

# Appendix Report

|                |                |
|----------------|----------------|
| Report No.:    | CISRR241216140 |
| Test Engineer: | Lucas Huang    |
| Supervised by: | Rory Huang     |

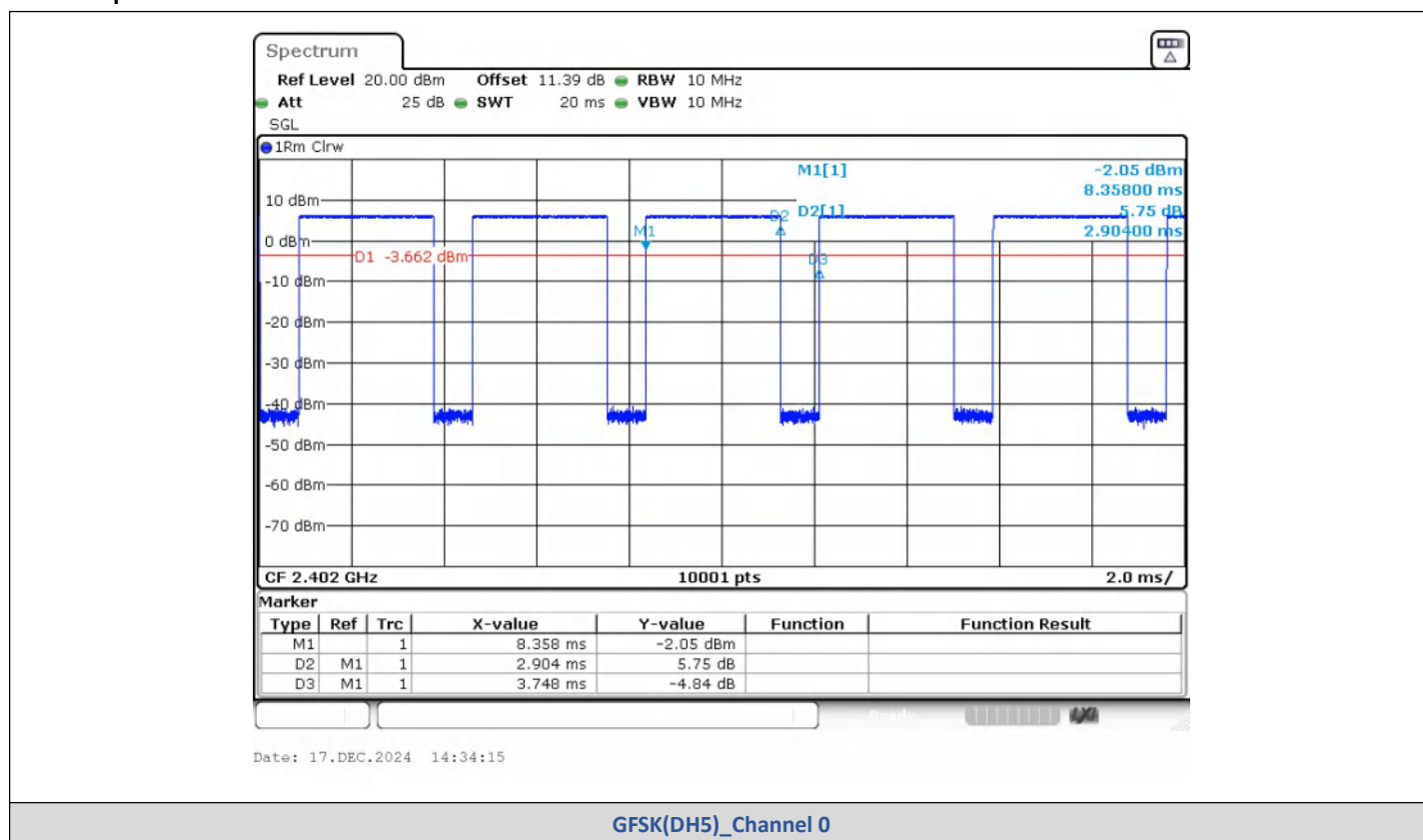
# 1) Duty Cycle

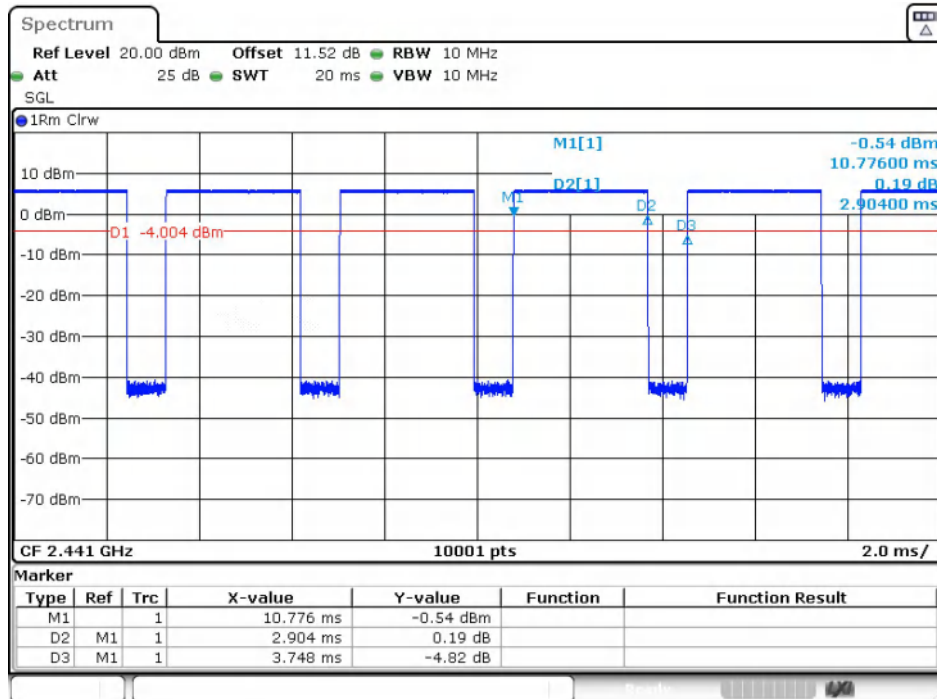
## Test Result

Left:

| Modulation    | Packets | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|---------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| GFSK          | DH5     | 0       | 2.904        | 3.748       | 77.48          | 0.7748              | 1.1081                 | 0.3444 |
|               |         | 39      | 2.904        | 3.748       | 77.48          | 0.7748              | 1.1081                 | 0.3444 |
|               |         | 78      | 2.904        | 3.748       | 77.48          | 0.7748              | 1.1081                 | 0.3444 |
| $\pi/4$ DQPSK | 2-DH5   | 0       | 2.908        | 3.748       | 77.59          | 0.7759              | 1.1019                 | 0.3439 |
|               |         | 39      | 2.910        | 3.748       | 77.64          | 0.7764              | 1.0991                 | 0.3436 |
|               |         | 78      | 2.910        | 3.748       | 77.64          | 0.7764              | 1.0991                 | 0.3436 |
| 8DPSK         | 3-DH5   | 0       | 2.912        | 3.748       | 77.69          | 0.7769              | 1.0963                 | 0.3434 |
|               |         | 39      | 2.914        | 3.748       | 77.75          | 0.7775              | 1.093                  | 0.3432 |
|               |         | 78      | 2.914        | 3.748       | 77.75          | 0.7775              | 1.093                  | 0.3432 |

