



## FCC CFR47 PART 15 SUBPART E INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION CLASS II PERMISSIVE CHANGE TEST REPORT

FOR

802.11n + BT MODULE

MODEL NUMBER: WCN3660

FCC ID: PPD-WCN3660 IC: 4104A-WCN3660

REPORT NUMBER: 12U14585-2

**ISSUE DATE: OCTOBER 15, 2012** 

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NVLAP LAB CODE 200065-0

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### **Revision History**

| Issue<br>Rev. Date Revisions |          | Revisions     | Revised By |
|------------------------------|----------|---------------|------------|
|                              | 10/15/12 | Initial Issue | F. Ibrahim |

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| 7.<br>7<br>8. | AN <sup>-</sup><br>7.1.<br>7.1.<br>7.1.<br>7.2.<br>7.2.<br>7.2.<br>7.2.<br>7.2.                 | TENNA PORT TEST RESULTS         802.11n HT40 MODE IN THE 5.2 GHz BAND         1       26 dB BANDWIDTH         2. OUTPUT POWER AND PPSD         3. AVERAGE POWER         802.11n HT20 MODE IN THE 5.6 GHz BAND         1. 26 dB BANDWIDTH         2. OUTPUT POWER AND PPSD         3. AVERAGE POWER         802.11n HT20 MODE IN THE 5.6 GHz BAND         1. 26 dB BANDWIDTH         2. OUTPUT POWER AND PPSD         3. AVERAGE POWER         804         1. 26 dB BANDWIDTH         2. 0UTPUT POWER AND PPSD         3. AVERAGE POWER         1. 26 dB BANDWIDTH         2. 0UTPUT POWER AND PPSD         3. AVERAGE POWER         1. TX ABOVE 1 GHz         1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND         2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND         3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND         4. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND         5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND         5. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND         6. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND | <b>10</b><br>10<br>12<br>15<br>16<br>16<br>18<br>21<br><b>22</b><br>23<br>23<br>23<br>24<br>27<br>30<br>30                   |
| 7.<br>7<br>8. | AN <sup>-</sup><br>7.1.<br>7.1.<br>7.1.<br>7.2.<br>7.2.<br>7.2.<br>7.2.<br>7.2.                 | TENNA PORT TEST RESULTS         802.11n HT40 MODE IN THE 5.2 GHz BAND         1       26 dB BANDWIDTH         2       OUTPUT POWER AND PPSD         3       AVERAGE POWER         802.11n HT20 MODE IN THE 5.6 GHz BAND         1       26 dB BANDWIDTH         2       OUTPUT POWER AND PPSD         3       AVERAGE POWER         802.11n HT20 MODE IN THE 5.6 GHz BAND         1       26 dB BANDWIDTH         2       OUTPUT POWER AND PPSD         3       AVERAGE POWER         2       OUTPUT POWER AND PPSD         3       AVERAGE POWER         DIATED TEST RESULTS       Imits AND PROCEDURE         1       TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND         2       TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND         3       TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND         4       TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND         5       TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND         5       TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND         6       TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND            | <b>10</b><br>10<br>12<br>15<br>16<br>16<br>18<br>21<br><b>22</b><br>23<br>23<br>23<br>24<br>27<br>30<br>30                   |

|     |        | TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND<br>TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.6 GHz BAND |    |
|-----|--------|--|----|
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Pass

# 1. ATTESTATION OF TEST RESULTS

| CFR 47 F         | CFR 47 Part 15 Subpart E   |  |  |  |
|------------------|--|--|--|--|
| ST               | TEST RESULTS   |  |  |  |
|                  | APPLICABLE STANDARDS   |  |  |  |
| DATE TESTED:     | May 31 – September 29, 2012  |  |  |  |
| SERIAL NUMBER:   | N10GB6RFK  |  |  |  |
| MODEL:           | WCN3660  |  |  |  |
| EUT DESCRIPTION: | 802.11n + BT MODULE  |  |  |  |
| COMPANY NAME:    | QUALCOMM ATHEROS, INC.<br>1700 TECHNOLOGY DRIVE<br>SAN JOSE, CA, 95110, U.S.A. |  |  |  |

INDUSTRY CANADA RSS-210 Issue 8 Annex 9

| INDUSTRY CANADA R   | SS-GEN Issue 3               | Pass                            |   |
|---|------------------------------|---------------------------------|---|
| Compliance Certification Services<br>requirements set forth in the above<br>opinions expressed by UL CCS ba | e standards. All indications | of Pass/Fail in this report are | ; |

Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

FRANK IBRAHIM EMC SUPERVISOR UL CCS

Tested By:

Store aquilan

STEVE AGUILAR EMC TECHNICIAN UL CCS

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# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, FCC 06-96, FCC KDB 789033, ANSI C63.4-2003, RSS-GEN Issue 3, and RSS-210 Issue 8.

# 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://www.ccsemc.com</u>.

# 4. CALIBRATION AND UNCERTAINTY

# 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

# 4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB) 36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

# 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| PARAMETER                             | UNCERTAINTY |
|---------------------------------------|-------------|
| Conducted Disturbance, 0.15 to 30 MHz | 3.52 dB     |
| Radiated Disturbance, 30 to 1000 MHz  | 4.94 dB     |

Uncertainty figures are valid to a confidence level of 95%.

# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

# 5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

Digital processor on the host, APQ8060A, was replaced by APQ8064.

# 5.3. MODIFICATIONS

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

# 5.4. MAXIMUM OUTPUT POWER

Maximum conducted output power is within +/-0.5 dB from the original values except for the following two modes where the power had to be reduced to pass BE, the new output power values for these two modes are shown below.

| 5GHz band       |              |         |              |              |  |  |  |
|-----------------|--------------|---------|--------------|--------------|--|--|--|
| Frequency Range | Mode         | Channel | New Average  | Output Power |  |  |  |
| (MHz)           |              |         | Output Power | (mW)         |  |  |  |
|                 |              |         | (dBm)        |              |  |  |  |
| 5150 - 5250     | 802.11n HT40 | Low     | 15.345       | 34.237       |  |  |  |
| 5500 - 5700     | 802.11n HT20 | High    | 14.016       | 25.212       |  |  |  |

# 5.5. DESCRIPTION OF AVAILABLE ANTENNAS

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

# 5.6. SOFTWARE AND FIRMWARE

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

# 5.7. WORST-CASE CONFIGURATION AND MODE

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

For this Class II Permissive Change, an investigation was done to determine test items with worst-case margins and re-testing was performed for those items as covered by this report.

