

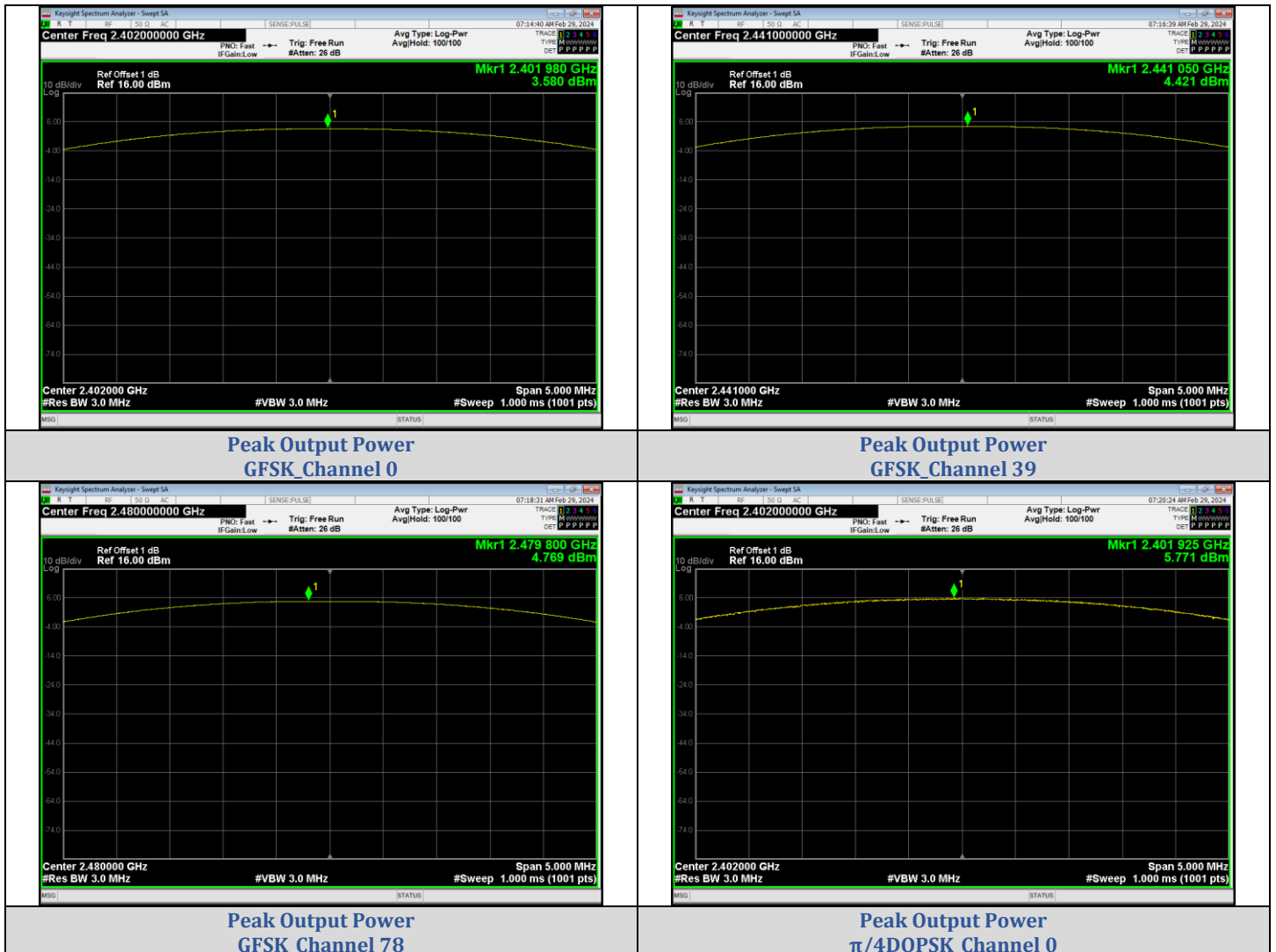


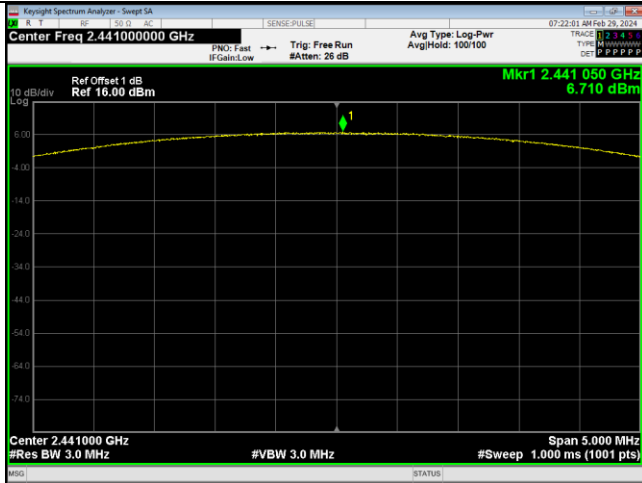
## Conducted Peak Output Power

## Test Result

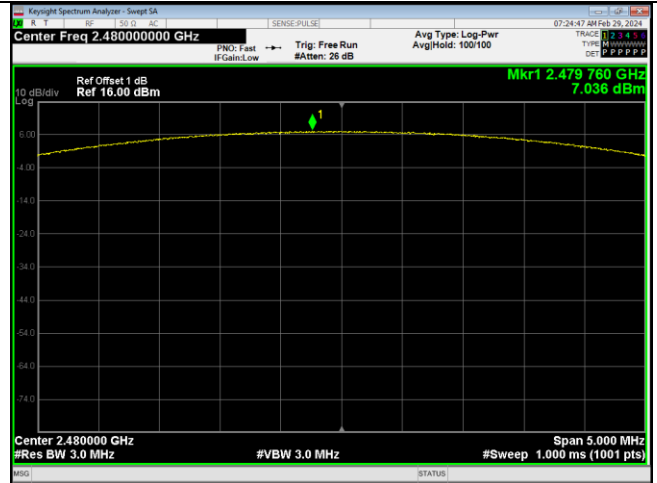
| Modulation    | Packet Type | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Max. Avg. Power (dBm) | Limit (dBm) | Result |
|---------------|-------------|---------|-------------------------|------------------------|-----------------------|-------------|--------|
| GFSK          | DH5         | 0       | 3.580                   | 2.280                  | None                  | 30          | PASS   |
|               |             | 39      | 4.421                   | 2.768                  | None                  |             | PASS   |
|               |             | 78      | 4.769                   | 2.998                  | None                  |             | PASS   |
| $\pi/4$ DQPSK | 2-DH5       | 0       | 5.771                   | 3.777                  | None                  | 20.97       | PASS   |
|               |             | 39      | 6.710                   | 4.688                  | None                  |             | PASS   |
|               |             | 78      | 7.036                   | 5.054                  | None                  |             | PASS   |
| 8DPSK         | 3-DH5       | 0       | 6.360                   | 4.325                  | None                  | 20.97       | PASS   |
|               |             | 39      | 7.281                   | 5.347                  | None                  |             | PASS   |
|               |             | 78      | 7.651                   | 5.822                  | None                  |             | PASS   |

## Test Graphs

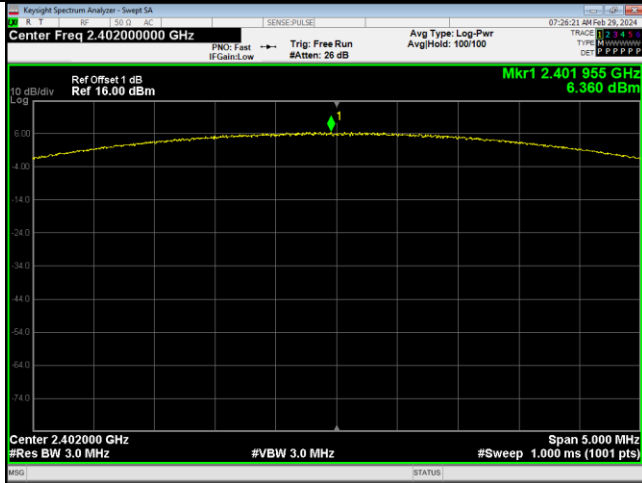




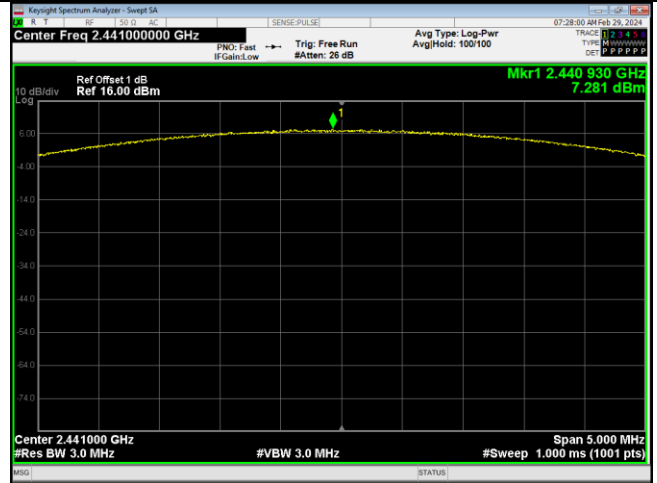
Peak Output Power  
 $\pi/4$ DQPSK\_Channel 39



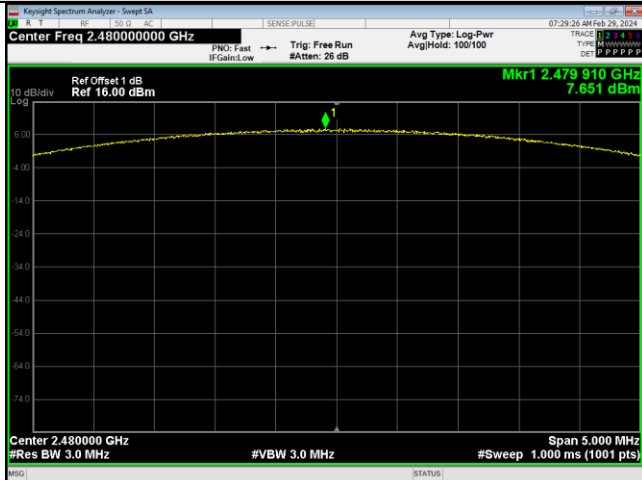
Peak Output Power  
 $\pi/4$ DQPSK\_Channel 78



