



Keyway Testing Technology (Guangdong) Co., Ltd  
Room 2102,Building 6,Dongyi Intelligent Equipment New Energy Vehicle Park,N.30  
of Tangxia District,Dongshen Road,Tangxia Town,Dongguan City,Guangdong,China

|                         |                          |
|-------------------------|--------------------------|
| <b>E.U.T:</b>           | OWS Bluetooth Headphones |
| <b>Model Number:</b>    | MLF-M007                 |
| <b>Trade Name:</b>      | <b>MLF</b>               |
| <b>Date of Receipt:</b> | Aug 26, 2025             |
| <b>Date of Test:</b>    | Aug 26 ~ Sep 25, 2025    |
| <b>FCC ID:</b>          | 2BRZO-MLF-M007           |



## A.1 DUTY CYCLE

### Test Result

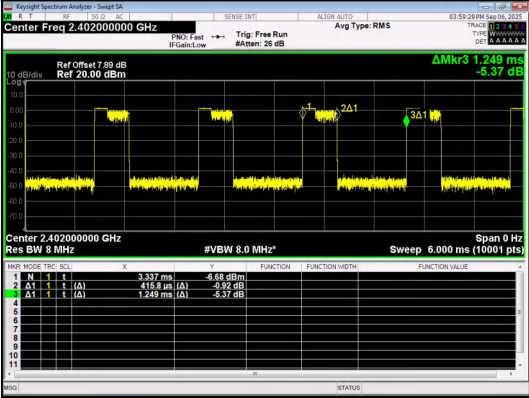
| Modulation    | Packets | Channel | On Time (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle (linear) | Duty Cycle Factor (dB) | 1/T    |
|---------------|---------|---------|--------------|-------------|----------------|---------------------|------------------------|--------|
| GFSK          | DH1     | 0       | 0.406        | 1.250       | 32.50          | 0.3250              | 4.8812                 | 2.4631 |
|               |         | 39      | 0.406        | 1.250       | 32.45          | 0.3245              | 4.8879                 | 2.4631 |
|               |         | 78      | 0.406        | 1.250       | 32.50          | 0.3250              | 4.8812                 | 2.4631 |
| $\pi$ /4DQPSK | 2-DH1   | 0       | 0.415        | 1.249       | 33.24          | 0.3324              | 4.7834                 | 2.4096 |
|               |         | 39      | 0.415        | 1.249       | 33.24          | 0.3324              | 4.7834                 | 2.4096 |
|               |         | 78      | 0.415        | 1.249       | 33.24          | 0.3324              | 4.7834                 | 2.4096 |
| 8DPSK         | 3-DH1   | 0       | 0.416        | 1.249       | 33.29          | 0.3329              | 4.7769                 | 2.4038 |
|               |         | 39      | 0.415        | 1.249       | 33.24          | 0.3324              | 4.7834                 | 2.4096 |
|               |         | 78      | 0.415        | 1.249       | 33.24          | 0.3324              | 4.7834                 | 2.4096 |

### Test Graphs

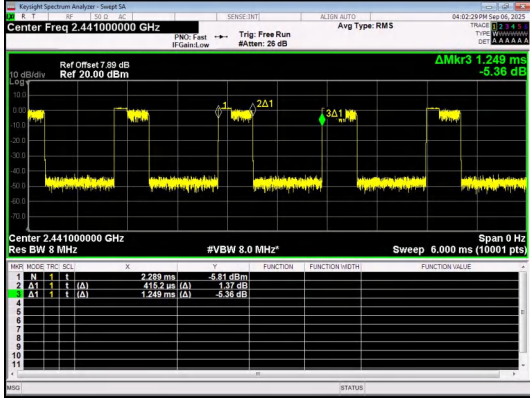




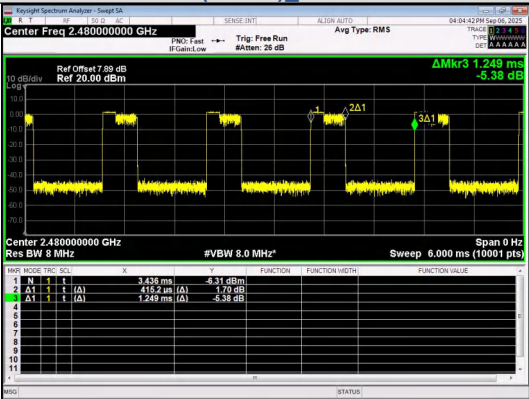
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8DPSK(3-DH1)\_Channel 0



8DPSK(3-DH1)\_Channel 39



8DPSK(3-DH1)\_Channel 78



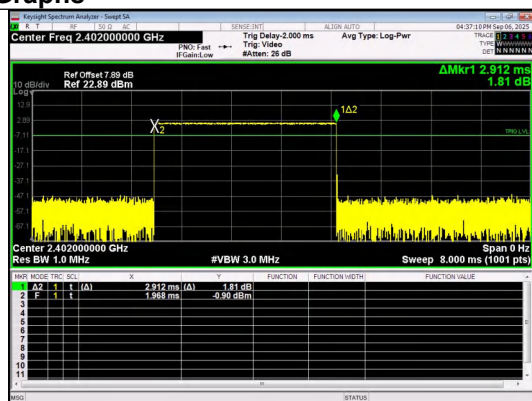
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## A.2 DWELL TIME

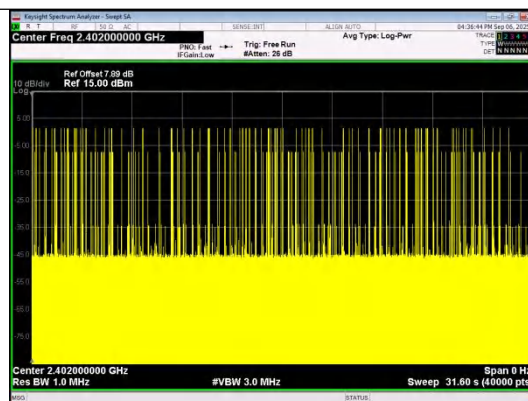
### Test Result

| Modulation    | Packet | Channel | Pulse Width (ms) | Number of Pulses in 31.6 seconds | Dwell Time (ms) | Limit (ms) | Result |
|---------------|--------|---------|------------------|----------------------------------|-----------------|------------|--------|
| GFSK          | DH5    | Hopping | 2.912            | 104                              | 302.85          | < 400      | PASS   |
|               | DH5    |         | 2.912            | 114                              | 331.97          |            | PASS   |
|               | DH5    |         | 2.912            | 96                               | 279.55          |            | PASS   |
| $\pi/4$ DQPSK | 2-DH5  |         | 2.912            | 112                              | 326.14          |            | PASS   |
|               | 2-DH5  |         | 2.912            | 112                              | 326.14          |            | PASS   |
|               | 2-DH5  |         | 2.912            | 101                              | 294.11          |            | PASS   |
| 8DPSK         | 3-DH5  |         | 2.912            | 109                              | 317.41          |            | PASS   |
|               | 3-DH5  |         | 2.928            | 103                              | 301.58          |            | PASS   |
|               | 3-DH5  |         | 2.904            | 100                              | 290.4           |            | PASS   |

