

## FCC TEST REPORT

**Product** : Smart Security Light  
**Trade mark** : N/A  
**Model/Type reference** : SPL06-07A1W1-BKT-K1,  
SPL06-07A1W1-BKT-M1,  
SPL06-07A1W1-ORB-M1,  
SPL08-07A1W1-BKT-M1,  
SPL06-07A1W1-ORB-M1,  
SPL09-05A1W1-BKT-M1  
**Serial number** : N/A  
**Ratings** : AC 120V, 60Hz  
**FCC ID** : 2AD7D-SPLXX  
**Report number** : EED32H000022-1  
**Date** : Feb. 10, 2015  
**Regulations** : See below

| Test Standards  | Results |
|---|---------|
| <input checked="" type="checkbox"/> 47 CFR FCC Part 15 Subpart C 15.247: 2014 | PASS    |

Prepared for:

**Shenzhen Jiawei Photovoltaic Lighting Co., Ltd.**  
**No. 1,2,3,4, Xinfu Industry Zone, Central Community, Pingdi Road,**  
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Date: Feb. 10, 2015



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*N/A means not applicable.*

## 1. CERTIFICATION INFORMATION

**Applicant:** Shenzhen Jiawei Photovoltaic Lighting Co., Ltd.  
 No. 1,2,3,4, Xinfu Industry Zone, Central Community, Pingdi Road, Longgang District, Shenzhen City, Guangdong Province, P.R.China

**Manufacturer:** Shenzhen Jiawei Photovoltaic Lighting Co., Ltd. Gaoqiao Subsidiary  
 No. 4, Fugao East Road, Gaoqiao Community, Pingdi Road, Longgang District, Shenzhen City, Guangdong Province, P.R.China

**Equipment authorization:** Certification

**FCC ID:** 2AD7D-SPLXX

**Product:** Smart Security Light

**Model/Type reference:** SPL06-07A1W1-BKT-K1,  
 SPL06-07A1W1-BKT-M1,  
 SPL06-07A1W1-ORB-M1,  
 SPL08-07A1W1-BKT-M1,  
 SPL06-07A1W1-ORB-M1,  
 SPL09-05A1W1-BKT-M1

**Trade Name:** N/A

**Serial Number:** N/A

**Report Number:** EED32H000022-1

**Sample Received Date:** Jan. 10, 2015

**Sample tested Date:** Jan. 10, 2015 to Feb. 10, 2015

The above equipment was tested by Centre Testing International (Shenzhen) Corporation for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart C and the measurement procedure according to ANSI C63.4:2009.

## 2. TEST SUMMARY

| No. | Test Item                      | Rule         | Result              |
|-----|--------------------------------|--------------|---------------------|
| 1   | 6dB Bandwidth                  | 15.247(a)(2) | PASS                |
| 2   | Peak Output Power              | 15.247(b)(3) | PASS                |
| 3   | Power Spectral Density         | 15.247(e)    | PASS                |
| 4   | Bandedge Emission              | 15.247(d)    | PASS                |
| 5   | Spurious RF Conducted Emission | 15.247(d)    | PASS                |
| 6   | Radiated Emission              | 15.247(d)    | PASS                |
| 7   | Conducted Emission             | 15.207       | PASS                |
| 8   | Antenna requirements           | 15.203       | PASS<br>(See Notes) |

Notes: The product uses an internal integral antenna which in accordance with Section 15.203 is considered sufficient to comply with the provisions of this section.

### 3. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

| Test item             | Value (dB) |
|-----------------------|------------|
| Conducted disturbance | 3.0        |
| Radiated disturbance  | 4.9        |

### 4. PRODUCT INFORMATION

**Model difference:** All models are same except outer color. The test model is SPL06-07A1W1-BKT-K1 and the test results are applicable to the others.

| Items              | Description  |
|--------------------|--|
| Rating             | AC 120V, 60Hz  |
| Transmit Data Rate | IEEE 802.11b: 1Mbps, 2Mbps, 5.5Mbps, 11Mbps<br>IEEE 802.11g: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps<br>IEEE 802.11n HT20: MCS0, MCS1, MCS2, MCS3, MCS4, MCS5, MCS6, MCS7 |
| Type of Modulation | IEEE 802.11b: DSSS (CCK, QPSK, BPSK)<br>IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK, BPSK)  |
| Antenna Type       | Integral antenna   |
| Connector          | fixed on board   |
| Gain               | 4dBi   |

#### Technical Specification of WiFi module (802.11b/g/n)

| Item                     | Description                      |              |              |
|--------------------------|----------------------------------|--------------|--------------|
|                          | IEEE 802.11b                     | IEEE 802.11g | IEEE 802.11n |
| Operating Frequency band | 2412-2462MHz for 802.11b/g/nHT20 |              |              |
| Channel Number           | 11                               | 11           | 11           |
| Channel Bandwidth (MHz)  | 20                               | 20           | 20           |

#### Technical Specification of Carrier Frequency

| Frequency Band             | Channel No. | Frequency | Channel No. | Frequency | Channel No. | Frequency |
|----------------------------|-------------|-----------|-------------|-----------|-------------|-----------|
| 2412-2462MHz (802.11b/g/n) | 1           | 2412 MHz  | 6           | 2437 MHz  | 11          | 2462 MHz  |
|                            | 2           | 2417 MHz  | 7           | 2442 MHz  | --          | --        |
|                            | 3           | 2422 MHz  | 8           | 2447 MHz  | --          | --        |
|                            | 4           | 2427 MHz  | 9           | 2452 MHz  | --          | --        |
|                            | 5           | 2432 MHz  | 10          | 2457 MHz  | --          | --        |



## 5. SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. It was powered by 120V AC input adaptor. Only the worst case data were recorded in this test report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

## 6. TEST EQUIPMENT LIST

| Equipment                        | Manufacturer | Model Number     | Serial Number | Due Date   |
|----------------------------------|--------------|------------------|---------------|------------|
| 3M Chamber & Accessory Equipment | TDK          | SAC-3            | ---           | 06/01/2016 |
| Receiver                         | R&S          | ESCI             | 100435        | 07/08/2015 |
| TRILOG Broadband Antenna         | schwarzbeck  | VULB 9163        | 618           | 06/17/2015 |
| Multi device Controller          | matturo      | NCD/070/10711112 | ---           | N/A        |
| Horn Antenna                     | ETS-LINGREN  | 3117             | 00057407      | 07/07/2015 |
| Microwave Preamplifier           | Agilent      | 8449B            | 3008A02425    | 03/19/2015 |
| Spectrum Analyzer                | R&S          | FSP40            | 100416        | 07/06/2015 |
| Receiver                         | R&S          | ESCI             | 100009        | 07/19/2015 |
| LISN                             | R&S          | ENV216           | 100098        | 07/19/2015 |

## 7. SUPPORT EQUIPMENT LIST

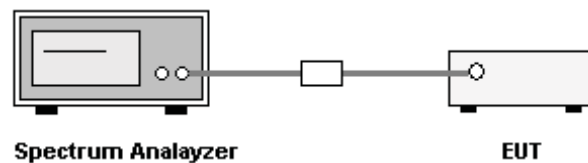
| No. | Device Type | Brand | Model | Series No. | Certification Type |
|-----|-------------|-------|-------|------------|--------------------|
| 1.  | ---         | ---   | ---   | ---        | ---                |
| 2.  | ---         | ---   | ---   | ---        | ---                |

## 8. 6DB BANDWIDTH MEASUREMENT

### 8.1. LIMITS

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.

### 8.2. BLOCK DIAGRAM OF TEST SETUP



### 8.3. TEST PROCEDURE

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set spectrum analyzer's RBW and VBW to applicable value with Peak in Max Hold.
3. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level.
4. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

### 8.4. TEST RESULT

The test data of worst case are below:

802.11b, 1Mbps

| Frequency (MHz) | Measured Value (MHz) | Result |
|-----------------|----------------------|--------|
| 2412            | 10.02                | PASS   |
| 2437            | 10.02                | PASS   |
| 2462            | 10.42                | PASS   |

802.11g, 6Mbps

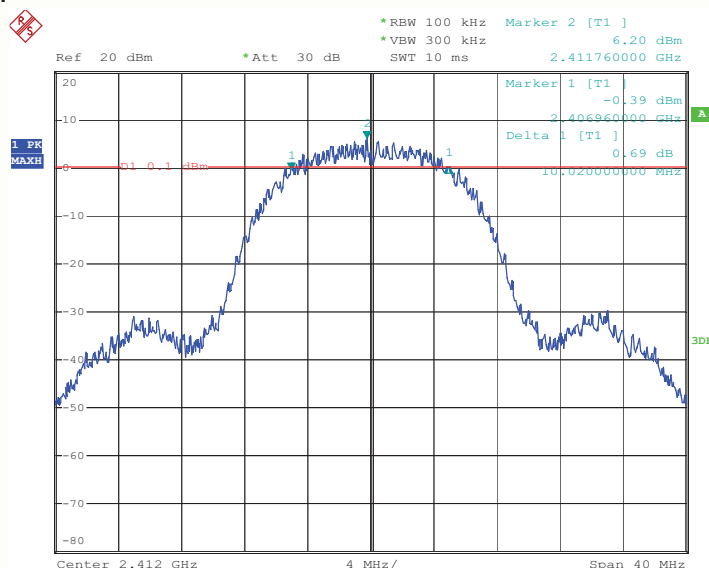
| Frequency (MHz) | Measured Value (MHz) | Result |
|-----------------|----------------------|--------|
| 2412            | 16.30                | PASS   |
| 2437            | 16.24                | PASS   |
| 2462            | 16.30                | PASS   |

802.11n HT20, MSC0

| Frequency (MHz) | Measured Value (MHz) | Result |
|-----------------|----------------------|--------|
| 2412            | 17.50                | PASS   |
| 2437            | 17.52                | PASS   |
| 2462            | 17.50                | PASS   |

Please see the following plots (worst case):

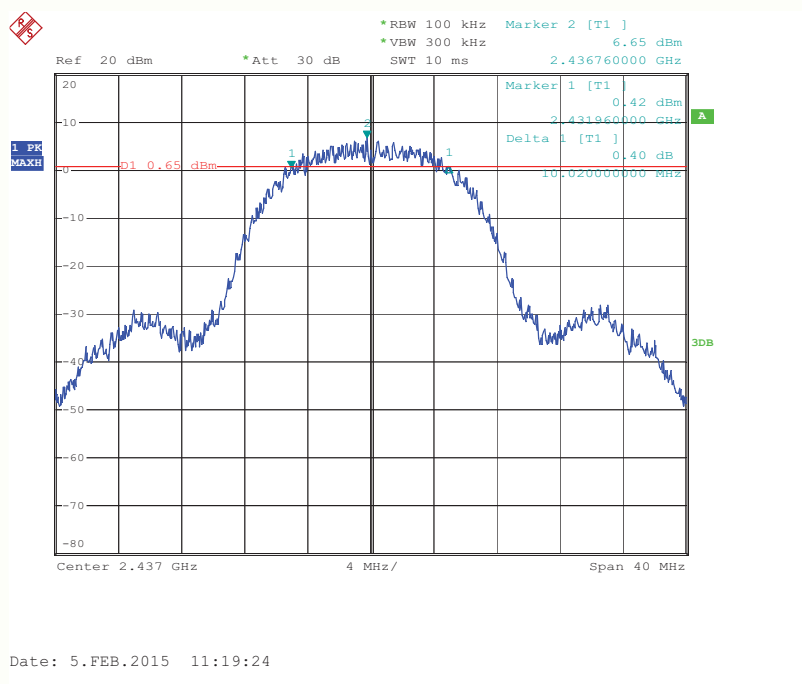
802.11b, 1Mbps:



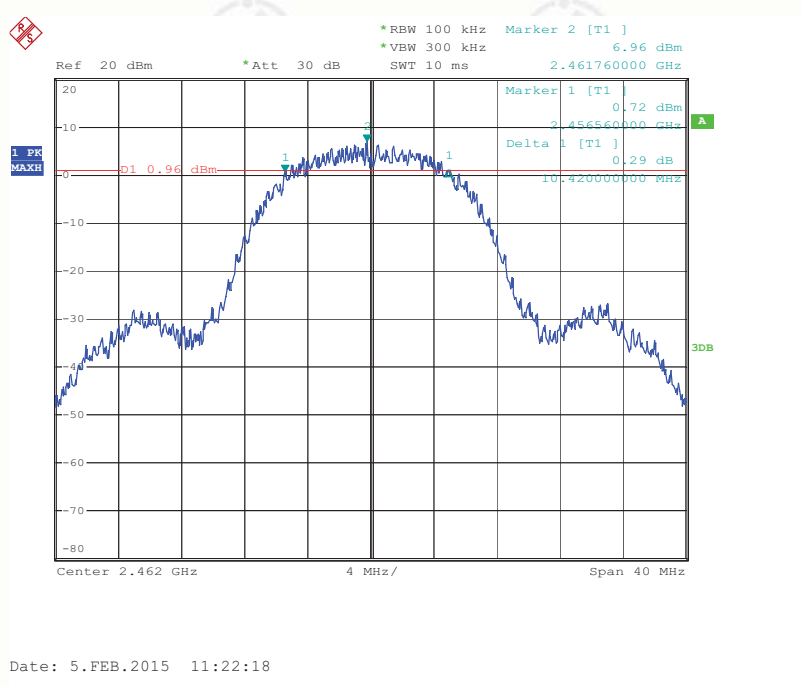
Date: 5.FEB.2015 11:16:54

Low channel



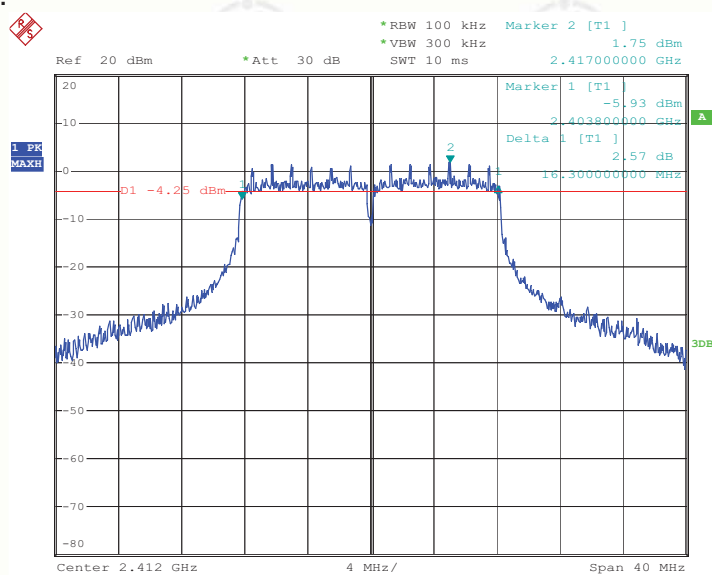


Middle channel



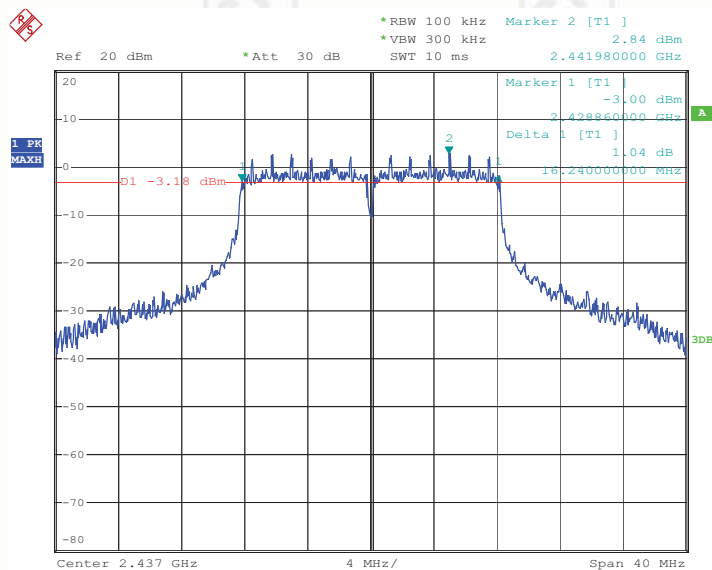
High channel

802.11g, 6Mbps:



