



Keyway Testing Technology (Guangdong) Co., Ltd  
Laboratory Address: Room 2102, Building 6, Dongyi Intelligent Equipment New  
Energy Vehicle Park, No.30 of Tangxia District, Dongshen Road, Tangxia Town,  
Dongguan, 523710, People's Republic of China

|                         |                         |
|-------------------------|-------------------------|
| <b>E.U.T:</b>           | CD Hi-Fi Console        |
| <b>Model Number:</b>    | R710                    |
| <b>Trade Name:</b>      | ruark audio             |
| <b>Sample Number:</b>   | 33000262245             |
| <b>Date of Receipt:</b> | 2026.06.01              |
| <b>Date of Test:</b>    | 2026.06.01 ~ 2026.09.11 |
| <b>FCC ID:</b>          | 2AJAA-R710              |

Note: The test data have all been compensated for cable loss, and when measuring the entire 2400-2500MHz, the maximum loss value 7.89 dB.and when measuring the entire 30MHz-25GHz, Input Compensation Coefficient (dB) = Max Cable Loss (dB)



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## CONDUCTED OUTPUT POWER

### Test Result

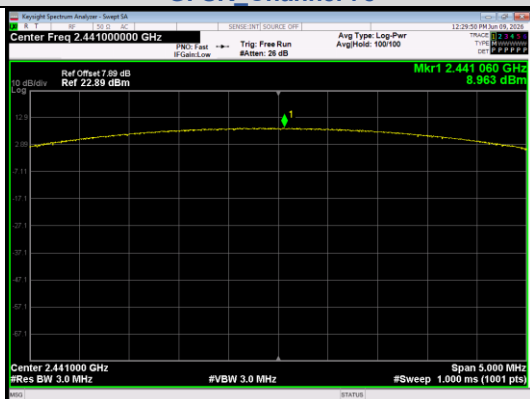
| Modulation | Packet Type | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Max. Avg. Power (dBm) | Limit (dBm) | Result |
|------------|-------------|---------|-------------------------|------------------------|-----------------------|-------------|--------|
| GFSK       | DH1         | 0       | 6.50                    | 4.46                   | None                  | ≤21         | PASS   |
|            |             | 39      | 6.54                    | 4.51                   | None                  |             | PASS   |
|            |             | 78      | 7.20                    | 5.24                   | None                  |             | PASS   |
| π/4DQPSK   | 2-DH1       | 0       | 8.87                    | 7.70                   | None                  |             | PASS   |
|            |             | 39      | 8.96                    | 7.88                   | None                  |             | PASS   |
|            |             | 78      | 9.48                    | 8.88                   | None                  |             | PASS   |
| 8DPSK      | 3-DH1       | 0       | 9.63                    | 9.17                   | None                  |             | PASS   |
|            |             | 39      | 9.56                    | 9.04                   | None                  |             | PASS   |
|            |             | 78      | 9.42                    | 8.75                   | None                  |             | PASS   |

| Modulation | Packet Type | Channel | Peak Output Power (dBm) | Peak Power Limit (dBm) | ISED EIRP (dBm) | ISED EIRP Limit (dBm) | Max. Avg. Power (dBm) | Result |
|------------|-------------|---------|-------------------------|------------------------|-----------------|-----------------------|-----------------------|--------|
| GFSK       | DH1         | 0       | 6.50                    | ≤21                    | 6.50            | ≤36.02                | None                  | PASS   |
|            |             | 39      | 6.54                    | ≤21                    | 6.54            | ≤36.02                | None                  | PASS   |
|            |             | 78      | 7.20                    | ≤21                    | 7.20            | ≤36.02                | None                  | PASS   |
| π/4DQPSK   | 2-DH1       | 0       | 8.87                    | ≤21                    | 8.87            | ≤36.02                | None                  | PASS   |
|            |             | 39      | 8.96                    | ≤21                    | 8.96            | ≤36.02                | None                  | PASS   |
|            |             | 78      | 9.48                    | ≤21                    | 9.48            | ≤36.02                | None                  | PASS   |
| 8DPSK      | 3-DH1       | 0       | 9.63                    | ≤21                    | 9.63            | ≤36.02                | None                  | PASS   |
|            |             | 39      | 9.56                    | ≤21                    | 9.56            | ≤36.02                | None                  | PASS   |
|            |             | 78      | 9.42                    | ≤21                    | 9.42            | ≤36.02                | None                  | PASS   |

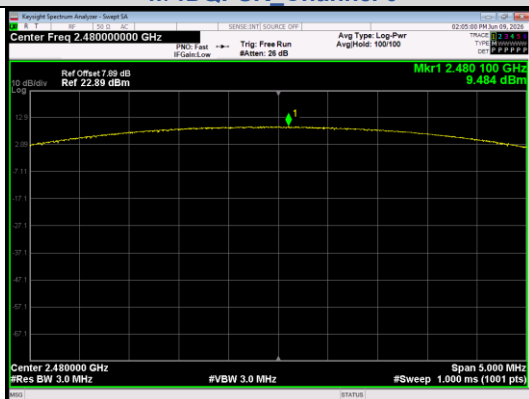
### Test Graphs



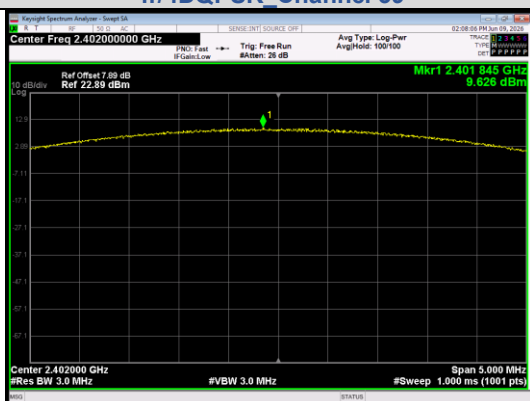
**GFSK\_Channel 78**



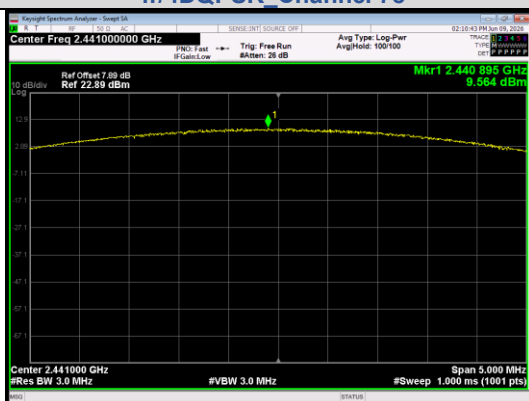
**$\pi/4$ DQPSK\_Channel 0**



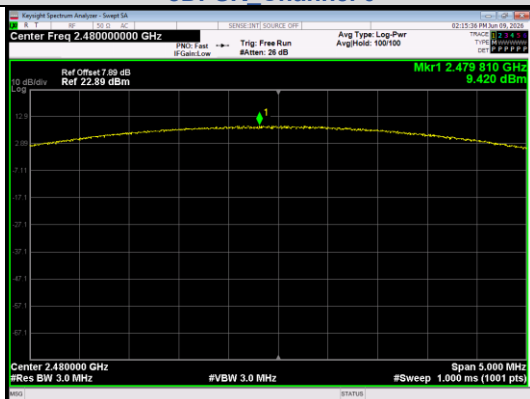
**Peak Output Power  
 $\pi/4$ DQPSK\_Channel 39**



