



## Appendix A

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

Product Name: True Wireless Earbuds

Trade Mark: N/A

Test Model: N9i

#### Environmental Conditions

|                    |             |
|--------------------|-------------|
| Temperature:       | 25.6° C     |
| Relative Humidity: | 52.4%       |
| ATM Pressure:      | 100.0 kPa   |
| Test Engineer:     | Emiya lin   |
| Supervised by:     | Simba Haung |



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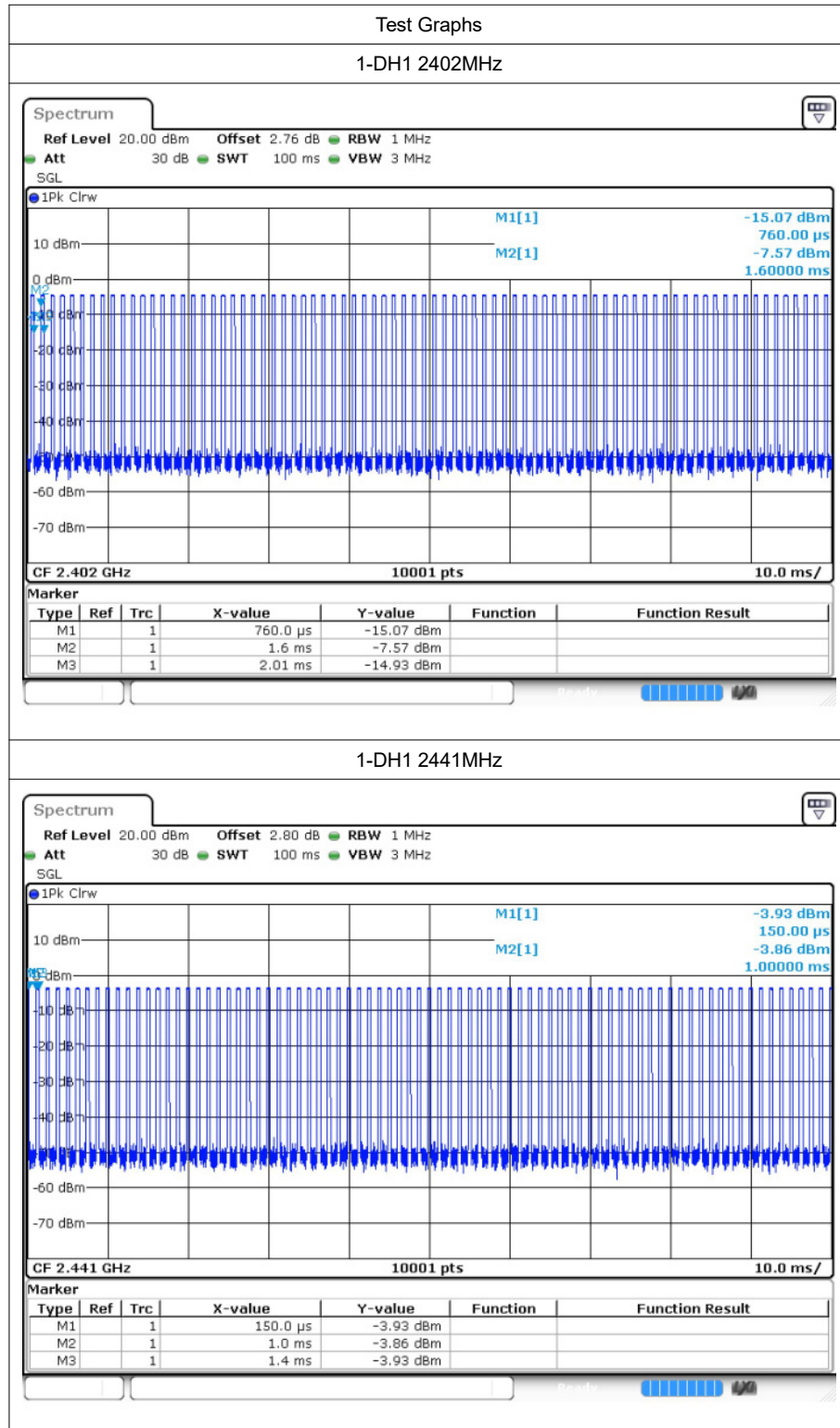
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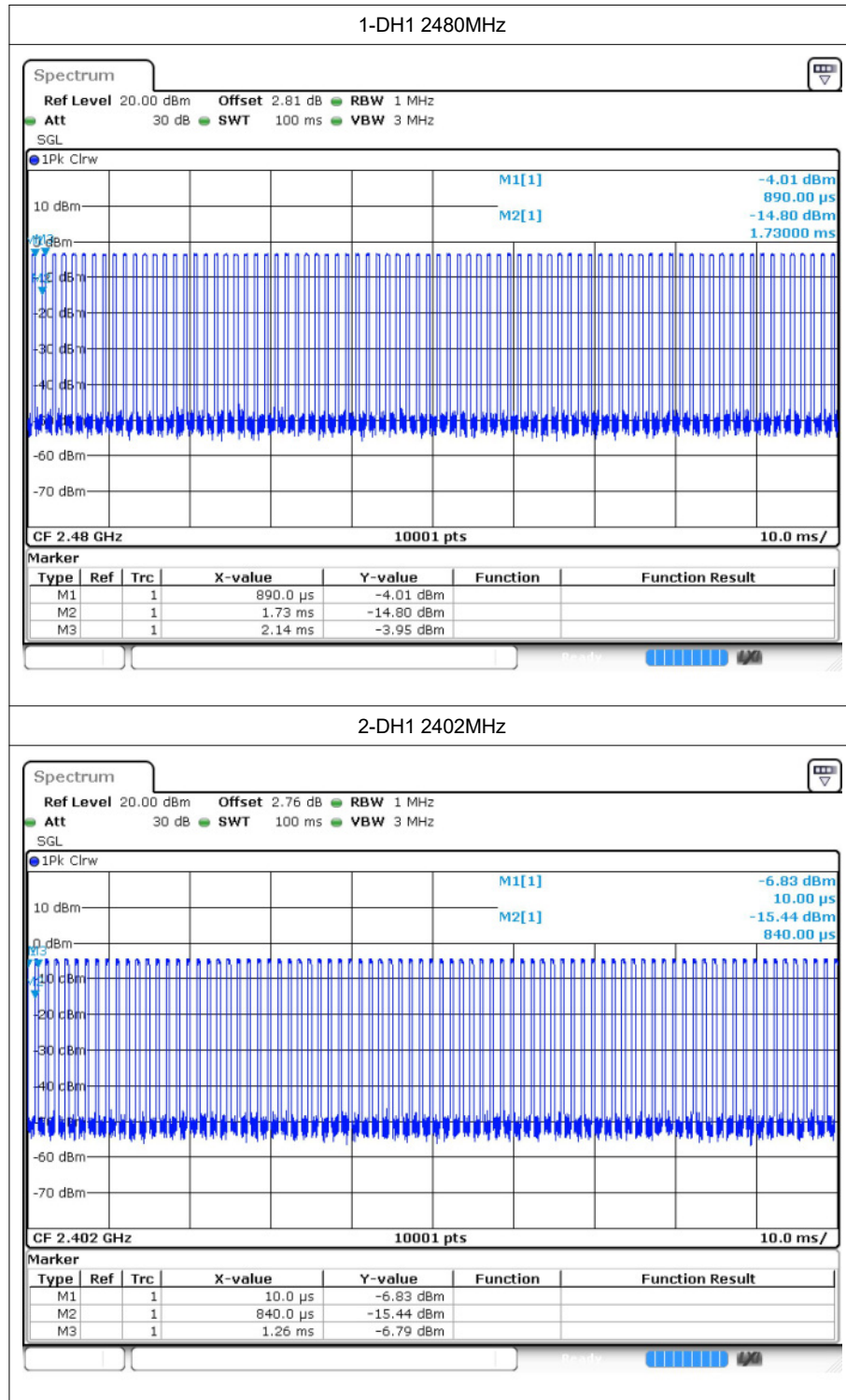
# 1 Duty Cycle