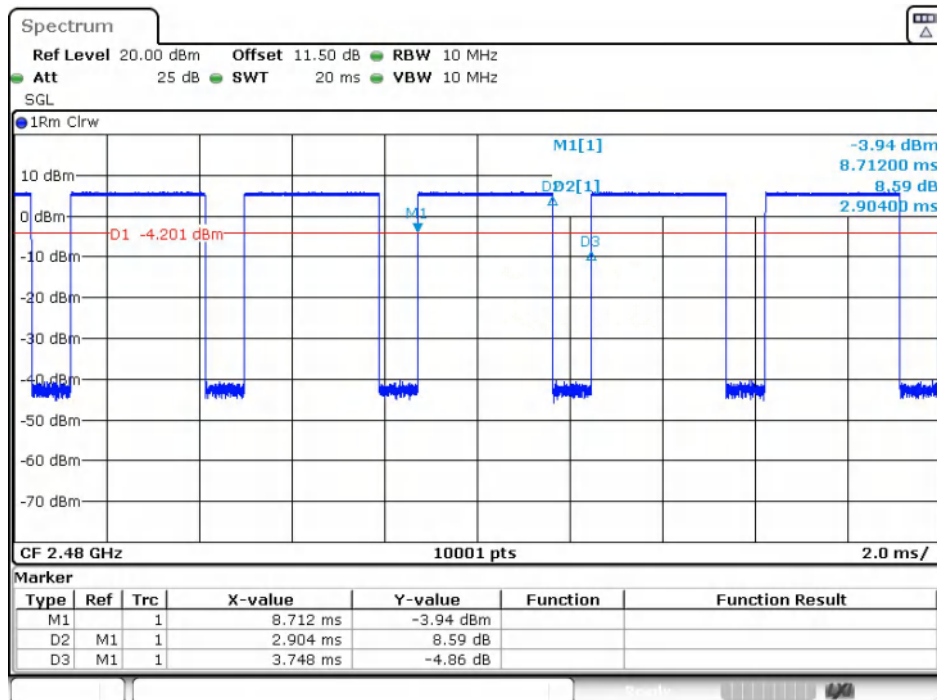
## Test Graphs





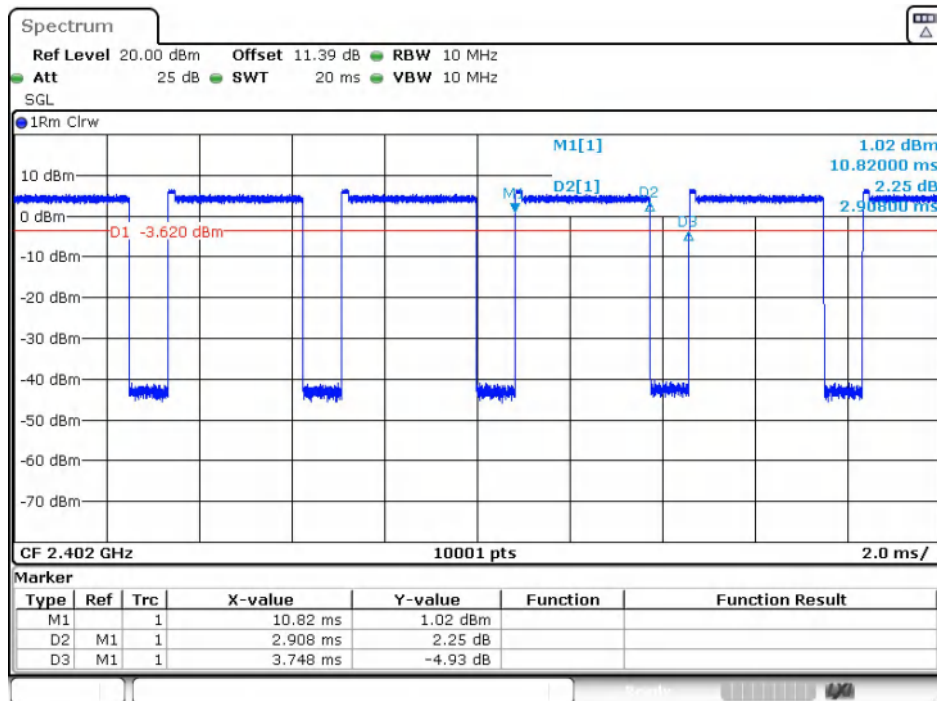
Date: 17.DEC.2024 14:48:18

### GFSK(DH5)\_Channel 39



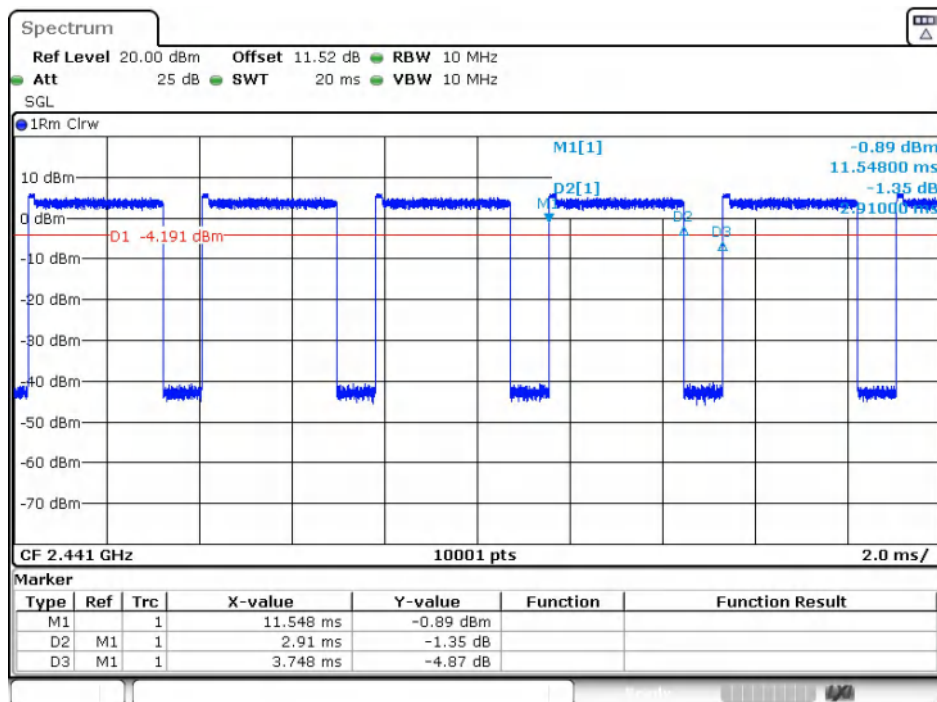
Date: 17.DEC.2024 14:50:00

### GFSK(DH5)\_Channel 78



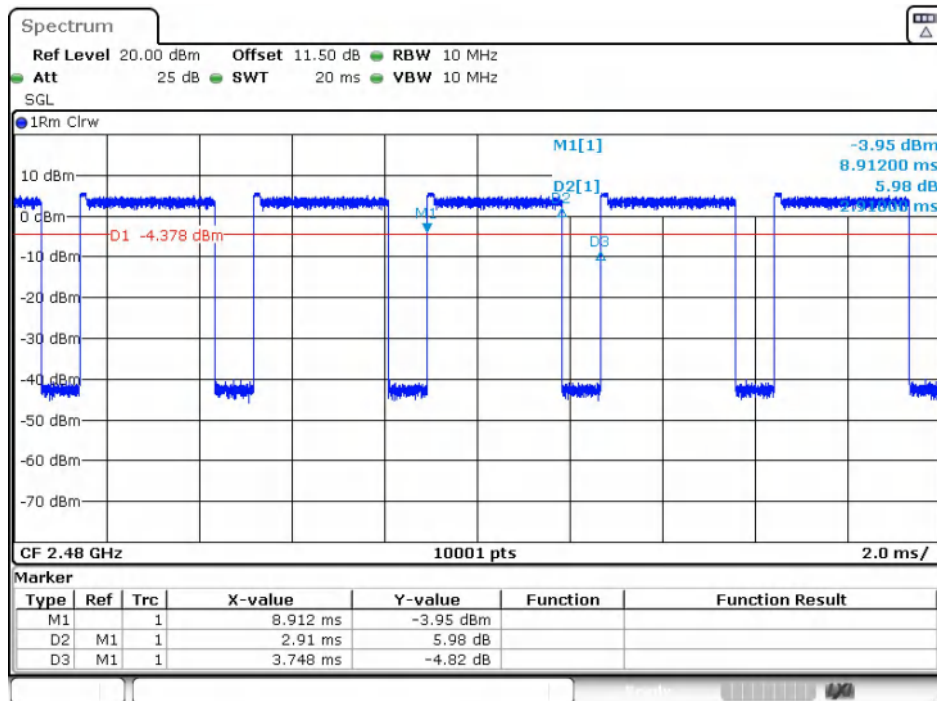
Date: 17,DEC,2024 14:51:47

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



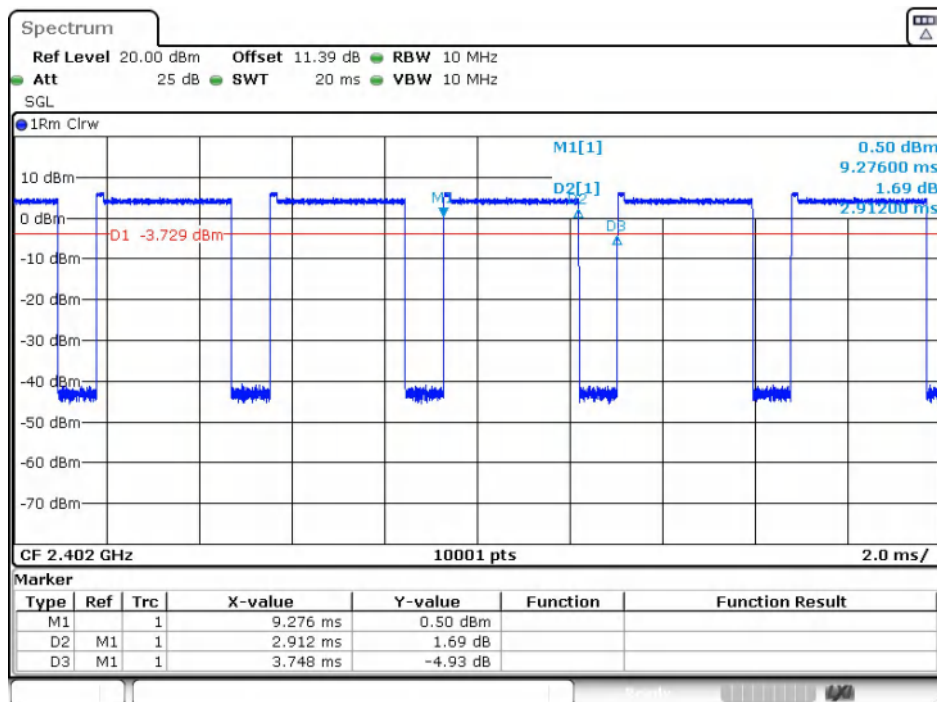
Date: 17,DEC,2024 15:09:50

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



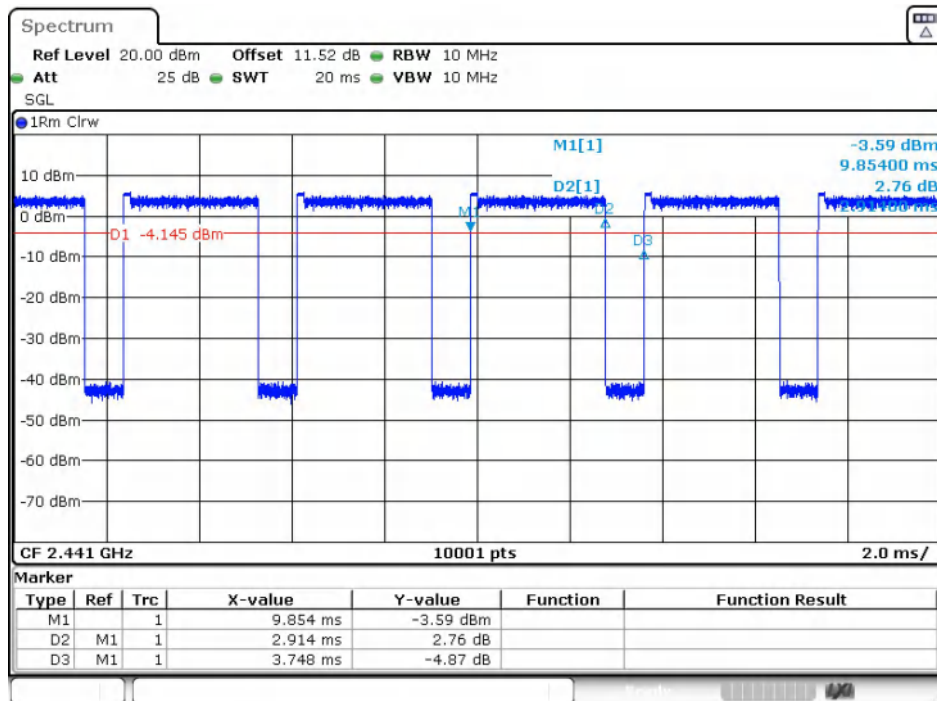
Date: 17.DEC.2024 15:11:41

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



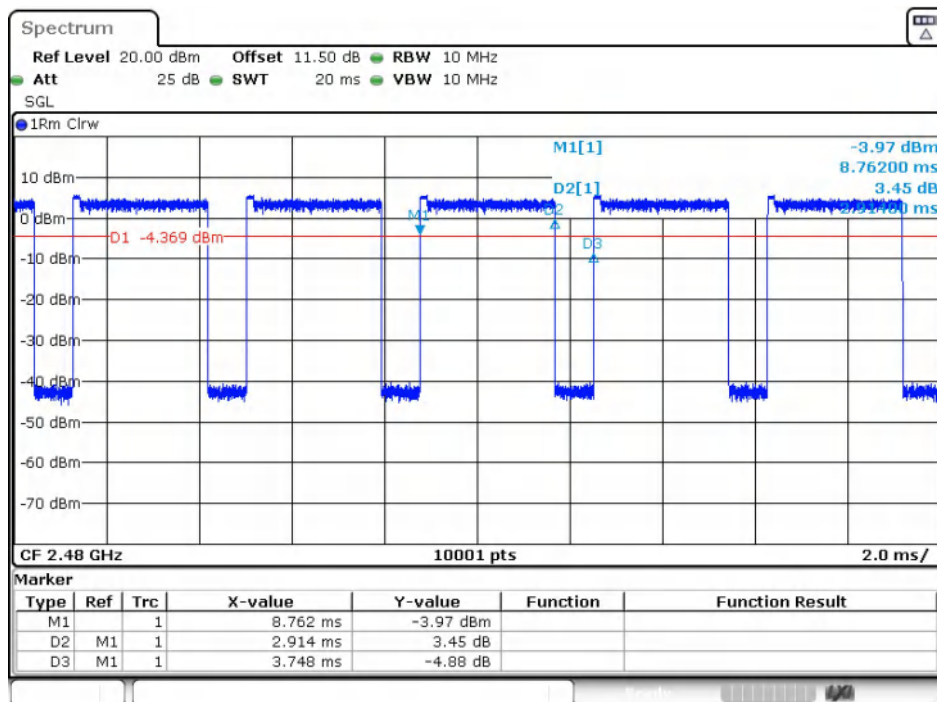
Date: 17.DEC.2024 15:13:33

8DPSK(3-DH5)\_Channel 0



Date: 17,DEC,2024 15:27:44

#### 8DPSK(3-DH5)\_Channel 39



Date: 17,DEC,2024 15:29:31

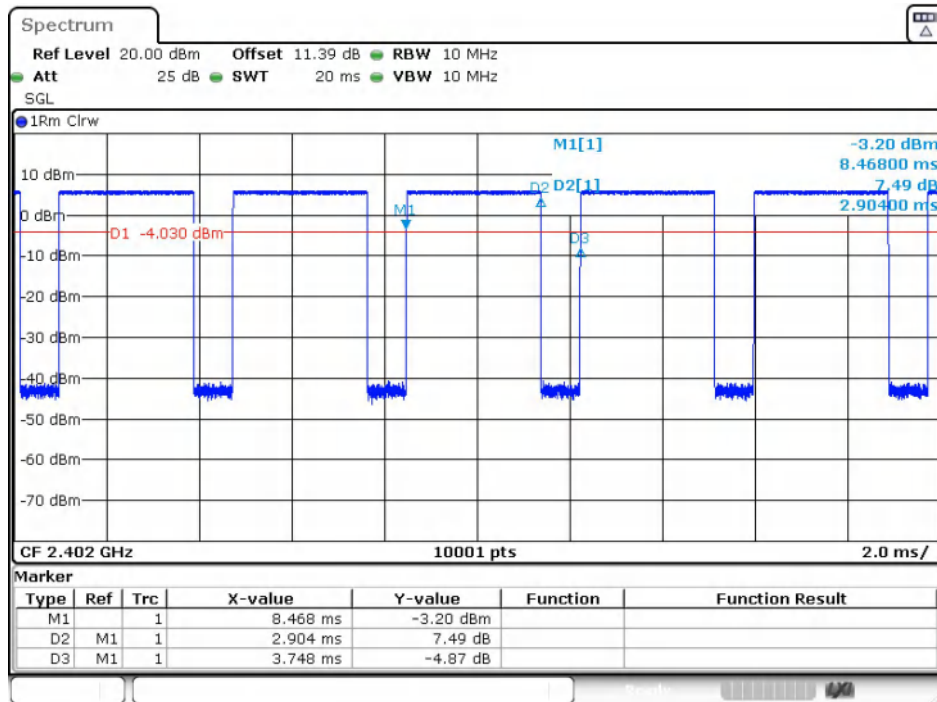
#### 8DPSK(3-DH5)\_Channel 78

Right:

| Modulation | Packets | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| GFSK       | DH5     | 0       | 2.904        | 3.748       | 77.48          | 0.7748              | 1.1081                 | 0.3444 |
|            |         | 39      | 2.904        | 3.748       | 77.48          | 0.7748              | 1.1081                 | 0.3444 |

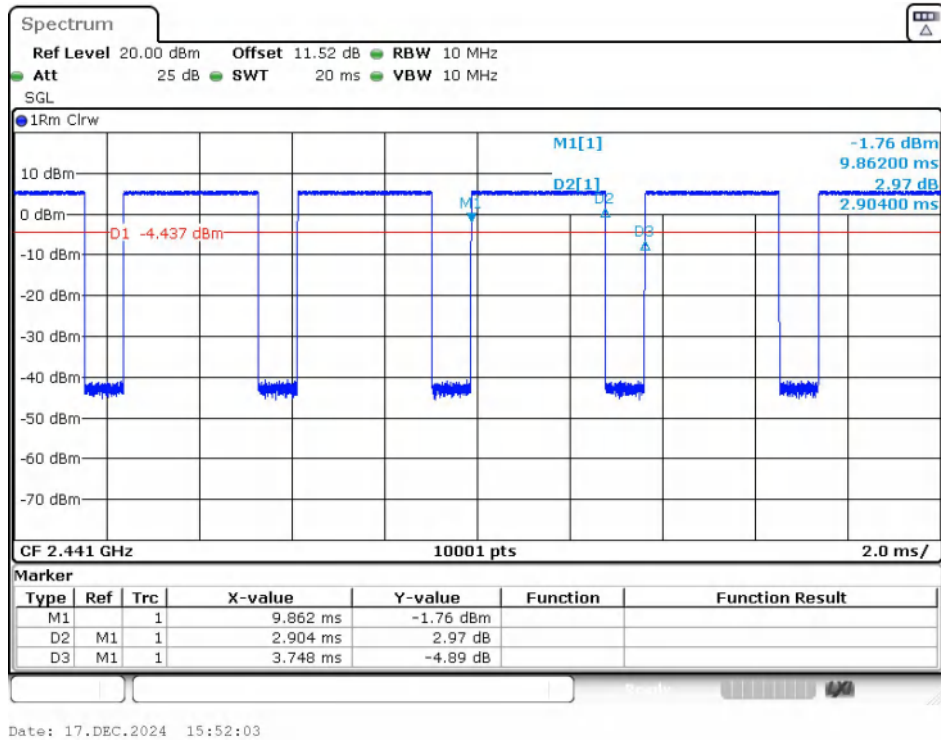
|               |       |    |       |       |       |        |        |        |
|---------------|-------|----|-------|-------|-------|--------|--------|--------|
|               |       | 78 | 2.904 | 3.748 | 77.48 | 0.7748 | 1.1081 | 0.3444 |
| $\pi/4$ DQPSK | 2-DH5 | 0  | 2.908 | 3.748 | 77.59 | 0.7759 | 1.1019 | 0.3439 |
|               |       | 39 | 2.910 | 3.748 | 77.64 | 0.7764 | 1.0991 | 0.3436 |
|               |       | 78 | 2.910 | 3.748 | 77.64 | 0.7764 | 1.0991 | 0.3436 |
| 8DPSK         | 3-DH5 | 0  | 2.912 | 3.748 | 77.69 | 0.7769 | 1.0963 | 0.3434 |
|               |       | 39 | 2.912 | 3.748 | 77.69 | 0.7769 | 1.0963 | 0.3434 |
|               |       | 78 | 2.914 | 3.748 | 77.75 | 0.7775 | 1.093  | 0.3432 |