# 5.8. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

### I/O CABLES

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

### TEST SETUP

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

### SETUP DIAGRAM FOR TESTS

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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# 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

| Test Equipment List            |                |             |         |              |  |  |
|--------------------------------|----------------|-------------|---------|--------------|--|--|
| Description                    | Manufacturer   | Model       | Asset   | Cal Due Date |  |  |
| Preamplifier, 26.5 GHz         | Agilent / HP   | 8449B       | C01052  | 07/14/12     |  |  |
| Antenna, Horn, 18 GHz          | EMCO           | 3115        | C00945  | 06/29/12     |  |  |
| Preamplifier, 1300 MHz         | Agilent / HP   | 8447D       | C00580  | 11/11/12     |  |  |
| Antenna, Bilog, 2 GHz          | Sunol Sciences | JB1         | C01016  | 07/12/12     |  |  |
| Horn Antenna, 26.5 GHz         | ARA            | MWH-1826/B  | C00589  | 07/28/12     |  |  |
| Horn Antenna, 40 GHz           | ARA            | MWH-2640/B  | C00981  | 06/14/12     |  |  |
| Preamplifier, 40 GHz           | Miteq          | NSP4000-SP2 | C00990  | 03/14/13     |  |  |
| Spectrum Analyzer, 44 GHz      | Agilent / HP   | E4446A      | C00986  | 03/22/13     |  |  |
| Power Meter                    | Agilent / HP   | 437B        | N02778  | 08/11/12     |  |  |
| Power Sensor, 18 GHz           | Agilent / HP   | 8481A       | N02782  | 07/29/12     |  |  |
| High pass Filter, 7.6 GHz      | Micro-Tronics  | HPM13195    | N02682  | CNR          |  |  |
| Reject Notch Filter, 2.4 GHz   | Micro-Tronics  | -           | -       | CNR          |  |  |
| EMI Test Receiver, 9 kHz-7 GHz | R & S          | ESCI 7      | 1000741 | 08/08/13     |  |  |

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# 7. ANTENNA PORT TEST RESULTS

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report"; except for the following:

# 7.1. 802.11n HT40 MODE IN THE 5.2 GHz BAND

# 7.1.1. 26 dB BANDWIDTH

## <u>LIMITS</u>

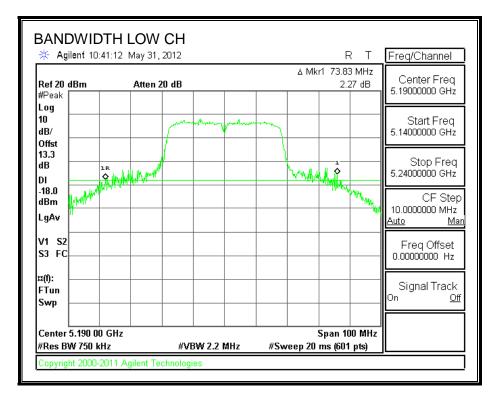
None; for reporting purposes only.

### **RESULTS**

| Channel | Frequency | 26 dB Bandwidth |
|---------|-----------|-----------------|
|         | (MHz)     | (MHz)           |
| Low     | 5190      | 73.83           |

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#### 26 dB BANDWIDTH



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## 7.1.2. OUTPUT POWER AND PPSD

### LIMITS

FCC §15.407 (a) (1)

IC RSS-210 A9.2 (1)

For the band 5.15–5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26–dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1–MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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#### **RESULTS**

#### Limits

| Channel | Frequency | Fixed | В     | 4 + 10 Log B | Directional | Power | PPSD  |
|---------|-----------|-------|-------|--------------|-------------|-------|-------|
|         |           | Limit |       | Limit        | Gain        | Limit | Limit |
|         | (MHz)     | (dBm) | (MHz) | (dBm)        | (dBi)       | (dBm) | (dBm) |
| Low     | 5190      | 17    | 73.80 | 22.68        | 5.60        | 17.00 | 4.00  |

#### **Output Power Results**

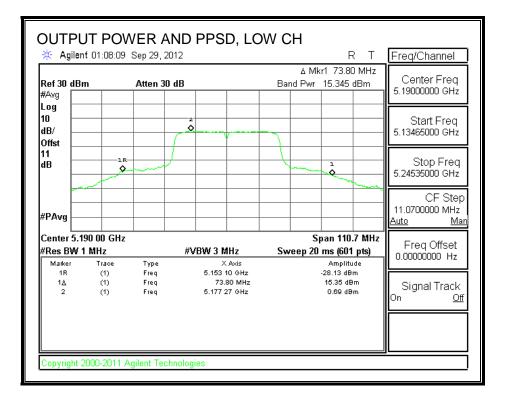
| Channel | Frequency | Meas   | Corr'd | Power | Power  |
|---------|-----------|--------|--------|-------|--------|
|         |           | Power  | Power  | Limit | Margin |
|         | (MHz)     | (dBm)  | (dBm)  | (dBm) | (dB)   |
| Low     | 5190      | 15.345 | 15.345 | 17.00 | -1.655 |

#### **PPSD** Results

| Channel | Channel Frequency |       | Corr'd | PPSD  | PPSD   |
|---------|-------------------|-------|--------|-------|--------|
|         |                   | PPSD  | PPSD   | Limit | Margin |
|         | (MHz)             | (dBm) | (dBm)  | (dBm) | (dB)   |
| Low     | 5190              | 0.69  | 0.69   | 4.00  | -3.31  |

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#### **OUTPUT POWER AND PPSD**



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## 7.1.3. AVERAGE POWER

### <u>LIMITS</u>

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 13.3 dB (including 12 dB pad and 1.3 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### **RESULTS**

| Original |           |       |
|----------|-----------|-------|
| Channel  | Frequency | Power |
|          | (MHz)     | (dBm) |
| Low      | 5190      | 15.4  |

### New value for C2PC

| Channel | Frequency | Power |
|---------|-----------|-------|
|         | (MHz)     | (dBm) |
| Low     | 5190      | 14.0  |

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# 7.2. 802.11n HT20 MODE IN THE 5.6 GHz BAND

## 7.2.1. 26 dB BANDWIDTH

### **LIMITS**

None; for reporting purposes only.