### Test Graphs



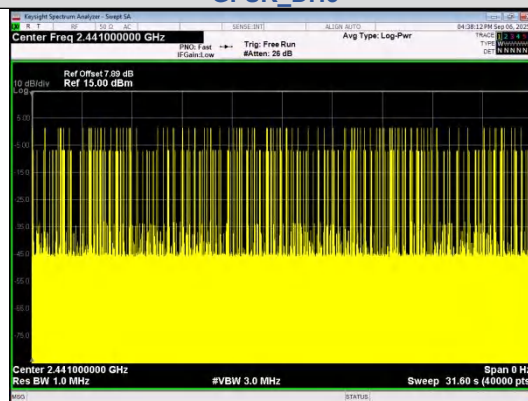
Pulse Width  
GFSK\_DH5



Number of Pulses in 31.6 seconds  
GFSK\_DH5



Pulse Width  
GFSK\_DH5



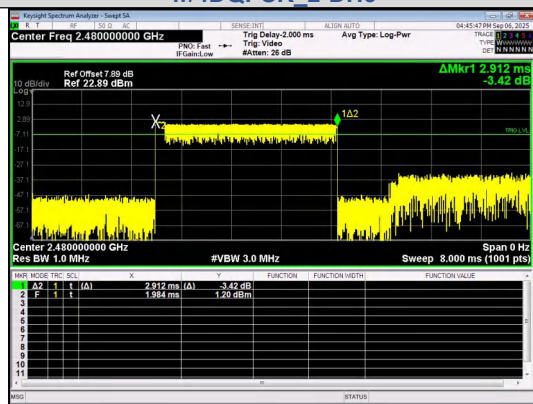
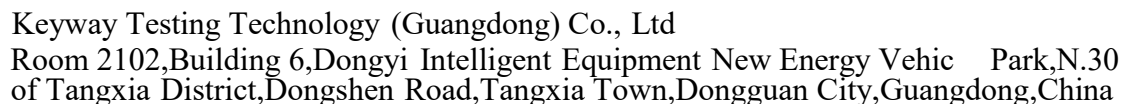
Number of Pulses in 31.6 seconds  
GFSK\_DH5



Pulse Width  
GFSK\_DH5

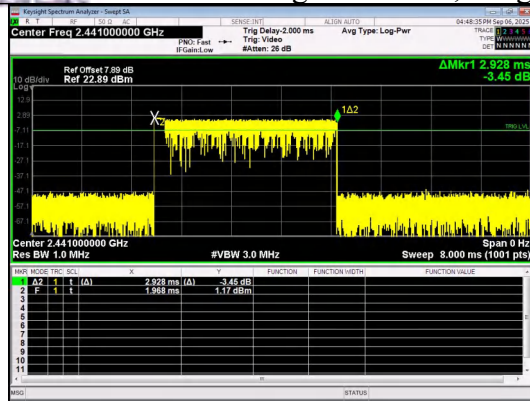


Number of Pulses in 31.6 seconds  
GFSK\_DH5





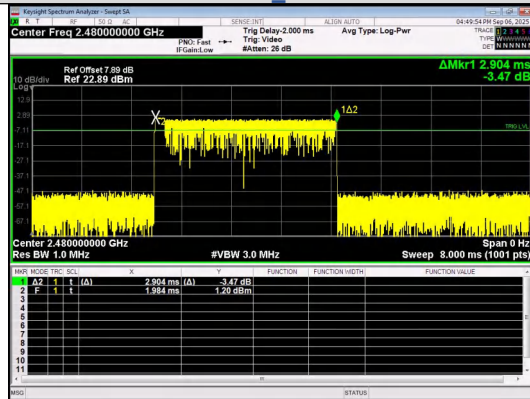
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Pulse Width  
8DPSK\_3-DH5



