



# FCC TEST REPORT

|                  |                                                                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Prepared For :   | Hopeful Electric CO., LTD                                                                                                                                                                    |
| Product Name:    | MID                                                                                                                                                                                          |
| Model :          | MID727BT-RK326,SRF79,A7X,MID727BT-RK326A,<br>MID727BT-RK326B,MID727BT-RK326C                                                                                                                 |
| Prepared By :    | Shenzhen BATT Testing Technology Co., Ltd.<br>11F, Bldg.B, Xinbaoyuan, Xinanhu Commercial city, Bao'an<br>District, Shenzhen, Guangdong, China.<br>Tel: 86-755-27753991 Fax: 86-755-27754182 |
| Test Date:       | April 18, 2014 to July 25, 2014                                                                                                                                                              |
| Date of Report : | July 28, 2014                                                                                                                                                                                |
| Report No.:      | BATT201407098-01FCC                                                                                                                                                                          |

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# 1 TEST CERTIFICATION

|                                     |                                                                                                                                                                                                                                                         |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product:</b>                     | MID                                                                                                                                                                                                                                                     |
| <b>Model:</b>                       | MID727BT-RK326,SRF79,A7X,MID727BT-RK326A,<br>MID727BT-RK326B,MID727BT-RK326C                                                                                                                                                                            |
| <b>Applicant:</b>                   | Hopeful Electric CO., LTD<br>22 Floor,Changhong Building,Hi-Tech Park,Nanshan District,Shenzhen City,<br>P.R.China                                                                                                                                      |
| <b>Factory:</b>                     | Hopeful Electric CO., LTD / Associate Electronic Co.,Ltd<br>148, Ronggui Road (Mid), Ronggui Town, Shunde District, Foshan City, Guangdong<br>Prov., China / 4, Guixindong Road, Ronggui Town, Shunde District, Foshan City,<br>Guangdong Prov., China  |
| <b>Trade Mark:</b>                  | N/A                                                                                                                                                                                                                                                     |
| <b>Tested:</b>                      | April 18, 2014 to July 25, 2014                                                                                                                                                                                                                         |
| <b>Test Voltage:</b>                | DC5V by power supply, 3.7V polymer lithium-ion battery                                                                                                                                                                                                  |
| <b>Operational Frequency Range:</b> | IEEE 802.11b/g, 802.11n HT20: 2412-2462MHz<br>IEEE 802.11n HT40 : 2422MHz-2452MHz                                                                                                                                                                       |
| <b>Modulation Type:</b>             | IEEE 802.11b : DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g : OFDM (64QAM, 16AQM, QPSK, BPSK)<br>IEEE 802.11n HT20/40 : OFDM (64QAM, 16QAM, QPSK, BPSK)                                                                                                     |
| <b>Channel Spacing</b>              | IEEE 802.11b/g/n: 5MHz, 1MHz for Bluetooth                                                                                                                                                                                                              |
| <b>Air Data Rate</b>                | IEEE 802.11b : 11, 5.5, 2, 1 Mbps<br>IEEE 802.11g : 54, 48, 36, 24, 18, 12, 9, 6 Mbps<br>IEEE 802.11n HT20 : 150, 117 ,104, 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6 Mbps<br>IEEE 802.11n HT40 : 150, 117 ,104, 78, 65, 58.5, 52, 39, 26, 19.5, 13, 6 Mbps |
| <b>Frequency Selection</b>          | By software                                                                                                                                                                                                                                             |
| <b>Channel Number</b>               | IEEE 802.11b/g ,802.11n HT20 : 11 Channels<br>IEEE 802.11n HT40 : 7 Channels,                                                                                                                                                                           |
| <b>Antenna:</b>                     | Integral antenna with Gain 2.0 dBi                                                                                                                                                                                                                      |
| <b>Power Supply:</b>                | Model No.: HP0515D2-NA<br>Input:100-240V, 0.3A, 50/60Hz; Output: +5V, 1.5A Max                                                                                                                                                                          |
| <b>FCC ID:</b>                      | 2AAQZMID727B1-RK326                                                                                                                                                                                                                                     |
| <b>Applicable Standards:</b>        | FCC Part 15.247                                                                                                                                                                                                                                         |

The test report was prepared by Shenzhen BATT Testing Technology Co., Ltd.and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.



Prepared by : Hellen Xiao  
Hellen Xiao Assistant

Reviewer : Mike Yong  
Mike Yong/Supervisor

Approved & Authorized Signer : Jones Song  
Jones Song/ Manager



| 2.0                | Test Equipments |           |              |              |            |
|--------------------|-----------------|-----------|--------------|--------------|------------|
| Instrument Type    | Manufacturer    | Model     | Serial No.   | Date of Cal. | Due Date   |
| ESPI Test Receiver | ROHDE&SCHWARZ   | ESPI 3    | 100379       | 2013-08-27   | 2014-08-26 |
| EMI Test Receiver  | Rohde & Schwarz | ESU       | 1302.6005.26 | 2013-08-27   | 2014-08-26 |
| Impuls-Begrenzer   | ROHDE&SCHWARZ   | ESH3-Z2   | 100281       | 2013-08-27   | 2014-08-26 |
| Loop Antenna       | EMCO            | 6502      | 00042960     | 2013-06-25   | 2014-06-24 |
| ESPI Test Receiver | ROHDE&SCHWARZ   | ESI26     | 838786/013   | 2013-08-27   | 2014-08-26 |
| Horn Antenna       | SCHWARZBECK     | BBHA 9170 | BBHA9170399  | 2013-09-15   | 2014-09-14 |
| Horn Antenna       | SCHWARZBECK     | BBHA 9120 | D143         | 2013-09-15   | 2014-09-14 |
| Power meter        | Anritsu         | ML2487A   | 6K00003613   | 2013-08-27   | 2014-08-26 |
| Power sensor       | Anritsu         | MA2491A   | 32263        | 2013-08-27   | 2014-08-26 |
| Bilog Antenna      | Schwarebeck     | VULB916 3 | 9163/142     | 2013-12-13   | 2014-12-12 |
| LISN (Three Phase) | Schwarebeck     | NSLK 8126 | 8126453      | 2013-08-27   | 2014-08-26 |
| 9*6*6 Anechoic     | --              | --        | N/A          | 2013-08-27   | 2014-08-26 |
| EMI Test Receiver  | RS              | ESCS30    | 100139       | 2013-08-27   | 2014-08-26 |
| LISN               | RS              | ESH2-Z5   | 100225       | 2013-08-27   | 2014-08-26 |
| Pre-Amplifier      | A.H.            | PAM-0126  | 1415261      | 2014-07-23   | 2015-07-22 |



### 3.0 Technical Details

#### 3.1 Summary of test results

**The EUT has been tested according to the following specifications:**

| Standard                                           | Test Type                                                                                                                                              | Result | Notes    |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|
| FCC Part 15, Paragraph 15.107 & 15.207             | Conducted Emission Test                                                                                                                                | PASS   | Complies |
| FCC Part 15 Subpart C Paragraph 15.247(a)(2) Limit | Spectrum bandwidth of a Orthogonal Frequency Division Multiplex System<br>Limit: 6dB<br>bandwidth>500kHz                                               | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(b)                   | Maximum peak output power<br>Limit: max. 30dBm                                                                                                         | PASS   | Complies |
| FCC Part 15, Paragraph 15.109,15.205 & 15.209      | Transmitter Radiated Emission<br>Limit: Table 15.209                                                                                                   | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(e)                   | Power Spectral Density<br>Limit: max. 8dBm                                                                                                             | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(d)                   | Out of Band Emission and Restricted Band Radiation<br>Limit: 20dB less than peak value of fundamental frequency<br>Restricted band limit: Table 15.209 | PASS   | Complies |

Note: This test report was based on original test with FCC ID: 2AAQZMID727BT-RK326. Products of FCC ID 2AAQZMID727B1-RK326 are electrically identical with original products of FCC ID: 2AAQZMID727BT-RK326 except FCC ID 2AAQZMID727B1-RK326 include additional battery package, so 0.15kHz to 30MHz conducted emission test and 30MHz to 1GHz radiated emission test are done at samples with additional battery package. Other data are from original report of FCC ID: 2AAQZMID727BT-RK326

### 4.0 Test LAB Details

All Tests Performed at

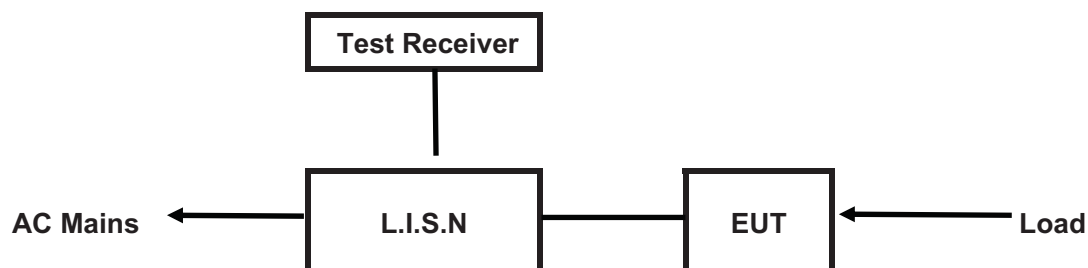
Name: Shenzhen Emtex Co., Ltd.

Address: Bldg. 69, Majialong Industry Zone,,Nanshan District,Shenzhen, Guangdong, 518052China

FCC Registration Number: 406365

## 5. Power Line Conducted Emission Test

### 5.1 Schematics of the test



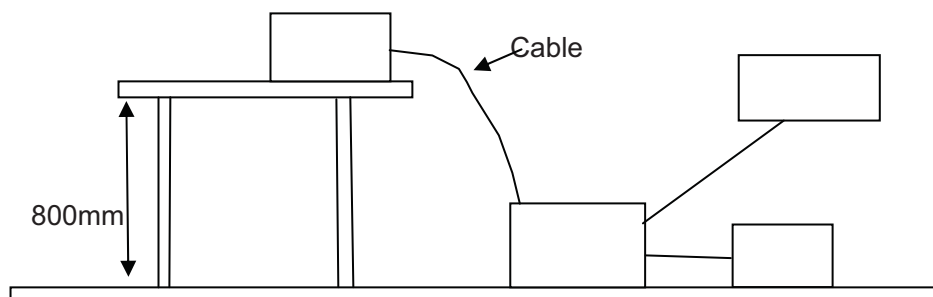
EUT: Equipment Under Test

### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 -2003.

Test Voltage: 120V~, 60Hz

Block diagram of Test setup



### 5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT



## A. EUT

| Device | Manufacturer                                             | Model                                                                                                  | FCC ID              |
|--------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------|
| MID    | Hopeful Electric CO., LTD / Associate Electronic Co.,Ltd | MID727BT-RK326,SRF79,A7X,MID727BT-RK326,MID727BT-RK326A,MID727BT-RK326B,MID727BT-RK326C,MID727BT-RK326 | 2AAQZMID727B1-RK326 |

## B. Internal Device

| Device | Manufacturer | Model | FCC ID/DOC |
|--------|--------------|-------|------------|
| N/A    |              |       |            |

## C. Peripherals

| Device | Manufacturer | Model | FCC ID/DOC | Cable |
|--------|--------------|-------|------------|-------|
| --     | --           | --    | --         | --    |

## 5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

## 5.5 Power line conducted Emission Limit according to Paragraph 15.107, 15.207

| Frequency (MHz) | Class A Limits (dB $\mu$ V) |               | Class B Limits (dB $\mu$ V) |               |
|-----------------|-----------------------------|---------------|-----------------------------|---------------|
|                 | Quasi-peak Level            | Average Level | Quasi-peak Level            | Average Level |
| 0.15 ~ 0.50     | 79.0                        | 66.0          | 66.0~56.0*                  | 56.0~46.0*    |
| 0.50 ~ 5.00     | 73.0                        | 60.0          | 56.0                        | 46.0          |
| 5.00 ~ 30.00    | 73.0                        | 60.0          | 60.0                        | 50.0          |

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

## 5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

Worse case was recorded.

# A: Conducted Emission on Live Terminal (150kHz to 30MHz)

## EUT Operating Environment

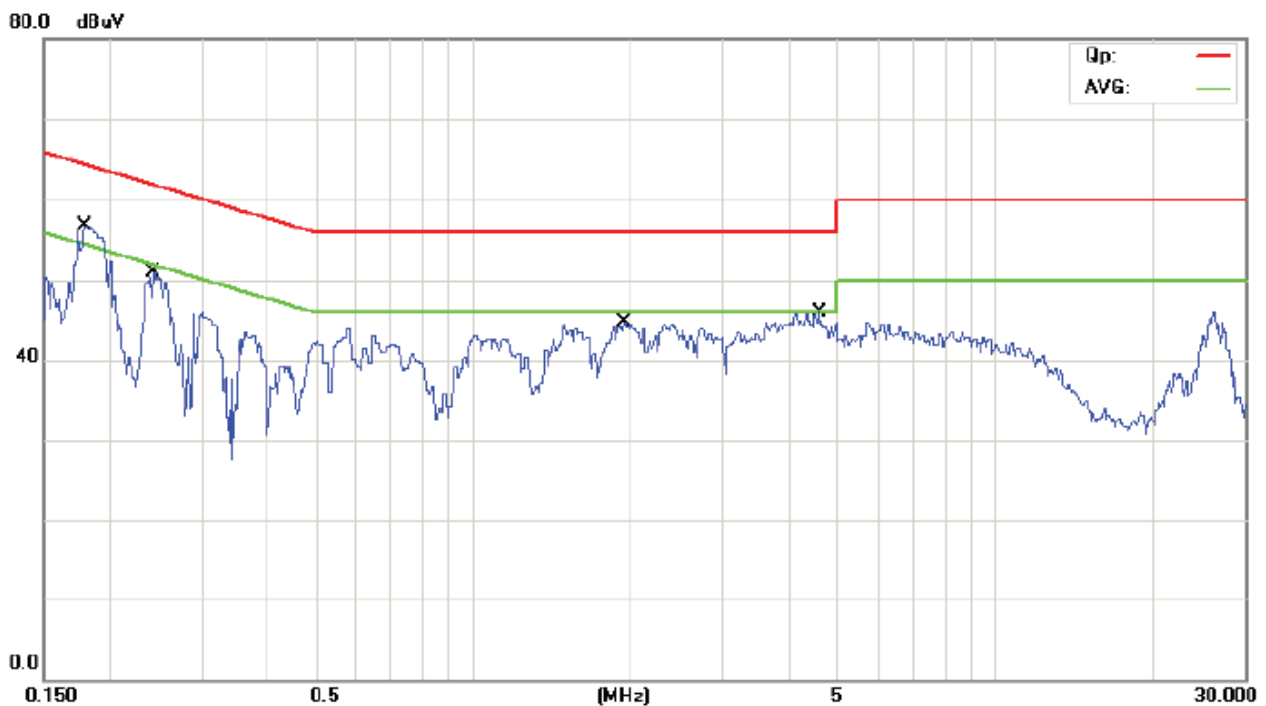
Temperature: 25°C      Humidity: 75%RH      Atmospheric Pressure: 101 KPa

**EUT set Condition: Keep WIFI Transmitting**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector | Comment |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|---------|
|     |     | MHz    | dBμV          | dB             | dBμV        | dBμV  | dB     |          |         |
| 1   | *   | 0.1792 | 44.10         | 11.03          | 55.13       | 64.52 | -9.39  | QP       |         |
| 2   |     | 0.1792 | 24.20         | 11.03          | 35.23       | 54.52 | -19.29 | AVG      |         |
| 3   |     | 0.2436 | 37.74         | 11.10          | 48.84       | 61.97 | -13.13 | QP       |         |
| 4   |     | 0.2436 | 23.34         | 11.10          | 34.44       | 51.97 | -17.53 | AVG      |         |
| 5   |     | 1.9400 | 32.40         | 12.28          | 44.68       | 56.00 | -11.32 | QP       |         |
| 6   |     | 1.9400 | 17.56         | 12.28          | 29.84       | 46.00 | -16.16 | AVG      |         |
| 7   |     | 4.5690 | 28.20         | 13.33          | 41.53       | 56.00 | -14.47 | QP       |         |
| 8   |     | 4.5690 | 19.00         | 13.33          | 32.33       | 46.00 | -13.67 | AVG      |         |

## B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

### EUT Operating Environment

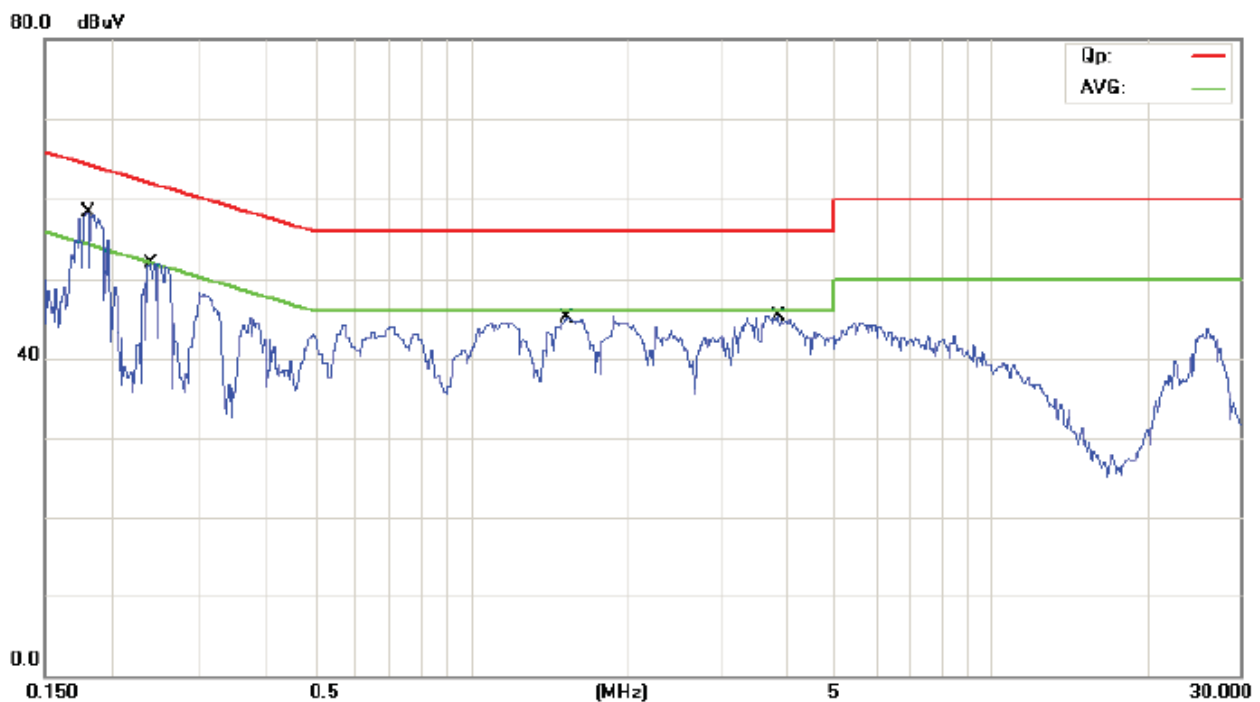
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   | *   | 0.1810       | 45.50                    | 11.03                   | 56.53                    | 64.44         | -7.91      | QP       |         |
| 2   |     | 0.1810       | 30.20                    | 11.03                   | 41.23                    | 54.44         | -13.21     | AVG      |         |
| 3   |     | 0.2406       | 38.90                    | 11.10                   | 50.00                    | 62.08         | -12.08     | QP       |         |
| 4   |     | 0.2406       | 24.20                    | 11.10                   | 35.30                    | 52.08         | -16.78     | AVG      |         |
| 5   |     | 1.5237       | 32.97                    | 12.11                   | 45.08                    | 56.00         | -10.92     | QP       |         |
| 6   |     | 1.5237       | 18.45                    | 12.11                   | 30.56                    | 46.00         | -15.44     | AVG      |         |
| 7   |     | 3.8750       | 31.18                    | 13.05                   | 44.23                    | 56.00         | -11.77     | QP       |         |
| 8   |     | 3.8750       | 18.89                    | 13.05                   | 31.94                    | 46.00         | -14.06     | AVG      |         |

**C: Conducted Emission on Live Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

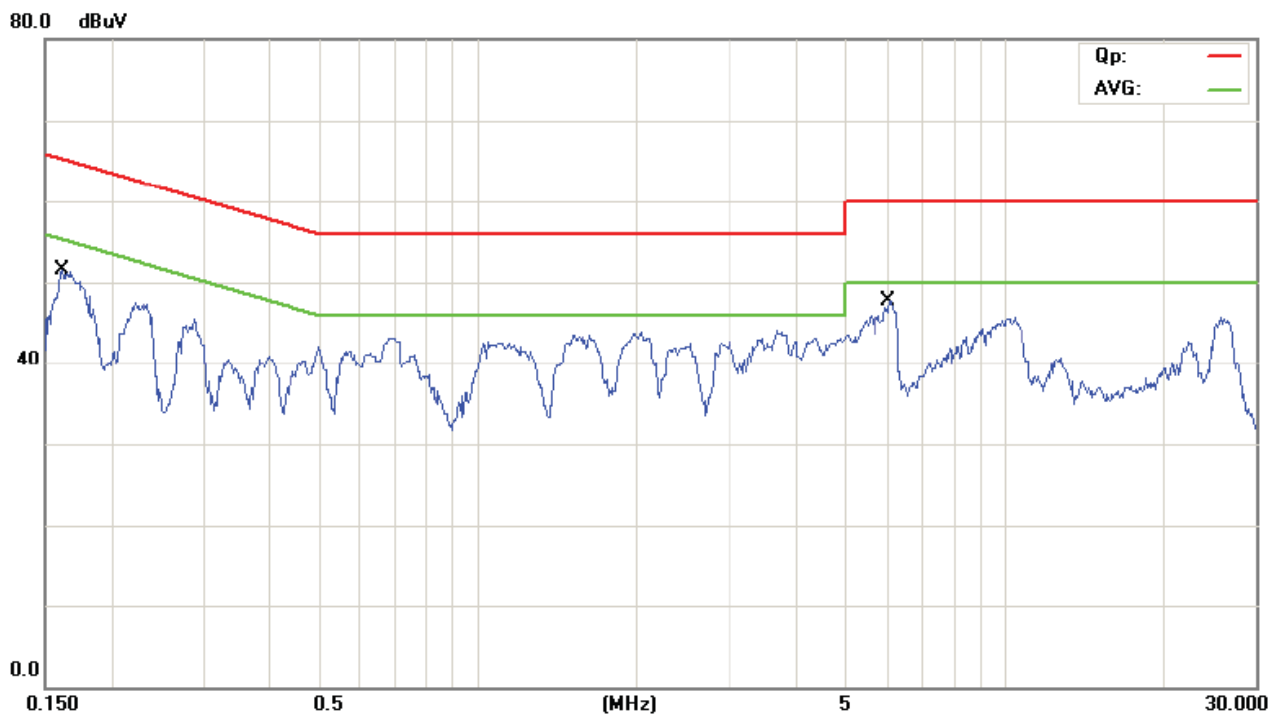
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Keep WIFI Transmitting**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit | Over   |          |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|
|     |     | MHz    | dBuV          | dB             | dBuV        | dBuV  | dB     | Detector |
| 1   | *   | 0.1612 | 39.51         | 11.01          | 50.52       | 65.40 | -14.88 | QP       |
| 2   |     | 0.1612 | 26.85         | 11.01          | 37.86       | 55.40 | -17.54 | AVG      |
| 3   |     | 6.0625 | 27.31         | 13.05          | 40.36       | 60.00 | -19.64 | QP       |
| 4   |     | 6.0625 | 18.59         | 13.05          | 31.64       | 50.00 | -18.36 | AVG      |

**Note: Test on additional battery and worse case was recorded.**

# D: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

## EUT Operating Environment

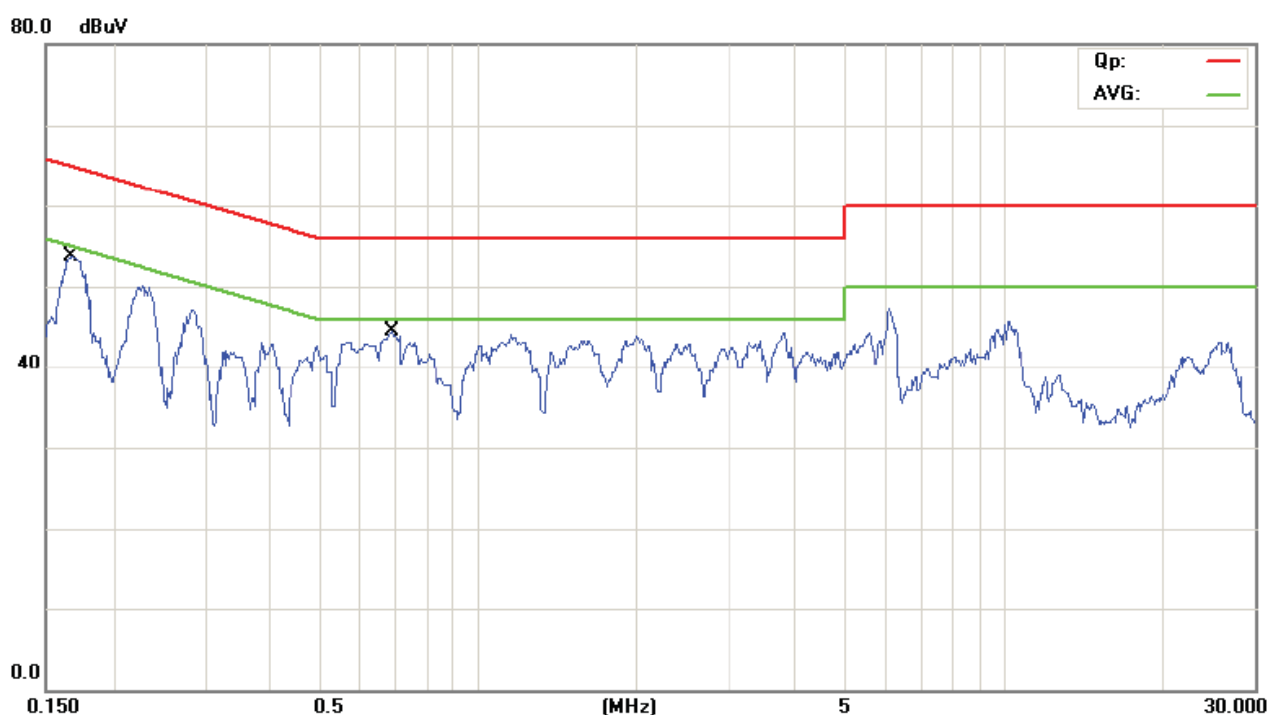
Temperature: 25°C Humidity: 75%RH Atmospheric Pressure: 101 KPa

EUT set Condition: Keep WIFI Transmitting

Equipment Level: Class B

Results: Pass

Please refer to following diagram for individual



| No. | Mk. | Freq.  | Reading Level | Correct Factor | Measurement | Limit | Over   | Detector |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|
|     |     | MHz    | dBuV          | dB             | dBuV        | dBuV  | dB     |          |
| 1   | *   | 0.1683 | 41.64         | 11.02          | 52.66       | 65.04 | -12.38 | QP       |
| 2   |     | 0.1683 | 27.90         | 11.02          | 38.92       | 55.04 | -16.12 | AVG      |
| 3   |     | 0.6912 | 30.52         | 11.57          | 42.09       | 56.00 | -13.91 | QP       |
| 4   |     | 0.6912 | 18.04         | 11.57          | 29.61       | 46.00 | -16.39 | AVG      |

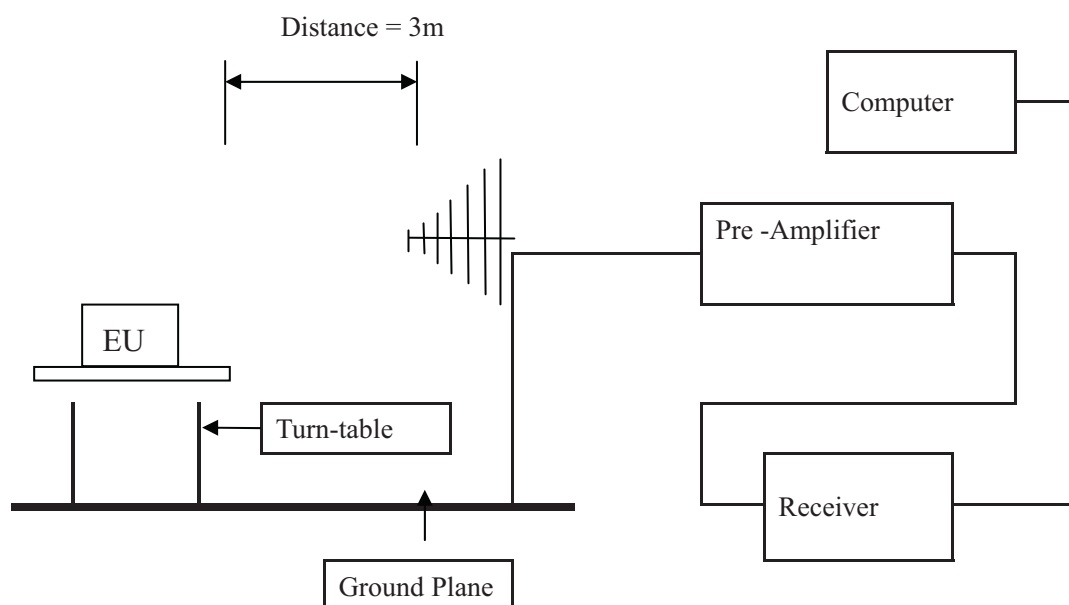
Note: Test on additional battery and worse case was recorded.

## 6 Radiated Emission Test

### 6.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.4 –2003. The radiated test was performed at Shenzhen Emtek Co., Ltd.. This site is on file with the FCC laboratory division, Registration No.406365
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.
- (6) The antenna polarization : Vertical polarization and Horizontal polarization.

### Block diagram of Test setup



### 6.2 Configuration of The EUT

Same as section 5.3 of this report

### 6.3 EUT Operating Condition

Same as section 5.4 of this report.