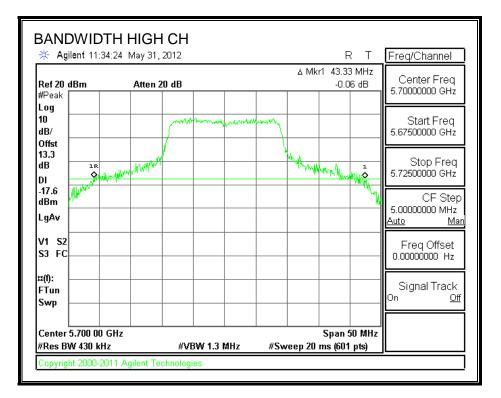
### **RESULTS**

| Channel | Frequency | 26 dB Bandwidth |
|---------|-----------|-----------------|
|         | (MHz)     | (MHz)           |
| High    | 5700      | 43.30           |

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#### 26 dB BANDWIDTH



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## 7.2.2. OUTPUT POWER AND PPSD

### LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (3)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **DIRECTIONAL ANTENNA GAIN**

There is only one transmitter output therefore the directional gain is equal to the antenna gain.

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#### **RESULTS**

#### Limits

| Channel | Frequency | Fixed | В     | 11 + 10 Log B | Directional | Power | PPSD  |
|---------|-----------|-------|-------|---------------|-------------|-------|-------|
|         |           | Limit |       | Limit         | Gain        | Limit | Limit |
|         | (MHz)     | (dBm) | (MHz) | (dBm)         | (dBi)       | (dBm) | (dBm) |
| High    | 5700      | 24    | 43.30 | 27.36         | 5.30        | 24.00 | 11.00 |

### **Output Power Results**

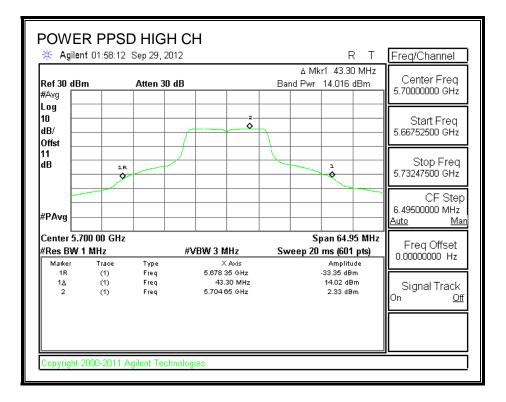
| Channel | Frequency | Meas   | Corr'd | Power | Power  |
|---------|-----------|--------|--------|-------|--------|
|         |           | Power  | Power  | Limit | Margin |
|         | (MHz)     | (dBm)  | (dBm)  | (dBm) | (dB)   |
| High    | 5700      | 14.016 | 14.016 | 24.00 | -9.984 |

#### **PPSD** Results

| Channel | Frequency | Meas  | Corr'd | PPSD  | PPSD   |
|---------|-----------|-------|--------|-------|--------|
|         |           | PPSD  | PPSD   | Limit | Margin |
|         | (MHz)     | (dBm) | (dBm)  | (dBm) | (dB)   |
| High    | 5700      | 2.33  | 2.33   | 11.00 | -8.67  |

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#### **OUTPUT POWER AND PPSD**



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## 7.2.3. AVERAGE POWER

### <u>LIMITS</u>

None; for reporting purposes only.

#### TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 13.3 dB (including 12 dB pad and 1.3 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

#### **RESULTS**

| Original |           |       |
|----------|-----------|-------|
| Channel  | Frequency | Power |
|          | (MHz)     | (dBm) |
| High     | 5700      | 16.0  |

### New values for C2PC

| Channel | Frequency | Power |
|---------|-----------|-------|
|         | (MHz)     | (dBm) |
| High    | 5700      | 13.4  |

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# 8. RADIATED TEST RESULTS

## 8.1. LIMITS AND PROCEDURE

### <u>LIMITS</u>

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

| Frequency Range<br>(MHz) | Field Strength Limit<br>(uV/m) at 3 m | Field Strength Limit<br>(dBuV/m) at 3 m |
|--------------------------|---------------------------------------|---|
| 30 - 88                  | 100                                   | 40                                      |
| 88 - 216                 | 150                                   | 43.5                                    |
| 216 - 960                | 200                                   | 46                                      |
| Above 960                | 500                                   | 54                                      |

### TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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# 8.2. TRANSMITTER ABOVE 1 GHz

## 8.2.1. TX ABOVE 1 GHz 802.11a MODE IN THE 5.2 GHz BAND

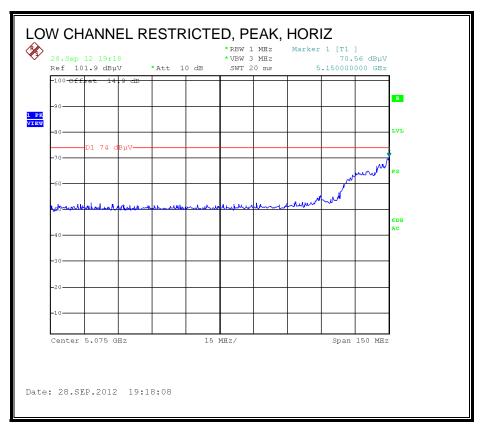
Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

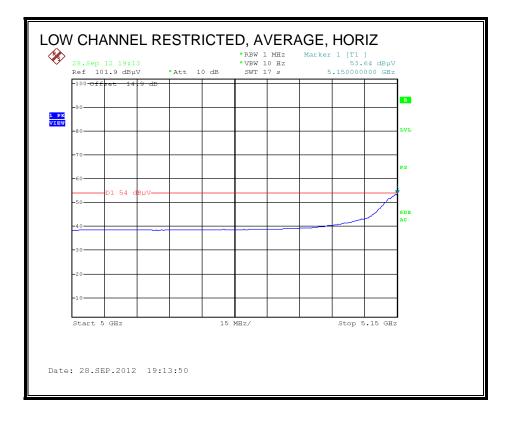
## 8.2.2. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.2 GHz BAND

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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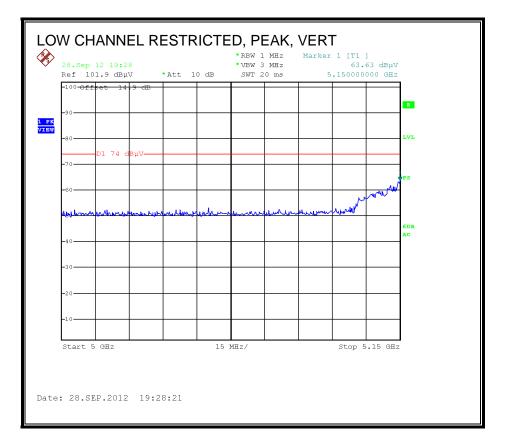
## 8.2.3. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.2 GHz BAND

