

FCC CFR47 PART 15 SUBPART B CERTIFICATION TEST REPORT

FOR

WiMAX + WiFi Router

MODEL NUMBER: W801

REPORT NUMBER: 09U12839-2, Revision A

ISSUE DATE: NOVEMBER 24, 2009

Prepared for

SIERRA WIRELESS INC. 2290 COSMOS COURT, CARLSBAD CALIFORNIA 92011, USA

Prepared by

COMPLIANCE CERTIFICATION SERVICES 47173 BENICIA STREET FREMONT, CA 94538, U.S.A. TEL: (510) 771-1000

FAX: (510) 661-0888



Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|---------------|----------------------|------------|
| | 11/03/09 | Initial Issue | T. Chan |
| A | 11/24/09 | Revised model number | A. Zaffar |

TABLE OF CONTENTS

| 1. | ATT | ESTATION OF TEST RESULTS | 4 |
|----|----------------|-----------------------------------|-----|
| 2. | TES | T METHODOLOGY | 5 |
| 3. | FAC | ILITIES AND ACCREDITATION | 5 |
| 4. | CAL | IBRATION AND UNCERTAINTY | 5 |
| | 1.1. | MEASURING INSTRUMENT CALIBRATION | |
| 2 | 1.2. | SAMPLE CALCULATION | 5 |
| 4 | 1.3. | MEASUREMENT UNCERTAINTY | 5 |
| 5. | EQU | IIPMENT UNDER TEST | 6 |
| į | 5.1. | DESCRIPTION OF EUT | 6 |
| | 5.2. | PRELIMINARY TEST CONFIGURATIONS | 6 |
| | 5.3. | MODE(S) OF OPERATION | 6 |
| į | 5.4. | SOFTWARE AND FIRMWARE | 6 |
| į | 5.5. | MODIFICATIONS | 6 |
| ŧ | 5.6. | DETAILS OF TESTED SYSTEM | 7 |
| 6. | TES | T AND MEASUREMENT EQUIPMENT | 11 |
| 7. | APP | LICABLE LIMITS AND TEST RESULTS | 12 |
| 7 | 7.1. | RADIATED EMISSIONS | |
| | 7.1.1 7.1.2 | | |
| 7 | 7.2. | AC MAINS LINE CONDUCTED EMISSIONS | |
| _ | 057 | UD DUOTOS | -00 |

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS INC.

2290 COSMOS COURT, CARLSBAD

CALIFORNIA 92011, USA

EUT DESCRIPTION: WiMAX + WiFi Router

MODEL: W801

SERIAL NUMBER: H9H239901472014 AND H9H239901122014

DATE TESTED: OCTOBER 8 – 15, 2009

APPLICABLE STANDARDS

STANDARD TEST RESULTS

FCC PART 15 SUBPART B Pass

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. 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 CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by 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 CCS By:

Tested By:

THU CHAN EMC MANAGER

COMPLIANCE CERTIFICATION SERVICES

DEVIN CHANG EMC ENGINEER

COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003.

3. FACILITIES AND ACCREDITATION

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

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

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

The EUT is a WiMAX + WiFi Router.

GENERAL INFORMATION

| Power Requirements | 5.2VDC from AC/DC Adapter | |
|--|--|--|
| List of frequencies generated or used by the EUT | 40 MHz crystal on the WiMAX is the fastest clock crystal in the system | |

5.2. PRELIMINARY TEST CONFIGURATIONS

The following configurations were investigated during preliminary testing:

| EUT Configuration | Description |
|-----------------------|--|
| Typical Configuration | EUT connected via USB cable to laptop PC. Also laptop PC was connected to printer and mouse. |

5.3. MODE(S) OF OPERATION

| Mode | Description |
|-----------------|--|
| Normal Mode | Laptop PC was pinging EUT with minimum configuration |
| Charging Mode | EUT was charging with AC/DC adapter at standby configuration |
| Standalone Mode | EUT was alone standby configuration |

5.4. SOFTWARE AND FIRMWARE

The software/firmware installed in the EUT during testing was version 1.1.2.0, rev. 7-1-2009. Laptop PC was pinging EUT.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

| PERIPHERAL SUPPORT EQUIPMENT LIST | | | | | |
|-----------------------------------|--------------|-------------|--------------------|--------|--|
| Description | Manufacturer | Model | Serial Number | FCC ID | |
| Laptop PC | DELL | PP18L | 30216847141 | DOC | |
| AC Adapter | DELL | HS65NS1-00 | 662-47890-86B-C06B | DOC | |
| AC/DC Adapter | AirLink | WRG10F-120A | None | DoC | |
| Printer | HP | Q6335A | MY56K1304B | DoC | |
| AC/DC Adapter | HP | 0957-2084 | 5715480604 | DoC | |
| Mouse | HP | M-U48a | LZE01650025 | DoC | |

