# Spectrum Technology, Inc.

## GD Itronix,
## Model: GD8000 PC w/GOBI2,
## FCC ID: KBCIX-GOBI2,
## Model: IX-GOBI2

**Report No. SPTE0111**

Report Prepared By

NORTHWEST EMC

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

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EMC Test Report

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

# Certificate of Test

**Last Date of Test: August 7, 2009**
**Spectrum Technology, Inc.**
**Model: GD Itronix, Model: GD8000 PC w/GOBI2,**
**FCC ID: KBCIX-GOBI2, Model: IX-GOBI2**

| Emissions | | | |
|---|---|---|---|
| **Test Description** | **Specification** | **Test Method** | **Pass/Fail** |
| Out of Band Emissions | FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 | **Pass** |
| Out of Band Emissions | FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 | **Pass** |
| Effective Radiated Power | FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 | **Pass** |
| Effective Isotropic Radiated Power | FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 | **Pass** |
| AC Powerline Conducted Emissions | FCC 15.107:2009 Class B | ANSI C63.4:2003 | **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).

**Approved By:**

*Don Facteau, IS 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.

**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 United States Department of Commerce, National Institute of Standards and Technology, and National Voluntary Laboratory Accreditation Program for satisfactory compliance with the requirements of ISO/IEC 17025 for Testing Laboratories. 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.

NVLAP LAB CODE 200629-0
NVLAP LAB CODE 200630-0
NVLAP LAB CODE 200676-0
NVLAP LAB CODE 200761-0

**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)*

**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.

**NEMKO:** Assessed and accredited by NEMKO (Norwegian testing and certification body) for European emissions and immunity testing. As a result of NEMKO's laboratory assessment, they will accept test results from Northwest EMC, Inc. for product certification (Authorization No. ELA 119).

**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).

**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, C-2687, T-289, and R-2318, Irvine: R-1943, C-2766, and T-298, Sultan: R-871, C-1784, and T-294).*

**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). License No.SL2-IN-E-1017.

**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)*

## SCOPE

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

# Northwest EMC Locations

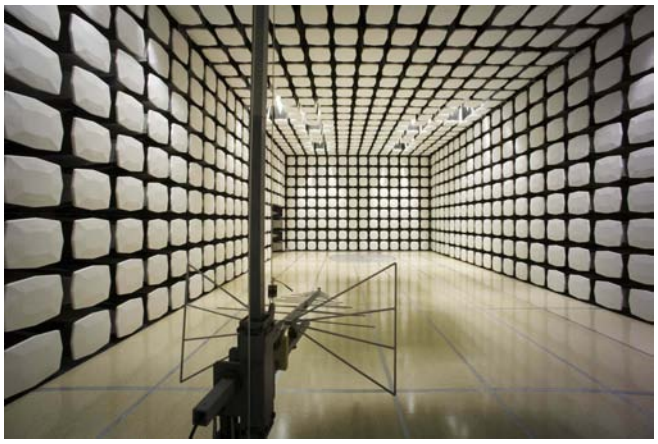

Oregon
Labs EV01-EV12
22975 NW Evergreen Pkwy
Suite 400
Hillsboro, OR 97124
(503) 844-4066

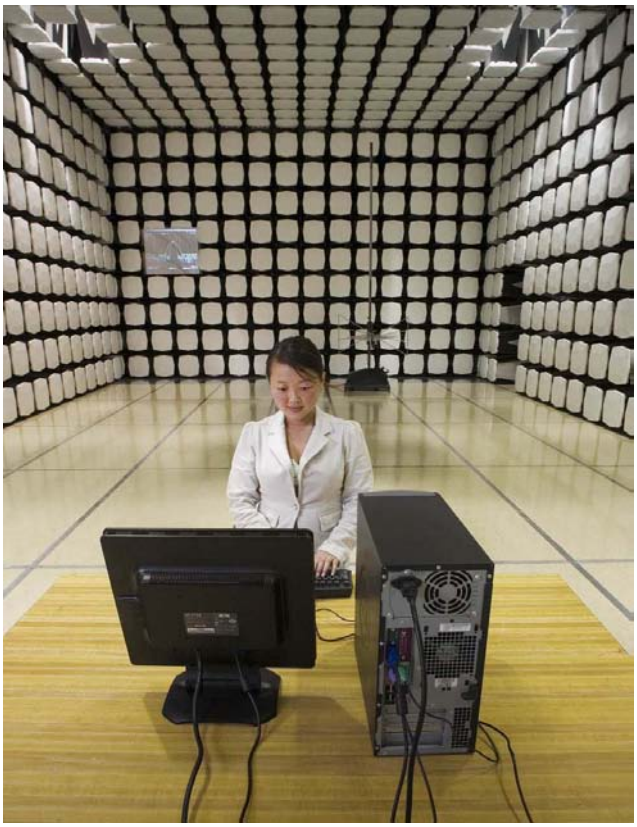
California
Labs OC01-OC13
41 Tesla
Irvine, CA 92618
(949) 861-8918

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:** | Spectrum Technology, Inc. |
| **Address:** | 4801 166th Place SE |
| **City, State, Zip:** | Bothell, WA 98012 |
| **Test Requested By:** | Rod Munro |
| **Model:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **First Date of Test:** | July 28, 2009 |
| **Last Date of Test:** | August 7, 2009 |
| **Receipt Date of Samples:** | July 27, 2009 |
| **Equipment Design Stage:** | Production |
| **Equipment Condition:** | No Damage |

## Information Provided by the Party Requesting the Test

| **Functional Description of the EUT (Equipment Under Test):** |
|---|
| The Itronix Model GD8000 is a fully ruggedized PC that can be used in either a notebook or vehicle - mount configuration. The GD8000 has a GSM/CDMA2000/WCDMA WWAN radio module. Test two antenna configurations: Internal in Display and External vehicle mount. |

| **Testing Objective:** |
|---|
| These tests were selected to satisfy the EMC requirements requested by the client. |

## CONFIGURATION 1 SPTE0111

| EUT | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| GOBI2000 WAN radio | Qualcomm | GOBI2000 | Unknown |
| Notebook PC | General Dynamics Itronix, Corp. | GD8000 | N/A |

| Peripherals in test setup boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| USB Keyboard | Logitech | Y-UT76 | SC7250Z |
| USB Mouse | Dell | M-UK Del 3 | HC8090COCNK |
| Serial Modem | Epson | C202A | 010286 |
| Microphone | Gateway | 7000981 | C19808008 |
| Headset | Coby | CV-H42 | None |
| AC Adapter (standalone) | N/A | N/A | N/A |
| USB Thumb Drive | ativa | 512MB | M204F1 |

| Cables | | | | | |
|---|---|---|---|---|---|
| **Cable Type** | **Shield** | **Length (m)** | **Ferrite** | **Connection 1** | **Connection 2** |
| USB Keyboard | PA | 1.9m | No | USB Keyboard | Notebook PC |
| USB Mouse | PA | 1.9m | No | USB Mouse | Notebook PC |
| Serial | Yes | 2.0m | No | Serial Modem | Notebook PC |
| Audio | No | 1.9m | No | Microphone | Notebook PC |
| Audio | No | 1.2m | No | Headset | Notebook PC |
| Cat5 Ethernet | No | 1.2m | No | Notebook PC | Unterminated |
| RJ11 Phone | No | 1.9m | No | Notebook PC | Unterminated |
| Video | Yes | 1.9m | Yes | Notebook PC | Unterminated |
| USB | Yes | 1.9m | No | Notebook PC | Unterminated |
| **PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.** | | | | | |

## CONFIGURATION 2 SPTE0111

| EUT | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| GOBI2000 WAN radio | Qualcomm | GOBI2000 | Unknown |
| Notebook PC | General Dynamics Itronix, Corp. | GD8000 | None |

| Peripherals in test setup boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| Vehicle Dock | General Dynamics Itronix, Corp. | 91.47M27.007G | ZZTPE7003ZN7367 |
| Serial Modem | Epson | C202A | 010286 |
| Microphone | Gateway | 7000981 | C19808008 |
| Headset | Coby | CV-H42 | None |
| External WLAN Antenna | Maxrad | Unknown | Unknown |
| PS2 Keyboard | Gateway | SK-9921 | G611663 |
| PS2 Mouse | Logitech | 7004055 | HCA22709026 |
| AC Adapter (vehicle mount) | N/A | N/A | N/A |
| External Whip Antenna | N/A | N/A | N/A |

| Equipment modifications | | | | | |
|---|---|---|---|---|---|
| Item | Date | Test | Modification | Note | Disposition of EUT |
| 1 | 7/28/2009 | Effective Isotropic Radiated Power (EIRP) | 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 | 8/3/2009 | Effective Radiated Power (ERP) | 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 | 8/7/2009 | Out of band 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. |
| 4 | 8/7/2009 | AC Powerline Conducted Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed. |

# Out of Band 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 |
|---|
| Cell |

| CHANNELS OF OPERATION |
|---|
| Low Channel |
| Mid Channel |
| High Channel |

| POWER SETTINGS INVESTIGATED |
|---|
| 120VAC/60Hz |

| FREQUENCY RANGE INVESTIGATED | | | |
|---|---|---|---|
| Start Frequency | 30MHz | Stop Frequency | 26 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 |
|---|---|---|---|---|---|
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXE | 1/15/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-3D00100800-32-13P | AVF | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVH | 6/26/2009 | 13 |
| EV11 Cables | | Standard Gain Horn Cables | EVU | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3160.07 | AHZ | 10/14/2008 | 24 |
| Attenuator | Pasternack | PE7005-20 | AUN | 6/25/2009 | 13 |
| Attenuator | INMET | 64671 6A-10dB | AUI | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50111 | HGE | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50108 | HGF | 6/25/2009 | 13 |
| 1-2 GHz Notch Filter | K&L Microwave | 3TNF-1000/2000-N/N | HFU | 7/2/2008 | 24 |
| .5-1 GHz Notch Filter | K&L Microwave | 3TNF-500/1000-N/N | HFT | 7/2/2008 | 24 |
| niversal Radio Communication Teste | Rhode & Schwarz | CMU200 | BSU | NCR | 0 |
| Low Pass Filter 0-425 MHz | Micro-Tronics | LPM50003 | LFB | 7/10/2009 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Hewlett-Packard | 8648D | TGC | 12/9/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

**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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. 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. 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 C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/06/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | Humidity: | 44% |
| Project: | None | Barometric Pres.: | 1016.0mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. EGPRS (EDGE)

**EUT OPERATING MODES**

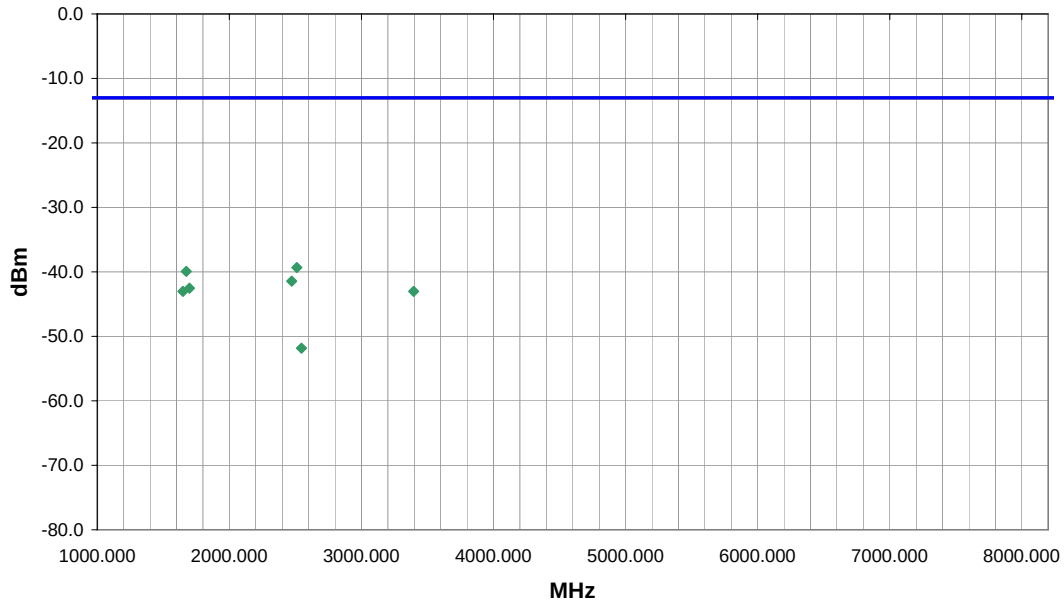
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 26 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2511.215 | | | 253.0 | 1.3 | | | V-Horn | PK | 1.17E-07 | -39.3 | -13.0 | -26.3 | Mid channel. |
| 1674.100 | | | 203.0 | 1.3 | | | V-Horn | PK | 1.02E-07 | -39.9 | -13.0 | -26.9 | Mid channel. |
| 2472.435 | | | 175.0 | 1.0 | | | V-Horn | PK | 7.20E-08 | -41.4 | -13.0 | -28.4 | Low channel. |
| 1697.785 | | | 249.0 | 1.2 | | | V-Horn | PK | 5.59E-08 | -42.5 | -13.0 | -29.5 | High channel. |
| 3395.330 | | | 180.0 | 1.5 | | | V-Horn | PK | 4.98E-08 | -43.0 | -13.0 | -30.0 | High channel. |
| 1648.580 | | | 251.0 | 1.8 | | | V-Horn | PK | 4.98E-08 | -43.0 | -13.0 | -30.0 | Low channel. |
| 2545.915 | | | 253.0 | 1.2 | | | V-Horn | PK | 6.56E-09 | -51.8 | -13.0 | -38.8 | High channel. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | | | Humidity: | 44% |
| Project: | None | | | Barometric Pres.: | 1016.0mb |
| Tested by: | Ethan Schoonover | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. GPRS (GMSK)

**EUT OPERATING MODES**

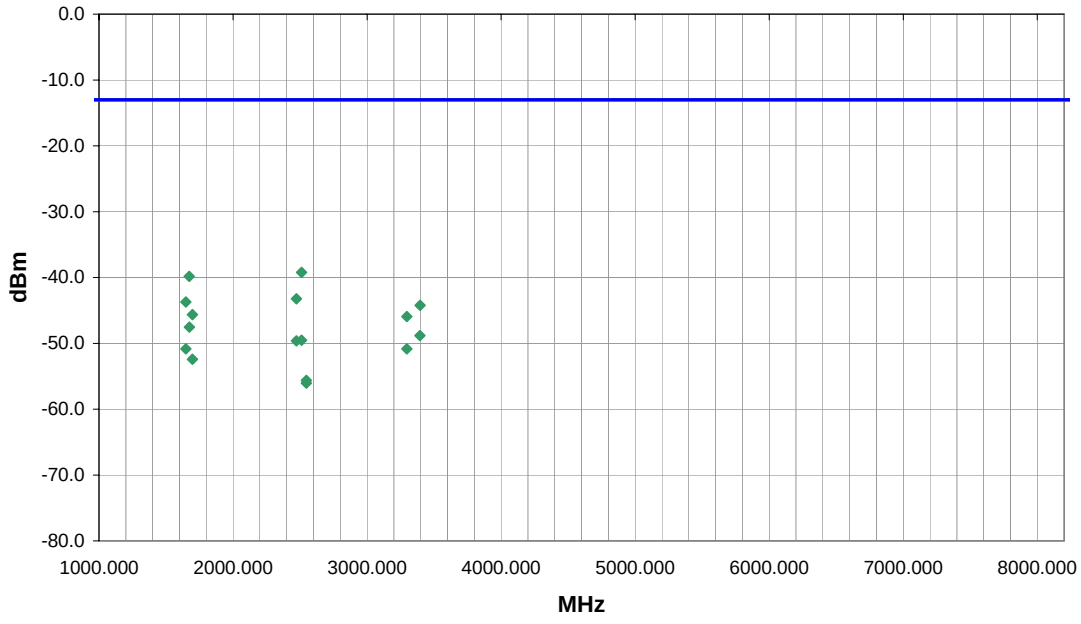
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

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

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2511.143 | | | 44.0 | 1.0 | | | V-Horn | PK | 1.19E-07 | -39.2 | -13.0 | -26.2 | |
| 1673.027 | | | 205.0 | 1.2 | | | V-Horn | PK | 1.04E-07 | -39.8 | -13.0 | -26.8 | |
| 2472.663 | | | 176.0 | 1.0 | | | V-Horn | PK | 4.75E-08 | -43.2 | -13.0 | -30.2 | |
| 1648.400 | | | 356.0 | 1.0 | | | V-Horn | PK | 4.24E-08 | -43.7 | -13.0 | -30.7 | |
| 3395.260 | | | 178.0 | 1.0 | | | V-Horn | PK | 3.78E-08 | -44.2 | -13.0 | -31.2 | |
| 1697.480 | | | 260.0 | 1.3 | | | V-Horn | PK | 2.74E-08 | -45.6 | -13.0 | -32.6 | |
| 3296.817 | | | 188.0 | 1.0 | | | V-Horn | PK | 2.55E-08 | -45.9 | -13.0 | -32.9 | |
| 1674.057 | | | 116.0 | 1.0 | | | H-Horn | PK | 1.77E-08 | -47.5 | -13.0 | -34.5 | |
| 3394.935 | | | 288.0 | 1.6 | | | H-Horn | PK | 1.31E-08 | -48.8 | -13.0 | -35.8 | |
| 2511.643 | | | 87.0 | 1.0 | | | H-Horn | PK | 1.11E-08 | -49.5 | -13.0 | -36.5 | |
| 2472.913 | | | 282.0 | 1.0 | | | H-Horn | PK | 1.09E-08 | -49.6 | -13.0 | -36.6 | |
| 3296.737 | | | 293.0 | 1.9 | | | H-Horn | PK | 8.26E-09 | -50.8 | -13.0 | -37.8 | |
| 1648.400 | | | 128.0 | 1.0 | | | H-Horn | PK | 8.26E-09 | -50.8 | -13.0 | -37.8 | |
| 1697.573 | | | 127.0 | 1.7 | | | H-Horn | PK | 5.72E-09 | -52.4 | -13.0 | -39.4 | |
| 2546.367 | | | 253.0 | 1.0 | | | H-Horn | PK | 2.74E-09 | -55.6 | -13.0 | -42.6 | |
| 2546.370 | | | 271.0 | 1.0 | | | V-Horn | PK | 2.50E-09 | -56.0 | -13.0 | -43.0 | |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 23.8 °C |
| Attendees: | Rod Munro | Humidity: | 46% |
| Project: | None | Barometric Pres.: | 1019.0mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. CDMA 1x RC3 (SO55)

**EUT OPERATING MODES**

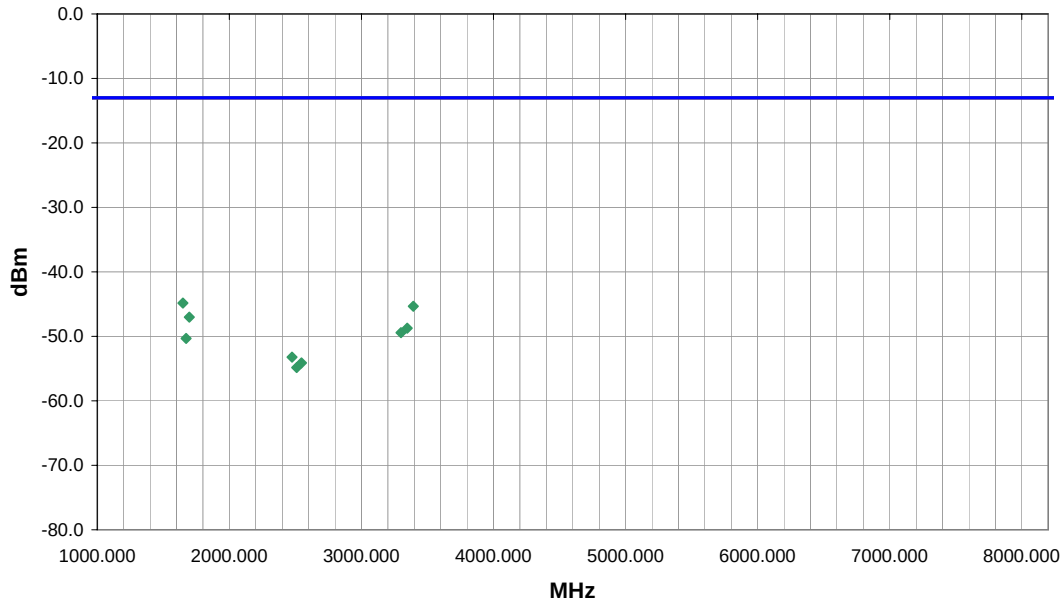
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 31 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1648.083 | | | 208.0 | 1.3 | | | V-Horn | PK | 3.29E-08 | -44.8 | -13.0 | -31.8 | Low channel. |
| 3392.162 | | | 190.0 | 1.1 | | | V-Horn | PK | 2.93E-08 | -45.3 | -13.0 | -32.3 | High channel. |
| 1696.203 | | | 265.0 | 1.2 | | | V-Horn | PK | 1.98E-08 | -47.0 | -13.0 | -34.0 | High channel. |
| 3346.140 | | | 269.0 | 1.4 | | | V-Horn | PK | 1.34E-08 | -48.7 | -13.0 | -35.7 | Mid channel. |
| 3299.267 | | | 199.0 | 1.6 | | | V-Horn | PK | 1.14E-08 | -49.4 | -13.0 | -36.4 | Low channel. |
| 1672.455 | | | 207.0 | 1.3 | | | V-Horn | PK | 9.27E-09 | -50.3 | -13.0 | -37.3 | Mid channel. |
| 2473.917 | | | 184.0 | 1.0 | | | V-Horn | PK | 4.75E-09 | -53.2 | -13.0 | -40.2 | Low channel. |
| 2545.542 | | | 179.0 | 1.6 | | | V-Horn | PK | 3.86E-09 | -54.1 | -13.0 | -41.1 | High channel. |
| 2509.573 | | | 188.0 | 1.7 | | | V-Horn | PK | 3.29E-09 | -54.8 | -13.0 | -41.8 | Mid channel. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 23.9 °C |
| Attendees: | Rod Munro | Humidity: | 46% |
| Project: | None | Barometric Pres.: | 1019.3mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. WCDMA Rel 99

**EUT OPERATING MODES**

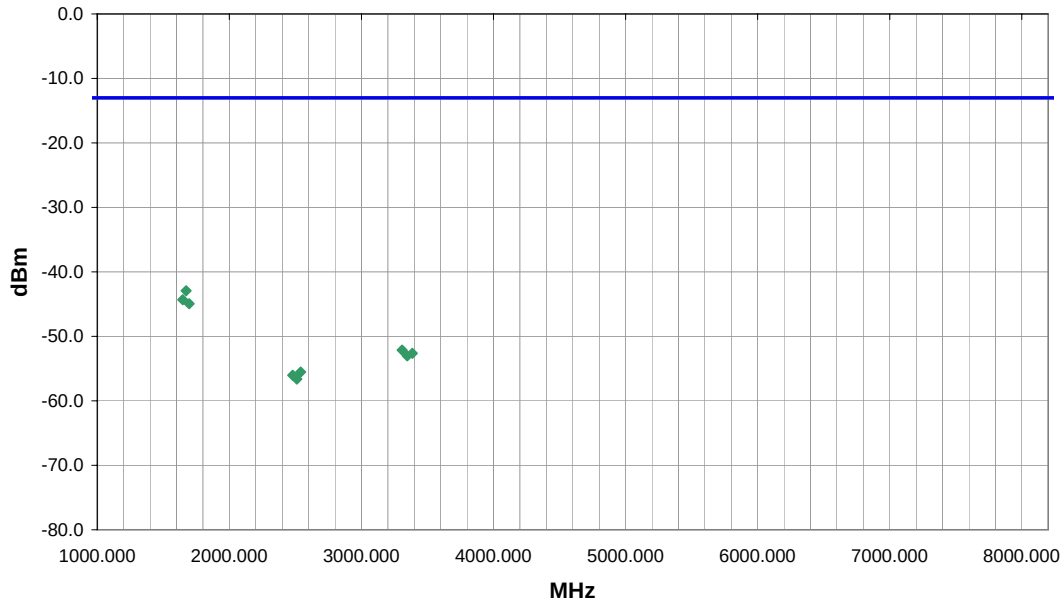
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 32 |
| Configuration # | 2 |
| Results | Pass |

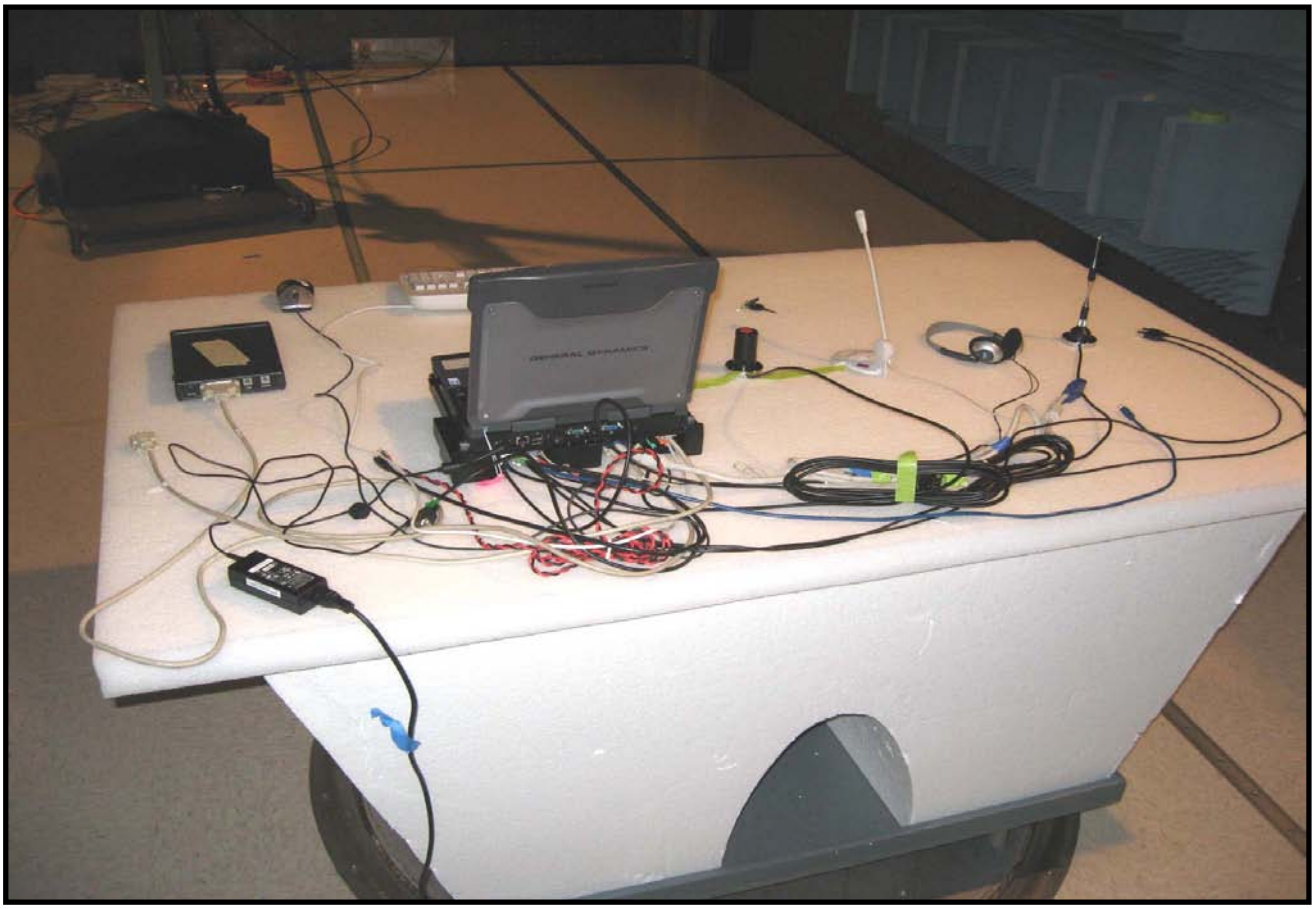
Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1672.203 | | | 32.0 | 1.1 | | | V-Horn | PK | 5.09E-08 | -42.9 | -13.0 | -29.9 | Mid channel. |
| 1646.530 | | | 46.0 | 1.1 | | | V-Horn | PK | 3.69E-08 | -44.3 | -13.0 | -31.3 | Low channel. |
| 1695.580 | | | 64.0 | 1.0 | | | V-Horn | PK | 3.21E-08 | -44.9 | -13.0 | -31.9 | High channel. |
| 3307.692 | | | 359.0 | 1.4 | | | V-Horn | PK | 6.13E-09 | -52.1 | -13.0 | -39.1 | Low channel. |
| 3386.027 | | | 304.0 | 1.0 | | | V-Horn | PK | 5.46E-09 | -52.6 | -13.0 | -39.6 | High channel. |
| 3347.183 | | | 83.0 | 1.0 | | | V-Horn | PK | 4.98E-09 | -53.0 | -13.0 | -40.0 | Mid channel. |
| 2539.310 | | | 299.0 | 1.0 | | | V-Horn | PK | 2.80E-09 | -55.5 | -13.0 | -42.5 | High channel. |
| 2479.110 | | | 211.0 | 1.0 | | | V-Horn | PK | 2.50E-09 | -56.0 | -13.0 | -43.0 | Low channel. |
| 2510.697 | | | 336.0 | 1.9 | | | V-Horn | PK | 2.17E-09 | -56.6 | -13.0 | -43.6 | Mid channel. |

