



# TEST REPORT

**Report Reference No.** ..... : **TRE1709023204** R/C.....: 36935

**FCC ID** ..... : **ZSW-30-055**

**Applicant's name** ..... : **b mobile HK Limited**

**Address** ..... : Flat 18; 14/F Block 1; Golden Industrial Building; 16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.

**Manufacturer** ..... : b mobile HK Limited

**Address** ..... : Flat 18; 14/F Block 1; Golden Industrial Building; 16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.

**Test item description** ..... : **Mobile Phone**

**Trade Mark** ..... : Bmobile

**Model/Type reference** ..... : AX1071

**Listed Model(s)** ..... : AX1072

**Standard** ..... : **FCC CFR Title 47 Part 15 Subpart C Section 15.247**

**Date of receipt of test sample** ..... : Sep.28, 2017

**Date of testing** ..... : Sep.29, 2017 - Oct.15, 2017

**Date of issue** ..... : Oct.16, 2017

**Result** ..... : **PASS**

Compiled by  
(Position+Printed name+Signature): File administrators Candy Liu

*Candy Liu*

Supervised by  
(Position+Printed name+Signature): Project Engineer : Edward Pan

*Edward Pan*

Approved by  
(Position+Printed name+Signature): RF Manager Hans Hu

*Hans Hu*

**Testing Laboratory Name** ..... : **Shenzhen Huatongwei International Inspection Co., Ltd.**

**Address** ..... : 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

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*The test report merely correspond to the test sample.*

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## 1. TEST STANDARDS AND REPORT VERSION

### 1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

[ANSI C63.10-2013](#): American National Standard for Testing Unlicensed Wireless Devices

### 1.2. Report version

| Version No. | Date of issue | Description |
|-------------|---------------|-------------|
| 00          | Oct.16, 2017  | Original    |
|             |               |             |
|             |               |             |
|             |               |             |
|             |               |             |

## 2. TEST DESCRIPTION

| Test Item                               | Section in CFR 47 | Result | Test Engineer |
|-----------------------------------------|-------------------|--------|---------------|
| Antenna Requirement                     | 15.203/15.247 (c) | Pass   | William Wang  |
| AC Power Line Conducted Emissions       | 15.207            | Pass   | William Wang  |
| Conducted Peak Output Power             | 15.247 (b)(1)     | Pass   | William Wang  |
| 20 dB Bandwidth                         | 15.247 (a)(1)     | Pass   | William Wang  |
| Carrier Frequencies Separation          | 15.247 (a)(1)     | Pass   | William Wang  |
| Hopping Channel Number                  | 15.247 (a)(1)     | Pass   | William Wang  |
| Dwell Time                              | 15.247 (a)(1)     | Pass   | William Wang  |
| Pseudorandom Frequency Hopping Sequence | 15.247(b)(4)      | Pass   | William Wang  |
| Restricted band                         | 15.247(d)/15.205  | Pass   | William Wang  |
| Radiated Emissions                      | 15.247(d)/15.209  | Pass   | William Wang  |

Note: The measurement uncertainty is not included in the test result.

### 3. SUMMARY

#### 3.1. Client Information

|               |                                                                                                                  |
|---------------|------------------------------------------------------------------------------------------------------------------|
| Applicant:    | b mobile HK Limited                                                                                              |
| Address:      | Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong. |
| Manufacturer: | b mobile HK Limited                                                                                              |
| Address:      | Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong. |

#### 3.2. Product Description

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Name of EUT:         | Mobile Phone                                            |
| Trade Mark:          | Bmobile                                                 |
| Model No.:           | AX1071                                                  |
| Listed Model(s):     | AX1072                                                  |
| IMEI 1:              | 356844077425636                                         |
| IMEI 2:              | 321222222222228                                         |
| Power supply:        | DC 3.8V From exchange battery                           |
| Adapter information: | Input: 100-240Va.c., 50/60Hz, 0.2A<br>Output: 5Vd.c.,1A |
| Hardware version:    | V00                                                     |
| Software version:    | MX2135FA_B25_E5017_SA22_N_V01_170915                    |
| <b>Bluetooth</b>     |                                                         |
| Version:             | Supported BT4.0+EDR                                     |
| Modulation:          | GFSK, $\pi/4$ DQPSK, 8DPSK                              |
| Operation frequency: | 2402MHz~2480MHz                                         |
| Channel number:      | 79                                                      |
| Channel separation:  | 1MHz                                                    |
| Antenna type:        | PIFA Antenna                                            |
| Antenna gain:        | 0.5dBi                                                  |

### 3.3. Operation state

#### ➤ Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

| Channel | Frequency (MHz) |
|---------|-----------------|
| 00      | 2402            |
| 01      | 2403            |
| :       | :               |
| 39      | 2441            |
| :       | :               |
| 77      | 2479            |
| 78      | 2480            |

#### ➤ TEST MODE

|                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|
| For RF test items:                                                                                                                |
| The engineering test program was provided and enabled to make EUT continuous transmit                                             |
| For AC power line conducted emissions:                                                                                            |
| The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.                                  |
| For Radiated suprious emissions test item:                                                                                        |
| The EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data recorded in the report. |

### 3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

|   |               |   |
|---|---------------|---|
| / | Manufacturer: | / |
|   | Model No.:    | / |
| / | Manufacturer: | / |
|   | Model No.:    | / |

### 3.5. Modifications

No modifications were implemented to meet testing criteria.

## **4. TEST ENVIRONMENT**

### **4.1. Address of the test laboratory**

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

### **4.2. Test Facility**

#### **CNAS-Lab Code: L1225**

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### **A2LA-Lab Cert. No.: 3902.01**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

#### **FCC-Registration No.: 762235**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files.

#### **IC-Registration No.:5377B-1**

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377B-1.

#### **ACA**

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

### 4.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

|                    |             |
|--------------------|-------------|
| Temperature:       | 15~35°C     |
| Relative Humidity: | 30~60 %     |
| Air Pressure:      | 950~1050mba |

### 4.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors in calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd. quality system according to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Here after the best measurement capability for Shenzhen Huatongwei International Inspection Co., Ltd. is reported:

| Test Items                              | Measurement Uncertainty | Notes |
|-----------------------------------------|-------------------------|-------|
| Transmitter power conducted             | 0.57 dB                 | (1)   |
| Transmitter power Radiated              | 2.20 dB                 | (1)   |
| Conducted spurious emissions 9kHz~40GHz | 1.60 dB                 | (1)   |
| Radiated spurious emissions 9kHz~40GHz  | 2.20 dB                 | (1)   |
| Conducted Emissions 9kHz~30MHz          | 3.39 dB                 | (1)   |
| Radiated Emissions 30~1000MHz           | 4.24 dB                 | (1)   |
| Radiated Emissions 1~18GHz              | 5.16 dB                 | (1)   |
| Radiated Emissions 18~40GHz             | 5.54 dB                 | (1)   |
| Occupied Bandwidth                      | -----                   | (1)   |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

#### 4.5. Equipments Used during the Test

| Conducted Emissions |                   |               |             |            |            |
|---------------------|-------------------|---------------|-------------|------------|------------|
| Item                | Test Equipment    | Manufacturer  | Model No.   | Serial No. | Last Cal.  |
| 1                   | Artificial Mains  | Rohde&Schwarz | ESH2-Z5     | 100028     | 2016/11/13 |
| 2                   | EMI Test Receiver | Rohde&Schwarz | ESCI3       | 100038     | 2016/11/13 |
| 3                   | Pulse Limiter     | Rohde&Schwarz | ESHSZ2      | 100044     | 2016/11/13 |
| 4                   | EMI Test Software | Rohde&Schwarz | ES-K1 V1.71 | -          | -          |

| Radiated Emissions |                         |                              |                    |            |            |
|--------------------|-------------------------|------------------------------|--------------------|------------|------------|
| Item               | Test Equipment          | Manufacturer                 | Model No.          | Serial No. | Last Cal.  |
| 1                  | EMI test receiver       | Rohde&Schwarz                | ESI 26             | 100009     | 2016/11/13 |
| 2                  | Loop Antenna            | Rohde&Schwarz                | HFH2-Z2            | 100020     | 2016/11/13 |
| 3                  | Ultra-Broadband Antenna | ShwarzBeck                   | VULB9163           | 538        | 2016/11/13 |
| 4                  | Horn antenna            | ShwarzBeck                   | 9120D              | 1011       | 2016/11/13 |
| 5                  | Horn Antenna            | SCHWARZBECK                  | BBHA9170           | 25841      | 2016/11/13 |
| 6                  | Amplifier               | Sonoma                       | 310N               | E009-13    | 2016/11/13 |
| 7                  | JS Amplifier            | Rohde&Schwarz                | JS4-00101800-28-5A | F201504    | 2016/11/13 |
| 8                  | Amplifier               | Compliance Direction systems | PAP1-4060          | 120        | 2016/11/13 |
| 9                  | High pass filter        | Compliance Direction systems | BSU-6              | 34202      | 2016/11/13 |
| 10                 | EMI test Software       | Rohde&Schwarz                | ESK1               | -          | -          |
| 11                 | EMI test Software       | Audix                        | E3                 | -          | -          |
| 12                 | TURNTABLE               | MATURO                       | TT2.0              | -          | -          |
| 13                 | ANTENNA MAST            | MATURO                       | TAM-4.0-P          | -          | -          |

| RF Conducted methods |                     |                      |           |              |            |
|----------------------|---------------------|----------------------|-----------|--------------|------------|
| Item                 | Test Equipment      | Manufacturer         | Model No. | Serial No.   | Last Cal.  |
| 1                    | Spectrum Analyzer   | Rohde&Schwarz        | FSP       | 1164.4391.40 | 2016/11/13 |
| 2                    | MXA Signal Analyzer | Agilent Technologies | N9020A    | MY5050187    | 2016/11/13 |

The Cal.Interval was one year.

## 5. TEST CONDITIONS AND RESULTS

### 5.1. 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 an 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 6 dBi 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 6 dBi.

#### Test Result:

☒ **Passed**      ☐ **Not Applicable**

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



## 5.2. Conducted Emissions (AC Main)

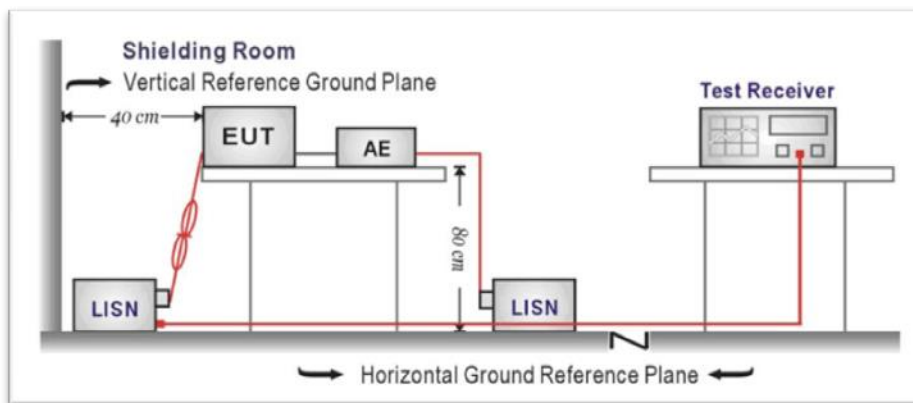
### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.207

| Frequency range (MHz) | Limit (dBuV) |           |
|-----------------------|--------------|-----------|
|                       | Quasi-peak   | Average   |
| 0.15-0.5              | 66 to 56*    | 56 to 46* |
| 0.5-5                 | 56           | 46        |
| 5-30                  | 60           | 50        |

\* Decreases with the logarithm of the frequency.