**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**



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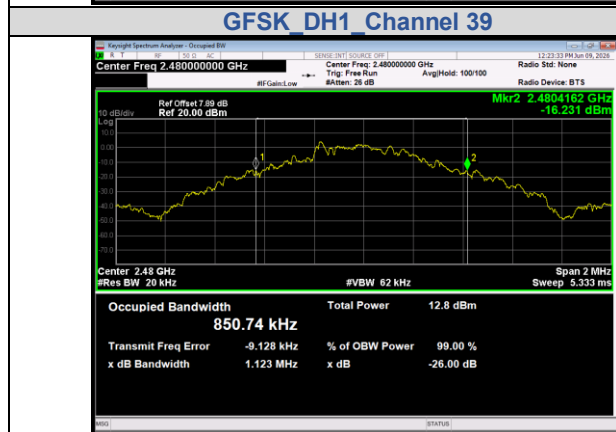
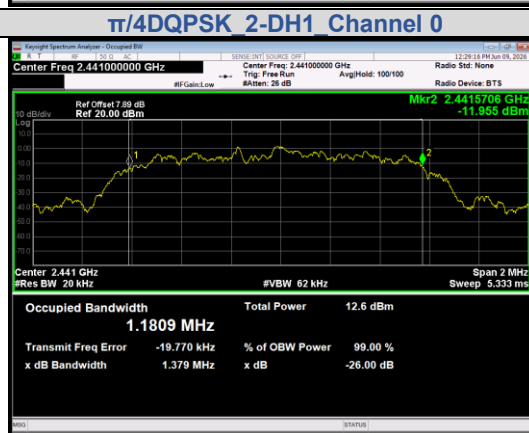
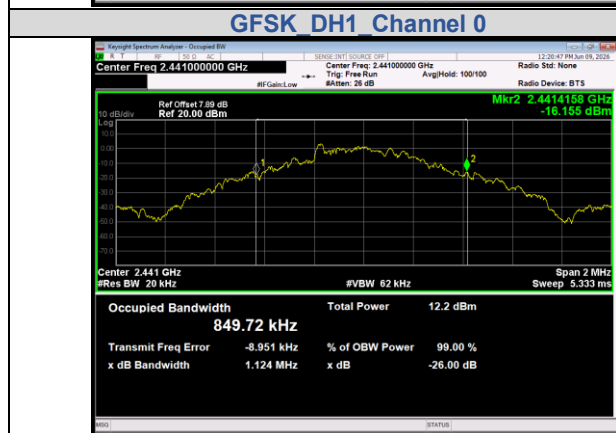
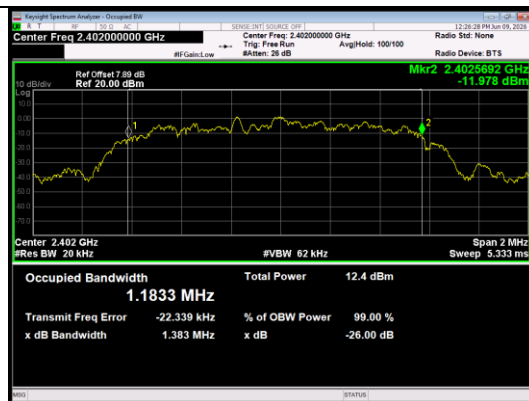
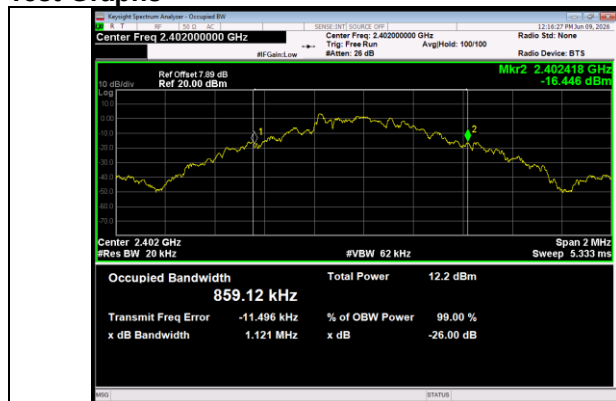
## 99% BANDWIDTH

### Test Result

| Modulation    | Channel | Center Frequency (MHz) | 99% BW (MHz) |
|---------------|---------|------------------------|--------------|
| GFSK          | 0       | 2402                   | 0.85912      |
|               | 39      | 2441                   | 0.84972      |
|               | 78      | 2480                   | 0.85074      |
| $\pi/4$ DQPSK | 0       | 2402                   | 1.1833       |
|               | 39      | 2441                   | 1.1809       |
|               | 78      | 2480                   | 1.1819       |
| 8DPSK         | 0       | 2402                   | 1.1677       |
|               | 39      | 2441                   | 1.1666       |
|               | 78      | 2480                   | 1.1667       |

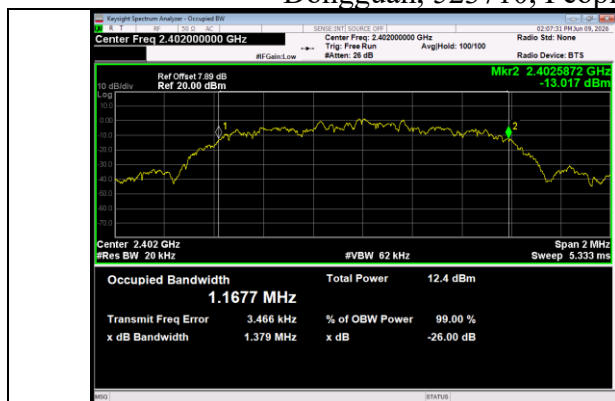
Note: input compensation coefficient (dB)= Cable Loss (dB)

### Test Graphs

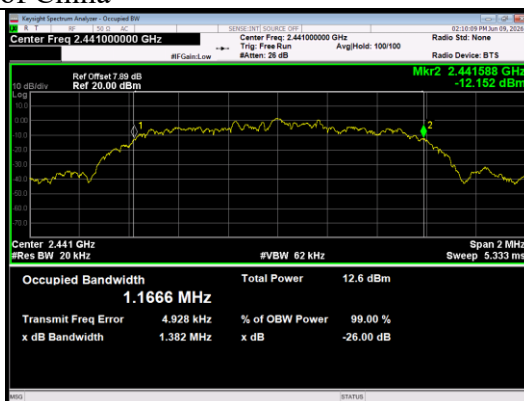




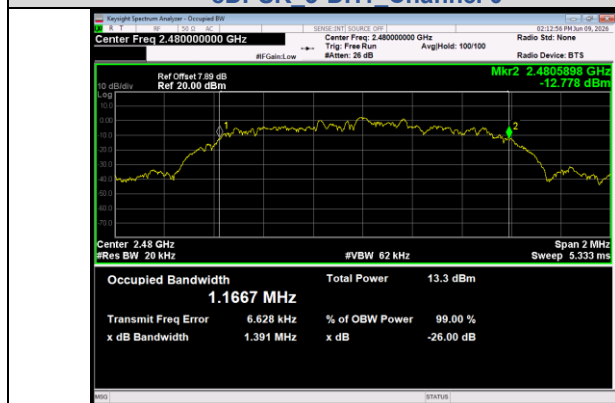
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8DPSK 3-DH1 Channel 0