# Out of Band Emissions

# Out of Band Emissions



# Out of Band 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 |
|---|
| PCS Band |

| CHANNELS OF OPERATION |
|---|
| Low Channel |
| Mid Channel |
| High Channel |

| POWER SETTINGS INVESTIGATED |
|---|
| 120VAC/60Hz |

| FREQUENCY RANGE INVESTIGATED | | | |
|---|---|---|---|
| Start Frequency | 30MHz | Stop Frequency | 26 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 |
|---|---|---|---|---|---|
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXE | 1/15/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-3D00100800-32-13P | AVF | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVH | 6/26/2009 | 13 |
| EV11 Cables | | Standard Gain Horn Cables | EVU | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3160.07 | AHZ | 10/14/2008 | 24 |
| Attenuator | Pasternack | PE7005-20 | AUN | 6/25/2009 | 13 |
| Attenuator | INMET | 64671 6A-10dB | AUI | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50111 | HGE | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50108 | HGF | 6/25/2009 | 13 |
| 1-2 GHz Notch Filter | K&L Microwave | 3TNF-1000/2000-N/N | HFU | 7/2/2008 | 24 |
| .5-1 GHz Notch Filter | K&L Microwave | 3TNF-500/1000-N/N | HFT | 7/2/2008 | 24 |
| niversal Radio Communication Test | Rhode & Schwarz | CMU200 | BSU | NCR | 0 |
| Low Pass Filter 0-425 MHz | Micro-Tronics | LPM50003 | LFB | 7/10/2009 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Hewlett-Packard | 8648D | TGC | 12/9/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

**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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. 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. 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 C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/06/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.8 °C |
| Attendees: | Rod Munro | Humidity: | 42% |
| Project: | None | Barometric Pres.: | 1015.0mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. EGPRS (EDGE)

**EUT OPERATING MODES**

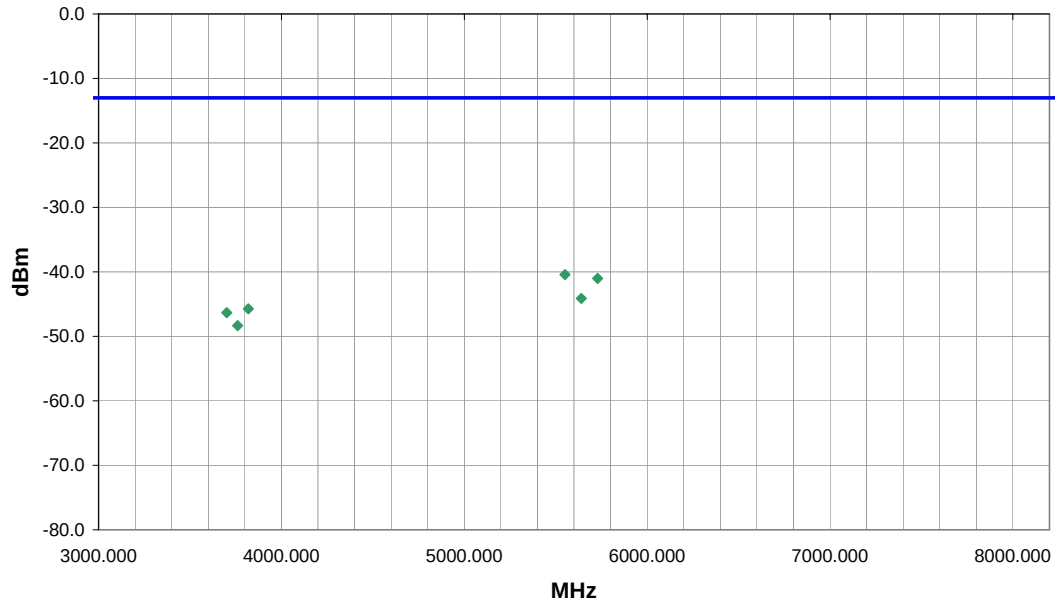
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 27 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5550.595 | | | 307.0 | 1.1 | | | V-Horn | PK | 9.06E-08 | -40.4 | -13.0 | -27.4 | Low channel. |
| 5729.435 | | | 223.0 | 1.4 | | | V-Horn | PK | 7.89E-08 | -41.0 | -13.0 | -28.0 | High Channel |
| 5640.245 | | | 142.0 | 1.4 | | | V-Horn | PK | 3.86E-08 | -44.1 | -13.0 | -31.1 | Mid channel. |
| 3819.410 | | | 348.0 | 1.9 | | | V-Horn | PK | 2.67E-08 | -45.7 | -13.0 | -32.7 | High Channel |
| 3700.460 | | | 276.0 | 1.8 | | | V-Horn | PK | 2.33E-08 | -46.3 | -13.0 | -33.3 | Low channel. |
| 3760.205 | | | 180.0 | 1.4 | | | V-Horn | PK | 1.47E-08 | -48.3 | -13.0 | -35.3 | Mid channel. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 22.8 °C |
| Attendees: | Rod Munro | | | Humidity: | 42% |
| Project: | None | | | Barometric Pres.: | 1015.0mb |
| Tested by: | Ethan Schoonover | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. GPRS (GMSK)

**EUT OPERATING MODES**

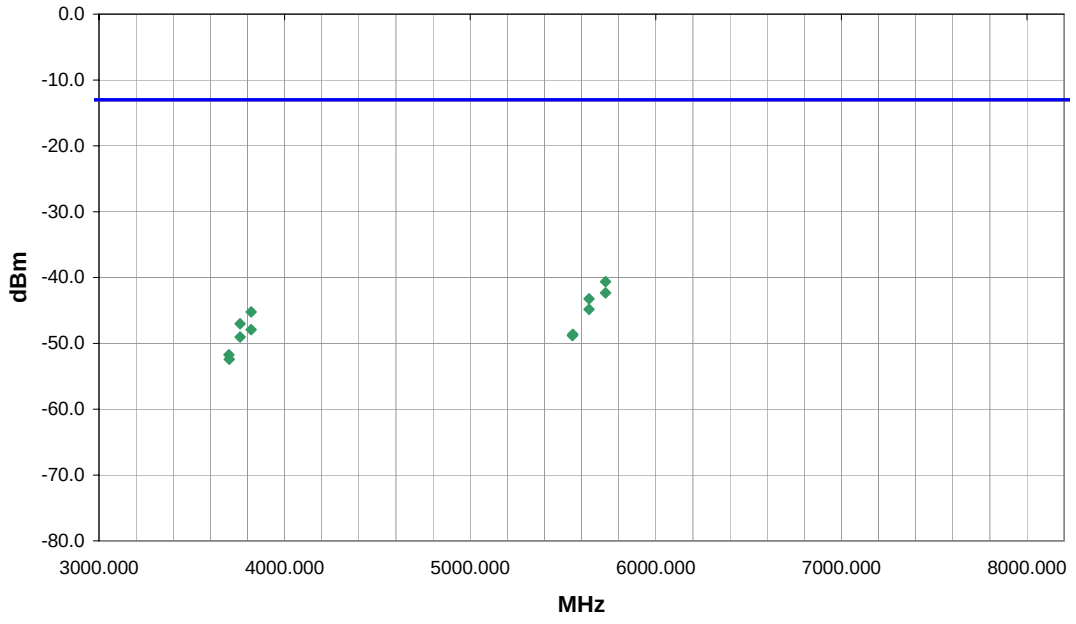
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 28 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5729.510 | | | 307.0 | 1.0 | | | H-Horn | PK | 8.65E-08 | -40.6 | -13.0 | -27.6 | |
| 5729.367 | | | 245.0 | 1.0 | | | V-Horn | PK | 5.85E-08 | -42.3 | -13.0 | -29.3 | |
| 5640.420 | | | 167.0 | 1.2 | | | H-Horn | PK | 4.75E-08 | -43.2 | -13.0 | -30.2 | |
| 5640.173 | | | 138.0 | 1.0 | | | V-Horn | PK | 3.29E-08 | -44.8 | -13.0 | -31.8 | |
| 3819.883 | | | 174.0 | 1.1 | | | V-Horn | PK | 3.00E-08 | -45.2 | -13.0 | -32.2 | |
| 3760.113 | | | 195.0 | 1.6 | | | V-Horn | PK | 1.98E-08 | -47.0 | -13.0 | -34.0 | |
| 3819.757 | | | 276.0 | 1.2 | | | H-Horn | PK | 1.61E-08 | -47.9 | -13.0 | -34.9 | |
| 5552.500 | | | 92.0 | 1.0 | | | V-Horn | PK | 1.37E-08 | -48.6 | -13.0 | -35.6 | |
| 5551.150 | | | 267.0 | 1.0 | | | H-Horn | PK | 1.31E-08 | -48.8 | -13.0 | -35.8 | |
| 3760.163 | | | 281.0 | 1.3 | | | H-Horn | PK | 1.25E-08 | -49.0 | -13.0 | -36.0 | |
| 3700.333 | | | 35.0 | 1.0 | | | H-Horn | PK | 6.72E-09 | -51.7 | -13.0 | -38.7 | |
| 3702.067 | | | 56.0 | 2.1 | | | V-Horn | PK | 5.72E-09 | -52.4 | -13.0 | -39.4 | |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | Humidity: | 44% |
| Project: | None | Barometric Pres.: | 1016.0mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. CDMA 1x RC3 (SO55)

**EUT OPERATING MODES**

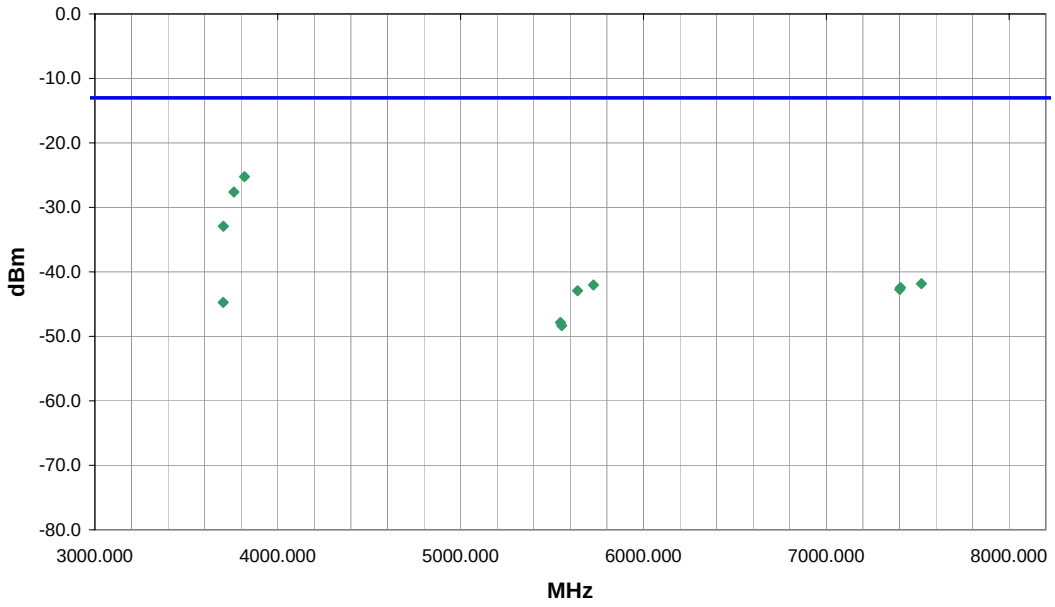
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 30 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3817.815 | | | 288.0 | 1.9 | | | V-Horn | PK | 3.00E-06 | -25.2 | -13.0 | -12.2 | High channel |
| 3760.550 | | | 218.0 | 1.7 | | | V-Horn | PK | 1.73E-06 | -27.6 | -13.0 | -14.6 | Mid channel |
| 3702.700 | | | 190.0 | 1.3 | | | V-Horn | PK | 5.09E-07 | -32.9 | -13.0 | -19.9 | Low channel |
| 7519.825 | | | 3.0 | 1.0 | | | V-Horn | PK | 6.56E-08 | -41.8 | -13.0 | -28.8 | Mid channel |
| 5726.273 | | | 308.0 | 1.1 | | | V-Horn | PK | 6.27E-08 | -42.0 | -13.0 | -29.0 | High channel |
| 7405.650 | | | 84.0 | 1.0 | | | V-Horn | PK | 5.72E-08 | -42.4 | -13.0 | -29.4 | Low channel |
| 7401.183 | | | 201.0 | 1.0 | | | H-Horn | PK | 5.33E-08 | -42.7 | -13.0 | -29.7 | Low channel |
| 5639.708 | | | 1.0 | 1.2 | | | V-Horn | PK | 5.09E-08 | -42.9 | -13.0 | -29.9 | Mid channel |
| 3702.150 | | | 301.0 | 1.0 | | | H-Horn | PK | 3.37E-08 | -44.7 | -13.0 | -31.7 | Low channel |
| 5545.833 | | | 39.0 | 1.0 | | | V-Horn | PK | 1.65E-08 | -47.8 | -13.0 | -34.8 | Low channel |
| 5552.917 | | | 218.0 | 1.0 | | | H-Horn | PK | 1.47E-08 | -48.3 | -13.0 | -35.3 | Low channel |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/07/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 23.9 °C |
| Attendees: | Rod Munro | | | Humidity: | 46% |
| Project: | None | | | Barometric Pres.: | 1019.3mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount. WCDMA Rel 99

**EUT OPERATING MODES**

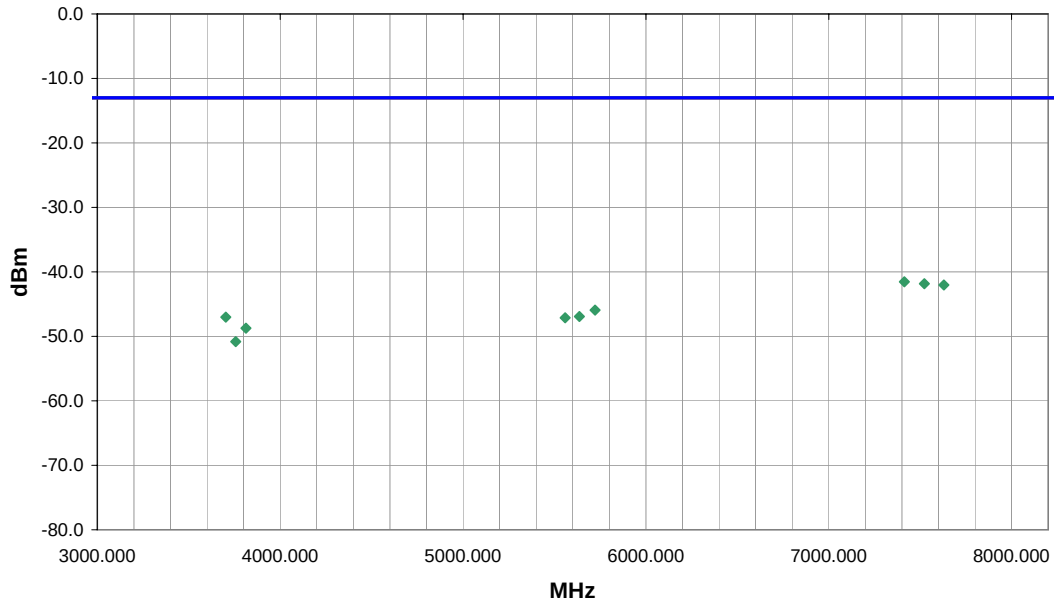
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

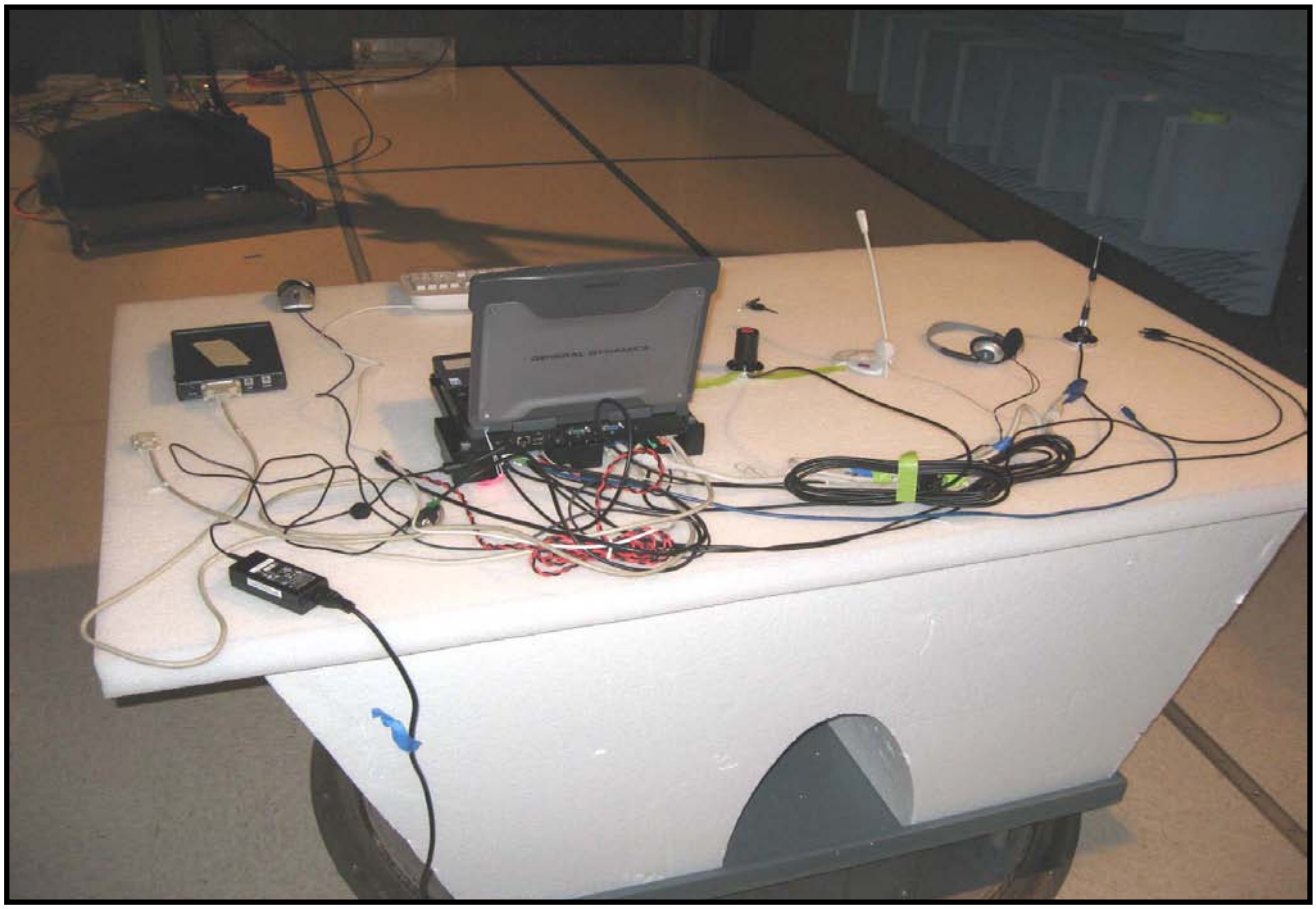
| | |
|---|---|
| Run # | 33 |
| Configuration # | 2 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7413.033 | | | 335.0 | 1.7 | | | V-Horn | PK | 7.03E-08 | -41.5 | -13.0 | -28.5 | Low channel. |
| 7522.883 | | | 17.0 | 1.0 | | | V-Horn | PK | 6.56E-08 | -41.8 | -13.0 | -28.8 | Mid channel. |
| 7629.733 | | | 270.0 | 1.0 | | | V-Horn | PK | 6.27E-08 | -42.0 | -13.0 | -29.0 | High channel. |
| 5722.150 | | | 194.0 | 1.0 | | | V-Horn | PK | 2.55E-08 | -45.9 | -13.0 | -32.9 | High channel. |
| 5636.233 | | | 288.0 | 1.0 | | | V-Horn | PK | 2.03E-08 | -46.9 | -13.0 | -33.9 | Mid channel. |
| 3702.933 | | | 187.0 | 1.3 | | | V-Horn | PK | 1.98E-08 | -47.0 | -13.0 | -34.0 | Low channel. |
| 5558.017 | | | 108.0 | 1.0 | | | V-Horn | PK | 1.94E-08 | -47.1 | -13.0 | -34.1 | Low channel. |
| 3812.550 | | | 182.0 | 1.5 | | | V-Horn | PK | 1.34E-08 | -48.7 | -13.0 | -35.7 | High channel. |
| 3756.567 | | | 190.0 | 1.1 | | | V-Horn | PK | 8.26E-09 | -50.8 | -13.0 | -37.8 | Mid channel. |

# Out of Band Emissions



# Out of Band 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 |
|---|
| Cell |

| CHANNELS OF OPERATION |
|---|
| Low Channel |
| Mid Channel |
| High Channel |

| POWER SETTINGS INVESTIGATED |
|---|
| 120VAC/60Hz |

| FREQUENCY RANGE INVESTIGATED | | | |
|---|---|---|---|
| Start Frequency | 30MHz | Stop Frequency | 26 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 |
|---|---|---|---|---|---|
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXE | 1/15/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-3D00100800-32-13P | AVF | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVH | 6/26/2009 | 13 |
| EV11 Cables | | Standard Gain Horn Cables | EVU | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3160.07 | AHZ | 10/14/2008 | 24 |
| Attenuator | Pasternack | PE7005-20 | AUN | 6/25/2009 | 13 |
| Attenuator | INMET | 64671 6A-10dB | AUI | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50111 | HGE | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50108 | HGF | 6/25/2009 | 13 |
| 1-2 GHz Notch Filter | K&L Microwave | 3TNF-1000/2000-N/N | HFU | 7/2/2008 | 24 |
| .5-1 GHz Notch Filter | K&L Microwave | 3TNF-500/1000-N/N | HFT | 7/2/2008 | 24 |
| niversal Radio Communication Teste | Rhode & Schwarz | CMU200 | BSU | NCR | 0 |
| Low Pass Filter 0-425 MHz | Micro-Tronics | LPM50003 | LFB | 7/10/2009 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Hewlett-Packard | 8648D | TGC | 12/9/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

**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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. 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. 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 C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/05/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | | | Humidity: | 44% |
| Project: | None | | | Barometric Pres.: | 1016.0mb |
| Tested by: | Ethan Schoonover | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

CDMA 1x RC3 (SO55), Standalone.

