

# FCC Radio Test Report

## FCC ID: XMF-MID713

### Original Grant

**Report No.** : TB-FCC141397  
**Applicant** : Lightcomm Technology Co., Ltd.  
**Equipment Under Test (EUT)**  
**EUT Name** : MID  
**Model No.** : MID713-L  
**Series Model No.** : MID721-L, DL701Q, DL701Q(B)  
**Brand Name** : N/A  
**Receipt Date** : 2014-07-25  
**Test Date** : 2014-07-28 to 2014-08-05  
**Issue Date** : 2014-08-13  
**Standards** : FCC Part 15, Subpart C (15.247:2012)  
**Test Method** : ANSI C63.4:2003  
**Conclusions** : **PASS**

In the configuration tested, the EUT complied with the standards specified above,

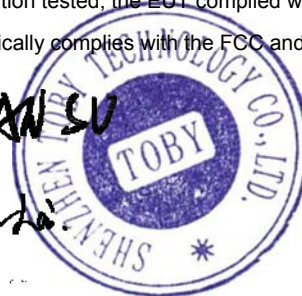
The EUT technically complies with the FCC and IC requirements

**Test/Witness Engineer** :

*IWAN SU*

**Approved & Authorized** :

*Ray*



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

---

---

## Contents

|   |           |
|---|-----------|
| <b>CONTENTS.....</b>  | <b>2</b>  |
| <b>1. GENERAL INFORMATION ABOUT EUT .....</b>                     | <b>4</b>  |
| 1.1 Client Information.....                                       | 4         |
| 1.2 General Description of EUT (Equipment Under Test) .....       | 4         |
| 1.3 Block Diagram Showing the Configuration of System Tested..... | 5         |
| 1.4 Description of Support Units .....                            | 5         |
| 1.5 Description of Test Mode.....                                 | 6         |
| 1.6 Description of Test Software Setting .....                    | 6         |
| 1.7 Test Facility.....  | 7         |
| <b>2. TEST SUMMARY .....</b>                                      | <b>8</b>  |
| <b>3. CONDUCTED EMISSION TEST .....</b>                           | <b>9</b>  |
| 3.1 Test Standard and Limit.....                                  | 9         |
| 3.2 Test Setup.....   | 9         |
| 3.3 Test Procedure.....   | 9         |
| 3.4 Test Equipment Used.....                                      | 10        |
| 3.5 EUT Operating Mode .....                                      | 10        |
| 3.6 Test Data.....  | 10        |
| <b>4. RADIATED EMISSION TEST .....</b>                            | <b>13</b> |
| 4.1 Test Standard and Limit.....                                  | 13        |
| 4.2 Test Setup.....   | 14        |
| 4.3 Test Procedure.....   | 15        |
| 4.4 EUT Operating Condition .....                                 | 15        |
| 4.5 Test Equipment .....  | 16        |
| 4.6 Test Data.....  | 16        |
| <b>5. RESTRICTED BANDS REQUIREMENT .....</b>                      | <b>43</b> |
| 5.1 Test Standard and Limit.....                                  | 43        |
| 5.2 Test Setup.....   | 43        |
| 5.3 Test Procedure.....   | 43        |
| 5.4 EUT Operating Condition .....                                 | 44        |
| 5.5 Test Equipment .....  | 44        |
| 5.6 Test Data.....  | 44        |
| <b>6. BANDWIDTH TEST .....</b>                                    | <b>65</b> |
| 6.1 Test Standard and Limit.....                                  | 65        |
| 6.2 Test Setup.....   | 65        |
| 6.3 Test Procedure.....   | 65        |
| 6.4 EUT Operating Condition .....                                 | 65        |
| 6.5 Test Equipment .....  | 65        |
| 6.6 Test Data.....  | 66        |
| <b>7. PEAK OUTPUT POWER TEST.....</b>                             | <b>74</b> |

|   |           |
|---|-----------|
| 7.1 Test Standard and Limit.....            | 74        |
| 7.2 Test Setup.....                         | 74        |
| 7.3 Test Procedure.....                     | 74        |
| 7.4 EUT Operating Condition .....           | 74        |
| 7.5 Test Equipment.....                     | 74        |
| 7.6 Test Data.....                          | 74        |
| <b>8. POWER SPECTRAL DENSITY TEST .....</b> | <b>76</b> |
| 8.1 Test Standard and Limit.....            | 76        |
| 8.2 Test Setup.....                         | 76        |
| 8.3 Test Procedure.....                     | 76        |
| 8.4 EUT Operating Condition .....           | 76        |
| 8.5 Test Equipment.....                     | 77        |
| 8.6 Test Data.....                          | 77        |
| <b>9. ANTENNA REQUIREMENT.....</b>          | <b>85</b> |
| 9.1 Standard Requirement.....               | 85        |
| 9.2 Antenna Connected Construction .....    | 85        |
| 9.3 Result.....                             | 85        |

## 1. General Information about EUT

### 1.1 Client Information

**Applicant** : Lightcomm Technology Co., Ltd.  
**Address** : RM 1708-10, 17/F, PROSPERITY CENTRE, 25 CHONG YIP STREET, KWUN TONG, KOWLOON, HONG KONG  
**Manufacturer** : Huizhou Hengdu Electronics Co., Ltd.  
**Address** : DIP South Area, Huiao Highway, Huizhou, Guangdong, China

### 1.2 General Description of EUT (Equipment Under Test)

|                               |  |   |  |  |
|-------------------------------|--|---|--|--|
| <b>EUT Name</b>               | :  | MID   |  |  |
| <b>Models No.</b>             | :  | MID713-L, MID721-L, DL701Q, DL701Q(B)   |  |  |
| <b>Model Difference</b>       | :  | MID721-L with different shells of the same material, the other models are identical in the same PCB layout, interior structure and electrical circuits, The only difference is model name for commercial purpose. |  |  |
| <b>Product Description</b>    | :  | Operation Frequency:<br>802.11b/g/n(HT20): 2412MHz~2462MHz<br>802.11b/g/n(HT40): 2422MHz~2452MHz  |  |  |
|                               | :  | <table border="1"> <tr> <td>Number of Channel:</td> <td>802.11b/g/n(HT20):11 channels see note(3)<br/>802.11b/g/n(HT40): 7 channels see note(3)</td> </tr> </table>   | Number of Channel:   | 802.11b/g/n(HT20):11 channels see note(3)<br>802.11b/g/n(HT40): 7 channels see note(3)         |
|                               | Number of Channel:   | 802.11b/g/n(HT20):11 channels see note(3)<br>802.11b/g/n(HT40): 7 channels see note(3)  |  |  |
|                               | :  | <table border="1"> <tr> <td>RF Output Power:</td> <td>802.11b: 9.49 dBm<br/>802.11g: 9.43 dBm<br/>802.11n (HT20): 9.23 dBm<br/>802.11n (HT40): 9.30 dBm</td> </tr> </table>                                       | RF Output Power:   | 802.11b: 9.49 dBm<br>802.11g: 9.43 dBm<br>802.11n (HT20): 9.23 dBm<br>802.11n (HT40): 9.30 dBm |
|                               | RF Output Power:   | 802.11b: 9.49 dBm<br>802.11g: 9.43 dBm<br>802.11n (HT20): 9.23 dBm<br>802.11n (HT40): 9.30 dBm  |  |  |
|                               | :  | <table border="1"> <tr> <td>Antenna Gain:</td> <td>0 dBi (FPC Antenna)</td> </tr> </table>  | Antenna Gain:  | 0 dBi (FPC Antenna)  |
| Antenna Gain:                 | 0 dBi (FPC Antenna)  |   |  |  |
| :                             | <table border="1"> <tr> <td>Modulation Type:</td> <td>802.11b: DSSS (CCK, QPSK, BPSK)<br/>802.11g: OFDM<br/>802.11n: OFDM</td> </tr> </table>                              | Modulation Type:  | 802.11b: DSSS (CCK, QPSK, BPSK)<br>802.11g: OFDM<br>802.11n: OFDM                      |  |
| Modulation Type:              | 802.11b: DSSS (CCK, QPSK, BPSK)<br>802.11g: OFDM<br>802.11n: OFDM  |   |  |  |
| :                             | <table border="1"> <tr> <td>Bit Rate of Transmitter:</td> <td>802.11b:11/5.5/2/1 Mbps<br/>802.11g:54/48/36/24/18/12/9/6 Mbps<br/>802.11n:up to 150Mbps</td> </tr> </table> | Bit Rate of Transmitter:  | 802.11b:11/5.5/2/1 Mbps<br>802.11g:54/48/36/24/18/12/9/6 Mbps<br>802.11n:up to 150Mbps |  |
| Bit Rate of Transmitter:      | 802.11b:11/5.5/2/1 Mbps<br>802.11g:54/48/36/24/18/12/9/6 Mbps<br>802.11n:up to 150Mbps   |   |  |  |
| <b>Power Supply</b>           | :  | DC power supplied by AC/DC Adapter<br>DC Voltage supplied from Li-Polymer battery.  |  |  |
| <b>Power Rating</b>           | :  | USB DC 5V form PC.<br>AC/DC Adapter(TEKA006-0501500UKU):<br>Input: AC 100~240V 50/60Hz 0.35A Max. Output: DC 5V 1.5A<br>DC 3.7V 2100mAh from Li-Polymer battery   |  |  |
| <b>Connecting I/O Port(S)</b> | :  | The equipent have USB port for link with PC, so the equipment is considered as a Computing Device Peripheral.   |  |  |

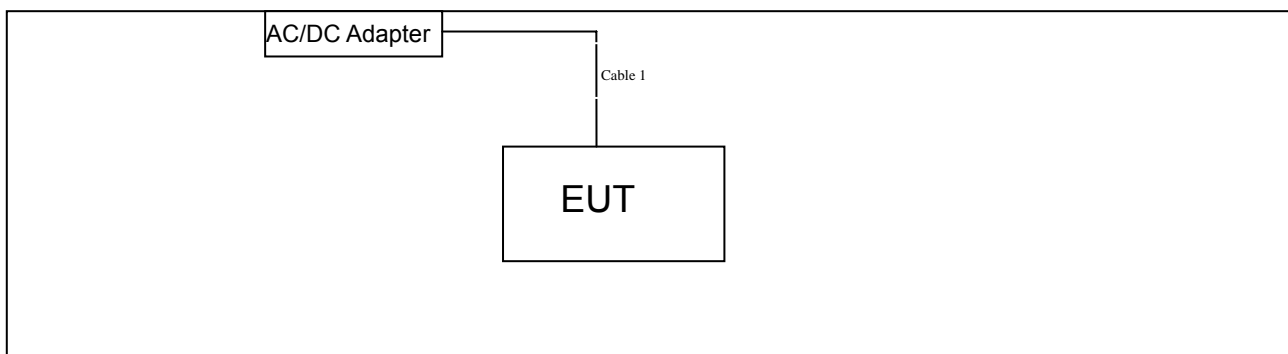
|   |                                   |
|---|-----------------------------------|
|   | Please refer to the User's Manual |
| <b>Note:</b> The equipment with Bluetooth and Wifi(802.11b/g/n) function, Bluetooth have test comply with FCC Part 15C Rules. More detailed features description, please refer to the manufacturer's specifications or the User's Manual. |                                   |

**Note:**

- (1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r02.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant.
- (4) Channel List:  
 CH 01~CH 11 for 802.11b/g/n(HT20)  
 CH 03~CH 09 for 802.11b/g/n(HT40)

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 01      | 2412            | 05      | 2432            | 09      | 2452            |
| 02      | 2417            | 06      | 2437            | 10      | 2457            |
| 03      | 2422            | 07      | 2442            | 11      | 2462            |
| 04      | 2427            | 08      | 2447            |         |                 |

### 1.3 Block Diagram Showing the Configuration of System Tested

**TX Mode**


### 1.4 Description of Support Units

| Equipment Information |               |              |              |          |
|-----------------------|---------------|--------------|--------------|----------|
| Name                  | Model         | S/N          | Manufacturer | Used "√" |
| /                     | /             | /            | /            | /        |
| Cable Information     |               |              |              |          |
| Number                | Shielded Type | Ferrite Core | Length       | Note     |

|         |    |    |      |             |
|---------|----|----|------|-------------|
| Cable 1 | NO | NO | 1.0M | Accessories |
|         |    |    |      |             |

### 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

| For Conducted Test |                            |
|--------------------|----------------------------|
| Final Test Mode    | Description                |
| Mode 1             | AC Charging with TX B Mode |

| For Radiated Test |                                       |
|-------------------|---------------------------------------|
| Final Test Mode   | Description                           |
| Mode 3            | TX Mode B Mode Channel 01/06/11       |
| Mode 4            | TX Mode G Mode Channel 01/06/11       |
| Mode 5            | TX Mode N(HT20) Mode Channel 01/06/11 |
| Mode 6            | TX Mode N(HT40) Mode Channel 01/06/11 |

**Note:**

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.4 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

- 802.11b Mode: CCK (1 Mbps)
- 802.11g Mode: OFDM (6 Mbps)
- 802.11n (HT20) Mode: MCS 0 (6.5 Mbps)
- 802.11n (HT40) Mode: MCS 0 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

### 1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to

control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN.

| Test Software Version | Test Program: Mediatek Connectivity Combo Tool. apk |       |       |
|-----------------------|---|-------|-------|
| Channel               | CH 01   | CH 06 | CH 11 |
| IEEE 802.11b DSSS     | DEF   | DEF   | DEF   |
| IEEE 802.11g OFDM     | DEF   | DEF   | DEF   |
| IEEE 802.11n (HT20)   | DEF   | DEF   | DEF   |
| Channel               | CH 03   | CH 06 | CH 09 |
| IEEE 802.11n (HT40)   | DEF   | DEF   | DEF   |

## 1.7 Test Facility

The testing was performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at:

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China.

At the time of testing, the following bodies accredited the Laboratory:

### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

### **FCC List No.: (811562)**

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

### **IC Registration No.: (11950A-1)**

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

## 2. Test Summary

| FCC Part 15 Subpart C(15.247)/RSS-210: 2010 |                           |  |          |        |
|---|---------------------------|--|----------|--------|
| Standard Section                            |                           | Test Item                              | Judgment | Remark |
| FCC   | IC                        |  |          |        |
| 15.203                                      | /                         | Antenna Requirement                    | PASS     | N/A    |
| 15.207                                      | RSS-GEN 7.2.4             | Conducted Emission                     | PASS     | N/A    |
| 15.205                                      | RSS-GEN 7.2.2             | Restricted Bands                       | PASS     | N/A    |
| 15.247(a)(2)                                | RSS-210<br>A.8.2(a)       | 6dB Bandwidth                          | PASS     | N/A    |
| 15.247(b)                                   | RSS-210<br>A.8.4(4)       | Peak Output Power                      | PASS     | N/A    |
| 15.247(e)                                   | RSS-210<br>A.8.2(b)       | Power Spectral Density                 | PASS     | N/A    |
| 15.247(d)                                   | RSS-210<br>Annex 8 (A8.5) | Transmitter Radiated Spurious Emission | PASS     | N/A    |
| 15.247(d)                                   | RSS-210<br>Annex 8 (A8.5) | Antenna Conducted Spurious Emission    | PASS     | N/A    |

**Note:** "/" for no requirement for this test item.  
N/A is an abbreviation for Not Applicable.



### 3. Conducted Emission Test

#### 3.1 Test Standard and Limit

##### 3.1.1 Test Standard

FCC Part 15.207

##### 3.1.2 Test Limit

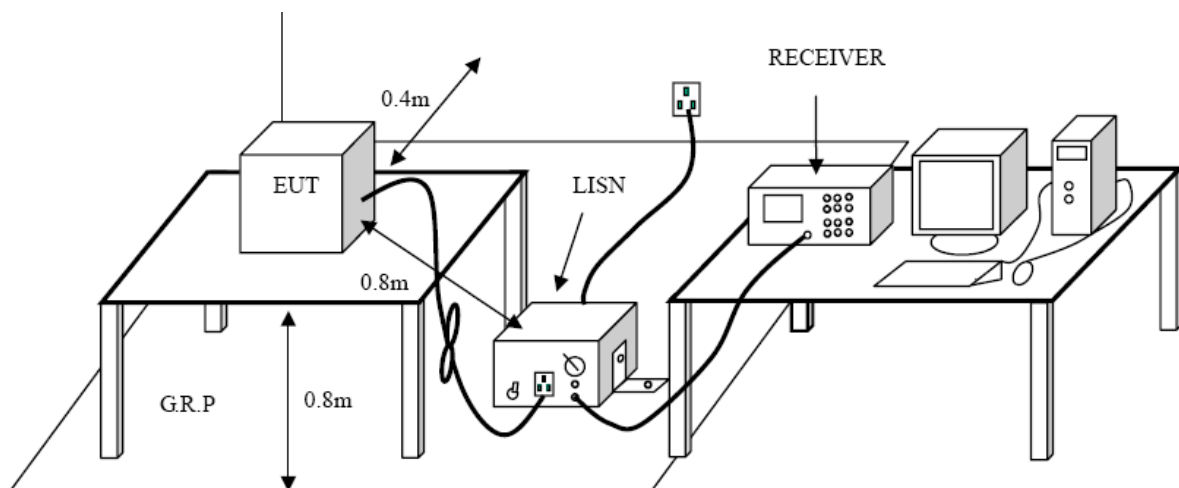
**Conducted Emission Test Limit**

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

Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

#### 3.2 Test Setup



#### 3.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

### 3.4 Test Equipment Used

| Description       | Manufacturer    | Model No.   | Serial No. | Cal. Date  | Cal. Due Date |
|-------------------|-----------------|-------------|------------|------------|---------------|
| EMI Test Receiver | ROHDE& SCHWARZ  | ESCI        | 100321     | 2013-08-10 | 2014-08-09    |
| 50ΩCoaxial Switch | Anritsu         | MP59B       | X10321     | 2013-08-10 | 2014-08-09    |
| L.I.S.N           | Rohde & Schwarz | ENV216      | 101131     | 2013-08-10 | 2014-08-09    |
| L.I.S.N           | SCHWARZBECK     | NNBL 8226-2 | 8226-2/164 | 2013-08-10 | 2014-08-09    |

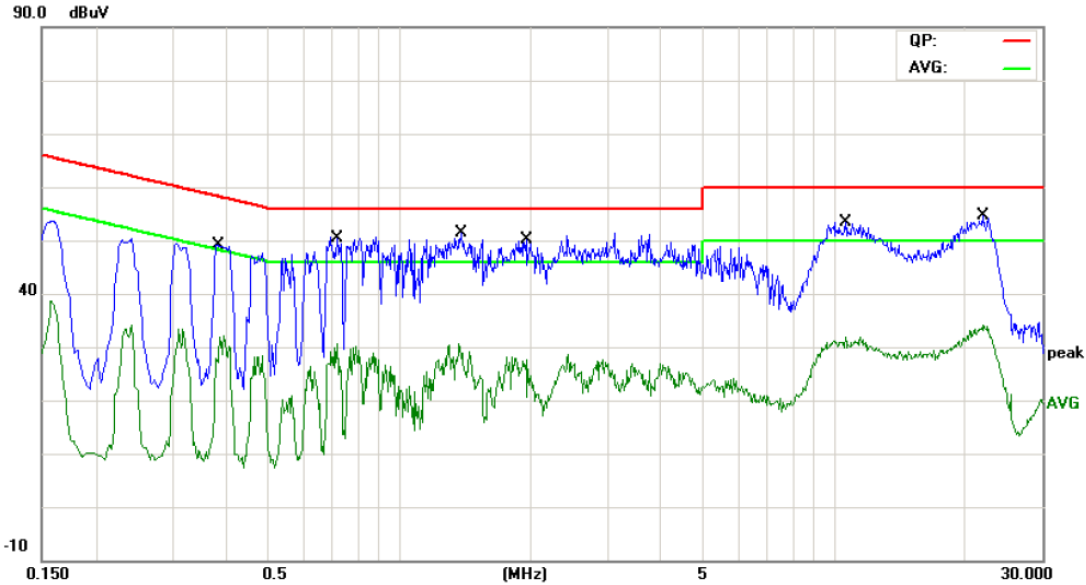
### 3.5 EUT Operating Mode

Please refer to the description of test mode.

### 3.6 Test Data

Please see the next page.

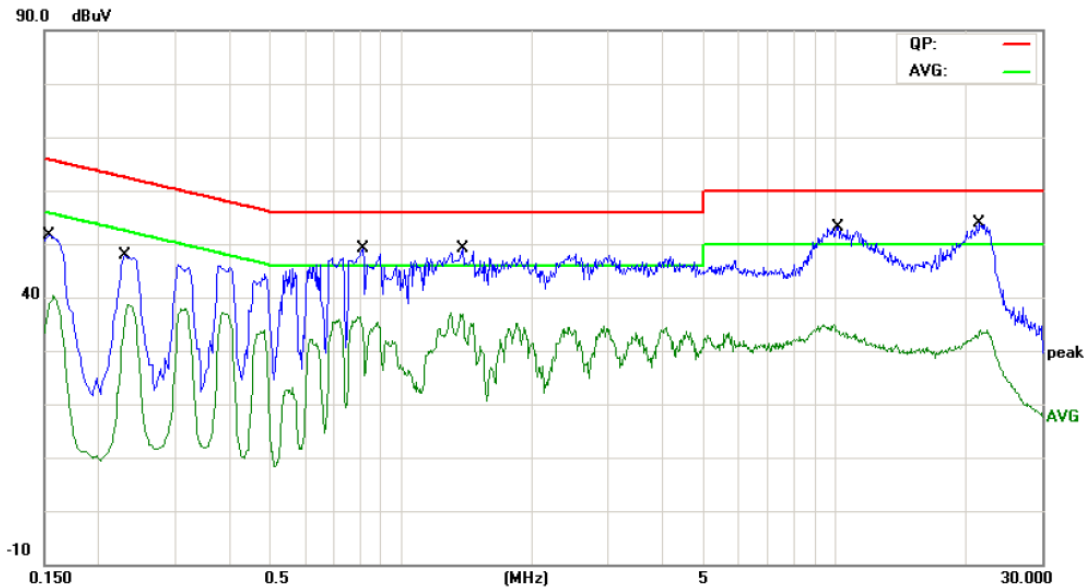
|                      |                             |                           |          |
|----------------------|-----------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                         | <b>Model Name :</b>       | MID713-L |
| <b>Temperature:</b>  | 25 °C                       | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz               |                           |          |
| <b>Terminal:</b>     | Line                        |                           |          |
| <b>Test Mode:</b>    | AC Charging with TX B Mode  |                           |          |
| <b>Remark:</b>       | Only worse case is reported |                           |          |



| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     |          |         |
| 1   |     | 0.3820  | 36.34         | 10.06          | 46.40       | 58.23 | -11.83 | QP       |         |
| 2   |     | 0.3820  | 18.97         | 10.06          | 29.03       | 48.23 | -19.20 | AVG      |         |
| 3   |     | 0.7180  | 33.65         | 10.03          | 43.68       | 56.00 | -12.32 | QP       |         |
| 4   |     | 0.7180  | 17.82         | 10.03          | 27.85       | 46.00 | -18.15 | AVG      |         |
| 5   | *   | 1.3820  | 35.56         | 10.12          | 45.68       | 56.00 | -10.32 | QP       |         |
| 6   |     | 1.3820  | 18.73         | 10.12          | 28.85       | 46.00 | -17.15 | AVG      |         |
| 7   |     | 1.9540  | 33.24         | 10.06          | 43.30       | 56.00 | -12.70 | QP       |         |
| 8   |     | 1.9540  | 13.92         | 10.06          | 23.98       | 46.00 | -22.02 | AVG      |         |
| 9   |     | 10.5860 | 35.32         | 10.15          | 45.47       | 60.00 | -14.53 | QP       |         |
| 10  |     | 10.5860 | 18.40         | 10.15          | 28.55       | 50.00 | -21.45 | AVG      |         |
| 11  |     | 21.8380 | 37.55         | 10.06          | 47.61       | 60.00 | -12.39 | QP       |         |
| 12  |     | 21.8380 | 21.05         | 10.06          | 31.11       | 50.00 | -18.89 | AVG      |         |

**Emission Level= Read Level+ Correct Factor**

|                      |                             |                           |          |
|----------------------|-----------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                         | <b>Model Name :</b>       | MID713-L |
| <b>Temperature:</b>  | 25 °C                       | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz               |                           |          |
| <b>Terminal:</b>     | Neutral                     |                           |          |
| <b>Test Mode:</b>    | AC Charging with TX B Mode  |                           |          |
| <b>Remark:</b>       | Only worse case is reported |                           |          |



| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     |          |         |
| 1   |     | 0.1539  | 37.30         | 10.12          | 47.42       | 65.78 | -18.36 | QP       |         |
| 2   |     | 0.1539  | 27.57         | 10.12          | 37.69       | 55.78 | -18.09 | AVG      |         |
| 3   |     | 0.2300  | 33.73         | 10.11          | 43.84       | 62.45 | -18.61 | QP       |         |
| 4   |     | 0.2300  | 25.72         | 10.11          | 35.83       | 52.45 | -16.62 | AVG      |         |
| 5   | *   | 0.8139  | 37.31         | 10.07          | 47.38       | 56.00 | -8.62  | QP       |         |
| 6   |     | 0.8139  | 23.05         | 10.07          | 33.12       | 46.00 | -12.88 | AVG      |         |
| 7   |     | 1.3820  | 36.01         | 10.12          | 46.13       | 56.00 | -9.87  | QP       |         |
| 8   |     | 1.3820  | 26.17         | 10.12          | 36.29       | 46.00 | -9.71  | AVG      |         |
| 9   |     | 10.1580 | 34.37         | 10.16          | 44.53       | 60.00 | -15.47 | QP       |         |
| 10  |     | 10.1580 | 21.67         | 10.16          | 31.83       | 50.00 | -18.17 | AVG      |         |
| 11  |     | 21.4980 | 36.28         | 10.06          | 46.34       | 60.00 | -13.66 | QP       |         |
| 12  |     | 21.4980 | 20.61         | 10.06          | 30.67       | 50.00 | -19.33 | AVG      |         |

**Emission Level= Read Level+ Correct Factor**

## 4. Radiated Emission Test

### 4.1 Test Standard and Limit

#### 4.1.1 Test Standard

FCC Part 15.209

#### 4.1.2 Test Limit

**Radiated Emission Limits (9kHz~1000MHz)**

| Frequency (MHz) | Field Strength (microvolt/meter) | Measurement Distance (meters) |
|-----------------|----------------------------------|-------------------------------|
| 0.009~0.490     | 2400/F(KHz)                      | 300                           |
| 0.490~1.705     | 24000/F(KHz)                     | 30                            |
| 1.705~30.0      | 30                               | 30                            |
| 30~88           | 100                              | 3                             |
| 88~216          | 150                              | 3                             |
| 216~960         | 200                              | 3                             |
| Above 960       | 500                              | 3                             |

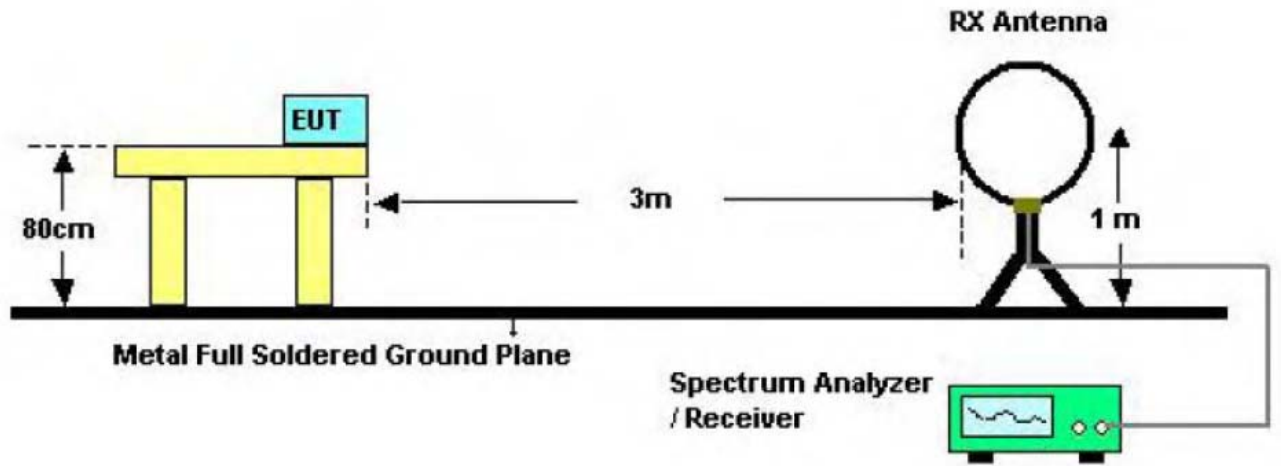
**Radiated Emission Limit (Above 1000MHz)**

| Frequency (MHz) | Class A (dBuV/m)(at 3 M) |         | Class B (dBuV/m)(at 3 M) |         |
|-----------------|--------------------------|---------|--------------------------|---------|
|                 | Peak                     | Average | Peak                     | Average |
| Above 1000      | 80                       | 60      | 74                       | 54      |

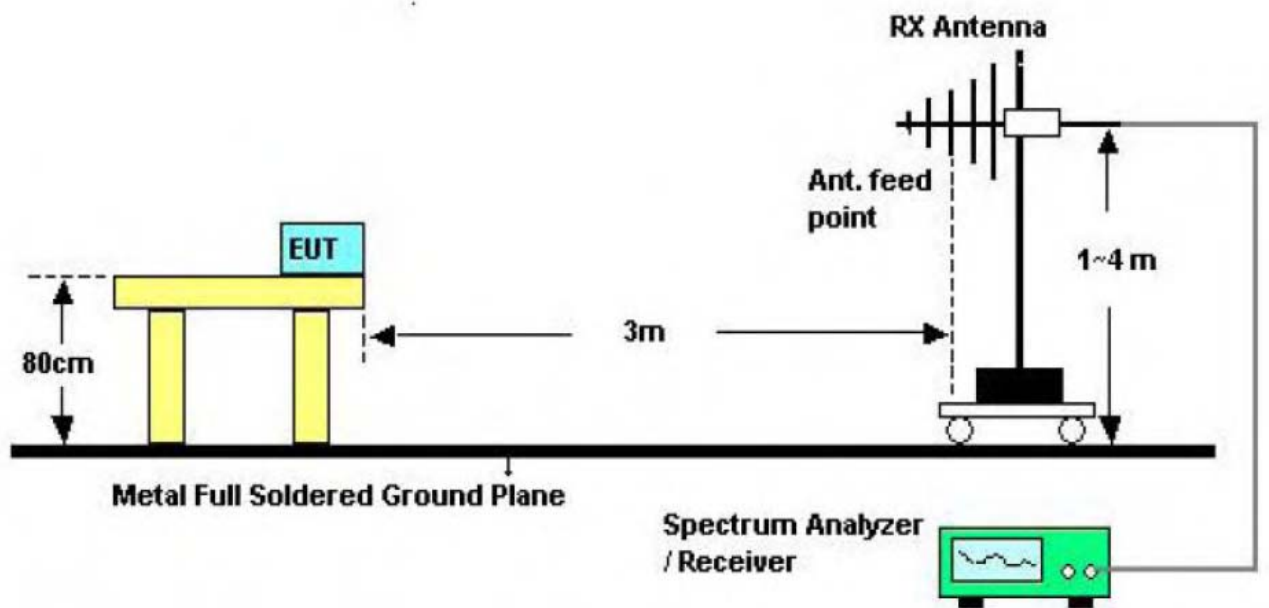
**Note:**

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

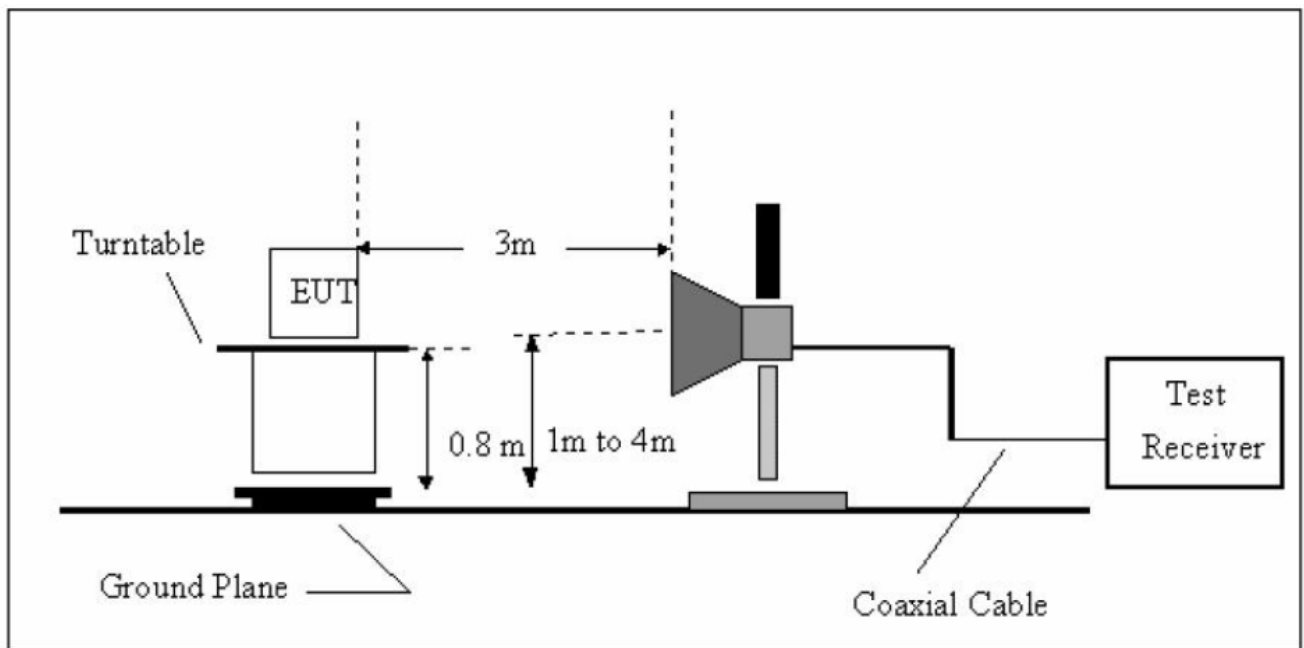
### 4.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

#### 4.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (7) For the actual test configuration, please see the test setup photo.

