

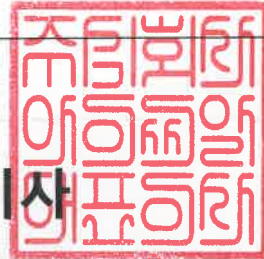


# 시험 성적서

## TEST REPORT

페이지(page) : ( 1 ) / ( 총(Total) 61 )

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                                                                                                                                                                                      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 성적서 번호<br>Report No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       | ICRT-TR-E230925-0A                                                                                                                                                                                   |  |
| 신청자<br>Client                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 기관명<br>Name                           | POSBANK CO.,LTD                                                                                                                                                                                      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 주 소<br>Address                        | ROOM 805-808, NEW T CASTLE B/D, 108, Gasan digital 2-ro,<br>Geumcheon-gu, Seoul, Republic of Korea                                                                                                   |  |
| 시험대상품목<br>Sample description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       | POS SYSTEM                                                                                                                                                                                           |  |
| 모델명<br>Type designation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                       | ACT 1560                                                                                                                                                                                             |  |
| 정 격<br>Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                       | DC 12 V                                                                                                                                                                                              |  |
| 시험장소<br>Place of test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       | <input checked="" type="checkbox"/> 고정시험(Inside test) <input type="checkbox"/> 현장시험(Field test)<br>주소지(Address): 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea |  |
| 시험기간<br>Date of test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       | 06. Apr. 2023 ~ 25. Apr. 2023                                                                                                                                                                        |  |
| 시험방법/항목<br>Test Method/Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       | FCC Part 15 Subpart C §15.247                                                                                                                                                                        |  |
| 시험결과<br>Test Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       | Refer to 3. Test Summary                                                                                                                                                                             |  |
| 확 인<br>Affirmation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 작성자<br>Tested by                      | 기술책임자<br>Technical Manager                                                                                                                                                                           |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 성 명<br>Name Eun-Hye, Gwak (Signature) | 성 명<br>Name Tae-Yang, Yoon (Signature)                                                                                                                                                               |  |
| <p><input type="checkbox"/> 위 성적서는 고객이 제공한 시료에 대한 시험결과입니다.<br/>The above test report is certified that the above mentioned products have been tested for the sample.</p> <p><input type="checkbox"/> 위 성적서는 KS Q ISO/IEC 17025 및 한국인정기구(KOLAS)인정과 관련이 없습니다.<br/>The above test report is not related to accreditation by KS Q ISO/IEC 17025 and Korea Laboratory Accreditation scheme.</p> <p><input type="checkbox"/> 위 성적서는 주식회사 아이씨알의 승인 없이는 일부 복제에 대해 금지됩니다.<br/>The test report is prohibited for some reproduction without the approval of the ICR.</p> |                                       |                                                                                                                                                                                                      |  |
| <p style="text-align: center;">2023. 04. 25</p> <p style="text-align: center;">주식회사 아이씨알 대표이사</p> <p style="text-align: center;">The head of INTERNATIONAL CERTIFICATION REGISTRAR</p>                                                                                                                                                                                                                                                                                                                                                                        |                                       |                                                                                                                                                                                                      |  |



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The authenticity of the test report can be checked on the G4B or ICR website.

경기도 김포시 양촌읍 황금3로7번길 112 / Tel: 02-6351-9001 ~ 6



## Contents

|                                                                |    |
|----------------------------------------------------------------|----|
| 1. Applicant & Manufacturer & Test Laboratory Information..... | 4  |
| 1.1 Applicant information.....                                 | 4  |
| 1.2 Manufacturer Information.....                              | 4  |
| 1.3 Test Laboratory Information.....                           | 4  |
| 2. Equipment under Test(EUT) Information.....                  | 5  |
| 2.1 General Information .....                                  | 5  |
| 2.2 Additional Information .....                               | 5  |
| 2.3 Mode of operation during the test.....                     | 5  |
| 2.4 Modifications of EUT .....                                 | 5  |
| 2.5 Reason of Additional Model Name.....                       | 6  |
| 3. Test Summary.....                                           | 7  |
| 3.1 Test standards and results .....                           | 7  |
| 3.2 Purpose of the test.....                                   | 7  |
| 3.3 Test Methodology.....                                      | 7  |
| 3.4 Configuration of Test System .....                         | 7  |
| 3.5 Antenna requirement.....                                   | 8  |
| 4. Used equipment on test .....                                | 9  |
| 5. 6 dB Bandwidth.....                                         | 10 |
| 5.1 Operating environment .....                                | 10 |
| 5.2 Measurement method.....                                    | 10 |
| 5.3 Test data .....                                            | 10 |
| 6. Maximum Conducted Output Power.....                         | 17 |
| 6.1 Operating environment .....                                | 17 |
| 6.2 Measurement method.....                                    | 17 |
| 6.3 Test data .....                                            | 17 |
| 7. Power Spectral Density .....                                | 24 |
| 7.3 Operating environment .....                                | 24 |
| 7.4 Measurement method.....                                    | 24 |
| 7.5 Test data .....                                            | 24 |
| 8. Conducted Spurious Emission .....                           | 31 |
| 8.3 Operating environment .....                                | 31 |
| 8.4 Measurement method.....                                    | 31 |
| 8.5 Test data .....                                            | 31 |
| 9. Radiated Spurious Emission .....                            | 46 |
| 9.3 Operating environment .....                                | 46 |
| 9.4 Measurement method.....                                    | 46 |
| 9.5 Test setup.....                                            | 46 |
| 9.6 Test data .....                                            | 48 |



### Revision History

| Issued Report No.  | Issued Date | Revisions     | Effect Section |
|--------------------|-------------|---------------|----------------|
| ICRT-TR-E230925-0A | 2023.04.25  | Initial Issue | All            |
|                    |             |               |                |
|                    |             |               |                |



## **1. Applicant & Manufacturer & Test Laboratory Information**

### **1.1 Applicant information**

|                |                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------|
| Applicant      | POSBANK CO.,LTD                                                                                    |
| Address        | ROOM 805-808, NEW T CASTLE B/D, 108, Gasan digital 2-ro,<br>Geumcheon-gu, Seoul, Republic of Korea |
| Contact Person | Sungho Jang                                                                                        |
| Telephone No.  | +82-10-7383-3797                                                                                   |
| Fax No.        | -                                                                                                  |
| E-mail         | insa@posbank.com                                                                                   |

### **1.2 Manufacturer Information**

|              |                                                                                                    |
|--------------|----------------------------------------------------------------------------------------------------|
| Manufacturer | POSBANK CO.,LTD                                                                                    |
| Address      | ROOM 805-808, NEW T CASTLE B/D, 108, Gasan digital 2-ro,<br>Geumcheon-gu, Seoul, Republic of Korea |

### **1.3 Test Laboratory Information**

|                                   |                                                                                        |
|-----------------------------------|----------------------------------------------------------------------------------------|
| Conducted tests were performed at |                                                                                        |
| Laboratory                        | ICR Co., Ltd.                                                                          |
| Address                           | 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do,<br>Korea |
| Telephone No.                     | +82-2-6351-9002                                                                        |
| Fax No.                           | +82-2-6351-9007                                                                        |
| RRA No.                           | KR0165                                                                                 |
| KOLAS No.                         | KT652                                                                                  |



## 2. Equipment under Test(EUT) Information

### 2.1 General Information

|                       |                      |
|-----------------------|----------------------|
| Product Name          | POS SYSTEM           |
| Brand Name            | -                    |
| Model Name            | ACT 1560             |
| Additional Model Name | ACT A-1560, ACT-1560 |
| FCC ID                | 2BASH-ACT1560        |
| Power Supply          | DC 12 V              |

### 2.2 Additional Information

|                        |                                                |                       |
|------------------------|------------------------------------------------|-----------------------|
| Equipment Class        | DTS-Digital Transmission System                |                       |
| Device Type            | Stand-alone                                    |                       |
| Operating Frequency    | Bluetooth LE                                   | 2 402 MHz ~ 2 480 MHz |
|                        | 2.4 GHz WLAN (802.11n(HT20))                   | 2 412 MHz ~ 2 462 MHz |
|                        | 2.4 GHz WLAN (802.11n(HT40))                   | 2 422 MHz ~ 2 452 MHz |
| RF Output Power        | Bluetooth LE                                   | 1.93 dBm              |
|                        | 2.4 GHz WLAN (802.11n(HT20))                   | 20.18 dBm             |
|                        | 2.4 GHz WLAN (802.11n(HT40))                   | 22.78 dBm             |
| Number of Channel      | Bluetooth LE                                   | 40                    |
|                        | 2.4 GHz WLAN (802.11n(HT20))                   | 9                     |
|                        | 2.4 GHz WLAN (802.11n(HT40))                   | 7                     |
| Modulation Type        | Bluetooth LE                                   | GFSK                  |
|                        | 2.4 GHz WLAN(802.11n(HT20/40))                 | OFDM                  |
| Antenna Type           | Dipole Antenna                                 |                       |
| Antenna Gain           | 3.17 dBi                                       |                       |
| Antenna Operating Mode | Single Antenna Equipment with only one antenna |                       |

### 2.3 Mode of operation during the test

- The EUT is continuous transmission mode during the test with set at Low Channel, Middle Channel, and High Channel. To get a maximum radiated emission levels from the EUT, the EUT was moved throughout the XY, YZ, XZ planes.

### 2.4 Modifications of EUT

- None



## 2.5 Reason of Additional Model Name

- Same electrical specifications, structure and circuit as the basic model.



### 3. Test Summary

#### 3.1 Test standards and results

| FCC Part 15 Subpart C              |                                |                                     |             |
|------------------------------------|--------------------------------|-------------------------------------|-------------|
| Clause                             | Test items                     | Applied                             | Results     |
| §15.247 (a) (2)                    | 6 dB Bandwidth                 | <input checked="" type="checkbox"/> | PASS        |
| §15.247 (b) (3)                    | Maximum Conducted Output Power | <input checked="" type="checkbox"/> | PASS        |
| §15.247 (e)                        | Power Spectral Density         | <input checked="" type="checkbox"/> | PASS        |
| §15.247 (d)                        | Conducted Spurious Emission    | <input checked="" type="checkbox"/> | PASS        |
| §15.247 (d) &<br>§15.209 & §15.205 | Radiated Spurious Emission     | <input checked="" type="checkbox"/> | PASS        |
| §15.203                            | Antenna Requirement            | <input checked="" type="checkbox"/> | PASS        |
| §15.207                            | Power Line Conducted Emission  | <input checked="" type="checkbox"/> | PASS(Note1) |

- Note 1 : Test data contained in FCC Part 15 Subpart E §15.407

#### 3.2 Purpose of the test

- To determine whether the equipment under test fulfills the requirements of the standards stated in FCC Part 15 Subpart C Section 15.247.

#### 3.3 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.

#### 3.4 Configuration of Test System

##### 3.4.1 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 m 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.



### 3.5 Antenna requirement

According to §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 shall be considered sufficient to comply with the provisions of this Section.

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.

And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.

Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### 3.5.1 Result: Pass

The transmitter has a ***Dipole Antenna***. The directional gain of the antenna is ***3.17 dBi***.



#### 4. Used equipment on test

|                                     | Description                | Model Name           | Manufacturer | Serial Number | Next Cal. (cycle) |
|-------------------------------------|----------------------------|----------------------|--------------|---------------|-------------------|
| <input checked="" type="checkbox"/> | SIGNAL GENERATOR           | SMB100A              | R&S          | 180607        | 2024-03-02        |
| <input checked="" type="checkbox"/> | SPECTRUM ANALYZER          | FSV40-N              | R&S          | 101303        | 2024-03-03        |
| <input checked="" type="checkbox"/> | HIGH PASS FILTER           | WT-A1698-HS          | WT MICROWAVE | WT171201-6-4  | 2024-03-02        |
| <input checked="" type="checkbox"/> | DC POWER SUPPLY            | XDL 35-5P            | SORENSEN     | J00385373     | 2024-03-03        |
| <input checked="" type="checkbox"/> | ATTENUATOR                 | PFA40K2-10           | PSATEK       | -             | 2024-03-07        |
| <input checked="" type="checkbox"/> | LOOP ANTENNA               | HFH2-Z2              | R&S          | 100271        | 2025-03-08        |
| <input checked="" type="checkbox"/> | BI-Log ANTENNA             | VULB9162             | SCHWARZBECK  | 120           | 2024-12-26        |
| <input checked="" type="checkbox"/> | SIGNAL CONDITIONING UNIT   | SCU08                | R&S          | 100746        | 2024-04-03        |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER          | ESR26                | R&S          | 101461        | 2024-04-04        |
| <input checked="" type="checkbox"/> | DOUBLE RIDGED HORN ANTENNA | HF907                | R&S          | 102556        | 2023-08-22        |
| <input checked="" type="checkbox"/> | SIGNAL CONDITIONING UNIT   | SCU18                | R&S          | 102342        | 2024-04-03        |
| <input checked="" type="checkbox"/> | EMI TEST RECEIVER          | ESR26                | R&S          | 101462        | 2024-04-04        |
| <input checked="" type="checkbox"/> | HORN ANTENNA               | LB-42-10-C-KF        | A-INFOMW     | J202024625    | 2024-03-07        |
| <input checked="" type="checkbox"/> | PREAMPLIFIER               | AMF-4F-18265-35-8P-1 | MITEQ        | 771846        | 2024-03-07        |

※ All test equipment used is calibration on a regular basis.



## 5. 6 dB Bandwidth

### 5.1 Operating environment

Temperature : 23.6 °C

Relative humidity : 46.5 %

### 5.2 Measurement method

Standard : §15.247 (a) (2)

### 5.3 Test data

Operating mode : Transmit mode

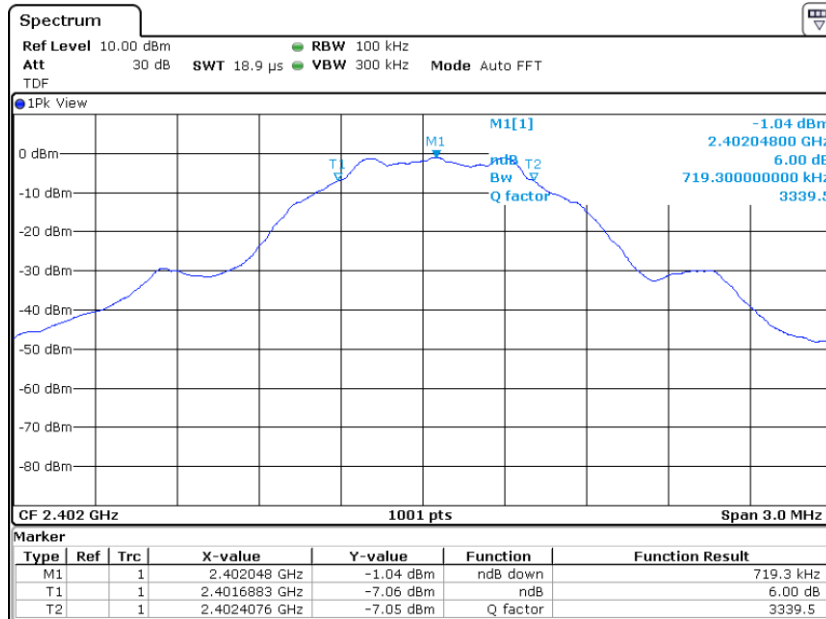
Test Result : Pass

#### 5.3.1 Measured Results

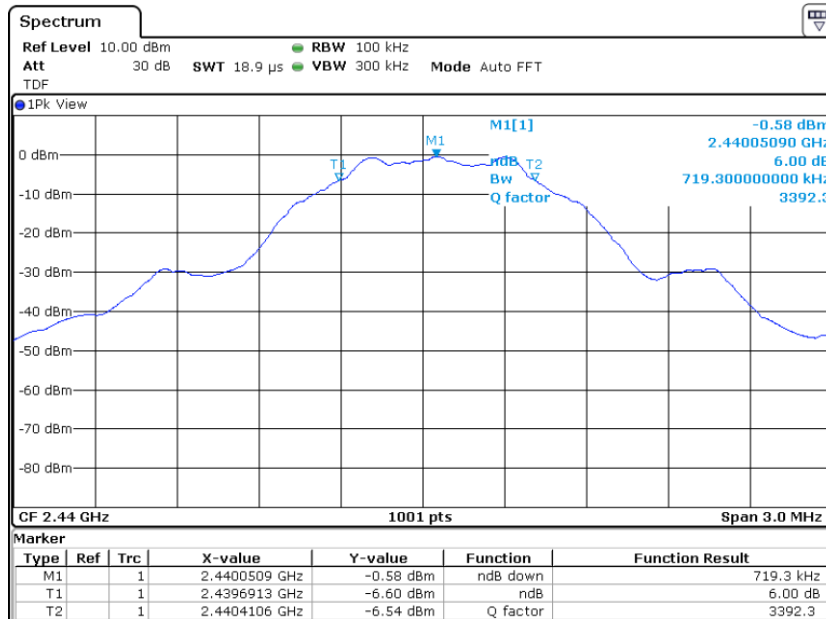
| Modulation Type | Channel (Frequency) | Measured Value (kHz) | Limit (kHz)  |
|-----------------|---------------------|----------------------|--------------|
| Bluetooth LE    | 0 (2 402 MHz)       | 719.3                | at least 500 |
|                 | 19 (2 440 MHz)      | 719.3                |              |
|                 | 39 (2 480 MHz)      | 722.3                |              |
| 802.11n(HT20)   | 0 (2 412 MHz)       | 15 174               |              |
|                 | 5 (2 437 MHz)       | 15 178               |              |
|                 | 8 (2 462 MHz)       | 15 178               |              |
| 802.11n(HT40)   | 0 (2 422 MHz)       | 35 157               |              |
|                 | 3 (2 437MHz)        | 35 178               |              |
|                 | 6 (2 452 MHz)       | 35 175               |              |



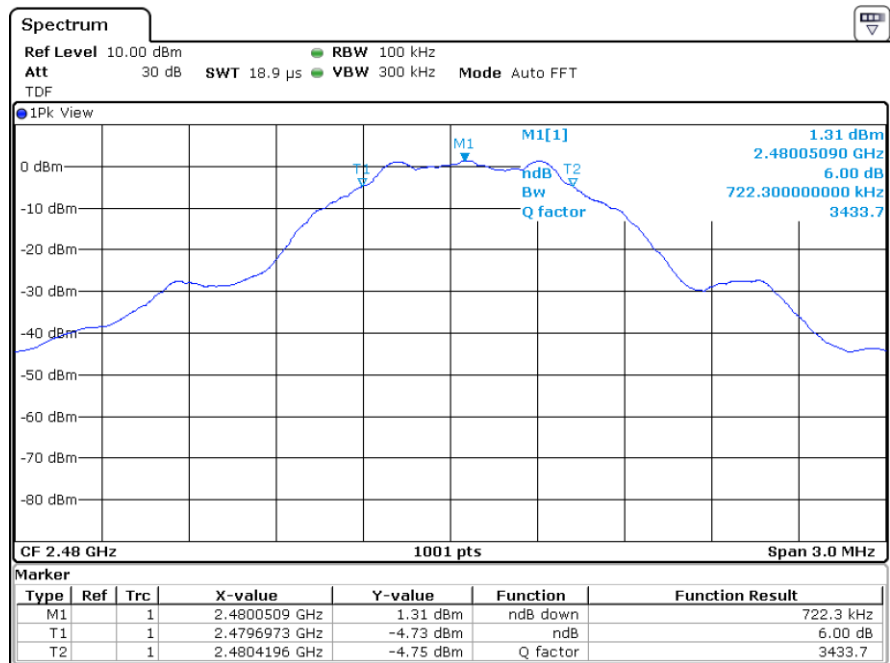
### 5.3.2 Measured Graph (6 dB Bandwidth)\_Bluetooth LE



