

# ELECTROMAGNETIC EMISSION COMPLIANCE REPORT FOR LOW-POWER, NON-LICENSED TRANSMITTER

**Test Report No.** : OT-188-RWD-009

**AGR No.** : A185A-337

**Applicant** : C&A Marketing Inc.

**Address** : 114 Tived Lane East, Edison, New Jersey, 08837, United States

**Manufacturer** : DSGLOBAL CO.,LTD

**Address** : 107, Gasan digital 2-ro, Geumcheon-gu, Seoul, Korea

**Type of Equipment** : Polaroid mint mobile printer

**FCC ID.** : 2AD2WPOLMP02

**Model Name** : POLMP02

**Serial number** : N/A

**Total page of Report:** 78 pages (including this page)

**Date of Incoming** : June 02, 2018

**Date of issue** : August 09, 2018

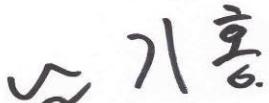
## SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Reviewed by:



Ki-Hong, Nam / Chief Engineer  
ONETECH Corp.

Approved by:

  
Keun-Young, Choi / Vice President  
ONETECH Corp.

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**Revision History**

| Rev. No. | Issue Report No. | Issued Date | Revisions       | Section Affected |
|----------|------------------|-------------|-----------------|------------------|
| 0        | OT-188-RWD-009   | 2018.08.09  | Initial Release | All              |
|          |                  |             |                 |                  |
|          |                  |             |                 |                  |

## 1. VERIFICATION OF COMPLIANCE

Applicant : C&A Marketing Inc.  
Address : 114 Tived Lane East, Edison, New Jersey, 08837, United States  
Contact Person : Chaim, Piekarski / Chief Executive Officer  
Telephone No. : +8482442000  
FCC ID : 2AD2WPOLMP02  
Model Name : POLMP02  
Serial Number : N/A  
Date : August 09, 2018

|  |   |
|--|---|
| EQUIPMENT CLASS                                      | DSS – PART 15 SPREAD SPECTRUM TRANSMITTER |
| E.U.T. DESCRIPTION                                   | Polaroid mint mobile printer              |
| THIS REPORT CONCERNS                                 | Original Grant                            |
| MEASUREMENT PROCEDURES                               | ANSI C63.10: 2013                         |
| TYPE OF EQUIPMENT TESTED                             | Pre-Production                            |
| KIND OF EQUIPMENT                                    | Certification                             |
| AUTHORIZATION REQUESTED                              |   |
| EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)   | FCC PART 15 SUBPART C Section 15.247      |
| Modifications on the Equipment to Achieve Compliance | None                                      |
| Final Test was Conducted On                          | 3 m, Semi Anechoic Chamber                |

- The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

## 2. TEST SUMMARY

### 2.1 Test items and results

| SECTION              | TEST ITEMS  | RESULTS                |
|----------------------|---|------------------------|
| 15.247 (a) (1)       | Carrier Frequency Separation                        | Met the Limit / PASS   |
| 15.247 (a) (1) (iii) | Minimum Number of Hopping Channels                  | Met the Limit / PASS   |
| 15.247 (a) (1) (iii) | Average Time of Occupancy                           | Met the Limit / PASS   |
| 15.247 (b) (1)       | Maximum Peak Conducted Output Power                 | Met the Limit / PASS   |
| 15.247 (d)           | 100 kHz Bandwidth Outside the Frequency Band        | Met the Limit / PASS   |
| 15.247 (d)           | Radiated Emission which fall in the Restricted Band | Met the Limit / PASS   |
| 15.209               | Radiated Emission Limits, General Requirement       | Met the Limit / PASS   |
| 15.207               | Conducted Limits                                    | Met the Limit / PASS   |
| 15.203               | Antenna Requirement                                 | Met requirement / PASS |

### 2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

### 2.3 Related Submittal(s) / Grant(s)

Original submittal only

### 2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

### 2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

### 2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea

- Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-4112/ C-14617/ G-10666 / T-1842

IC (Industry Canada) – Registration No. Site# 3736A-3

- Site Accreditation:

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

### 3. GENERAL INFORMATION

#### 3.1 Product Description

The C&A Marketing Inc., Model POLMP02 (referred to as the EUT in this report) is a Polaroid mint mobile printer. Product specification information described herein was obtained from product data sheet or user's manual.

|   |                              |               |
|---|------------------------------|---------------|
| Device Type   | Polaroid mint mobile printer |               |
| Operating Frequency                                       | 2 402 MHz ~ 2 480 MHz        |               |
| RF Output Power   | 1 Mbps                       | 8.85 dBm      |
|   | 2 Mbps                       | 7.03 dBm      |
|   | 3 Mbps                       | 7.61 dBm      |
| Number of Channel   | 79 Channel                   |               |
| Modulation Type   | 1 Mbps                       | GFSK          |
|   | 2 Mbps                       | $\pi/4$ -QPSK |
|   | 3 Mbps                       | 8-DPSK        |
| Antenna Type  | Chip Antenna                 |               |
| Antenna Gain  | 1.80 dBi                     |               |
| List of each Osc. or crystal<br>Freq.(Freq. $\geq$ 1 MHz) | 26 MHz                       |               |

#### 3.2 Alternative type(s)/model(s); also covered by this test report.

- . None

### 4. EUT MODIFICATIONS

- . None

## 5. SYSTEM TEST CONFIGURATION

### 5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

| DEVICE TYPE | MANUFACTURER     | MODEL/PART NUMBER | FCC ID |
|-------------|------------------|-------------------|--------|
| MAIN BOARD  | DSGLOBAL CO.,LTD | ZIP2.0V1.0        | N/A    |
| BATTERY     | N/A              | P0908-LF          | N/A    |

### 5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

| Model    | Manufacturer      | Description                        | Connected to |
|----------|-------------------|------------------------------------|--------------|
| POLMP02  | DSGLOBAL CO.,LTD  | Polaroid mint mobile printer (EUT) | Adapter      |
| MCS-01KT | TEN PAO           | Adapter                            | EUT          |
| IM-850K  | Pantech Co., Ltd. | Smart phone                        | -            |
| TC-3000C | TESCOM            | BLUETOOTH TESTER                   | -            |

### 5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at 2 402 MHz, 2 441MHz, and 2 480 MHz to get a maximum emission levels from the EUT. The EUT was moved throughout the XY, XZ, and YZ planes and the worst case is "XZ" axis, but the worst data was recorded in this report.

## 5.4 Configuration of Test System

- Line Conducted Test:** The EUT was connected to LISN. All supporting equipments were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions.
- Radiated Emission Test:** Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter Semi Anechoic Chamber.
- The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

## 5.5 Antenna Requirement

For intentional device, according to 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.

### Antenna Construction:

The antenna of the EUT is a Chip Antenna on the main board in the EUT, so no consideration of replacement by the user.

## 6. PRELIMINARY TEST

### 6.1 AC Power line Conducted Emissions Tests

During Preliminary Test, the following operating mode was investigated.

| Operation Mode | The Worse operating condition (Please check one only) |
|----------------|---|
| Charging Mode  | X   |

### 6.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

| Operation Mode    | The Worse operating condition (Please check one only) |
|-------------------|---|
| Transmitting Mode | X   |

## 7. MINIMUM 20 dB BANDWIDTH

### 7.1 Operating environment

Temperature : 22.4°C  
Relative humidity : 43.8 % R.H.

### 7.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 10 kHz, and peak detection was used. The 20 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 20 dB.



### 7.3 Test equipment used

| Model Number | Manufacturer    | Description      | Serial Number | Last Cal.          |
|--------------|-----------------|------------------|---------------|--------------------|
| ■ - FSV40    | Rohde & Schwarz | Signal Analyzer  | 101009        | Mar. 14, 2018 (1Y) |
| ■ - TC-3000C | TESCOM          | BLUETOOTH TESTER | 3000C000634   | Mar. 15, 2018 (1Y) |

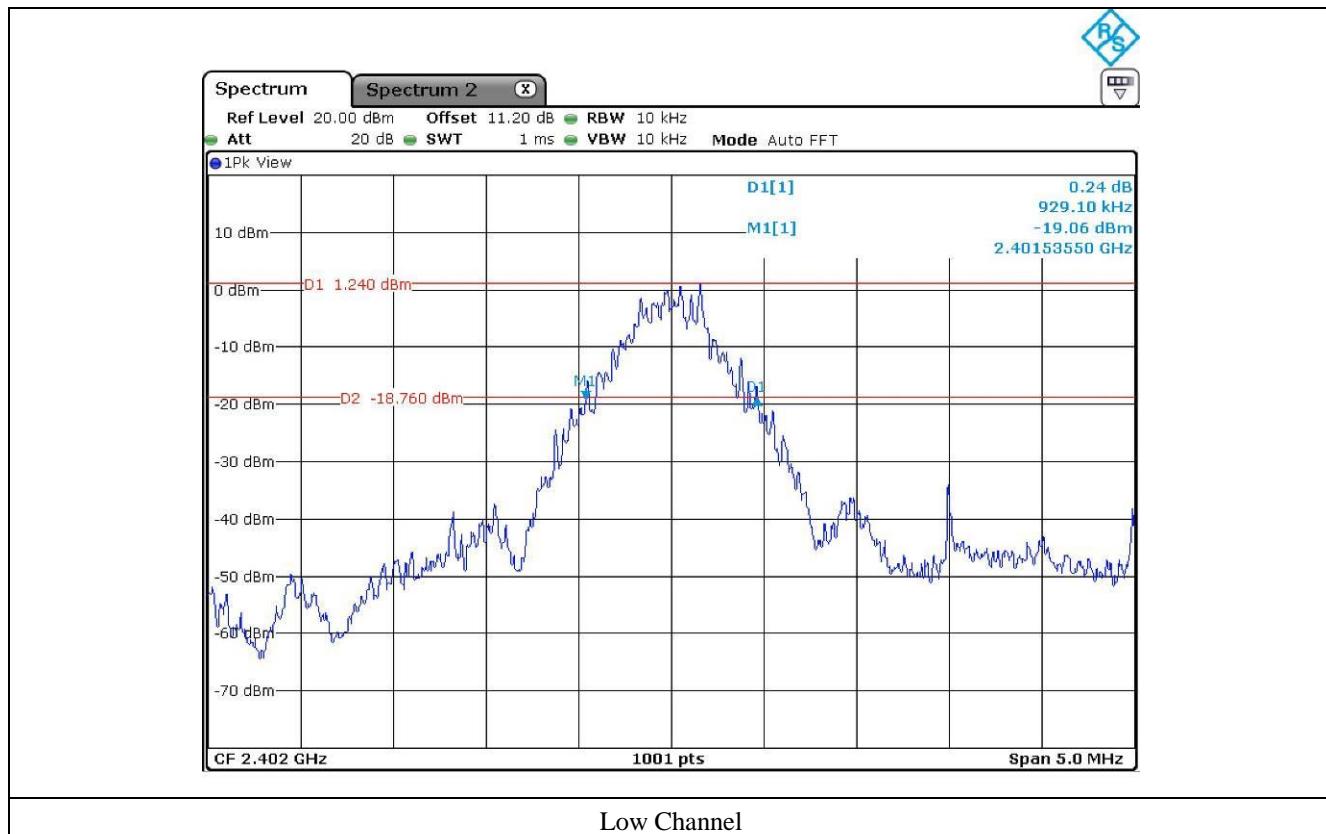
All test equipment used is calibrated on a regular basis.

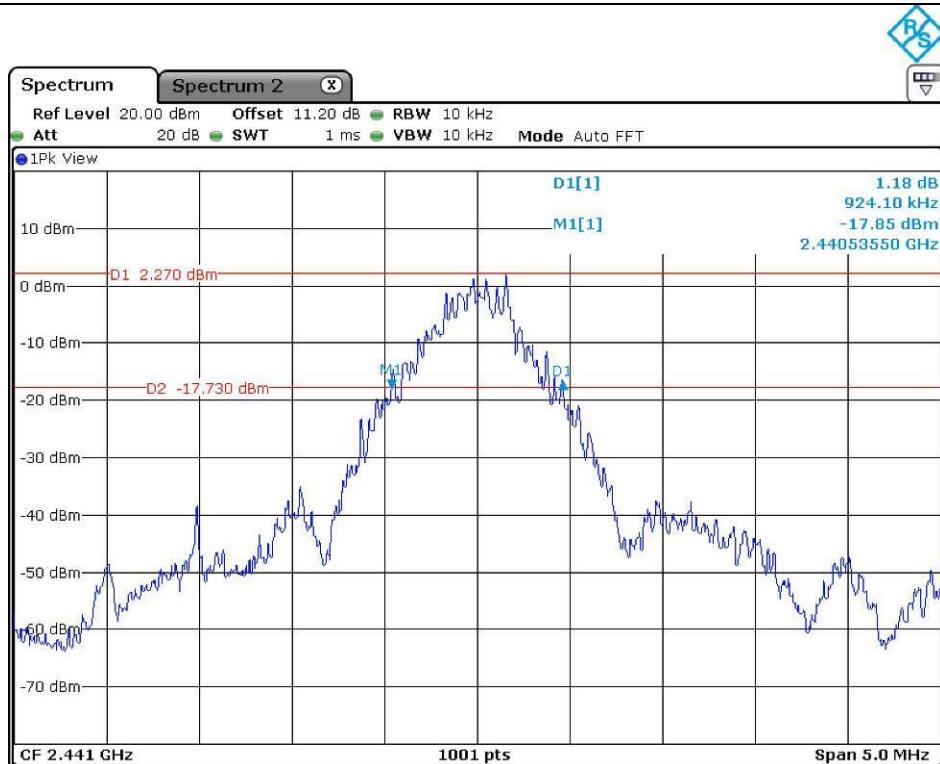
#### 7.4 Test data for 1 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

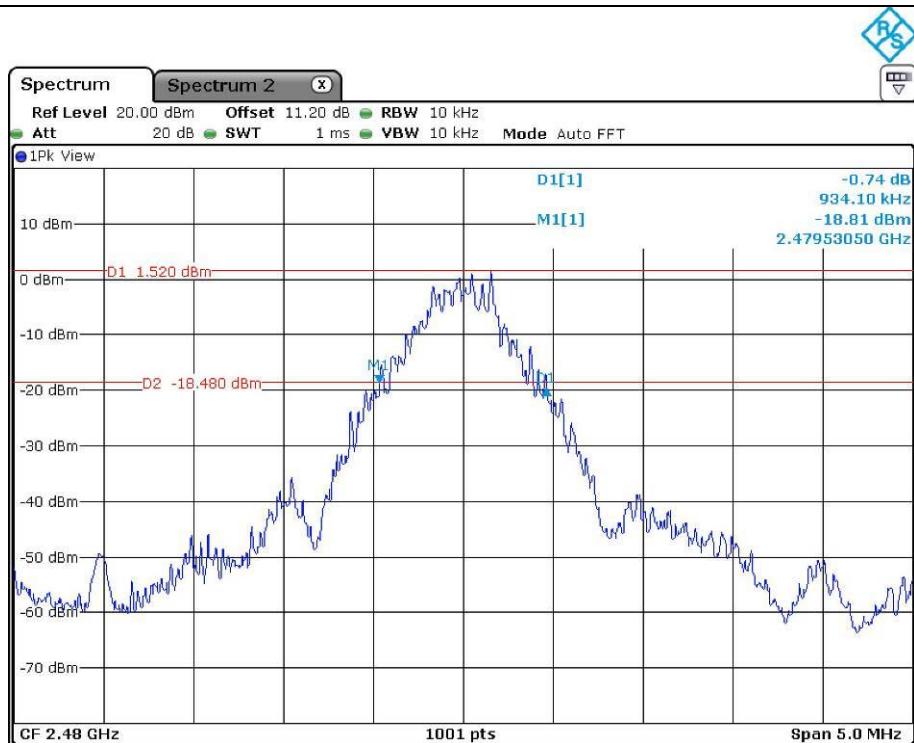
| CHANNEL | FREQUENCY (MHz) | 20 dB Bandwidth (kHz) |
|---------|-----------------|-----------------------|
| Low     | 2 402.00        | 929.10                |
| Middle  | 2 441.00        | 924.10                |
| High    | 2 480.00        | 934.10                |

