FCC PART 15.247

EMI MEASUREMENT AND TEST REPORT
For

# Avanca International BV

Wegastraat 33-35 2516 AN The Hague, Netherlands

## FCC ID:2AGJ8OCKEL

Trade:OCKEL

| This Report Concerns: Original Report | Equipment Type: MINI PC |
|---|---|
| Test Engineer: | Lisa Chen |
| Report No.: | BSL20151120-1 |
| Receive EUT Date/Test Date: | November 01, 2015/ November 01- November 20, 2015 |
| Reviewed By: | Mike moo |
| Prepared By: | **BSL Testing Co.,LTD.** NO. 24, ZH Park, Nantou, Shenzhen, 518000 China Tel: 86- 755-26508703 Fax: 86- 755-26508703 |

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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 BSL approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BSL 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, BSL therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

1.1.3.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 BSL, unless the applicant has authorized BSL in writing to do so.

Test Facility -
The test site used to collect the radiated data is located on the address of
BSL Testing Co.,LTD.
(FCC Registered Test Site Number: 191509) on
NO. 24, ZH Park, Nantou, Shenzhen, 518000 China
The Test Site is constructed and calibrated to meet the FCC requirements.

## 1.2. Measurement Uncertainty

The reported uncertainty of measurement y ± U,where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2,providing a level of confidence of approximately 95 %.

| No. | Item | Uncertainty |
|---|---|---|
| 1 | Conducted Emission Test | +/-1.25dB |
| 2 | RF Power, Conducted | +/-0.20dB |
| 3 | Spurious emissions, conducted | +/-0.33dB |
| 4 | All emissions, radiated (<1G) | +/-3.47dB |
| 5 | All emissions, radiated (>1G) | +/-3.82dB |
| 6 | Temperature | +/-0.5°CdB |
| 7 | Humidity | +/-2% |

# 2. PRODUCT DESCRIPTION

## 2.1. EUT Description

| | | |
|---|---|---|
| Applicant | : | Avanca International BV |
| Address | : | Wegastraat 33-35 2516 AN The Hague, Netherlands |
| Manufacturer | : | ShenZhen Egreat Technology Co.,Ltd. |
| Address | : | 4/F,1Building,ShaSan Chuang Ye Industrial Park,Sha Jing,Bao An,ShenZhen,China |
| EUT Description | : | MINI PC |
| Modulation | : | 802.11b: DSSS(11/5.5/2/1Mbps)<br>802.11g: OFDM(54/48/36/24/18/12/9/6Mbps)<br>802.11n(20MHz): OFDM (up to 72.2 Mbps)<br>software not supported n (40MHz). (disabled by software). |
| Wi-fi Frequency Band | : | IEEE 802.11b/g/n20:2412-2462MHz |
| Number of Channels | : | IEEE 802.11b/g/n20:11 Channels. |
| Model Number | : | Sirius B |
| Wifi Antenna gain | : | 0dBi |
| wifi Antenna type | : | built-in PCB ANT.the WiFi antenna connector is ipex. |
| Power supply | : | DC 5V by adapter |
| Hardware version | : | VER1.1 |
| Software version | : | 1.0 |
| Serial Number | : | 20151120 |

## 2.2. Block Diagram of EUT Configuration

Conducted and Radiated test:

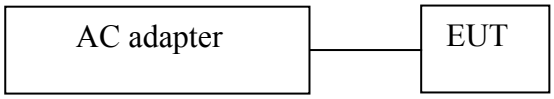



Figure 1 EUT Setup

## 2.3. Support Equipment List

Table 2 Ancillary Equipment

| Name | Model No | S/N | Manufacturer | Used (Y/N) |
|---|---|---|---|---|
| AC-DC adapter | SK-222G-0500200V | - | SIMSUKIAN | Y |
| | | | | |

## 2.4. Test Conditions

It must provide an operational voltage (5V DC by Adapter) to turn on the MINI PC and on one certain channel in service mode by means of company proprietary software.
the test software name: WIFI AP6330 test software.
Power setting parameters For mode:
802.11b(**PK Power:16dbm**), 802.11g(**PK Power:16dbm**), 802.11n-HT20 **(PK Power:16dbm**).
After the preliminary test, we found to emit the worst emissions and therefore had been tested under operating condition.
For 802.11b, 802.11g, and 802.11n-HT20 mode, 11 channels are provided to testing:

| Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|
| 1 | 2412 | 7 | 2442 |
| 2 | 2417 | 8 | 2447 |
| 3 | 2422 | 9 | 2452 |
| 4 | 2427 | 10 | 2457 |
| 5 | 2432 | 11 | 2462 |
| 6 | 2437 | / | / |

For 802.11b, 802.11g, 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11.
IEEE 802.11b:1Mbps data rate were chosen for full testing.
IEEE 802.11g:6Mbps data rate were chosen for full testing.
IEEE 802.11n-HT20:6.5Mbps data rate were chosen for full testing.
The EUT configured to transmit continuously(duty cycle=100%,average correction factor=0).

The test of radiated emission and conducted emission were performed according to the method of measurement prescribed in ANSI C63.4:2003.
These RF tests were performed according to the method of measurement prescribed in KDB 558074 D01 V03r03

# 3. TEST RESULTS SUMMARY

**FCC 15 Subpart C,Paragraph 15.247 :2013**

| FCC Rules | Description of Test | Result |
|---|---|---|
| FCC§15.203 | Antenna Requirement | Compliance |
| FCC§15.207 (a) | AC Line Conducted Emissions | Compliance |
| FCC§15.247(d) | Spurious Emissions at Antenna Port | Compliance |
| FCC§15.205, §15.209, §15.247(d) | Spurious Emissions | Compliance |
| FCC§15.247 (a)(2) | 6dB Bandwidth | Compliance |
| FCC§15.247(b)(3) | Maximum Peak Output Power | Compliance |
| FCC§15.247(d) | 100 kHz Bandwidth of Frequency Band Edge | Compliance |
| FCC§15.247(e) | Power Spectral Density | Compliance |

**Modifications**

No modification was made.

# 4. TEST EQUIPMENT USED

| EQUIPMENT/FACILITIES | MANUFACTURER | MODEL | SERIAL NO. | DATE OF CAL. | CAL. INTERVAL |
|---|---|---|---|---|---|
| 3m Semi-Anechoic Chamber | Chengyu Electron | 9 (L)*6 (W)* 6 (H) | BSL086 | Aug. 23 2015 | 1 Year |
| EMI Test Receiver | Rohde & Schwarz | ESCI3 | BSL001 | Sep. 28 2015 | 1 Year |
| BiConiLog Antenna | Rohde & Schwarz | HL562 (30MHz－3GHz) | BSL009 | Sep. 28 2015 | 1 Year |
| Double -ridged waveguide horn | Rohde & Schwarz | BBHA9120D (1－18GHz) | BSL008 | Aug. 27 2015 | 1 Year |
| Horn Antenna | AHS | SAS-574 (18GHz－40GHz) | BSL072 | Dec. 28 2014 | 1 Year |
| Cable | PUTIANLE | BSL045 (9 kHz-40GHz) | BSL045 | Aug. 27 2015 | 1 Year |
| Cable | PUTIANLE | BSL046 (9 kHz-40GHz) | BSL046 | Aug. 27 2015 | 1 Year |
| Cable | PUTIANLE | BSL047 (9 kHz-40GHz) | BSL047 | Aug. 27 2015 | 1 Year |
| Amplifier(100kHz-40GHz) | R&S | SMR40 | BSL007 | Sep. 28 2015 | 1 Year |
| Band filter | Amindeon | 82346 | BSL049 | Aug. 27 2015 | 1 Year |
| Active Loop Antenna | Schwarzbeck | FMZB1519 (9 kHz - 30 MHz) | BSL011 | Sep. 28 2015 | 1 Year |
| Coaxial Switch | YUANFANG | TA218B | BSL004 | Aug. 27 2015 | 1 Year |
| Spectrum analyzer | Rohde & Schwarz | FSP40 | BSL049 | Sep. 28 2015 | 1 Year |
| Shielding Room | zhongyu Electron | 7.0(L)x3.0(W)x3.0(H) | BSL085 | Sep. 28 2015 | 1 Year |
| EMI Test Receiver | R&S | ESPI | BSL002 | Sep. 28 2015 | 1 Year |
| 10dB Pulse Limita | R&S | BSL003 | BSL003 | Sep. 28 2015 | 1 Year |
| Coaxial Switch | PUTIANLE | TA218B | BSL004 | Aug. 27 2015 | 1 Year |
| LISN | Rohde & Schwarz | ESH3-Y5 | BSL005 | Sep. 28 2015 | 1 Year |
| Coaxial Cable | PUTIANLE | BSL048 (9 kHz-40GHz) | BSL048 | Aug. 27 2015 | 1 Year |
| EMI TEST SOFTWARE | AUDIX | E3 | N/A | N/A | N/A |
| Power Meter | R&S | NRVS | GTS216 | Apr. 6, 2015 | 1 Year |
| Power Sensor | R&S | NRV-Z33 | GTS220 | Apr. 6, 2015 | 1 Year |

# 5. §15.203 - ANTENNA REQUIREMENT

## 5.1. 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.

## 5.2. Antenna Connector Construction

the type of antenna:
the PCB antenna gain:0dBi.
The antenna is built-in PCB ANT.the antenna connector is ipex..

## 5.3. Result

Compliance

# 6. §15.207 - CONDUCTED EMISSIONS

## 6.1. Applicable Standard

The specification used was with the FCC Part 15.207 limits.

## 6.2. Test Procedure

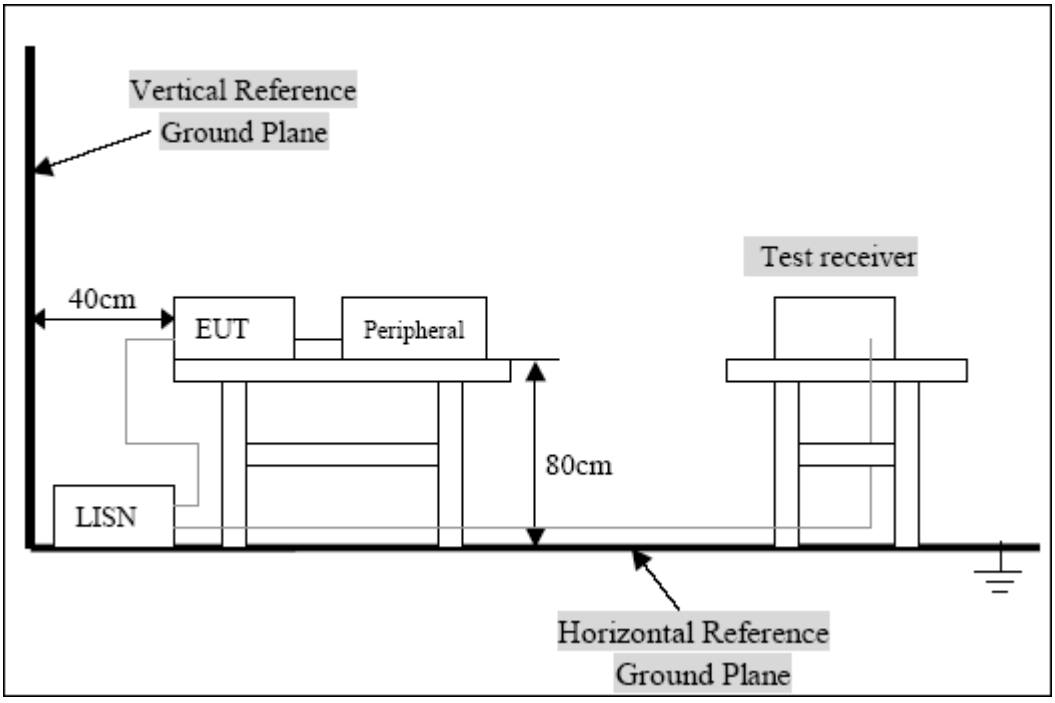
During the conducted emission test, the EUT was connected to the outlet of the LISN. Maximizing procedure was performed on the six (6) highest emissions of the EUT. All data was recorded in the Quasi-peak and average detection mode.

## 6.3. 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 | 66-56/56-46 |
| 0.5-5.0 | 73/60 | 56/46 |
| 5.0-30.0 | 73/60 | 60/50 |

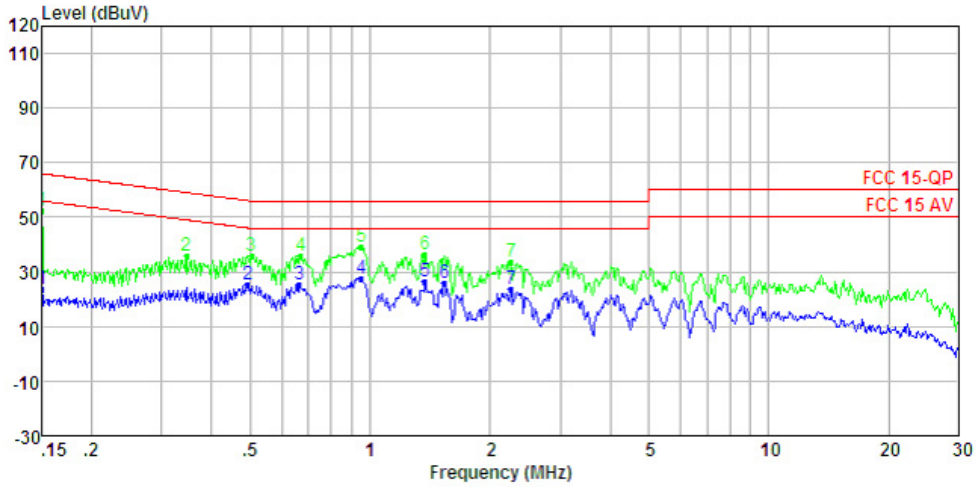
Note: In the above table, the tighter limit applies at the band edges.

