

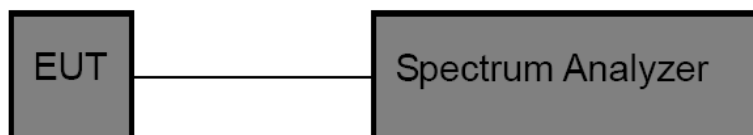


### 3.4. Band edge and Spurious Emissions (Conducted)

#### Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

#### Test Configuration



#### Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:  
RBW = 100 kHz, VBW ≥ RBW, scan up through 10<sup>th</sup> harmonic.  
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

#### Test Mode

Please refer to the clause 2.4.

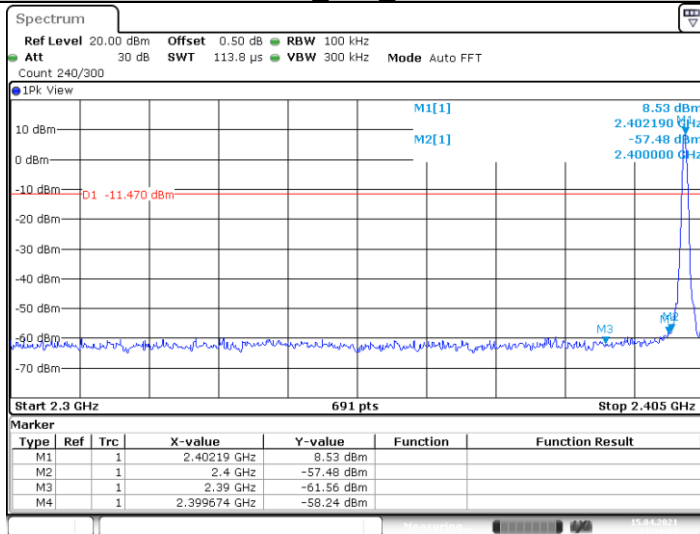
#### Test Results

##### (1) Band edge Conducted Test

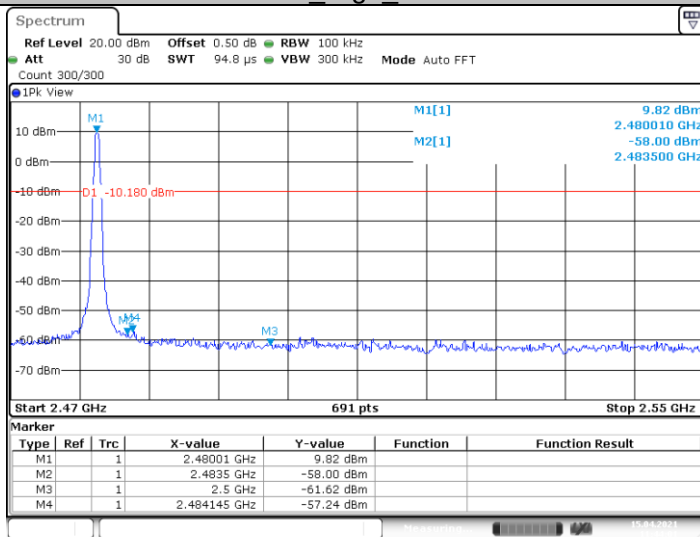
| Test Mode | Frequency[MHz] | Ref Level[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|----------------|----------------|-------------|------------|---------|
| GFSK      | 2402           | 8.53           | -58.24      | <=-11.47   | PASS    |
|           | 2480           | 9.82           | -57.24      | <=-10.18   | PASS    |
|           | Hop_2402       | 4.88           | -58.72      | -15.12     | PASS    |
|           | Hop_2480       | 5.27           | -59.09      | -14.73     | PASS    |
| π/4-DQPSK | 2402           | 3.10           | -53.59      | <=-16.9    | PASS    |
|           | 2480           | 5.55           | -59.08      | <=-14.45   | PASS    |
|           | Hop_2402       | 0.49           | -59.16      | -19.51     | PASS    |
|           | Hop_2480       | 5.29           | -59.29      | -14.71     | PASS    |
| 8-DPSK    | 2402           | 3.53           | -52.6       | <=-16.47   | PASS    |
|           | 2480           | 3.92           | -58.62      | <=-16.08   | PASS    |
|           | Hop_2402       | -2.39          | -59.44      | -22.39     | PASS    |
|           | Hop_2480       | 4.94           | -59.24      | -15.06     | PASS    |