### TEST CONFIGURATION



### TEST PROCEDURE

1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

### TEST RESULTS

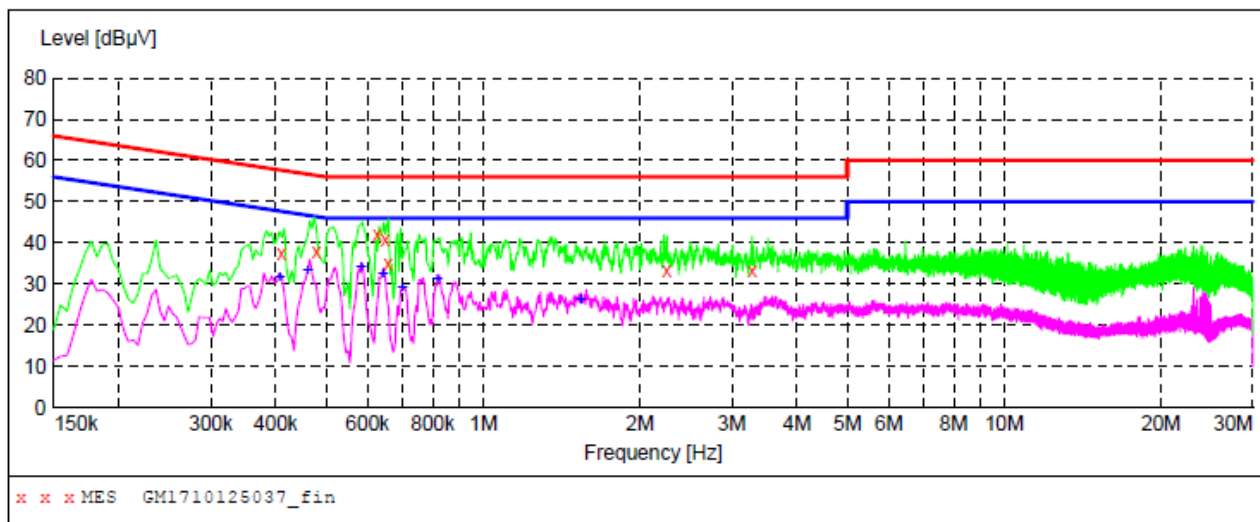
☒ Passed      ☐ Not Applicable

Note:

- 1) Transd= Cable lose + Pulse Limiter Factor + Artificial Mains Factor
- 2) Margin= Limit - Level

Test Line:

L

**MEASUREMENT RESULT: "GM1710125037\_fin"**

10/12/2017 1:51PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.411000         | 37.60         | 10.2         | 58            | 20.0         | QP       | L1   | GND |
| 0.478500         | 38.00         | 10.2         | 56            | 18.4         | QP       | L1   | GND |
| 0.627000         | 42.00         | 10.2         | 56            | 14.0         | QP       | L1   | GND |
| 0.649500         | 40.70         | 10.2         | 56            | 15.3         | QP       | L1   | GND |
| 0.658500         | 35.00         | 10.2         | 56            | 21.0         | QP       | L1   | GND |
| 2.251500         | 33.10         | 10.2         | 56            | 22.9         | QP       | L1   | GND |
| 3.282000         | 33.40         | 10.3         | 56            | 22.6         | QP       | L1   | GND |

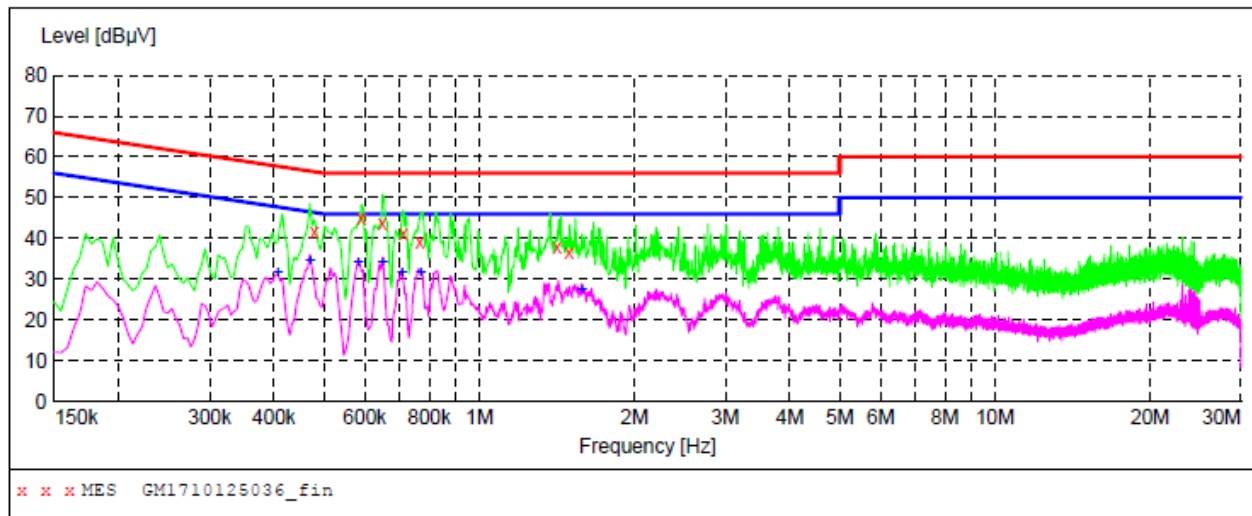
**MEASUREMENT RESULT: "GM1710125037\_fin2"**

10/12/2017 1:51PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.406500         | 31.70         | 10.2         | 48            | 16.0         | AV       | L1   | GND |
| 0.460500         | 33.30         | 10.2         | 47            | 13.4         | AV       | L1   | GND |
| 0.582000         | 34.20         | 10.2         | 46            | 11.8         | AV       | L1   | GND |
| 0.640500         | 32.40         | 10.2         | 46            | 13.6         | AV       | L1   | GND |
| 0.699000         | 29.00         | 10.2         | 46            | 17.0         | AV       | L1   | GND |
| 0.816000         | 31.20         | 10.2         | 46            | 14.8         | AV       | L1   | GND |
| 1.536000         | 26.30         | 10.2         | 46            | 19.7         | AV       | L1   | GND |

Test Line:

N

**MEASUREMENT RESULT: "GM1710125036\_fin"**

10/12/2017 1:48PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.478500         | 41.50         | 10.2         | 56            | 14.9         | QP       | N    | GND |
| 0.591000         | 45.10         | 10.2         | 56            | 10.9         | QP       | N    | GND |
| 0.649500         | 43.60         | 10.2         | 56            | 12.4         | QP       | N    | GND |
| 0.712500         | 41.20         | 10.2         | 56            | 14.8         | QP       | N    | GND |
| 0.766500         | 39.00         | 10.2         | 56            | 17.0         | QP       | N    | GND |
| 1.419000         | 38.00         | 10.2         | 56            | 18.0         | QP       | N    | GND |
| 1.495500         | 36.60         | 10.2         | 56            | 19.4         | QP       | N    | GND |

**MEASUREMENT RESULT: "GM1710125036\_fin2"**

10/12/2017 1:48PM

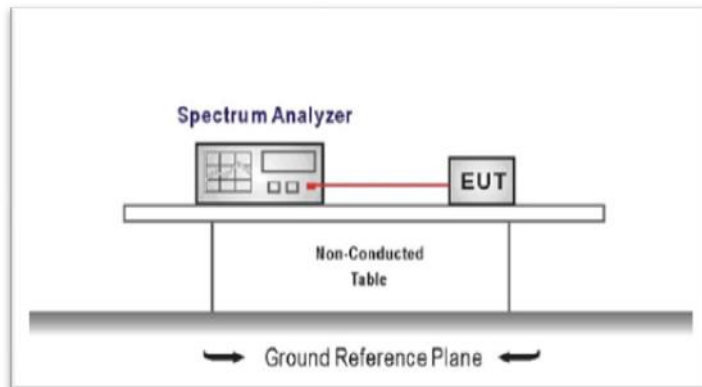
| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.406500         | 31.40         | 10.2         | 48            | 16.3         | AV       | N    | GND |
| 0.469500         | 34.40         | 10.2         | 47            | 12.1         | AV       | N    | GND |
| 0.582000         | 34.10         | 10.2         | 46            | 11.9         | AV       | N    | GND |
| 0.649500         | 34.10         | 10.2         | 46            | 11.9         | AV       | N    | GND |
| 0.708000         | 31.50         | 10.2         | 46            | 14.5         | AV       | N    | GND |
| 0.771000         | 31.50         | 10.2         | 46            | 14.5         | AV       | N    | GND |
| 1.581000         | 27.60         | 10.2         | 46            | 18.4         | AV       | N    | GND |

### 5.3. Conducted Peak Output Power

#### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(1): For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

#### TEST CONFIGURATION



#### TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the pathloss 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:  
 Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel  
 RBW  $\geq$  the 20 dB bandwidth of the emission being measured, VBW  $\geq$  RBW  
 Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

#### TEST MODE:

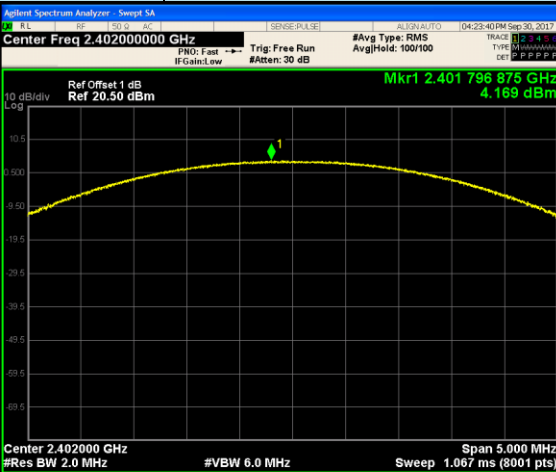
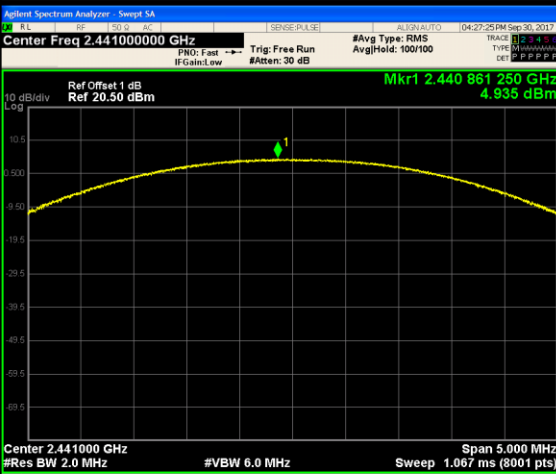
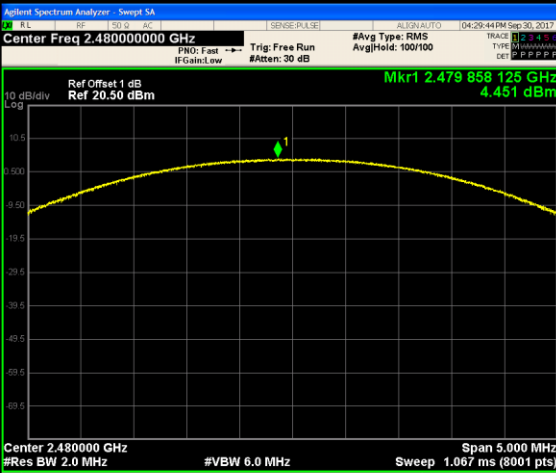
Please refer to the clause 3.3