**EUT OPERATING MODES**

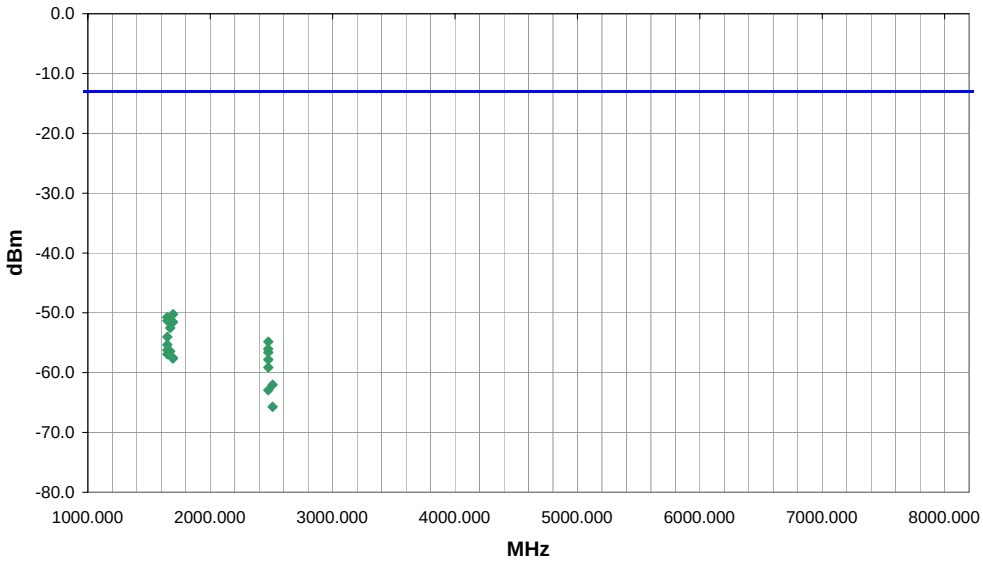
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 19 |
| Configuration # | 1 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1696.083 | | | 201.0 | 1.1 | | | H-Horn | PK | 9.49E-09 | -50.2 | -13.0 | -37.2 | Laptop Screen Vertical |
| 1648.833 | | | 322.0 | 1.2 | | | H-Horn | PK | 8.46E-09 | -50.7 | -13.0 | -37.7 | Laptop Screen Horizontal |
| 1649.483 | | | 224.0 | 1.2 | | | H-Horn | PK | 7.36E-09 | -51.3 | -13.0 | -38.3 | Laptop Screen Vertical |
| 1696.417 | | | 338.0 | 1.1 | | | H-Horn | PK | 7.03E-09 | -51.5 | -13.0 | -38.5 | Laptop Screen Horizontal |
| 1672.733 | | | 200.0 | 1.2 | | | H-Horn | PK | 5.59E-09 | -52.5 | -13.0 | -39.5 | Laptop Screen Vertical |
| 1649.733 | | | 169.0 | 1.3 | | | V-Horn | PK | 3.95E-09 | -54.0 | -13.0 | -41.0 | Laptop Screen Vertical |
| 2474.017 | | | 69.0 | 1.1 | | | H-Horn | PK | 3.29E-09 | -54.8 | -13.0 | -41.8 | EUT onside. |
| 1649.550 | | | 105.0 | 1.7 | | | V-Horn | PK | 2.93E-09 | -55.3 | -13.0 | -42.3 | Laptop Screen Horizontal |
| 2473.817 | | | 19.0 | 1.1 | | | H-Horn | PK | 2.50E-09 | -56.0 | -13.0 | -43.0 | Laptop Screen Horizontal |
| 1649.800 | | | 182.0 | 1.6 | | | V-Horn | PK | 2.38E-09 | -56.2 | -13.0 | -43.2 | EUT onside. |
| 1673.333 | | | 322.0 | 1.0 | | | V-Horn | PK | 2.28E-09 | -56.4 | -13.0 | -43.4 | Laptop Screen Vertical |
| 2474.200 | | | 166.0 | 1.4 | | | V-Horn | PK | 2.17E-09 | -56.6 | -13.0 | -43.6 | Laptop Screen Vertical |
| 1649.383 | | | 239.0 | 1.4 | | | H-Horn | PK | 2.03E-09 | -56.9 | -13.0 | -43.9 | EUT onside. |
| 1696.017 | | | 221.0 | 2.5 | | | V-Horn | PK | 1.77E-09 | -57.5 | -13.0 | -44.5 | Laptop Screen Horizontal |
| 1695.667 | | | 57.0 | 2.3 | | | V-Horn | PK | 1.73E-09 | -57.6 | -13.0 | -44.6 | Laptop Screen Vertical |
| 2474.333 | | | 202.0 | 1.1 | | | H-Horn | PK | 1.65E-09 | -57.8 | -13.0 | -44.8 | Laptop Screen Vertical |
| 2474.000 | | | 28.0 | 1.3 | | | V-Horn | PK | 1.22E-09 | -59.1 | -13.0 | -46.1 | Laptop Screen Horizontal |
| 2509.700 | | | 210.0 | 1.0 | | | V-Horn | PK | 6.27E-10 | -62.0 | -13.0 | -49.0 | Laptop Screen Vertical |
| 2474.167 | | | 333.0 | 1.2 | | | V-Horn | PK | 5.09E-10 | -62.9 | -13.0 | -49.9 | EUT onside. |
| 2510.383 | | | 134.0 | 1.3 | | | H-Horn | PK | 2.67E-10 | -65.7 | -13.0 | -52.7 | Laptop Screen Vertical |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/05/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | | | Humidity: | 44% |
| Project: | None | | | Barometric Pres.: | 1016.0mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. GPRS (GMSK)

**EUT OPERATING MODES**

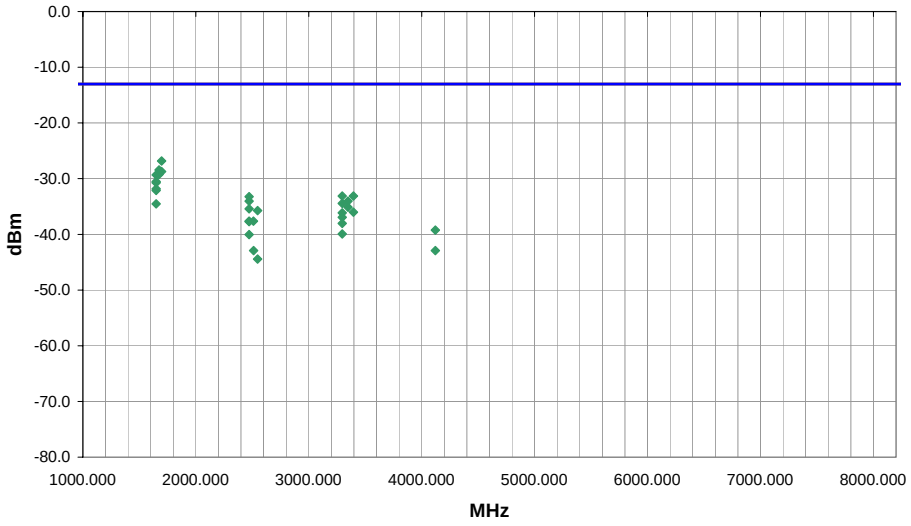
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 20 |
| Configuration # | 1 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1697.730 | | | 117.0 | 1.0 | | | V-Horn | PK | 2.08E-06 | -26.8 | -13.0 | -13.8 | High channel, Laptop on its side. |
| 1674.115 | | | 119.0 | 1.1 | | | V-Horn | PK | 1.44E-06 | -28.4 | -13.0 | -15.4 | Mid channel, Laptop on its side. |
| 1697.615 | | | 199.0 | 1.0 | | | H-Horn | PK | 1.34E-06 | -28.7 | -13.0 | -15.7 | High channel, Laptop on its side. |
| 1673.870 | | | 204.0 | 1.0 | | | H-Horn | PK | 1.19E-06 | -29.2 | -13.0 | -16.2 | Mid channel, Laptop on its side. |
| 1648.300 | | | 133.0 | 1.1 | | | V-Horn | PK | 1.17E-06 | -29.3 | -13.0 | -16.3 | Low channel, Laptop on its side. |
| 1648.425 | | | 46.0 | 1.2 | | | H-Horn | PK | 8.85E-07 | -30.5 | -13.0 | -17.5 | Low channel, Laptop Screen horizontal |
| 1648.350 | | | 137.0 | 1.3 | | | H-Horn | PK | 8.46E-07 | -30.7 | -13.0 | -17.7 | Low channel, Laptop Screen Vertical |
| 1648.383 | | | 179.0 | 1.3 | | | H-Horn | PK | 6.56E-07 | -31.8 | -13.0 | -18.8 | Low channel, Laptop on its side. |
| 1648.317 | | | 179.0 | 1.3 | | | V-Horn | PK | 6.13E-07 | -32.1 | -13.0 | -19.1 | Low channel, Laptop Screen Vertical |
| 3296.833 | | | 127.0 | 1.2 | | | H-Horn | PK | 4.87E-07 | -33.1 | -13.0 | -20.1 | Low channel, Laptop on its side. |
| 3395.360 | | | 155.0 | 1.1 | | | H-Horn | PK | 4.87E-07 | -33.1 | -13.0 | -20.1 | High channel, Laptop on its side. |
| 2472.442 | | | 177.0 | 1.1 | | | H-Horn | PK | 4.75E-07 | -33.2 | -13.0 | -20.2 | Low channel, Laptop on its side. |
| 2472.592 | | | 202.0 | 1.0 | | | V-Horn | PK | 3.95E-07 | -34.0 | -13.0 | -21.0 | Low channel, Laptop Screen Vertical |
| 3348.145 | | | 244.0 | 1.2 | | | H-Horn | PK | 3.95E-07 | -34.0 | -13.0 | -21.0 | Mid channel, Laptop on its side. |
| 3296.758 | | | 225.0 | 1.0 | | | V-Horn | PK | 3.61E-07 | -34.4 | -13.0 | -21.4 | Low channel, Laptop Screen Vertical |
| 1648.517 | | | 102.0 | 2.3 | | | V-Horn | PK | 3.52E-07 | -34.5 | -13.0 | -21.5 | Low channel, Laptop Screen horizontal |
| 3348.070 | | | 172.0 | 1.1 | | | V-Horn | PK | 3.07E-07 | -35.1 | -13.0 | -22.1 | Mid channel, Laptop on its side. |
| 2472.525 | | | 23.0 | 1.1 | | | H-Horn | PK | 2.86E-07 | -35.4 | -13.0 | -22.4 | Low channel, Laptop Screen horizontal |
| 2546.575 | | | 192.0 | 1.1 | | | H-Horn | PK | 2.67E-07 | -35.7 | -13.0 | -22.7 | High channel, Laptop on its side. |
| 3395.470 | | | 117.0 | 1.0 | | | V-Horn | PK | 2.50E-07 | -36.0 | -13.0 | -23.0 | High channel, Laptop on its side. |

NORTHWEST **EMC**

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | **Date:** | 08/06/09 |
| **Customer:** | Spectrum Technology, Inc. | **Temperature:** | 23.9 °C |
| **Attendees:** | Rod Munro | **Humidity:** | 44% |
| **Project:** | None | **Barometric Pres.:** | 1014.8mb |
| **Tested by:** | Dan Haas | **Power:** 120VAC/60Hz | **Job Site:** EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. WCDMA Rel 99.

**EUT OPERATING MODES**

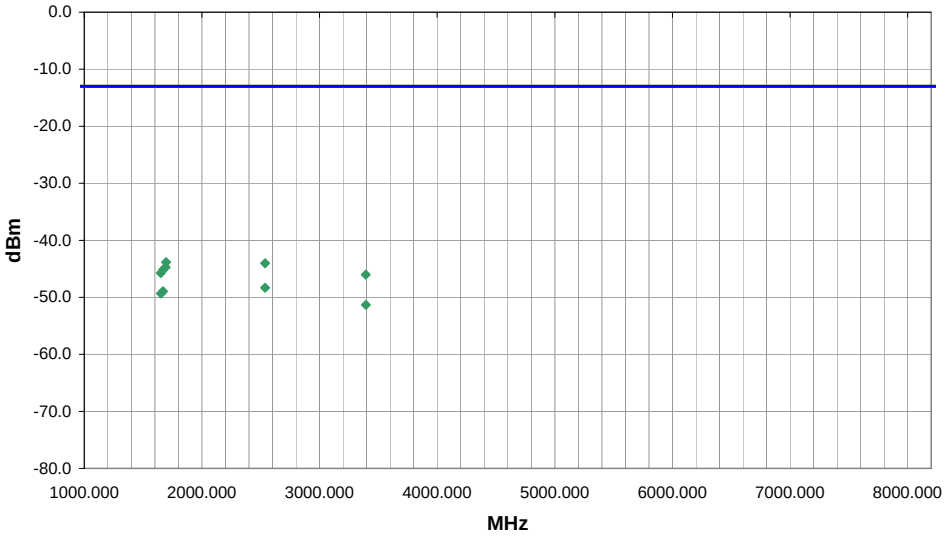
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 24 |
| **Configuration #** | 1 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1694.650 | | | 223.0 | 2.2 | | | V-Horn | PK | 4.14E-08 | -43.8 | -13.0 | -30.8 | High channel, laptop on its side. |
| 2537.383 | | | 93.0 | 1.1 | | | H-Horn | PK | 3.95E-08 | -44.0 | -13.0 | -31.0 | High channel, laptop on its side. |
| 1691.433 | | | 51.0 | 2.0 | | | H-Horn | PK | 3.37E-08 | -44.7 | -13.0 | -31.7 | High channel, laptop on its side. |
| 1671.867 | | | 147.0 | 2.0 | | | V-Horn | PK | 3.07E-08 | -45.1 | -13.0 | -32.1 | Mid channel, laptop on its side. |
| 1650.733 | | | 215.0 | 1.6 | | | V-Horn | PK | 2.67E-08 | -45.7 | -13.0 | -32.7 | Low channel, laptop on its side. |
| 3392.450 | | | 184.0 | 1.1 | | | H-Horn | PK | 2.50E-08 | -46.0 | -13.0 | -33.0 | High channel, laptop on its side. |
| 2536.683 | | | 39.0 | 1.8 | | | V-Horn | PK | 1.47E-08 | -48.3 | -13.0 | -35.3 | High channel, laptop on its side. |
| 1669.750 | | | 13.0 | 2.2 | | | H-Horn | PK | 1.28E-08 | -48.9 | -13.0 | -35.9 | Mid channel, laptop on its side. |
| 1650.967 | | | 15.0 | 2.0 | | | H-Horn | PK | 1.17E-08 | -49.3 | -13.0 | -36.3 | Low channel, laptop on its side. |
| 3394.050 | | | 72.0 | 1.2 | | | V-Horn | PK | 7.36E-09 | -51.3 | -13.0 | -38.3 | High channel, laptop on its side. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/06/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.2 °C |
| Attendees: | Rod Munro | Humidity: | 44% |
| Project: | None | Barometric Pres.: | 1014.9mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. EGPRS (EDGE)

**EUT OPERATING MODES**

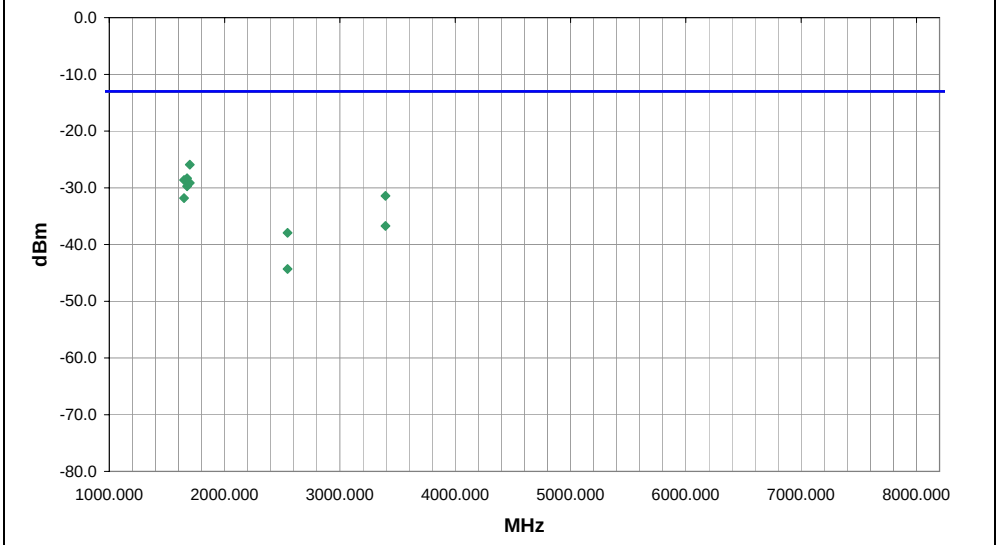
Cell Band

**DEVIATIONS FROM TEST STANDARD**

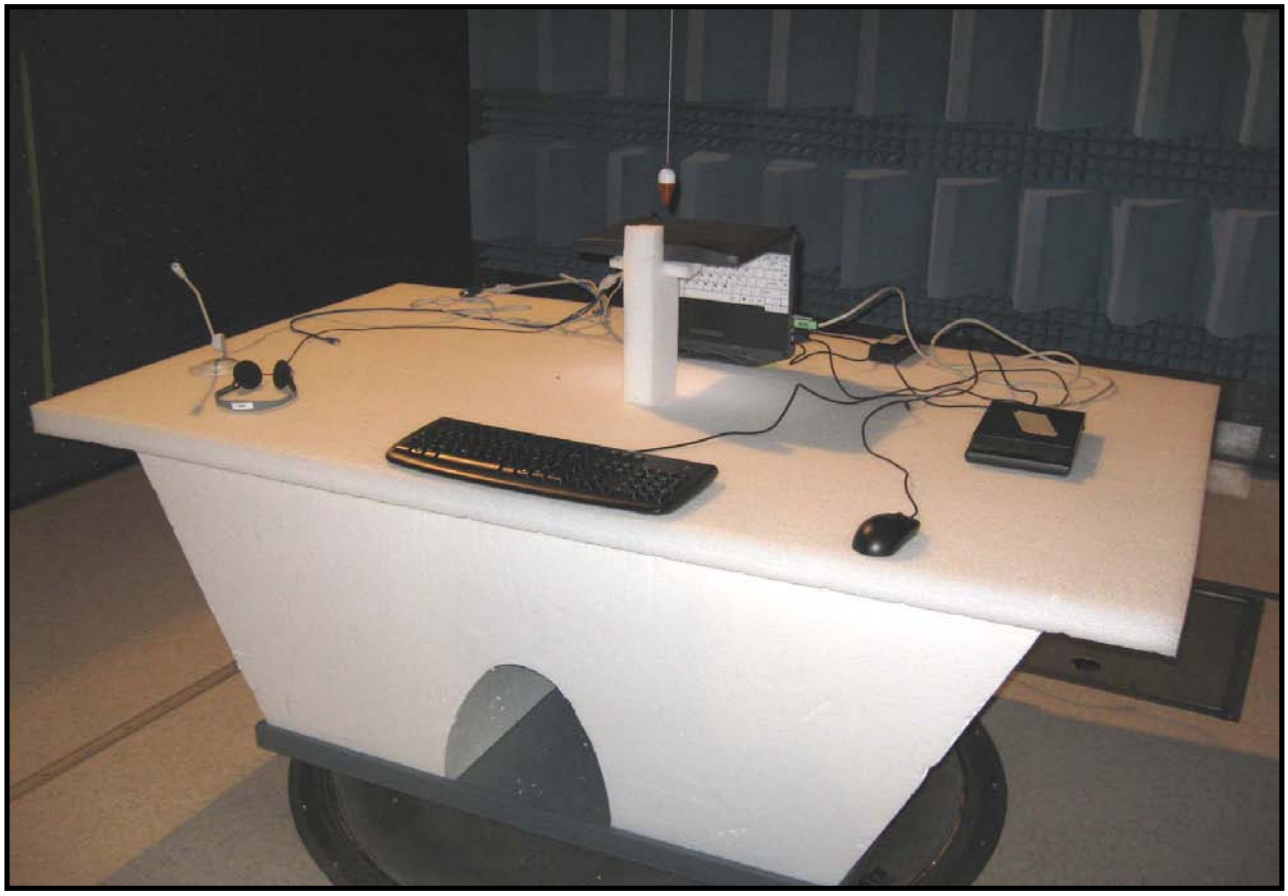
No deviations.

| | |
|---|---|
| Run # | 25 |
| Configuration # | 1 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1697.660 | | | 196.0 | 1.1 | | | V-Horn | PK | 2.55E-06 | -25.9 | -13.0 | -12.9 | High channel, Laptop on its side. |
| 1674.020 | | | 196.0 | 1.1 | | | V-Horn | PK | 1.47E-06 | -28.3 | -13.0 | -15.3 | Mid channel, Laptop on its side. |
| 1648.580 | | | 207.0 | 1.1 | | | V-Horn | PK | 1.37E-06 | -28.6 | -13.0 | -15.6 | Low channel, Laptop on its side. |
| 1697.560 | | | 214.0 | 1.0 | | | H-Horn | PK | 1.22E-06 | -29.1 | -13.0 | -16.1 | High channel, Laptop on its side. |
| 1674.105 | | | 211.0 | 1.0 | | | H-Horn | PK | 1.06E-06 | -29.7 | -13.0 | -16.7 | Mid channel, Laptop on its side. |
| 3394.925 | | | 202.0 | 1.1 | | | H-Horn | PK | 7.20E-07 | -31.4 | -13.0 | -18.4 | High channel, Laptop on its side. |
| 1648.245 | | | 172.0 | 1.4 | | | H-Horn | PK | 6.56E-07 | -31.8 | -13.0 | -18.8 | Low channel, Laptop on its side. |
| 3395.080 | | | 208.0 | 1.1 | | | V-Horn | PK | 2.12E-07 | -36.7 | -13.0 | -23.7 | High channel, Laptop on its side. |
| 2546.135 | | | 199.0 | 1.1 | | | H-Horn | PK | 1.61E-07 | -37.9 | -13.0 | -24.9 | High channel, Laptop on its side. |
| 2546.160 | | | 158.0 | 1.0 | | | V-Horn | PK | 3.69E-08 | -44.3 | -13.0 | -31.3 | High channel, Laptop on its side. |



# Out of Band Emissions

# Out of Band 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 |
|---|
| PCS Band |

| CHANNELS OF OPERATION |
|---|
| Low Channel |
| Mid Channel |
| High Channel |

| POWER SETTINGS INVESTIGATED |
|---|
| 120VAC/60Hz |

| FREQUENCY RANGE INVESTIGATED | | | |
|---|---|---|---|
| Start Frequency | 30MHz | Stop Frequency | 26 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 |
|---|---|---|---|---|---|
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXE | 1/15/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-3D00100800-32-13P | AVF | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Pre-Amplifier | Miteq | AMF-6F-08001200-30-10P | AVH | 6/26/2009 | 13 |
| EV11 Cables | | Standard Gain Horn Cables | EVU | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3160.07 | AHZ | 10/14/2008 | 24 |
| Attenuator | Pasternack | PE7005-20 | AUN | 6/25/2009 | 13 |
| Attenuator | INMET | 64671 6A-10dB | AUI | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50111 | HGE | 6/25/2009 | 13 |
| High Pass Filter | Micro-Tronics | 50108 | HGF | 6/25/2009 | 13 |
| 1-2 GHz Notch Filter | K&L Microwave | 3TNF-1000/2000-N/N | HFU | 7/2/2008 | 24 |
| .5-1 GHz Notch Filter | K&L Microwave | 3TNF-500/1000-N/N | HFT | 7/2/2008 | 24 |
| niversal Radio Communication Test | Rhode & Schwarz | CMU200 | BSU | NCR | 0 |
| Low Pass Filter 0-425 MHz | Micro-Tronics | LPM50003 | LFB | 7/10/2009 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Hewlett-Packard | 8648D | TGC | 12/9/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

**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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The highest gain antenna to be used with the EUT was tested for final measurements. 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. 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 C63.4:2003). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

For licensed transmitters, the FCC references TIA/EIA-603 as the measurement procedure standard. TIA/EIA-603 Section 2.2.12 describes a method for measuring radiated spurious emissions that utilizes an antenna substitution method:

At an approved test site, the transmitter is place on a remotely controlled turntable, and the measurement antenna is placed 3 meters from the transmitter. The turntable azimuth is varied to maximize the level of spurious emissions. The height of the measurement antenna is also varied from 1 to 4 meters. The amplitude and frequency of the highest emissions are noted. The transmitter is then replaced with a ½ wave dipole that is successively tuned to each of the highest spurious emissions for emissions below 1 GHz, and a horn antenna for emissions above 1 GHz. A signal generator is connected to the dipole (horn antenna for frequencies above 1 GHz), and its output is adjusted to match the level previously noted for each frequency. The output of the signal generator is recorded, and by factoring in the cable loss to the antenna and its gain; the power (dBm) into an ideal ½ wave dipole antenna is determined for each radiated spurious emission.

For the purposes of preliminary measurements, the field strength of the spurious emissions can be measured and compared with a 3 meter limit. The 3 meter limit was calculated to be 82.5 dBuV/m at 3 meters. The final measurements must be made utilizing the substitution method described above

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/04/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | Humidity: | 44% |
| Project: | None | Barometric Pres.: | 1016.0mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

CDMA 1x RC3 (SO55), Standalone.

**EUT OPERATING MODES**

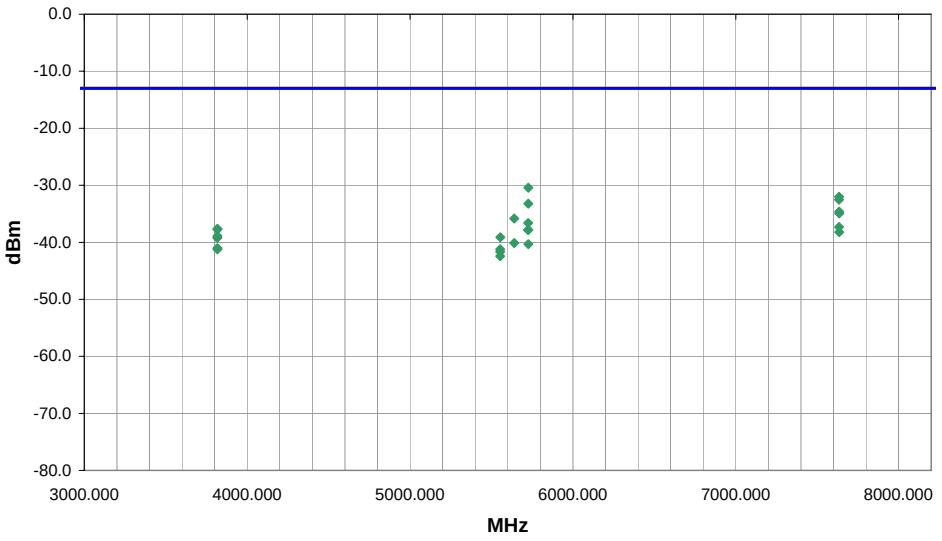
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 18 |
| Configuration # | 1 |
| Results | Pass |

Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5726.258 | | | 255.0 | 1.1 | | | H-Horn | PK | 9.06E-07 | -30.4 | -13.0 | -17.4 | High channel, laptop on its side. |
| 7634.325 | | | 256.0 | 1.0 | | | H-Horn | PK | 6.27E-07 | -32.0 | -13.0 | -19.0 | High channel, laptop on its side. |
| 7634.583 | | | 183.0 | 1.8 | | | V-Horn | PK | 5.59E-07 | -32.5 | -13.0 | -19.5 | High channel, screen horizontal. |
| 5726.017 | | | 200.0 | 1.7 | | | V-Horn | PK | 4.75E-07 | -33.2 | -13.0 | -20.2 | High channel, screen horizontal. |
| 7634.842 | | | 187.0 | 1.5 | | | V-Horn | PK | 3.44E-07 | -34.6 | -13.0 | -21.6 | High channel, screen vertical. |
| 7635.183 | | | 246.0 | 1.0 | | | V-Horn | PK | 3.21E-07 | -34.9 | -13.0 | -21.9 | High channel, laptop on its side. |
| 5639.783 | | | 254.0 | 1.0 | | | H-Horn | PK | 2.61E-07 | -35.8 | -13.0 | -22.8 | Mid channel, laptop on its side. |
| 5725.658 | | | 207.0 | 1.4 | | | V-Horn | PK | 2.17E-07 | -36.6 | -13.0 | -23.6 | High channel, laptop on its side. |
| 7634.600 | | | 313.0 | 2.0 | | | H-Horn | PK | 1.85E-07 | -37.3 | -13.0 | -24.3 | High channel, screen horizontal. |
| 3817.600 | | | 63.0 | 1.1 | | | H-Horn | PK | 1.73E-07 | -37.6 | -13.0 | -24.6 | High channel, laptop on its side. |
| 3817.100 | | | 124.0 | 1.4 | | | H-Horn | PK | 1.69E-07 | -37.7 | -13.0 | -24.7 | High channel, screen vertical. |
| 5725.050 | | | 201.0 | 1.4 | | | V-Horn | PK | 1.65E-07 | -37.8 | -13.0 | -24.8 | High channel, screen vertical. |
| 5725.350 | | | 109.0 | 1.5 | | | H-Horn | PK | 1.65E-07 | -37.8 | -13.0 | -24.8 | High channel, screen vertical. |
| 7634.725 | | | 248.0 | 1.2 | | | H-Horn | PK | 1.50E-07 | -38.2 | -13.0 | -25.2 | High channel, screen vertical. |
| 3817.042 | | | 169.0 | 1.1 | | | V-Horn | PK | 1.28E-07 | -38.9 | -13.0 | -25.9 | High channel, screen vertical. |
| 5554.742 | | | 204.0 | 1.0 | | | H-Horn | PK | 1.22E-07 | -39.1 | -13.0 | -26.1 | Low channel, laptop on its side. |
| 3816.867 | | | 56.0 | 1.3 | | | H-Horn | PK | 1.19E-07 | -39.2 | -13.0 | -26.2 | High channel, screen horizontal. |
| 5639.358 | | | 209.0 | 1.2 | | | V-Horn | PK | 9.71E-08 | -40.1 | -13.0 | -27.1 | Mid channel, laptop on its side. |
| 5726.058 | | | 31.0 | 1.5 | | | H-Horn | PK | 9.27E-08 | -40.3 | -13.0 | -27.3 | High channel, screen horizontal. |
| 3817.275 | | | 137.0 | 1.1 | | | V-Horn | PK | 7.89E-08 | -41.0 | -13.0 | -28.0 | High channel, screen horizontal. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | **Date:** | 08/05/09 |
| **Customer:** | Spectrum Technology, Inc. | **Temperature:** | 26.0 °C |
| **Attendees:** | Rod Munro | **Humidity:** | 42% |
| **Project:** | None | **Barometric Pres.:** | 1012.0mb |
| **Tested by:** | Dan Haas | **Power:** 120VAC/60Hz | **Job Site:** EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

