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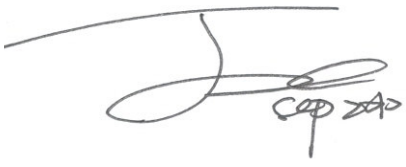
# FCC REPORT

| | |
|---|---|
| **Application No:** | SZEMO100704456RF |
| **Applicant:** | Electronics Co.,Ltd |
| **Product Name:** | E-Reader |
| **Operation Frequency**: | 2412MHz to 2462MHz |
| **FCC ID:** | WED -1636377 |
| **Standards:** | FCC CFR Title 47 Part 15 Subpart C Section 15.247: 2009 |
| **Date of Receipt:** | 2010-07-20 |
| **Date of Test:** | 2010-07-26 to 2010-09-08 |
| **Date of Issue:** | 2010-09-27 |
| **Test Result :** | **PASS *** |

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

Authorized Signature:



Jack Zhang
Laboratory Manager

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf
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 and does not permit the use of the SGS PRODUCT CERTIFICATION MARK.. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

# 2 Contents

Page

1 COVER PAGE ..... 1

2 CONTENTS ..... 2

3 TEST SUMMARY ..... 3

4 GENERAL INFORMATION ..... 4

4.1 CLIENT INFORMATION ..... 4
4.2 GENERAL DESCRIPTION OF E.U.T. ..... 4
4.3 TEST ENVIRONMENT AND MODE ..... 5
4.4 TEST FACILITY ..... 6
4.5 TEST LOCATION ..... 6
4.6 OTHER INFORMATION REQUESTED BY THE CUSTOMER ..... 6
4.7 TEST INSTRUMENTS LIST ..... 7

5 TEST RESULTS AND MEASUREMENT DATA ..... 9

5.1 ANTENNA REQUIREMENT: ..... 9
5.2 CONDUCTED EMISSIONS ..... 10
5.3 CONDUCTED PEAK OUTPUT POWER ..... 15
5.4 6DB OCCUPY BANDWIDTH ..... 22
5.5 POWER SPECTRAL DENSITY ..... 25
5.6 BAND EDGE ..... 28
5.7 RF ANTENNA CONDUCTED SPURIOUS EMISSIONS ..... 31
5.8 RADIATED EMISSION ..... 35
*5.8.1 Radiated emission below 1GHz ..... 37*
*5.8.2 Transmitter emission above 1GHz ..... 38*
*5.8.3 Band edge (Radiated Emission) ..... 41-56*

# 3 Test Summary

| Test Item | Section in CFR 47 | Result |
|---|---|---|
| Antenna requirement | 15.203/15.247 (c) | Passed |
| AC Power Line Conducted Emission | 15.207 | Passed |
| Conducted Peak Output Power | 15.247 (b)(3) | Passed |
| 6dB Occupied Bandwidth | 15.247 (a)(2) | Passed |
| Power Spectral Density | 15.247 (e) | Passed |
| Radiated Emission | 15.205/15.209 | Passed |
| Band Edge | 15.247(d) | Passed |

*Remark: Passed: The EUT complies with the essential requirements in the standard.*

*Failed: The EUT does not comply with the essential requirements in the standard.*

# 4 General Information

## 4.1 Client Information

| | |
|---|---|
| Applicant: | Electronics Co.,Ltd |
| Address of Applicant: | No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Jin Xia, Chang An Town, Dong Guan City, Guang Dong Province, China. |
| Manufacturer/ Factory: | Electronics Co.,Ltd |
| Address of Manufacturer/ Factory: | No.161, Xin Min Road, Tong Luo Wei Industrial Zone, Jin Xia, Chang An Town, Dong Guan City, Guang Dong Province, China. |

## 4.2 General Description of E.U.T.

| | |
|---|---|
| Product Name: | E-Reader |
| Trade Name: | -- |
| Model No.: | 1636377 |
| Operation Frequency: | 2412MHz~2462MHz |
| Channel numbers: | 11 |
| Channel separation: | 5MHz |
| Data speed (IEEE 802.11b): | 1Mbps, 2Mbps, 5.5Mbps, 11Mbps |
| Data speed (IEEE 802.11g): | 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps |
| Antenna Type: | Integral |
| Antenna gain: | 0dBi |
| Power supply: | AC adapter:HNA050150U<br>Input: 100-240V<br>Output: 5.0V<br>AC adapter:SW013UF-0500150US<br>Input: 100-240V<br>Output: 5.0V |

| Operation Frequency each of channel | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2412MHz | 4 | 2427MHz | 7 | 2442MHz | 10 | 2457MHz |
| 2 | 2417MHz | 5 | 2432MHz | 8 | 2447MHz | 11 | 2462MHz |
| 3 | 2422MHz | 6 | 2437MHz | 9 | 2452MHz | | |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channels for testing see below:

| Channel | Frequency |
|---|---|
| lowest channel | 2412MHz |
| middle channel | 2437MHz |
| highest channel | 2462MHz |

## 4.3 Test environment and mode

| **Test Environment:** | |
|---|---|
| Temperature: | 24.0 °C |
| Humidity: | 52 % RH |
| Atmospheric Pressure: | 1008 mbar |
| **Test mode:** | |
| TX Mode: | EUT transmits the continuous modulation signal at the specified channel. |

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-Test Mode:

| Mode | 802.11b | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Data Rate | 1Mbps | 2Mbps | 5.5Mbps | 11Mbps | | | | |
| Power (dBm) | 14.62 | 14.05 | 13.61 | 13.28 | | | | |
| Mode | 802.11g | | | | | | | |
| Data Rate | 6Mbps | 9Mbps | 12Mbps | 18Mbps | 24Mbps | 36Mbps | 48Mbps | 54Mbps |
| Power (dBm) | 13.18 | 12.95 | 12.81 | 12.47 | 12.34 | 12.22 | 12.13 | 12.09 |

Final Test Mode:

According to ANSI C63.4 standard, the test results are both the “worst case” and “worst setup”

1Mbps for 802.11b, 6Mbps for 802.11g

## 4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**
  CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.
- **VCCI**
  The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.
  Date of Registration: September 29, 2008. Valid until September 28, 2011.
- **FCC – Registration No.: 556682**
  SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 556682, June 27, 2008.
- **Industry Canada (IC)**
  The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1.

## 4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

## 4.6 Other Information Requested by the Customer

None.

## 4.7 Test Instruments list

| RE in Chamber | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | **Test Equipment** | **Manufacturer** | **Model No.** | **Inventory No.** | **Cal.Date (yyyy-mm-dd)** | **Cal.Due date (yyyy-mm-dd)** |
| 1 | 3m Semi-Anechoic Chamber | ETS-LINDGREN | N/A | SEL0017 | 2010-06-17 | 2011-06-17 |
| 2 | EMI Test Receiver | Rohde & Schwarz | ESIB26 | SEL0023 | 2009-11-05 | 2010-11-05 |
| 3 | EMI Test software | AUDIX | E3 | SEL0050 | N/A | N/A |
| 4 | Coaxial cable | SGS | N/A | SEL0028 | 2008-06-18 | 2011-06-18 |
| 5 | BiConiLog Antenna (26-3000MHz) | ETS-LINDGREN | 3142C | SEL0015 | 2009-11-05 | 2010-11-05 |
| 6 | Double-ridged horn (1-18GHz) | ETS-LINDGREN | 3117 | SEL0006 | 2009-11-10 | 2010-11-10 |
| 7 | Horn Antenna (18-26GHz) | ETS-LINDGREN | 3160 | SEL0076 | 2009-11-10 | 2010-11-10 |
| 8 | Pre-amplifier (0.1-1300MHz) | Agilent Technologies | 8447D | SEL0053 | 2010-06-02 | 2011-06-02 |
| 9 | Pre-Amplifier (0.1-26.5GHz) | Compliance Directions Systems Inc. | PAP-0126 | SEL0168 | 2009-12-18 | 2010-12-18 |
| 10 | Pre-amplifier (18-26GHz) | Rohde & Schwarz | AFS33-18002 650-30-8P-44 | SEL0080 | 2010-06-04 | 2011-06-04 |
| 11 | Band filter | Amindeon | 82346 | SEL0094 | 2010-06-02 | 2011-06-02 |

| Conducted Emission | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | **Test Equipment** | **Manufacturer** | **Model No.** | **Inventory No.** | **Cal.Date (yyyy-mm-dd)** | **Cal.Due date (yyyy-mm-dd)** |
| 1 | Shielding Room | ZhongYu Electron | GB-88 | SEL0042 | N/A | N/A |
| 2 | LISN | ETS-LINDGREN | 3816/2 | SEL0021 | 2010-06-02 | 2011-06-02 |
| 3 | Two-Line V-Network | Rohde & Schwarz | ENV216 | SEL0152 | 2009-10-22 | 2010-10-22 |
| 4 | EMI Test Receiver | Rohde & Schwarz | ESCI | SEL0022 | 2010-06-02 | 2011-06-02 |
| 5 | Coaxial Cable | SGS | N/A | SEL0024 | 2008-06-18 | 2011-06-18 |

| RF conducted | | | | | | |
|---|---|---|---|---|---|---|
| **Item** | **Test Equipment** | **Manufacturer** | **Model No.** | **Inventory No.** | **Cal.Date (yyyy-mm-dd)** | **Cal.Due date (yyyy-mm-dd)** |
| 1 | Spectrum Analyzer | Rohde & Schwarz | FSP 30 | SEL0154 | 2009-10-22 | 2010-10-22 |
| 2 | Coaxial cable | SGS | N/A | SEL0028 | 2008-06-18 | 2011-06-18 |

# 5 Test results and Measurement Data

## 5.1 Antenna requirement:

| **Standard requirement:** | FCC Part15 C Section 15.203 /247(c) |
|---|---|

15.203 requirement:

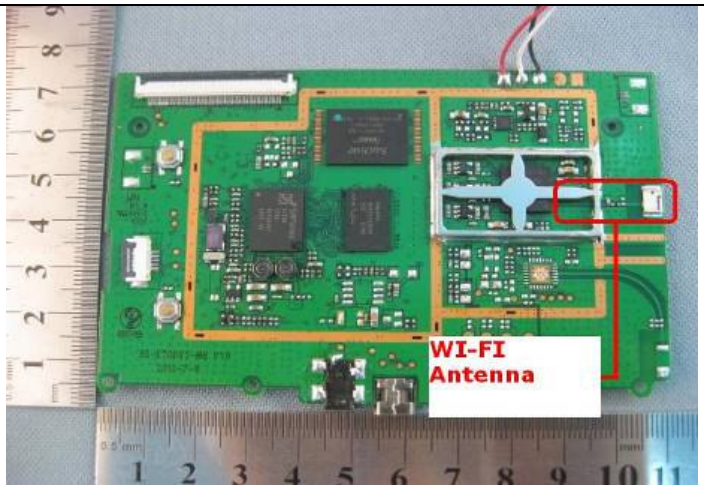
*An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit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

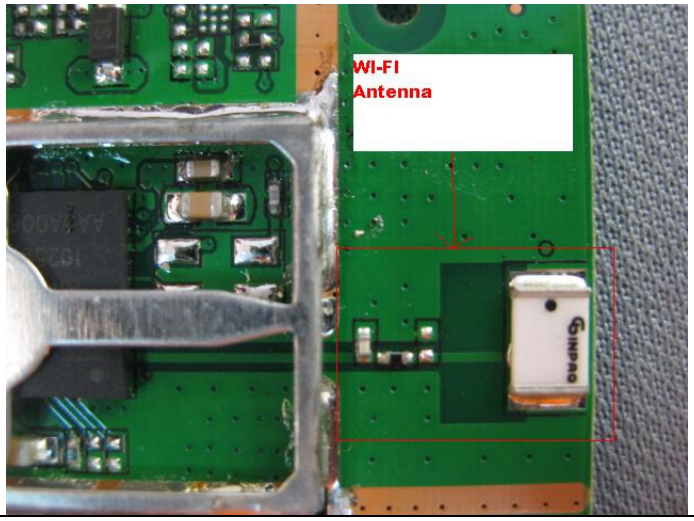
15.247(c) (1)(i) requirement:

*(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.*

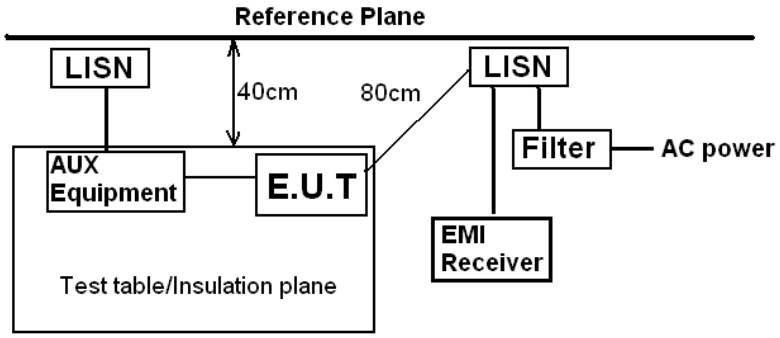
| **E.U.T Antenna:** | |
|---|---|

Antenna gain: 0dBi



## 5.2 Conducted Emissions

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2009</td></tr>
<tr><td>Test Frequency Range:</td><td>150kHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td>Class B</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9kHz, VBW=30kHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test procedure</td><td>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2009 on conducted measurement.</td></tr>
<tr><td>Test setup:</td><td> 

Remark:<br>E.U.T: Equipment Under Test<br>LISN: Line Impedence Stabilization Network<br>Test table height=0.8m</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 4.7 for details</td></tr>
<tr><td>Test mode:</td><td>Tx mode</td></tr>
<tr><td>Test results:</td><td>Passed</td></tr>
</table>

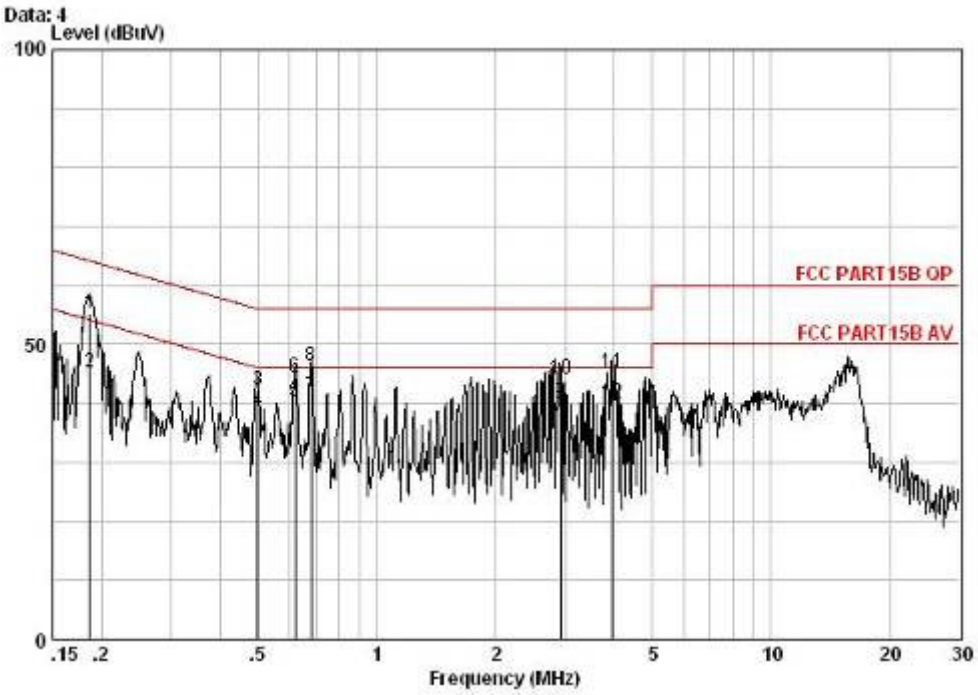
**Measurement Data**

An initial pre-scan was performed on the live and neutral lines with peak detector.

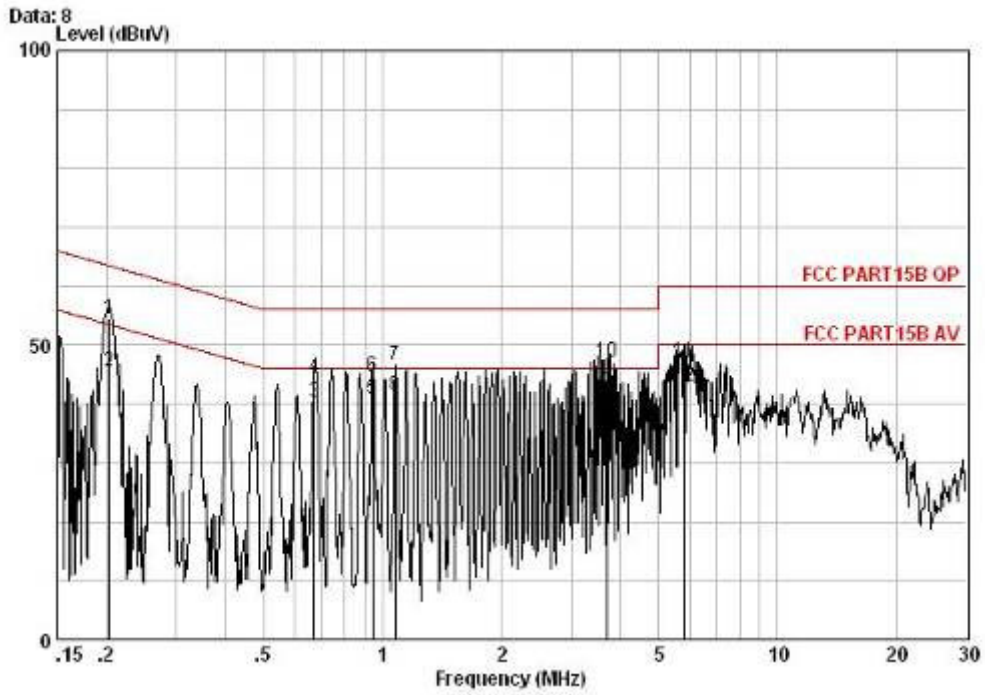
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

**Adapter model No.: SW013UF-0500150US**

**Live Line:**




| | Freq | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | 0.18639 | 0.04 | -0.05 | 55.28 | 55.27 | 64.20 | -8.93 | QP |
| 2 | 0.18639 | 0.04 | -0.05 | 45.30 | 45.29 | 54.20 | -8.90 | Average |
| 3 | 0.49673 | 0.06 | -0.04 | 42.15 | 42.17 | 56.05 | -13.89 | QP |
| 4 | 0.49673 | 0.06 | -0.04 | 38.80 | 38.82 | 46.05 | -7.24 | Average |
| 5 | 0.62054 | 0.06 | -0.05 | 40.30 | 40.31 | 46.00 | -5.69 | Average |
| 6 | 0.62054 | 0.06 | -0.05 | 44.46 | 44.48 | 56.00 | -11.52 | QP |
| 7 | 0.68100 | 0.06 | -0.05 | 41.00 | 41.01 | 46.00 | -4.99 | Average |
| 8 | 0.68100 | 0.06 | -0.05 | 46.20 | 46.21 | 56.00 | -9.79 | QP |
| 9 | 2.921 | 0.14 | -0.07 | 40.10 | 40.16 | 46.00 | -5.84 | Average |
| 10 | 2.921 | 0.14 | -0.07 | 44.20 | 44.26 | 56.00 | -11.74 | QP |
| 11 | 3.964 | 0.16 | -0.09 | 45.22 | 45.29 | 56.00 | -10.71 | QP |
| 12 | 3.964 | 0.16 | -0.09 | 40.11 | 40.18 | 46.00 | -5.82 | Average |