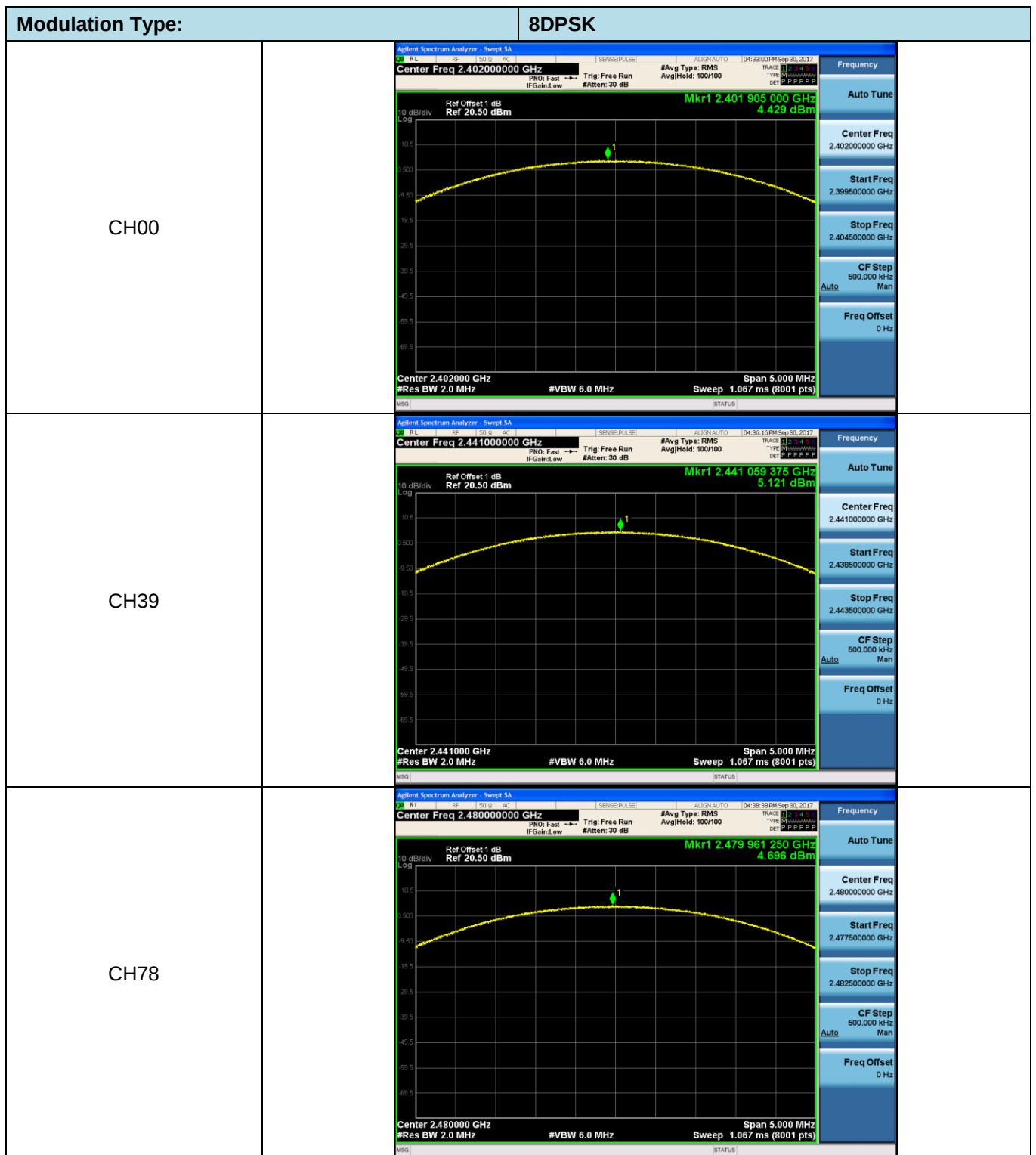
#### TEST RESULTS

☒ Passed      ☐ Not Applicable

| Modulation type | Channel | Output power (dBm) | Limit (dBm)  | Result |
|-----------------|---------|--------------------|--------------|--------|
| GFSK            | 00      | 5.011              | $\leq 30.00$ | Pass   |
|                 | 39      | 5.707              |              |        |
|                 | 78      | 5.270              |              |        |
| $\pi/4$ DQPSK   | 00      | 4.169              | $\leq 21.00$ | Pass   |
|                 | 39      | 4.935              |              |        |
|                 | 78      | 4.451              |              |        |
| 8DPSK           | 00      | 4.429              | $\leq 21.00$ | Pass   |
|                 | 39      | 5.121              |              |        |
|                 | 78      | 4.696              |              |        |

| Modulation Type: |                                                                                      | GFSK |
|------------------|--------------------------------------------------------------------------------------|------|
| CH00             |    |      |
| CH39             |   |      |
| CH78             |  |      |

| Modulation Type: |  | $\pi/4$ DQPSK                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                             |
|------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CH00             |  |  <p>Agilent Spectrum Analyzer - Sweep SA<br/>Center Freq 2.40200000 GHz<br/>Ref Offset 1 dB<br/>Ref 20.50 dBm<br/>Mkr1 2.401796875 GHz<br/>4.169 dBm<br/>Span 5.000 MHz<br/>#Res BW 2.0 MHz<br/>#VBW 6.0 MHz<br/>Sweep 1.067 ms (8001 pts)</p>    | <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq<br/>2.402000000 GHz</p> <p>Start Freq<br/>2.399500000 GHz</p> <p>Stop Freq<br/>2.404500000 GHz</p> <p>CF Step<br/>500.000 kHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p> |
| CH39             |  |  <p>Agilent Spectrum Analyzer - Sweep SA<br/>Center Freq 2.441000000 GHz<br/>Ref Offset 1 dB<br/>Ref 20.50 dBm<br/>Mkr1 2.440861250 GHz<br/>4.935 dBm<br/>Span 5.000 MHz<br/>#Res BW 2.0 MHz<br/>#VBW 6.0 MHz<br/>Sweep 1.067 ms (8001 pts)</p>  | <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq<br/>2.441000000 GHz</p> <p>Start Freq<br/>2.438500000 GHz</p> <p>Stop Freq<br/>2.443500000 GHz</p> <p>CF Step<br/>500.000 kHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p> |
| CH78             |  |  <p>Agilent Spectrum Analyzer - Sweep SA<br/>Center Freq 2.480000000 GHz<br/>Ref Offset 1 dB<br/>Ref 20.50 dBm<br/>Mkr1 2.479858125 GHz<br/>4.451 dBm<br/>Span 5.000 MHz<br/>#Res BW 2.0 MHz<br/>#VBW 6.0 MHz<br/>Sweep 1.067 ms (8001 pts)</p> | <p>Frequency</p> <p>Auto Tune</p> <p>Center Freq<br/>2.480000000 GHz</p> <p>Start Freq<br/>2.477500000 GHz</p> <p>Stop Freq<br/>2.482500000 GHz</p> <p>CF Step<br/>500.000 kHz<br/>Auto Man</p> <p>Freq Offset<br/>0 Hz</p> |

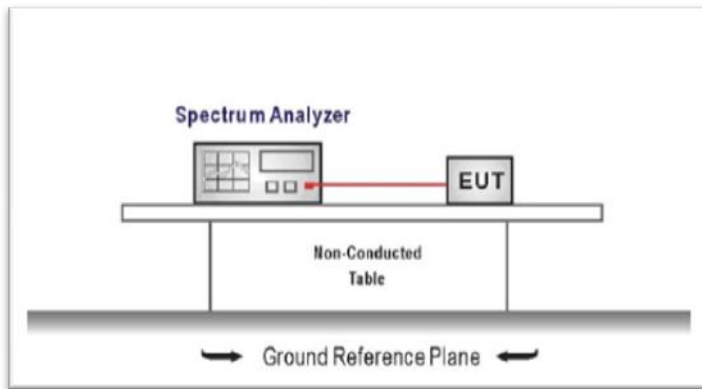


## 5.4. 20 dB Bandwidth

### LIMIT

N/A

### 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:  
 Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel  
 RBW  $\geq$  1% of the 20 dB bandwidth, VBW  $\geq$  RBW  
 Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

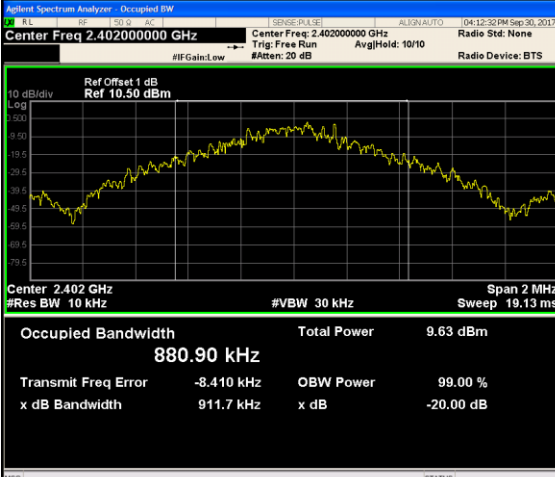
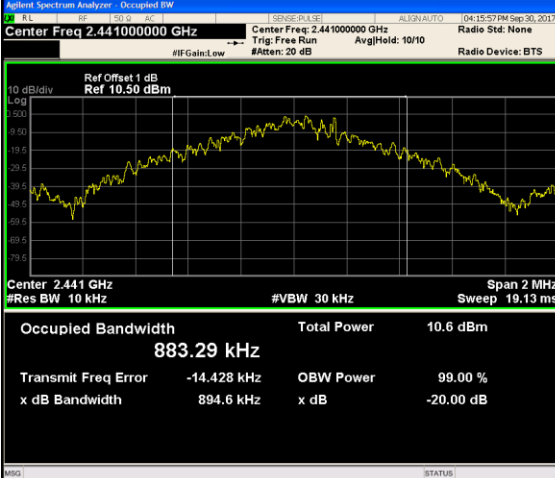
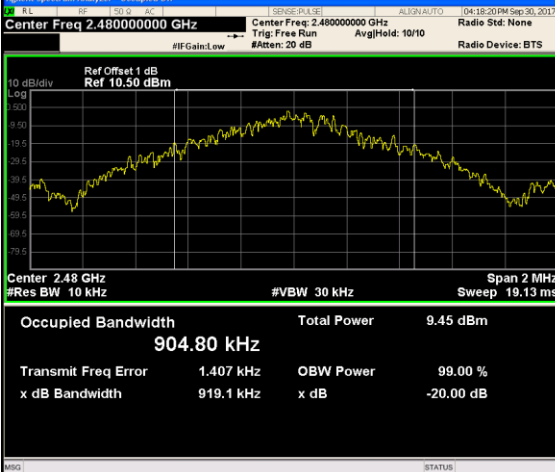
### TEST MODE:

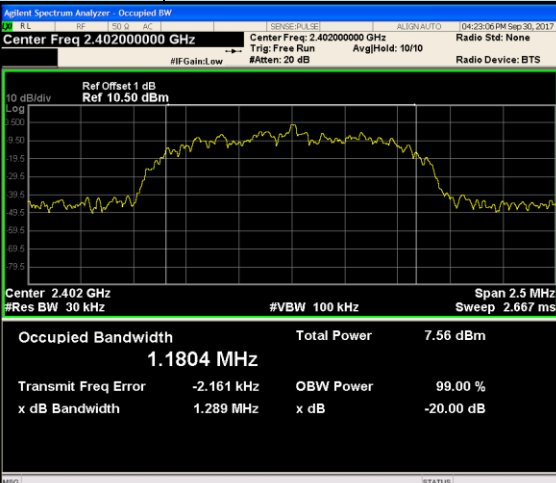
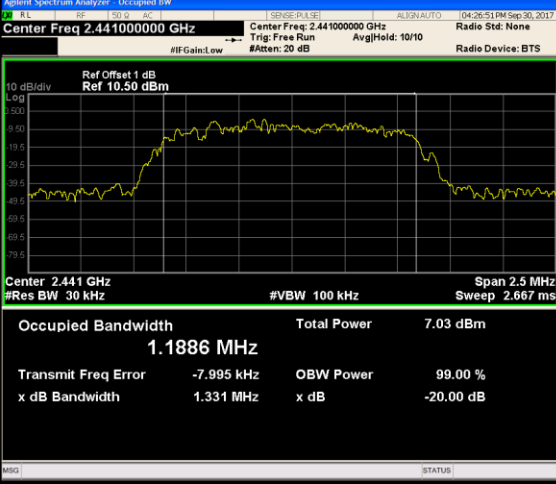
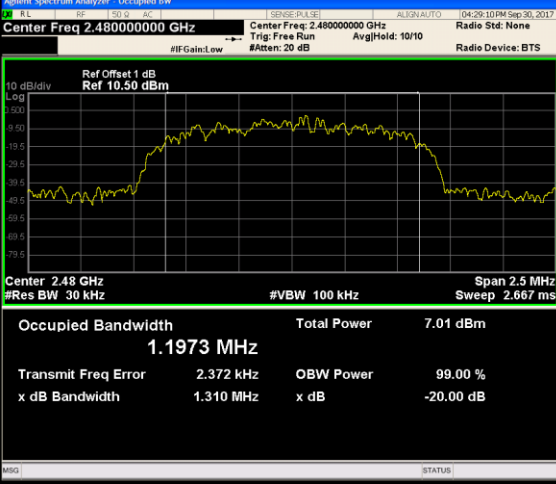
Please refer to the clause 3.3

