



## Appendix A

### RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Interactive Flat Panel

Trade Mark: INDOTA

Test Model: IN-TVH6B

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 25.3℃       |
| Relative Humidity: | 52.2%       |
| ATM Pressure:      | 101Kpa      |
| Test Engineer:     | Simba Huang |
| Supervised by:     | Seal Chen   |

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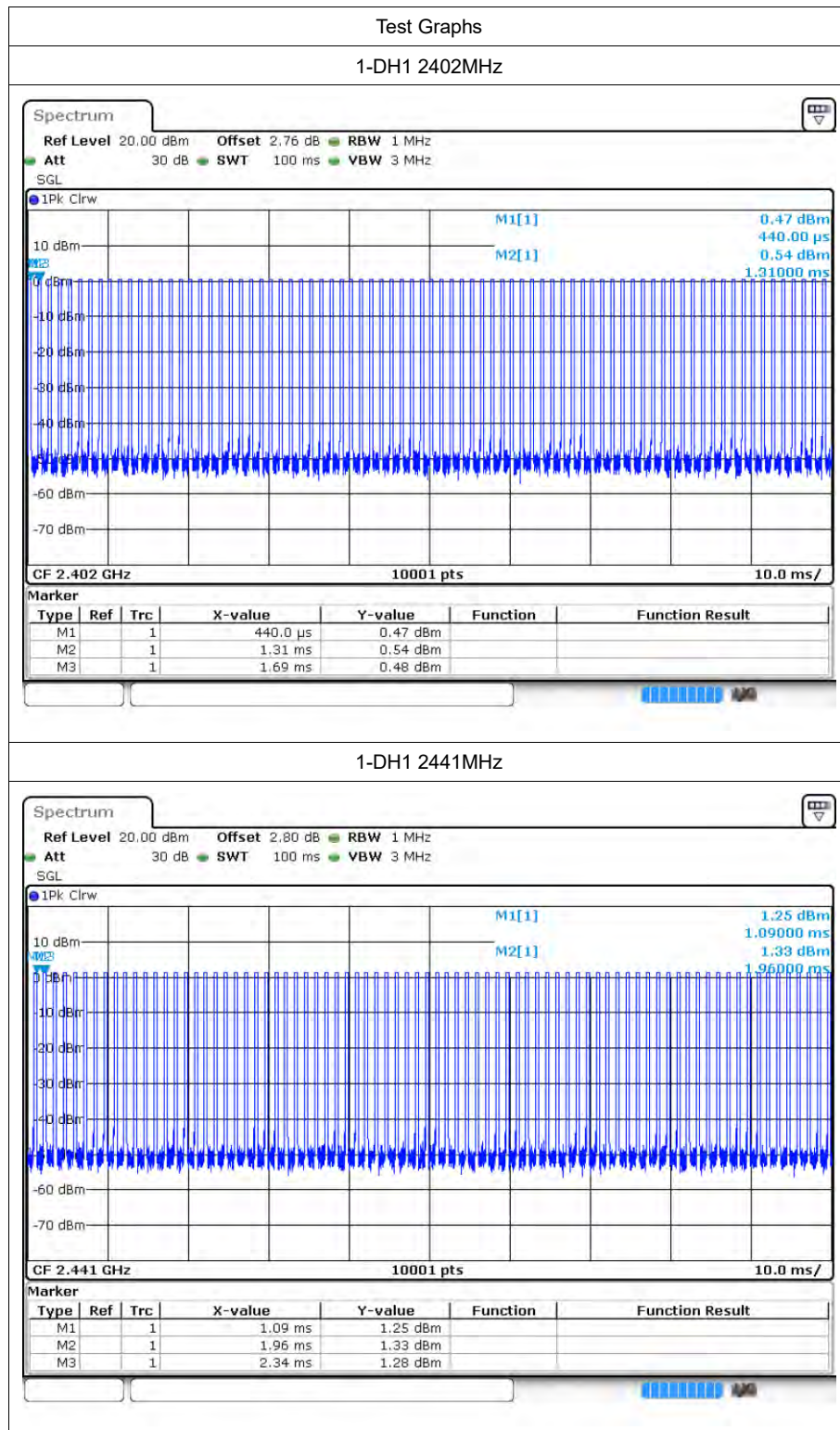
|     |                                           |    |
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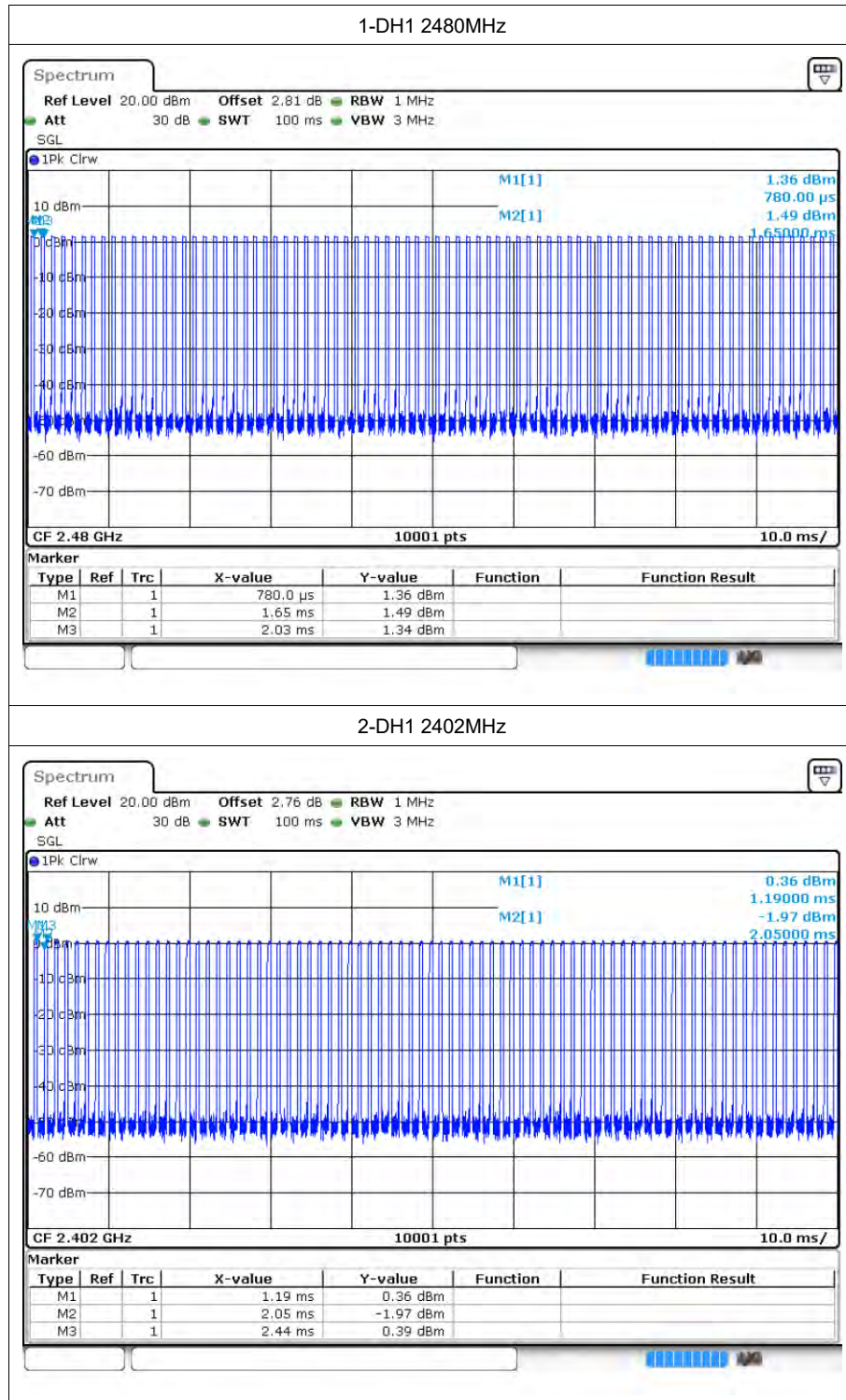
# 1 Duty Cycle

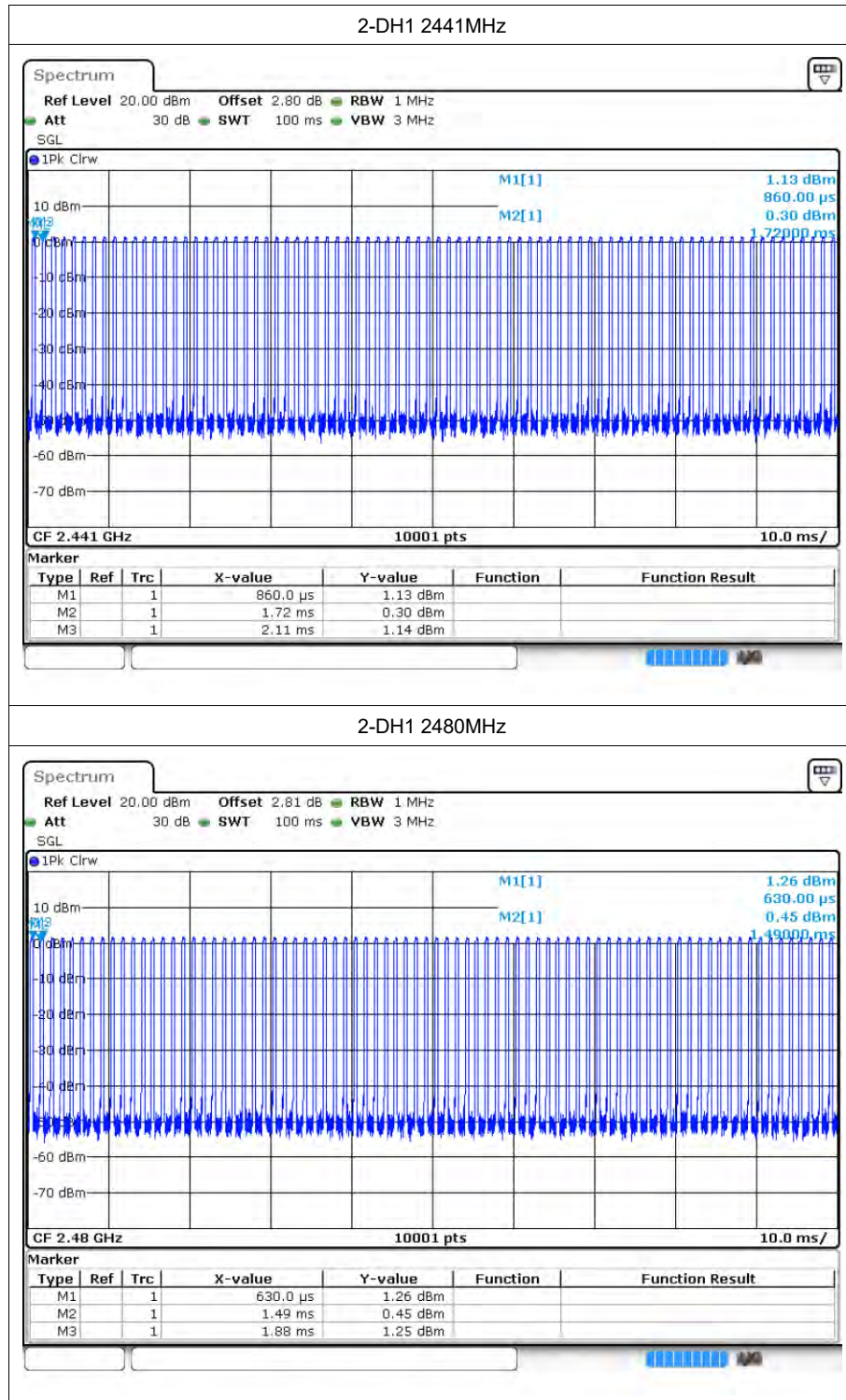
## 1.1 Test Result

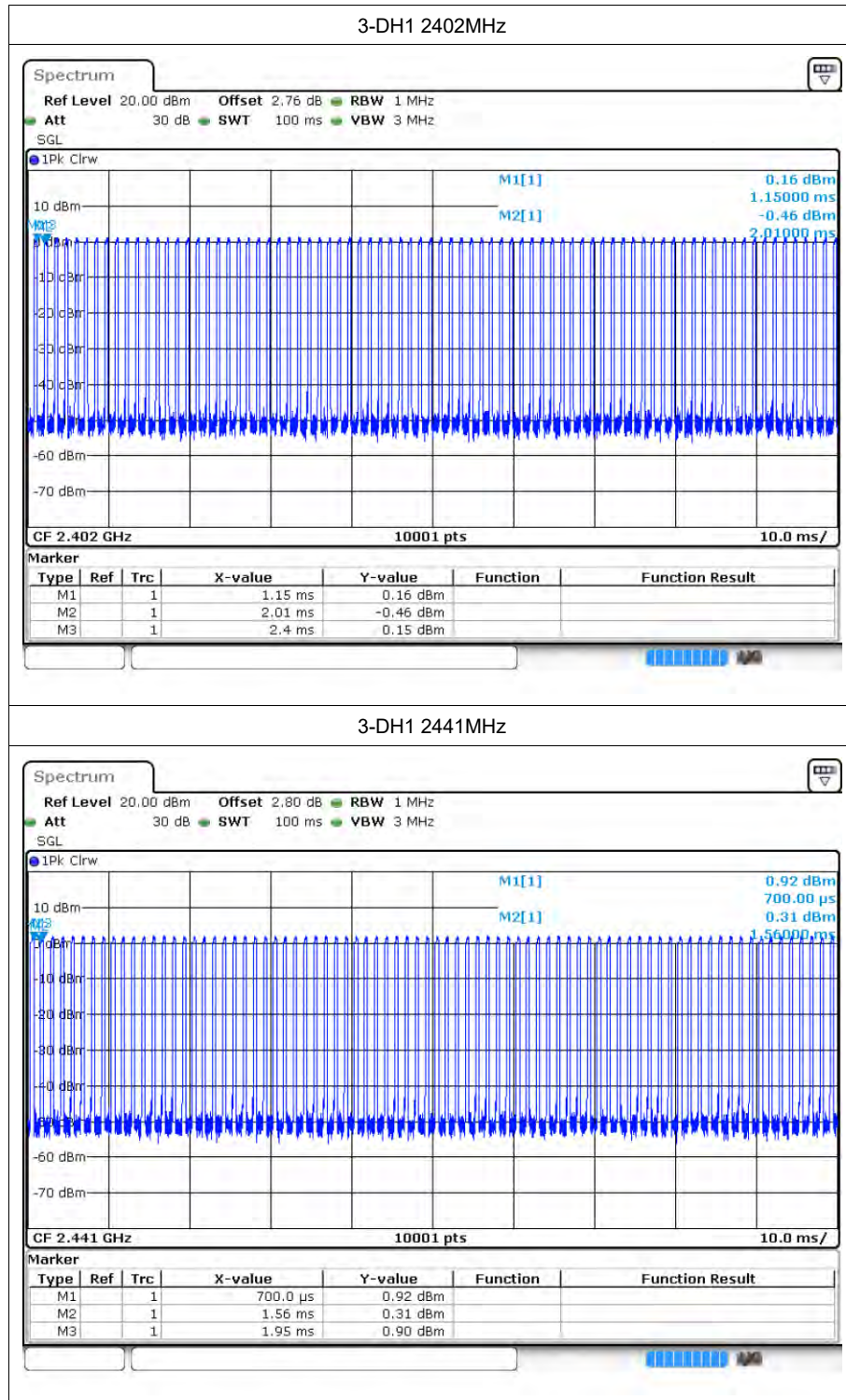
| Mode  | Frequency (MHz) | Duty Cycle (%) | 1/T (kHz) |
|-------|-----------------|----------------|-----------|
| 1-DH1 | 2402            | 31.2           | 2.63      |
| 1-DH1 | 2441            | 31.2           | 2.63      |
| 1-DH1 | 2480            | 31.2           | 2.63      |
| 2-DH1 | 2402            | 32.02          | 2.56      |
| 2-DH1 | 2441            | 32             | 2.56      |
| 2-DH1 | 2480            | 32             | 2.56      |
| 3-DH1 | 2402            | 32             | 2.56      |
| 3-DH1 | 2441            | 32             | 2.56      |
| 3-DH1 | 2480            | 32             | 2.56      |