Peak Output Power  
8DPSK\_Channel 0



Peak Output Power  
8DPSK\_Channel 39



Peak Output Power  
8DPSK\_Channel 78

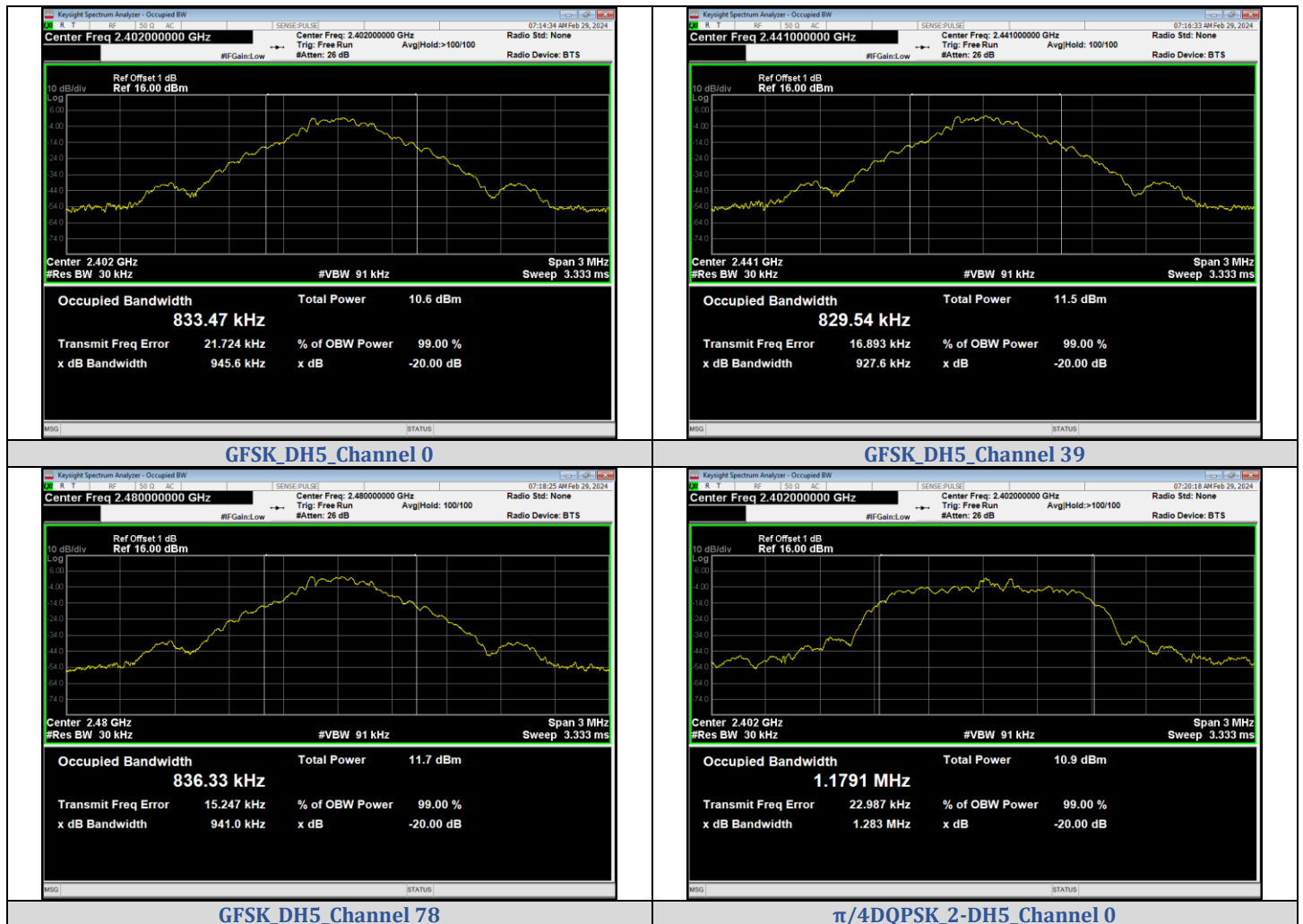


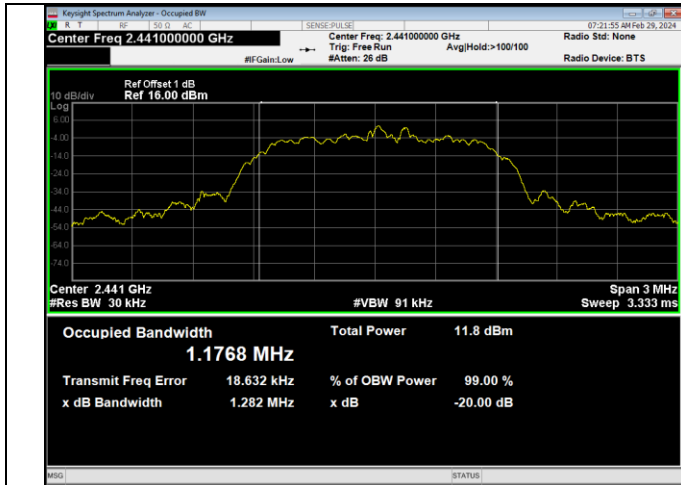
## 20dB Bandwidth

## Test Result

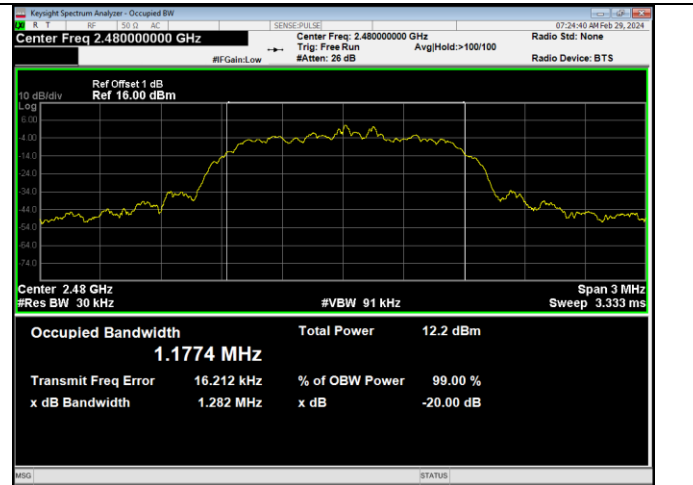
| Modulation    | Channel | Center Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---------------|---------|------------------------|-----------------------|
| GFSK          | 0       | 2402 MHz               | 0.9456                |
|               | 39      | 2441 MHz               | 0.9276                |
|               | 78      | 2480 MHz               | 0.9410                |
| $\pi/4$ DQPSK | 0       | 2402 MHz               | 1.283                 |
|               | 39      | 2441 MHz               | 1.282                 |
|               | 78      | 2480 MHz               | 1.282                 |
| 8DPSK         | 0       | 2402 MHz               | 1.296                 |
|               | 39      | 2441 MHz               | 1.295                 |
|               | 78      | 2480 MHz               | 1.290                 |

