



# FCC TEST REPORT

According to

## FCC Rules and Regulations Part 15 Subpart E

|            |                                                               |
|------------|---------------------------------------------------------------|
| Applicant  | : Partner Tech Corp.                                          |
| Address    | : 10FL, 233-2, Baoqiao Road, Xindian, New Taipei City, Taiwan |
| Equipment  | : Enterprise Tablet                                           |
| Model No.  | : EM-100                                                      |
| Trade Name | : PARTNER                                                     |
| FCC ID     | : NDPEM-100                                                   |

- The test result refers exclusively to the test presented test model / sample.,
- The test result does not include DFS test for 5250 ~ 5350 MHz.
- Without written approval of **Cerpass Technology Corp.**, the test report shall not be reproduced except in full.
- The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

Laboratory Accreditation





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## History of this test report

■ ORIGINAL.

□ Additional attachment as following record:

| Attachment No. | Issue Date    | Description |
|----------------|---------------|-------------|
| TEF1409031     | Oct. 07, 2014 | Original.   |
|                |               |             |
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|                |               |             |



# CERTIFICATE OF COMPLIANCE

According to

## FCC Rules and Regulations Part 15 Subpart E

|           |                                                               |
|-----------|---------------------------------------------------------------|
| Applicant | : Partner Tech Corp.                                          |
| Address   | : 10FL, 233-2, Baoqiao Road, Xindian, New Taipei City, Taiwan |
| Equipment | : Enterprise Tablet                                           |
| Model No. | : EM-100                                                      |
| FCC ID    | : NDPEM-100                                                   |

### I HEREBY CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4**. The equipment was **passed** the test performed according to **FCC Rules and Regulations Part 15 Subpart E (2011), and KDB789033**.

The sample was received on Sep. 21, 2014 and the testing was carried out on Sep. 30, 2014 at **Cerpass Technology Corp.**

Approved by:

Hill Chen  
EMC/RF B.U. Assistant Manager

Tested by:

Aiden Lu  
Engineer



## 1. Report of Measurements and Examinations

### 1.1. List of Measurements and Examinations

For Frequency 5.15GHz ~ 5.25GHz

| Applied Standard : FCC Part 15, Subpart E (Section 15.407) |                             |        |
|------------------------------------------------------------|-----------------------------|--------|
| FCC Rule                                                   | Description of Test         | Result |
| 15.407(b)(5)                                               | Conducted Emission          | Pass   |
| 15.407(b)(1/2/3)(b)(5)                                     | Radiated Emission           | Pass   |
| 15.407(a)(1/2/3)                                           | Peak Transmit Power         | Pass   |
| 15.407(a)(6)                                               | Peak Power Excursion        | Pass   |
| 15.407(a)(1/2/3)                                           | Peak Power Spectral Density | Pass   |
| 15.407(g)                                                  | Frequency Stability         | Pass   |



## 2. Test Configuration of Equipment under Test

### 2.1. Feature of Equipment under Test

|                         |                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Processor</b>        | Freescale i.MX 6 Dual Lite 1G                                                                                                                                                                                                                                                                                      |
| <b>OS</b>               | Android 4.2 need CTS, GMS                                                                                                                                                                                                                                                                                          |
| <b>Memory</b>           | Standard: 1GB (up to 2G)                                                                                                                                                                                                                                                                                           |
| <b>Storage</b>          | Standard: 8GB for Android eMMC on board<br>(eMMC/8G/KE4CN3K6A/FBGA169)                                                                                                                                                                                                                                             |
| <b>Display</b>          | 10.1", 1280 x 800, 350nits                                                                                                                                                                                                                                                                                         |
| <b>Touch</b>            | 10.1" capacitive touch FT-5606                                                                                                                                                                                                                                                                                     |
| <b>Bluetooth</b>        | V4.0+HS WM-BAN-BM-07_S module UART interface                                                                                                                                                                                                                                                                       |
| <b>WiFi</b>             | 802.11 a/b/g/n<br>Roaming function<br>The WM-BAN-BM-07_S module is designed based on Broadcom 4334 chipset solution. It supports generic GSPI, SDIOv2.0, HSIC interface to connect the WLAN to the host processor. High speed UART is available to connect the Bluetooth 4.0+HS/FM Receiver to the host processor. |
| <b>NFC</b>              | On board NXP PN544 C3 IC                                                                                                                                                                                                                                                                                           |
| <b>Accelerometer</b>    | Acceleration sensor/KXTI9-1001                                                                                                                                                                                                                                                                                     |
| <b>E-compass Sensor</b> | Compass Sensor/AMI306/SMD LGA10                                                                                                                                                                                                                                                                                    |
| <b>Rear Camera</b>      | 5.0 Mega Pixels, Auto Focus, Flash Light<br>( <b>Sensor Type</b> OV5640 )                                                                                                                                                                                                                                          |
| <b>Front Camera</b>     | 2.0 Mega Pixels CM2015-MI10                                                                                                                                                                                                                                                                                        |
| <b>Battery</b>          | Li-Polymer, 3.7V, 8060mAh                                                                                                                                                                                                                                                                                          |
| <b>Working time</b>     | 8 hours @film with speaker, 50% Brightness, WiFi on                                                                                                                                                                                                                                                                |
| <b>Speaker</b>          | Internal*2                                                                                                                                                                                                                                                                                                         |
| <b>I/O</b>              | 1 x SIM (internal )<br>1 x Micro SD<br>1 x DC Jack<br>1 x Micro HDMI<br>1 x Earphone & MIC Jack<br>2 x function keys<br>1 x Micro USB female type<br>1 x Power button<br>2 x Volume button<br>1 x USB host<br>2 x Internal Host USB for MSR or IC Card reader<br>1 x Internal RS232 for 1D or 2D barcode scanner   |
| <b>LEDs</b>             | 1 x red/green LED for power & system status<br>1 x blue LED for NFC good read                                                                                                                                                                                                                                      |



|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Power Adaptor         | Input:100V to 240V AC 50/60Hz 0.8A<br>Output: 5V DC 3A ; AC Cable |
| Dimension             | WxLxT: 267mm x 197mm x 20.5/25mm (1D/2D)                          |
| Operating temperature | 0oC to +40oC                                                      |
| Storage temperature   | -20oC to +60oC (without battery)                                  |
| Charging temperature  | 0oC to +40oC                                                      |
| Humidity              | 5% to 95% RH (no condensation)                                    |
| Sealing               | IP65 (w/o MSR/IC card/Scanner);<br>IP54 (w/MSR/IC card/Scanner)   |
| Drop specification    | 1M drop onto concrete                                             |
| Vibration             | MIL-STD-810G Method 514.6 Procedure I (non-operating)             |
| Certification         | CE/FCC/VCCI/BSMI/NCC                                              |

## 2.2. Carrier Frequency of Channels

802.11a, 802.11an HT20 (5150 ~ 5250MHz)

| Channel    | Frequency(MHz) | Channel    | Frequency(MHz) |
|------------|----------------|------------|----------------|
| <b>*36</b> | 5180           | <b>*48</b> | 5240           |
| 40         | 5200           | ---        | ---            |
| <b>*44</b> | 5220           | ---        | ---            |

Note: Channels remarked \* are selected to perform test.



### 2.3. Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- The complete test system included Notebook and EUT for RF test.
- An executive program, " USI BCM FCC CE REG Tool 1.4.10r8" under WIN 7 was executed to transmit and receive data via WLAN.
- The following test modes were performed for test:
  - 802.11a/an, HT20: CH 36: 5180MHz, CH 44: 5220MHz, CH 48: 5240MHz

\* Power output of data rate:

Avg.:

| 802.11a Band 1   |                    | 802.11an HT20 Band 1 |                    |
|------------------|--------------------|----------------------|--------------------|
| Data Rate (Mbps) | Power Output (dBm) | Data Rate (Mbps)     | Power Output (dBm) |
| 54               | 8.98               | 65/7                 | 9.35               |
| 24               | 9.45               | 58.5/6               | 9.43               |
| 12               | 9.78               | 52/5                 | 9.55               |
| 6                | 9.98               | 39/4                 | 9.65               |
| ---              | ---                | 26/3                 | 9.71               |
| ---              | ---                | 19.5/2               | 9.78               |
| ---              | ---                | 13/1                 | 9.88               |
| ---              | ---                | 6.5/0                | 9.96               |

Peak.:

| 802.11a Band 1   |                    | 802.11an HT20 Band 1 |                    |
|------------------|--------------------|----------------------|--------------------|
| Data Rate (Mbps) | Power Output (dBm) | Data Rate (Mbps)     | Power Output (dBm) |
| 54               | 19.25              | 65/7                 | 18.88              |
| 24               | 19.33              | 58.5/6               | 18.95              |
| 12               | 19.42              | 52/5                 | 19.02              |
| 6                | 19.54              | 39/4                 | 19.08              |
| ---              | ---                | 26/3                 | 19.15              |
| ---              | ---                | 19.5/2               | 19.21              |
| ---              | ---                | 13/1                 | 19.28              |
| ---              | ---                | 6.5/0                | 19.38              |

### 2.4. Description of Test System

| Device   | Manufacturer | Model No.  | Description                    |
|----------|--------------|------------|--------------------------------|
| Notebook | SONY         | PCG-71218P | Power Cable, Unshielding, 1.8m |

Used cable

| Cable | Quantity | Description     |
|-------|----------|-----------------|
| USB   | 1        | Shielding, 0.9m |



## 2.5. General Information of Test

|                                |                                                                                                                                                                       |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site :                    | Cerpass Technology Corporation Test Laboratory<br>No.10, Lane 2, Lianfu Street, Luzhu Township, Taoyuan<br>County 33848, Taiwan(R.O.C.)                               |
| Test Site Location :           | 2F-11, No. 3, Yuan Qu St., (Nankang Software Park),<br>Taipei, Taiwan 115, R.O.C.                                                                                     |
| Test Site Location :           | No.68-1, Shihbachongsi, Shihding Township,<br>New Taipei City 223, Taiwan, R.O.C.                                                                                     |
| FCC Registration Number :      | TW1079, TW1061, 488071, 390316, 228391, 641184                                                                                                                        |
| IC Registration Number :       | 4934B-1, 4934D-1, 4934E-1, 4934E-2                                                                                                                                    |
| VCCI Registration Number :     | T-1173 for Telecommunication Test<br>C-4139 for Conducted emission test<br>R-3428 for Radiated emission test<br>G-97 for radiated disturbance above 1GHz              |
| Frequency Range Investigated : | Conducted Emission Test: from 150 kHz to 30 MHz<br>Radiated Emission Test: from 30 MHz to 6,000 MHz                                                                   |
| Test Distance :                | The test distance of radiated emission below 1GHz from<br>antenna to EUT is 10 M.<br>The test distance of radiated emission above 1GHz from<br>antenna to EUT is 3 M. |



### 3. Antenna Requirements

#### 3.1. 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 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

#### 3.2. Antenna Construction and Directional Gain

WIFI/ Bluetooth

Antenna Type: PIFA Antenna

Antenna Gain: 2.59 dBi@ 2.4GHz,  
0.86 dBi @5.15GHz  
-0.23 dBi @5.8GHz

NFC

Antenna Type: PCB Antenna



## 4. Test of Conducted Emission

### 4.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

| Frequency (MHz) | Quasi Peak (dB $\mu$ V) | Average (dB $\mu$ V) |
|-----------------|-------------------------|----------------------|
| 0.15 – 0.5      | 66-56*                  | 56-46*               |
| 0.5 – 5.0       | 56                      | 46                   |
| 5.0 – 30.0      | 60                      | 50                   |

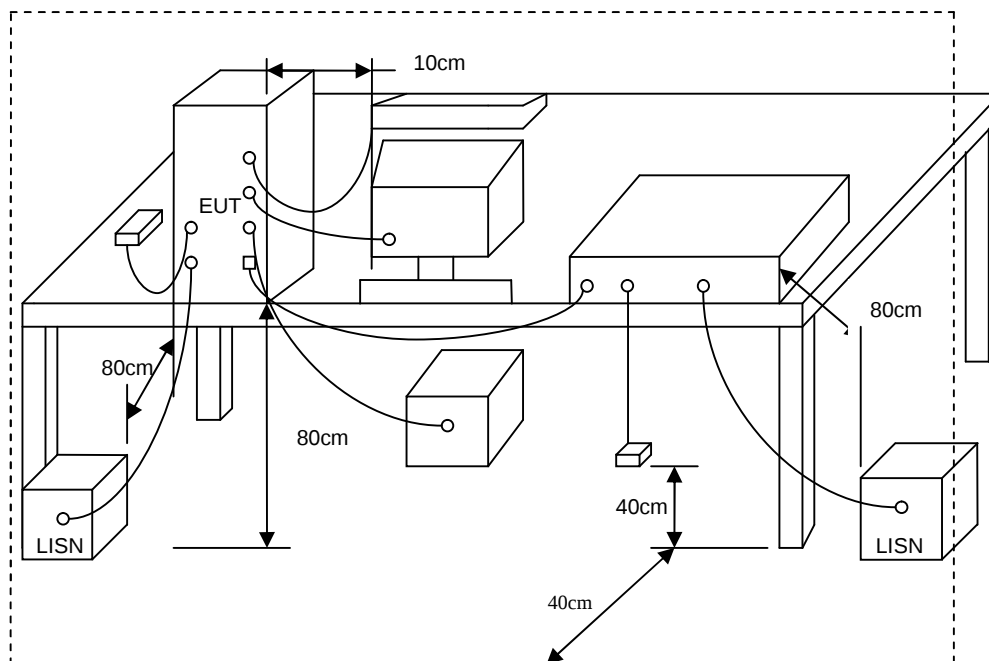
\*Decreases with the logarithm of the frequency.

### 4.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



### 4.3. Typical Test Setup



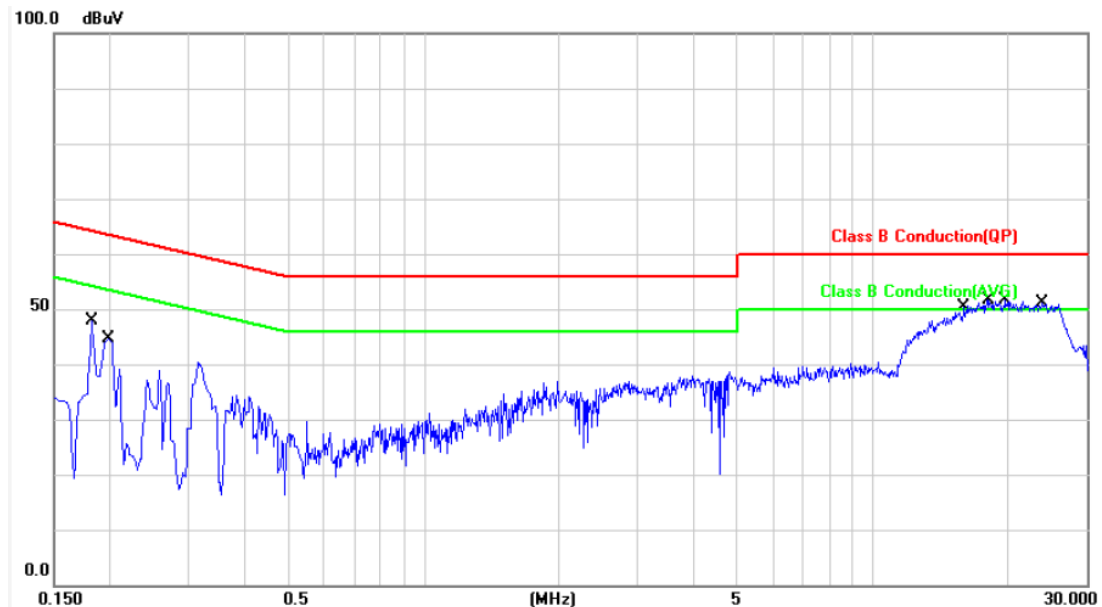
### 4.4. Measurement Equipment

| Instrument/Ancillary | Model No.   | Manufacturer | Serial No. | Calibration Date | Valid Date. |
|----------------------|-------------|--------------|------------|------------------|-------------|
| EMI Receiver         | R&S         | ESCI         | 101423     | 2014/06/05       | 2015/06/04  |
| LISN                 | Schwarzbeck | NSLK 8127    | 8127-740   | 2014/08/14       | 2015/08/13  |
| LISN                 | Schwarzbeck | NSLK 8127    | 8127-516   | 2014/03/10       | 2015/03/09  |
| Pulse Limiter        | R&S         | ESH3-Z2      | 101933     | 2014/08/12       | 2015/08/11  |
| Software             | Farad       | Ez-EMC       | ver.ct3a1  | N/A              | N/A         |



## 4.5. Test Result and Data

|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : LINE     |
| Test Mode | : 802.11a, CH36 | Temperature          | : 25 °C    |
|           |                 | Humidity             | : 45 %     |
| Test date | : Sep. 22, 2014 | Atmospheric Pressure | : 1008 hpa |



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.1819          | 9.92        | 35.72          | 45.64        | 64.39        | -18.75      | QP       | P   |
| 2   | 0.1819          | 9.92        | 18.12          | 28.04        | 54.39        | -26.35      | AVG      | P   |
| 3   | 0.1986          | 9.92        | 35.16          | 45.08        | 63.66        | -18.58      | QP       | P   |
| 4   | 0.1986          | 9.92        | 20.31          | 30.23        | 53.66        | -23.43      | AVG      | P   |
| 5   | 16.0540         | 10.40       | 36.20          | 46.60        | 60.00        | -13.40      | QP       | P   |
| 6   | 16.0540         | 10.40       | 25.39          | 35.79        | 50.00        | -14.21      | AVG      | P   |
| 7   | 18.1660         | 10.44       | 36.00          | 46.44        | 60.00        | -13.56      | QP       | P   |
| 8   | 18.1660         | 10.44       | 26.98          | 37.42        | 50.00        | -12.58      | AVG      | P   |
| 9   | 19.8260         | 10.48       | 37.36          | 47.84        | 60.00        | -12.16      | QP       | P   |
| 10  | 19.8260         | 10.48       | 25.69          | 36.17        | 50.00        | -13.83      | AVG      | P   |
| 11  | 24.0140         | 10.52       | 35.20          | 45.72        | 60.00        | -14.28      | QP       | P   |
| 12  | 24.0140         | 10.52       | 26.80          | 37.32        | 50.00        | -12.68      | AVG      | P   |

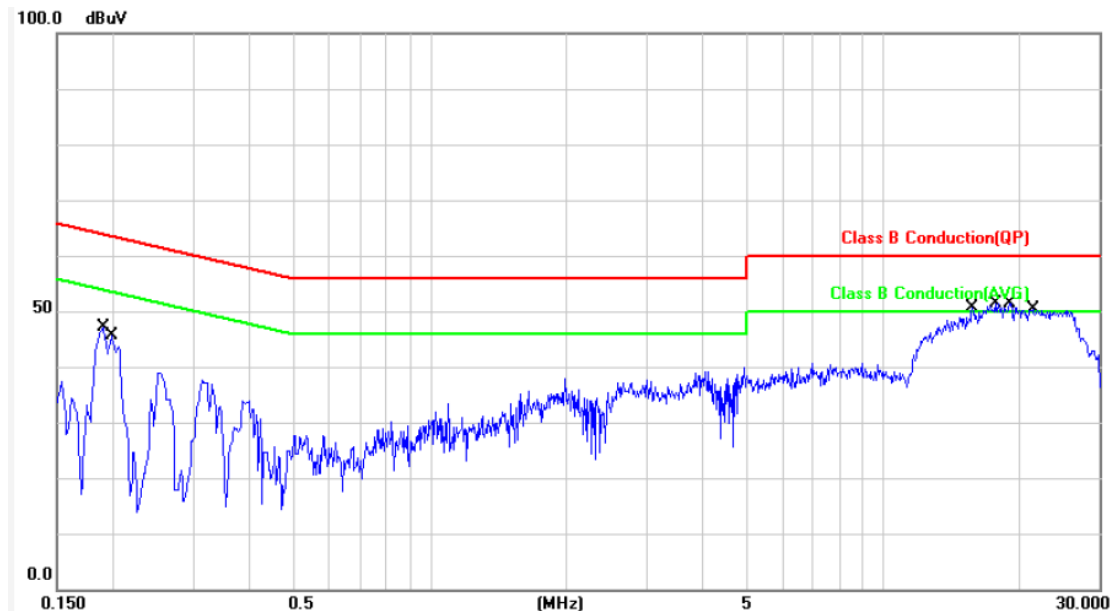
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : NEUTRAL  |
| Test Mode | : 802.11a, CH36 | Temperature          | : 25 °C    |
|           |                 | Humidity             | : 45 %     |
| Test date | : Sep. 22, 2014 | Atmospheric Pressure | : 1008 hpa |



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.1900          | 9.91        | 34.81          | 44.72        | 64.03        | -19.31      | QP       | P   |
| 2   | 0.1900          | 9.91        | 21.79          | 31.70        | 54.03        | -22.33      | AVG      | P   |
| 3   | 0.1980          | 9.91        | 33.80          | 43.71        | 63.69        | -19.98      | QP       | P   |
| 4   | 0.1980          | 9.91        | 19.99          | 29.90        | 53.69        | -23.79      | AVG      | P   |
| 5   | 15.7820         | 10.37       | 35.16          | 45.53        | 60.00        | -14.47      | QP       | P   |
| 6   | 15.7820         | 10.37       | 24.83          | 35.20        | 50.00        | -14.80      | AVG      | P   |
| 7   | 17.7020         | 10.41       | 35.40          | 45.81        | 60.00        | -14.19      | QP       | P   |
| 8   | 17.7020         | 10.41       | 26.85          | 37.26        | 50.00        | -12.74      | AVG      | P   |
| 9   | 19.0740         | 10.43       | 35.16          | 45.59        | 60.00        | -14.41      | QP       | P   |
| 10  | 19.0740         | 10.43       | 26.50          | 36.93        | 50.00        | -13.07      | AVG      | P   |
| 11  | 21.4100         | 10.47       | 36.48          | 46.95        | 60.00        | -13.05      | QP       | P   |
| 12  | 21.4100         | 10.47       | 27.47          | 37.94        | 50.00        | -12.06      | AVG      | P   |