#### 4.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 4.5 Test Equipment

| Equipment              | Manufacturer    | Model No. | Serial No. | Last Cal.     | Cal. Due Date |
|------------------------|-----------------|-----------|------------|---------------|---------------|
| Spectrum Analyzer      | Agilent         | E4407B    | MY45106456 | Mar. 20, 2014 | Mar. 19, 2015 |
| Spectrum Analyzer      | Rohde & Schwarz | FSP30     | DE25181    | Aug. 10, 2013 | Aug.09, 2014  |
| EMI Test Receiver      | Rohde & Schwarz | ESCI      | 101165     | Aug. 10, 2013 | Aug.09, 2014  |
| Bilog Antenna          | ETS-LINDGREN    | 3142E     | 00117537   | Mar. 07, 2014 | Mar.06, 2015  |
| Bilog Antenna          | ETS-LINDGREN    | 3142E     | 00117542   | Mar. 07, 2014 | Mar.06, 2015  |
| Horn Antenna           | ETS-LINDGREN    | 3117      | 00143207   | Mar. 07, 2014 | Mar.06, 2015  |
| Horn Antenna           | ETS-LINDGREN    | 3117      | 00143209   | Mar. 07, 2014 | Mar.06, 2015  |
| Pre-amplifier          | HP              | 11909A    | 185903     | Mar. 07, 2014 | Mar.06, 2015  |
| Pre-amplifier          | HP              | 8447B     | 3008A00849 | Mar. 07, 2014 | Mar.06, 2015  |
| Cable                  | HUBER+SUHNER    | 100       | SUCOFLEX   | Mar. 07, 2014 | Mar.06, 2015  |
| Signal Generator       | Rohde & Schwarz | SML03     | IKW682-054 | Feb. 11, 2014 | Feb.10, 2015  |
| Positioning Controller | ETS-LINDGREN    | 2090      | N/A        | N/A           | N/A           |

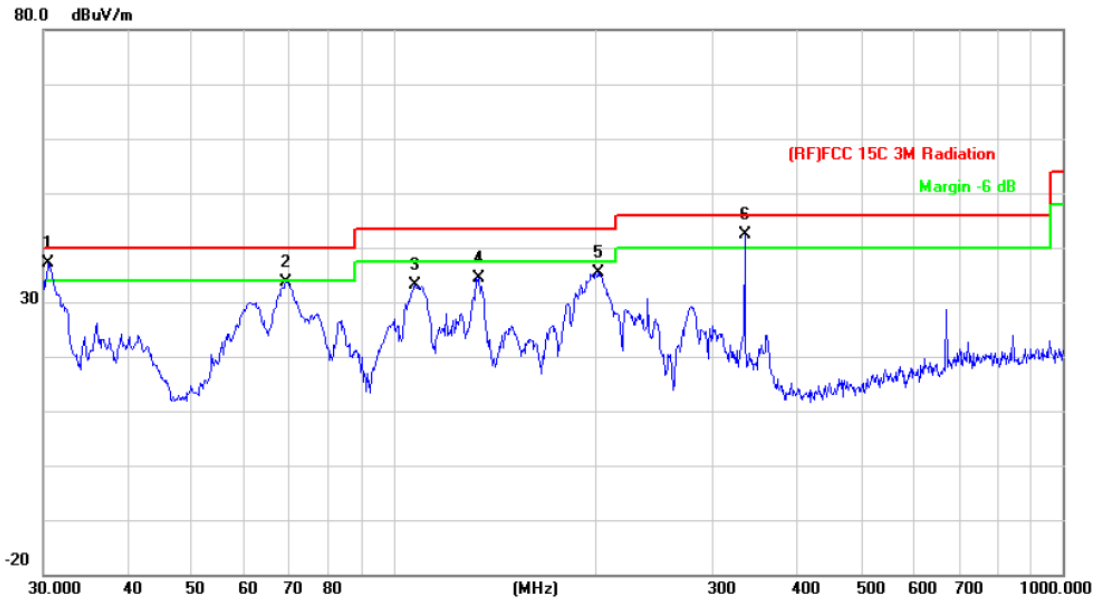
## 4.6 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.



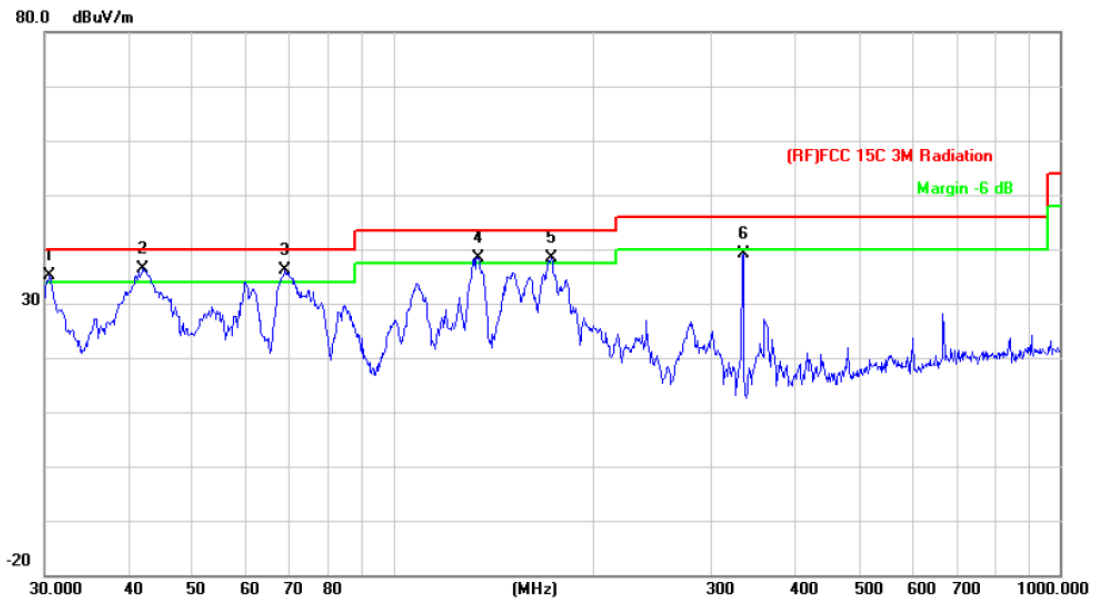
|                      |                             |                           |          |
|----------------------|-----------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                         | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                       | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz               |                           |          |
| <b>Ant. Pol.</b>     | Horizontal                  |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz           |                           |          |
| <b>Remark:</b>       | Only worse case is reported |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | *   | 30.5305      | 51.39                    | -14.28                    | 37.11                      | 40.00           | -2.89      | peak     |
| 2   |     | 69.1140      | 57.31                    | -23.69                    | 33.62                      | 40.00           | -6.38      | peak     |
| 3   |     | 107.5100     | 54.93                    | -21.86                    | 33.07                      | 43.50           | -10.43     | peak     |
| 4   |     | 134.0882     | 56.48                    | -22.09                    | 34.39                      | 43.50           | -9.11      | peak     |
| 5   |     | 202.8103     | 55.62                    | -20.27                    | 35.35                      | 43.50           | -8.15      | peak     |
| 6   | !   | 334.8589     | 57.87                    | -15.54                    | 42.33                      | 46.00           | -3.67      | peak     |

**Emission Level= Read Level+ Correct Factor**

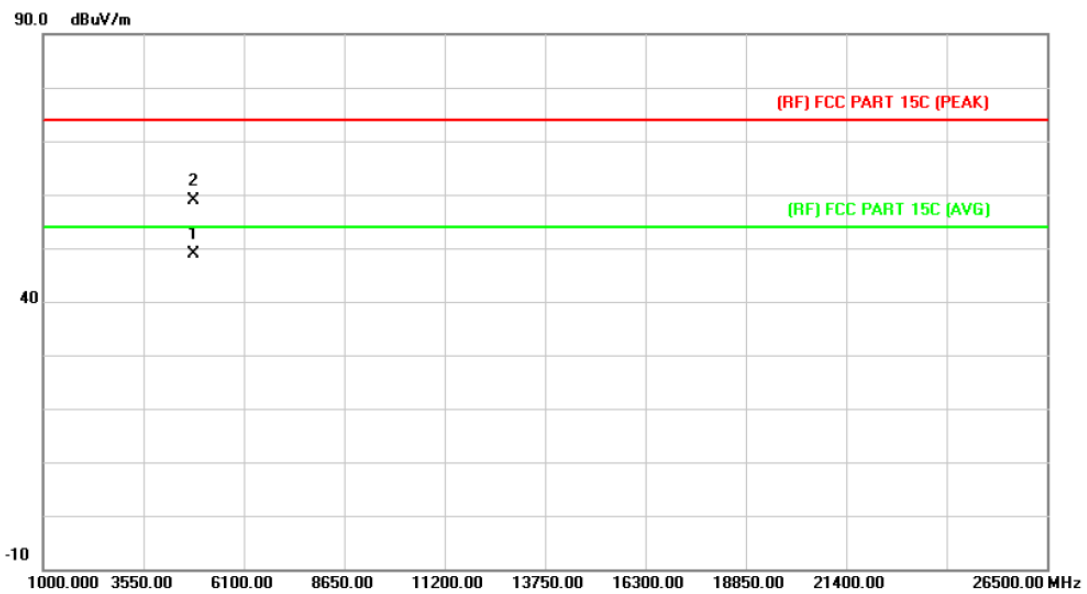
|                      |                             |                           |          |
|----------------------|-----------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                         | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                       | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz               |                           |          |
| <b>Ant. Pol.</b>     | Vertical                    |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz           |                           |          |
| <b>Remark:</b>       | Only worse case is reported |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | !   | 30.5304      | 49.32                    | -14.28                    | 35.04                      | 40.00           | -4.96      | peak     |
| 2   | *   | 42.1542      | 57.51                    | -21.07                    | 36.44                      | 40.00           | -3.56      | peak     |
| 3   | !   | 68.8721      | 59.74                    | -23.71                    | 36.03                      | 40.00           | -3.97      | peak     |
| 4   | !   | 134.0882     | 60.51                    | -22.09                    | 38.42                      | 43.50           | -5.08      | peak     |
| 5   | !   | 172.5988     | 59.48                    | -21.02                    | 38.46                      | 43.50           | -5.04      | peak     |
| 6   |     | 334.8589     | 54.55                    | -15.54                    | 39.01                      | 46.00           | -6.99      | peak     |

**Emission Level= Read Level+ Correct Factor**

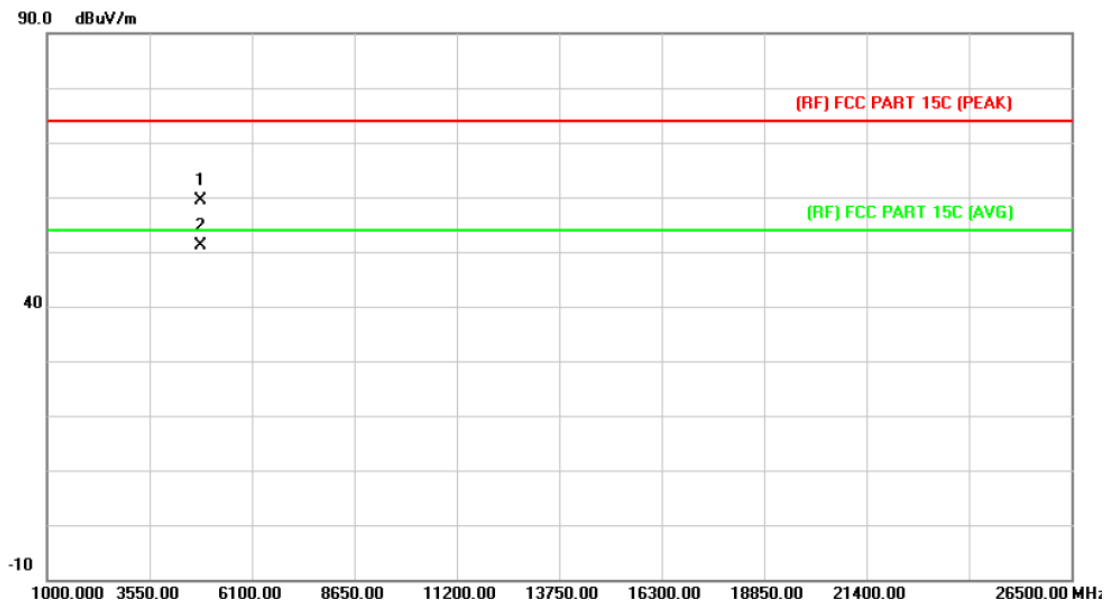
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | *   | 4824.030     | 35.25                    | 13.56                     | 48.81                      | 54.00           | -5.19      | AVG      |
| 2   |     | 4824.070     | 45.39                    | 13.56                     | 58.95                      | 74.00           | -15.05     | peak     |

**Emission Level= Read Level+ Correct Factor**

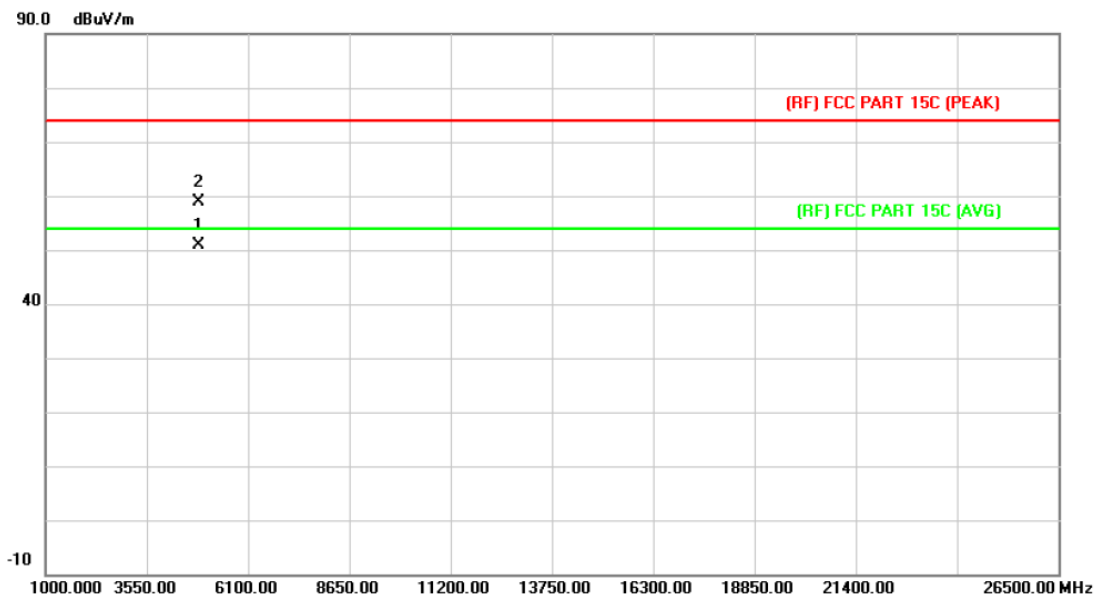
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   |     | 4823.826     | 45.92                    | 13.56                     | 59.48                      | 74.00           | -14.52     | peak     |
| 2   | *   | 4823.969     | 37.67                    | 13.56                     | 51.23                      | 54.00           | -2.77      | AVG      |

**Emission Level= Read Level+ Correct Factor**

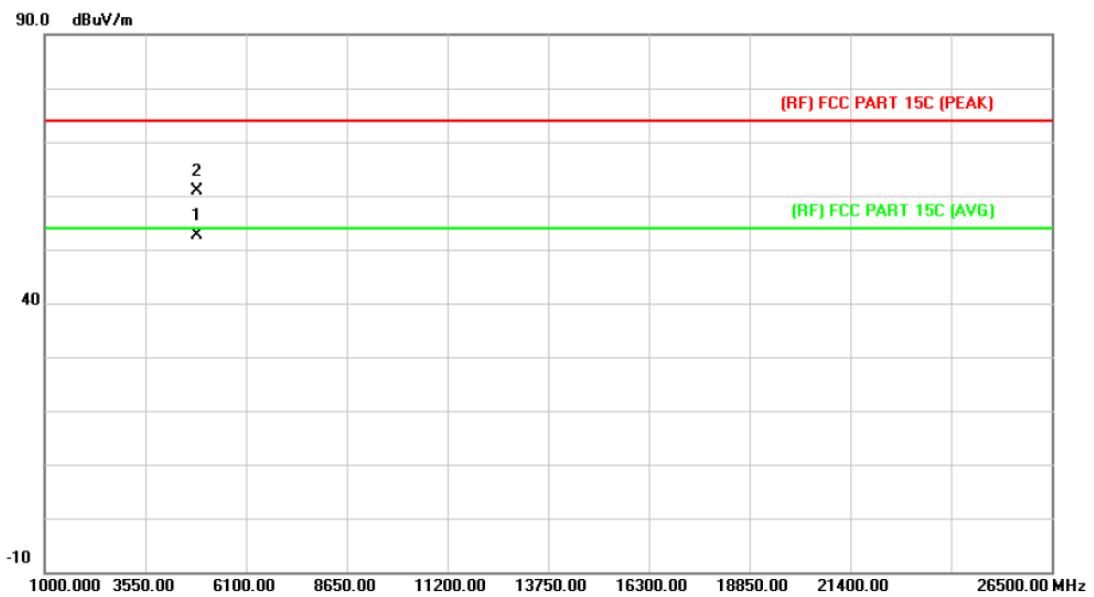
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4873.990 | 36.90         | 13.86          | 50.76       | 54.00  | -3.24  | AVG      |
| 2   |     | 4874.011 | 45.01         | 13.86          | 58.87       | 74.00  | -15.13 | peak     |

Emission Level= Read Level+ Correct Factor

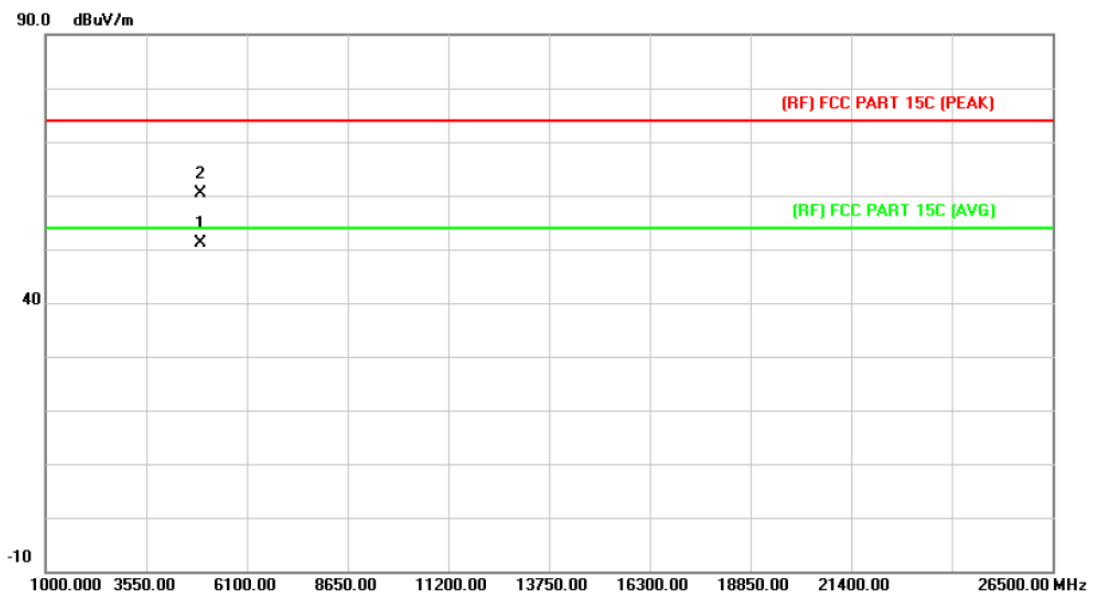
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | *   | 4874.011     | 38.75                    | 13.86                     | 52.61                      | 54.00           | -1.39      | AVG      |
| 2   |     | 4874.099     | 47.13                    | 13.86                     | 60.99                      | 74.00           | -13.01     | peak     |

Emission Level= Read Level+ Correct Factor

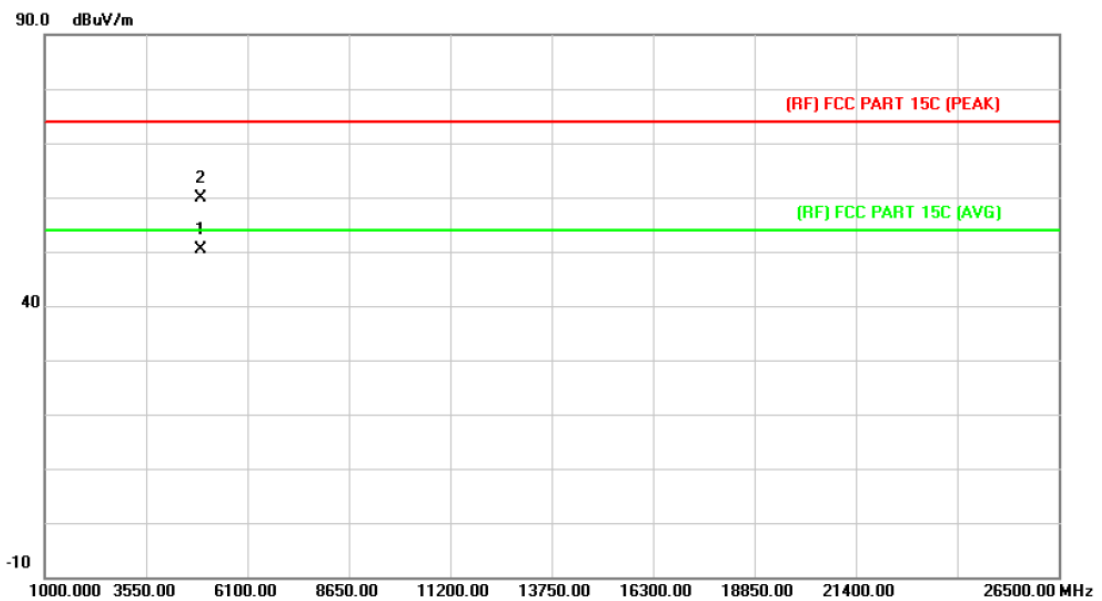
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4924.030 | 36.91         | 14.15          | 51.06       | 54.00  | -2.94  | AVG      |
| 2   |     | 4924.034 | 46.19         | 14.15          | 60.34       | 74.00  | -13.66 | peak     |

Emission Level= Read Level+ Correct Factor

|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |

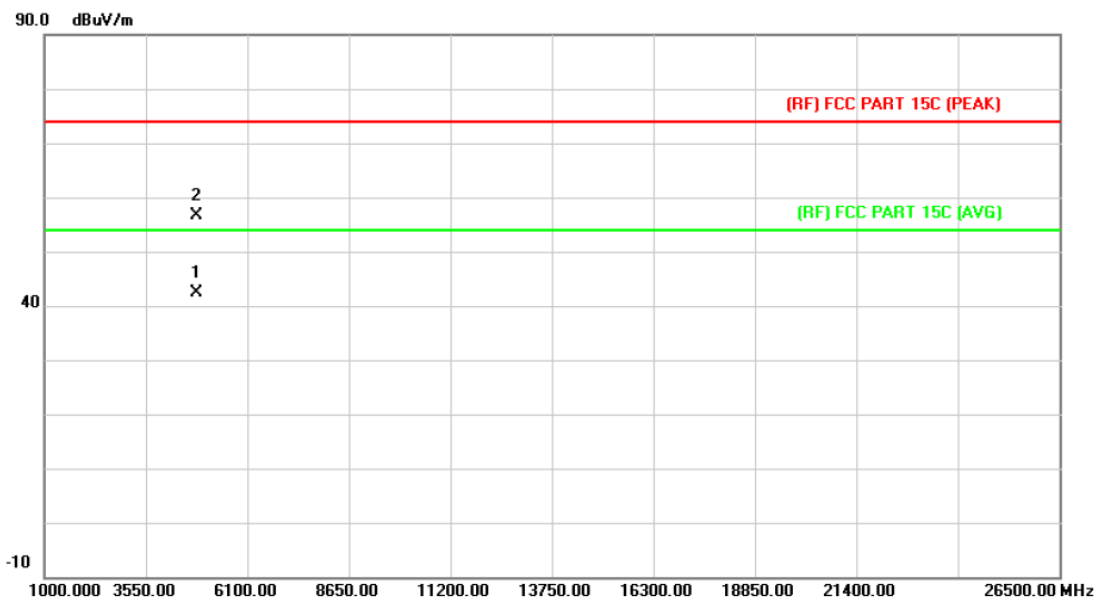


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4923.990 | 36.13         | 14.15          | 50.28       | 54.00  | -3.72  | AVG      |
| 2   |     | 4924.030 | 45.69         | 14.15          | 59.84       | 74.00  | -14.16 | peak     |

Emission Level= Read Level+ Correct Factor



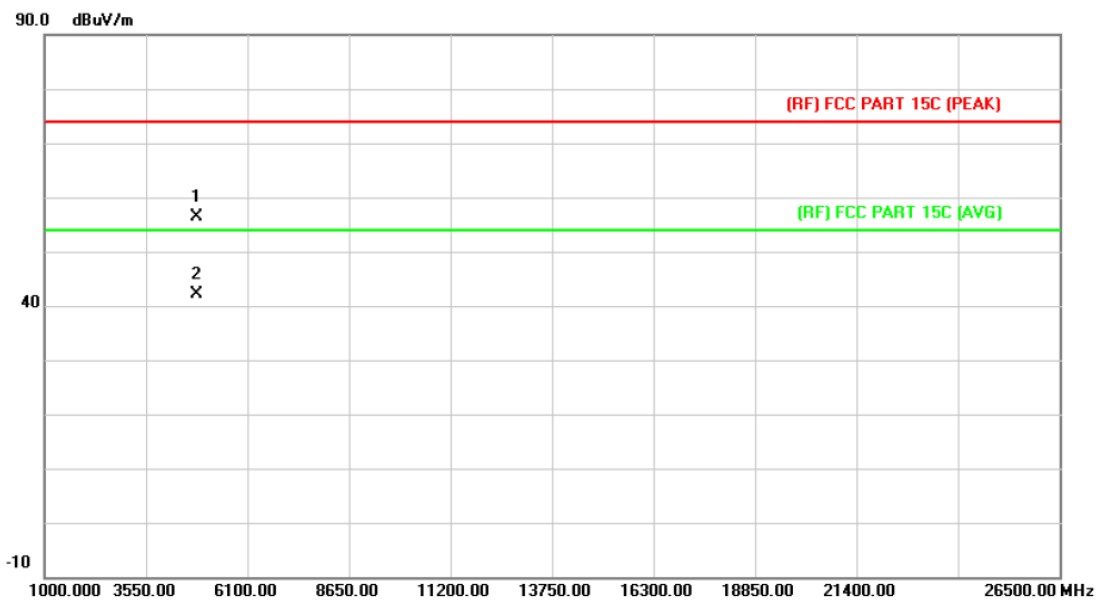
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4823.500 | 28.70         | 13.56          | 42.26       | 54.00  | -11.74 | AVG      |
| 2   |     | 4824.420 | 42.99         | 13.56          | 56.55       | 74.00  | -17.45 | peak     |