## Test Graphs

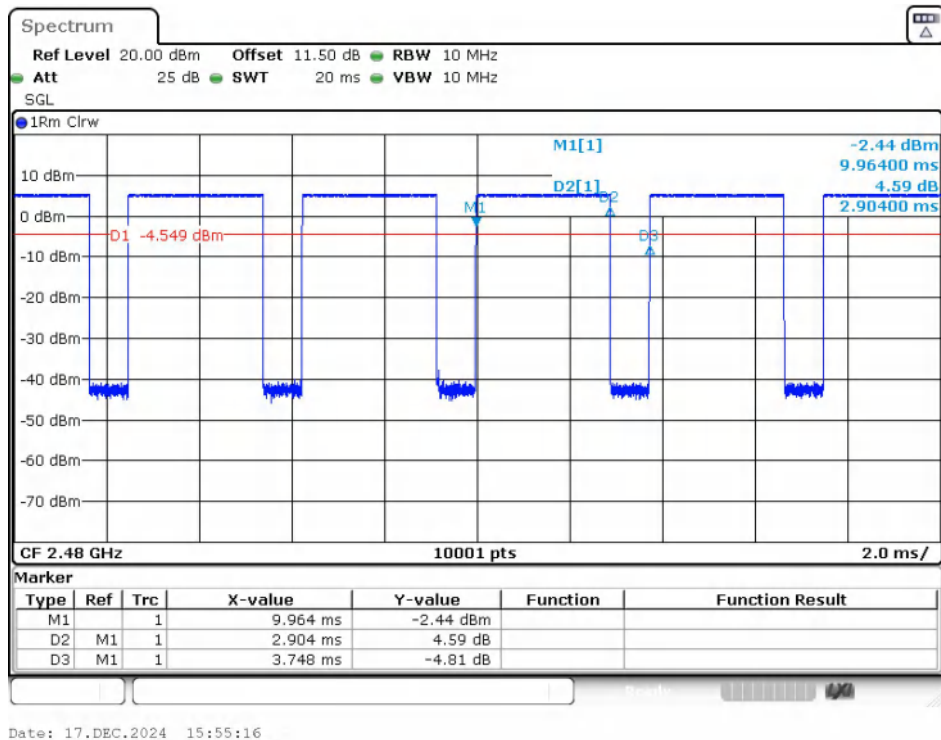


Date: 17.DEC.2024 15:37:32

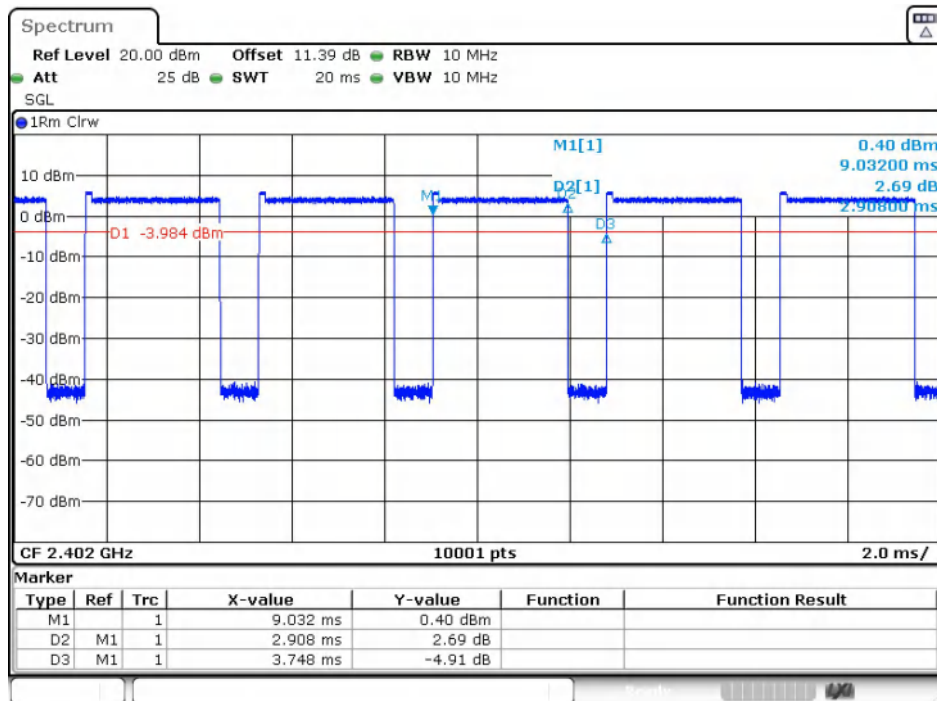
GFSK(DH5)\_Channel 0



**GFSK(DH5)\_Channel 39**

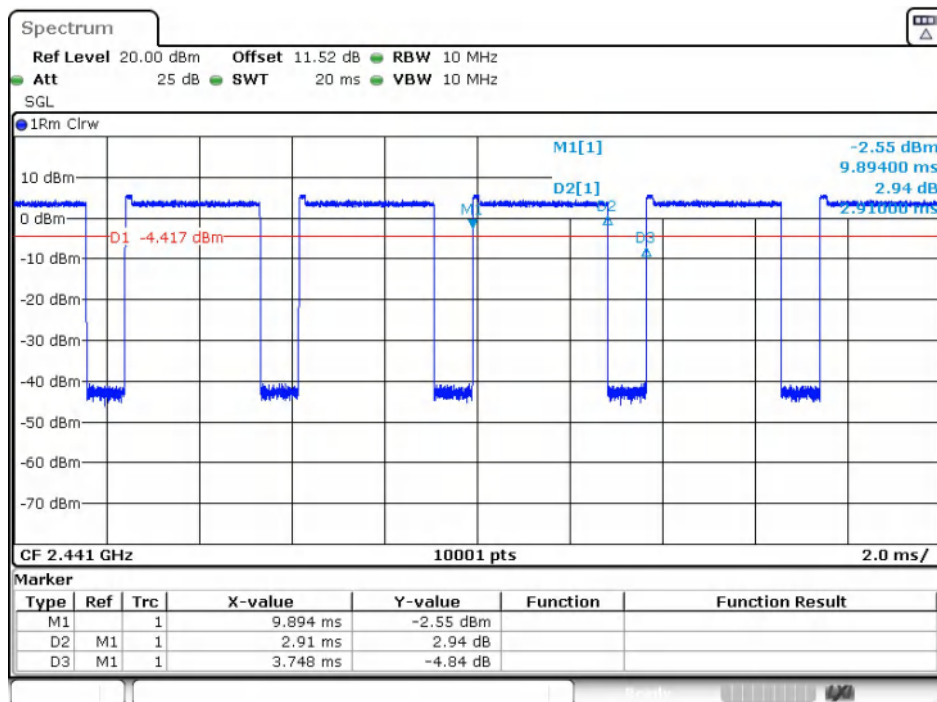


**GFSK(DH5)\_Channel 78**



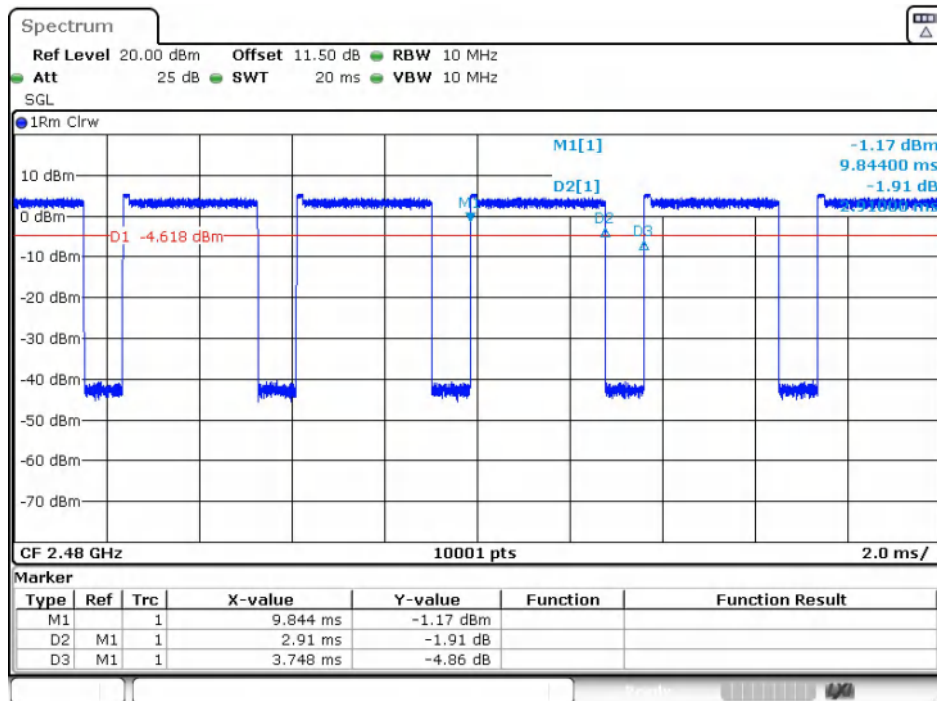
Date: 17.DEC.2024 16:11:27

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



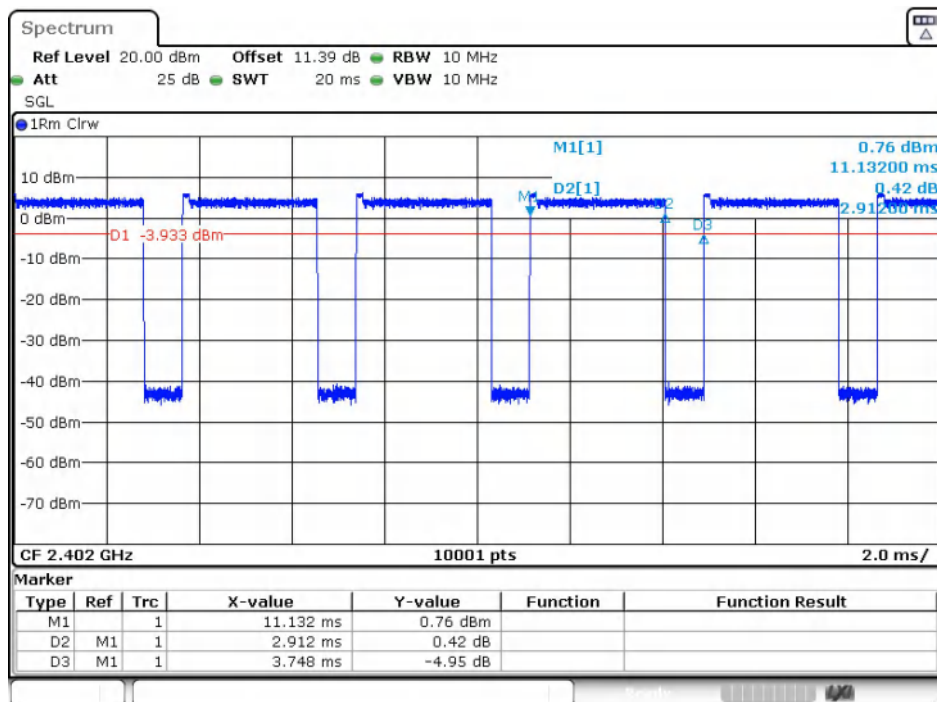
Date: 17.DEC.2024 16:25:43

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



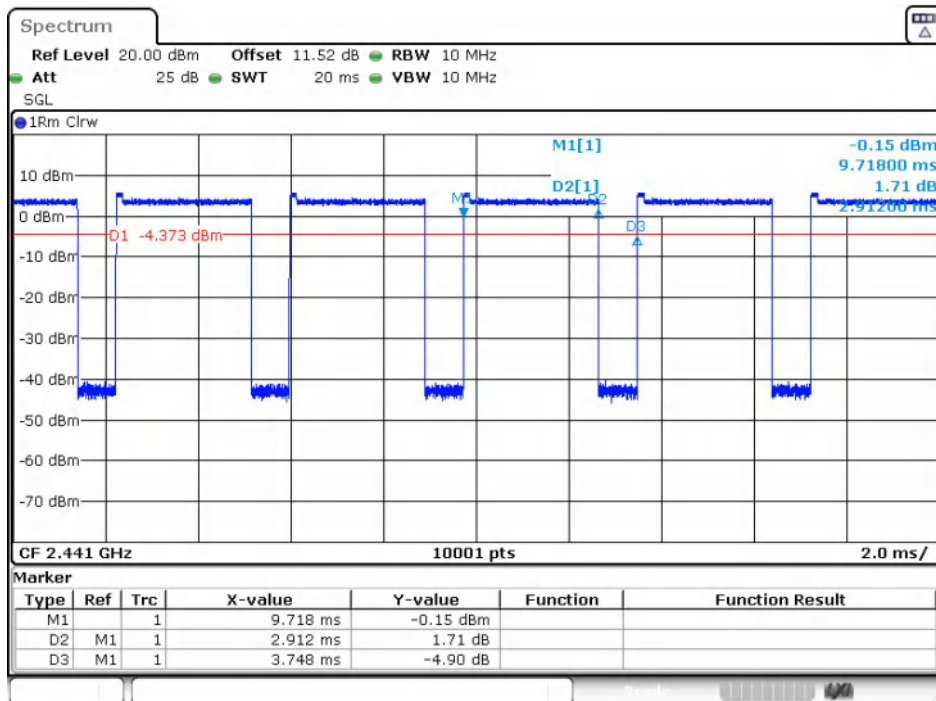
Date: 17,DEC,2024 16:27:20

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



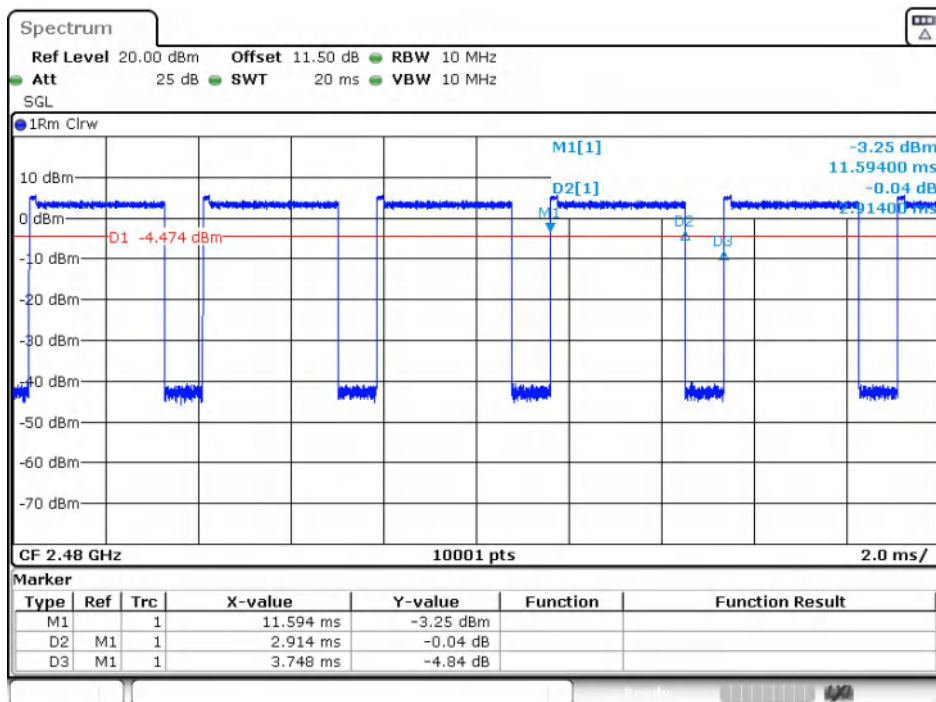
Date: 17,DEC,2024 16:29:09

8DPSK(3-DH5)\_Channel 0



Date: 17.DEC.2024 16:41:13

### 8DPSK(3-DH5)\_Channel 39



Date: 17.DEC.2024 16:42:53

### 8DPSK(3-DH5)\_Channel 78

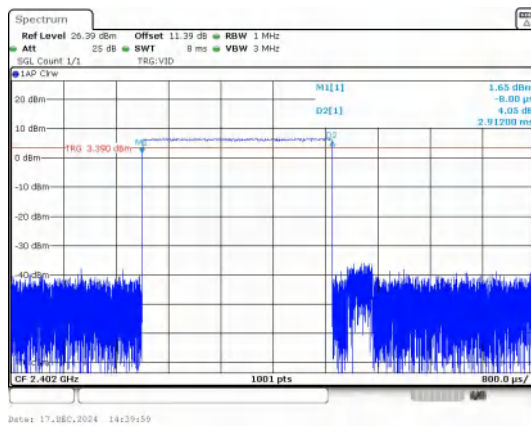
## 2) Dwell Time

### Test Result

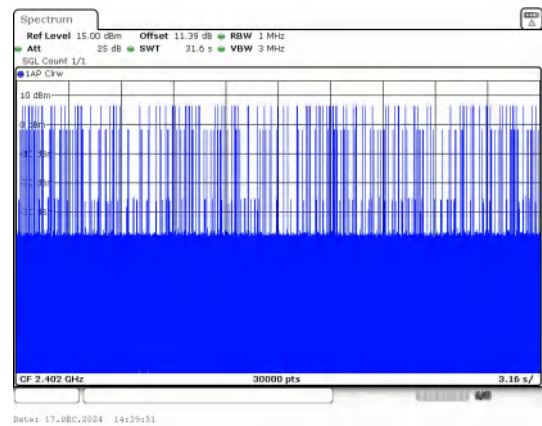
Left:

| Modulation    | Packet | Channel          | Pulse Width (ms) | Number of Pulses in 31.6 seconds | Dwell Time (ms) | Limit (ms) | Result |
|---------------|--------|------------------|------------------|----------------------------------|-----------------|------------|--------|
| GFSK          | DH5    | CH0<br>(2402MHz) | 2.912            | 116                              | 337.79          | < 400      | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |                  | 2.912            | 113                              | 329.06          |            | PASS   |
| 8DPSK         | 3-DH5  |                  | 2.912            | 102                              | 297.02          |            | PASS   |

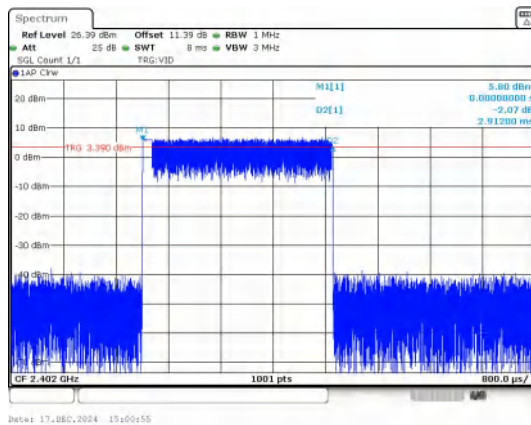
### Test Graphs



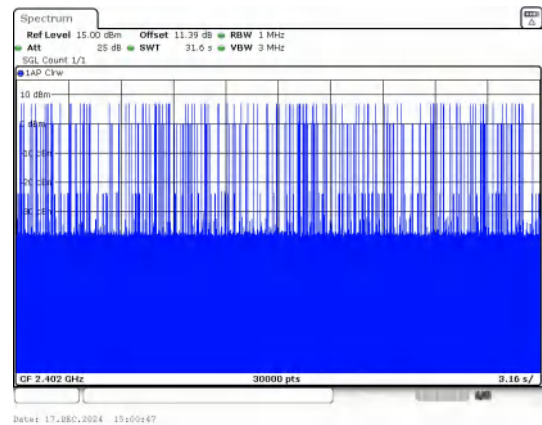
Pulse Width  
GFSK\_DH5



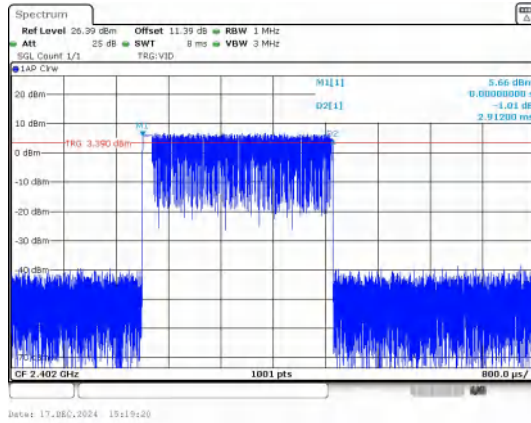
Number of Pulses in 31.6 seconds  
GFSK\_DH5



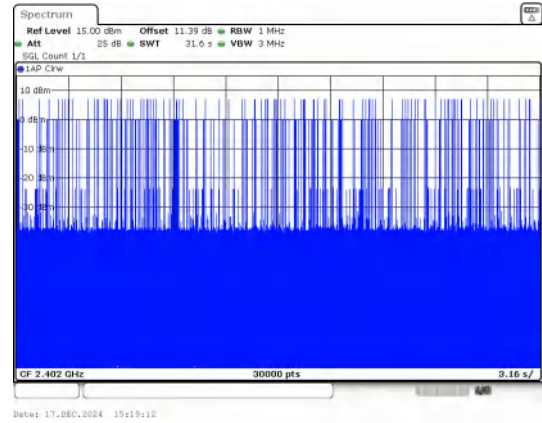
Pulse Width  
 $\pi/4$ DQPSK\_2-DH5



Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK\_2-DH5



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

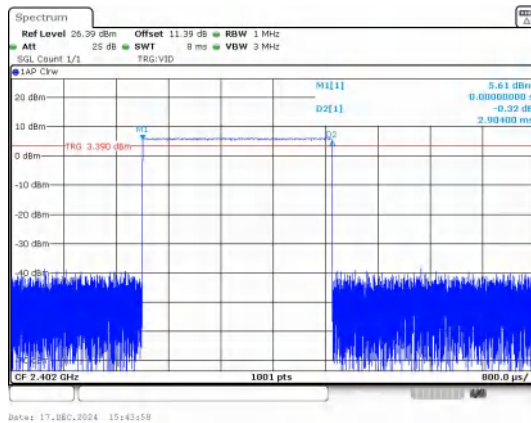


**Number of Pulses in 31.6 seconds**  
**8DPSK\_3-DH5**

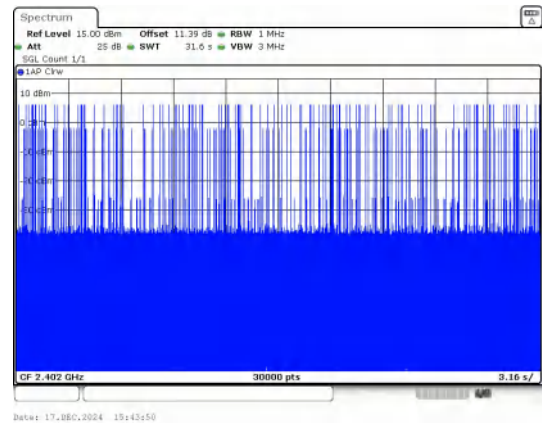
Right:

| Modulation    | Packet | Channel          | Pulse Width (ms) | Number of Pulses in 31.6 seconds | Dwell Time (ms) | Limit (ms) | Result |
|---------------|--------|------------------|------------------|----------------------------------|-----------------|------------|--------|
| GFSK          | DH5    | CH0<br>(2402MHz) | 2.904            | 117                              | 339.77          | < 400      | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |                  | 2.912            | 117                              | 340.7           |            | PASS   |
| 8DPSK         | 3-DH5  |                  | 2.912            | 99                               | 288.29          |            | PASS   |

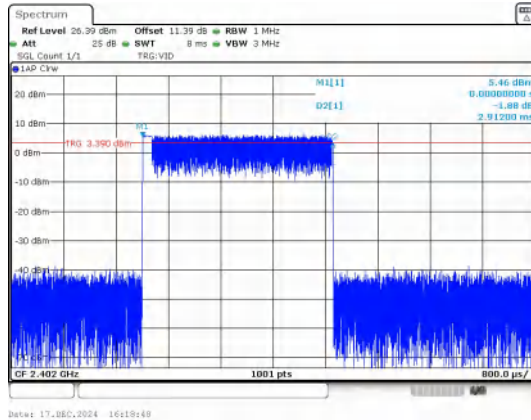
## Test Graphs



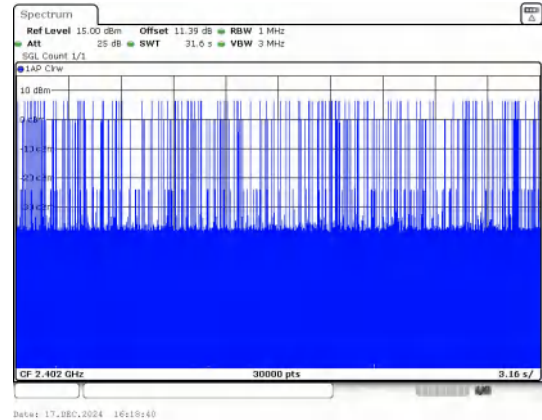
**Pulse Width**  
**GFSK\_DH5**



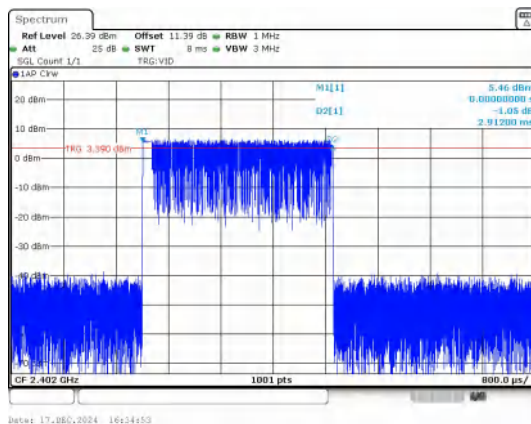
**Number of Pulses in 31.6 seconds**  
**GFSK\_DH5**