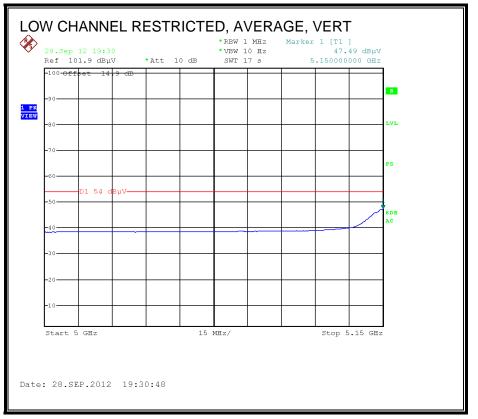




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### HARMONICS AND SPURIOUS EMISSIONS

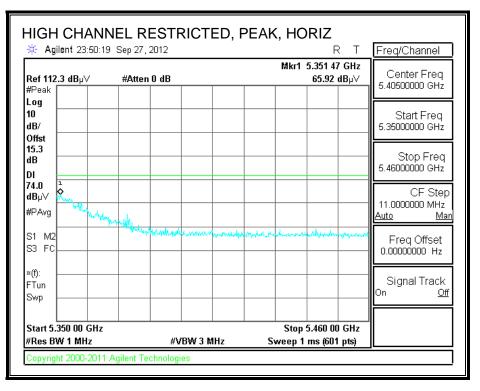
| Complian                            | High Frequer                                     | •  |          | 5m Ch     | amber-A                      | 1                               |                                    |   |                              |            |                              |                                     |                             |  |
|-------------------------------------|--|--|----------|-----------|------------------------------|---------------------------------|------------------------------------|---|------------------------------|------------|------------------------------|-------------------------------------|-----------------------------|--|
| Company                             | :  | Qualcomm A                                       | theros   |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Project #:                          | :  | 12U14585   |          |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Date:                               |  | 9/28/2012  |          |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Fest Engi                           |  | Steve Aguila                                     | r        |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Configura                           | ation:   | EUT, TX mod                                      | le       |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Aode:                               |  | 802.11N, HT4                                     | 10       |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| lest Equi                           | ipment:  |  |          |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
| Но                                  | rn 1-18GHz                                       | Pre-a  | mplife   | 1-260     | GHz                          | Pre-am                          | plifer                             | 26-40GH   | z                            | Но         | orn > 18G                    | iHz                                 |                             | Limit                                  |
| T73; S/I                            | N: 6717 @3m                                      | ▼ T144   | Miteq 30 | 08A009    | 131 🚽                        |                                 |                                    |   | ▼ T89;                       | ARA 18-260 | GHz; S/N:10                  | 49                                  | •                           | FCC 15.205                             |
| - Hi Freque                         | ency Cables                                      |  |          |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
|                                     | able 2280770                                     | 0 12'  | cable 2  | 28076     | 00                           | 20' ca                          | ble 22                             | 2807500   |                              | HPF        | Re                           | ject Filte                          |                             | <u>k Measurements</u><br>VBW=1MHz/3MHz |
| 3' cat                              | ble 22807700                                     | • 12' c  | able 228 | 07600     | •                            | 20' cab                         | le 228                             | 07500   |                              |            | • R_                         | 001                                 |                             | ge Measurements<br>1MHz ; VBW=10Hz     |
| f                                   | Dist Read I                                      | k Read Avg                                       | . AF     | CL        | Amp                          | D Corr                          | Fltr                               | Peak  | Avg                          | Pk Lim     | Avg Lim                      | Pk Mar                              | Avg Mar                     | Notes                                  |
| GHz                                 | (m) dBuV   | dBuV   | dB/m     | dB        | dB                           | dB                              | dB                                 | dBuV/m  | dBuV/m                       | dBuV/m     | dBuV/m                       | dB                                  | dB                          | (V/H)                                  |
|                                     | el (5190 MHz)                                    |  |          |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             |  |
|                                     | 3.0 34.45  | 21.58  | 38.9     | 12.2      | -34.0                        | 0.0                             | 0.0                                | 51.6<br>51.2  | 38.7<br>38.8                 | 74         | 54<br>54                     | -22.4<br>-22.8                      | -15.3                       | H<br>V                                 |
|                                     |  |  |          | 1 1 4.4   | -34.0                        |                                 |                                    |   |                              |            |                              |                                     | -15.2                       |  |
|                                     | 3.0 34.08  | 21.71  | 30.9     |           |                              |                                 |                                    |   |                              |            |                              |                                     |                             | •                                      |
| 5.570                               |  | 21.71  |          | o other o | missions                     | were detec                      | ted abo                            | we the system   |                              |            |                              |                                     |                             | •                                      |
| 5.570                               | 1  | ment Frequence                                   | Note: N  | o other o |                              | were detec                      |                                    |   |                              |            |                              |                                     | Field Strengt               |  |
| 5.570<br>ev. 11.10.1                | 11<br>f Measure                                  |  | Note: N  |           | Amp                          | Preamp                          | Gain                               |   | n noise floor.               |            | Avg Lim                      | Average I                           | Field Strengt               | h Limit                                |
| 5.570<br>ev. 11.10.1<br>f<br>I      | 11<br>f Measure<br>Dist Distance                 | ment Frequence                                   | Note: N  |           | Amp<br>D Corr                | Preamp (<br>Distance            | Gain<br>Corre                      | we the system   | n noise floor.<br>ers        |            | Avg Lim<br>Pk Lim            | Average I<br>Peak Field             |                             | h Limit<br>imit                        |
| 5.570<br>ev. 11.10.1<br>f<br>I<br>I | 11<br>f Measure<br>Dist Distance                 | ment Frequence<br>to Antenna<br>Reading          | Note: N  |           | Amp<br>D Corr<br>Avg         | Preamp O<br>Distance<br>Average | Gain<br>Corre<br>Field S           | we the system   | n noise floor.<br>ers<br>3 m |            | Avg Lim<br>Pk Lim<br>Avg Mar | Average I<br>Peak Fiel<br>Margin vs | d Strength L                | h Limit<br>imit<br>imit                |
| I<br>I                              | 1<br>f Measure<br>Dist Distance<br>Read Analyzer | ment Frequend<br>to Antenna<br>Reading<br>Factor | Note: N  |           | Amp<br>D Corr<br>Avg<br>Peak | Preamp O<br>Distance<br>Average | Gain<br>Corre<br>Field S<br>d Peal | ve the system<br>ct to 3 mete<br>Strength @<br>k Field Stre | n noise floor.<br>ers<br>3 m |            | Avg Lim<br>Pk Lim<br>Avg Mar | Average I<br>Peak Fiel<br>Margin vs | d Strength L<br>. Average L | h Limit<br>imit<br>imit                |

