FCC PART 15.247

# EMI MEASUREMENT AND TEST REPORT

For

## Fuzhou Smart Digital Science & Technology Co., Ltd.

No.8 Building, Hongshan Science & Technology Zone, Gulou District, Fuzhou, Fujian, China

**FCC ID: Y5VMW0812**

May 9, 2011

| This Report Concerns: Original Report | Equipment Type: AOC TABLET |
|---|---|
| Test Engineer: | Jack Liu |
| Report No.: | BST11050058Y-1ER-3 |
| Receive EUT Date/Test Date: | April 29, 2011/ May 4-7, 2011 |
| Reviewed By: | Christina |
| Prepared By: | **Shenzhen BST Technology Co.,Ltd.**<br>3F,Weames Technology Building,<br>No. 10 Kefa Road,Science Park,<br>Nanshan District,Shenzhen,Guangdong,China<br>Tel: 0755-26747751～3<br>Fax: 0755-26747751～3 ext.826 |

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# 1. GENERAL INFORMATION

## 1.1. Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -
The test site used to collect the radiated data is located on the address of
emitel (Shenzhen) Limited
(FCC Registered Test Site Number: 746887) on
Building 2, 171 Meihua Road, Futian District, Shenzhen, 518049 China
The Test Site is constructed and calibrated to meet the FCC requirements.

## 1.2. Measurement Uncertainty

Available upon request.

# 2. PRODUCT DESCRIPTION

## 2.1. EUT Description

| | | |
|---|---|---|
| Applicant | : | Fuzhou Smart Digital Science & Technology Co., Ltd. |
| Address | : | No.8 Building, Hongshan Science & Technology Zone, Gulou District, Fuzhou, Fujian, China |
| Manufacturer | : | Fuzhou Smart Digital Science & Technology Co., Ltd. |
| Address | : | No.8 Building, Hongshan Science & Technology Zone, Gulou District, Fuzhou, Fujian, China |
| EUT Description | : | AOC TABLET |
| Trade Name | : | AOC |
| Modulation | : | 802.11b: DSSS<br>802.11g: OFDM |
| Model Number | : | MW0812 |
| Power Supply | : | DC 5V (Powered by Adapter) or DC 3.7V (Li-ion battery) |
| Antenna connected | : | Unique Antenna |
| Antenna gain | : | 0dBi(2.4GHz) |

## 2.2. Block Diagram of EUT Configuration

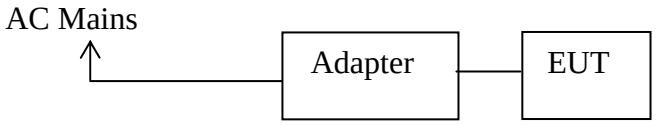



Figure 1 EUT SETUP

## 2.3. Support Equipment List

Table 2 Ancillary Equipment

| Name | Model No | S/N | Manufacturer | Used "√" |
|---|---|---|---|---|
| Adapter<br>Input: AC 100-240V, 50/60Hz, 0.5A<br>Output: DC 5V, 2.5A | DSA-15P-05 | -- | DVE | √ |

### 2.4. Test Conditions

Temperature: 23~25℃
Relative Humidity: 50~63 %

## 3. FCC ID LABEL

**FCC ID: Y5VMW0812**

**This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions:**
**1. This device may not cause harmful interference, and**
**2. This device must accept any interference received,including interference that may cause undesired operation.**

**Label Location on EUT**

**EUT Bottom View/ FCC ID Label Location**

# 4. TEST RESULTS SUMMARY

**FCC 15 Subpart C,Paragraph 15.247**

| FCC RULES | DESCRIPTION OF TEST | RESULT |
|---|---|---|
| §15.247 (i) , §1.1307 (b) (1), §2.1093 | RF Exposure | PASS |
| §15.203 | Antenna Requirement | PASS |
| §15.207 (a) | Conducted Emissions | PASS |
| §15.247(d) | Spurious Emissions at Antenna Port | PASS |
| §15.205 | Restricted Bands | PASS |
| §15.209, §15.205, §15.247(d) | Spurious Emissions | PASS |
| §15.247 (a)(2) | 6 dB Bandwidth | PASS |
| §15.247(b)(3) | Maximum Peak Output Power | PASS |
| §15.247(d) | 100kHz Bandwidth of Frequency Band Edge | PASS |
| §15.247(e) | Power Spectral Density | PASS |

**Modifications**

No modification was made.

# 5. TEST EQUIPMENT USED

| Equipment/Facilities | Manufacturer | Model # | Serial no. | Date of Cal. | Cal. Interval |
|---|---|---|---|---|---|
| Cable | Resenberger | N/A | NO.1 | Mar 10，2011 | 1 Year |
| Cable | SCHWARZBECK | N/A | NO.2 | Mar 10，2011 | 1 Year |
| Cable | SCHWARZBECK | N/A | NO.3 | Mar 10，2011 | 1 Year |
| LISN | Rohde＆Schwarz | ESH3-Z5 | 100305 | Mar 10，2011 | 1 Year |
| 50Ω Coaxial Switch | ANRITSU CORP | MP59B | 6200283933 | Mar 10，2011 | 1 Year |
| EMI Test Receiver | Rohde＆Schwarz | ESP13 | 100180 | Oct.11,2010 | 1 Year |
| Spectrum Analyzer | Rohde＆Schwarz | FSP40 | 100273 | Sep.10,2010 | 1 Year |
| 3m Semi-Anechoic Chamber | Albatross Projects | 9m×6m×6m | N/A | Feb.20,2011 | 1 Year |
| Signal Generator | FLUKE | PM5418 + Y/C | LO747012 | Feb.20,2011 | 1 Year |
| Signal Generator | FLUKE | PM5418TX | LO738007 | Feb.20,2011 | 1 Year |
| Loop Antenna | SCHWARZBECK | FMZB1516 | 113 | Jan.30,2011 | 1 Year |
| Trilog-Super Broadband Antenna | SCHWARZBECK | VULB9161 | 9161-4079 | Sep.22,2010 | 1 Year |
| Broad-Band Horn Antenna | SCHWARZBECK | BBHA9120D | 9120D-564 | Sep.22,2010 | 1 Year |
| Ultra Broadband Antenna | Rohde＆Schwarz | HL-562 | 100110 | June.15,2010 | 1 Year |
| AMN | Rohde＆Schwarz | ESH3-Z5 | 100196 | Oct.11,2010 | 1 Year |
| AMN | Rohde＆Schwarz | ESH3-Z5 | 100197 | Oct.11,2010 | 1 Year |
| Pulse Limiter | Rohde＆Schwarz | ESH3-Z2 | N/A | N/A | N/A |
| Power Meter | Rohde＆Schwarz | NRVD | 100041 | Feb.20,2011 | 1 Year |
| EMI Test Receiver | Rohde＆Schwarz | ESCS30 | 100003 | Feb.20,2011 | 1 Year |
| Coaxial Cable with N-connectors | SCHWARZBECK | AK9515H | 95549 | Sep.22,2010 | 1 Year |
| Radio Communication Test Set | Rohde＆Schwarz | CMS 54 | 846621/024 | Feb.20,2011 | 1 Year |
| Modulation Analyzer | Hewlett-Packard | 8901B | 2303A00362 | Feb.20,2011 | 1 Year |
| Absorbing clamp | Rohde＆Schwarz | MDS-21 | N/A | Oct.11,2010 | 1 Year |

# 6. §15.247 (I) AND §1.1307 (B) (1), §2.1093 – RF EXPOSURE

## 6.1. Standard Applicable

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

According to FCC Exclusion list, In the following table, $f_{GHz}$ is mid-band frequency in GHz, and d is the distance to a person'sbody, excluding hands, wrists, feet, and ankles.

| Exposure category | low threshold | high threshold |
|---|---|---|
| general population | $(60/f_{GHz})$ mW, $d < 2.5$ cm<br>$(120/f_{GHz})$ mW, $d \geq 2.5$ cm | $(900/f_{GHz})$ mW, $d < 20$ cm |
| occupational | $(375/f_{GHz})$ mW, $d < 2.5$ cm<br>$(900/f_{GHz})$ mW, $d \geq 2.5$ cm | $(2250/f_{GHz})$ mW, $d < 20$ cm |

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

## 6.2. Test Result

**Measurement Result:**

The Max peak output power is 19.7mW<24.9mW.

The SAR measurement is not required.

# 7. §15.203 - ANTENNA REQUIREMENT

## 7.1. Standard Applicable

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

## 7.2. Antenna Connector Construction

The antenna used in this product is a unique antenna. The antenna is permanently attached. Refer to the product photo.

# 8. §15.207 - CONDUCTED EMISSIONS

## 8.1. Applicable Standard

The specification used was with the FCC Part 15.207 limits.

## 8.2. Test Procedure

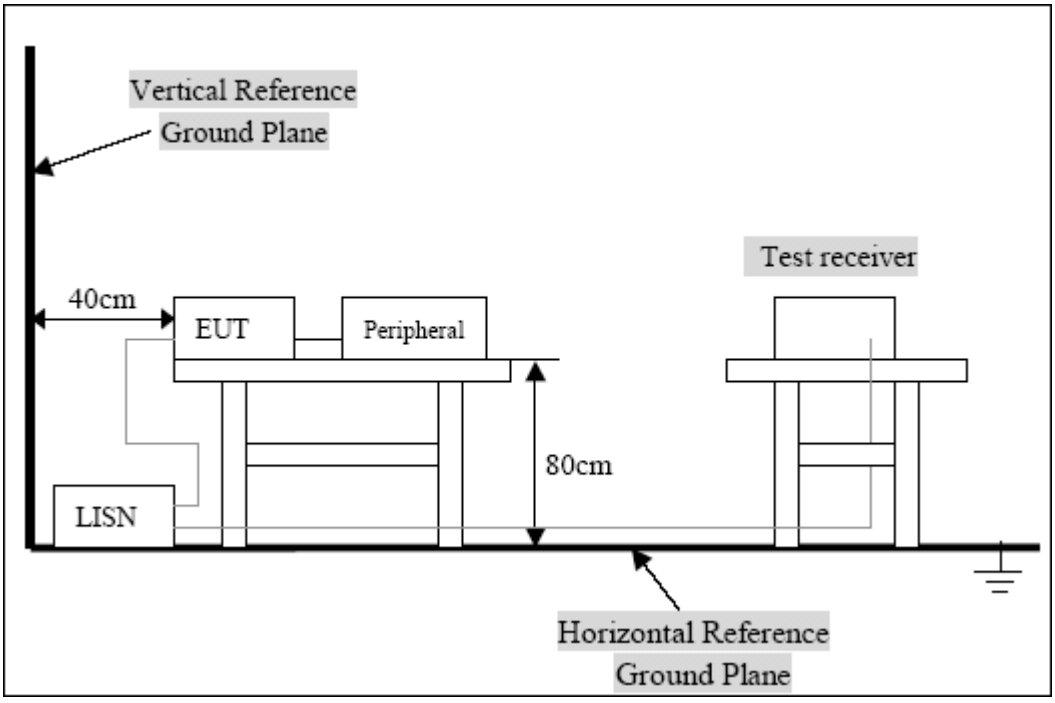
During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

## 8.3. Conducted Power line Emission Limits

| FCC Part 15 Paragraph 15.207 (dBuV) | | |
|---|---|---|
| Frequency Range (MHz) | Class A QP/AV | Class B QP/AV |
| 0.15-0.5 | 79/66 | 65-56/56-46 |
| 0.5-5.0 | 73/60 | 56-46 |
| 5.0-3.0 | 73/60 | 60-50 |

Note: In the above table, the tighter limit applies at the band edges.

