



# TEST REPORT

## FCC ID: A4V-XAM29

For

Xmi Pte Ltd (Singapore)

XOUNDBAR

Model No. : XAM29

Trade Name : X-mini™

Prepared for : Xmi Pte Ltd (Singapore)  
Address : 88A, Tanjong Pagar Road, Singapore 088509

Prepared by : Shenzhen Alpha Product Testing Co., Ltd.  
Address : Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road,  
: Bao'an, Shenzhen, China

Report No. : T1870917 07

Date of Receipt : May 31, 2017

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Date of Report : June 08, 2017

Version Number : REV0

## Contents

|                                                                |           |
|----------------------------------------------------------------|-----------|
| <b>1. General Information.....</b>                             | <b>5</b>  |
| 1.1. Description of Device (EUT).....                          | 5         |
| 1.2. Accessories of device (EUT) .....                         | 6         |
| 1.3. Test Lab information .....                                | 6         |
| <b>2. Summary of test .....</b>                                | <b>7</b>  |
| 2.1. Summary of test result .....                              | 7         |
| 2.2. Assistant equipment used for test.....                    | 7         |
| 2.3. Block Diagram .....                                       | 8         |
| 2.4. Test mode .....                                           | 8         |
| 2.5. Test Conditions.....                                      | 9         |
| 2.6. Measurement Uncertainty (95% confidence levels, k=2)..... | 9         |
| 2.7. Test Equipment.....                                       | 10        |
| <b>3. Maximum Peak Output power .....</b>                      | <b>11</b> |
| 3.1. Limit.....                                                | 11        |
| 3.2. Test Procedure .....                                      | 11        |
| 3.3. Test Setup .....                                          | 11        |
| 3.4. Test Result.....                                          | 11        |
| <b>4. Bandwidth .....</b>                                      | <b>12</b> |
| 4.1. Limit.....                                                | 12        |
| 4.2. Test Procedure .....                                      | 12        |
| 4.3. Test Result.....                                          | 12        |
| <b>5. Carrier Frequency Separation.....</b>                    | <b>18</b> |
| 5.1. Limit.....                                                | 18        |
| 5.2. Test Procedure .....                                      | 18        |
| 5.3. Test Result.....                                          | 18        |
| <b>6. Number Of Hopping Channel .....</b>                      | <b>21</b> |
| 6.1. Limit.....                                                | 21        |
| 6.2. Test Procedure .....                                      | 21        |
| 6.3. Test Result.....                                          | 21        |
| <b>7. Dwell Time.....</b>                                      | <b>24</b> |
| 7.1. Test limit .....                                          | 24        |
| 7.2. Test Procedure.....                                       | 24        |
| 7.3. Test Results .....                                        | 24        |
| <b>8. Radiated emissions.....</b>                              | <b>31</b> |
| 8.1. Limit.....                                                | 31        |
| 8.2. Block Diagram of Test setup.....                          | 32        |
| 8.3. Test Procedure .....                                      | 33        |
| 8.4. Test Result.....                                          | 33        |
| <b>9. Band Edge Compliance .....</b>                           | <b>45</b> |
| 9.1. Block Diagram of Test Setup .....                         | 45        |
| 9.2. Limit.....                                                | 45        |
| 9.3. Test Procedure .....                                      | 45        |
| 9.4. Test Result.....                                          | 45        |

|                                                 |           |
|-------------------------------------------------|-----------|
| <b>10. Power Line Conducted Emissions .....</b> | <b>64</b> |
| 10.1. Block Diagram of Test Setup .....         | 64        |
| 10.2. Limit.....                                | 64        |
| 10.3. Test Procedure .....                      | 64        |
| 10.4. Test Result.....                          | 65        |
| <b>11. Antenna Requirements.....</b>            | <b>67</b> |
| 11.1. Limit .....                               | 67        |
| 11.2. Result.....                               | 67        |
| <b>12. Test setup photo .....</b>               | <b>68</b> |
| 12.1. Photos of Radiated emission .....         | 68        |
| 12.2. Photos of Conducted Emission test.....    | 69        |
| <b>13. Photos of EUT .....</b>                  | <b>70</b> |

## DECLARATION

Applicant : Xmi Pte Ltd (Singapore)  
Manufacturer : Xmi Pte Ltd (Singapore)  
Product : XOUNDBAR  
(A) Model No. : XAM29  
(B) Trade Name : X-mini™  
(C) Power supply : DC 3.7V From battery, DC 5V From USB Port

Measurement Standard Used:

**FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2016,  
ANSI C63.4:2014**

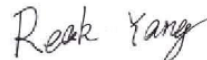
The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

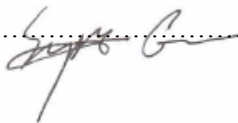
Tested by (name + signature).....:

Reak Yang  
Test Engineer

  
.....

Approved by (name + signature).....:

Simple Guan  
Project Manager

  
.....

Date of issue.....

June 08, 2017

## 1. General Information

### 1.1. Description of Device (EUT)

|                     |   |                                                                                                                                         |
|---------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------|
| EUT                 | : | XOUNDBAR                                                                                                                                |
| Model No.           | : | XAM29                                                                                                                                   |
| Trade mark          | : | X-mini™                                                                                                                                 |
| Power supply        | : | DC 3.7V From battery, DC 5V From USB Port                                                                                               |
| Radio Technology    | : | Bluetooth 4.2(not support BLE)                                                                                                          |
| Operation frequency | : | 2402-2480MHz                                                                                                                            |
| Modulation          | : | GFSK, $\pi/4$ DQPSK, 8- DPSK                                                                                                            |
| Antenna Type        | : | Integral Antenna, max gain 0dBi.                                                                                                        |
| Software version    | : | N/A                                                                                                                                     |
| Hardware version    | : | N/A                                                                                                                                     |
| Applicant           | : | Xmi Pte Ltd (Singapore)                                                                                                                 |
| Address             | : | 88A, Tanjong Pagar Road, Singapore 088509                                                                                               |
| Manufacturer        | : | Xmi Pte Ltd (Singapore)                                                                                                                 |
| Address             | : | 1-2F Block 6, 3 Garden, Xinsheng Sci-tech Park, Xianxiang Road,<br>Xinsheng Village, Longgang Dist, Shenzhen City, Guangdong PR, China. |

## 1.2. Accessories of device (EUT)

Accessories : USB charging cable

Type : N/A

## 1.3. Test Lab information

Shenzhen Alpha Product Testing Co., Ltd.

Building B, East Area of Nanchang Second Industrial Zone,  
Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China

FCC Registered No.: 203110

## 2. Summary of test

### 2.1. Summary of test result

| Description of Test Item                      | Standard                                                           | Results |
|-----------------------------------------------|--------------------------------------------------------------------|---------|
| Maximum Peak Output Power                     | FCC Part 15: 15.247(b)(1)<br>ANSI C63.10 :2013                     | PASS    |
| Bandwidth                                     | FCC Part 15: 15.215<br>ANSI C63.10 :2013                           | PASS    |
| Carrier Frequency Separation                  | FCC Part 15: 15.247(a)<br>(1) ANSI C63.10 :2013                    | PASS    |
| Number Of Hopping Channel                     | FCC Part 15: 15.247(a)(1)<br>(iii) ANSI C63.10 :2013               | PASS    |
| Dwell Time                                    | FCC Part 15: 15.247(a)(1)<br>(iii) ANSI C63.10 :2013               | PASS    |
| Radiated Emission                             | FCC Part 15: 15.209<br>FCC Part 15: 15.247(d)<br>ANSI C63.10 :2013 | PASS    |
| Band Edge Compliance                          | FCC Part 15: 15.247(d)<br>ANSI C63.10 :2013                        | PASS    |
| Power Line Conducted Emissions                | FCC Part 15: 15.207<br>ANSI C63.10 :2013                           | PASS    |
| Antenna requirement                           | FCC Part 15: 15.203                                                | PASS    |
| Note: Test with the test procedure Blue tool. |                                                                    |         |

### 2.2. Assistant equipment used for test

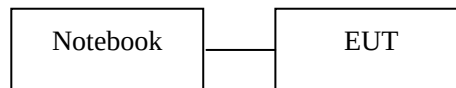
|                         |   |             |
|-------------------------|---|-------------|
| Description             | : | Notebook PC |
| Manufacturer            | : | ACER        |
| Model No.               | : | ZQT         |
| NOTE: FCC DOC approved. |   |             |

### 2.3. Block Diagram

1, For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground for below 1GHz, 1.5 meter high above ground for above 1GHz. EUT was be set into BT test mode by software before test.



2, For Power Line Conducted Emissions Test



### 2.4. Test mode

The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode.

| Tested mode, channel, and data rate information |              |                 |
|-------------------------------------------------|--------------|-----------------|
| Mode                                            | Channel      | Frequency (MHz) |
| GFSK                                            | Low :CH1     | 2402            |
|                                                 | Middle: CH40 | 2441            |
|                                                 | High: CH79   | 2480            |

| Tested mode, channel, and data rate information |              |                 |
|-------------------------------------------------|--------------|-----------------|
| Mode                                            | Channel      | Frequency (MHz) |
| $\pi$ /4 DQPSK                                  | Low :CH1     | 2402            |
|                                                 | Middle: CH40 | 2441            |
|                                                 | High: CH79   | 2480            |

| Tested mode, channel, and data rate information |              |                 |
|-------------------------------------------------|--------------|-----------------|
| Mode                                            | Channel      | Frequency (MHz) |
| 8- DPSK                                         | Low :CH1     | 2402            |
|                                                 | Middle: CH40 | 2441            |
|                                                 | High: CH79   | 2480            |

## 2.5. Test Conditions

|                   |           |
|-------------------|-----------|
| Temperature range | 21-25°C   |
| Humidity range    | 40-75%    |
| Pressure range    | 86-106kPa |

## 2.6. Measurement Uncertainty (95% confidence levels, k=2)

| Item                                                                     | MU                 | Remark      |
|--------------------------------------------------------------------------|--------------------|-------------|
| Uncertainty for Power point Conducted Emissions Test                     | 2.71dB             |             |
| Uncertainty for Radiation Emission test in 3m chamber<br>(below 30MHz)   | 2.13 dB            | Polarize: V |
|                                                                          | 2.57dB             | Polarize: H |
| Uncertainty for Radiation Emission test in 3m chamber<br>(30MHz to 1GHz) | 3.90dB             | Polarize: V |
|                                                                          | 3.92dB             | Polarize: H |
| Uncertainty for Radiation Emission test in 3m chamber<br>(1GHz to 25GHz) | 4.28dB             | Polarize: H |
|                                                                          | 4.26dB             | Polarize: V |
| Uncertainty for radio frequency                                          | 1×10 <sup>-9</sup> |             |
| Uncertainty for conducted RF Power                                       | 0.16dB             |             |
| Uncertainty for temperature                                              | 0.2°C              |             |
| Uncertainty for humidity                                                 | 1%                 |             |
| Uncertainty for DC and low frequency voltages                            | 0.06%              |             |

## 2.7. Test Equipment

| Equipment                                  | Manufacture   | Model No.   | Serial No.        | Due cal.   | Cal Interval |
|--------------------------------------------|---------------|-------------|-------------------|------------|--------------|
| 3m Semi-Anechoic                           | CHENYU        | N/A         | N/A               | 2020.07.20 | 4Year        |
| Spectrum analyzer                          | Agilent       | E4407B      | MY46185649        | 2017.09.28 | 1Year        |
| Receiver                                   | R&S           | ESPI        | 101873            | 2017.09.28 | 1Year        |
| Receiver                                   | R&S           | ESCI        | 101165            | 2017.09.28 | 1Year        |
| Bilog Antenna                              | SCHWARZBECK   | VULB 9168   | VULB9168-438      | 2018.09.29 | 2Year        |
| Horn Antenna                               | SCHWARZBECK   | BBHA 9120 D | BBHA 9120 D(1201) | 2018.09.29 | 2Year        |
| L.I.S.N.#1                                 | Schwarzbeck   | NSLK8126    | 8126466           | 2017.09.28 | 1 Year       |
| L.I.S.N.#2                                 | ROHDE&SCHWARZ | ENV216      | 101043            | 2017.09.28 | 1 Year       |
| Cable                                      | Resenberger   | N/A         | No.1              | 2017.09.28 | 1Year        |
| Cable                                      | SCHWARZBECK   | N/A         | No.2              | 2017.09.28 | 1Year        |
| Cable                                      | SCHWARZBECK   | N/A         | No.3              | 2017.09.28 | 1Year        |
| Pre-amplifier                              | HP            | HP8347A     | 2834A00455        | 2017.09.28 | 1Year        |
| Pre-amplifier                              | Agilent       | 8449B       | 3008A02664        | 2017.09.28 | 1Year        |
| vector Signal Generator                    | Agilent       | N5182A      | MY49060042        | 2017.09.28 | 1 Year       |
| vector Signal Generator                    | Agilent       | E4438C      | US44271917        | 2017.09.28 | 1 Year       |
| X-series USB Peak and Average Power Sensor | Agilent       | U2021XA     | MY54080020        | 2017.09.28 | 1 Year       |
| X-series USB Peak and Average Power Sensor | Agilent       | U2021XA     | MY54110001        | 2017.09.28 | 1 Year       |
| Signal Analyzer                            | Agilent       | N9020A      | MY48030494        | 2017.09.28 | 1 Year       |

### 3. Maximum Peak Output power

#### 3.1. Limit

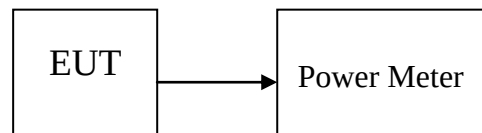
Please refer section 15.247.

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts, the e.i.r.p shall not exceed 4W

#### 3.2. Test Procedure

The transmitter output is connected to the RF Power Meter. The RF Power Meter is set to the peak power detection.

#### 3.3. Test Setup



#### 3.4. Test Result

| EUT: XOUNDBAR       |            | M/N: XAM29            |                      |                 |             |
|---------------------|------------|-----------------------|----------------------|-----------------|-------------|
| Test date: 2017-6-5 |            | Test site: RF site    |                      | Tested by: Reak |             |
| Mode                | Freq (MHz) | PK Output Power (dBm) | PK Output Power (mW) | Limit (dBm)     | Margin (dB) |
| GFSK                | 2402       | 1.25                  | 1.334                | 21              | 19.750      |
|                     | 2441       | 1.02                  | 1.265                | 21              | 19.980      |
|                     | 2480       | 0.64                  | 1.159                | 21              | 20.360      |
| $\pi/4$ DQPSK,      | 2402       | 0.17                  | 1.040                | 21              | 20.830      |
|                     | 2441       | -0.12                 | 0.973                | 21              | 21.120      |
|                     | 2480       | -0.56                 | 0.879                | 21              | 21.560      |
| 8- DPSK             | 2402       | 0.22                  | 1.052                | 21              | 20.780      |
|                     | 2441       | -0.08                 | 0.982                | 21              | 21.080      |
|                     | 2480       | -0.42                 | 0.908                | 21              | 21.420      |
| Conclusion: PASS    |            |                       |                      |                 |             |

## 4. Bandwidth

### 4.1. Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

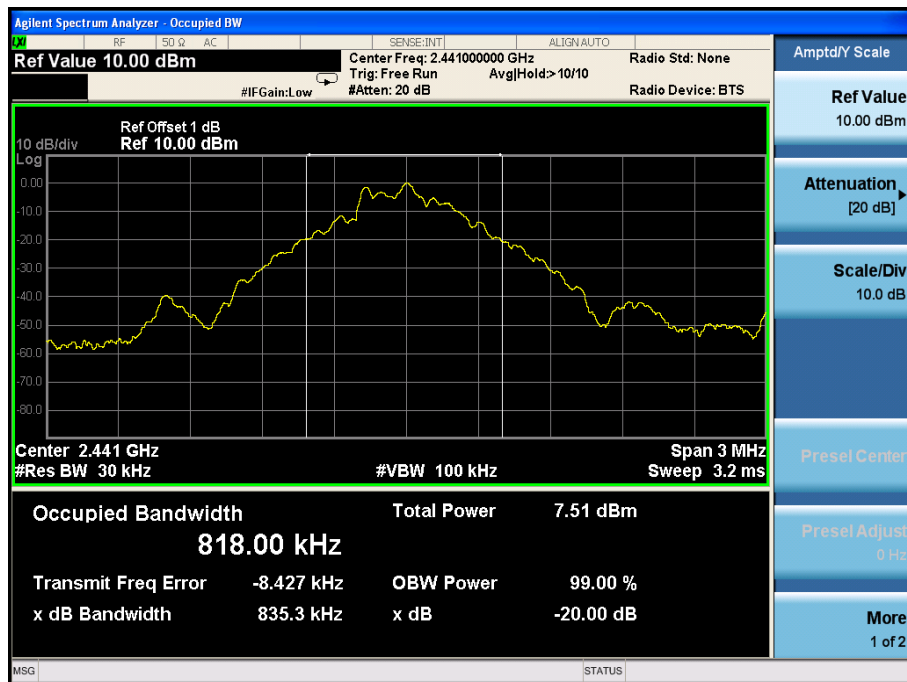
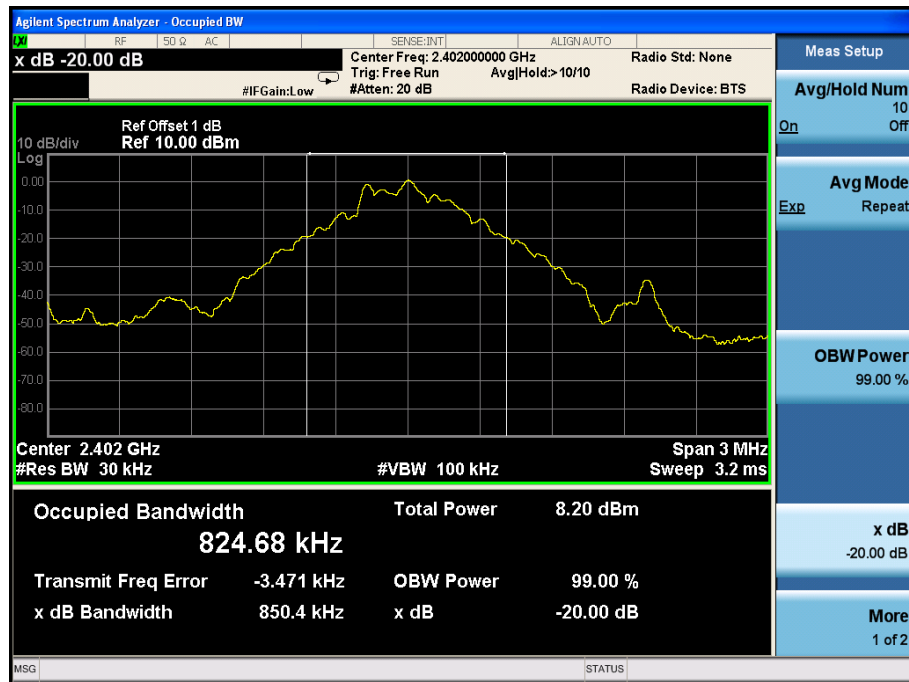
### 4.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