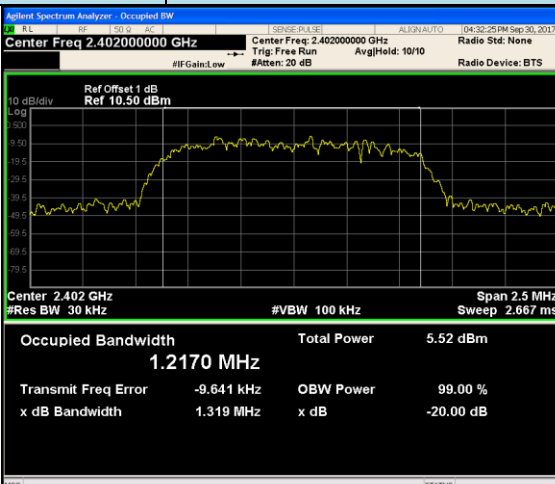
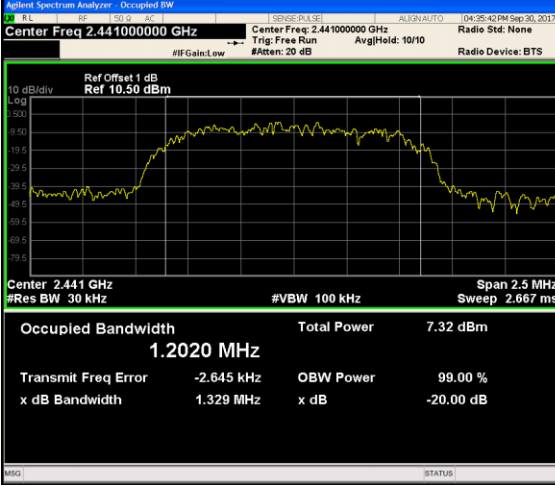
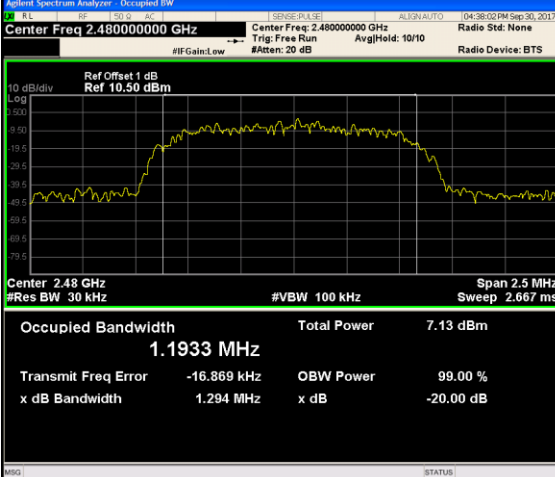
### TEST RESULTS

☒ Passed      ☐ Not Applicable

| Modulation type | Channel | 20 dB Bandwidth (MHz) | Limit (MHz) | Result |
|-----------------|---------|-----------------------|-------------|--------|
| GFSK            | 00      | 0.9117                | -           | Pass   |
|                 | 39      | 0.8946                |             |        |
|                 | 78      | 0.9191                |             |        |
| $\pi/4$ DQPSK   | 00      | 1.289                 | -           | Pass   |
|                 | 39      | 1.331                 |             |        |
|                 | 78      | 1.310                 |             |        |
| 8DPSK           | 00      | 1.319                 | -           | Pass   |
|                 | 39      | 1.329                 |             |        |
|                 | 78      | 1.294                 |             |        |

| Modulation Type: |                                                                                      | GFSK                                                                                                        |  |
|------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|--|
| CH00             |    | Frequency<br>Center Freq<br>2.402000000 GHz<br>CF Step<br>200.000 kHz<br>Auto<br>Man<br>Freq Offset<br>0 Hz |  |
| CH39             |   | Frequency<br>Center Freq<br>2.441000000 GHz<br>CF Step<br>200.000 kHz<br>Auto<br>Man<br>Freq Offset<br>0 Hz |  |
| CH78             |  | Frequency<br>Center Freq<br>2.480000000 GHz<br>CF Step<br>200.000 kHz<br>Auto<br>Man<br>Freq Offset<br>0 Hz |  |

| Modulation Type: |                                                                                      | $\pi/4$ DQPSK                                                                                     |
|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| CH00             |    | <p>Center Freq<br/>2.402000000 GHz</p> <p>CF Step<br/>250.000 kHz</p> <p>Freq Offset<br/>0 Hz</p> |
| CH39             |   | <p>Center Freq<br/>2.441000000 GHz</p> <p>CF Step<br/>250.000 kHz</p> <p>Freq Offset<br/>0 Hz</p> |
| CH78             |  | <p>Center Freq<br/>2.480000000 GHz</p> <p>CF Step<br/>250.000 kHz</p> <p>Freq Offset<br/>0 Hz</p> |

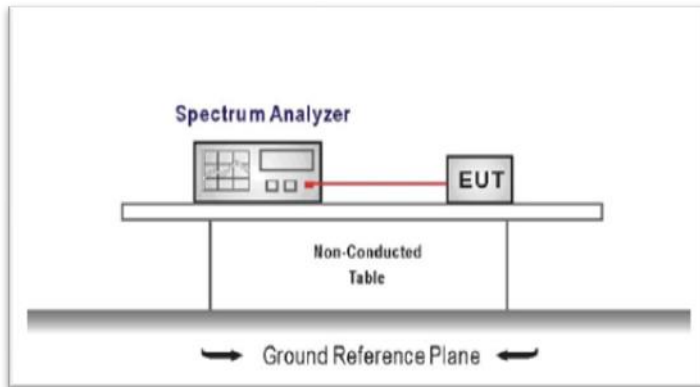
| Modulation Type: |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8DPSK |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| CH00             |  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.402000000 GHz</p> <p>Ref Offset 1 dB<br/>Ref 10.50 dBm</p> <p>Center 2.402 GHz<br/>#Res BW 30 kHz</p> <p>Occupied Bandwidth 1.2170 MHz</p> <p>Total Power 5.52 dBm</p> <p>Transmit Freq Error -9.641 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 1.319 MHz</p> <p>x dB -20.00 dB</p>   |       |
| CH39             |  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.441000000 GHz</p> <p>Ref Offset 1 dB<br/>Ref 10.50 dBm</p> <p>Center 2.441 GHz<br/>#Res BW 30 kHz</p> <p>Occupied Bandwidth 1.2020 MHz</p> <p>Total Power 7.32 dBm</p> <p>Transmit Freq Error -2.645 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 1.329 MHz</p> <p>x dB -20.00 dB</p>  |       |
| CH78             |  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.480000000 GHz</p> <p>Ref Offset 1 dB<br/>Ref 10.50 dBm</p> <p>Center 2.48 GHz<br/>#Res BW 30 kHz</p> <p>Occupied Bandwidth 1.1933 MHz</p> <p>Total Power 7.13 dBm</p> <p>Transmit Freq Error -16.869 kHz</p> <p>OBW Power 99.00 %</p> <p>x dB Bandwidth 1.294 MHz</p> <p>x dB -20.00 dB</p> |       |

## 5.5. Carrier Frequencies Separation

### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by minimum of 25 kHz or the  $2/3 \times 20$  dB bandwidth of the hopping channel, whichever is greater.

### 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:  
Span = wide enough to capture the peaks of two adjacent channels  
RBW  $\geq 1\%$  of the span, VBW  $\geq$  RBW  
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 3.3

### TEST RESULTS

☒ Passed ☐ Not Applicable

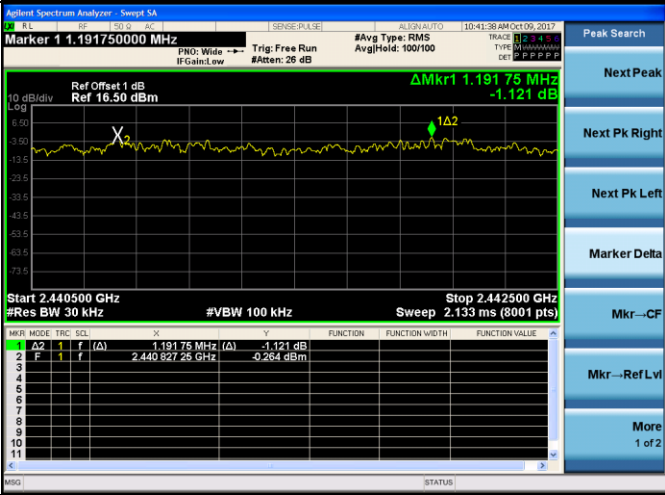
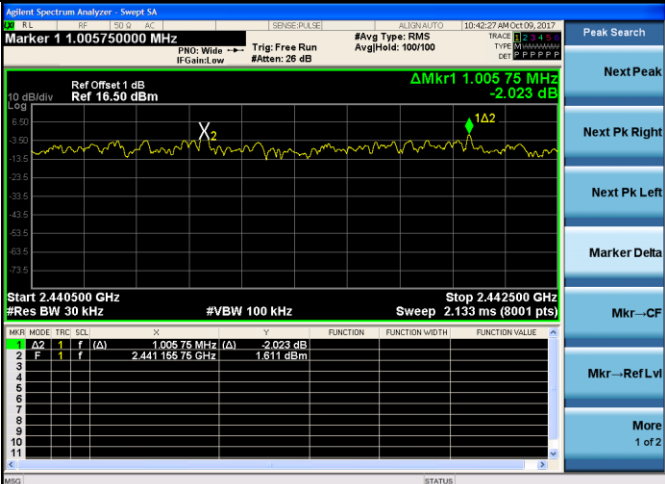
| Modulation type | Channel | Carrier Frequencies Separation (MHz) | Limit (MHz) * | Result |
|-----------------|---------|--------------------------------------|---------------|--------|
| GFSK            | 39      | 1.146                                | $\geq 0.919$  | Pass   |
| $\pi/4$ DQPSK   | 39      | 1.192                                | $\geq 0.892$  | Pass   |
| 8DPSK           | 39      | 1.006                                | $\geq 0.890$  | Pass   |

Note:

\*: GFSK limit = The maximum 20 dB Bandwidth for GFSK modulation on the section 5.4.

$\pi/4$ DQPSK limit =  $2/3 \times$  The maximum 20 dB Bandwidth for  $\pi/4$ DQPSK modulation on the section 5.4.

8DPSK limit =  $2/3 \times$  The maximum 20 dB Bandwidth for 8DPSK modulation on the section 5.4

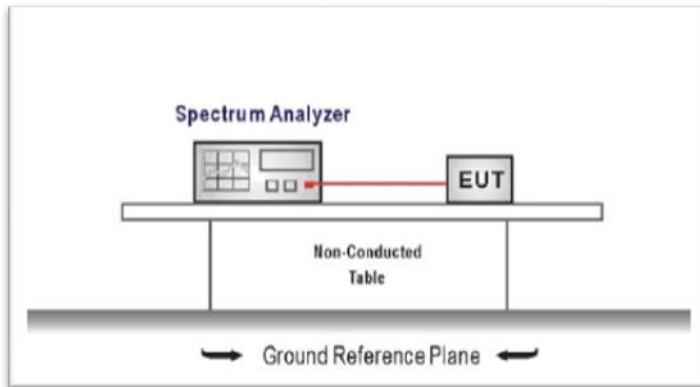
| GFSK          |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>1.14600 MHz (Δ)</td><td>-1.152 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.44101125 GHz</td><td>2.903 dBm</td><td></td><td></td></tr></table>   | Marker | Mode | Trig | SCL             | X          | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 1.14600 MHz (Δ) | -1.152 dB |  |  | 2 | F | 1 | f |  | 2.44101125 GHz | 2.903 dBm  |  |  |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|------|-----------------|------------|----------------|----------------|----------------|----------------|---|----|---|---|-----|-----------------|-----------|--|--|---|---|---|---|--|----------------|------------|--|--|
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trig   | SCL  | X    | Y               | Function   | Function Width | Function Value |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1      | f    | (Δ)  | 1.14600 MHz (Δ) | -1.152 dB  |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1      | f    |      | 2.44101125 GHz  | 2.903 dBm  |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| $\pi/4$ DQPSK |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>1.19175 MHz (Δ)</td><td>-1.121 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.44092725 GHz</td><td>-0.264 dBm</td><td></td><td></td></tr></table> | Marker | Mode | Trig | SCL             | X          | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 1.19175 MHz (Δ) | -1.121 dB |  |  | 2 | F | 1 | f |  | 2.44092725 GHz | -0.264 dBm |  |  |
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trig   | SCL  | X    | Y               | Function   | Function Width | Function Value |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1      | f    | (Δ)  | 1.19175 MHz (Δ) | -1.121 dB  |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1      | f    |      | 2.44092725 GHz  | -0.264 dBm |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 8DPSK         |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>1.00575 MHz (Δ)</td><td>-2.023 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.44115575 GHz</td><td>1.511 dBm</td><td></td><td></td></tr></table> | Marker | Mode | Trig | SCL             | X          | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 1.00575 MHz (Δ) | -2.023 dB |  |  | 2 | F | 1 | f |  | 2.44115575 GHz | 1.511 dBm  |  |  |
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Trig   | SCL  | X    | Y               | Function   | Function Width | Function Value |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1      | f    | (Δ)  | 1.00575 MHz (Δ) | -2.023 dB  |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1      | f    |      | 2.44115575 GHz  | 1.511 dBm  |                |                |                |                |   |    |   |   |     |                 |           |  |  |   |   |   |   |  |                |            |  |  |

## 5.6. Hopping Channel Number

### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1): Frequency hopping systems in the 2400–2483.5 MHz band shall use at least **15** channels.

