# Electronic Controls Design, Inc.

## SGM2

**Report No. ELEC0001**

Report Prepared By


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



EMC Test Report

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

# Certificate of Test

**Last Date of Test: May 25, 2011**
**Electronic Controls Design, Inc.**
**Model: SMG2**

| Emissions | | | |
|---|---|---|---|
| **Test Description** | **Specification** | **Test Method** | **Pass/Fail** |
| Dwell Time | FCC 15.247:2011 | ANSI C63.10:2009 | **Pass** |
| Spurious Radiated Emissions | FCC 15.247:2011 | ANSI C63.10:2009 | **Pass** |

| Modifications made to the product |
|---|
| **See the Modifications section of this report** |

***Test Facility***

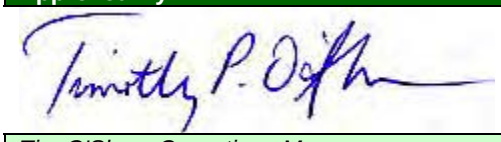
The measurement facility used to collect the data is located at:

Northwest EMC, Inc.
22975 NW Evergreen Parkway, Suite 400
Hillsboro, OR 97124

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 #2834D-1).

**Approved By:**



*Tim O'Shea, Operations Manager*

**NVLAP Lab Code: 200630-0**

***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-1784, 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/

# Northwest EMC Locations

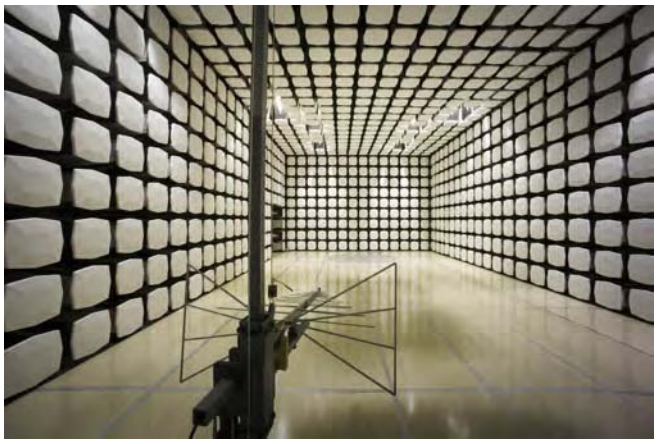
Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

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:** | Electronic Controls Design, Inc. |
| **Address:** | 4287A SE International Way |
| **City, State, Zip:** | Milwaukie, OR 97222 |
| **Test Requested By:** | Paul Austen |
| **Model:** | SGM2 |
| **First Date of Test:** | May 11, 2011 |
| **Last Date of Test:** | May 25, 2011 |
| **Receipt Date of Samples:** | May 10, 2011 |
| **Equipment Design Stage:** | Prototype |
| **Equipment Condition:** | No Damage |

## Information Provided by the Party Requesting the Test

| **Functional Description of the EUT (Equipment Under Test):** |
|---|
| Temperature Recorder |

| **Testing Objective:** |
|---|
| To demonstrate compliance to FCC 15.247 requirements. |

## CONFIGURATION 1 ELEC0001

| EUT | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| Temperature Recorder | Electronic Controls Design, Inc. | SMG2 | ECD-SMG20000005 |

| Peripherals in test setup boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| Power Supply | Electronic Controls Design | PSB05R-050 | P82500263A2 |

| Cables | | | | | |
|---|---|---|---|---|---|
| **Cable Type** | **Shield** | **Length (m)** | **Ferrite** | **Connection 1** | **Connection 2** |
| USB | Yes | 0.8m | No | Temperature Recorder | Power Supply |
| Thermocouple (x6) | No | 0.5m | No | Temperature Recorder | Unterminated |
| **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 | 5/11/2011 | Spurious Radiated Emissions | Modified from delivered configuration. | Improved ground at RF antenna port. Modification authorized by Paul Austen. | EUT remained at Northwest EMC following the test. |
| 2 | 5/25/2011 | Dwell Time | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed. |

# DWELL TIME



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 |
|---|---|---|---|---|---|
| Antenna, Horn | ETS | 3115 | AIB | 9/8/2010 | 24 |
| EV12 Cables | N/A | Double Ridge Horn Cables | EVT | 11/22/2010 | 12 |
| Spectrum Analyzer | Agilent | E4440A | AAW | 4/19/2011 | 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

If the dwell time per channel of the hopping signal is less than 100 ms, then the average reading may be further adjusted by a “duty cycle correction factor”.

The duty cycle correction factor is determined by measuring the worst case duty cycle for a single hopping channel. The total transmit time in any 100ms period should be measured, or for the actual period of the transmission if it is less than 100ms.

NORTHWEST EMC

# DWELL TIME

XMit 2010.11.03

| | | | | | |
|---|---|---|---|---|---|
| **EUT:** | SMG2 | | | **Work Order:** | ELEC0001 |
| **Serial Number:** | ECD-SMG20000005 | | | **Date:** | 05/25/11 |
| **Customer:** | Electronic Controls Design, Inc. | | | **Temperature:** | 22.5°C |
| **Attendees:** | Paul Austen | | | **Humidity:** | 37% |
| **Project:** | None | | | **Barometric Pres.:** | 1020 |
| **Tested by:** | Ethan Schoonover | **Power:** | 120VAC 60Hz | **Job Site:** | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 15.247:2011 | ANSI C63.10:2009 |
| | |

**COMMENTS**

Duty Cycle = 20 * log (On time in ms / 100ms), where the "On time" = 100ms - (Total off time). There are 21 short blanking intervals and 1 long blanking interval. Total off time = (21 * 0.591ms) + 30.13ms = 42.5 ms. On time = 100ms - 42.5ms = 57.5ms. Duty cyle correction factor = 20 * log (57.5ms/100ms) = -4.81