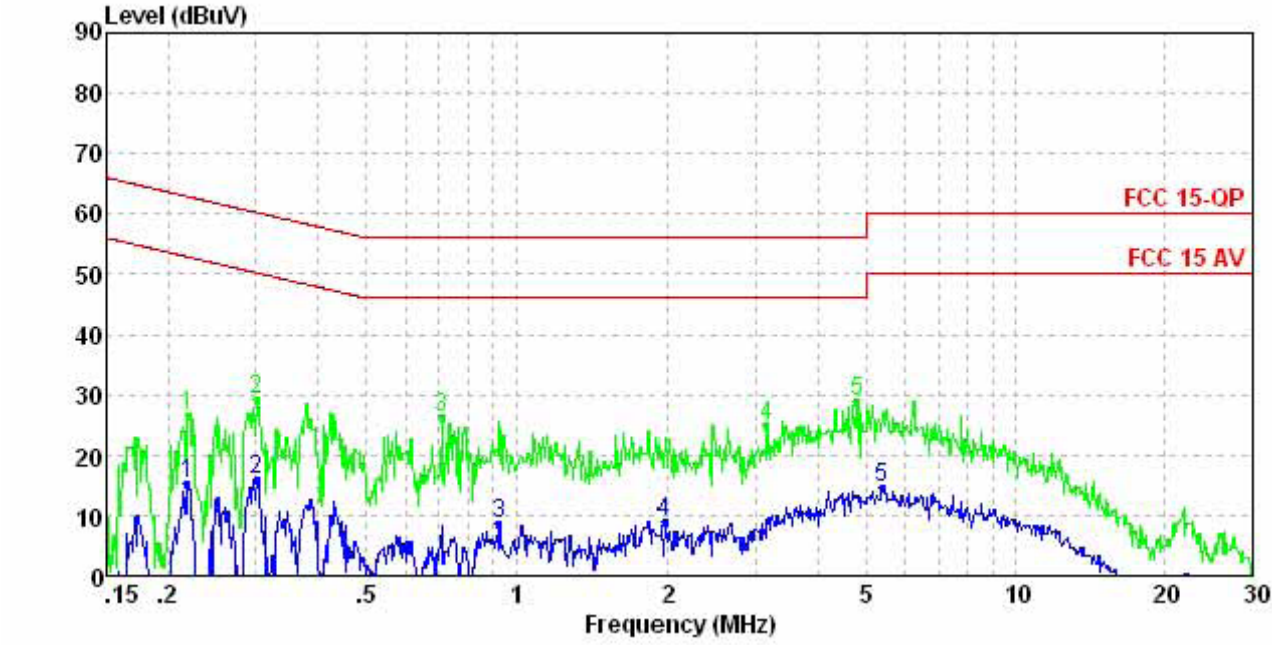
## 8.4. Block Diagram of Test Setup



## 8.5. Conducted Power Line Test Result

**Pass.**

The worst test mode: Wi-Fi TX 2437MHz

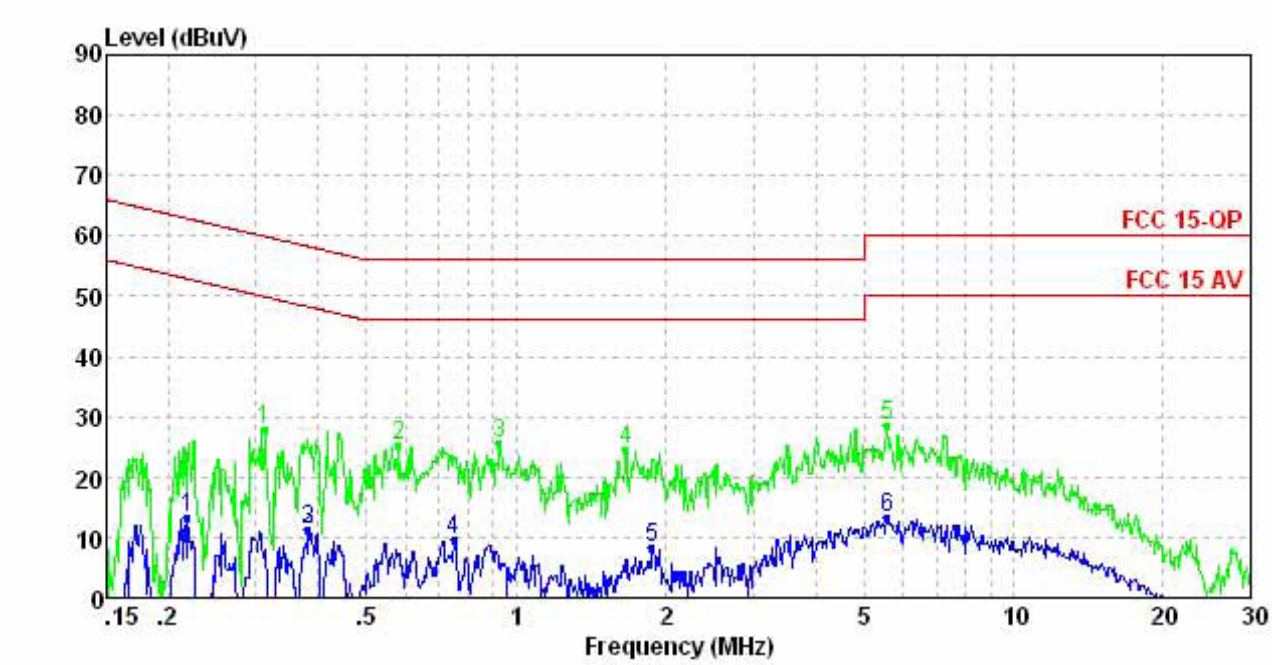



Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.22 | 15.28 | 52.88 | -37.60 | Average | LINE |
| 2 | 0.30 | 15.91 | 50.24 | -34.33 | Average | LINE |
| 3 | 0.92 | 8.78 | 46.00 | -37.22 | Average | LINE |
| 4 | 1.97 | 9.11 | 46.00 | -36.89 | Average | LINE |
| 5 Max | 5.39 | 14.47 | 50.00 | -35.53 | Average | LINE |

Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.22 | 26.48 | 62.83 | -36.35 | Peak | LINE |
| 2 | 0.30 | 29.06 | 60.24 | -31.18 | Peak | LINE |
| 3 | 0.71 | 26.18 | 56.00 | -29.82 | Peak | LINE |
| 4 | 3.16 | 24.95 | 56.00 | -31.05 | Peak | LINE |
| 5 Max | 4.80 | 29.00 | 56.00 | -27.00 | Peak | LINE |




Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.22 | 13.15 | 52.88 | -39.73 | Average | NEUTRAL |
| 2 | 0.38 | 11.34 | 48.25 | -36.91 | Average | NEUTRAL |
| 3 Max | 0.38 | 11.34 | 48.25 | -36.91 | Average | NEUTRAL |
| 4 | 0.75 | 9.54 | 46.00 | -36.46 | Average | NEUTRAL |
| 5 | 1.88 | 8.31 | 46.00 | -37.69 | Average | NEUTRAL |
| 6 | 5.56 | 13.45 | 50.00 | -36.55 | Average | NEUTRAL |

Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.31 | 28.04 | 59.93 | -31.89 | Peak | NEUTRAL |
| 2 | 0.58 | 25.12 | 56.00 | -30.88 | Peak | NEUTRAL |
| 3 Max | 0.92 | 25.61 | 56.00 | -30.39 | Peak | NEUTRAL |
| 4 | 1.66 | 24.45 | 56.00 | -31.55 | Peak | NEUTRAL |
| 5 | 5.56 | 28.64 | 60.00 | -31.36 | Peak | NEUTRAL |

# 9. §15.209, §15.205, §15.247(D) - Spurious Emissions

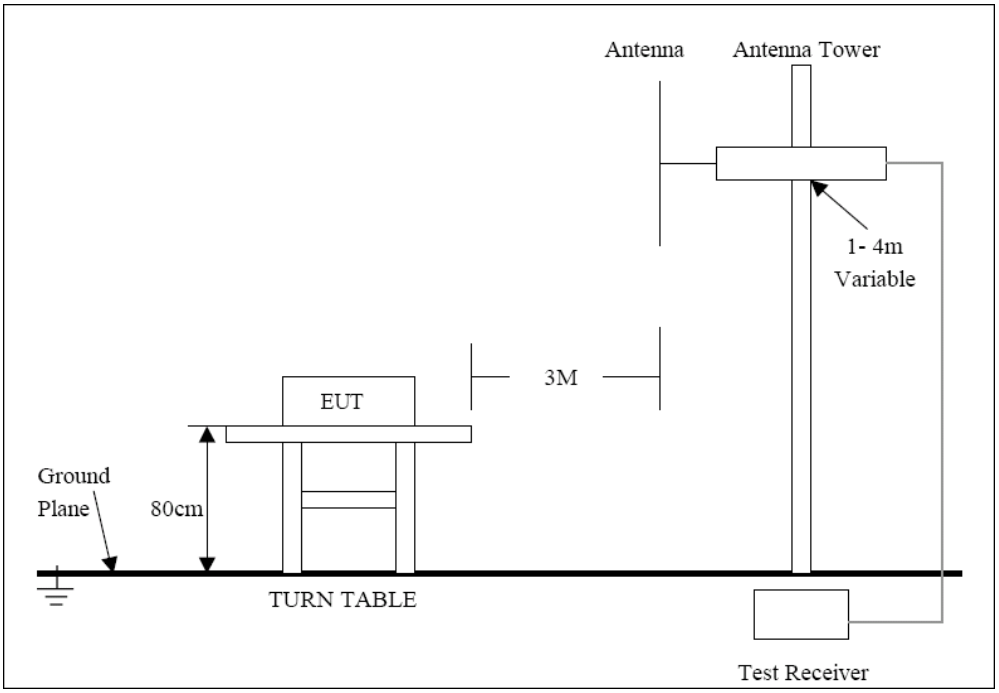
## 9.1. Test Equipment

Please refer to section 2 this report.

## 9.2. Test Procedure

The out of band emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC Part Subpart C limits. The EUT was tested in 3 orthogonal planes.

## 9.3. Radiated Test Setup




For the accrual test configuration,pleas refer to the related items-photos of Testing.