### 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:  
Span = the frequency band of operation  
RBW  $\geq$  1% of the span, VBW  $\geq$  RBW  
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

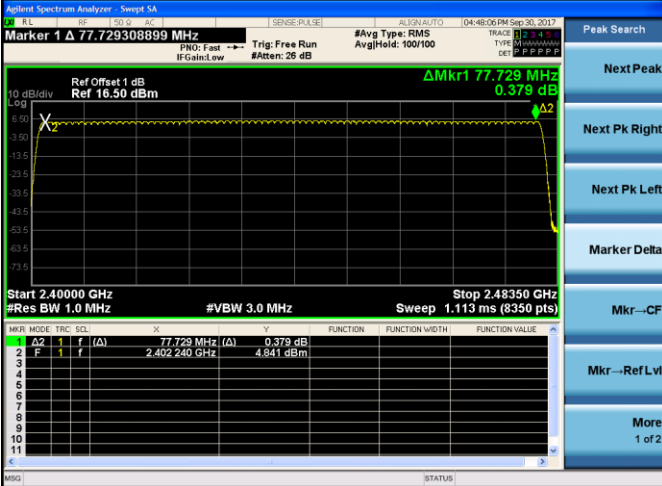
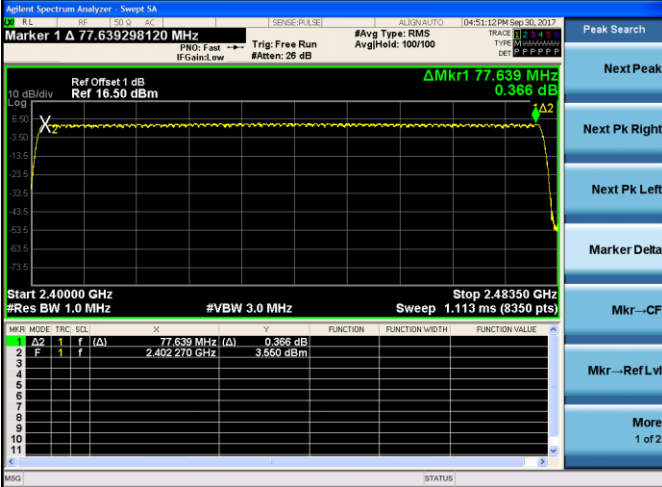
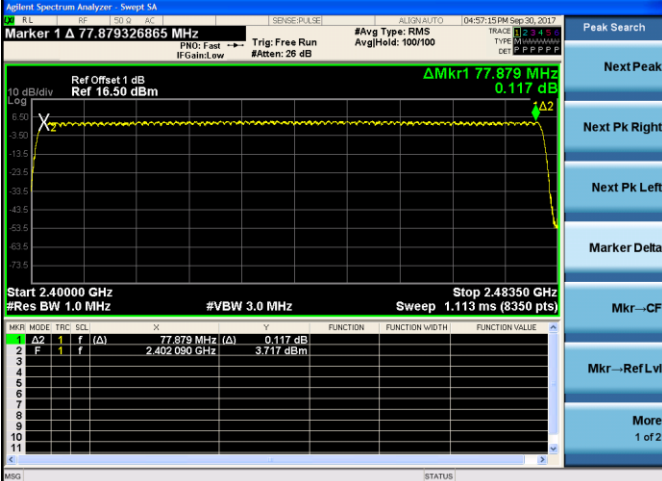
### TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

☒ Passed ☐ Not Applicable

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

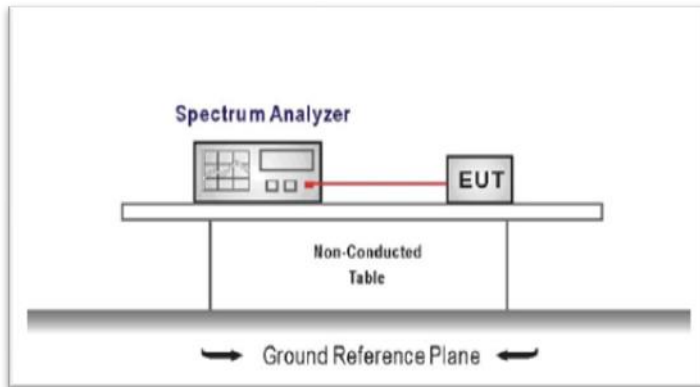
| GFSK          |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>77.729 MHz (Δ)</td><td></td><td></td><td>0.379 dB</td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.402 240 GHz</td><td></td><td></td><td>4.841 dBm</td></tr></table>   | Marker | Mode | Trig | SCL            | X        | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 77.729 MHz (Δ) |  |  | 0.379 dB | 2 | F | 1 | f |  | 2.402 240 GHz |  |  | 4.841 dBm |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|------|----------------|----------|----------------|----------------|----------------|----------------|---|----|---|---|-----|----------------|--|--|----------|---|---|---|---|--|---------------|--|--|-----------|
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Trig   | SCL  | X    | Y              | Function | Function Width | Function Value |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | f    | (Δ)  | 77.729 MHz (Δ) |          |                | 0.379 dB       |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1      | f    |      | 2.402 240 GHz  |          |                | 4.841 dBm      |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| $\pi/4$ DQPSK |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>77.639 MHz (Δ)</td><td></td><td></td><td>0.366 dB</td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.402 270 GHz</td><td></td><td></td><td>3.650 dBm</td></tr></table>  | Marker | Mode | Trig | SCL            | X        | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 77.639 MHz (Δ) |  |  | 0.366 dB | 2 | F | 1 | f |  | 2.402 270 GHz |  |  | 3.650 dBm |
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Trig   | SCL  | X    | Y              | Function | Function Width | Function Value |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | f    | (Δ)  | 77.639 MHz (Δ) |          |                | 0.366 dB       |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1      | f    |      | 2.402 270 GHz  |          |                | 3.650 dBm      |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 8DPSK         |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>f</td><td>(Δ)</td><td>77.879 MHz (Δ)</td><td></td><td></td><td>0.117 dB</td></tr><tr><td>2</td><td>F</td><td>1</td><td>f</td><td></td><td>2.402 080 GHz</td><td></td><td></td><td>3.717 dBm</td></tr></table> | Marker | Mode | Trig | SCL            | X        | Y              | Function       | Function Width | Function Value | 1 | A2 | 1 | f | (Δ) | 77.879 MHz (Δ) |  |  | 0.117 dB | 2 | F | 1 | f |  | 2.402 080 GHz |  |  | 3.717 dBm |
| Marker        | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Trig   | SCL  | X    | Y              | Function | Function Width | Function Value |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 1             | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | f    | (Δ)  | 77.879 MHz (Δ) |          |                | 0.117 dB       |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |
| 2             | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1      | f    |      | 2.402 080 GHz  |          |                | 3.717 dBm      |                |                |   |    |   |   |     |                |  |  |          |   |   |   |   |  |               |  |  |           |

## 5.7. Dwell Time

### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1):The average time of occupancy on any channel shall not be greater than 0.4 seconds within a pe-riod of 0.4 seconds multiplied by the number of hopping channels employed.

### 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:  
Span = zero span, centered on a hopping channel, RBW= 1 MHz, VBW ≥ RBW  
Sweep = as necessary to capture the entire dwell time per hopping channel,  
Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

### TEST MODE:

Please refer to the clause 3.3

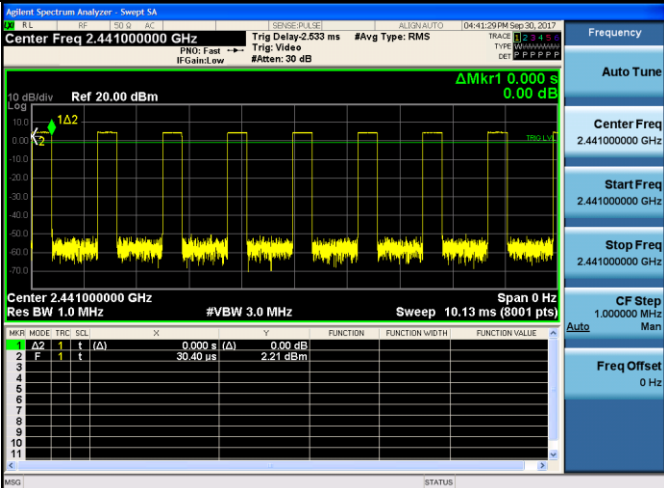
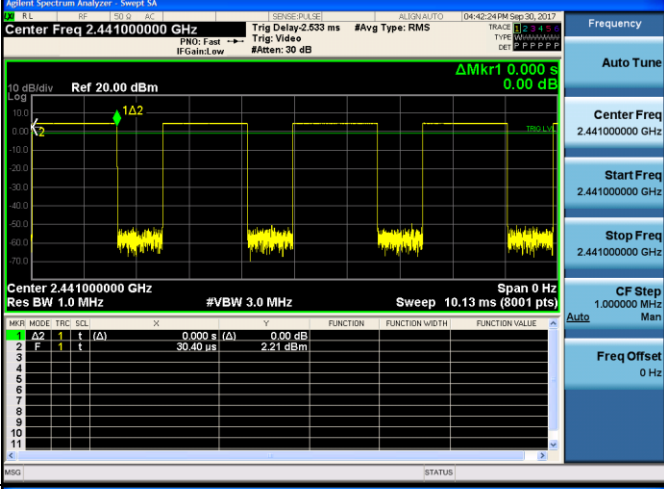
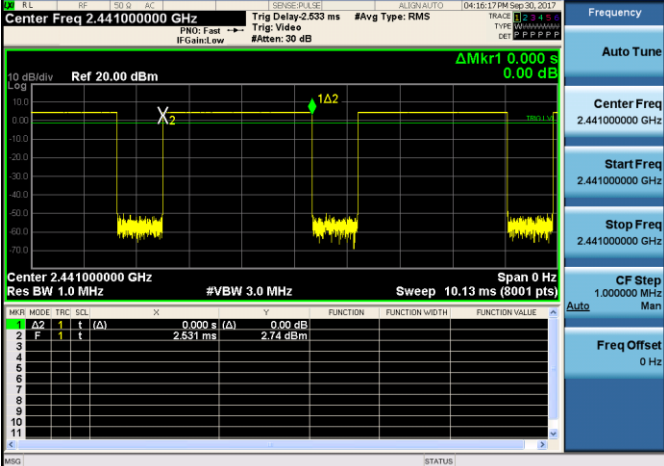
### TEST RESULTS

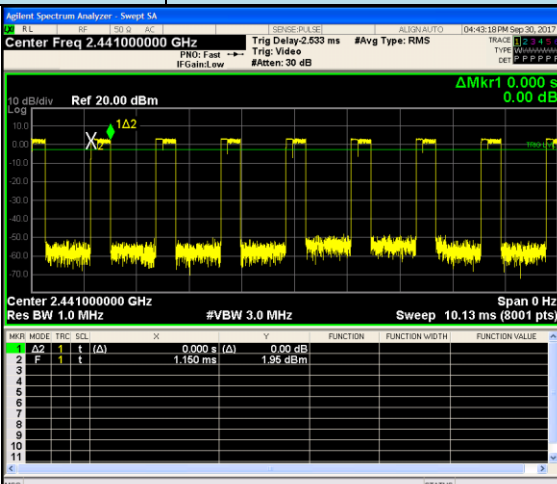
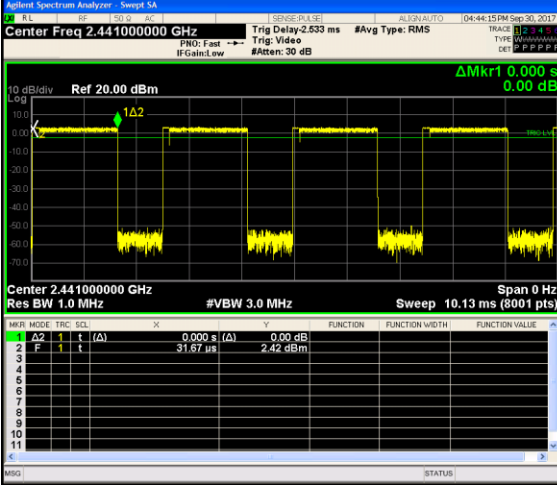
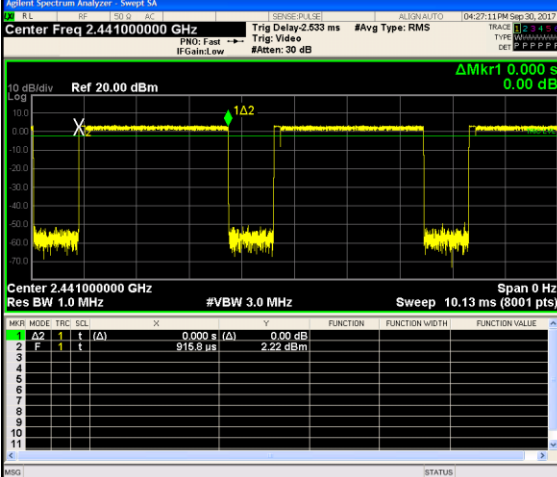
☒ Passed ☐ Not Applicable