#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

**Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109**

| Frequency Range (MHz) | Distance (m) | Field strength (dB $\mu$ V/m) |
|-----------------------|--------------|-------------------------------|
| 30-88                 | 3            | 40.0                          |
| 88-216                | 3            | 43.5                          |
| 216-960               | 3            | 46.0                          |
| Above 960             | 3            | 54.0                          |

- Note:
1. RF Voltage (dBuV) = 20 log RF Voltage ( $\mu$ V)
  2. In the Above Table, the higher limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
  4. This is a handheld device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

**Test result**

**General Radiated Emission Data and Harmonics Radiated Emission Data**

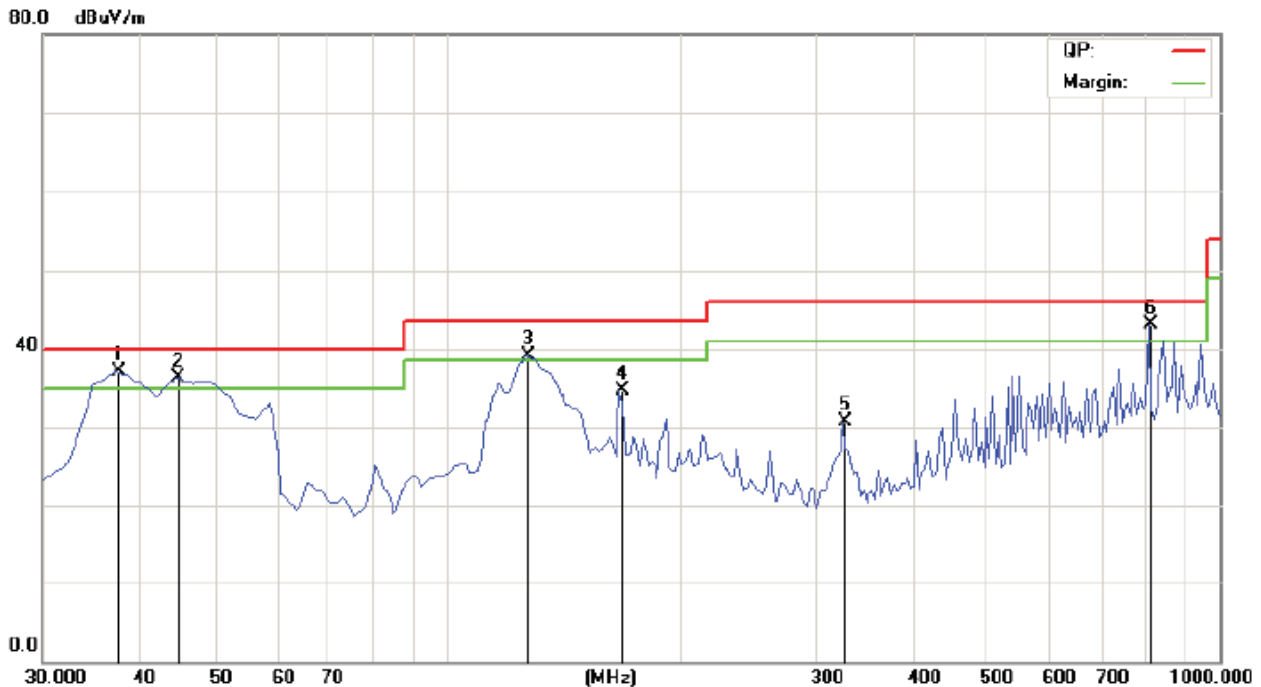
**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Keep WIFI Transmitting

**Results:** Pass

Test Figure:

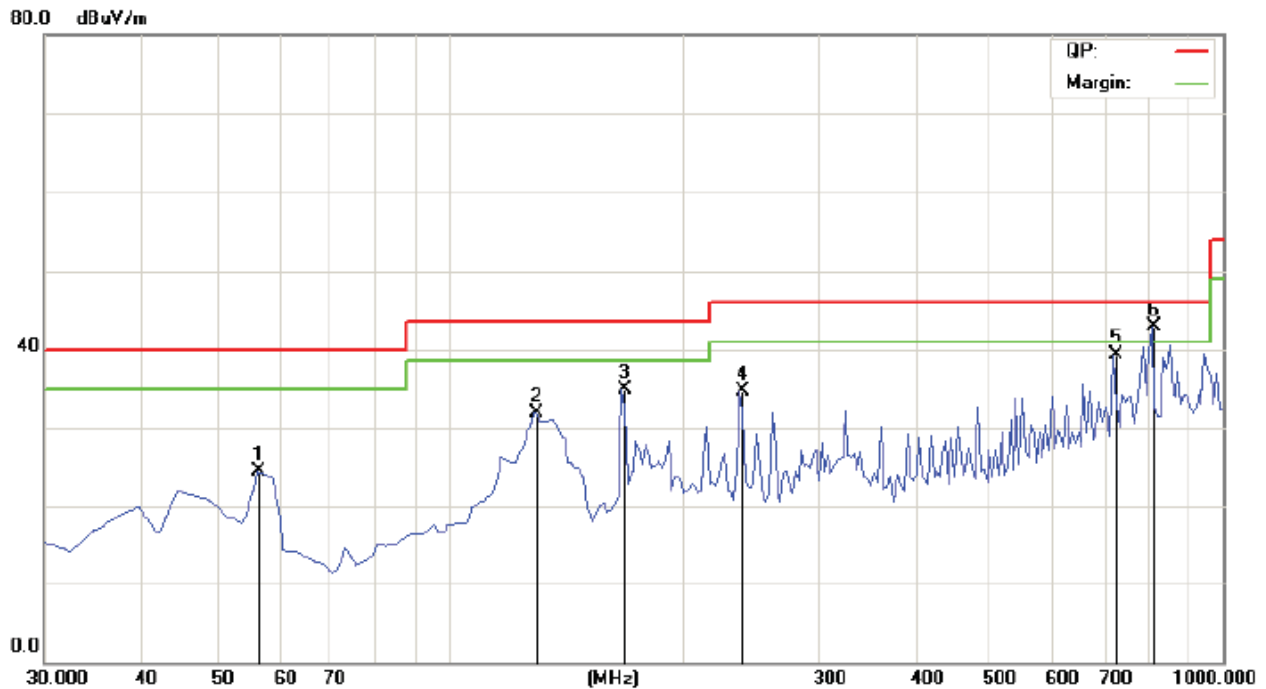
H



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Antenna<br>Height<br>cm | Table<br>Degree<br>degree | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|-------------------------|---------------------------|---------|
| 1   | *   | 37.3510      | 49.42                    | -12.36                  | 37.06                      | 40.00           | -2.94      | peak                    | 0                         |         |
| 2   | !   | 44.5500      | 47.90                    | -11.56                  | 36.34                      | 40.00           | -3.66      | peak                    | 0                         |         |
| 3   | !   | 127.0000     | 53.51                    | -14.47                  | 39.04                      | 43.50           | -4.46      | peak                    | 0                         |         |
| 4   |     | 168.2250     | 48.74                    | -14.03                  | 34.71                      | 43.50           | -8.79      | peak                    | 0                         |         |
| 5   |     | 325.8500     | 38.26                    | -7.62                   | 30.64                      | 46.00           | -15.36     | peak                    | 0                         |         |
| 6   | !   | 813.2750     | 40.29                    | 2.73                    | 43.02                      | 46.00           | -2.98      | peak                    | 0                         |         |

Test Figure:

V



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   | Antenna Height | Table Degree |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | cm             | degree       | Comment |
| 1   |     | 56.6750  | 36.40         | -11.95         | 24.45       | 40.00  | -15.55 | peak           | 0            |         |
| 2   |     | 129.4250 | 46.64         | -14.73         | 31.91       | 43.50  | -11.59 | peak           | 0            |         |
| 3   |     | 168.2250 | 49.00         | -14.03         | 34.97       | 43.50  | -8.53  | peak           | 0            |         |
| 4   |     | 238.5500 | 44.56         | -9.87          | 34.69       | 46.00  | -11.31 | peak           | 0            |         |
| 5   |     | 723.5500 | 38.07         | 1.18           | 39.25       | 46.00  | -6.75  | peak           | 0            |         |
| 6   | *   | 813.2750 | 40.10         | 2.73           | 42.83       | 46.00  | -3.17  | peak           | 0            |         |

## Test result

### General Radiated Emission Data and Harmonics Radiated Emission Data

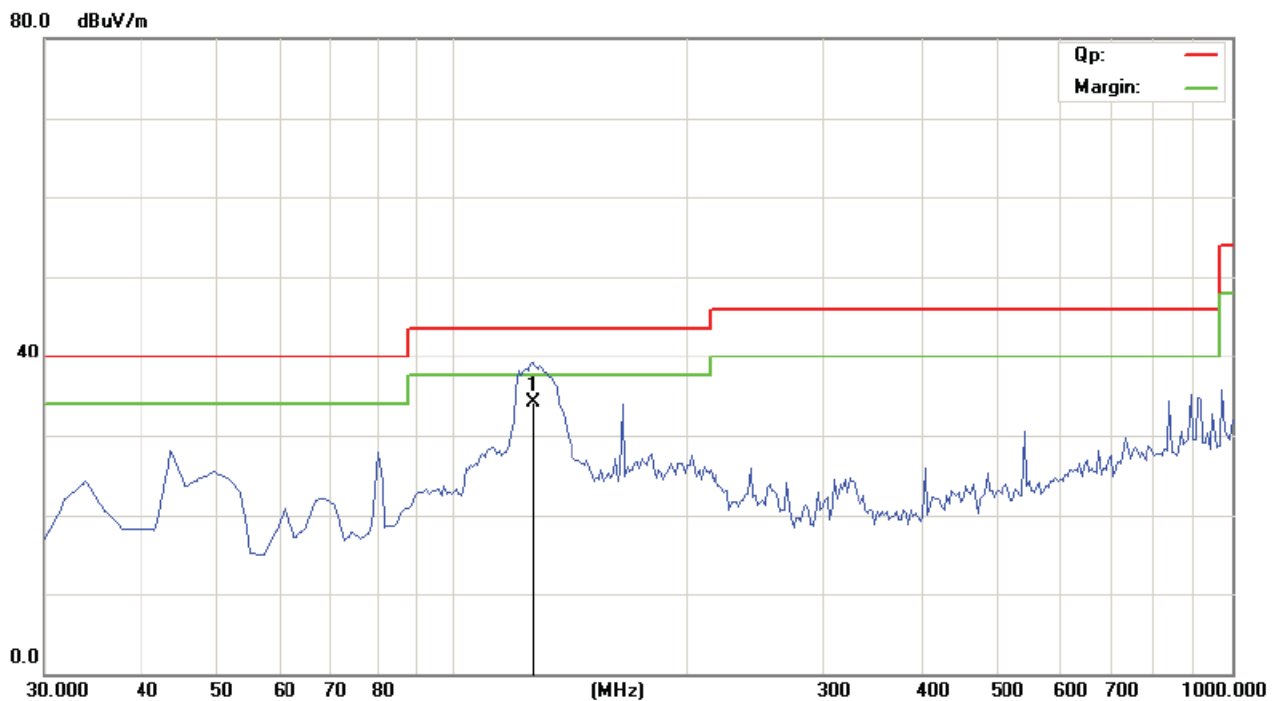
#### Radiated Emission In Horizontal (30MHz---1000MHz)

EUT set Condition: Keep WIFI Transmitting

Results: Pass

Test Figure:

H

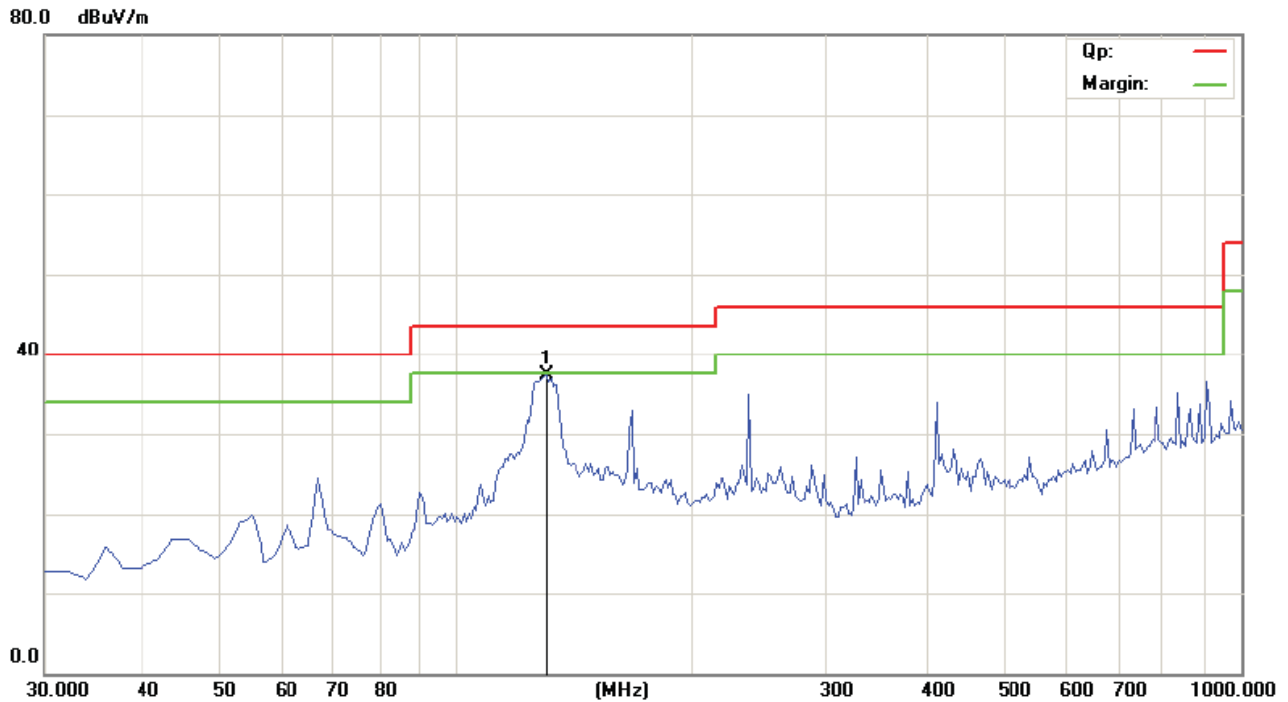


| No. | Mk. | Freq.    | Reading | Correct | Measure- | Limit  | Over  |
|-----|-----|----------|---------|---------|----------|--------|-------|
|     |     | MHz      | Level   | Factor  | ment     |        |       |
|     |     |          | dBuV    | dB      | dBuV/m   | dBuV/m | dB    |
| 1   | *   | 127.1944 | 48.68   | -14.49  | 34.19    | 43.50  | -9.31 |

Note: Test on additional battery and worse case was recorded

Test Figure:

V



| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over  |
|-----|-----|----------|---------------|----------------|-------------|--------|-------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB    |
| 1   | *   | 131.0822 | 52.22         | -14.86         | 37.36       | 43.50  | -6.14 |

**Note: Test on additional battery and worse case was recorded**



Operation Mode: Transmitting under CH01 for 11b at 11Mbps

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2412.00         | 91.76 ( PK )      | H                | Fundamental Frequency |
| 2412.00         | 91.26 ( PK )      | V                |                       |
| 4824.00         | 47.32 ( PK )      | H                | --                    |
| 4824.00         | 49.09 ( PK )      | V                |                       |
| 7236.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9648.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12060           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14472           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 16884           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19296           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21708           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24120           | --                | H/V              | 74(Peak)/ 54(AV)      |

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802.11b mode at 11Mbps



Operation Mode: Transmitting under CH06 for 11b at 11Mbps

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2437.00         | 92.63 ( PK )      | H                | Fundamental Frequency |
| 2437.00         | 62.65 ( PK )      | V                |                       |
| 4874.00         | 47.62 ( PK )      | H                | --                    |
| 4874.00         | 46.58 ( PK )      | V                |                       |
| 7311.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9748.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12185           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14622           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 17059           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19496           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21933           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24370           | --                | H/V              | 74(Peak)/ 54(AV)      |

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802.11b mode at 11Mbps

**Operation Mode: Transmitting under CH11 for 11b at 11Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2462.00         | 92.24 ( PK )      | H                | Fundamental Frequency |
| 2462.00         | 91.67 ( PK )      | V                |                       |
| 4924            | 47.29 ( PK )      | H                | --                    |
| 4924            | 48.63 ( PK )      | V                |                       |
| 7386            | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9848            | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12310           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14772           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 17234           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19696           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 22158           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24650           | --                | H/V              | 74(Peak)/ 54(AV)      |

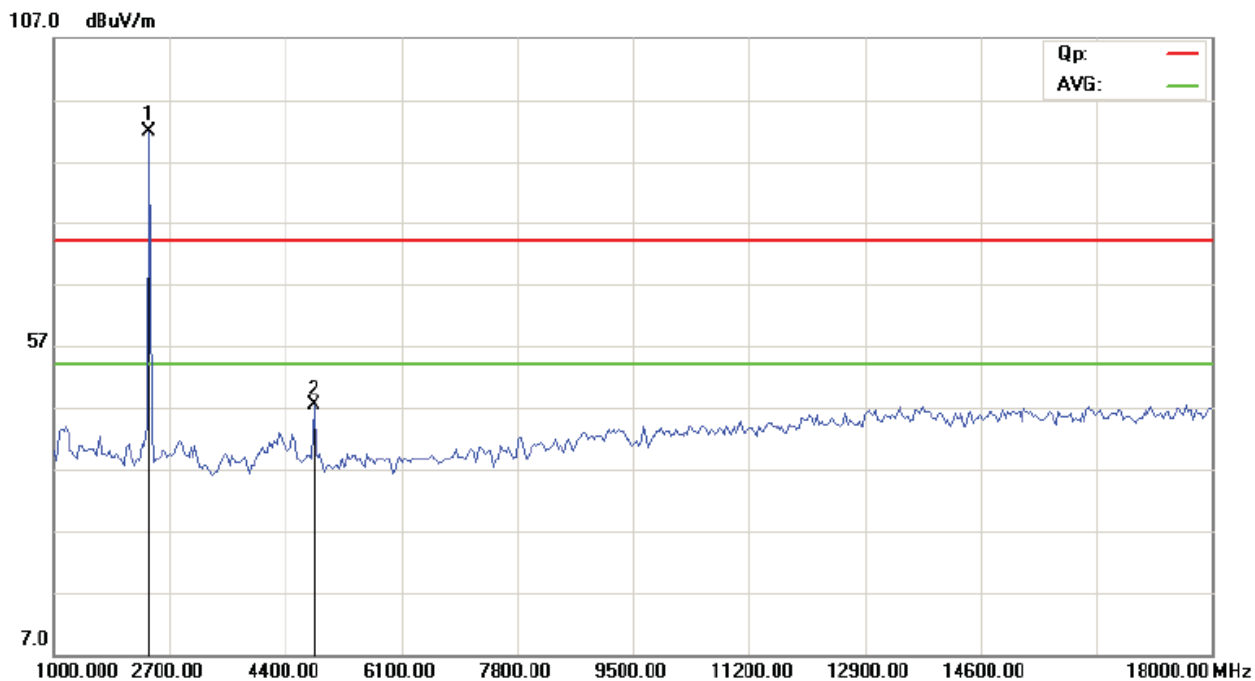
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

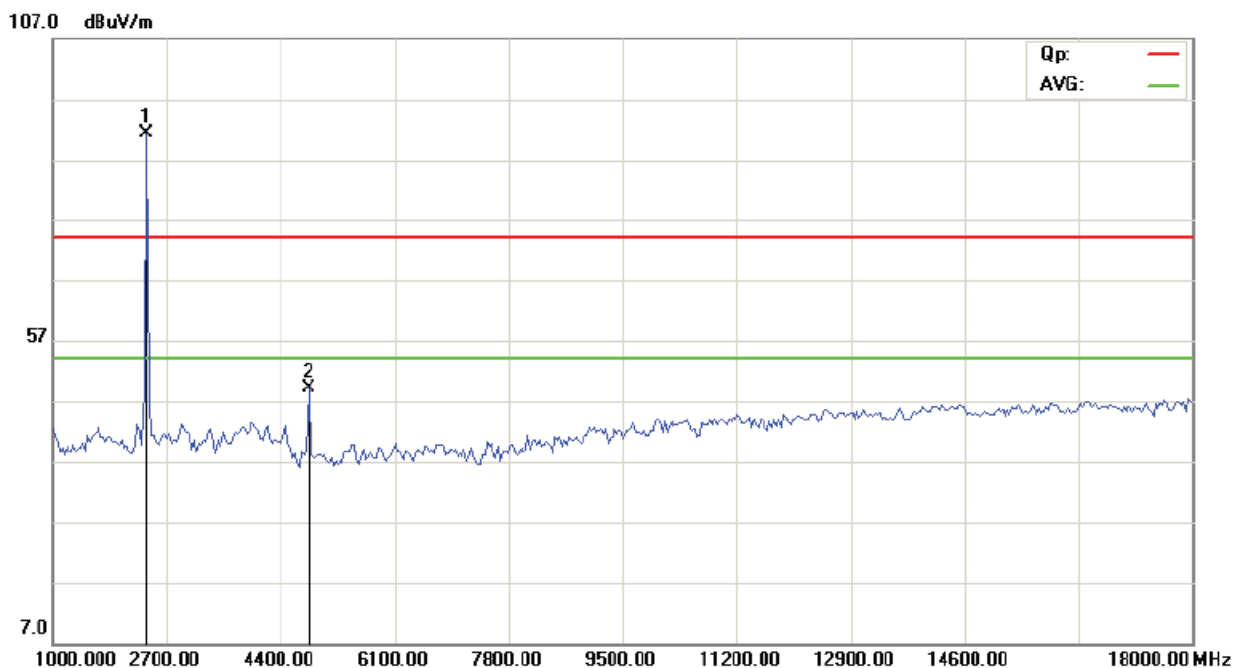
3. For 802.11b mode at 11Mbps

Please refer to the following test plots for details:

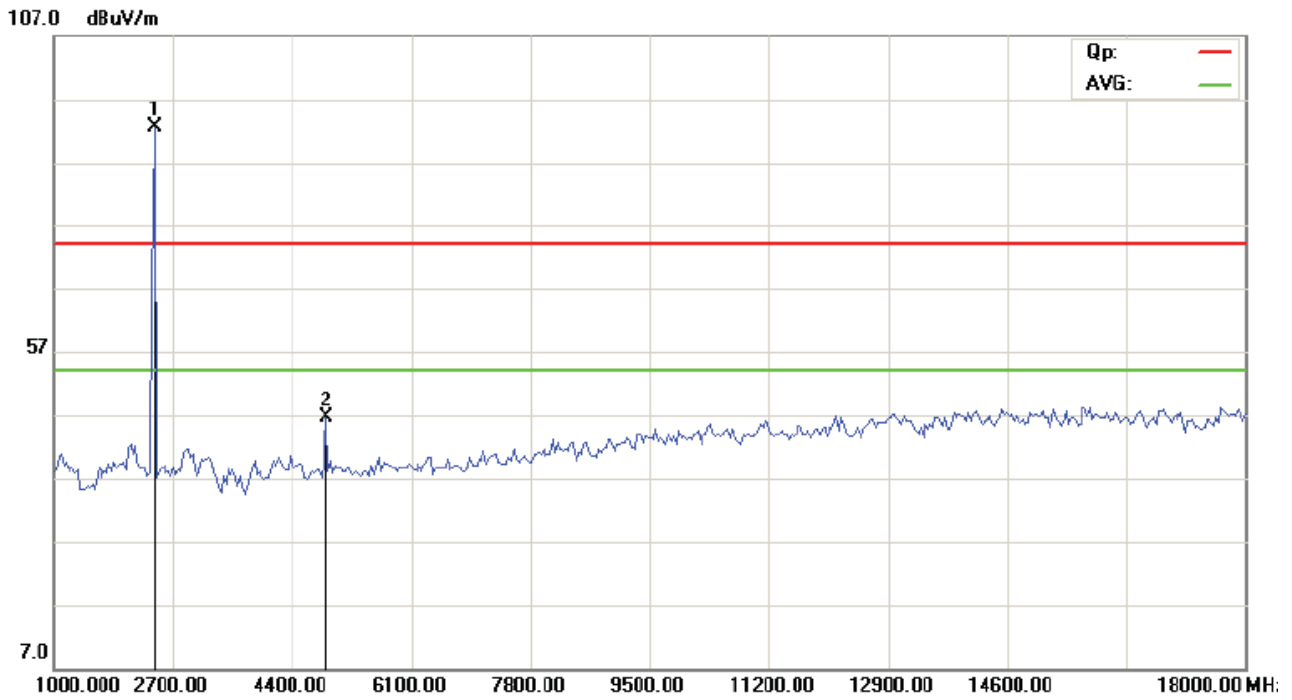
### CH01 at 11Mbps: Horizontal



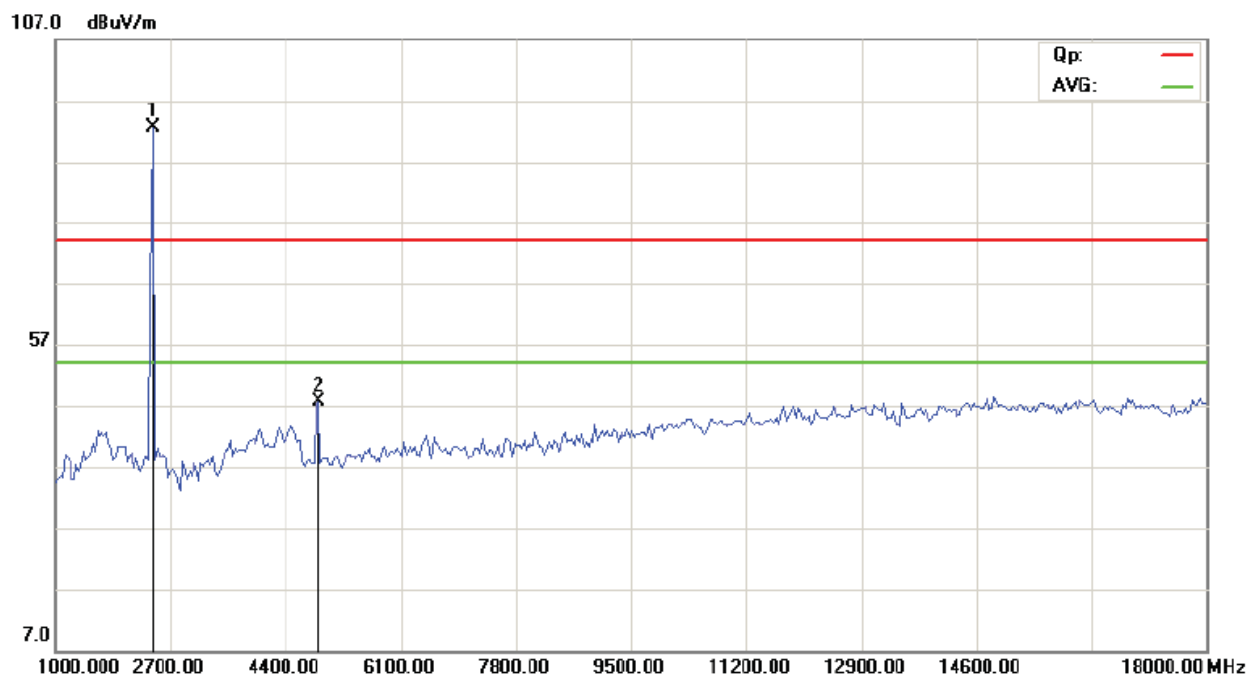
### CH01 at 11Mbps: Vertical



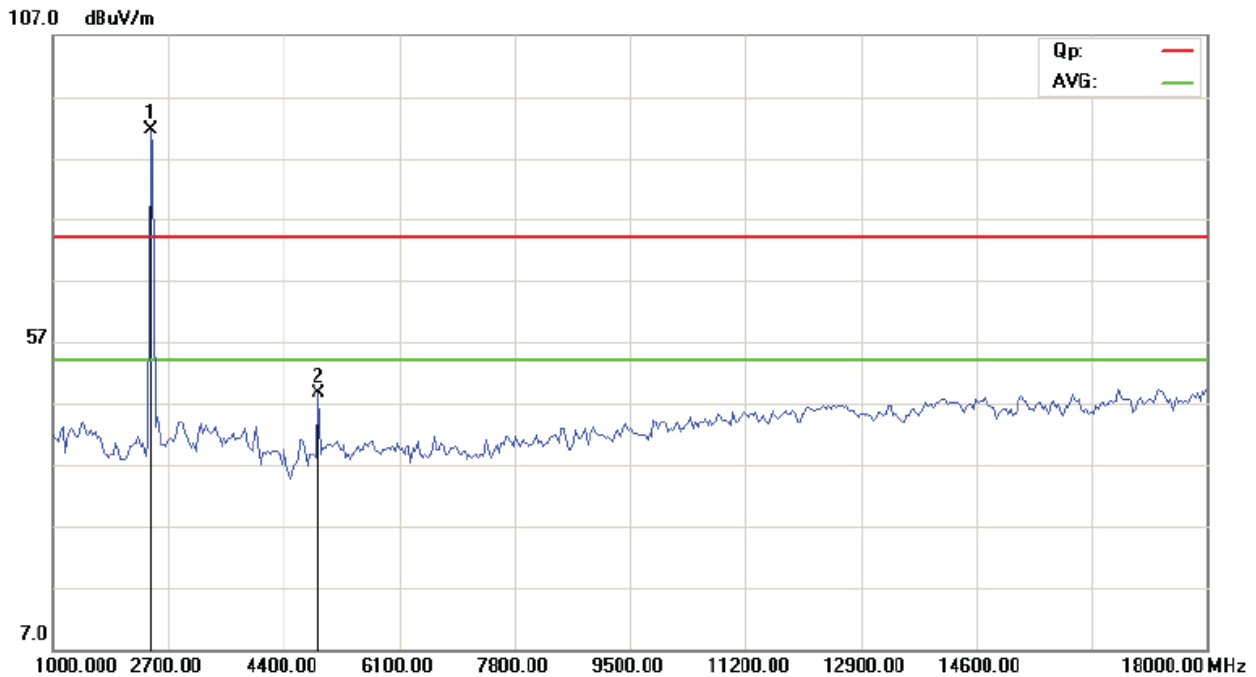
### CH06 at 11Mbps: Vertical



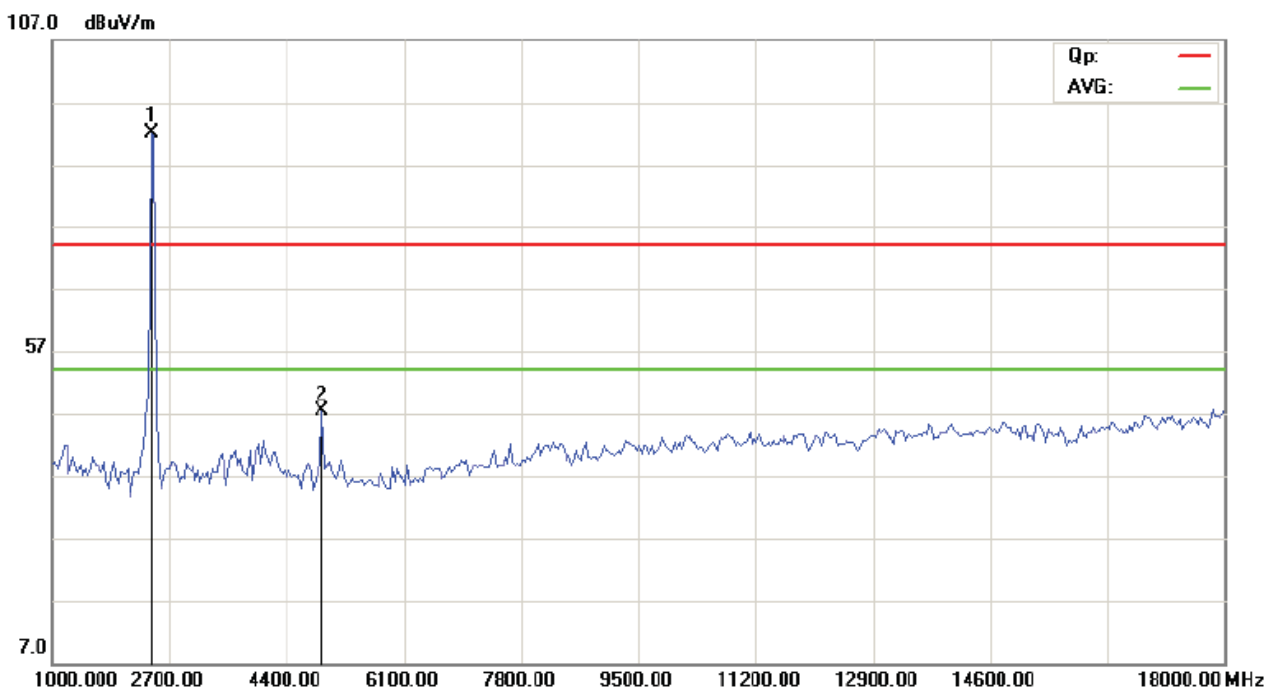
### CH06 at 11Mbps: Horizontal



## CH11 at 11Mbps: Vertical



## CH11at 11Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

**Operation Mode: Transmitting under CH01 for 11g at 54 Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2412.00         | 91.39 ( PK )      | H                | Fundamental Frequency |
| 2412.00         | 91.69 ( PK )      | V                |                       |
| 4824.00         | 48.78 ( PK )      | H                | --                    |
| 4824.00         | 49.32 ( PK )      | V                |                       |
| 7236.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9648.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12060           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14472           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 16684           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19296           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21708           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24120           | --                | H/V              | 74(Peak)/ 54(AV)      |

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
2. Remark "---" means that the emissions level is too low to be measured  
3. For 802.11g mode 54Mbps

**Operation Mode: Transmitting under CH06 for 11g at 54 Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2437.00         | 91.47 ( PK )      | H                | Fundamental Frequency |
| 2437.00         | 91.44 ( PK )      | V                |                       |
| 4874.00         | 47.97 ( PK )      | H                | --                    |
| 4874.00         | 48.32 ( PK )      | V                |                       |
| 7311.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9748.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12185           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14622           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 17059           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19496           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21933           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24370           | --                | H/V              | 74(Peak)/ 54(AV)      |



Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802.11g mode 54Mbps

**Operation Mode: Transmitting under CH11 for 11g at 54 Mbps**

| Frequency<br>(MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)        |
|--------------------|-------------------|------------------|--------------------------|
| 2462.00            | 90.93 ( PK )      | H                | Fundamental<br>Frequency |
| 2462.00            | 92.75 ( PK )      | V                |                          |
| 4924               | 48.08 ( PK )      | H                | 74(Peak)/ 54(AV)         |
| 4924               | 47.14 ( PK )      | V                | 74(Peak)/ 54(AV)         |
| 7386               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 9848               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 12310              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 14772              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 17234              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 19696              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 22158              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 24650              | --                | H/V              | 74(Peak)/ 54(AV)         |

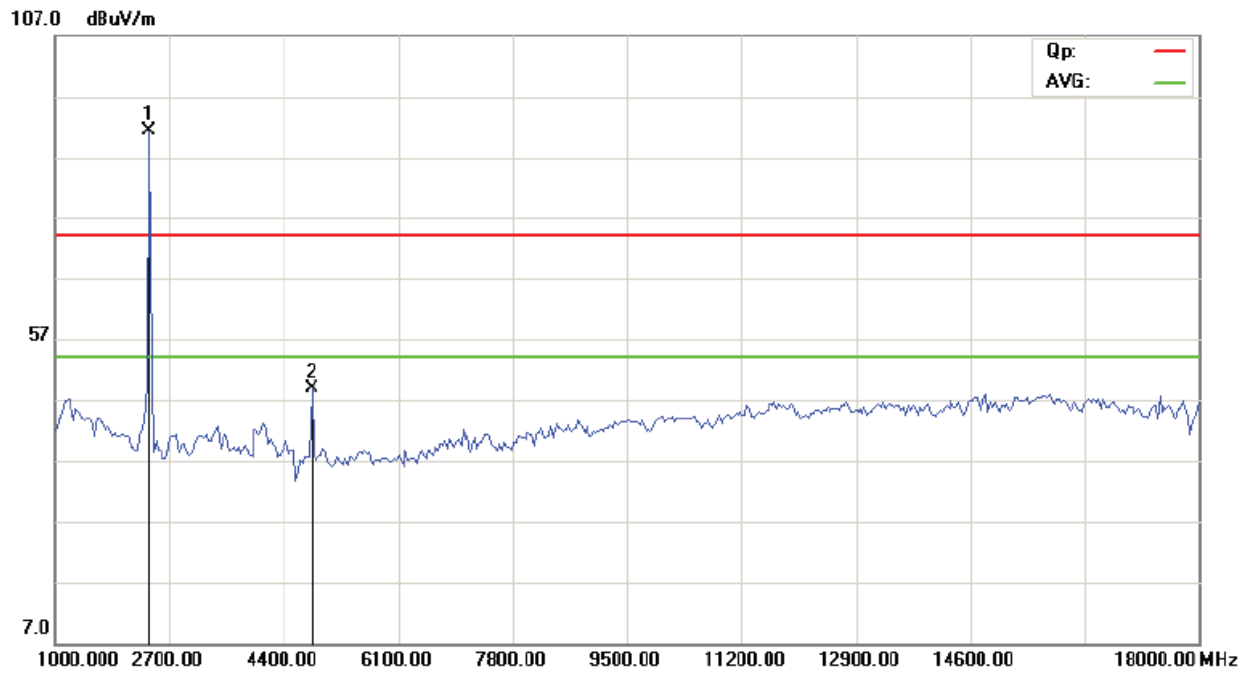
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

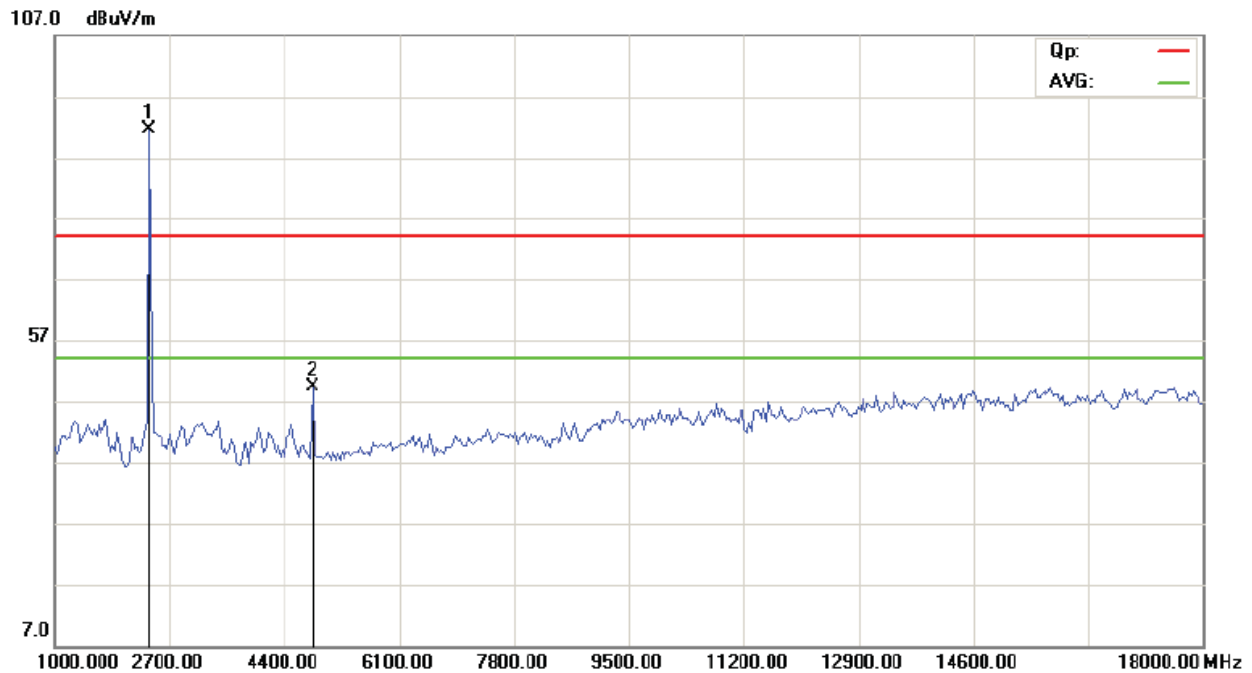
3. For 802.11g mode 54Mbps

Please refer to the following test plots for details:

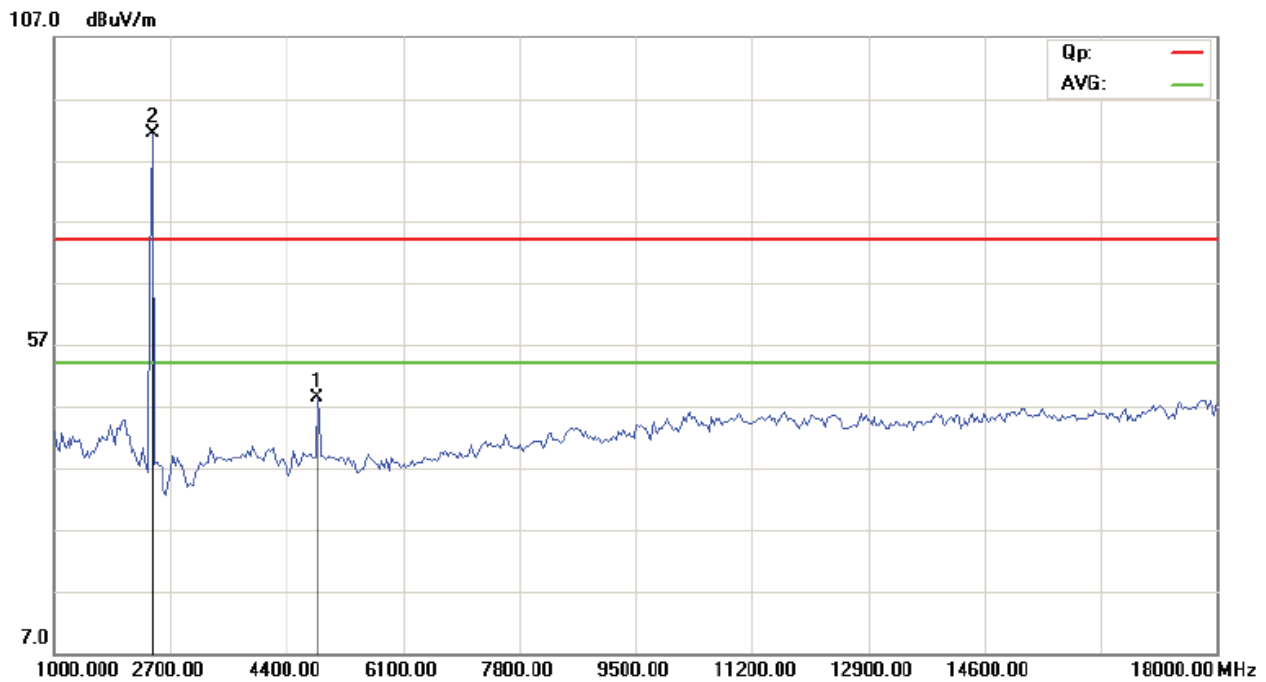
### CH01 at 54Mbps: Horizontal



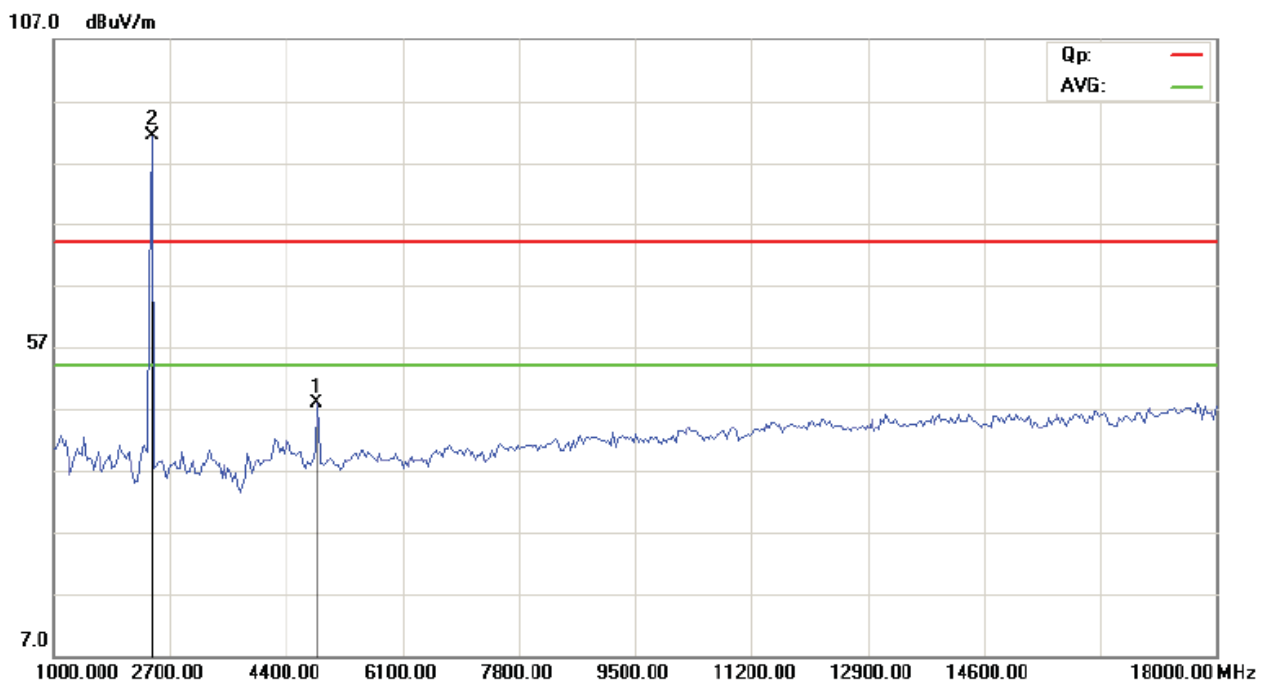
### CH01 at 54Mbps: Vertical



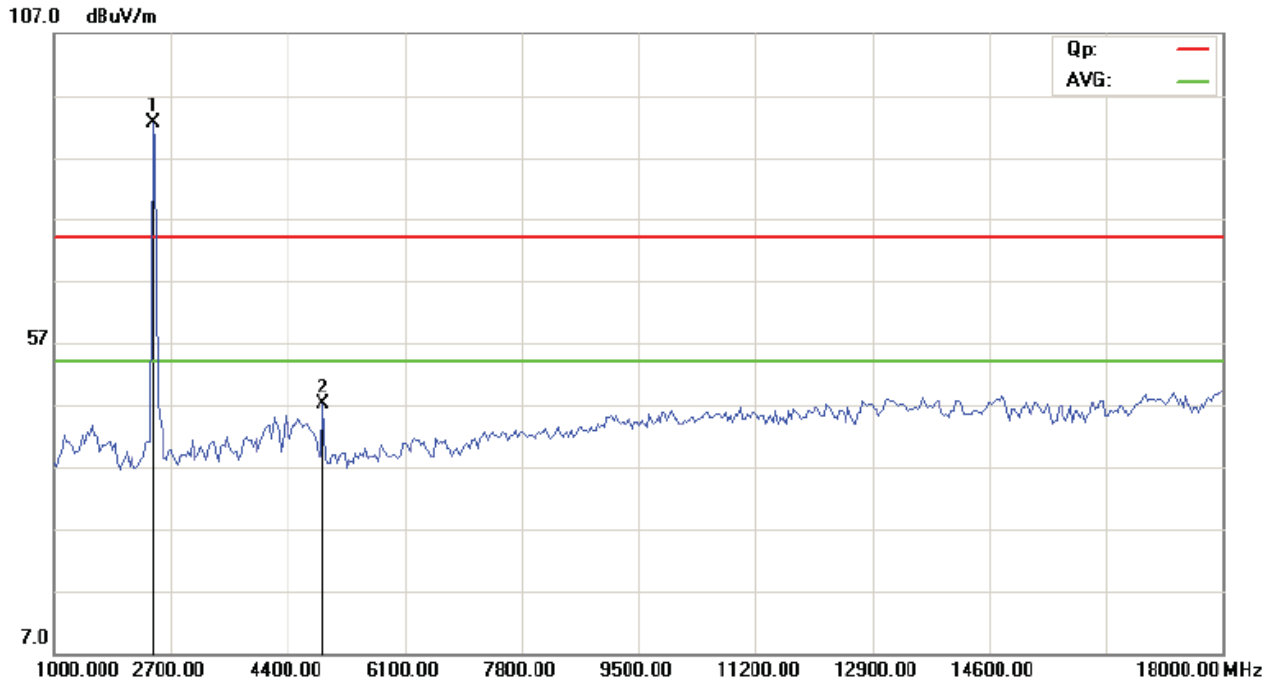
### CH06 at 54Mbps: Vertical



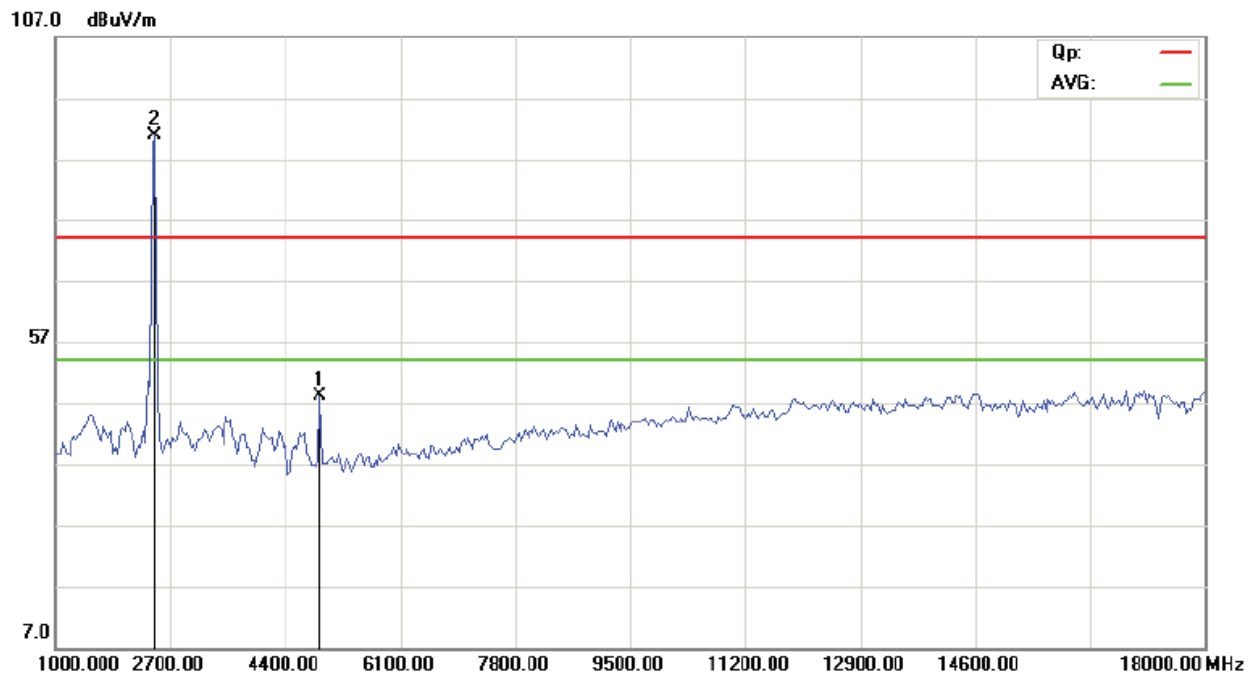
### CH06 at 54Mbps: Horizontal



### CH11 at 54Mbps: Vertical



### CH11 at 54 Mbps: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

**Operation Mode: Transmitting under CH01 for 11n HT20 at 65Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2412.00         | 92.88 ( PK )      | H                | Fundamental Frequency |
| 2412.00         | 92.42 ( PK )      | V                |                       |
| 4824.00         | 48.85 ( PK )      | H                | 74(Peak)/ 54(AV)      |
| 4824.00         | 47.59 ( PK )      | V                | 74(Peak)/ 54(AV)      |
| 7236.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9648.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12060           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14472           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 16684           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19296           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21708           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24120           | --                | H/V              | 74(Peak)/ 54(AV)      |

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802.11n HT20 at 65Mbps

**Operation Mode: Transmitting under CH06 for 11n HT20 at 65Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2437.00         | 91.55 ( PK )      | H                | Fundamental Frequency |
| 2437.00         | 91.51 ( PK )      | V                |                       |
| 4874.00         | 46.54 ( PK )      | H                | 74(Peak)/ 54(AV)      |
| 4874.00         | 46.69 ( PK )      | V                | 74(Peak)/ 54(AV)      |
| 7311.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9748.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12185           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14622           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 17059           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19496           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21933           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24370           | --                | H/V              | 74(Peak)/ 54(AV)      |



Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802. 11n HT20 at 65bps

**Operation Mode: Transmitting under CH11 for 11n HT20 at 65Mbps**

| Frequency<br>(MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)        |
|--------------------|-------------------|------------------|--------------------------|
| 2462.00            | 92.12 ( PK )      | H                | Fundamental<br>Frequency |
| 2462.00            | 92.31 ( PK )      | V                |                          |
| 4924               | 47.69 ( PK )      | H                | 74(Peak)/ 54(AV)         |
| 4924               | 48.14 ( PK )      | V                | 74(Peak)/ 54(AV)         |
| 7386               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 9848               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 12310              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 14772              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 17234              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 19696              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 22158              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 24650              | --                | H/V              | 74(Peak)/ 54(AV)         |

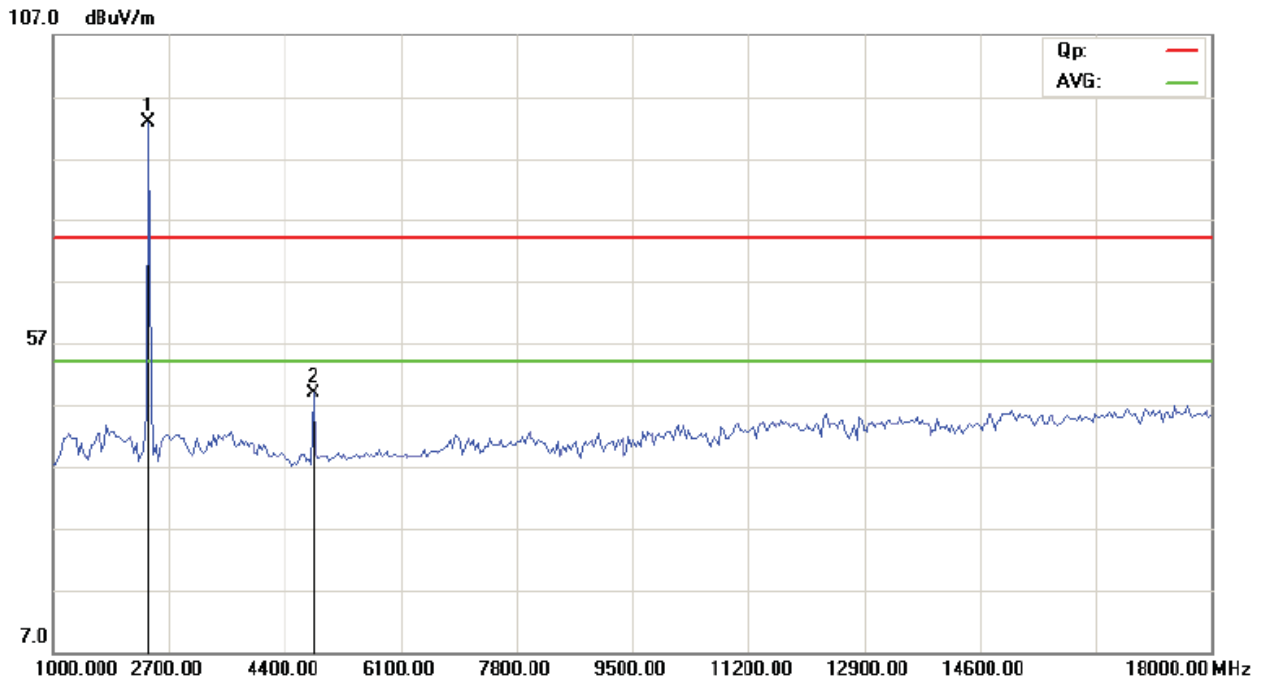
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

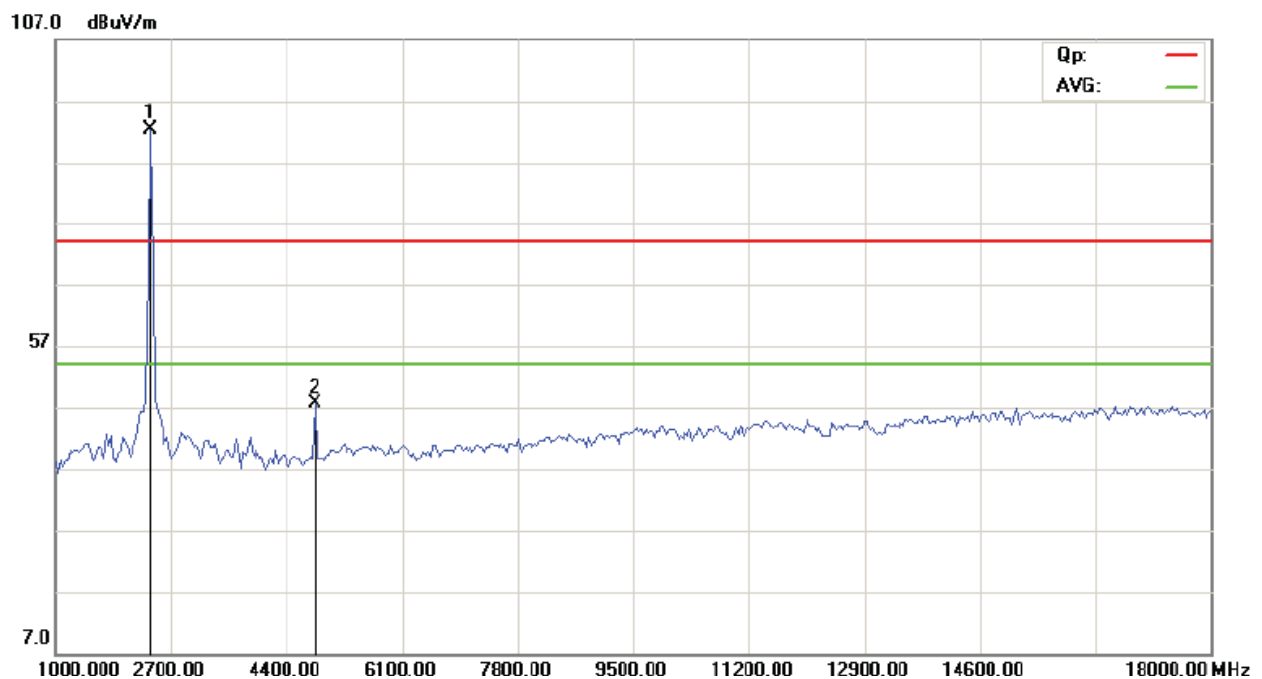
3. For 802. 11n HT20 at 65bps

Please refer to the following test plots for details:

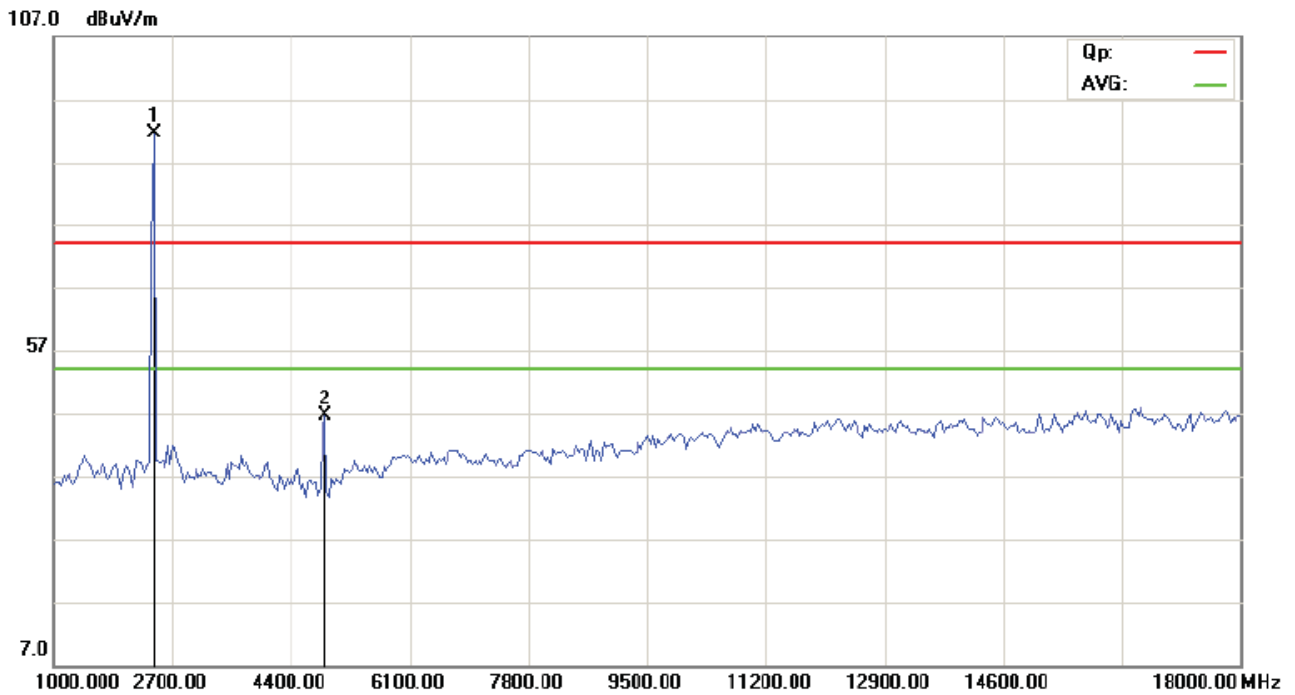
### CH01 at 11n HT20: Horizontal



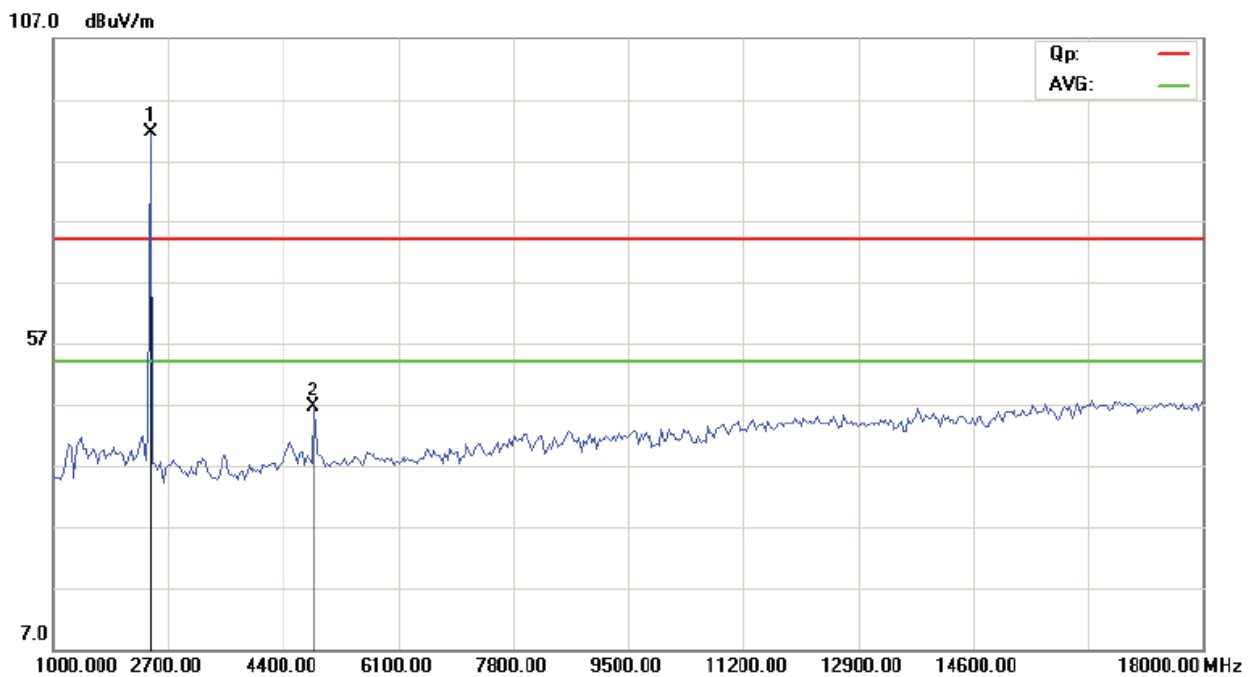
### CH01 at 11n HT20: Vertical



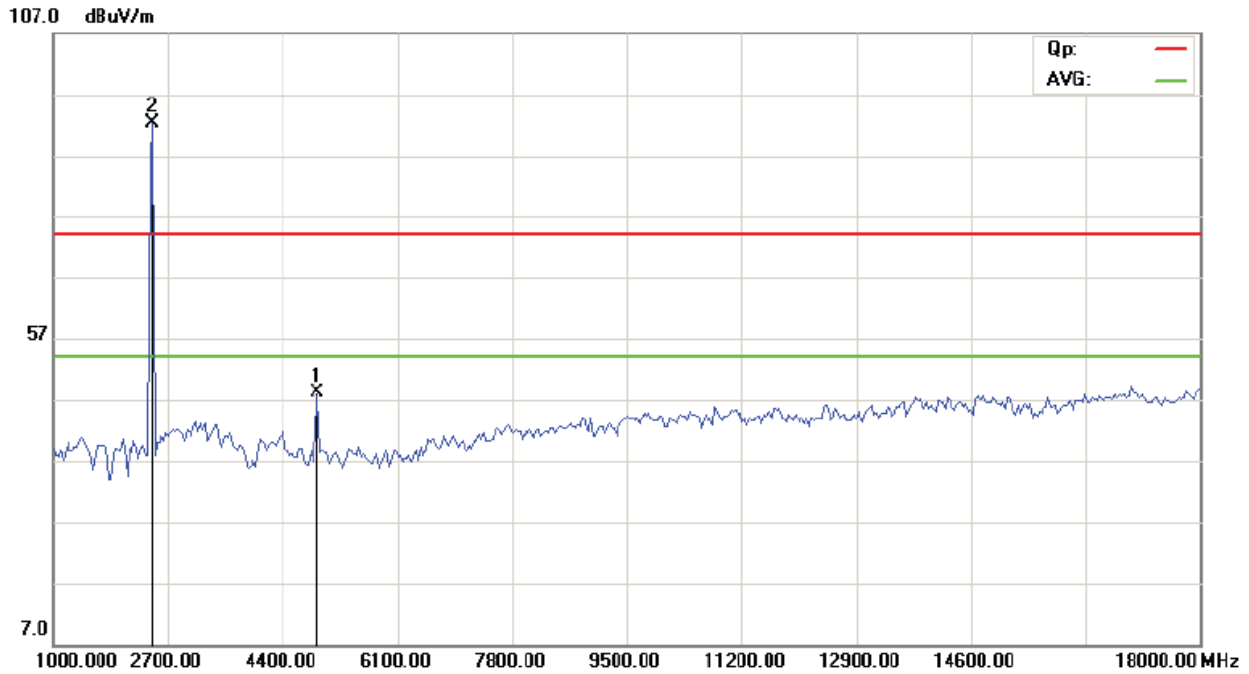
### CH06 at 11n HT20: Vertical



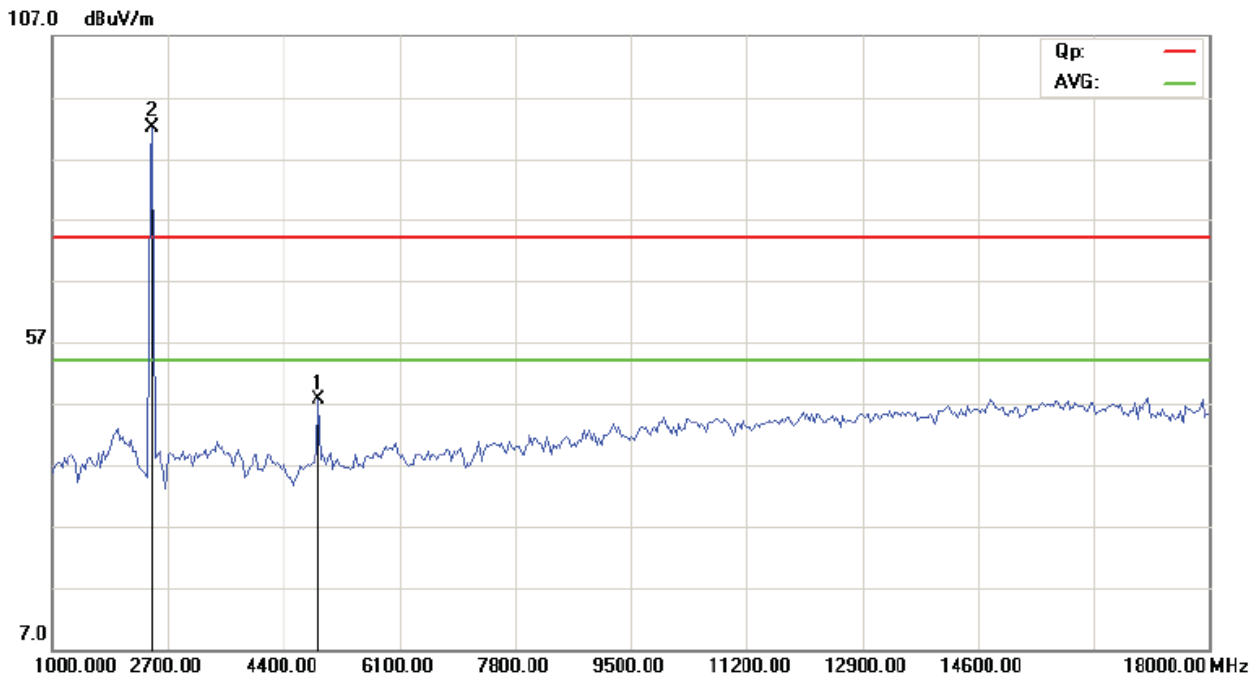
### CH06 at 11n HT20: Horizontal



### CH11 at 11n HT20: Vertical



### CH11 at 11n HT20: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

**Operation Mode: Transmitting under CH01 for 11n HT40 at 65Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2422.00         | 87.01 ( PK )      | H                | Fundamental Frequency |
| 2422.00         | 86.96 ( PK )      | V                |                       |
| 4844.00         | 47.51 ( PK )      | H                | 74(Peak)/ 54(AV)      |
| 4844.00         | 48.77 ( PK )      | V                |                       |
| 7266.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9688.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12110           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14532           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 16954           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19376           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21798           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24220           | --                | H/V              | 74(Peak)/ 54(AV)      |

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark "---" means that the emissions level is too low to be measured  
 3. For 802.11n HT40 at 65bps

**Operation Mode: Transmitting under CH04 for 11n HT40 at 65Mbps**

| Frequency (MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)     |
|-----------------|-------------------|------------------|-----------------------|
| 2437.00         | 87.72 ( PK )      | H                | Fundamental Frequency |
| 2437.00         | 86.15 ( PK )      | V                |                       |
| 4874.00         | 46.68 ( PK )      | H                | 74(Peak)/ 54(AV)      |
| 4874.00         | 48.03 ( PK )      | V                |                       |
| 7311.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 9748.00         | --                | H/V              | 74(Peak)/ 54(AV)      |
| 12185           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 14622           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 17059           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 19496           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 21933           | --                | H/V              | 74(Peak)/ 54(AV)      |
| 24370           | --                | H/V              | 74(Peak)/ 54(AV)      |



Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

3. For 802. 11n HT40 at 65bps

**Operation Mode: Transmitting under CH7 for 11n HT40 at 65Mbps**

| Frequency<br>(MHz) | Level@3m (dBμV/m) | Antenna Polarity | Limit@3m (dBμV/m)        |
|--------------------|-------------------|------------------|--------------------------|
| 2452.00            | 87.85 ( PK )      | H                | Fundamental<br>Frequency |
| 2452.00            | 87.56 ( PK )      | V                |                          |
| 4904               | 46.73 ( PK )      | H                | 74(Peak)/ 54(AV)         |
| 4904               | --                | V                |                          |
| 7356               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 9808               | --                | H/V              | 74(Peak)/ 54(AV)         |
| 12260              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 14712              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 17164              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 19616              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 22068              | --                | H/V              | 74(Peak)/ 54(AV)         |
| 24520              | --                | H/V              | 74(Peak)/ 54(AV)         |

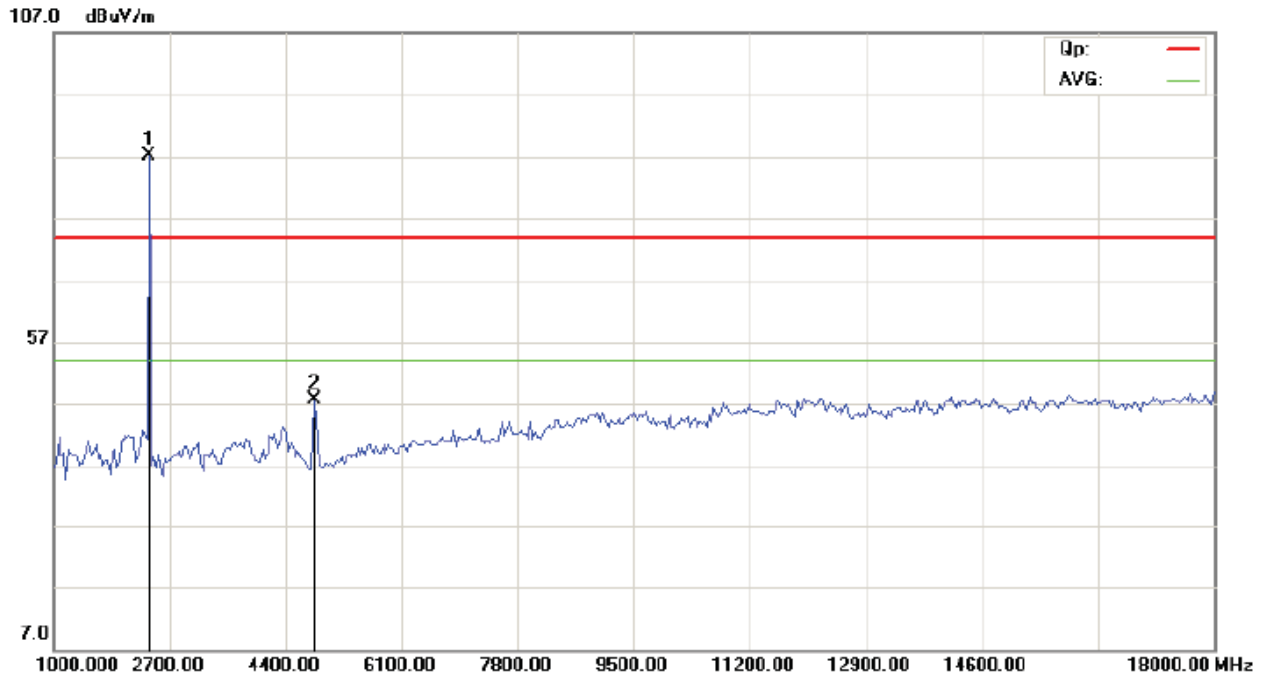
Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