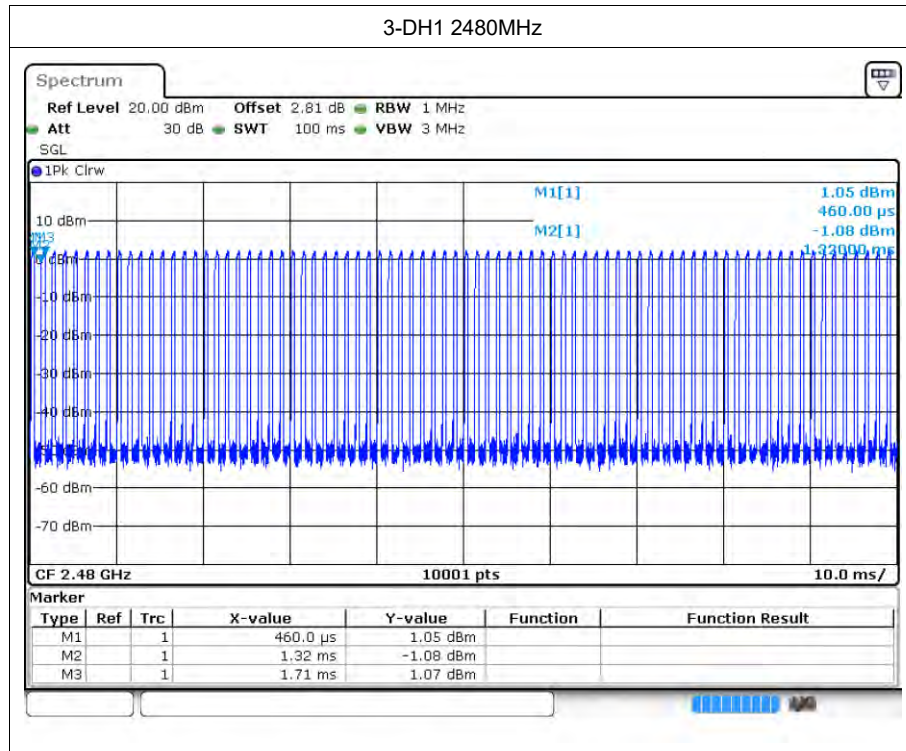
## 1.2 Test Graphs









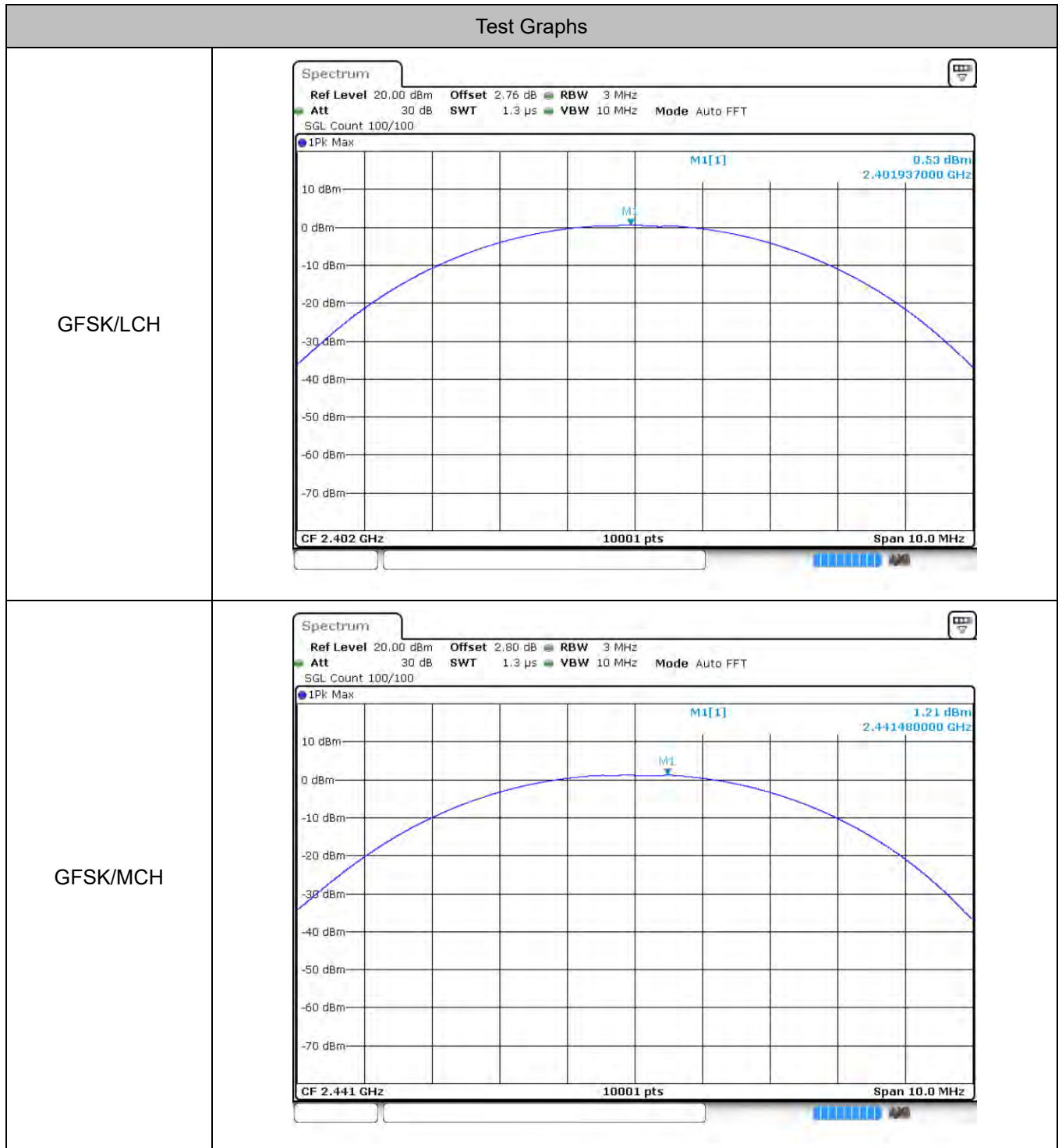


## 2 Maximum Conducted Peak Output Power

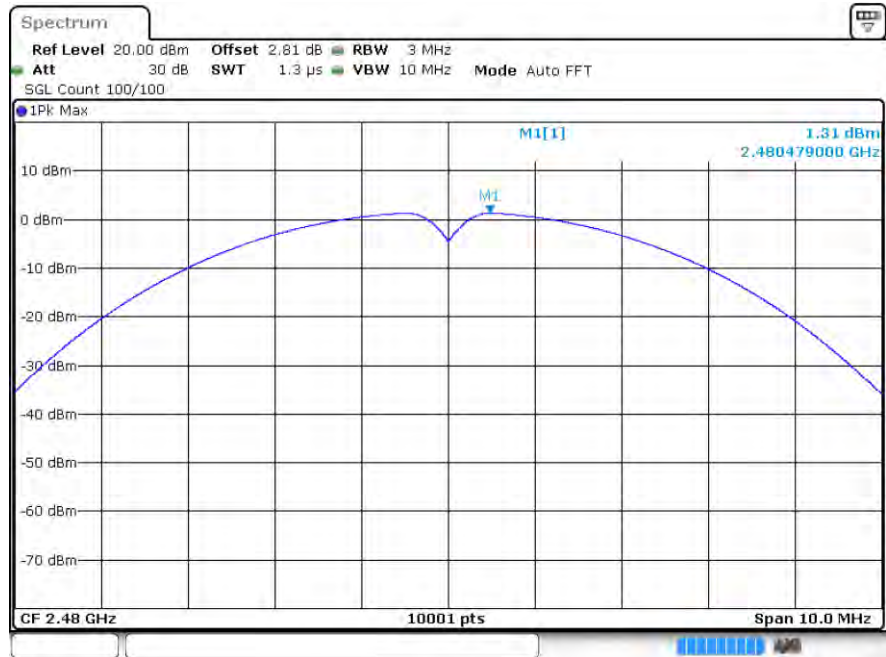
### 2.1 Test Result

| Mode          | Channel. | Maximum Peak Output Power<br>[dBm] | Limit<br>[dBm] | Verdict |
|---------------|----------|------------------------------------|----------------|---------|
| GFSK          | LCH      | 0.53                               | 21             | Pass    |
|               | MCH      | 1.21                               | 21             | Pass    |
|               | HCH      | 1.31                               | 21             | Pass    |
| $\pi/4$ DQPSK | LCH      | 1.78                               | 21             | Pass    |
|               | MCH      | 2.34                               | 21             | Pass    |
|               | HCH      | 2.5                                | 21             | Pass    |
| 8DPSK         | LCH      | 1.28                               | 21             | Pass    |
|               | MCH      | 2.33                               | 21             | Pass    |
|               | HCH      | 2.16                               | 21             | Pass    |

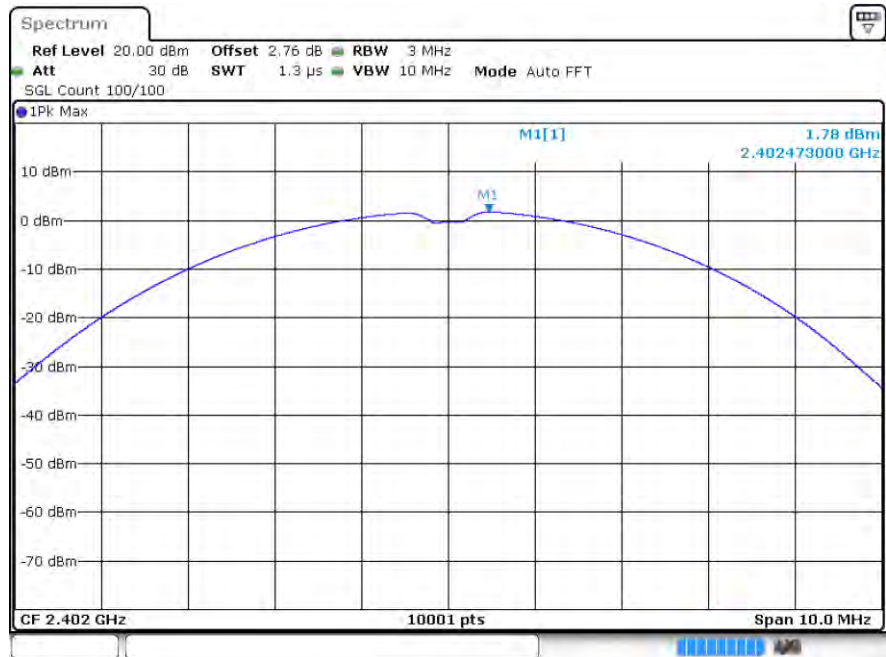
## 2.2 Test Graphs



GFSK/HCH



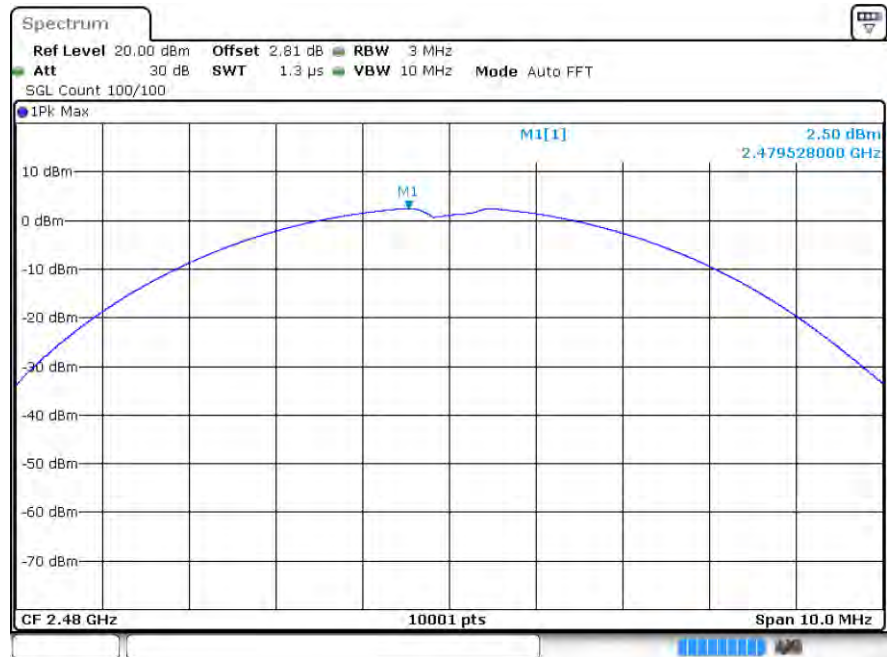
$\pi/4$ DQPSK/LCH



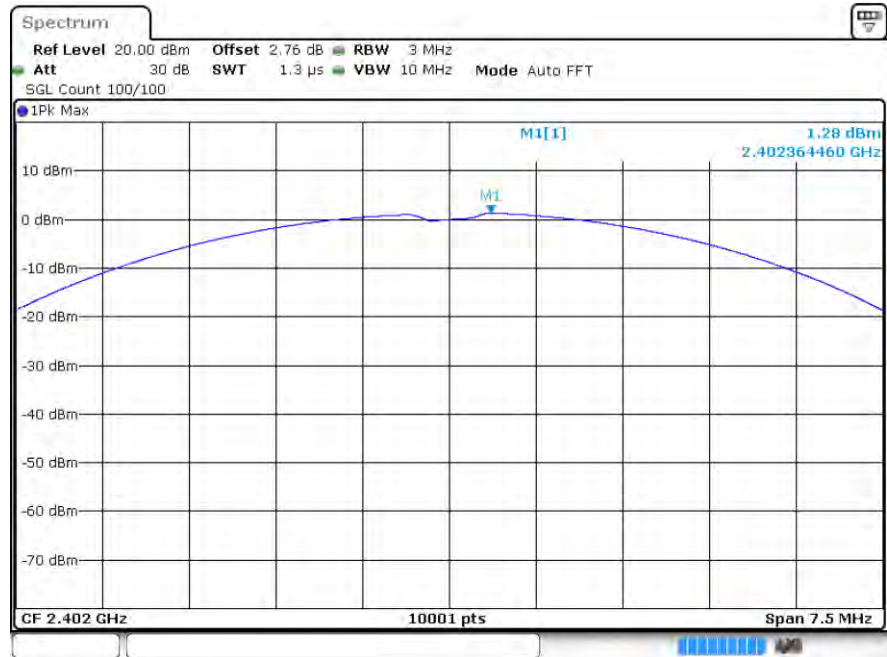
$\pi/4$ DQPSK/MCH



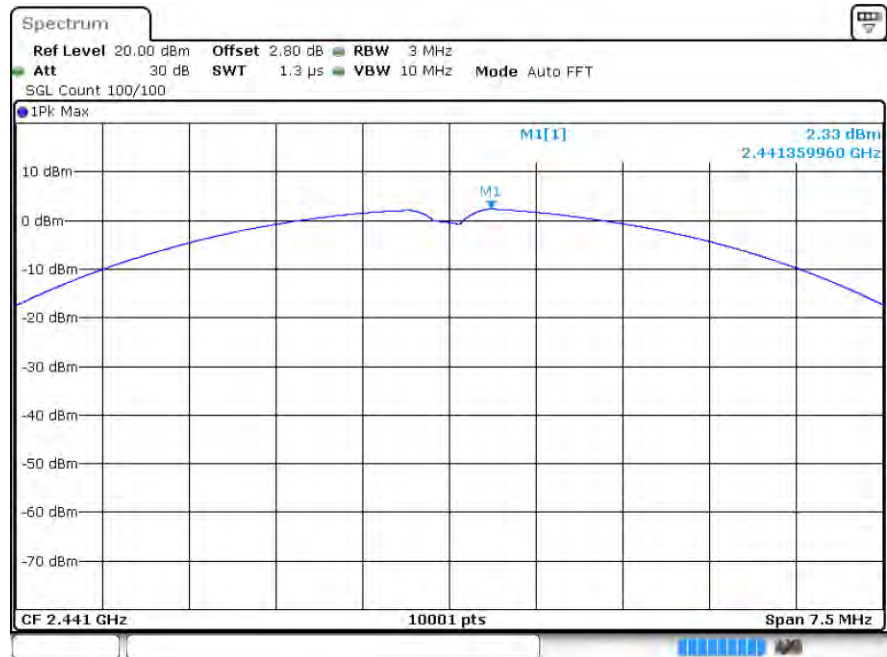
$\pi/4$ DQPSK/HCH



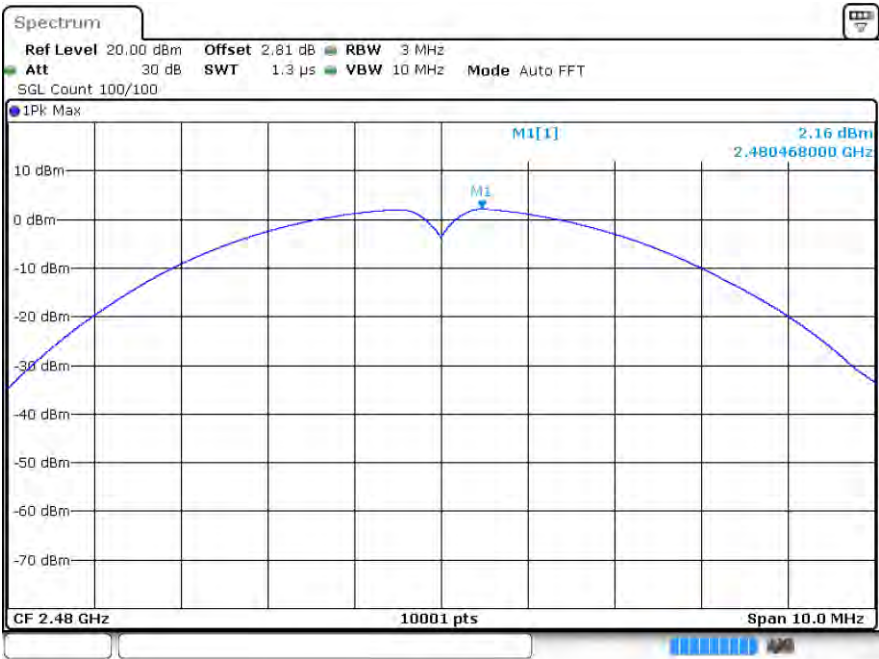
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

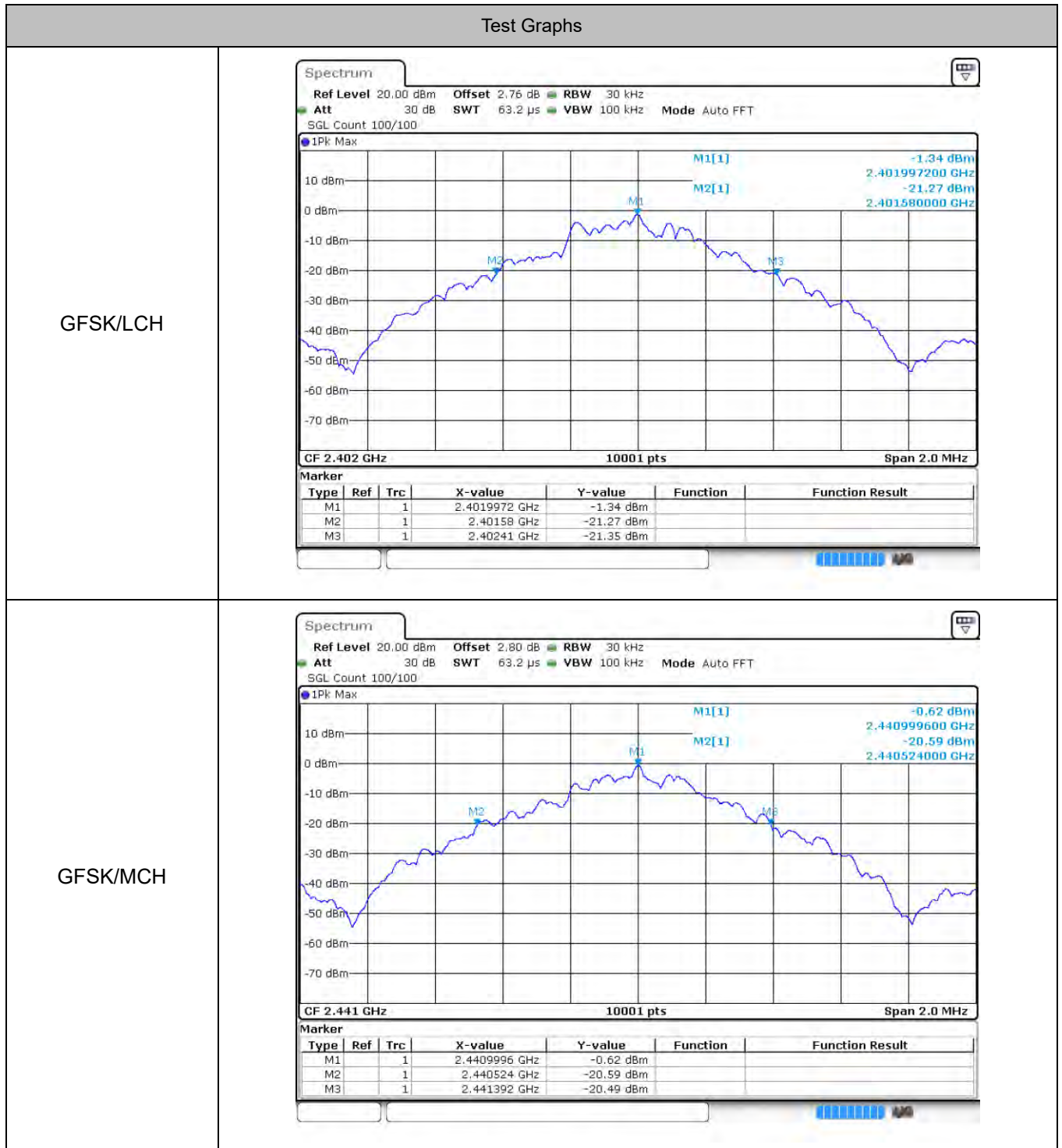


### 3 20dB Bandwidth

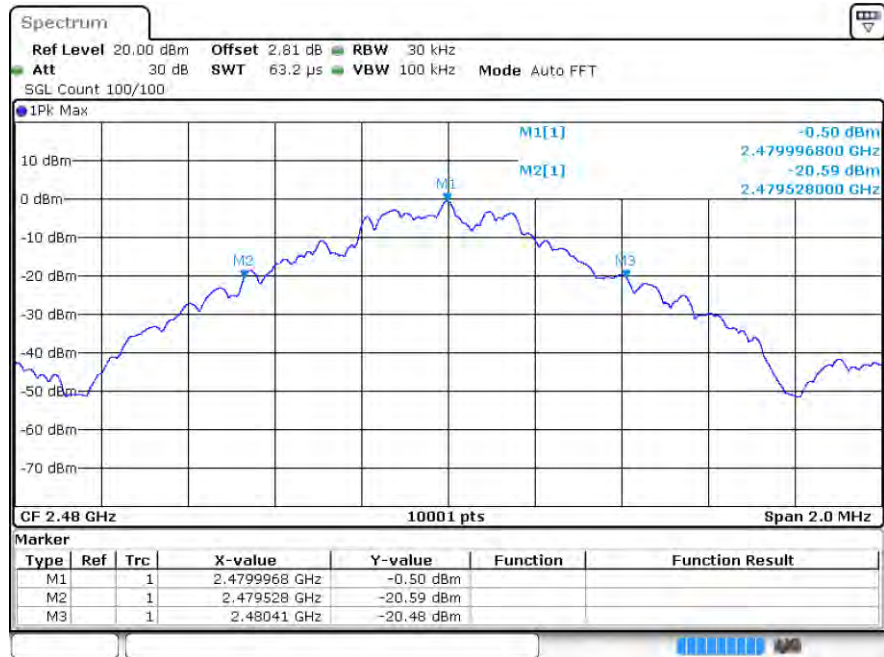
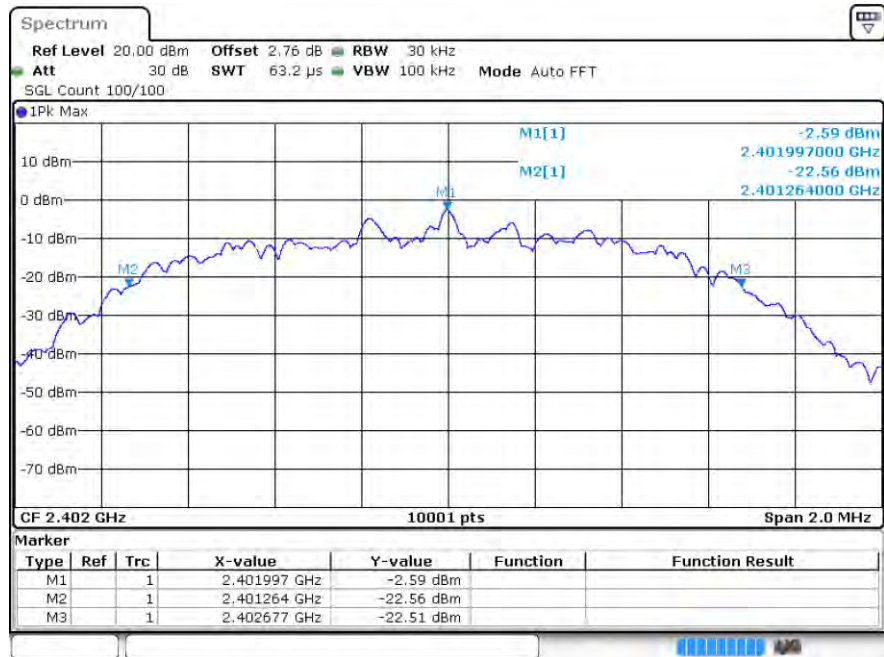
#### 3.1 Test Result