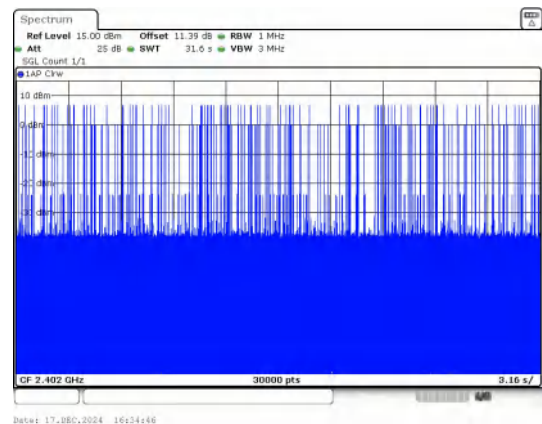
Pulse Width  
 $\pi/4$ DQPSK\_2-DH5



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

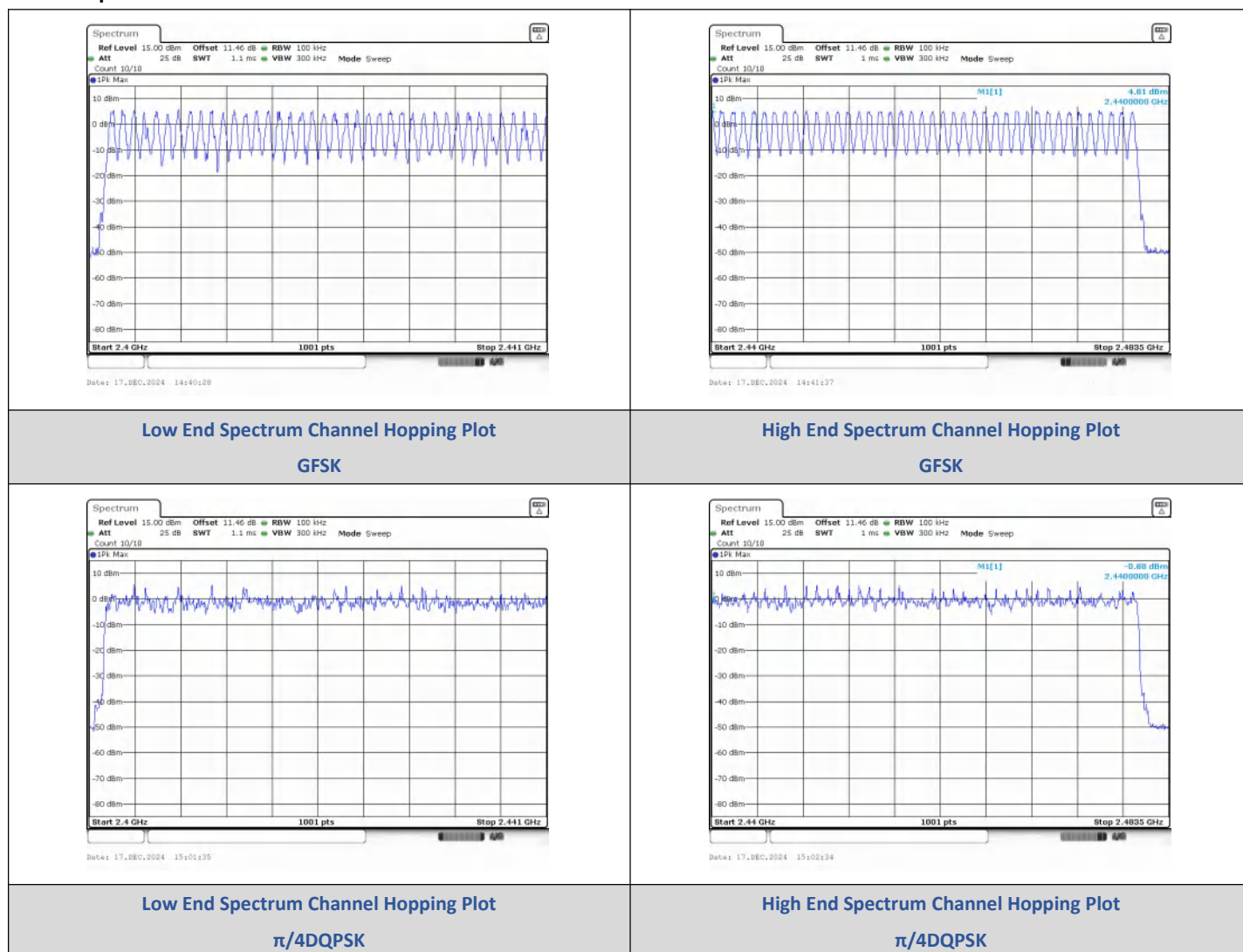
### 3) Number Of Hopping Channel

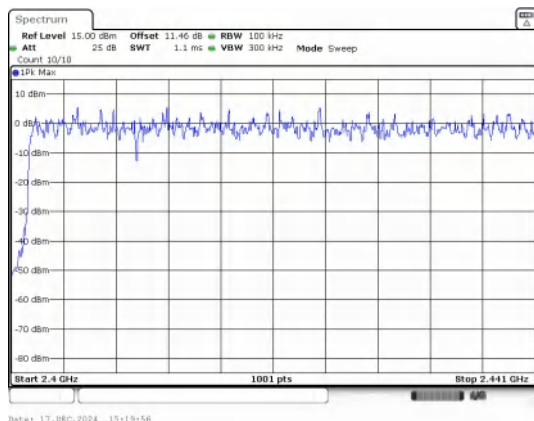
#### Test Result

Left:

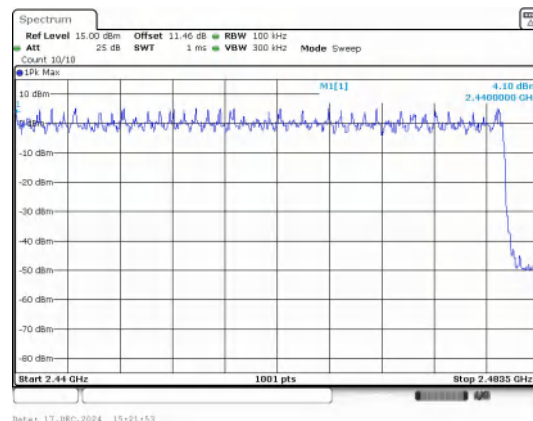
| Modulation    | Packet | Number of Hopping Channel | Limit | Result |
|---------------|--------|---------------------------|-------|--------|
| GFSK          | DH5    | 79                        | 15    | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 79                        | 15    | PASS   |
| 8DPSK     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

#### Test Graphs





Low End Spectrum Channel Hopping Plot  
8DPSK



High End Spectrum Channel Hopping Plot  
8DPSK

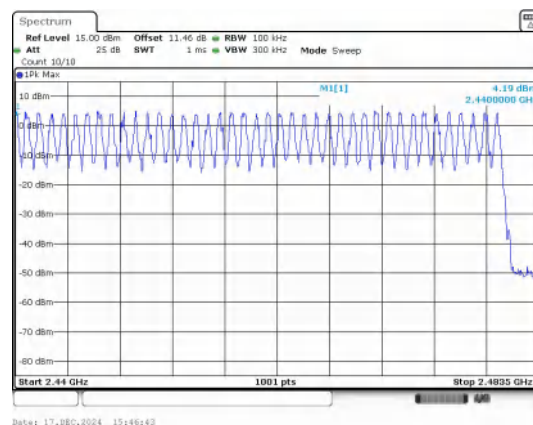
Right:

| 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   |

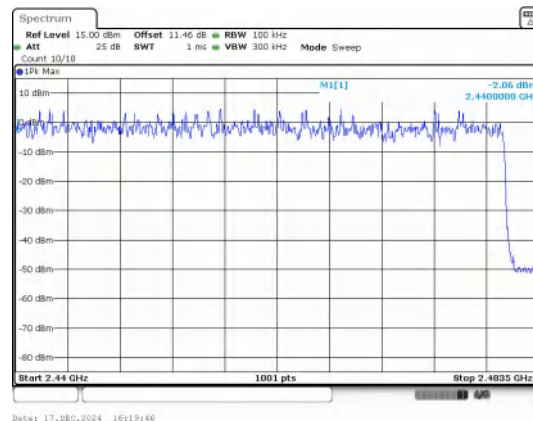
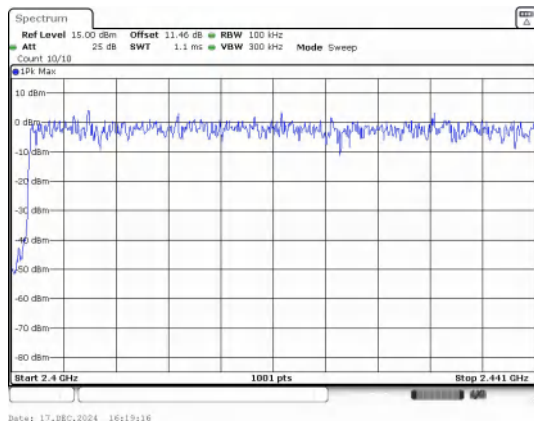
### Test Graphs

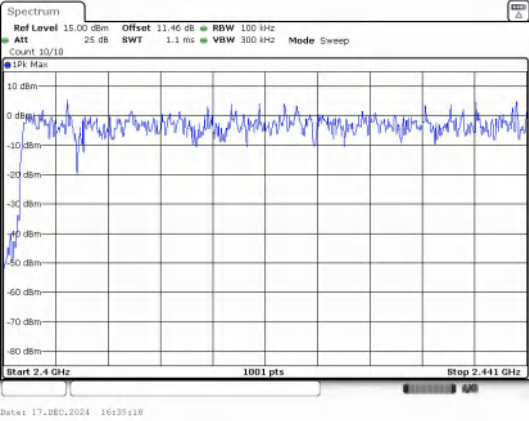
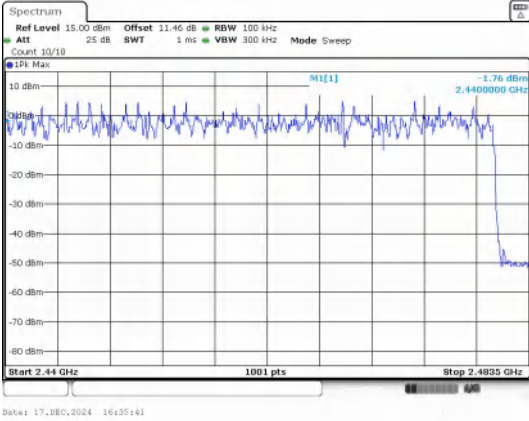


Low End Spectrum Channel Hopping Plot  
GFSK



High End Spectrum Channel Hopping Plot  
GFSK



|                                                                                                                                                                                                 |                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Low End Spectrum Channel Hopping Plot</p> <p><math>\pi/4</math>DQPSK</p>  <p>Date: 17 DEC 2024 16:35:18</p> | <p>High End Spectrum Channel Hopping Plot</p> <p><math>\pi/4</math>DQPSK</p>  <p>Date: 17 DEC 2024 16:35:41</p> |
| <p>Low End Spectrum Channel Hopping Plot</p> <p>8DPSK</p>                                                                                                                                       | <p>High End Spectrum Channel Hopping Plot</p> <p>8DPSK</p>                                                                                                                                        |

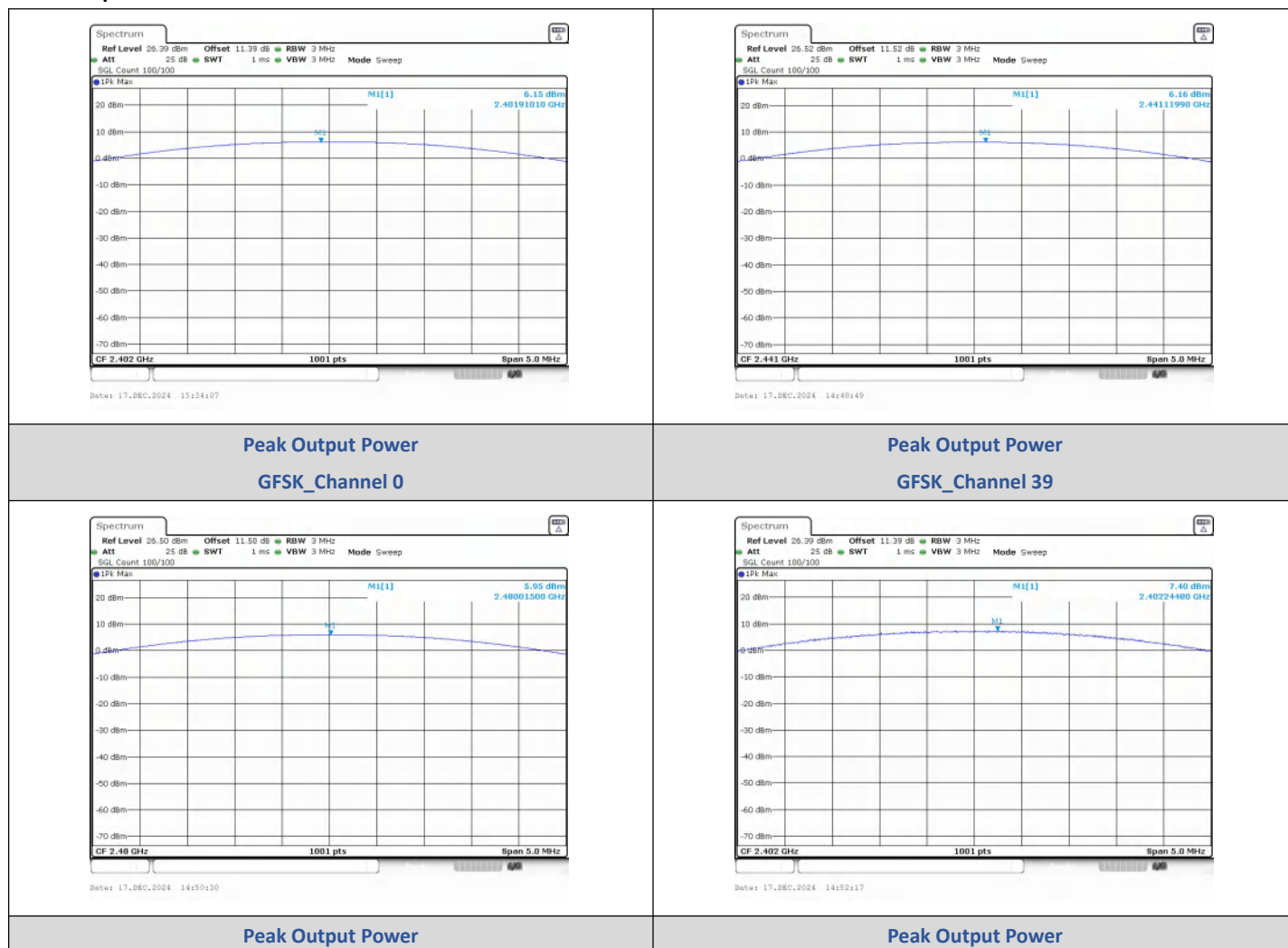
## 4) Conducted Peak Output Power

### Test Result

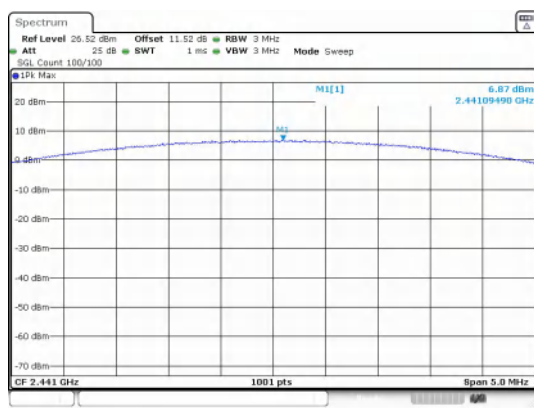
Left:

| Modulation    | Packet Type | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Limit (dBm) | Result |
|---------------|-------------|---------|-------------------------|------------------------|-------------|--------|
| GFSK          | DH5         | 0       | 6.15                    | 4.12                   | ≤30         | PASS   |
|               |             | 39      | 6.16                    | 4.13                   |             | PASS   |
|               |             | 78      | 5.95                    | 3.94                   |             | PASS   |
| $\pi/4$ DQPSK | 2-DH5       | 0       | 7.40                    | 5.50                   | ≤20.97      | PASS   |
|               |             | 39      | 6.87                    | 4.86                   |             | PASS   |
|               |             | 78      | 6.64                    | 4.61                   |             | PASS   |
| 8DPSK         | 3-DH5       | 0       | 7.49                    | 5.61                   |             | PASS   |
|               |             | 39      | 6.97                    | 4.98                   |             | PASS   |
|               |             | 78      | 6.76                    | 4.74                   |             | PASS   |