**TEST PARAMETERS**

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

**COMMENTS**

Standalone. GPRS (GMSK)

**EUT OPERATING MODES**

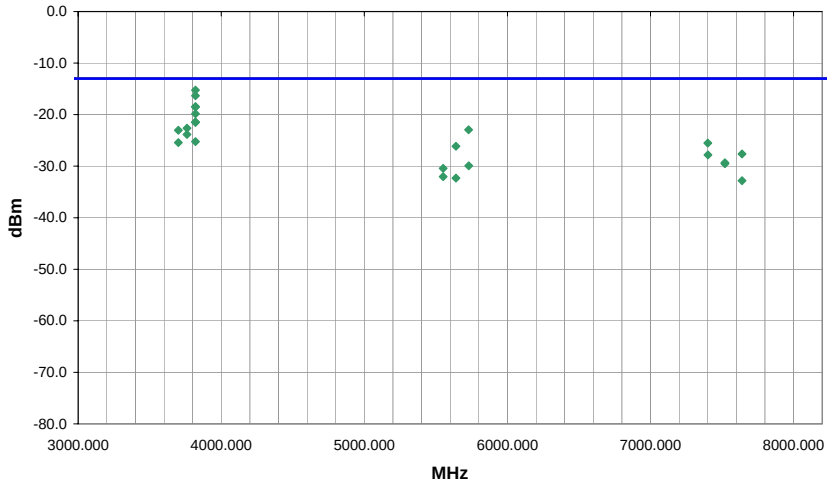
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 21 |
| **Configuration #** | 1 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3819.485 | | | 58.0 | 1.3 | | | V-Horn | PK | 3.00E-05 | -15.2 | -13.0 | -2.2 | High channel, Laptop on its side. |
| 3819.735 | | | 76.0 | 1.3 | | | H-Horn | PK | 2.33E-05 | -16.3 | -13.0 | -3.3 | High channel, Laptop on its side. |
| 3819.845 | | | 131.0 | 1.4 | | | H-Horn | PK | 1.44E-05 | -18.4 | -13.0 | -5.4 | High channel, Laptop screen vertical. |
| 3819.650 | | | 145.0 | 1.0 | | | V-Horn | PK | 1.40E-05 | -18.5 | -13.0 | -5.5 | High channel, Laptop on its side. |
| 3819.420 | | | 60.0 | 1.0 | | | H-Horn | PK | 1.04E-05 | -19.8 | -13.0 | -6.8 | High channel, Laptop screen horizontal. |
| 3819.750 | | | 20.0 | 1.2 | | | V-Horn | PK | 7.20E-06 | -21.4 | -13.0 | -8.4 | High channel, Laptop screen horizontal. |
| 3819.250 | | | 170.0 | 1.2 | | | V-Horn | PK | 7.03E-06 | -21.5 | -13.0 | -8.5 | High channel, Laptop screen vertical. |
| 3760.040 | | | 226.0 | 1.0 | | | H-Horn | PK | 5.46E-06 | -22.6 | -13.0 | -9.6 | Mid channel, Laptop on its side. |
| 5729.155 | | | 270.0 | 1.0 | | | H-Horn | PK | 5.09E-06 | -22.9 | -13.0 | -9.9 | High channel, Laptop on its side. |
| 3700.275 | | | 240.0 | 1.0 | | | H-Horn | PK | 4.98E-06 | -23.0 | -13.0 | -10.0 | Low channel, Laptop on its side. |
| 3760.000 | | | 107.0 | 1.0 | | | V-Horn | PK | 4.14E-06 | -23.8 | -13.0 | -10.8 | Mid channel, Laptop on its side. |
| 3819.475 | | | 161.0 | 1.3 | | | V-Horn | PK | 3.00E-06 | -25.2 | -13.0 | -12.2 | 2nd reading after GPS was removed and reinstalled. |
| 3700.440 | | | 197.0 | 1.8 | | | V-Horn | PK | 2.86E-06 | -25.4 | -13.0 | -12.4 | Low channel, Laptop on its side. |
| 7400.940 | | | 246.0 | 1.7 | | | H-Horn | PK | 2.80E-06 | -25.5 | -13.0 | -12.5 | Low channel, Laptop on its side. |
| 5639.940 | | | 242.0 | 1.1 | | | H-Horn | PK | 2.44E-06 | -26.1 | -13.0 | -13.1 | Mid channel, Laptop on its side. |
| 7639.235 | | | 272.0 | 1.0 | | | H-Horn | PK | 1.73E-06 | -27.6 | -13.0 | -14.6 | High channel, Laptop on its side. |
| 7401.015 | | | 232.0 | 1.4 | | | V-Horn | PK | 1.65E-06 | -27.8 | -13.0 | -14.8 | Low channel, Laptop on its side. |
| 7519.995 | | | 205.0 | 1.2 | | | V-Horn | PK | 1.17E-06 | -29.3 | -13.0 | -16.3 | Mid channel, Laptop on its side. |
| 7519.980 | | | 248.0 | 1.0 | | | H-Horn | PK | 1.11E-06 | -29.5 | -13.0 | -16.5 | Mid channel, Laptop on its side. |
| 5729.710 | | | 219.0 | 1.3 | | | V-Horn | PK | 1.02E-06 | -29.9 | -13.0 | -16.9 | High channel, Laptop on its side. |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/06/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | | | Humidity: | 44% |
| Project: | None | | | Barometric Pres.: | 1016.0mb |
| Tested by: | Ethan Schoonover | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. EGPRS (EDGE)

**EUT OPERATING MODES**

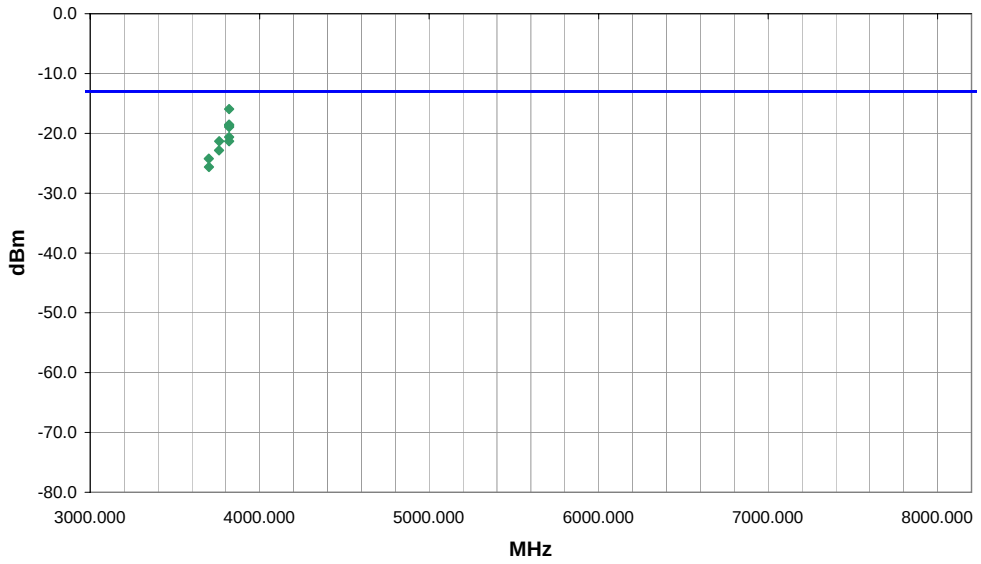
PCS Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 22 |
| Configuration # | 1 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3819.547 | | | 82.0 | 1.2 | | | H-Horn | PK | 2.55E-05 | -15.9 | -13.0 | -2.9 | Laptop on side |
| 3819.917 | | | 145.0 | 1.6 | | | H-Horn | PK | 1.40E-05 | -18.5 | -13.0 | -5.5 | Laptop screen vertical |
| 3819.903 | | | 63.0 | 1.1 | | | H-Horn | PK | 1.34E-05 | -18.7 | -13.0 | -5.7 | Laptop screen horizontal |
| 3819.257 | | | 147.0 | 1.4 | | | V-Horn | PK | 1.28E-05 | -18.9 | -13.0 | -5.9 | Laptop on side |
| 3819.460 | | | 18.0 | 1.0 | | | V-Horn | PK | 8.65E-06 | -20.6 | -13.0 | -7.6 | Laptop screen horizontal |
| 3760.503 | | | 249.0 | 1.2 | | | H-Horn | PK | 7.36E-06 | -21.3 | -13.0 | -8.3 | Laptop on side |
| 3819.730 | | | 249.0 | 1.4 | | | V-Horn | PK | 7.36E-06 | -21.3 | -13.0 | -8.3 | Laptop screen vertical |
| 3760.423 | | | 167.0 | 1.2 | | | V-Horn | PK | 5.21E-06 | -22.8 | -13.0 | -9.8 | Laptop on side |
| 3699.810 | | | 261.0 | 1.3 | | | H-Horn | PK | 3.78E-06 | -24.2 | -13.0 | -11.2 | Laptop on side |
| 3700.580 | | | 191.0 | 1.8 | | | V-Horn | PK | 2.74E-06 | -25.6 | -13.0 | -12.6 | Laptop on side |

NORTHWEST EMC

# Out of Band Emissions

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 08/06/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 24.3 °C |
| Attendees: | Rod Munro | | | Humidity: | 44% |
| Project: | None | | | Barometric Pres.: | 1016.0mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. WCDMA Rel 99

**EUT OPERATING MODES**

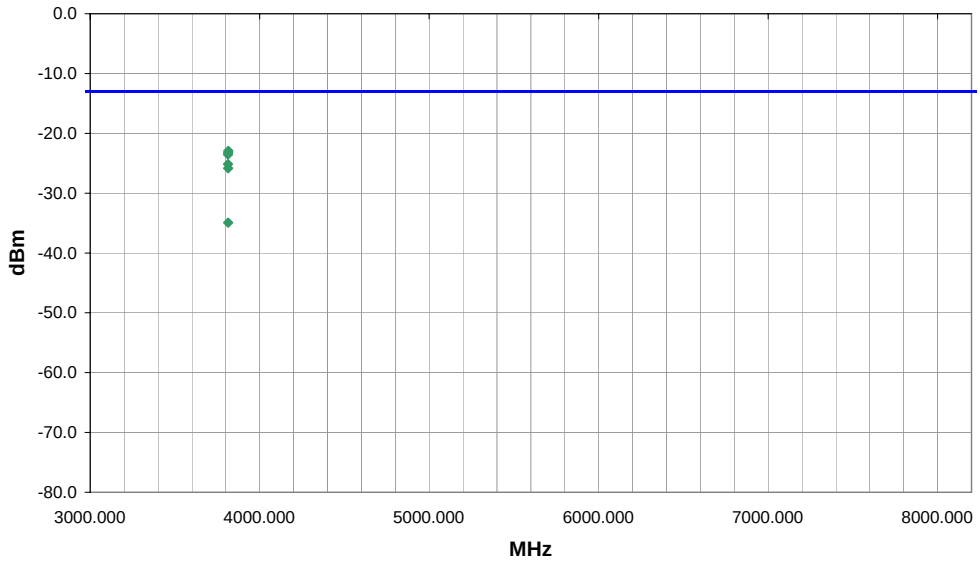
PCS Band

**DEVIATIONS FROM TEST STANDARD**

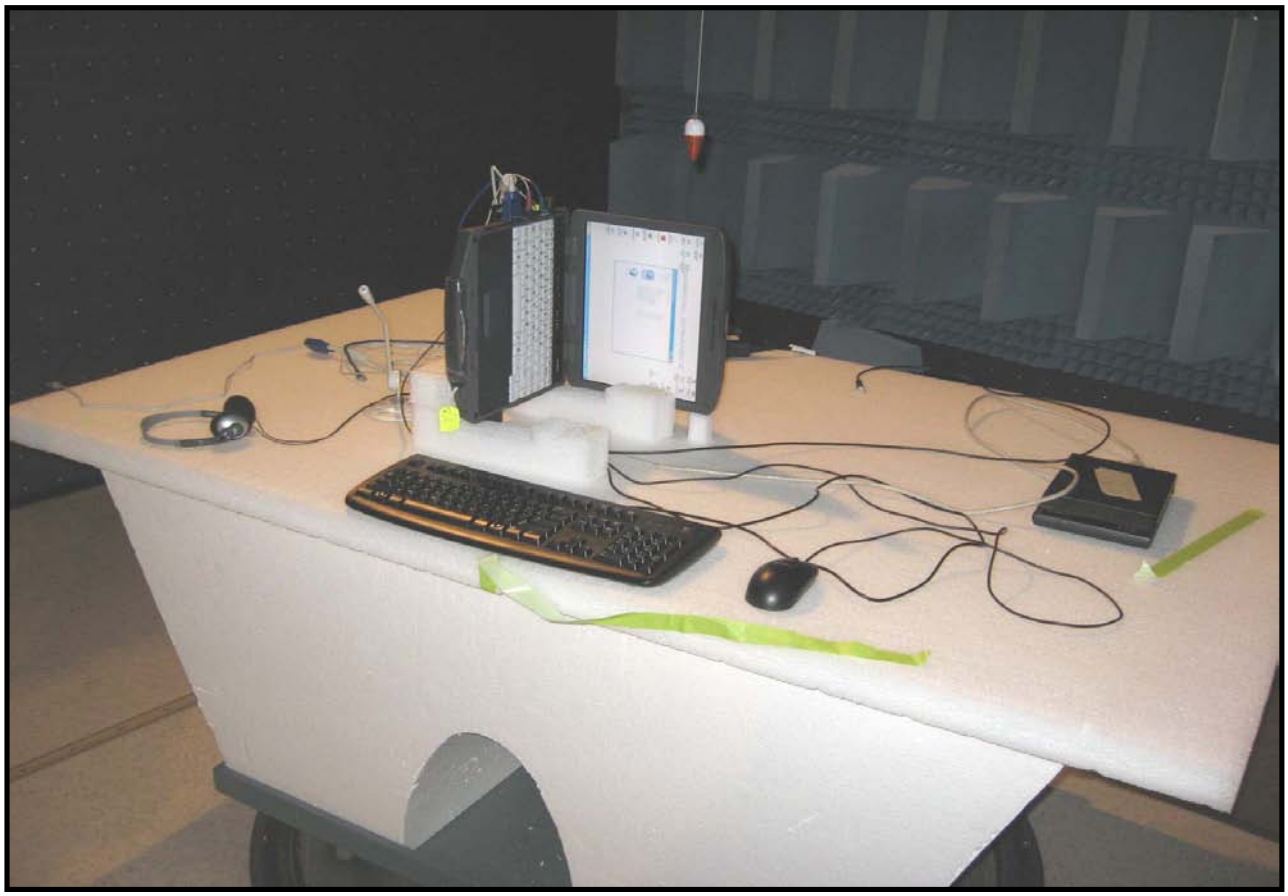
No deviations.

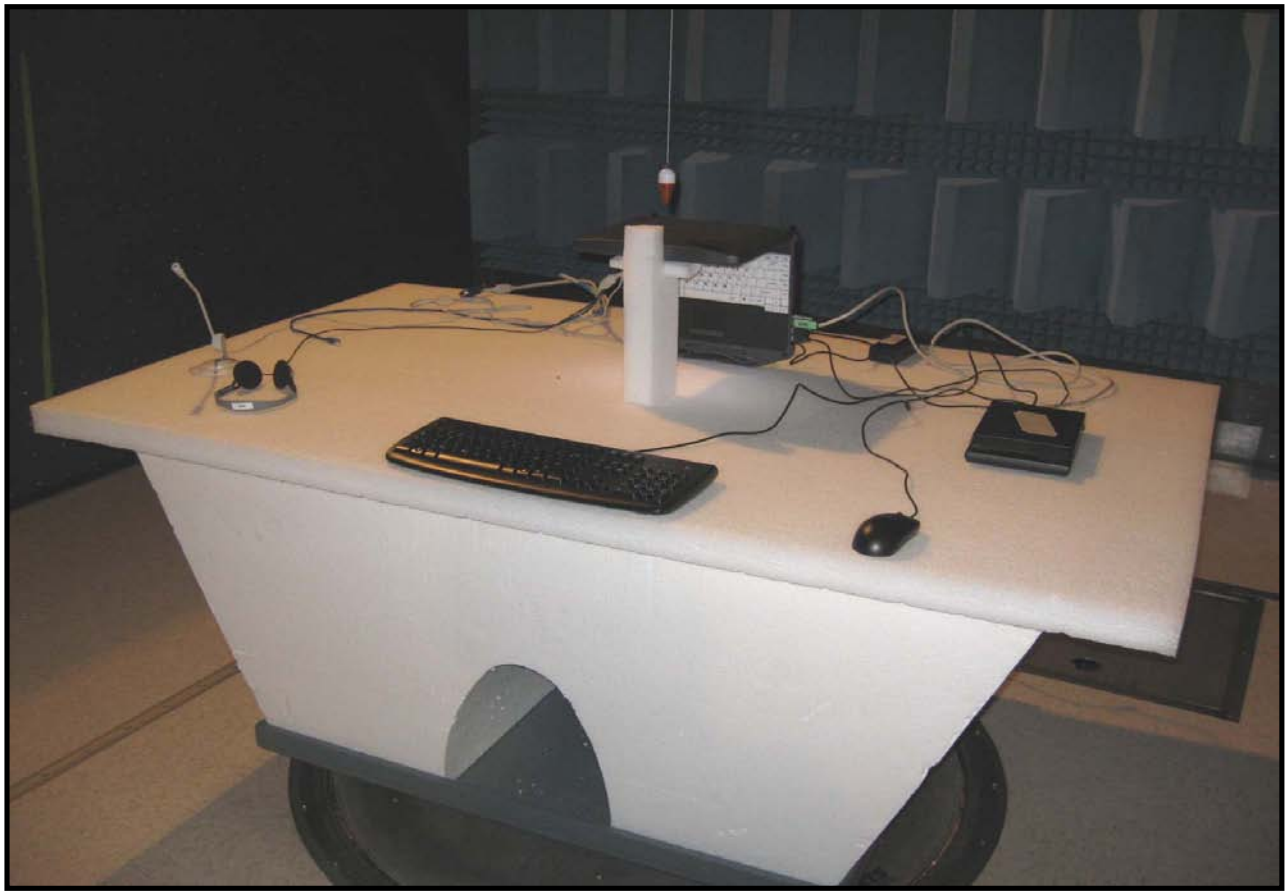
| | |
|---|---|
| Run # | 23 |
| Configuration # | 1 |
| Results | Pass |

*Signature*

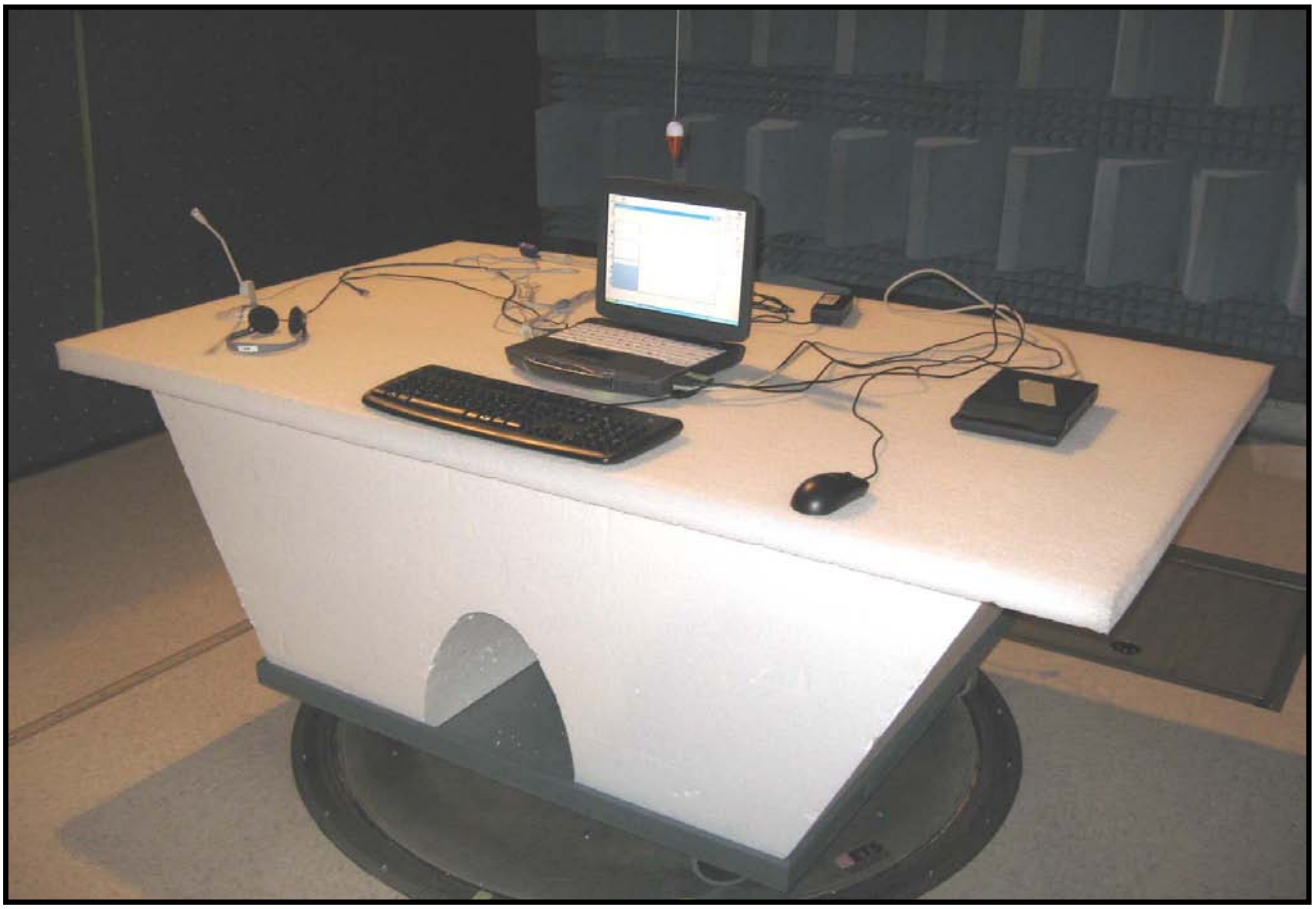



| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3815.200 | | | 115.0 | 1.0 | | | H-Horn | PK | 5.09E-06 | -22.9 | -13.0 | -9.9 | Laptop screen horizontal |
| 3813.500 | | | 87.0 | 1.5 | | | H-Horn | PK | 4.75E-06 | -23.2 | -13.0 | -10.2 | Laptop on side |
| 3812.783 | | | 149.0 | 1.5 | | | H-Horn | PK | 4.44E-06 | -23.5 | -13.0 | -10.5 | Laptop screen vertical |
| 3813.050 | | | 250.0 | 1.3 | | | V-Horn | PK | 3.07E-06 | -25.1 | -13.0 | -12.1 | Laptop screen vertical |
| 3813.350 | | | 130.0 | 1.4 | | | V-Horn | PK | 2.61E-06 | -25.8 | -13.0 | -12.8 | Laptop screen horizontal |
| 3813.417 | | | 169.0 | 1.2 | | | V-Horn | PK | 3.21E-07 | -34.9 | -13.0 | -21.9 | Laptop on side |





# Out of Band Emissions



# Effective Radiated Power

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

Cellular Band

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## FREQUENCY RANGE INVESTIGATED

| Start Frequency | 824MHz | Stop Frequency | 849MHz |
|---|---|---|---|

## 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 |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E44440A | AFA | 11/14/2008 | 12 |
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXG | 11/4/2008 | 13 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Agilent | E8257D | TGX | 12/10/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

## 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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | | | **Date:** | 08/03/09 |
| **Customer:** | Spectrum Technology, Inc. | | | **Temperature:** | 24 |
| **Attendees:** | Rod Munro | | | **Humidity:** | 49% |
| **Project:** | None | | | **Barometric Pres.:** | 1014 |
| **Tested by:** | Ethan Schoonover | **Power:** | 120VAC/60Hz | **Job Site:** | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

CDMA 1x RC3 (SO55) , Vehicle mount.