**Emission Level= Read Level+ Correct Factor**

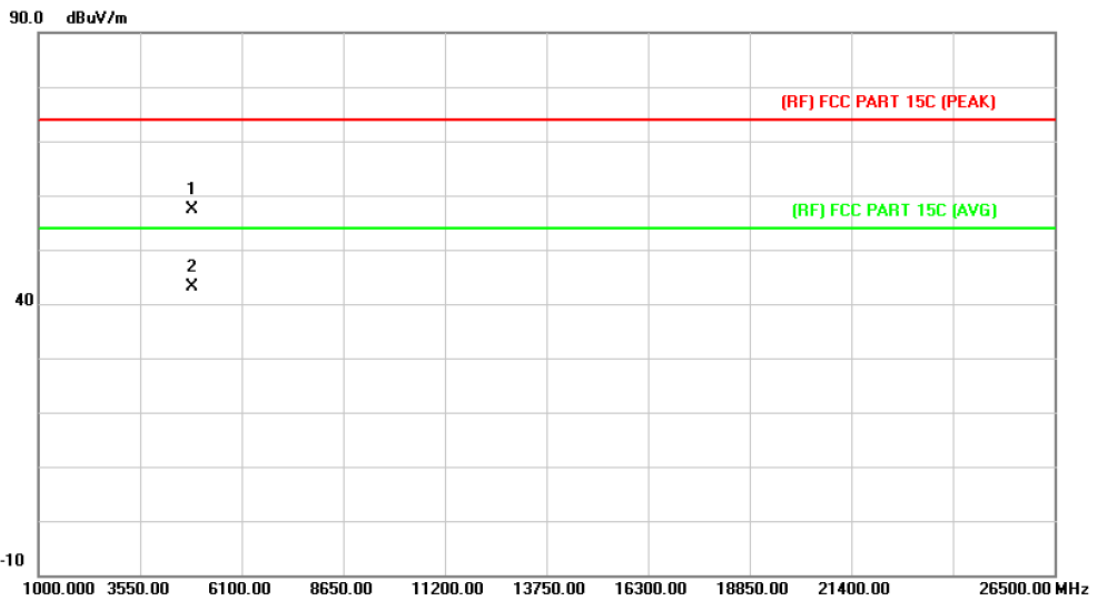
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4823.962 | 42.84         | 13.56          | 56.40       | 74.00  | -17.60 | peak     |
| 2   | *   | 4823.962 | 28.61         | 13.56          | 42.17       | 54.00  | -11.83 | AVG      |

**Emission Level= Read Level+ Correct Factor**

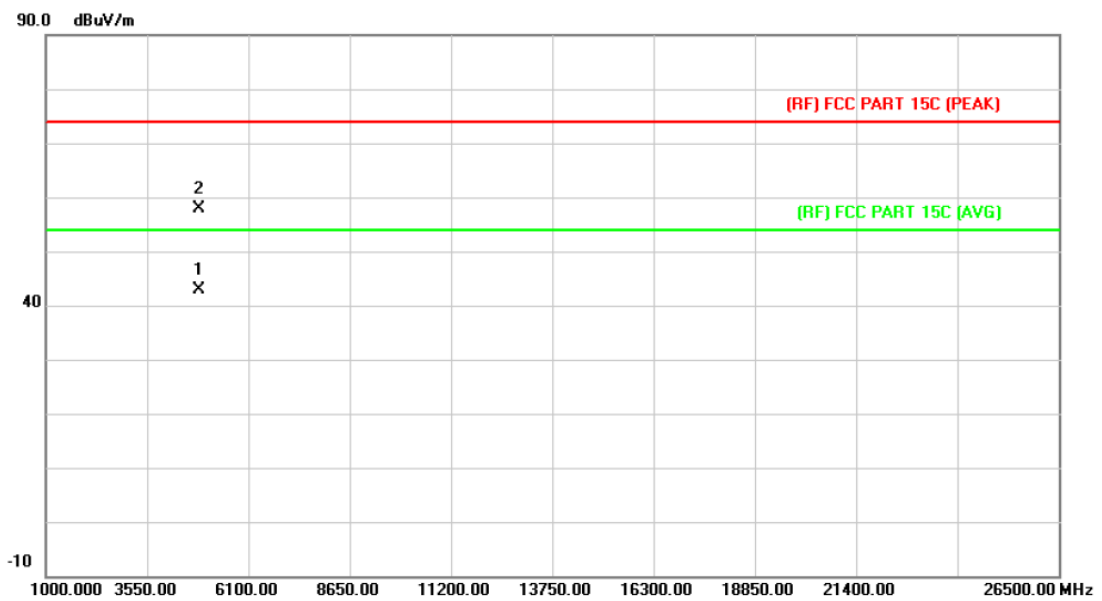
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4873.975 | 43.61         | 13.86          | 57.47       | 74.00  | -16.53 | peak     |
| 2   | *   | 4874.092 | 29.26         | 13.86          | 43.12       | 54.00  | -10.88 | AVG      |

Emission Level= Read Level+ Correct Factor

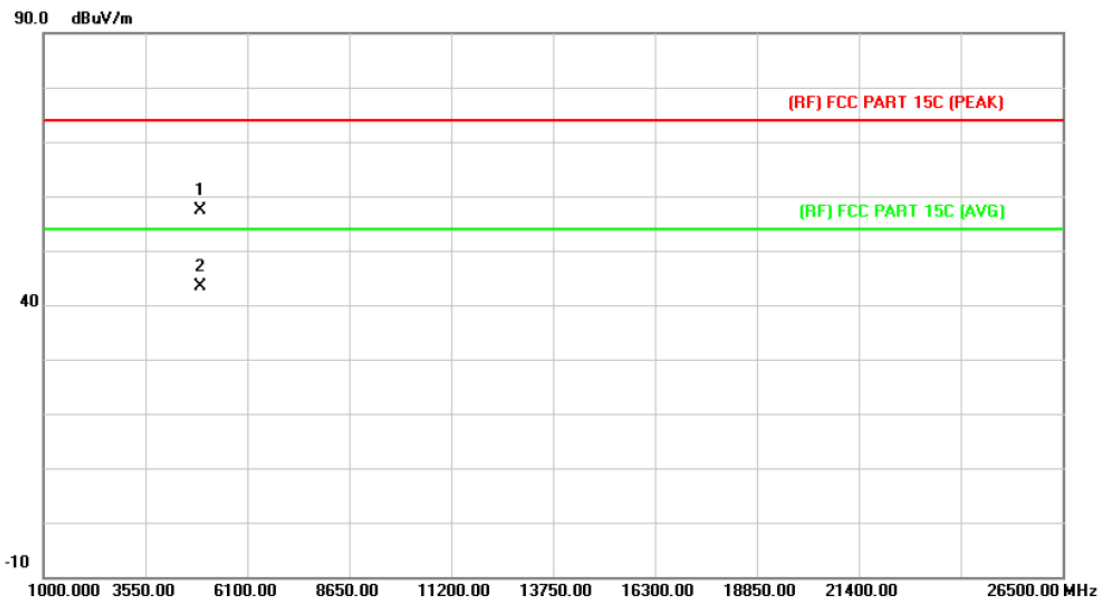
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4873.541 | 29.02         | 13.86          | 42.88       | 54.00  | -11.12 | AVG      |
| 2   |     | 4873.803 | 44.03         | 13.86          | 57.89       | 74.00  | -16.11 | peak     |

Emission Level= Read Level+ Correct Factor

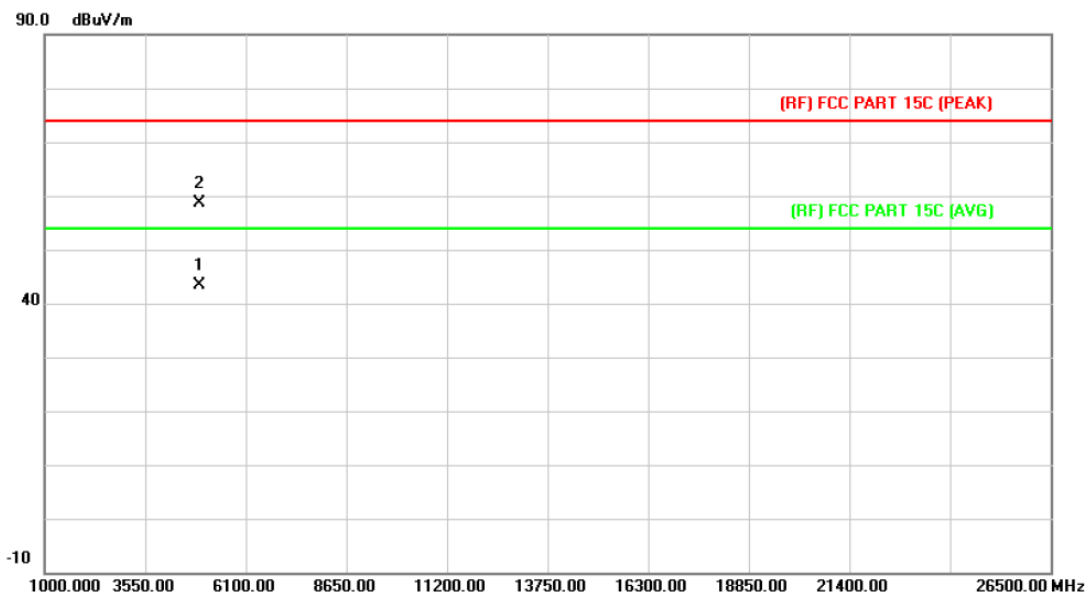
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4923.933 | 43.20         | 14.15          | 57.35       | 74.00  | -16.65 | peak     |
| 2   | *   | 4924.092 | 29.15         | 14.15          | 43.30       | 54.00  | -10.70 | AVG      |

**Emission Level= Read Level+ Correct Factor**

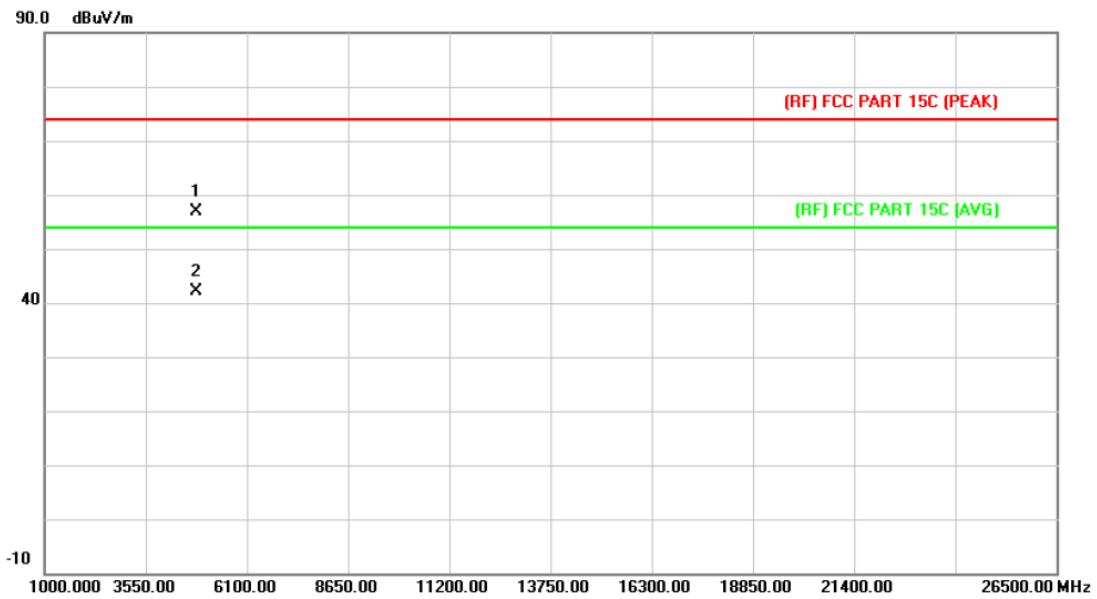
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   | *   | 4924.235 | 29.16         | 14.15          | 43.31       | 54.00  | -10.69 | AVG      |
| 2   |     | 4924.338 | 44.54         | 14.15          | 58.69       | 74.00  | -15.31 | peak     |

**Emission Level= Read Level+ Correct Factor**

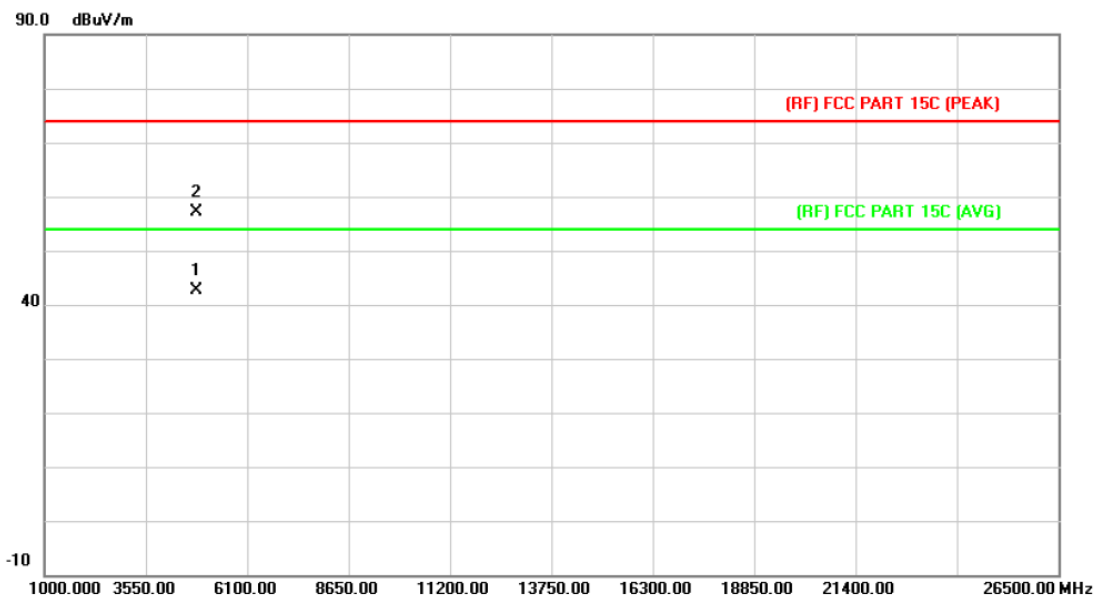
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4823.817 | 43.43         | 13.56          | 56.99       | 74.00  | -17.01 | peak     |
| 2   | *   | 4824.459 | 28.67         | 13.56          | 42.23       | 54.00  | -11.77 | AVG      |

Emission Level= Read Level+ Correct Factor

|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2412MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |

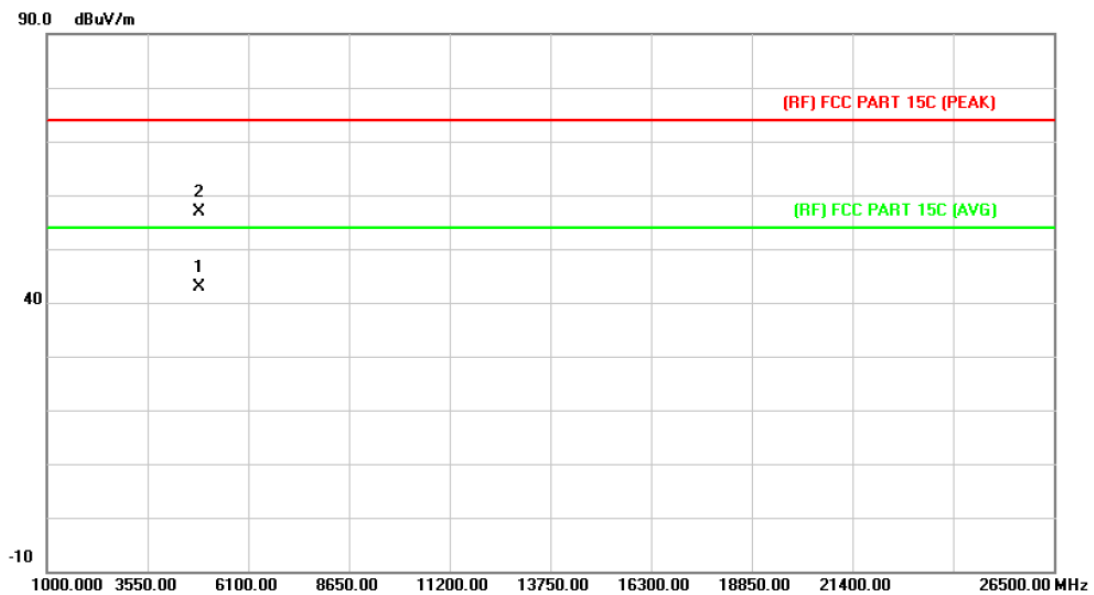


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4823.602 | 29.01         | 13.56          | 42.57       | 54.00  | -11.43 | AVG      |
| 2   |     | 4824.361 | 43.50         | 13.56          | 57.06       | 74.00  | -16.94 | peak     |

Emission Level= Read Level+ Correct Factor



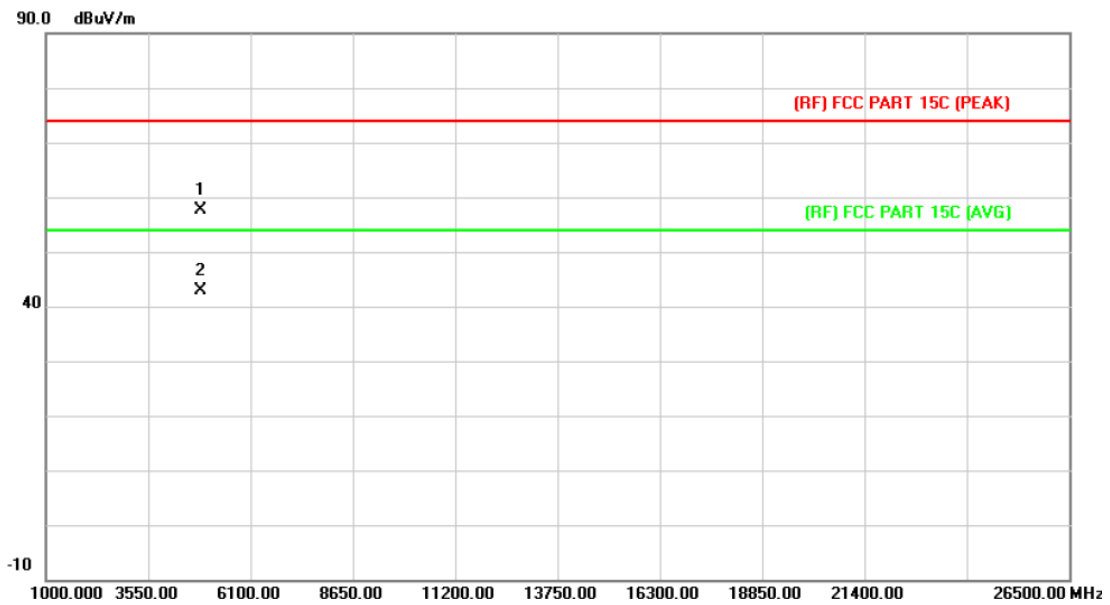
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4873.663 | 29.01         | 13.86          | 42.87       | 54.00  | -11.13 | AVG      |
| 2   |     | 4874.082 | 42.98         | 13.86          | 56.84       | 74.00  | -17.16 | peak     |

Emission Level= Read Level+ Correct Factor

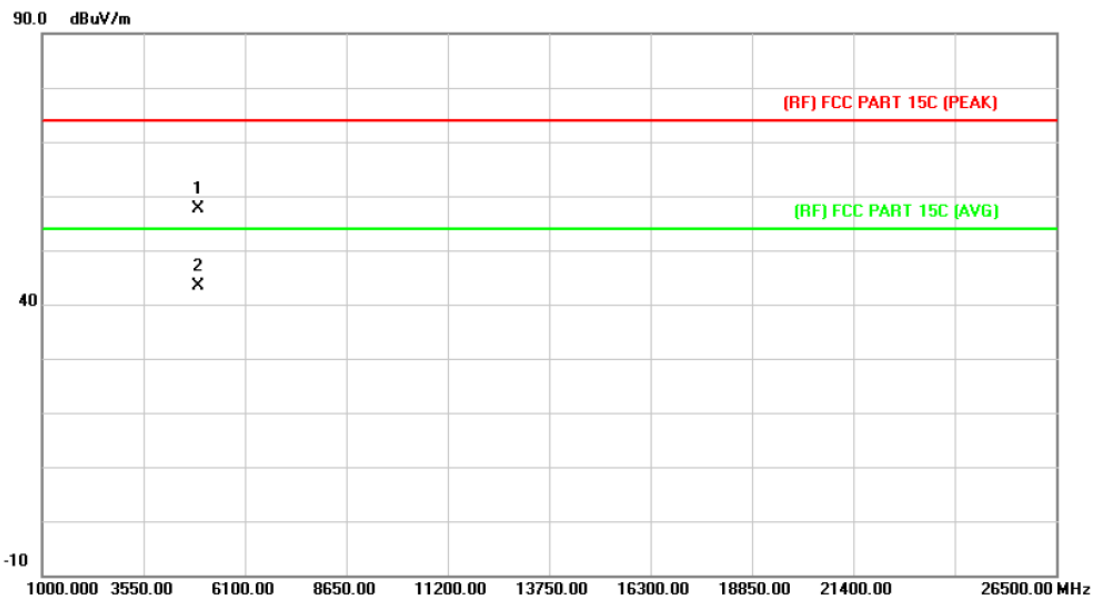
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4873.697 | 43.65         | 13.86          | 57.51       | 74.00  | -16.49 | peak     |
| 2   | *   | 4873.908 | 29.00         | 13.86          | 42.86       | 54.00  | -11.14 | AVG      |

Emission Level= Read Level+ Correct Factor

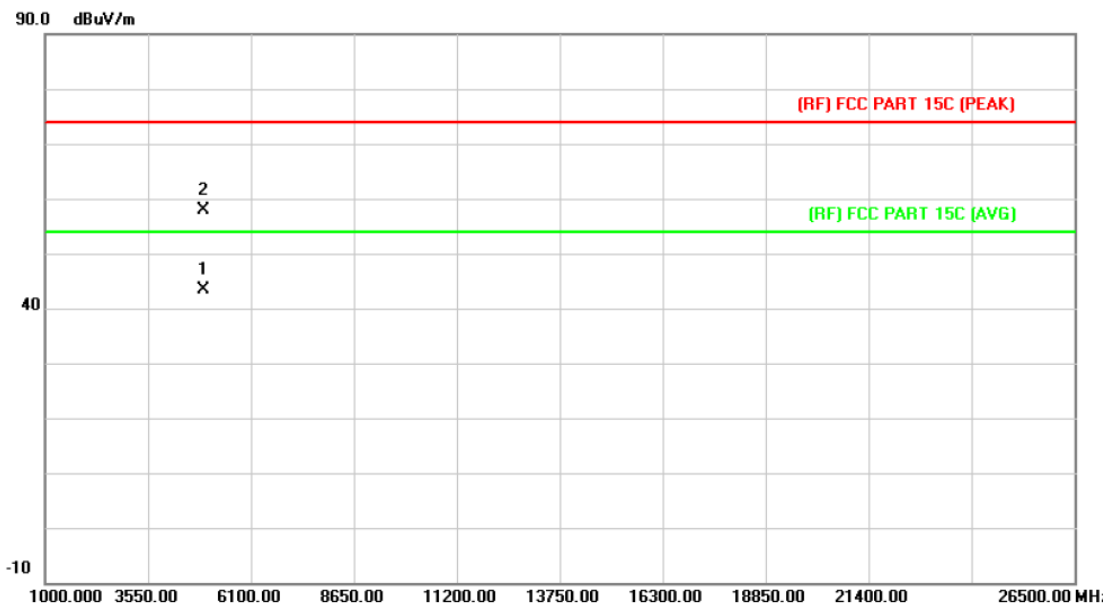
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4923.565 | 43.58         | 14.15          | 57.73       | 74.00  | -16.27 | peak     |
| 2   | *   | 4923.745 | 29.11         | 14.15          | 43.26       | 54.00  | -10.74 | AVG      |

Emission Level= Read Level+ Correct Factor

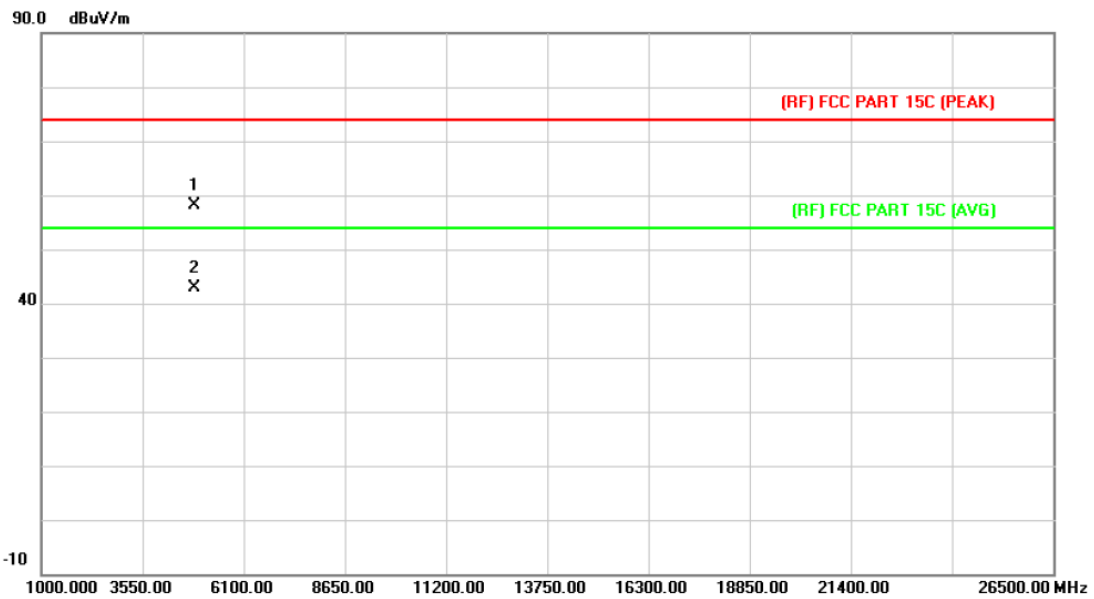
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2462MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4923.724 | 29.12         | 14.15          | 43.27       | 54.00  | -10.73 | AVG      |
| 2   |     | 4923.922 | 43.66         | 14.15          | 57.81       | 74.00  | -16.19 | peak     |

Emission Level= Read Level+ Correct Factor

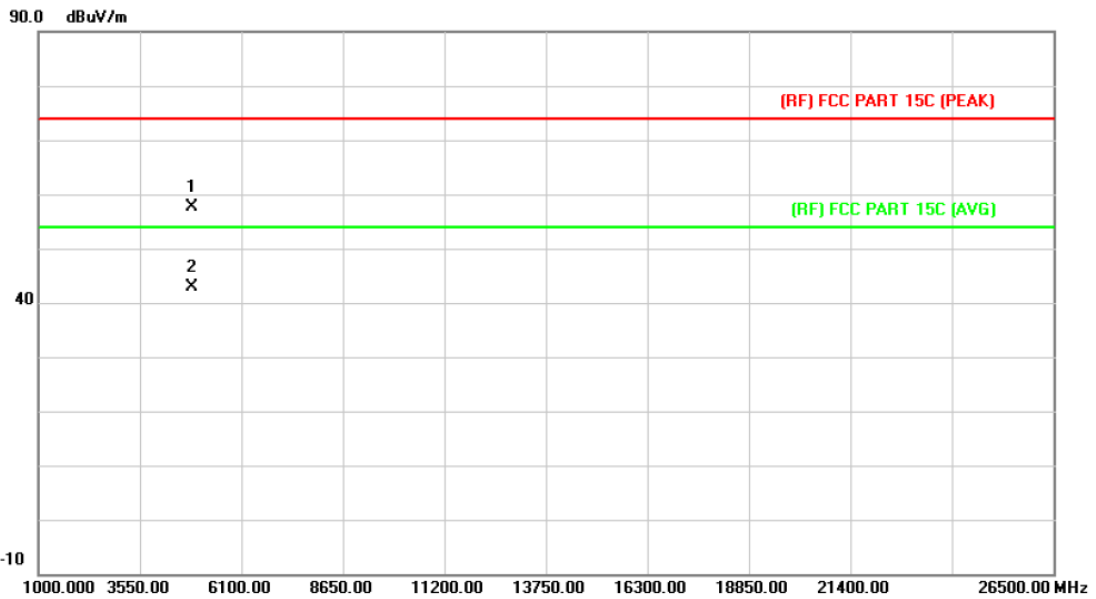
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2422MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4843.897 | 44.37         | 13.68          | 58.05       | 74.00  | -15.95 | peak     |
| 2   | *   | 4844.398 | 29.29         | 13.68          | 42.97       | 54.00  | -11.03 | AVG      |