### 4.3. Test Result

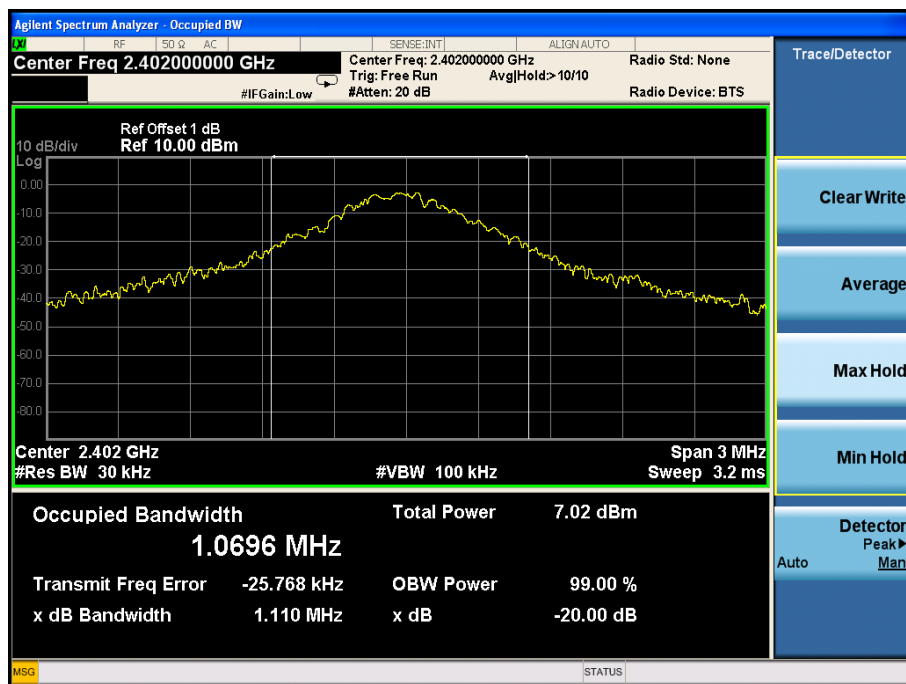
| EUT: XOUNDBAR       |            | M/N: XAM29           |                 |            |
|---------------------|------------|----------------------|-----------------|------------|
| Test date: 2017-6-5 |            | Test site: RF site   | Tested by: Reak |            |
| Mode                | Freq (MHz) | 20dB Bandwidth (KHz) | Limit (kHz)     | Conclusion |
| GFSK                | 2402       | 850.4                | /               | PASS       |
|                     | 2441       | 835.3                | /               | PASS       |
|                     | 2480       | 835.4                | /               | PASS       |
| $\pi$ /4 DQPSK      | 2402       | 1110                 | /               | PASS       |
|                     | 2441       | 1099                 | /               | PASS       |
|                     | 2480       | 1101                 | /               | PASS       |
| 8- DPSK             | 2402       | 1109                 | /               | PASS       |
|                     | 2441       | 1108                 | /               | PASS       |
|                     | 2480       | 1090                 | /               | PASS       |

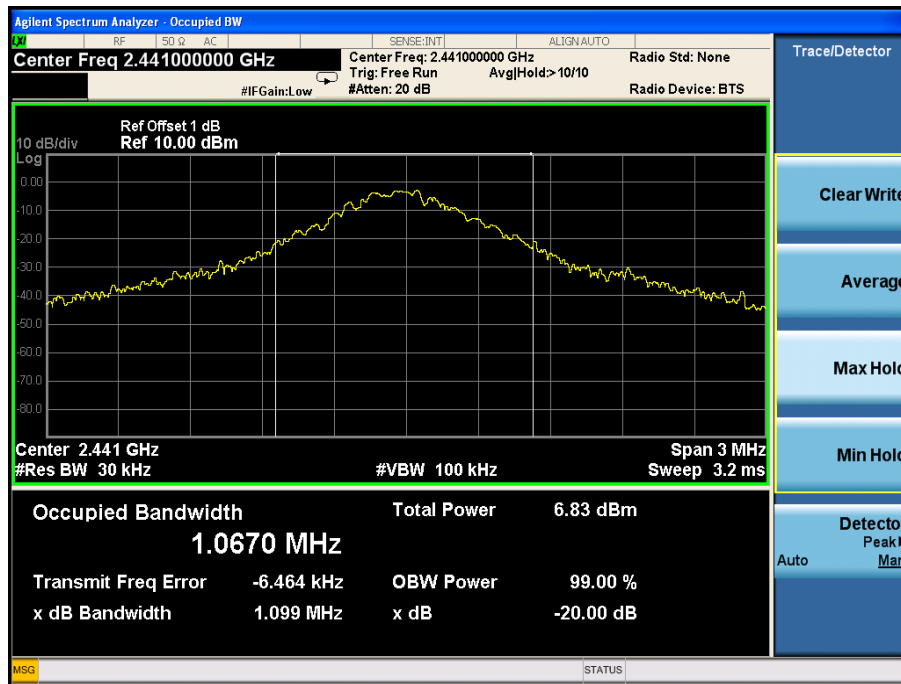
Original Test data For 20dB bandwidth  
GFSK:



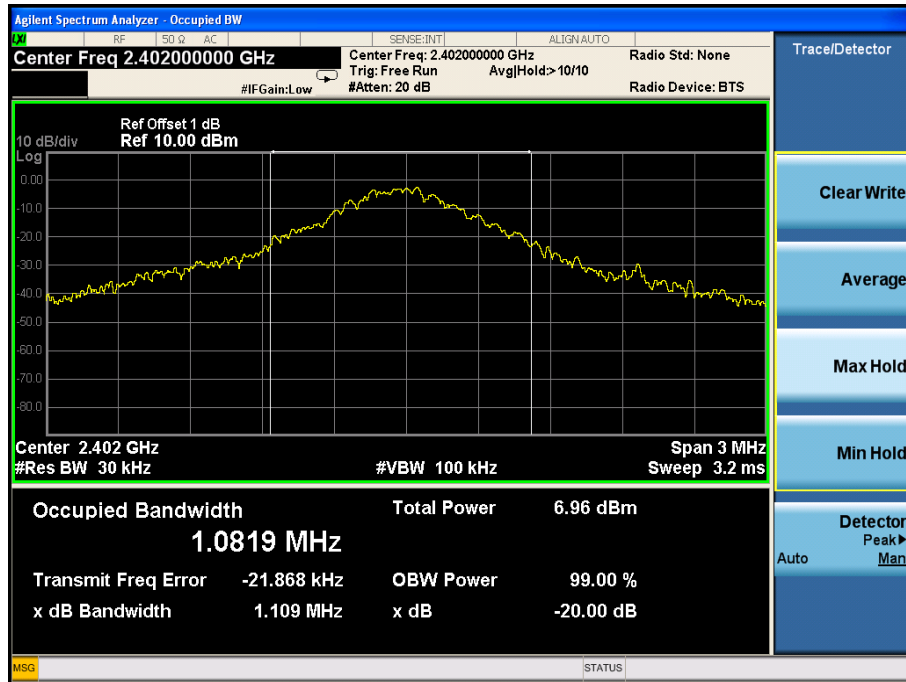


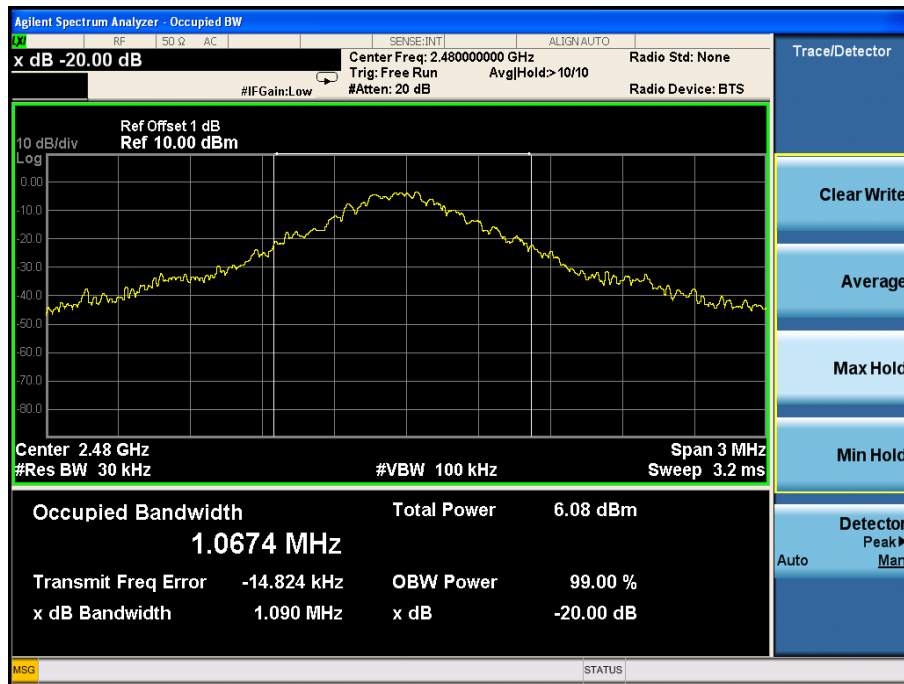
$\pi/4$  DQPSK:





## 8- DPSK:





## 5. Carrier Frequency Separation

### 5.1. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW

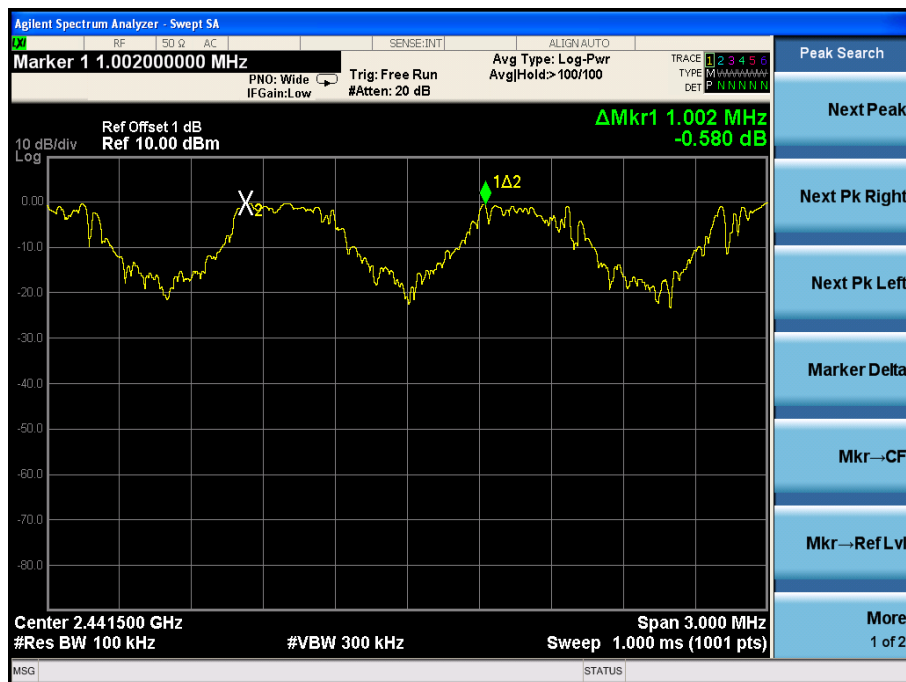
### 5.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The carrier frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW.

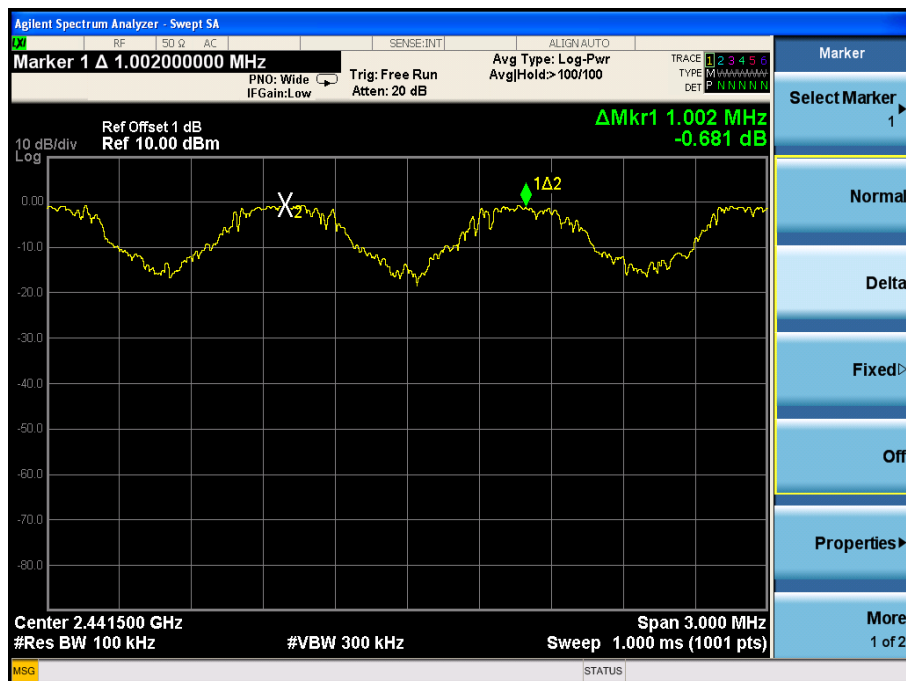
### 5.3. Test Result

| EUT: XOUNDBAR M/N: XAM29 |                          |                      |                                   |                 |
|--------------------------|--------------------------|----------------------|-----------------------------------|-----------------|
| Test date: 2017-6-5      |                          | Test site: RF site   |                                   | Tested by: Reak |
| Mode/Channel             | Channel separation (MHz) | 20dB Bandwidth (KHz) | Limit (KHz)<br>2/3 20dB bandwidth | Conclusion      |
| GFSK                     | 1.002                    | 850.4                | 566.933                           | PASS            |
| $\pi$ /4 DQPSK           | 1.002                    | 1101                 | 734                               | PASS            |
| 8- DPSK                  | 1.008                    | 1109                 | 739.333                           | PASS            |

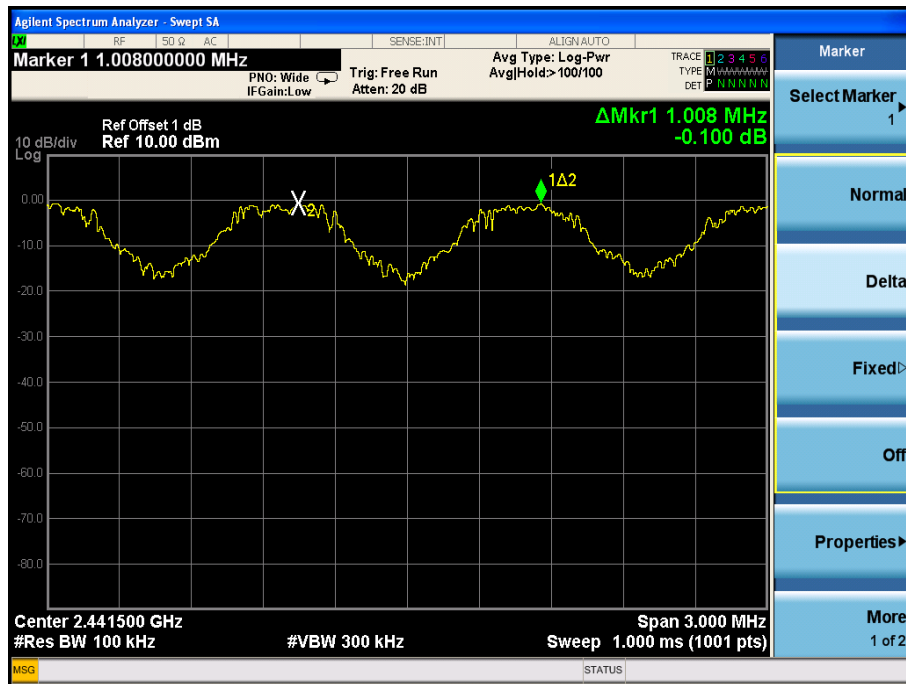
Original test data for channel separation  
GFSK



$\pi/4$  DQPSK



## 8- DPSK:



## 6. Number Of Hopping Channel

### 6.1. Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels

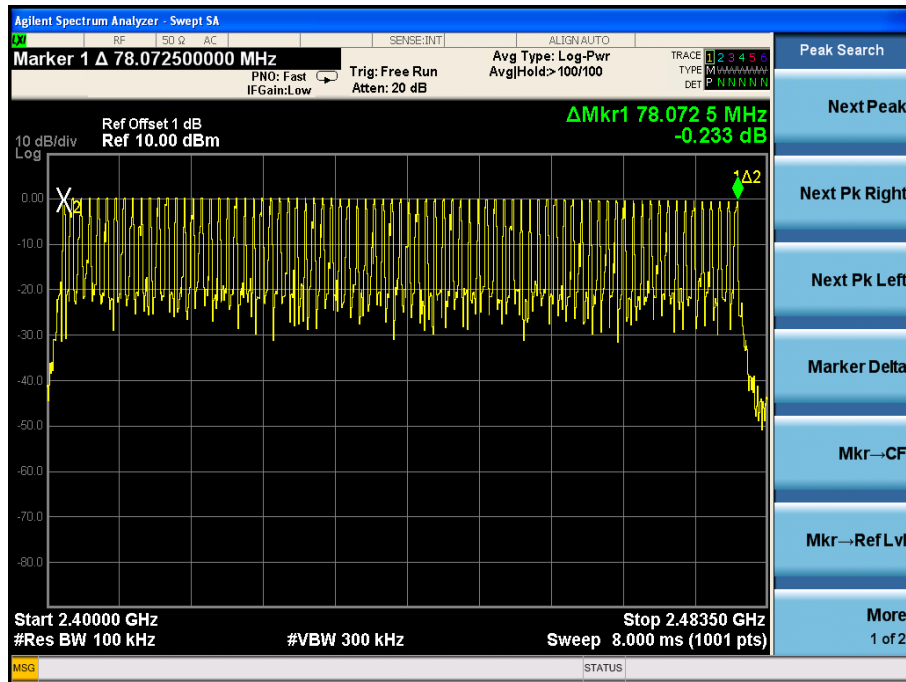
### 6.2. Test Procedure

The transmitter output was coupled to a spectrum analyzer via a antenna. The number of hopping channel was measured by spectrum analyzer with 100kHz RBW and 300KHz VBW.