## 9.4. Radiated Emission Limit

CARRIER FREQUENCY WILL NOT EXCEEDS 48.0 dBuV/m AT 3M. OUT-OF-BAND EMISSIONS SHALL NOT EXCEED:

| Frequency (MHz) | Distance (m) | Field Strength (dBuV/m) |
|---|---|---|
| 30-88 | 3 | 40.0 |
| 88-216 | 3 | 43.5 |
| 216-960 | 3 | 46.0 |
| ABOVE 960 | 3 | 54.0 |

## 9.5. Radiated Emission Test Result

**Pass.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11b Channel Low 2412MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2400.000 | 37.59 | 43.58 | -7.46 | 30.13 | 36.12 | 54 | 74 | -23.87 | -37.88 | Vertical |
| 2412.020 | 106.42 | 112.43 | -7.43 | 98.99 | 105.00 | - | - | - | - | Vertical |
| 4824.036 | 50.21 | 56.22 | -0.19 | 50.02 | 56.03 | 54 | 74 | -3.98 | -17.97 | Vertical |
| 7236.052 | 41.97 | 47.96 | 3.05 | 45.02 | 51.01 | 54 | 74 | -8.98 | -22.99 | Vertical |
| 2400.000 | 37.52 | 43.48 | -7.46 | 30.06 | 36.02 | 54 | 74 | -23.94 | -37.98 | Horizontal |
| 2412.020 | 105.59 | 111.56 | -7.43 | 98.16 | 104.13 | - | - | - | - | Horizontal |
| 4824.036 | 49.22 | 55.22 | -0.19 | 49.03 | 55.03 | 54 | 74 | -4.97 | -18.97 | Horizontal |
| 7236.052 | 41.13 | 47.15 | 3.05 | 44.18 | 50.20 | 54 | 74 | -9.82 | -23.80 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11b Channel Middle 2437MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2437.018 | 106.08 | 112.10 | -7.36 | 98.72 | 104.74 | - | - | - | - | Vertical |
| 4874.032 | 50.41 | 56.45 | 0.09 | 50.50 | 56.54 | 54 | 74 | -3.50 | -17.46 | Vertical |
| 7311.048 | 41.56 | 47.56 | 3.22 | 44.78 | 50.78 | 54 | 74 | -9.22 | -23.22 | Vertical |
| 2437.018 | 105.51 | 111.55 | -7.36 | 98.15 | 104.19 | - | - | - | - | Horizontal |
| 4874.032 | 49.16 | 55.20 | 0.09 | 49.25 | 55.29 | 54 | 74 | -4.75 | -18.71 | Horizontal |
| 7311.048 | 40.78 | 46.82 | 3.22 | 44.00 | 50.04 | 54 | 74 | -10.00 | -23.96 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11b Channel High 2462MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2462.020 | 105.77 | 111.79 | -7.35 | 98.42 | 104.44 | - | - | - | - | Vertical |
| 2483.500 | 38.21 | 44.22 | -7.37 | 30.84 | 36.85 | 54 | 74 | -23.16 | -37.15 | Vertical |
| 4924.038 | 49.75 | 55.79 | 0.34 | 50.09 | 56.13 | 54 | 74 | -3.91 | -17.87 | Vertical |
| 7386.054 | 41.51 | 47.55 | 3.39 | 44.90 | 50.94 | 54 | 74 | -9.10 | -23.06 | Vertical |
| 2462.020 | 105.44 | 111.45 | -7.35 | 98.09 | 104.10 | - | - | - | - | Horizontal |
| 2483.500 | 38.54 | 44.55 | -7.37 | 31.17 | 37.18 | 54 | 74 | -22.83 | -36.82 | Horizontal |
| 4924.038 | 48.93 | 54.96 | 0.34 | 49.27 | 55.30 | 54 | 74 | -4.73 | -18.70 | Horizontal |
| 7386.054 | 39.39 | 45.37 | 3.39 | 42.78 | 48.76 | 54 | 74 | -11.22 | -25.24 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11g Channel Low 2412MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2400.000 | 38.92 | 44.95 | -7.46 | 31.46 | 37.49 | 54 | 74 | -22.54 | -36.51 | Vertical |
| 2412.016 | 105.11 | 111.16 | -7.43 | 97.68 | 103.73 | - | - | - | - | Vertical |
| 4824.028 | 50.69 | 56.74 | -0.19 | 50.50 | 56.55 | 54 | 74 | -3.50 | -17.45 | Vertical |
| 2400.000 | 37.72 | 43.71 | -7.46 | 30.26 | 36.25 | 54 | 74 | -23.74 | -37.75 | Horizontal |
| 2412.016 | 104.82 | 110.86 | -7.43 | 97.39 | 103.43 | - | - | - | - | Horizontal |
| 4824.028 | 49.36 | 55.40 | -0.19 | 49.17 | 55.21 | 54 | 74 | -4.83 | -18.79 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11g Channel Middle 2437MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2437.018 | 105.04 | 111.07 | -7.36 | 97.68 | 103.71 | - | - | - | - | Vertical |
| 4874.030 | 49.88 | 55.91 | 0.09 | 49.97 | 56.00 | 54 | 74 | -4.03 | -18.00 | Vertical |
| 2437.018 | 104.90 | 110.95 | -7.36 | 97.54 | 103.59 | - | - | - | - | Horizontal |
| 4874.030 | 48.78 | 54.82 | 0.09 | 48.87 | 54.91 | 54 | 74 | -5.13 | -19.09 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

| | | | |
|---|---|---|---|
| Date of Test: | May 4, 2011 | Temperature: | 25°C |
| EUT: | AOC TABLET | Humidity: | 52% |
| Model No.: | MW0812 | Power Supply: | AC 120V/60Hz |
| Test Mode: | 802.11g Channel High 2462MHz | Test Engineer: | Jack |

**For 30MHz-1000MHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

| Frequency (MHz) | Reading (dBμV/m) | Factor Corr. (dB) | Result (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Polarization |
|---|---|---|---|---|---|---|
| | QP | | QP | QP | QP | |
| - | - | - | - | - | - | Vertical |
| - | - | - | - | - | - | Horizontal |

**For 1GHz-25GHz**

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

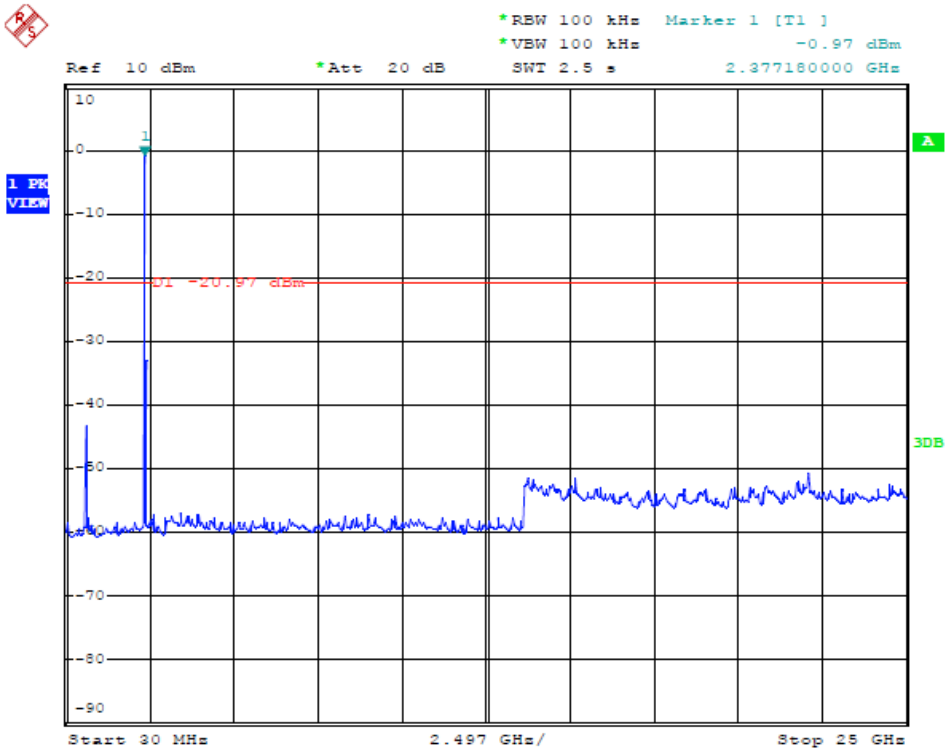
| Frequency (MHz) | Reading(dBμV/m) | | Factor Corr. (dB) | Result(dBμV/m) | | Limit(dBμV/m) | | Margin(dBμV/m) | | Polarization |
|---|---|---|---|---|---|---|---|---|---|---|
| | AV | PEAK | | AV | PEAK | AV | PEAK | AV | PEAK | |
| 2462.017 | 105.44 | 111.46 | -7.35 | 98.09 | 104.11 | - | - | - | - | Vertical |
| 2483.500 | 39.19 | 45.18 | -7.37 | 31.82 | 37.81 | 54 | 74 | -22.18 | -36.19 | Vertical |
| 4924.031 | 49.90 | 55.92 | 0.34 | 50.24 | 56.26 | 54 | 74 | -3.76 | -17.74 | Vertical |
| 2462.017 | 104.57 | 110.60 | -7.35 | 97.22 | 103.25 | - | - | - | - | Horizontal |
| 2483.500 | 39.56 | 45.61 | -7.37 | 32.19 | 38.24 | 54 | 74 | -21.81 | -35.76 | Horizontal |
| 4924.031 | 49.12 | 55.16 | 0.34 | 49.46 | 55.50 | 54 | 74 | -4.54 | -18.50 | Horizontal |

**Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.**

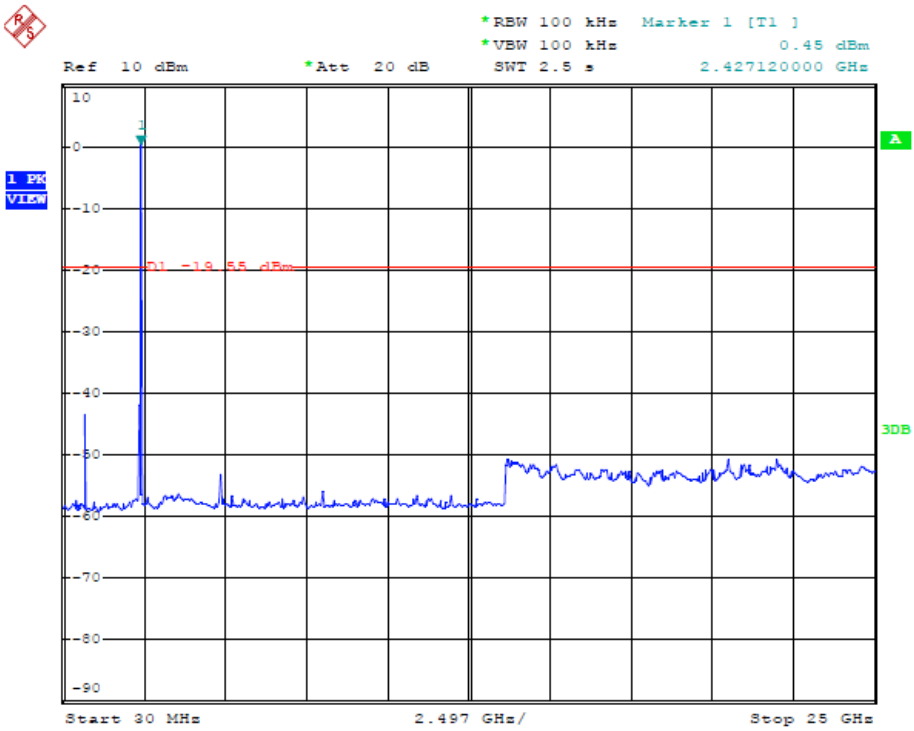
Antenna port conducted spurious emissions