## 6.4. Block Diagram of Test Setup



## 6.5. Conducted Power Line Test Result

**PASS**
**test AC power (120V/60Hz)**
**The worst test mode: WiFi Tx 802.11b 2412MHz**

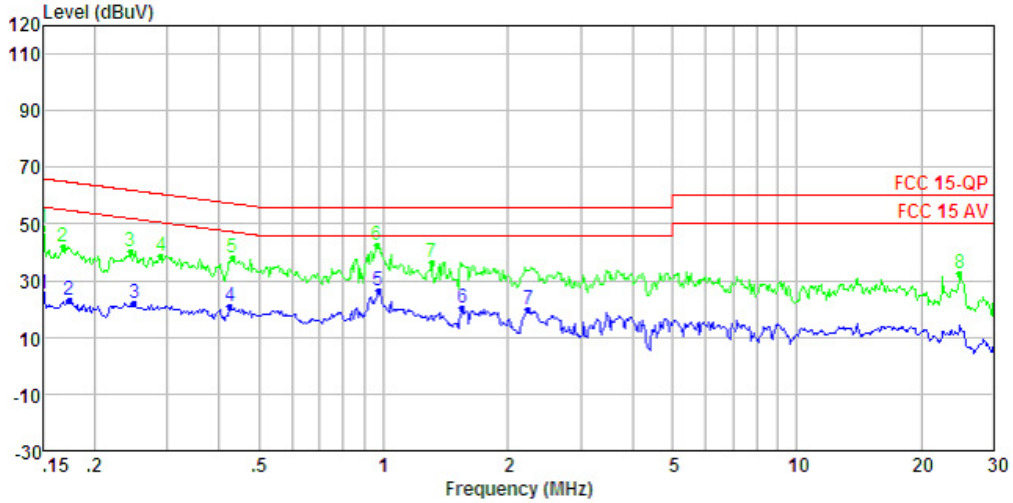



Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 Max | 0.150 | 23.4 | 56.0 | -32.6 | Average | LINE |
| 2 | 0.494 | 25.1 | 46.1 | -21.0 | Average | LINE |
| 3 | 0.665 | 25.1 | 46.0 | -20.9 | Average | LINE |
| 4 | 0.953 | 27.7 | 46.0 | -18.3 | Average | LINE |
| 5 | 1.374 | 26.4 | 46.0 | -19.6 | Average | LINE |
| 6 | 1.535 | 25.8 | 46.0 | -20.2 | Average | LINE |
| 7 | 2.261 | 23.4 | 46.0 | -22.6 | Average | LINE |

Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 Max | 0.150 | 52.4 | 66.0 | -13.6 | QP | LINE |
| 2 | 0.346 | 35.8 | 59.0 | -23.2 | QP | LINE |
| 3 | 0.505 | 35.8 | 56.0 | -20.2 | QP | LINE |
| 4 | 0.672 | 35.7 | 56.0 | -20.3 | QP | LINE |
| 5 | 0.953 | 39.4 | 56.0 | -16.6 | QP | LINE |
| 6 | 1.374 | 36.5 | 56.0 | -19.5 | QP | LINE |
| 7 | 2.261 | 33.6 | 56.0 | -22.4 | QP | LINE |




Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.150 | 25.5 | 56.0 | -30.5 | Average | NEUTRAL |
| 2 | 0.174 | 23.2 | 54.8 | -31.6 | Average | NEUTRAL |
| 3 | 0.249 | 22.2 | 51.8 | -29.6 | Average | NEUTRAL |
| 4 | 0.426 | 20.7 | 47.3 | -26.6 | Average | NEUTRAL |
| 5 | 0.974 | 26.6 | 46.0 | -19.4 | Average | NEUTRAL |
| 6 Max | 1.552 | 20.5 | 46.0 | -25.5 | Average | NEUTRAL |
| 7 | 2.237 | 19.6 | 46.0 | -26.4 | Average | NEUTRAL |

Condition:
: RBW:9.000KHz VBW:30.000KHz

| | Freq | Level | Limit Line | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV | dBuV | dB | | |
| 1 | 0.150 | 48.9 | 66.0 | -17.1 | QP | NEUTRAL |
| 2 | 0.168 | 42.1 | 65.1 | -23.0 | QP | NEUTRAL |
| 3 | 0.244 | 40.2 | 62.0 | -21.8 | QP | NEUTRAL |
| 4 | 0.289 | 38.8 | 60.5 | -21.7 | QP | NEUTRAL |
| 5 | 0.431 | 38.0 | 57.2 | -19.2 | QP | NEUTRAL |
| 6 Max | 0.963 | 42.3 | 56.0 | -13.7 | QP | NEUTRAL |
| 7 | 1.310 | 36.5 | 56.0 | -19.5 | QP | NEUTRAL |
| 8 | 24.790 | 32.5 | 60.0 | -27.5 | QP | NEUTRAL |

# 7. §15.209, §15.205, §15.247(D) - Spurious Emissions

## 7.1. Test Equipment

Please refer to section 4 this report.

## 7.2. Test Procedure

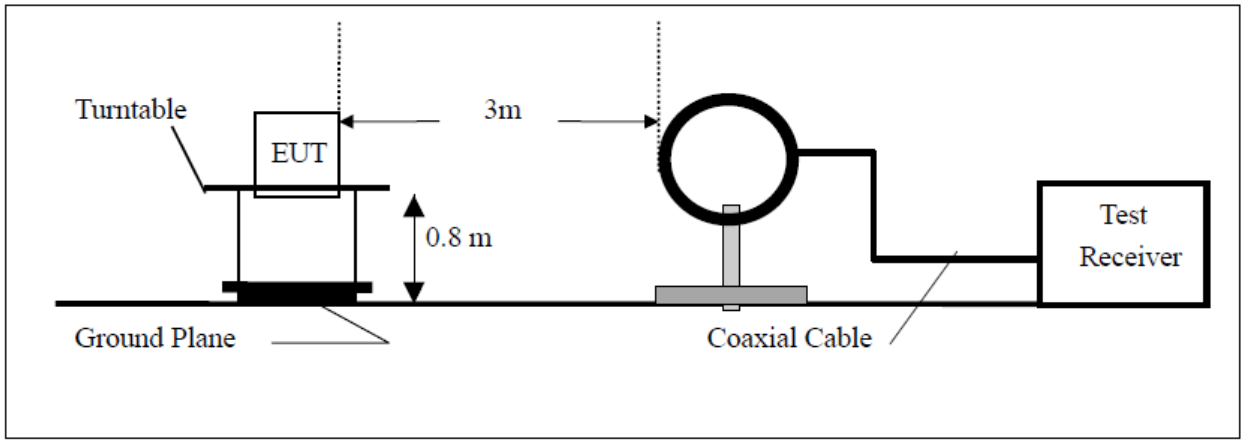
The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level.
Calibrated Loop antenna is used as receiving antenna for frequencies below 30MHz, Calibrated Bilog antenna is used as receiving antenna for frequencies between 30 MHz and 1 GHz, Calibrated Horn antenna is used as receiving antenna for frequencies above 1000MHz. Both horizontal and vertical polarizations of the antenna are set on measurement.

The bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz, and non-restricted band:RBW=100kHz, restricted band:RBW=1MHz in above 1000MHz.
The frequency range from 9kHz to 25GHz is checked.

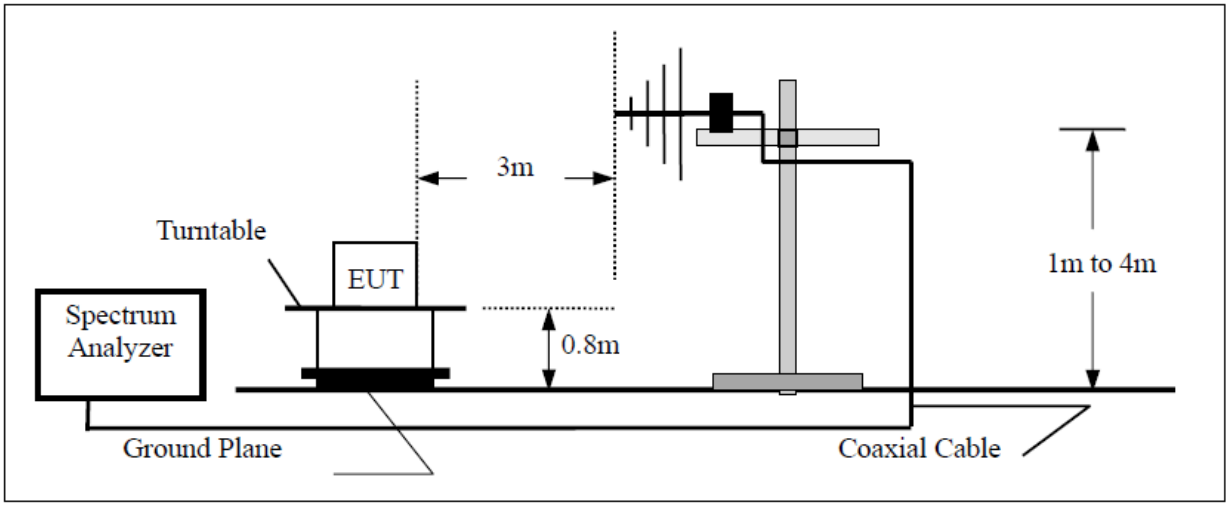
The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Peak detector and Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

## 7.3. Radiated Test Setup

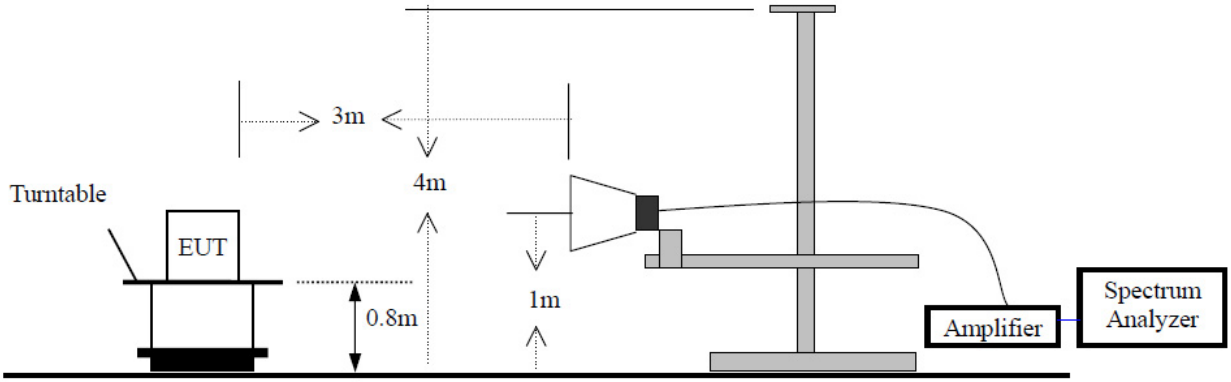
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz




(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz




(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



### 7.4. Radiated Emission Limit

| Frequency (MHz) | Limit | | | |
|---|---|---|---|---|
| | Field Strength of Quasi-peak Value (microvolts/m) | Field Strength of Quasi-peak Value (dBμV/m) | Measurement distance (m) | The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector. |
| 0.009 - 0.490 | 2400/F(kHz) | / | 300 | |
| 0.490 - 1.705 | 24000/F(kHz) | / | 30 | |
| 1.705-30 | 30 | 29.5 | 30 | |
| 30 - 88 | 100 | 40 | 3 | |
| 88 - 216 | 150 | 43.5 | 3 | |
| 216 - 960 | 200 | 46 | 3 | |
| Above 960 | 500 | 54 | 3 | |

Note: (1) RF Voltage (dBuV)=20 log Voltage(uV)
(2) In the Above Table,the tighter limit applies at the band edges.
(3) Distaqnce refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

## 7.5. Radiated Emission Test Result

**For below 9kHz-30MHz Spurious**

| Freq. (MHz) | Emission(dBuV/m) PK / AV | Limits(dBuV/m) PK / AV | Margin (dB) |
|---|---|---|---|
| - | - | - | - |
| - | - | - | - |