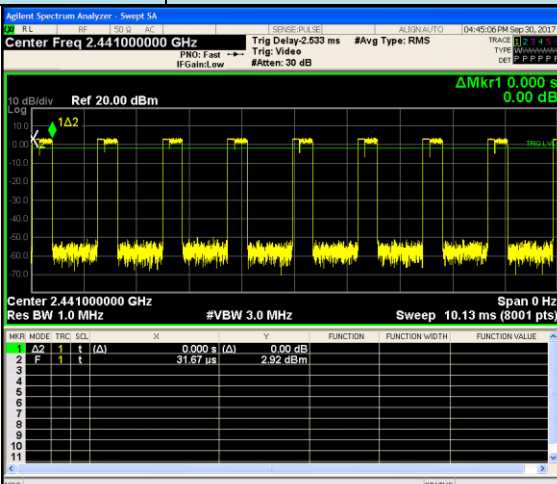
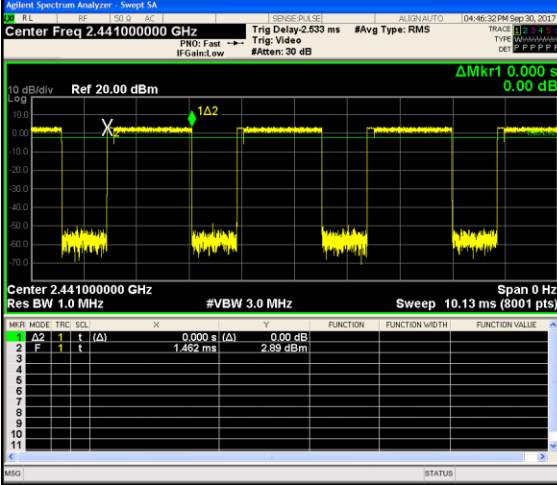
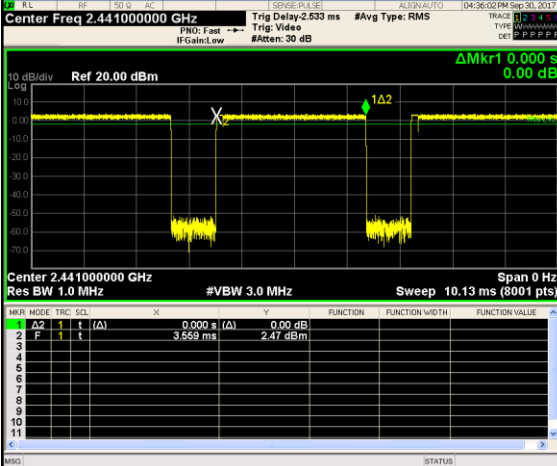
| Modulation type | Channel | Dwell time (Second) | Limit (Second) | Result |
|-----------------|---------|---------------------|----------------|--------|
| GFSK            | DH1     | 0.118               | ≤ 0.40         | Pass   |
|                 | DH3     | 0.261               |                |        |
|                 | DH5     | 0.306               |                |        |
| π/4DQPSK        | 2DH1    | 0.122               | ≤ 0.40         | Pass   |
|                 | 2DH3    | 0.261               |                |        |
|                 | 2DH5    | 0.307               |                |        |
| 8DPSK           | 3DH1    | 0.122               | ≤ 0.40         | Pass   |
|                 | 3DH3    | 0.261               |                |        |
|                 | 3DH5    | 0.307               |                |        |

Note:

1. We have tested all mode at high,middle and low channel,and recoreded worst case at middle channel.
2. Dwell time=Pulse time (ms) × (1600 ÷ 2 ÷ 79) ×31.6 Second for DH1, 2DH1, 3DH1  
Dwell time=Pulse time (ms) × (1600 ÷ 4 ÷ 79) ×31.6 Second for DH3, 2DH3, 3DH3  
Dwell time=Pulse time (ms) × (1600 ÷ 6 ÷ 79) ×31.6 Second for DH5, 2DH5, 3DH5

| Modulation Type: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | GFSK |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----|-------------|----------|----------------|----------------|----------------|----------------|---|----|---|---|-----|-------------|---------|--|--|---|---|---|---|--|----------|----------|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|-----------------|------------|-----------------|-----------|-----------------|---------|--------------|------|-----|-------------|------|
| DH1              |  <table><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>30.40 μs</td><td>2.21 dBm</td><td></td><td></td></tr></table>   | MNR  | MODE | TRC | SCL         | X        | Y              | FUNCTION       | FUNCTION WIDTH | FUNCTION VALUE | 1 | A2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 30.40 μs | 2.21 dBm |  |  | <table><tr><td>Frequency</td><td>Auto Tune</td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency | Auto Tune | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| MNR              | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TRC  | SCL  | X   | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1    | t    | (Δ) | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1    | t    |     | 30.40 μs    | 2.21 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        | Auto Tune                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| DH3              |  <table><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>30.40 μs</td><td>2.21 dBm</td><td></td><td></td></tr></table>  | MNR  | MODE | TRC | SCL         | X        | Y              | FUNCTION       | FUNCTION WIDTH | FUNCTION VALUE | 1 | A2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 30.40 μs | 2.21 dBm |  |  | <table><tr><td>Frequency</td><td>Auto Tune</td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency | Auto Tune | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| MNR              | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TRC  | SCL  | X   | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1    | t    | (Δ) | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1    | t    |     | 30.40 μs    | 2.21 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        | Auto Tune                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| DH5              |  <table><tr><th>MNR</th><th>MODE</th><th>TRC</th><th>SCL</th><th>X</th><th>Y</th><th>FUNCTION</th><th>FUNCTION WIDTH</th><th>FUNCTION VALUE</th></tr><tr><td>1</td><td>A2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>2.531 ms</td><td>2.74 dBm</td><td></td><td></td></tr></table> | MNR  | MODE | TRC | SCL         | X        | Y              | FUNCTION       | FUNCTION WIDTH | FUNCTION VALUE | 1 | A2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 2.531 ms | 2.74 dBm |  |  | <table><tr><td>Frequency</td><td>Auto Tune</td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency | Auto Tune | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| MNR              | MODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TRC  | SCL  | X   | Y           | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1    | t    | (Δ) | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1    | t    |     | 2.531 ms    | 2.74 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        | Auto Tune                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |     |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |                                                                                                                                                                                                                                                                                                                                                    |           |           |             |                 |            |                 |           |                 |         |              |      |     |             |      |

| Modulation Type: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | $\pi/4$ DQPSK |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------|------|-------------|----------|----------------|----------------|----------------|----------------|---|----|---|---|-----|-------------|---------|--|--|---|---|---|---|--|----------|----------|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|-----------|--|-------------|-----------------|------------|-----------------|-----------|-----------------|---------|--------------|------|-----|-------------|------|
| 2DH1             |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>Δ2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>1.150 ms</td><td>1.95 dBm</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>   | Marker        | Mode | Trig | SCL         | X        | Y              | Function       | Function Width | Function Value | 1 | Δ2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 1.150 ms | 1.95 dBm |  |  | 3 |  |  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  | 5 |  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  |  | 7 |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |  |  | 9 |  |  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 11 |  |  |  |  |  |  |  |  | <table><tr><td>Frequency</td><td></td></tr><tr><td>Auto Tune</td><td></td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency |  | Auto Tune |  | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| Marker           | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Trig          | SCL  | X    | Y           | Function | Function Width | Function Value |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | Δ2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1             | t    | (Δ)  | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1             | t    |      | 1.150 ms    | 1.95 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 3                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 4                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 6                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 7                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 8                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 9                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 10               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 11               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto Tune        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2DH3             |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>Δ2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>31.67 μs</td><td>2.42 dBm</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>  | Marker        | Mode | Trig | SCL         | X        | Y              | Function       | Function Width | Function Value | 1 | Δ2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 31.67 μs | 2.42 dBm |  |  | 3 |  |  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  | 5 |  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  |  | 7 |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |  |  | 9 |  |  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 11 |  |  |  |  |  |  |  |  | <table><tr><td>Frequency</td><td></td></tr><tr><td>Auto Tune</td><td></td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency |  | Auto Tune |  | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| Marker           | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Trig          | SCL  | X    | Y           | Function | Function Width | Function Value |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | Δ2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1             | t    | (Δ)  | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1             | t    |      | 31.67 μs    | 2.42 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 3                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 4                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 6                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 7                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 8                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 9                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 10               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 11               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto Tune        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2DH5             |  <table><tr><th>Marker</th><th>Mode</th><th>Trig</th><th>SCL</th><th>X</th><th>Y</th><th>Function</th><th>Function Width</th><th>Function Value</th></tr><tr><td>1</td><td>Δ2</td><td>1</td><td>t</td><td>(Δ)</td><td>0.000 s (Δ)</td><td>0.00 dB</td><td></td><td></td></tr><tr><td>2</td><td>F</td><td>1</td><td>t</td><td></td><td>918.8 μs</td><td>2.22 dBm</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> | Marker        | Mode | Trig | SCL         | X        | Y              | Function       | Function Width | Function Value | 1 | Δ2 | 1 | t | (Δ) | 0.000 s (Δ) | 0.00 dB |  |  | 2 | F | 1 | t |  | 918.8 μs | 2.22 dBm |  |  | 3 |  |  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  | 5 |  |  |  |  |  |  |  |  | 6 |  |  |  |  |  |  |  |  | 7 |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |  |  | 9 |  |  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  | 11 |  |  |  |  |  |  |  |  | <table><tr><td>Frequency</td><td></td></tr><tr><td>Auto Tune</td><td></td></tr><tr><td>Center Freq</td><td>2.441000000 GHz</td></tr><tr><td>Start Freq</td><td>2.441000000 GHz</td></tr><tr><td>Stop Freq</td><td>2.441000000 GHz</td></tr><tr><td>CF Step</td><td>1.000000 MHz</td></tr><tr><td>Auto</td><td>Man</td></tr><tr><td>Freq Offset</td><td>0 Hz</td></tr></table> | Frequency |  | Auto Tune |  | Center Freq | 2.441000000 GHz | Start Freq | 2.441000000 GHz | Stop Freq | 2.441000000 GHz | CF Step | 1.000000 MHz | Auto | Man | Freq Offset | 0 Hz |
| Marker           | Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Trig          | SCL  | X    | Y           | Function | Function Width | Function Value |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 1                | Δ2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1             | t    | (Δ)  | 0.000 s (Δ) | 0.00 dB  |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 2                | F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1             | t    |      | 918.8 μs    | 2.22 dBm |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 3                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 4                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 6                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 7                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 8                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 9                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 10               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| 11               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Frequency        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto Tune        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Center Freq      | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Start Freq       | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Stop Freq        | 2.441000000 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| CF Step          | 1.000000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Auto             | Man                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |
| Freq Offset      | 0 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |      |      |             |          |                |                |                |                |   |    |   |   |     |             |         |  |  |   |   |   |   |  |          |          |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                               |           |  |           |  |             |                 |            |                 |           |                 |         |              |      |     |             |      |

| Modulation Type: |                                                                                      | 8DPSK |
|------------------|--------------------------------------------------------------------------------------|-------|
| 3DH1             |    |       |
| 3DH3             |   |       |
| 3DH5             |  |       |

## 5.8. Pseudorandom Frequency Hopping Sequence

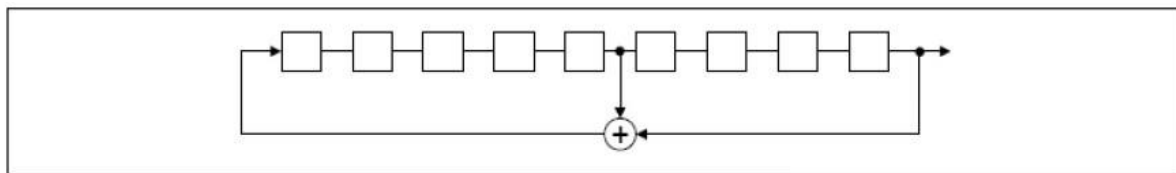
### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