**DEVIATIONS FROM TEST STANDARD**

None

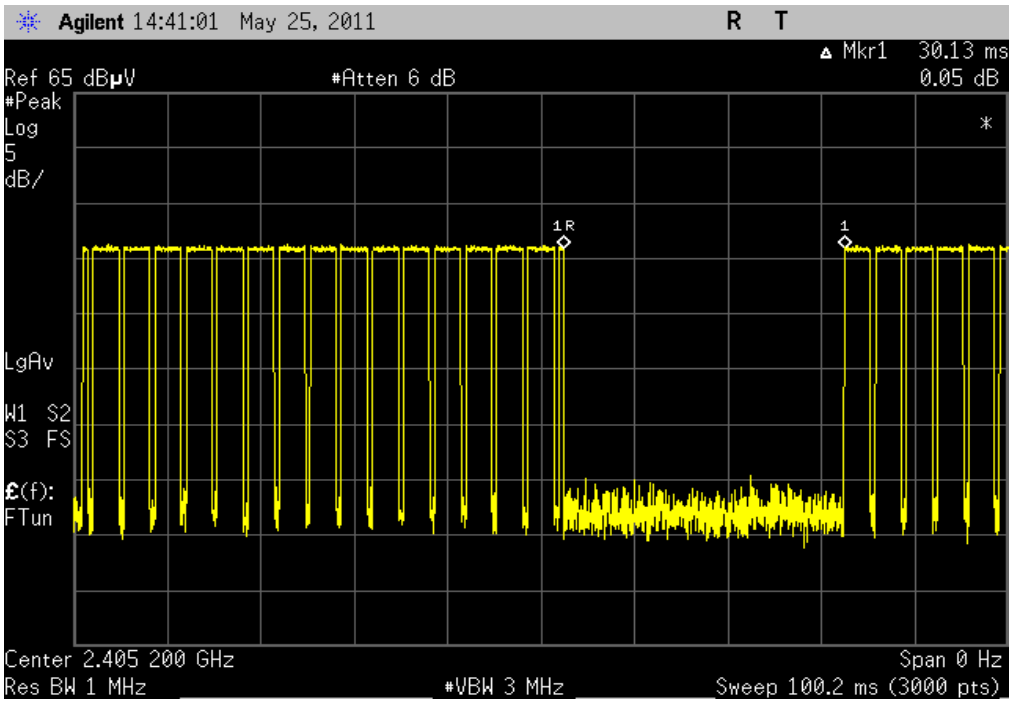
| Configuration # | 1 | Signature |
|---|---|---|

| | Value | Limit | Results |
|---|---|---|---|
| Long blanking interval | | | |
| Low Channel, 2405 MHz | 30.13 ms | N/A | N/A |
| Short blanking interval | | | |
| Low Channel, 2405 MHz | 0.591 ms | N/A | N/A |
| Period | | | |
| Low Channel, 2405 MHz | 2.135 s | N/A | N/A |

