 **$\pi/4$ DQPSK 2-DH3**



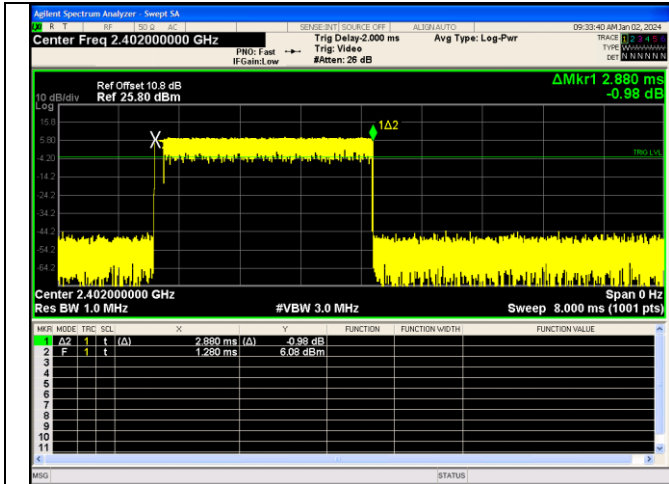
**Number of Pulses in 31.6 seconds**  
 **$\pi/4$ DQPSK 2-DH3**



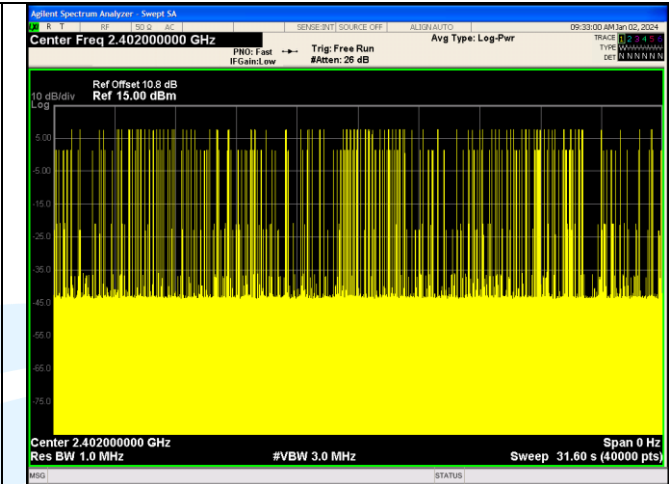
**Pulse Width**  
 **$\pi/4$ DQPSK 2-DH3**



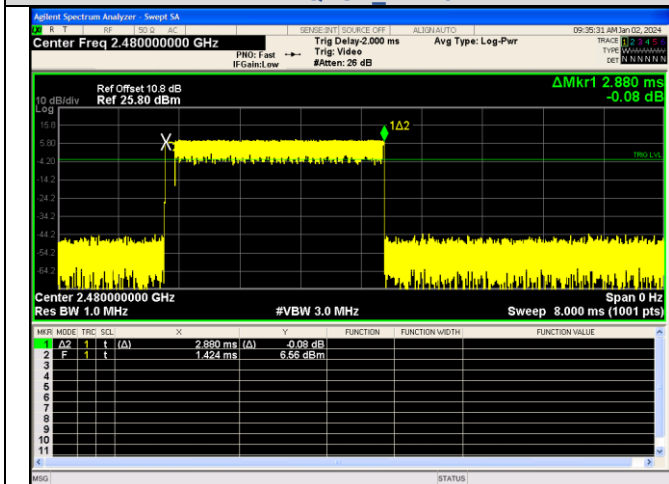
**Number of Pulses in 31.6 seconds**  
 **$\pi/4$ DQPSK 2-DH3**