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



Pulse Width  
8DPSK\_3-DH5



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

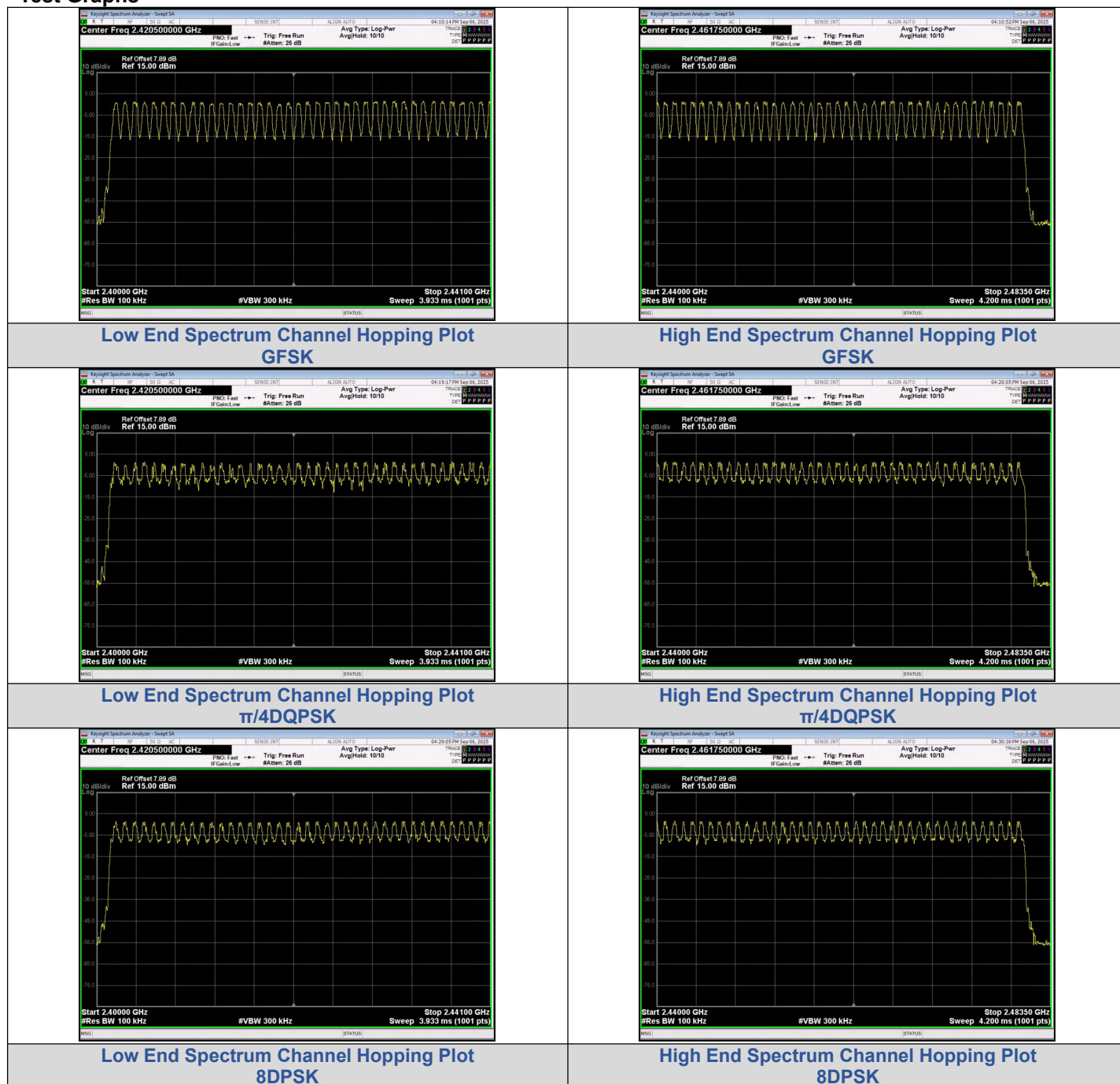


## A.3 NUMBER OF HOPPING CHANNEL

### 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



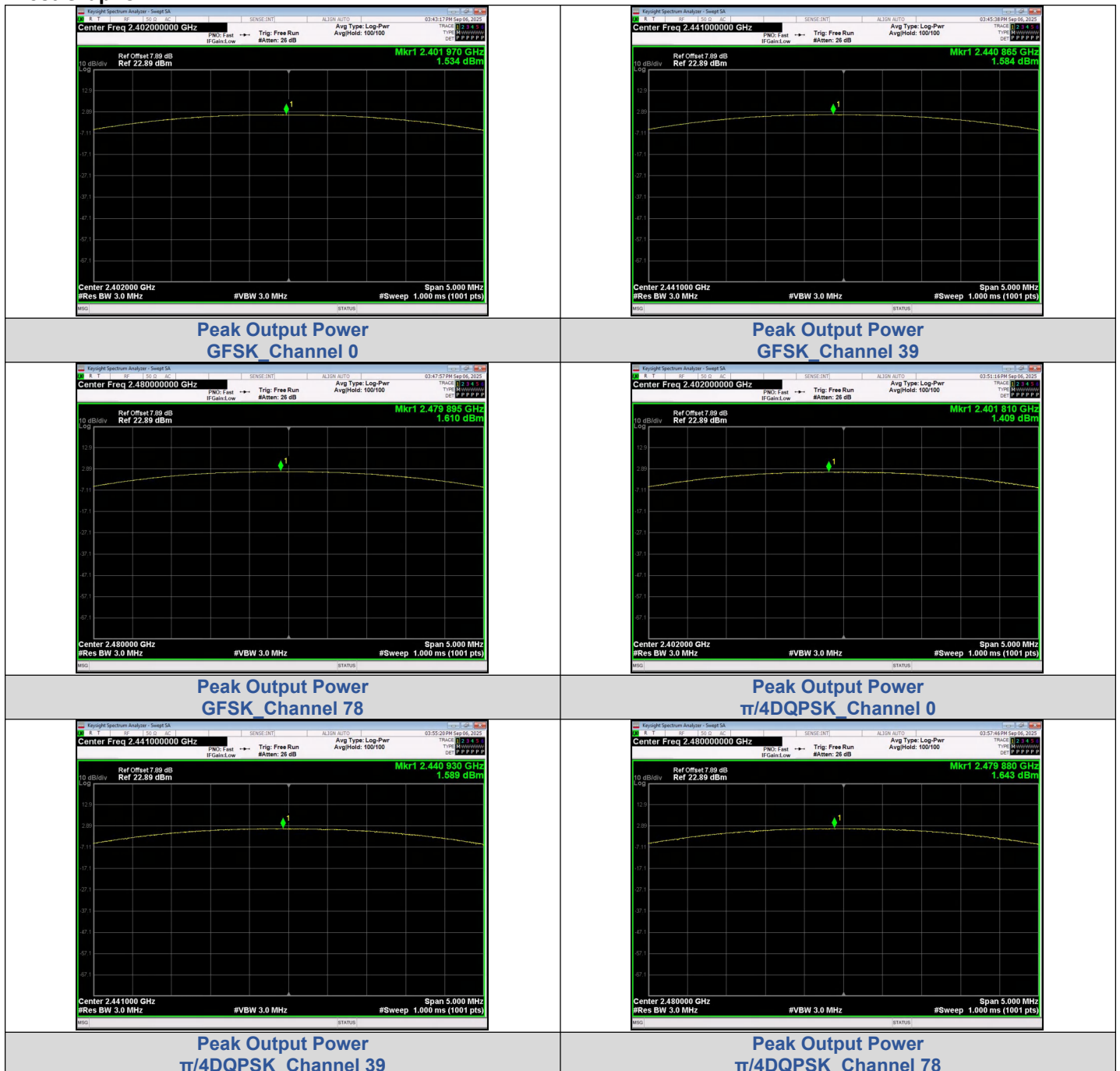


## A.4 CONDUCTED PEAK OUTPUT POWER

### Test Result

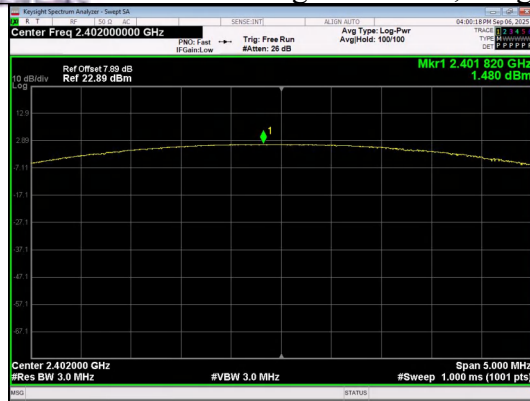
| Modulation    | Packet Type | Channel | Peak Output Power (dBm) | Peak Output Power (mW) | Max. Avg. Power (dBm) | Limit (dBm) | Result |
|---------------|-------------|---------|-------------------------|------------------------|-----------------------|-------------|--------|
| GFSK          | DH1         | 0       | 1.53                    | 1.42                   | None                  | ≤20.97      | PASS   |
|               |             | 39      | 1.58                    | 1.44                   | None                  |             | PASS   |
|               |             | 78      | 1.61                    | 1.45                   | None                  |             | PASS   |
| $\pi/4$ DQPSK | 2-DH1       | 0       | 1.41                    | 1.38                   | None                  |             | PASS   |
|               |             | 39      | 1.59                    | 1.44                   | None                  |             | PASS   |
|               |             | 78      | 1.64                    | 1.46                   | None                  |             | PASS   |
| 8DPSK         | 3-DH1       | 0       | 1.48                    | 1.41                   | None                  |             | PASS   |
|               |             | 39      | 1.59                    | 1.44                   | None                  |             | PASS   |
|               |             | 78      | 1.63                    | 1.46                   | None                  |             | PASS   |