Low CH



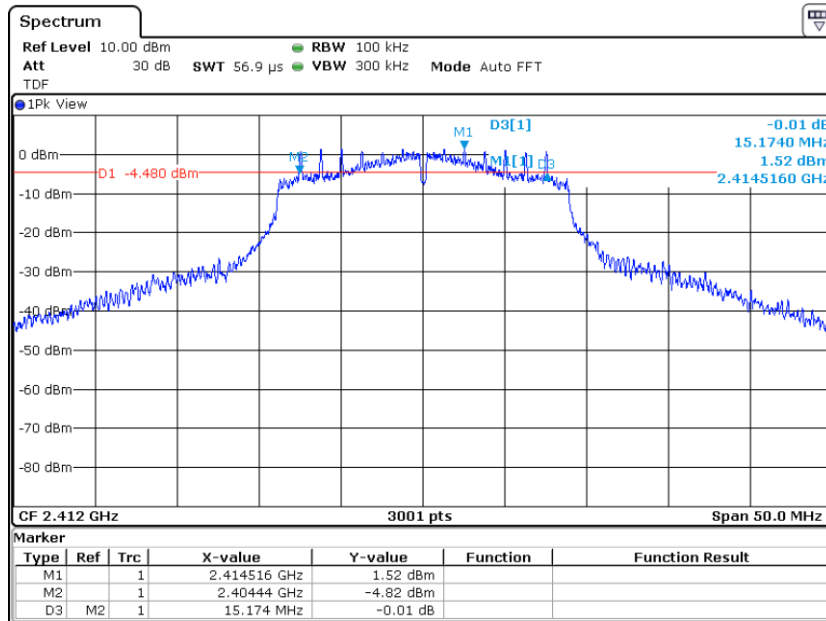
Mid CH



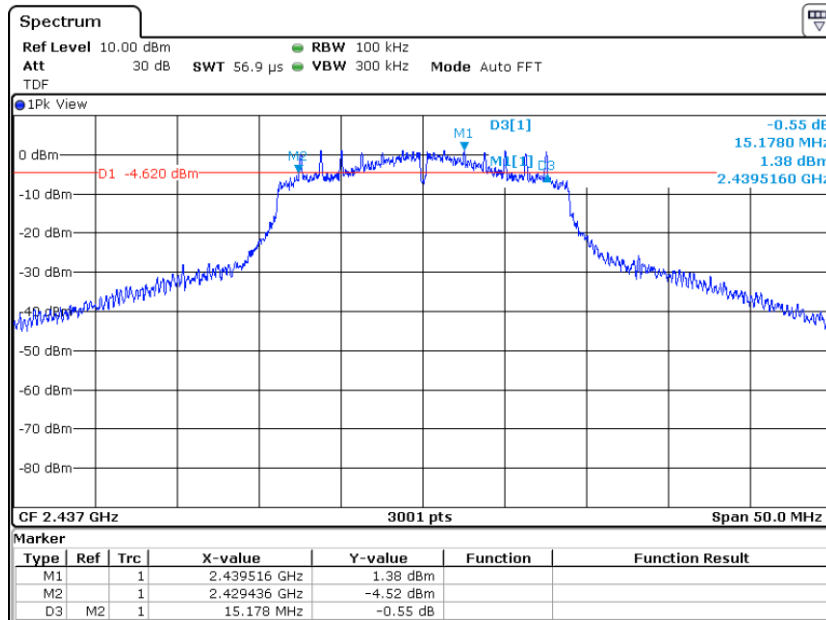
High CH



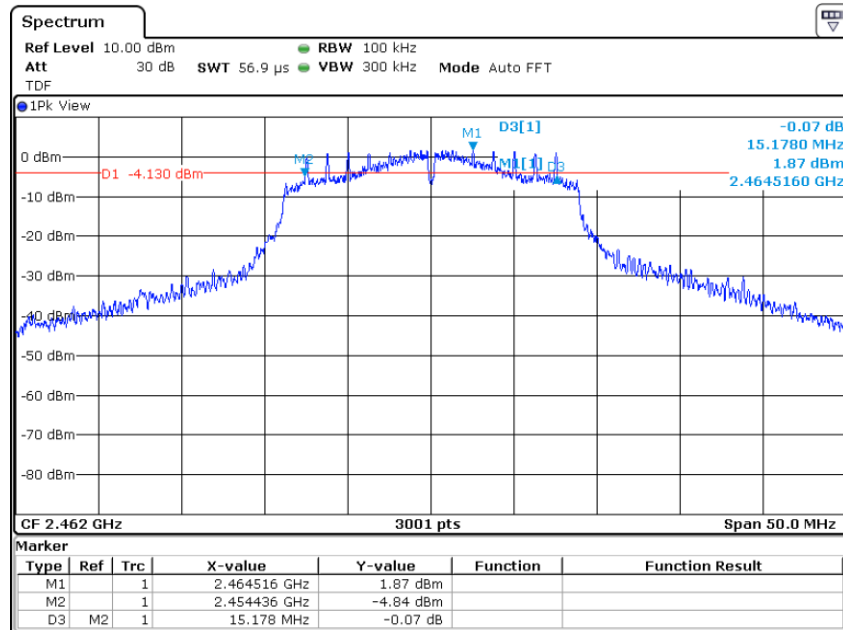
### 5.3.3 Measured Graph (6 dB Bandwidth)\_ 2.4 GHz WLAN (802.11n(HT20))



Low CH



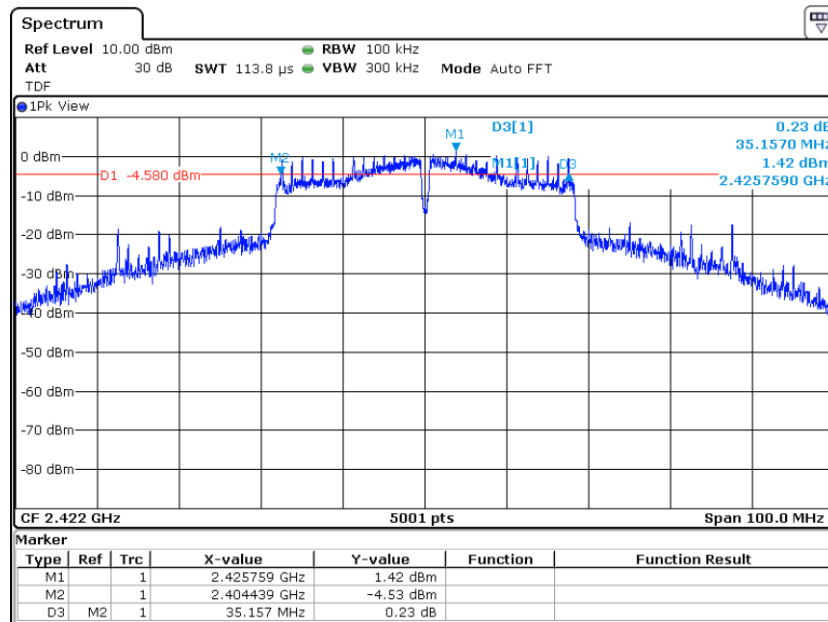
Mid CH



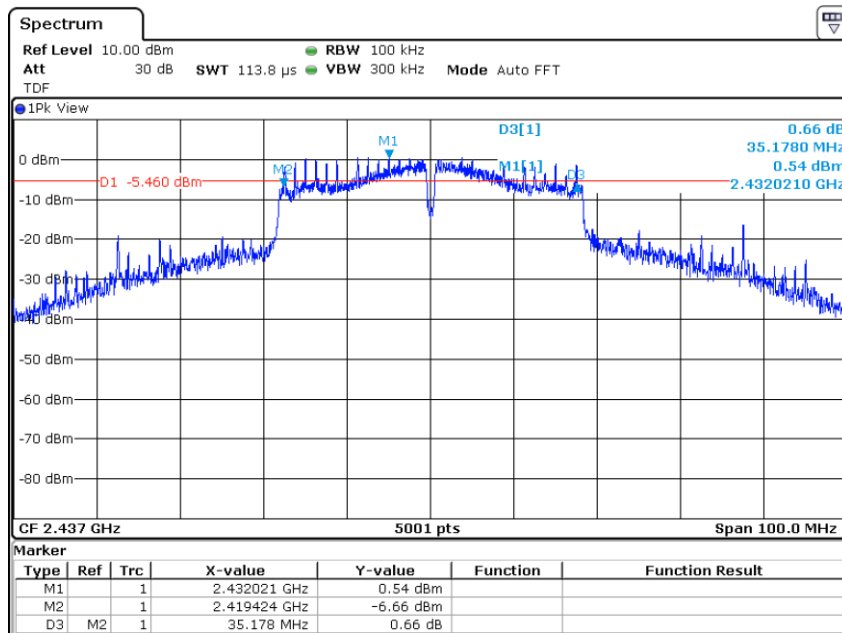
High CH



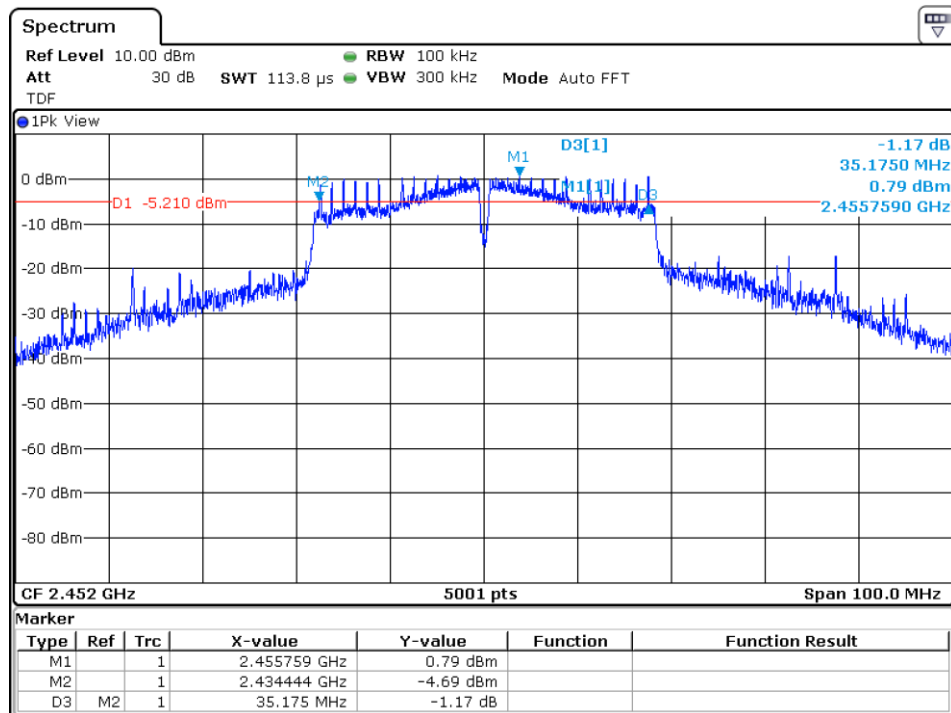
### 5.3.4 Measured Graph (6 dB Bandwidth)\_ 2.4 GHz WLAN (802.11n(HT40))



Low CH



Mid CH



High CH



## 6. Maximum Conducted Output Power

### 6.1 Operating environment

Temperature : 23.6 °C

Relative humidity : 46.5 %

### 6.2 Measurement method

Standard : §15.247 (b) (3) / ANSI C63.10-2013

### 6.3 Test data

Operating mode : Transmit mode

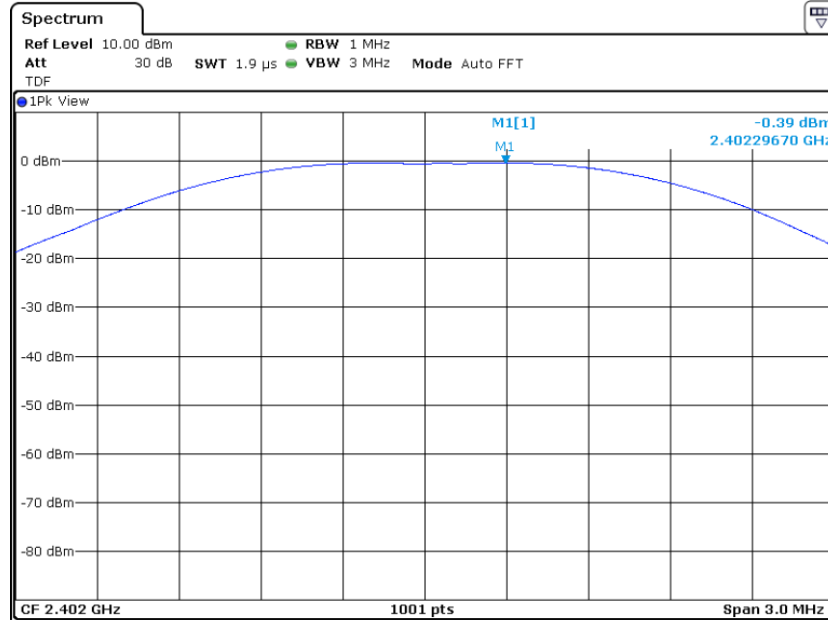
Test Result : Pass

#### 6.3.1 Measured Results

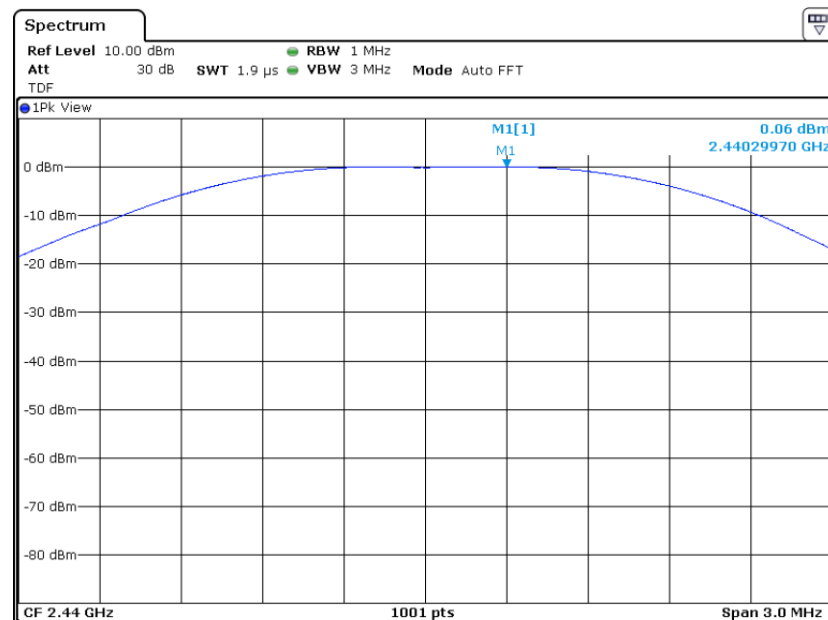
| Modulation Type | Channel (Frequency) | Highest signal level (dBm) | Limit (dBm) |
|-----------------|---------------------|----------------------------|-------------|
| Bluetooth LE    | 0 (2 402 MHz)       | -0.39                      | 30 (1 Watt) |
|                 | 19 (2 440 MHz)      | 0.06                       |             |
|                 | 39 (2 480 MHz)      | <b>1.93</b>                |             |
| 802.11n(HT20)   | 0 (2 412 MHz)       | 19.78                      |             |
|                 | 5 (2 437 MHz)       | 19.92                      |             |
|                 | 8 (2 462 MHz)       | <b>20.18</b>               |             |
| 802.11n(HT40)   | 0 (2 422 MHz)       | 22.41                      |             |
|                 | 3 (2 437MHz)        | 22.51                      |             |
|                 | 6 (2 452 MHz)       | <b>22.78</b>               |             |



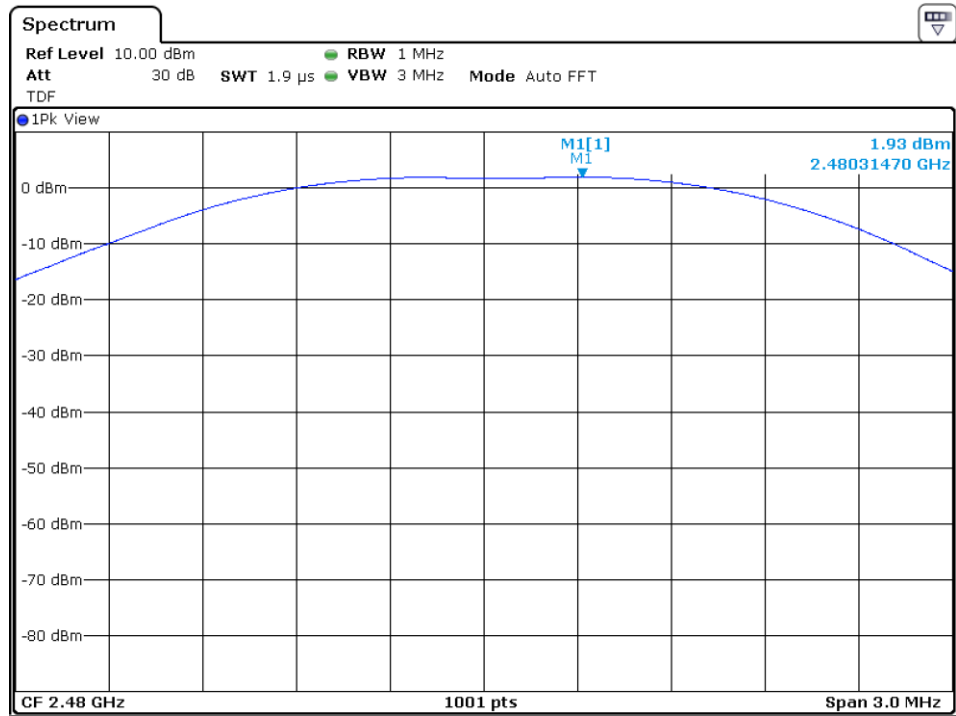
### 6.3.1.1 Measured Graph Bluetooth LE



Low CH



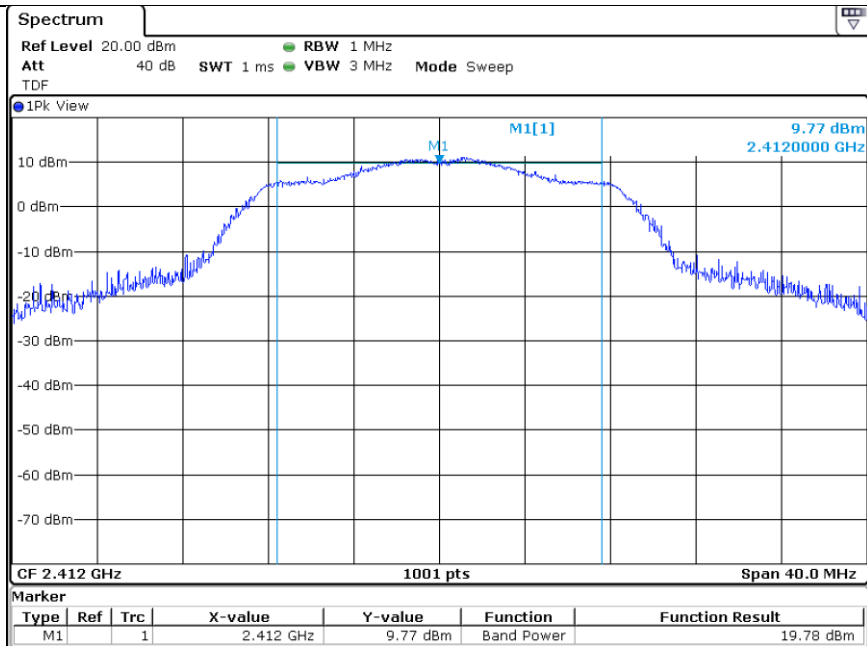
Mid CH



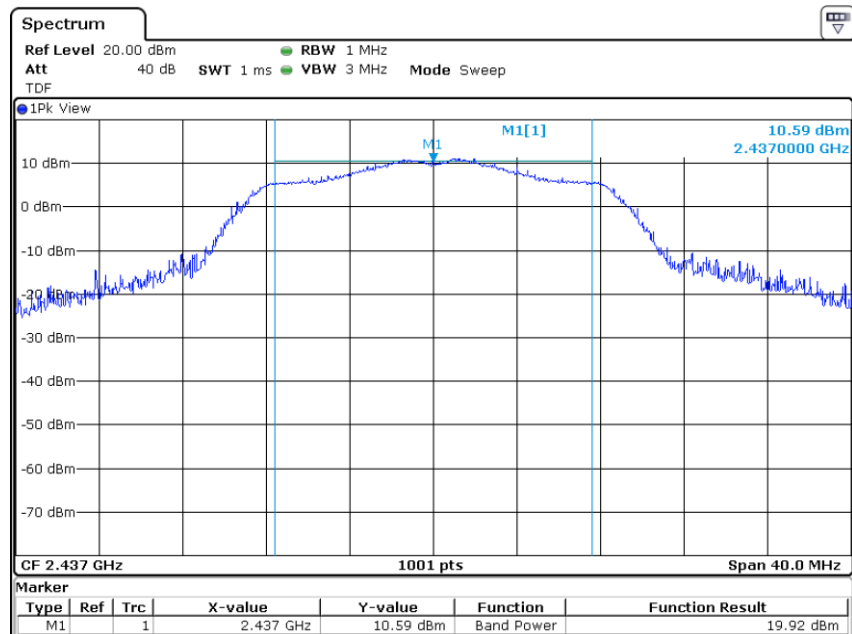
High CH



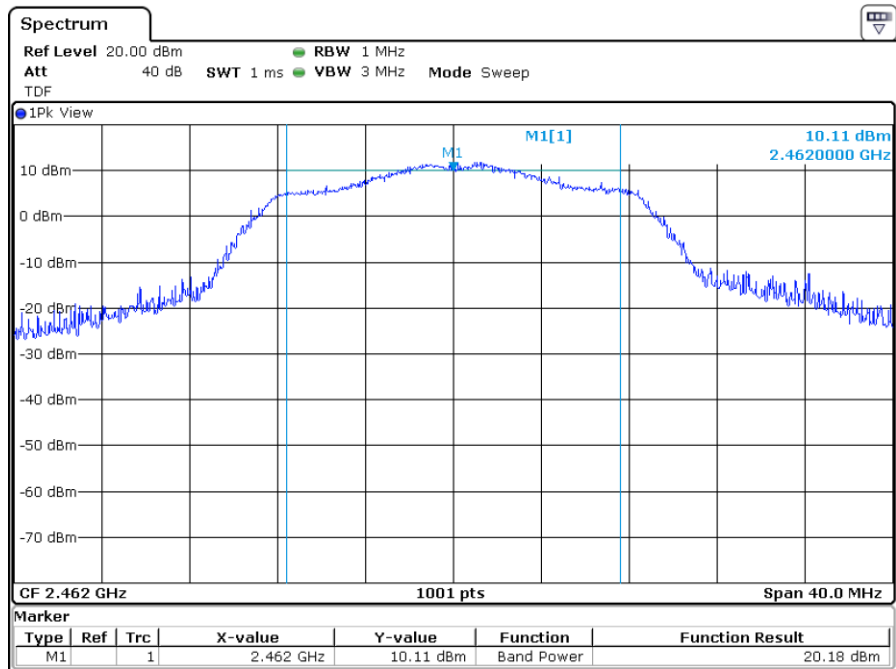
### 6.3.1.2 Measured Graph 2.4 GHz WLAN (802.11n(HT20))