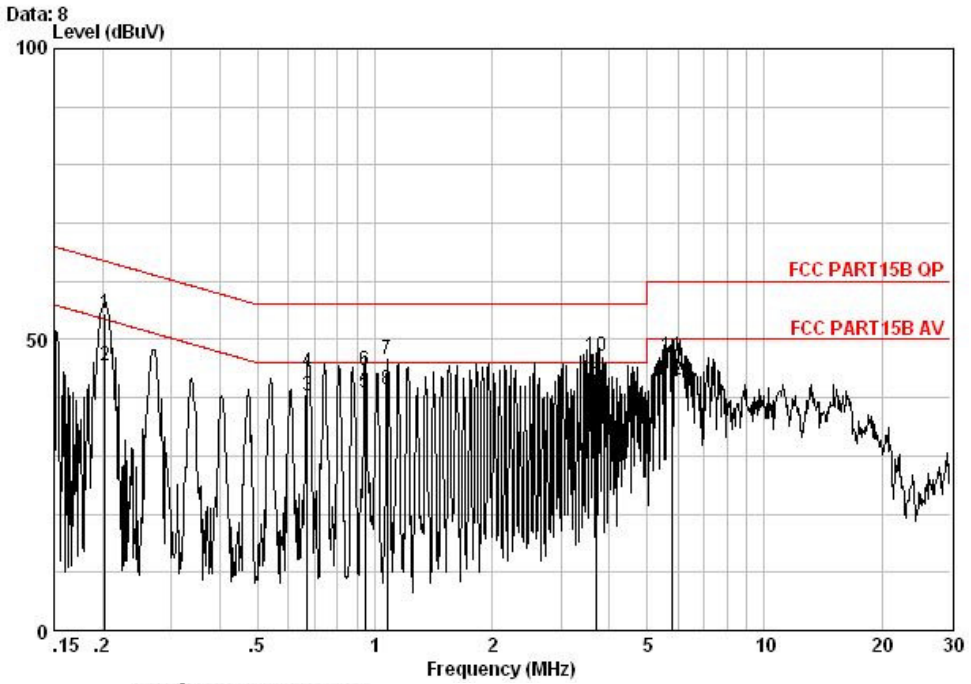

| | Freq | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | 0.20289 | 0.04 | -0.04 | 54.51 | 54.51 | 63.49 | -8.98 | QP |
| 2 | 0.20289 | 0.04 | -0.04 | 45.51 | 45.51 | 53.49 | -7.98 | Average |
| 3 | 0.67187 | 0.06 | -0.05 | 40.29 | 40.31 | 46.00 | -5.69 | Average |
| 4 | 0.67187 | 0.06 | -0.05 | 44.29 | 44.31 | 56.00 | -11.69 | QP |
| 5 | 0.94308 | 0.08 | -0.05 | 40.72 | 40.75 | 46.00 | -5.25 | Average |
| 6 | 0.94308 | 0.08 | -0.05 | 44.72 | 44.75 | 56.00 | -11.25 | QP |
| 7 | 1.077 | 0.08 | -0.05 | 46.48 | 46.51 | 56.00 | -9.49 | QP |
| 8 | 1.077 | 0.08 | -0.05 | 41.48 | 41.51 | 46.00 | -4.49 | Average |
| 9 | 3.704 | 0.15 | -0.09 | 41.80 | 41.87 | 46.00 | -4.13 | Average |
| 10 | 3.704 | 0.15 | -0.09 | 47.10 | 47.17 | 56.00 | -8.83 | QP |
| 11 | 5.805 | 0.18 | -0.13 | 47.11 | 47.17 | 60.00 | -12.83 | QP |
| 12 | 5.805 | 0.18 | -0.13 | 43.11 | 43.17 | 50.00 | -6.83 | Average |

*Notes:*

*1. The following Quasi-Peak and Average measurements were performed on the EUT:*

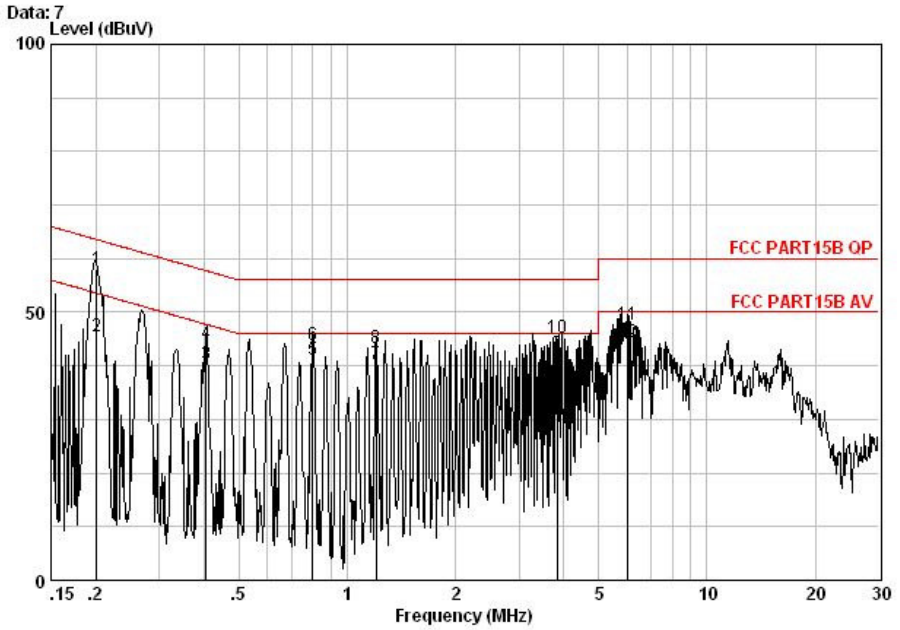
*2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.*

**Adapter model No.: HNC05150U**
**Neutral Line:**




| | Freq | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | 0.20289 | 0.04 | -0.04 | 54.51 | 54.51 | 63.49 | -8.98 | QP |
| 2 | 0.20289 | 0.04 | -0.04 | 45.51 | 45.51 | 53.49 | -7.98 | Average |
| 3 | 0.67187 | 0.06 | -0.05 | 40.29 | 40.31 | 46.00 | -5.69 | Average |
| 4 | 0.67187 | 0.06 | -0.05 | 44.29 | 44.31 | 56.00 | -11.69 | QP |
| 5 | 0.94308 | 0.08 | -0.05 | 40.72 | 40.75 | 46.00 | -5.25 | Average |
| 6 | 0.94308 | 0.08 | -0.05 | 44.72 | 44.75 | 56.00 | -11.25 | QP |
| 7 | 1.077 | 0.08 | -0.05 | 46.48 | 46.51 | 56.00 | -9.49 | QP |
| 8 | 1.077 | 0.08 | -0.05 | 41.48 | 41.51 | 46.00 | -4.49 | Average |
| 9 | 3.704 | 0.15 | -0.09 | 41.80 | 41.87 | 46.00 | -4.13 | Average |
| 10 | 3.704 | 0.15 | -0.09 | 47.10 | 47.17 | 56.00 | -8.83 | QP |
| 11 | 5.805 | 0.18 | -0.13 | 47.11 | 47.17 | 60.00 | -12.83 | QP |
| 12 | 5.805 | 0.18 | -0.13 | 43.11 | 43.17 | 50.00 | -6.83 | Average |

**Neutral Neutral:**



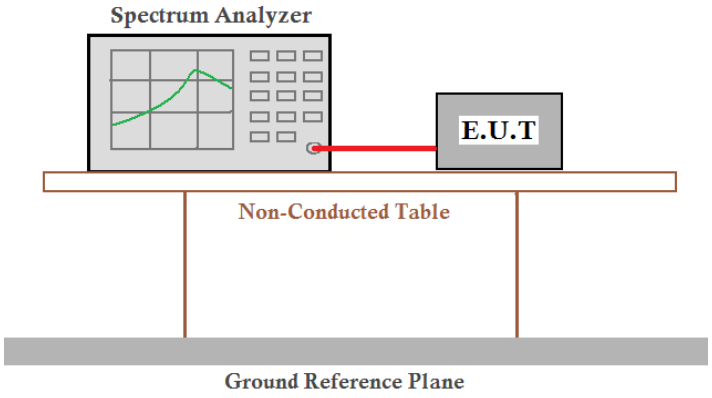

| | Freq | Cable Loss | LISN Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB | dBuV | dBuV | dBuV | dB | |
| 1 | 0.20075 | 0.04 | -0.04 | 57.94 | 57.94 | 63.58 | -5.64 | QP |
| 2 | 0.20075 | 0.04 | -0.04 | 45.60 | 45.60 | 53.58 | -7.98 | Average |
| 3 | 0.40400 | 0.06 | -0.04 | 40.26 | 40.28 | 47.77 | -7.49 | Average |
| 4 | 0.40400 | 0.06 | -0.04 | 44.14 | 44.16 | 57.77 | -13.61 | QP |
| 5 | 0.80023 | 0.07 | -0.04 | 41.11 | 41.13 | 46.00 | -4.87 | Average |
| 6 | 0.80023 | 0.07 | -0.04 | 43.94 | 43.96 | 56.00 | -12.04 | QP |
| 7 | 1.203 | 0.09 | -0.05 | 40.22 | 40.26 | 46.00 | -5.74 | Average |
| 8 | 1.203 | 0.09 | -0.05 | 43.20 | 43.24 | 56.00 | -12.76 | QP |
| 9 | 3.830 | 0.15 | -0.09 | 42.30 | 42.36 | 46.00 | -3.64 | Average |
| 10 | 3.830 | 0.15 | -0.09 | 45.10 | 45.16 | 56.00 | -10.84 | QP |
| 11 | 6.024 | 0.18 | -0.14 | 47.65 | 47.69 | 60.00 | -12.31 | QP |
| 12 | 6.024 | 0.18 | -0.14 | 44.26 | 44.30 | 50.00 | -5.70 | Average |

*Notes:*

*1. The following Quasi-Peak and Average measurements were performed on the EUT:*

*2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.*

## 5.3 Conducted Peak Output Power

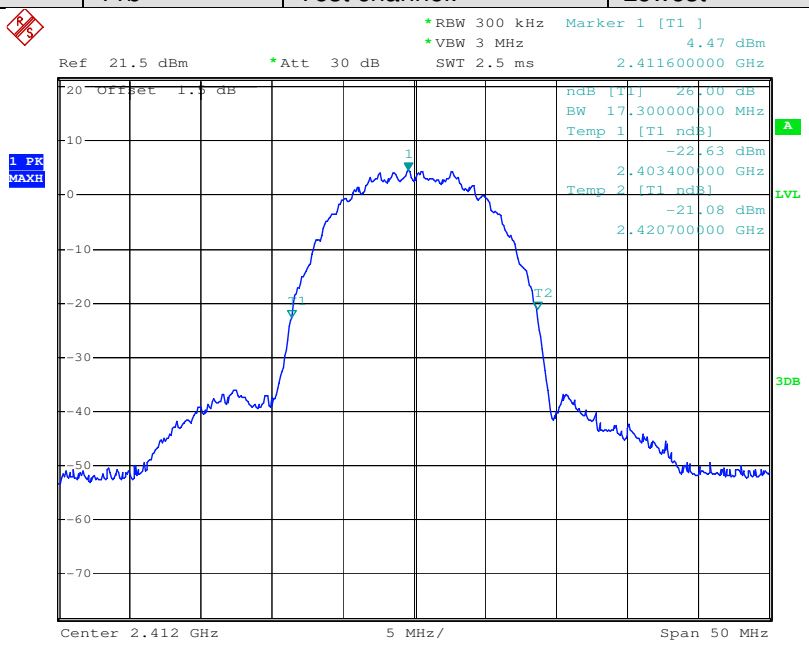
| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (b)(3) |
| Test Method: | ANSI C63.4:2009 and KDB558074 |
| Limit: | 30dBm |
| Test setup: |  <br>*Remark:*<br>*Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.* |
| Test Instruments: | Refer to section 4.7 for details |
| Test results: | Passed |

**Measurement Data**

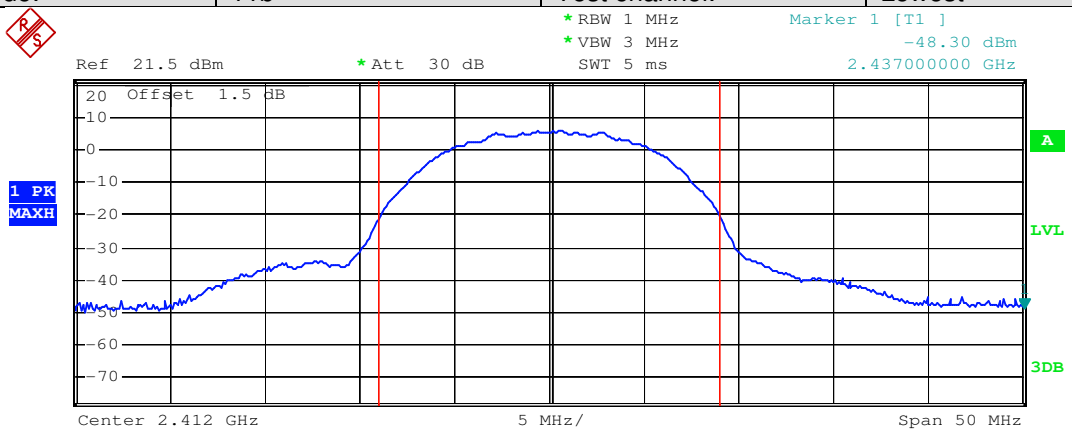
| 802.11b mode | | | |
|---|---|---|---|
| Test channel | Peak Output Power (dBm) | Limit (dBm) | Result |
| Lowest | 14.05 | 30.00 | Pass |
| Middle | 14.62 | 30.00 | Pass |
| Highest | 13.72 | 30.00 | Pass |
| 802.11g mode | | | |
| Test channel | Peak Output Power (dBm) | Limit (dBm) | Result |
| Lowest | 13.01 | 30.00 | Pass |
| Middle | 13.18 | 30.00 | Pass |
| Highest | 12.45 | 30.00 | Pass |