### Test Graphs

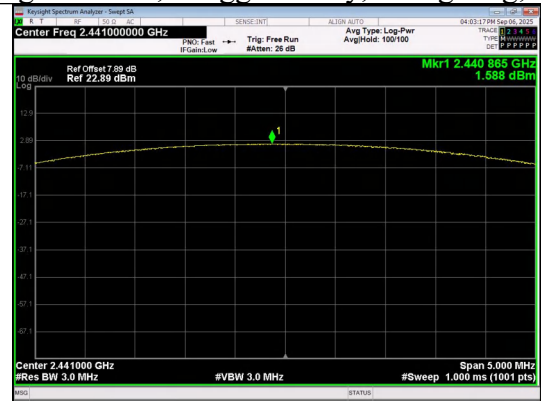




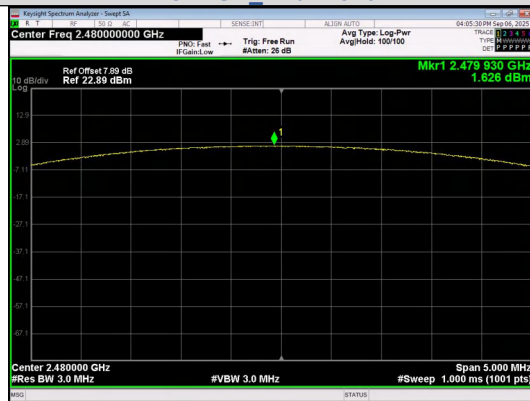
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Peak Output Power  
8DPSK\_Channel 0



Peak Output Power  
8DPSK\_Channel 39



Peak Output Power  
8DPSK\_Channel 78



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## A.5 99% BANDWIDTH

### Test Result

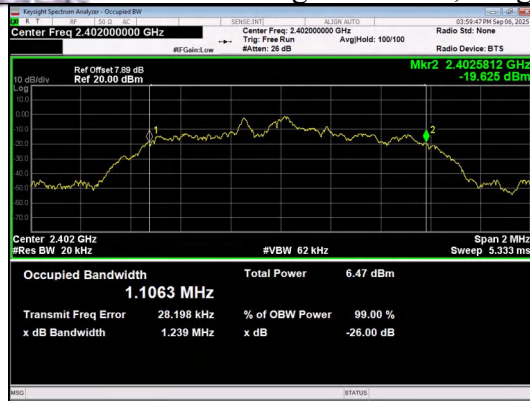
| Modulation    | Channel | Center Frequency (MHz) | 99% BW (MHz) |
|---------------|---------|------------------------|--------------|
| GFSK          | 0       | 2402                   | 0.83682      |
|               | 39      | 2441                   | 0.82850      |
|               | 78      | 2480                   | 0.82996      |
| $\pi$ /4DQPSK | 0       | 2402                   | 1.1135       |
|               | 39      | 2441                   | 1.1113       |
|               | 78      | 2480                   | 1.1173       |
| 8DPSK         | 0       | 2402                   | 1.1063       |
|               | 39      | 2441                   | 1.1089       |
|               | 78      | 2480                   | 1.0999       |

### Test Graphs

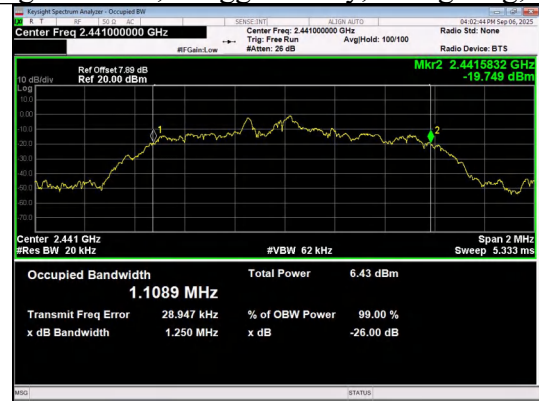




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8DPSK\_3-DH1\_Channel 0



8DPSK\_3-DH1\_Channel 39



8DPSK\_3-DH1\_Channel 78



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## A.6 20DB BANDWIDTH

### Test Result

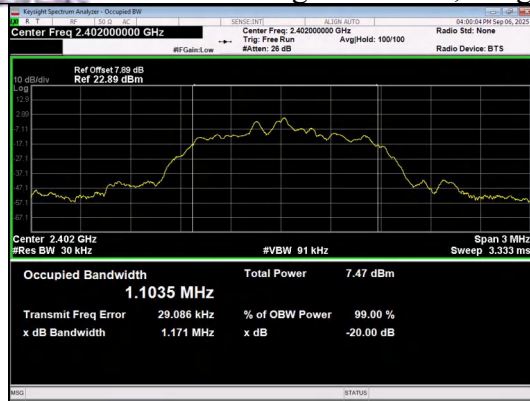
| Modulation    | Channel | Center Frequency (MHz) | 20 dB Bandwidth (MHz) |
|---------------|---------|------------------------|-----------------------|
| GFSK          | 0       | 2402 MHz               | 0.8900                |
|               | 39      | 2441 MHz               | 0.8900                |
|               | 78      | 2480 MHz               | 0.8900                |
| $\pi$ /4DQPSK | 0       | 2402 MHz               | 1.180                 |
|               | 39      | 2441 MHz               | 1.180                 |
|               | 78      | 2480 MHz               | 1.180                 |
| 8DPSK         | 0       | 2402 MHz               | 1.170                 |
|               | 39      | 2441 MHz               | 1.170                 |
|               | 78      | 2480 MHz               | 1.170                 |

### Test Graphs

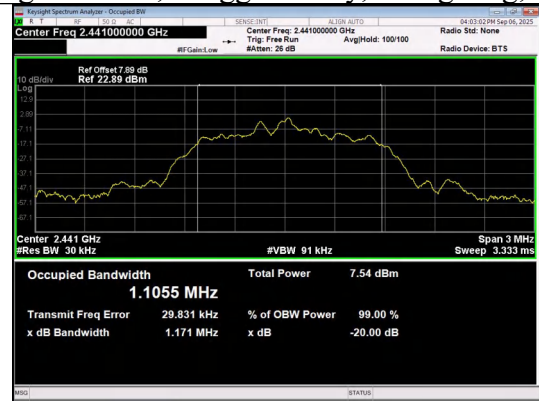




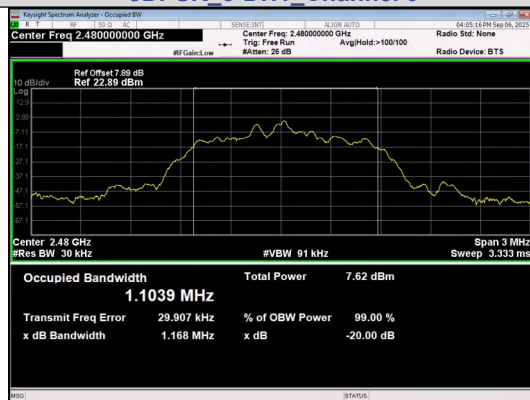
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8DPSK\_3-DH1\_Channel 0