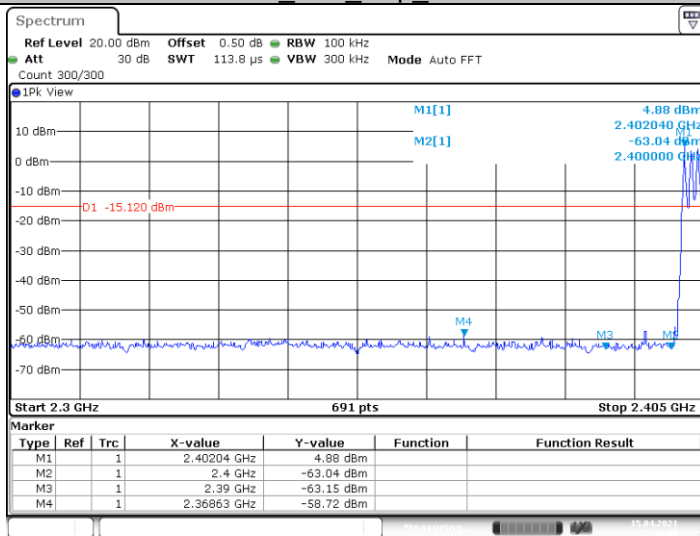
## DH5\_Low\_2402



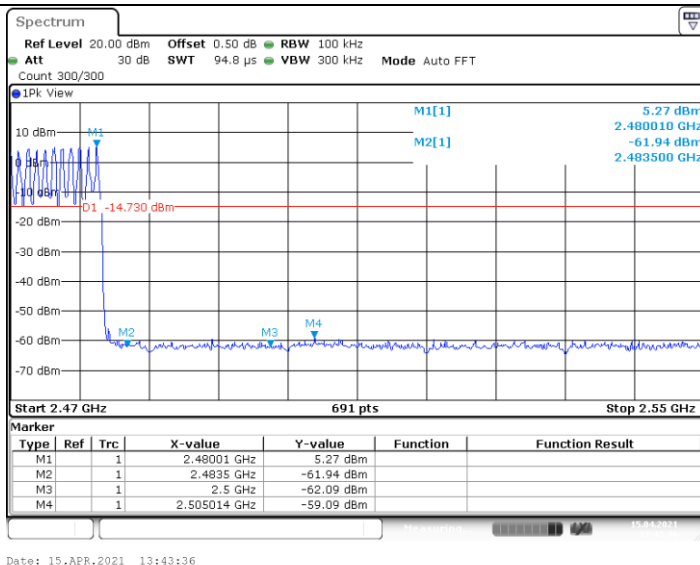
## DH5\_High\_2480



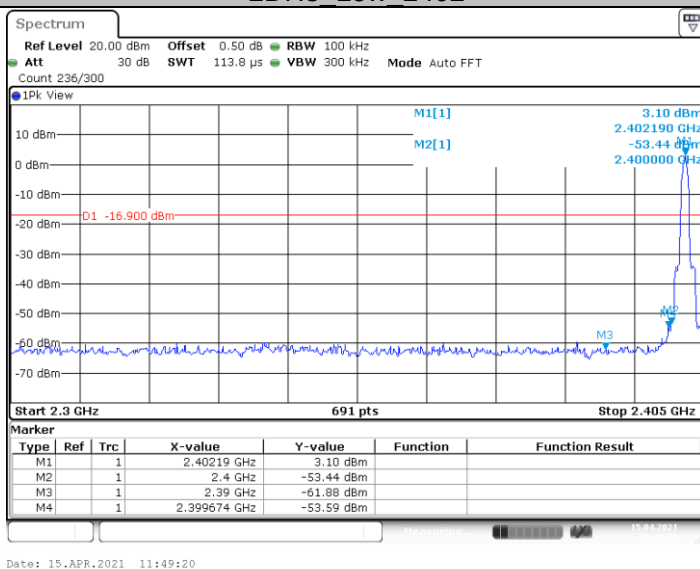
## DH5\_Low\_Hop\_2402



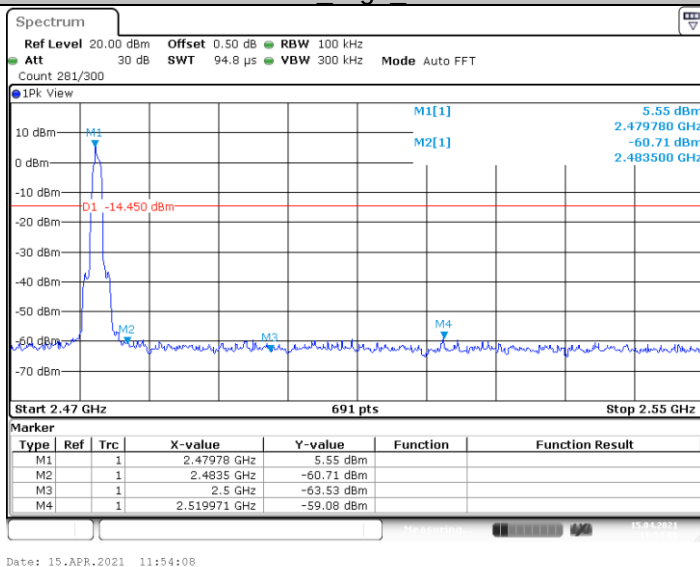
## DH5\_High\_Hop\_2480



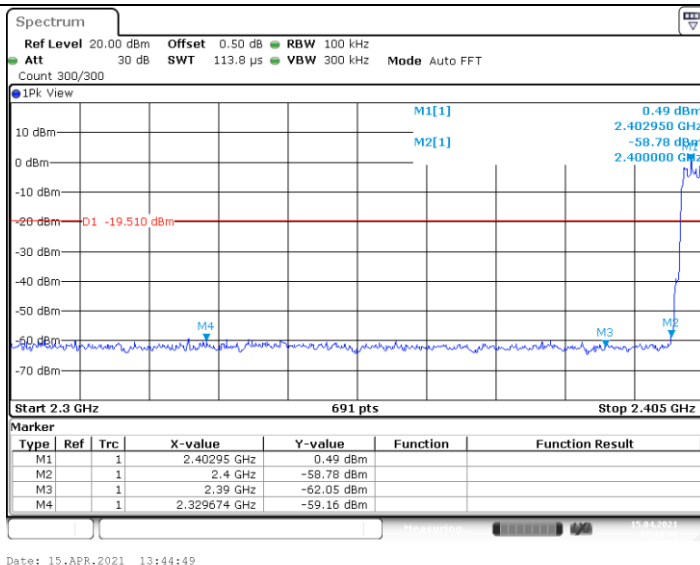
## 2DH5 Low 2402



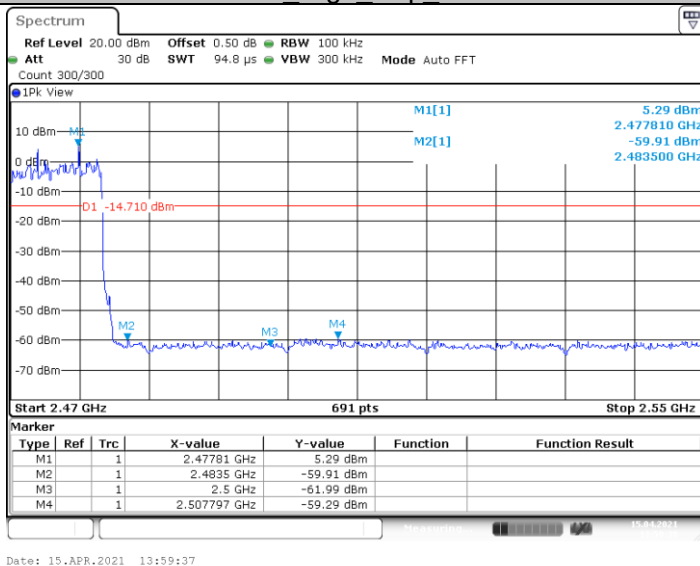
## 2DH5 High 2480



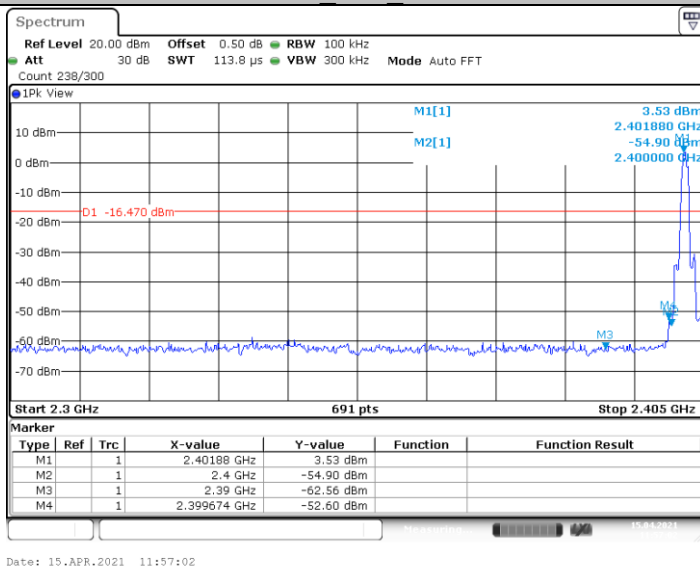
## 2DH5 Low Hop 2402



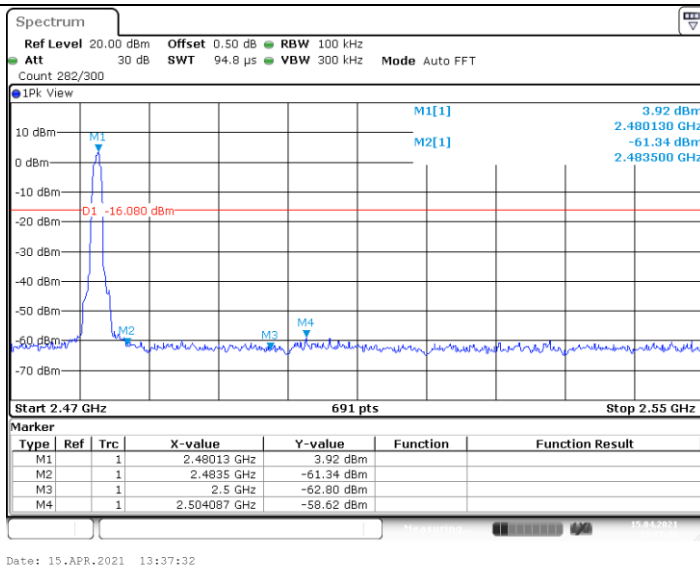
## 2DH5 High Hop 2480



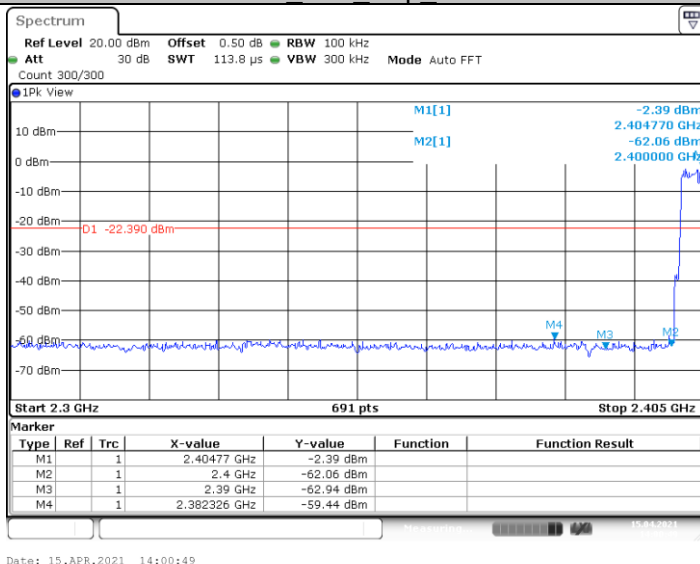
## 3DH5 Low 2402



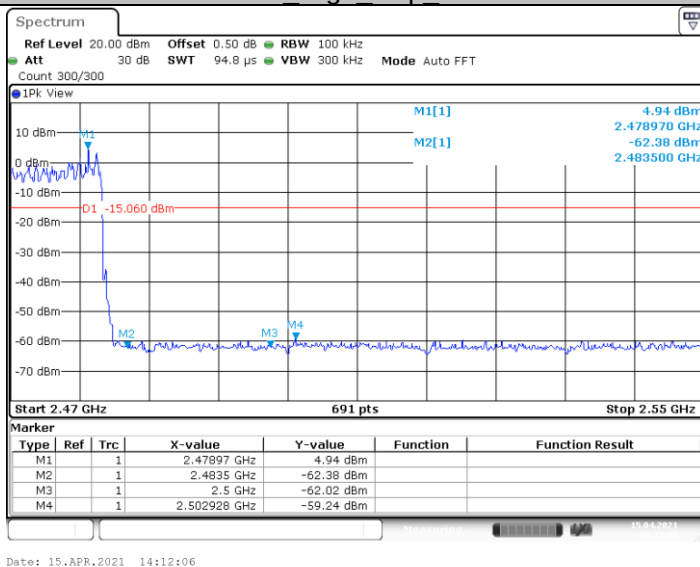
## 3DH5\_High\_2480



## 3DH5 Low Hop 2402



## 3DH5 High Hop 2480



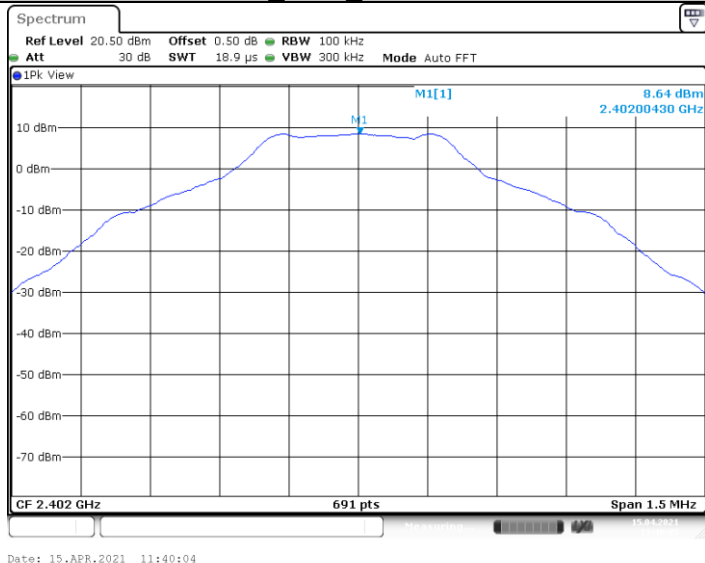


## (2) Conducted Spurious Emissions Test

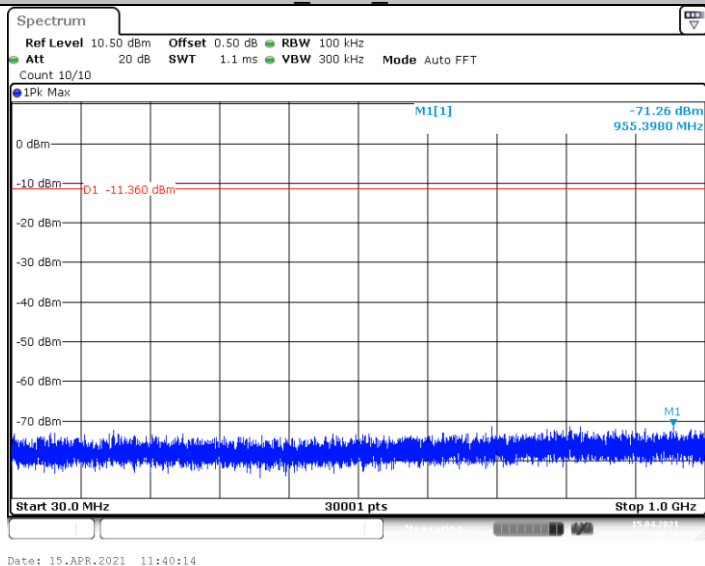
| Test Mode         | Frequency[MHz] | Freq Range [MHz] | Ref Level [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|-------------------|----------------|------------------|-----------------|--------------|---------------|---------|
| GFSK              | 2402           | Reference        | 8.64            | 8.64         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -71.26       | $\leq -11.36$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -47.36       | $\leq -11.36$ | PASS    |
|                   | 2441           | Reference        | 9.46            | 9.46         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -71.01       | $\leq -10.54$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -47.36       | $\leq -10.54$ | PASS    |
|                   | 2480           | Reference        | 10.08           | 10.08        | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -71.18       | $\leq -9.92$  | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -46.57       | $\leq -9.92$  | PASS    |
| $\pi$<br>/4-DQPSK | 2402           | Reference        | 4.06            | 4.06         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -70.58       | $\leq -15.94$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -40.8        | $\leq -15.94$ | PASS    |
|                   | 2441           | Reference        | 6.13            | 6.13         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -70.99       | $\leq -13.87$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -46.53       | $\leq -13.87$ | PASS    |
|                   | 2480           | Reference        | 6.36            | 6.36         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -70.27       | $\leq -13.64$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -46.02       | $\leq -13.64$ | PASS    |
| 8-DPSK            | 2402           | Reference        | 4.13            | 4.13         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -71.13       | $\leq -15.87$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -35.91       | $\leq -15.87$ | PASS    |
|                   | 2441           | Reference        | 5.74            | 5.74         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -70.51       | $\leq -14.26$ | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -46.45       | $\leq -14.26$ | PASS    |
|                   | 2480           | Reference        | 5.10            | 5.10         | ---           | PASS    |
|                   |                | 30~1000          | 30~1000         | -71.47       | $\leq -14.9$  | PASS    |
|                   |                | 1000~26500       | 1000~26500      | -46.72       | $\leq -14.9$  | PASS    |



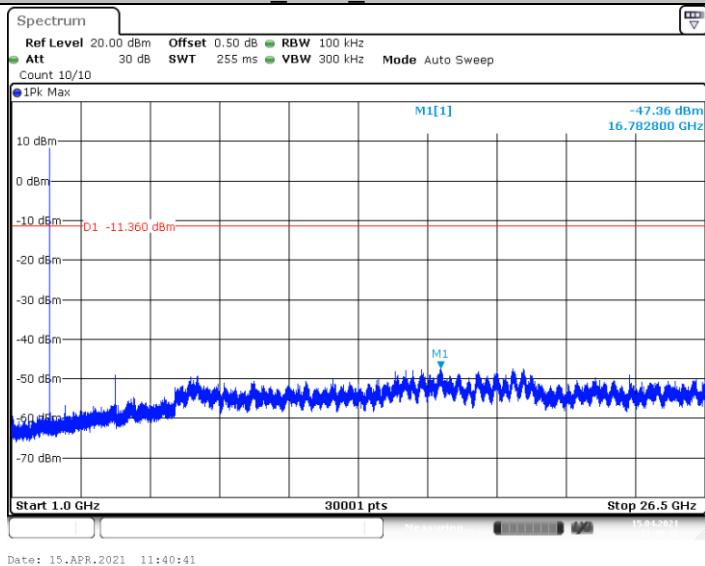
## GFSK 2402 0~Reference



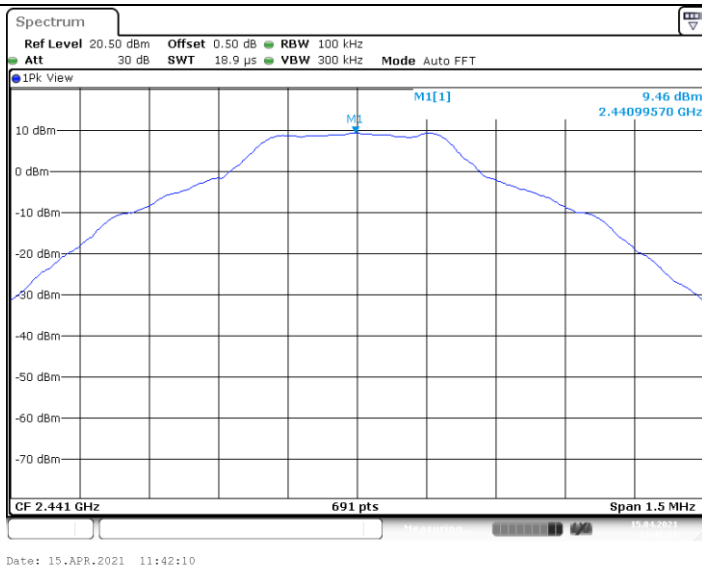
## GFSK 2402 30~1000



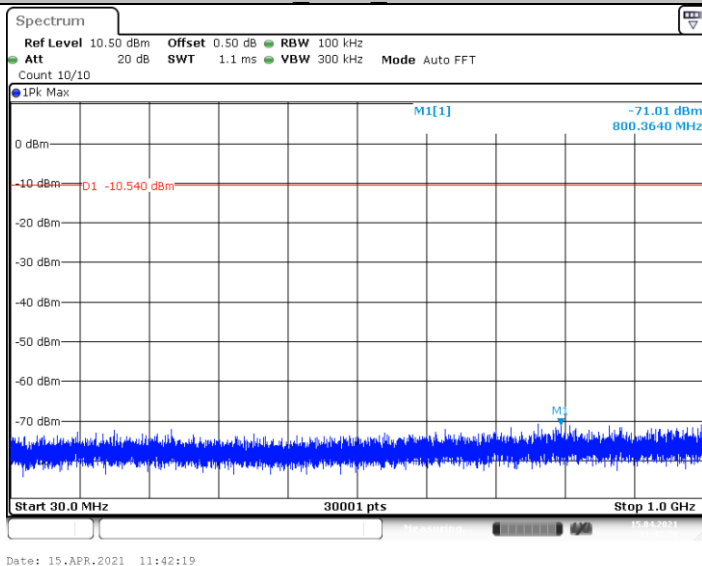
## GFSK 2402 1000~26500



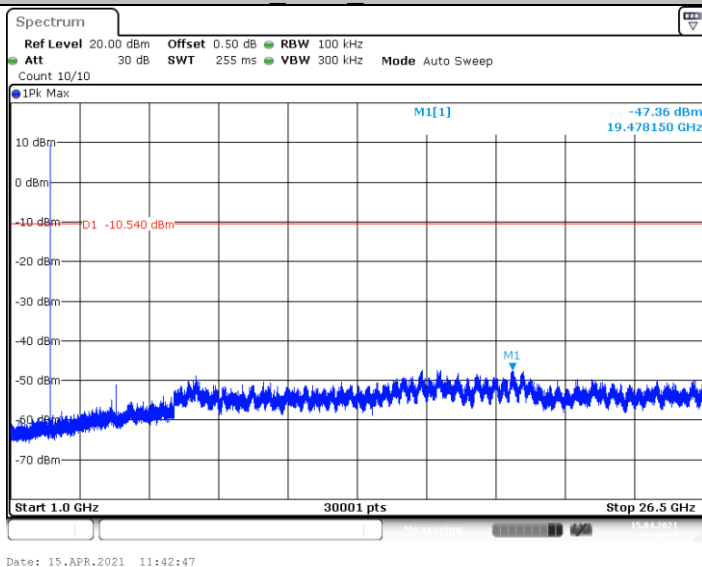
## GFSK 2441 0~Reference



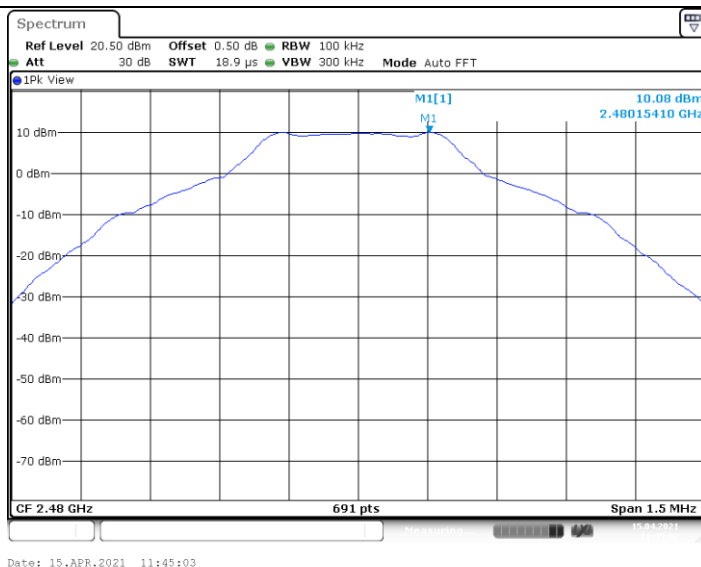
## GFSK 2441 30~1000



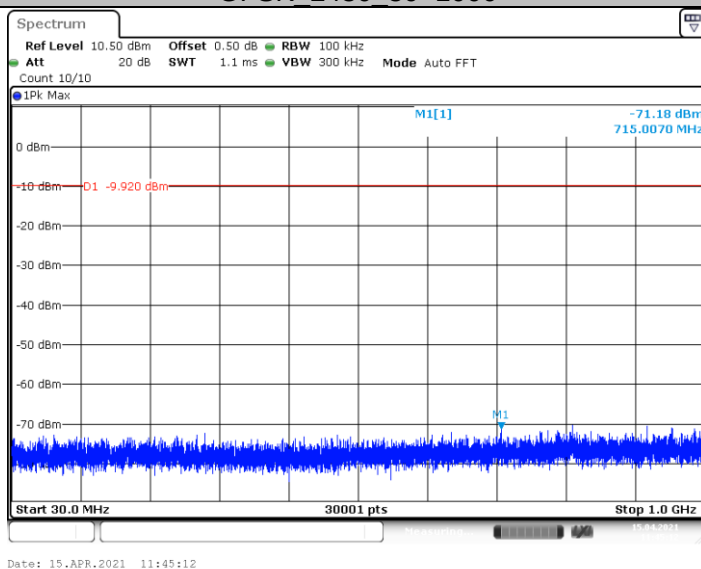
## GFSK 2441 1000~26500



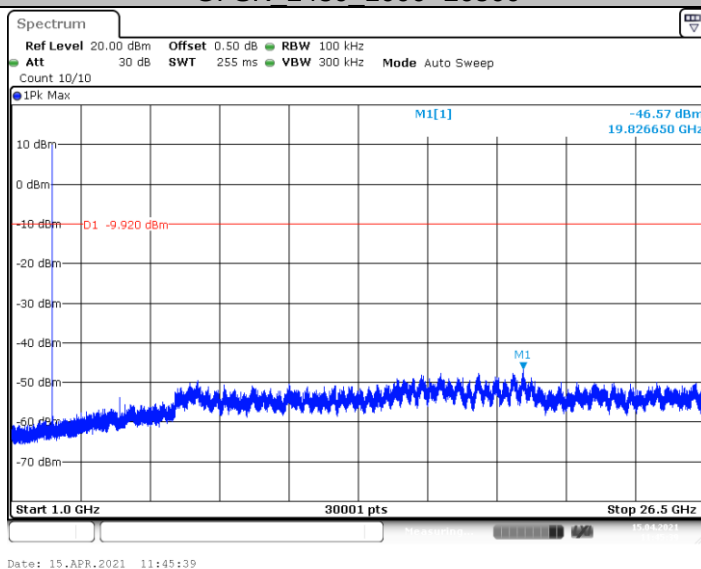
## GFSK\_2480\_0~Reference

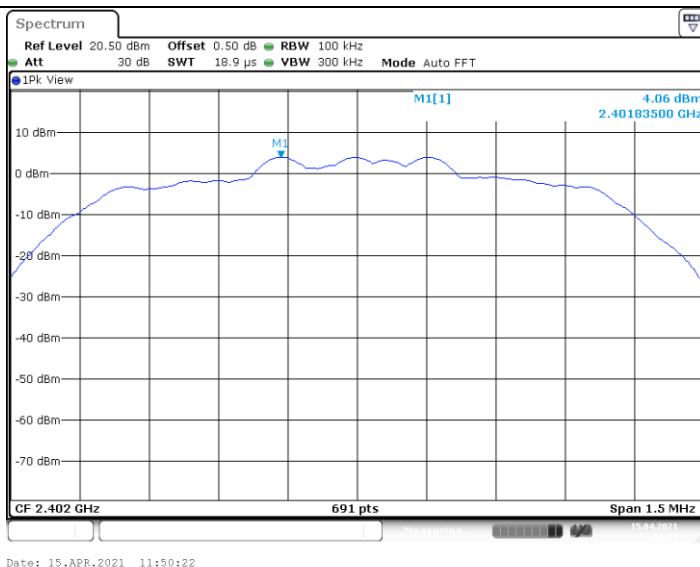
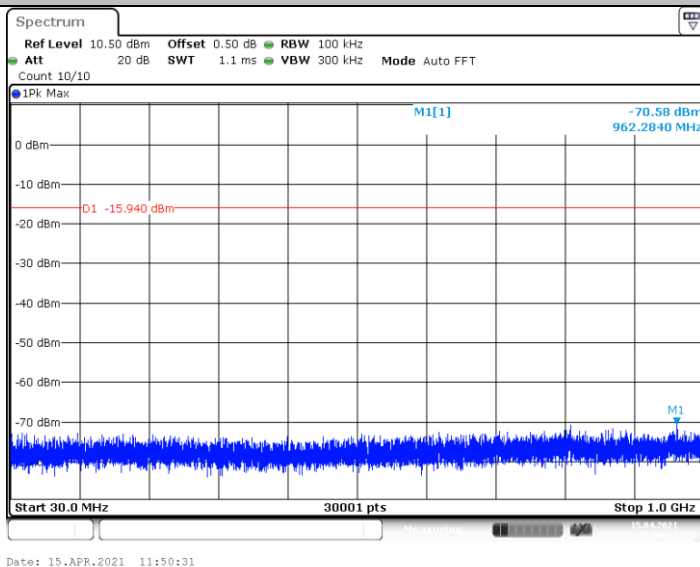
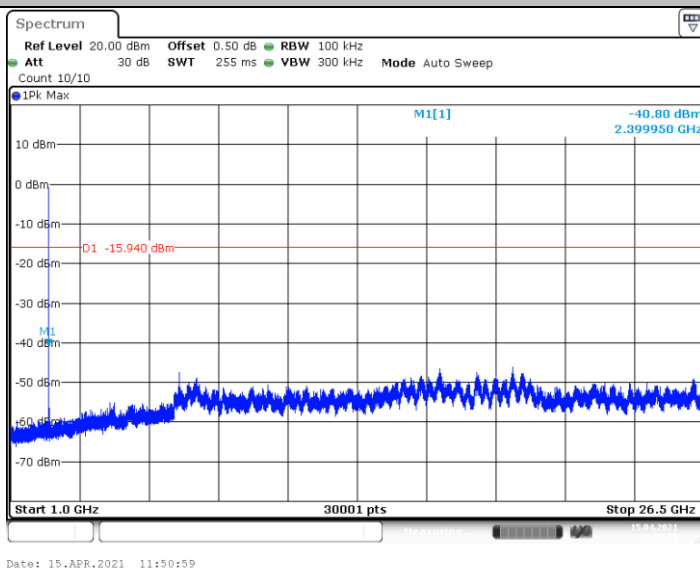


