

ProSoft Technology, Inc.

WMIA-199NI

Report No. PROS0109.1

Report Prepared By



www.nwemc.com
1-888-EMI-CERT

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EMC Test Report

Certificate of Test
Last Date of Test: July 6, 2011
ProSoft Technology, Inc.
Model: WMIA-199NI

| Emissions | | | |
|---|----------------------|--------------------|------------------|
| Test Description | Specification | Test Method | Pass/Fail |
| Spurious Radiated Emissions | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| Peak Transmit Power | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| Peak Power Spectral Density | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| Emission Bandwidth | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| Peak Excursion of the Modulation Envelope | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| AC Power Line Conducted Emissions | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |
| Frequency Stability | FCC 15.407:2011 | ANSI C63.10:2009 | Pass |

Modifications made to the product

[See the Modifications section of this report](#)

Test Facility

The measurement facility used to collect the data is located at:

Northwest EMC, Inc.; 41 Tesla Ave.,
Irvine, CA 92618
Phone: (503) 844-4066 Fax: 844-3826

This site has been fully described in a report filed with and accepted by the FCC (Federal Communications Commission) and Industry Canada (Site filing #2834B-1).

Approved By:



Dean Ghizzone, President



NVLAP Lab Code: 200676-0

This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government of the United States of America.

Product compliance is the responsibility of the client, therefore the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. This Report may only be duplicated in its entirety. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test.

| Revision Number | Description | Date | Page Number |
|-----------------|-------------|------|-------------|
| 00 | None | | |

Barometric Pressure

The recorded barometric pressure has been normalized to sea level.



Accreditations and Authorizations

FCC

Accredited by NVLAP for performance of FCC radio, digital, and ISM device testing. Our Open Area Test Sites, certification chambers, and conducted measurement facilities have been fully described in reports filed with the FCC and accepted by the FCC in letters maintained in our files. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by the FCC as a Telecommunications Certification Body (TCB). This allows Northwest EMC to certify transmitters to FCC specifications in accordance with 47 CFR 2.960 and 2.962.

NVLAP

Northwest EMC, Inc. is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. NVLAP is administered by the National Institute of Standards and Technology (NIST), an agency of the U.S. Commerce Department. The NVLAP accreditation encompasses Electromagnetic Compatibility Testing in accordance with the European Union EMC Directive 2004/108/EC, and ANSI C63.4. Additionally, Northwest EMC is accredited by NVLAP to perform radio testing in accordance with the European Union R&TTE Directive 1999/5/EEC, the requirements of FCC, and the RSS radio standards for Industry Canada.

Industry Canada

Accredited by NVLAP for performance of Industry Canada RSS and ICES testing. Our Open Area Test Sites and certification chambers comply with RSS-Gen, Issue 2 and have been filed with Industry Canada and accepted. Northwest EMC has been accredited by ANSI to ISO / IEC Guide 65 as a product certifier. We have been designated by NIST and recognized by Industry Canada as a Certification Body (CB) per the APEC Mutual Recognition Arrangement (MRA). This allows Northwest EMC to certify transmitters to Industry Canada technical requirements. (Site Filing Numbers - Hillsboro: 2834D-1, 2834D-2, Sultan: 2834C-1, Irvine: 2834B-1, 2834B-2, Brooklyn Park: 2834E-1)

CAB

Designated by NIST and validated by the European Commission as a Conformity Assessment Body (CAB) to conduct tests and approve products to the EMC directive and transmitters to the R&TTE directive, as described in the U.S. - EU Mutual Recognition Agreement.

Australia/New Zealand

The National Association of Testing Authorities (NATA), Australia has been appointed by the ACA as an accreditation body to accredit test laboratories and competent bodies for EMC standards. Accredited test reports or assessments by competent bodies must carry the NATA logo. Test reports made by an overseas laboratory that has been accredited for the relevant standards by an overseas accreditation body that has a Mutual Recognition Agreement (MRA) with NATA are also accepted as technical grounds for product conformity. The report should be endorsed with the respective logo of the accreditation body (NVLAP).



Accreditations and Authorizations

VCCI

Accepted as an Associate Member to the VCCI, Acceptance No. 564. Conducted and radiated measurement facilities have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. (*Registration Numbers. - Hillsboro: C-1071, R-1025, G-84, C-2687, T-1658, and R-2318, Irvine: R-1943, G-85, C-2766, and T-1659, Sultan: R-871, G-83, C-3265, and T-1511, Brooklyn Park: R-3125, G-86, G-141, C-3464, and T-1634*).

BSMI

Northwest EMC has been designated by NIST and validated by C-Taipei (BSMI) as a CAB to conduct tests as described in the APEC Mutual Recognition Agreement (US0017).

GOST

Northwest EMC, Inc. has been assessed and accredited by the Russian Certification bodies Certinform VNIINMASH, CERTINFO, SAMTES, and Federal CHEC, to perform EMC and Hygienic testing for Information Technology Products. As a result of their laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification

KCC

Northwest EMC, Inc is a CAB designated by MRA partners and recognized by Korea. (*Assigned Lab Numbers: Hillsboro: US0017, Irvine: US0158, Sultan: US0157, Brooklyn Park: US0175*)

VIETNAM

Vietnam MIC has approved Northwest EMC as an accredited test lab. Per Decision No. 194/QD-QLCL (dated December 15, 2009), Northwest EMC test reports can be used for Vietnam approval submissions.

SCOPE

For details on the Scopes of our Accreditations, please visit:
<http://www.nwemc.com/accreditations/>

How important is it to understand performance criteria?

It is the responsibility of the test laboratory to observe the results of the tests that are performed and to accurately report those results. As the responsible party (manufacturer, importer, etc) it is your responsibility to take those results, compare them against the specifications and standards, then, if appropriate make a declaration of conformity. As the responsible party it makes sense that you are fully aware of the requirements, how your device performs when tested to those requirements, and what information is being used to declare conformity.

To better assist you in making those conformity decisions, Northwest EMC has adopted a very simple, yet very clear performance assessment procedure. The following criteria is used when performing immunity or susceptibility tests:

Performance Criteria 1:

- The EUT exhibited no change in performance when operating as specified by the manufacturer. In this case no changes were observed during the test.
- In most cases this would be equivalent to Performance Criteria A. When operating the equipment in the modes or configurations specified by the responsible party, monitoring the parameters specified, no changes were observed. Basically nothing happened.

Performance Criteria 2:

- The EUT exhibited a change in performance when operating as specified by the manufacturer. In this case the equipment recovered without any operator intervention, once the test signal was removed. The data sheets will detail the exact phenomena observed.
- In most cases this would be equivalent to Performance Criteria B. When operating the equipment in the modes or configurations specified by the responsible party, monitoring the parameters specified, changes were observed. The EUT was able to recover from those changes without any operator intervention, once the test signal was removed.

Performance Criteria 3:

- The EUT exhibited a change in performance when operating as specified by the manufacturer. In this case the equipment required some operator intervention in order to recover. This intervention may be in the form of changing EUT settings, or even resetting the system. The data sheets will detail the exact phenomena observed.
- In most cases this would be equivalent to Performance Criteria C. When operating the equipment in the modes or configurations specified by the responsible party, monitoring the parameters specified, changes were observed. The EUT required some sort of operator intervention to recover. There was no permanent damage and the EUT appeared to function normally after completion of test.

Performance Criteria 4:

- The EUT exhibited a change in performance when operating as specified by the manufacturer. In this case the equipment was damaged and would not recover. The data sheets will detail the exact phenomena observed.
- In most cases there is no specific criterion to compare this to; it typically ends the test. When operating the equipment in the modes or configurations specified by the responsible party, monitoring the parameters specified, changes were observed. There was no recovery; the equipment would no longer function as intended.



Northwest EMC Locations



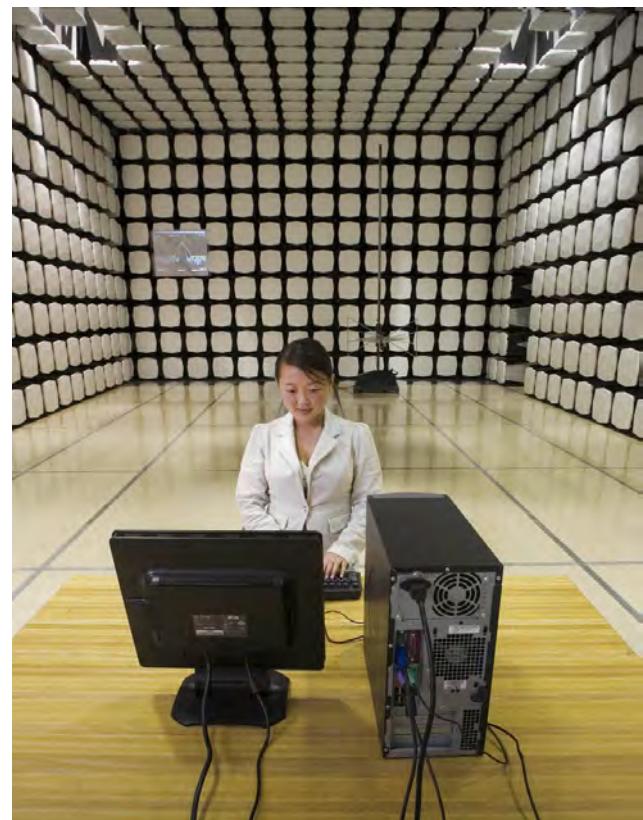
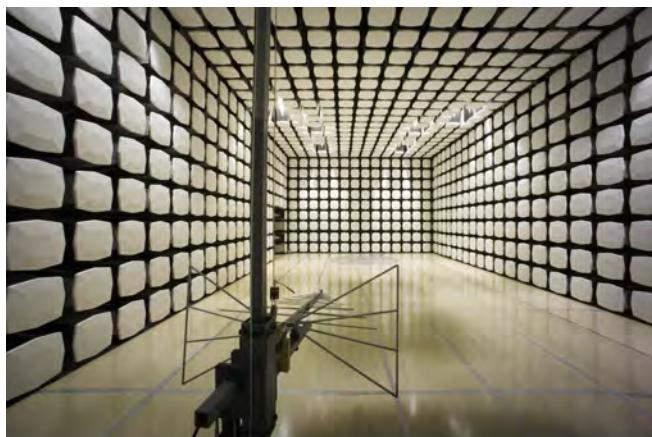
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

Minnesota
Labs MN01-MN08
9349 W Broadway Ave.
Brooklyn Park,
MN 55445
(763) 425-2281

Washington
Labs SU01-SU07
14128 339th Ave. SE
Sultan, WA 98294
(360) 793-8675

New York
Labs WA01-WA04
4939 Jordan Rd.
Elbridge, NY 13060
(315) 685-0796



Party Requesting the Test

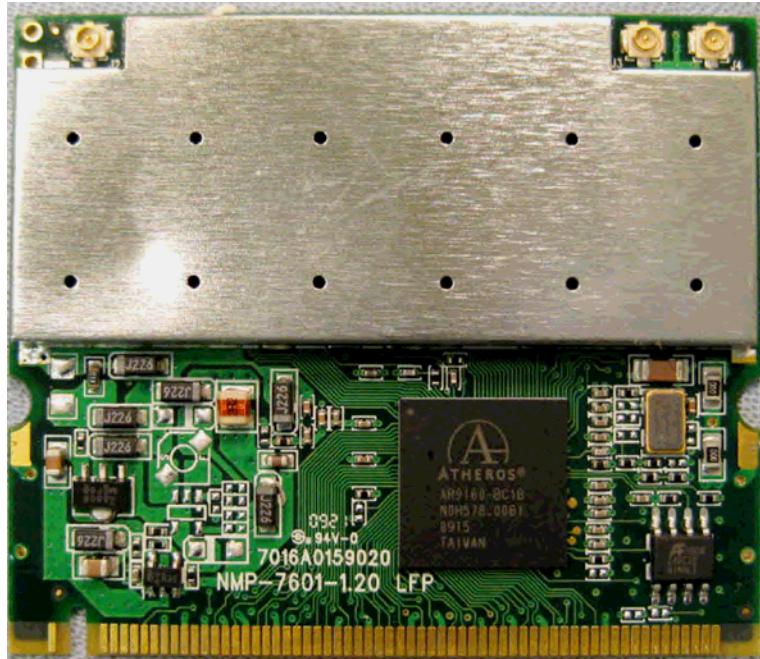
| | |
|---------------------------------|--|
| Company Name: | ProSoft Technology, Inc. |
| Address: | 5201 Truxton Ave., 3 rd Floor |
| City, State, Zip: | Bakersfield, CA 93309 |
| Test Requested By: | Frank Hardy |
| Model: | WMIA-199NI |
| First Date of Test: | 6/23/2011 |
| Last Date of Test: | 7/6/2011 |
| Receipt Date of Samples: | 6/23/2011 |
| Equipment Design Stage: | Production |
| Equipment Condition: | No Damage |

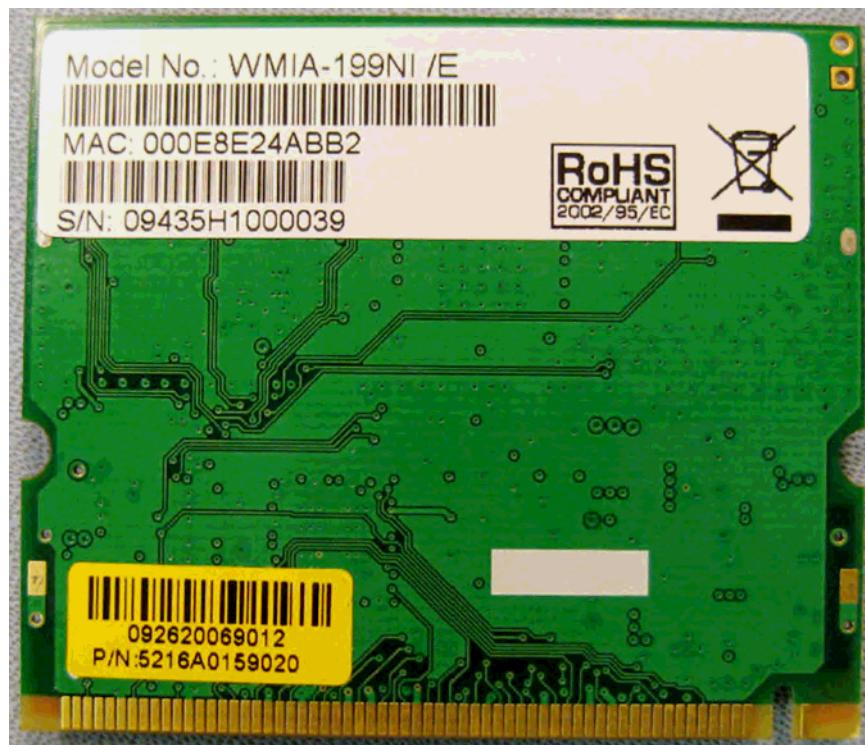
Information Provided by the Party Requesting the Test**Functional Description of the EUT (Equipment Under Test):**

One combination 802.11a/g/n radio module.

Testing Objective:

Seeking to demonstrate compliance under FCC 15.407.

EUT Photo



CONFIGURATION 1 PROS0109

| EUT | | | | |
|---------------------------|---------------------|--------------------------|----------------------|--|
| Description | Manufacturer | Model/Part Number | Serial Number | |
| 802.11 a/g/n radio module | Prosoft Technology | WMIA-199NI | 09435H1000039 | |
| DC Power Supply | Phihong | PSA15R-120P | P65000748A1 | |

| Remote Equipment Outside of Test Setup Boundary | | | |
|--|---------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Remote Laptop | Dell Corp. | Dell Vostro 1100 | 14TBYG1 |

| Cables | | | | | |
|--|---------------|-------------------|----------------|---------------------------|---------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| Lan | No | 1.8m | No | 802.11 a/g/n radio module | Remote Laptop |
| PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown. | | | | | |

CONFIGURATION 2 PROS0109

| EUT | | | | |
|---------------------------|---------------------|--------------------------|----------------------|--|
| Description | Manufacturer | Model/Part Number | Serial Number | |
| 802.11 a/g/n radio module | Prosoft Technology | WMIA-199NI | 09435H1000039 | |
| DC Power Supply | Phihong | PSA15R-120P | P65000748A1 | |
| 5dB Blade Antenna (#1) | Prosoft Technology | None | None | |
| 5dB Blade Antenna (#2) | Prosoft Technology | None | None | |
| 5dB Blade Antenna (#3) | Prosoft Technology | None | None | |

| Remote Equipment Outside of Test Setup Boundary | | | |
|--|---------------------|--------------------------|----------------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Remote Laptop | Dell Corp. | Dell Vostro 1100 | 14TBYG1 |

| Cables | | | | | |
|--|---------------|-------------------|----------------|---------------------------|---------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| Lan | No | 1.8m | No | 802.11 a/g/n radio module | Remote Laptop |
| PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown. | | | | | |

| Equipment modifications | | | | | |
|-------------------------|-----------|---|--|---|---|
| Item | Date | Test | Modification | Note | Disposition of EUT |
| 1 | 6/23/2011 | Emission Bandwidth | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 2 | 6/23/2011 | Frequency Stability | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 3 | 6/23/2011 | Peak Excursion of the Modulation Envelope | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 4 | 6/23/2011 | Peak Power Spectral Density | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 5 | 6/24/2011 | Peak Transmit Power | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 6 | 6/23/2011 | Spurious Radiated Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Northwest EMC following the test. |
| 7 | 7/6/2011 | AC Power Line Conducted Emissions | Modified from delivered configuration. | Added ferrite (0443164151) on power supply on EUT end with 2 loops. Modification authorized by Frank Hardy. | Scheduled testing was completed. |

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|-------------------|-----------------|--------|-----|-----------|----------|
| Power Sensor | Agilent | E4412A | SQE | 4/21/2010 | 24 |
| Power Meter | Hewlett Packard | E4418A | SPA | 4/21/2010 | 24 |
| Signal Generator | Agilent | E8257D | TGU | 1/26/2011 | 12 |
| Spectrum Analyzer | Agilent | E4440A | AFG | 4/28/2011 | 12 |

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

Prior to testing, Output power measurement was taken at all data rates in its appropriate band. This test represents the worst case data rate for each band which is the result of the highest measured output power.

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured if available. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.

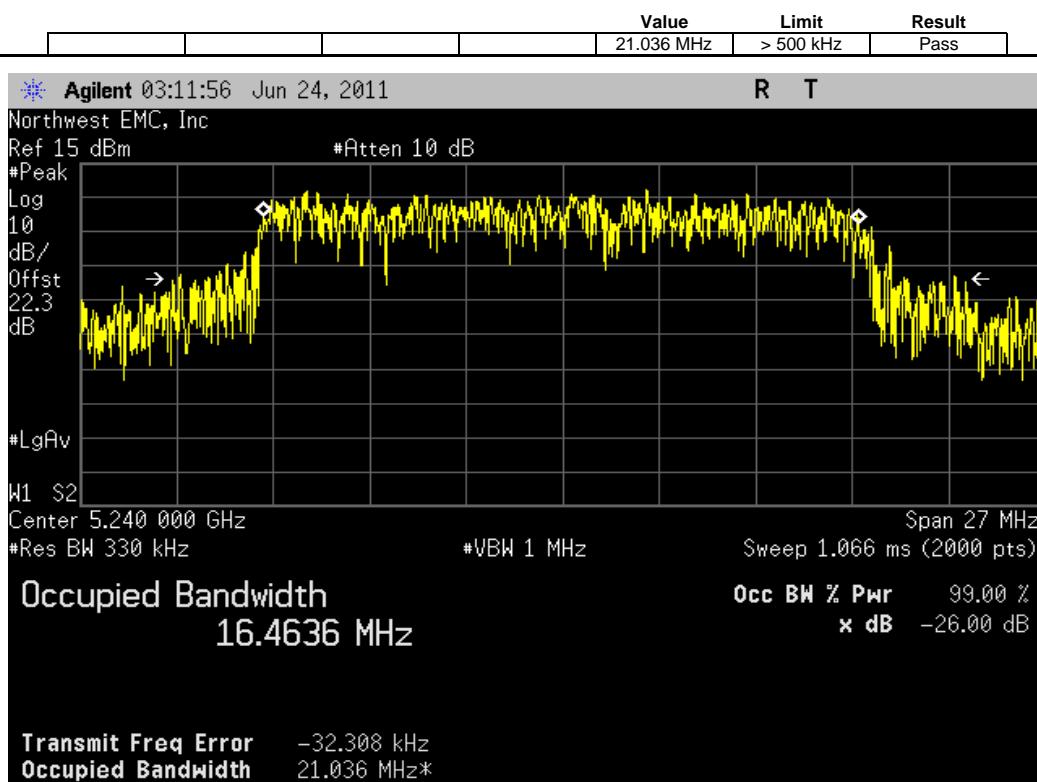
RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.

A peak detector was used.

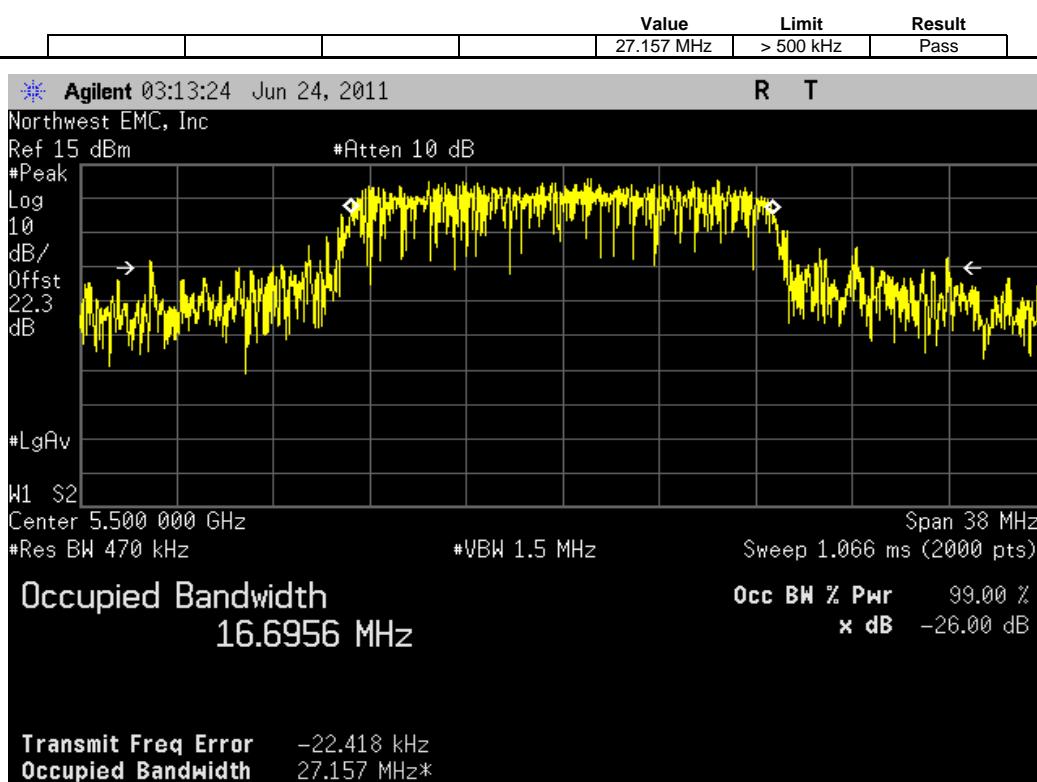
The marker-delta function was then used to measure 26 dB emission bandwidth

| NORTHWEST | | Emission Bandwidth | | | XMit 2011.04.20 |
|------------------------------------|--|--|---|--------------------------------------|------------------|
| EMC | | | | | PsaTx 2011.06.20 |
| EUT: WMIA-199NI | Serial Number: 09435H1000039 | Work Order: PROS0109 | Date: 06/23/11 | | |
| Customer: ProSoft Technology, Inc. | Attendees: None | Temperature: 22.06°C | Humidity: 48% | | |
| Project: None | Tested by: Jaemi Suh | Power: 120V/60Hz | Barometric Pres.: 1011 | Job Site: OC11 | |
| TEST SPECIFICATIONS | | TEST METHOD | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | |
| COMMENTS | | | | | |
| Operating at 802.11a/n. Chain 1. | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| Configuration # | 1 | Signature | | | |
| | | Value | Limit | Result | |
| 802.11(a) 6 Mbps | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 21.242 MHz 21.036 MHz 27.157 MHz 38.026 MHz 40.663 MHz | > 500 kHz > 500 kHz > 500 kHz > 500 kHz > 500 kHz | Pass Pass Pass Pass Pass | |
| 802.11(a) 54 Mbps | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 22.701 MHz 22.387 MHz | > 500 kHz > 500 kHz | Pass Pass | |
| 802.11(n) MCS0 | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 25.46 MHz 26.61 MHz | > 500 kHz > 500 kHz | Pass Pass | |
| 802.11(n) MCS8 | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) | 24.369 MHz 23.367 MHz | > 500 kHz > 500 kHz | Pass Pass | |
| 802.11(n) MCS15 | Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 28.407 MHz 37.953 MHz 42.125 MHz | > 500 kHz > 500 kHz > 500 kHz | Pass Pass Pass | |
| 802.11(n)(40MHz) MCS0 | Low Channel 37 (5190 MHz) High Channel 47 (5230 MHz) | 58.953 MHz 55.567 MHz | > 500 kHz > 500 kHz | Pass Pass | |
| 802.11(n)(40MHz) MCS7 | Low Channel 101 (5510 MHz) High Channel 130 (5670 MHz) | 52.029 MHz 99.292 MHz | > 500 kHz > 500 kHz | Pass Pass | |
| 802.11(n)(40MHz) MCS15 | Low Channel 53 (5270 MHz) High Channel 63 (5310 MHz) | 48.123 MHz 44.051 MHz | > 500 kHz > 500 kHz | Pass Pass | |

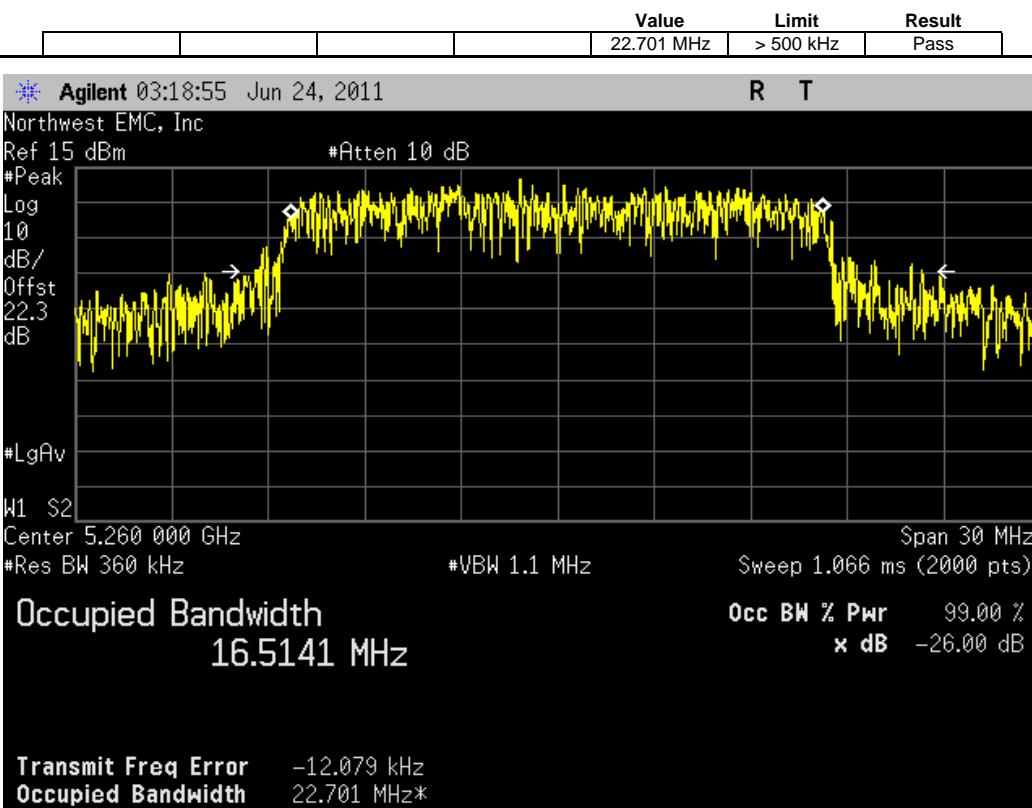
802.11(a) 6 Mbps, High Channel 48 (5240 MHz)



802.11(a) 6 Mbps, Low Channel 100 (5500 MHz)

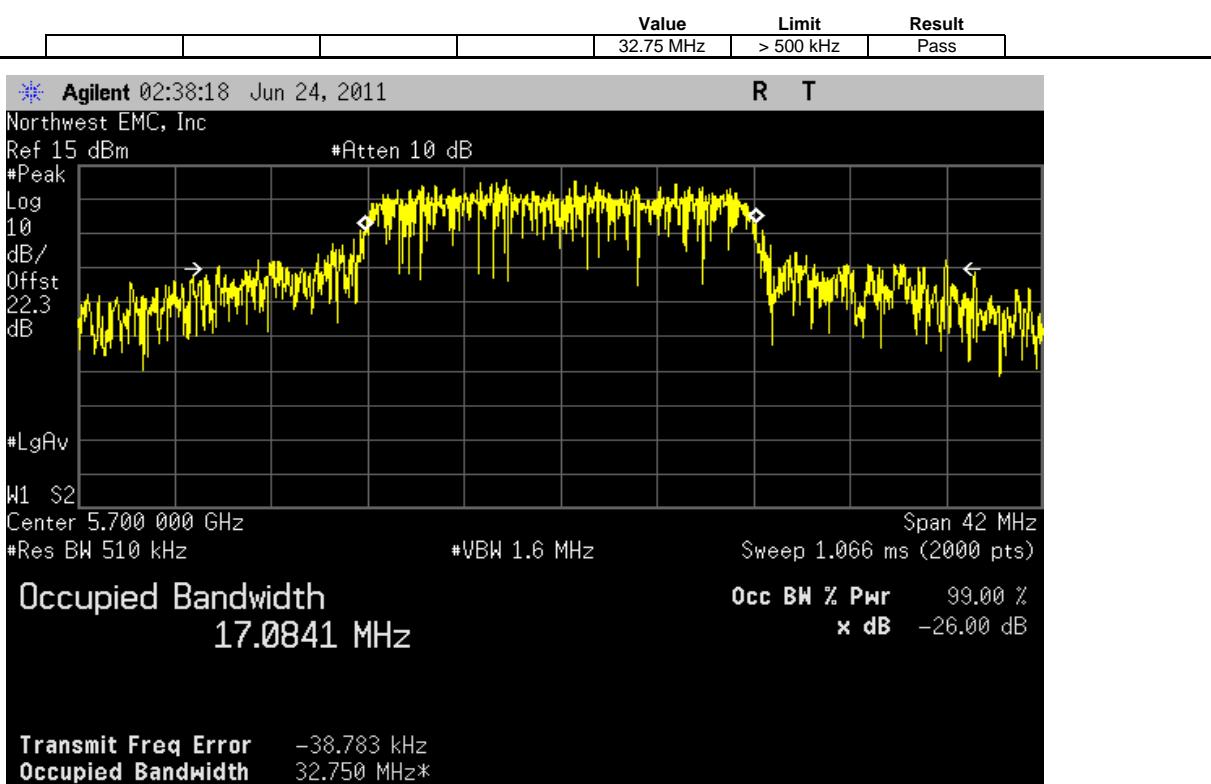


802.11(a) 54 Mbps, Low Channel 52 (5260 MHz)

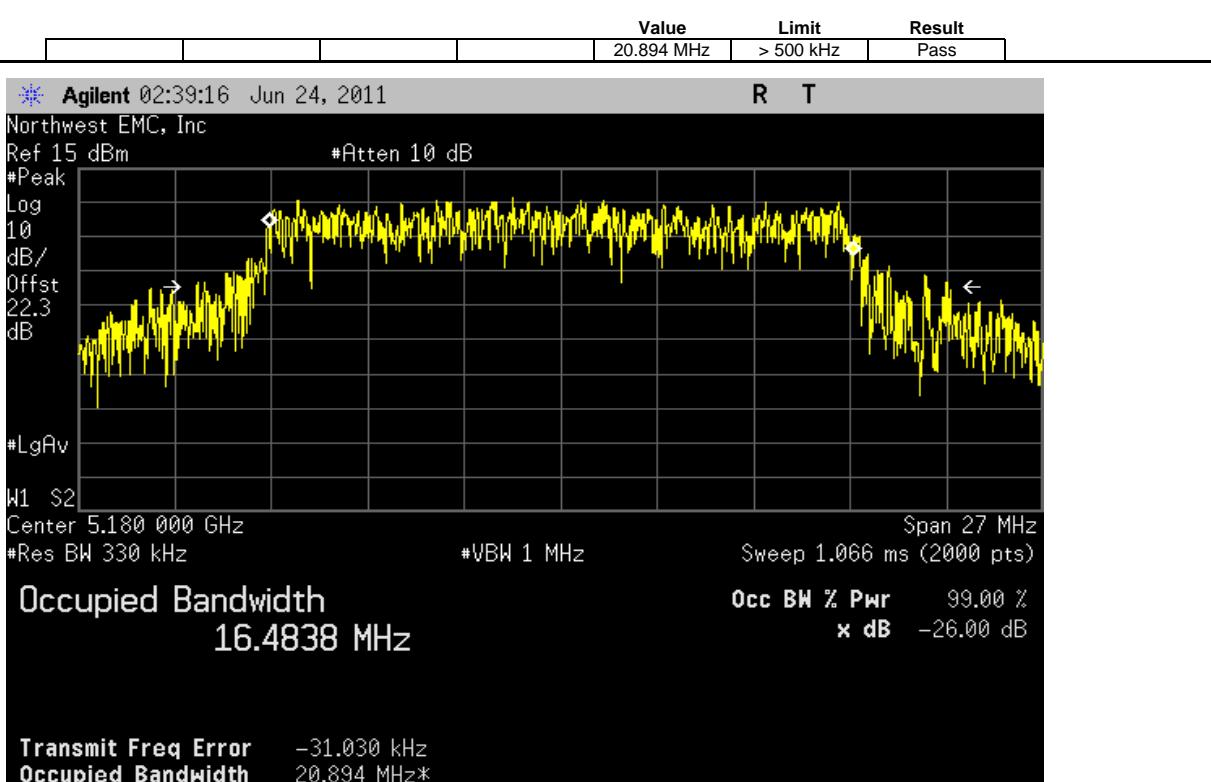


| NORTHWEST | | Emission Bandwidth | | | XMit 2011.04.20 PsaTx 2011.06.20 | | | |
|--------------------------------------|---|-------------------------------|-----------|--------|-------------------------------------|--|--|--|
| EMC | | | | | | | | |
| EUT: WMIA-199NI | | Work Order: PROS0109 | | | Date: 06/23/11 | | | |
| Serial Number: 09435H1000039 | | Temperature: 22.06°C | | | Humidity: 48% | | | |
| Customer: ProSoft Technology, Inc. | | Barometric Pres.: 1011 | | | Job Site: OC11 | | | |
| Attendees: None | | | | | | | | |
| Project: None | | | | | | | | |
| Tested by: Jaemi Suh | | Power: 120V/60Hz | | | | | | |
| TEST SPECIFICATIONS | | TEST METHOD | | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | | |
| COMMENTS | | | | | | | | |
| Operating at 802.11a/n. Chain 2. | | | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | | | |
| Configuration # | 1 | <i>Jaemi Suh</i> Signature | | | | | | |
| | | Value | Limit | Result | | | | |
| 802.11(a) 6 Mbps | | | | | | | | |
| Low Channel 52 (5260 MHz) | | 21.672 MHz | > 500 kHz | Pass | | | | |
| High Channel 64 (5320 MHz) | | 21.519 MHz | > 500 kHz | Pass | | | | |
| Low Channel 100 (5500 MHz) | | 48.774 MHz | > 500 kHz | Pass | | | | |
| Mid Channel 116 (5580 MHz) | | 39.577 MHz | > 500 kHz | Pass | | | | |
| High Channel 140 (5700 MHz) | | 32.75 MHz | > 500 kHz | Pass | | | | |
| 802.11(a) 54 Mbps | | | | | | | | |
| Low Channel 36 (5180 MHz) | | 20.894 MHz | > 500 kHz | Pass | | | | |
| High Channel 48 (5240 MHz) | | 21.267 MHz | > 500 kHz | Pass | | | | |
| 802.11(n) MCS7 | | | | | | | | |
| Low Channel 52 (5260 MHz) | | 25.585 MHz | > 500 kHz | Pass | | | | |
| High Channel 64 (5320 MHz) | | 25.665 MHz | > 500 kHz | Pass | | | | |
| 802.11(n) MCS15 | | | | | | | | |
| Low Channel 100 (5500 MHz) | | 23.167 MHz | > 500 kHz | Pass | | | | |
| Mid Channel 116 (5580 MHz) | | 24.067 MHz | > 500 kHz | Pass | | | | |
| High Channel 140 (5700 MHz) | | 51.405 MHz | > 500 kHz | Pass | | | | |
| Low Channel 36 (5180 MHz) | | 51.424 MHz | > 500 kHz | Pass | | | | |
| High Channel 48 (5240 MHz) | | 21.565 MHz | > 500 kHz | Pass | | | | |
| 802.11(n)(40MHz) MCS0 | | | | | | | | |
| Low Channel 37 (5190 MHz) | | 43.923 MHz | > 500 kHz | Pass | | | | |
| High Channel 47 (5230 MHz) | | 43.866 MHz | > 500 kHz | Pass | | | | |
| 802.11(n)(40MHz) MCS7 | | | | | | | | |
| Low Channel 101 (5510 MHz) | | 43.392 MHz | > 500 kHz | Pass | | | | |
| High Channel 130 (5670 MHz) | | 43.576 MHz | > 500 kHz | Pass | | | | |
| 802.11(n)(40MHz) MCS15 | | | | | | | | |
| Low Channel 53 (5270 MHz) | | 45.906 MHz | > 500 kHz | Pass | | | | |
| High Channel 63 (5310 MHz) | | 54.665 MHz | > 500 kHz | Pass | | | | |