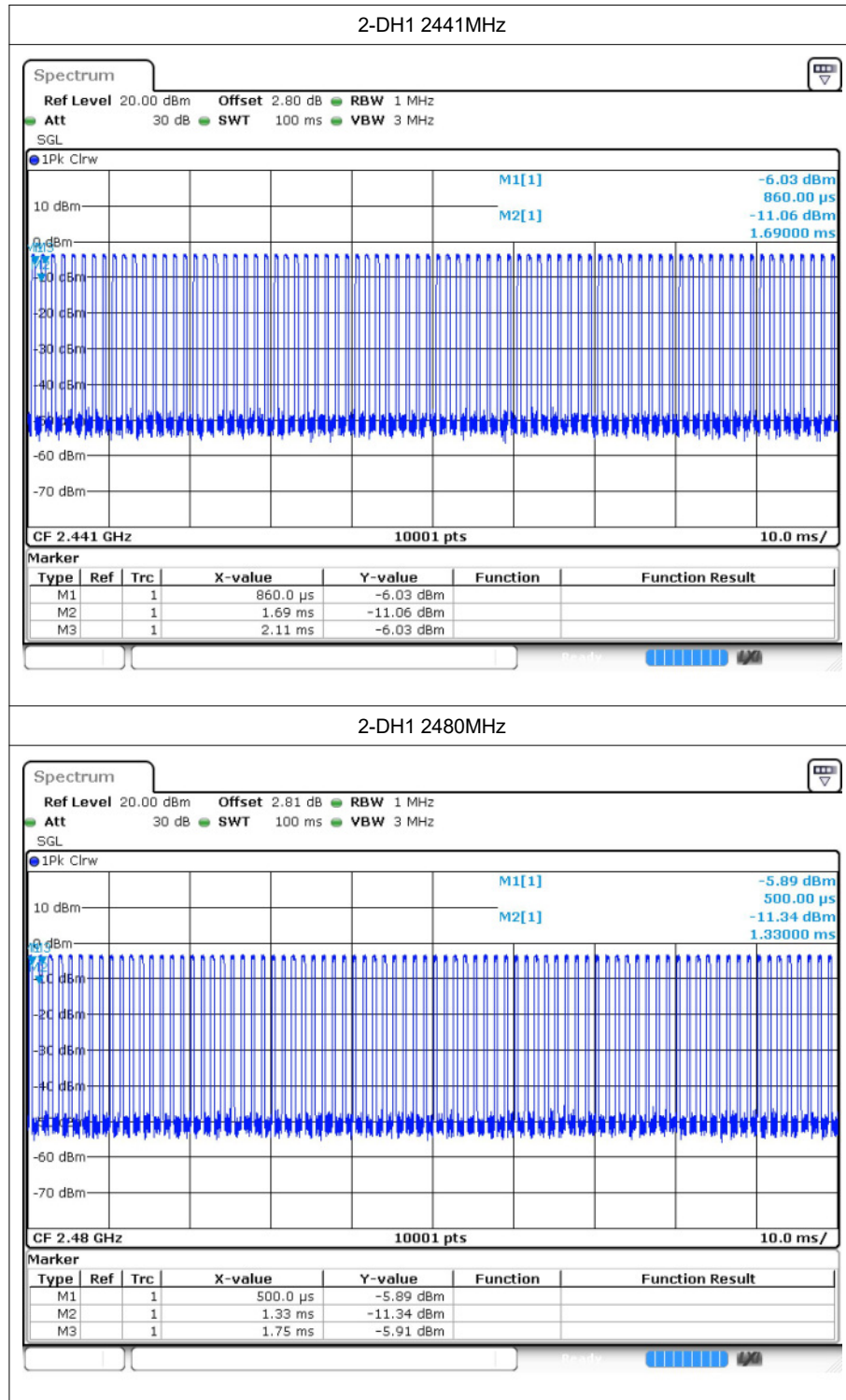
## 1.1 Test Result

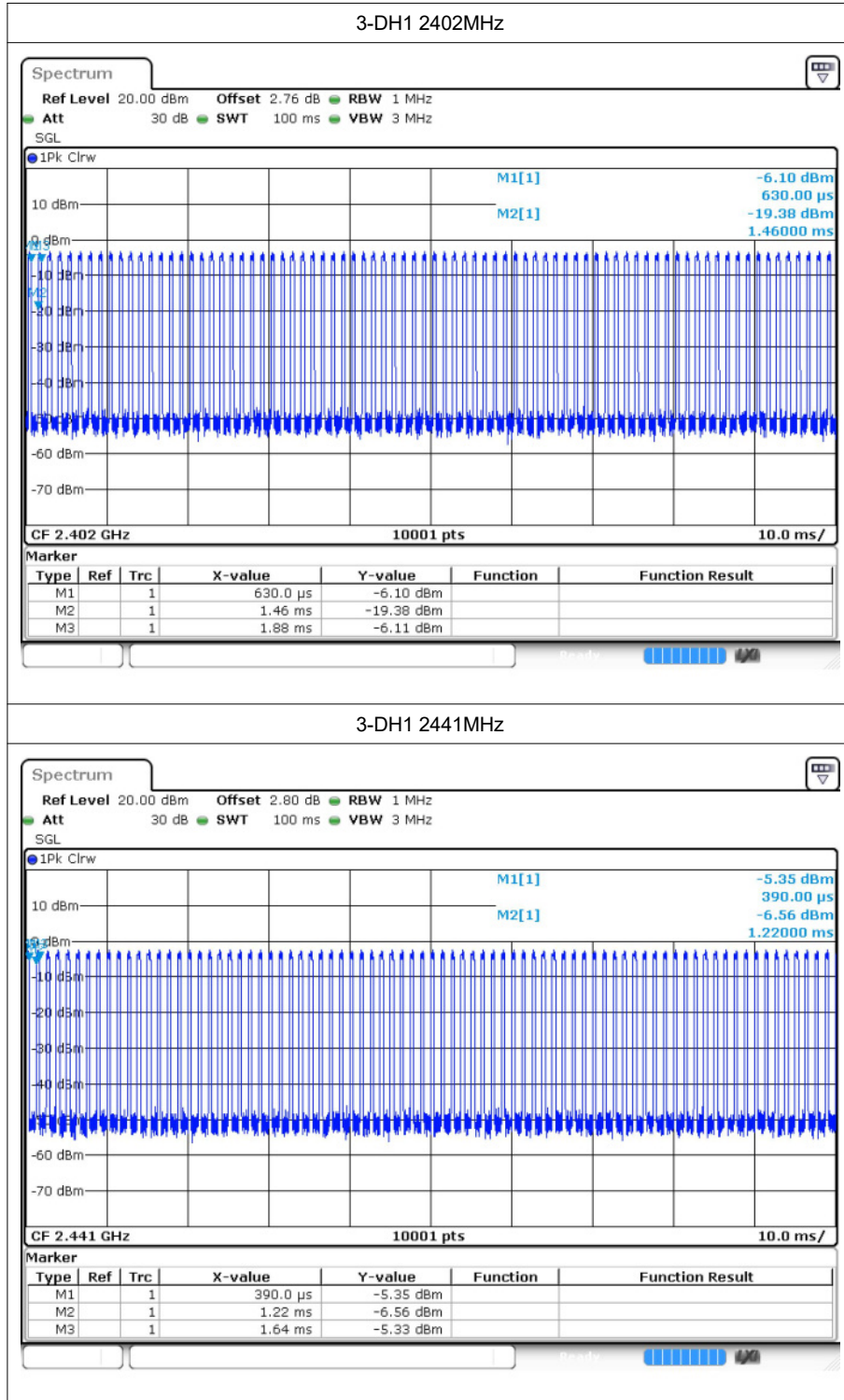
| Mode  | Frequency (MHz) | Duty Cycle (%) | Correction Factor | 1/T (kHz) |
|-------|-----------------|----------------|-------------------|-----------|
| 1-DH1 | 2402            | 33.6           | 4.74              | 2.44      |
| 1-DH1 | 2441            | 32.87          | 4.83              | 2.5       |
| 1-DH1 | 2480            | 33.6           | 4.74              | 2.44      |
| 2-DH1 | 2402            | 34.41          | 4.63              | 2.38      |
| 2-DH1 | 2441            | 34.4           | 4.63              | 2.38      |
| 2-DH1 | 2480            | 34.4           | 4.63              | 2.38      |
| 3-DH1 | 2402            | 34.4           | 4.63              | 2.38      |
| 3-DH1 | 2441            | 34.41          | 4.63              | 2.38      |
| 3-DH1 | 2480            | 34.4           | 4.63              | 2.38      |

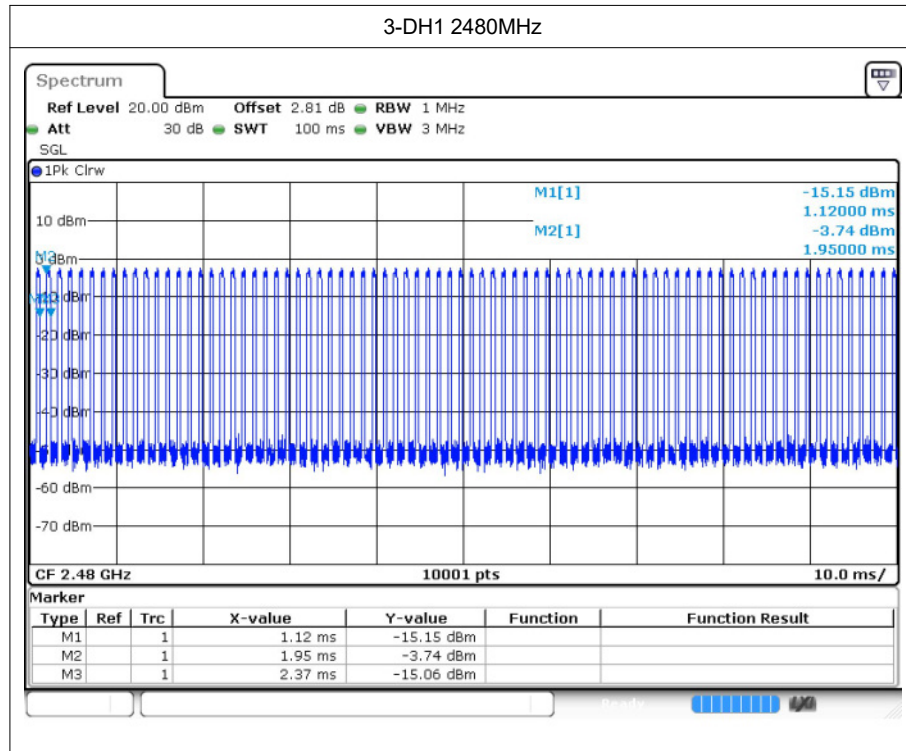
## 1.2 Test Graphs









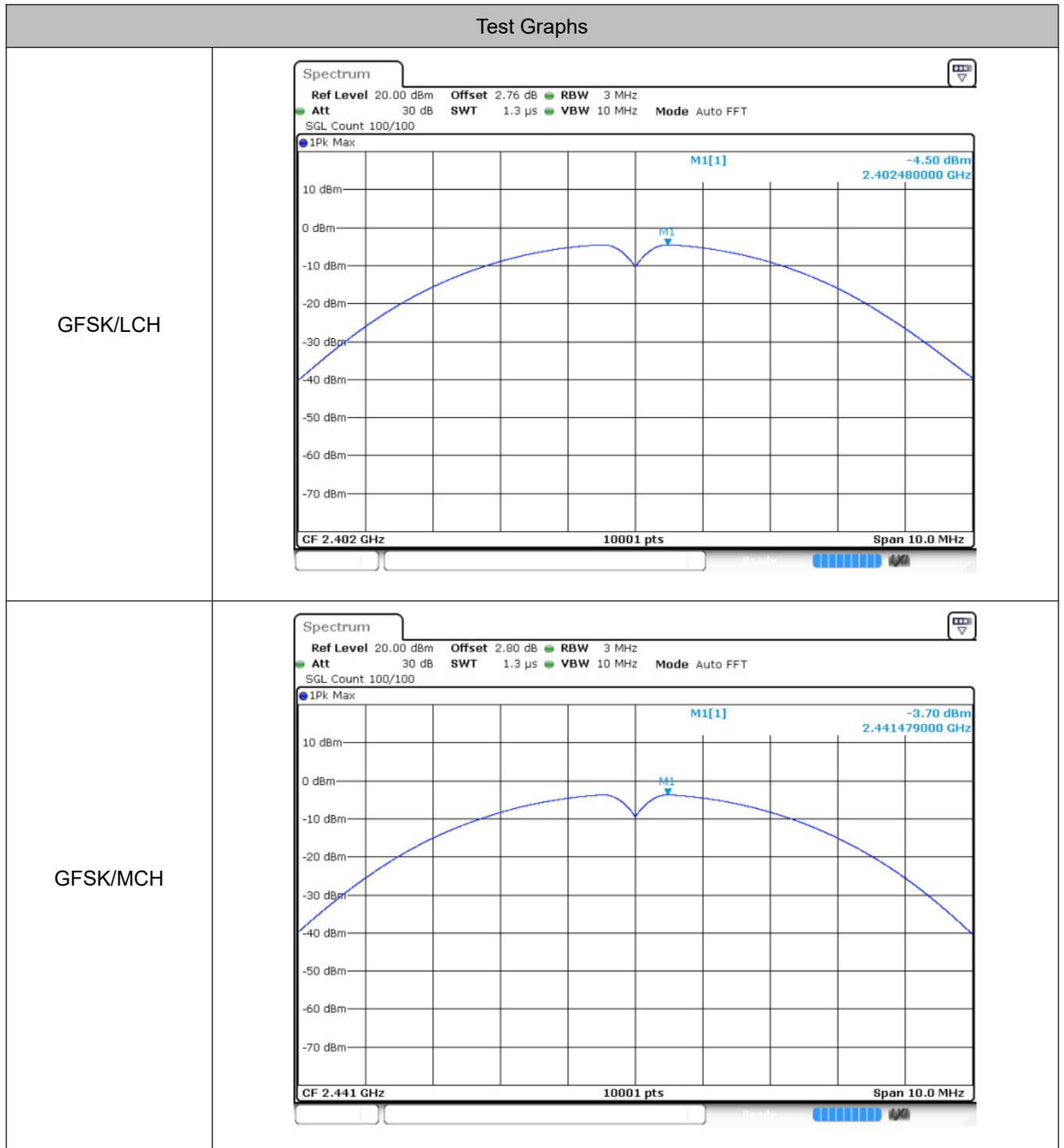


## 2 Maximum Conducted Peak Output Power

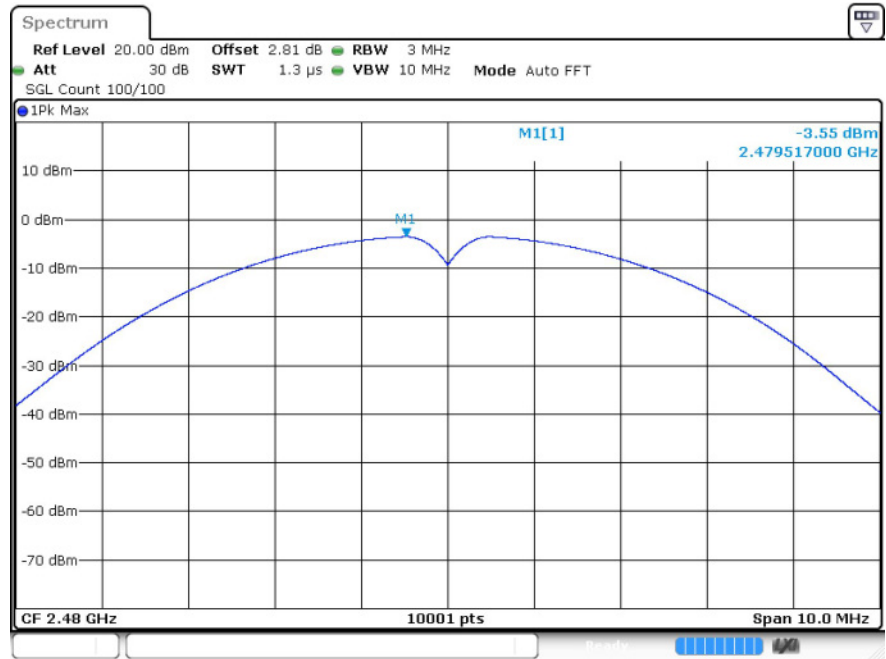
### 2.1 Test Result

| Mode          | Channel. | Maximum Peak Output Power [dBm] | Limit [dBm] | Verdict |
|---------------|----------|---------------------------------|-------------|---------|
| GFSK          | LCH      | -4.5                            | 21          | Pass    |
|               | MCH      | -3.7                            | 21          | Pass    |
|               | HCH      | -3.55                           | 21          | Pass    |
| $\pi/4$ DQPSK | LCH      | -4.58                           | 21          | Pass    |
|               | MCH      | -3.2                            | 21          | Pass    |
|               | HCH      | -3.51                           | 21          | Pass    |
| 8DPSK         | LCH      | -4.34                           | 21          | Pass    |
|               | MCH      | -3.66                           | 21          | Pass    |
|               | HCH      | -3.3                            | 21          | Pass    |