## GFSK 2480 30~1000



## GFSK 2480 1000~26500

 $\pi/4$ -DQPSK\_2402\_0~Reference

 $\pi/4$ -DQPSK\_2402\_30~1000 $\pi/4$ -DQPSK\_2402\_1000~26500 $\pi/4$ -DQPSK\_2441\_0~Reference

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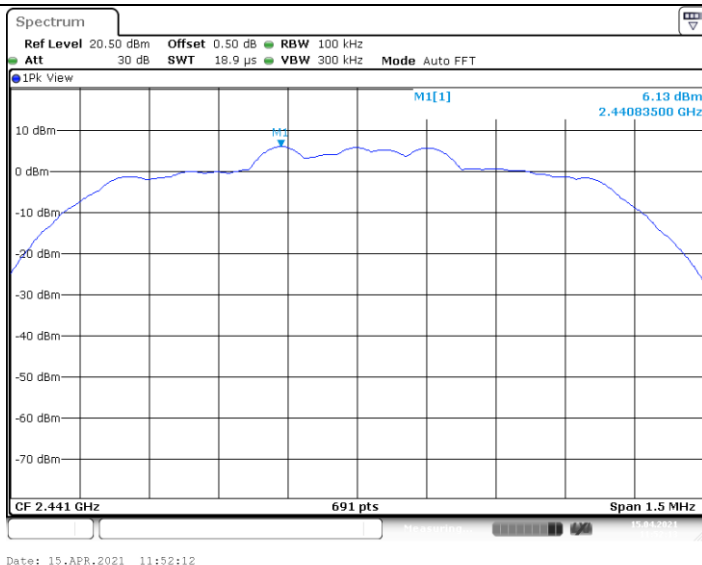
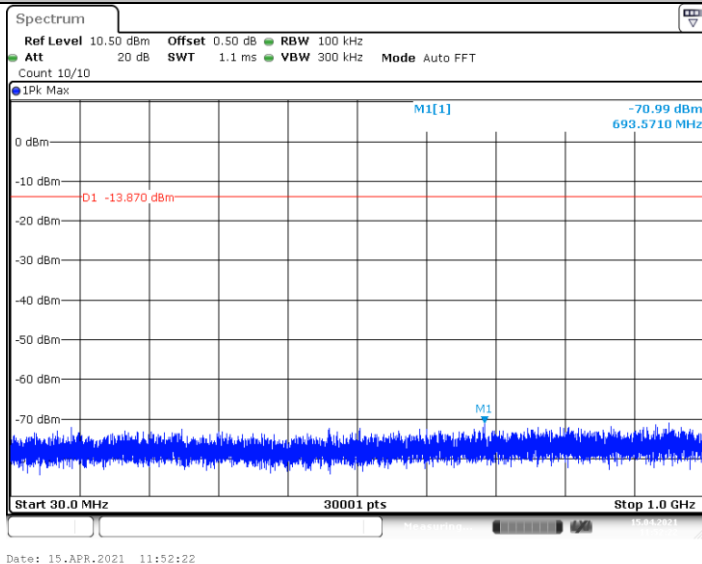
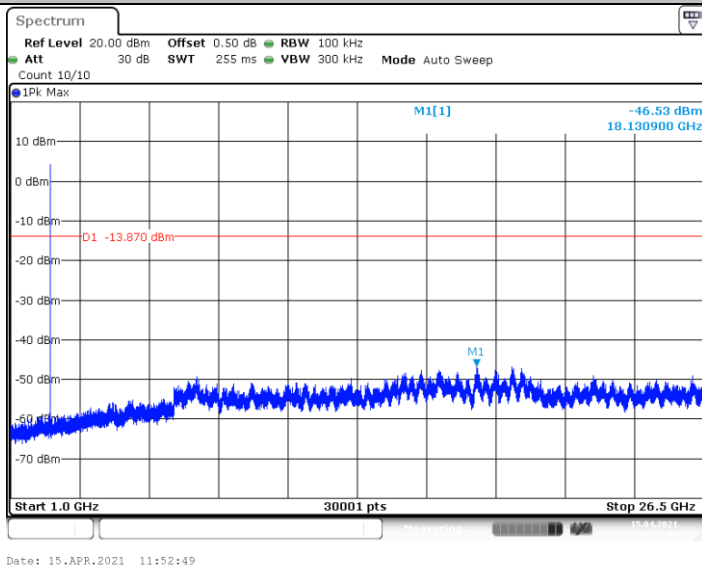
Room 101 Building B, No. 7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

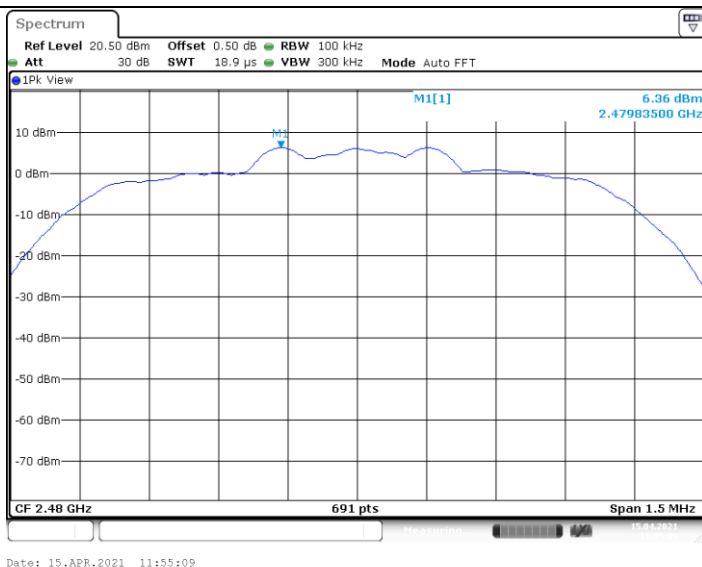
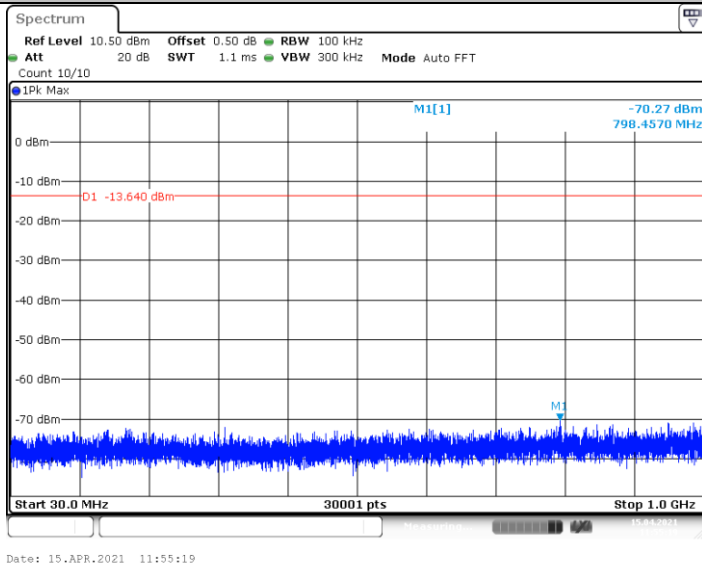
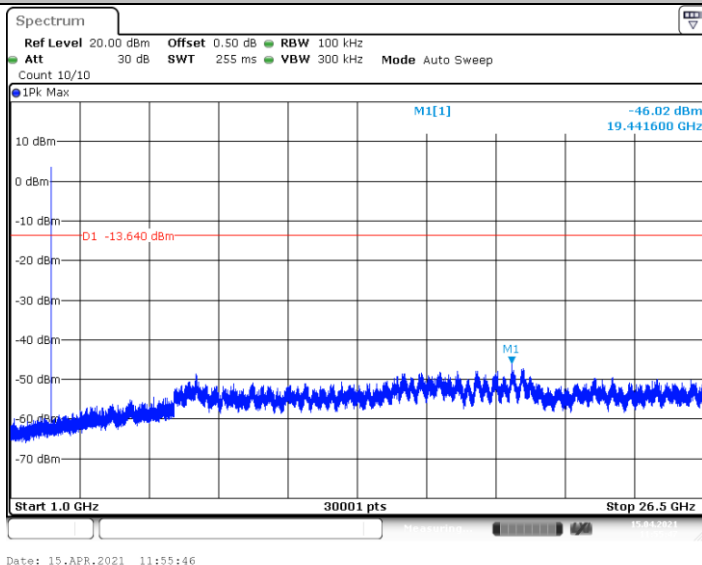
Tel.: (86)755-27521059

Fax: (86)755-27521011

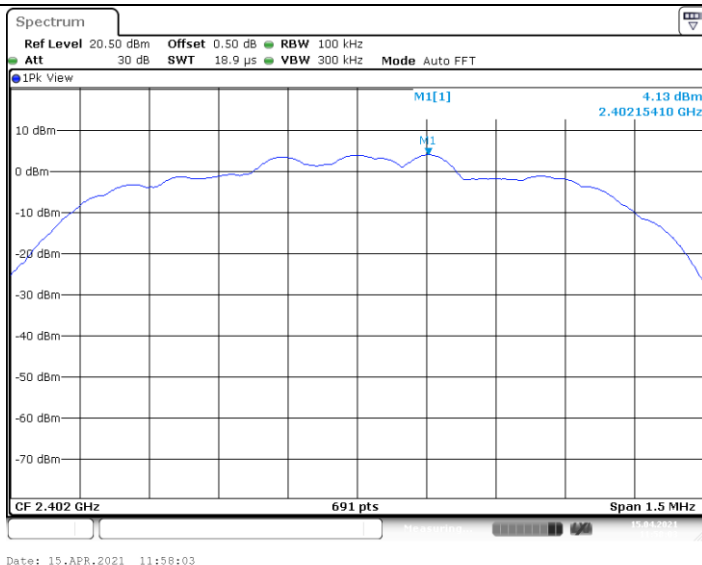
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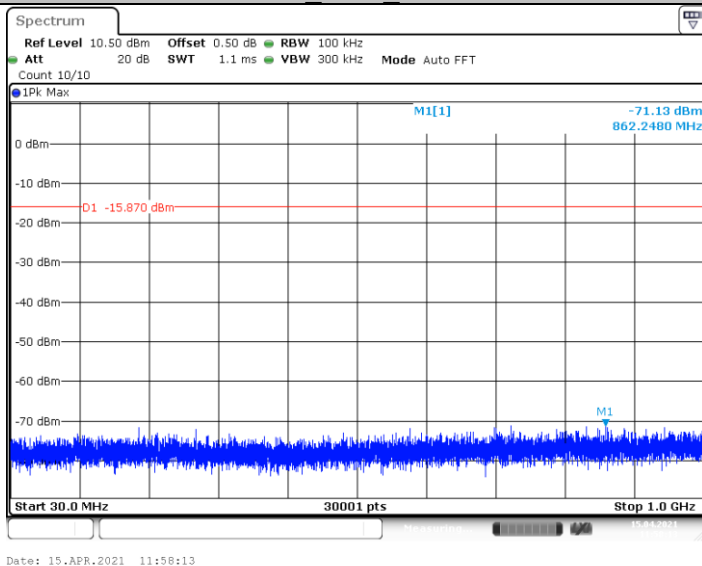
 $\pi/4$ -DQPSK\_2441\_30~1000 $\pi/4$ -DQPSK\_2441\_1000~26500 $\pi/4$ -DQPSK\_2480\_0~Reference