**EUT OPERATING MODES**

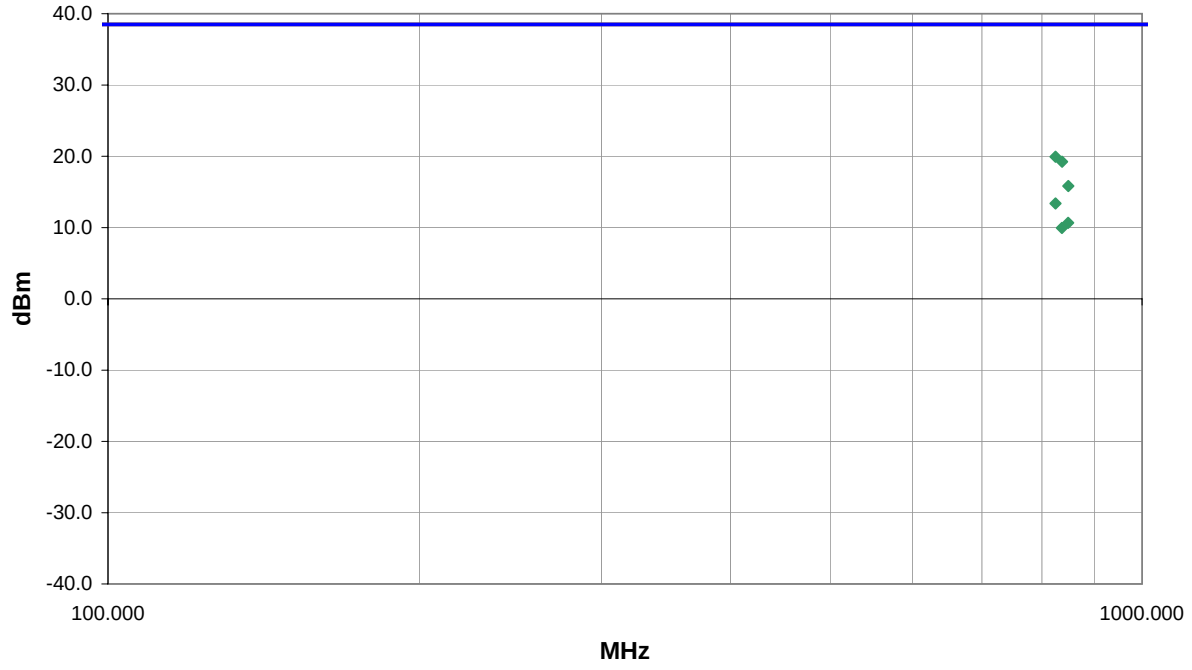
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | **14** |
| **Configuration #** | **2** |
| **Results** | **Pass** |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 824.720 | | | 84.0 | 1.3 | | | V-Bilog | PK | 9.83E-02 | 19.9 | 38.5 | -18.6 |
| 836.841 | | | 160.0 | 1.2 | | | V-Bilog | PK | 8.37E-02 | 19.2 | 38.5 | -19.3 |
| 848.567 | | | 147.0 | 2.2 | | | V-Bilog | PK | 3.83E-02 | 15.8 | 38.5 | -22.7 |
| 824.710 | | | 115.0 | 2.6 | | | H-Bilog | PK | 2.18E-02 | 13.4 | 38.5 | -25.1 |
| 848.298 | | | 171.0 | 1.6 | | | H-Bilog | PK | 1.16E-02 | 10.7 | 38.5 | -27.8 |
| 836.523 | | | 252.0 | 1.8 | | | H-Bilog | PK | 9.88E-03 | 9.9 | 38.5 | -28.6 |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/03/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24 |
| Attendees: | Rod Munro | Humidity: | 49% |
| Project: | None | Barometric Pres.: | 1014 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

WCDMA Rel 99 , Vehicle mount.

**EUT OPERATING MODES**

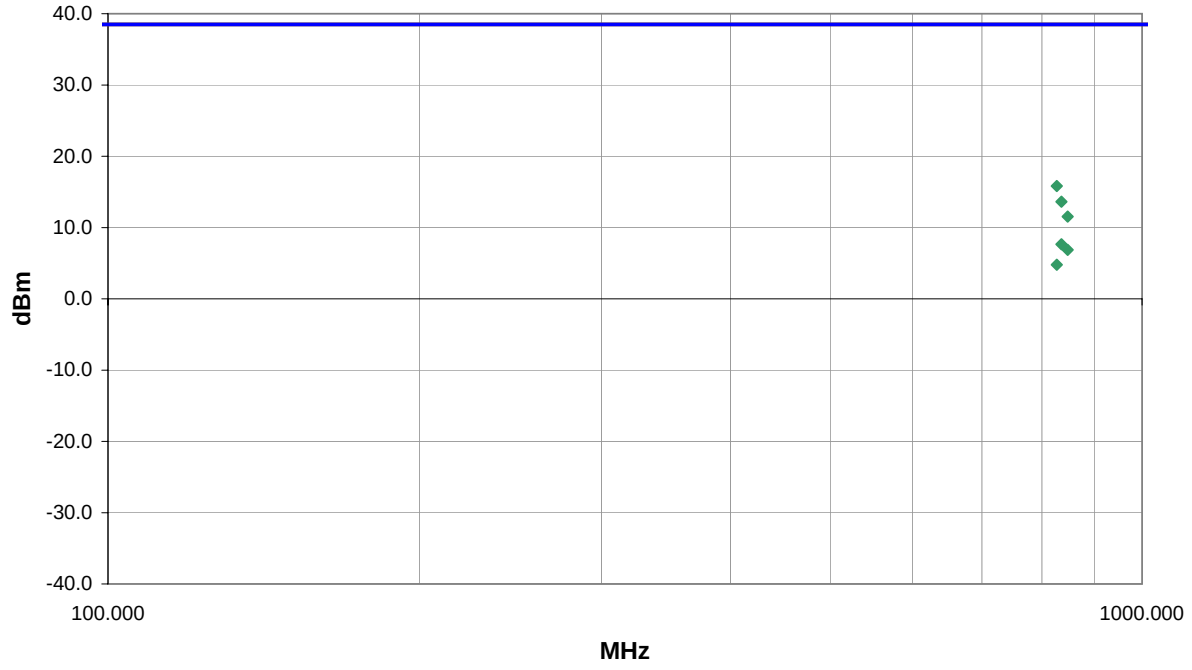
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 15 |
| Configuration # | 2 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 826.972 | | | 155.0 | 1.3 | | | V-Bilog | PK | 3.83E-02 | 15.8 | 38.5 | -22.7 |
| 835.562 | | | 11.0 | 1.1 | | | V-Bilog | PK | 2.30E-02 | 13.6 | 38.5 | -24.9 |
| 847.191 | | | 152.0 | 1.3 | | | V-Bilog | PK | 1.42E-02 | 11.5 | 38.5 | -27.0 |
| 835.529 | | | 27.0 | 2.3 | | | H-Bilog | PK | 5.82E-03 | 7.6 | 38.5 | -30.9 |
| 847.180 | | | 126.0 | 1.5 | | | H-Bilog | PK | 4.85E-03 | 6.9 | 38.5 | -31.6 |
| 826.992 | | | 248.0 | 1.8 | | | H-Bilog | PK | 3.00E-03 | 4.8 | 38.5 | -33.7 |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | | | **Date:** | 08/03/09 |
| **Customer:** | Spectrum Technology, Inc. | | | **Temperature:** | 24 |
| **Attendees:** | Rod Munro | | | **Humidity:** | 49% |
| **Project:** | None | | | **Barometric Pres.:** | 1014 |
| **Tested by:** | Dan Haas | **Power:** | 120VAC/60Hz | **Job Site:** | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

EGPRS (EDGE) , Vehicle mount.

**EUT OPERATING MODES**

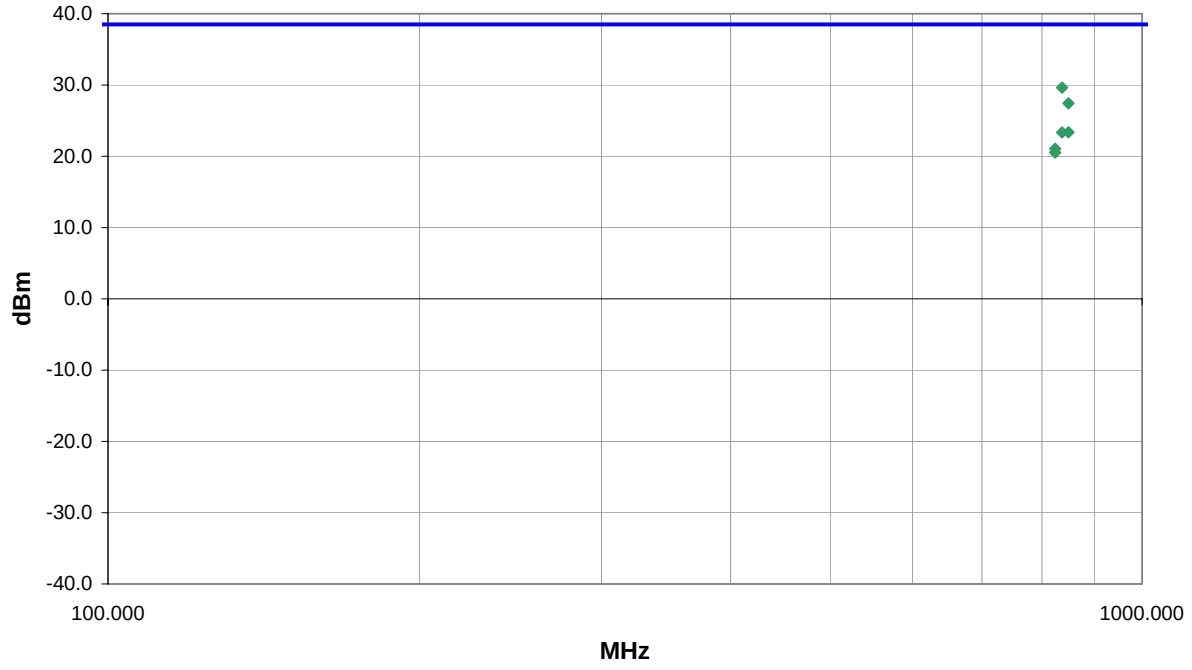
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 16 |
| **Configuration #** | 2 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 836.932 | | | 155.0 | 1.3 | | | V-Bilog | PK | 9.17E-01 | 29.6 | 38.5 | -8.9 |
| 848.866 | | | 156.0 | 1.2 | | | V-Bilog | PK | 5.53E-01 | 27.4 | 38.5 | -11.1 |
| 848.866 | | | 134.0 | 1.5 | | | H-Bilog | PK | 2.17E-01 | 23.4 | 38.5 | -15.1 |
| 836.930 | | | 114.0 | 1.0 | | | H-Bilog | PK | 2.16E-01 | 23.3 | 38.5 | -15.2 |
| 824.131 | | | 118.0 | 1.6 | | | H-Bilog | PK | 1.28E-01 | 21.1 | 38.5 | -17.4 |
| 824.131 | | | 288.0 | 1.7 | | | V-Bilog | PK | 1.13E-01 | 20.5 | 38.5 | -18.0 |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 08/03/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.5 °C |
| Attendees: | Rod Munro | Humidity: | 43% |
| Project: | None | Barometric Pres.: | 1013.2mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

GPRS (GMSK), Vehicle mount.

**EUT OPERATING MODES**

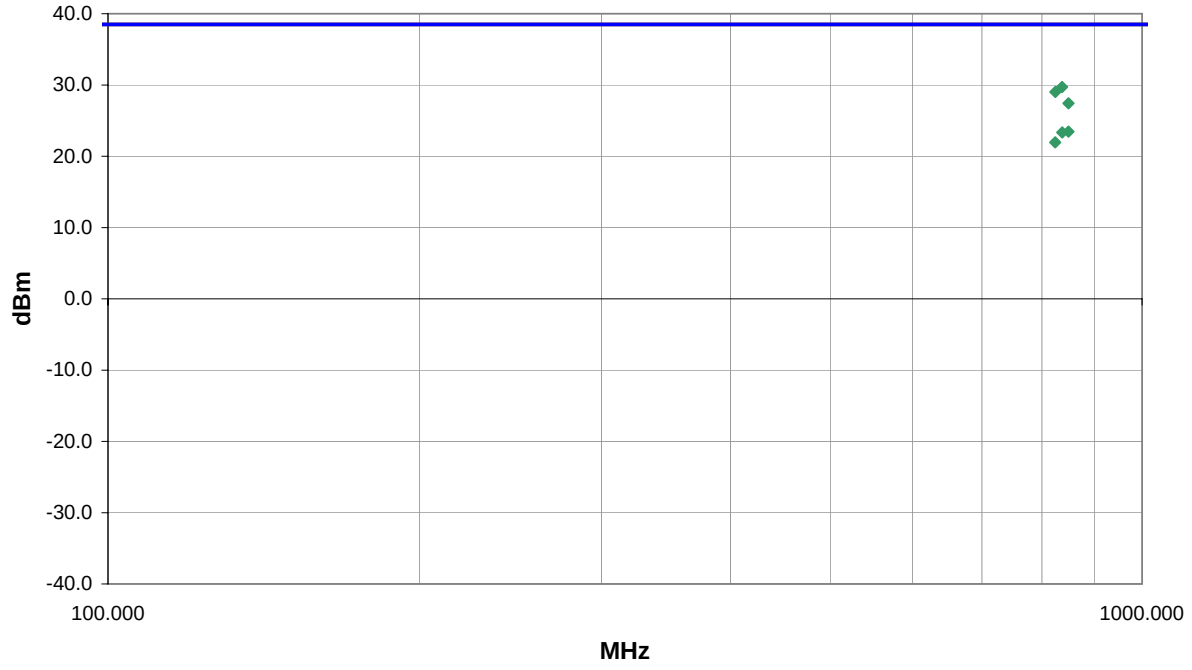
Cell Band

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 17 |
| Configuration # | 2 |
| Results | Pass |

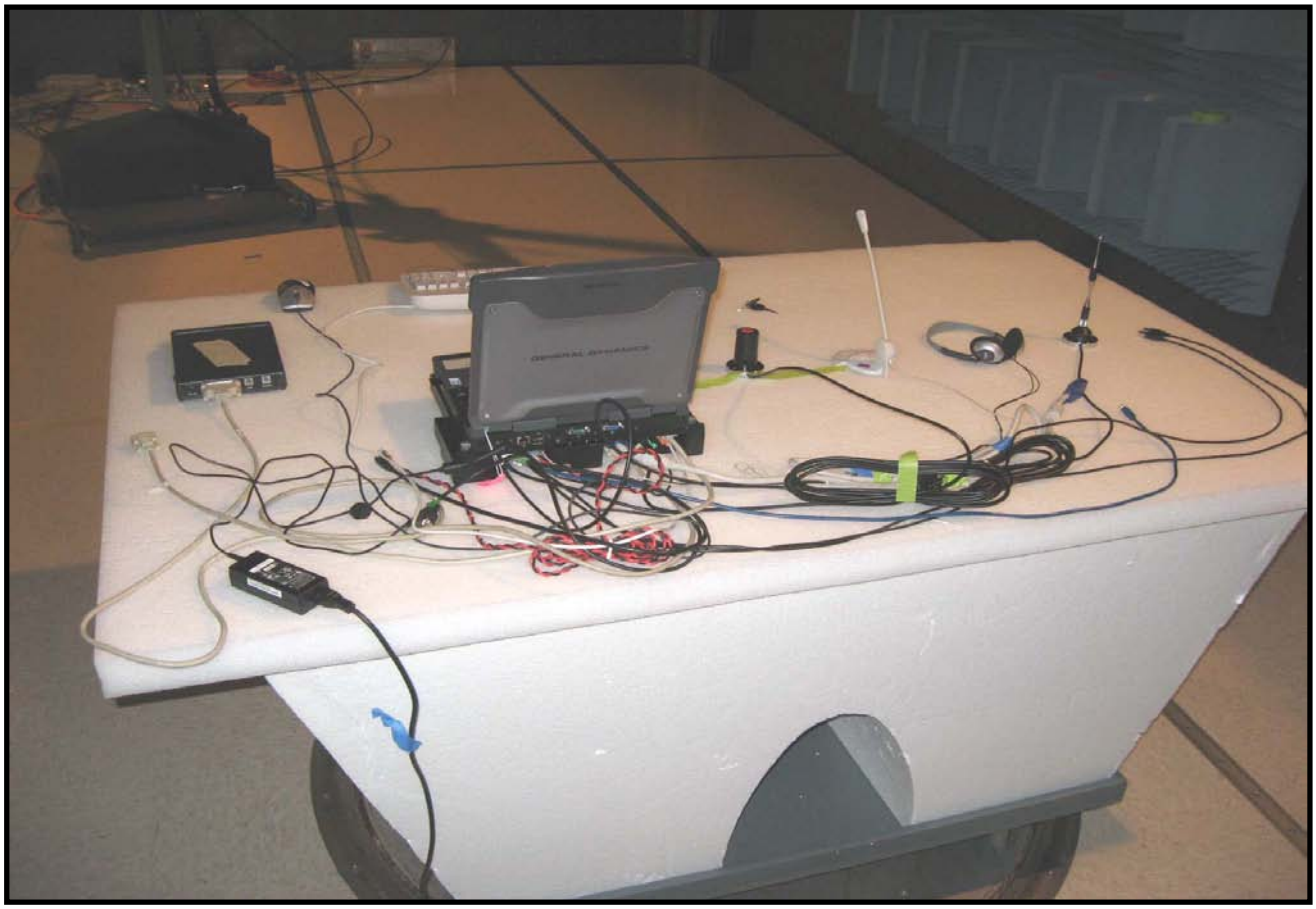
Signature




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 836.929 | | | 157.0 | 1.3 | | | V-Bilog | PK | 9.39E-01 | 29.7 | 38.5 | -8.8 |
| 824.262 | | | 158.0 | 1.3 | | | V-Bilog | PK | 7.97E-01 | 29.0 | 38.5 | -9.5 |
| 848.868 | | | 158.0 | 1.2 | | | V-Bilog | PK | 5.53E-01 | 27.4 | 38.5 | -11.1 |
| 848.866 | | | 131.0 | 1.5 | | | H-Bilog | PK | 2.22E-01 | 23.5 | 38.5 | -15.0 |
| 837.065 | | | 115.0 | 1.0 | | | H-Bilog | PK | 2.16E-01 | 23.3 | 38.5 | -15.2 |
| 824.129 | | | 78.0 | 1.4 | | | H-Bilog | PK | 1.57E-01 | 22.0 | 38.5 | -16.5 |

# Effective Radiated Power (ERP)

# Effective Radiated Power (ERP)



# Effective Isotropic Radiated Power (EIRP)



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

PCS Band

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## FREQUENCY RANGE INVESTIGATED

| | | | |
|---|---|---|---|
| Start Frequency | 1850MHz | Stop Frequency | 1910MHz |

## 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 |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E44440A | AFA | 11/14/2008 | 12 |
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Agilent | E8257D | TGX | 12/10/2008 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |

## 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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | | | **Date:** | 07/29/09 |
| **Customer:** | Spectrum Technology, Inc. | | | **Temperature:** | 26.6 °C |
| **Attendees:** | Rod Munro | | | **Humidity:** | 42% |
| **Project:** | None | | | **Barometric Pres.:** | 1013.8mb |
| **Tested by:** | Ethan Schoonover | **Power:** | 120VAC/60Hz | **Job Site:** | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

**TEST PARAMETERS**

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

**COMMENTS**

Vehicle Mount WCDMA, vertical mag. mount antenna.

**EUT OPERATING MODES**

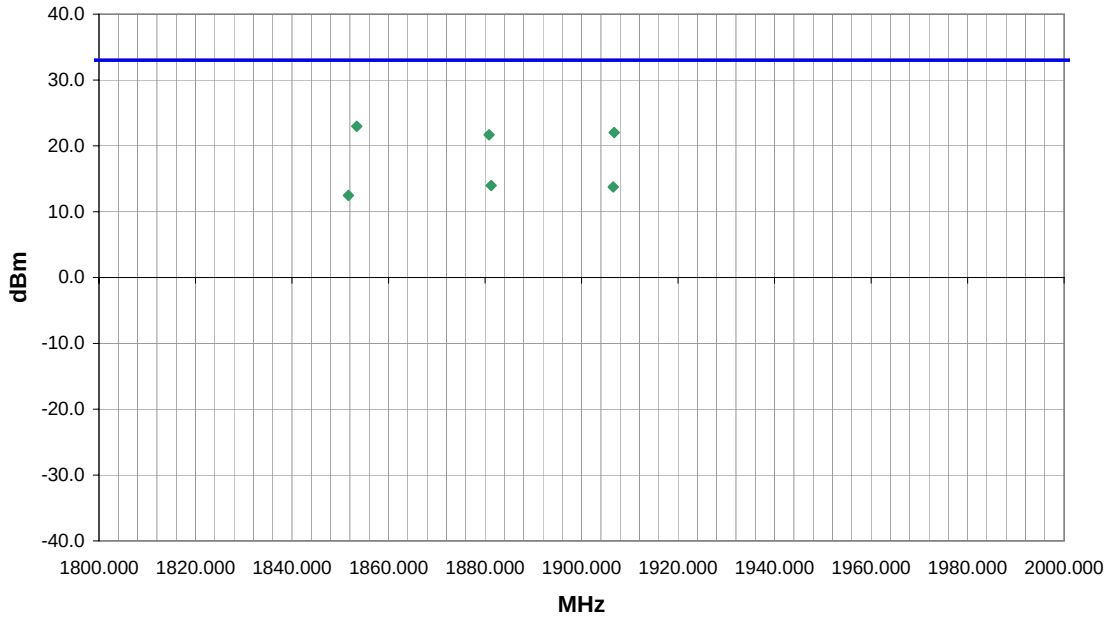
PCS Band, WCDMA Rel 99

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 5 |
| **Configuration #** | 2 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1853.400 | | | 243.0 | 1.0 | | | V-Horn | PK | 1.98E-01 | 23.0 | 33.0 | -10.0 | |
| 1906.767 | | | 252.0 | 1.5 | | | V-Horn | PK | 1.59E-01 | 22.0 | 33.0 | -11.0 | |
| 1880.850 | | | 186.0 | 1.0 | | | V-Horn | PK | 1.47E-01 | 21.7 | 33.0 | -11.3 | |
| 1881.250 | | | 253.0 | 1.5 | | | H-Horn | PK | 2.49E-02 | 14.0 | 33.0 | -19.0 | |
| 1906.567 | | | 271.0 | 1.4 | | | H-Horn | PK | 2.37E-02 | 13.8 | 33.0 | -19.3 | |
| 1851.700 | | | 264.0 | 1.5 | | | H-Horn | PK | 1.76E-02 | 12.5 | 33.0 | -20.5 | |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 07/29/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 26.6 °C |
| Attendees: | Rod Munro | | | Humidity: | 42% |
| Project: | None | | | Barometric Pres.: | 1013.8mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount, vertical mag. mount antenna.

**EUT OPERATING MODES**

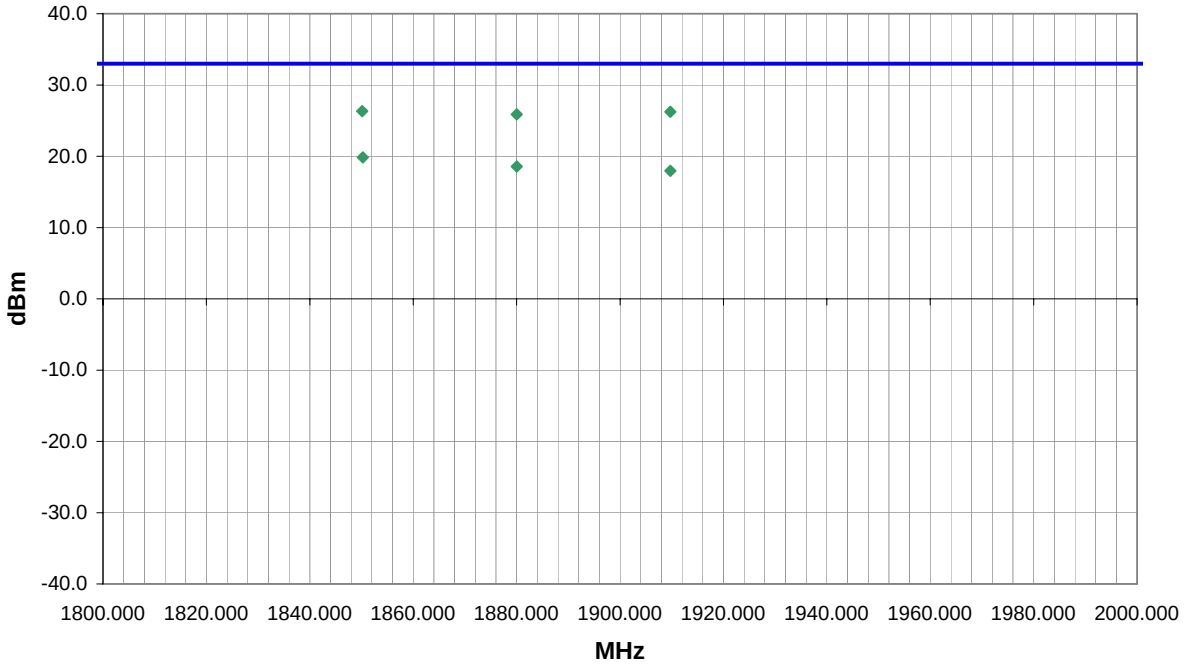
PCS Band, GPRS (GMSK)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 6 |
| Configuration # | 2 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1850.117 | | | 292.0 | 1.1 | | | V-Horn | PK | 4.31E-01 | 26.3 | 33.0 | -6.7 |
| 1909.733 | | | 127.0 | 1.0 | | | V-Horn | PK | 4.21E-01 | 26.2 | 33.0 | -6.8 |
| 1880.025 | | | 39.0 | 1.1 | | | V-Horn | PK | 3.86E-01 | 25.9 | 33.0 | -7.1 |
| 1850.242 | | | 270.0 | 1.0 | | | H-Horn | PK | 9.64E-02 | 19.8 | 33.0 | -13.2 |
| 1880.017 | | | 271.0 | 1.5 | | | H-Horn | PK | 7.19E-02 | 18.6 | 33.0 | -14.4 |
| 1909.733 | | | 270.0 | 1.0 | | | H-Horn | PK | 6.25E-02 | 18.0 | 33.0 | -15.0 |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 07/29/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 23.5 °C |
| Attendees: | Rod Munro | | | Humidity: | 42% |
| Project: | None | | | Barometric Pres.: | 1006.6mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount, vertical mag. mount antenna.

**EUT OPERATING MODES**

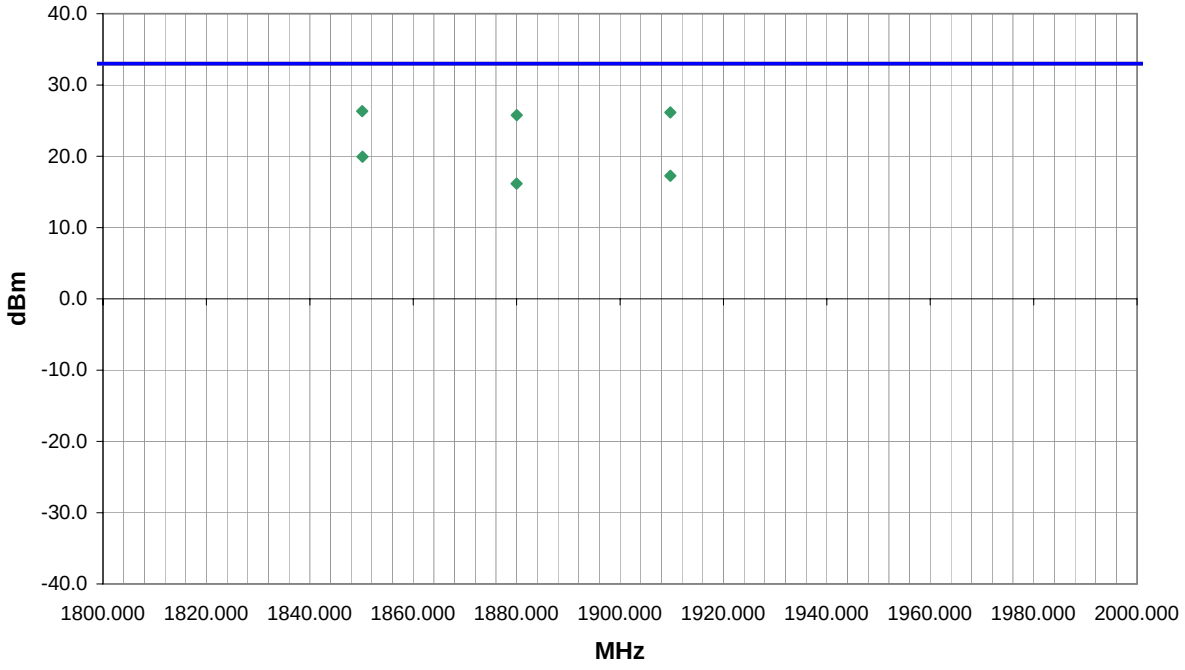
PCS Band, EGPRS (EDGE)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 7 |
| Configuration # | 2 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1850.125 | | | 291.0 | 1.1 | | | V-Horn | PK | 4.31E-01 | 26.3 | 33.0 | -6.7 |
| 1909.717 | | | 126.0 | 1.0 | | | V-Horn | PK | 4.11E-01 | 26.1 | 33.0 | -6.9 |
| 1880.025 | | | 39.0 | 1.1 | | | V-Horn | PK | 3.78E-01 | 25.8 | 33.0 | -7.2 |
| 1850.183 | | | 269.0 | 1.0 | | | H-Horn | PK | 9.86E-02 | 19.9 | 33.0 | -13.1 |
| 1909.742 | | | 270.0 | 1.0 | | | H-Horn | PK | 5.32E-02 | 17.3 | 33.0 | -15.7 |
| 1879.983 | | | 42.0 | 2.0 | | | H-Horn | PK | 4.14E-02 | 16.2 | 33.0 | -16.8 |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 07/29/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 26.6 °C |
| Attendees: | Rod Munro | | | Humidity: | 42% |
| Project: | None | | | Barometric Pres.: | 1013.8mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Vehicle mount, vertical mag. mount antenna.