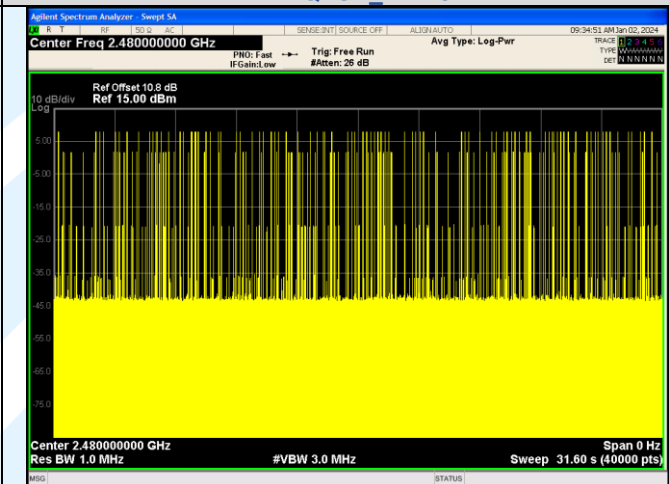
**Pulse Width  
 $\pi/4$ DQPSK 2-DH5**



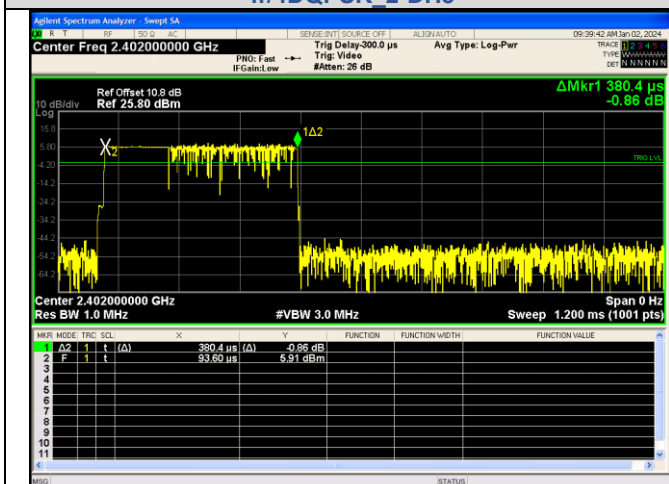
**Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK 2-DH5**



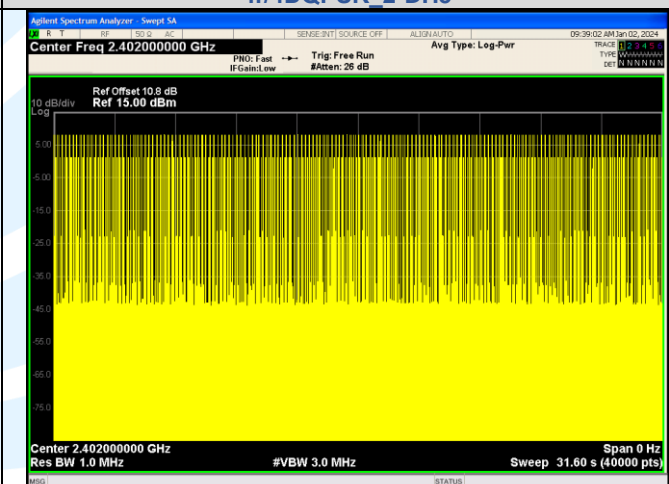
**Pulse Width  
 $\pi/4$ DQPSK 2-DH5**



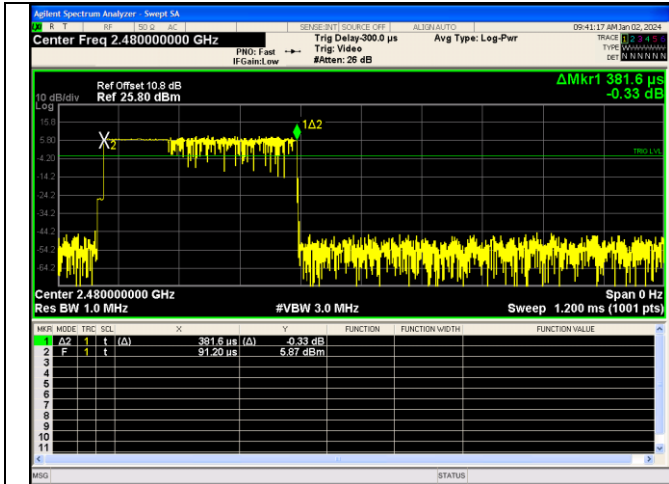
**Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK 2-DH5**