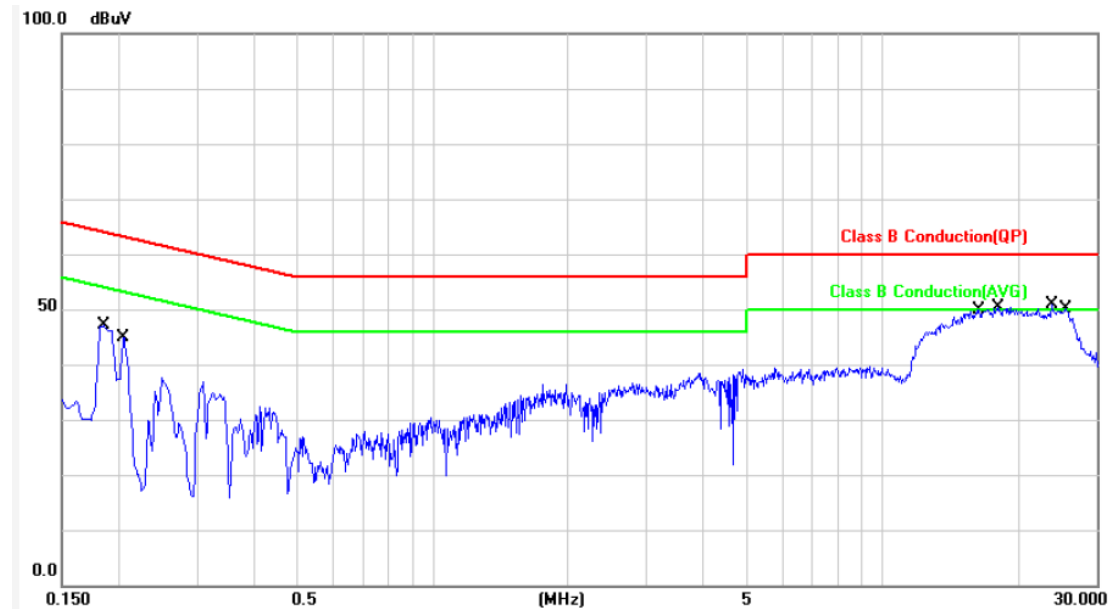
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



|           |                  |                      |            |
|-----------|------------------|----------------------|------------|
| Power     | : AC 120V        | Pol/Phase            | : LINE     |
| Test Mode | : 802.11an, CH36 | Temperature          | : 25 °C    |
|           |                  | Humidity             | : 45 %     |
| Test date | : Sep. 22, 2014  | Atmospheric Pressure | : 1008 hpa |



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.1860          | 9.92        | 34.63          | 44.55        | 64.21        | -19.66      | QP       | P   |
| 2   | 0.1860          | 9.92        | 20.33          | 30.25        | 54.21        | -23.96      | AVG      | P   |
| 3   | 0.2060          | 9.92        | 31.25          | 41.17        | 63.36        | -22.19      | QP       | P   |
| 4   | 0.2060          | 9.92        | 12.67          | 22.59        | 53.36        | -30.77      | AVG      | P   |
| 5   | 16.2698         | 10.40       | 35.26          | 45.66        | 60.00        | -14.34      | QP       | P   |
| 6   | 16.2698         | 10.40       | 26.90          | 37.30        | 50.00        | -12.70      | AVG      | P   |
| 7   | 18.0699         | 10.44       | 36.61          | 47.05        | 60.00        | -12.95      | QP       | P   |
| 8   | 18.0699         | 10.44       | 24.76          | 35.20        | 50.00        | -14.80      | AVG      | P   |
| 9   | 23.8740         | 10.52       | 35.03          | 45.55        | 60.00        | -14.45      | QP       | P   |
| 10  | 23.8740         | 10.52       | 26.42          | 36.94        | 50.00        | -13.06      | AVG      | P   |
| 11  | 25.6980         | 10.52       | 35.64          | 46.16        | 60.00        | -13.84      | QP       | P   |
| 12  | 25.6980         | 10.52       | 28.22          | 38.74        | 50.00        | -11.26      | AVG      | P   |

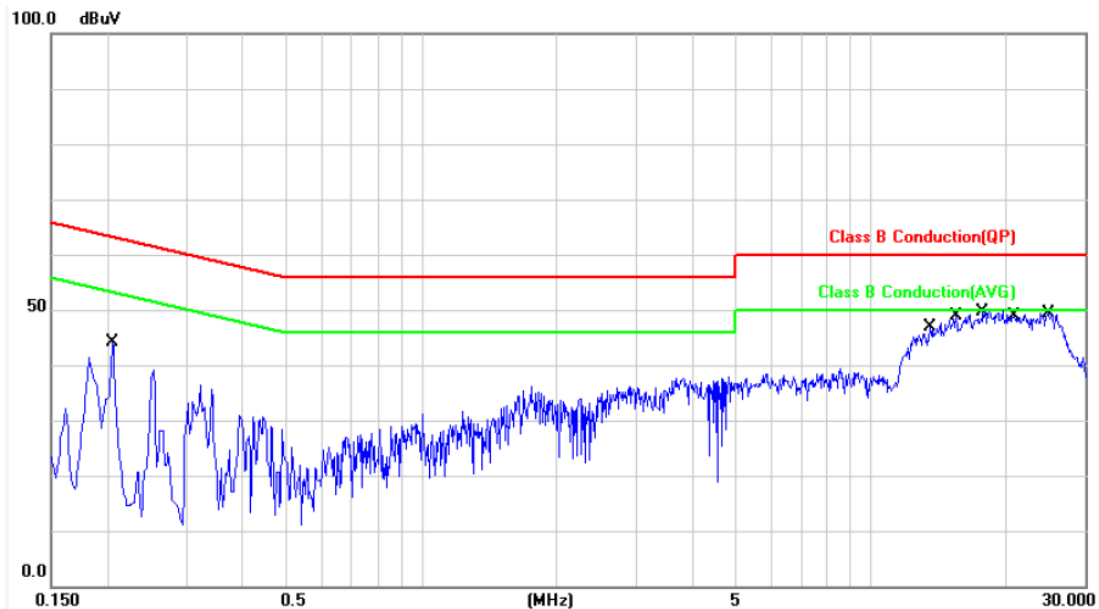
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



|           |                  |                      |            |
|-----------|------------------|----------------------|------------|
| Power     | : AC 120V        | Pol/Phase            | : NEUTRAL  |
| Test Mode | : 802.11an, CH36 | Temperature          | : 25 °C    |
|           |                  | Humidity             | : 45 %     |
| Test date | : Sep. 22, 2014  | Atmospheric Pressure | : 1008 hpa |



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.2060          | 9.91        | 31.13          | 41.04        | 63.36        | -22.32      | QP       | P   |
| 2   | 0.2060          | 9.91        | 12.63          | 22.54        | 53.36        | -30.82      | AVG      | P   |
| 3   | 13.6020         | 10.33       | 33.79          | 44.12        | 60.00        | -15.88      | QP       | P   |
| 4   | 13.6020         | 10.33       | 21.79          | 32.12        | 50.00        | -17.88      | AVG      | P   |
| 5   | 15.5420         | 10.36       | 35.62          | 45.98        | 60.00        | -14.02      | QP       | P   |
| 6   | 15.5420         | 10.36       | 24.65          | 35.01        | 50.00        | -14.99      | AVG      | P   |
| 7   | 17.8420         | 10.41       | 35.95          | 46.36        | 60.00        | -13.64      | QP       | P   |
| 8   | 17.8420         | 10.41       | 26.31          | 36.72        | 50.00        | -13.28      | AVG      | P   |
| 9   | 20.9220         | 10.46       | 35.44          | 45.90        | 60.00        | -14.10      | QP       | P   |
| 10  | 20.9220         | 10.46       | 26.68          | 37.14        | 50.00        | -12.86      | AVG      | P   |
| 11  | 24.8260         | 10.51       | 35.69          | 46.20        | 60.00        | -13.80      | QP       | P   |
| 12  | 24.8260         | 10.51       | 25.15          | 35.66        | 50.00        | -14.34      | AVG      | P   |

Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



## 5. Test of Radiated Emission

### 5.1. Test Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.3dBuV/m at 3m). In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequencies<br>(MHz) | Field Strength<br>(micorvolts/meter) | Measurement Distance<br>(meters) |
|----------------------|--------------------------------------|----------------------------------|
| 0.009-0.490          | 2400/F(KHz)                          | 300                              |
| 0.490~1.705          | 24000/F(KHz)                         | 30                               |
| 1.705~30.0           | 30                                   | 30                               |
| 30~88                | 100                                  | 3                                |
| 88~216               | 150                                  | 3                                |
| 216~960              | 200                                  | 3                                |
| Above 960            | 500                                  | 3                                |

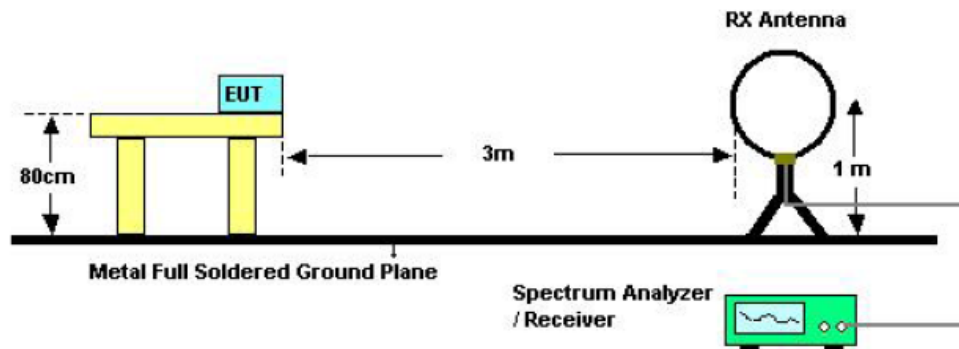
### 5.2. Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

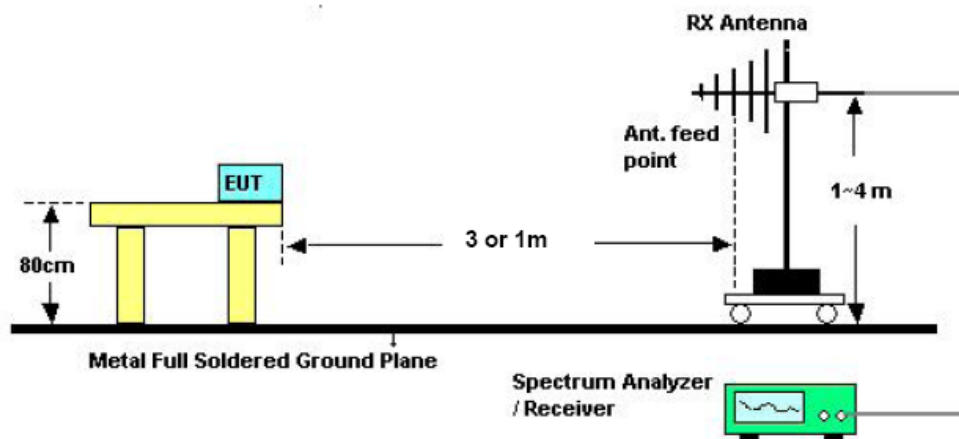


### 5.3. Typical Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor =  $20 \log (\text{specific distance [3m]} / \text{test distance [1m]})$  (dB);

Limit line = specific limits (dBUV) + distance extrapolation factor [9.54 dB].

### 5.4. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| EMI Receiver         | R&S          | ESCI      | 100443     | 2014/04/09       | 2015/04/08 |
| Bilog Antenna        | Schwarzbeck  | VULB 9168 | 275        | 2014/09/18       | 2015/09/17 |
| Amplifier            | QuieTek      | AP/0100A  | CHM0906075 | 2014/09/17       | 2015/09/16 |
| SPECTRUM ANALYZER    | R&S          | FSP40     | 100219     | 2014/09/03       | 2015/09/02 |
| HORN ANTENNA         | EMCO         | 3115      | 31601      | 2014/07/09       | 2015/07/08 |
| PREAMPLIFIER         | AGILENT      | 8449B     | 3008A01954 | 2014/03/28       | 2015/03/27 |
| Software             | Farad        | Ez-EMC    | ver.ct3a1  | N/A              | N/A        |

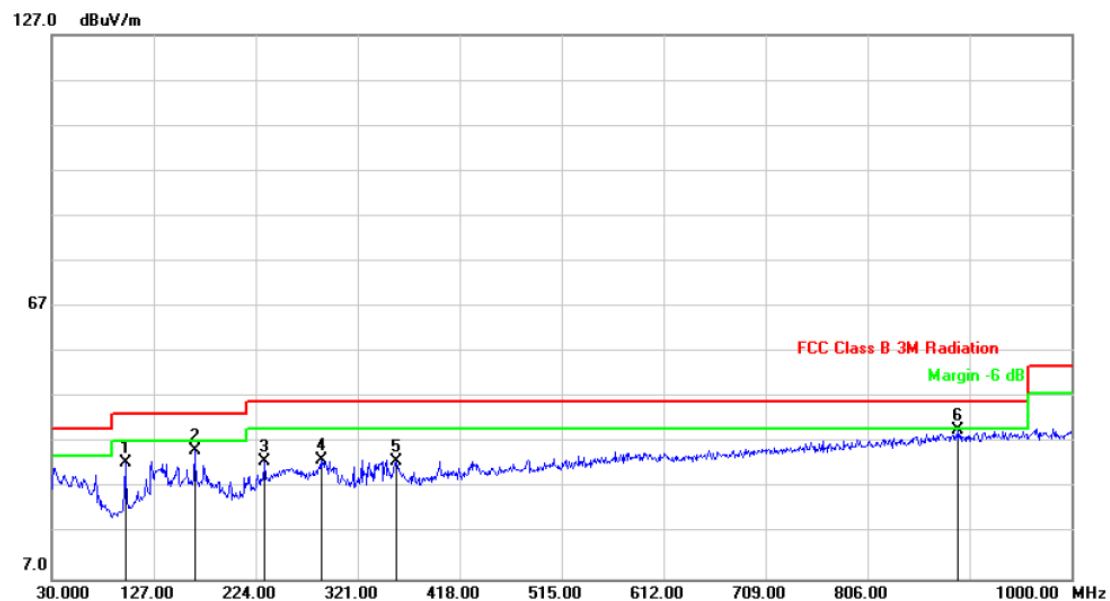


### 5.5. Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

### 5.6. Test Result and Data (30MHz ~ 1GHz)

|           |   |               |                      |   |          |
|-----------|---|---------------|----------------------|---|----------|
| Power     | : | AC 120V       | Pol/Phase            | : | VERTICAL |
| Test Mode | : | 802.11a, CH36 | Temperature          | : | 26 °C    |
| Test Date | : | Sep. 21, 2014 | Humidity             | : | 50 %     |
| Memo      | : |               | Atmospheric Pressure | : | 1009 hpa |



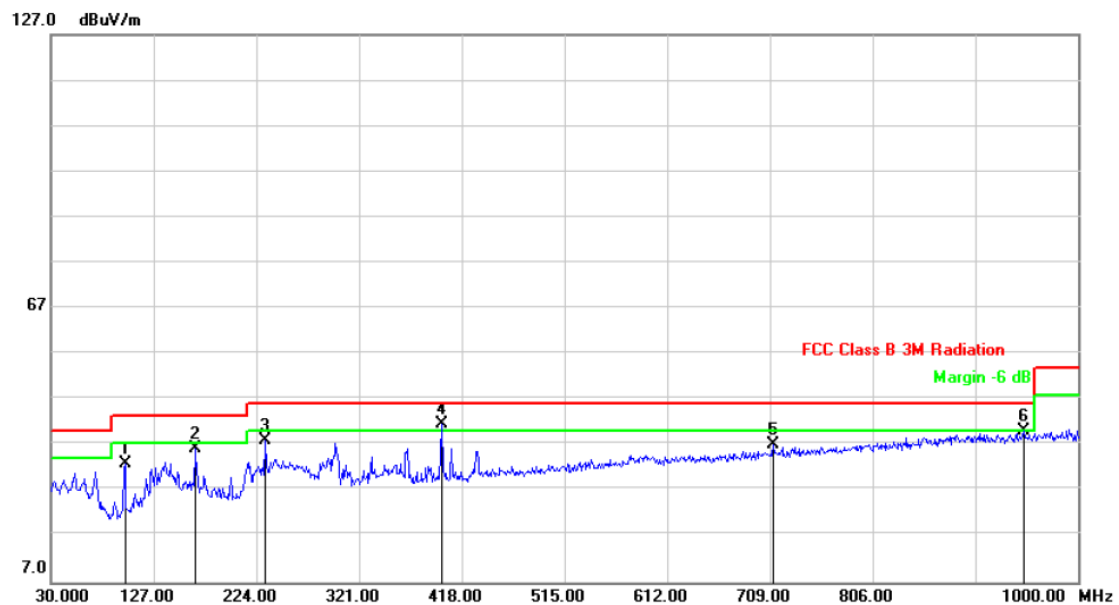
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 99.8400         | -13.09        | 45.74          | 32.65          | 43.50          | -10.85      | peak | 105         | 156           |
| 2   | 165.8000        | -8.41         | 43.72          | 35.31          | 43.50          | -8.19       | peak | 105         | 156           |
| 3   | 232.7300        | -9.98         | 42.97          | 32.99          | 46.00          | -13.01      | peak | 105         | 156           |
| 4   | 286.0800        | -7.89         | 41.01          | 33.12          | 46.00          | -12.88      | peak | 105         | 156           |
| 5   | 357.8600        | -5.93         | 38.97          | 33.04          | 46.00          | -12.96      | peak | 105         | 156           |
| 6   | 892.3300        | 3.58          | 36.13          | 39.71          | 46.00          | -6.29       | peak | 105         | 156           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



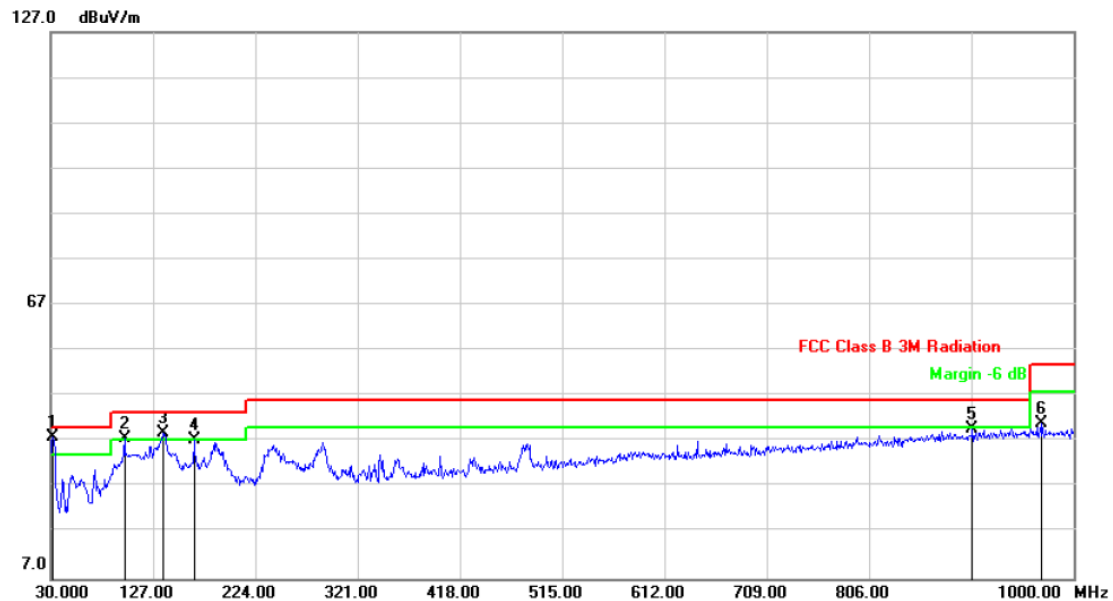
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 99.8400         | -13.09        | 46.04          | 32.95          | 43.50          | -10.55      | peak | 104         | 162           |
| 2   | 165.8000        | -8.41         | 44.62          | 36.21          | 43.50          | -7.29       | peak | 104         | 162           |
| 3   | 232.7300        | -9.98         | 47.93          | 37.95          | 46.00          | -8.05       | peak | 104         | 162           |
| 4   | 399.5700        | -4.68         | 46.39          | 41.71          | 46.00          | -4.29       | peak | 104         | 162           |
| 5   | 711.9100        | 1.14          | 36.04          | 37.18          | 46.00          | -8.82       | peak | 104         | 162           |
| 6   | 948.5900        | 4.40          | 35.84          | 40.24          | 46.00          | -5.76       | peak | 104         | 162           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



