

FCC TEST REPORT  
for  
Futurepath Technology (Shenzhen) CO.,LTD.

Mini Wireless Router  
Model No.: i11 series

Prepared for : Futurepath Technology (Shenzhen) CO.,LTD.  
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Report Number : 201208837F  
Date of Test : Aug.30, 2012 to Sept.14, 2012  
Date of Report : Sept.14, 2012

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## TEST REPORT

Applicant : Futurepath Technology (Shenzhen) CO.,LTD.  
Manufacturer : Futurepath Technology (Shenzhen) CO.,LTD.  
EUT : Mini Wireless Router  
Model No. : i11 series  
Serial No. : N/A  
Rating : DC 5V/1A  
Trade Mark : N/A

Measurement Procedure Used:  
FCC Part15 Subpart C, Paragraph 15.247: 2010

The device described above is tested by Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Aug.30, 2012 to Sept.14,  
2012

Prepared by :



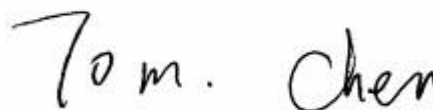
(Engineer / Andy Chen)

Reviewer :



(Project Manager / Jerry Du)

Approved & Authorized Signer :



(Manager /Tom Chen)

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

EUT : Mini Wireless Router

Model Number : i11 series

Test Power Supply : DC 5V

RF Transmission : 2412MHz~2462MHz (802.11b/802.11g/802.11n (HT20) )  
Frequency : 2422MHz~2452MHz (802.11n (HT40) )

Channels : 11 For (802.11b/802.11g/802.11n (HT20) )  
7 For (802.11n (HT40) )

Modulation : 802.11b CCK  
802.11g OFDM  
802.11n MCS

Antenna Type : Integral

Antenna Gain : 0 dBi

Applicant : Futurepath Technology (Shenzhen) CO.,LTD.  
Address : Unit01,13/F HuaRong Building,No.178 MinTian Road,FuTian District Shenzhen,China

Manufacturer : Futurepath Technology (Shenzhen) CO.,LTD.  
Address : Unit01,13/F HuaRong Building,No.178 MinTian Road,FuTian District Shenzhen,China

Date of receiver : Aug. 30, 2012  
Date of Test : Aug.30, 2012 to Sept.14, 2012

## 1.2.Auxiliary Equipment Used during Test

|               |                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|
| PC            | : Manufacturer: DELL<br>M/N: OPTIPLEX 380<br>S/N: 1J63X2X<br>CE , FCC: DOC                                      |
| MONITOR       | : Manufacturer: DELL<br>M/N: E170Sc<br>S/N: CN-00V539-64180-055-0UPS<br>CE , FCC: DOC                           |
| KEYBOARD      | : Manufacturer: DELL<br>M/N: SK-8115<br>S/N: CN-0DJ313-71616-06C-02XN<br>CE , FCC: DOC<br>Cable: 1m, unshielded |
| MOUSE         | : Manufacturer: DELL<br>M/N: M-UARDEL7<br>S/N: N/A<br>CE , FCC: DOC<br>Cable: 1m, unshielded                    |
| Printer       | : Manufacturer: Brother<br>M/N: MFC-3360C<br>S/N: N/A<br>CE, FCC: DOC                                           |
| Power Line    | : Non-Shielded, 1.5m                                                                                            |
| VGA Cable     | : Non-Shielded, 1.5m                                                                                            |
| Network Cable | : Non-Shielded, 1.5m                                                                                            |

### 1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

**CNAS - LAB Code: L3503**

Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

**FCC-Registration No.: 752021**

Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010.

**IC-Registration No.: 8058A-1**

Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A, August 30, 2010.

**Test Location**

All Emissions tests were performed at  
Anbotek Compliance Laboratory Limited. at 1/F, 1 /Building, SEC Industrial Park,  
No.4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

### 1.4. Measurement Uncertainty

Radiation Uncertainty : Ur = 4.3dB

Conduction Uncertainty : Uc = 3.4dB

### 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 and FCC Part 15, Paragraph 15.247

#### 3.1. Summary of Test Results

The EUT has been tested according to the following specifications:

| Standard                                 | Test Type                                | Result | Notes    |
|------------------------------------------|------------------------------------------|--------|----------|
| FCC Part 15, Paragraph 15.107, 15.207    | Conducted Emission Test                  | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(b)(1)      | Peak Output Power                        | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(a)(2)      | 6dB Bandwidth                            | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(c)         | 100kHz Bandwidth of Frequency Band Edges | PASS   | Complies |
| FCC Part 15, Paragraph 15.209(a)(f)      | Spurious Emission                        | PASS   | Complies |
| FCC Part 15, Paragraph 15.247(a)(1)      | Frequency Separation                     | -      | N/A      |
| FCC Part 15, Paragraph 15.247(a)(1)(iii) | Number of Hopping Frequency              | -      | N/A      |
| FCC Part 15, Paragraph 15.247(a)(1)(iii) | Time of Occupancy                        | -      | N/A      |
| FCC Part 15, Paragraph 15.247(c)         | Peak Power Density                       | PASS   | Complies |

\* The digital circuit porting of the EUT has been tested and verified to comply with FCC Part 15, Subpart B., Class B Digital Devices and the associated Radio Receiver has also been tested and found to comply with FCC Part 15, Subpart B – Radio Receivers.

#### 3.2. Description of Test Modes

The EUT has been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 1 Mbps lowest data rate (worst case) are chosen for the final testing.

IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6 Mbps lowest data rate (the worst case) are chosen for the final testing.

IEEE802.11n (HT20: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6.5 Mbps lowest data rate (the worst case) are chosen for the final testing.

IEEE802.11n (HT40: Channel 3(2422MHz), Channel 6(2437MHz) and Channel 9(2452MHz) with 13.5 Mbps lowest data rate (the worst case) are chosen for the final testing.

## 3.3. List of channels:

✓ - available

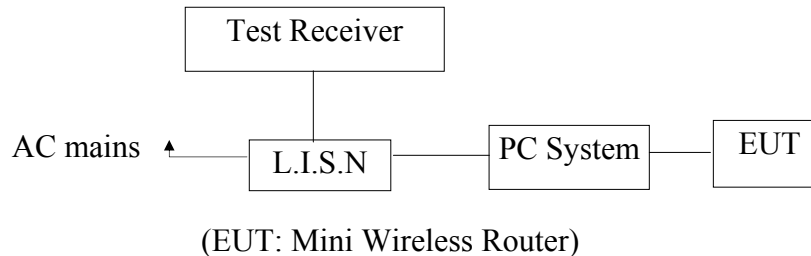
X - tested

| Number | Frequency(MHz) |   | 802.11<br>b/g/n<br>(HT20) | 802.11<br>b/g/n<br>(HT40) |
|--------|----------------|---|---------------------------|---------------------------|
| 1      | 2412           | ✓ | X                         |                           |
| 2      | 2417           | ✓ |                           |                           |
| 3      | 2422           | ✓ |                           | X                         |
| 4      | 2427           | ✓ |                           |                           |
| 5      | 2432           | ✓ |                           |                           |
| 6      | 2437           | ✓ | X                         | X                         |
| 7      | 2442           | ✓ |                           |                           |
| 8      | 2447           | ✓ |                           |                           |
| 9      | 2452           | ✓ |                           | X                         |
| 10     | 2457           | ✓ |                           |                           |
| 11     | 2462           | ✓ | X                         |                           |

## 4. Conducted Emission Test

### 4.1. Block Diagram of Test Setup

#### 4.1.1. Block diagram of connection between the EUT and simulators



### 4.2. Power Line Conducted Emission Measurement Limits (15.207)

| Frequency<br>MHz | Limits dB(μV)    |               |
|------------------|------------------|---------------|
|                  | Quasi-peak Level | Average Level |
| 0.15 ~ 0.50      | 66 ~ 56*         | 56 ~ 46*      |
| 0.50 ~ 5.00      | 56               | 46            |
| 5.00 ~ 30.00     | 60               | 50            |

Notes: 1. \*Decreasing linearly with logarithm of frequency.  
 2. The lower limit shall apply at the transition frequencies.

### 4.3. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT : Mini Wireless Router  
 Model Number : i11 series  
 Applicant : FUTUREPATH TECHNOLOGY (SHENZHEN) CO.,LTD.

### 4.4. Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.1.

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in test mode (charging) and measure it.

#### 4.5. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2003 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 4.6.

#### 4.6. Test equipment

| Item | Equipment               | Manufacturer         | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|-------------------------|----------------------|-----------|------------|---------------|---------------|
| 1.   | EMI Receiver            | Rohde & Schwarz      | ESCI      | 100627     | Nov. 12, 2012 | 1 Year        |
| 2.   | LISN                    | SchwarzBeck          | NSLK 8126 | 8126377    | May 19, 2012  | 1 Year        |
| 3.   | RF Switching Unit       | Compliance Direction | RSU-M2    | 38303      | May 19, 2012  | 1 Year        |
| 4.   | EMI Test Software ES-K1 | Rohde & Schwarz      | N/A       | N/A        | N/A           | N/A           |

Conduction Uncertainty : Uc = 3.4dB

#### 4.7. Power Line Conducted Emission Measurement Results

**PASS.**

The frequency range from 150KHz to 30 MHz is investigated.

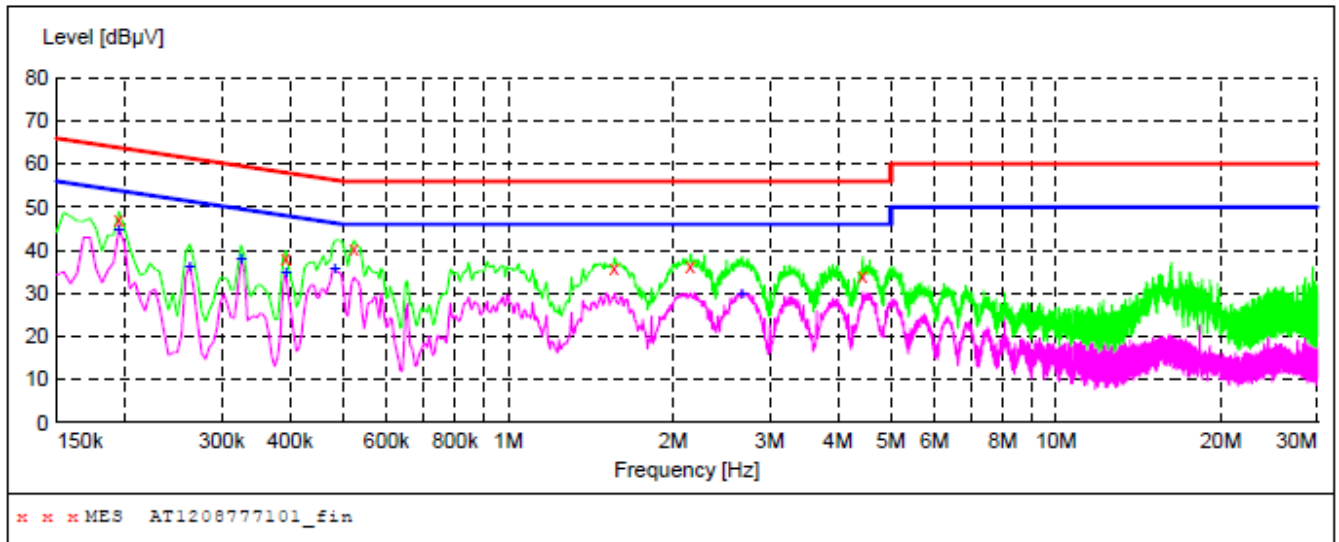
Please refer the following pages.

**CONDUCTED EMISSION TEST DATA**

EUT: Mini Wireless Router M/N: i11 series  
 Operating Condition: USB Charging and Playing  
 Test Site: 1# Shielded Room  
 Operator: Andy Chen  
 Test Specification: AC 120V/60Hz for USB  
 Comment: Live Line  
 Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M) FIN"**

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1208777101\_fin"**

9/1/2012 4:49PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.195000         | 47.10         | 20.1         | 64            | 16.7         | QP       | L1   | GND |
| 0.393000         | 38.10         | 20.1         | 58            | 19.9         | QP       | L1   | GND |
| 0.523500         | 40.30         | 20.1         | 56            | 15.7         | QP       | L1   | GND |
| 1.562500         | 35.70         | 20.3         | 56            | 20.3         | QP       | L1   | GND |
| 2.152000         | 36.10         | 20.3         | 56            | 19.9         | QP       | L1   | GND |
| 4.438000         | 34.10         | 20.5         | 56            | 21.9         | QP       | L1   | GND |

**MEASUREMENT RESULT: "AT1208777101\_fin2"**

9/1/2012 4:49PM

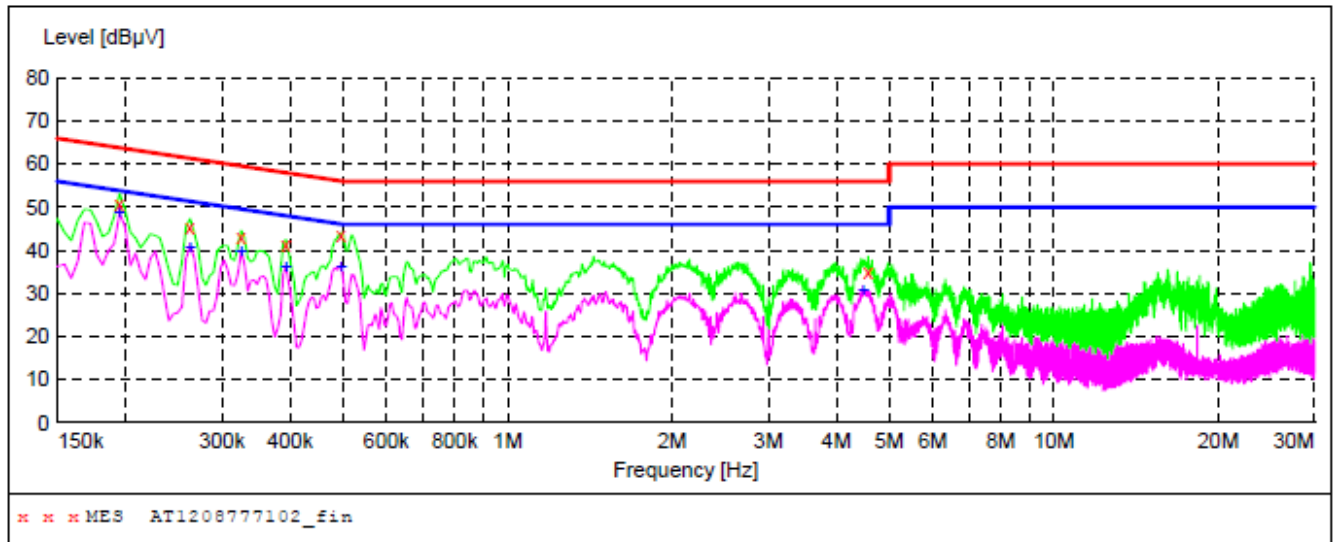
| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.195000         | 45.00         | 20.1         | 54            | 8.8          | AV       | L1   | GND |
| 0.262500         | 36.10         | 20.1         | 51            | 15.3         | AV       | L1   | GND |
| 0.325500         | 38.20         | 20.1         | 50            | 11.4         | AV       | L1   | GND |
| 0.393000         | 34.90         | 20.1         | 48            | 13.1         | AV       | L1   | GND |
| 0.483000         | 35.70         | 20.1         | 46            | 10.6         | AV       | L1   | GND |
| 2.669500         | 30.20         | 20.4         | 46            | 15.8         | AV       | L1   | GND |

**CONDUCTED EMISSION TEST DATA**

EUT: Mini Wireless Router M/N: i11 series  
 Operating Condition: USB Charging and Playing  
 Test Site: 1# Shielded Room  
 Operator: Andy Chen  
 Test Specification: AC 120V/60Hz for USB  
 Comment: Neutral Line  
 Tem:25°C Hum:50%

**SCAN TABLE: "Voltage(150K~30M)FIN"**

Short Description: 150K-30M Disturbance Voltages

**MEASUREMENT RESULT: "AT1208777102\_fin"**

9/1/2012 4:52PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.195000         | 50.70         | 20.1         | 64            | 13.1         | QP       | N    | GND |
| 0.262500         | 45.40         | 20.1         | 61            | 16.0         | QP       | N    | GND |
| 0.325500         | 43.20         | 20.1         | 60            | 16.4         | QP       | N    | GND |
| 0.393000         | 41.10         | 20.1         | 58            | 16.9         | QP       | N    | GND |
| 0.496500         | 43.60         | 20.1         | 56            | 12.5         | QP       | N    | GND |
| 4.568500         | 34.90         | 20.5         | 56            | 21.1         | QP       | N    | GND |

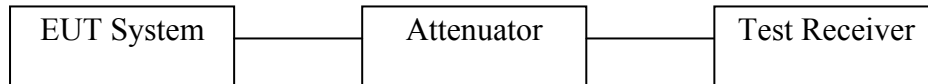
**MEASUREMENT RESULT: "AT1208777102\_fin2"**

9/1/2012 4:52PM

| Frequency<br>MHz | Level<br>dBμV | Transd<br>dB | Limit<br>dBμV | Margin<br>dB | Detector | Line | PE  |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| 0.195000         | 48.80         | 20.1         | 54            | 5.0          | AV       | N    | GND |
| 0.262500         | 40.80         | 20.1         | 51            | 10.6         | AV       | N    | GND |
| 0.325500         | 40.00         | 20.1         | 50            | 9.6          | AV       | N    | GND |
| 0.393000         | 36.40         | 20.1         | 48            | 11.6         | AV       | N    | GND |
| 0.496500         | 36.10         | 20.1         | 46            | 10.0         | AV       | N    | GND |
| 4.478500         | 30.80         | 20.5         | 46            | 15.2         | AV       | N    | GND |

## 5. FCC Part 15.247 Requirements for DSSS & OFDM Modulation

### 5.1 Test Setup



### 5.2 6dB Bandwidth

#### a. Limit

For the direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

#### b. Test Procedure

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 200kHz(802.11b/802.11g/802.11n(HT20)), RBW=400kHz, VBW = 3\*RBW, Span = 50MHz, Sweep = auto.
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

#### c. Test Setup See 5.1

#### d. Test Equipment

| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2    | EMI Receiver               | Rohde & Schwarz         | ESCI      | 100627     | Nov. 12, 2012 | 1 Year        |
| 3.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 4    | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 5    | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

#### e. Test Results

Pass

**f. Test Data**

Test mode: IEEE 802.11b

| Channel | Frequency<br>(MHz) | Bandwidth<br>(MHz) | Limit<br>(kHz) | Results |
|---------|--------------------|--------------------|----------------|---------|
| Low     | 2412               | 10.10              |                | Pass    |
| Mid     | 2437               | 10.00              | >500           | Pass    |
| High    | 2462               | 10.00              |                | Pass    |

Test mode: IEEE 802.11g

| Channel | Frequency<br>(MHz) | Bandwidth<br>(MHz) | Limit<br>(kHz) | Results |
|---------|--------------------|--------------------|----------------|---------|
| Low     | 2412               | 16.50              |                | Pass    |
| Mid     | 2437               | 17.80              | >500           | Pass    |
| High    | 2462               | 16.60              |                | Pass    |

Test mode: IEEE 802.11n (HT20)

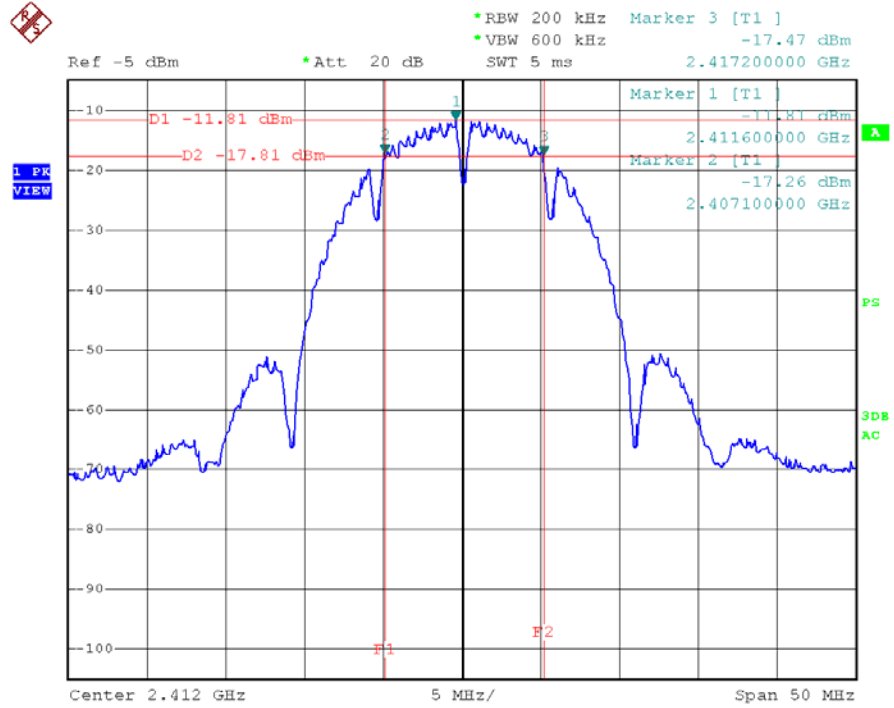
| Channel | Frequency<br>(MHz) | Bandwidth<br>(MHz) | Limit<br>(kHz) | Results |
|---------|--------------------|--------------------|----------------|---------|
| Low     | 2412               | 16.60              |                | Pass    |
| Mid     | 2437               | 17.80              | >500           | Pass    |
| High    | 2462               | 17.80              |                | Pass    |