802.11(a) 6 Mbps, High Channel 140 (5700 MHz)

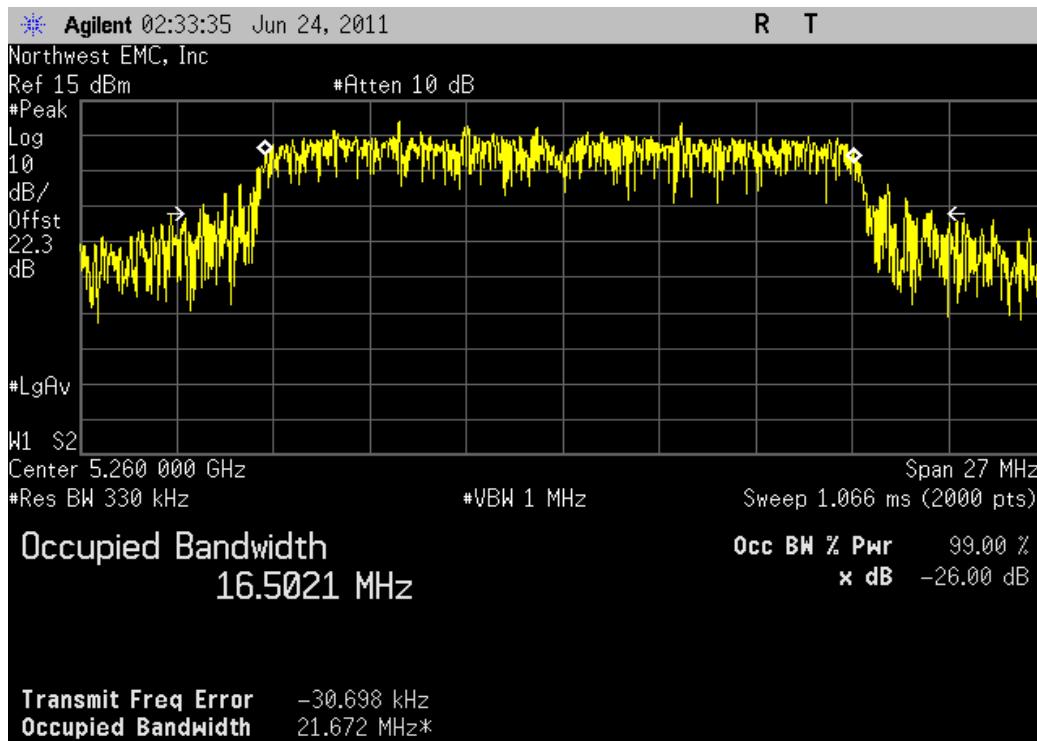


802.11(a) 54 Mbps, Low Channel 36 (5180 MHz)



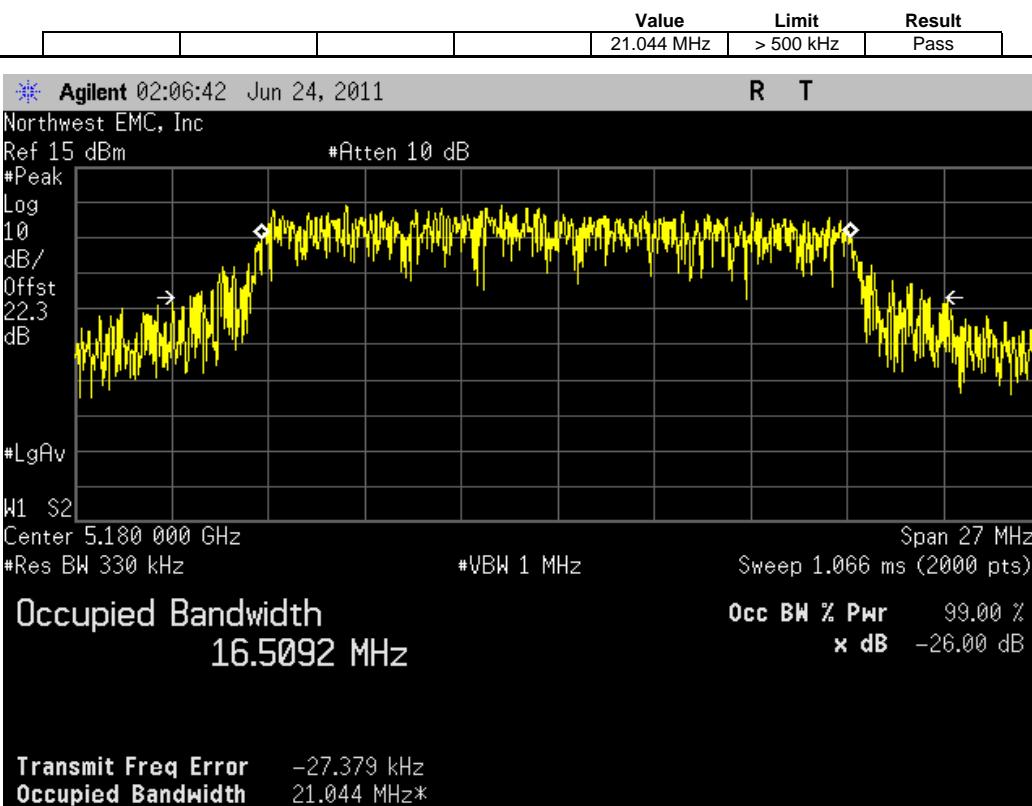
802.11(a) 6 Mbps, Low Channel 52 (5260 MHz)

| | | Value | Limit | Result |
|--|--|------------|-----------|--------|
| | | 21.672 MHz | > 500 kHz | Pass |

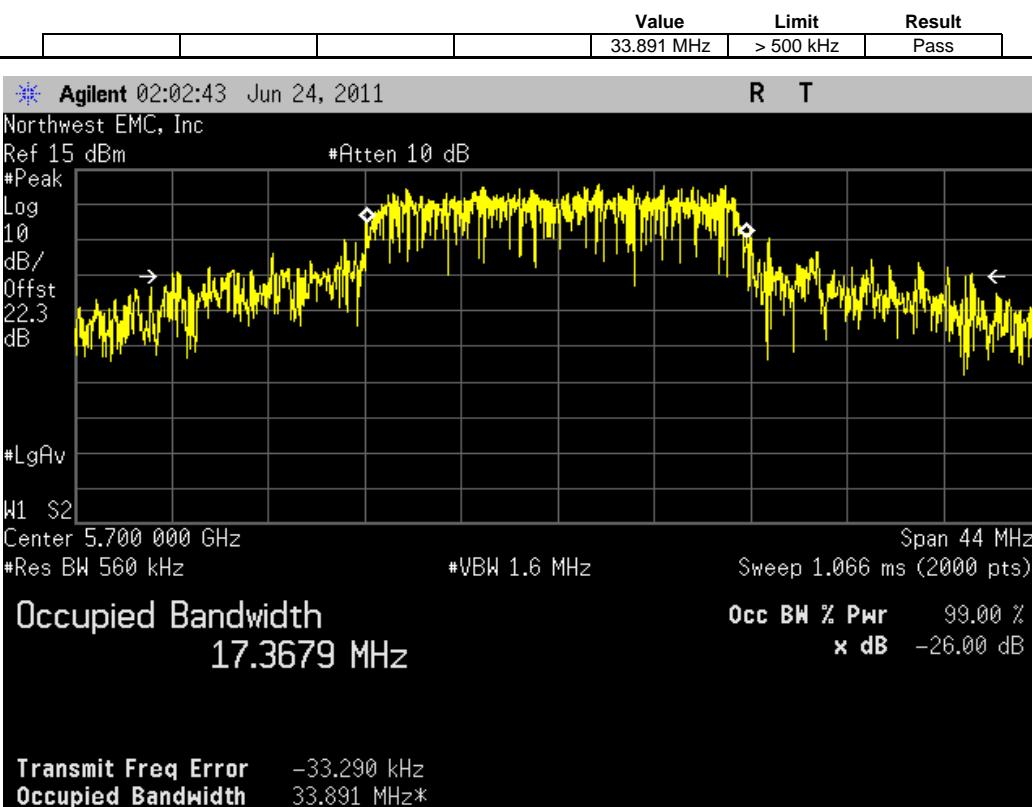


| Emission Bandwidth | | | | |
|--------------------------------------|--|--|--|------------------------------|
| NORTHWEST | | XMit 2011.04.20 PsaTx 2011.06.20 | | |
| EMC | | | | |
| EUT: WMIA-199NI | | Work Order: PROS0109 | | |
| Serial Number: 09435H1000039 | | Date: 06/23/11 | | |
| Customer: ProSoft Technology, Inc. | | Temperature: 22.06°C | | |
| Attendees: None | | Humidity: 48% | | |
| Project: None | | Barometric Pres.: 1011 | | |
| Tested by: Jaemi Suh | Power: 120V/60Hz | Job Site: OC11 | | |
| TEST SPECIFICATIONS | TEST METHOD | | | |
| FCC 15.407:2011 | ANSI C63.10:2009 | | | |
| COMMENTS | | | | |
| Operating at 802.11a/n. Chain 3. | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | |
| Configuration # | 1 | <i>Jaemi Suh</i> Signature | | |
| | | Value | Limit | Result |
| 802.11(a) 6 Mbps | Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 51.226 MHz 39.809 MHz 33.891 MHz | > 500 kHz > 500 kHz > 500 kHz | Pass Pass Pass |
| 802.11(a) 36 Mbps | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 21.184 MHz 21.711 MHz | > 500 kHz > 500 kHz | Pass Pass |
| 802.11(a) 54 Mbps | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) | 21.044 MHz 21.081 MHz | > 500 kHz > 500 kHz | Pass Pass |
| 802.11(n) MCS7 | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 21.881 MHz 22.173 MHz | > 500 kHz > 500 kHz | Pass Pass |
| 802.11(n) MCS8 | Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 49.024 MHz 41.164 MHz 34.789 MHz | > 500 kHz > 500 kHz > 500 kHz | Pass Pass Pass |
| 802.11(n) MCS15 | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) | 21.61 MHz 21.656 MHz | > 500 kHz > 500 kHz | Pass Pass |
| 802.11(n)(40MHz) MCS0 | Low Channel 53 (5270 MHz) High Channel 63 (5310 MHz) | 44.123 MHz 44.201 MHz | > 500 kHz > 500 kHz | Pass Pass |
| 802.11(n)(40MHz) MCS7 | Low Channel 37 (5190 MHz) High Channel 47 (5230 MHz) Low Channel 101 (5510 MHz) High Channel 130 (5670 MHz) | 43.682 MHz 43.641 MHz 44.717 MHz 44.474 MHz | > 500 kHz > 500 kHz > 500 kHz > 500 kHz | Pass Pass Pass Pass |

802.11(a) 54 Mbps, Low Channel 36 (5180 MHz)

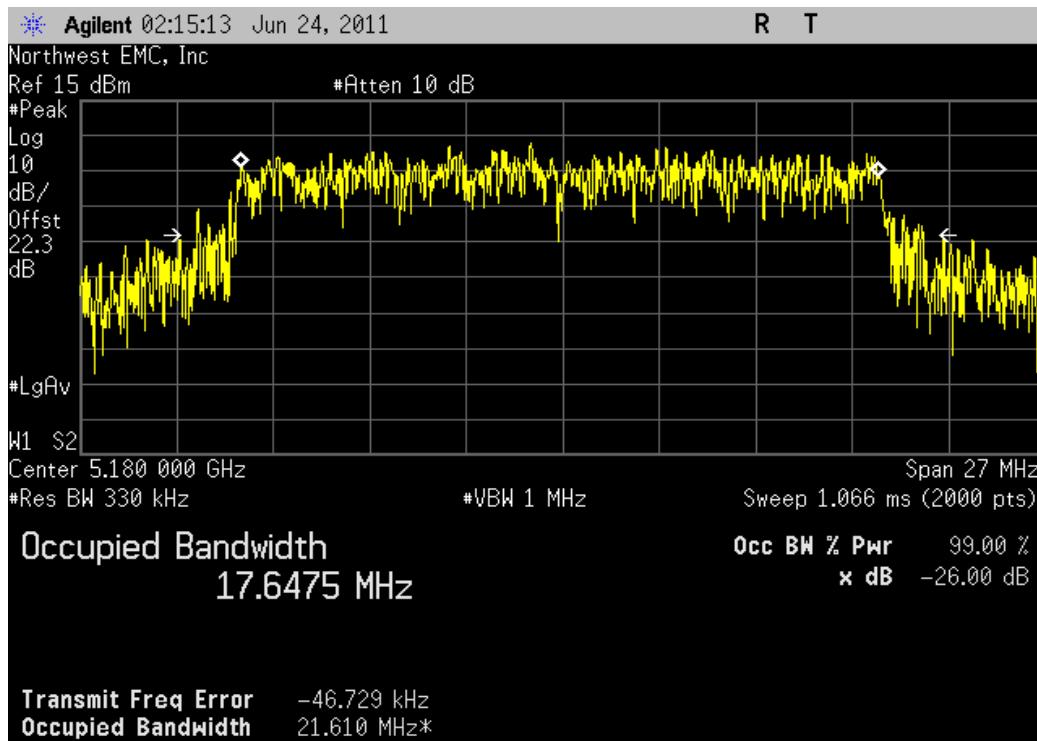


802.11(a) 6 Mbps, High Channel 140 (5700 MHz)



802.11(n) MCS15, Low Channel 36 (5180 MHz)

| | Value | Limit | Result |
|--|-----------|-----------|--------|
| | 21.61 MHz | > 500 kHz | Pass |



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|-------------------|-----------------|--------|-----|-----------|----------|
| Power Sensor | Agilent | E4412A | SQE | 4/21/2010 | 24 |
| Power Meter | Hewlett Packard | E4418A | SPA | 4/21/2010 | 24 |
| Signal Generator | Agilent | E8257D | TGU | 1/26/2011 | 12 |
| Spectrum Analyzer | Agilent | E4440A | AFG | 4/28/2011 | 12 |

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

Prior to testing, Output power measurement was taken at all data rates in its appropriate band. This test represents the worst case data rate for each band which is the result of the highest measured output power.

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured if available. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.

RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.

A peak detector was used.

The marker-delta function was then used to measure 26 dB emission bandwidth

ANSI C63.10 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest data rate was measured as it provided the highest output power. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak power spectral density, the transmission pulse duration (T) were measured. The transmission pulse duration and the associated data are found elsewhere in this test report.

Method #1 was used because the analyzer sweep time was greater than the transmission pulse duration.

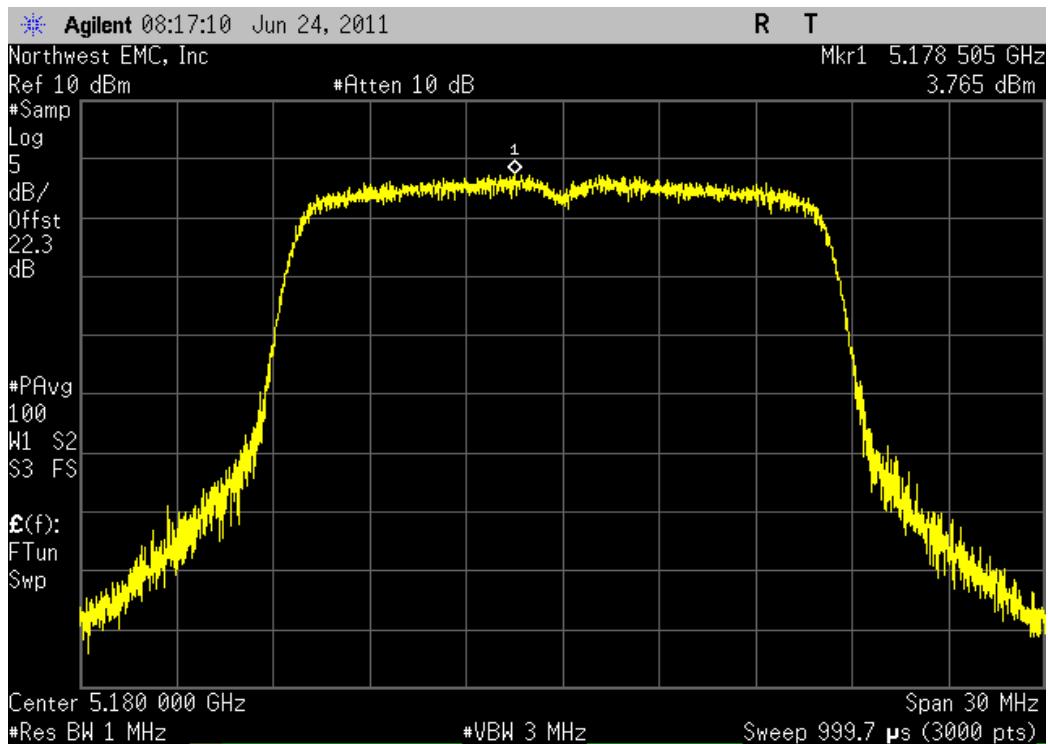
The spectrum analyzer settings were as follows:

The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.

| Peak Power Spectral Density | | | XMit 2011.04.20 PsaTx 2011.06.20 | |
|--------------------------------------|--|--|-------------------------------------|--------------------------------------|
| EMC | | | | |
| EUT: WMIA-199NI | | Work Order: PROS0109 | | |
| Serial Number: 09435H1000039 | | Date: 06/23/11 | | |
| Customer: ProSoft Technology, Inc. | | Temperature: 22.06°C | | |
| Attendees: None | | Humidity: 48% | | |
| Project: None | | Barometric Pres.: 1011 | | |
| Tested by: Jaemi Suh | Power: 120V/60Hz | Job Site: OC11 | | |
| TEST SPECIFICATIONS | TEST METHOD | | | |
| FCC 15.407:2011 | ANSI C63.10:2009 | | | |
| COMMENTS | | | | |
| Operating at 802.11a/n. Chain 1 | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | |
| Configuration # | 1 | Signature | | |
| | | Value (dBm / MHz) | Limit (dBm / MHz) | Result |
| 802.11(a) 6 Mbps | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 3.765 2.924 6.093 6.69 6.433 | 4 4 11 11 11 | Pass Pass Pass Pass Pass |
| 802.11(a) 54 Mbps | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 6.749 6.508 | 11 11 | Pass Pass |
| 802.11(n) MCS0 | Low Channel 52 (5260 MHz) High Channel 64 (5320 MHz) | 6.613 7.483 | 11 11 | Pass Pass |
| 802.11(n) MCS8 | Low Channel 36 (5180 MHz) High Channel 48 (5240 MHz) | 3.207 3.022 | 4 4 | Pass Pass |
| 802.11(n) MCS15 | Low Channel 100 (5500 MHz) Mid Channel 116 (5580 MHz) High Channel 140 (5700 MHz) | 5.574 6.166 5.9 | 11 11 11 | Pass Pass Pass |
| 802.11(n)(40MHz) MCS0 | Low Channel 37 (5190 MHz) High Channel 47 (5230 MHz) | -0.035 0.134 | 4 4 | Pass Pass |
| 802.11(n)(40MHz) MCS7 | Low Channel 101 (5510 MHz) High Channel 130 (5670 MHz) | 2.143 2.81 | 11 11 | Pass Pass |
| 802.11(n)(40MHz) MCS15 | Low Channel 53 (5270 MHz) High Channel 63 (5310 MHz) | 2.673 2.839 | 11 11 | Pass Pass |

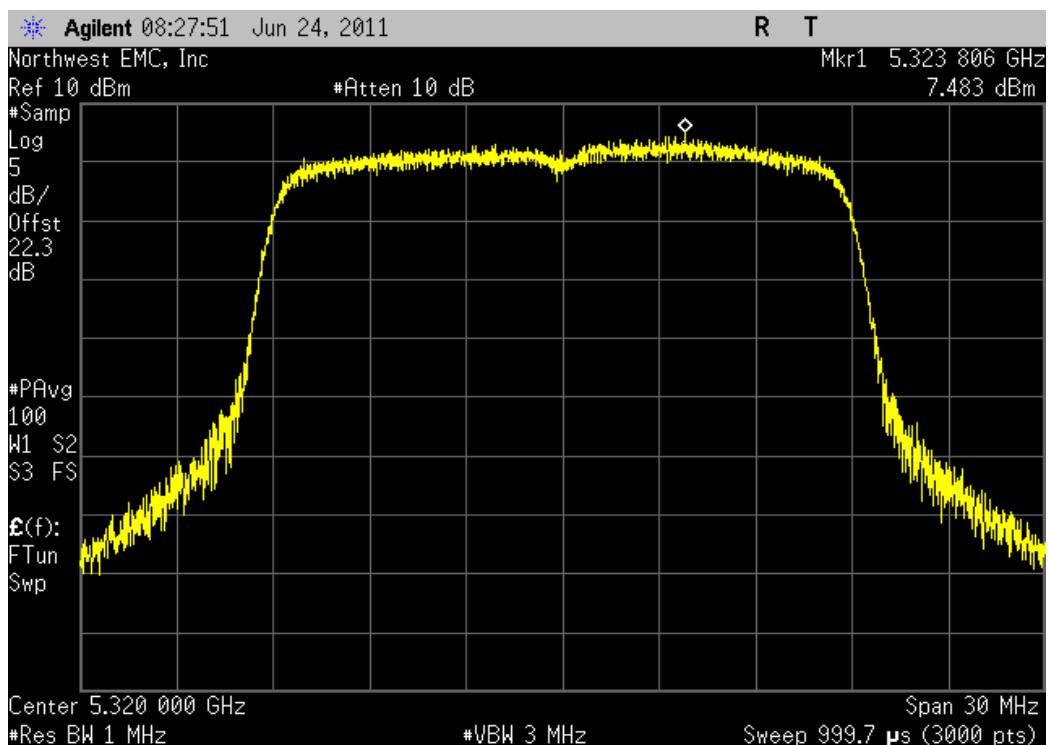
802.11(a) 6 Mbps, Low Channel 36 (5180 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 3.765 | 4 | Pass |



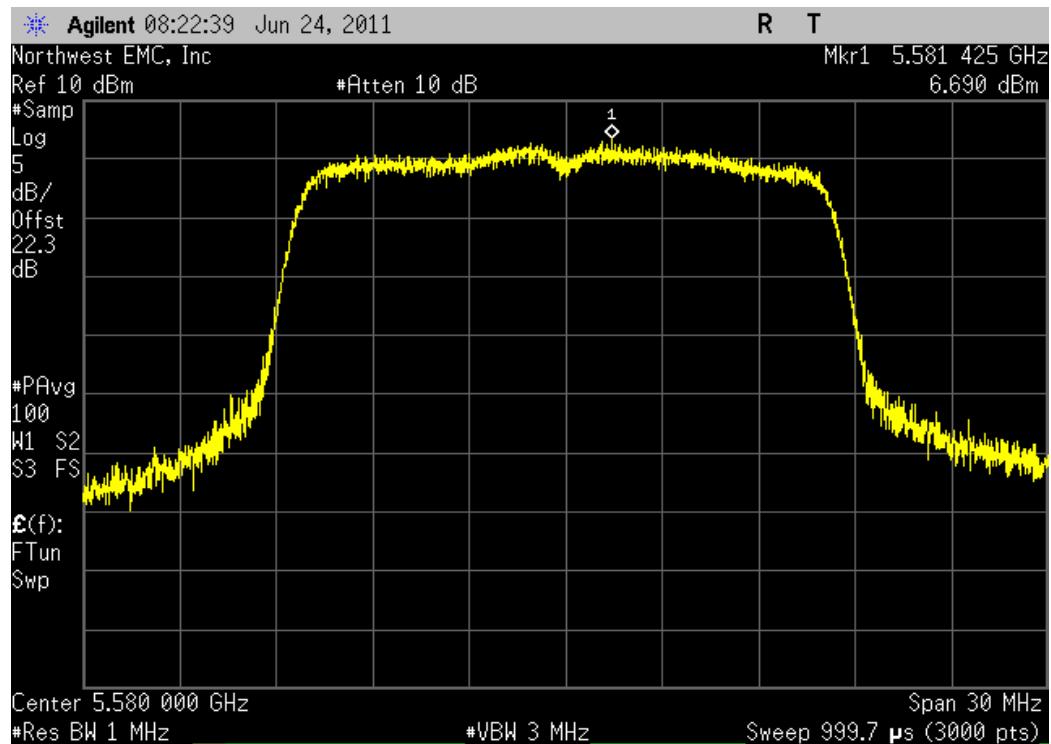
802.11(n) MCS0, High Channel 64 (5320 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 7.483 | 11 | Pass |



802.11(a) 6 Mbps, Mid Channel 110 (5580 MHz)

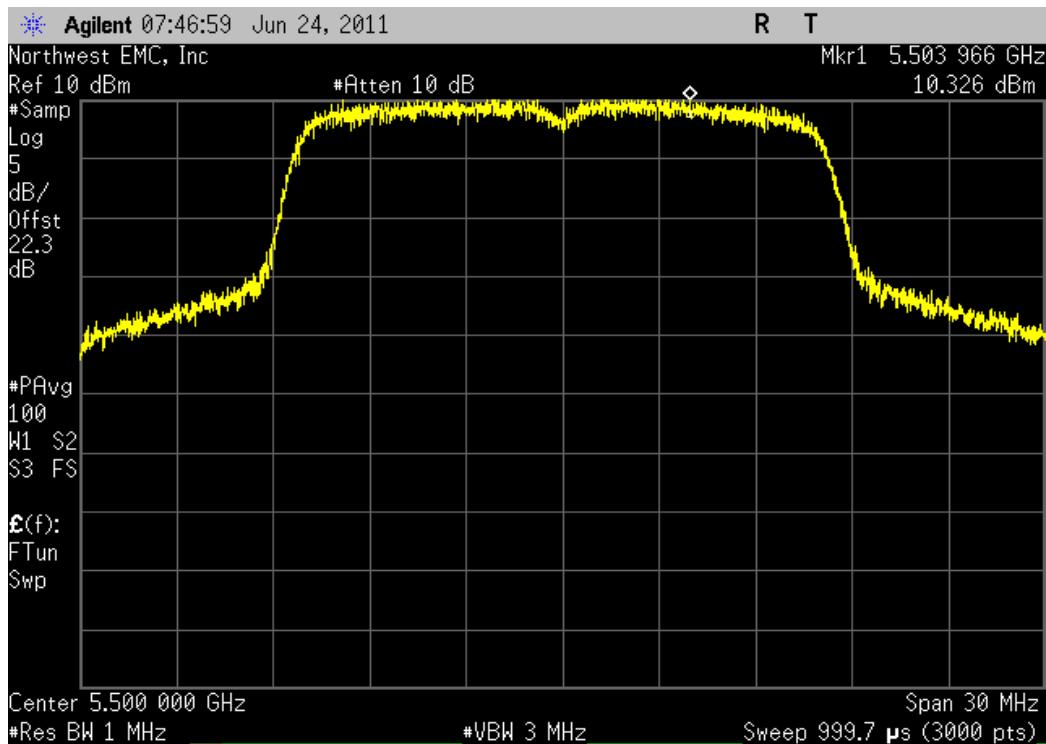
| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 6.69 | 11 | Fail |



| | | | | | |
|---------------------------------|--------------------------|-----------------------------|----------------------|-----------|------------------|
| NORTHWEST | | Peak Power Spectral Density | | | XMit 2011.04.20 |
| EMC | | | | | PsaTx 2011.06.20 |
| EUT: | WMIA-199NI | Work Order: | PROS0109 | | |
| Serial Number: | 09435H1000039 | Date: | 06/23/11 | | |
| Customer: | ProSoft Technology, Inc. | Temperature: | 22.06°C | | |
| Attendees: | None | Humidity: | 48% | | |
| Project: | None | Barometric Pres.: | 1011 | | |
| Tested by: | Jaemi Suh | Power: | 120V/60Hz | Job Site: | OC11 |
| TEST SPECIFICATIONS | | TEST METHOD | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | |
| COMMENTS | | | | | |
| Operating at 802.11a/n. Chain 2 | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| Configuration # | 1 | Signature | | | |
| | | | | | |
| | | Value (dBm / MHz) | Limit (dBm / MHz) | Result | |
| 802.11(a) 6 Mbps | | | | | |
| Low Channel 52 (5260 MHz) | | 7.602 | 11 | Pass | |
| High Channel 64 (5320 MHz) | | 8.845 | 11 | Pass | |
| Low Channel 100 (5500 MHz) | | 10.326 | 11 | Pass | |
| Mid Channel 116 (5580 MHz) | | 9.894 | 11 | Pass | |
| High Channel 140 (5700 MHz) | | 8.131 | 11 | Pass | |
| 802.11(a) 54 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | 2.03 | 4 | Pass | |
| High Channel 48 (5240 MHz) | | 3.713 | 4 | Pass | |
| 802.11(n) MCS7 | | | | | |
| Low Channel 52 (5260 MHz) | | 7.673 | 11 | Pass | |
| High Channel 64 (5320 MHz) | | 8.162 | 11 | Pass | |
| 802.11(n) MCS15 | | | | | |
| Low Channel 100 (5500 MHz) | | 2.017 | 4 | Pass | |
| Mid Channel 116 (5580 MHz) | | 3.103 | 4 | Pass | |
| High Channel 140 (5700 MHz) | | 10.055 | 11 | Pass | |
| Low Channel 36 (5180 MHz) | | 9.78 | 11 | Pass | |
| High Channel 48 (5240 MHz) | | 8.219 | 11 | Pass | |
| 802.11(n)(40MHz) MCS0 | | | | | |
| Low Channel 37 (5190 MHz) | | -0.66 | 4 | Pass | |
| High Channel 47 (5230 MHz) | | 0.238 | 4 | Pass | |
| 802.11(n)(40MHz) MCS7 | | | | | |
| Low Channel 101 (5510 MHz) | | 7.439 | 11 | Pass | |
| High Channel 130 (5670 MHz) | | 5.24 | 11 | Pass | |
| 802.11(n)(40MHz) MCS15 | | | | | |
| Low Channel 53 (5270 MHz) | | 3.924 | 11 | Pass | |
| High Channel 63 (5310 MHz) | | 3.581 | 11 | Pass | |

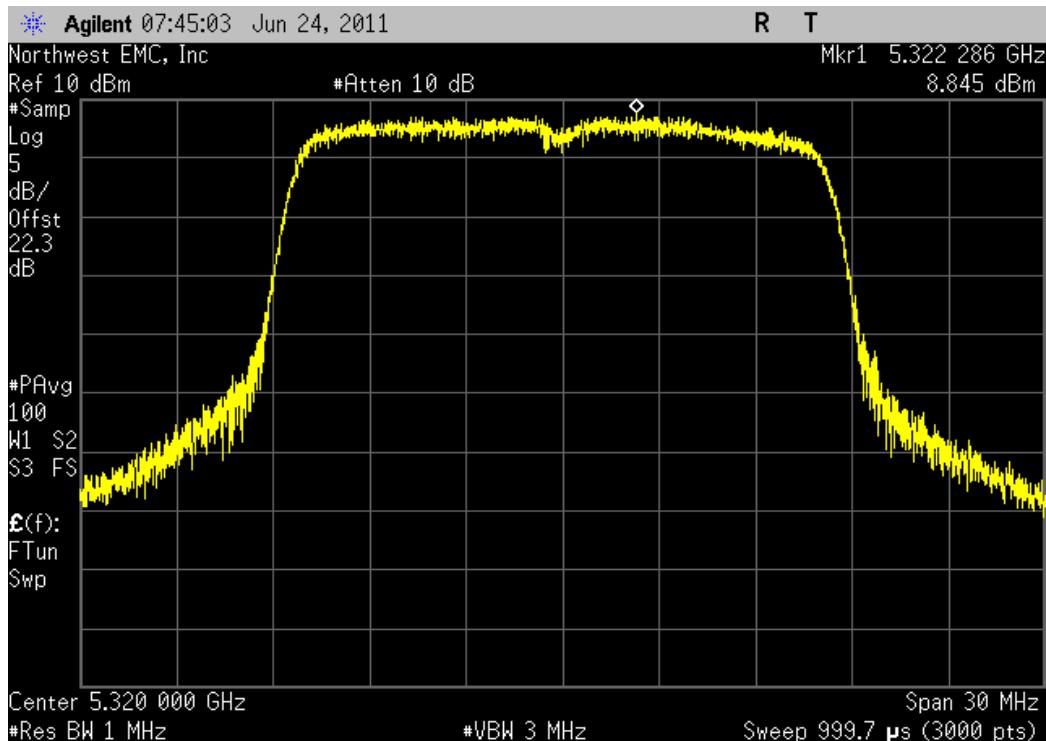
802.11(a) 6 Mbps, Low Channel 100 (5500 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 10.326 | 11 | Pass |



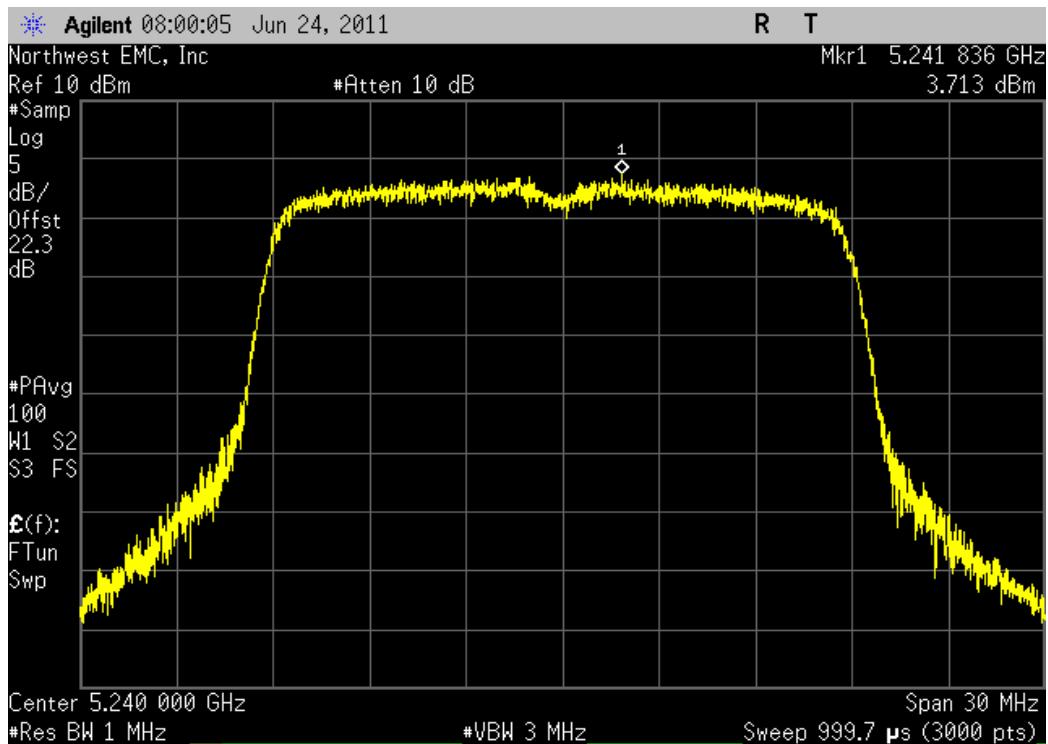
802.11(a) 6 Mbps, High Channel 64 (5320 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 8.845 | 11 | Pass |



802.11(a) 54 Mbps, High Channel 48 (5240 MHz)

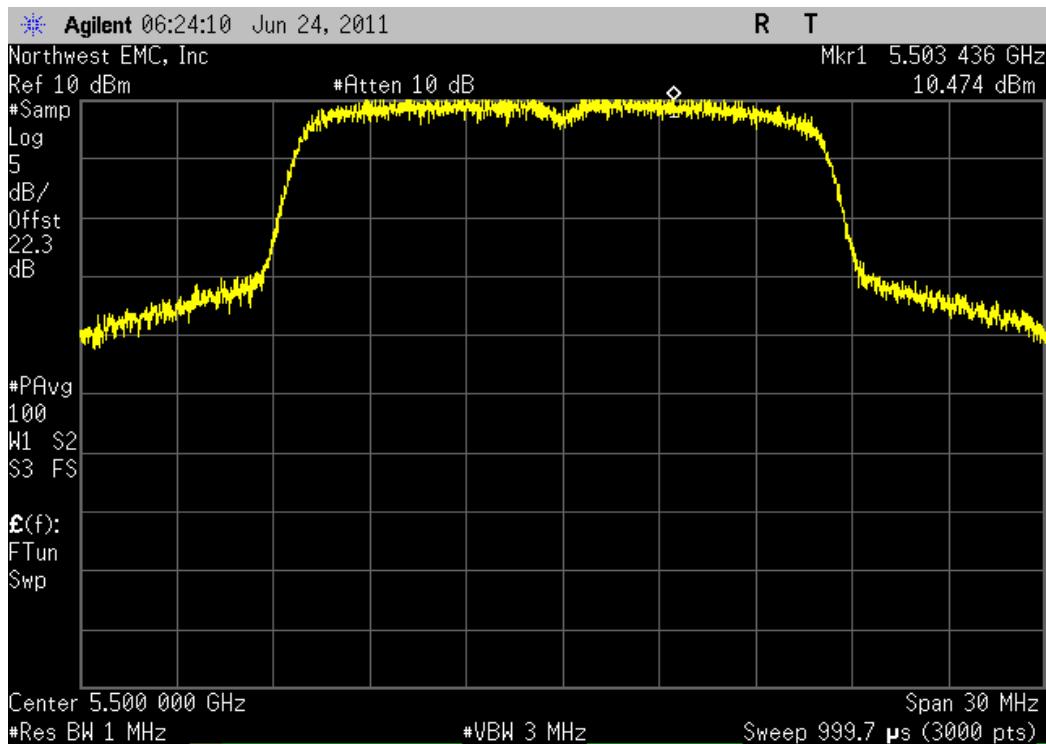
| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 3.713 | 4 | Pass |



| NORTHWEST EMC | | Peak Power Spectral Density | | | XMit 2011.04.20 PsaTx 2011.06.20 | |
|------------------------------------|---|-----------------------------|----------------------|----------------------|-------------------------------------|--|
| EUT: WMIA-199NI | | Work Order: PROS0109 | | Date: 06/23/11 | | |
| Serial Number: 09435H1000039 | | Temperature: 22.06°C | | Humidity: 48% | | |
| Customer: ProSoft Technology, Inc. | | Barometric Pres.: 1011 | | Job Site: OC11 | | |
| Attendees: None | | | | | | |
| Project: None | | | | | | |
| Tested by: Jaemi Suh | | Power: 120V/60Hz | | | | |
| TEST SPECIFICATIONS | | TEST METHOD | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | |
| COMMENTS | | | | | | |
| Operating at 802.11a/n. Chain 3 | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | |
| Configuration # | 1 | Signature | | | | |
| | | | Value (dBm / MHz) | Limit (dBm / MHz) | Result | |
| 802.11(a) 6 Mbps | | Low Channel 100 (5500 MHz) | 10.474 | 11 | Pass | |
| | | Mid Channel 116 (5580 MHz) | 9.643 | 11 | Pass | |
| | | High Channel 140 (5700 MHz) | 8.516 | 11 | Pass | |
| 802.11(a) 36 Mbps | | Low Channel 52 (5260 MHz) | 8.368 | 11 | Pass | |
| | | High Channel 64 (5320 MHz) | 8.435 | 11 | Pass | |
| 802.11(a) 54 Mbps | | Low Channel 36 (5180 MHz) | 2.991 | 4 | Pass | |
| | | High Channel 48 (5240 MHz) | 3.64 | 4 | Pass | |
| 802.11(n) MCS7 | | Low Channel 52 (5260 MHz) | 6.818 | 11 | Pass | |
| | | High Channel 64 (5320 MHz) | 7.709 | 11 | Pass | |
| 802.11(n) MCS8 | | Low Channel 100 (5500 MHz) | 10.049 | 11 | Pass | |
| | | Mid Channel 116 (5580 MHz) | 9.611 | 11 | Pass | |
| | | High Channel 140 (5700 MHz) | 8.05 | 11 | Pass | |
| 802.11(n) MCS15 | | Low Channel 36 (5180 MHz) | 1.803 | 4 | Pass | |
| | | High Channel 48 (5240 MHz) | 3.46 | 4 | Pass | |
| 802.11(n)(40MHz) MCS0 | | Low Channel 53 (5270 MHz) | 3.527 | 11 | Pass | |
| | | High Channel 63 (5310 MHz) | 3.496 | 11 | Pass | |
| 802.11(n)(40MHz) MCS7 | | Low Channel 37 (5190 MHz) | -1.547 | 4 | Pass | |
| | | High Channel 47 (5230 MHz) | -0.251 | 4 | Pass | |
| | | Low Channel 101 (5510 MHz) | 7.375 | 11 | Pass | |
| | | High Channel 130 (5670 MHz) | 5.485 | 11 | Pass | |