Emission Level= Read Level+ Correct Factor

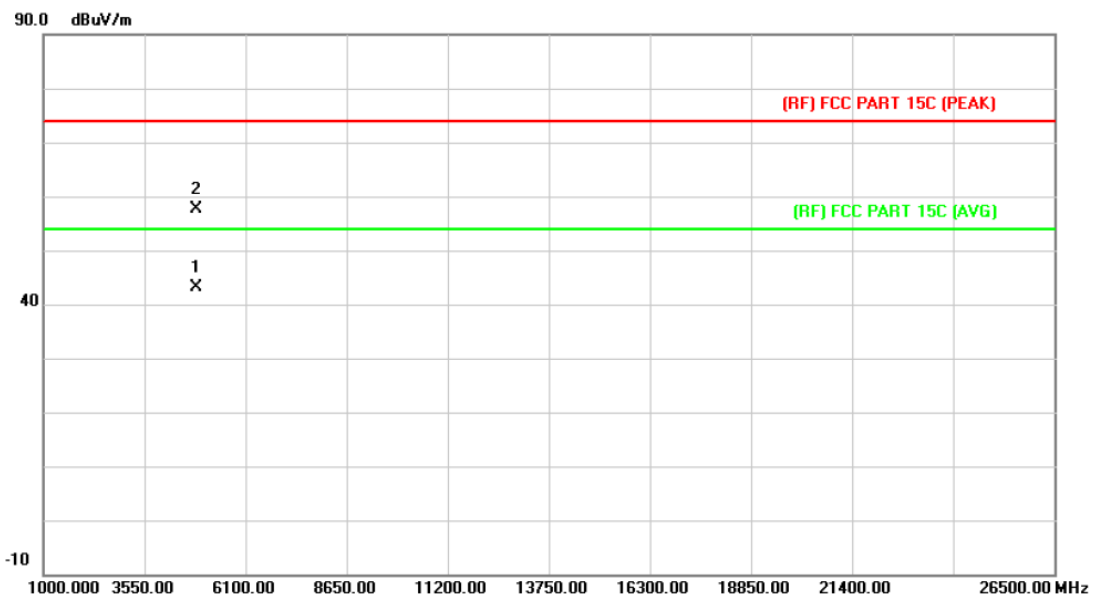
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2422MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4843.798 | 44.03         | 13.68          | 57.71       | 74.00  | -16.29 | peak     |
| 2   | *   | 4843.827 | 29.25         | 13.68          | 42.93       | 54.00  | -11.07 | AVG      |

Emission Level= Read Level+ Correct Factor

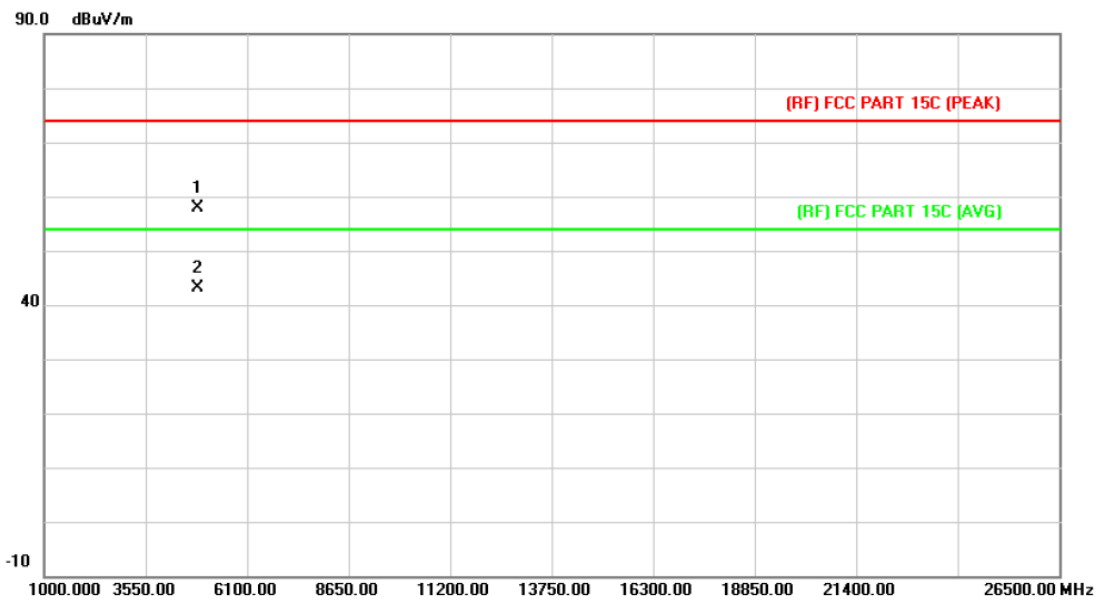
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 4873.966 | 29.32         | 13.86          | 43.18       | 54.00  | -10.82 | AVG      |
| 2   |     | 4874.425 | 43.87         | 13.86          | 57.73       | 74.00  | -16.27 | peak     |

Emission Level= Read Level+ Correct Factor

|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2437MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |

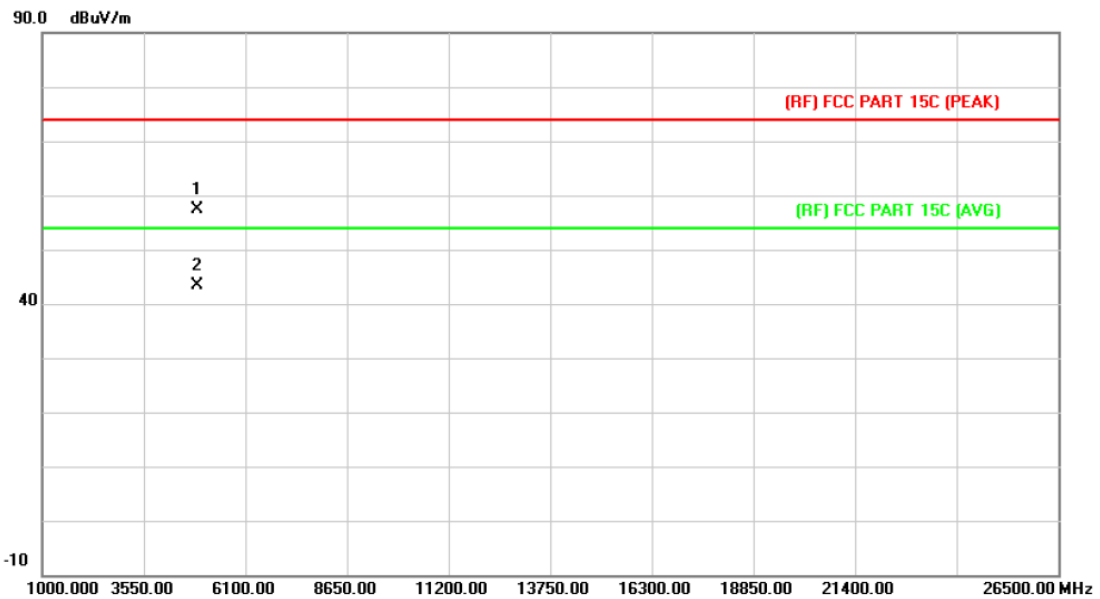


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4873.615 | 44.05         | 13.86          | 57.91       | 74.00  | -16.09 | peak     |
| 2   | *   | 4873.887 | 29.33         | 13.86          | 43.19       | 54.00  | -10.81 | AVG      |

**Emission Level= Read Level+ Correct Factor**



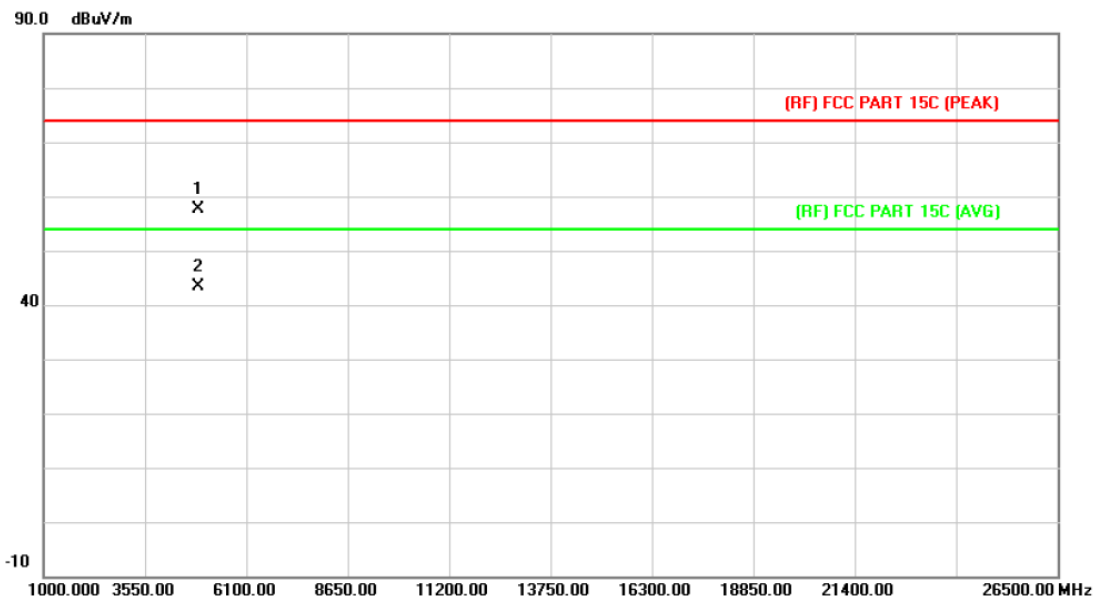
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Horizontal   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2452MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 4903.759 | 43.43         | 14.03          | 57.46       | 74.00  | -16.54 | peak     |
| 2   | *   | 4903.949 | 29.30         | 14.03          | 43.33       | 54.00  | -10.67 | AVG      |

**Emission Level= Read Level+ Correct Factor**

|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Ant. Pol.</b>     | Vertical   |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2452MHz  |                           |          |
| <b>Remark:</b>       | No report for the emission which more than 10 dB below the prescribed limit. |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   |     | 4904.217     | 43.72                    | 14.03                     | 57.75                      | 74.00           | -16.25     | peak     |
| 2   | *   | 4904.398     | 29.31                    | 14.03                     | 43.34                      | 54.00           | -10.66     | AVG      |

**Emission Level= Read Level+ Correct Factor**

## 5. Restricted Bands Requirement

### 5.1 Test Standard and Limit

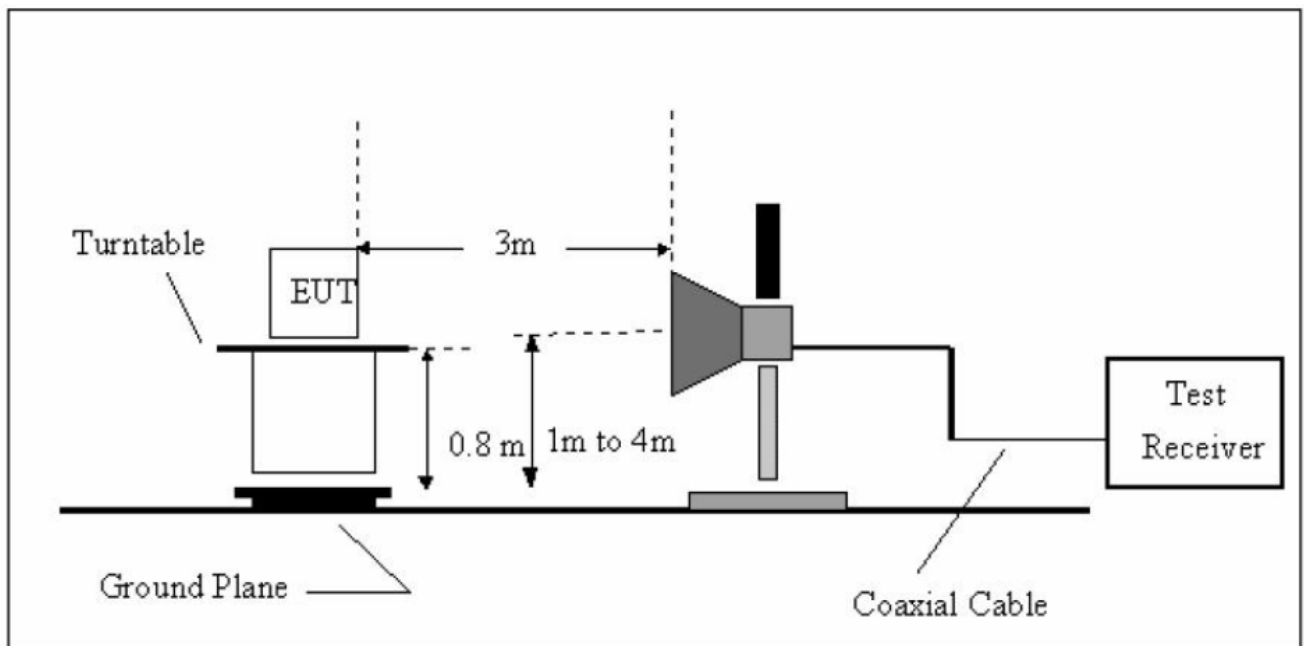
#### 5.1.1 Test Standard

FCC Part 15.209 FCC Part 15.205

#### 5.1.2 Test Limit

| Restricted Frequency Band (MHz) | Class B (dBuV/m)(at 3 M) |         |
|---------------------------------|--------------------------|---------|
|                                 | Peak                     | Average |
| 2310 ~2390                      | 74                       | 54      |
| 2483.5 ~2500                    | 74                       | 54      |

### 5.2 Test Setup



### 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (3) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit

Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

- (5) (5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (6) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (7) For the actual test configuration, please see the test setup photo.

## 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 5.5 Test Equipment

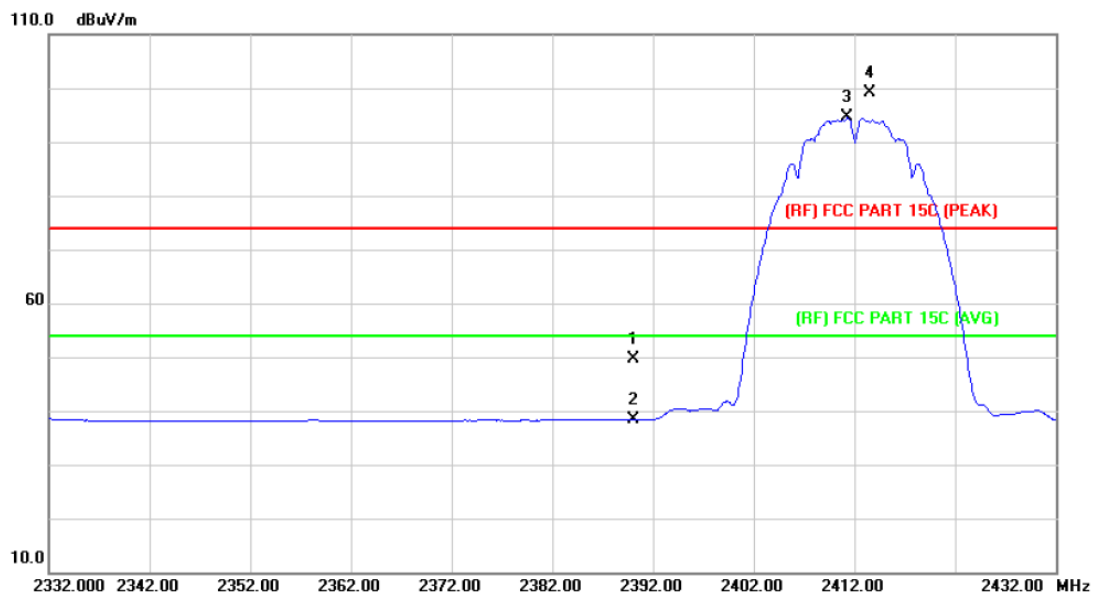
| Equipment              | Manufacturer    | Model No. | Serial No. | Last Cal.     | Cal. Due Date |
|------------------------|-----------------|-----------|------------|---------------|---------------|
| Spectrum Analyzer      | Agilent         | E4407B    | MY45106456 | Mar. 20, 2014 | Mar. 19, 2015 |
| Spectrum Analyzer      | Rohde & Schwarz | FSP30     | DE25181    | Aug. 10, 2013 | Aug.09, 2014  |
| EMI Test Receiver      | Rohde & Schwarz | ESCI      | 101165     | Aug. 10, 2013 | Aug.09, 2014  |
| Bilog Antenna          | ETS-LINDGREN    | 3142E     | 00117537   | Mar. 07, 2014 | Mar.06, 2015  |
| Bilog Antenna          | ETS-LINDGREN    | 3142E     | 00117542   | Mar. 07, 2014 | Mar.06, 2015  |
| Horn Antenna           | ETS-LINDGREN    | 3117      | 00143207   | Mar. 07, 2014 | Mar.06, 2015  |
| Horn Antenna           | ETS-LINDGREN    | 3117      | 00143209   | Mar. 07, 2014 | Mar.06, 2015  |
| Pre-amplifier          | HP              | 11909A    | 185903     | Mar. 07, 2014 | Mar.06, 2015  |
| Pre-amplifier          | HP              | 8447B     | 3008A00849 | Mar. 07, 2014 | Mar.06, 2015  |
| Cable                  | HUBER+SUHNER    | 100       | SUCOFLEX   | Mar. 07, 2014 | Mar.06, 2015  |
| Signal Generator       | Rohde & Schwarz | SML03     | IKW682-054 | Feb. 11, 2014 | Feb.10, 2015  |
| Positioning Controller | ETS-LINDGREN    | 2090      | N/A        | N/A           | N/A           |

## 5.6 Test Data

Please see the next page.

**(1) Radiation Test**

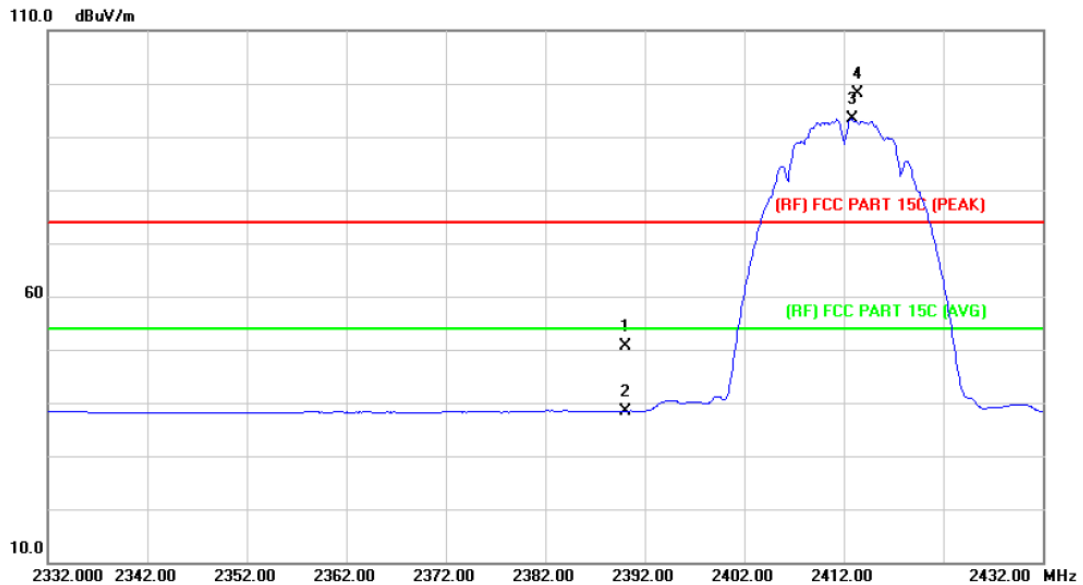
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Horizontal        |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   |     | 2390.000 | 42.49         | 0.77           | 43.26       | 74.00  | -30.74 | peak     |
| 2   |     | 2390.000 | 30.11         | 0.77           | 30.88       | 54.00  | -23.12 | AVG      |
| 3   | X   | 2411.000 | 86.00         | 0.86           | 86.86       | 74.00  | 12.86  | peak     |
| 4   | *   | 2411.200 | 81.73         | 0.86           | 82.59       | 54.00  | 28.59  | AVG      |

**Emission Level= Read Level+ Correct Factor**

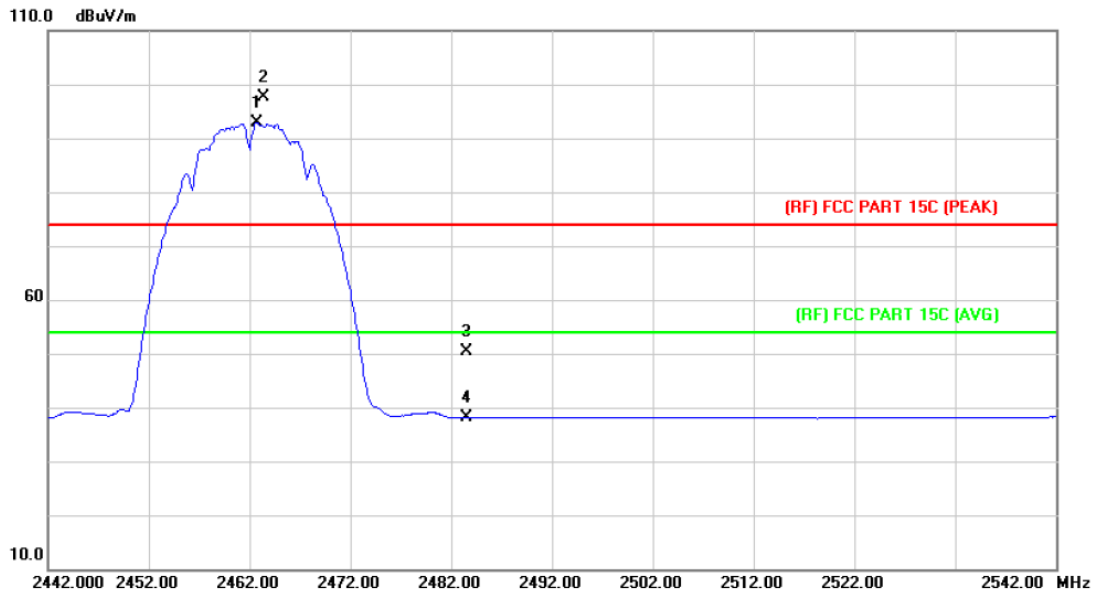
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Vertical          |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 2390.000 | 49.85         | 0.77           | 50.62       | 74.00  | -23.38 | peak     |
| 2   |     | 2390.000 | 37.70         | 0.77           | 38.47       | 54.00  | -15.53 | AVG      |
| 3   | *   | 2412.800 | 92.46         | 0.86           | 93.32       | 54.00  | 39.32  | AVG      |
| 4   | X   | 2413.400 | 97.24         | 0.86           | 98.10       | 74.00  | 24.10  | peak     |

**Emission Level= Read Level+ Correct Factor**

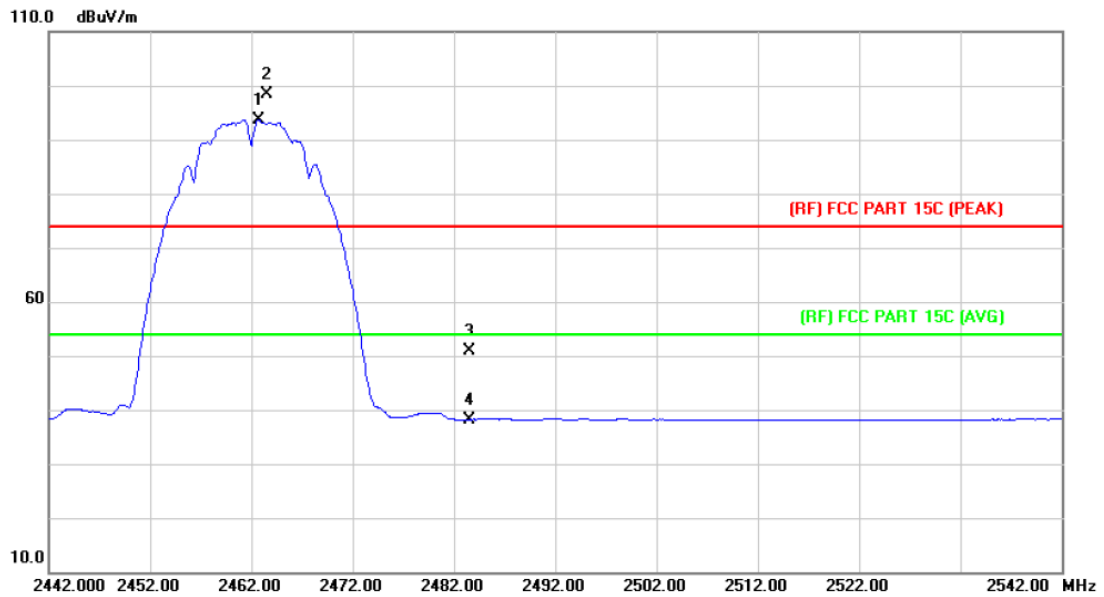
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Horizontal        |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 2462.700 | 91.84         | 1.08           | 92.92       | 54.00  | 38.92  | AVG      |
| 2   | X   | 2463.400 | 96.65         | 1.08           | 97.73       | 74.00  | 23.73  | peak     |
| 3   |     | 2483.500 | 49.33         | 1.17           | 50.50       | 74.00  | -23.50 | peak     |
| 4   |     | 2483.500 | 36.91         | 1.17           | 38.08       | 54.00  | -15.92 | AVG      |

Emission Level= Read Level+ Correct Factor

|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Vertical          |                           |          |
| <b>Test Mode:</b>    | TX B Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |

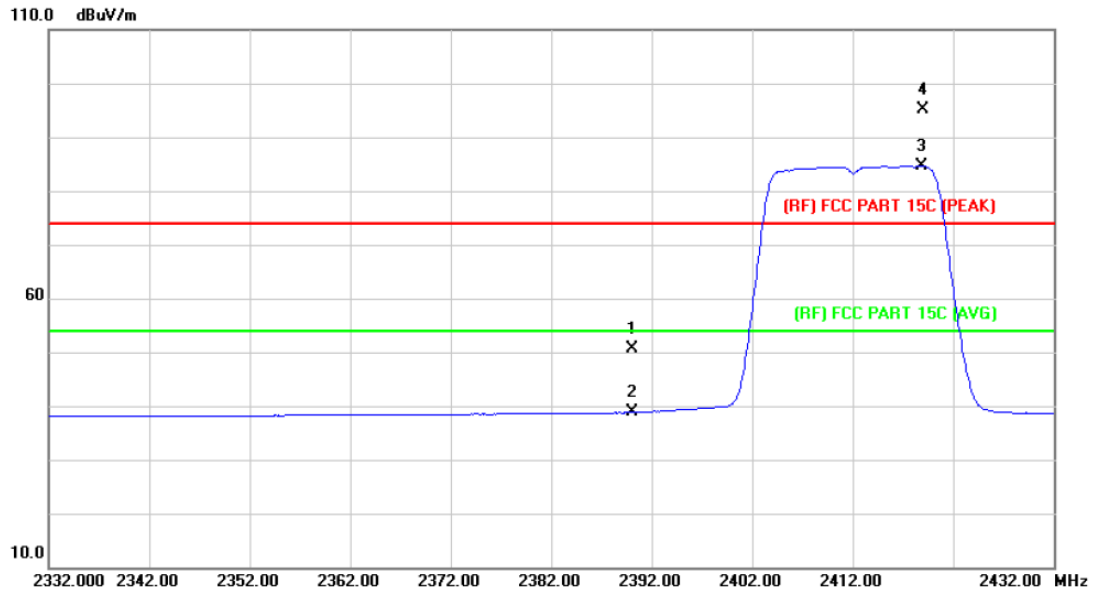


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   | *   | 2462.700 | 92.62         | 1.08           | 93.70       | 54.00  | 39.70  | AVG      |
| 2   | X   | 2463.500 | 97.35         | 1.08           | 98.43       | 74.00  | 24.43  | peak     |
| 3   |     | 2483.500 | 49.75         | 1.17           | 50.92       | 74.00  | -23.08 | peak     |
| 4   |     | 2483.500 | 37.07         | 1.17           | 38.24       | 54.00  | -15.76 | AVG      |

Emission Level= Read Level+ Correct Factor



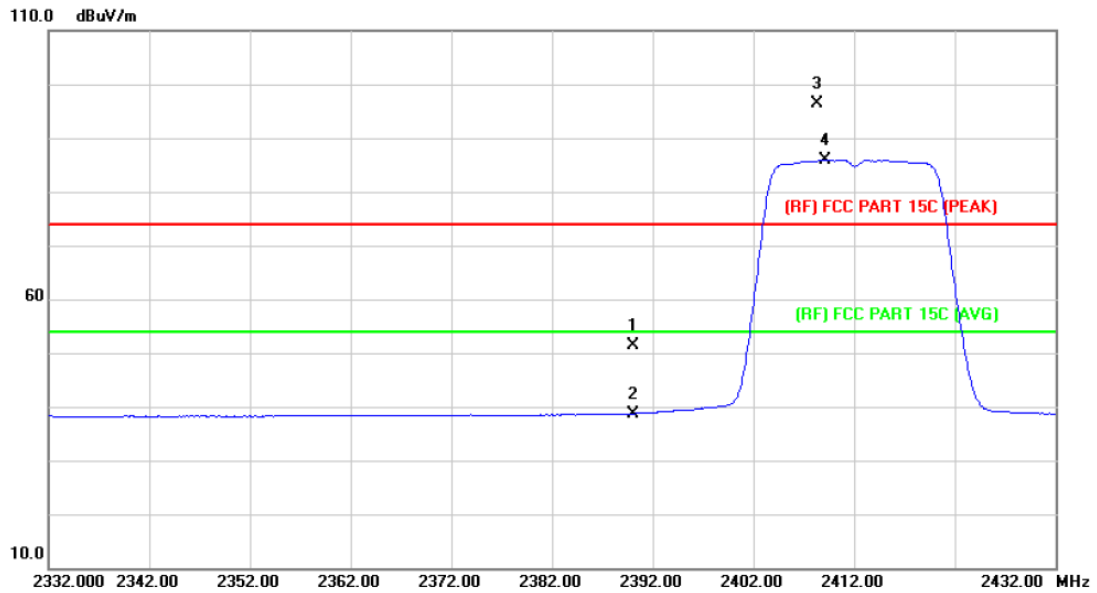
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Horizontal        |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   |     | 2390.000 | 49.86         | 0.77           | 50.63       | 74.00  | -23.37 | peak     |
| 2   |     | 2390.000 | 38.06         | 0.77           | 38.83       | 54.00  | -15.17 | AVG      |
| 3   | *   | 2418.900 | 83.77         | 0.89           | 84.66       | 54.00  | 30.66  | AVG      |
| 4   | X   | 2419.000 | 94.21         | 0.89           | 95.10       | 74.00  | 21.10  | peak     |