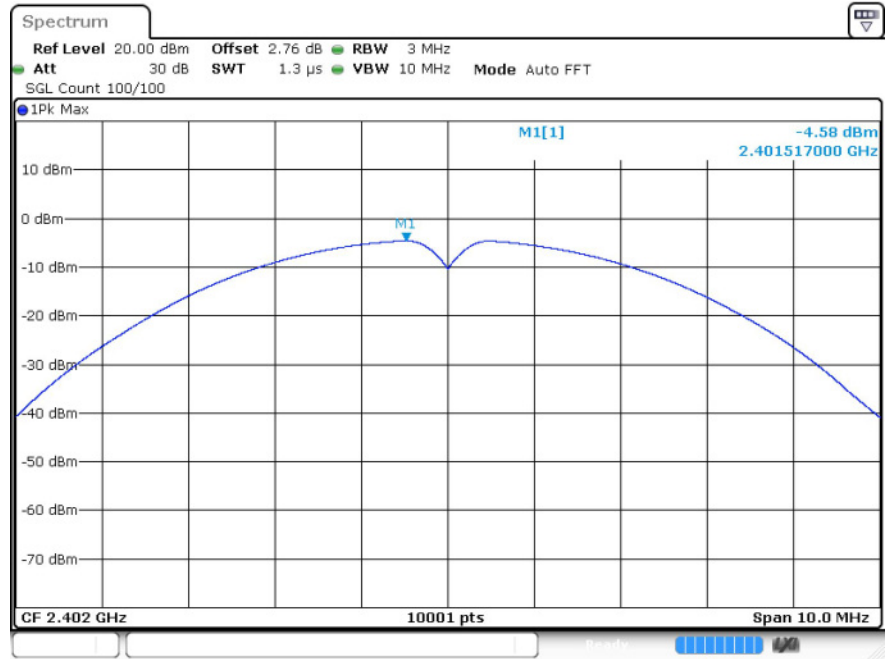
## 2.2 Test Graphs



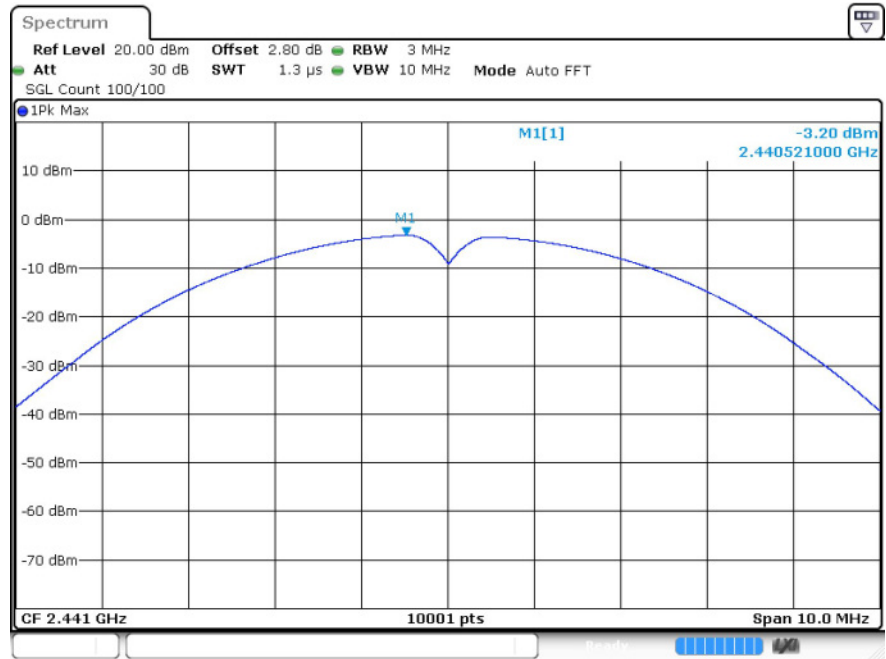
GFSK/HCH



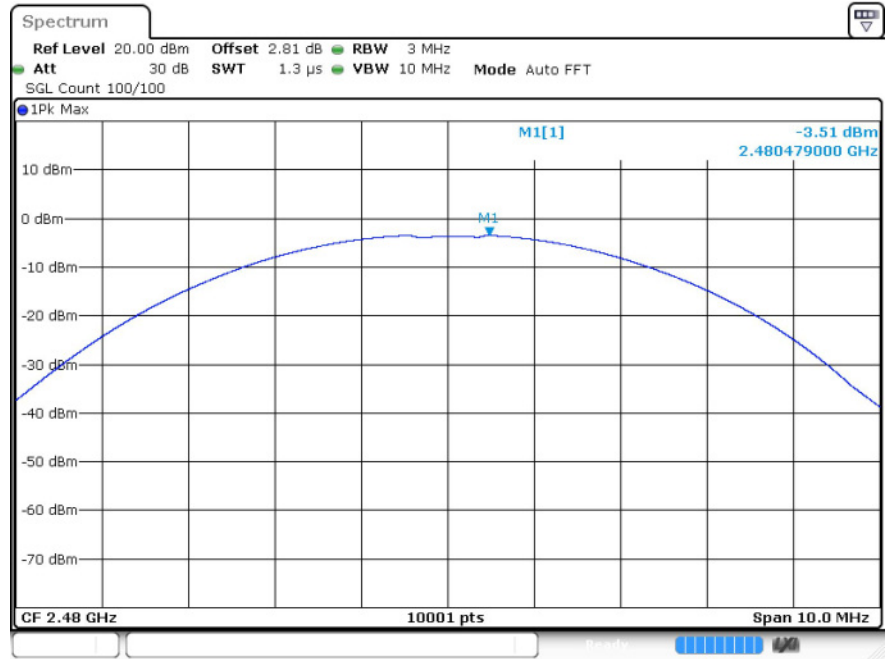
$\pi/4$ DQPSK/LCH



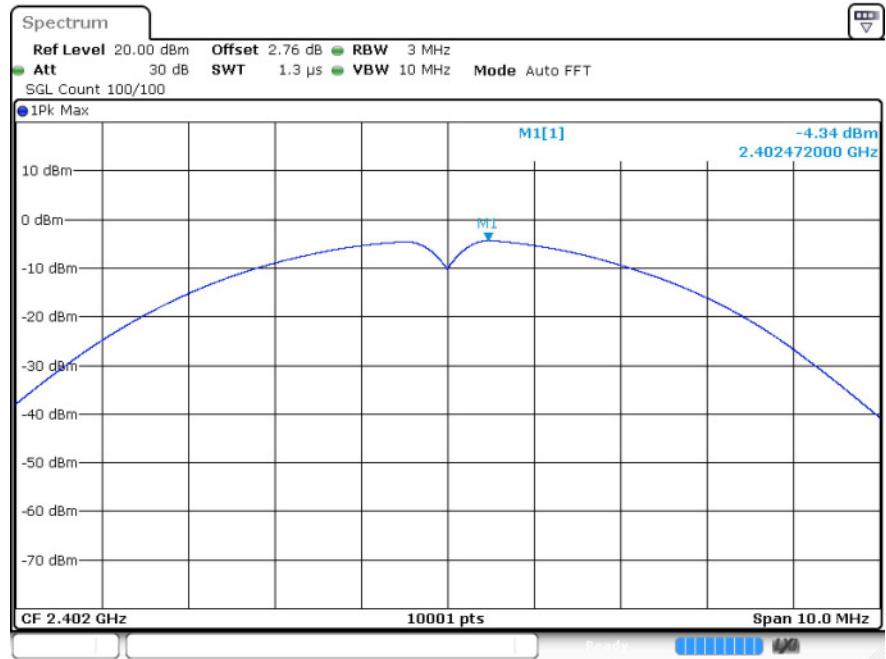
$\pi/4$ DQPSK/MCH



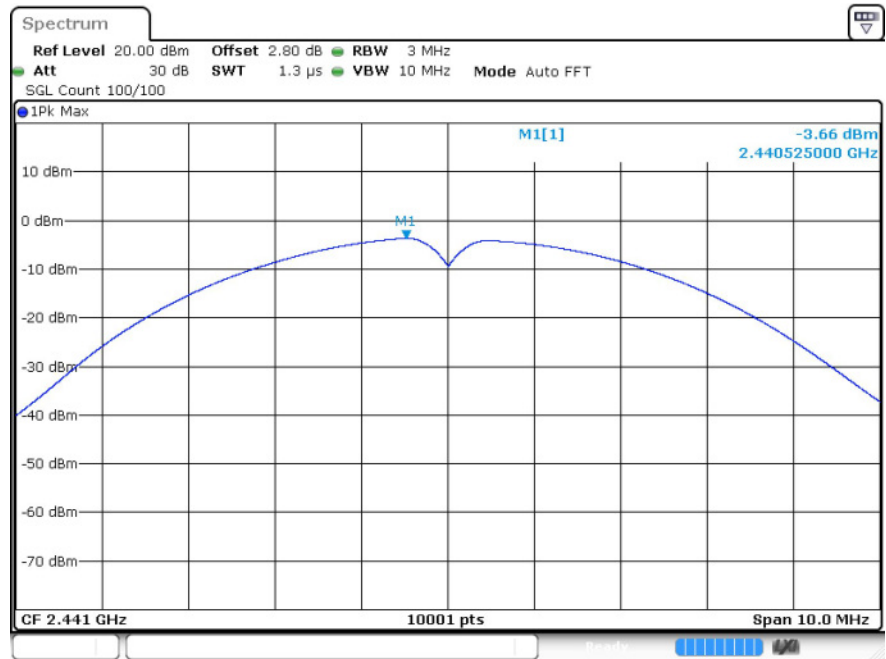
$\pi/4$ DQPSK/HCH



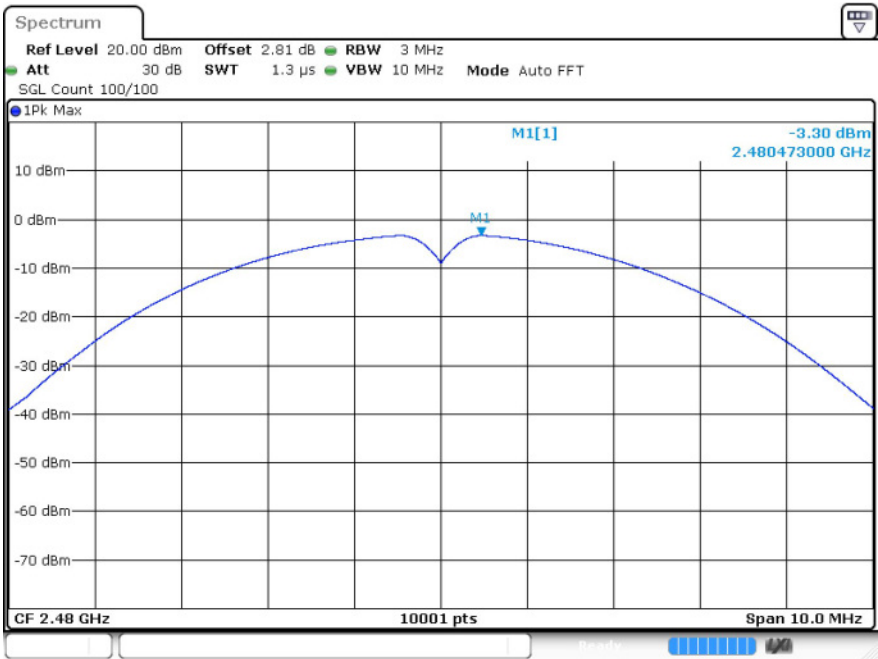
8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