### Test Graphs

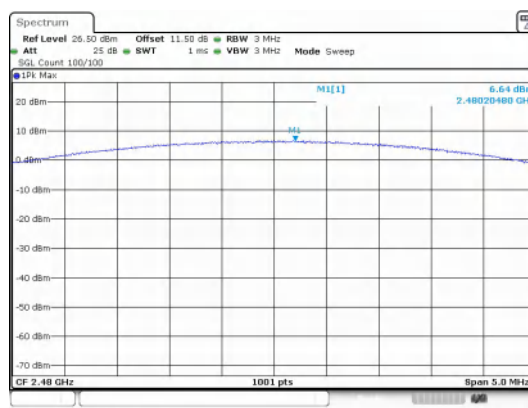


GFSK\_Channel 78



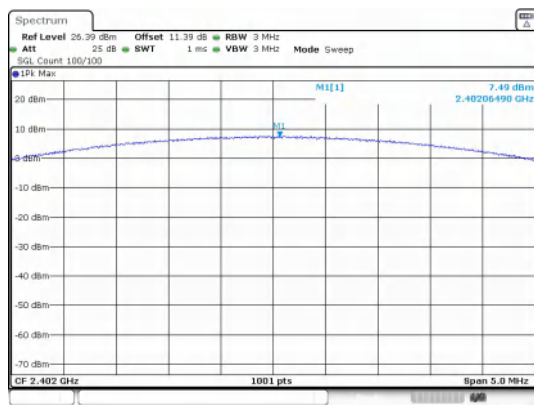
Date: 17, DEC, 2024 15:10:20

$\pi/4$ DQPSK\_Channel 0



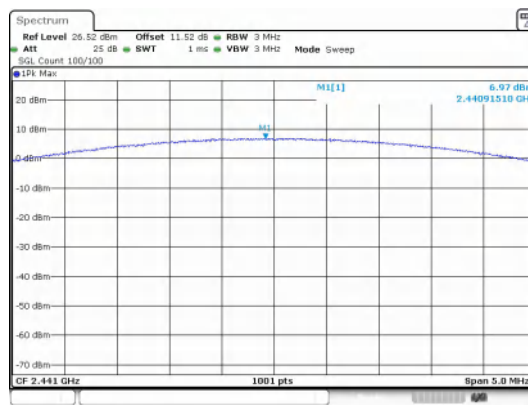
Date: 17, DEC, 2024 15:12:12

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



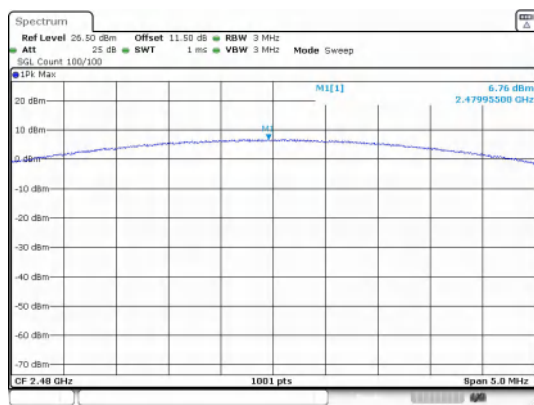
Date: 17, DEC, 2024 15:14:03

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



Date: 17, DEC, 2024 15:28:14

Peak Output Power  
8DPSK\_Channel 0



Date: 17, DEC, 2024 15:30:01

Peak Output Power  
8DPSK\_Channel 39

Peak Output Power  
8DPSK\_Channel 78

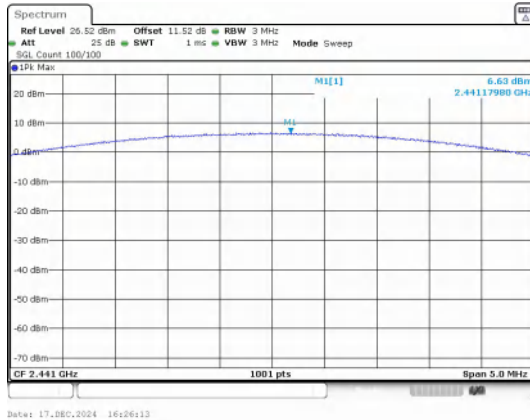
Right:

| Modulation | Packet Type | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Limit (dBm) | Result |
|------------|-------------|---------|-------------------------|------------------------|-------------|--------|
| GFSK       | DH5         | 0       | 6.09                    | 4.06                   | $\leq 30$   | PASS   |

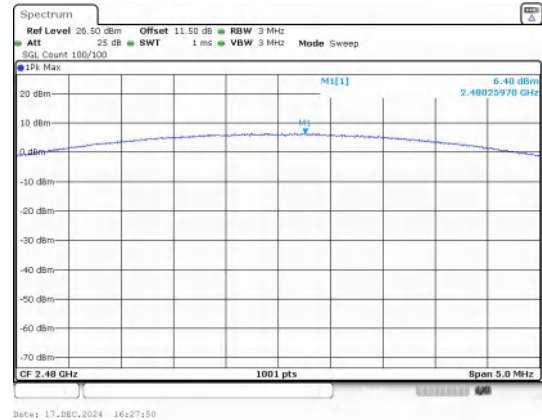
|               |       |    |      |      |              |      |
|---------------|-------|----|------|------|--------------|------|
|               |       | 39 | 5.74 | 3.75 |              | PASS |
|               |       | 78 | 5.61 | 3.64 |              | PASS |
|               |       | 0  | 7.05 | 5.07 |              | PASS |
| $\pi/4$ DQPSK | 2-DH5 | 39 | 6.63 | 4.60 | $\leq 20.97$ | PASS |
|               |       | 78 | 6.40 | 4.37 |              | PASS |
|               |       | 0  | 7.24 | 5.30 |              | PASS |
| 8DPSK         | 3-DH5 | 39 | 6.83 | 4.82 |              | PASS |
|               |       | 78 | 6.65 | 4.62 |              | PASS |
|               |       |    |      |      |              | PASS |

## Test Graphs

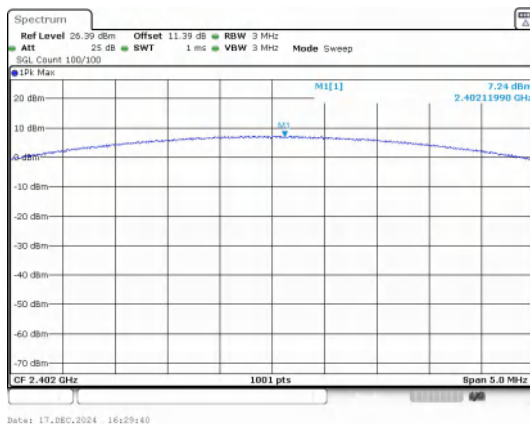




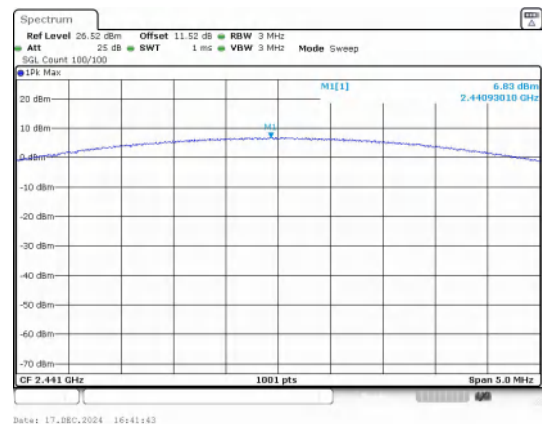
Peak Output Power  
 $\pi/4$ DQPSK\_Channel 39



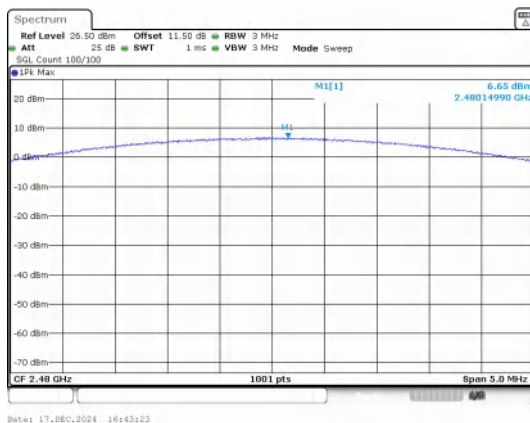
Peak Output Power  
 $\pi/4$ DQPSK\_Channel 78



Peak Output Power  
8DPSK\_Channel 0



Peak Output Power  
8DPSK\_Channel 39



Peak Output Power  
8DPSK\_Channel 78

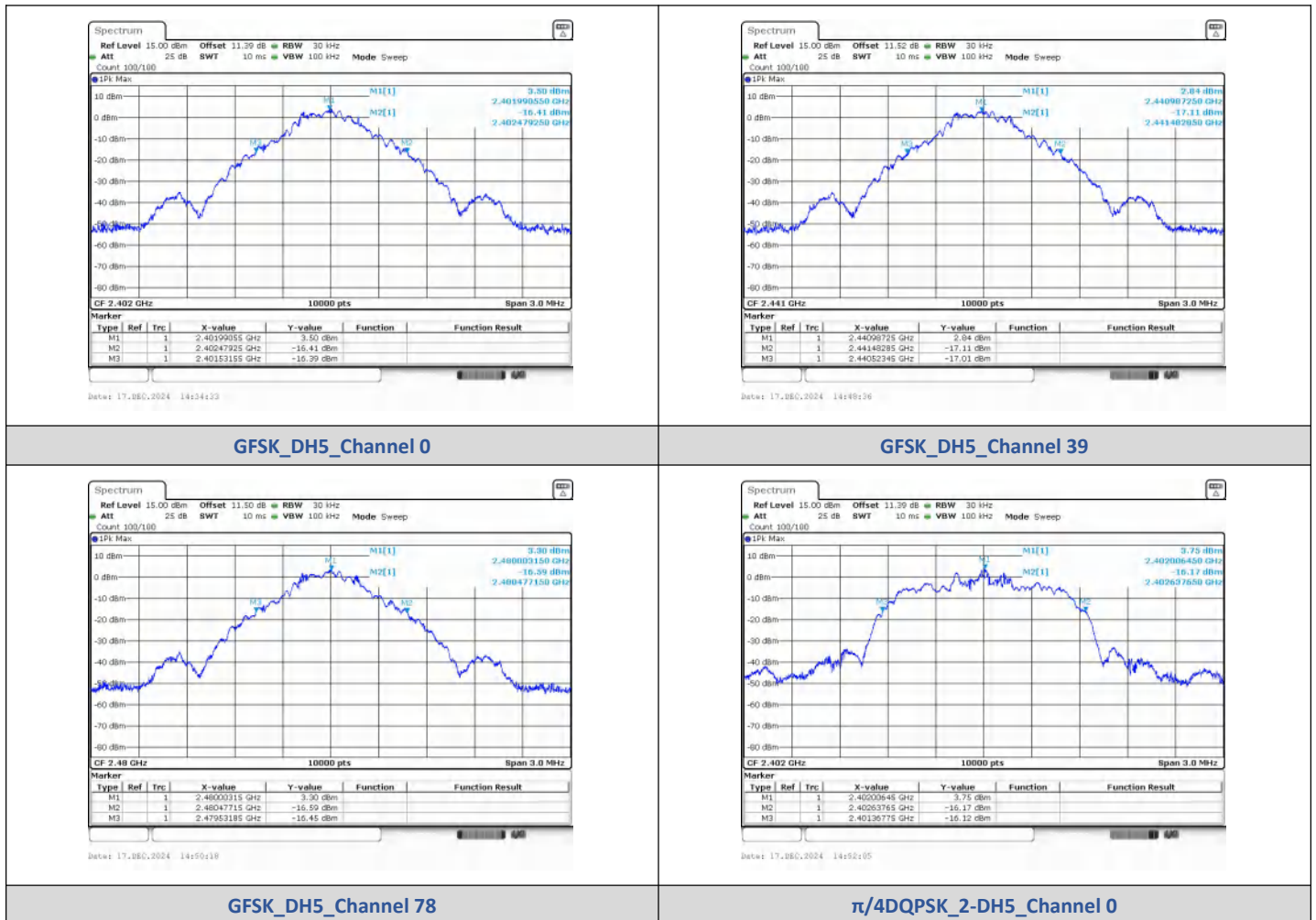
## 5) 20dB Bandwidth

### Test Result

Left:

| Modulation    | Channel | Center Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---------------|---------|------------------------|-----------------------|
| GFSK          | 0       | 2402 MHz               | 0.9500                |
|               | 39      | 2441 MHz               | 0.9600                |
|               | 78      | 2480 MHz               | 0.9500                |
| $\pi/4$ DQPSK | 0       | 2402 MHz               | 1.270                 |
|               | 39      | 2441 MHz               | 1.270                 |
|               | 78      | 2480 MHz               | 1.260                 |
| 8DPSK         | 0       | 2402 MHz               | 1.260                 |
|               | 39      | 2441 MHz               | 1.260                 |
|               | 78      | 2480 MHz               | 1.280                 |

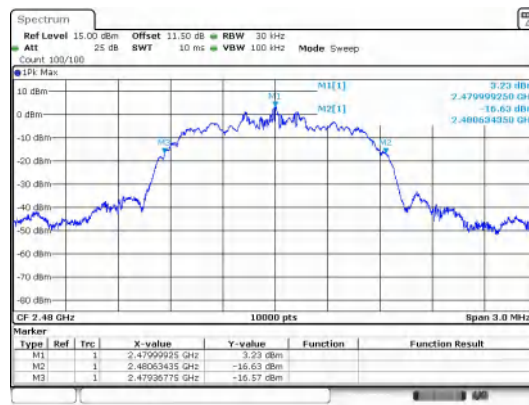
### Test Graphs





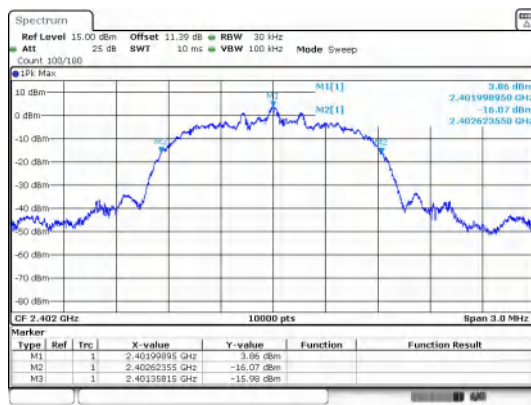
Date: 17.080.2024 15:11:09

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



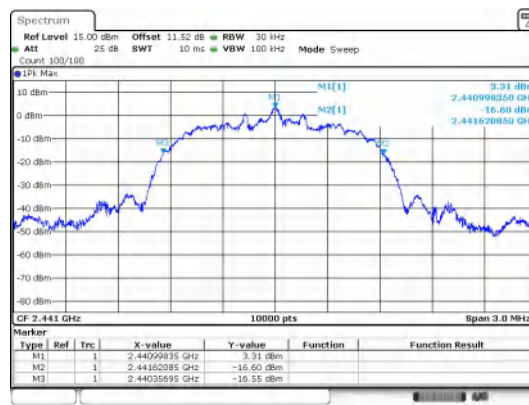
Date: 17.080.2024 15:11:59

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



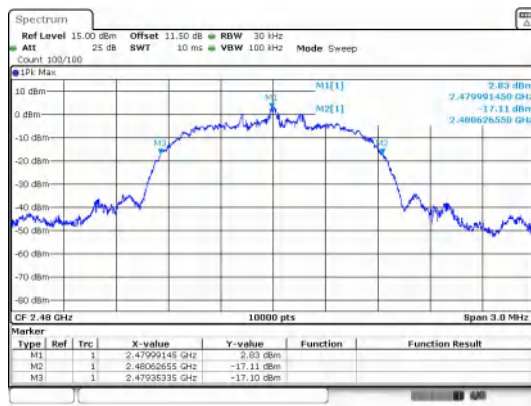
Date: 17.080.2024 15:11:50

8DPSK\_3-DH5\_Channel 0



Date: 17.080.2024 15:12:01

8DPSK\_3-DH5\_Channel 39



Date: 17.080.2024 15:12:45

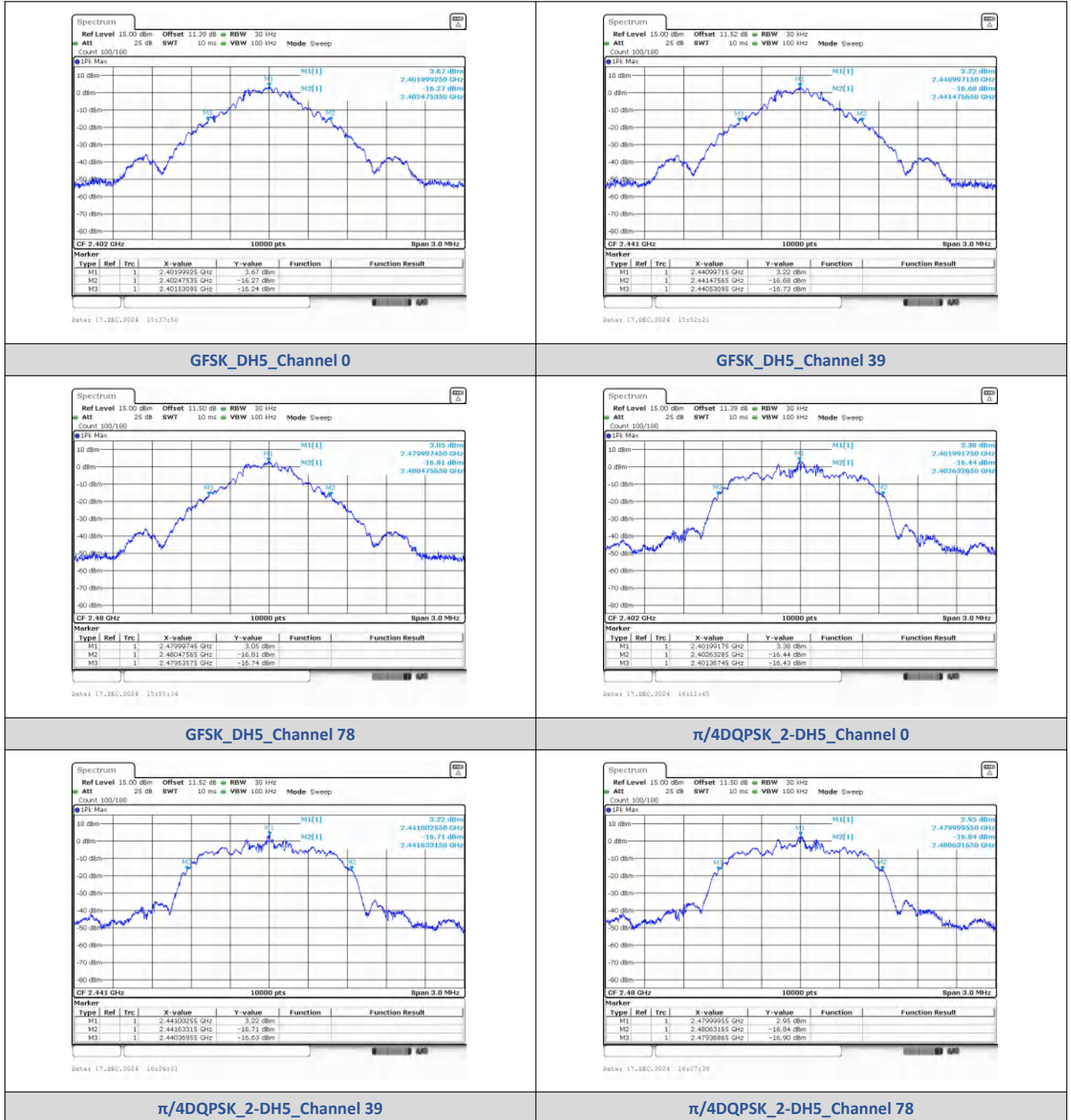
8DPSK\_3-DH5\_Channel 78

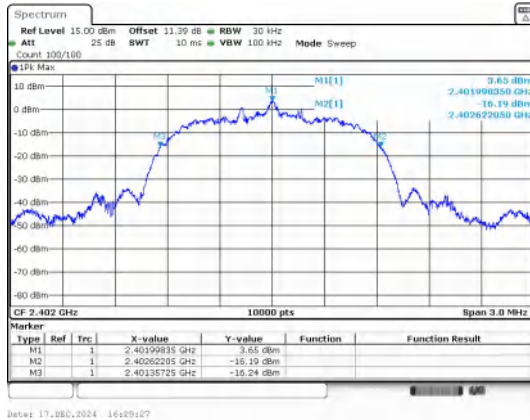
Right:

| Modulation    | Channel | Center Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---------------|---------|------------------------|-----------------------|
| GFSK          | 0       | 2402 MHz               | 0.9500                |
|               | 39      | 2441 MHz               | 0.9500                |
|               | 78      | 2480 MHz               | 0.9400                |
| $\pi/4$ DQPSK | 0       | 2402 MHz               | 1.260                 |
|               | 39      | 2441 MHz               | 1.260                 |
|               | 78      | 2480 MHz               | 1.260                 |

|       |    |          |       |
|-------|----|----------|-------|
| 8DPSK | 0  | 2402 MHz | 1.260 |
|       | 39 | 2441 MHz | 1.260 |
|       | 78 | 2480 MHz | 1.280 |