## Test Graphs

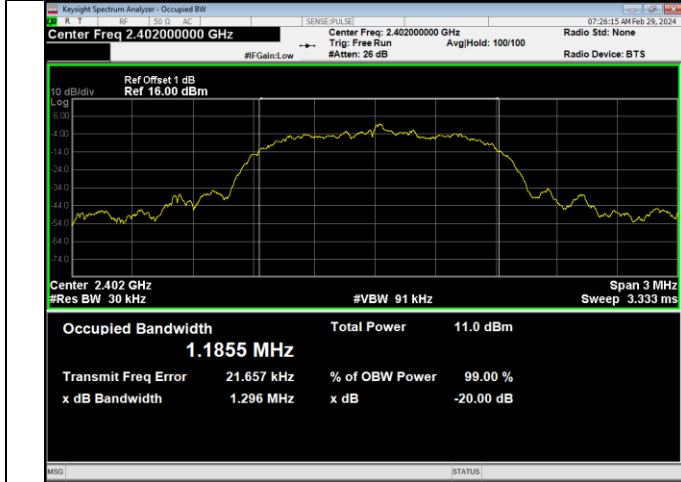




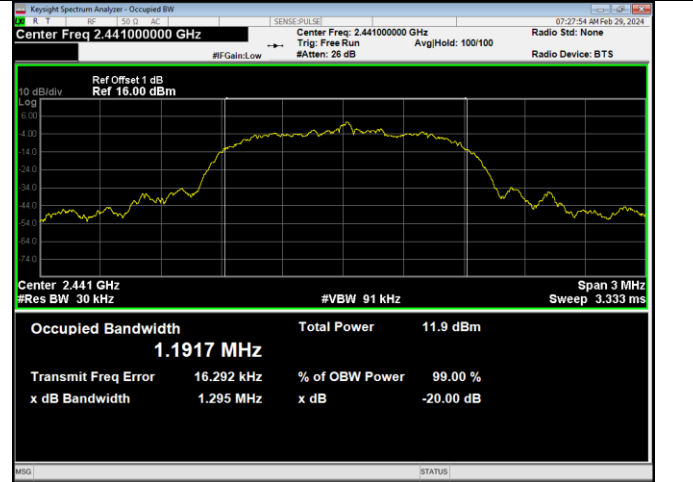
$\pi/4$ DQPSK\_2-DH5\_Channel 39



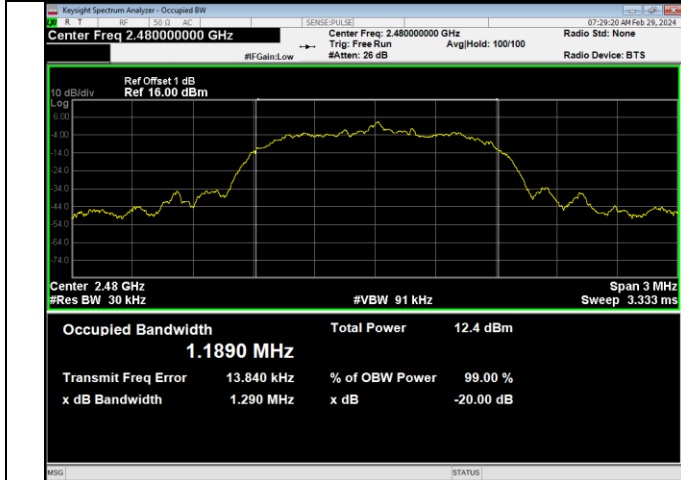
$\pi/4$ DQPSK\_2-DH5\_Channel 78



8DPSK\_3-DH5\_Channel 0



8DPSK\_3-DH5\_Channel 39



8DPSK\_3-DH5\_Channel 78

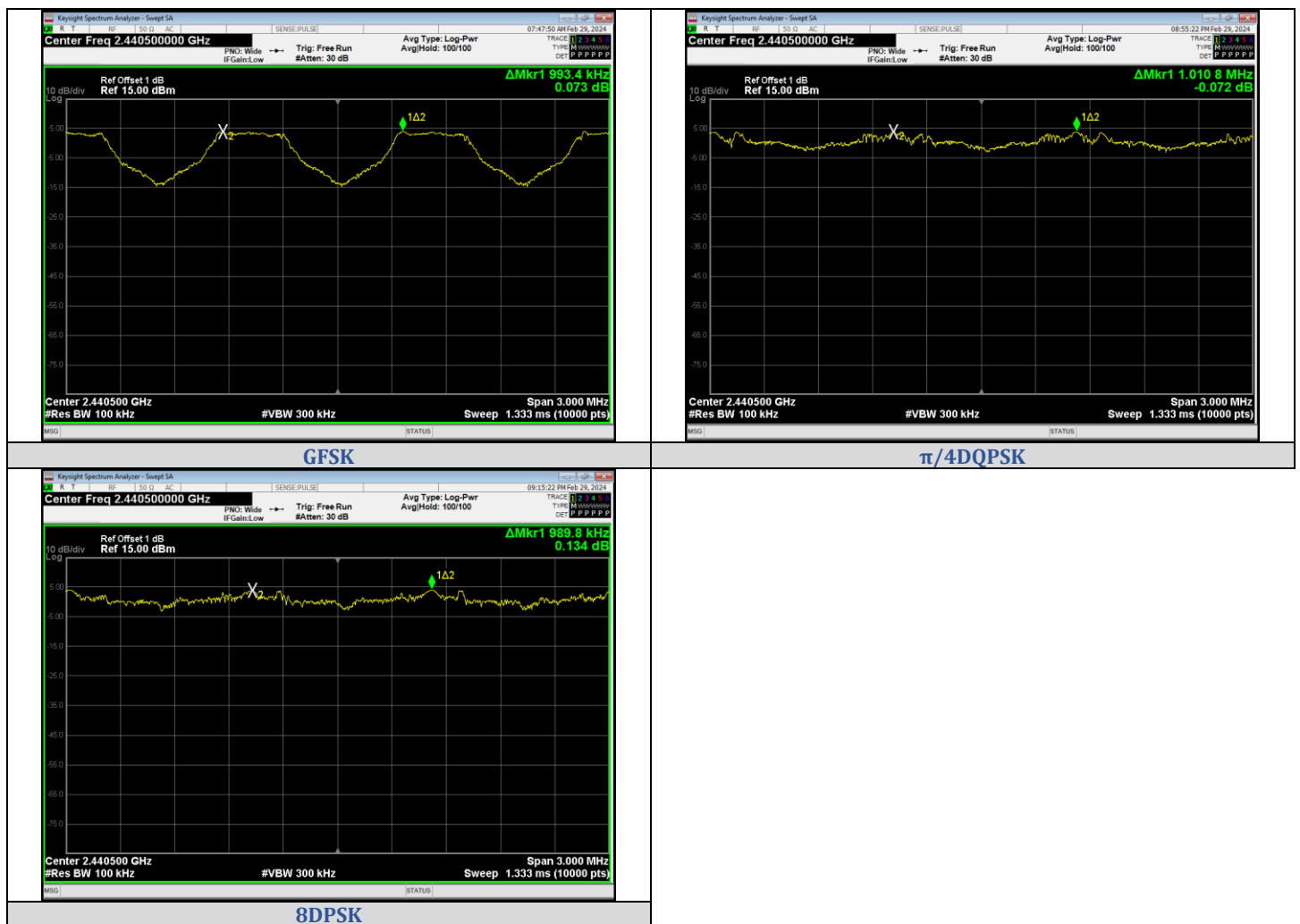


## Carrier Frequencies Separation

## Test Result

| Modulation    | Packet | Left Center frequency (MHz) | Right Center frequency (MHz) | Hopping Frequency Separation (MHz) | Limit (MHz) | Result |
|---------------|--------|-----------------------------|------------------------------|------------------------------------|-------------|--------|
| GFSK          | DH5    | 2439.8662                   | 2440.8596                    | 0.9934                             | 0.627       | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 2440.0147                   | 2441.0255                    | 1.0108                             | 0.855       | PASS   |
| 8DPSK         | 3-DH5  | 2440.0309                   | 2441.0207                    | 0.9898                             | 0.86        | PASS   |

## Test Graphs





## Conducted Out Of Band Emission

## Test Result

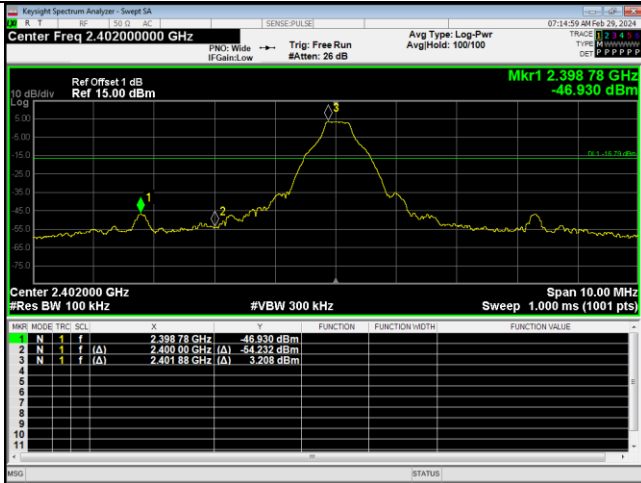
## Non-Hopping

| Modulation    | Packet | Channel | OOB<br>Emission<br>Frequency<br>(MHz) | OOB<br>Emission<br>Level<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | Result |
|---------------|--------|---------|---------------------------------------|-----------------------------------|----------------|--------------------|--------|
| GFSK          | DH5    | 0       | 2400.00                               | -54.232                           | -16.79         | -37.442            | PASS   |
|               |        |         | 2398.78                               | -46.929                           | -16.79         | -30.139            | PASS   |
|               |        |         | 4804.40                               | -28.218                           | -16.79         | -11.428            | PASS   |
|               |        | 39      | 4882.42                               | -25.988                           | -15.96         | -10.028            | PASS   |
|               |        | 78      | 2483.50                               | -55.322                           | -15.54         | -39.782            | PASS   |
|               |        |         | 4960.45                               | -25.601                           | -15.54         | -10.061            | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 0       | 2400.00                               | -51.900                           | -16.88         | -35.020            | PASS   |
|               |        |         | 2398.76                               | -47.116                           | -16.88         | -30.236            | PASS   |
|               |        |         | 4803.80                               | -28.822                           | -16.88         | -11.942            | PASS   |
|               |        | 39      | 4881.79                               | -29.724                           | -16.05         | -13.674            | PASS   |
|               |        | 78      | 2483.50                               | -55.175                           | -15.63         | -39.545            | PASS   |
|               |        |         | 4960.45                               | -28.837                           | -15.63         | -13.207            | PASS   |
| 8DPSK         | 3-DH5  | 0       | 2400.00                               | -48.216                           | -16.68         | -31.536            | PASS   |
|               |        |         | 2398.75                               | -47.551                           | -16.68         | -30.871            | PASS   |
|               |        |         | 4804.40                               | -30.578                           | -16.68         | -13.898            | PASS   |
|               |        | 39      | 4881.79                               | -30.157                           | -15.76         | -14.397            | PASS   |
|               |        | 78      | 2483.50                               | -55.318                           | -15.38         | -39.938            | PASS   |
|               |        |         | 4960.45                               | -27.824                           | -15.38         | -12.444            | PASS   |

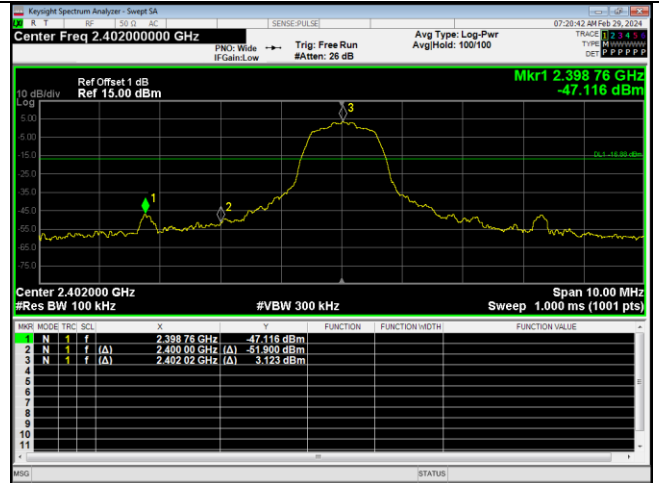
## Hopping

| Modulation    | Packet | Channel | OOB<br>Emission<br>Frequency<br>(MHz) | OOB<br>Emission<br>Level<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | Result |
|---------------|--------|---------|---------------------------------------|-----------------------------------|----------------|--------------------|--------|
| GFSK          | DH5    | Hopping | 2398.74                               | -48.524                           | -16.86         | -31.664            | PASS   |
|               |        |         | 2400.00                               | -53.517                           | -16.86         | -36.657            | PASS   |
|               |        |         | 2483.50                               | -56.523                           | -15.65         | -40.873            | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |         | 2398.81                               | -47.428                           | -16.91         | -30.518            | PASS   |
|               |        |         | 2400.00                               | -53.320                           | -16.91         | -36.410            | PASS   |
|               |        |         | 2483.50                               | -57.037                           | -15.59         | -41.447            | PASS   |
| 8DPSK         | 3-DH5  |         | 2398.80                               | -47.264                           | -16.66         | -30.604            | PASS   |
|               |        |         | 2400.00                               | -48.829                           | -16.66         | -32.169            | PASS   |
|               |        |         | 2483.50                               | -56.920                           | -15.49         | -41.430            | PASS   |

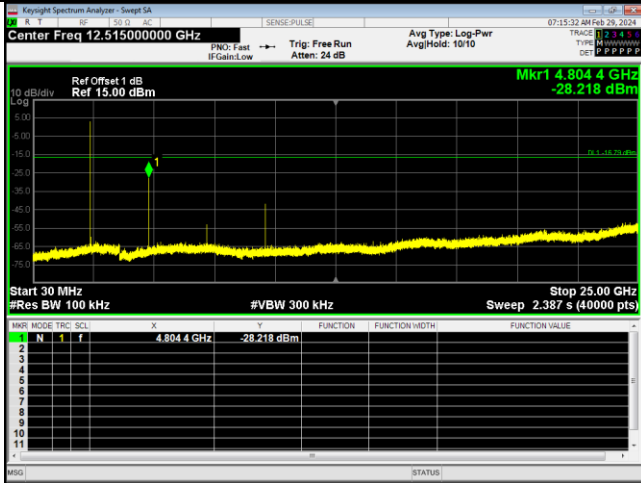
## Test Graphs



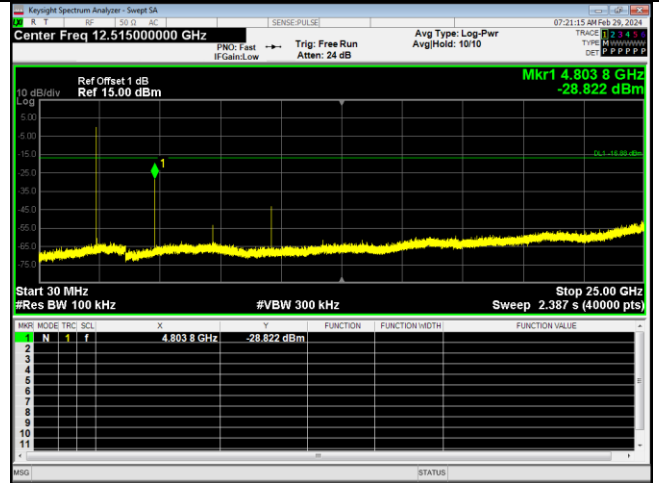
Out Of Band Emission  
GFSK\_DH5\_Channel 0