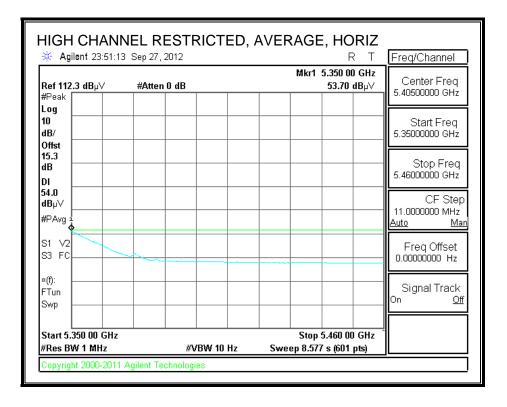
<u>Note:</u> harmonics for low channel was conducted and shown to be of more margin than original. For high channel, refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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## 8.2.4. TX ABOVE 1 GHz 802.11a MODE IN THE 5.3 GHz BAND

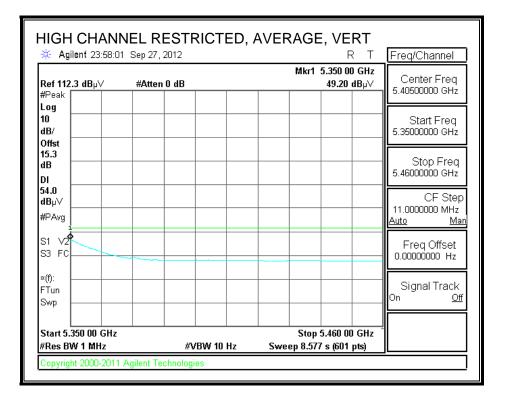
### **RESTRICTED BANDEDGE (HIGH CHANNEL)**





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| * Agilent 23:57:10                  |  | R T  | Freq/Channel                                |
|-------------------------------------|--|--|---|
| Ref 112.3 dBµ∀<br>#Peak             | #Atten 0 dB                            | Mkr1 5.350 55 GHz<br>60.55 dBµ∨  | Center Freq<br>5.40500000 GHz               |
| Log<br>10<br>dB/                    |  |  | Start Freq<br>5.3500000 GHz                 |
| Offst<br>15.3<br>dB<br>DI           |  |  | Stop Freq<br>5.4600000 GHz                  |
| 74.0<br>dBµ∨ 1<br>#₽Аха             |  |  | CF Step<br>11.0000000 MHz<br><u>Auto Ma</u> |
| 51 V2<br>53 FC                      | all Allanderspecture and high for some | and the second | Freq Offset<br>0.00000000 Hz                |
| «(f):<br>FTun<br>Swp                |  |  | Signal Track<br>On <u>Of</u>                |
| Start 5.350 00 GHz<br>#Res BW 1 MHz | #VBW 3 MHz                             | Stop 5.460 00 GHz<br>Sweep 1 ms (601 pts)  |   |



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#### HARMONICS AND SPURIOUS EMISSIONS

| Compan<br>Project #<br>Date: | •               |                         | Qualcomm Atl<br>12U14585<br>9/28/2012 | neros     |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
|------------------------------|-----------------|-------------------------|---------------------------------------|-----------|----------|---------------|---------------------|-------------------|----------------------------|----------------|--------------|-------------------|--------------------------|--------------|----------------------------------|----|
| fest Eng                     | gineer:         |                         | Steve Aguilar                         |           |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
| Configu                      | ration:         |                         | EUT, TX mode                          | ;         |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
| Aode:                        |                 |                         | 802.11A                               |           |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
| lest Eq                      | uipmen          | <u>t:</u>               |                                       |           |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
| Н                            | orn 1-          | 18GHz                   | Pre-an                                | nplifer   | 1-26GI   | Hz            | Pre-am              | plifer            | 26-40GH                    | z              | Но           | orn > 18G         | iHz                      |              | Limit                            |    |
| T73; S                       | 6/N: 671        | 7 @3m                   | ▼ T144 M                              | liteq 300 | 8A0093   | 1 🗸 🗍         |                     |                   |                            | <b>T</b> 89;   | ; ARA 18-260 | Hz; S/N:10        | 49                       | •            | FCC 15.205                       | •  |
| Hi Freq                      | uency Cal       | oles                    |                                       |           |          |               |                     |                   |                            | <br>           |              |                   |                          |              |                                  |    |
| 3' 0                         | able 2          | 2807700                 | 12' c                                 | able 22   | 280760   | 0             | 20' cal             | ble 22            | 807500                     |                | HPF          | Re                | ject Filte               |              | k Measurements<br>VBW=1MHz/3MF   | łz |
| 3' ca                        | able 228        | 07700                   | ▼ 12' ca                              | ble 2280  | )7600    | •             | 20' cab             | le 2280           | 07500                      |                |              | • R_              | 001                      |              | ge Measurement<br>1MHz ; VBW=10F |    |
| f                            | Dist            | 3                       | Read Avg.                             | AF        | CL       | Amp           | D Corr              | Fltr              | Peak                       | Avg            | Pk Lim       |                   | 6                        | Avg Mar      |                                  |    |
| GHz                          | ( <b>m</b> )    | dBuV                    | dBuV                                  | dB/m      | dB       | dB            | dB                  | dB                | dBuV/m                     | dBuV/m         | dBuV/m       | dBuV/m            | dB                       | dB           | (V/H)                            | r  |
| igh Cha<br>0.640             | nnel (53<br>3.0 | 20 MHz)<br>33.88        | 20.74                                 | 38.3      | 9.8      | -35.7         | 0.0                 | 0.0               | 46.2                       | 33.1           | 74           | 54                | -27.8                    | -20.9        | н                                |    |
| 5.960                        | 3.0             | 35.79                   | 21.89                                 | 37.6      |          | -33.9         | 0.0                 | 0.0               | 51.9                       | 38.0           | 74           | 54                | -27.0                    | -16.0        | <u>н</u><br>Н                    |    |
| 0.640                        | 3.0             | 37.15                   | 30.95                                 | 38.3      | 9.8      | -35.7         | 0.0                 | 0.0               | 49.5                       | 43.3           | 74           | 54                | -24.5                    | <b>-10.7</b> | V                                |    |
| 5.960                        | 3.0             | 35.03                   | 21.86                                 | 37.6      | 12.4     | -33.9         | 0.0                 | 0.0               | 51.1                       | 38.0           | 74           | 54                | -22.9                    | -16.0        | V                                |    |
|                              | 1               |                         |                                       |           |          |               |                     |                   |                            |                |              |                   |                          |              |                                  |    |
|                              |                 |                         |                                       | Note: No  | other en | nissions      | were detec          | ted abo           | we the system              | 1 noise floor. |              |                   |                          |              |                                  |    |
| ev. 11.10                    | 0.11            |                         |                                       |           |          |               | _                   | Coin              |                            |                |              | Avg Lim           | Average F                | ield Strengt | h Limit                          |    |
| ev. 11.10                    | 0.11<br>f       | Measurem                | ent Frequency                         | 7         | A        | Amp           | Preamp (            | Jaili             |                            |                |              |                   |                          |              |                                  |    |
| ev. 11.10                    |                 | Measurem<br>Distance to |                                       | 1         |          | 1             | -                   |                   | ct to 3 mete               | ers            |              |                   |                          |              |                                  |    |
| Rev. 11.10                   | f<br>Dist       |                         | Antenna                               | 7         | D        | Corr          | Distance            | Correc            | ct to 3 mete<br>Strength @ |                |              | Pk Lim            | Peak Field               |              | imit                             |    |
| ev. 11.10                    | f<br>Dist       | Distance to             | Antenna<br>leading                    | 7         | D<br>A   | O Corr<br>Avg | Distance<br>Average | Correc<br>Field S |                            | 3 m            |              | Pk Lim<br>Avg Mar | Peak Field<br>Margin vs. | Strength L   | irrit<br>irrit                   |    |