I/O CABLES

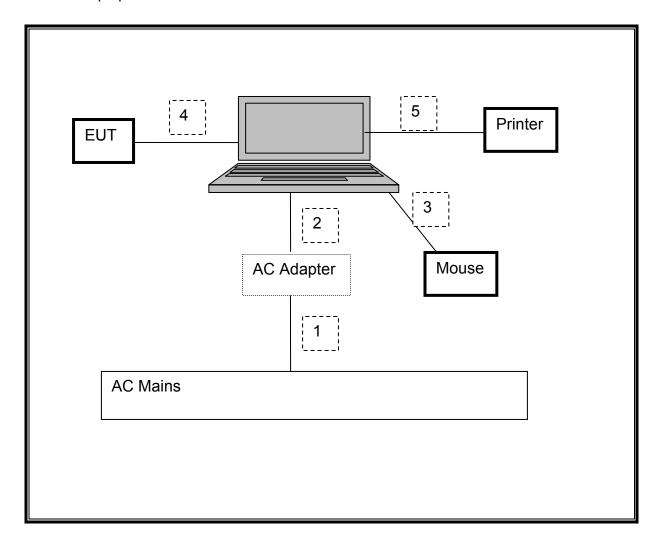
| | I/O CABLE LIST | | | | | | |
|--------------|----------------|---------------------------|-------------------|---------------|-----------------|---------|--|
| Cable No. | Port | # of Identica Ports | Connector Type | Cable Type | Cable Length | Remarks | |
| 1 | AC | 2 | US 115V | Un-shielded | 1.8m | N/A | |
| 2 | DC | 3 | DC Plug | Un-shielded | 1.8m | N/A | |
| 3 | Mouse | 1 | USB | Un-shielded | 1.0m | N/A | |
| 4 | USB | 1 | USB | Un-shielded | 1.2m | N/A | |
| 5 | USB | 1 | USB | Un-shielded | 1.8m | N/A | |

TEST SETUP

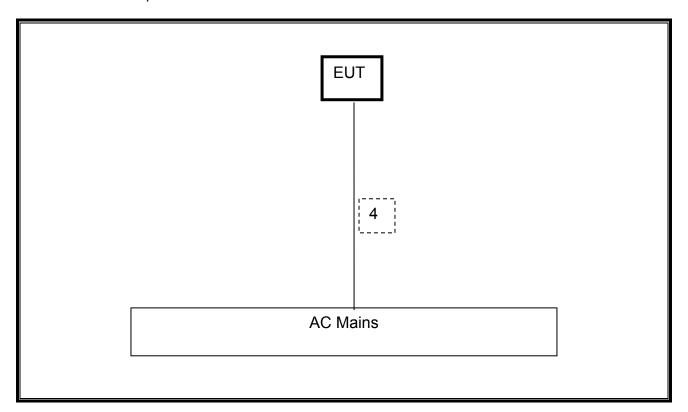
The EUT was connected via USB cable to laptop PC, and test software exercised the EUT.

TEST SETUP DIAGRAM

EUT with laptop via USB cable in Link Mode



EUT with AC Adapter Mode



| REPORT NO: 09U12839-2A EUT: WiMAX + WiFi Router | | DATE: NOVEMBER 24, 2009 MODEL: W801 |
|--|-----|--|
| EUT Standalone Mode | | |
| | | |
| | | |
| | | |
| | EUT | |
| | | |

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 | |
| Preamplifier, 26.5 GHz | Agilent / HP | 8449B | C00749 | 02/04/10 | |
| Antenna, Bilog, 2 GHz | Sunol Sciences | JB1 | C01171 | 01/14/10 | |
| Preamplifier, 1300 MHz | Agilent / HP | 8447D | C00580 | 12/16/09 | |
| Antenna, Horn, 18 GHz | EMCO | 3115 | C00872 | 04/22/10 | |
| EMI Test Receiver, 30 MHz | R&S | ESHS 20 | N02396 | 05/06/11 | |
| LISN, 30 MHz | FCC | LISN-50/250-25-2 | N02625 | 11/06/10 | |
| LISN, 10 kHz ~ 30 MHz | Solar | 8012-50-R-24-BNC | N02481 | 11/06/10 | |

7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4 and CAN/CSA-CEI/IEC CISPR 22:02 as referenced by ICES-003 Issue 4.

The highest clock frequency generated is 40 MHz in the EUT, but RX standby mode at PCS 1900MHz band; therefore the frequency range was investigated from 30 MHz to 2 GHz.

<u>LIMIT</u>

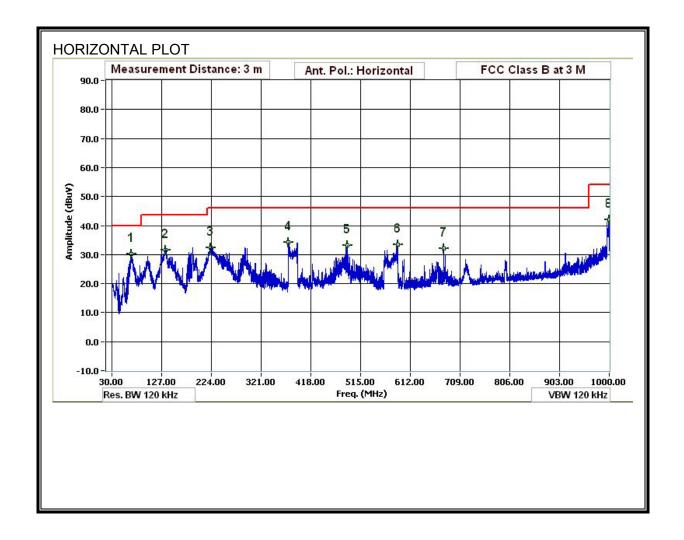
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Limits for radiated disturbance of Class B_ ITE at measuring distance of 3 m | | | | |
|--|-------------------|--|--|--|
| Frequency range | Quasi-peak limits | | | |
| (MHz) | (dBµV/m) | | | |
| 30 to 88 | 40 | | | |
| 88 to 216 | 43.5 | | | |
| 216 to 960 | 46 | | | |
| 960 to 1000 54 | | | | |
| Note: The lower limit shall apply at the transition frequency. | | | | |