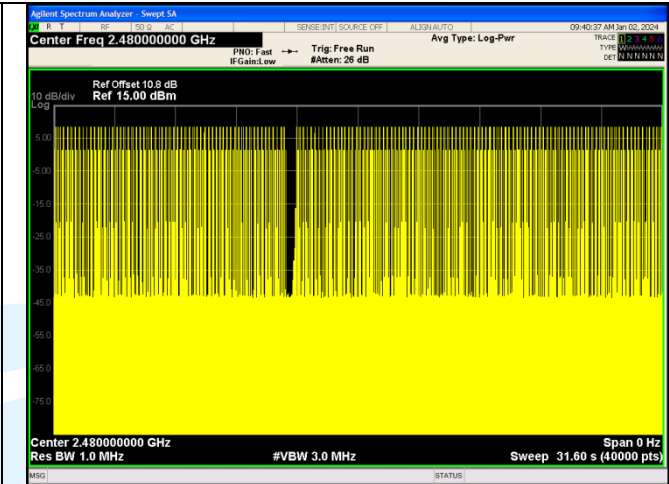
**Pulse Width  
8DPSK 3-DH1**



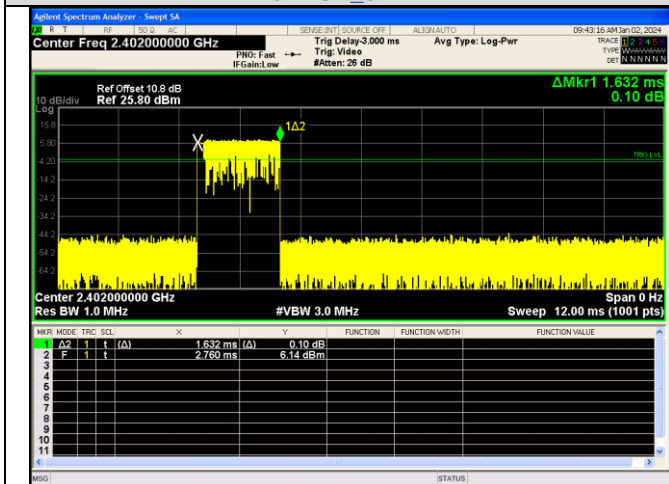
**Number of Pulses in 31.6 seconds  
8DPSK 3-DH1**



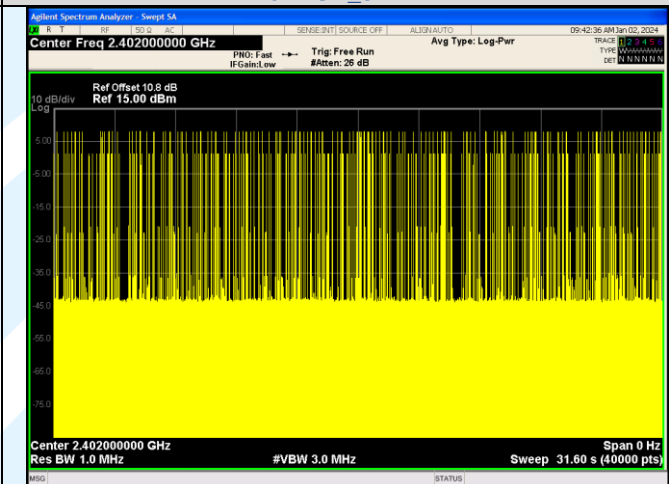
**Pulse Width  
8DPSK 3-DH1**



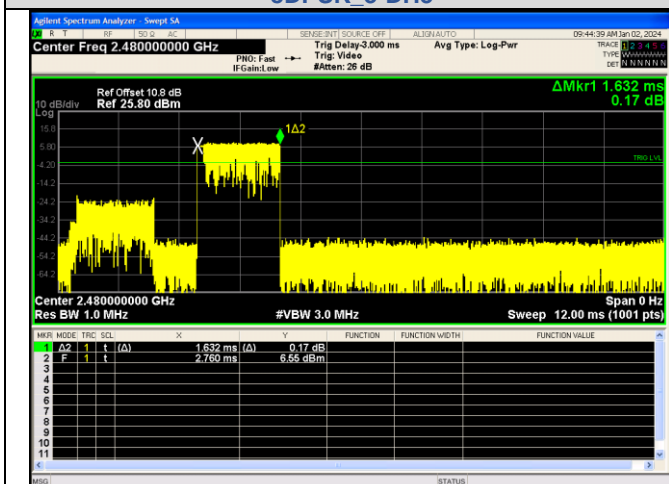
**Number of Pulses in 31.6 seconds  
8DPSK 3-DH1**