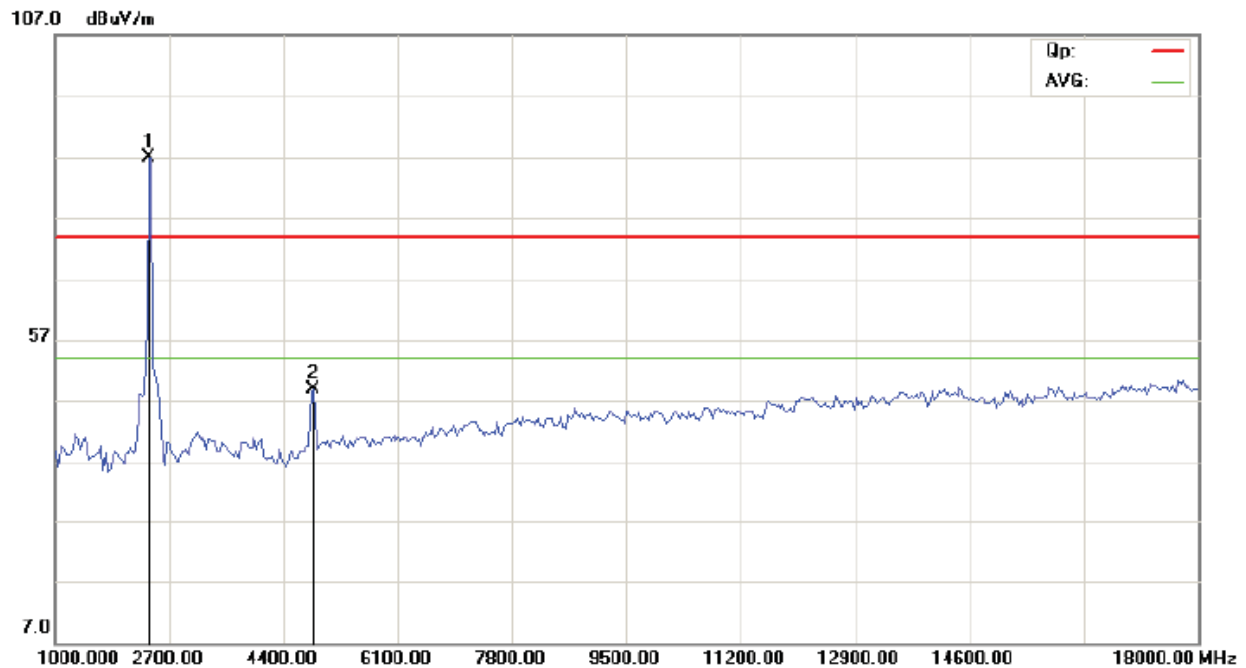
3. For 802. 11n HT40 at 65bps

Please refer to the following test plots for details:

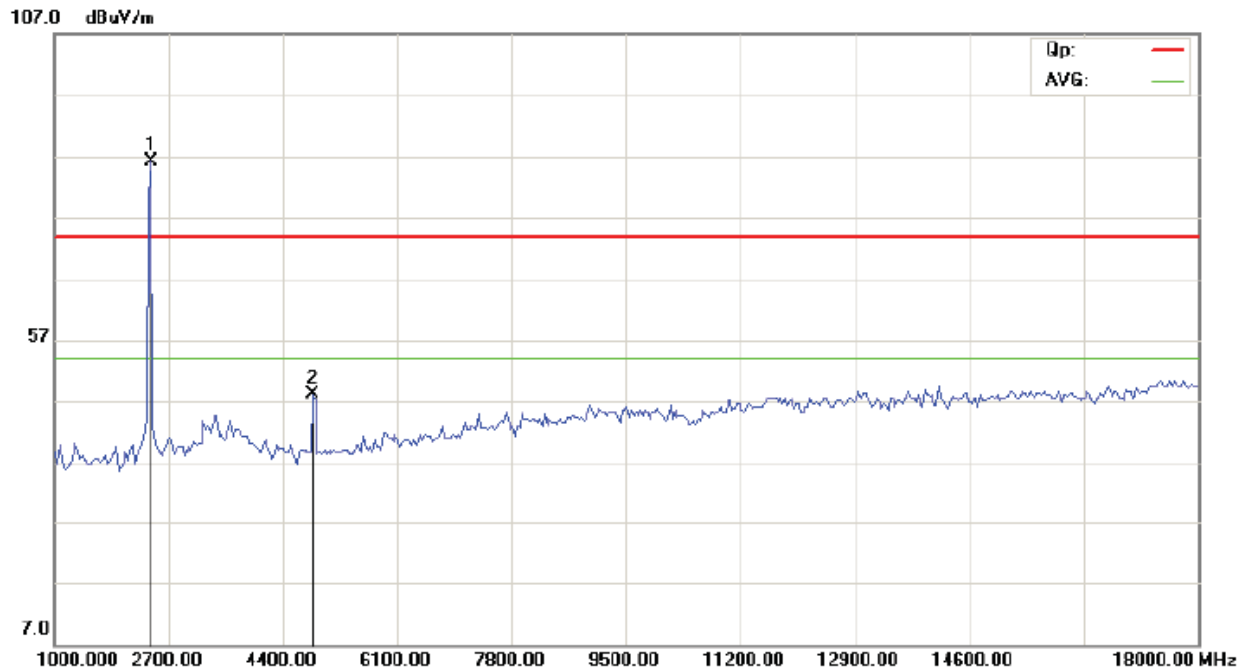
### CH01 at 11n HT40: Horizontal



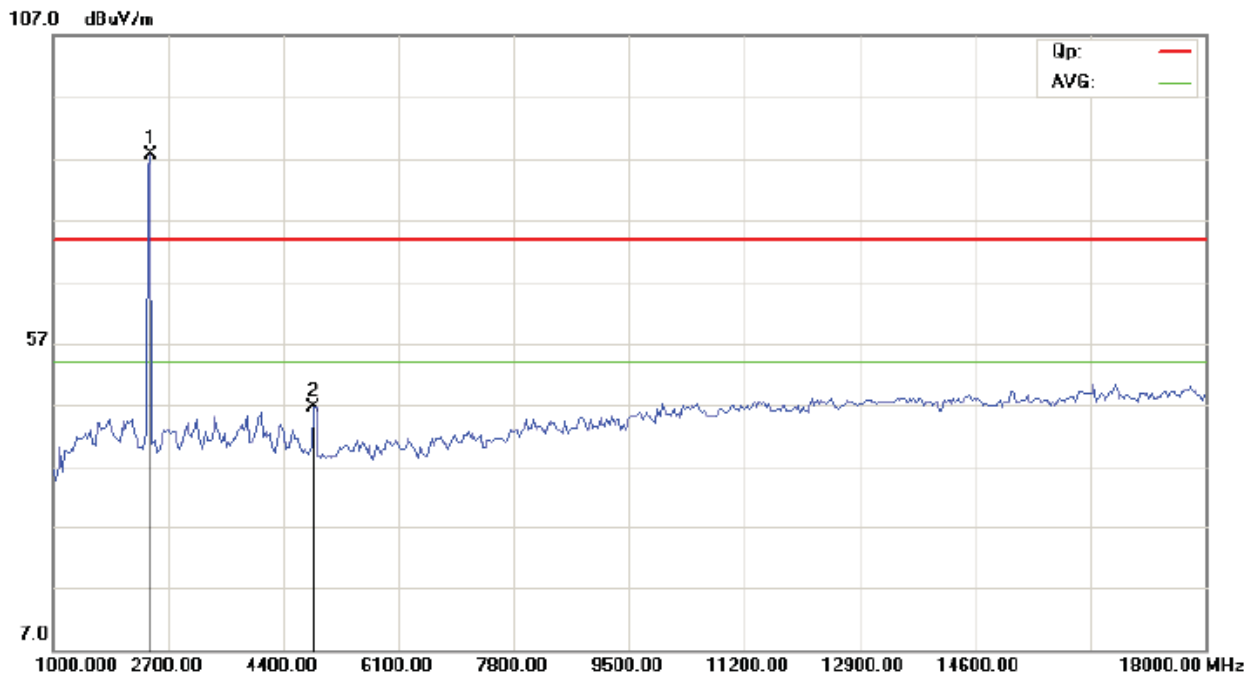
### CH01 at 11n HT40: Vertical



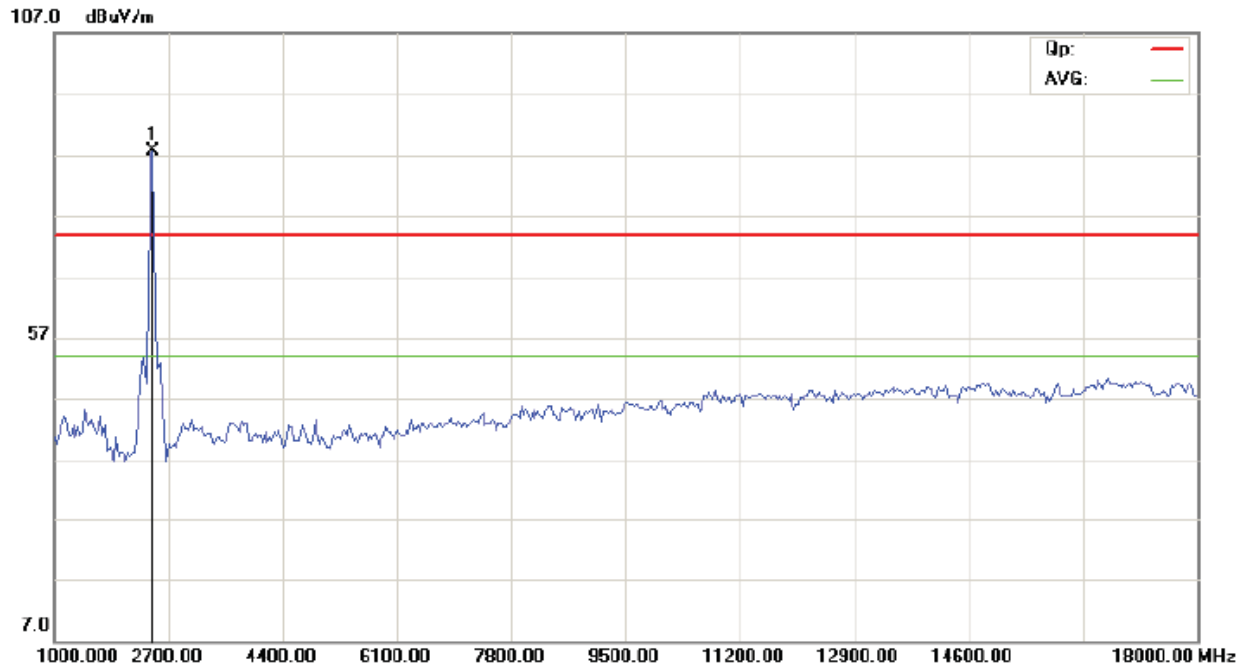
### CH04 at 11n HT40: Vertical



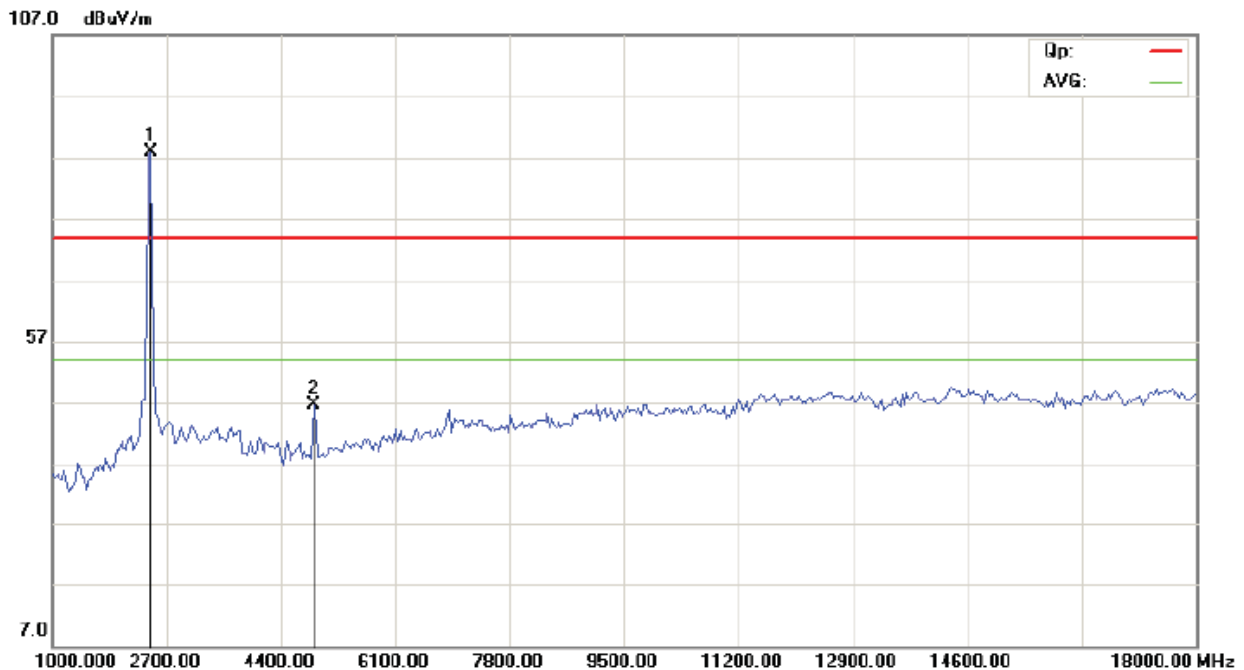
### CH04 at 11n HT40: Horizontal



### CH7 at 11n HT40: Vertical



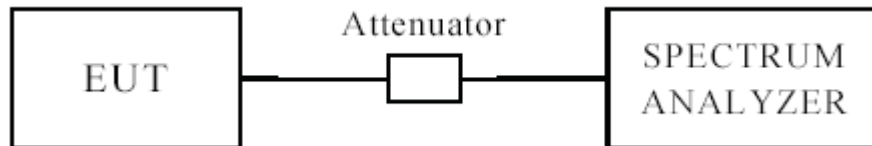
### CH7 at 11n HT40: Horizontal



Note: For radiated Emissions from 18-25GHz, it is only the floor noise.

## 7.0 6dB Bandwidth Measurement

### 7.1 Test Setup



### 7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500kHz

### 7.3 Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 7.4 Test Result



|             |                            |                                    |                         |                        |                |
|-------------|----------------------------|------------------------------------|-------------------------|------------------------|----------------|
| EUT         |                            | MID                                |                         | Model                  | MID727BT-RK326 |
| Mode        |                            | 802.11b                            |                         | Input Voltage          | 120V~          |
| Temperature |                            | 24 deg. C,                         |                         | Humidity               | 56% RH         |
| Channel     | Channel Frequency<br>(MHz) | Data<br>Transfer<br>Rate<br>(Mbps) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) | Pass/ Fail     |
| 1           | 2412                       | 1                                  | 10.08                   | 0.5                    | Pass           |
| 6           | 2437                       | 1                                  | 10.08                   | 0.5                    | Pass           |
| 11          | 2462                       | 1                                  | 10.08                   | 0.5                    | Pass           |
| 1           | 2412                       | 11                                 | 9.48                    | 0.5                    | Pass           |
| 6           | 2437                       | 11                                 | 9.48                    | 0.5                    | Pass           |
| 11          | 2462                       | 11                                 | 9.48                    | 0.5                    | Pass           |

|             |                            |                                    |                         |                        |                |
|-------------|----------------------------|------------------------------------|-------------------------|------------------------|----------------|
| EUT         |                            | MID                                |                         | Model                  | MID727BT-RK326 |
| Mode        |                            | 802.11g                            |                         | Input Voltage          | 120V~          |
| Temperature |                            | 24 deg. C,                         |                         | Humidity               | 56% RH         |
| Channel     | Channel Frequency<br>(MHz) | Data<br>Transfer<br>Rate<br>(Mbps) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) | Pass/ Fail     |
| 1           | 2412                       | 54                                 | 16.56                   | 0.5                    | Pass           |
| 6           | 2437                       | 54                                 | 16.56                   | 0.5                    | Pass           |
| 11          | 2462                       | 54                                 | 16.56                   | 0.5                    | Pass           |



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| EUT         | MID                        |                                    | Model                   | MID727BT-RK326         |            |
|-------------|----------------------------|------------------------------------|-------------------------|------------------------|------------|
| Mode        | 802.11n                    |                                    | Input Voltage           | 120V~                  |            |
| Temperature | 24 deg. C,                 |                                    | Humidity                | 56% RH                 |            |
| Channel     | Channel Frequency<br>(MHz) | Data<br>Transfer<br>Rate<br>(Mbps) | 6 dB Bandwidth<br>(MHz) | Minimum Limit<br>(MHz) | Pass/ Fail |
| 1           | 2412                       | HT20                               | 17.76                   | 0.5                    | Pass       |
| 6           | 2437                       | HT20                               | 17.76                   | 0.5                    | Pass       |
| 11          | 2462                       | HT20                               | 17.76                   | 0.5                    | Pass       |
| 1           | 2422                       | HT40                               | 36.40                   | 0.5                    | Pass       |
| 4           | 2437                       | HT40                               | 36.40                   | 0.5                    | Pass       |
| 7           | 2452                       | HT40                               | 36.40                   | 0.5                    | Pass       |



## 1. 802.11b at 1Mbps of CH01



### DELTA MARKER 2

10.08 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

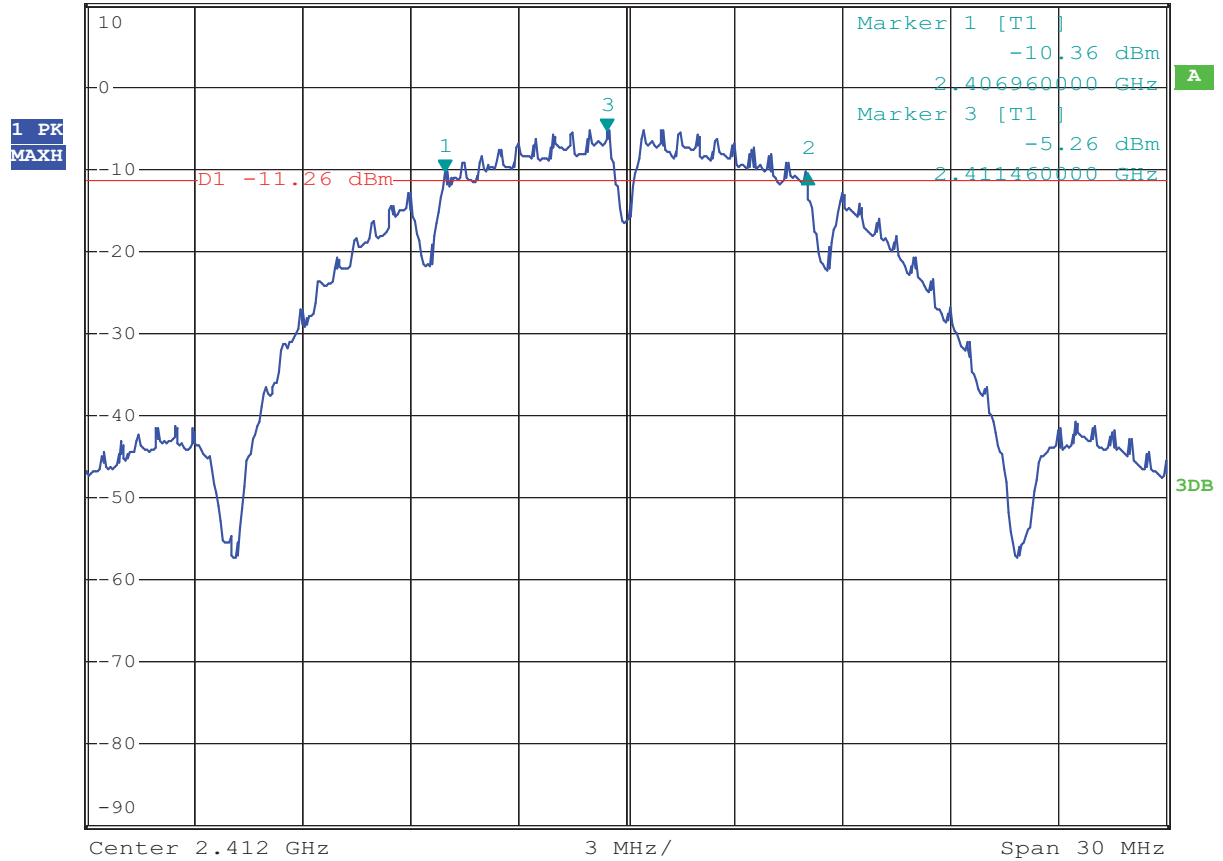
Delta 2 [T1 ]

\* VBW 300 kHz

-0.12 dB

\* SWT 5 ms

10.080000000 MHz



Date: 24.APR.2014 11:17:32

**2. 802.11b at 1Mbps of CH06****DELTA MARKER 2**

10.08 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

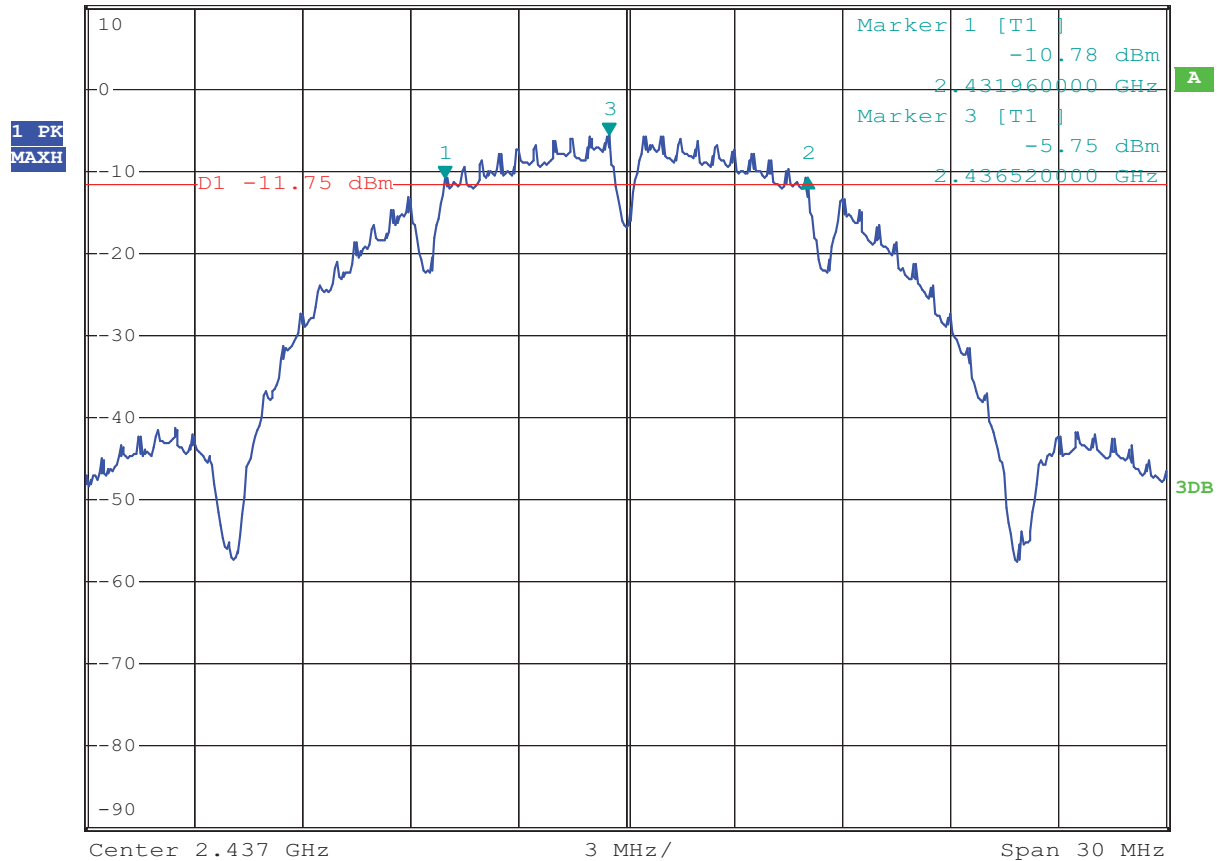
Delta 2 [T1 ]

\* VBW 300 kHz

-0.12 dB

\* SWT 5 ms

10.080000000 MHz



Date: 24.APR.2014 11:30:29



### 3. 802.11b at 1Mbps of CH11



DELTA MARKER 2

10.08 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

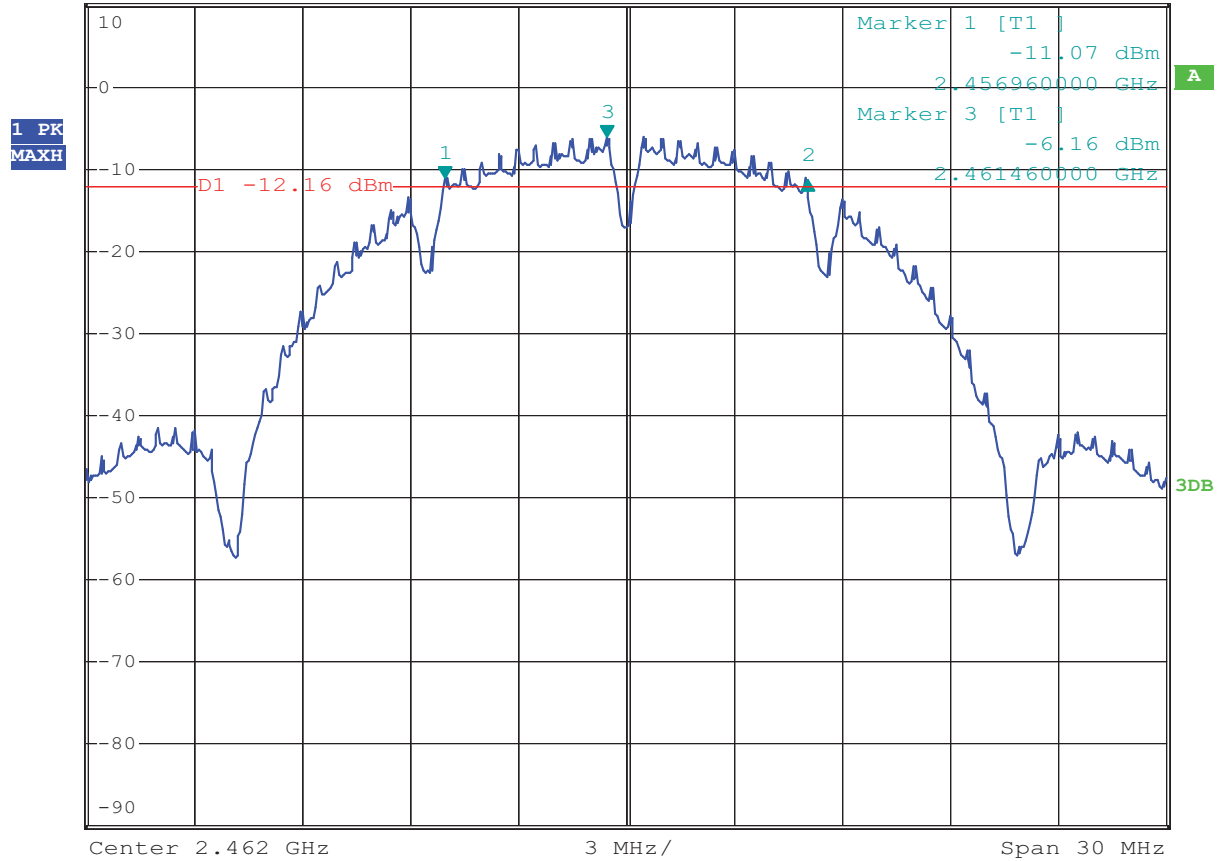
Delta 2 [T1 ]

\* VBW 300 kHz

-0.22 dB

\* SWT 5 ms

10.080000000 MHz



Date: 24.APR.2014 11:32:24



## 4. 802.11b at 11Mbps of CH01



## DELTA MARKER 2

9.48 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

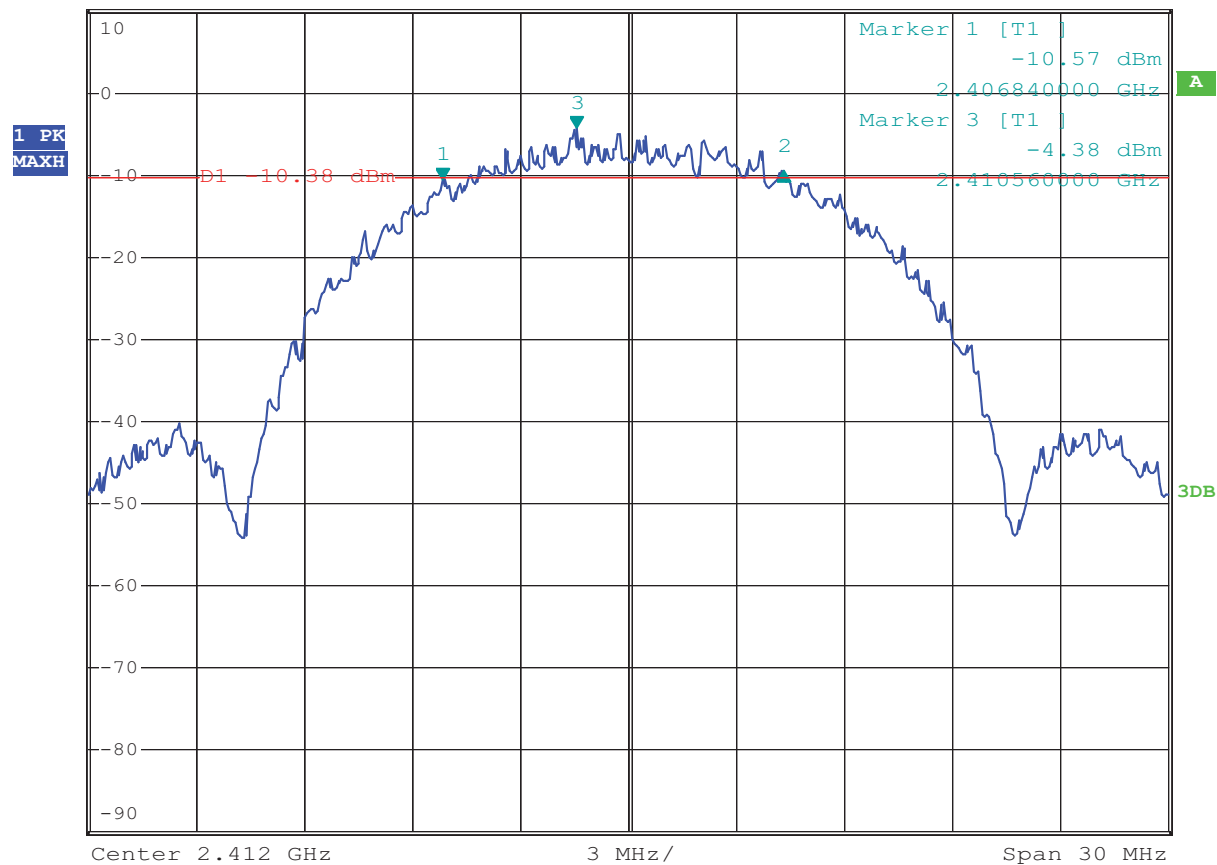
Delta 2 [T1 ]

\* VBW 300 kHz

1.08 dB

\* SWT 5 ms

9.480000000 MHz



Date: 24.APR.2014 11:22:30



## 5. 802.11b at 11Mbps of CH06



## DELTA MARKER 2

9.48 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

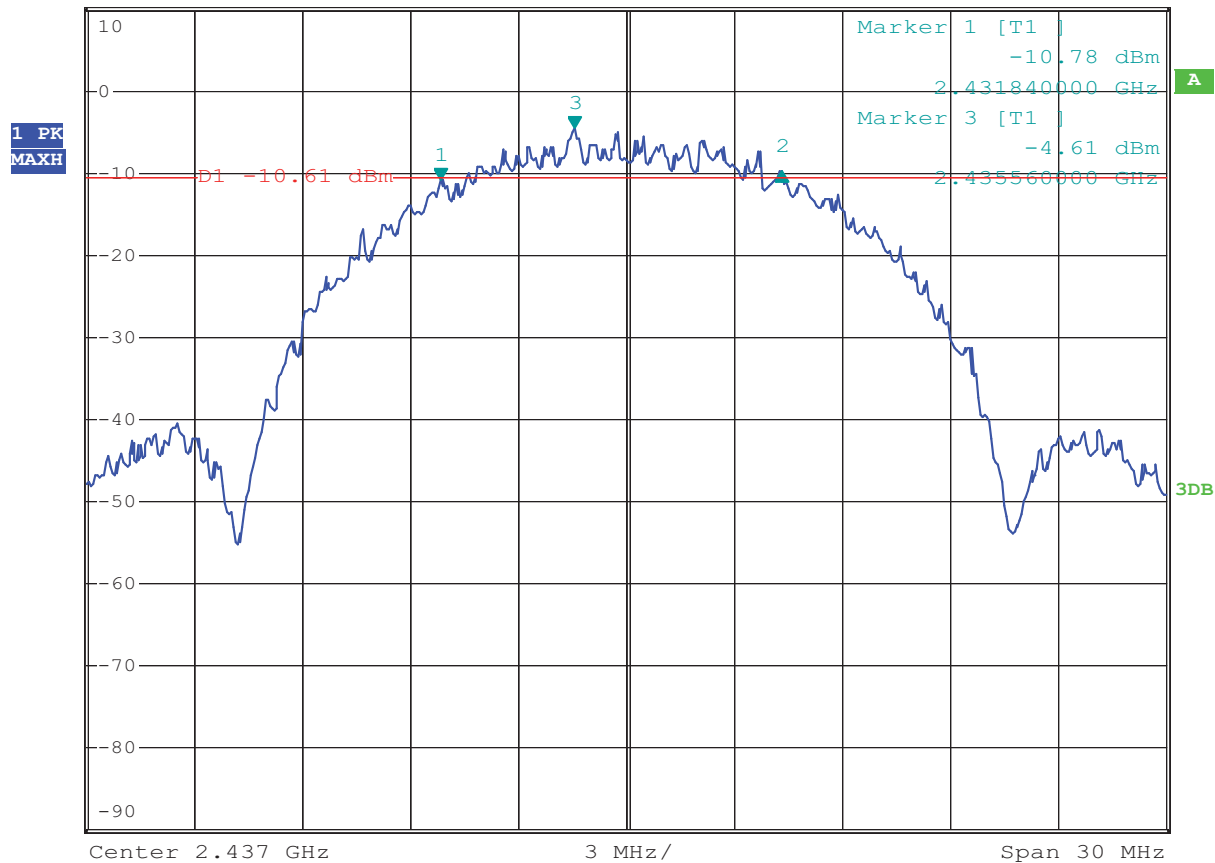
Delta 2 [T1 ]