Tested by: Tae-Ho, Kim / Senior Manager





Middle Channel



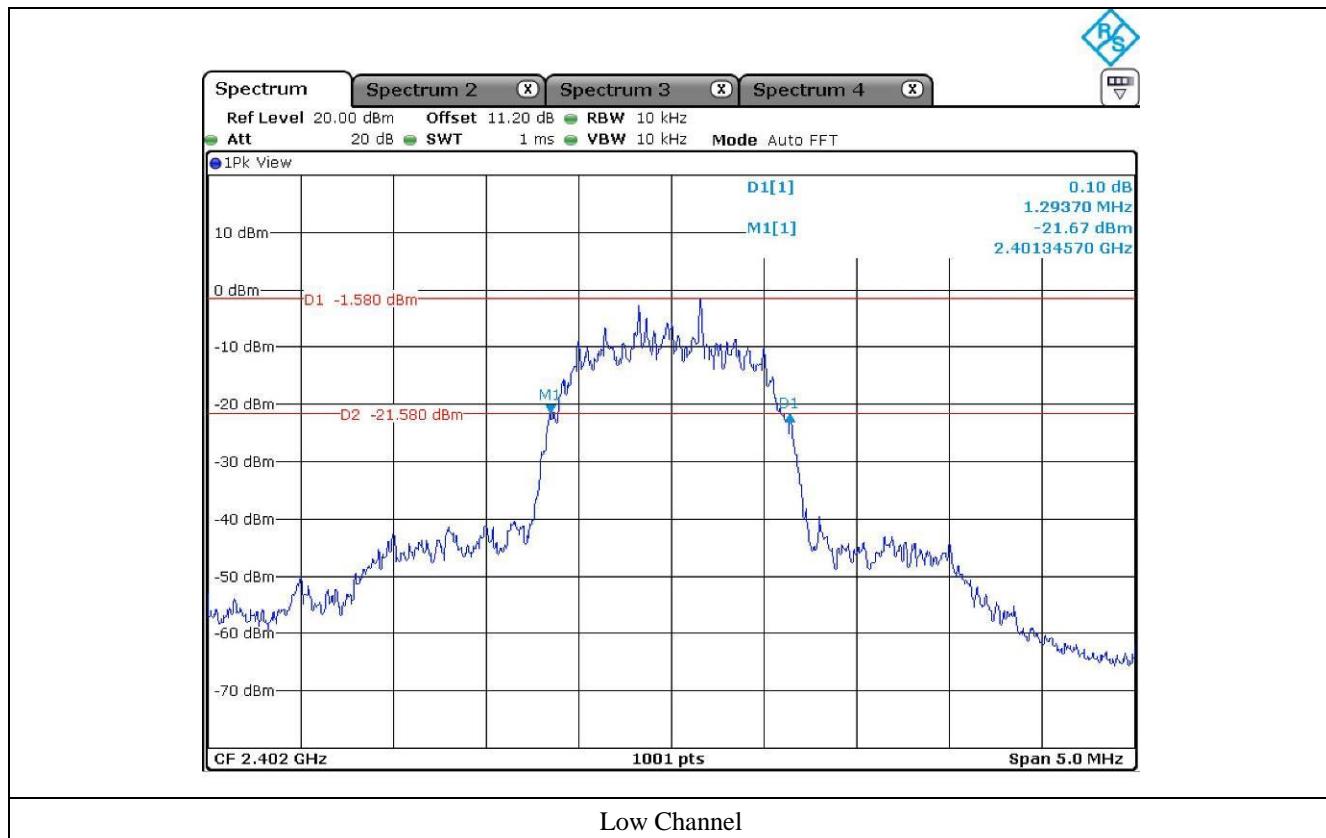
High Channel

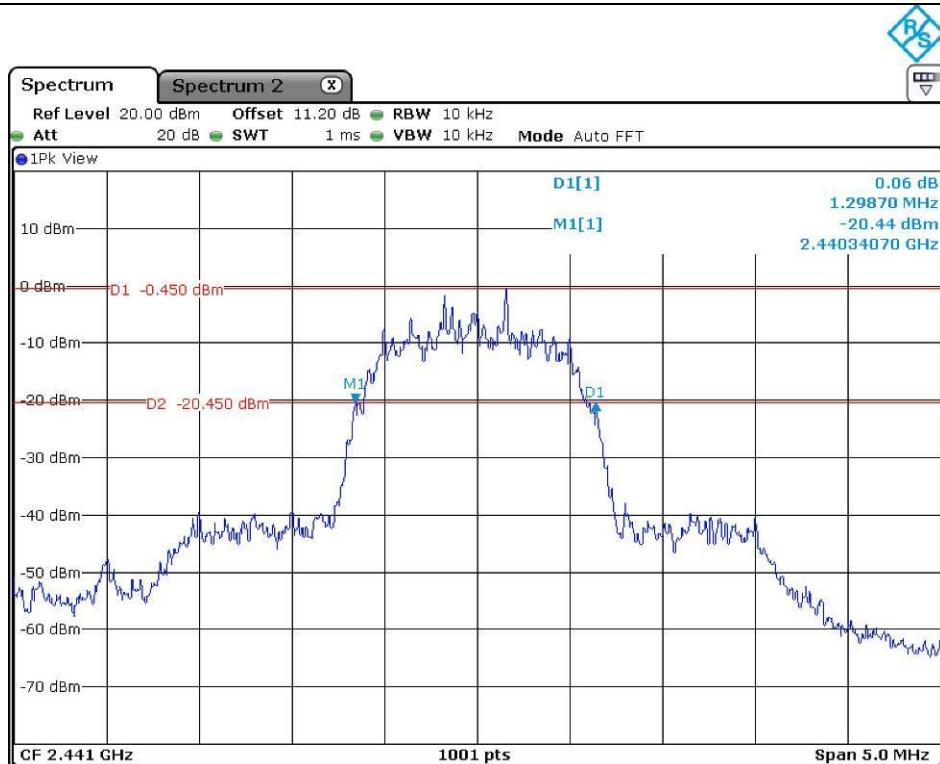
## 7.5 Test data for 2 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

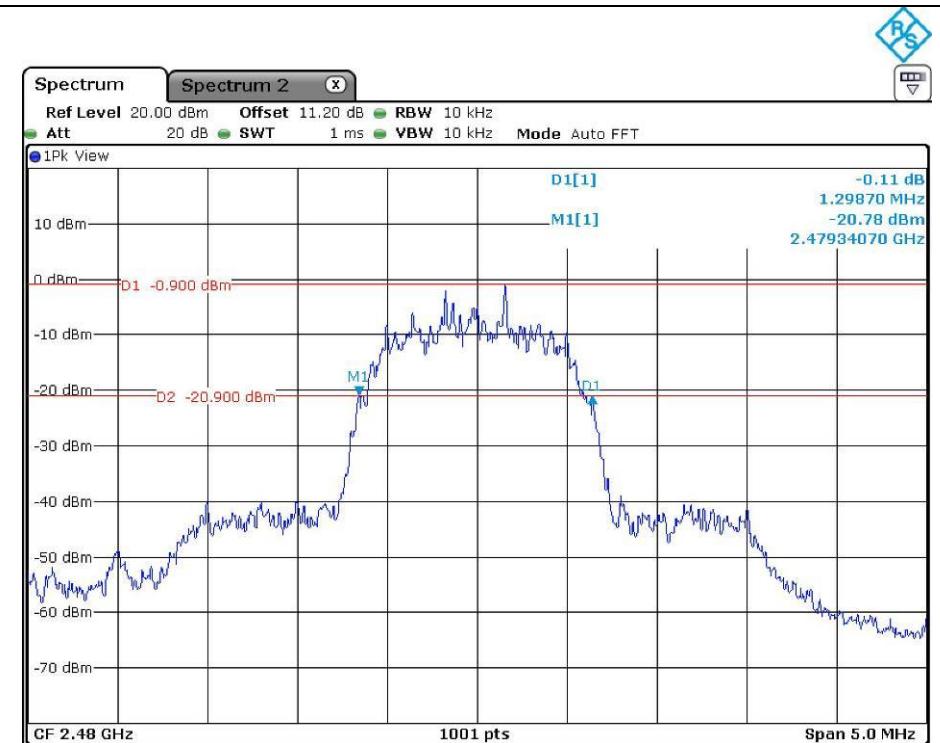
| CHANNEL | FREQUENCY (MHz) | 20 dB Bandwidth (kHz) |
|---------|-----------------|-----------------------|
| Low     | 2 402.00        | 1 293.70              |
| Middle  | 2 441.00        | 1 298.70              |
| High    | 2 480.00        | 1 298.70              |

Tested by: Tae-Ho, Kim / Senior Manager





Middle Channel



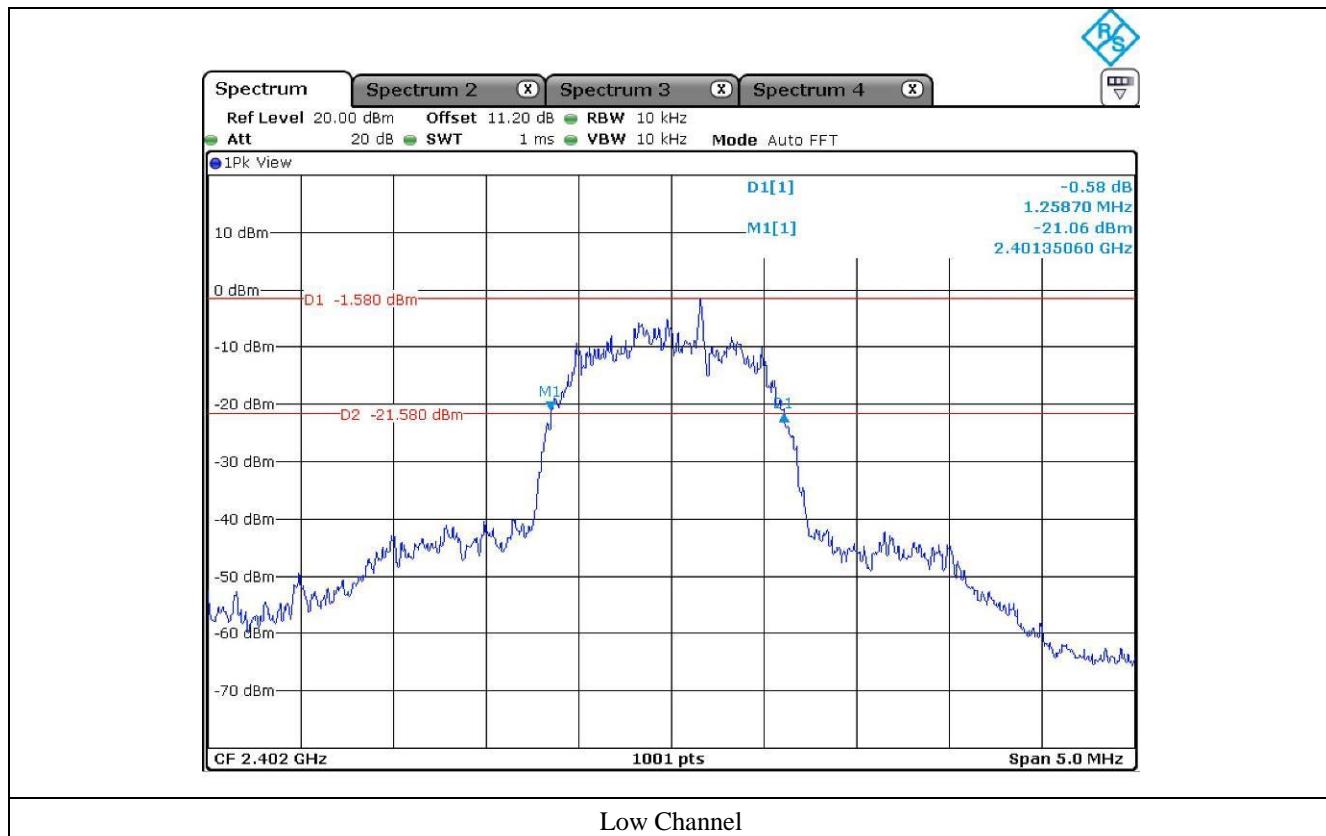
High Channel

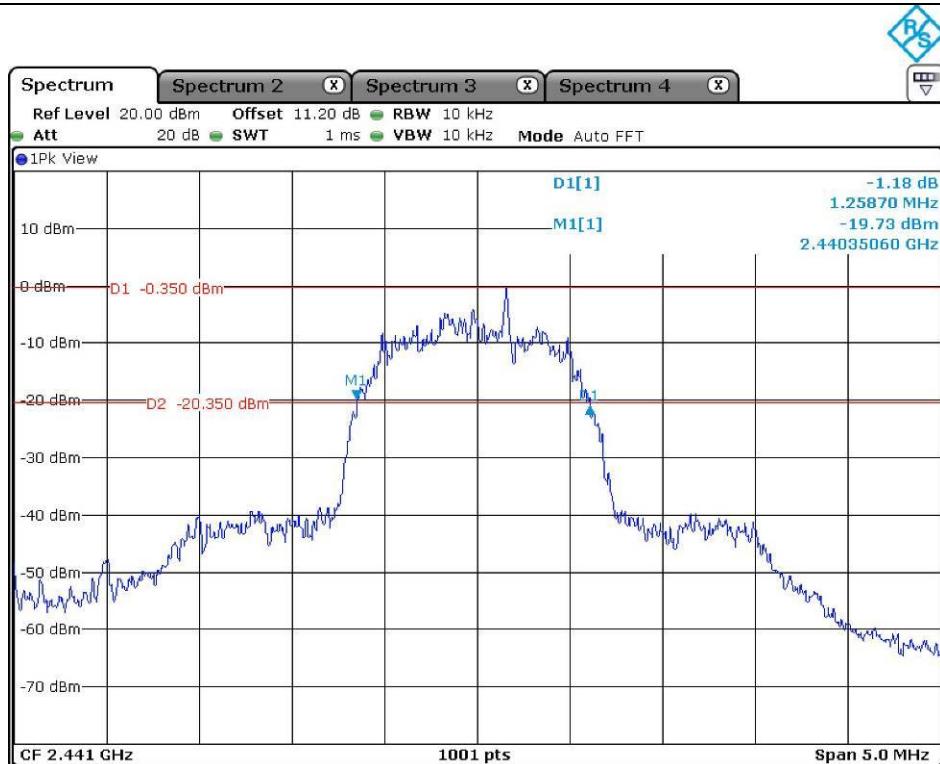
## 7.6 Test data for 3 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

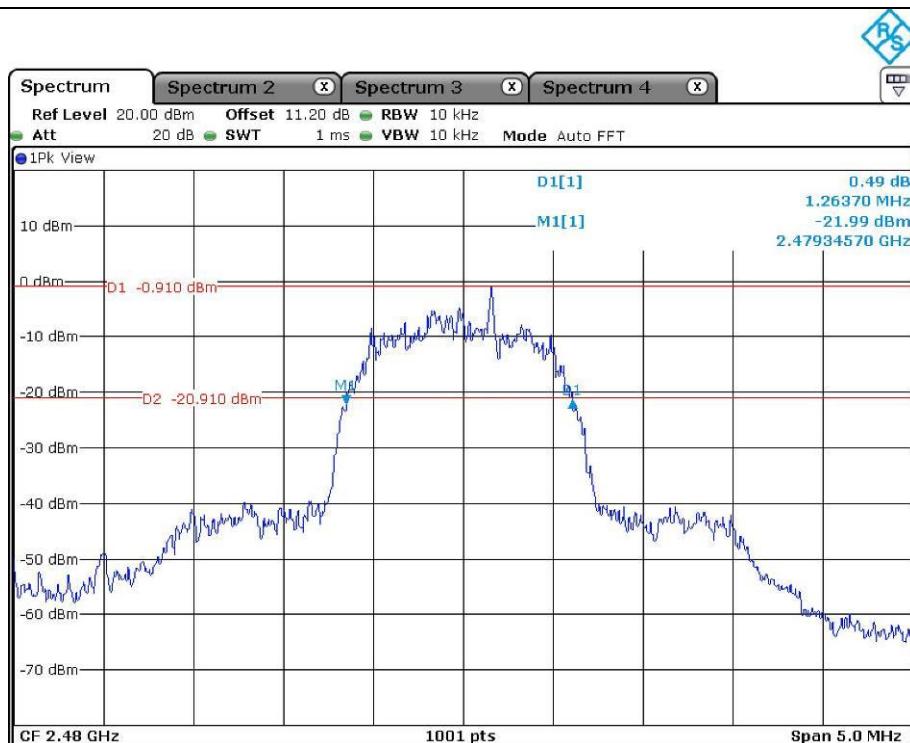
| CHANNEL | FREQUENCY (MHz) | 20 dB Bandwidth (kHz) |
|---------|-----------------|-----------------------|
| Low     | 2 402.00        | 1 258.70              |
| Middle  | 2 441.00        | 1 258.70              |
| High    | 2 480.00        | 1 263.70              |

Tested by: Tae-Ho, Kim / Senior Manager





## Middle Channel



## High Channel

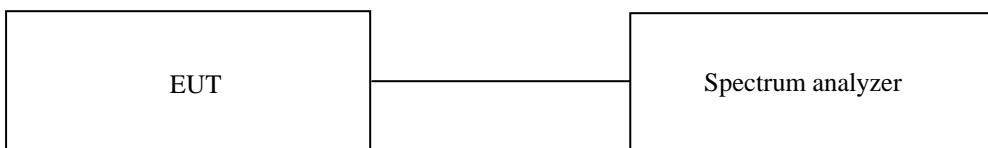
## 8. HOPPING FREQUENCY SEPARATION

### 8.1 Operating environment

Temperature : 22.4 °C  
Relative humidity : 43.8 % R.H.

### 8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 10 MHz. The analyzer is set to peak hold then a pseudo-random hopping sequence of the transmitter is captured. The mark delta function was used to measure the frequency separation between two adjacent hopping channels.



### 8.3 Test equipment used

| Model Number | Manufacturer    | Description      | Serial Number | Last Cal.          |
|--------------|-----------------|------------------|---------------|--------------------|
| ■ - FSV40    | Rohde & Schwarz | Signal Analyzer  | 101009        | Mar. 14, 2018 (1Y) |
| ■ - TC-3000C | TESCOM          | BLUETOOTH TESTER | 3000C000634   | Mar. 15, 2018 (1Y) |

All test equipment used is calibrated on a regular basis.