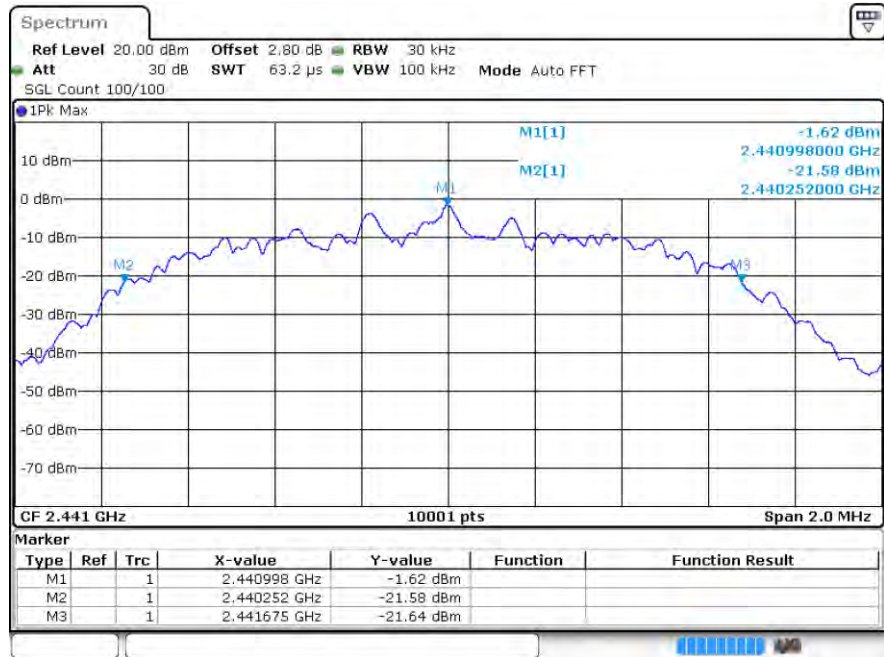
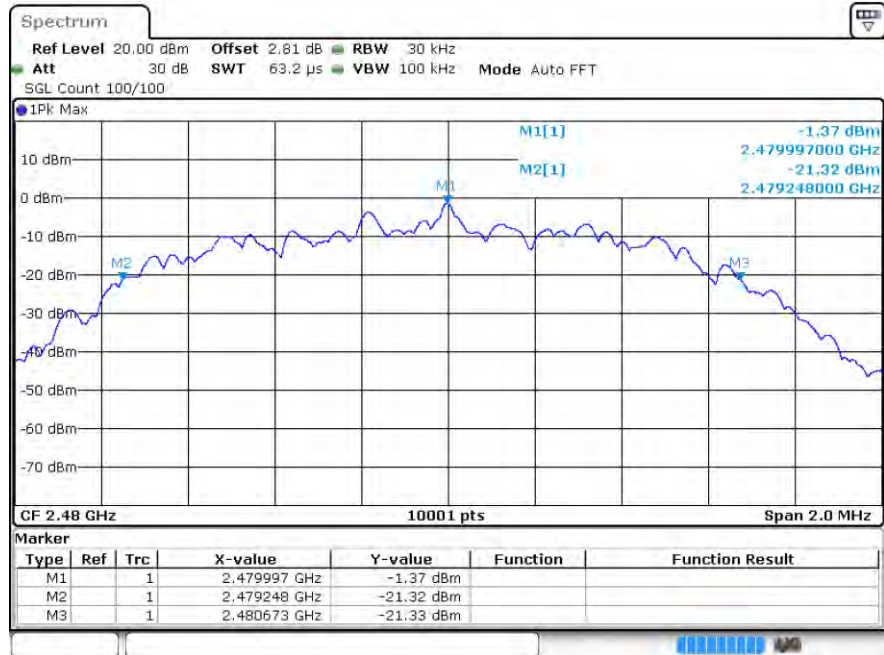
| Mode          | Channel. | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|---------------|----------|----------------------|---------------|---------|
| GFSK          | LCH      | 0.83                 | Not Specified | Pass    |
|               | MCH      | 0.868                | Not Specified | Pass    |
|               | HCH      | 0.882                | Not Specified | Pass    |
| $\pi/4$ DQPSK | LCH      | 1.414                | Not Specified | Pass    |
|               | MCH      | 1.423                | Not Specified | Pass    |
|               | HCH      | 1.426                | Not Specified | Pass    |
| 8DPSK         | LCH      | 1.413                | Not Specified | Pass    |
|               | MCH      | 1.441                | Not Specified | Pass    |
|               | HCH      | 1.442                | Not Specified | Pass    |

### 3.2 Test Graphs

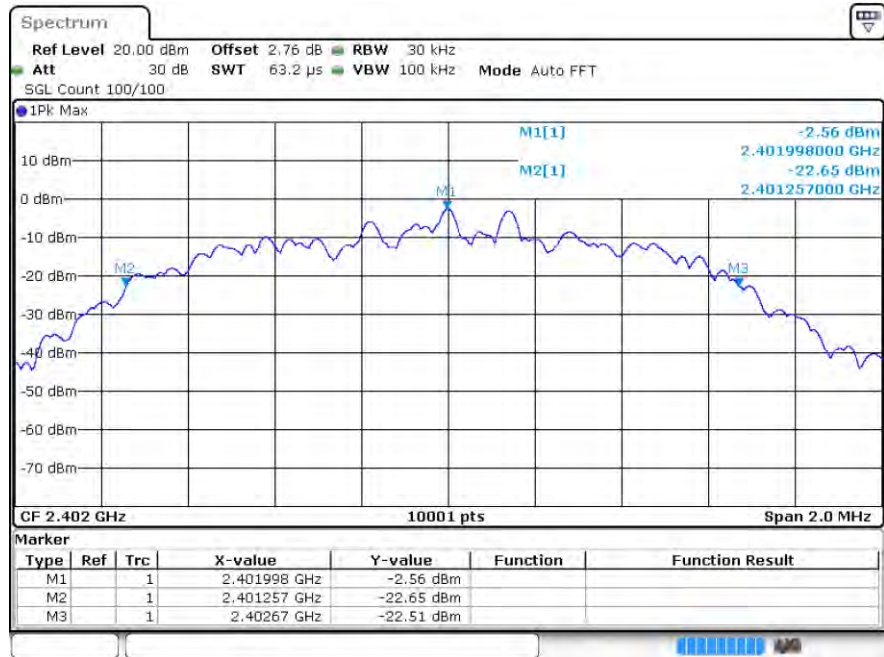


GFSK/HCH

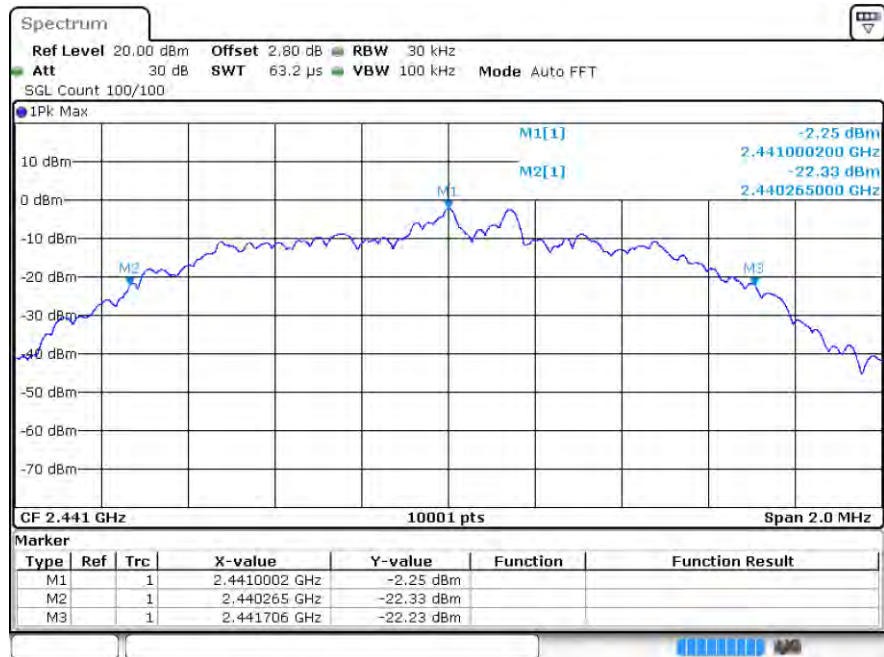

 $\pi/4$ DQPSK/LCH


$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH


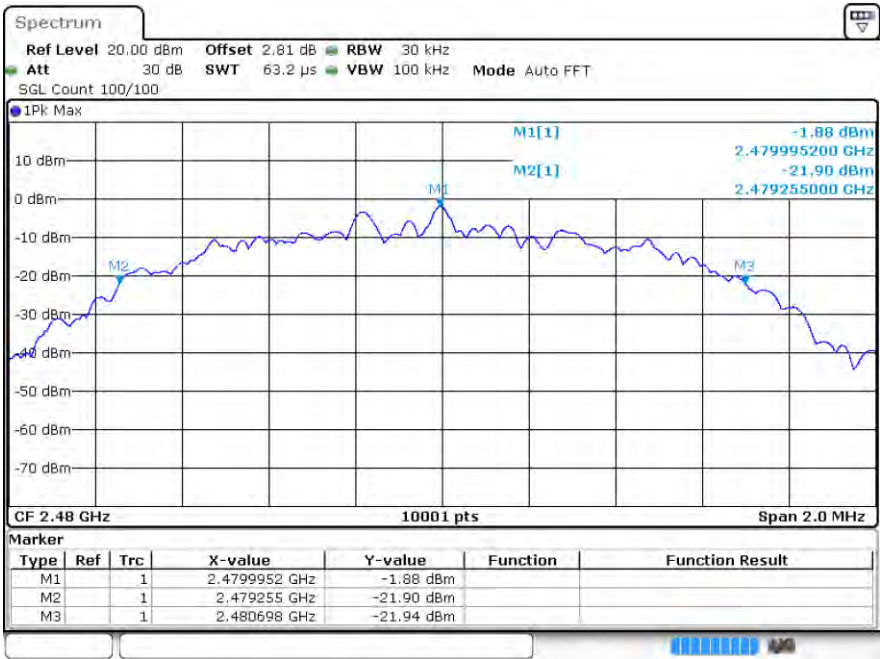
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH



## 4 Carrier Frequency Separation

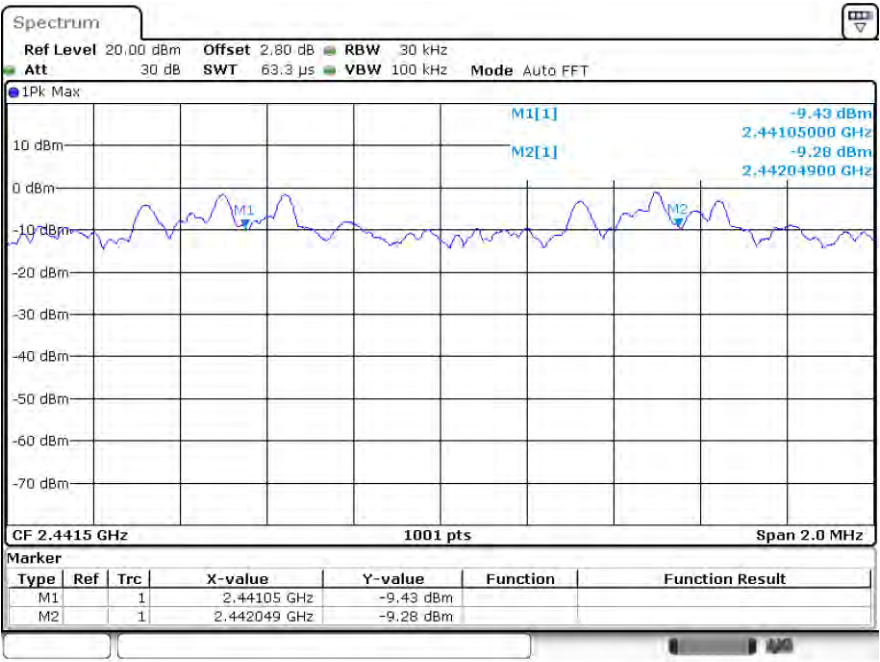
### 4.1 Test Result

| Mode          | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK          | MCH      | 0.999                              | 0.579       | Pass    |
| $\pi/4$ DQPSK | MCH      | 0.983                              | 0.949       | Pass    |
| 8DPSK         | MCH      | 0.999                              | 0.961       | Pass    |

## 4.2 Test Graphs



8DPSK/MCH

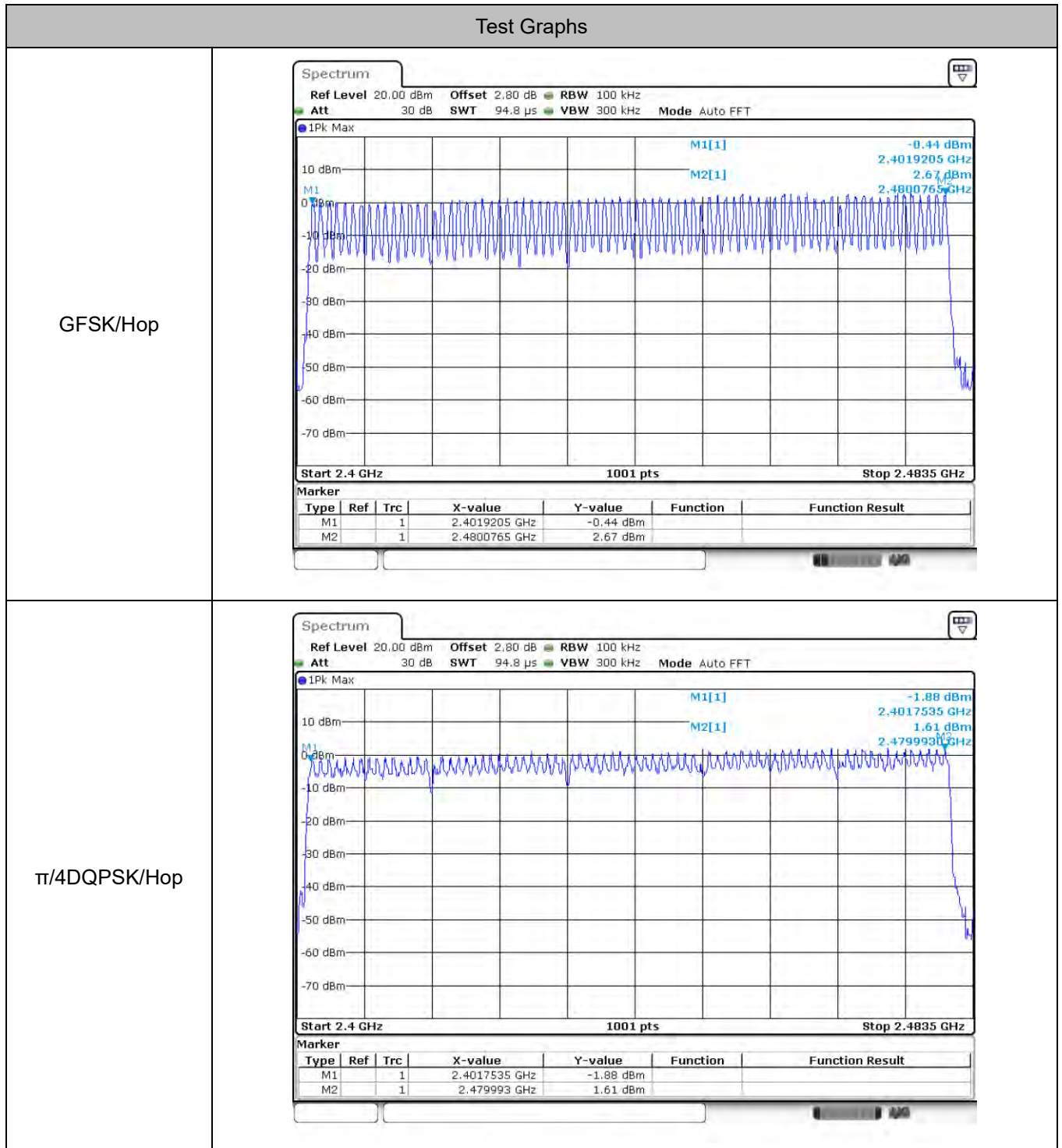


## 5 Hopping Channel Number

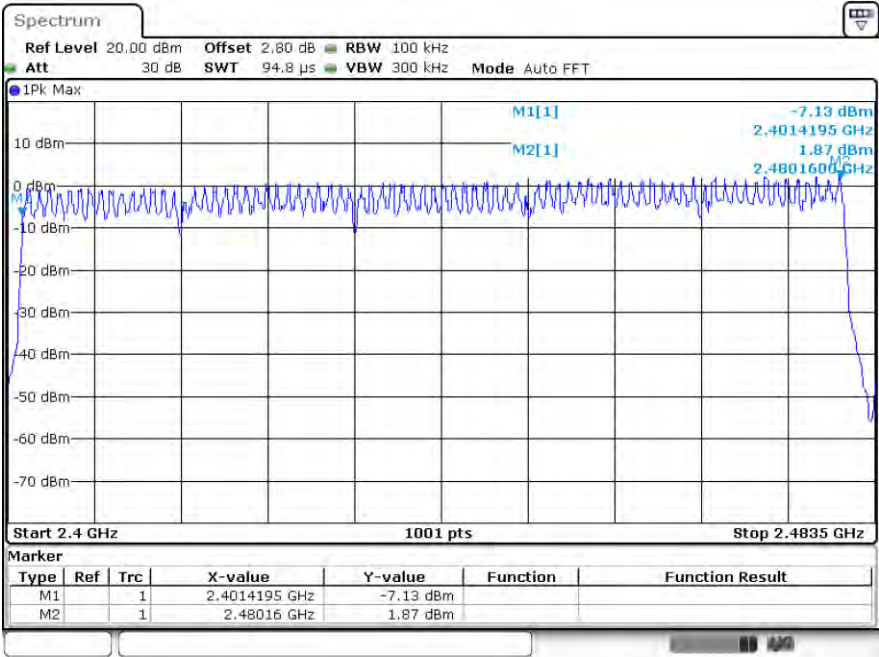
### 5.1 Test Result

| Mode          | Channel. | Number of Hopping Channel [N] | Limit [N] | Verdict |
|---------------|----------|-------------------------------|-----------|---------|
| GFSK          | Hop      | 79                            | $\geq 15$ | PASS    |
| $\pi/4$ DQPSK | Hop      | 79                            | $\geq 15$ | PASS    |
| 8DPSK         | Hop      | 79                            | $\geq 15$ | PASS    |