\* VBW 300 kHz

0.86 dB

\* SWT 5 ms

9.480000000 MHz



Date: 24.APR.2014 11:26:39



## 6. 802.11b at 11Mbps of CH11



### DELTA MARKER 2

9.48 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

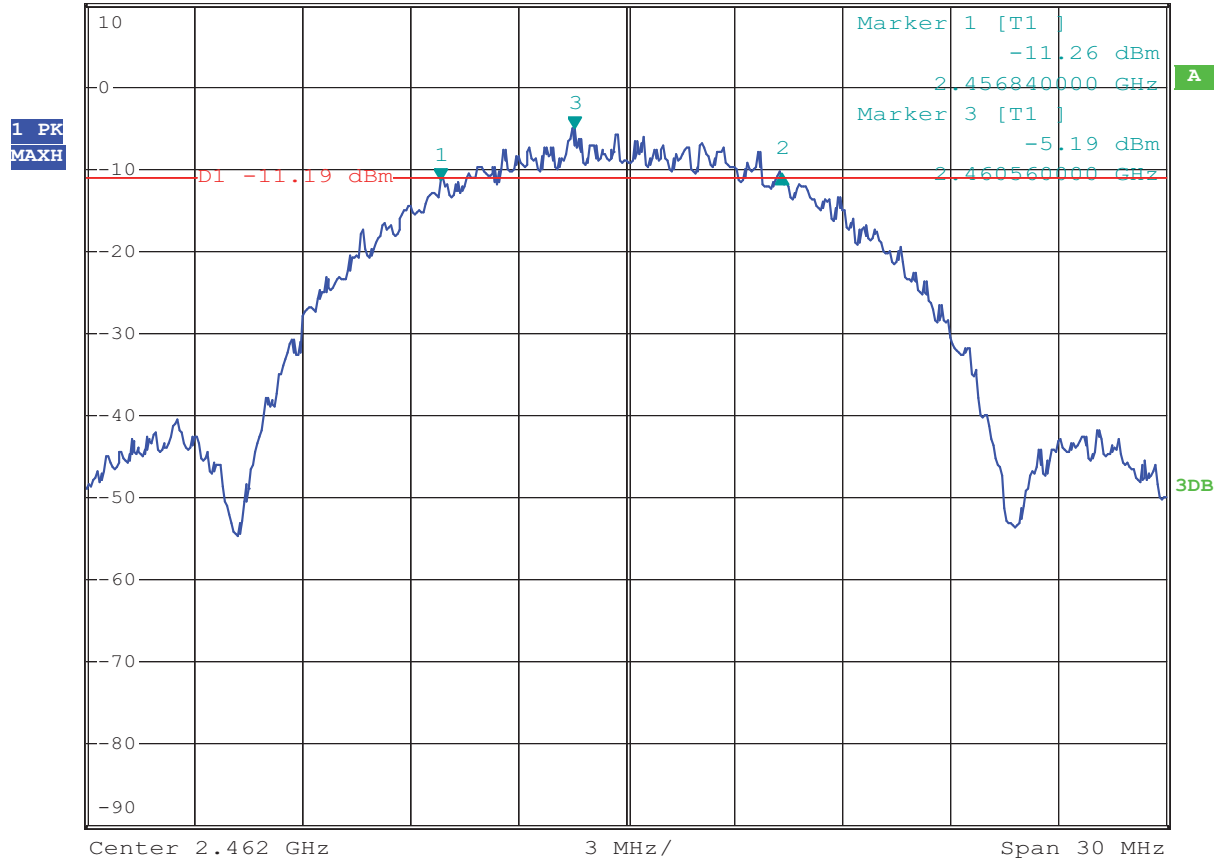
Delta 2 [T1]

\* VBW 300 kHz

0.76 dB

\* SWT 5 ms

9.480000000 MHz



Date: 24.APR.2014 11:36:10



## 7. 802.11g at 54 Mbps of CH01



### DELTA MARKER 2

16.56 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

Delta 2 [T1 ]

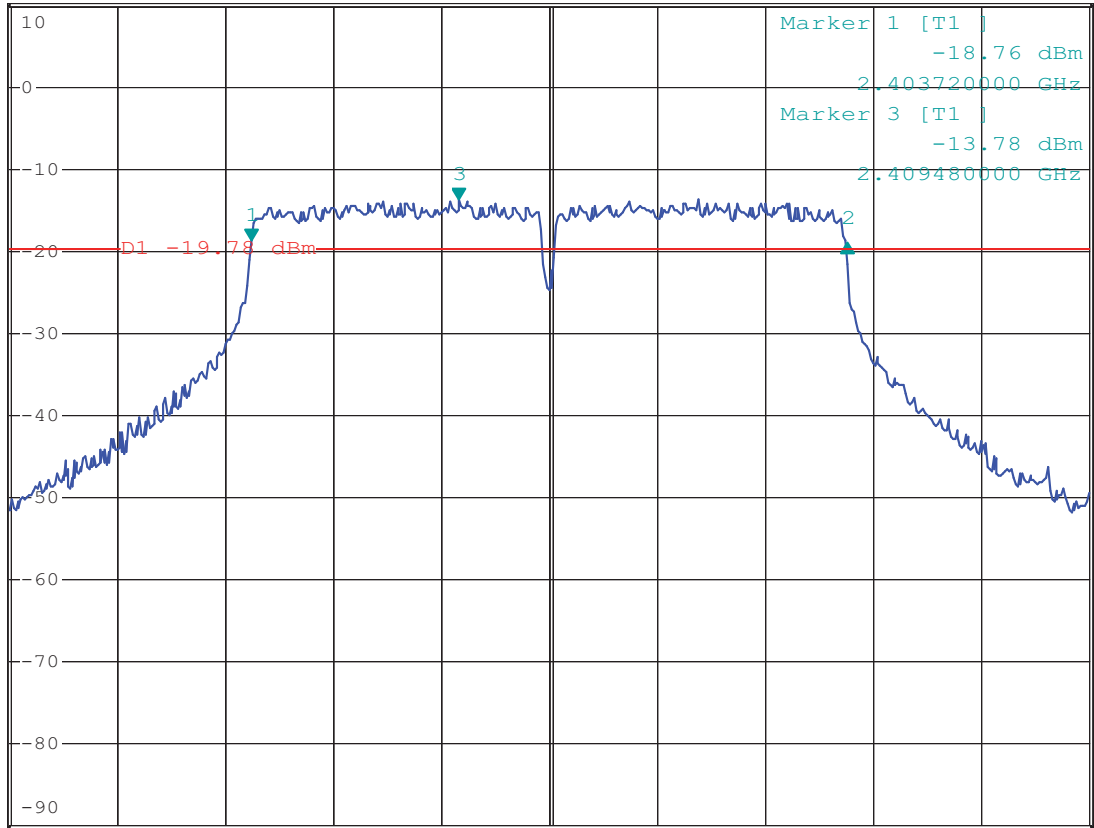
\* VBW 300 kHz

-0.31 dB

\* SWT 5 ms

16.560000000 MHz

1 PK  
MAXH



Center 2.412 GHz

3 MHz/

Span 30 MHz

Date: 24.APR.2014 11:20:40



## 8. 802.11g at 54 Mbps of CH06



### DELTA MARKER 2

16.56 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

Delta 2 [T1 ]

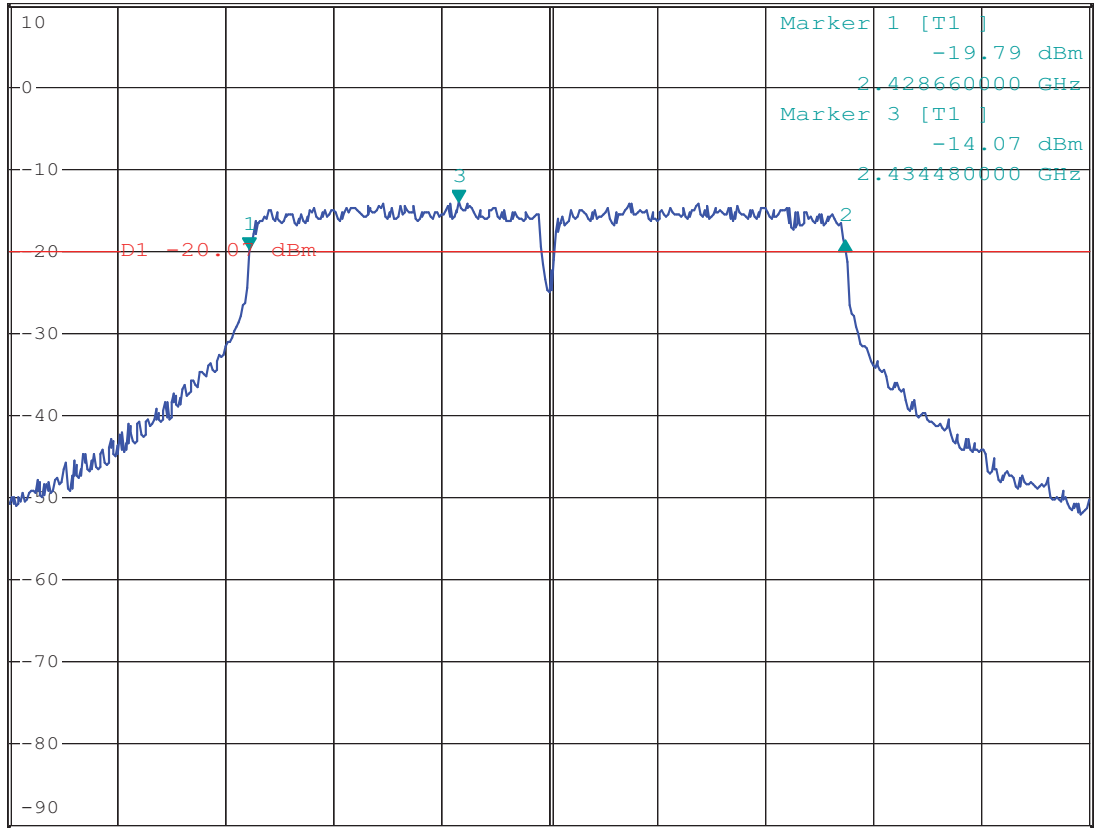
\* VBW 300 kHz

0.95 dB

\* SWT 5 ms

16.560000000 MHz

1 PK  
MAXH



Center 2.437 GHz

3 MHz/

Span 30 MHz

Date: 24.APR.2014 11:29:09



## 9. 802.11g at 54 Mbps of CH11



## DELTA MARKER 2

16.56 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

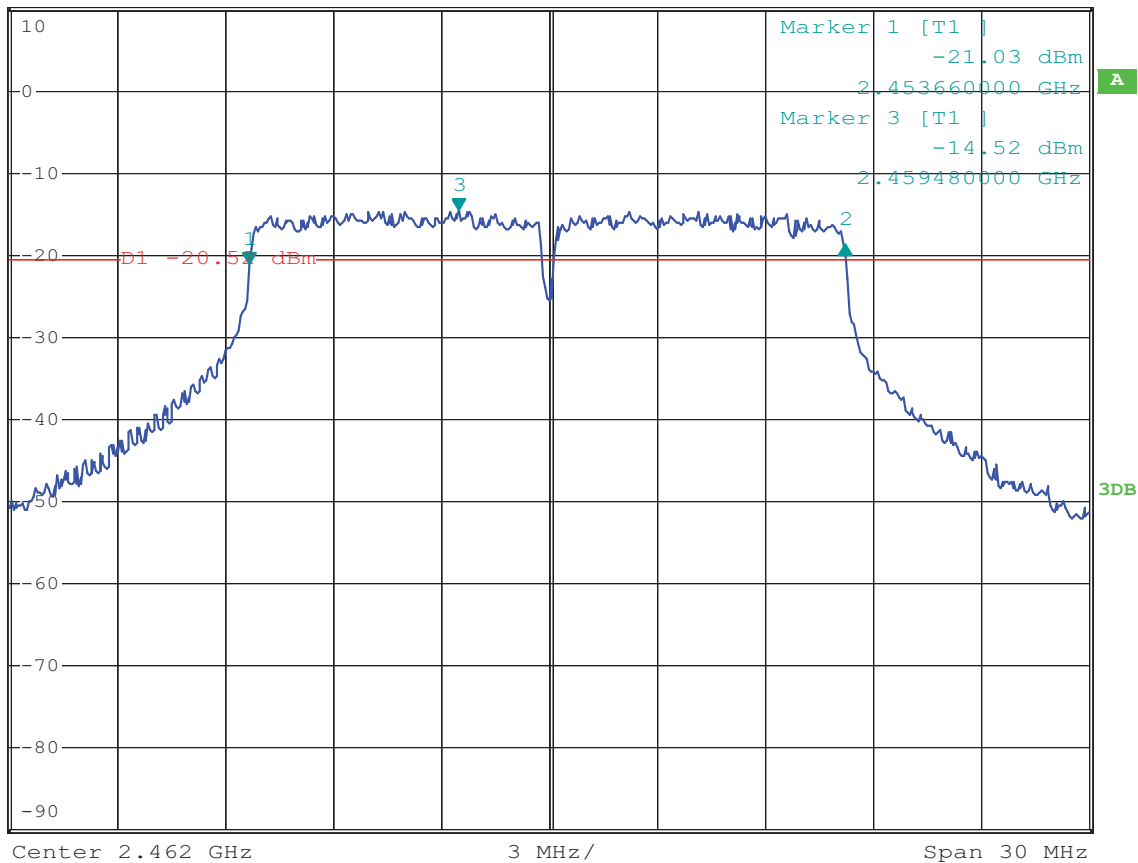
Delta 2 [T1 ]

\* VBW 300 kHz

2.23 dB

\* SWT 5 ms

16.560000000 MHz

1 PK  
MAXH

Date: 24.APR.2014 11:34:29



## 10. 802.11n at HT20 of CH01



### DELTA MARKER 2

17.76 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

Delta 2 [T1 ]

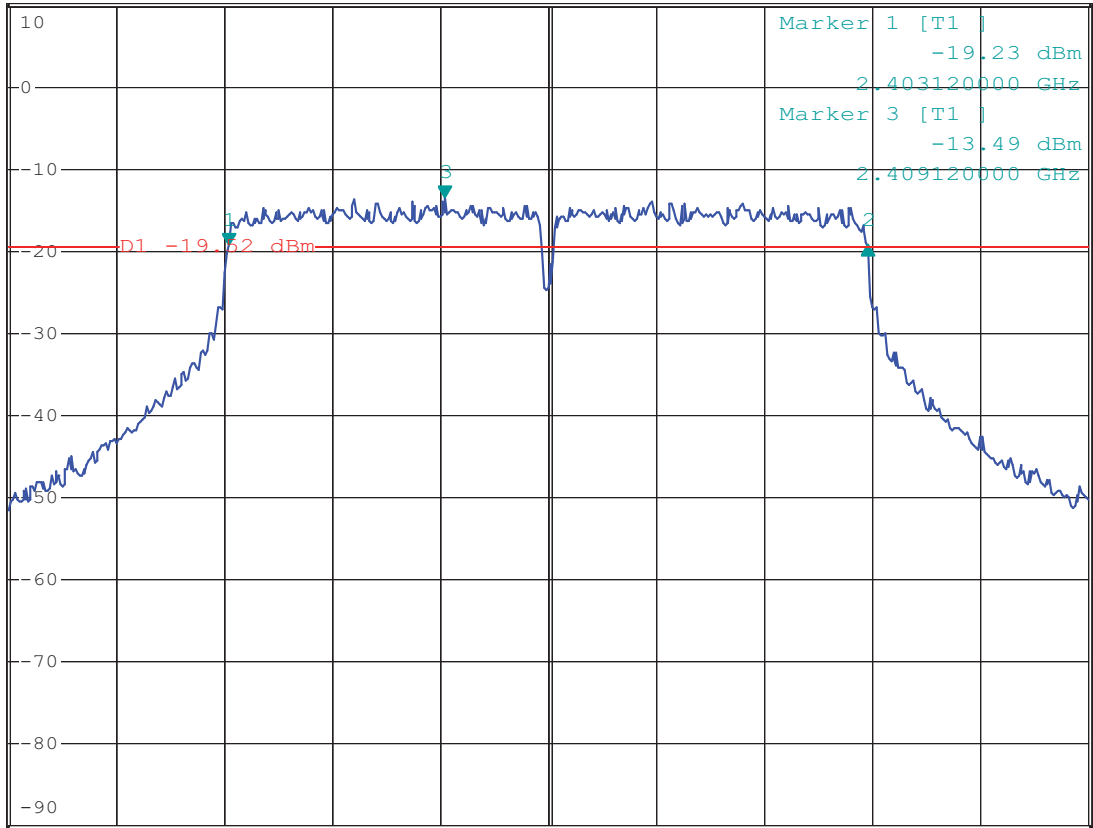
\* VBW 300 kHz

-0.01 dB

\* SWT 5 ms

17.760000000 MHz

1 PK  
MAXH



Center 2.412 GHz

3 MHz/

Span 30 MHz

Date: 24.APR.2014 11:24:20



## 11. 802.11n at HT20 of CH06



### DELTA MARKER 2

17.76 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

Delta 2 [T1 ]

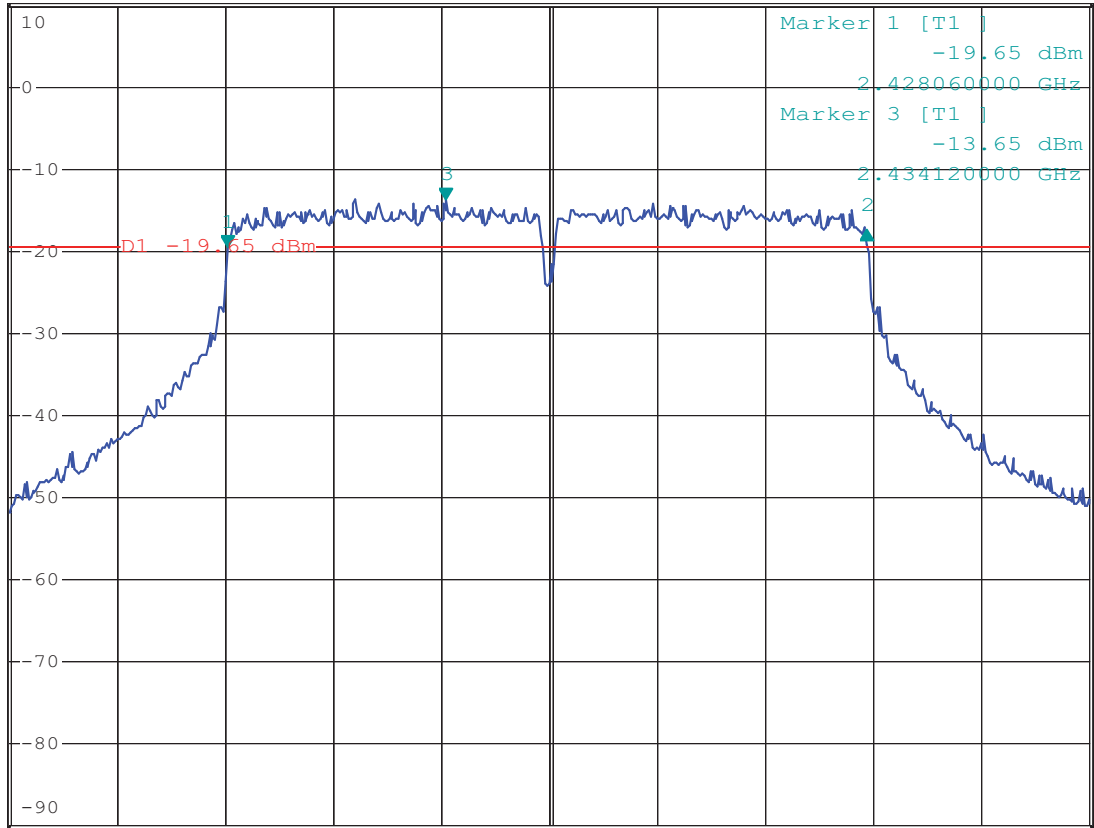
\* VBW 300 kHz

2.20 dB

\* SWT 5 ms

17.760000000 MHz

1 PK  
MAXH



Center 2.437 GHz

3 MHz/

Span 30 MHz

Date: 24.APR.2014 11:25:36



## 12. 802.11n at HT20 of CH11



## DELTA MARKER 2

17.76 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

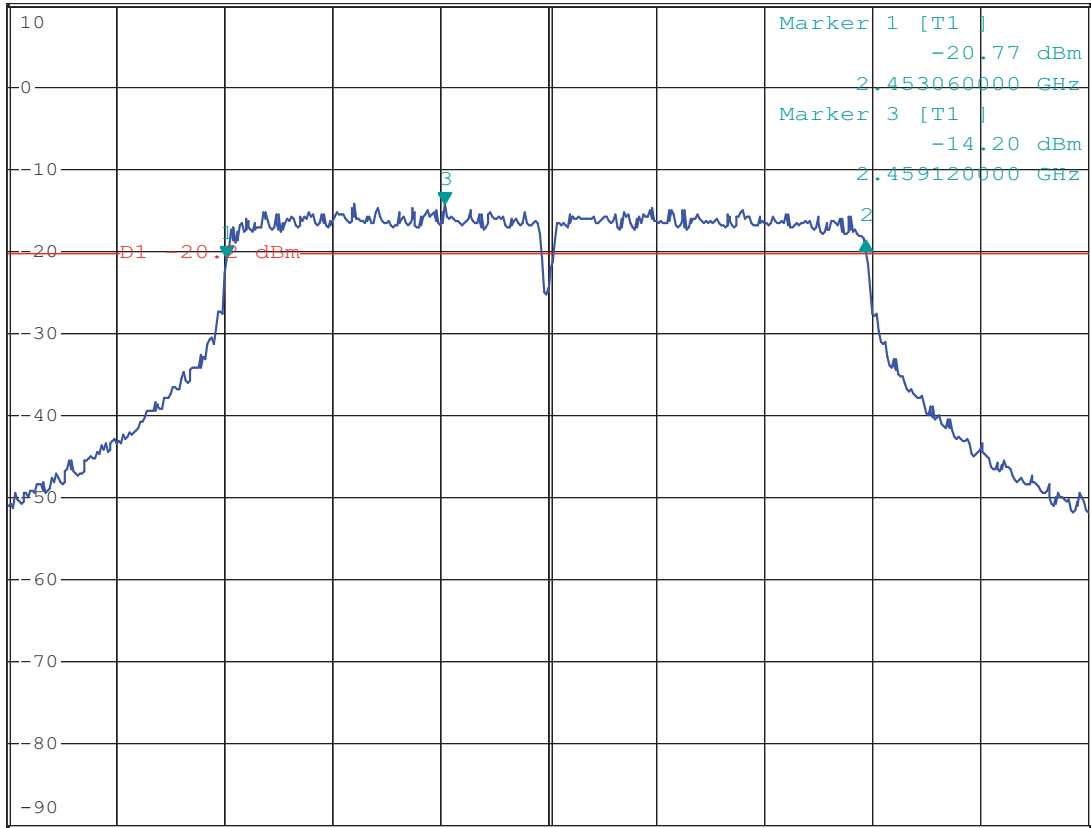
Delta 2 [T1 ]

\* VBW 300 kHz

1.94 dB

\* SWT 5 ms

17.760000000 MHz

1 PK  
MAXH

Center 2.462 GHz

3 MHz/

Span 30 MHz

Date: 24.APR.2014 11:38:19



## 13. 802.11n at HT40 of CH01



## DELTA MARKER 2

36.4 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

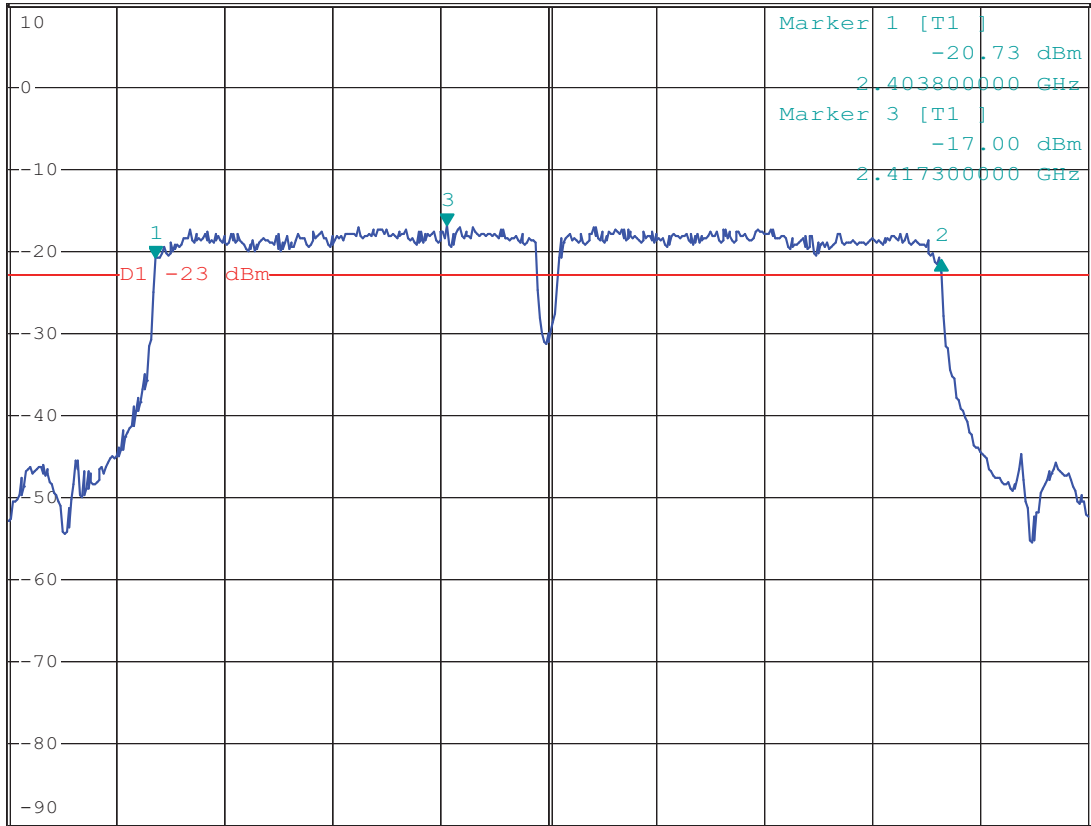
Delta 2 [T1 ]

\* VBW 300 kHz

-0.25 dB

\* SWT 5 ms

36.40000000 MHz

1 PK  
MAXH

Center 2.422 GHz

5 MHz/

Span 50 MHz

Date: 24.APR.2014 11:40:45



# 14. 802.11n at HT40 of CH04



## DELTA MARKER 2

36.4 MHz

Ref 10 dBm

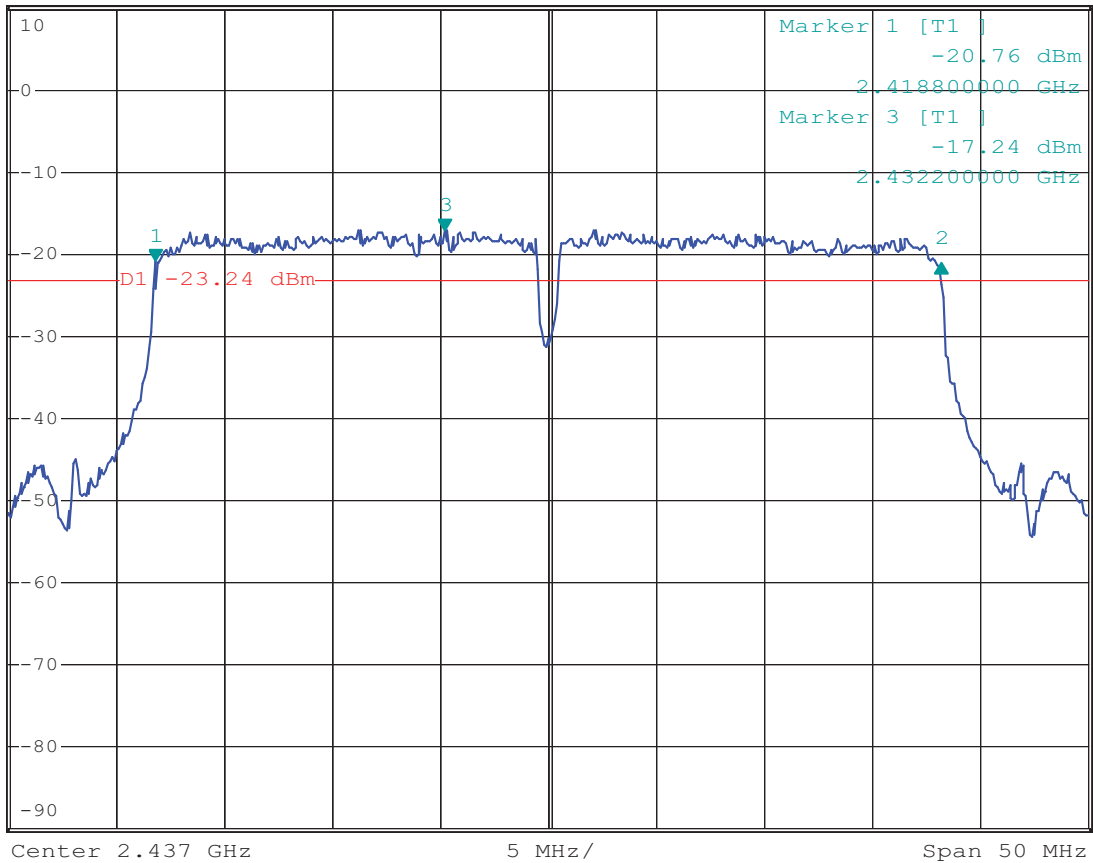
\* Att 20 dB

\* RBW 100 kHz Delta 2 [T1 ]

\* VBW 300 kHz -0.36 dB

\* SWT 5 ms 36.40000000 MHz

1 PK  
MAXH



Date: 24.APR.2014 11:42:40



## 15. 802.11n at HT40 of CH07



## DELTA MARKER 2

36.4 MHz

Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz

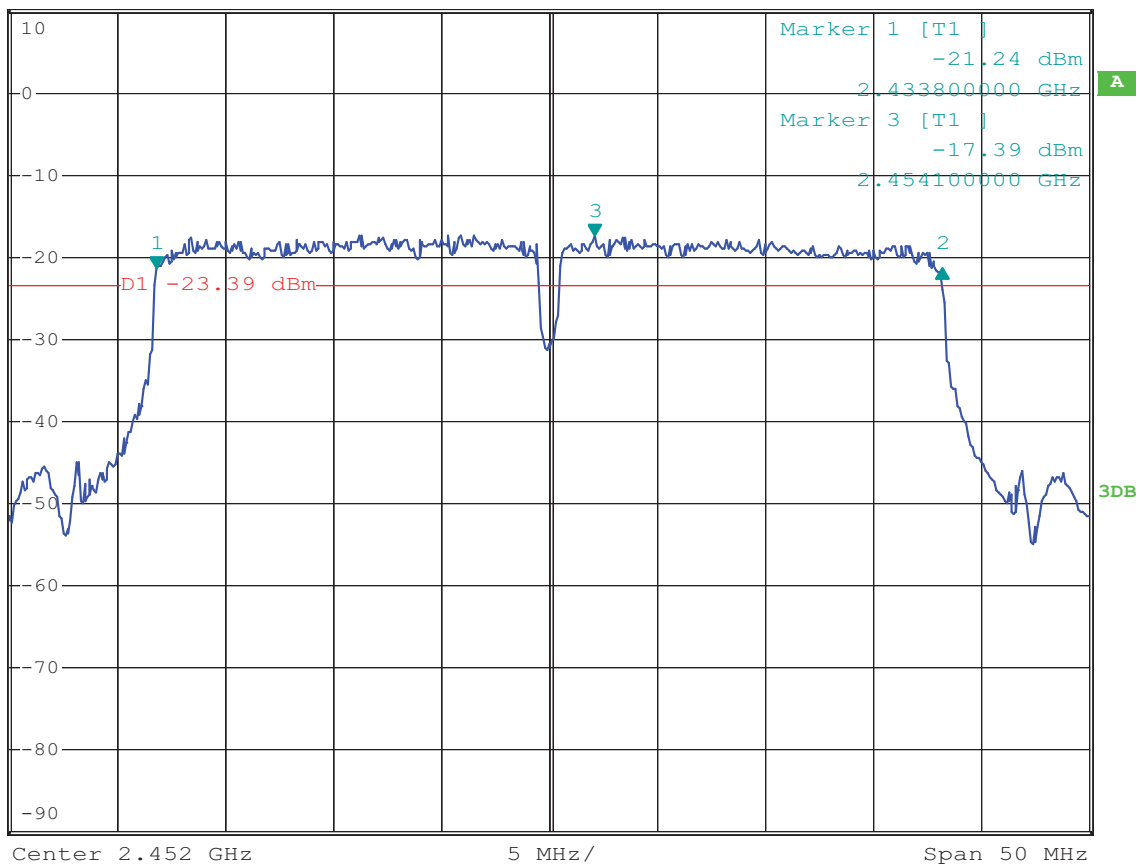
Delta 2 [T1 ]

\* VBW 300 kHz

-0.22 dB

\* SWT 5 ms

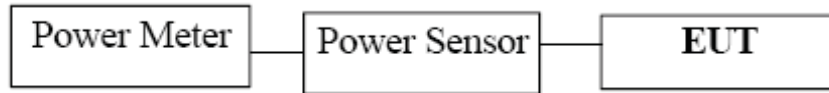
36.40000000 MHz

1 PK  
MAXH

Date: 24.APR.2014 11:45:18

## 8. Maximum Peak Output Power

### 8.1 Test Setup



### 8.2 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

### 8.3 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector ( conducted measurement ) while EUT was operating in transmit mode at the appropriate centre frequency.