**EUT OPERATING MODES**

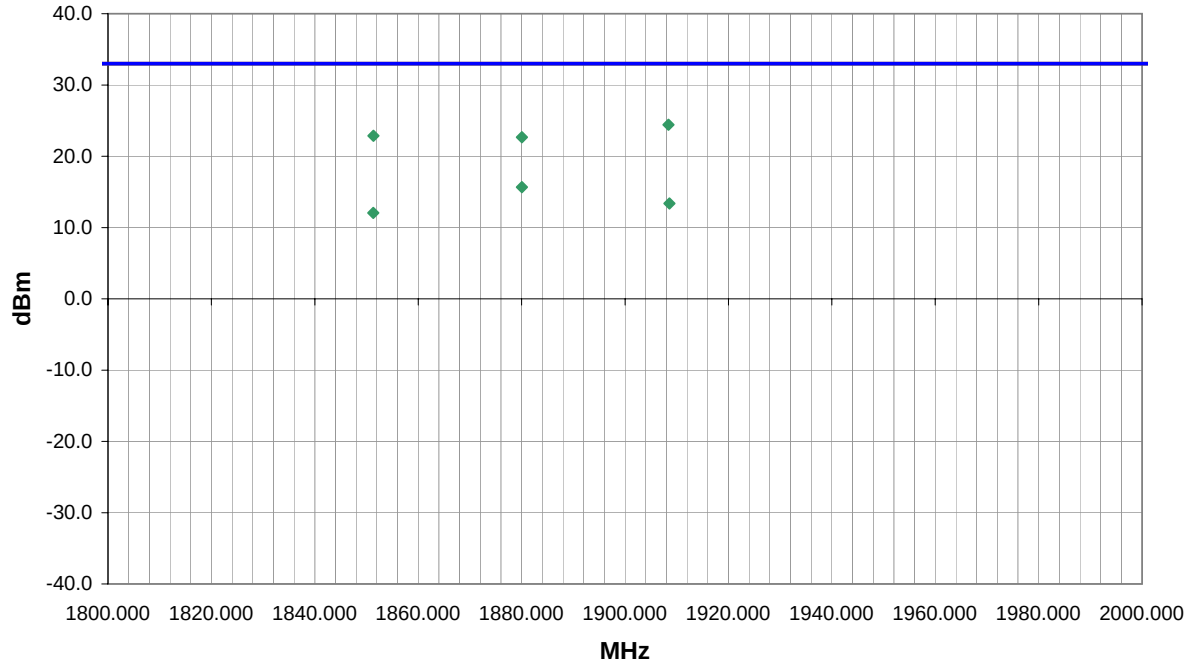
PCS Band, CDMA 1x RC3 (SO55)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 8 |
| Configuration # | 2 |
| Results | Pass |

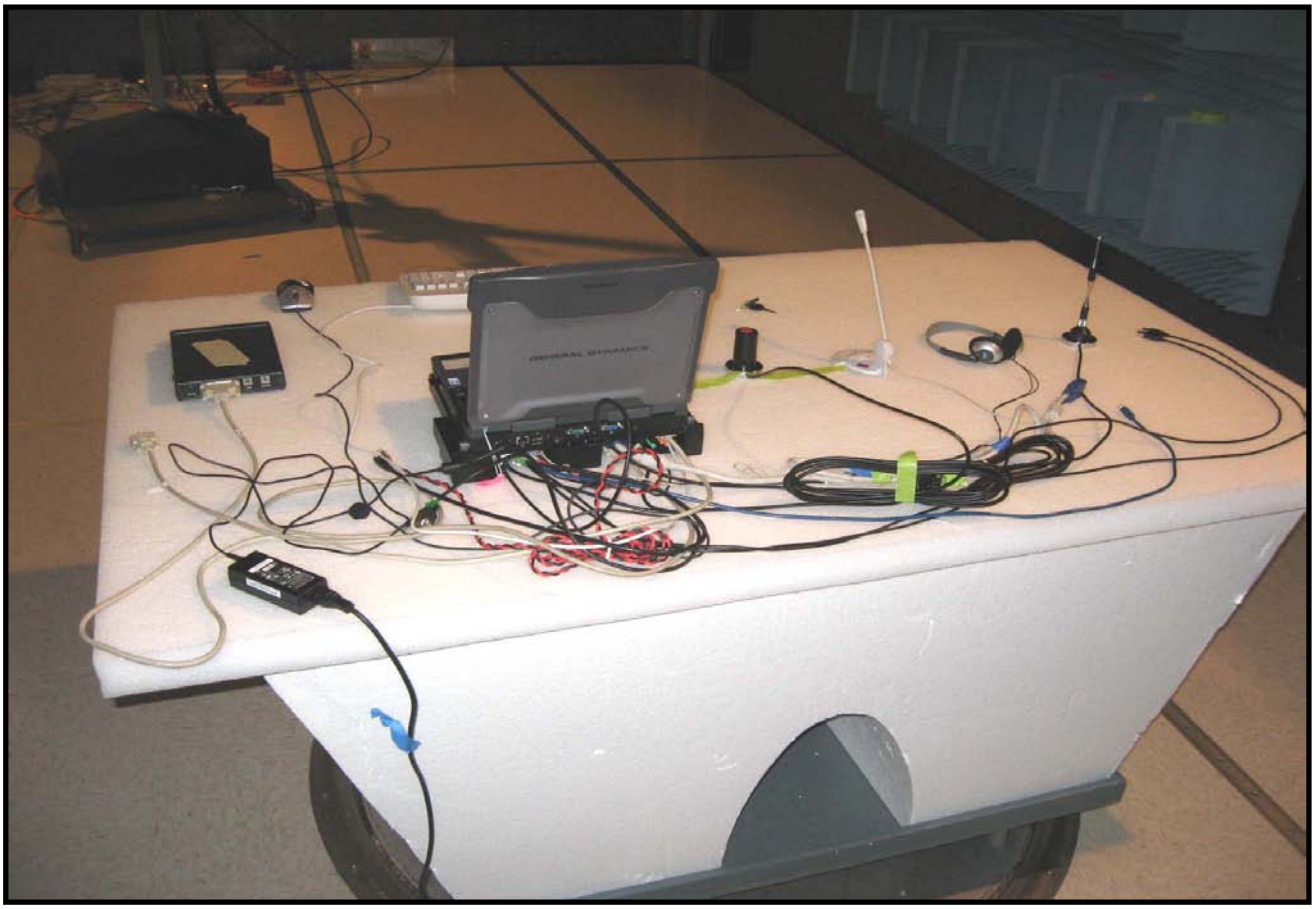
*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1908.400 | | | 126.0 | 1.0 | | | V-Horn | PK | 2.77E-01 | 24.4 | 33.0 | -8.6 |
| 1851.325 | | | 153.0 | 1.6 | | | V-Horn | PK | 1.94E-01 | 22.9 | 33.0 | -10.1 |
| 1880.058 | | | 183.0 | 1.5 | | | V-Horn | PK | 1.85E-01 | 22.7 | 33.0 | -10.3 |
| 1880.042 | | | 271.0 | 1.5 | | | H-Horn | PK | 3.69E-02 | 15.7 | 33.0 | -17.3 |
| 1908.600 | | | 137.0 | 1.2 | | | H-Horn | PK | 2.18E-02 | 13.4 | 33.0 | -19.6 |
| 1851.308 | | | 51.0 | 2.1 | | | H-Horn | PK | 1.61E-02 | 12.1 | 33.0 | -20.9 |

# Effective Isotropic Radiated Power (EIRP)

# Effective Isotropic Radiated Power (EIRP)



# Effective Radiated Power

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

Cellular Band

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## FREQUENCY RANGE INVESTIGATED

| Start Frequency | 824MHz | Stop Frequency | 849MHz |
|---|---|---|---|

## 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 |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E44440A | AFA | 11/14/2008 | 12 |
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Biconilog | EMCO | 3141 | AXG | 11/4/2008 | 13 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Agilent | E8257D | TGX | 12/10/2008 | 13 |
| Antenna, Dipole | ETS | 3121C-DB4 | ADH | 3/6/2009 | 24 |

## 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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | | | **Date:** | 07/31/09 |
| **Customer:** | Spectrum Technology, Inc. | | | **Temperature:** | 26.6 °C |
| **Attendees:** | Rod Munro | | | **Humidity:** | 42% |
| **Project:** | None | | | **Barometric Pres.:** | 1013.8mb |
| **Tested by:** | Ethan Schoonover | **Power:** | 120VAC/60Hz | **Job Site:** | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone, GPRS (GMSK)

**EUT OPERATING MODES**

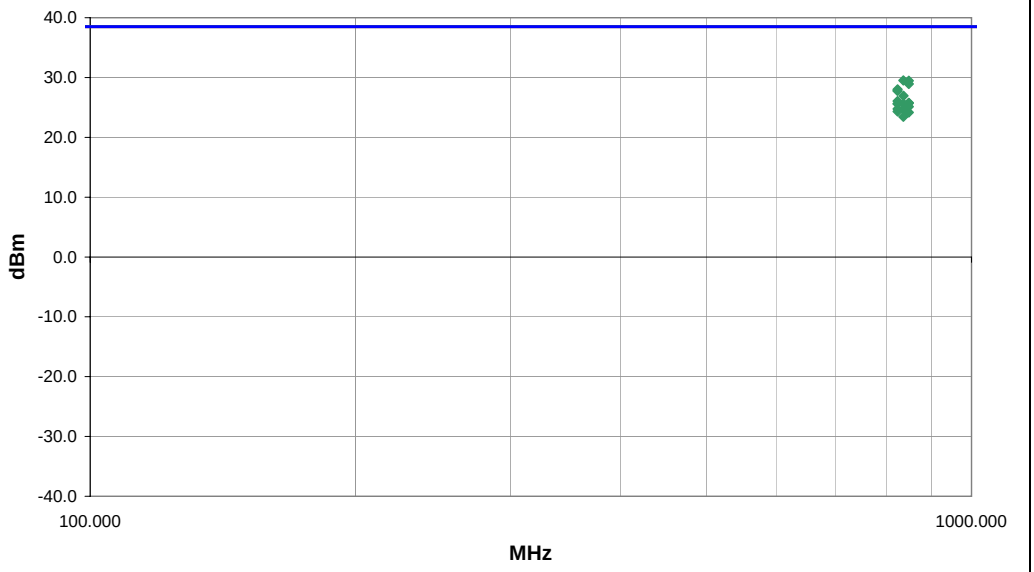
Cell Band, GPRS (GMSK)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 10 |
| **Configuration #** | 1 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 836.931 | | | 280.0 | 1.2 | | | V-Bilog | PK | 8.97E-01 | 29.5 | 38.5 | -9.0 | Laptop on side |
| 848.868 | | | 218.0 | 1.7 | | | H-Bilog | PK | 8.83E-01 | 29.5 | 38.5 | -9.0 | Laptop screen horizontal |
| 848.866 | | | 276.0 | 1.2 | | | V-Bilog | PK | 7.82E-01 | 28.9 | 38.5 | -9.6 | Laptop on side |
| 824.267 | | | 294.0 | 1.1 | | | V-Bilog | PK | 6.33E-01 | 28.0 | 38.5 | -10.5 | Laptop on side |
| 824.135 | | | 232.0 | 1.2 | | | H-Bilog | PK | 5.98E-01 | 27.8 | 38.5 | -10.7 | Laptop screen horizontal |
| 837.064 | | | 224.0 | 1.8 | | | H-Bilog | PK | 4.95E-01 | 26.9 | 38.5 | -11.6 | Laptop screen horizontal |
| 824.269 | | | 327.0 | 1.2 | | | H-Bilog | PK | 4.04E-01 | 26.1 | 38.5 | -12.4 | Laptop on side |
| 848.869 | | | 224.0 | 1.7 | | | H-Bilog | PK | 3.77E-01 | 25.8 | 38.5 | -12.7 | Laptop on side |
| 848.868 | | | 321.0 | 2.3 | | | V-Bilog | PK | 3.74E-01 | 25.7 | 38.5 | -12.8 | Laptop screen vertical |
| 837.069 | | | 87.0 | 1.8 | | | V-Bilog | PK | 3.65E-01 | 25.6 | 38.5 | -12.9 | Laptop screen horizontal |
| 824.130 | | | 80.0 | 1.8 | | | V-Bilog | PK | 3.64E-01 | 25.6 | 38.5 | -12.9 | Laptop screen horizontal |
| 848.863 | | | 84.0 | 1.8 | | | V-Bilog | PK | 3.26E-01 | 25.1 | 38.5 | -13.4 | Laptop screen horizontal |
| 824.267 | | | 330.0 | 1.8 | | | H-Bilog | PK | 2.99E-01 | 24.8 | 38.5 | -13.7 | Laptop screen vertical |
| 837.068 | | | 321.0 | 2.7 | | | V-Bilog | PK | 2.97E-01 | 24.7 | 38.5 | -13.8 | Laptop screen vertical |
| 836.935 | | | 218.0 | 1.9 | | | H-Bilog | PK | 2.91E-01 | 24.6 | 38.5 | -13.9 | Laptop on side |
| 824.264 | | | 43.0 | 2.4 | | | V-Bilog | PK | 2.70E-01 | 24.3 | 38.5 | -14.2 | Laptop screen vertical |
| 848.868 | | | 282.0 | 2.1 | | | H-Bilog | PK | 2.61E-01 | 24.2 | 38.5 | -14.3 | Laptop screen vertical |
| 836.933 | | | 358.0 | 1.8 | | | H-Bilog | PK | 2.21E-01 | 23.4 | 38.5 | -15.1 | Laptop screen vertical |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | | | |
|---|---|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | Work Order: | SPTE0111 |
| Serial Number: | None | | | Date: | 07/31/09 |
| Customer: | Spectrum Technology, Inc. | | | Temperature: | 26.6 °C |
| Attendees: | Rod Munro | | | Humidity: | 42% |
| Project: | None | | | Barometric Pres.: | 1013.8mb |
| Tested by: | Dan Haas | Power: | 120VAC/60Hz | Job Site: | EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. EGPRS (EDGE)

**EUT OPERATING MODES**

Cell Band, EGPRS (EDGE)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 11 |
| Configuration # | 1 |
| Results | Pass |

Signature


| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 848.864 | | | 223.0 | 1.8 | | | H-Bilog | PK | 8.43E-01 | 29.3 | 38.5 | -9.2 | Laptop screen horizontal. |
| 848.867 | | | 286.0 | 1.2 | | | V-Bilog | PK | 8.00E-01 | 29.0 | 38.5 | -9.5 | Laptop on its side. |
| 837.064 | | | 181.0 | 1.1 | | | V-Bilog | PK | 7.12E-01 | 28.5 | 38.5 | -10.0 | Laptop on its side. |
| 824.133 | | | 288.0 | 1.2 | | | V-Bilog | PK | 7.10E-01 | 28.5 | 38.5 | -10.0 | Laptop on its side. |
| 836.930 | | | 223.0 | 1.1 | | | H-Bilog | PK | 5.95E-01 | 27.7 | 38.5 | -10.8 | Laptop screen horizontal. |
| 848.866 | | | 103.0 | 1.6 | | | H-Bilog | PK | 5.57E-01 | 27.5 | 38.5 | -11.0 | Laptop screen vertical. |
| 848.865 | | | 197.0 | 1.1 | | | H-Bilog | PK | 5.32E-01 | 27.3 | 38.5 | -11.2 | Laptop on its side. |
| 824.130 | | | 312.0 | 1.0 | | | V-Bilog | PK | 4.91E-01 | 26.9 | 38.5 | -11.6 | Laptop screen vertical. |
| 824.267 | | | 67.0 | 1.8 | | | H-Bilog | PK | 4.64E-01 | 26.7 | 38.5 | -11.8 | Laptop screen horizontal. |
| 848.866 | | | 338.0 | 1.3 | | | V-Bilog | PK | 4.50E-01 | 26.5 | 38.5 | -12.0 | Laptop screen vertical. |
| 837.064 | | | 309.0 | 1.0 | | | V-Bilog | PK | 4.19E-01 | 26.2 | 38.5 | -12.3 | Laptop screen vertical. |
| 836.935 | | | 348.0 | 1.8 | | | H-Bilog | PK | 3.75E-01 | 25.7 | 38.5 | -12.8 | Laptop on its side. |
| 837.067 | | | 335.0 | 1.9 | | | H-Bilog | PK | 3.75E-01 | 25.7 | 38.5 | -12.8 | Laptop screen vertical. |
| 836.933 | | | 82.0 | 1.9 | | | V-Bilog | PK | 3.74E-01 | 25.7 | 38.5 | -12.8 | Laptop screen horizontal. |
| 824.265 | | | 78.0 | 1.8 | | | V-Bilog | PK | 3.48E-01 | 25.4 | 38.5 | -13.1 | Laptop screen horizontal. |
| 848.868 | | | 88.0 | 1.8 | | | V-Bilog | PK | 3.11E-01 | 24.9 | 38.5 | -13.6 | Laptop screen horizontal. |
| 824.268 | | | 337.0 | 1.9 | | | H-Bilog | PK | 3.06E-01 | 24.9 | 38.5 | -13.6 | Laptop screen vertical. |
| 824.130 | | | 4.0 | 1.2 | | | H-Bilog | PK | 2.67E-01 | 24.3 | 38.5 | -14.2 | Laptop on its side. |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 07/31/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.8 °C |
| Attendees: | Rod Munro | Humidity: | 46% |
| Project: | None | Barometric Pres.: | 1012.4mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. WCDMA Rel 99

**EUT OPERATING MODES**

Cell Band, WCDMA Rel 99

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 12 |
| Configuration # | 1 |
| Results | Pass |

*Signature*


| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 847.183 | | | 106.0 | 1.7 | | | H-Bilog | PK | 6.70E-02 | 18.3 | 38.5 | -20.2 | Laptop screen vertical. |
| 845.717 | | | 309.0 | 1.0 | | | V-Bilog | PK | 6.50E-02 | 18.1 | 38.5 | -20.4 | Laptop screen vertical. |
| 845.725 | | | 283.0 | 1.2 | | | V-Bilog | PK | 3.66E-02 | 15.6 | 38.5 | -22.9 | Laptop on its side. |
| 847.183 | | | 326.0 | 1.8 | | | H-Bilog | PK | 2.49E-02 | 14.0 | 38.5 | -24.5 | Laptop on its side. |
| 845.733 | | | 216.0 | 1.0 | | | H-Bilog | PK | 2.32E-02 | 13.7 | 38.5 | -24.8 | Laptop screen horizontal. |
| 835.517 | | | 61.0 | 1.7 | | | H-Bilog | PK | 2.16E-02 | 13.3 | 38.5 | -25.2 | Laptop screen horizontal. |
| 835.525 | | | 145.0 | 1.8 | | | V-Bilog | PK | 1.75E-02 | 12.4 | 38.5 | -26.1 | Laptop screen horizontal. |
| 847.158 | | | 145.0 | 1.8 | | | V-Bilog | PK | 1.33E-02 | 11.2 | 38.5 | -27.3 | Laptop screen horizontal. |
| 825.558 | | | 175.0 | 1.2 | | | V-Bilog | PK | 9.61E-03 | 9.8 | 38.5 | -28.7 | Laptop on its side. |
| 835.533 | | | 307.0 | 1.0 | | | V-Bilog | PK | 9.39E-03 | 9.7 | 38.5 | -28.8 | Laptop screen vertical. |
| 836.983 | | | 284.0 | 1.2 | | | V-Bilog | PK | 8.56E-03 | 9.3 | 38.5 | -29.2 | Laptop on its side. |
| 825.525 | | | 108.0 | 1.2 | | | H-Bilog | PK | 8.47E-03 | 9.3 | 38.5 | -29.2 | Laptop screen horizontal. |
| 835.550 | | | 340.0 | 1.8 | | | H-Bilog | PK | 8.21E-03 | 9.1 | 38.5 | -29.4 | Laptop screen vertical. |
| 825.517 | | | 345.0 | 2.0 | | | H-Bilog | PK | 6.57E-03 | 8.2 | 38.5 | -30.3 | Laptop on its side. |
| 825.542 | | | 310.0 | 1.0 | | | V-Bilog | PK | 4.82E-03 | 6.8 | 38.5 | -31.7 | Laptop screen vertical. |
| 825.542 | | | 198.0 | 1.2 | | | V-Bilog | PK | 4.55E-03 | 6.6 | 38.5 | -31.9 | Laptop screen horizontal. |
| 836.992 | | | 331.0 | 2.0 | | | H-Bilog | PK | 4.02E-03 | 6.0 | 38.5 | -32.5 | Laptop on its side. |
| 826.975 | | | 106.0 | 1.8 | | | H-Bilog | PK | 3.29E-03 | 5.2 | 38.5 | -33.3 | Laptop screen vertical. |

NORTHWEST EMC

# Effective Radiated Power (ERP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 07/31/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 24.8 °C |
| Attendees: | Rod Munro | Humidity: | 46% |
| Project: | None | Barometric Pres.: | 1012.4mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 22H:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. CDMA 1x RC3 (SO55)

**EUT OPERATING MODES**

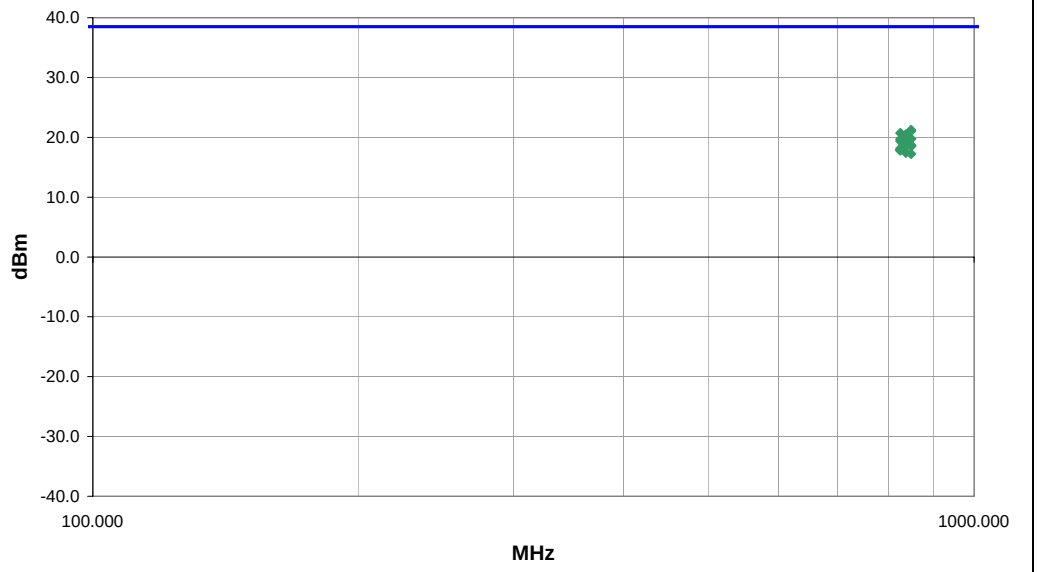
Cell Band, CDMA 1x RC3 (SO55)

**DEVIATIONS FROM TEST STANDARD**

No deviations.