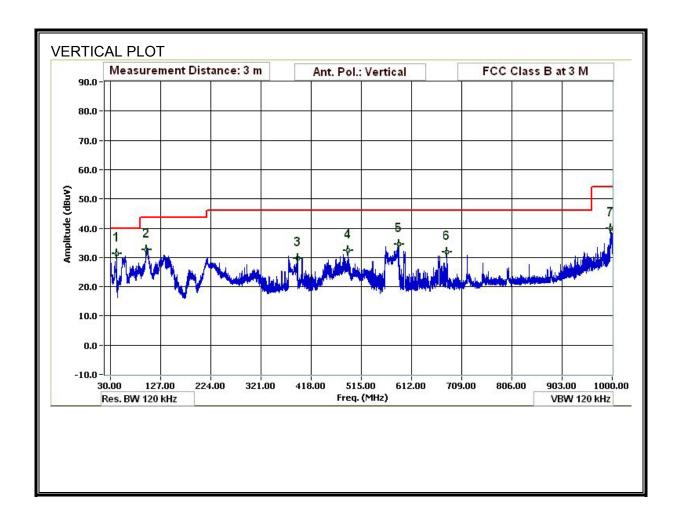
| Limits for radiated disturbance of Class B_ ITE at measuring distance of 3 m | | | | | |
|--|--|--|--|--|--|
| Frequency range Peak limits Average limits | | | | | |
| (MHz) $(dB\mu V/m)$ $(dB\mu V/m)$ | | | | | |
| 1000 to 2000 74 54 | | | | | |
| Note: The lower limit shall apply at the transition frequency. | | | | | |

7.1.1. RADIATED EMISSIONS 30 to 1000 MHz

RADIATED EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION (USB LINK), HORIZONTAL)



RADIATED EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION (USB LINK), VERTICAL)



RADIATED EMISSION DATA

30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 10/07/09
Project #: 09U12839
Company: Sierra Wireless
EUT Description: WiMAX + WiFi Router

EUT M/N: Eagle Mode Oper: Tx mode

f Measurement Frequency Amp Preamp Gain Margin Margin vs. Limit

f Measurement frequency Amp Freating Sain

Distance to Antenna D Corr Distance Correct to 3 meters

Read Analyzer Reading Filter Filter Insert Loss

AF Antenna Factor Corr. Calculated Field Strength

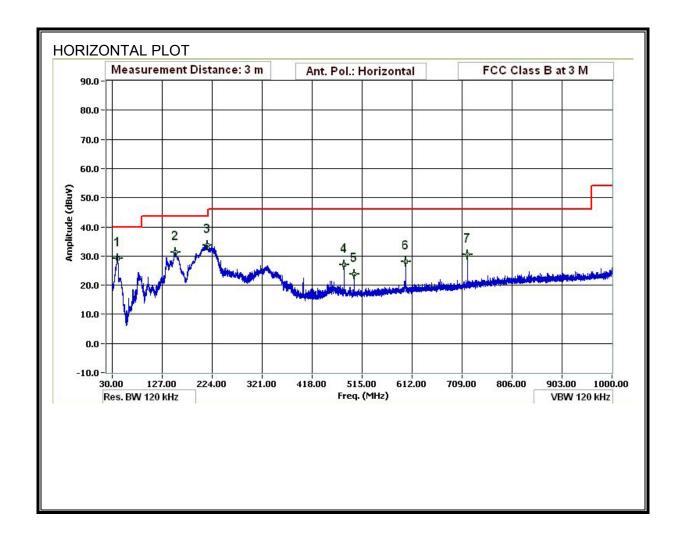
CL Cable Loss Limit Field Strength Limit