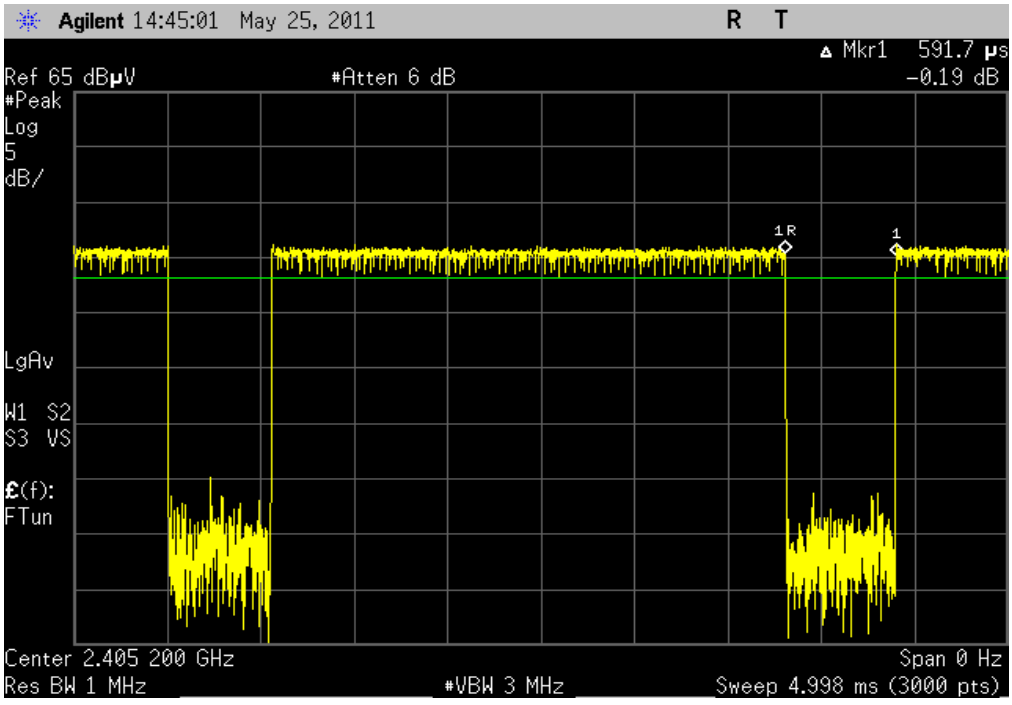
# DWELL TIME



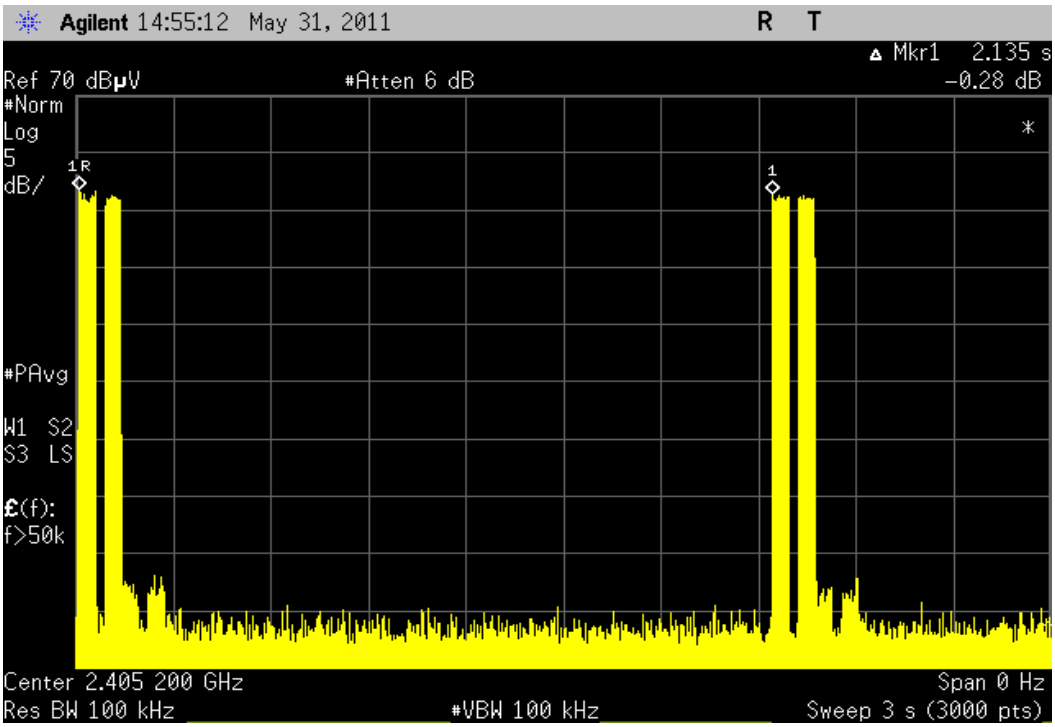
| Long blanking interval | | | | | |
|---|---|---|---|---|---|
| **Result:** | N/A | **Value:** | 30.13 ms | **Limit:** | N/A |

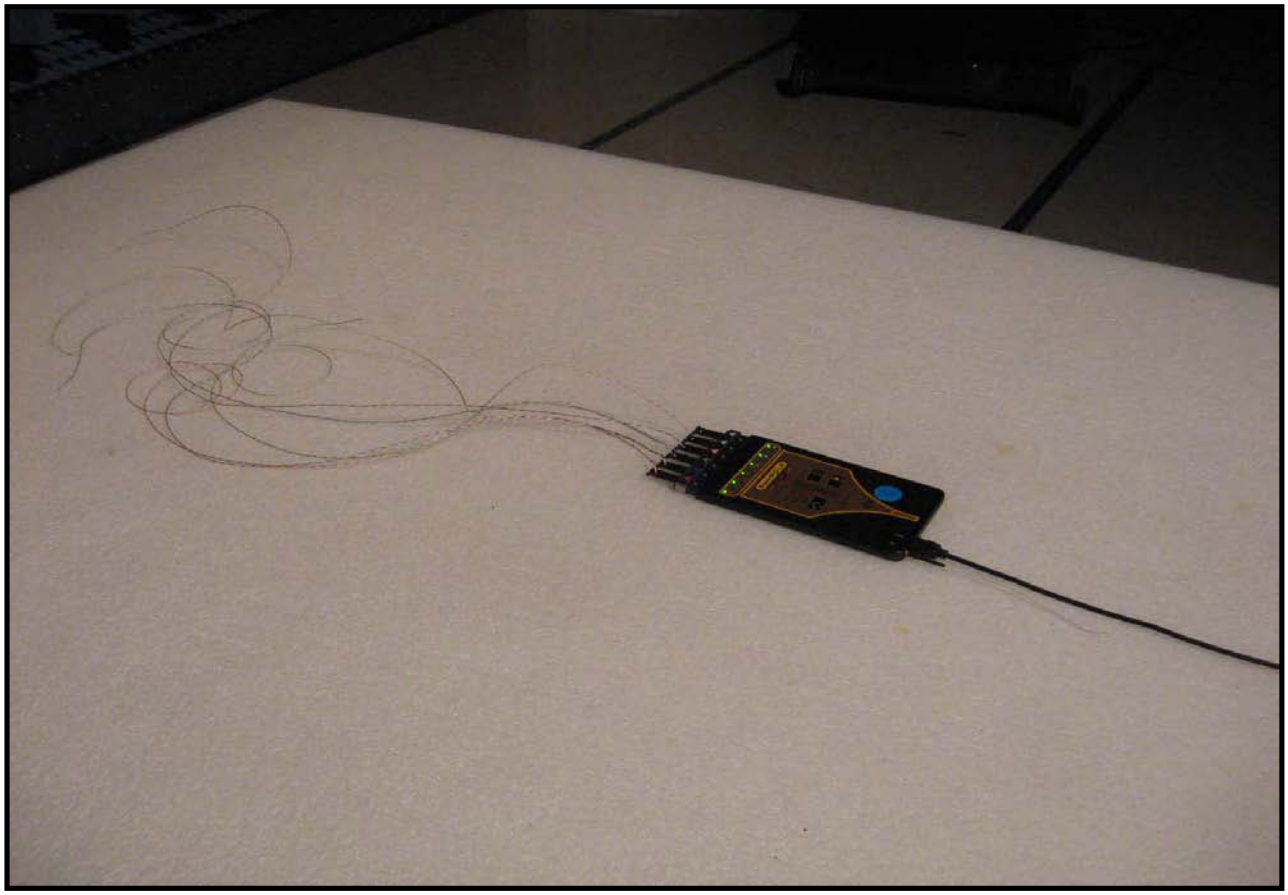



| Short blanking interval | | | | | |
|---|---|---|---|---|---|
| **Result:** | N/A | **Value:** | 0.591 ms | **Limit:** | N/A |



| Period | | | | | |
|---|---|---|---|---|---|
| **Result:** | N/A | **Value:** | 2.135 s | **Limit:** | N/A |