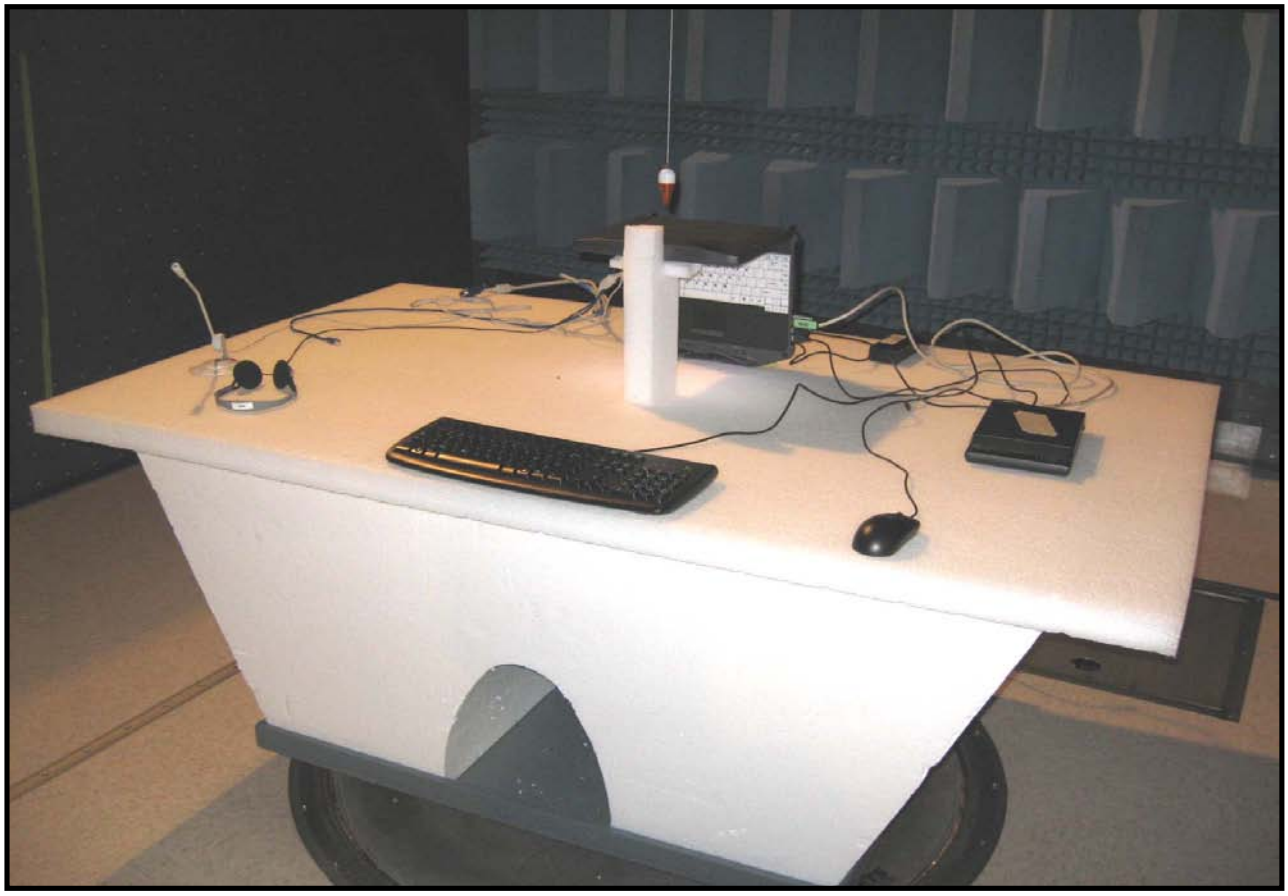
| | |
|---|---|
| Run # | 13 |
| Configuration # | 1 |
| Results | Pass |

*Signature*

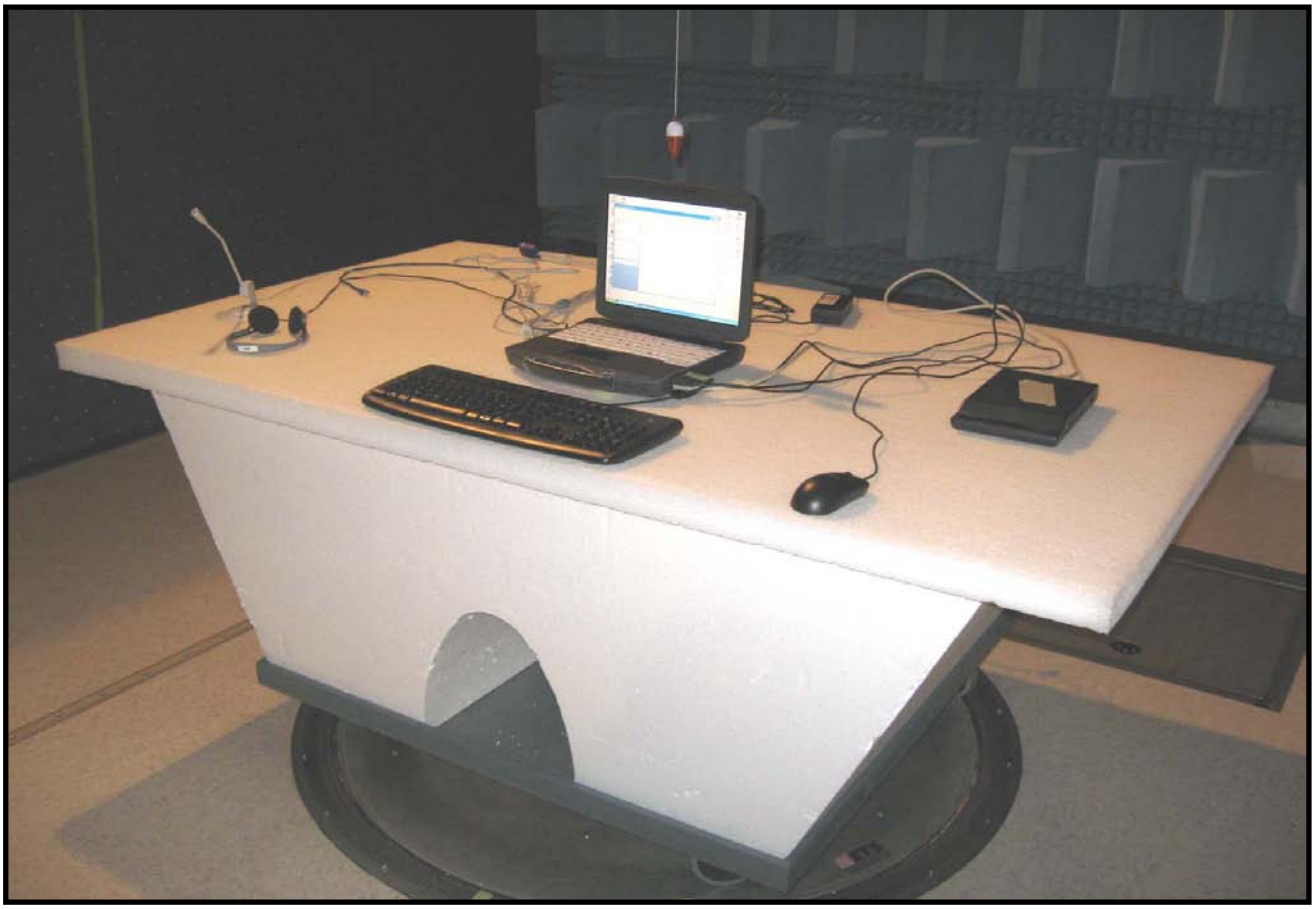



| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | ERP (Watts) | ERP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 848.307 | | | 281.0 | 1.3 | | | V-Bilog | PK | 1.33E-01 | 21.2 | 38.5 | -17.3 | Laptop on its side. |
| 848.283 | | | 223.0 | 1.0 | | | H-Bilog | PK | 1.28E-01 | 21.1 | 38.5 | -17.4 | Laptop screen horizontal. |
| 824.710 | | | 185.0 | 1.1 | | | V-Bilog | PK | 1.18E-01 | 20.7 | 38.5 | -17.8 | Laptop on its side. |
| 836.517 | | | 189.0 | 1.1 | | | H-Bilog | PK | 1.11E-01 | 20.4 | 38.5 | -18.1 | Laptop on its side. |
| 836.777 | | | 176.0 | 1.1 | | | V-Bilog | PK | 1.10E-01 | 20.4 | 38.5 | -18.1 | Laptop on its side. |
| 848.327 | | | 189.0 | 1.1 | | | H-Bilog | PK | 9.46E-02 | 19.8 | 38.5 | -18.7 | Laptop on its side. |
| 824.723 | | | 185.0 | 1.1 | | | H-Bilog | PK | 9.28E-02 | 19.7 | 38.5 | -18.8 | Laptop on its side. |
| 824.687 | | | 115.0 | 1.2 | | | H-Bilog | PK | 8.66E-02 | 19.4 | 38.5 | -19.1 | Laptop screen horizontal. |
| 836.513 | | | 114.0 | 1.2 | | | H-Bilog | PK | 7.85E-02 | 18.9 | 38.5 | -19.6 | Laptop screen horizontal. |
| 836.533 | | | 170.0 | 1.2 | | | H-Bilog | PK | 7.49E-02 | 18.7 | 38.5 | -19.8 | Laptop screen vertical. |
| 848.353 | | | 339.0 | 1.8 | | | H-Bilog | PK | 7.35E-02 | 18.7 | 38.5 | -19.8 | Laptop screen vertical. |
| 848.327 | | | 200.0 | 1.2 | | | V-Bilog | PK | 7.13E-02 | 18.5 | 38.5 | -20.0 | Laptop screen horizontal. |
| 836.473 | | | 200.0 | 1.2 | | | V-Bilog | PK | 6.96E-02 | 18.4 | 38.5 | -20.1 | Laptop screen horizontal. |
| 824.700 | | | 297.0 | 1.4 | | | V-Bilog | PK | 6.50E-02 | 18.1 | 38.5 | -20.4 | Laptop screen vertical. |
| 824.187 | | | 169.0 | 1.2 | | | H-Bilog | PK | 6.11E-02 | 17.9 | 38.5 | -20.6 | Laptop screen vertical. |
| 824.697 | | | 146.0 | 1.9 | | | V-Bilog | PK | 6.06E-02 | 17.8 | 38.5 | -20.7 | Laptop screen horizontal. |
| 836.530 | | | 299.0 | 1.4 | | | V-Bilog | PK | 5.53E-02 | 17.4 | 38.5 | -21.1 | Laptop screen vertical. |
| 848.277 | | | 307.0 | 1.4 | | | V-Bilog | PK | 5.28E-02 | 17.2 | 38.5 | -21.3 | Laptop screen vertical. |

# Effective Radiated Power (ERP)



# Effective Radiated Power (ERP)



# Effective Isotropic Radiated Power (EIRP)



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

PCS Band

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## FREQUENCY RANGE INVESTIGATED

| | | | |
|---|---|---|---|
| Start Frequency | 1850MHz | Stop Frequency | 1910MHz |

## 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 |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E44440A | AFA | 11/14/2008 | 12 |
| EV12 Cables | | Bilog Cables | EVS | 6/25/2009 | 13 |
| Antenna, Horn | ETS | 3115 | AIB | 8/25/2008 | 24 |
| Power Sensor | Gigatronics | 80701A | SPL | 12/10/2008 | 13 |
| Power Meter | Gigatronics | 8651A | SPM | 12/10/2008 | 13 |
| Signal Generator | Agilent | E8257D | TGX | 12/10/2008 | 13 |
| Antenna, Horn | EMCO | 3115 | AHJ | 6/29/2009 | 24 |

## 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

Measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" or theoretically correct value. Our measurement data meets or exceeds the measurement uncertainty requirements of CISPR 16-4. In the case of transient tests our test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements. The measurement uncertainty for any test is available upon request.

## TEST DESCRIPTION

The fundamental emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height (1-4 meters) and polarizationThe amplitude and frequency of the highest emission were noted. The EUT was then replaced with a ½ wave dipole that was successively tuned to the highest emission. A signal generator was connected to the dipole, and its output was adjusted to match the level previously noted for each frequency. The output of the signal generator was recorded. The signal generator, amplifier, and cable were then connected to an analyzer and the power output was recorded. By factoring in the dipole antenna gain (dBi), the effective radiated power for the maximum fundamental emission was determined.

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 07/28/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 26.6 °C |
| Attendees: | Rod Munro | Humidity: | 42% |
| Project: | None | Barometric Pres.: | 1013.8mb |
| Tested by: | Dan Haas | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone.

**EUT OPERATING MODES**

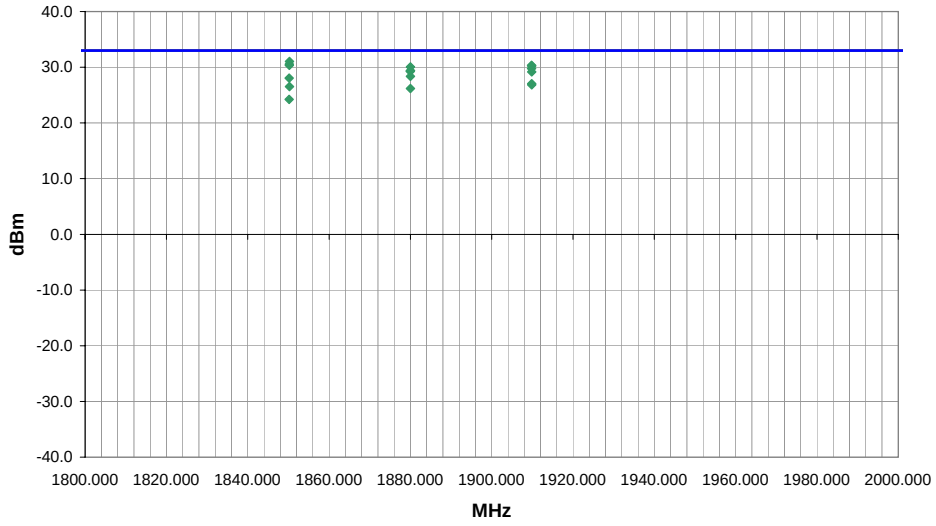
PCS Band, GPRS

**DEVIATIONS FROM TEST STANDARD**

No deviations.

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

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1850.250 | | | 74.0 | 1.1 | | | H-Horn | PK | 1.27E+00 | 31.0 | 33.0 | -2.0 | Low channel, Laptop screen vertical. |
| 1850.208 | | | 217.0 | 1.0 | | | H-Horn | PK | 1.13E+00 | 30.5 | 33.0 | -2.5 | Low channel, Laptop on its side. |
| 1909.783 | | | 219.0 | 1.4 | | | H-Horn | PK | 1.09E+00 | 30.4 | 33.0 | -2.6 | High channel, Laptop on its side. |
| 1850.208 | | | 307.0 | 1.1 | | | H-Horn | PK | 1.08E+00 | 30.3 | 33.0 | -2.7 | Low channel, Laptop screen horizontal. |
| 1909.842 | | | 139.0 | 1.4 | | | V-Horn | PK | 1.06E+00 | 30.2 | 33.0 | -2.8 | High channel, Laptop screen vertical. |
| 1879.992 | | | 302.0 | 1.4 | | | H-Horn | PK | 1.02E+00 | 30.1 | 33.0 | -2.9 | Mid channel, Laptop screen horizontal. |
| 1909.808 | | | 81.0 | 1.1 | | | H-Horn | PK | 9.46E-01 | 29.8 | 33.0 | -3.2 | High channel, Laptop screen vertical. |
| 1880.025 | | | 287.0 | 1.1 | | | V-Horn | PK | 8.65E-01 | 29.4 | 33.0 | -3.6 | Mid channel, Laptop screen vertical. |
| 1879.992 | | | 222.0 | 1.4 | | | H-Horn | PK | 8.65E-01 | 29.4 | 33.0 | -3.6 | Mid channel, Laptop on its side. |
| 1879.983 | | | 81.0 | 1.1 | | | H-Horn | PK | 8.45E-01 | 29.3 | 33.0 | -3.7 | Mid channel, Laptop screen vertical. |
| 1909.833 | | | 264.0 | 1.3 | | | H-Horn | PK | 8.24E-01 | 29.2 | 33.0 | -3.8 | High channel, Laptop screen horizontal. |
| 1880.017 | | | 180.0 | 1.6 | | | V-Horn | PK | 6.87E-01 | 28.4 | 33.0 | -4.6 | Mid channel, Laptop screen horizontal. |
| 1850.167 | | | 268.0 | 1.1 | | | V-Horn | PK | 6.37E-01 | 28.0 | 33.0 | -5.0 | Low channel, Laptop screen vertical. |
| 1909.825 | | | 130.0 | 1.2 | | | V-Horn | PK | 5.06E-01 | 27.0 | 33.0 | -6.0 | High channel, Laptop screen horizontal. |
| 1909.842 | | | 200.0 | 1.2 | | | V-Horn | PK | 4.83E-01 | 26.8 | 33.0 | -6.2 | High channel, Laptop on its side. |
| 1850.275 | | | 227.0 | 1.6 | | | V-Horn | PK | 4.51E-01 | 26.5 | 33.0 | -6.5 | Low channel, Laptop on its side. |
| 1880.025 | | | 171.0 | 2.1 | | | V-Horn | PK | 4.14E-01 | 26.2 | 33.0 | -6.8 | Mid channel, Laptop on its side. |
| 1850.183 | | | 314.0 | 1.4 | | | V-Horn | PK | 2.65E-01 | 24.2 | 33.0 | -8.8 | Low channel, Laptop screen horizontal. |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 07/29/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 22 °C |
| Attendees: | Rod Munro | Humidity: | 42% |
| Project: | None | Barometric Pres.: | 1011 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone.

**EUT OPERATING MODES**

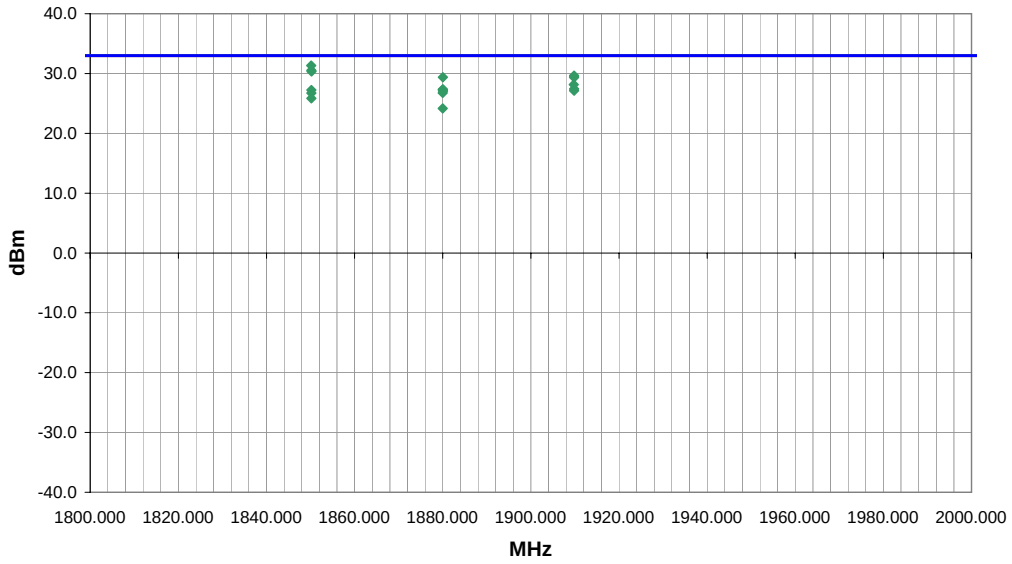
PCS Band, EDGE

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| Run # | 3 |
| Configuration # | 1 |
| Results | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1850.142 | | | 308.0 | 1.6 | | | H-Horn | PK | 1.36E+00 | 31.3 | 33.0 | -1.7 | Laptop screen horizontal |
| 1850.167 | | | 204.0 | 1.7 | | | H-Horn | PK | 1.13E+00 | 30.5 | 33.0 | -2.5 | Laptop screen vertical |
| 1850.227 | | | 213.0 | 1.0 | | | H-Horn | PK | 1.08E+00 | 30.3 | 33.0 | -2.7 | Laptop on its side |
| 1909.800 | | | 171.0 | 1.6 | | | V-Horn | PK | 9.20E-01 | 29.6 | 33.0 | -3.4 | Laptop screen vertical |
| 1909.808 | | | 45.0 | 1.3 | | | H-Horn | PK | 8.83E-01 | 29.5 | 33.0 | -3.5 | Laptop screen horizontal |
| 1880.037 | | | 25.0 | 1.7 | | | H-Horn | PK | 8.65E-01 | 29.4 | 33.0 | -3.6 | Laptop on its side |
| 1909.812 | | | 55.0 | 2.0 | | | H-Horn | PK | 8.63E-01 | 29.4 | 33.0 | -3.6 | Laptop on its side |
| 1909.717 | | | 200.0 | 1.9 | | | H-Horn | PK | 6.55E-01 | 28.2 | 33.0 | -4.8 | Laptop screen vertical |
| 1909.787 | | | 103.0 | 1.9 | | | V-Horn | PK | 5.55E-01 | 27.4 | 33.0 | -5.6 | Laptop on its side |
| 1880.017 | | | 312.0 | 1.3 | | | H-Horn | PK | 5.46E-01 | 27.4 | 33.0 | -5.6 | Laptop screen horizontal |
| 1879.992 | | | 178.0 | 1.0 | | | V-Horn | PK | 5.33E-01 | 27.3 | 33.0 | -5.7 | Laptop screen vertical |
| 1850.183 | | | 85.0 | 2.1 | | | V-Horn | PK | 5.30E-01 | 27.2 | 33.0 | -5.8 | Laptop screen horizontal |
| 1909.817 | | | 174.0 | 1.3 | | | V-Horn | PK | 5.18E-01 | 27.1 | 33.0 | -5.9 | Laptop screen horizontal |
| 1880.058 | | | 47.0 | 1.5 | | | H-Horn | PK | 5.09E-01 | 27.1 | 33.0 | -5.9 | Laptop screen vertical |
| 1880.010 | | | 112.0 | 1.9 | | | V-Horn | PK | 4.75E-01 | 26.8 | 33.0 | -6.2 | Laptop on its side |
| 1850.198 | | | 195.0 | 1.6 | | | V-Horn | PK | 4.72E-01 | 26.7 | 33.0 | -6.3 | Laptop on its side |
| 1850.192 | | | 63.0 | 1.7 | | | V-Horn | PK | 3.84E-01 | 25.8 | 33.0 | -7.2 | Laptop screen vertical |
| 1880.008 | | | 141.0 | 1.4 | | | V-Horn | PK | 2.61E-01 | 24.2 | 33.0 | -8.8 | Laptop screen horizontal |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | **Work Order:** | SPTE0111 |
| **Serial Number:** | None | **Date:** | 07/29/09 |
| **Customer:** | Spectrum Technology, Inc. | **Temperature:** | 26.6 °C |
| **Attendees:** | Rod Munro | **Humidity:** | 42% |
| **Project:** | None | **Barometric Pres.:** | 1013.8mb |
| **Tested by:** | Dan Haas | **Power:** 120VAC/60Hz | **Job Site:** EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

**TEST PARAMETERS**

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

**COMMENTS**

Standalone.

**EUT OPERATING MODES**

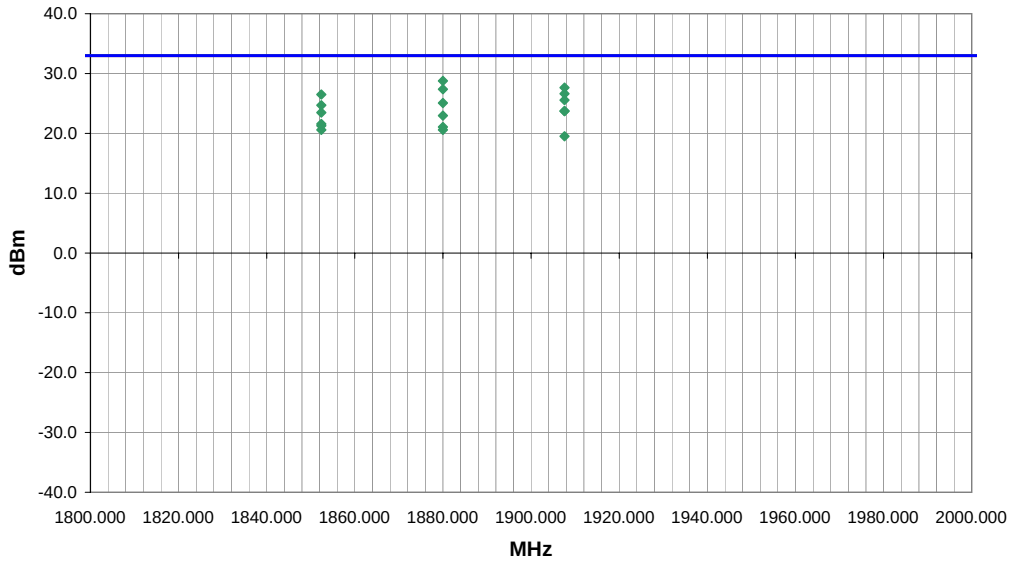
PCS Band, WCDMA Rel 99

**DEVIATIONS FROM TEST STANDARD**

No deviations.

| | |
|---|---|
| **Run #** | 4 |
| **Configuration #** | 1 |
| **Results** | Pass |

*Signature*




| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1880.000 | | | 103.0 | 1.0 | | | H-Horn | PK | 7.53E-01 | 28.8 | 33.0 | -4.2 | Laptop Screen Vertical |
| 1907.600 | | | 205.0 | 1.6 | | | H-Horn | PK | 5.82E-01 | 27.7 | 33.0 | -5.4 | Laptop on side. |
| 1880.000 | | | 205.0 | 1.3 | | | H-Horn | PK | 5.46E-01 | 27.4 | 33.0 | -5.6 | Laptop on side. |
| 1907.600 | | | 171.0 | 1.0 | | | V-Horn | PK | 4.59E-01 | 26.6 | 33.0 | -6.4 | Laptop Screen Vertical |
| 1852.400 | | | 303.0 | 1.0 | | | H-Horn | PK | 4.46E-01 | 26.5 | 33.0 | -6.5 | Laptop Screen Horizontal. |
| 1907.600 | | | 181.0 | 1.0 | | | H-Horn | PK | 3.59E-01 | 25.6 | 33.0 | -7.5 | Laptop Screen Vertical |
| 1880.000 | | | 318.0 | 1.0 | | | V-Horn | PK | 3.21E-01 | 25.1 | 33.0 | -7.9 | Laptop Screen Vertical |
| 1852.400 | | | 215.0 | 1.0 | | | H-Horn | PK | 2.94E-01 | 24.7 | 33.0 | -8.3 | Laptop on side. |
| 1907.600 | | | 298.0 | 1.3 | | | H-Horn | PK | 2.37E-01 | 23.8 | 33.0 | -9.3 | Laptop Screen Horizontal. |
| 1907.600 | | | 189.0 | 1.6 | | | V-Horn | PK | 2.36E-01 | 23.7 | 33.0 | -9.3 | Laptop on side. |
| 1852.400 | | | 258.0 | 1.0 | | | V-Horn | PK | 2.22E-01 | 23.5 | 33.0 | -9.5 | Laptop Screen Vertical |
| 1880.000 | | | 299.0 | 1.3 | | | H-Horn | PK | 1.98E-01 | 23.0 | 33.0 | -10.0 | Laptop Screen Horizontal. |
| 1852.400 | | | 78.0 | 2.0 | | | V-Horn | PK | 1.44E-01 | 21.6 | 33.0 | -11.4 | Laptop on side. |
| 1852.400 | | | 203.0 | 1.0 | | | H-Horn | PK | 1.35E-01 | 21.3 | 33.0 | -11.7 | Laptop Screen Vertical |
| 1880.000 | | | 325.0 | 1.2 | | | V-Horn | PK | 1.28E-01 | 21.1 | 33.0 | -11.9 | Laptop on side. |
| 1880.000 | | | 174.0 | 1.7 | | | V-Horn | PK | 1.14E-01 | 20.6 | 33.0 | -12.4 | Laptop Screen Horizontal. |
| 1852.400 | | | 317.0 | 1.4 | | | V-Horn | PK | 1.14E-01 | 20.6 | 33.0 | -12.4 | Laptop Screen Horizontal. |
| 1907.600 | | | 125.0 | 1.3 | | | V-Horn | PK | 8.95E-02 | 19.5 | 33.0 | -13.5 | Laptop Screen Horizontal. |

NORTHWEST EMC

# Effective Isotropic Radiated Power (EIRP)

PSA 2008.07.21
EMI 2008.1.9

| | | | |
|---|---|---|---|
| EUT: | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | Work Order: | SPTE0111 |
| Serial Number: | None | Date: | 07/29/09 |
| Customer: | Spectrum Technology, Inc. | Temperature: | 23.1 |
| Attendees: | Rod Munro | Humidity: | 43% |
| Project: | None | Barometric Pres.: | 1007 |
| Tested by: | Ethan Schoonover | Power: 120VAC/60Hz | Job Site: EV12 |

| TEST SPECIFICATIONS | Test Method |
|---|---|
| FCC 24E:2009 | ANSI/TIA/EIA-603-C-2004 |

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

**COMMENTS**

Standalone. Config 8 SO55

**EUT OPERATING MODES**

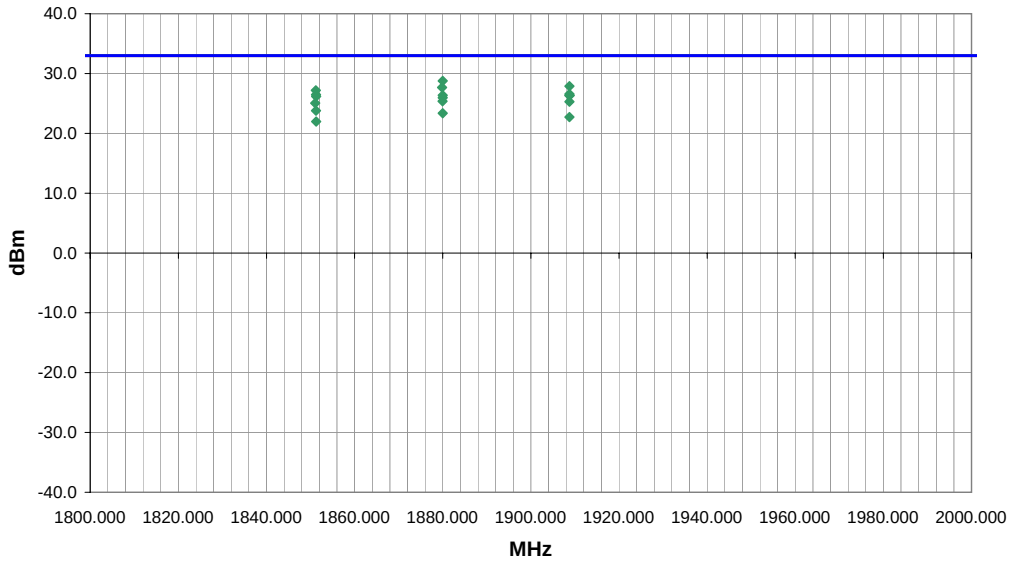
PCS Band, GPRS

**DEVIATIONS FROM TEST STANDARD**

No deviations.