 $\pi/4$ -DQPSK\_2480\_30~1000 $\pi/4$ -DQPSK\_2480\_1000~26500

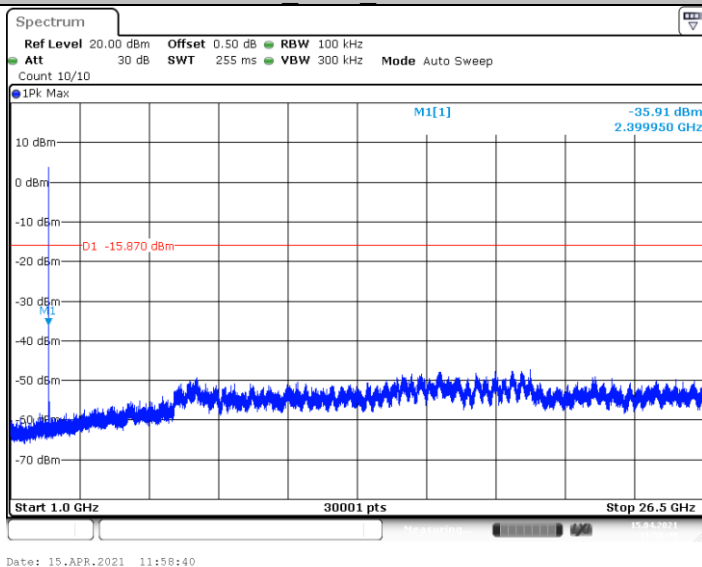
## 8-DPSK\_2402\_0~Reference



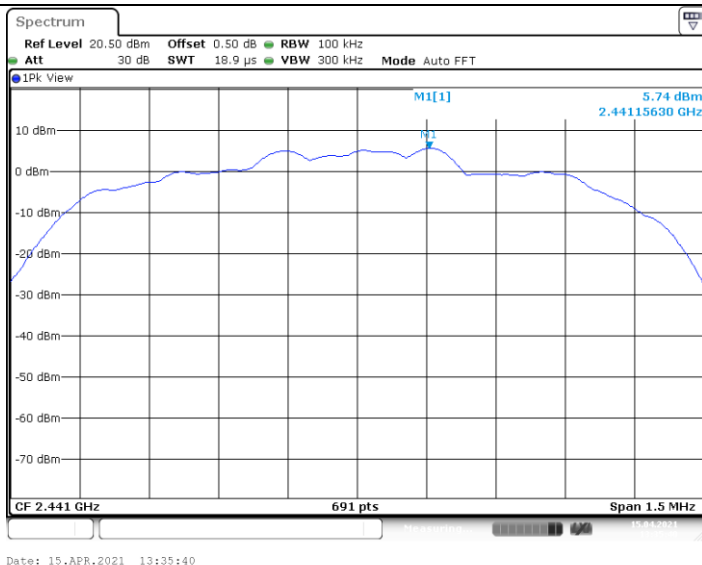
## 8-DPSK 2402 30~1000



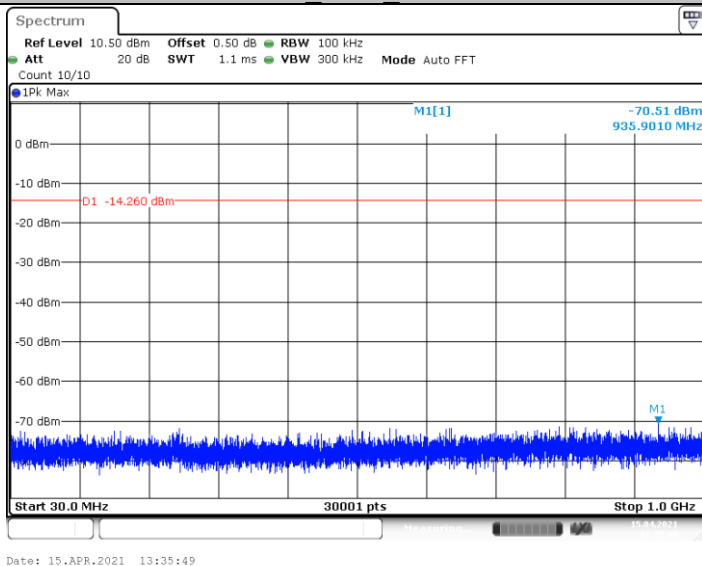
## 8-DPSK 2402 1000~26500



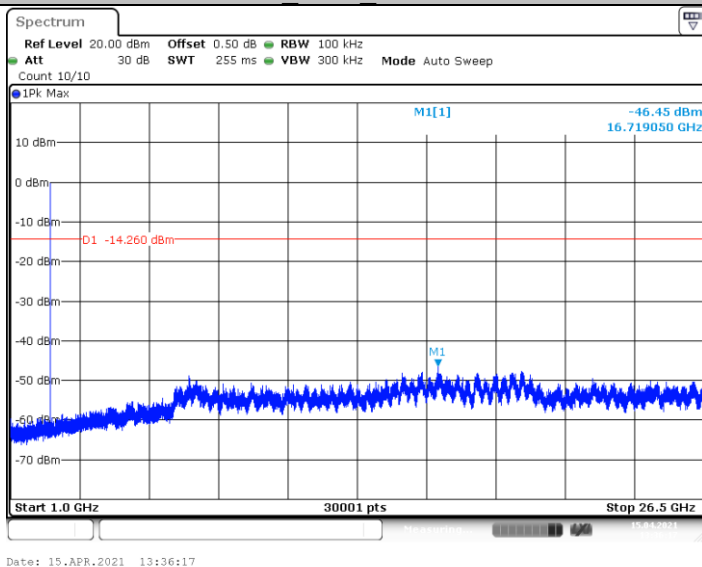
## 8-DPSK 2441\_0~Reference



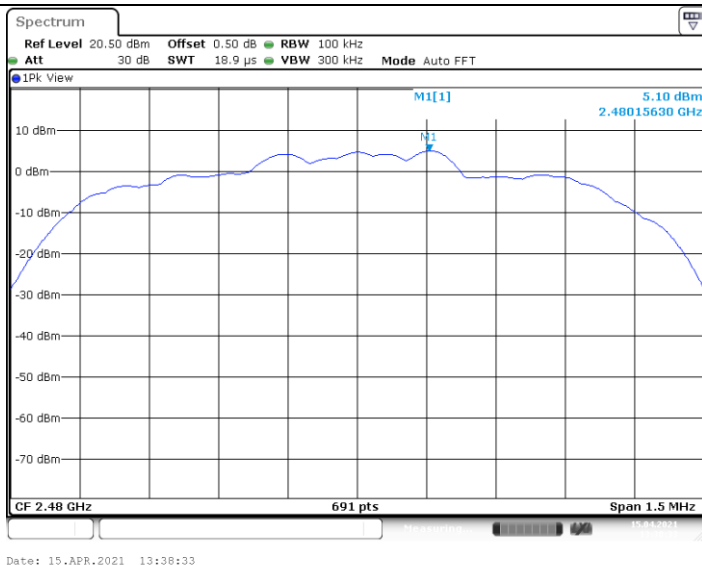
## 8-DPSK 2441 30~1000



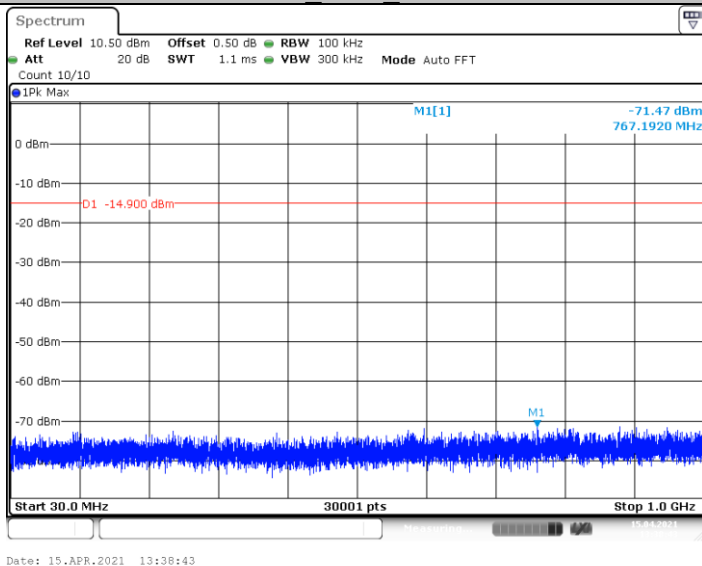
## 8-DPSK 2441 1000~26500



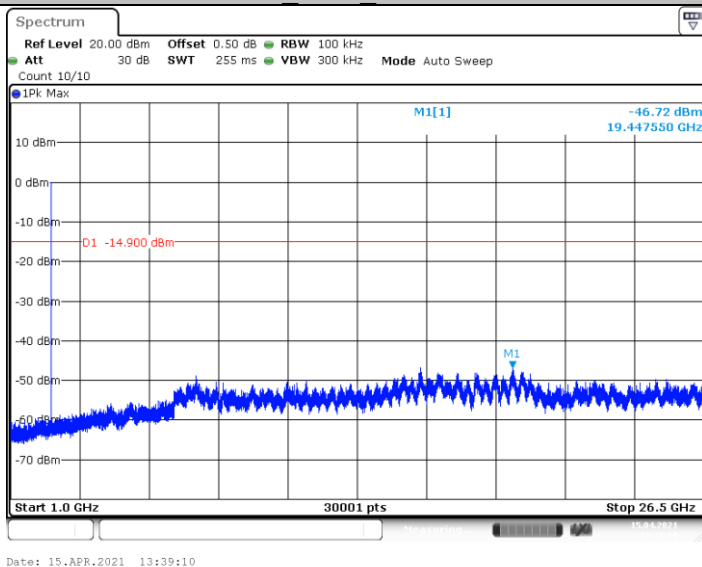
## 8-DPSK 2480 0~Reference



## 8-DPSK 2480 30~1000



## 8-DPSK 2480 1000~26500



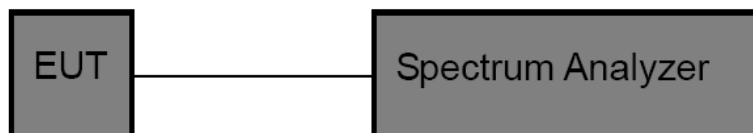


### 3.5. 20DB Bandwidth

#### Limit

N/A

#### Test Configuration



#### Test Procedure

5. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
6. OCB and 20dB Spectrum Setting:
  - (1) Set RBW = 1% ~ 5% occupied bandwidth.
  - (2) Set the video bandwidth (VBW)  $\geq 3$  RBW.
  - (3) Detector = Peak.
  - (4) Trace mode = Max hold.
  - (5) Sweep = Auto couple.

Note: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

#### Test Mode

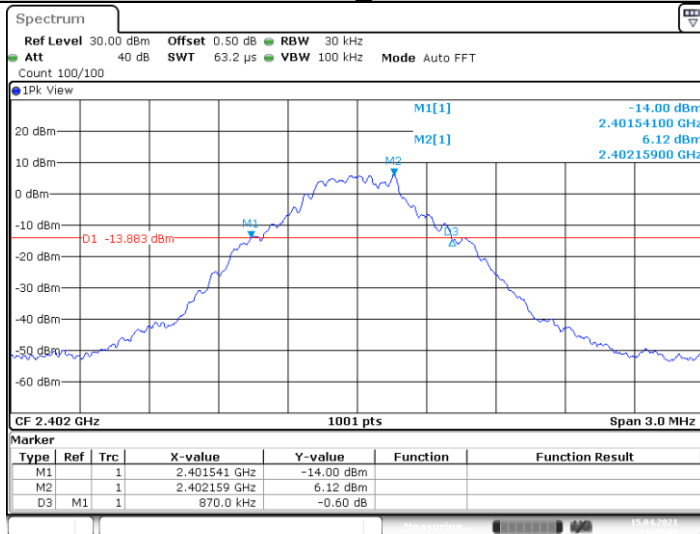
Please refer to the clause 2.4.

#### Test Results

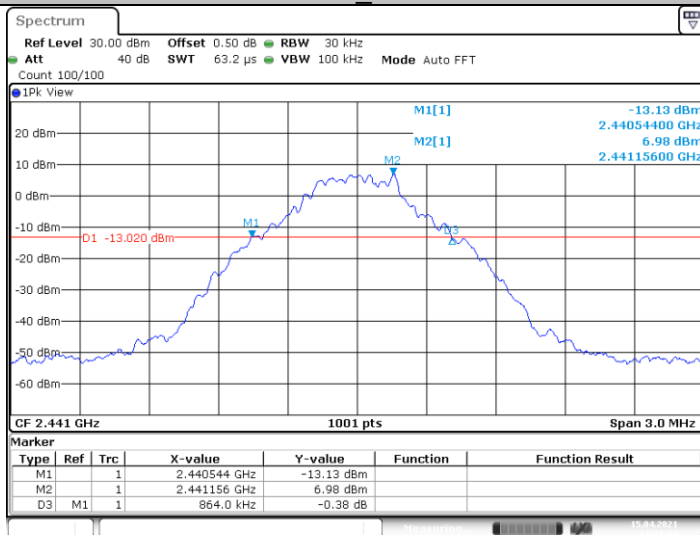
| Test Mode      | Frequency[MHz] | 20db EBW[MHz] | 20dB Bandwidth *2/3 (kHz) | Verdict |
|----------------|----------------|---------------|---------------------------|---------|
| GFSK           | 2402           | 0.870         | 580.00                    | PASS    |
|                | 2441           | 0.864         | 576.00                    | PASS    |
|                | 2480           | 0.864         | 576.00                    | PASS    |
| $\pi/4$ -DQPSK | 2402           | 1.275         | 850.00                    | PASS    |
|                | 2441           | 1.263         | 842.00                    | PASS    |
|                | 2480           | 1.263         | 842.00                    | PASS    |
| 8-DPSK         | 2402           | 1.269         | 846.00                    | PASS    |
|                | 2441           | 1.254         | 836.00                    | PASS    |
|                | 2480           | 1.254         | 836.00                    | PASS    |



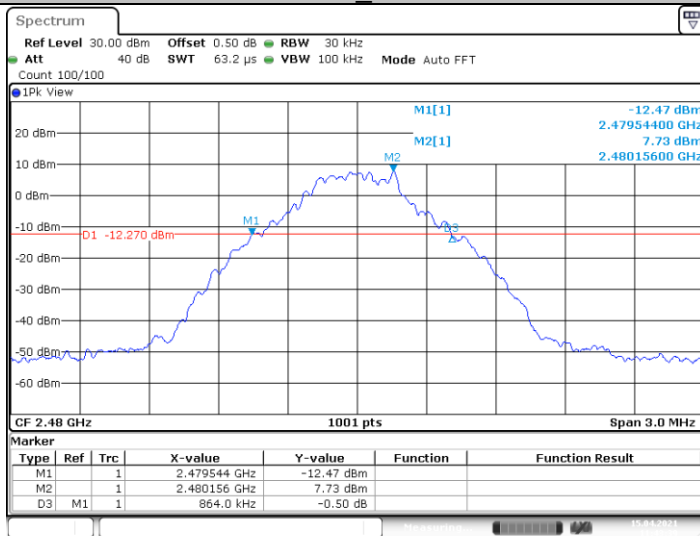
## GFSK 2402



## GFSK 2441



## GFSK 2480

 $\pi/4$ -DQPSK\_2402

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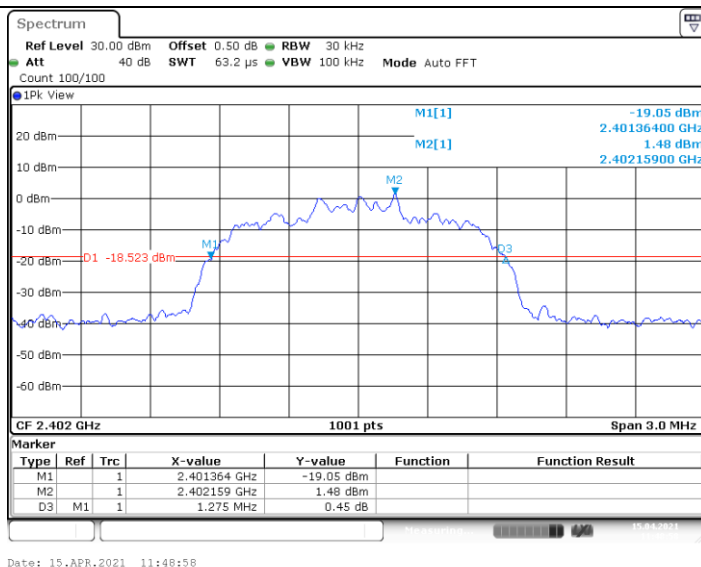
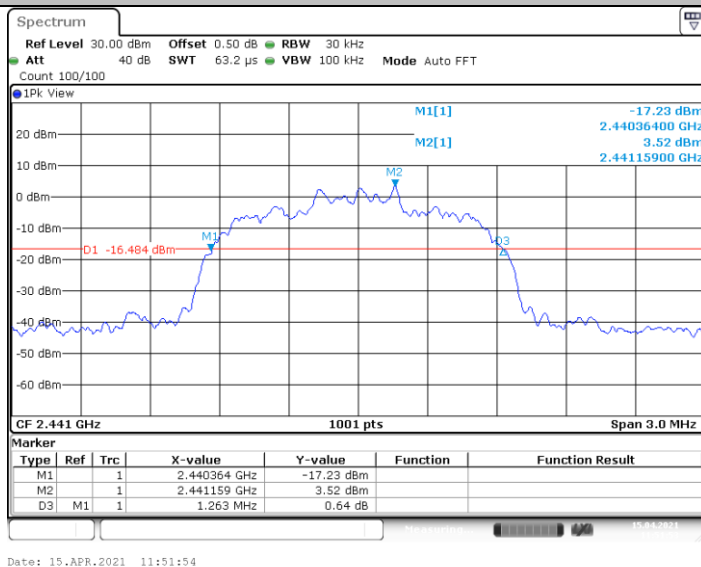
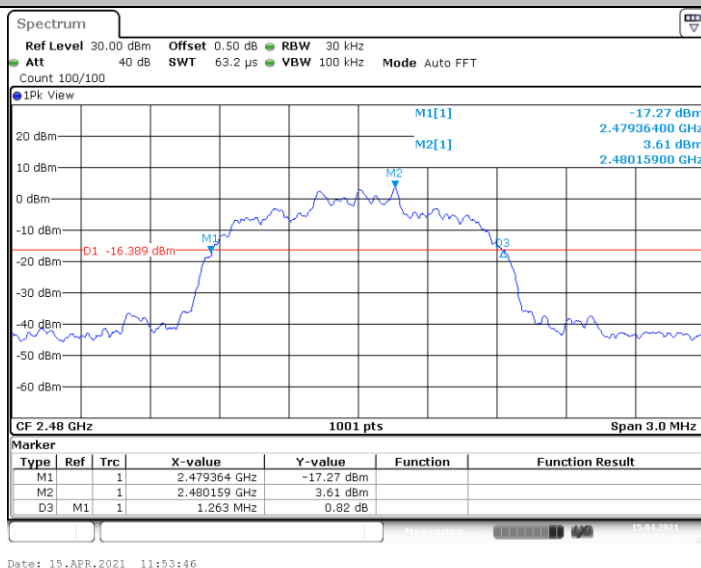
Room 101 Building B, No. 7, Lanqing 1st Road, Luh Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

Fax: (86)755-27521011

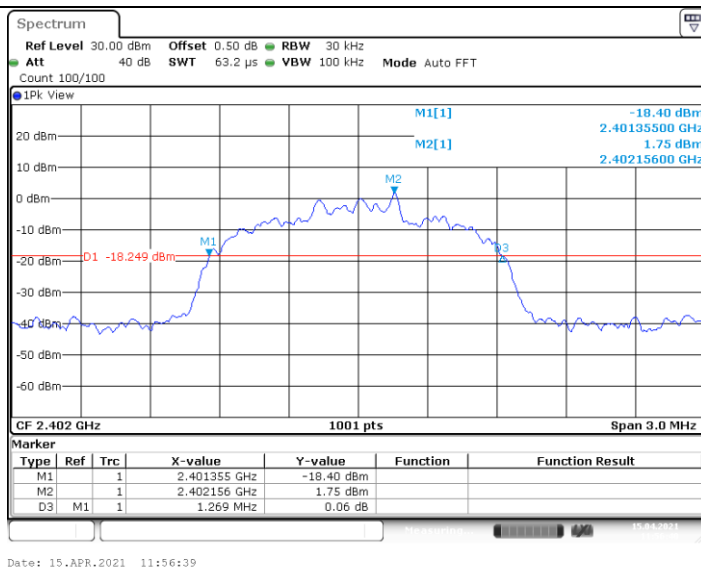
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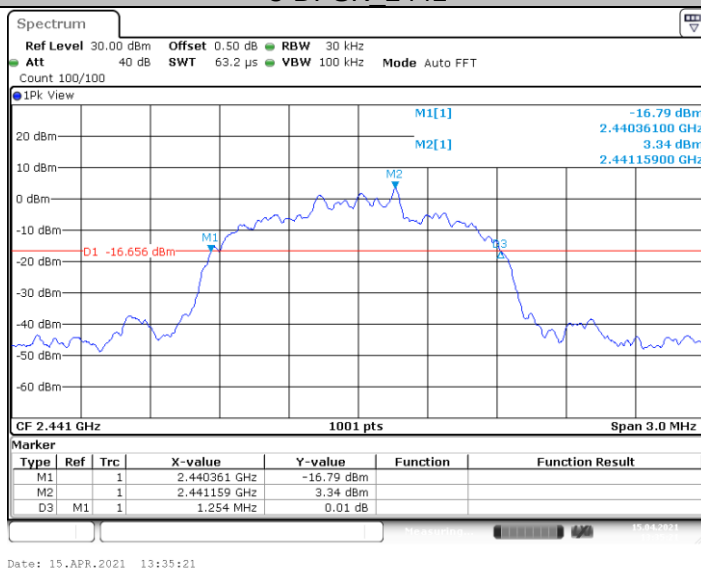
 $\pi/4$ -DQPSK\_2441 $\pi/4$ -DQPSK\_2480