## 5.2 Test Graphs



8DPSK/Hop

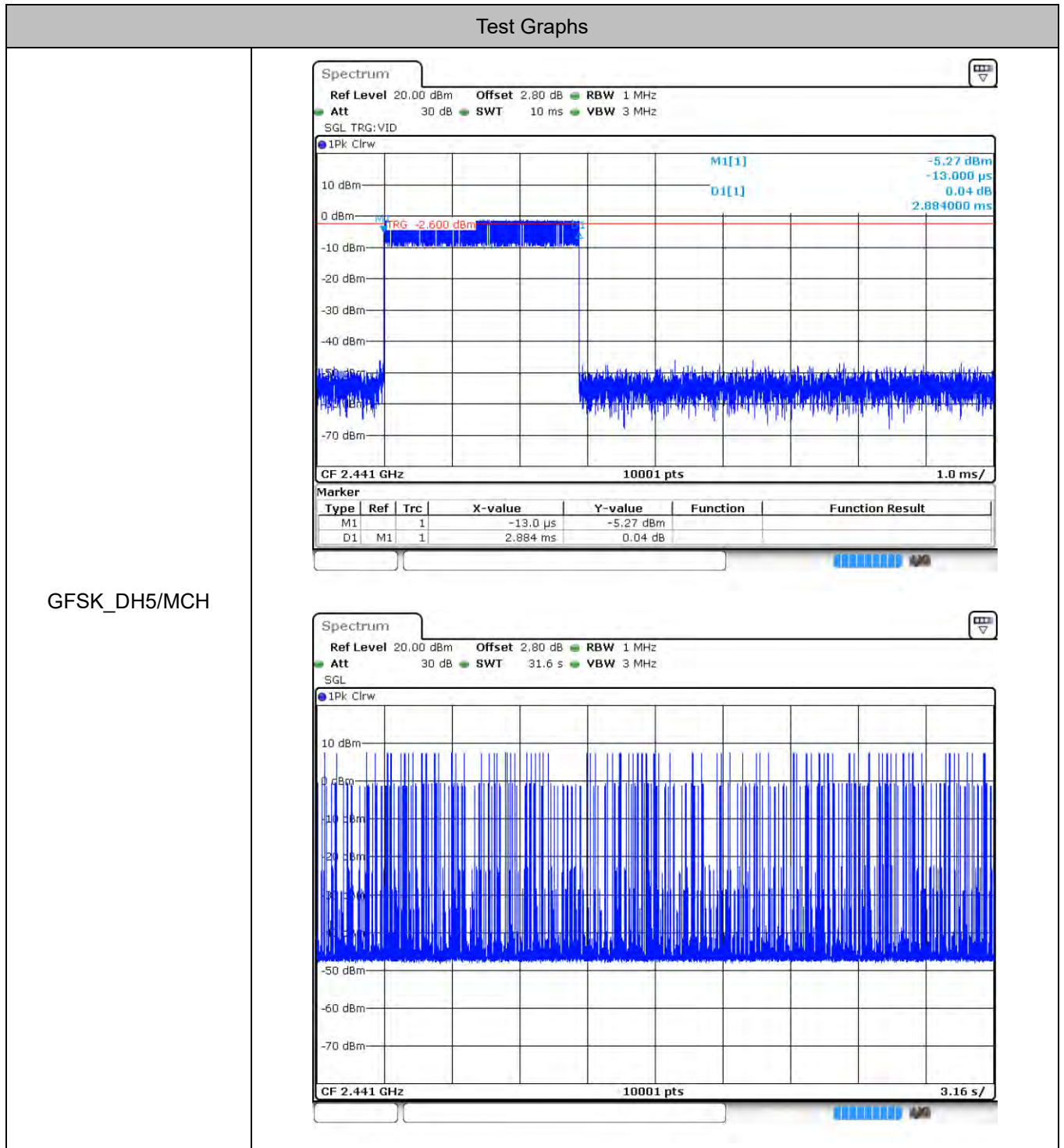


## 6 Dwell Time

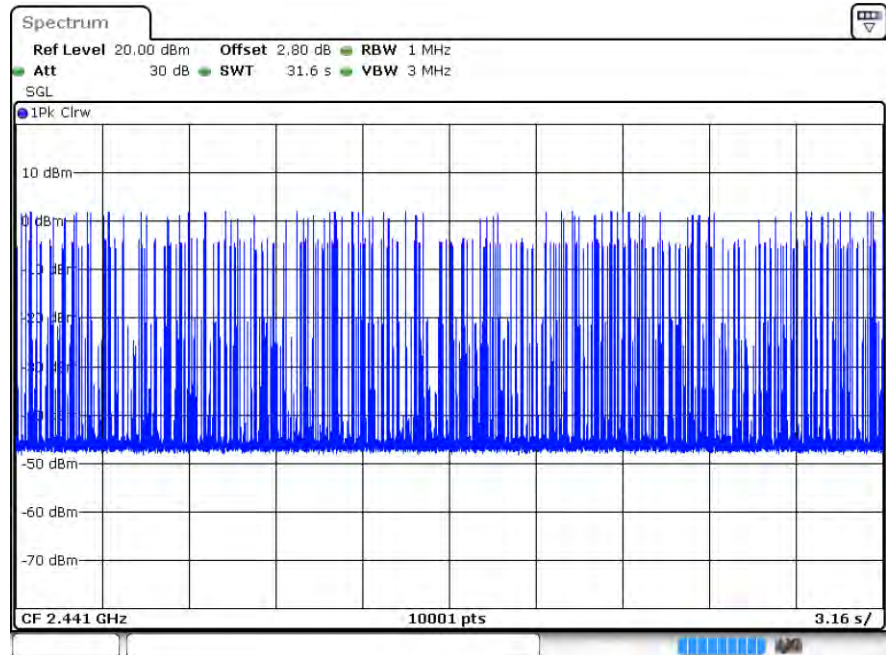
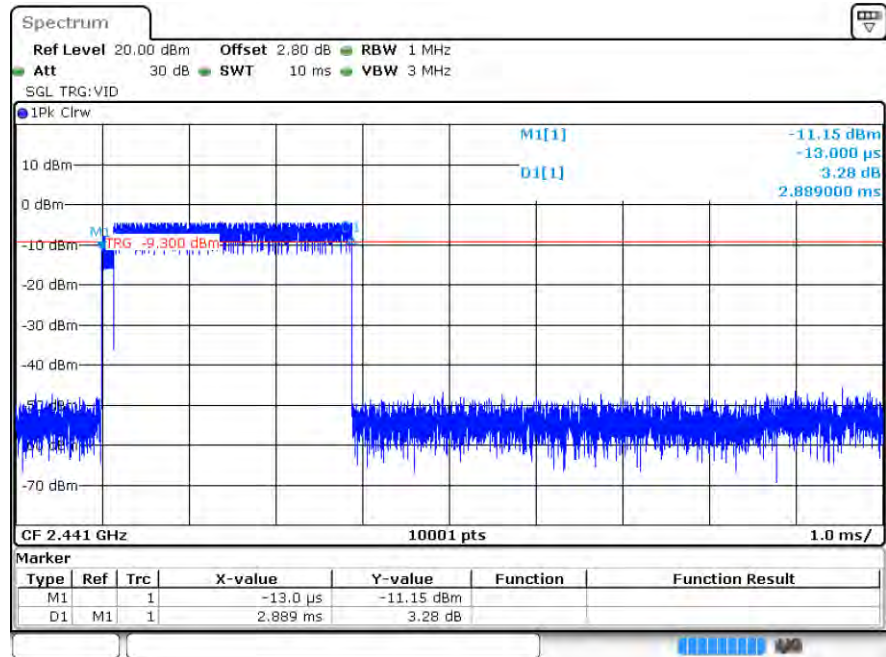
### 6.1 Test Result

| Mode          | Packet | Channel | Burst Width<br>[ms/hop/ch] | Total<br>Hops[hop*ch] | Dwell Time[ms] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|----------------|-----------|---------|
| GFSK          | DH5    | MCH     | 2.884                      | 102                   | 294.168        | 0.4       | Pass    |
| $\pi/4$ DQPSK | 2DH5   | MCH     | 2.889                      | 98                    | 283.122        | 0.4       | Pass    |
| 8DPSK         | 3DH5   | MCH     | 2.891                      | 101                   | 291.991        | 0.4       | Pass    |

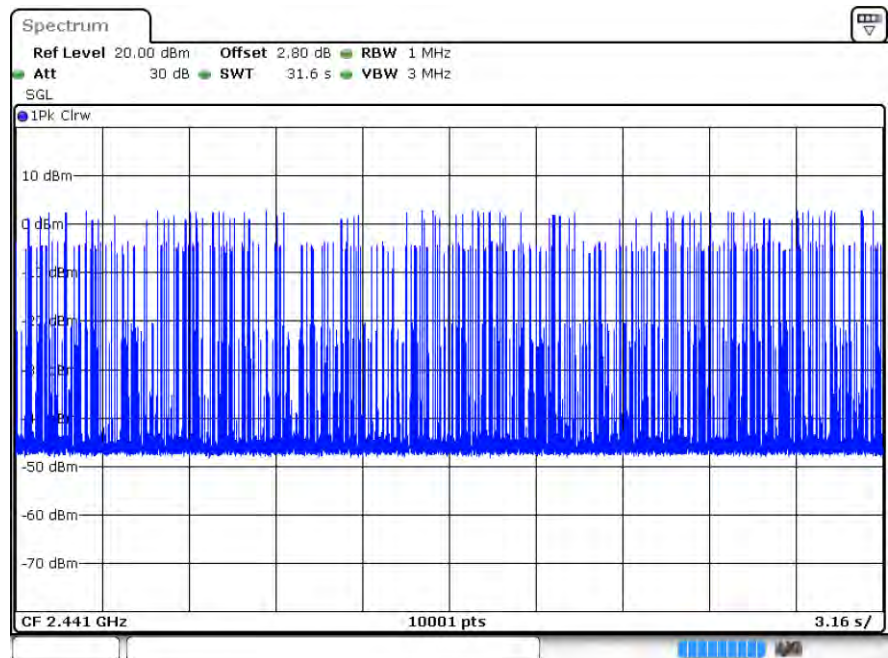
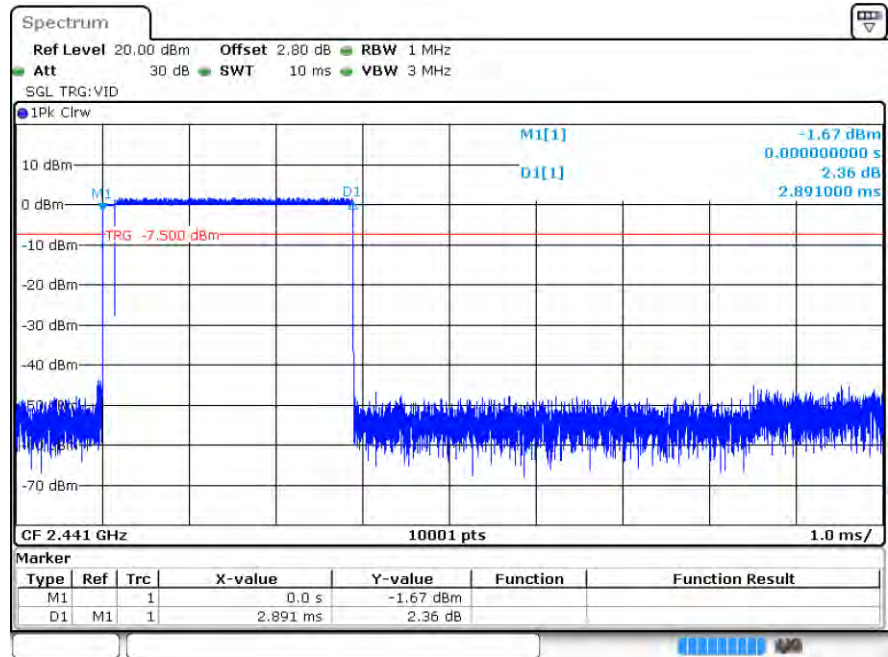
## 6.2 Test Graphs



$\pi/4$ DQPSK  
\_2DH5/MCH



8DPSK\_3DH5/MCH

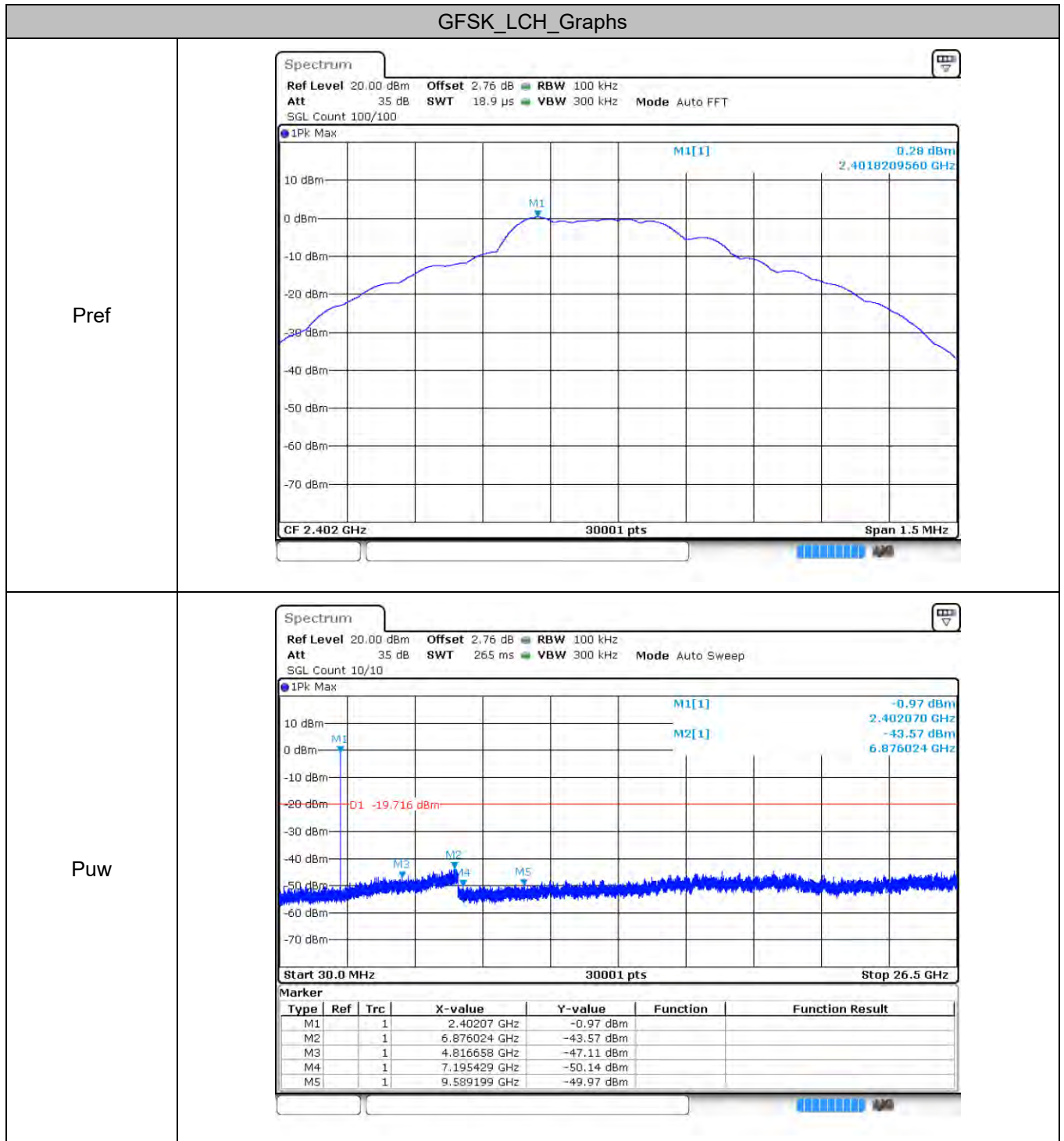


## 7 RF Conducted Spurious Emissions

### 7.1 Test Result

| Mode          | Channel | Max. Level [dBc] | Limit [dBc] | Verdict |
|---------------|---------|------------------|-------------|---------|
| GFSK          | LCH     | -43.84           | -20         | Pass    |
|               | MCH     | -44.52           | -20         | Pass    |
|               | HCH     | -44.11           | -20         | Pass    |
| $\pi/4$ DQPSK | LCH     | -41.74           | -20         | Pass    |
|               | MCH     | -43.86           | -20         | Pass    |
|               | HCH     | -42.96           | -20         | Pass    |
| 8DPSK         | LCH     | -43.16           | -20         | Pass    |
|               | MCH     | -43.78           | -20         | Pass    |
|               | HCH     | -44.2            | -20         | Pass    |