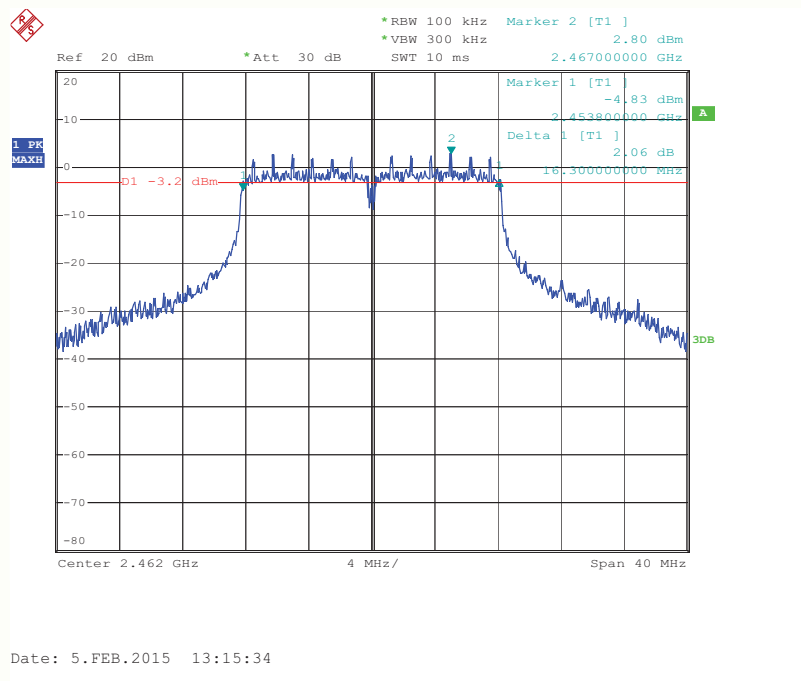
Date: 5.FEB.2015 13:11:35

Low channel



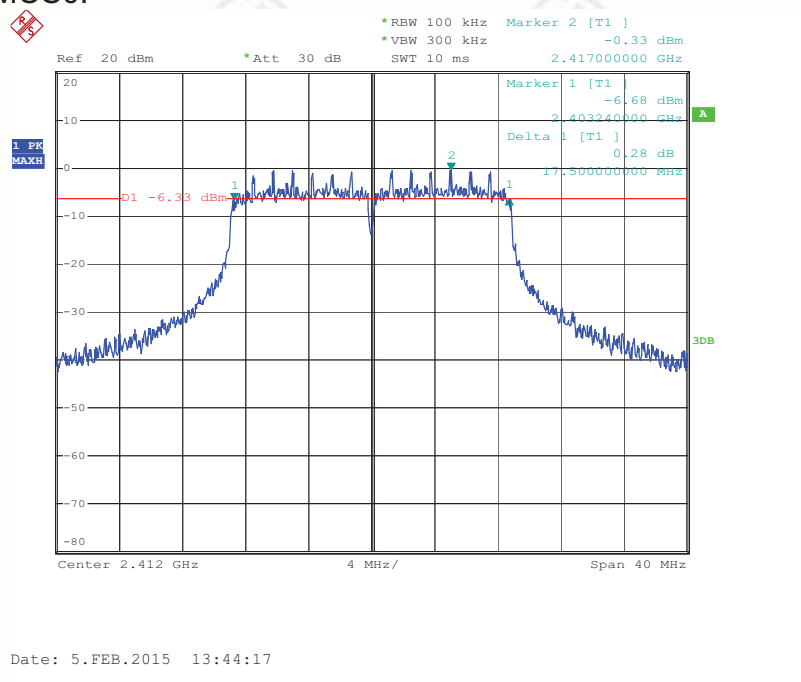
Date: 5.FEB.2015 13:13:59

Middle channel

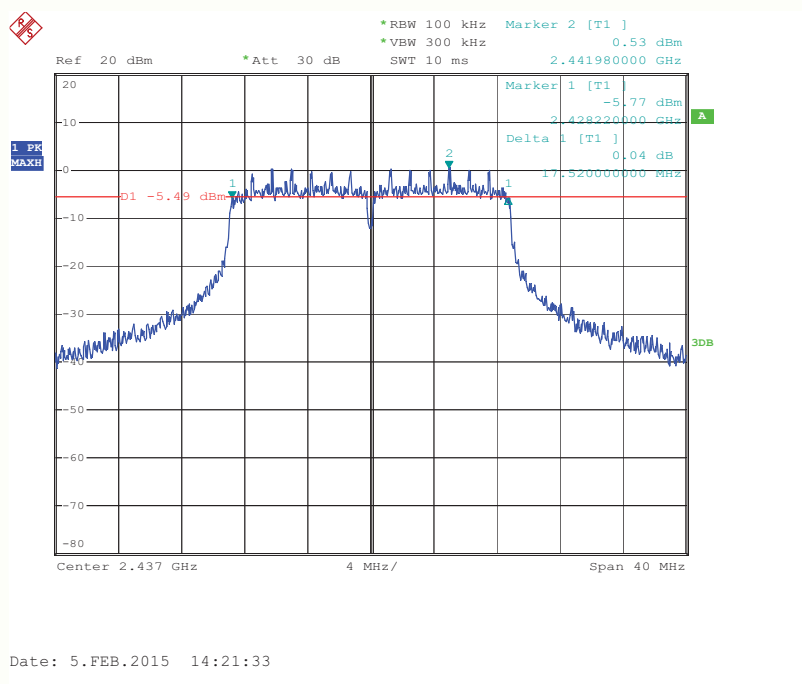


High channel

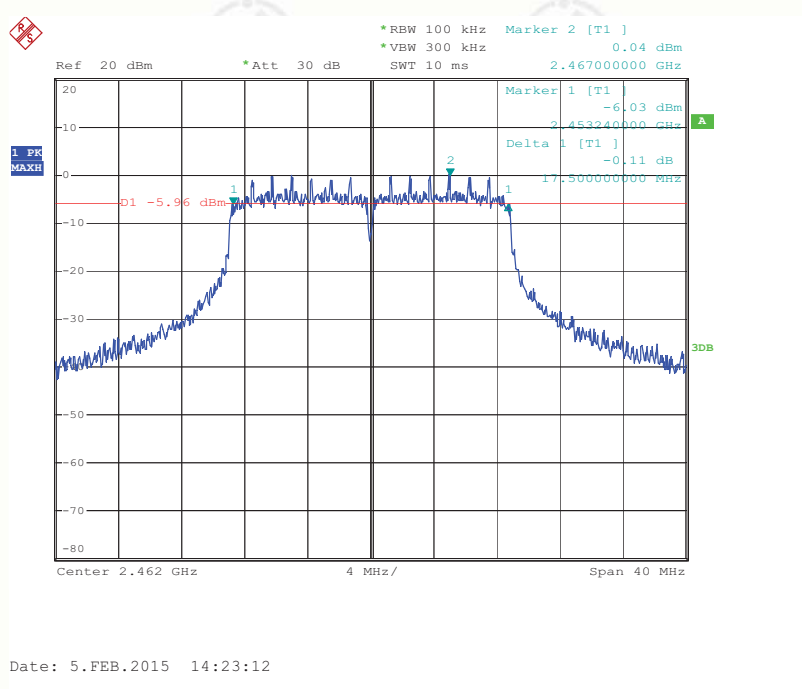
802.11n HT20, MCS0:



Low channel



Middle channel



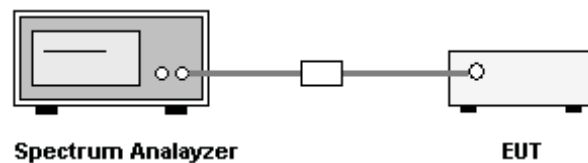
High channel

## 9. POWER SPECTRAL DENSITY

### 9.1. LIMITS

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.

### 9.2. BLOCK DIAGRAM OF TEST SETUP



### 9.3. TEST PROCEDURE

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set spectrum analyzer's RBW and VBW to applicable and set span wide enough to capture the whole plot, record the frequency of the max emission in the plot.
3. Set the frequency as center frequency, and set RBW = 3 kHz, VBW >RBW, sweep= (SPAN/3 kHz) with Peak detector in Max Hold mode.
4. Read the output peak data from the spectrum analyzer directly.

### 9.4. TEST RESULT

The test data of worst case are below:

802.11b, 1Mbps

| Frequency (MHz) | Measured Value (dBm) | Result |
|-----------------|----------------------|--------|
| 2412            | -8.01                | PASS   |
| 2437            | -7.74                | PASS   |
| 2462            | -7.26                | PASS   |

802.11g, 6Mbps

| Frequency (MHz) | Measured Value (MHz) | Result |
|-----------------|----------------------|--------|
| 2412            | -12.92               | PASS   |
| 2437            | -13.91               | PASS   |
| 2462            | -13.73               | PASS   |

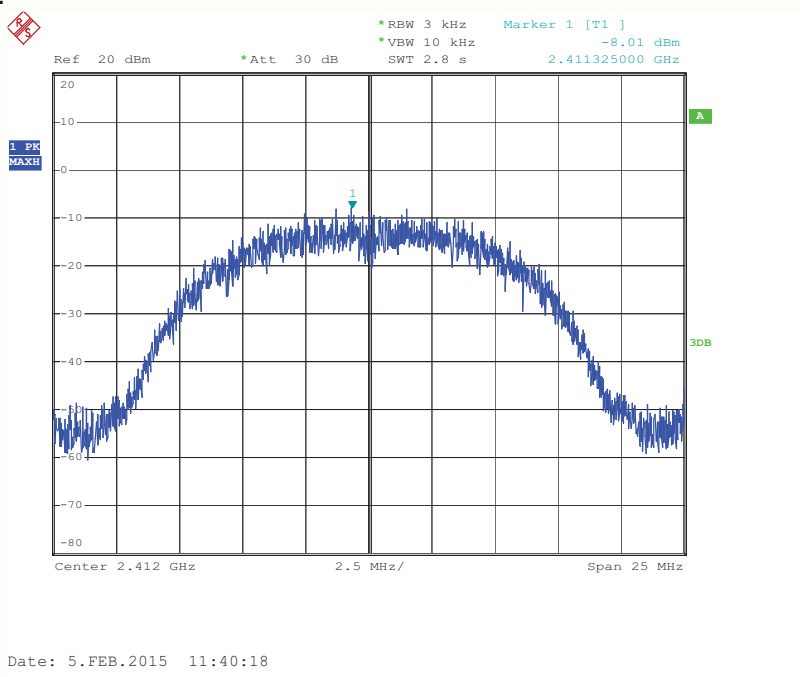


802.11n HT20, MSC0

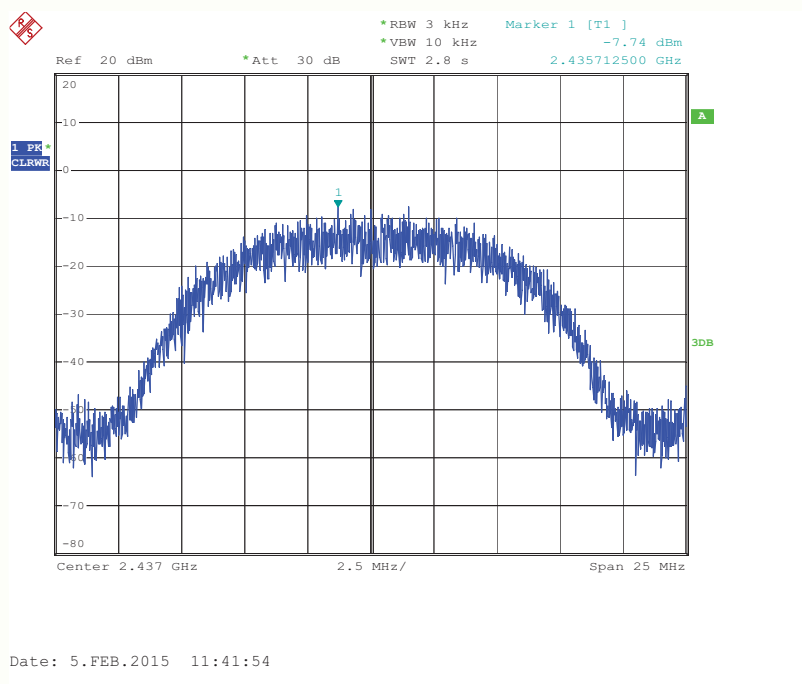
| Frequency (MHz) | Measured Value (MHz) | Result |
|-----------------|----------------------|--------|
| 2412            | -16.67               | PASS   |
| 2437            | -15.53               | PASS   |
| 2462            | -15.23               | PASS   |

Please see the following plots (worst case):

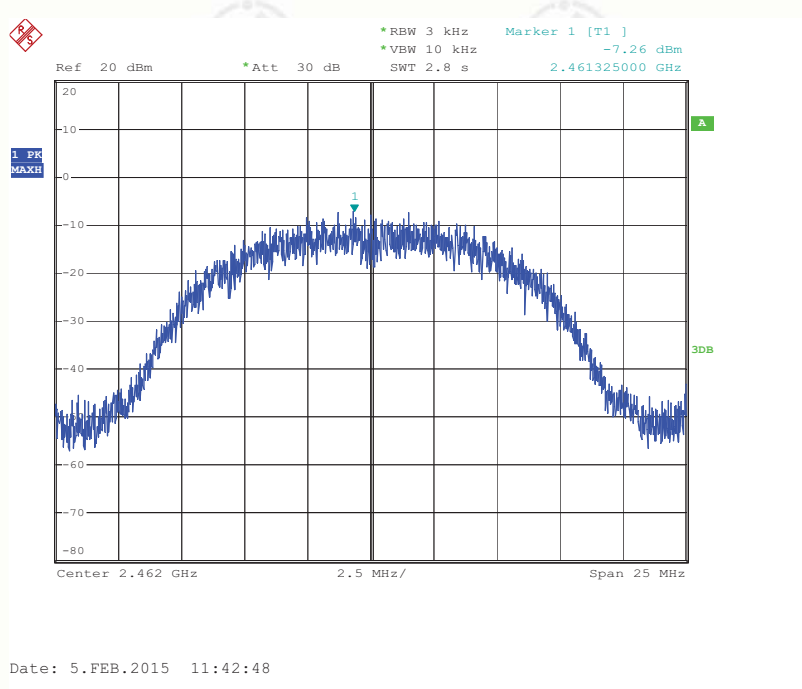
802.11b, 1Mbps:



Low channel

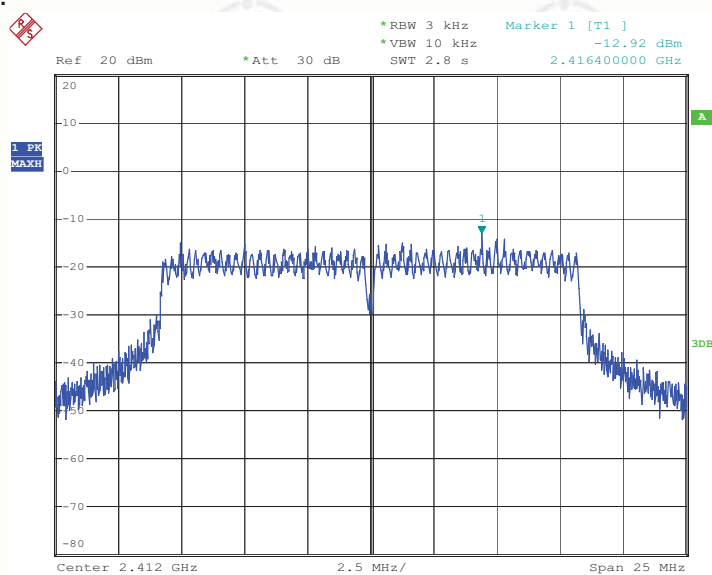


Middle channel



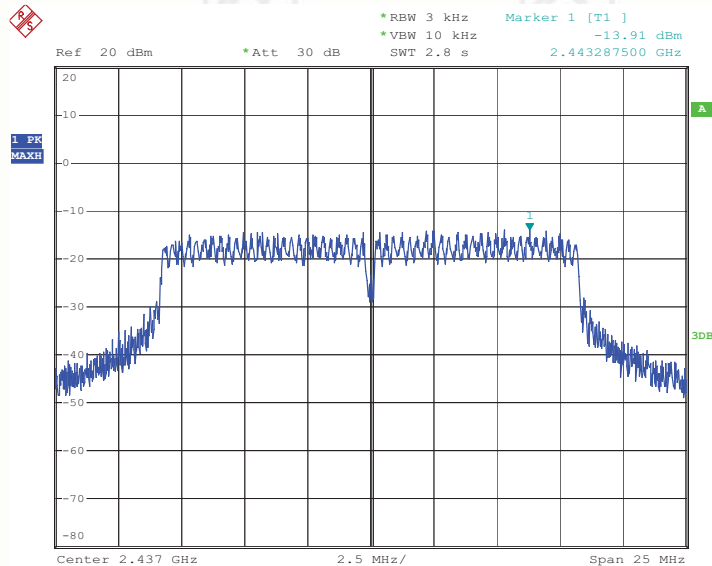
High channel

802.11g, 6Mbps:



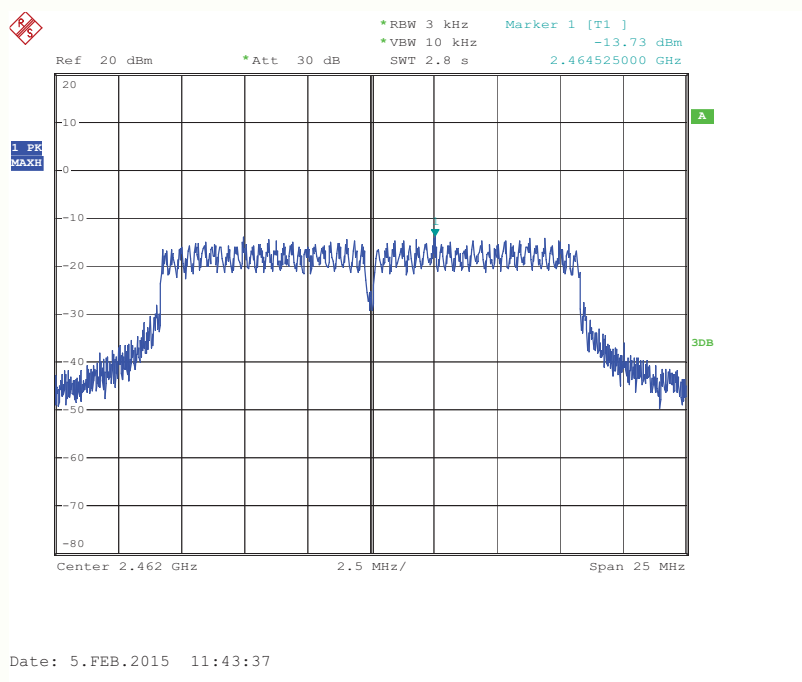
Date: 5.FEB.2015 11:44:26

Low channel



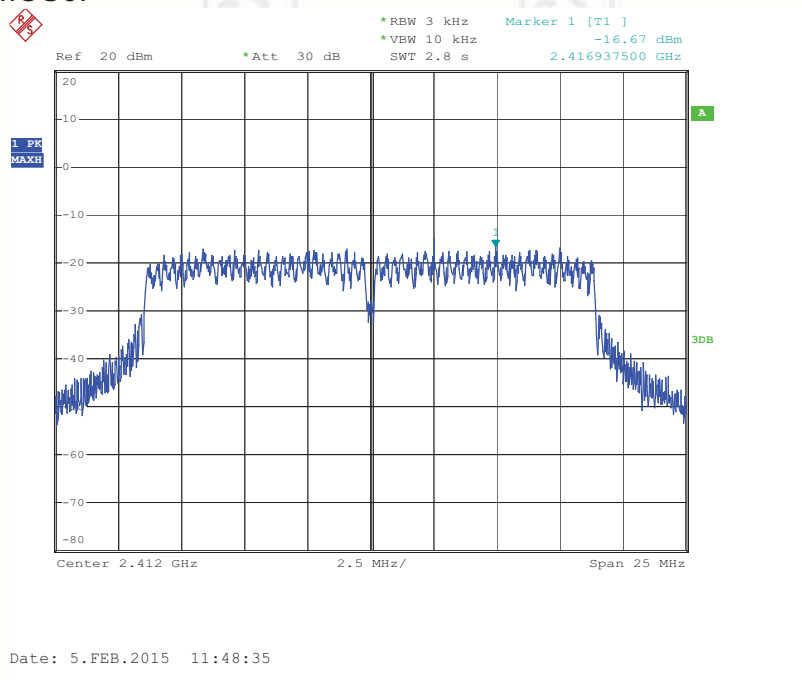
Date: 5.FEB.2015 11:47:18

Middle channel

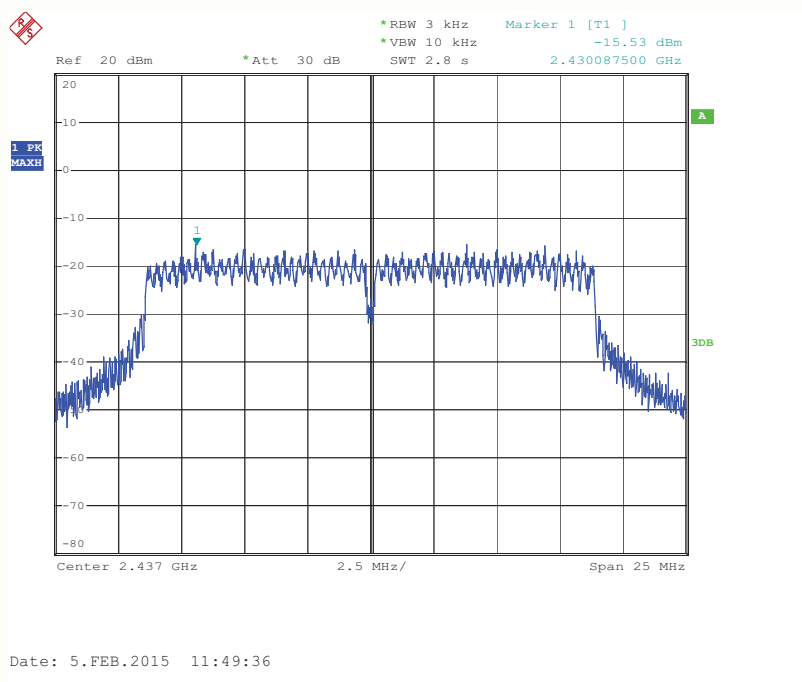


High channel

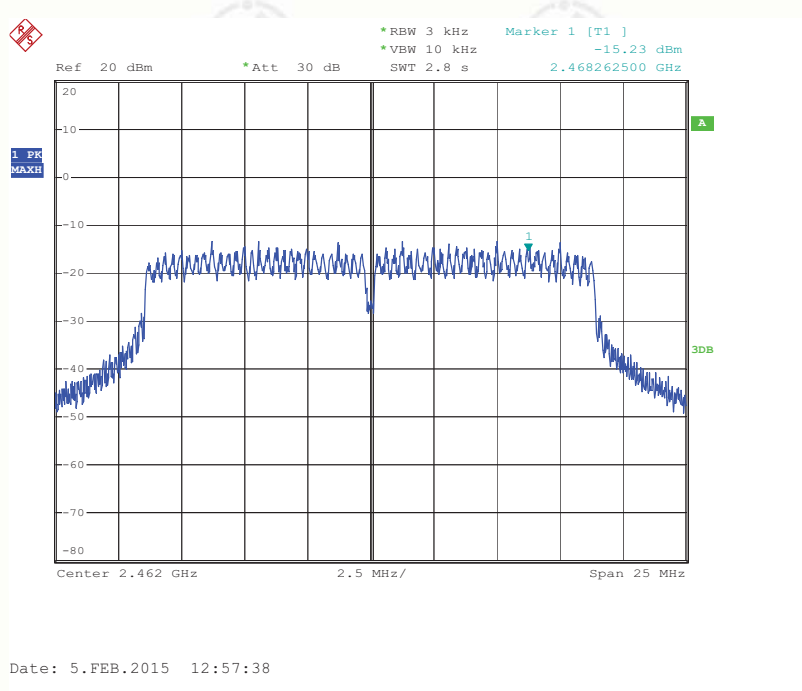
802.11n HT20, MCS0:



Low channel



Middle channel



High channel



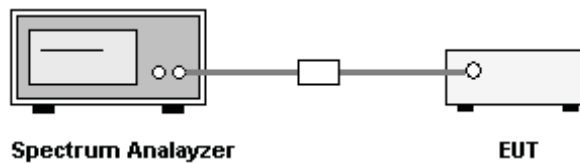
## 10. MAXIMUM PEAK CONDUCTED OUTPUT POWER MEASUREMENT

### 10.1. LIMITS

The maximum peak conducted output power of the intentional radiator shall not exceed the following:

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt (30dBm).

### 10.2. BLOCK DIAGRAM OF TEST SETUP



### 10.3. TEST PROCEDURE

1. The transmitter output is connected to the Spectrum analyzer. The Spectrum analyzer is set to the peak power detection.
2. Set spectrum analyzer's RBW and VBW to applicable and set span wide enough to capture the whole plot, record the frequency of the max emission in the plot.
3. Set the frequency as center frequency, and set RBW = 1 MHz, VBW >RBW, sweep= auto with Peak detector in Max Hold mode.

### 10.4. TEST RESULT

802.11b:

| Frequency (MHz)      | Data rate (Mbps) | Result (dBm) | Limit (dBm) |
|----------------------|------------------|--------------|-------------|
| Low Channel: 2412    | 1                | 19.06        | 30          |
|                      | 5.5              | 20.15        | 30          |
|                      | 11               | 21.26        | 30          |
| Middle Channel: 2437 | 1                | 19.31        | 30          |
|                      | 5.5              | 20.71        | 30          |
|                      | 11               | 21.78        | 30          |
| High Channel: 2462   | 1                | 19.46        | 30          |
|                      | 5.5              | 20.95        | 30          |
|                      | 11               | 22.14        | 30          |

## 802.11g:

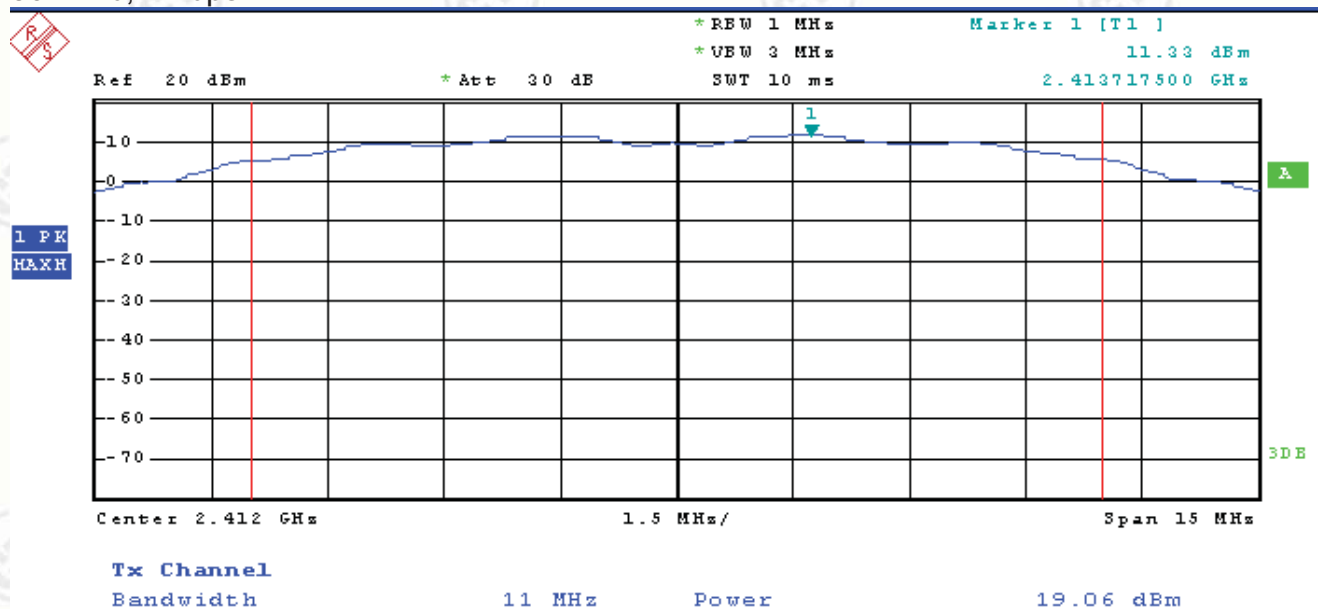
| Frequency (MHz)      | Data rate (Mbps) | Result (dBm) | Limit (dBm) |
|----------------------|------------------|--------------|-------------|
| Low Channel: 2412    | 6                | 20.72        | 30          |
|                      | 18               | 20.14        | 30          |
|                      | 54               | 20.21        | 30          |
| Middle Channel: 2437 | 6                | 21.80        | 30          |
|                      | 18               | 21.37        | 30          |
|                      | 54               | 21.40        | 30          |
| High Channel: 2462   | 6                | 21.83        | 30          |
|                      | 18               | 21.37        | 30          |
|                      | 54               | 20.87        | 30          |

## 802.11n HT20:

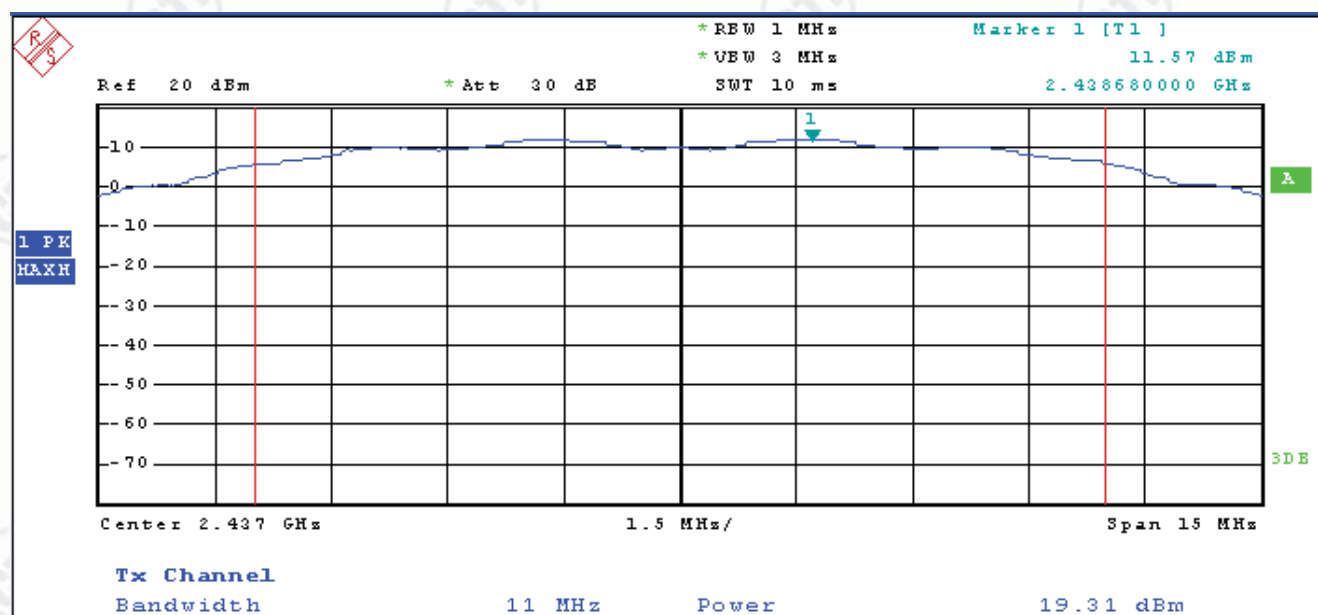
| Frequency (MHz)      | Data rate (Mbps) | Result (dBm) | Limit (dBm) |
|----------------------|------------------|--------------|-------------|
| Low Channel: 2412    | MCS0             | 19.54        | 30          |
|                      | MCS3             | 18.15        | 30          |
|                      | MCS7             | 17.88        | 30          |
| Middle Channel: 2437 | MCS0             | 19.82        | 30          |
|                      | MCS3             | 18.88        | 30          |
|                      | MCS7             | 18.78        | 30          |
| High Channel: 2462   | MCS0             | 19.72        | 30          |
|                      | MCS3             | 18.34        | 30          |
|                      | MCS7             | 18.88        | 30          |

Please see the following plots (typical example)