Test mode: IEEE 802.11n (HT40)

| Channel | Frequency<br>(MHz) | Bandwidth<br>(MHz) | Limit<br>(kHz) | Results |
|---------|--------------------|--------------------|----------------|---------|
| Low     | 2422               | 40.40              |                | Pass    |
| Mid     | 2437               | 46.40              | >500           | Pass    |
| High    | 2452               | 42.40              |                | Pass    |

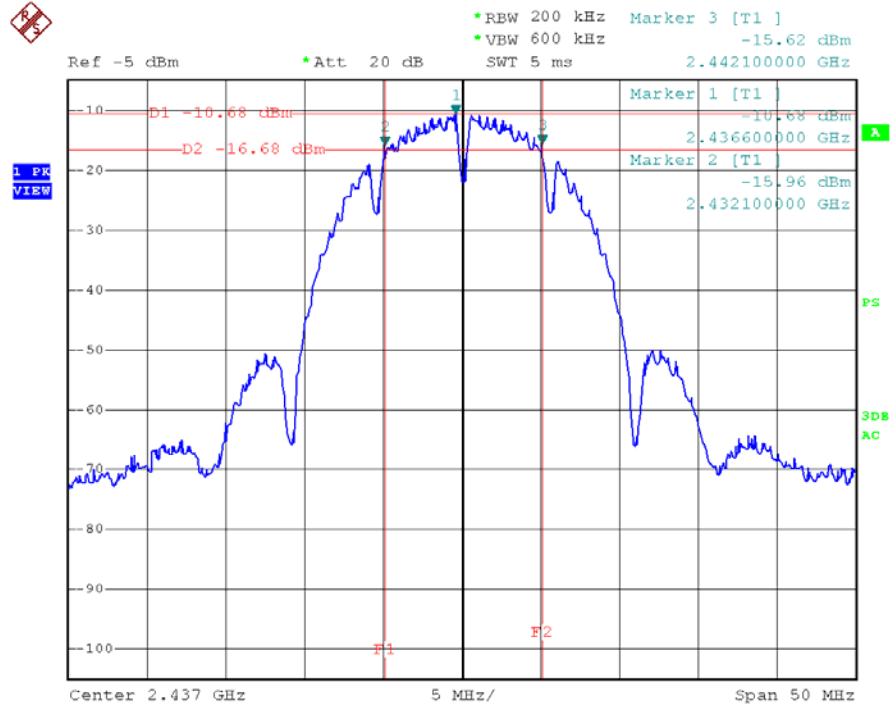
Test Plots See the following page.