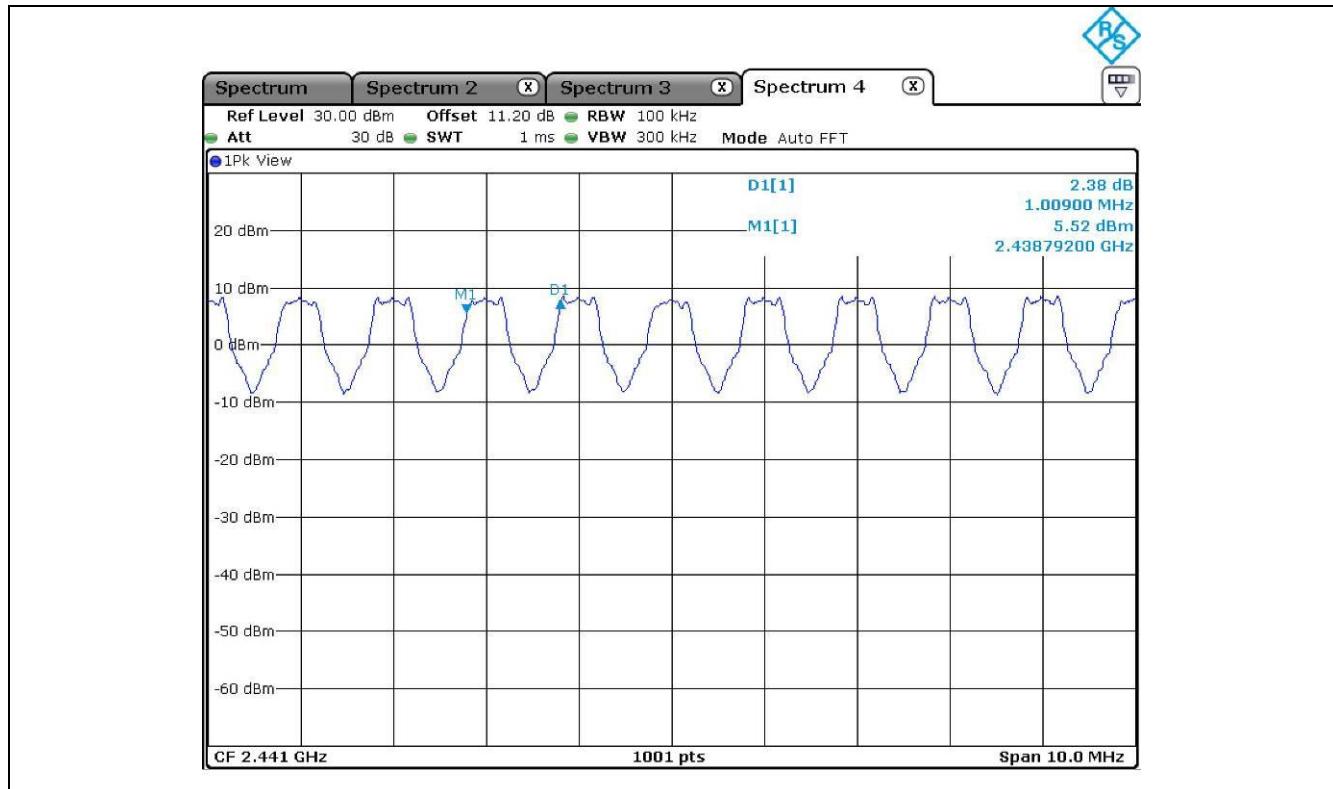
#### 8.4 Test data for 1 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

- Test Result : Pass

| MEASURED VLAUE (kHz) | Two-third of 20 dB Bandwidth (kHz) | LIMIT                            |
|----------------------|------------------------------------|----------------------------------|
| 1 009.00             | 619.40                             | Separated by a minimum of 25 kHz |

Tested by: Tae-Ho, Kim / Senior Manager



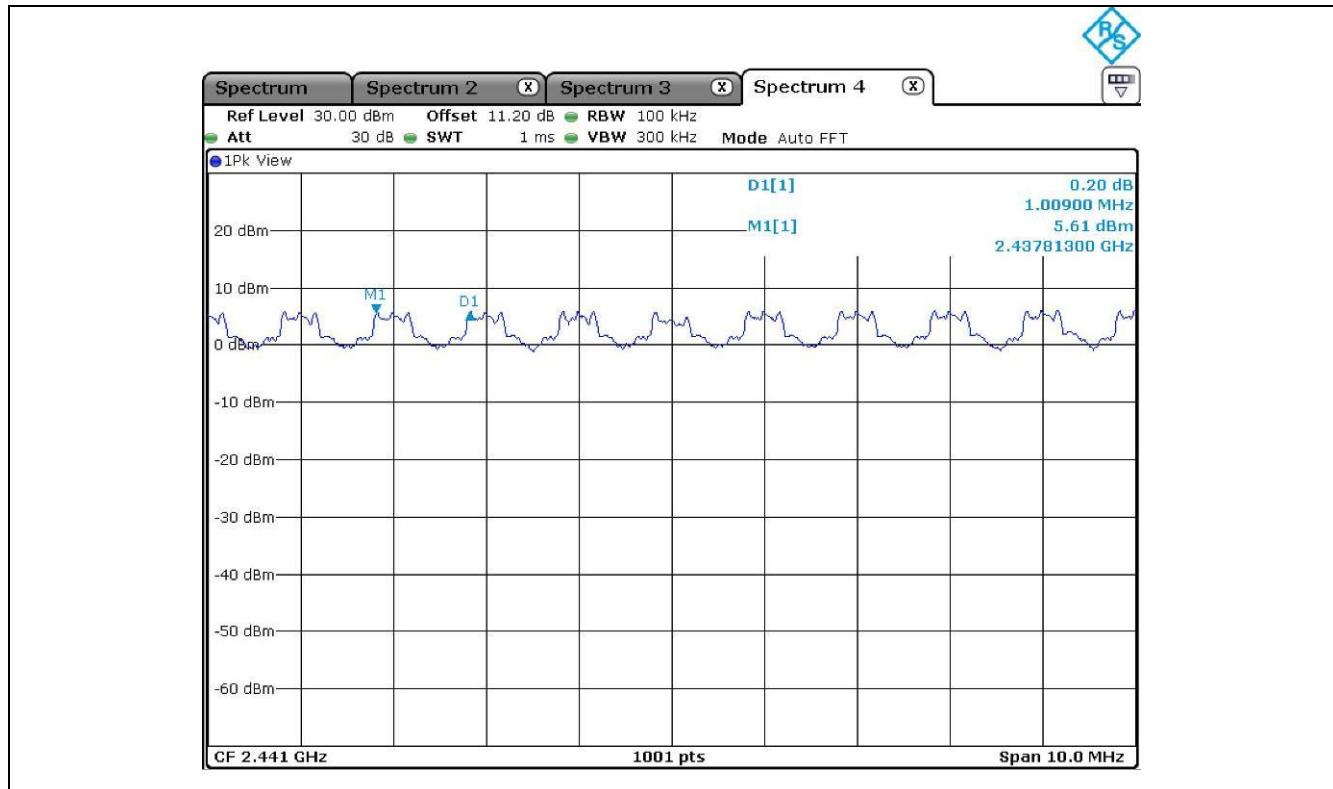
### 8.5 Test data for 2 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

- Test Result : Pass

| MEASURED VALUE (kHz) | Two-third of 20 dB Bandwidth (kHz) | LIMIT                            |
|----------------------|------------------------------------|----------------------------------|
| 1 009.00             | 842.47                             | Separated by a minimum of 25 kHz |

Tested by: Tae-Ho, Kim / Senior Manager



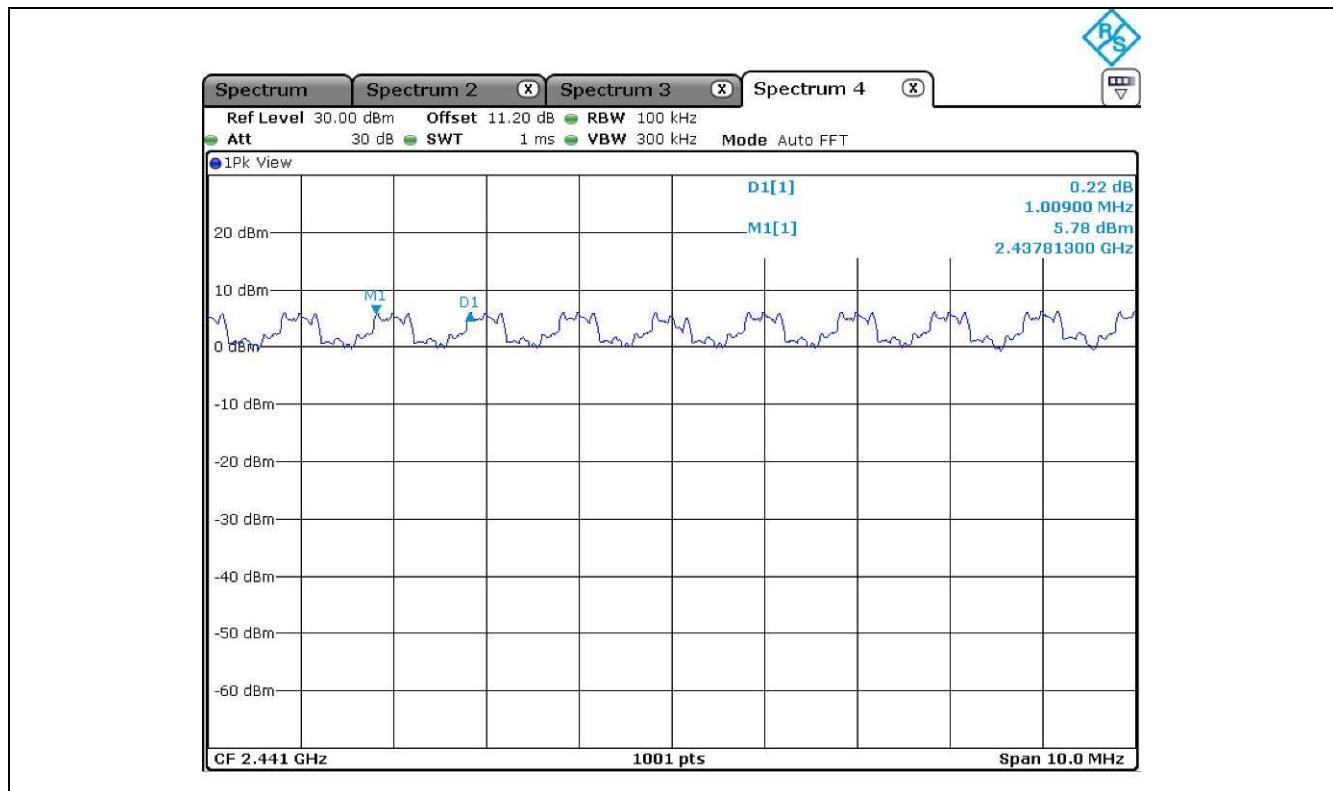
### 8.6 Test data for 3 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

- Test Result : Pass

| MEASURED VALUE (kHz) | Two-third of 20 dB Bandwidth (kHz) | LIMIT                            |
|----------------------|------------------------------------|----------------------------------|
| 1 009.00             | 869.13                             | Separated by a minimum of 25 kHz |

Tested by: Tae-Ho, Kim / Senior Manager



## 9. NUMBER OF HOPPING CHANNELS

### 9.1 Operating environment

Temperature : 22.4 °C  
Relative humidity : 43.8 % R.H.

### 9.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The frequency span is set to 100 MHz and the resolution bandwidth is set to 1 MHz. The analyzer is set to peak hold and then complete pseudo-random hopping sequence of the transmitter is captured.



### 9.3 Test equipment used

| Model Number | Manufacturer    | Description      | Serial Number | Last Cal.          |
|--------------|-----------------|------------------|---------------|--------------------|
| ■ - FSV40    | Rohde & Schwarz | Signal Analyzer  | 101009        | Mar. 14, 2018 (1Y) |
| ■ - TC-3000C | TESCOM          | BLUETOOTH TESTER | 3000C000634   | Mar. 15, 2018 (1Y) |

All test equipment used is calibrated on a regular basis.

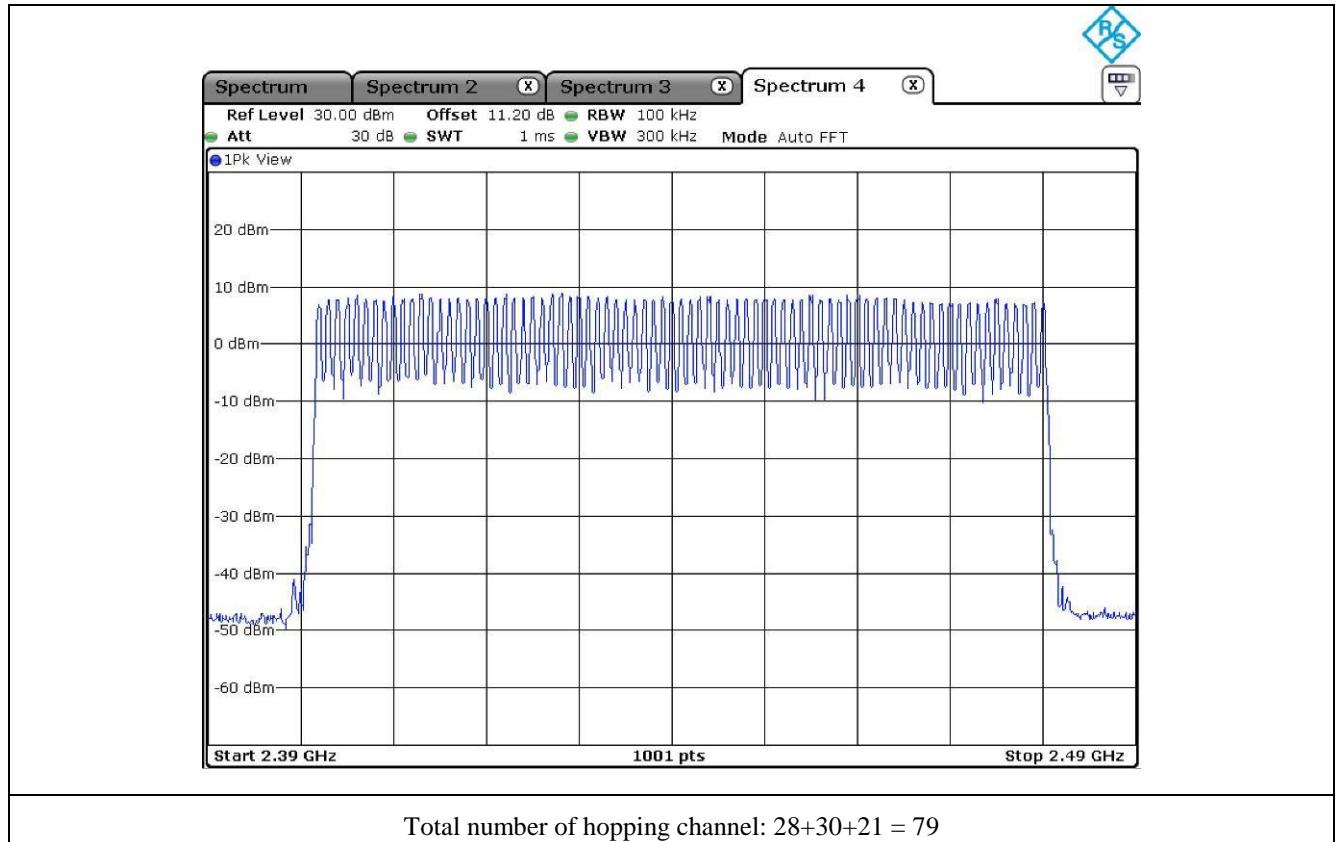
#### 9.4 Test data for 1 Mbps

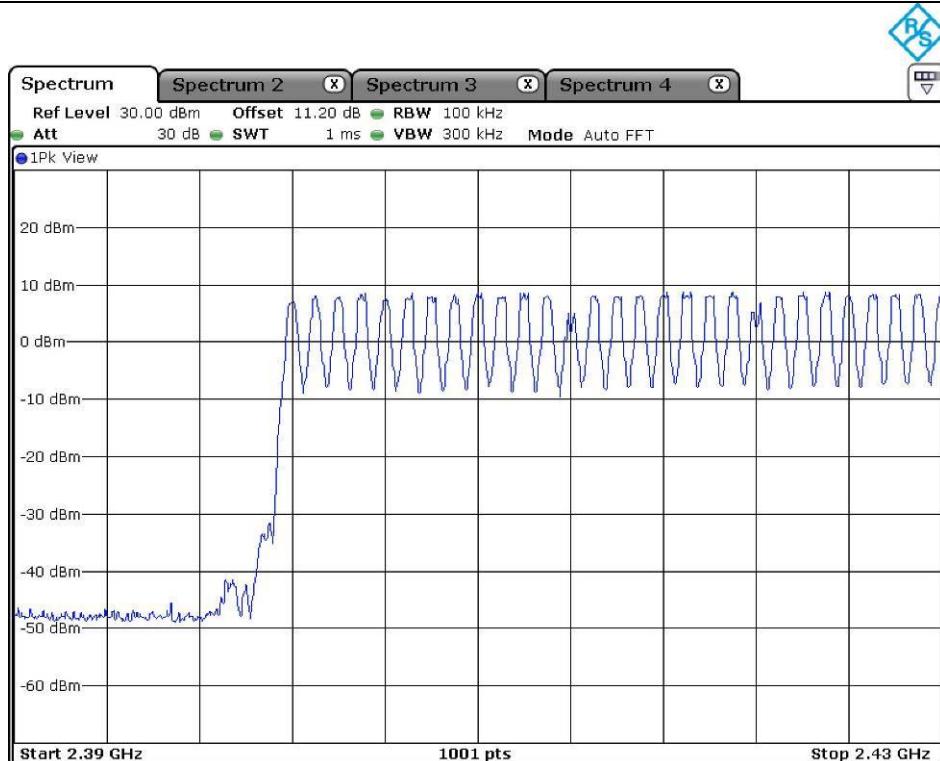
- Test Date : June 12, 2018 ~ June 15, 2018