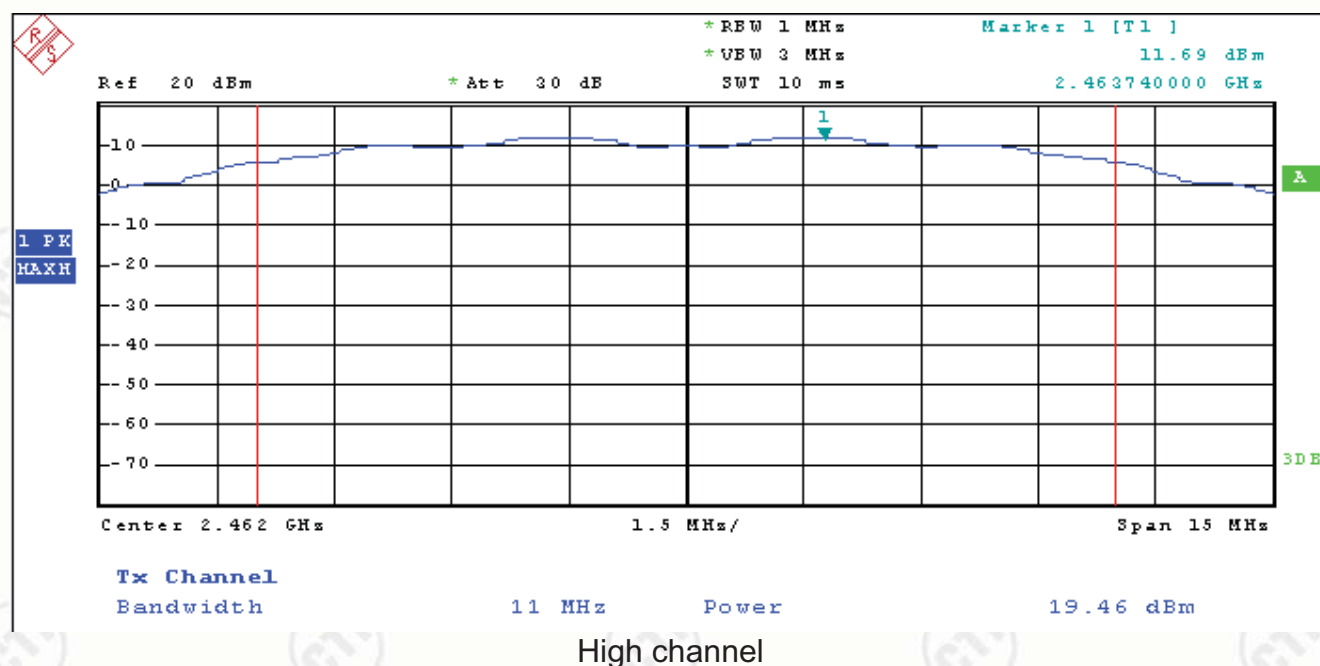
802.11b, 1Mbps:



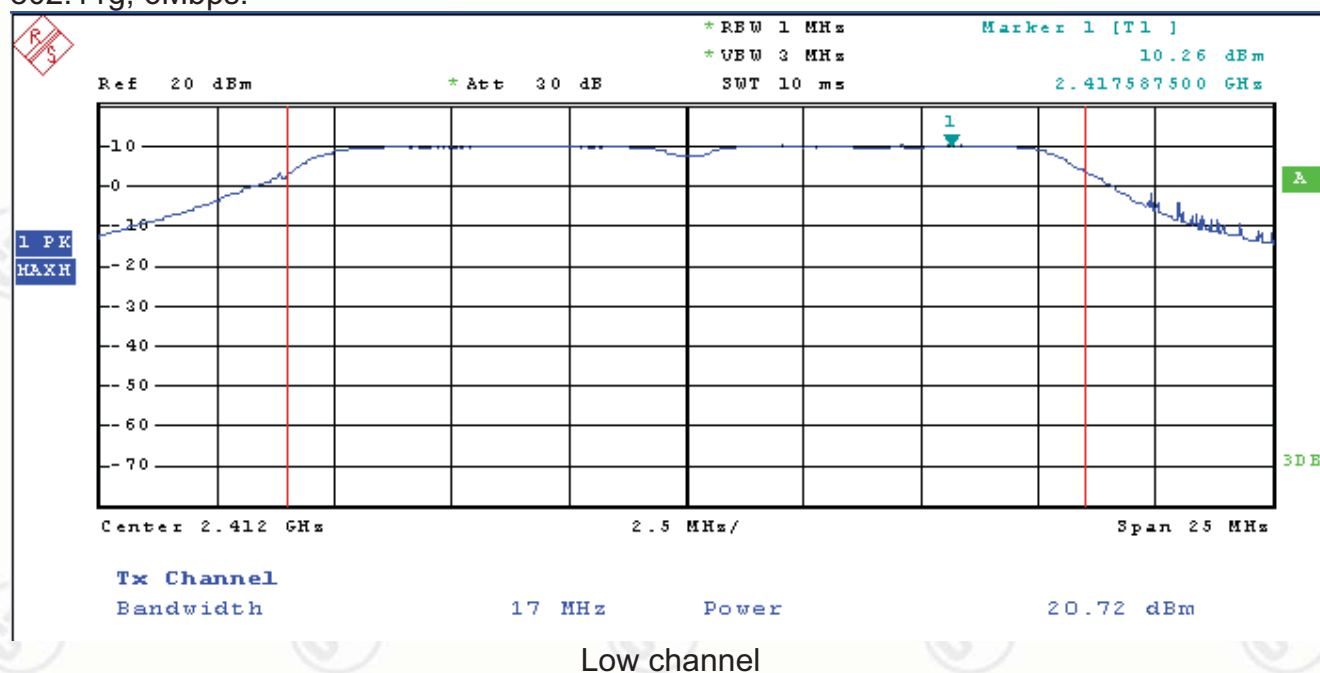
Low channel

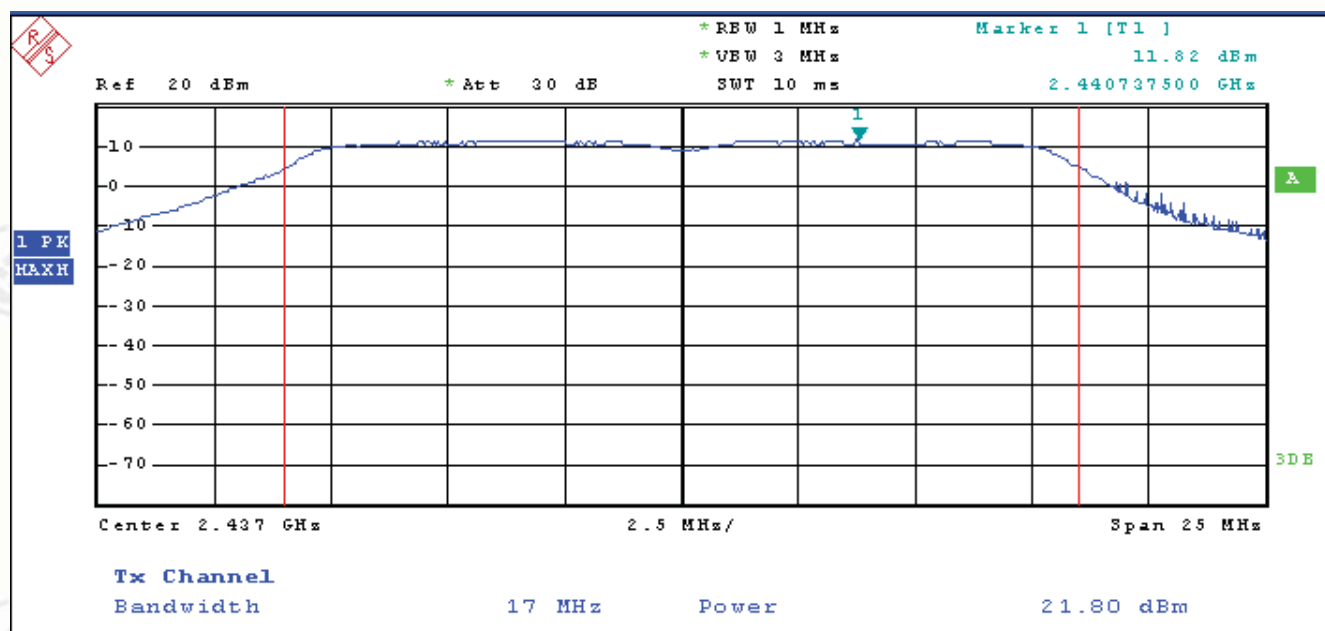


Middle channel

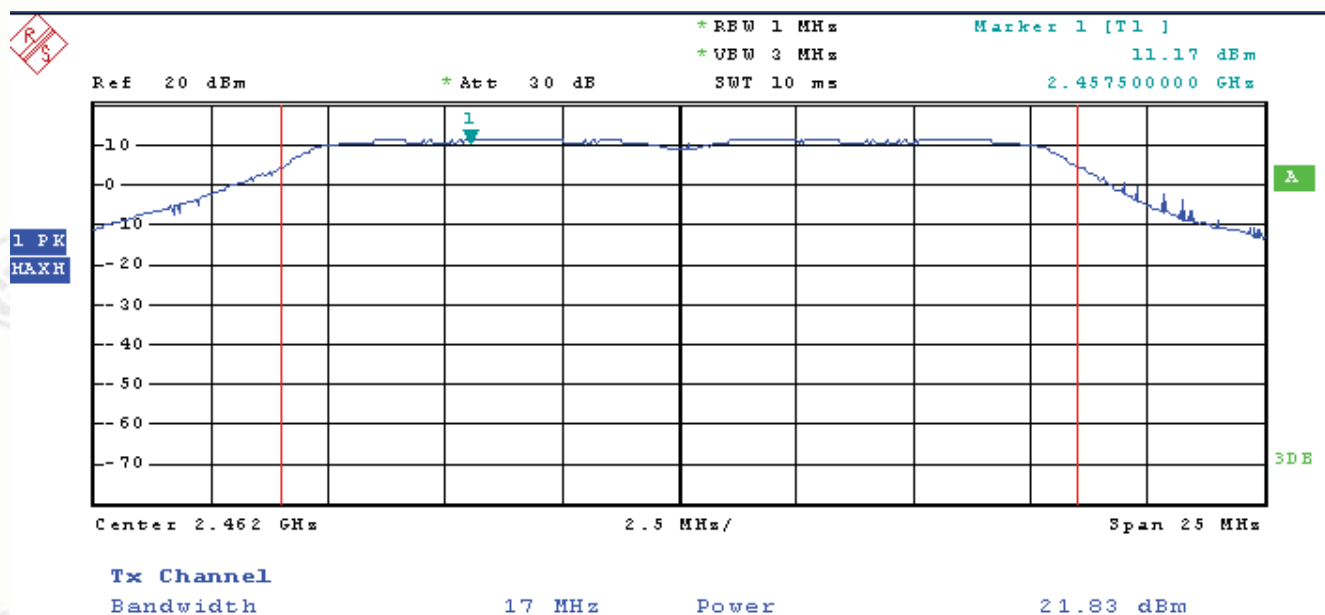


802.11g, 6Mbps:





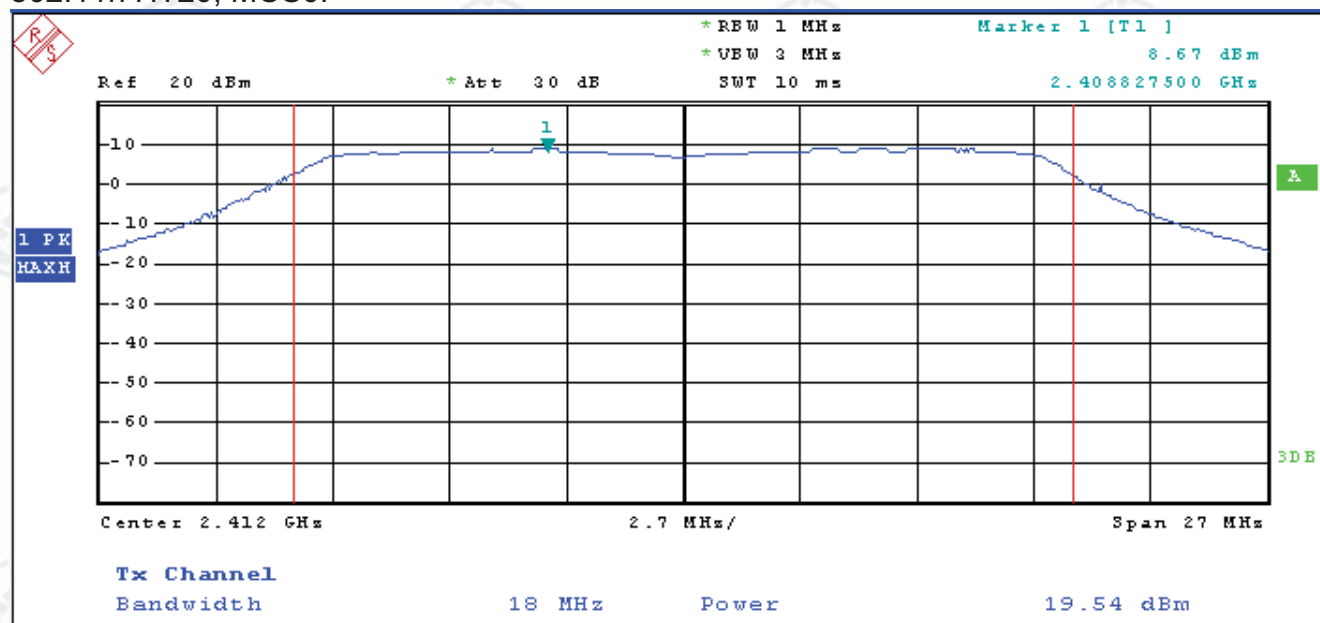
Middle channel



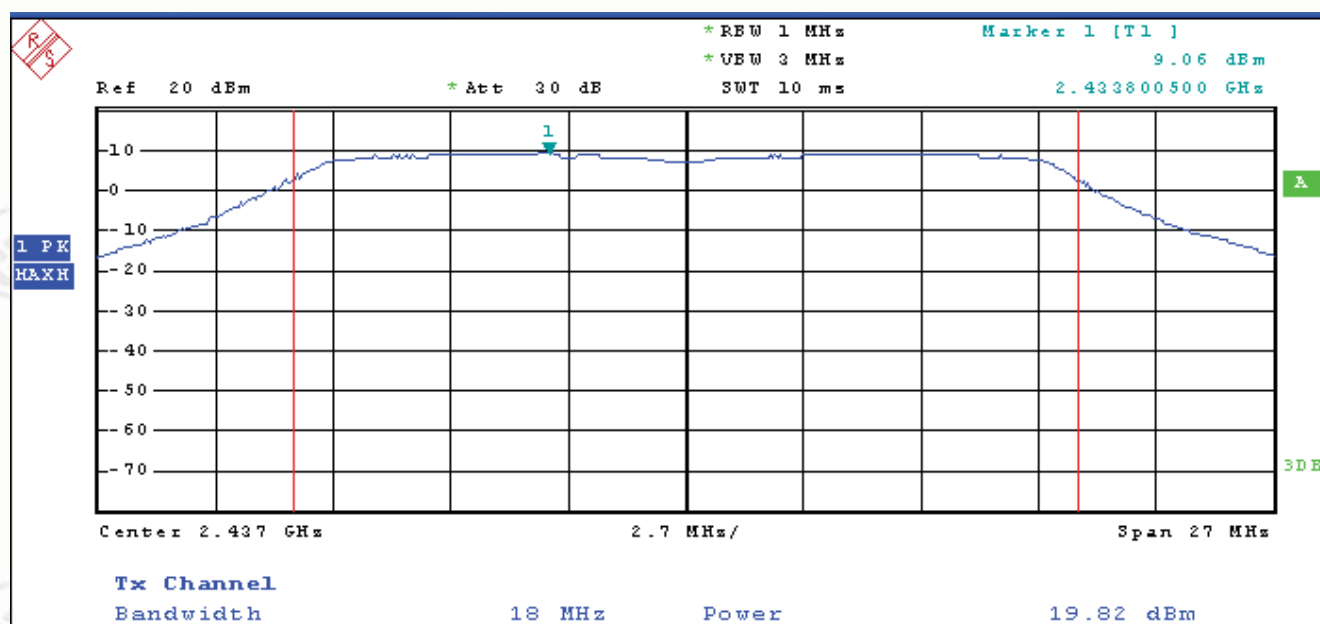
High channel



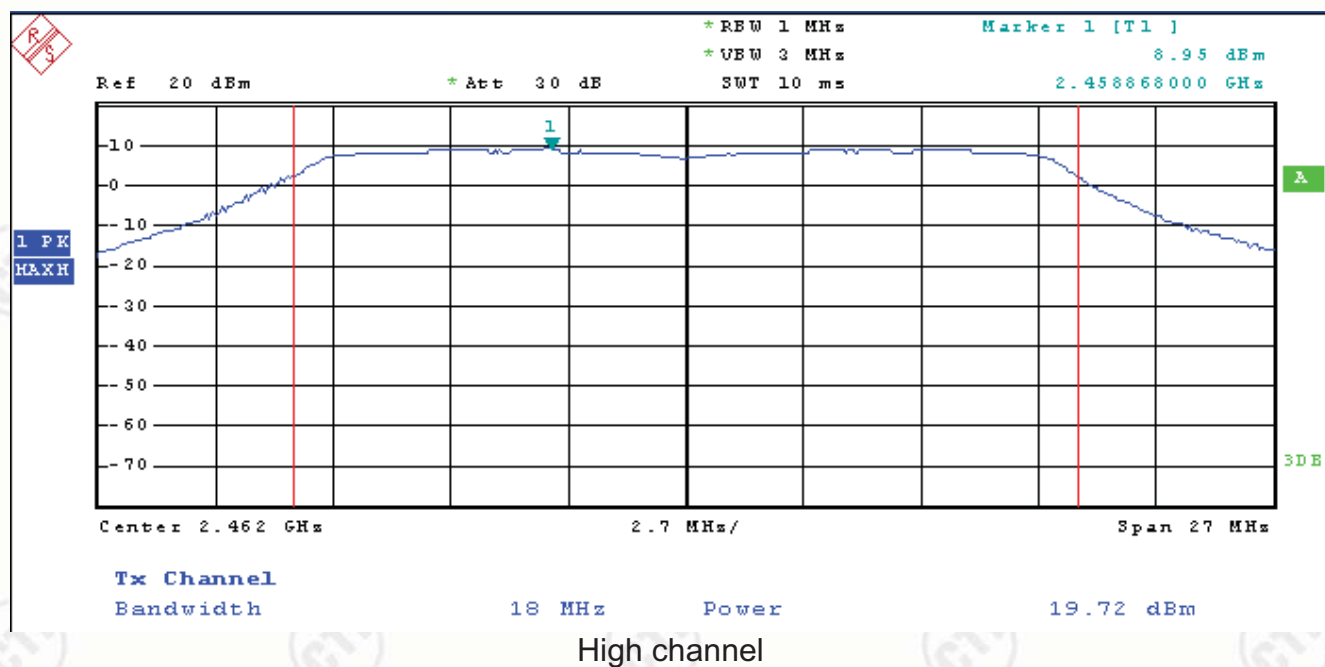
802.11n HT20, MCS0:



Low channel



Middle channel

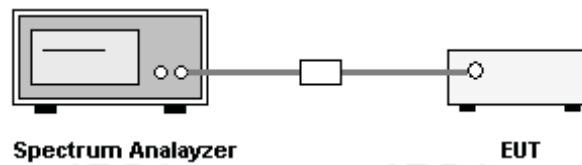


## 11. BAND EDGE EMISSION MEASUREMENT

### 11.1. LIMITS

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).