Low CH



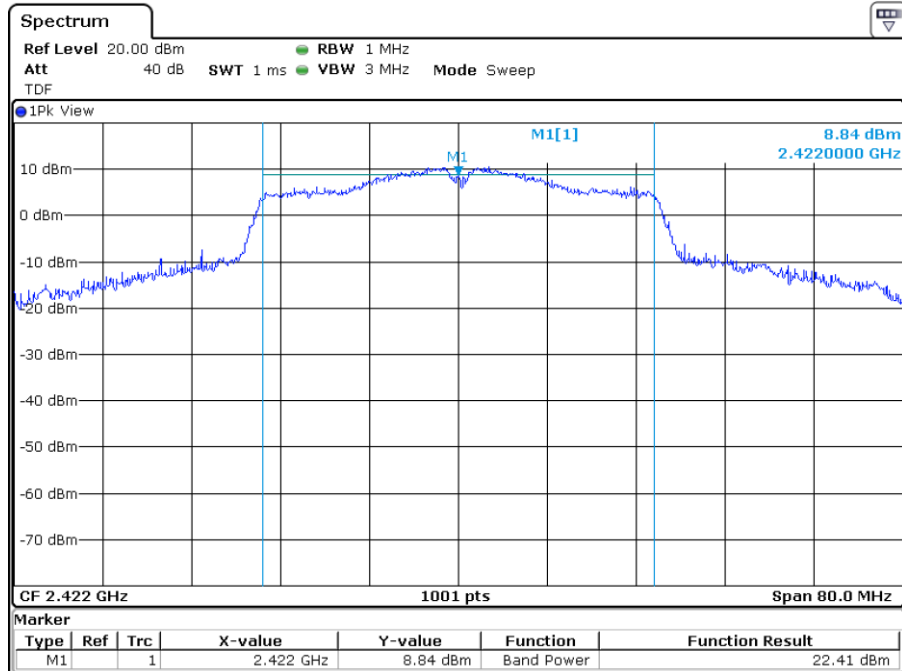
Mid CH



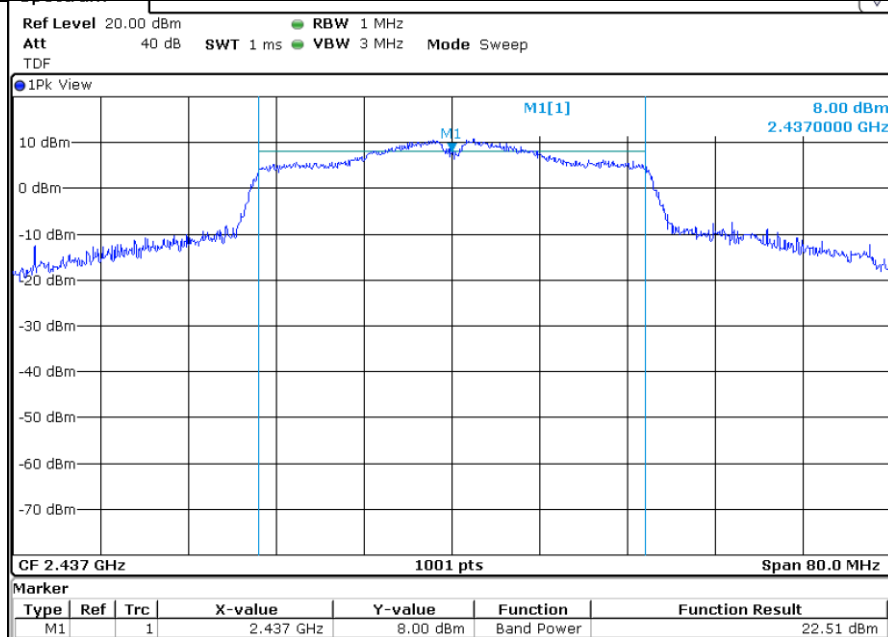
High CH



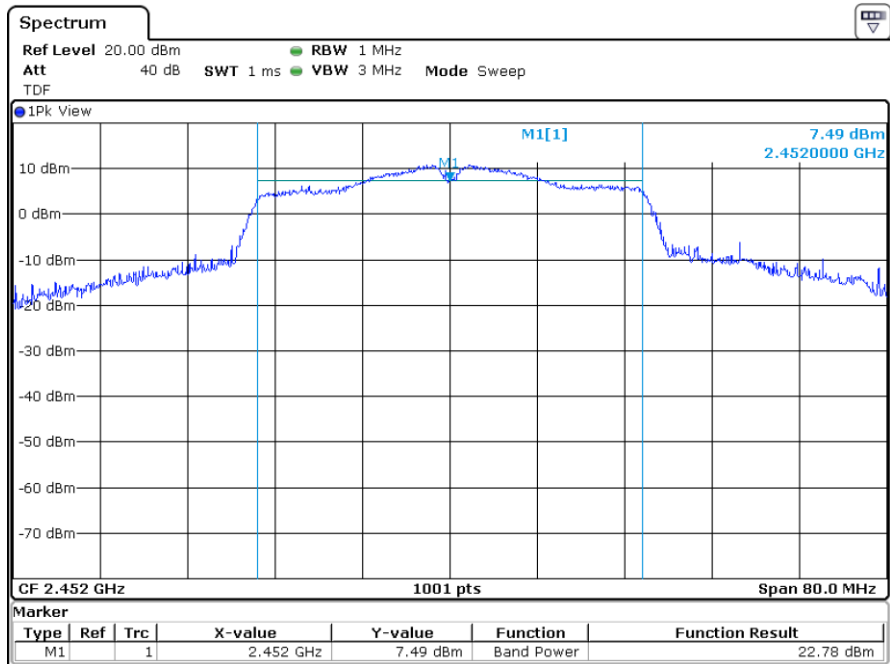
### 6.3.1.3 Measured Graph\_2.4 GHz WLAN (802.11n(HT40))



Low CH



Mid CH



High CH



## 7. Power Spectral Density

### 7.1 Operating environment

Temperature : 23.6 °C

Relative humidity : 46.5 %

### 7.2 Measurement method

Standard : §15.247 (e)

### 7.3 Test data

Operating mode : Transmit mode

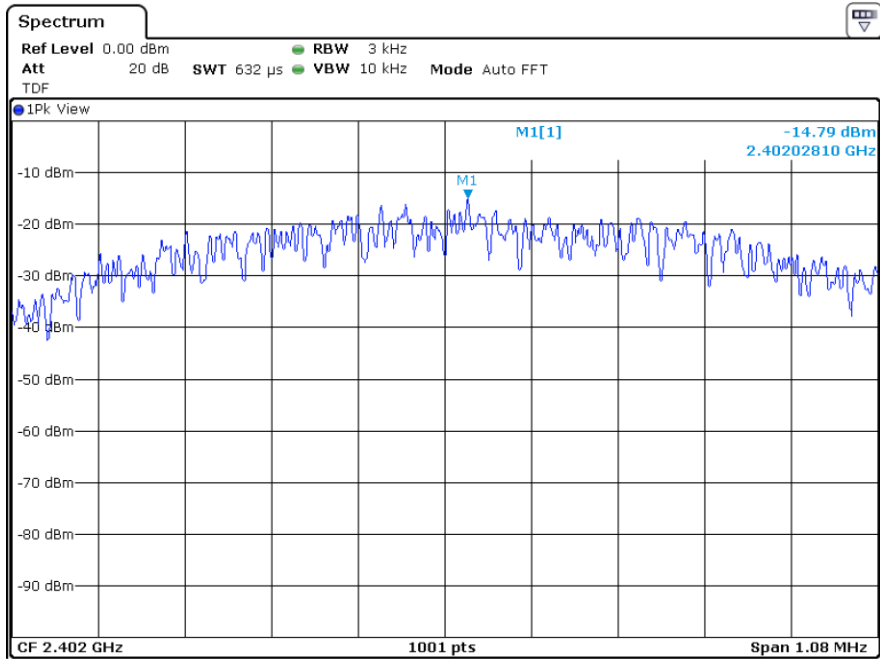
Test Result : Pass

#### 7.3.1 Measured Results

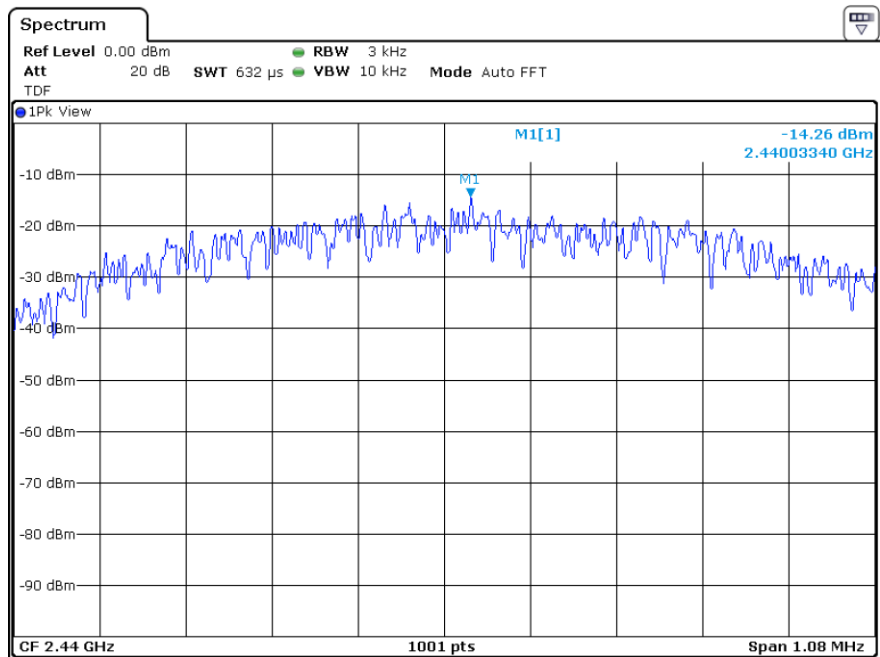
| Modulation Type | Channel (Frequency) | Highest signal level (dBm) | Limit (dBm/3kHz) |
|-----------------|---------------------|----------------------------|------------------|
| Bluetooth LE    | 0 (2 402 MHz)       | -14.79                     | 8                |
|                 | 19 (2 440 MHz)      | -14.26                     |                  |
|                 | 39 (2 480 MHz)      | -12.31                     |                  |
| 802.11n(HT20)   | 0 (2 412 MHz)       | -9.93                      |                  |
|                 | 5 (2 437 MHz)       | -10.18                     |                  |
|                 | 11 (2 462 MHz)      | -9.77                      |                  |
| 802.11n(HT40)   | 0 (2 422 MHz)       | -11.07                     |                  |
|                 | 3 (2 437MHz)        | -9.86                      |                  |
|                 | 6 (2 452 MHz)       | -10.51                     |                  |



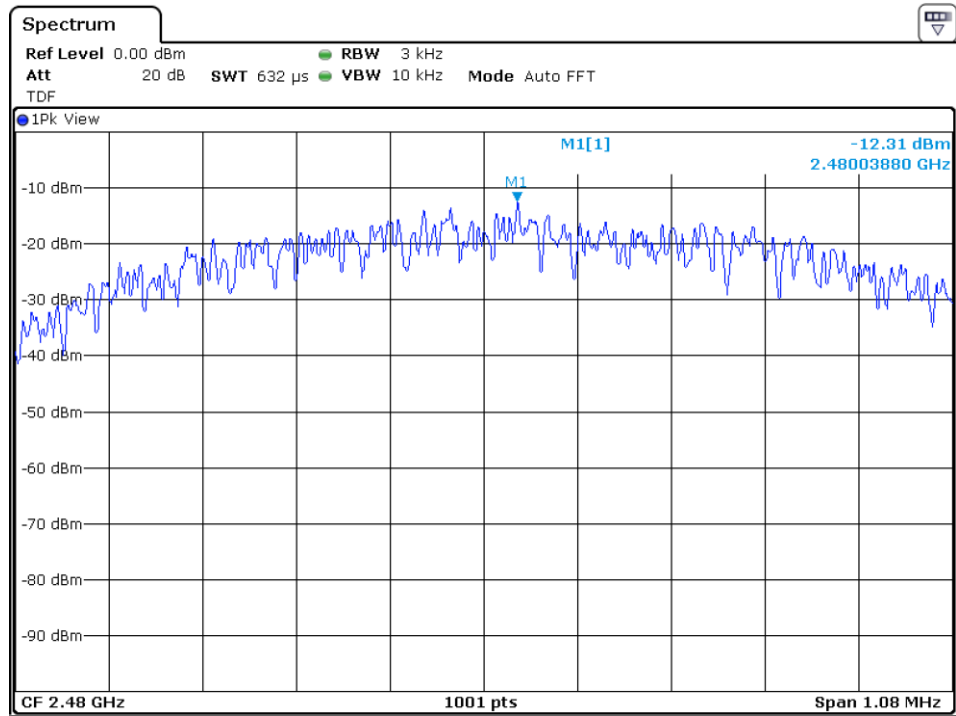
### 7.3.2 Measured Graph\_ Bluetooth LE



Low CH



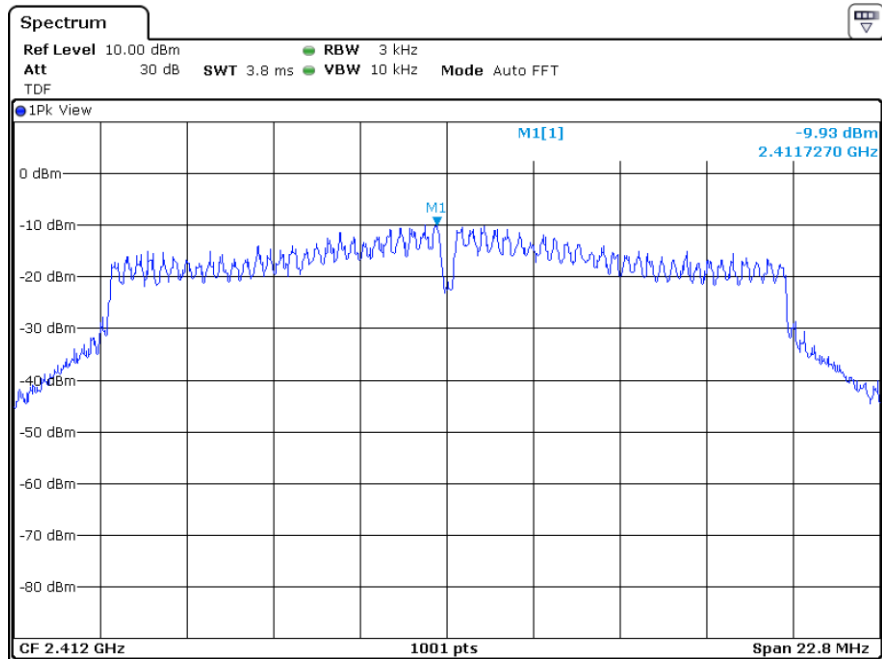
Mid CH



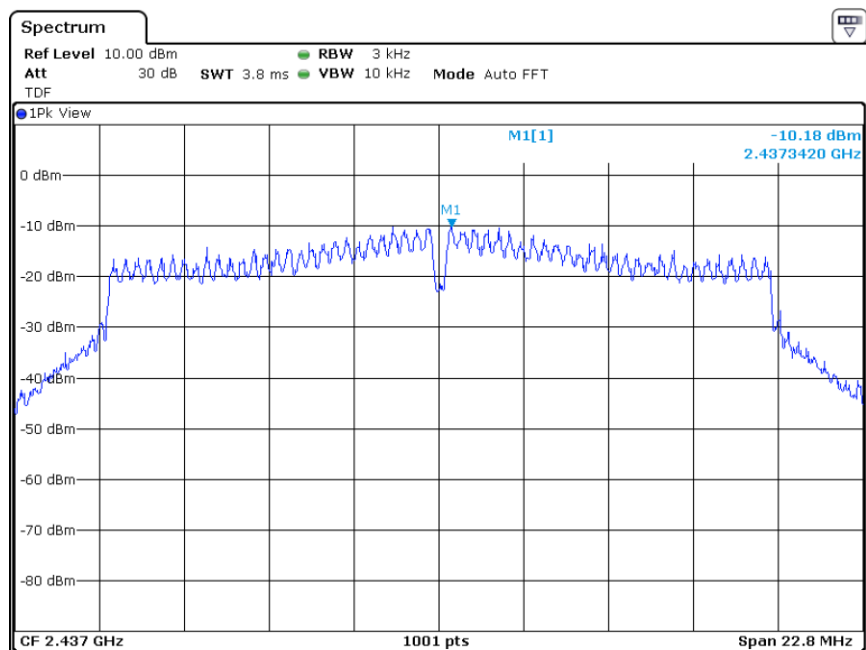
High CH



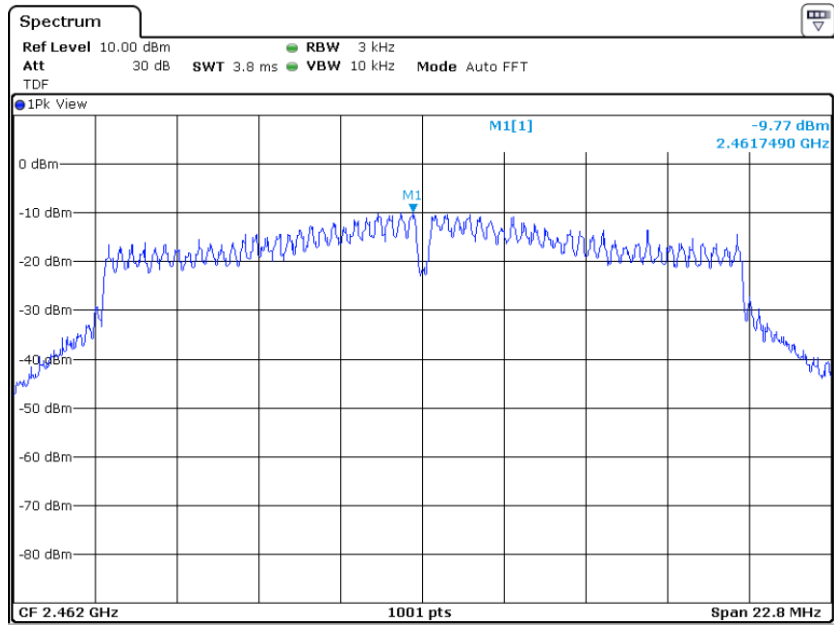
### 7.3.3 Measured Graph\_ 2.4 GHz WLAN (802.11n(HT20))



Low CH



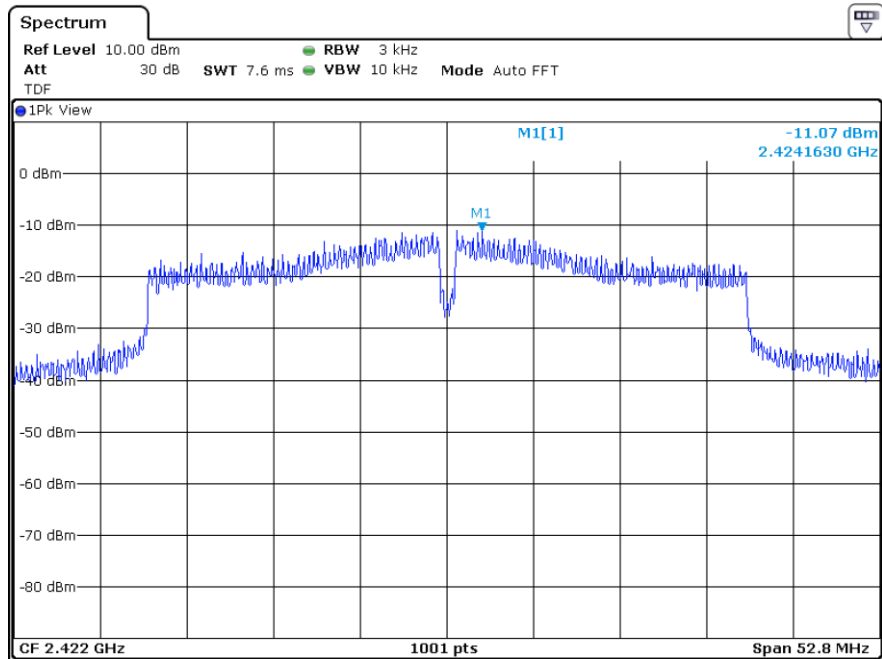
Mid CH



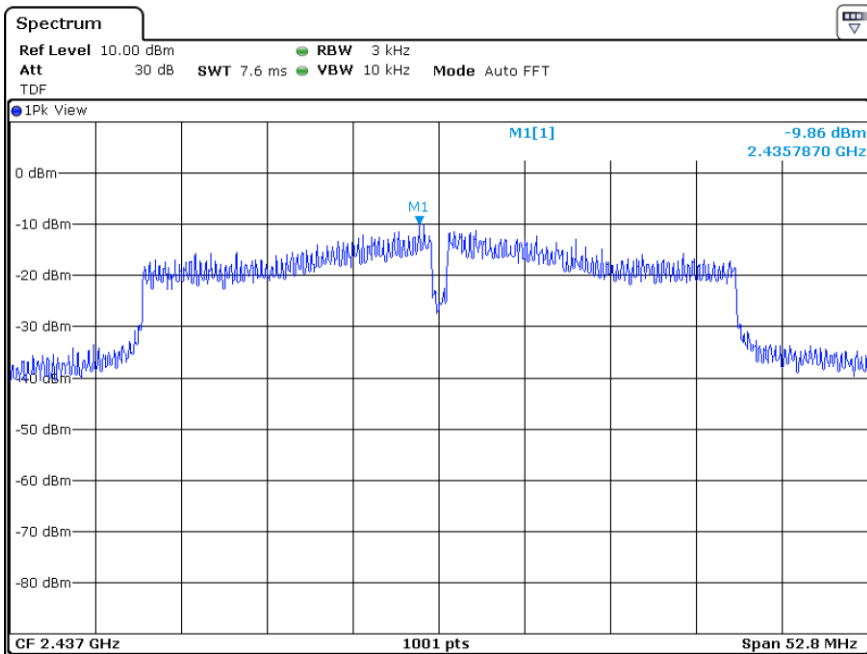
High CH



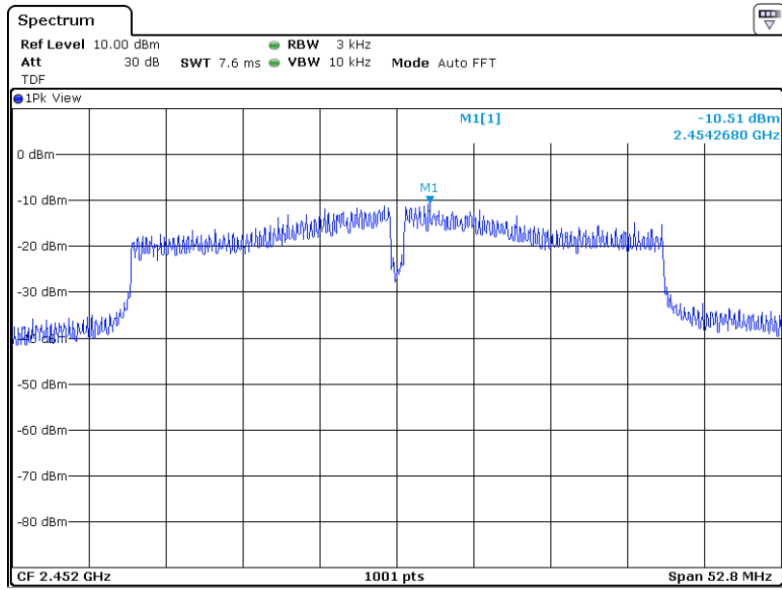
### 7.3.4 2.4 GHz WLAN (802.11n(HT40))