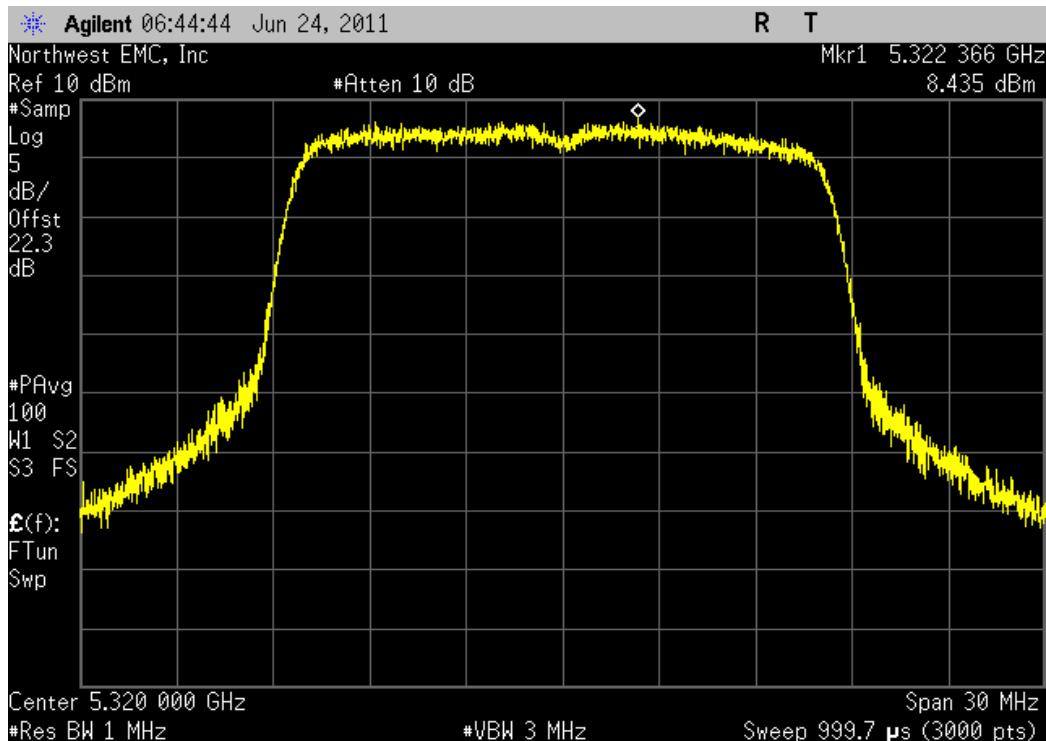
802.11(a) 6 Mbps, Low Channel 100 (5500 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 10.474 | 11 | Pass |



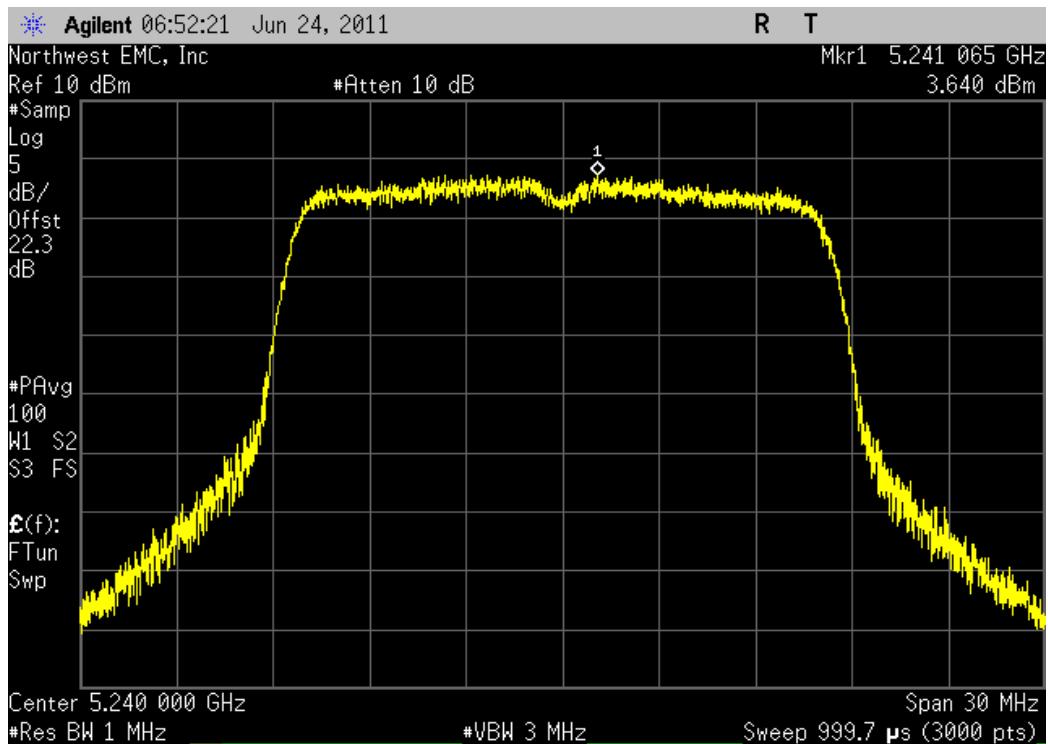
802.11(a) 36 Mbps, High Channel 64 (5320 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 8.435 | 11 | Pass |



802.11(a) 54 Mbps, High Channel 48 (5240 MHz)

| Value (dBm / MHz) | Limit (dBm / MHz) | Result |
|----------------------|----------------------|--------|
| 3.64 | 4 | Pass |



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

| TEST EQUIPMENT | | | | | | |
|-------------------|-----------------|--------|-----|-----------|----------|--|
| Description | Manufacturer | Model | ID | Last Cal. | Interval | |
| Power Sensor | Agilent | E4412A | SQE | 4/21/2010 | 24 | |
| Power Meter | Hewlett Packard | E4418A | SPA | 4/21/2010 | 24 | |
| Signal Generator | Agilent | E8257D | TGU | 1/26/2011 | 12 | |
| Spectrum Analyzer | Agilent | E4440A | AFG | 4/28/2011 | 12 | |

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

Prior to testing, Output power measurement was taken at all data rates in its appropriate band. This test represents the worst case data rate for each band which is the result of the highest measured output power.

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the lowest, a medium, and the highest channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured if available. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

Span = approximately 1.5 to 2 times the emission bandwidth, centered on the transmit channel.

RBW = Approx. 1% of the emission bandwidth (B). This was an iterative process where an exact match of 1% may not be achieved. The largest value of RBW that came close to 1% of the emission bandwidth was used.

A peak detector was used.

The marker-delta function was then used to measure 26 dB emission bandwidth

FCC Public Notice DA 02-2138 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. The lowest, a medium, and the highest data rates were measured. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input.

The spectrum analyzer settings were as follows:

→ Span set to encompass the entire emission bandwidth (B), centered on the transmit channel.

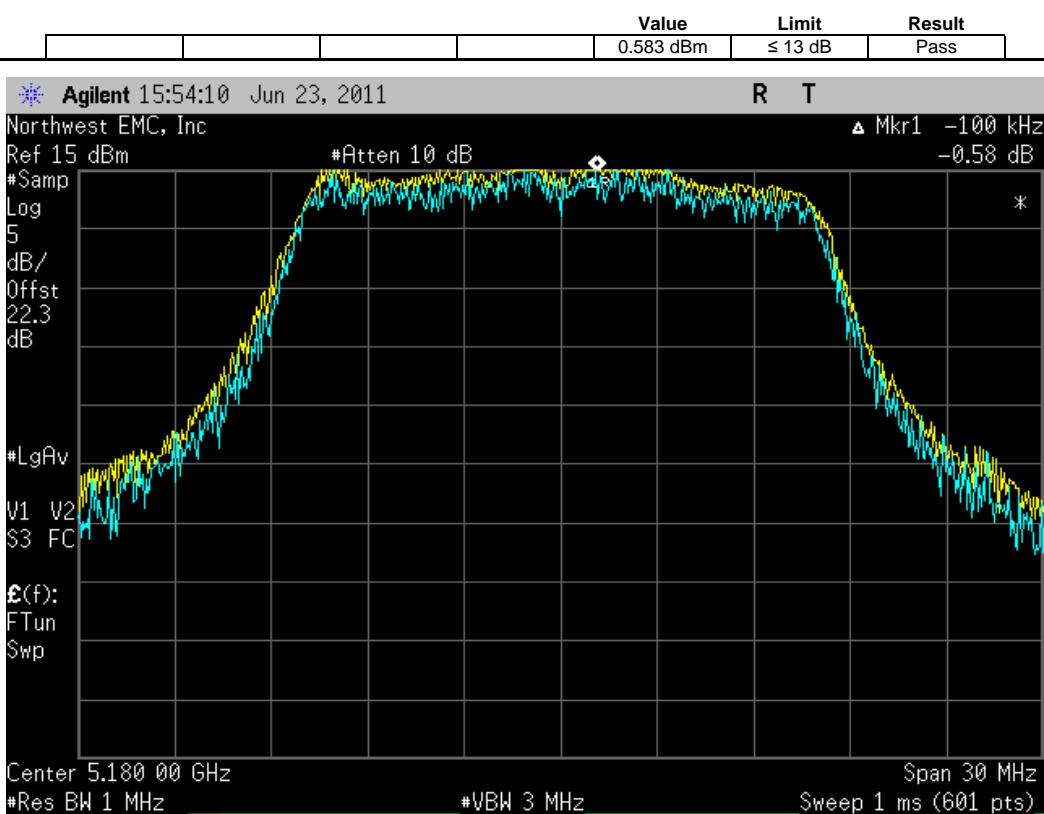
→ Using the marker delta function, the largest difference between the following two traces was measured:

o 1st Trace: RBW = 1 MHz, VBW >= 3 MHz with peak detector and max-hold settings.

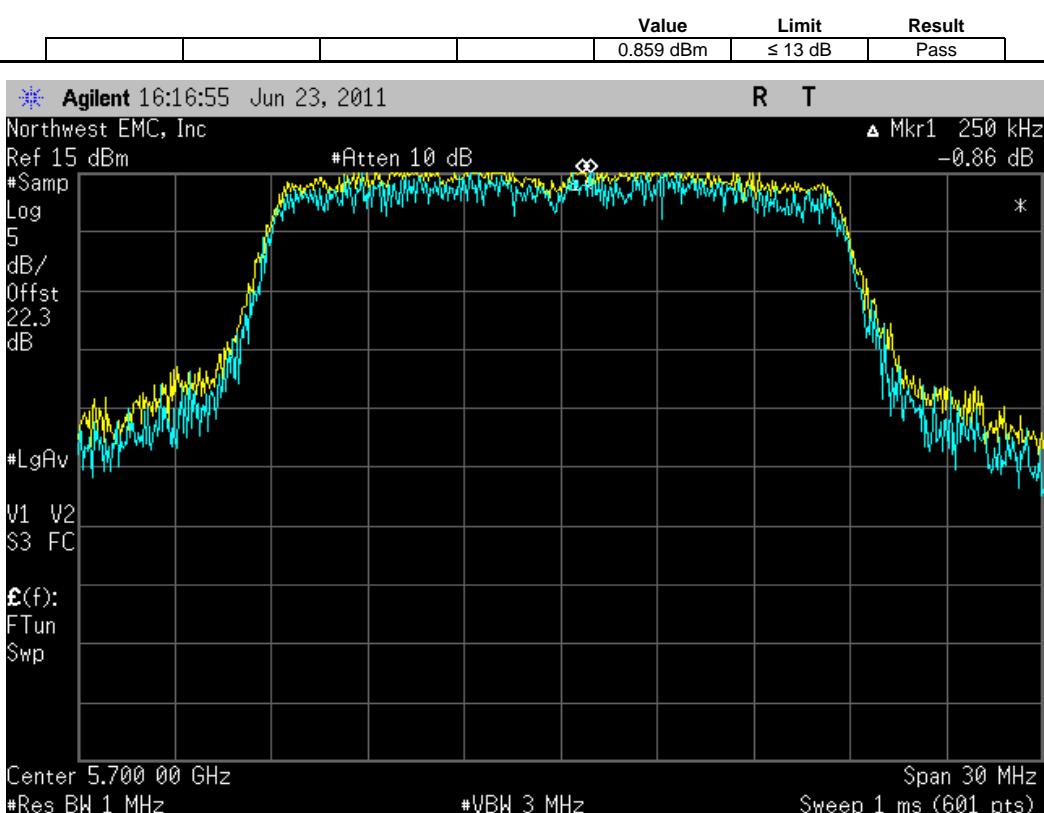
o 2nd Trace: Use same settings as were used for peak conducted transmit power. The sample detector was used as well as the VBW being matched to that used on the peak conducted transmit power.

| NORTHWEST EMC | | Peak Excursion of the Modulation Envelope | | | XMit 2011.04.20 PsaTx 2011.06.20 | |
|---|---|---|---------|--------|-------------------------------------|--|
| EUT: WMIA-199NI Serial Number: 09435H1000039 Customer: ProSoft Technology, Inc. Attendees: None Project: None Tested by: Jaemi Suh | | Work Order: PROS0109 Date: 06/23/11 Temperature: 22.06°C Humidity: 48% Barometric Pres.: 1011 Job Site: OC11 | | | | |
| TEST SPECIFICATIONS FCC 15.407:2011 | | TEST METHOD ANSI C63.10:2009 | | | | |
| COMMENTS Operating at 802.11a/n. Chain 1 | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | |
| Configuration # | 1 | Signature  | | | | |
| | | Value | Limit | Result | | |
| 802.11(a) 6 Mbps | | | | | | |
| Low Channel 36 (5180 MHz) | | 0.583 dBm | ≤ 13 dB | Pass | | |
| High Channel 48 (5240 MHz) | | 0.529 dBm | ≤ 13 dB | Pass | | |
| Low Channel 100 (5500 MHz) | | 0.45 dBm | ≤ 13 dB | Pass | | |
| Mid Channel 116 (5580 MHz) | | 0.464 dBm | ≤ 13 dB | Pass | | |
| High Channel 140 (5700 MHz) | | 0.397 dBm | ≤ 13 dB | Pass | | |
| 802.11(a) 54 Mbps | | | | | | |
| Low Channel 52 (5260 MHz) | | 0.008 dBm | ≤ 13 dB | Pass | | |
| High Channel 64 (5320 MHz) | | 0.398 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS0 | | | | | | |
| Low Channel 52 (5260 MHz) | | 0.2 dBm | ≤ 13 dB | Pass | | |
| High Channel 64 (5320 MHz) | | 0.048 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS8 | | | | | | |
| Low Channel 36 (5180 MHz) | | 0.331 dBm | ≤ 13 dB | Pass | | |
| High Channel 48 (5240 MHz) | | 0.579 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS15 | | | | | | |
| Low Channel 100 (5500 MHz) | | 0.148 dBm | ≤ 13 dB | Pass | | |
| Mid Channel 116 (5580 MHz) | | 0.252 dBm | ≤ 13 dB | Pass | | |
| High Channel 140 (5700 MHz) | | 0.859 dBm | ≤ 13 dB | Pass | | |
| 802.11(n)(40MHz) MCS0 | | | | | | |
| Low Channel 37 (5190 MHz) | | 0.316 dBm | ≤ 13 dB | Pass | | |
| High Channel 47 (5230 MHz) | | 0.375 dBm | ≤ 13 dB | Pass | | |
| 802.11(n)(40MHz) MCS7 | | | | | | |
| Low Channel 101 (5510 MHz) | | 0.647 dBm | ≤ 13 dB | Pass | | |
| High Channel 130 (5670 MHz) | | 0.578 dBm | ≤ 13 dB | Pass | | |
| 802.11(n)(40MHz) MCS15 | | | | | | |
| Low Channel 53 (5270 MHz) | | 0.915 dBm | ≤ 13 dB | Pass | | |
| High Channel 63 (5310 MHz) | | 0.667 dBm | ≤ 13 dB | Pass | | |

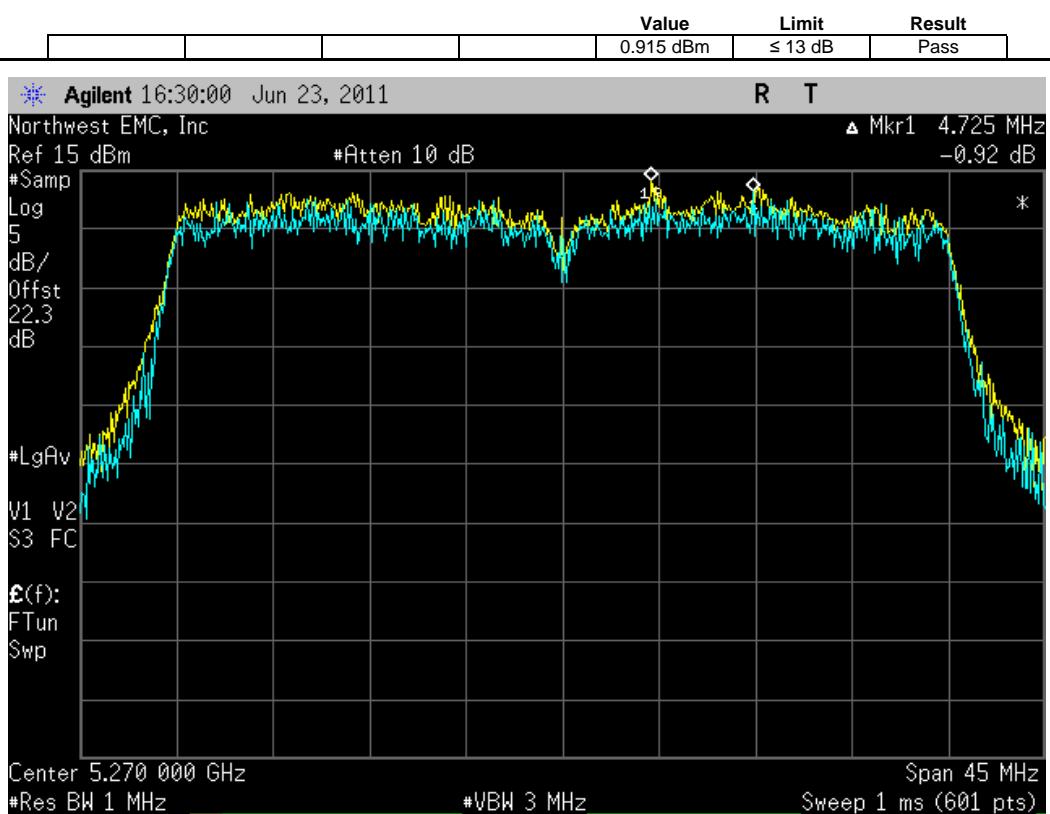
802.11(a) 6 Mbps, Low Channel 36 (5180 MHz)



802.11(n) MCS15, High Channel 140 (5700 MHz)

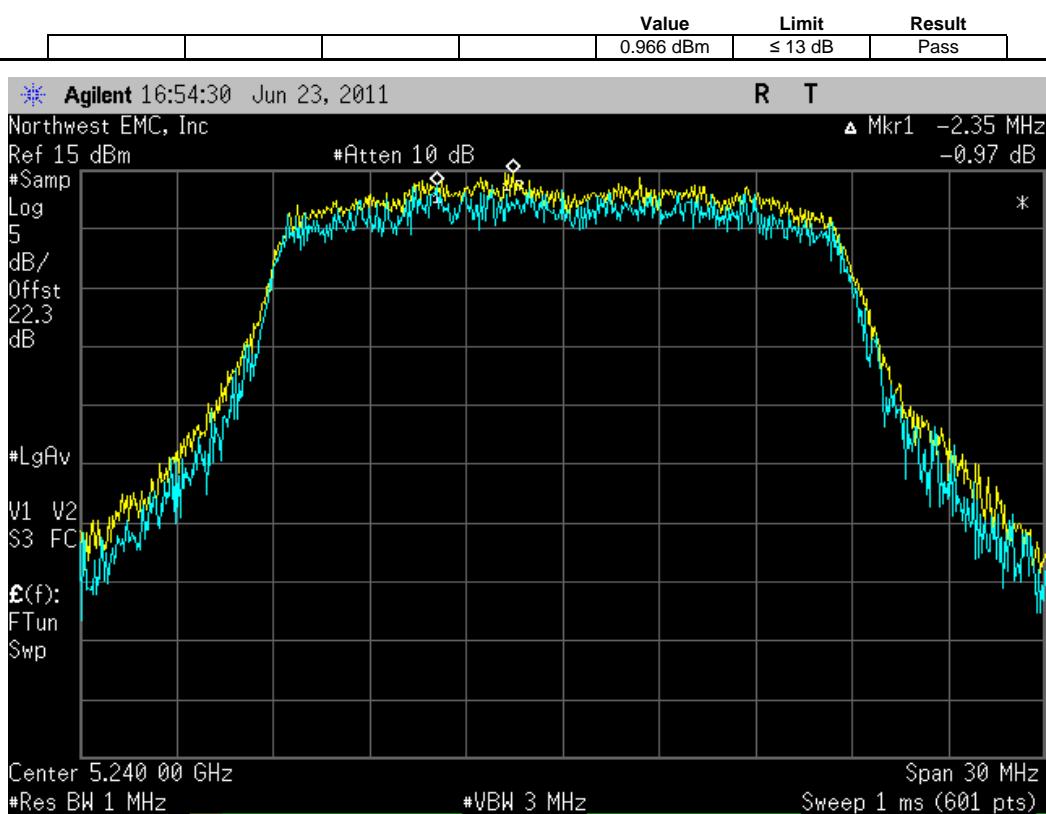


802.11(n)(40MHz) MCS15, Low Channel 53 (5270 MHz)

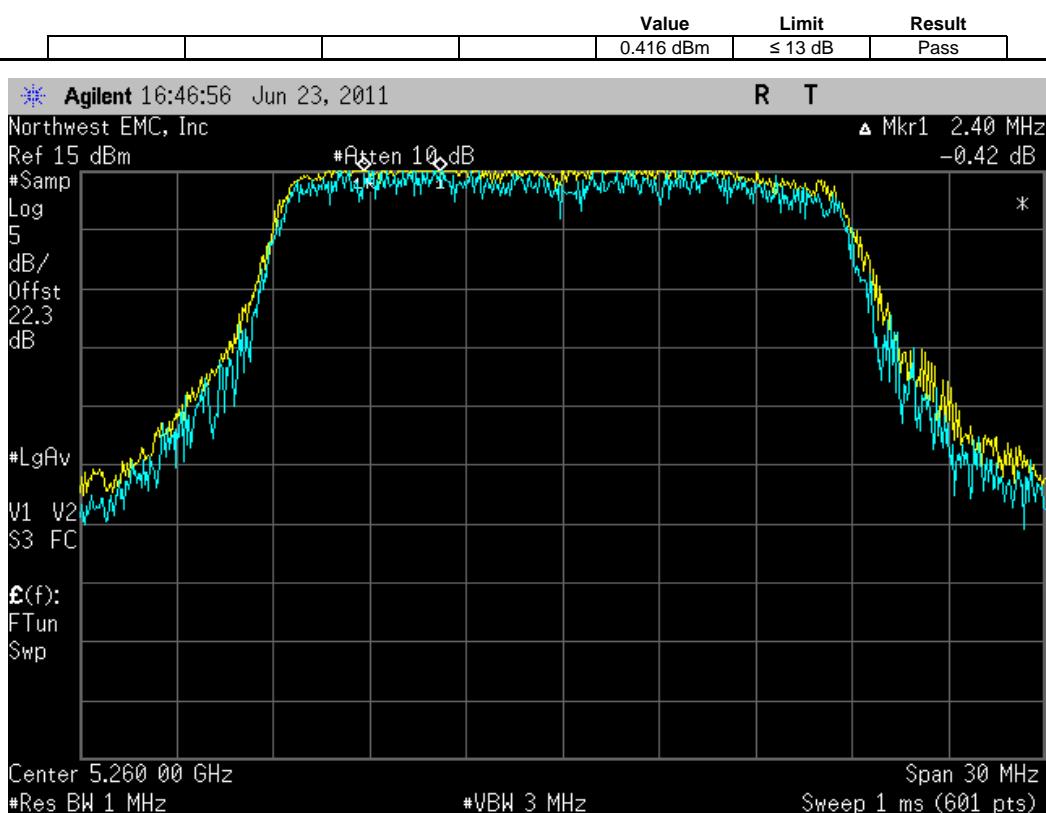


| Peak Excursion of the Modulation Envelope | | | XMit 2011.04.20 PsaTx 2011.06.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|-------------------------------------|------------------|--|--|--|---------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|-----------------------------|--|-----------|---------|------|-------------------|--|--|--|---------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|----------------|--|--|--|---------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|-----------------|--|--|--|----------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|-----------------------------|--|----------|---------|------|---------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|-----------------------|--|--|--|---------------------------|--|-----------|---------|------|----------------------------|--|----------|---------|------|-----------------------|--|--|--|----------------------------|--|-----------|---------|------|-----------------------------|--|-----------|---------|------|------------------------|--|--|--|---------------------------|--|-----------|---------|------|----------------------------|--|-----------|---------|------|
| NORTHWEST EMC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EUT: WMIA-199NI Serial Number: 09435H1000039 Customer: ProSoft Technology, Inc. Attendees: None Project: None Tested by: Jaemi Suh | | Work Order: PROS0109 Date: 06/23/11 Temperature: 22.06°C Humidity: 48% Barometric Pres.: 1011 Job Site: OC11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEST SPECIFICATIONS | | TEST METHOD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating at 802.11a/n. Chain 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Configuration # | 1 | <i>Jaemi Suh</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Value Limit Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: left;">802.11(a) 6 Mbps</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 52 (5260 MHz)</td> <td></td> <td>0.237 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 64 (5320 MHz)</td> <td></td> <td>0.006 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>Low Channel 100 (5500 MHz)</td> <td></td> <td>0.472 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>Mid Channel 116 (5580 MHz)</td> <td></td> <td>0.003 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 140 (5700 MHz)</td> <td></td> <td>0.247 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(a) 54 Mbps</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 36 (5180 MHz)</td> <td></td> <td>0.231 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 48 (5240 MHz)</td> <td></td> <td>0.329 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(n) MCS7</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 52 (5260 MHz)</td> <td></td> <td>0.416 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 64 (5320 MHz)</td> <td></td> <td>0.314 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(n) MCS15</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 100 (5500 MHz)</td> <td></td> <td>0.923 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>Mid Channel 116 (5580 MHz)</td> <td></td> <td>0.966 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 140 (5700 MHz)</td> <td></td> <td>0.17 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>Low Channel 36 (5180 MHz)</td> <td></td> <td>0.189 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 48 (5240 MHz)</td> <td></td> <td>0.121 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(n)(40MHz) MCS0</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 37 (5190 MHz)</td> <td></td> <td>0.178 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 47 (5230 MHz)</td> <td></td> <td>0.58 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(n)(40MHz) MCS7</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 101 (5510 MHz)</td> <td></td> <td>0.367 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 130 (5670 MHz)</td> <td></td> <td>0.649 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td colspan="2" style="text-align: left;">802.11(n)(40MHz) MCS15</td> <td></td> <td></td> </tr> <tr> <td>Low Channel 53 (5270 MHz)</td> <td></td> <td>0.521 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> <tr> <td>High Channel 63 (5310 MHz)</td> <td></td> <td>0.437 dBm</td> <td>≤ 13 dB</td> <td>Pass</td> </tr> </table> | | | | 802.11(a) 6 Mbps | | | | Low Channel 52 (5260 MHz) | | 0.237 dBm | ≤ 13 dB | Pass | High Channel 64 (5320 MHz) | | 0.006 dBm | ≤ 13 dB | Pass | Low Channel 100 (5500 MHz) | | 0.472 dBm | ≤ 13 dB | Pass | Mid Channel 116 (5580 MHz) | | 0.003 dBm | ≤ 13 dB | Pass | High Channel 140 (5700 MHz) | | 0.247 dBm | ≤ 13 dB | Pass | 802.11(a) 54 Mbps | | | | Low Channel 36 (5180 MHz) | | 0.231 dBm | ≤ 13 dB | Pass | High Channel 48 (5240 MHz) | | 0.329 dBm | ≤ 13 dB | Pass | 802.11(n) MCS7 | | | | Low Channel 52 (5260 MHz) | | 0.416 dBm | ≤ 13 dB | Pass | High Channel 64 (5320 MHz) | | 0.314 dBm | ≤ 13 dB | Pass | 802.11(n) MCS15 | | | | Low Channel 100 (5500 MHz) | | 0.923 dBm | ≤ 13 dB | Pass | Mid Channel 116 (5580 MHz) | | 0.966 dBm | ≤ 13 dB | Pass | High Channel 140 (5700 MHz) | | 0.17 dBm | ≤ 13 dB | Pass | Low Channel 36 (5180 MHz) | | 0.189 dBm | ≤ 13 dB | Pass | High Channel 48 (5240 MHz) | | 0.121 dBm | ≤ 13 dB | Pass | 802.11(n)(40MHz) MCS0 | | | | Low Channel 37 (5190 MHz) | | 0.178 dBm | ≤ 13 dB | Pass | High Channel 47 (5230 MHz) | | 0.58 dBm | ≤ 13 dB | Pass | 802.11(n)(40MHz) MCS7 | | | | Low Channel 101 (5510 MHz) | | 0.367 dBm | ≤ 13 dB | Pass | High Channel 130 (5670 MHz) | | 0.649 dBm | ≤ 13 dB | Pass | 802.11(n)(40MHz) MCS15 | | | | Low Channel 53 (5270 MHz) | | 0.521 dBm | ≤ 13 dB | Pass | High Channel 63 (5310 MHz) | | 0.437 dBm | ≤ 13 dB | Pass |
| 802.11(a) 6 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 52 (5260 MHz) | | 0.237 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 64 (5320 MHz) | | 0.006 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 100 (5500 MHz) | | 0.472 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel 116 (5580 MHz) | | 0.003 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 140 (5700 MHz) | | 0.247 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(a) 54 Mbps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 36 (5180 MHz) | | 0.231 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 48 (5240 MHz) | | 0.329 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(n) MCS7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 52 (5260 MHz) | | 0.416 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 64 (5320 MHz) | | 0.314 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(n) MCS15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 100 (5500 MHz) | | 0.923 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel 116 (5580 MHz) | | 0.966 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 140 (5700 MHz) | | 0.17 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 36 (5180 MHz) | | 0.189 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 48 (5240 MHz) | | 0.121 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(n)(40MHz) MCS0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 37 (5190 MHz) | | 0.178 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 47 (5230 MHz) | | 0.58 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(n)(40MHz) MCS7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 101 (5510 MHz) | | 0.367 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 130 (5670 MHz) | | 0.649 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11(n)(40MHz) MCS15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel 53 (5270 MHz) | | 0.521 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel 63 (5310 MHz) | | 0.437 dBm | ≤ 13 dB | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

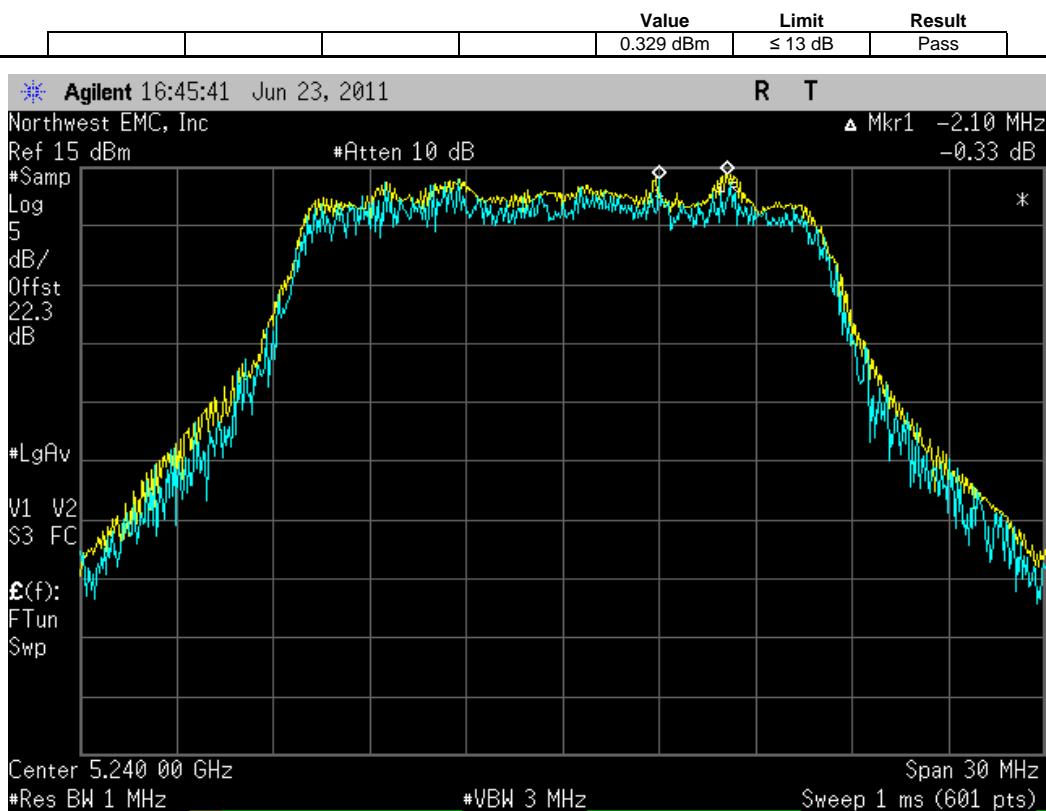
802.11(n) MCS15, Mid Channel 110 (5580 MHz)



802.11(n) MCS7, Low Channel 52 (5260 MHz)



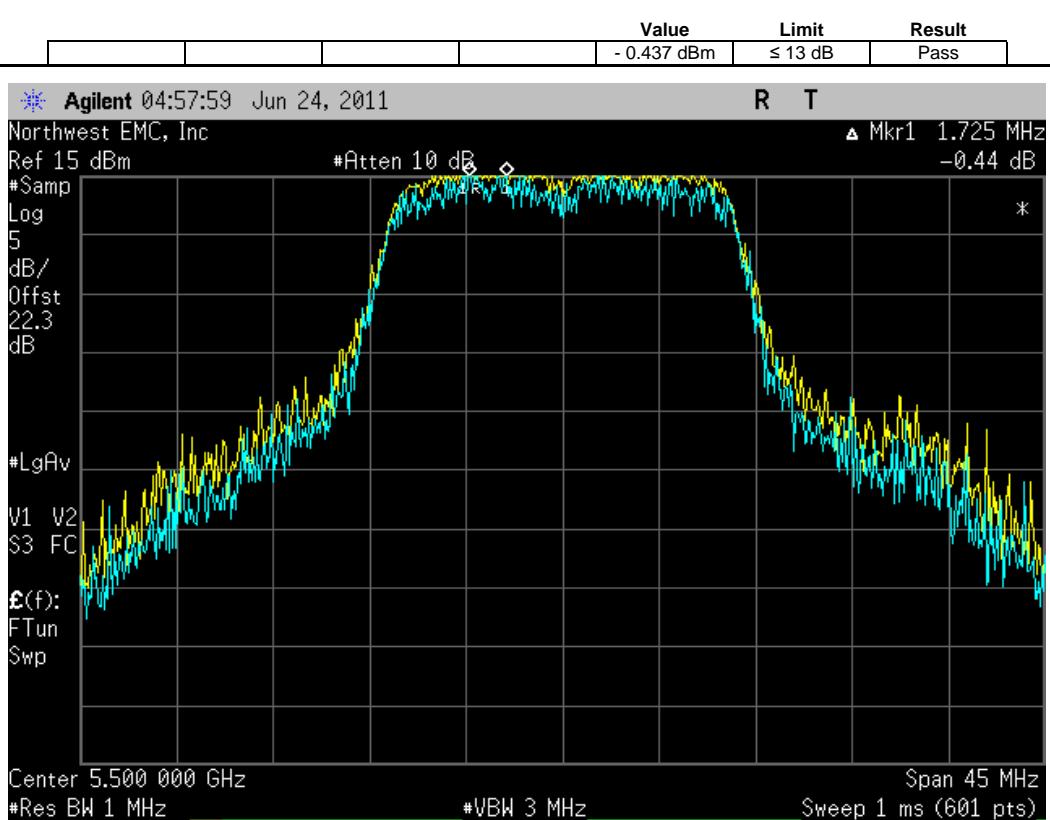
802.11(a) 54 Mbps, High Channel 48 (5240 MHz)