- Test Result : Pass

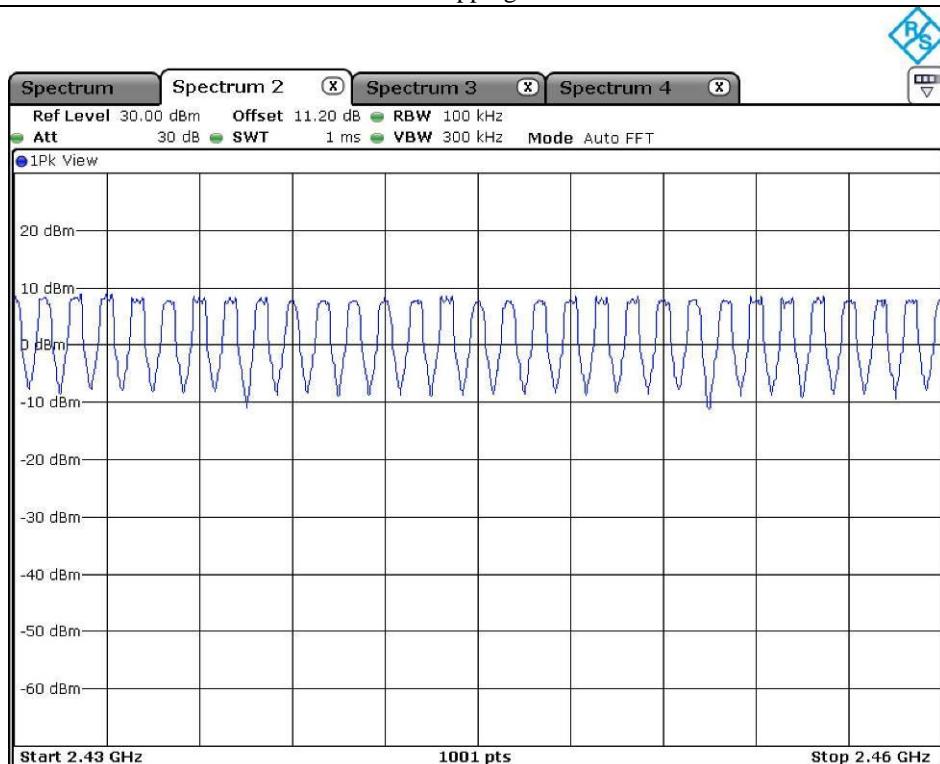
| Data Transfer Rate | Measured value (Number) | Limit (Number) | Margin (Number) |
|--------------------|-------------------------|----------------|-----------------|
| 1 Mbps             | 79                      | Minimum of 15  | 64              |

Tested by: Tae-Ho, Kim / Senior Manager

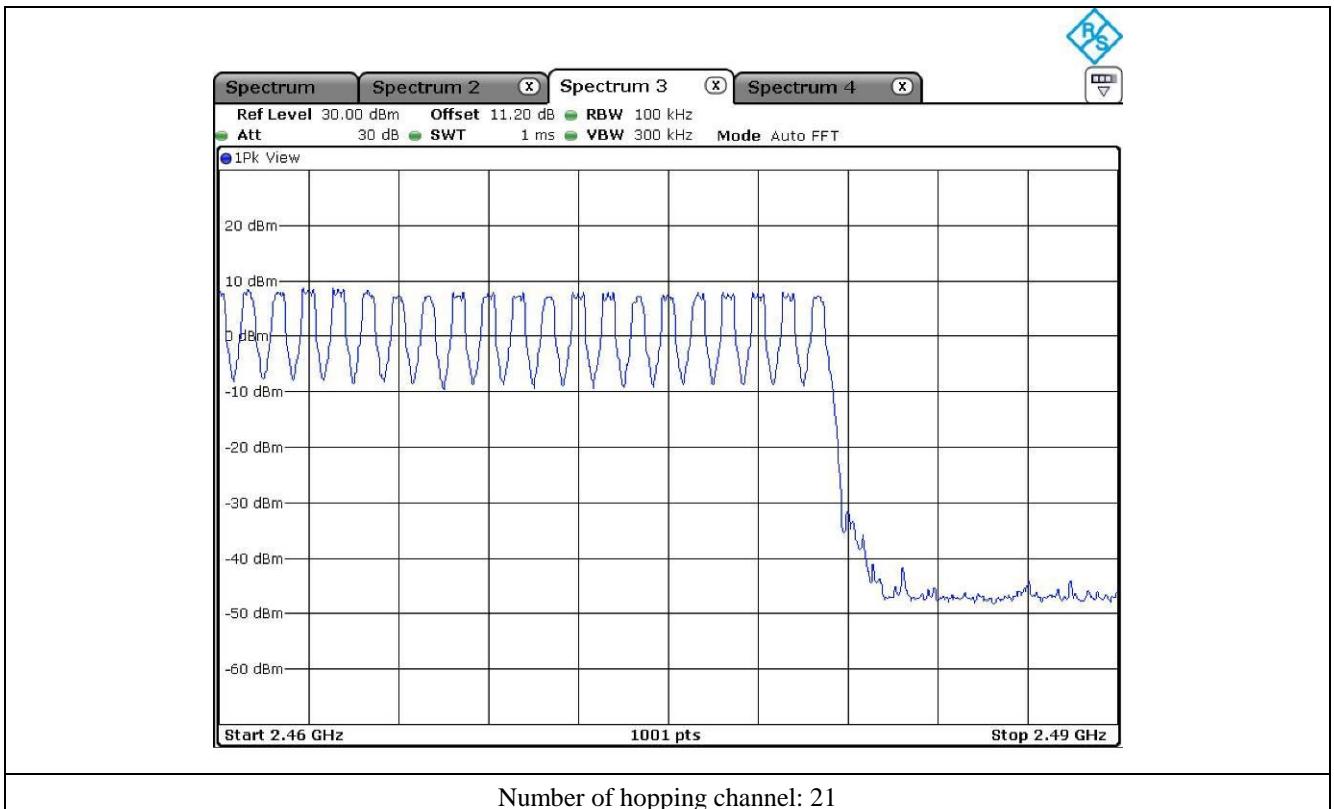




Number of hopping channel: 28



Number of hopping channel: 30



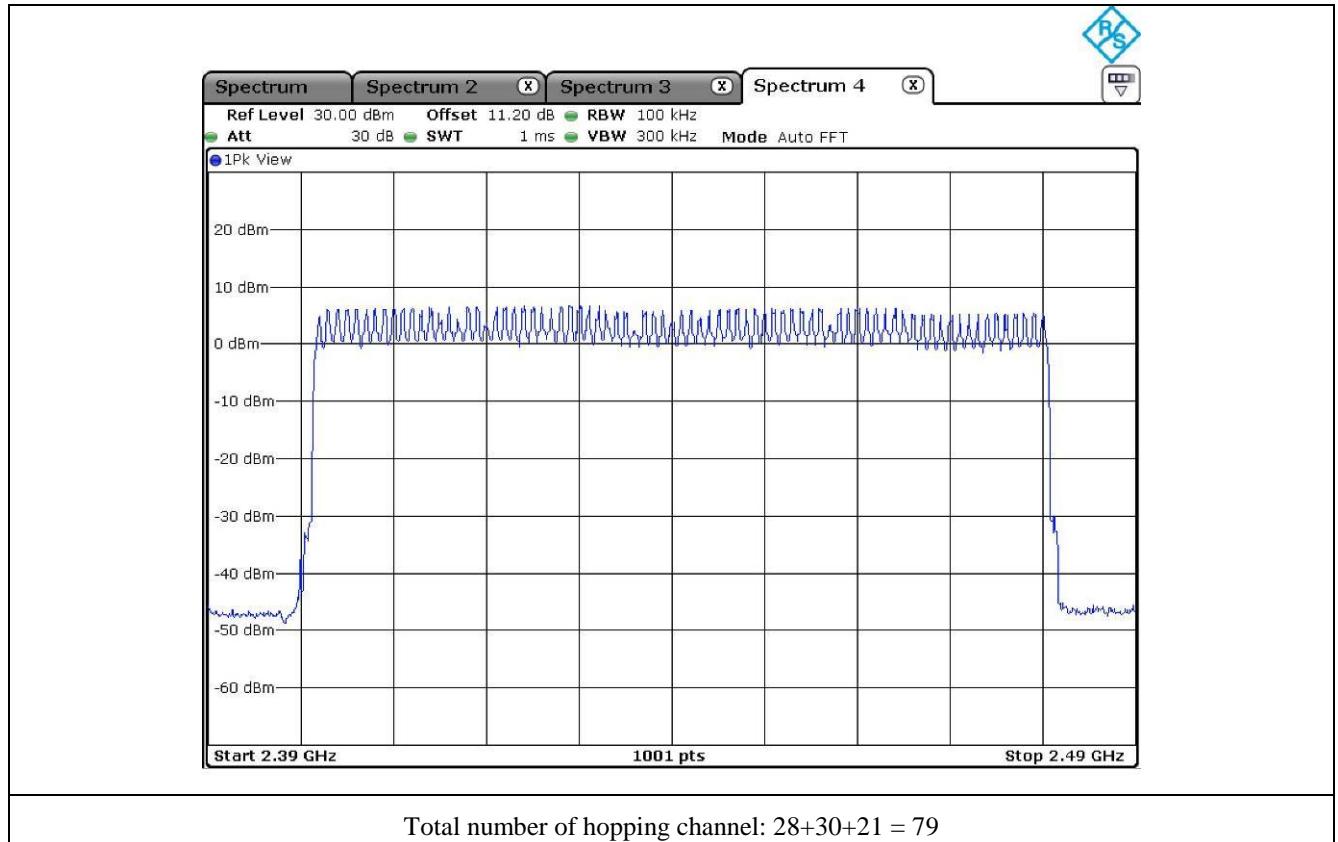
### 9.5 Test data for 2 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

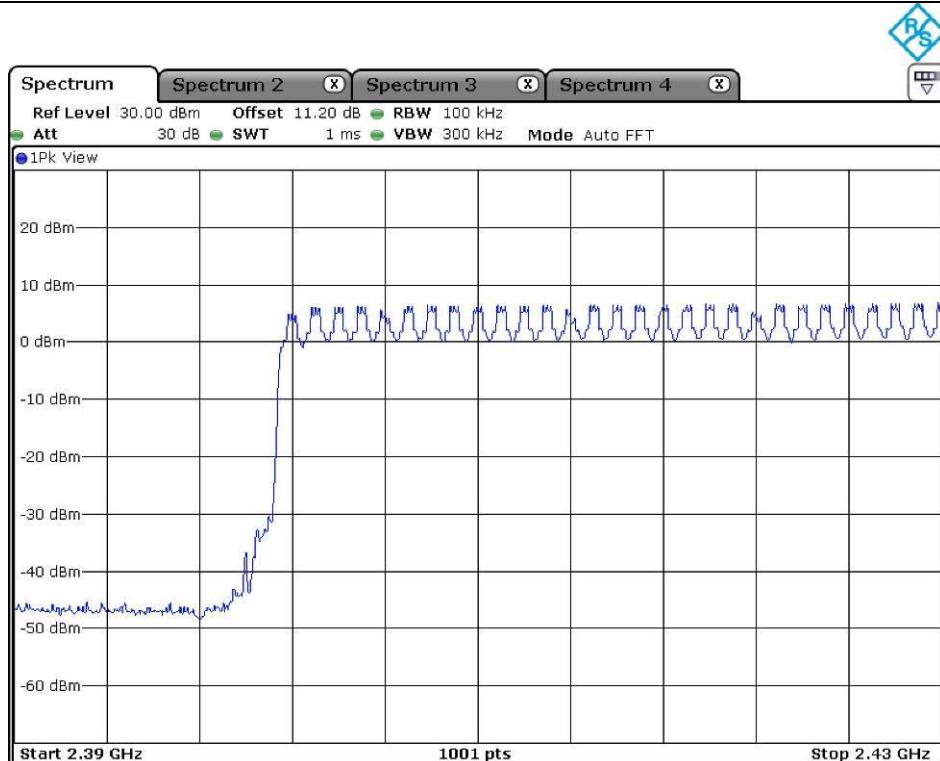
- Test Result : Pass

| Data Transfer Rate | Measured value (Number) | Limit (Number) | Margin (Number) |
|--------------------|-------------------------|----------------|-----------------|
| 2 Mbps             | 79                      | Minimum of 15  | 64              |

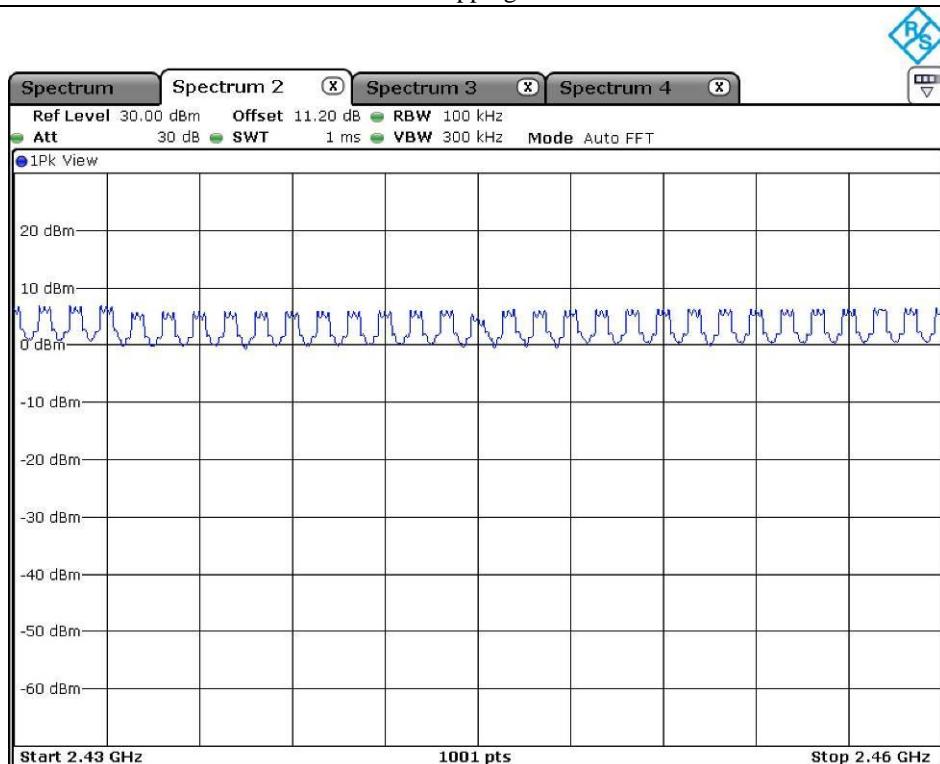
Tested by: Tae-Ho, Kim / Senior Manager



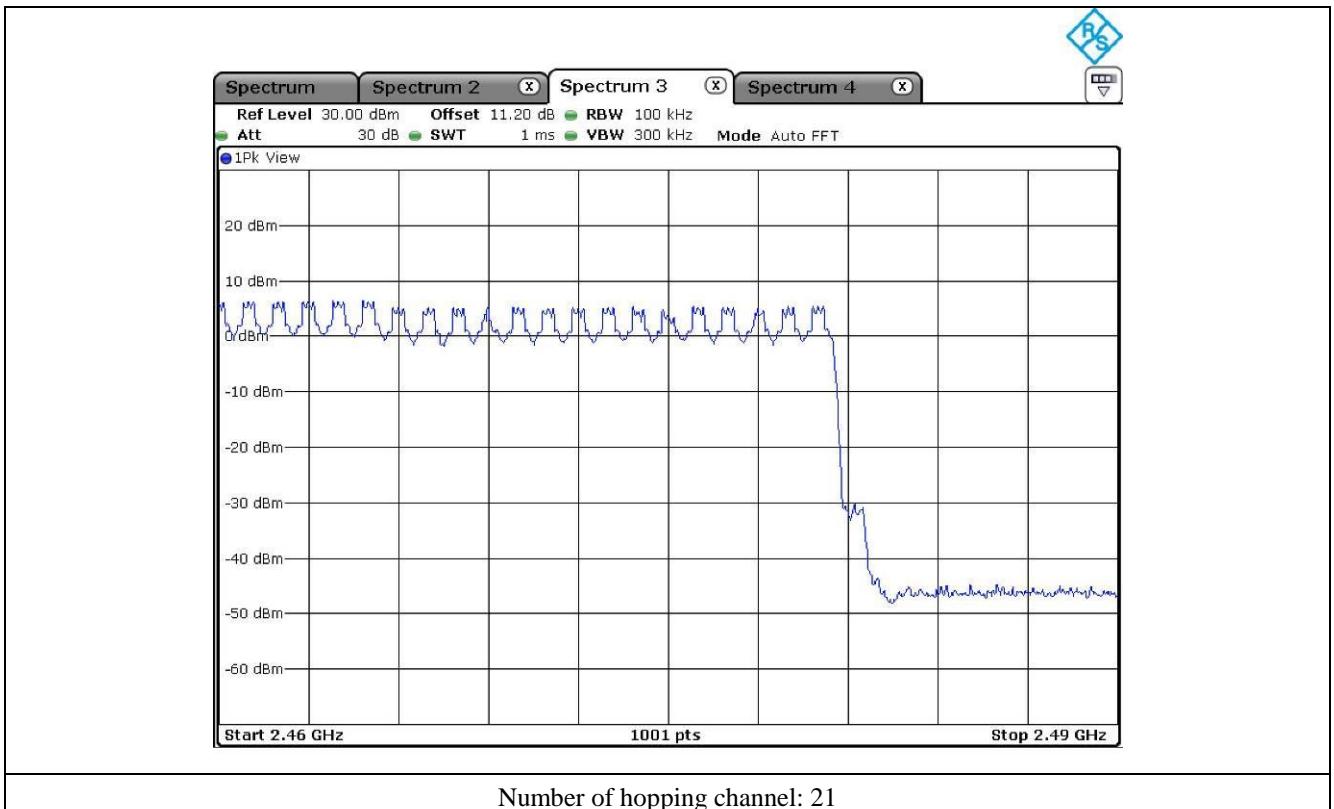
Total number of hopping channel:  $28+30+21 = 79$