### 11.2. BLOCK DIAGRAM OF TEST SETUP



### 11.3. TEST PROCEDURE

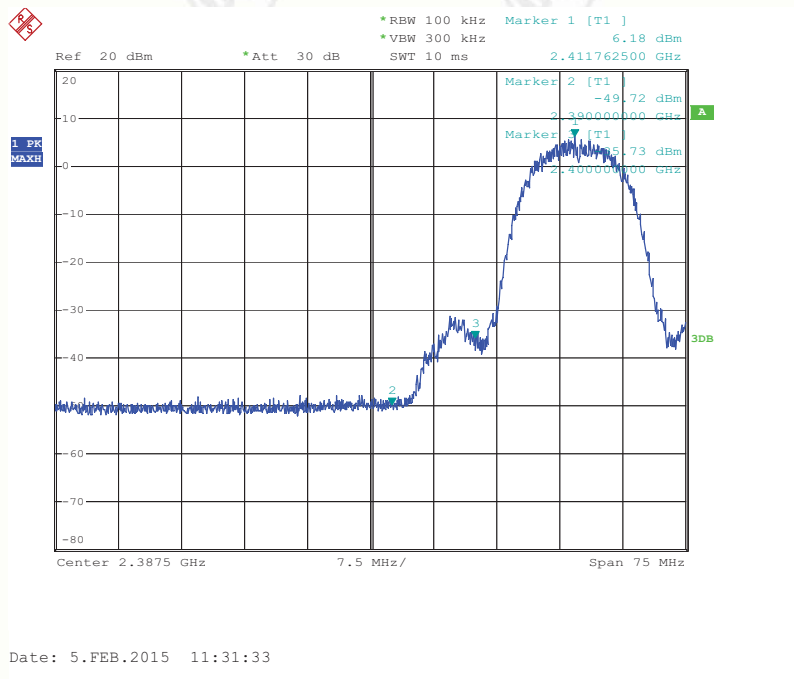
- Set to the maximum power setting and enable the EUT transmit continuously.
- Set RBW = 100 kHz, VBW = 300 kHz ( $\geq$  RBW). Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
- Enable hopping function of the EUT and then repeat step a and b.
- Measure and record the results in the test report.

### 11.4. TEST RESULT

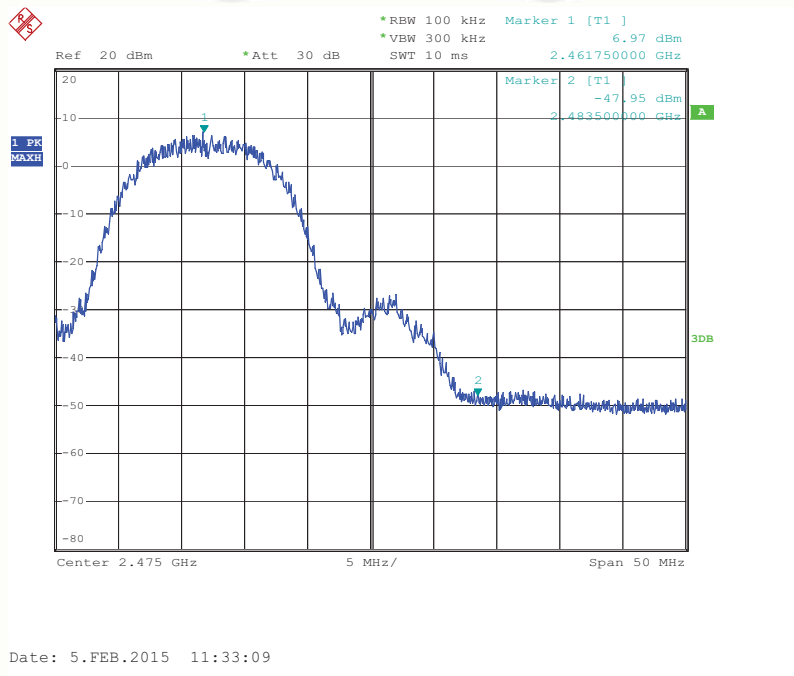
Worst case data attached.---please see the following plots.

802.11b 1Mbps:

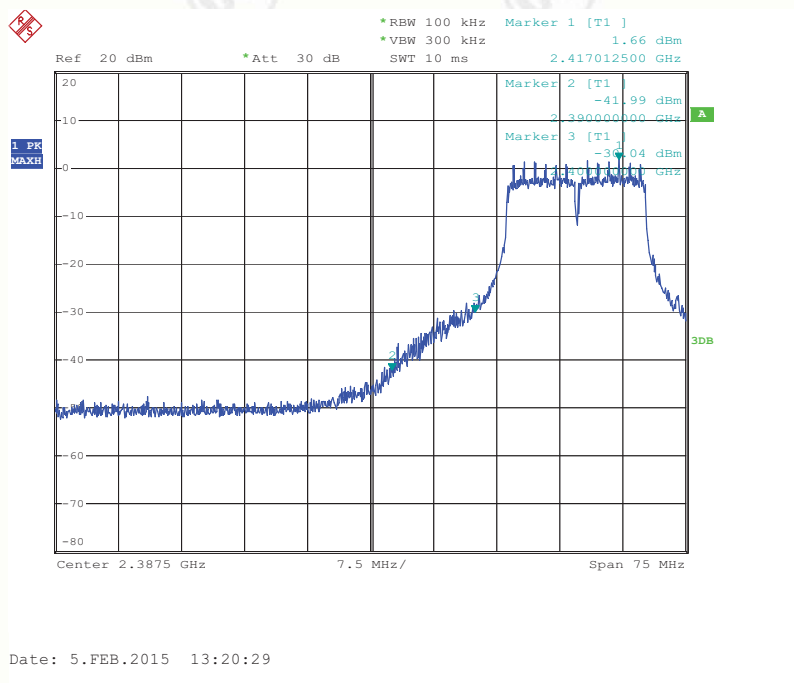
2412MHz:



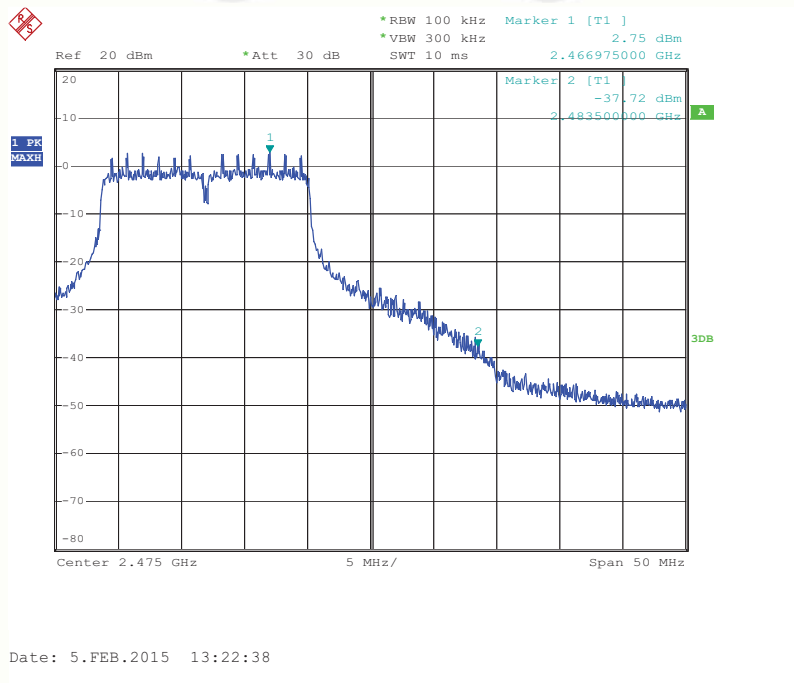
2462MHz:



802.11g, 6Mbps:  
2412MHz:

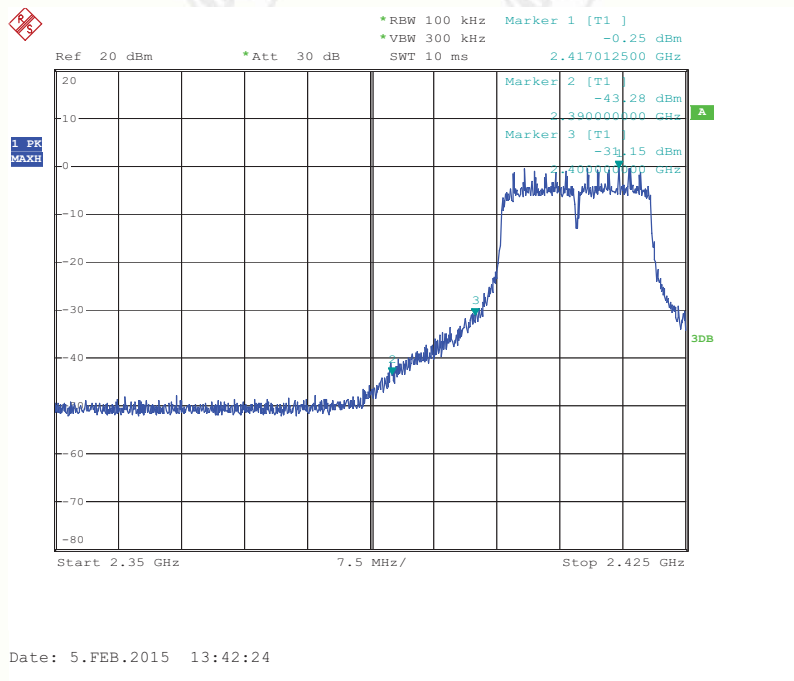


2462MHz:

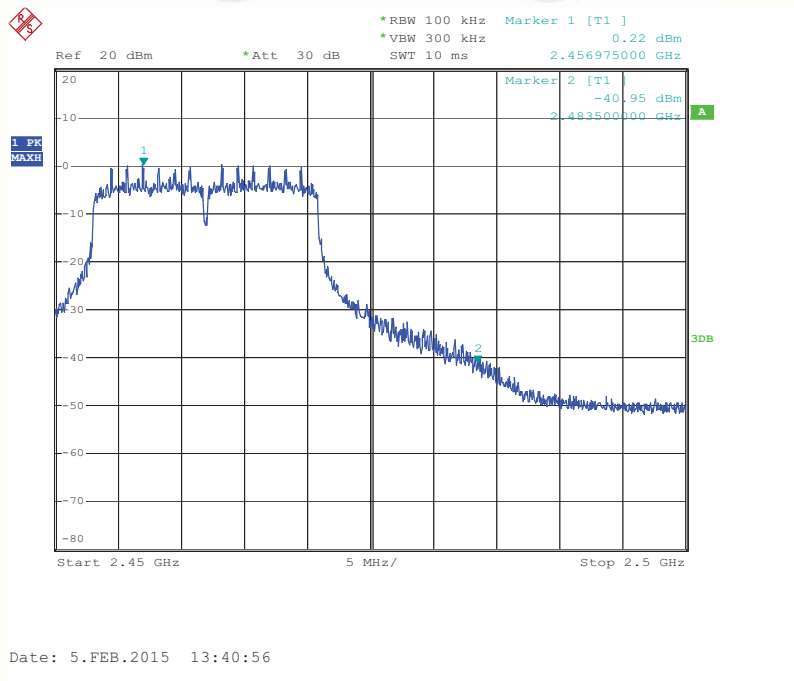




802.11n HT20, MCS0:  
2412MHz:



2462MHz:

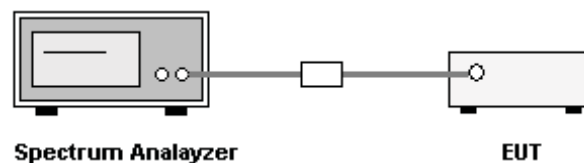


## 12. SPURIOUS RF CONDUCTED EMISSIONS MEASUREMENT

### 12.1. LIMITS

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.

### 12.2. BLOCK DIAGRAM OF TEST SETUP



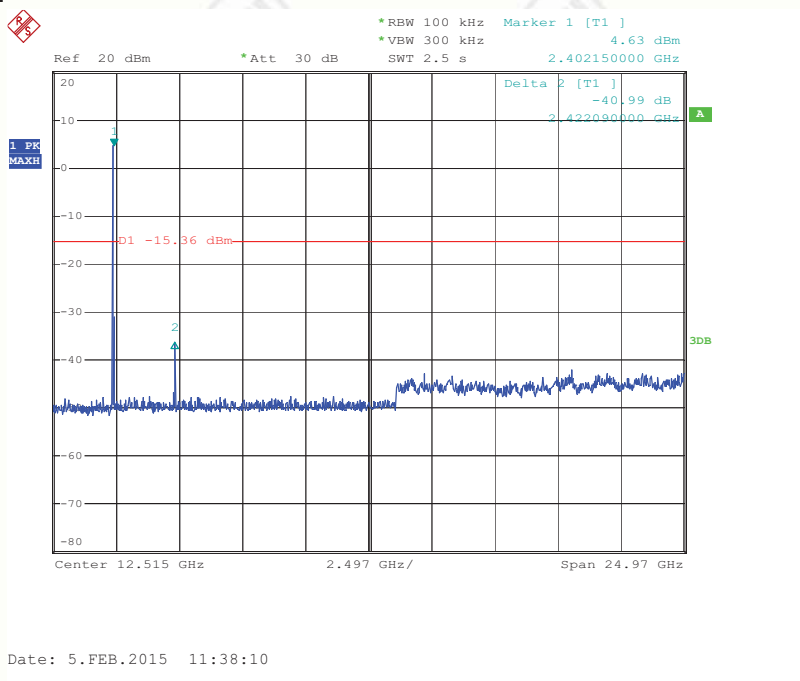
### 12.3. TEST PROCEDURE

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Set spectrum analyzer's RBW and VBW to applicable value with Peak in Max Hold.
3. Record the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the product up through the 10<sup>th</sup> harmonic.

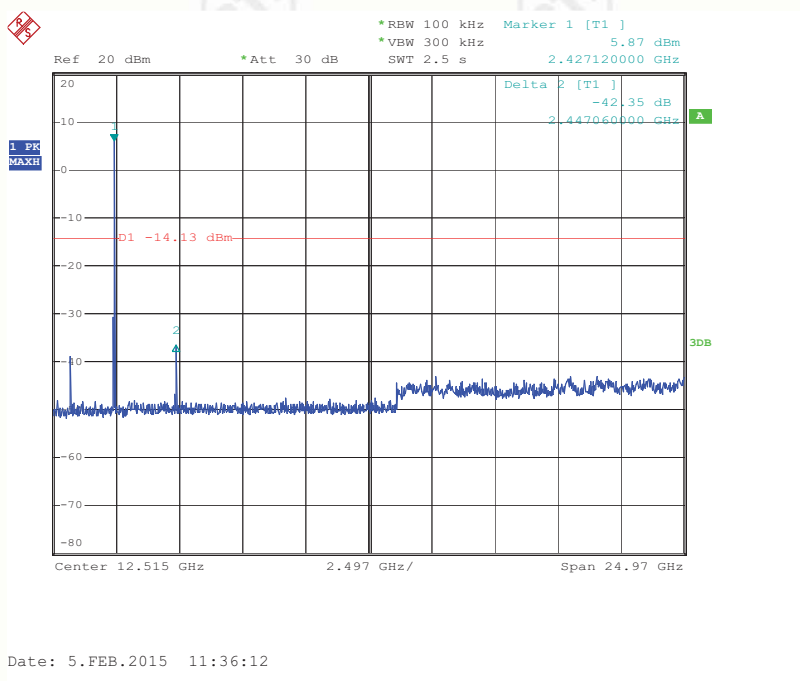
### 12.4. TEST RESULT

Worst case data---Please see the following plots.