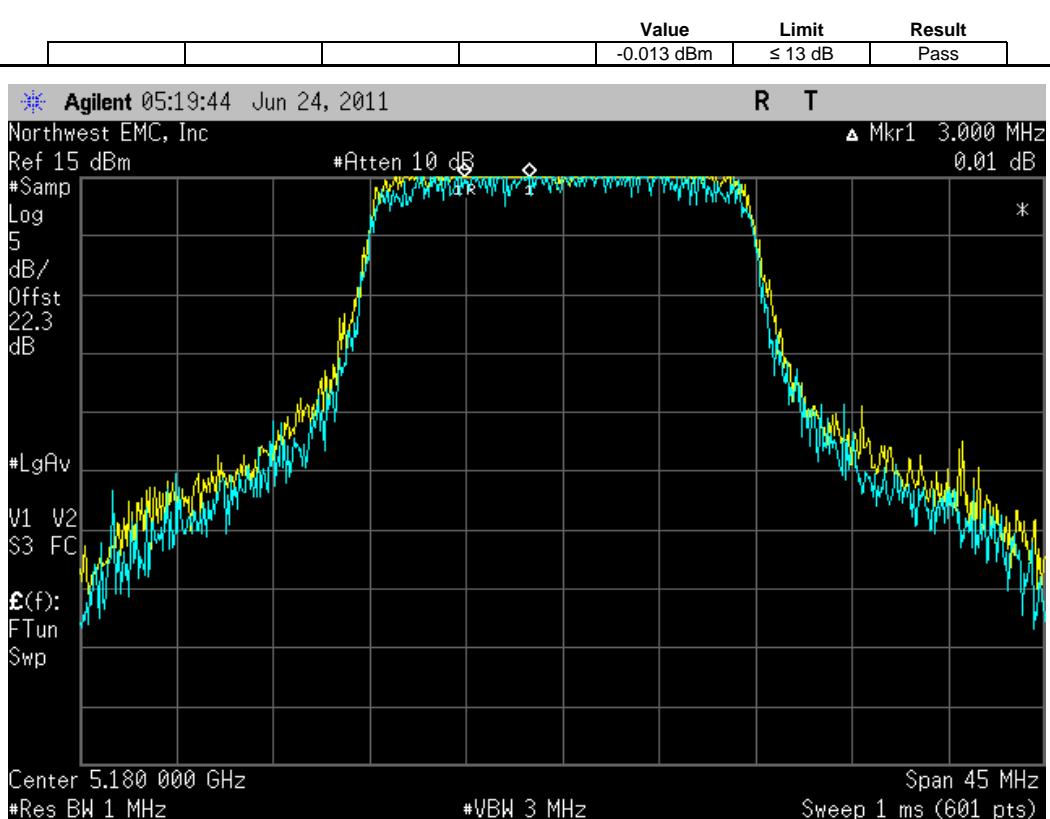
| NORTHWEST EMC | | Peak Excursion of the Modulation Envelope | | | XMit 2011.04.20 PsaTx 2011.06.20 | |
|------------------------------------|---|--|---------|----------------|-------------------------------------|--|
| EUT: WMIA-199NI | | Work Order: PROS0109 | | Date: 06/23/11 | | |
| Serial Number: 09435H1000039 | | Temperature: 22.06°C | | Humidity: 48% | | |
| Customer: ProSoft Technology, Inc. | | Barometric Pres.: 1011 | | Job Site: OC11 | | |
| Attendees: None | | | | | | |
| Project: None | | | | | | |
| Tested by: Jaemi Suh | | Power: 120V/60Hz | | | | |
| TEST SPECIFICATIONS | | TEST METHOD | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | |
| COMMENTS | | | | | | |
| Operating at 802.11a/n. Chain 3 | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | |
| Configuration # | 1 | Signature:  | | | | |
| | | Value | Limit | Result | | |
| 802.11(a) 6 Mbps | | | | | | |
| Low Channel 100 (5500 MHz) | | -0.437 dBm | ≤ 13 dB | Pass | | |
| Mid Channel 116 (5580 MHz) | | -1.03 dBm | ≤ 13 dB | Pass | | |
| High Channel 140 (5700 MHz) | | -0.804 dBm | ≤ 13 dB | Pass | | |
| 802.11(a) 36 Mbps | | | | | | |
| Low Channel 52 (5260 MHz) | | -2.033 dBm | ≤ 13 dB | Pass | | |
| High Channel 64 (5320 MHz) | | -0.441 dBm | ≤ 13 dB | Pass | | |
| 802.11(a) 54 Mbps | | | | | | |
| Low Channel 36 (5180 MHz) | | -0.188 dBm | ≤ 13 dB | Pass | | |
| High Channel 48 (5240 MHz) | | -0.645 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS7 | | | | | | |
| Low Channel 52 (5260 MHz) | | -0.797 dBm | ≤ 13 dB | Pass | | |
| High Channel 64 (5320 MHz) | | -1.251 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS8 | | | | | | |
| Low Channel 100 (5500 MHz) | | -0.789 dBm | ≤ 13 dB | Pass | | |
| Mid Channel 116 (5580 MHz) | | -0.854 dBm | ≤ 13 dB | Pass | | |
| High Channel 140 (5700 MHz) | | -0.993 dBm | ≤ 13 dB | Pass | | |
| 802.11(n) MCS15 | | | | | | |
| Low Channel 36 (5180 MHz) | | -0.013 dBm | ≤ 13 dB | Pass | | |
| High Channel 48 (5240 MHz) | | -0.119 dBm | ≤ 13 dB | Pass | | |
| 802.11(n)(40MHz) MCS0 | | | | | | |
| Low Channel 53 (5270 MHz) | | -0.97 dBm | ≤ 13 dB | Pass | | |
| High Channel 63 (5310 MHz) | | -0.636 dBm | ≤ 13 dB | Pass | | |
| 802.11(n)(40MHz) MCS7 | | | | | | |
| Low Channel 37 (5190 MHz) | | -1.898 dBm | ≤ 13 dB | Pass | | |
| High Channel 47 (5230 MHz) | | -0.649 dBm | ≤ 13 dB | Pass | | |
| Low Channel 101 (5510 MHz) | | -1.091 dBm | ≤ 13 dB | Pass | | |
| High Channel 130 (5670 MHz) | | -0.561 dBm | ≤ 13 dB | Pass | | |

Peak Excursion of the Modulation Envelope

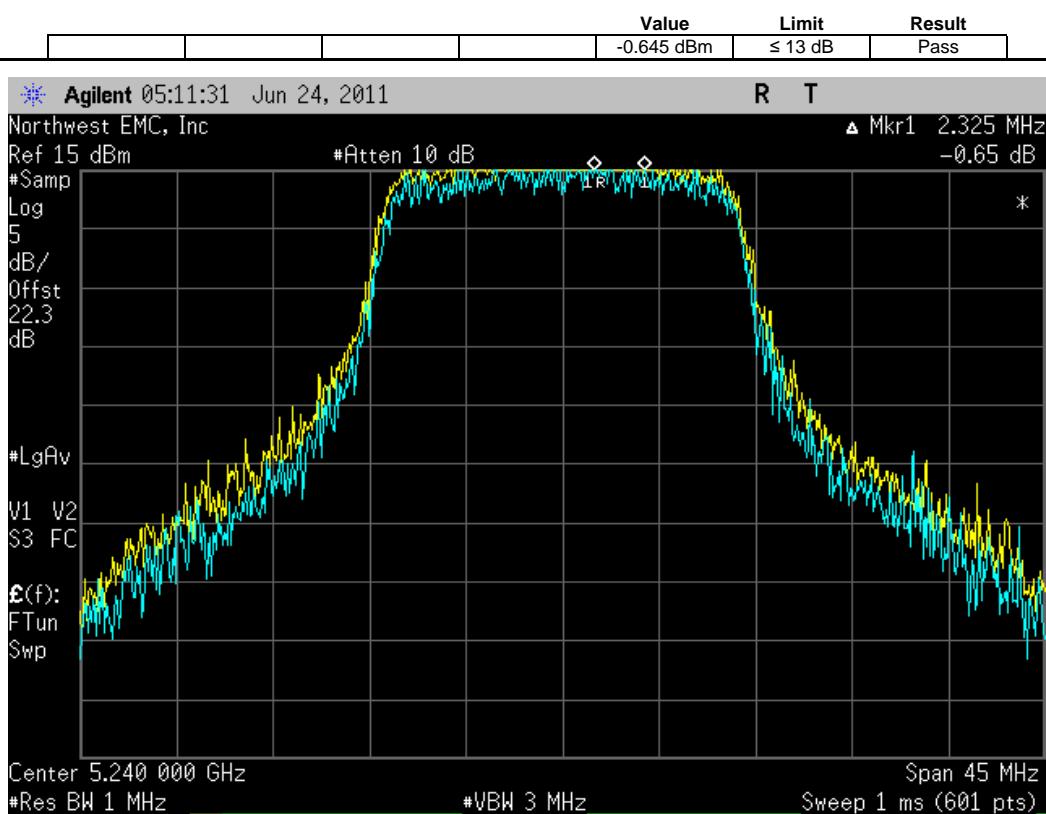
802.11(a) 6 Mbps, Low Channel 100 (5500 MHz)



802.11(n) MCS15, Low Channel 36 (5180 MHz)



802.11(a) 54 Mbps, High Channel 48 (5240 MHz)



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Transmitting at 802.11a/n Channels 52, 64
Transmitting at 802.11a/n Channels 36, 48
Transmitting at 802.11a/n Channels 64, 116, 140, 100

MODES INVESTIGATED

36Mbps, MCS0, MCS8, MCS15, MCS7(HT40), MCS8(HT40)

POWER SETTINGS INVESTIGATED

120VAC/60Hz

AXIS INVESTIGATED

X-Axis
Y-Axis
Z-Axis

FREQUENCY RANGE INVESTIGATED

| | | | |
|-----------------|--------|----------------|-----------|
| Start Frequency | 30 MHz | Stop Frequency | 18000 MHz |
|-----------------|--------|----------------|-----------|

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|-------------------|--------------|------------------------|-----|------------|----------|
| Pre-Amplifier | Miteq | AMF-6F-12001800-30-10P | AVP | 2/13/2011 | 12 |
| Antenna, Horn | EMCO | 3160-08 | AHK | NCR | 0 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVL | 4/8/2011 | 12 |
| Antenna, Horn | ETS | 3160-07 | AHX | NCR | 0 |
| OC11 Cables | N/A | 12-18GHz RE Cables | OCS | 4/8/2011 | 12 |
| Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | AVJ | 10/28/2010 | 12 |
| Antenna, Horn | EMCO | 3115 | AHB | 3/8/2011 | 24 |
| OC11 Cables | N/A | 1-8GHz RE Cables | OCR | 4/8/2011 | 12 |
| Spectrum Analyzer | Agilent | E4440A | AFG | 4/28/2011 | 12 |

MEASUREMENT BANDWIDTHS

| | Frequency Range | Peak Data | Quasi-Peak Data | Average Data |
|-------------|-----------------|-----------|-----------------|--------------|
| | (MHz) | (kHz) | (kHz) | (kHz) |
| 0.01 - 0.15 | 1.0 | 0.2 | 0.2 | 0.2 |
| 0.15 - 30.0 | 10.0 | 9.0 | 9.0 | 9.0 |
| 30.0 - 1000 | 100.0 | 120.0 | 120.0 | 120.0 |
| Above 1000 | 1000.0 | N/A | N/A | 1000.0 |

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a 1/2 wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dBi); the effective radiated power for each radiated spurious emission was determined.

Spurious Radiated Emissions

| | |
|------------------------------------|--------------------------|
| EUT: WMIA-199NI | Work Order: PROS0109 |
| Serial Number: 09435H1000039 | Date: 06/30/11 |
| Customer: ProSoft Technology, Inc. | Temperature: 22.41 |
| Attendees: None | Humidity: 41% |
| Project: None | Barometric Pres.: 1019.2 |
| Tested by: Jaemi Suh | Job Site: OC11 |

TEST SPECIFICATIONS

TEST METHOD

FCC 15.407:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m) 1 - 4

Test Distance (m)

0

COMMENTS

Power Level set to 14. Z-Axis

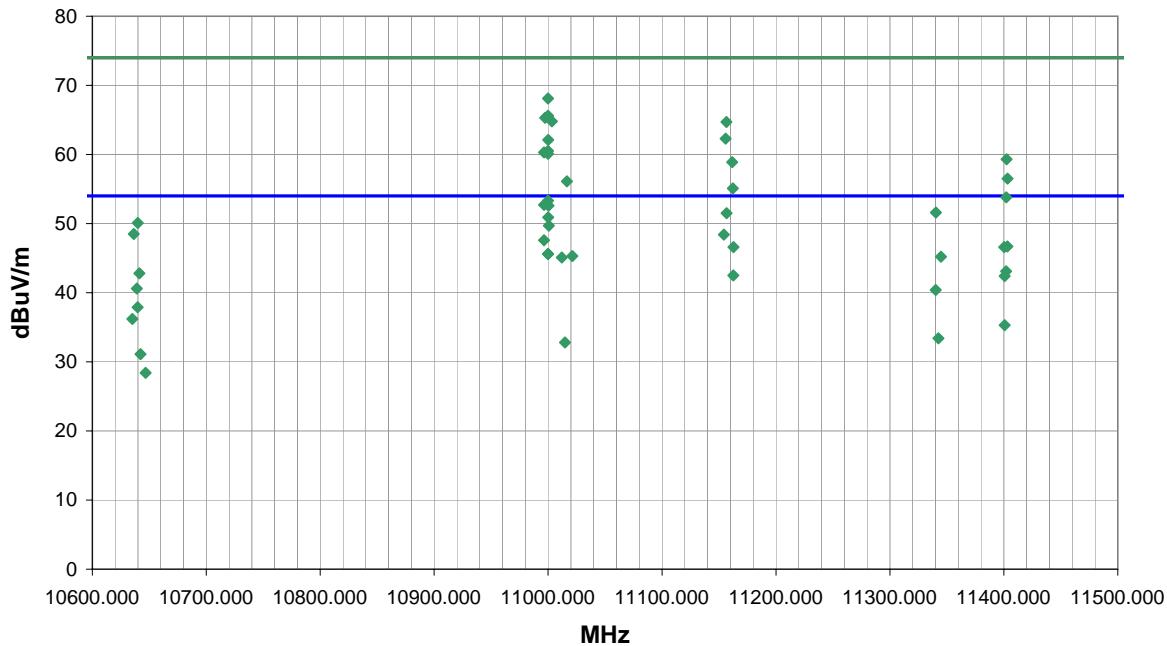
EUT OPERATING MODES

Transmitting at 802.11a/n Channels 64, 100, 116, 140

DEVIATIONS FROM TEST STANDARD

No deviations.

| | |
|-----------------|------|
| Run # | 29 |
| Configuration # | 2 |
| Results | Pass |

[Signature]

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------|-----------------|-------------------|---------------------------|----------|----------|--------------------------|-----------------|--------------------|------------------------|-------------|
| 10999.910 | 62.7 | -9.4 | 360.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 53.3 | 54.0 | -0.7 | 36 Mbps Z |
| 10996.470 | 62.1 | -9.4 | 230.0 | 1.1 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 52.7 | 54.0 | -1.3 | 36 Mbps X |
| 11000.320 | 62.0 | -9.4 | 233.0 | 1.1 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 52.6 | 54.0 | -1.4 | MCS0 |
| 11156.680 | 60.4 | -8.9 | 229.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 51.5 | 54.0 | -2.5 | 36 Mbps |
| 11000.070 | 60.3 | -9.4 | 1.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 50.9 | 54.0 | -3.1 | 36 Mbps Z |
| 11000.700 | 59.1 | -9.4 | 321.0 | 1.2 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 49.7 | 54.0 | -4.3 | MCS0 |
| 11154.320 | 57.4 | -9.0 | 237.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 48.4 | 54.0 | -5.6 | MCS0 |
| 11000.000 | 77.5 | -9.4 | 360.0 | 1.0 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 68.1 | 74.0 | -5.9 | 36 Mbps Z |
| 10996.370 | 57.0 | -9.4 | 328.0 | 1.2 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 47.6 | 54.0 | -6.4 | 36 Mbps X |
| 11400.320 | 55.0 | -8.4 | 167.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 46.6 | 54.0 | -7.4 | MCS0 |
| 11162.700 | 55.5 | -8.9 | 322.0 | 1.3 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 46.6 | 54.0 | -7.4 | MCS0 |
| 10999.950 | 55.0 | -9.4 | 66.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 45.6 | 54.0 | -8.4 | 36 Mbps Y |
| 10999.990 | 55.0 | -9.4 | 0.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 45.6 | 54.0 | -8.4 | 36 Mbps Y |
| 11000.000 | 75.0 | -9.4 | 1.0 | 1.0 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 65.6 | 74.0 | -8.4 | 36 Mbps Z |
| 10997.370 | 74.7 | -9.4 | 230.0 | 1.1 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 65.3 | 74.0 | -8.7 | 36 Mbps X |
| 11011.970 | 54.5 | -9.4 | 226.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 45.1 | 54.0 | -8.9 | MCS7 (HT40) |
| 11003.280 | 74.2 | -9.4 | 233.0 | 1.1 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 64.8 | 74.0 | -9.2 | MCS0 |
| 11156.480 | 73.6 | -8.9 | 229.0 | 1.0 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 64.7 | 74.0 | -9.3 | 36 Mbps |
| 11401.950 | 51.5 | -8.4 | 100.0 | 1.5 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 43.1 | 54.0 | -10.9 | MCS0 |
| 11162.550 | 51.4 | -8.9 | 0.0 | 1.4 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 42.5 | 54.0 | -11.5 | 36 Mbps |

| | |
|------------------------------------|--------------------------|
| EUT: WMIA-199NI | Work Order: PROS0109 |
| Serial Number: 09435H1000039 | Date: 06/30/11 |
| Customer: ProSoft Technology, Inc. | Temperature: 22.41 |
| Attendees: None | Humidity: 41% |
| Project: None | Barometric Pres.: 1019.2 |
| Tested by: Jaemi Suh | Job Site: OC11 |

TEST SPECIFICATIONS

TEST METHOD

FCC 15.407:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m)

1 - 4

Test Distance (m)

3

COMMENTS

Power Level set to 14. Z-Axis

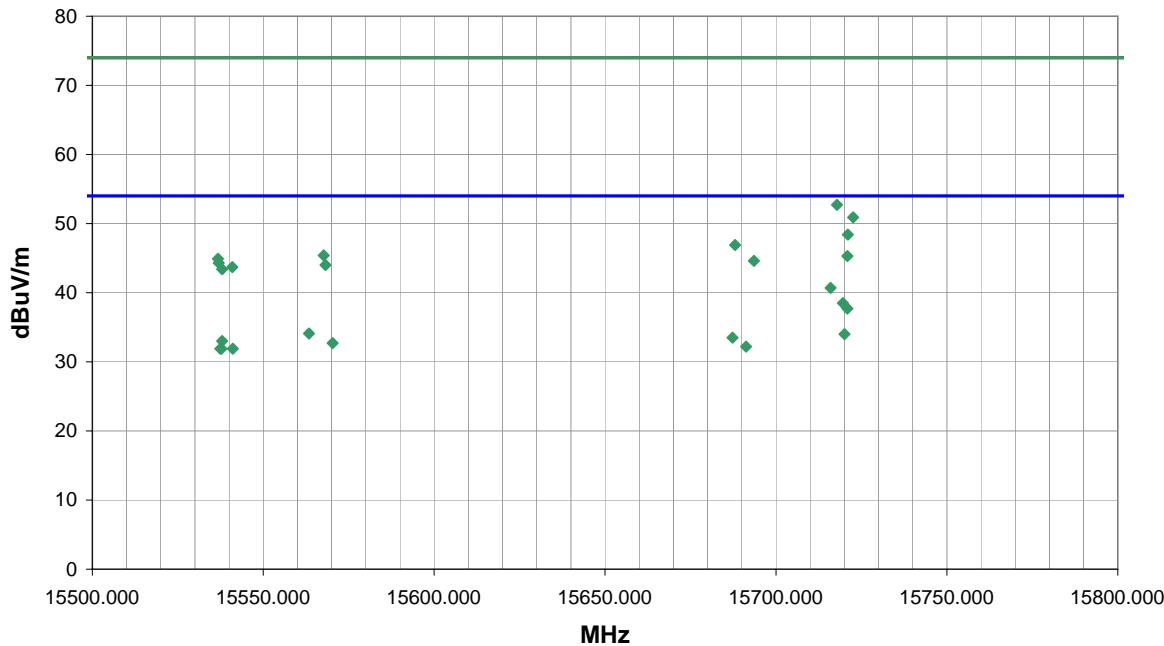
EUT OPERATING MODES

Transmitting at 802.11a/n Channels 36, 48

DEVIATIONS FROM TEST STANDARD

No deviations.

| | |
|-----------------|------|
| Run # | 21 |
| Configuration # | 2 |
| Results | Pass |

[Signature]

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------|-----------------|-------------------|---------------------------|----------|----------|--------------------------|-----------------|--------------------|------------------------|----------|
| 15715.960 | 37.3 | 3.4 | 330.0 | 1.6 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 40.7 | 54.0 | -13.3 | MCS15 |
| 15719.570 | 35.1 | 3.4 | 336.0 | 1.5 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 38.5 | 54.0 | -15.5 | MCS15 |
| 15720.880 | 34.3 | 3.4 | 0.0 | 1.6 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 37.7 | 54.0 | -16.3 | 36 Mbps |
| 15563.360 | 31.1 | 3.0 | 257.0 | 1.9 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 34.1 | 54.0 | -19.9 | |
| 15720.070 | 30.6 | 3.4 | 212.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 34.0 | 54.0 | -20.0 | 36 Mbps |
| 15687.280 | 30.2 | 3.3 | 359.0 | 1.7 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 33.5 | 54.0 | -20.5 | MCS8 |
| 15537.960 | 30.2 | 2.8 | 96.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 33.0 | 54.0 | -21.0 | 36 Mbps |
| 15570.320 | 29.7 | 3.0 | 340.0 | 1.4 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 32.7 | 54.0 | -21.3 | MCS8 |
| 15717.830 | 49.3 | 3.4 | 330.0 | 1.6 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 52.7 | 74.0 | -21.3 | MCS15 |
| 15691.280 | 28.9 | 3.3 | 172.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 32.2 | 54.0 | -21.8 | MCS8 |
| 15537.430 | 29.0 | 2.9 | 147.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 31.9 | 54.0 | -22.1 | 36 Mbps |
| 15537.760 | 29.0 | 2.9 | 256.0 | 1.0 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 31.9 | 54.0 | -22.1 | MCS15 |
| 15541.080 | 29.1 | 2.8 | 80.0 | 1.4 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 31.9 | 54.0 | -22.1 | MCS15 |
| 15722.570 | 47.5 | 3.4 | 336.0 | 1.5 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 50.9 | 74.0 | -23.1 | MCS15 |
| 15721.040 | 45.0 | 3.4 | 0.0 | 1.6 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 48.4 | 74.0 | -25.6 | 36 Mbps |
| 15688.010 | 43.6 | 3.3 | 359.0 | 1.7 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 46.9 | 74.0 | -27.1 | MCS8 |
| 15567.680 | 42.4 | 3.0 | 257.0 | 1.9 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 45.4 | 74.0 | -28.6 | MCS8 |
| 15720.890 | 41.9 | 3.4 | 212.0 | 1.0 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 45.3 | 74.0 | -28.7 | 36 Mbps |
| 15536.730 | 42.0 | 2.9 | 96.0 | 1.0 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 44.9 | 74.0 | -29.1 | 36 Mbps |
| 15693.570 | 41.3 | 3.3 | 172.0 | 1.0 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 44.6 | 74.0 | -29.4 | MCS8 |

| | |
|------------------------------------|--------------------------|
| EUT: WMIA-199NI | Work Order: PROS0109 |
| Serial Number: 09435H1000039 | Date: 06/30/11 |
| Customer: ProSoft Technology, Inc. | Temperature: 22.41 |
| Attendees: None | Humidity: 41% |
| Project: None | Barometric Pres.: 1019.2 |
| Tested by: Jaemi Suh | Job Site: OC11 |

TEST SPECIFICATIONS

TEST METHOD

| | |
|-----------------|------------------|
| FCC 15.407:2011 | ANSI C63.10:2009 |
|-----------------|------------------|

TEST PARAMETERS

Antenna Height(s) (m)

1 - 4

Test Distance (m)

3

COMMENTS

Power Level set to 14. Z-Axis

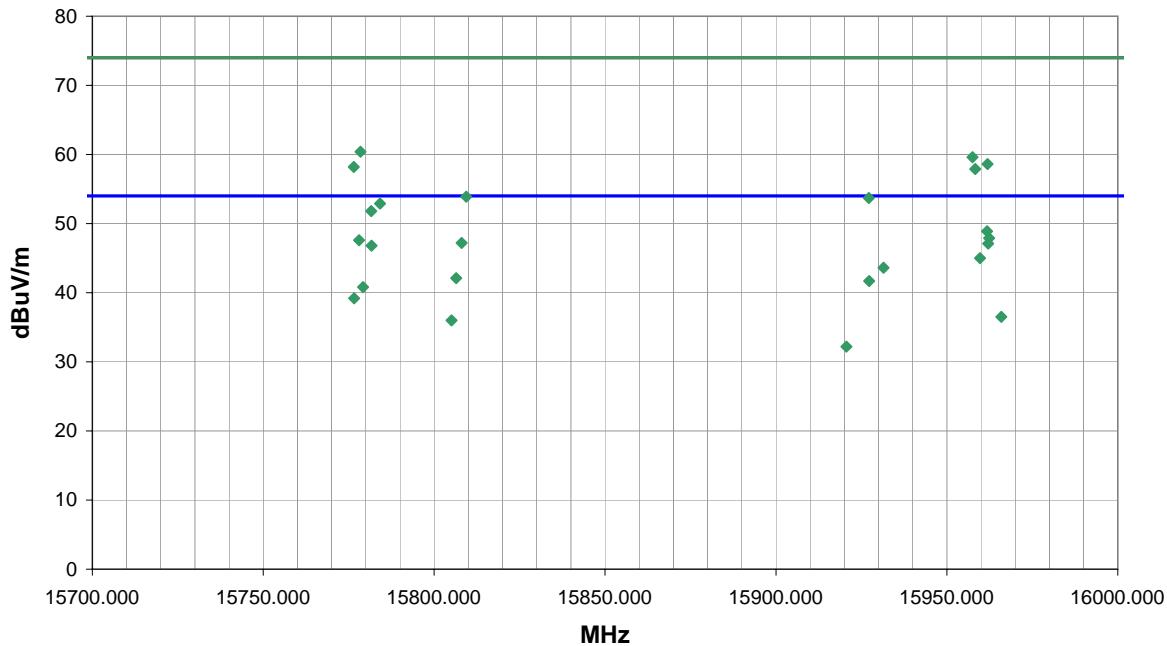
EUT OPERATING MODES

Transmitting at 802.11a/n Channels 52, 64

DEVIATIONS FROM TEST STANDARD

No deviations.

| | |
|-----------------|------|
| Run # | 22 |
| Configuration # | 2 |
| Results | Pass |

[Signature]

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------|-----------------|-------------------|---------------------------|----------|----------|--------------------------|-----------------|--------------------|------------------------|-------------|
| 15962.380 | 43.7 | 4.2 | 25.0 | 1.9 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 47.9 | 54.0 | -6.1 | 36 Mbps |
| 15778.050 | 44.0 | 3.6 | 328.0 | 1.6 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 47.6 | 54.0 | -6.4 | MCS8 |
| 15962.100 | 42.8 | 4.3 | 359.0 | 2.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 47.1 | 54.0 | -6.9 | 36 Mbps |
| 15781.670 | 43.2 | 3.6 | 331.0 | 1.6 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 46.8 | 54.0 | -7.2 | 36 Mbps |
| 15959.700 | 40.7 | 4.3 | 1.0 | 1.9 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 45.0 | 54.0 | -9.0 | MCS8 |
| 15806.450 | 38.4 | 3.7 | 327.0 | 1.6 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 42.1 | 54.0 | -11.9 | MCS8 (HT40) |
| 15927.250 | 37.6 | 4.1 | 323.0 | 1.5 | 0.0 | 0.0 | V-Horn | AV | 0.0 | 41.7 | 54.0 | -12.3 | MCS8 (HT40) |
| 15779.200 | 37.1 | 3.7 | 359.0 | 2.2 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 40.8 | 54.0 | -13.2 | MCS8 |
| 15778.450 | 56.7 | 3.7 | 328.0 | 1.6 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 60.4 | 74.0 | -13.6 | MCS8 |
| 15957.500 | 55.3 | 4.3 | 25.0 | 1.9 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 59.6 | 74.0 | -14.4 | 36 Mbps |
| 15776.580 | 35.5 | 3.7 | 191.0 | 2.2 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 39.2 | 54.0 | -14.8 | 36 Mbps |
| 15961.920 | 54.3 | 4.3 | 359.0 | 2.0 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 58.6 | 74.0 | -15.4 | 36 Mbps |
| 15776.470 | 54.5 | 3.7 | 331.0 | 1.6 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 58.2 | 74.0 | -15.8 | 36 Mbps |
| 15958.270 | 53.6 | 4.3 | 1.0 | 1.9 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 57.9 | 74.0 | -16.1 | MCS8 |
| 15965.930 | 32.2 | 4.3 | 0.0 | 1.6 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 36.5 | 54.0 | -17.5 | MCS8 |
| 15805.100 | 32.3 | 3.7 | 202.0 | 2.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 36.0 | 54.0 | -18.0 | MCS8 (HT40) |
| 15809.380 | 50.2 | 3.7 | 327.0 | 1.6 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 53.9 | 74.0 | -20.1 | MCS8 (HT40) |
| 15927.180 | 49.6 | 4.1 | 323.0 | 1.5 | 0.0 | 0.0 | V-Horn | PK | 0.0 | 53.7 | 74.0 | -20.3 | MCS8 (HT40) |
| 15784.150 | 49.2 | 3.7 | 359.0 | 2.2 | 0.0 | 0.0 | H-Horn | PK | 0.0 | 52.9 | 74.0 | -21.1 | MCS8 |
| 15920.630 | 28.1 | 4.1 | 290.0 | 1.0 | 0.0 | 0.0 | H-Horn | AV | 0.0 | 32.2 | 54.0 | -21.8 | MCS8 (HT40) |

Spurious Radiated Emissions

| | |
|------------------------------------|--------------------------|
| EUT: WMIA-199NI | Work Order: PROS0109 |
| Serial Number: 09435H1000039 | Date: 06/30/11 |
| Customer: ProSoft Technology, Inc. | Temperature: 22.41 |
| Attendees: None | Humidity: 41% |
| Project: None | Barometric Pres.: 1019.2 |
| Tested by: Jaemi Suh | Job Site: OC11 |

TEST SPECIFICATIONS

TEST METHOD

FCC 15.407:2011

ANSI C63.10:2009

TEST PARAMETERS

Antenna Height(s) (m) 1 - 4

Test Distance (m)

3

COMMENTS

Power Level set to 14. Z-Axis

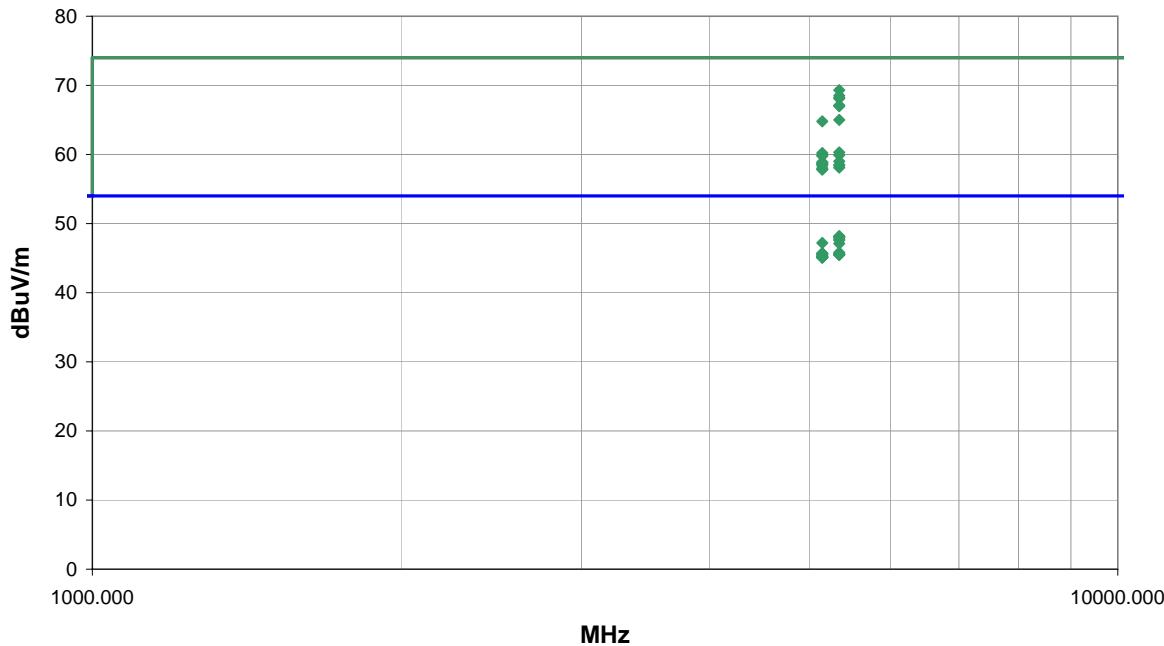
EUT OPERATING MODES

Transmitting at 802.11a/n

DEVIATIONS FROM TEST STANDARD

No deviations.

| | |
|-----------------|------|
| Run # | 32 |
| Configuration # | 1 |
| Results | Pass |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------|-----------------|-------------------|---------------------------|----------|----------|--------------------------|-----------------|--------------------|------------------------|----------|
| 5350.000 | 52.0 | 7.3 | 322.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 69.3 | 74.0 | -4.7 | MCS7 |
| 5350.000 | 51.2 | 7.3 | 309.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 68.5 | 74.0 | -5.5 | MCS0 |
| 5350.000 | 50.9 | 7.3 | 304.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 68.2 | 74.0 | -5.8 | 54 Mbps |
| 5350.000 | 30.9 | 7.3 | 304.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 48.2 | 54.0 | -5.8 | 54 Mbps |
| 5350.000 | 30.8 | 7.3 | 309.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 48.1 | 54.0 | -5.9 | MCS0 |
| 5350.000 | 50.8 | 7.3 | 298.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 68.1 | 74.0 | -5.9 | 36 Mbps |
| 5350.000 | 30.7 | 7.3 | 298.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 48.0 | 54.0 | -6.0 | 36 Mbps |
| 5350.000 | 30.7 | 7.3 | 322.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 48.0 | 54.0 | -6.0 | MCS7 |
| 5349.999 | 30.4 | 7.3 | 295.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 47.7 | 54.0 | -6.3 | 6 Mbps |
| 5350.000 | 30.3 | 7.3 | 0.0 | 1.0 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 47.6 | 54.0 | -6.4 | 6 Mbps |
| 5150.000 | 30.7 | 6.5 | 1.0 | 1.7 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 47.2 | 54.0 | -6.8 | 36 Mbps |
| 5350.000 | 29.8 | 7.3 | 328.0 | 1.5 | 0.0 | 10.0 | H-Horn | AV | 0.0 | 47.1 | 54.0 | -6.9 | MCS15 |
| 5350.000 | 49.8 | 7.3 | 295.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 67.1 | 74.0 | -6.9 | 6 Mbps |
| 5350.000 | 49.7 | 7.3 | 0.0 | 1.0 | 0.0 | 10.0 | V-Horn | PK | 0.0 | 67.0 | 74.0 | -7.0 | 6 Mbps |
| 5350.000 | 28.5 | 7.3 | 120.0 | 1.5 | 0.0 | 10.0 | H-Horn | AV | 0.0 | 45.8 | 54.0 | -8.2 | 54 Mbps |
| 5150.000 | 29.2 | 6.5 | 26.0 | 1.6 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 45.7 | 54.0 | -8.3 | 54 Mbps |
| 5150.000 | 29.2 | 6.5 | 191.0 | 1.7 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 45.7 | 54.0 | -8.3 | MCS7 |
| 5350.000 | 28.3 | 7.3 | 0.0 | 1.0 | 0.0 | 10.0 | H-Horn | AV | 0.0 | 45.6 | 54.0 | -8.4 | 6 Mbps |
| 5150.000 | 29.1 | 6.5 | 142.0 | 1.6 | 0.0 | 10.0 | V-Horn | AV | 0.0 | 45.6 | 54.0 | -8.4 | MCS7 |
| 5350.000 | 28.2 | 7.3 | 116.0 | 1.0 | 0.0 | 10.0 | H-Horn | AV | 0.0 | 45.5 | 54.0 | -8.5 | 36 Mbps |

EMC**Spurious Radiated Emissions**

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

Transmitting at 802.11a/n

MODES INVESTIGATED

36Mbps, MCS0, MCS8, MCS15, MCS8(HT40)

POWER SETTINGS INVESTIGATED

120VAC/60Hz

AXIS INVESTIGATEDX-Axis
Y-Axis
Z-Axis**FREQUENCY RANGE INVESTIGATED**

Start Frequency 18 GHz Stop Frequency 40 GHz

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|-------------------|-----------------|------------------------|-----|------------|----------|
| Pre-Amplifier | Miteq | JSW45-26004000-40-5P | AVQ | 9/7/2010 | 12 mo |
| Antenna, Horn | ETS | 3160-10 | AIX | NCR | 0 mo |
| Cable | ESM Cable Corp. | KMMK-72 | EVZ | 10/20/2010 | 12 mo |
| Pre-Amplifier | Miteq | AMF-6F-18002650-25-10P | AOI | 4/29/2011 | 12 mo |
| Antenna, Horn | EMCO | 3160-09 | AHN | NCR | 0 mo |
| OC floating Cable | N/A | 18-26GHz RE Cables | OCK | 4/29/2011 | 12 mo |
| Spectrum Analyzer | Agilent | E4446A | AAY | 1/11/2011 | 12 mo |

MEASUREMENT BANDWIDTHS

| | Frequency Range | Peak Data | Quasi-Peak Data | Average Data |
|--|-----------------|-----------|-----------------|--------------|
| | (MHz) | (kHz) | (kHz) | (kHz) |
| | 0.01 - 0.15 | 1.0 | 0.2 | 0.2 |
| | 0.15 - 30.0 | 10.0 | 9.0 | 9.0 |
| | 30.0 - 1000 | 100.0 | 120.0 | 120.0 |
| | Above 1000 | 1000.0 | N/A | 1000.0 |

Measurements were made using the IF bandwidths and detectors specified. No video filter was used, except in the case of the FCC Average Measurements above 1GHz. In that case, a peak detector with a 10Hz video bandwidth was used.