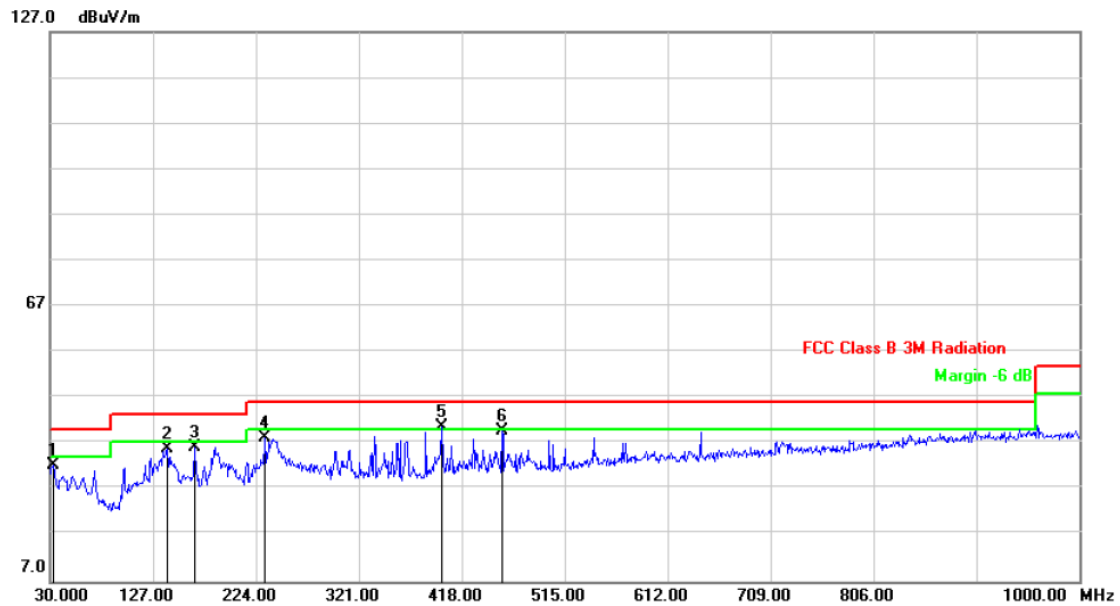
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 31.9400         | -8.85         | 46.83          | 37.98          | 40.00          | -2.02       | peak | 107         | 168           |
| 2   | 99.8400         | -13.09        | 50.72          | 37.63          | 43.50          | -5.87       | peak | 107         | 168           |
| 3   | 136.7000        | -9.04         | 48.05          | 39.01          | 43.50          | -4.49       | peak | 107         | 168           |
| 4   | 165.8000        | -8.41         | 45.89          | 37.48          | 43.50          | -6.02       | peak | 107         | 168           |
| 5   | 903.9700        | 3.74          | 36.13          | 39.87          | 46.00          | -6.13       | peak | 107         | 168           |
| 6   | 969.9300        | 4.51          | 36.40          | 40.91          | 54.00          | -13.09      | peak | 107         | 168           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 32.9100         | -8.79         | 41.12          | 32.33          | 40.00          | -7.67       | peak | 104         | 163           |
| 2   | 140.5800        | -8.67         | 44.67          | 36.00          | 43.50          | -7.50       | peak | 104         | 163           |
| 3   | 165.8000        | -8.41         | 44.68          | 36.27          | 43.50          | -7.23       | peak | 104         | 163           |
| 4   | 232.7300        | -9.98         | 48.35          | 38.37          | 46.00          | -7.63       | peak | 104         | 163           |
| 5   | 399.5700        | -4.68         | 45.46          | 40.78          | 46.00          | -5.22       | peak | 104         | 163           |
| 6   | 455.8300        | -3.32         | 43.29          | 39.97          | 46.00          | -6.03       | peak | 104         | 163           |

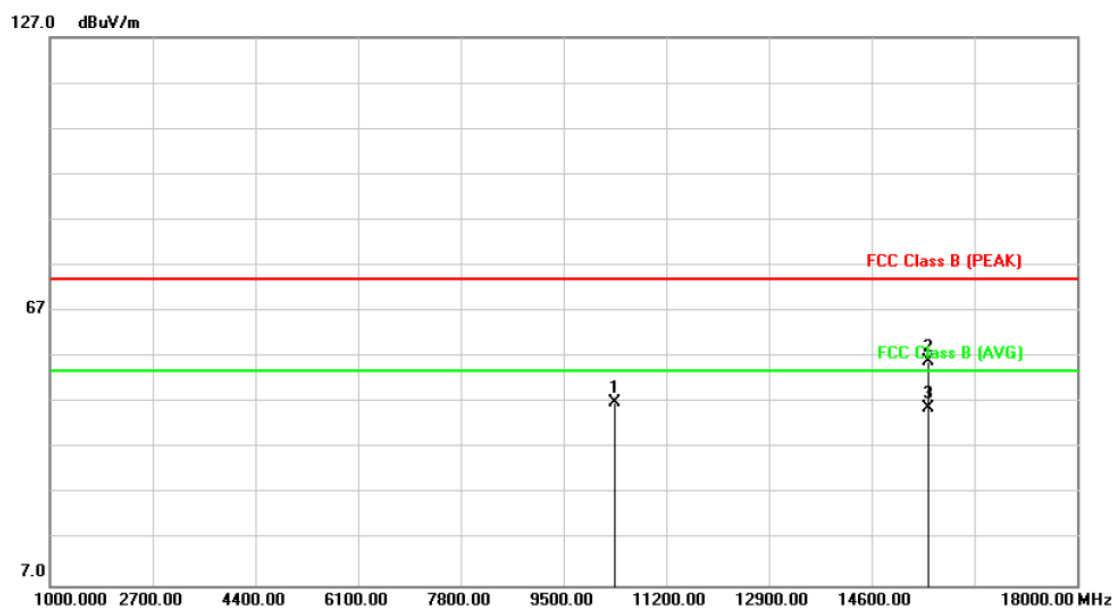
Note: Level = Reading + Factor

Margin = Level - Limit



### 5.7. Test Result and Data (Above 1GHz)

|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH36 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



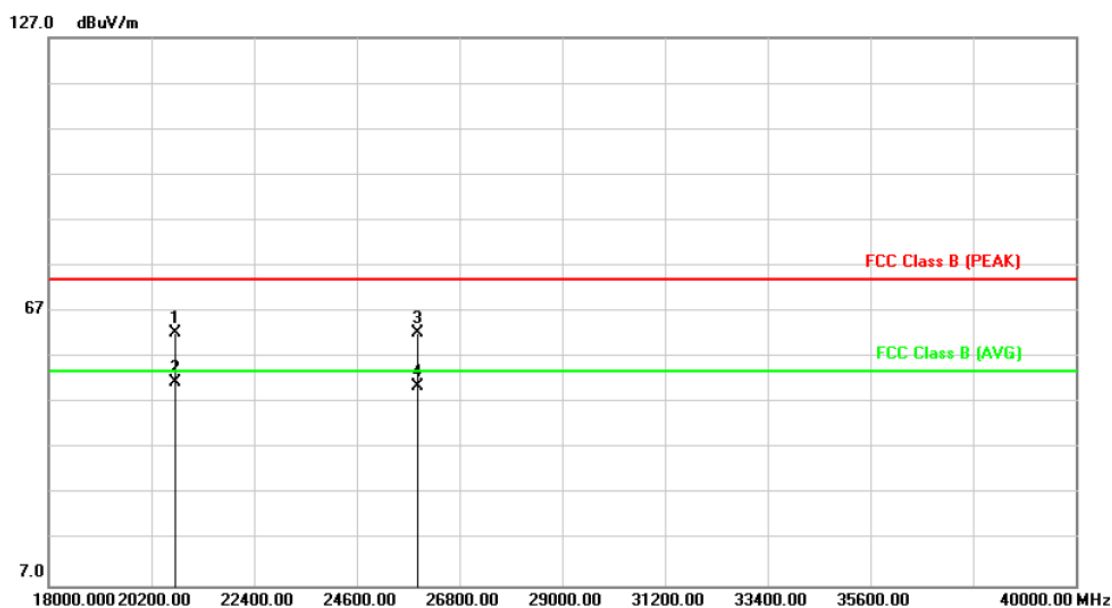
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10360.000       | -6.95         | 53.93          | 46.98          | 74.00          | -27.02      | peak | 107         | 165           |
| 2   | 15540.000       | -1.69         | 57.74          | 56.05          | 74.00          | -17.95      | peak | 107         | 165           |
| 3   | 15540.000       | -1.69         | 47.66          | 45.97          | 54.00          | -8.03       | AVG  | 107         | 165           |

Note: Level = Reading + Factor

Margin = Level – Limit



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH36 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



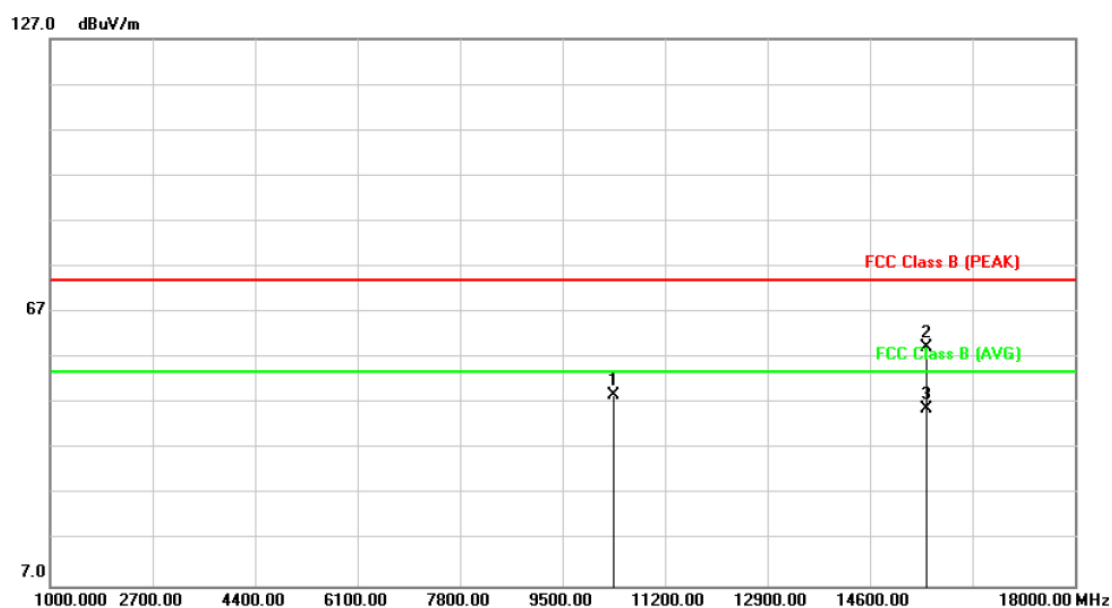
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20720.000       | 1.99          | 60.40          | 62.39          | 74.00          | -11.61      | peak | 102         | 163           |
| 2   | 20720.000       | 1.99          | 49.49          | 51.48          | 54.00          | -2.52       | AVG  | 102         | 163           |
| 3   | 25900.000       | 1.94          | 60.44          | 62.38          | 74.00          | -11.62      | peak | 102         | 163           |
| 4   | 25900.000       | 1.94          | 48.72          | 50.66          | 54.00          | -3.34       | AVG  | 102         | 163           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



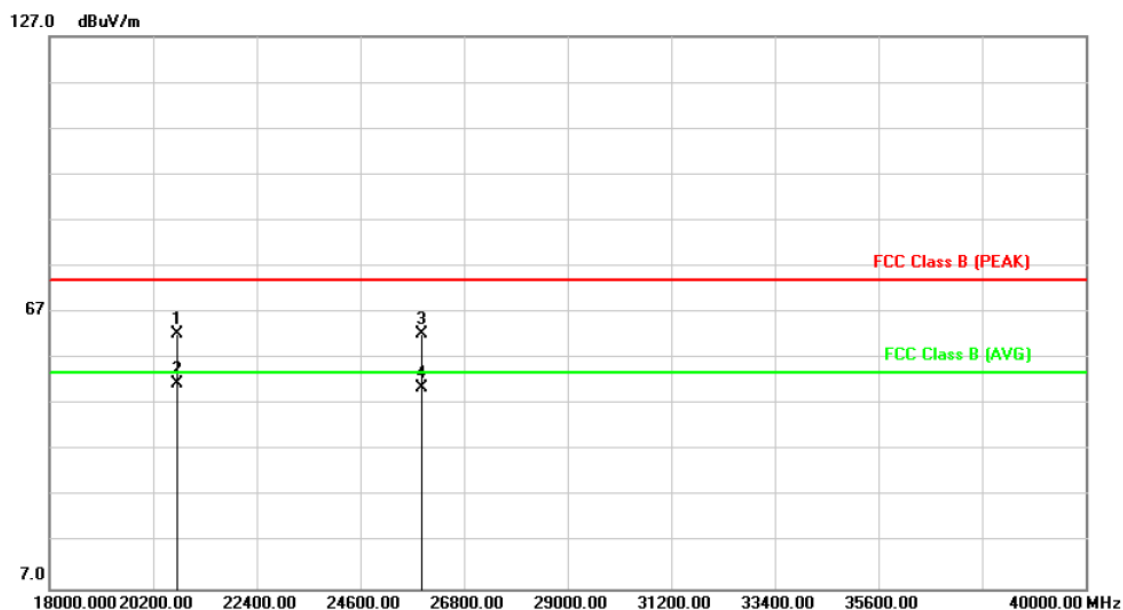
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10360.000       | -6.95         | 55.90          | 48.95          | 74.00          | -25.05      | peak | 104         | 165           |
| 2   | 15540.000       | -1.69         | 61.14          | 59.45          | 74.00          | -14.55      | peak | 104         | 165           |
| 3   | 15540.000       | -1.69         | 47.65          | 45.96          | 54.00          | -8.04       | AVG  | 104         | 165           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



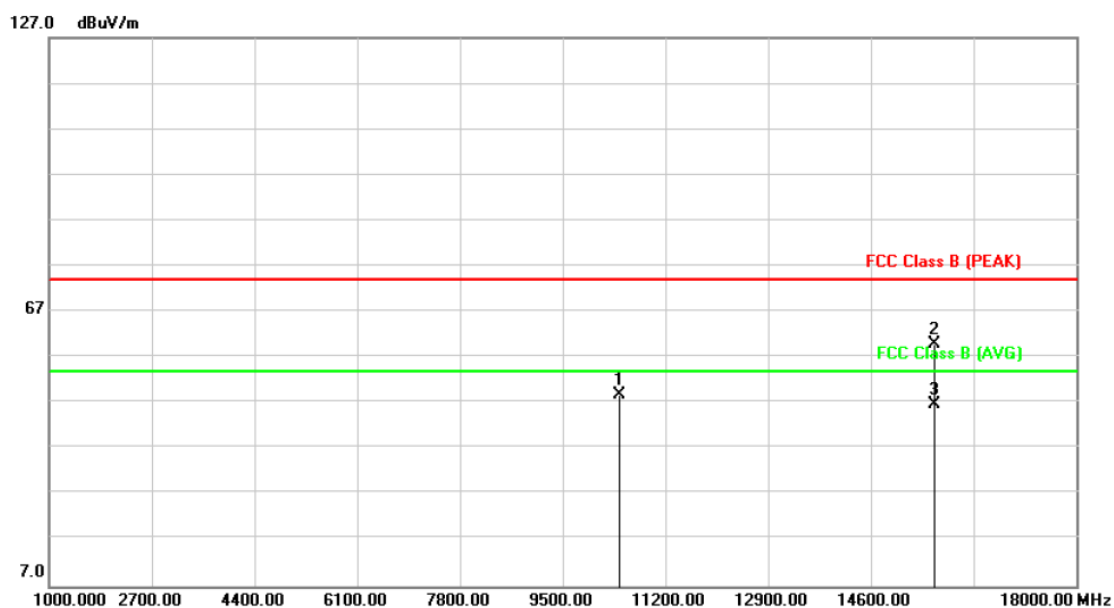
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20720.000       | 1.99          | 60.22          | 62.21          | 74.00          | -11.79      | peak | 105         | 171           |
| 2   | 20720.000       | 1.99          | 49.50          | 51.49          | 54.00          | -2.51       | AVG  | 105         | 171           |
| 3   | 25900.000       | 1.94          | 60.33          | 62.27          | 74.00          | -11.73      | peak | 105         | 171           |
| 4   | 25900.000       | 1.94          | 48.75          | 50.69          | 54.00          | -3.31       | AVG  | 105         | 171           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH44 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



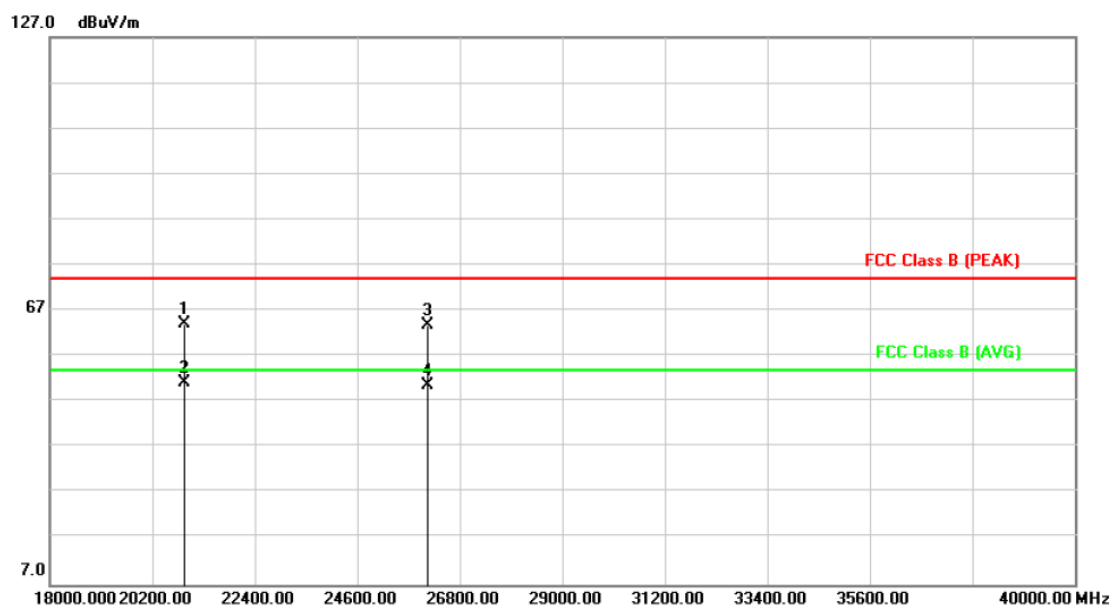
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10440.000       | -7.09         | 55.83          | 48.74          | 74.00          | -25.26      | peak | 103         | 184           |
| 2   | 15660.000       | -1.38         | 61.20          | 59.82          | 74.00          | -14.18      | peak | 103         | 184           |
| 3   | 15660.000       | -1.38         | 47.99          | 46.61          | 54.00          | -7.39       | AVG  | 103         | 184           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH44 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



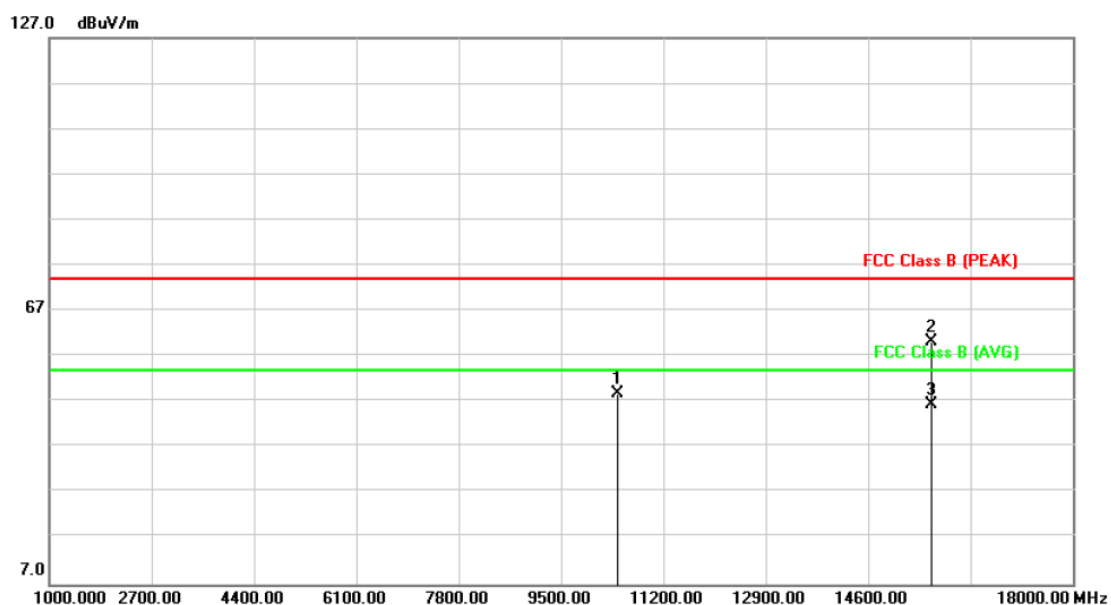
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20880.000       | 2.22          | 61.90          | 64.12          | 74.00          | -9.88       | peak | 107         | 165           |
| 2   | 20880.000       | 2.22          | 48.89          | 51.11          | 54.00          | -2.89       | AVG  | 107         | 165           |
| 3   | 26100.000       | 1.81          | 61.92          | 63.73          | 74.00          | -10.27      | peak | 107         | 165           |
| 4   | 26100.000       | 1.81          | 48.98          | 50.79          | 54.00          | -3.21       | AVG  | 107         | 165           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH44 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10440.000       | -7.09         | 55.95          | 48.86          | 74.00          | -25.14      | peak | 105         | 170           |
| 2   | 15660.000       | -1.38         | 61.71          | 60.33          | 74.00          | -13.67      | peak | 105         | 170           |
| 3   | 15660.000       | -1.38         | 47.95          | 46.57          | 54.00          | -7.43       | AVG  | 105         | 170           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH44 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