| f | Dist | Read | AF | CL | Amp | D Corr | Filter | Corr. | Limit | Margin | Ant. Pol. | Det. | Notes |
|---------|------|------|------|-----|------|--------|--------|--------|-------------------|--------|-----------|--------|-------|
| MHz | (m) | dBuV | dB/m | dB | dB | dB | dB | dBuV/m | $dBuV/\mathbf{m}$ | dB | V/H | P/A/QP | |
| 42.000 | 3.0 | 47.4 | 12.9 | 0.6 | 29.6 | 0.0 | 0.0 | 31.2 | 40.0 | -8.8 | V | EP | |
| 100.443 | 3.0 | 51.2 | 10.2 | 0.9 | 29.5 | 0.0 | 0.0 | 32.7 | 43.5 | -10.8 | V | EP | |
| 391.575 | 3.0 | 42.1 | 14.9 | 1.9 | 29.3 | 0.0 | 0.0 | 29.6 | 46.0 | -16.4 | V | EP | |
| 489.499 | 3.0 | 43.2 | 16.6 | 2.1 | 29.7 | 0.0 | 0.0 | 32.3 | 46.0 | -13.7 | V | EP | |
| 587.423 | 3.0 | 43.9 | 18.1 | 2.4 | 29.6 | 0.0 | 0.0 | 34.6 | 46.0 | -11.4 | V | EP | |
| 680.067 | 3.0 | 39.7 | 19.0 | 2.6 | 29.6 | 0.0 | 0.0 | 31.7 | 46.0 | -14.3 | V | EP | |
| 996.520 | 3.0 | 42.6 | 22.6 | 3.2 | 28.4 | 0.0 | 0.0 | 39.9 | 54.0 | -14.1 | V | EP | |
| 67.922 | 3.0 | 50.9 | 8.2 | 0.7 | 29.6 | 0.0 | 0.0 | 30.2 | 40.0 | -9.8 | H | EP | |
| 135.004 | 3.0 | 46.4 | 13.4 | 1.0 | 29.4 | 0.0 | 0.0 | 31.5 | 43.5 | -12.0 | H | EP | |
| 222.608 | 3.0 | 48.0 | 11.9 | 1.4 | 28.9 | 0.0 | 0.0 | 32.4 | 46.0 | -13.6 | H | EP | |
| 374.654 | 3.0 | 47.0 | 14.6 | 1.8 | 29.2 | 0.0 | 0.0 | 34.3 | 46.0 | -11.7 | H | EP | |
| 489.619 | 3.0 | 44.0 | 16.6 | 2.1 | 29.7 | 0.0 | 0.0 | 33.1 | 46.0 | -12.9 | H | EP | |
| 587.423 | 3.0 | 42.6 | 18.1 | 2.4 | 29.6 | 0.0 | 0.0 | 33.4 | 46.0 | -12.6 | H | EP | |
| 677.787 | 3.0 | 40.0 | 19.0 | 2.6 | 29.6 | 0.0 | 0.0 | 32.0 | 46.0 | -14.0 | H | EP | |
| 999.400 | 3.0 | 44.7 | 22.6 | 3.2 | 28.4 | 0.0 | 0.0 | 42.1 | 54.0 | -11.9 | H | EP | |
| | | | | | | | | | | | | | |

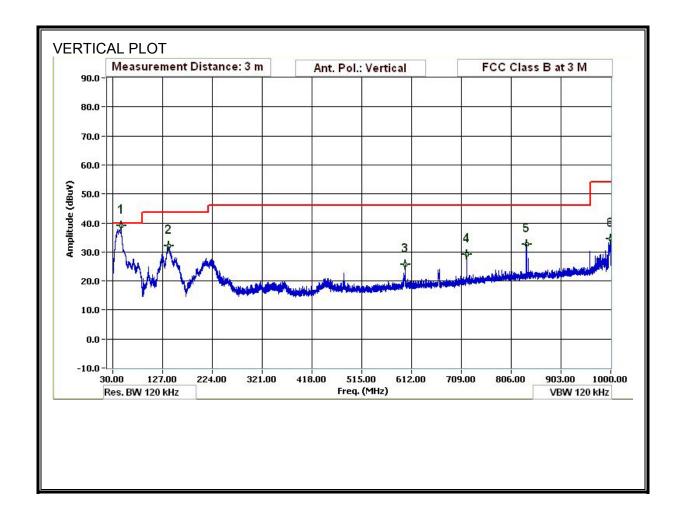
Rev. 1.27.09

Note: No other emissions were detected above the system noise floor.

RADIATED EMISSIONS 30 TO 1000 MHz (AC ADAPTOR CONFIGURATION, HORIZONTAL)



RADIATED EMISSIONS 30 TO 1000 MHz (AC ADAPTOR CONFIGURATION, VERTICAL)



RADIATED EMISSION DATA

30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 10/07/09
Project #: 09U12839
Company: Sierra Wireless
EUT Description: WiMAX + WiFi Router

EUT M/N: Eagle

Mode Oper: EUT power by AC Adaptor

f Measurement Frequency Amp Preamp Gain Margin Margin vs. Limit

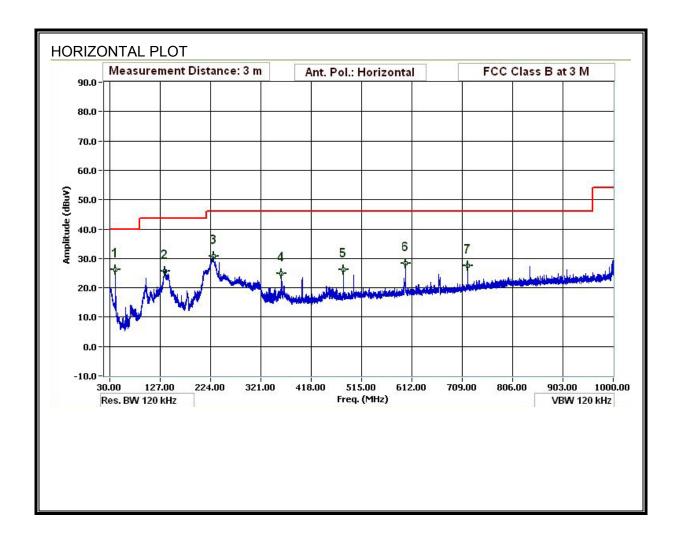
Dist Distance to Antenna D Corr Distance Correct to 3 meters
Read Analyzer Reading Filter Filter Insert Loss
AF Antenna Factor Corr. Calculated Field Strength
CL Cable Loss Limit Field Strength Limit