## 8-DPSK\_2402

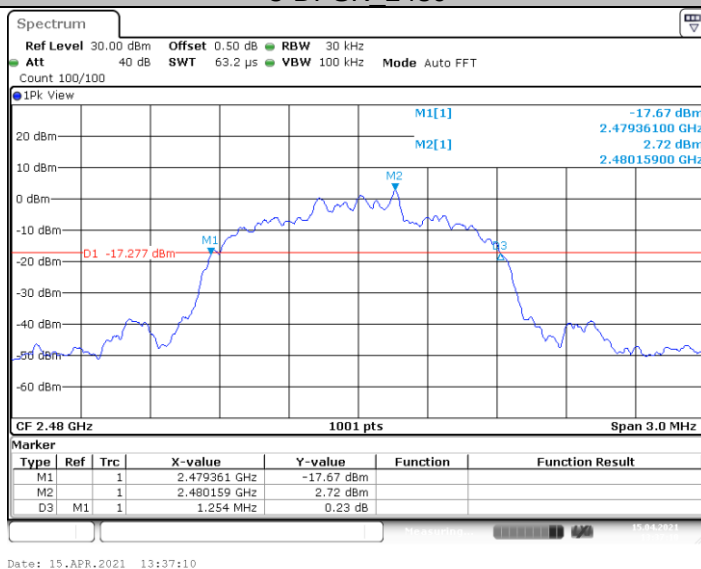




## 8-DPSK 2441



## 8-DPSK 2480





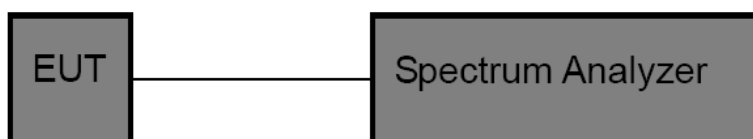
### 3.6. Channel Separation

#### Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1)/ RSS-247 5.1 b :

| Test Item          | Limit                                                         | Frequency Range(MHz) |
|--------------------|---------------------------------------------------------------|----------------------|
| Channel Separation | >25KHz or >two-thirds of the 20 dB bandwidth Which is greater | 2400~2483.5          |

#### Test Configuration



#### Test Procedure

7. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
8. Spectrum Setting:
  - (1) Set RBW = 100 kHz.
  - (2) Set the video bandwidth (VBW)  $\geq 3$  RBW.
  - (3) Detector = Peak.
  - (4) Trace mode = Max hold.
  - (5) Sweep = Auto couple.

#### Test Mode

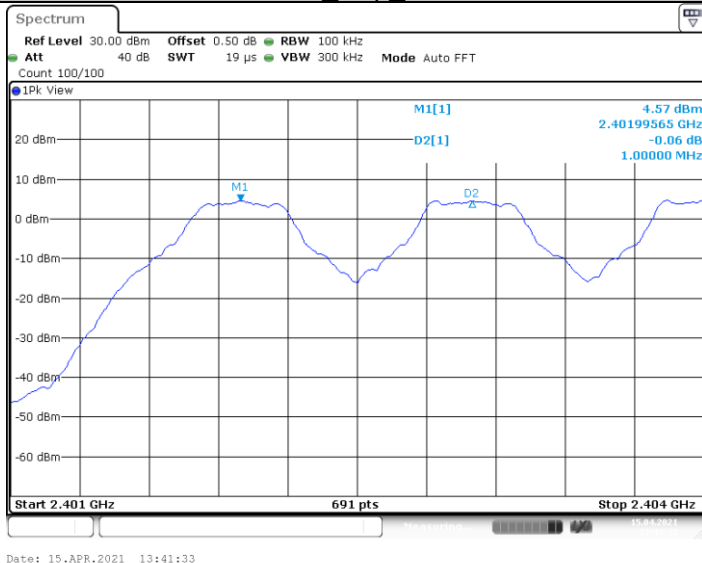
Please refer to the clause 2.4.

**Test Results**

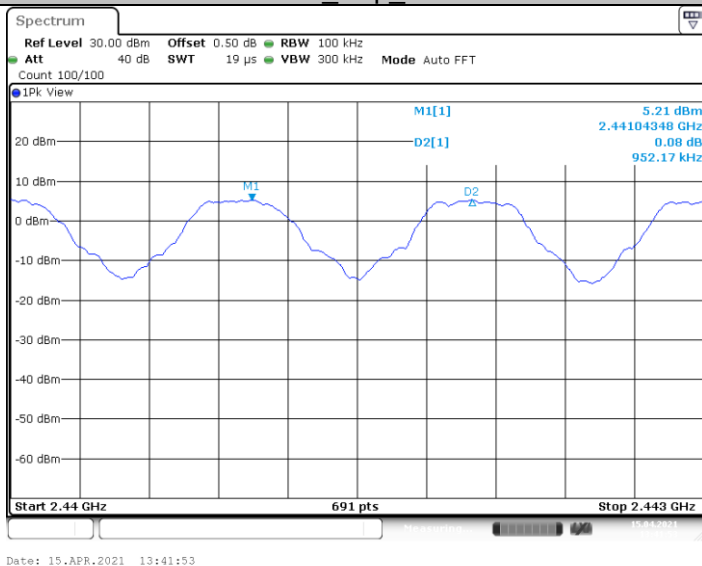
| Test Mode      | Frequency[MHz] | Result[MHz] | Limit[MHz] | Verdict |
|----------------|----------------|-------------|------------|---------|
| GFSK           | Hop_2402       | 1.000       | >580.00    | PASS    |
|                | Hop_2441       | 0.952       | >576.00    | PASS    |
|                | Hop_2480       | 1.022       | >576.00    | PASS    |
| $\pi/4$ -DQPSK | Hop_2402       | 0.996       | >850.00    | PASS    |
|                | Hop_2441       | 1.000       | >842.00    | PASS    |
|                | Hop_2480       | 0.982       | >842.00    | PASS    |
| 8-DPSK         | Hop_2402       | 1.000       | >846.00    | PASS    |
|                | Hop_2441       | 1.004       | >836.00    | PASS    |
|                | Hop_2480       | 1.007       | >836.00    | PASS    |



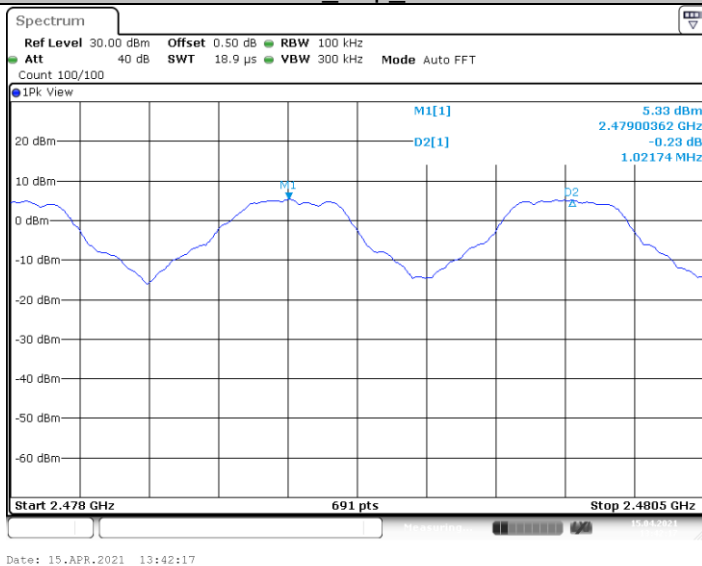
## GFSK Hop 2402



## GFSK Hop 2441



## GFSK Hop 2480

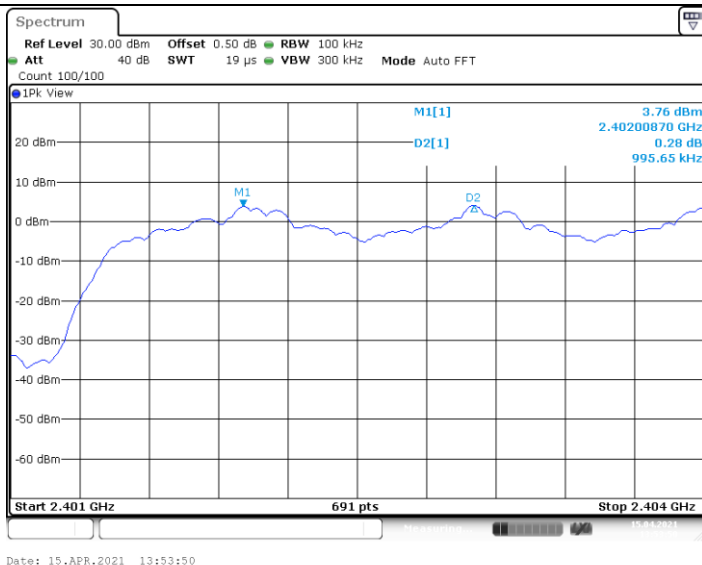
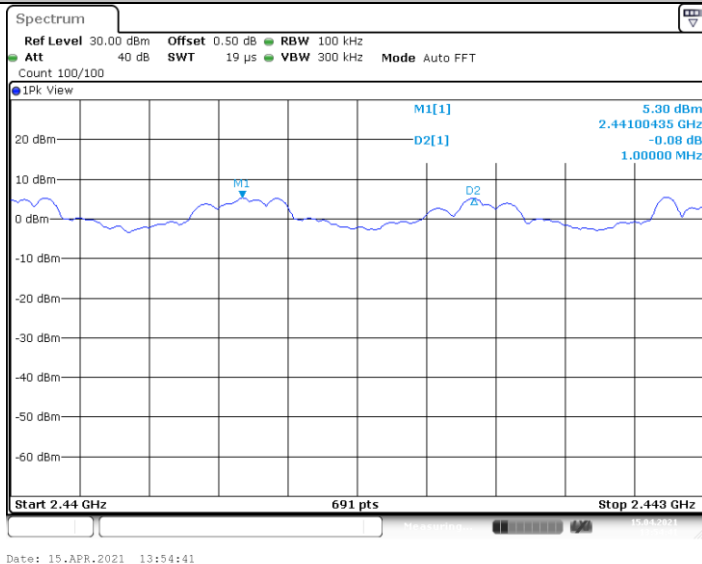
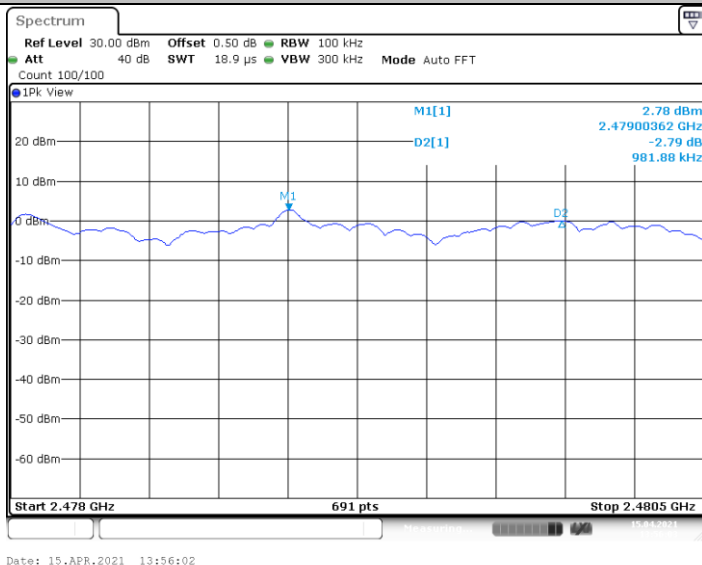
 $\pi/4$ -DQPSK\_Hop\_2402

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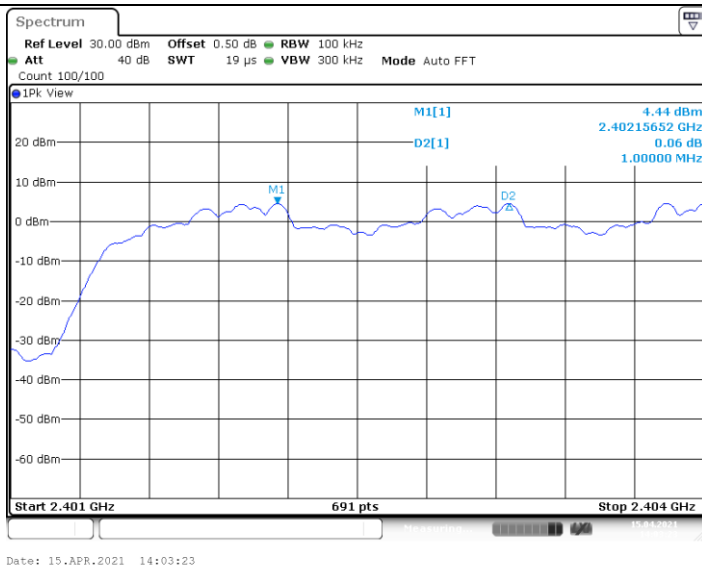
Room 101 Building B, No. 7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China  
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn



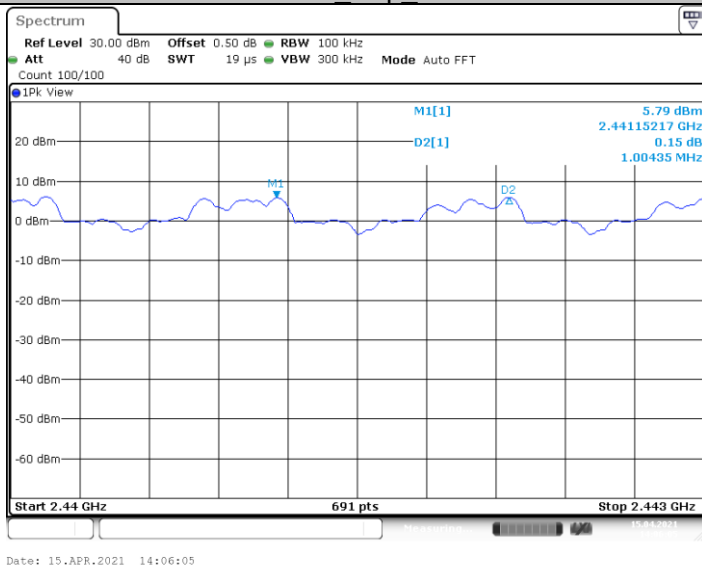
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 $\pi/4$ -DQPSK\_Hop\_2441 $\pi/4$ -DQPSK\_Hop\_2480

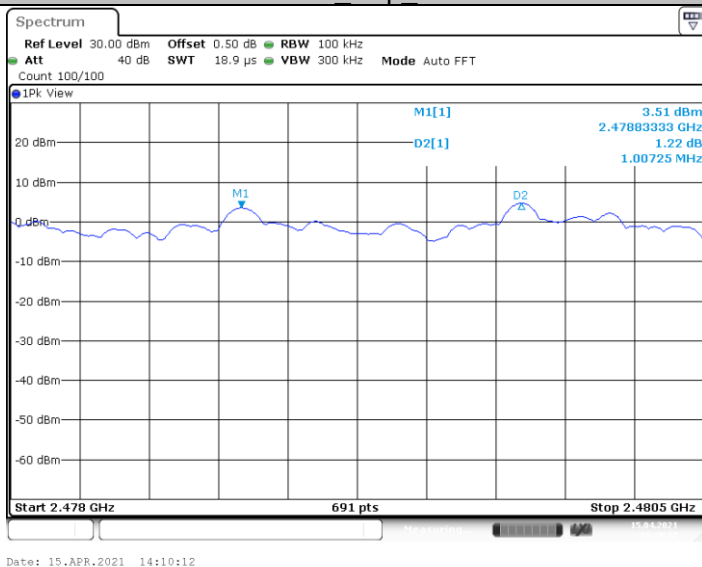
## 8-DPSK\_Hop\_2402



## 8-DPSK Hop 2441



## 8-DPSK Hop 2480



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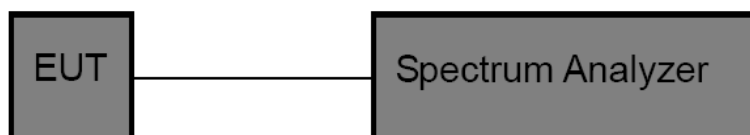
### 3.7. Number of Hopping Channel

#### Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(iii)/ RSS-247 5.1 d:

| Section                         | Test Item                 | Limit |
|---------------------------------|---------------------------|-------|
| 15.247 (a)(iii)/ RSS-247 5.1 d: | Number of Hopping Channel | >15   |

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
  - (1) Peak Detector: RBW=100 kHz, VBW $\geq$ RBW, Sweep time= Auto.