**Test plot as follows:**

| Test mode: | 11b | Test channel: | Lowest | -26dB |
|---|---|---|---|---|



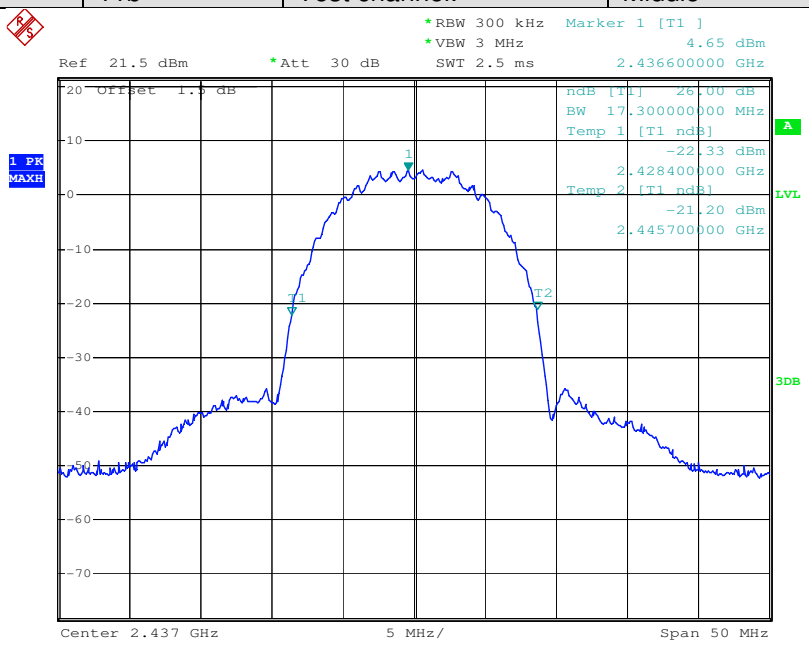

| Test mode: | 11b | Test channel: | Lowest |
|---|---|---|---|



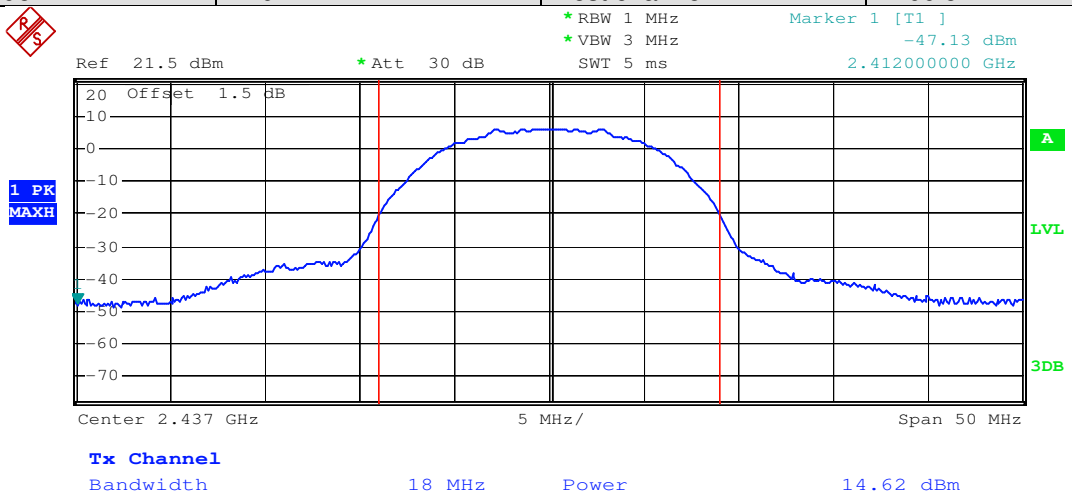

**Tx Channel**

Bandwidth 18 MHz Power 14.05 dBm

| Test mode: | 11b | Test channel: | Middle | -26dB |
|---|---|---|---|---|



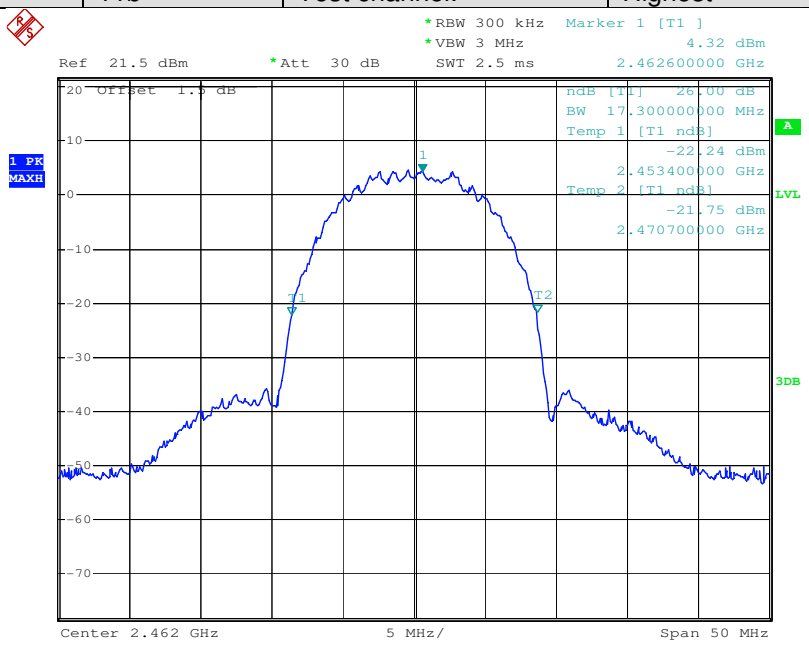

| Test mode: | 11b | Test channel: | Middle |
|---|---|---|---|



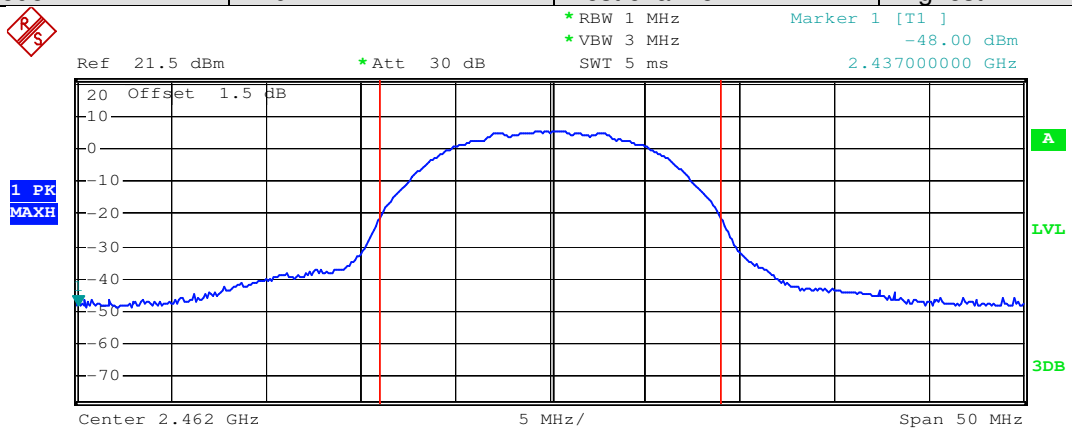

**Tx Channel**

Bandwidth 18 MHz Power 14.62 dBm

| Test mode: | 11b | Test channel: | Highest | -26dB |
|---|---|---|---|---|



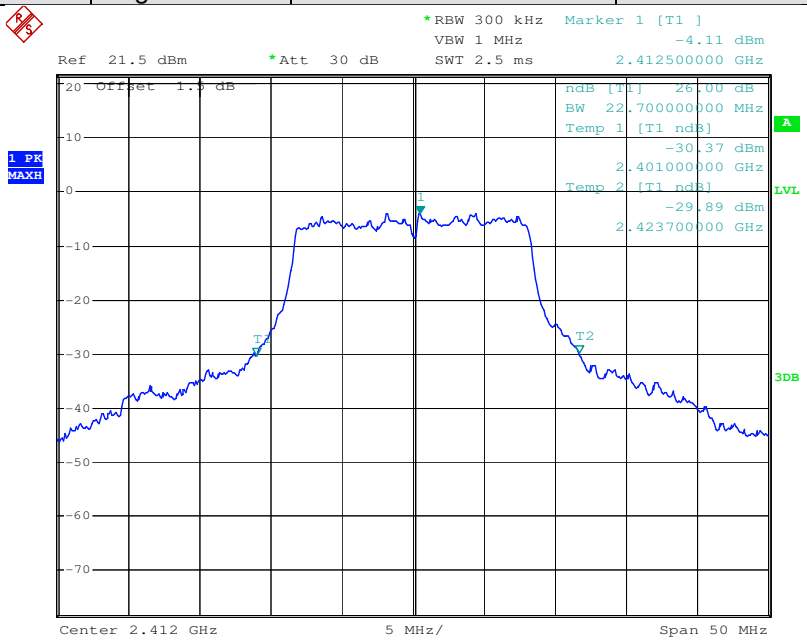

| Test mode: | 11b | Test channel: | Highest |
|---|---|---|---|



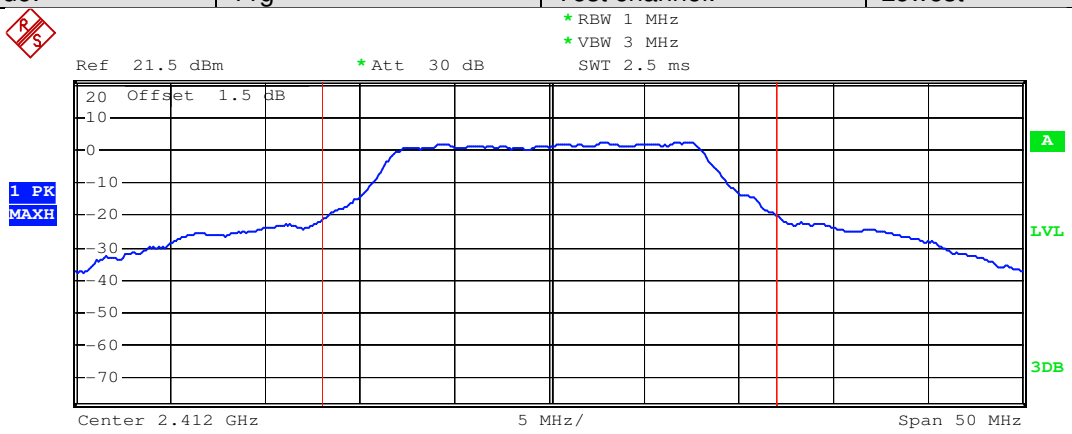

**Tx Channel**

Bandwidth 18 MHz Power 13.72 dBm

| Test mode: | 11g | Test channel: | Lowest | -26dB |
|---|---|---|---|---|



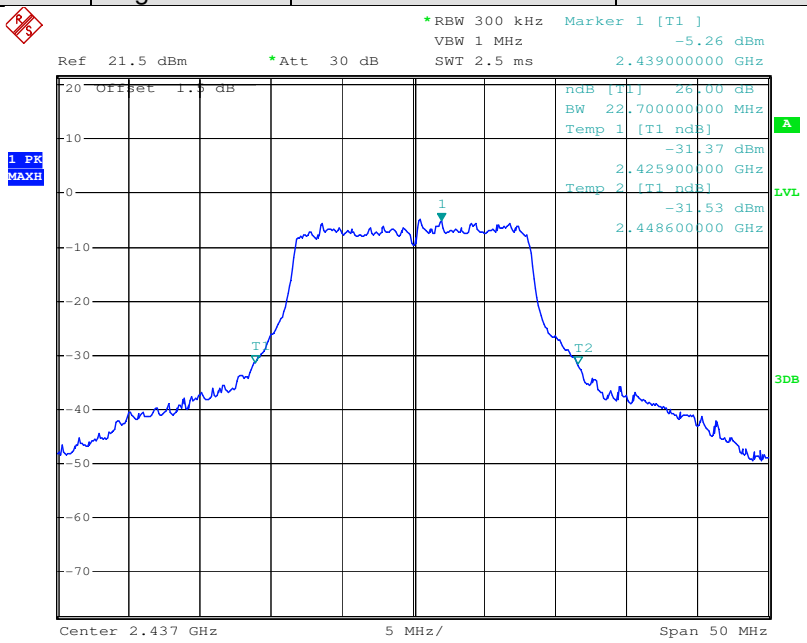

| Test mode: | 11g | Test channel: | Lowest |
|---|---|---|---|



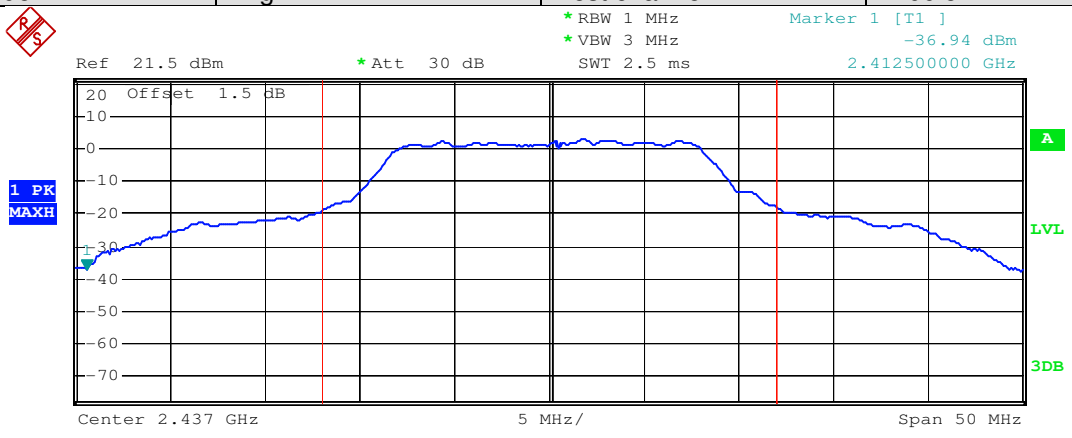

**Tx Channel**

Bandwidth 24 MHz Power 13.01 dBm

| Test mode: | 11g | Test channel: | Middle | -26dB |
|---|---|---|---|---|



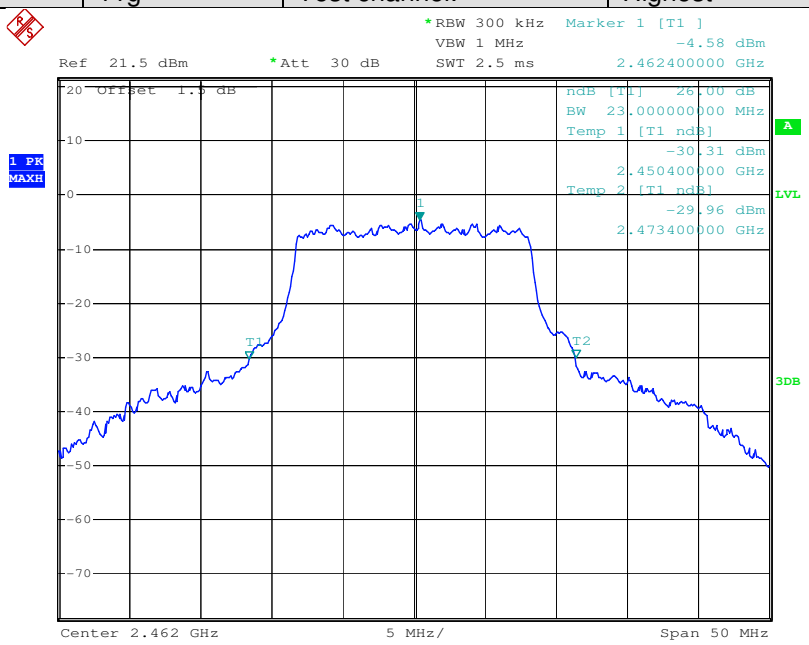

| Test mode: | 11g | Test channel: | Middle |
|---|---|---|---|



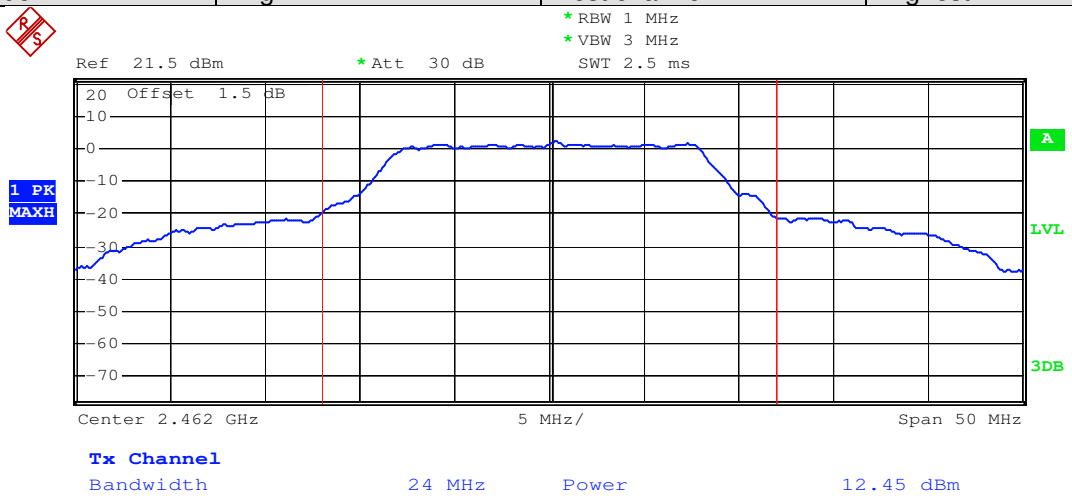

**Tx Channel**

Bandwidth 24 MHz Power 13.18 dBm

| Test mode: | 11g | Test channel: | Highest | -26dB |
|---|---|---|---|---|



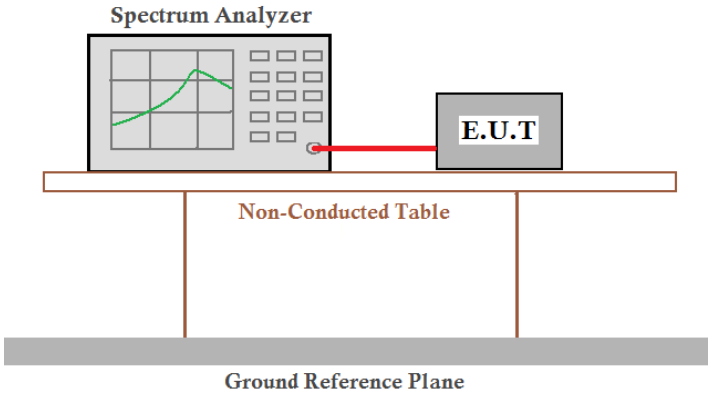

| Test mode: | 11g | Test channel: | Highest |
|---|---|---|---|




**Tx Channel**

Bandwidth 24 MHz Power 12.45 dBm

## 5.4 6dB Occupy Bandwidth

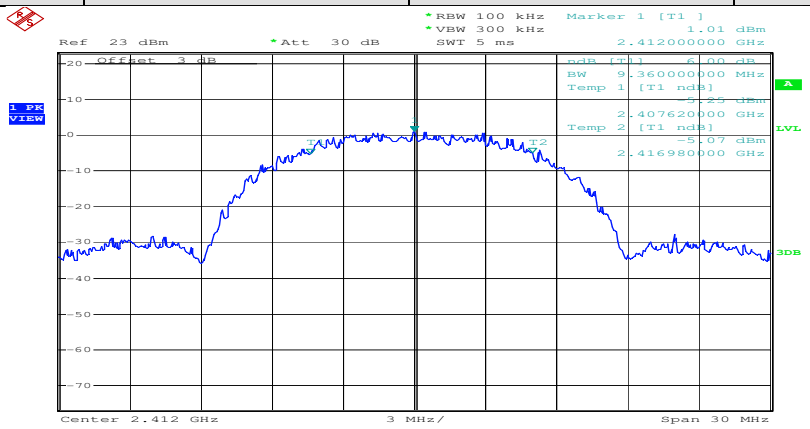
| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (a)(2) |
| Test Method: | ANSI C63.4:2009 and KDB558074 |
| Limit: | >500KHz |
| Test setup: |  |
| Test Instruments: | Refer to section 4.7 for details |
| Test results: | Passed |

**Measurement Data**

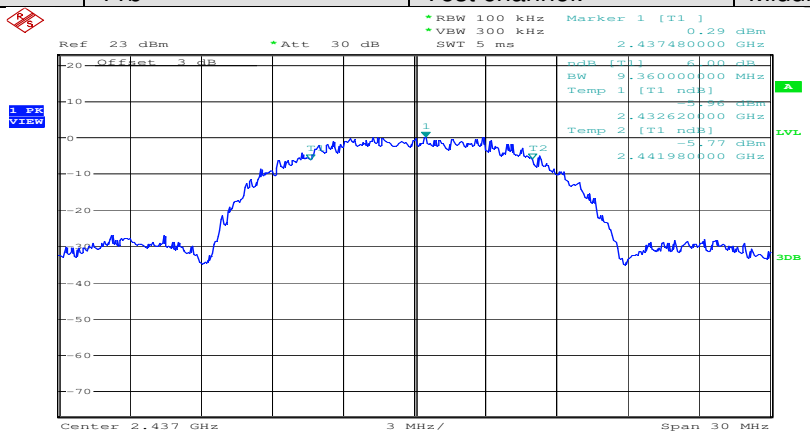
| 802.11b mode | | | |
|---|---|---|---|
| Test channel | 6dB Occupy Bandwidth (MHz) | Limit (kHz) | Result |
| Lowest | 9.36 | >500 | Pass |
| Middle | 9.36 | >500 | Pass |
| Highest | 9.36 | >500 | Pass |
| 802.11g mode | | | |
| Test channel | 6dB Occupy Bandwidth (MHz) | Limit (kHz) | Result |
| Lowest | 16.60 | >500 | Pass |
| Middle | 16.60 | >500 | Pass |
| Highest | 16.60 | >500 | Pass |

**Test plot as follows:**

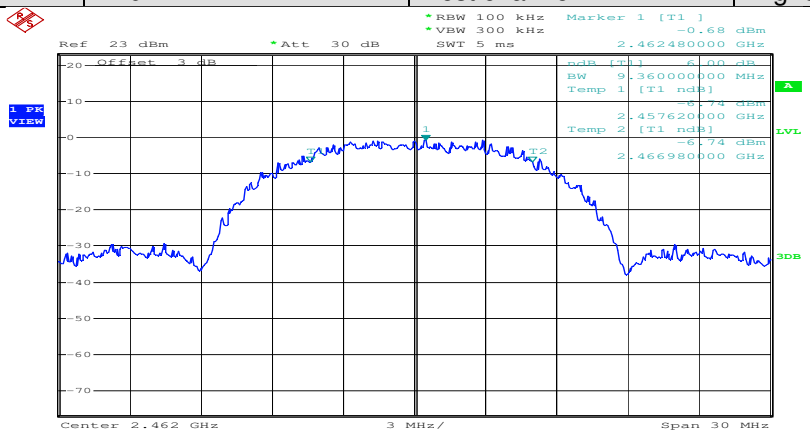
| Test mode: | 11b | Test channel: | Lowest |
|---|---|---|---|