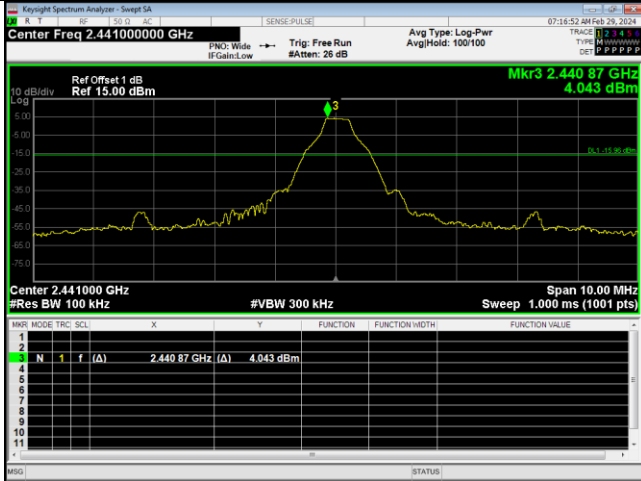
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 0



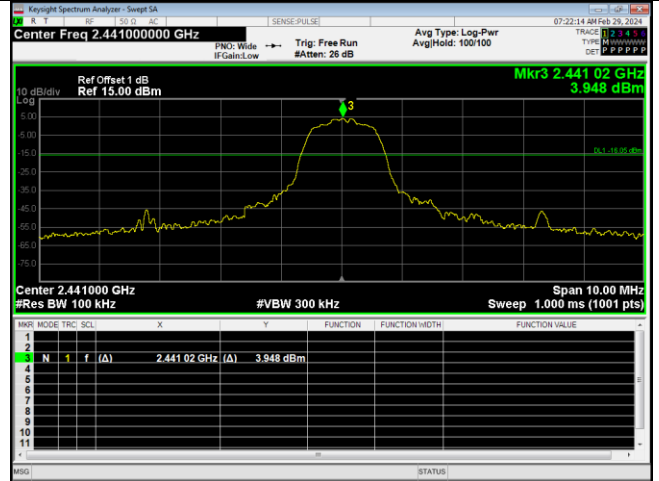
Spurious Emission  
GFSK\_DH5\_Channel 0



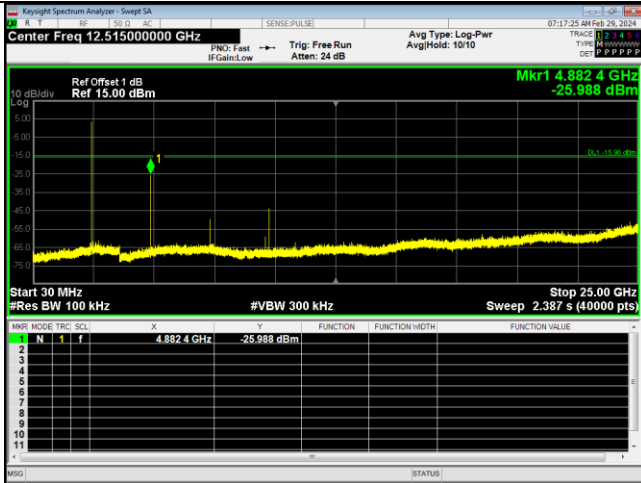
Spurious Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 0



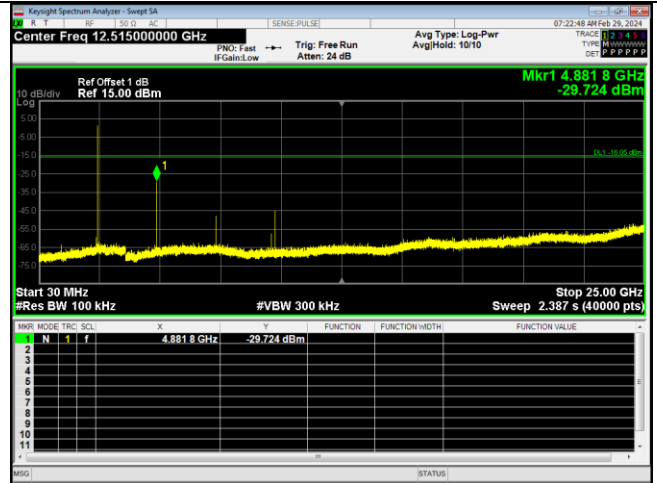
Out Of Band Emission  
GFSK\_DH5\_Channel 39



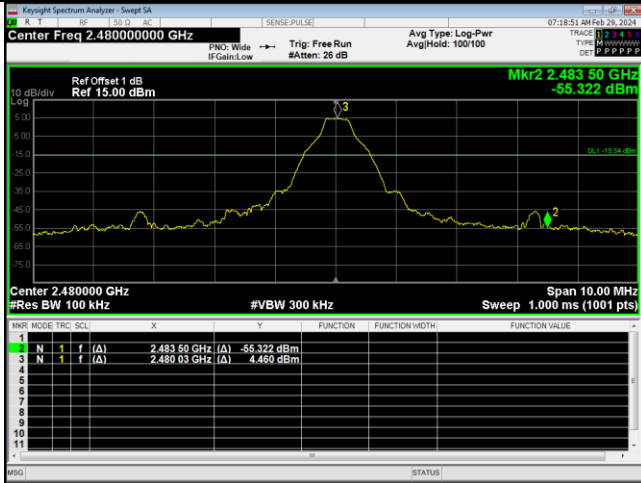
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 39



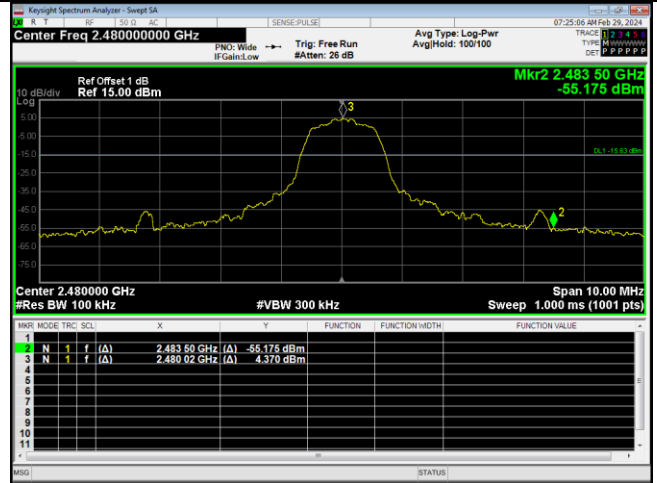
Spurious Emissions  
GFSK\_DH5\_Channel 39



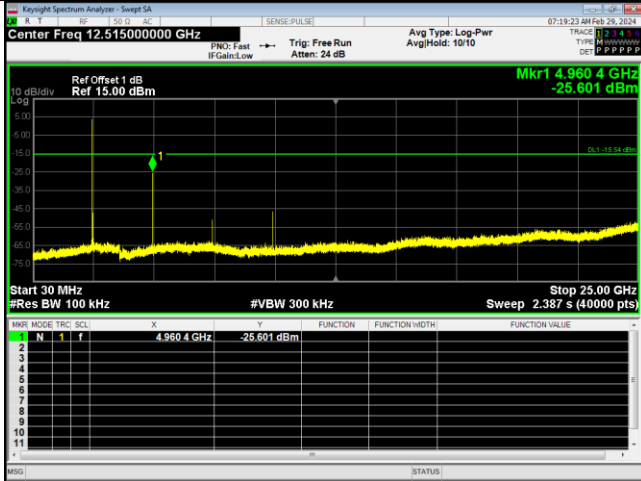
Spurious Emissions  
 $\pi/4$ DQPSK 2-DH5\_Channel 39



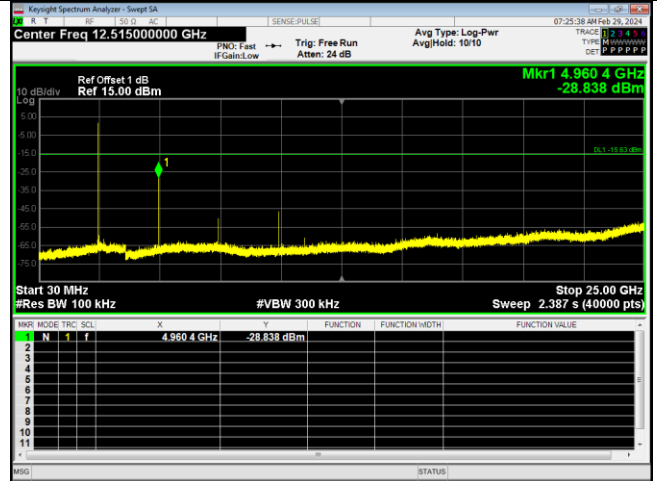
Out Of Band Emission  
GFSK\_DH5\_Channel 78



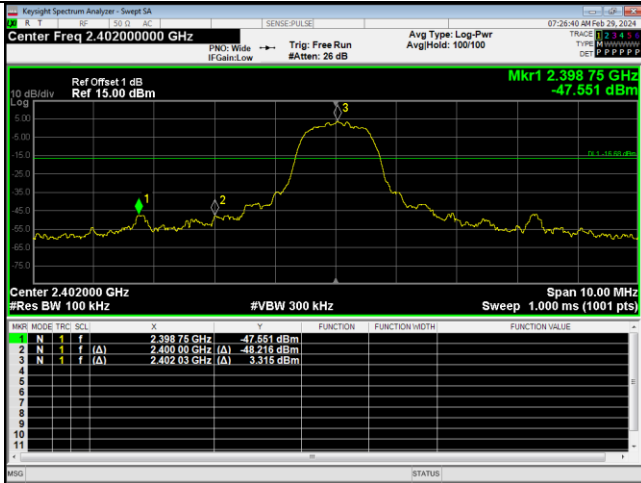
Out Of Band Emission  
 $\pi/4$ DQPSK 2-DH5\_Channel 78



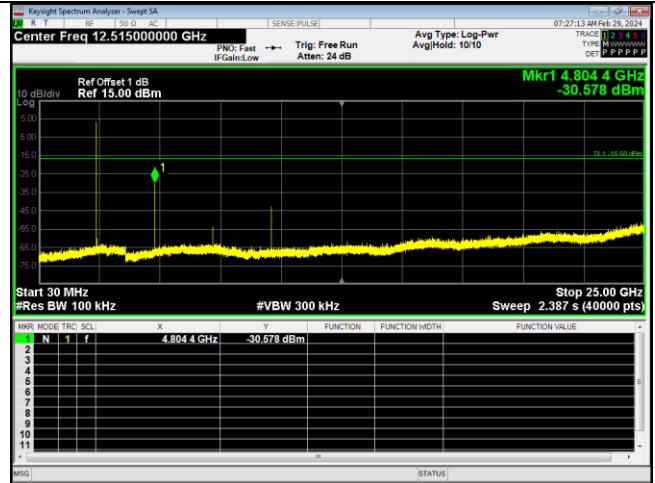
Spurious Emission  
GFSK\_DH5\_Channel 78