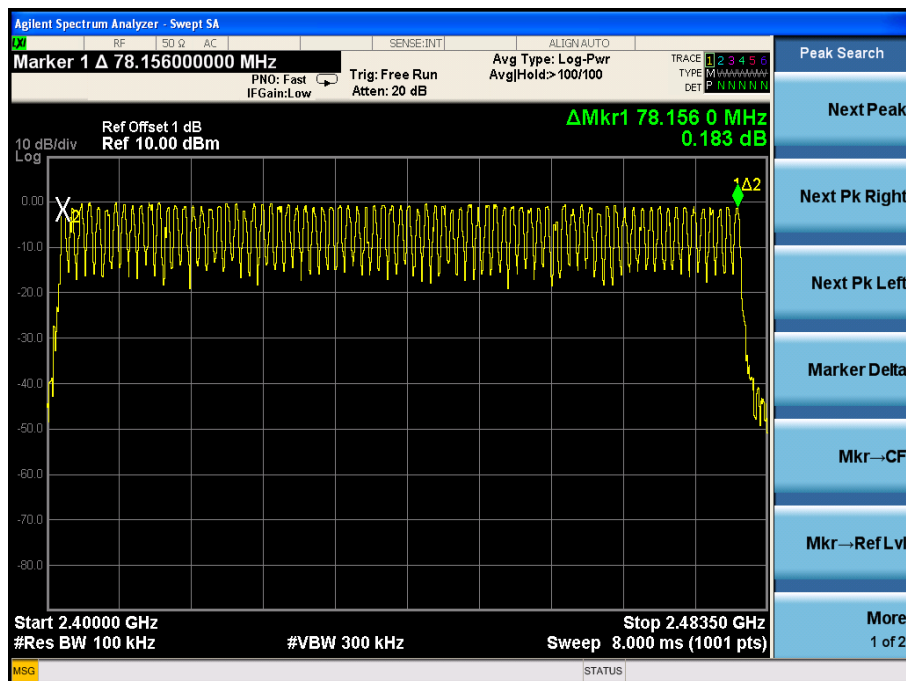
### 6.3. Test Result

|                          |                           |                    |                 |
|--------------------------|---------------------------|--------------------|-----------------|
| EUT: XOUNDBAR M/N: XAM29 |                           |                    |                 |
| Test date: 2017-6-5      |                           | Test site: RF site | Tested by: Reak |
| Mode                     | Number of hopping channel | Limit              | Conclusion      |
| GFSK                     | 79                        | >15                | PASS            |
| $\pi$ /4 DQPSK           | 79                        | >15                | PASS            |
| 8- DPSK                  | 79                        | >15                | PASS            |

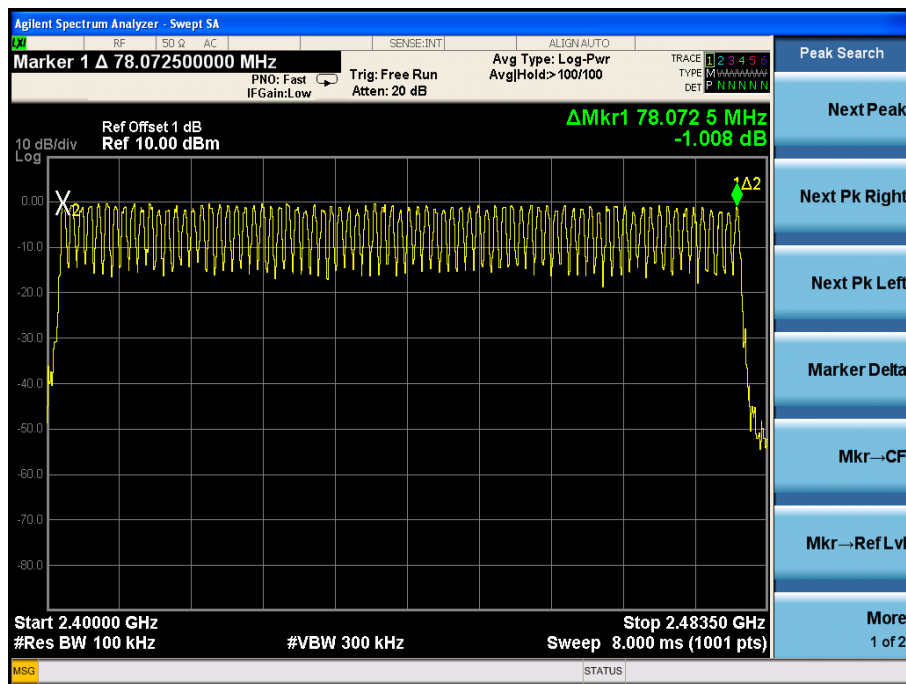
Original test data for hopping channel number  
GFSK



$\pi/4$  DQPSK



## 8- DPSK:



## 7. Dwell Time

### 7.1. Test limit

Please refer section 15.247

According to §15.247(a)(1)(iii), Frequency hopping systems operating in the 2400MHz-2483.5 MHz. The average time of occupancy on any frequency shall not greater than 0.4 s within period of 0.4 sec- onds multiplied by the number of hopping channel employed.

### 7.2. Test Procedure

7.2.1. Place the EUT on the table and set it in transmitting mode.

7.2.2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

7.2.3. Set center frequency of spectrum analyzer = operating frequency.

7.2.4. Set the spectrum analyzer as RBW, VBW=1MHz, Span = 0Hz, Sweep = auto.

7.2.5. Repeat above procedures until all frequency measured were complete.

### 7.3. Test Results

PASS.

Detailed information please see the following page.

| EUT: XOUNDBAR M/N: XAM29 |             |                    |                     |                 |           |            |
|--------------------------|-------------|--------------------|---------------------|-----------------|-----------|------------|
| Test date: 2017-6-5      |             | Test site: RF site |                     | Tested by: Reak |           |            |
| Mode                     | Data Packet | Frequency (MHz)    | Pulse Duration (ms) | Dwell Time (s)  | Limit (s) | Conclusion |
| GFSK                     | DH1         | 2441               | 0.388               | 0.248           | <0.4      | PASS       |
|                          | DH3         | 2441               | 1.66                | 0.354           | <0.4      | PASS       |
|                          | DH5         | 2441               | 2.888               | 0.370           | <0.4      | PASS       |
| $\pi$ /4 DQPSK           | DH1         | 2441               | 0.408               | 0.261           | <0.4      | PASS       |
|                          | DH3         | 2441               | 1.624               | 0.346           | <0.4      | PASS       |
|                          | DH5         | 2441               | 2.896               | 0.371           | <0.4      | PASS       |
| 8- DPSK                  | DH1         | 2441               | 0.404               | 0.259           | <0.4      | PASS       |
|                          | DH3         | 2441               | 1.624               | 0.346           | <0.4      | PASS       |
|                          | DH5         | 2441               | 2.896               | 0.371           | <0.4      | PASS       |

Note: 1 A period time = 0.4 (s) \* 79 = 31.6(s)

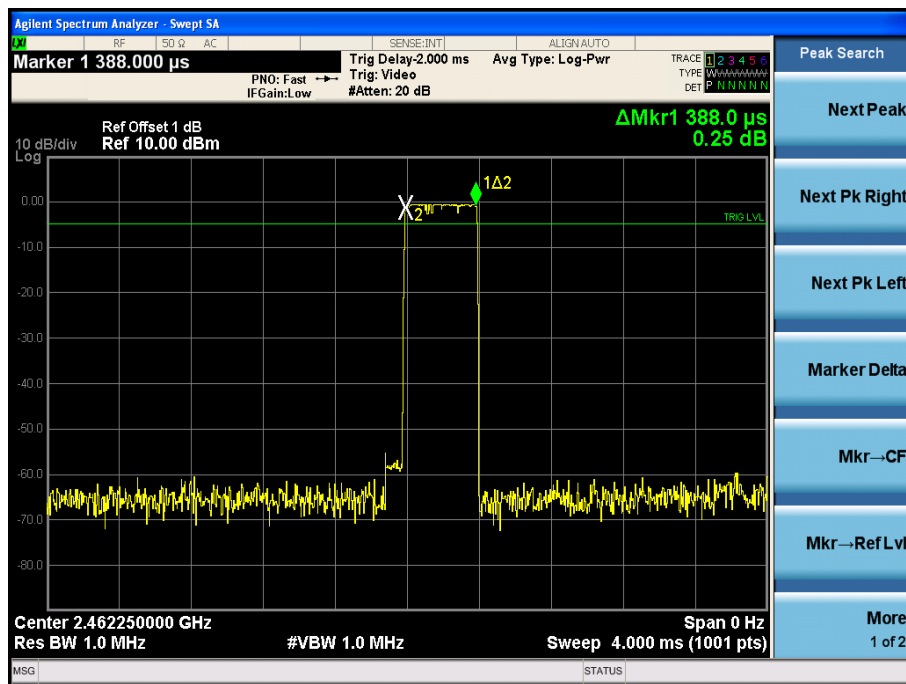
2 DH1 time slot = Pulse Duration \* (1600/(1\*79)) \* A period time/1000

DH3 time slot = Pulse Duration \* (1600/(3\*79)) \* A period time/1000

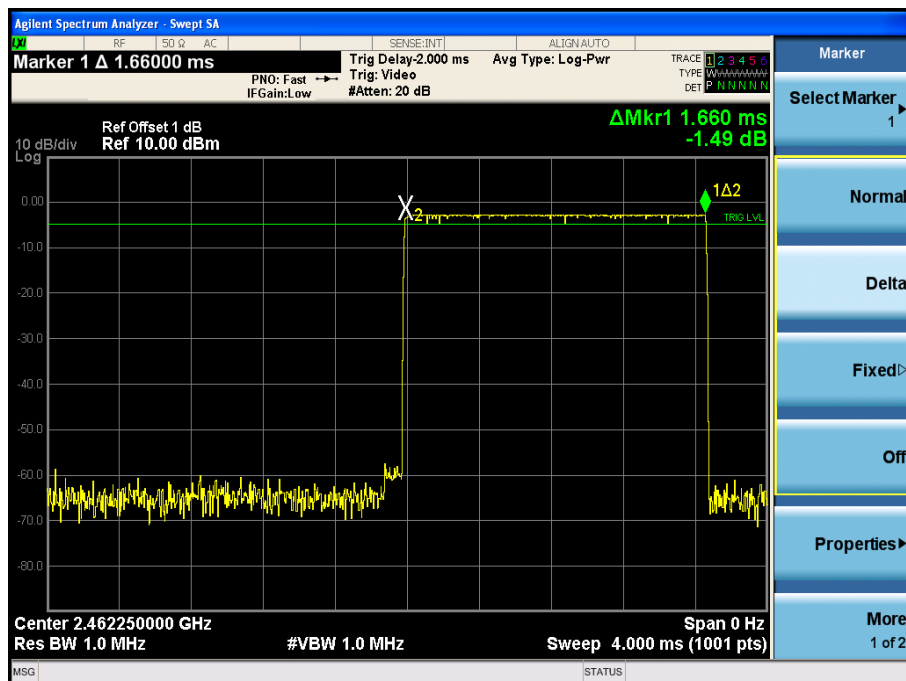
DH5 time slot = Pulse Duration \* (1600/(5\*79)) \* A period time/1000

GFSK

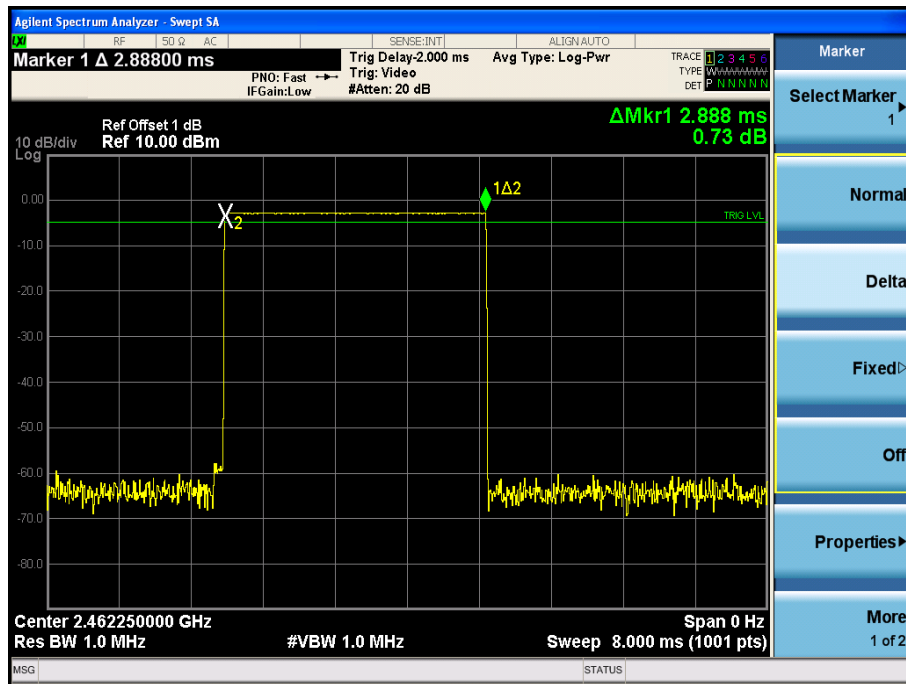
DH1:



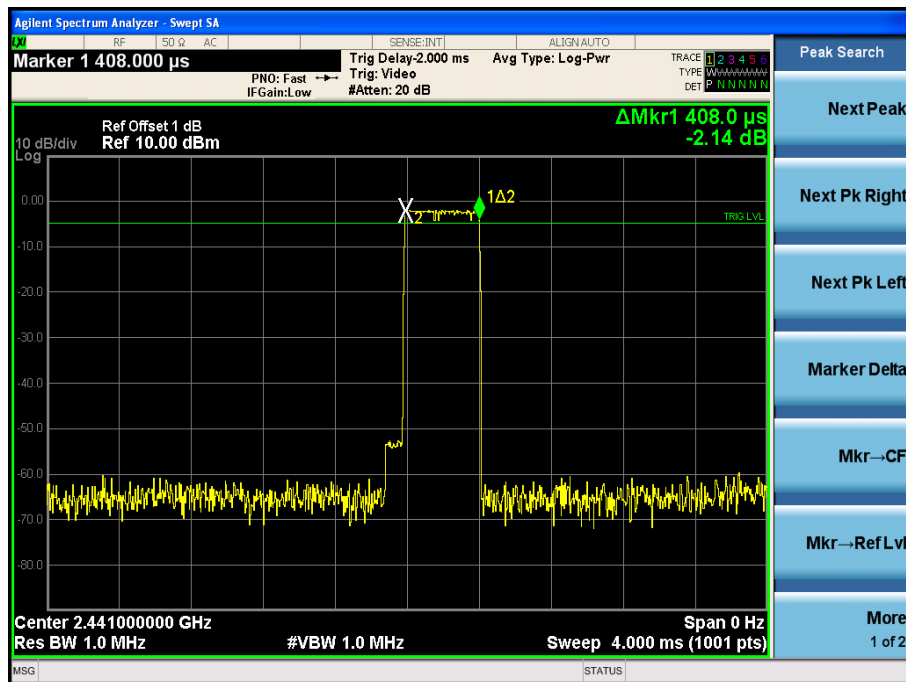
DH3:



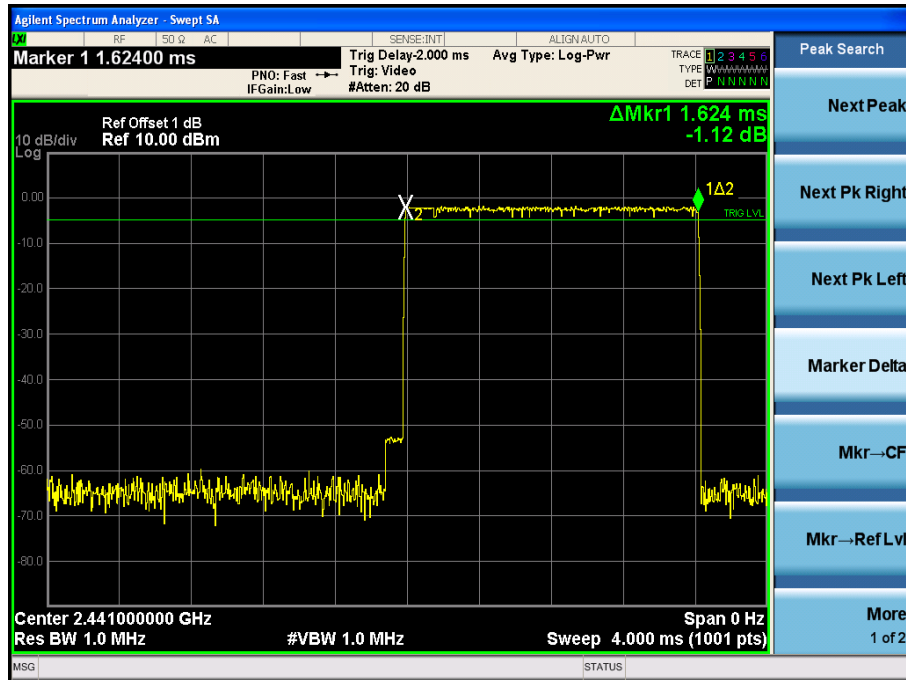
DH5

 $\pi/4$  DQPSK

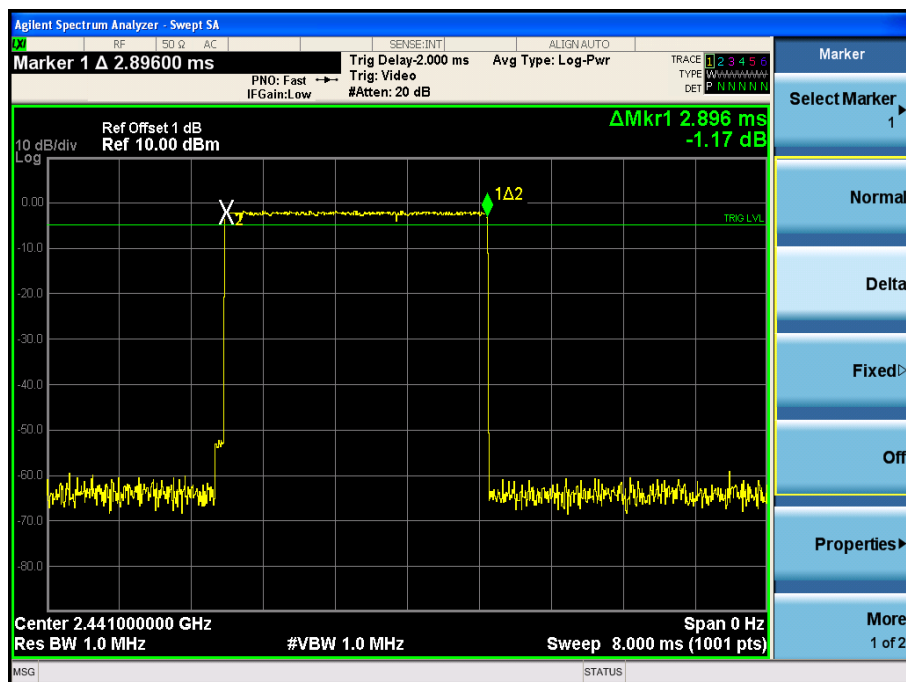
DH1



DH3

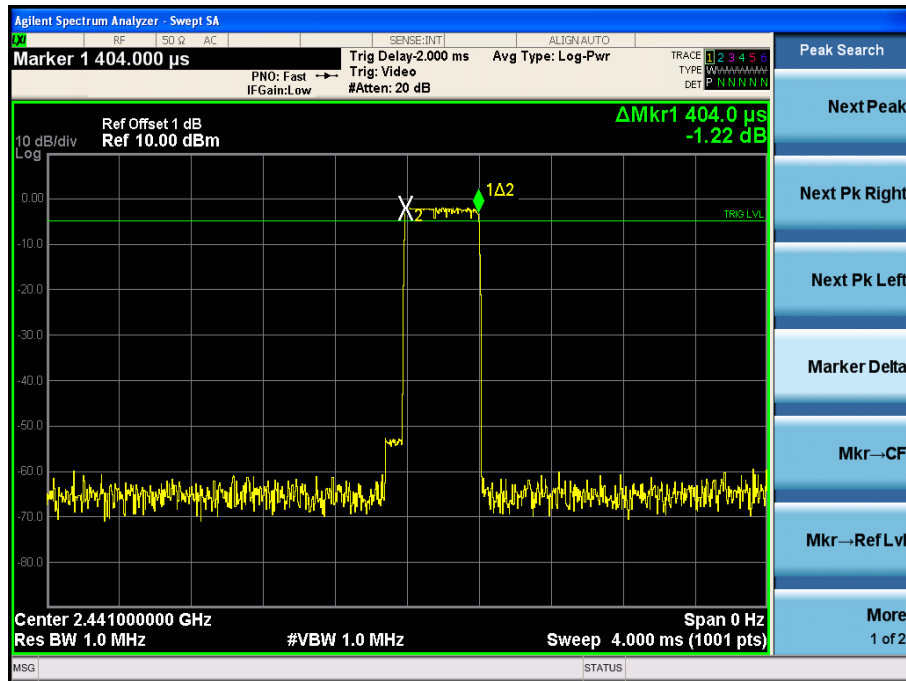


DH5

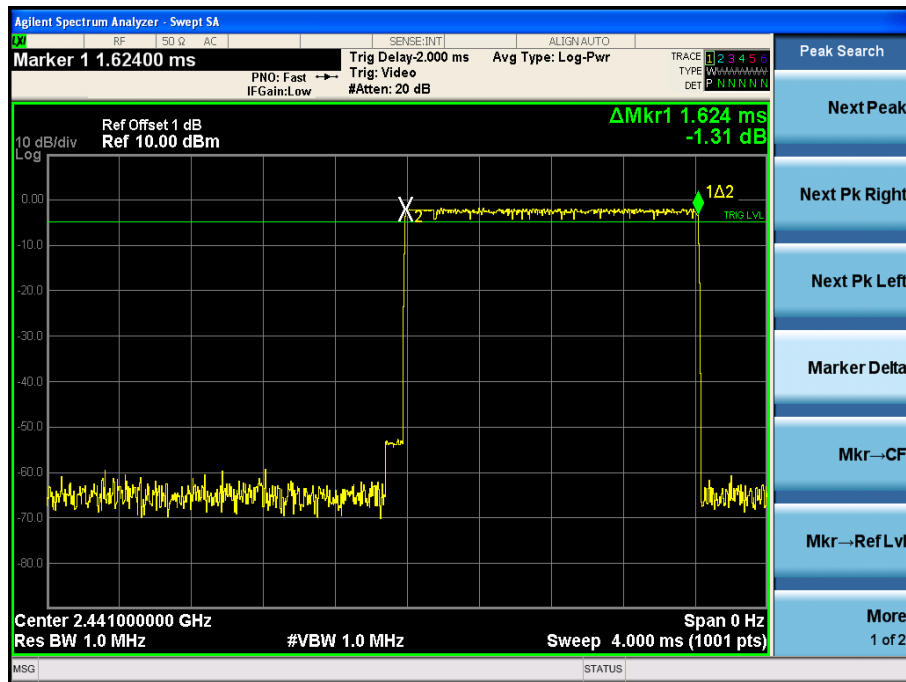


8- DPSK:

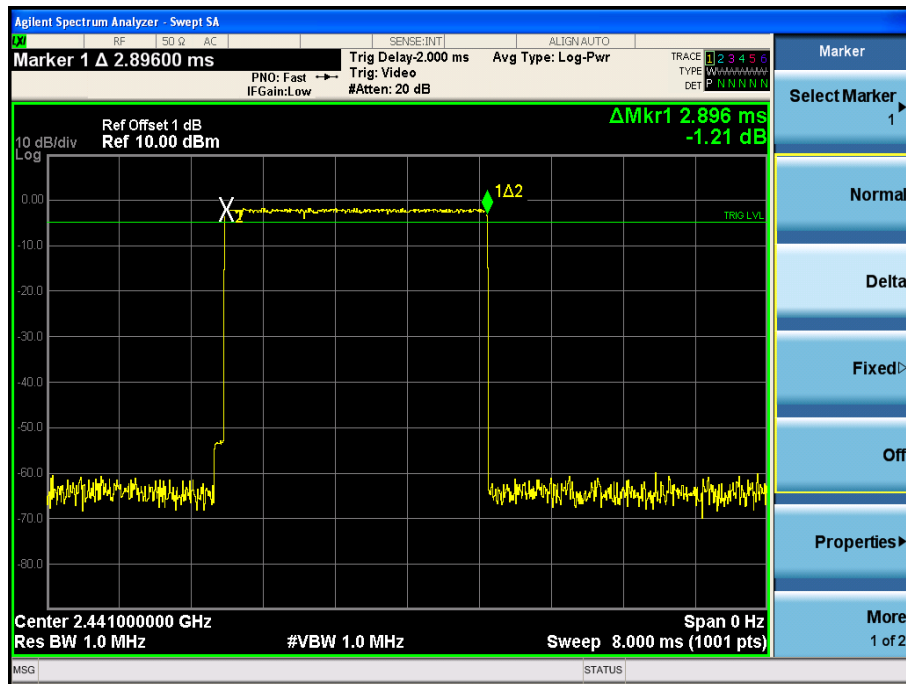
DH1:



DH3:



DH5:



## 8. Radiated emissions

### 8.1. Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 15.205 Restricted frequency band

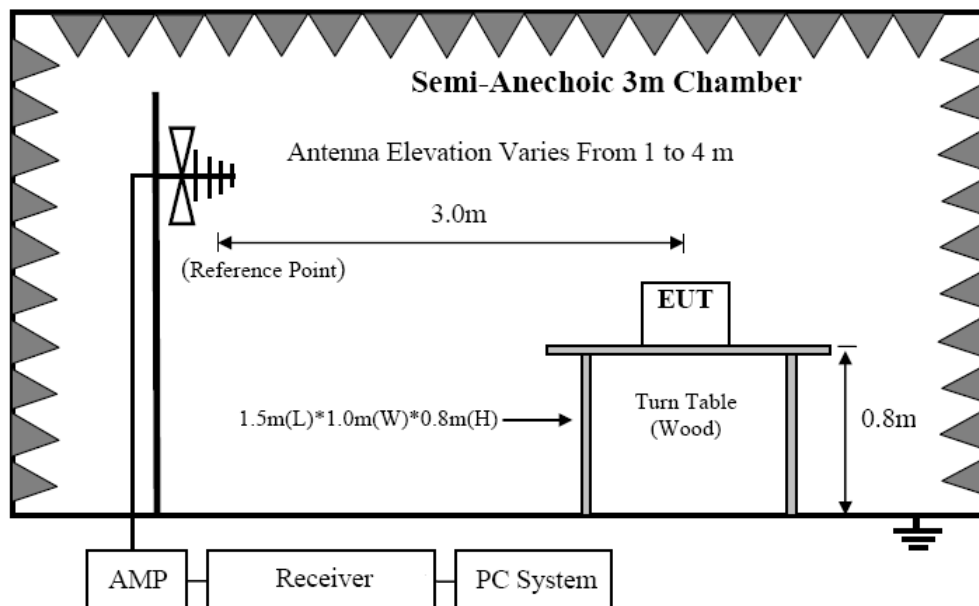
| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |

#### 15.209 Limit

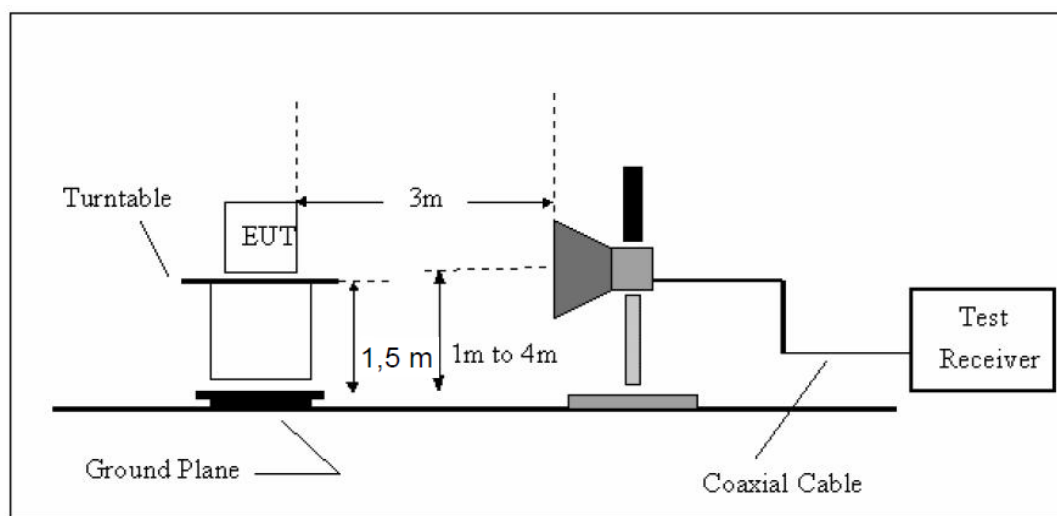
| FREQUENCY<br>MHz | DISTANCE<br>Meters | FIELD STRENGTHS LIMIT                           |          |
|------------------|--------------------|-------------------------------------------------|----------|
|                  |                    | μV/m                                            | dB(μV)/m |
| 0.009-0.490      | 300                | 2400/F(KHz)                                     | /        |
| 0.490-1.705      | 30                 | 24000/F(KHz)                                    | /        |
| 1.705-30         | 30                 | 30                                              | 29.5     |
| 30 ~ 88          | 3                  | 100                                             | 40.0     |
| 88 ~ 216         | 3                  | 150                                             | 43.5     |
| 216 ~ 960        | 3                  | 200                                             | 46.0     |
| 960 ~ 1000       | 3                  | 500                                             | 54.0     |
| Above 1000       | 3                  | 74.0 dB(μV)/m (Peak)<br>54.0 dB(μV)/m (Average) |          |

## 8.2. Block Diagram of Test setup

### 8.2.1 In 3m Anechoic Chamber Test Setup Diagram for below 1GHz



### 8.2.2 In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

### 8.3. Test Procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.
- (2) Setup EUT and simulator as shown in section 1.4 and 6.1
- (3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
  - (a) Change work frequency or channel of device if practicable.
  - (b) Change modulation type of device if practicable.
  - (c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions
- (4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated
- (5) For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 :2014on Radiated Emission test.
- (6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 10Hz for Average measure.

### 8.4. Test Result

We have scanned the 10th harmonic from 9KHz to the EUT's highest frequency..  
Detailed information please see the following page.

From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

## From 30MHz to 1000MHz: Conclusion: PASS

Site: LAB

Polarization: **Horizontal**

Temperature: 23.5

Limit: FCC Part15 Class B Radiation

Power: DC 5V

Humidity: 51 %

EUT: XOUNDBAR

Distance:

MN: XAM29

Mode:Tx 2402MHz

Note:

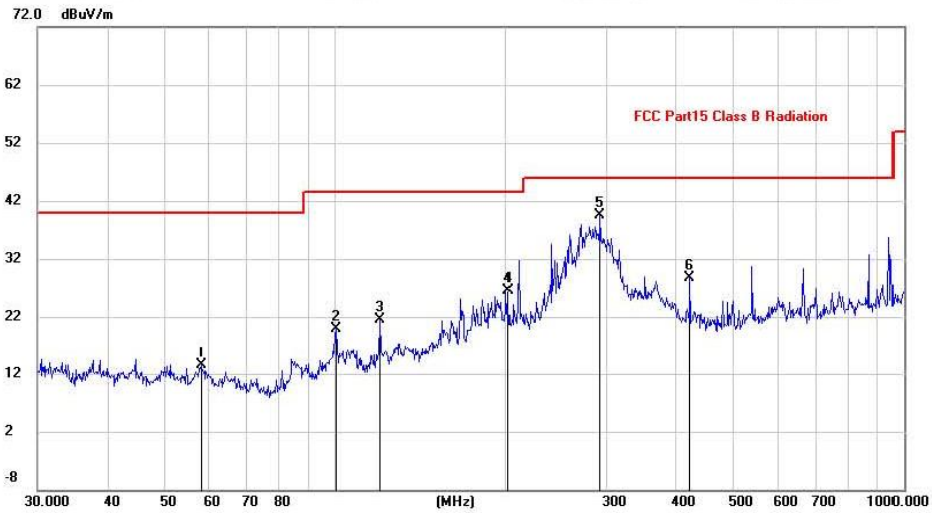
## Radiated Emission Measurement

File :XAM29 06

Data :#1

Date: 2017/6/5

Time: 10:56:32



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   |     | 58.2030  | 0.29          | 13.13          | 13.42       | 40.00  | -26.58 | peak           |              |         |
| 2   |     | 100.5806 | 9.28          | 10.67          | 19.95       | 43.50  | -23.55 | peak           |              |         |
| 3   |     | 119.8556 | 8.88          | 12.58          | 21.46       | 43.50  | -22.04 | peak           |              |         |
| 4   |     | 200.6881 | 16.18         | 10.35          | 26.53       | 43.50  | -16.97 | peak           |              |         |
| 5   | *   | 292.0583 | 26.29         | 13.20          | 39.49       | 46.00  | -6.51  | peak           |              |         |
| 6   |     | 420.5803 | 12.63         | 16.05          | 28.68       | 46.00  | -17.32 | peak           |              |         |

Note:1. \*:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

|                                     |                               |                   |
|-------------------------------------|-------------------------------|-------------------|
| Site: LAB                           | Polarization: <b>Vertical</b> | Temperature: 23.5 |
| Limit: FCC Part15 Class B Radiation | Power: DC 5V                  | Humidity: 51 %    |
| EUT: XOUNDBAR                       | Distance:                     |                   |
| M/N: XAM29                          |                               |                   |
| Mode: charging and link             |                               |                   |
| Note:                               |                               |                   |

## Radiated Emission Measurement



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Antenna Height | Table Degree |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   | *   | 30.0000  | 15.13         | 13.25          | 28.38       | 40.00  | -11.62 | peak           |              |         |
| 2   |     | 73.1025  | 12.53         | 10.42          | 22.95       | 40.00  | -17.05 | peak           |              |         |
| 3   |     | 84.1100  | 16.87         | 9.61           | 26.48       | 40.00  | -13.52 | peak           |              |         |
| 4   |     | 133.1511 | 10.78         | 13.42          | 24.20       | 43.50  | -19.30 | peak           |              |         |
| 5   |     | 166.0680 | 9.11          | 14.09          | 23.20       | 43.50  | -20.30 | peak           |              |         |
| 6   |     | 541.3725 | 14.65         | 18.21          | 32.86       | 46.00  | -13.14 | peak           |              |         |

Note: 1. \*: Maximum data; x: Over limit; !: over margin.

2. Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

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Page: 1

Engineer Signature:

Remark: All modes have been tested, and only worst data of GFSK mode, Channel 2402MHz was listed in this report.