8DPSK\_3-DH1\_Channel 39



8DPSK\_3-DH1\_Channel 78



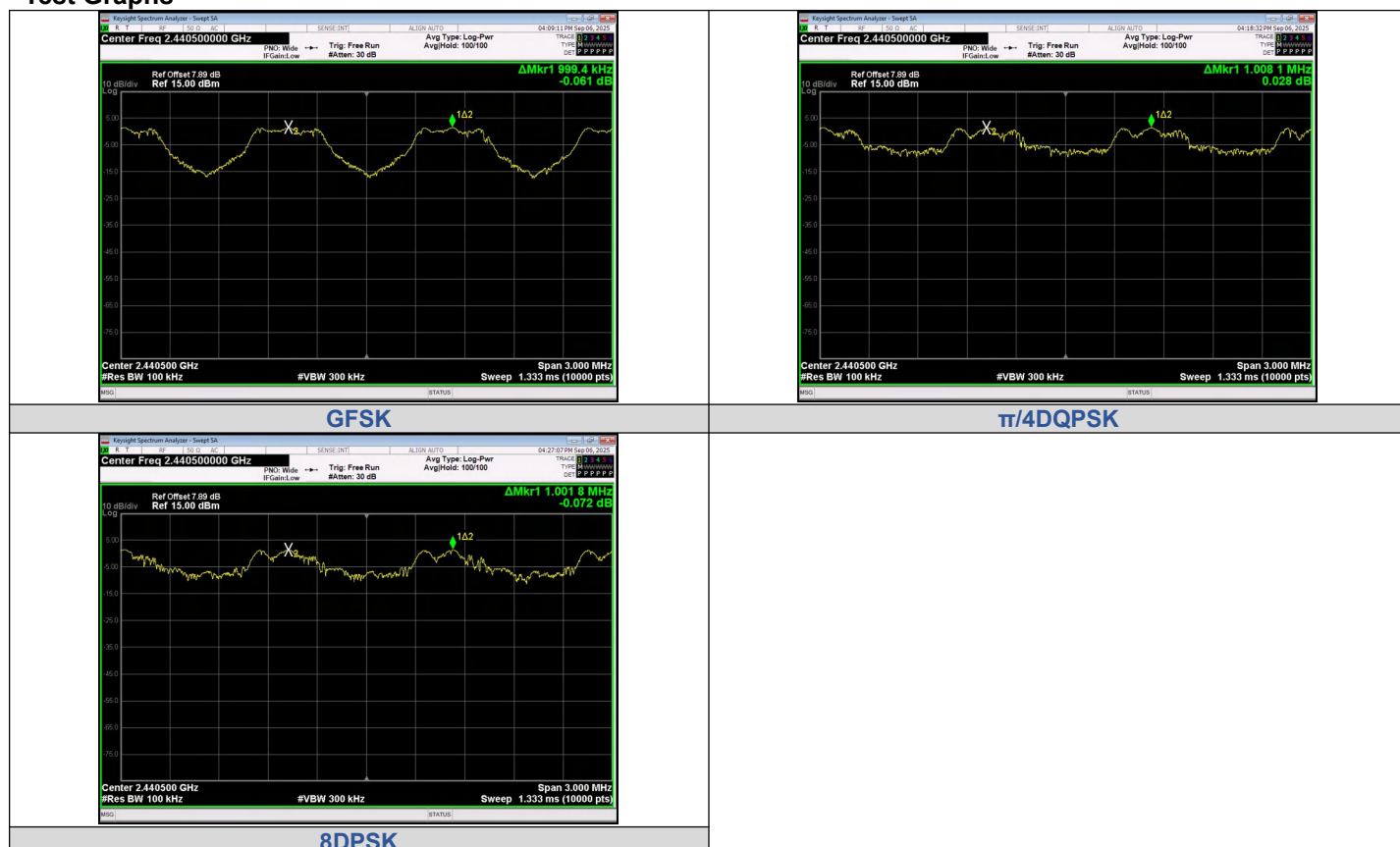
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## A.7 CARRIER FREQUENCIES SEPARATION

### Test Result

| Modulation    | Packet | Left Center frequency (MHz) | Right Center frequency (MHz) | Hopping Frequency Separation (MHz) | Limit (MHz) | Result |
|---------------|--------|-----------------------------|------------------------------|------------------------------------|-------------|--------|
| GFSK          | DH1    | 2440.0237                   | 2441.0231                    | 0.9994                             | 0.593       | PASS   |
| $\pi/4$ DQPSK | 2-DH1  | 2440.0159                   | 2441.024                     | 1.0081                             | 0.787       | PASS   |
| 8DPSK         | 3-DH1  | 2440.0243                   | 2441.0261                    | 1.0018                             | 0.78        | PASS   |