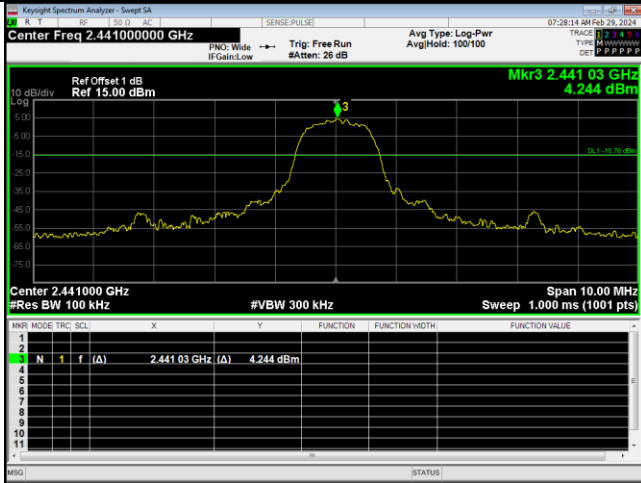
Spurious Emission  
 $\pi/4$ DQPSK 2-DH5\_Channel 78



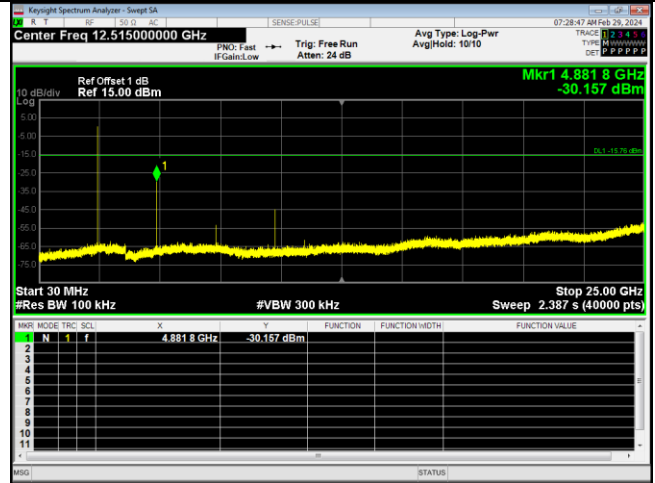
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 0



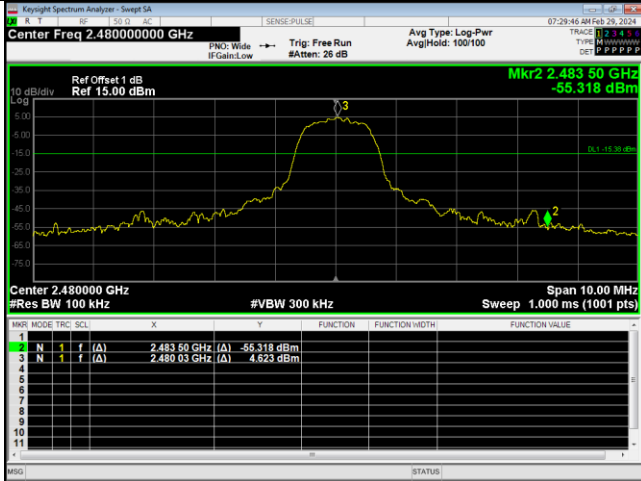
Spurious Emission  
8DPSK\_3-DH5\_Channel 0



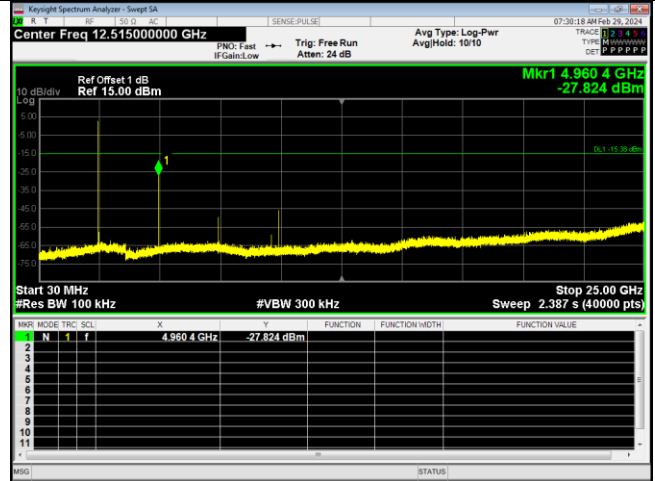
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 39



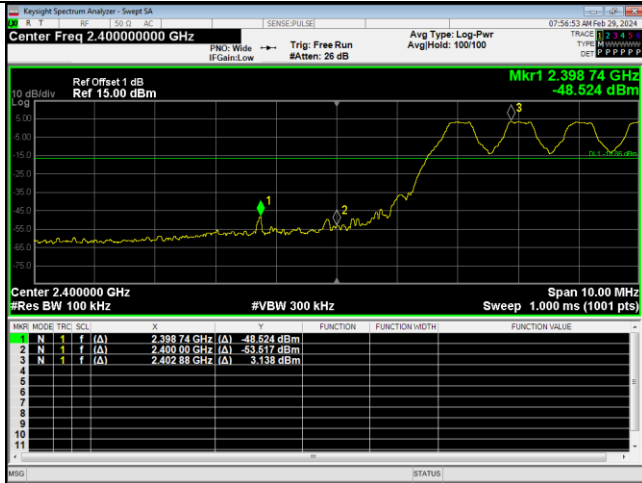
Spurious Emissions  
8DPSK\_3-DH5\_Channel 39



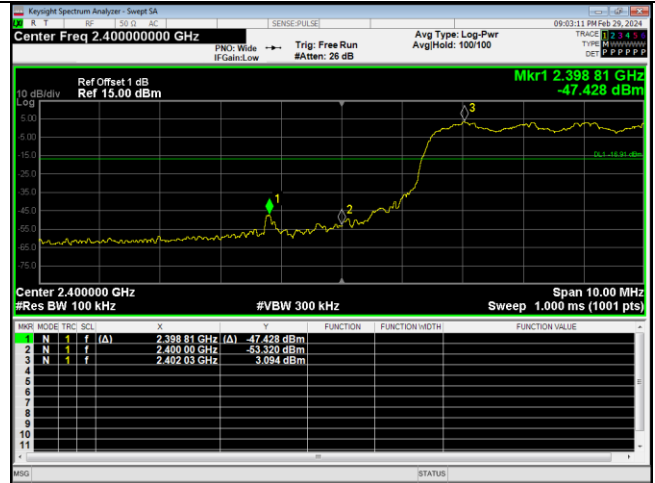
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 78



Spurious Emission  
8DPSK\_3-DH5\_Channel 78



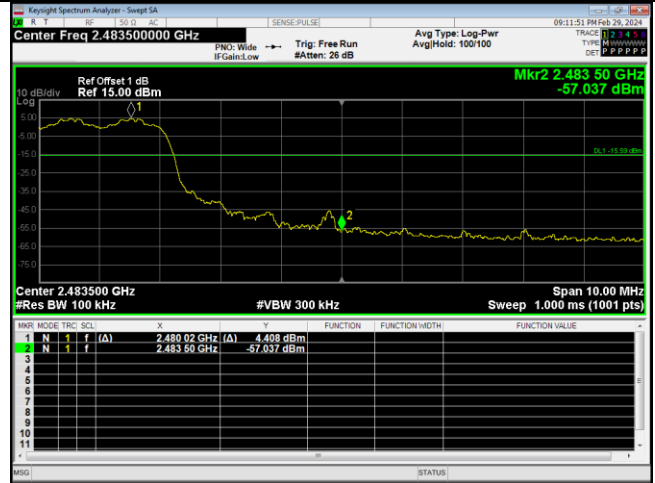
Out Of Band Emission(Left)  
GFSK\_DH5\_Channel Hopping



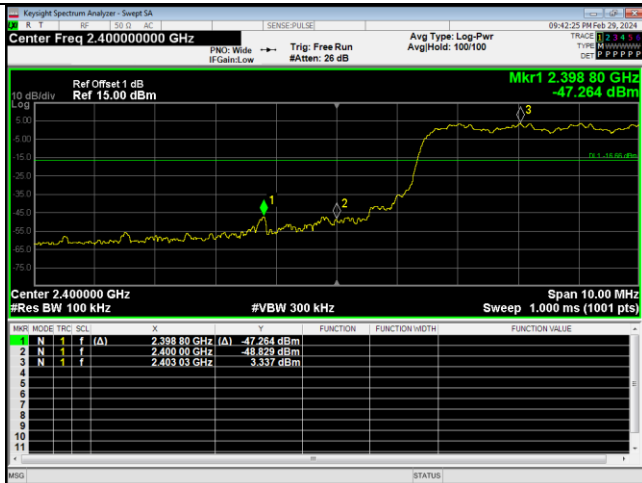
Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH5\_Channel Hopping



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



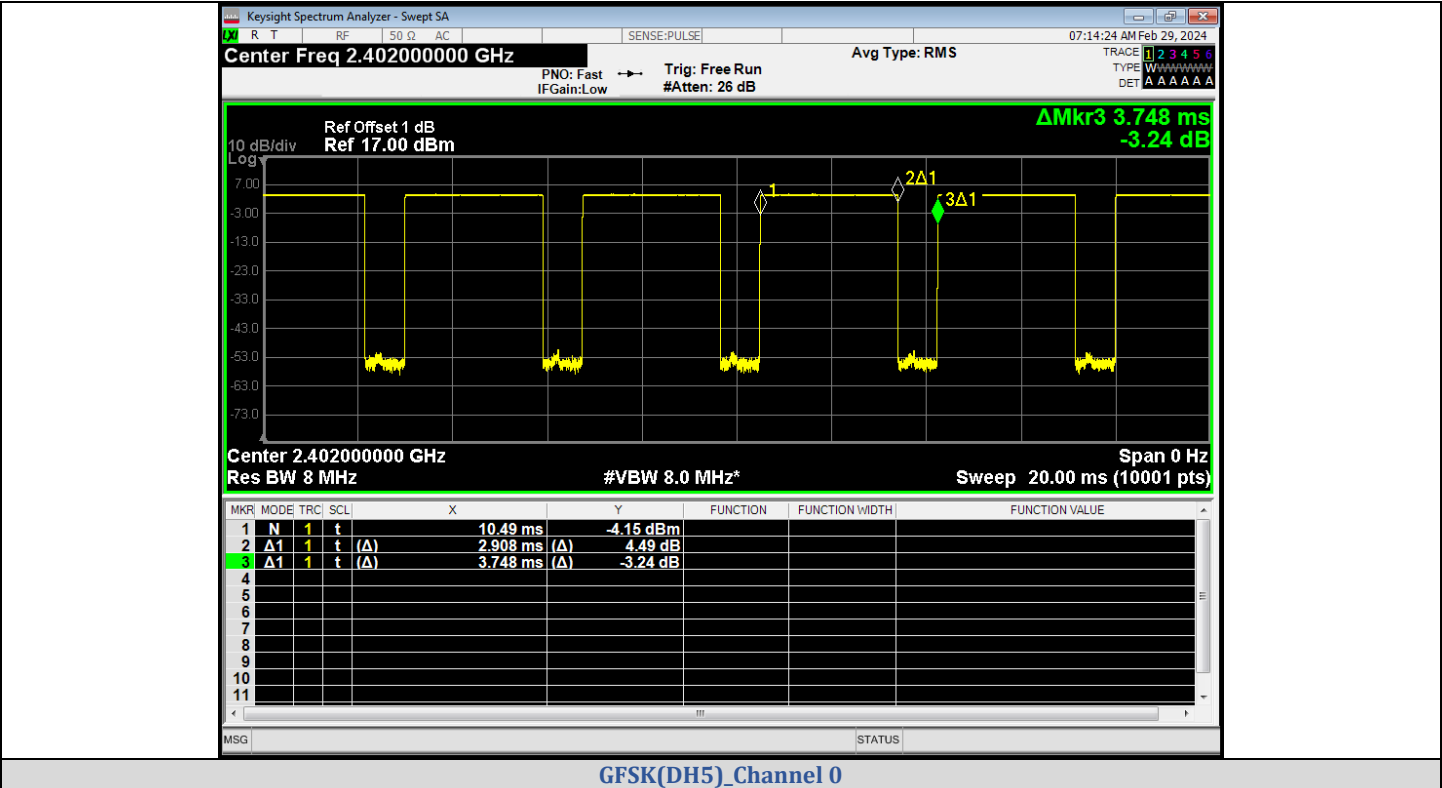
Out Of Band Emission(Right)  
8DPSK\_3-DH5\_Channel Hopping