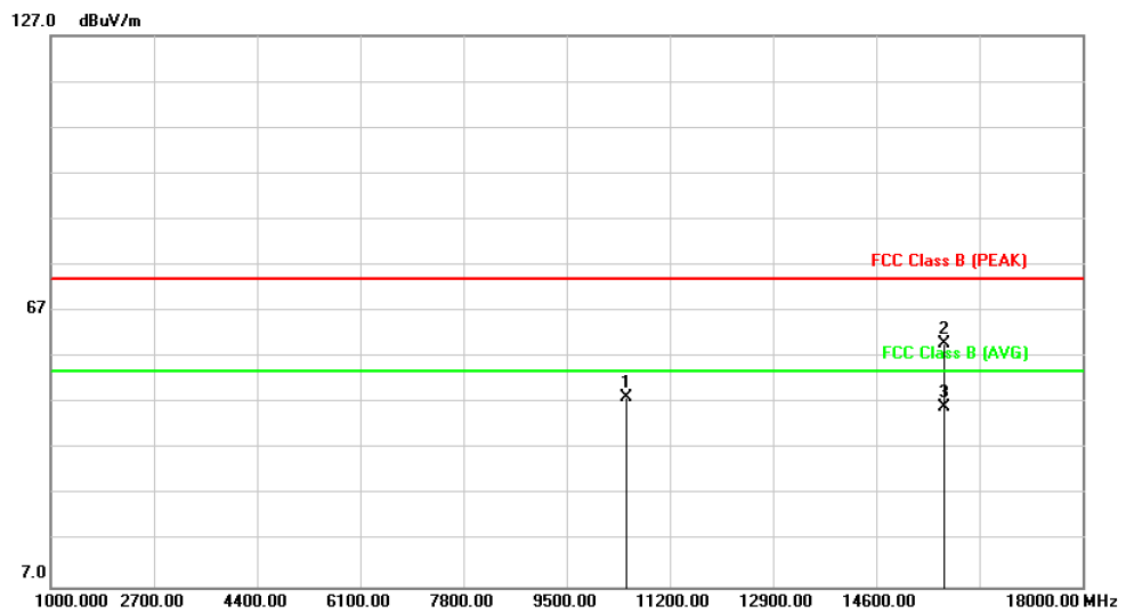
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20880.000       | 2.22          | 61.93          | 64.15          | 74.00          | -9.85       | peak | 110         | 166           |
| 2   | 20880.000       | 2.22          | 48.84          | 51.06          | 54.00          | -2.94       | AVG  | 110         | 166           |
| 3   | 26100.000       | 1.81          | 62.20          | 64.01          | 74.00          | -9.99       | peak | 110         | 166           |
| 4   | 26100.000       | 1.81          | 48.97          | 50.78          | 54.00          | -3.22       | AVG  | 110         | 166           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH48 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



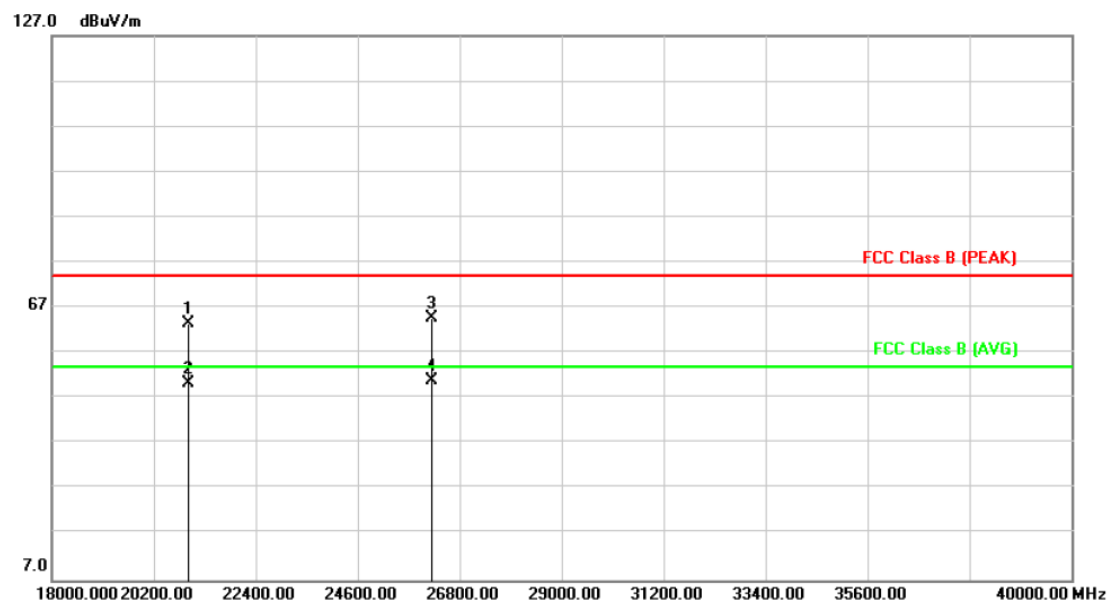
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10480.000       | -7.15         | 55.54          | 48.39          | 74.00          | -25.61      | peak | 101         | 177           |
| 2   | 15720.000       | -1.22         | 61.20          | 59.98          | 74.00          | -14.02      | peak | 101         | 177           |
| 3   | 15720.000       | -1.22         | 47.51          | 46.29          | 54.00          | -7.71       | AVG  | 101         | 177           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |            |
|-----------|-----------------|----------------------|------------|
| Power     | : AC 120V       | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11a, CH48 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %     |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa |



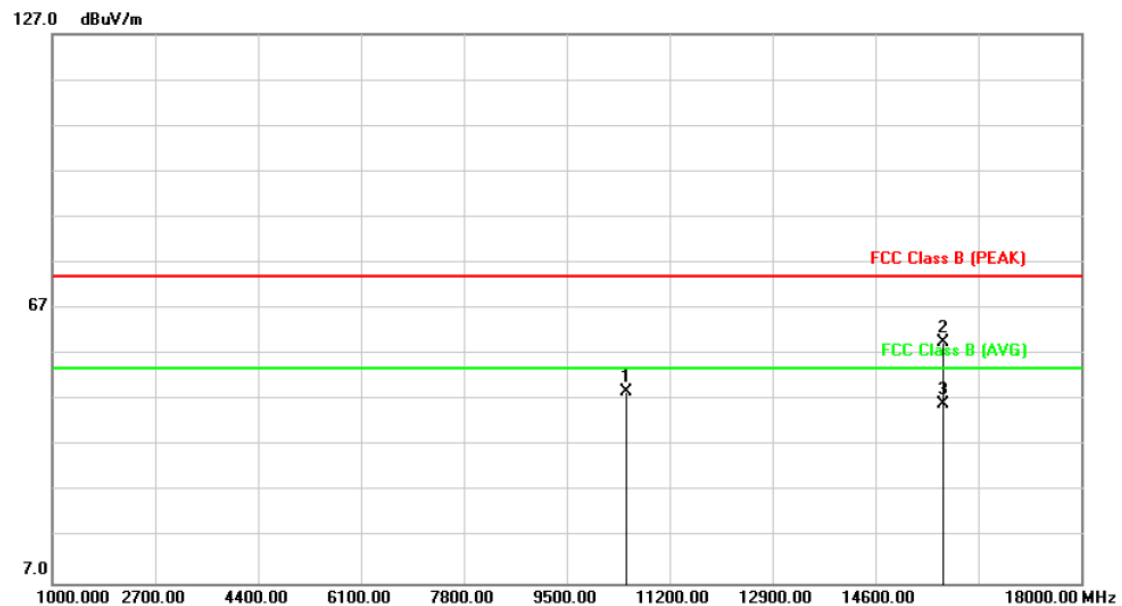
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20960.000       | 2.33          | 61.10          | 63.43          | 74.00          | -10.57      | peak | 108         | 176           |
| 2   | 20960.000       | 2.33          | 47.98          | 50.31          | 54.00          | -3.69       | AVG  | 108         | 176           |
| 3   | 26200.000       | 1.81          | 63.05          | 64.86          | 74.00          | -9.14       | peak | 108         | 176           |
| 4   | 26200.000       | 1.81          | 49.28          | 51.09          | 54.00          | -2.91       | AVG  | 108         | 176           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH48 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



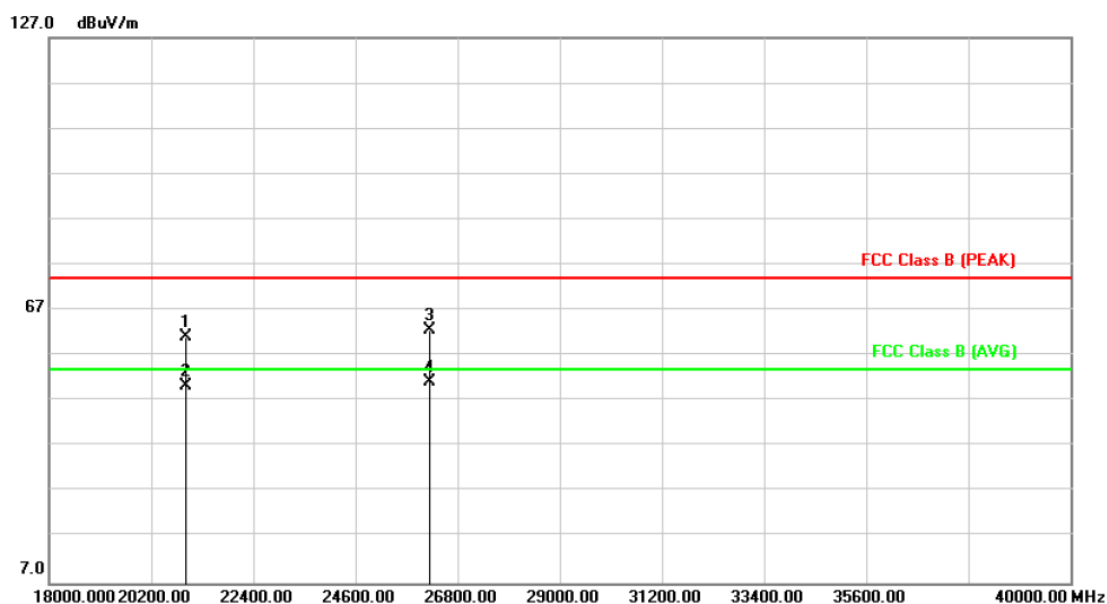
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10480.000       | -7.15         | 56.04          | 48.89          | 74.00          | -25.11      | peak | 106         | 188           |
| 2   | 15720.000       | -1.22         | 60.75          | 59.53          | 74.00          | -14.47      | peak | 106         | 188           |
| 3   | 15720.000       | -1.22         | 47.48          | 46.26          | 54.00          | -7.74       | AVG  | 106         | 188           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                 |                      |              |
|-----------|-----------------|----------------------|--------------|
| Power     | : AC 120V       | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11a, CH48 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014 | Humidity             | : 50 %       |
| Memo      | :               | Atmospheric Pressure | : 1009 hpa   |



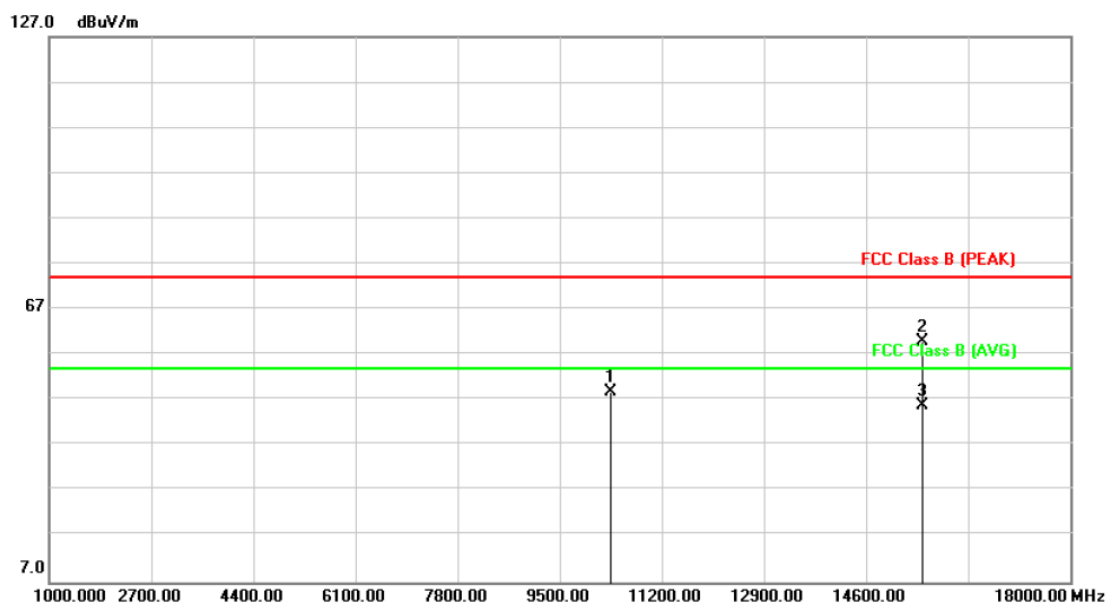
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20960.000       | 2.33          | 58.94          | 61.27          | 74.00          | -12.73      | peak | 104         | 185           |
| 2   | 20960.000       | 2.33          | 48.02          | 50.35          | 54.00          | -3.65       | AVG  | 104         | 185           |
| 3   | 26200.000       | 1.81          | 60.93          | 62.74          | 74.00          | -11.26      | peak | 104         | 185           |
| 4   | 26200.000       | 1.81          | 49.31          | 51.12          | 54.00          | -2.88       | AVG  | 104         | 185           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



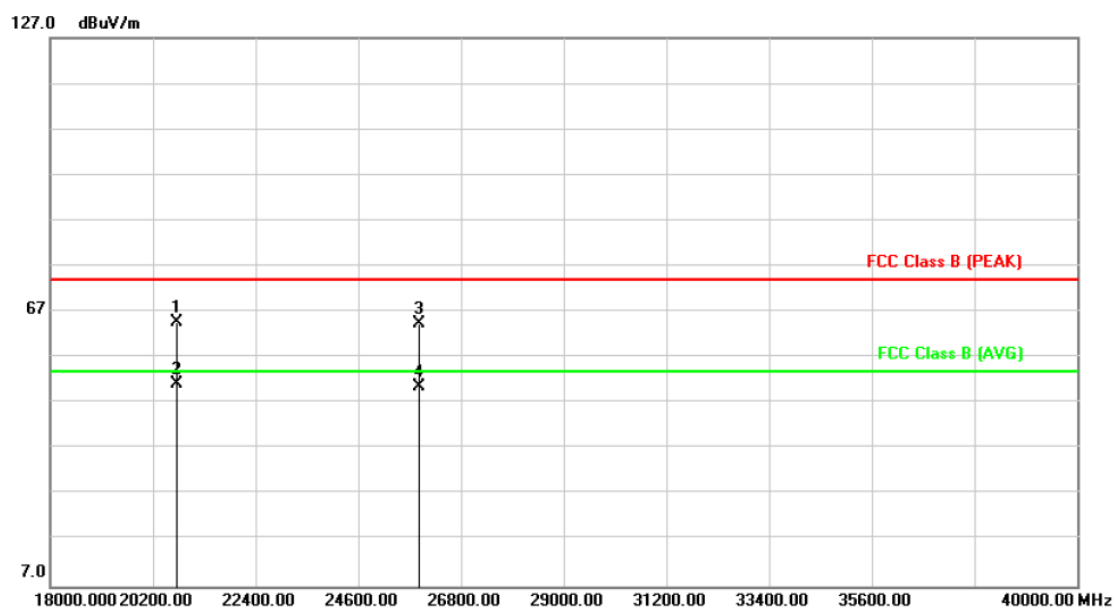
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10360.000       | -6.95         | 55.92          | 48.97          | 74.00          | -25.03      | peak | 102         | 176           |
| 2   | 15540.000       | -1.69         | 61.54          | 59.85          | 74.00          | -14.15      | peak | 102         | 176           |
| 3   | 15540.000       | -1.69         | 47.60          | 45.91          | 54.00          | -8.09       | AVG  | 102         | 176           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



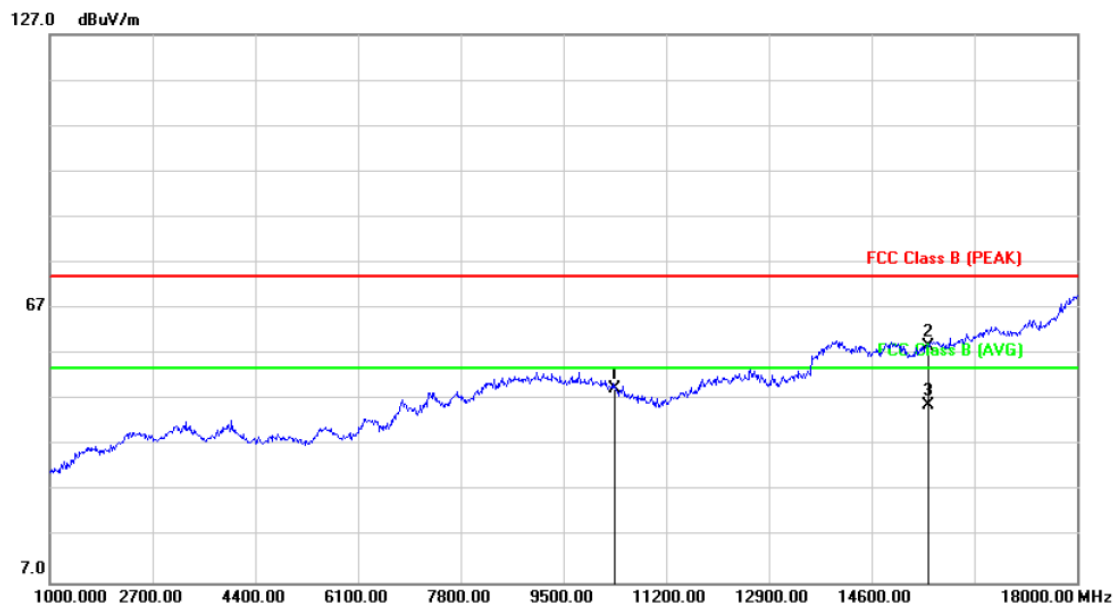
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20720.000       | 1.99          | 62.65          | 64.64          | 74.00          | -9.36       | peak | 103         | 175           |
| 2   | 20720.000       | 1.99          | 49.41          | 51.40          | 54.00          | -2.60       | AVG  | 103         | 175           |
| 3   | 25900.000       | 1.94          | 62.46          | 64.40          | 74.00          | -9.60       | peak | 103         | 175           |
| 4   | 25900.000       | 1.94          | 48.66          | 50.60          | 54.00          | -3.40       | AVG  | 103         | 175           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



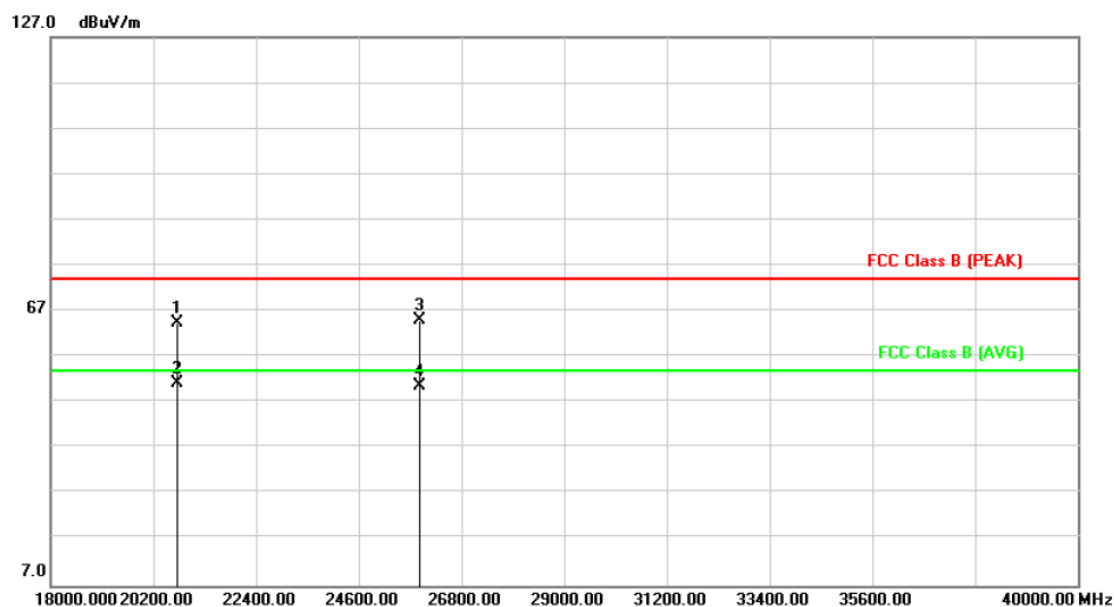
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10360.000       | -6.95         | 56.32          | 49.37          | 74.00          | -24.63      | peak | 105         | 164           |
| 2   | 15540.000       | -1.69         | 60.34          | 58.65          | 74.00          | -15.35      | peak | 105         | 164           |
| 3   | 15540.000       | -1.69         | 47.56          | 45.87          | 54.00          | -8.13       | AVG  | 105         | 164           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH36 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