8DPSK 3-DH1 Channel 39



8DPSK 3-DH1 Channel 78



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## 20DB BANDWIDTH

### Test Result

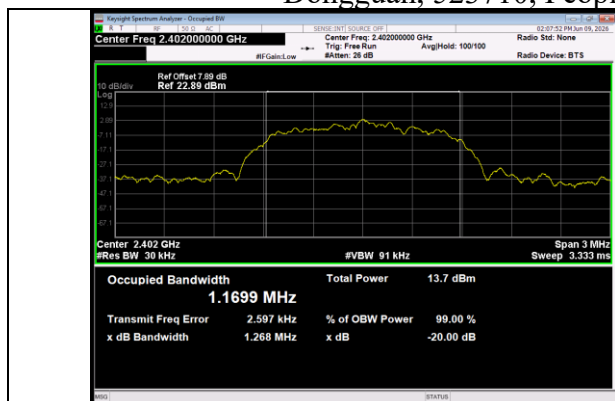
| Modulation    | Channel | Center Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---------------|---------|------------------------|-----------------------|
| GFSK          | 0       | 2402 MHz               | 0.9227                |
|               | 39      | 2441 MHz               | 0.8835                |
|               | 78      | 2480 MHz               | 0.9184                |
| $\pi/4$ DQPSK | 0       | 2402 MHz               | 1.321                 |
|               | 39      | 2441 MHz               | 1.319                 |
|               | 78      | 2480 MHz               | 1.315                 |
| 8DPSK         | 0       | 2402 MHz               | 1.268                 |
|               | 39      | 2441 MHz               | 1.269                 |
|               | 78      | 2480 MHz               | 1.265                 |

### Test Graphs

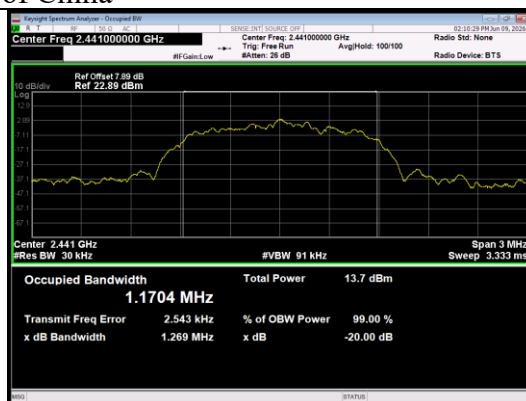




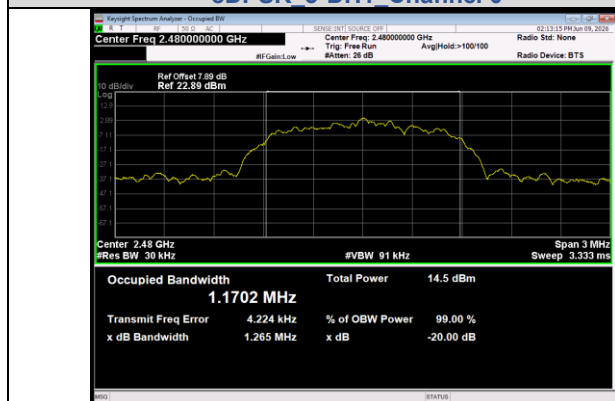
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8DPSK 3-DH1 Channel 0



8DPSK 3-DH1 Channel 39



8DPSK 3-DH1 Channel 78



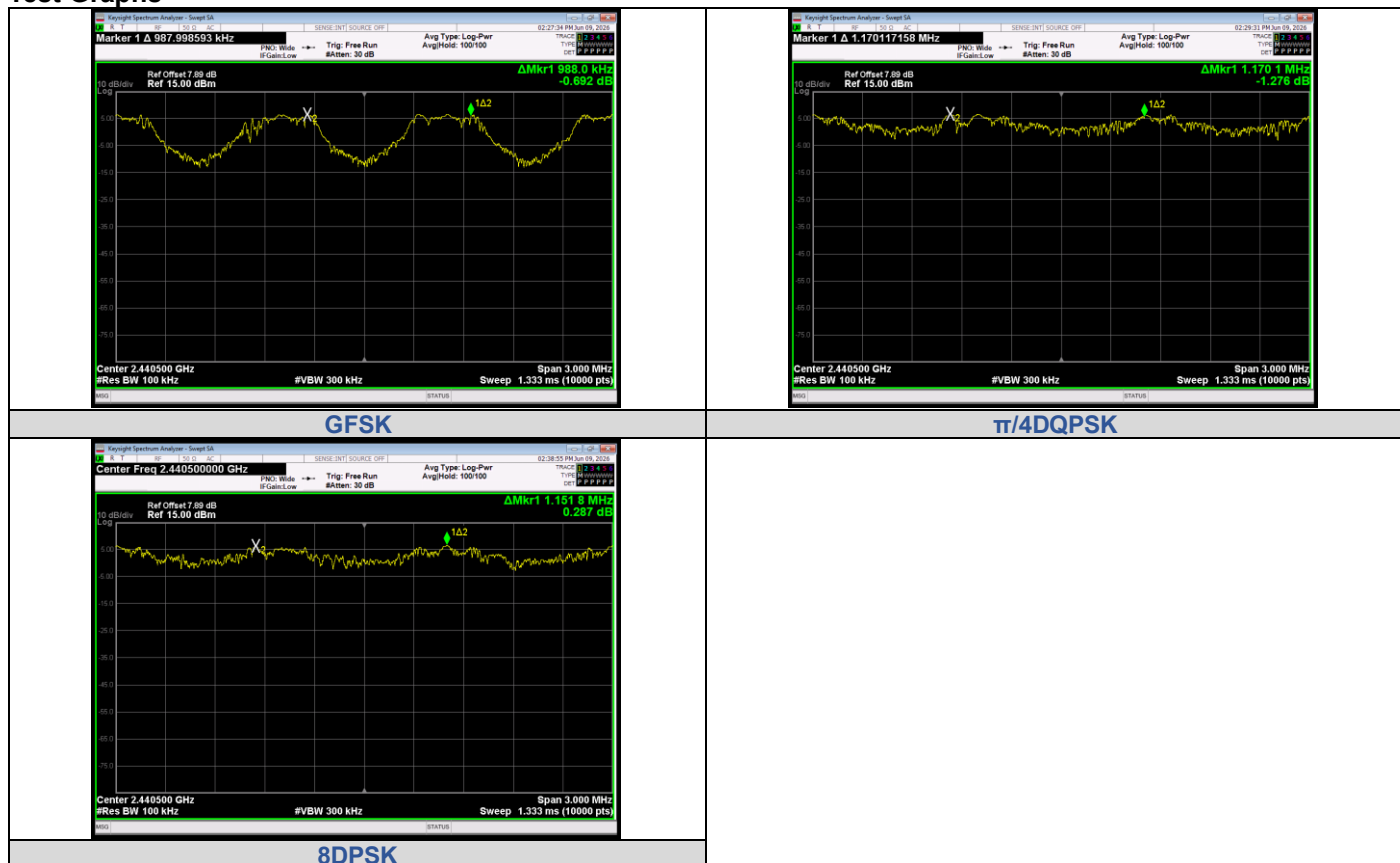
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## CARRIER FREQUENCIES SEPARATION

### Test Result

| Modulation    | Packet | Left Center frequency (MHz) | Right Center frequency (MHz) | Hopping Frequency Separation (MHz) | Limit (MHz) | Result |
|---------------|--------|-----------------------------|------------------------------|------------------------------------|-------------|--------|
| GFSK          | DH1    | 2440.1551                   | 2439.1671                    | 0.988                              | 0.615       | PASS   |
| $\pi/4$ DQPSK | 2-DH1  | 2439.8314                   | 2438.6613                    | 1.1701                             | 0.881       | PASS   |
| 8DPSK         | 3-DH1  | 2439.8452                   | 2440.997                     | 1.1518                             | 0.846       | PASS   |

### Test Graphs





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## CONDUCTED SPURIOUS & BAND EDGE EMISSION