### Test Graphs





## A.8 CONDUCTED OUT OF BAND EMISSION

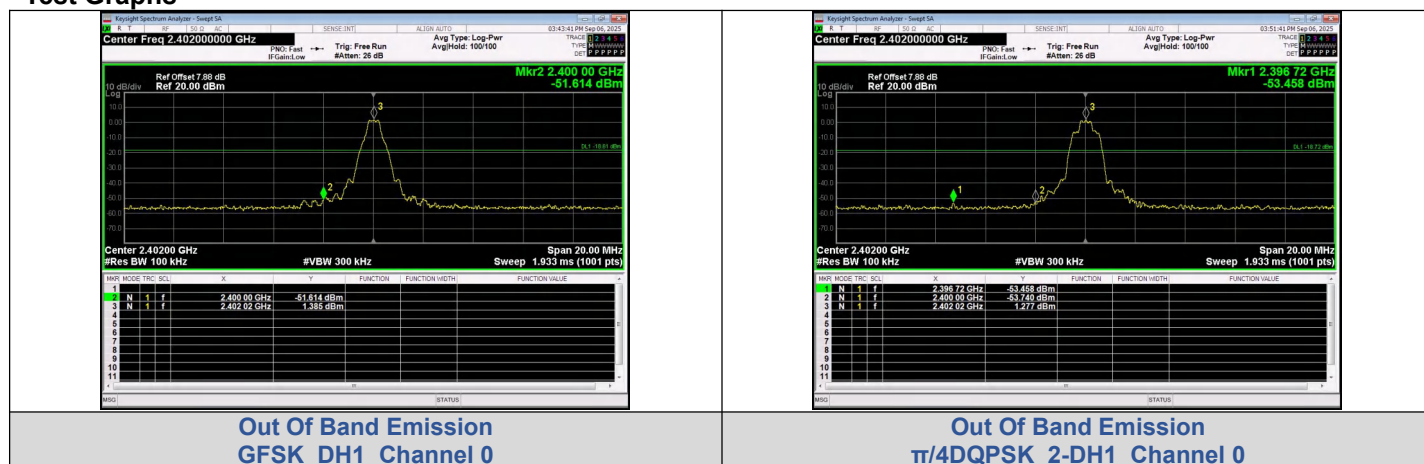
### Test Result Non-Hopping

| Modulation    | Packet | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|---------------|--------|---------|------------------------------|--------------------------|-------------|-----------------|--------|
| GFSK          | DH1    | 0       | 2400.00                      | -51.610                  | -18.61      | -33.000         | PASS   |
|               |        |         | 4803.76                      | -32.283                  | -18.61      | -13.673         | PASS   |
|               |        | 39      | 4881.79                      | -35.140                  | -18.52      | -16.620         | PASS   |
|               |        | 78      | 2483.50                      | -55.410                  | -18.52      | -36.890         | PASS   |
|               |        |         | 4959.83                      | -34.710                  | -18.52      | -16.190         | PASS   |
| $\pi/4$ DQPSK | 2-DH1  | 0       | 2396.72                      | -53.458                  | -18.72      | -34.738         | PASS   |
|               |        |         | 2400.00                      | -53.740                  | -18.72      | -35.020         | PASS   |
|               |        | 39      | 4803.80                      | -34.455                  | -18.72      | -15.735         | PASS   |
|               |        |         | 4881.79                      | -36.900                  | -18.58      | -18.320         | PASS   |
|               |        |         | 2483.50                      | -57.030                  | -18.54      | -38.490         | PASS   |
| 8DPSK         | 3-DH1  | 0       | 2400.00                      | -54.430                  | -18.68      | -35.750         | PASS   |
|               |        |         | 4803.76                      | -31.580                  | -18.68      | -12.900         | PASS   |
|               |        | 39      | 4881.79                      | -37.250                  | -18.56      | -18.690         | PASS   |
|               |        | 78      | 2483.50                      | -56.240                  | -18.55      | -37.690         | PASS   |
|               |        |         | 4959.83                      | -40.680                  | -18.55      | -22.130         | PASS   |

### Hopping

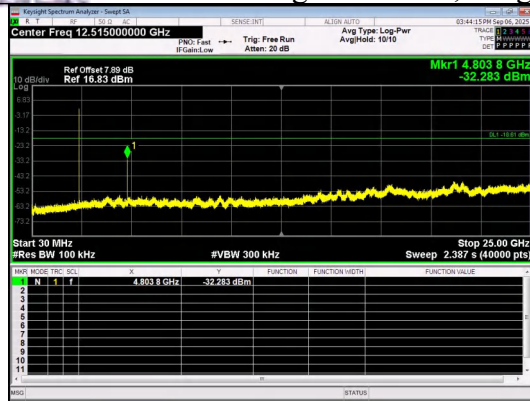
| Modulation | Packet | Channel | OOB Emission Frequency (MHz) | OOB Emission Level (dBm) | Limit (dBm) | Over Limit (dB) | Result |
|------------|--------|---------|------------------------------|--------------------------|-------------|-----------------|--------|
| GFSK       | DH1    | Hopping | 2400.00                      | -51.410                  | -18.76      | -32.650         | PASS   |
|            |        |         | 2483.50                      | -55.230                  | -18.49      | -36.740         | PASS   |
| π/4DQPSK   | 2-DH1  |         | 2396.10                      | -53.786                  | -18.76      | -35.026         | PASS   |
|            |        |         | 2400.00                      | -56.020                  | -18.76      | -37.260         | PASS   |
| 8DPSK      | 3-DH1  |         | 2483.50                      | -55.270                  | -18.56      | -36.710         | PASS   |
|            |        |         | 2395.24                      | -53.576                  | -18.8       | -34.776         | PASS   |
|            |        |         | 2400.00                      | -55.110                  | -18.8       | -36.310         | PASS   |
|            |        |         | 2483.50                      | -55.550                  | -18.56      | -36.990         | PASS   |
|            |        |         |                              |                          |             |                 |        |

### Test Graphs

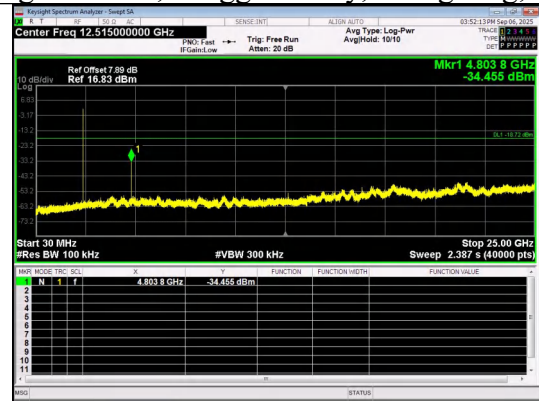




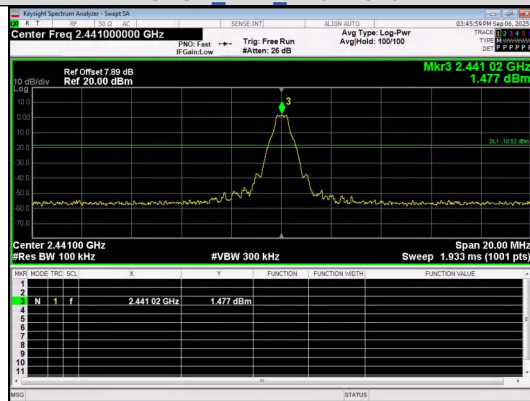
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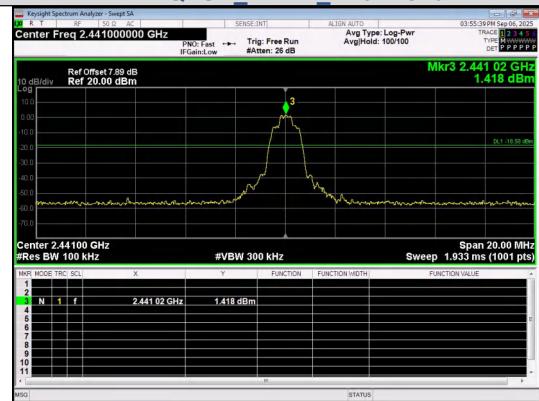
30.0 MHz - 25000.0 MHz  
GFSK\_DH1\_Channel 0



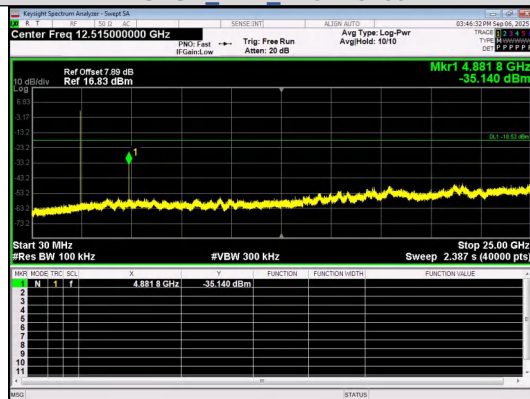
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH1\_Channel 0