### TEST RESULTS

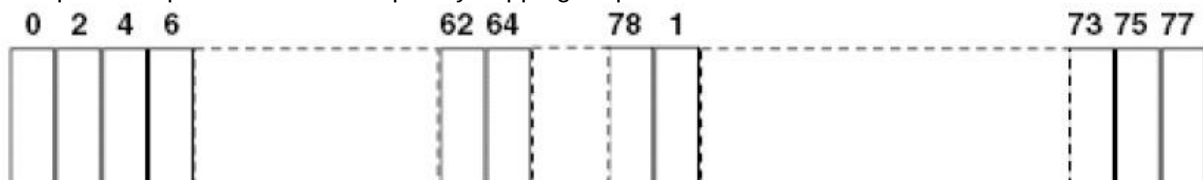
The pseudorandom frequency hopping sequence may be generated in a nine-stage shift register whose 5<sup>th</sup> and 9<sup>th</sup> stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones, for example: the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence:  $2^9 - 1 = 511$  bits
- Longest sequence of zeros: 8 (non-inverted signal)



*Linear Feedback Shift Register for Generation of the PRBS sequence*

An example of pseudorandom frequency hopping sequence as follows:

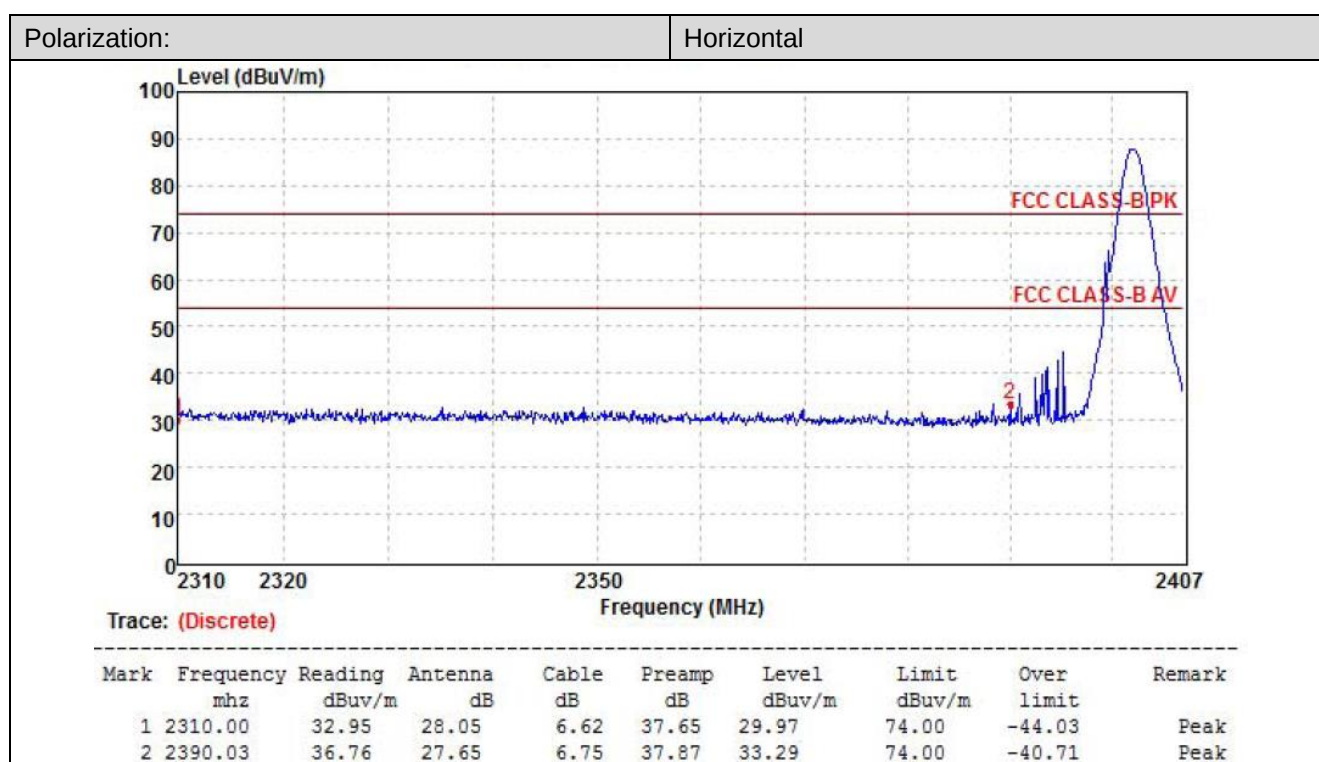
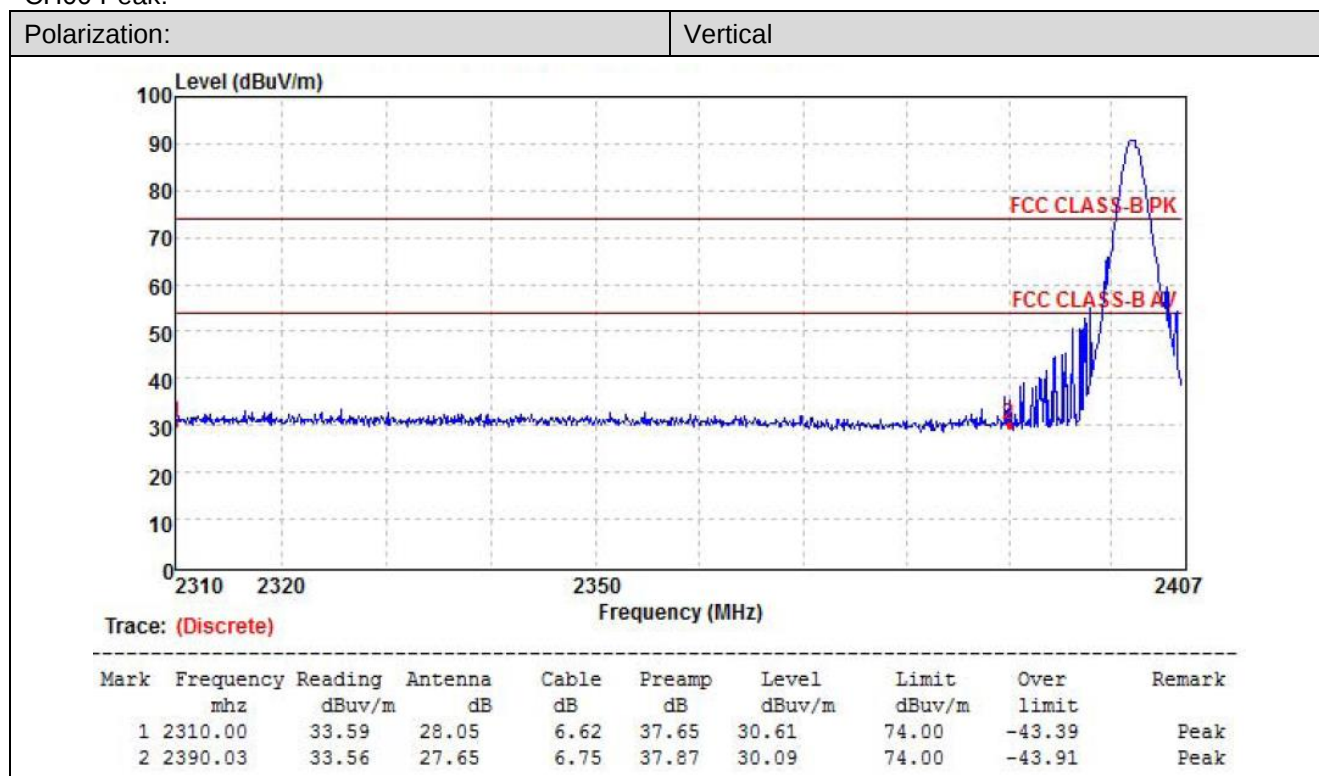


Each frequency used equally one the average by each transmitter.

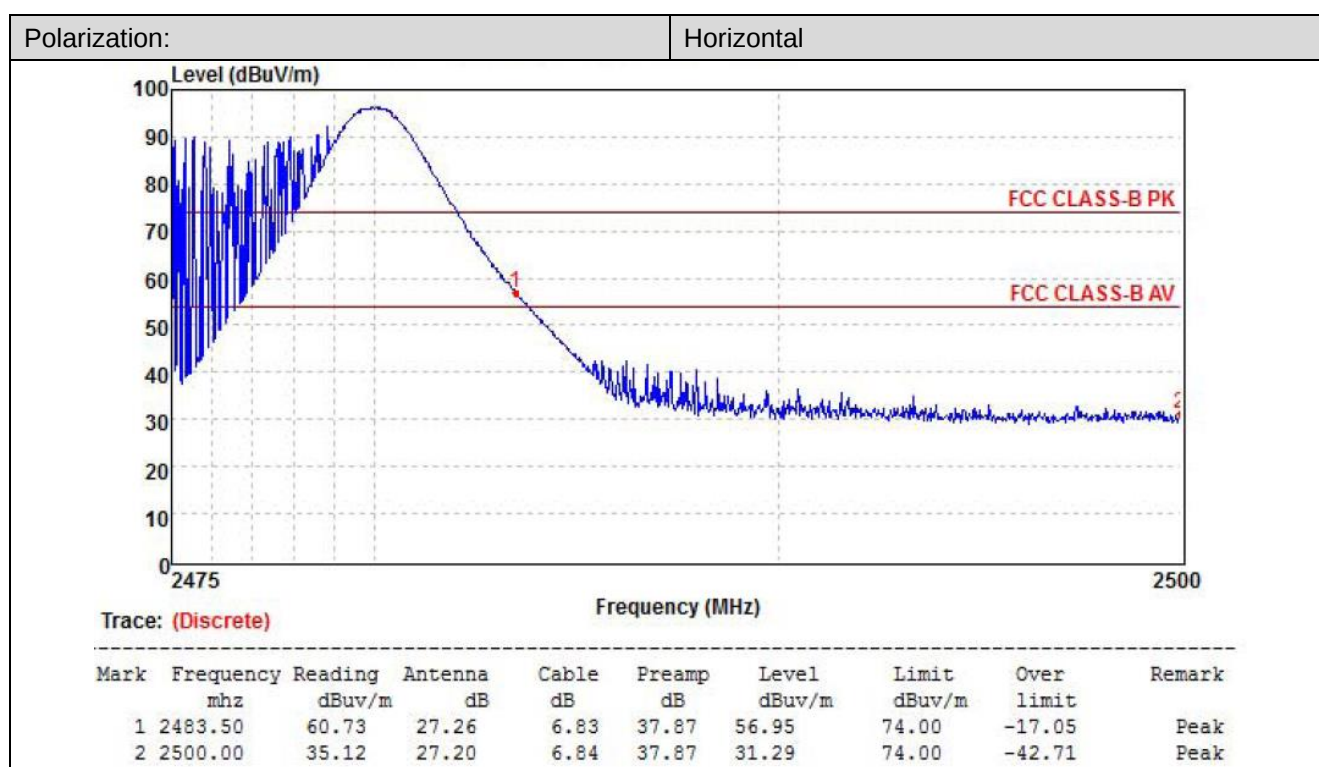
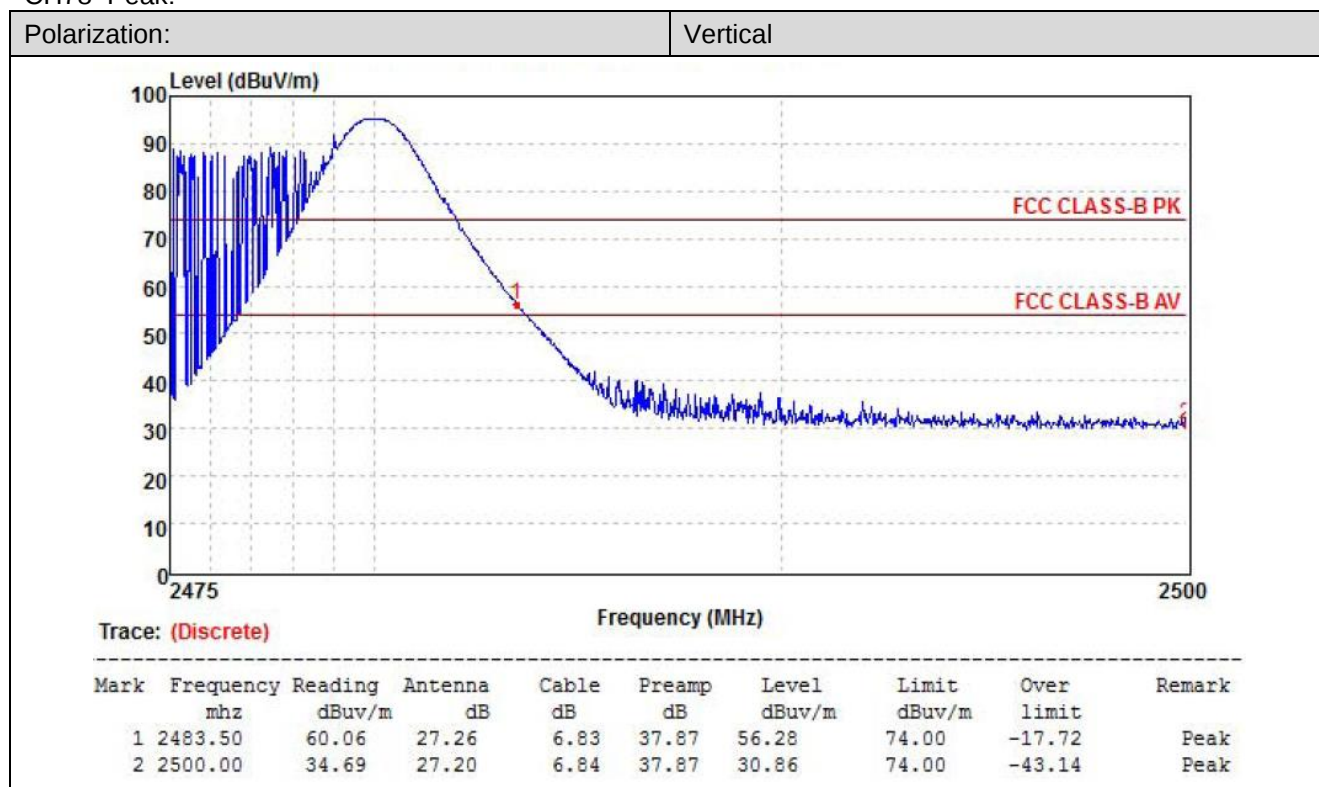
The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitter and shift frequencies in synchronization with the transmitted signals.