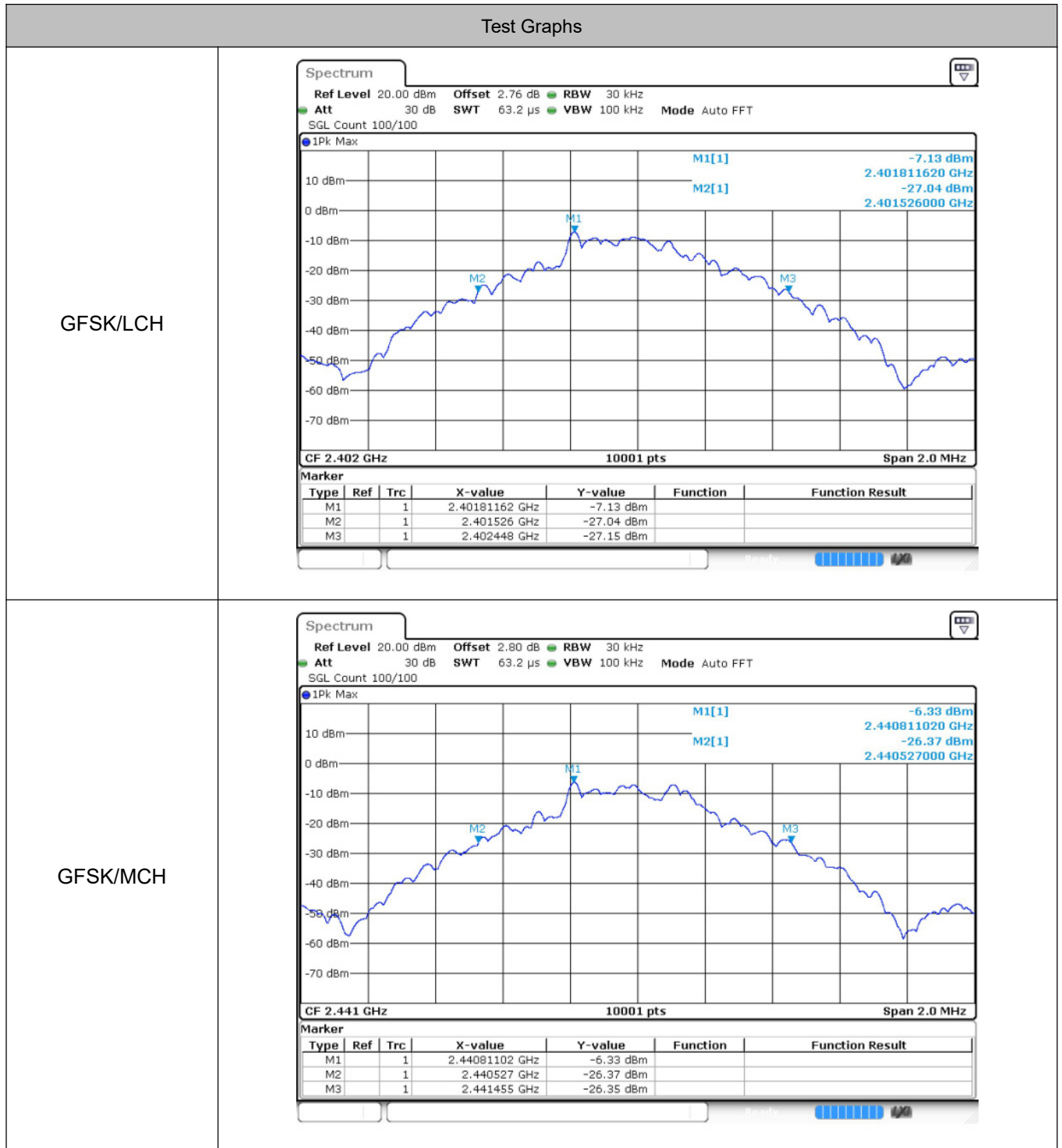


### 3 20dB Bandwidth

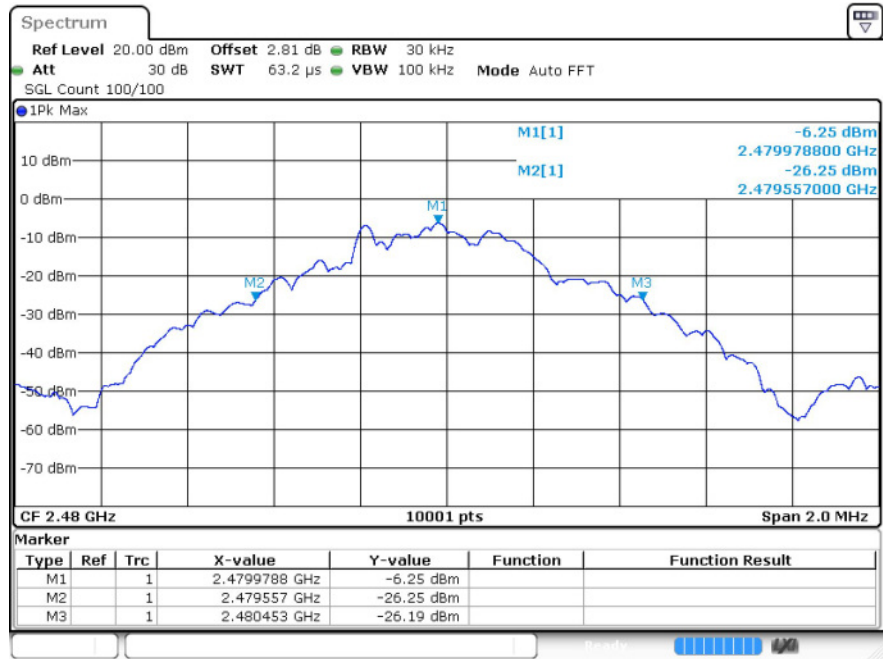
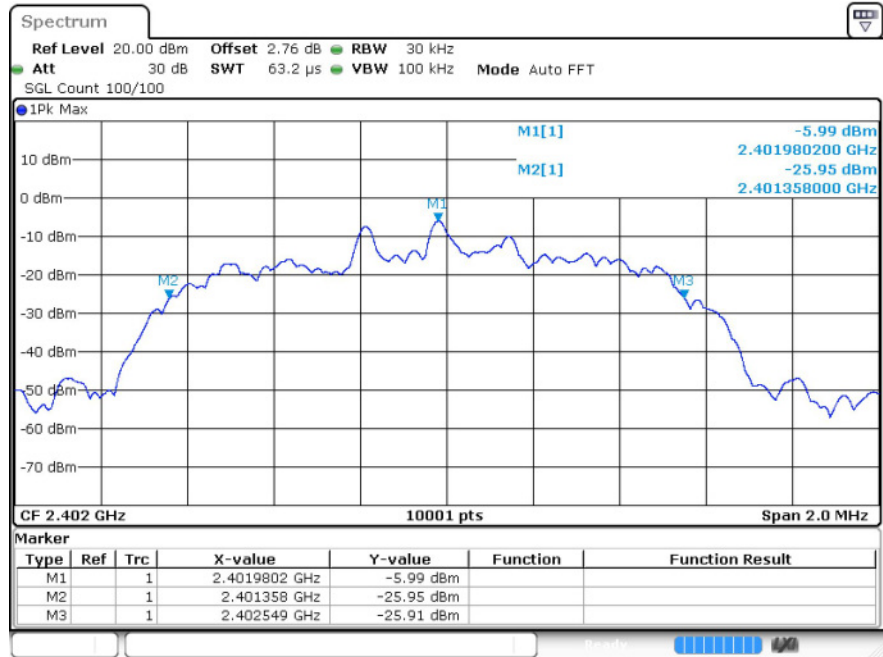
#### 3.1 Test Result

| Mode          | Channel. | 20dB Bandwidth [MHz] | Limit [MHz]   | Verdict |
|---------------|----------|----------------------|---------------|---------|
| GFSK          | LCH      | 0.922                | Not Specified | Pass    |
|               | MCH      | 0.928                | Not Specified | Pass    |
|               | HCH      | 0.896                | Not Specified | Pass    |
| $\pi/4$ DQPSK | LCH      | 1.192                | Not Specified | Pass    |
|               | MCH      | 1.245                | Not Specified | Pass    |
|               | HCH      | 1.208                | Not Specified | Pass    |
| 8DPSK         | LCH      | 1.187                | Not Specified | Pass    |
|               | MCH      | 1.191                | Not Specified | Pass    |
|               | HCH      | 1.191                | Not Specified | Pass    |