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. The measurement uncertainty estimation is available upon request.

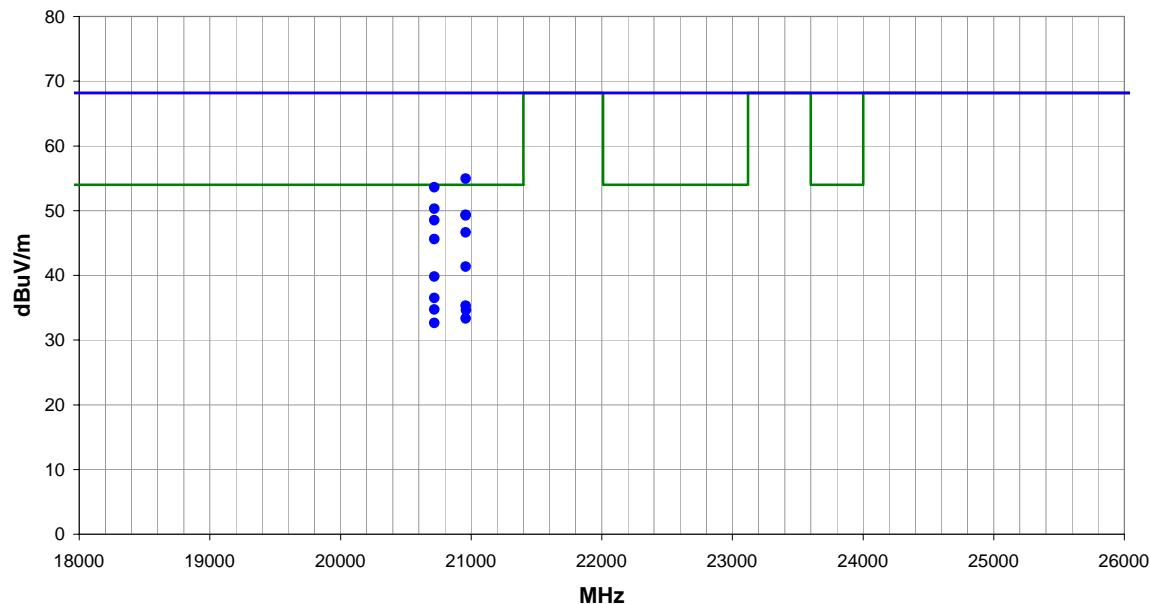
TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT were tested. The EUT was configured for the lowest, a middle, and the highest transmit frequency in each operational band. For each configuration, the spectrum was scanned throughout the specified range. Measurements were made to satisfy the three requirements of 47 CFR 15.407: Field strength under 1GHz, Restricted Bands of 47 CFR 15.205, and EIRP of 47 CFR 15.407. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis, and adjusting the measurement antenna height and polarization (per ANSI C63.10:2009). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

The amplitude and frequency of the highest emissions were noted. The EUT was then replaced with a 1/2 wave dipole that was successively tuned to each of the highest spurious emissions. A signal generator was connected to the dipole (horn antenna for frequencies above 1GHz), and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded, and by factoring in the cable loss to the dipole antenna (or horn) and its gain (dB); the effective radiated power for each radiated spurious emission was determined.

| | | | | |
|---------------------|-------------------------------|-------------------|----------|--|
| Work Order: | PROS0109 | Date: | 06/30/11 |  |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | FCC 15.407:2011 | | Class B | Test Method ANSI C63.10:2009 |

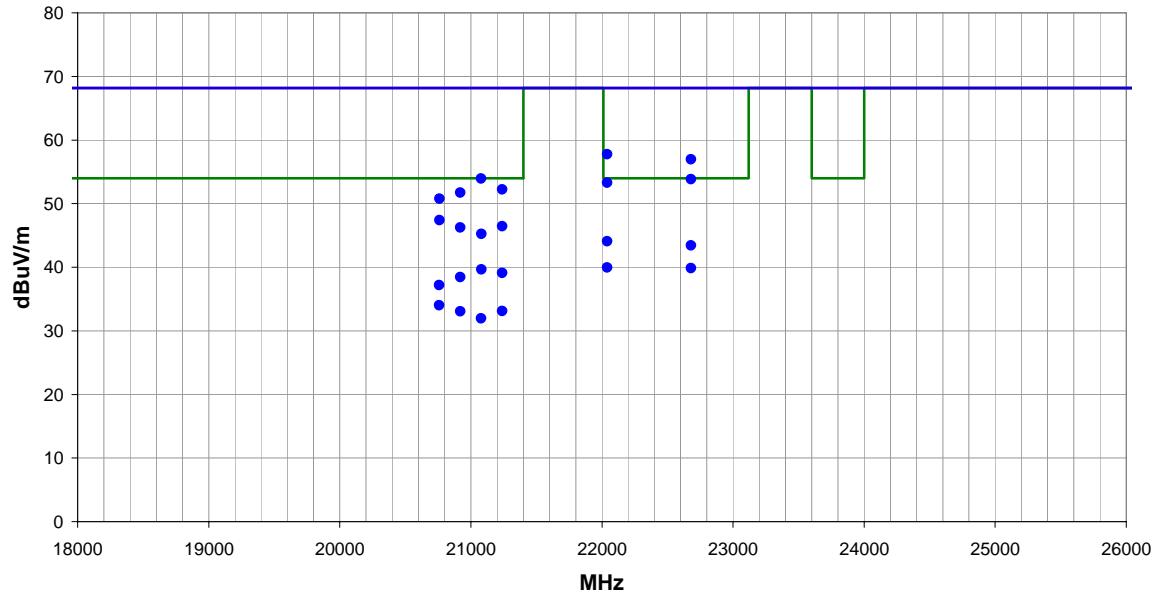
| Run # | 6 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|---|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|---------------------|
| 20959.610 | 43.1 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.3 | 54.0 | -12.7 | Channel 48, MCS15 |
| 20959.730 | 56.7 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 54.9 | 68.2 | -13.3 | Channel 48, MCS15 |
| 20719.640 | 39.7 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.8 | 54.0 | -14.2 | Channel 36, MCS15 |
| 20719.880 | 53.5 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.6 | 68.2 | -14.6 | Channel 36, MCS15 |
| 20719.610 | 36.4 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 36.5 | 54.0 | -17.5 | Channel 36, MCS15 |
| 20720.090 | 50.2 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.3 | 68.2 | -17.9 | Channel 36, MCS15 |
| 20960.060 | 37.1 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 35.3 | 54.0 | -18.7 | Channel 48, MCS15 |
| 20959.520 | 51.1 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 49.3 | 68.2 | -18.9 | Channel 48, MCS15 |
| 20959.820 | 51.0 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 49.2 | 68.2 | -19.0 | Channel 48, 36 Mbps |
| 20719.790 | 34.6 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.7 | 54.0 | -19.3 | Channel 36, 36 Mbps |
| 20960.290 | 36.4 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.6 | 54.0 | -19.4 | Channel 48, 36 Mbps |
| 20720.120 | 48.4 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.5 | 68.2 | -19.7 | Channel 36, 36 Mbps |
| 20959.500 | 35.1 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 33.3 | 54.0 | -20.7 | Channel 48, 36 Mbps |
| 20719.520 | 32.5 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 32.6 | 54.0 | -21.4 | Channel 36, 36 Mbps |
| 20959.540 | 48.4 | -1.8 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 46.6 | 68.2 | -21.6 | Channel 48, 36 Mbps |
| 20719.930 | 45.5 | 0.1 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 45.6 | 68.2 | -22.6 | Channel 36, 36 Mbps |

| | | | | |
|---------------------|-------------------------------|-------------------|------------------|-------------------------------|
| Work Order: | PROS0109 | Date: | 06/30/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: <i>Mark Baytan</i> |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | Class B | | Test Method | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | |

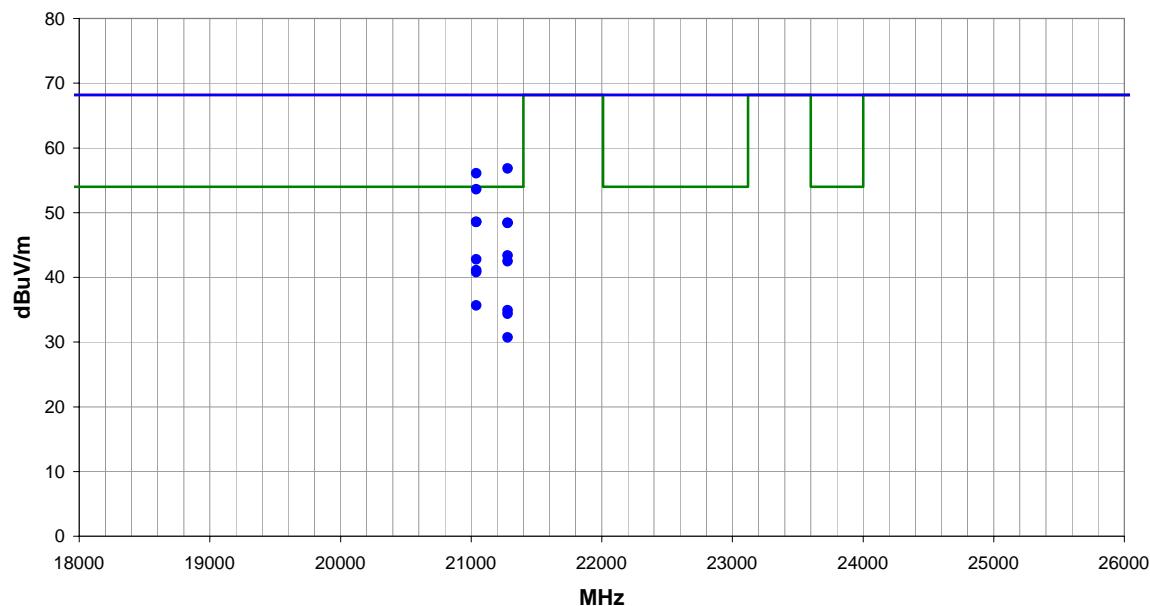
| Run # | 7 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|---|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-------------------|
| 22039.640 | 41.7 | 2.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 44.1 | 54.0 | -9.9 | Channel 100, MCS8 |
| 22039.680 | 55.4 | 2.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 57.8 | 68.2 | -10.4 | Channel 100, MCS8 |
| 22680.420 | 40.9 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 43.4 | 54.0 | -10.6 | Channel 140, MCS8 |
| 22679.840 | 54.4 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.9 | 68.2 | -11.3 | Channel 140, MCS8 |
| 22039.540 | 37.6 | 2.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 40.0 | 54.0 | -14.0 | Channel 100, MCS8 |
| 22680.460 | 37.3 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 39.8 | 54.0 | -14.2 | Channel 140, MCS8 |
| 21079.520 | 55.9 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.9 | 68.2 | -14.3 | Channel 52, MCS8 |
| 21079.810 | 41.6 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.6 | 54.0 | -14.4 | Channel 52, MCS8 |
| 22679.870 | 51.3 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 53.8 | 68.2 | -14.4 | Channel 140, MCS8 |
| 21240.370 | 40.8 | -1.7 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 39.1 | 54.0 | -14.9 | Channel 64, MCS8 |
| 22040.160 | 50.9 | 2.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 53.3 | 68.2 | -14.9 | Channel 100, MCS8 |
| 20920.180 | 39.9 | -1.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 38.4 | 54.0 | -15.6 | Channel 48, MCS8 |
| 21239.730 | 53.9 | -1.7 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 52.2 | 68.2 | -16.0 | Channel 64, MCS8 |
| 20920.370 | 53.2 | -1.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 51.7 | 68.2 | -16.5 | Channel 48, MCS8 |
| 20759.680 | 37.4 | -0.2 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 37.2 | 54.0 | -16.8 | Channel 36, MCS8 |
| 20760.220 | 51.0 | -0.2 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 50.8 | 68.2 | -17.4 | Channel 36, MCS8 |
| 20759.610 | 34.2 | -0.2 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.0 | 54.0 | -20.0 | Channel 36, MCS8 |
| 20760.110 | 47.6 | -0.2 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 47.4 | 68.2 | -20.8 | Channel 36, MCS8 |
| 21240.300 | 34.8 | -1.7 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 33.1 | 54.0 | -20.9 | Channel 64, MCS8 |
| 20919.870 | 34.5 | -1.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 33.0 | 54.0 | -21.0 | Channel 48, MCS8 |
| 21239.780 | 48.1 | -1.7 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 46.4 | 68.2 | -21.8 | Channel 64, MCS8 |
| 20919.930 | 47.7 | -1.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 46.2 | 68.2 | -22.0 | Channel 48, MCS8 |
| 21079.510 | 33.9 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.9 | 54.0 | -22.1 | Channel 52, MCS8 |
| 21080.080 | 47.2 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 45.2 | 68.2 | -23.0 | Channel 52, MCS8 |

| | | | | |
|---------------------|-------------------------------|-------------------|----------|--|
| Work Order: | PROS0109 | Date: | 06/30/11 |  |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | FCC 15.407:2011 | | Class B | Test Method ANSI C63.10:2009 |

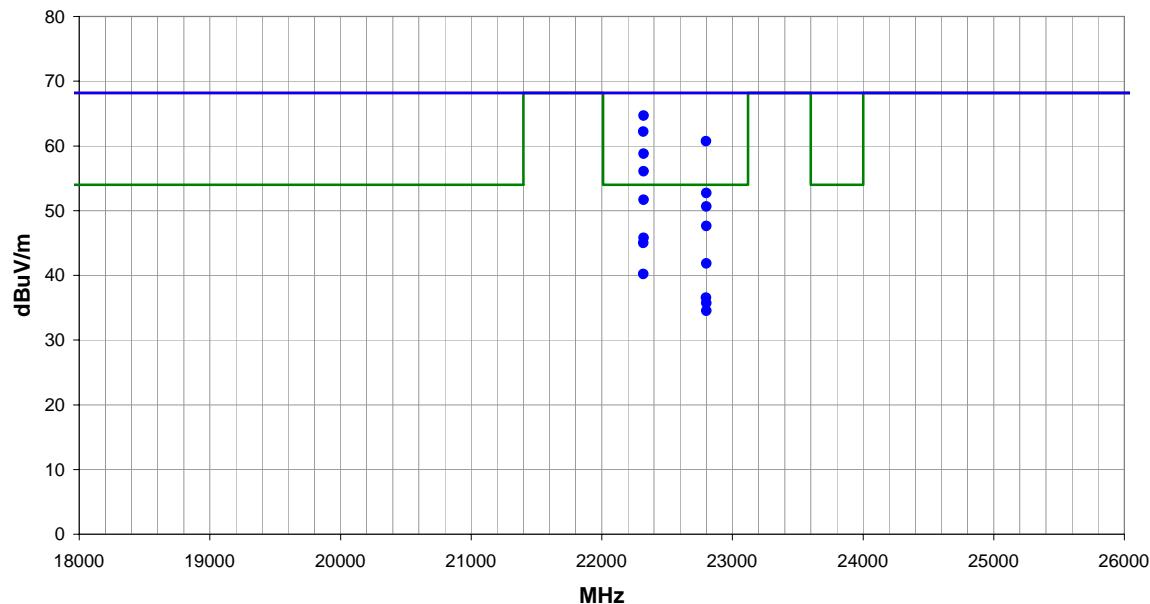
| Run # | 8 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|---|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|---------------------|
| 21040.080 | 44.8 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 42.8 | 54.0 | -11.2 | Channel 52, 36 Mbps |
| 21279.980 | 58.4 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.8 | 68.2 | -11.4 | Channel 64, MCS8 |
| 21280.040 | 44.1 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 42.5 | 54.0 | -11.5 | Channel 64, MCS8 |
| 21039.940 | 58.1 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 56.1 | 68.2 | -12.1 | Channel 52, 36 Mbps |
| 21039.500 | 43.1 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.1 | 54.0 | -12.9 | Channel 52, MCS8 |
| 21039.500 | 42.8 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 40.8 | 54.0 | -13.2 | Channel 52, 36 Mbps |
| 21039.590 | 55.6 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 53.6 | 68.2 | -14.6 | Channel 52, MCS8 |
| 21039.500 | 37.7 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 35.7 | 54.0 | -18.3 | Channel 52, MCS8 |
| 21280.500 | 36.5 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.9 | 54.0 | -19.1 | Channel 64, 36Mbps |
| 21279.520 | 36.0 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.4 | 54.0 | -19.6 | Channel 64, MCS8 |
| 21039.800 | 50.6 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.6 | 68.2 | -19.6 | Channel 52, 36 Mbps |
| 21039.570 | 50.6 | -2.0 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.6 | 68.2 | -19.6 | Channel 52, MCS8 |
| 21280.450 | 50.0 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 48.4 | 68.2 | -19.8 | Channel 64, 36Mbps |
| 21280.120 | 50.0 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.4 | 68.2 | -19.8 | Channel 64, MCS8 |
| 21280.480 | 32.3 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 30.7 | 54.0 | -23.3 | Channel 64, 36Mbps |
| 21279.500 | 45.0 | -1.6 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 43.4 | 68.2 | -24.8 | Channel 64, 36Mbps |

| | | | | |
|---------------------|-------------------------------|-------------------|----------|---------------------------------|
| Work Order: | PROS0109 | Date: | 06/30/11 | <i>Mark Baytan</i> |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | FCC 15.407:2011 | | Class B | Test Method ANSI C63.10:2009 |

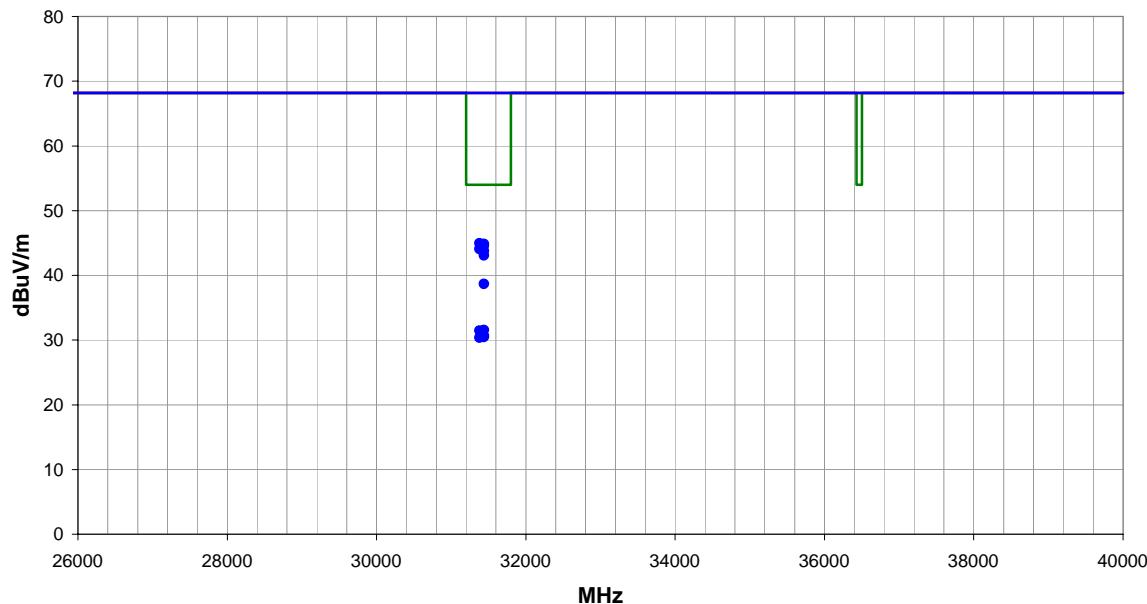
| Run # | 9 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|---|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|----------------------|
| 22319.990 | 49.2 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 51.7 | 54.0 | -2.3 | Channel 116, 36 Mbps |
| 22319.890 | 62.2 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 64.7 | 68.2 | -3.5 | Channel 116, 36 Mbps |
| 22319.570 | 59.7 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 62.2 | 68.2 | -6.0 | Channel 116, MCS0 |
| 22799.580 | 58.2 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 60.7 | 68.2 | -7.5 | Channel 140, MCS0 |
| 22319.680 | 43.3 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 45.8 | 54.0 | -8.2 | Channel 116, MCS0 |
| 22319.600 | 42.5 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 45.0 | 54.0 | -9.0 | Channel 116, 36 Mbps |
| 22319.690 | 56.3 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 58.8 | 68.2 | -9.4 | Channel 116, 36 Mbps |
| 22320.140 | 53.6 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 56.1 | 68.2 | -12.1 | Channel 116, MCS0 |
| 22800.320 | 39.3 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 41.8 | 54.0 | -12.2 | Channel 140, MCS0 |
| 22319.640 | 37.7 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 40.2 | 54.0 | -13.8 | Channel 116, MCS0 |
| 22800.200 | 50.2 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 52.7 | 68.2 | -15.5 | Channel 140, 36 Mbps |
| 22799.510 | 34.0 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 36.5 | 54.0 | -17.5 | Channel 140, 36 Mbps |
| 22800.090 | 48.1 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.6 | 68.2 | -17.6 | Channel 140, MCS0 |
| 22800.090 | 33.2 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 35.7 | 54.0 | -18.3 | Channel 140, MCS0 |
| 22799.790 | 32.0 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 34.5 | 54.0 | -19.5 | Channel 140, 36 Mbps |
| 22800.150 | 45.1 | 2.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 47.6 | 68.2 | -20.6 | Channel 140, 36 Mbps |

| | | | | |
|---------------------|-------------------------------|-------------------|----------|--|
| Work Order: | PROS0109 | Date: | 06/30/11 |  |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | FCC 15.407:2011 | | Class B | Test Method ANSI C63.10:2009 |

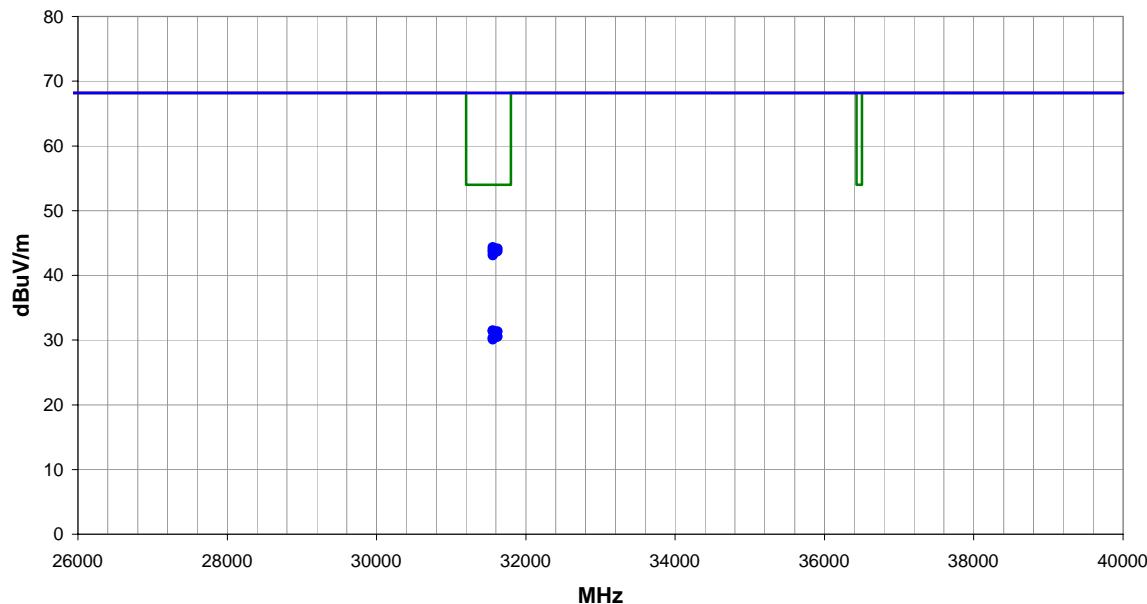
| Run # | 10 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|----|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-------------------------|
| 31440.140 | 53.1 | -14.4 | 0.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 38.7 | 54.0 | -15.3 | Channel 48, 36 Mbps |
| 31440.320 | 46.0 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.6 | 54.0 | -22.4 | Channel 48, MCS15 |
| 31380.490 | 45.9 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.5 | 54.0 | -22.5 | Channel 48, MCS8, 40MHz |
| 31379.700 | 59.4 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 45.0 | 68.2 | -23.2 | Channel 48, MCS8, 40MHz |
| 31440.200 | 59.3 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 44.9 | 68.2 | -23.3 | Channel 48, MCS15 |
| 31440.450 | 45.1 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.7 | 54.0 | -23.3 | Channel 48, MCS15 |
| 31440.050 | 44.9 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.5 | 54.0 | -23.5 | Channel 48, 36 Mbps |
| 31380.430 | 44.8 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.4 | 54.0 | -23.6 | Channel 48, MCS8, 40MHz |
| 31440.290 | 59.0 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 44.6 | 68.2 | -23.6 | Channel 48, 36 Mbps |
| 31380.220 | 58.5 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 44.1 | 68.2 | -24.1 | Channel 48, MCS8, 40MHz |
| 31440.220 | 58.2 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.8 | 68.2 | -24.4 | Channel 48, 36 Mbps |
| 31440.390 | 57.5 | -14.4 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.1 | 68.2 | -25.1 | Channel 48, MCS15 |

| | | | | |
|---------------------|-------------------------------|-------------------|----------|--|
| Work Order: | PROS0109 | Date: | 06/30/11 |  |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC10 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Transmitting at 802.11a/n | | | |
| Deviations: | No deviations. | | | |
| Comments: | Power Level set to 14. Z-Axis | | | |
| Test Specifications | FCC 15.407:2011 | | Class B | Test Method ANSI C63.10:2009 |

| Run # | 11 | Test Distance (m) | 3 | Antenna Height(s) | 1-4m | Results | Pass |
|-------|----|-------------------|---|-------------------|------|---------|------|
| | | | | | | | |



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|-------------------------|
| 31560.150 | 45.9 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.4 | 54.0 | -22.6 | Channel 52, 36 Mbps |
| 31559.860 | 45.8 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.3 | 54.0 | -22.7 | Channel 52, MCS8 |
| 31621.810 | 45.8 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 31.3 | 54.0 | -22.7 | Channel 52, MCS8, 40MHz |
| 31621.110 | 45.0 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.5 | 54.0 | -23.5 | Channel 52, MCS8, 40MHz |
| 31560.500 | 44.8 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.3 | 54.0 | -23.7 | Channel 52, MCS8 |
| 31560.260 | 44.6 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 30.1 | 54.0 | -23.9 | Channel 52, 36 Mbps |
| 31559.960 | 58.8 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 44.3 | 68.2 | -23.9 | Channel 52, MCS8 |
| 31620.350 | 58.6 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 44.1 | 68.2 | -24.1 | Channel 52, MCS8, 40MHz |
| 31559.630 | 58.4 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 43.9 | 68.2 | -24.3 | Channel 52, 36 Mbps |
| 31621.040 | 58.2 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.7 | 68.2 | -24.5 | Channel 52, MCS8, 40MHz |
| 31560.080 | 58.1 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.6 | 68.2 | -24.6 | Channel 52, 36 Mbps |
| 31560.290 | 57.6 | -14.5 | 1.0 | 0.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.1 | 68.2 | -25.1 | Channel 52, MCS8 |

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

| TEST EQUIPMENT | | | | | | |
|-------------------|-----------------|--------|-----|-----------|----------|--|
| Description | Manufacturer | Model | ID | Last Cal. | Interval | |
| Power Sensor | Agilent | E4412A | SQE | 4/21/2010 | 24 | |
| Power Meter | Hewlett Packard | E4418A | SPA | 4/21/2010 | 24 | |
| Signal Generator | Agilent | E8257D | TGU | 1/26/2011 | 12 | |
| Spectrum Analyzer | Agilent | E4440A | AFG | 4/28/2011 | 12 | |

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than ± 4 dB, and for conducted emissions measurements is less than ± 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

ANSI C63.10 was followed. The transmit frequency was set to the required channels in each band. The transmit power was set to its default maximum. A direct connection was made between the RF output of the EUT and a spectrum analyzer. Attenuation and a DC block were used. The reference level offset on the spectrum analyzer was adjusted to compensate for cable loss and the external attenuation used between the RF output and the spectrum analyzer input. The amplitude accuracy of the spectrum analyzer was further enhanced by calibrating the setup using the power meter and synthesized signal generator.

Prior to measuring peak transmit power; the emission bandwidth (B) and the transmission pulse duration (T) were measured. Both are required to determine the method of measuring Peak Transmit Power. The method of measuring the emission bandwidth and the associated data are found elsewhere in this test report. The transmission pulse duration (T) was measured using a zero span on the spectrum analyzer to see the pulses in the time domain.

Method #3 was used because the analyzer sweep time was greater than T for the operating mode which has the shortest transmission pulse duration and the Emission Bandwidth was greater than the largest RBW on the analyzer.

The spectrum analyzer settings were as follows:

- The span was set to encompass entire emission bandwidth (B), centered on the transmit channel.
- The RBW = 1 MHz, $VBW = 1/T$
- Sample detector mode because the bin width (span / number of spectral points) < 0.5 RBW.
- Power was integrated across "B", by using the channel power function of the analyzer.

The power limits are based on the following formulas:

5.15 MHz – 5.25 MHz band - The lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the -26dB emission bandwidth in MHz.

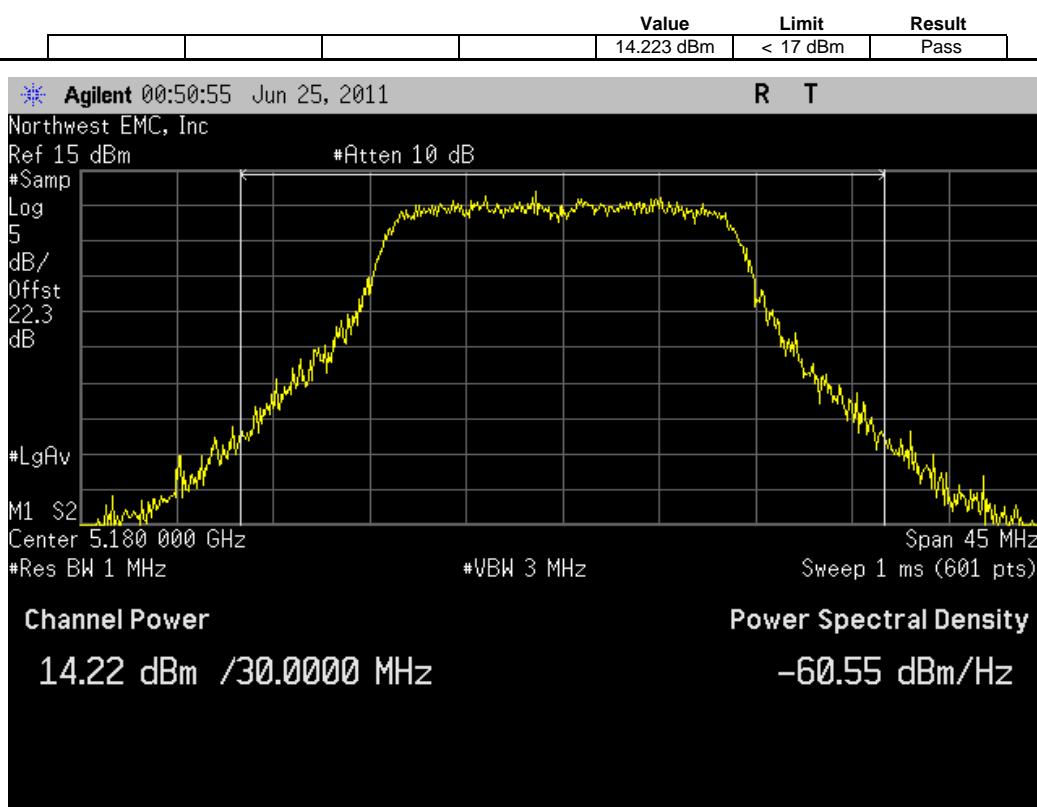
5.25 MHz – 5.35 MHz band - The lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the -26dB emission bandwidth in MHz.

5.47 MHz – 5.725 MHz band - The lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the -26dB emission bandwidth in MHz.