Low CH



Mid CH



High CH

## 8 Conducted Spurious Emission

### 8.1 Operating environment

Temperature : 23.6 °C  
Relative humidity : 46.5 %

### 8.2 Measurement method

Standard : §15.247 (d)

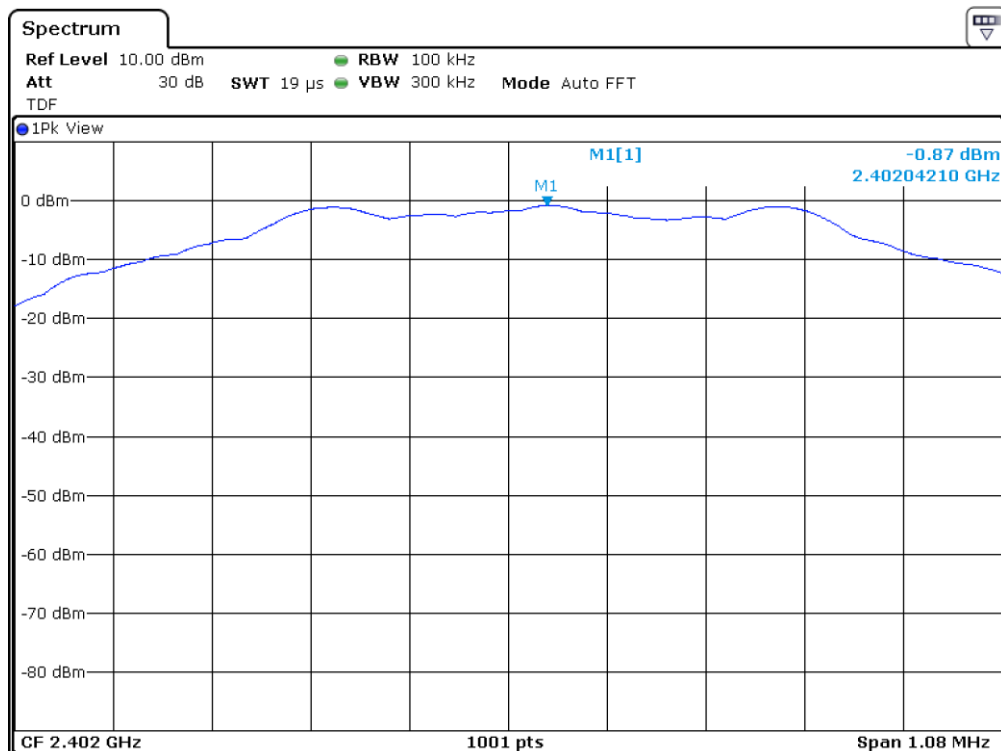
### 8.3 Test data

Operating mode : Transmit mode  
Test Result : Pass

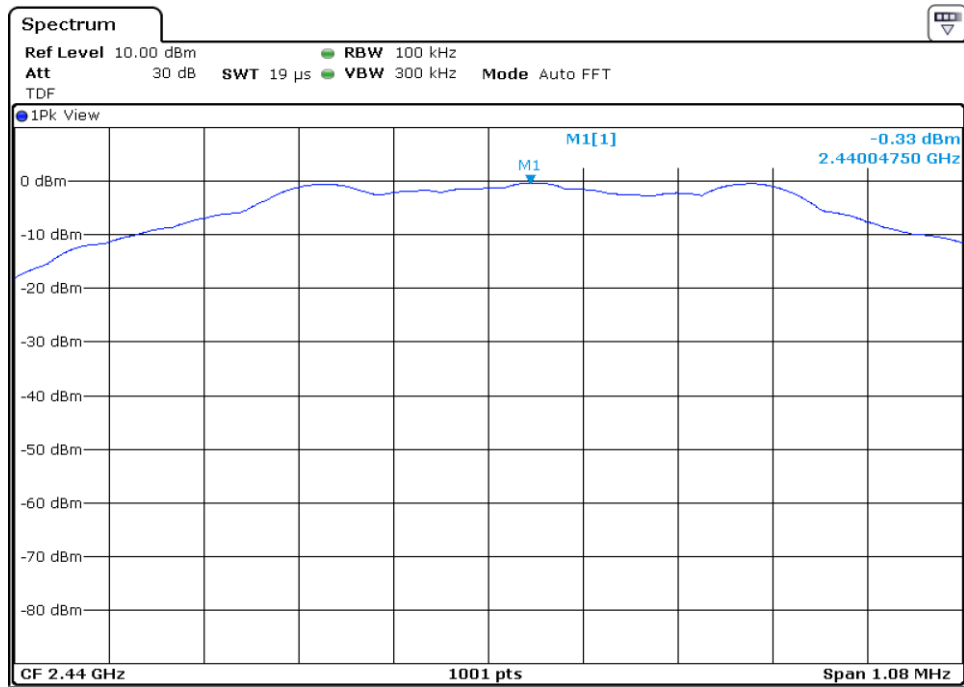
#### 8.3.1 Measured Results

##### 8.3.1.1 Bluetooth LE

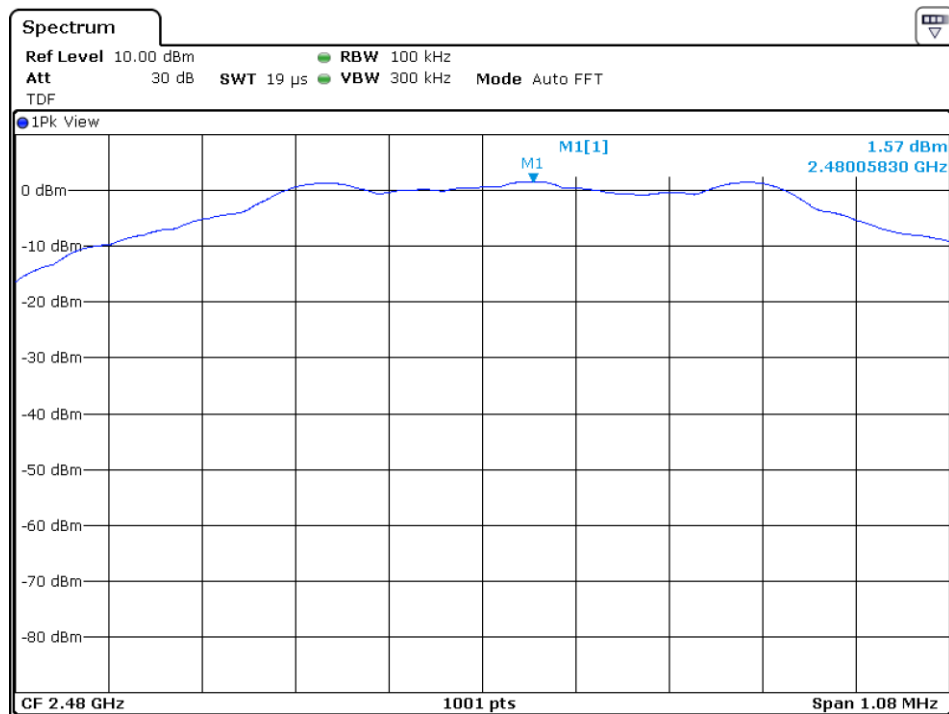
##### 8.3.1.1.1 Signal level (dB m)



Low CH



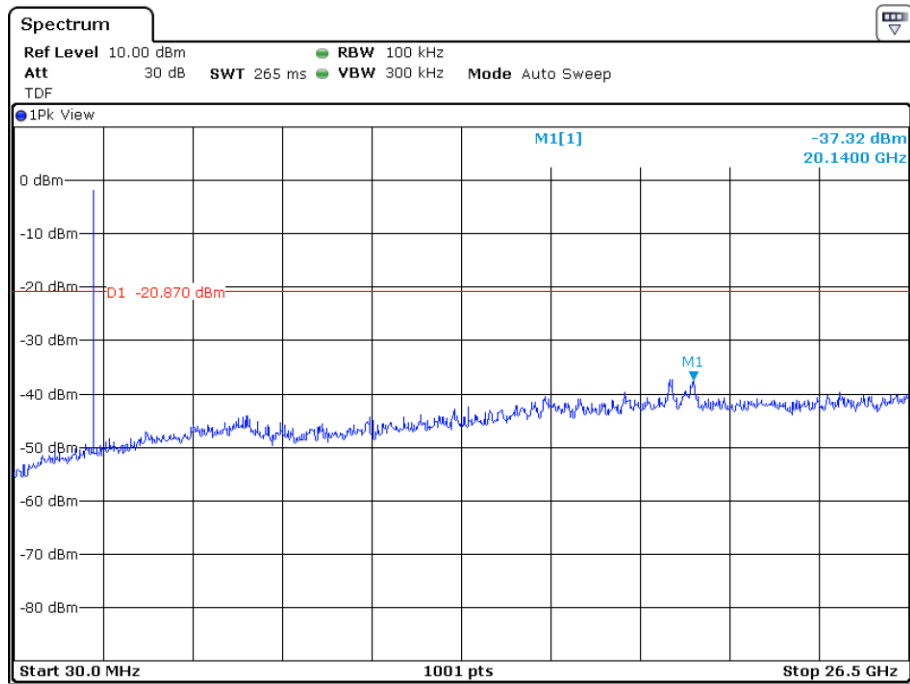
Mid CH



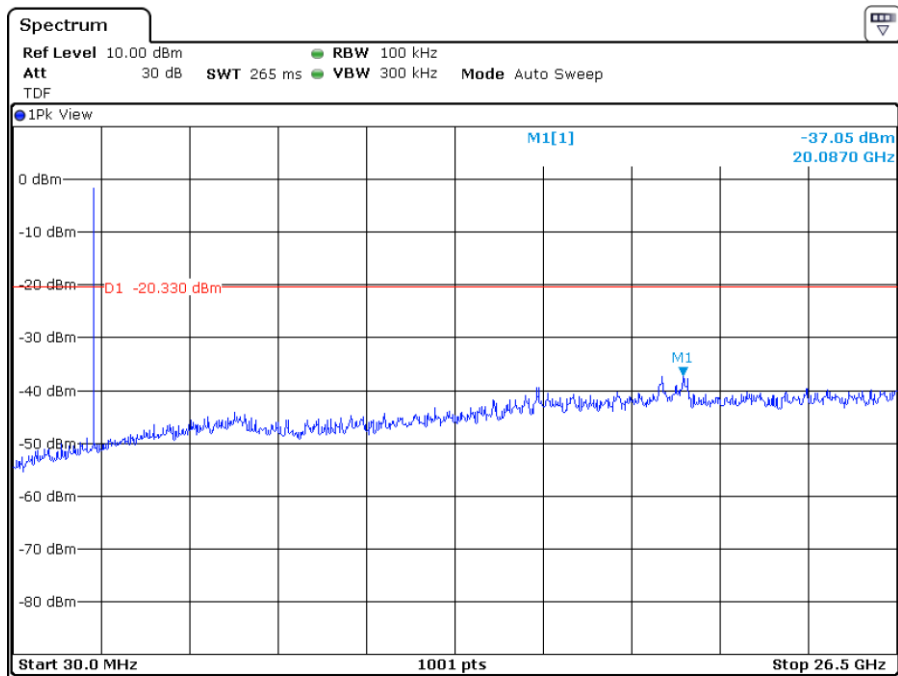
High CH



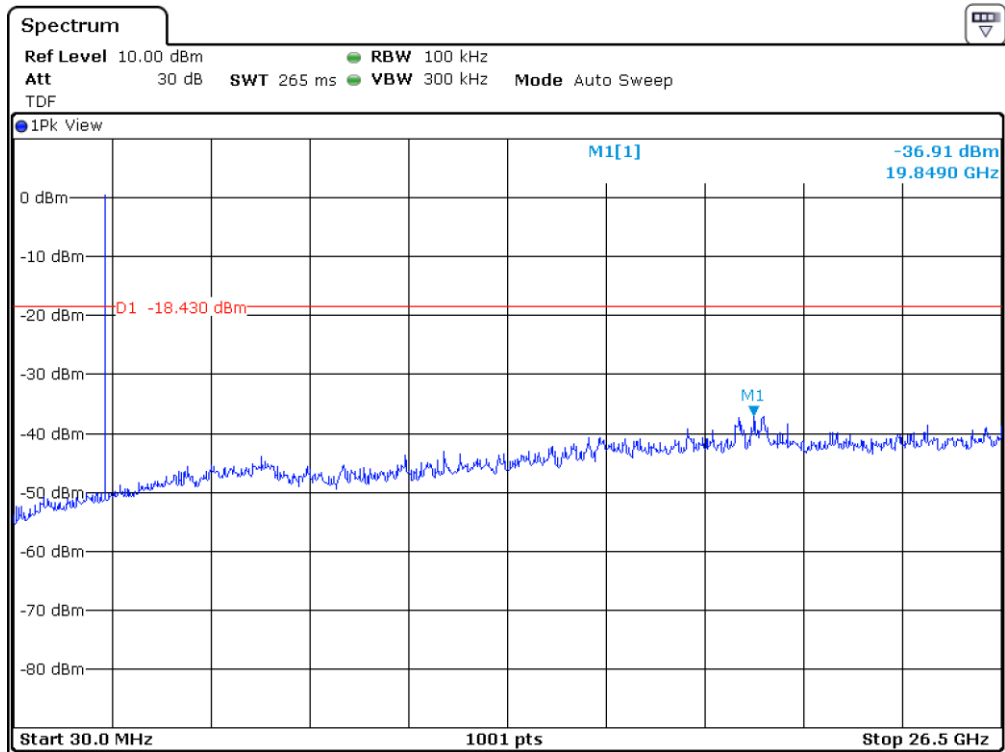
### 8.3.1.1.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH



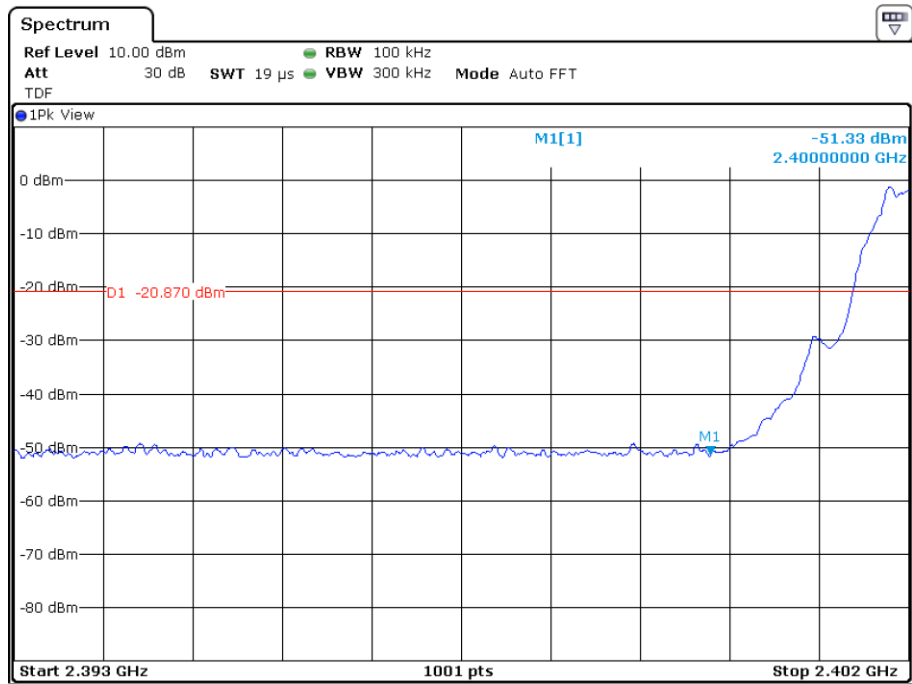
Mid CH



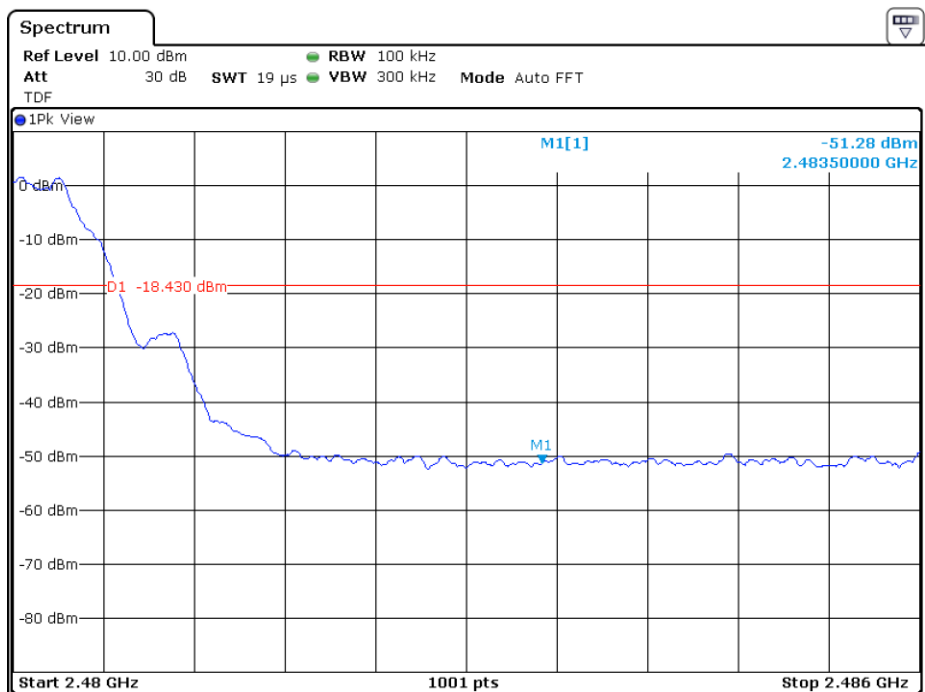
High CH



### 8.3.1.1.3 Band Edge



Low CH

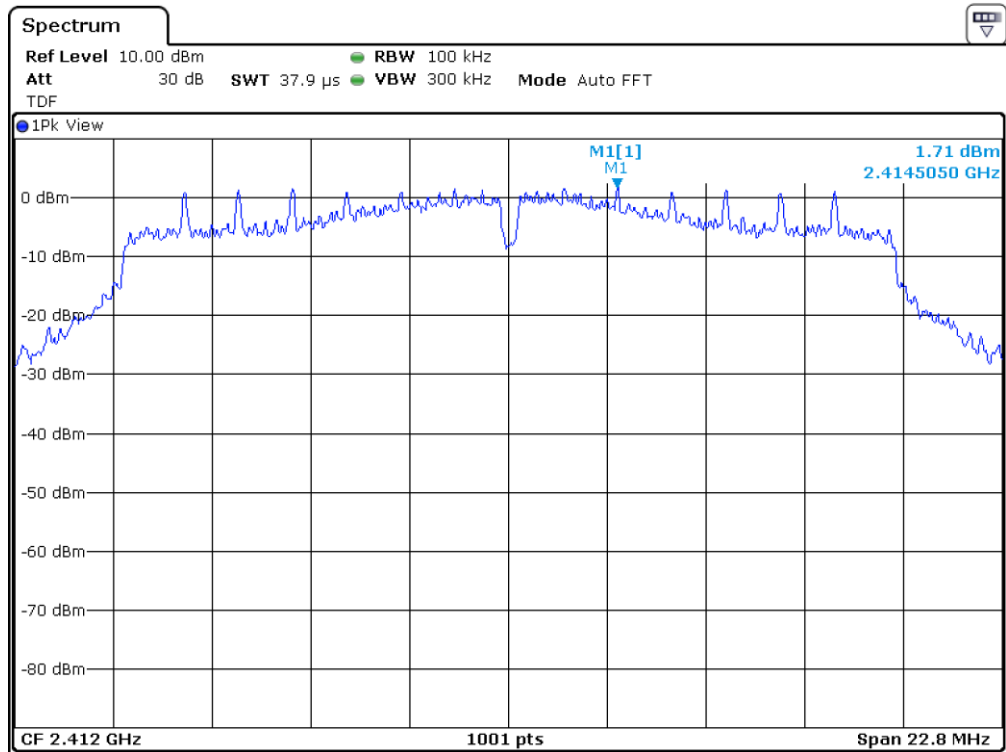


High CH

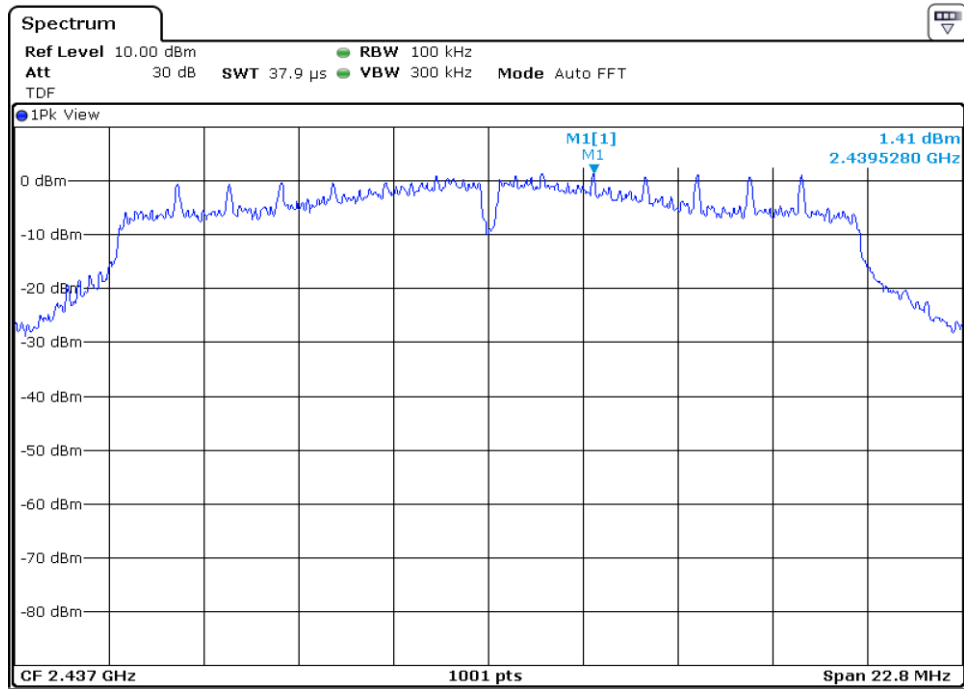


### 8.3.1.2 2.4 GHz WLAN (802.11n(HT20))

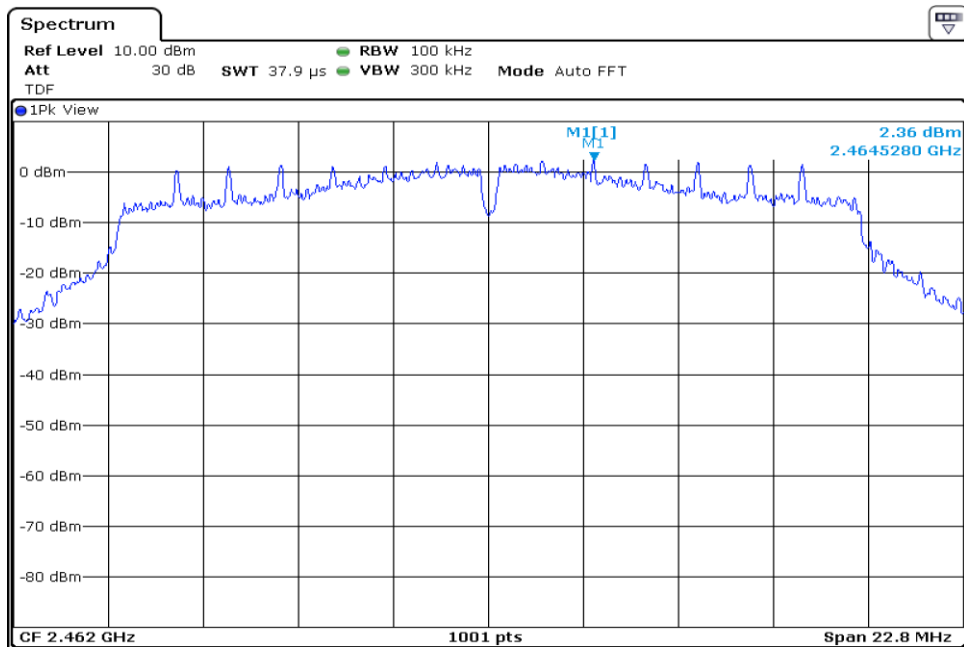
#### 8.3.1.2.1 Signal level (dB m)



Low CH



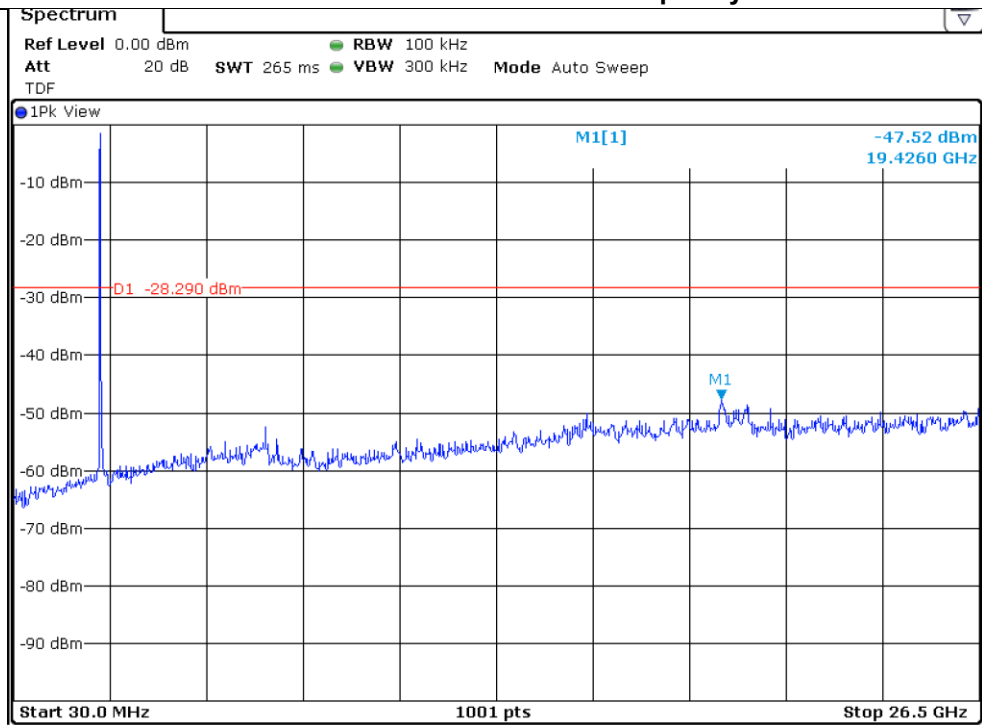
Mid CH



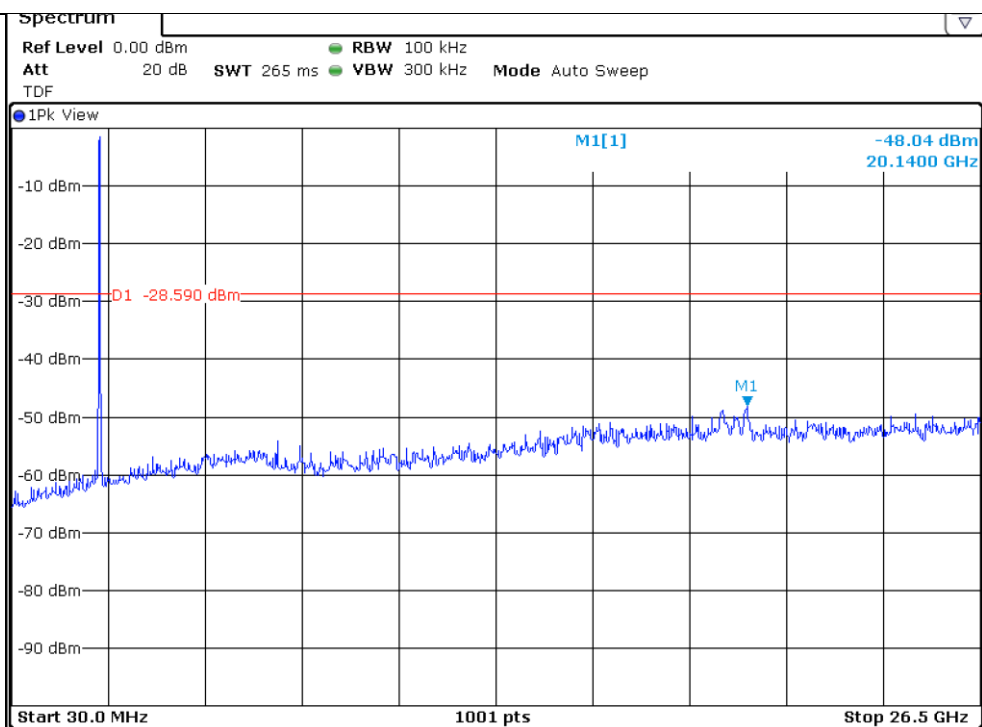
High CH



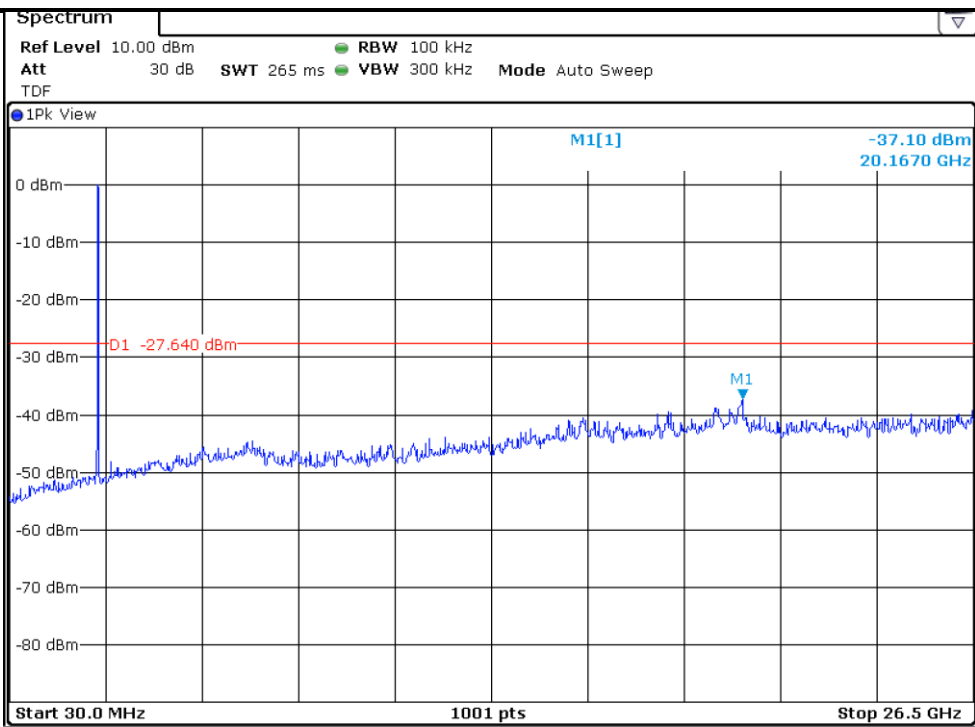
### 8.3.1.2.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH



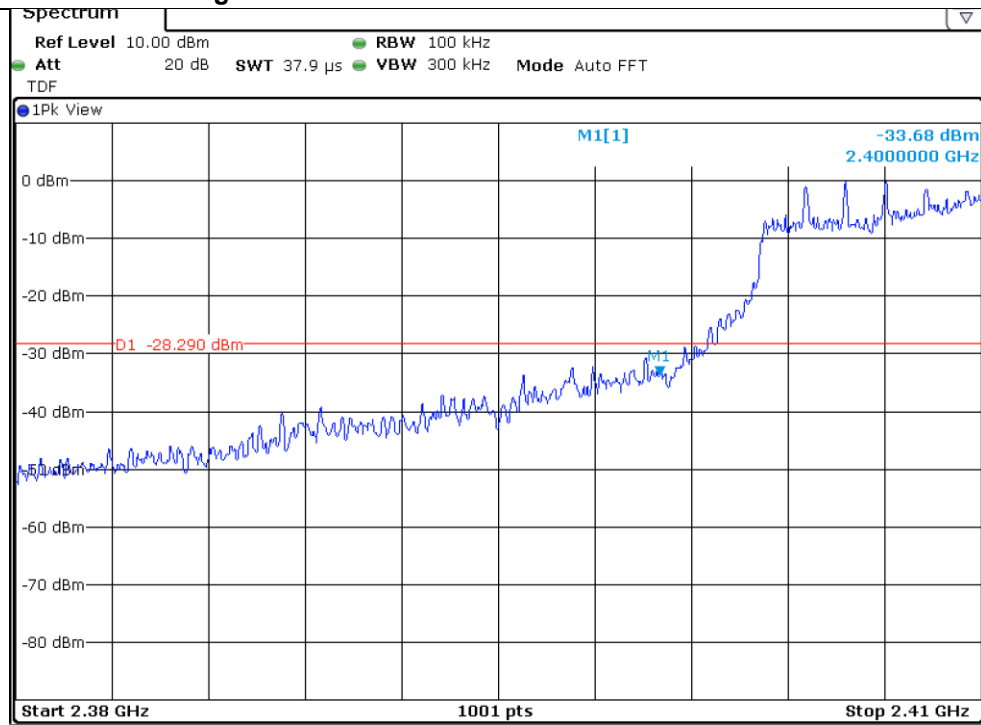
Mid CH



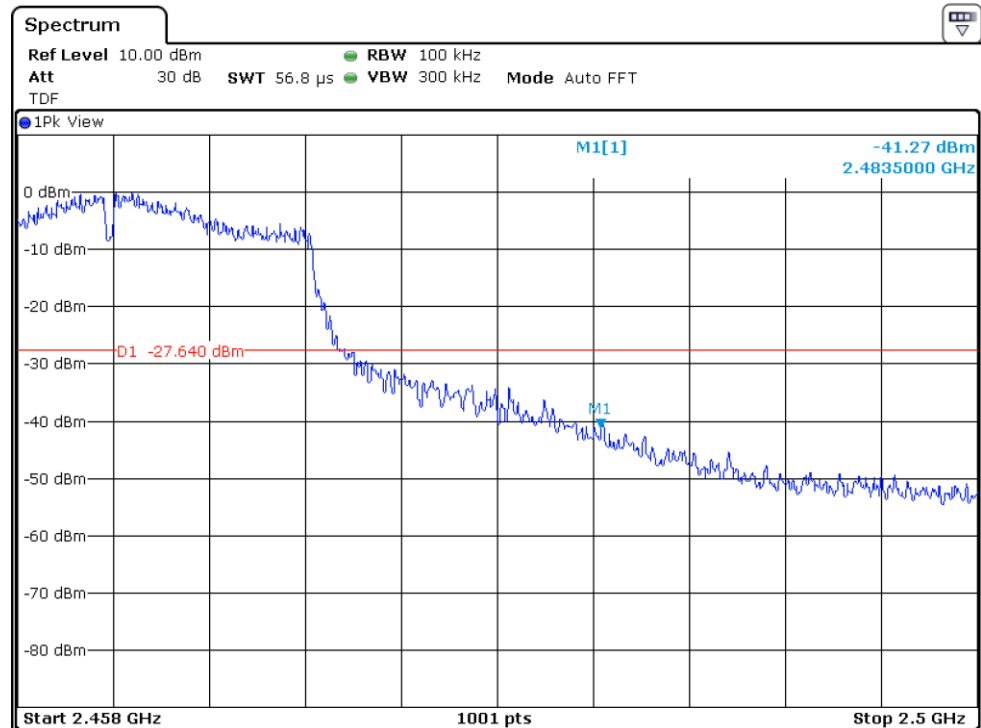
High CH



### 8.3.1.2.3 Band Edge



Low CH

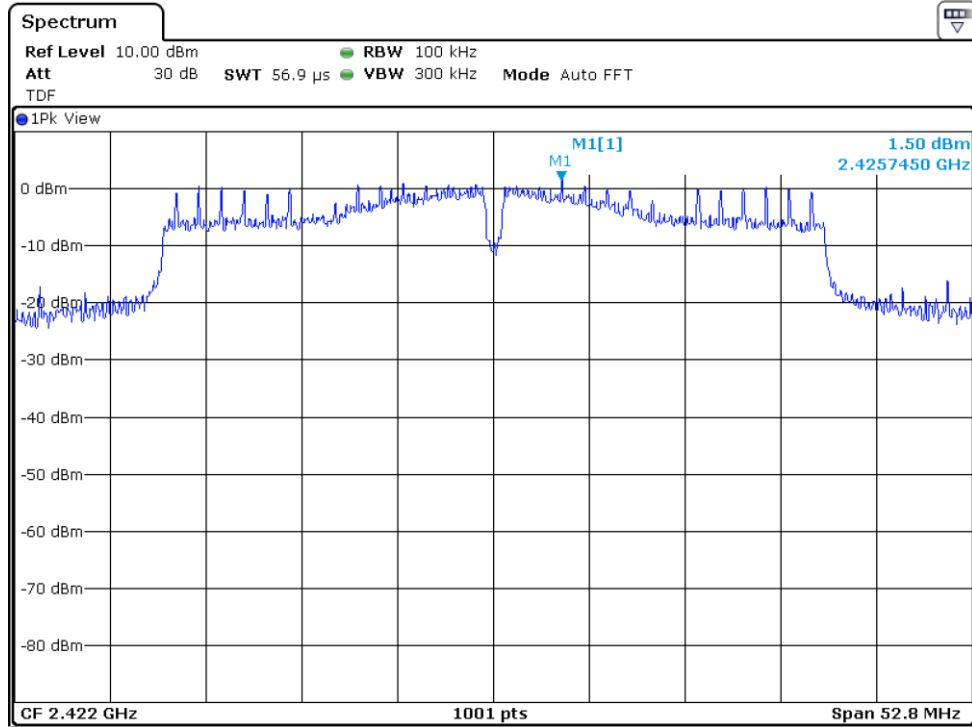


High CH

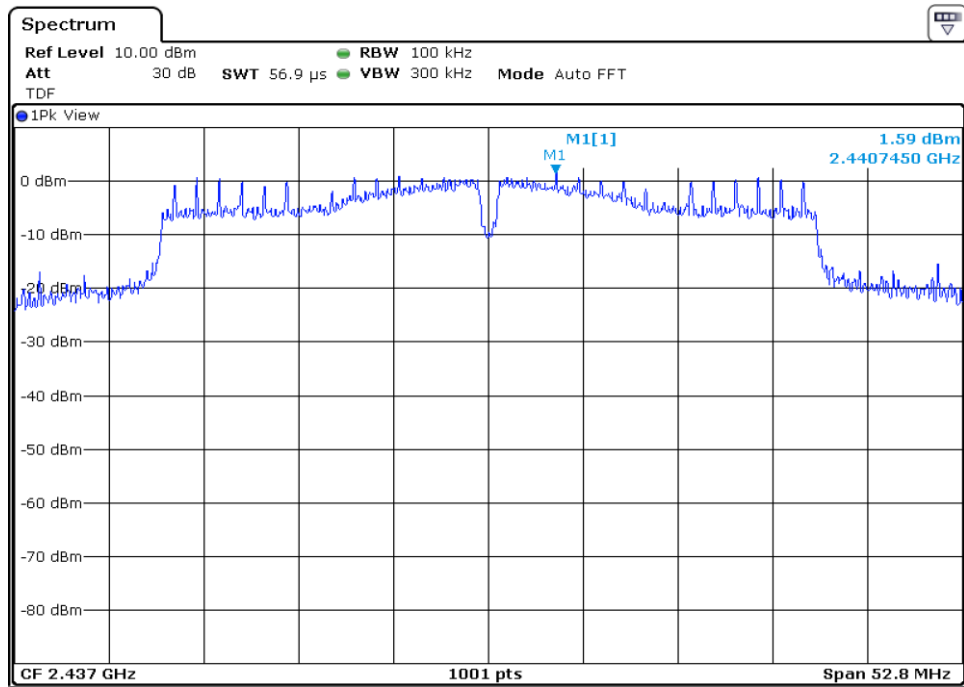


### 8.3.1.3 2.4 GHz WLAN (802.11n(HT40))

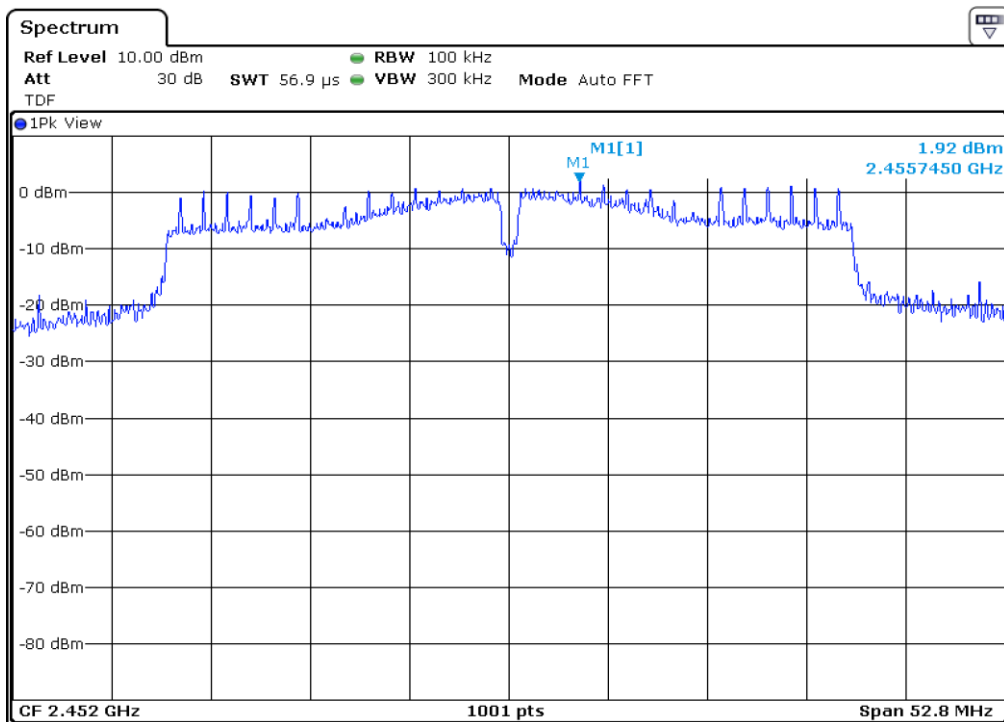
#### 8.3.1.3.1 Signal level (dB m)