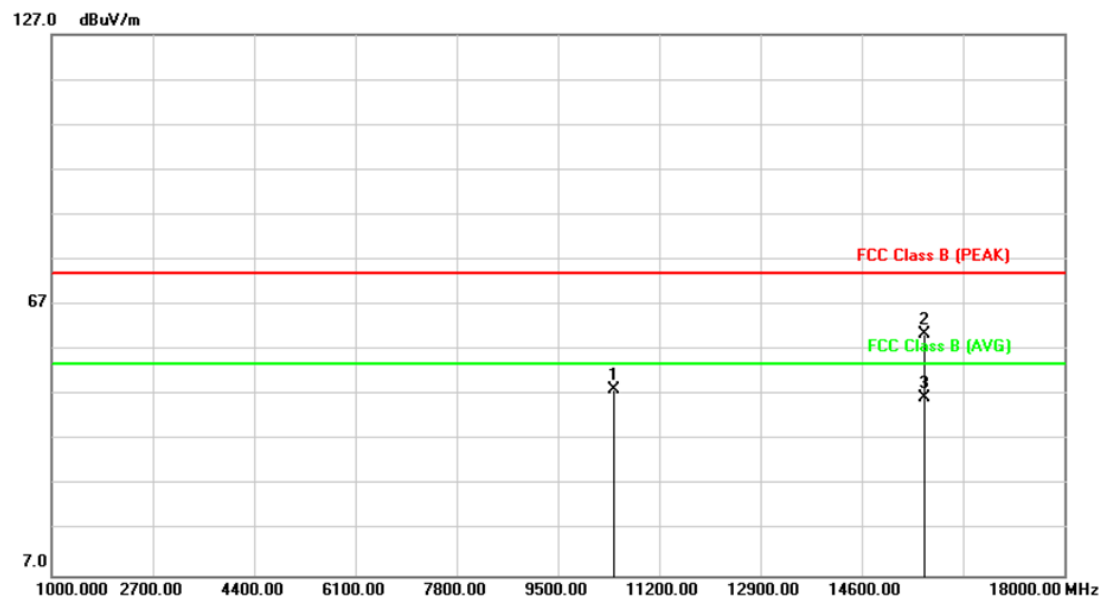
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20720.000       | 1.99          | 62.54          | 64.53          | 74.00          | -9.47       | peak | 108         | 164           |
| 2   | 20720.000       | 1.99          | 49.38          | 51.37          | 54.00          | -2.63       | AVG  | 108         | 164           |
| 3   | 25900.000       | 1.94          | 63.25          | 65.19          | 74.00          | -8.81       | peak | 108         | 164           |
| 4   | 25900.000       | 1.94          | 48.70          | 50.64          | 54.00          | -3.36       | AVG  | 108         | 164           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH44 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



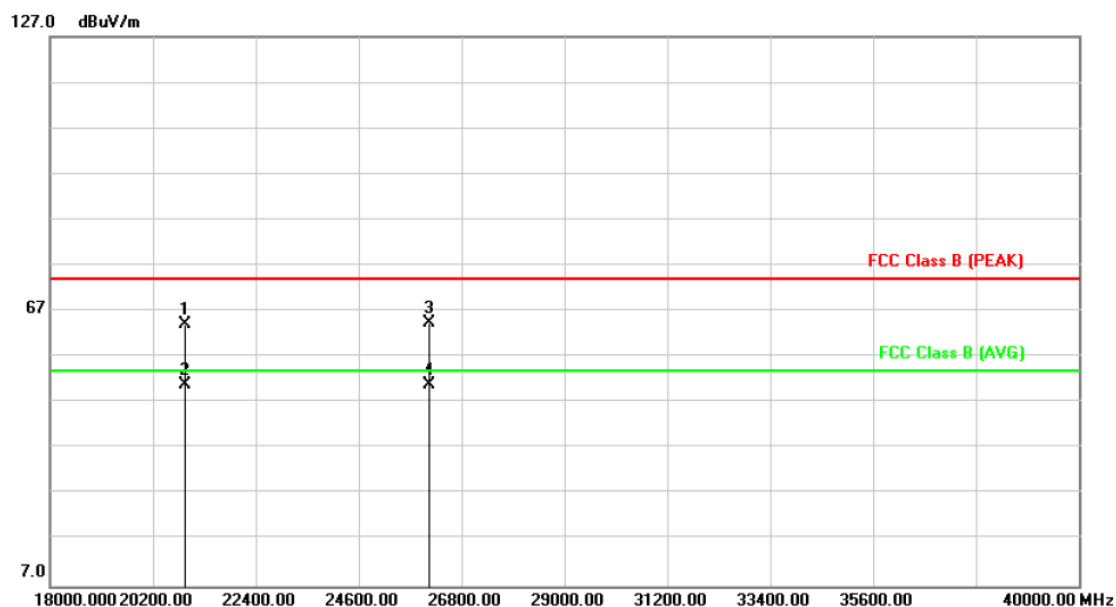
| No. | Frequency<br>(MHz) | Factor<br>(dB/m) | Reading<br>(dBuV) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Det. | Height<br>(cm) | Azimuth<br>(deg) |
|-----|--------------------|------------------|-------------------|-------------------|-------------------|----------------|------|----------------|------------------|
| 1   | 10440.000          | -7.09            | 55.28             | 48.19             | 74.00             | -25.81         | peak | 102            | 170              |
| 2   | 15660.000          | -1.38            | 61.85             | 60.47             | 74.00             | -13.53         | peak | 102            | 170              |
| 3   | 15660.000          | -1.38            | 47.88             | 46.50             | 54.00             | -7.50          | AVG  | 102            | 170              |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH44 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



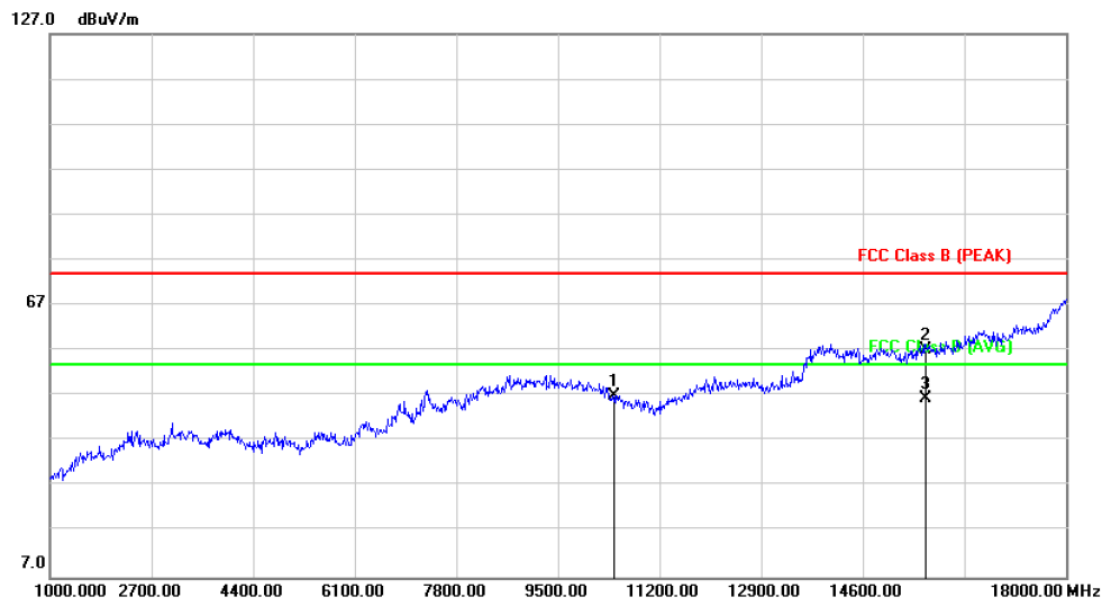
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20880.000       | 2.22          | 62.07          | 64.29          | 74.00          | -9.71       | peak | 107         | 162           |
| 2   | 20880.000       | 2.22          | 48.77          | 50.99          | 54.00          | -3.01       | AVG  | 107         | 162           |
| 3   | 26100.000       | 1.81          | 62.68          | 64.49          | 74.00          | -9.51       | peak | 107         | 162           |
| 4   | 26100.000       | 1.81          | 49.03          | 50.84          | 54.00          | -3.16       | AVG  | 107         | 162           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH44 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



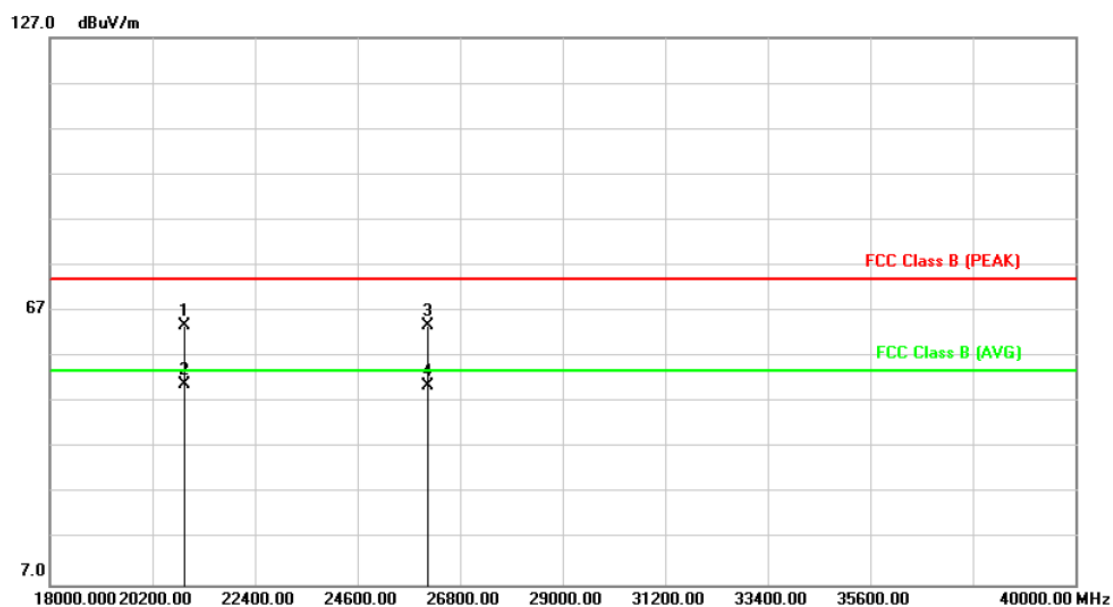
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10440.000       | -7.09         | 54.15          | 47.06          | 74.00          | -26.94      | peak | 104         | 159           |
| 2   | 15660.000       | -1.38         | 58.50          | 57.12          | 74.00          | -16.88      | peak | 104         | 159           |
| 3   | 15660.000       | -1.38         | 47.91          | 46.53          | 54.00          | -7.47       | AVG  | 104         | 159           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH44 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



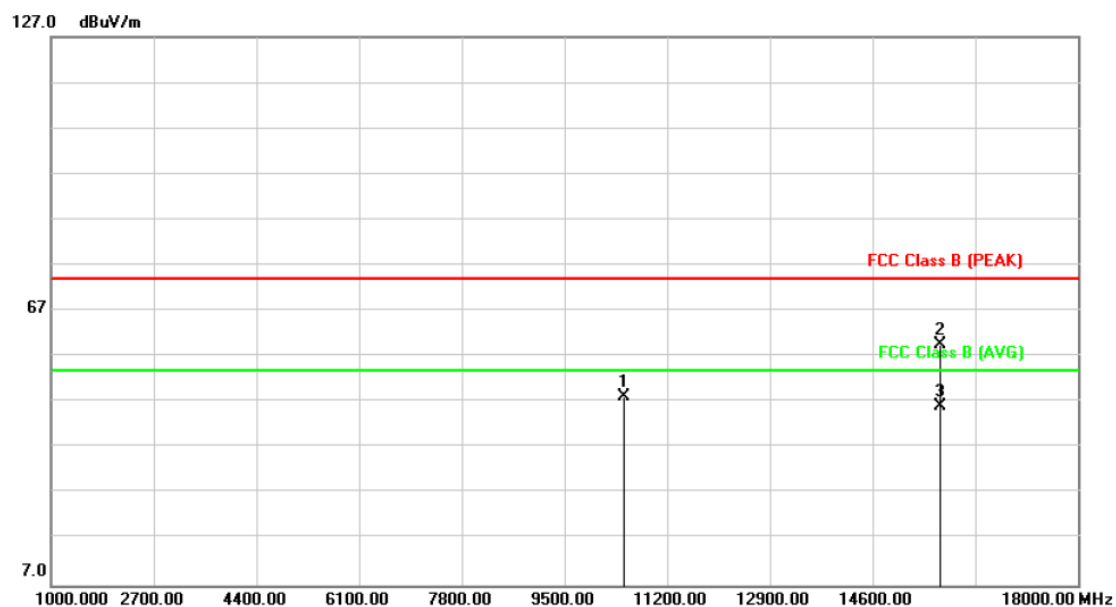
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20880.000       | 2.22          | 61.59          | 63.81          | 74.00          | -10.19      | peak | 101         | 178           |
| 2   | 20880.000       | 2.22          | 48.75          | 50.97          | 54.00          | -3.03       | AVG  | 101         | 178           |
| 3   | 26100.000       | 1.81          | 62.05          | 63.86          | 74.00          | -10.14      | peak | 101         | 178           |
| 4   | 26100.000       | 1.81          | 48.96          | 50.77          | 54.00          | -3.23       | AVG  | 101         | 178           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH48 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



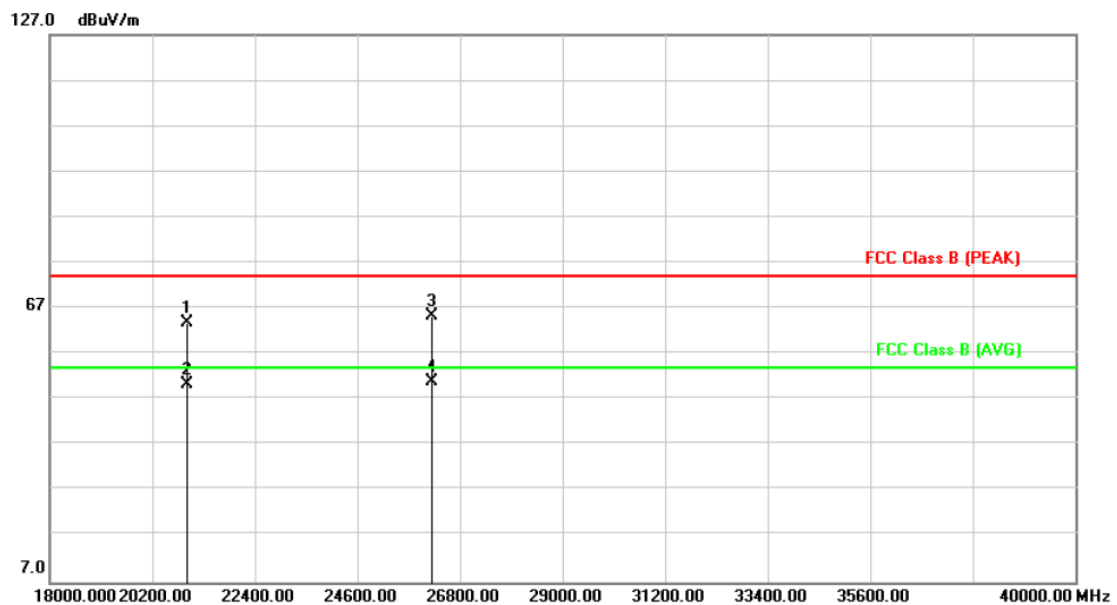
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10480.000       | -7.15         | 55.55          | 48.40          | 74.00          | -25.60      | peak | 103         | 165           |
| 2   | 15720.000       | -1.22         | 60.75          | 59.53          | 74.00          | -14.47      | peak | 103         | 165           |
| 3   | 15720.000       | -1.22         | 47.41          | 46.19          | 54.00          | -7.81       | AVG  | 103         | 165           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |            |
|-----------|-----------------------|----------------------|------------|
| Power     | : AC 120V             | Pol/Phase            | : VERTICAL |
| Test Mode | : 802.11an HT20, CH48 | Temperature          | : 26 °C    |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %     |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa |



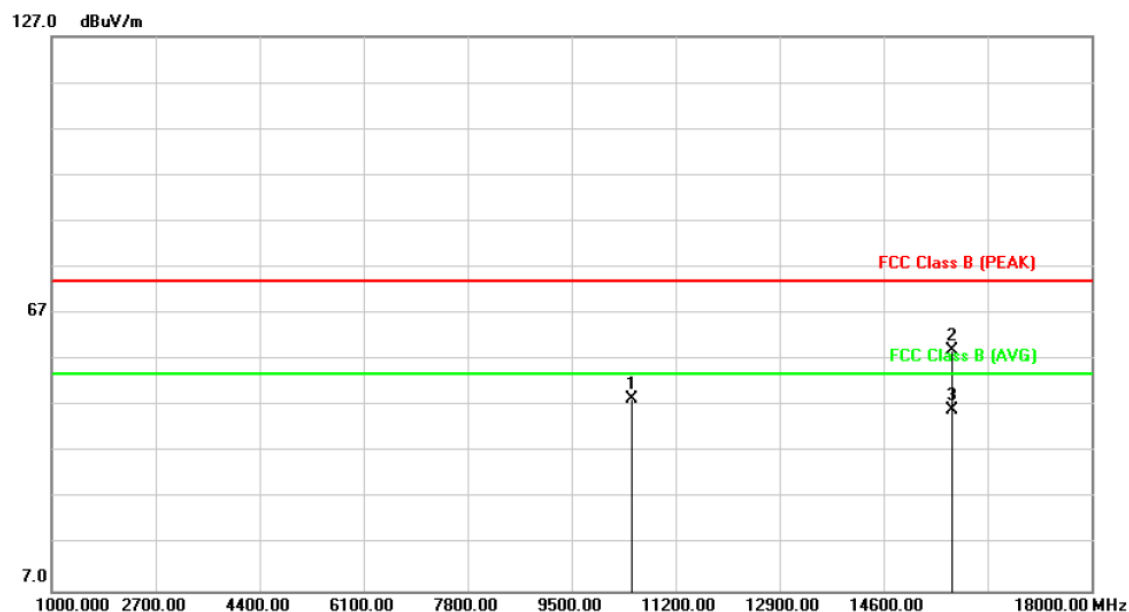
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20960.000       | 2.33          | 61.54          | 63.87          | 74.00          | -10.13      | peak | 100         | 174           |
| 2   | 20960.000       | 2.33          | 48.00          | 50.33          | 54.00          | -3.67       | AVG  | 100         | 174           |
| 3   | 26200.000       | 1.81          | 63.50          | 65.31          | 74.00          | -8.69       | peak | 100         | 174           |
| 4   | 26200.000       | 1.81          | 49.27          | 51.08          | 54.00          | -2.92       | AVG  | 100         | 174           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH48 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



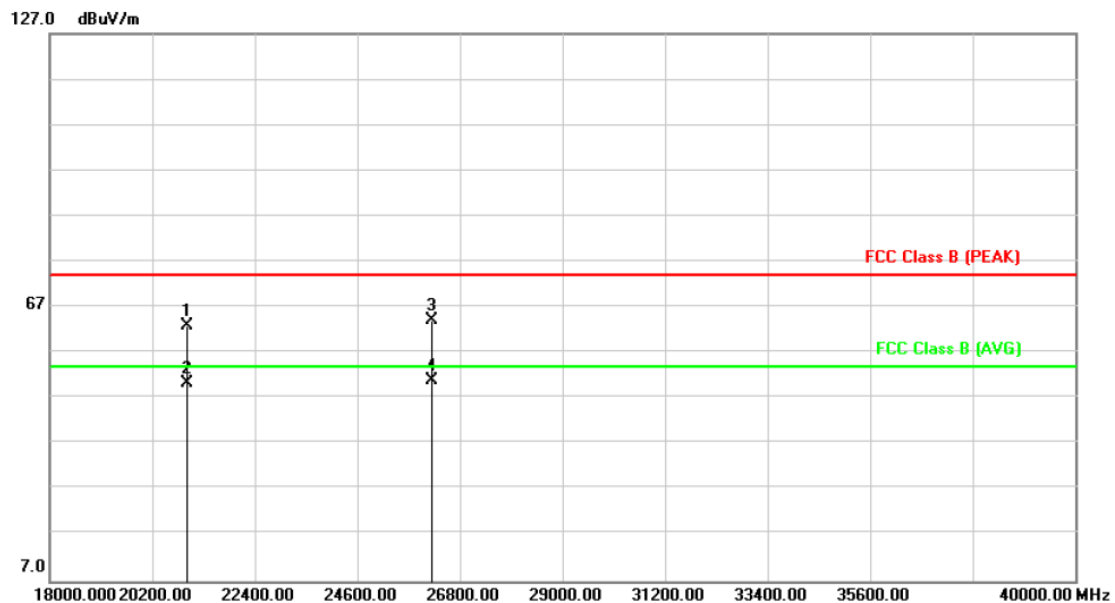
| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 10480.000       | -7.15         | 55.82          | 48.67          | 74.00          | -25.33      | peak | 101         | 174           |
| 2   | 15720.000       | -1.22         | 60.15          | 58.93          | 74.00          | -15.07      | peak | 101         | 174           |
| 3   | 15720.000       | -1.22         | 47.49          | 46.27          | 54.00          | -7.73       | AVG  | 100         | 174           |

Note: Level = Reading + Factor

Margin = Level - Limit



|           |                       |                      |              |
|-----------|-----------------------|----------------------|--------------|
| Power     | : AC 120V             | Pol/Phase            | : HORIZONTAL |
| Test Mode | : 802.11an HT20, CH48 | Temperature          | : 26 °C      |
| Test Date | : Sep. 21, 2014       | Humidity             | : 50 %       |
| Memo      | :                     | Atmospheric Pressure | : 1009 hpa   |



| No. | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Det. | Height (cm) | Azimuth (deg) |
|-----|-----------------|---------------|----------------|----------------|----------------|-------------|------|-------------|---------------|
| 1   | 20960.000       | 2.33          | 60.74          | 63.07          | 74.00          | -10.93      | peak | 106         | 183           |
| 2   | 20960.000       | 2.33          | 48.00          | 50.33          | 54.00          | -3.67       | AVG  | 106         | 183           |
| 3   | 26200.000       | 1.81          | 62.35          | 64.16          | 74.00          | -9.84       | peak | 106         | 183           |
| 4   | 26200.000       | 1.81          | 49.23          | 51.04          | 54.00          | -2.96       | AVG  | 106         | 183           |