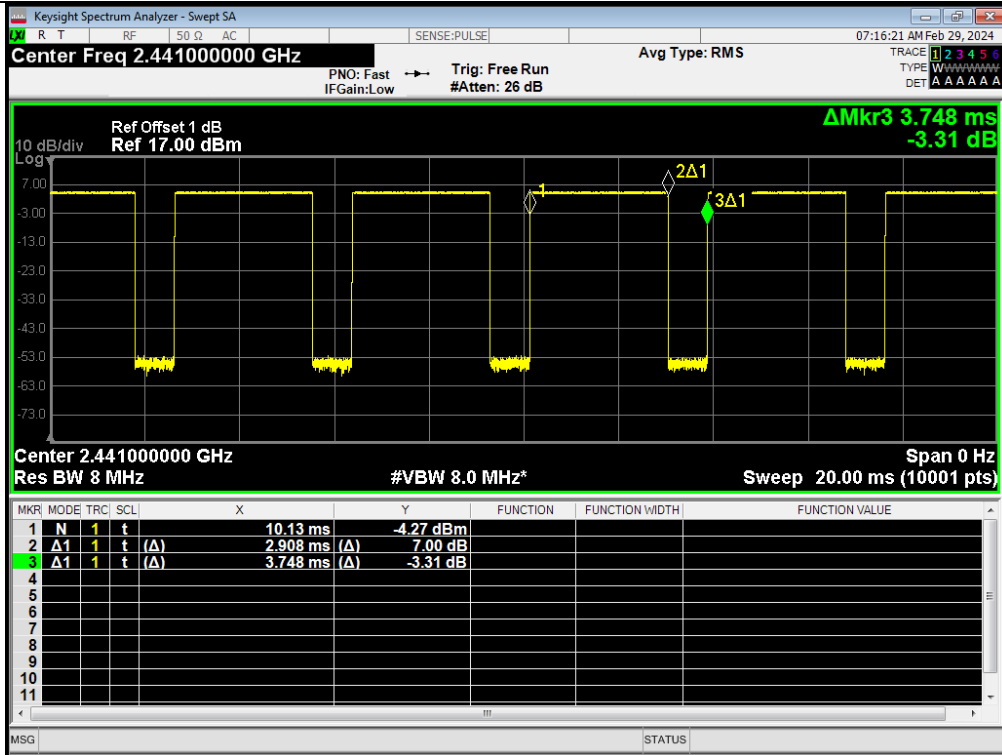
Duty Cycle  
Test Result

| Modulation    | Packets | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) |
|---------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|
| GFSK          | DH5     | 0       | 2.908        | 3.748       | 77.59          | 0.7759              | 1.1019                 |
|               |         | 39      | 2.908        | 3.748       | 77.59          | 0.7759              | 1.1019                 |
|               |         | 78      | 2.908        | 3.748       | 77.59          | 0.7759              | 1.1019                 |
| $\pi/4$ DQPSK | 2-DH5   | 0       | 2.912        | 3.748       | 77.69          | 0.7769              | 1.0963                 |
|               |         | 39      | 2.914        | 3.748       | 77.75          | 0.7775              | 1.093                  |
|               |         | 78      | 2.914        | 3.748       | 77.75          | 0.7775              | 1.093                  |
| 8DPSK         | 3-DH5   | 0       | 2.916        | 3.748       | 77.80          | 0.7780              | 1.0902                 |
|               |         | 39      | 2.918        | 3.748       | 77.85          | 0.7785              | 1.0874                 |
|               |         | 78      | 2.916        | 3.748       | 77.80          | 0.7780              | 1.0902                 |