# 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.

## MODES OF OPERATION

Hopping Through channels

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## FREQUENCY RANGE INVESTIGATED

| | | | |
|---|---|---|---|
| Start Frequency | 30 MHz | Stop Frequency | 26.5 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 |
|---|---|---|---|---|---|
| Antenna, Horn | ETS Lindgren | 3160-09 | AIV | NCR | 0 |
| Antenna, Horn | ETS | 3160-08 | AIA | NCR | 0 |
| Antenna, Horn | ETS | 3160.07 | AHZ | 9/8/2010 | 24 |
| Antenna, Horn | ETS | 3115 | AIB | 9/8/2010 | 24 |
| Antenna, Biconilog | EMCO | 3141 | AXG | 3/15/2010 | 24 |
| Cable | ESM Cable Corp. | KMKM-72 | EVY | 9/15/2010 | 12 |
| EV12 Cables | N/A | Standard Gain Horn Cables | EVU | 7/14/2010 | 12 |
| EV12 Cables | N/A | Double Ridge Horn Cables | EVT | 11/22/2010 | 12 |
| EV12 Cables | N/A | Bilog Cables | EVS | 7/14/2010 | 12 |
| Pre-Amplifier | Miteq | AMF-6F-18002650-25-10P | AVU | 9/15/2010 | 12 |
| Pre-Amplifier | Miteq | AMF-6F-12001800-30-10P | AVI | 7/14/2010 | 12 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVH | 7/14/2010 | 12 |
| Pre-Amplifier | Miteq | AMF-3D00100800-32-13P | AVF | 7/14/2010 | 12 |
| Pre-Amplifier | Miteq | AM-1616-1000 | AVM | 7/14/2010 | 12 |
| Spectrum Analyzer | Agilent | E4440A | AAW | 4/19/2011 | 12 |

## MEASUREMENT BANDWIDTHS

| | Frequency Range (MHz) | Peak Data (kHz) | Quasi-Peak Data (kHz) | Average Data (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 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 of each type of antenna to be used with the EUT was tested. The EUT was configured for low, mid, and high band transmit frequencies. For each configuration, the spectrum was scanned throughout the specified range. In addition, measurements were made in the restricted bands to verify compliance. While scanning, emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and the EUT antenna in three orthogonal axis, and adjusting measurement antenna height and polarization, and manipulating the EUT antenna in 3 orthogonal planes (per ANSI C63.10:2009). A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

NORTHWEST EMC

# Spurious Radiated Emissions

PSA 2011.04.26
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | SMG2 | Work Order: | ELEC0001 |
| Serial Number: | ECD-SMG20000005 | Date: | 05/25/11 |
| Customer: | Electronic Controls Design, Inc. | Temperature: | 22.5 |
| Attendees: | Paul Austen | Humidity: | 37% |
| Project: | None | Barometric Pres.: | 1020 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 15.247:2011 | ANSI C63.10:2009 |

| TEST PARAMETERS | | | |
|---|---|---|---|
| Antenna Height(s) (m) | 1 - 4 | Test Distance (m) | 3 |

**COMMENTS**

None

**EUT OPERATING MODES**

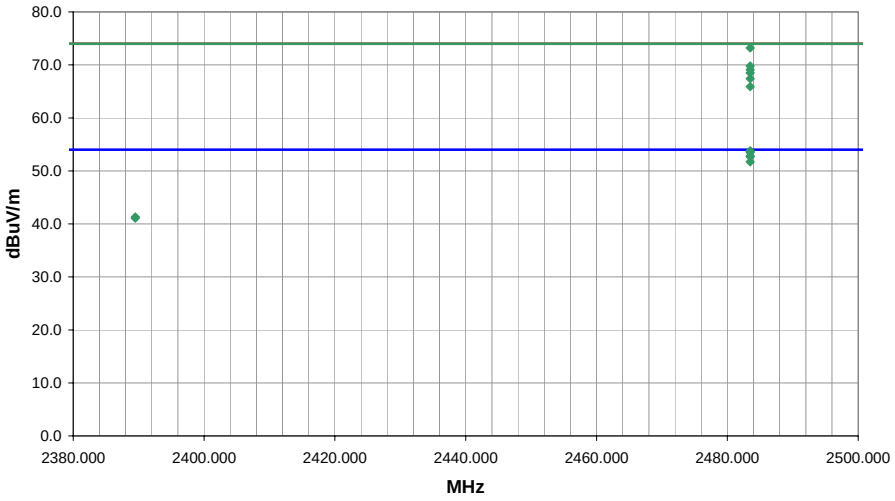
Hopping Through channels

**DEVIATIONS FROM TEST STANDARD**

No deviations.

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

Signature




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Duty Cycle Correction Factor | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2480.030 | 71.0 | -0.1 | 119.0 | 1.4 | 4.6 | 20.0 | H-Horn | AV | 0.0 | 86.3 | | | EUT Vert. Marker Delta Method: |
| 2483.500 | | | 119.0 | 1.4 | 0.0 | 20.0 | H-Horn | AV | 0.0 | 51.7 | 54.0 | -2.3 | Peak 86.3 + -34.58 dBc = 51.72 |
| 2483.500 | 38.7 | -0.1 | 65.0 | 1.0 | 4.8 | 20.0 | V-Horn | AV | 0.0 | 53.8 | 54.0 | -0.2 | EUT Horz |
| 2483.500 | 38.6 | -0.1 | 360.0 | 1.4 | 4.8 | 20.0 | H-Horn | AV | 0.0 | 53.7 | 54.0 | -0.3 | EUT On side. |
| 2483.500 | 38.4 | -0.1 | 135.0 | 1.0 | 4.8 | 20.0 | H-Horn | AV | 0.0 | 53.5 | 54.0 | -0.5 | EUT Horz |
| 2483.500 | 53.3 | -0.1 | 119.0 | 1.0 | 0.0 | 20.0 | H-Horn | PK | 0.0 | 73.2 | 74.0 | -0.8 | EUT Vert |
| 2483.500 | 37.7 | -0.1 | 314.0 | 1.0 | 4.8 | 20.0 | V-Horn | AV | 0.0 | 52.8 | 54.0 | -1.2 | EUT On side. |
| 2483.500 | 37.6 | -0.1 | 168.0 | 1.1 | 4.8 | 20.0 | V-Horn | AV | 0.0 | 52.7 | 54.0 | -1.3 | EUT Vert. |
| 2483.500 | 49.9 | -0.1 | 360.0 | 1.4 | 0.0 | 20.0 | H-Horn | PK | 0.0 | 69.8 | 74.0 | -4.2 | EUT On side. |
| 2483.500 | 49.2 | -0.1 | 65.0 | 1.0 | 0.0 | 20.0 | V-Horn | PK | 0.0 | 69.1 | 74.0 | -4.9 | EUT Horz |
| 2483.500 | 48.6 | -0.1 | 168.0 | 1.1 | 0.0 | 20.0 | V-Horn | PK | 0.0 | 68.5 | 74.0 | -5.5 | EUT Vert. |
| 2483.500 | 47.5 | -0.1 | 135.0 | 1.0 | 0.0 | 20.0 | H-Horn | PK | 0.0 | 67.4 | 74.0 | -6.6 | EUT Horz |
| 2483.500 | 46.0 | -0.1 | 314.0 | 1.0 | 0.0 | 20.0 | V-Horn | PK | 0.0 | 65.9 | 74.0 | -8.1 | EUT On side. |
| 2389.500 | 26.4 | -0.3 | 271.0 | 1.0 | 4.8 | 20.0 | V-Horn | AV | 0.0 | 41.3 | 54.0 | -12.7 | EUT Horz |
| 2389.500 | 26.2 | -0.3 | 131.0 | 1.3 | 4.8 | 20.0 | H-Horn | AV | 0.0 | 41.1 | 54.0 | -12.9 | EUT Horz |
| 2389.500 | 40.8 | -0.3 | 131.0 | 1.3 | 0.0 | 20.0 | H-Horn | PK | 0.0 | 60.5 | 74.0 | -13.5 | EUT Horz |
| 2389.500 | 39.6 | -0.3 | 271.0 | 1.0 | 0.0 | 20.0 | V-Horn | PK | 0.0 | 59.3 | 74.0 | -14.7 | EUT Horz |