**Note: the peak power was measured**

#### 8.4 Test Results

| EUT         | MID                     | Model                   | MID727BT-RK326         |            |
|-------------|-------------------------|-------------------------|------------------------|------------|
| Mode        | 802.11b 11Mbps          | Input Voltage           | 120V~                  |            |
| Temperature | 24 deg. C,              | Humidity                | 56% RH                 |            |
| Channel     | Channel Frequency (MHz) | Peak Power Output (dBm) | Peak Power Limit (dBm) | Pass/ Fail |
| 1           | 2412                    | 9.47                    | 30                     | Pass       |
| 6           | 2437                    | 9.28                    | 30                     | Pass       |
| 11          | 2462                    | 8.86                    | 30                     | Pass       |

Note: 1. At final test to get the worst-case emission at 11Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

$$\text{Peak Power Output} = \text{Peak Power Reading} + \text{Cable loss} + \text{Attenuator}$$

| EUT         | MID                     | Model                   | MID727BT-RK326         |            |
|-------------|-------------------------|-------------------------|------------------------|------------|
| Mode        | 802.11g                 | Input Voltage           | 120V~                  |            |
| Temperature | 24 deg. C,              | Humidity                | 56% RH                 |            |
| Channel     | Channel Frequency (MHz) | Peak Power Output (dBm) | Peak Power Limit (dBm) | Pass/ Fail |
| 1           | 2412                    | 8.24                    | 30                     | Pass       |
| 6           | 2437                    | 8.03                    | 30                     | Pass       |
| 11          | 2462                    | 7.65                    | 30                     | Pass       |

Note: 1. At final test to get the worst-case emission at 54Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

$$\text{Peak Power Output} = \text{Peak Power Reading} + \text{Cable loss} + \text{Attenuator}$$



|             |                            |                            |                              |                |  |
|-------------|----------------------------|----------------------------|------------------------------|----------------|--|
| EUT         | MID                        |                            | Model                        | MID727BT-RK326 |  |
| Mode        | 802.11n HT20               |                            | Input Voltage                | 120V~          |  |
| Temperature | 24 deg. C,                 |                            | Humidity                     | 56% RH         |  |
| Channel     | Channel Frequency<br>(MHz) | Peak Power Output<br>(dBm) | Peak Power<br>Limit<br>(dBm) | Pass/ Fail     |  |
| 1           | 2412                       | 8.49                       | 30                           | Pass           |  |
| 6           | 2437                       | 8.31                       | 30                           | Pass           |  |
| 11          | 2462                       | 7.90                       | 30                           | Pass           |  |

Note: 1. At final test to get the worst-case emission at 65Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

|             |                            |                            |                              |                |  |
|-------------|----------------------------|----------------------------|------------------------------|----------------|--|
| EUT         | MID                        |                            | Model                        | MID727BT-RK326 |  |
| Mode        | 802.11n HT40               |                            | Input Voltage                | 120V~          |  |
| Temperature | 24 deg. C,                 |                            | Humidity                     | 56% RH         |  |
| Channel     | Channel Frequency<br>(MHz) | Peak Power Output<br>(dBm) | Peak Power<br>Limit<br>(dBm) | Pass/ Fail     |  |
| 1           | 2422                       | 8.47                       | 30                           | Pass           |  |
| 5           | 2437                       | 8.37                       | 30                           | Pass           |  |
| 7           | 2452                       | 8.14                       | 30                           | Pass           |  |

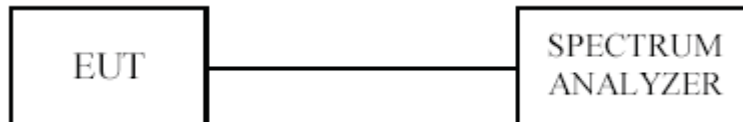
Note: 1. At final test to get the worst-case emission at 65Mbps for CH01, CH06 and CH11

2. The result basic equation calculation as follow:

Peak Power Output = Peak Power Reading + Cable loss + Attenuator

## 9. Power Spectral Density Measurement

### 9.1 Test Setup



### 9.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

### 9.3 Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 10 kHz.
3. Set the VBW  $\geq$  30 kHz.
4. Set the span to 1.5 times the DTS channel bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
11. The resulting peak PSD level must be  $\leq$  8 dBm.

**9.4 Test Result**

|             |                            |                               |                        |            |
|-------------|----------------------------|-------------------------------|------------------------|------------|
| EUT         | MID                        | Model                         | MID727BT-RK326         |            |
| Mode        | 802.11b 1Mbps              | Input Voltage                 | 120V~                  |            |
| Temperature | 24 deg. C,                 | Humidity                      | 56% RH                 |            |
| Channel     | Channel Frequency<br>(MHz) | Final RF Power<br>Level (dBm) | Maximum Limit<br>(dBm) | Pass/ Fail |
| 1Mbps       |                            |                               |                        |            |
| 1           | 2412                       | -16.14                        | 8                      | Pass       |
| 6           | 2437                       | -16.24                        | 8                      | Pass       |
| 11          | 2462                       | -16.62                        | 8                      | Pass       |

**Note:** At final test to get the worst-case emission at 1Mbps for CH01, CH06 and CH11

|             |                            |                               |                        |            |
|-------------|----------------------------|-------------------------------|------------------------|------------|
| EUT         | MID                        | Model                         | MID727BT-RK326         |            |
| Mode        | 802.11b 11Mbps             | Input Voltage                 | 120V~                  |            |
| Temperature | 24 deg. C,                 | Humidity                      | 56% RH                 |            |
| Channel     | Channel Frequency<br>(MHz) | Final RF Power<br>Level (dBm) | Maximum Limit<br>(dBm) | Pass/ Fail |
| 11Mbps      |                            |                               |                        |            |
| 1           | 2412                       | -14.46                        | 8                      | Pass       |
| 6           | 2437                       | -14.51                        | 8                      | Pass       |
| 11          | 2462                       | -14.89                        | 8                      | Pass       |

**Note:** At final test to get the worst-case emission at 11Mbps for CH01, CH06 and CH11



|             |                            |                               |                        |            |
|-------------|----------------------------|-------------------------------|------------------------|------------|
| EUT         | MID                        | Model                         | MID727BT-RK326         |            |
| Mode        | 802.11g                    | Input Voltage                 | 120V~                  |            |
| Temperature | 24 deg. C,                 | Humidity                      | 56% RH                 |            |
| Channel     | Channel Frequency<br>(MHz) | Final RF Power<br>Level (dBm) | Maximum Limit<br>(dBm) | Pass/ Fail |
| 54Mbps      |                            |                               |                        |            |
| 1           | 2412                       | -22.08                        | 8                      | Pass       |
| 6           | 2437                       | -22.25                        | 8                      | Pass       |
| 11          | 2462                       | -22.68                        | 8                      | Pass       |

**Note:** At final test to get the worst-case emission at 54Mbps for CH01, CH06 and CH11

|                 |                            |                               |                        |            |
|-----------------|----------------------------|-------------------------------|------------------------|------------|
| EUT             | MID                        | Model                         | MID727BT-RK326         |            |
| Mode            | 802.11n HT20               | Input Voltage                 | 120V~                  |            |
| Temperature     | 24 deg. C,                 | Humidity                      | 56% RH                 |            |
| Channel         | Channel Frequency<br>(MHz) | Final RF Power<br>Level (dBm) | Maximum Limit<br>(dBm) | Pass/ Fail |
| 11n HT20 65Mbps |                            |                               |                        |            |
| 1               | 2412                       | -21.07                        | 8                      | Pass       |
| 6               | 2437                       | -21.60                        | 8                      | Pass       |
| 11              | 2462                       | -22.10                        | 8                      | Pass       |

**Note:** At final test to get the worst-case emission at 65M for CH01, CH06 and CH11



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|                 |                            |                               |                        |            |
|-----------------|----------------------------|-------------------------------|------------------------|------------|
| EUT             | MID                        | Model                         | MID727BT-RK326         |            |
| Mode            | 802.11n HT40               | Input Voltage                 | 120V~                  |            |
| Temperature     | 24 deg. C,                 | Humidity                      | 56% RH                 |            |
| Channel         | Channel Frequency<br>(MHz) | Final RF Power<br>Level (dBm) | Maximum Limit<br>(dBm) | Pass/ Fail |
| 11n HT40 65Mbps |                            |                               |                        |            |
| 1               | 2422                       | -24.78                        | 8                      | Pass       |
| 5               | 2437                       | -23.05                        | 8                      | Pass       |
| 7               | 2452                       | -24.57                        | 8                      | Pass       |

**Note:** At final test to get the worst-case emission at 65Mfor CH01, CH04 and CH07



## 9.5 Photo of Power Spectral Density Measurement

### 1. 802.11b at 1Mbps of CH01



#### MARKER 1

2.41266528 GHz

Ref 10 dBm

\*Att 20 dB

\*RBW 10 kHz

\*VBW 30 kHz

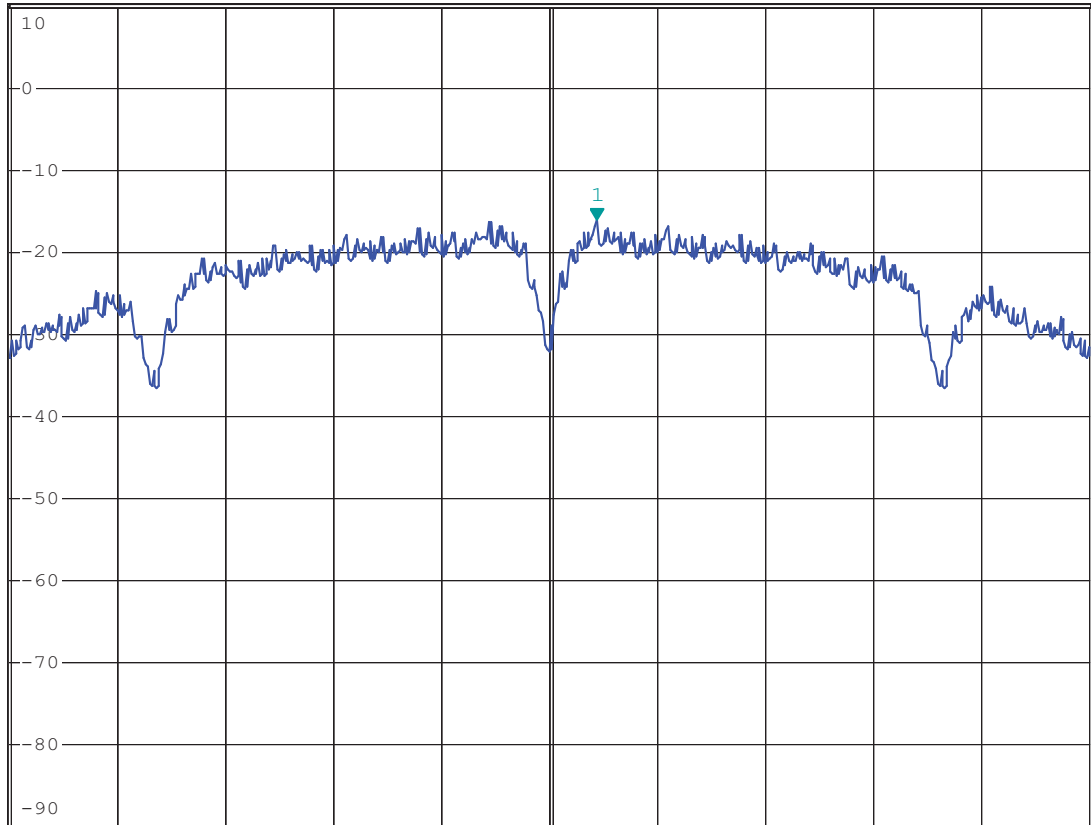
\*SWT 155 ms

Marker 1 [T1 ]

-16.14 dBm

2.412665280 GHz

1 PK  
MAXH



Center 2.412 GHz

1.512 MHz/

Span 15.12 MHz

Date: 24.APR.2014 12:31:00



## 2. 802.11b at 1Mbps of CH06



### MARKER 1

2.43766528 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

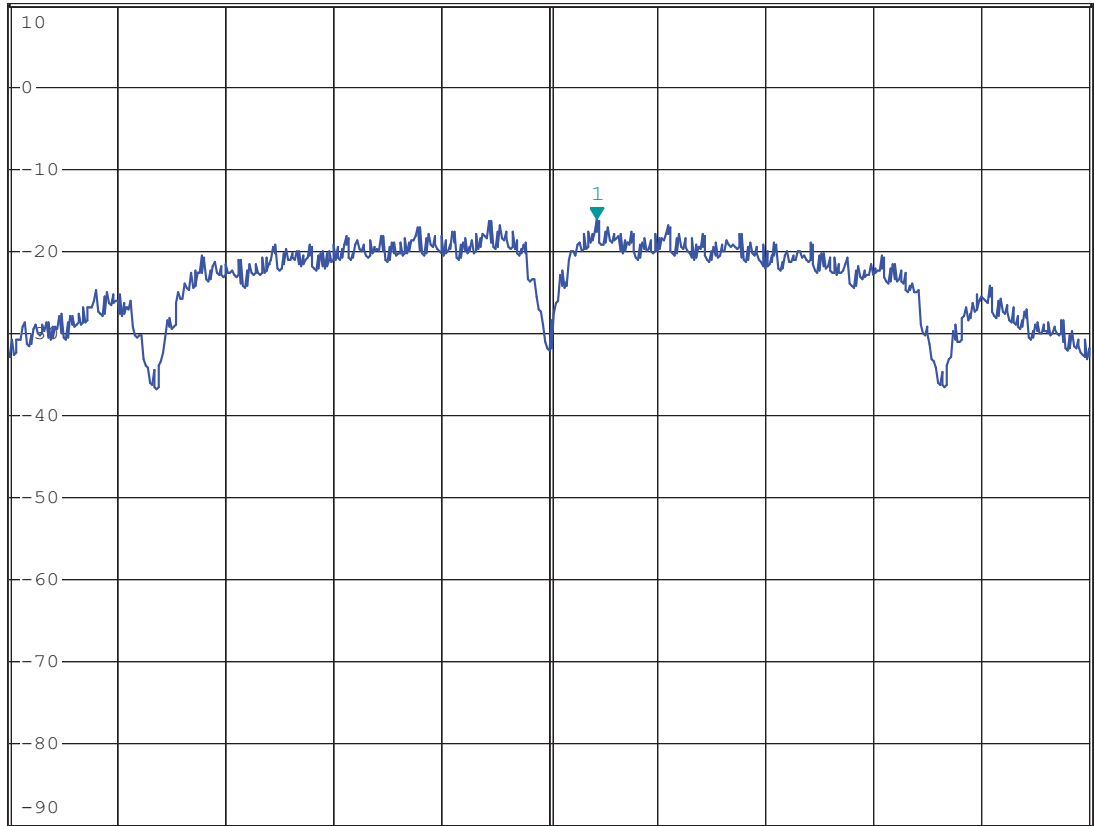
\* SWT 155 ms

Marker 1 [T1 ]

-16.24 dBm

2.437665280 GHz

1 PK  
MAXH



Center 2.437 GHz

1.512 MHz/

Span 15.12 MHz

Date: 24.APR.2014 12:32:06



### 3. 802.11b at 1Mbps of CH11



MARKER 1

2.46266528 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1]

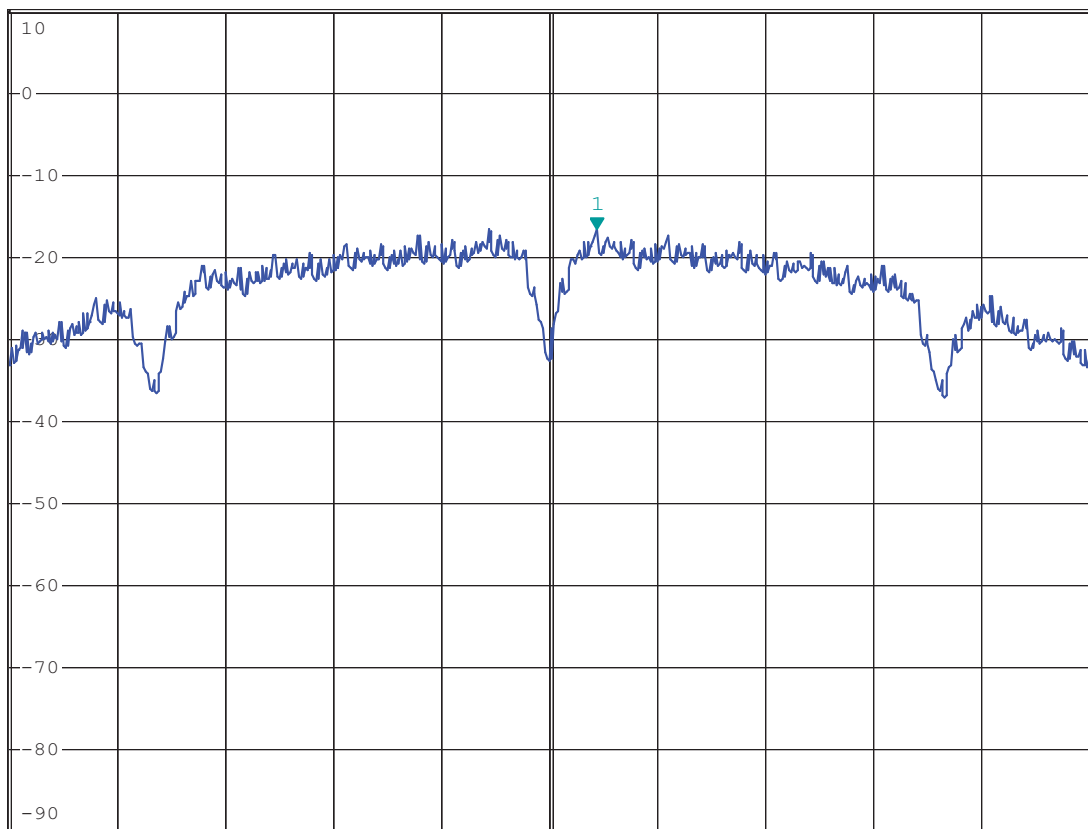
\* VBW 30 kHz

-16.62 dBm

\* SWT 155 ms

2.462665280 GHz

1 PK  
MAXH



Center 2.462 GHz

1.512 MHz/

Span 15.12 MHz

Date: 24.APR.2014 12:32:41



#### 4. 802.11b at 11Mbps of CH01



##### MARKER 1

2.41052112 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

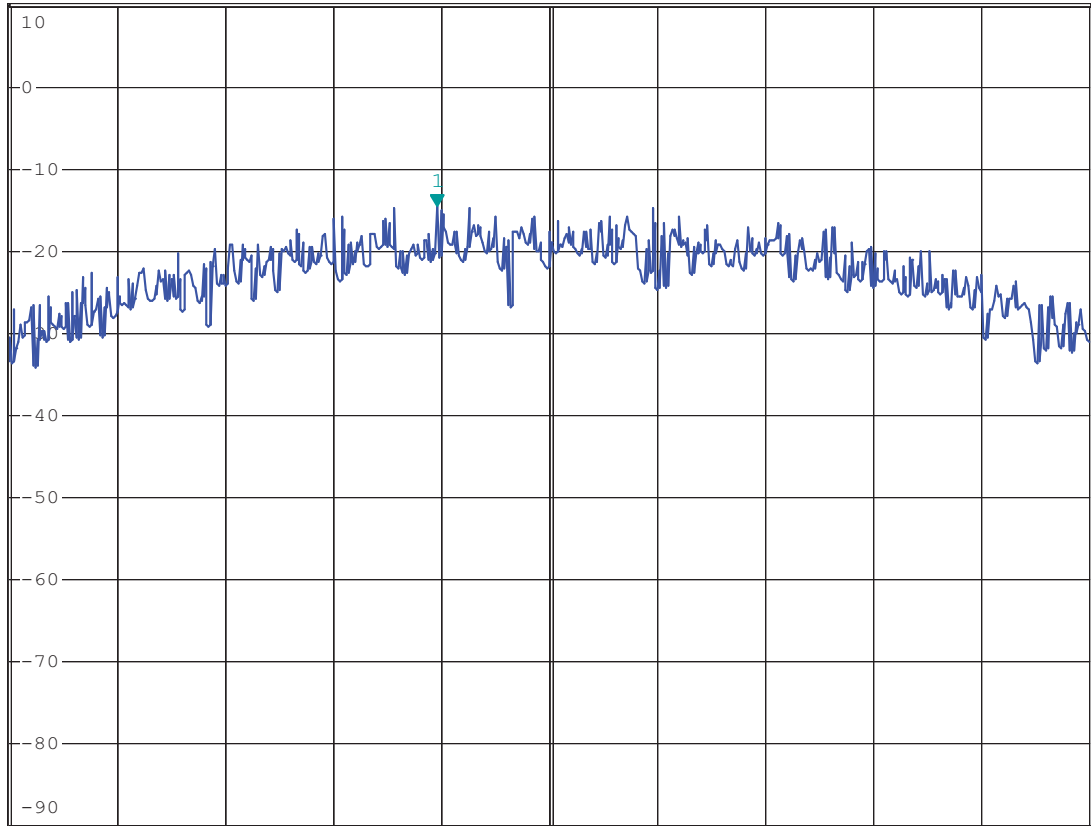
\* SWT 145 ms

Marker 1 [T1 ]

-14.46 dBm

2.410521120 GHz

1 PK  
MAXH



Center 2.412 GHz

1.422 MHz/

Span 14.22 MHz

Date: 24.APR.2014 12:37:05



5. 802.11b at 11Mbps of CH06



MARKER 1

2.43552112 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1 ]

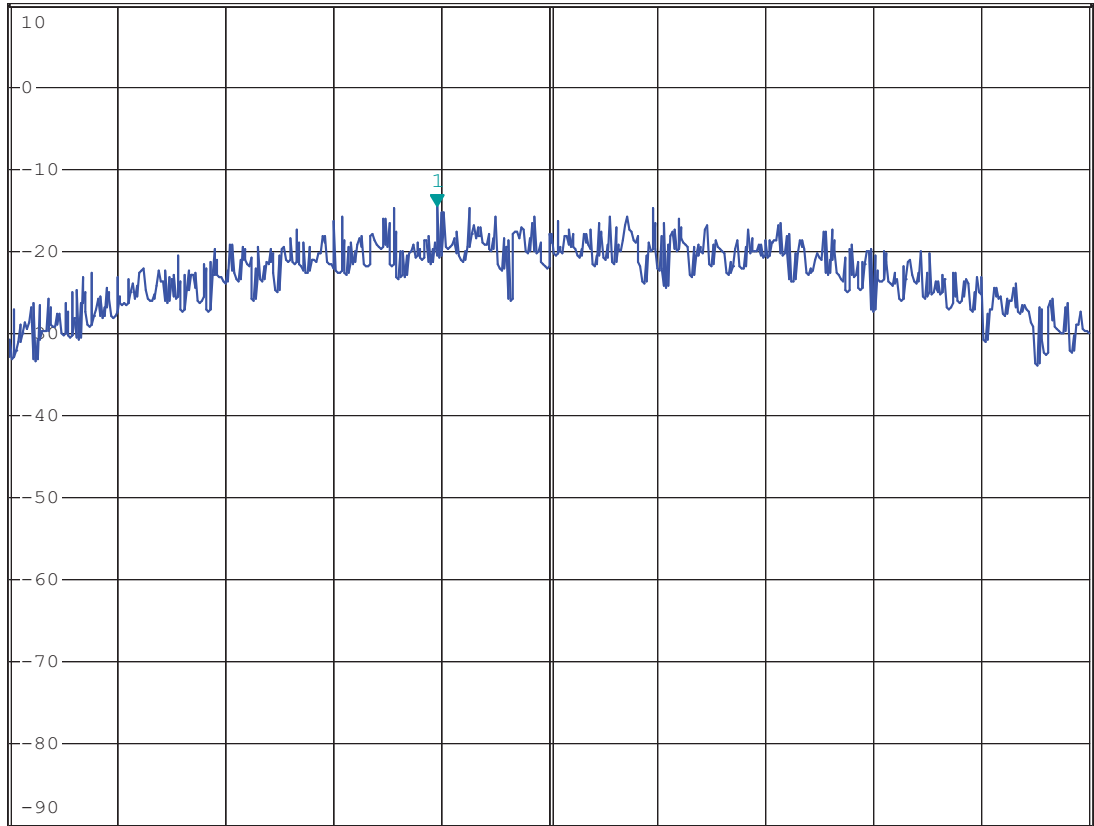
\* VBW 30 kHz

-14.51 dBm

\* SWT 145 ms

2.435521120 GHz

1 PK  
MAXH



Center 2.437 GHz

1.422 MHz/

Span 14.22 MHz

Date: 24.APR.2014 12:37:41



## 6. 802.11b at 11Mbps of CH11



### MARKER 1

2.46052112 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

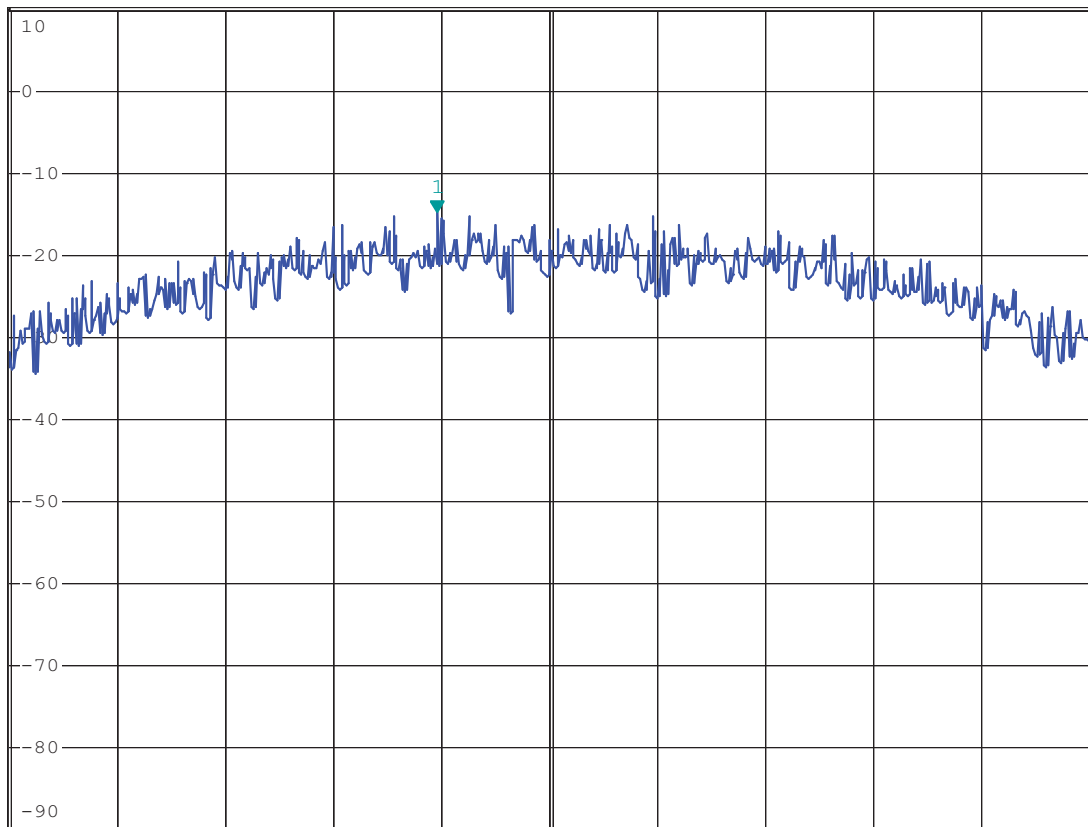
\* SWT 145 ms

Marker 1 [T1]

-14.89 dBm

2.460521120 GHz

1 PK  
MAXH



Center 2.462 GHz

1.422 MHz/

Span 14.22 MHz

Date: 24.APR.2014 12:38:14



## 7. 802.11g at 54Mbps of CH1



### MARKER 1

2.41766352 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

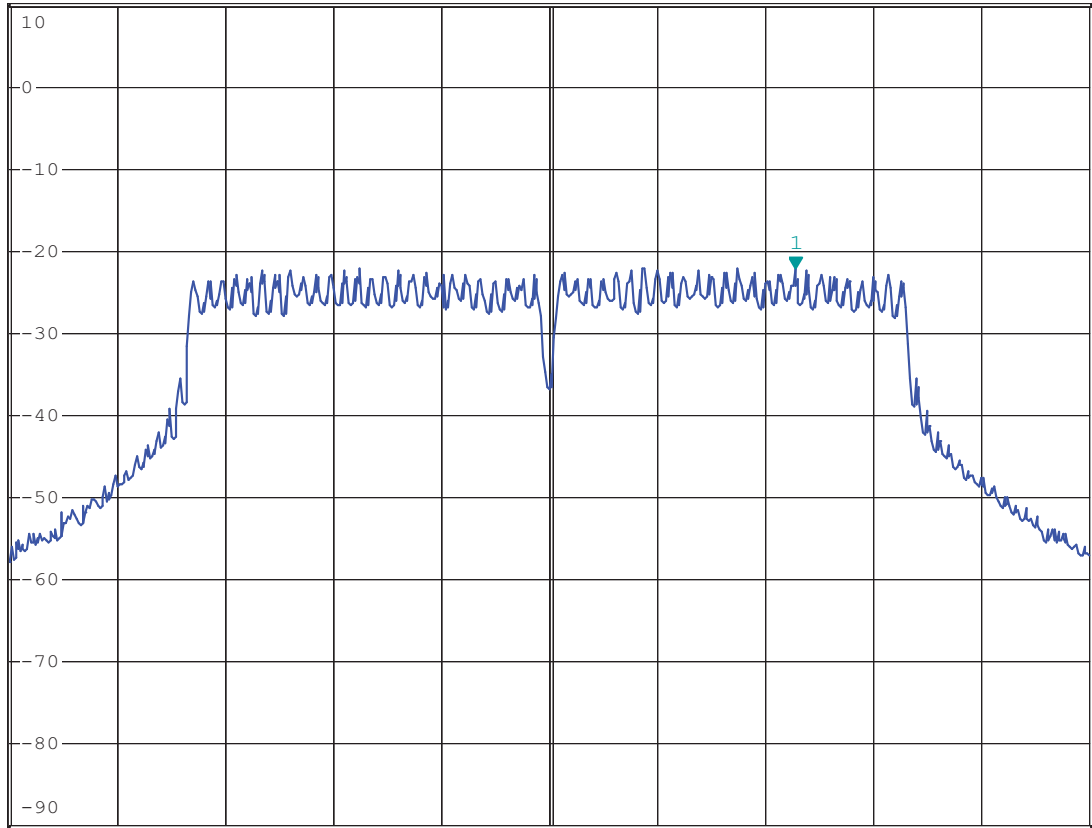
\* SWT 250 ms

Marker 1 [T1 ]

-22.08 dBm

2.417663520 GHz

1 PK  
MAXH



Center 2.412 GHz

2.484 MHz/

Span 24.84 MHz

Date: 24.APR.2014 12:35:49



8. 802.11g at 54Mbps of CH6



MARKER 1

2.44266352 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

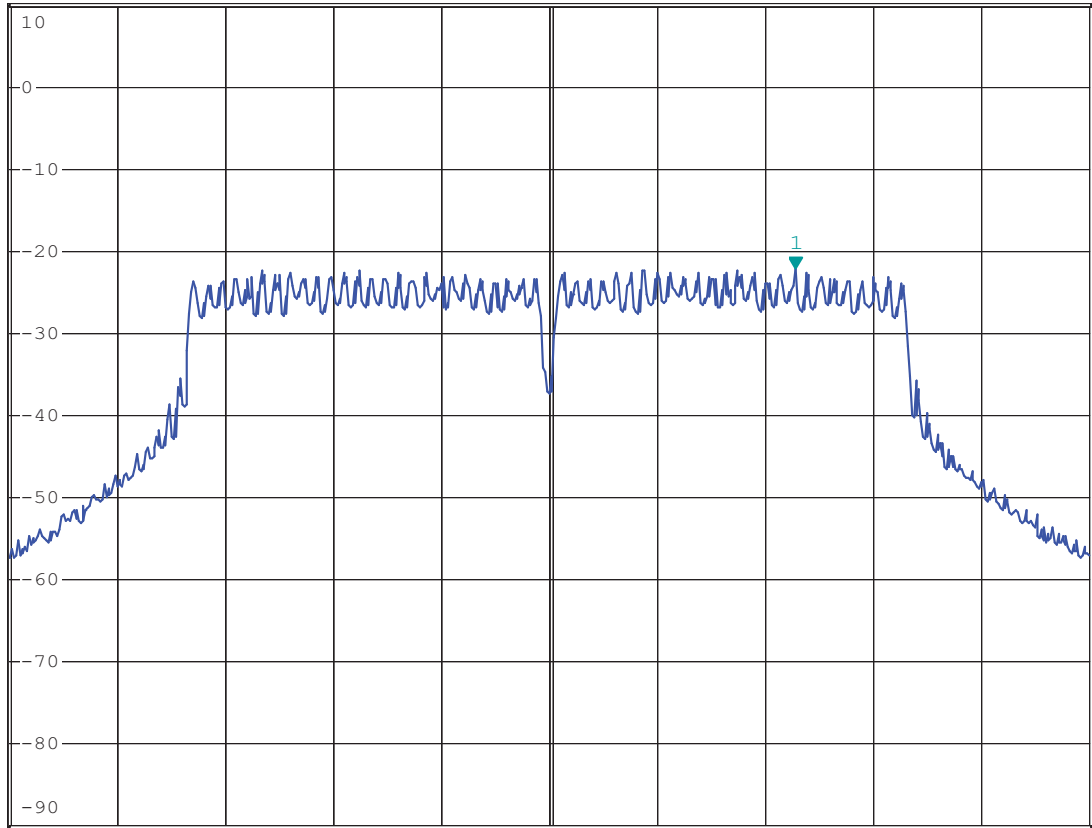
\* SWT 250 ms

Marker 1 [T1 ]

-22.25 dBm

2.442663520 GHz

1 PK  
MAXH



Center 2.437 GHz

2.484 MHz/

Span 24.84 MHz

Date: 24.APR.2014 12:35:14



## 9. 802.11g at 54Mbps of CH11



### MARKER 1

2.45539256 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1 ]