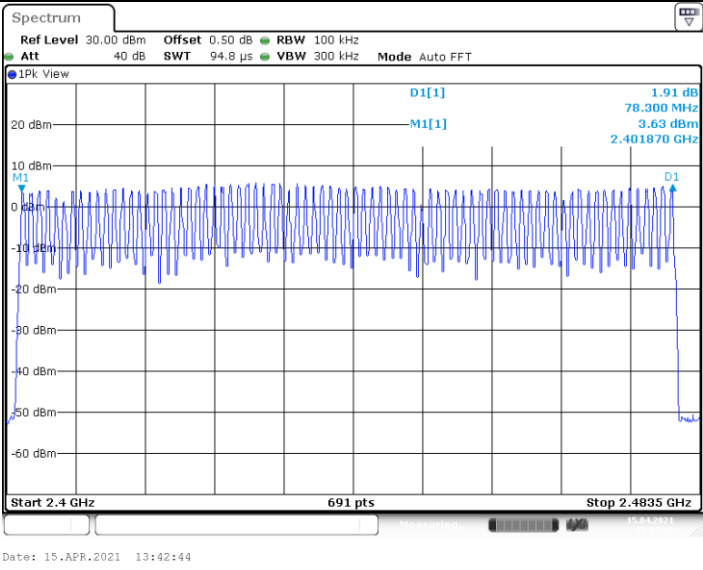
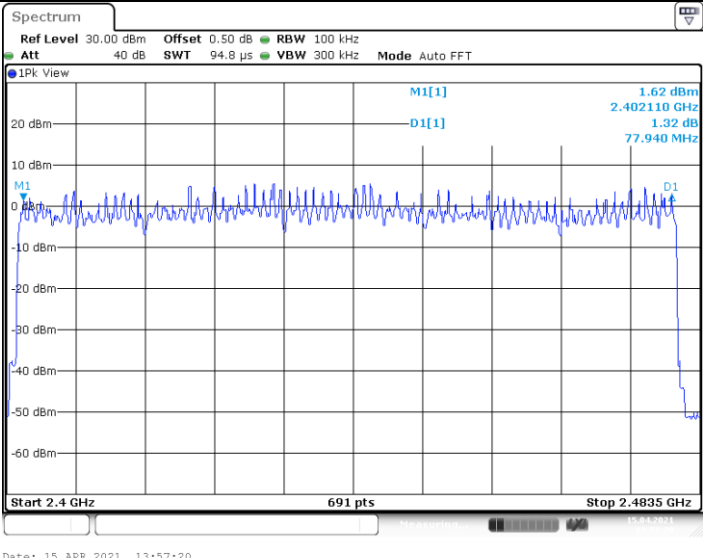
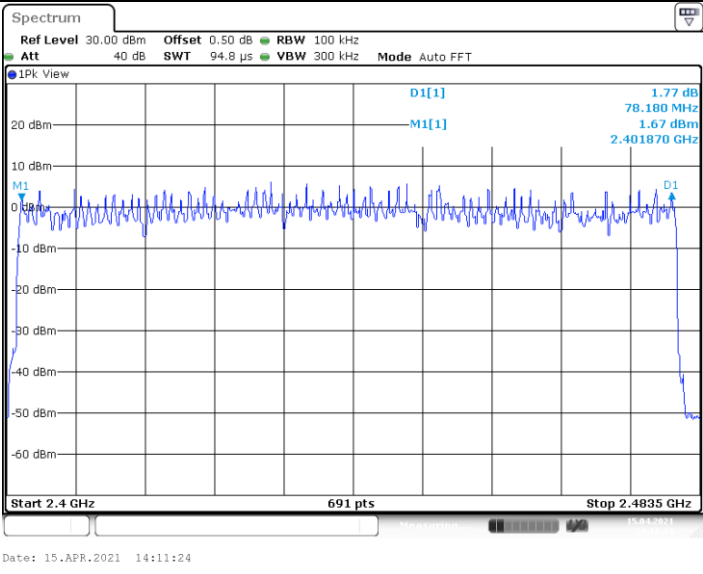
#### Test Mode

Please refer to the clause 2.4.

#### Test Result

| Modulation type | Channel number | Limit        | Result |
|-----------------|----------------|--------------|--------|
| GFSK            | 79             | $\geq 15.00$ | Pass   |
| $\pi/4$ -DQPSK  | 79             |              |        |
| 8DPSK           | 79             |              |        |



|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| <p>GFSK</p>                     |    |
| <p><math>\pi/4</math>-DQPSK</p> |   |
| <p>8-DPSK</p>                   |  |

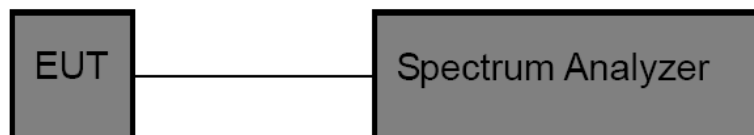


### 3.8. Dwell Time

#### Limit

| Section                       | Test Item                 | Limit   |
|-------------------------------|---------------------------|---------|
| 15.247(a)(iii)/ RSS-247 5.1 d | Average Time of Occupancy | 0.4 sec |

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
  - (1) Spectrum Setting: RBW=1MHz, VBW $\geq$ RBW.
  - (2) Use video trigger with the trigger level set to enable triggering only on full pulses.
  - (3) Sweep Time is more than once pulse time.
  - (4) Set the center frequency on any frequency would be measure and set the frequency span to zero.
  - (5) Measure the maximum time duration of one single pulse.
  - (6) Set the EUT for packet transmitting.

#### Test Mode

Please refer to the clause 2.4.

**Test Result**

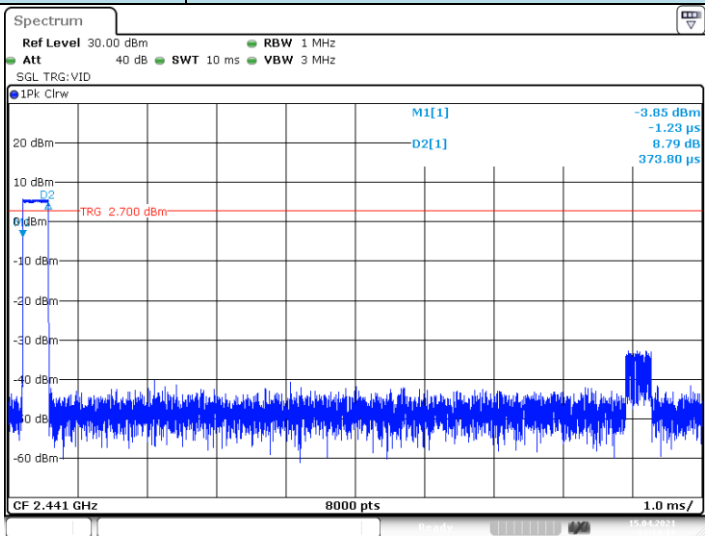
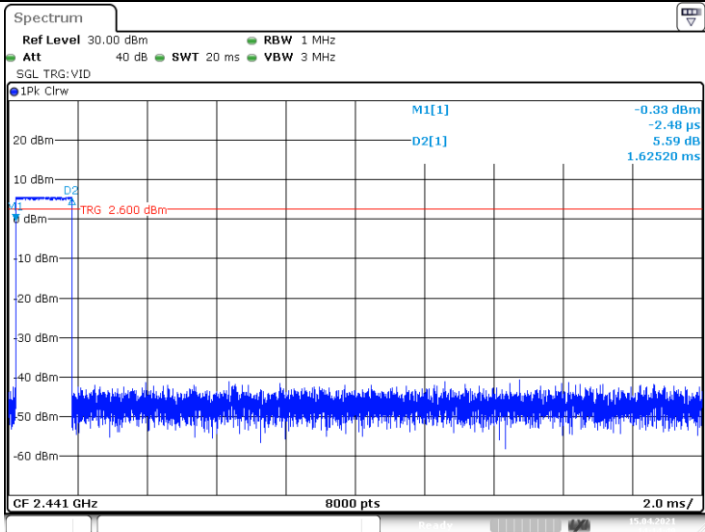
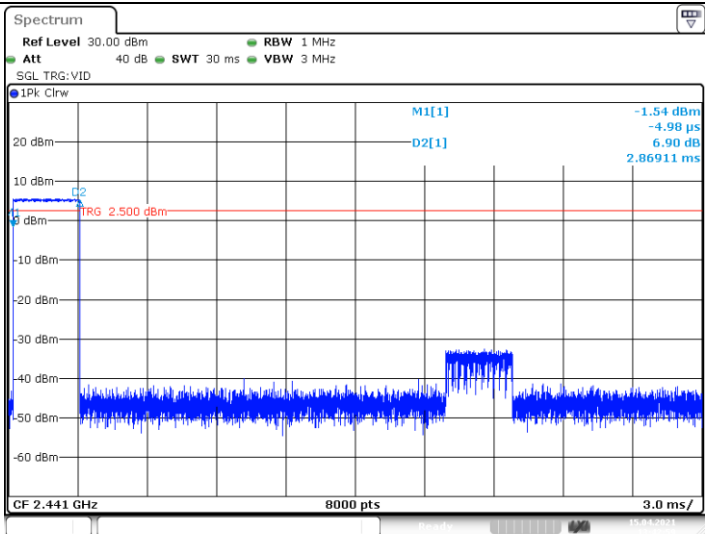
| Modulation type | Channel | Frequency [MHz] | Pulse Time (ms) | Total of Dwell (ms) | Period Time (ms) | Limit (Second) | Result |
|-----------------|---------|-----------------|-----------------|---------------------|------------------|----------------|--------|
| GFSK            | DH1     | 2441            | 0.37            | 118.40              | 31.60            | $\leq 0.40$    | Pass   |
|                 | DH3     | 2441            | 1.63            | 260.80              | 31.60            |                |        |
|                 | DH5     | 2441            | 2.87            | 306.13              | 31.60            |                |        |
| $\pi/4$ -DQPSK  | 2DH1    | 2441            | 0.38            | 121.60              | 31.60            | $\leq 0.40$    | Pass   |
|                 | 2DH3    | 2441            | 1.63            | 260.80              | 31.60            |                |        |
|                 | 2DH5    | 2441            | 2.87            | 306.13              | 31.60            |                |        |
| 8-DPSK          | 3DH1    | 2441            | 0.38            | 121.60              | 31.60            | $\leq 0.40$    | Pass   |
|                 | 3DH3    | 2441            | 1.63            | 260.80              | 31.60            |                |        |
|                 | 3DH5    | 2441            | 2.88            | 307.20              | 31.60            |                |        |

Note: 1DH1/2DH1/3DH1 Total of Dwell= Pulse Time\*(1600/2)\*31.6/79

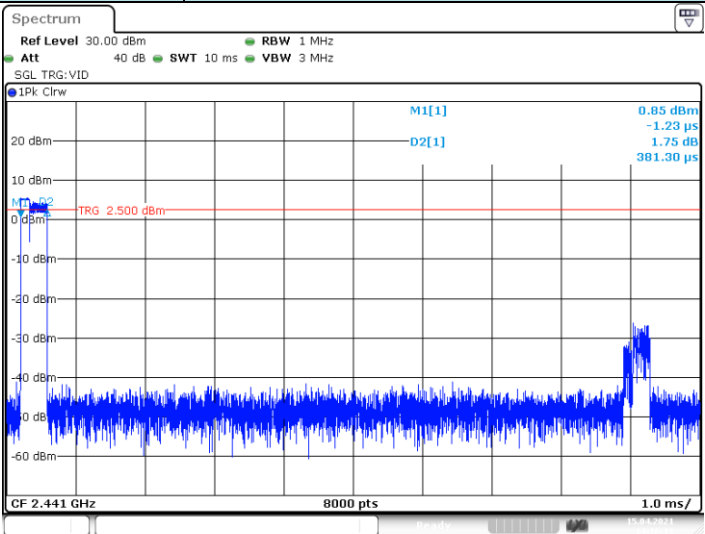
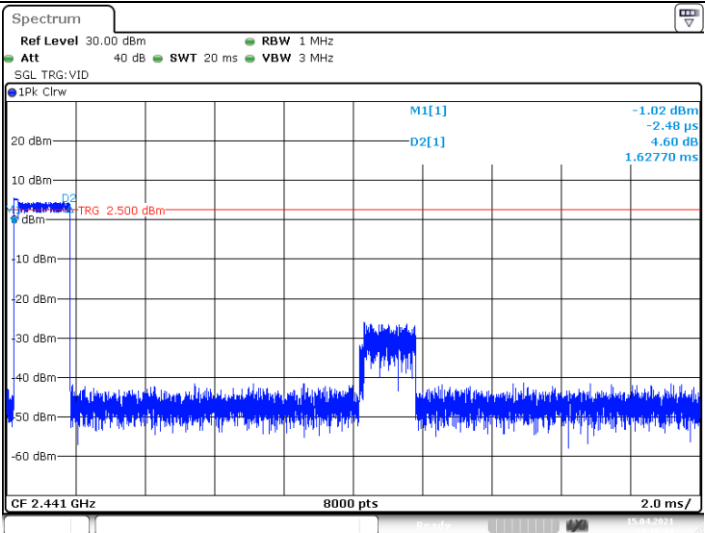
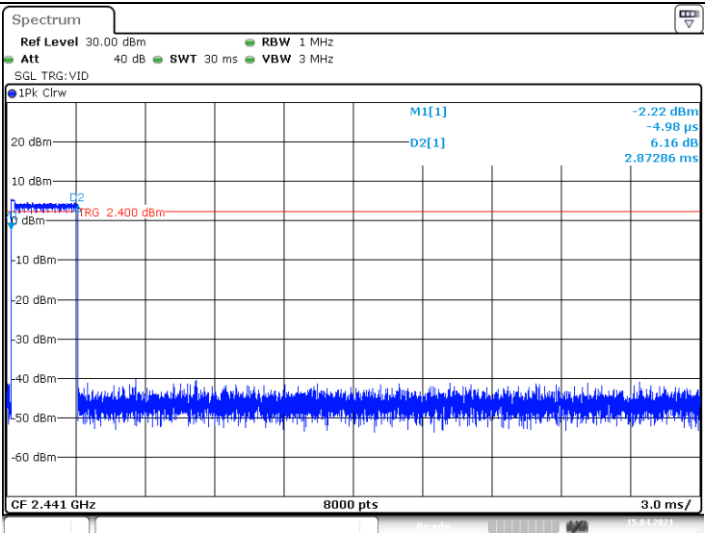
1DH3/2DH3/3DH3 Total of Dwell= Pulse Time\*(1600/4)\*31.6/79