Note: Level = Reading + Factor

Margin = Level - Limit

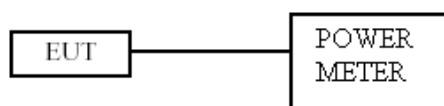


## 6. Peak Transmit Power

### 6.1. Test Procedure

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

### 6.2. Test Setup Layout



### 6.3. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| SERIES POWER METER   | ANRITSU      | ML2495A   | 1224005    | 2014/03/27       | 2015/03/26 |
| POWER SENSOR         | ANRITSU      | MA2411B   | 1207295    | 2014/03/27       | 2015/03/26 |



## 6.4. Test Result and Data

Test Date: Sep. 30, 2014

Temperature: 25°C

Atmospheric pressure: 1056 hPa

Humidity: 52%

Modulation Standard: IEEE 802.11a (6Mbps)

| Channel | Frequency (MHz) | Peak Power Output (dBm) | Peak Power Output (mW) | 26dB Occupied Bandwidth (MHz) |
|---------|-----------------|-------------------------|------------------------|-------------------------------|
| 36      | 5180            | 9.18                    | 8.28                   | 23.0                          |
| 44      | 5220            | 9.16                    | 8.24                   | 23.4                          |
| 48      | 5240            | 9.40                    | 8.71                   | 23.4                          |

Modulation Standard: IEEE 802.11an, HT20 (6.5Mbps)

| Channel | Frequency (MHz) | Peak Power Output (dBm) | Peak Power Output (mW) | 26dB Occupied Bandwidth (MHz) |
|---------|-----------------|-------------------------|------------------------|-------------------------------|
| 36      | 5180            | 8.87                    | 7.71                   | 23.4                          |
| 44      | 5220            | 8.81                    | 7.60                   | 23.5                          |
| 48      | 5240            | 9.07                    | 8.07                   | 23.9                          |

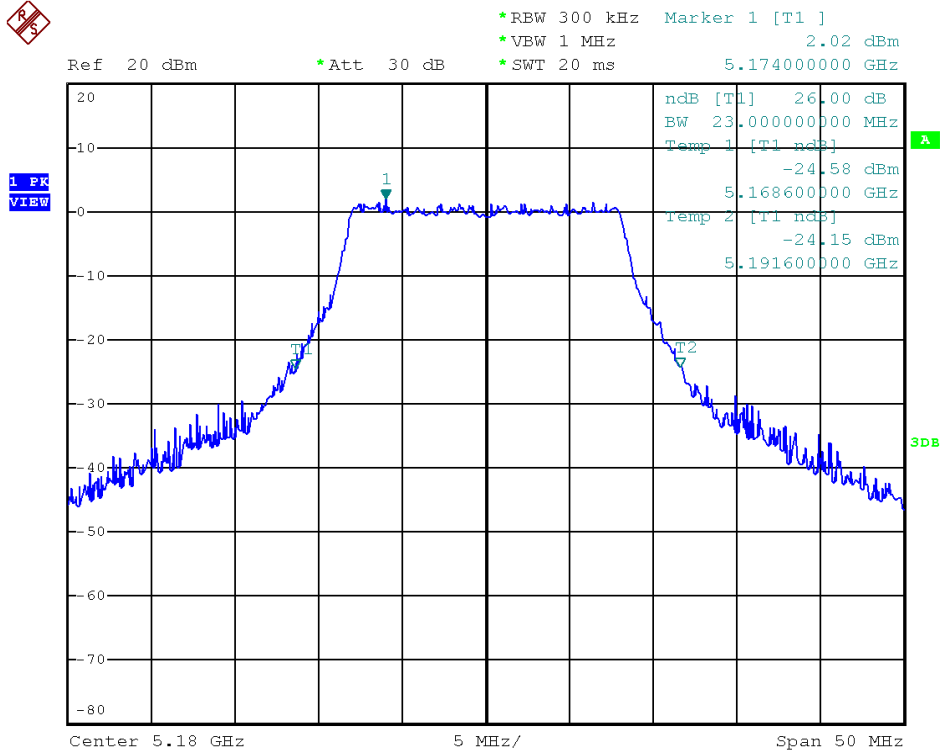
Limit:

| Frequency Band                           | Limit                                        |
|------------------------------------------|----------------------------------------------|
| 5.15 – 5.25 GHz                          | The lesser of 50mW(17dBm) or 4dBm + 10logB   |
| 5.25 – 5.35 GHz                          | The lesser of 250mW(24dBm) or 11dBm + 10logB |
| 5.47 – 5.725 GHz                         | The lesser of 250mW(24dBm) or 11dBm + 10logB |
| 5.725 – 5.825 GHz                        | The lesser of 1W(30dBm) or 17dBm + 10logB    |
| B is the 26dB emission bandwidth in MHz. |                                              |

**26dB Occupied Bandwidth**

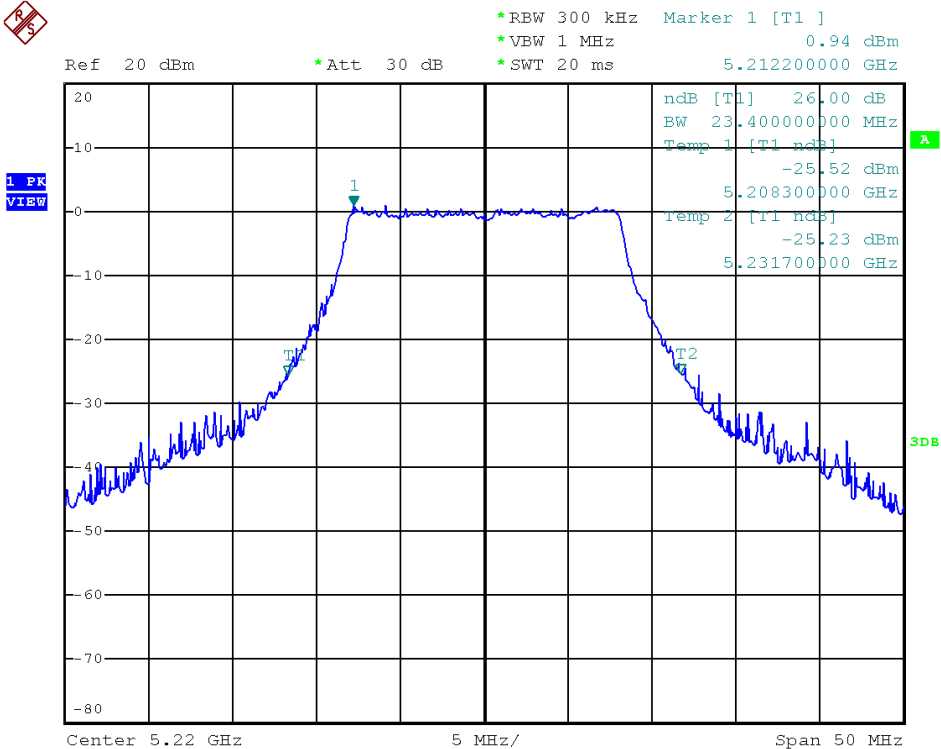
Modulation Standard: 802.11a (6Mbps)

Channel: 36



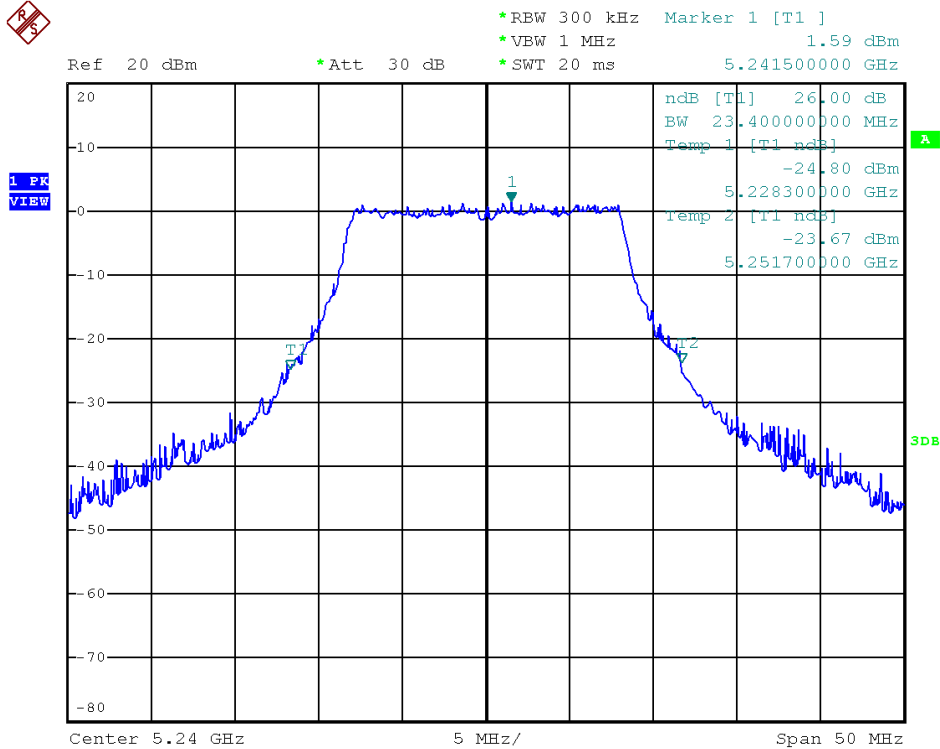
Modulation Standard: 802.11a (6Mbps)

Channel: 44

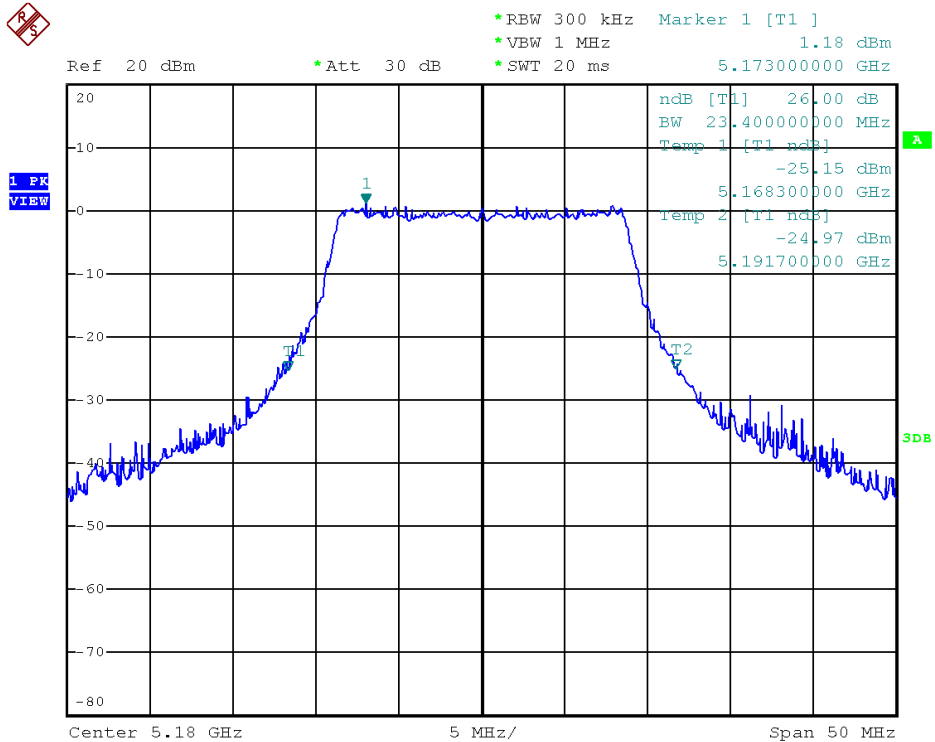




Modulation Standard: 802.11a (6Mbps)  
Channel: 48



Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 36

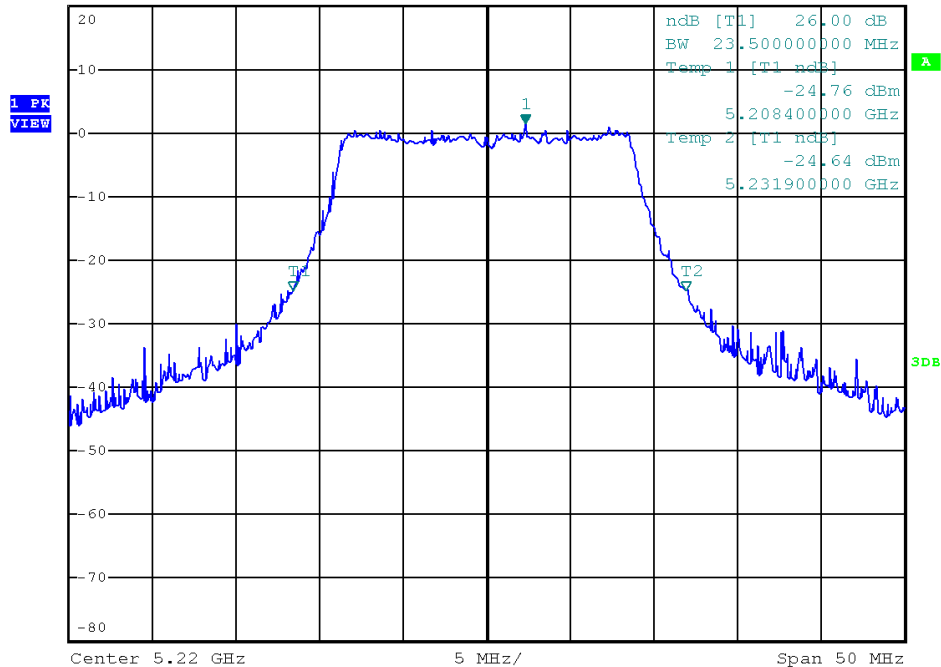




Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 44



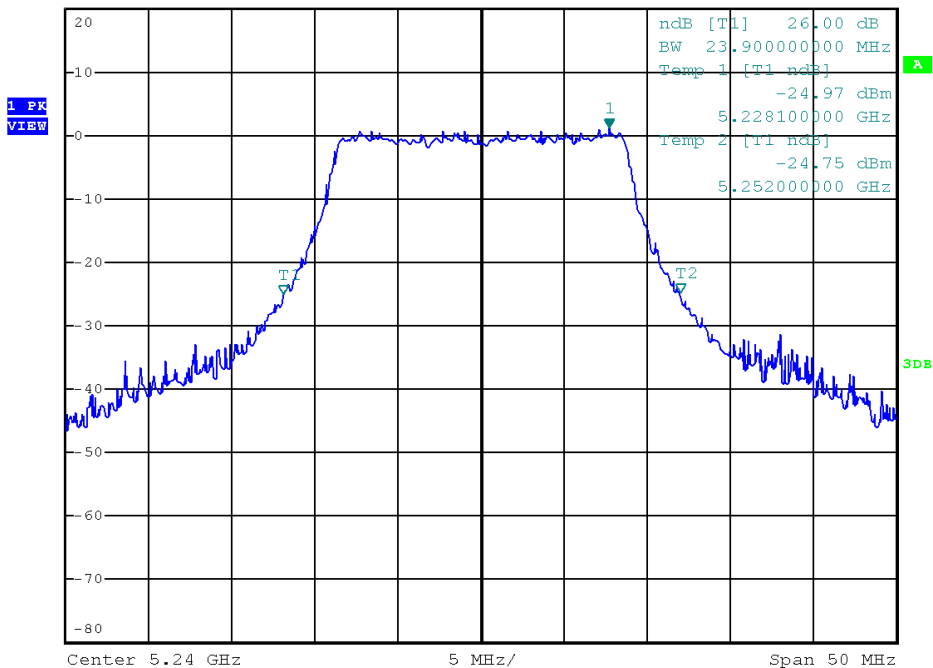
\*RBW 300 kHz Marker 1 [T1 ]  
\*VBW 1 MHz 1.42 dBm  
\*SWT 20 ms 5.222300000 GHz



Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 48



\*RBW 300 kHz Marker 1 [T1 ]  
\*VBW 1 MHz 1.13 dBm  
\*SWT 20 ms 5.247700000 GHz



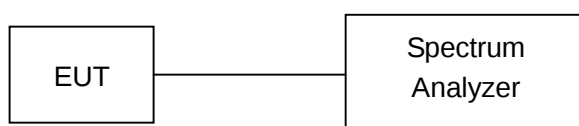


## 7. Peak Power Excursion

### 7.1. Test Procedure

1. The transmitter output was connected to the spectrum analyzer
2. Using Peak detector and max-hold function for Trace 1.
3. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz for Trace 1.
4. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz for Trace 2, Set detector mode to RMS, trace average 100 traces in power averaging mode.
5. The largest difference between Trace 1 and Trace 2 in any 1 MHz band on any frequency was recorded.

### 7.2. Test Setup Layout



### 7.3. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| Spectrum Analyzer    | R&S          | FSP40     | 100047     | 2014/03/27       | 2015/03/26 |

### 7.4. Test Result and Data

Test Date: Sep. 30, 2014

Temperature: 25°C

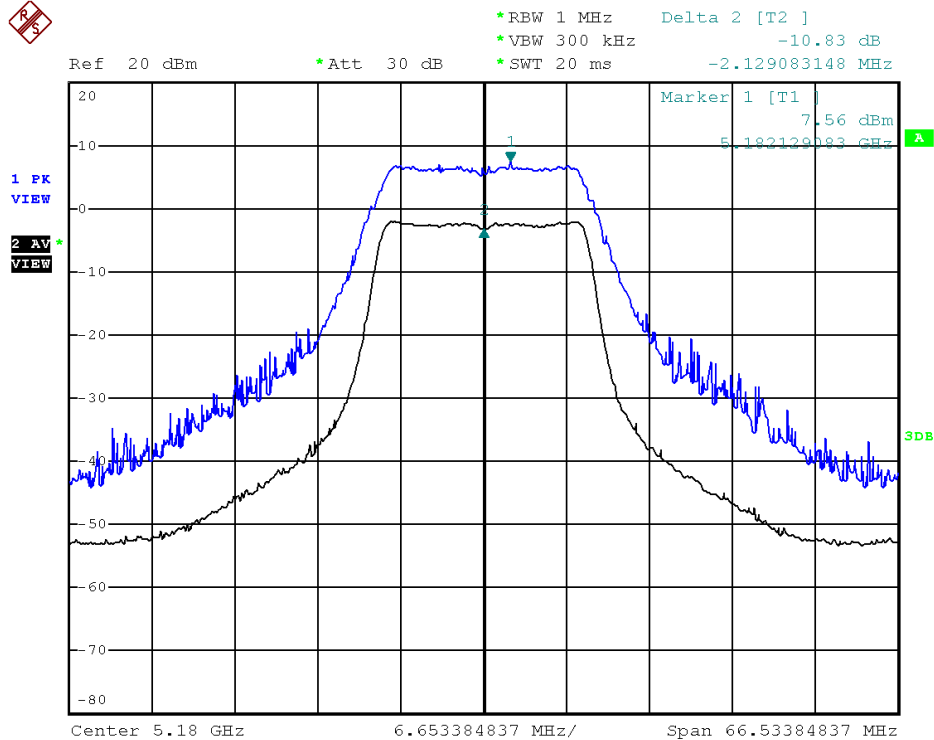
Atmospheric pressure: 1056 hPa

Humidity: 52%

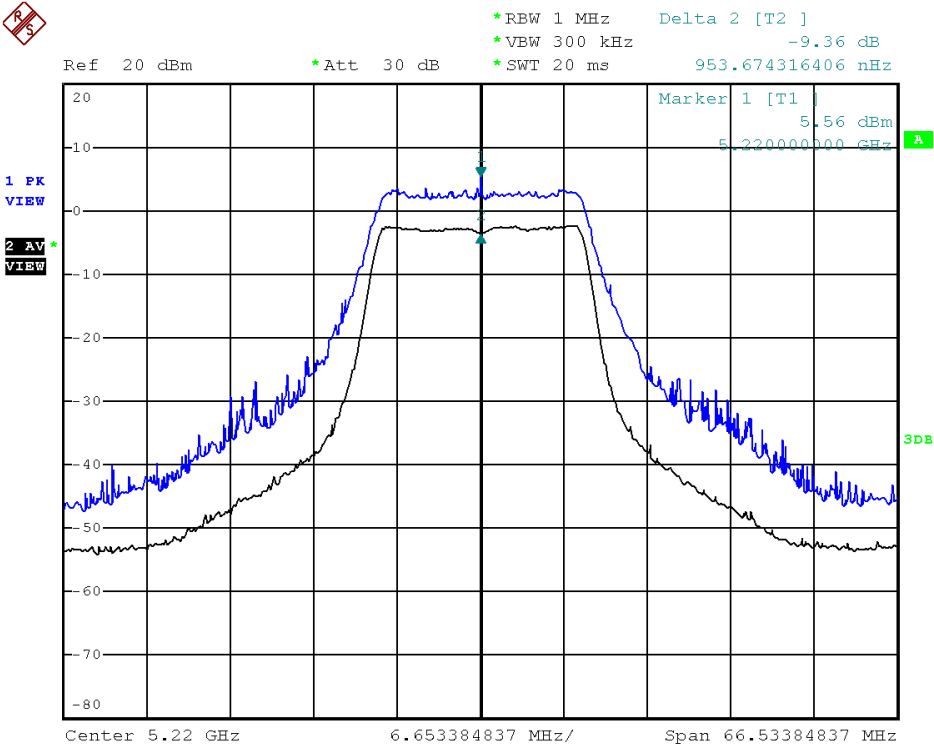
| Modulation Standard     | Channel | Frequency (MHz) | Peak Power Output (dBm) | Limit (dB) |
|-------------------------|---------|-----------------|-------------------------|------------|
| 802.11a (6Mbps)         | 36      | 5180            | 10.83                   | 13         |
|                         | 44      | 5220            | 9.36                    | 13         |
|                         | 48      | 5240            | 7.46                    | 13         |
| 802.11an HT20 (6.5Mbps) | 36      | 5180            | 6.87                    | 13         |
|                         | 44      | 5220            | 7.61                    | 13         |
|                         | 48      | 5240            | 7.67                    | 13         |