NORTHWEST EMC

# Spurious Radiated Emissions

PSA 2011.04.26
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | SMG2 | Work Order: | ELEC0001 |
| Serial Number: | ECD-SMG20000005 | Date: | 05/25/11 |
| Customer: | Electronic Controls Design, Inc. | Temperature: | 22.5 |
| Attendees: | Paul Austen | Humidity: | 37% |
| Project: | None | Barometric Pres.: | 1020 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 15.247:2011 | ANSI C63.10:2009 |

| TEST PARAMETERS | | | |
|---|---|---|---|
| Antenna Height(s) (m) | 1 - 4 | Test Distance (m) | 3 |

**COMMENTS**

None

**EUT OPERATING MODES**

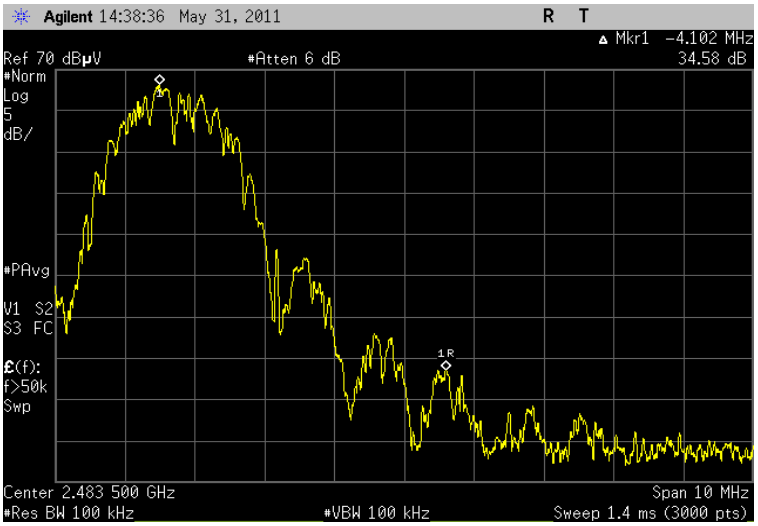
Hopping Through channels

**DEVIATIONS FROM TEST STANDARD**

No deviations.

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

Signature



NORTHWEST EMC

# Spurious Radiated Emissions

PSA 2011.04.26
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | SMG2 | Work Order: | ELEC0001 |
| Serial Number: | ECD-SMG20000005 | Date: | 05/11/11 |
| Customer: | Electronic Controls Design, Inc. | Temperature: | 22.5 |
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| Project: | None | Barometric Pres.: | 1020 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 15.247:2011 | ANSI C63.10:2009 |

**TEST PARAMETERS**

| | | | |
|---|---|---|---|
| Antenna Height(s) (m) | 1 - 4 | Test Distance (m) | 3 |