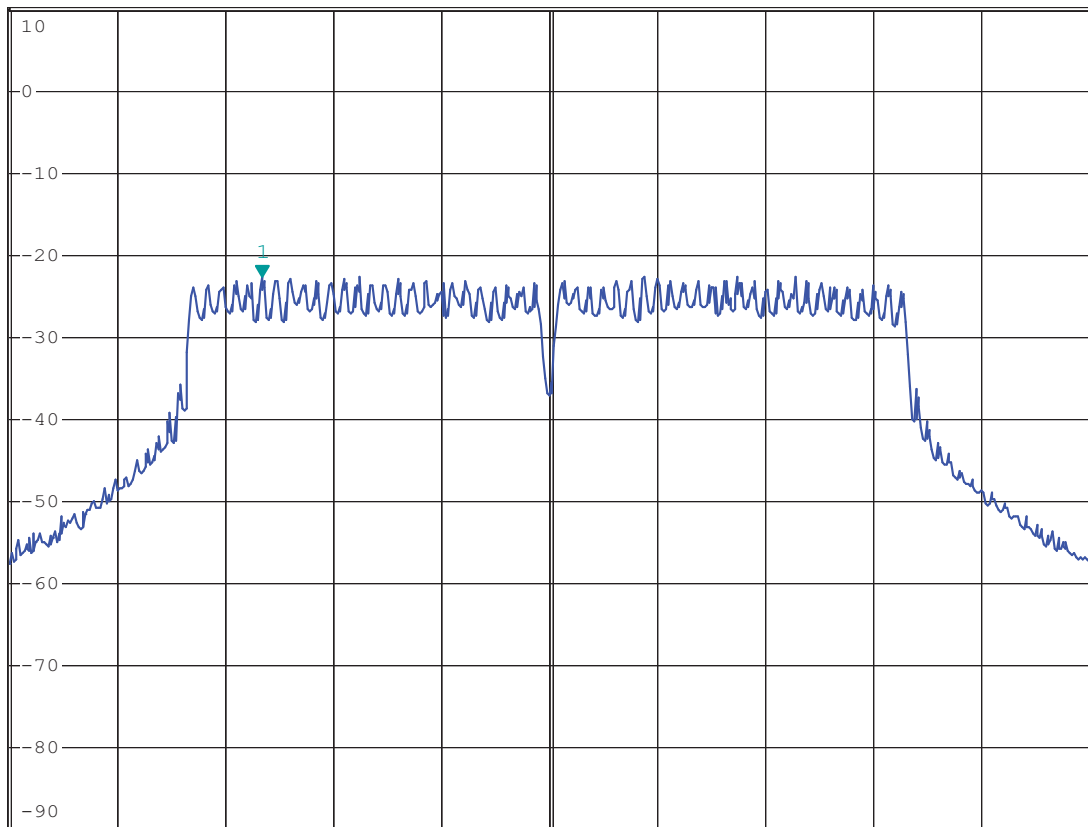
\* VBW 30 kHz

-22.68 dBm

\* SWT 250 ms

2.455392560 GHz

1 PK  
MAXH



Center 2.462 GHz

2.484 MHz/

Span 24.84 MHz

Date: 24.APR.2014 12:34:38



10. 802.11n at HT20 of CH01 65Mbps



MARKER 1

2.4098688 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

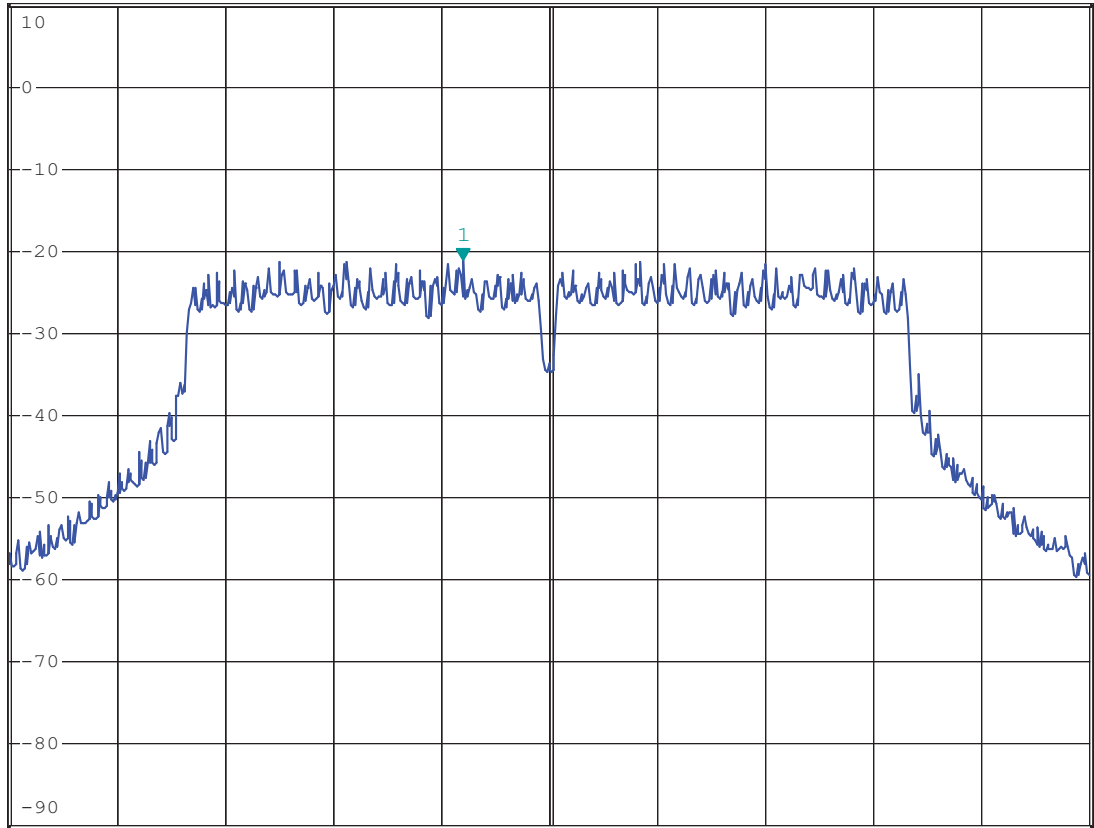
\* SWT 270 ms

Marker 1 [T1 ]

-21.07 dBm

2.409868800 GHz

1 PK  
MAXH



Center 2.412 GHz

2.664 MHz/

Span 26.64 MHz

Date: 24.APR.2014 12:42:43



# 11. 802.11n at HT20 of CH06 65Mbps



## MARKER 1

2.43199168 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1 ]

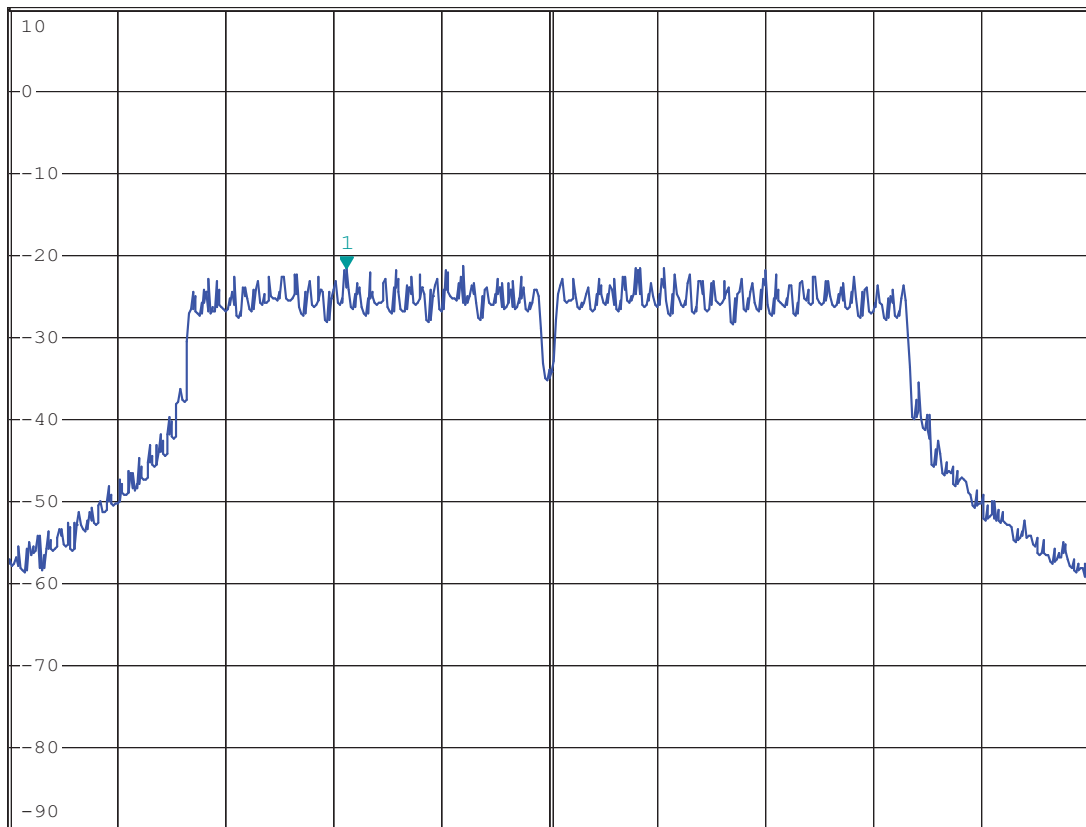
\* VBW 30 kHz

-21.60 dBm

\* SWT 270 ms

2.431991680 GHz

1 PK  
MAXH



Center 2.437 GHz

2.664 MHz/

Span 26.64 MHz

Date: 24.APR.2014 12:40:41



12. 802.11n at HT20 of CH11 65Mbps



MARKER 1

2.45534 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1 ]

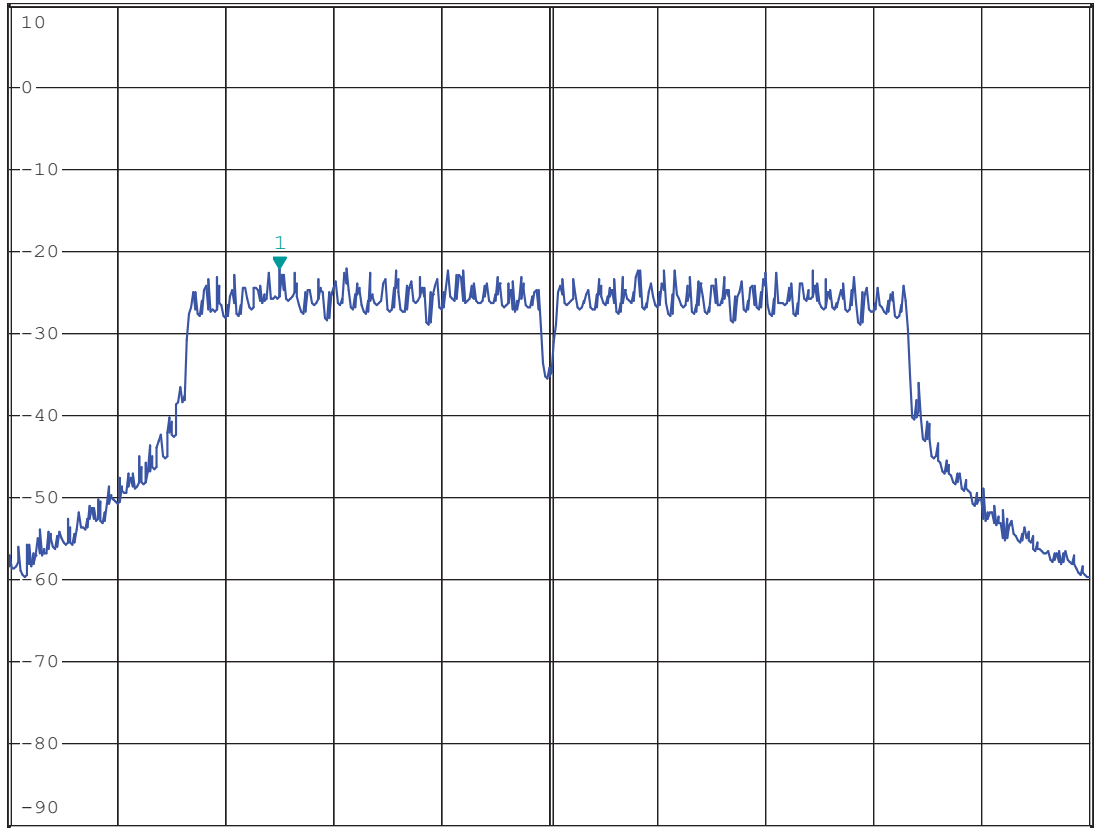
\* VBW 30 kHz

-22.10 dBm

\* SWT 270 ms

2.455340000 GHz

1 PK  
MAXH



Center 2.462 GHz

2.664 MHz/

Span 26.64 MHz

Date: 24.APR.2014 12:39:50



13. 802.11n at HT40 of CH01 65Mbps



MARKER 1

2.4254944 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

\* VBW 30 kHz

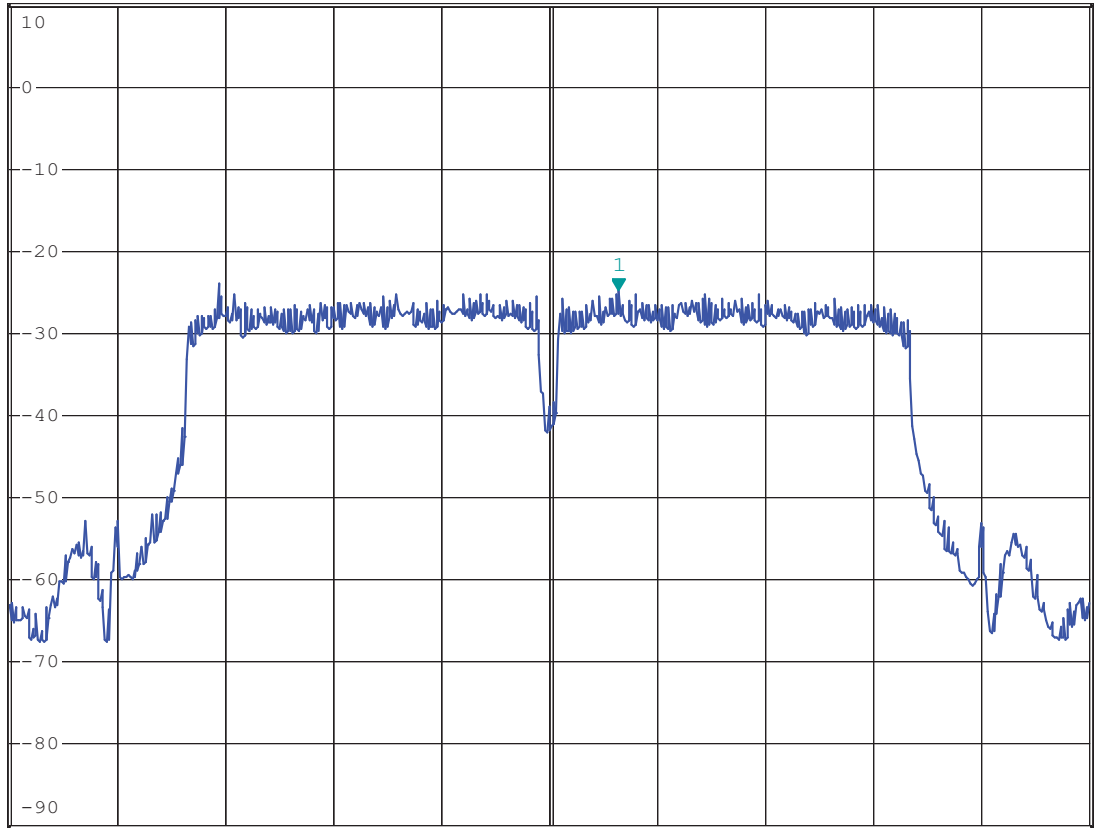
\* SWT 560 ms

Marker 1 [T1 ]

-24.78 dBm

2.425494400 GHz

1 PK  
MAXH



Center 2.422 GHz

5.46 MHz/

Span 54.6 MHz

Date: 24.APR.2014 12:44:17



14. 802.11n at HT40 of CH04 65Mbps



MARKER 1

2.4403852 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

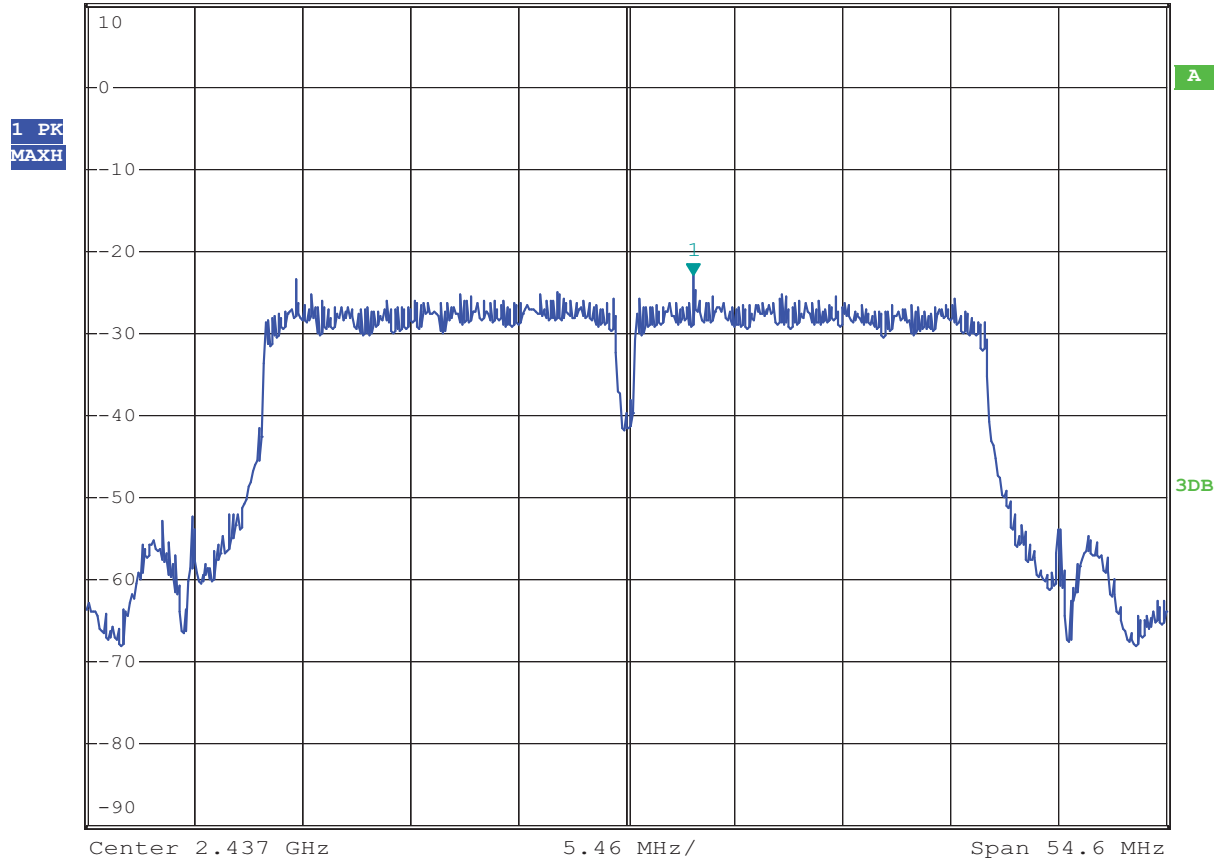
Marker 1 [T1 ]

\* VBW 30 kHz

-23.05 dBm

\* SWT 560 ms

2.440385200 GHz



Date: 24.APR.2014 12:44:59



15. 802.11n at HT40 of CH07 65Mbps



MARKER 1

2.4597532 GHz

Ref 10 dBm

\* Att 20 dB

\* RBW 10 kHz

Marker 1 [T1 ]

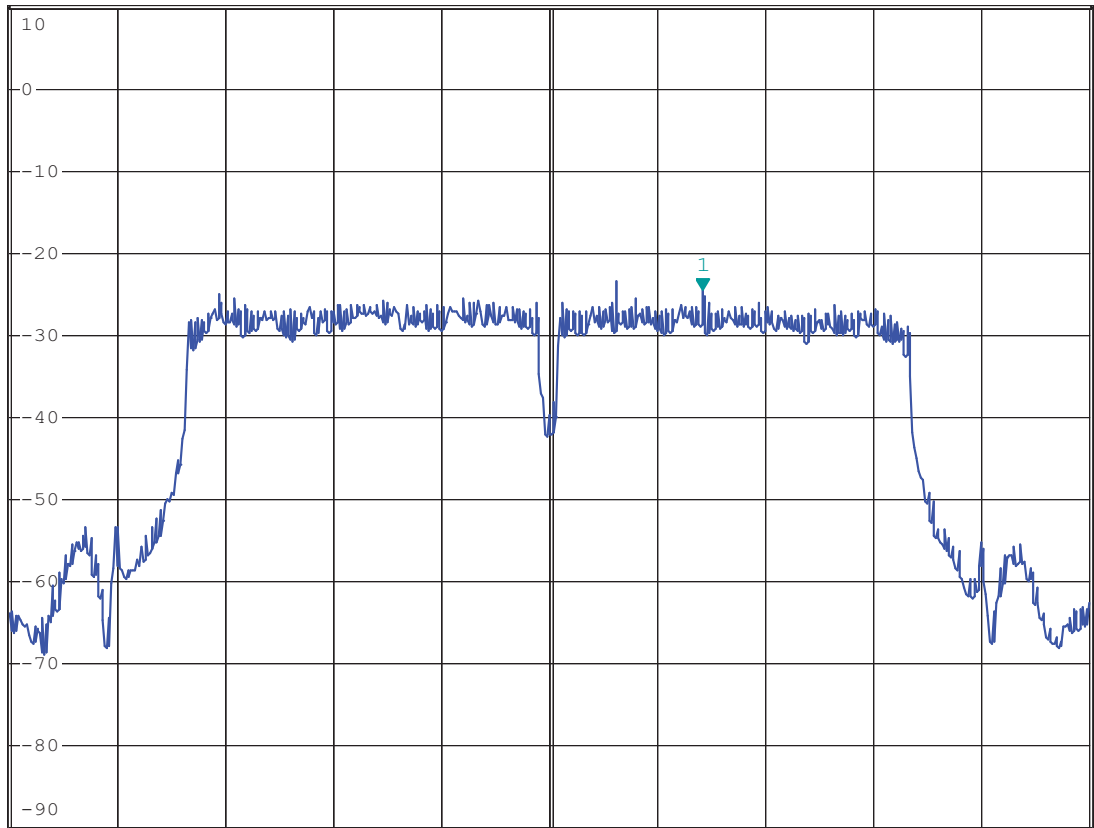
\* VBW 30 kHz

-24.57 dBm

\* SWT 560 ms

2.459753200 GHz

1 PK  
MAXH



Center 2.452 GHz

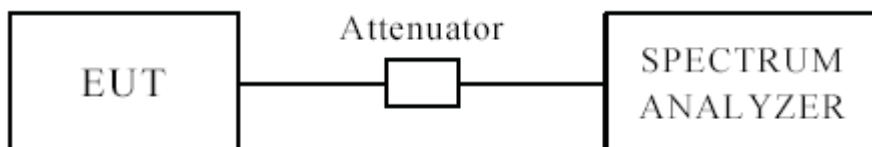
5.46 MHz/

Span 54.6 MHz

Date: 24.APR.2014 12:45:36

## 10 Out of Band Measurement

### 10.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

### 10.2 Limits of Out of Band Emissions Measurement

1. Below  $-20\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

### 10.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test.( Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)

For bandage test, the spectrum set as follows: RBW=100kHz,VBW=300 kHz. A conducted measurement used

### 10.4 Test Result

Please see next pages

Note: 1. this is a handheld device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), after pre-test. It was found that the worse radiated emission was get at the lying position. the worse case was recorded

2. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.



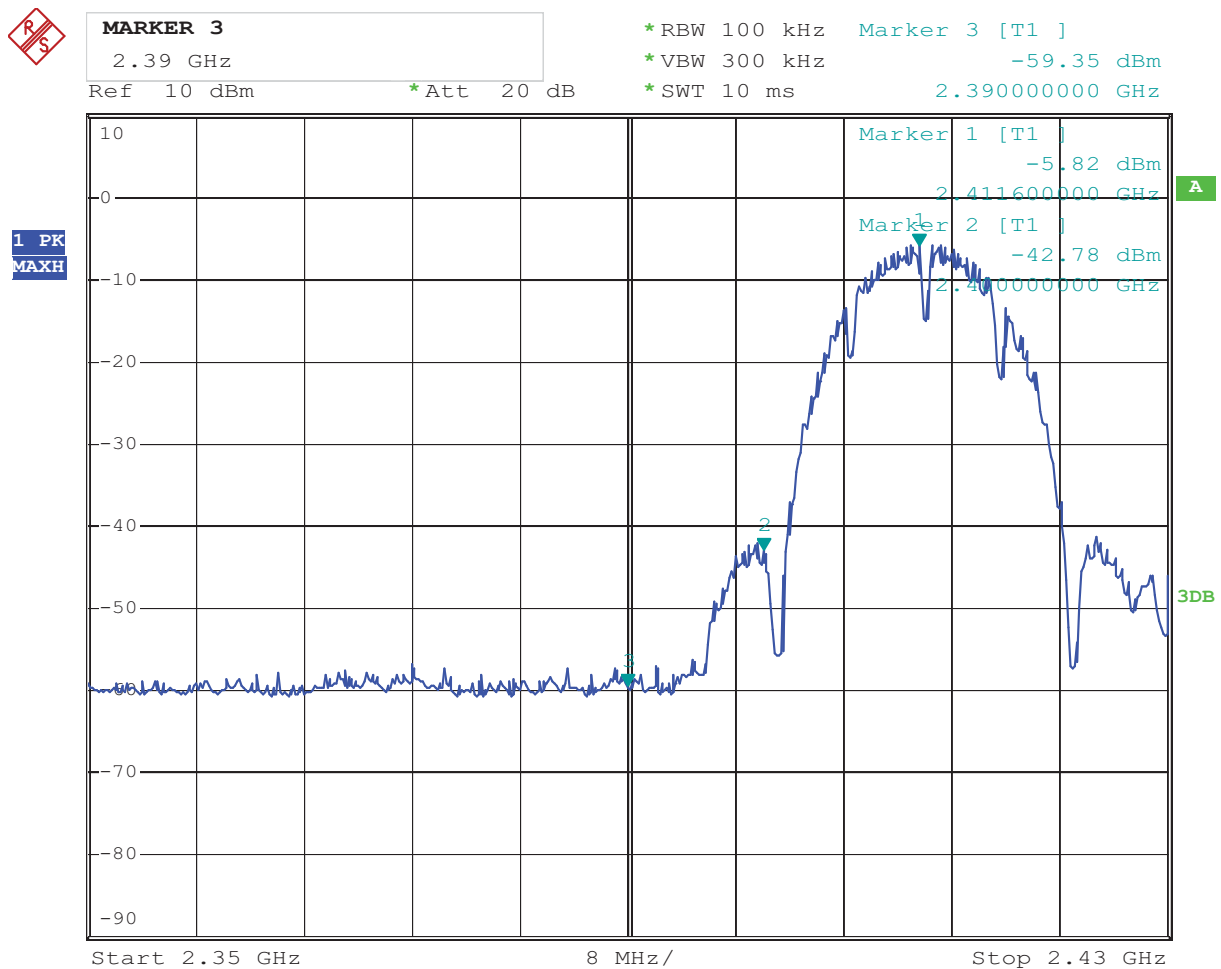
For 802.11b mode

CH01 at 1Mbps

## 10.4 Band-edge Measurement

|              |                      |       |               |                |
|--------------|----------------------|-------|---------------|----------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326 |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2400MHz      | PK (dBμV/m)          | 48.15 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |
| 2390MHz      | PK (dBμV/m)          | 37.27 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          |       |               | 54(dBμV/m)     |

Test Figure:



Date: 24.APR.2014 12:47:05



## CH11 at 1Mbps

## 10.4 Band-edge Measurement

|              |                      |       |               |                  |
|--------------|----------------------|-------|---------------|------------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326   |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~            |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH           |
| Test Result: | Pass                 |       | Detector      | PK               |
| 2483.5       | PK (dB $\mu$ V/m)    | 41.20 | Limit         | 74(dB $\mu$ V/m) |
|              | AV (dB $\mu$ V/m)    | --    |               | 54(dB $\mu$ V/m) |

## Test Figure:



## MARKER 1

2.4615 GHz

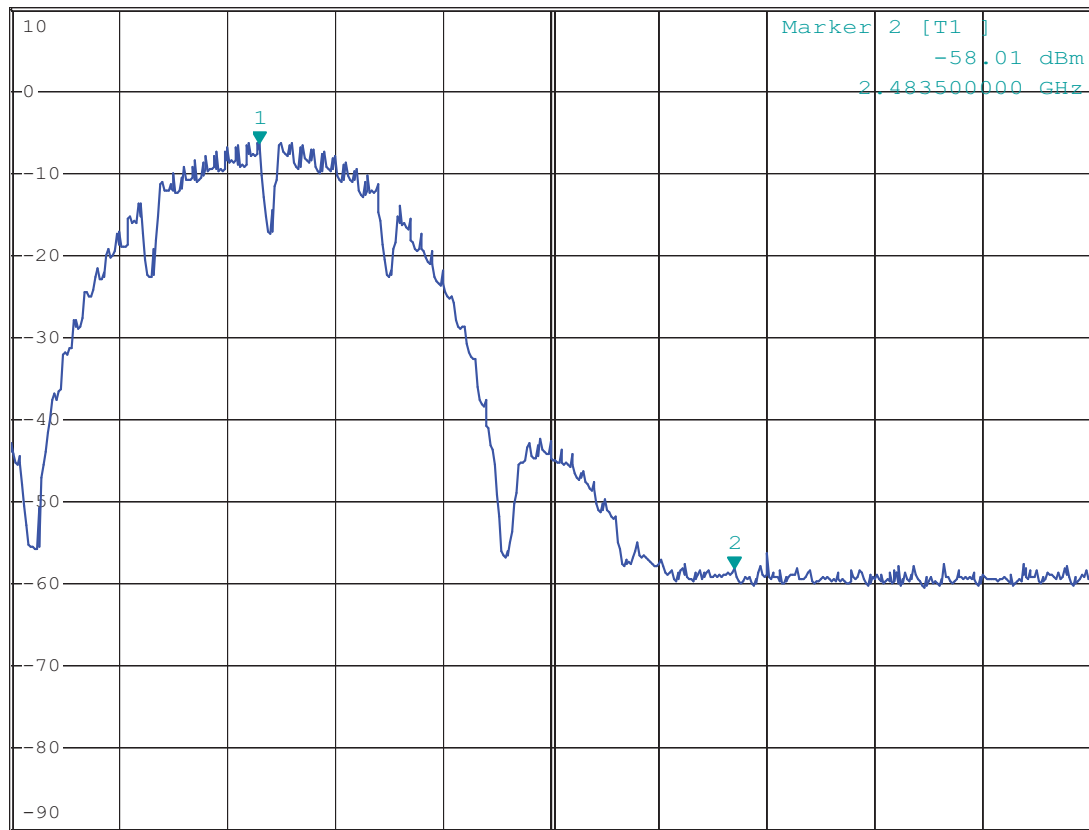
Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz Marker 1 [T1 ]

\* VBW 300 kHz -6.33 dBm

\* SWT 10 ms 2.461500000 GHz

1 PK  
MAXH

Start 2.45 GHz

5 MHz/

Stop 2.5 GHz

Date: 24.APR.2014 12:58:14



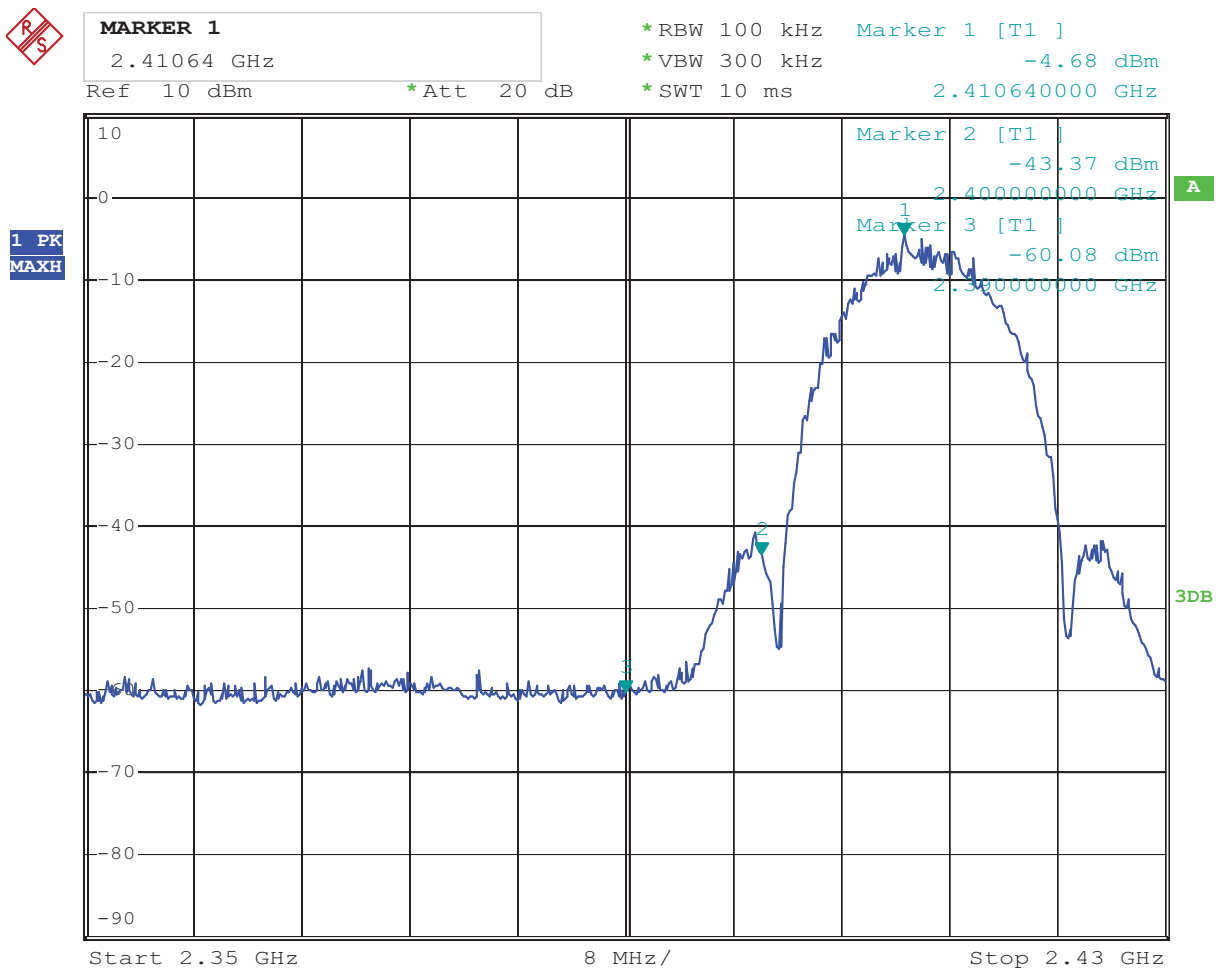
For 802.11b mode

CH01 at 11Mbps

## 10.4 Band-edge Measurement

| EUT          | MID                  |       | Model         | MID727BT-RK326 |
|--------------|----------------------|-------|---------------|----------------|
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2400MHz      | PK (dBμV/m)          | 49.82 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |
| 2390MHz      | PK (dBμV/m)          | 40.24 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

Test Figure:



Date: 24.APR.2014 12:50:53



CH11 at 11Mbps

**10.4 Band-edge Measurement**

|              |                      |       |               |                |
|--------------|----------------------|-------|---------------|----------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326 |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2483.5       | PK (dBμV/m)          | 43.35 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