| f | Dist | Read | AF | CL | Amp | D Corr | Filter | Corr. | Limit | Margin | Ant. Pol. | Det. | Notes |
|---------|------|------|------|-----|------|--------|--------|--------|--------|--------|-----------|--------|-------|
| MHz | (m) | dBuV | dB/m | dB | dB | dB | dΒ | dBuV/m | dBuV/m | dB | V/H | P/A/QP | |
| 46.681 | 3.0 | 58.0 | 10.0 | 0.6 | 29.6 | 0.0 | 0.0 | 39.0 | 40.0 | -1.0 | V | EP | |
| 46.681 | 3.0 | 56.0 | 10.0 | 0.6 | 29.6 | 0.0 | 0.0 | 37.0 | 40.0 | -3.0 | V | QP | |
| 139.565 | 3.0 | 47.2 | 13.2 | 1.1 | 29.4 | 0.0 | 0.0 | 32.1 | 43.5 | -11.4 | V | EP | |
| 600.024 | 3.0 | 34.6 | 18.3 | 2.4 | 29.6 | 0.0 | 0.0 | 25.6 | 46.0 | -20.4 | v | EP | |
| 720.028 | 3.0 | 36.4 | 19.6 | 2.6 | 29.5 | 0.0 | 0.0 | 29.2 | 46.0 | -16.8 | V | EP | |
| 835.593 | 3.0 | 37.5 | 21.2 | 2.9 | 28.9 | 0.0 | 0.0 | 32.6 | 46.0 | -13.4 | V | EP | |
| 999.400 | 3.0 | 37.0 | 22.6 | 3.2 | 28.4 | 0.0 | 0.0 | 34.4 | 54.0 | -19.6 | V | EP | • |
| 40.560 | 3.0 | 44.5 | 13.7 | 0.6 | 29.6 | 0.0 | 0.0 | 29.2 | 40.0 | -10.8 | H | EP | |
| 152.285 | 3.0 | 47.3 | 12.2 | 1.1 | 29.3 | 0.0 | 0.0 | 31.3 | 43.5 | -12.2 | H | EP | |
| 214.928 | 3.0 | 49.2 | 11.9 | 1.3 | 28.9 | 0.0 | 0.0 | 33.6 | 43.5 | -9,9 | H | EP | |
| 480.019 | 3.0 | 38.1 | 16.4 | 2.1 | 29.6 | 0.0 | 0.0 | 27.0 | 46.0 | -19.0 | H | EP | |
| 499.939 | 3.0 | 34.5 | 16.8 | 2.1 | 29.7 | 0.0 | 0.0 | 23.7 | 46.0 | -22.3 | H | EP | • |
| 600.024 | 3.0 | 37.1 | 18.3 | 2.4 | 29.6 | 0.0 | 0.0 | 28.2 | 46.0 | -17.8 | H | EP | |
| 720.028 | 3.0 | 37.6 | 19.6 | 2.6 | 29.5 | 0.0 | 0.0 | 30.4 | 46.0 | -15.6 | H | EP | |
| • | | • | | | | • | | | | | | | • |
| | | | | | | | | | | | | | |

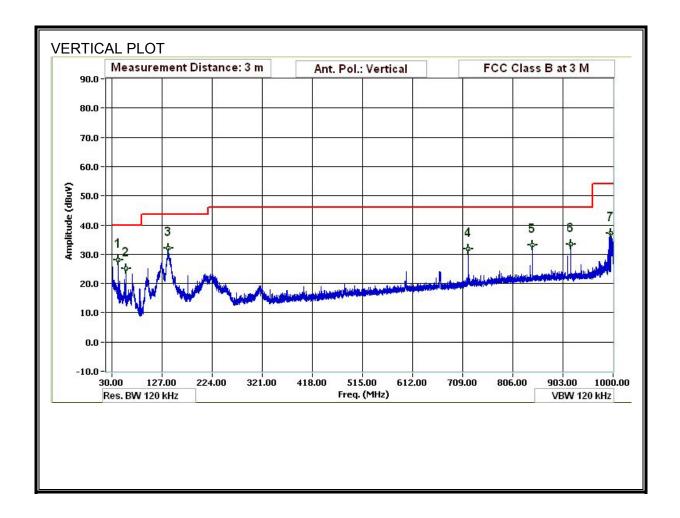
Rev. 1.27.09

Note: No other emissions were detected above the system noise floor.