Modulation Standard: 802.11a (6Mbps)  
Channel: 36

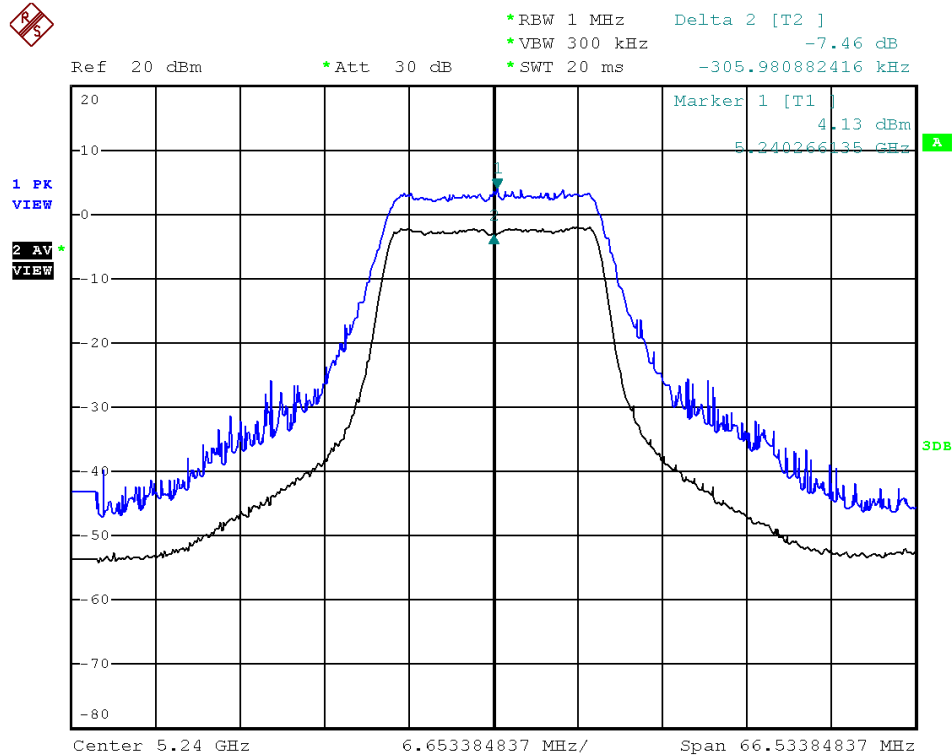


Modulation Standard: 802.11a (6Mbps)  
Channel: 44

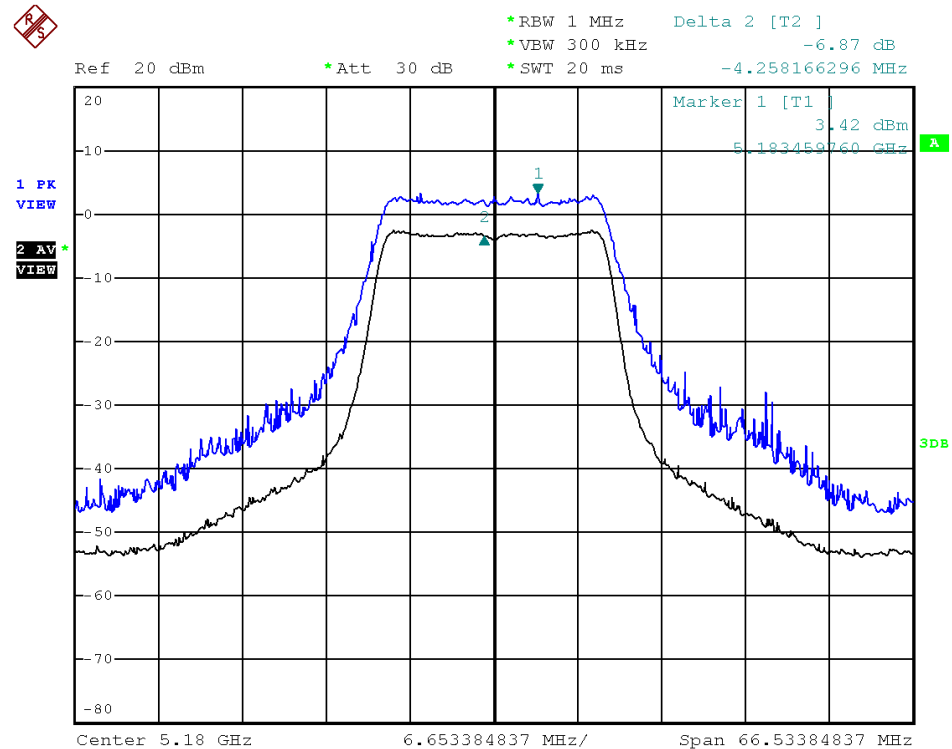




Modulation Standard: 802.11a (6Mbps)  
Channel: 48

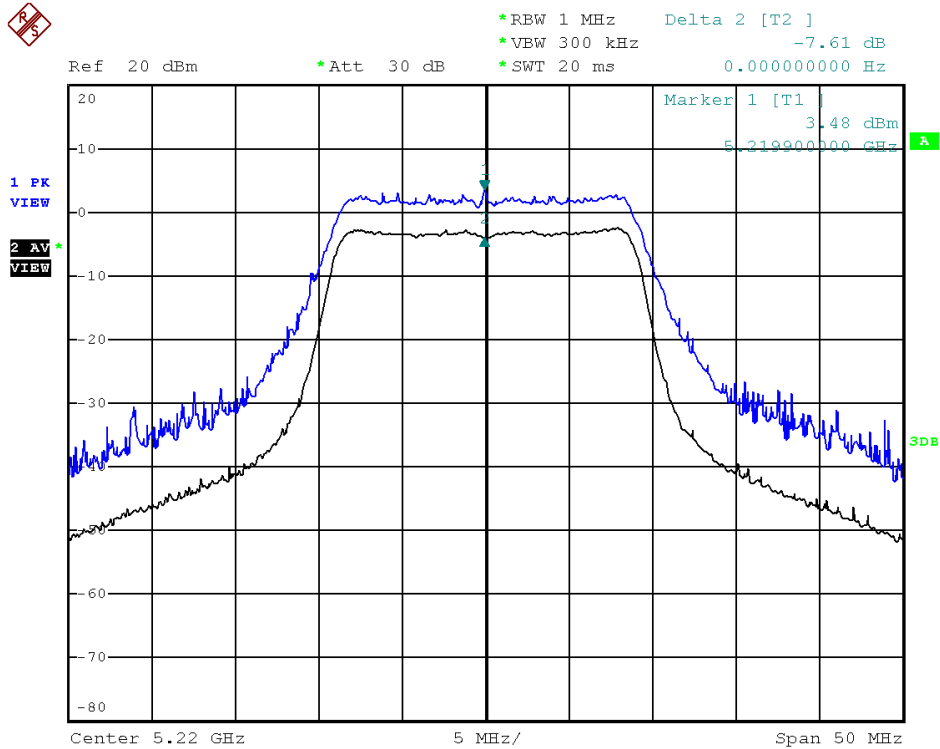


Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 36

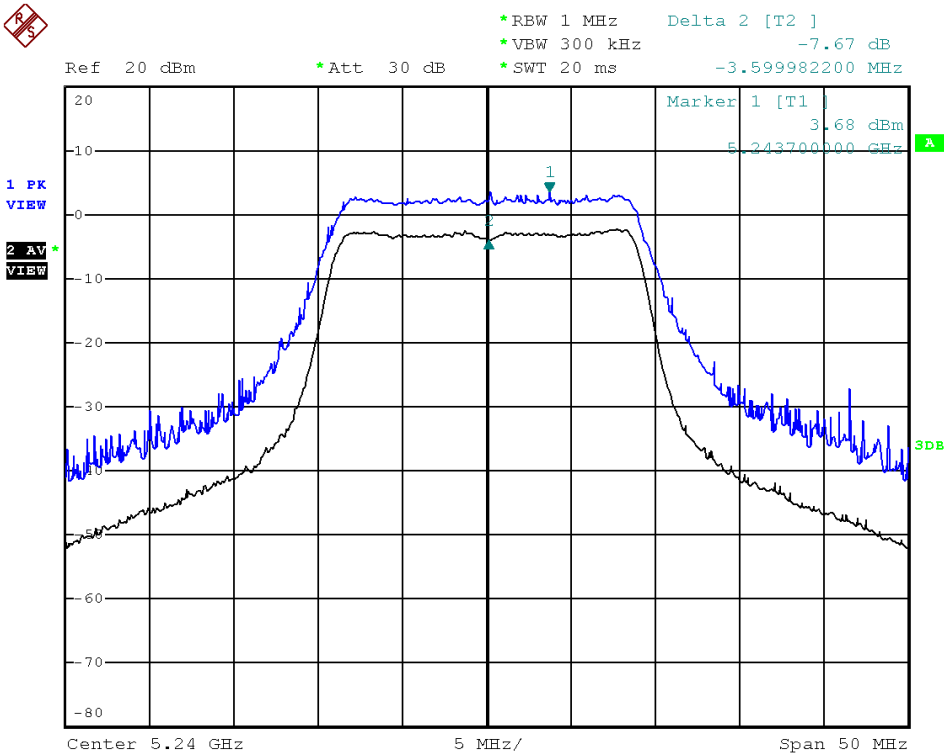




Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 44



Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 48



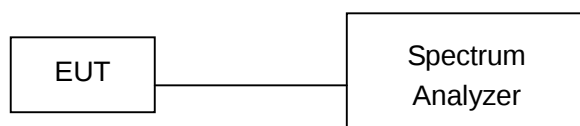


## 8. Peak Power Spectral Density

### 8.1. Test Procedure

1. The transmitter output was connected to spectrum analyzer.
2. Set RBW of spectrum analyzer to 1 MHz and VBW to 3 MHz, Set detector mode to RMS, trace average 100 traces in power averaging mode.
3. The Peak Power Spectral Density is the highest level found across the emission in any 1MHz Band

### 8.2. Test Setup Layout



### 8.3. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| Spectrum Analyzer    | R&S          | FSP40     | 100047     | 2014/03/27       | 2015/03/26 |

### 8.4. Test Result and Data

Test Date: Sep. 30, 2014

Temperature: 25°C

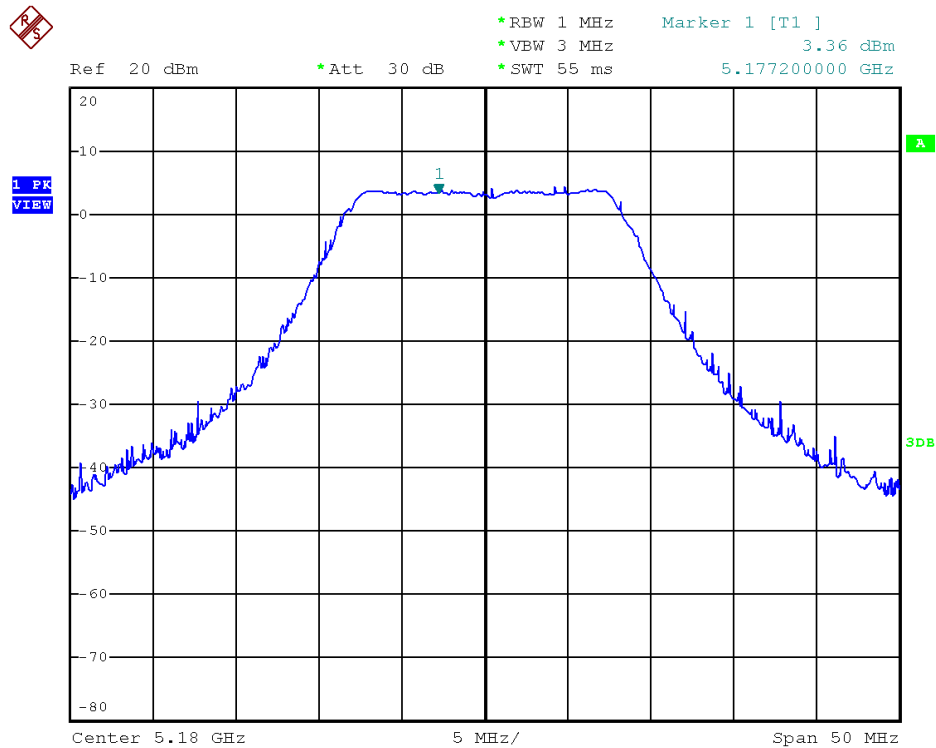
Atmospheric pressure: 1056 hPa

Humidity: 52%

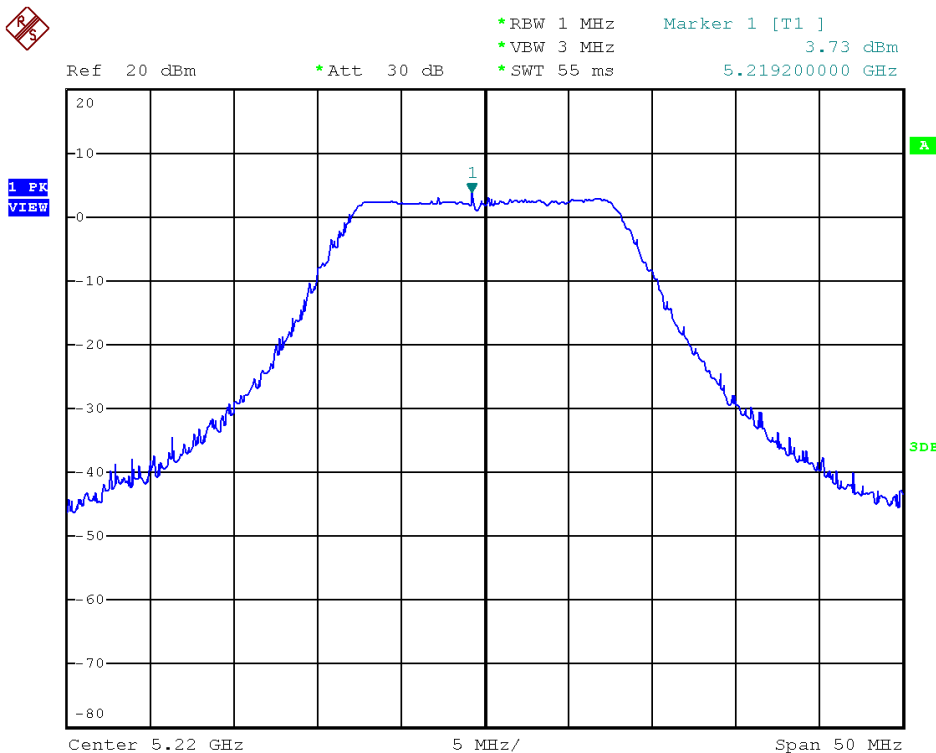
| Modulation Standard     | Channel | Frequency (MHz) | RF Power Level In 1MHz BW (dBm) | Limit (dB)         |
|-------------------------|---------|-----------------|---------------------------------|--------------------|
| 802.11a (6Mbps)         | 36      | 5180            | 3.36                            | 5.15 – 5.25 GHz: 4 |
|                         | 44      | 5220            | 3.73                            |                    |
|                         | 48      | 5240            | 3.88                            |                    |
| 802.11an HT20 (6.5Mbps) | 36      | 5180            | 3.00                            | 5.15 – 5.25 GHz: 4 |
|                         | 44      | 5220            | 3.27                            |                    |
|                         | 48      | 5240            | 3.69                            |                    |