## Test Mode: 802.11b---Low



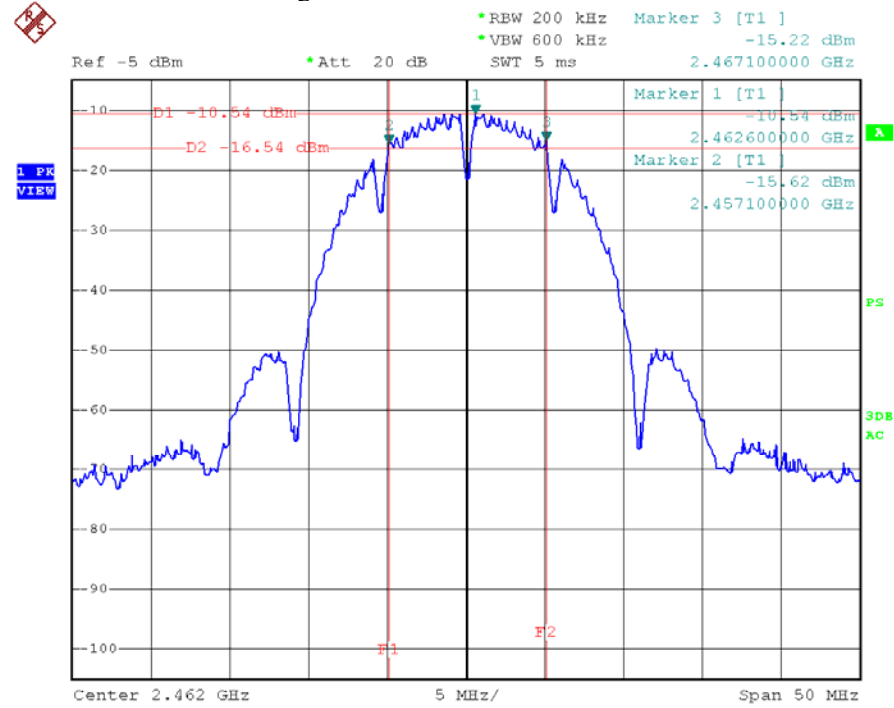
6dB-2412

## Test Mode: 802.11b---Mid



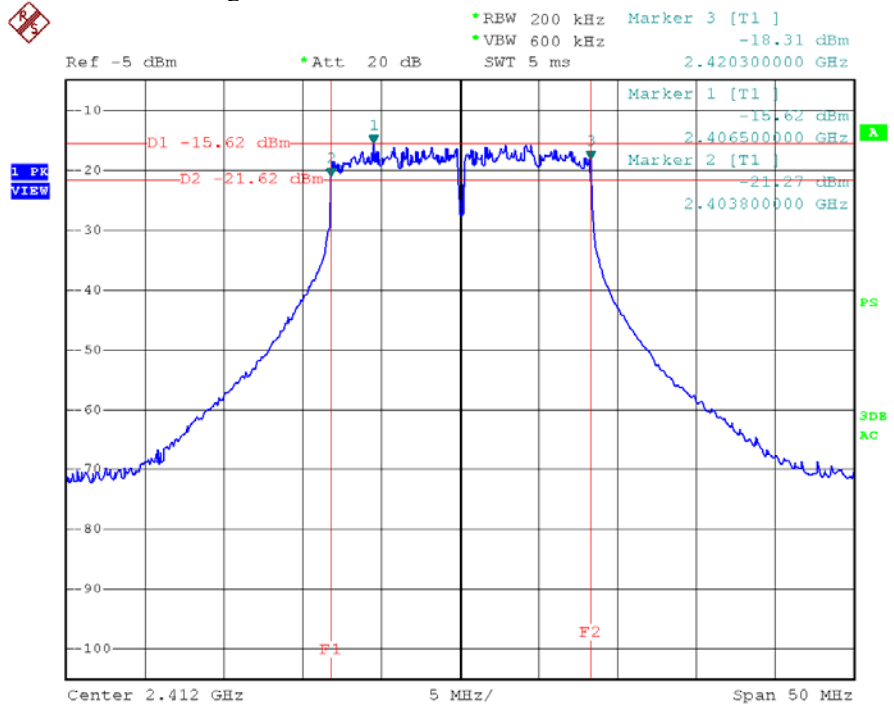
6dB-2437

## Test Mode: 802.11b---High



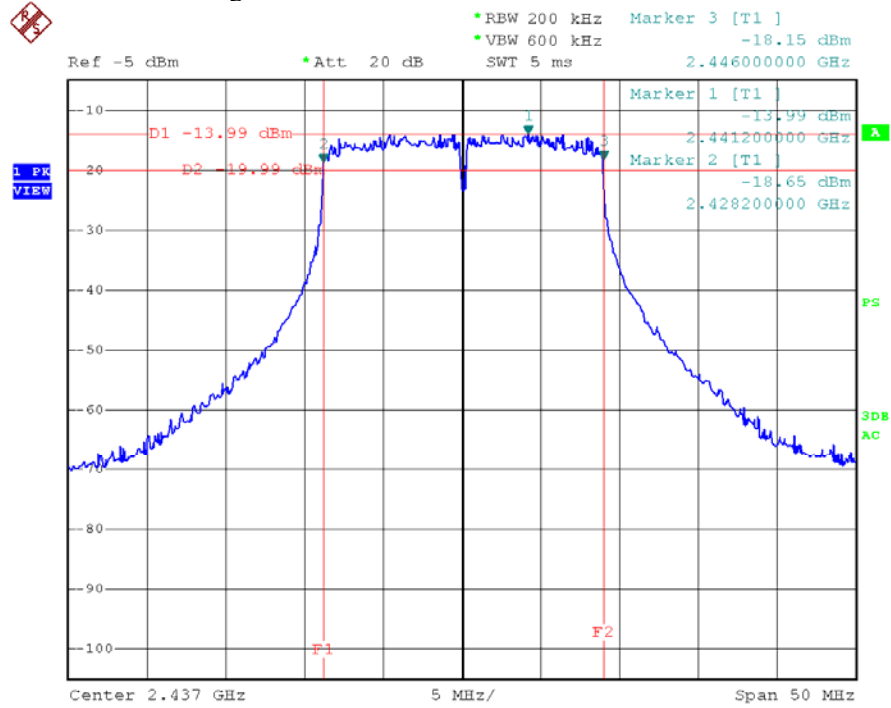
6dB-2462

## Test Mode: 802.11g---Low



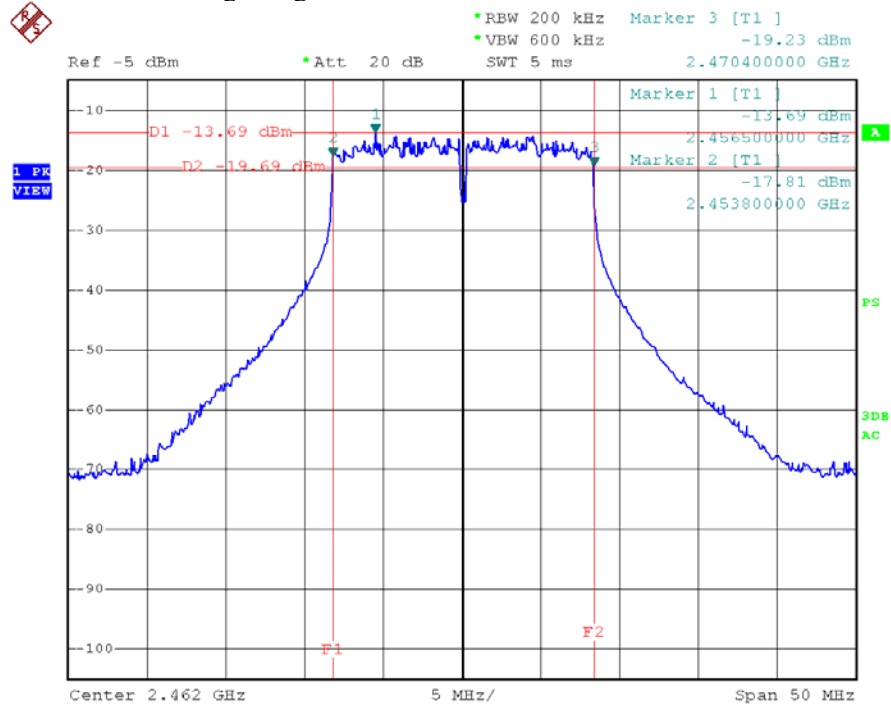
6dB-2412

Test Mode: 802.11g---Mid



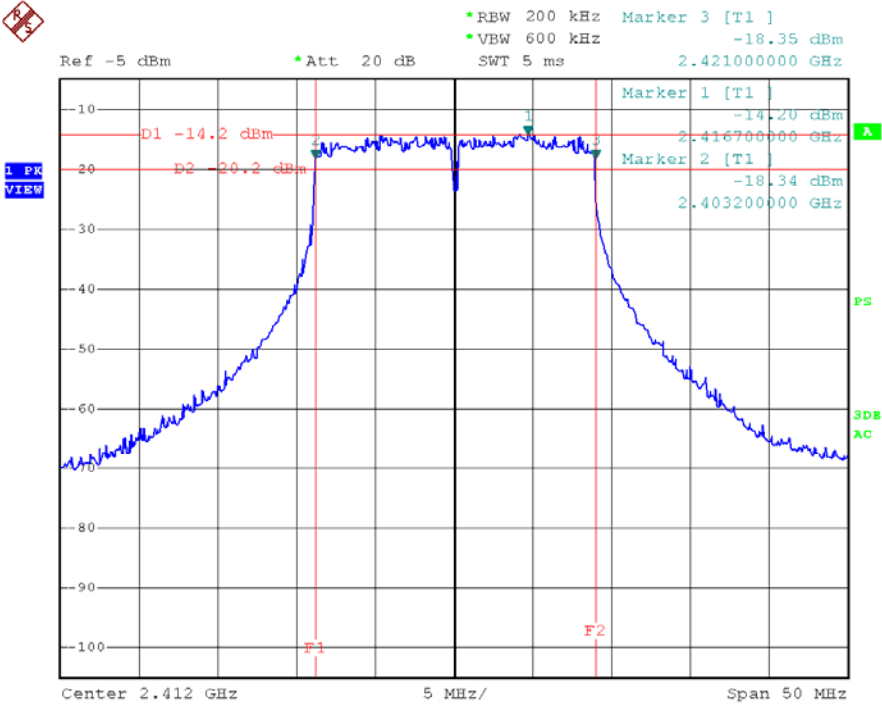
6dB-2437

Test Mode: 802.11g---High



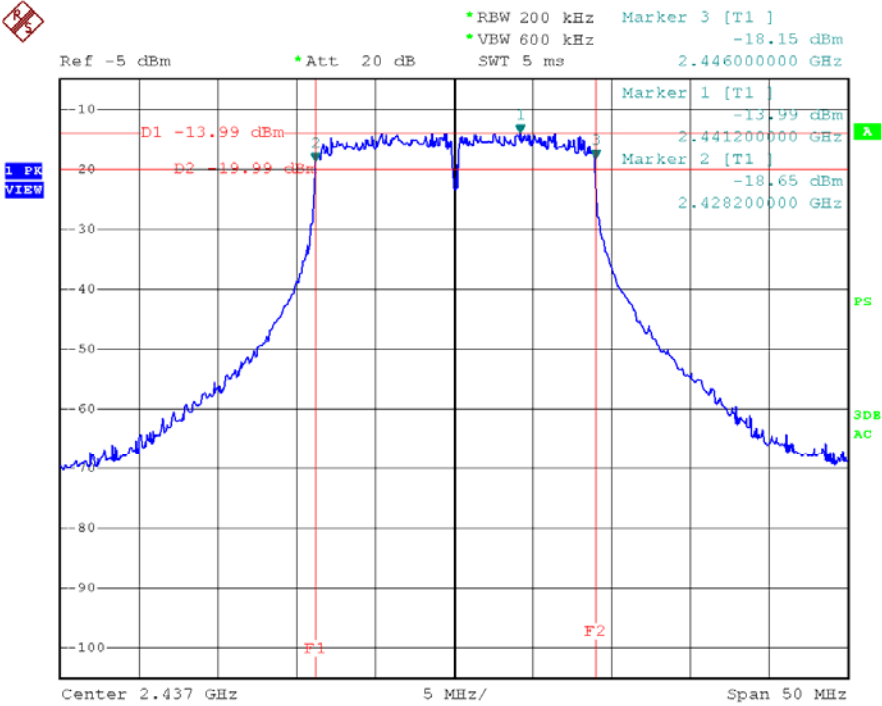
6dB-2462

Test Mode: 802.11n (HT20) ---Low



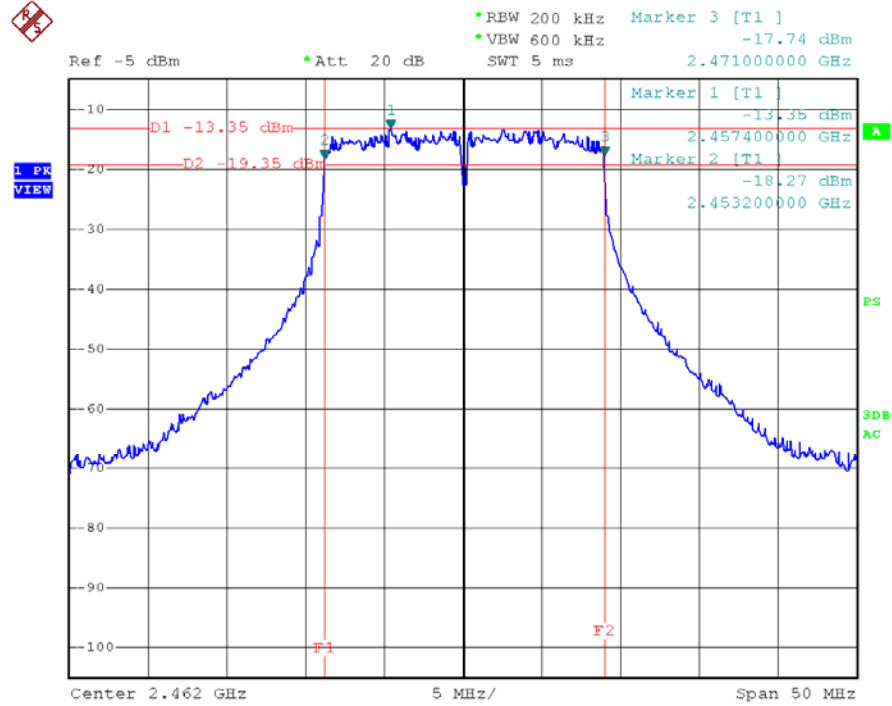
6dB-2412

Test Mode: 802.11n (HT20) ---Mid



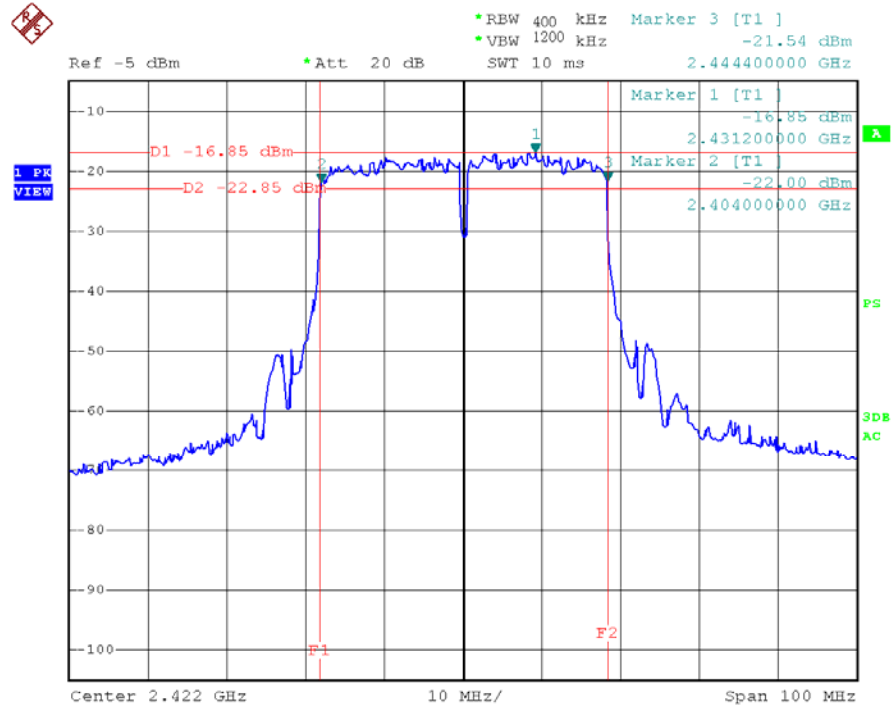
6dB-2437

Test Mode: 802.11n (HT20) ---High



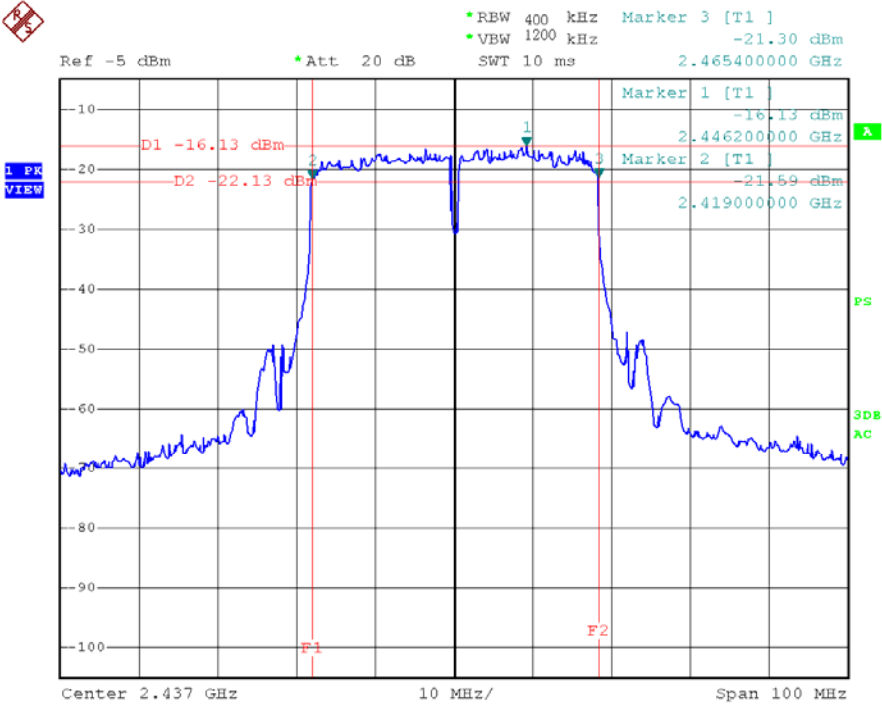
6dB-2462

Test Mode: 802.11n (HT40) ---Low



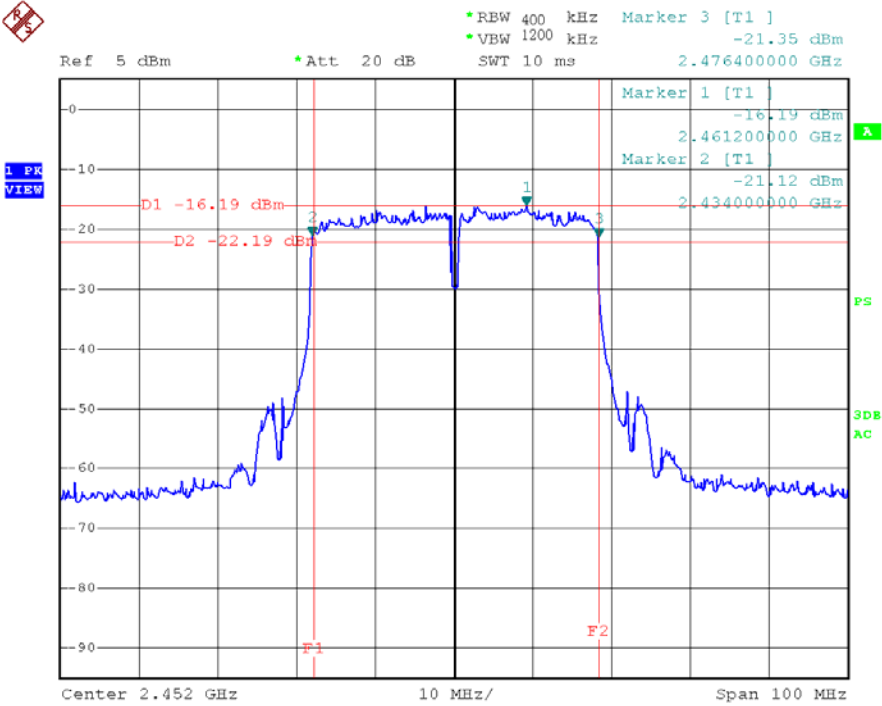
6dB-2422

Test Mode: 802.11n (HT40) ---Mid



6dB-2437

Test Mode: 802.11n (HT40) ---High



6dB-2452

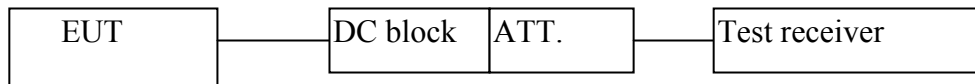
### 5.3 Maximum Peak output power test

#### a. Limit

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

1. For systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 watt (30dBm).
2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antenna of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### b. Configuration of Measurement



#### c. Data Rates

IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 1 Mbps data rate (worst case) are chosen for the final testing.

IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6 Mbps data rate (the worst case) are chosen for the final testing.

IEEE802.11n (HT20: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 6.5Mbps data rate (the worst case) are chosen for the final testing.

IEEE802.11n (HT40: Channel 3(2422MHz), Channel 6(2437MHz) and Channel 9(2452MHz) with 13.5Mbps data rate (the worst case) are chosen for the final testing.

#### d. Test Procedure

**This test was according the kdb 58074 5.2.1.2 Measurement Procedure PK2:**

1. This procedure provides an integrated measurement alternative when the maximum available RBW < EBW.
2. Set the RBW = 1 MHz.
3. Set the VBW = 3 MHz.
4. Set the span to a value that is 5-30 % greater than the EBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the spectrum analyzer's integrated band power measurement function with band limits set equal to the EBW band edges (for some analyzers, this may require a manual override to ensure use of peak detector). If the spectrum analyzer does not have a band power function, sum the spectrum levels (in linear power units) at 1 MHz intervals extending across the EBW of the spectrum.

Test Equipment

| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2    | EMI Receiver               | Rohde & Schwarz         | ESCI      | 100627     | Nov. 12, 2012 | 1 Year        |
| 3.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 4    | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 5    | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

#### e. Test Results

Pass

**f. Test Data**

Test mode: IEEE 802.11b

| Channel | Frequency<br>(MHz) | Maximum transmit power | Limit |         | Result |
|---------|--------------------|------------------------|-------|---------|--------|
|         |                    | (dBm)                  | (dBm) | (watts) |        |
| Low     | 2412               | 10.87                  | 30    | 1       | Pass   |
| Mid     | 2437               | 10.87                  |       |         | Pass   |
| High    | 2462               | 10.61                  |       |         | Pass   |

Test mode: IEEE 802.11g

| Channel | Frequency<br>(MHz) | Maximum transmit power | Limit |         | Result |
|---------|--------------------|------------------------|-------|---------|--------|
|         |                    | (dBm)                  | (dBm) | (watts) |        |
| Low     | 2412               | 11.90                  | 30    | 1       | Pass   |
| Mid     | 2437               | 11.37                  |       |         | Pass   |
| High    | 2462               | 11.48                  |       |         | Pass   |

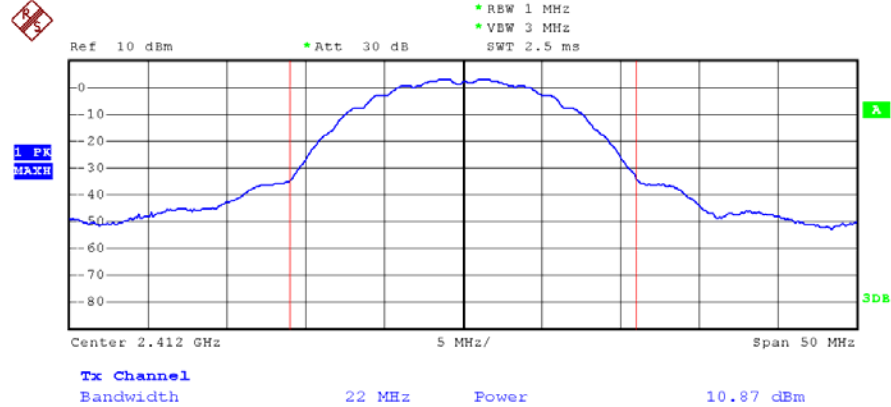
Test mode: IEEE 802.11n (HT20)

| Channel | Frequency<br>(MHz) | Maximum transmit power | Limit |         | Result |
|---------|--------------------|------------------------|-------|---------|--------|
|         |                    | (dBm)                  | (dBm) | (watts) |        |
| Low     | 2412               | 11.07                  | 30    | 1       | Pass   |
| Mid     | 2437               | 11.06                  |       |         | Pass   |
| High    | 2462               | 10.62                  |       |         | Pass   |

Test mode: IEEE 802.11n (HT40)

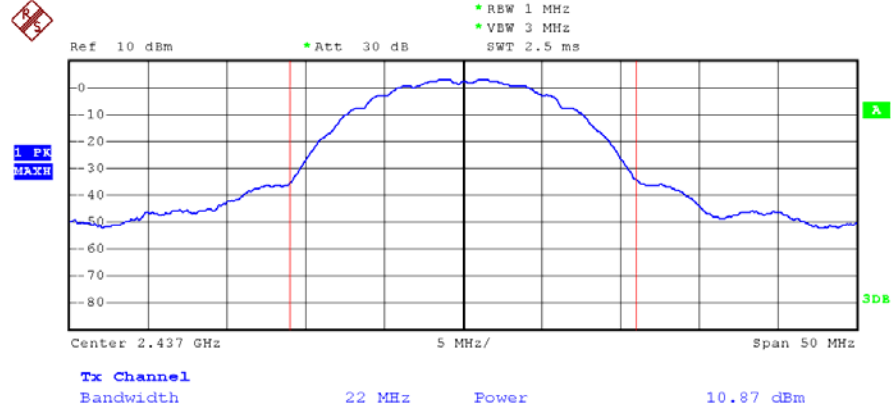
| Channel | Frequency<br>(MHz) | Maximum transmit power | Limit |         | Result |
|---------|--------------------|------------------------|-------|---------|--------|
|         |                    | (dBm)                  | (dBm) | (watts) |        |
| Low     | 2422               | 10.81                  | 30    | 1       | Pass   |
| Mid     | 2437               | 10.35                  |       |         | Pass   |
| High    | 2452               | 10.04                  |       |         | Pass   |

Test Mode: 802.11b ---Low



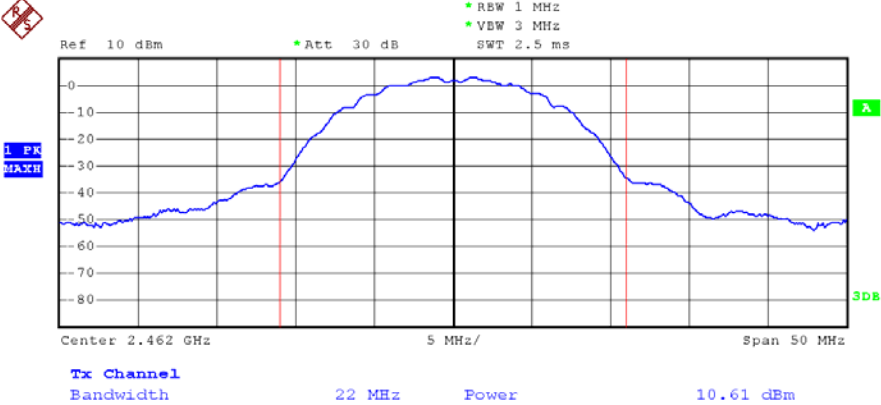
P

Test Mode: 802.11b---Mid



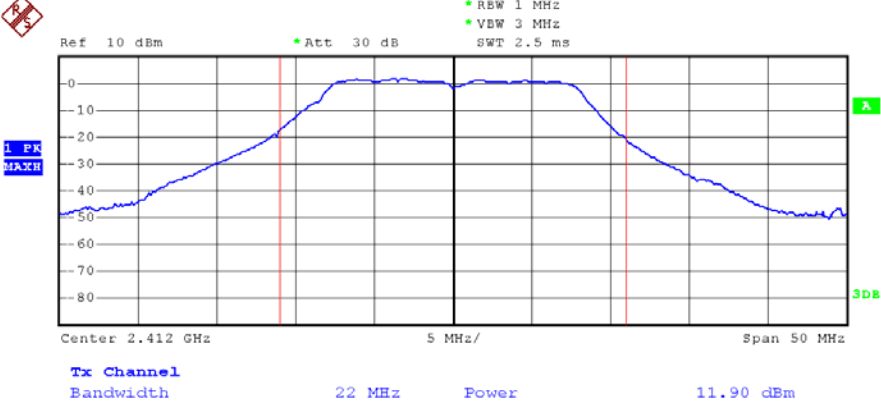
P

Test Mode: 802.11b---High



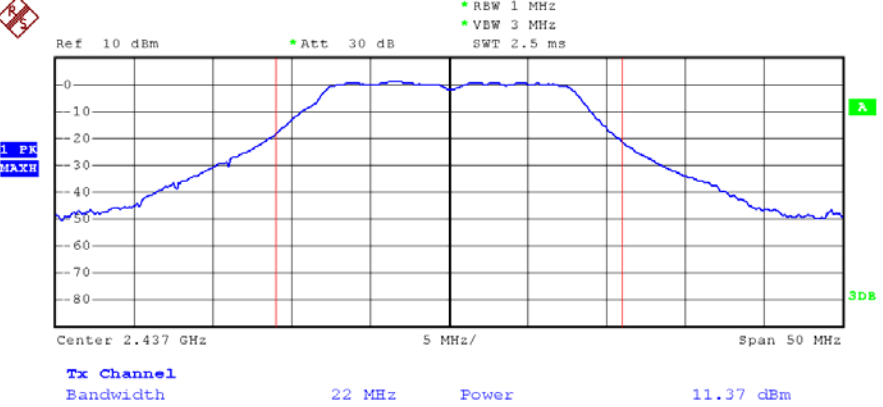
P

Test Mode: 802.11g ---Low



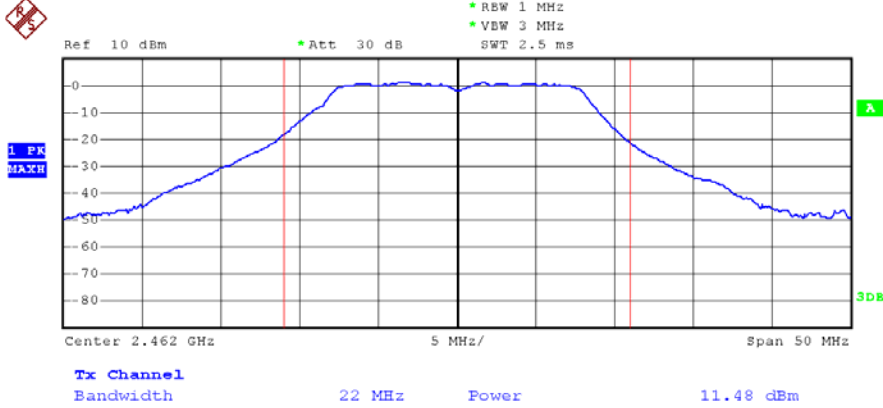
P

Test Mode: 802.11g---Mid



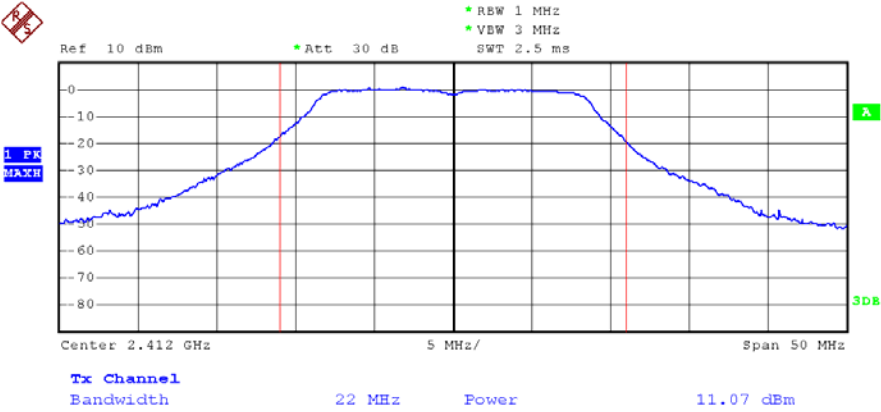
P

Test Mode: 802.11g---High



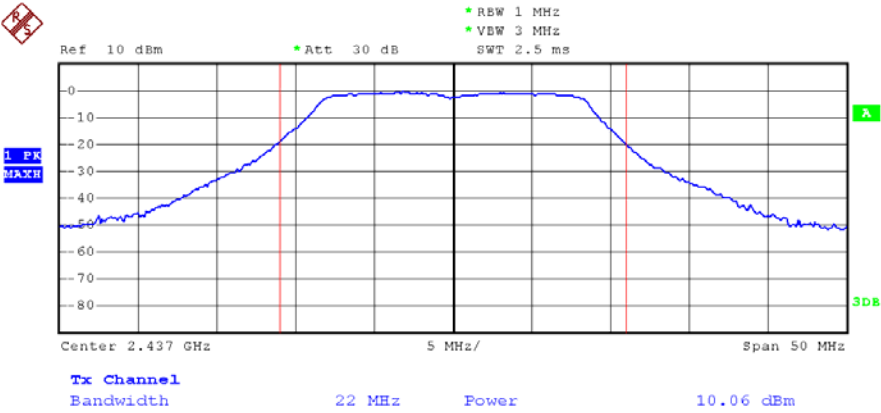
P

Test Mode: 802.11n (HT20) ---Low



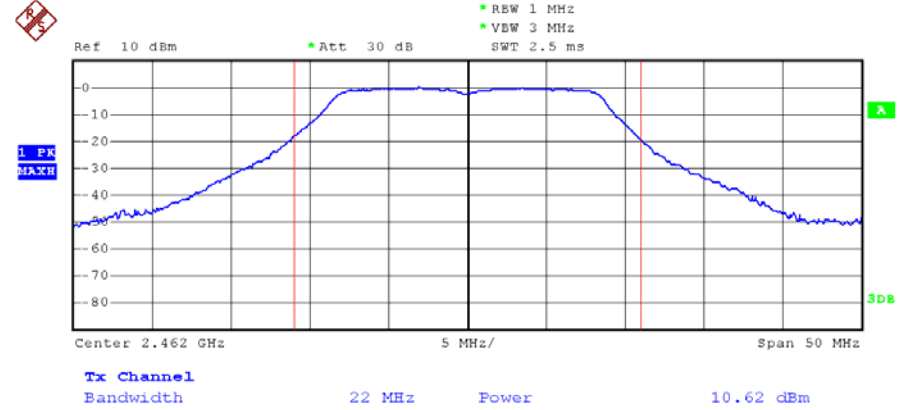
P

Test Mode: 802.11n (HT20) ---Mid



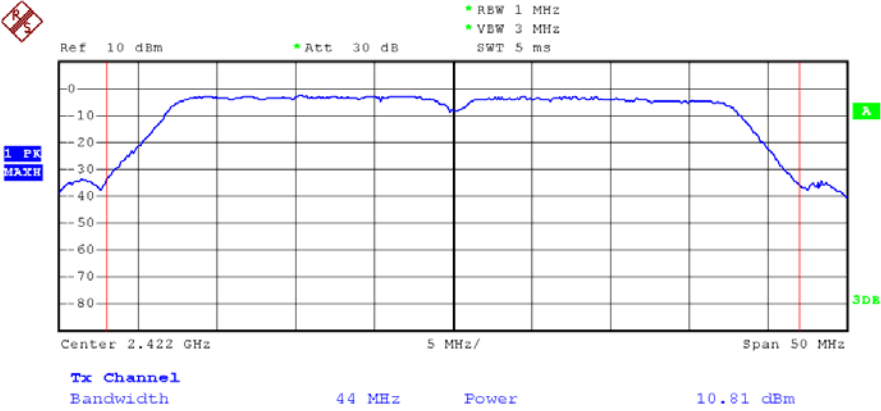
P

Test Mode: 802.11n (HT20) ---High



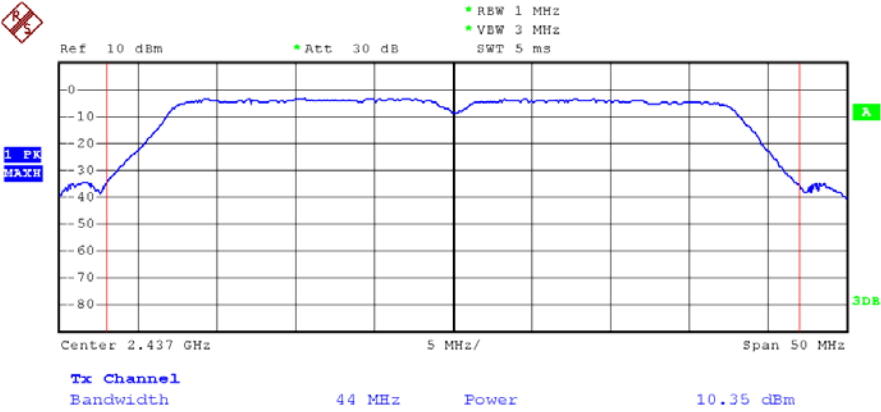
P

Test Mode: 802.11n (HT40) ---Low



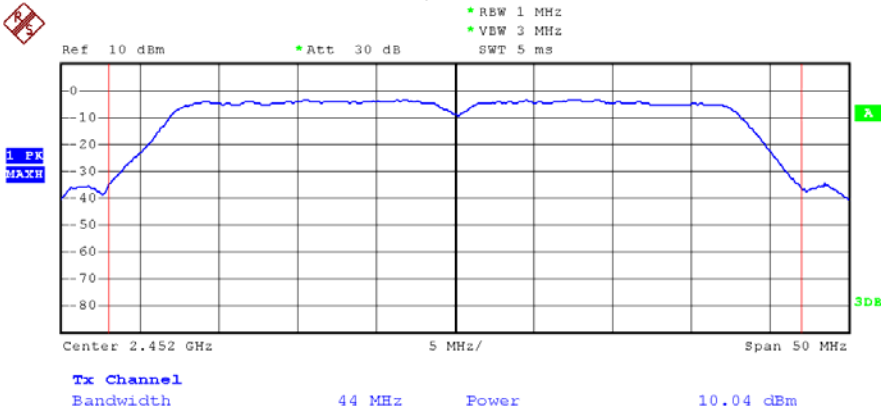
P

Test Mode: 802.11n (HT40) --- Mid



P

Test Mode: 802.11n (HT40) ---High



P

## 5.4 Band Edges Measurement

### a. Limit

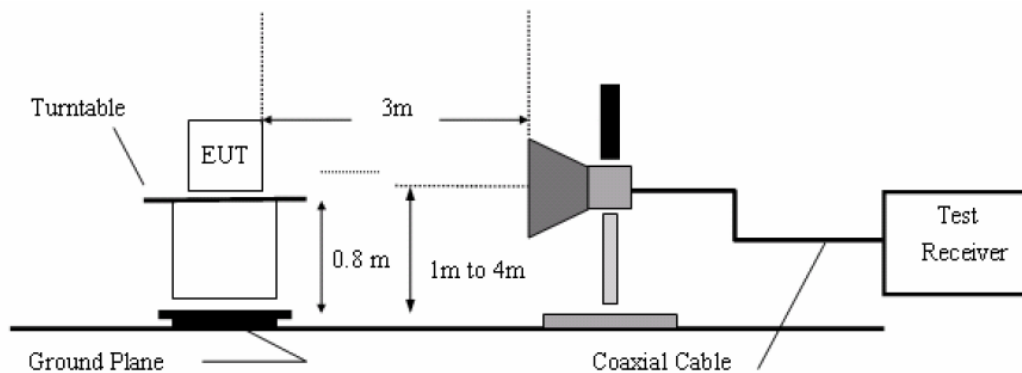
According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