1DH5/2DH5/3DH5 Total of Dwell= Pulse Time\*(1600/6)\*31.6/79

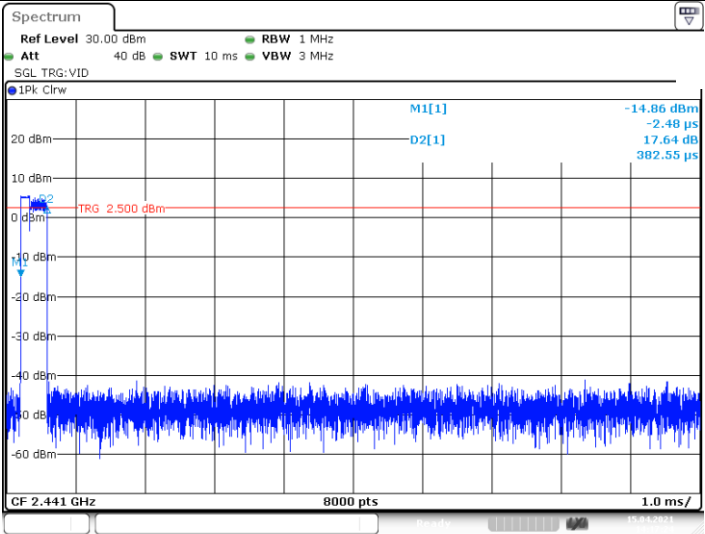
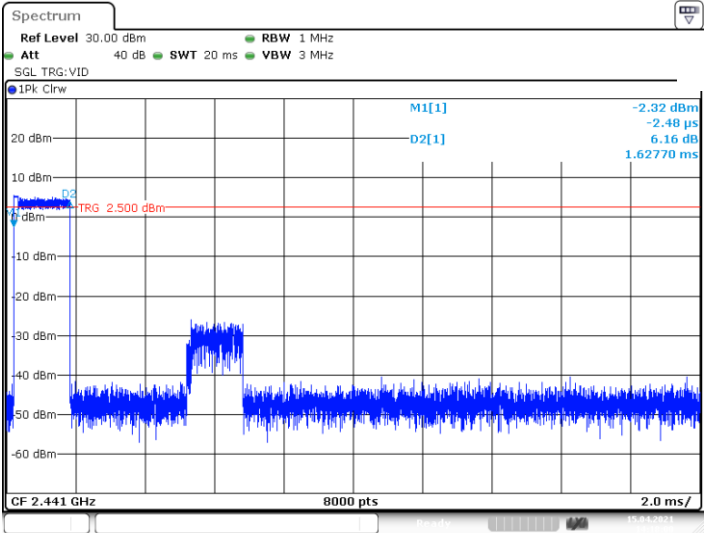
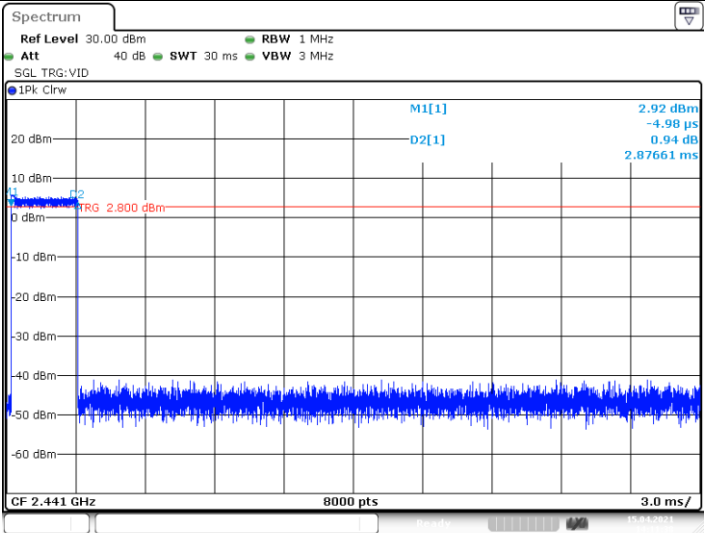


| Modulation Type: |                                                                                                                                                                                                                                                                                                                                                            | GFSK |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| DH1              |  <p>Spectrum</p> <p>Ref Level 30.00 dBm RBW 1 MHz</p> <p>Att 40 dB SWT 10 ms VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clrw</p> <p>M1[1] -3.85 dBm</p> <p>D2[1] -1.23 μs</p> <p>TRG 2.700 dBm</p> <p>CF 2.441 GHz 8000 pts 1.0 ms/</p> <p>Date: 15.APR.2021 14:14:10</p>   |      |
| DH3              |  <p>Spectrum</p> <p>Ref Level 30.00 dBm RBW 1 MHz</p> <p>Att 40 dB SWT 20 ms VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clrw</p> <p>M1[1] -0.33 dBm</p> <p>D2[1] -2.48 μs</p> <p>TRG 2.600 dBm</p> <p>CF 2.441 GHz 8000 pts 2.0 ms/</p> <p>Date: 15.APR.2021 14:14:49</p>  |      |
| DH5              |  <p>Spectrum</p> <p>Ref Level 30.00 dBm RBW 1 MHz</p> <p>Att 40 dB SWT 30 ms VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clrw</p> <p>M1[1] -1.54 dBm</p> <p>D2[1] -4.98 μs</p> <p>TRG 2.500 dBm</p> <p>CF 2.441 GHz 8000 pts 3.0 ms/</p> <p>Date: 15.APR.2021 13:42:59</p> |      |



| Modulation Type: |                                                                                                                                                                                                                                                                                                                                                                                                             | $\pi/4$ -DQPSK |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 2DH1             |  <p>Spectrum</p> <p>Ref Level 30.00 dBm</p> <p>Att 40 dB</p> <p>RBW 1 MHz</p> <p>SWT 10 ms</p> <p>VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clr</p> <p>M1[1] 0.85 dBm</p> <p>D2[1] -1.23 <math>\mu</math>s</p> <p>TRG 2.500 dBm</p> <p>CF 2.441 GHz</p> <p>8000 pts</p> <p>1.0 ms/</p> <p>Date: 15.APR.2021 14:16:11</p>    |                |
| 2DH3             |  <p>Spectrum</p> <p>Ref Level 30.00 dBm</p> <p>Att 40 dB</p> <p>RBW 1 MHz</p> <p>SWT 20 ms</p> <p>VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clr</p> <p>M1[1] -1.02 dBm</p> <p>D2[1] -2.48 <math>\mu</math>s</p> <p>TRG 2.500 dBm</p> <p>CF 2.441 GHz</p> <p>8000 pts</p> <p>2.0 ms/</p> <p>Date: 15.APR.2021 14:16:44</p>  |                |
| 2DH5             |  <p>Spectrum</p> <p>Ref Level 30.00 dBm</p> <p>Att 40 dB</p> <p>RBW 1 MHz</p> <p>SWT 30 ms</p> <p>VBW 3 MHz</p> <p>SGL TRG:VID</p> <p>1Pk Clr</p> <p>M1[1] -2.22 dBm</p> <p>D2[1] -4.98 <math>\mu</math>s</p> <p>TRG 2.400 dBm</p> <p>CF 2.441 GHz</p> <p>8000 pts</p> <p>3.0 ms/</p> <p>Date: 15.APR.2021 14:15:27</p> |                |



| Modulation Type: |                                                                                                                        | 8-DPSK |
|------------------|------------------------------------------------------------------------------------------------------------------------|--------|
| 3DH1             |  <p>Date: 15.APR.2021 14:17:23</p>   |        |
| 3DH3             |  <p>Date: 15.APR.2021 14:17:59</p>  |        |
| 3DH5             |  <p>Date: 15.APR.2021 14:11:38</p> |        |



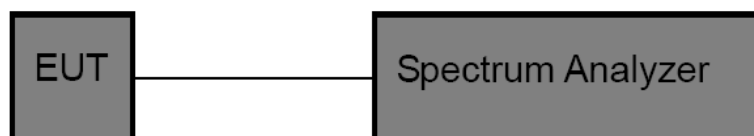
### 3.9. Peak Output Power

#### Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1) / RSS-247 5.4 b:

| Test Item         | Limit                                                      | Frequency Range(MHz) |
|-------------------|------------------------------------------------------------|----------------------|
| Peak Output Power | Hopping Channels>75 Power<1W(30dBm)<br>Other <125mW(21dBm) | 2400~2483.5          |

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. Spectrum Setting:
  - (1) Set RBW> 20DB Bandwidth.
  - (2) Set the video bandwidth (VBW) ≥ RBW.
  - (3) Detector = Peak.
  - (4) Trace mode = Max hold.
  - (5) Sweep = Auto couple.

#### Test Mode

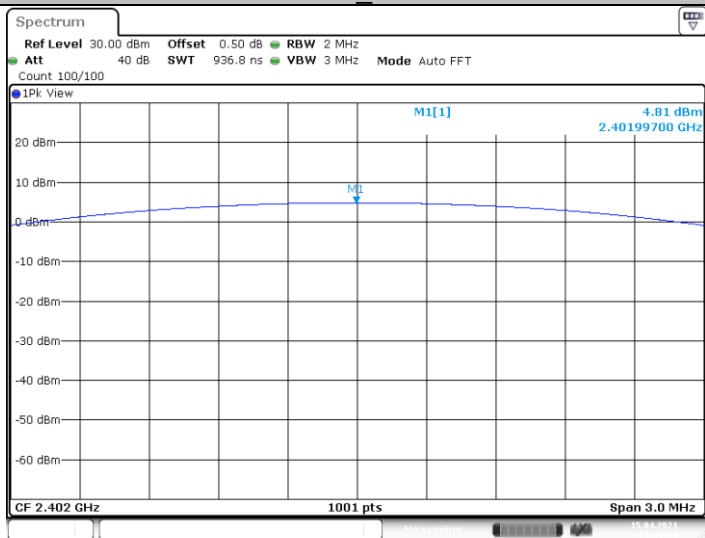
Please refer to the clause 2.4.

#### Test Result

| Test Mode | Frequency[MHz] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|----------------|-------------|------------|---------|
| GFSK      | 2402           | 4.81        | <=30       | PASS    |
|           | 2441           | 7.42        | <=30       | PASS    |
|           | 2480           | 6.90        | <=30       | PASS    |
| π/4-DQPSK | 2402           | 5.18        | <=30       | PASS    |
|           | 2441           | 6.24        | <=30       | PASS    |
|           | 2480           | 6.56        | <=30       | PASS    |
| 8-DPSK    | 2402           | 4.60        | <=30       | PASS    |
|           | 2441           | 5.85        | <=30       | PASS    |
|           | 2480           | 5.21        | <=30       | PASS    |

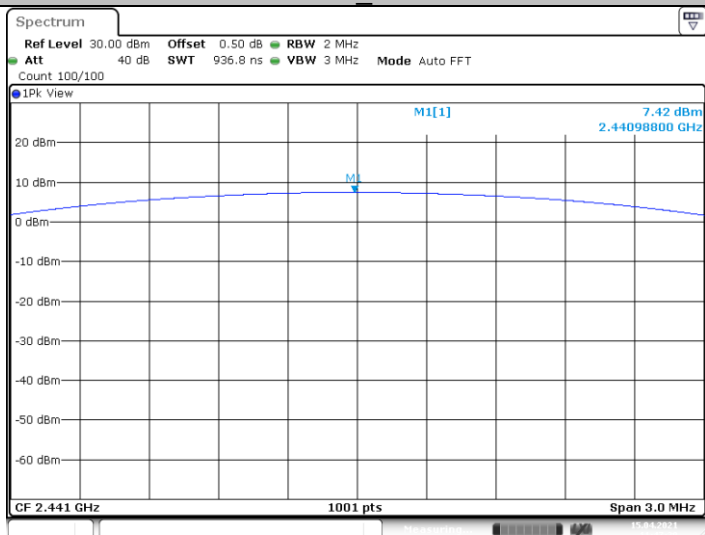


## GFSK\_2402



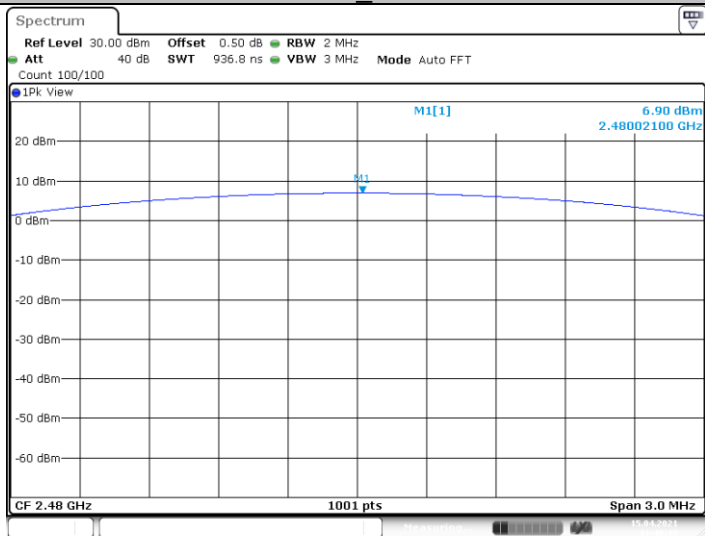
Date: 15.APR.2021 11:48:03

## GFSK\_2441



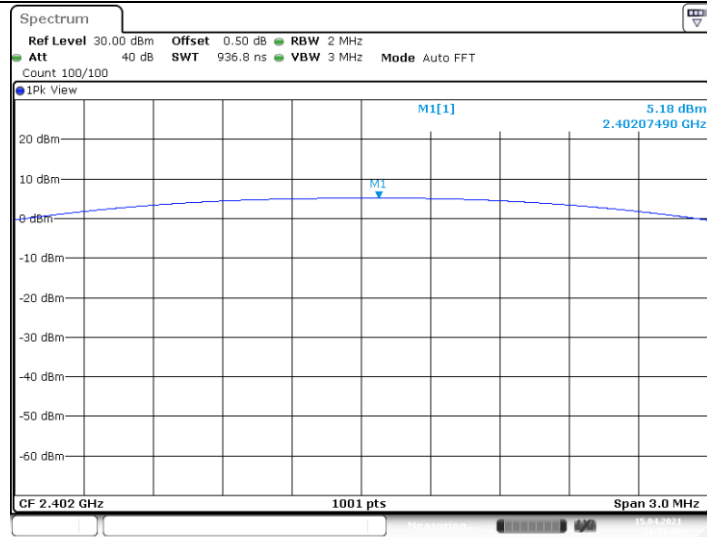
Date: 15.APR.2021 11:47:30

## GFSK\_2480

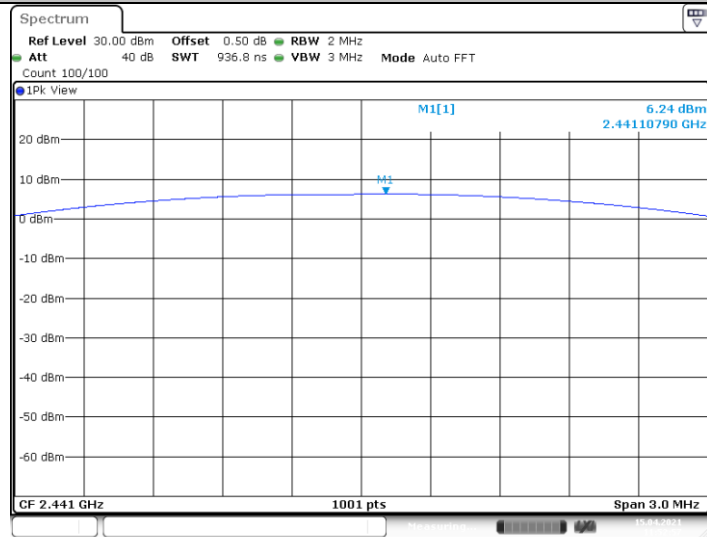


Date: 15.APR.2021 11:48:13

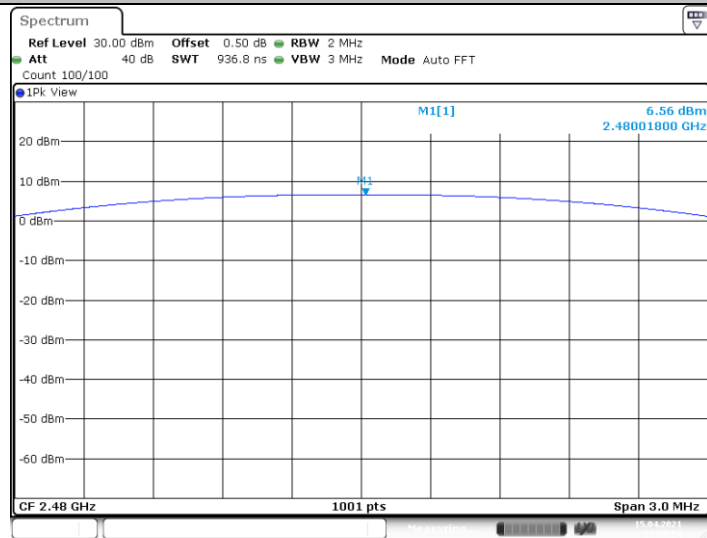
 $\pi/4$ -DQPSK\_2402



Date: 15.APR.2021 11:51:06

 $\pi/4$ -DQPSK\_2441

Date: 15.APR.2021 11:52:57

 $\pi/4$ -DQPSK\_2480

Date: 15.APR.2021 11:55:54

## 8-DPSK\_2402

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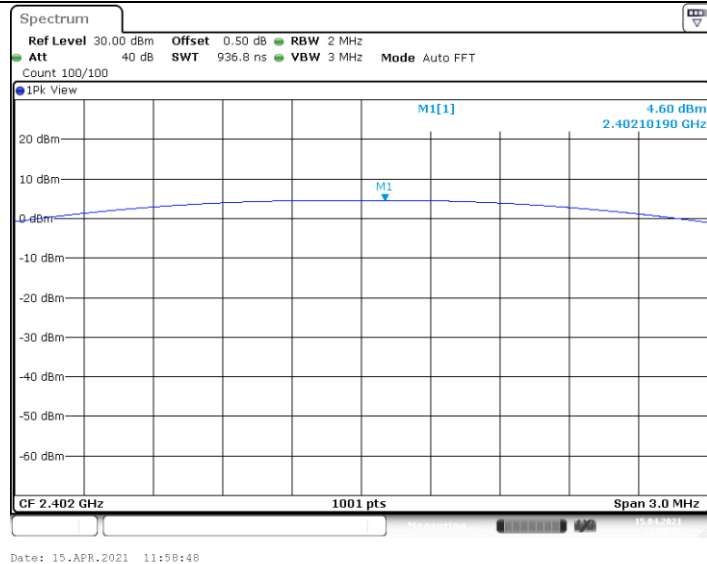
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