## Test Graphs

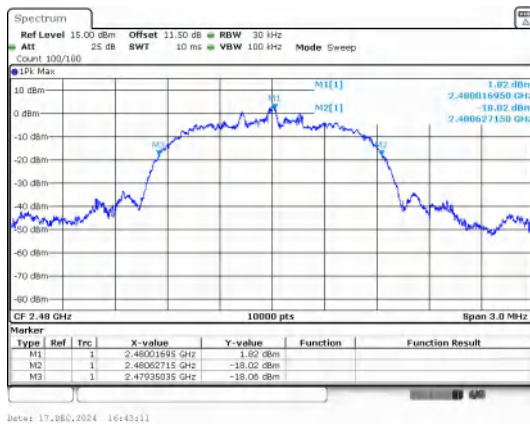




8DPSK\_3-DH5\_Channel 0



8DPSK\_3-DH5\_Channel 39



8DPSK\_3-DH5\_Channel 78

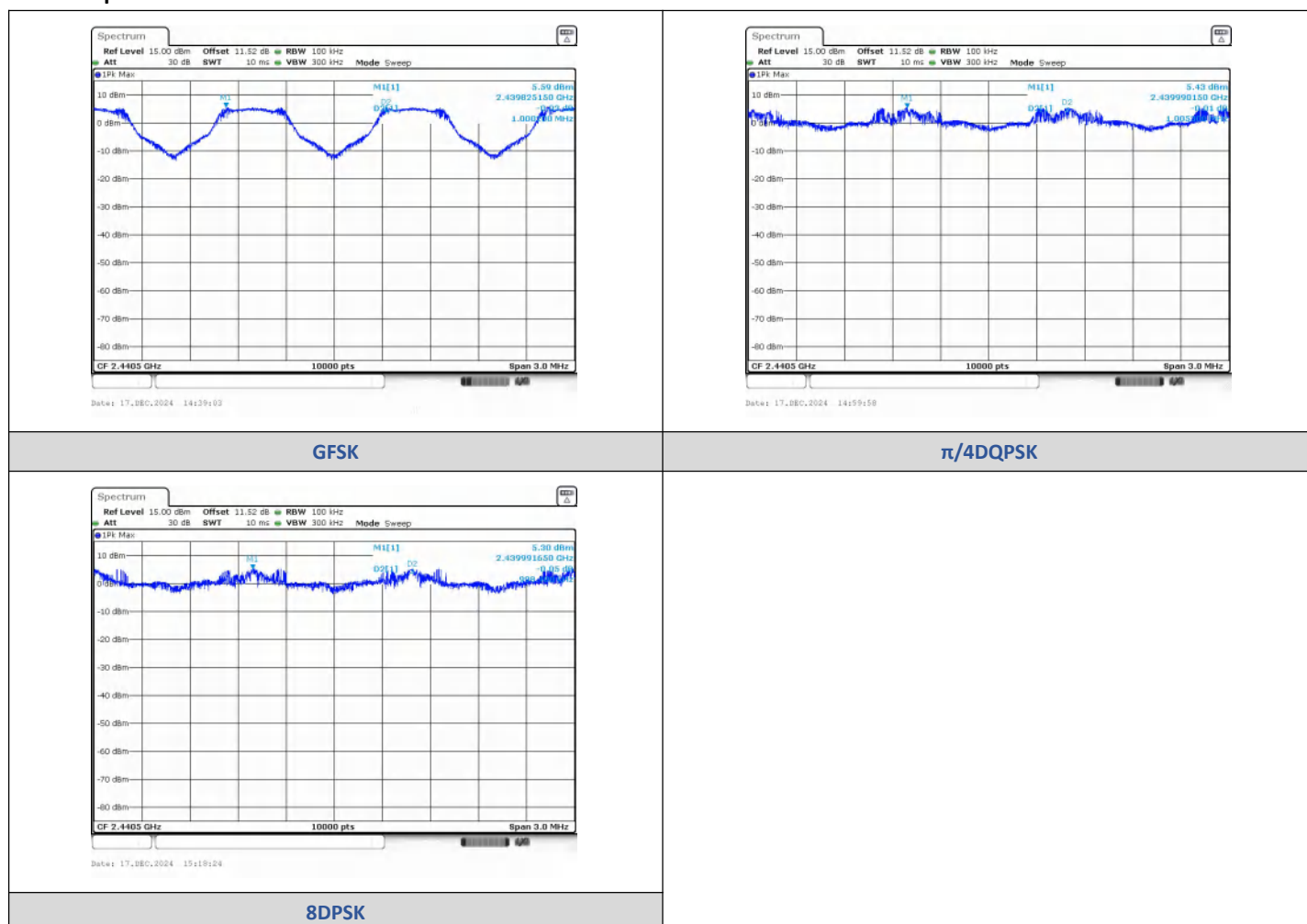
## 6) Carrier Frequencies Separation

### Test Result

Left:

| Modulation    | Packet | Left Center frequency (MHz) | Right Center frequency (MHz) | Hopping Frequency Separation (MHz) | Limit (MHz) | Result |
|---------------|--------|-----------------------------|------------------------------|------------------------------------|-------------|--------|
| GFSK          | DH5    | 2439.8252                   | 2440.8254                    | 1.0002                             | 0.95        | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 2439.9902                   | 2440.9954                    | 1.0053                             | 0.847       | PASS   |
| 8DPSK         | 3-DH5  | 2439.9916                   | 2440.99                      | 0.9984                             | 0.84        | PASS   |

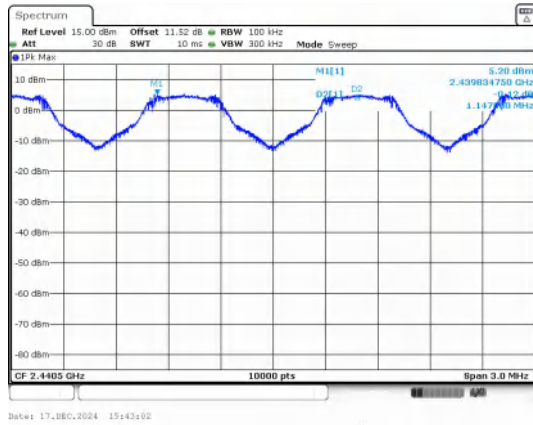
### Test Graphs



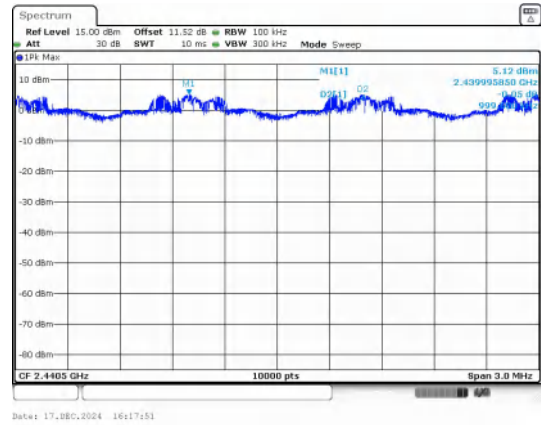
Right:

| Modulation    | Packet | Left Center frequency (MHz) | Right Center frequency (MHz) | Hopping Frequency Separation (MHz) | Limit (MHz) | Result |
|---------------|--------|-----------------------------|------------------------------|------------------------------------|-------------|--------|
| GFSK          | DH5    | 2439.8347                   | 2440.9826                    | 1.1478                             | 0.95        | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 2439.9958                   | 2440.9954                    | 0.9996                             | 0.84        | PASS   |
| 8DPSK         | 3-DH5  | 2439.9988                   | 2440.9918                    | 0.9930                             | 0.84        | PASS   |

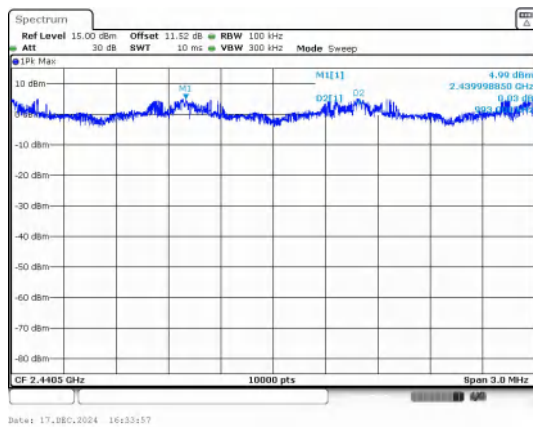
## Test Graphs



GFSK



$\pi/4$ DQPSK



8DPSK

## 7) Conducted Out Of Band Emission

### Test Result

#### Left:

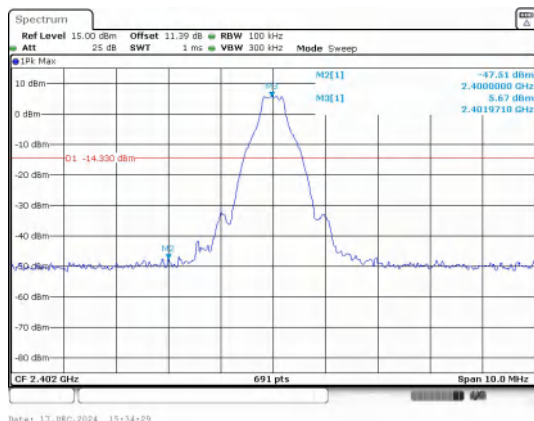
#### Non-Hopping

| Modulation    | Packet | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|---------------|--------|---------|------------------------------|--------------------------|-------------|-----------------|--------|
| GFSK          | DH5    | 0       | 2400.00                      | -47.510                  | -14.33      | -33.180         | PASS   |
|               |        |         | 4804.68                      | -36.269                  | -14.33      | -21.939         | PASS   |
|               |        | 39      | 4882.09                      | -33.244                  | -14.3       | -18.944         | PASS   |
|               |        | 78      | 2483.50                      | -49.290                  | -14.51      | -34.780         | PASS   |
|               |        |         | 4960.33                      | -37.897                  | -14.51      | -23.387         | PASS   |
| $\pi/4$ DQPSK | 2-DH5  | 0       | 2400.00                      | -42.510                  | -14.16      | -28.350         | PASS   |
|               |        |         | 4803.85                      | -36.905                  | -14.16      | -22.745         | PASS   |
|               |        | 39      | 4882.09                      | -33.262                  | -14.66      | -18.602         | PASS   |
|               |        | 78      | 2483.50                      | -50.430                  | -14.81      | -35.620         | PASS   |
|               |        |         | 4959.49                      | -43.176                  | -14.81      | -28.366         | PASS   |
| 8DPSK         | 3-DH5  | 0       | 2400.00                      | -46.370                  | -14.22      | -32.150         | PASS   |
|               |        |         | 4803.85                      | -40.238                  | -14.22      | -26.018         | PASS   |
|               |        | 39      | 4882.09                      | -35.240                  | -15.06      | -20.180         | PASS   |
|               |        | 78      | 2483.50                      | -49.590                  | -14.97      | -34.620         | PASS   |
|               |        |         | 4960.33                      | -43.331                  | -14.97      | -28.361         | PASS   |

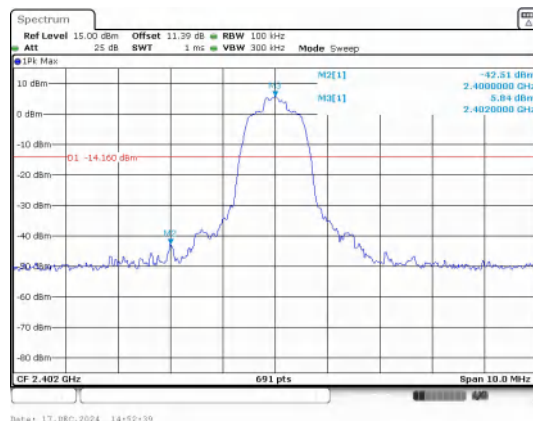
#### Hopping

| Hopping       |        |         |                                    |                                |                |                    |        |
|---------------|--------|---------|------------------------------------|--------------------------------|----------------|--------------------|--------|
| Modulation    | Packet | Channel | OOB Emission<br>Frequency<br>(MHz) | OOB Emission<br>Level<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | Result |
| GFSK          | DH5    | Hopping | 2396.74                            | -47.809                        | -13.88         | -33.929            | PASS   |
|               |        |         | 2400.00                            | -48.880                        | -13.88         | -35.000            | PASS   |
|               |        |         | 2483.50                            | -49.080                        | -14.45         | -34.630            | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |         | 2400.00                            | -47.260                        | -14.29         | -32.970            | PASS   |
|               |        |         | 2483.50                            | -47.110                        | -14.83         | -32.280            | PASS   |
| 8DPSK         | 3-DH5  |         | 2396.14                            | -48.195                        | -14.3          | -33.895            | PASS   |
|               |        |         | 2400.00                            | -48.870                        | -14.3          | -34.570            | PASS   |
|               |        |         | 2483.50                            | -49.320                        | -14.87         | -34.450            | PASS   |

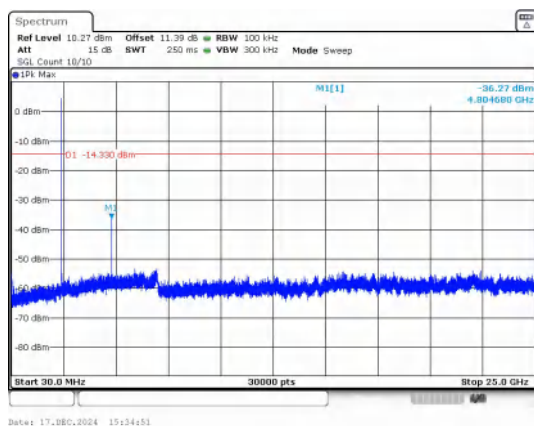
### Test Graphs



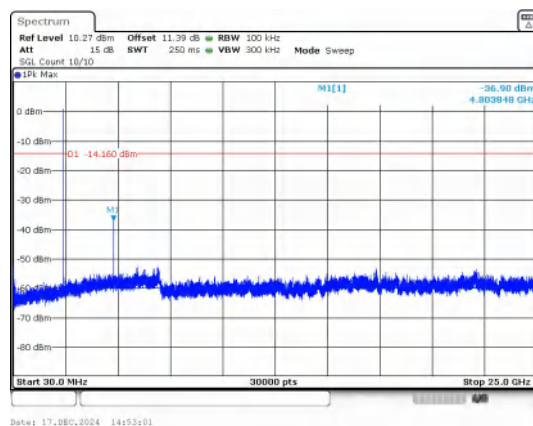
Out Of Band Emission  
GFSK\_DH5\_Channel 0



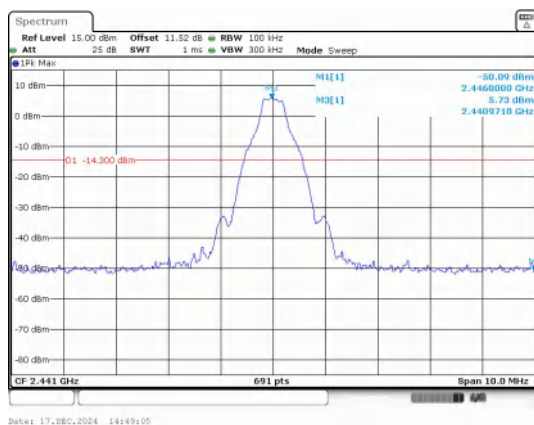
Out Of Band Emission  
 $\pi/4$ QPSK\_2-DH5\_Channel 0



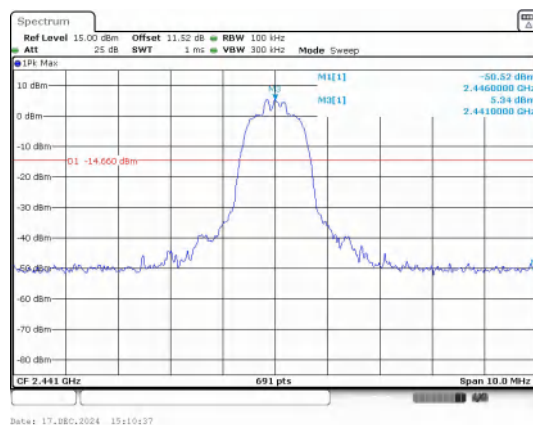
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 0