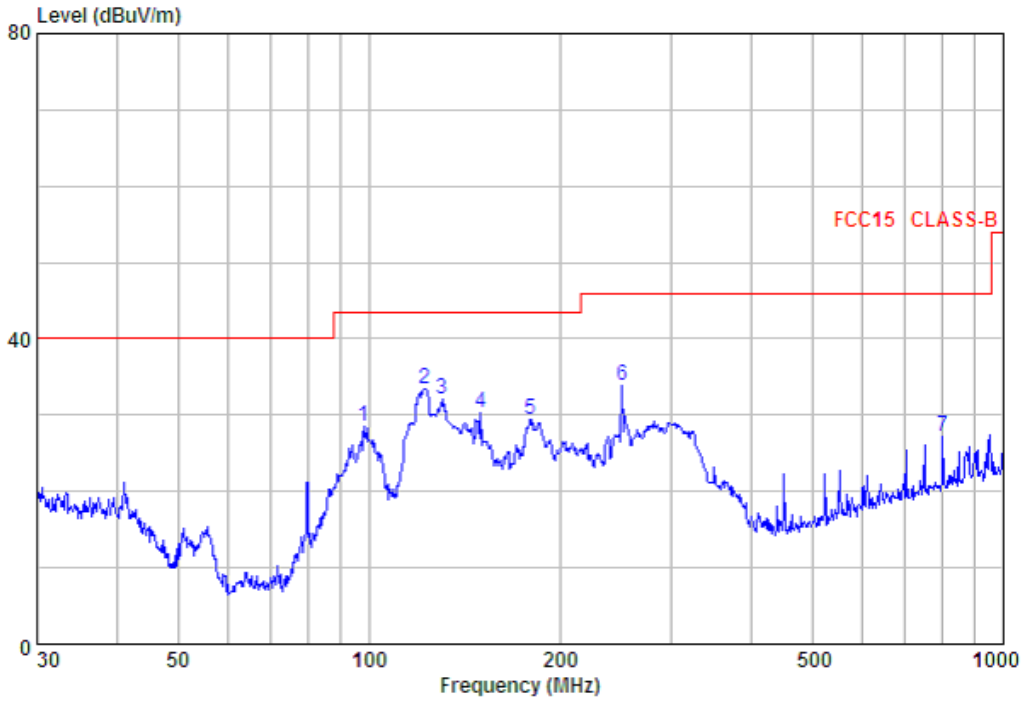
Note:

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

## For 30M-1000MHz Spurious

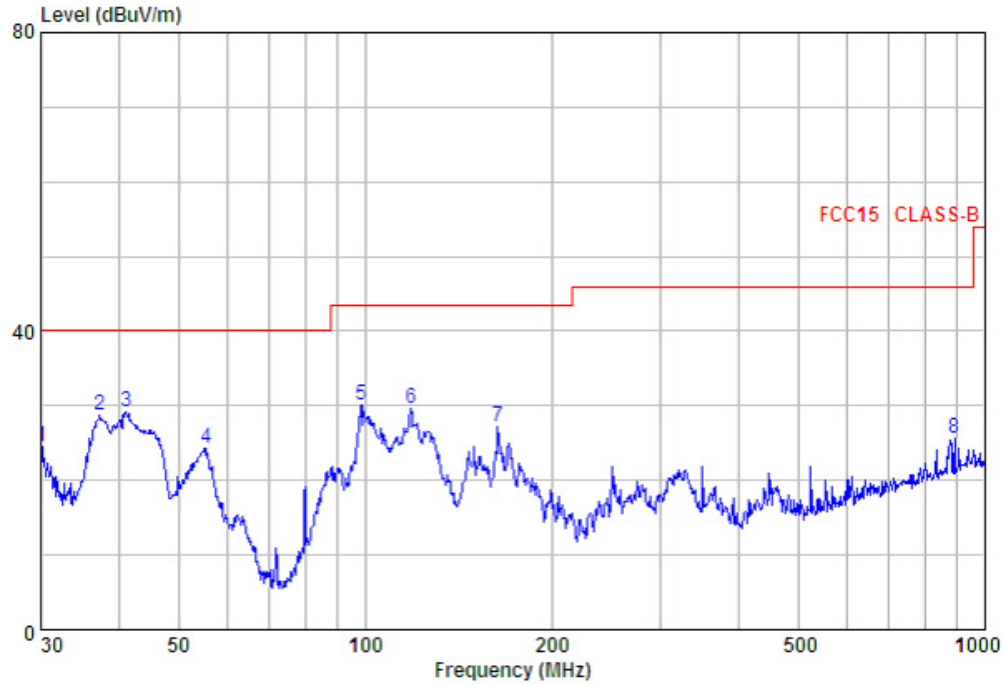
## The worst test mode: WiFi Tx 802.11b 2412MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain




Condition : FCC15 CLASS-B 3m HORIZONTAL
: RBW:120.000KHz VBW:300.000KHz SWT:Auto

| | Freq | Limit Line | Level | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | | |
| 1 | 98.142 | 43.5 | 28.4 | -15.1 | QP | HORIZONTAL |
| 2 max | 122.404 | 43.5 | 33.5 | -10.0 | QP | HORIZONTAL |
| 3 | 130.379 | 43.5 | 32.1 | -11.4 | QP | HORIZONTAL |
| 4 | 150.011 | 43.5 | 30.2 | -13.3 | QP | HORIZONTAL |
| 5 | 179.386 | 43.5 | 29.5 | -14.0 | QP | HORIZONTAL |
| 6 | 250.301 | 46.0 | 33.9 | -12.1 | QP | HORIZONTAL |
| 7 | 801.786 | 46.0 | 27.3 | -18.7 | QP | HORIZONTAL |




Condition : FCC15 CLASS-B 3m VERTICAL
: RBW:120.000KHz VBW:300.000KHz SWT:Auto

| | Freq | Limit Line | Level | Over Limit | Remark | Pol/Phase |
|---|---|---|---|---|---|---|
| | MHz | dBuV/m | dBuV/m | dB | | |
| 1 | 30.105 | 40.0 | 24.6 | -15.4 | QP | VERTICAL |
| 2 | 37.285 | 40.0 | 28.7 | -11.3 | QP | VERTICAL |
| 3 max | 41.132 | 40.0 | 29.1 | -10.9 | QP | VERTICAL |
| 4 | 55.415 | 40.0 | 24.3 | -15.7 | QP | VERTICAL |
| 5 | 98.833 | 43.5 | 30.1 | -13.4 | QP | VERTICAL |
| 6 | 118.601 | 43.5 | 29.7 | -13.8 | QP | VERTICAL |
| 7 | 163.755 | 43.5 | 27.2 | -16.3 | QP | VERTICAL |
| 8 | 893.857 | 46.0 | 25.5 | -20.5 | QP | VERTICAL |

## For 1000MHz-25000MHz Spurious

**802.11b Mode:**

| Indicated | | Detector (PK/Ave.) | Table Angle Degree | Antenna | | Correction Factor | | | FCC Part 15.247/15.209 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | S.A. Reading (dBμV) | | | Height (m) | Polar (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre-Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Comment |
| Low Channel (2412 MHz) | | | | | | | | | | | | |
| 7236 | 31.53 | Ave. | 300 | 1.1 | H | 39.0 | 5.22 | 26.64 | 49.11 | 54 | 4.89 | harmonic |
| 7236 | 28.55 | Ave. | 150 | 1.1 | V | 37.7 | 5.22 | 26.64 | 44.83 | 54 | 9.17 | harmonic |
| 4824 | 32.57 | Ave. | 185 | 1.2 | H | 36.6 | 4.3 | 26.75 | 46.72 | 54 | 7.28 | harmonic |
| 2389.7 | 34.81 | Ave. | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 41.56 | 54 | 12.44 | spurious |
| 2389.4 | 31.63 | Ave. | 75 | 1.0 | H | 30.6 | 2.98 | 26.83 | 38.38 | 54 | 15.62 | spurious |
| 7236 | 40.59 | PK | 300 | 1.1 | H | 39.0 | 5.22 | 26.64 | 58.17 | 74 | 15.83 | harmonic |
| 2389.7 | 48.43 | PK | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 55.18 | 74 | 18.82 | spurious |
| 4824 | 21.77 | Ave. | 285 | 1.0 | V | 35.4 | 4.3 | 26.75 | 34.72 | 54 | 19.28 | harmonic |
| 7236 | 38.44 | PK | 150 | 1.0 | V | 37.7 | 5.22 | 26.64 | 54.72 | 74 | 19.28 | harmonic |
| 2389.4 | 45.77 | PK | 75 | 1.0 | H | 30.6 | 2.98 | 26.83 | 52.52 | 74 | 21.48 | spurious |
| 4824 | 38.05 | PK | 185 | 1.2 | H | 36.6 | 4.3 | 26.75 | 52.2 | 74 | 21.8 | harmonic |
| 4824 | 32.58 | PK | 285 | 1.0 | V | 35.4 | 4.3 | 26.75 | 45.53 | 74 | 28.47 | harmonic |
| Middle Channel (2437 MHz) | | | | | | | | | | | | |
| 7311 | 30.51 | Ave. | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 47.96 | 54 | 6.04 | harmonic |
| 7311 | 26.54 | Ave. | 150 | 1.1 | V | 37.7 | 5.09 | 26.64 | 42.69 | 54 | 11.31 | harmonic |
| 4874 | 30.94 | Ave. | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 45.15 | 54 | 8.85 | harmonic |
| 7311 | 39.55 | PK | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 57 | 74 | 17 | harmonic |
| 7311 | 35.67 | PK | 150 | 1.1 | V | 37.7 | 5.09 | 26.64 | 51.82 | 74 | 22.18 | harmonic |
| 4874 | 17.79 | Ave. | 285 | 1.0 | V | 35.4 | 4.36 | 26.75 | 30.8 | 54 | 23.2 | harmonic |
| 4874 | 35.88 | PK | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 50.09 | 74 | 23.91 | harmonic |
| 4874 | 31.08 | PK | 285 | 1.0 | V | 35.4 | 4.36 | 26.75 | 44.09 | 74 | 29.91 | harmonic |
| High Channel (2462 MHz) | | | | | | | | | | | | |
| 7386 | 31.3 | Ave. | 310 | 1.2 | H | 39.0 | 5.02 | 26.64 | 48.46 | 54 | 5.54 | harmonic |
| 2500 | 38.02 | Ave. | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 44.63 | 54 | 9.37 | spurious |
| 7386 | 30.84 | Ave. | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 46.7 | 54 | 7.3 | harmonic |
| 4924 | 29.45 | Ave. | 185 | 1.2 | H | 36.6 | 4.40 | 26.75 | 43.48 | 54 | 10.52 | harmonic |
| 2483.5 | 30.88 | Ave. | 75 | 1.0 | H | 30.6 | 3.11 | 26.88 | 37.49 | 54 | 16.51 | spurious |
| 7386 | 39.96 | PK | 310 | 1.2 | H | 39.0 | 5.02 | 26.64 | 57.12 | 74 | 16.88 | harmonic |
| 2500 | 50.49 | PK | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 57.1 | 74 | 16.9 | spurious |
| 7386 | 37.14 | PK | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 53 | 74 | 21 | harmonic |
| 4924 | 34.06 | Ave. | 280 | 1.0 | V | 35.4 | 4.40 | 26.75 | 30.75 | 54 | 23.25 | harmonic |
| 2483.5 | 40.78 | PK | 75 | 1.0 | H | 30.6 | 3.11 | 26.88 | 50.47 | 74 | 23.53 | spurious |
| 4924 | 30.84 | PK | 185 | 1.2 | H | 36.6 | 4.40 | 26.75 | 50.08 | 74 | 23.92 | harmonic |
| 4924 | 29.45 | PK | 280 | 1.0 | V | 35.4 | 4.40 | 26.75 | 44.18 | 74 | 29.82 | harmonic |