Emission Level= Read Level+ Correct Factor

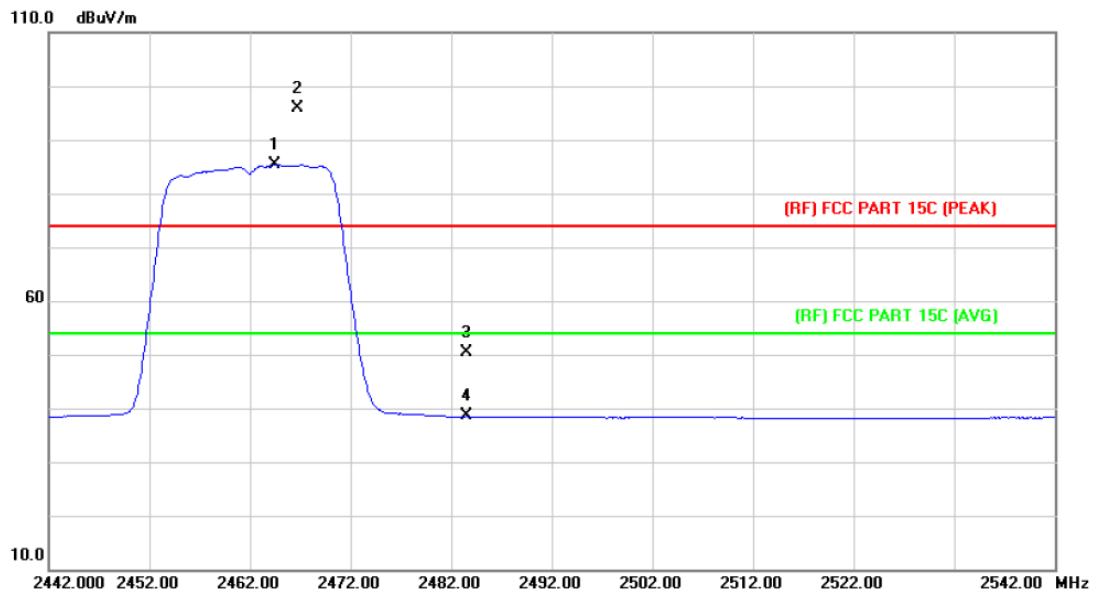
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Vertical          |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   |     | 2390.000 | 50.51         | 0.77           | 51.28       | 74.00  | -22.72 | peak     |
| 2   |     | 2390.000 | 37.96         | 0.77           | 38.73       | 54.00  | -15.27 | AVG      |
| 3   | X   | 2408.300 | 95.46         | 0.85           | 96.31       | 74.00  | 22.31  | peak     |
| 4   | *   | 2409.100 | 85.10         | 0.85           | 85.95       | 54.00  | 31.95  | AVG      |

Emission Level= Read Level+ Correct Factor

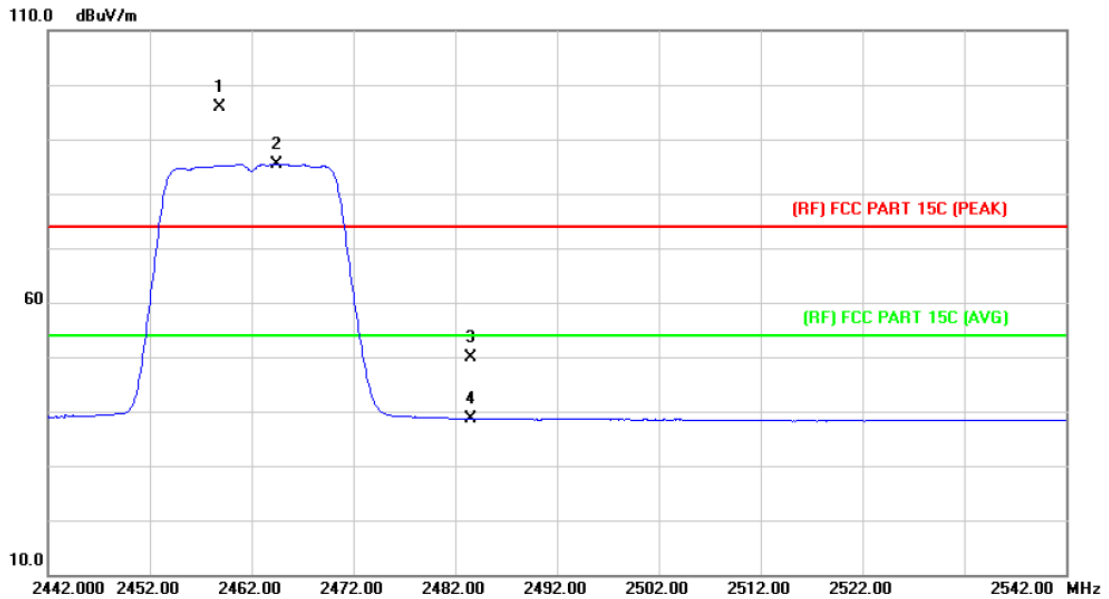
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Horizontal        |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | *   | 2464.500     | 84.21                    | 1.08                      | 85.29                      | 54.00           | 31.29      | AVG      |
| 2   | X   | 2466.700     | 94.71                    | 1.10                      | 95.81                      | 74.00           | 21.81      | peak     |
| 3   |     | 2483.500     | 49.10                    | 1.17                      | 50.27                      | 74.00           | -23.73     | peak     |
| 4   |     | 2483.500     | 37.35                    | 1.17                      | 38.52                      | 54.00           | -15.48     | AVG      |

**Emission Level= Read Level+ Correct Factor**

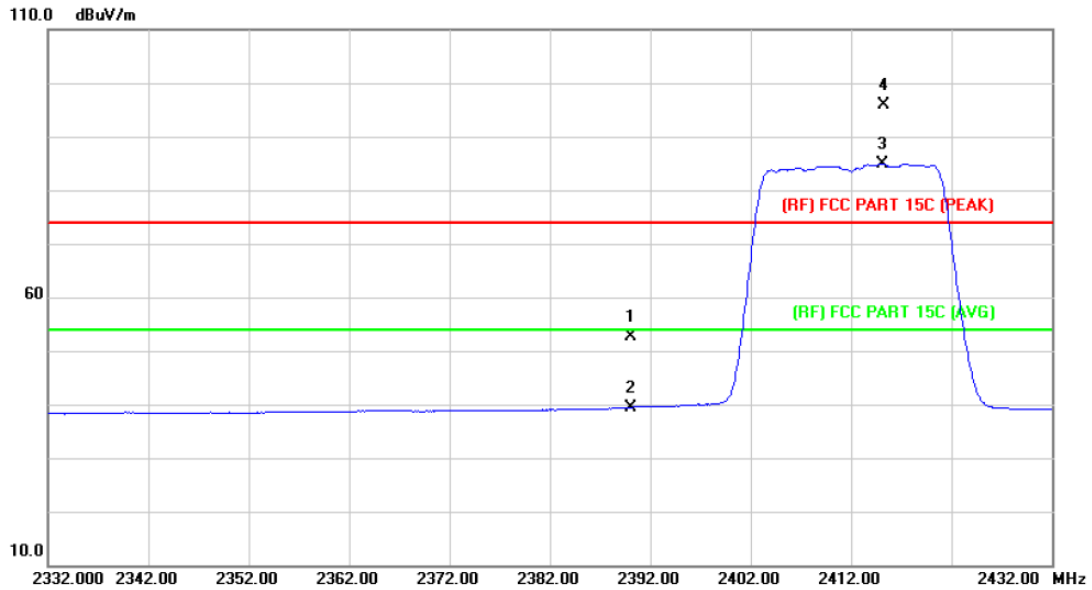
|                      |                   |                           |          |
|----------------------|-------------------|---------------------------|----------|
| <b>EUT:</b>          | MID               | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C             | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz     |                           |          |
| <b>Ant. Pol.</b>     | Vertical          |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A               |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | X   | 2458.800     | 94.86                    | 1.06                      | 95.92                      | 74.00           | 21.92      | peak     |
| 2   | *   | 2464.500     | 84.37                    | 1.08                      | 85.45                      | 54.00           | 31.45      | AVG      |
| 3   |     | 2483.500     | 48.83                    | 1.17                      | 50.00                      | 74.00           | -24.00     | peak     |
| 4   |     | 2483.500     | 37.52                    | 1.17                      | 38.69                      | 54.00           | -15.31     | AVG      |

**Emission Level= Read Level+ Correct Factor**

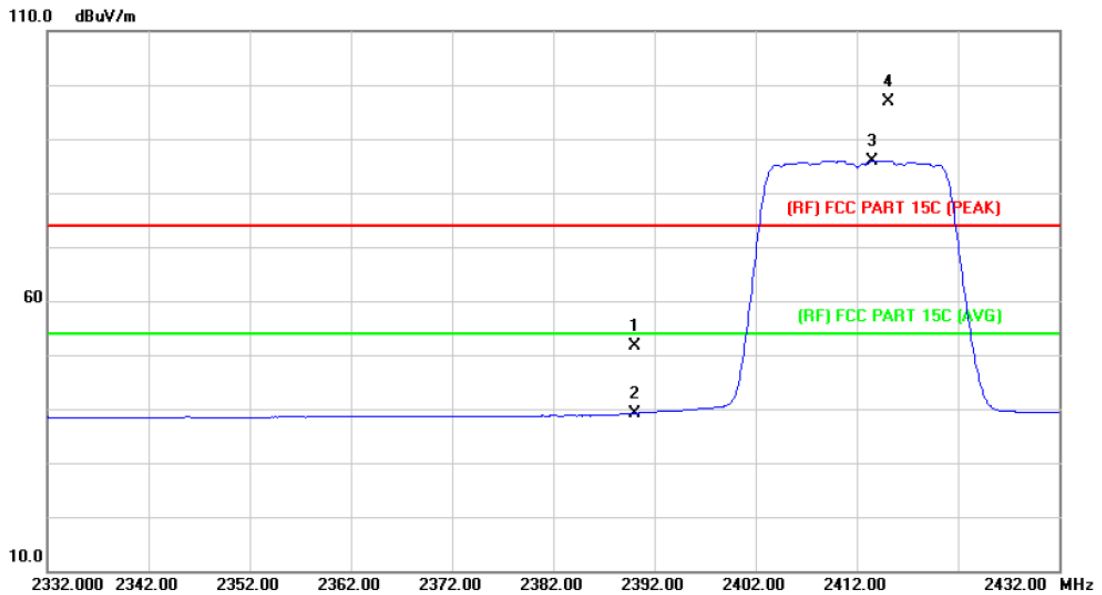
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Horizontal              |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 2390.000 | 51.75         | 0.77           | 52.52       | 74.00  | -21.48 | peak     |
| 2   |     | 2390.000 | 38.72         | 0.77           | 39.49       | 54.00  | -14.51 | AVG      |
| 3   | *   | 2415.200 | 84.03         | 0.88           | 84.91       | 54.00  | 30.91  | AVG      |
| 4   | X   | 2415.300 | 95.04         | 0.88           | 95.92       | 74.00  | 21.92  | peak     |

Emission Level= Read Level+ Correct Factor

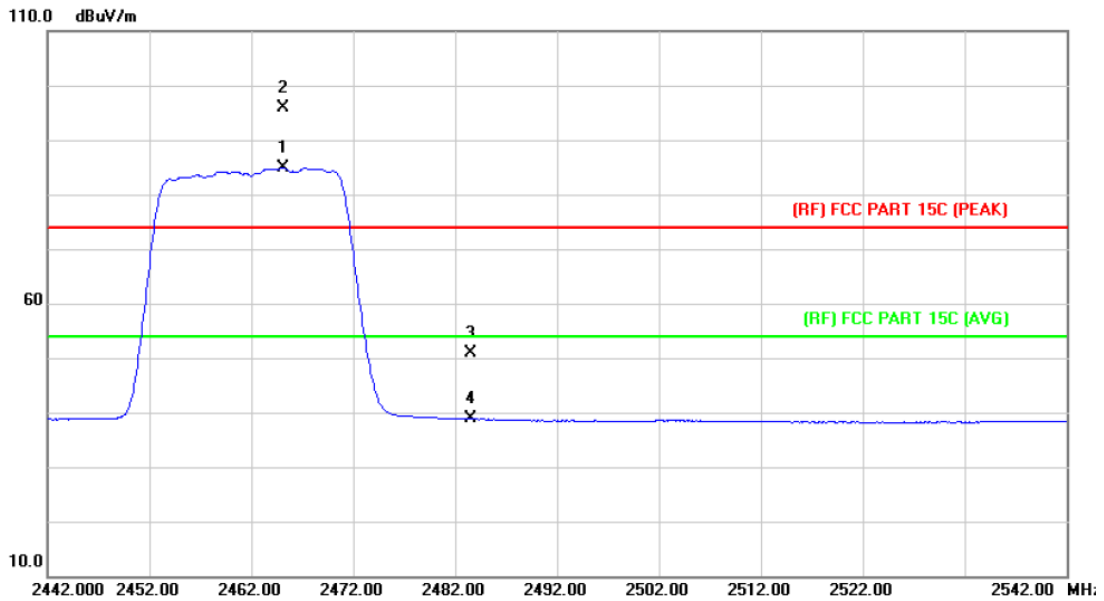
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Vertical                |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2412MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     | Detector |
| 1   |     | 2390.000 | 50.92         | 0.77           | 51.69       | 74.00  | -22.31 | peak     |
| 2   |     | 2390.000 | 38.45         | 0.77           | 39.22       | 54.00  | -14.78 | AVG      |
| 3   | *   | 2413.600 | 85.14         | 0.86           | 86.00       | 54.00  | 32.00  | AVG      |
| 4   | X   | 2415.200 | 96.11         | 0.88           | 96.99       | 74.00  | 22.99  | peak     |

**Emission Level= Read Level+ Correct Factor**

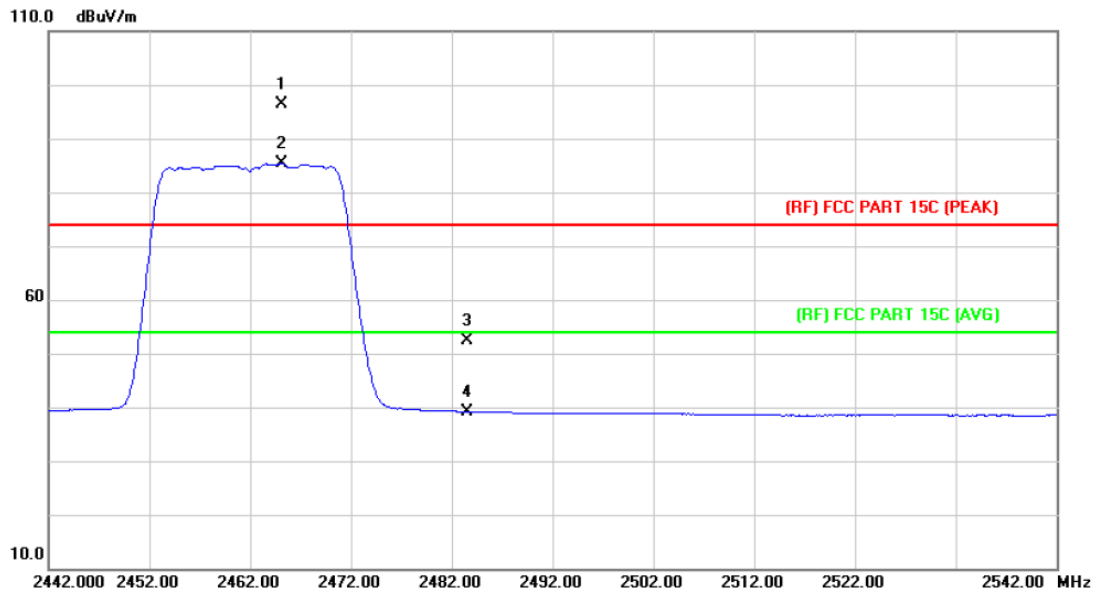
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Horizontal              |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | *   | 2465.100     | 83.74                    | 1.09                      | 84.83                      | 54.00           | 30.83      | AVG      |
| 2   | X   | 2465.200     | 94.75                    | 1.09                      | 95.84                      | 74.00           | 21.84      | peak     |
| 3   |     | 2483.500     | 49.67                    | 1.17                      | 50.84                      | 74.00           | -23.16     | peak     |
| 4   |     | 2483.500     | 37.61                    | 1.17                      | 38.78                      | 54.00           | -15.22     | AVG      |

**Emission Level= Read Level+ Correct Factor**

|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Vertical                |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2462MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |

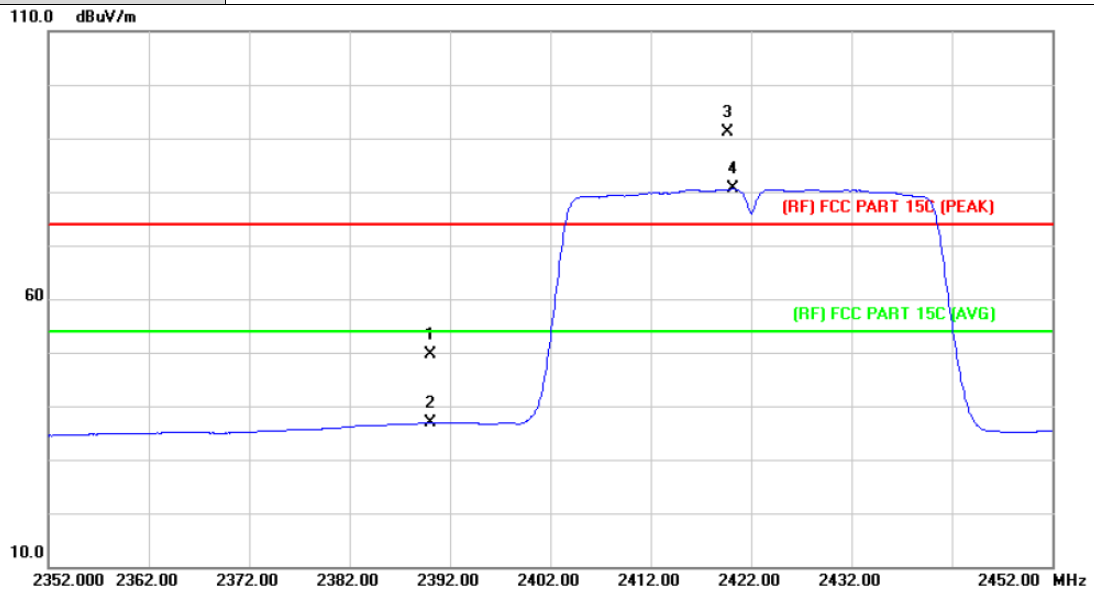


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | X   | 2465.200 | 95.24         | 1.09           | 96.33       | 74.00  | 22.33  | peak     |
| 2   | *   | 2465.200 | 84.19         | 1.09           | 85.28       | 54.00  | 31.28  | AVG      |
| 3   |     | 2483.500 | 51.09         | 1.17           | 52.26       | 74.00  | -21.74 | peak     |
| 4   |     | 2483.500 | 38.03         | 1.17           | 39.20       | 54.00  | -14.80 | AVG      |

Emission Level= Read Level+ Correct Factor



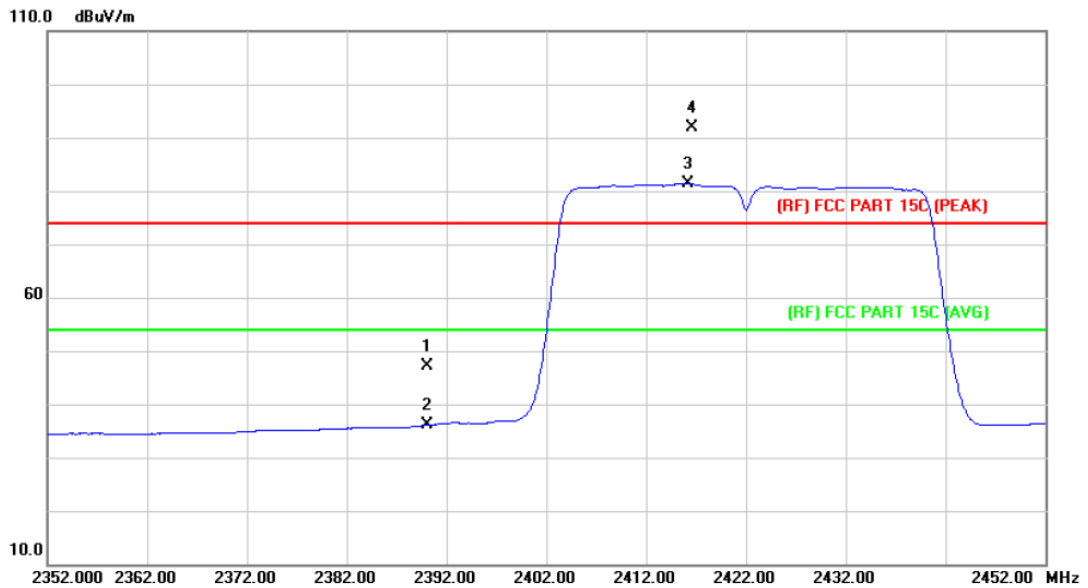
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Horizontal              |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2422MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   |     | 2390.000     | 48.77                    | 0.77                      | 49.54                      | 74.00           | -24.46     | peak     |
| 2   |     | 2390.000     | 36.08                    | 0.77                      | 36.85                      | 54.00           | -17.15     | AVG      |
| 3   | X   | 2419.700     | 90.35                    | 0.89                      | 91.24                      | 74.00           | 17.24      | peak     |
| 4   | *   | 2420.200     | 79.64                    | 0.89                      | 80.53                      | 54.00           | 26.53      | AVG      |

**Emission Level= Read Level+ Correct Factor**

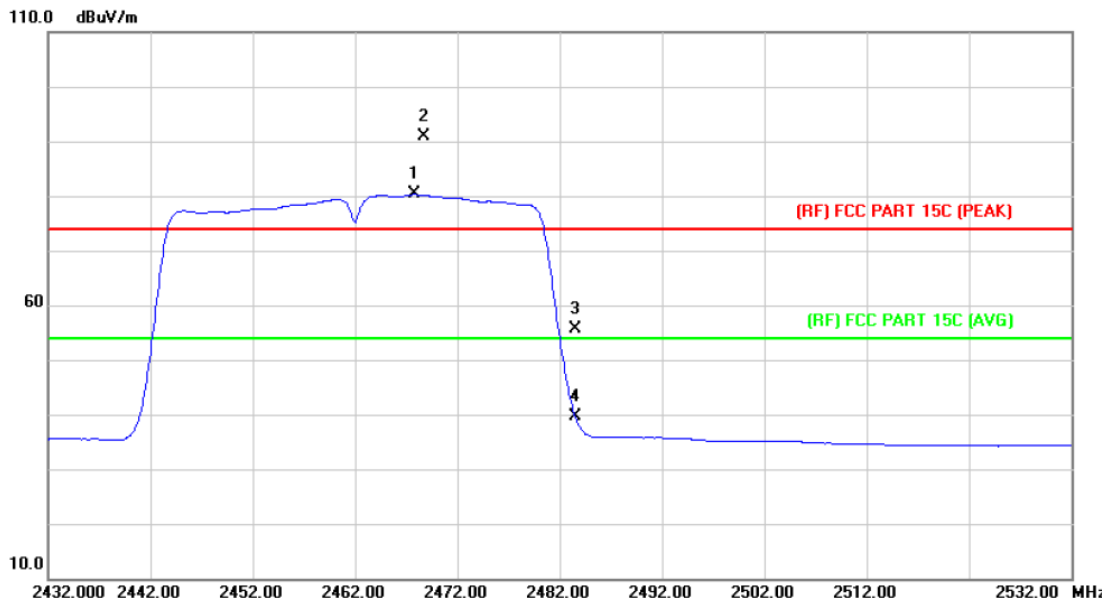
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Vertical                |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2422MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   |     | 2390.000 | 46.37         | 0.77           | 47.14       | 74.00  | -26.86 | peak     |
| 2   |     | 2390.000 | 35.36         | 0.77           | 36.13       | 54.00  | -17.87 | AVG      |
| 3   | *   | 2416.200 | 80.50         | 0.88           | 81.38       | 54.00  | 27.38  | AVG      |
| 4   | X   | 2416.600 | 91.09         | 0.88           | 91.97       | 74.00  | 17.97  | peak     |

Emission Level= Read Level+ Correct Factor

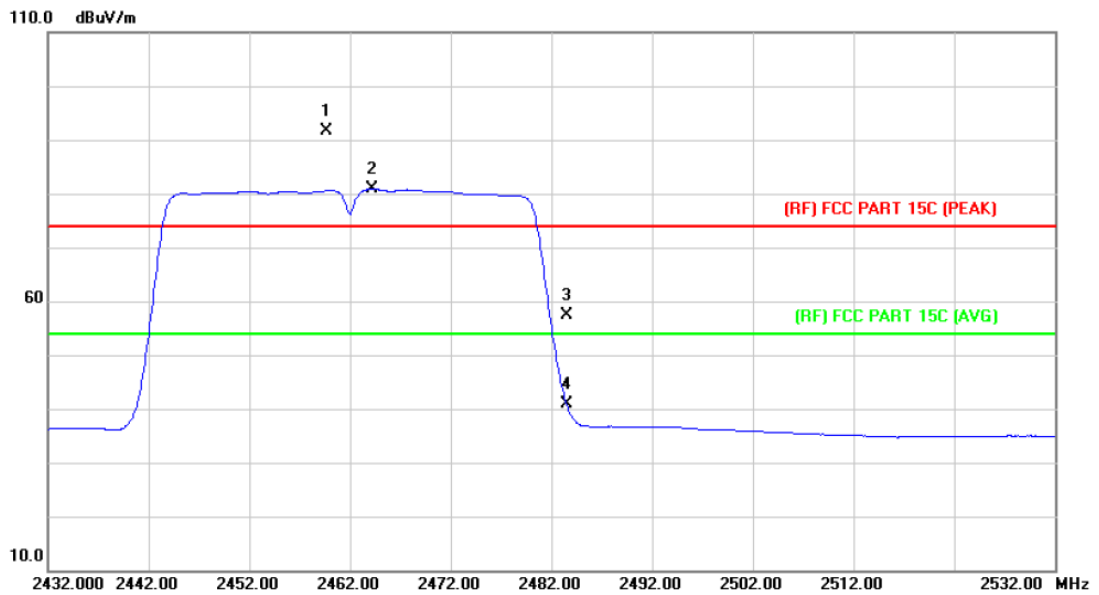
|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Horizontal              |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2452MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Detector |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|
|     |     | MHz      | dBuV          | dB/m           | dBuV/m      | dBuV/m | dB     |          |
| 1   | *   | 2467.800 | 79.16         | 1.10           | 80.26       | 54.00  | 26.26  | AVG      |
| 2   | X   | 2468.700 | 89.88         | 1.11           | 90.99       | 74.00  | 16.99  | peak     |
| 3   |     | 2483.500 | 54.58         | 1.17           | 55.75       | 74.00  | -18.25 | peak     |
| 4   |     | 2483.500 | 38.47         | 1.17           | 39.64       | 54.00  | -14.36 | AVG      |

Emission Level= Read Level+ Correct Factor

|                      |                         |                           |          |
|----------------------|-------------------------|---------------------------|----------|
| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz           |                           |          |
| <b>Ant. Pol.</b>     | Vertical                |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2452MHz |                           |          |
| <b>Remark:</b>       | N/A                     |                           |          |

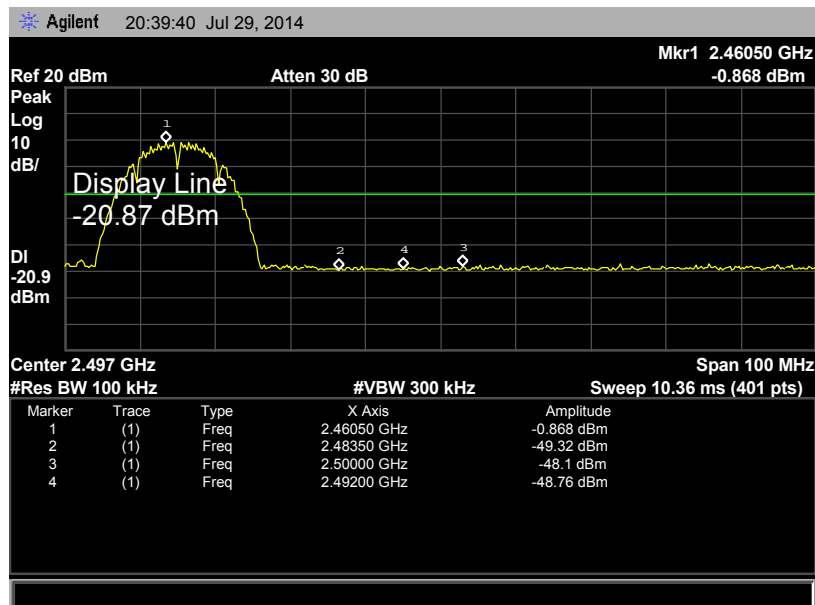
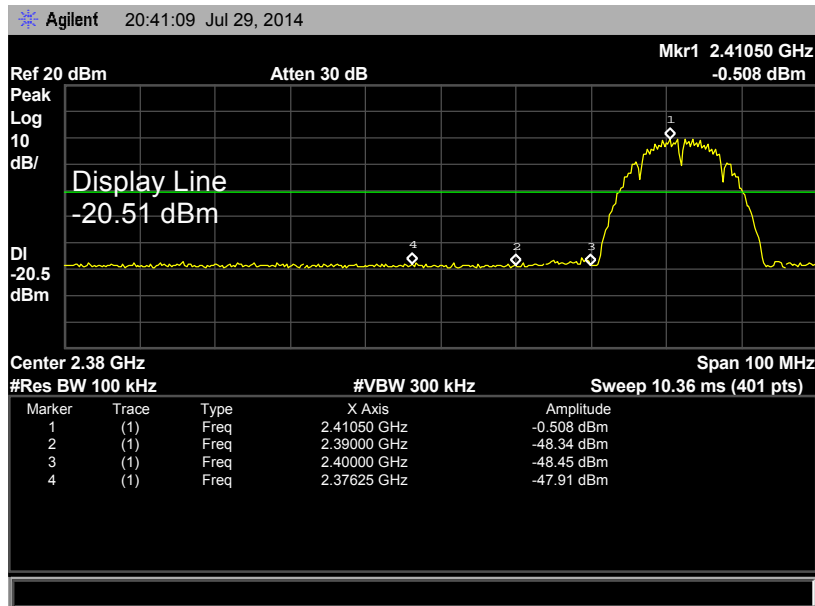