Number of hopping channel: 28



Number of hopping channel: 30



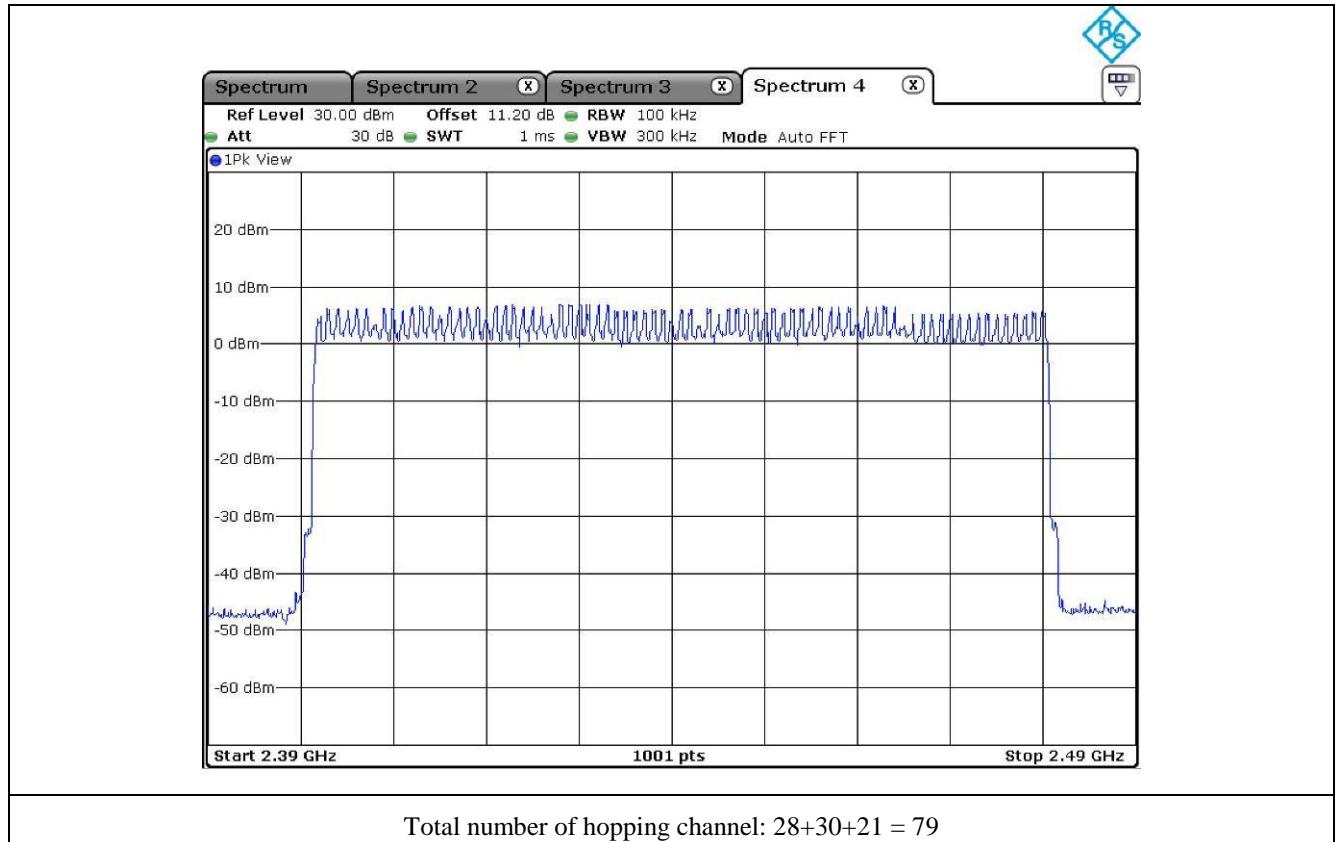
## 9.6 Test data for 3 Mbps

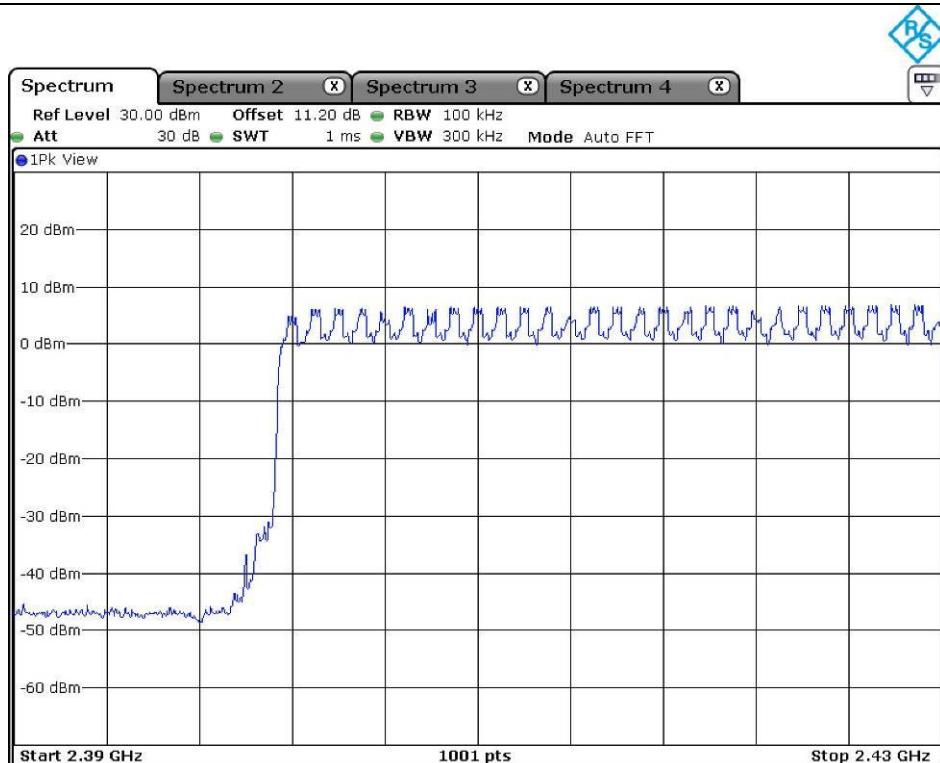
- Test Date : June 12, 2018 ~ June 15, 2018

- Test Result : Pass

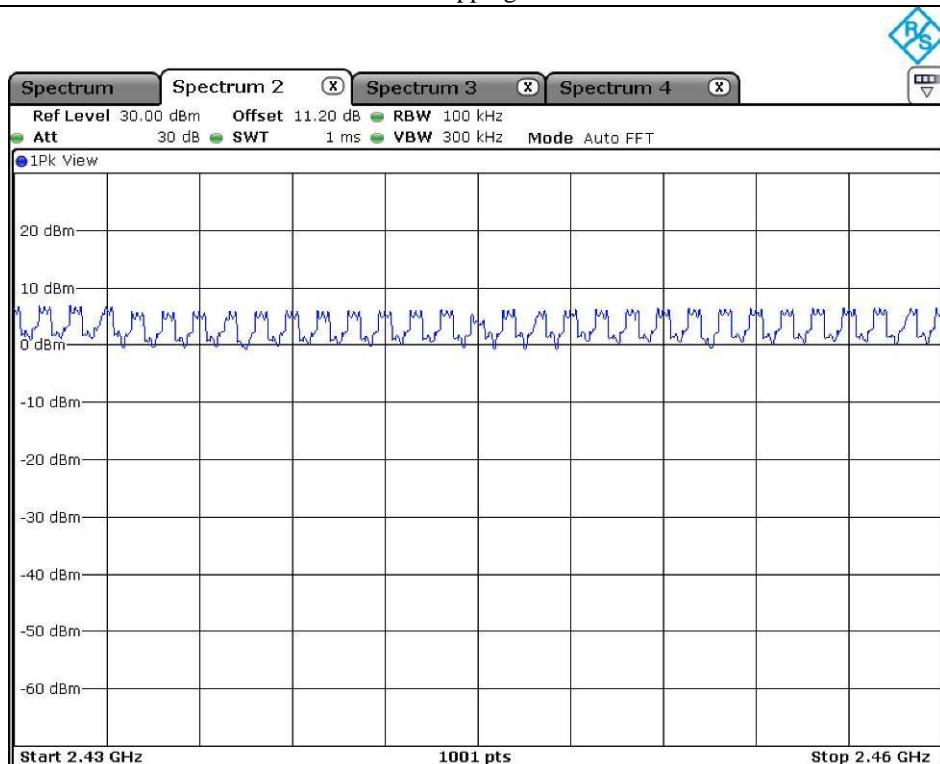
| Data Transfer Rate | Measured value (Number) | Limit (Number) | Margin (Number) |
|--------------------|-------------------------|----------------|-----------------|
| 3 Mbps             | 79                      | Minimum of 15  | 64              |

Tested by: Tae-Ho, Kim / Senior Manager

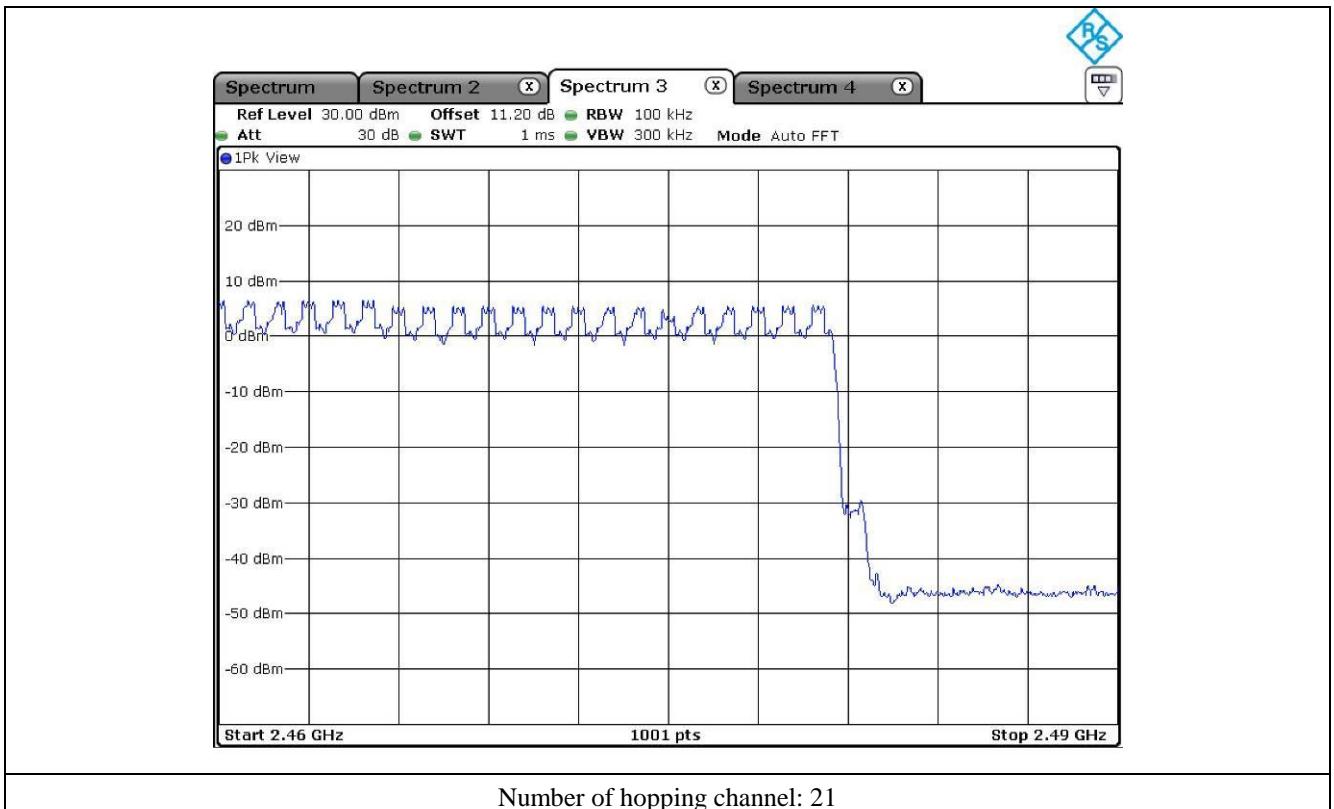




Number of hopping channel: 28



Number of hopping channel: 30



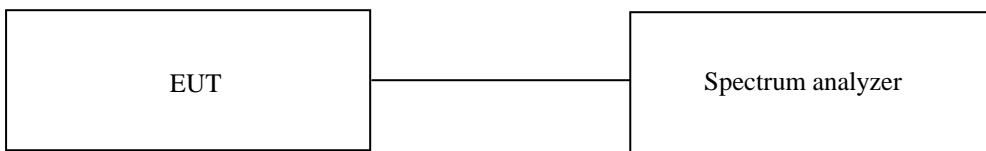
## 10. TIME OF OCCUPANCY

### 10.1 Operating environment

Temperature : 22.4 °C  
Relative humidity : 43.8 % R.H.

### 10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The transmitter is set to operate in its normal frequency hopping mode. The center frequency of the spectrum analyzer is set to one of hopping channels near the center of the operating band and span is set to zero Hz. The sweep time is set to display one complete pulse. The mark delta function is used to measure the duration of the pulses.



### 10.3 Test equipment used

| Model Number | Manufacturer    | Description      | Serial Number | Last Cal.          |
|--------------|-----------------|------------------|---------------|--------------------|
| ■ - FSV40    | Rohde & Schwarz | Signal Analyzer  | 101009        | Mar. 14, 2018 (1Y) |
| ■ - TC-3000C | TESCOM          | BLUETOOTH TESTER | 3000C000634   | Mar. 15, 2018 (1Y) |

All test equipment used is calibrated on a regular basis.

#### 10.4 Test data for 1 Mbps

- . Test Date : June 12, 2018 ~ June 15, 2018

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625  $\mu$ s with 79 channels.

For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second (= 1 600/2/79) for DH1, and 5.06 times (= 1 600/4/79) for DH3, and 3.38 times (= 1 600/6/79) for DH5.

| Packet Type | Pulse Time<br>(ms) | Hops per second<br>with channels | Period Time<br>(ms) | Total Dwell<br>Time (ms) | Limit<br>(ms) | Test Result |
|-------------|--------------------|----------------------------------|---------------------|--------------------------|---------------|-------------|
| DH1         | 0.400              | 10.13                            | 31.6                | 128.04                   | 400           | PASS        |
| DH3         | 1.660              | 5.06                             | 31.6                | 265.43                   | 400           |             |
| DH5         | 2.920              | 3.38                             | 31.6                | 311.88                   | 400           |             |

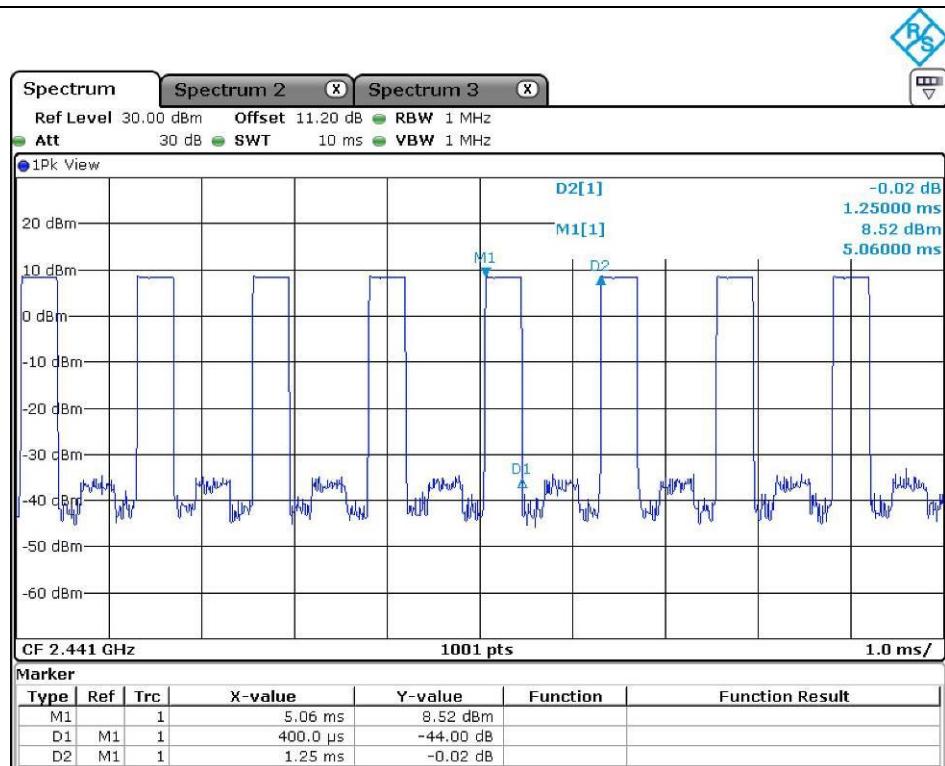
Total dwell time is calculated as following.