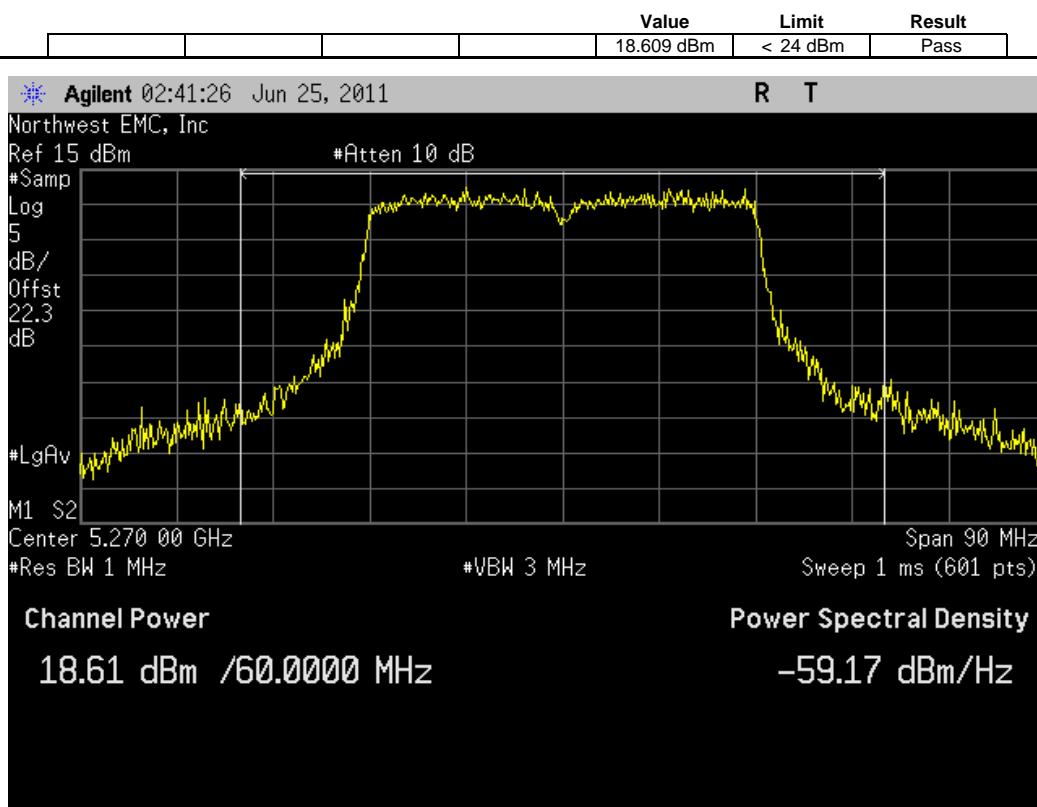
In each case the output power is lower if the -26dB emission bandwidth is less than 20 MHz.

| EMC | | | Peak Transmit Power | | |
|------------------------------------|---|-----------|------------------------|----------|-------------------------------------|
| NORTHWEST | | | | | XMit 2011.04.20 PsaTx 2011.06.20 |
| EUT: WMIA-199NI | | | Work Order: PROS0109 | | |
| Serial Number: 09435H1000039 | | | Date: 06/24/11 | | |
| Customer: ProSoft Technology, Inc. | | | Temperature: 22.06°C | | |
| Attendees: None | | | Humidity: 48% | | |
| Project: None | | | Barometric Pres.: 1011 | | |
| Tested by: Jaemi Suh | Power: 120V/60Hz | | Job Site: OC11 | | |
| TEST SPECIFICATIONS | TEST METHOD | | | | |
| FCC 15.407:2011 | ANSI C63.10:2009 | | | | |
| COMMENTS | Chain 1. Operating at 802.11a/n. Power level set to 14 for < 5.25 GHz. Power level set to 18 for > 5.25 GHz | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| Configuration # | 1 | Signature | | | |
| | | | Value | Limit | Result |
| 802.11(a) 6 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 13.551 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.646 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.85 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.494 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.606 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 15.943 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.887 dBm | < 24 dBm | Pass |
| 802.11(a) 36 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 13.718 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.333 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.434 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 18.038 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.577 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.48 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.277 dBm | < 24 dBm | Pass |
| 802.11(a) 54 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 14.223 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.532 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.314 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.67 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.981 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.568 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.9 dBm | < 24 dBm | Pass |
| 802.11(n) MCS0 | | | | | |
| Low Channel 36 (5180 MHz) | | | 13.672 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.498 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.737 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 17.983 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.424 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.511 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.4 dBm | < 24 dBm | Pass |
| 802.11(n) MCS7 | | | | | |
| Low Channel 36 (5180 MHz) | | | 14.035 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.351 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.729 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 17.83 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.084 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.123 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.206 dBm | < 24 dBm | Pass |
| 802.11(n) MCS8 | | | | | |
| Low Channel 36 (5180 MHz) | | | 14.077 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.502 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.7 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 17.01 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.071 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.31 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.837 dBm | < 24 dBm | Pass |
| 802.11(n) MCS15 | | | | | |
| Low Channel 36 (5180 MHz) | | | 14.113 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 13.069 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 17.712 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.538 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.04 dBm | < 24 dBm | Pass |
| Mid Channel 116 (5580 MHz) | | | 16.034 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 16.237 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS0 | | | | | |
| Low Channel 37 (5190 MHz) | | | 13.848 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 13.543 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 17.397 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 16.311 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 17.299 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 16.593 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS7 | | | | | |
| Low Channel 37 (5190 MHz) | | | 13.864 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 13.089 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 18.609 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 16.846 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 16.231 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 16.614 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS8 | | | | | |
| Low Channel 37 (5190 MHz) | | | 14.031 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 13.596 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.826 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 18.211 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 16.225 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 16.542 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS15 | | | | | |
| Low Channel 37 (5190 MHz) | | | 13.549 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 14.121 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.94 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 18.179 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 16.195 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 16.394 dBm | < 24 dBm | Pass |

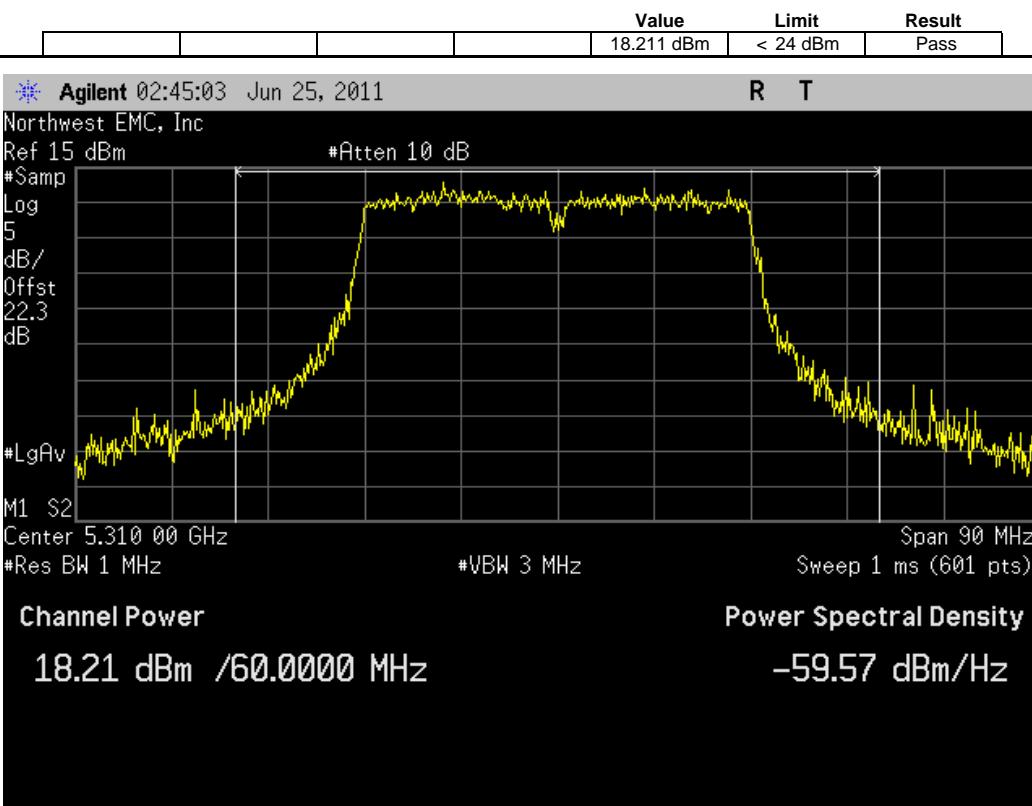
802.11(a) 54 Mbps, Low Channel 36 (5180 MHz)



802.11(n)(40MHz) MCS7, Low Channel 53 (5270 MHz)

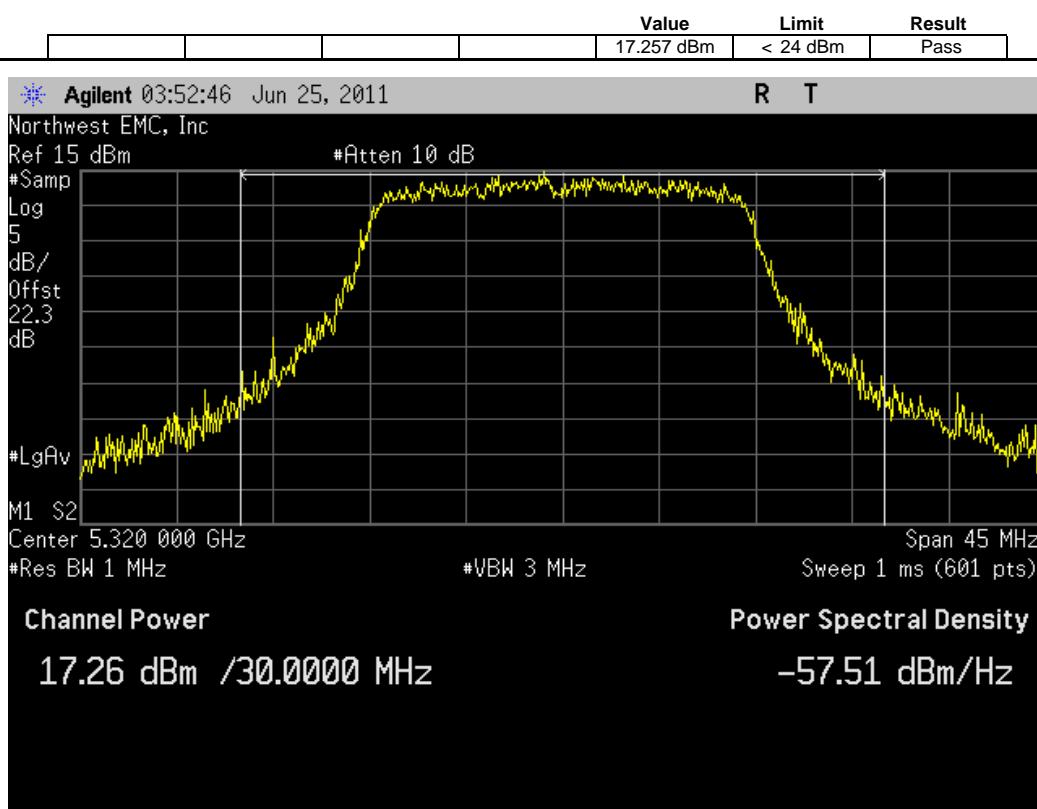


802.11(n)(40MHz) MCS8, High Channel 63 (5310 MHz)

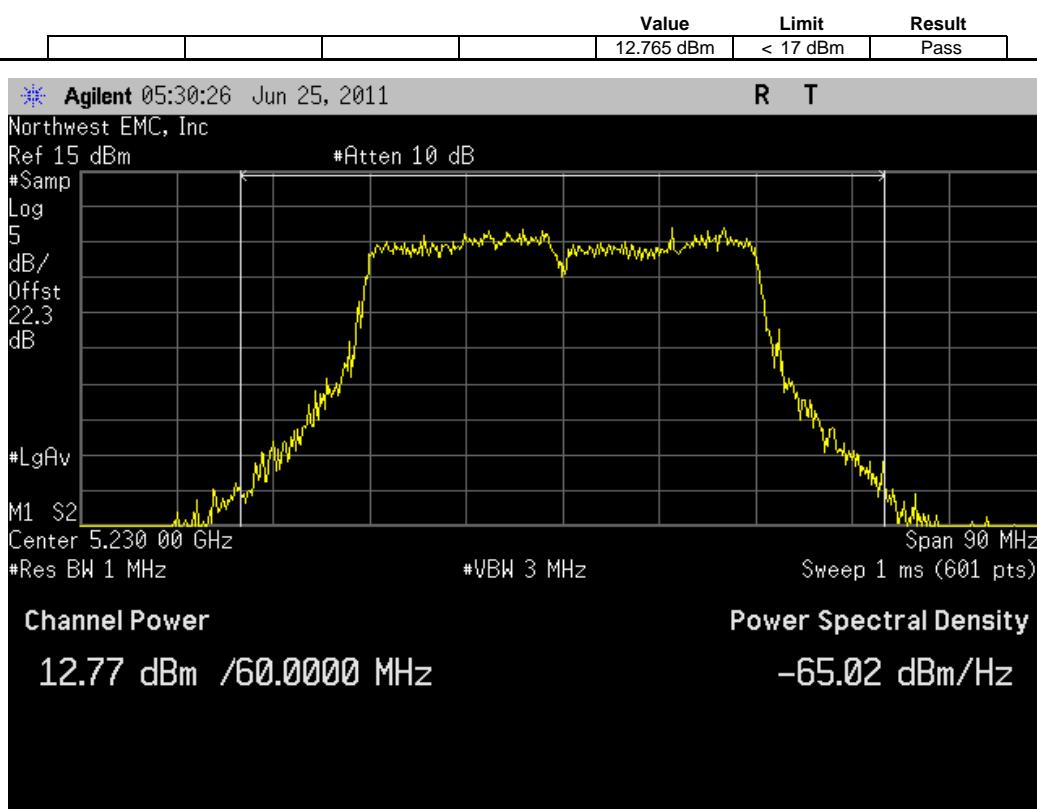


| EMC | | | Peak Transmit Power | | |
|------------------------------------|---|-----------|------------------------|----------|------------------|
| NORTHWEST | | | Work Order: PROS0109 | | XMit 2011.04.20 |
| EUT: WMIA-199NI | | | Date: 06/24/11 | | PsaTx 2011.06.20 |
| Serial Number: 09435H1000039 | | | Temperature: 22.06°C | | |
| Customer: ProSoft Technology, Inc. | | | Humidity: 48% | | |
| Attendees: None | | | Barometric Pres.: 1011 | | |
| Project: None | | | Job Site: OC11 | | |
| Tested by: Jaemi Suh | Power: 120V/60Hz | | | | |
| TEST SPECIFICATIONS | TEST METHOD | | | | |
| FCC 15.407:2011 | ANSI C63.10:2009 | | | | |
| COMMENTS | Chain 2. Operating at 802.11a/n. Power level set to 14 for < 5.25 GHz. Power level set to 18 for > 5.25 GHz | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| Configuration # | 1 | Signature | | | |
| | | | Value | Limit | Result |
| 802.11(a) 6 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.105 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.622 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.606 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.801 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.271 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.057 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 17.941 dBm | < 24 dBm | Pass |
| 802.11(a) 36 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.323 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.555 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.582 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.835 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.355 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.47 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 17.393 dBm | < 24 dBm | Pass |
| 802.11(a) 54 Mbps | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.243 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.997 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.721 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.819 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.715 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 16.901 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 18.217 dBm | < 24 dBm | Pass |
| 802.11(n) MCS0 | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.551 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 12.219 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.708 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 17.167 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.45 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.657 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 18.09 dBm | < 24 dBm | Pass |
| 802.11(n) MCS7 | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.273 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.686 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.027 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.786 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 16.933 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.18 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 17.75 dBm | < 24 dBm | Pass |
| 802.11(n) MCS8 | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.589 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.781 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.638 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 17.257 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.326 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.23 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 17.799 dBm | < 24 dBm | Pass |
| 802.11(n) MCS15 | | | | | |
| Low Channel 36 (5180 MHz) | | | 11.637 dBm | < 17 dBm | Pass |
| High Channel 48 (5240 MHz) | | | 11.861 dBm | < 17 dBm | Pass |
| Low Channel 52 (5260 MHz) | | | 16.573 dBm | < 24 dBm | Pass |
| High Channel 64 (5320 MHz) | | | 16.537 dBm | < 24 dBm | Pass |
| Low Channel 100 (5500 MHz) | | | 17.264 dBm | < 24 dBm | Pass |
| Mid Channel 110 (5580 MHz) | | | 17.022 dBm | < 24 dBm | Pass |
| High Channel 140 (5700 MHz) | | | 17.632 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS0 | | | | | |
| Low Channel 37 (5190 MHz) | | | 12.041 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 11.269 dBm | < 24 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.324 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 16.32 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 17.734 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 18.502 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS7 | | | | | |
| Low Channel 37 (5190 MHz) | | | 12.256 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 12.765 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.982 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 17.134 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 17.662 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 17.783 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS8 | | | | | |
| Low Channel 37 (5190 MHz) | | | 11.739 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 12.343 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.902 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 17.033 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 17.621 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 18.71 dBm | < 24 dBm | Pass |
| 802.11(n)(40MHz) MCS15 | | | | | |
| Low Channel 37 (5190 MHz) | | | 11.506 dBm | < 17 dBm | Pass |
| High Channel 47 (5230 MHz) | | | 12.352 dBm | < 17 dBm | Pass |
| Low Channel 53 (5270 MHz) | | | 16.849 dBm | < 24 dBm | Pass |
| High Channel 63 (5310 MHz) | | | 17.07 dBm | < 24 dBm | Pass |
| Low Channel 101 (5510 MHz) | | | 17.997 dBm | < 24 dBm | Pass |
| High Channel 130 (5670 MHz) | | | 18.241 dBm | < 24 dBm | Pass |

802.11(n) MCS8, High Channel 64 (5320 MHz)

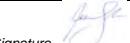


802.11(n)(40MHz) MCS7, High Channel 47 (5230 MHz)

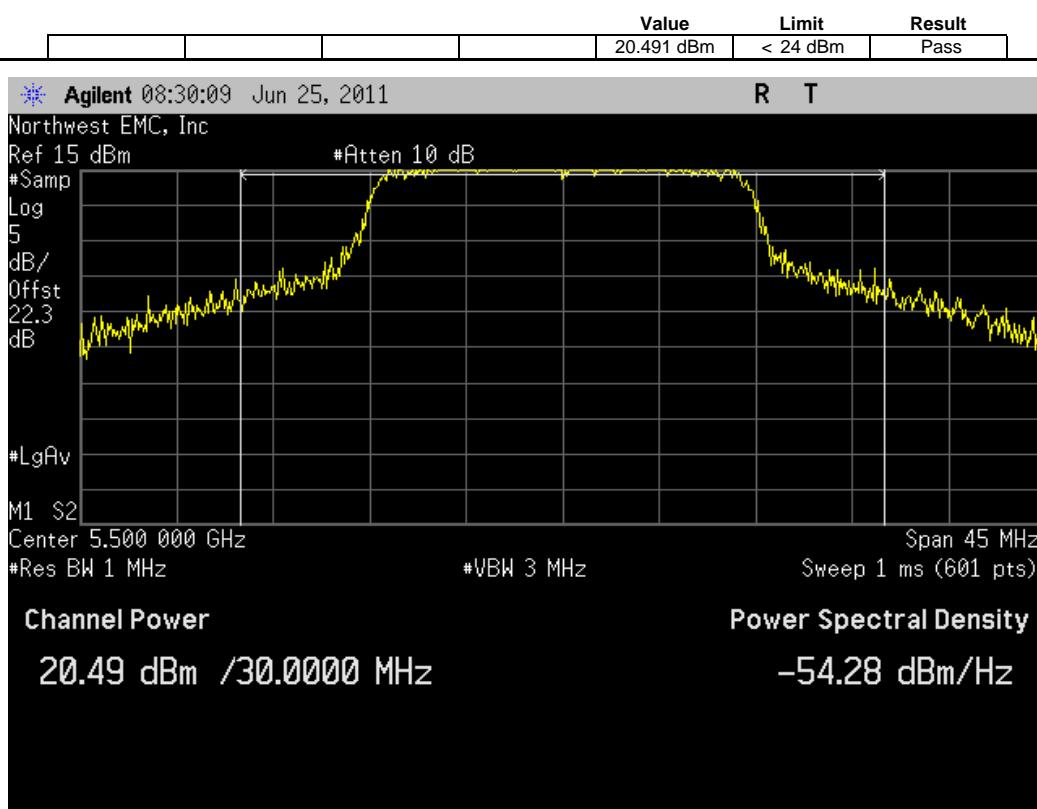


802.11(n)(40MHz) MCS8, High Channel 130 (5670 MHz)

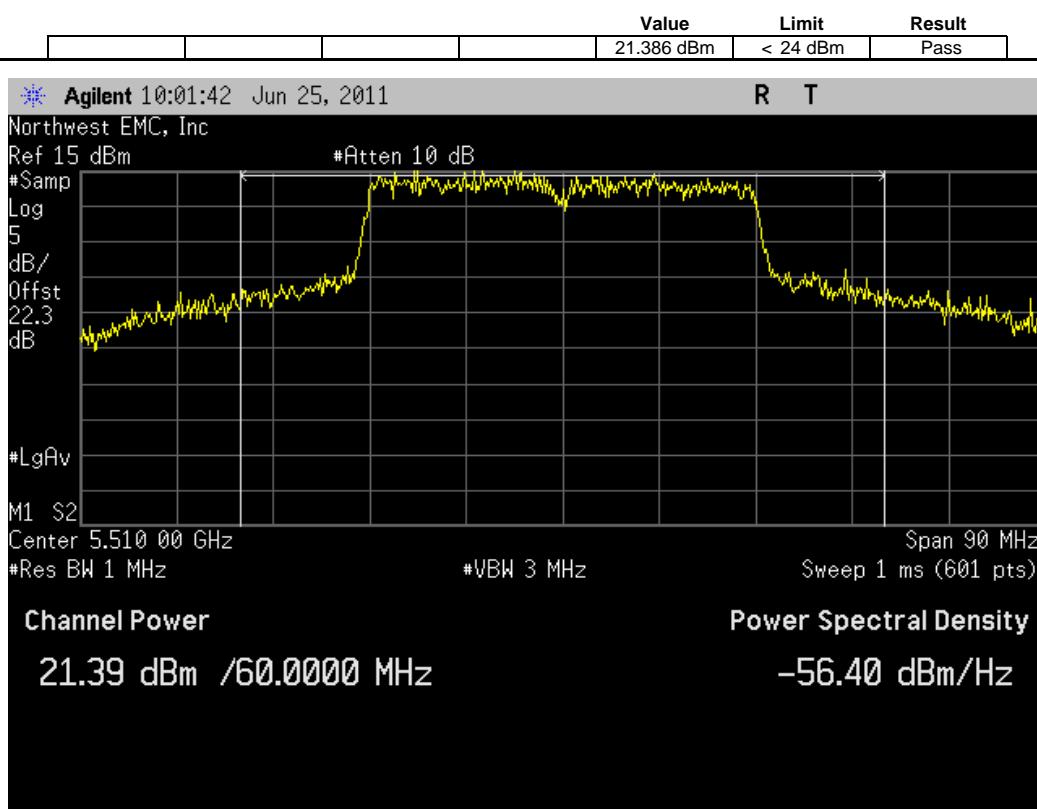


| NORTHWEST | | Peak Transmit Power | | | XMit 2011.04.20 | | | | |
|---|-----------------------------|---|-----------|------------|-----------------|------------------|--|--|--|
| EMC | | | | | | PsaTx 2011.06.20 | | | |
| EUT: | WMIA-199NI | Work Order: | PROS0109 | Date: | 06/27/11 | | | | |
| Serial Number: | 09435H1000039 | Temperature: | 22.06°C | Humidity: | 48% | | | | |
| Customer: | ProSoft Technology, Inc. | Barometric Pres.: | 1011 | Job Site: | OC11 | | | | |
| Attendees: | None | | | | | | | | |
| Project: | None | | | | | | | | |
| Tested by: | Jaemi Suh | Power: | 120V/60Hz | | | | | | |
| TEST SPECIFICATIONS | | TEST METHOD | | | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | | | |
| COMMENTS | | | | | | | | | |
| Chain 3. Operating at 802.11a/n. Power level set to 14 for < 5.25 GHz. Power level set to 18 for > 5.25 GHz | | | | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | | | | |
| Configuration # | 1 |  | | | | | | | |
| | | Signature | | | | | | | |
| | | | | Value | Limit | Result | | | |
| 802.11(a) 6 Mbps | Low Channel 36 (5180 MHz) | | | 12.977 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.868 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.812 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 18.014 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.794 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.342 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 18.878 dBm | < 24 dBm | Pass | | | |
| 802.11(a) 36 Mbps | Low Channel 36 (5180 MHz) | | | 12.924 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 14.398 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.751 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 19.296 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.79 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.638 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 18.974 dBm | < 24 dBm | Pass | | | |
| 802.11(a) 54 Mbps | Low Channel 36 (5180 MHz) | | | 13.053 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.319 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.266 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 18.973 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.731 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.637 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 18.762 dBm | < 24 dBm | Pass | | | |
| 802.11(n) MCS0 | Low Channel 36 (5180 MHz) | | | 12.598 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.304 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 18.389 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 19.014 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.959 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.627 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 19.304 dBm | < 24 dBm | Pass | | | |
| 802.11(n) MCS7 | Low Channel 36 (5180 MHz) | | | 12.687 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.303 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.539 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 19.005 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.866 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.777 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 18.807 dBm | < 24 dBm | Pass | | | |
| 802.11(n) MCS8 | Low Channel 36 (5180 MHz) | | | 12.737 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.264 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.451 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 19.409 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.491 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.666 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 18.868 dBm | < 24 dBm | Pass | | | |
| 802.11(n) MCS15 | Low Channel 36 (5180 MHz) | | | 12.313 dBm | < 17 dBm | Pass | | | |
| | High Channel 48 (5240 MHz) | | | 13.919 dBm | < 17 dBm | Pass | | | |
| | Low Channel 52 (5260 MHz) | | | 17.379 dBm | < 24 dBm | Pass | | | |
| | High Channel 64 (5320 MHz) | | | 18.38 dBm | < 24 dBm | Pass | | | |
| | Low Channel 100 (5500 MHz) | | | 20.712 dBm | < 24 dBm | Pass | | | |
| | Mid Channel 110 (5580 MHz) | | | 20.332 dBm | < 24 dBm | Pass | | | |
| | High Channel 140 (5700 MHz) | | | 19.037 dBm | < 24 dBm | Pass | | | |
| 802.11(n)(40MHz) MCS0 | Low Channel 37 (5190 MHz) | | | 12.161 dBm | < 17 dBm | Pass | | | |
| | High Channel 47 (5230 MHz) | | | 14.393 dBm | < 24 dBm | Pass | | | |
| | Low Channel 53 (5270 MHz) | | | 16.85 dBm | < 24 dBm | Pass | | | |
| | High Channel 63 (5310 MHz) | | | 18.061 dBm | < 24 dBm | Pass | | | |
| | Low Channel 101 (5510 MHz) | | | 21.386 dBm | < 24 dBm | Pass | | | |
| | High Channel 130 (5670 MHz) | | | 19.288 dBm | < 24 dBm | Pass | | | |
| 802.11(n)(40MHz) MCS7 | Low Channel 37 (5190 MHz) | | | 12.35 dBm | < 17 dBm | Pass | | | |
| | High Channel 47 (5230 MHz) | | | 13.688 dBm | < 17 dBm | Pass | | | |
| | Low Channel 53 (5270 MHz) | | | 17.398 dBm | < 24 dBm | Pass | | | |
| | High Channel 63 (5310 MHz) | | | 17.752 dBm | < 24 dBm | Pass | | | |
| | Low Channel 101 (5510 MHz) | | | 21.259 dBm | < 24 dBm | Pass | | | |
| | High Channel 130 (5670 MHz) | | | 19.137 dBm | < 24 dBm | Pass | | | |
| 802.11(n)(40MHz) MCS8 | Low Channel 37 (5190 MHz) | | | 12.94 dBm | < 17 dBm | Pass | | | |
| | High Channel 47 (5230 MHz) | | | 14.534 dBm | < 17 dBm | Pass | | | |
| | Low Channel 53 (5270 MHz) | | | 18.904 dBm | < 24 dBm | Pass | | | |
| | High Channel 63 (5310 MHz) | | | 17.856 dBm | < 24 dBm | Pass | | | |
| | Low Channel 101 (5510 MHz) | | | 21.227 dBm | < 24 dBm | Pass | | | |
| | High Channel 130 (5670 MHz) | | | 19.202 dBm | < 24 dBm | Pass | | | |
| 802.11(n)(40MHz) MCS15 | Low Channel 37 (5190 MHz) | | | 12.455 dBm | < 17 dBm | Pass | | | |
| | High Channel 47 (5230 MHz) | | | 13.654 dBm | < 17 dBm | Pass | | | |
| | Low Channel 53 (5270 MHz) | | | 16.836 dBm | < 24 dBm | Pass | | | |
| | High Channel 63 (5310 MHz) | | | 18.178 dBm | < 24 dBm | Pass | | | |
| | Low Channel 101 (5510 MHz) | | | 21.237 dBm | < 24 dBm | Pass | | | |
| | High Channel 130 (5670 MHz) | | | 19.036 dBm | < 24 dBm | Pass | | | |

802.11(n) MCS8, Low Channel 100 (5500 MHz)



802.11(n)(40MHz) MCS0, Low Channel 101 (5510 MHz)



802.11(n)(40MHz) MCS8, High Channel 47 (5230 MHz)



Frequency Stability

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

| TEST EQUIPMENT | | | | | | |
|-------------------------------|---------------------------|--------------------|-----|-----------|----------|--|
| Description | Manufacturer | Model | ID | Last Cal. | Interval | |
| Power Sensor | Agilent | E4412A | SQE | 4/21/2010 | 24 | |
| Power Sensor | Hewlett Packard | 8481 | SQP | 6/7/2010 | 24 | |
| Power Meter | Hewlett Packard | E4418A | SPA | 4/21/2010 | 24 | |
| Chamber, Temperature/Humidity | Cincinnati Sub Zero (CSZ) | ZPHS-32-3.5-SCT/AC | TBE | 6/8/2010 | 24 | |
| Spectrum Analyzer | Agilent | E4446A | AAY | 1/11/2011 | 12 | |

MEASUREMENT UNCERTAINTY

A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of nominal

Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30 ° to +50° C) and at 10°C intervals.

A direct connect measurement was made between the EUT's antenna cable and a spectrum analyzer. The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT. Measurements were made at the mid channel of each band to determine frequency stability. If the frequency variation is less than 100 ppm, the EUT will meet the requirement of 15.407(g), that the emissions are maintained within the band of operation.

| NORTHWEST | | Frequency Stability | | XMit 2010.07.29 |
|------------------------------------|---|--|--|------------------------|
| EMC | | | | |
| EUT: WMIA-199NI | | | | Work Order: PROS0109 |
| Serial Number: 09435H1000039 | | | | Date: 06/23/11 |
| Customer: ProSoft Technology, Inc. | | | | Temperature: 22.06°C |
| Attendee: None | | | | Humidity: 48% |
| Project: None | | | | Barometric Pres.: 1011 |
| Tested by: Jaemi Suh | | Power: 120V/60Hz | | Job Site: OC11 |
| TEST SPECIFICATIONS | | TEST METHOD | | |
| FCC 15.407:2010 | | ANSI C63.10:2009 | | |
| COMMENTS | | Operating at 802.11a/n | | |
| DEVIATIONS FROM TEST STANDARD | | | | |
| Configuration # | 1 |  Signature | | |

Low Channel, 5150 MHz - 5250 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20°C)

| Voltage (VDC) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|---------------|--------------------------|--------------------------|-----------------|---------------------|
| 3.8 (115%) | 5180.000000 | 5180.000209 | 0.04 | 10 |
| 3.3 (100%) | 5180.000000 | 5180.000223 | 0.04 | 10 |
| 2.8 (85%) | 5180.000000 | 5180.000195 | 0.04 | 10 |

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC & 5.0 VDC)

| Temp (°C) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|-----------|--------------------------|--------------------------|-----------------|---------------------|
| 50 | 5180.000000 | 5179.999849 | 0.03 | 10 |
| 40 | 5180.000000 | 5180.000309 | 0.06 | 10 |
| 30 | 5180.000000 | 5180.000342 | 0.07 | 10 |
| 20 | 5180.000000 | 5179.999833 | 0.03 | 10 |
| 10 | 5180.000000 | 5179.999437 | 0.11 | 10 |
| 0 | 5180.000000 | 5180.000089 | 0.02 | 10 |
| -10 | 5180.000000 | 5180.000634 | 0.12 | 10 |
| -20 | 5180.000000 | 5180.000326 | 0.06 | 10 |
| -30 | 5180.000000 | 5180.000444 | 0.09 | 10 |

High Channel, 5250 MHz - 5350 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20°C)

| Voltage (VDC) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|---------------|--------------------------|--------------------------|-----------------|---------------------|
| 3.8 (115%) | 5320.000000 | 5320.000215 | 0.04 | 10 |
| 3.3 (100%) | 5320.000000 | 5320.000221 | 0.04 | 10 |
| 2.8 (85%) | 5320.000000 | 5320.000186 | 0.03 | 10 |

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

| Temp (°C) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|-----------|--------------------------|--------------------------|-----------------|---------------------|
| 50 | 5320.000000 | 5319.999845 | 0.03 | 10 |
| 40 | 5320.000000 | 5320.000308 | 0.06 | 10 |
| 30 | 5320.000000 | 5320.000350 | 0.07 | 10 |
| 20 | 5320.000000 | 5319.999800 | 0.04 | 10 |
| 10 | 5320.000000 | 5319.999446 | 0.10 | 10 |
| 0 | 5320.000000 | 5320.000096 | 0.02 | 10 |
| -10 | 5320.000000 | 5320.000652 | 0.12 | 10 |
| -20 | 5320.000000 | 5320.000321 | 0.06 | 10 |
| -30 | 5320.000000 | 5320.000560 | 0.11 | 10 |

Low Channel, 5470 MHz - 5725 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20°C)

| Voltage (VDC) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|---------------|--------------------------|--------------------------|-----------------|---------------------|
| 3.8 (115%) | 5500.000000 | 5500.000228 | 0.04 | 10 |
| 3.3 (100%) | 5500.000000 | 5500.000219 | 0.04 | 10 |
| 2.8 (85%) | 5500.000000 | 5500.000189 | 0.03 | 10 |

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

| Temp (°C) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|-----------|--------------------------|--------------------------|-----------------|---------------------|
| 50 | 5500.000000 | 5499.999845 | 0.03 | 10 |
| 40 | 5500.000000 | 5500.000317 | 0.06 | 10 |
| 30 | 5500.000000 | 5500.000360 | 0.07 | 10 |
| 20 | 5500.000000 | 5499.999766 | 0.04 | 10 |
| 10 | 5500.000000 | 5499.999420 | 0.11 | 10 |
| 0 | 5500.000000 | 5500.000064 | 0.01 | 10 |
| -10 | 5500.000000 | 5500.000666 | 0.12 | 10 |
| -20 | 5500.000000 | 5500.000318 | 0.06 | 10 |
| -30 | 5500.000000 | 5500.000563 | 0.10 | 10 |

High Channel, 5470 MHz - 5725 MHz Band

Frequency Stability with Variation of DC Voltage (Ambient Temperature = 20°C)

| Voltage (VDC) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|---------------|--------------------------|--------------------------|-----------------|---------------------|
| 3.8 (115%) | 5700.000000 | 5700.000257 | 0.05 | 10 |
| 3.3 (100%) | 5700.000000 | 5700.000236 | 0.04 | 10 |
| 2.8 (85%) | 5700.000000 | 5700.000197 | 0.03 | 10 |

Frequency Stability with Variation of Ambient Temperature (Primary Supply = 3.3 VDC)

| Temp (°C) | Assigned Frequency (MHz) | Measured Frequency (MHz) | Tolerance (ppm) | Specification (ppm) |
|-----------|--------------------------|--------------------------|-----------------|---------------------|
| 50 | 5700.000000 | 5699.999854 | 0.03 | 10 |
| 40 | 5700.000000 | 5700.000329 | 0.06 | 10 |
| 30 | 5700.000000 | 5700.000384 | 0.07 | 10 |
| 20 | 5700.000000 | 5699.999760 | 0.04 | 10 |
| 10 | 5700.000000 | 5699.999400 | 0.11 | 10 |
| 0 | 5700.000000 | 5700.000310 | 0.05 | 10 |
| -10 | 5700.000000 | 5700.000699 | 0.12 | 10 |
| -20 | 5700.000000 | 5700.000497 | 0.09 | 10 |
| -30 | 5700.000000 | 5700.000584 | 0.10 | 10 |

EMC**AC Power Line Conducted Emissions**

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Continuous Transmit

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

PROS0109 - 2

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|------------------|-----------------|------------------|-----|-----------|----------|
| LISN | Solar | 9252-50-R-24-BNC | LIC | 4/26/2011 | 12 mo |
| LISN | Solar | 9252-50-24-BNC | LIA | 6/13/2011 | 12 mo |
| Attenuator | Pasternack | 6N10W-20 | AWC | 3/2/2011 | 12 mo |
| High Pass Filter | TTE | H97-100K-50-720B | HFP | 3/8/2010 | 24 mo |
| OC06 Cables | N/A | CE Cables | OCM | 4/7/2011 | 12 mo |
| Receiver | Rohde & Schwarz | ESCI | ARF | 4/1/2011 | 12 mo |

MEASUREMENT BANDWIDTHS

| | Frequency Range | Peak Data | Quasi-Peak Data | Average Data |
|-------------|-----------------|-----------|-----------------|--------------|
| | (MHz) | (kHz) | (kHz) | (kHz) |
| 0.01 - 0.15 | 1.0 | 0.2 | 0.2 | 0.2 |
| 0.15 - 30.0 | 10.0 | 9.0 | 9.0 | 9.0 |
| 30.0 - 1000 | 100.0 | 120.0 | 120.0 | 120.0 |
| Above 1000 | 1000.0 | N/A | N/A | 1000.0 |

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

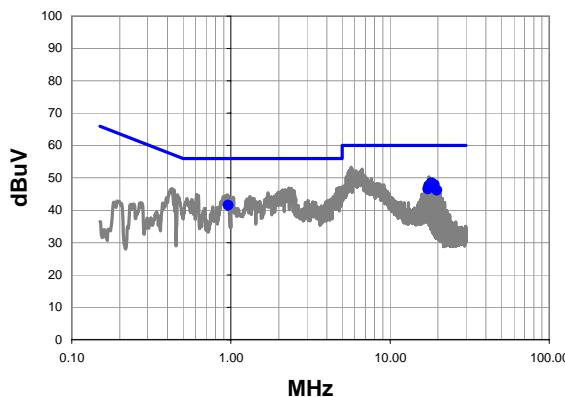
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

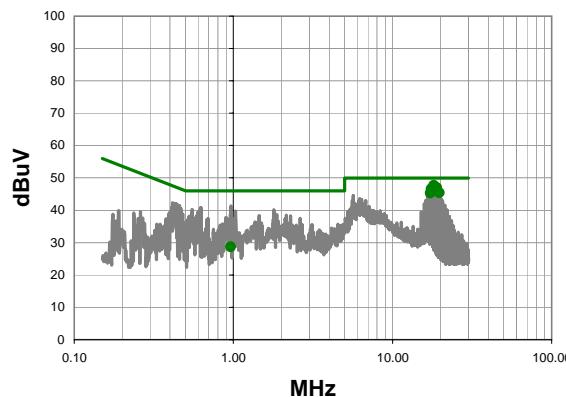
Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm.

| | | | | | |
|---------------------|---|-------------------|-----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 36 - 5180 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 1 | Line: | High Line | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

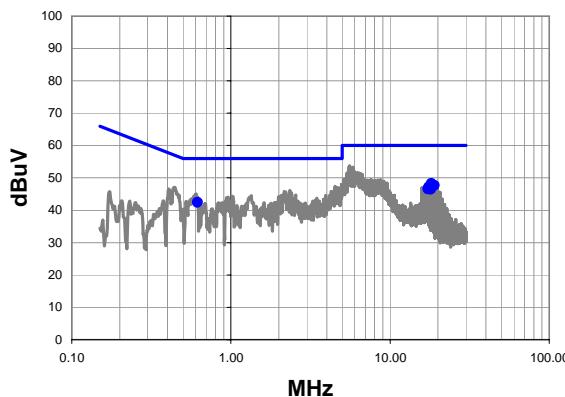
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 27.6 | 20.9 | 48.5 | 60.0 | -11.5 |
| 18.950 | 26.9 | 20.9 | 47.8 | 60.0 | -12.2 |
| 17.530 | 26.7 | 20.9 | 47.6 | 60.0 | -12.4 |
| 17.290 | 25.7 | 20.9 | 46.6 | 60.0 | -13.4 |
| 19.660 | 25.2 | 21.0 | 46.2 | 60.0 | -13.8 |
| 0.964 | 21.4 | 20.1 | 41.5 | 56.0 | -14.5 |

Average Data - vs - Average Limit

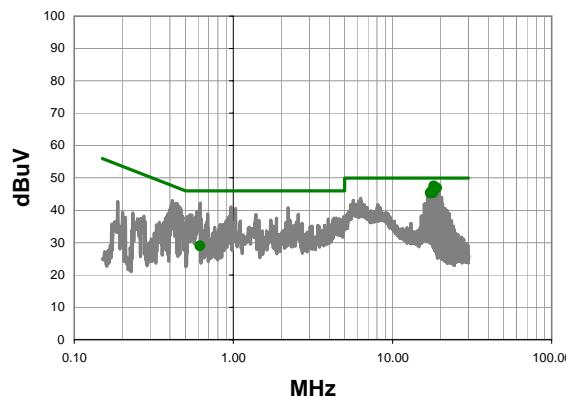
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.8 | 20.9 | 47.7 | 50.0 | -2.3 |
| 18.950 | 26.1 | 20.9 | 47.0 | 50.0 | -3.0 |
| 17.530 | 25.7 | 20.9 | 46.6 | 50.0 | -3.4 |
| 19.660 | 24.4 | 21.0 | 45.4 | 50.0 | -4.6 |
| 17.290 | 24.4 | 20.9 | 45.3 | 50.0 | -4.7 |
| 0.964 | 8.6 | 20.1 | 28.7 | 46.0 | -17.3 |

| | | | | | |
|---------------------|---|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 36 - 5180 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 2 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