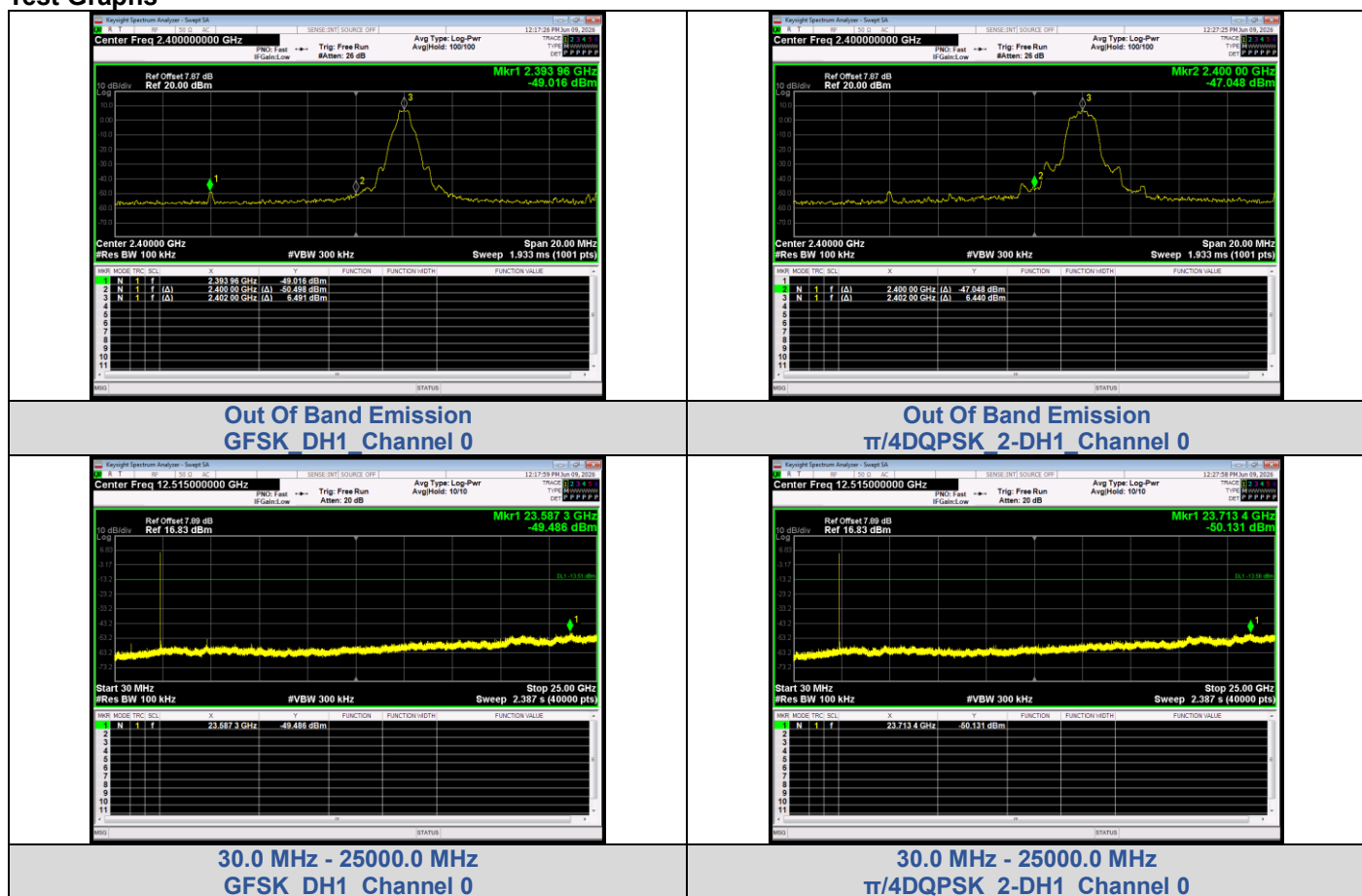
Test Result

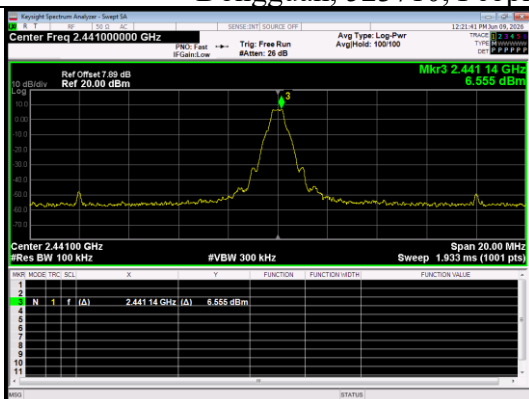
Non-Hopping

| Modulation    | Packet | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|---------------|--------|---------|------------------------------|--------------------------|-------------|-----------------|--------|
| GFSK          | DH1    | 0       | 2393.96                      | -49.016                  | -13.51      | -35.506         | PASS   |
|               |        |         | 2400.00                      | -50.498                  | -13.51      | -36.988         | PASS   |
|               |        |         | 23587.3                      | -49.486                  | -13.51      | -35.977         | PASS   |
|               |        | 39      | 911.46                       | -47.907                  | -13.45      | -34.457         | PASS   |
|               |        |         | 832.81                       | -41.548                  | -12.78      | -28.768         | PASS   |
|               |        |         | 2483.50                      | -54.547                  | -12.78      | -41.767         | PASS   |
| $\pi/4$ DQPSK | 2-DH1  | 0       | 2400.00                      | -47.048                  | -13.56      | -33.488         | PASS   |
|               |        |         | 23713.4                      | -50.131                  | -13.56      | -36.571         | PASS   |
|               |        | 39      | 24988.1                      | -50.024                  | -13.46      | -36.564         | PASS   |
|               |        |         | 2483.50                      | -47.749                  | -12.71      | -35.039         | PASS   |
|               |        | 78      | 23684.7                      | -49.803                  | -12.71      | -37.093         | PASS   |
|               |        |         | 2400.00                      | -47.948                  | -13.58      | -34.368         | PASS   |
| 8DPSK         | 3-DH1  | 0       | 23704.7                      | -50.400                  | -13.58      | -36.820         | PASS   |
|               |        |         | 23489.3                      | -49.669                  | -13.46      | -36.209         | PASS   |
|               |        | 39      | 2483.50                      | -47.266                  | -12.68      | -34.586         | PASS   |
|               |        |         | 2487.73                      | -49.539                  | -12.68      | -36.859         | PASS   |
|               |        | 78      | 2400.00                      | -47.948                  | -13.58      | -34.368         | PASS   |
|               |        |         | 23704.7                      | -50.400                  | -13.58      | -36.820         | PASS   |

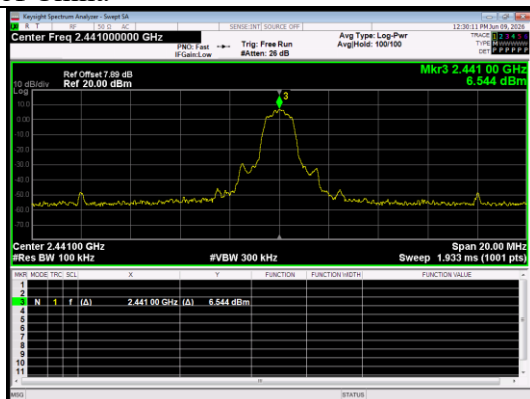
Note: input compensation coefficient (dB)= Cable Loss (dB)

### Test Graphs

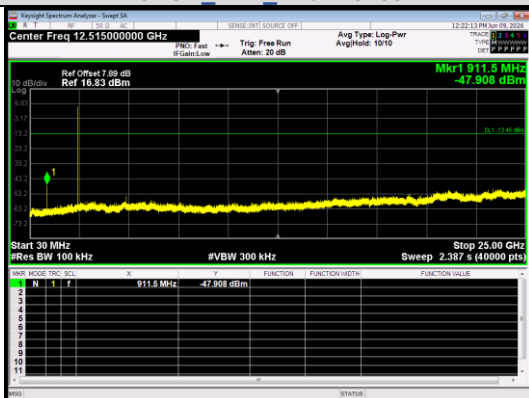




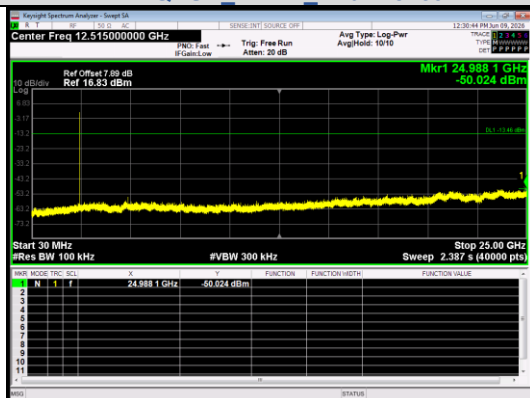
**Out Of Band Emission  
 GFSK\_DH1\_Channel 39**