### b. Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Peak detector: RBW=100KHz, VBW=100KHz, SWT=AUTO  
Average detector: RBW=1MHz, VBW=10Hz, SWT=AUTO  
The EUT is tested in 9\*6\*6 Chamber.
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

#### Test Equipment

| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2.   | EMI Receiver               | Rohde & Schwarz         | ESCI      | 100627     | Nov. 12, 2012 | 1 Year        |
| 3.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 4.   | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 5.   | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |



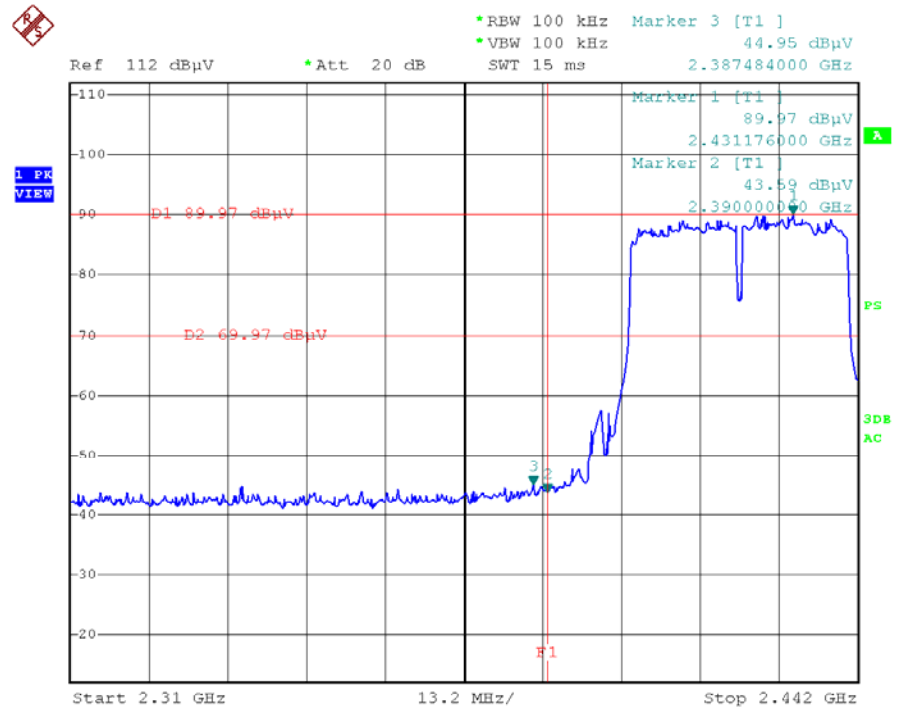
### c. Test Results

Pass

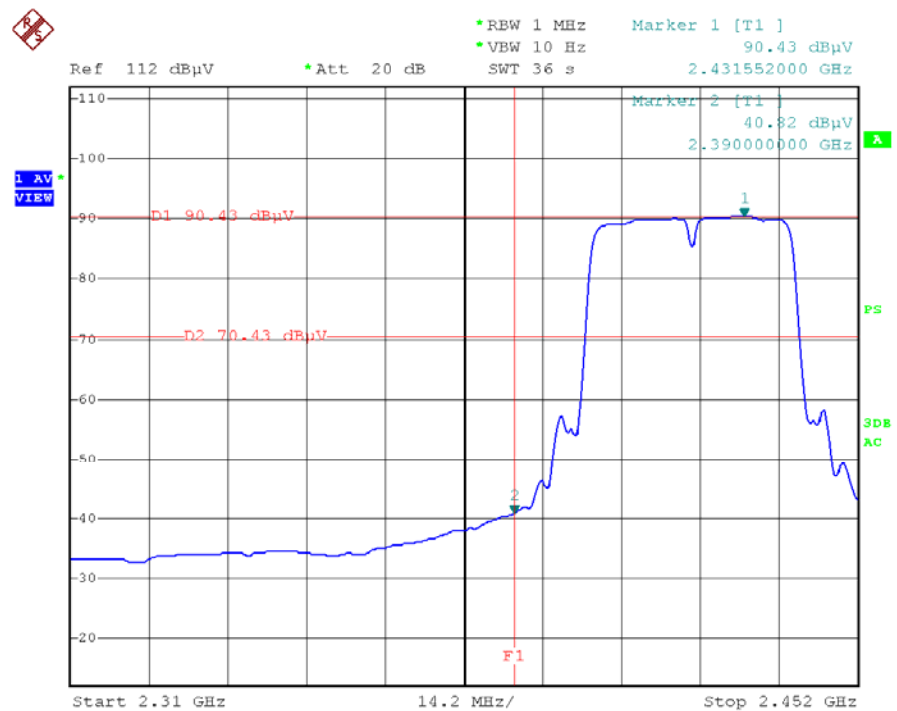
### d. Test Plots

See the following page.