Modulation Standard: 802.11a (6Mbps)  
Channel: 36

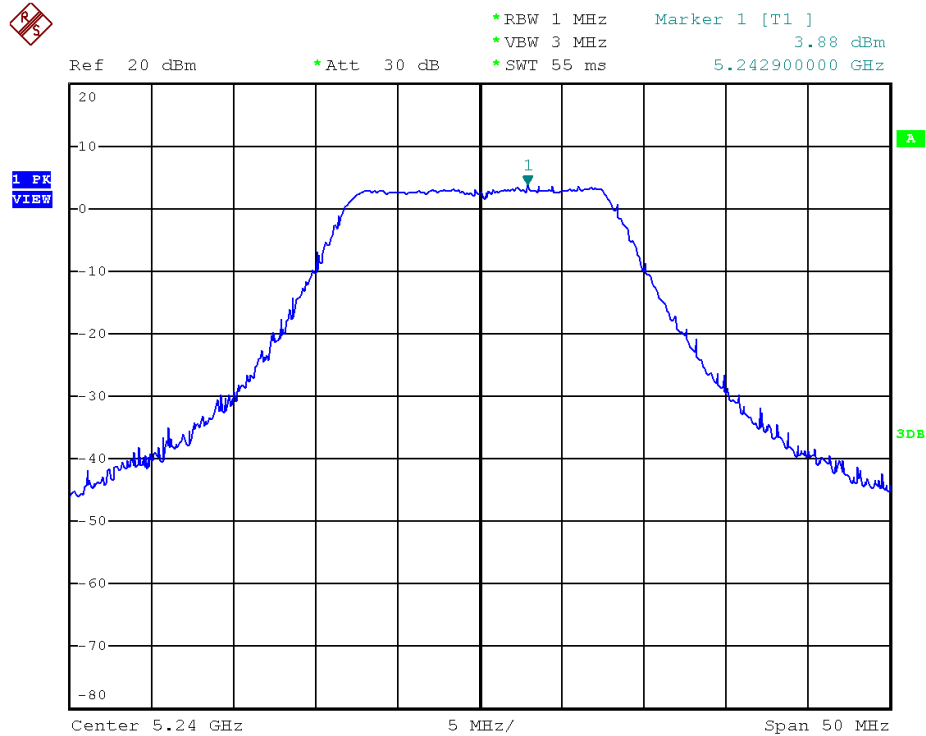


Modulation Standard: 802.11a (6Mbps)  
Channel: 44

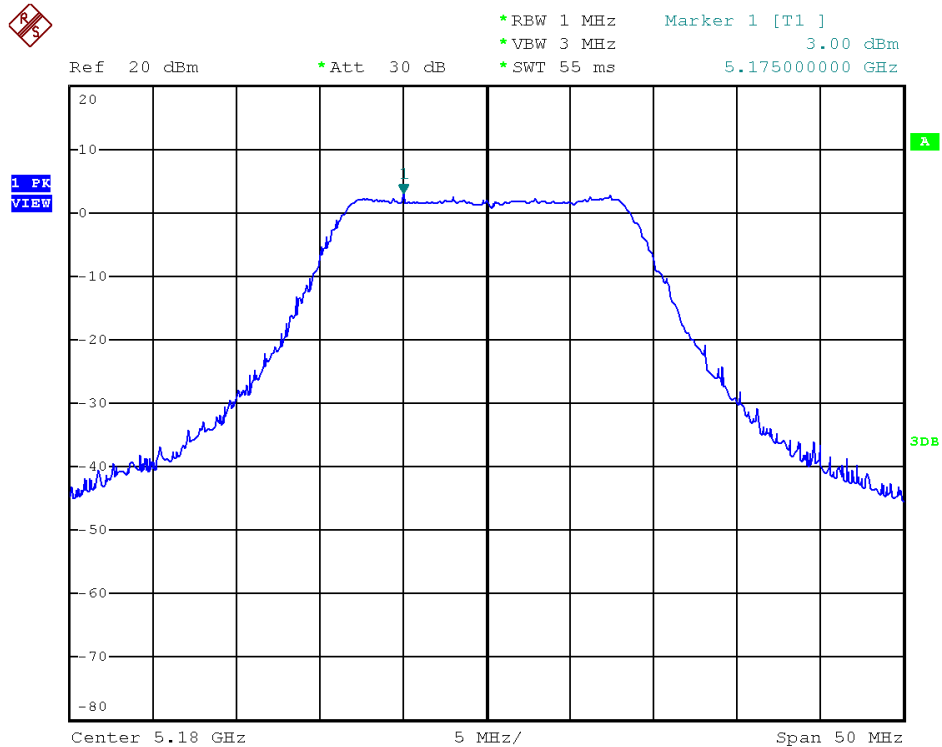




Modulation Standard: 802.11a (6Mbps)  
Channel: 48

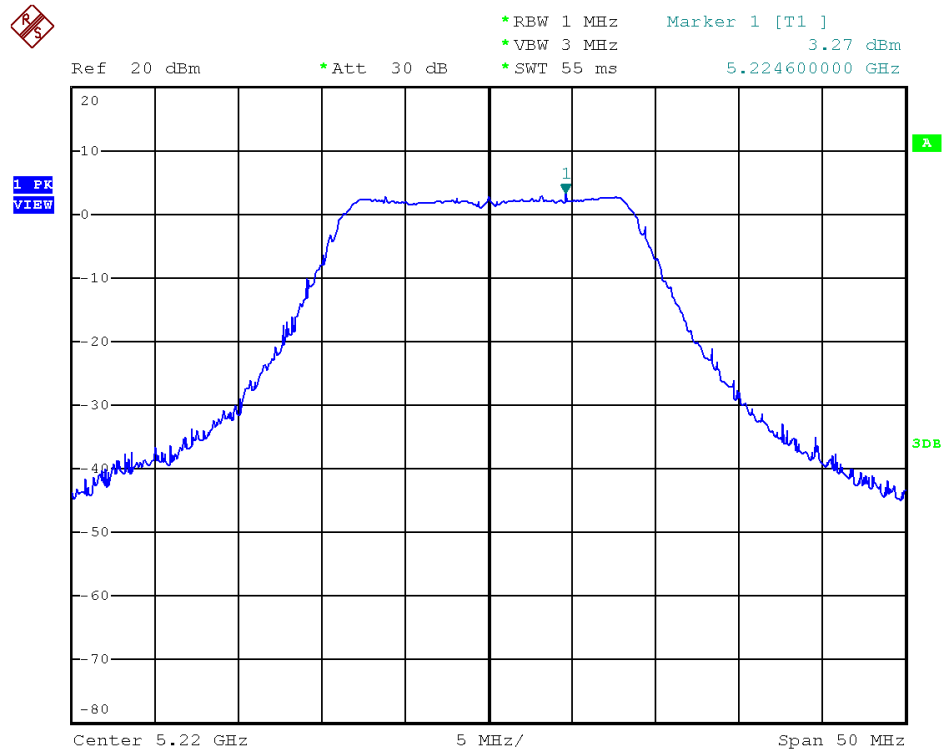


Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 36

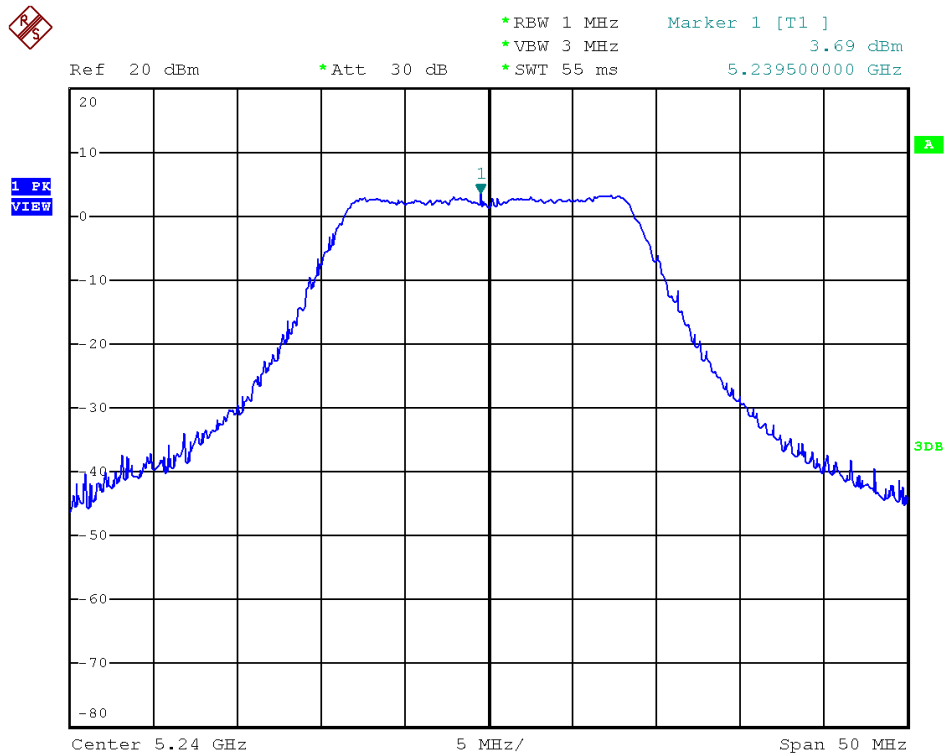




Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 44



Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 48



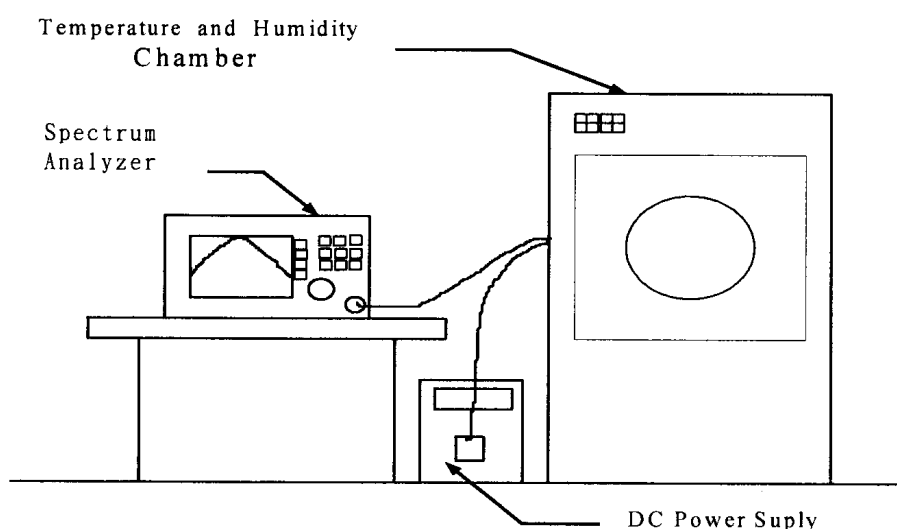


## 9. Frequency Stability

### 9.1. Test Procedure

1. The EUT was placed inside the Temperature and Humidity chamber.
2. The transmitter output was connected to spectrum analyzer.
3. Turn the EUT on and couple its output to a spectrum analyzer.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
6. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
7. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

### 9.2. Test Setup Layout



### 9.3. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| Spectrum Analyzer    | R&S          | FSP40     | 100047     | 2014/03/27       | 2015/03/26 |
| TEMPERATURE CHAMBER  | TERCHY       | MHK-120NK | 1010407    | 2014/04/22       | 2015/04/21 |
| DC Power Supply      | GPD-3030     | GM        | 7020936    | N/A              | N/A        |
| AC POWER CONVERTER   | AFC-11005    | APC       | F103120008 | N/A              | N/A        |



#### 9.4. Test Result and Data

Test Date: Sep. 30, 2014

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 65%

Operating Frequency: 5180 MHz

| Temp<br>(°C) | Power<br>supply<br>(V) | 2 minute  |           | 2 minute  |           | 5 minute  |           | 10 minute |           |
|--------------|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|              |                        | (MHz)     | (%)       | (MHz)     | (%)       | (MHz)     | (%)       | (MHz)     | (%)       |
| 50           | 108                    | 5180.0789 | 0.001523  | 5180.0789 | 0.001523  | 5179.9808 | -0.000371 | 5179.9802 | -0.000382 |
|              | 120                    | 5179.9998 | -0.000004 | 5179.9998 | -0.000004 | 5179.9850 | -0.000290 | 5179.9826 | -0.000336 |
|              | 132                    | 5179.9931 | -0.000133 | 5179.9931 | -0.000133 | 5179.9902 | -0.000189 | 5179.9882 | -0.000228 |
| 40           | 108                    | 5179.9899 | -0.000195 | 5179.9899 | -0.000195 | 5179.9878 | -0.000236 | 5179.9884 | -0.000224 |
|              | 120                    | 5179.9921 | -0.000153 | 5179.9921 | -0.000153 | 5179.9886 | -0.000220 | 5179.9884 | -0.000224 |
|              | 132                    | 5179.9898 | -0.000197 | 5179.9898 | -0.000197 | 5179.9884 | -0.000224 | 5179.9888 | -0.000216 |
| 30           | 108                    | 5179.9484 | -0.000996 | 5179.9484 | -0.000996 | 5179.9482 | -0.001000 | 5179.9484 | -0.000996 |
|              | 120                    | 5179.9490 | -0.000985 | 5179.9490 | -0.000985 | 5179.9495 | -0.000975 | 5179.9484 | -0.000996 |
|              | 132                    | 5179.9484 | -0.000996 | 5179.9484 | -0.000996 | 5179.9488 | -0.000988 | 5179.9494 | -0.000977 |
| 20           | 108                    | 5179.9384 | -0.001189 | 5179.9384 | -0.001189 | 5179.9392 | -0.001174 | 5179.9388 | -0.001181 |
|              | 120                    | 5179.9392 | -0.001174 | 5179.9392 | -0.001174 | 5179.9386 | -0.001185 | 5179.9394 | -0.001170 |
|              | 132                    | 5179.9388 | -0.001181 | 5179.9388 | -0.001181 | 5179.9388 | -0.001181 | 5179.9396 | -0.001166 |
| 10           | 108                    | 5179.9502 | -0.000961 | 5179.9502 | -0.000961 | 5179.9492 | -0.000981 | 5179.9502 | -0.000961 |
|              | 120                    | 5179.9500 | -0.000965 | 5179.9500 | -0.000965 | 5179.9496 | -0.000973 | 5179.9490 | -0.000985 |
|              | 132                    | 5179.9498 | -0.000969 | 5179.9498 | -0.000969 | 5179.9490 | -0.000985 | 5179.9494 | -0.000977 |
| 0            | 108                    | 5179.9776 | -0.000432 | 5179.9776 | -0.000432 | 5179.9760 | -0.000463 | 5179.9734 | -0.000514 |
|              | 120                    | 5179.9706 | -0.000568 | 5179.9706 | -0.000568 | 5179.9706 | -0.000568 | 5179.9690 | -0.000598 |
|              | 132                    | 5179.9674 | -0.000629 | 5179.9674 | -0.000629 | 5179.9672 | -0.000633 | 5179.9664 | -0.000649 |
| -10          | 108                    | 5179.9778 | -0.000429 | 5179.9778 | -0.000429 | 5179.9774 | -0.000436 | 5179.9776 | -0.000432 |
|              | 120                    | 5179.9780 | -0.000425 | 5179.9780 | -0.000425 | 5179.9780 | -0.000425 | 5179.9774 | -0.000436 |
|              | 132                    | 5179.9790 | -0.000405 | 5179.9790 | -0.000405 | 5179.9792 | -0.000402 | 5179.9806 | -0.000375 |
| -20          | 108                    | 5179.9828 | -0.000332 | 5179.9828 | -0.000332 | 5179.9820 | -0.000347 | 5179.9822 | -0.000344 |
|              | 120                    | 5179.9826 | -0.000336 | 5179.9826 | -0.000336 | 5179.9812 | -0.000363 | 5179.9808 | -0.000371 |
|              | 132                    | 5179.9838 | -0.000313 | 5179.9838 | -0.000313 | 5179.9240 | -0.001467 | 5179.9838 | -0.000313 |
| -30          | 108                    | 5179.9848 | -0.000293 | 5179.9848 | -0.000293 | 5179.9890 | -0.000212 | 5179.9853 | -0.000284 |
|              | 120                    | 5179.9844 | -0.000301 | 5179.9844 | -0.000301 | 5179.9844 | -0.000301 | 5179.9842 | -0.000305 |
|              | 132                    | 5179.5000 | -0.009653 | 5179.5000 | -0.009653 | 5179.9842 | -0.000305 | 5179.9846 | -0.000297 |

Limit : ±20ppm



## 10. Band Edges Measurement

### 10.1. Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz with convenient frequency span including 100 MHz bandwidth from band edge.
3. The band edges was measured and recorded.

### 10.2. Measurement Equipment

| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|----------------------|--------------|-----------|------------|------------------|------------|
| Spectrum Analyzer    | R&S          | FSP40     | 100047     | 2014/03/27       | 2015/03/26 |

### 10.3. Test Result and Data

Test Date: Sep. 22, 2014

Temperature: 25°C

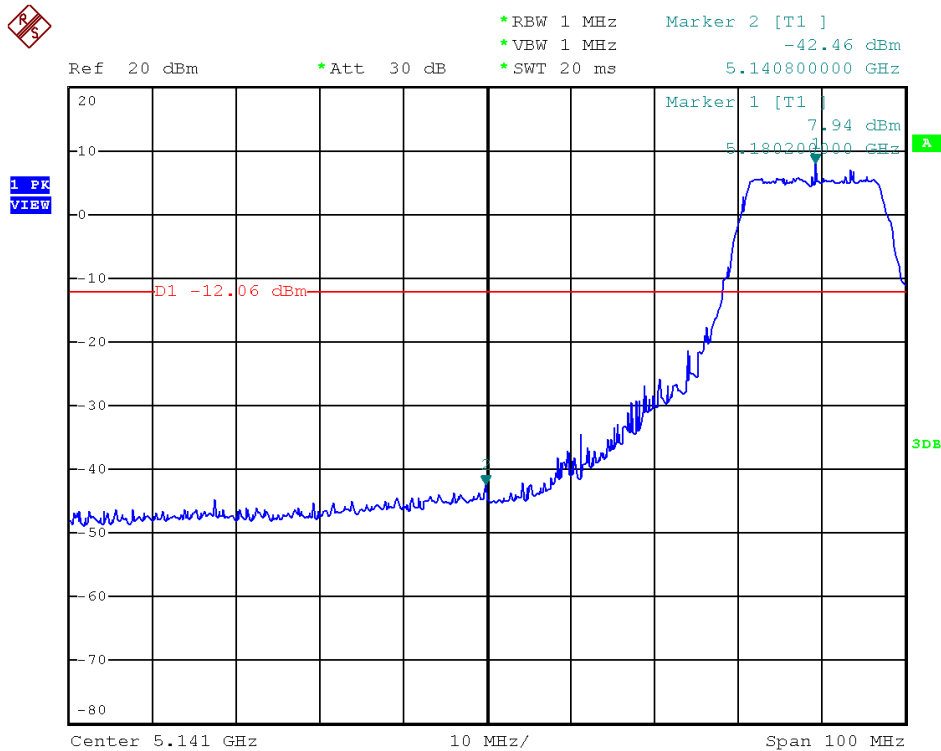
Atmospheric pressure: 1020 hPa

Humidity: 65%

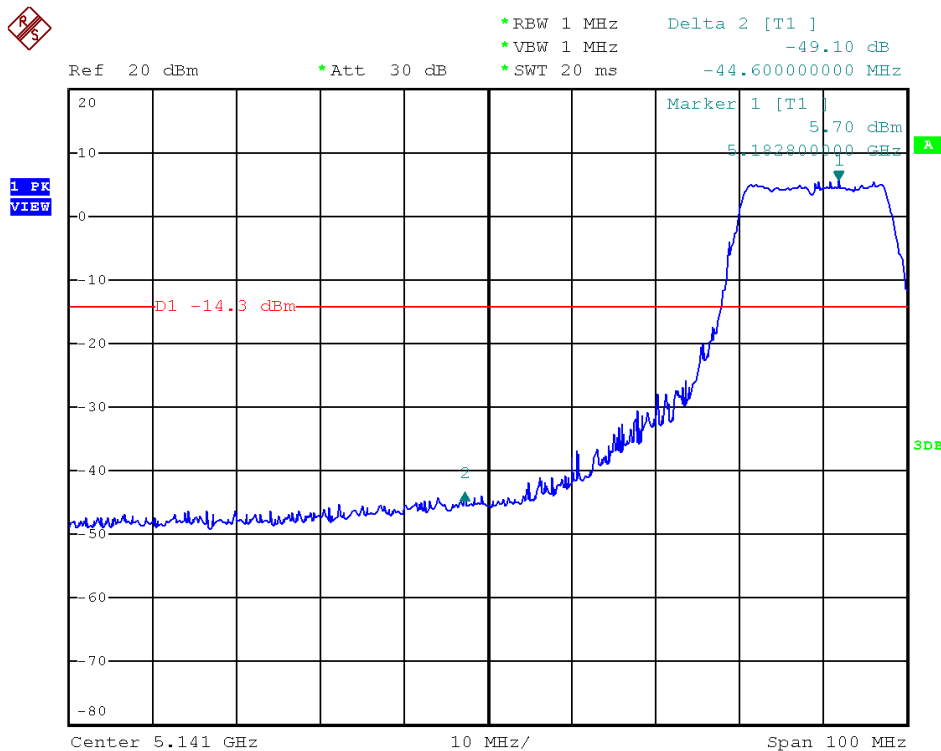
| Modulation Standard     | Channel | Frequency (MHz) | maximum value in frequency (MHz) | maximum value (dBm) |
|-------------------------|---------|-----------------|----------------------------------|---------------------|
| 802.11a (6Mbps)         | 36      | 5180            | 5140.8000                        | -42.46              |
| 802.11an HT20 (6.5Mbps) | 36      | 5180            | 5182.8000                        | -49.10              |



Modulation Standard: 802.11a (6Mbps)  
Channel: 36



Modulation Standard: 802.11an, HT20 (6.5Mbps)  
Channel: 36





## 10.4. Restrict Band Emission Measurement Data

Test Date: Sep. 23, 2014

Temperature: 25°C

Atmospheric pressure: 1020 hPa

Humidity: 65%

Modulation Standard: IEEE 802.11a (6Mbps)

| Channel 36      |             |                      |                       |                 |        | Fundamental Frequency: 5180 MHz |     |             |            |              |
|-----------------|-------------|----------------------|-----------------------|-----------------|--------|---------------------------------|-----|-------------|------------|--------------|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m)                  |     | Margin (dB) | Table Deg. | Ant High (m) |
|                 |             |                      |                       |                 |        | Peak                            | Ave |             |            |              |
| 5158.420        | V           | 56.07                | 8.29                  | 64.36           | Peak   | 74                              | 54  | -9.64       | 164        | 1.03         |
| 5158.420        | V           | 42.49                | 8.29                  | 50.78           | Ave    | 74                              | 54  | -3.22       | 164        | 1.03         |
| 5160.760        | H           | 61.69                | 8.30                  | 69.99           | Peak   | 74                              | 54  | -4.01       | 178        | 1.00         |
| 5160.760        | H           | 40.90                | 8.30                  | 49.20           | Ave    | 74                              | 54  | -4.80       | 178        | 1.00         |
| Channel 48      |             |                      |                       |                 |        | Fundamental Frequency: 5240 MHz |     |             |            |              |
| 5260.680        | V           | 59.22                | 8.54                  | 67.76           | Peak   | 74                              | 54  | -6.24       | 168        | 1.02         |
| 5260.680        | V           | 43.40                | 8.54                  | 51.94           | Ave    | 74                              | 54  | -2.06       | 168        | 1.02         |
| 5261.340        | H           | 59.01                | 8.55                  | 67.56           | Peak   | 74                              | 54  | -6.44       | 163        | 1.07         |
| 5261.340        | H           | 41.36                | 8.55                  | 49.91           | Ave    | 74                              | 54  | -4.09       | 163        | 1.07         |

Modulation Standard: IEEE 802.11an, HT20 (6Mbps)

| Channel 36      |             |                      |                       |                 |        | Fundamental Frequency: 5180 MHz |     |             |            |              |
|-----------------|-------------|----------------------|-----------------------|-----------------|--------|---------------------------------|-----|-------------|------------|--------------|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading (dBuV) | Corrected Factor (dB) | Result (dBuV/m) | Remark | Limit (dBuV/m)                  |     | Margin (dB) | Table Deg. | Ant High (m) |
|                 |             |                      |                       |                 |        | Peak                            | Ave |             |            |              |
| 5162.200        | V           | 60.84                | 8.30                  | 60.84           | Ave    | 74                              | 54  | -4.86       | 165        | 1.07         |
| 5162.200        | V           | 43.27                | 8.30                  | 43.27           | Peak   | 74                              | 54  | -2.43       | 165        | 1.07         |
| 5161.400        | H           | 61.59                | 8.30                  | 69.89           | Ave    | 74                              | 54  | -4.11       | 173        | 1.01         |
| 5161.400        | H           | 41.77                | 8.30                  | 50.07           | Ave    | 74                              | 54  | -3.93       | 173        | 1.01         |
| Channel 48      |             |                      |                       |                 |        | Fundamental Frequency: 5240 MHz |     |             |            |              |
| 5260.020        | V           | 59.29                | 8.53                  | 67.82           | Peak   | 74                              | 54  | -6.18       | 162        | 1.08         |
| 5260.020        | V           | 44.31                | 8.53                  | 52.84           | Ave    | 74                              | 54  | -1.16       | 162        | 1.08         |
| 5260.350        | H           | 60.42                | 8.54                  | 68.96           | Peak   | 74                              | 54  | -5.04       | 177        | 1.04         |
| 5260.350        | H           | 43.24                | 8.54                  | 51.78           | Ave    | 74                              | 54  | -2.22       | 177        | 1.04         |



## 11. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                 | MHz                   | MHz             | GHz             |
|---------------------|-----------------------|-----------------|-----------------|
| 0.09000 – 0.11000   | 16.42000 – 16.42300   | 399.9 – 410.0   | 4.500 – 5.150   |
| 0.49500 – 0.505**   | 16.69475 – 16.69525   | 608.0 – 614.0   | 5.350 – 5.460   |
| 2.17350 – 2.19050   | 16.80425 – 16.80475   | 960.0 – 1240.0  | 7.250 – 7.750   |
| 4.12500 – 4.12800   | 25.50000 – 25.67000   | 1300.0 – 1427.0 | 8.025 – 8.500   |
| 4.17725 – 4.17775   | 37.50000 – 38.25000   | 1435.0 – 1626.5 | 9.000 – 9.200   |
| 4.20725 – 4.20775   | 73.00000 – 74.60000   | 1645.5 – 1646.5 | 9.300 – 9.500   |
| 6.21500 – 6.21800   | 74.80000 – 75.20000   | 1660.0 – 1710.0 | 10.600 – 12.700 |
| 6.26775 – 6.26825   | 108.00000 – 121.94000 | 1718.8 – 1722.2 | 13.250 – 13.400 |
| 6.31175 – 6.31225   | 123.00000 – 138.00000 | 2200.0 – 2300.0 | 14.470 – 14.500 |
| 8.29100 – 8.29400   | 149.90000 – 150.05000 | 2310.0 – 2390.0 | 15.350 – 16.200 |
| 8.36200 – 8.36600   | 156.52475 – 156.52525 | 2483.5 – 2500.0 | 17.700 – 21.400 |
| 8.37625 – 8.38675   | 156.70000 – 156.90000 | 2655.0 – 2900.0 | 22.010 – 23.120 |
| 8.41425 – 8.41475   | 162.01250 – 167.17000 | 3260.0 – 3267.0 | 23.600 – 24.000 |
| 12.29000 – 12.29300 | 167.72000 – 173.20000 | 3332.0 – 3339.0 | 31.200 – 31.800 |
| 12.51975 – 12.52025 | 240.00000 – 285.00000 | 3345.8 – 3358.0 | 36.430 – 36.500 |
| 12.57675 – 12.57725 | 322.00000 – 335.40000 | 3600.0 – 4400.0 | Above 38.6      |
| 13.36000 – 13.41000 |                       |                 |                 |

\*\* : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

### 11.1. Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:

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.