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB/m | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|---------------------------|----------------------------|-----------------|------------|----------|
| 1   | X   | 2459.700     | 90.58                    | 1.06                      | 91.64                      | 74.00           | 17.64      | peak     |
| 2   | *   | 2464.200     | 79.71                    | 1.08                      | 80.79                      | 54.00           | 26.79      | AVG      |
| 3   |     | 2483.500     | 56.09                    | 1.17                      | 57.26                      | 74.00           | -16.74     | peak     |
| 4   |     | 2483.500     | 39.64                    | 1.17                      | 40.81                      | 54.00           | -13.19     | AVG      |

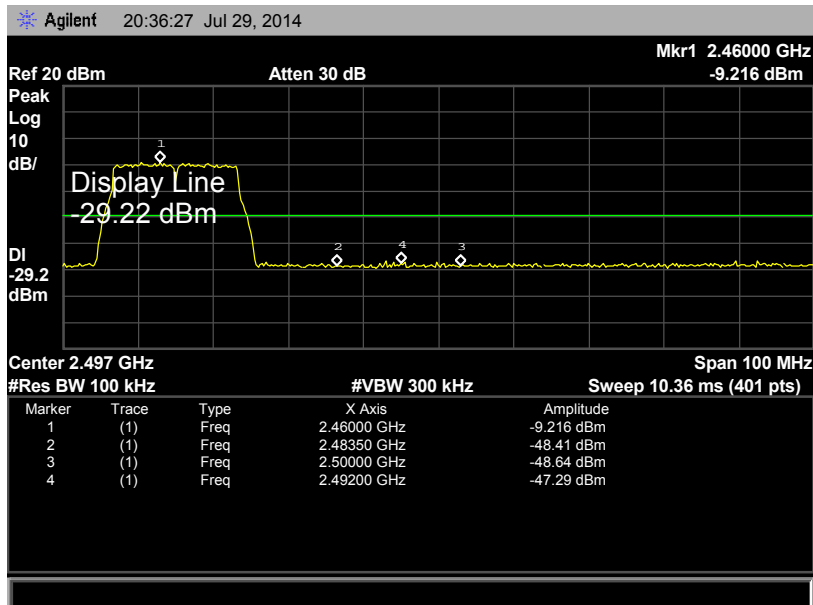
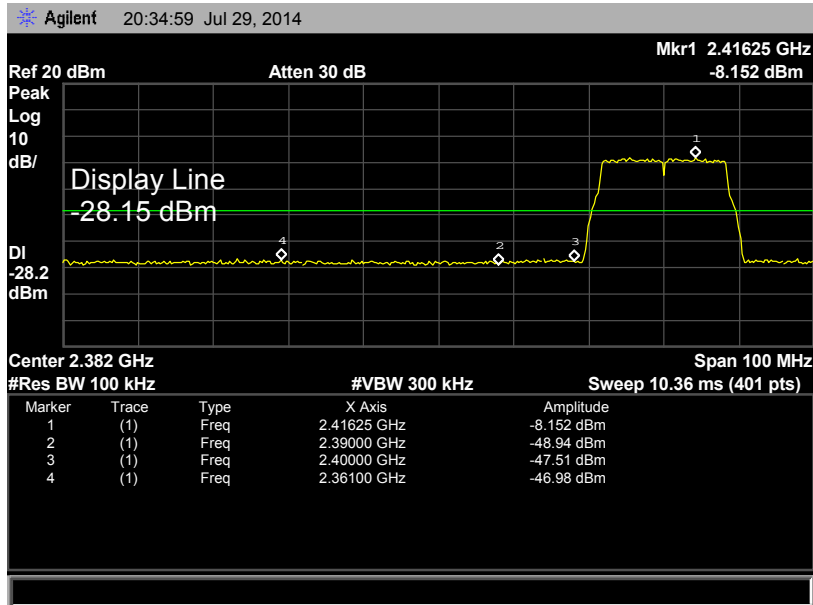
Emission Level= Read Level+ Correct Factor

(2) Conducted Test

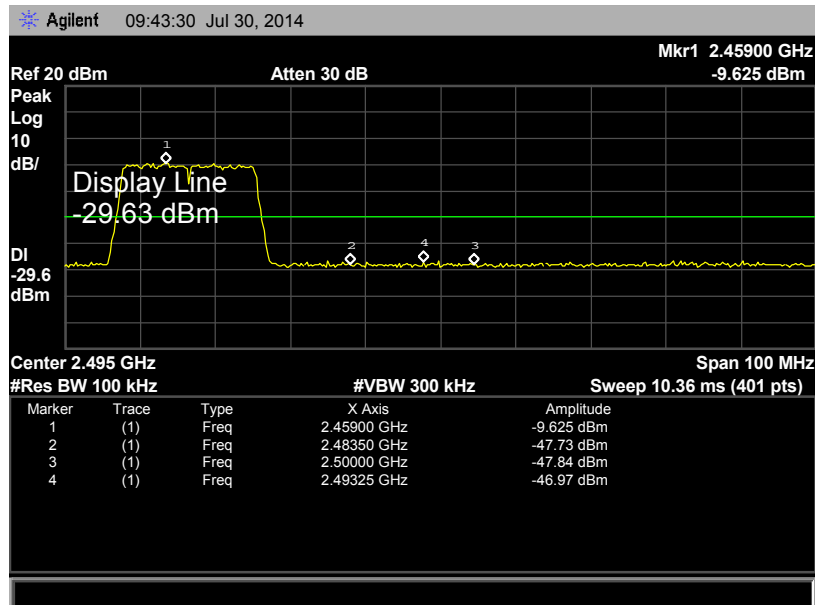
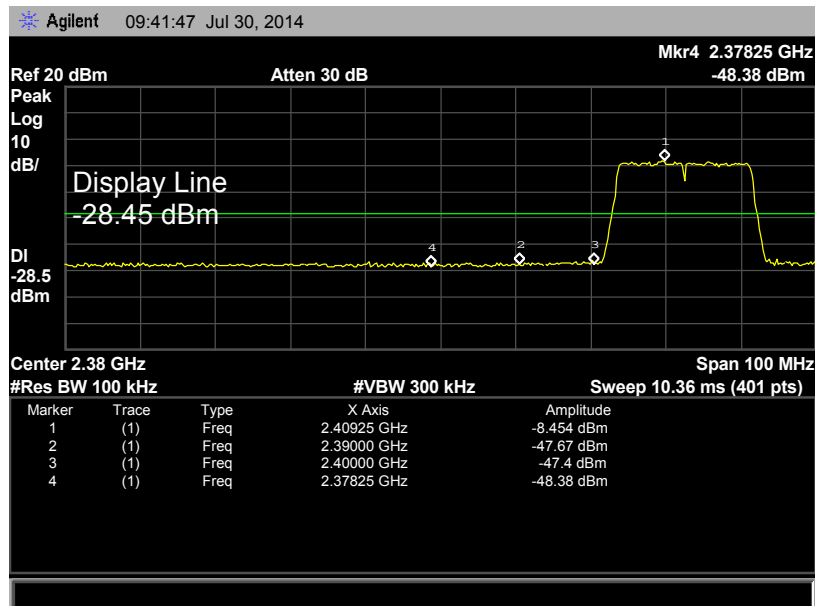
|               |  |                    |          |
|---------------|--|--------------------|----------|
| EUT:          | MID  | Model:             | MID713-L |
| Temperature:  | 25 °C  | Relative Humidity: | 55%      |
| Test Voltage: | AC 120V/60 Hz  |                    |          |
| Test Mode:    | TX B Mode 2412MHz / TX B Mode 2462MHz                  |                    |          |
| Remark:       | The EUT is programed in continuously transmitting mode |                    |          |



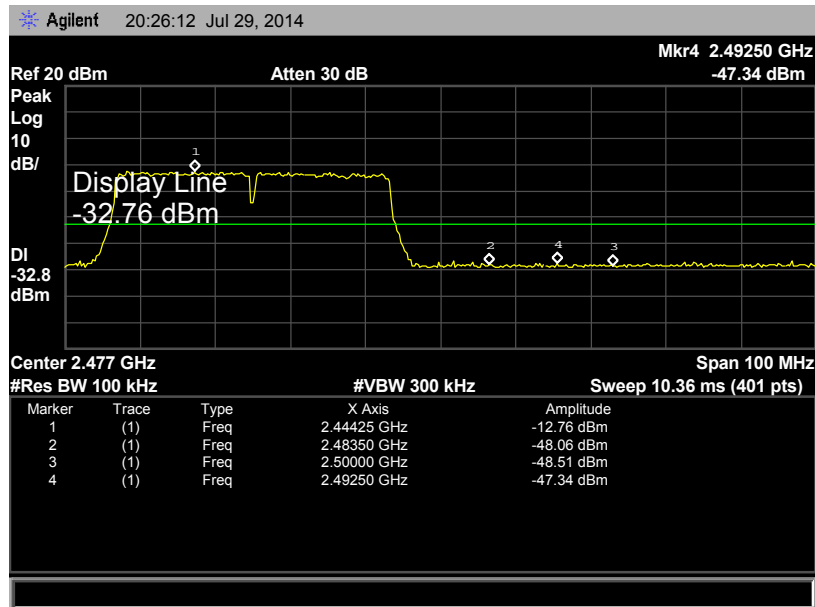
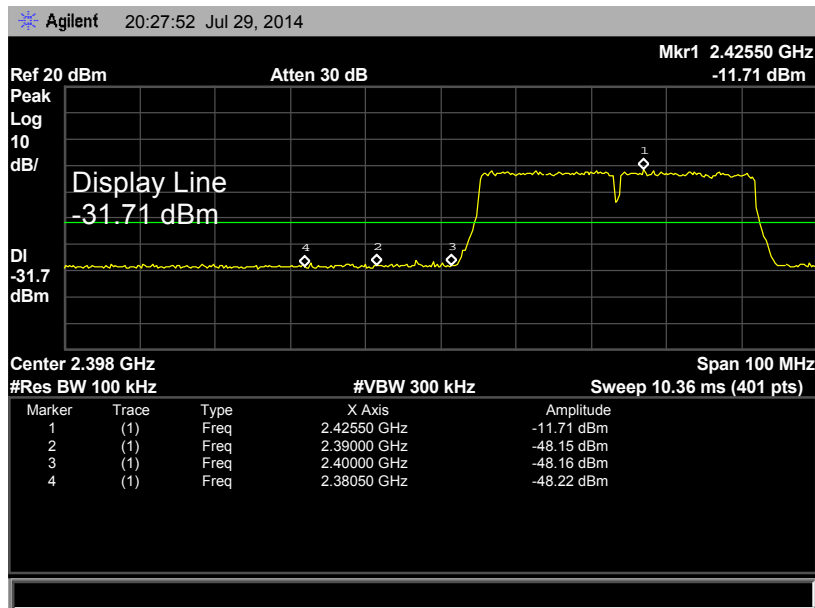
|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Test Mode:</b>    | TX G Mode 2412MHz / TX G Mode 2462MHz                  |                           |          |
| <b>Remark:</b>       | The EUT is programed in continuously transmitting mode |                           |          |



|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Test Mode:</b>    | TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz      |                           |          |
| <b>Remark:</b>       | The EUT is programed in continuously transmitting mode |                           |          |



|                      |  |                           |          |
|----------------------|--|---------------------------|----------|
| <b>EUT:</b>          | MID  | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>  | 25 °C  | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b> | AC 120V/60 Hz  |                           |          |
| <b>Test Mode:</b>    | TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz      |                           |          |
| <b>Remark:</b>       | The EUT is programed in continuously transmitting mode |                           |          |





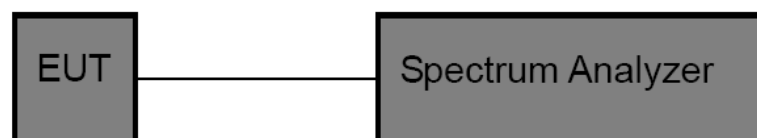
## 6. Bandwidth Test

### 6.1 Test Standard and Limit

- 6.1.1 Test Standard  
FCC Part 15.247 (a)(2)
- 6.1.2 Test Limit

| FCC Part 15 Subpart C(15.247)/RSS-210 |                                   |                      |
|---------------------------------------|-----------------------------------|----------------------|
| Test Item                             | Limit                             | Frequency Range(MHz) |
| Bandwidth                             | $\geq 500$ KHz<br>(6dB bandwidth) | 2400~2483.5          |

### 6.2 Test Setup



### 6.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

### 6.4 EUT Operating Condition

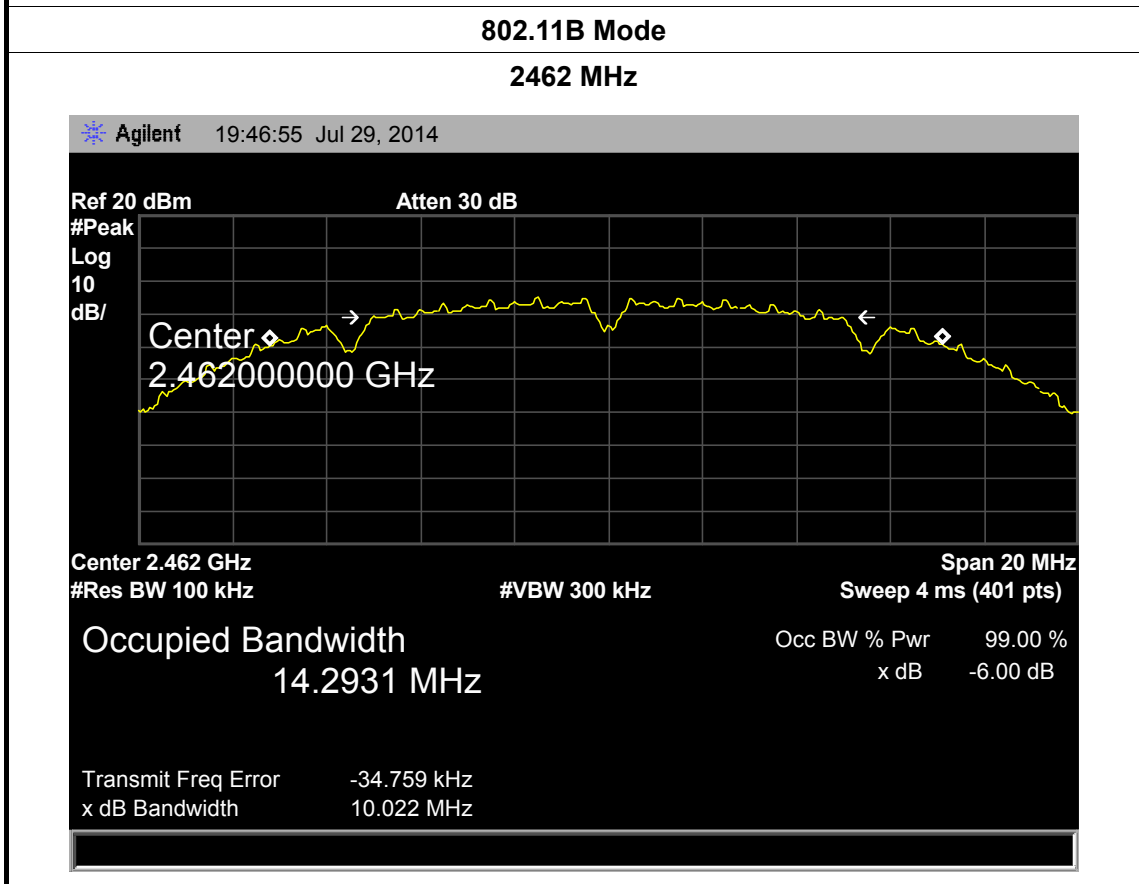
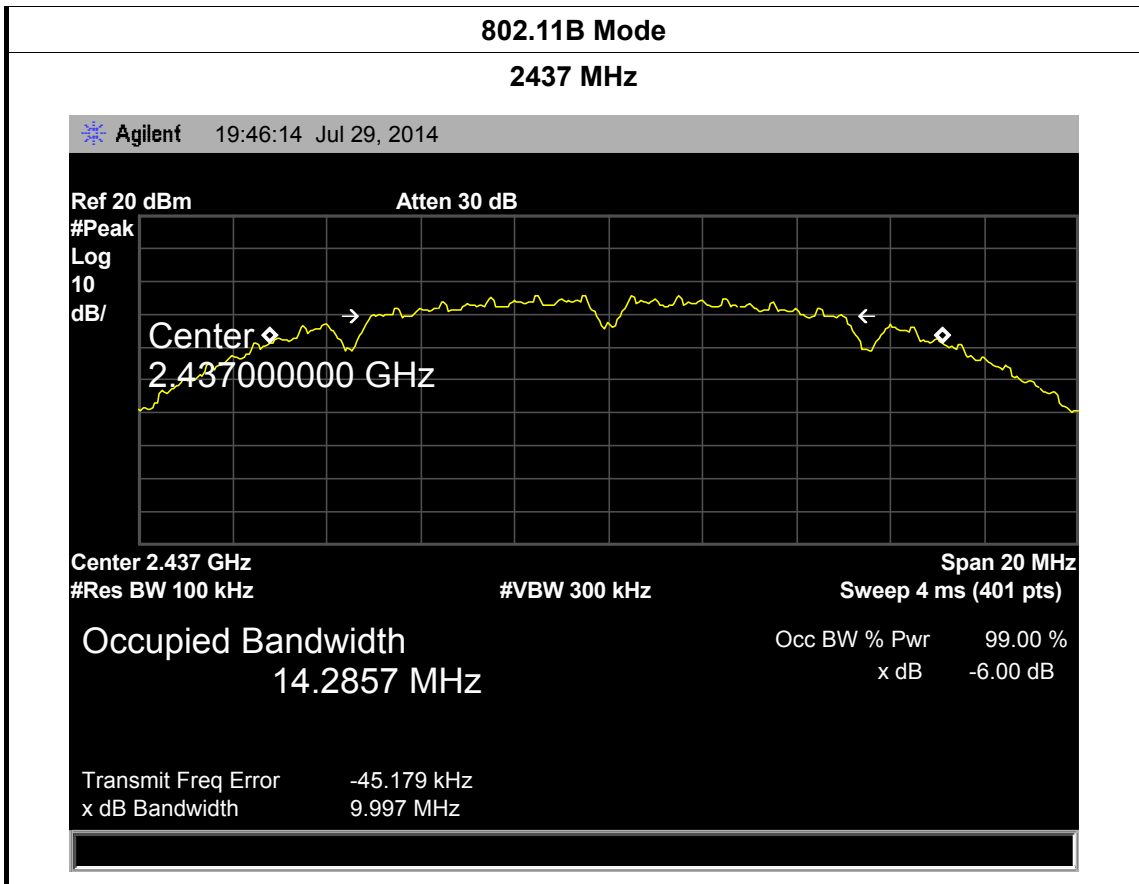
The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.

### 6.5 Test Equipment

| Equipment         | Manufacturer    | Model No. | Serial No. | Last Cal.     | Cal. Due Date |
|-------------------|-----------------|-----------|------------|---------------|---------------|
| Spectrum Analyzer | Rohde & Schwarz | FSP30     | DE25181    | Aug. 10, 2013 | Aug.09, 2014  |

### 6.6 Test Data

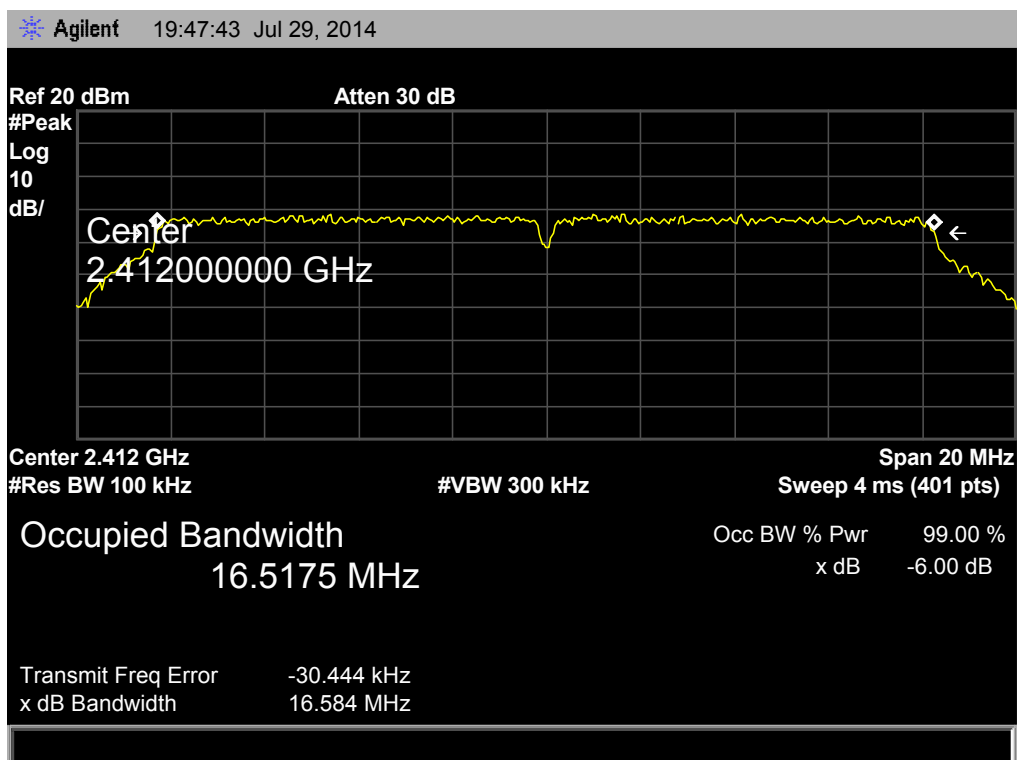
| <b>EUT:</b>   | MID                 | <b>Model:</b>             | MID713-L    |
|---|---------------------|---------------------------|-------------|
| <b>Temperature:</b>   | 25 °C               | <b>Relative Humidity:</b> | 55%         |
| <b>Test Voltage:</b>  | AC 120V/60 Hz       |                           |             |
| <b>Test Mode:</b>   | TX 802.11B Mode     |                           |             |
| Channel frequency (MHz)   | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz)       | Limit (MHz) |
| 2412  | 10.019              | 14.2886                   | ≥0.5        |
| 2437  | 9.997               | 14.2857                   |             |
| 2462  | 10.022              | 14.2931                   |             |
| <b>802.11B Mode</b>   |                     |                           |             |
| <b>2412 MHz</b>   |                     |                           |             |
| <p>Agilent 19:44:52 Jul 29, 2014</p> <p>Ref 20 dBm Atten 30 dB</p> <p>#Peak<br/>Log<br/>10<br/>dB/</p> <p>Center 2.41200000 GHz</p> <p>Center 2.412 GHz Span 20 MHz<br/>#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 14.2886 MHz Occ BW % Pwr 99.00 %<br/>x dB -6.00 dB</p> <p>Transmit Freq Error -30.781 kHz<br/>x dB Bandwidth 10.019 MHz</p> |                     |                           |             |

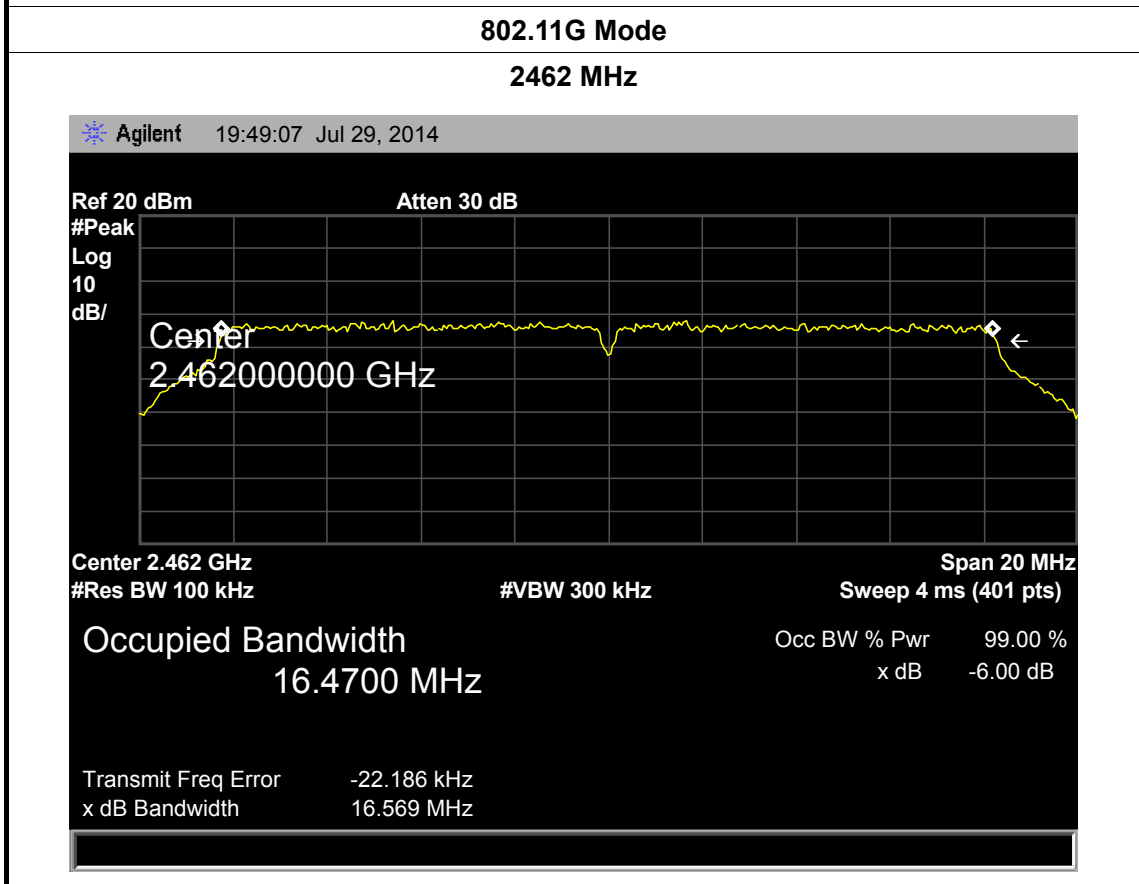
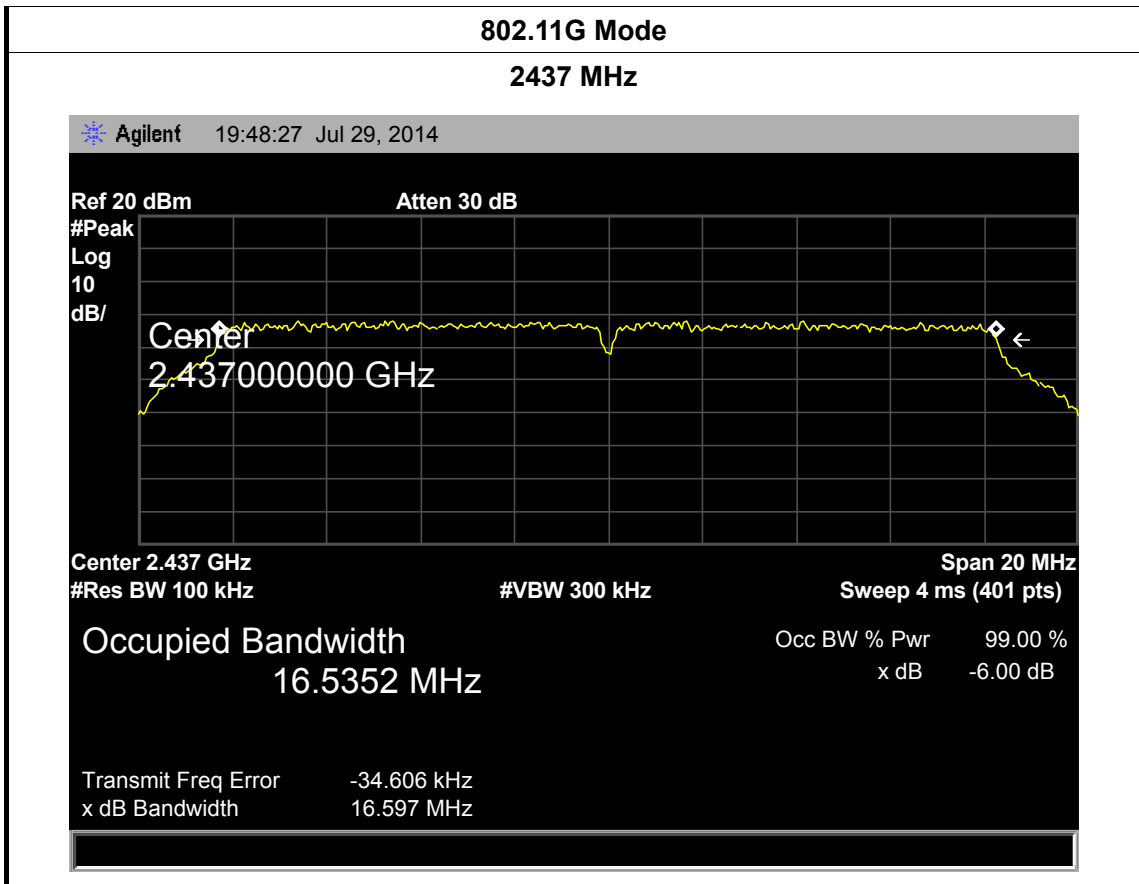


|                                |                            |                            |                    |
|--------------------------------|----------------------------|----------------------------|--------------------|
| <b>EUT:</b>                    | MID                        | <b>Model:</b>              | MID713-L           |
| <b>Temperature:</b>            | 25 °C                      | <b>Relative Humidity:</b>  | 55%                |
| <b>Test Voltage:</b>           | AC 120V/60 Hz              |                            |                    |
| <b>Test Mode:</b>              | TX 802.11G Mode            |                            |                    |
| <b>Channel frequency (MHz)</b> | <b>6dB Bandwidth (MHz)</b> | <b>99% Bandwidth (MHz)</b> | <b>Limit (MHz)</b> |
| 2412                           | 16.584                     | 16.5175                    | ≥0.5               |
| 2437                           | 16.597                     | 16.5352                    |                    |
| 2462                           | 16.569                     | 16.4700                    |                    |