RADIATED EMISSIONS 30 TO 1000 MHz (BATTERY CONFIGURATION, HORIZONTAL)



RADIATED EMISSIONS 30 TO 1000 MHz (BATTERY CONFIGURATION, VERTICAL)



RADIATED EMISSION DATA

30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 10/07/09
Project #: 09U12839
Company: Sierra Wireless
EUT Description: WiMAX + WiFi Router

EUT M/N: Eagle

Mode Oper: EUT power by Battery

f Measurement Frequency Amp Preamp Gain Margin Margin vs. Limit

Dist Distance to Antenna D Corr Distance Correct to 3 meters
Read Analyzer Reading Filter Filter Insert Loss
AF Antenna Factor Corr. Calculated Field Strength
CL Cable Loss Limit Field Strength Limit

| f | Dist | Read | AF | CL | Amp | D Corr | Filter | Corr. | Limit | Margin | Ant. Pol. | Det. | Notes |
|---------|------|------|------|-----|------|--------|--------|--------|--------|--------|-----------|--------|-------|
| MHz | (m) | dBuV | dB/m | dB | dB | dB | dB | dBuV/m | dBuV/m | dB | V/H | P/A/QP | |
| 41.760 | 3.0 | 44.1 | 13.0 | 0.6 | 29.6 | 0.0 | 0.0 | 28.0 | 40.0 | -12.0 | V | EP | |
| 56.881 | 3.0 | 46.1 | 7.9 | 0.7 | 29.6 | 0.0 | 0.0 | 25.0 | 40.0 | -15.0 | V | EP | |
| 139.565 | 3.0 | 47.1 | 13.2 | 1.1 | 29.4 | 0.0 | 0.0 | 32.0 | 43.5 | -11.5 | V | EP | |
| 720.028 | 3.0 | 39.0 | 19.6 | 2.6 | 29.5 | 0.0 | 0.0 | 31.7 | 46.0 | -14.3 | V | EP | |
| 843.994 | 3.0 | 37.8 | 21.2 | 2.9 | 28.9 | 0.0 | 0.0 | 33.1 | 46.0 | -12.9 | V | EP | |
| 918.517 | 3.0 | 37.2 | 21.7 | 3.0 | 28.5 | 0.0 | 0.0 | 33.4 | 46.0 | -12.6 | V | EP | |
| 995.200 | 3.0 | 39.8 | 22.5 | 3.2 | 28.4 | 0.0 | 0.0 | 37.2 | 54.0 | -16.8 | V | EP | |
| 41.160 | 3.0 | 41.9 | 13.4 | 0.6 | 29.6 | 0.0 | 0.0 | 26.2 | 40.0 | -13.8 | H | EP | |
| 135.964 | 3.0 | 40.6 | 13.4 | 1.0 | 29.4 | 0.0 | 0.0 | 25.7 | 43.5 | -17.8 | H | EP | |
| 229.688 | 3.0 | 46.4 | 11.9 | 1.4 | 28.8 | 0.0 | 0.0 | 30.8 | 46.0 | -15.2 | H | EP | |
| 360.014 | 3.0 | 37.7 | 14.3 | 1.8 | 29.1 | 0.0 | 0.0 | 24.8 | 46.0 | -21.2 | H | EP | |
| 480.019 | 3.0 | 37.2 | 16.4 | 2.1 | 29.6 | 0.0 | 0.0 | 26.1 | 46.0 | -19.9 | H | EP | |
| 600.024 | 3.0 | 37.4 | 18.3 | 2.4 | 29.6 | 0.0 | 0.0 | 28.4 | 46.0 | -17.6 | H | EP | |
| 719.908 | 3.0 | 34.8 | 19.6 | 2.6 | 29.5 | 0.0 | 0.0 | 27.5 | 46.0 | -18.5 | H | EP | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | • | | |

Rev. 1.27.09

Note: No other emissions were detected above the system noise floor.

7.1.2. RADIATED EMISSIONS ABOVE 1GHz

SPURIOUS RADIATED EMISSIONS ABOVE 1000MHz (WORST-CASE CONFIGURATION)

High Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 10/09/09
Project #: 09U12839
Company: Sierra Wireless
EUT Description: WiMAX + WiFi Router

EUT M/N: Eagle

Mode Oper: above 1GHz spurious emission

 f
 Measurement Frequency Amp
 Preamp Gain
 Average Field Strength Limit

 Dist
 Distance to Antenna
 D Corr
 Distance Correct to 3 meters
 Peak Field Strength Limit

 Read
 Analyzer Reading
 Avg
 Average Field Strength @ 3 m
 Margin vs. Average Limit