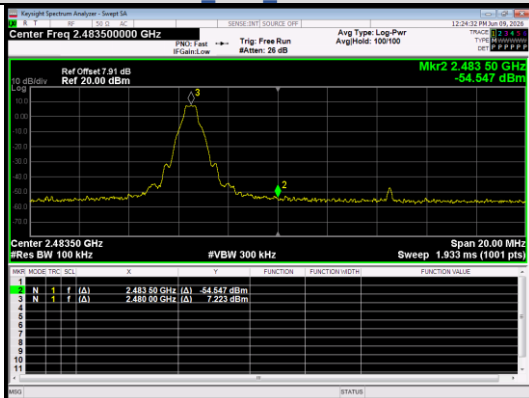
**Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 39**



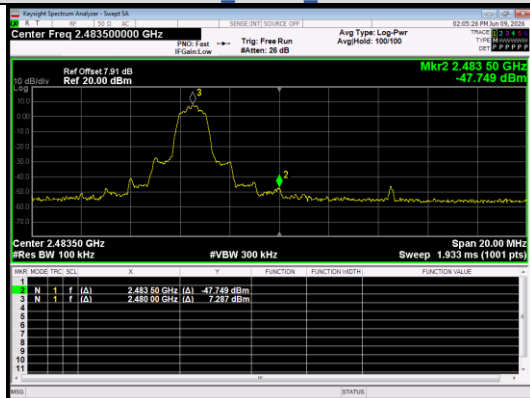
**30.0 MHz - 25000.0 MHz  
 GFSK\_DH1\_Channel 39**



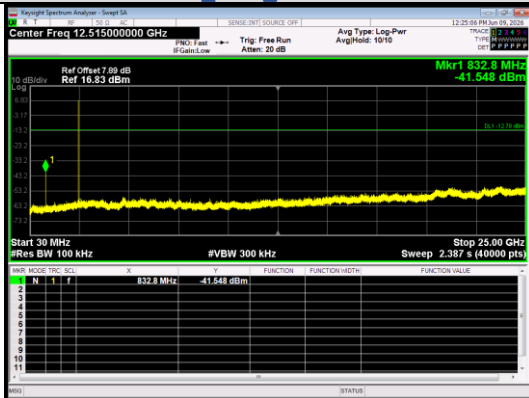
**30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH1\_Channel 39**



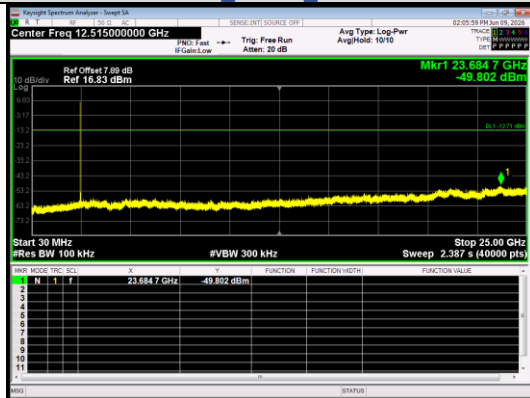
**Out Of Band Emission  
 GFSK\_DH1\_Channel 78**



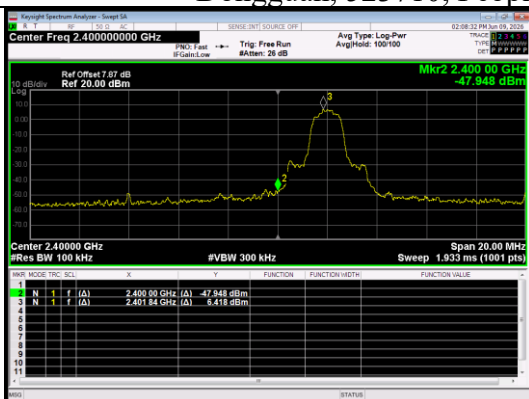
**Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78**



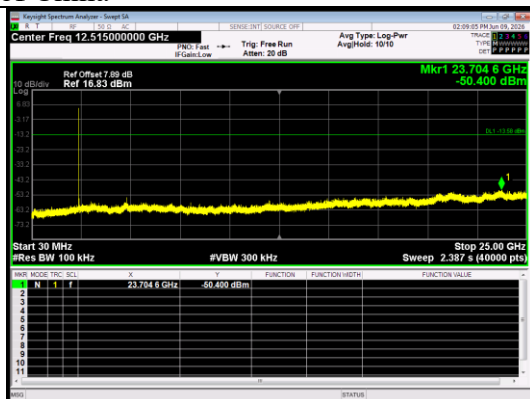
**30.0 MHz - 25000.0 MHz  
 GFSK\_DH1\_Channel 78**



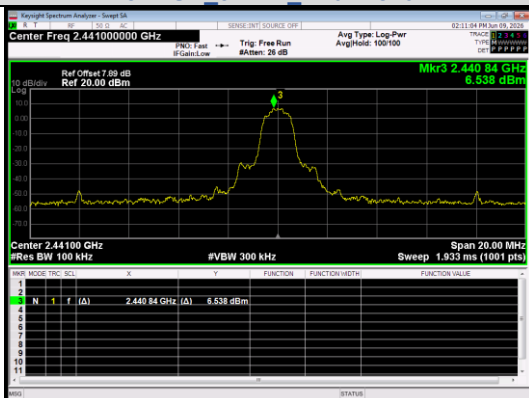
**30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78**



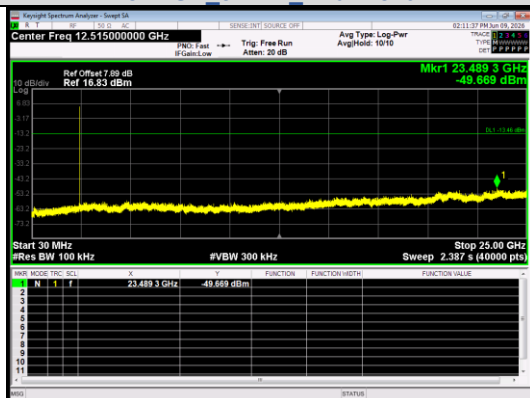
**Out Of Band Emission  
 8DPSK\_3-DH1\_Channel 0**



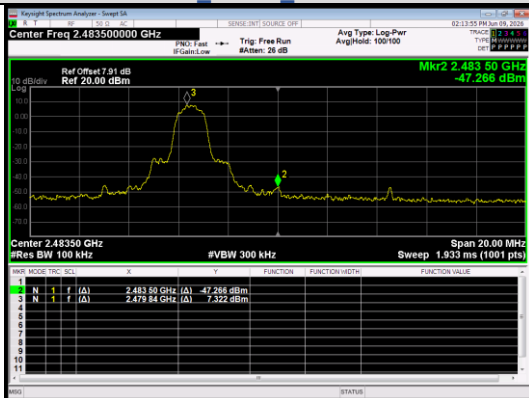
**30.0 MHz - 25000.0 MHz  
 8DPSK\_3-DH1\_Channel 0**