Total Dwell Time = Pulse time \* Hops per second with channels \* period time

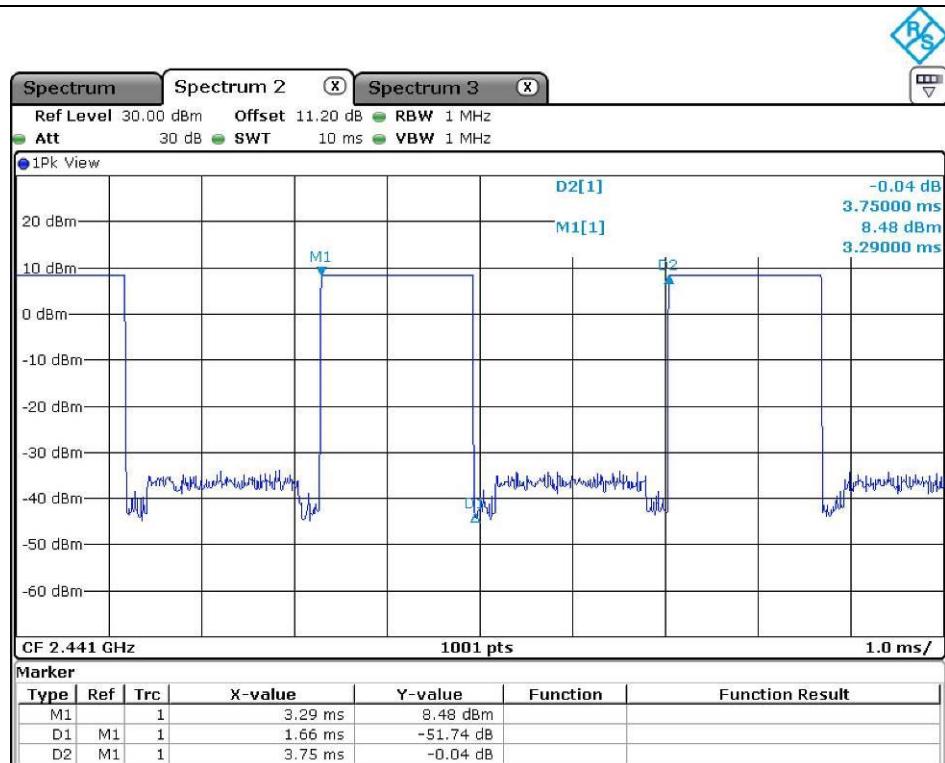
Remark: See next page for an overview sweep performed with peak detector.



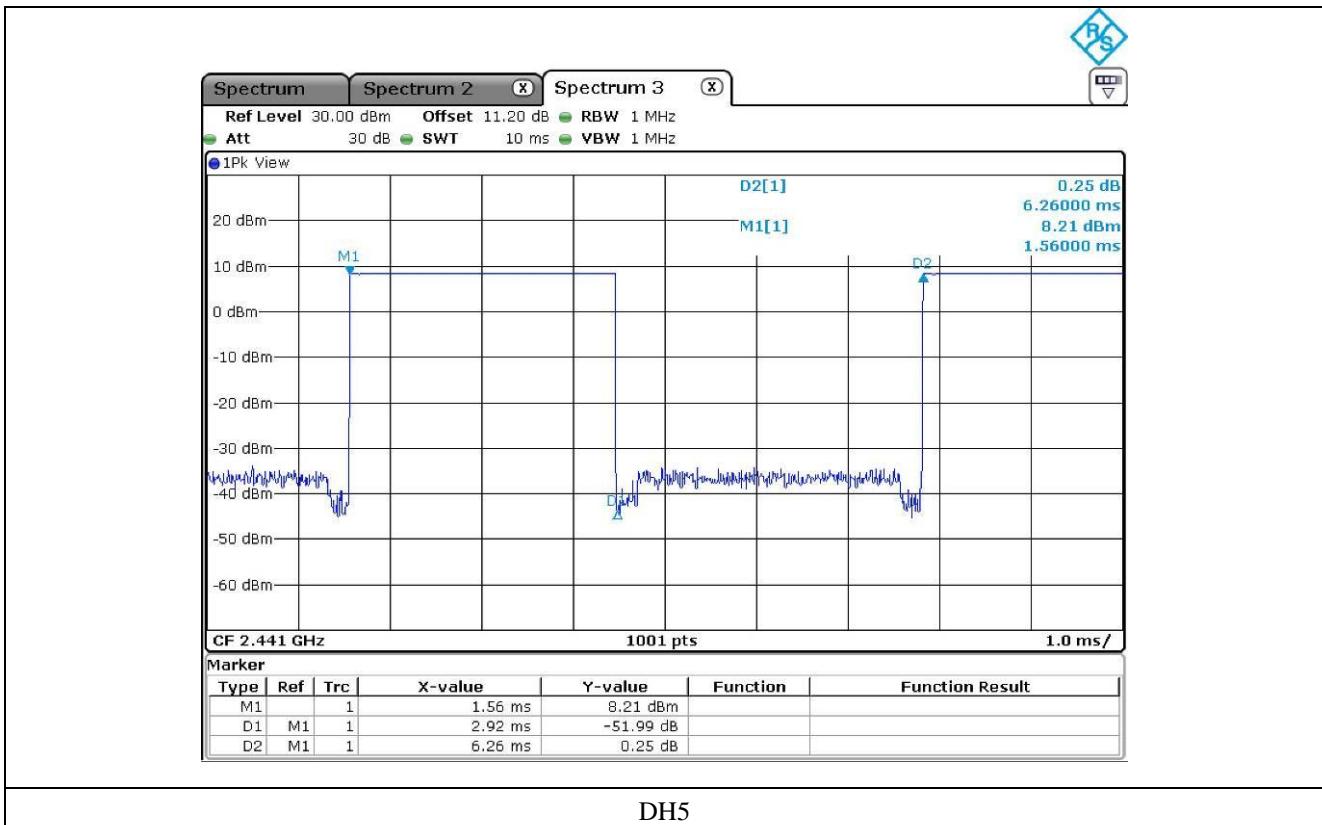
Tested by: Tae-Ho, Kim / Senior Manager



DH1



DH3



## 10.5 Test data for 2 Mbps

- . Test Date : June 12, 2018 ~ June 15, 2018

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625  $\mu$ s with 79 channels.

For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second (= 1 600/2/79) for DH1, and 5.06 times (= 1 600/4/79) for DH3, and 3.38 times (= 1 600/6/79) for DH5.

| Packet Type | Pulse Time<br>(ms) | Hops per second<br>with channels | Period Time<br>(ms) | Total Dwell<br>Time (ms) | Limit<br>(ms) | Test Result |
|-------------|--------------------|----------------------------------|---------------------|--------------------------|---------------|-------------|
| DH1         | 0.420              | 10.13                            | 31.6                | 134.45                   | 400           | PASS        |
| DH3         | 1.670              | 5.06                             | 31.6                | 267.03                   | 400           |             |
| DH5         | 2.920              | 3.38                             | 31.6                | 311.88                   | 400           |             |

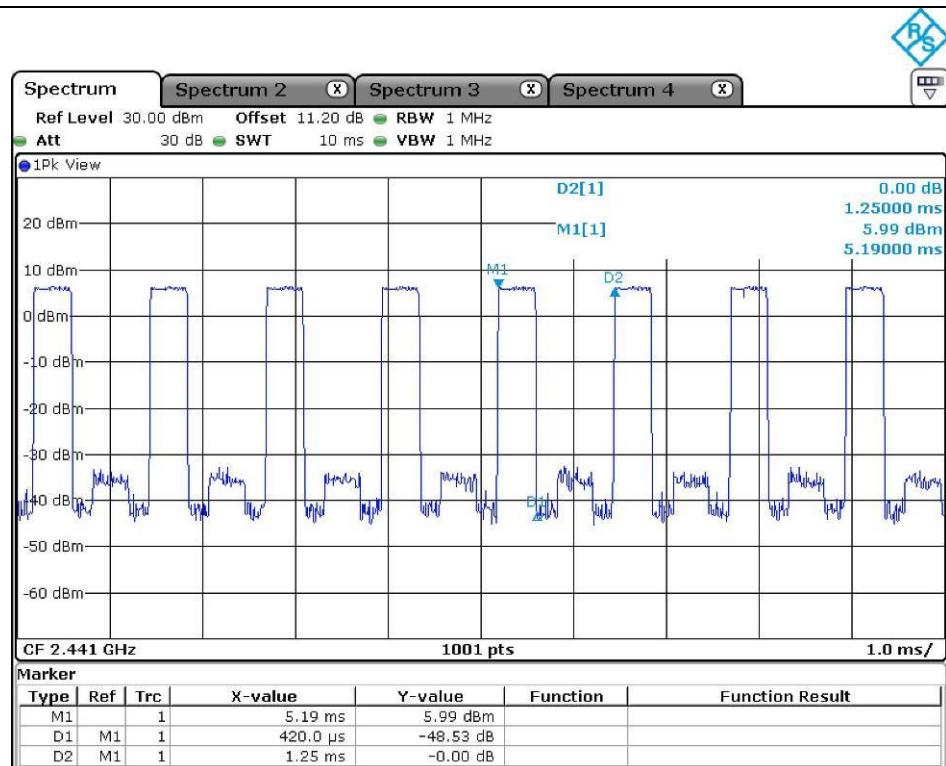
Total dwell time is calculated as following.

Total Dwell Time = Pulse time \* Hops per second with channels \* period time

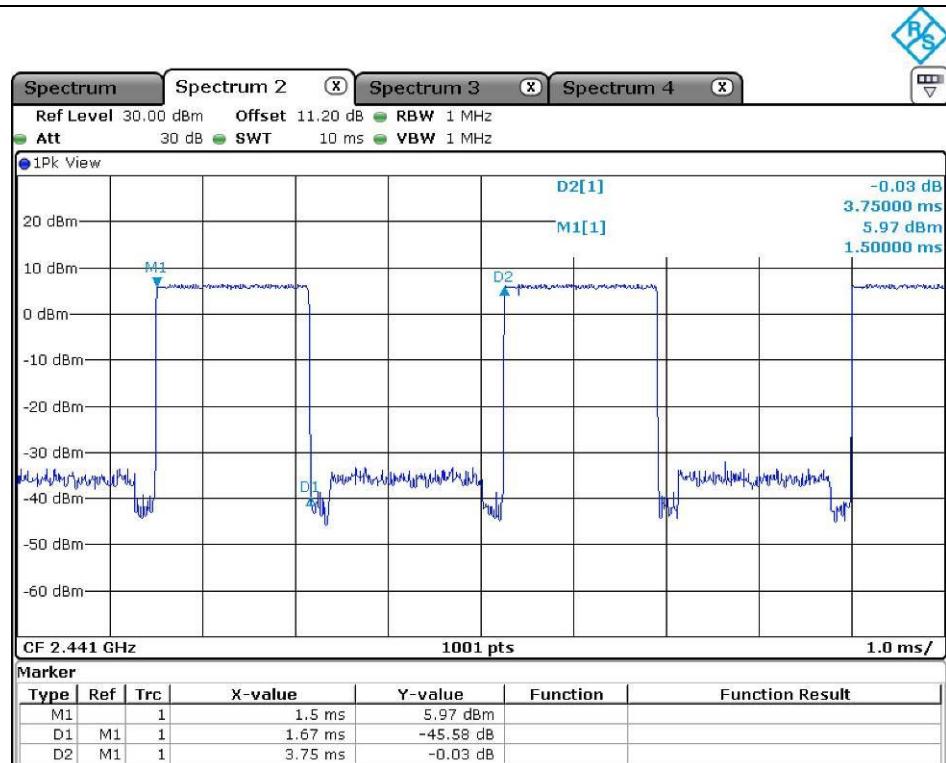
Remark: See next page for an overview sweep performed with peak detector.



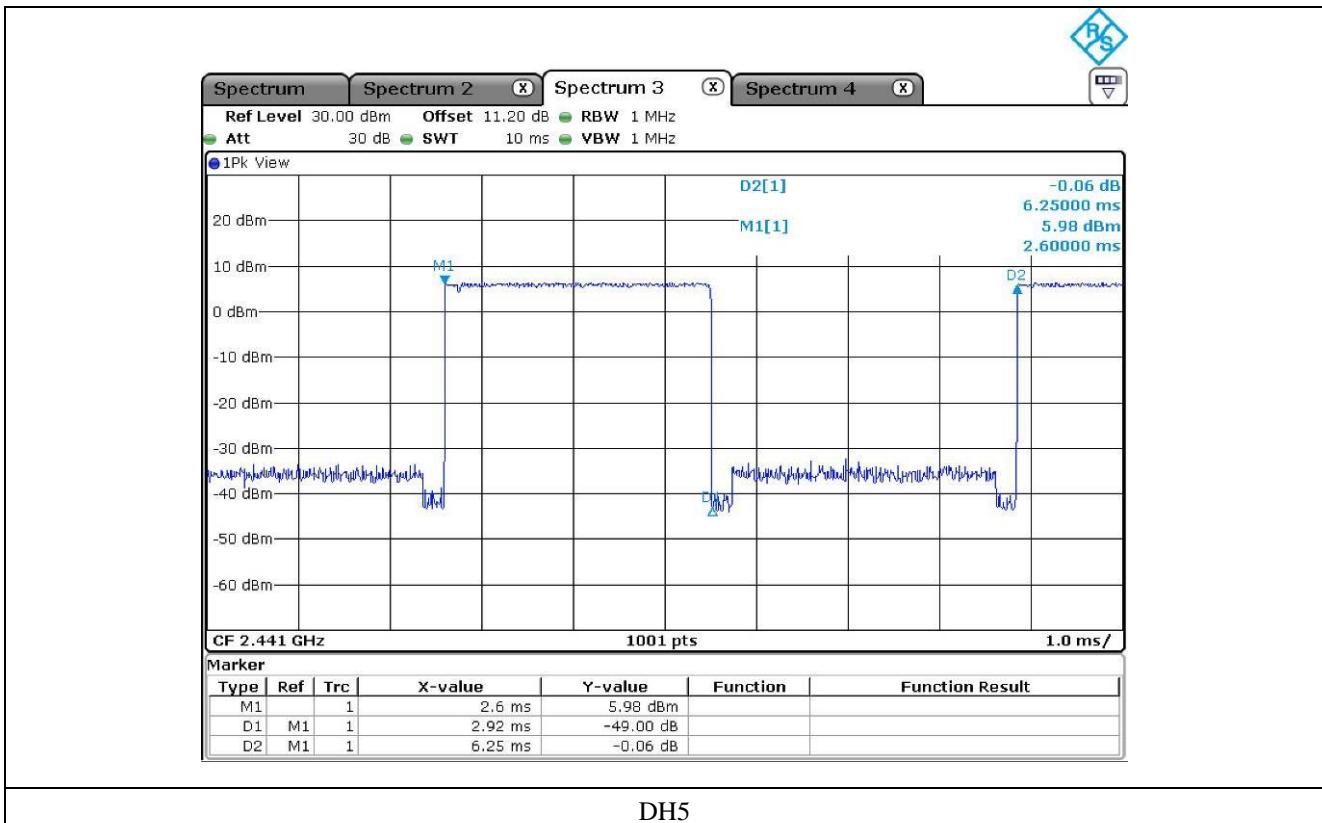
Tested by: Tae-Ho, Kim / Senior Manager



DH1



DH3



## 10.6 Test data for 3 Mbps

- Test Date : June 12, 2018 ~ June 15, 2018

The system makes worst case 1 600 hops per second or 1 time slot has a length of 625 µs with 79 channels.