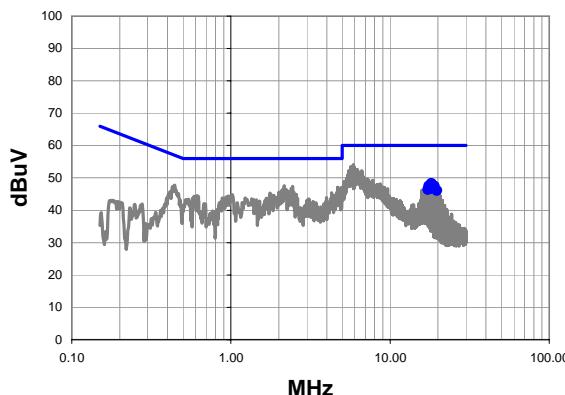
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 27.4 | 20.9 | 48.3 | 60.0 | -11.7 |
| 18.950 | 26.7 | 20.9 | 47.6 | 60.0 | -12.4 |
| 17.526 | 26.3 | 20.9 | 47.2 | 60.0 | -12.8 |
| 17.292 | 25.7 | 20.9 | 46.6 | 60.0 | -13.4 |
| 18.004 | 25.6 | 20.9 | 46.5 | 60.0 | -13.5 |
| 0.617 | 22.3 | 20.1 | 42.4 | 56.0 | -13.6 |

Average Data - vs - Average Limit

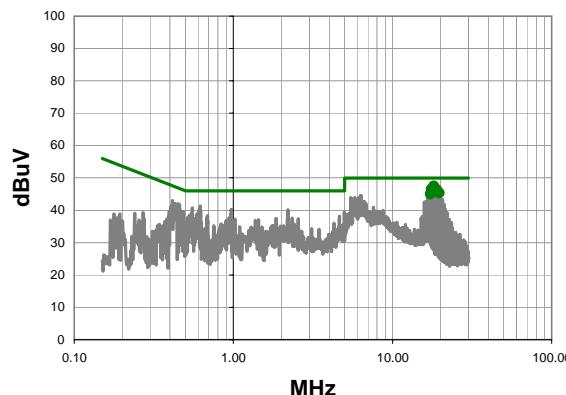
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.6 | 20.9 | 47.5 | 50.0 | -2.5 |
| 18.950 | 26.0 | 20.9 | 46.9 | 50.0 | -3.1 |
| 17.526 | 24.8 | 20.9 | 45.7 | 50.0 | -4.3 |
| 18.004 | 24.5 | 20.9 | 45.4 | 50.0 | -4.6 |
| 17.292 | 24.4 | 20.9 | 45.3 | 50.0 | -4.7 |
| 0.617 | 8.9 | 20.1 | 29.0 | 46.0 | -17.0 |

| | | | | | |
|---------------------|---|-------------------|-----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 48 - 5240 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 3 | Line: | High Line | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

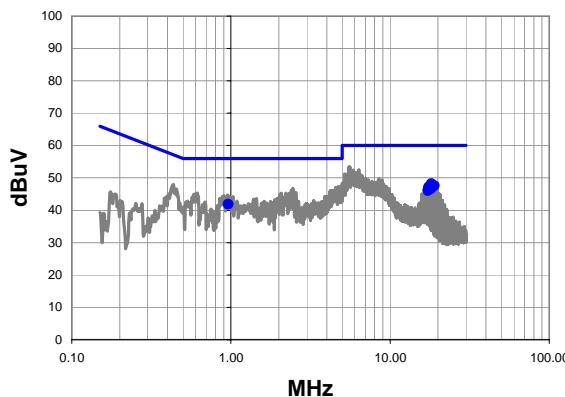
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 27.4 | 20.9 | 48.3 | 60.0 | -11.7 |
| 17.530 | 26.6 | 20.9 | 47.5 | 60.0 | -12.5 |
| 18.950 | 26.5 | 20.9 | 47.4 | 60.0 | -12.6 |
| 18.000 | 25.8 | 20.9 | 46.7 | 60.0 | -13.3 |
| 17.290 | 25.5 | 20.9 | 46.4 | 60.0 | -13.6 |
| 19.660 | 25.1 | 21.0 | 46.1 | 60.0 | -13.9 |

Average Data - vs - Average Limit

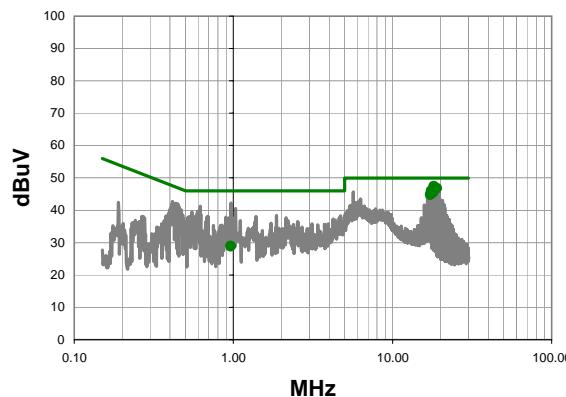
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.6 | 20.9 | 47.5 | 50.0 | -2.5 |
| 17.530 | 25.6 | 20.9 | 46.5 | 50.0 | -3.5 |
| 18.950 | 25.5 | 20.9 | 46.4 | 50.0 | -3.6 |
| 18.000 | 24.9 | 20.9 | 45.8 | 50.0 | -4.2 |
| 19.660 | 24.3 | 21.0 | 45.3 | 50.0 | -4.7 |
| 17.290 | 24.1 | 20.9 | 45.0 | 50.0 | -5.0 |

| | | | | | |
|---------------------|---|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 48 - 5240 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 4 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

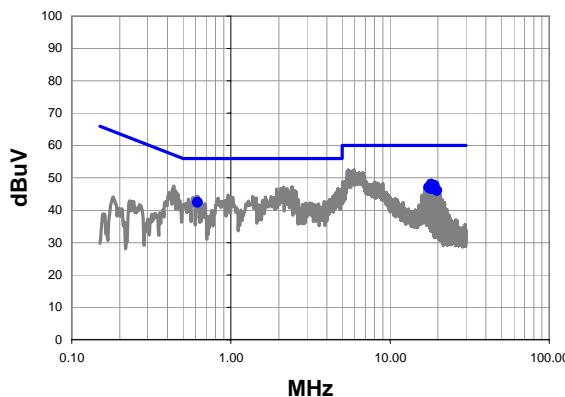
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 27.3 | 20.9 | 48.2 | 60.0 | -11.8 |
| 18.950 | 26.6 | 20.9 | 47.5 | 60.0 | -12.5 |
| 17.530 | 26.3 | 20.9 | 47.2 | 60.0 | -12.8 |
| 18.004 | 25.7 | 20.9 | 46.6 | 60.0 | -13.4 |
| 17.290 | 25.2 | 20.9 | 46.1 | 60.0 | -13.9 |
| 0.964 | 21.7 | 20.1 | 41.8 | 56.0 | -14.2 |

Average Data - vs - Average Limit

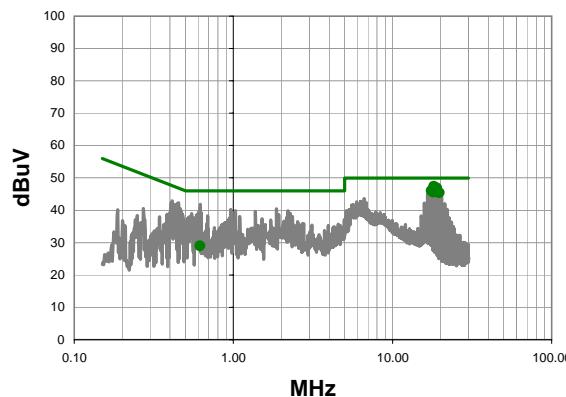
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.5 | 20.9 | 47.4 | 50.0 | -2.6 |
| 18.950 | 25.9 | 20.9 | 46.8 | 50.0 | -3.2 |
| 17.530 | 25.1 | 20.9 | 46.0 | 50.0 | -4.0 |
| 18.004 | 24.6 | 20.9 | 45.5 | 50.0 | -4.5 |
| 17.290 | 23.9 | 20.9 | 44.8 | 50.0 | -5.2 |
| 0.964 | 8.8 | 20.1 | 28.9 | 46.0 | -17.1 |

| | | | | | |
|---------------------|---|-------------------|-----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 52 - 5260 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 5 | Line: | High Line | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

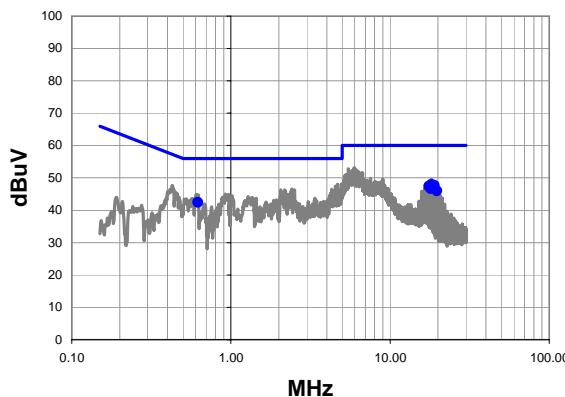
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.236 | 27.1 | 20.9 | 48.0 | 60.0 | -12.0 |
| 18.950 | 26.7 | 20.9 | 47.6 | 60.0 | -12.4 |
| 17.526 | 26.2 | 20.9 | 47.1 | 60.0 | -12.9 |
| 18.004 | 25.8 | 20.9 | 46.7 | 60.0 | -13.3 |
| 0.617 | 22.3 | 20.1 | 42.4 | 56.0 | -13.6 |
| 19.660 | 25.1 | 21.0 | 46.1 | 60.0 | -13.9 |

Average Data - vs - Average Limit

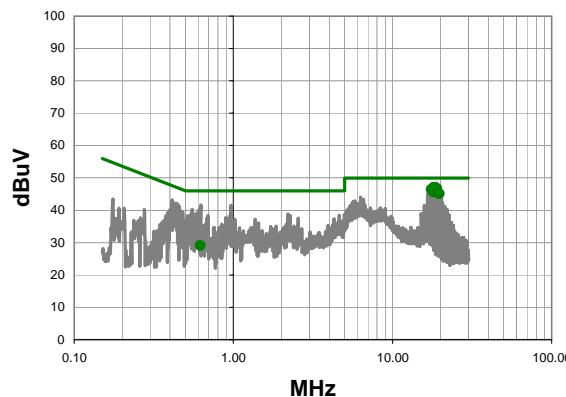
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.236 | 26.5 | 20.9 | 47.4 | 50.0 | -2.6 |
| 18.950 | 26.0 | 20.9 | 46.9 | 50.0 | -3.1 |
| 17.526 | 25.1 | 20.9 | 46.0 | 50.0 | -4.0 |
| 18.004 | 24.7 | 20.9 | 45.6 | 50.0 | -4.4 |
| 19.660 | 24.4 | 21.0 | 45.4 | 50.0 | -4.6 |
| 0.617 | 8.9 | 20.1 | 29.0 | 46.0 | -17.0 |

| | | | | | |
|---------------------|---|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 52 - 5260 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 6 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

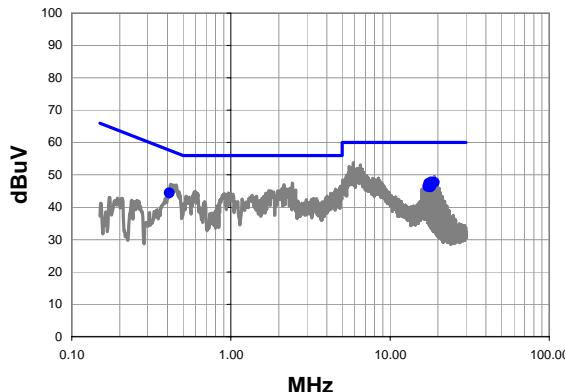
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 27.1 | 20.9 | 48.0 | 60.0 | -12.0 |
| 18.950 | 26.7 | 20.9 | 47.6 | 60.0 | -12.4 |
| 17.530 | 26.5 | 20.9 | 47.4 | 60.0 | -12.6 |
| 18.004 | 25.8 | 20.9 | 46.7 | 60.0 | -13.3 |
| 0.620 | 22.3 | 20.1 | 42.4 | 56.0 | -13.6 |
| 19.660 | 25.0 | 21.0 | 46.0 | 60.0 | -14.0 |

Average Data - vs - Average Limit

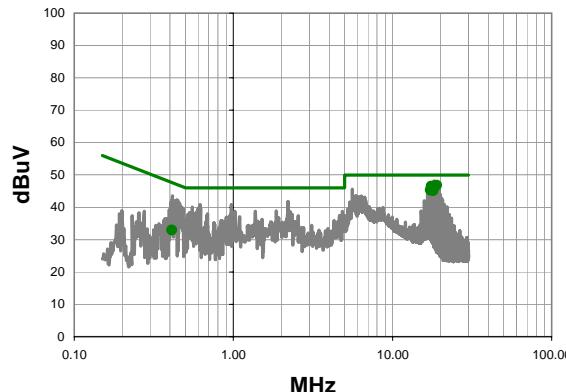
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.2 | 20.9 | 47.1 | 50.0 | -2.9 |
| 18.950 | 25.9 | 20.9 | 46.8 | 50.0 | -3.2 |
| 17.530 | 25.5 | 20.9 | 46.4 | 50.0 | -3.6 |
| 18.004 | 24.8 | 20.9 | 45.7 | 50.0 | -4.3 |
| 19.660 | 24.1 | 21.0 | 45.1 | 50.0 | -4.9 |
| 0.620 | 9.0 | 20.1 | 29.1 | 46.0 | -16.9 |

| | | | | | |
|---------------------|---|-------------------|-------------------|---|---------------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 64 - 5320 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | Test Method | | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | | |
| Run # | 7 | Line: High Line | Ext. Attenuation: | 20 | Results: Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

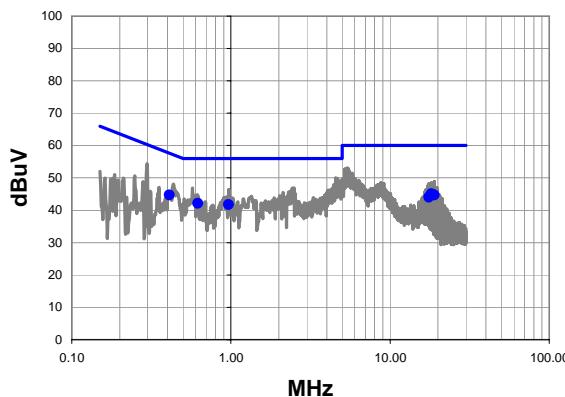
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 26.9 | 20.9 | 47.8 | 60.0 | -12.2 |
| 18.950 | 26.7 | 20.9 | 47.6 | 60.0 | -12.4 |
| 17.530 | 26.5 | 20.9 | 47.4 | 60.0 | -12.6 |
| 0.410 | 24.3 | 20.1 | 44.4 | 57.6 | -13.2 |
| 17.290 | 25.5 | 20.9 | 46.4 | 60.0 | -13.6 |
| 18.000 | 25.4 | 20.9 | 46.3 | 60.0 | -13.7 |

Average Data - vs - Average Limit

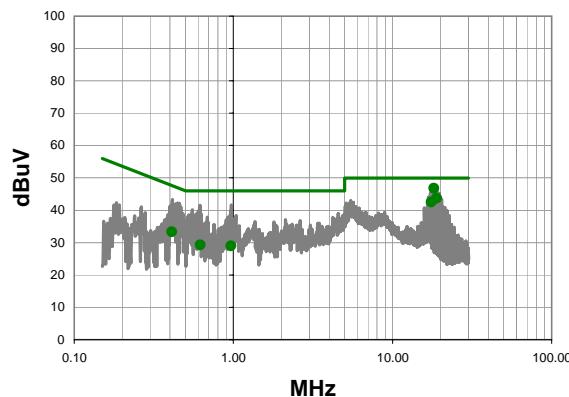
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.950 | 25.9 | 20.9 | 46.8 | 50.0 | -3.2 |
| 18.240 | 25.6 | 20.9 | 46.5 | 50.0 | -3.5 |
| 17.530 | 25.6 | 20.9 | 46.5 | 50.0 | -3.5 |
| 17.290 | 24.4 | 20.9 | 45.3 | 50.0 | -4.7 |
| 18.000 | 24.2 | 20.9 | 45.1 | 50.0 | -4.9 |
| 0.410 | 12.8 | 20.1 | 32.9 | 47.6 | -14.7 |

| | | | | | |
|---------------------|---|-------------------|----------|--|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  Tested by: Johnny Candelas | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 64 - 5320 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 8 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

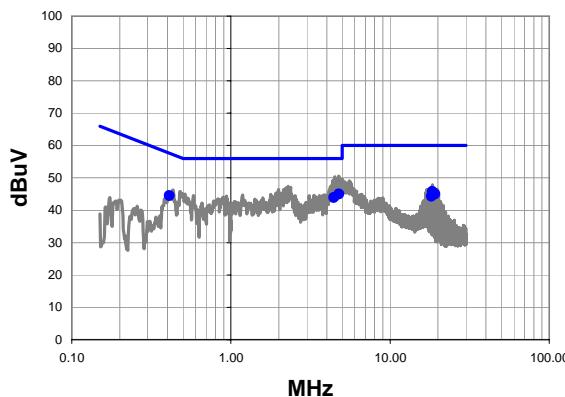
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 0.410 | 24.6 | 20.1 | 44.7 | 57.6 | -12.9 |
| 0.620 | 22.0 | 20.1 | 42.1 | 56.0 | -13.9 |
| 0.965 | 21.6 | 20.1 | 41.7 | 56.0 | -14.3 |
| 18.240 | 24.2 | 20.9 | 45.1 | 60.0 | -14.9 |
| 18.950 | 23.8 | 20.9 | 44.7 | 60.0 | -15.3 |
| 17.530 | 23.1 | 20.9 | 44.0 | 60.0 | -16.0 |

Average Data - vs - Average Limit

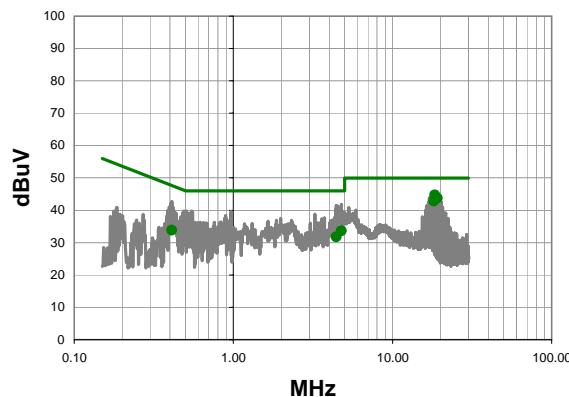
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 25.9 | 20.9 | 46.8 | 50.0 | -3.2 |
| 18.950 | 22.8 | 20.9 | 43.7 | 50.0 | -6.3 |
| 17.530 | 21.6 | 20.9 | 42.5 | 50.0 | -7.5 |
| 0.410 | 13.2 | 20.1 | 33.3 | 47.6 | -14.3 |
| 0.620 | 9.2 | 20.1 | 29.3 | 46.0 | -16.7 |
| 0.965 | 8.9 | 20.1 | 29.0 | 46.0 | -17.0 |

| | | | | | |
|---------------------|--|-------------------|------------------|--|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  Tested by: Johnny Candelas | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 100 - 5500 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | Test Method | | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | | |
| Run # | 9 | Line: | High Line | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

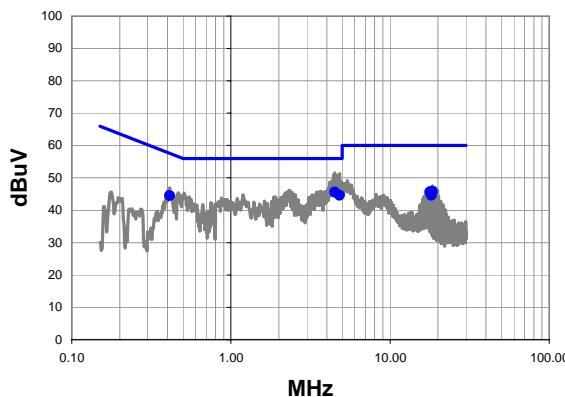
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.768 | 24.9 | 20.1 | 45.0 | 56.0 | -11.0 |
| 4.424 | 23.8 | 20.1 | 43.9 | 56.0 | -12.1 |
| 0.410 | 24.4 | 20.1 | 44.5 | 57.6 | -13.1 |
| 18.474 | 24.9 | 20.9 | 45.8 | 60.0 | -14.2 |
| 19.182 | 24.0 | 21.0 | 45.0 | 60.0 | -15.0 |
| 18.232 | 23.4 | 20.9 | 44.3 | 60.0 | -15.7 |

Average Data - vs - Average Limit

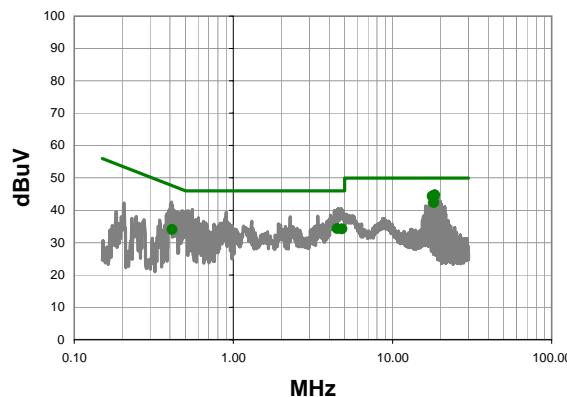
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.474 | 23.8 | 20.9 | 44.7 | 50.0 | -5.3 |
| 19.182 | 22.8 | 21.0 | 43.8 | 50.0 | -6.2 |
| 18.232 | 21.9 | 20.9 | 42.8 | 50.0 | -7.2 |
| 4.768 | 13.5 | 20.1 | 33.6 | 46.0 | -12.4 |
| 0.410 | 13.7 | 20.1 | 33.8 | 47.6 | -13.8 |
| 4.424 | 11.7 | 20.1 | 31.8 | 46.0 | -14.2 |

| | | | | | |
|---------------------|--|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 100 - 5500 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 10 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

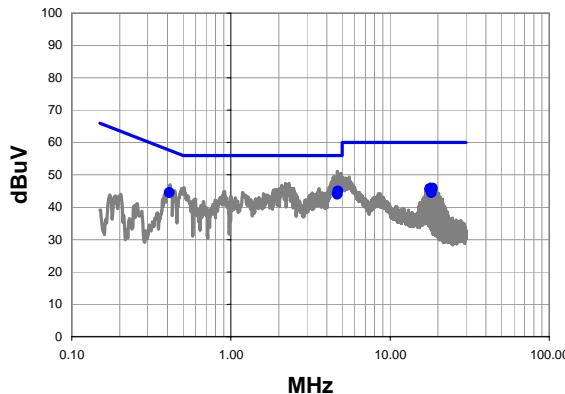
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.496 | 25.5 | 20.1 | 45.6 | 56.0 | -10.4 |
| 4.828 | 24.5 | 20.1 | 44.6 | 56.0 | -11.4 |
| 0.412 | 24.4 | 20.1 | 44.5 | 57.6 | -13.1 |
| 18.470 | 24.9 | 20.9 | 45.8 | 60.0 | -14.2 |
| 17.760 | 24.7 | 20.9 | 45.6 | 60.0 | -14.4 |
| 18.236 | 23.7 | 20.9 | 44.6 | 60.0 | -15.4 |

Average Data - vs - Average Limit

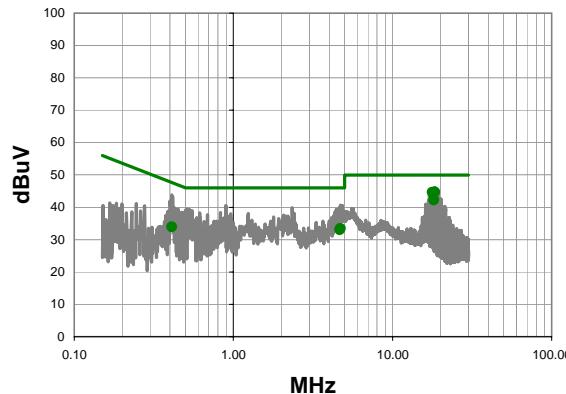
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.470 | 23.8 | 20.9 | 44.7 | 50.0 | -5.3 |
| 17.760 | 23.4 | 20.9 | 44.3 | 50.0 | -5.7 |
| 18.236 | 21.4 | 20.9 | 42.3 | 50.0 | -7.7 |
| 4.496 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |
| 4.828 | 14.1 | 20.1 | 34.2 | 46.0 | -11.8 |
| 0.412 | 13.9 | 20.1 | 34.0 | 47.6 | -13.6 |

| | | | | | |
|---------------------|--|-------------------|------------------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 116 - 5580 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | Test Method | | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | | |
| Run # | 11 | Line: | High Line | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

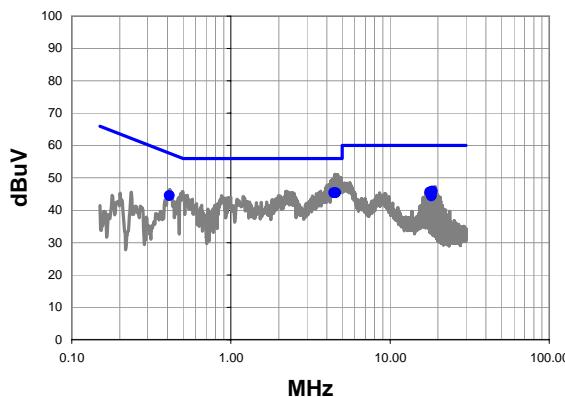
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.700 | 24.9 | 20.1 | 45.0 | 56.0 | -11.0 |
| 4.672 | 23.9 | 20.1 | 44.0 | 56.0 | -12.0 |
| 0.410 | 24.4 | 20.1 | 44.5 | 57.6 | -13.1 |
| 18.470 | 25.0 | 20.9 | 45.9 | 60.0 | -14.1 |
| 17.760 | 24.8 | 20.9 | 45.7 | 60.0 | -14.3 |
| 18.236 | 23.6 | 20.9 | 44.5 | 60.0 | -15.5 |

Average Data - vs - Average Limit

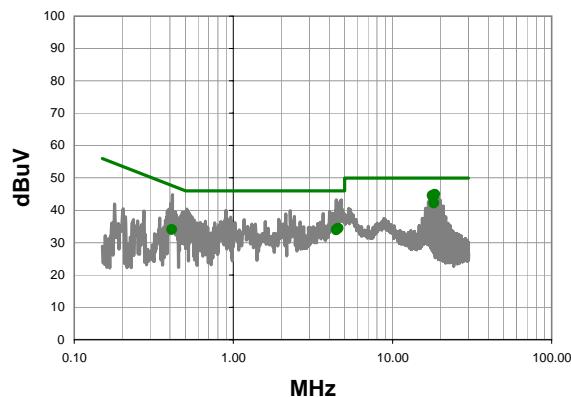
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.470 | 23.8 | 20.9 | 44.7 | 50.0 | -5.3 |
| 17.760 | 23.7 | 20.9 | 44.6 | 50.0 | -5.4 |
| 18.236 | 21.3 | 20.9 | 42.2 | 50.0 | -7.8 |
| 4.700 | 13.3 | 20.1 | 33.4 | 46.0 | -12.6 |
| 4.672 | 12.9 | 20.1 | 33.0 | 46.0 | -13.0 |
| 0.410 | 13.8 | 20.1 | 33.9 | 47.6 | -13.7 |

| | | | | | |
|---------------------|--|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 116 - 5580 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 12 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

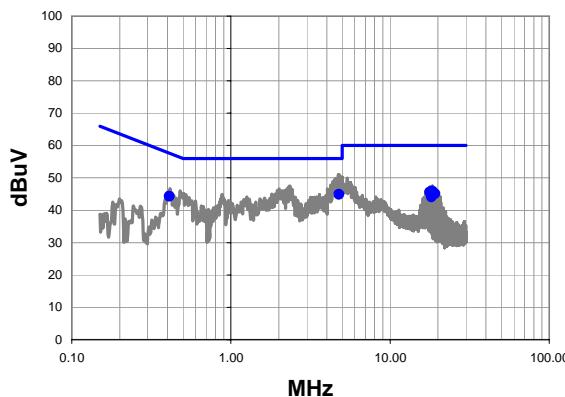
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.424 | 25.3 | 20.1 | 45.4 | 56.0 | -10.6 |
| 4.556 | 25.3 | 20.1 | 45.4 | 56.0 | -10.6 |
| 0.410 | 24.4 | 20.1 | 44.5 | 57.6 | -13.1 |
| 18.470 | 25.0 | 20.9 | 45.9 | 60.0 | -14.1 |
| 17.760 | 24.7 | 20.9 | 45.6 | 60.0 | -14.4 |
| 18.236 | 23.5 | 20.9 | 44.4 | 60.0 | -15.6 |

Average Data - vs - Average Limit

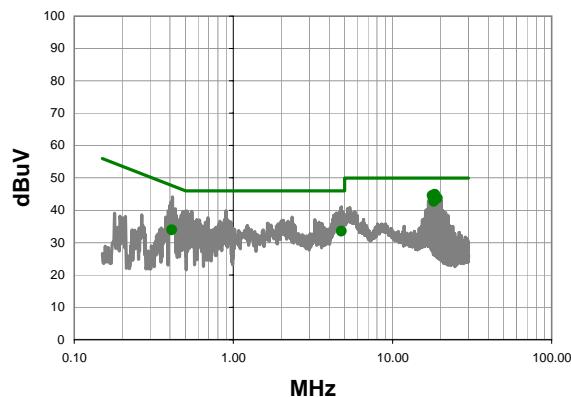
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.470 | 24.0 | 20.9 | 44.9 | 50.0 | -5.1 |
| 17.760 | 23.6 | 20.9 | 44.5 | 50.0 | -5.5 |
| 18.236 | 21.3 | 20.9 | 42.2 | 50.0 | -7.8 |
| 4.556 | 14.3 | 20.1 | 34.4 | 46.0 | -11.6 |
| 4.424 | 13.8 | 20.1 | 33.9 | 46.0 | -12.1 |
| 0.410 | 13.9 | 20.1 | 34.0 | 47.6 | -13.6 |

| | | | | |
|---------------------|--|-------------------|-----------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | |
| EUT: | WMIA-199NI | | |  |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11a, Ch 140 - 5700 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 13 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

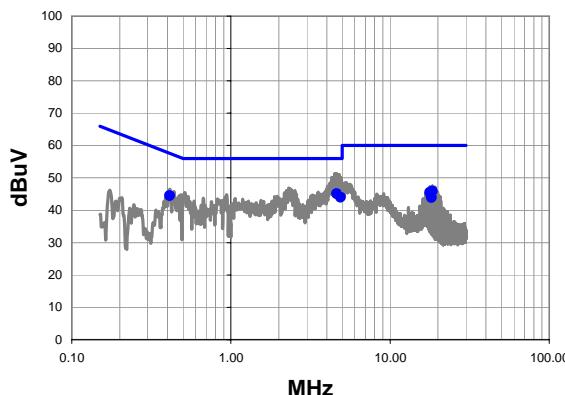
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.764 | 24.8 | 20.1 | 44.9 | 56.0 | -11.1 |
| 0.411 | 24.2 | 20.1 | 44.3 | 57.6 | -13.3 |
| 18.470 | 25.0 | 20.9 | 45.9 | 60.0 | -14.1 |
| 17.760 | 24.7 | 20.9 | 45.6 | 60.0 | -14.4 |
| 19.180 | 24.1 | 21.0 | 45.1 | 60.0 | -14.9 |
| 18.232 | 23.2 | 20.9 | 44.1 | 60.0 | -15.9 |

Average Data - vs - Average Limit

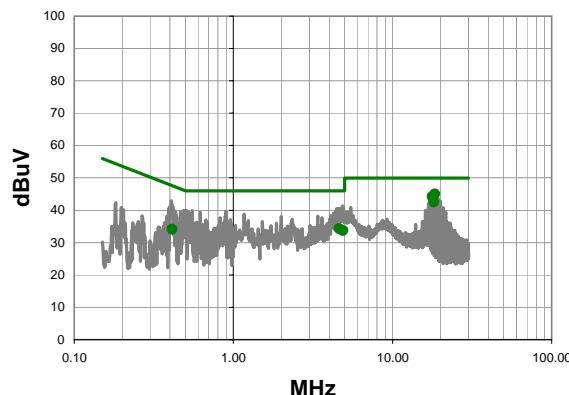
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.470 | 24.0 | 20.9 | 44.9 | 50.0 | -5.1 |
| 17.760 | 23.6 | 20.9 | 44.5 | 50.0 | -5.5 |
| 19.180 | 22.8 | 21.0 | 43.8 | 50.0 | -6.2 |
| 18.232 | 21.8 | 20.9 | 42.7 | 50.0 | -7.3 |
| 4.764 | 13.4 | 20.1 | 33.5 | 46.0 | -12.5 |
| 0.411 | 13.8 | 20.1 | 33.9 | 47.6 | -13.7 |

| | | | | | |
|---------------------|--|-------------------|----------|---|------|
| Work Order: | PROS0109 | Date: | 07/06/11 |  | |
| Project: | None | Temperature: | 22.41 | | |
| Job Site: | OC06 | Humidity: | 41.1 | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Johnny Candelas | |
| EUT: | WMIA-199NI | | | | |
| Configuration: | 2 | | | | |
| Customer: | ProSoft Technology, Inc. | | | | |
| Attendees: | None | | | | |
| EUT Power: | 120VAC/60Hz | | | | |
| Operating Mode: | Continuous Transmit | | | | |
| Deviations: | No deviations. | | | | |
| Comments: | 802.11a, Ch 140 - 5700 MHz, 6Mbps. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | |
| Test Specifications | | Class B | | Test Method | |
| FCC 15.407:2011 | | | | ANSI C63.10:2009 | |
| Run # | 14 | Line: | Neutral | Ext. Attenuation: | 20 |
| | | | | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.628 | 25.0 | 20.1 | 45.1 | 56.0 | -10.9 |
| 4.876 | 23.9 | 20.1 | 44.0 | 56.0 | -12.0 |
| 0.412 | 24.4 | 20.1 | 44.5 | 57.6 | -13.1 |
| 18.470 | 25.0 | 20.9 | 45.9 | 60.0 | -14.1 |
| 17.760 | 24.6 | 20.9 | 45.5 | 60.0 | -14.5 |
| 18.232 | 23.0 | 20.9 | 43.9 | 60.0 | -16.1 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.470 | 24.1 | 20.9 | 45.0 | 50.0 | -5.0 |
| 17.760 | 23.3 | 20.9 | 44.2 | 50.0 | -5.8 |
| 18.232 | 21.6 | 20.9 | 42.5 | 50.0 | -7.5 |
| 4.628 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |
| 4.876 | 13.6 | 20.1 | 33.7 | 46.0 | -12.3 |
| 0.412 | 14.0 | 20.1 | 34.1 | 47.6 | -13.5 |

EMC**AC Power Line Conducted Emissions**

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

MODES OF OPERATION

Continuous Transmit

POWER SETTINGS INVESTIGATED

120VAC/60Hz

CONFIGURATIONS INVESTIGATED

PROS0109 - 2

SAMPLE CALCULATIONS

Conducted Emissions: Adjusted Level = Measured Level + Transducer Factor + Cable Attenuation Factor + External Attenuator

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|------------------|-----------------|------------------|-----|-----------|----------|
| LISN | Solar | 9252-50-R-24-BNC | LIC | 4/26/2011 | 12 mo |
| LISN | Solar | 9252-50-24-BNC | LIB | 5/31/2011 | 12 mo |
| Attenuator | Pasternack | 6N10W-20 | AWC | 3/2/2011 | 12 mo |
| High Pass Filter | TTE | H97-100K-50-720B | HFP | 3/8/2010 | 24 mo |
| OC06 Cables | N/A | CE Cables | OCM | 4/7/2011 | 12 mo |
| Receiver | Rohde & Schwarz | ESCI | ARF | 4/1/2011 | 12 mo |

MEASUREMENT BANDWIDTHS

| | Frequency Range | Peak Data | Quasi-Peak Data | Average Data |
|-------------|-----------------|-----------|-----------------|--------------|
| | (MHz) | (kHz) | (kHz) | (kHz) |
| 0.01 - 0.15 | 1.0 | 0.2 | 0.2 | 0.2 |
| 0.15 - 30.0 | 10.0 | 9.0 | 9.0 | 9.0 |
| 30.0 - 1000 | 100.0 | 120.0 | 120.0 | 120.0 |
| Above 1000 | 1000.0 | N/A | N/A | 1000.0 |

Measurements were made using the bandwidths and detectors specified. No video filter was used.

MEASUREMENT UNCERTAINTY

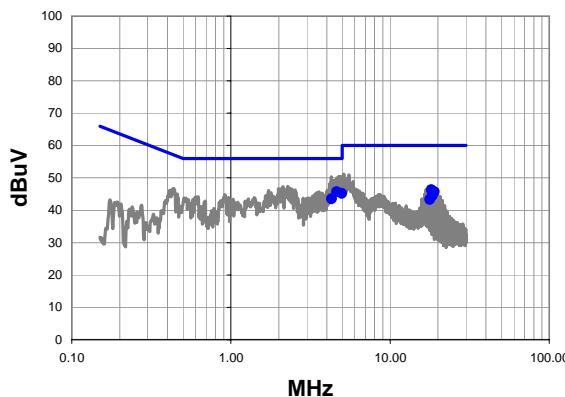
A measurement uncertainty estimation has been performed for each test per our internal quality document WP 342. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty for radiated emissions measurements is less than +/- 4 dB, and for conducted emissions measurements is less than +/- 2.7 dB. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for measurement uncertainty are available upon request.