**802.11g Mode:**

| Indicated | | Detector (PK/Ave) | Table Angle Degree | Antenna | | Correction Factor | | | FCC Part 15.247/15.209 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | S.A. Reading (dBμV) | | | Height (m) | Polar (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre-Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Comment |
| Low Channel (2412 MHz) | | | | | | | | | | | | |
| 2390 | 59.07 | PK | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 65.82 | 74 | 8.18 | spurious |
| 2390 | 37.06 | Ave. | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 43.81 | 54 | 10.19 | spurious |
| 2388.6 | 59.49 | PK | 73 | 1.0 | H | 30.6 | 2.98 | 26.83 | 66.24 | 74 | 7.76 | spurious |
| 2388.6 | 39.13 | Ave. | 73 | 1.0 | H | 30.6 | 2.98 | 26.83 | 45.88 | 54 | 8.12 | spurious |
| 7236 | 44.19 | PK | 300 | 1.1 | H | 39 | 5.22 | 26.64 | 61.77 | 74 | 12.23 | harmonic |
| 7236 | 23.84 | Ave. | 300 | 1.1 | H | 39 | 5.22 | 26.64 | 41.42 | 54 | 12.58 | harmonic |
| 7236 | 18.75 | Ave. | 150 | 1.1 | V | 37.7 | 5.22 | 26.64 | 35.03 | 54 | 18.97 | harmonic |
| 7236 | 36.78 | PK | 150 | 1.0 | V | 37.7 | 5.22 | 26.64 | 53.06 | 74 | 20.94 | harmonic |
| 4824 | 17.78 | Ave. | 130 | 1.5 | H | 36.6 | 4.3 | 26.75 | 31.93 | 54 | 22.07 | harmonic |
| 4824 | 16.47 | Ave. | 60 | 1.8 | V | 35.4 | 4.3 | 26.75 | 29.42 | 54 | 24.58 | harmonic |
| 4824 | 32.44 | PK | 130 | 1.5 | H | 36.6 | 4.3 | 26.75 | 46.59 | 74 | 27.41 | harmonic |
| 4824 | 29.54 | PK | 60 | 1.8 | V | 35.4 | 4.3 | 26.75 | 42.49 | 74 | 31.51 | harmonic |
| Middle Channel (2437 MHz) | | | | | | | | | | | | |
| 7311 | 44.54 | PK | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 61.99 | 74 | 12.01 | harmonic |
| 7311 | 24.19 | Ave. | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 41.64 | 54 | 12.36 | harmonic |
| 7311 | 22 | Ave. | 150 | 1.2 | V | 37.7 | 5.09 | 26.64 | 38.15 | 54 | 15.85 | harmonic |
| 7311 | 41.98 | PK | 150 | 1.2 | V | 37.7 | 5.09 | 26.64 | 58.13 | 74 | 15.87 | harmonic |
| 4874 | 20.58 | Ave. | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 34.79 | 54 | 19.21 | harmonic |
| 4874 | 18.77 | Ave. | 280 | 1.1 | V | 35.4 | 4.36 | 26.75 | 31.78 | 54 | 22.22 | harmonic |
| 4874 | 35.08 | PK | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 49.29 | 74 | 24.71 | harmonic |
| 4874 | 32.2 | PK | 280 | 1.1 | V | 35.4 | 4.36 | 26.75 | 45.21 | 74 | 28.79 | harmonic |
| High Channel (2462 MHz) | | | | | | | | | | | | |
| 2483.6 | 59.95 | PK | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 66.78 | 74 | 7.22 | spurious |
| 2483.6 | 39.84 | Ave. | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 46.67 | 54 | 27.33 | spurious |
| 2483.6 | 60.98 | PK | 73 | 1.0 | H | 30.6 | 3.11 | 26.88 | 67.81 | 74 | 6.19 | spurious |
| 2483.6 | 39.65 | Ave. | 73 | 1.0 | H | 30.6 | 3.11 | 26.88 | 46.48 | 54 | 7.52 | spurious |
| 7386 | 44.64 | PK | 300 | 1.1 | H | 39.0 | 5.02 | 26.64 | 62.02 | 74 | 8.02 | harmonic |
| 7386 | 23.57 | Ave. | 300 | 1.1 | H | 39.0 | 5.02 | 26.64 | 40.95 | 54 | 13.05 | harmonic |
| 7386 | 19 | Ave. | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 35.08 | 54 | 18.92 | harmonic |
| 7386 | 37.81 | PK | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 53.89 | 74 | 20.11 | harmonic |
| 4924 | 16.46 | Ave. | 185 | 1.2 | H | 36.6 | 4.40 | 26.75 | 30.71 | 54 | 23.29 | harmonic |
| 4924 | 16.73 | Ave. | 280 | 1.2 | V | 35.4 | 4.40 | 26.75 | 29.78 | 54 | 24.22 | harmonic |
| 4924 | 31.47 | PK | 185 | 1.2 | H | 36.6 | 4.40 | 26.75 | 45.72 | 74 | 28.28 | harmonic |
| 4924 | 30.78 | PK | 280 | 1.2 | V | 35.4 | 4.40 | 26.75 | 43.83 | 74 | 30.17 | harmonic |

**802.11n-HT20 Mode:**

| Indicated | | Detector (PK/Ave) | Table Angle Degree | Antenna | | Correction Factor | | | FCC Part 15.247/15.209 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | S.A. Reading (dBμV) | | | Height (m) | Polar (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre-Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Comment |
| Low Channel (2412 MHz) | | | | | | | | | | | | |
| 2389 | 60.73 | PK | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 67.48 | 74 | 6.52 | spurious |
| 2390 | 57.51 | PK | 72 | 1.0 | H | 30.6 | 2.98 | 26.83 | 64.26 | 74 | 9.74 | spurious |
| 7236 | 46.13 | PK | 300 | 1.1 | H | 39.0 | 5.22 | 26.64 | 63.71 | 74 | 10.29 | harmonic |
| 2389 | 36.14 | Ave. | 0 | 1.0 | V | 30.6 | 2.98 | 26.83 | 42.89 | 54 | 11.11 | spurious |
| 7236 | 24.04 | Ave. | 300 | 1.1 | H | 39.0 | 5.22 | 26.64 | 41.62 | 54 | 12.38 | harmonic |
| 2390 | 33.66 | Ave. | 72 | 1.0 | H | 30.6 | 2.98 | 26.83 | 40.41 | 54 | 13.59 | spurious |
| 7236 | 20.1 | Ave. | 150 | 1.1 | V | 37.7 | 5.22 | 26.64 | 36.38 | 54 | 17.62 | harmonic |
| 7236 | 39.78 | PK | 150 | 1.0 | V | 37.7 | 5.22 | 26.64 | 56.06 | 74 | 17.94 | harmonic |
| 4824 | 17.4 | Ave. | 130 | 1.5 | H | 36.6 | 4.3 | 26.75 | 31.55 | 54 | 22.45 | harmonic |
| 4824 | 17.32 | Ave. | 60 | 1.8 | V | 35.4 | 4.3 | 26.75 | 30.27 | 54 | 23.73 | harmonic |
| 4824 | 34.79 | PK | 130 | 1.5 | H | 36.6 | 4.3 | 26.75 | 48.94 | 74 | 25.06 | harmonic |
| 4824 | 30.83 | PK | 60 | 1.8 | V | 35.4 | 4.3 | 26.75 | 43.78 | 74 | 30.22 | harmonic |
| Middle Channel (2437 MHz) | | | | | | | | | | | | |
| 7311 | 43.51 | PK | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 60.96 | 74 | 6.3 | harmonic |
| 7311 | 21.51 | Ave. | 300 | 1.2 | H | 39.0 | 5.09 | 26.64 | 38.96 | 54 | 8.3 | harmonic |
| 7311 | 20.22 | Ave. | 240 | 1.1 | V | 37.7 | 5.09 | 26.64 | 36.37 | 54 | 17.63 | harmonic |
| 7311 | 40.11 | PK | 240 | 1.1 | V | 37.7 | 5.09 | 26.64 | 56.26 | 74 | 17.74 | harmonic |
| 4874 | 17.49 | Ave. | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 31.7 | 54 | 22.3 | harmonic |
| 4874 | 17.45 | Ave. | 280 | 1.1 | V | 35.4 | 4.36 | 26.75 | 30.46 | 54 | 23.54 | harmonic |
| 4874 | 34.9 | PK | 185 | 1.2 | H | 36.6 | 4.36 | 26.75 | 49.11 | 74 | 24.89 | harmonic |
| 4874 | 30.96 | PK | 280 | 1.1 | V | 35.4 | 4.36 | 26.75 | 43.97 | 74 | 30.03 | harmonic |
| High Channel (2462 MHz) | | | | | | | | | | | | |
| 2483.5 | 59.7 | PK | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 66.53 | 74 | 7.47 | spurious |
| 2483.5 | 56.25 | PK | 72 | 1.0 | H | 30.6 | 3.11 | 26.88 | 63.08 | 74 | 10.92 | spurious |
| 7386 | 45.23 | PK | 300 | 1.1 | H | 39.0 | 5.02 | 26.64 | 62.61 | 74 | 11.39 | harmonic |
| 2483.5 | 33.66 | Ave. | 0 | 1.0 | V | 30.6 | 3.11 | 26.88 | 40.49 | 54 | 13.51 | spurious |
| 7386 | 22.57 | Ave. | 300 | 1.1 | H | 39.0 | 5.02 | 26.64 | 39.95 | 54 | 14.05 | harmonic |
| 2483.5 | 32.1 | Ave. | 72 | 1.0 | H | 30.6 | 3.11 | 26.88 | 38.93 | 54 | 15.07 | spurious |
| 7386 | 19.03 | Ave. | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 35.11 | 54 | 18.89 | harmonic |
| 7386 | 38.85 | PK | 150 | 1.1 | V | 37.7 | 5.02 | 26.64 | 54.93 | 74 | 19.07 | harmonic |
| 4924 | 16.54 | Ave. | 250 | 1.8 | H | 36.6 | 4.40 | 26.75 | 30.79 | 54 | 23.21 | harmonic |
| 4924 | 16.49 | Ave. | 60 | 1.8 | V | 35.4 | 4.40 | 26.75 | 29.54 | 54 | 24.46 | harmonic |
| 4924 | 33.92 | PK | 250 | 1.8 | H | 36.6 | 4.40 | 26.75 | 48.17 | 74 | 25.83 | harmonic |
| 4924 | 30.47 | PK | 60 | 1.8 | V | 35.4 | 4.40 | 26.75 | 43.52 | 74 | 30.48 | harmonic |

### 7.6. Test Equipment

Please refer to section 4 this report.

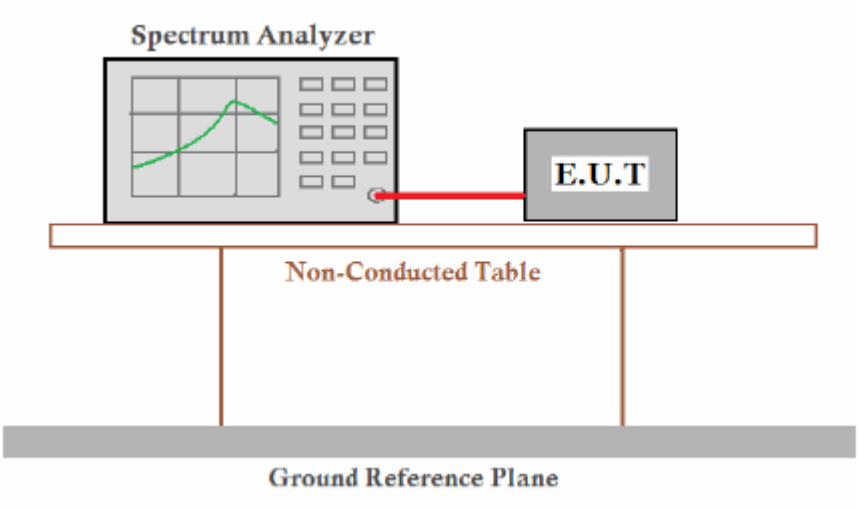
### 7.7. Test Requirement:

FCC Part15 C Section 15.247 (d)

### 7.8. 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.

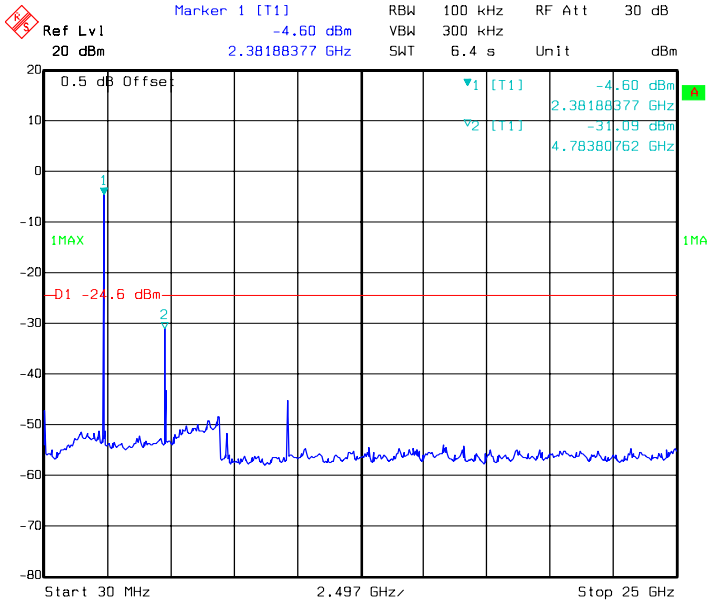
### 7.9. Test Setup




### 7.10.Test Result

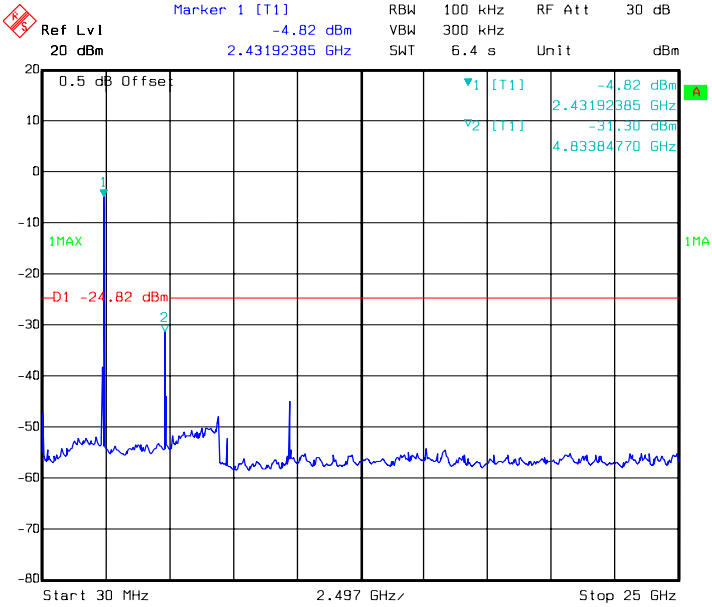
Test plot as follows:

## 802.11b Low Channel 2412 MHz
## 30MHz~25GHz



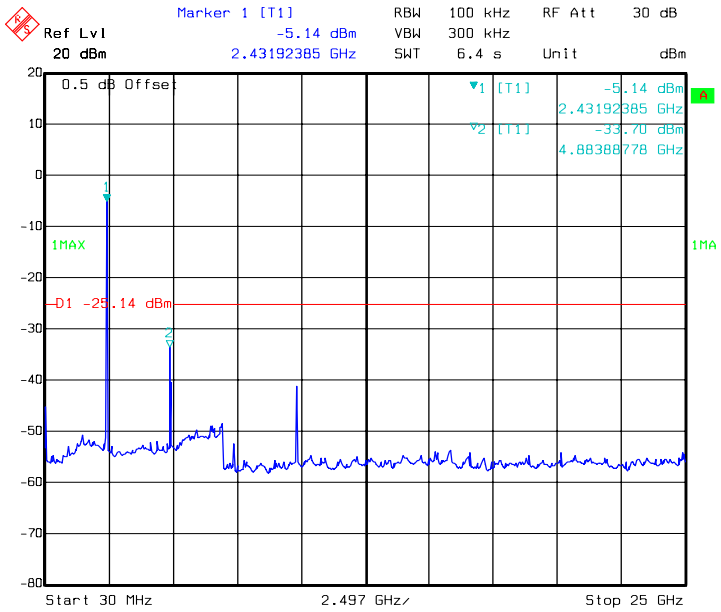

Note:Sweep points=250000pts

## 802.11b Middle Channel 2437 MHz
## 30MHz~25GHz



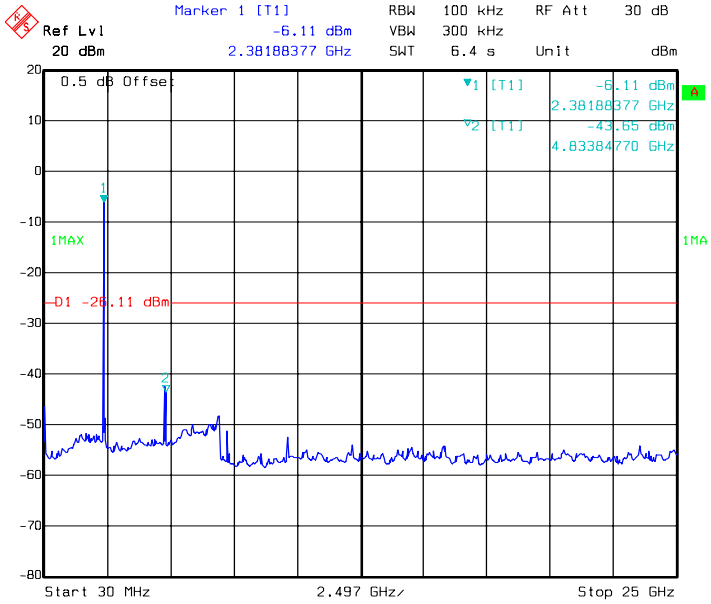

Note:Sweep points=250000pts

## 802.11b High channel 2462 MHz
## 30MHz~25GHz



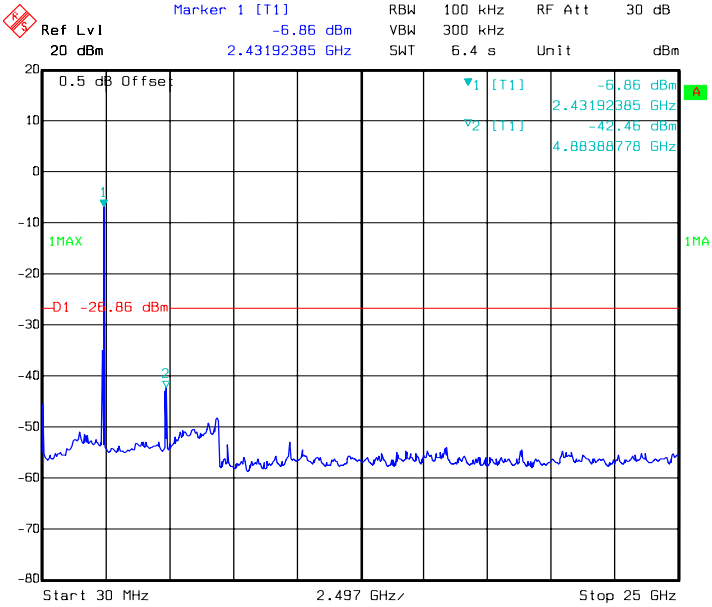

Note:Sweep points=250000pts

## 802.11g Low Channel 2412 MHz
## 30MHz~25GHz



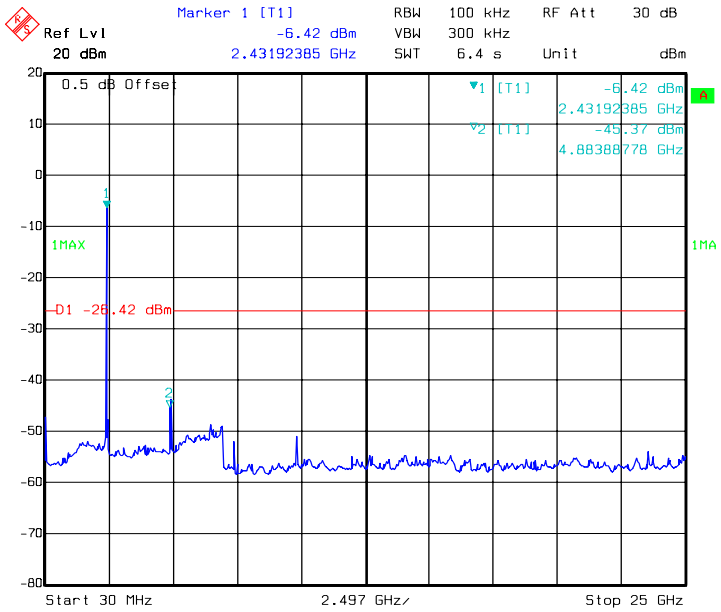

Note:Sweep points=250000pts

## 802.11g Middle Channel 2437 MHz
## 30MHz~25GHz



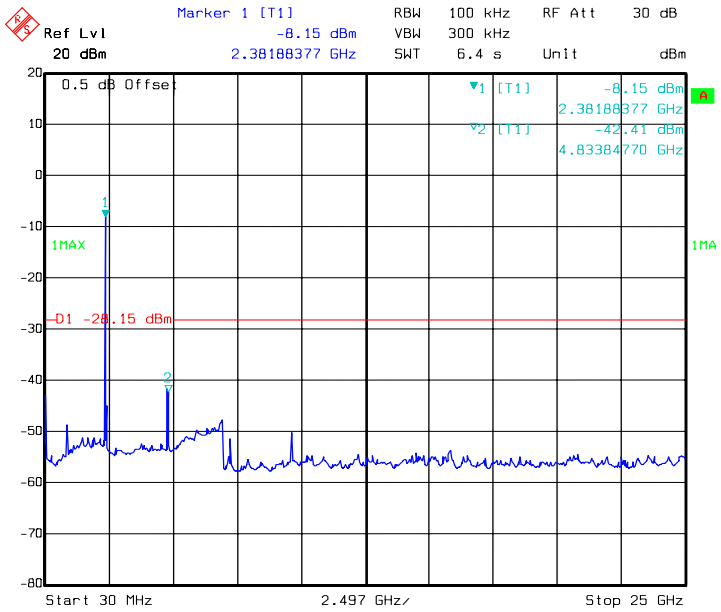

Note:Sweep points=250000pts

## 802.11g High channel 2462 MHz
## 30MHz~25GHz



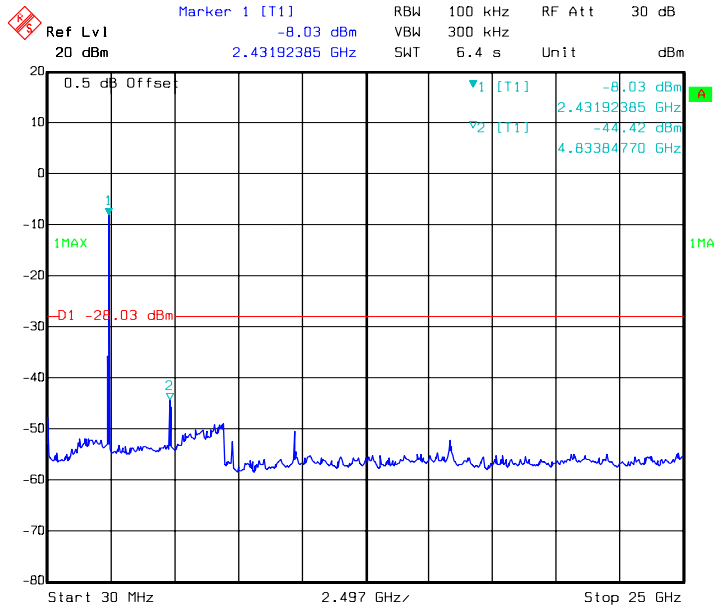

Note:Sweep points=250000pts

## 802.11n20 Low Channel 2412 MHz
## 30MHz~25GHz



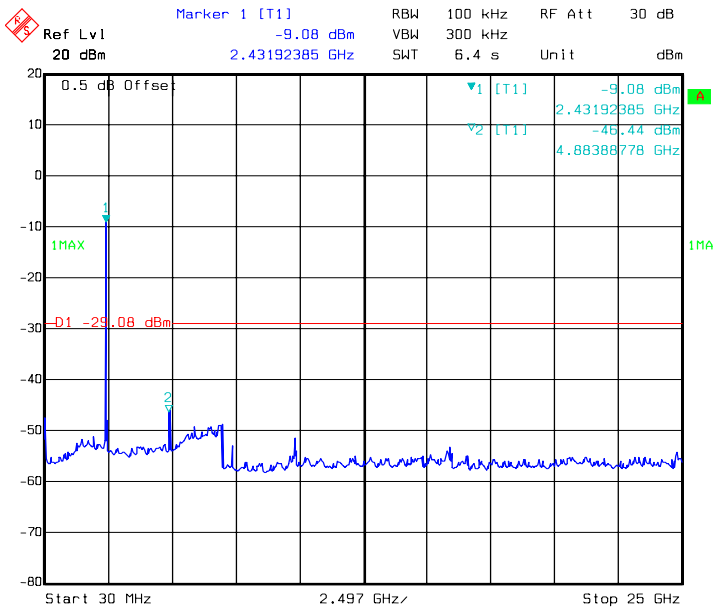

Note:Sweep points=250000pts

## 802.11n20 Middle Channel 2437 MHz
## 30MHz~25GHz




Note:Sweep points=250000pts

**802.11n20 High channel 2462 MHz**
**30MHz~25GHz**




Note:Sweep points=250000pts

# 8. §15.247(A) (2) – 6DB BANDWIDTH TESTING

## 8.1. Test Equipment

Please refer to Section 4 this report.

## 8.2. 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.

802.11b/ g/n mode :Set the spectrum analyzer as
RBW=100KHz,VBW>=3RBW,Span=40MHz,Sweep=5ms.

4. Mark the peak frequency and -6dB(upper and lower)frequency.
5. Repeat until all the rest channels are investigated.

## 8.3. 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.

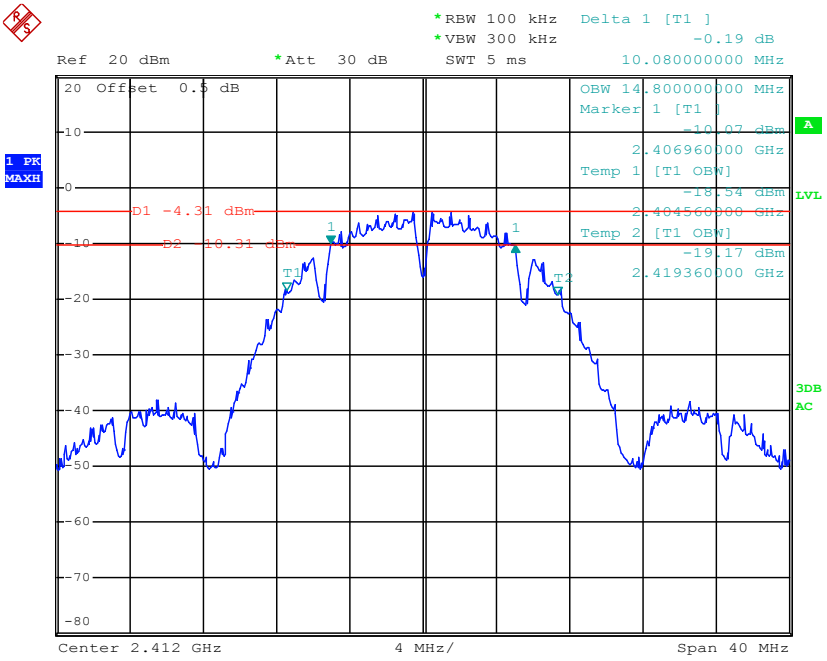
## 8.4. Test Result:Pass.