## 3.2 Test Graphs



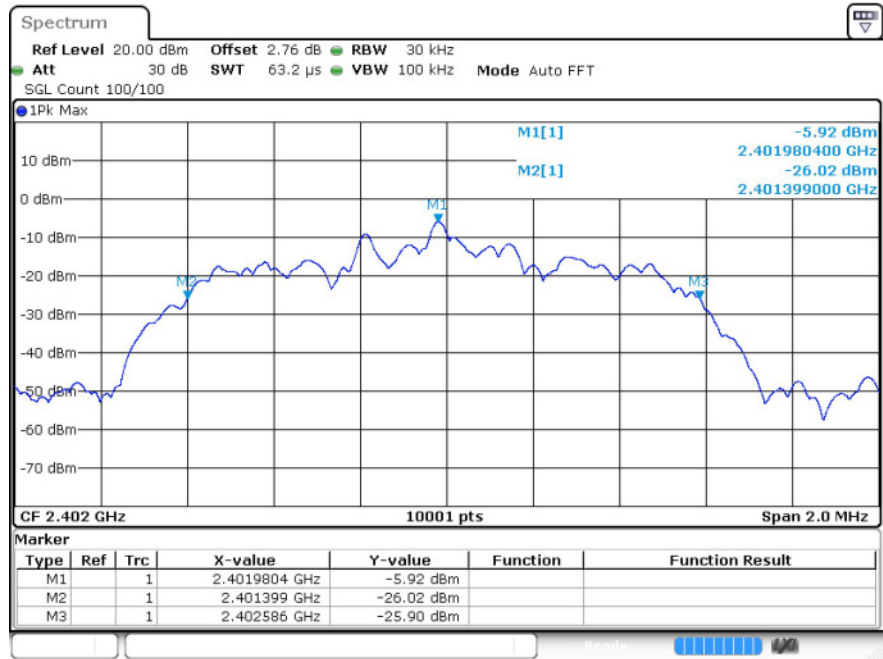
GFSK/HCH


 $\pi/4$ DQPSK/LCH


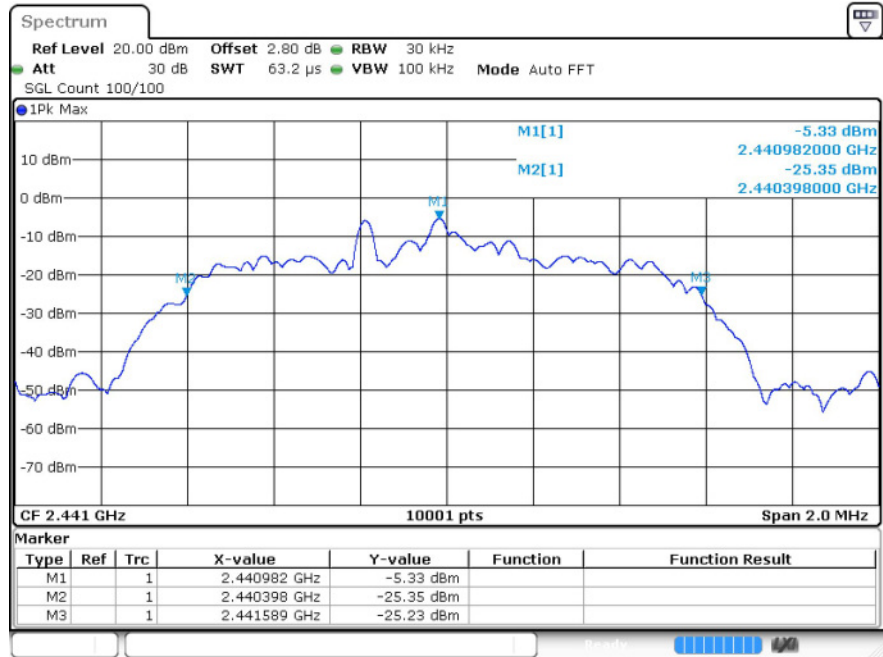
$\pi/4$ DQPSK/MCH

 $\pi/4$ DQPSK/HCH

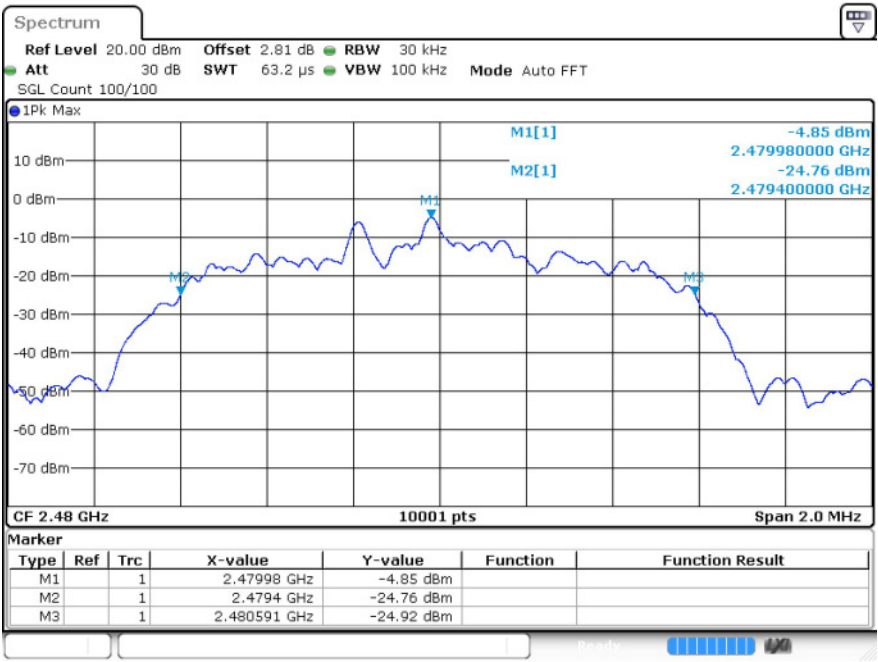

8DPSK/LCH



8DPSK/MCH



8DPSK/HCH

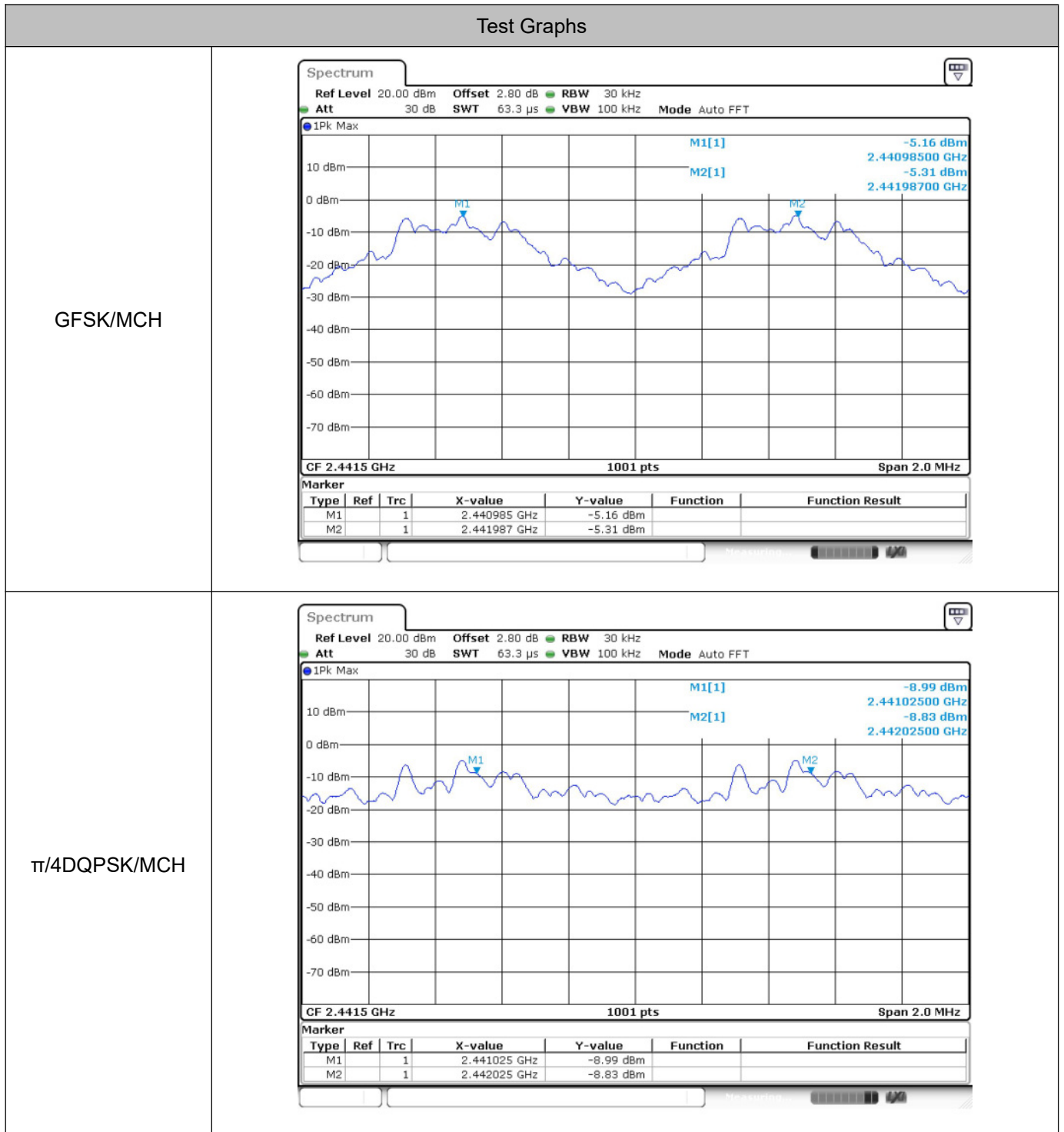


## 4 Carrier Frequency Separation

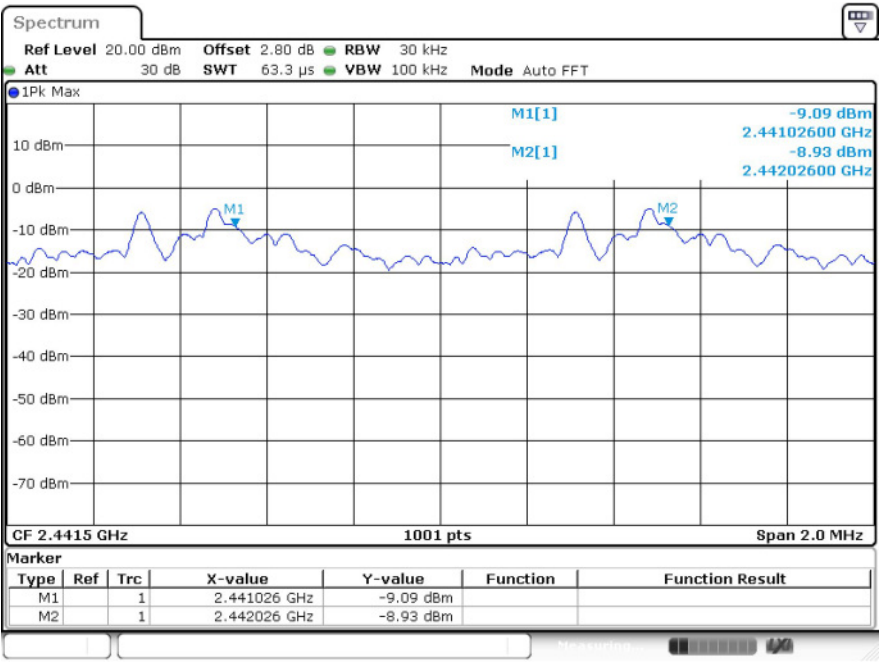
### 4.1 Test Result

| Mode          | Channel. | Carrier Frequency Separation [MHz] | Limit [MHz] | Verdict |
|---------------|----------|------------------------------------|-------------|---------|
| GFSK          | MCH      | 1.002                              | 0.619       | Pass    |
| $\pi/4$ DQPSK | MCH      | 1                                  | 0.83        | Pass    |
| 8DPSK         | MCH      | 1                                  | 0.794       | Pass    |