<u>Note:</u> harmonics for high channel was conducted and shown to be of more margin than original. For low channel, refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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## 8.2.5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.3 GHz BAND

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

## 8.2.6. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.3 GHz BAND

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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### 8.2.7. TX ABOVE 1 GHz 802.11a MODE IN THE 5.6 GHz BAND

#### HARMONICS AND SPURIOUS EMISSIONS

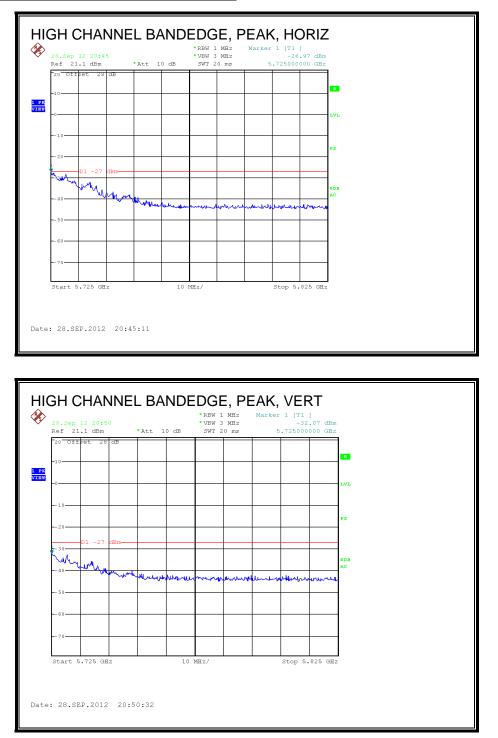
|  | 0  |  | Measuren  |  |                          |  |   |   |   |   |                           |   |   |   |   |
|--|--|--|---|--|--------------------------|--|---|---|---|---|---------------------------|---|---|---|---|
| Complia                                  | ance Ce  | rtification  | Services, Fr  | emont                                  | 5m Ch                    | amber-/  | 4   |   |   |   |                           |   |   |   |   |
| Compai                                   |  |  | Qualcomm At   | theros                                 |                          |  |   |   |   |   |                           |   |   |   |   |
| Project                                  | #:   |  | 12U14585  |  |                          |  |   |   |   |   |                           |   |   |   |   |
| Date:                                    |  |  | 9/28/2012   |  |                          |  |   |   |   |   |                           |   |   |   |   |
|  | ngineer:<br>ıration:                           |  | Steve Aguilar<br>EUT, TX mod  |  |                          |  |   |   |   |   |                           |   |   |   |   |
| /onligu                                  | nation.  |  | 802.11A   |  |                          |  |   |   |   |   |                           |   |   |   |   |
|  |  |  |   |  |                          |  |   |   |   |   |                           |   |   |   |   |
| 'est Ec                                  | quipmen  | <u>t:</u>  |   |  |                          |  |   |   |   |   |                           |   |   |   |   |
| L.                                       | lorn 1-  | 19647  | Pro-2   | nplifer                                | 1-260                    | 247  | Pro-am  | nlifor  | 26-40GH   | -   | Но                        | orn > 180   | 247   |   | Limit   |
|  |  |  |   | ·                                      |                          |  | T TC-all  | ipiliei   | 20-4001   |   |                           |   |   |   | FCC 15.205  |
| T73; \$                                  | S/N: 671                                       | 7 @3m  | ▼ T144 M  | Aiteq 30                               | 08A009                   | 931 🚽  |   |   |   | ▼ 189   | ARA 18-260                | 5Hz; S/N:10   | 49  | •   | FCC 15.205  |
| ,<br>T Hi Fre                            | quency Cal                                     | oles   |   |  |                          |  |   |   |   |   |                           |   |   |   |   |
| 21                                       | ach la 2                                       | 2807700  | 12'0  | able 2                                 | 20076                    | 200  | 20' ca  | hle 22  | 2807500   |   | HPF                       |   |   | Pea   | k Measurements  |
| 3  | cable 2  | 2607700  | 12 0  |  | 20070                    | 00   | 20 00   | 010 22  |   |   | пгг                       | Re  | ject Filte  | P DDW   |   |
|  |  |  |   |  |                          |  |   |   |   |   |                           |   | -   | KBW=  | =VBW=1MHz/3MHz  |
| 3' c                                     | able 228                                       | 307700   | 12' ca  | ble 228                                | 07600                    | -  | 20' cab   | ole 228   | 07500   |   |                           |   | .001  | Avera   | age Measurements  |
| 3' c                                     | able 228                                       | 307700   | 12' ca  | ble 228                                | 07600                    | Ŧ  | 20' cab   | ole 228   | 07500   |   |                           | • R_  | 001   | Avera   |   |
| 3' c                                     | Dist   |  | 12' ca Read Avg.  |  | 07600<br>CL              | -<br>Amp   | 20' cab   |   | 07500<br>Peak                                   | Avg   | Pk Lim                    |   |   | Avera   | age Measurements<br>=1MHz ; VBW=10Hz  |
|  |  |  |   |  |                          | -<br>Amp<br>dB                                     |   |   | Peak  | Avg<br>dBuV/m   |                           |   | Pk Mar  | Avera   | age Measurements<br>=1MHz ; VBW=10Hz  |
| f<br>GHz<br>.ow Char                     | Dist<br>(m)<br>nnel (550                       | Read Pk<br>dBuV<br>0 MHz)  | Read Avg.<br>dBuV   | AF<br>dB/m                             | CL<br>dB                 | dB   | D Corr<br>dB  | Fltr<br>dB  | Peak<br>dBuV/m                                  | dBuV/m  | dBuV/m                    | Avg Lim<br>dBuV/m   | Pk Mar<br>dB  | <ul> <li>Avera<br/>RBW=</li> <li>Avg Mar<br/>dB</li> </ul>            | age Measurements<br>=1MHz ; VBW=10Hz<br>Notes<br>(V/H)                                |
| f<br>GHz<br>.ow Char<br>1.000            | Dist<br>(m)<br>nnel (550<br>3.0                | Read Pk<br>dBuV<br>0 MHz)<br>33.84                                     | Read Avg.<br>dBuV<br>20.63  | AF<br>dB/m<br>38.4                     | CL<br>dB<br>10.2         | dB<br>-35.6  | D Corr<br>dB<br>0.0   | Fltr<br>dB<br>0.0   | Peak<br>dBuV/m<br>46.7                          | dBuV/m<br>33.5  | dBuV/m<br>74              | Avg Lim<br>dBuV/m<br>54   | Pk Mar<br>dB<br>-27.3   | Avera<br>RBW=     Avg Mar<br>dB     -20.5                             | age Measurements<br>-1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H                           |