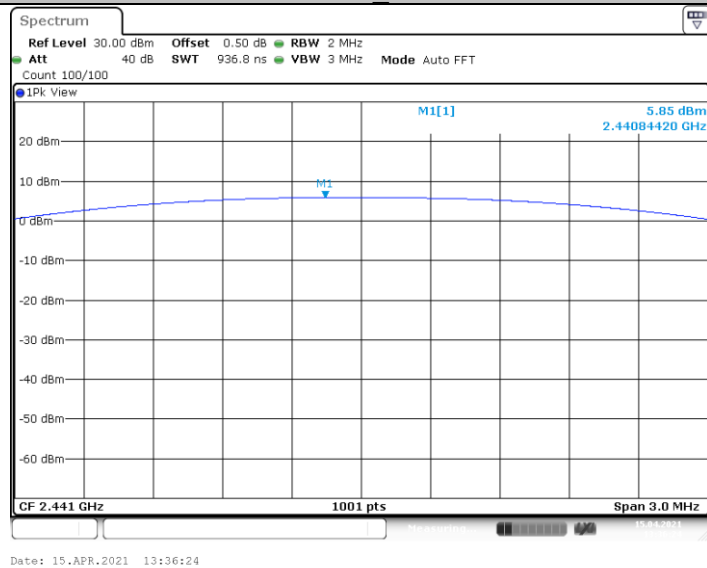
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

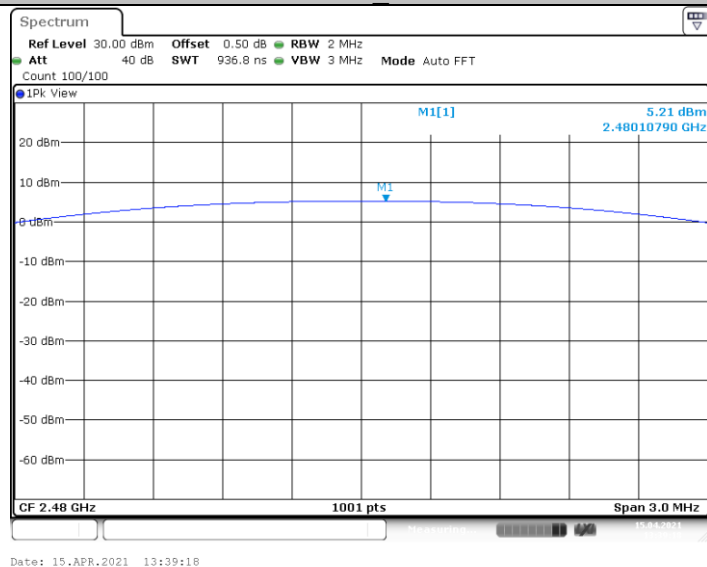
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## 8-DPSK 2441



## 8-DPSK 2480



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For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : [yz.cnca.cn](http://yz.cnca.cn)

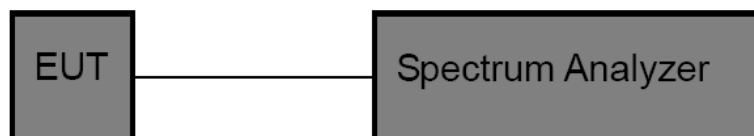


### 3.10. Duty Cycle

#### Limit

None, for report purposes only.

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:  
Set analyzer center frequency to test channel center frequency.  
Set the span to 0Hz  
Set the RBW to 10MHz  
Set the VBW to 10MHz  
Detector: Peak  
Sweep time: Auto  
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

#### Test Mode

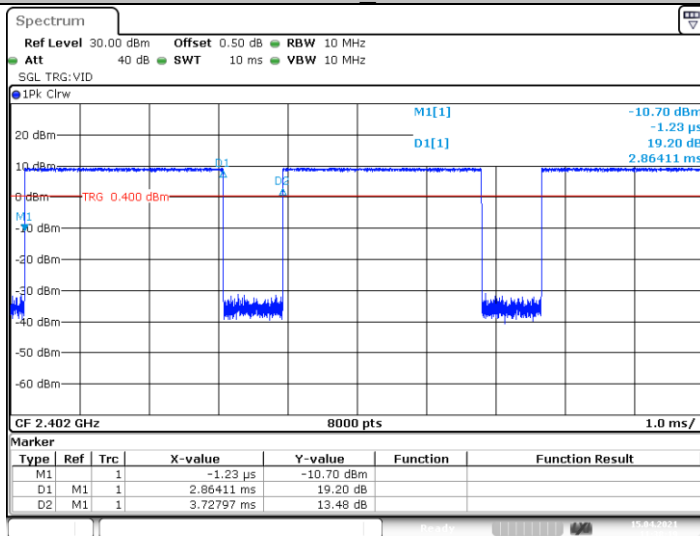
Please refer to the clause 2.4.

#### Test Result

| Test Mode      | Frequency [MHz] | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | 1/T Minimum VBW (kHz) | Final setting For VBW (kHz) |
|----------------|-----------------|----------------------------|--------------------------|----------------|-----------------------|-----------------------------|
| GFSK           | 2402            | 2.86                       | 3.73                     | 76.83          | 0.35                  | 1                           |
|                | 2441            | 2.86                       | 3.73                     | 76.82          | 0.35                  | 1                           |
|                | 2480            | 2.86                       | 3.73                     | 76.82          | 0.35                  | 1                           |
| $\pi/4$ -DQPSK | 2402            | 2.87                       | 3.73                     | 76.89          | 0.35                  | 1                           |
|                | 2441            | 2.87                       | 3.73                     | 76.89          | 0.35                  | 1                           |
|                | 2480            | 2.87                       | 3.73                     | 76.89          | 0.35                  | 1                           |
| 8-DPSK         | 2402            | 2.87                       | 3.73                     | 76.95          | 0.35                  | 1                           |
|                | 2441            | 2.87                       | 3.73                     | 76.95          | 0.35                  | 1                           |
|                | 2480            | 2.87                       | 3.73                     | 76.95          | 0.35                  | 1                           |

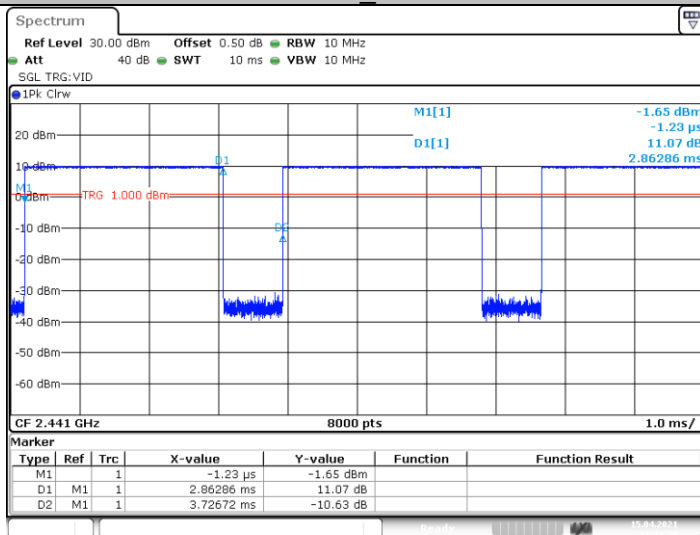


## GFSK\_2402



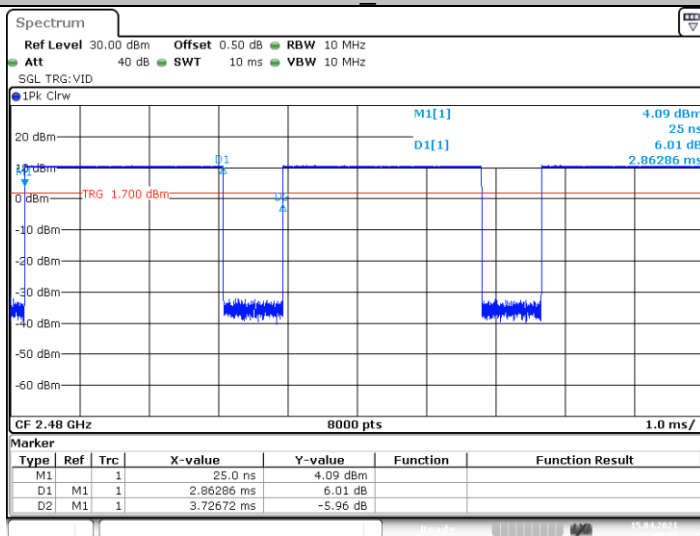
Date: 15.APR.2021 11:38:19

## GFSK\_2441



Date: 15.APR.2021 11:41:30

## GFSK\_2480



Date: 15.APR.2021 11:43:17

 $\pi/4$ -DQPSK\_2402

CTC Laboratories, Inc.

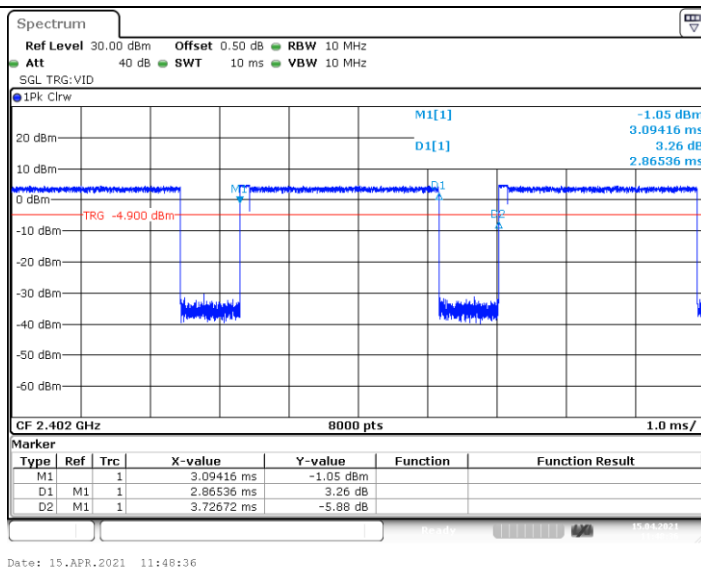
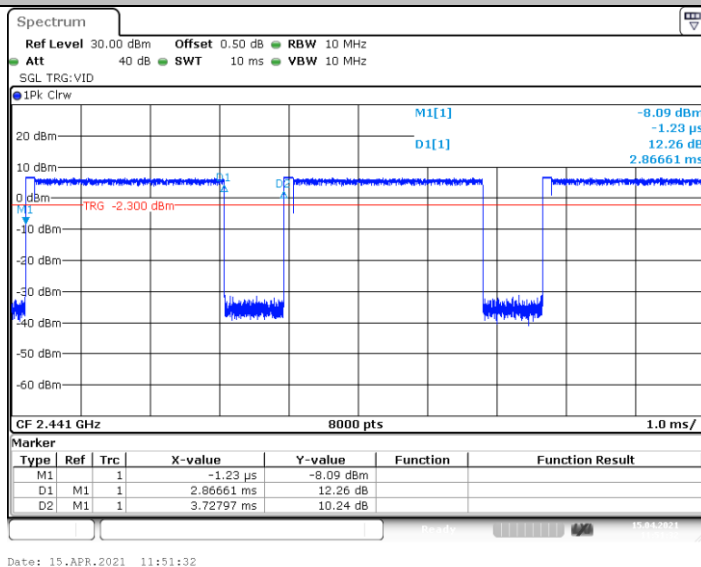
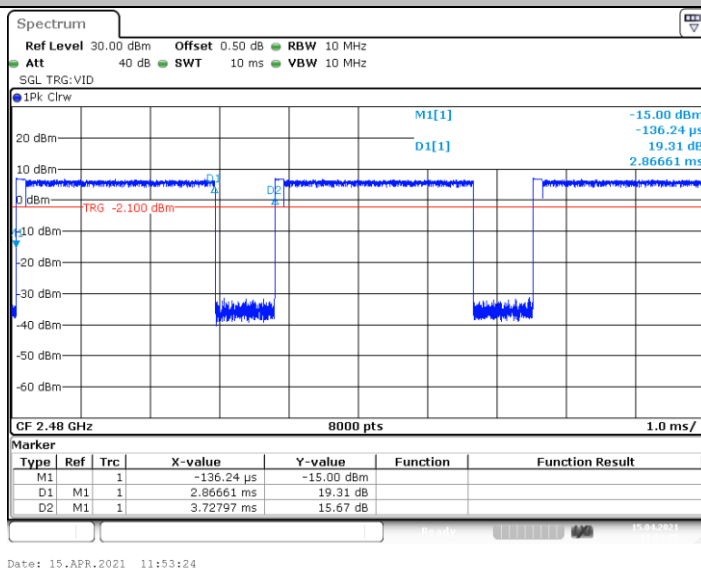
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

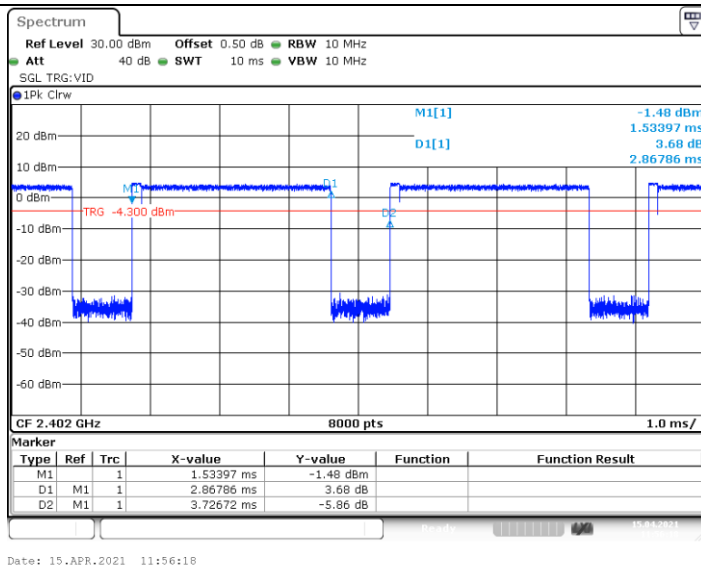
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

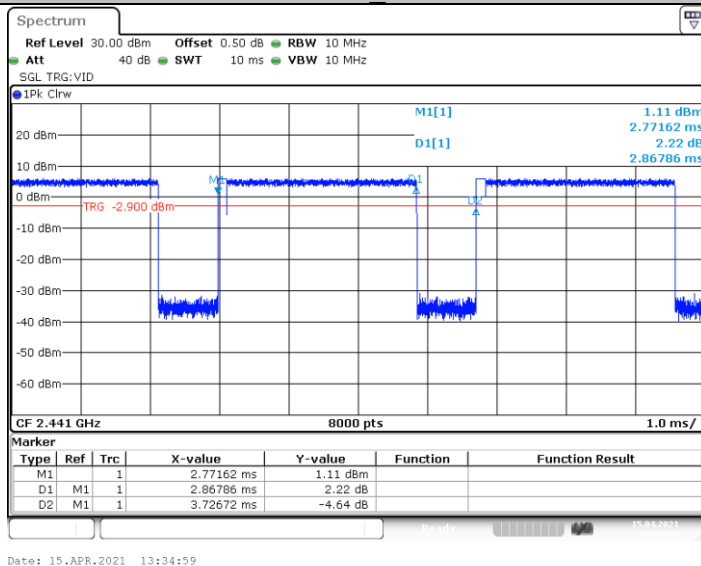
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 $\pi/4$ -DQPSK\_2441 $\pi/4$ -DQPSK\_2480

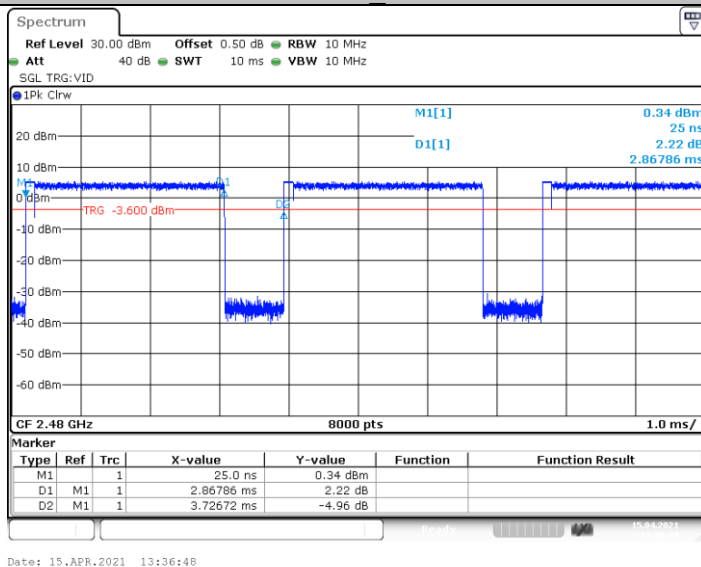
## 8-DPSK\_2402



## 8-DPSK 2441



## 8-DPSK 2480





### 3.11. Antenna requirement

#### Requirement

##### **FCC CFR Title 47 Part 15 Subpart C Section 15.203:**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

##### **FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):**

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### Test Result

The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.

\*\*\*\*\*THE END\*\*\*\*\*