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: GFSK Tx CH1 2402MHz                                                                    |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4804       | 44.02               | 33.95                 | 10.18          | 34.26           | 53.89           | 74             | 20.11       | PK     |
| 2                                                                                                 | 4804       | 34.75               | 33.95                 | 10.18          | 34.26           | 44.62           | 54             | 9.38        | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4804       | 43.19               | 33.95                 | 10.18          | 34.26           | 53.06           | 74             | 20.94       | PK     |
| 2                                                                                                 | 4804       | 33.92               | 33.95                 | 10.18          | 34.26           | 43.79           | 54             | 10.21       | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                 |                 |                 |                 |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|-----------------|-----------------|-----------------|-----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                 |                 |                 |                 |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                 |                 |                 |                 |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                 |                 |                 |                 |             |        |
| Test mode: GFSK Tx CH40 2441MHz                                                                   |            |                     |                       |                 |                 |                 |                 |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                 |                 |                 |                 |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(d B) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/ m) | Margin (dB) | Remark |
| 1                                                                                                 | 4882       | 41.19               | 33.93                 | 10.2            | 34.29           | 51.03           | 74              | 22.97       | PK     |
| 2                                                                                                 | 4882       | 32.60               | 33.93                 | 10.2            | 34.29           | 42.44           | 54              | 11.56       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                 |                 |                 |                 |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                 |                 |                 |                 |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                 |                 |                 |                 |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                 |                 |                 |                 |             |        |
| 1                                                                                                 | 4882       | 42.27               | 33.93                 | 10.2            | 34.29           | 52.11           | 74              | 21.89       | PK     |
| 2                                                                                                 | 4882       | 32.80               | 33.93                 | 10.2            | 34.29           | 42.64           | 54              | 11.36       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                 |                 |                 |                 |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                 |                 |                 |                 |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                 |                 |                 |                 |             |        |
| Note:                                                                                             |            |                     |                       |                 |                 |                 |                 |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                 |                 |                 |                 |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                 |                 |                 |                 |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                 |                 |                 |                 |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                 |                 |                 |                 |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                 |                 |                 |                 |             |        |

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: GFSK Tx CH79 2480MHz                                                                   |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4960       | 41.91               | 33.98                 | 10.22          | 34.25           | 51.86           | 74             | 22.14       | PK     |
| 2                                                                                                 | 4960       | 32.34               | 33.98                 | 10.22          | 34.25           | 42.29           | 54             | 11.71       | AV     |
| 3                                                                                                 | 7440       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9920       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12400      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4960       | 42.55               | 33.98                 | 10.22          | 34.25           | 52.50           | 74             | 21.50       | PK     |
| 2                                                                                                 | 4960       | 31.48               | 33.98                 | 10.22          | 34.25           | 41.43           | 54             | 12.57       | AV     |
| 3                                                                                                 | 7440       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9920       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12400      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: $\pi$ /4 DQPSK Tx CH1 2402MHz                                                          |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4804       | 43.04               | 33.95                 | 10.18          | 34.26           | 52.91           | 74             | 21.09       | PK     |
| 2                                                                                                 | 4804       | 31.73               | 33.95                 | 10.18          | 34.26           | 41.60           | 54             | 12.40       | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4804       | 43.92               | 33.95                 | 10.18          | 34.26           | 53.79           | 74             | 20.21       | PK     |
| 2                                                                                                 | 4804       | 31.76               | 33.95                 | 10.18          | 34.26           | 41.63           | 54             | 12.37       | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto<br>Detector: PK               |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto<br>Detector: PK               |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: $\pi$ /4 DQPSK Tx CH40 2441MHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4882       | 43.74               | 33.93                 | 10.2           | 34.29           | 53.67           | 74             | 20.33       | PK     |
| 2                                                                                                 | 4882       | 31.05               | 33.93                 | 10.2           | 34.29           | 40.98           | 54             | 13.02       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4882       | 43.32               | 33.93                 | 10.2           | 34.29           | 53.16           | 74             | 20.84       | PK     |
| 2                                                                                                 | 4882       | 33.33               | 33.93                 | 10.2           | 34.29           | 43.17           | 54             | 10.83       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

| 1GHz—25GHz Radiated emission Test result                                                          |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: $\pi$ /4 DQPSK    Tx CH79 2480MHz                                                      |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4960       | 41.98               | 33.98                 | 10.22          | 34.25           | 51.93           | 74             | 22.07       | PK     |
| 2                                                                                                 | 4960       | 32.27               | 33.98                 | 10.22          | 34.25           | 42.22           | 54             | 11.78       | AV     |
| 3                                                                                                 | 7440       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9920       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12400      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4960       | 43.11               | 33.98                 | 10.22          | 34.25           | 53.06           | 74             | 20.94       | PK     |
| 2                                                                                                 | 4960       | 31.83               | 33.98                 | 10.22          | 34.25           | 41.78           | 54             | 12.22       | AV     |
| 3                                                                                                 | 7440       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9920       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12400      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

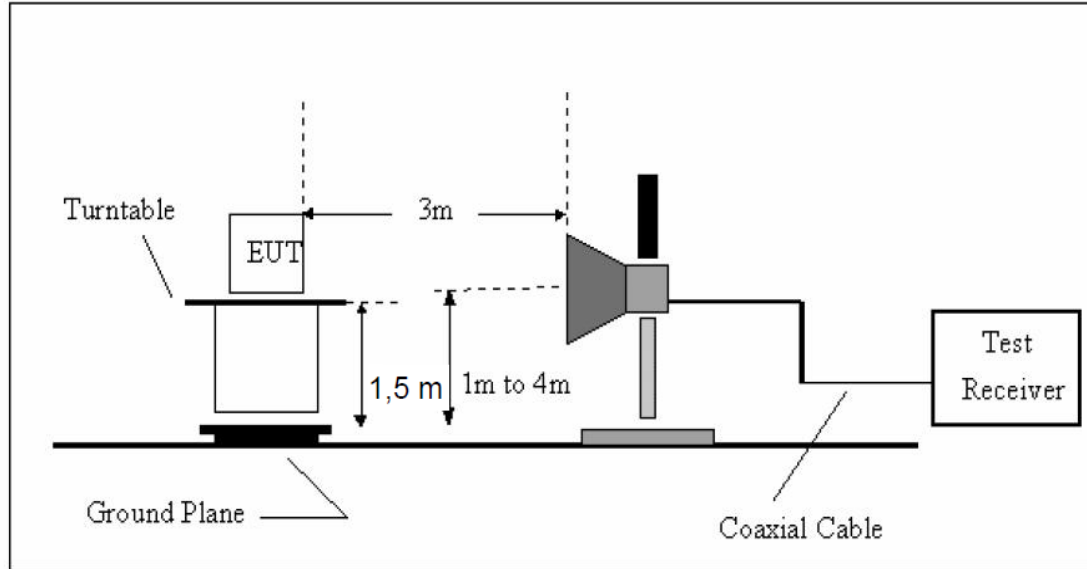
| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                |                 |                 |                |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                |                 |                 |                |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                |                 |                 |                |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                |                 |                 |                |             |        |
| Test mode: 8- DQPSK Tx CH1 2402MHz                                                                |            |                     |                       |                |                 |                 |                |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                |                 |                 |                |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
| 1                                                                                                 | 4804       | 41.91               | 33.95                 | 10.18          | 34.26           | 51.78           | 74             | 22.22       | PK     |
| 2                                                                                                 | 4804       | 32.06               | 33.95                 | 10.18          | 34.26           | 41.93           | 54             | 12.07       | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                |                 |                 |                |             |        |
| 1                                                                                                 | 4804       | 40.36               | 33.95                 | 10.18          | 34.26           | 50.23           | 74             | 23.77       | PK     |
| 2                                                                                                 | 4804       | 31.60               | 33.95                 | 10.18          | 34.26           | 41.47           | 54             | 12.53       | AV     |
| 3                                                                                                 | 7206       | /                   |                       |                |                 |                 |                |             |        |
| 4                                                                                                 | 9608       | /                   |                       |                |                 |                 |                |             |        |
| 5                                                                                                 | 12010      | /                   |                       |                |                 |                 |                |             |        |
| Note:                                                                                             |            |                     |                       |                |                 |                 |                |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                |                 |                 |                |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                |                 |                 |                |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                |                 |                 |                |             |        |

| 1GHz—25GHz Radiated emissison Test result                                                         |            |                     |                       |                 |                 |                 |                 |             |        |
|---------------------------------------------------------------------------------------------------|------------|---------------------|-----------------------|-----------------|-----------------|-----------------|-----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |            |                     | M/N: XAM29            |                 |                 |                 |                 |             |        |
| Power: DC 3.7V From battery                                                                       |            |                     |                       |                 |                 |                 |                 |             |        |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |            |                     |                       |                 |                 |                 |                 |             |        |
| Test mode: 8- DQPSK Tx CH40 2441MHz                                                               |            |                     |                       |                 |                 |                 |                 |             |        |
| Antenna polarity: Vertical                                                                        |            |                     |                       |                 |                 |                 |                 |             |        |
| No                                                                                                | Freq (MHz) | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(d B) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/ m) | Margin (dB) | Remark |
| 1                                                                                                 | 4882       | 41.60               | 33.93                 | 10.2            | 34.29           | 51.44           | 74              | 22.56       | PK     |
| 2                                                                                                 | 4882       | 31.82               | 33.93                 | 10.2            | 34.29           | 41.66           | 54              | 12.34       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                 |                 |                 |                 |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                 |                 |                 |                 |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                 |                 |                 |                 |             |        |
| Antenna Polarity: Horizontal                                                                      |            |                     |                       |                 |                 |                 |                 |             |        |
| 1                                                                                                 | 4882       | 42.42               | 33.93                 | 10.2            | 34.29           | 52.26           | 74              | 21.74       | PK     |
| 2                                                                                                 | 4882       | 33.07               | 33.93                 | 10.2            | 34.29           | 42.91           | 54              | 11.09       | AV     |
| 3                                                                                                 | 7323       | /                   |                       |                 |                 |                 |                 |             |        |
| 4                                                                                                 | 9764       | /                   |                       |                 |                 |                 |                 |             |        |
| 5                                                                                                 | 12205      | /                   |                       |                 |                 |                 |                 |             |        |
| Note:                                                                                             |            |                     |                       |                 |                 |                 |                 |             |        |
| 1, Measuring frequency from 1GHz to 25GHz                                                         |            |                     |                       |                 |                 |                 |                 |             |        |
| 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                 |                 |                 |                 |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |            |                     |                       |                 |                 |                 |                 |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |            |                     |                       |                 |                 |                 |                 |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |            |                     |                       |                 |                 |                 |                 |             |        |



## 9. Band Edge Compliance

### 9.1. Block Diagram of Test Setup



### 9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 9.3. Test Procedure

All restriction band and non- restriction band have been tested , only worse case is reported.

### 9.4. Test Result

**PASS. (See below detailed test data)**



| Band Edge Test result                                                                             |                     |                       |                |                 |                 |                |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29     |                 |                 |                |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                |                 |                 |                |             |           |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |                     |                       |                |                 |                 |                |             |           |
| Test mode: Tx CH High 2480MHz                                                                     |                     |                       |                |                 |                 |                |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                |                 |                 |                |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark    |
| 2483.5                                                                                            | 43.89               | 27.89                 | 4              | 34.97           | 40.81           | 74             | 33.19       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                |                 |                 |                |             |           |
| 2483.5                                                                                            | 44.24               | 27.89                 | 4              | 34.97           | 41.16           | 74             | 32.84       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Note:                                                                                             |                     |                       |                |                 |                 |                |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |                     |                       |                |                 |                 |                |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |                     |                       |                |                 |                 |                |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                |                 |                 |                |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                |                 |                 |                |             |           |

## GFSK ( Hopping Low)

| Band Edge Test result                                                                             |                     |                       |                       |                 |                 |                 |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|-----------------------|-----------------|-----------------|-----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29            |                 |                 |                 |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                       |                 |                 |                 |             |           |
| Test date: 2017-6-6                                                                               |                     |                       | Test site: 3m Chamber |                 |                 | Tested by: Reak |             |           |
| Test mode: Tx                                                                                     |                     |                       |                       |                 |                 |                 |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                       |                 |                 |                 |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB)        | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m)  | Margin (dB) | Remark    |
| 2390                                                                                              | 44.26               | 27.62                 | 3.92                  | 34.97           | 40.83           | 74              | 33.17       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| 2390                                                                                              | 43.86               | 27.62                 | 3.92                  | 34.97           | 40.43           | 74              | 33.57       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Note:                                                                                             |                     |                       |                       |                 |                 |                 |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |                     |                       |                       |                 |                 |                 |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |                     |                       |                       |                 |                 |                 |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                       |                 |                 |                 |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                       |                 |                 |                 |             |           |

| Band Edge Test result                                                                             |                     |                       |                |                 |                 |                |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     | M/N: XAM29            |                |                 |                 |                |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                |                 |                 |                |             |           |
| Test date: 2017-6-6                                                                               |                     | Test site: 3m Chamber |                |                 | Tested by: Reak |                |             |           |
| Test mode: Tx                                                                                     |                     |                       |                |                 |                 |                |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                |                 |                 |                |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark    |
| 2483.5                                                                                            | 43.89               | 27.89                 | 4              | 34.97           | 40.81           | 74             | 33.19       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                |                 |                 |                |             |           |
| 2483.5                                                                                            | 44.30               | 27.89                 | 4              | 34.97           | 41.22           | 74             | 32.78       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Note:                                                                                             |                     |                       |                |                 |                 |                |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |                     |                       |                |                 |                 |                |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |                     |                       |                |                 |                 |                |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                |                 |                 |                |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                |                 |                 |                |             |           |

| Band Edge Test result                                                                             |                     |                       |                       |                 |                 |                 |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|-----------------------|-----------------|-----------------|-----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29            |                 |                 |                 |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                       |                 |                 |                 |             |           |
| Test date: 2017-6-6                                                                               |                     |                       | Test site: 3m Chamber |                 |                 | Tested by: Reak |             |           |
| Test mode: Tx CH Low 2402MHz                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                       |                 |                 |                 |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB)        | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m)  | Margin (dB) | Remark    |
| 2390                                                                                              | 43.74               | 27.62                 | 3.92                  | 34.97           | 40.31           | 74              | 33.69       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| 2390                                                                                              | 44.42               | 27.62                 | 3.92                  | 34.97           | 40.99           | 74              | 33.01       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Note:                                                                                             |                     |                       |                       |                 |                 |                 |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto                               |                     |                       |                       |                 |                 |                 |             |           |
| Detector: PK                                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto                               |                     |                       |                       |                 |                 |                 |             |           |
| Detector: PK                                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                       |                 |                 |                 |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                       |                 |                 |                 |             |           |

| Band Edge Test result                                                                             |                           |                             |                       |                       |                    |                   |                |        |
|---------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|-----------------------|-----------------------|--------------------|-------------------|----------------|--------|
| EUT: XOUNDBAR                                                                                     |                           |                             | M/N: XAM29            |                       |                    |                   |                |        |
| Power: DC 3.7V From battery                                                                       |                           |                             |                       |                       |                    |                   |                |        |
| Test date: 2017-6-6                                                                               |                           |                             | Test site: 3m Chamber |                       |                    | Tested by: Reak   |                |        |
| Test mode: Tx CH High 2480MHz                                                                     |                           |                             |                       |                       |                    |                   |                |        |
| Antenna polarity: Vertical                                                                        |                           |                             |                       |                       |                    |                   |                |        |
| Freq<br>(MHz)                                                                                     | Read<br>Level<br>(dBuV/m) | Antenna<br>Factor<br>(dB/m) | Cable<br>loss(d<br>B) | Amp<br>Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
| 2483.5                                                                                            | 44.01                     | 27.89                       | 4                     | 34.97                 | 40.93              | 74                | 33.07          | PK     |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
| Antenna Polarity: Horizontal                                                                      |                           |                             |                       |                       |                    |                   |                |        |
| 2483.5                                                                                            | 44.54                     | 27.89                       | 4                     | 34.97                 | 41.46              | 74                | 32.54          | PK     |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
| Note:                                                                                             |                           |                             |                       |                       |                    |                   |                |        |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |                           |                             |                       |                       |                    |                   |                |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |                           |                             |                       |                       |                    |                   |                |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                           |                             |                       |                       |                    |                   |                |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                           |                             |                       |                       |                    |                   |                |        |



| Band Edge Test result                                                                             |                           |                             |                       |                       |                    |                   |                |        |
|---------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|-----------------------|-----------------------|--------------------|-------------------|----------------|--------|
| EUT: XOUNDBAR                                                                                     |                           |                             | M/N: XAM29            |                       |                    |                   |                |        |
| Power: DC 3.7V From battery                                                                       |                           |                             |                       |                       |                    |                   |                |        |
| Test date: 2017-6-6                                                                               |                           |                             | Test site: 3m Chamber |                       |                    | Tested by: Reak   |                |        |
| Test mode: Tx                                                                                     |                           |                             |                       |                       |                    |                   |                |        |
| Antenna polarity: Vertical                                                                        |                           |                             |                       |                       |                    |                   |                |        |
| Freq<br>(MHz)                                                                                     | Read<br>Level<br>(dBuV/m) | Antenna<br>Factor<br>(dB/m) | Cable<br>loss(d<br>B) | Amp<br>Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
| 2483.5                                                                                            | 44.08                     | 27.89                       | 4                     | 34.97                 | 41.00              | 74                | 33.00          | PK     |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
| Antenna Polarity: Horizontal                                                                      |                           |                             |                       |                       |                    |                   |                |        |
| 2483.5                                                                                            | 44.63                     | 27.89                       | 4                     | 34.97                 | 41.55              | 74                | 32.45          | PK     |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
|                                                                                                   |                           |                             |                       |                       |                    |                   |                |        |
| Note:                                                                                             |                           |                             |                       |                       |                    |                   |                |        |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK                 |                           |                             |                       |                       |                    |                   |                |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK                 |                           |                             |                       |                       |                    |                   |                |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                           |                             |                       |                       |                    |                   |                |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                           |                             |                       |                       |                    |                   |                |        |

| Band Edge Test result                                                                             |                     |                       |                |                 |                 |                |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29     |                 |                 |                |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                |                 |                 |                |             |           |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |                     |                       |                |                 |                 |                |             |           |
| Test mode: Tx CH Low 2402MHz                                                                      |                     |                       |                |                 |                 |                |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                |                 |                 |                |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark    |
| 2390                                                                                              | 44.01               | 27.62                 | 3.92           | 34.97           | 40.58           | 74             | 33.42       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                |                 |                 |                |             |           |
| 2390                                                                                              | 44.58               | 27.62                 | 3.92           | 34.97           | 41.15           | 74             | 32.85       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Note:                                                                                             |                     |                       |                |                 |                 |                |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto<br>Detector: PK               |                     |                       |                |                 |                 |                |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto<br>Detector: PK               |                     |                       |                |                 |                 |                |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                |                 |                 |                |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                |                 |                 |                |             |           |

| Band Edge Test result                                                                             |                     |                       |                |                 |                 |                |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|----------------|-----------------|-----------------|----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29     |                 |                 |                |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                |                 |                 |                |             |           |
| Test date: 2017-6-6    Test site: 3m Chamber    Tested by: Reak                                   |                     |                       |                |                 |                 |                |             |           |
| Test mode: Tx CH High 2480MHz                                                                     |                     |                       |                |                 |                 |                |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                |                 |                 |                |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB) | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark    |
| 2483.5                                                                                            | 44.61               | 27.89                 | 4              | 34.97           | 41.53           | 74             | 32.47       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                |                 |                 |                |             |           |
| 2483.5                                                                                            | 44.47               | 27.89                 | 4              | 34.97           | 41.39           | 74             | 32.61       | <b>PK</b> |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
|                                                                                                   |                     |                       |                |                 |                 |                |             |           |
| Note:                                                                                             |                     |                       |                |                 |                 |                |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto<br>Detector: PK               |                     |                       |                |                 |                 |                |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto<br>Detector: PK               |                     |                       |                |                 |                 |                |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                |                 |                 |                |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                |                 |                 |                |             |           |