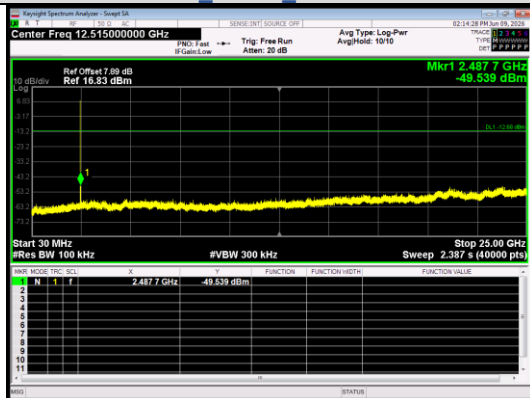
**Out Of Band Emission  
 8DPSK\_3-DH1\_Channel 39**



**30.0 MHz - 25000.0 MHz  
 8DPSK\_3-DH1\_Channel 39**



**Out Of Band Emission  
 8DPSK\_3-DH1\_Channel 78**



**30.0 MHz - 25000.0 MHz  
 8DPSK\_3-DH1\_Channel 78**

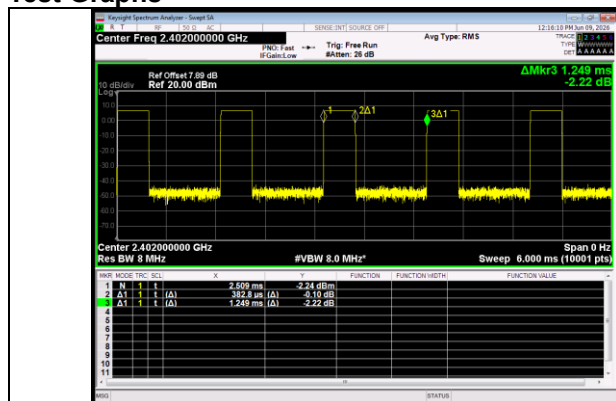


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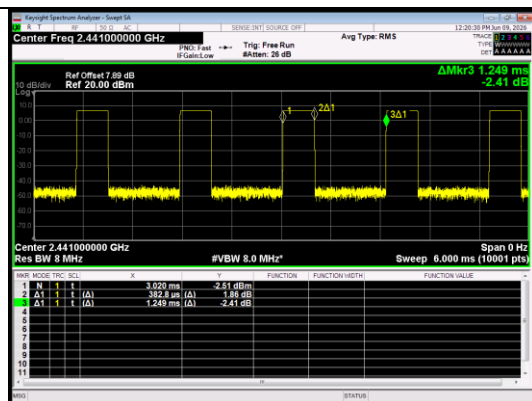
## DUTY CYCLE

| Modulation    | Packets | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|---------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| GFSK          | DH1     | 0       | 0.383        | 1.249       | 30.64          | 0.3064              | 5.1371                 | 2.6110 |
|               |         | 39      | 0.383        | 1.249       | 30.64          | 0.3064              | 5.1371                 | 2.6110 |
|               |         | 78      | 0.383        | 1.250       | 30.68          | 0.3068              | 5.1314                 | 2.6110 |
| $\pi/4$ DQPSK | 2-DH1   | 0       | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |
|               |         | 39      | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |
|               |         | 78      | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |
| 8DPSK         | 3-DH1   | 0       | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |
|               |         | 39      | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |
|               |         | 78      | 0.390        | 1.242       | 31.40          | 0.3140              | 5.0307                 | 2.5641 |

## Test Graphs



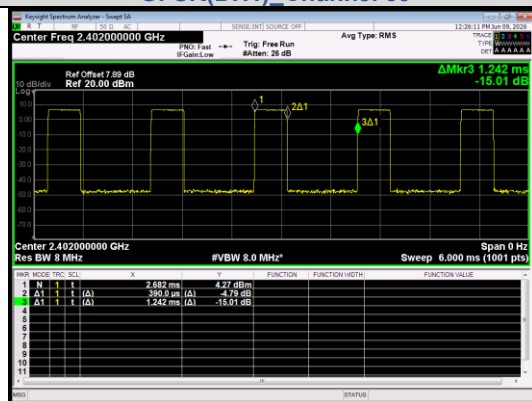
GFSK(DH1)\_Channel 0



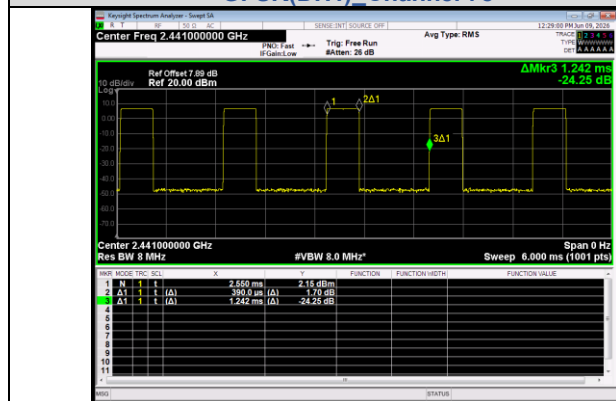
GFSK(DH1)\_Channel 39



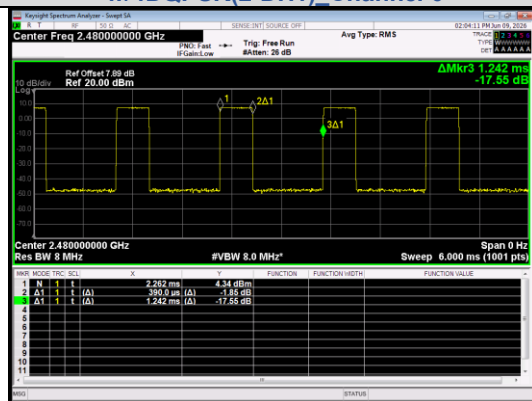
GFSK(DH1)\_Channel 78



$\pi/4$ DQPSK(2-DH1)\_Channel 0



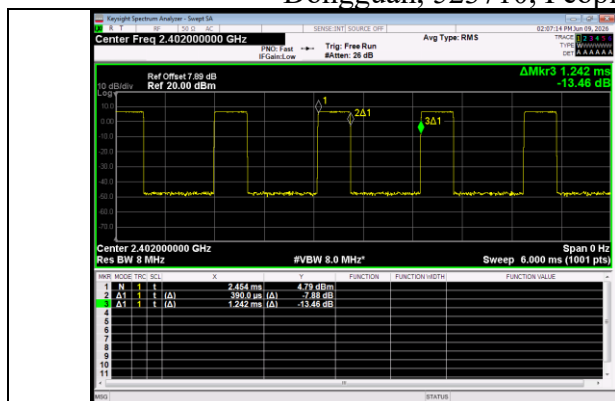
$\pi/4$ DQPSK(2-DH1)\_Channel 39



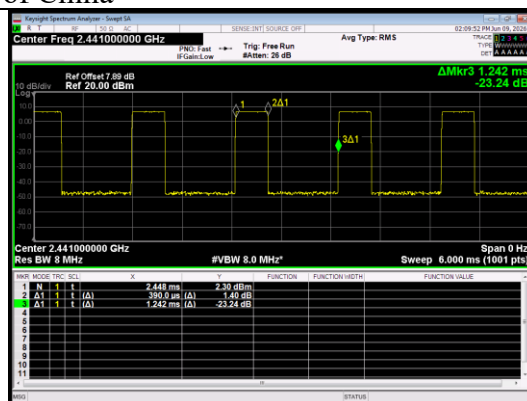
$\pi/4$ DQPSK(2-DH1)\_Channel 78



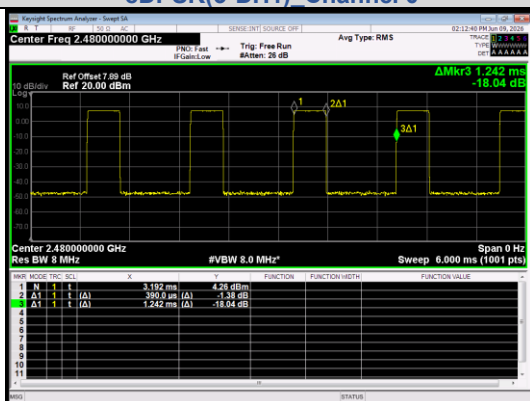
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8DPSK(3-DH1)\_Channel 0