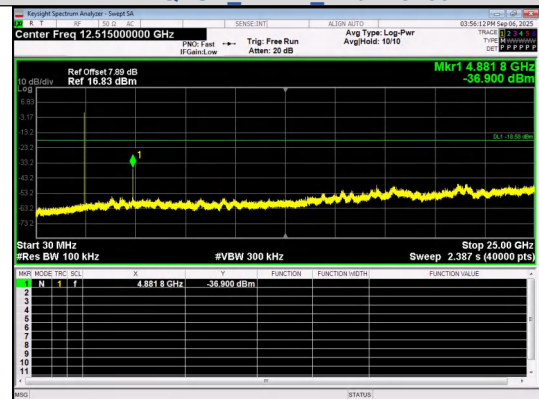
Out Of Band Emission  
GFSK\_DH1\_Channel 39



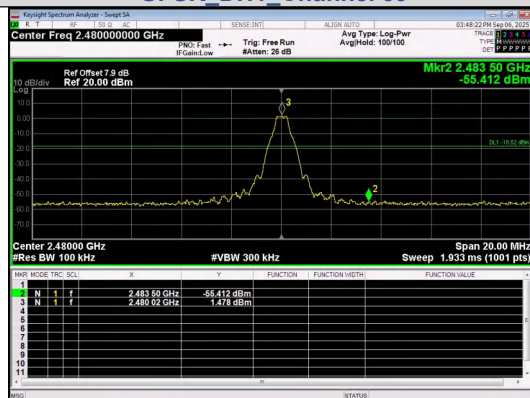
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 39



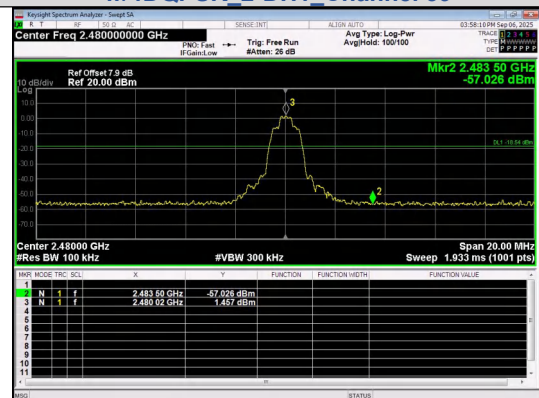
30.0 MHz - 25000.0 MHz  
GFSK\_DH1\_Channel 39



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



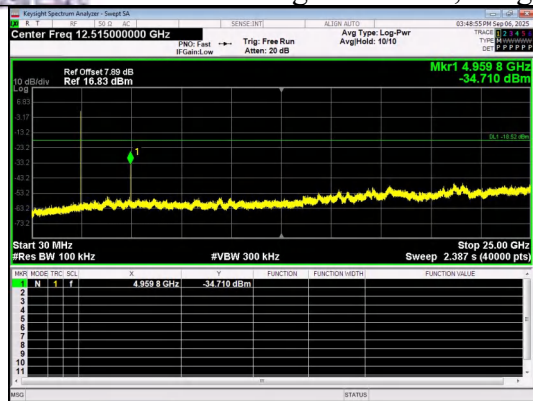
Out Of Band Emission  
GFSK\_DH1\_Channel 78



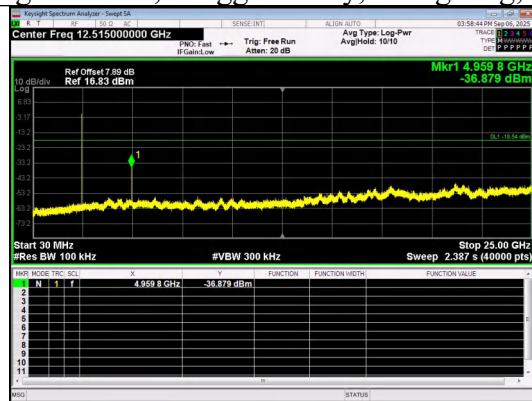
Out Of Band Emission  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78



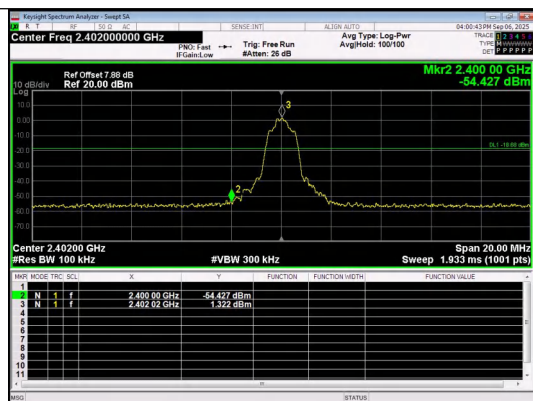
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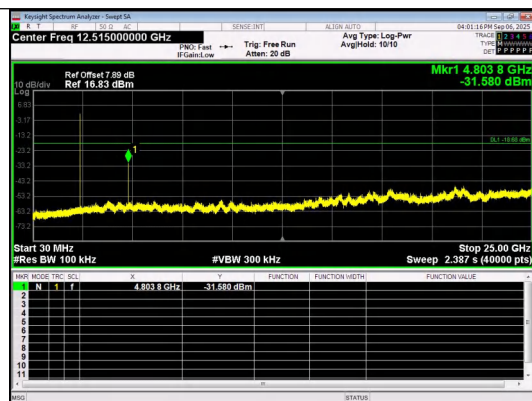
30.0 MHz - 25000.0 MHz  
GFSK\_DH1\_Channel 78



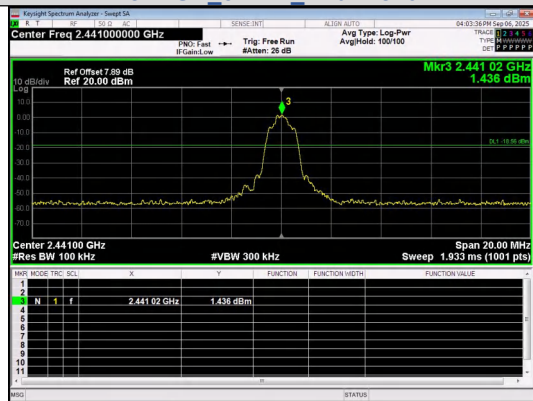
30.0 MHz - 25000.0 MHz  
 $\pi/4$ DQPSK\_2-DH1\_Channel 78



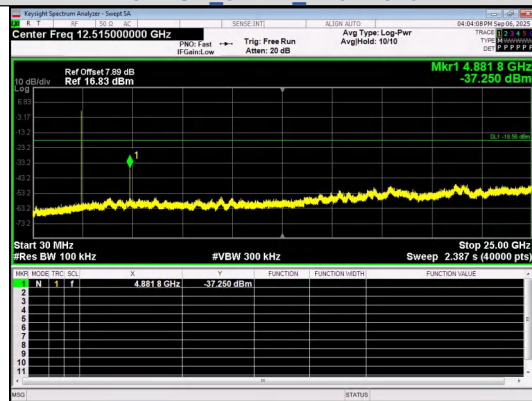
Out Of Band Emission  
8DPSK\_3-DH1\_Channel 0