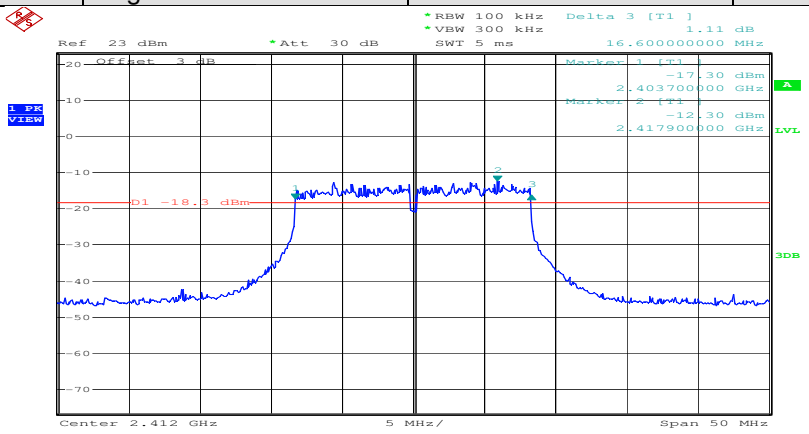

| Test mode: | 11b | Test channel: | Middle |
|---|---|---|---|



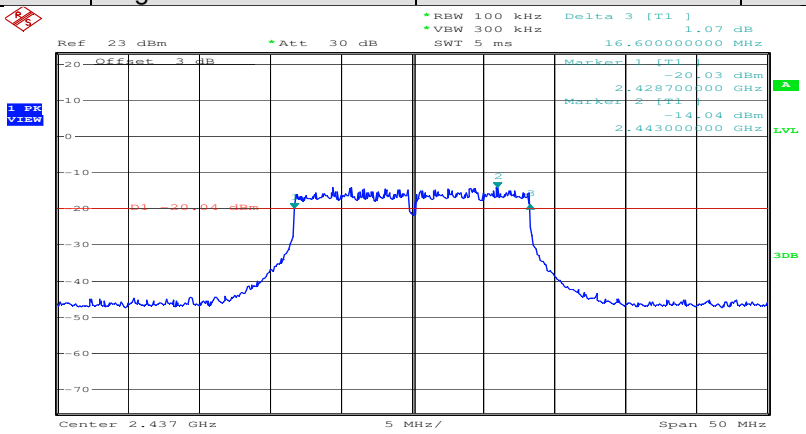

| Test mode: | 11b | Test channel: | Highest |
|---|---|---|---|



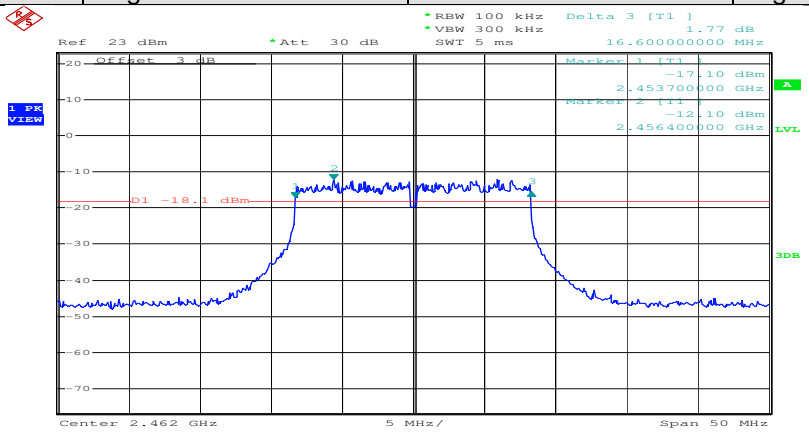
| Test mode: | 11g | Test channel: | Lowest |
|---|---|---|---|



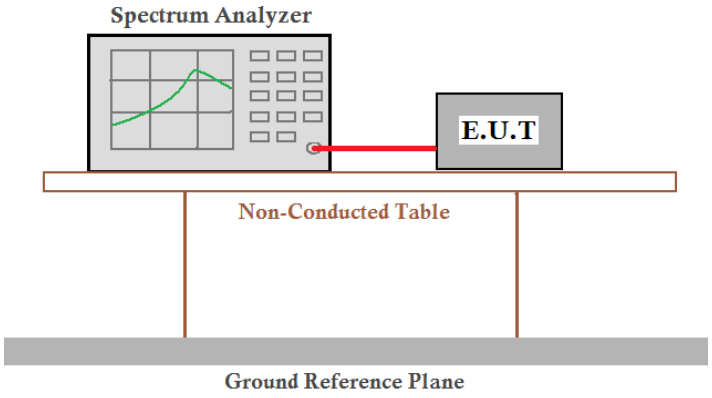

| Test mode: | 11g | Test channel: | Middle |
|---|---|---|---|




| Test mode: | 11g | Test channel: | Highest |
|---|---|---|---|



## 5.5 Power Spectral Density

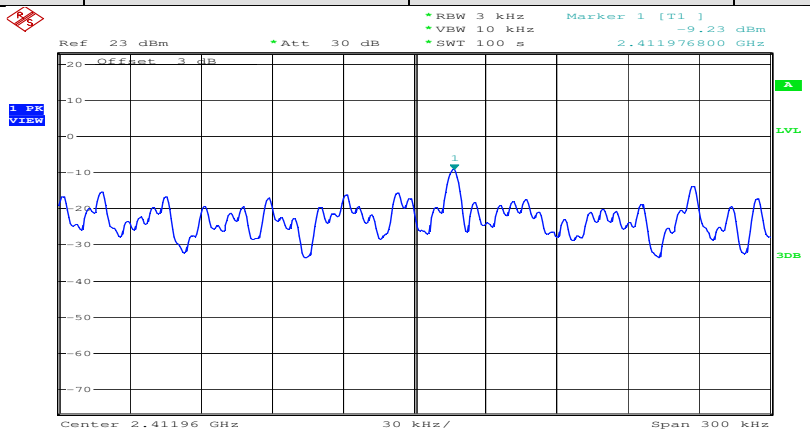
| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (e) |
| Test Method: | ANSI C63.4:2009 and KDB558074 |
| Limit: | <8dBm |
| Test setup: |  <br>*Remark:*<br>*Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.* |
| Test Instruments: | Refer to section 4.7 for details |
| Test results: | Passed |

**Measurement Data**

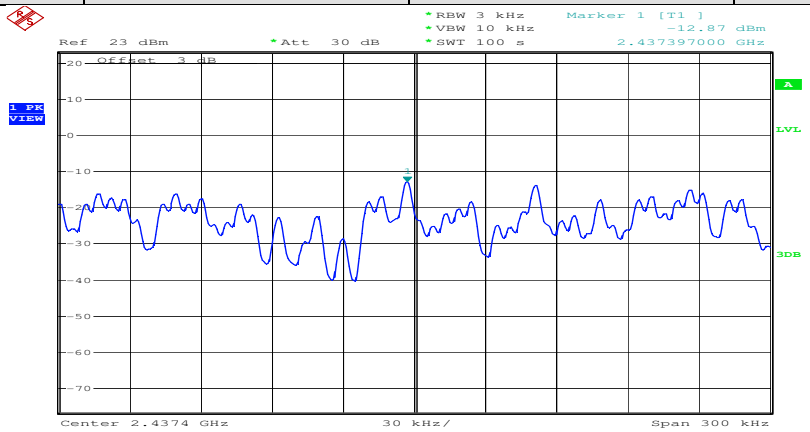
| 802.11b mode | | | |
|---|---|---|---|
| Test channel | Power Spectral Density (dBm) | Limit (dBm) | Result |
| Lowest | -9.23 | <8.00 | Pass |
| Middle | -12.87 | <8.00 | Pass |
| Highest | -14.06 | <8.00 | Pass |
| 802.11g mode | | | |
| Test channel | Power Spectral Density (dBm) | Limit (dBm) | Result |
| Lowest | -21.10 | <8.00 | Pass |
| Middle | -21.79 | <8.00 | Pass |
| Highest | -22.86 | <8.00 | Pass |

**Test plot as follows:**

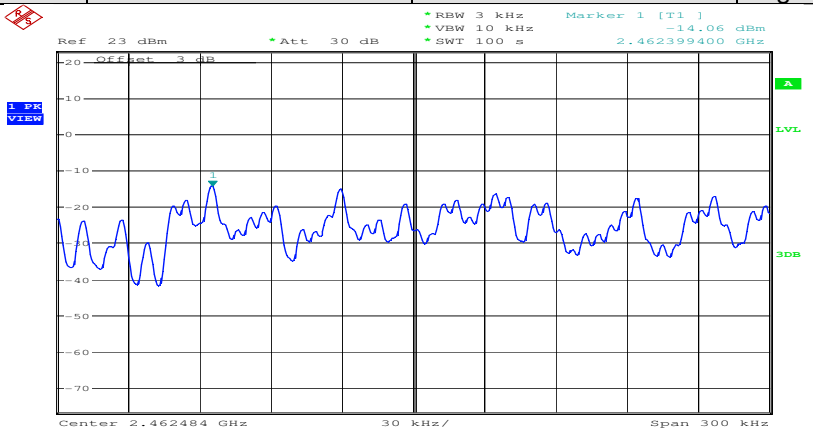
| Test mode: | 11b | Test channel: | Lowest |
|---|---|---|---|



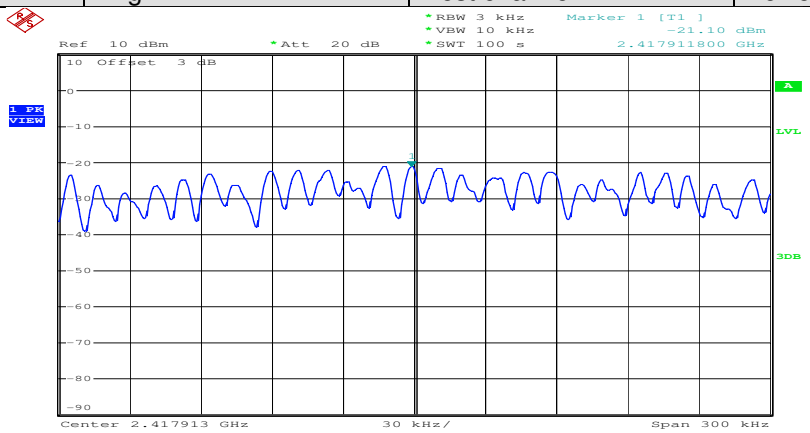

| Test mode: | 11b | Test channel: | Middle |
|---|---|---|---|



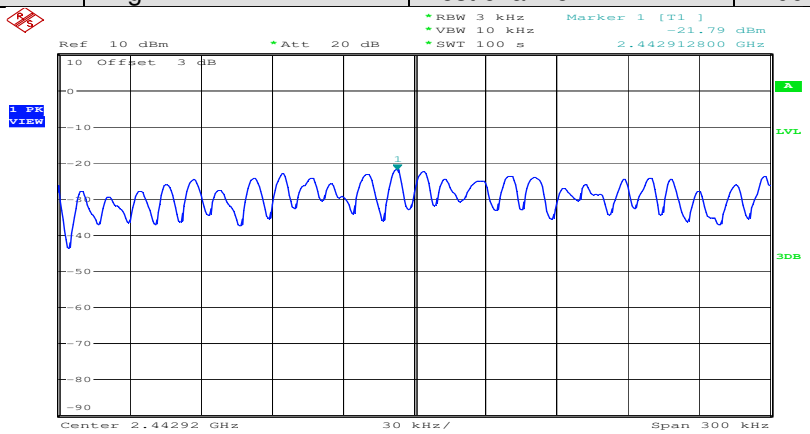

| Test mode: | 11b | Test channel: | Highest |
|---|---|---|---|



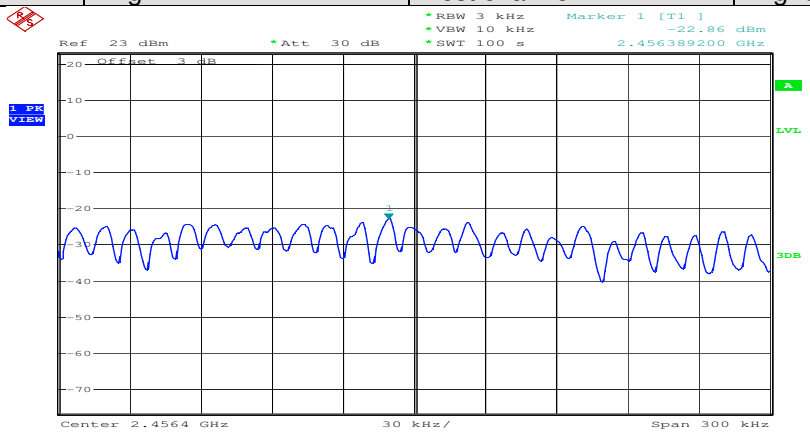
| Test mode: | 11g | Test channel: | Lowest |
|---|---|---|---|



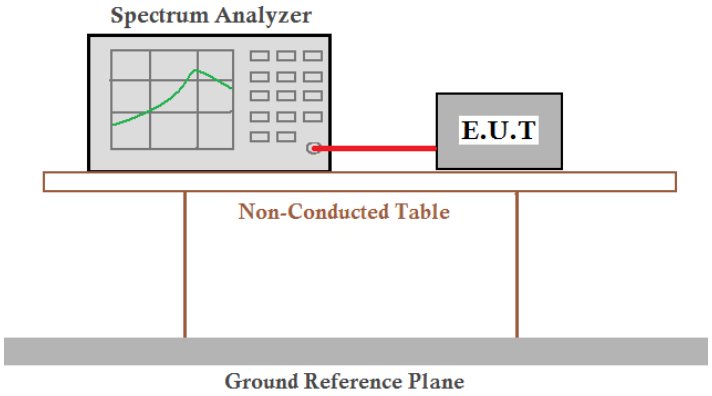

| Test mode: | 11g | Test channel: | Middle |
|---|---|---|---|




| Test mode: | 11g | Test channel: | Highest |
|---|---|---|---|

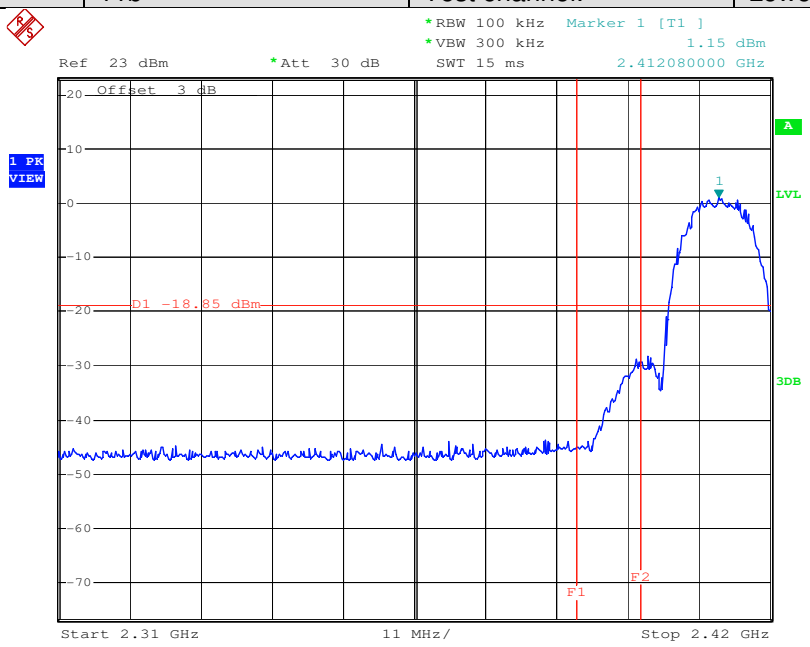


## 5.6 Band Edge

| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (d) |
| Test Method: | ANSI C63.4:2009 and KDB558074 |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. |
| Test setup: |  <br>*Remark:*<br>*Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.* |
| Test Instruments: | Refer to section 4.7 for details |
| Test results: | Passed |