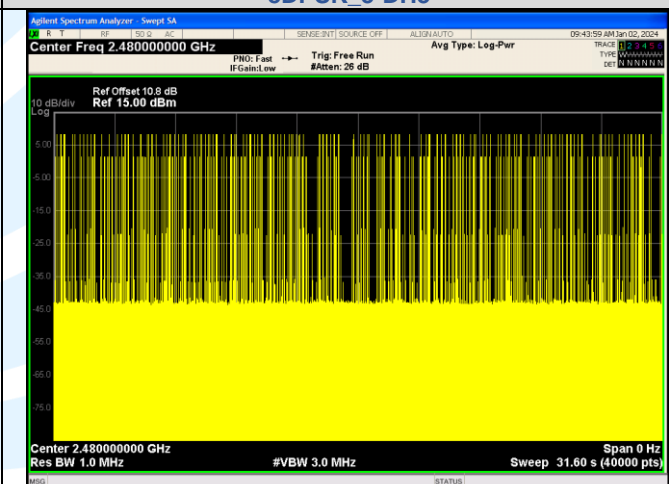
**Pulse Width  
8DPSK 3-DH3**



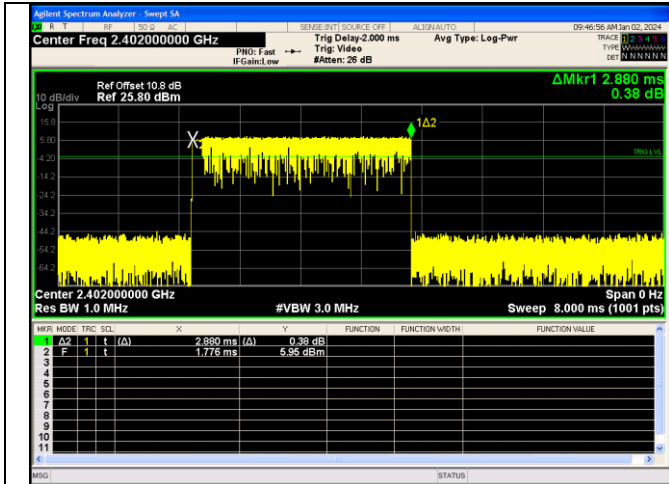
**Number of Pulses in 31.6 seconds  
8DPSK 3-DH3**



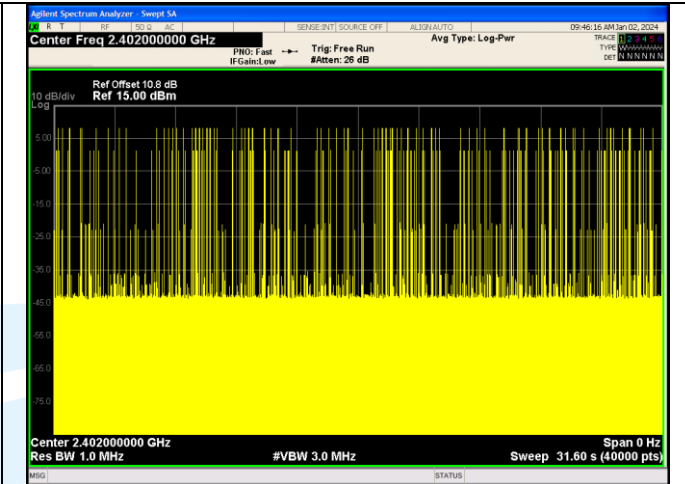
**Pulse Width  
8DPSK 3-DH3**



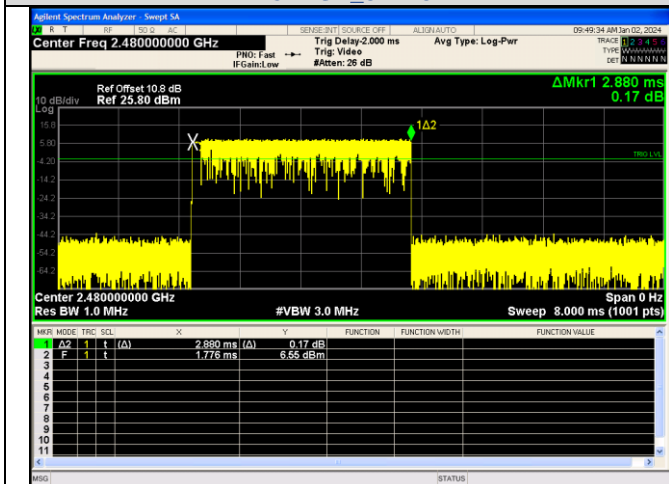
**Number of Pulses in 31.6 seconds  
8DPSK 3-DH3**