Low CH



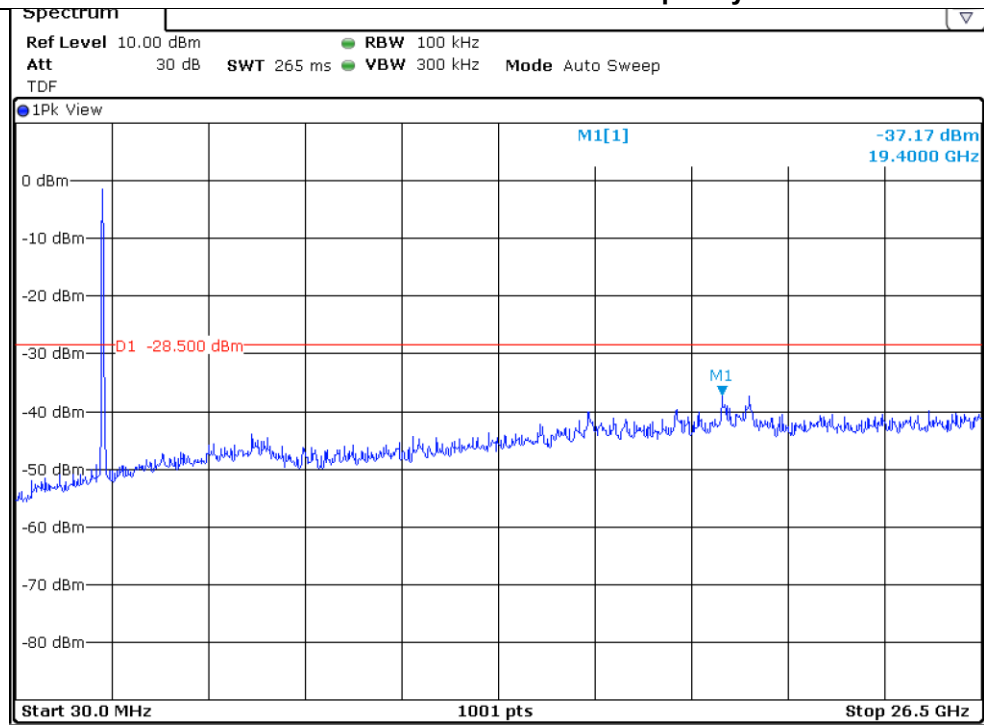
Mid CH



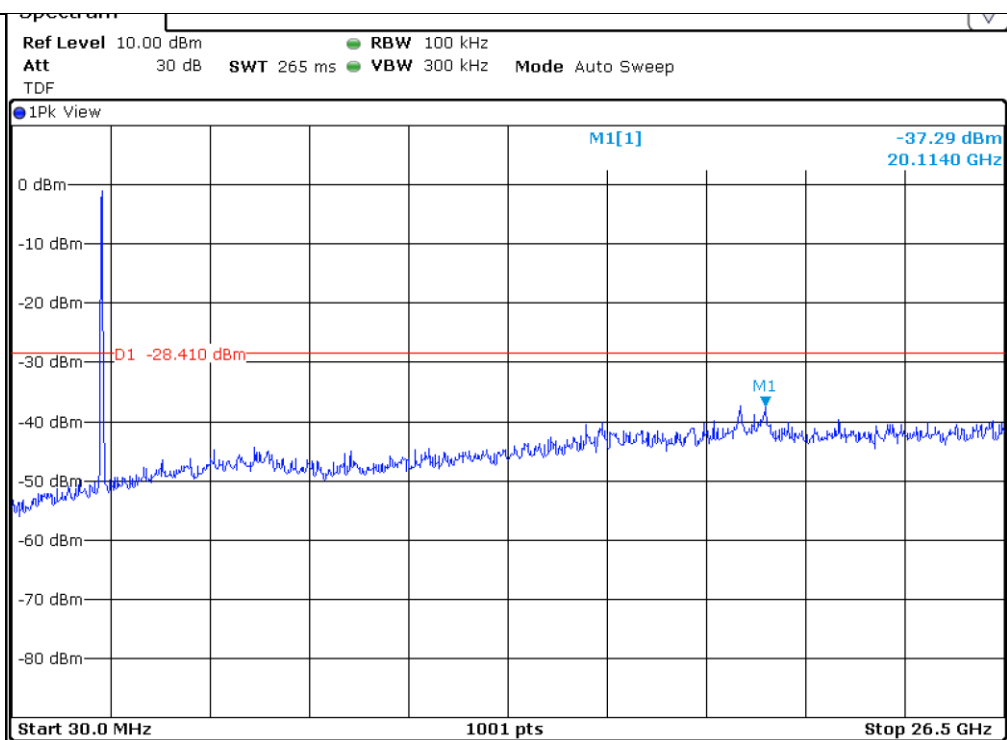
High CH



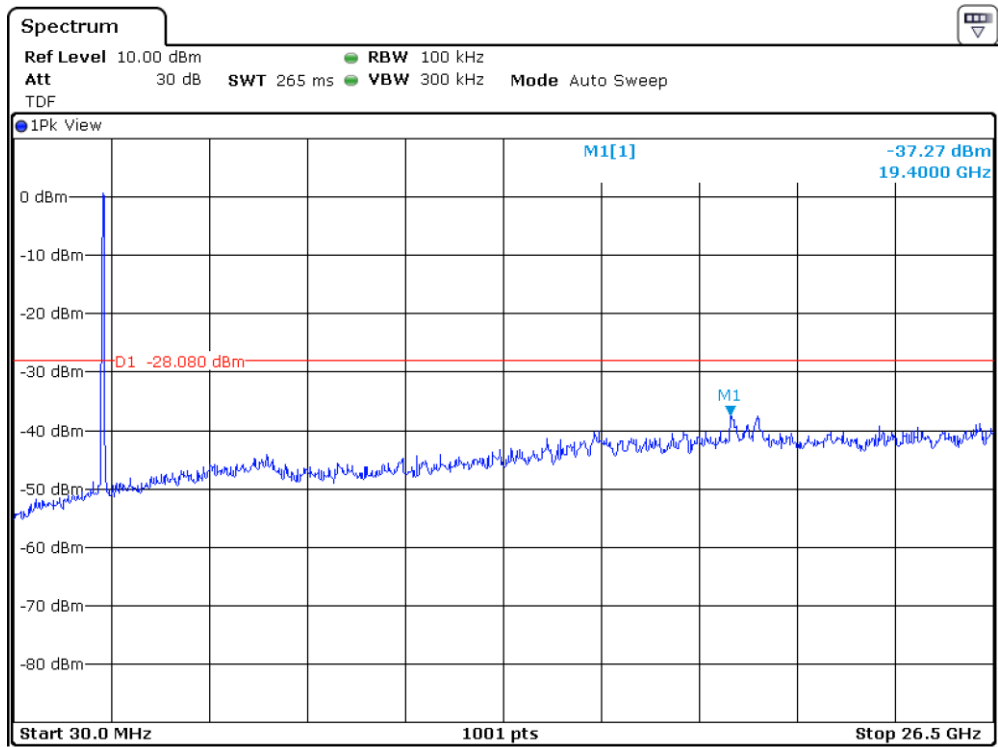
### 8.3.1.3.2 Unwanted Emissions In Non-Restricted Frequency Bands



Low CH



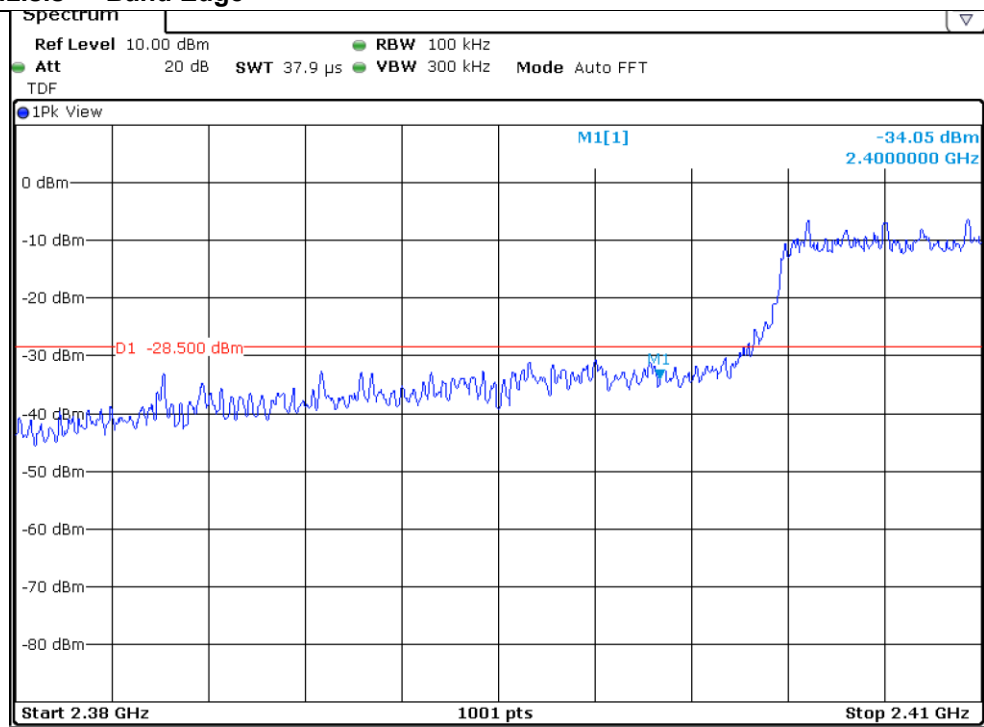
Mid CH



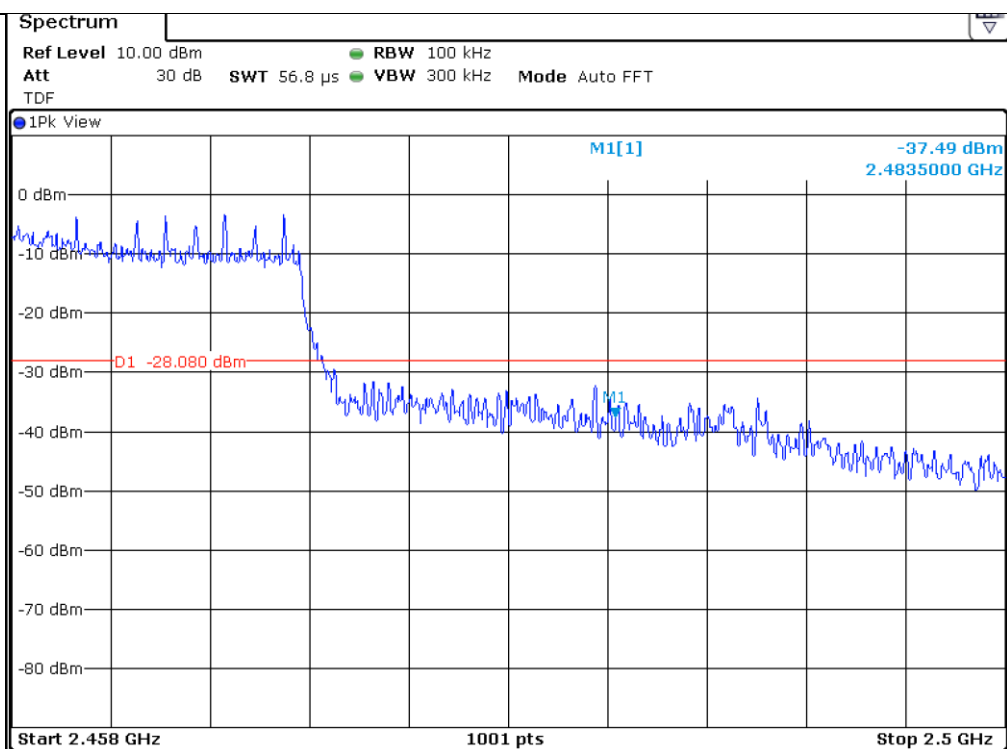
High CH



### 8.3.1.3.3 Band Edge



### Low CH



### High CH

## 9 Radiated Spurious Emission

### 9.1 Operating environment

Temperature : 24.1 °C  
Relative humidity : 47.5 %

### 9.2 Measurement method

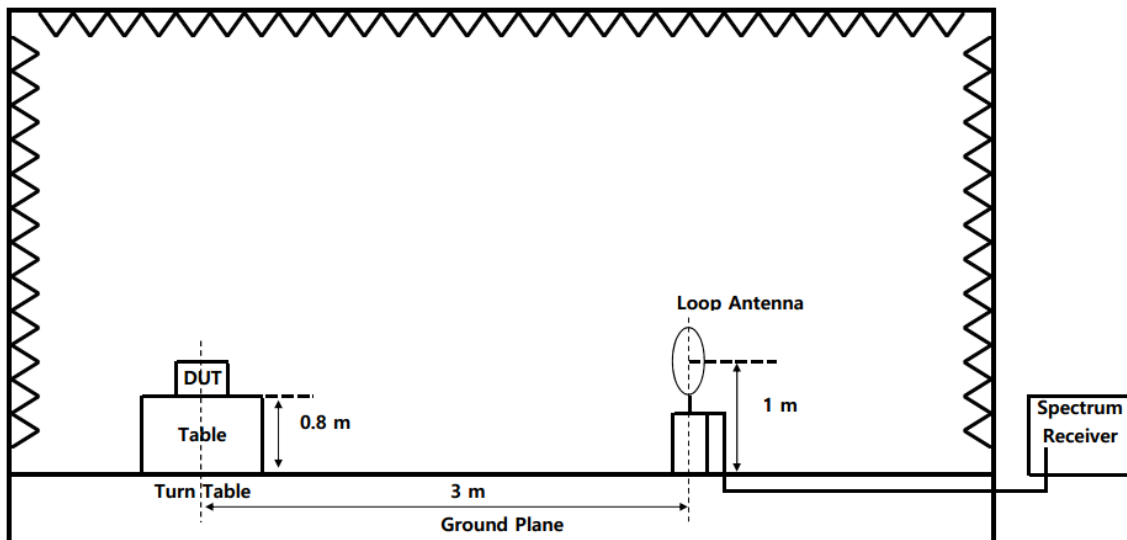
Standard : §15.247 (d), §15.209, §15.205

### 9.3 Test setup

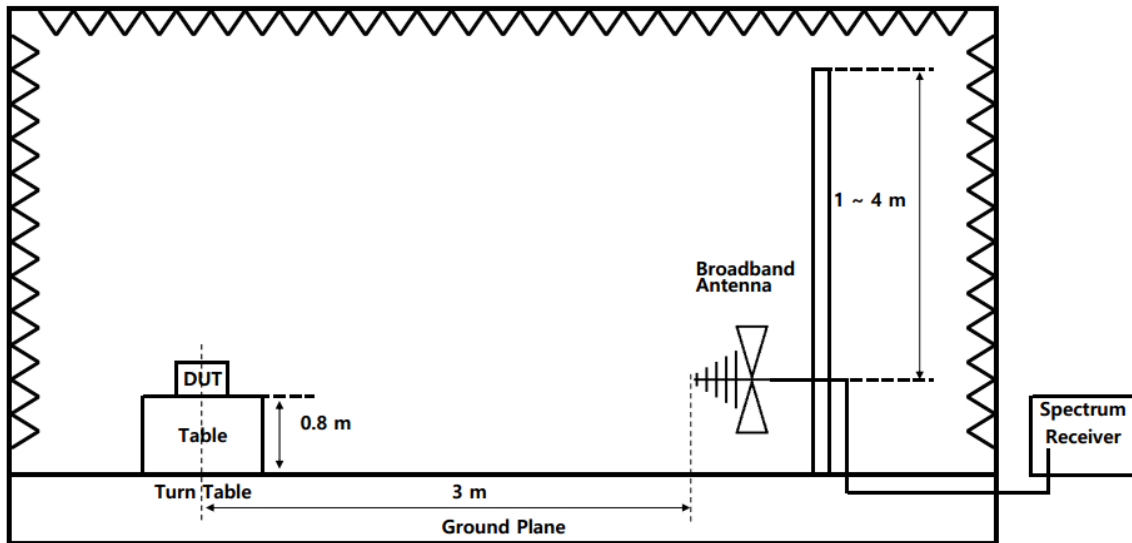
The radiated emissions measurements were performed on the 3 m, Semi-Anechoic Chamber. The EUT was placed on a non-conductive turntable above the ground plane.

The frequency spectrum from 9 kHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

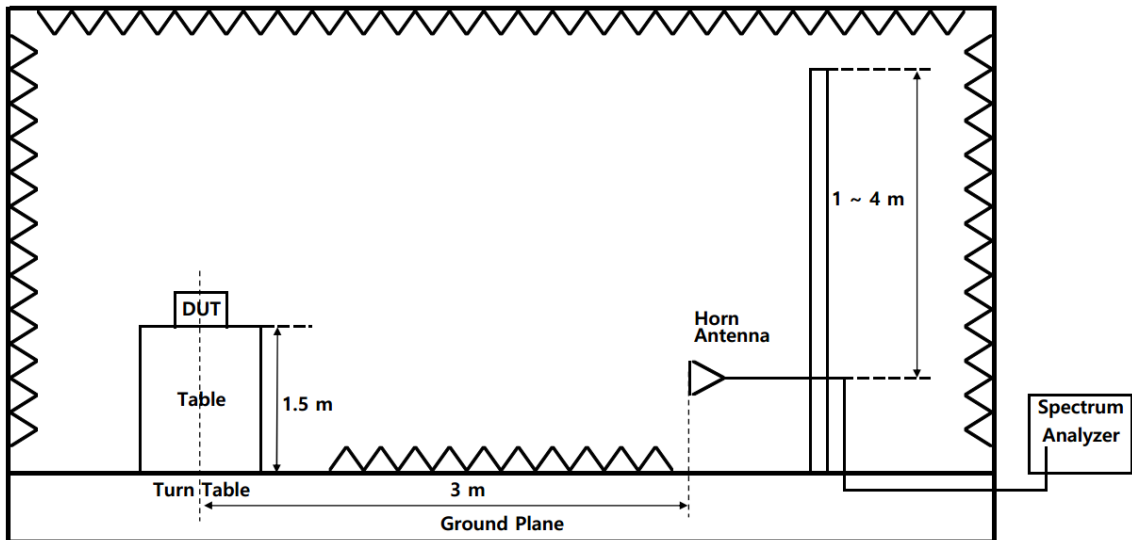
#### 9.3.1 Below 30 MHz



### 9.3.2 30 MHz to 1 GHz



### 9.3.3 Above 1 GHz



**9.4 Test data**

Operating mode : Transmit mode

Test Result : Pass

**9.4.1 Test data for Restricted band****9.4.1.1 Bluetooth LE**

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 2 336.168          | 51.88             | Peak     | V                  | -10.30               | 41.58              | 73.98             | 32.40          |
| 2 316.984          | 38.40             | Average  | V                  |                      | 28.10              | 53.98             | 25.88          |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 2 493.286          | 47.08             | Peak     | V                  | -9.70                | 37.38              | 73.98             | 36.60          |
| 2 493.194          | 33.13             | Average  | V                  |                      | 23.43              | 53.98             | 30.55          |

**9.4.1.2 2.4 GHz WLAN (802.11n(HT20))**

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 2 389.696          | 64.16             | Peak     | H                  | -10.10               | 54.06              | 73.98             | 19.92          |
|                    | 44.25             | Average  | H                  |                      | 34.15              | 53.98             | 19.83          |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 2 484.453          | 80.21             | Peak     | H                  | -9.70                | 70.51              | 73.98             | 3.47           |
|                    | 61.19             | Average  | H                  |                      | 51.49              | 53.98             | 2.49           |