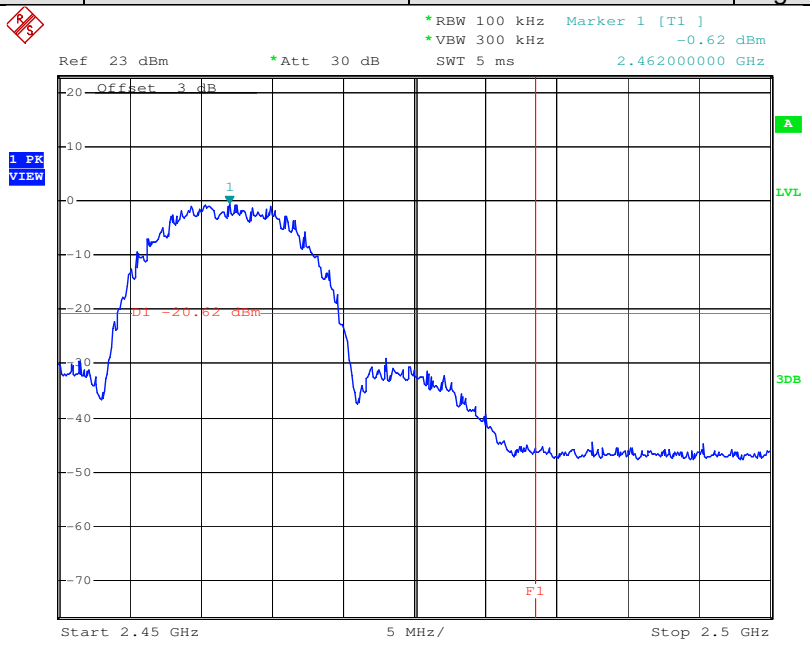
**Test plot as follows:**

| Test mode: | 11b | Test channel: | Lowest |
|---|---|---|---|



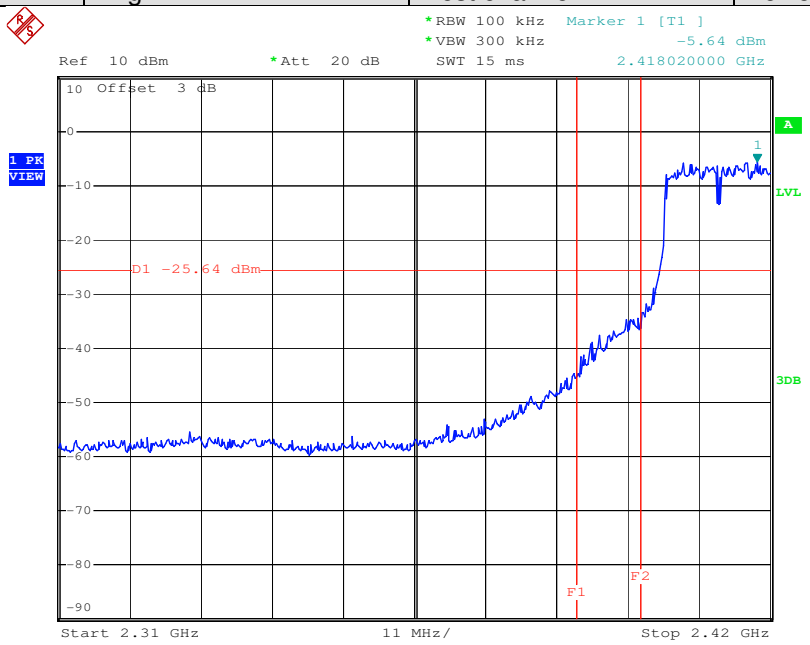

F1=2390MHz F2=2400MHz

| Test mode: | 11b | Test channel: | Highest |
|---|---|---|---|



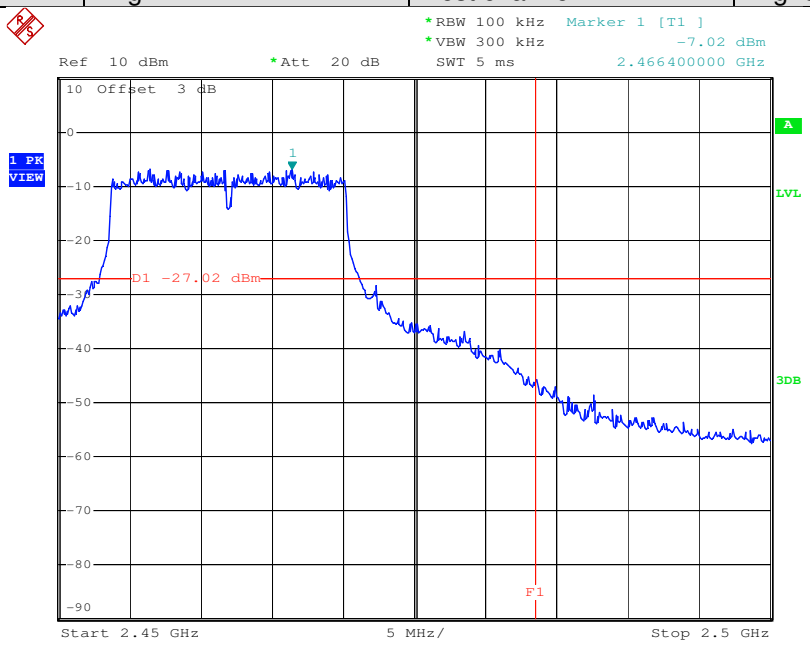

F1=2483.50MHz

| Test mode: | 11g | Test channel: | Lowest |
|---|---|---|---|



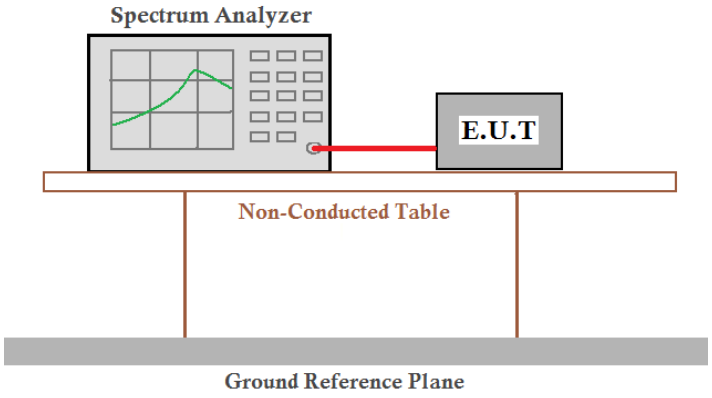

F1=2390MHz F2=2400MHz

| Test mode: | 11g | Test channel: | Highest |
|---|---|---|---|



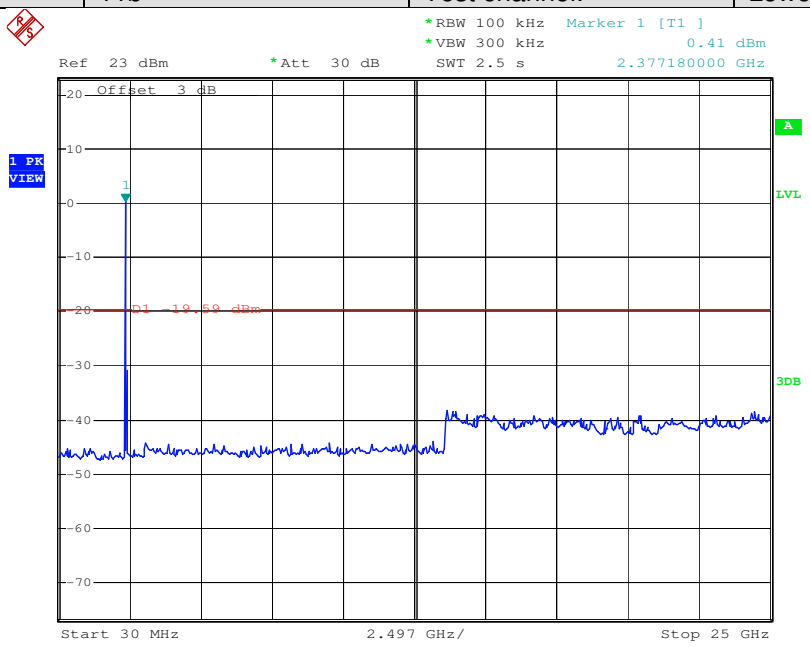

F1=2483.5MHz

## 5.7 RF Antenna Conducted spurious emissions

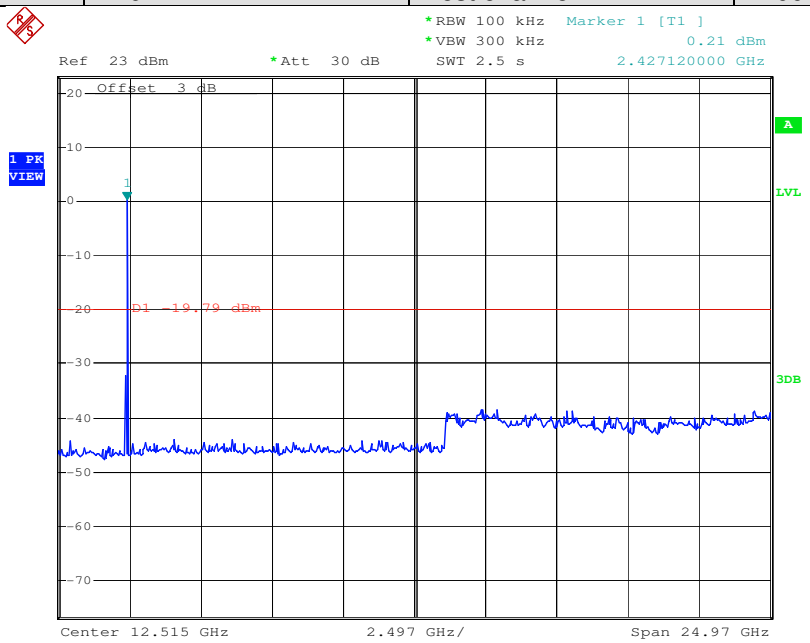
| | |
|---|---|
| Test Requirement: | FCC Part15 C Section 15.247 (d) |
| Test Method: | ANSI C63.4:2009 and KDB558074 |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. |
| Test setup: |  <br>*Remark:*<br>*Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.* |
| Test Instruments: | Refer to section 4.7 for details |
| Test results: | Passed |

**Test plot as follows:**

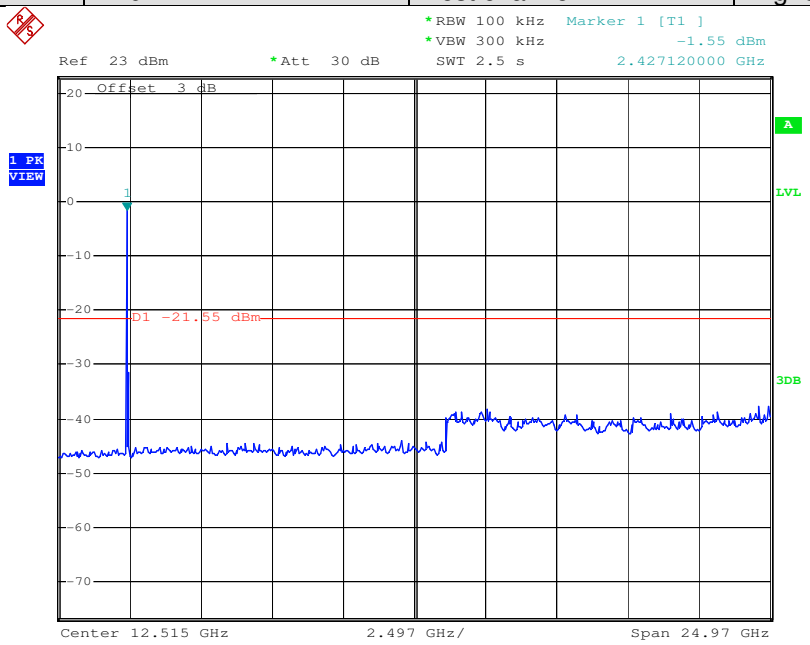
| Test mode: | 11b | Test channel: | Lowest |
|---|---|---|---|



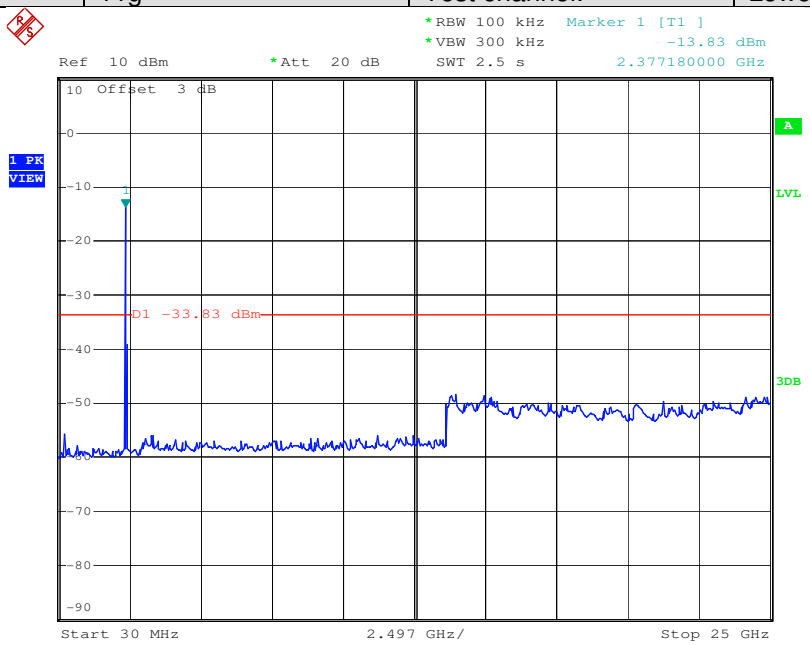

| Test mode: | 11b | Test channel: | Middle |
|---|---|---|---|



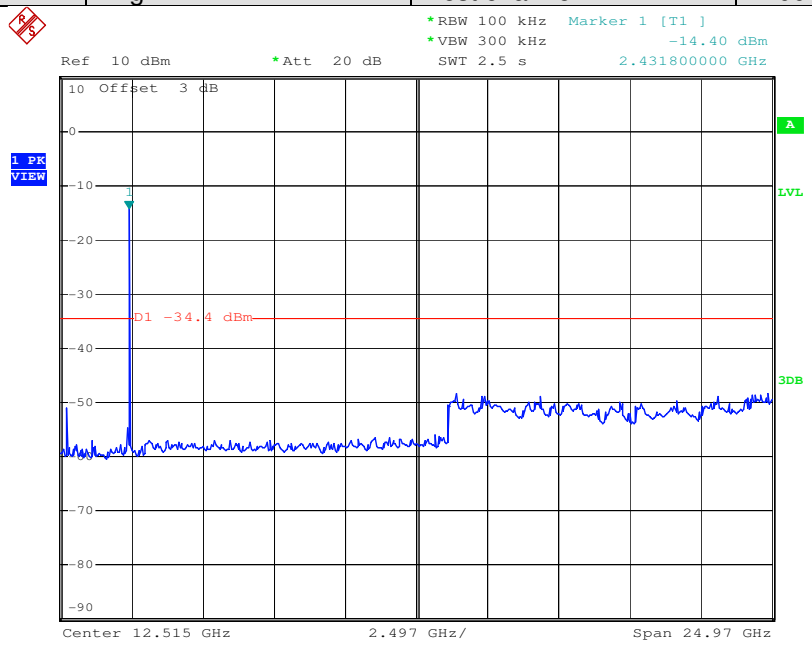
| Test mode: | 11b | Test channel: | Highest |
|---|---|---|---|



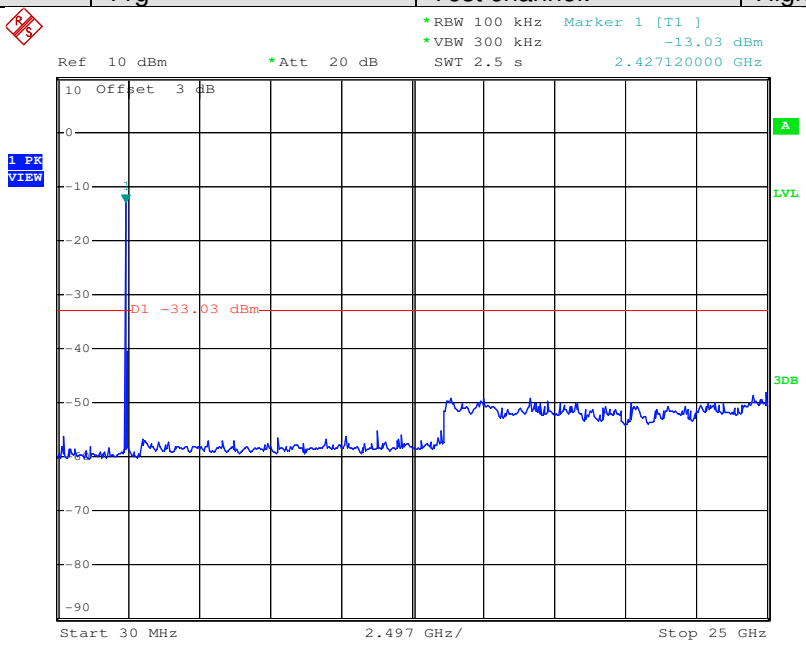

| Test mode: | 11g | Test channel: | Lowest |
|---|---|---|---|



| Test mode: | 11g | Test channel: | Middle |
|---|---|---|---|



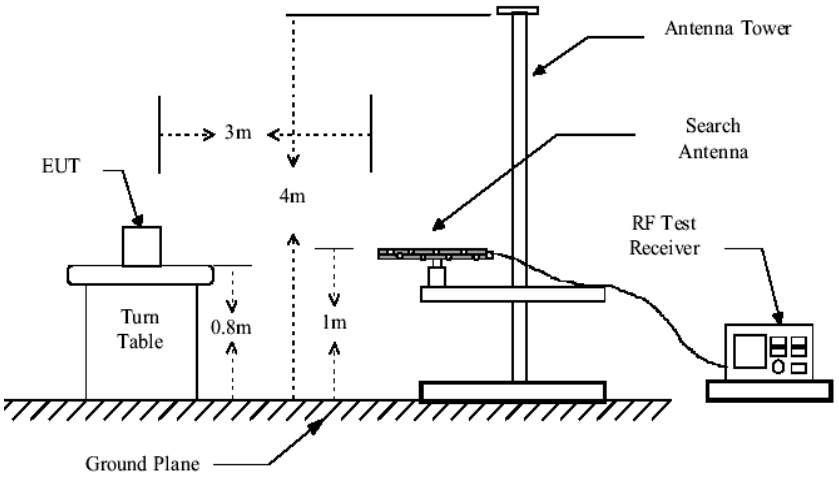

| Test mode: | 11g | Test channel: | Highest |
|---|---|---|---|



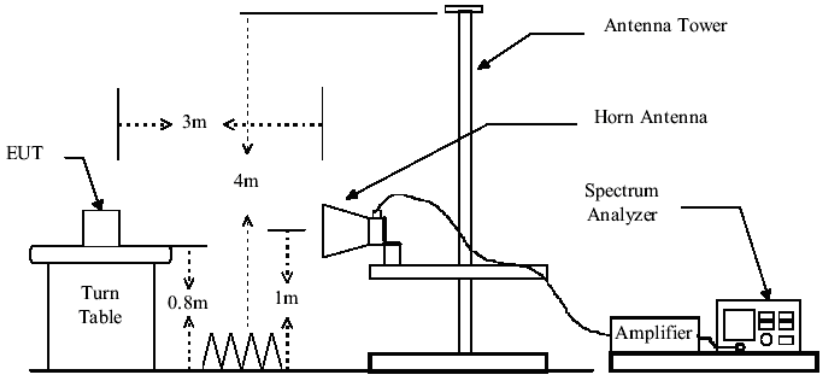
## 5.8 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2009</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>The E.U.T and its simulators are placed on a turn table which is 0.8meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.<br><br>Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.<br><br>Adapter model: HNA050150U ,Adapter model: SW013UF-0500150US<br>Pre-scan was performed on the EUT on above modes, and then found the worse case mode is adapter model: HNA050150U in the 802.11b mode<br><br>Only the worse case data was displayed.</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 4.7 for details</td></tr>
<tr><td>Test mode:</td><td>Tx mode （802.11b and 802.11g）</td></tr>
<tr><td>Test results:</td><td>Passed</td></tr>
</table>

| Test setup: | Below 1GHz |
|---|---|




Above 1GHz




*Note:*
*The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:*

*Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor*

### 5.8.1 Radiated emission below 1GHz

**Adapter model: HNA050150U**

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 40.670 | 0.62 | 11.53 | 28.09 | 47.21 | 31.27 | 40.00 | -8.73 | Vertical |
| 249.220 | 1.67 | 12.27 | 26.92 | 47.31 | 34.33 | 46.00 | -11.67 | Vertical |
| 299.660 | 1.90 | 13.85 | 26.72 | 50.46 | 39.49 | 46.00 | -6.51 | Vertical |
| 448.070 | 2.40 | 16.84 | 27.56 | 49.16 | 40.84 | 46.00 | -5.16 | Vertical |
| 548.950 | 2.65 | 18.87 | 27.66 | 42.77 | 36.63 | 46.00 | -9.37 | Vertical |
| 797.270 | 3.19 | 22.09 | 26.95 | 43.00 | 41.33 | 46.00 | -4.67 | Vertical |
| 75.590 | 0.97 | 7.37 | 28.00 | 54.22 | 34.56 | 40.00 | -5.44 | Horizontal |
| 100.810 | 1.20 | 9.06 | 27.87 | 53.25 | 35.64 | 43.50 | -7.86 | Horizontal |
| 299.660 | 1.90 | 13.85 | 26.72 | 49.46 | 38.49 | 46.00 | -7.51 | Horizontal |
| 448.070 | 2.40 | 16.84 | 27.56 | 48.32 | 40.00 | 46.00 | -6.00 | Horizontal |
| 548.950 | 2.65 | 18.87 | 27.66 | 48.52 | 42.38 | 46.00 | -3.62 | Horizontal |
| 598.420 | 2.70 | 19.74 | 27.62 | 46.41 | 41.23 | 46.00 | -4.77 | Horizontal |