**Test Figure:****MARKER 1**

2.4605 GHz

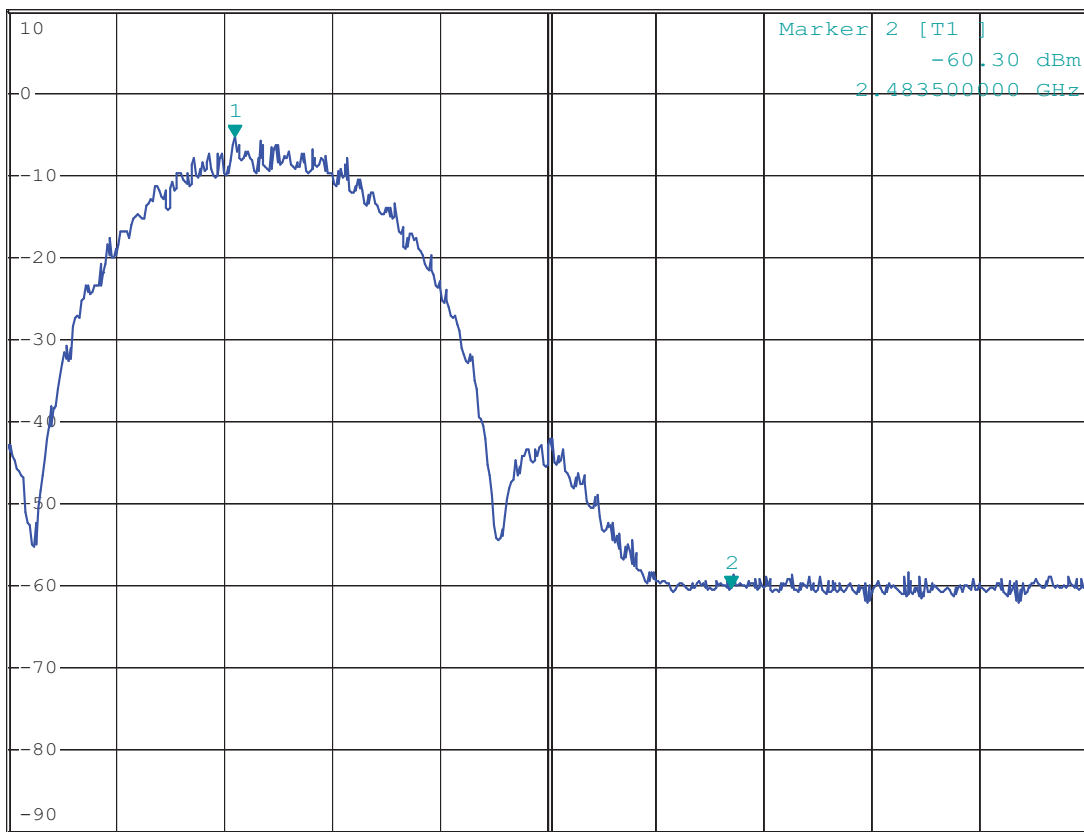
Ref 10 dBm

\*Att 20 dB

\*RBW 100 kHz Marker 1 [T1 ]

\*VBW 300 kHz -5.34 dBm

\*SWT 10 ms 2.460500000 GHz

1 PK  
MAXH

Start 2.45 GHz

5 MHz/

Stop 2.5 GHz

Date: 24.APR.2014 13:00:37



For 802.11g mode

CH01 at 54Mbps

## 10.4 Band-edge Measurement

|              |                      |       |               |                |
|--------------|----------------------|-------|---------------|----------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326 |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2400MHz      | PK (dBμV/m)          | 50.19 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |
| 2390MHz      | PK (dBμV/m)          | 40.21 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

## Test Figure:



## MARKER 1

2.40968 GHz

Ref 10 dBm

\* Att 20 dB

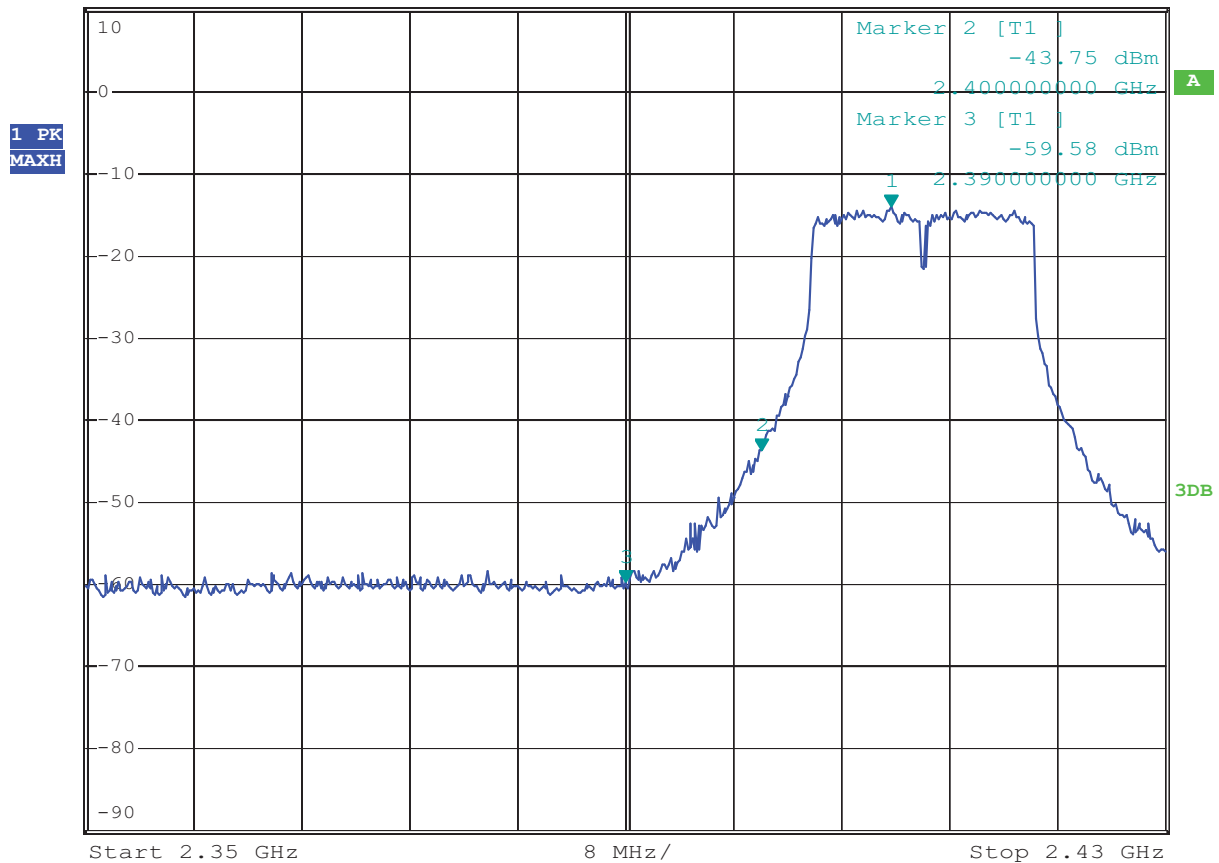
\* RBW 100 kHz Marker 1 [T1]

\* VBW 300 kHz

-14.09 dBm

\* SWT 10 ms

2.409680000 GHz



Date: 24.APR.2014 12:48:59



CH11 at 54Mbps

**10.4 Band-edge Measurement**

| EUT          | MID                  |       | Model         | MID727BT-RK326 |
|--------------|----------------------|-------|---------------|----------------|
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2483.5       | PK (dBμV/m)          | 44.16 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

**Test Figure:****MARKER 1**

2.4595 GHz

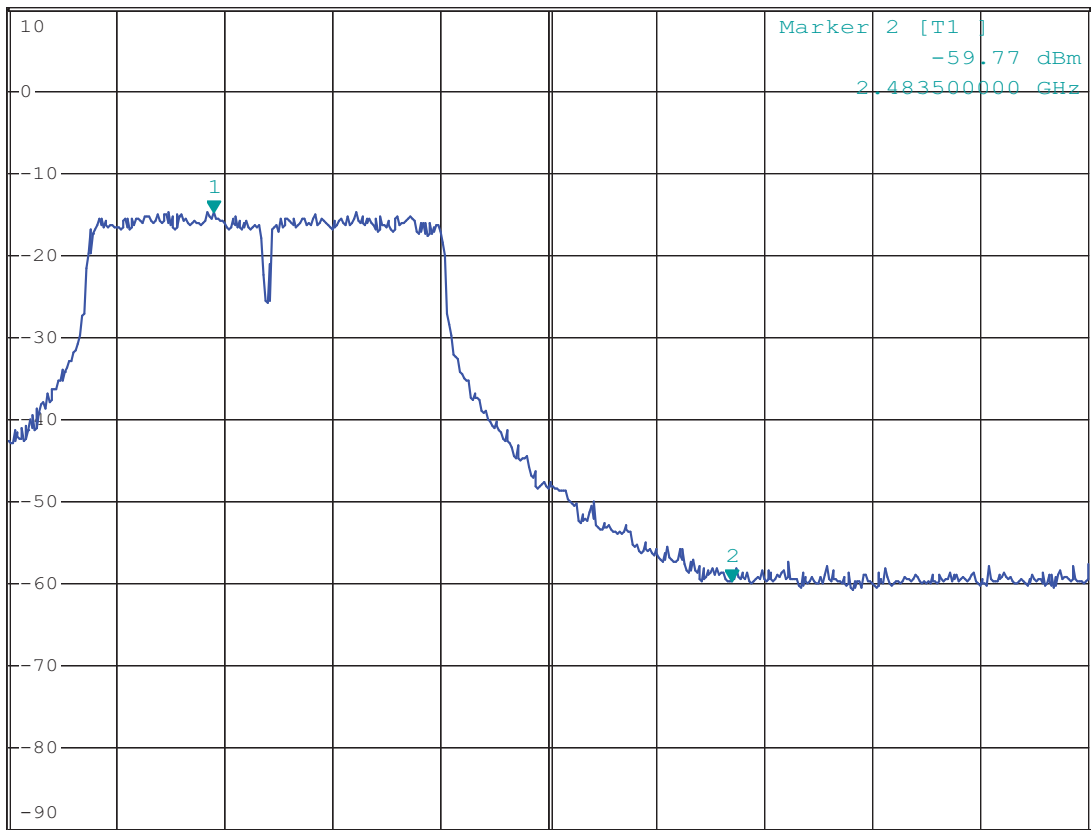
Ref 10 dBm

\* Att 20 dB

\*RBW 100 kHz Marker 1 [T1]

\*VBW 300 kHz -14.69 dBm

\*SWT 10 ms 2.459500000 GHz

1 PK  
MAXH

Start 2.45 GHz

5 MHz/

Stop 2.5 GHz

Date: 24.APR.2014 13:00:01



For 802.11n mode

CH01 at HT20 65Mbps

## 10.4 Band-edge Measurement

|              |                      |       |               |                  |
|--------------|----------------------|-------|---------------|------------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326   |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~            |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH           |
| Test Result: | Pass                 |       | Detector      | PK               |
| 2400MHz      | PK (dB $\mu$ V/m)    | 51.82 | Limit         | 74(dB $\mu$ V/m) |
|              | AV (dB $\mu$ V/m)    | --    |               | 54(dB $\mu$ V/m) |
| 2390MHz      | PK (dB $\mu$ V/m)    | 41.83 | Limit         | 74(dB $\mu$ V/m) |
|              | AV (dB $\mu$ V/m)    | --    |               | 54(dB $\mu$ V/m) |

## Test Figure:



## MARKER 1

2.4092 GHz

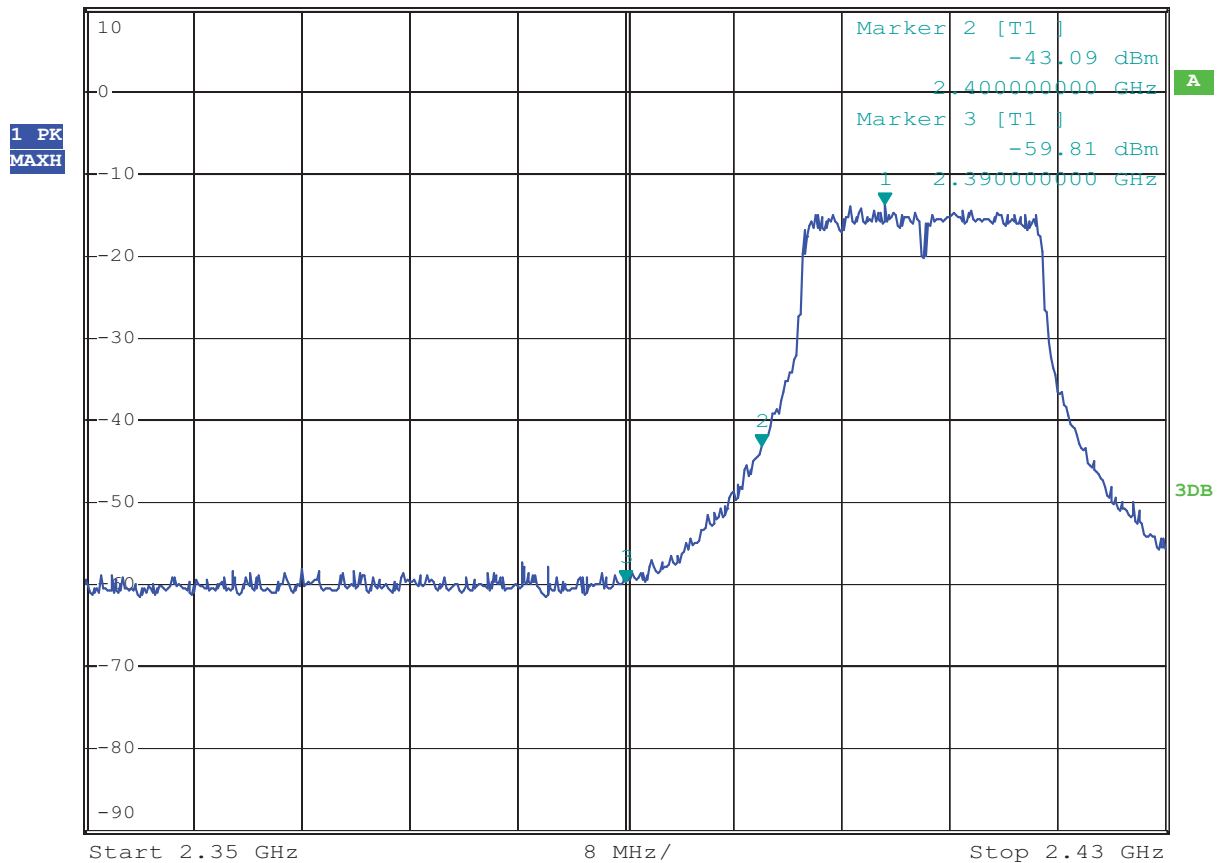
Ref 10 dBm

\* Att 20 dB

\* RBW 100 kHz Marker 1 [T1 ]

\* VBW 300 kHz -13.84 dBm

\* SWT 10 ms 2.409200000 GHz



Date: 24.APR.2014 12:51:35



CH11 at HT20 65Mbps

**10.4 Band-edge Measurement**

| EUT          | MID                  |       | Model         | MID727BT-RK326 |
|--------------|----------------------|-------|---------------|----------------|
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2483.5       | PK (dBμV/m)          | 44.07 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

**Test Figure:****MARKER 1**

2.4591 GHz

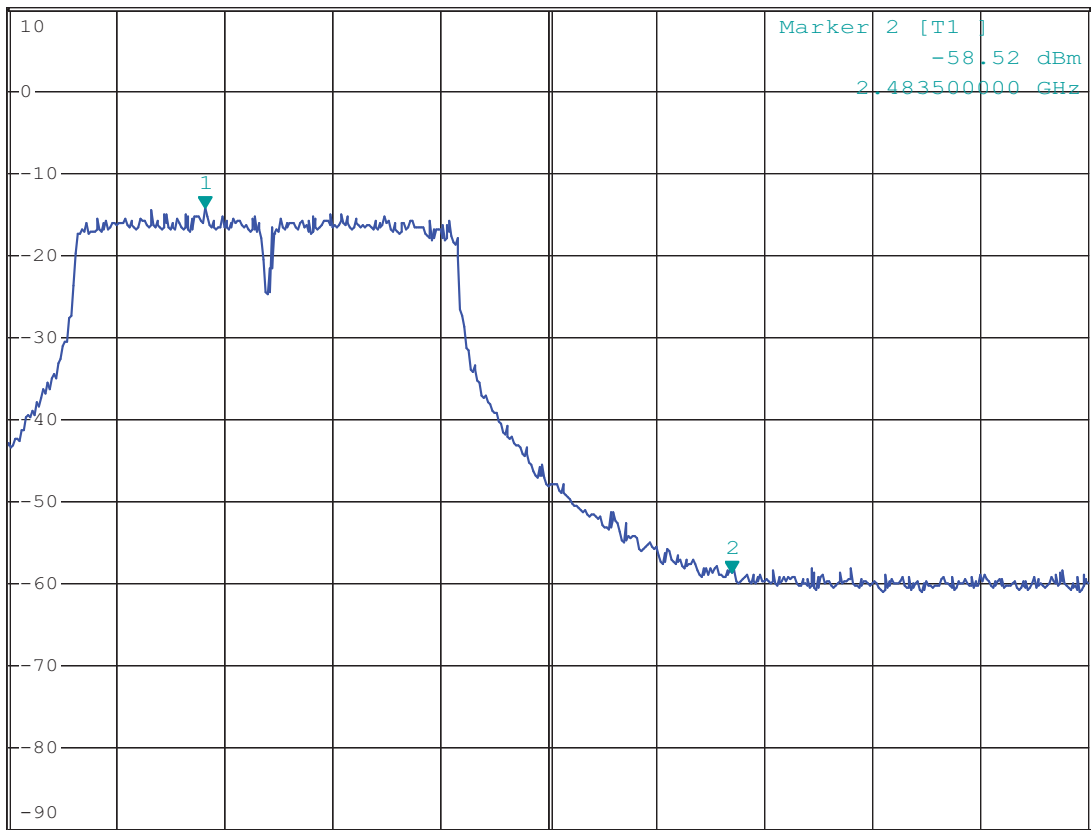
Ref 10 dBm

\* Att 20 dB

\*RBW 100 kHz Marker 1 [T1]

\*VBW 300 kHz -14.30 dBm

\*SWT 10 ms 2.459100000 GHz

1 PK  
MAXH

Start 2.45 GHz

5 MHz/

Stop 2.5 GHz

Date: 24.APR.2014 13:01:36



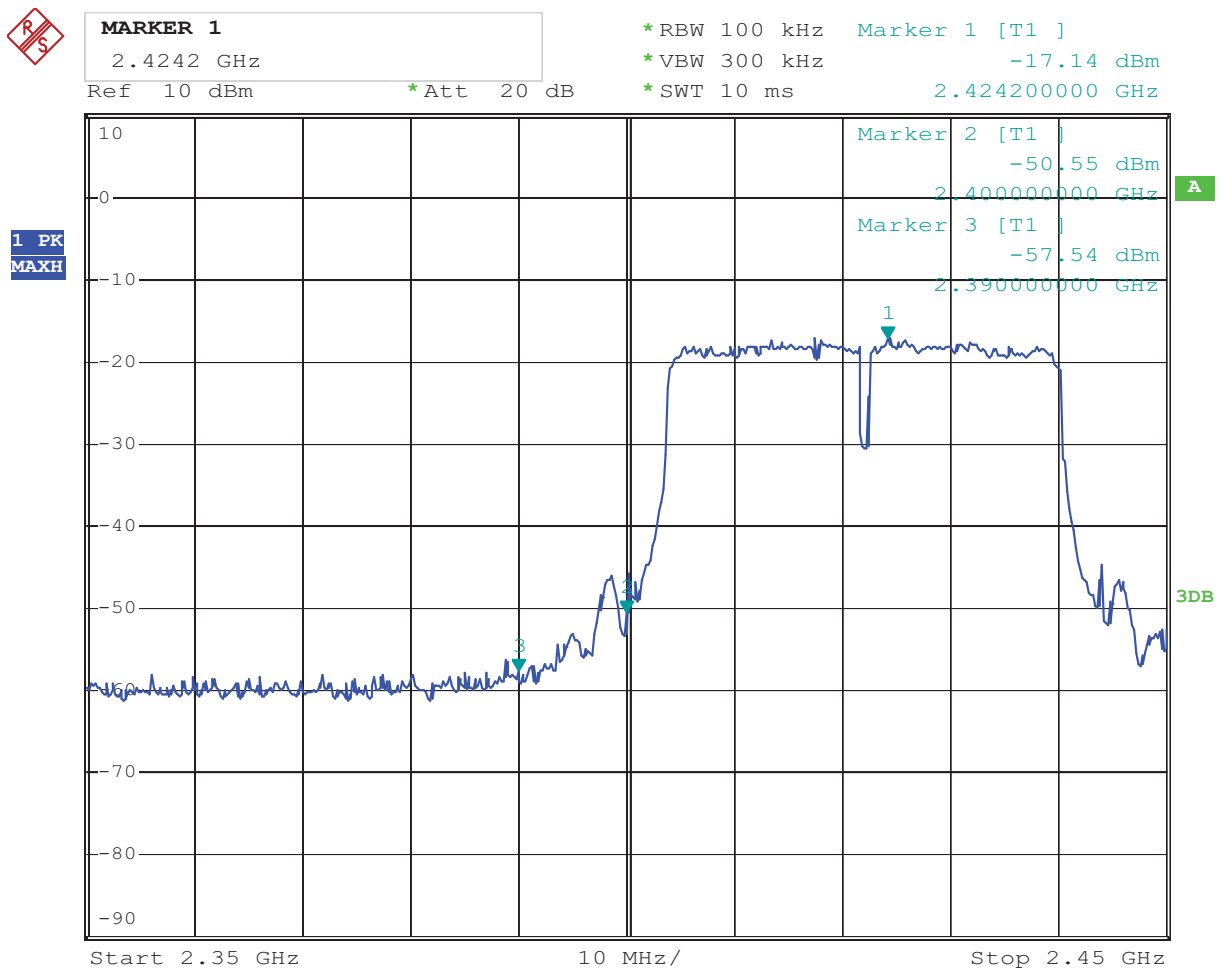
For 802.11n mode

CH01 at HT40 65Mbps

## 10.4 Band-edge Measurement

|              |                      |       |               |                |
|--------------|----------------------|-------|---------------|----------------|
| EUT          | MID                  |       | Model         | MID727BT-RK326 |
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2400MHz      | PK (dBμV/m)          | 47.89 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |
| 2390MHz      | PK (dBμV/m)          | 40.13 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

## Test Figure:



Date: 24.APR.2014 12:52:36



CH11 at HT40 65Mbps

**10.4 Band-edge Measurement**

| EUT          | MID                  |       | Model         | MID727BT-RK326 |
|--------------|----------------------|-------|---------------|----------------|
| Mode         | Keeping Transmitting |       | Input Voltage | 120V~          |
| Temperature  | 24 deg. C,           |       | Humidity      | 56% RH         |
| Test Result: | Pass                 |       | Detector      | PK             |
| 2483.5       | PK (dBμV/m)          | 46.34 | Limit         | 74(dBμV/m)     |
|              | AV (dBμV/m)          | --    |               | 54(dBμV/m)     |

**Test Figure:****MARKER 1**

2.44778 GHz

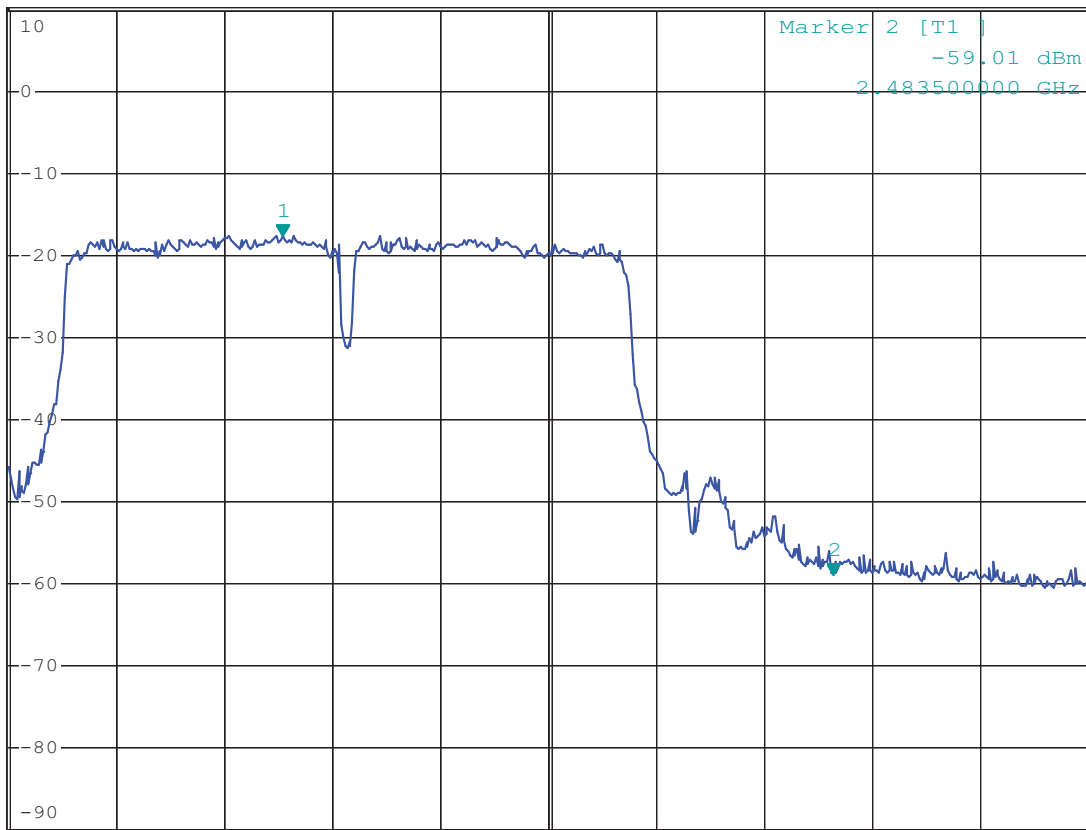
Ref 10 dBm

\* Att 20 dB

\*RBW 100 kHz Marker 1 [T1]

\*VBW 300 kHz -17.60 dBm

\*SWT 10 ms 2.447780000 GHz

1 PK  
MAXH

Start 2.43 GHz

7 MHz/

Stop 2.5 GHz

Date: 24.APR.2014 13:02:44



## **11.0 Antenna Requirement**

### **11.1 Standard Applicable**

For intentional device, according to FCC 47 CFR Section 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.

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

### **11.2 Antenna Connected construction**

Integral antenna used. The maximum Gain of the antennas is 2.0dBi.

**12.0 FCC ID Label****FCC ID: 2AAQZMID727B1-RK326**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

**Mark Location:**

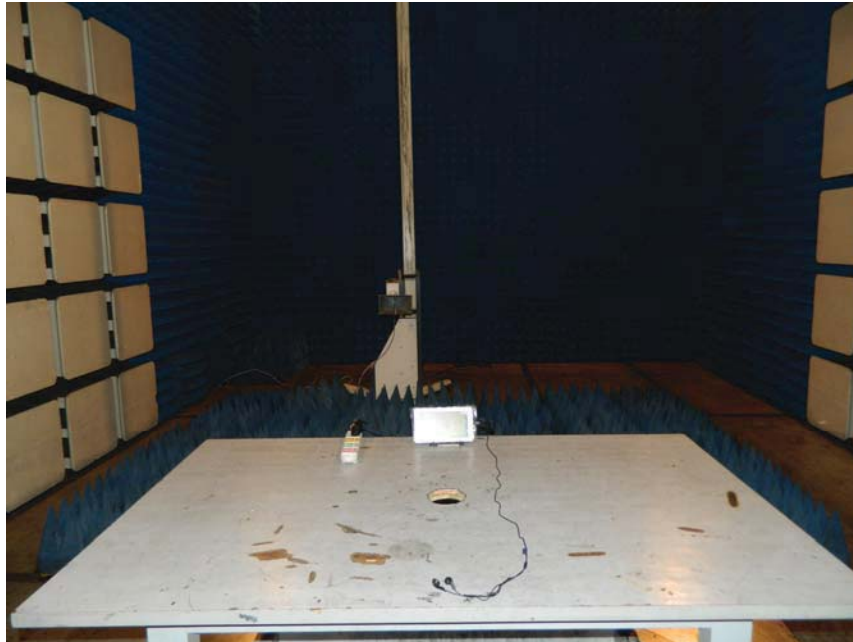
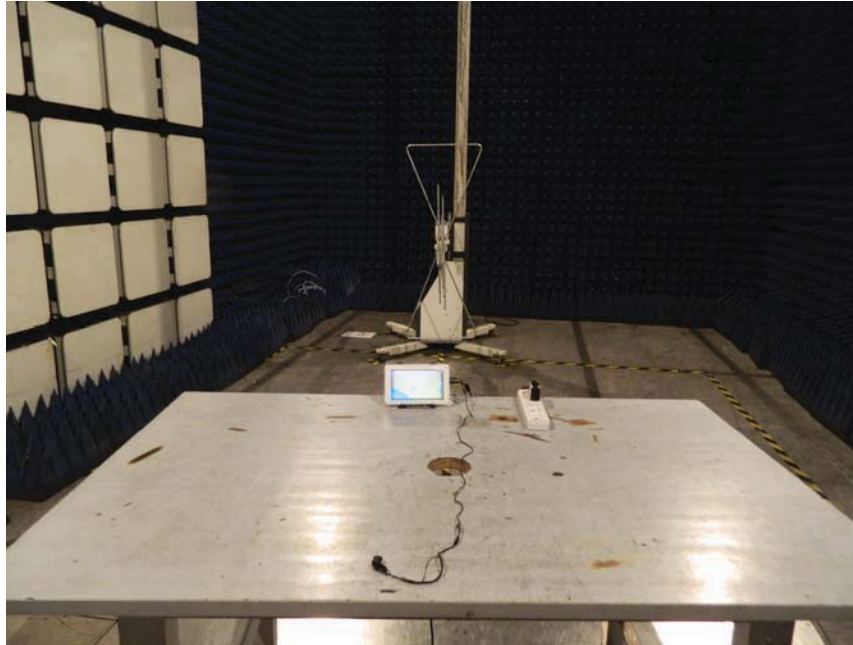
FCC ID Label Location

## 13 PHOTOGRAPHS OF THE TEST CONFIGURATION

### Conducted Emissions



## Radiated Emissions



## PHOTOGRAPHS OF EUT



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Photo 9



Photo 10

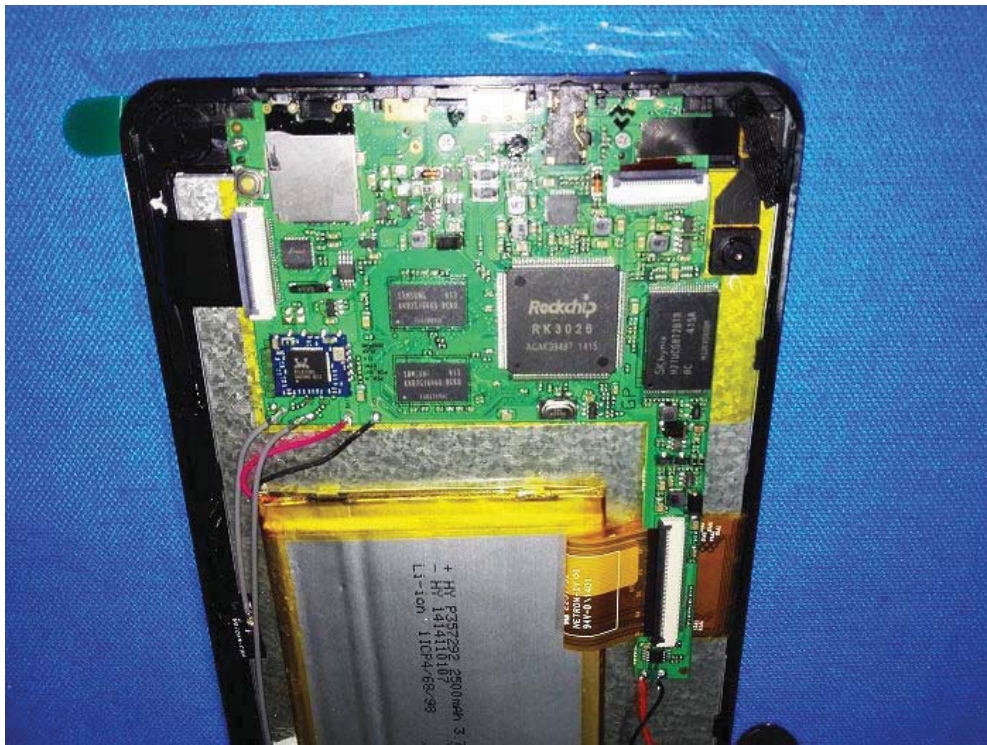


Photo 11



Photo 12

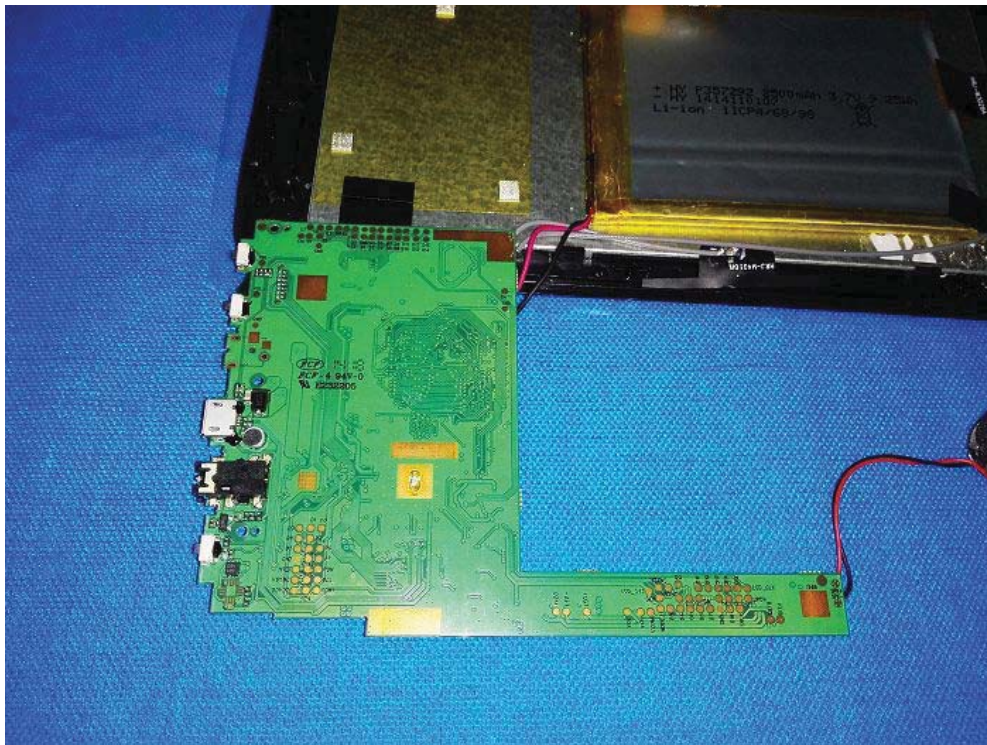


Photo 13



Photo 14 (Alternative Battery)



Photo 15 (Additional Battery)



Photo 16 (Additional Battery)



Photo 17 (Additional Battery)

**The Report End**