## 7.2 Test Graphs

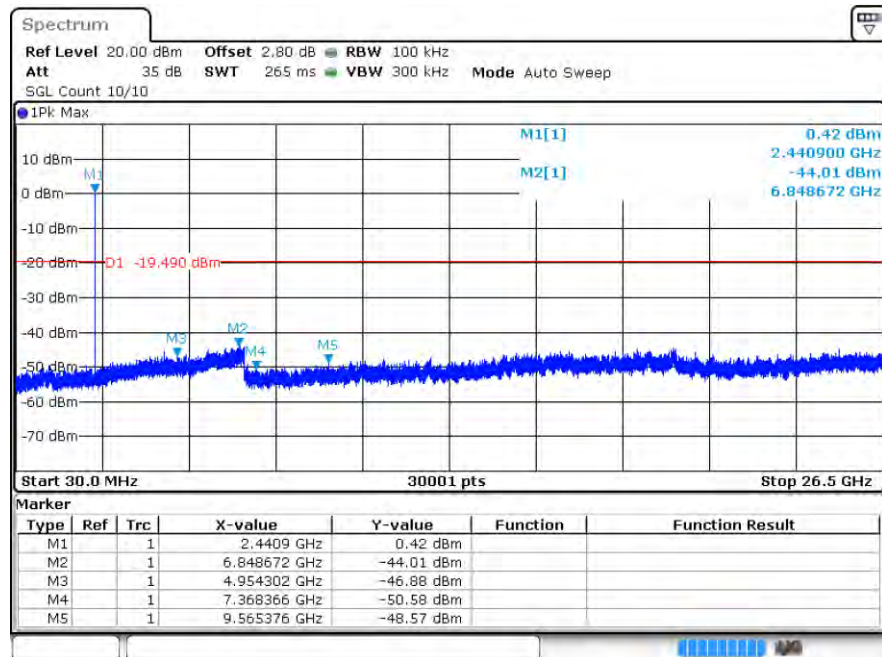


## GFSK\_MCH\_Graphs

Pref



Puw

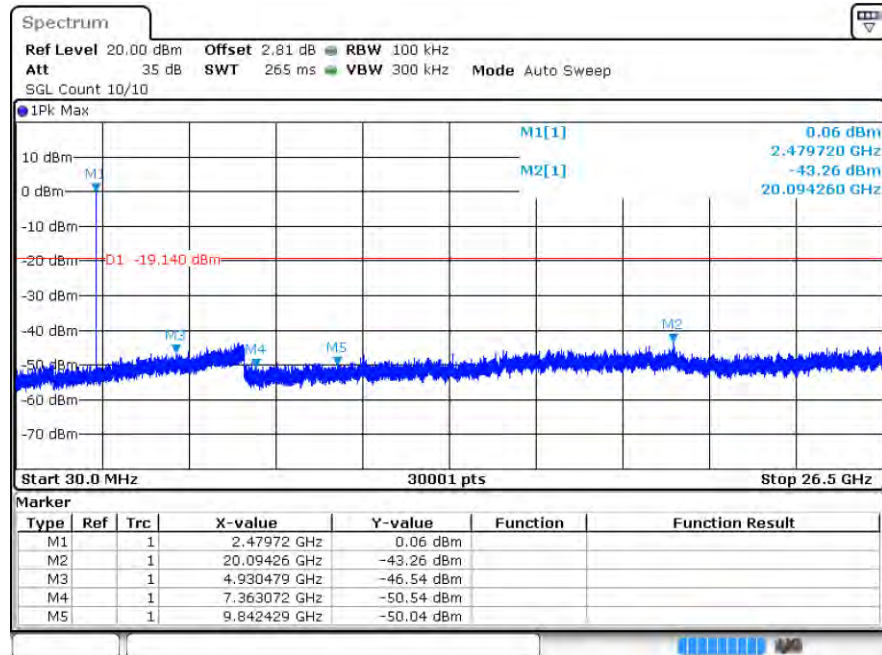


## GFSK\_HCH\_Graphs

Pref

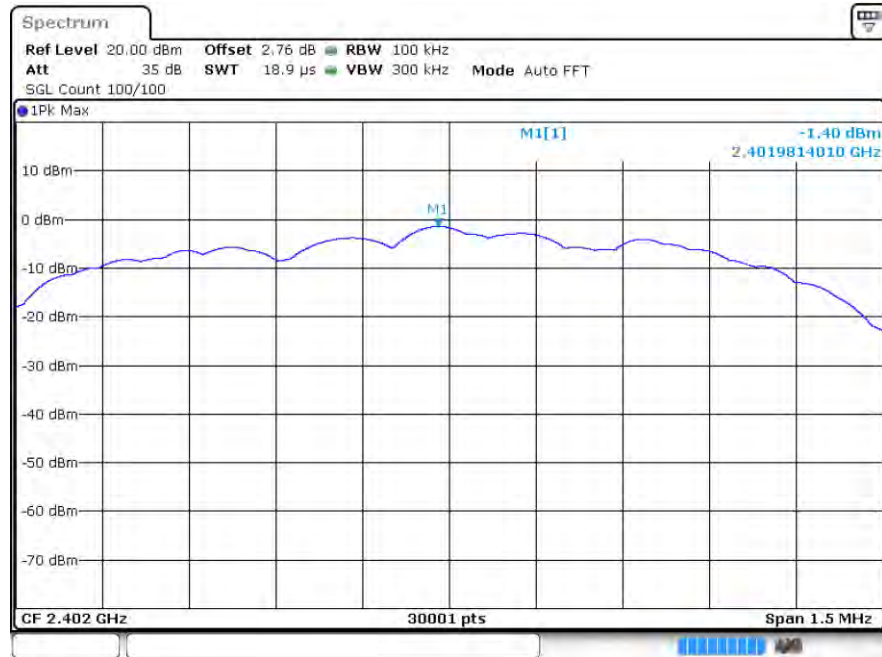


Puw

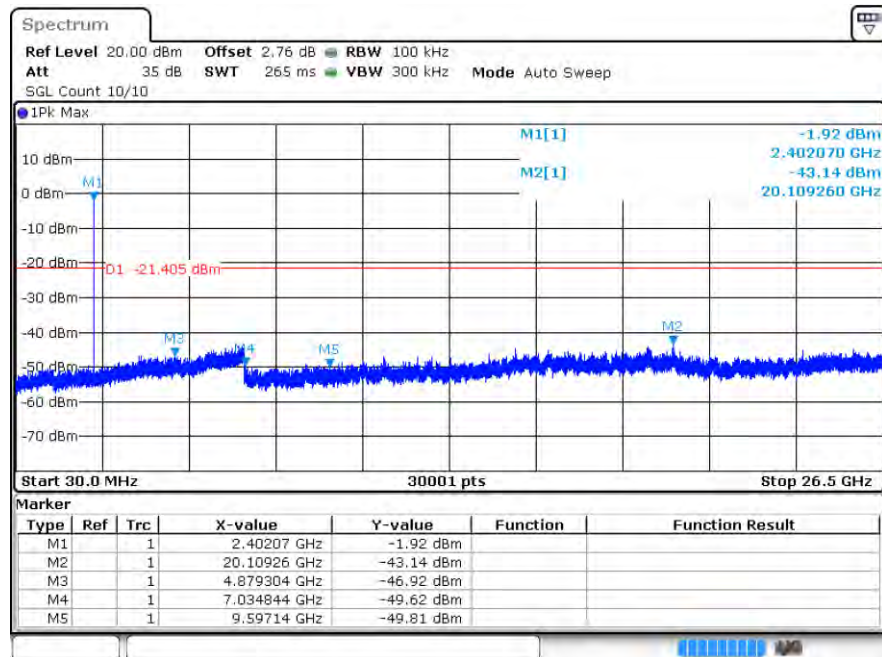


# $\pi/4$ DQPSK\_LCH\_Graphs

Pref

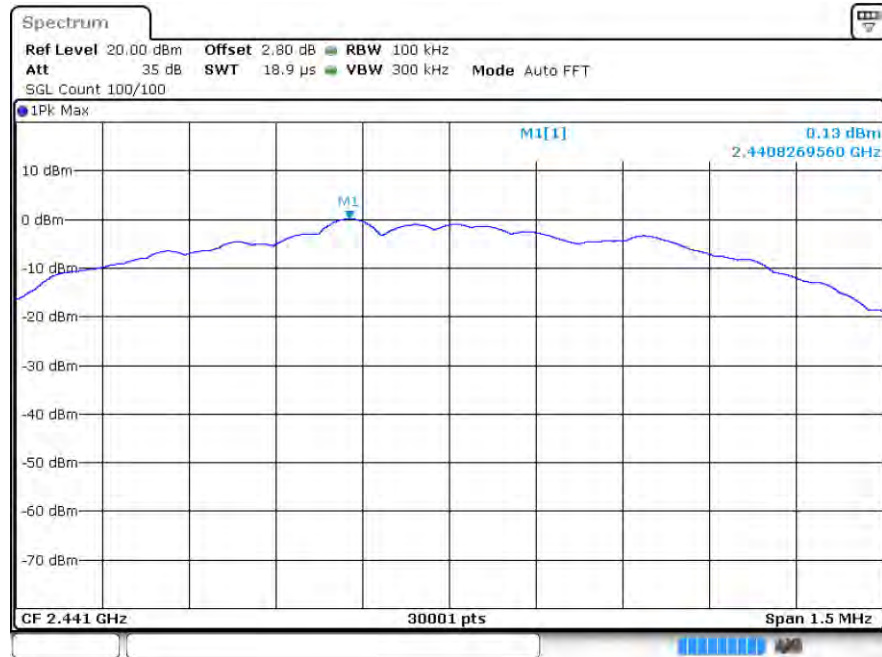


Puw

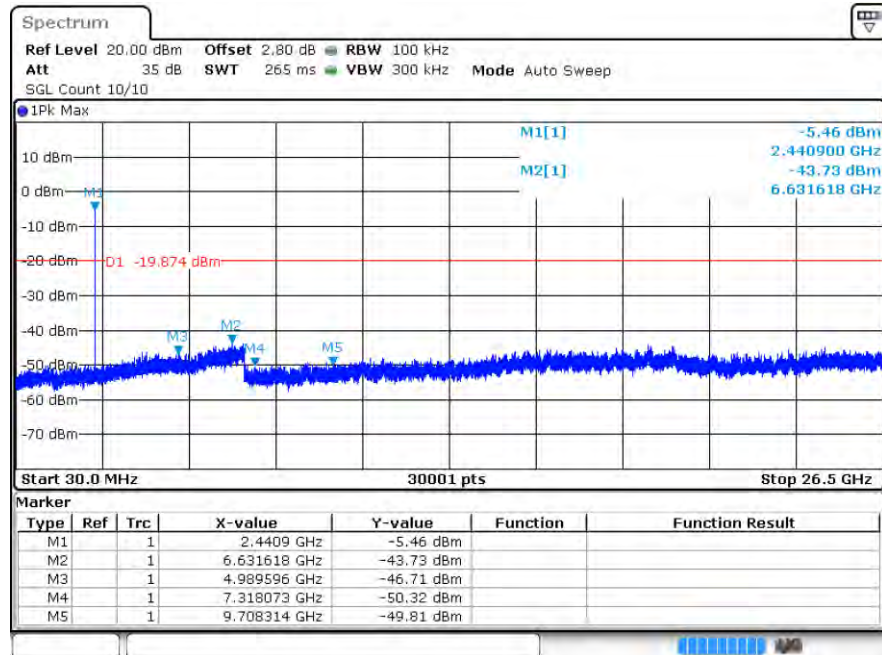


# $\pi/4$ DQPSK\_MCH\_Graphs

Pref

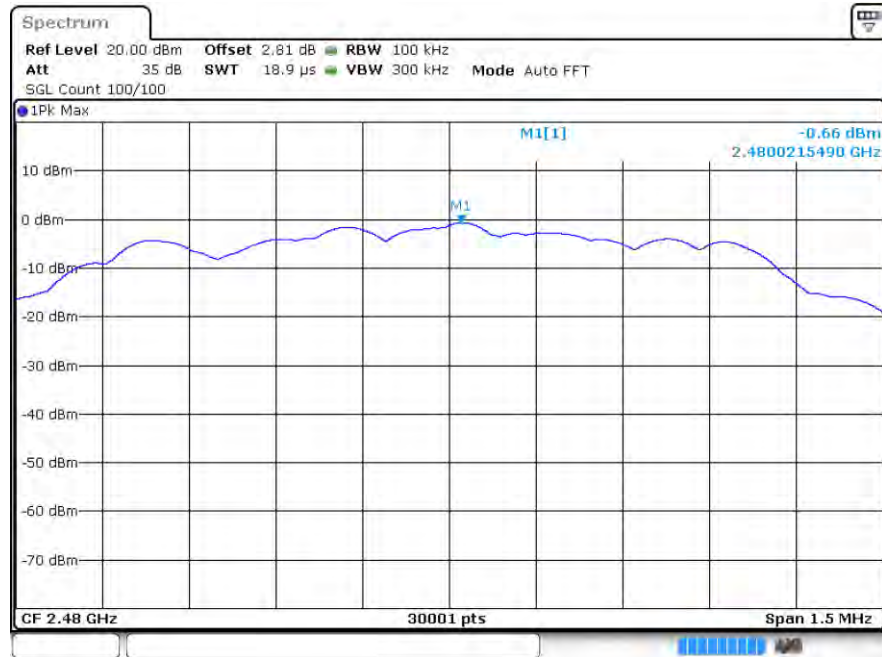


Puw

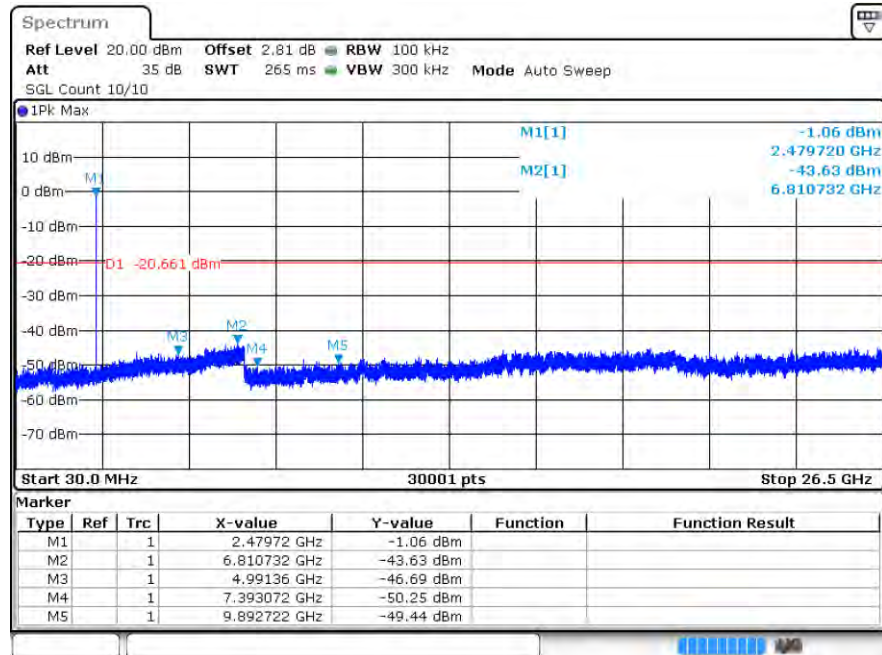


### $\pi/4$ DQPSK\_HCH\_Graphs

Pref

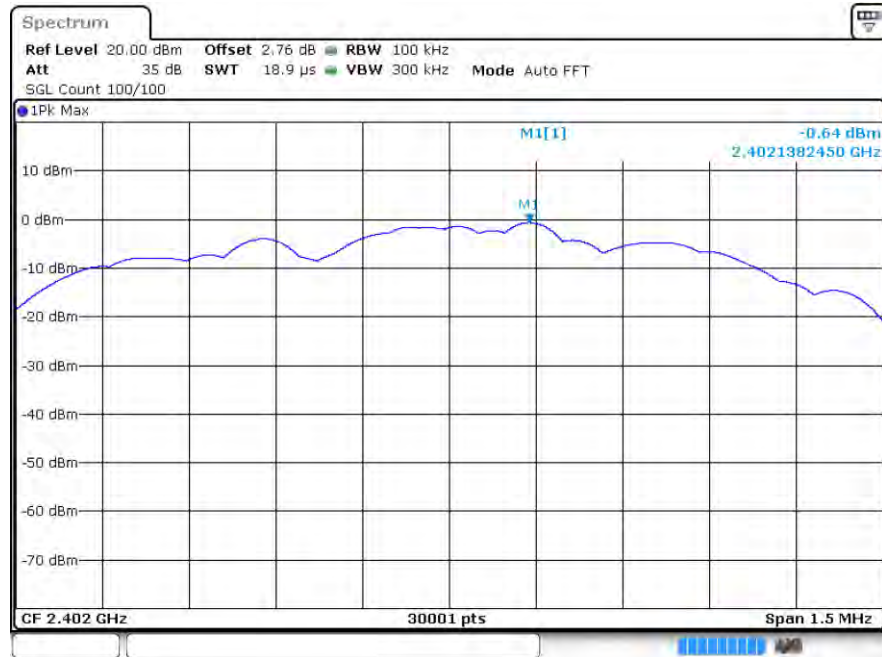


Puw

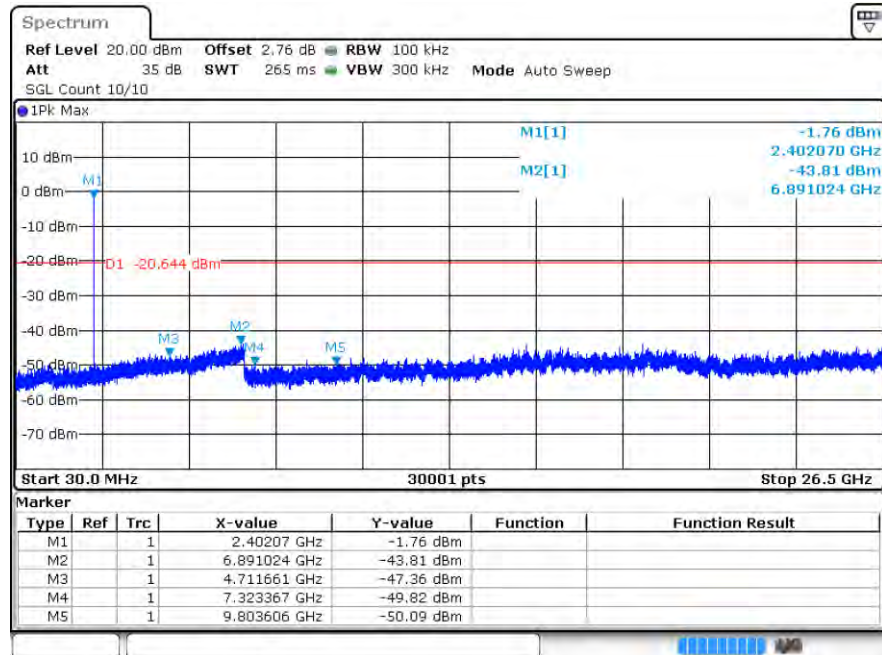


## 8DPSK\_LCH\_Graphs

Pref

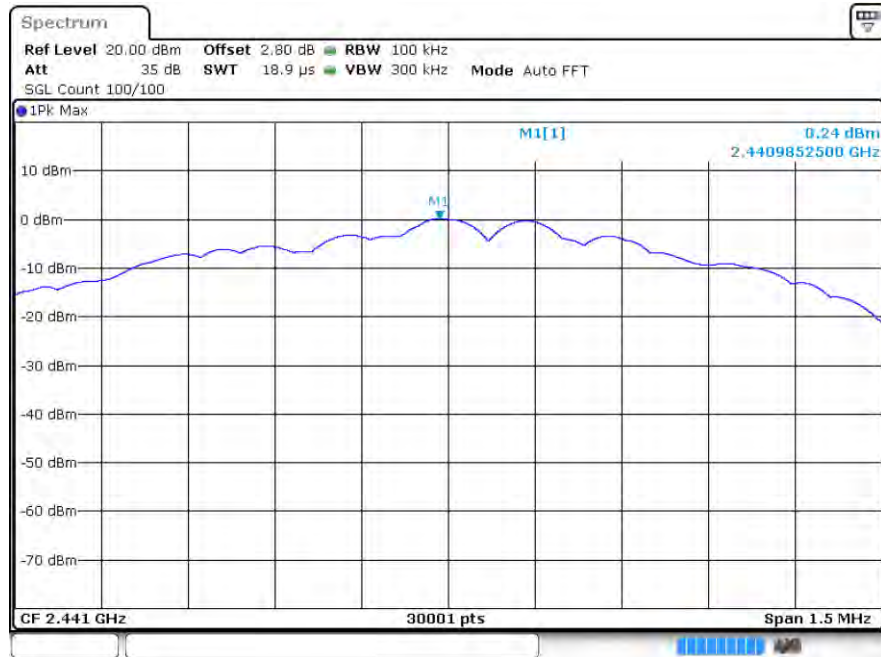


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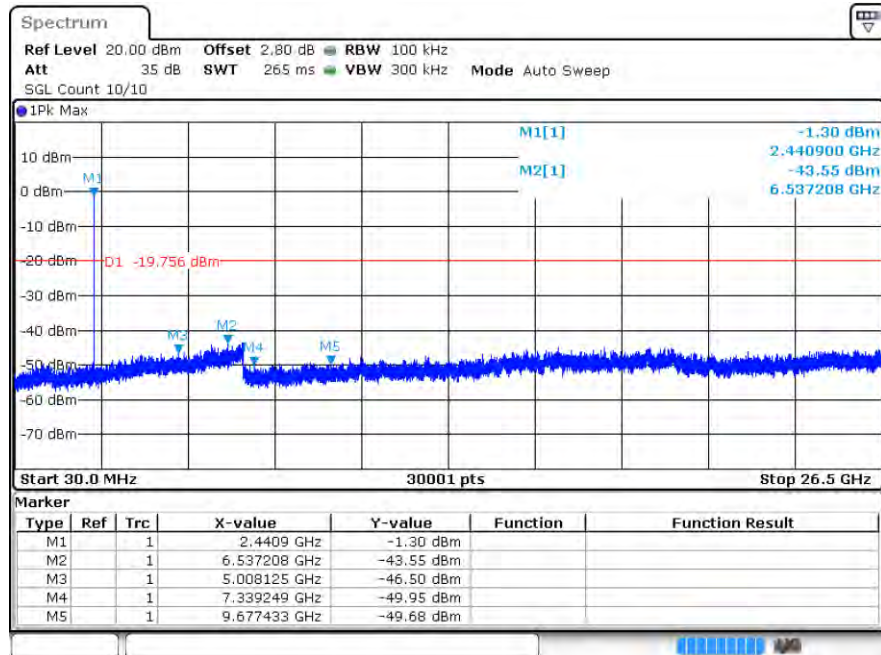