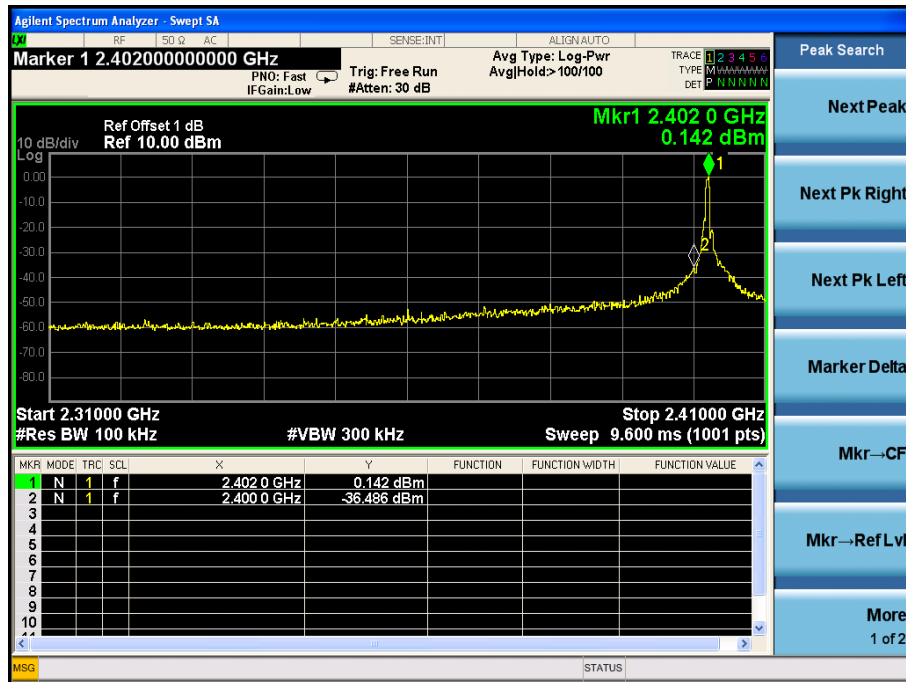
| Band Edge Test result                                                                             |                     |                       |                       |                 |                 |                 |             |           |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|-----------------------|-----------------|-----------------|-----------------|-------------|-----------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29            |                 |                 |                 |             |           |
| Power: DC 3.7V From battery                                                                       |                     |                       |                       |                 |                 |                 |             |           |
| Test date: 2017-6-6                                                                               |                     |                       | Test site: 3m Chamber |                 |                 | Tested by: Reak |             |           |
| Test mode: Tx                                                                                     |                     |                       |                       |                 |                 |                 |             |           |
| Antenna polarity: Vertical                                                                        |                     |                       |                       |                 |                 |                 |             |           |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB)        | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m)  | Margin (dB) | Remark    |
| 2390                                                                                              | 44.14               | 27.62                 | 3.92                  | 34.97           | 40.71           | 74              | 33.29       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                       |                 |                 |                 |             |           |
| 2390                                                                                              | 44.42               | 27.62                 | 3.92                  | 34.97           | 40.99           | 74              | 33.01       | <b>PK</b> |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |           |
| Note:                                                                                             |                     |                       |                       |                 |                 |                 |             |           |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto<br>Detector: PK               |                     |                       |                       |                 |                 |                 |             |           |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto<br>Detector: PK               |                     |                       |                       |                 |                 |                 |             |           |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                       |                 |                 |                 |             |           |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                       |                 |                 |                 |             |           |

| Band Edge Test result                                                                             |                     |                       |                       |                 |                 |                 |             |        |
|---------------------------------------------------------------------------------------------------|---------------------|-----------------------|-----------------------|-----------------|-----------------|-----------------|-------------|--------|
| EUT: XOUNDBAR                                                                                     |                     |                       | M/N: XAM29            |                 |                 |                 |             |        |
| Power: DC 3.7V From battery                                                                       |                     |                       |                       |                 |                 |                 |             |        |
| Test date: 2017-6-6                                                                               |                     |                       | Test site: 3m Chamber |                 |                 | Tested by: Reak |             |        |
| Test mode: Tx                                                                                     |                     |                       |                       |                 |                 |                 |             |        |
| Antenna polarity: Vertical                                                                        |                     |                       |                       |                 |                 |                 |             |        |
| Freq (MHz)                                                                                        | Read Level (dBuV/m) | Antenna Factor (dB/m) | Cable loss(dB)        | Amp Factor (dB) | Result (dBuV/m) | Limit (dBuV/m)  | Margin (dB) | Remark |
| 2483.5                                                                                            | 44.48               | 27.89                 | 4                     | 34.97           | 41.40           | 74              | 32.60       | PK     |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
| Antenna Polarity: Horizontal                                                                      |                     |                       |                       |                 |                 |                 |             |        |
| 2483.5                                                                                            | 44.03               | 27.89                 | 4                     | 34.97           | 40.95           | 74              | 33.05       | PK     |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
|                                                                                                   |                     |                       |                       |                 |                 |                 |             |        |
| Note:                                                                                             |                     |                       |                       |                 |                 |                 |             |        |
| 1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto                               |                     |                       |                       |                 |                 |                 |             |        |
| Detector: PK                                                                                      |                     |                       |                       |                 |                 |                 |             |        |
| 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto                               |                     |                       |                       |                 |                 |                 |             |        |
| Detector: PK                                                                                      |                     |                       |                       |                 |                 |                 |             |        |
| 3, Result = Read level + Antenna factor + cable loss-Amp factor                                   |                     |                       |                       |                 |                 |                 |             |        |
| 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit. |                     |                       |                       |                 |                 |                 |             |        |

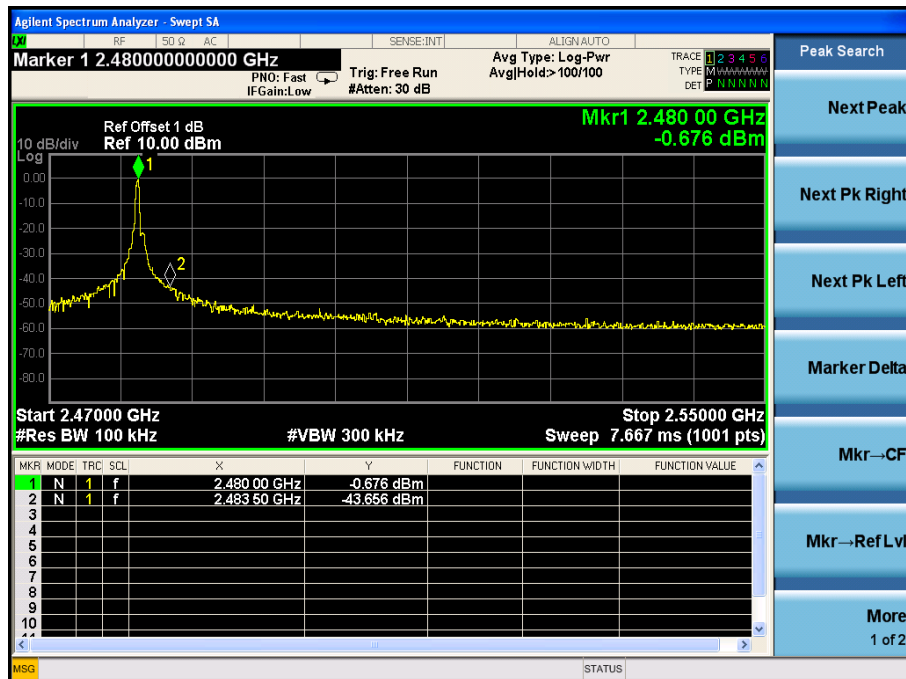
Conducted Method

GFSK

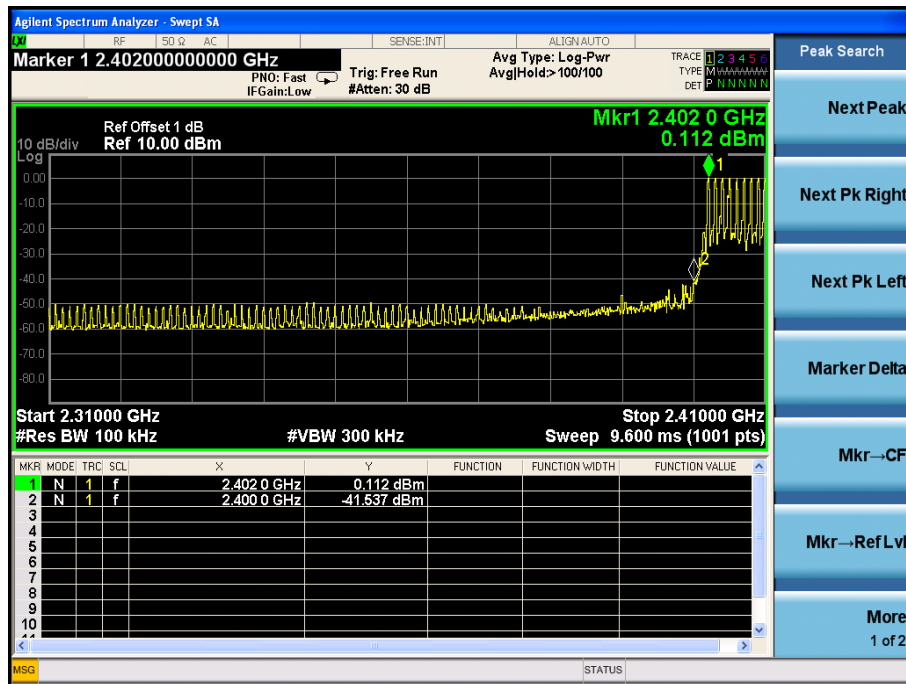
CH LOW :



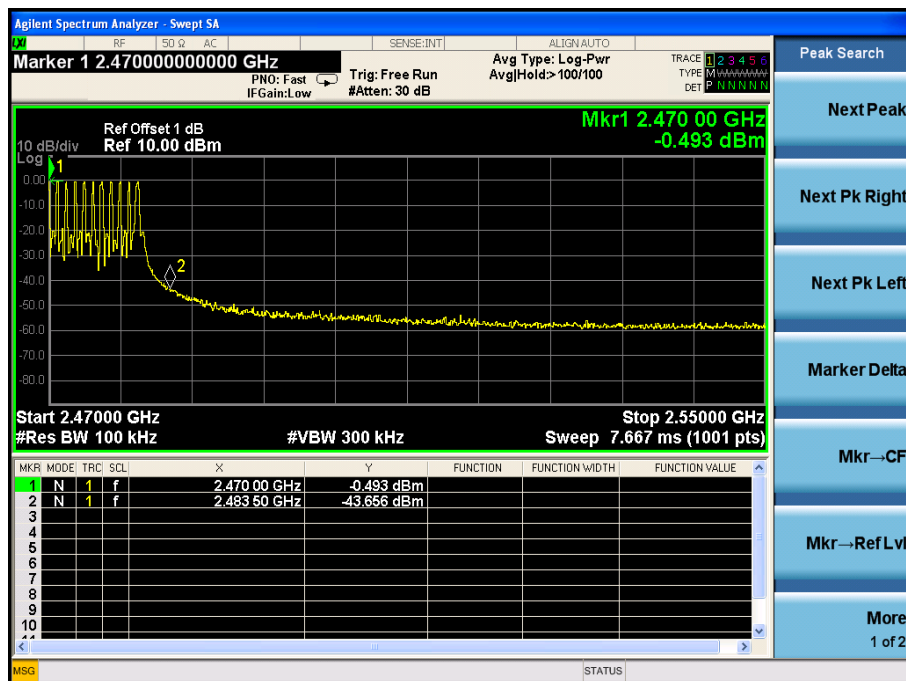
CH High :