Please refer to the following tables

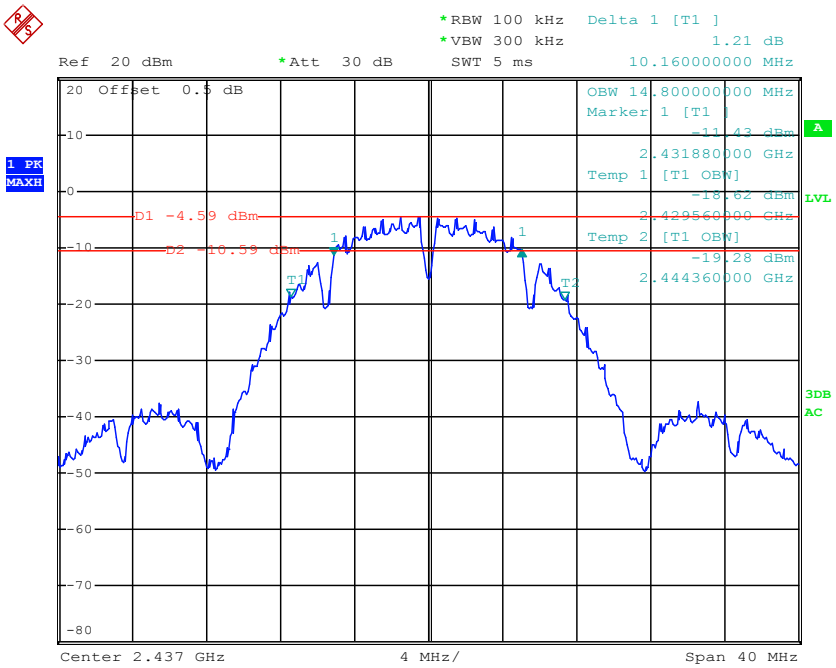
| Channel | Channel Frequency (MHz) | Data Rate (Mbps) | 6dB Emission Bandwidth (MHz) | FCC Part 15.247 Limit (kHz) |
|---|---|---|---|---|
| 802.11b mode | | | | |
| Low | 2412 | 1 | 10.08 | >500 |
| Middle | 2437 | 1 | 10.16 | >500 |
| High | 2462 | 1 | 10.08 | >500 |
| 802.11g mode | | | | |
| Low | 2412 | 6 | 16.64 | >500 |
| Middle | 2437 | 6 | 16.64 | >500 |
| High | 2462 | 6 | 16.64 | >500 |
| 802.11n20 mode | | | | |
| Low | 2412 | 6.5 | 17.92 | >500 |
| Middle | 2437 | 6.5 | 17.92 | >500 |
| High | 2462 | 6.5 | 17.92 | >500 |

## 802.11b Mode:

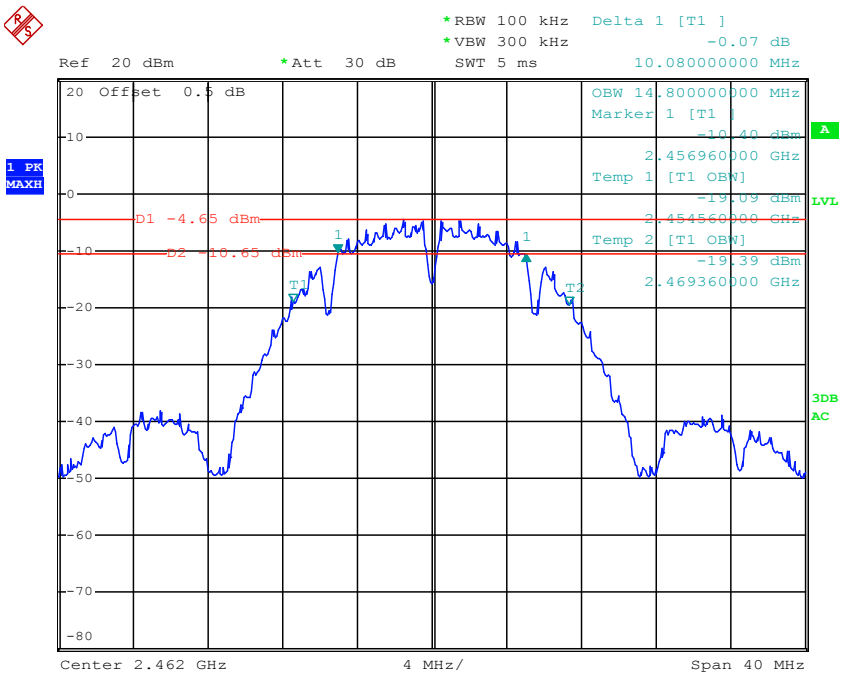
### Low Channel
### 6dB Bandwidth




### Middle Channel
### 6dB Bandwidth

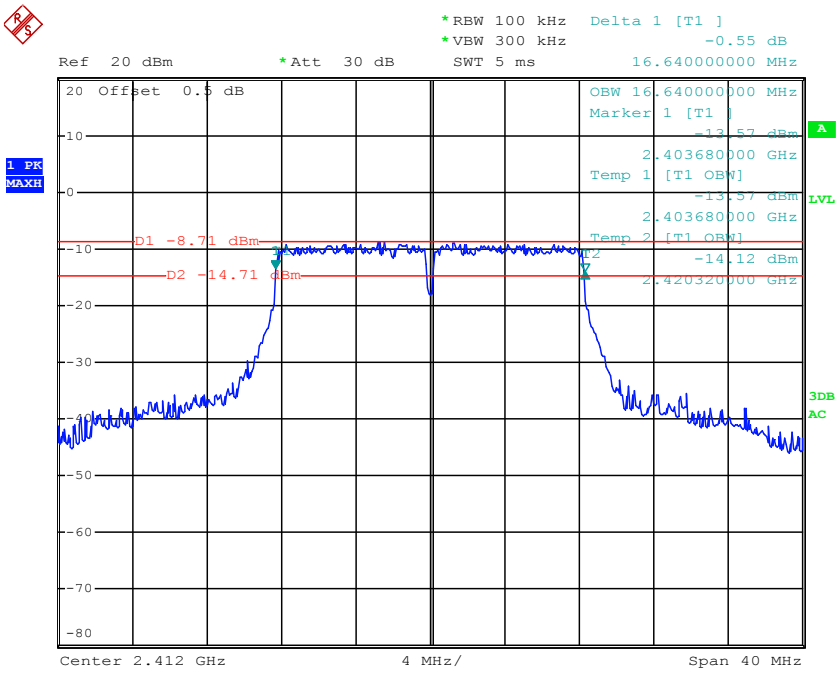


# High Channel
# 6dB Bandwidth

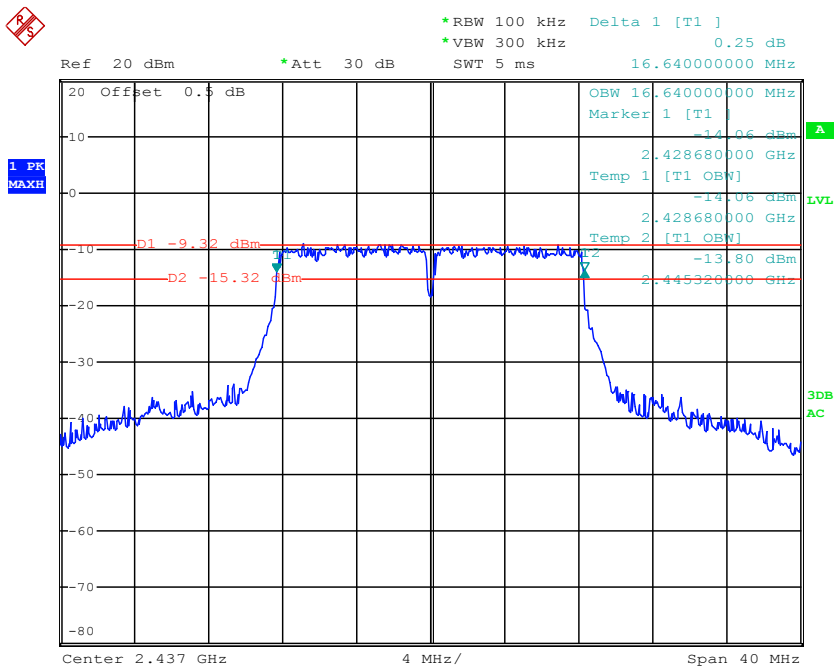


## 802.11g Mode:

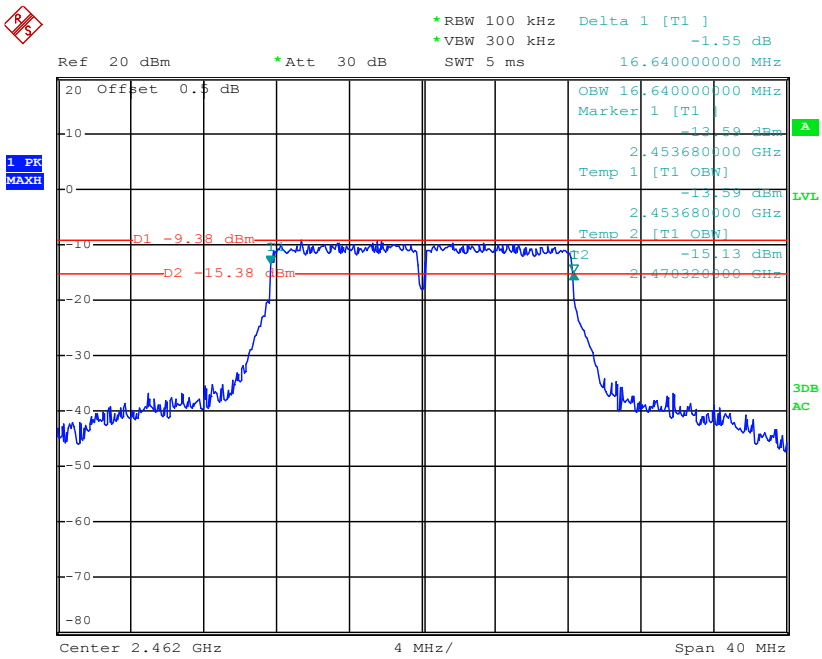
### Low Channel
**6dB Bandwidth**




### Middle Channel
**6dB Bandwidth**

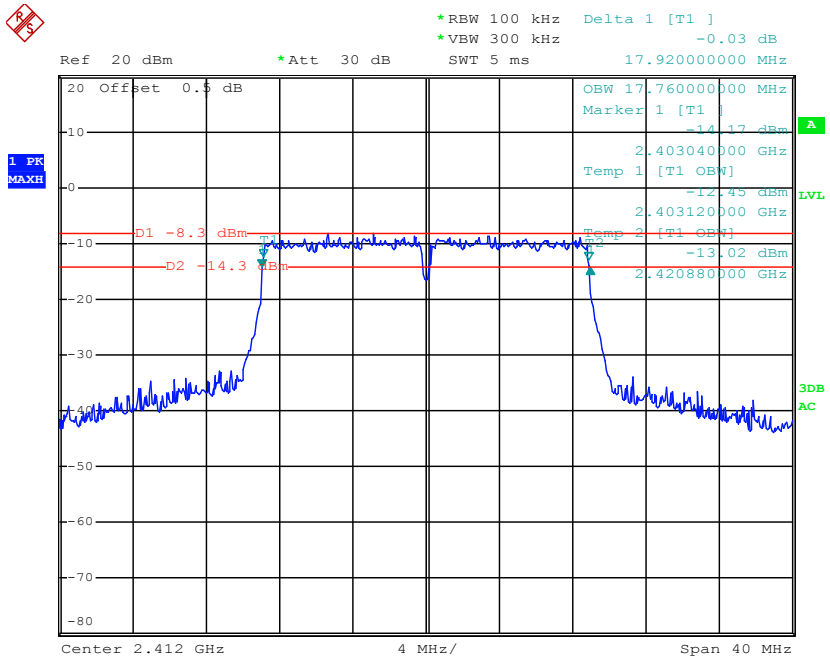


## High Channel
## 6dB Bandwidth

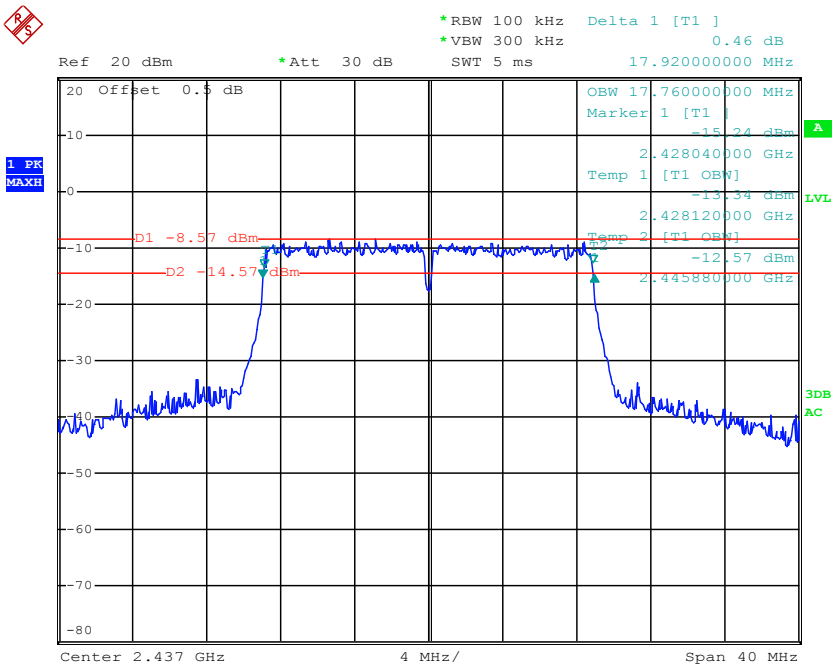


## 802.11n20 Mode:

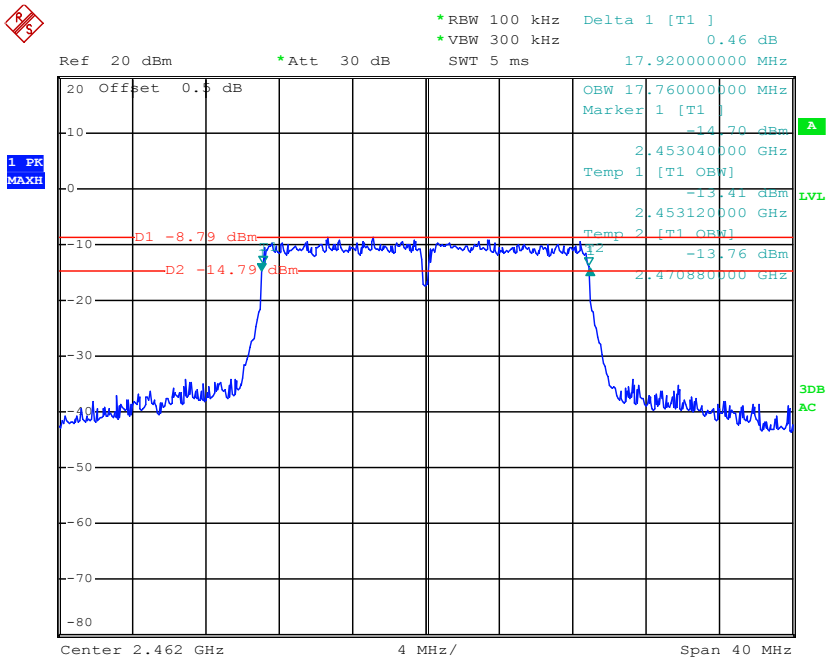
### Low Channel
**6dB Bandwidth**




### Middle Channel
**6dB Bandwidth**



## High Channel
## 6dB Bandwidth



# 9. §15.247(B) (3) - Maximum Output Power

## 9.1. Test Equipment

Please refer to Section 4 this report.