Test Mode: 802.11b ---Low

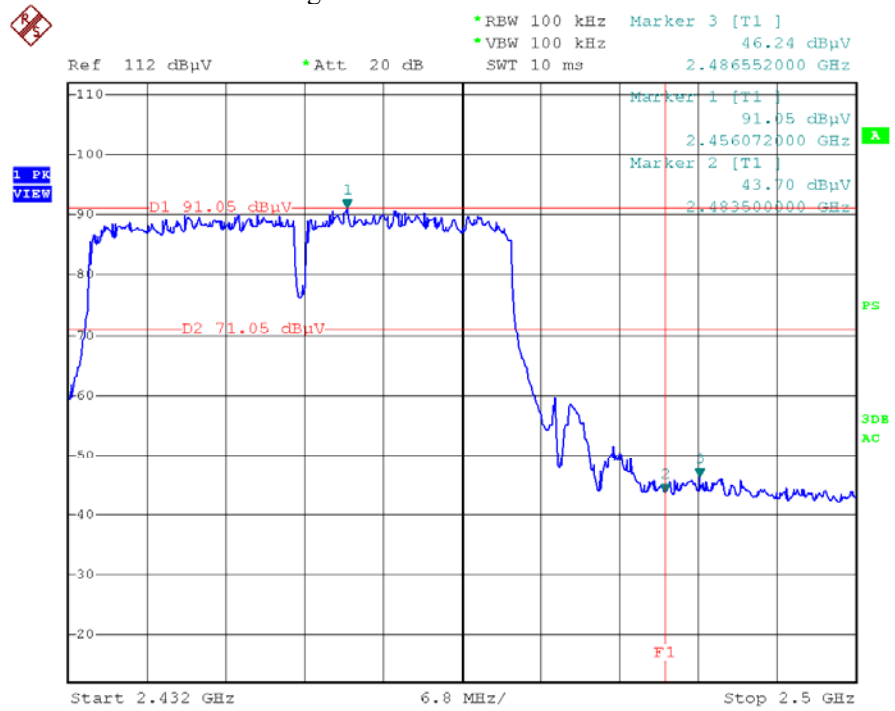


Bandedges-L

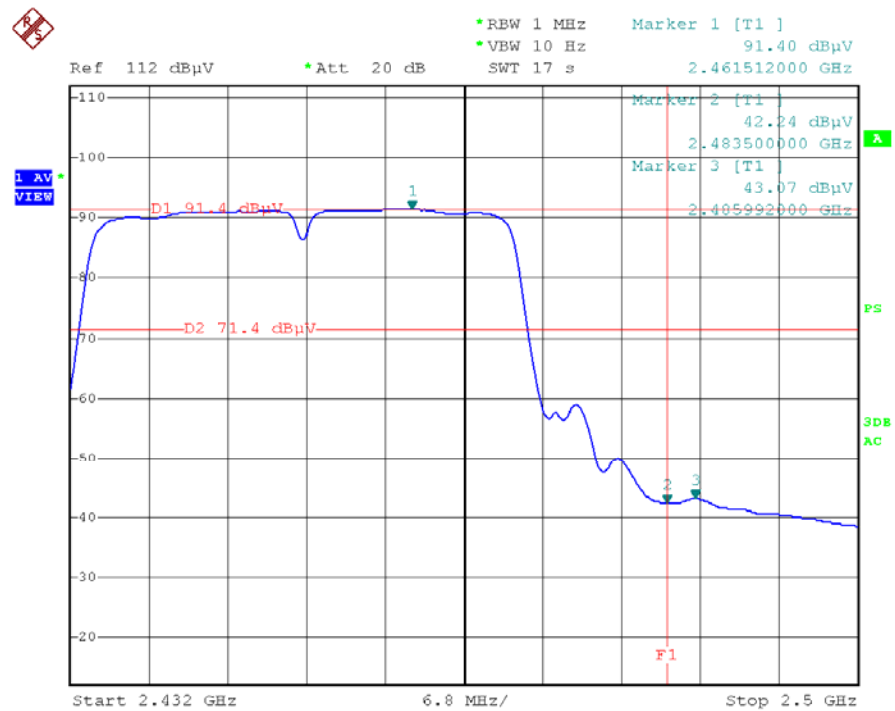


Bandedges-L-AV

## Test Mode: 802.11b ---High

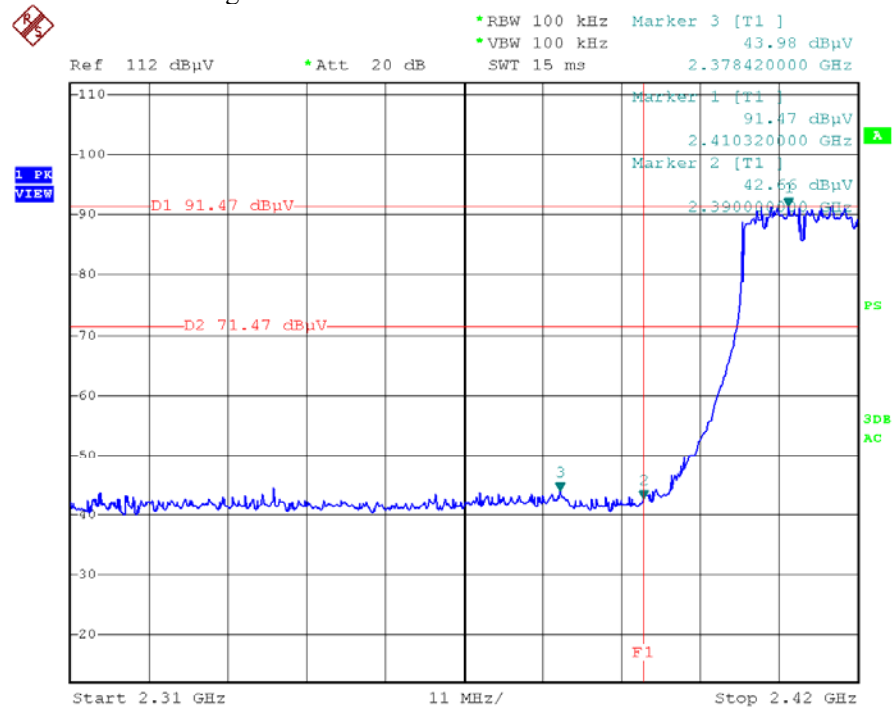


## Bandedges-H

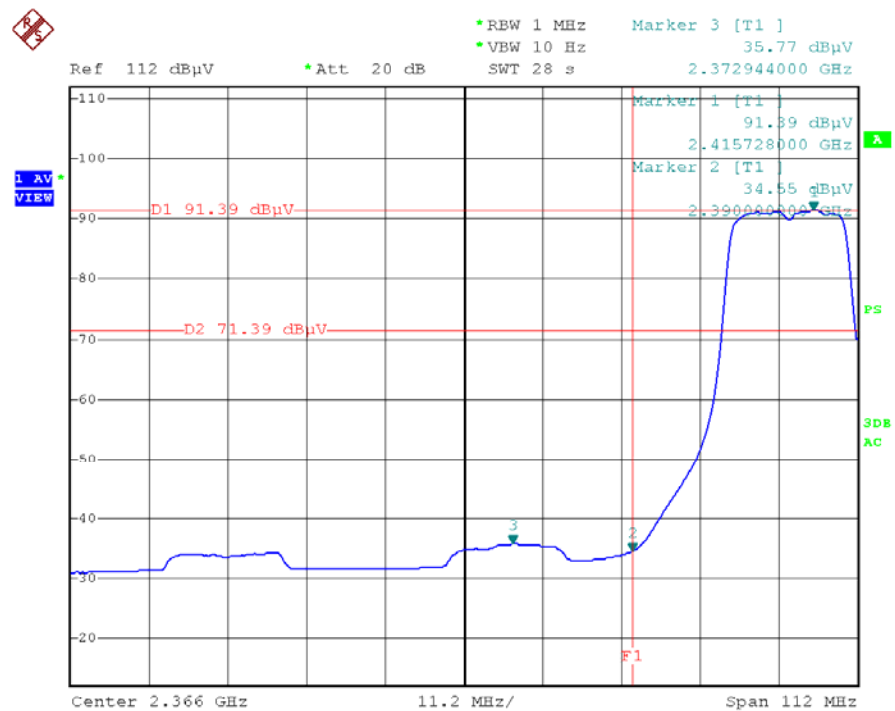


## Bandedges-H-AV

Test Mode: 802.11g ---Low

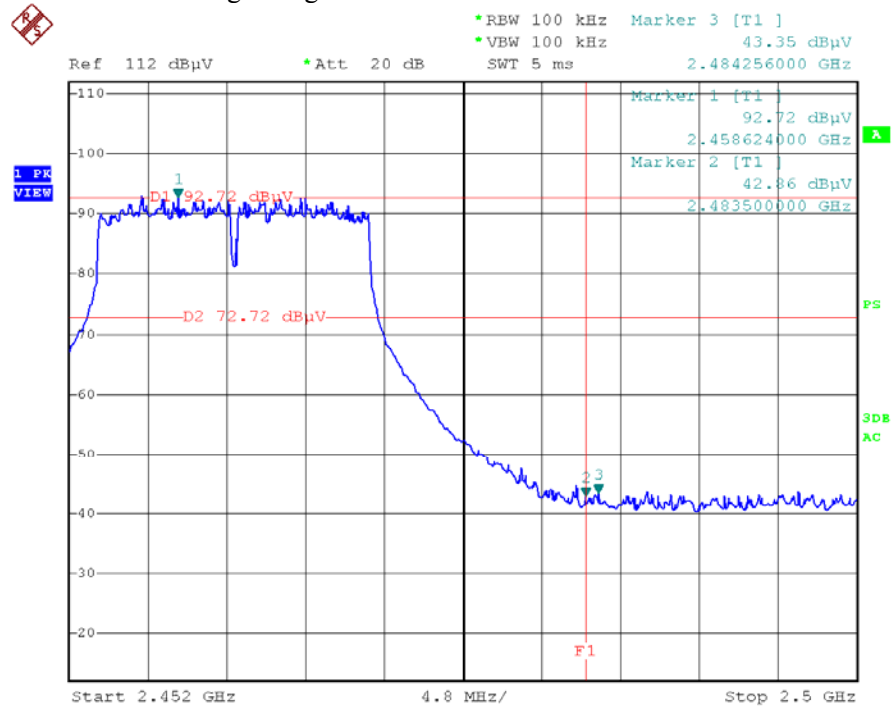


Bandedges-L

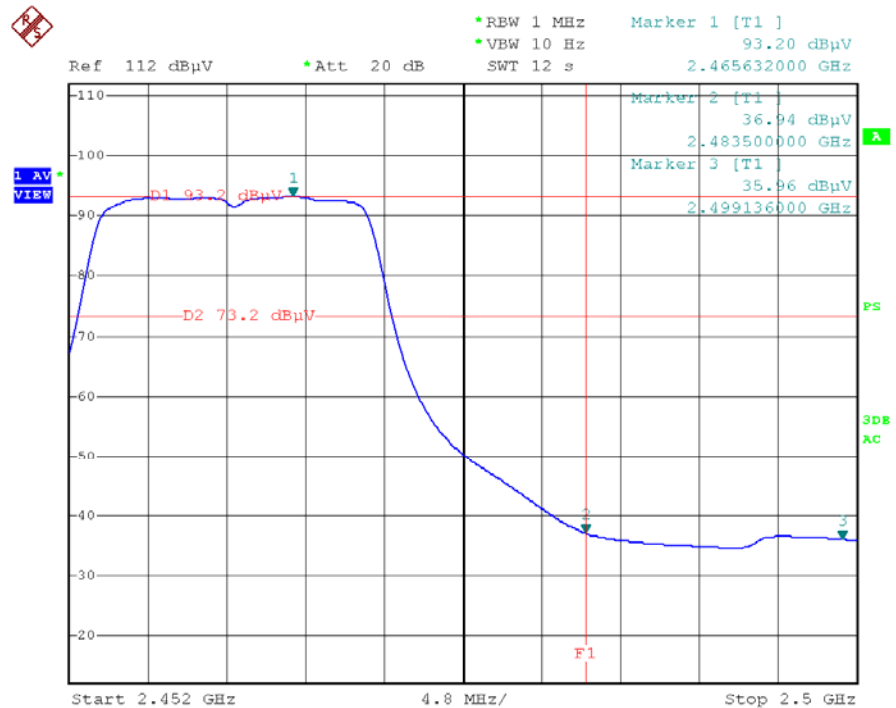


Bandedges-L-AV

## Test Mode: 802.11g ---High

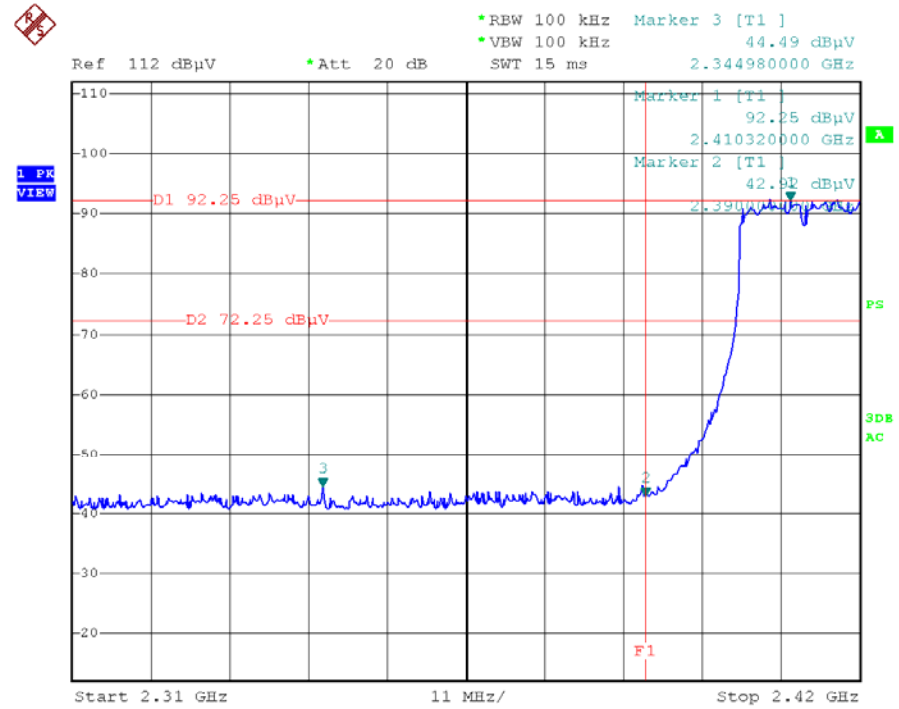


## Bandedges-H

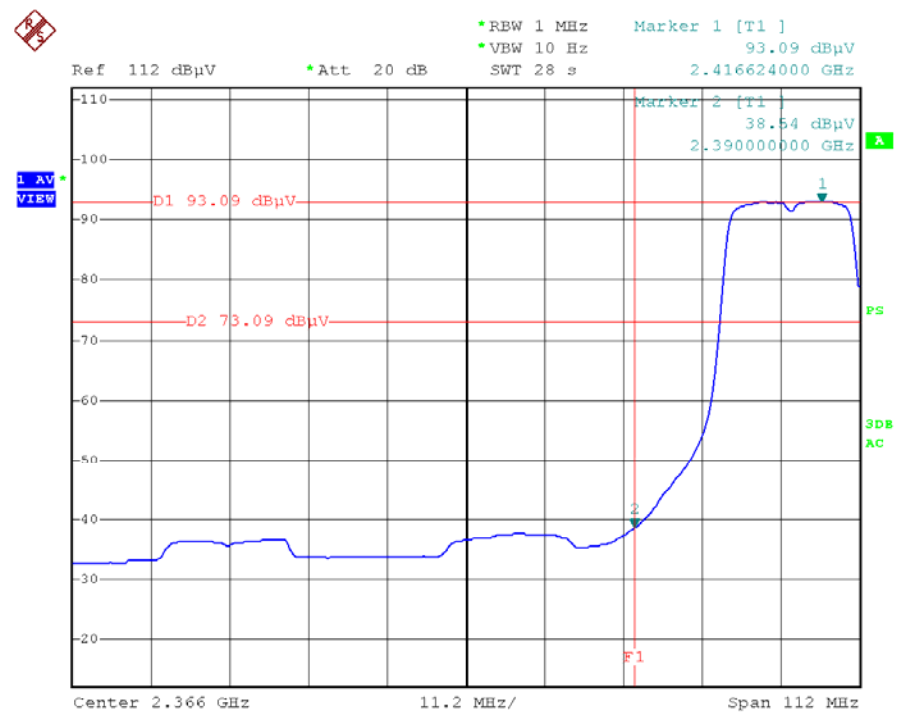


## Bandedges-H-AV

Test Mode: 802.11n (HT20) ---Low

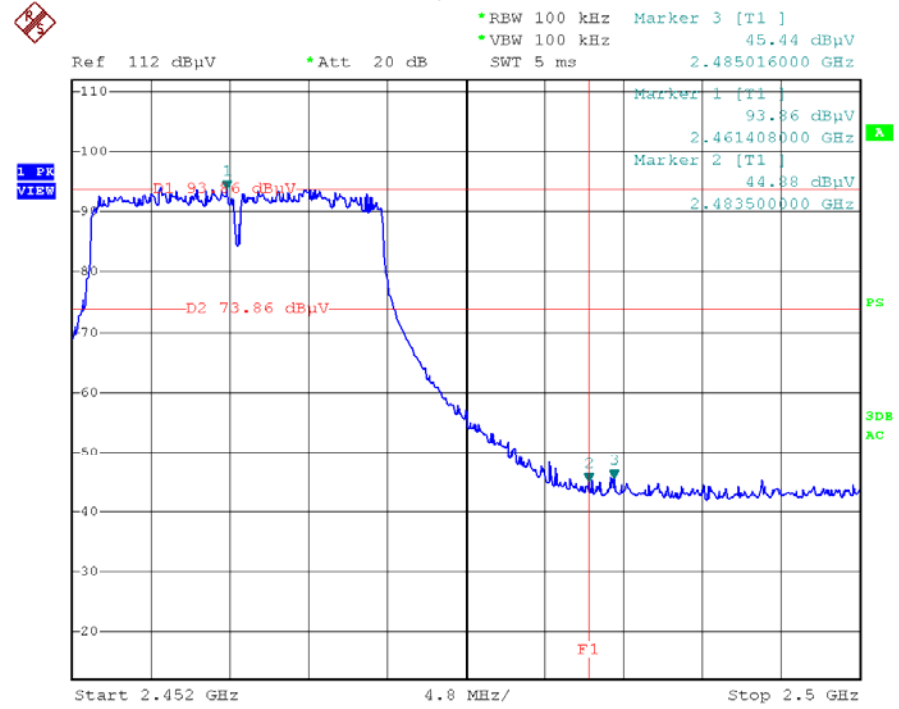


Bandedges-L

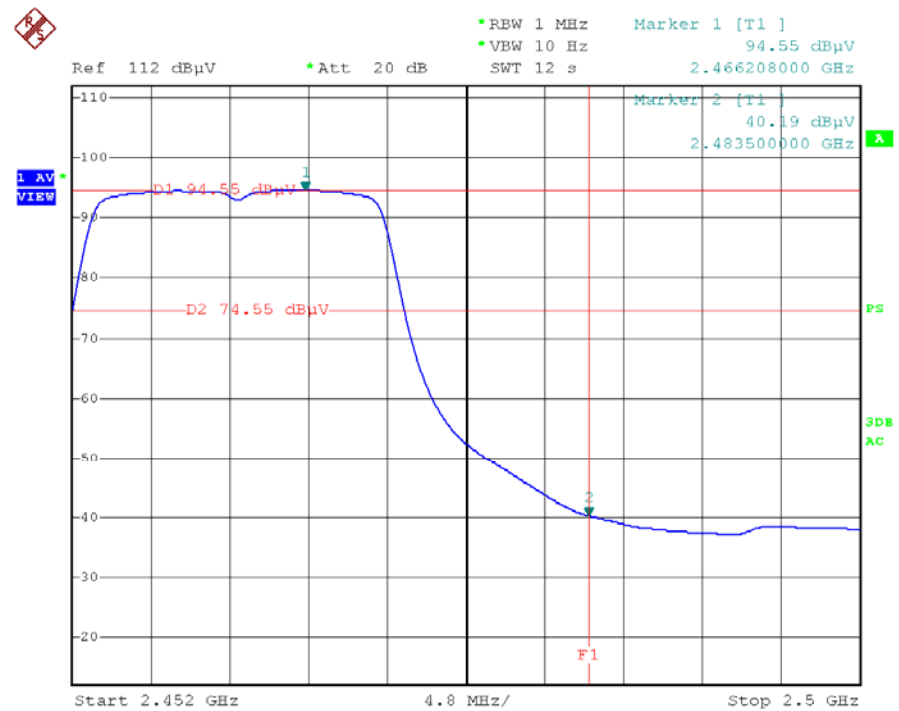


Bandedges-L-AV

Test Mode: 802.11n (HT20) ---High

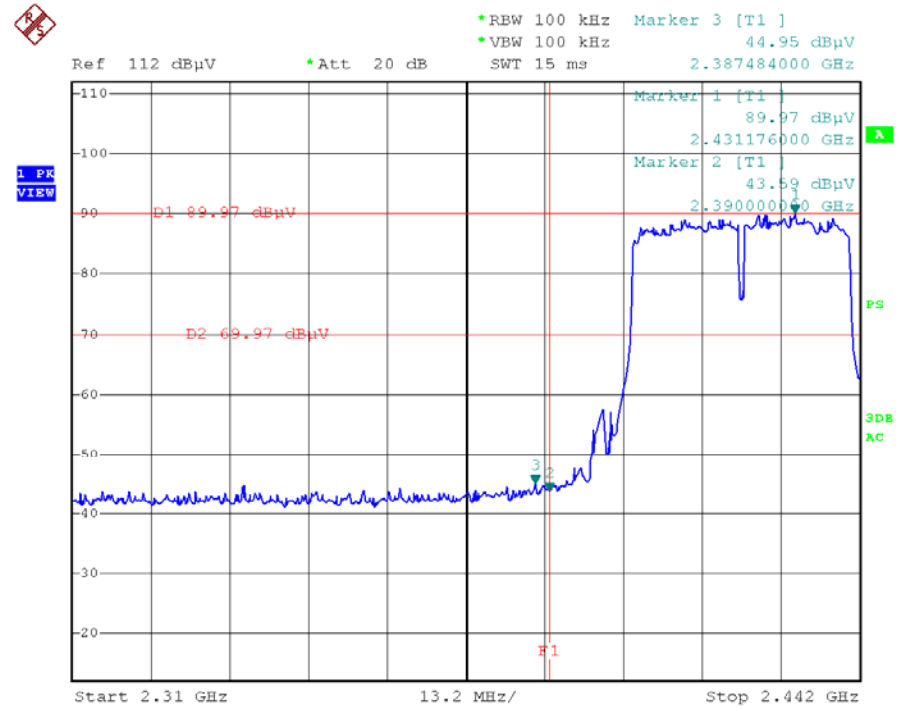


Bandedges-H

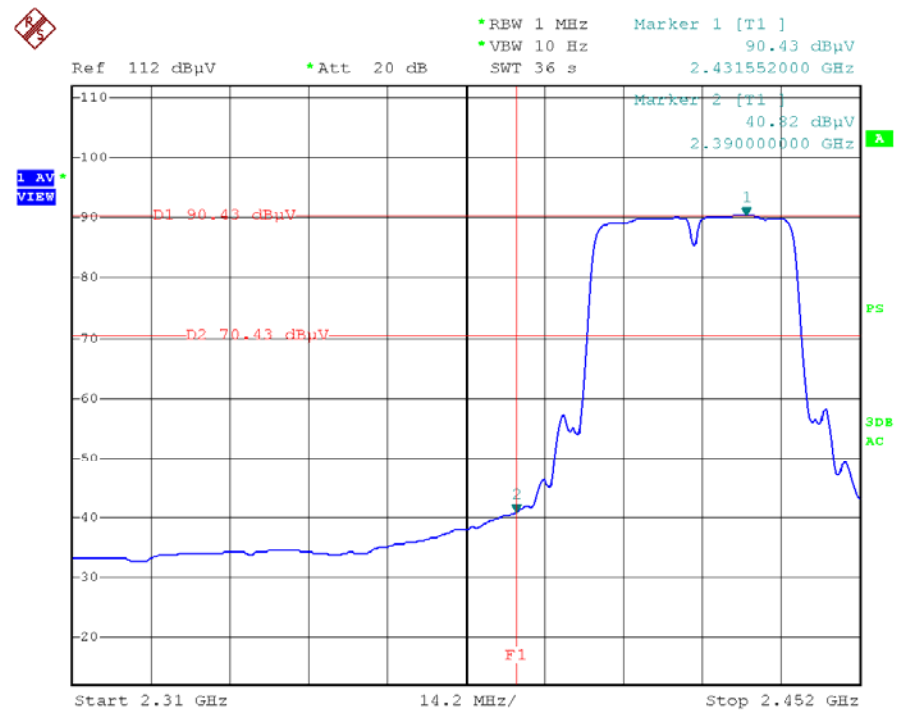


Bandedges-H-AV

Test Mode: 802.11n (HT40) ---Low

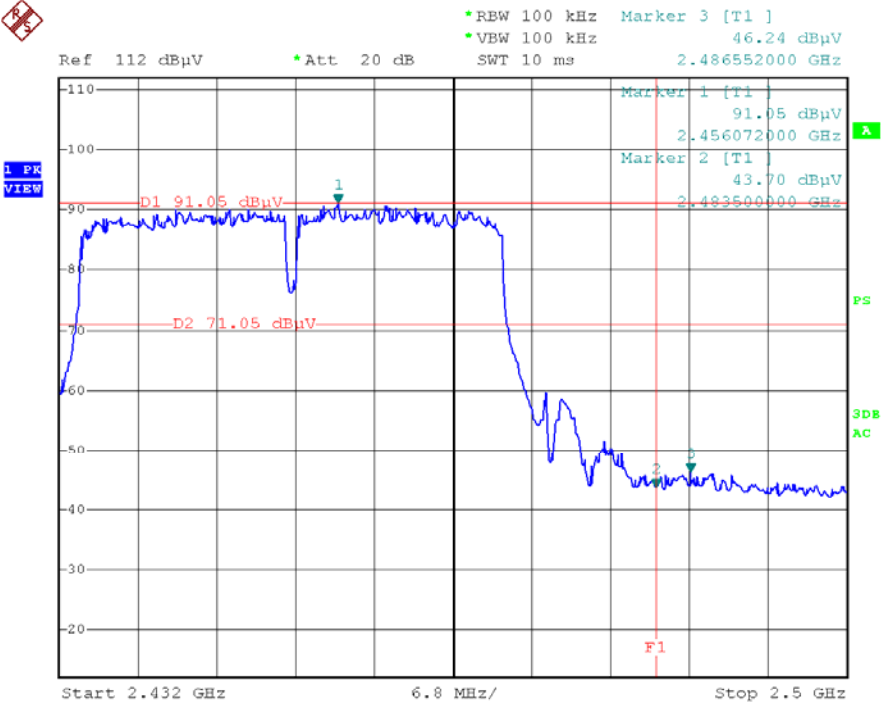


Bandedges-L

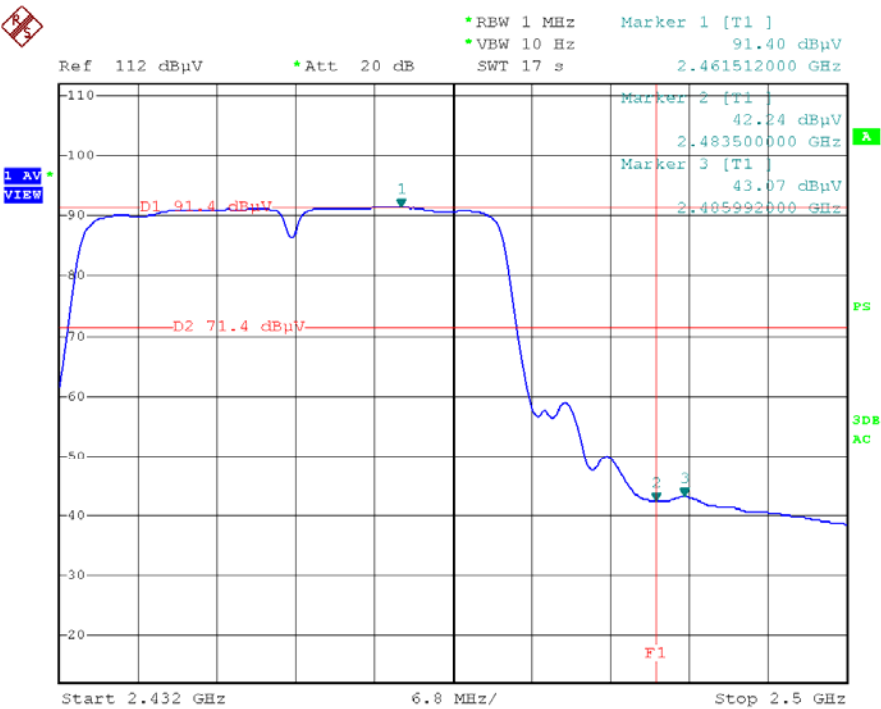


Bandedges-L-AV

Test Mode: 802.11n (HT40) ---High



Bandedges-H



Bandedges-H-AV

## 5.5 Peak Power Spectral Density

### a. Limit

1. For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.
2. The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

### b. Test Procedure

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

#### Test Equipment

| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | EMI Test Receiver          | Rohde & Schwarz         | ESCI      | 100627     | July 03, 2012 | 1 Year        |
| 2.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 3.   | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 4.   | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

### c. Test Setup

See 5.1

### d. Test Results

Pass

### e. Test Data

Test mode: IEEE 802.11b

| Channel | Frequency (MHz) | PPSD (dBm/3KHz) | Σ PPSD (dBm/3KHz) | Limit (dBm) | Result |
|---------|-----------------|-----------------|-------------------|-------------|--------|
| Low     | 2412            | -27.12          | -                 | 8.00        | Pass   |
| Mid     | 2437            | -25.63          | -                 |             | Pass   |
| High    | 2462            | -25.16          | -                 |             | Pass   |

Test mode: IEEE 802.11g

| Channel | Frequency (MHz) | PPSD (dBm) | Σ PPSD (dBm) | Limit (dBm) | Result |
|---------|-----------------|------------|--------------|-------------|--------|
| Low     | 2412            | -25.90     | -            | 8.00        | Pass   |
| Mid     | 2437            | -27.26     | -            |             | Pass   |
| High    | 2462            | -28.26     | -            |             | Pass   |

Test mode: IEEE 802.11n (HT20)

| Channel | Frequency (MHz) | PPSD (dBm/3KHz) | Σ PPSD (dBm/3KHz) | Limit (dBm) | Result |
|---------|-----------------|-----------------|-------------------|-------------|--------|
| Low     | 2412            | -28.91          | -                 | 8.00        | Pass   |
| Mid     | 2437            | -28.47          | -                 |             | Pass   |
| High    | 2462            | -27.46          | -                 |             | Pass   |

Test mode: IEEE 802.11n (HT40)

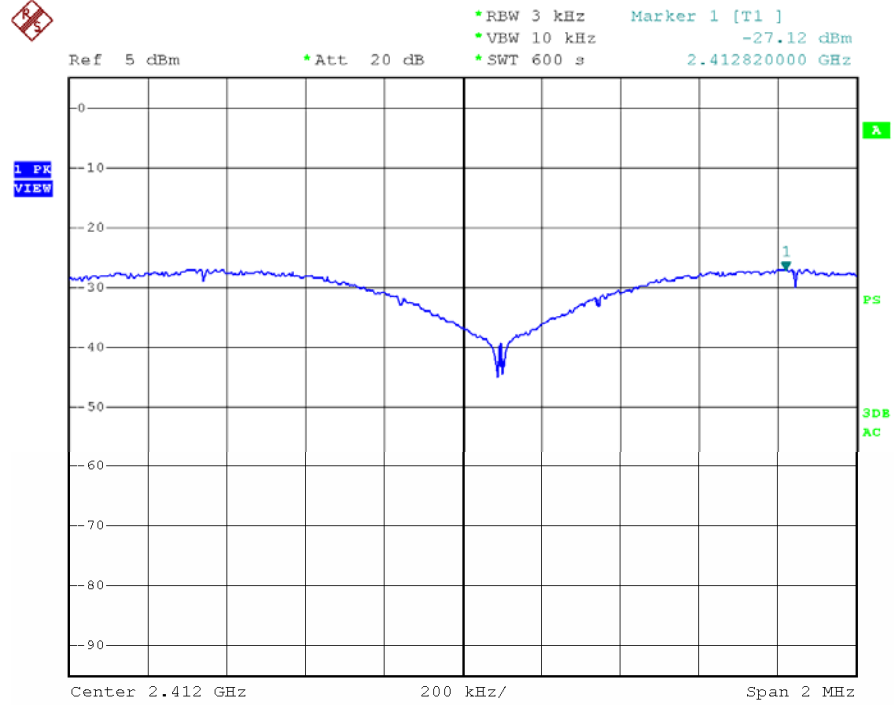
| Channel | Frequency (MHz) | PPSD (dBm/3KHz) | Σ PPSD (dBm/3KHz) | Limit (dBm) | Result |
|---------|-----------------|-----------------|-------------------|-------------|--------|
| Low     | 2422            | -30.15          | -                 | 8.00        | Pass   |
| Mid     | 2437            | -28.95          | -                 |             | Pass   |
| High    | 2452            | -29.13          | -                 |             | Pass   |