802.11b mode:

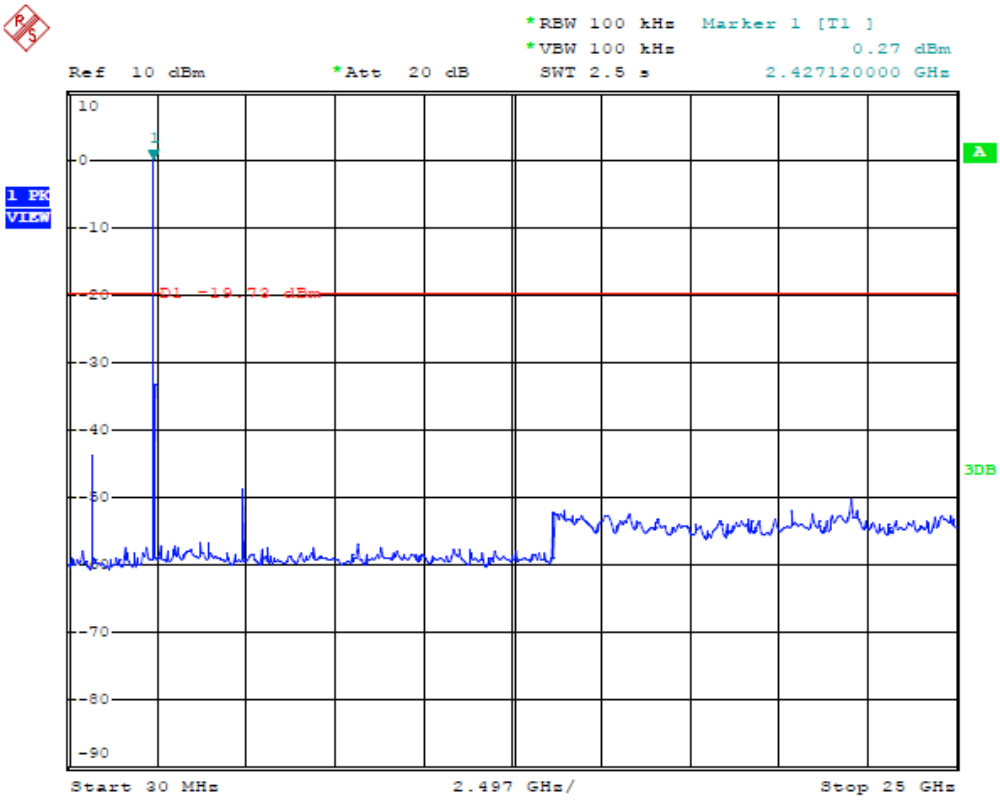
## Low channel




## Middle channel

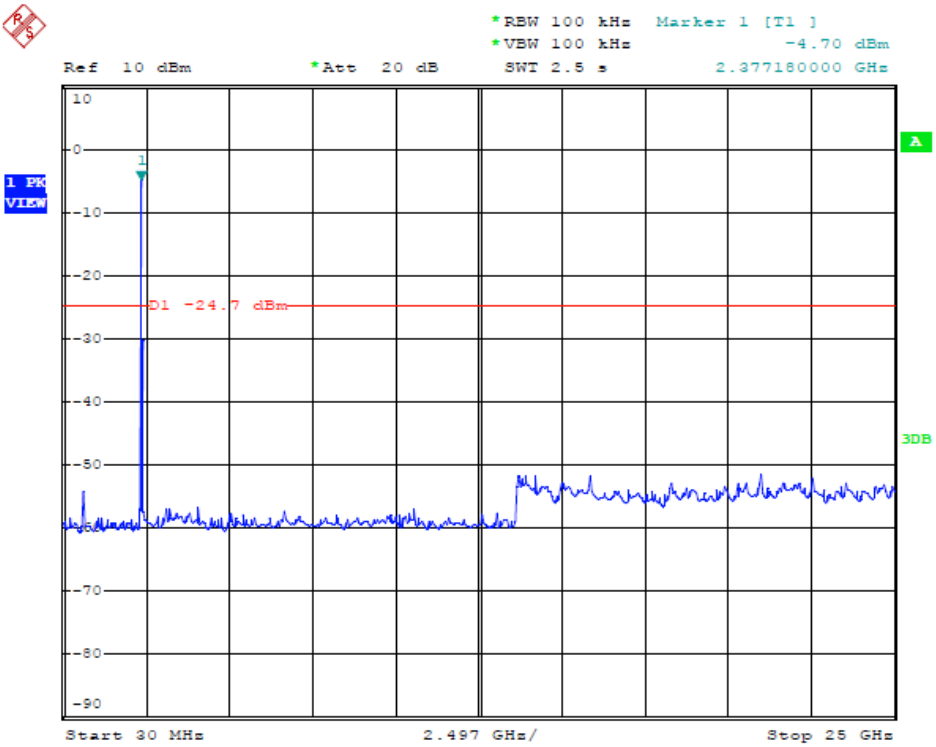


## High channel

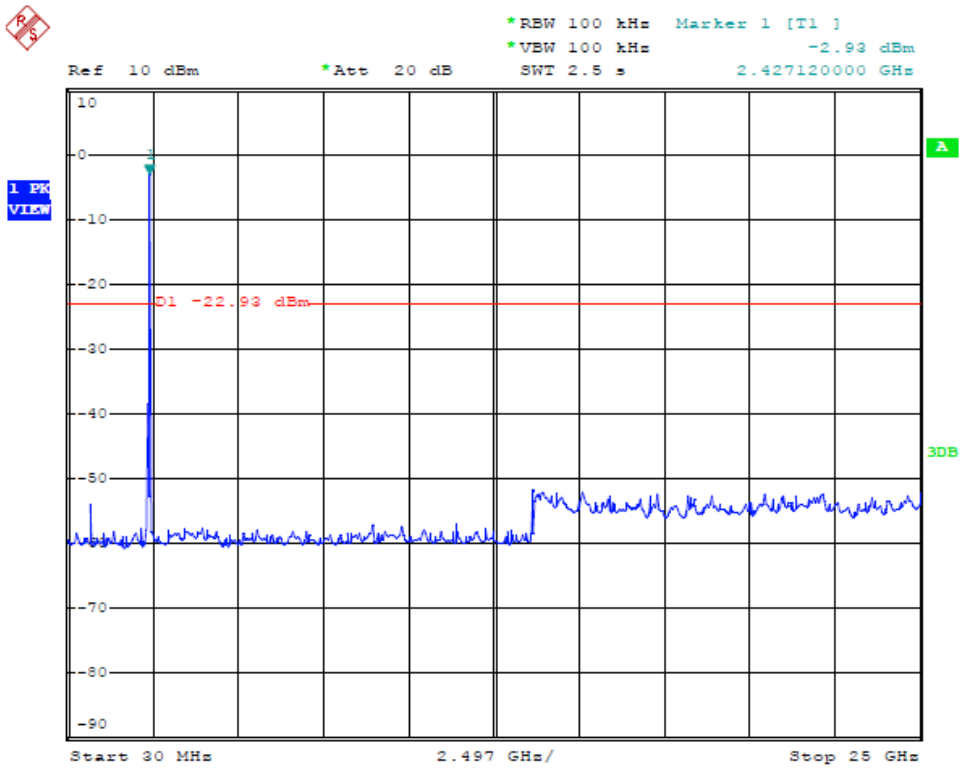



802.11g mode:

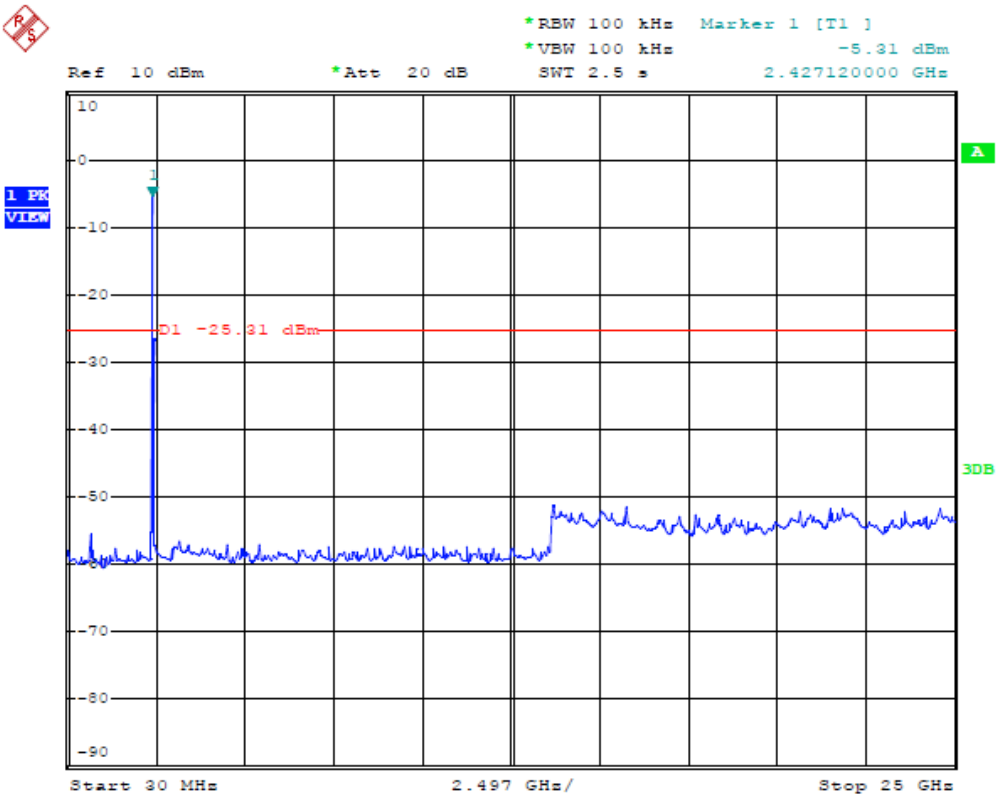
## Low channel



## Middle channel




## High channel



# 10. §15.247(A) (2) – 6DB BANDWIDTH TESTING

## 10.1. Test Equipment

Please refer to Section 4 this report.

## 10.2.Test Procedure

1. Set EUT in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW=100KHz,VB𝕎≥RBW,Span=50MHz,Sweep=auto.
4. Mark the peak frequency and -6dB(upper and lower)frequency.
5. Repeat until all the rest channels are investigated.