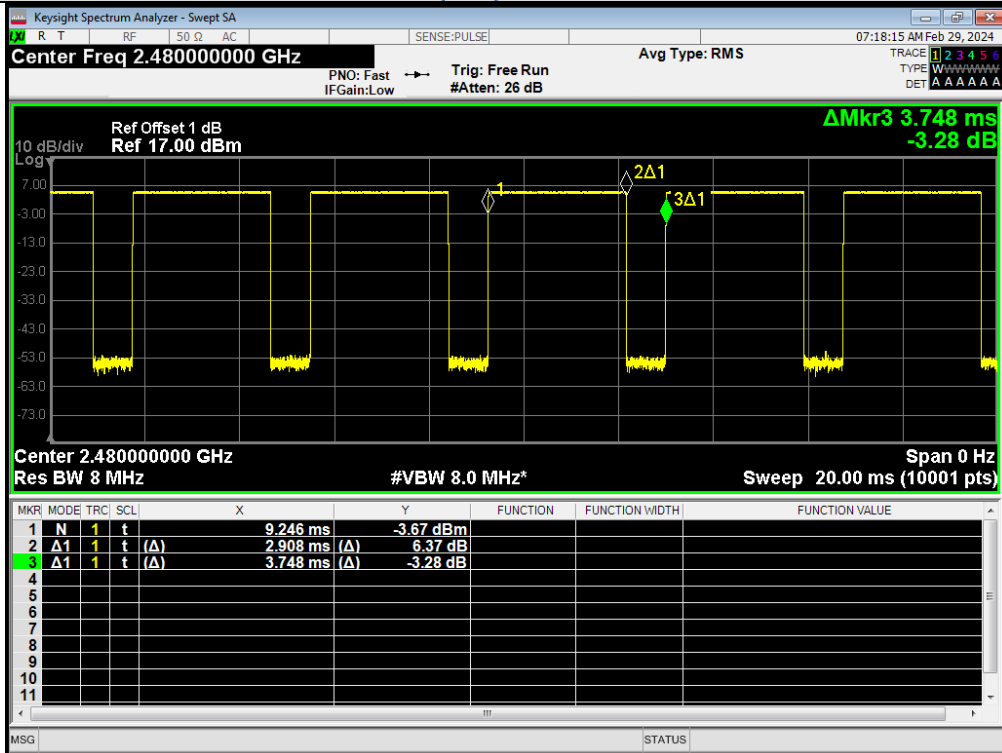
Test Graphs



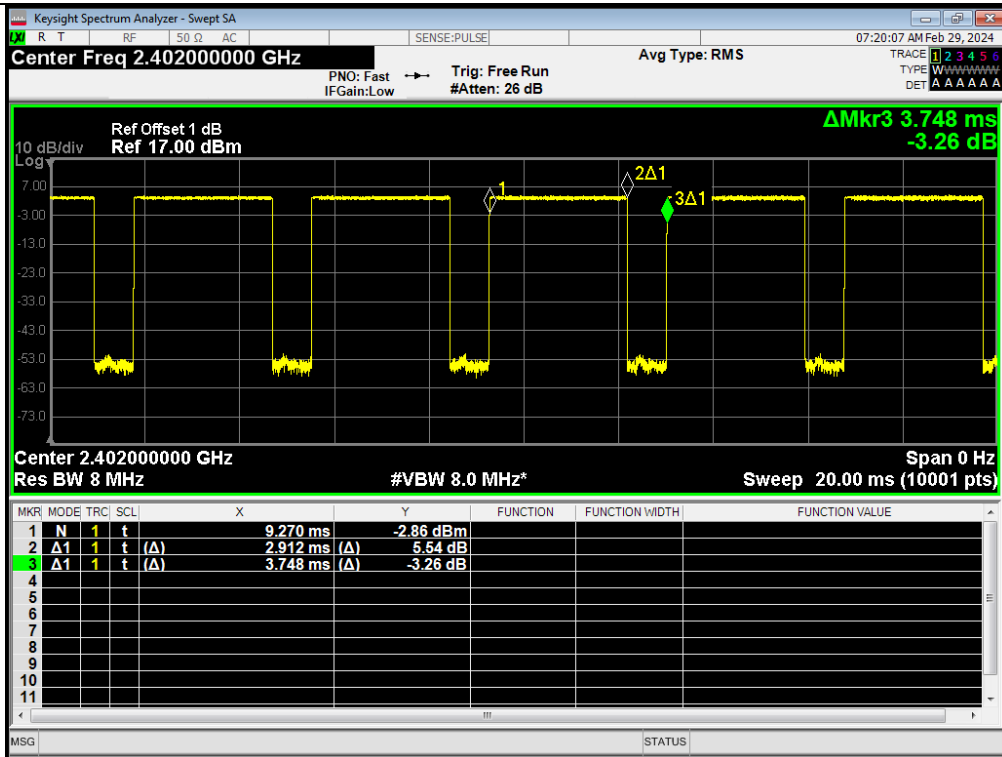
GFSK(DH5)\_Channel 0



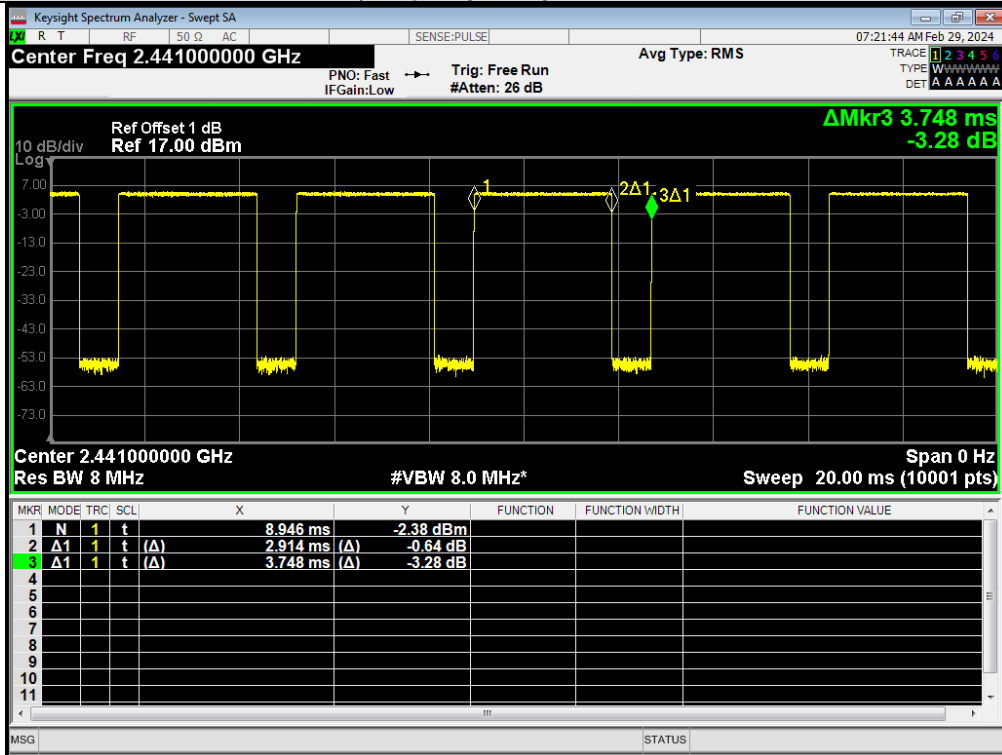
GFSK(DH5)\_Channel 39



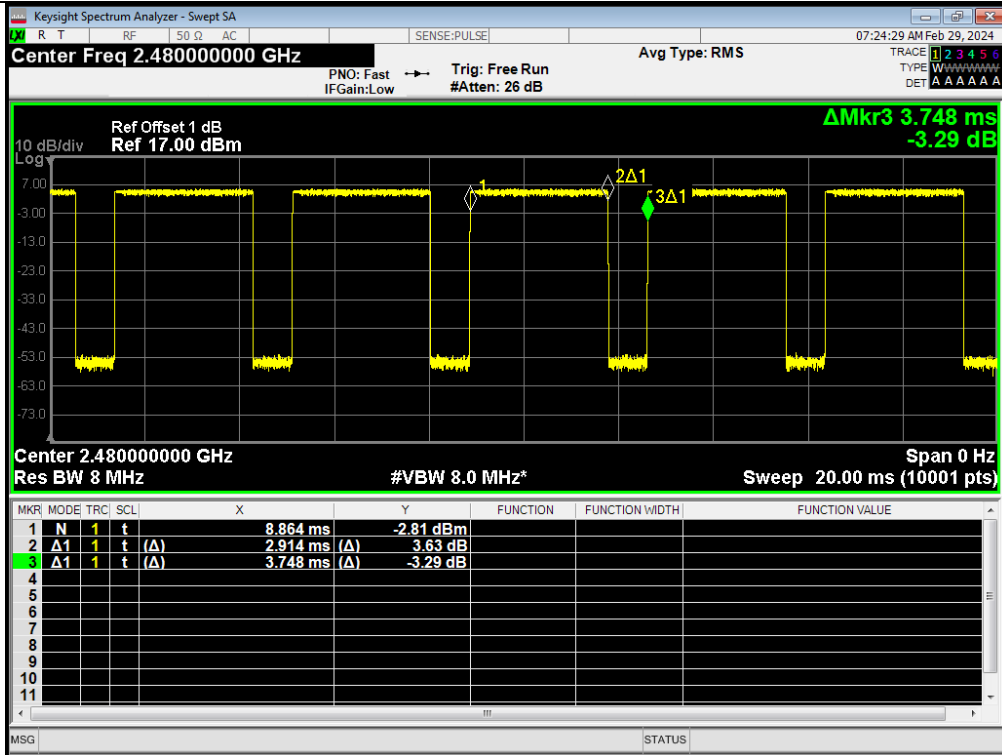
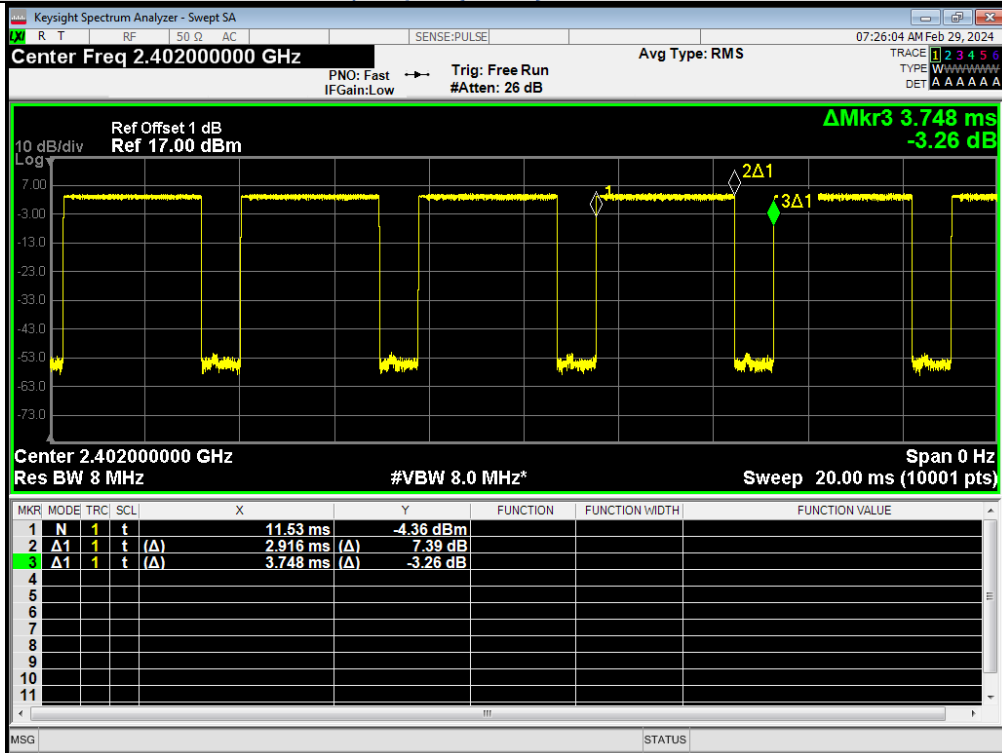
GFSK(DH5)\_Channel 78