Hopping  
Low

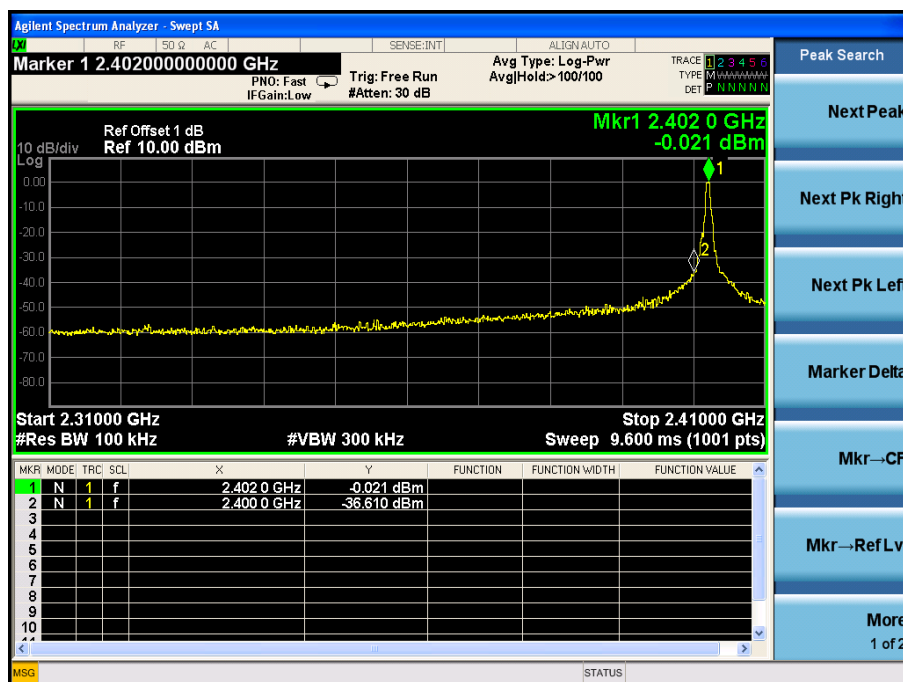


High

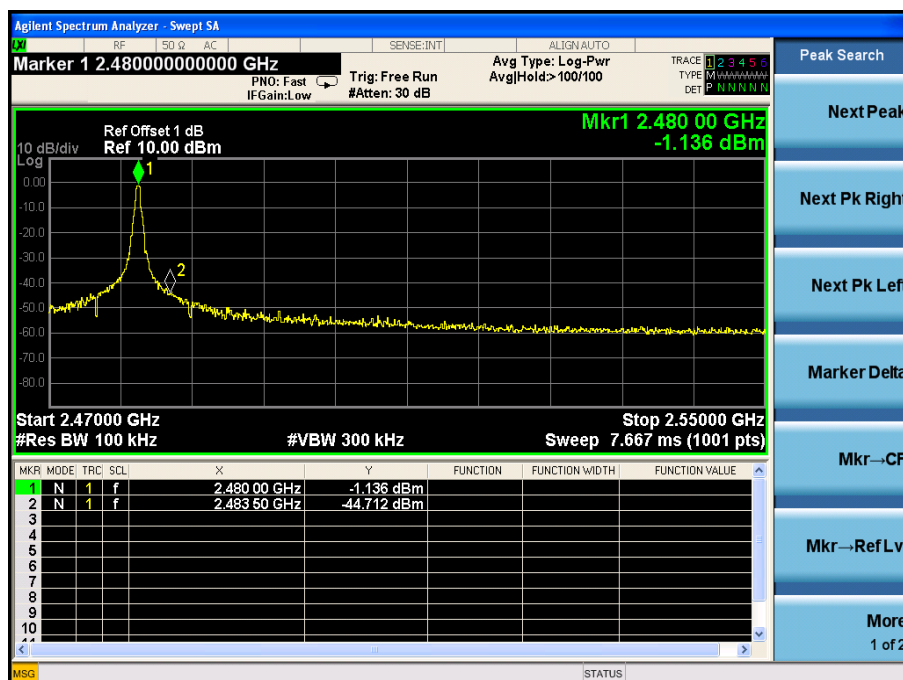


$\pi/4$  DQPSK

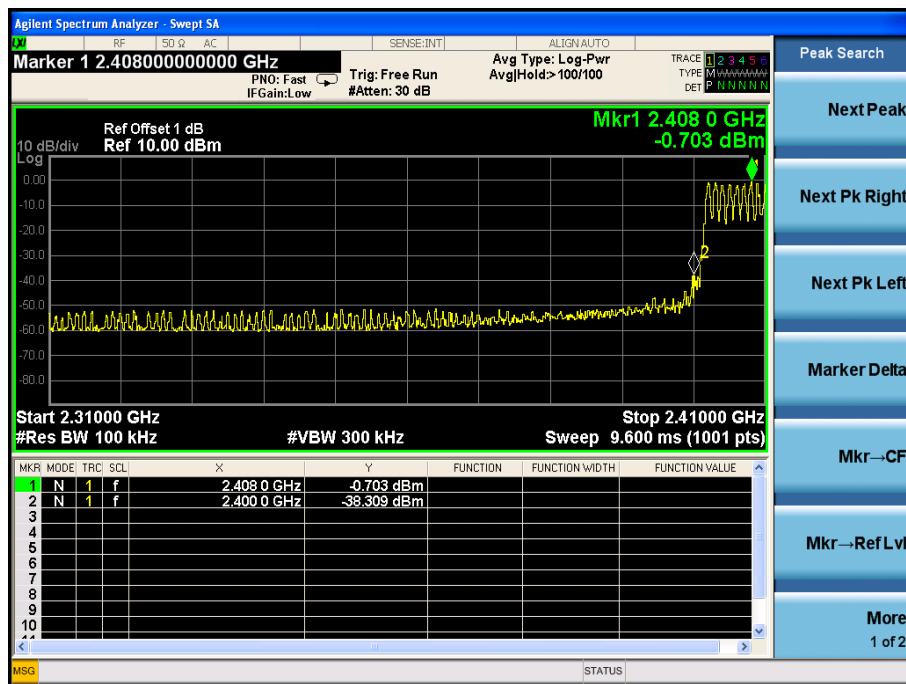
Low



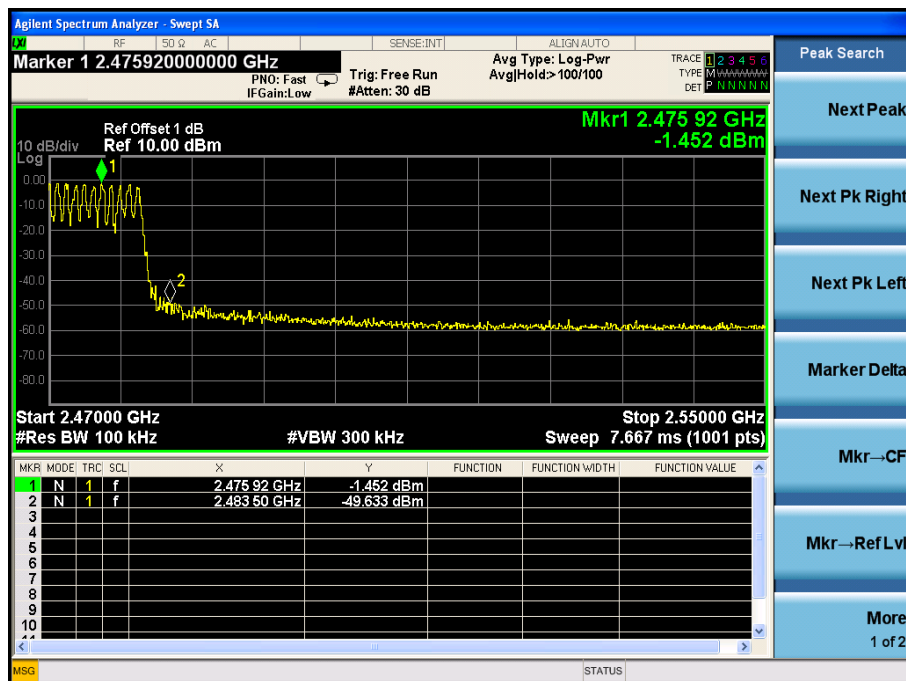
High



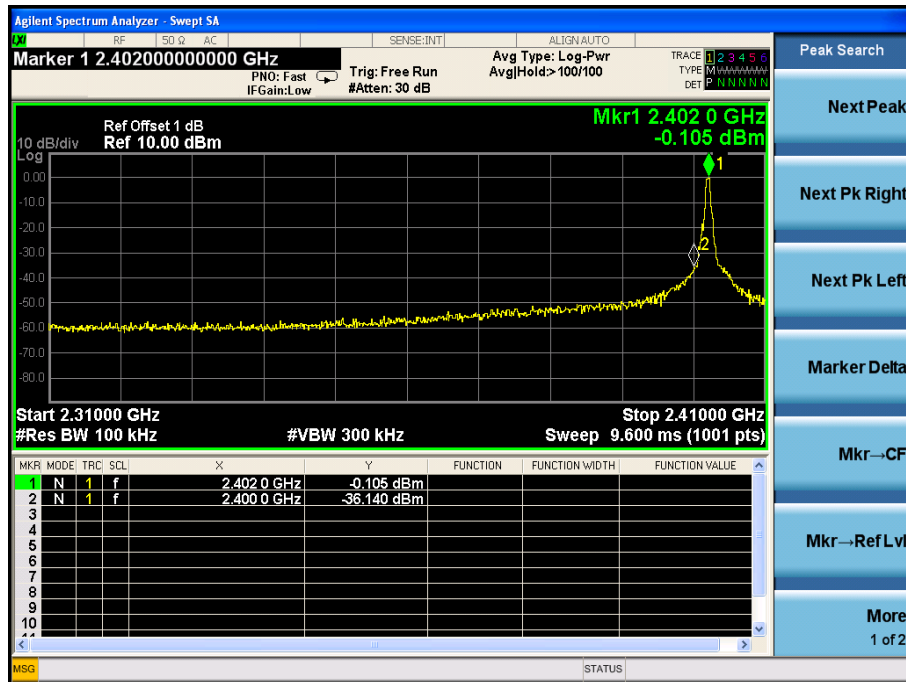
Hopping  
Low



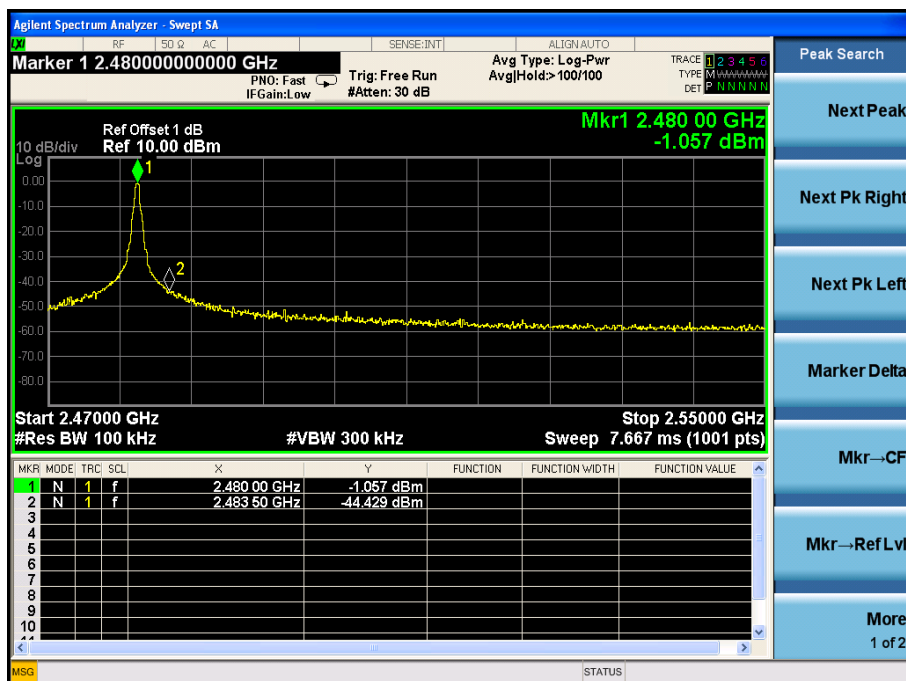
High



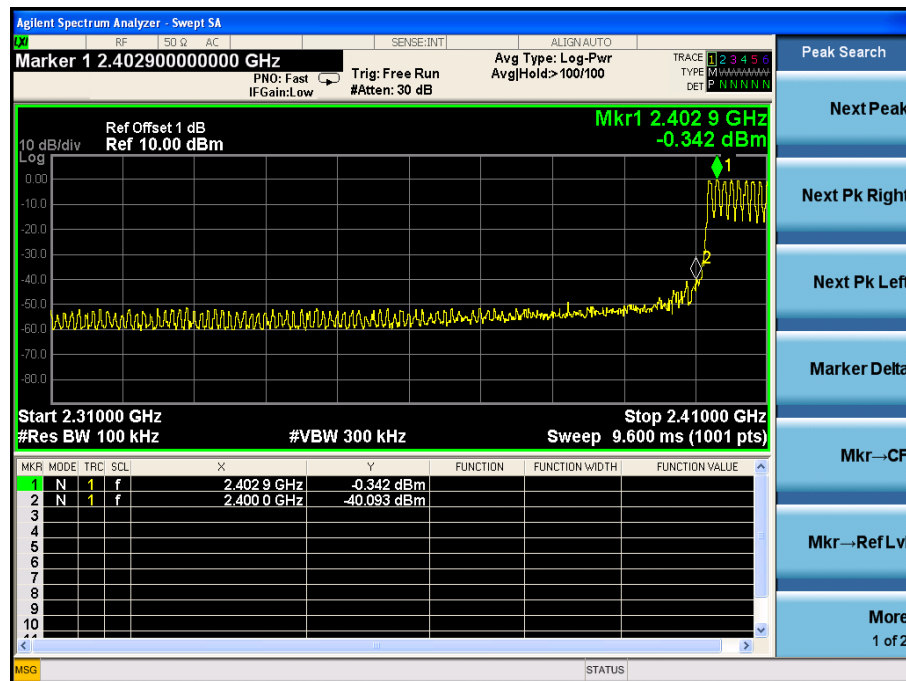
## 8- DPSK: Low



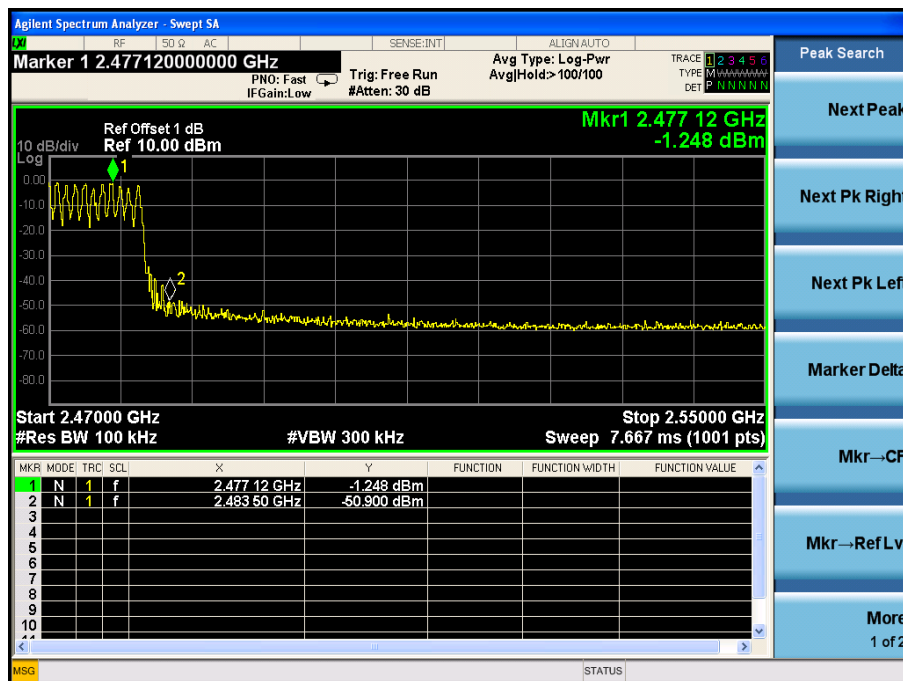
## High



Hopping  
Low

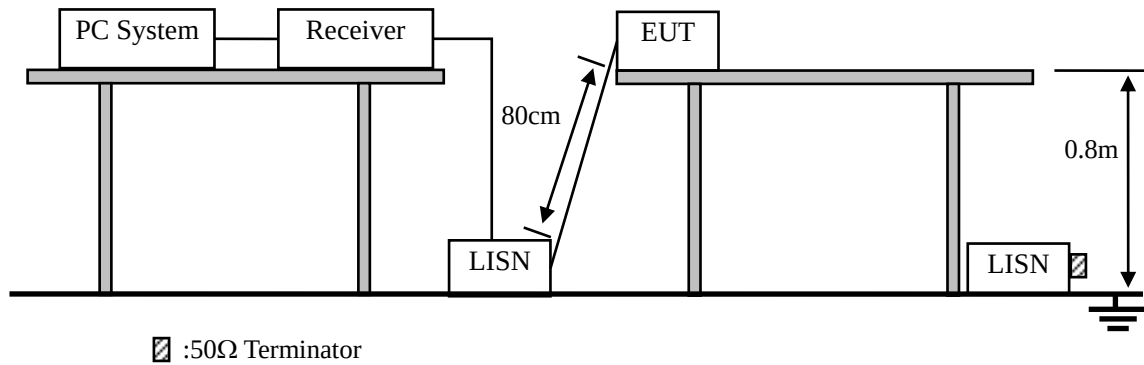


High



## 10. Power Line Conducted Emissions

### 10.1. Block Diagram of Test Setup



### 10.2. Limit

| Frequency       | Maximum RF Line Voltage          |                               |
|-----------------|----------------------------------|-------------------------------|
|                 | Quasi-Peak Level<br>dB( $\mu$ V) | Average Level<br>dB( $\mu$ V) |
| 150kHz ~ 500kHz | 66 ~ 56*                         | 56 ~ 46*                      |
| 500kHz ~ 5MHz   | 56                               | 46                            |
| 5MHz ~ 30MHz    | 60                               | 50                            |

Notes: 1. \* Decreasing linearly with logarithm of frequency.  
2. The lower limit shall apply at the transition frequencies.

### 10.3. Test Procedure

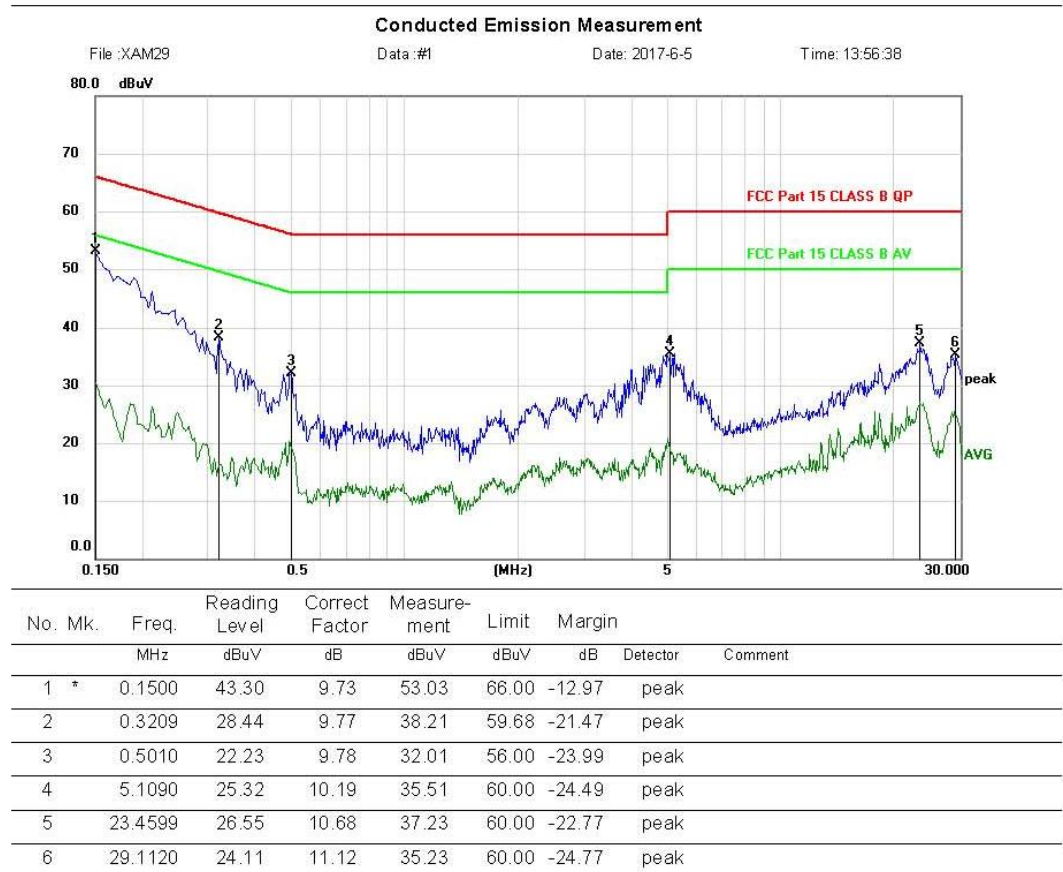
- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 :2014on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10KHz.
- (5) The frequency range from 150 KHz to 30MHz is checked.