## 10.3.Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

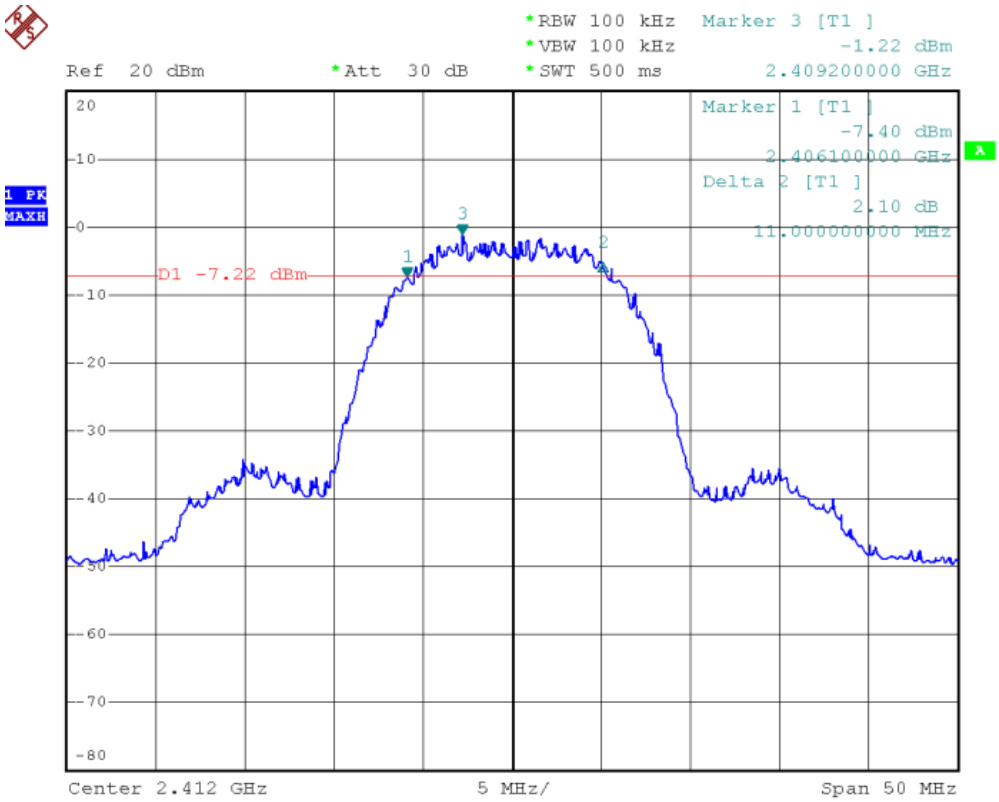
## 10.4.Test Result:Pass.

Please refer to the following tables

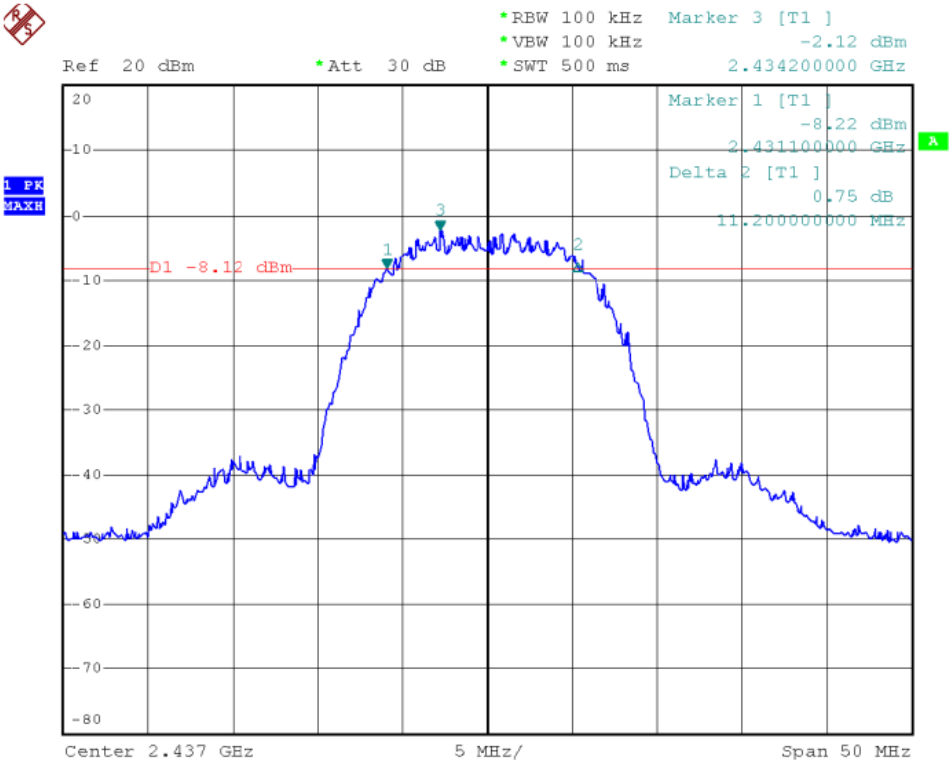
| Channel Frequency (MHz) | Data Rate (Mbps) | 6dB Bandwidth (kHz) | Limit (kHz) | Ref. Plot |
|---|---|---|---|---|
| **802.11b Mode** | | | | |
| 2412 | 1 | 11000 | ＞500 | PLOT 1 |
| 2437 | 1 | 11200 | ＞500 | PLOT 2 |
| 2462 | 1 | 11200 | ＞500 | PLOT 3 |
| **802.11g Mode** | | | | |
| 2412 | 6 | 16400 | ＞500 | PLOT 4 |
| 2437 | 6 | 16400 | ＞500 | PLOT 5 |
| 2462 | 6 | 16400 | ＞500 | PLOT 6 |