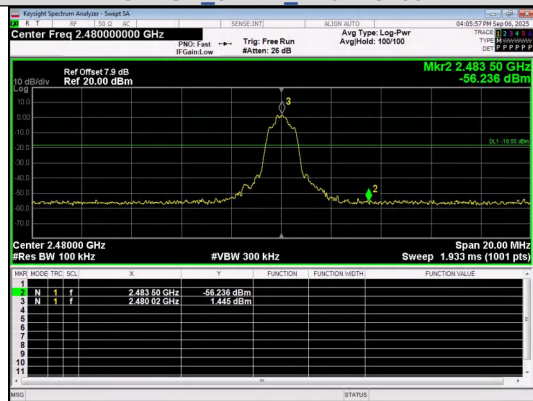
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH1\_Channel 0



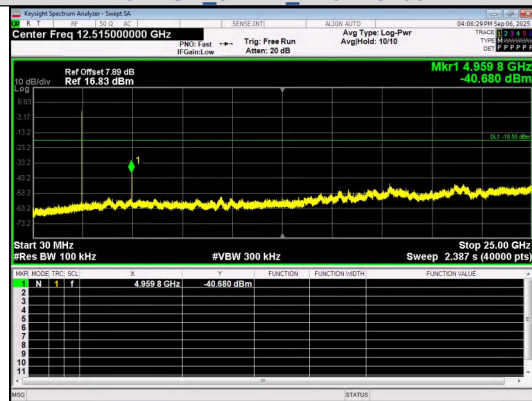
Out Of Band Emission  
8DPSK\_3-DH1\_Channel 39



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



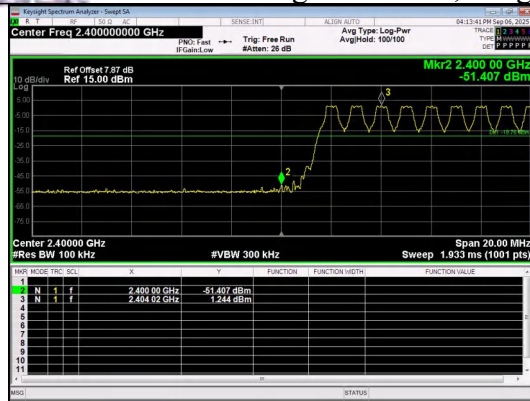
Out Of Band Emission  
8DPSK\_3-DH1\_Channel 78



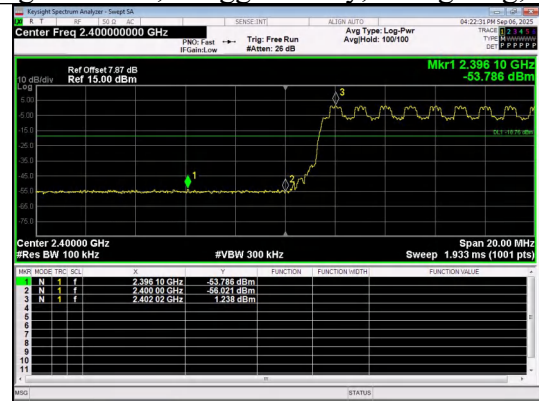
30.0 MHz - 25000.0 MHz  
8DPSK\_3-DH1\_Channel 78



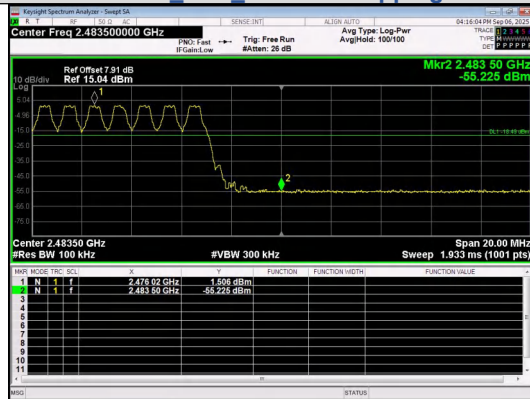
Keyway Testing Technology (Guangdong) Co., Ltd  
Room 2102,Building 6,Dongyi Intelligent Equipment New Energy Vehicle Park,N.30  
of Tangxia District,Dongshen Road,Tangxia Town,Dongguan City,Guangdong,China



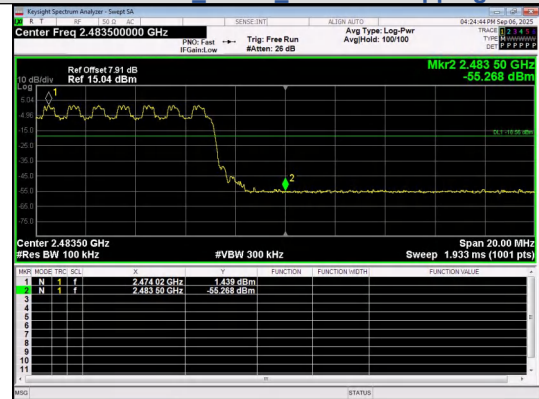
Out Of Band Emission(Left)  
GFSK\_DH1\_Channel Hopping



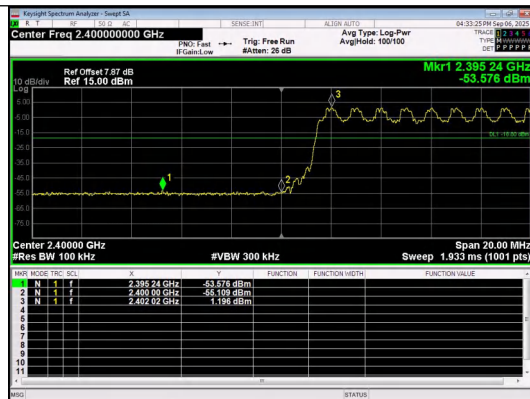
Out Of Band Emission(Left)  
 $\pi/4$ DQPSK\_2-DH1\_Channel Hopping



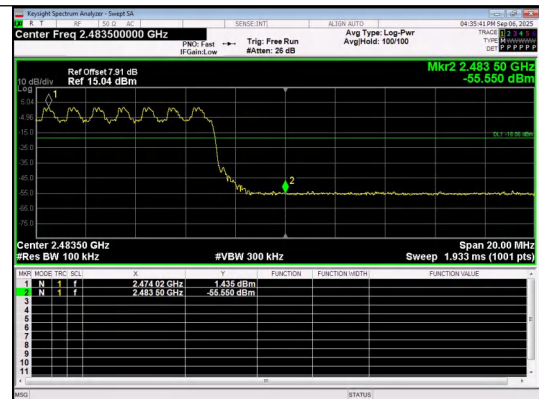
Out Of Band Emission(Right)  
GFSK\_DH1\_Channel Hopping



Out Of Band Emission(Right)  
 $\pi/4$ DQPSK\_2-DH1\_Channel Hopping



Out Of Band Emission(Left)  
8DPSK\_3-DH1\_Channel Hopping



Out Of Band Emission(Right)  
8DPSK\_3-DH1\_Channel Hopping