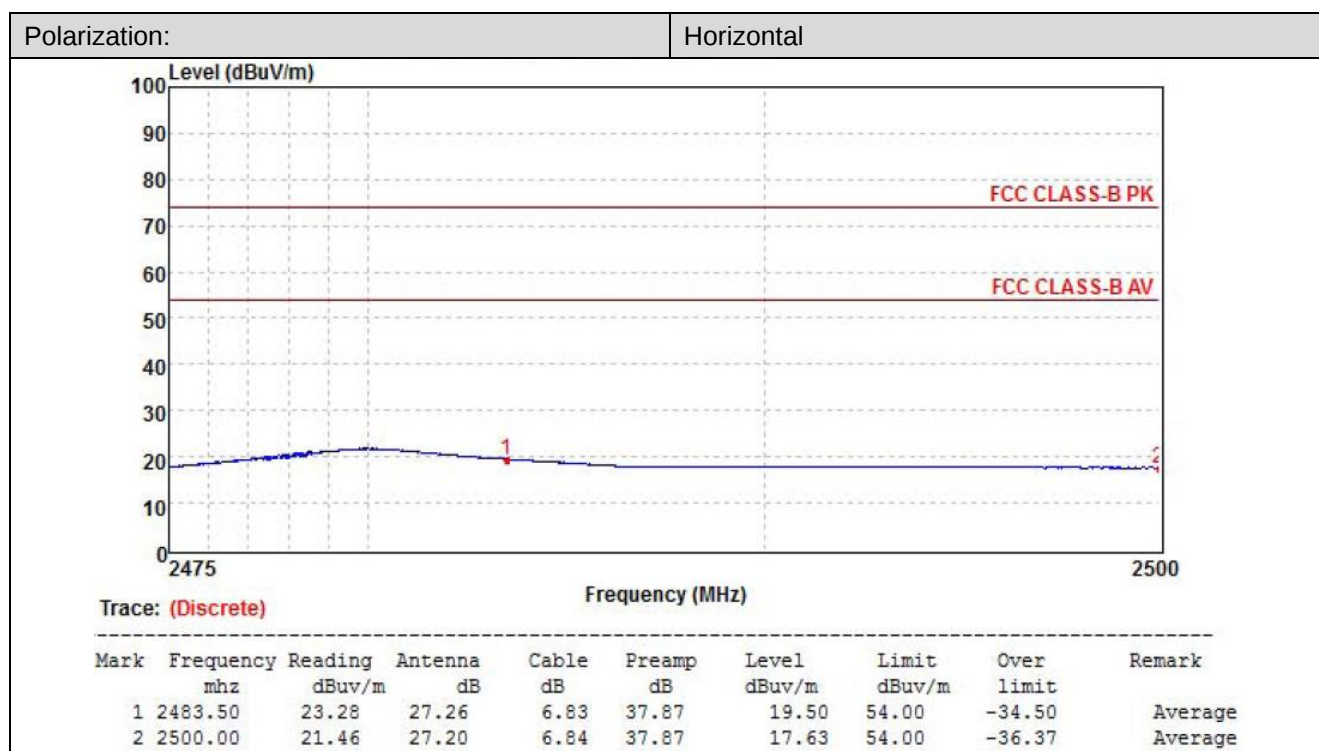
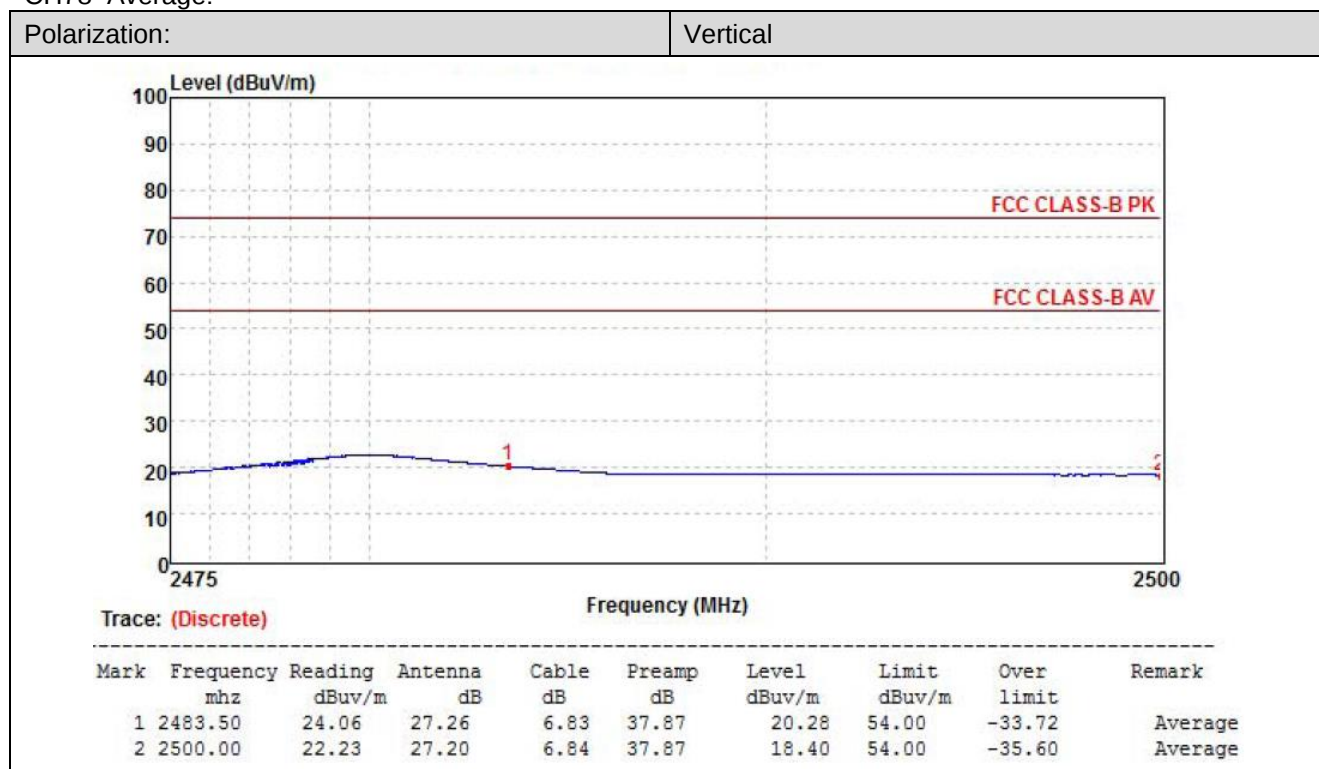
CH00 Peak:



CH78 Peak:



CH78 Average:

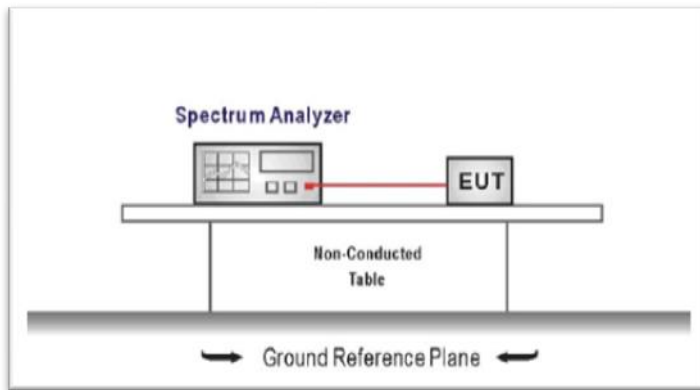


## 5.10. Band edge and Spurious Emissions (conducted)

### 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

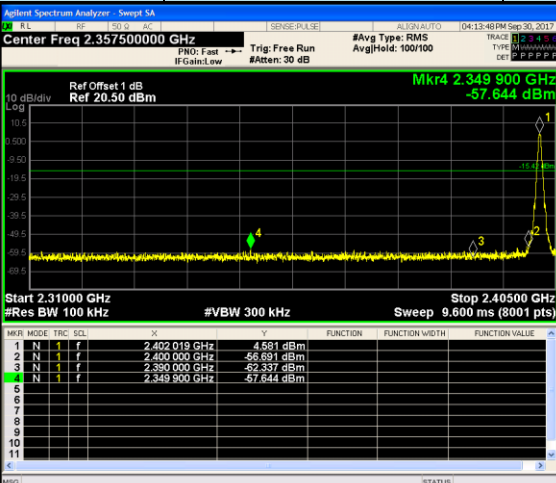
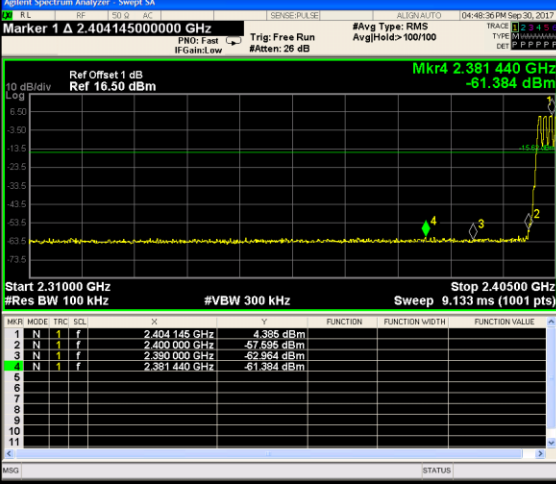
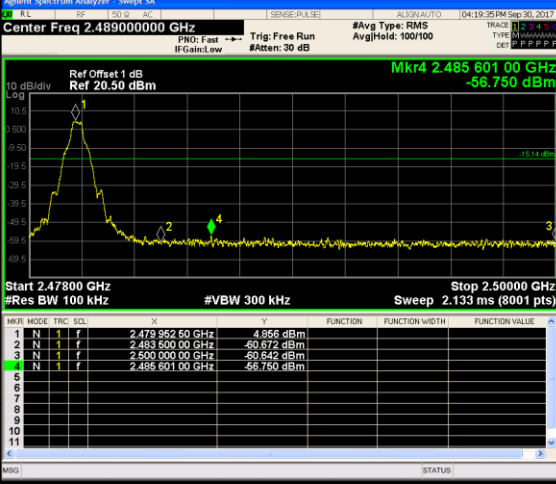
1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:  
RBW = 100 kHz, VBW  $\geq$  RBW  
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 3.3

### TEST RESULTS

☒ Passed      ☐ Not Applicable

| Test Item:              | Band edge                                                                            | Modulation type: | GFSK |
|-------------------------|--------------------------------------------------------------------------------------|------------------|------|
| CH00<br>No hopping mode |    |                  |      |
| CH00<br>Hopping mode    |   |                  |      |
| CH78<br>No hopping mode |  |                  |      |

CH78  
Hopping mode