## 10.4. Test Result

PASS. (See below detailed test data)

Note: If QP Result comply with AV limit, AV Result is deemed to comply with AV limit

Site: LAB Phase: **L1** Temperature: 24.2  
 Limit: FCC Part 15 CLASS B QP Power: DC 5V Humidity: 53 %  
 EUT: XOUNDBAR  
 M/N: XAM29  
 Mode: Tx2402MHz  
 Note:



\*:Maximum data x:Over limit !:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor, Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

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Page: 1

Engineer Signature:

Site: LAB  
 Limit: FCC Part 15 CLASS B QP  
 EUT: XOUNDBAR  
 MN: XAM29  
 Mode: Tx2402MHz  
 Note:

Phase: **N**  
 Power: DC 5V

Temperature: 24.2  
 Humidity: 53 %

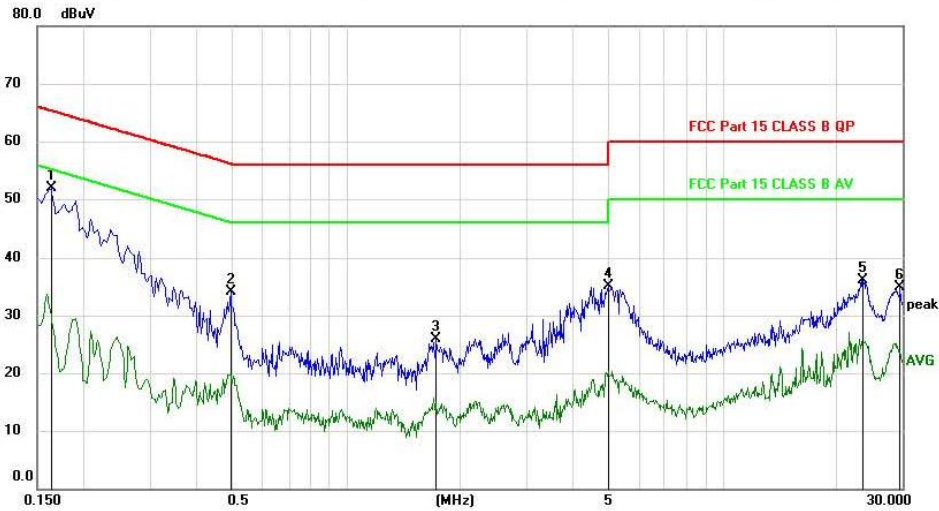
### Conducted Emission Measurement

File: XAM29

Data: #2

Date: 2017-6-5

Time: 13:58:11



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|--------------|----------|---------|
| 1   | *   | 0.1635       | 42.22                    | 9.73                    | 51.95                    | 65.28         | -13.33       | peak     |         |
| 2   |     | 0.4920       | 24.40                    | 9.78                    | 34.18                    | 56.13         | -21.95       | peak     |         |
| 3   |     | 1.7340       | 16.01                    | 9.90                    | 25.91                    | 56.00         | -30.09       | peak     |         |
| 4   |     | 4.9560       | 24.93                    | 10.19                   | 35.12                    | 56.00         | -20.88       | peak     |         |
| 5   |     | 23.5320      | 25.44                    | 10.70                   | 36.14                    | 60.00         | -23.86       | peak     |         |
| 6   |     | 29.5305      | 23.67                    | 11.17                   | 34.84                    | 60.00         | -25.16       | peak     |         |

\*:Maximum data x:Over limit l:over margin

(Reference Only)

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

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Page: 1

Engineer Signature:

## **11. Antenna Requirements**

### **11.1. Limit**

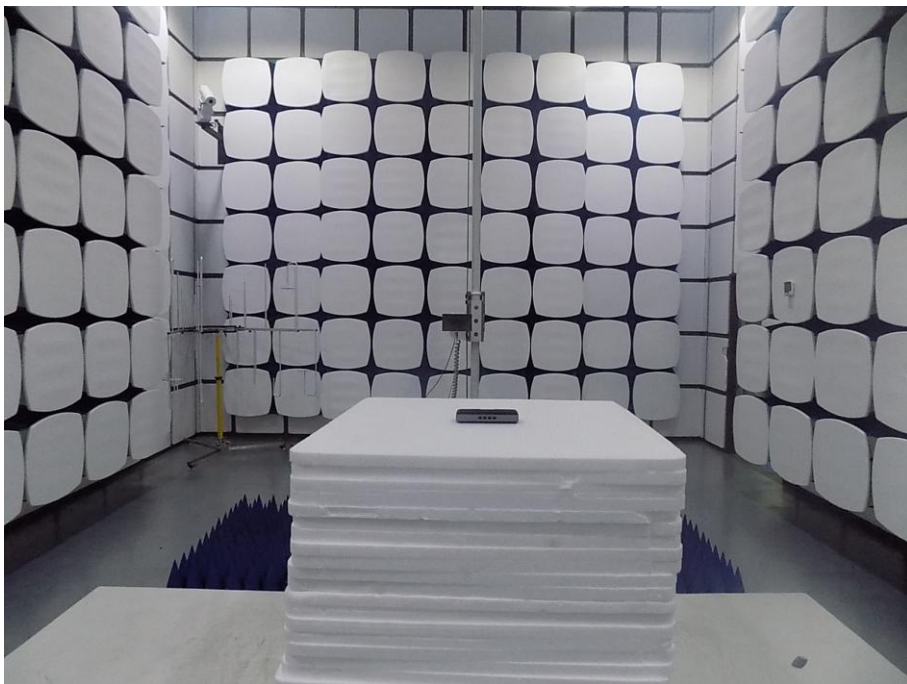
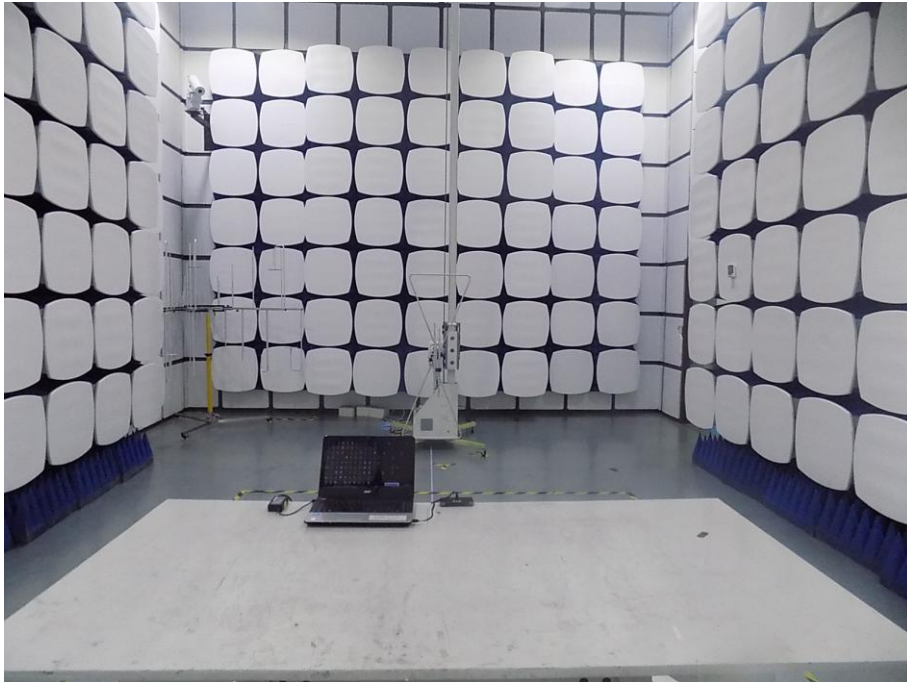
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **11.2. Result**

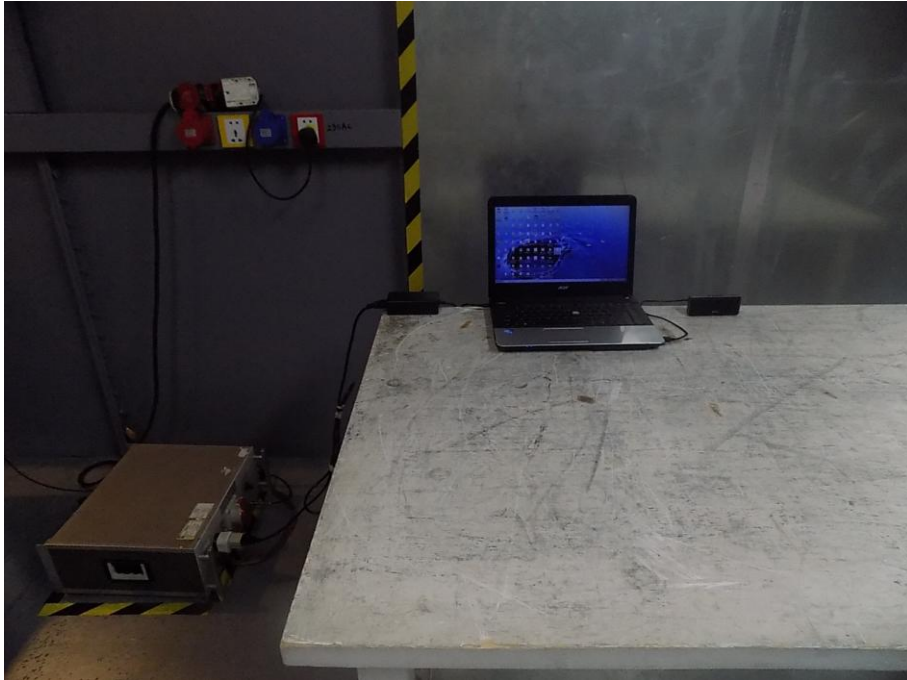
The antennas used for this product are PCB Antenna for Bluetooth, no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0dBi for Bluetooth.

## 12. Test setup photo

### 12.1. Photos of Radiated emission



## 12.2.Photos of Conducted Emission test

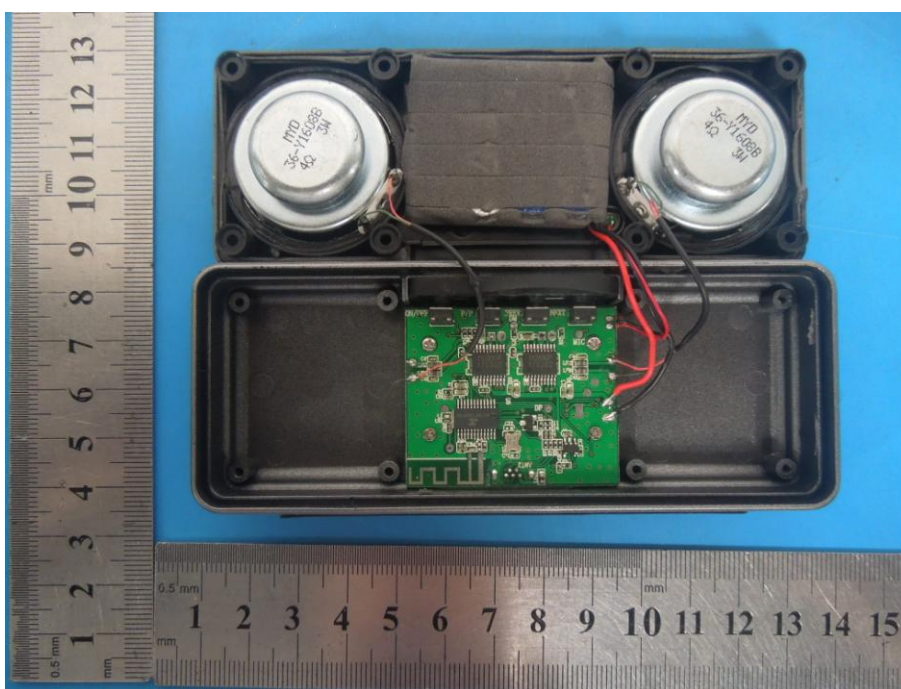


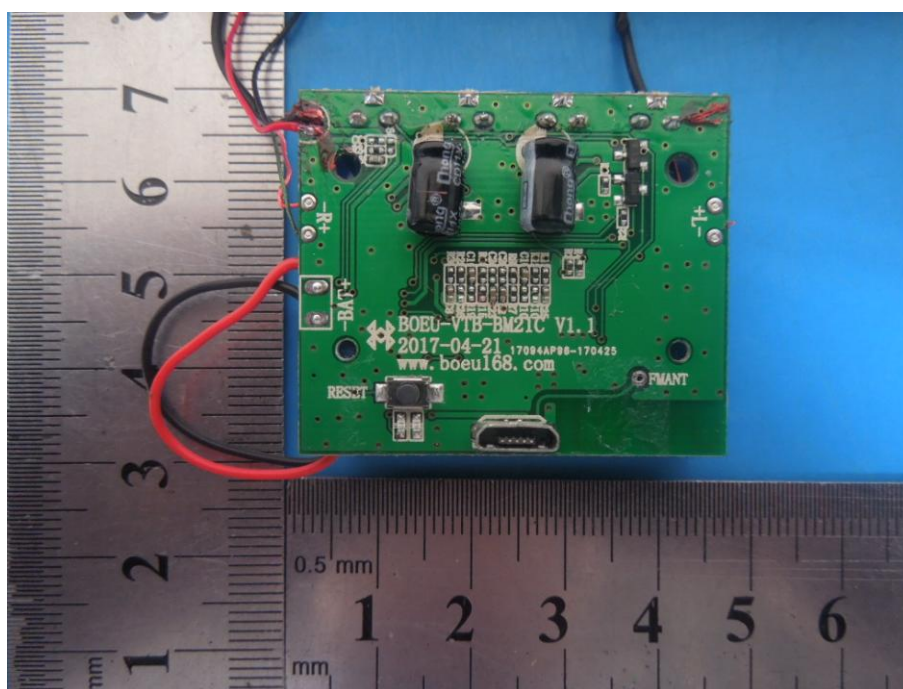
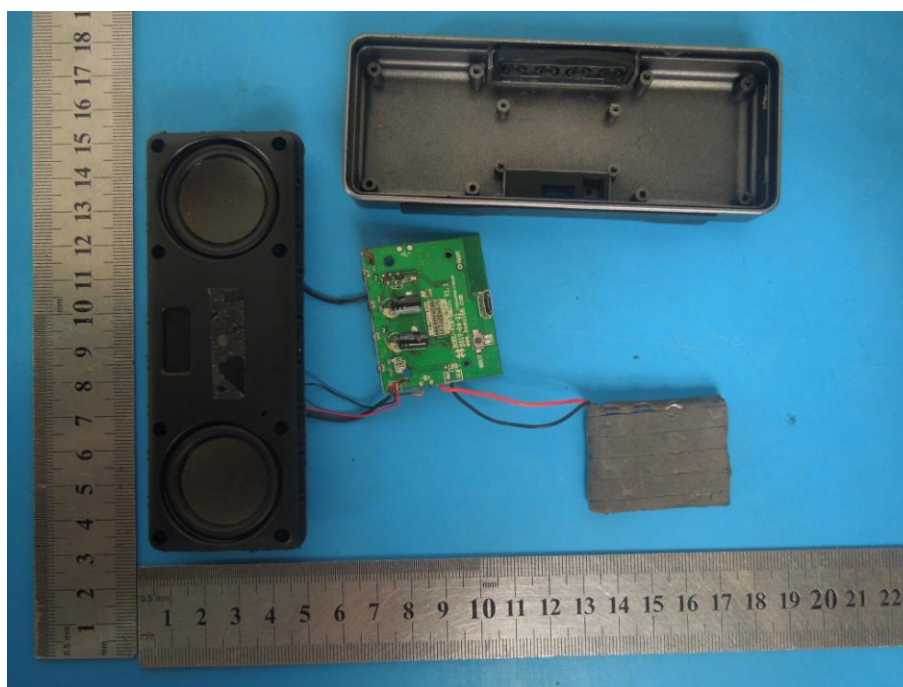
### 13. Photos of EUT

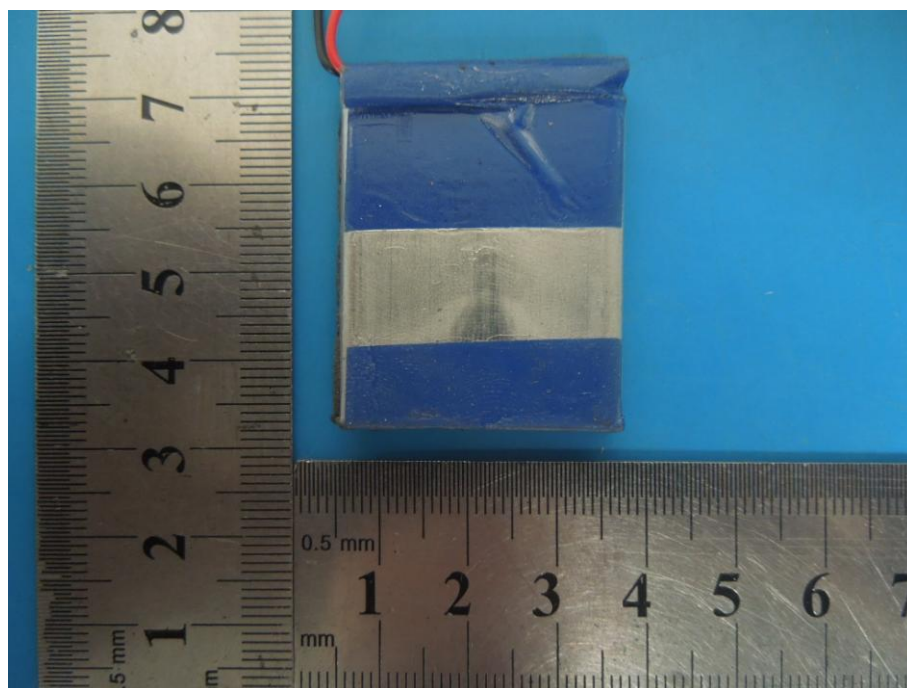
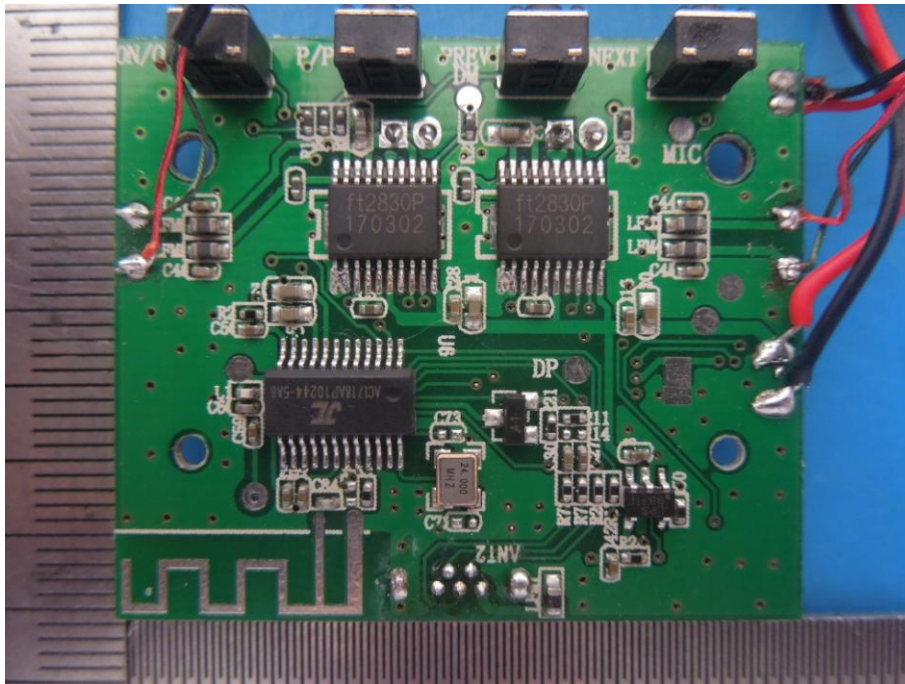












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