For DH1 packet type, the EUT needs 1 time slot for transmitting and 1 time slot for receiving and for DH3 packet type, the EUT needs 3 times slots for transmitting and 1 time slot for receiving, and DH5 packet needs 5 times slots for transmitting and 1 time slot for receiving. So The EUT has each channel for 10.13 times per second (= 1 600/2/79) for DH1, and 5.06 times (= 1 600/4/79) for DH3, and 3.38 times (= 1 600/6/79) for DH5.

| Packet Type | Pulse Time<br>(ms) | Hops per second<br>with channels | Period Time<br>(ms) | Total Dwell<br>Time (ms) | Limit<br>(ms) | Test Result |
|-------------|--------------------|----------------------------------|---------------------|--------------------------|---------------|-------------|
| DH1         | 0.430              | 10.13                            | 31.6                | 137.65                   | 400           | PASS        |
| DH3         | 1.670              | 5.06                             | 31.6                | 267.03                   | 400           |             |
| DH5         | 2.930              | 3.38                             | 31.6                | 312.95                   | 400           |             |

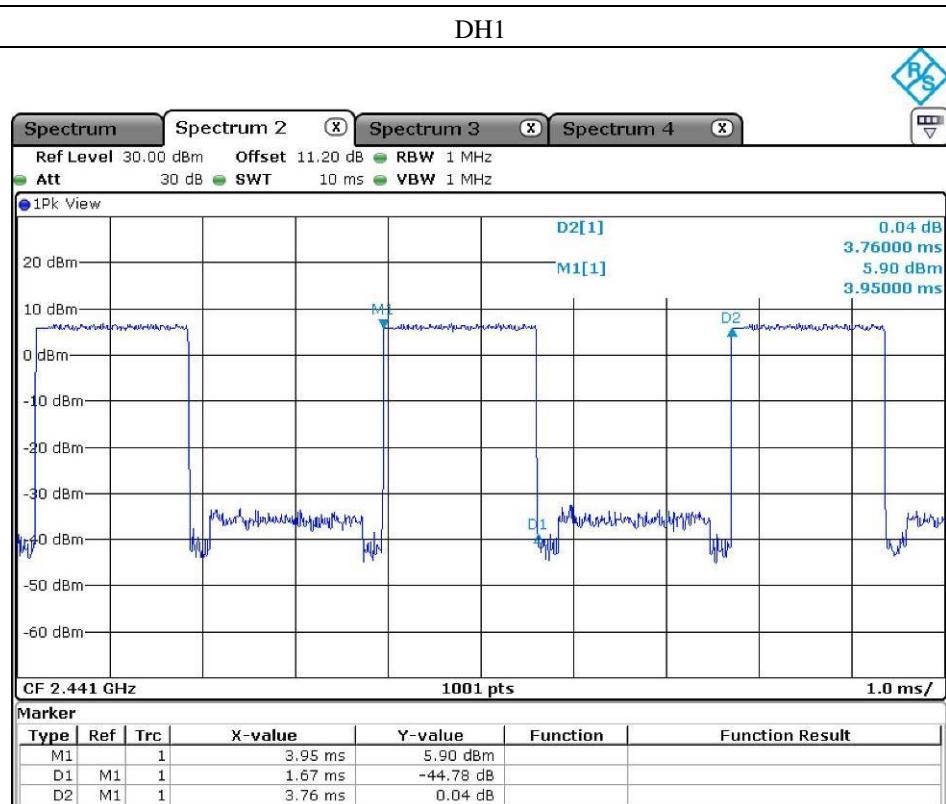
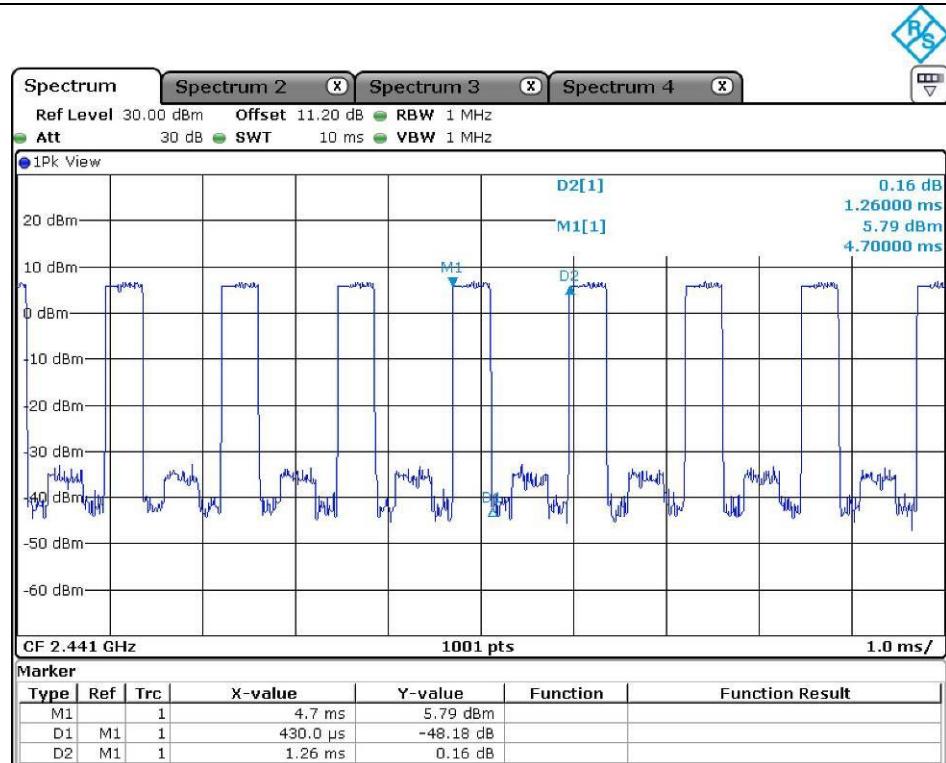
Total dwell time is calculated as following.

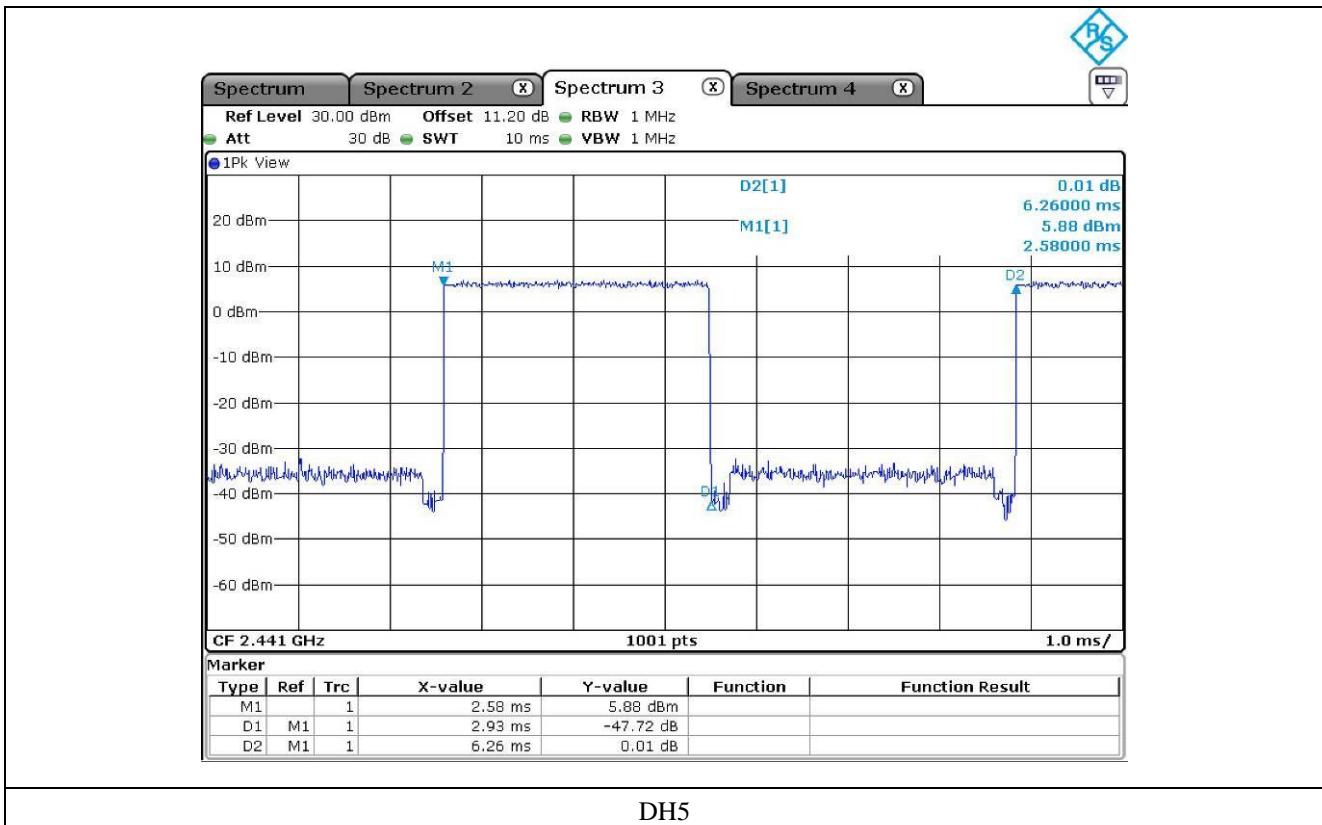
Total Dwell Time = Pulse time \* Hops per second with channels \* period time

Remark: See next page for an overview sweep performed with peak detector.



Tested by: Tae-Ho, Kim / Senior Manager


**DH3**



## 11. MAXIMUM PEAK OUTPUT POWER

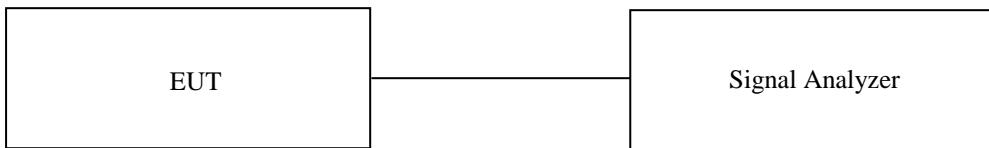
### 11.1 Operating environment

Temperature : 22.4 °C  
Relative humidity : 43.8 % R.H

### 11.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to  $\geq$  DTS Bandwidth, the video bandwidth is set to 3 times the resolution bandwidth.



### 11.3 Test equipment used

| Model Number | Manufacturer    | Description      | Serial Number | Last Cal.          |
|--------------|-----------------|------------------|---------------|--------------------|
| ■ - FSV40    | Rohde & Schwarz | Signal Analyzer  | 101009        | Mar. 14, 2018 (1Y) |
| ■ - TC-3000C | TESCOM          | BLUETOOTH TESTER | 3000C000634   | Mar. 15, 2018 (1Y) |

All test equipment used is calibrated on a regular basis.

### 11.4 Test data for 1 Mbps

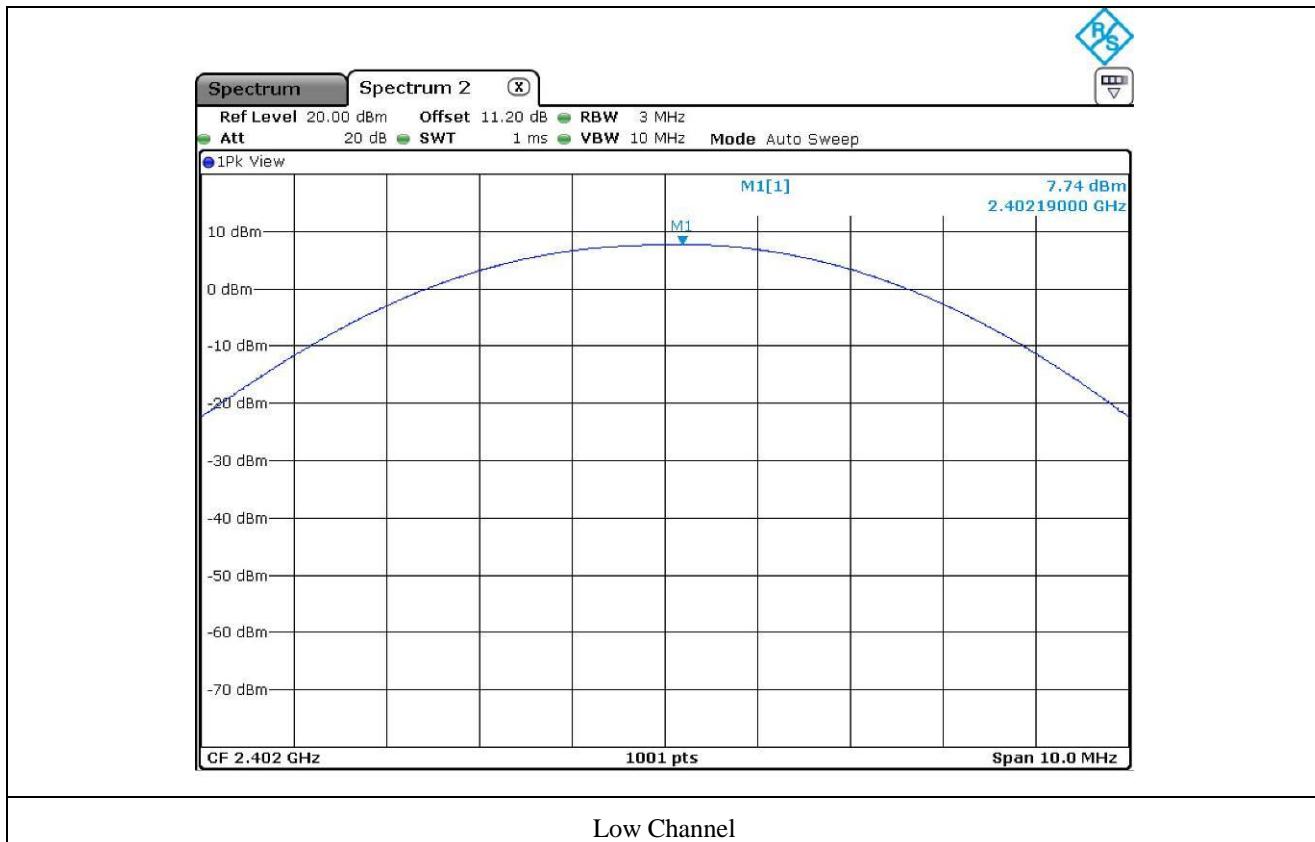
- Test Date : June 12, 2018 ~ June 15, 2018

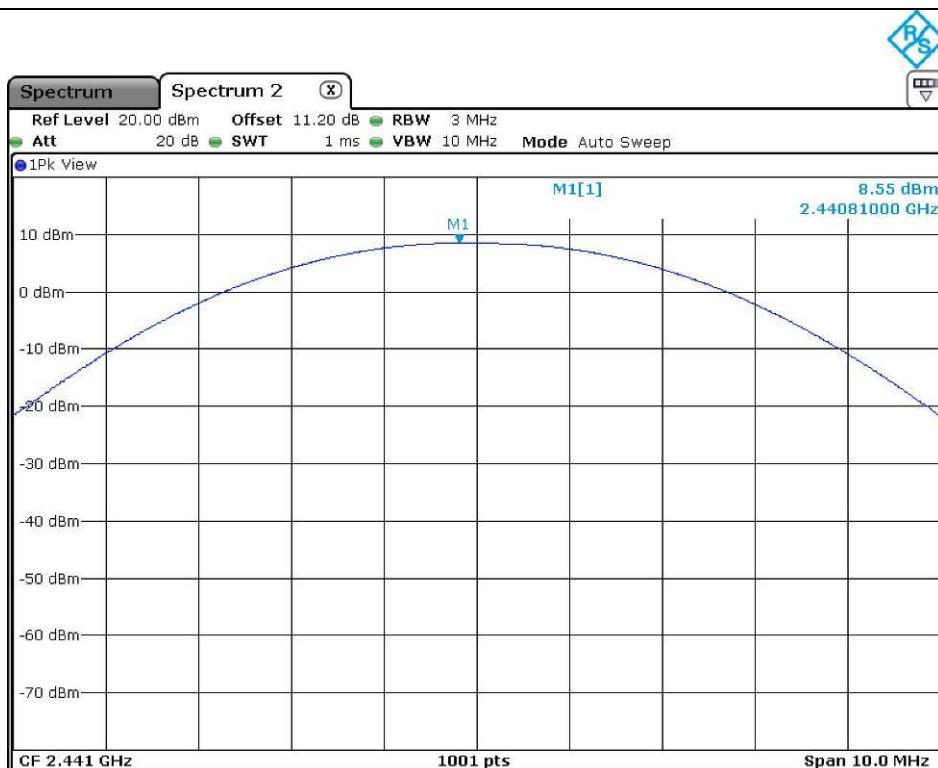
- Test Result : Pass

| CHANNEL | FREQUENCY<br>(MHz) | MEASURED VLAUE<br>(dBm) | LIMIT<br>(dBm) | MARGIN<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| LOW     | 2 402.00           | 7.74                    | 21.00          | 13.26          |
| MIDDLE  | 2 441.00           | 8.85                    | 21.00          | 12.15          |
| HIGH    | 2 480.00           | 7.93                    | 21.00          | 13.07          |

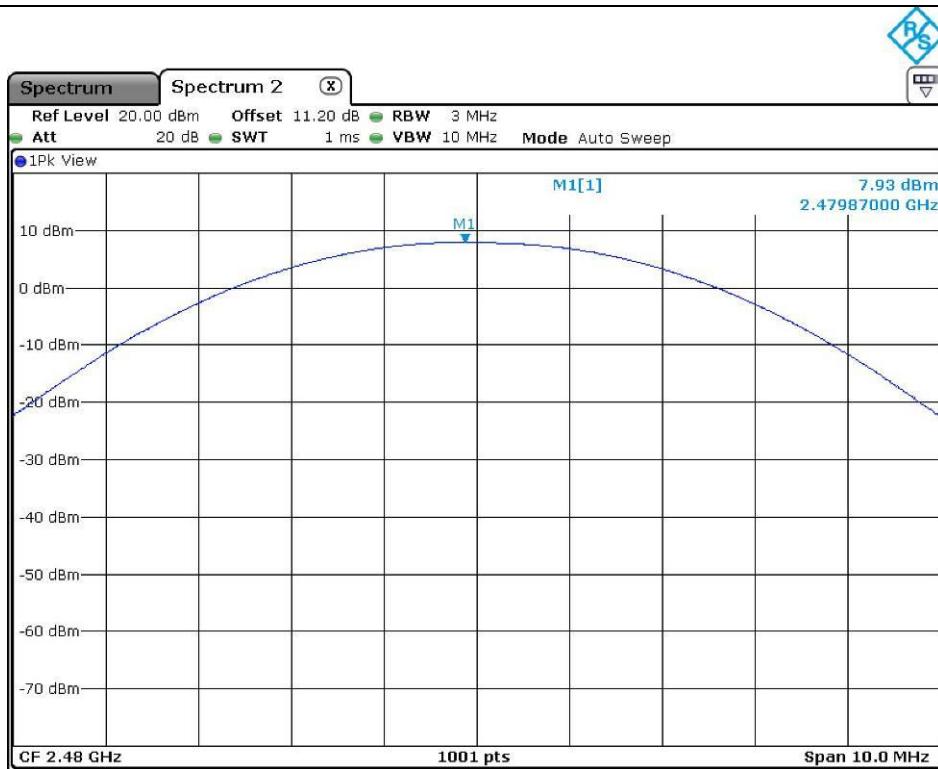
Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Tested by: Tae-Ho, Kim / Senior Manager