**Adapter model: SW013UF-0500150US**

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 76.560 | 1.00 | 7.43 | 28.00 | 55.44 | 35.87 | 40.00 | -4.13 | Vertical |
| 198.780 | 1.40 | 10.19 | 27.16 | 51.06 | 35.49 | 43.50 | -8.01 | Vertical |
| 249.220 | 1.67 | 12.27 | 26.92 | 49.13 | 36.15 | 46.00 | -9.85 | Vertical |
| 300.000 | 1.90 | 13.90 | 26.72 | 53.60 | 42.68 | 46.00 | -3.32 | Vertical |
| 448.070 | 2.40 | 16.84 | 27.56 | 47.01 | 38.69 | 46.00 | -7.31 | Vertical |
| 797.270 | 3.19 | 22.09 | 26.95 | 42.75 | 41.08 | 46.00 | -4.92 | Vertical |
| 81.300 | 1.10 | 7.86 | 27.99 | 55.29 | 36.26 | 40.00 | -3.74 | Horizontal |
| 115.360 | 1.24 | 8.20 | 27.73 | 57.57 | 39.28 | 43.50 | -4.22 | Horizontal |
| 299.660 | 1.90 | 13.85 | 26.72 | 49.36 | 38.39 | 46.00 | -7.61 | Horizontal |
| 448.070 | 2.40 | 16.84 | 27.56 | 49.13 | 40.81 | 46.00 | -5.19 | Horizontal |
| 548.950 | 2.65 | 18.87 | 27.66 | 47.73 | 41.59 | 46.00 | -4.41 | Horizontal |
| 648.860 | 2.80 | 20.60 | 27.45 | 41.99 | 37.94 | 46.00 | -8.06 | Horizontal |

### 5.8.2 Transmitter emission above 1GHz

| Test channel: | Lowest | Remark: | Peak | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4825 | 10.34 | 34.03 | 41.43 | 49.22 | 52.16 | 74.00 | -21.84 | Vertical |
| 7239 | 13.22 | 36.25 | 40.78 | 46.32 | 55.01 | 74.00 | -18.99 | Vertical |
| 9670 | 13.59 | 37.03 | 37.71 | 44.59 | 57.50 | 74.00 | -16.50 | Vertical |
| 12050 | 16.77 | 38.82 | 39.13 | 42.12 | 58.58 | 74.00 | -15.42 | Vertical |
| 14464 | 17.43 | 39.45 | 45.11 | 44.97 | 56.74 | 74.00 | -17.26 | Vertical |
| 16861 | 19.09 | 41.12 | 39.49 | 40.55 | 61.27 | 74.00 | -12.73 | Vertical |
| 4825 | 10.34 | 34.03 | 41.43 | 46.38 | 49.32 | 74.00 | -24.68 | Horizontal |
| 7239 | 13.22 | 36.25 | 40.78 | 47.66 | 56.35 | 74.00 | -17.65 | Horizontal |
| 9636 | 13.49 | 37.01 | 37.64 | 46.00 | 58.86 | 74.00 | -15.14 | Horizontal |
| 12050 | 16.77 | 38.82 | 39.13 | 42.99 | 59.45 | 74.00 | -14.55 | Horizontal |
| 14447 | 17.43 | 39.45 | 45.11 | 43.88 | 55.65 | 74.00 | -18.35 | Horizontal |
| 16861 | 19.09 | 41.12 | 39.49 | 38.41 | 59.13 | 74.00 | -14.87 | Horizontal |

| Test channel: | Lowest | Remark: | Average | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable loss (dB) | Antenna factors (dB/m) | Preamp factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Over limit | polarization |
|---|---|---|---|---|---|---|---|---|
| 4825 | 10.34 | 34.03 | 41.43 | 36.67 | 39.61 | 54.00 | -14.39 | Vertical |
| 7239 | 13.22 | 36.25 | 40.78 | 33.62 | 42.31 | 54.00 | -11.69 | Vertical |
| 9670 | 13.59 | 37.03 | 37.71 | 32.33 | 45.24 | 54.00 | -8.76 | Vertical |
| 12050 | 16.77 | 38.82 | 39.13 | 27.90 | 44.36 | 54.00 | -9.64 | Vertical |
| 14464 | 17.43 | 39.45 | 45.11 | 31.60 | 43.37 | 54.00 | -10.63 | Vertical |
| 16861 | 19.09 | 41.12 | 39.49 | 23.26 | 43.98 | 54.00 | -10.02 | Vertical |
| 4825 | 10.34 | 34.03 | 41.43 | 37.50 | 40.44 | 54.00 | -13.56 | Horizontal |
| 7239 | 13.22 | 36.25 | 40.78 | 36.20 | 44.89 | 54.00 | -9.11 | Horizontal |
| 9636 | 13.49 | 37.01 | 37.64 | 33.33 | 46.19 | 54.00 | -7.81 | Horizontal |
| 12050 | 16.77 | 38.82 | 39.13 | 26.66 | 43.12 | 54.00 | -10.88 | Horizontal |
| 14447 | 17.43 | 39.45 | 45.11 | 31.11 | 42.88 | 54.00 | -11.12 | Horizontal |
| 16861 | 19.09 | 41.12 | 39.49 | 23.90 | 44.62 | 54.00 | -9.38 | Horizontal |

| Test channel: | Middle | Remark: | Peak | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4876 | 10.36 | 34.02 | 39.89 | 48.40 | 52.89 | 74.00 | -21.11 | Vertical |
| 7324 | 12.91 | 36.10 | 40.40 | 48.00 | 56.61 | 74.00 | -17.39 | Vertical |
| 9755 | 13.89 | 37.10 | 37.94 | 44.56 | 57.61 | 74.00 | -16.39 | Vertical |
| 12186 | 18.03 | 38.91 | 39.27 | 41.26 | 58.93 | 74.00 | -15.07 | Vertical |
| 14634 | 17.38 | 39.60 | 45.83 | 44.75 | 55.90 | 74.00 | -18.10 | Vertical |
| 17065 | 19.55 | 41.08 | 39.41 | 38.34 | 59.56 | 74.00 | -14.44 | Vertical |
| 4876 | 10.36 | 34.02 | 39.89 | 48.02 | 52.51 | 74.00 | -21.49 | Horizontal |
| 7324 | 12.91 | 36.10 | 40.40 | 48.26 | 56.87 | 74.00 | -17.13 | Horizontal |
| 9755 | 13.89 | 37.10 | 37.94 | 44.85 | 57.90 | 74.00 | -16.10 | Horizontal |
| 12186 | 18.03 | 38.91 | 39.27 | 41.41 | 59.08 | 74.00 | -14.92 | Horizontal |
| 14634 | 17.38 | 39.60 | 45.83 | 44.99 | 56.14 | 74.00 | -17.86 | Horizontal |
| 17218 | 19.67 | 41.20 | 39.53 | 37.78 | 59.12 | 74.00 | -14.88 | Horizontal |

| Test channel: | Middle | Remark: | Average | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable loss (dB) | Antenna factors (dB/m) | Preamp factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Over limit | polarization |
|---|---|---|---|---|---|---|---|---|
| 4876 | 10.36 | 34.02 | 39.89 | 35.20 | 39.69 | 54.00 | -14.31 | Vertical |
| 7324 | 12.91 | 36.10 | 40.40 | 33.33 | 41.94 | 54.00 | -12.06 | Vertical |
| 9755 | 13.89 | 37.10 | 37.94 | 29.66 | 42.71 | 54.00 | -11.29 | Vertical |
| 12186 | 18.03 | 38.91 | 39.27 | 26.95 | 44.62 | 54.00 | -9.38 | Vertical |
| 14634 | 17.38 | 39.60 | 45.83 | 29.62 | 40.77 | 54.00 | -13.23 | Vertical |
| 17065 | 19.55 | 41.08 | 39.41 | 22.00 | 43.22 | 54.00 | -10.78 | Vertical |
| 4876 | 10.36 | 34.02 | 39.89 | 34.96 | 39.45 | 54.00 | -14.55 | Horizontal |
| 7324 | 12.91 | 36.10 | 40.40 | 35.64 | 44.25 | 54.00 | -9.75 | Horizontal |
| 9755 | 13.89 | 37.10 | 37.94 | 31.29 | 44.34 | 54.00 | -9.66 | Horizontal |
| 12186 | 18.03 | 38.91 | 39.27 | 25.96 | 43.63 | 54.00 | -10.37 | Horizontal |
| 14634 | 17.38 | 39.60 | 45.83 | 31.25 | 42.40 | 54.00 | -11.60 | Horizontal |
| 17218 | 19.67 | 41.20 | 39.53 | 22.58 | 43.92 | 54.00 | -10.08 | Horizontal |

| Test channel: | Highest | Remark: | Peak | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable Loss (dB) | Antenna Factor (dB/m) | Preamp Factor (dB) | Read Level (dBuV) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|---|---|---|---|---|---|---|---|---|
| 4927 | 10.53 | 34.01 | 40.90 | 49.67 | 53.31 | 74.00 | -20.69 | Vertical |
| 7392 | 12.68 | 35.99 | 40.11 | 49.20 | 57.76 | 74.00 | -16.24 | Vertical |
| 9840 | 14.13 | 37.17 | 38.01 | 43.25 | 56.54 | 74.00 | -17.46 | Vertical |
| 12322 | 17.71 | 38.99 | 39.41 | 41.47 | 58.76 | 74.00 | -15.24 | Vertical |
| 14770 | 16.57 | 39.73 | 46.35 | 45.83 | 55.78 | 74.00 | -18.22 | Vertical |
| 17235 | 19.67 | 41.20 | 39.53 | 39.99 | 61.33 | 74.00 | -12.67 | Vertical |
| 4927 | 10.53 | 34.01 | 40.90 | 49.37 | 53.01 | 74.00 | -20.99 | Horizontal |
| 7392 | 12.68 | 35.99 | 40.11 | 48.26 | 56.82 | 74.00 | -17.18 | Horizontal |
| 9857 | 14.17 | 37.19 | 37.93 | 45.68 | 59.11 | 74.00 | -14.89 | Horizontal |
| 12322 | 17.71 | 38.99 | 39.41 | 40.92 | 58.21 | 74.00 | -15.79 | Horizontal |
| 14770 | 16.57 | 39.73 | 46.35 | 46.19 | 56.14 | 74.00 | -17.86 | Horizontal |
| 17235 | 19.67 | 41.20 | 39.53 | 39.47 | 60.81 | 74.00 | -13.19 | Horizontal |

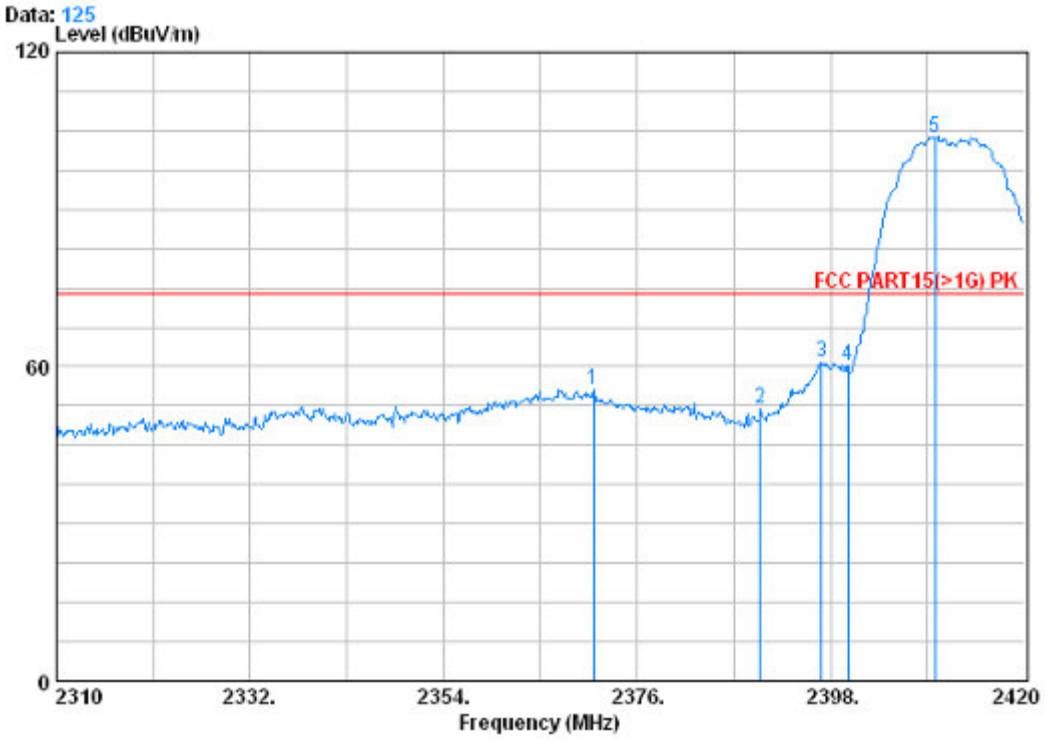
| Test channel: | Highest | Remark: | Average | Mode: | 802.11b |
|---|---|---|---|---|---|

| Frequency (MHz) | Cable loss (dB) | Antenna factors (dB/m) | Preamp factor (dB) | Reading Level (dBμV) | Emission Level (dBμV/m) | Limit (dBμV/m) | Over limit | polarization |
|---|---|---|---|---|---|---|---|---|
| 4927 | 10.53 | 34.01 | 40.90 | 35.63 | 39.27 | 54.00 | -14.73 | Vertical |
| 7392 | 12.68 | 35.99 | 40.11 | 35.26 | 43.82 | 54.00 | -10.18 | Vertical |
| 9840 | 14.13 | 37.17 | 38.01 | 30.97 | 44.26 | 54.00 | -9.74 | Vertical |
| 12322 | 17.71 | 38.99 | 39.41 | 26.57 | 43.86 | 54.00 | -10.14 | Vertical |
| 14770 | 16.57 | 39.73 | 46.35 | 30.26 | 40.21 | 54.00 | -13.79 | Vertical |
| 17235 | 19.67 | 41.20 | 39.53 | 23.58 | 44.92 | 54.00 | -9.08 | Vertical |
| 4927 | 10.53 | 34.01 | 40.90 | 36.27 | 39.91 | 54.00 | -14.09 | Horizontal |
| 7392 | 12.68 | 35.99 | 40.11 | 35.19 | 43.75 | 54.00 | -10.25 | Horizontal |
| 9857 | 14.17 | 37.19 | 37.93 | 32.17 | 45.60 | 54.00 | -8.40 | Horizontal |
| 12322 | 17.71 | 38.99 | 39.41 | 26.06 | 43.35 | 54.00 | -10.65 | Horizontal |
| 14770 | 16.57 | 39.73 | 46.35 | 32.29 | 42.24 | 54.00 | -11.76 | Horizontal |
| 17235 | 19.67 | 41.20 | 39.53 | 23.47 | 44.81 | 54.00 | -9.19 | Horizontal |

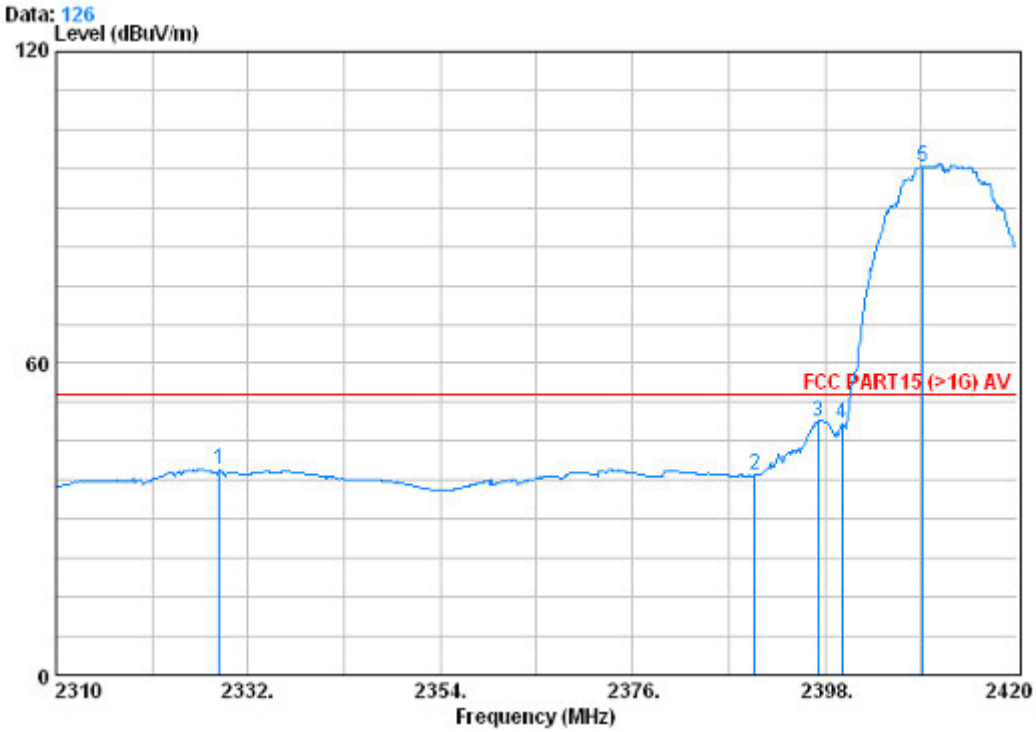
## 5.8.3 Band edge (Radiated Emission)

| Test mode: | 802.11b |
|---|---|

Vertical:

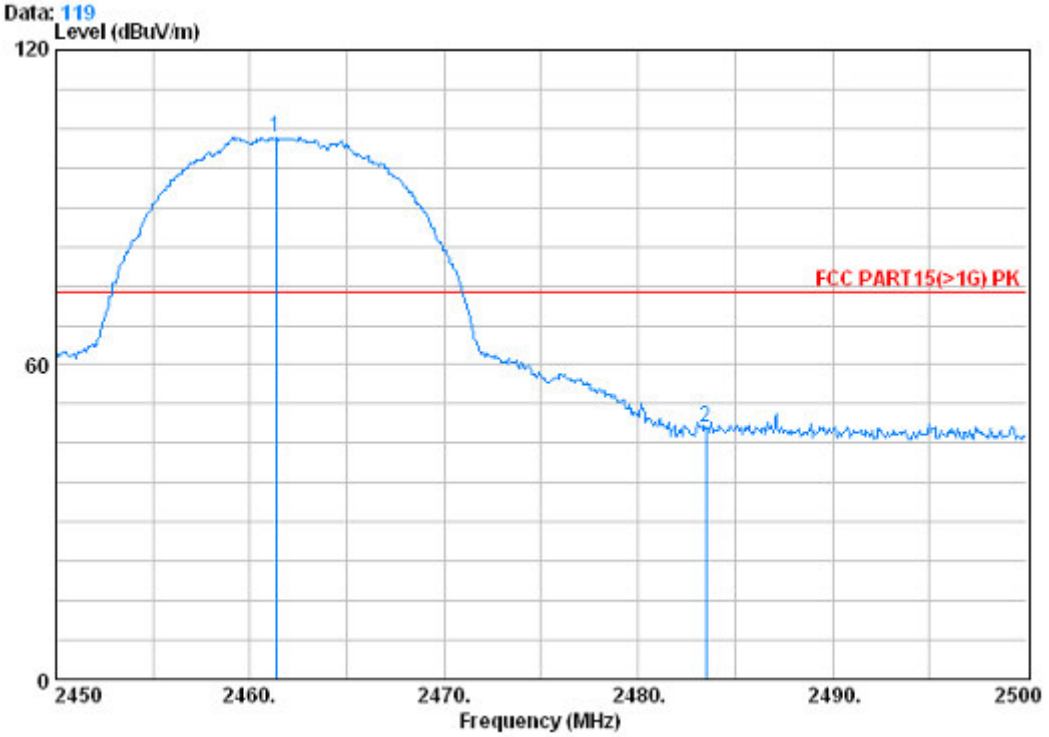



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2371.050 | 6.23 | 32.23 | 39.19 | 56.32 | 55.58 | 74.00 | -18.42 | Peak |
| 2 | 2390.000 | 6.28 | 32.24 | 39.03 | 52.51 | 52.00 | 74.00 | -22.00 | Peak |
| 3 | 2397.010 | 6.31 | 32.24 | 38.95 | 61.21 | 60.81 | 74.00 | -13.19 | Peak |
| 4 | 2400.000 | 6.34 | 32.25 | 38.87 | 60.29 | 60.01 | 74.00 | -13.99 | Peak |
| 5 @ | 2409.860 | 6.25 | 32.25 | 38.83 | 104.07 | 103.74 | 74.00 | 29.74 | Peak |