## 4.2 Test Graphs



8DPSK/MCH

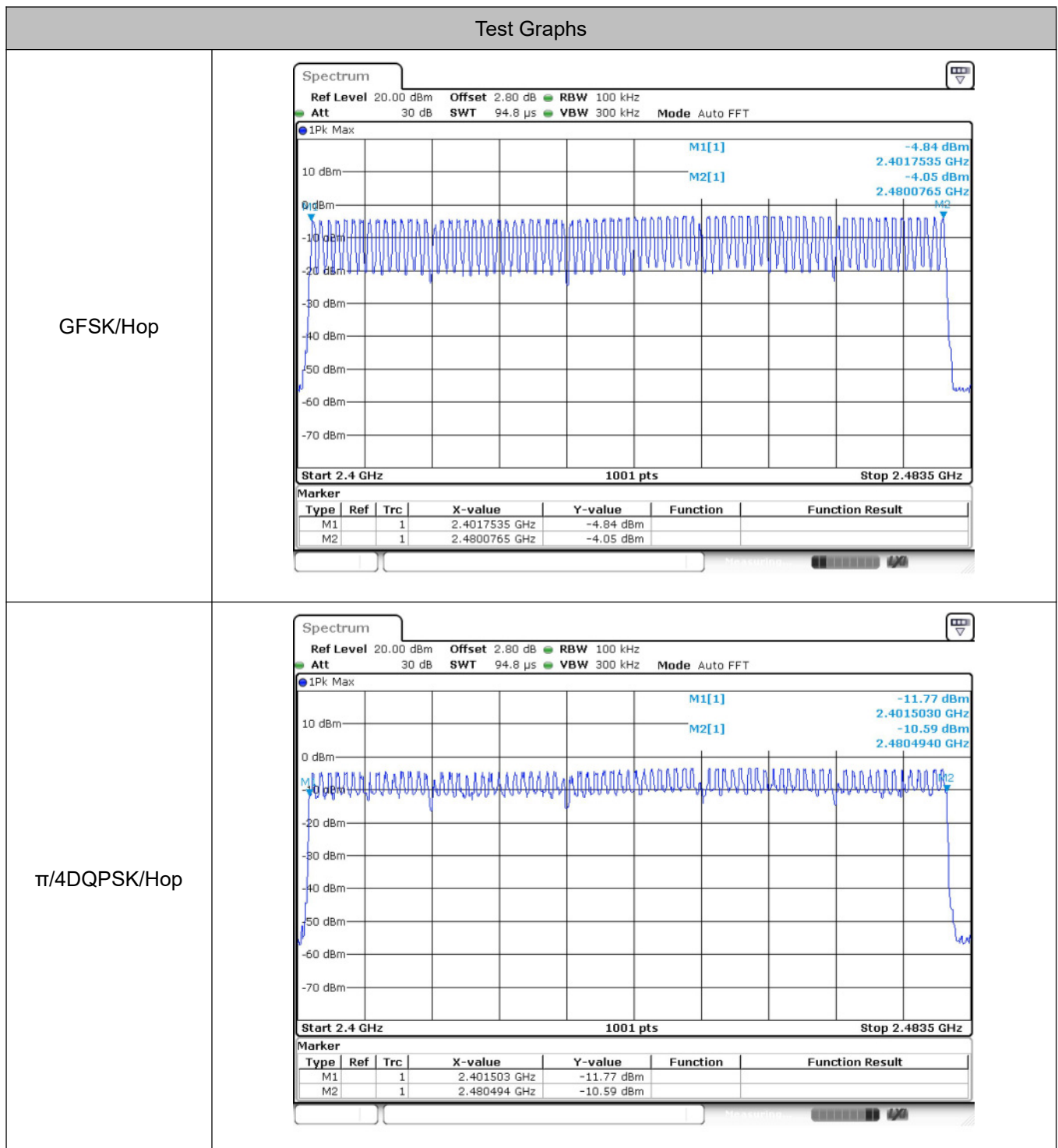


## 5 Hopping Channel Number

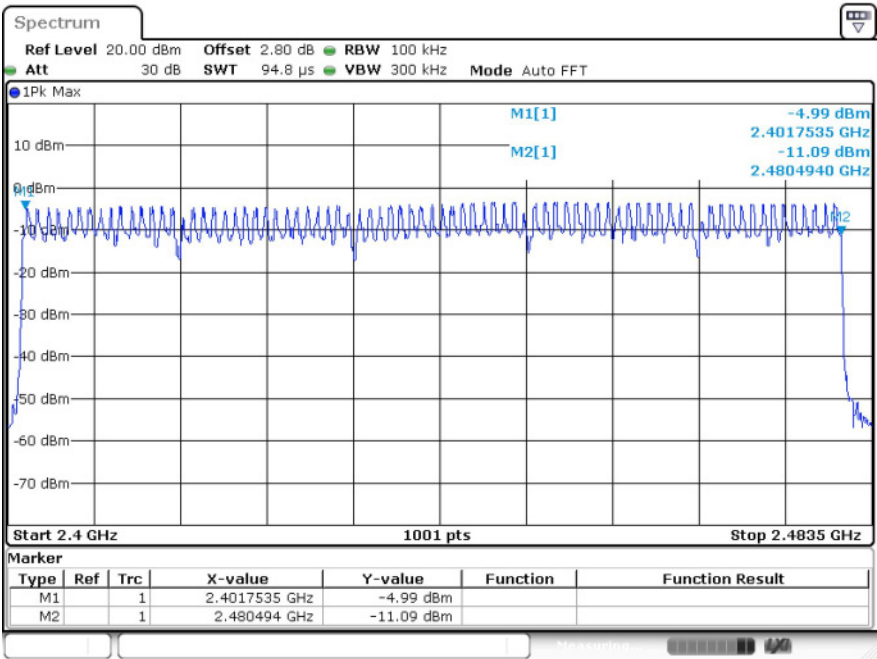
### 5.1 Test Result

| 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

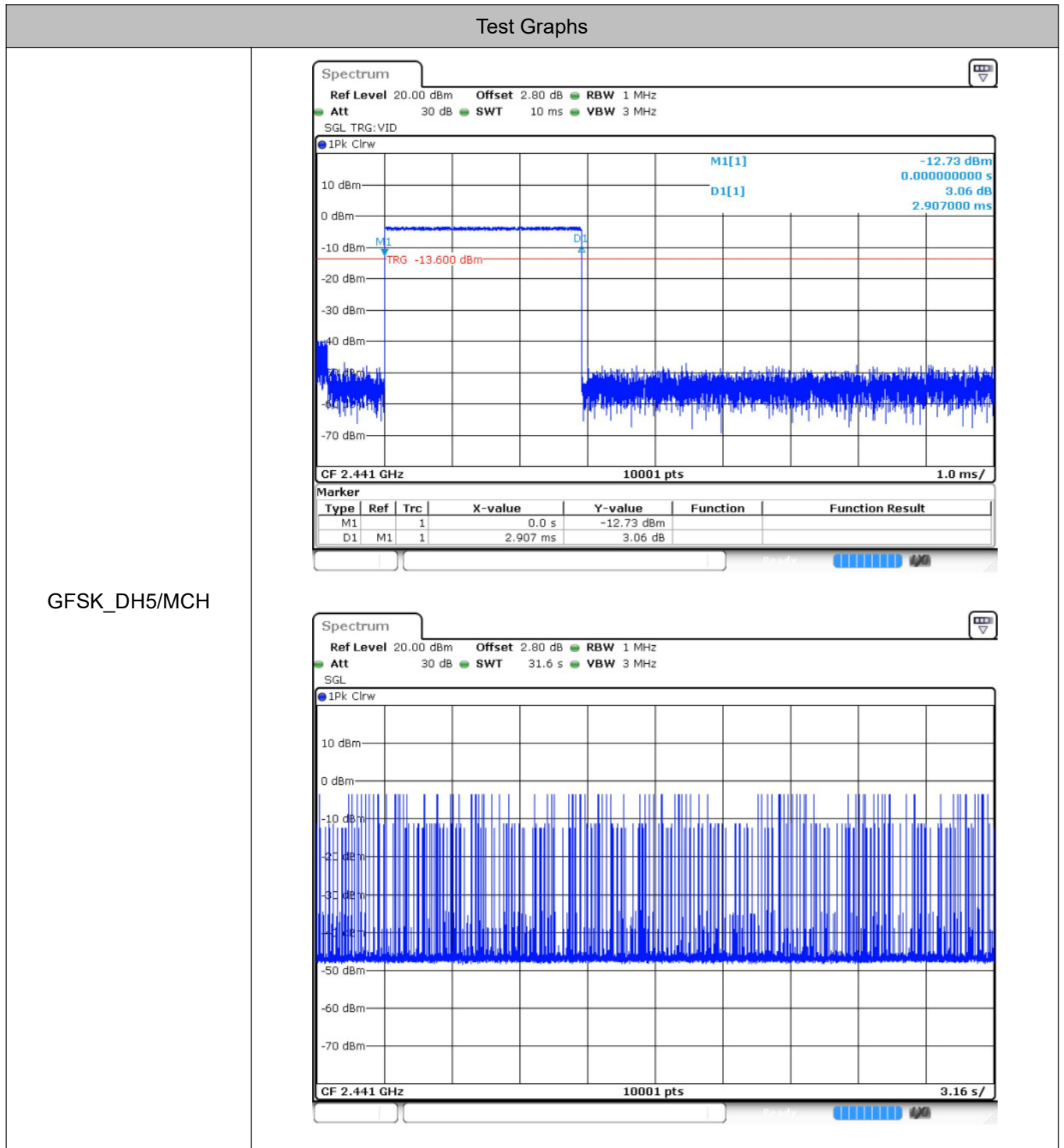


## 6 Dwell Time

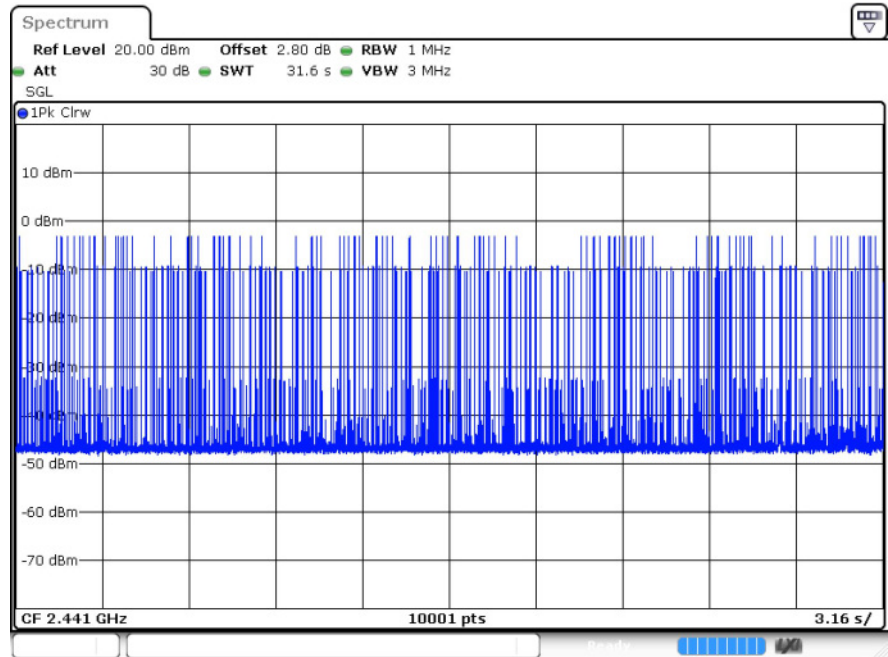
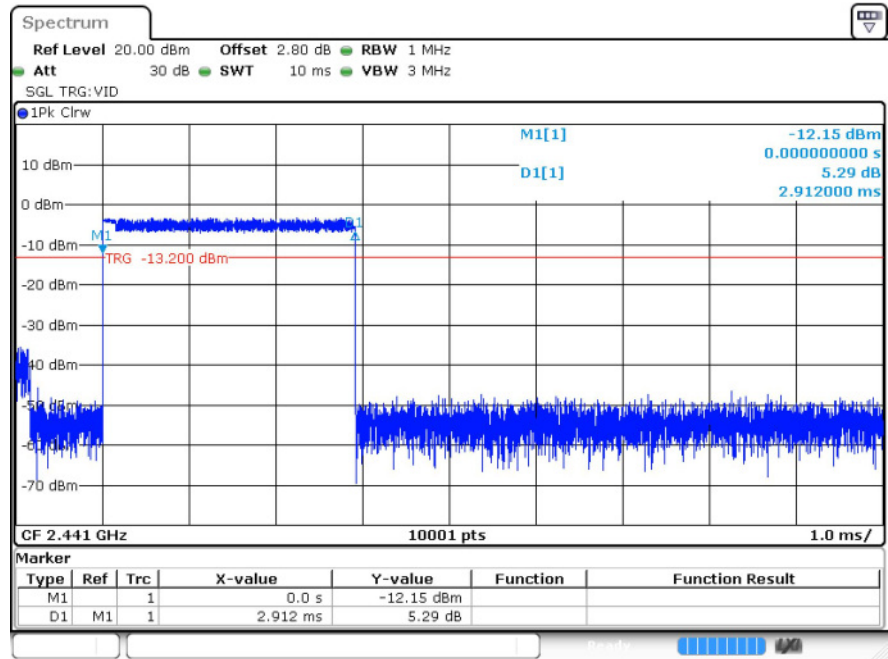
### 6.1 Test Result

| Mode          | Packet | Channel | Burst Width<br>[ms/hop/ch] | Total<br>Hops[hop*ch] | Dwell Time[ms] | Limit [s] | Verdict |
|---------------|--------|---------|----------------------------|-----------------------|----------------|-----------|---------|
| GFSK          | DH5    | MCH     | 2.907                      | 101                   | 293.607        | 0.4       | Pass    |
| $\pi/4$ DQPSK | 2DH5   | MCH     | 2.912                      | 101                   | 294.112        | 0.4       | Pass    |
| 8DPSK         | 3DH5   | MCH     | 2.915                      | 94                    | 274.01         | 0.4       | Pass    |