Middle Channel



High Channel

### 11.5 Test data for 2 Mbps

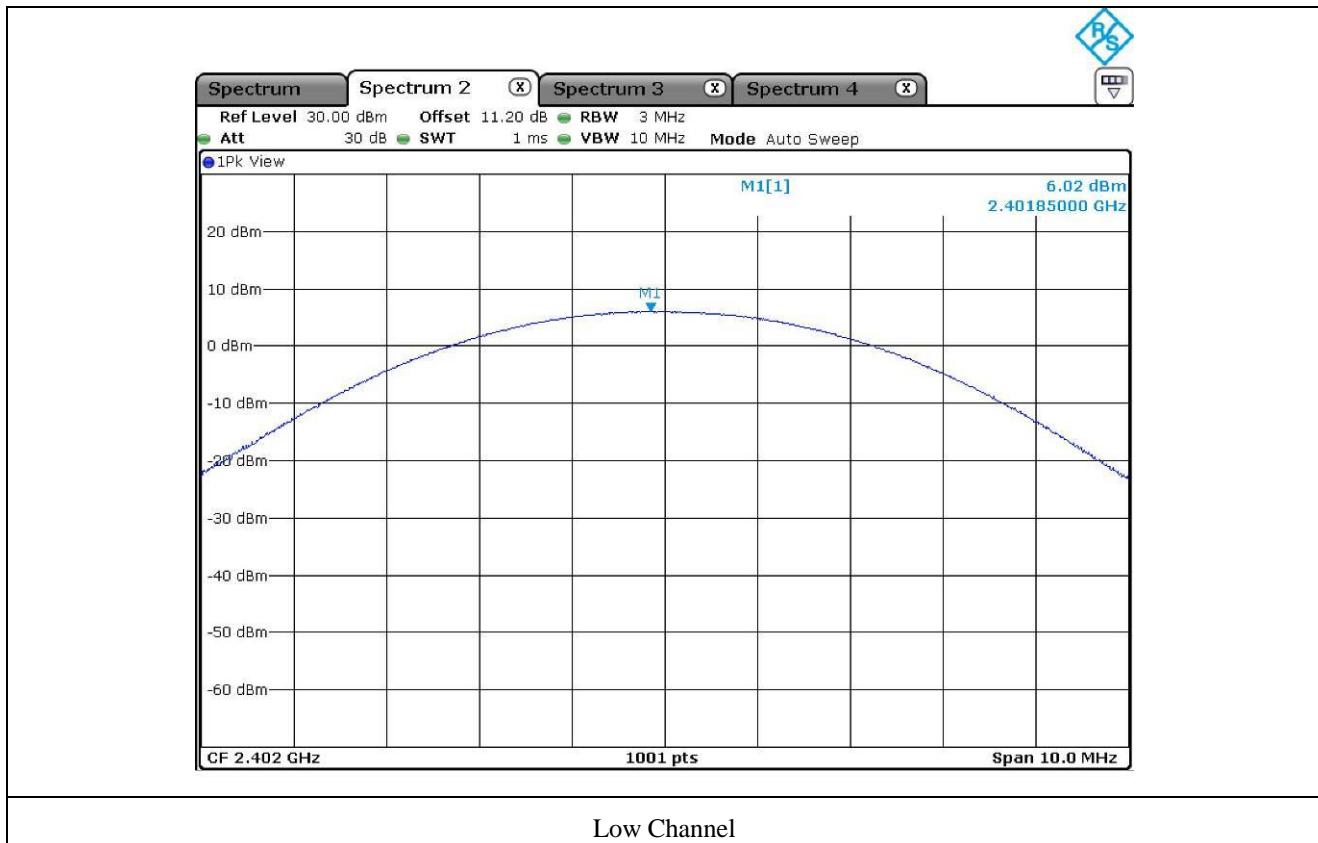
- Test Date : June 12, 2018 ~ June 15, 2018

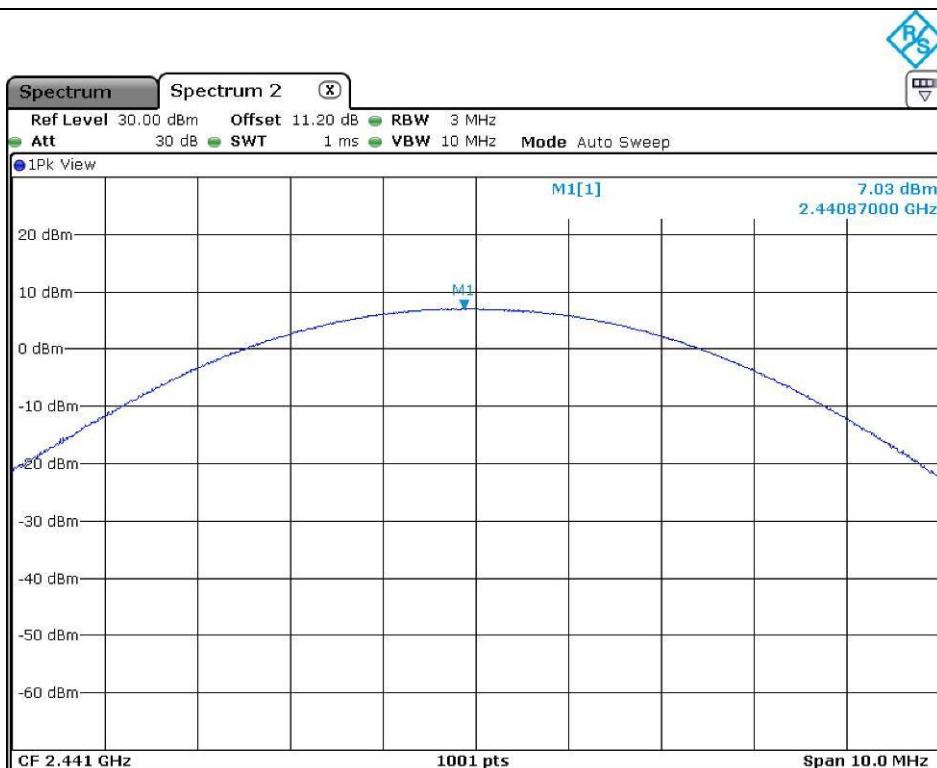
- Test Result : Pass

| CHANNEL | FREQUENCY<br>(MHz) | MEASURED VLAUE<br>(dBm) | LIMIT<br>(dBm) | MARGIN<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| LOW     | 2 402.00           | 6.02                    | 21.00          | 14.98          |
| MIDDLE  | 2 441.00           | 7.03                    | 21.00          | 13.97          |
| HIGH    | 2 480.00           | 6.67                    | 21.00          | 14.33          |

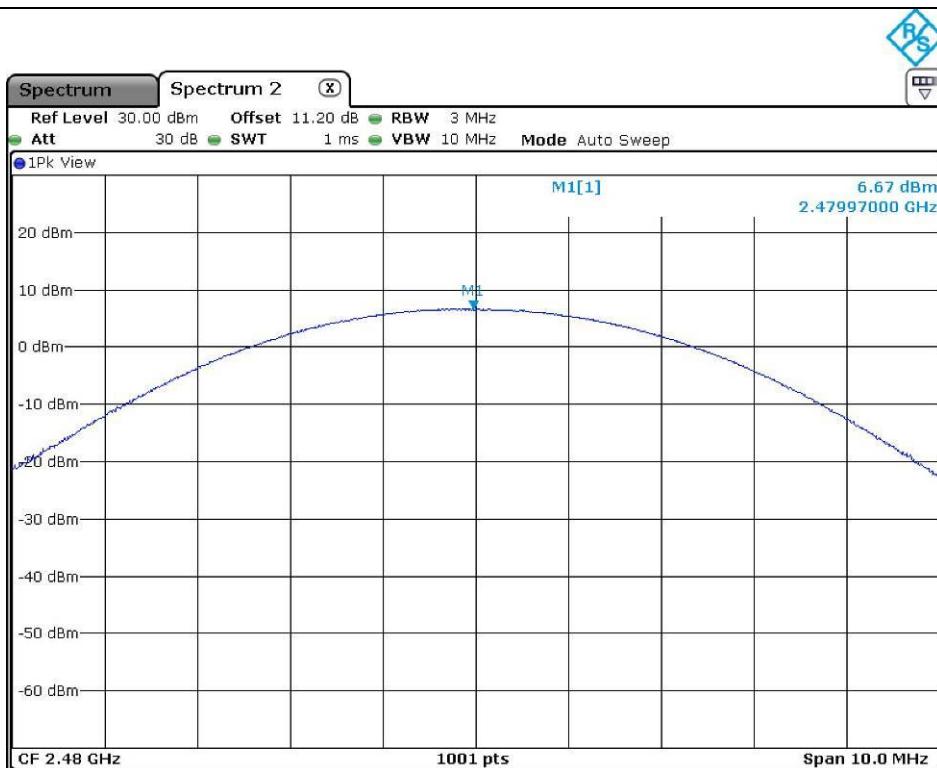
Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Tested by: Tae-Ho, Kim / Senior Manager





Middle Channel



High Channel

## 11.6 Test data for 3 Mbps

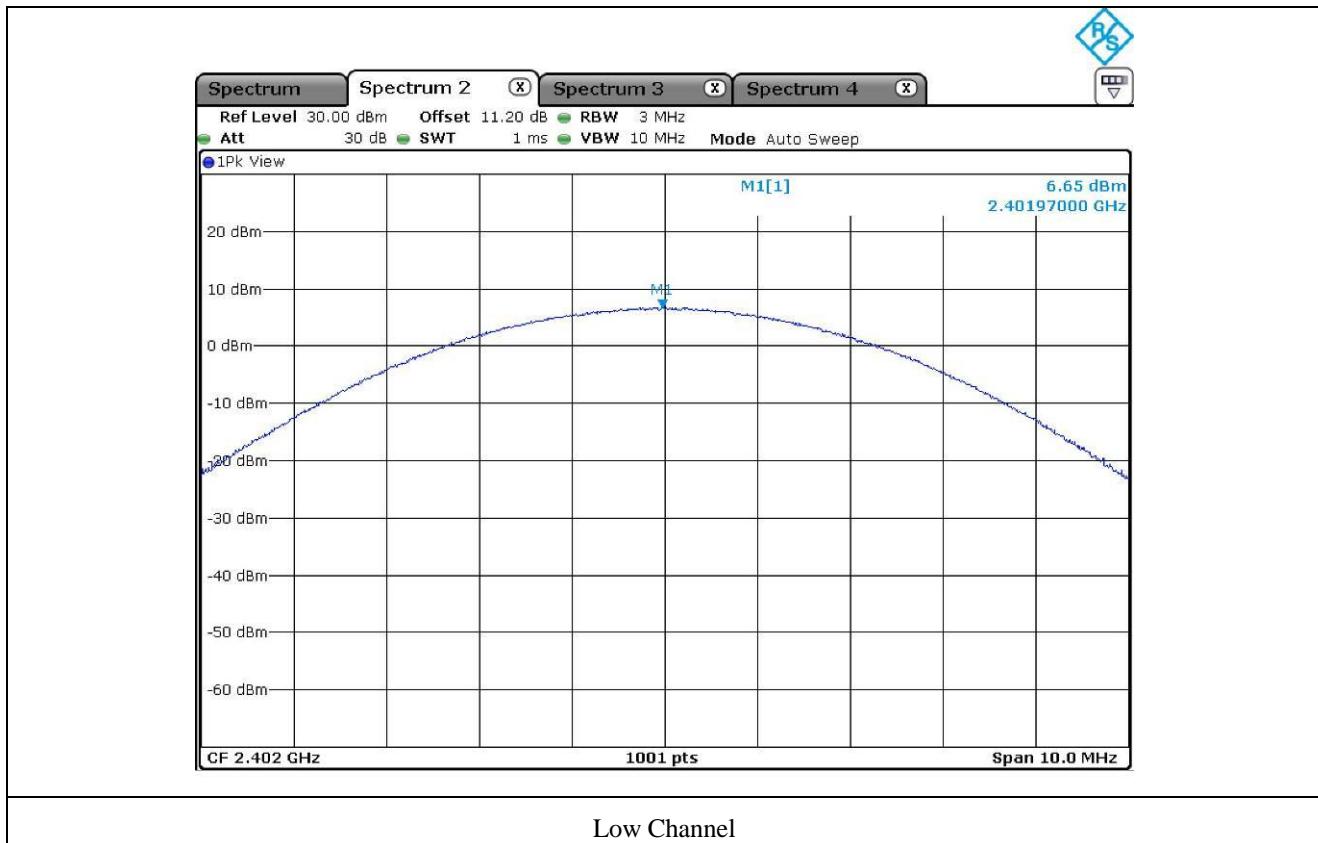
- Test Date : June 12, 2018 ~ June 15, 2018

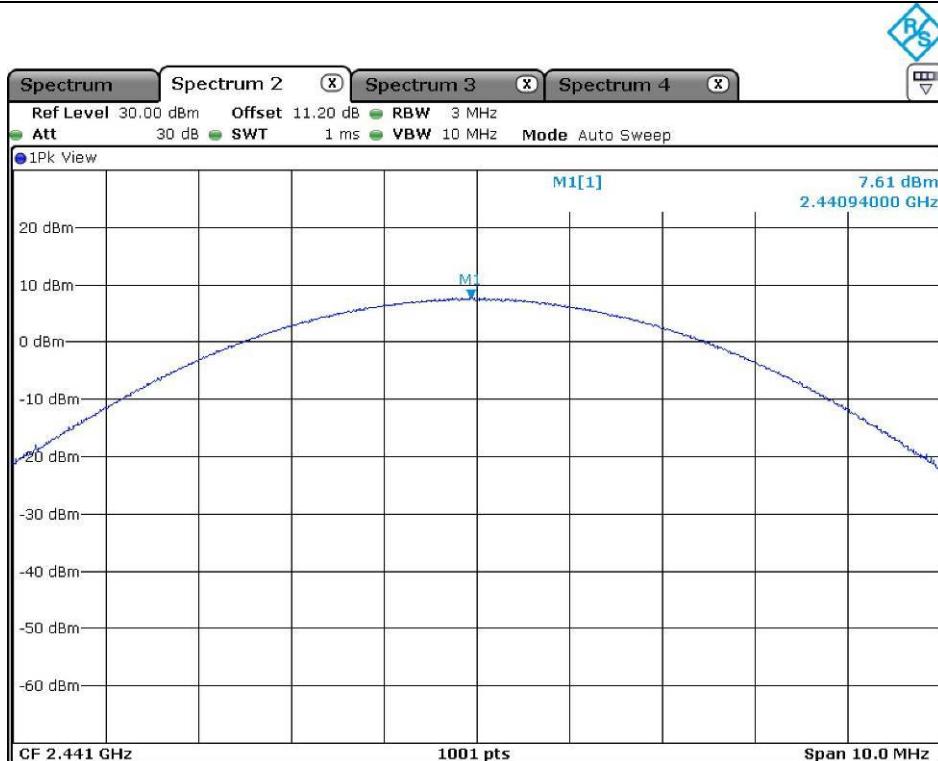
- Test Result : Pass

| CHANNEL | FREQUENCY<br>(MHz) | MEASURED VLAUE<br>(dBm) | LIMIT<br>(dBm) | MARGIN<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| LOW     | 2 402.00           | 6.65                    | 21.00          | 14.35          |
| MIDDLE  | 2 441.00           | 7.61                    | 21.00          | 13.39          |
| HIGH    | 2 480.00           | 7.13                    | 21.00          | 13.87          |

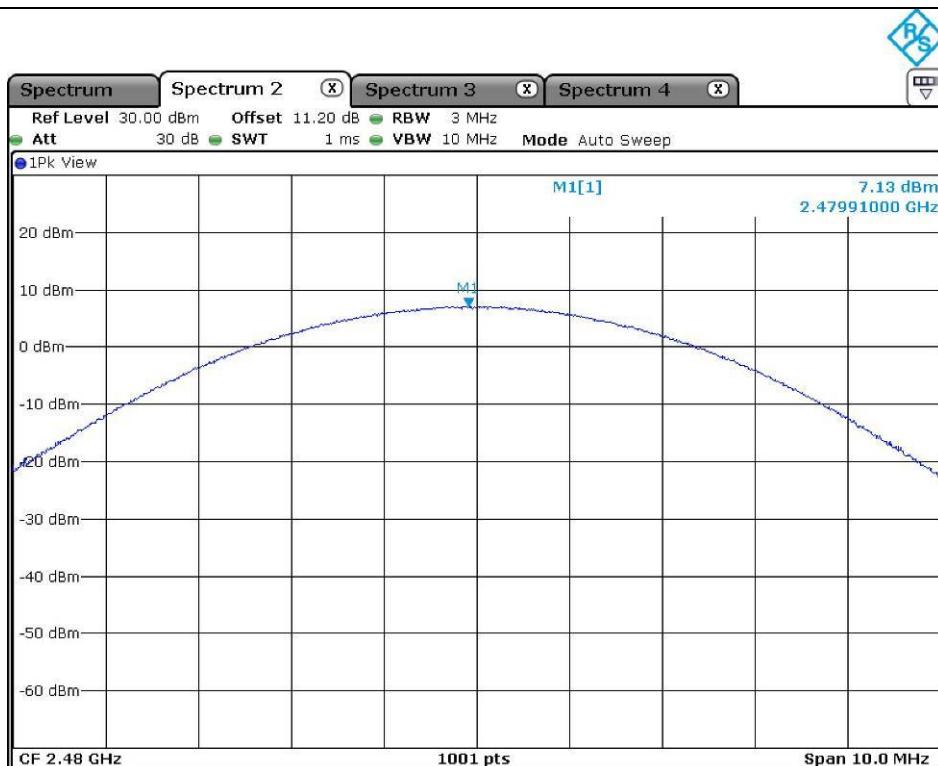
Remark. Margin = Limit – Measured Value (=Receiver Reading + Cable Loss)

Tested by: Tae-Ho, Kim / Senior Manager





Middle Channel



High Channel