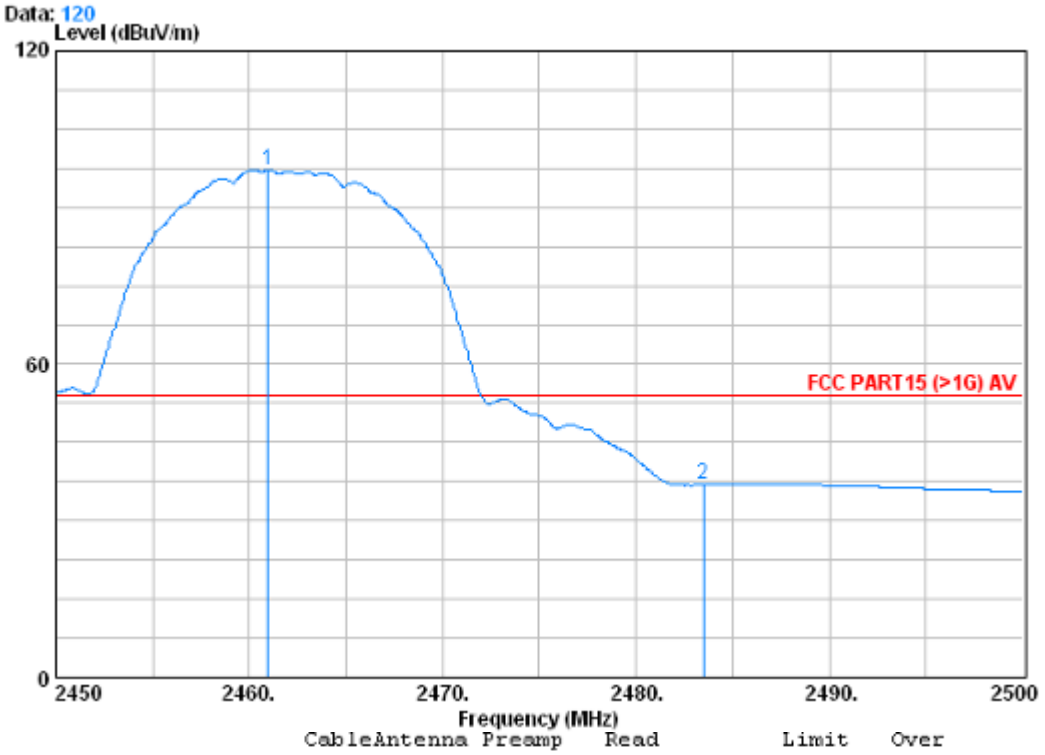



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2328.700 | 6.02 | 32.20 | 39.75 | 41.08 | 39.56 | 54.00 | -14.44 | Average |
| 2 | 2390.000 | 6.28 | 32.24 | 39.03 | 38.97 | 38.46 | 54.00 | -15.54 | Average |
| 3 | 2397.230 | 6.31 | 32.24 | 38.95 | 49.28 | 48.88 | 54.00 | -5.12 | Average |
| 4 | 2400.000 | 6.34 | 32.25 | 38.87 | 48.59 | 48.30 | 54.00 | -5.70 | Average |
| 5 @ | 2409.220 | 6.25 | 32.25 | 38.83 | 98.26 | 97.93 | 54.00 | 43.93 | Average |

| Test mode: | 802.11b |
|---|---|

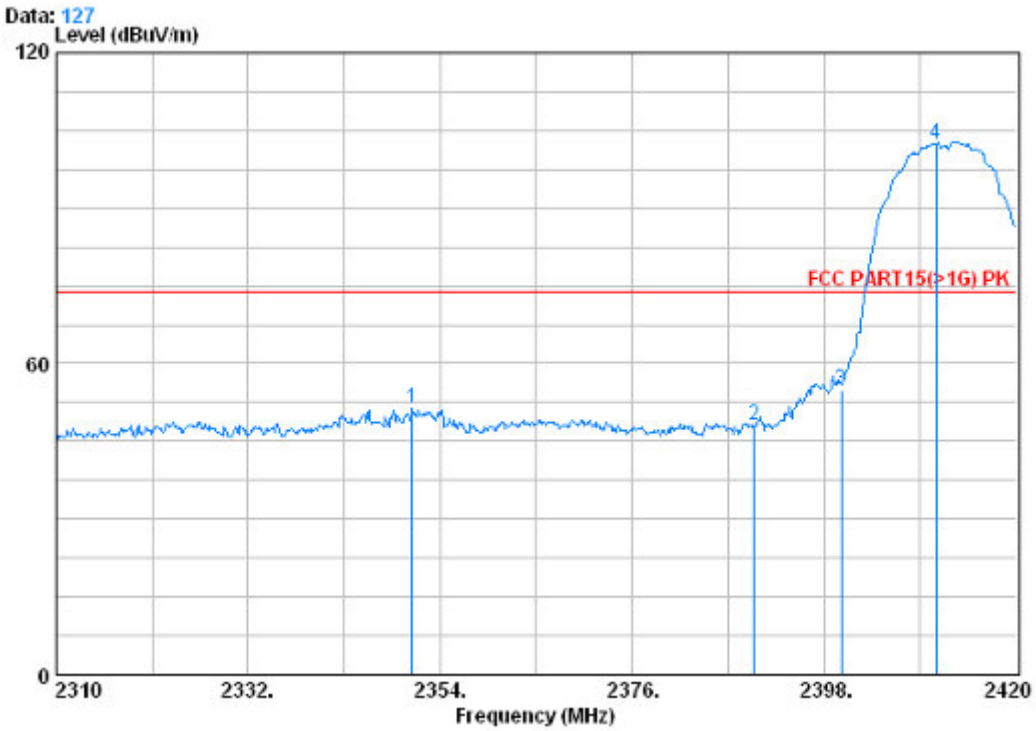



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2461.350 | 6.70 | 32.28 | 39.61 | 104.10 | 103.47 | 74.00 | 29.47 | Peak |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 49.20 | 48.18 | 74.00 | -25.82 | Peak |

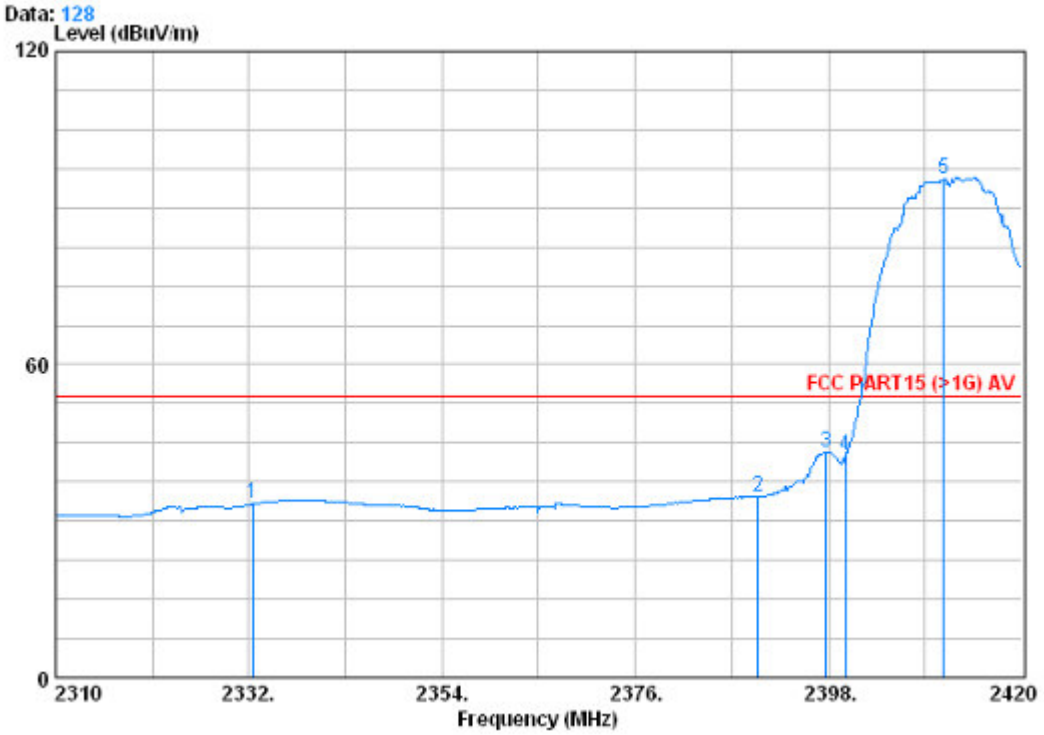



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2460.950 | 6.70 | 32.28 | 39.61 | 97.81 | 97.18 | 54.00 | 43.18 | Average |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 37.94 | 36.93 | 54.00 | -17.07 | Average |

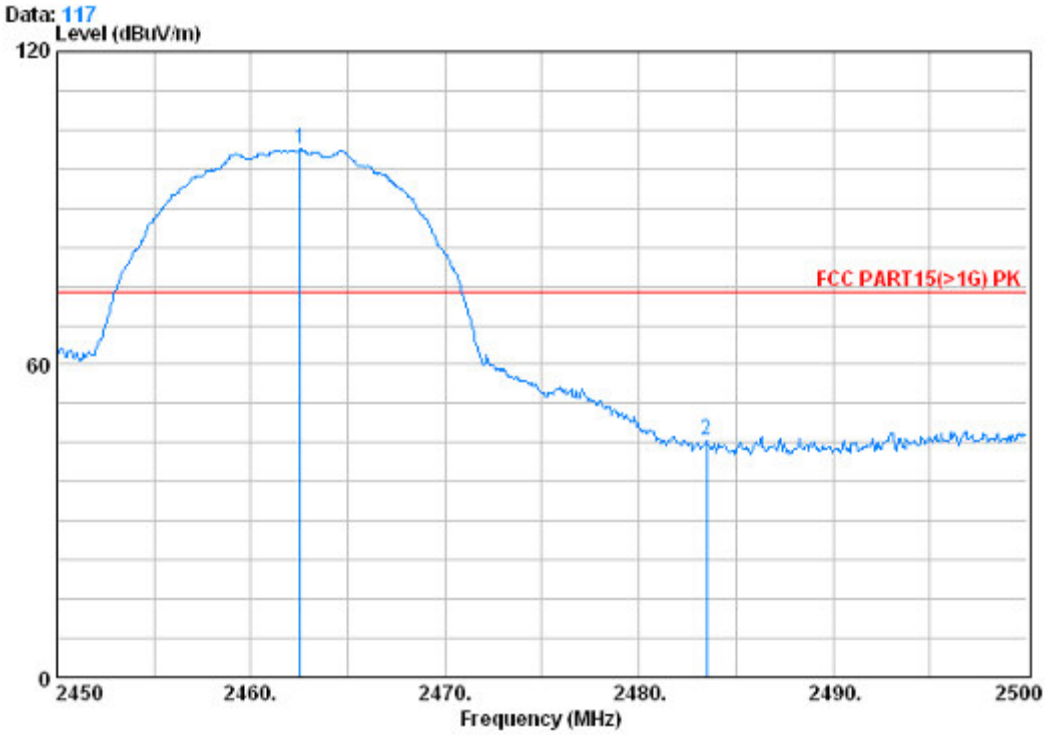
Horizontal:



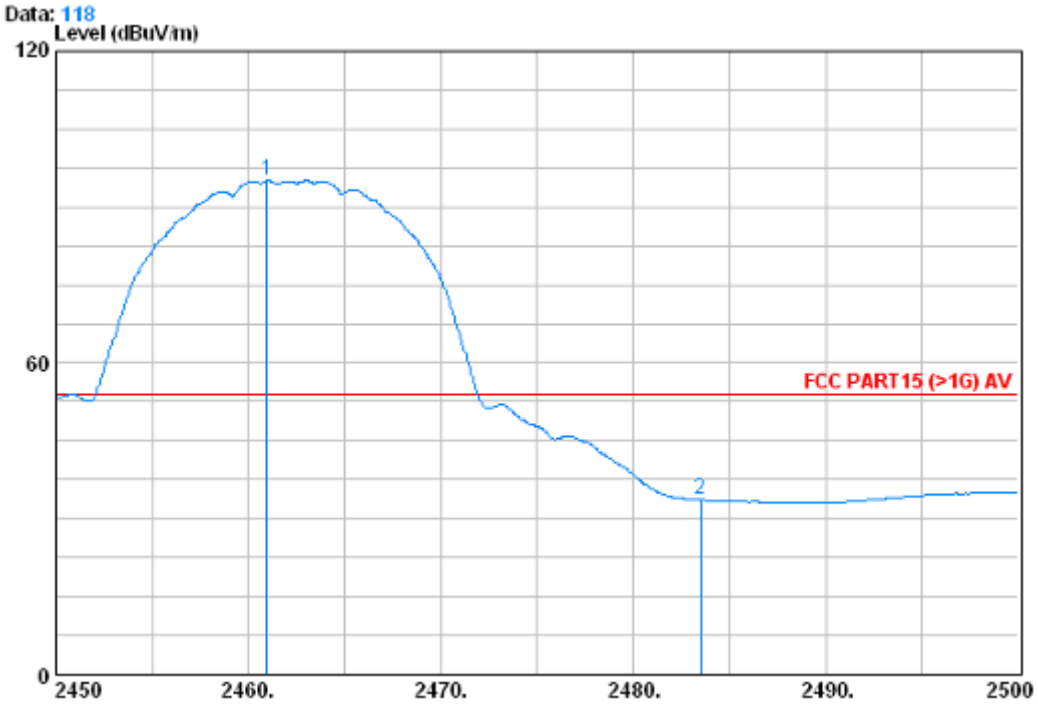

| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2350.810 | 6.14 | 32.22 | 39.43 | 52.38 | 51.30 | 74.00 | -22.70 | Peak |
| 2 | 2390.000 | 6.28 | 32.24 | 39.03 | 48.62 | 48.11 | 74.00 | -25.89 | Peak |
| 3 | 2400.000 | 6.34 | 32.25 | 38.87 | 55.12 | 54.83 | 74.00 | -19.17 | Peak |
| 4 @ | 2410.870 | 6.25 | 32.25 | 38.83 | 102.82 | 102.49 | 74.00 | 28.49 | Peak |




| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2332.440 | 6.05 | 32.21 | 39.67 | 34.67 | 33.26 | 54.00 | -20.74 | Average |
| 2 | 2390.000 | 6.28 | 32.24 | 39.03 | 35.12 | 34.61 | 54.00 | -19.39 | Average |
| 3 | 2397.780 | 6.34 | 32.25 | 38.87 | 43.58 | 43.30 | 54.00 | -10.70 | Average |
| 4 | 2400.000 | 6.34 | 32.25 | 38.87 | 42.87 | 42.58 | 54.00 | -11.42 | Average |
| 5 @ | 2411.090 | 6.25 | 32.25 | 38.83 | 95.79 | 95.46 | 54.00 | 41.46 | Average |



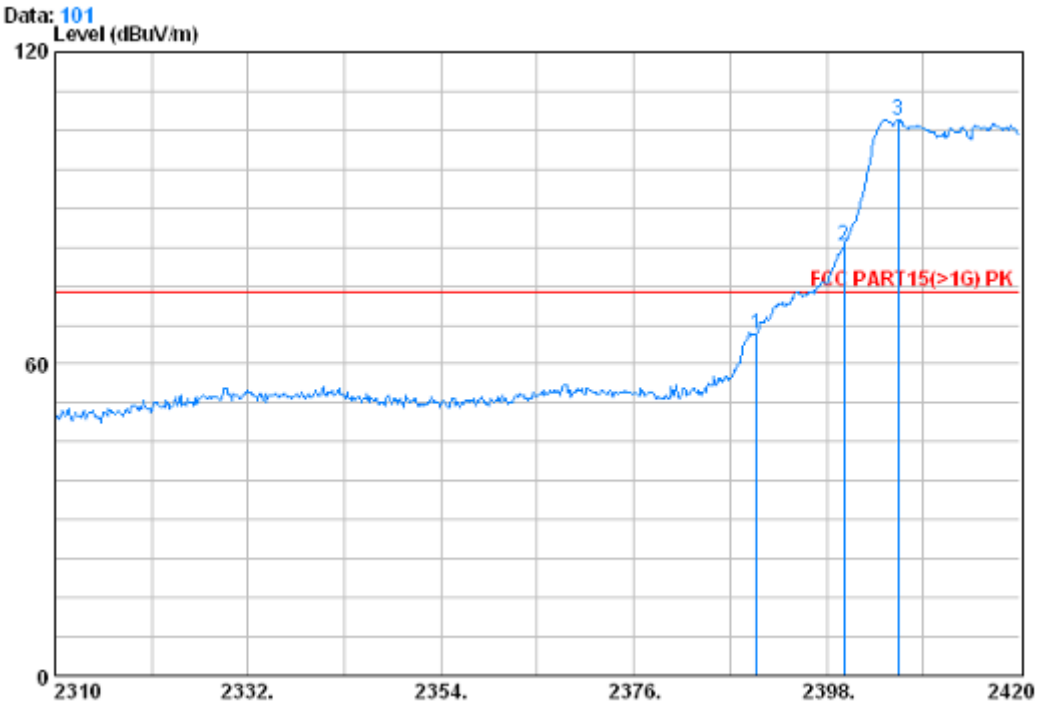

| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2462.550 | 6.70 | 32.28 | 39.61 | 101.85 | 101.22 | 74.00 | 27.22 | Peak |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 46.49 | 45.48 | 74.00 | -28.52 | Peak |