**802.11G Mode**

**2412 MHz**

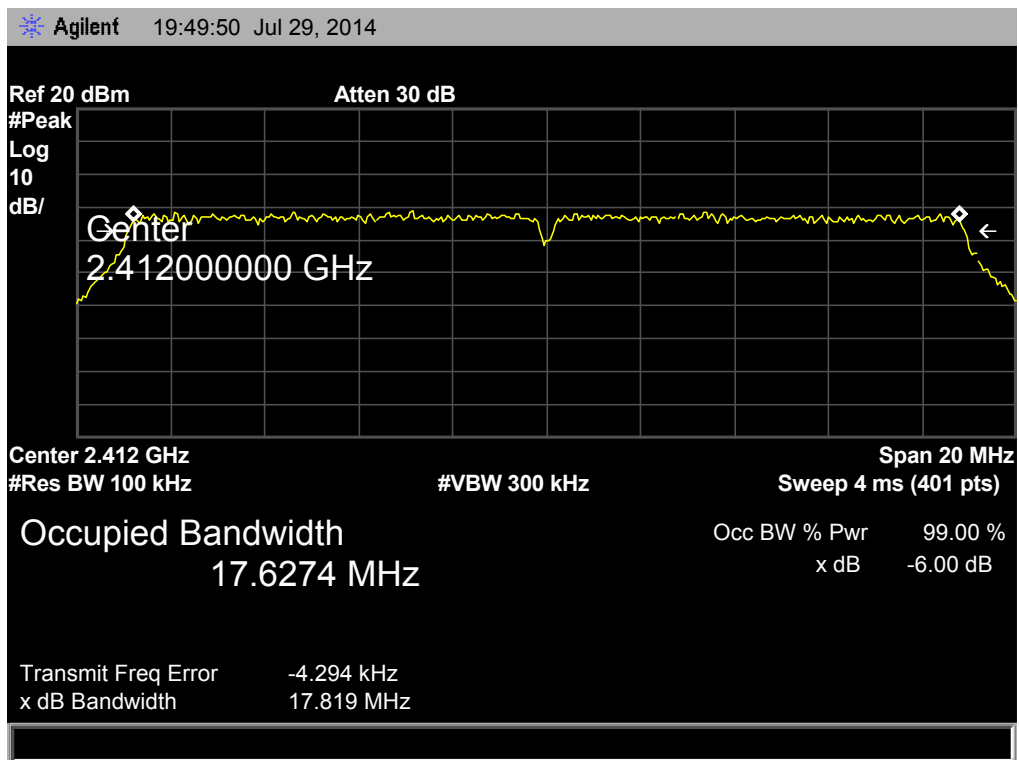


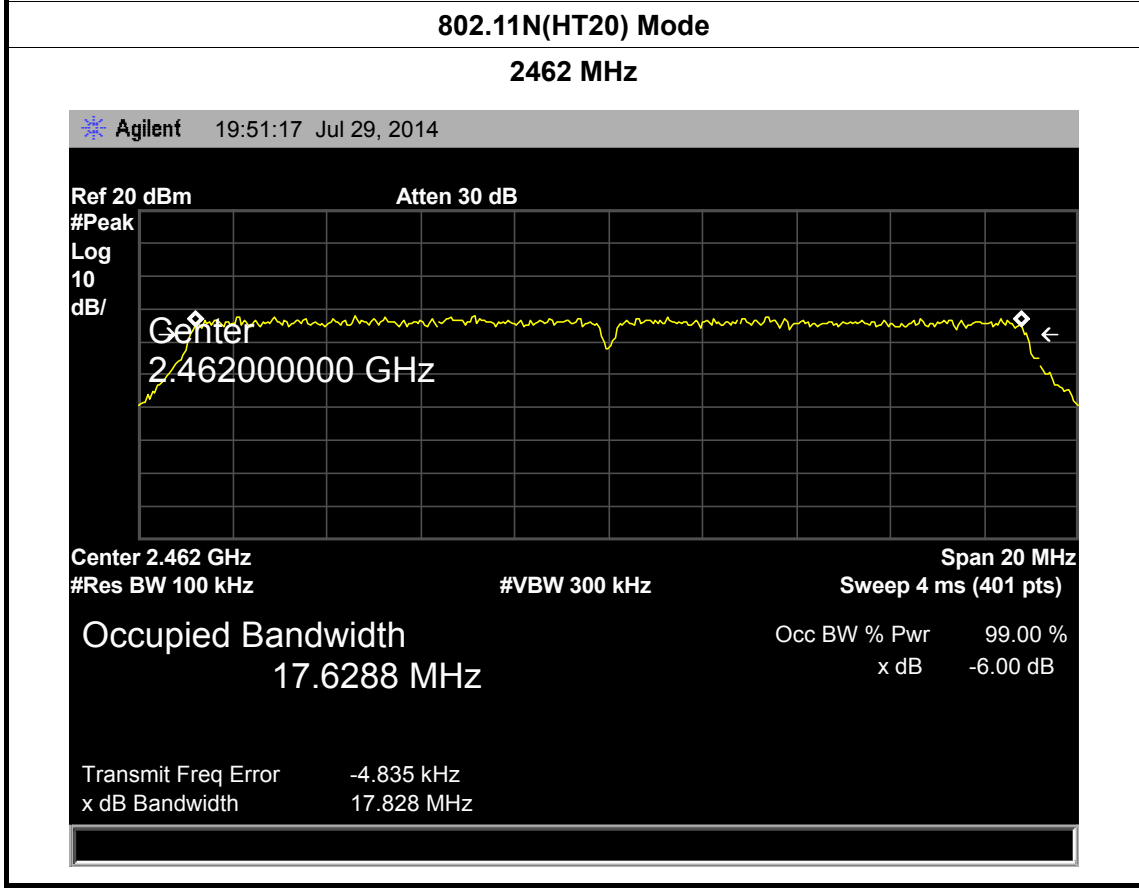
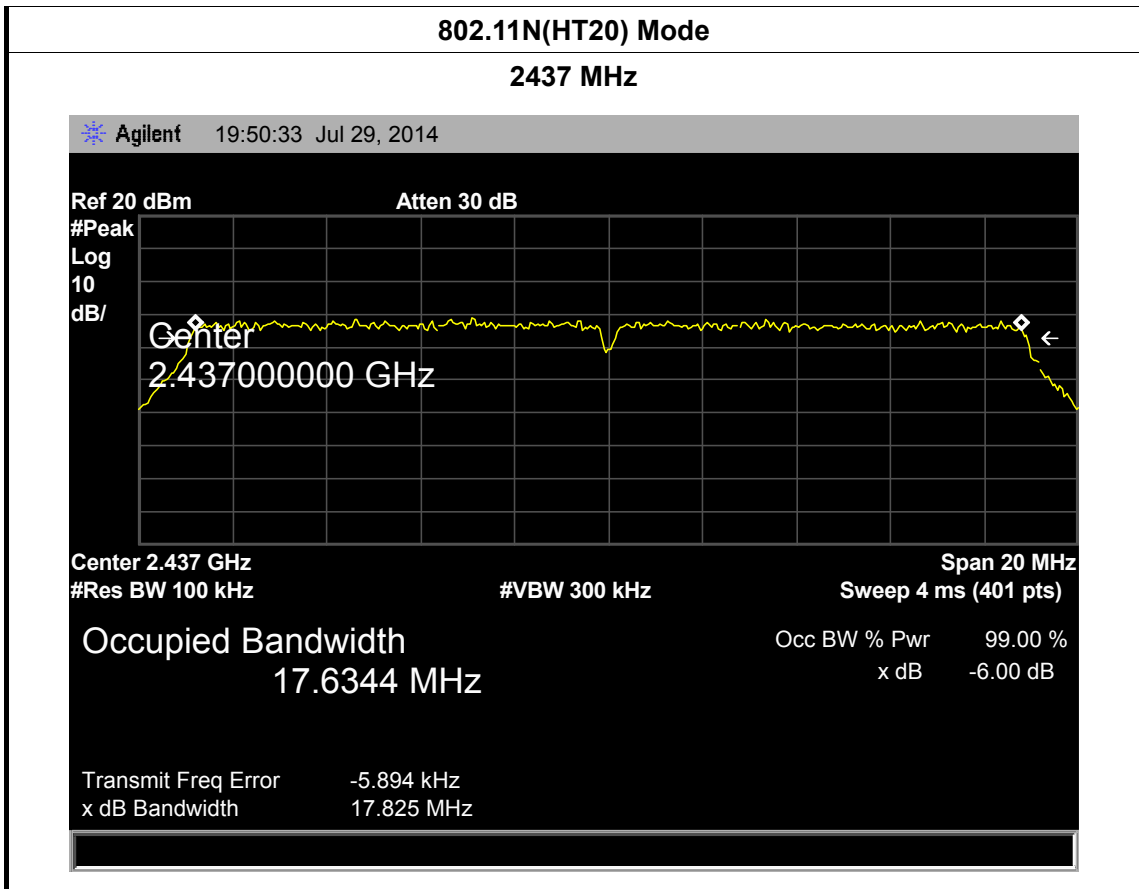


| <b>EUT:</b>             | MID                   | <b>Model:</b>             | MID713-L    |
|-------------------------|-----------------------|---------------------------|-------------|
| <b>Temperature:</b>     | 25 °C                 | <b>Relative Humidity:</b> | 55%         |
| <b>Test Voltage:</b>    | AC 120V/60 Hz         |                           |             |
| <b>Test Mode:</b>       | TX 802.11N(HT20) Mode |                           |             |
| Channel frequency (MHz) | 6dB Bandwidth (MHz)   | 99% Bandwidth (MHz)       | Limit (MHz) |
| 2412                    | 17.819                | 17.6274                   | ≥0.5        |
| 2437                    | 17.825                | 17.6344                   |             |
| 2462                    | 17.828                | 17.6288                   |             |

**802.11N(HT20) Mode**

**2412 MHz**

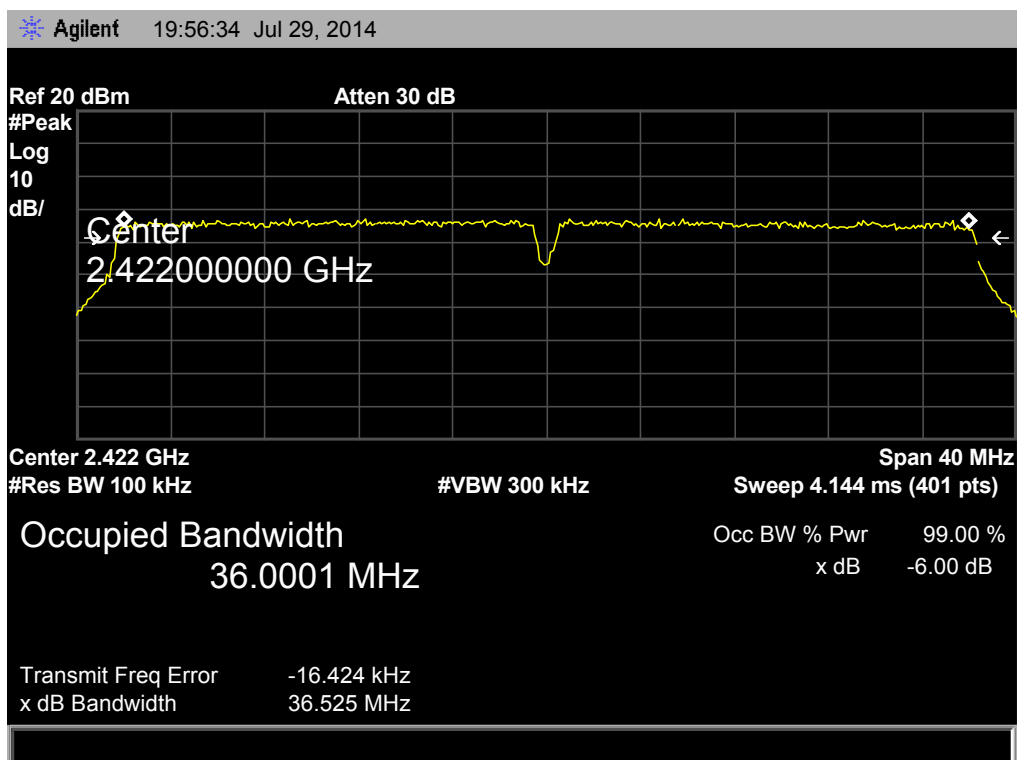




| <b>EUT:</b>             | MID                   | <b>Model:</b>             | MID713-L    |
|-------------------------|-----------------------|---------------------------|-------------|
| <b>Temperature:</b>     | 25 °C                 | <b>Relative Humidity:</b> | 55%         |
| <b>Test Voltage:</b>    | AC 120V/60 Hz         |                           |             |
| <b>Test Mode:</b>       | TX 802.11N(HT40) Mode |                           |             |
| Channel frequency (MHz) | 6dB Bandwidth (MHz)   | 99% Bandwidth (MHz)       | Limit (MHz) |
| 2422                    | 36.525                | 36.0001                   | ≥0.5        |
| 2437                    | 36.239                | 35.7733                   |             |
| 2452                    | 36.542                | 36.0047                   |             |

**802.11N(HT40) Mode**

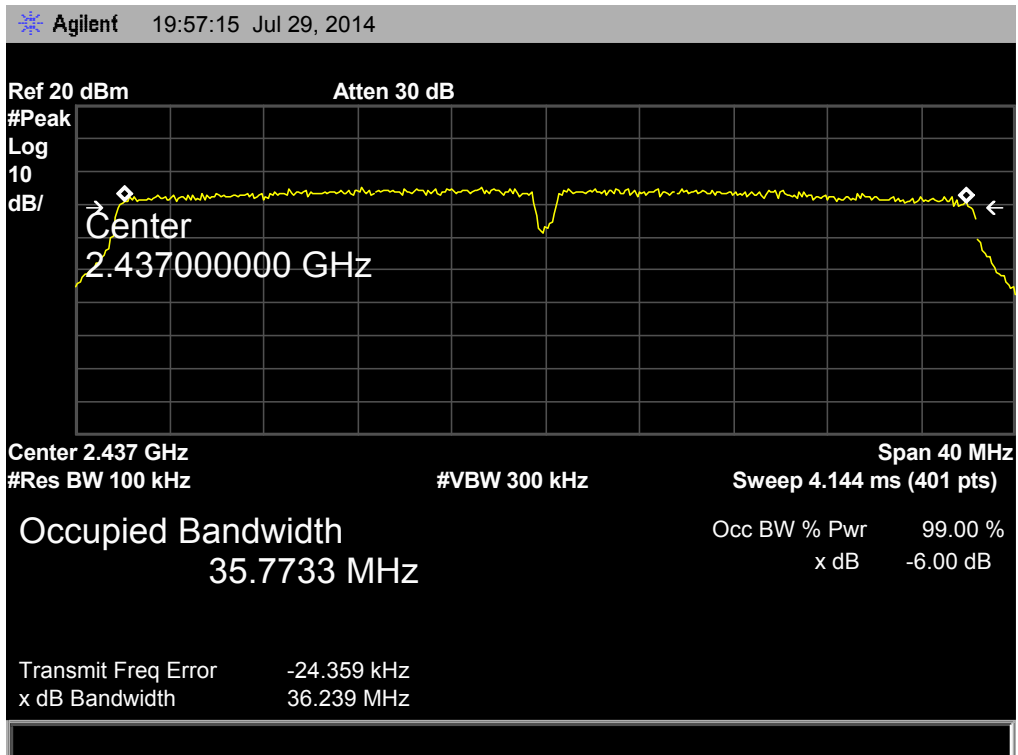
**2422 MHz**





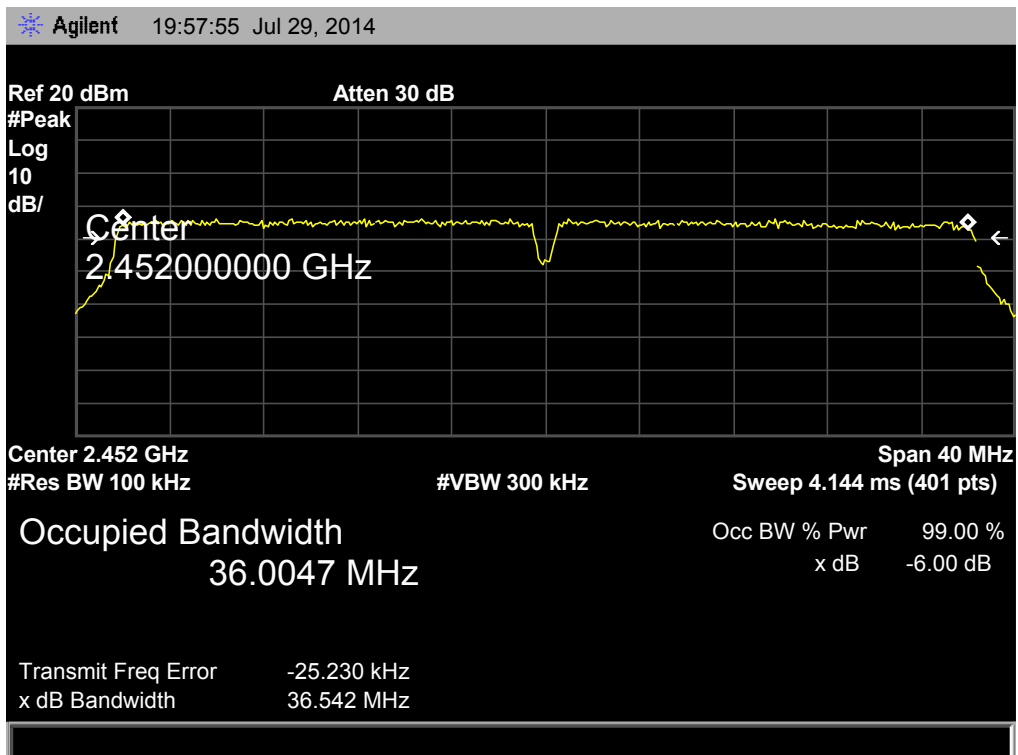
**802.11N(HT40) Mode**

**2437 MHz**



**802.11N(HT40) Mode**

**2452 MHz**



## 7. Peak Output Power Test

### 7.1 Test Standard and Limit

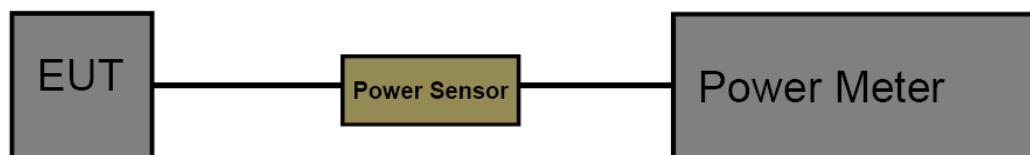
#### 7.1.1 Test Standard

FCC Part 15.247 (b)

#### 7.1.2 Test Limit

| FCC Part 15 Subpart C(15.247)/RSS-210 |                  |                      |
|---------------------------------------|------------------|----------------------|
| Test Item                             | Limit            | Frequency Range(MHz) |
| Peak Output Power                     | 1 Watt or 30 dBm | 2400~2483.5          |

### 7.2 Test Setup



### 7.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

### 7.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

### 7.5 Test Equipment

| Equipment    | Manufacturer | Model No. | Serial No. | Last Cal.     | Cal. Due Date |
|--------------|--------------|-----------|------------|---------------|---------------|
| Power Meter  | Anritsu      | ML2495A   | 25406005   | Dec. 20, 2013 | Dec. 19, 2014 |
| Power Sensor | Anritsu      | ML2411B   | 25406005   | Dec. 20, 2013 | Dec. 19, 2014 |

### 7.6 Test Data

| <b>EUT:</b>          | MID                     | <b>Model:</b>             | MID713-L    |
|----------------------|-------------------------|---------------------------|-------------|
| <b>Temperature:</b>  | 25 °C                   | <b>Relative Humidity:</b> | 55%         |
| <b>Test Voltage:</b> | AC 120V/60 HZ           |                           |             |
| Mode                 | Channel frequency (MHz) | Test Result (dBm)         | Limit (dBm) |
| 802.11b              | 2412                    | 9.40                      | 30          |
|                      | 2437                    | 9.49                      |             |
|                      | 2462                    | 9.20                      |             |
| 802.11g              | 2412                    | 9.43                      |             |
|                      | 2437                    | 9.08                      |             |
|                      | 2462                    | 8.91                      |             |
| 802.11n (HT20)       | 2412                    | 9.23                      |             |
|                      | 2437                    | 9.01                      |             |
|                      | 2462                    | 8.79                      |             |
| 802.11n (HT40)       | 2422                    | 9.30                      |             |
|                      | 2437                    | 9.11                      |             |
|                      | 2452                    | 9.02                      |             |

## 8. Power Spectral Density Test

### 8.1 Test Standard and Limit

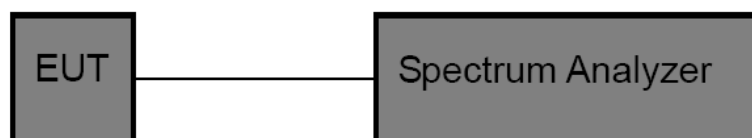
#### 8.1.1 Test Standard

FCC Part 15.247 (e)

#### 8.1.2 Test Limit

| FCC Part 15 Subpart C(15.247) |                    |                      |
|-------------------------------|--------------------|----------------------|
| Test Item                     | Limit              | Frequency Range(MHz) |
| Power Spectral Density        | 8dBm(in any 3 kHz) | 2400~2483.5          |

### 8.2 Test Setup



### 8.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz
- (5) Set the VBW to: 10 kHz
- (6) Detector: peak
- (7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

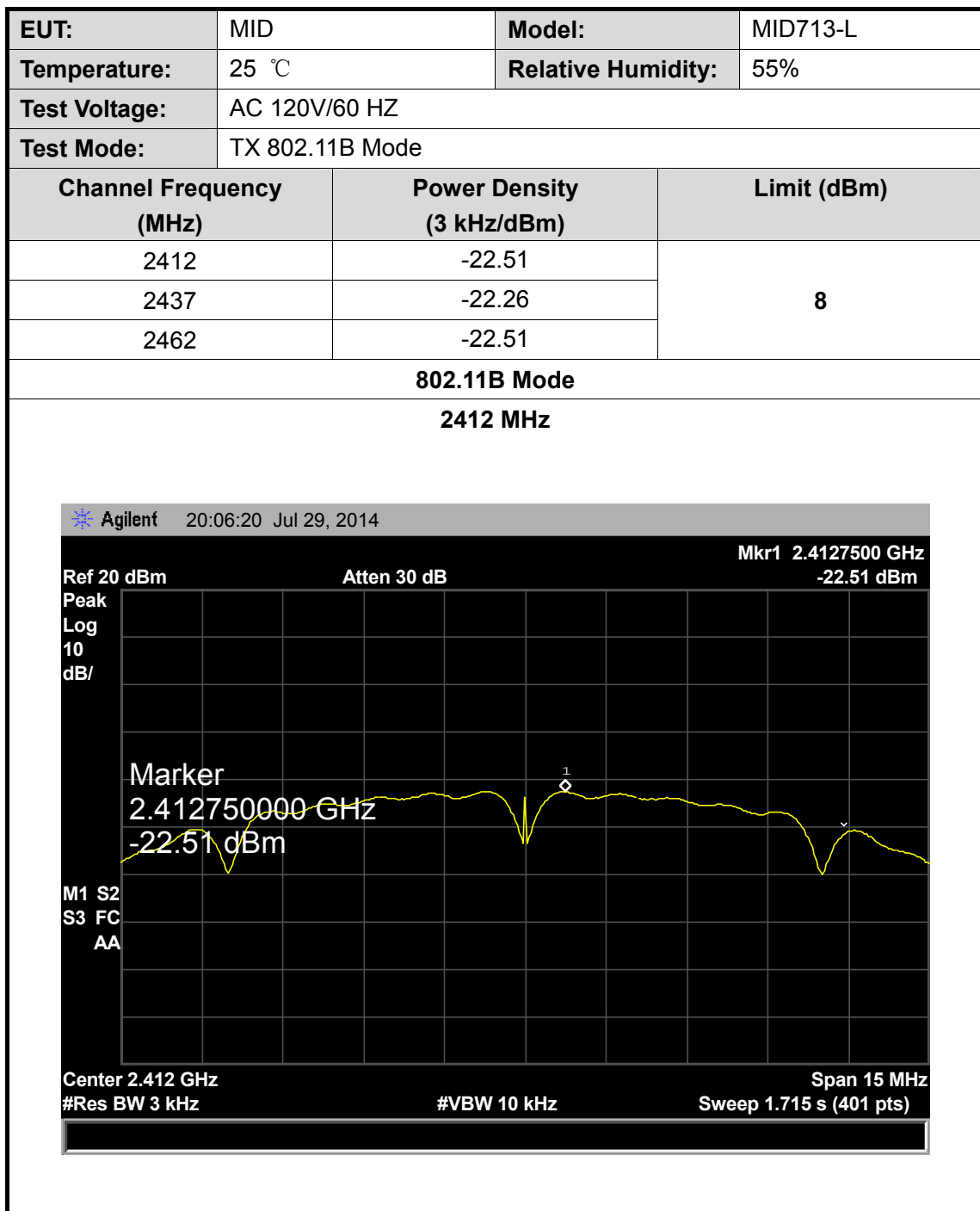
### 8.4 EUT Operating Condition

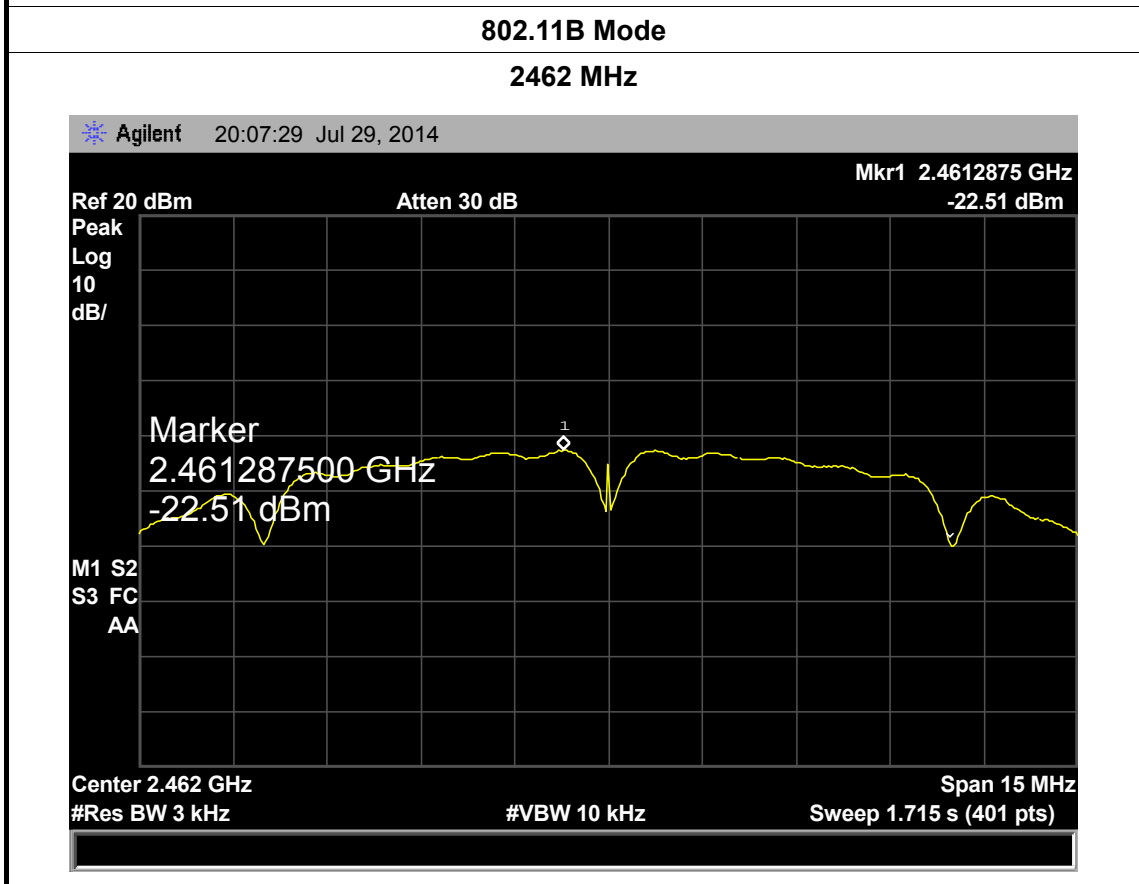
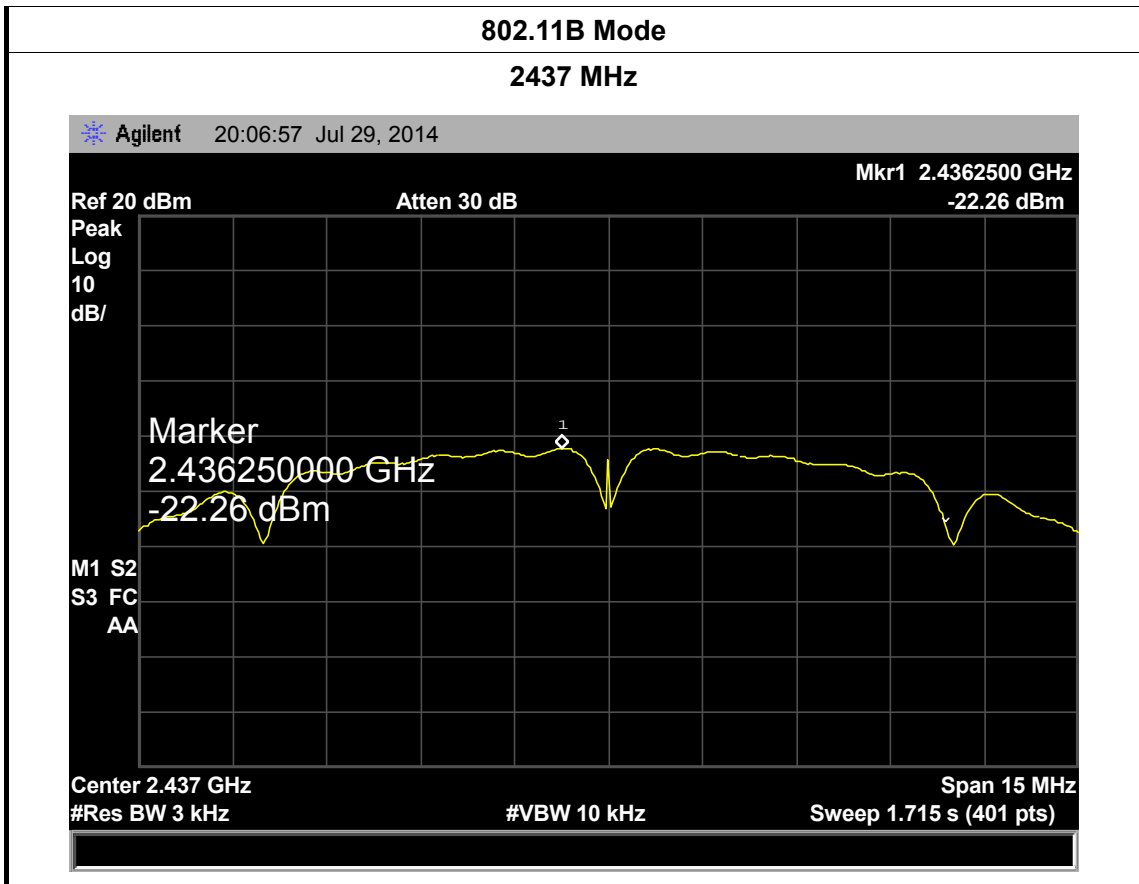
The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.