| f<br>GHz<br>.ow Char<br>1.000            | Dist<br>(m)<br>nnel (550                       | Read Pk<br>dBuV<br>0 MHz)  | Read Avg.<br>dBuV   | AF<br>dB/m                             | CL<br>dB                 | dB   | D Corr<br>dB  | Fltr<br>dB  | Peak<br>dBuV/m                                  | dBuV/m  | dBuV/m                    | Avg Lim<br>dBuV/m   | Pk Mar<br>dB  | <ul> <li>Avera<br/>RBW=</li> <li>Avg Mar<br/>dB</li> </ul>            | age Measurements<br>=1MHz ; VBW=10Hz<br>Notes<br>(V/H)                                |
| f<br>GHz<br>.ow Char<br>1.000            | Dist<br>(m)<br>nnel (550<br>3.0                | Read Pk<br>dBuV<br>0 MHz)<br>33.84                                     | Read Avg.<br>dBuV<br>20.63  | AF<br>dB/m<br>38.4                     | CL<br>dB<br>10.2         | dB<br>-35.6  | D Corr<br>dB<br>0.0   | Fltr<br>dB<br>0.0   | Peak<br>dBuV/m<br>46.7                          | dBuV/m<br>33.5  | dBuV/m<br>74              | Avg Lim<br>dBuV/m<br>54   | Pk Mar<br>dB<br>-27.3   | Avera<br>RBW=     Avg Mar<br>dB     -20.5                             | age Measurements<br>-1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H                           |
| f<br>GHz                                 | Dist<br>(m)<br>nnel (550)<br>3.0<br>3.0        | Read Pk<br>dBuV<br>0 MHz)<br>33.84                                     | Read Avg.<br>dBuV<br>20.63  | AF<br>dB/m<br>38.4<br>38.4             | CL<br>dB<br>10.2<br>10.2 | -35.6<br>-35.6                                     | D Corr<br>dB<br>0.0<br>0.0  | Fltr<br>dB<br>0.0<br>0.0  | Peak<br>dBuV/m<br>46.7<br>47.9                  | dBuV/m<br>33.5<br>38.7                                | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54   | Pk Mar<br>dB<br>-27.3   | Avera<br>RBW=     Avg Mar<br>dB     -20.5                             | age Measurements<br>-1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H                           |
| f<br>GHz<br>Low Char<br>11.000<br>11.000 | Dist<br>(m)<br>nnel (550)<br>3.0<br>3.0        | Read Pk<br>dBuV<br>0 MHz)<br>33.84                                     | Read Avg.<br>dBuV<br>20.63  | AF<br>dB/m<br>38.4<br>38.4             | CL<br>dB<br>10.2<br>10.2 | -35.6<br>-35.6                                     | D Corr<br>dB<br>0.0<br>0.0  | Fltr<br>dB<br>0.0<br>0.0  | Peak<br>dBuV/m<br>46.7<br>47.9                  | dBuV/m<br>33.5  | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54   | Pk Mar<br>dB<br>-27.3   | Avera<br>RBW=     Avg Mar<br>dB     -20.5                             | age Measurements<br>-1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H                           |
| f<br>GHz<br>Low Char<br>11.000           | Dist<br>(m)<br>nnel (550<br>3.0<br>3.0<br>0.11 | Read Pk<br>dBuV<br>0 MHz)<br>33.84<br>35.03                            | Read Avg.<br>dBuV<br>20.63<br>25.81                                       | AF<br>dB/m<br>38.4<br>38.4<br>Note: No | CL<br>dB<br>10.2<br>10.2 | dB<br>-35.6<br>-35.6<br>emissions                  | D Corr<br>dB<br>0.0<br>0.0  | Fltr<br>dB<br>0.0<br>0.0  | Peak<br>dBuV/m<br>46.7<br>47.9                  | dBuV/m<br>33.5<br>38.7                                | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54<br>54                                       | Pk Mar<br>dB<br>-27.3<br>-26.1  | Avere<br>RBW=     Avg Mar<br>dB     -20.5     -15.3                   | age Measurements<br>=1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H<br>V                      |
| f<br>GHz<br>.ow Char<br>1.000<br>1.000   | Dist<br>(m)<br>13.0<br>3.0<br>0.11             | Read Pk<br>dBuV<br>0 MHz)<br>33.84<br>35.03<br>Measurem                | Read Avg.<br>dBuV<br>20.63<br>25.81                                       | AF<br>dB/m<br>38.4<br>38.4<br>Note: No | CL<br>dB<br>10.2<br>10.2 | dB<br>-35.6<br>-35.6<br>emissions                  | D Corr<br>dB<br>0.0<br>0.0<br>s were detect                         | Fltr<br>dB<br>0.0<br>0.0<br>cted abo                              | Peak<br>dBuV/m<br>46.7<br>47.9                  | dBuV/m<br>33.5<br>38.7<br>n noise floor               | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54<br>54                                       | Pk Mar<br>dB<br>-27.3<br>-26.1<br>Average I                           | Avera<br>RBW=     Avg Mar<br>dB     -20.5     -15.3     Field Strengt | age Measurements<br>=1MHz ; VBW=10Hz<br>(V/H)<br>H<br>V<br>th Limit                   |
| f<br>GHz<br>.ow Char<br>1.000<br>1.000   | Dist<br>(m)<br>13.0<br>3.0<br>0.11             | Read Pk<br>dBuV<br>0 MHz)<br>33.84<br>35.03<br>Measurem<br>Distance to | Read Avg.<br>dBuV<br>20.63<br>25.81<br>ent Frequenc                       | AF<br>dB/m<br>38.4<br>38.4<br>Note: No | CL<br>dB<br>10.2<br>10.2 | dB<br>-35.6<br>-35.6<br>emissions<br>Amp<br>D Corr | D Corr<br>dB<br>0.0<br>0.0<br>s were detect                         | Fltr<br>dB<br>0.0<br>0.0<br>cted abo                              | Peak<br>dBuV/m<br>46.7<br>47.9<br>we the system | dBuV/m<br>33.5<br>38.7<br>n noise floor               | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54<br>54<br>54                                 | Pk Mar<br>dB<br>-27.3<br>-26.1<br>Average I<br>Peak Fiel              | Aver<br>RBW=<br>Avg Mar<br>dB<br>-20.5<br>-15.3<br>-15.3<br>          | age Measurements<br>=1MHz ; VBW=10Hz<br>(V/H)<br>H<br>V<br>th Limit                   |
| f<br>GHz<br>ow Char<br>1.000<br>1.000    | Dist<br>(m)<br>13.0<br>3.0<br>0.11             | Read Pk<br>dBuV<br>0 MHz)<br>33.84<br>35.03<br>Measurem                | Read Avg.<br>dBuV<br>20.63<br>25.81<br>ent Frequenc<br>Antenna<br>ceading | AF<br>dB/m<br>38.4<br>38.4<br>Note: No | CL<br>dB<br>10.2<br>10.2 | dB<br>-35.6<br>-35.6<br>emissions                  | D Corr<br>dB<br>0.0<br>0.0<br>were detection<br>Distance<br>Average | Fltr<br>dB<br>0.0<br>0.0<br>cted abo<br>Gain<br>Corree<br>Field S | Peak<br>dBuV/m<br>46.7<br>47.9                  | dBuV/m<br>33.5<br>38.7<br>n noise floor<br>ers<br>3 m | <u>dBuV/m</u><br>74<br>74 | Avg Lim<br>dBuV/m<br>54<br>54<br>54<br>Avg Lim<br>Pk Lim<br>Avg Mar | Pk Mar<br>dB<br>-27.3<br>-26.1<br>Average I<br>Peak Fiel<br>Margin vs | Avera<br>RBW=     Avg Mar<br>dB     -20.5     -15.3     Field Strengt | age Measurements<br>=1MHz ; VBW=10Hz<br>Notes<br>(V/H)<br>H<br>V<br>th Limit<br>.imit |