## 8DPSK\_MCH\_Graphs

Pref

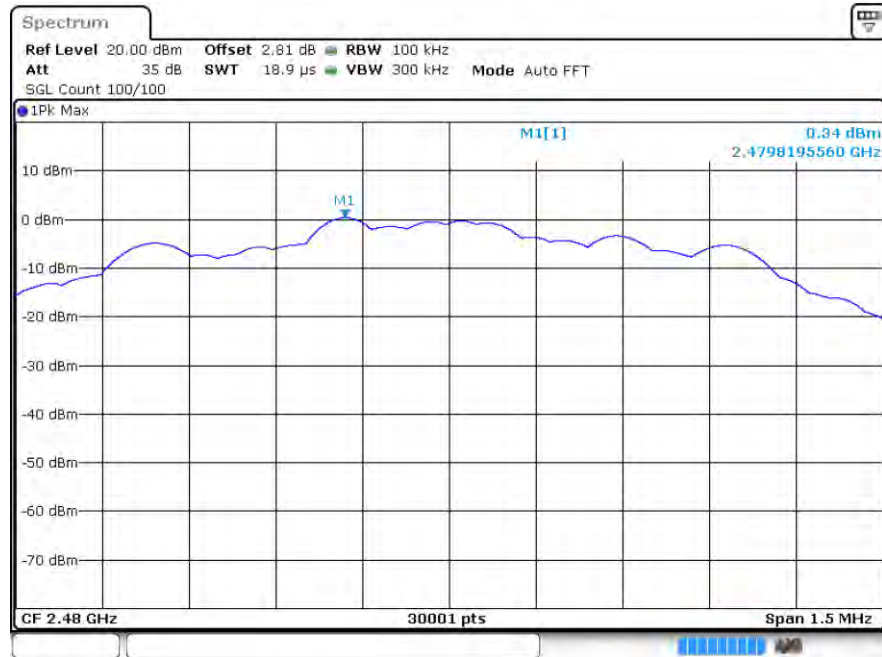


Puw

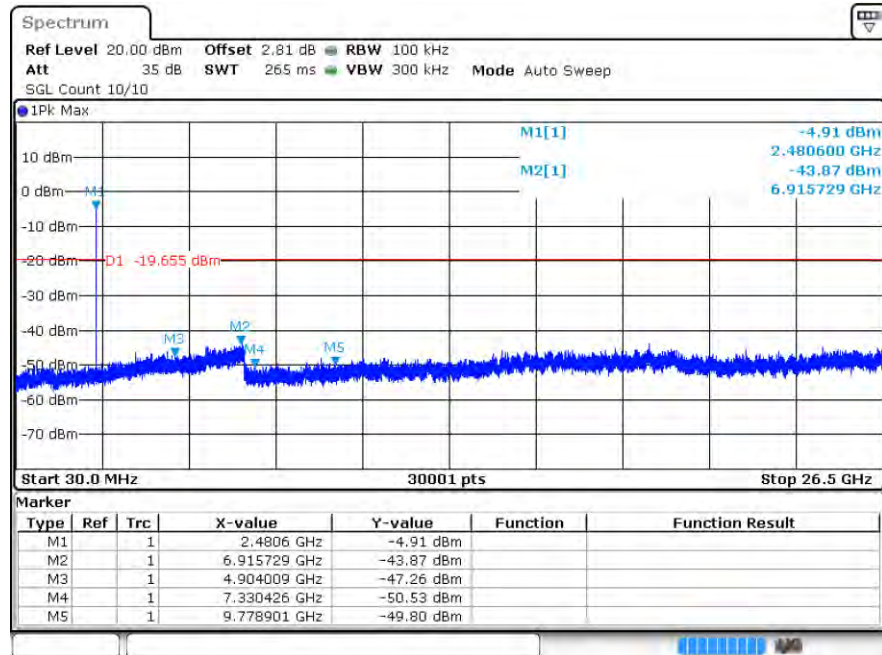


### 8DPSK\_HCH\_Graphs

Pref



Puw

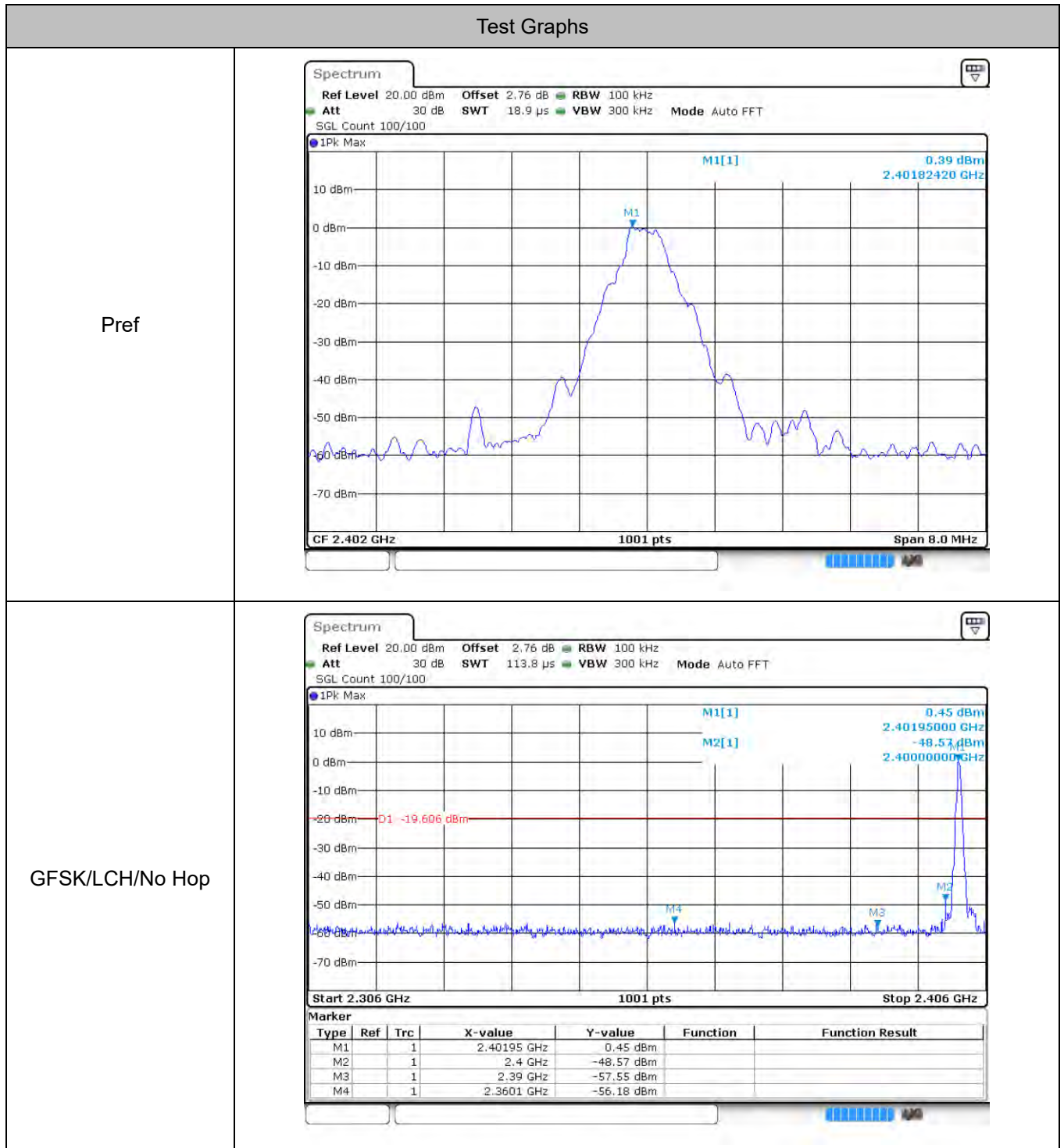


## 8 Band-edge for RF Conducted Emissions

### 8.1 Test Result

| Mode          | Channel | Carrier Frequency [MHz] | Frequency Hopping | Max Spurious Level [dBc] | Limit [dBc] | Verdict |
|---------------|---------|-------------------------|-------------------|--------------------------|-------------|---------|
| GFSK          | LCH     | 2402                    | Off               | -56.57                   | -20         | Pass    |
|               |         |                         | On                | -55.12                   | -20         | Pass    |
|               | HCH     | 2480                    | Off               | -48.29                   | -20         | Pass    |
|               |         |                         | On                | -50.65                   | -20         | Pass    |
| $\pi/4$ DQPSK | LCH     | 2402                    | Off               | -54.35                   | -20         | Pass    |
|               |         |                         | On                | -53.44                   | -20         | Pass    |
|               | HCH     | 2480                    | Off               | -45.77                   | -20         | Pass    |
|               |         |                         | On                | -48.68                   | -20         | Pass    |
| 8DPSK         | LCH     | 2402                    | Off               | -55.18                   | -20         | Pass    |
|               |         |                         | On                | -53.7                    | -20         | Pass    |
|               | HCH     | 2480                    | Off               | -54.21                   | -20         | Pass    |
|               |         |                         | On                | -47.98                   | -20         | Pass    |

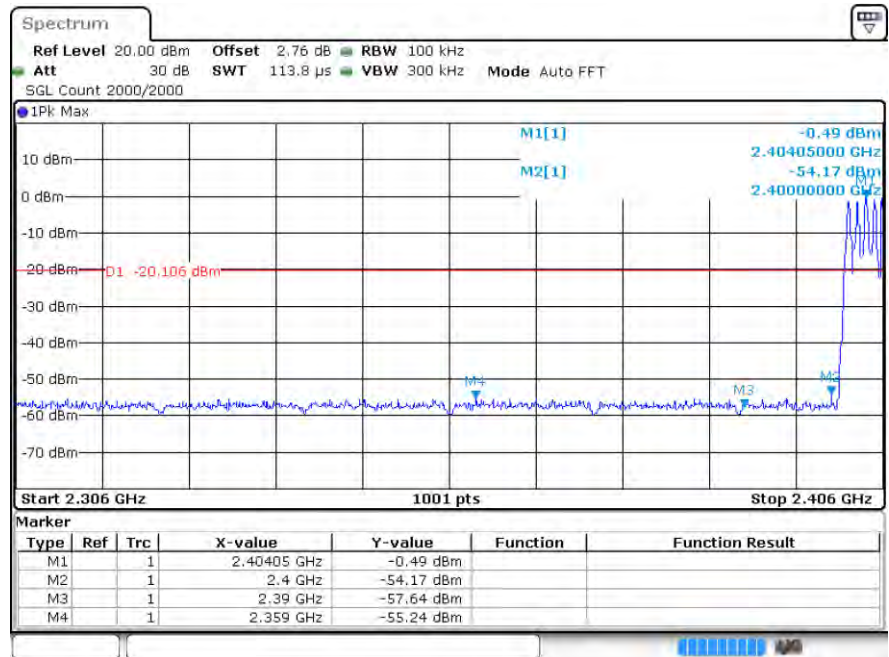
## 8.2 Test Graphs



Ref



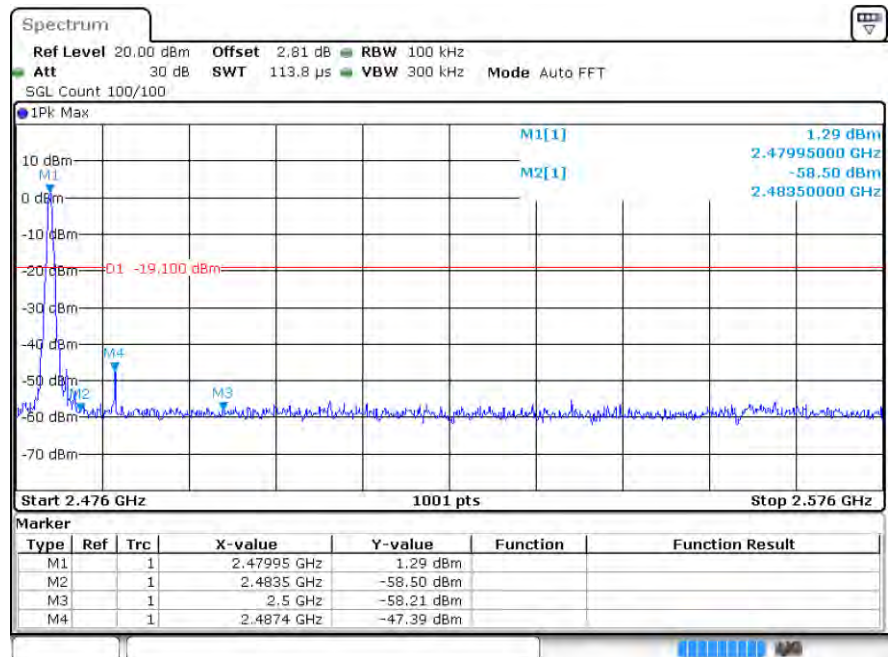
GFSK/LCH/Hop



Ref



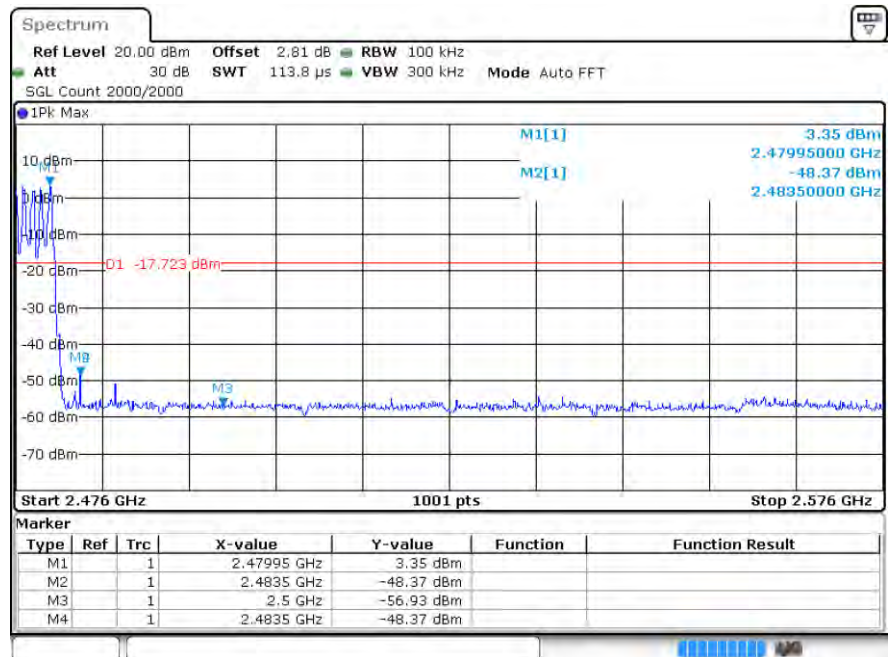
GFSK/HCH/No Hop



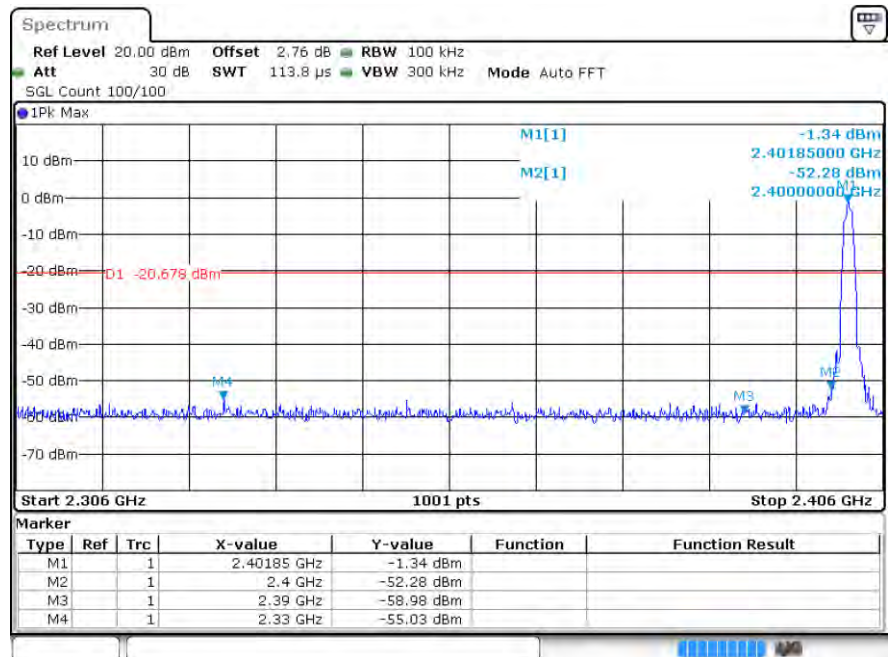
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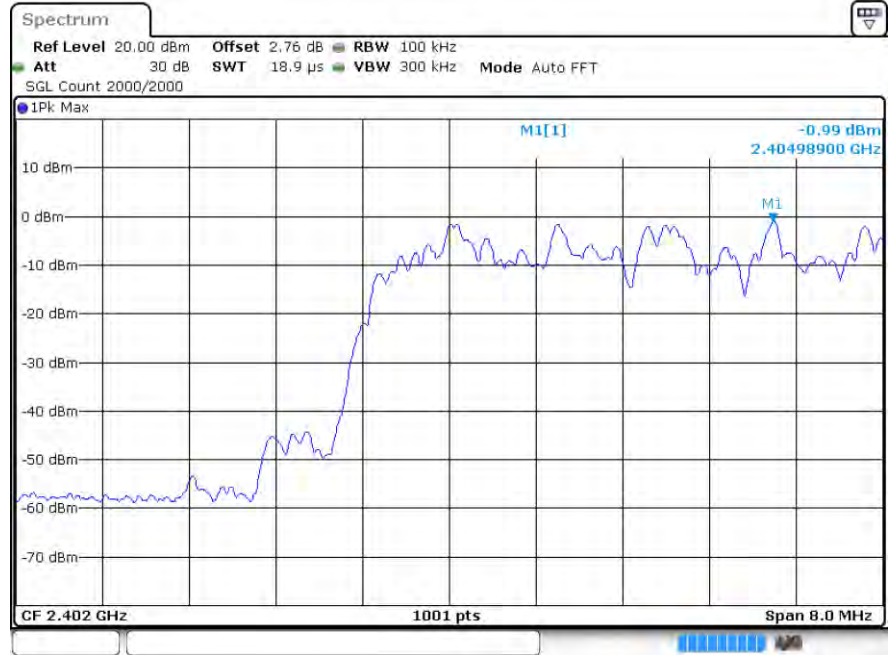
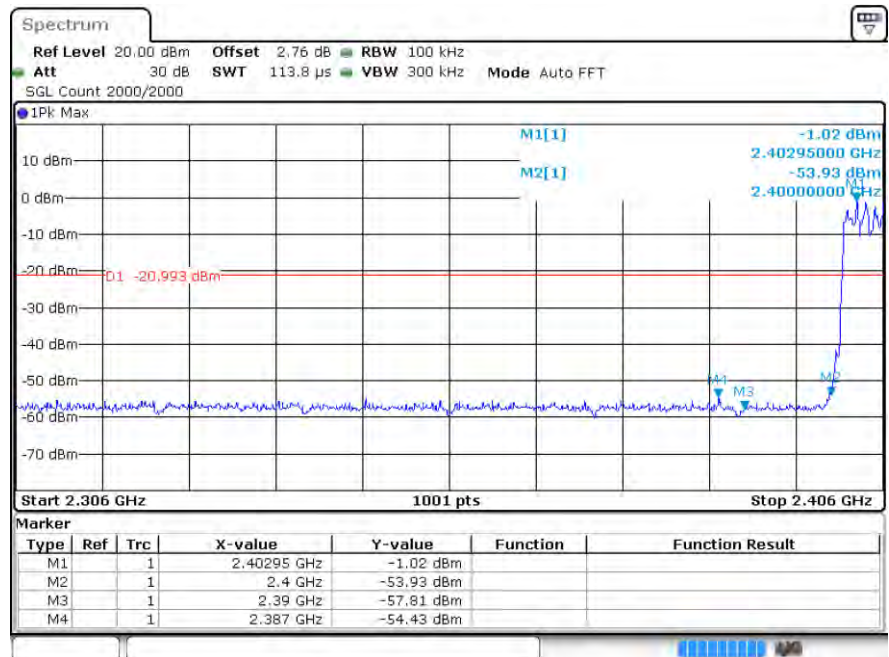
GFSK/HCH/Hop



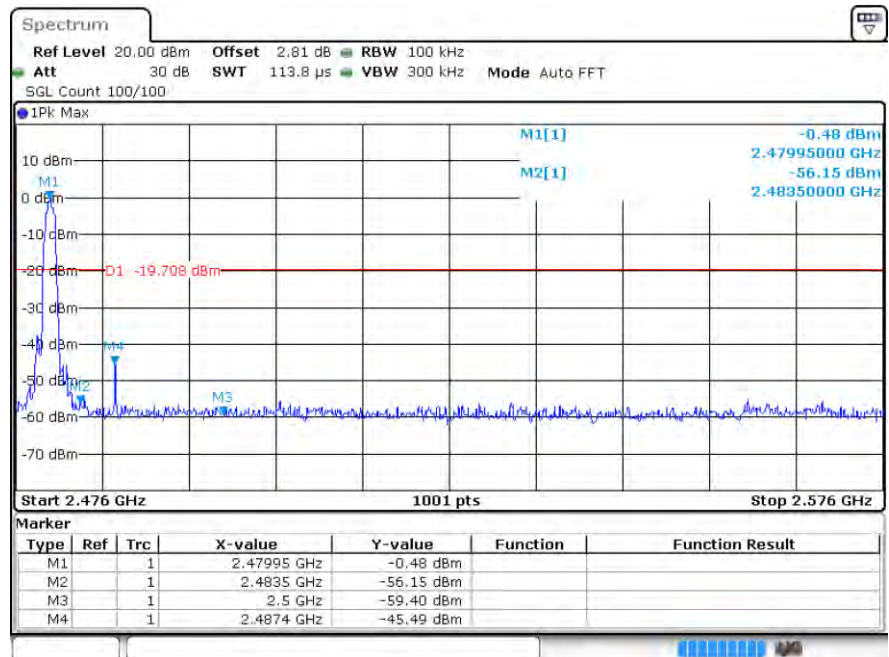
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 $\pi/4$ DQPSK/LCH/No Hop


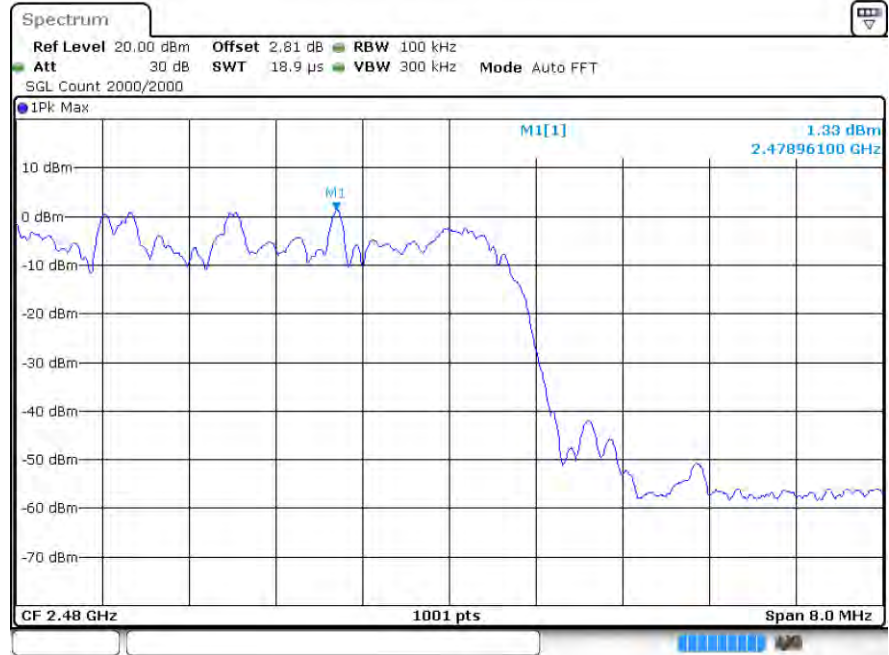
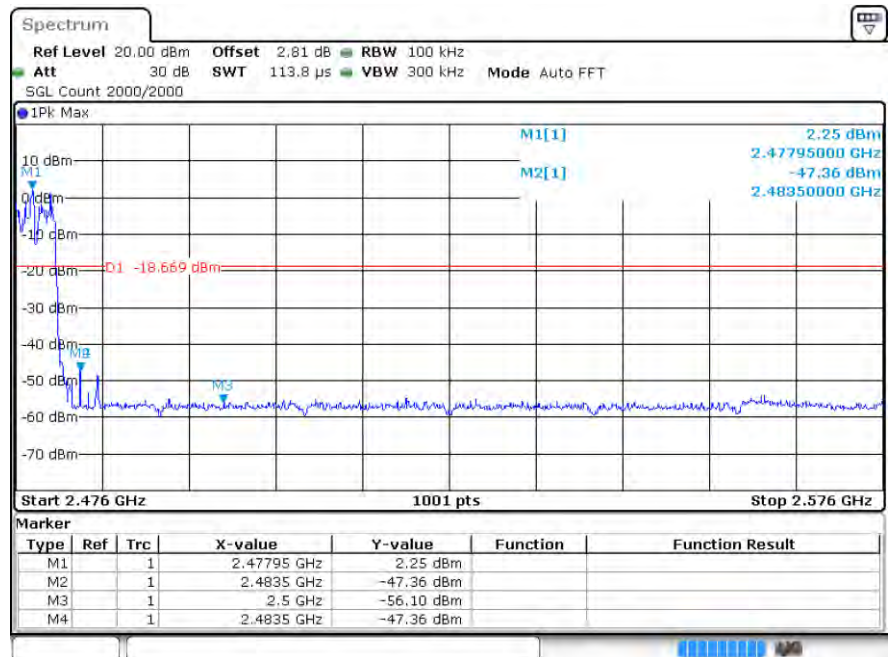
Ref