## 802.11b Mode:

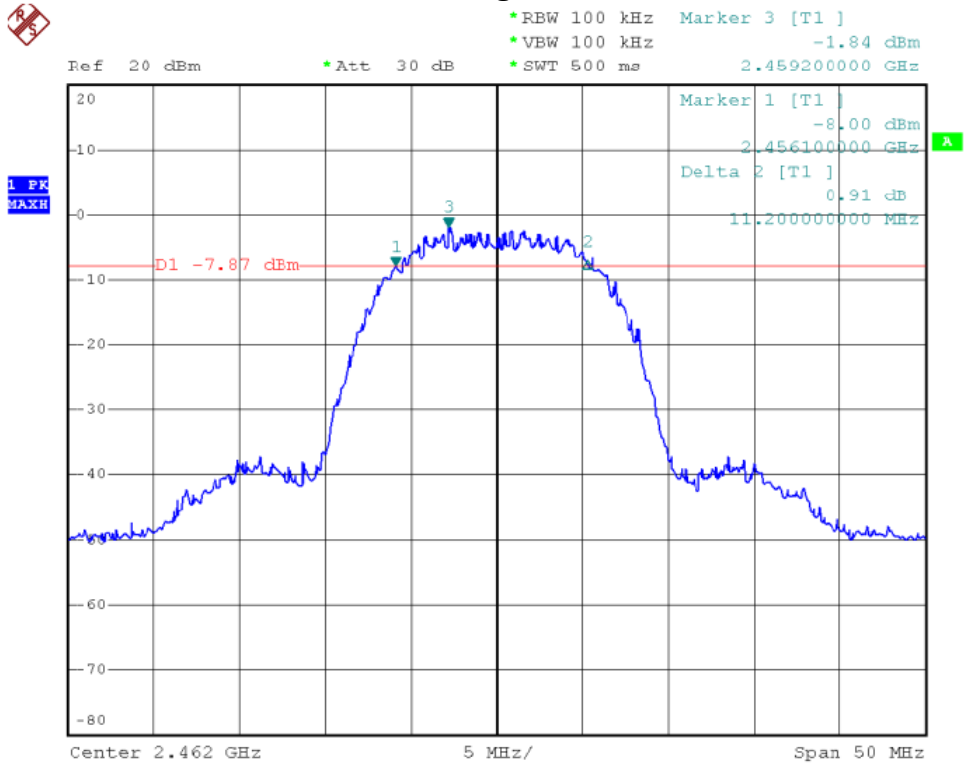
### Low Channel




### Middle Channel

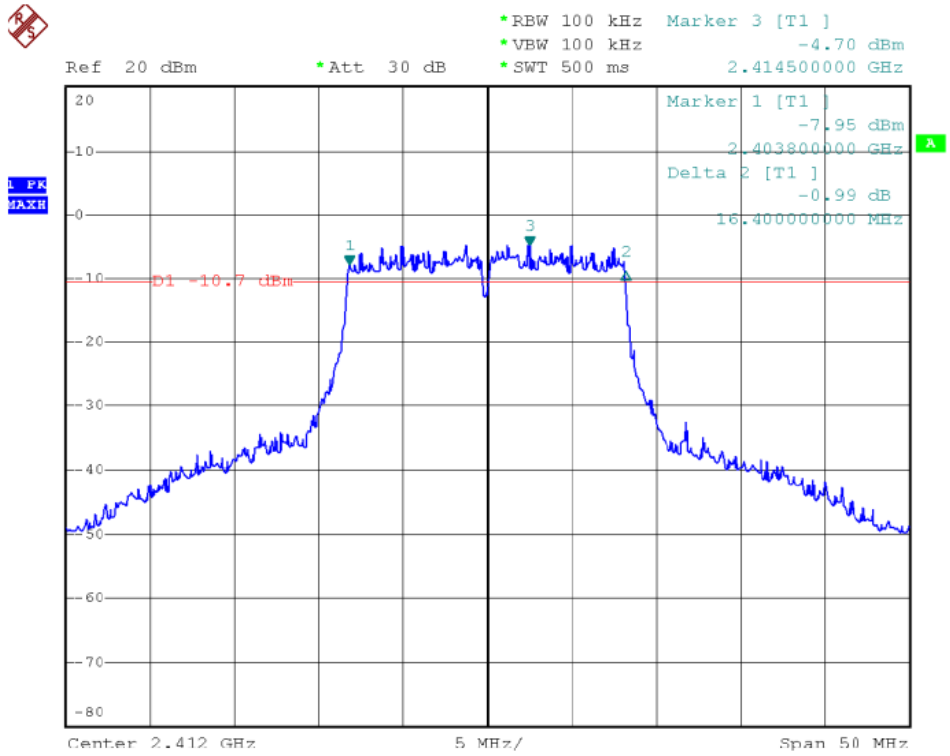


**High Channel**

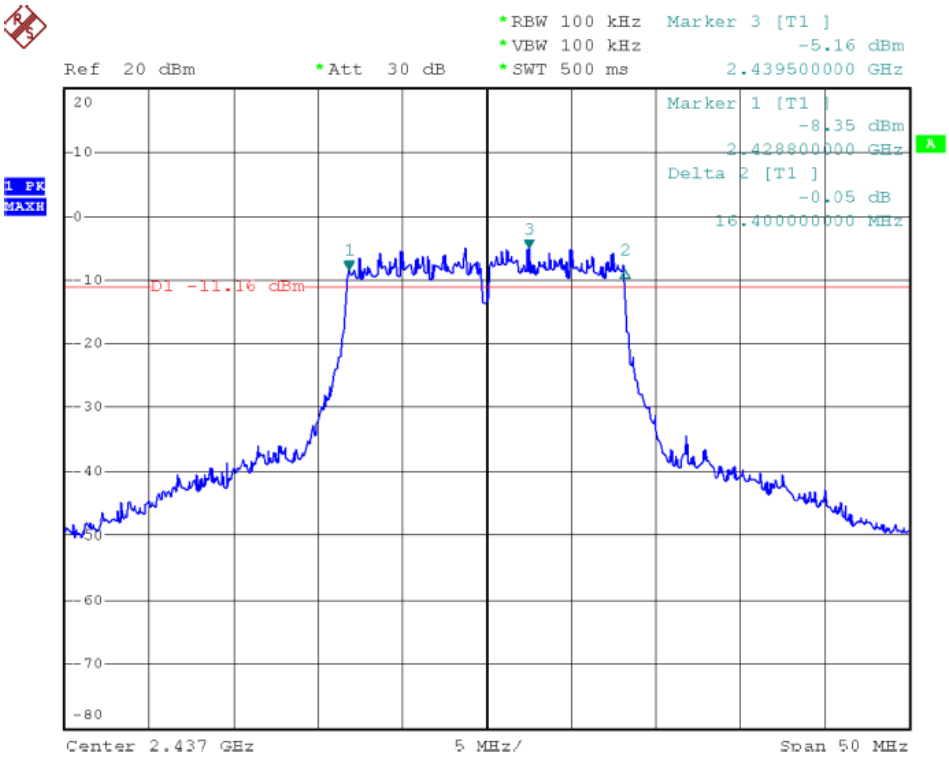



**802.11g Mode:**

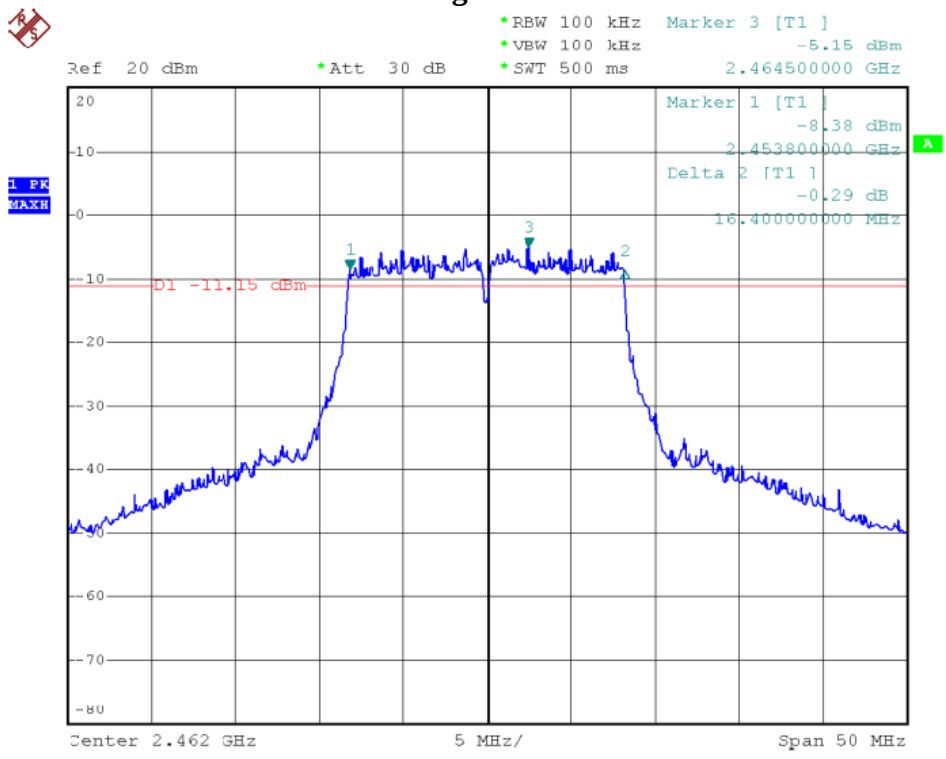
**Low Channel**



## Middle Channel




## High Channel



# 11. §15.247(B) (3) - Maximum Peak Output Power

## 11.1. Test Equipment

Please refer to Section 4 this report.

## 11.2.Test Procedure

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz.
3. Set VBW≥3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

## 11.3.Applicable Standard

According to §15.247(b) (3), for systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

## 11.4. Test Result

**Pass**

**802.11b Mode:**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Conducted Power (dBm) | Limit (dBm) |
|---|---|---|---|---|
| **Low** | 2412 | 1 | 12.46 | 30 |
| **Mid** | 2437 | 1 | 12.34 | 30 |
| **High** | 2462 | 1 | 12.06 | 30 |

**802.11g Mode:**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Conducted Power (dBm) | Limit (dBm) |
|---|---|---|---|---|
| **Low** | 2412 | 6 | 12.95 | 30 |
| **Mid** | 2437 | 6 | 12.46 | 30 |
| **High** | 2462 | 6 | 12.55 | 30 |

# 12. §15.247(D) – 100 KHZ Bandwidth of Frequency Band Edge

## 12.1.Test Equipment

Please refer to Section 4 this report.

## 12.2.Test Procedure

1, Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

2, Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.

3,Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

Note: For Rdstricted Band

RBW=1MHz

VBW=1 MHz

4, Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

5,Repeat above procedures until all measured frequencies were complete.

## 12.3.Applicable Standard

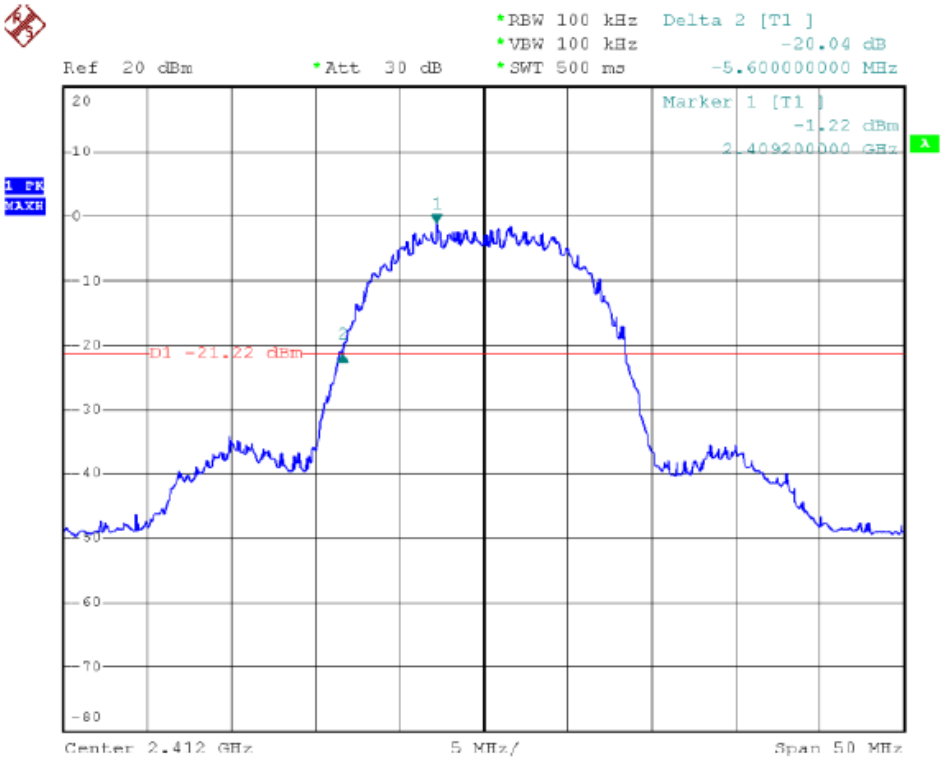
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