<u>Note:</u> harmonics for low channel was conducted and shown to be of more margin than original. For mid channel harmonics, high channel harmonics and band edge, refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report'.

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## 8.2.8. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 5.6 GHz BAND

#### **AUTHORIZED BANDEDGE (HIGH CHANNEL)**

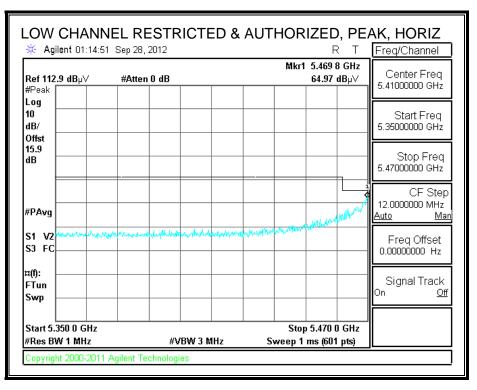


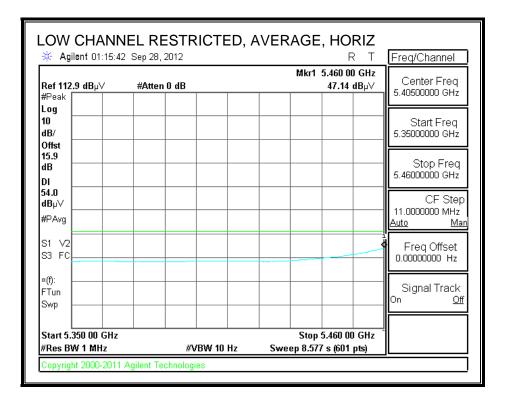
**Note:** For harmonics data and the rest of band edge data, refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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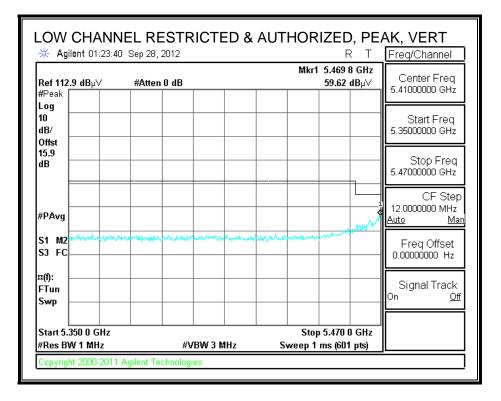
### 8.2.9. TX ABOVE 1 GHz 802.11n HT40 MODE IN THE 5.6 GHz BAND

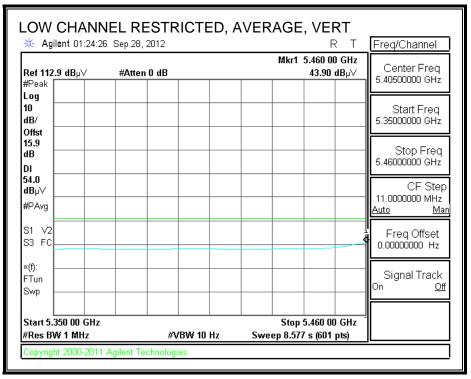
#### **RESTRICTED & AUTHORIZED BANDEDGE (LOW CHANNEL)**





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**Note:** For harmonics data and the rest of band edge data, refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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# 8.3. WORST-CASE BELOW 1 GHz

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

# 9. AC POWER LINE CONDUCTED EMISSIONS

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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# **10. MAXIMUM PERMISSIBLE EXPOSURE**

Refer to original report number "12U14222-7B FCC IC UNII WLAN w DFS Report".

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