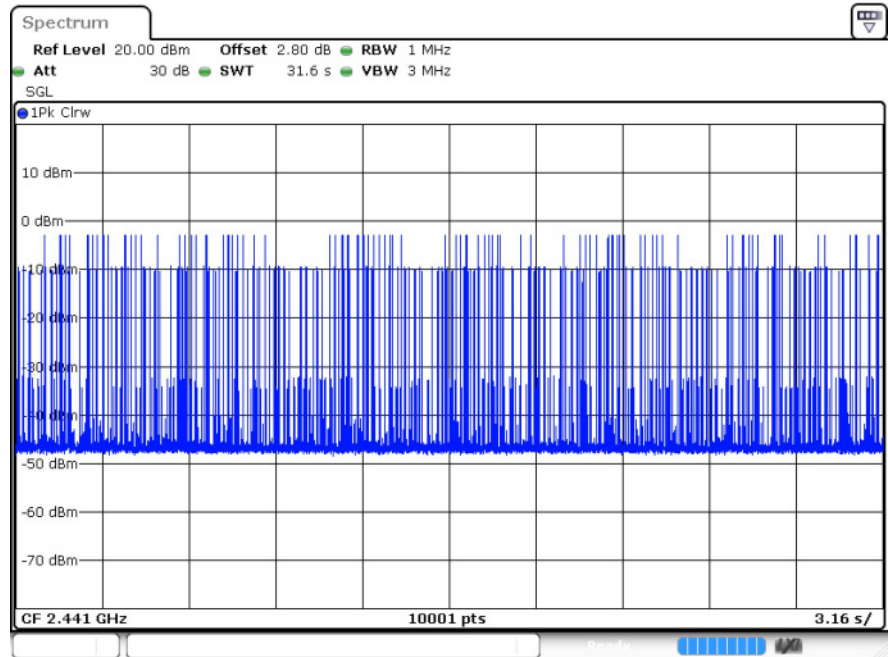
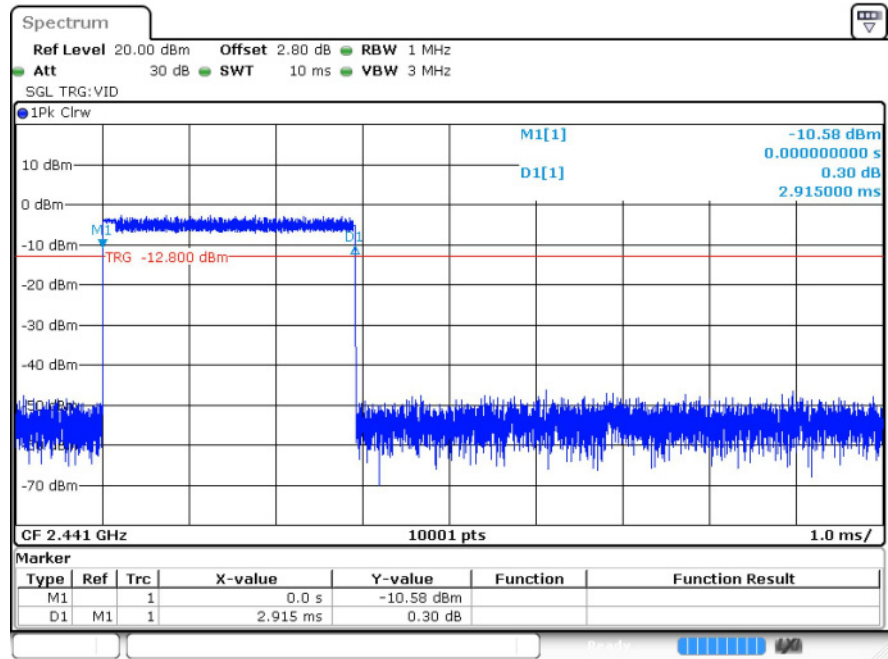
## 6.2 Test Graphs



$\pi/4$ DQPSK  
\_2DH5/MCH



8DPSK\_3DH5/MCH

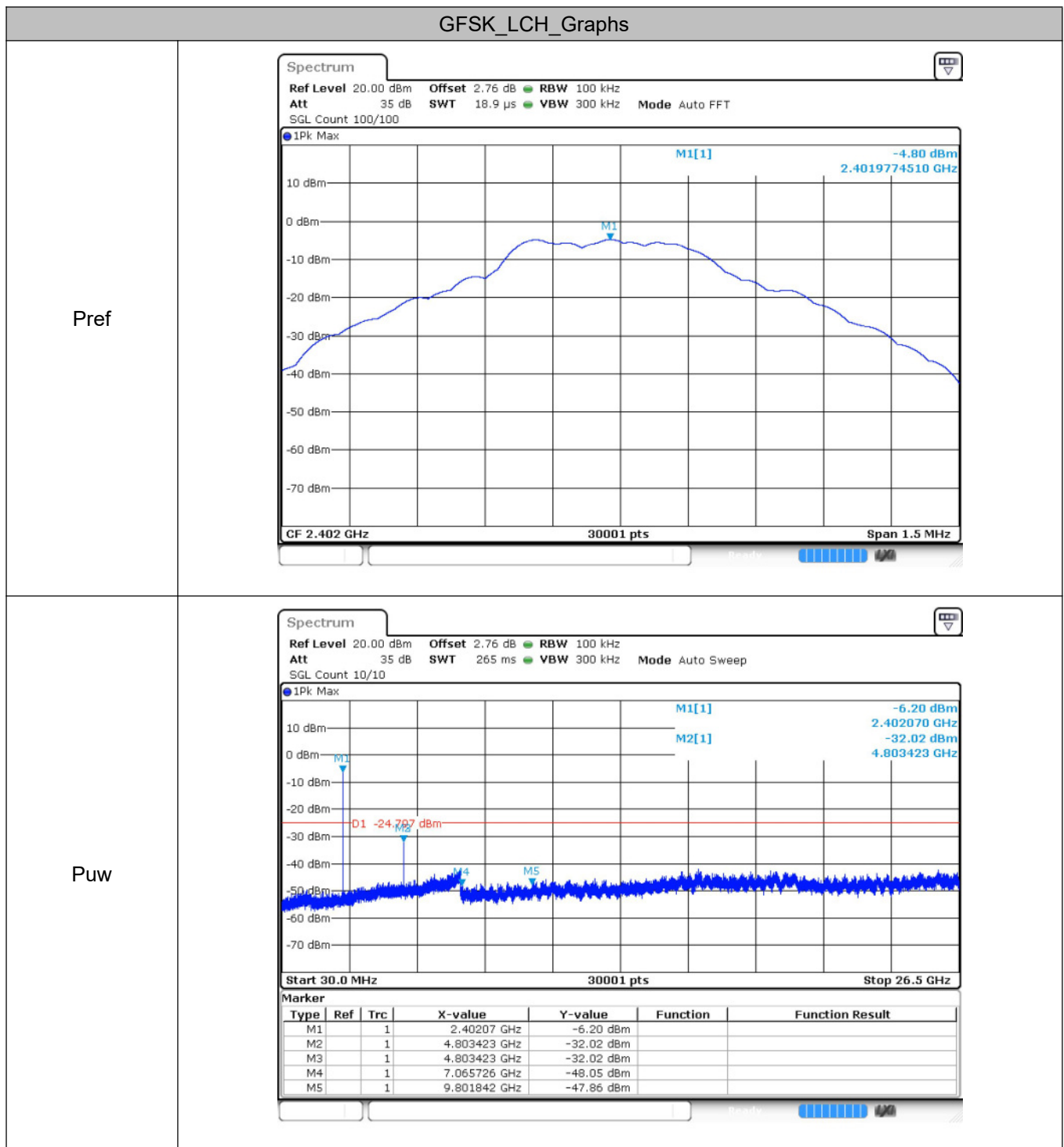


## 7 RF Conducted Spurious Emissions

### 7.1 Test Result

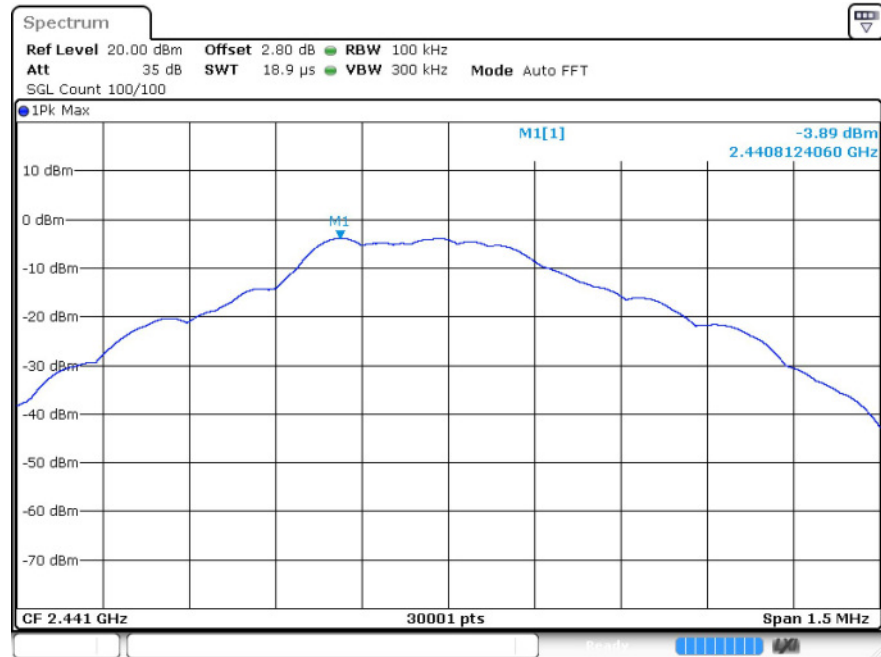
| Mode          | Channel | Max. Level [dBc] | Limit [dBc] | Verdict |
|---------------|---------|------------------|-------------|---------|
| GFSK          | LCH     | -27.22           | -20         | Pass    |
|               | MCH     | -26.5            | -20         | Pass    |
|               | HCH     | -27.33           | -20         | Pass    |
| $\pi/4$ DQPSK | LCH     | -25.23           | -20         | Pass    |
|               | MCH     | -25.44           | -20         | Pass    |
|               | HCH     | -31.89           | -20         | Pass    |
| 8DPSK         | LCH     | -30.41           | -20         | Pass    |
|               | MCH     | -29.19           | -20         | Pass    |
|               | HCH     | -29.25           | -20         | Pass    |