**COMMENTS**

None

**EUT OPERATING MODES**

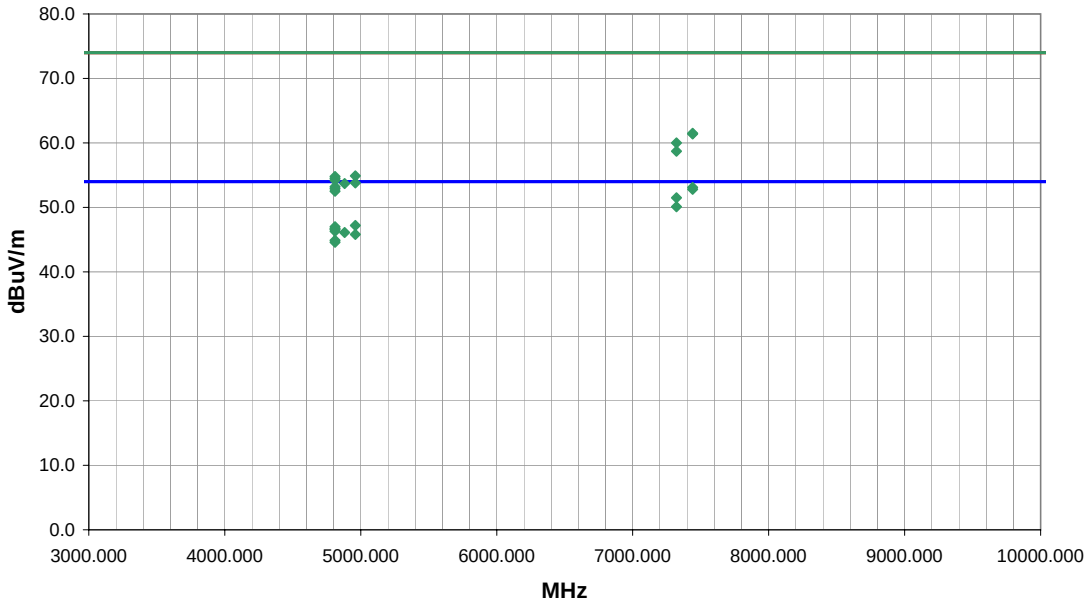
Tx

**DEVIATIONS FROM TEST STANDARD**

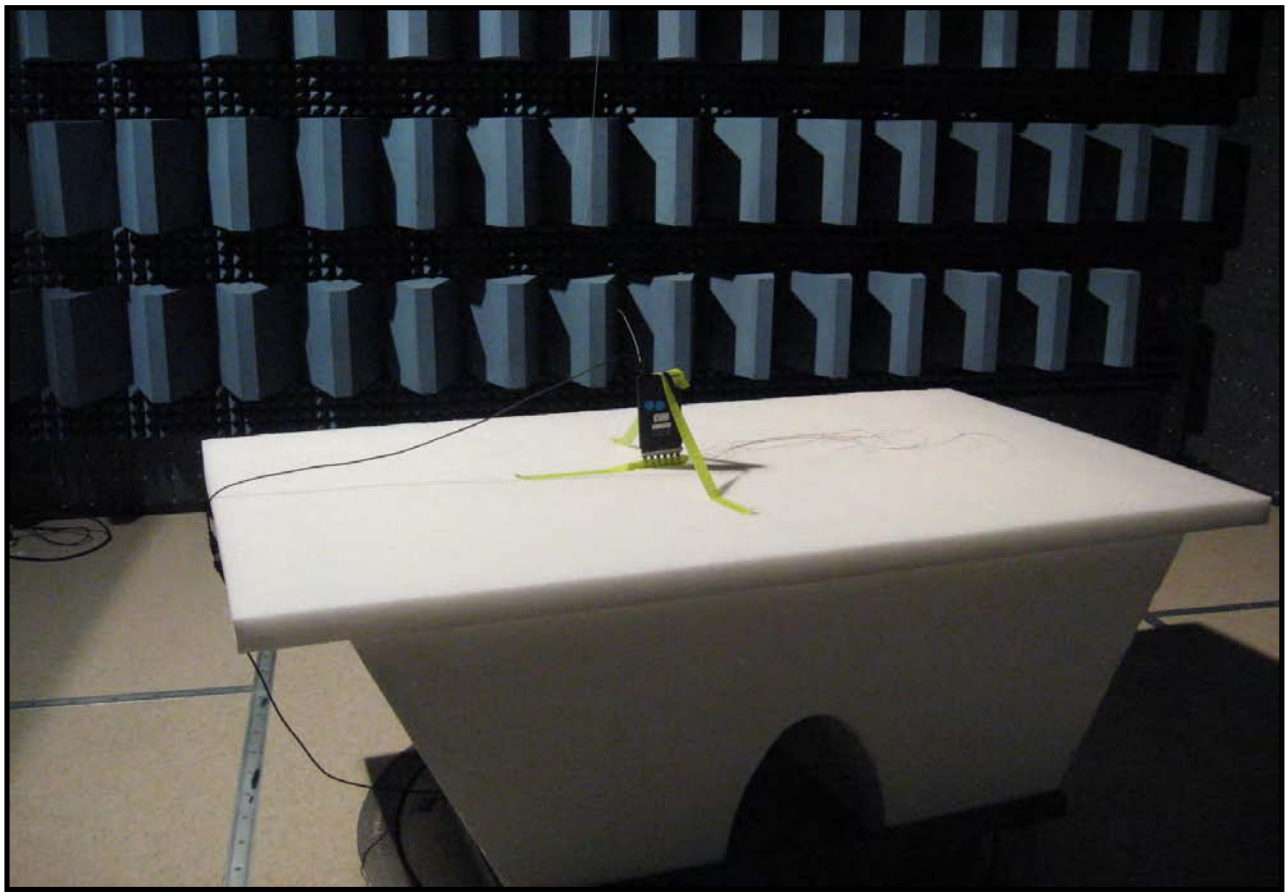
No deviations.

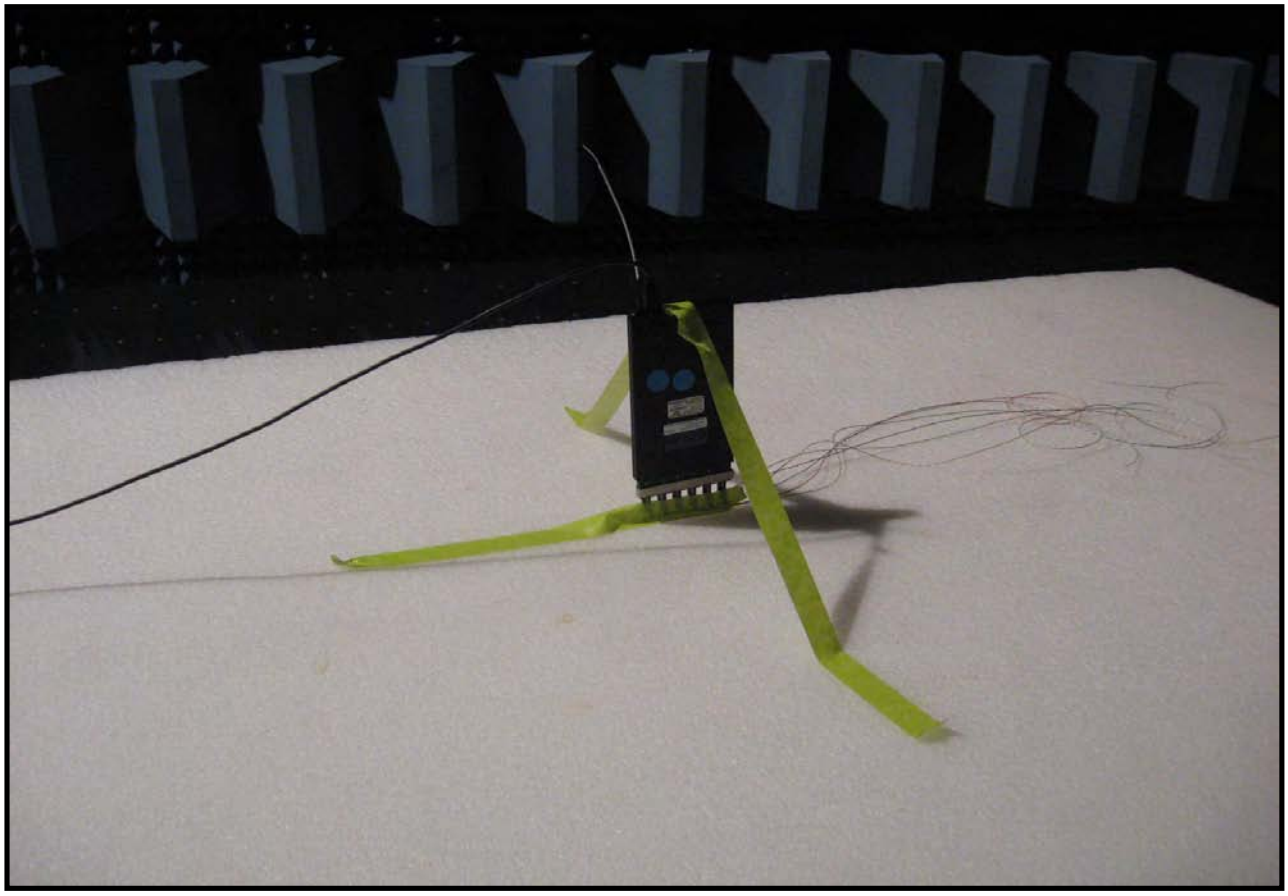
| | |
|---|---|
| Run # | 2 |
| Configuration # | 1 |
| Results | Pass |