### f. Test Plot

See the following pages

FCC ID: PSX-I11-SERIES

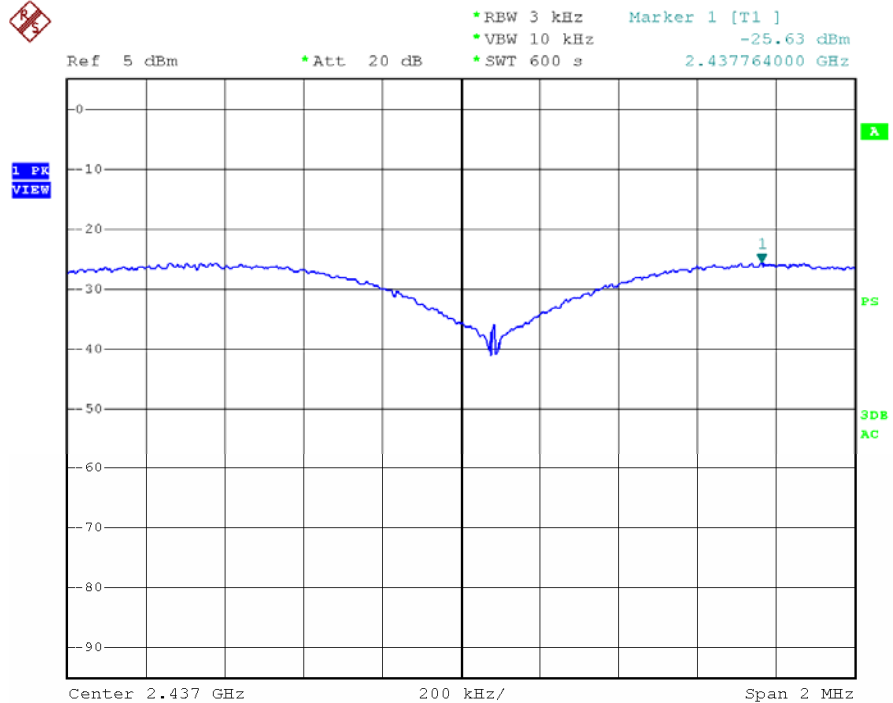
802.11 b CH--Low



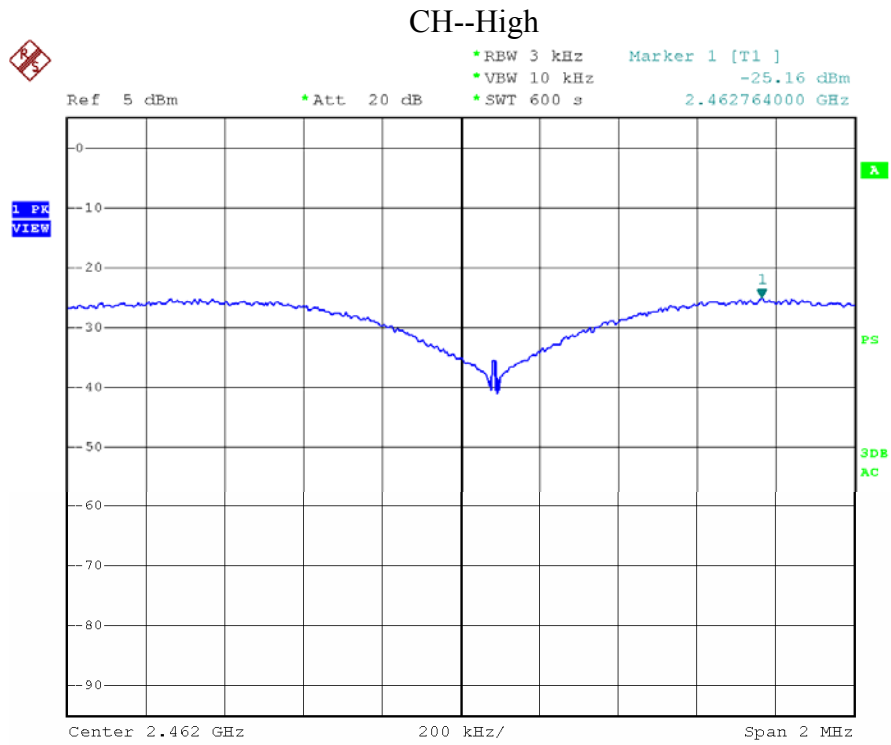
Power density-2412

I

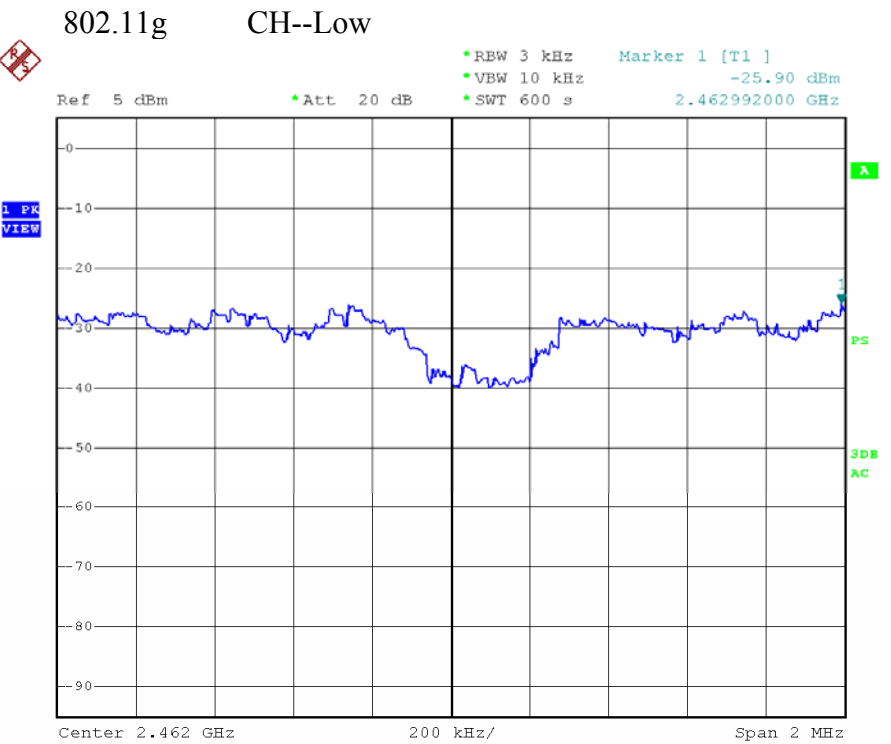
CH--Mid



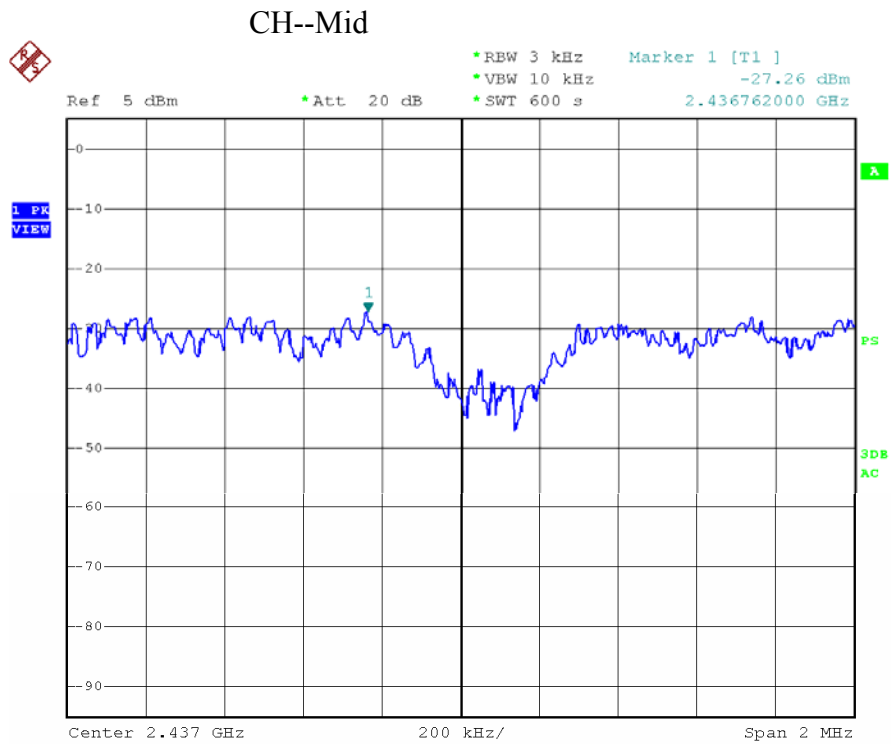
Power density-2437



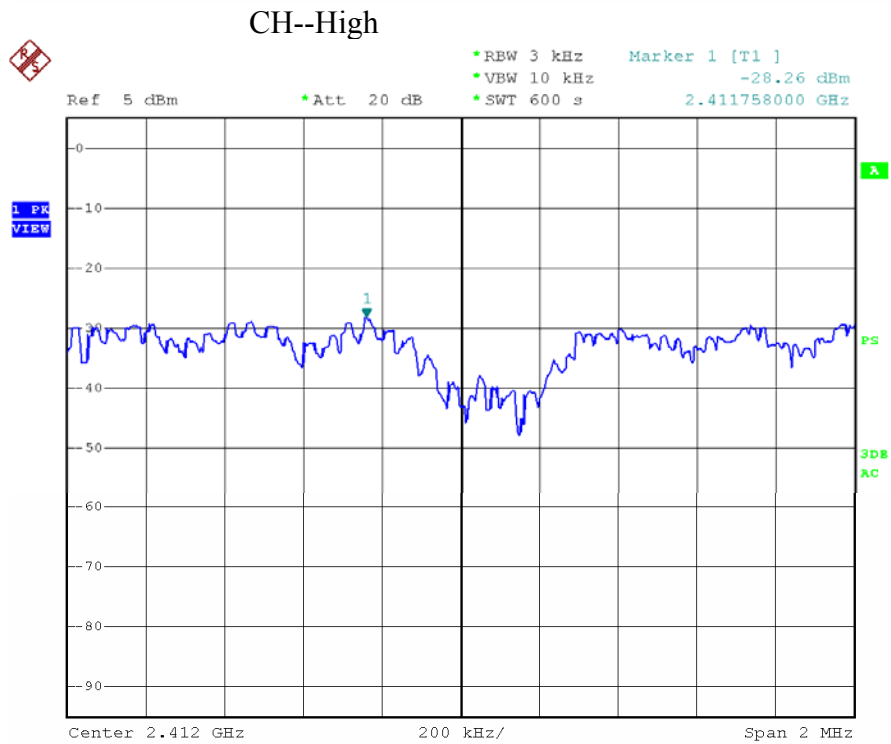
Power density-2462



Power density-2462

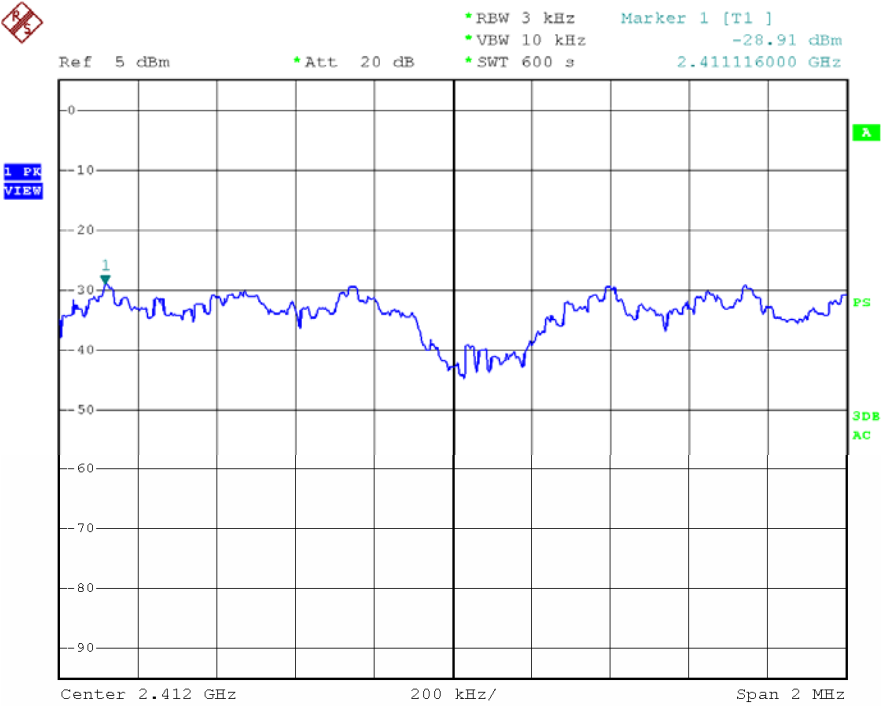


Power density-2437



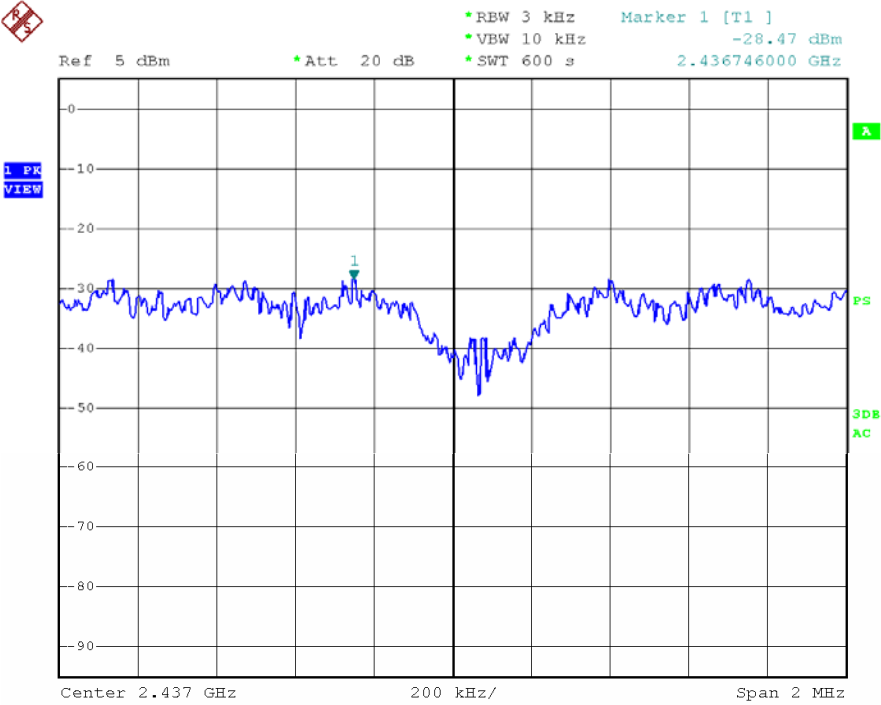
Power density-2412

802.11n (HT20) CH—Low

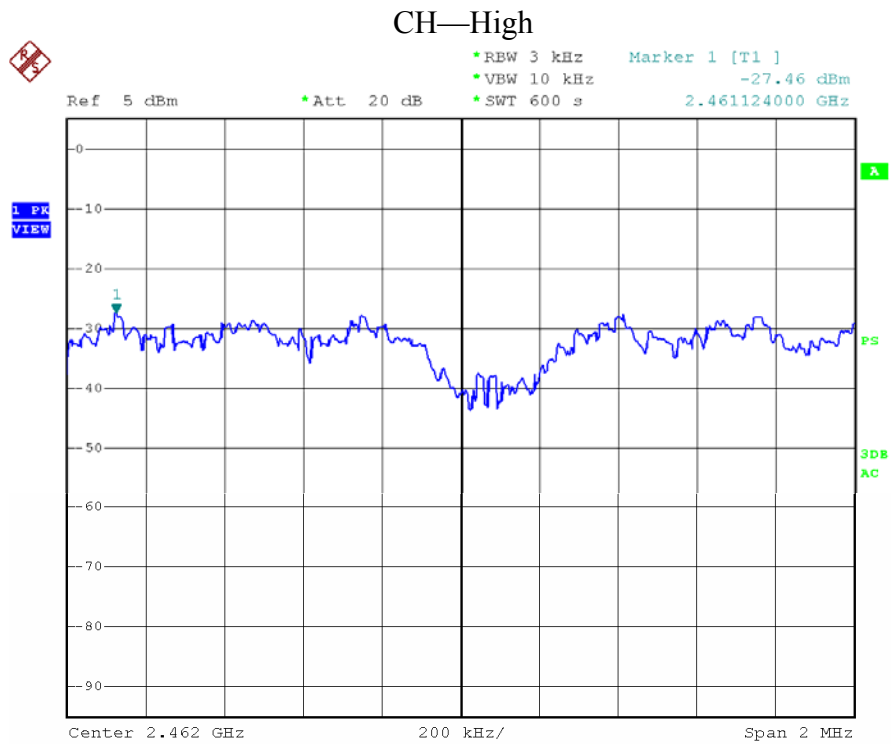


Power density-2412

CH—Mid



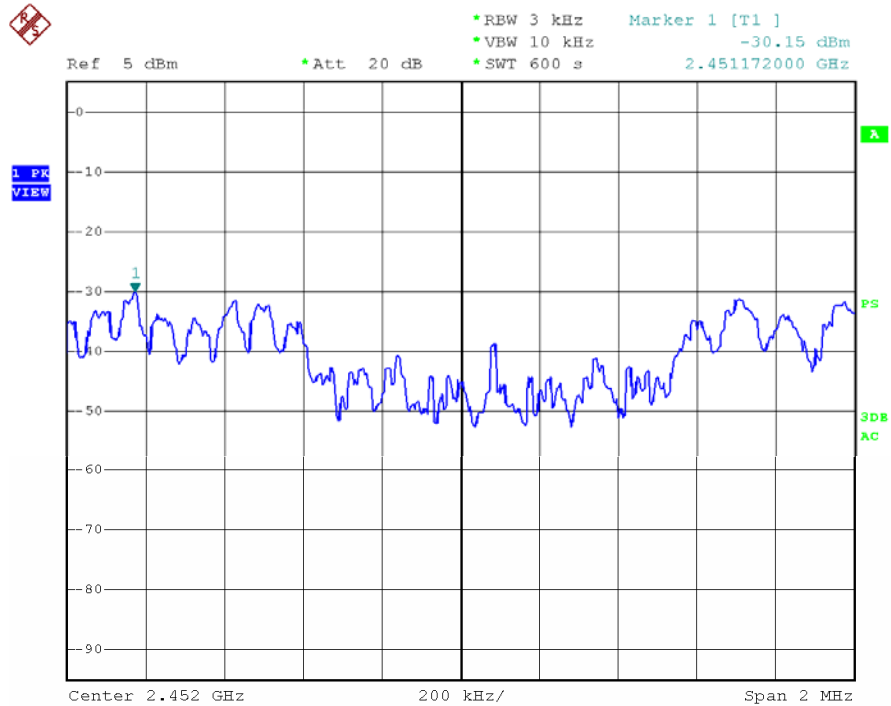
Power density-2437



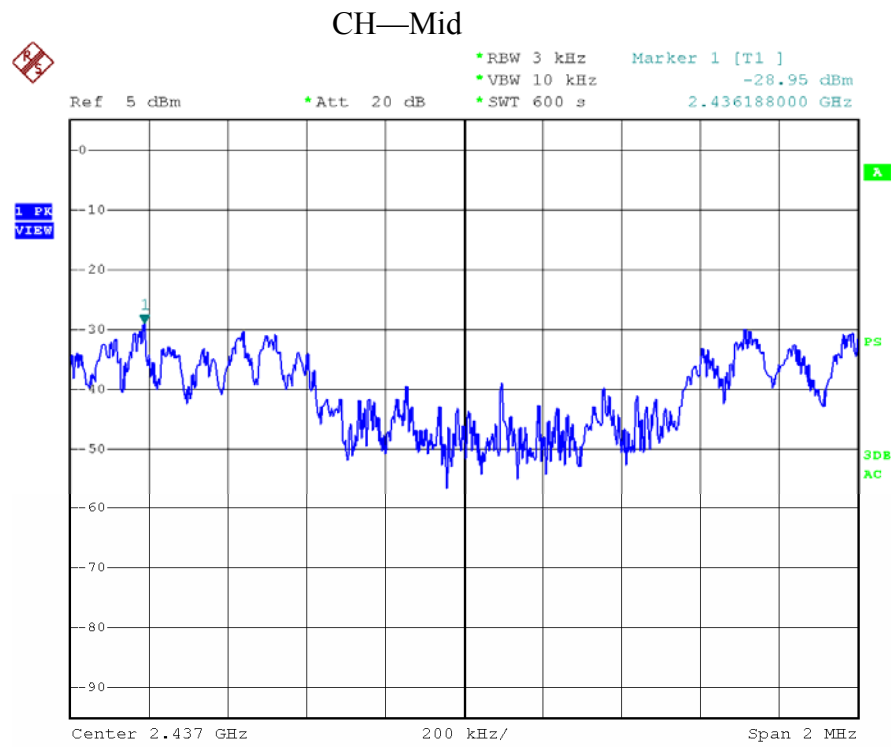
Power density-2462

:

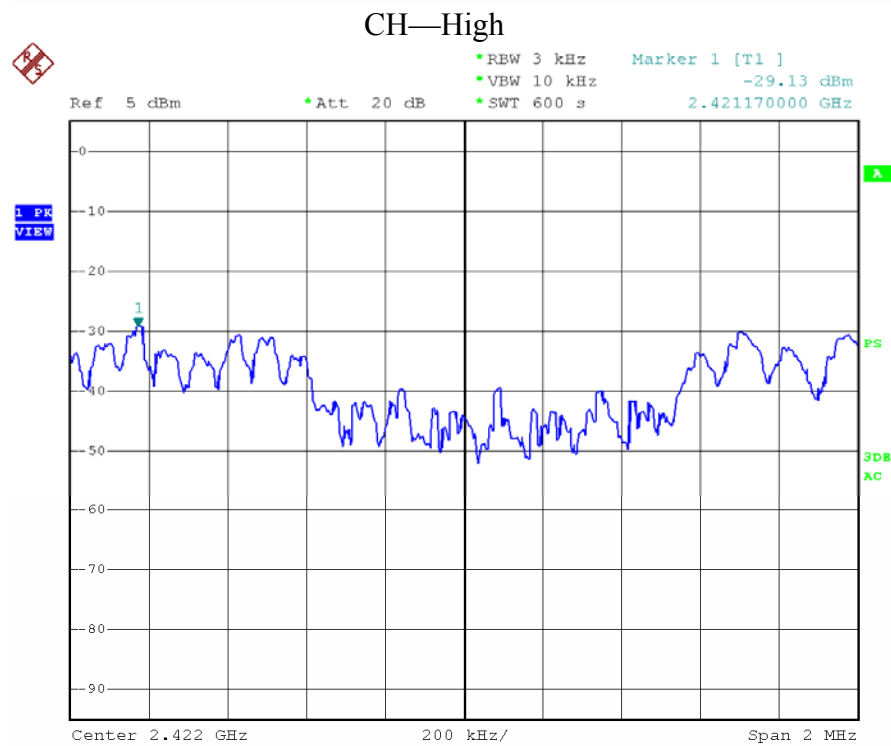
802.11n (HT20) CH—Low



Power density-2452



Power density-2437



Power density-2422

## 5.6 Spurious Emission Test

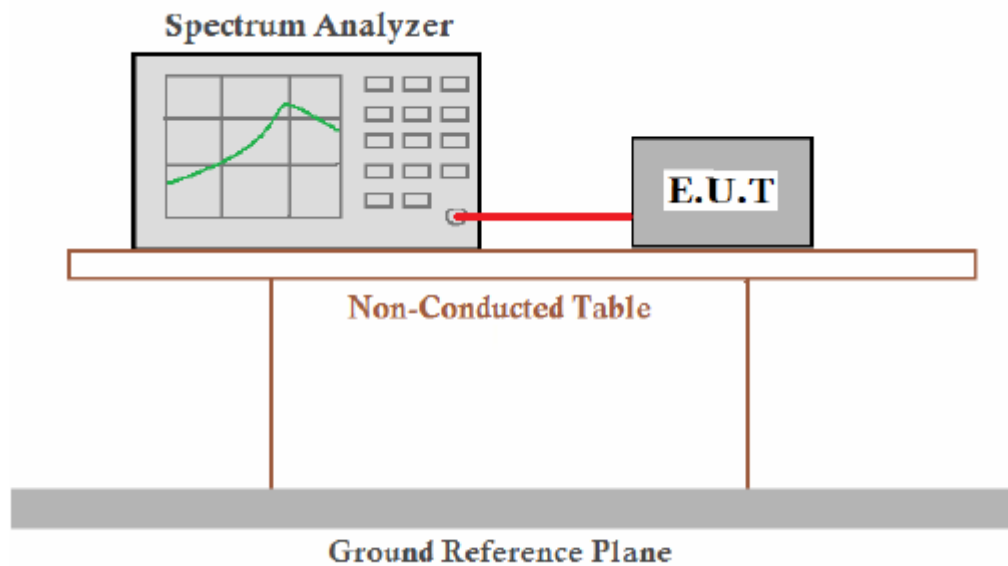
5.6.1 Test Requirement: FCC Part15 Section 15.247(d)

5.6.2 Test method: ANSI C63.4: 2003 and KDB5508074 D01 meas guidance

5.6.3 limit:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.6.4 Test Setup:



Test Equipment

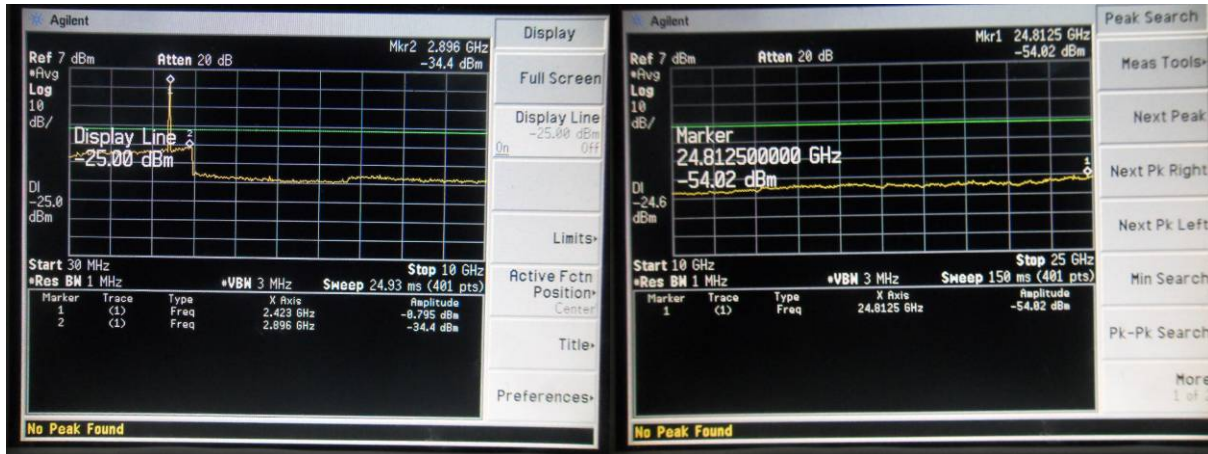
| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 3.   | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 4.   | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

5.6.5 Test Plot as follows:

FCC ID: PSX-I11-SERIES

802.11b

Low Channel



Middle Channel



High Channel



802.11g

FCC ID: PSX-I11-SERIES

## Low Channel



30M-10G

10G-25G

## Middle Channel



30M-10G

10G-25G

## High Channel



30M-10G

10G-25G

FCC ID: PSX-I11-SERIES

802.11n (HT20)

Low Channel



30M-10G

10G-25G

Middle Channel



30M-10G

10G-25G

High Channel



30M-10G

10G-25G

FCC ID: PSX-I11-SERIES

802.11n (HT40)

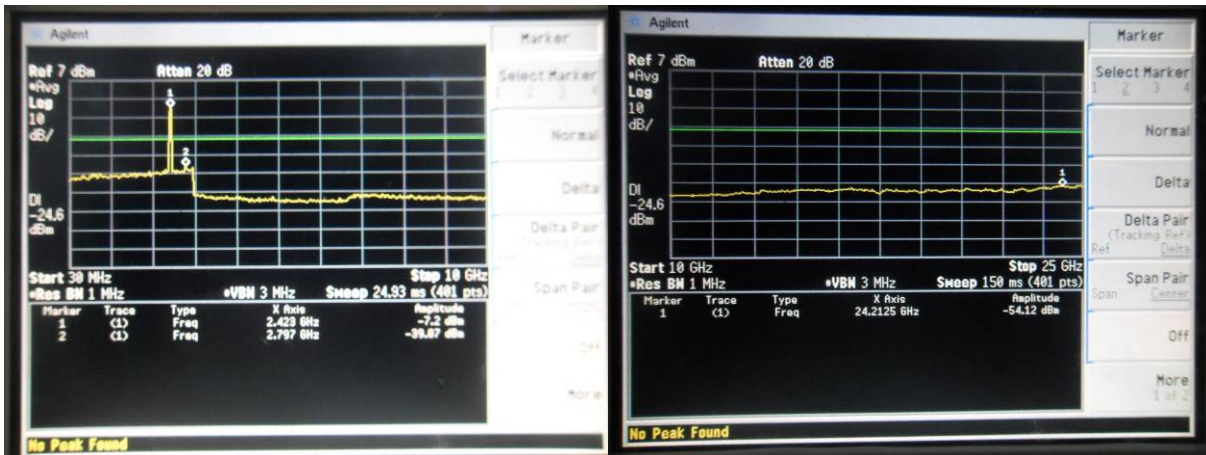
Low Channel



30M-10G

10G-25G

Middle Channel



30M-10G

10G-25G

High Channel



30M-10G

10G-25G

## 5.7 Radiated Emissions

### 5.7.1.1. Test Limits (< 30 MHz)

| Frequency<br>(MHz) | Field Strength<br>(microvolts/meter) | Measurement Distance<br>(meter) |
|--------------------|--------------------------------------|---------------------------------|
| 0.009-0.490        | 2400/F(kHz)                          | 300                             |
| 0.490-1.705        | 24000/F(kHz)                         | 30                              |
| 1.705-30.0         | 30                                   | 30                              |

### 5.7.1.2. Test Limits ( $\geq$ 30 MHz)

| FIELD STRENGTH<br>of Fundamental: | FIELD STRENGTH<br>of Harmonics | S15.209       |               |
|-----------------------------------|--------------------------------|---------------|---------------|
| 902-928 MHz                       |                                | 30 - 88 MHz   | 40 dBuV/m @3M |
| 2.4-2.4835 GHz                    |                                | 88 - 216 MHz  | 43.5          |
| 94 dBuV/m @3m                     | 54 dBuV/m @3m                  | 216 - 960 MHz | 46            |
|                                   |                                | ABOVE 960 MHz | 54dBuV/m      |

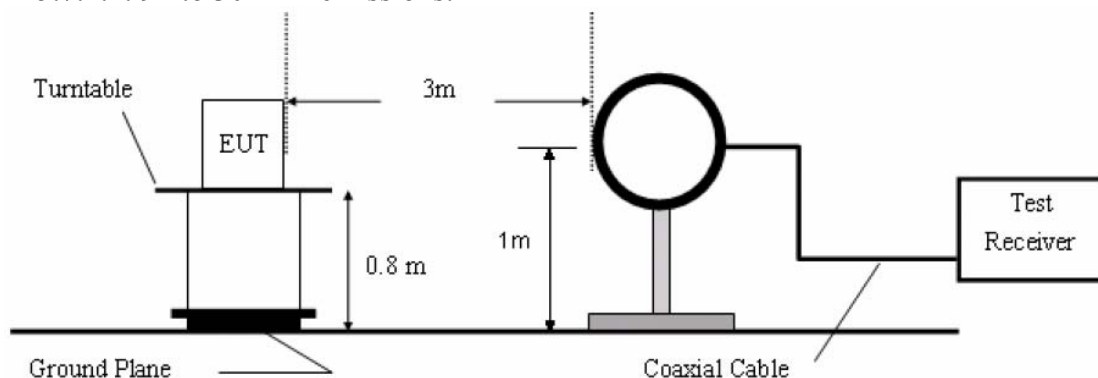
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

#### Test Equipment

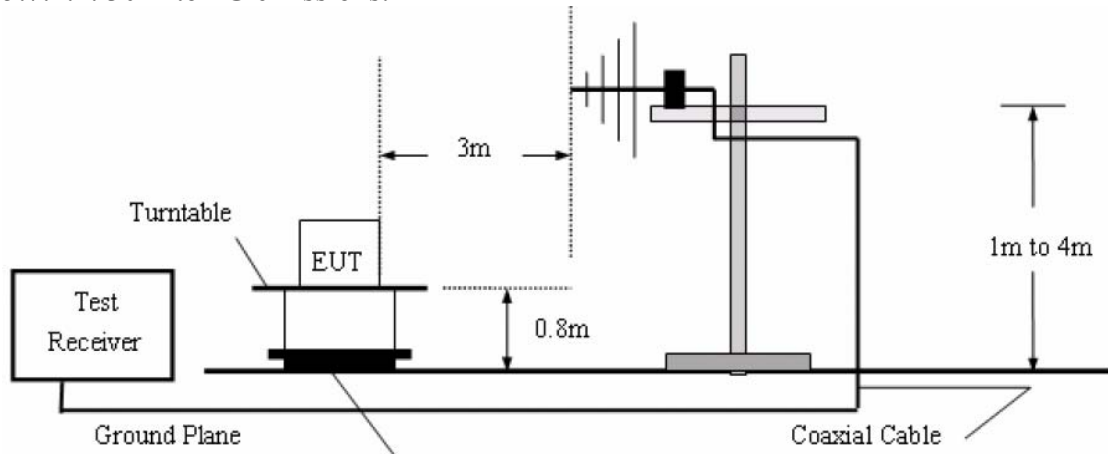
| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 3.   | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 4.   | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

### 5.7.2. Test Configuration:

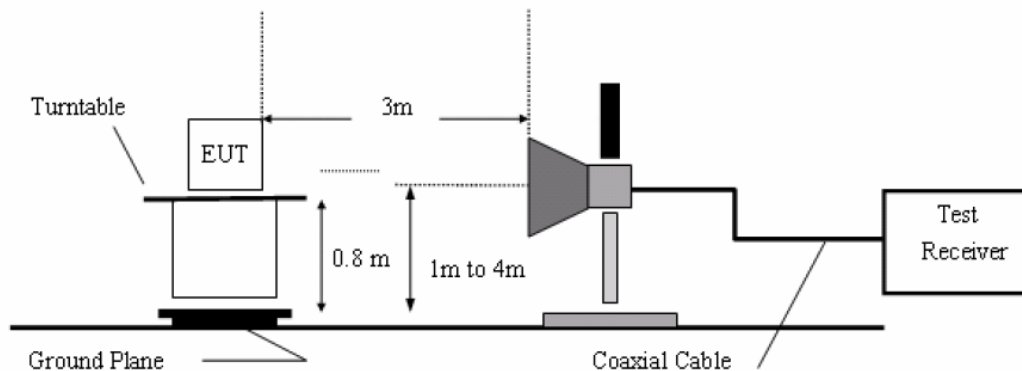
#### 5.7.2.1. 9k to 30MHz emissions:



## 5.7.2.2. 30M to 1G emissions:



## 5.7.2.3. 1G to 40G emissions:



## 5.7.3. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Measurements are made on 9KHz to 30MHz and 30MHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz. All reading are above 1GHz, peak & average values with a resolution bandwidth of 1MHz. The EUT is tested in 9\*6\*6 Chamber.

The test results are listed in Section 5.6.4.

## g. Test Equipment

| Item | Equipment                  | Manufacturer            | Model No. | Serial No. | Last Cal.     | Cal. Interval |
|------|----------------------------|-------------------------|-----------|------------|---------------|---------------|
| 1.   | Spectrum Analysis          | Agilent                 | E4407B    | US39390582 | July 03, 2012 | 1 Year        |
| 2.   | Preamplifier               | Instruments corporation | EMC011830 | 980100     | July 03, 2012 | 1 Year        |
| 3.   | Double Ridged Horn Antenna | Instruments corporation | GTH-0118  | 351600     | Apr. 07, 2012 | 1 Year        |
| 4.   | EMI Test Software EZ-EMC   | SHURPLE                 | N/A       | N/A        | N/A           | N/A           |

### 5.7.4. Test Results

#### Below 30MHz

There is no emissions were detected below 30MHz

#### From 30MHz to 1 GHz

Operation Mode: Normal link

Temperature: 25°C

Humidity: 70 % RH

Test Date: Jul.23 2012

Tested by: Andy Chen

Polarity: Ver. / Hor.

| Freq.<br>(MHz) | Ant.Pol.<br>H/V | Detector<br>Mode<br>(PK/QP) | Detector<br>Mode<br>(PK/QP) | Factor<br>(dB) | Actual FS<br>(dBuV/m) | Limit 3m<br>(dBuV/m) | Safe<br>Margin<br>(dB) |
|----------------|-----------------|-----------------------------|-----------------------------|----------------|-----------------------|----------------------|------------------------|
| 60.0690        | V               | Peak                        | 61.00                       | -25.23         | 35.77                 | 40.00                | -4.23                  |
| 125.0066       | V               | Peak                        | 64.63                       | -25.20         | 39.43                 | 43.50                | -4.07                  |
| 159.7844       | V               | Peak                        | 64.33                       | -26.49         | 37.84                 | 43.50                | -5.66                  |
| 250.3011       | V               | Peak                        | 63.83                       | -22.54         | 41.29                 | 46.00                | -4.71                  |
| 480.5276       | V               | Peak                        | 58.56                       | -19.63         | 38.89                 | 46.00                | -7.11                  |
| 801.7862       | V               | Peak                        | 53.24                       | -12.59         | 40.65                 | 46.00                | -5.35                  |
| 125.0066       | H               | Peak                        | 64.81                       | -30.00         | 34.81                 | 43.50                | -8.69                  |
| 159.7844       | H               | Peak                        | 71.35                       | -31.49         | 39.86                 | 43.50                | -3.64                  |
| 250.3011       | H               | Peak                        | 69.22                       | -26.27         | 42.95                 | 46.00                | -3.05                  |
| 375.9384       | H               | Peak                        | 60.96                       | -21.90         | 39.06                 | 46.00                | -6.94                  |
| 480.5276       | H               | Peak                        | 62.34                       | -19.90         | 42.44                 | 46.00                | -3.56                  |
| 801.7862       | H               | Peak                        | 55.41                       | -13.58         | 41.83                 | 46.00                | -4.17                  |

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz and the IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/Quasi-peak detector mode.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

**Above 1 GHz****■ Above 1GHz**

|            |         |               |        |
|------------|---------|---------------|--------|
| Test mode: | 802.11b | Test channel: | Lowest |
|------------|---------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 29.01             | 31.79                 | 8.61            | 24.17              | 45.24          | 74.00               | -28.76          | Vertical     |
| 7236.00         | 29.39             | 36.19                 | 11.68           | 26.52              | 50.74          | 74.00               | -23.26          | Vertical     |
| 9648.00         | 29.94             | 38.07                 | 14.16           | 25.44              | 56.73          | 74.00               | -17.27          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4824.00         | 26.93             | 31.81                 | 8.62            | 24.17              | 43.19          | 74.00               | -30.81          | Horizontal   |
| 7236.00         | 27.98             | 36.19                 | 11.68           | 26.52              | 49.33          | 74.00               | -24.67          | Horizontal   |
| 9648.00         | 28.29             | 38.07                 | 14.16           | 25.44              | 55.08          | 74.00               | -18.92          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 19.24             | 31.79                 | 8.61            | 24.17              | 35.47          | 54.00               | -18.53          | Vertical     |
| 7236.00         | 20.15             | 36.19                 | 11.68           | 26.52              | 41.50          | 54.00               | -12.50          | Vertical     |
| 9648.00         | 21.48             | 38.07                 | 14.16           | 25.44              | 48.27          | 54.00               | -5.73           | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4824.00         | 21.43             | 31.81                 | 8.62            | 24.17              | 37.69          | 54.00               | -16.31          | Horizontal   |
| 7236.00         | 21.78             | 36.19                 | 11.68           | 26.52              | 43.13          | 54.00               | -10.87          | Horizontal   |
| 9648.00         | 17.19             | 38.07                 | 14.16           | 25.44              | 43.98          | 54.00               | -10.02          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |         |               |        |
|------------|---------|---------------|--------|
| Test mode: | 802.11b | Test channel: | Middle |
|------------|---------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 29.63             | 31.85                 | 8.66            | 24.12              | 46.02          | 74.00               | -27.98          | Vertical     |
| 7311.00         | 29.22             | 36.37                 | 11.71           | 26.71              | 50.59          | 74.00               | -23.41          | Vertical     |
| 9748.00         | 30.93             | 38.27                 | 14.25           | 25.38              | 58.07          | 74.00               | -15.93          | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4874.00         | 27.26             | 31.85                 | 8.66            | 24.10              | 43.67          | 74.00               | -30.33          | Horizontal   |
| 7311.00         | 28.15             | 36.37                 | 11.71           | 26.71              | 49.52          | 74.00               | -24.48          | Horizontal   |
| 9748.00         | 27.73             | 38.27                 | 14.25           | 25.38              | 54.87          | 74.00               | -19.13          | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 20.13             | 31.85                 | 8.66            | 24.12              | 36.52          | 54.00               | -17.48          | Vertical     |
| 7311.00         | 20.16             | 36.37                 | 11.71           | 26.71              | 41.53          | 54.00               | -12.47          | Vertical     |
| 9748.00         | 21.35             | 38.27                 | 14.25           | 25.38              | 48.49          | 54.00               | -5.51           | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4874.00         | 22.06             | 31.85                 | 8.66            | 24.10              | 38.47          | 54.00               | -15.53          | Horizontal   |
| 7311.00         | 21.75             | 36.37                 | 11.71           | 26.71              | 43.12          | 54.00               | -10.88          | Horizontal   |
| 9748.00         | 16.33             | 38.27                 | 14.25           | 25.38              | 43.47          | 54.00               | -10.53          | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