## 7.2 Test Graphs

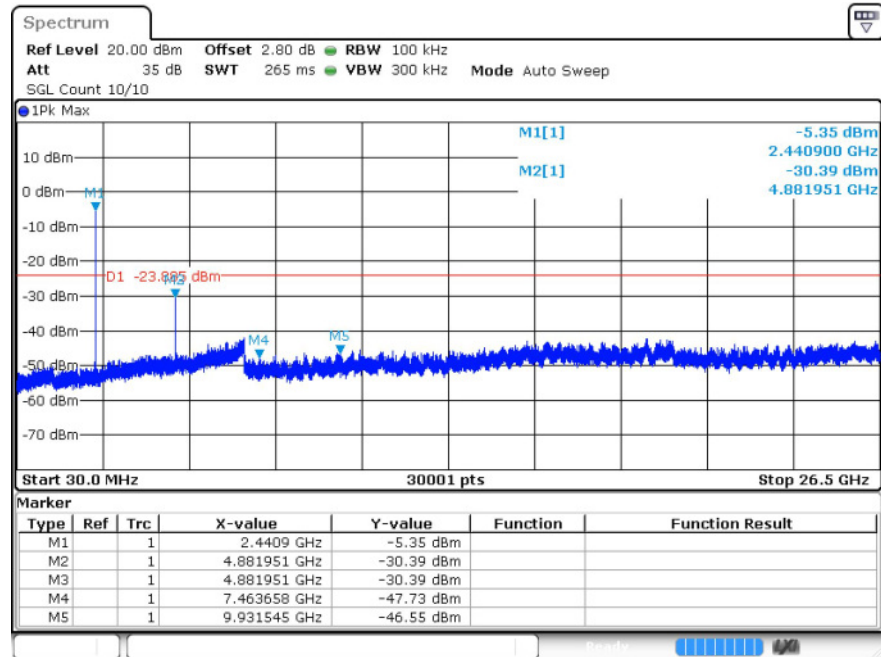


## GFSK\_MCH\_Graphs

Pref

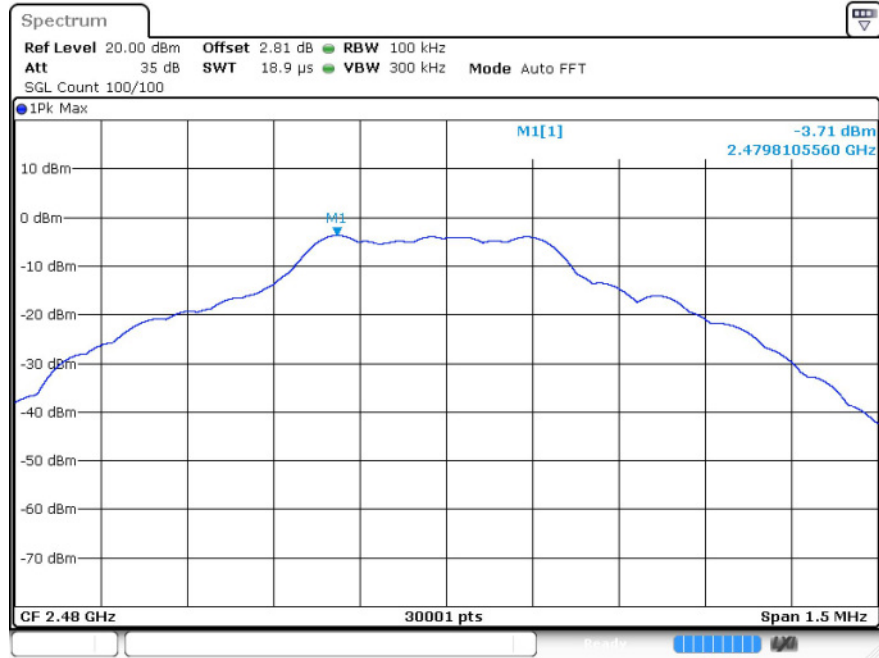


Puw

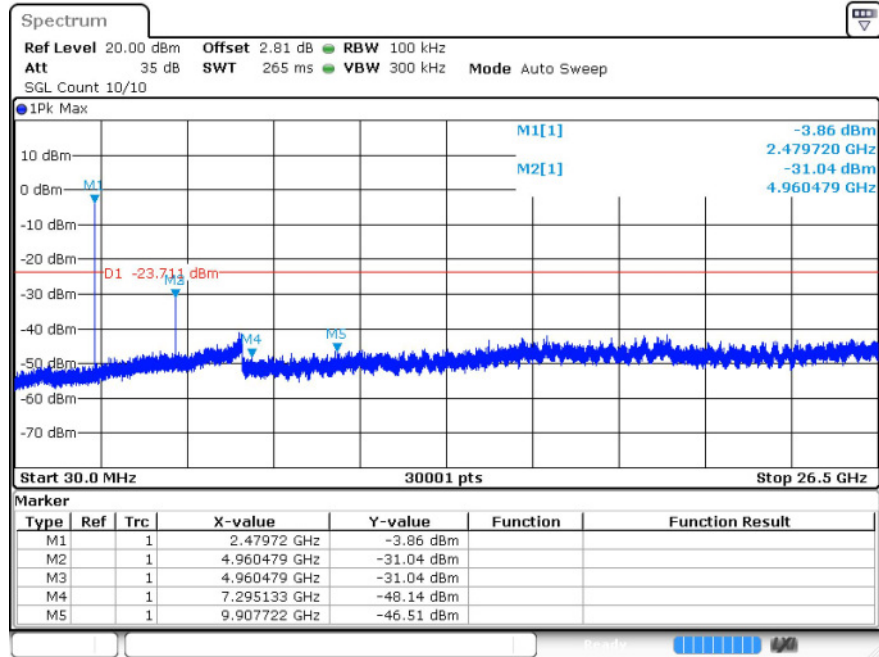


## GFSK\_HCH\_Graphs

Pref

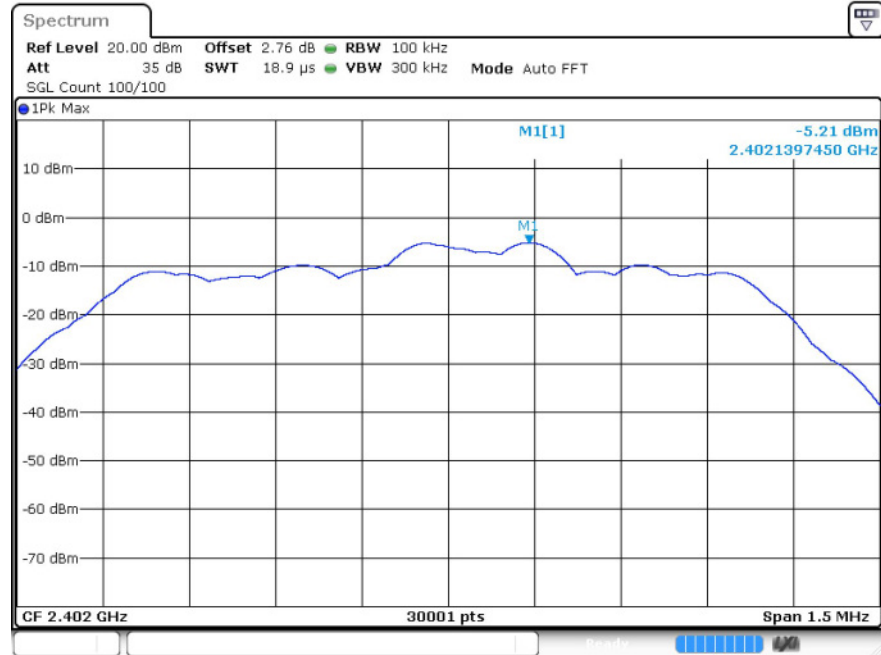


Puw

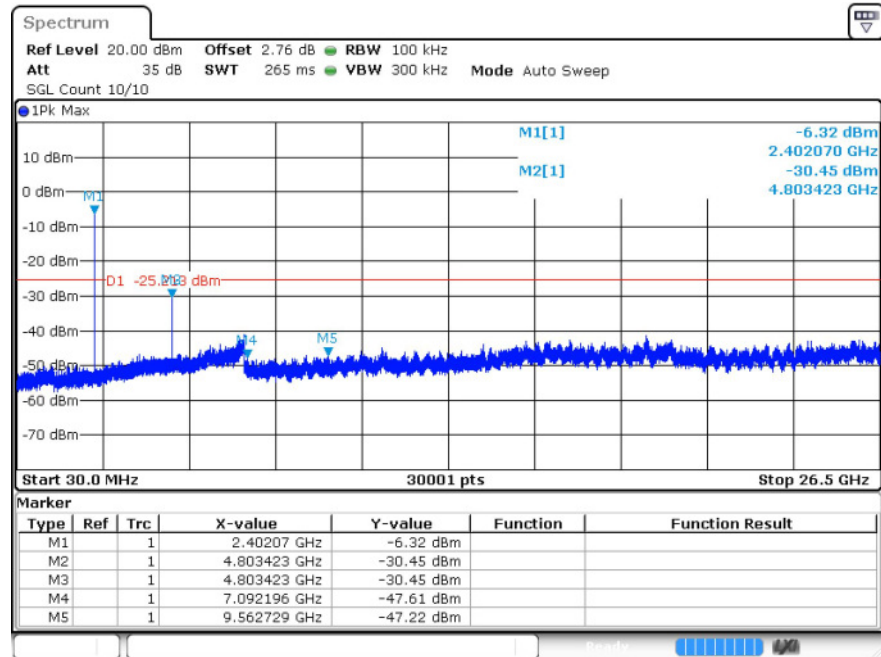


### $\pi/4$ DQPSK\_LCH\_Graphs

Pref

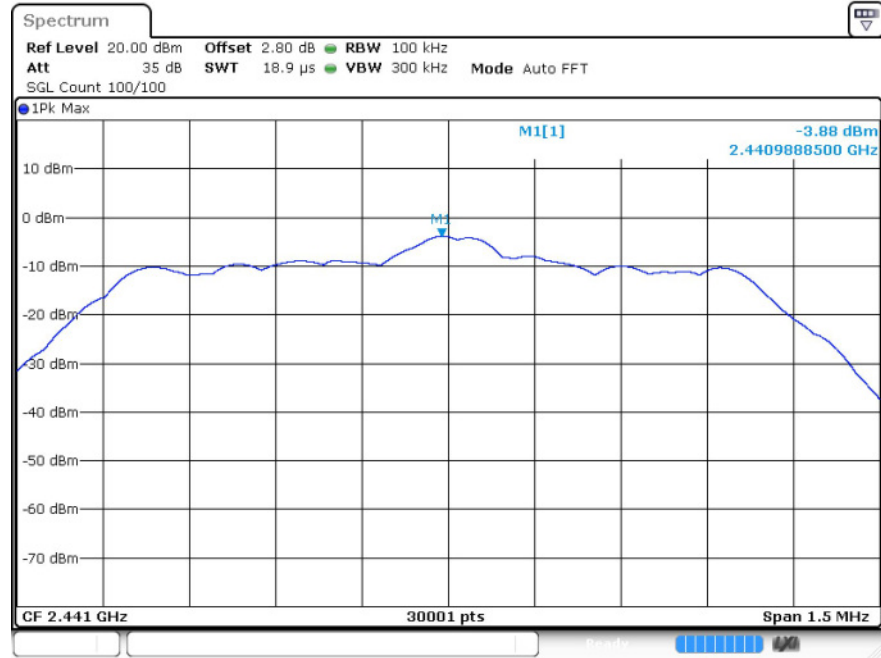


Puw

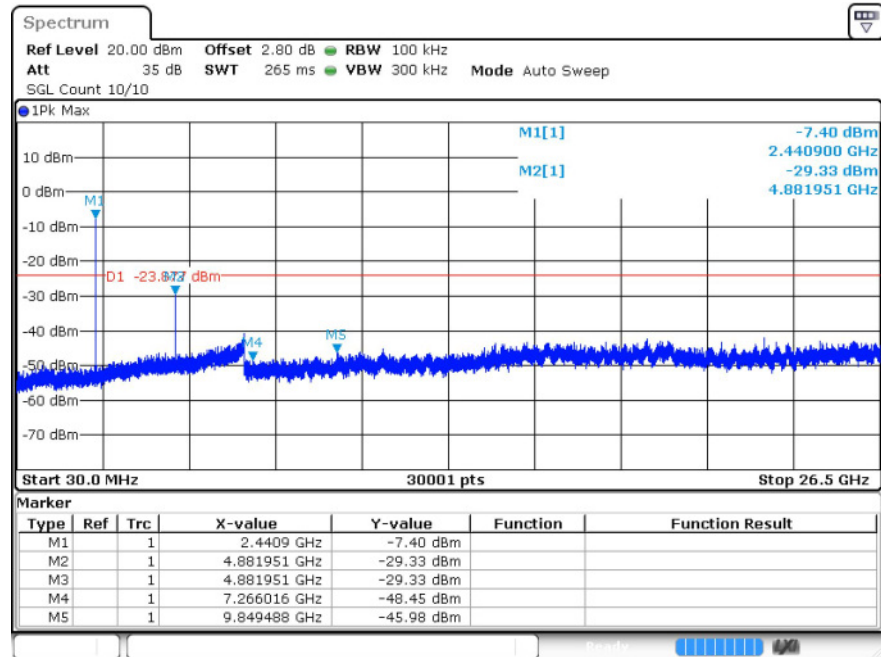


### $\pi$ /4DQPSK\_MCH\_Graphs

Pref

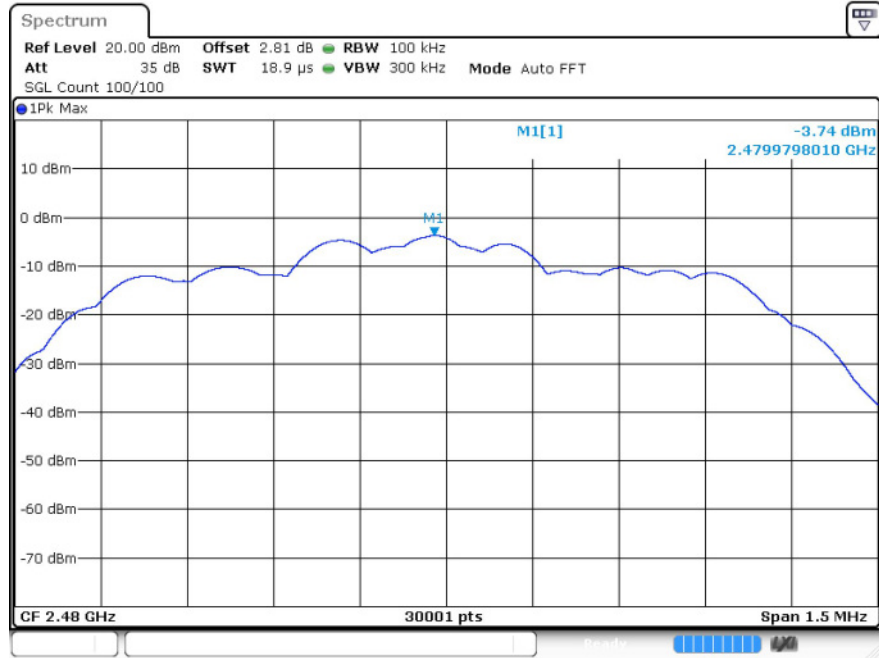


Puw



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

Pref



Puw