TEST DESCRIPTION

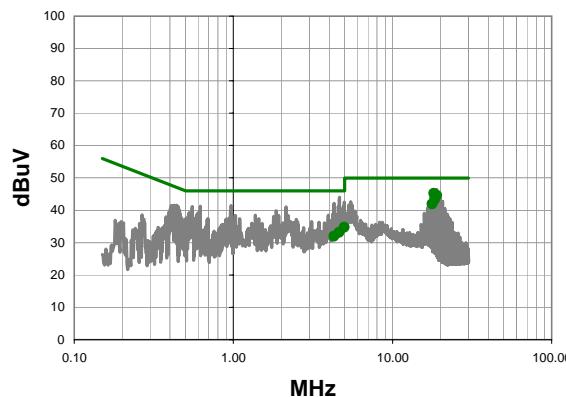
Using the mode of operation and configuration noted within this report, conducted emissions tests were performed. The frequency range investigated (scanned), is also noted in this report. Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with power cords that are normally used or that have electrical or shielding characteristics that are the same as those cords normally used. Typically those measurements are made using a LISN (Line Impedance Stabilization Network), the 50ohm measuring port is terminated by a 50ohm EMI meter or a 50ohm resistive load. All 50ohm measuring ports of the LISN are terminated by 50ohm.

| | | | | |
|---------------------|--|-------------------|-----------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 |  Tested by: Johnny Candelas |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 37 - 5190 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 1 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

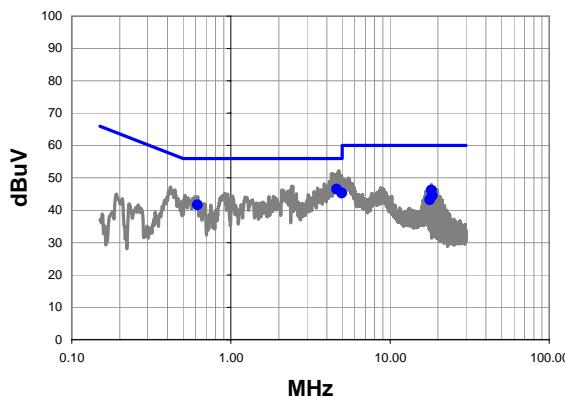
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.632 | 25.6 | 20.1 | 45.7 | 56.0 | -10.3 |
| 4.972 | 25.1 | 20.1 | 45.2 | 56.0 | -10.8 |
| 4.300 | 23.4 | 20.1 | 43.5 | 56.0 | -12.5 |
| 18.240 | 25.4 | 20.9 | 46.3 | 60.0 | -13.7 |
| 18.946 | 24.8 | 20.9 | 45.7 | 60.0 | -14.3 |
| 18.474 | 23.6 | 20.9 | 44.5 | 60.0 | -15.5 |
| 17.764 | 22.4 | 20.9 | 43.3 | 60.0 | -16.7 |

Average Data - vs - Average Limit

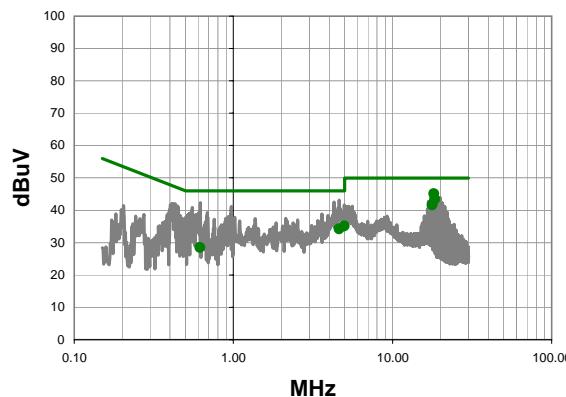
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.3 | 20.9 | 45.2 | 50.0 | -4.8 |
| 18.946 | 23.7 | 20.9 | 44.6 | 50.0 | -5.4 |
| 18.474 | 22.4 | 20.9 | 43.3 | 50.0 | -6.7 |
| 17.764 | 21.0 | 20.9 | 41.9 | 50.0 | -8.1 |
| 4.972 | 14.6 | 20.1 | 34.7 | 46.0 | -11.3 |
| 4.632 | 13.0 | 20.1 | 33.1 | 46.0 | -12.9 |
| 4.300 | 11.8 | 20.1 | 31.9 | 46.0 | -14.1 |

| | | | | |
|---------------------|--|-------------------|-----------------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | |
| EUT: | WMIA-199NI | Tested by: | Johnny Candelas |  |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 37 - 5190 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 2 | Line: | Neutral | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

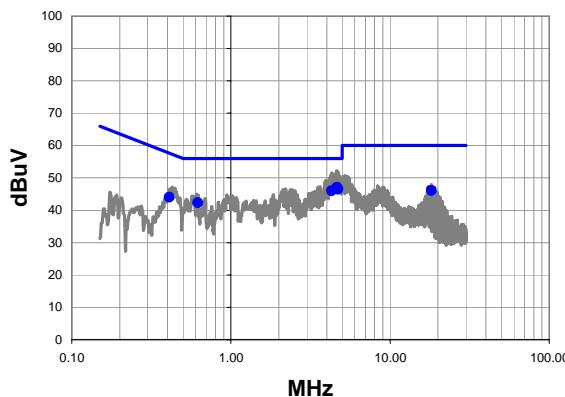
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.632 | 26.4 | 20.1 | 46.5 | 56.0 | -9.5 |
| 4.976 | 25.2 | 20.1 | 45.3 | 56.0 | -10.7 |
| 18.240 | 25.3 | 20.9 | 46.2 | 60.0 | -13.8 |
| 0.617 | 21.5 | 20.1 | 41.6 | 56.0 | -14.4 |
| 18.474 | 23.6 | 20.9 | 44.5 | 60.0 | -15.5 |
| 17.764 | 22.3 | 20.9 | 43.2 | 60.0 | -16.8 |

Average Data - vs - Average Limit

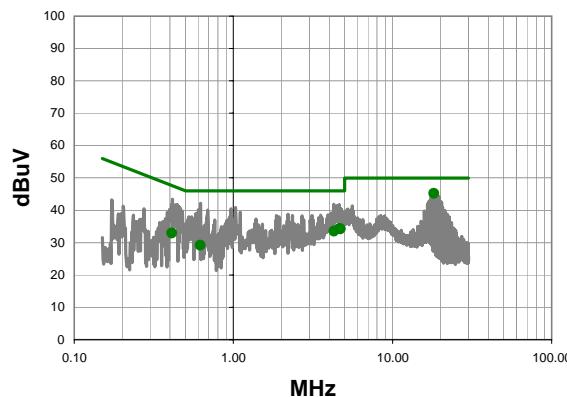
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.2 | 20.9 | 45.1 | 50.0 | -4.9 |
| 18.474 | 22.4 | 20.9 | 43.3 | 50.0 | -6.7 |
| 17.764 | 20.7 | 20.9 | 41.6 | 50.0 | -8.4 |
| 0.617 | 15.0 | 20.1 | 35.1 | 46.0 | -10.9 |
| 18.476 | 14.1 | 20.1 | 34.2 | 46.0 | -11.8 |
| 0.617 | 8.4 | 20.1 | 28.5 | 46.0 | -17.5 |

| | | | | |
|---------------------|--|-------------------|-------------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 47 - 5230 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 15 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

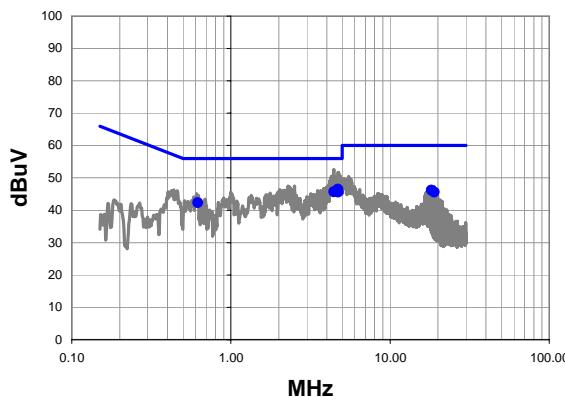
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.636 | 27.0 | 20.1 | 47.1 | 56.0 | -8.9 |
| 4.704 | 26.4 | 20.1 | 46.5 | 56.0 | -9.5 |
| 4.288 | 25.9 | 20.1 | 46.0 | 56.0 | -10.0 |
| 0.410 | 23.9 | 20.1 | 44.0 | 57.6 | -13.6 |
| 0.619 | 22.2 | 20.1 | 42.3 | 56.0 | -13.7 |
| 18.240 | 25.2 | 20.9 | 46.1 | 60.0 | -13.9 |

Average Data - vs - Average Limit

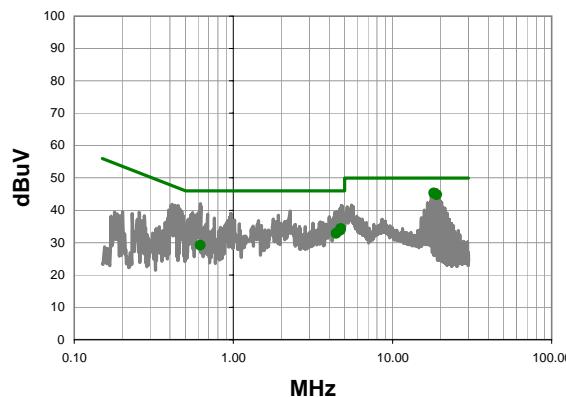
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.3 | 20.9 | 45.2 | 50.0 | -4.8 |
| 4.636 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |
| 4.704 | 14.1 | 20.1 | 34.2 | 46.0 | -11.8 |
| 4.288 | 13.4 | 20.1 | 33.5 | 46.0 | -12.5 |
| 0.410 | 12.8 | 20.1 | 32.9 | 47.6 | -14.7 |
| 0.619 | 9.1 | 20.1 | 29.2 | 46.0 | -16.8 |

| | | | | | | | |
|---------------------|--|-------------------|-------------|---|----|---------|------|
| Work Order: | PROS0109 | Date: | 07/06/11 | | | | |
| Project: | None | Temperature: | 22.41 | | | | |
| Job Site: | OC06 | Humidity: | 41.1 | | | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | | | | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  | | | |
| Configuration: | 2 | | | | | | |
| Customer: | ProSoft Technology, Inc. | | | | | | |
| Attendees: | None | | | | | | |
| EUT Power: | 120VAC/60Hz | | | | | | |
| Operating Mode: | Continuous Transmit | | | | | | |
| Deviations: | No deviations. | | | | | | |
| Comments: | 802.11n (40MHz), Ch 47 - 5230 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | | | |
| Test Specifications | Class B | Test Method | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | |
| Run # | 16 | Line: | Neutral | Ext. Attenuation: | 20 | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

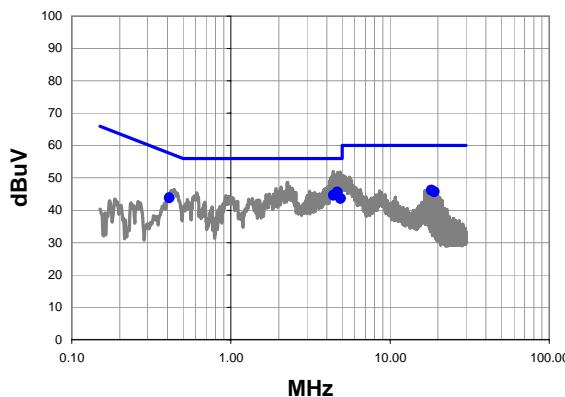
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.704 | 26.4 | 20.1 | 46.5 | 56.0 | -9.5 |
| 4.428 | 25.6 | 20.1 | 45.7 | 56.0 | -10.3 |
| 4.740 | 25.5 | 20.1 | 45.6 | 56.0 | -10.4 |
| 0.619 | 22.2 | 20.1 | 42.3 | 56.0 | -13.7 |
| 18.240 | 25.3 | 20.9 | 46.2 | 60.0 | -13.8 |
| 18.950 | 24.7 | 20.9 | 45.6 | 60.0 | -14.4 |

Average Data - vs - Average Limit

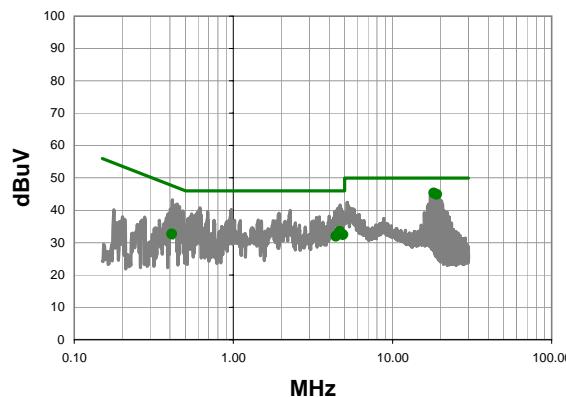
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.4 | 20.9 | 45.3 | 50.0 | -4.7 |
| 18.950 | 23.9 | 20.9 | 44.8 | 50.0 | -5.2 |
| 4.740 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |
| 4.704 | 13.7 | 20.1 | 33.8 | 46.0 | -12.2 |
| 4.428 | 12.7 | 20.1 | 32.8 | 46.0 | -13.2 |
| 0.619 | 9.1 | 20.1 | 29.2 | 46.0 | -16.8 |

| | | | | |
|---------------------|--|-------------------|-------------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 53 - 5270 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 17 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

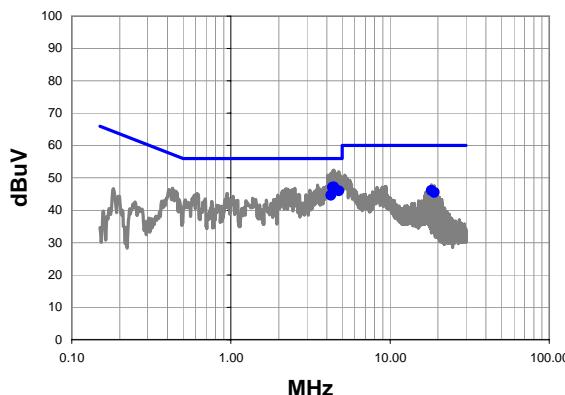
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.672 | 25.5 | 20.1 | 45.6 | 56.0 | -10.4 |
| 4.404 | 24.5 | 20.1 | 44.6 | 56.0 | -11.4 |
| 4.880 | 23.5 | 20.1 | 43.6 | 56.0 | -12.4 |
| 18.240 | 25.3 | 20.9 | 46.2 | 60.0 | -13.8 |
| 0.410 | 23.7 | 20.1 | 43.8 | 57.6 | -13.8 |
| 18.948 | 24.8 | 20.9 | 45.7 | 60.0 | -14.3 |

Average Data - vs - Average Limit

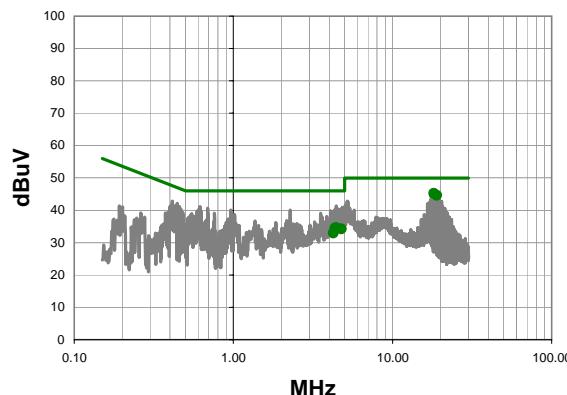
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.4 | 20.9 | 45.3 | 50.0 | -4.7 |
| 18.948 | 24.0 | 20.9 | 44.9 | 50.0 | -5.1 |
| 4.672 | 13.3 | 20.1 | 33.4 | 46.0 | -12.6 |
| 4.880 | 12.3 | 20.1 | 32.4 | 46.0 | -13.6 |
| 0.410 | 11.8 | 20.1 | 31.9 | 46.0 | -14.1 |
| | | | 32.6 | 47.6 | -15.0 |

| | | | | | | | |
|---------------------|--|-------------------|-------------|---|----|---------|------|
| Work Order: | PROS0109 | Date: | 07/06/11 | | | | |
| Project: | None | Temperature: | 22.41 | | | | |
| Job Site: | OC06 | Humidity: | 41.1 | | | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | | | | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  | | | |
| Configuration: | 2 | | | | | | |
| Customer: | ProSoft Technology, Inc. | | | | | | |
| Attendees: | None | | | | | | |
| EUT Power: | 120VAC/60Hz | | | | | | |
| Operating Mode: | Continuous Transmit | | | | | | |
| Deviations: | No deviations. | | | | | | |
| Comments: | 802.11n (40MHz), Ch 53 - 5270 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | | | |
| Test Specifications | Class B | Test Method | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | |
| Run # | 18 | Line: | Neutral | Ext. Attenuation: | 20 | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

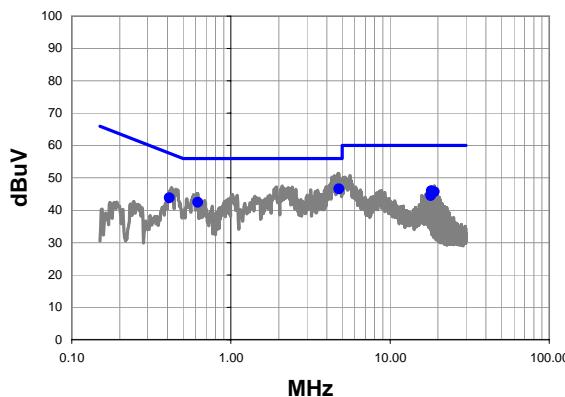
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.428 | 27.1 | 20.1 | 47.2 | 56.0 | -8.8 |
| 4.360 | 27.0 | 20.1 | 47.1 | 56.0 | -8.9 |
| 4.772 | 25.9 | 20.1 | 46.0 | 56.0 | -10.0 |
| 4.260 | 24.5 | 20.1 | 44.6 | 56.0 | -11.4 |
| 18.240 | 25.2 | 20.9 | 46.1 | 60.0 | -13.9 |
| 18.950 | 24.6 | 20.9 | 45.5 | 60.0 | -14.5 |

Average Data - vs - Average Limit

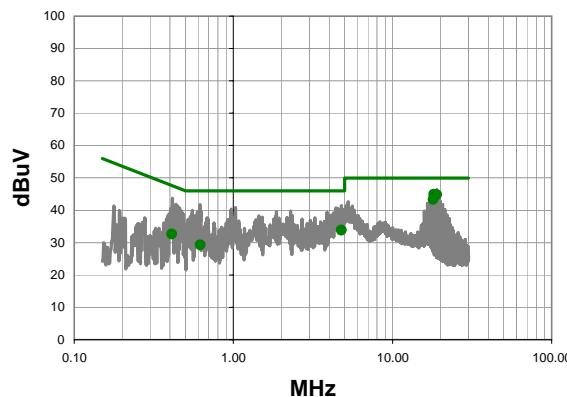
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.3 | 20.9 | 45.2 | 50.0 | -4.8 |
| 18.950 | 23.7 | 20.9 | 44.6 | 50.0 | -5.4 |
| 4.428 | 14.5 | 20.1 | 34.6 | 46.0 | -11.4 |
| 4.360 | 14.3 | 20.1 | 34.4 | 46.0 | -11.6 |
| 4.772 | 14.1 | 20.1 | 34.2 | 46.0 | -11.8 |
| 4.260 | 12.8 | 20.1 | 32.9 | 46.0 | -13.1 |

| | | | | |
|---------------------|--|-------------------|-------------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 63 - 5310 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 19 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

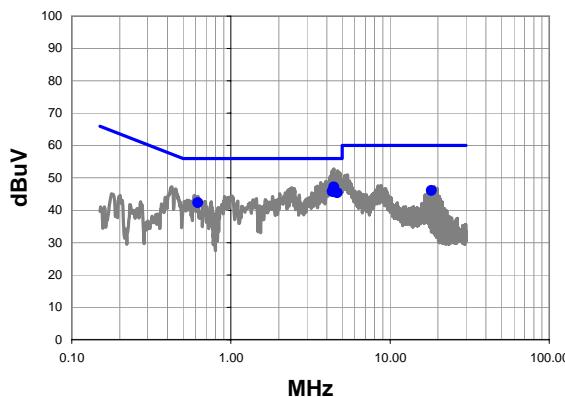
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.772 | 26.5 | 20.1 | 46.6 | 56.0 | -9.4 |
| 0.620 | 22.3 | 20.1 | 42.4 | 56.0 | -13.6 |
| 0.410 | 23.7 | 20.1 | 43.8 | 57.6 | -13.8 |
| 18.240 | 25.1 | 20.9 | 46.0 | 60.0 | -14.0 |
| 18.950 | 24.8 | 20.9 | 45.7 | 60.0 | -14.3 |
| 18.000 | 23.6 | 20.9 | 44.5 | 60.0 | -15.5 |

Average Data - vs - Average Limit

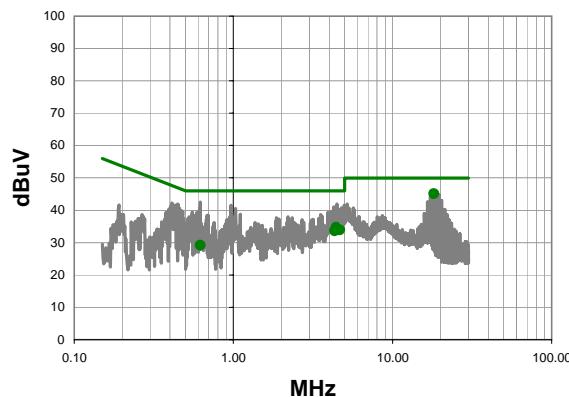
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.0 | 20.9 | 44.9 | 50.0 | -5.1 |
| 18.950 | 23.9 | 20.9 | 44.8 | 50.0 | -5.2 |
| 18.000 | 22.4 | 20.9 | 43.3 | 50.0 | -6.7 |
| 4.772 | 13.7 | 20.1 | 33.8 | 46.0 | -12.2 |
| 0.410 | 12.5 | 20.1 | 32.6 | 47.6 | -15.0 |
| 0.620 | 9.2 | 20.1 | 29.3 | 46.0 | -16.7 |

| | | | | | | | |
|---------------------|--|-------------------|-------------|---|----|---------|------|
| Work Order: | PROS0109 | Date: | 07/06/11 | | | | |
| Project: | None | Temperature: | 22.41 | | | | |
| Job Site: | OC06 | Humidity: | 41.1 | | | | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | | | | |
| EUT: | WMIA-199NI | Tested by: | Mark Baytan |  | | | |
| Configuration: | 2 | | | | | | |
| Customer: | ProSoft Technology, Inc. | | | | | | |
| Attendees: | None | | | | | | |
| EUT Power: | 120VAC/60Hz | | | | | | |
| Operating Mode: | Continuous Transmit | | | | | | |
| Deviations: | No deviations. | | | | | | |
| Comments: | 802.11n (40MHz), Ch 63 - 5310 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT | | | | | | |
| Test Specifications | Class B | Test Method | | | | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | | | | |
| Run # | 20 | Line: | Neutral | Ext. Attenuation: | 20 | Results | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

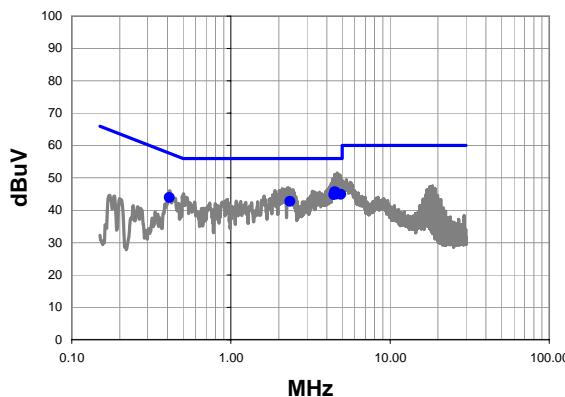
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.428 | 27.1 | 20.1 | 47.2 | 56.0 | -8.8 |
| 4.340 | 25.7 | 20.1 | 45.8 | 56.0 | -10.2 |
| 4.484 | 25.6 | 20.1 | 45.7 | 56.0 | -10.3 |
| 4.672 | 25.3 | 20.1 | 45.4 | 56.0 | -10.6 |
| 0.619 | 22.2 | 20.1 | 42.3 | 56.0 | -13.7 |
| 18.240 | 25.2 | 20.9 | 46.1 | 60.0 | -13.9 |

Average Data - vs - Average Limit

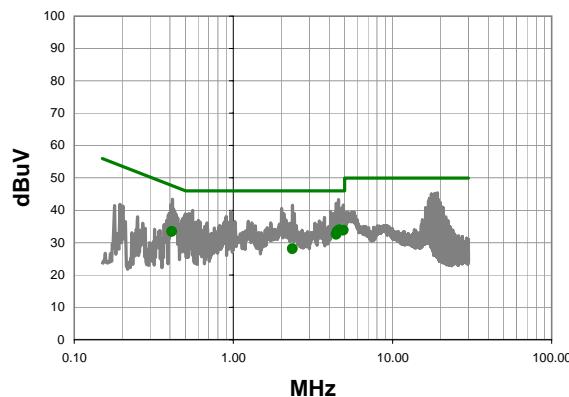
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.240 | 24.2 | 20.9 | 45.1 | 50.0 | -4.9 |
| 4.428 | 14.6 | 20.1 | 34.7 | 46.0 | -11.3 |
| 4.484 | 14.1 | 20.1 | 34.2 | 46.0 | -11.8 |
| 4.672 | 13.8 | 20.1 | 33.9 | 46.0 | -12.1 |
| 0.619 | 9.1 | 20.1 | 29.2 | 46.0 | -16.8 |
| 4.340 | 13.5 | 20.1 | 33.6 | 46.0 | -12.4 |

| | | | | |
|---------------------|--|-------------------|-----------|-------------------------------|
| Work Order: | PROS0109 | Date: | 07/06/11 | |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: <i>Mark Baytan</i> |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 101 - 5510 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT. | | | |
| Test Specifications | Class B | Test Method | | |
| FCC 15.407:2011 | | ANSI C63.10:2009 | | |
| Run # | 21 | Line: | High Line | Ext. Attenuation: |
| | | | | 20 |
| | | | | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

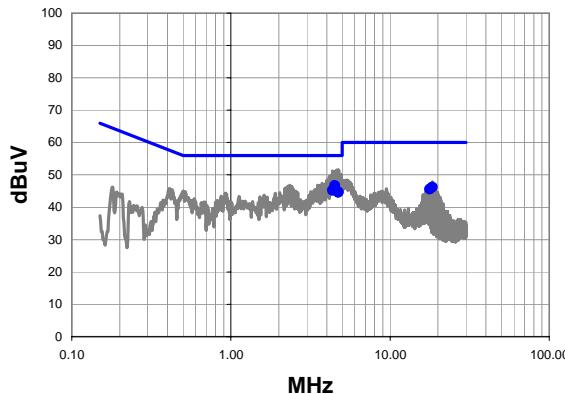
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.500 | 25.6 | 20.1 | 45.7 | 56.0 | -10.3 |
| 4.572 | 25.3 | 20.1 | 45.4 | 56.0 | -10.6 |
| 4.640 | 24.9 | 20.1 | 45.0 | 56.0 | -11.0 |
| 4.916 | 24.8 | 20.1 | 44.9 | 56.0 | -11.1 |
| 4.432 | 24.7 | 20.1 | 44.8 | 56.0 | -11.2 |
| 2.352 | 22.6 | 20.1 | 42.7 | 56.0 | -13.3 |
| 0.411 | 23.8 | 20.1 | 43.9 | 57.6 | -13.7 |

Average Data - vs - Average Limit

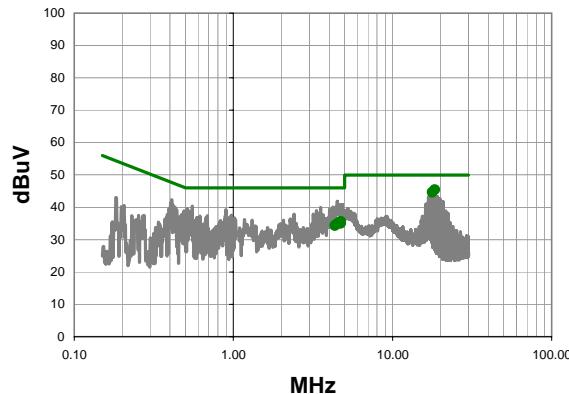
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.640 | 13.8 | 20.1 | 33.9 | 46.0 | -12.1 |
| 4.916 | 13.7 | 20.1 | 33.8 | 46.0 | -12.2 |
| 4.572 | 13.6 | 20.1 | 33.7 | 46.0 | -12.3 |
| 4.500 | 13.2 | 20.1 | 33.3 | 46.0 | -12.7 |
| 4.432 | 12.4 | 20.1 | 32.5 | 46.0 | -13.5 |
| 0.411 | 13.3 | 20.1 | 33.4 | 47.6 | -14.2 |
| 2.352 | 8.0 | 20.1 | 28.1 | 46.0 | -17.9 |

| | | | | |
|---------------------|--|-------------------|------------------|------------------------|
| Work Order: | PROS0109 | Date: | 07/06/11 | <i>Mark Baytan</i> |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 101 - 5510 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT. | | | |
| Test Specifications | | Class B | Test Method | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | |
| Run # | 22 | Line: | Neutral | Ext. Attenuation: |
| | | | 20 | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

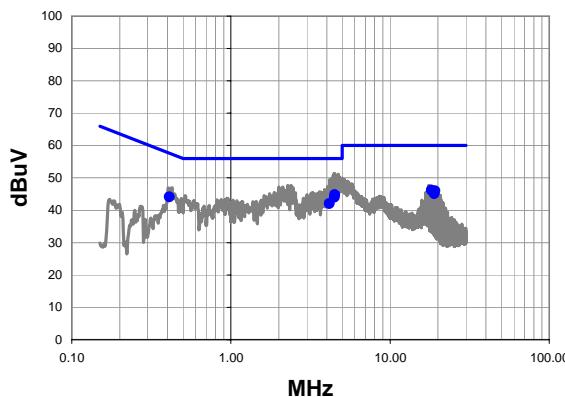
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.496 | 26.6 | 20.1 | 46.7 | 56.0 | -9.3 |
| 4.356 | 25.1 | 20.1 | 45.2 | 56.0 | -10.8 |
| 4.736 | 24.6 | 20.1 | 44.7 | 56.0 | -11.3 |
| 4.740 | 24.5 | 20.1 | 44.6 | 56.0 | -11.4 |
| 18.474 | 25.3 | 20.9 | 46.2 | 60.0 | -13.8 |
| 17.764 | 24.7 | 20.9 | 45.6 | 60.0 | -14.4 |

Average Data - vs - Average Limit

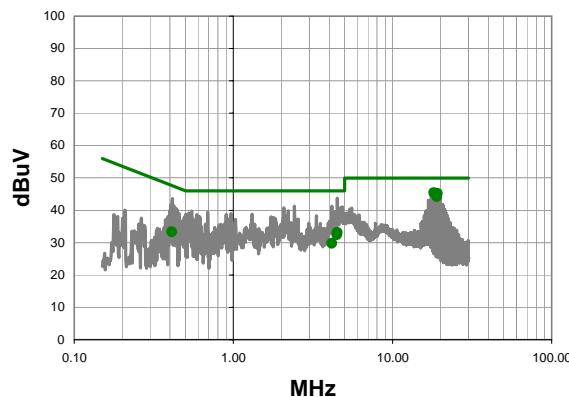
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.474 | 24.5 | 20.9 | 45.4 | 50.0 | -4.6 |
| 17.764 | 23.7 | 20.9 | 44.6 | 50.0 | -5.4 |
| 4.736 | 15.5 | 20.1 | 35.6 | 46.0 | -10.4 |
| 4.740 | 14.9 | 20.1 | 35.0 | 46.0 | -11.0 |
| 4.496 | 14.8 | 20.1 | 34.9 | 46.0 | -11.1 |
| 4.356 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |

| | | | | |
|---------------------|--|-------------------|------------------|------------------------|
| Work Order: | PROS0109 | Date: | 07/06/11 | <i>Mark Baytan</i> |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 130 - 5760 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT. | | | |
| Test Specifications | | Class B | Test Method | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | |
| Run # | 23 | Line: | High Line | Ext. Attenuation: |
| | | | 20 | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

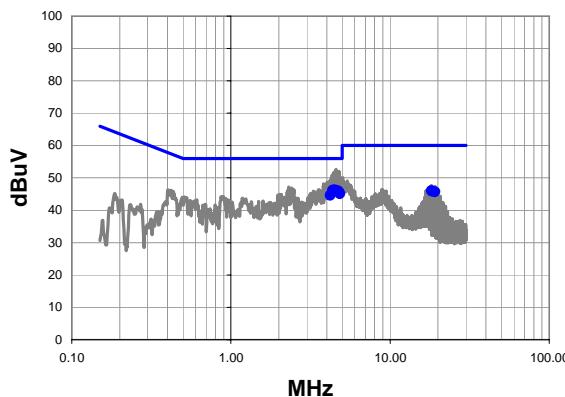
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.492 | 24.7 | 20.1 | 44.8 | 56.0 | -11.2 |
| 4.468 | 23.9 | 20.1 | 44.0 | 56.0 | -12.0 |
| 0.410 | 24.0 | 20.1 | 44.1 | 57.6 | -13.5 |
| 18.236 | 25.3 | 20.9 | 46.2 | 60.0 | -13.8 |
| 4.148 | 21.9 | 20.1 | 42.0 | 56.0 | -14.0 |
| 19.186 | 25.0 | 21.0 | 46.0 | 60.0 | -14.0 |
| 18.946 | 24.2 | 20.9 | 45.1 | 60.0 | -14.9 |

Average Data - vs - Average Limit

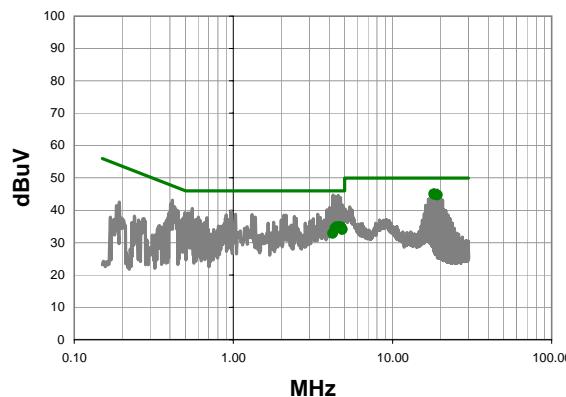
| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.236 | 24.5 | 20.9 | 45.4 | 50.0 | -4.6 |
| 19.186 | 24.2 | 21.0 | 45.2 | 50.0 | -4.8 |
| 18.946 | 23.3 | 20.9 | 44.2 | 50.0 | -5.8 |
| 4.492 | 13.0 | 20.1 | 33.1 | 46.0 | -12.9 |
| 4.468 | 12.3 | 20.1 | 32.4 | 46.0 | -13.6 |
| 0.410 | 13.2 | 20.1 | 33.3 | 47.6 | -14.3 |
| 4.148 | 9.7 | 20.1 | 29.8 | 46.0 | -16.2 |

| | | | | |
|---------------------|--|-------------------|------------------|---|
| Work Order: | PROS0109 | Date: | 07/06/11 |  |
| Project: | None | Temperature: | 22.41 | |
| Job Site: | OC06 | Humidity: | 41.1 | |
| Serial Number: | 09435H1000039 | Barometric Pres.: | 1019.2 | Tested by: Mark Baytan |
| EUT: | WMIA-199NI | | | |
| Configuration: | 2 | | | |
| Customer: | ProSoft Technology, Inc. | | | |
| Attendees: | None | | | |
| EUT Power: | 120VAC/60Hz | | | |
| Operating Mode: | Continuous Transmit | | | |
| Deviations: | No deviations. | | | |
| Comments: | 802.11n (40MHz), Ch 130 - 5760 MHz, MCS0. Phihong PSC20R-120 power supply, ferrite (0443164151) 2 loops on power cable by EUT. | | | |
| Test Specifications | | Class B | Test Method | |
| FCC 15.407:2011 | | | ANSI C63.10:2009 | |
| Run # | 24 | Line: | Neutral | Ext. Attenuation: |
| | | | 20 | Results |
| | | | | Pass |

Quasi Peak Data - vs - Quasi Peak Limit



Average Data - vs - Average Limit



Quasi Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 4.428 | 26.2 | 20.1 | 46.3 | 56.0 | -9.7 |
| 4.564 | 26.1 | 20.1 | 46.2 | 56.0 | -9.8 |
| 4.360 | 26.0 | 20.1 | 46.1 | 56.0 | -9.9 |
| 4.704 | 25.9 | 20.1 | 46.0 | 56.0 | -10.0 |
| 4.496 | 25.9 | 20.1 | 46.0 | 56.0 | -10.0 |
| 4.772 | 25.6 | 20.1 | 45.7 | 56.0 | -10.3 |
| 4.840 | 25.0 | 20.1 | 45.1 | 56.0 | -10.9 |
| 4.220 | 24.5 | 20.1 | 44.6 | 56.0 | -11.4 |
| 18.236 | 25.1 | 20.9 | 46.0 | 60.0 | -14.0 |
| 18.472 | 25.0 | 20.9 | 45.9 | 60.0 | -14.1 |
| 19.182 | 24.7 | 21.0 | 45.7 | 60.0 | -14.3 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|------------|------------------|-------------|-----------------|--------------------|------------------------|
| 18.236 | 24.1 | 20.9 | 45.0 | 50.0 | -5.0 |
| 18.472 | 24.0 | 20.9 | 44.9 | 50.0 | -5.1 |
| 19.182 | 23.7 | 21.0 | 44.7 | 50.0 | -5.3 |
| 4.704 | 14.8 | 20.1 | 34.9 | 46.0 | -11.1 |
| 4.496 | 14.8 | 20.1 | 34.9 | 46.0 | -11.1 |
| 4.564 | 14.6 | 20.1 | 34.7 | 46.0 | -11.3 |
| 4.428 | 14.6 | 20.1 | 34.7 | 46.0 | -11.3 |
| 4.772 | 14.5 | 20.1 | 34.6 | 46.0 | -11.4 |
| 4.360 | 14.2 | 20.1 | 34.3 | 46.0 | -11.7 |
| 4.840 | 13.9 | 20.1 | 34.0 | 46.0 | -12.0 |
| 4.220 | 12.7 | 20.1 | 32.8 | 46.0 | -13.2 |