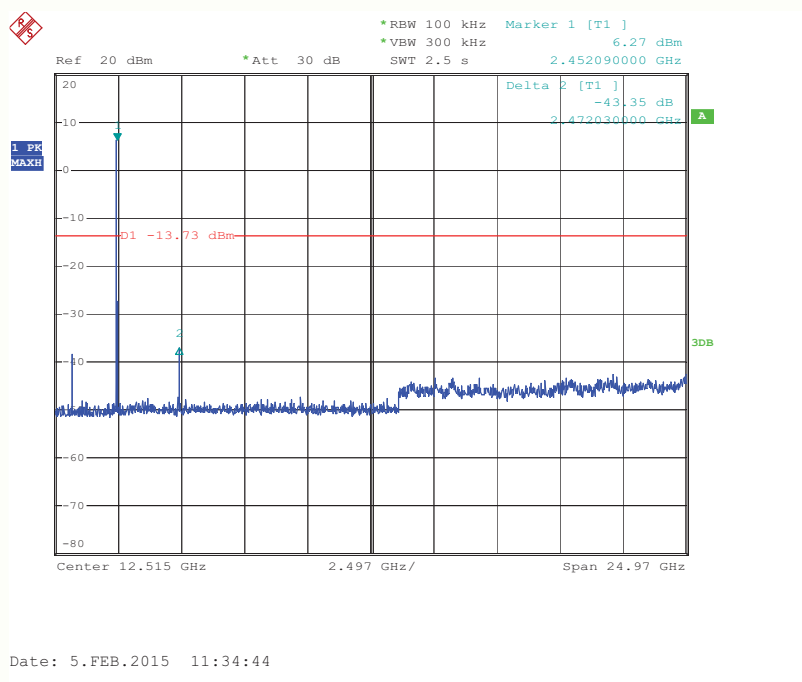
802.11b, 1Mbps:



Low channel

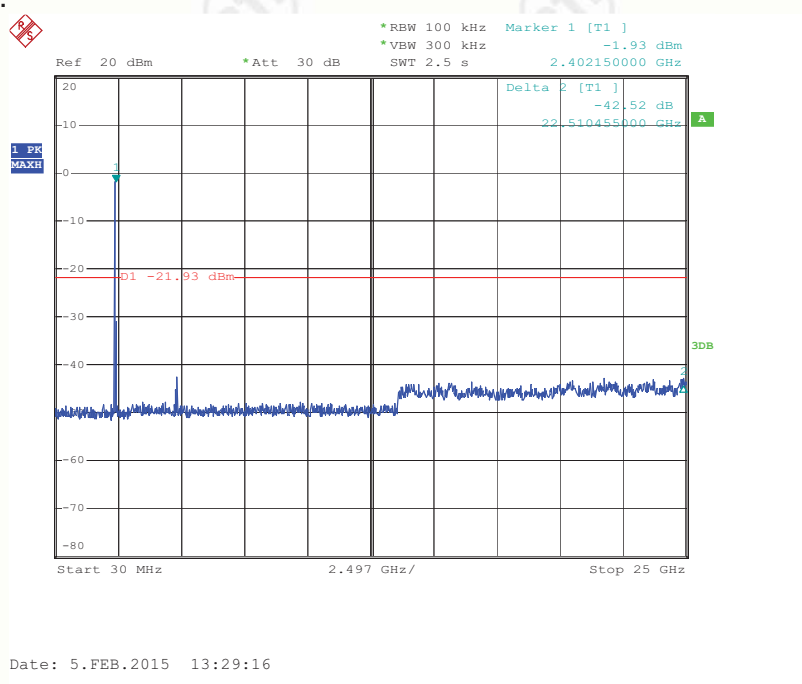


Middle channel

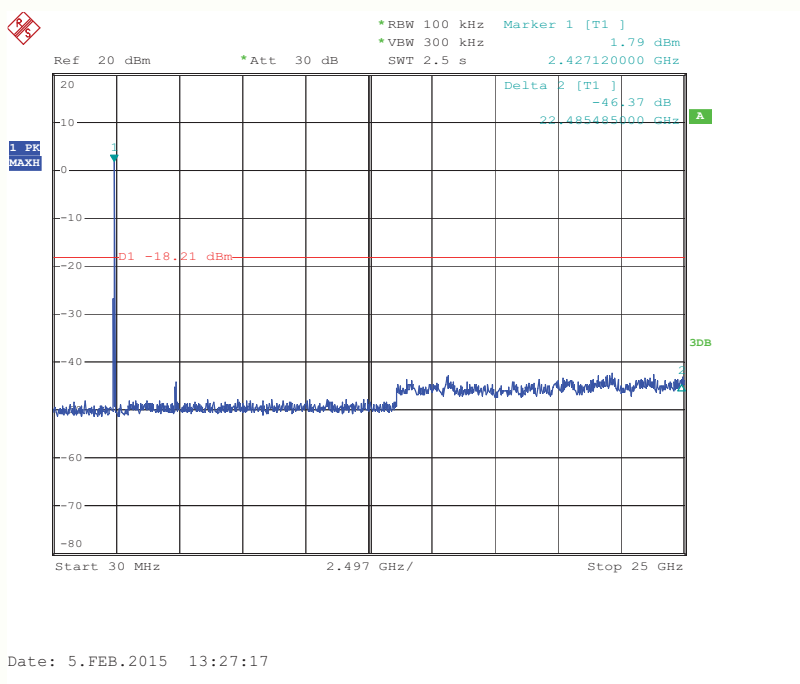


High channel

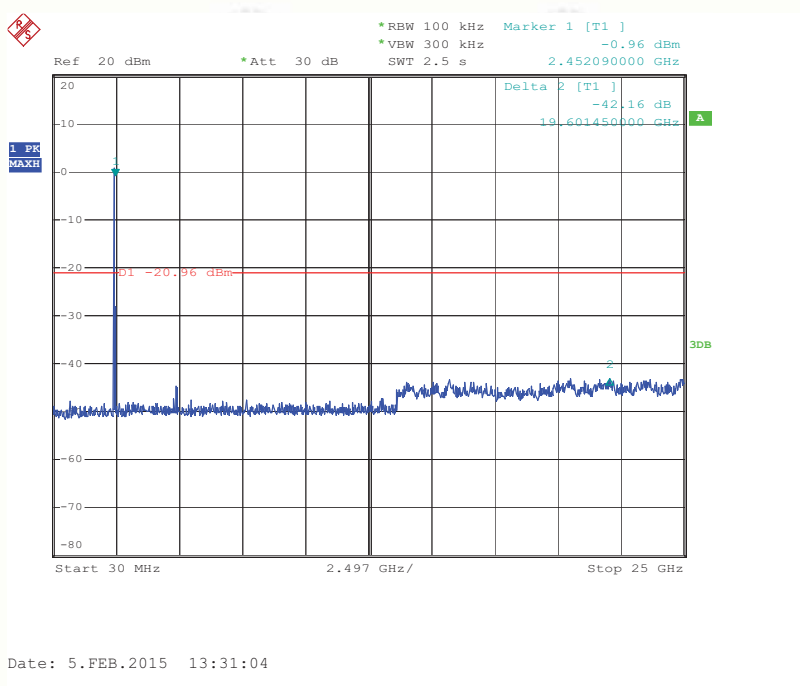
802.11g, 6Mbps:



Low channel

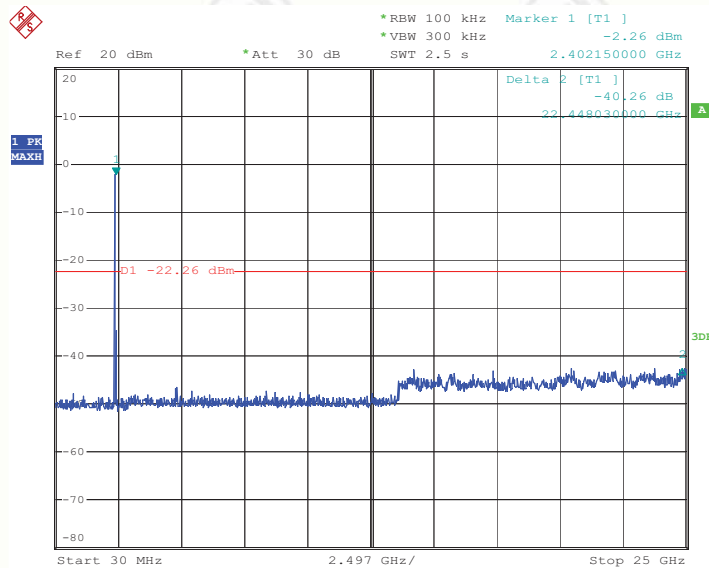


Middle channel



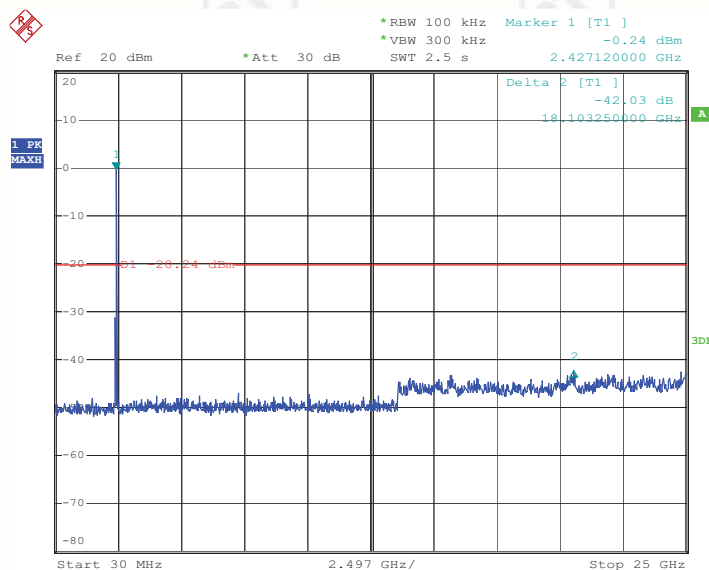
High channel

### 802.11n HT20, MCS0:



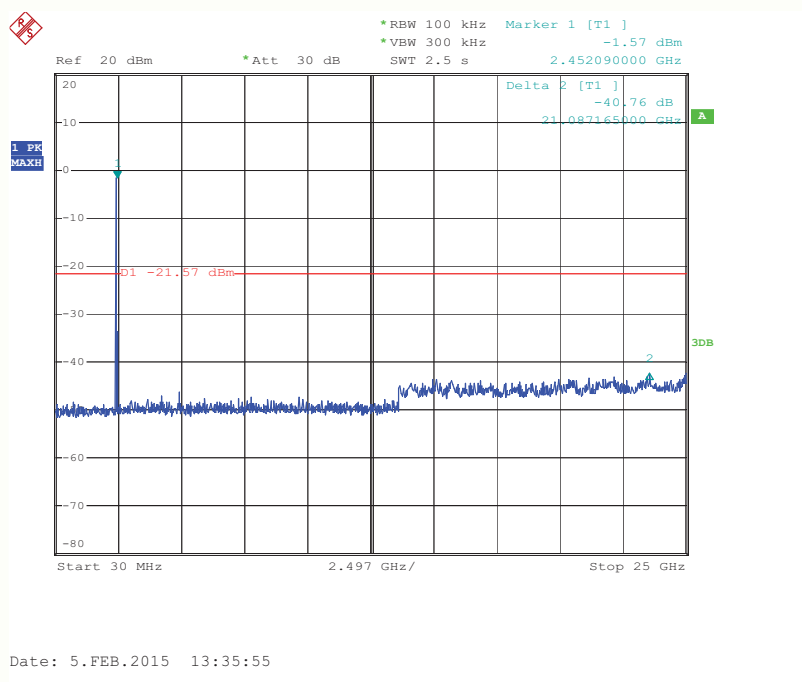
Date: 5.FEB.2015 13:34:18

### Low channel



Date: 5.FEB.2015 13:38:22

### Middle channel



High channel



## 13. RADIATED EMISSIONS MEASUREMENT

### 13.1. LIMITS

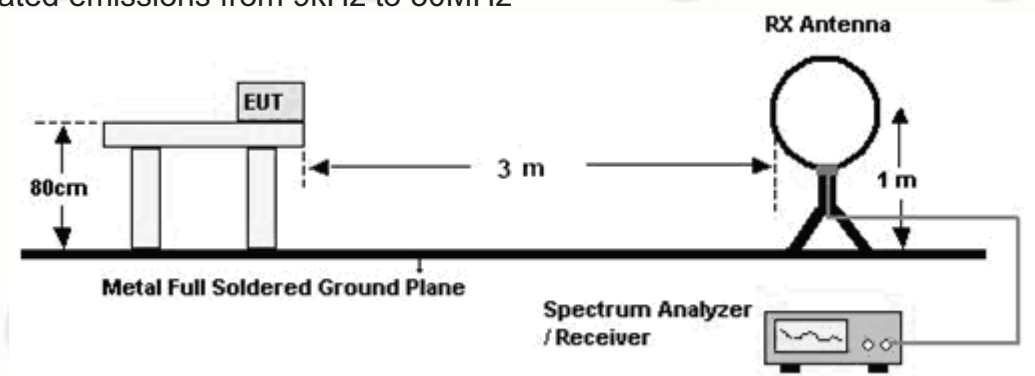
The field strength of any emissions, which appear outside of operating frequency band and restricted band specified on 15.205(a), shall not exceed the general radiated emission limits as below.

| Frequency (MHz) | Field strength ( $\mu\text{V/m}$ ) | Distance (m) |
|-----------------|------------------------------------|--------------|
| 0.009-0.490     | $2400/F(\text{kHz})$               | 300          |
| 0.490-1.705     | $24000/F(\text{kHz})$              | 30           |
| 1.705-30        | 30                                 | 30           |
| 30-88           | 100                                | 3            |
| 88-216          | 150                                | 3            |
| 216-960         | 200                                | 3            |
| Above 960       | 500                                | 3            |

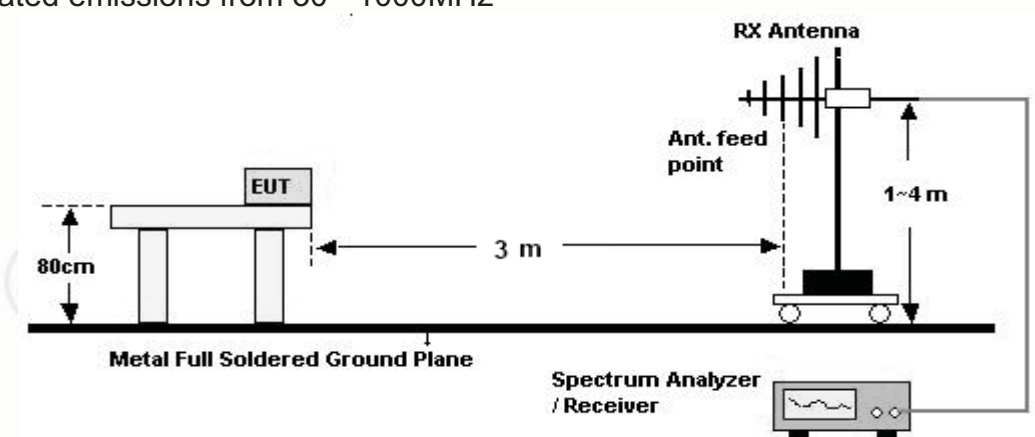
**Note:** the tighter limit applies at the band edges.