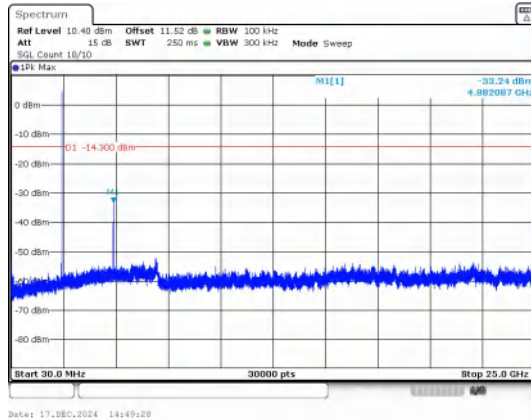
30.0 MHz - 25000.0 MHz  
 $\pi/4$ QPSK\_2-DH5\_Channel 0



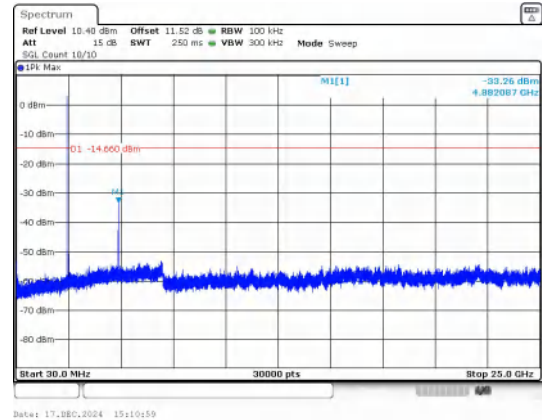
Out Of Band Emission  
GFSK\_DH5\_Channel 39



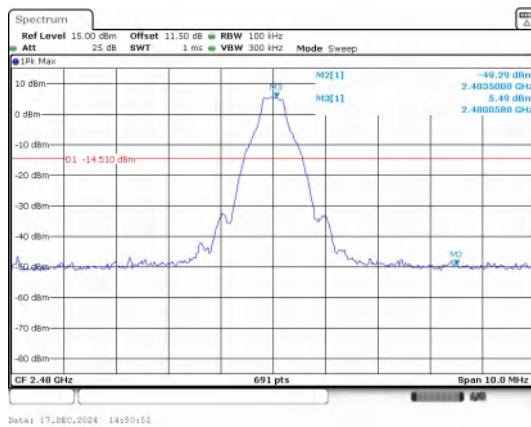
Out Of Band Emission  
 $\pi/4$ QPSK\_2-DH5\_Channel 39



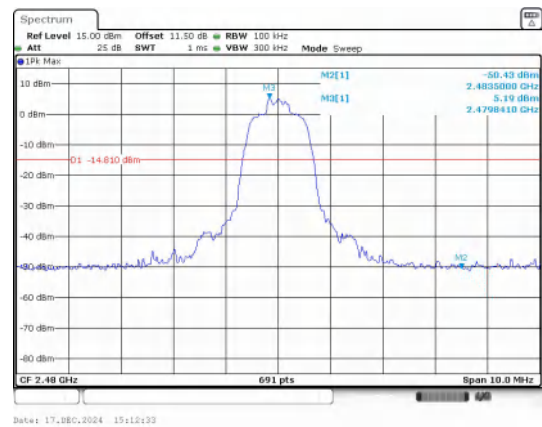
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 39



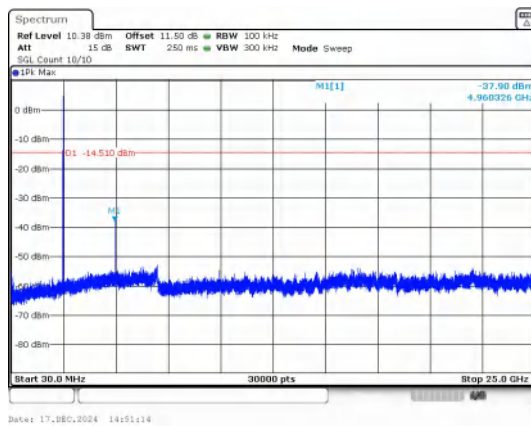
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH5\_Channel 39



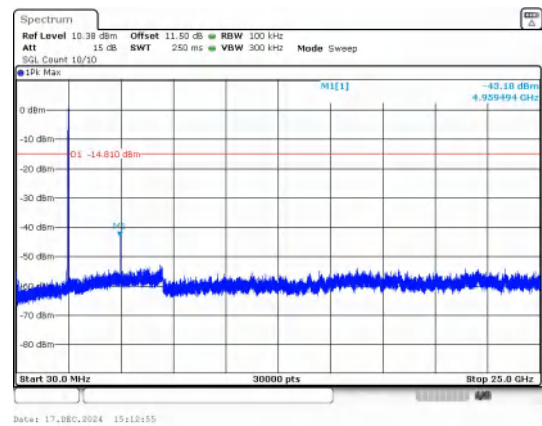
Out Of Band Emission  
GFSK\_DH5\_Channel 78



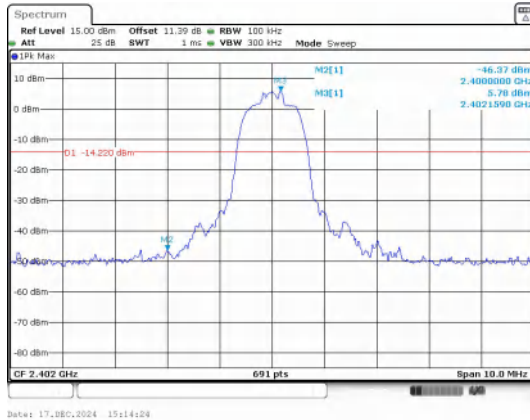
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 78



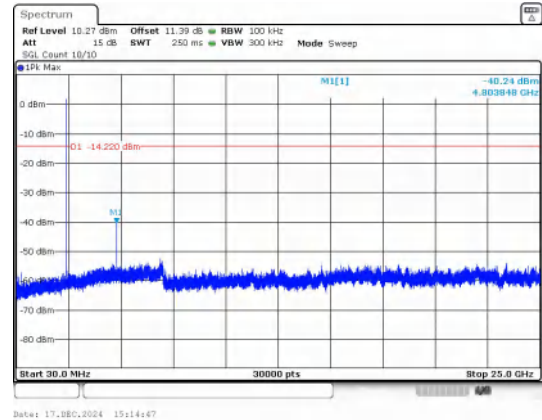
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 78



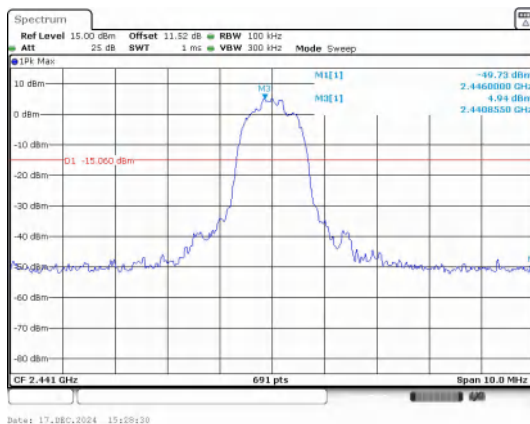
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH5\_Channel 78



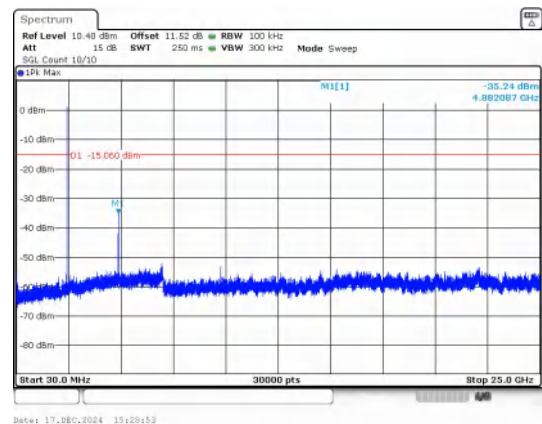
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 0



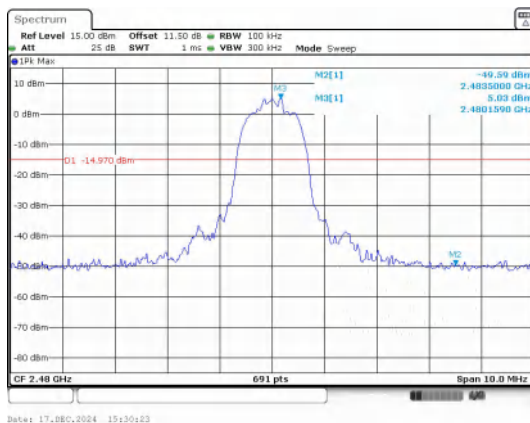
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 0



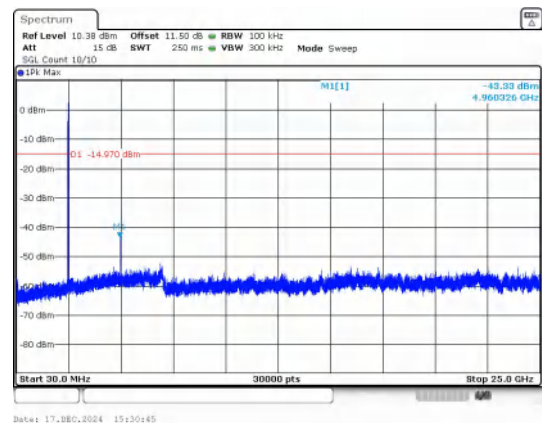
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 39



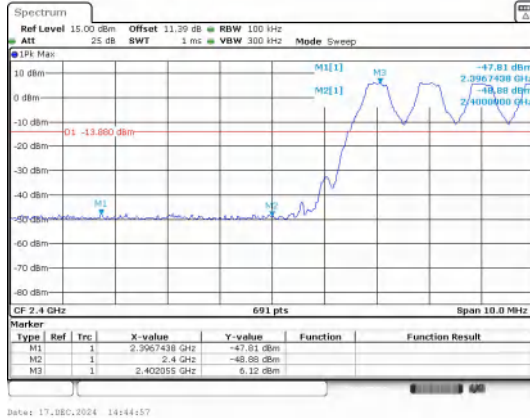
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 39



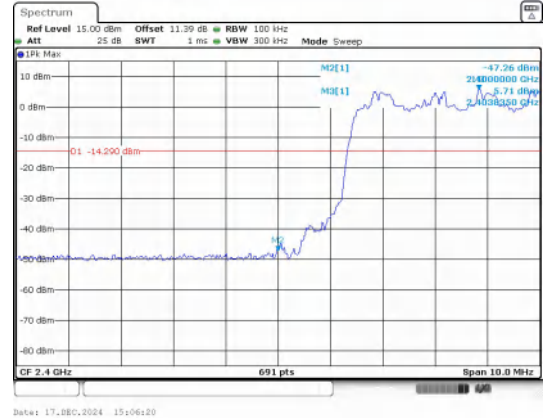
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 78



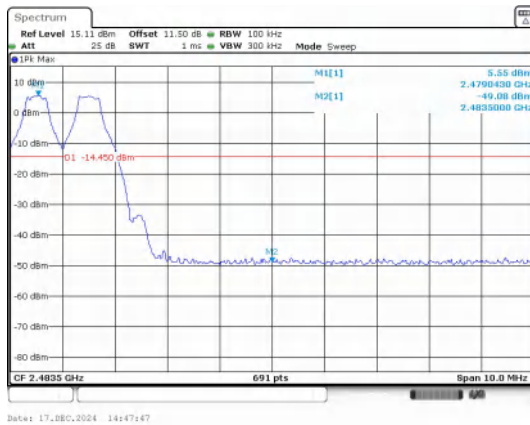
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 78



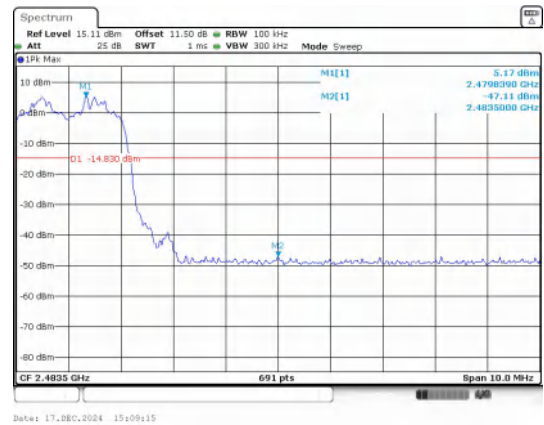
Out Of Band Emission(Left)  
GFSK\_DH5\_Channel Hopping



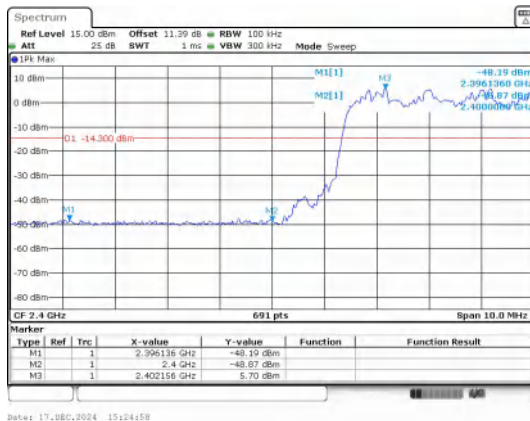
Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH5\_Channel Hopping



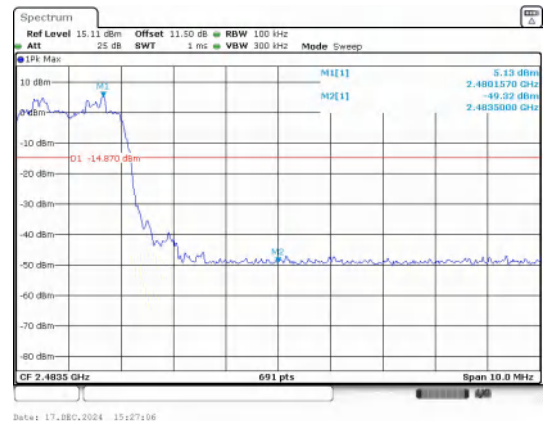
Out Of Band Emission(Right)  
GFSK\_DH5\_Channel Hopping



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

Right:  
Non-Hopping

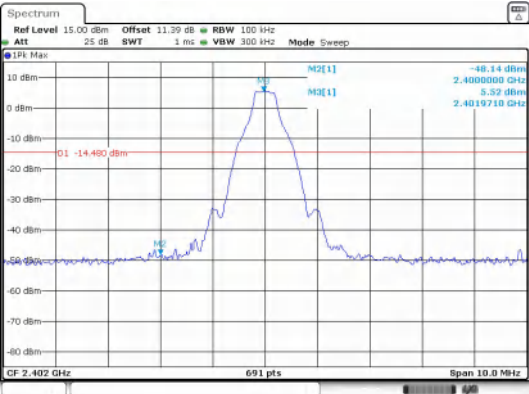
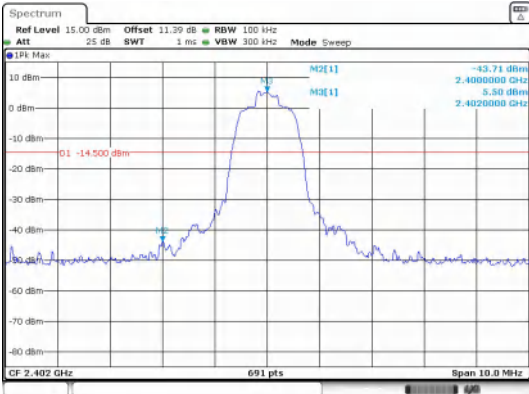
| Modulation | Packet | Channel | OOB Emission<br>Frequency<br>(MHz) | OOB Emission<br>Level<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | Result |
|------------|--------|---------|------------------------------------|--------------------------------|----------------|--------------------|--------|
|------------|--------|---------|------------------------------------|--------------------------------|----------------|--------------------|--------|

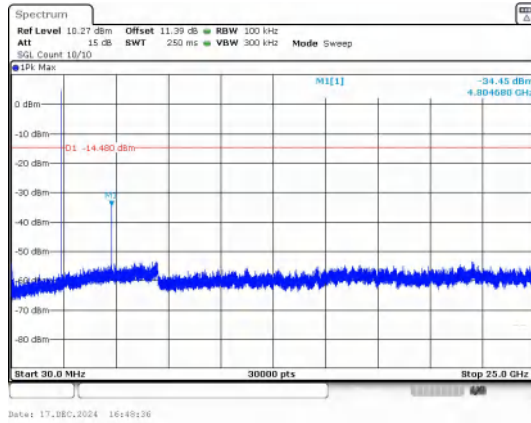
|               |       |    |         |         |        |         |      |
|---------------|-------|----|---------|---------|--------|---------|------|
| GFSK          | DH5   | 0  | 2400.00 | -48.140 | -14.48 | -33.660 | PASS |
|               |       |    | 4804.68 | -34.449 | -14.48 | -19.969 | PASS |
|               |       | 39 | 4882.09 | -34.143 | -14.69 | -19.453 | PASS |
|               |       | 78 | 2483.50 | -49.780 | -14.78 | -35.000 | PASS |
|               |       |    | 4960.33 | -38.167 | -14.78 | -23.387 | PASS |
| $\pi/4$ DQPSK | 2-DH5 | 0  | 2400.00 | -43.710 | -14.5  | -29.210 | PASS |
|               |       |    | 4803.85 | -39.250 | -14.5  | -24.750 | PASS |
|               |       | 39 | 4882.09 | -38.319 | -14.97 | -23.349 | PASS |
|               |       | 78 | 2483.50 | -50.330 | -15.05 | -35.280 | PASS |
|               |       |    | 4959.49 | -36.989 | -15.05 | -21.939 | PASS |
| 8DPSK         | 3-DH5 | 0  | 2400.00 | -47.720 | -14.57 | -33.150 | PASS |
|               |       |    | 4803.85 | -40.795 | -14.57 | -26.225 | PASS |
|               |       | 39 | 4882.09 | -41.065 | -14.97 | -26.095 | PASS |
|               |       | 78 | 2483.50 | -50.860 | -15.43 | -35.430 | PASS |
|               |       |    | 4960.33 | -37.701 | -15.43 | -22.271 | PASS |