8DPSK(3-DH1)\_Channel 39



8DPSK(3-DH1)\_Channel 78

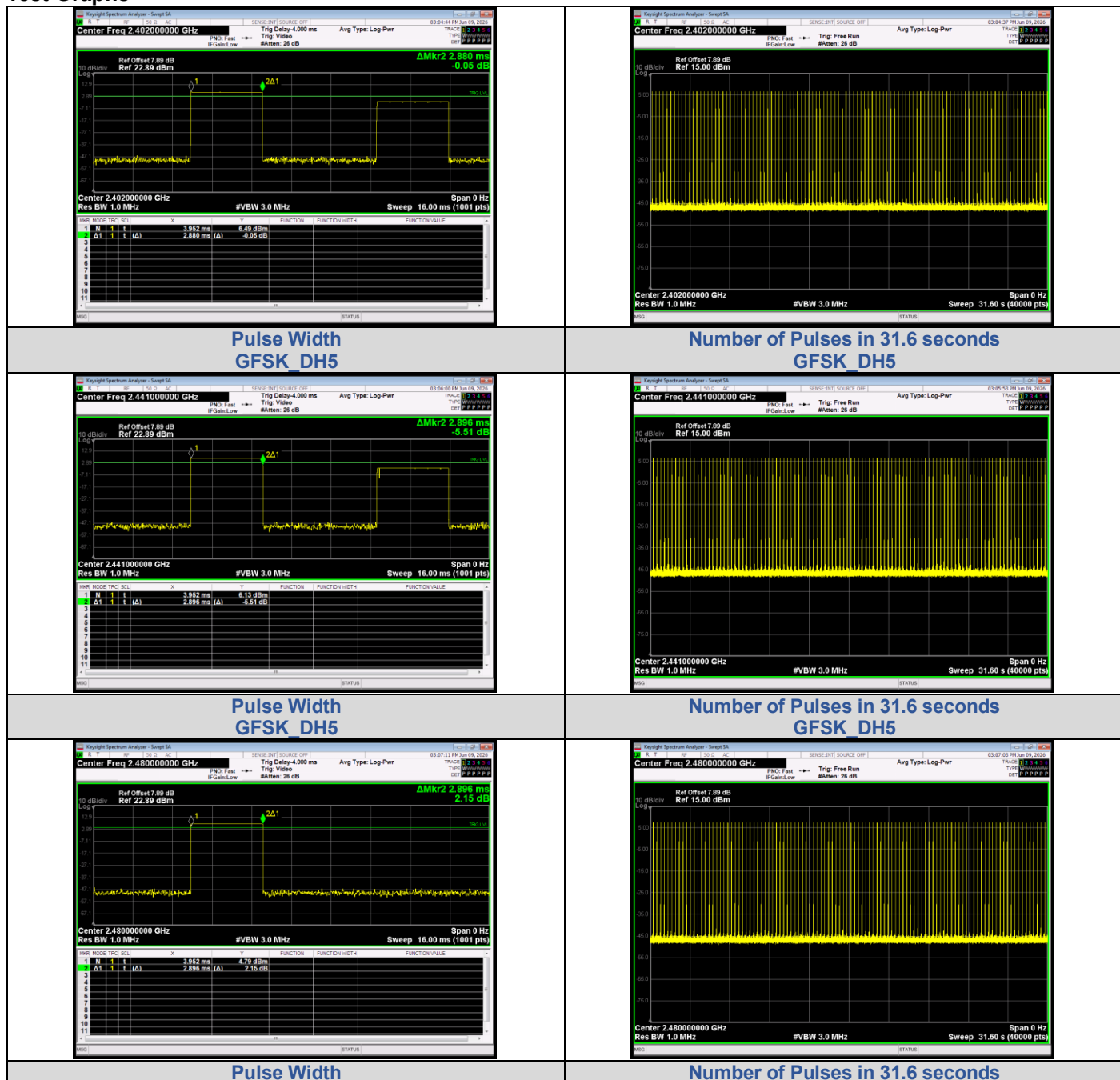
## DWELL TIME

### Test Result

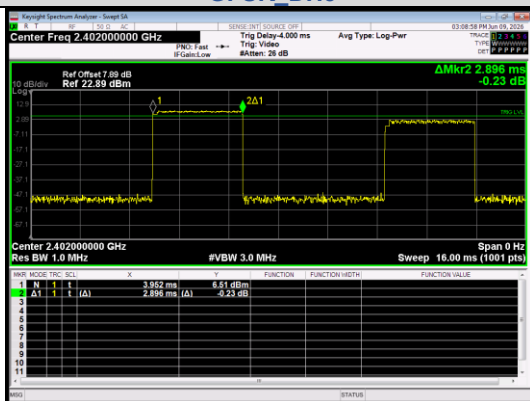
| Modulation | Packet | Channel | Pulse Width (ms) | Number of Pulses in 31.6 seconds | Dwell Time (ms) | Limit (ms) | Result |
|------------|--------|---------|------------------|----------------------------------|-----------------|------------|--------|
| GFSK       | DH5    | Hopping | 2.880            | 107                              | 308.16          | < 400      | PASS   |
|            | DH5    |         | 2.896            | 106                              | 306.98          |            | PASS   |
|            | DH5    |         | 2.896            | 106                              | 306.98          |            | PASS   |
| π/4DQPSK   | 2-DH5  |         | 2.896            | 107                              | 309.87          |            | PASS   |
|            | 2-DH5  |         | 2.896            | 106                              | 306.98          |            | PASS   |
|            | 2-DH5  |         | 2.896            | 107                              | 309.87          |            | PASS   |
| 8DPSK      | 3-DH5  |         | 2.896            | 107                              | 309.87          |            | PASS   |
|            | 3-DH5  |         | 2.896            | 106                              | 306.98          |            | PASS   |
|            | 3-DH5  |         | 2.912            | 106                              | 308.67          |            | PASS   |