#### 9.4.1.3 2.4 GHz WLAN (802.11n(HT40))

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 2 389.128          | 78.67             | Peak     | H                  | -10.10               | 68.57              | 73.98             | 5.41           |
|                    | 61.35             | Average  | H                  |                      | 51.25              | 53.98             | 2.73           |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 2 484.304          | 79.55             | Peak     | H                  | -9.70                | 69.85              | 73.98             | 4.13           |
|                    | 61.52             | Average  | H                  |                      | 51.82              | 53.98             | 2.16           |

※ Ant. Pol. : Antenna Polarization

※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain

※ Result = Reading + Corr. Factor

※ Margin = Limit - Result

#### 9.4.2 Test data for Spurious & Harmonic

##### 9.4.2.1 Measurement Results for below 30 MHz

| Frequency<br>(MHz)                                       | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|----------------------------------------------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH                                                   |                   |          |                    |                      |                    |                   |                |
| It was not found any emissions peaks found from the EUT. |                   |          |                    |                      |                    |                   |                |
| Mid CH                                                   |                   |          |                    |                      |                    |                   |                |
| It was not found any emissions peaks found from the EUT. |                   |          |                    |                      |                    |                   |                |
| High CH                                                  |                   |          |                    |                      |                    |                   |                |
| It was not found any emissions peaks found from the EUT. |                   |          |                    |                      |                    |                   |                |

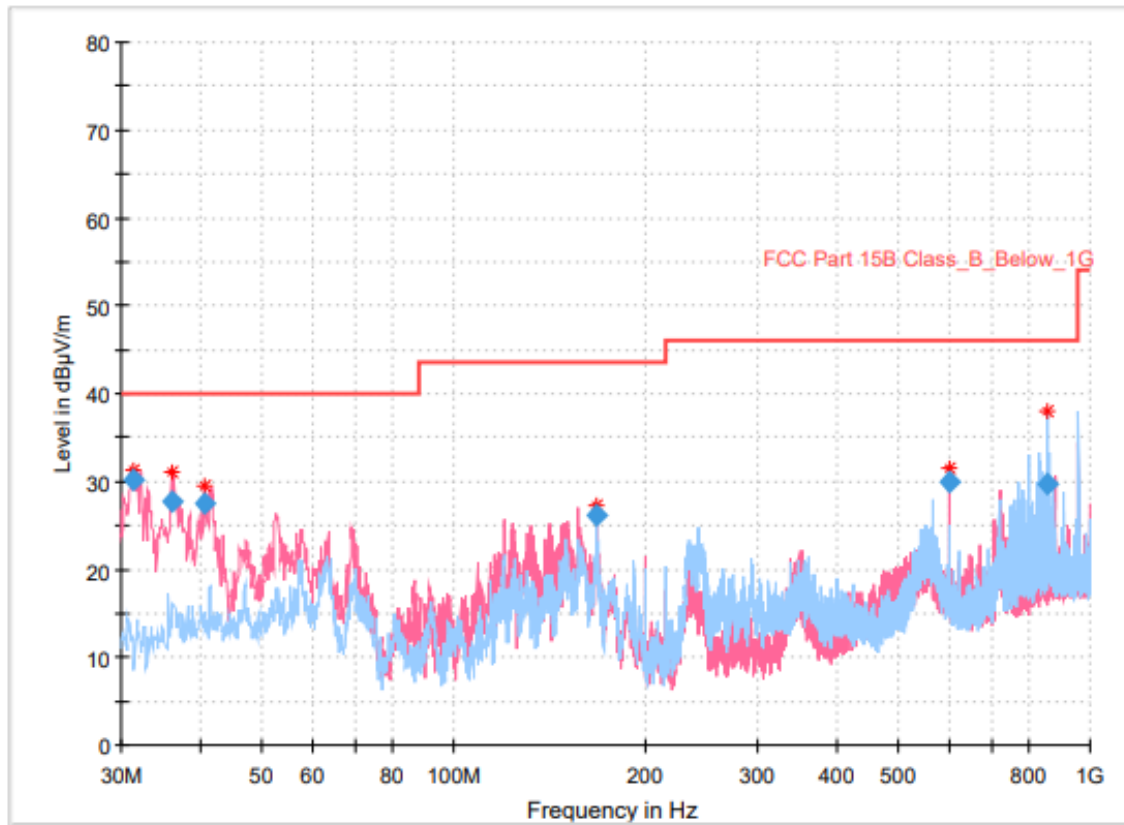
※ Ant. Pol. : Antenna Polarization

※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain

※ Result = Reading + Corr. Factor

※ Margin = Limit – Result

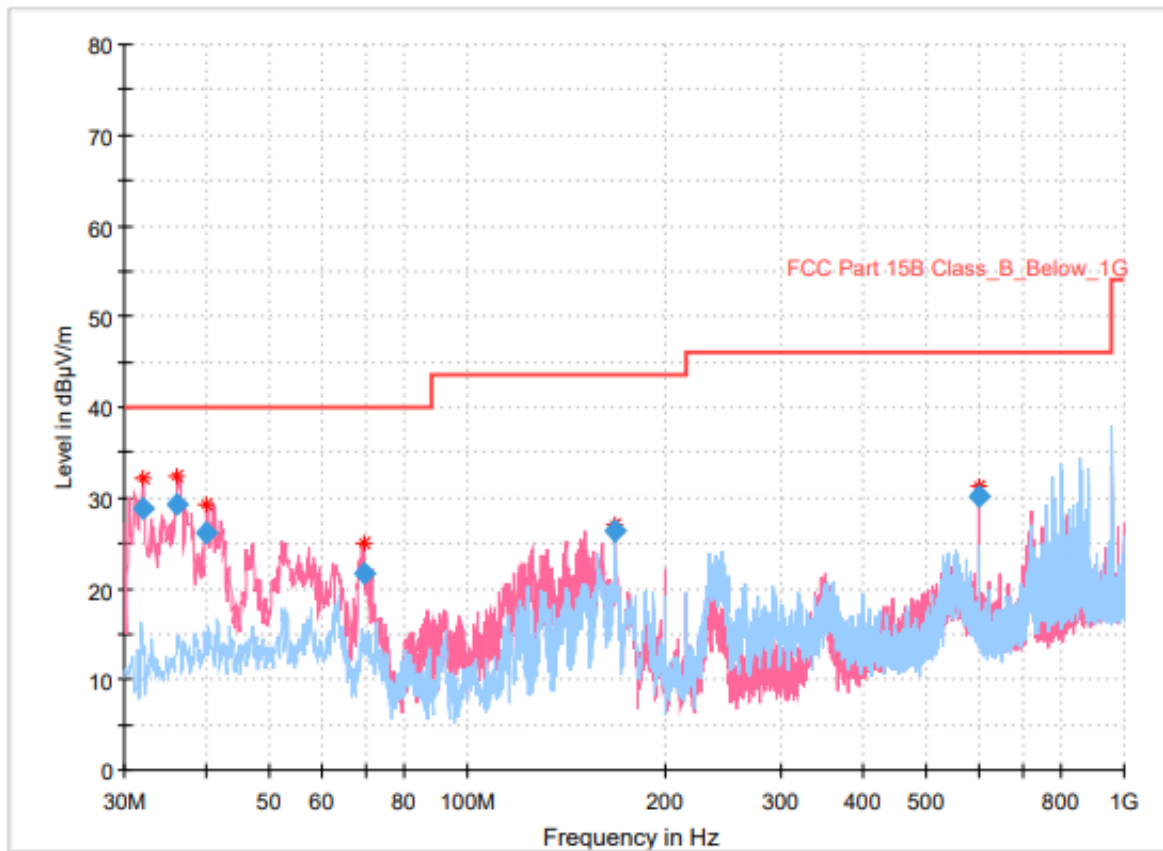
#### 9.4.2.2 Measurement Results for below 1 GHz Bluetooth LE



#### Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.358000       | 30.21              | 40.00          | 9.79        | 1000.0          | 120.000         | 100.0       | V   | 316.0         | -27.0      |
| 36.014000       | 27.75              | 40.00          | 12.25       | 1000.0          | 120.000         | 100.0       | V   | 189.0         | -25.8      |
| 40.670000       | 27.41              | 40.00          | 12.60       | 1000.0          | 120.000         | 100.0       | V   | 271.0         | -24.0      |
| 168.031000      | 26.23              | 43.50          | 17.27       | 1000.0          | 120.000         | 200.0       | H   | 195.0         | -27.5      |
| 600.069000      | 29.86              | 46.00          | 16.14       | 1000.0          | 120.000         | 100.0       | V   | 37.0          | -14.5      |
| 856.149000      | 29.62              | 46.00          | 16.38       | 1000.0          | 120.000         | 100.0       | H   | 151.0         | -10.6      |

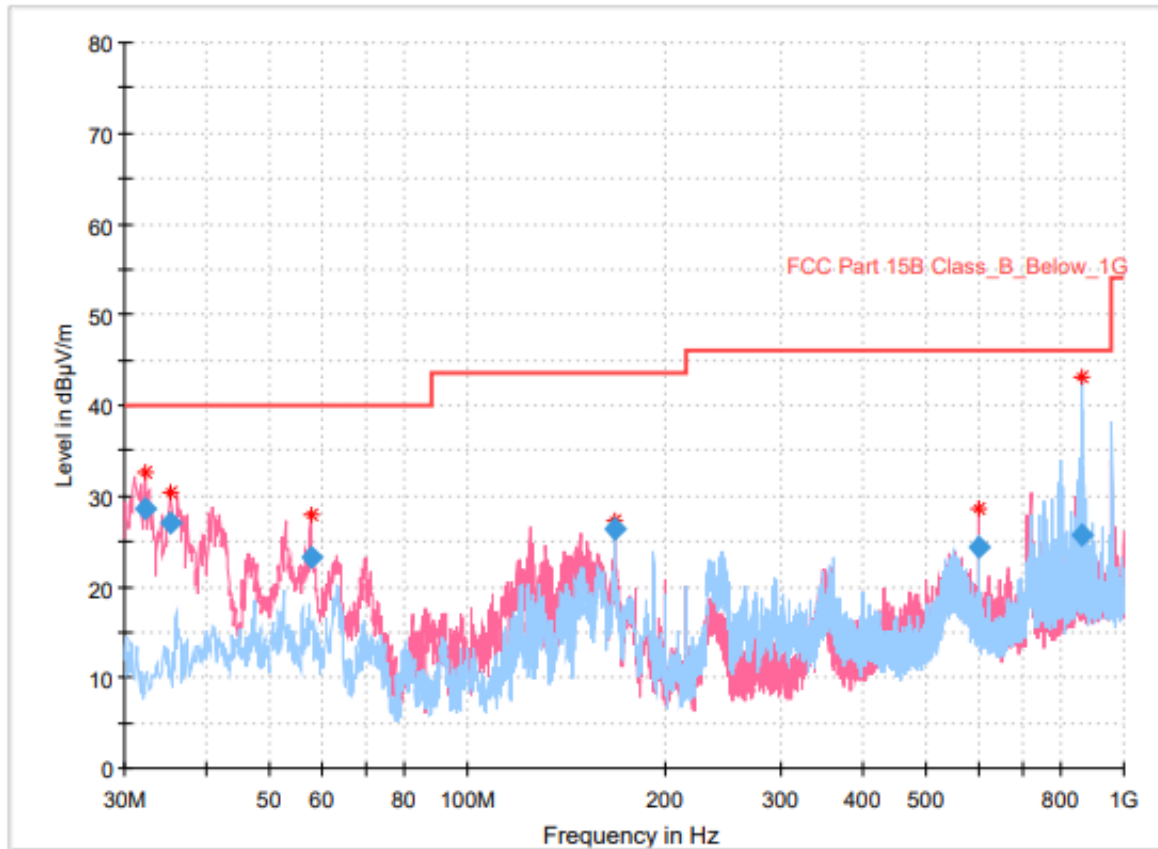
Low CH



## Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 32.037000       | 28.88              | 40.00          | 11.12       | 1000.0          | 120.000         | 100.0       | V   | 0.0           | -27.1      |
| 36.208000       | 29.36              | 40.00          | 10.64       | 1000.0          | 120.000         | 100.0       | V   | 322.0         | -25.7      |
| 40.088000       | 26.08              | 40.00          | 13.92       | 1000.0          | 120.000         | 100.0       | V   | 297.0         | -24.2      |
| 69.479000       | 21.72              | 40.00          | 18.28       | 1000.0          | 120.000         | 100.0       | V   | 99.0          | -27.1      |
| 168.031000      | 26.46              | 43.50          | 17.04       | 1000.0          | 120.000         | 100.0       | V   | 66.0          | -27.5      |
| 600.069000      | 30.27              | 46.00          | 15.73       | 1000.0          | 120.000         | 100.0       | V   | 23.0          | -14.5      |

Mid CH

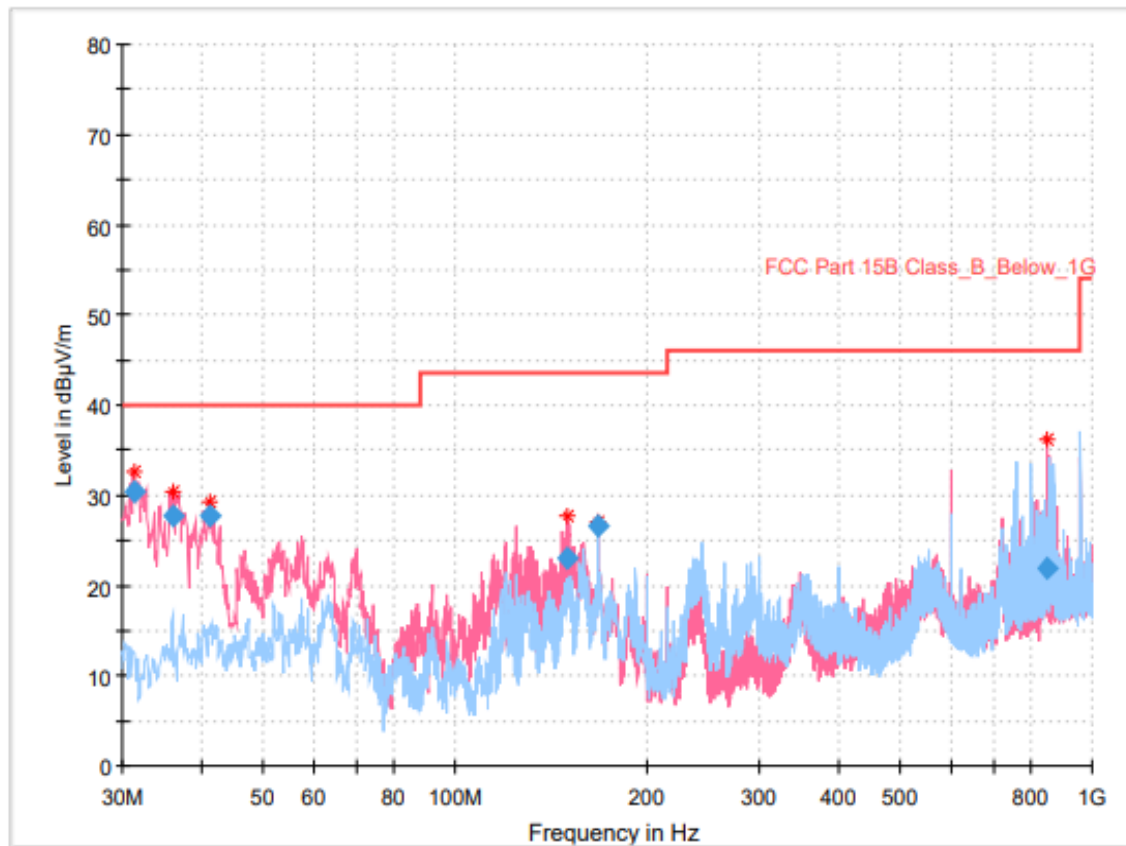


## Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 32.231000       | 28.51              | 40.00          | 11.49       | 1000.0          | 120.000         | 100.0       | V   | 214.0         | -27.0      |
| 35.238000       | 27.10              | 40.00          | 12.90       | 1000.0          | 120.000         | 100.0       | V   | 258.0         | -26.1      |
| 57.742000       | 23.28              | 40.00          | 16.72       | 1000.0          | 120.000         | 100.0       | V   | 159.0         | -23.8      |
| 168.031000      | 26.47              | 43.50          | 17.03       | 1000.0          | 120.000         | 100.0       | V   | 159.0         | -27.5      |
| 599.972000      | 24.27              | 46.00          | 21.73       | 1000.0          | 120.000         | 100.0       | V   | 214.0         | -14.5      |
| 861.096000      | 25.70              | 46.00          | 20.30       | 1000.0          | 120.000         | 200.0       | H   | 0.0           | -10.4      |

High CH

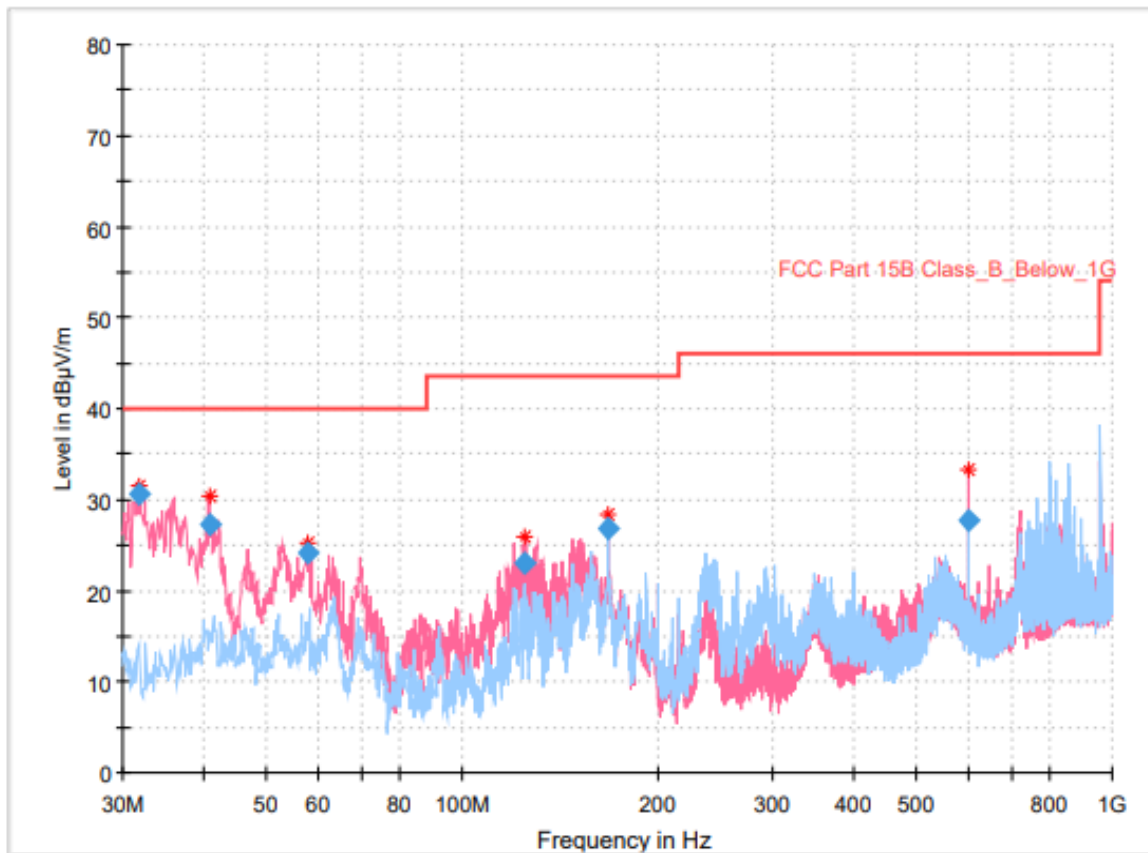
### 9.4.2.3 Measurement Results for below 1 GHz\_2.4 GHz WLAN (802.11n(HT20))



### Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.261000       | 30.46              | 40.00          | 9.54        | 1000.0          | 120.000         | 99.9        | V   | 259.0         | -26.9      |
| 36.014000       | 27.67              | 40.00          | 12.33       | 1000.0          | 120.000         | 99.9        | V   | 181.0         | -25.8      |
| 41.349000       | 27.76              | 40.00          | 12.24       | 1000.0          | 120.000         | 99.9        | V   | 325.0         | -23.9      |
| 150.183000      | 23.04              | 43.50          | 20.46       | 1000.0          | 120.000         | 99.9        | V   | 325.0         | -28.3      |
| 168.031000      | 26.57              | 43.50          | 16.93       | 1000.0          | 120.000         | 99.9        | V   | 59.0          | -27.5      |
| 847.904000      | 21.87              | 46.00          | 24.13       | 1000.0          | 120.000         | 99.9        | V   | 248.0         | -10.8      |