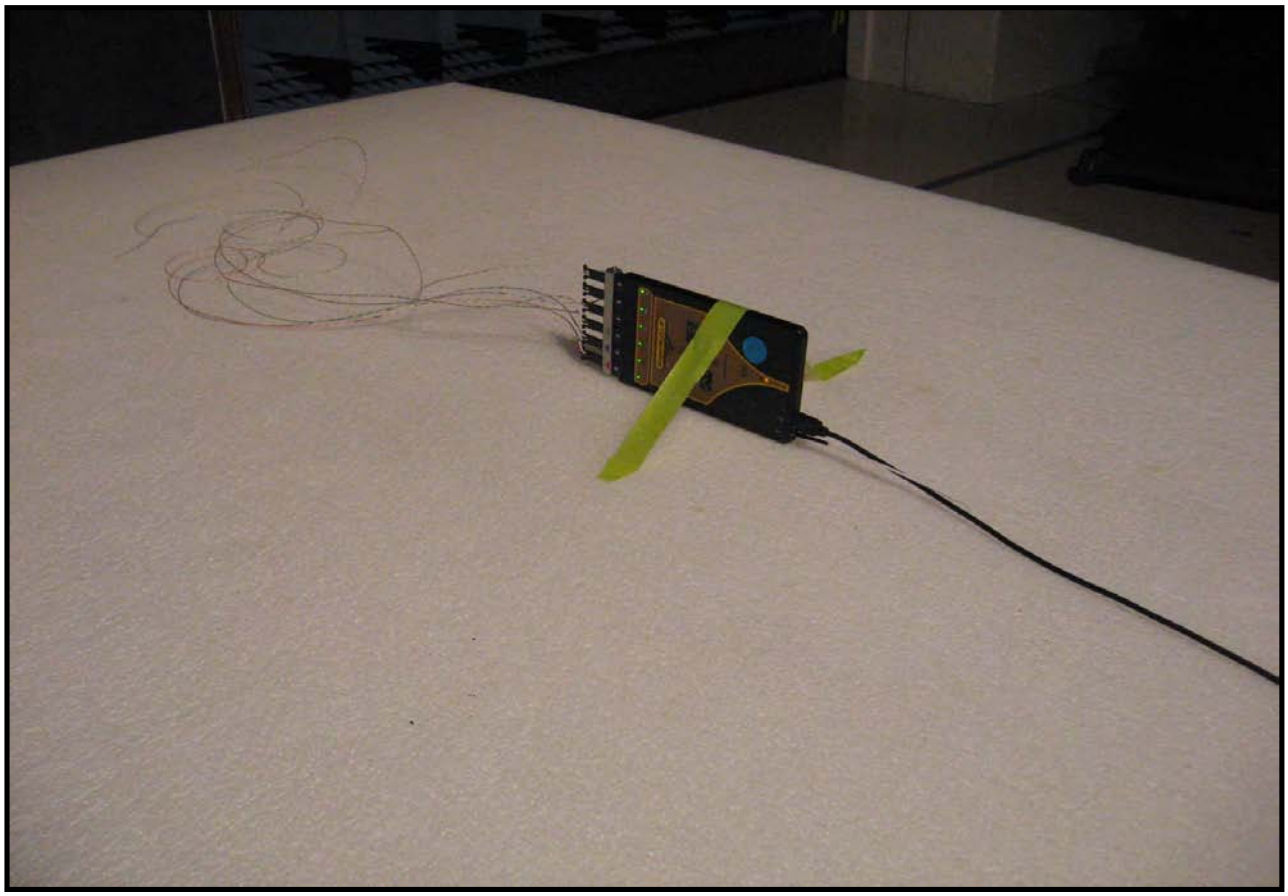
Signature

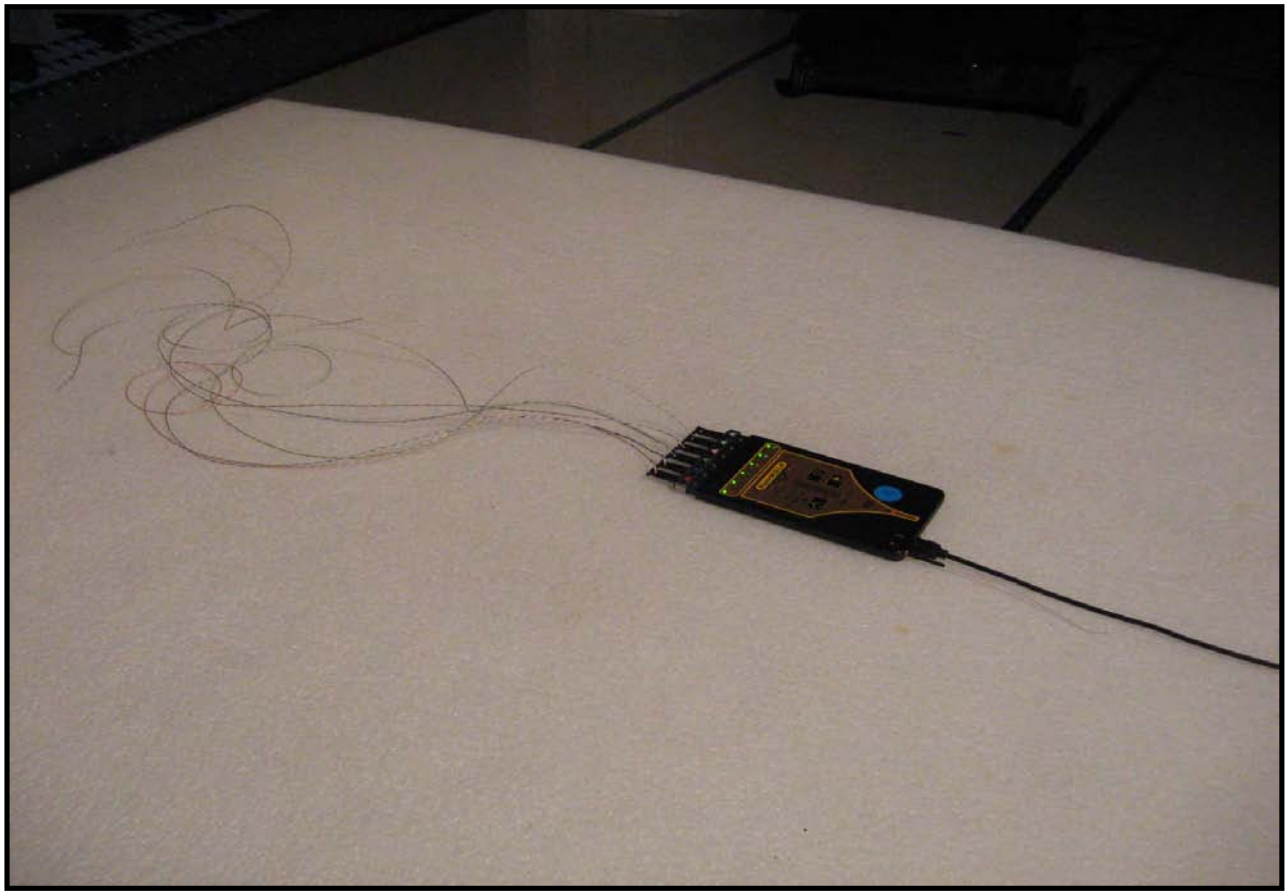



| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7441.060 | 34.4 | 18.7 | 209.0 | 1.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 53.1 | 54.0 | -0.9 | EUT Horz. |
| 7441.060 | 34.1 | 18.7 | 202.0 | 1.7 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 52.8 | 54.0 | -1.2 | EUT Horz. |
| 7321.400 | 33.3 | 18.2 | 0.0 | 1.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 51.5 | 54.0 | -2.5 | EUT Horz. |
| 7321.400 | 31.9 | 18.2 | 350.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 50.1 | 54.0 | -3.9 | EUT Horz. |
| 4960.700 | 37.6 | 9.6 | 321.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 47.2 | 54.0 | -6.8 | EUT Horz. |
| 4811.030 | 37.9 | 9.1 | 273.0 | 1.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 47.0 | 54.0 | -7.0 | EUT Horz. |
| 4811.030 | 37.6 | 9.1 | 285.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 46.7 | 54.0 | -7.3 | EUT on side. |
| 4811.030 | 37.5 | 9.1 | 299.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 46.6 | 54.0 | -7.4 | EUT Vert |
| 4811.030 | 37.2 | 9.1 | 176.0 | 1.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 46.3 | 54.0 | -7.7 | EUT Vert |
| 4880.960 | 36.8 | 9.3 | 316.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 46.1 | 54.0 | -7.9 | EUT Horz. |
| 4960.700 | 36.2 | 9.6 | 257.0 | 1.6 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 45.8 | 54.0 | -8.2 | EUT Horz. |
| 4811.030 | 35.8 | 9.1 | 312.0 | 1.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 44.9 | 54.0 | -9.1 | EUT Horz. |
| 4811.030 | 35.5 | 9.1 | 33.0 | 1.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 44.6 | 54.0 | -9.4 | EUT on side. |