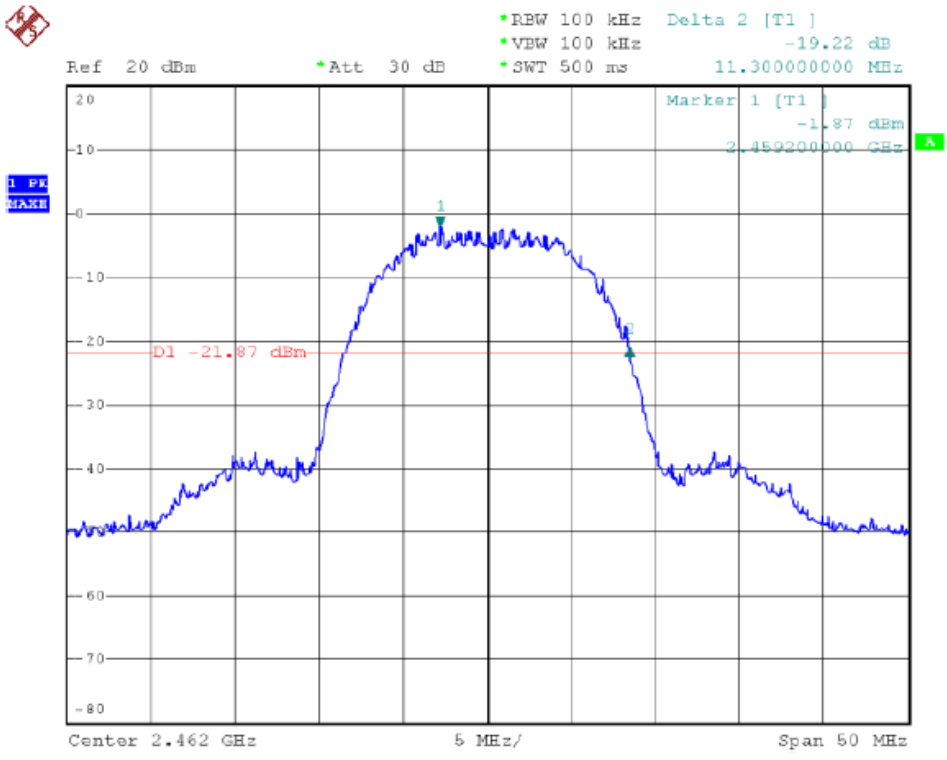
## 12.4.Test Result

**Pass.**

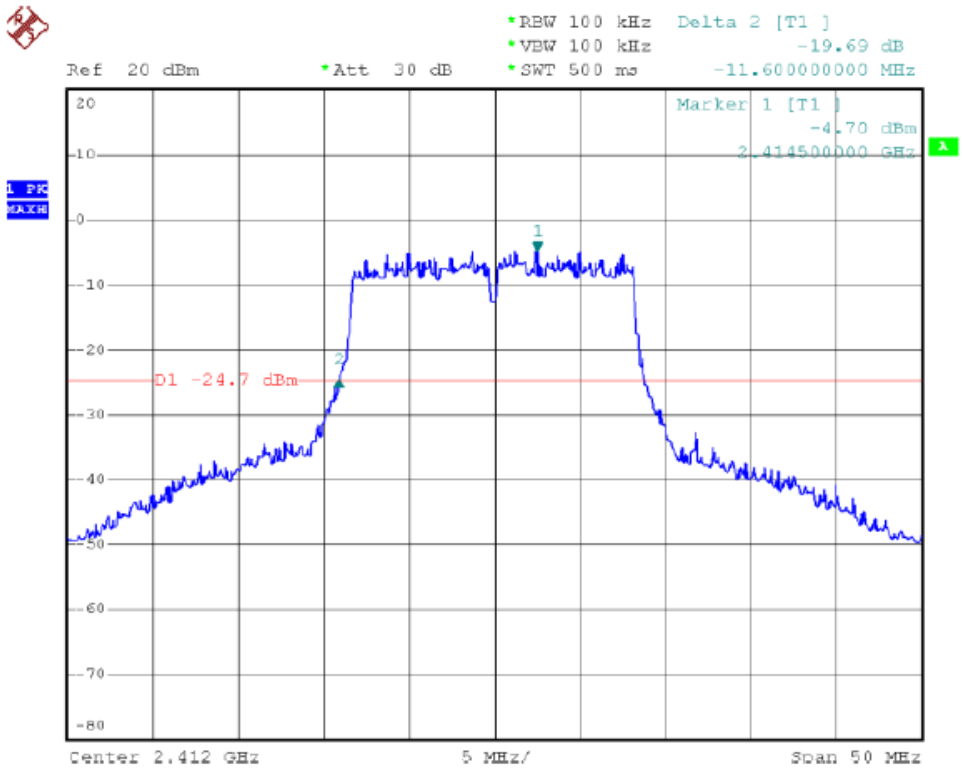
## Conducted test

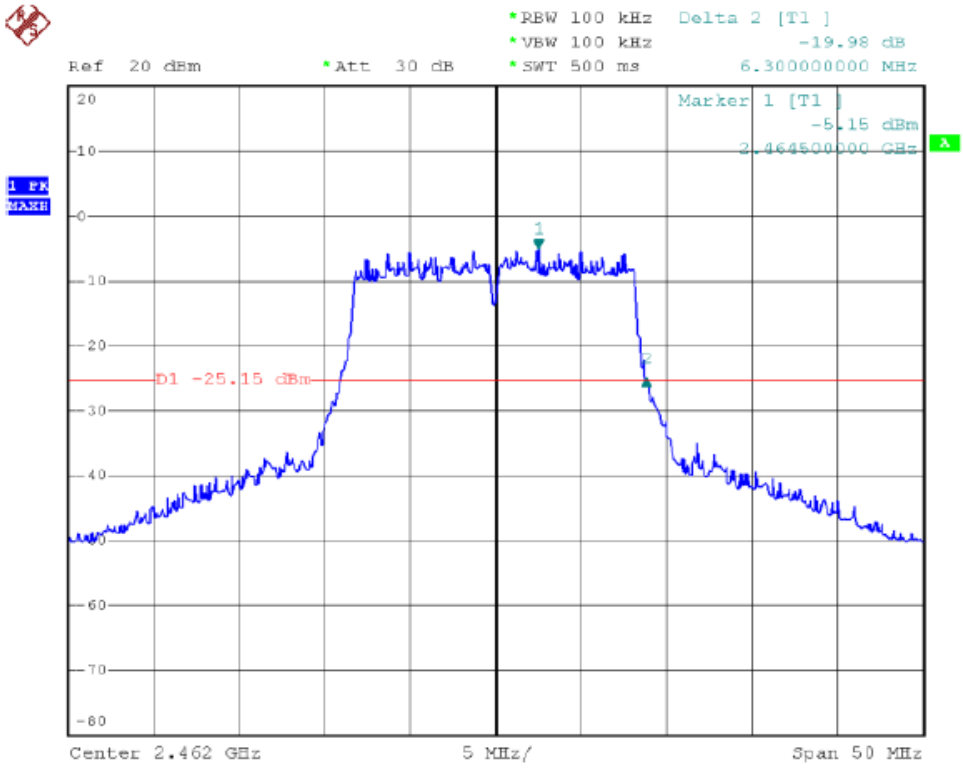
802.11b Mode:



802.11g Mode:


*RBW 100 kHz
*VBW 100 kHz
*SWT 500 ms
Delta 2 [T1 ]
-19.69 dB
-11.600000000 MHz
Ref 20 dBm
*Att 30 dB
Marker 1 [T1 ]
-4.70 dBm
2.414500000 GHz
1 PK
MAXH
D1 -24.7 dBm
Center 2.412 GHz
5 MHz/
Span 50 MHz


*RBW 100 kHz
*VBW 100 kHz
*SWT 500 ms
Delta 2 [T1 ]
-19.98 dB
6.300000000 MHz
Ref 20 dBm
*Att 30 dB
Marker 1 [T1 ]
-5.15 dBm
2.464500000 GHz
1 PK
MAXH
D1 -25.15 dBm
Center 2.462 GHz
5 MHz/
Span 50 MHz

## Radiated test

802.11b_Channel Low_Hor

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2310.000 | 0.188 | 38.250 | 38.439 | -35.561 | 74.000 | PEAK |
| 2 | | 2326.547 | 0.226 | 41.172 | 41.398 | -32.602 | 74.000 | PEAK |
| 3 | | 2390.000 | 0.358 | 40.335 | 40.693 | -33.307 | 74.000 | PEAK |
| 4 | * | 2410.659 | 0.424 | 93.847 | 94.271 | N/A | N/A | PEAK |

802.11b_Channel Low_Ver

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2310.000 | 0.188 | 38.445 | 38.634 | -35.366 | 74.000 | PEAK |
| 2 | | 2325.708 | 0.224 | 41.828 | 42.052 | -31.948 | 74.000 | PEAK |
| 3 | | 2390.000 | 0.358 | 40.349 | 40.707 | -33.293 | 74.000 | PEAK |
| 4 | * | 2412.335 | 0.429 | 95.754 | 96.184 | N/A | N/A | PEAK |

802.11b_Channel High_Hor

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2463.633 | 0.605 | 94.449 | 95.054 | N/A | N/A | PEAK |
| 2 | | 2483.500 | 0.672 | 40.496 | 41.169 | -32.831 | 74.000 | PEAK |
| 3 | | 2493.972 | 0.708 | 40.842 | 41.551 | -32.449 | 74.000 | PEAK |
| 4 | | 2500.000 | 0.737 | 38.308 | 39.044 | -34.956 | 74.000 | PEAK |

802.11b_Channel High_Ver

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2463.633 | 0.605 | 96.915 | 97.520 | N/A | N/A | PEAK |
| 2 | | 2483.500 | 0.672 | 41.986 | 42.659 | -31.341 | 74.000 | PEAK |
| 3 | | 2491.098 | 0.699 | 41.201 | 41.900 | -32.100 | 74.000 | PEAK |
| 4 | | 2500.000 | 0.737 | 38.510 | 39.246 | -34.754 | 74.000 | PEAK |

802.11g_Channel Low_Hor

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2310.000 | 0.188 | 38.351 | 38.540 | -35.460 | 74.000 | PEAK |
| 2 | | 2338.004 | 0.251 | 40.879 | 41.130 | -32.870 | 74.000 | PEAK |
| 3 | | 2390.000 | 0.358 | 52.565 | 52.923 | -21.077 | 74.000 | PEAK |
| 4 | * | 2410.659 | 0.424 | 90.746 | 91.170 | N/A | N/A | PEAK |

802.11g_Channel Low_Ver

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | | 2310.000 | 0.188 | 38.621 | 38.810 | -35.190 | 74.000 | PEAK |
| 2 | | 2339.681 | 0.256 | 40.262 | 40.517 | -33.483 | 74.000 | PEAK |
| 3 | | 2390.000 | 0.358 | 54.260 | 54.618 | -19.382 | 74.000 | PEAK |
| 4 | * | 2413.174 | 0.433 | 93.338 | 93.771 | N/A | N/A | PEAK |
| 5 | | 2390.000 | 0.358 | 42.653 | 43.011 | -10.989 | 54.000 | AVERAGE |

802.11g_Channel High_Hor

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2462.994 | 0.602 | 91.485 | 92.088 | N/A | N/A | PEAK |
| 2 | | 2483.500 | 0.672 | 53.049 | 53.722 | -20.278 | 74.000 | PEAK |
| 3 | | 2483.500 | 0.672 | 41.860 | 42.533 | -11.467 | 54.000 | AVERAGE |
| 4 | | 2491.417 | 0.700 | 43.920 | 44.620 | -29.380 | 74.000 | PEAK |
| 5 | | 2500.000 | 0.737 | 39.545 | 40.281 | -33.719 | 74.000 | PEAK |

802.11g_Channel High_Ver

| | | Frequency (MHz) | Correct Factor (dB) | Reading Level (dBuV) | Measure Level (dBuV/m) | Margin (dB) | Limit (dBuV/m) | Detector Type |
|---|---|---|---|---|---|---|---|---|
| 1 | * | 2460.759 | 0.594 | 92.386 | 92.980 | N/A | N/A | PEAK |
| 2 | | 2483.500 | 0.672 | 54.226 | 54.899 | -19.101 | 74.000 | PEAK |
| 3 | | 2483.500 | 0.672 | 42.580 | 43.253 | -10.747 | 54.000 | AVERAGE |
| 4 | | 2486.307 | 0.683 | 50.363 | 51.046 | -22.954 | 74.000 | PEAK |
| 5 | | 2500.000 | 0.737 | 41.073 | 41.809 | -32.191 | 74.000 | PEAK |

# 13. §15.247(E) - Power Spectral Density

## 13.1. Test Equipment

Please refer to Section 4 this report.

## 13.2.Test Procedure

1,Set EUT in the transmitting mode.
2,Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3,Set the spectrum analyzer as RBW=3KHz,VBW=10KHz,Span=1.5MHz,Sweep=500S.
4,Record the max.reading
5, Repeat the above procedure until the measurements for all frequencies are completed.