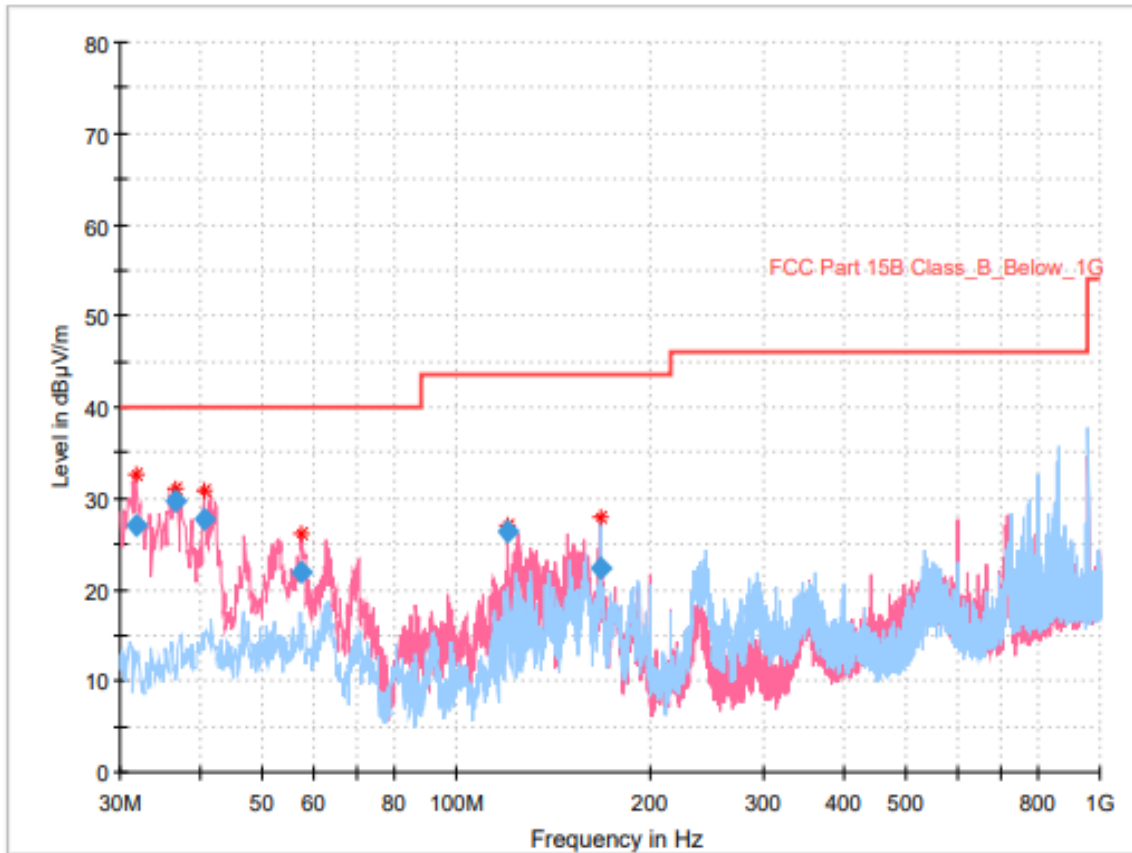
Low CH



## Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.746000       | 30.62              | 40.00          | 9.38        | 1000.0          | 120.000         | 99.9        | V   | 265.0         | -27.0      |
| 40.767000       | 27.33              | 40.00          | 12.67       | 1000.0          | 120.000         | 99.9        | V   | 243.0         | -24.0      |
| 57.742000       | 24.03              | 40.00          | 15.97       | 1000.0          | 120.000         | 99.9        | V   | 55.0          | -23.8      |
| 125.157000      | 23.00              | 43.50          | 20.50       | 1000.0          | 120.000         | 99.9        | V   | 0.0           | -27.3      |
| 168.031000      | 26.80              | 43.50          | 16.70       | 1000.0          | 120.000         | 99.9        | V   | 265.0         | -27.5      |
| 600.069000      | 27.62              | 46.00          | 18.38       | 1000.0          | 120.000         | 99.9        | V   | 44.0          | -14.5      |

Mid CH

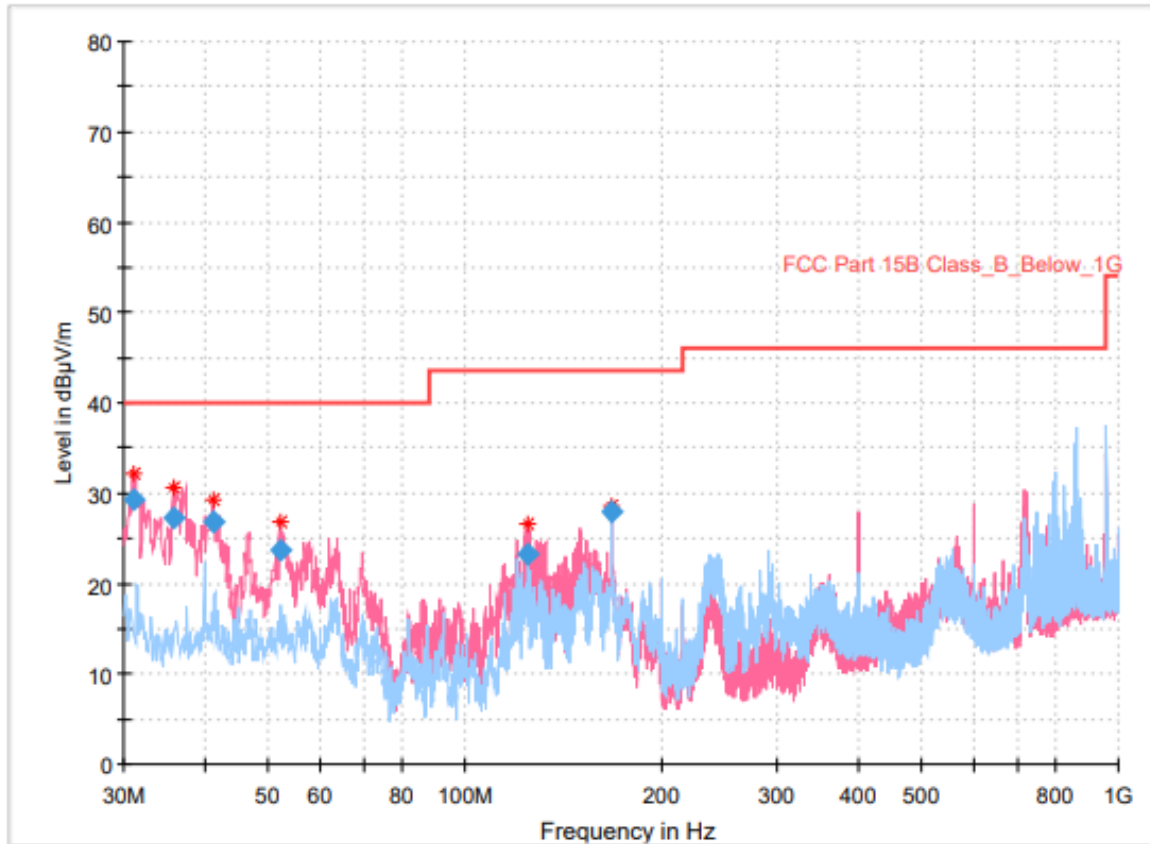


## Final Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.746000       | 27.12              | 40.00          | 12.88       | 1000.0          | 120.000         | 200.0       | V   | 329.0         | -27.0      |
| 36.596000       | 29.71              | 40.00          | 10.29       | 1000.0          | 120.000         | 99.8        | V   | 307.0         | -25.6      |
| 40.573000       | 27.64              | 40.00          | 12.36       | 1000.0          | 120.000         | 99.8        | V   | 296.0         | -24.0      |
| 57.451000       | 21.94              | 40.00          | 18.06       | 1000.0          | 120.000         | 99.8        | V   | 130.0         | -23.7      |
| 120.016000      | 26.36              | 43.50          | 17.14       | 1000.0          | 120.000         | 99.8        | V   | 54.0          | -26.6      |
| 167.934000      | 22.39              | 43.50          | 21.11       | 1000.0          | 120.000         | 200.0       | H   | 0.0           | -27.5      |

High CH

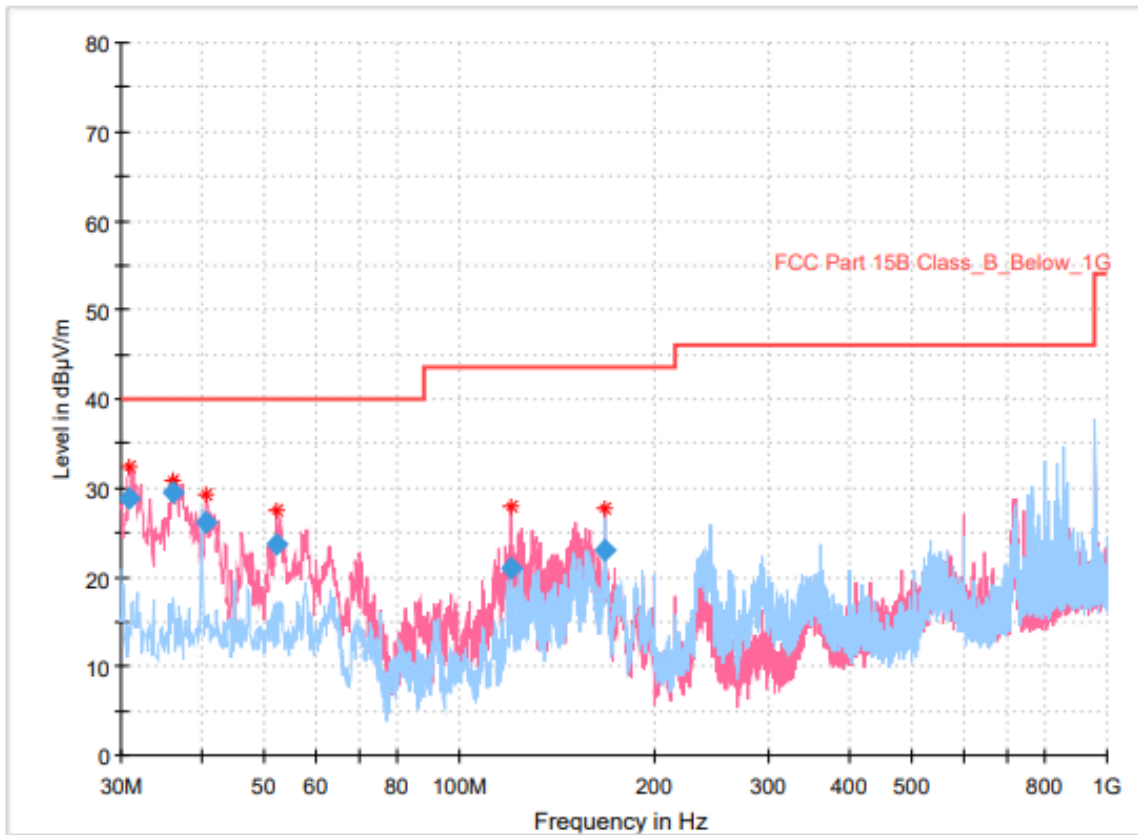
#### 9.4.2.4 Measurement Results for below 1 GHz\_2.4 GHz WLAN (802.11n(HT40))



#### Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.067000       | 29.30              | 40.00          | 10.70       | 1000.0          | 120.000         | 100.0       | V   | 299.0         | -26.9      |
| 35.723000       | 27.23              | 40.00          | 12.77       | 1000.0          | 120.000         | 100.0       | V   | 212.0         | -25.9      |
| 41.058000       | 26.75              | 40.00          | 13.25       | 1000.0          | 120.000         | 100.0       | V   | 0.0           | -23.9      |
| 52.019000       | 23.61              | 40.00          | 16.39       | 1000.0          | 120.000         | 100.0       | V   | 51.0          | -23.1      |
| 124.866000      | 23.30              | 43.50          | 20.20       | 1000.0          | 120.000         | 100.0       | V   | 310.0         | -27.3      |
| 168.031000      | 27.85              | 43.50          | 15.65       | 1000.0          | 120.000         | 100.0       | V   | 321.0         | -27.5      |

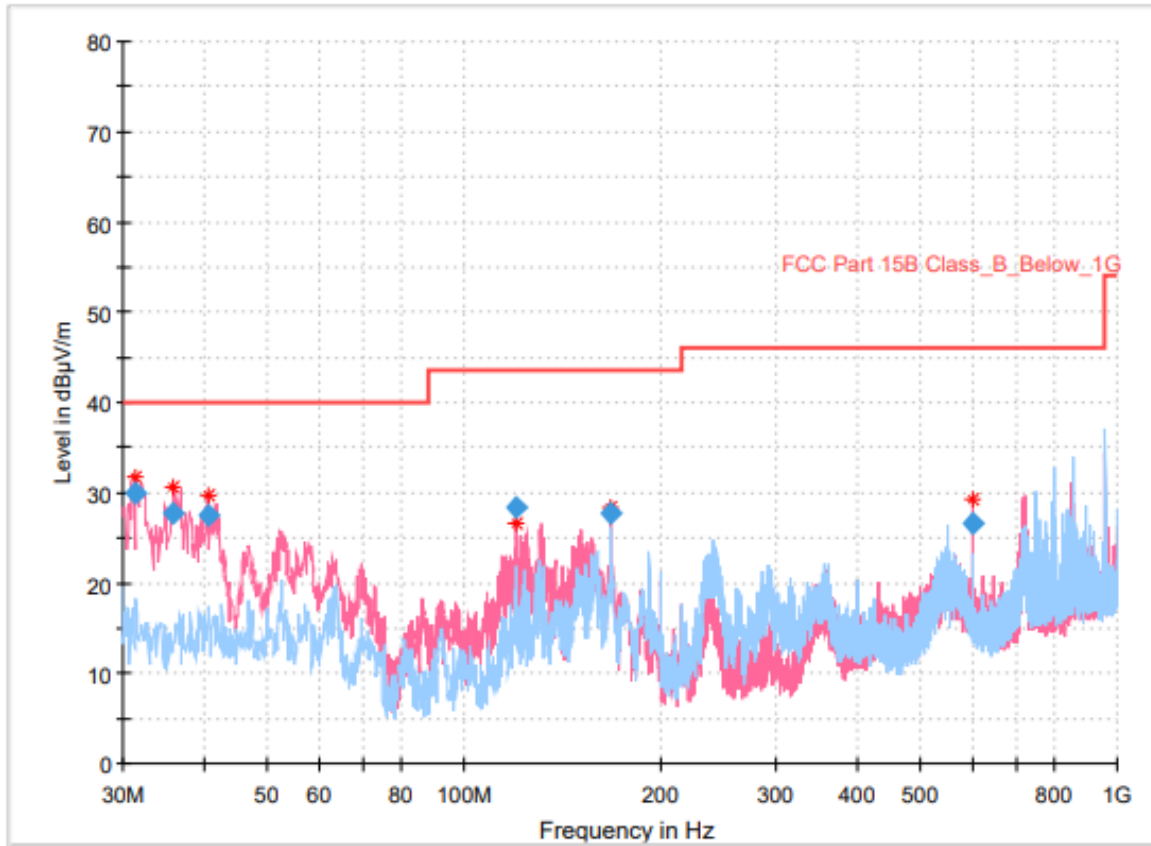
Low CH



## Final Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 30.970000       | 28.79              | 40.00          | 11.21       | 1000.0          | 120.000         | 99.9        | V   | 251.0         | -26.9      |
| 36.208000       | 29.47              | 40.00          | 10.53       | 1000.0          | 120.000         | 99.9        | V   | 310.0         | -25.7      |
| 40.670000       | 26.24              | 40.00          | 13.76       | 1000.0          | 120.000         | 99.9        | V   | 0.0           | -24.0      |
| 52.116000       | 23.59              | 40.00          | 16.41       | 1000.0          | 120.000         | 99.9        | V   | 10.0          | -23.1      |
| 119.919000      | 20.97              | 43.50          | 22.53       | 1000.0          | 120.000         | 99.9        | V   | 297.0         | -26.6      |
| 167.934000      | 22.96              | 43.50          | 20.54       | 1000.0          | 120.000         | 99.9        | V   | 135.0         | -27.5      |

Mid CH



## Final Result

| Frequency (MHz) | QuasiPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB) |
|-----------------|--------------------|----------------|-------------|-----------------|-----------------|-------------|-----|---------------|------------|
| 31.455000       | 29.94              | 40.00          | 10.06       | 1000.0          | 120.000         | 100.1       | V   | 321.0         | -27.0      |
| 35.820000       | 27.74              | 40.00          | 12.26       | 1000.0          | 120.000         | 100.1       | V   | 0.0           | -25.8      |
| 40.476000       | 27.47              | 40.00          | 12.53       | 1000.0          | 120.000         | 100.1       | V   | 299.0         | -24.1      |
| 120.016000      | 28.37              | 43.50          | 15.13       | 1000.0          | 120.000         | 100.1       | V   | 34.0          | -26.6      |
| 168.031000      | 27.78              | 43.50          | 15.72       | 1000.0          | 120.000         | 100.1       | V   | 133.0         | -27.5      |
| 600.069000      | 26.69              | 46.00          | 19.31       | 1000.0          | 120.000         | 100.1       | V   | 0.0           | -14.5      |

High CH



#### 9.4.2.5 Measurement Results for Above 1 GHz Bluetooth LE

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 4 804.600          | 55.45             | Peak     | H                  | -1.00                | 54.45              | 73.98             | 19.53          |
|                    | 44.06             | Average  | H                  |                      | 43.06              | 53.98             | 10.92          |
| 7 205.000          | 47.41             | Peak     | H                  | 3.30                 | 50.71              | 73.98             | 23.27          |
|                    | 34.88             | Average  | H                  |                      | 38.18              | 53.98             | 15.80          |
| Mid CH             |                   |          |                    |                      |                    |                   |                |
| 4 879.400          | 54.64             | Peak     | H                  | -1.00                | 53.64              | 73.98             | 20.34          |
|                    | 43.60             | Average  | H                  |                      | 42.60              | 53.98             | 11.38          |
| 7 318.900          | 42.99             | Peak     | H                  | 3.00                 | 45.99              | 73.98             | 27.99          |
|                    | 29.90             | Average  | H                  |                      | 32.90              | 53.98             | 21.08          |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 4 959.300          | 57.29             | Peak     | H                  | -1.00                | 56.29              | 73.98             | 17.69          |
|                    | 46.28             | Average  | H                  |                      | 45.28              | 53.98             | 8.70           |
| 7 439.600          | 54.02             | Peak     | H                  | 2.80                 | 56.82              | 73.98             | 17.16          |
|                    | 43.68             | Average  | H                  |                      | 46.48              | 53.98             | 7.50           |



#### 9.4.2.6 Measurement Results for Above 1 GHz\_2.4 GHz WLAN (802.11n(HT20))

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 4 813.100          | 41.41             | Peak     | V                  | -0.90                | 40.51              | 73.98             | 33.47          |
|                    | 27.67             | Average  | V                  |                      | 26.77              | 53.98             | 27.21          |
| 7 237.300          | 44.91             | Peak     | V                  | 3.60                 | 48.51              | 73.98             | 25.47          |
|                    | 30.52             | Average  | V                  |                      | 34.12              | 53.98             | 19.86          |
| Mid CH             |                   |          |                    |                      |                    |                   |                |
| 4 881.100          | 41.58             | Peak     | H                  | -1.00                | 40.58              | 73.98             | 33.40          |
|                    | 27.96             | Average  | H                  |                      | 26.96              | 53.98             | 27.02          |
| 7 330.800          | 43.12             | Peak     | H                  | 3.00                 | 46.12              | 73.98             | 27.86          |
|                    | 28.27             | Average  | H                  |                      | 31.27              | 53.98             | 22.71          |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 4 954.200          | 40.84             | Peak     | H                  | -1.00                | 39.84              | 73.98             | 34.14          |
|                    | 27.54             | Average  | H                  |                      | 26.54              | 53.98             | 27.44          |
| 7 412.400          | 46.24             | Peak     | H                  | 2.90                 | 49.14              | 73.98             | 24.84          |
|                    | 31.27             | Average  | H                  |                      | 34.17              | 53.98             | 19.81          |



#### 9.4.2.7 Measurement Results for Above 1 GHz\_2.4 GHz WLAN (802.11n(HT40))

| Frequency<br>(MHz) | Reading<br>(dBμV) | Detector | Ant. Pol.<br>(H/V) | Corr. Factor<br>(dB) | Result<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
|--------------------|-------------------|----------|--------------------|----------------------|--------------------|-------------------|----------------|
| Low CH             |                   |          |                    |                      |                    |                   |                |
| 4 831.800          | 41.32             | Peak     | H                  | -0.80                | 40.52              | 73.98             | 33.46          |
|                    | 27.57             | Average  | H                  |                      | 26.77              | 53.98             | 27.21          |
| 7 261.100          | 38.38             | Peak     | V                  | 3.50                 | 41.88              | 73.98             | 32.10          |
|                    | 24.89             | Average  | V                  |                      | 28.39              | 53.98             | 25.59          |
| Mid CH             |                   |          |                    |                      |                    |                   |                |
| 4 889.600          | 41.33             | Peak     | H                  | -1.00                | 40.33              | 73.98             | 33.65          |
|                    | 27.98             | Average  | H                  |                      | 26.98              | 53.98             | 27.00          |
| 7 337.600          | 42.80             | Peak     | H                  | 3.00                 | 45.80              | 73.98             | 28.18          |
|                    | 28.99             | Average  | H                  |                      | 31.99              | 53.98             | 21.99          |
| High CH            |                   |          |                    |                      |                    |                   |                |
| 4 937.200          | 41.11             | Peak     | H                  | -1.00                | 40.11              | 73.98             | 33.87          |
|                    | 27.70             | Average  | H                  |                      | 26.70              | 53.98             | 27.28          |
| 7 378.400          | 46.97             | Peak     | H                  | 3.00                 | 49.97              | 73.98             | 24.01          |
|                    | 32.74             | Average  | H                  |                      | 35.74              | 53.98             | 18.24          |

※ Ant. Pol. : Antenna Polarization

※ Corr. Factor. : Antenna Factor + Cable Loss - Amplifier Gain

※ Result = Reading + Corr. Factor

※ Margin = Limit – Result

- END -