### 13.2. BLOCK DIAGRAM OF TEST SETUP

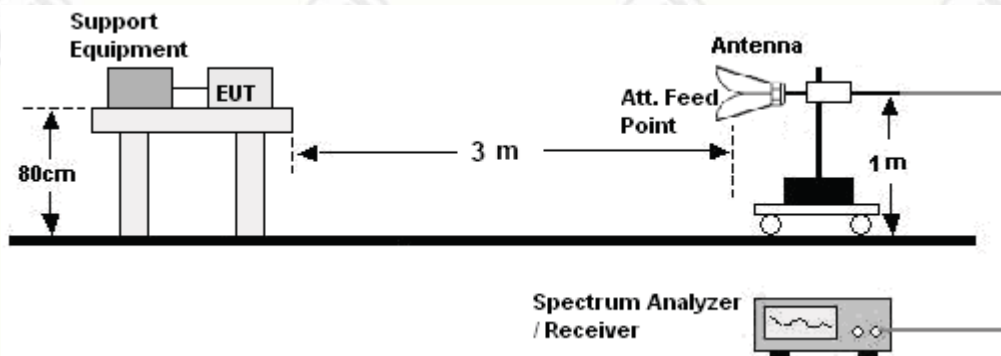
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30 - 1000MHz



For radiated emissions from 1GHz to 25GHz



### 13.3. TEST PROCEDURE

#### Below 30MHz:

- The product is placed on a turntable 0.8 meters above the ground in the chamber, 1 meter away from the antenna (loop antenna). The maximum values of the field strength are recorded by adjusting the polarizations of the test antenna and rotating the turntable.
- For each suspected emission, the product was arranged to its worst case and then turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test frequency analyzer system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

#### 30MHz ~ 1GHz:

- The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 100 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- For each frequency whose maximum record was higher or close to limit, measure its QP value (120 kHz RBW): vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

#### Above 1GHz:

- The EUT was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
- Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

### 13.4. TEST RESULT

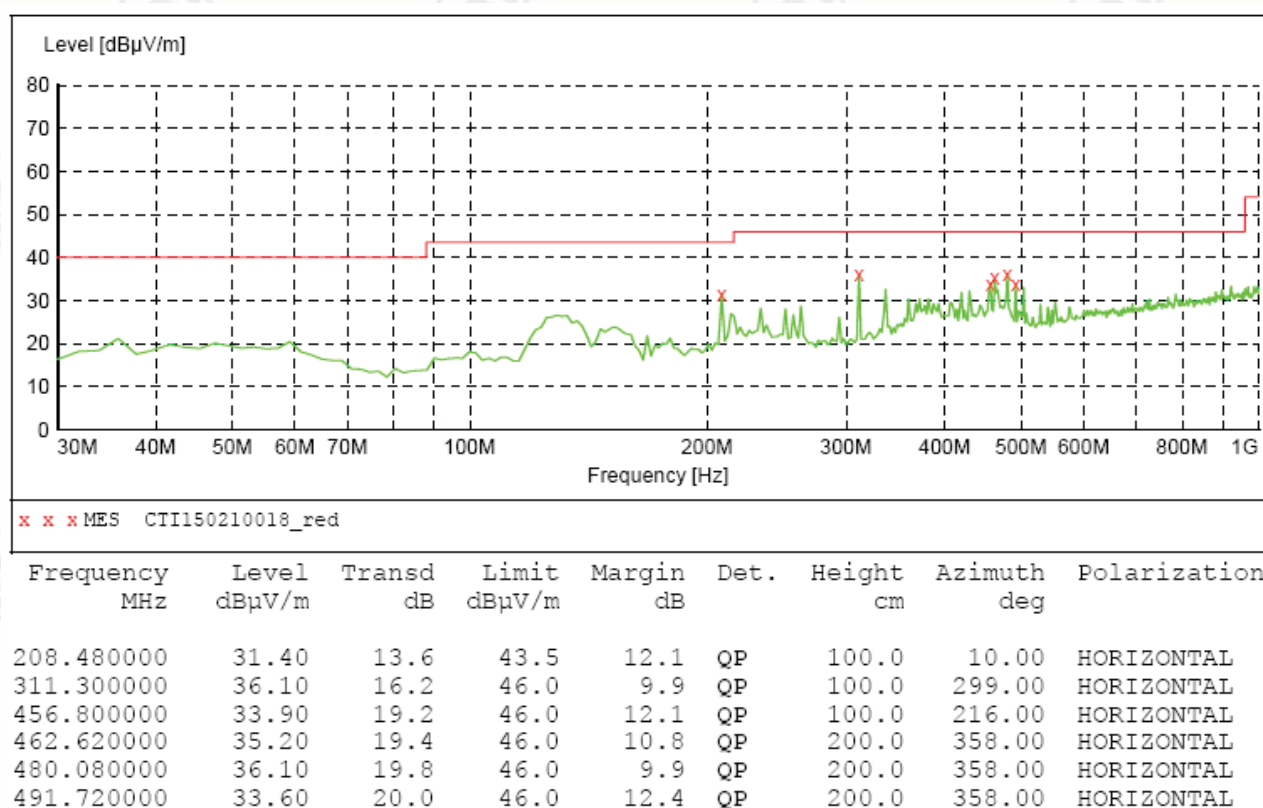
#### Below 30MHz:

No emissions were found higher than the background below 30MHz and background is lower than the limit, so it deems to compliance with the limit without recorded.

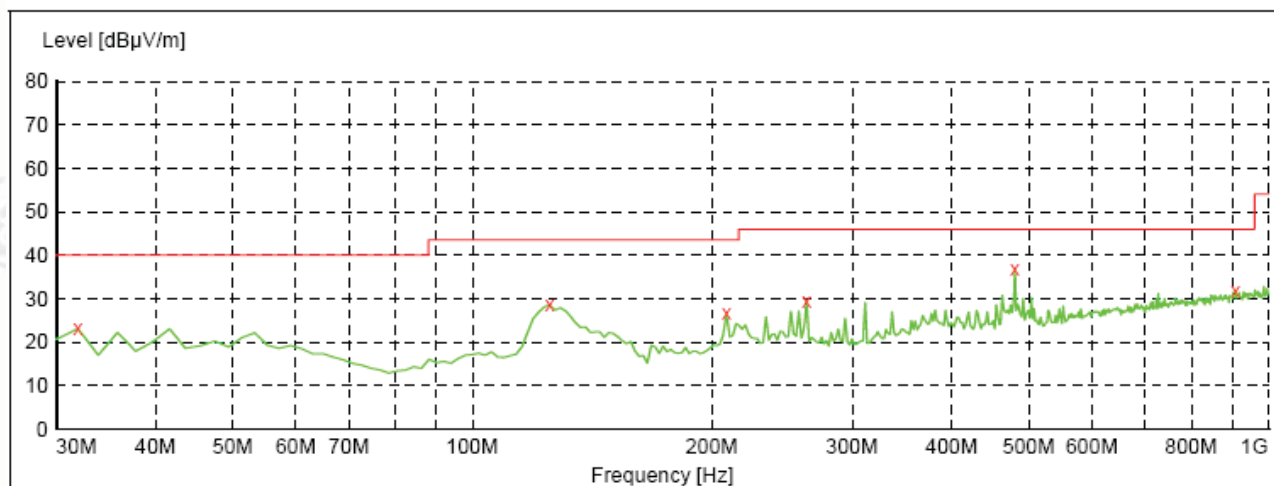
#### 30MHz ~ 1GHz:

The test data of low channel, middle channel and high channel in IEEE 802.11b/g/n are almost same in frequency bands 30MHz to 1GHz and the data of low channel in IEEE 802.11b of 1Mbps are chosen as representative in below:

H:



V:



x x MES CTI150210020\_red

| Frequency<br>MHz | Level<br>dBμV/m | Transd<br>dB | Limit<br>dBμV/m | Margin<br>dB | Det. | Height<br>cm | Azimuth<br>deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 31.940000        | 23.10           | 11.9         | 40.0            | 16.9         | QP   | 100.0        | 39.00          | VERTICAL     |
| 125.060000       | 28.50           | 11.0         | 43.5            | 15.0         | QP   | 100.0        | 10.00          | VERTICAL     |
| 208.480000       | 26.60           | 13.6         | 43.5            | 16.9         | QP   | 200.0        | 68.00          | VERTICAL     |
| 262.800000       | 29.60           | 14.7         | 46.0            | 16.4         | QP   | 200.0        | 12.00          | VERTICAL     |
| 480.080000       | 36.70           | 19.8         | 46.0            | 9.3          | QP   | 100.0        | 299.00         | VERTICAL     |
| 908.820000       | 31.90           | 26.3         | 46.0            | 14.1         | QP   | 100.0        | 341.00         | VERTICAL     |

**Above 1GHz:**

The test data of worst case are below:

IEEE 802.11b, 1Mbps:

| Frequency (MHz)          | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|--------------------------|----------------------|----------------|---------------|---------------|--------------|
| Low channel (2412MHz)    |                      |                |               |               |              |
| 2390.0                   | 35.26                | 74             | PK            | H             | P            |
| 2400.0                   | 50.25                | 74             | PK            | H             | P            |
| 4824.0                   | 44.36                | 74             | PK            | H             | P            |
| 2390.0                   | 35.69                | 74             | PK            | V             | P            |
| 2400.0                   | 50.98                | 74             | PK            | V             | P            |
| 4824.0                   | 45.29                | 74             | PK            | V             | P            |
| Middle channel (2437MHz) |                      |                |               |               |              |
| 4874.0                   | 44.36                | 74             | PK            | H             | P            |
| 4874.0                   | 46.19                | 74             | PK            | V             | P            |
| High channel (2462MHz)   |                      |                |               |               |              |
| 2483.5                   | 42.96                | 74             | PK            | H             | P            |
| 4924.0                   | 44.15                | 74             | PK            | H             | P            |
| 2483.5                   | 43.14                | 74             | PK            | V             | P            |
| 4924.0                   | 45.22                | 74             | PK            | V             | P            |

IEEE 802.11g, 6Mbps:

| Frequency (MHz)          | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|--------------------------|----------------------|----------------|---------------|---------------|--------------|
| Low channel (2412MHz)    |                      |                |               |               |              |
| 2390.0                   | 35.12                | 74             | PK            | H             | P            |
| 2400.0                   | 49.62                | 74             | PK            | H             | P            |
| 4824.0                   | 42.33                | 74             | PK            | H             | P            |
| 2390.0                   | 36.12                | 74             | PK            | V             | P            |
| 2400.0                   | 50.01                | 74             | PK            | V             | P            |
| 4824.0                   | 43.66                | 74             | PK            | V             | P            |
| Middle channel (2437MHz) |                      |                |               |               |              |
| 4874.0                   | 41.69                | 74             | PK            | H             | P            |
| 4874.0                   | 42.96                | 74             | PK            | V             | P            |
| High channel (2462MHz)   |                      |                |               |               |              |
| 2483.5                   | 42.66                | 74             | PK            | H             | P            |
| 4924.0                   | 42.96                | 74             | PK            | H             | P            |
| 2483.5                   | 43.12                | 74             | PK            | V             | P            |
| 4924.0                   | 44.17                | 74             | PK            | V             | P            |



## IEEE 802.11n HT20, MCS0:

| Frequency (MHz)          | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|--------------------------|----------------------|----------------|---------------|---------------|--------------|
| Low channel (2412MHz)    |                      |                |               |               |              |
| 2390.0                   | 35.63                | 74             | PK            | H             | P            |
| 2400.0                   | 50.12                | 74             | PK            | H             | P            |
| 4824.0                   | 40.96                | 74             | PK            | H             | P            |
| 2390.0                   | 36.01                | 74             | PK            | V             | P            |
| 2400.0                   | 50.67                | 74             | PK            | V             | P            |
| 4824.0                   | 42.33                | 74             | PK            | V             | P            |
| Middle channel (2437MHz) |                      |                |               |               |              |
| 4874.0                   | 42.67                | 74             | PK            | H             | P            |
| 4874.0                   | 43.15                | 74             | PK            | V             | P            |
| High channel (2462MHz)   |                      |                |               |               |              |
| 2483.5                   | 41.96                | 74             | PK            | H             | P            |
| 4924.0                   | 42.36                | 74             | PK            | H             | P            |
| 2483.5                   | 43.87                | 74             | PK            | V             | P            |
| 4924.0                   | 43.01                | 74             | PK            | V             | P            |

## Remark:

1. The above tables show that the frequencies peak data are all below the average limit, so the average data of these frequencies are deemed to fulfill the average limits and not reported.
2. No emission found from 18GHz to 25GHz.
3. All outside of operating frequency band and restricted band specified are below 15.209.

## 14. CONDUCTED EMISSION TEST

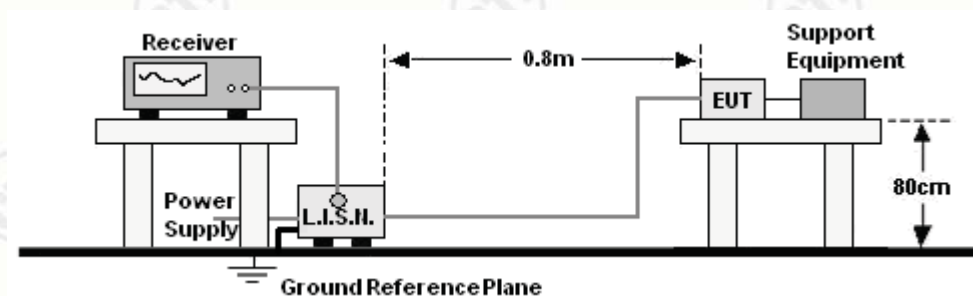
### 14.1. LIMITS

Limits for Class B digital devices

| Frequency range<br>(MHz) | Limits<br>dB(μV) |          |
|--------------------------|------------------|----------|
|                          | Quasi-peak       | Average  |
| 0,15 to 0,50             | 66 to 56         | 56 to 46 |
| 0,50 to 5                | 56               | 46       |
| 5 to 30                  | 60               | 50       |

**NOTE:** 1. The lower limit shall apply at the transition frequencies.  
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

### 14.2. BLOCK DIAGRAM OF TEST SETUP



### 14.3. PROCEDURE OF CONDUCTED EMISSION TEST

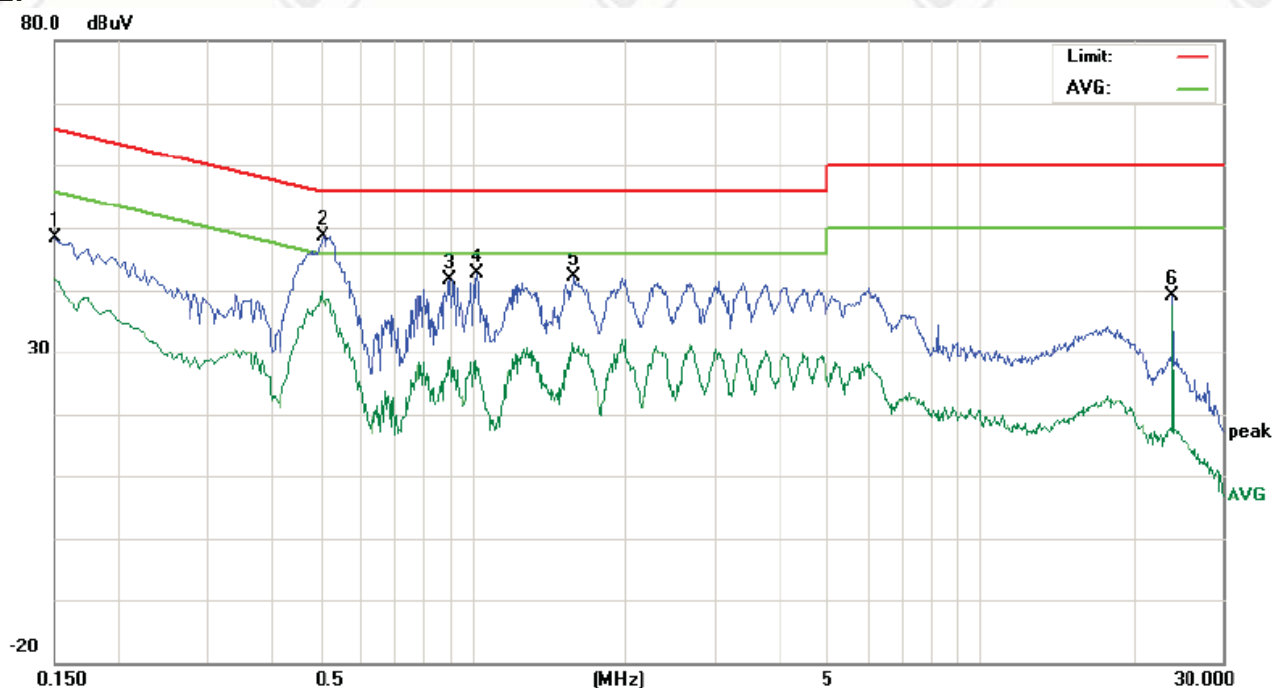
- The Product was placed on a nonconductive table above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.