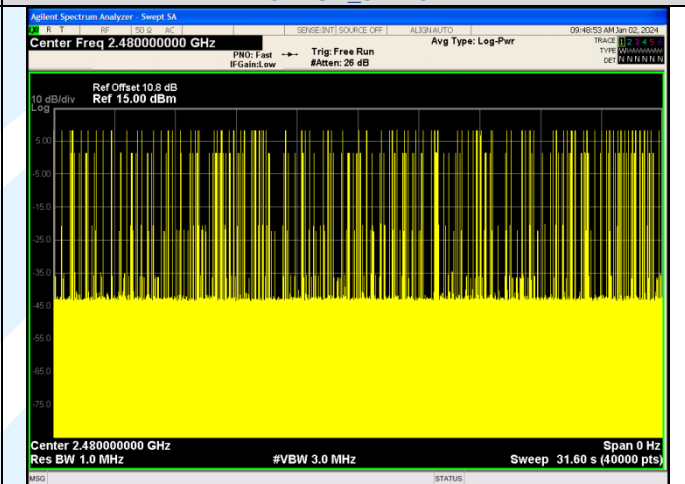
**Pulse Width  
8DPSK\_3-DH5**



**Number of Pulses in 31.6 seconds  
8DPSK\_3-DH5**



**Pulse Width  
8DPSK\_3-DH5**



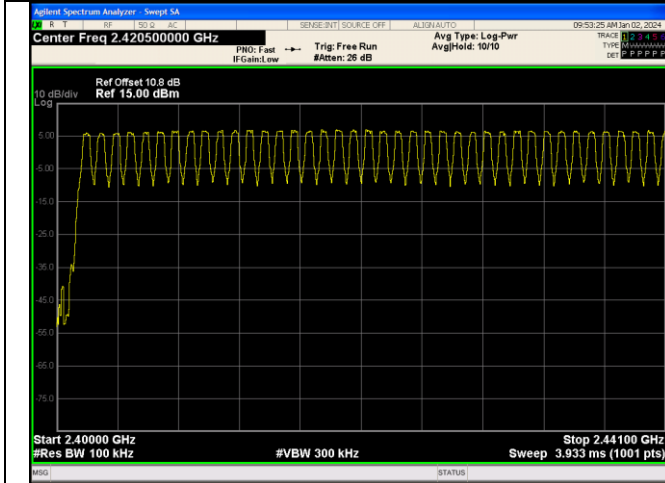
**Number of Pulses in 31.6 seconds  
8DPSK\_3-DH5**