## Hopping

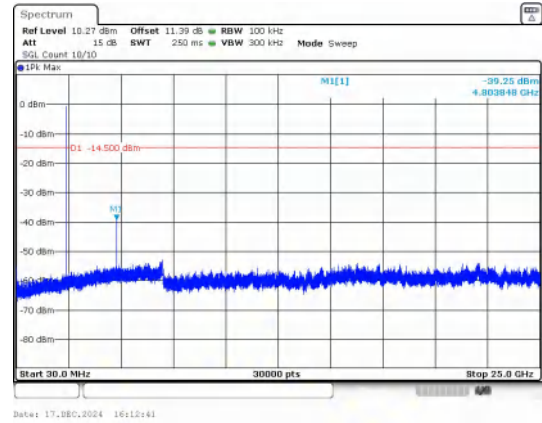
| Modulation    | Packet | Channel | OOB Emission<br>Frequency<br>(MHz) | OOB Emission<br>Level<br>(dBm) | Limit<br>(dBm) | Over Limit<br>(dB) | Result |
|---------------|--------|---------|------------------------------------|--------------------------------|----------------|--------------------|--------|
| GFSK          | DH5    | Hopping | 2397.86                            | -48.300                        | -14.34         | -33.960            | PASS   |
|               |        |         | 2400.00                            | -49.340                        | -14.34         | -35.000            | PASS   |
|               |        |         | 2483.50                            | -49.190                        | -14.85         | -34.340            | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |         | 2396.15                            | -47.379                        | -14.58         | -32.799            | PASS   |
|               |        |         | 2400.00                            | -48.420                        | -14.58         | -33.840            | PASS   |
|               |        |         | 2483.50                            | -48.600                        | -15.3          | -33.300            | PASS   |
| 8DPSK         | 3-DH5  |         | 2398.78                            | -48.281                        | -14.9          | -33.381            | PASS   |
|               |        |         | 2400.00                            | -49.320                        | -14.9          | -34.420            | PASS   |
|               |        |         | 2483.50                            | -48.900                        | -15.2          | -33.700            | PASS   |

## Test Graphs

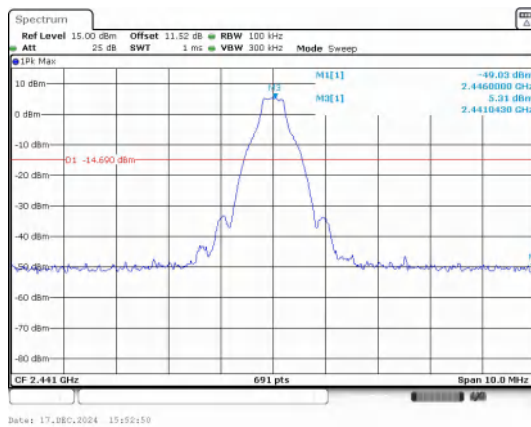
|                                                                                                                                        |                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Out Of Band Emission<br/>GFSK_DH5_Channel 0</p> |  <p>Out Of Band Emission<br/><math>\pi/4</math>DQPSK_2-DH5_Channel 0</p> |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|



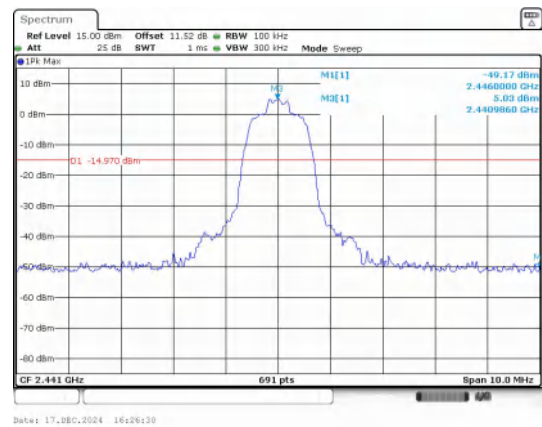
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 0



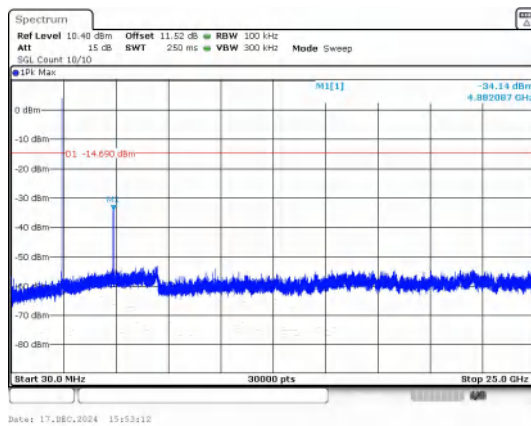
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH5\_Channel 0



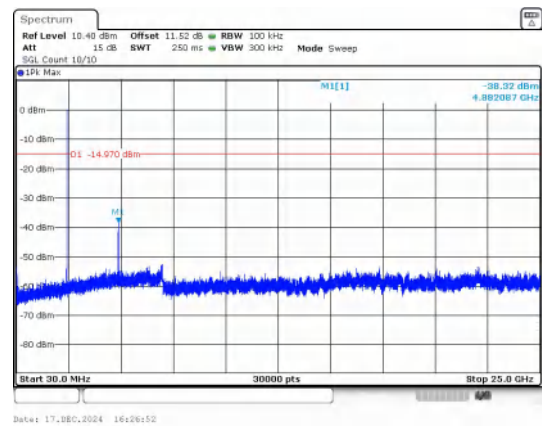
Out Of Band Emission  
GFSK\_DH5\_Channel 39



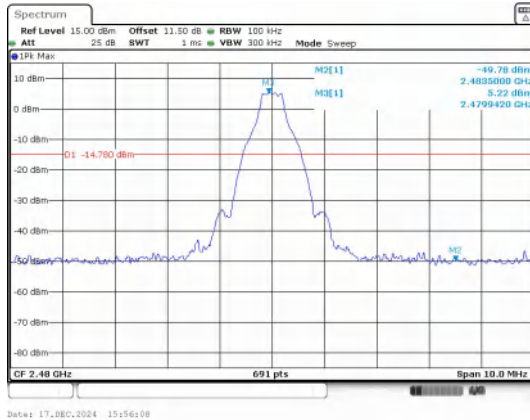
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 39



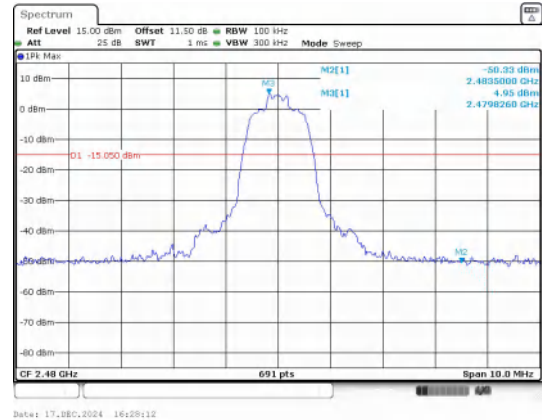
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 39



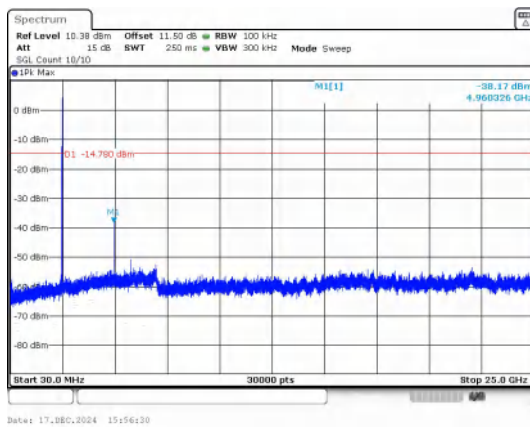
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH5\_Channel 39



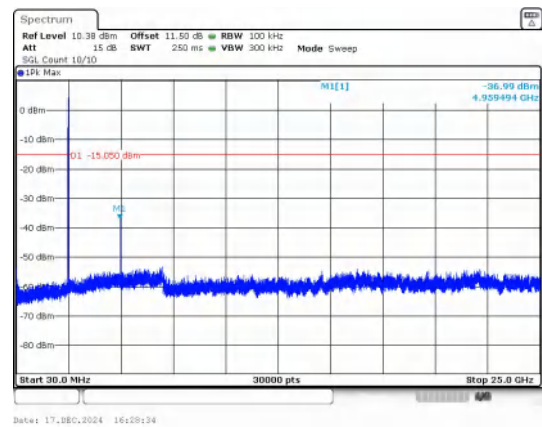
Out Of Band Emission  
GFSK\_DH5\_Channel 78



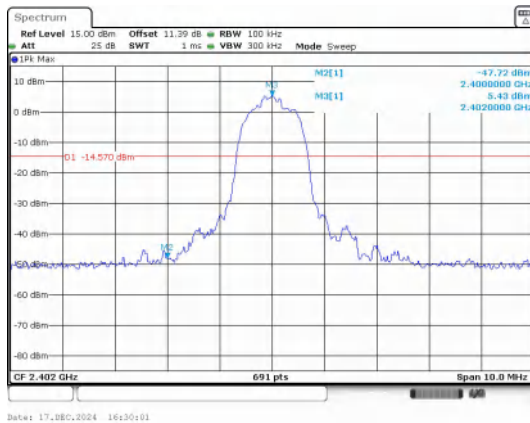
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH5\_Channel 78



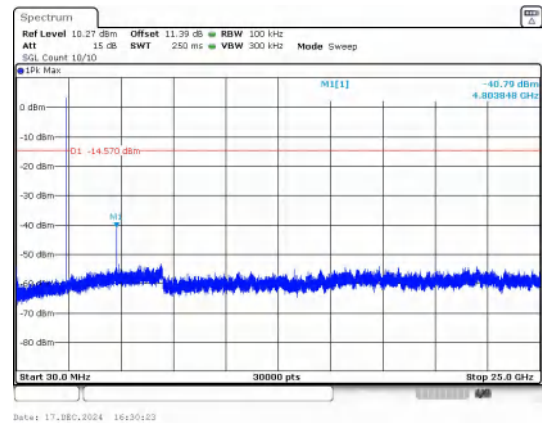
30.0 MHz - 25000.0 MHz  
GFSK\_DH5\_Channel 78



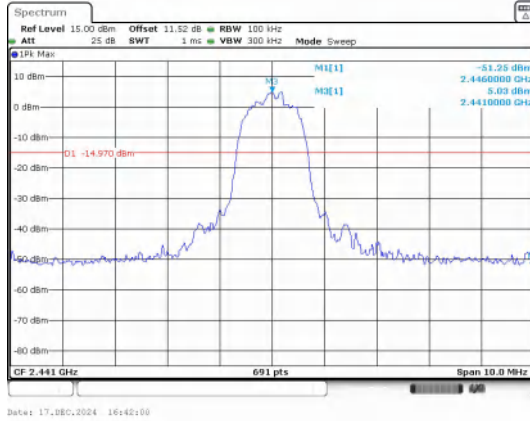
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH5\_Channel 78



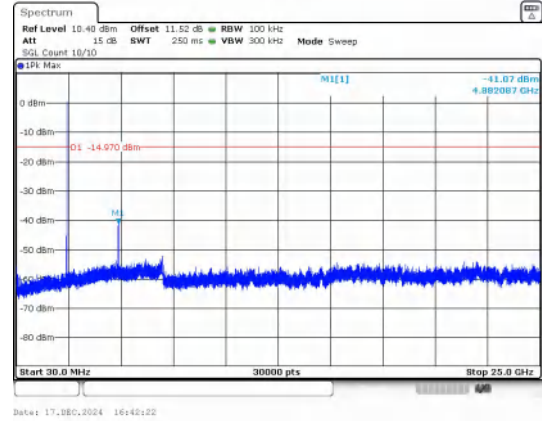
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 0



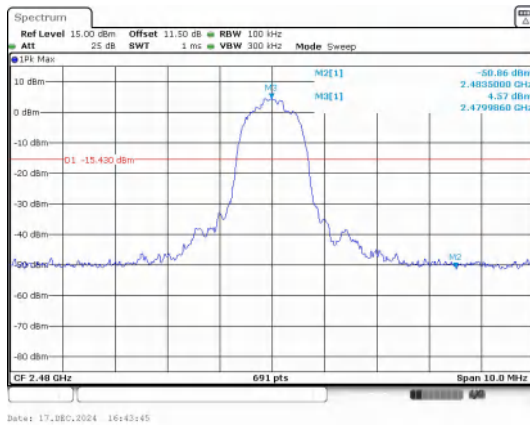
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 0



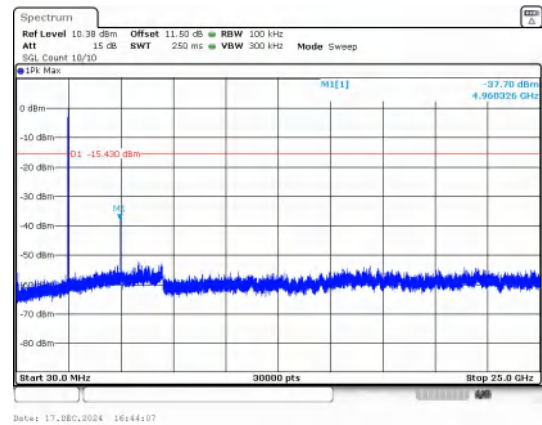
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 39



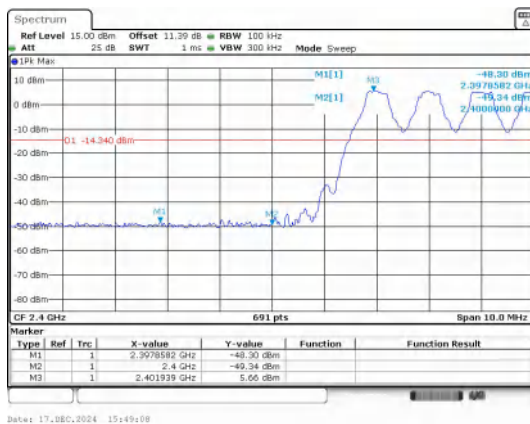
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 39



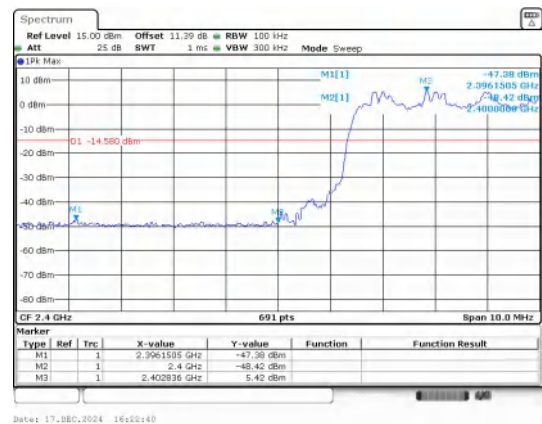
Out Of Band Emission  
8DPSK\_3-DH5\_Channel 78



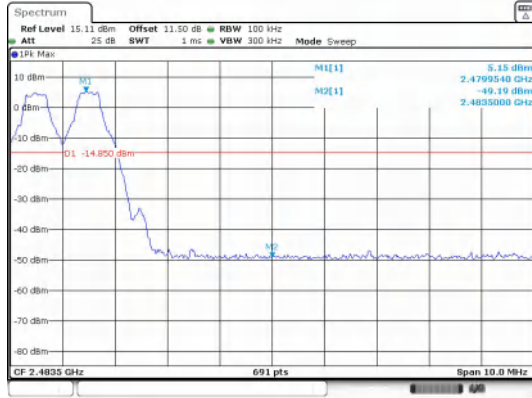
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH5\_Channel 78



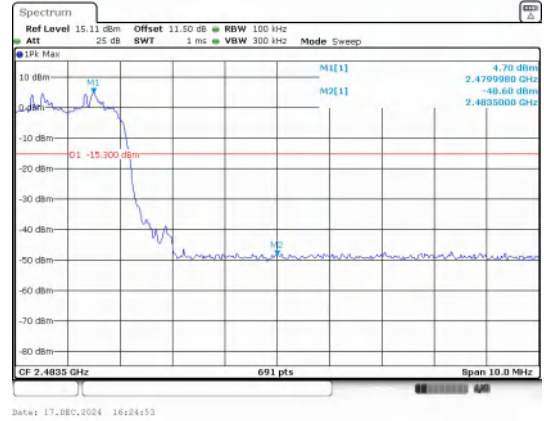
Out Of Band Emission(Left)  
GFSK\_DH5\_Channel Hopping



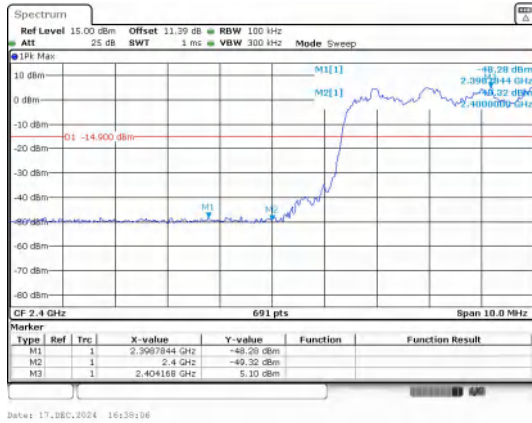
Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH5\_Channel Hopping



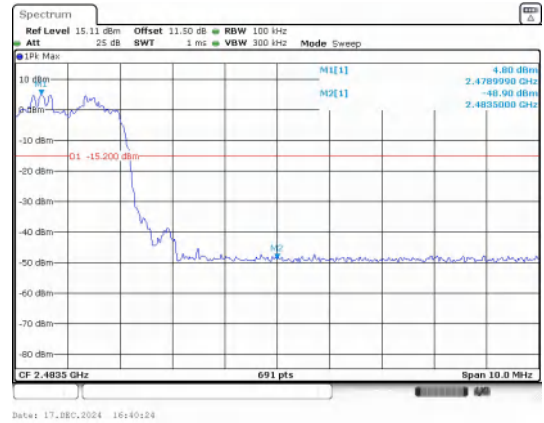
Out Of Band Emission(Right)  
GFSK\_DH5\_Channel Hopping



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

-----End of the report-----