## 9.2. Test Procedure

1. The EUT was directly connected to the PK power meter

## 9.3. 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.

## 9.4. Test Result

**Pass**

| Channel | Frequency (MHz) | Data Rate (Mbps) | Reading PK Power (dBm) | Reading AV Power (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|
| 802.11b mode | | | | | | |
| Low | 2412 | 1 | 15.35 | 13.84 | 30 | Pass |
| Middle | 2437 | 1 | 15.41 | 13.9 | 30 | Pass |
| High | 2462 | 1 | 15.45 | 13.94 | 30 | Pass |
| 802.11g mode | | | | | | |
| Low | 2412 | 6 | 15.46 | 12.51 | 30 | Pass |
| Middle | 2437 | 6 | 15.49 | 12.54 | 30 | Pass |
| High | 2462 | 6 | 15.45 | 12.5 | 30 | Pass |
| 802.11n20 mode | | | | | | |
| Low | 2412 | 6.5 | 15.36 | 12.03 | 30 | Pass |
| Middle | 2437 | 6.5 | 15.44 | 12.11 | 30 | Pass |
| High | 2462 | 6.5 | 15.48 | 12.15 | 30 | Pass |

# 10. §15.247(D) – 100 KHZ Bandwidth of Frequency Band Edge

## 10.1.Test Equipment

Please refer to Section 4 this report.

## 10.2.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=3 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.

## 10.3.Applicable Standard

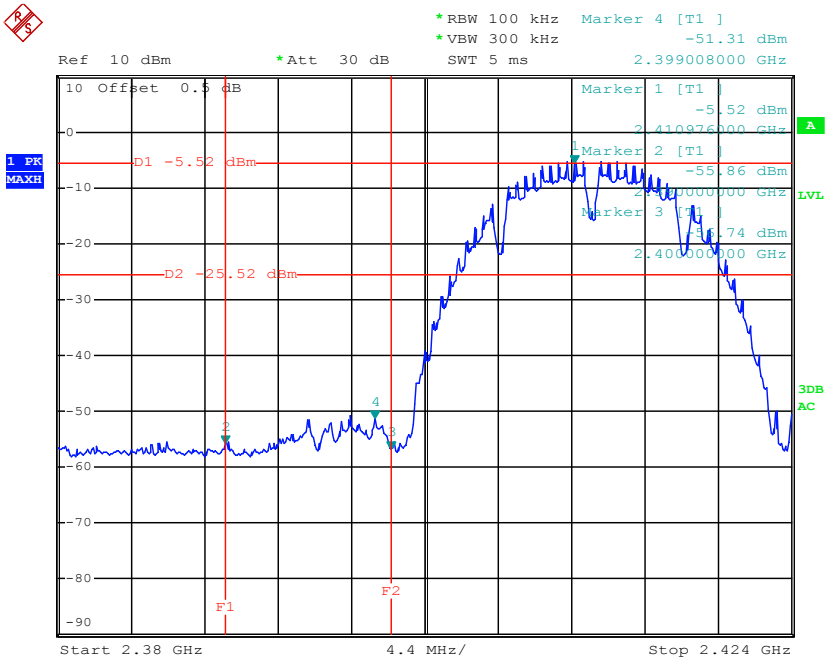
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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)).

## 10.4.Test Result

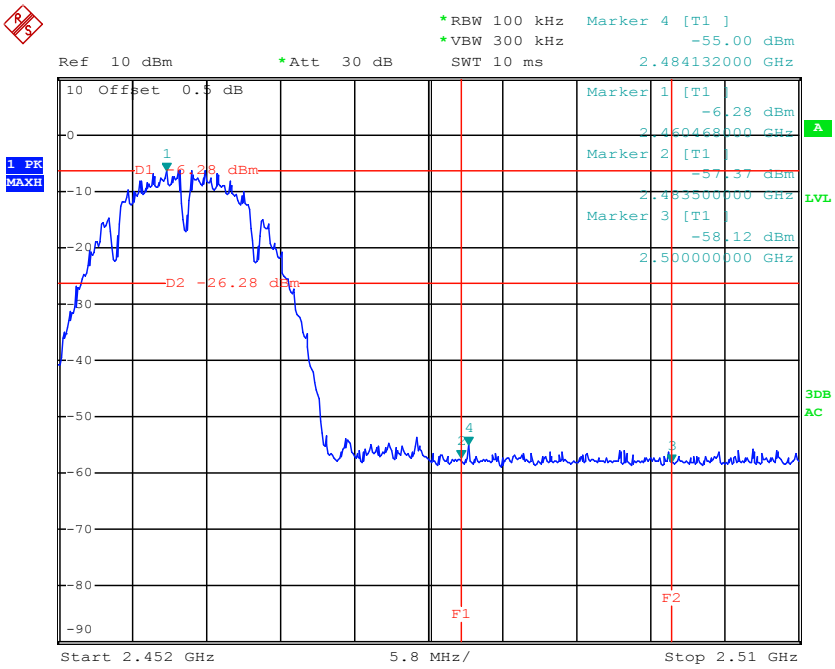
Pass

Please refer to following plots.

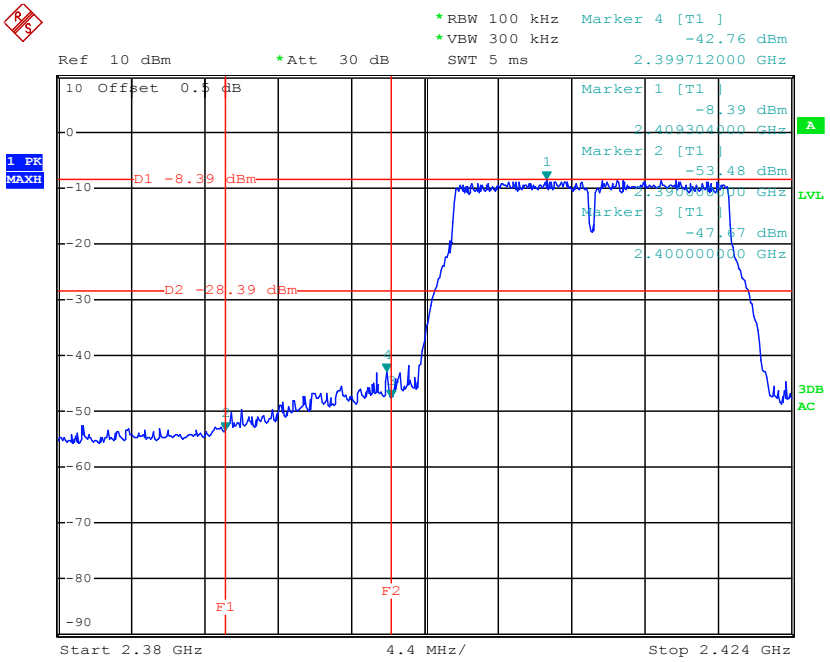
## 802.11b: Band Edge, Left Side Low Channel



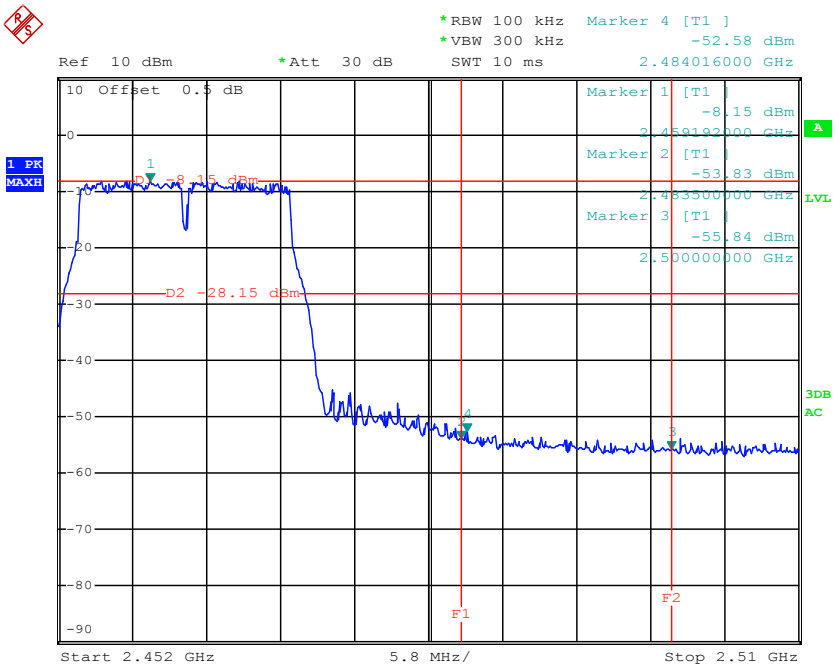

## 802.11b: Band Edge, Right Side High Channel



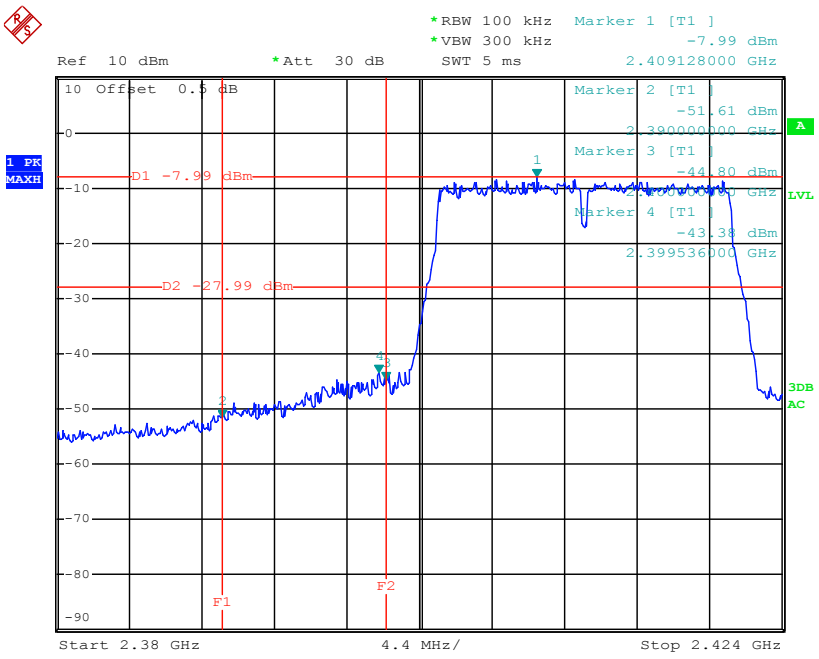
## 802.11g: Band Edge, Left Side Low Channel



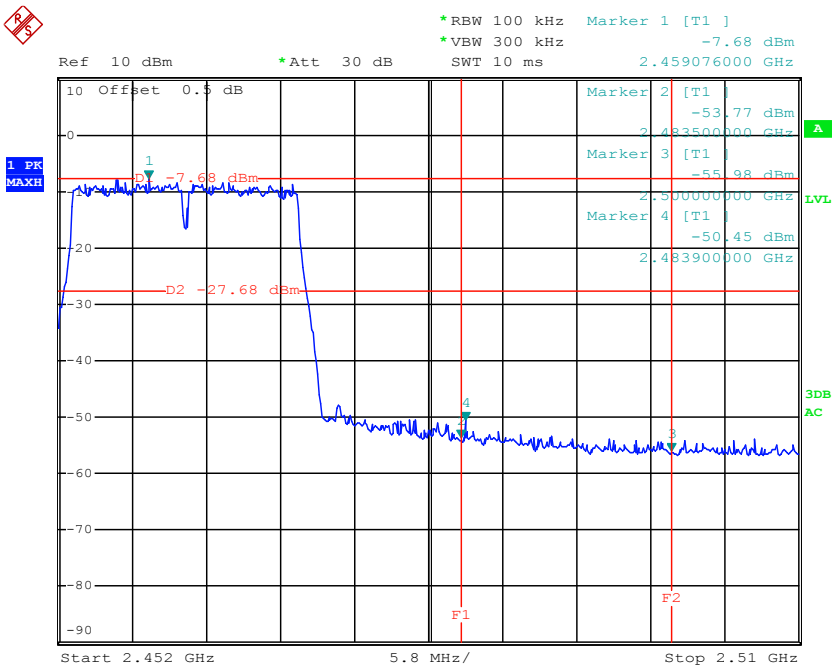

## 802.11g: Band Edge, Right Side High Channel



## 802.11n20: Band Edge, Left Side Low Channel




## 802.11n20: Band Edge, Right Side High Channel



# 11. §15.247(E) - Power Spectral Density

## 11.1. Test Equipment

Please refer to Section 4 this report.