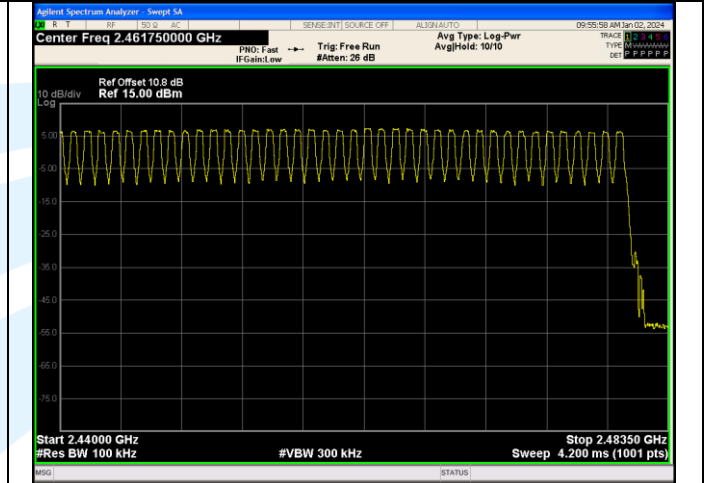
### A.6 NUMBER OF HOPPING CHANNEL

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

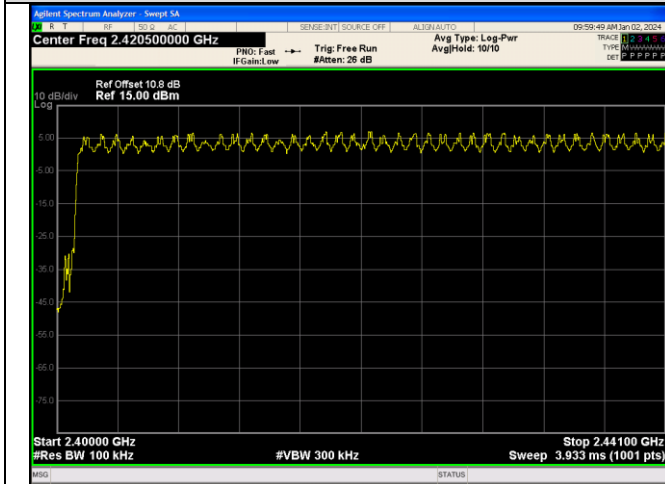
#### Test Graphs



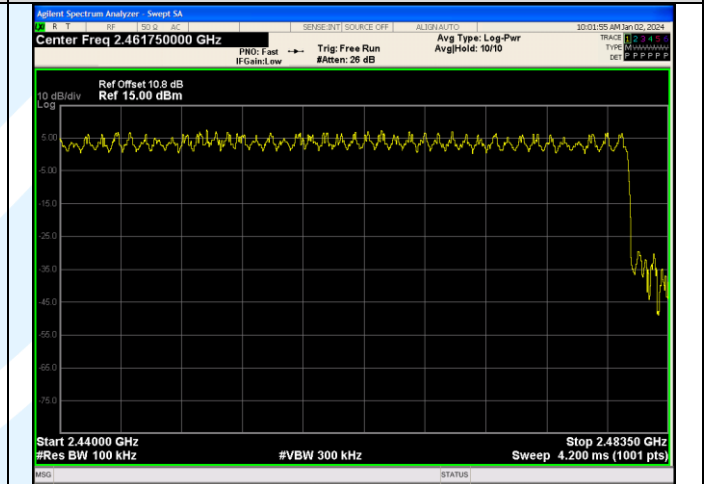
Low End Spectrum Channel Hopping Plot  
GFSK



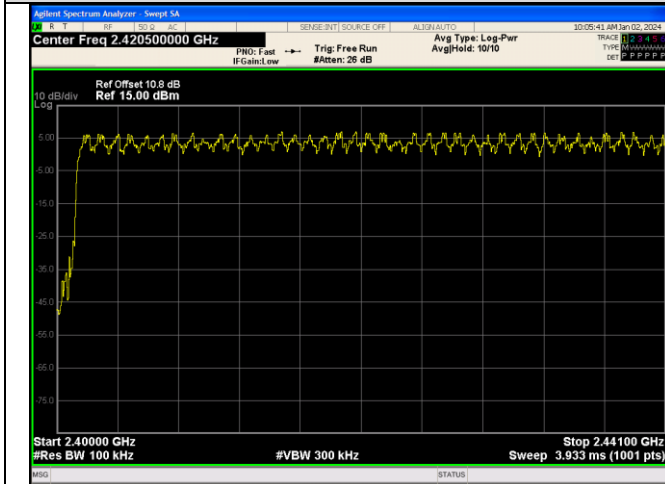
High End Spectrum Channel Hopping Plot  
GFSK



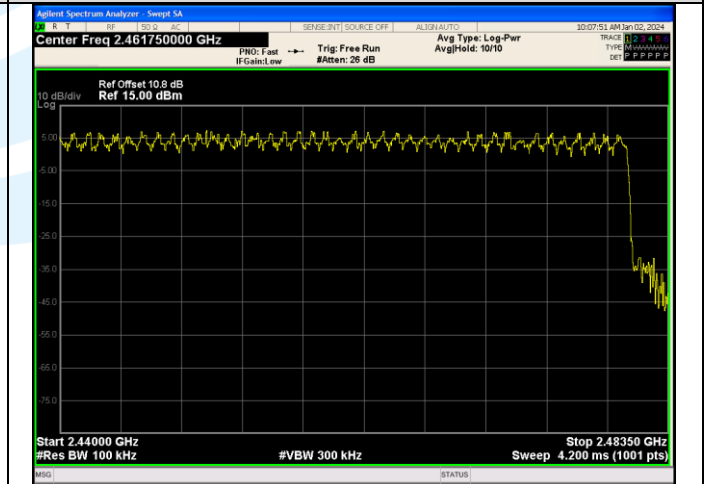
Low End Spectrum Channel Hopping Plot  
 $\pi/4$ DQPSK



High End Spectrum Channel Hopping Plot  
 $\pi/4$ DQPSK



Low End Spectrum Channel Hopping Plot  
8DPSK



High End Spectrum Channel Hopping Plot  
8DPSK

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## APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

## APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

\*\*\* End of Report \*\*\*

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