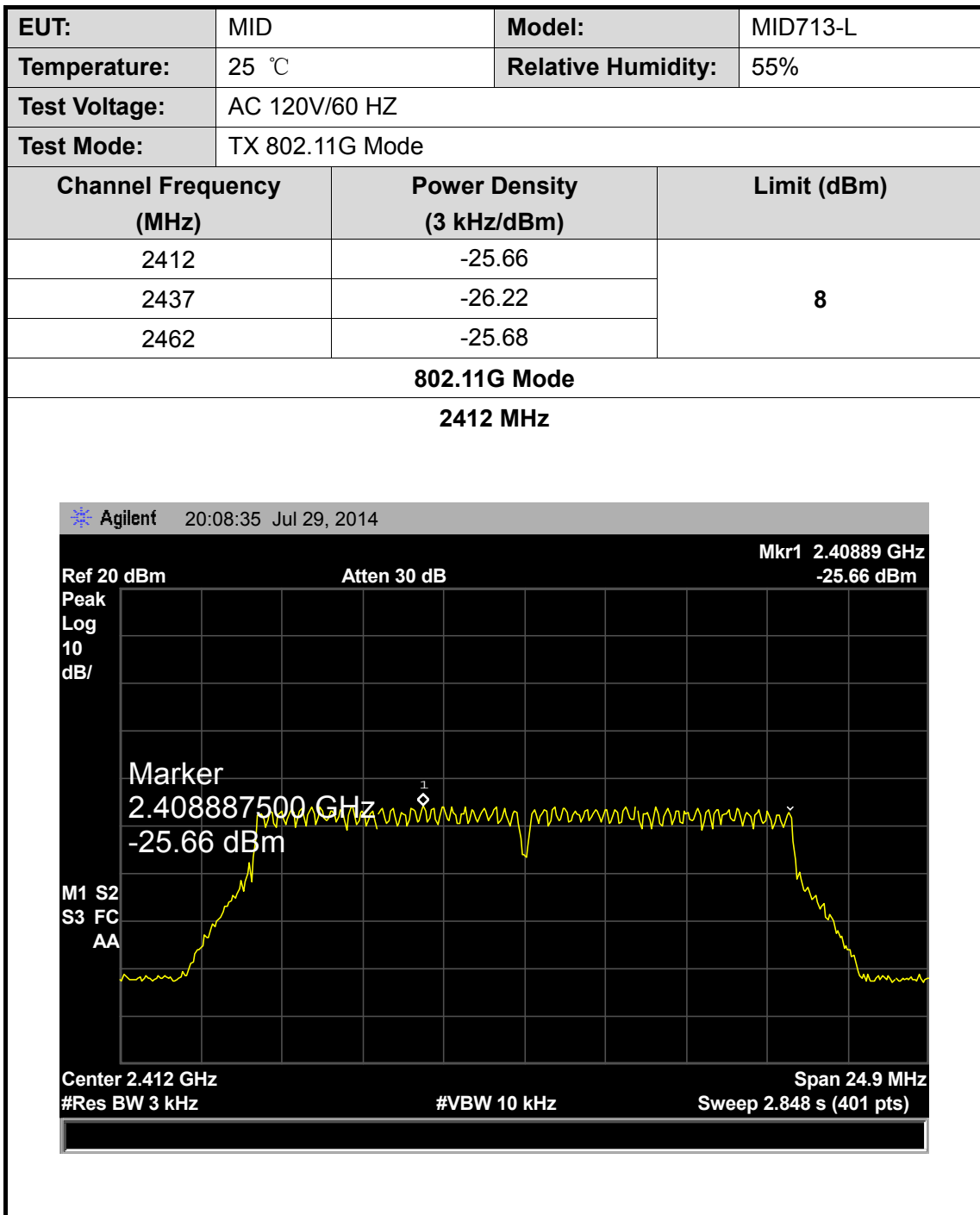
### 8.5 Test Equipment

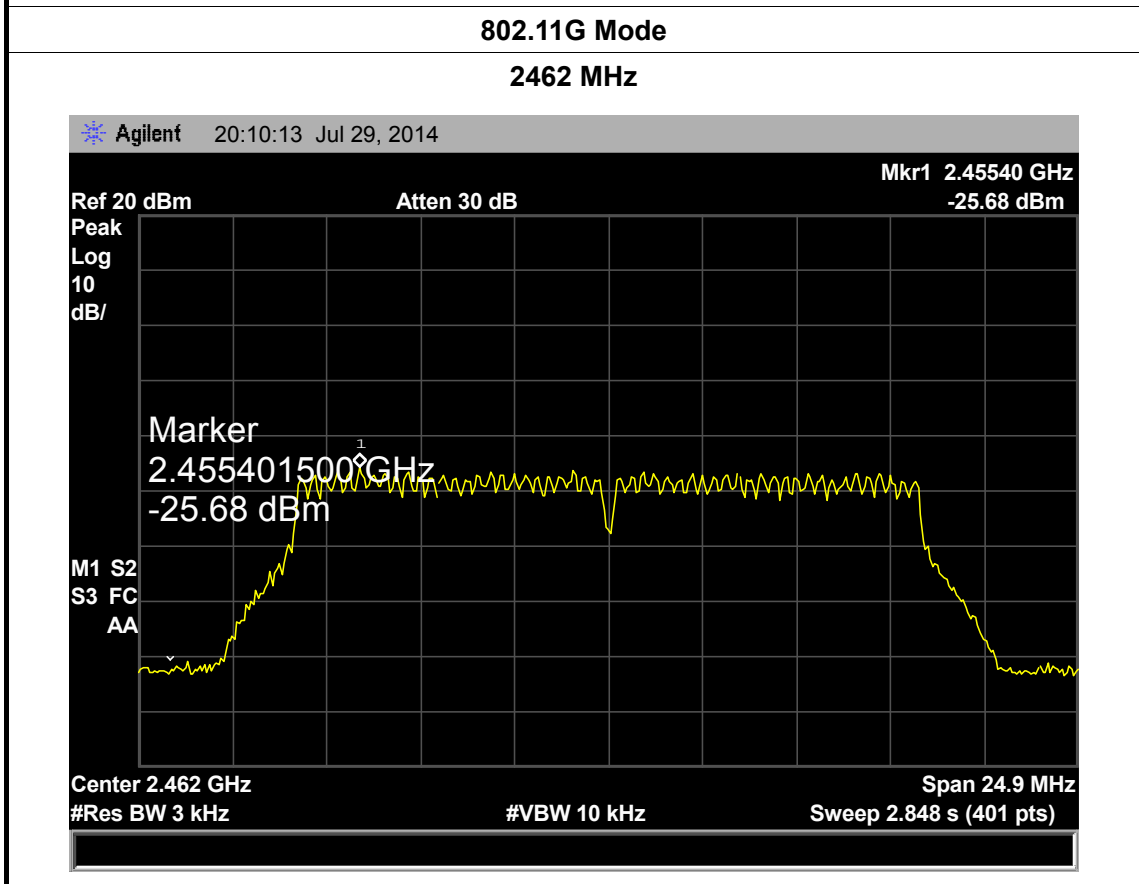
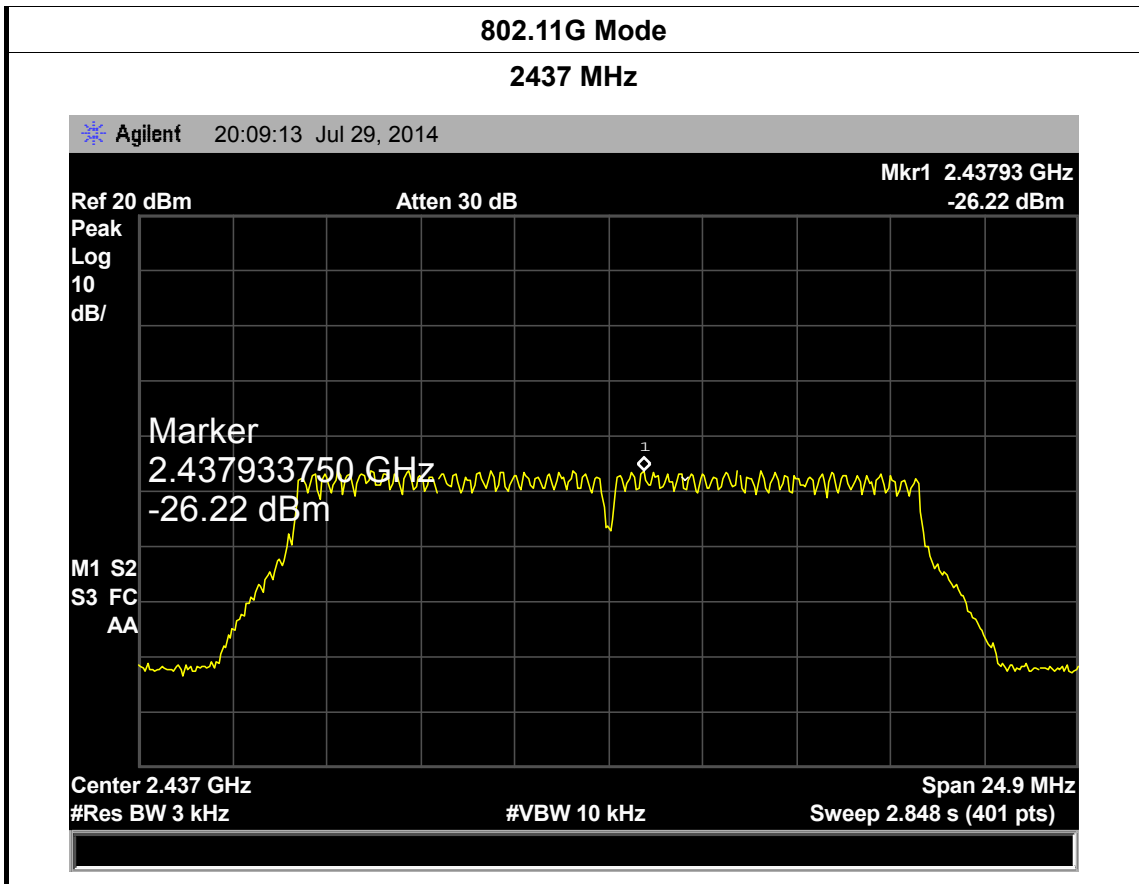
| Equipment         | Manufacturer    | Model No. | Serial No. | Last Cal.     | Cal. Due Date |
|-------------------|-----------------|-----------|------------|---------------|---------------|
| Spectrum Analyzer | Rohde & Schwarz | FSP30     | DE25181    | Aug. 10, 2013 | Aug.09, 2014  |

### 8.6 Test Data

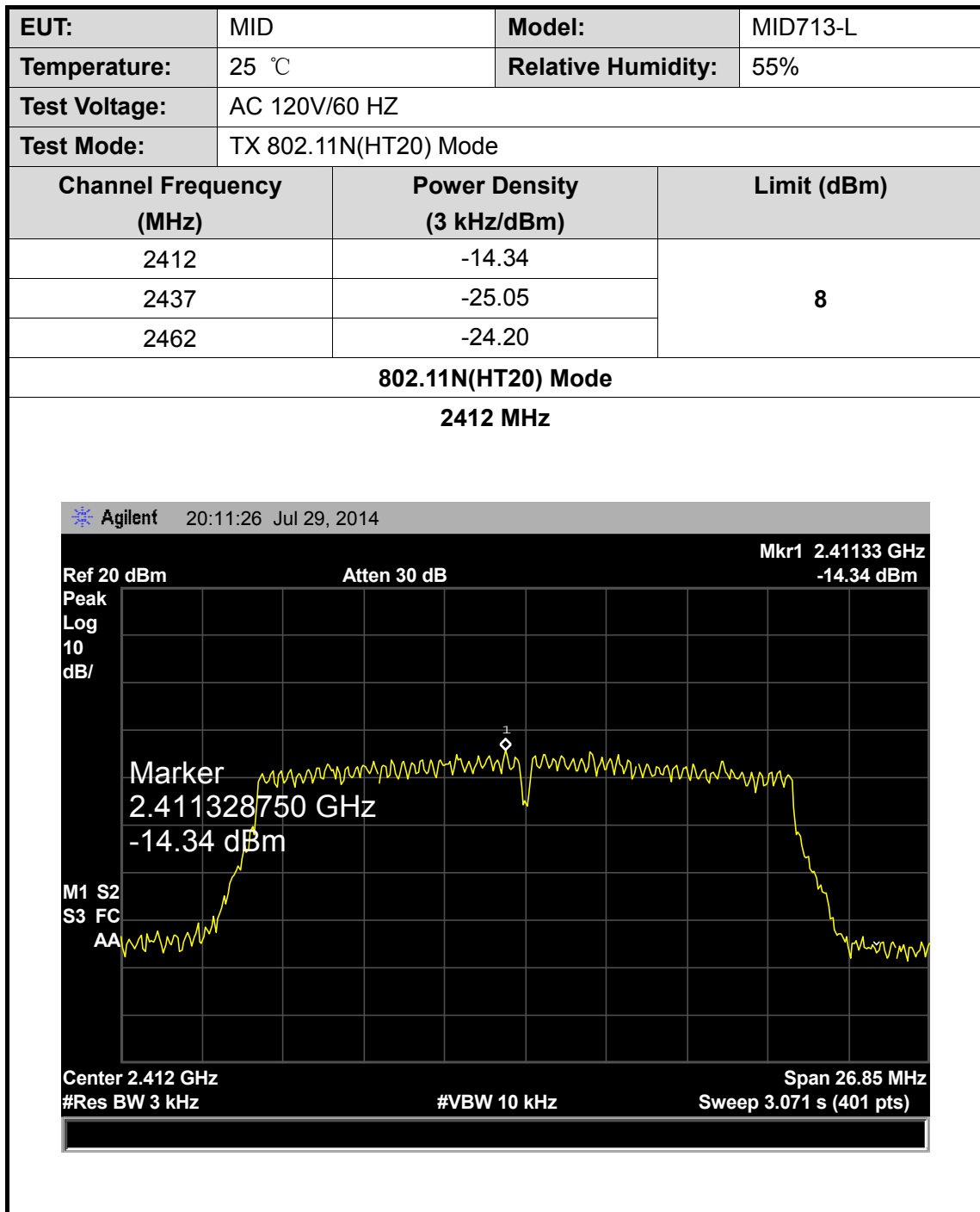


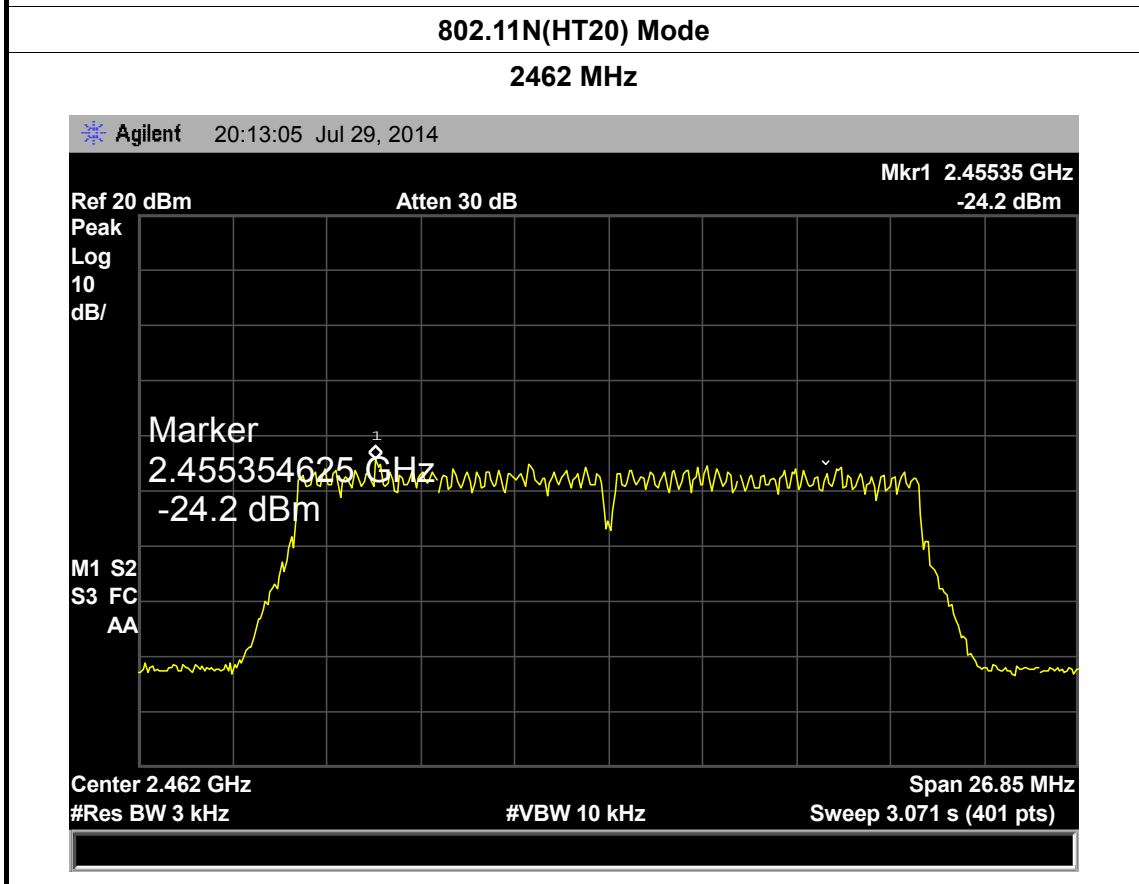
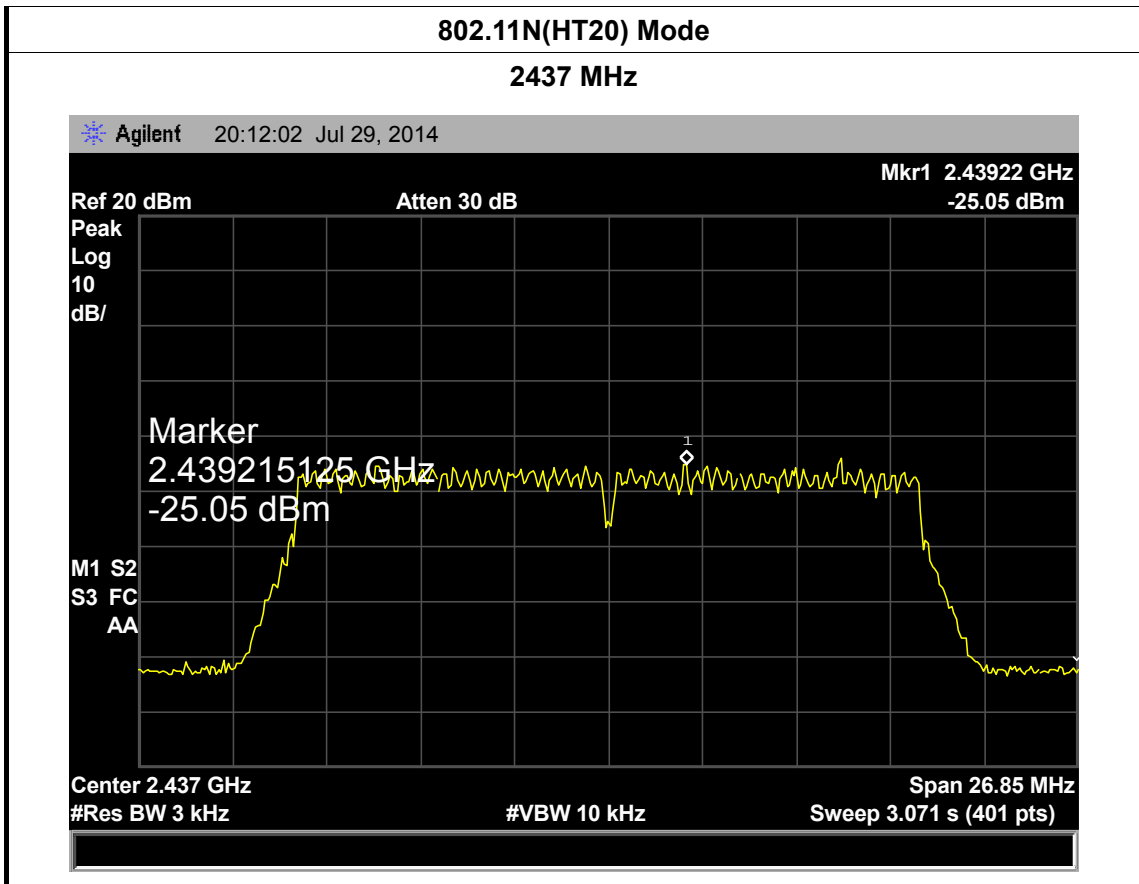






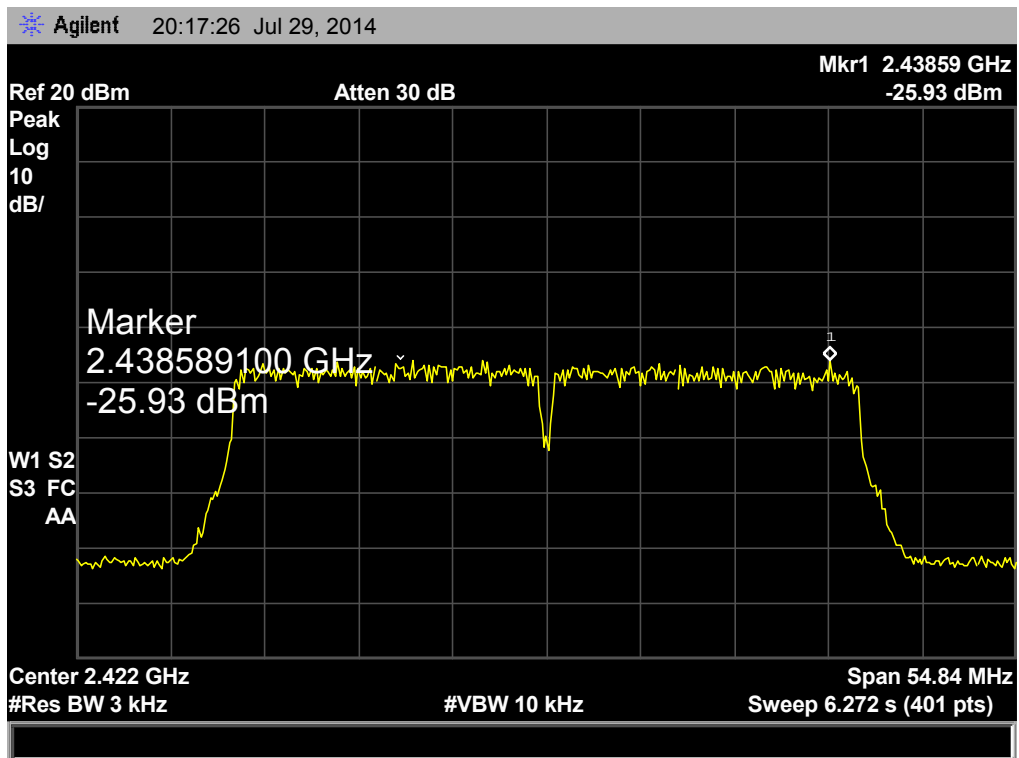






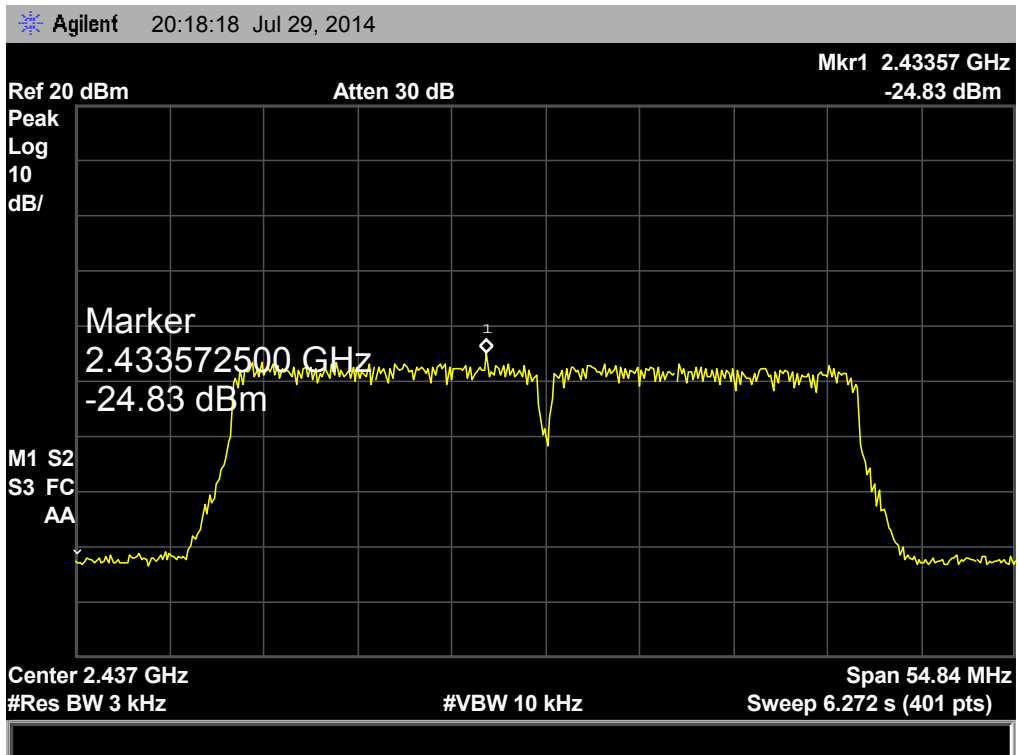
|                                |                                  |                           |          |
|--------------------------------|----------------------------------|---------------------------|----------|
| <b>EUT:</b>                    | MID                              | <b>Model:</b>             | MID713-L |
| <b>Temperature:</b>            | 25 °C                            | <b>Relative Humidity:</b> | 55%      |
| <b>Test Voltage:</b>           | AC 120V/60 HZ                    |                           |          |
| <b>Test Mode:</b>              | TX 802.11N(HT40) Mode            |                           |          |
| <b>Channel Frequency (MHz)</b> | <b>Power Density (3 kHz/dBm)</b> | <b>Limit (dBm)</b>        |          |
| 2422                           | -25.93                           | <b>8</b>                  |          |
| 2437                           | -24.83                           |                           |          |
| 2452                           | -26.41                           |                           |          |

**802.11N(HT40) Mode**  
**2422 MHz**



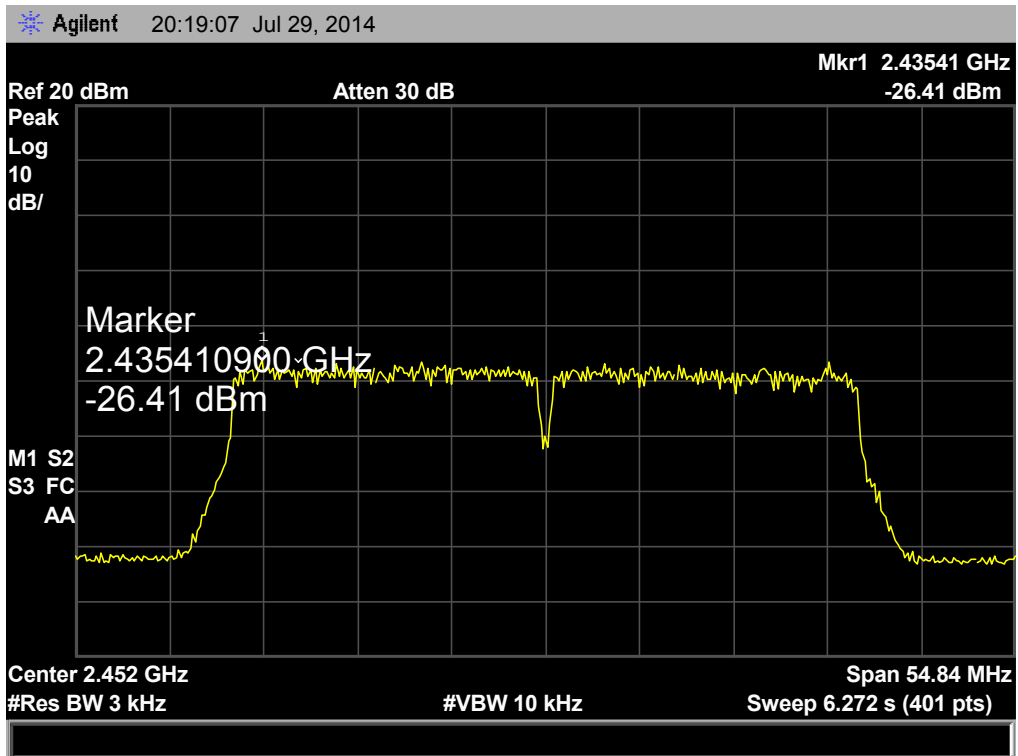
802.11N(HT40) Mode

2437 MHz



802.11N(HT40) Mode

2452 MHz



## 9. Antenna Requirement

### 9.1 Standard Requirement

#### 9.1.1 Standard

FCC Part 15.203

#### 9.1.2 Requirement

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

### 9.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 0dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

### 9.3 Result

The EUT antenna is a FPC Antenna. It complies with the standard requirement.