FCC ID: PSX-I11-SERIES

|            |         |               |         |
|------------|---------|---------------|---------|
| Test mode: | 802.11b | Test channel: | Highest |
|------------|---------|---------------|---------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 28.99             | 31.89                 | 8.70            | 24.05                    | 45.53          | 74.00               | -28.47          | Vertical     |
| 7386.00         | 29.36             | 36.49                 | 11.76           | 26.90                    | 50.71          | 74.00               | -23.29          | Vertical     |
| 9848.00         | 27.95             | 38.62                 | 14.31           | 25.30                    | 55.58          | 74.00               | -18.42          | Vertical     |
| 12310.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 4924.00         | 27.70             | 31.89                 | 8.70            | 24.05                    | 44.24          | 74.00               | -29.76          | Horizontal   |
| 7386.00         | 28.07             | 36.49                 | 11.76           | 26.90                    | 49.42          | 74.00               | -24.58          | Horizontal   |
| 9848.00         | 27.41             | 38.62                 | 14.31           | 25.30                    | 55.04          | 74.00               | -18.96          | Horizontal   |
| 12310.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 19.54             | 31.89                 | 8.70            | 24.05                    | 36.08          | 54.00               | -17.92          | Vertical     |
| 7386.00         | 20.34             | 36.49                 | 11.76           | 26.90                    | 41.69          | 54.00               | -12.31          | Vertical     |
| 9848.00         | 18.67             | 38.62                 | 14.31           | 25.30                    | 46.30          | 54.00               | -7.70           | Vertical     |
| 12310.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 4924.00         | 22.10             | 31.89                 | 8.70            | 24.05                    | 38.64          | 54.00               | -15.36          | Horizontal   |
| 7386.00         | 21.27             | 36.49                 | 11.76           | 26.90                    | 42.62          | 54.00               | -11.38          | Horizontal   |
| 9848.00         | 15.11             | 38.62                 | 14.31           | 25.30                    | 42.74          | 54.00               | -11.26          | Horizontal   |
| 12310.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |

1. The test results are based on the test results of the test results.

|            |         |               |        |
|------------|---------|---------------|--------|
| Test mode: | 802.11g | Test channel: | lowest |
|------------|---------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 28.82             | 31.79                 | 8.61            | 24.17              | 45.05          | 74.00               | -28.95          | Vertical     |
| 7236.00         | 28.47             | 36.19                 | 11.68           | 26.52              | 49.82          | 74.00               | -24.18          | Vertical     |
| 9648.00         | 30.96             | 38.07                 | 14.16           | 25.44              | 57.75          | 74.00               | -16.25          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4824.00         | 28.23             | 31.81                 | 8.62            | 24.17              | 44.49          | 74.00               | -29.51          | Horizontal   |
| 7236.00         | 29.50             | 36.19                 | 11.68           | 26.52              | 50.85          | 74.00               | -23.15          | Horizontal   |
| 9648.00         | 28.17             | 38.07                 | 14.16           | 25.44              | 54.96          | 74.00               | -19.04          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 24.22             | 31.79                 | 8.61            | 24.17              | 40.45          | 54.00               | -13.55          | Vertical     |
| 7236.00         | 22.07             | 36.19                 | 11.68           | 26.52              | 43.42          | 54.00               | -10.58          | Vertical     |
| 9648.00         | 16.46             | 38.07                 | 14.16           | 25.44              | 43.25          | 54.00               | -10.75          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4824.00         | 24.03             | 31.81                 | 8.62            | 24.17              | 40.29          | 54.00               | -13.71          | Horizontal   |
| 7236.00         | 22.80             | 36.19                 | 11.68           | 26.52              | 44.15          | 54.00               | -9.85           | Horizontal   |
| 9648.00         | 16.97             | 38.07                 | 14.16           | 25.44              | 43.76          | 54.00               | -10.24          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |         |               |        |
|------------|---------|---------------|--------|
| Test mode: | 802.11g | Test channel: | Middle |
|------------|---------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 29.35             | 31.79                 | 8.61            | 24.17                    | 45.58          | 74.00               | -28.42          | Vertical     |
| 7311.00         | 27.71             | 36.37                 | 11.71           | 26.71                    | 49.08          | 74.00               | -24.92          | Vertical     |
| 9748.00         | 28.16             | 38.27                 | 14.25           | 25.38                    | 55.30          | 74.00               | -18.70          | Vertical     |
| 12185.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 4874.00         | 30.35             | 31.85                 | 8.66            | 24.10                    | 46.76          | 74.00               | -27.24          | Horizontal   |
| 7311.00         | 28.39             | 36.37                 | 11.71           | 26.71                    | 49.76          | 74.00               | -24.24          | Horizontal   |
| 9748.00         | 27.75             | 38.27                 | 14.25           | 25.38                    | 54.89          | 74.00               | -19.11          | Horizontal   |
| 12185.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 24.65             | 31.79                 | 8.61            | 24.17                    | 40.88          | 54.00               | -13.12          | Vertical     |
| 7311.00         | 21.21             | 36.37                 | 11.71           | 26.71                    | 42.58          | 54.00               | -11.42          | Vertical     |
| 9748.00         | 14.76             | 38.27                 | 14.25           | 25.38                    | 41.90          | 54.00               | -12.10          | Vertical     |
| 12185.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 4874.00         | 26.25             | 31.85                 | 8.66            | 24.10                    | 42.66          | 54.00               | -11.34          | Horizontal   |
| 7311.00         | 19.99             | 36.37                 | 11.71           | 26.71                    | 41.36          | 54.00               | -12.64          | Horizontal   |
| 9748.00         | 15.65             | 38.27                 | 14.25           | 25.38                    | 42.79          | 54.00               | -11.21          | Horizontal   |
| 12185.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |

|            |         |               |         |
|------------|---------|---------------|---------|
| Test mode: | 802.11g | Test channel: | Highest |
|------------|---------|---------------|---------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 28.07             | 31.85                 | 8.66            | 24.12                    | 44.46          | 74.00               | -29.54          | Vertical     |
| 7386.00         | 27.76             | 36.49                 | 11.76           | 26.90                    | 49.11          | 74.00               | -24.89          | Vertical     |
| 9848.00         | 27.00             | 38.62                 | 14.31           | 25.30                    | 54.63          | 74.00               | -19.37          | Vertical     |
| 12310.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                          |                | 74.00               |                 | Vertical     |
| 4924.00         | 29.07             | 31.89                 | 8.70            | 24.05                    | 45.61          | 74.00               | -28.39          | Horizontal   |
| 7386.00         | 29.62             | 36.49                 | 11.76           | 26.90                    | 50.97          | 74.00               | -23.03          | Horizontal   |
| 9848.00         | 28.47             | 38.62                 | 14.31           | 25.30                    | 56.10          | 74.00               | -17.90          | Horizontal   |
| 12310.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                          |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 23.57             | 31.85                 | 8.66            | 24.12                    | 39.96          | 54.00               | -14.04          | Vertical     |
| 7386.00         | 21.06             | 36.49                 | 11.76           | 26.90                    | 42.41          | 54.00               | -11.59          | Vertical     |
| 9848.00         | 15.10             | 38.62                 | 14.31           | 25.30                    | 42.73          | 54.00               | -11.27          | Vertical     |
| 12310.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                          |                | 54.00               |                 | Vertical     |
| 4924.00         | 24.57             | 31.89                 | 8.70            | 24.05                    | 41.11          | 54.00               | -12.89          | Horizontal   |
| 7386.00         | 20.72             | 36.49                 | 11.76           | 26.90                    | 42.07          | 54.00               | -11.93          | Horizontal   |
| 9848.00         | 15.07             | 38.62                 | 14.31           | 25.30                    | 42.70          | 54.00               | -11.30          | Horizontal   |
| 12310.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                          |                | 54.00               |                 | Horizontal   |

|            |               |               |        |
|------------|---------------|---------------|--------|
| Test mode: | 802.11n(HT20) | Test channel: | Lowest |
|------------|---------------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 29.17             | 31.81                 | 8.62            | 24.17              | 45.43          | 74.00               | -28.57          | Vertical     |
| 7236.00         | 28.92             | 36.19                 | 11.68           | 26.52              | 50.27          | 74.00               | -23.73          | Vertical     |
| 9648.00         | 29.08             | 38.07                 | 14.16           | 25.44              | 55.87          | 74.00               | -18.13          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4824.00         | 26.83             | 31.81                 | 8.62            | 24.17              | 43.09          | 74.00               | -30.91          | Horizontal   |
| 7236.00         | 27.33             | 36.19                 | 11.68           | 26.52              | 48.68          | 74.00               | -25.32          | Horizontal   |
| 9648.00         | 27.18             | 38.07                 | 14.16           | 25.44              | 53.97          | 74.00               | -20.03          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4824.00         | 25.07             | 31.81                 | 8.62            | 24.17              | 41.33          | 54.00               | -12.67          | Vertical     |
| 7236.00         | 21.02             | 36.19                 | 11.68           | 26.52              | 42.37          | 54.00               | -11.63          | Vertical     |
| 9648.00         | 16.68             | 38.07                 | 14.16           | 25.44              | 43.47          | 54.00               | -10.53          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4824.00         | 26.83             | 31.81                 | 8.62            | 24.17              | 43.09          | 54.00               | -10.91          | Horizontal   |
| 7236.00         | 21.10             | 36.19                 | 11.68           | 26.52              | 42.45          | 54.00               | -11.55          | Horizontal   |
| 9648.00         | 17.48             | 38.07                 | 14.16           | 25.44              | 44.27          | 54.00               | -9.73           | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |               |               |        |
|------------|---------------|---------------|--------|
| Test mode: | 802.11n(HT20) | Test channel: | Middle |
|------------|---------------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 30.30             | 31.85                 | 8.66            | 24.10              | 46.71          | 74.00               | -27.29          | Vertical     |
| 7311.00         | 28.54             | 36.37                 | 11.71           | 26.71              | 49.91          | 74.00               | -24.09          | Vertical     |
| 9748.00         | 28.67             | 38.27                 | 14.25           | 25.38              | 55.81          | 74.00               | -18.19          | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4874.00         | 28.63             | 31.85                 | 8.66            | 24.10              | 45.04          | 74.00               | -28.96          | Horizontal   |
| 7311.00         | 27.79             | 36.37                 | 11.71           | 26.71              | 49.16          | 74.00               | -24.84          | Horizontal   |
| 9748.00         | 28.46             | 38.27                 | 14.25           | 25.38              | 55.60          | 74.00               | -18.40          | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 26.30             | 31.85                 | 8.66            | 24.10              | 42.71          | 54.00               | -11.29          | Vertical     |
| 7311.00         | 21.74             | 36.37                 | 11.71           | 26.71              | 43.11          | 54.00               | -10.89          | Vertical     |
| 9748.00         | 15.27             | 38.27                 | 14.25           | 25.38              | 42.41          | 54.00               | -11.59          | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4874.00         | 26.14             | 31.85                 | 8.66            | 24.10              | 42.55          | 54.00               | -11.45          | Horizontal   |
| 7311.00         | 20.36             | 36.37                 | 11.71           | 26.71              | 41.73          | 54.00               | -12.27          | Horizontal   |
| 9748.00         | 17.68             | 38.27                 | 14.25           | 25.38              | 44.82          | 54.00               | -9.18           | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |               |               |         |
|------------|---------------|---------------|---------|
| Test mode: | 802.11n(HT20) | Test channel: | Highest |
|------------|---------------|---------------|---------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 28.96             | 31.89                 | 8.70            | 24.05              | 45.50          | 74.00               | -28.50          | Vertical     |
| 7386.00         | 28.20             | 36.49                 | 11.76           | 26.90              | 49.55          | 74.00               | -24.45          | Vertical     |
| 9848.00         | 28.03             | 38.62                 | 14.31           | 25.30              | 55.66          | 74.00               | -18.34          | Vertical     |
| 12310.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4924.00         | 28.29             | 31.89                 | 8.70            | 24.05              | 44.83          | 74.00               | -29.17          | Horizontal   |
| 7386.00         | 28.08             | 36.49                 | 11.76           | 26.90              | 49.43          | 74.00               | -24.57          | Horizontal   |
| 9848.00         | 27.79             | 38.62                 | 14.31           | 25.30              | 55.42          | 74.00               | -18.58          | Horizontal   |
| 12310.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4924.00         | 25.56             | 31.89                 | 8.70            | 24.05              | 42.10          | 54.00               | -11.90          | Vertical     |
| 7386.00         | 21.50             | 36.49                 | 11.76           | 26.90              | 42.85          | 54.00               | -11.15          | Vertical     |
| 9848.00         | 14.63             | 38.62                 | 14.31           | 25.30              | 42.26          | 54.00               | -11.74          | Vertical     |
| 12310.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4924.00         | 25.47             | 31.89                 | 8.70            | 24.05              | 42.01          | 54.00               | -11.99          | Horizontal   |
| 7386.00         | 22.54             | 36.49                 | 11.76           | 26.90              | 43.89          | 54.00               | -10.11          | Horizontal   |
| 9848.00         | 16.87             | 38.62                 | 14.31           | 25.30              | 44.50          | 54.00               | -9.50           | Horizontal   |
| 12310.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |               |               |        |
|------------|---------------|---------------|--------|
| Test mode: | 802.11n(HT40) | Test channel: | Lowest |
|------------|---------------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4844.00         | 28.91             | 31.82                 | 8.63            | 24.15              | 45.21          | 74.00               | -28.79          | Vertical     |
| 7266.00         | 29.98             | 36.28                 | 11.69           | 26.58              | 51.37          | 74.00               | -22.63          | Vertical     |
| 9688.00         | 29.97             | 38.13                 | 14.21           | 25.41              | 56.90          | 74.00               | -17.10          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4844.00         | 28.95             | 31.82                 | 8.63            | 24.15              | 45.25          | 74.00               | -28.75          | Horizontal   |
| 7266.00         | 29.79             | 36.28                 | 11.69           | 26.58              | 51.18          | 74.00               | -22.82          | Horizontal   |
| 9688.00         | 30.11             | 38.13                 | 14.21           | 25.41              | 57.04          | 74.00               | -16.96          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4844.00         | 24.41             | 31.82                 | 8.63            | 24.15              | 40.71          | 54.00               | -13.29          | Vertical     |
| 7266.00         | 20.28             | 36.28                 | 11.69           | 26.58              | 41.67          | 54.00               | -12.33          | Vertical     |
| 9688.00         | 16.57             | 38.13                 | 14.21           | 25.41              | 43.50          | 54.00               | -10.50          | Vertical     |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4844.00         | 24.45             | 31.82                 | 8.63            | 24.15              | 40.75          | 54.00               | -13.25          | Horizontal   |
| 7266.00         | 20.89             | 36.28                 | 11.69           | 26.58              | 42.28          | 54.00               | -11.72          | Horizontal   |
| 9688.00         | 16.21             | 38.13                 | 14.21           | 25.41              | 43.14          | 54.00               | -10.86          | Horizontal   |
| 12060.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14472.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 16884.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|            |               |               |        |
|------------|---------------|---------------|--------|
| Test mode: | 802.11n(HT40) | Test channel: | Middle |
|------------|---------------|---------------|--------|

**Peak value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 30.30             | 31.85                 | 8.66            | 24.10              | 46.71          | 74.00               | -27.29          | Vertical     |
| 7311.00         | 28.54             | 36.37                 | 11.71           | 26.71              | 49.91          | 74.00               | -24.09          | Vertical     |
| 9748.00         | 28.67             | 38.27                 | 14.25           | 25.38              | 55.81          | 74.00               | -18.19          | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4874.00         | 30.46             | 31.85                 | 8.66            | 24.10              | 46.87          | 74.00               | -27.13          | Horizontal   |
| 7311.00         | 29.56             | 36.37                 | 11.71           | 26.71              | 50.93          | 74.00               | -23.07          | Horizontal   |
| 9748.00         | 29.26             | 38.27                 | 14.25           | 25.38              | 56.40          | 74.00               | -17.60          | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |

**Average value:**

| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| 4874.00         | 26.10             | 31.85                 | 8.66            | 24.10              | 42.51          | 54.00               | -11.49          | Vertical     |
| 7311.00         | 21.84             | 36.37                 | 11.71           | 26.71              | 43.21          | 54.00               | -10.79          | Vertical     |
| 9748.00         | 16.97             | 38.27                 | 14.25           | 25.38              | 44.11          | 54.00               | -9.89           | Vertical     |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4874.00         | 25.06             | 31.85                 | 8.66            | 24.10              | 41.47          | 54.00               | -12.53          | Horizontal   |
| 7311.00         | 21.16             | 36.37                 | 11.71           | 26.71              | 42.53          | 54.00               | -11.47          | Horizontal   |
| 9748.00         | 15.06             | 38.27                 | 14.25           | 25.38              | 42.20          | 54.00               | -11.80          | Horizontal   |
| 12185.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14682.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 17179.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |

|                 |                   |                       |                 |                    |                |                     |                 |              |
|-----------------|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode:      |                   | 802.11n(HT40)         |                 |                    | Test channel:  |                     | Highest         |              |
| Peak value:     |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 4904.00         | 28.15             | 31.88                 | 8.68            | 24.08              | 44.63          | 74.00               | -29.37          | Vertical     |
| 7356.00         | 28.56             | 36.45                 | 11.74           | 26.84              | 49.91          | 74.00               | -24.09          | Vertical     |
| 9808.00         | 28.80             | 38.52                 | 14.29           | 25.33              | 56.28          | 74.00               | -17.72          | Vertical     |
| 12310.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                    |                | 74.00               |                 | Vertical     |
| 4904.00         | 29.10             | 31.88                 | 8.68            | 24.08              | 45.58          | 74.00               | -28.42          | Horizontal   |
| 7356.00         | 28.66             | 36.45                 | 11.74           | 26.84              | 50.01          | 74.00               | -23.99          | Horizontal   |
| 9808.00         | 29.16             | 38.52                 | 14.29           | 25.33              | 56.64          | 74.00               | -17.36          | Horizontal   |
| 12310.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                    |                | 74.00               |                 | Horizontal   |
| Average value:  |                   |                       |                 |                    |                |                     |                 |              |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 4904.00         | 24.55             | 31.88                 | 8.68            | 24.08              | 41.03          | 54.00               | -12.97          | Vertical     |
| 7356.00         | 22.06             | 36.45                 | 11.74           | 26.84              | 43.41          | 54.00               | -10.59          | Vertical     |
| 9808.00         | 15.60             | 38.52                 | 14.29           | 25.33              | 43.08          | 54.00               | -10.92          | Vertical     |
| 12310.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 14772.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 17234.00        | *                 |                       |                 |                    |                | 54.00               |                 | Vertical     |
| 4904.00         | 24.80             | 31.88                 | 8.68            | 24.08              | 41.28          | 54.00               | -12.72          | Horizontal   |
| 7356.00         | 19.56             | 36.45                 | 11.74           | 26.84              | 40.91          | 54.00               | -13.09          | Horizontal   |
| 9808.00         | 16.66             | 38.52                 | 14.29           | 25.33              | 44.34          | 54.00               | -9.66           | Horizontal   |
| 12310.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 14772.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |
| 17234.00        | *                 |                       |                 |                    |                | 54.00               |                 | Horizontal   |