 $\pi/4$ DQPSK/LCH/Hop


Ref


 $\pi/4$ DQPSK/HCH/No Hop


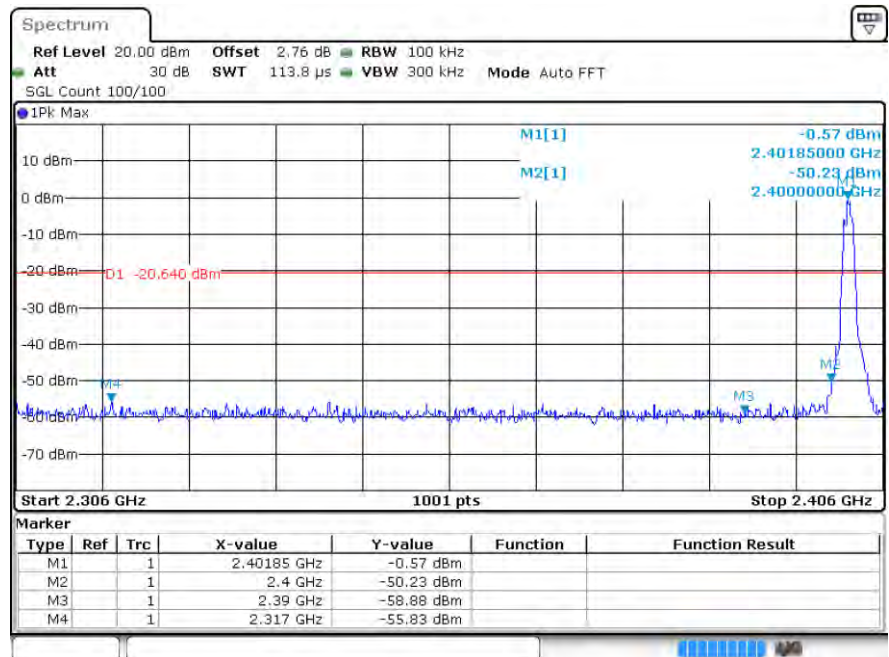
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 $\pi/4$ DQPSK/HCH/Hop


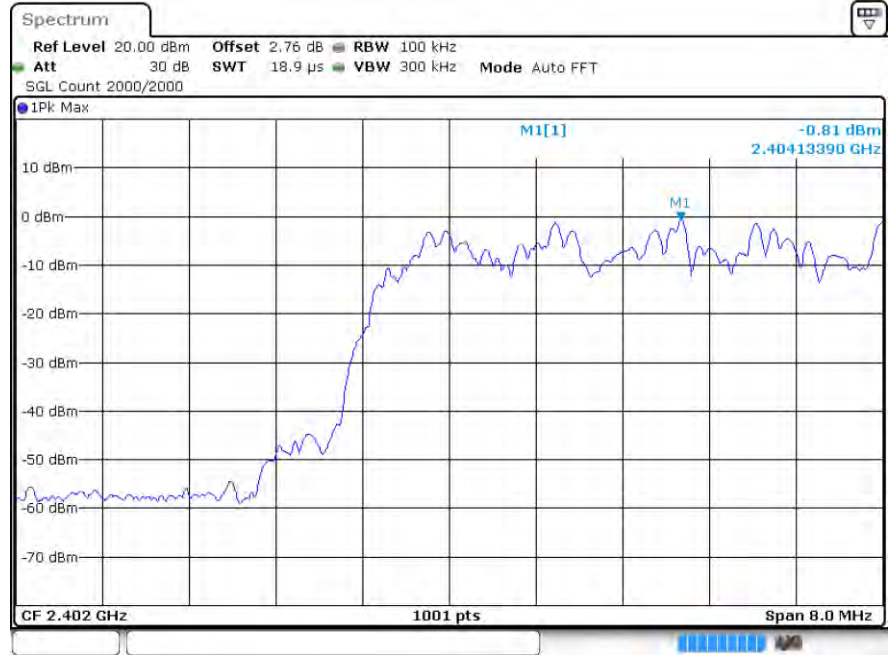
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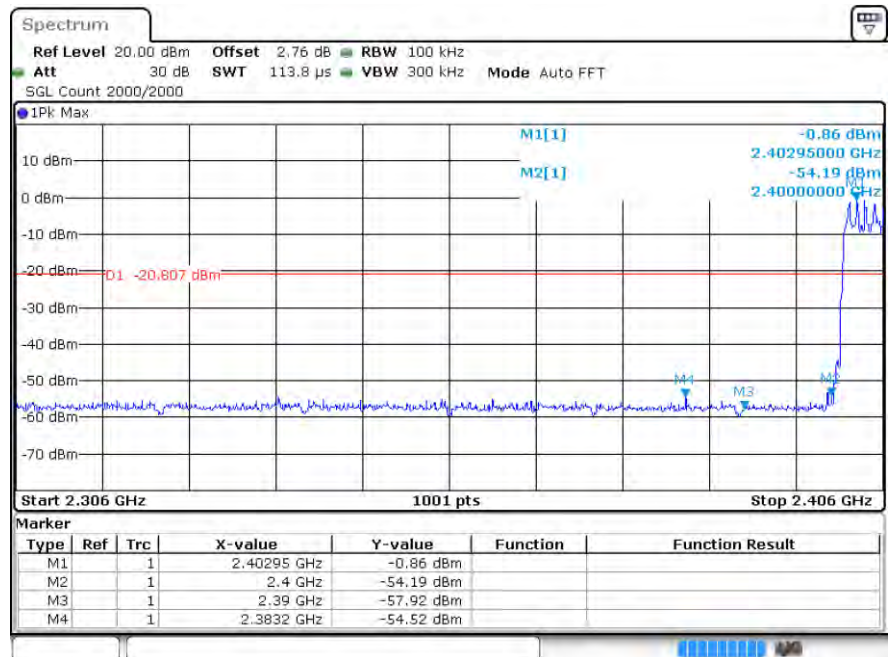
8DPSK/LCH/No Hop



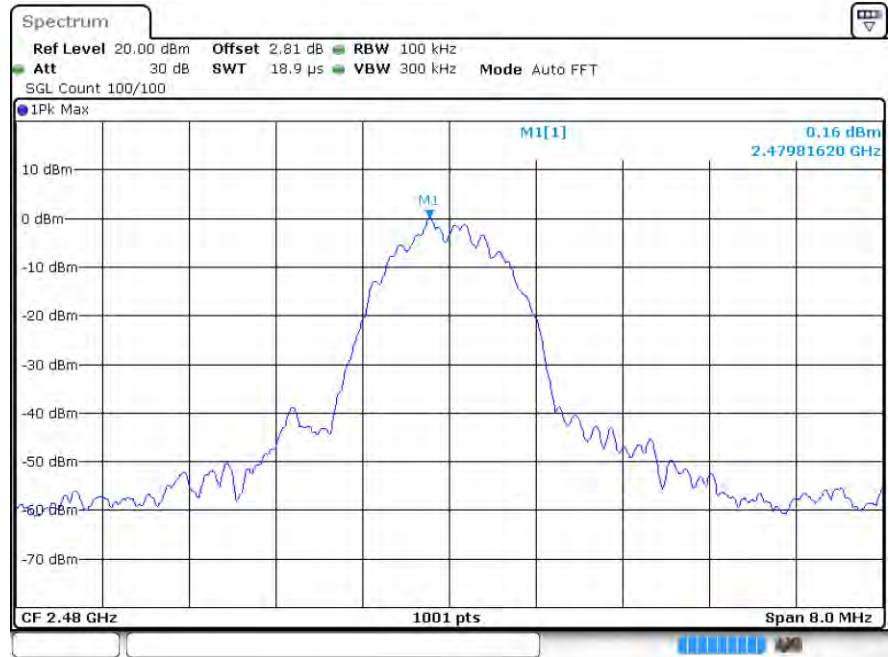
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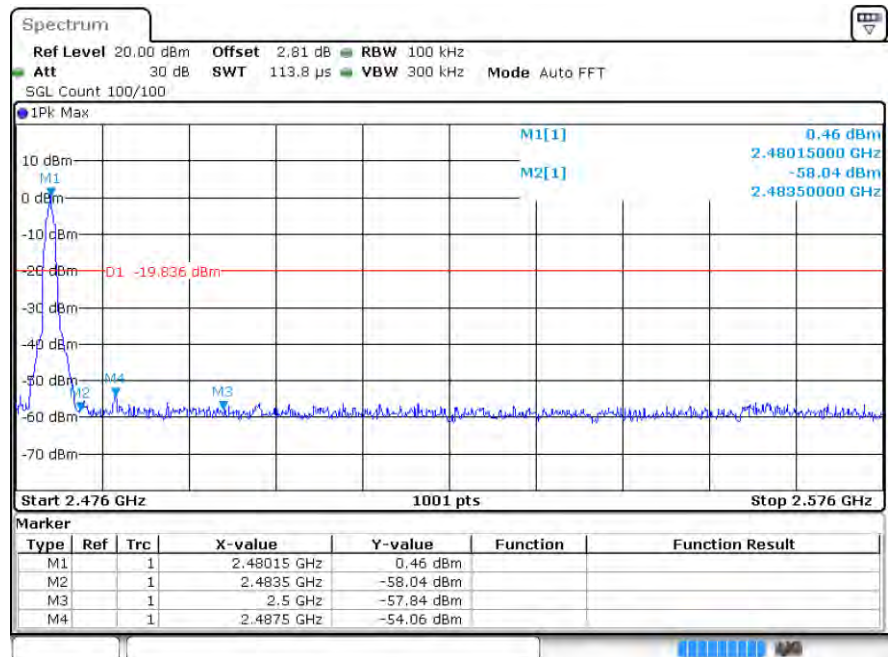
8DPSK/LCH/Hop



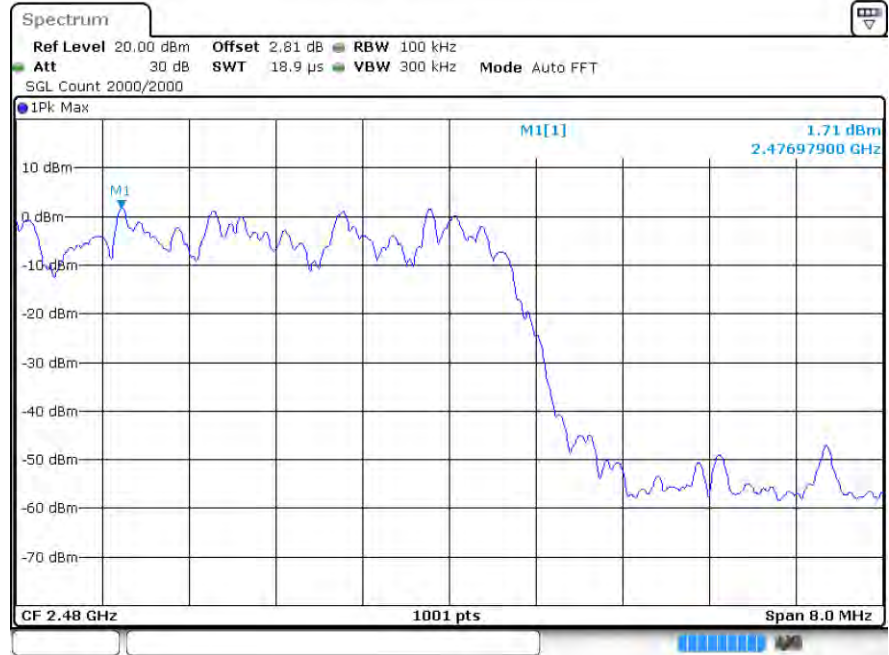
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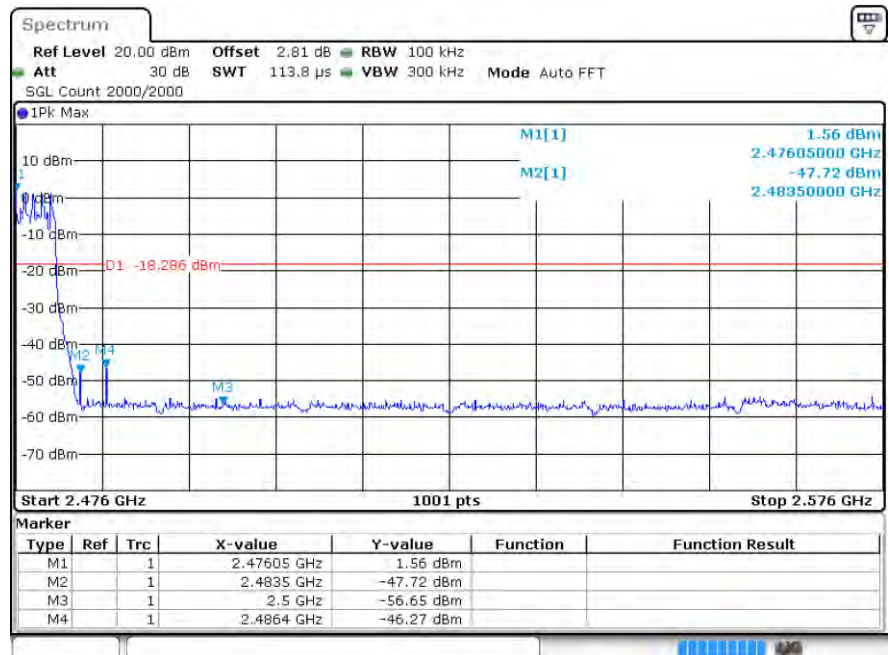
8DPSK/HCH/No Hop



Ref



8DPSK/HCH/Hop



## 9 Restrict-band band-edge measurements

### 9.1 Test Result

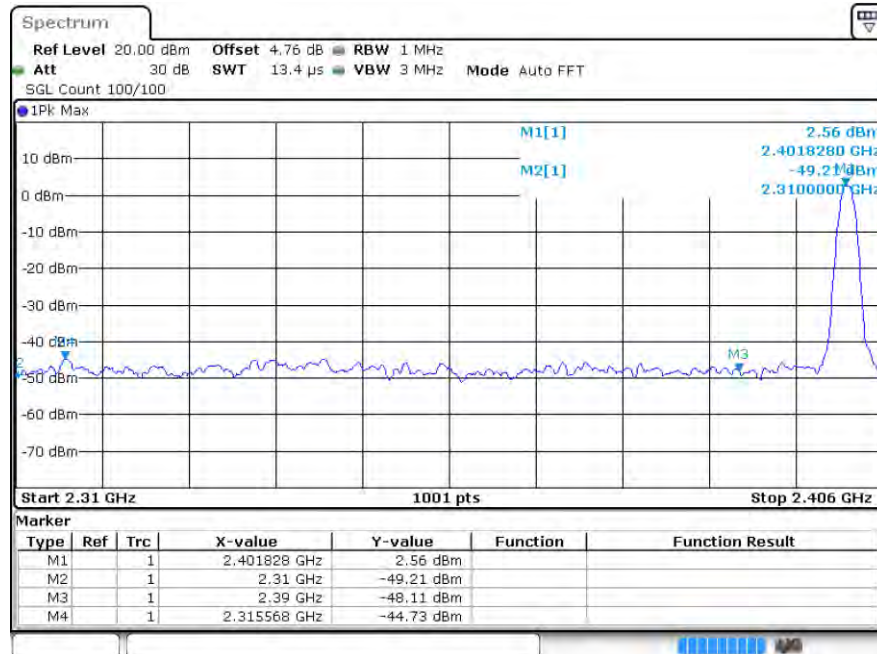
| Test Mode     | Hopping | Freq.    | Power [dBm] | Gain | E [dBuV/m] | Detector | Limit [dBuV/m] | Verdict |
|---------------|---------|----------|-------------|------|------------|----------|----------------|---------|
| GFSK          | Off     | 2310.0   | -49.2       | 4.5  | 50.53      | PEAK     | 74             | Pass    |
|               | Off     | 2310.0   | -55.99      | 4.5  | 43.74      | AV       | 54             | Pass    |
|               | Off     | 2315.568 | -44.73      | 4.5  | 55.00      | PEAK     | 74             | Pass    |
|               | Off     | 2338.416 | -53.83      | 4.5  | 45.90      | AV       | 54             | Pass    |
|               | Off     | 2390.0   | -48.11      | 4.5  | 51.62      | PEAK     | 74             | Pass    |
|               | Off     | 2390.0   | -56.39      | 4.5  | 43.34      | AV       | 54             | Pass    |
|               | Off     | 2483.5   | -48.39      | 4.5  | 51.34      | PEAK     | 74             | Pass    |
|               | Off     | 2483.5   | -54.34      | 4.5  | 45.39      | AV       | 54             | Pass    |
|               | Off     | 2485.12  | -45.34      | 4.5  | 54.39      | PEAK     | 74             | Pass    |
|               | Off     | 2487.112 | -53.85      | 4.5  | 45.88      | AV       | 54             | Pass    |
|               | Off     | 2500.0   | -47         | 4.5  | 52.73      | PEAK     | 74             | Pass    |
|               | Off     | 2500.0   | -55.5       | 4.5  | 44.23      | AV       | 54             | Pass    |
| $\pi/4$ DQPSK | Off     | 2310.0   | -48.08      | 4.5  | 51.65      | PEAK     | 74             | Pass    |
|               | Off     | 2310.0   | -55.84      | 4.5  | 43.89      | AV       | 54             | Pass    |
|               | Off     | 2338.896 | -43.87      | 4.5  | 55.86      | PEAK     | 74             | Pass    |
|               | Off     | 2338.032 | -53.78      | 4.5  | 45.95      | AV       | 54             | Pass    |
|               | Off     | 2390.0   | -48.04      | 4.5  | 51.69      | PEAK     | 74             | Pass    |
|               | Off     | 2390.0   | -55.73      | 4.5  | 44.00      | AV       | 54             | Pass    |
|               | Off     | 2483.5   | -48.36      | 4.5  | 51.37      | PEAK     | 74             | Pass    |
|               | Off     | 2483.5   | -53.83      | 4.5  | 45.90      | AV       | 54             | Pass    |
|               | Off     | 2484.88  | -43.07      | 4.5  | 56.66      | PEAK     | 74             | Pass    |
|               | Off     | 2483.68  | -53.79      | 4.5  | 45.94      | AV       | 54             | Pass    |
|               | Off     | 2500.0   | -47.13      | 4.5  | 52.60      | PEAK     | 74             | Pass    |
|               | Off     | 2500.0   | -55.67      | 4.5  | 44.06      | AV       | 54             | Pass    |
| 8DPSK         | Off     | 2310.0   | -46.93      | 4.5  | 52.80      | PEAK     | 74             | Pass    |
|               | Off     | 2310.0   | -56.19      | 4.5  | 43.54      | AV       | 54             | Pass    |
|               | Off     | 2327.28  | -43.93      | 4.5  | 55.80      | PEAK     | 74             | Pass    |
|               | Off     | 2341.584 | -53.95      | 4.5  | 45.78      | AV       | 54             | Pass    |