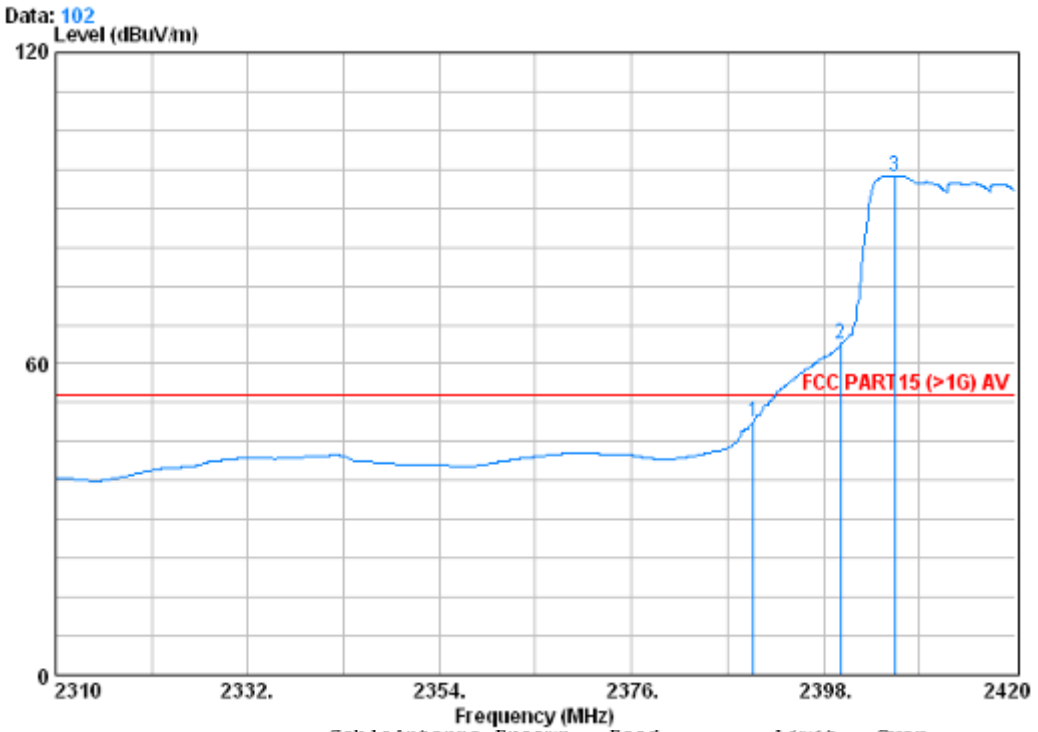

| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2460.950 | 6.70 | 32.28 | 39.61 | 95.72 | 95.09 | 54.00 | 41.09 | Average |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 34.58 | 33.57 | 54.00 | -20.43 | Average |

| Test mode: | 802.11g |
|---|---|

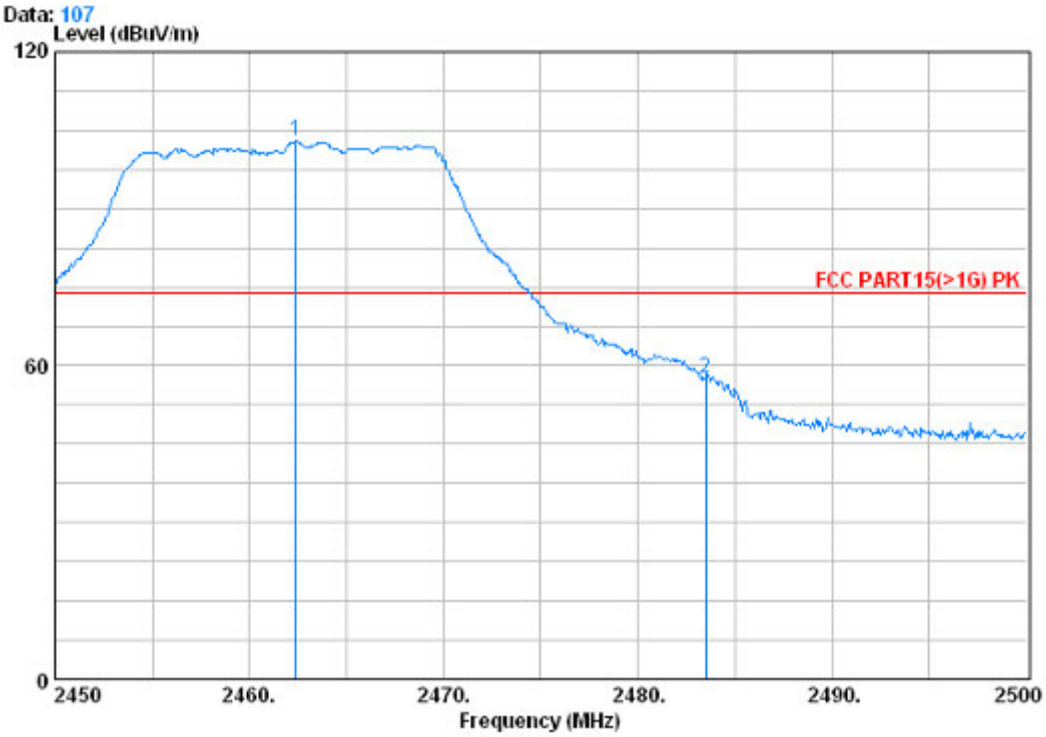
Vertical:



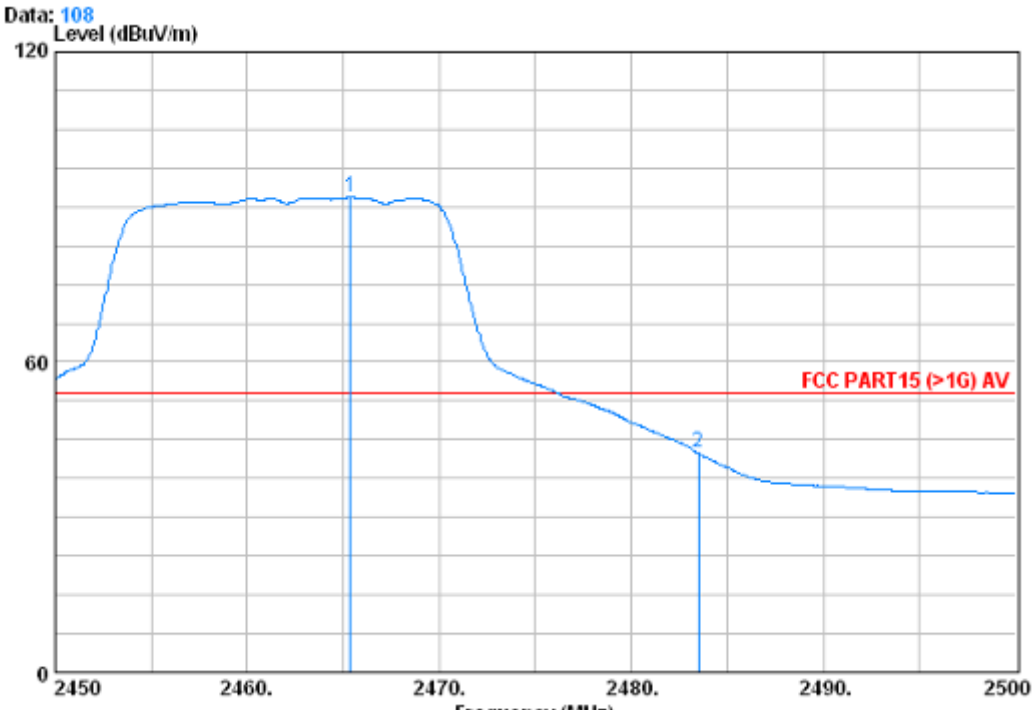

| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 6.28 | 32.24 | 39.03 | 66.32 | 65.81 | 74.00 | -8.19 | Peak |
| 2 X | 2400.000 | 6.34 | 32.25 | 38.87 | 82.90 | 82.62 | 74.00 | 8.62 | Peak |
| 3 @ | 2406.140 | 6.25 | 32.25 | 38.83 | 107.27 | 106.94 | 74.00 | 32.94 | Peak |




| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 6.28 | 32.24 | 39.03 | 49.38 | 48.87 | 54.00 | -5.13 | Average |
| 2 X | 2400.000 | 6.34 | 32.25 | 38.87 | 63.91 | 63.63 | 54.00 | 9.63 | Average |
| 3 @ | 2406.140 | 6.25 | 32.25 | 38.83 | 96.59 | 96.26 | 54.00 | 42.26 | Average |

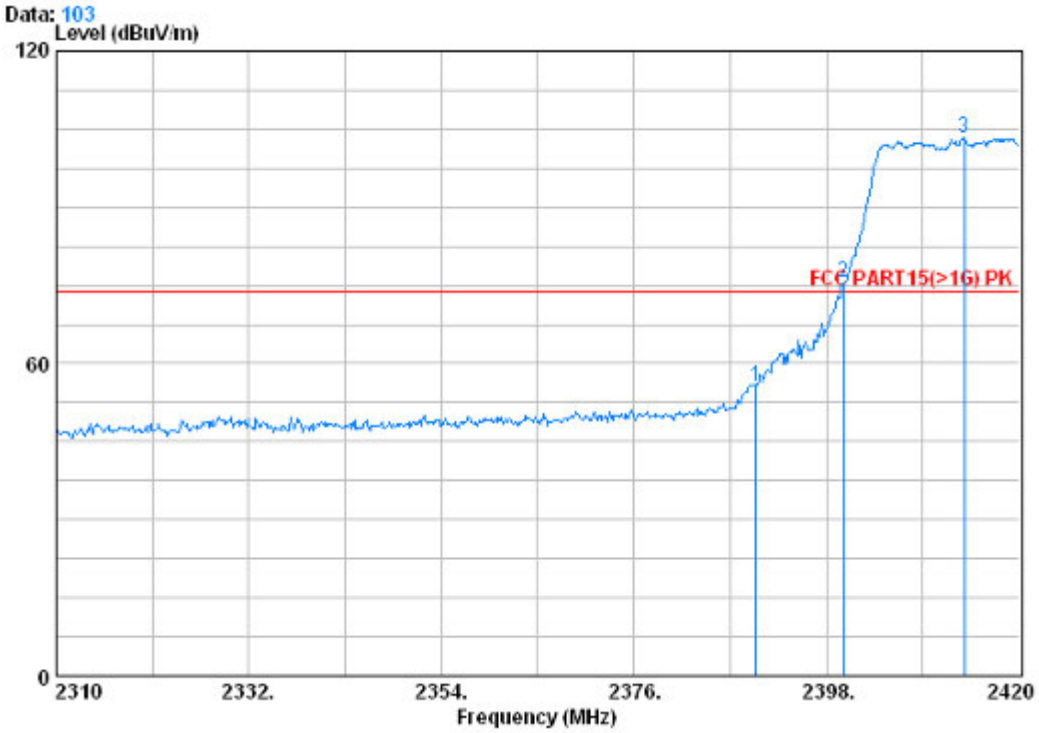



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2462.350 | 6.70 | 32.28 | 39.61 | 103.53 | 102.90 | 74.00 | 28.90 | Peak |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 58.41 | 57.39 | 74.00 | -16.61 | Peak |

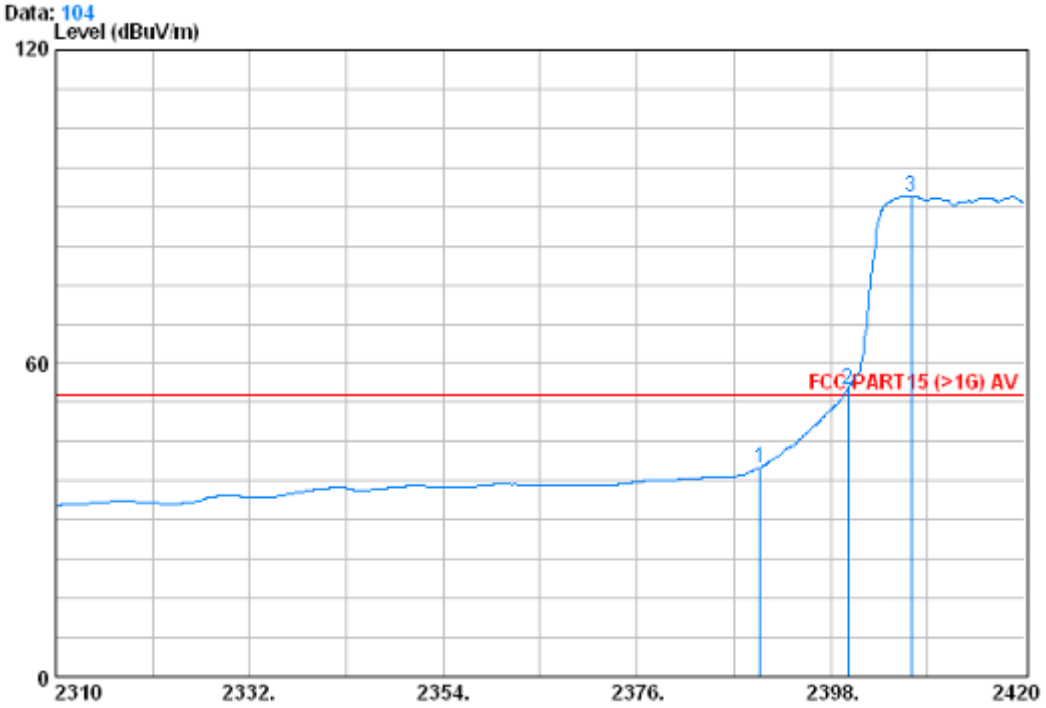



| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2465.350 | 6.70 | 32.28 | 39.61 | 92.40 | 91.77 | 54.00 | 37.77 | Average |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 43.38 | 42.36 | 54.00 | -11.64 | Average |

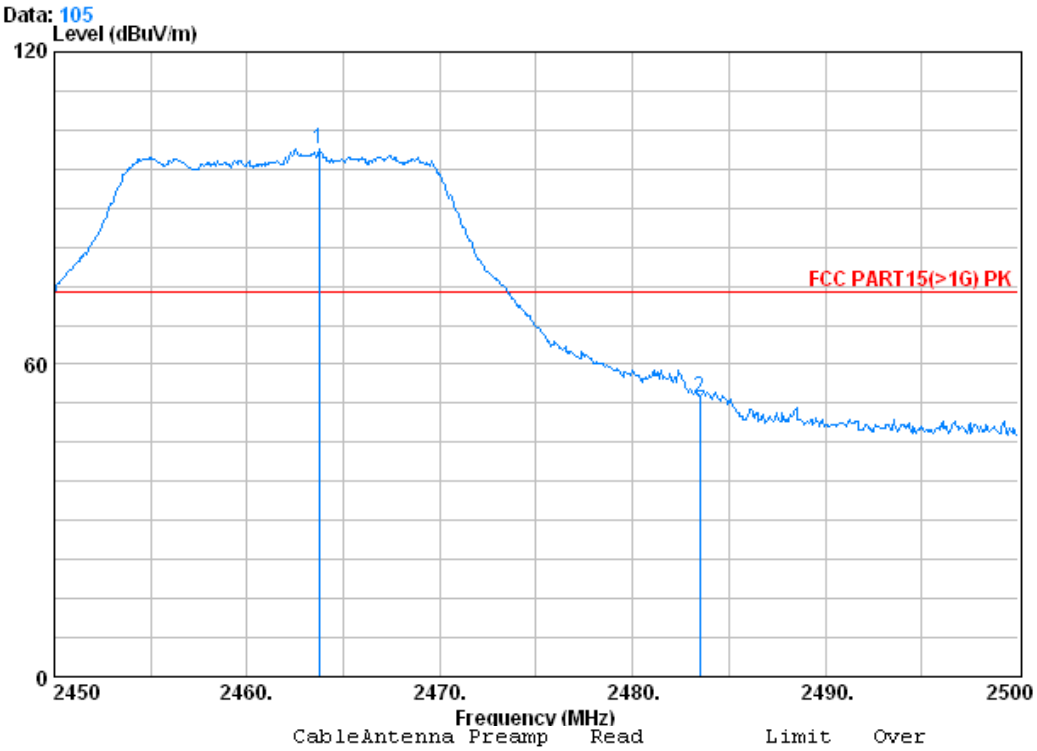
Horizontal:



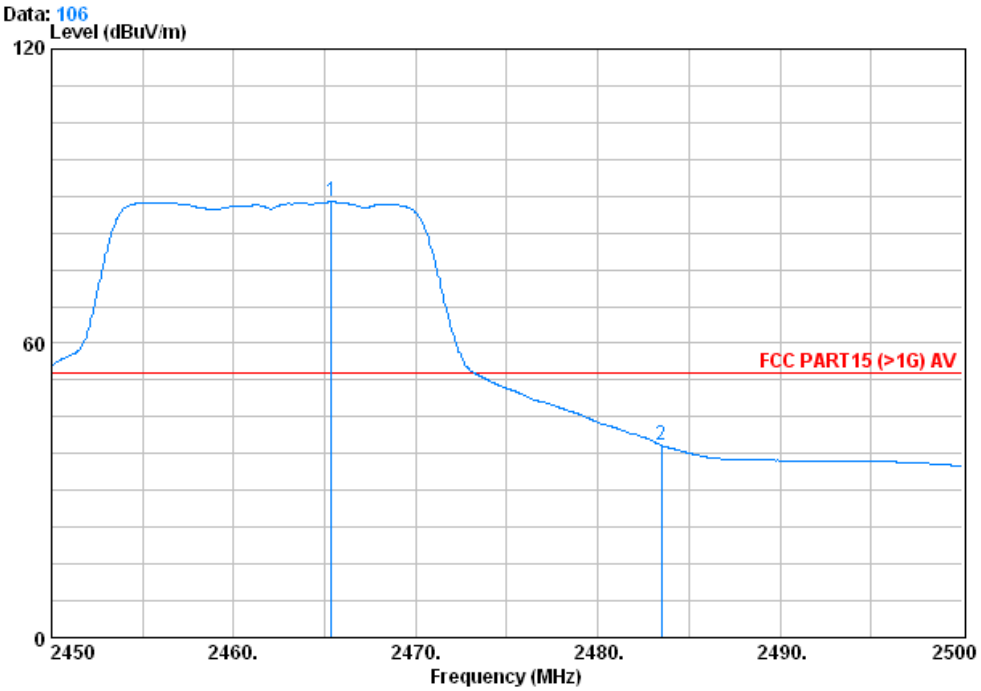

| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 6.28 | 32.24 | 39.03 | 56.25 | 55.74 | 74.00 | -18.26 | Peak |
| 2 X | 2400.000 | 6.34 | 32.25 | 38.87 | 75.86 | 75.57 | 74.00 | 1.57 | Peak |
| 3 @ | 2413.730 | 6.15 | 32.25 | 38.78 | 103.78 | 103.40 | 74.00 | 29.40 | Peak |




| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 6.28 | 32.24 | 39.03 | 40.53 | 40.02 | 54.00 | -13.98 | Average |
| 2 X | 2400.000 | 6.34 | 32.25 | 38.87 | 55.26 | 54.97 | 54.00 | 0.97 | Average |
| 3 @ | 2407.130 | 6.25 | 32.25 | 38.83 | 92.35 | 92.02 | 54.00 | 38.02 | Average |




| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2463.750 | 6.70 | 32.28 | 39.61 | 101.93 | 101.31 | 74.00 | 27.31 | Peak |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 54.78 | 53.77 | 74.00 | -20.23 | Peak |




| | Freq | Cable Loss | Antenna Factor | Preamp Factor | Read Level | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dB | dB/m | dB | dBuV | dBuV/m | dBuV/m | dB | |
| 1 @ | 2465.350 | 6.70 | 32.28 | 39.61 | 89.46 | 88.83 | 54.00 | 34.83 | Average |
| 2 | 2483.500 | 6.22 | 32.29 | 39.53 | 40.25 | 39.23 | 54.00 | -14.77 | Average |