 AF
 Antenna Factor
 Peak
 Calculated Peak Field Strength
 Margin vs. Peak Limit

 CL
 Cable Loss
 HPF
 High Pass Filter

| f | Dist | Read | AF | CL | Amp | D Corr | Fltr | Corr. | Limit | Margin | Ant. Pol. | Det. | Notes |
|-------|------|------|------|-----|-------|--------|------|--------|--------|--------|-----------|--------|-------|
| GHz | (m) | dBuV | dB/m | dB | dΒ | dB | dB | dBuV/m | dBuV/m | dB | V/H | P/A/QP | |
| 1.330 | 3.0 | 58.1 | 25.2 | 2.7 | -35.9 | 0.0 | 0.0 | 50.1 | 74.0 | -24.0 | V | P | |
| 1.330 | 3.0 | 38.3 | 25.2 | 2.7 | -35.9 | 0.0 | 0.0 | 30.3 | 54.0 | -23.7 | V | A | |
| 1.596 | 3.0 | 56.5 | 26.1 | 3.0 | -35.7 | 0.0 | 0.0 | 49.9 | 74.0 | -24.1 | V | P | |
| 1.596 | 3.0 | 36.2 | 26.1 | 3.0 | -35.7 | 0.0 | 0.0 | 29.6 | 54.0 | -24.4 | V | A | |
| 6.000 | 3.0 | 42.1 | 33.8 | 6.5 | -34.9 | 0.0 | 0.0 | 47.6 | 74.0 | -26.4 | V | P | |
| 6.000 | 3.0 | 37.4 | 33.8 | 6.5 | -34.9 | 0.0 | 0.0 | 42.9 | 54.0 | -11.1 | V | A | |
| 1.330 | 3.0 | 52.8 | 25.2 | 2.7 | -35.9 | 0.0 | 0.0 | 44.8 | 74.0 | -29.2 | H | P | |
| 1.330 | 3.0 | 35.4 | 25.2 | 2.7 | -35.9 | 0.0 | 0.0 | 27.4 | 54.0 | -26.6 | H | A | |
| 1.596 | 3.0 | 57.1 | 26.1 | 3.0 | -35.7 | 0.0 | 0.0 | 50.6 | 74.0 | -23.4 | H | P | |
| 1.596 | 3.0 | 34.0 | 26.1 | 3.0 | -35.7 | 0.0 | 0.0 | 27.4 | 54.0 | -26.6 | H | A | |
| 6.000 | 3.0 | 39.7 | 33.8 | 6.5 | -34.9 | 0.0 | 0.0 | 45.2 | 74.0 | -28.8 | H | P | |
| 6.000 | 3.0 | 31.9 | 33.8 | 6.5 | -34.9 | 0.0 | 0.0 | 37.4 | 54.0 | -16.6 | H | A | |
| | | | | | | | | | | | | | |
| | Ļ | | | | | | | ļ | | | | | |

Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

7.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4 and CAN/CSA-CEI/IEC CISPR 22:02 as referenced by ICES-003 Issue 4.

LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

| Frequency range | Limit | s (dBµV) |
|-----------------|------------|----------|
| (MHz) | Quasi-peak | Average |
| 0.15 to 0.50 | 66 to 56 | 56 to 46 |
| 0.50 to 5 | 56 | 46 |
| 5 to 30 | 60 | 50 |

Notes:

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

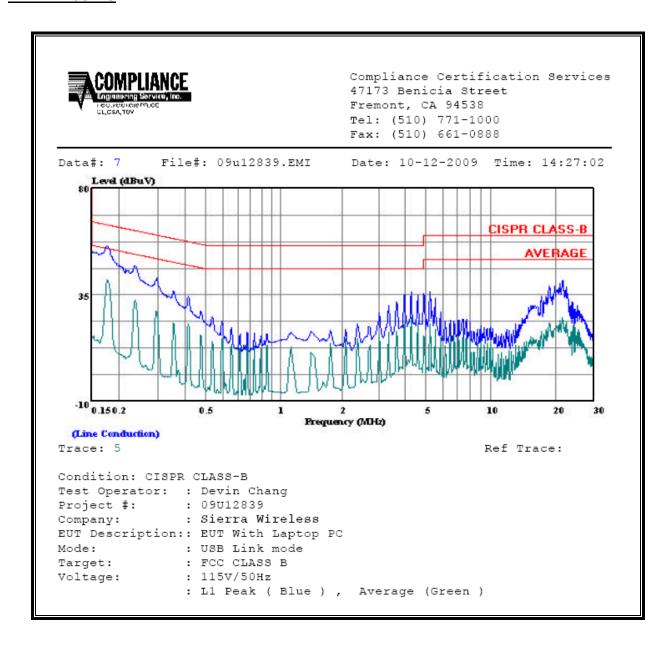
RESULTS

EUT With Laptop Via USB Cable Link Mode:

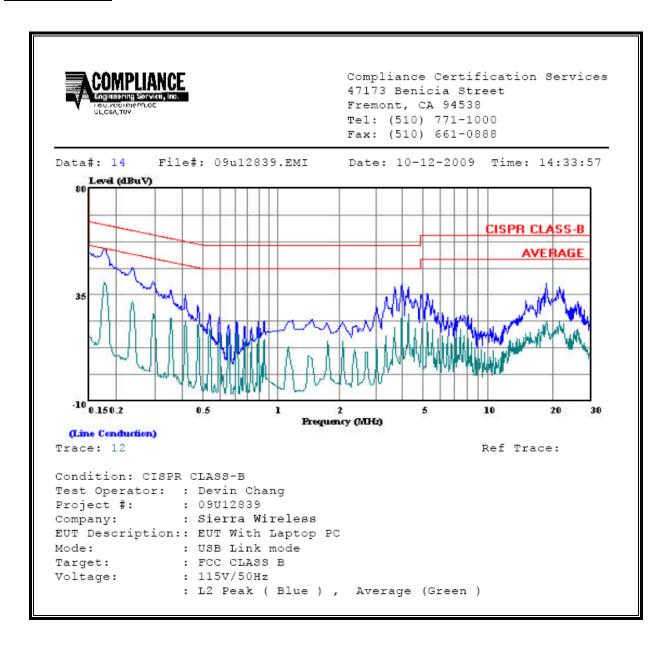
6 WORST EMISSIONS

| | CONDUCTED EMISSIONS DATA (115VAC 60Hz) | | | | | | | | | | | | |
|-----------|--|-----------|-----------|-------|-------|-------|---------|---------|--------|--|--|--|--|
| Freq. | | Reading | | Closs | Limit | FCC_B | Margin | | Remark | | | | |
| (MHz) | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB) | QP | AV | QP (dB) | AV (dB) | L1/L2 | | | | |
| 0.18 | 55.75 | | 41.05 | 0.00 | 64.63 | 54.63 | -8.88 | -13.58 | L1 | | | | |
| 4.38 | 36.25 | | 25.54 | 0.00 | 56.00 | 46.00 | -19.75 | -20.46 | L1 | | | | |
| 21.49 | 41.04 | | 25.40 | 0.00 | 60.00 | 50.00 | -18.96 | -24.60 | L1 | | | | |
| 0.18 | 54.23 | | 40.35 | 0.00 | 64.63 | 54.63 | -10.40 | -14.28 | L2 | | | | |
| 0.24 | 45.94 | | 32.15 | 0.00 | 62.17 | 52.17 | -16.23 | -20.02 | L2 | | | | |
| 4.38 | 39.49 | | 27.20 | 0.00 | 56.00 | 46.00 | -16.51 | -18.80 | L2 | | | | |
| 6 Worst 1 | Data | | | | | | | | | | | | |

LINE 1 RESULTS



LINE 2 RESULTS

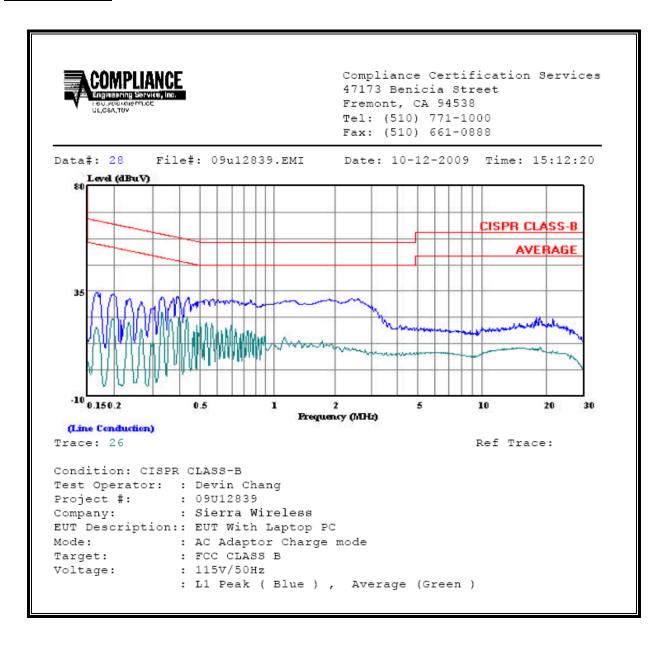


EUT With AC Adaptor Mode:

6 WORST EMISSIONS

| | CONDUCTED EMISSIONS DATA (115VAC 60Hz) | | | | | | | | | | | | |
|---------|--|-----------|-----------|-------|-------|-------|---------|---------|-------|--|--|--|--|
| Freq. | | Reading | | Closs | Limit | FCC_B | Marg | Remark | | | | | |
| (MHz) | PK (dBuV) | QP (dBuV) | AV (dBuV) | (dB) | QP | AV | QP (dB) | AV (dB) | L1/L2 | | | | |
| 0.20 | 33.69 | | 23.00 | 0.00 | 63.74 | 53.74 | -30.05 | -30.74 | L1 | | | | |
| 0.23 | 31.55 | _ | 21.64 | 0.00 | 62.31 | 52.31 | -30.76 | -30.67 | L1 | | | | |
| 0.33 | 32.60 | _ | 25.82 | 0.00 | 59.35 | 49.35 | -26.75 | -23.53 | L1 | | | | |
| 0.16 | 44.30 | | 29.26 | 0.00 | 65.62 | 55.62 | -21.32 | -26.36 | L2 | | | | |
| 0.19 | 40.18 | | 28.00 | 0.00 | 64.08 | 54.08 | -23.90 | -26.08 | L2 | | | | |
| 0.64 | 37.97 | | 27.68 | 0.00 | 56.00 | 46.00 | -18.03 | -18.32 | L2 | | | | |
| 6 Worst | Data | | | | | | | | | | | | |

LINE 1 RESULTS



LINE 2 RESULTS