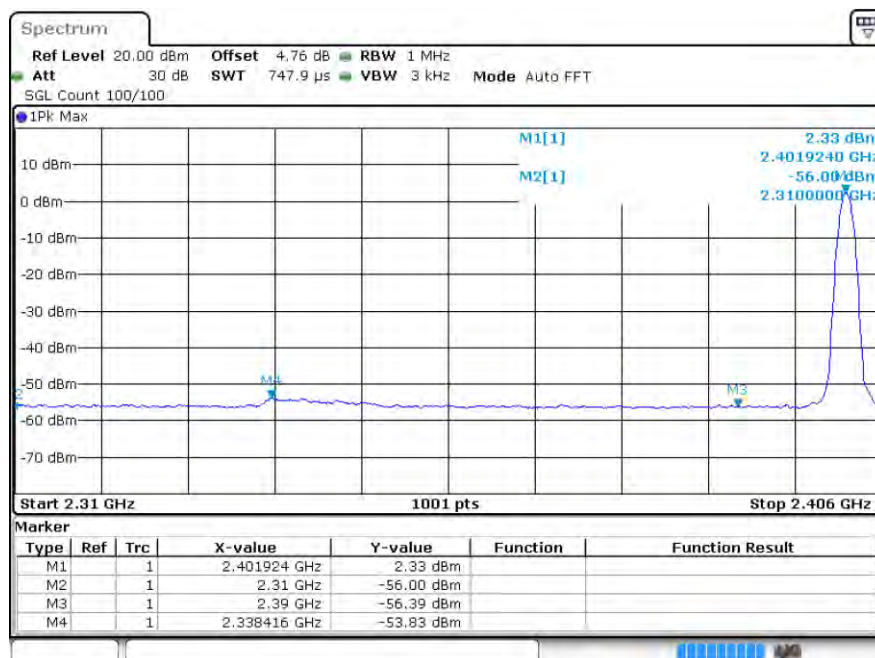
|  |     |          |        |     |       |      |    |      |
|--|-----|----------|--------|-----|-------|------|----|------|
|  | Off | 2390.0   | -47.39 | 4.5 | 52.34 | PEAK | 74 | Pass |
|  | Off | 2390.0   | -55.99 | 4.5 | 43.74 | AV   | 54 | Pass |
|  | Off | 2483.5   | -47.03 | 4.5 | 52.70 | PEAK | 74 | Pass |
|  | Off | 2483.5   | -53.82 | 4.5 | 45.91 | AV   | 54 | Pass |
|  | Off | 2493.712 | -45.22 | 4.5 | 54.51 | PEAK | 74 | Pass |
|  | Off | 2484.304 | -53.56 | 4.5 | 46.17 | AV   | 54 | Pass |
|  | Off | 2500.0   | -47.75 | 4.5 | 51.98 | PEAK | 74 | Pass |
|  | Off | 2500.0   | -55.38 | 4.5 | 44.35 | AV   | 54 | Pass |

## 9.2 Test Graphs

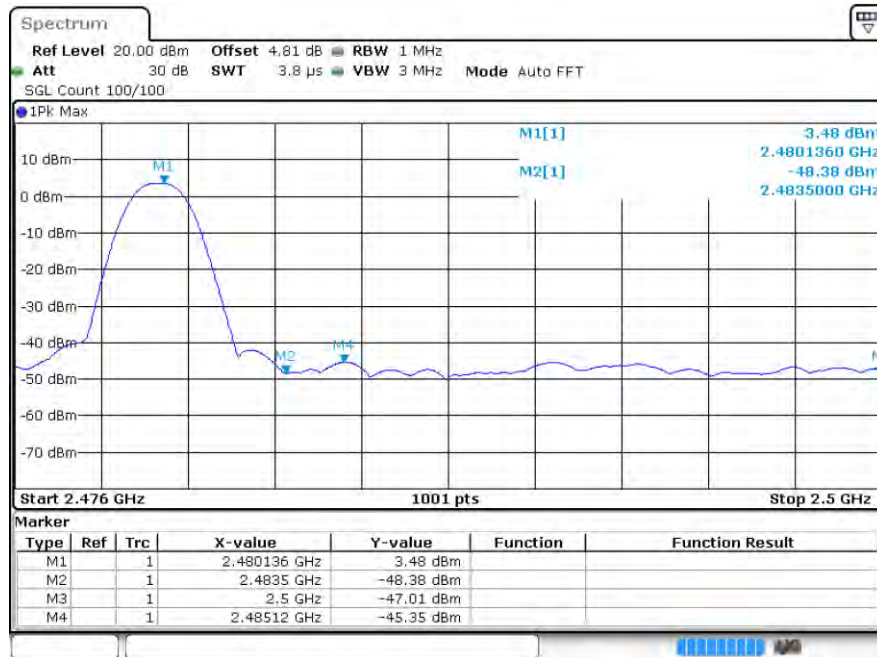
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (Low Channel)



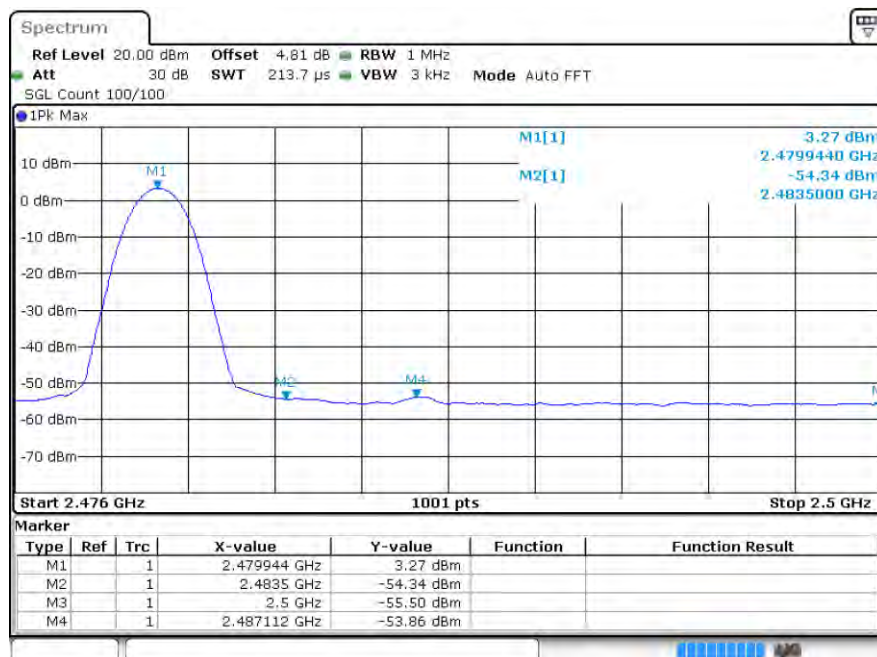
Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (Low Channel)



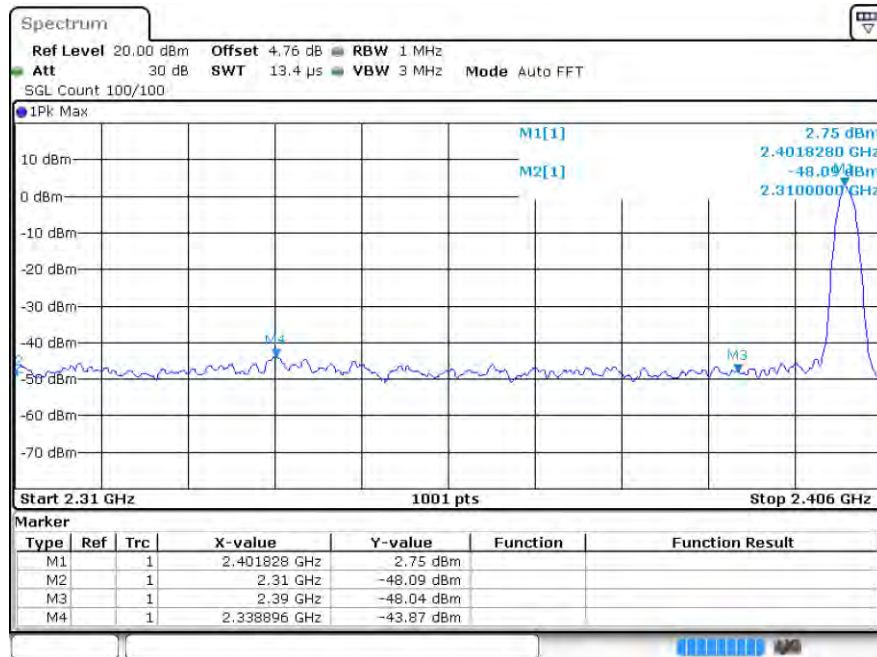
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_PEAK (High Channel)



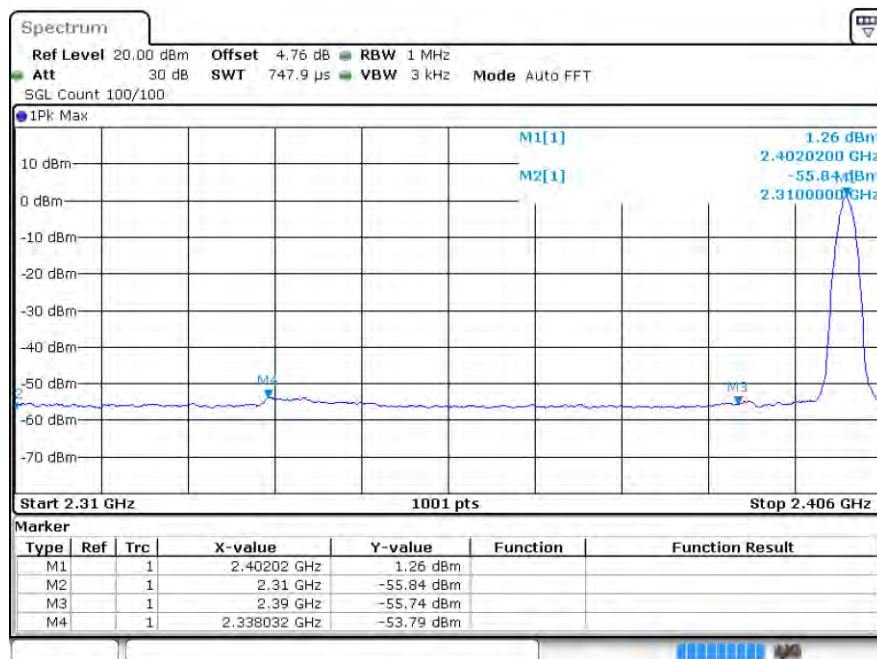
## Restrict-band band-edge measurements\_Hopping Off\_ GFSK\_Average (High Channel)



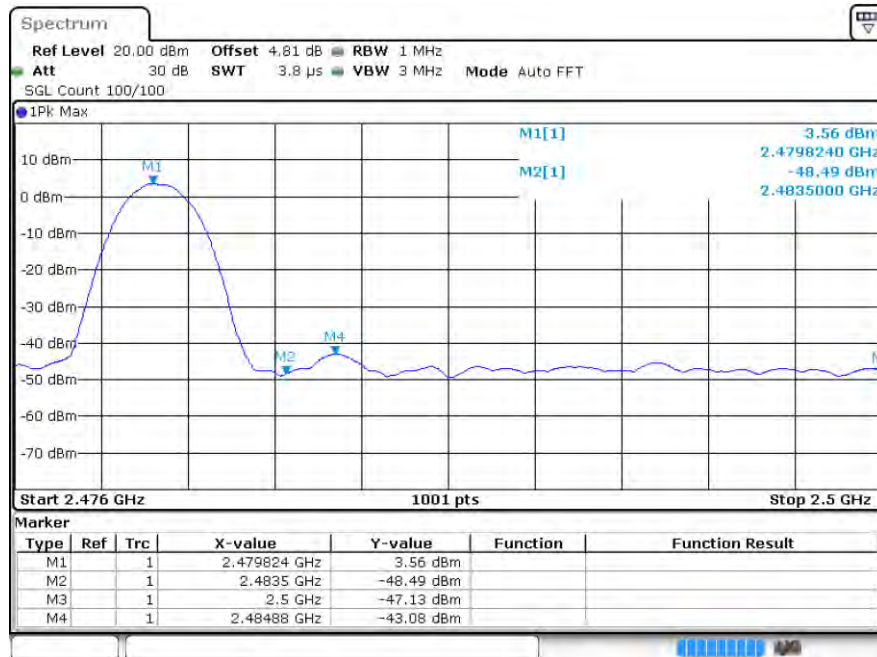
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (Low Channel)



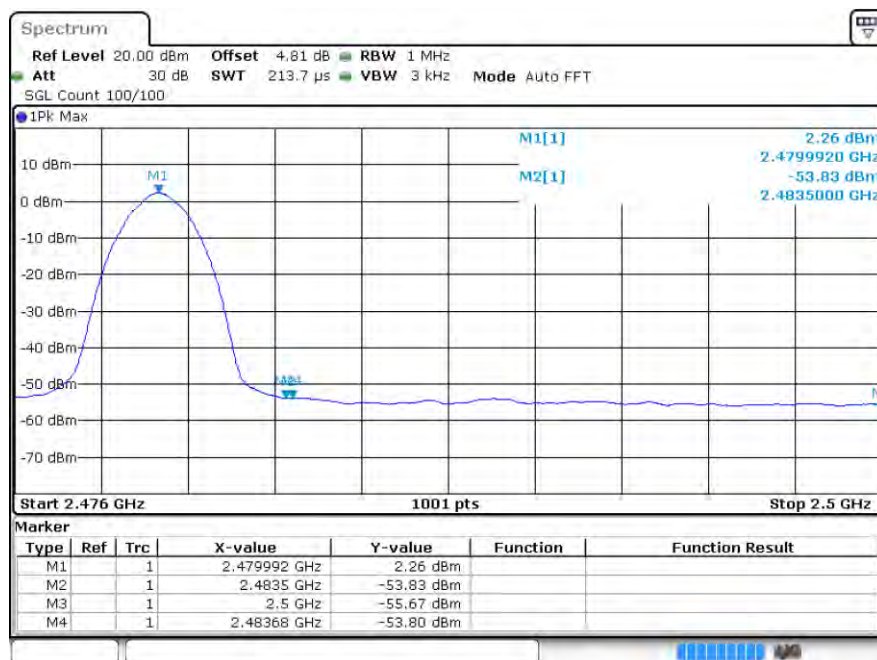
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (Low Channel)



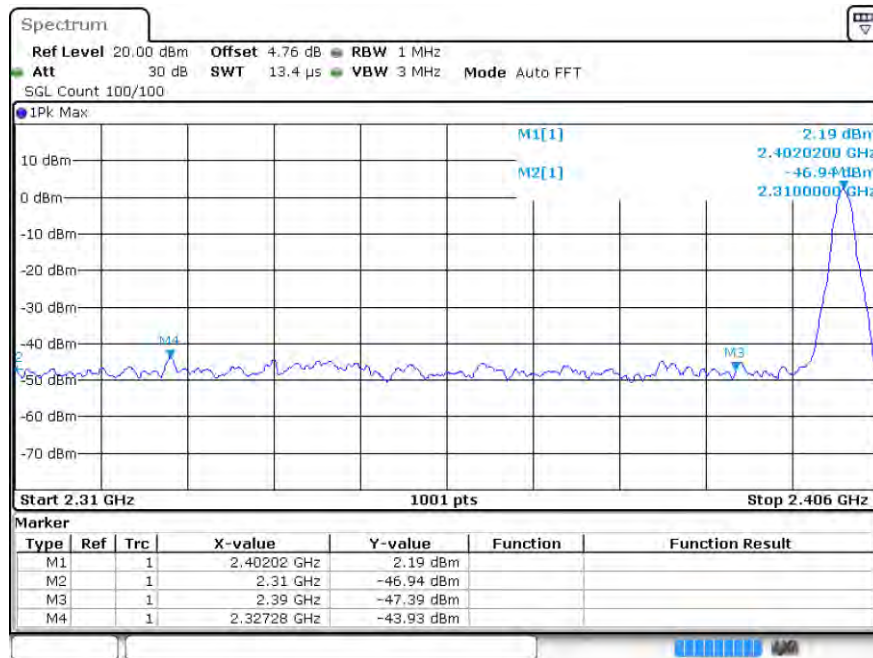
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_PEAK (High Channel)



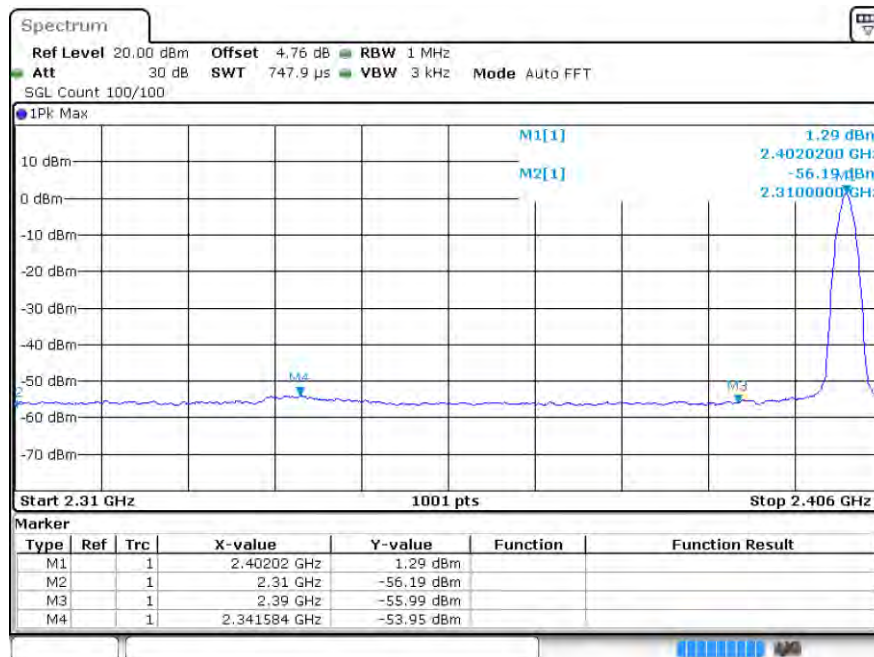
## Restrict-band band-edge measurements\_Hopping Off\_π/4-DQPSK\_Average (High Channel)



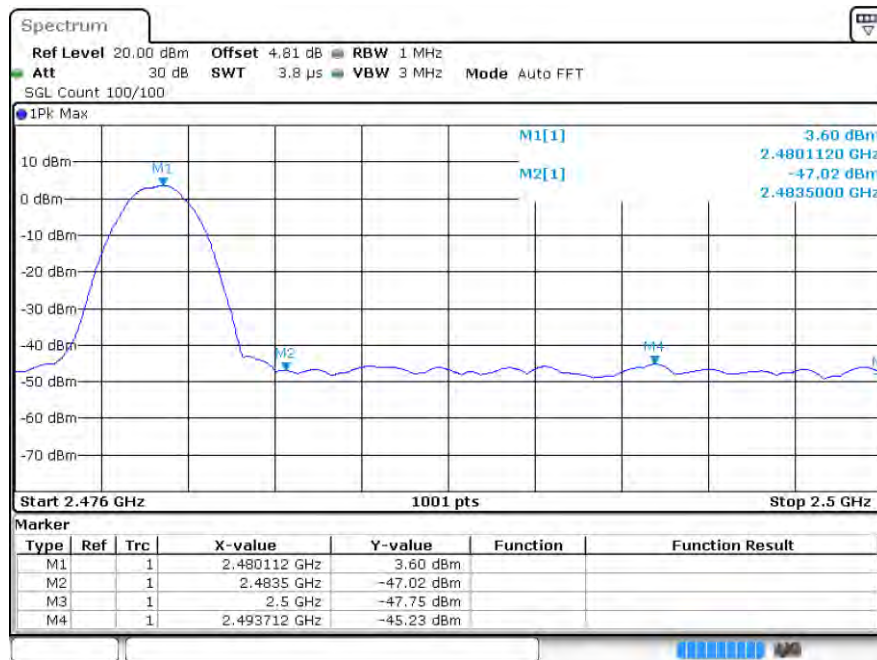
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (Low Channel)



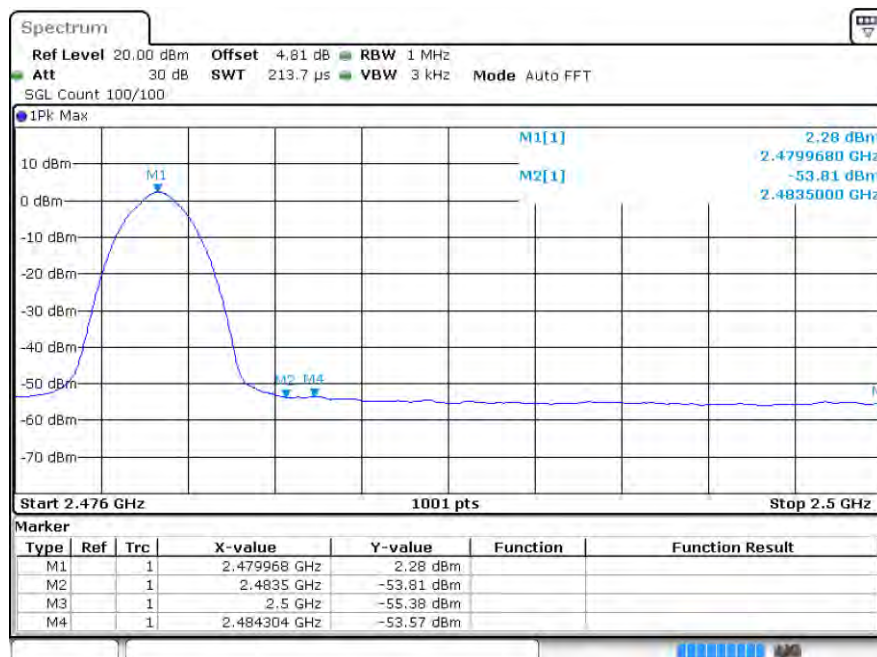
## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (Low Channel)



## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_PEAK (High Channel)



## Restrict-band band-edge measurements\_Hopping Off\_8DPSK\_Average (High Channel)



---The End---