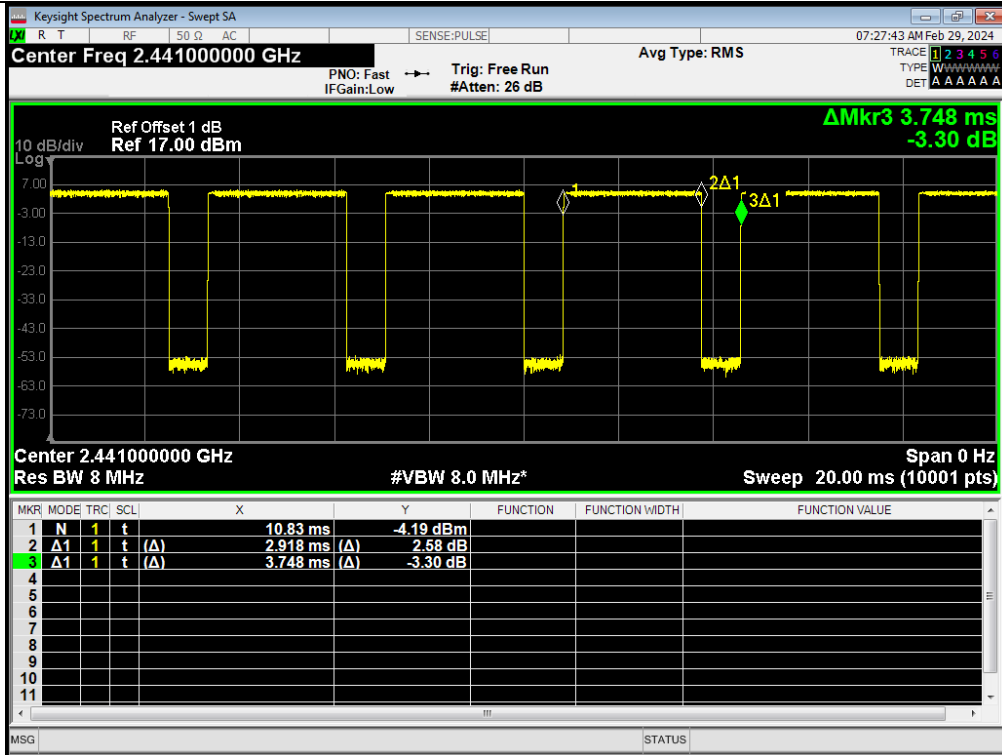
$\pi/4$ DQPSK(2-DH5)\_Channel 0



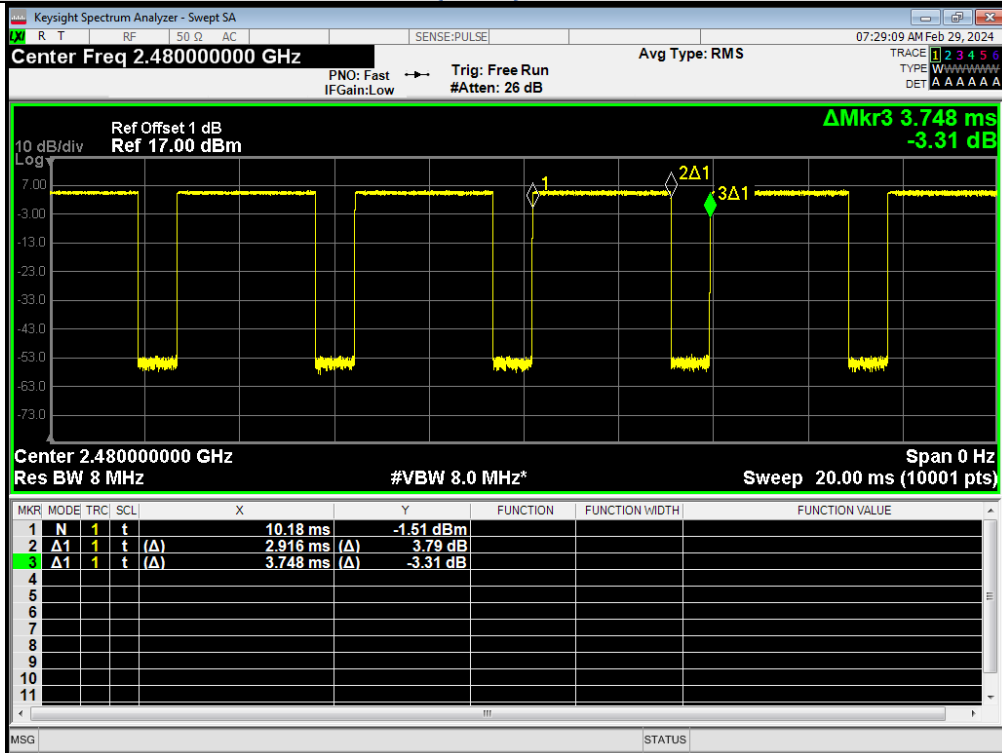
$\pi/4$ DQPSK(2-DH5)\_Channel 39

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

## 8DPSK(3-DH5)\_Channel 0



8DPSK(3-DH5)\_Channel 39



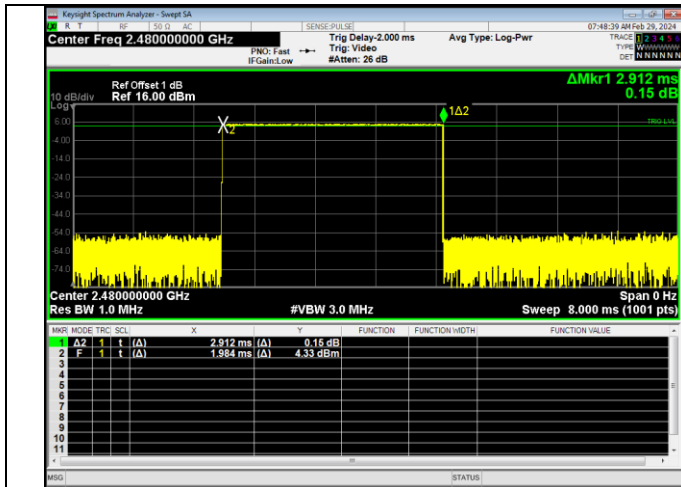
8DPSK(3-DH5)\_Channel 78



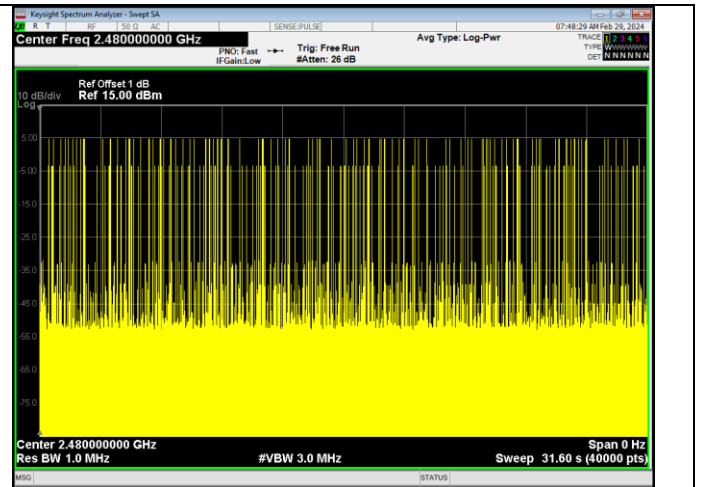
## Dwell Time Test Result

| Modulation    | Packet | Channel           | Pulse Width (ms) | Number of Pulses in 31.6 seconds | Dwell Time (ms) | Limit (ms) | Result |
|---------------|--------|-------------------|------------------|----------------------------------|-----------------|------------|--------|
| GFSK          | DH5    | CH78<br>(2480MHz) | 2.912            | 107                              | 311.58          | < 400      | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |                   | 2.912            | 120                              | 349.44          |            | PASS   |
| 8DPSK         | 3-DH5  |                   | 2.912            | 96                               | 279.55          |            | PASS   |

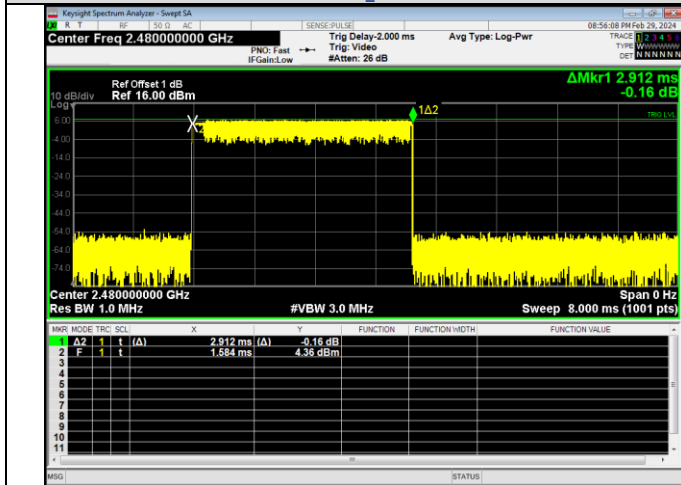
## Test Graphs



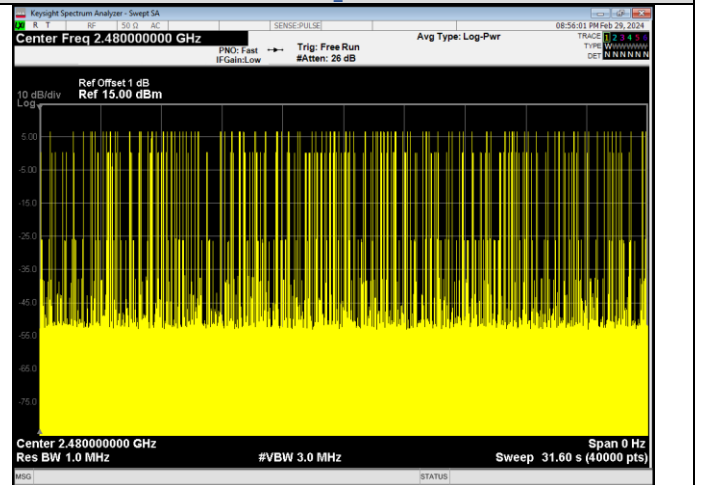
Pulse Width  
GFSK DH5



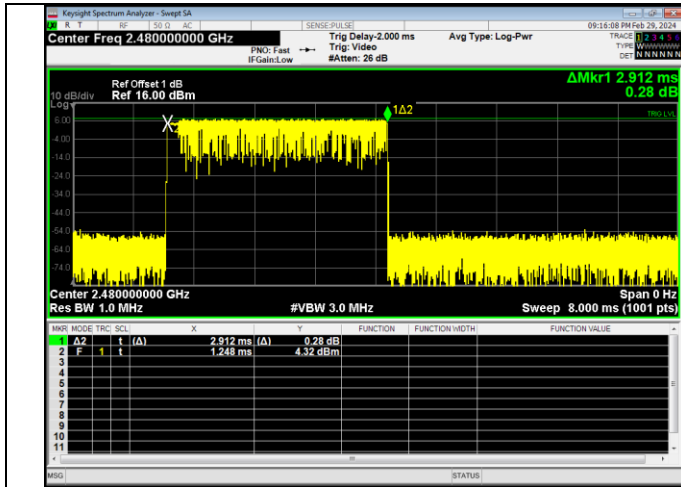
Number of Pulses in 31.6 seconds  
GFSK DH5



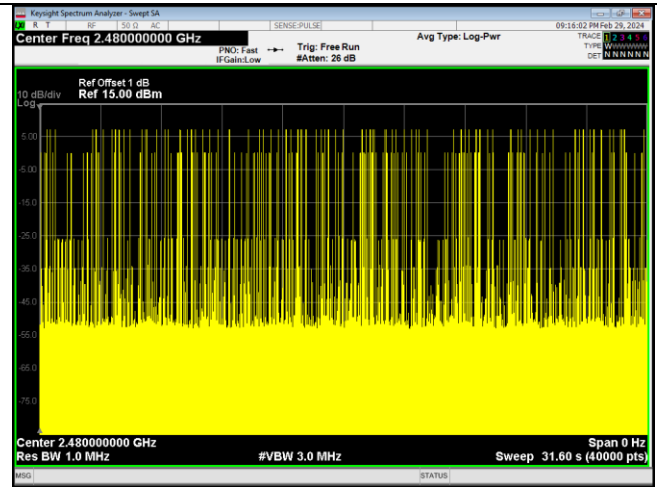
Pulse Width  
 $\pi/4$ DQPSK 2-DH5



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



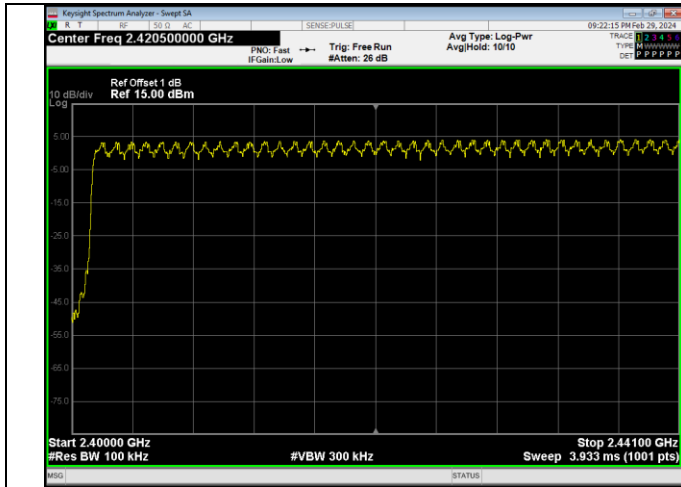
## Number Of Hopping Channel

### Test Result

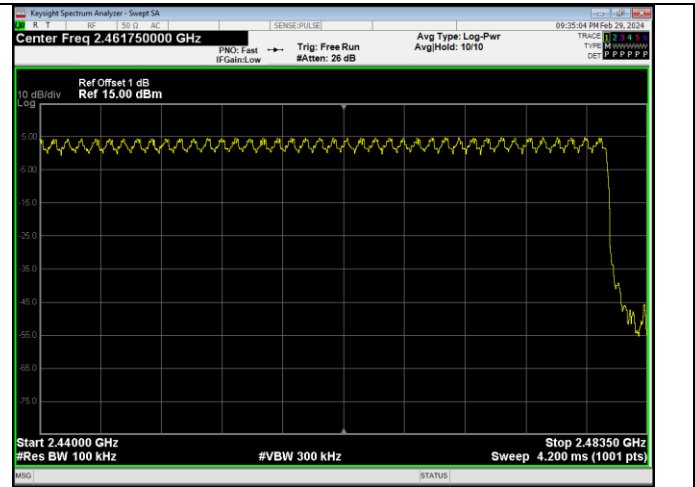
| Modulation    | Packet | Number of Hopping Channel | Limit | Result |
|---------------|--------|---------------------------|-------|--------|
| GFSK          | DH5    | 79                        | 15    | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 79                        | 15    | PASS   |
| 8DPSK     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

### Test Graphs





Low End Spectrum Channel Hopping Plot  
8DPSK



High End Spectrum Channel Hopping Plot  
8DPSK