#### 14.4. GRAPHS AND DATA

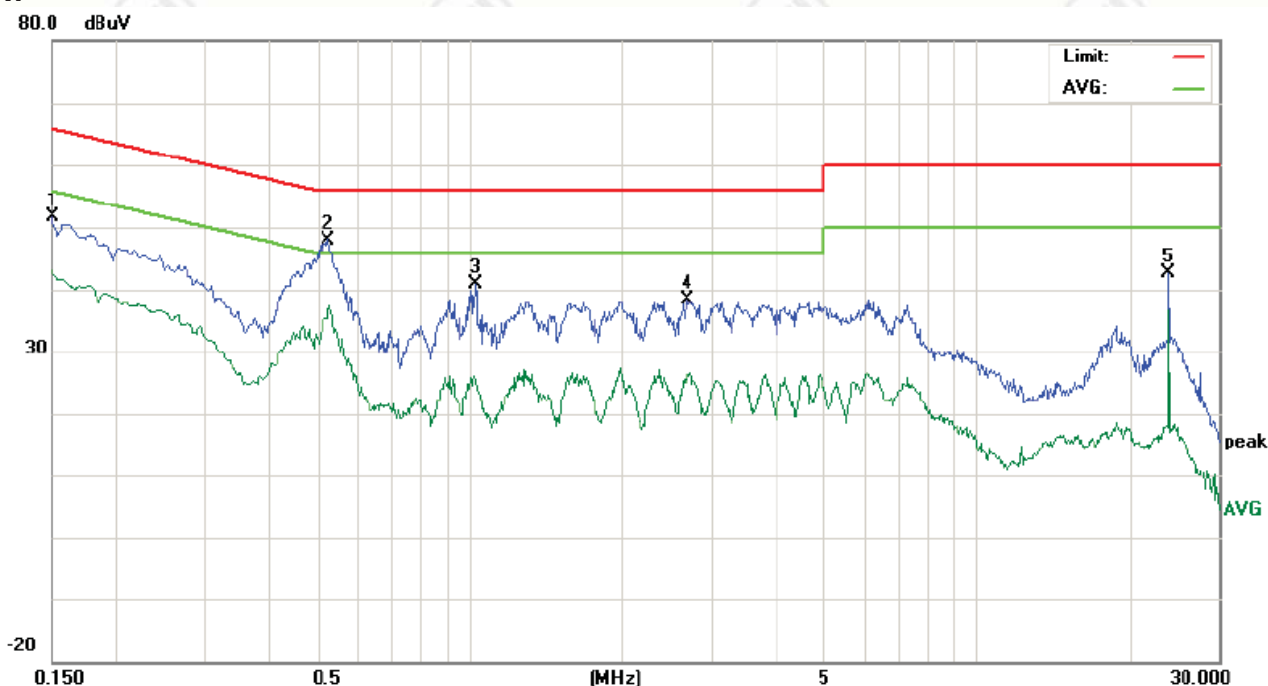
**Product** : Smart Security Light      **Model/Type reference** : SPL06-07A1W1-BKT-K1  
**Power** : AC 120V, 60Hz      **Temperature** : 21℃  
**Mode** : WIFI      **Humidity** : 52%

L:



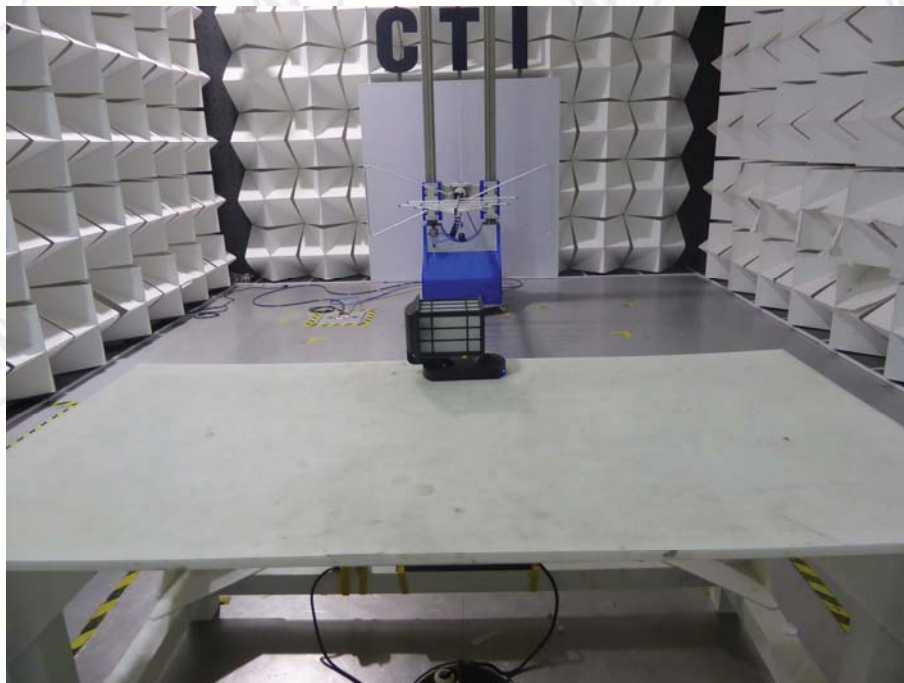
| No. | Freq.<br>MHz | Reading_Level<br>(dBuV) |    |       | Correct<br>Factor<br>dB | Measurement<br>(dBuV) |    |       | Limit<br>(dBuV) |       | Margin<br>(dB) |        | P/F | Comment |
|-----|--------------|-------------------------|----|-------|-------------------------|-----------------------|----|-------|-----------------|-------|----------------|--------|-----|---------|
|     |              | Peak                    | QP | AVG   |                         | peak                  | QP | AVG   | QP              | AVG   | QP             | AVG    |     |         |
| 1   | 0.1500       | 38.52                   |    | 31.97 | 9.90                    | 48.42                 |    | 41.87 | 65.99           | 55.99 | -17.57         | -14.12 | P   |         |
| 2   | 0.5100       | 38.75                   |    | 28.33 | 9.90                    | 48.65                 |    | 38.23 | 56.00           | 46.00 | -7.35          | -7.77  | P   |         |
| 3   | 0.9020       | 31.82                   |    | 19.20 | 9.90                    | 41.72                 |    | 29.10 | 56.00           | 46.00 | -14.28         | -16.90 | P   |         |
| 4   | 1.0260       | 32.65                   |    | 17.22 | 9.90                    | 42.55                 |    | 27.12 | 56.00           | 46.00 | -13.45         | -18.88 | P   |         |
| 5   | 1.5900       | 32.11                   |    | 21.05 | 9.90                    | 42.01                 |    | 30.95 | 56.00           | 46.00 | -13.99         | -15.05 | P   |         |
| 6   | 23.9780      | 28.92                   |    | 27.02 | 10.32                   | 39.24                 |    | 37.34 | 60.00           | 50.00 | -20.76         | -12.66 | P   |         |

N:

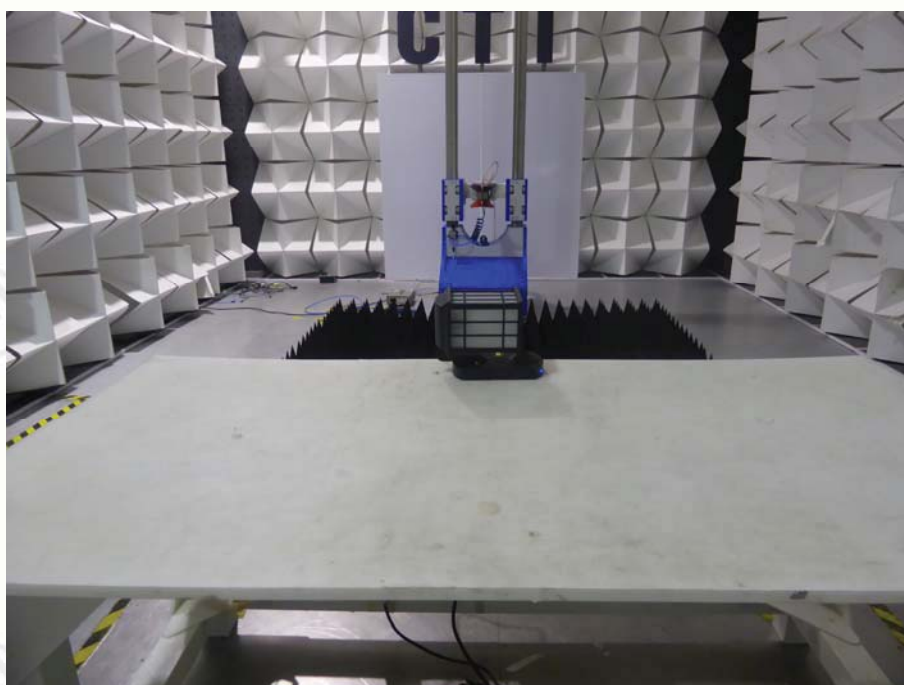


| No. | Freq.<br>MHz | Reading_Level<br>(dBuV) |    |       | Correct<br>Factor<br>dB | Measurement<br>(dBuV) |    |       | Limit<br>(dBuV) |       | Margin<br>(dB) |        | P/F | Comment |
|-----|--------------|-------------------------|----|-------|-------------------------|-----------------------|----|-------|-----------------|-------|----------------|--------|-----|---------|
|     |              | Peak                    | QP | AVG   |                         | peak                  | QP | AVG   | QP              | AVG   | QP             | AVG    |     |         |
| 1   | 0.1500       | 41.60                   |    | 33.17 | 9.90                    | 51.50                 |    | 43.07 | 65.99           | 55.99 | -14.49         | -12.92 | P   |         |
| 2   | 0.5299       | 36.84                   |    | 27.38 | 9.90                    | 46.74                 |    | 37.28 | 56.00           | 46.00 | -9.26          | -8.72  | P   |         |
| 3   | 1.0260       | 27.15                   |    | 16.12 | 9.90                    | 37.05                 |    | 26.02 | 56.00           | 46.00 | -18.95         | -19.98 | P   |         |
| 4   | 2.6980       | 28.37                   |    | 15.72 | 9.90                    | 38.27                 |    | 25.62 | 56.00           | 46.00 | -17.73         | -20.38 | P   |         |
| 5   | 23.9780      | 32.31                   |    | 26.18 | 10.32                   | 42.63                 |    | 36.50 | 60.00           | 50.00 | -17.37         | -13.50 | P   |         |

## APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



**TEST SETUP OF RADIATED EMISSION (30MHz-1GHz)**



**TEST SETUP OF RADIATED EMISSION (above 1GHz)**



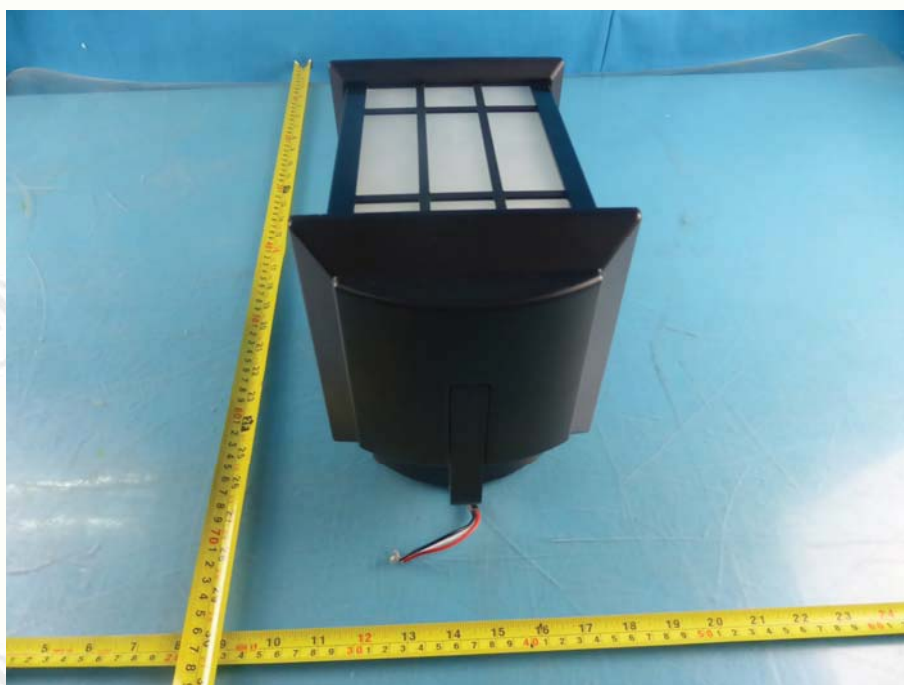
**TEST SETUP OF CONDUCTED EMISSION**



## APPENDIX 2 EXTERNAL PHOTOGRAPHS OF PRODUCT



External View of product-1



External View of product-2



External View of product-3



External View of product-4



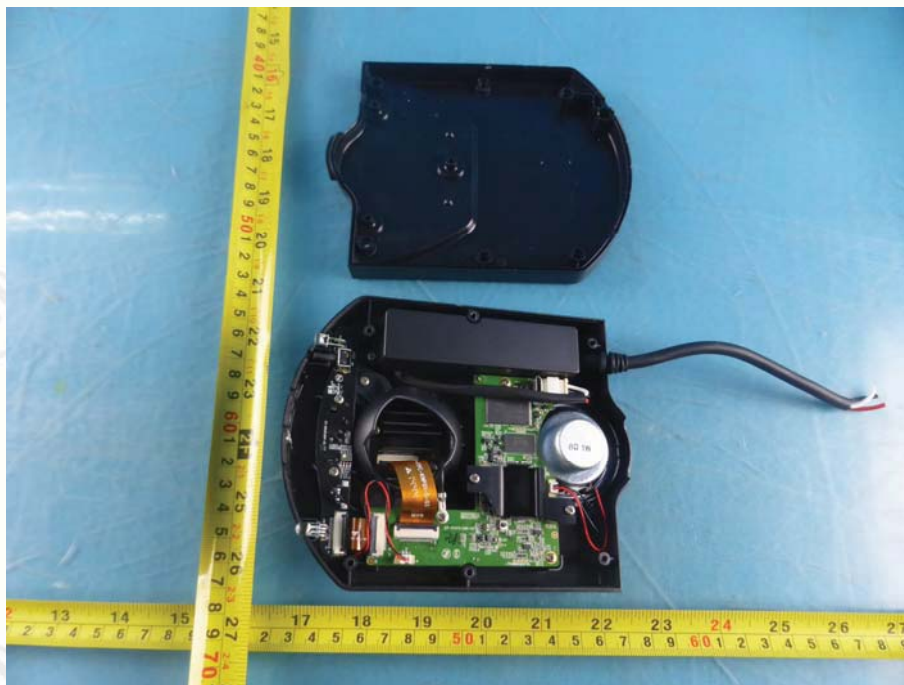
External View of product-5



External View of product-6



### APPENDIX 3 INTERNAL PHOTOGRAPHS OF PRODUCT



Internal View of product-1



Internal View of product-2



Internal View of product-3



Internal View of product-4





Internal View of product-5



Internal View of product-6



Internal View of product-7

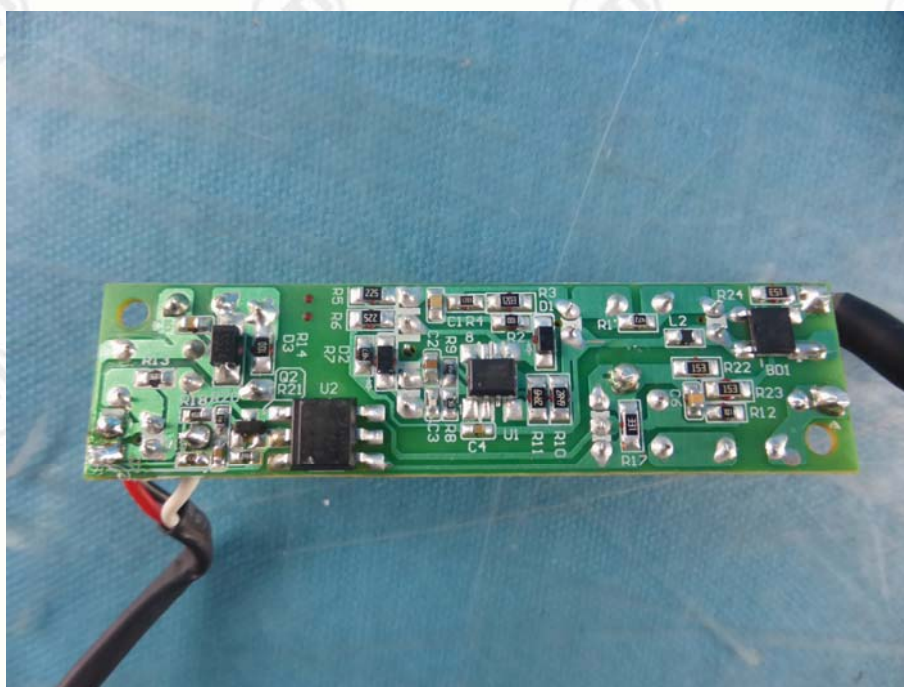


Internal View of product-8





Internal View of product-9



Internal View of product-10

\*\*\* End of Report \*\*\*

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