Note: Dwell time=Pulse time(ms)\*Number of Pulses in 31.6 seconds

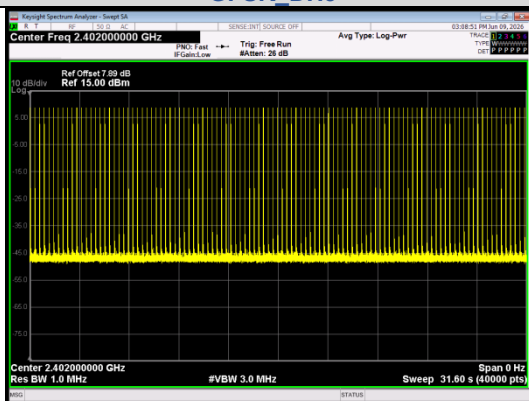
### Test Graphs



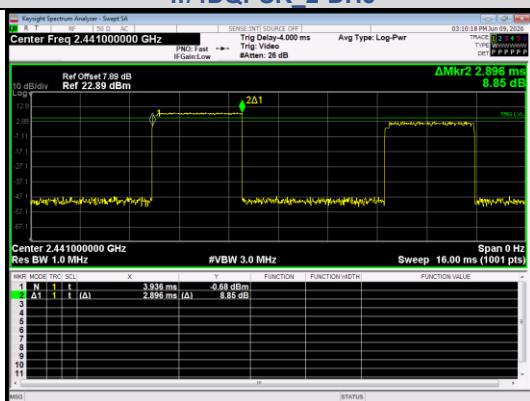
**GFSK\_DH5**



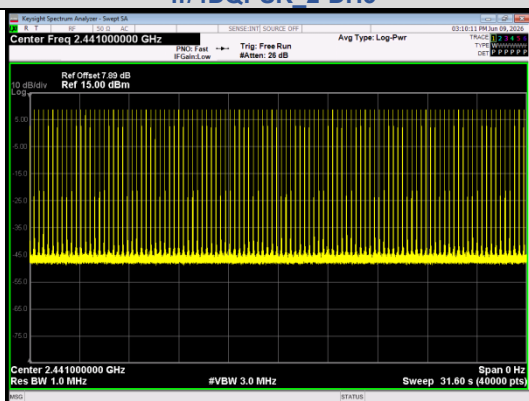
**GFSK\_DH5**



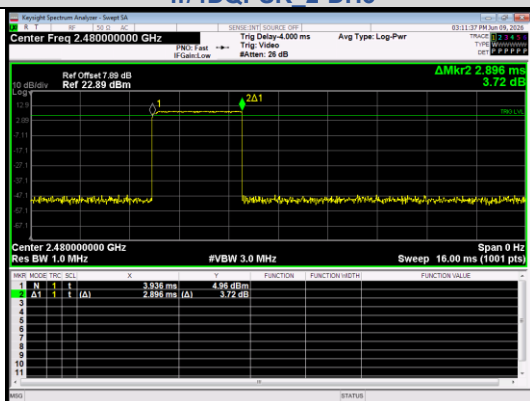
**Pulse Width  
 $\pi/4$ DQPSK\_2-DH5**



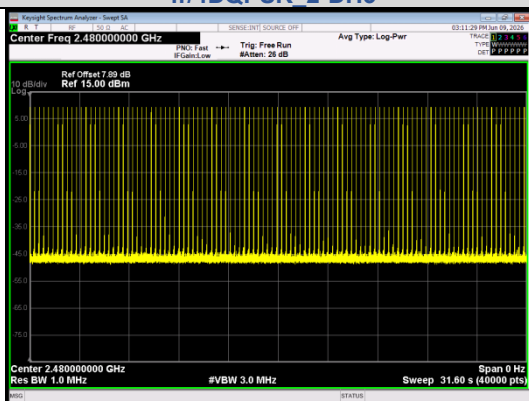
**Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK\_2-DH5**



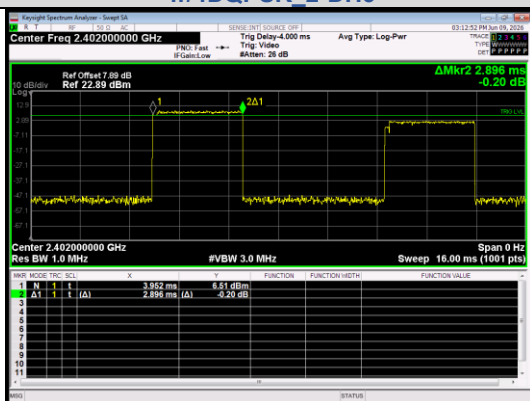
**Pulse Width  
 $\pi/4$ DQPSK\_2-DH5**



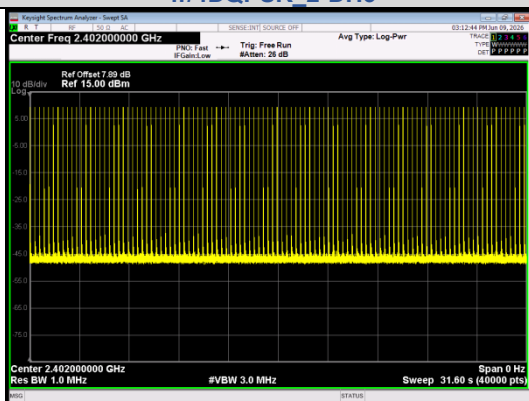
**Number of Pulses in 31.6 seconds  
 $\pi/4$ DQPSK\_2-DH5**



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



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

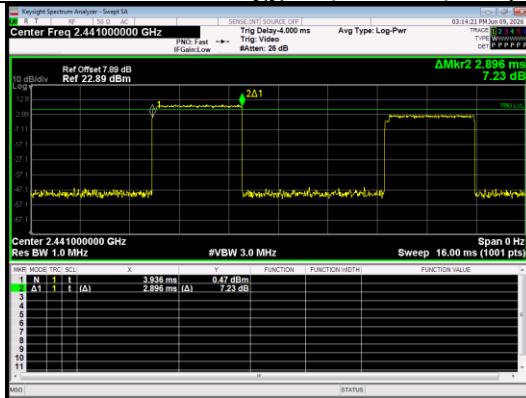


**Pulse Width  
 8DPSK\_3-DH5**

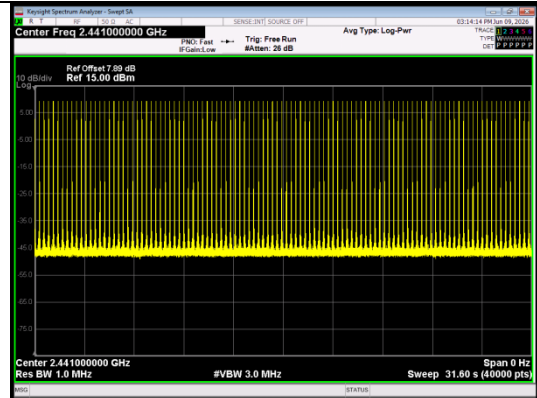


**Number of Pulses in 31.6 seconds  
 8DPSK\_3-DH5**

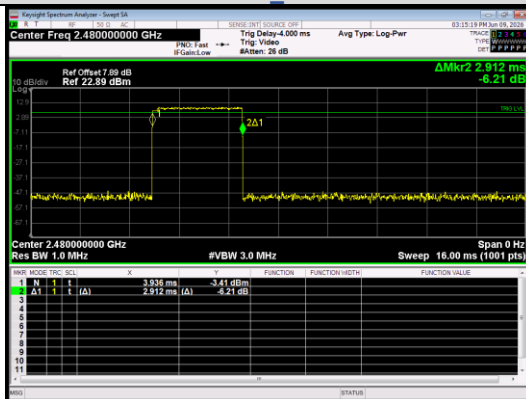




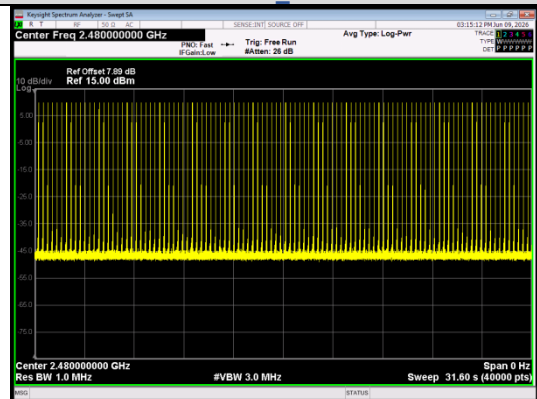
**Pulse Width  
8DPSK\_3-DH5**



**Number of Pulses in 3 seconds  
8DPSK\_3-DH5**



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



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



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## NUMBER OF HOPPING CHANNEL

### Test Result

| Modulation    | Packet | Number of Hopping Channel | Limit | Result |
|---------------|--------|---------------------------|-------|--------|
| GFSK          | DH1    | 79                        | 15    | PASS   |
| $\pi/4$ DQPSK | 2-DH1  | 79                        | 15    | PASS   |
| 8DPSK         | 3-DH1  | 79                        | 15    | PASS   |

### Test Graphs