## 11.2.Test Procedure

1.Connect EUT test port to spectrum analyzer
2. Set the EUT to transmit maximum output power at 2.4GHz.
3. Then set the EUT to transmit at high, middle and low frequency and measure the conducted Power Spectral Density.

## 11.3.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.

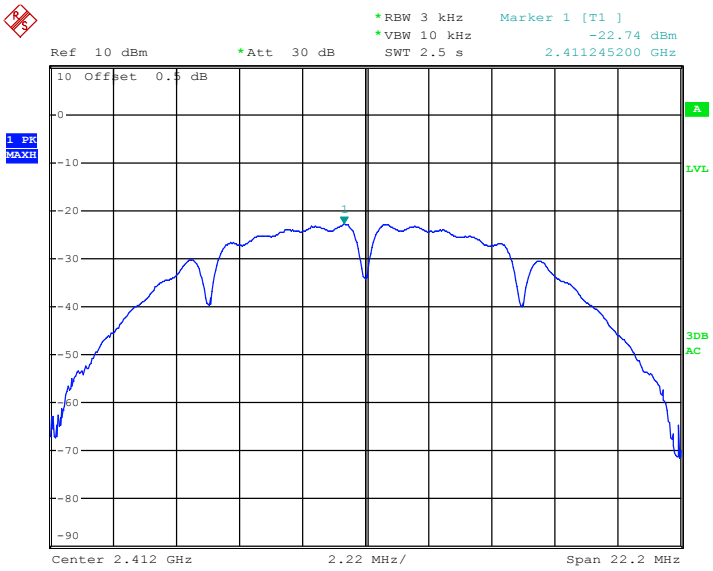
## 11.4.Test Result

***PASS***

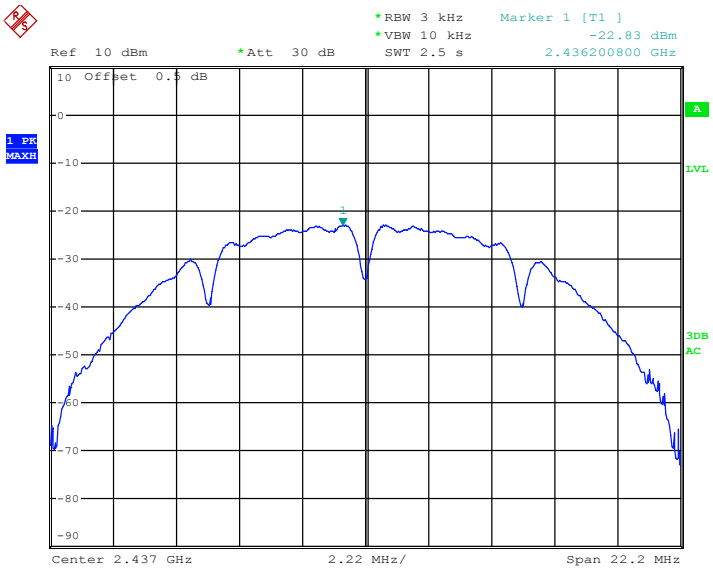
| Channel | Frequency (MHz) | Data Rate (Mbps) | Correct Power spectral density (dBm/3kHz) | Limit (dBm/3kHz) | Result |
|---|---|---|---|---|---|
| 802.11b mode | | | | | |
| Low | 2412 | 1 | -22.74 | ≤8 | Pass |
| Middle | 2437 | 1 | -22.83 | ≤8 | Pass |
| High | 2462 | 1 | -22.99 | ≤8 | Pass |
| 802.11g mode | | | | | |
| Low | 2412 | 6 | -22.94 | ≤8 | Pass |
| Middle | 2437 | 6 | -22.75 | ≤8 | Pass |
| High | 2462 | 6 | -22.74 | ≤8 | Pass |
| 802.11n20 mode | | | | | |
| Low | 2412 | 6.5 | -22.35 | ≤8 | Pass |
| Middle | 2437 | 6.5 | -22.32 | ≤8 | Pass |
| High | 2462 | 6.5 | -22.31 | ≤8 | Pass |

Please refer to the following plots

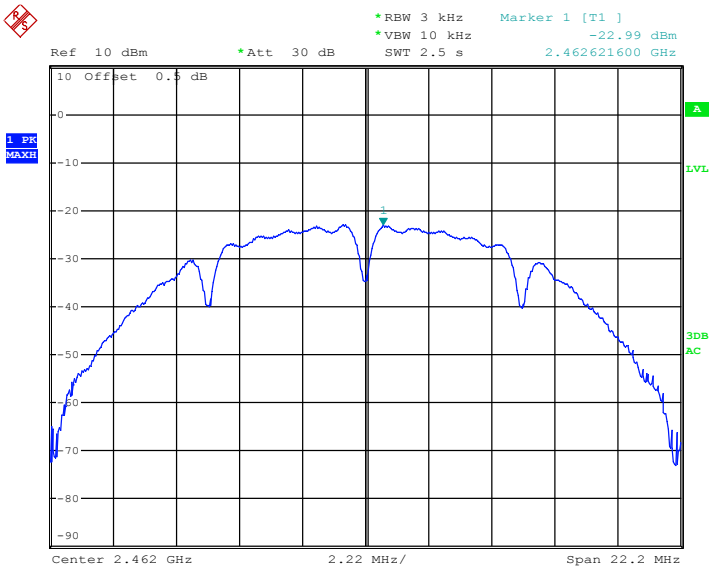
## Power Spectral Density, 802.11b Low Channel



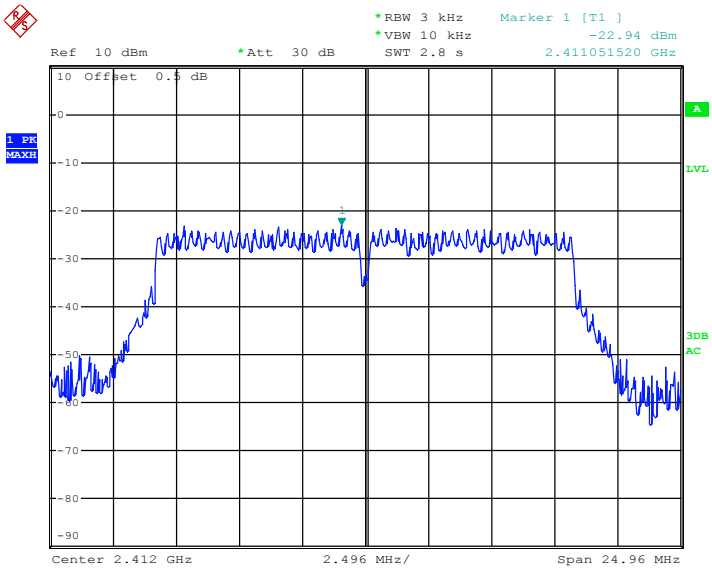

## Power Spectral Density, 802.11b Middle Channel



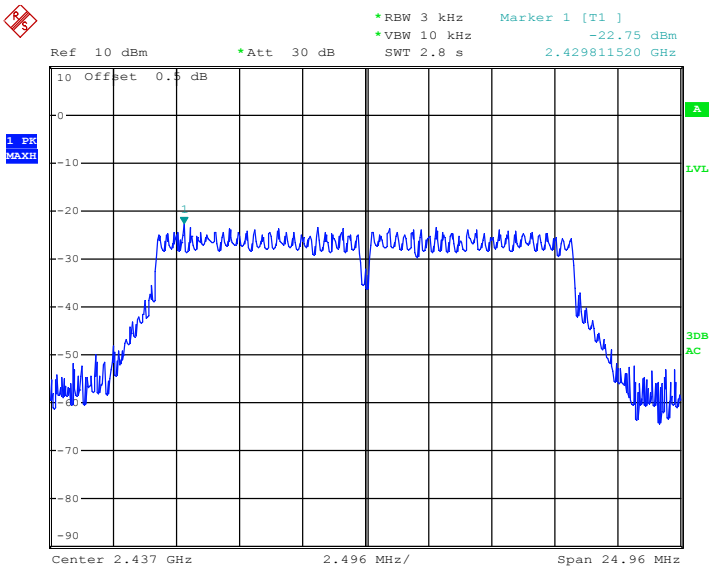
## Power Spectral Density, 802.11b High Channel



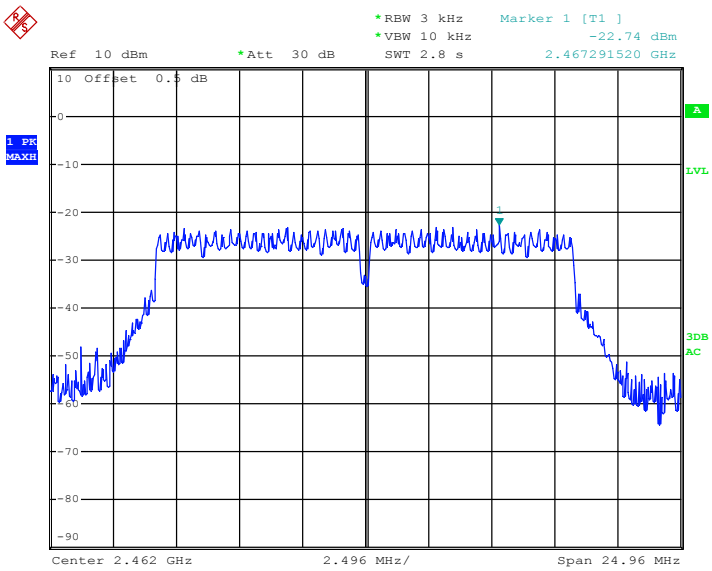
## Power Spectral Density, 802.11g Low Channel



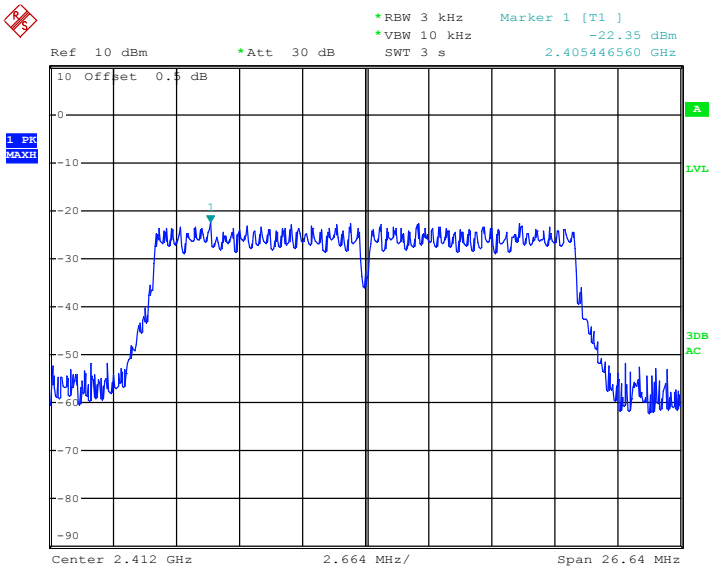

## Power Spectral Density, 802.11g Middle Channel



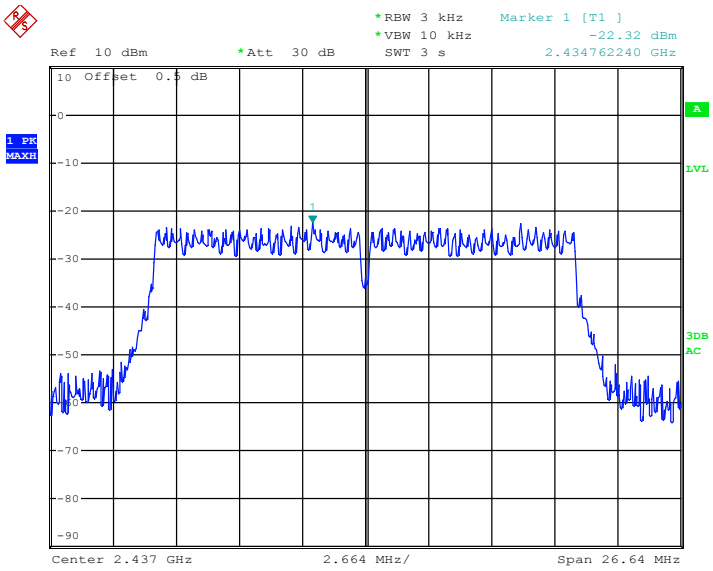
## Power Spectral Density, 802.11g High Channel



## Power Spectral Density, 802.11n20 Low Channel




## Power Spectral Density, 802.11 n20 Middle Channel



## Power Spectral Density, 802.11 n20 High Channel