## 13.3.Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

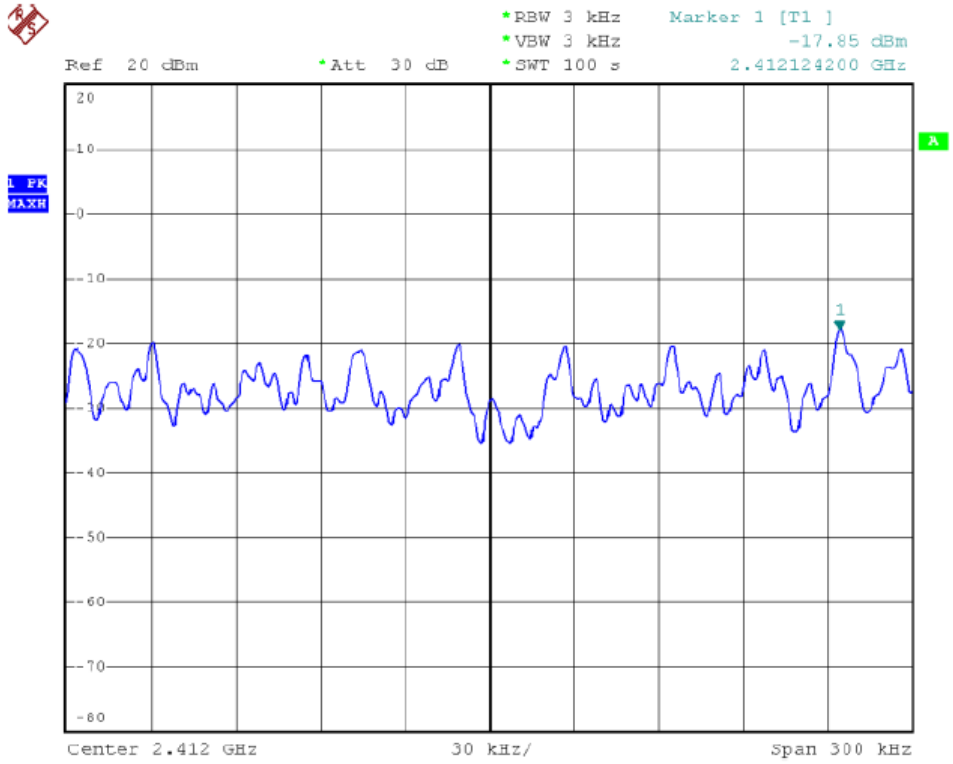
## 13.4.Test Result

PASS

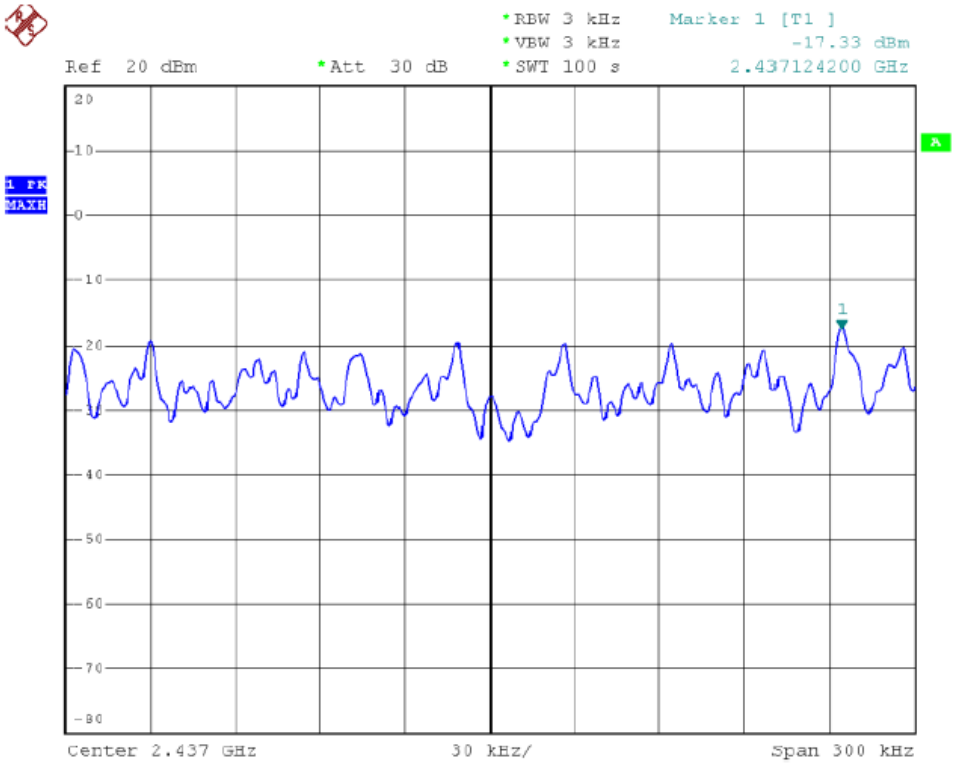
| Channel Frequency (MHz) | Data Rate (Mbps) | PSD (dBm/3kHz) | Limit (dBm/3kHZ) | RESULT |
|---|---|---|---|---|
| **802.11b Mode** | | | | |
| 2412 | 1 | -17.85 | 8 | Compliant |
| 2437 | 1 | -17.33 | 8 | Compliant |
| 2462 | 1 | -16.98 | 8 | Compliant |
| **802.11g Mode** | | | | |
| 2412 | 6 | -20.82 | 8 | Compliant |
| 2437 | 6 | -22.24 | 8 | Compliant |
| 2462 | 6 | -21.24 | 8 | Compliant |

802.11b Mode:

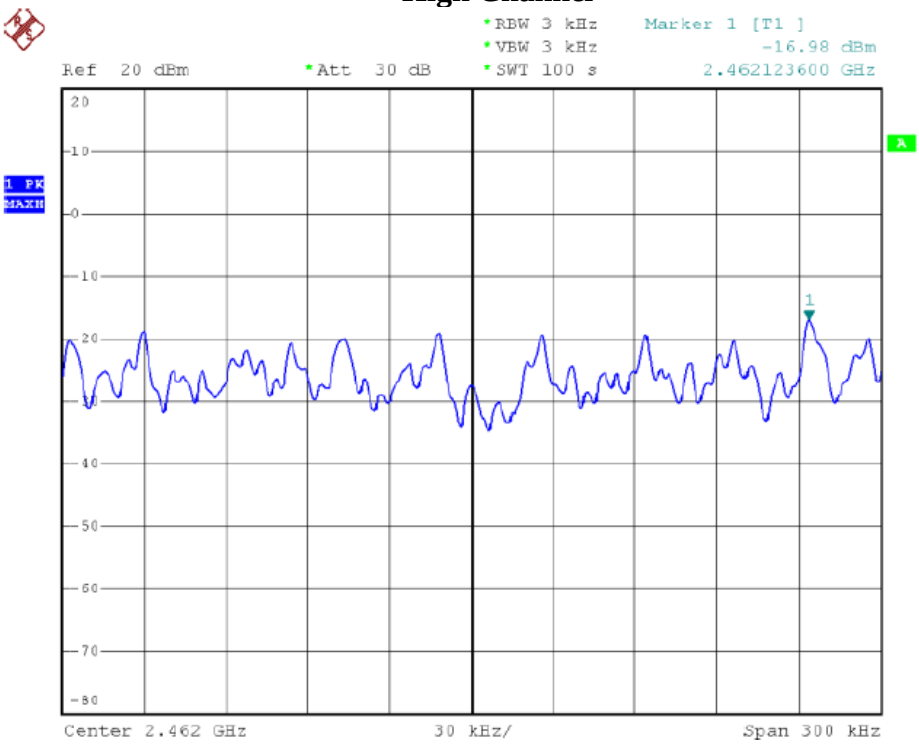
**Low Channel**




**Middle Channel**

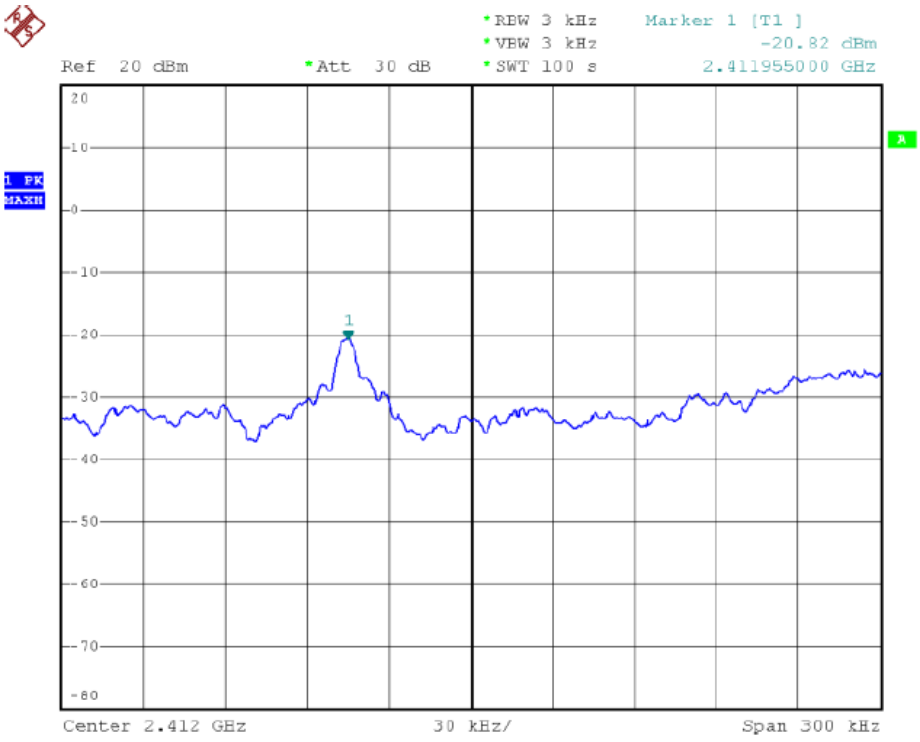


**High Channel**

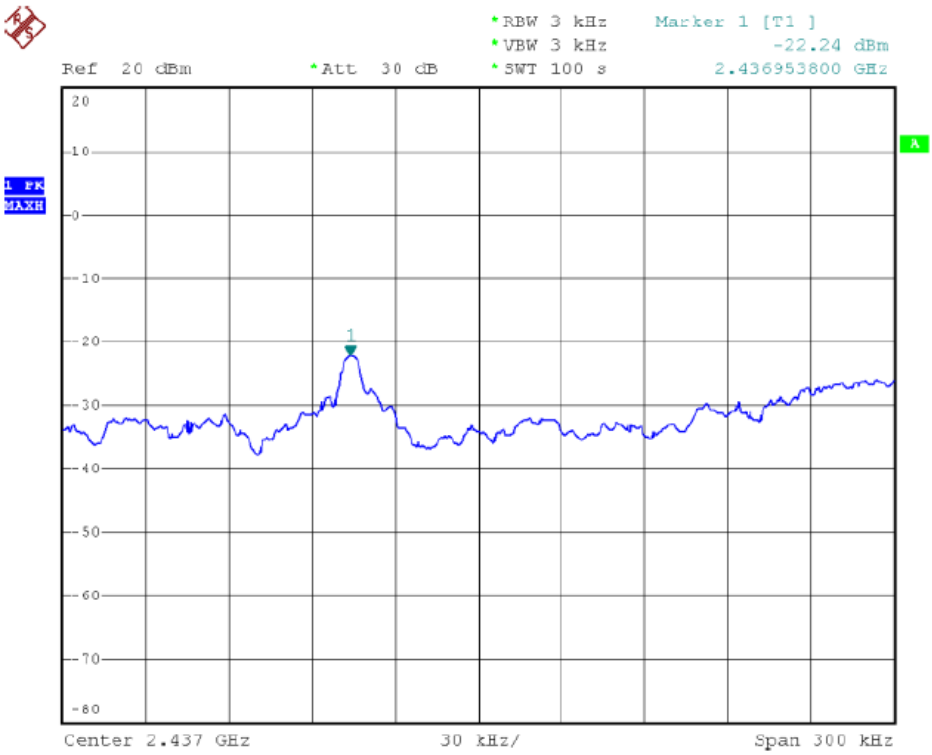



802.11g Mode:

**Low Channel**



## Middle Channel




## High Channel