| 7441.060 | 42.8 | 18.7 | 209.0 | 1.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 61.5 | 74.0 | -12.5 | EUT Horz. |
| 7441.060 | 42.7 | 18.7 | 202.0 | 1.7 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 61.4 | 74.0 | -12.6 | EUT Horz. |
| 7321.400 | 41.8 | 18.2 | 0.0 | 1.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 60.0 | 74.0 | -14.0 | EUT Horz. |
| 7321.400 | 40.5 | 18.2 | 350.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 58.7 | 74.0 | -15.3 | EUT Horz. |
| 4960.700 | 45.3 | 9.6 | 321.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 54.9 | 74.0 | -19.1 | EUT Horz. |
| 4811.030 | 45.7 | 9.1 | 273.0 | 1.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 54.8 | 74.0 | -19.2 | EUT Horz. |
| 4811.030 | 45.4 | 9.1 | 285.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 54.5 | 74.0 | -19.5 | EUT on side. |
| 4811.030 | 45.1 | 9.1 | 299.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 54.2 | 74.0 | -19.8 | EUT Vert |
| 4960.700 | 44.2 | 9.6 | 257.0 | 1.6 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 53.8 | 74.0 | -20.2 | EUT Horz. |
| 4880.960 | 44.4 | 9.3 | 316.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 53.7 | 74.0 | -20.3 | EUT Horz. |
| 4811.030 | 44.1 | 9.1 | 176.0 | 1.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 53.2 | 74.0 | -20.8 | EUT Vert |
| 4811.030 | 43.8 | 9.1 | 312.0 | 1.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 52.9 | 74.0 | -21.1 | EUT Horz. |
| 4811.030 | 43.4 | 9.1 | 33.0 | 1.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 52.5 | 74.0 | -21.5 | EUT on side. |









# Spurious Radiated Emissions