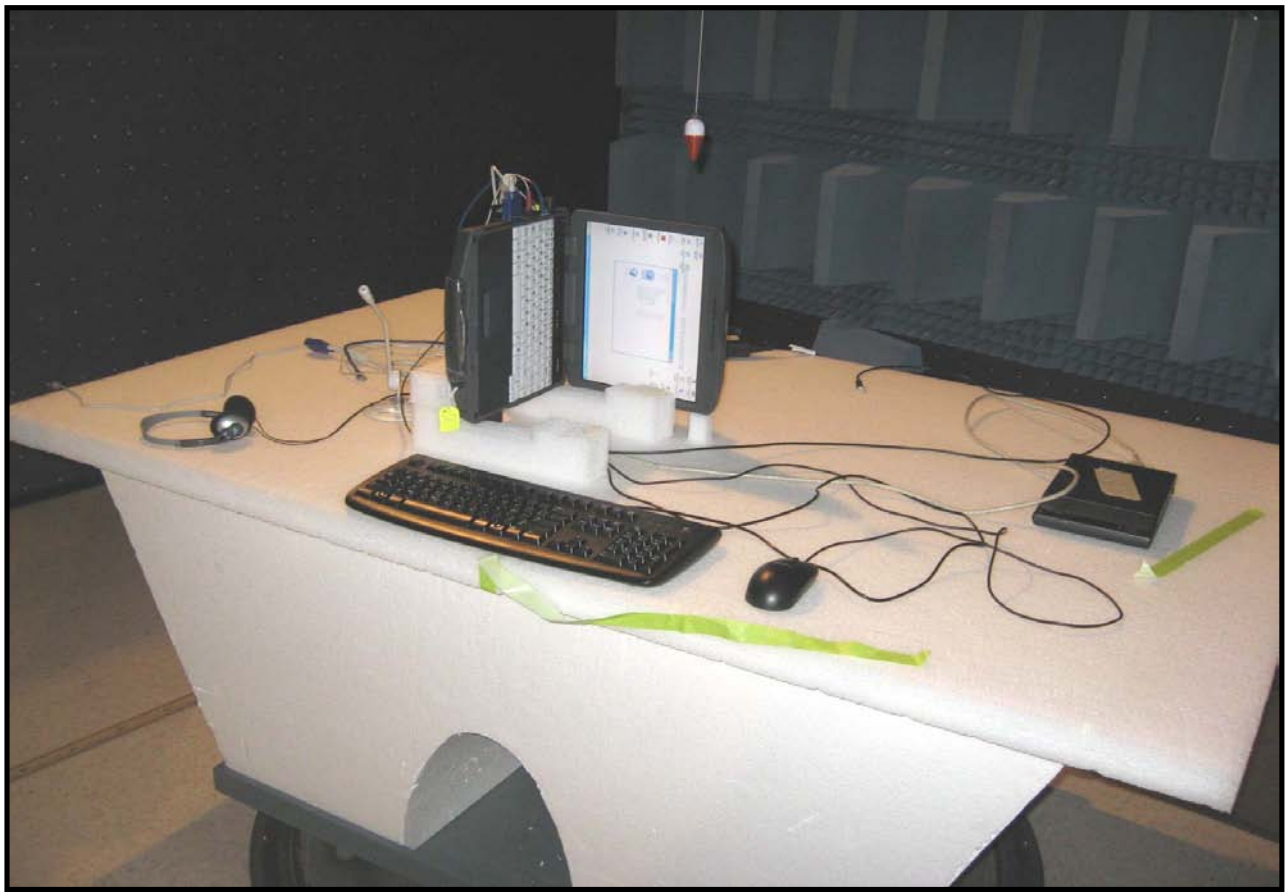
| | |
|---|---|
| Run # | 9 |
| Configuration # | 1 |
| Results | Pass |

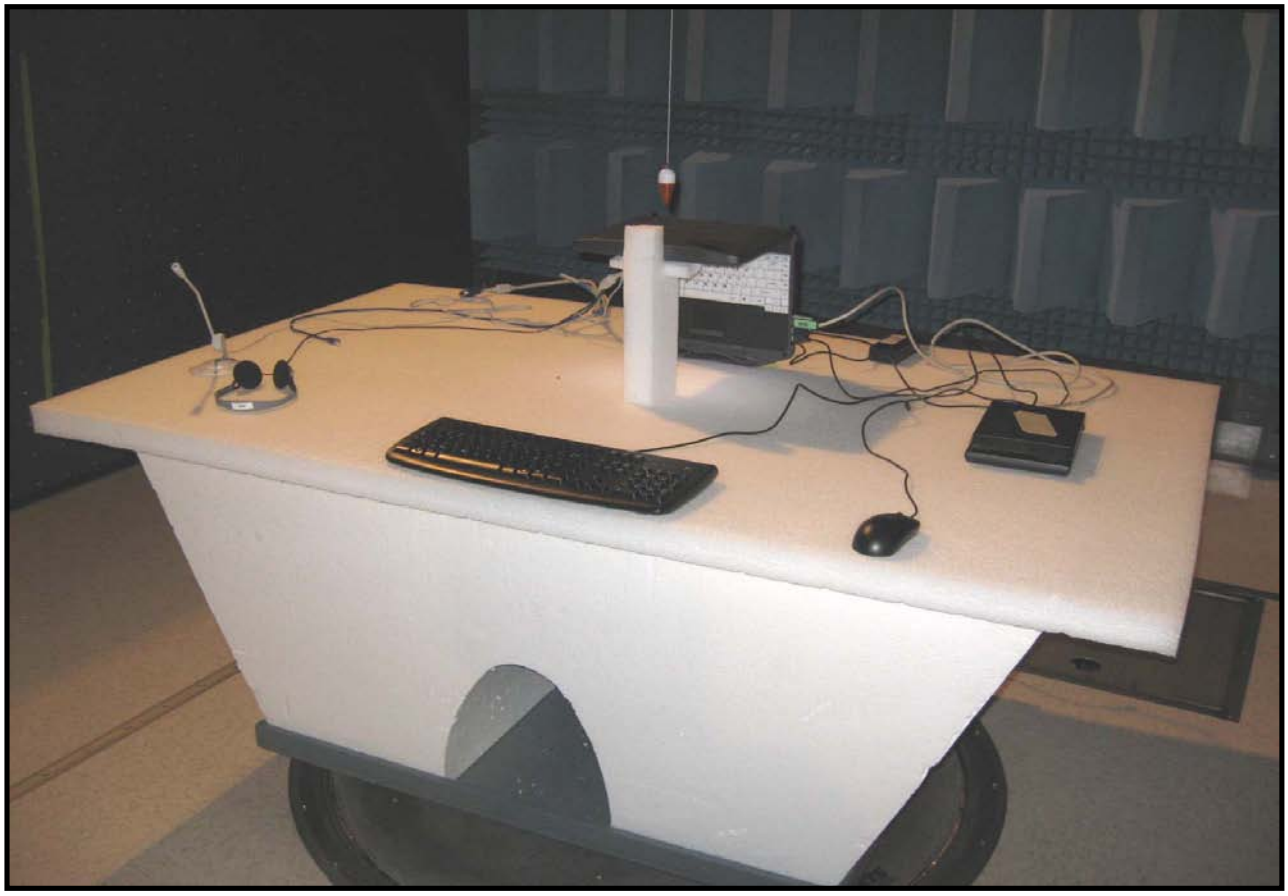
*Signature*



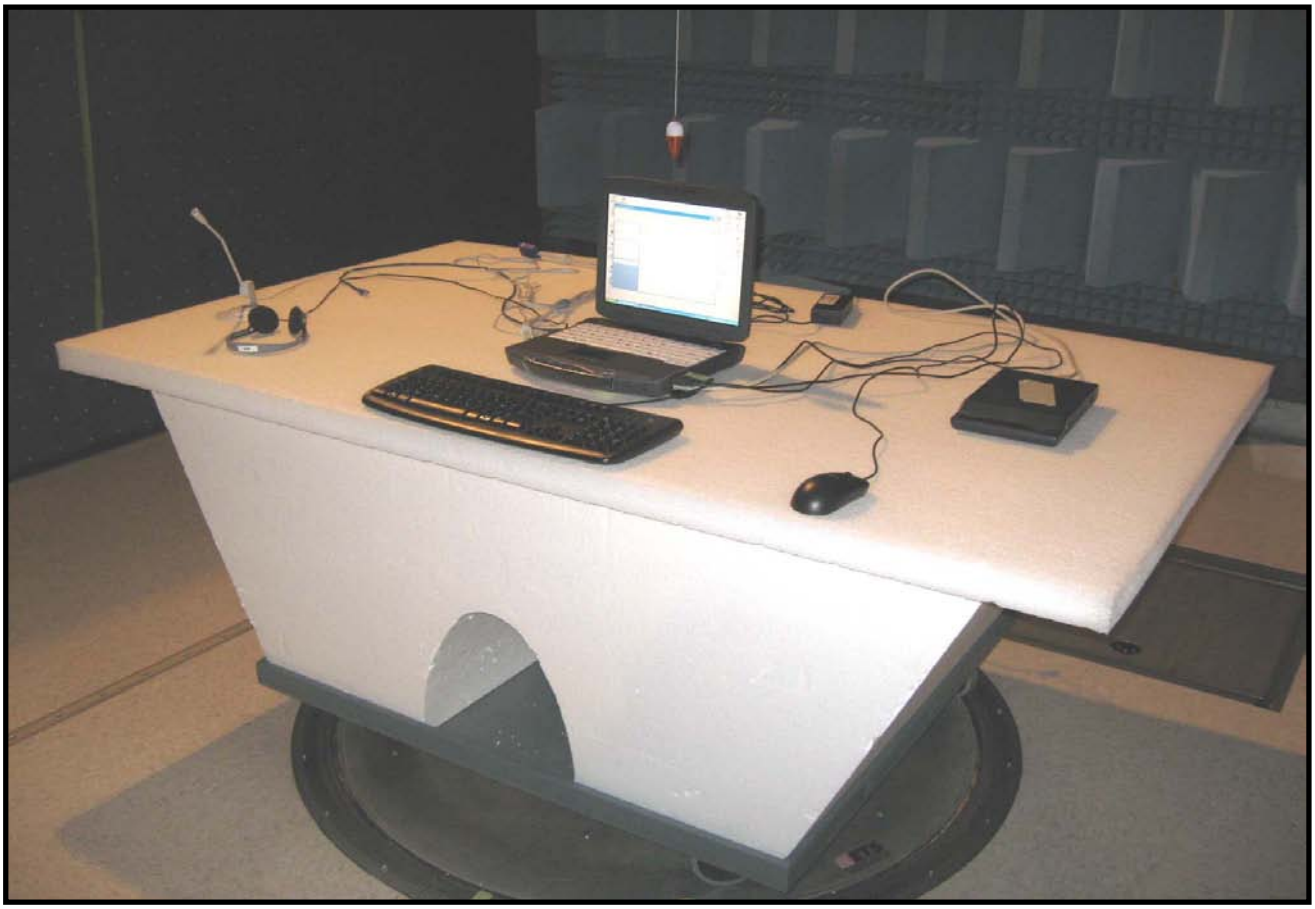

| Freq (MHz) | | | Azimuth (degrees) | Height (meters) | | | Polarity | Detector | EIRP (Watts) | EIRP (dBm) | Spec. Limit (dBm) | Compared to Spec. (dB) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1880.000 | | | 226.0 | 1.0 | | | H-Horn | PK | 7.53E-01 | 28.8 | 33.0 | -4.2 | Laptop on edge |
| 1908.750 | | | 220.0 | 1.3 | | | H-Horn | PK | 6.14E-01 | 27.9 | 33.0 | -5.1 | Laptop on edge |
| 1879.833 | | | 168.0 | 1.0 | | | V-Horn | PK | 5.85E-01 | 27.7 | 33.0 | -5.3 | Laptop screen vertical |
| 1851.192 | | | 170.0 | 1.1 | | | V-Horn | PK | 5.22E-01 | 27.2 | 33.0 | -5.8 | Laptop screen vertical |
| 1908.750 | | | 29.0 | 1.0 | | | H-Horn | PK | 4.55E-01 | 26.6 | 33.0 | -6.4 | Laptop screen horizontal |
| 1851.250 | | | 227.0 | 1.0 | | | H-Horn | PK | 4.43E-01 | 26.5 | 33.0 | -6.5 | Laptop on edge |
| 1880.000 | | | 236.0 | 1.0 | | | H-Horn | PK | 4.34E-01 | 26.4 | 33.0 | -6.6 | Laptop screen horizontal |
| 1908.750 | | | 174.0 | 2.4 | | | V-Horn | PK | 4.30E-01 | 26.3 | 33.0 | -6.7 | Laptop screen horizontal |
| 1908.783 | | | 252.0 | 1.2 | | | V-Horn | PK | 4.30E-01 | 26.3 | 33.0 | -6.7 | Laptop screen vertical |
| 1851.270 | | | 32.0 | 1.4 | | | H-Horn | PK | 4.13E-01 | 26.2 | 33.0 | -6.8 | Laptop screen horizontal |
| 1880.000 | | | 175.0 | 1.2 | | | V-Horn | PK | 3.95E-01 | 26.0 | 33.0 | -7.0 | Laptop screen horizontal |
| 1879.967 | | | 190.0 | 1.3 | | | H-Horn | PK | 3.44E-01 | 25.4 | 33.0 | -7.6 | Laptop screen vertical |
| 1908.758 | | | 190.0 | 1.0 | | | H-Horn | PK | 3.37E-01 | 25.3 | 33.0 | -7.7 | Laptop screen vertical |
| 1851.050 | | | 192.0 | 1.3 | | | H-Horn | PK | 3.21E-01 | 25.1 | 33.0 | -7.9 | Laptop screen vertical |
| 1851.250 | | | 182.0 | 2.0 | | | V-Horn | PK | 2.39E-01 | 23.8 | 33.0 | -9.2 | Laptop on edge |
| 1880.000 | | | 123.0 | 2.3 | | | V-Horn | PK | 2.17E-01 | 23.4 | 33.0 | -9.6 | Laptop on edge |
| 1908.750 | | | 212.0 | 1.5 | | | V-Horn | PK | 1.87E-01 | 22.7 | 33.0 | -10.3 | Laptop on edge |
| 1851.275 | | | 222.0 | 1.2 | | | V-Horn | PK | 1.58E-01 | 22.0 | 33.0 | -11.0 | Laptop screen horizontal |

# Effective Isotropic Radiated Power (EIRP)





# Effective Isotropic Radiated Power (EIRP)



# AC POWERLINE 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

Cell Band
PCS Band

## POWER SETTINGS INVESTIGATED

120VAC/60Hz

## CONFIGURATIONS INVESTIGATED

SPTE0111 - 1

## SAMPLE CALCULATIONS

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

## TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|---|---|---|---|---|---|
| Receiver | Rohde & Schwarz | ESCI | ARH | 8/28/2008 | 24 mo |
| High Pass Filter | T.T.E. | 7766 | HFG | 2/23/2009 | 13 mo |
| Attenuator | Coaxicom | 66702 2910-20 | ATO | 7/21/2009 | 13 mo |
| EV07 Cables | | Conducted Cables | EVG | 6/1/2009 | 13 mo |
| LISN | Solar | 9252-50-R-24-BNC | LIR | 2/4/2009 | 13 mo |

## 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. 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.

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

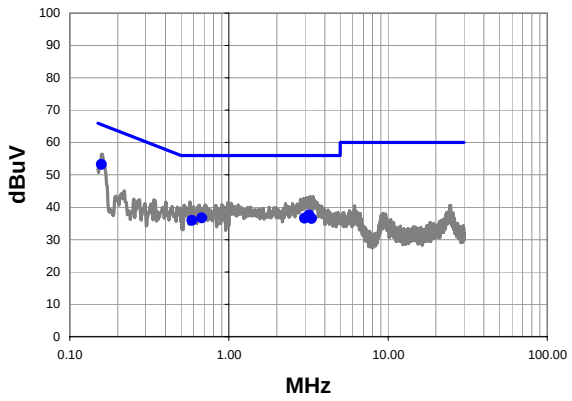
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | WCDMA Rel 99 |

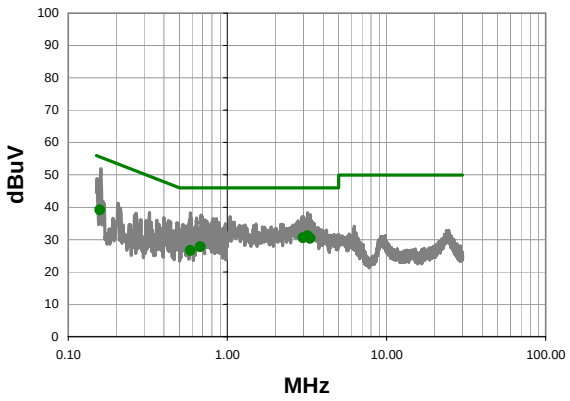
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.158 | 31.6 | 21.6 | 53.2 | 65.6 | -12.4 |
| 3.188 | 17.2 | 20.4 | 37.6 | 56.0 | -18.4 |
| 0.676 | 16.2 | 20.5 | 36.7 | 56.0 | -19.3 |
| 2.988 | 16.2 | 20.4 | 36.6 | 56.0 | -19.4 |
| 3.308 | 16.2 | 20.3 | 36.5 | 56.0 | -19.5 |
| 0.585 | 15.4 | 20.5 | 35.9 | 56.0 | -20.1 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.188 | 10.7 | 20.4 | 31.1 | 46.0 | -14.9 |
| 2.988 | 10.1 | 20.4 | 30.5 | 46.0 | -15.5 |
| 3.308 | 10.0 | 20.3 | 30.3 | 46.0 | -15.7 |
| 0.158 | 17.6 | 21.6 | 39.2 | 55.6 | -16.4 |
| 0.676 | 7.3 | 20.5 | 27.8 | 46.0 | -18.2 |
| 0.585 | 6.1 | 20.5 | 26.6 | 46.0 | -19.4 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

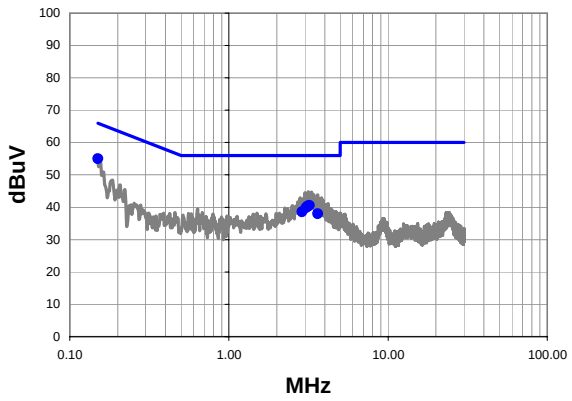
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | WCDMA Rel 99 |

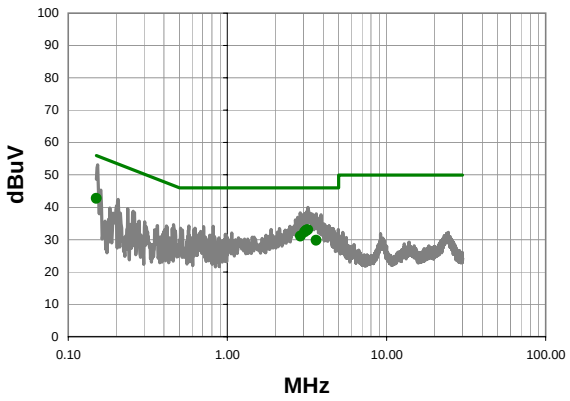
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.150 | 33.3 | 21.7 | 55.0 | 66.0 | -11.0 |
| 3.208 | 20.1 | 20.4 | 40.5 | 56.0 | -15.5 |
| 3.164 | 19.9 | 20.4 | 40.3 | 56.0 | -15.7 |
| 3.112 | 19.8 | 20.4 | 40.2 | 56.0 | -15.8 |
| 3.064 | 19.4 | 20.4 | 39.8 | 56.0 | -16.2 |
| 2.880 | 18.2 | 20.4 | 38.6 | 56.0 | -17.4 |
| 3.624 | 17.7 | 20.3 | 38.0 | 56.0 | -18.0 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.208 | 12.6 | 20.4 | 33.0 | 46.0 | -13.0 |
| 3.164 | 12.5 | 20.4 | 32.9 | 46.0 | -13.1 |
| 0.150 | 21.1 | 21.7 | 42.8 | 56.0 | -13.2 |
| 3.112 | 12.3 | 20.4 | 32.7 | 46.0 | -13.3 |
| 3.064 | 11.9 | 20.4 | 32.3 | 46.0 | -13.7 |
| 2.880 | 10.6 | 20.4 | 31.0 | 46.0 | -15.0 |
| 3.624 | 9.4 | 20.3 | 29.7 | 46.0 | -16.3 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

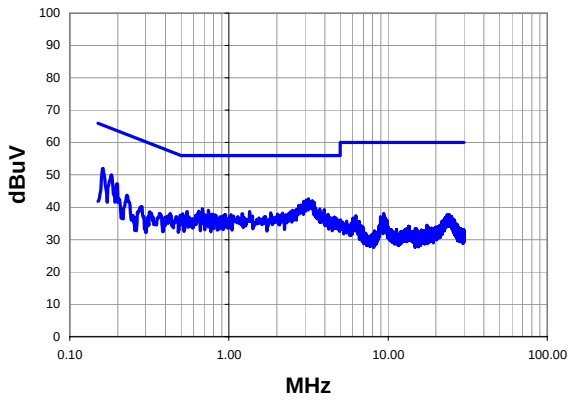
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | WCDMA Rel 99 |

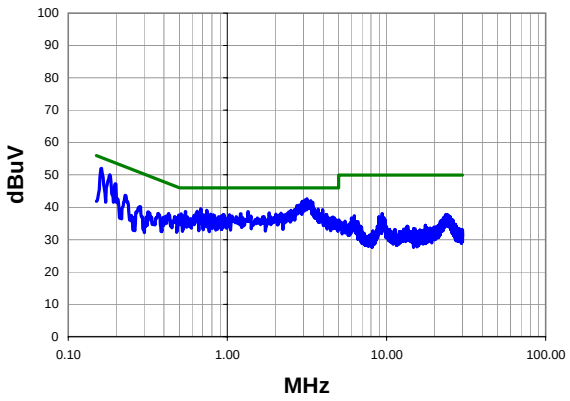
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **Run #** | 3 | **Line:** | High Line | **Ext. Attenuation:** | 20 | **Results** | Pass |
|---|---|---|---|---|---|---|---|

**Peak Data - vs - Quasi Peak Limit**




**Peak Data - vs - Average Limit**




Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 0.162 | 30.5 | 21.5 | 52.0 | 65.4 | -13.3 |
| 3.160 | 22.2 | 20.4 | 42.6 | 56.0 | -13.4 |
| 3.064 | 21.8 | 20.4 | 42.2 | 56.0 | -13.8 |
| 0.182 | 28.8 | 21.3 | 50.1 | 64.4 | -14.3 |
| 3.432 | 21.2 | 20.3 | 41.5 | 56.0 | -14.5 |
| 0.198 | 26.1 | 21.2 | 47.3 | 63.7 | -16.4 |
| 0.680 | 19.1 | 20.4 | 39.5 | 56.0 | -16.5 |
| 3.720 | 19.1 | 20.3 | 39.4 | 56.0 | -16.6 |
| 2.640 | 18.9 | 20.4 | 39.3 | 56.0 | -16.7 |
| 3.976 | 18.9 | 20.3 | 39.2 | 56.0 | -16.8 |
| 2.512 | 18.7 | 20.4 | 39.1 | 56.0 | -16.9 |
| 0.743 | 18.7 | 20.4 | 39.1 | 56.0 | -16.9 |
| 0.646 | 18.3 | 20.5 | 38.8 | 56.0 | -17.2 |
| 1.352 | 18.3 | 20.4 | 38.7 | 56.0 | -17.3 |
| 0.544 | 18.2 | 20.5 | 38.7 | 56.0 | -17.3 |
| 2.432 | 18.2 | 20.4 | 38.6 | 56.0 | -17.4 |
| 1.832 | 17.9 | 20.4 | 38.3 | 56.0 | -17.7 |
| 2.176 | 17.8 | 20.4 | 38.2 | 56.0 | -17.8 |
| 1.208 | 17.6 | 20.4 | 38.0 | 56.0 | -18.0 |
| 0.512 | 17.5 | 20.5 | 38.0 | 56.0 | -18.0 |

Peak Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 0.162 | 30.5 | 21.5 | 52.0 | 55.4 | -3.3 |
| 3.160 | 22.2 | 20.4 | 42.6 | 46.0 | -3.4 |
| 3.064 | 21.8 | 20.4 | 42.2 | 46.0 | -3.8 |
| 0.182 | 28.8 | 21.3 | 50.1 | 54.4 | -4.3 |
| 3.432 | 21.2 | 20.3 | 41.5 | 46.0 | -4.5 |
| 0.198 | 26.1 | 21.2 | 47.3 | 53.7 | -6.4 |
| 0.680 | 19.1 | 20.4 | 39.5 | 46.0 | -6.5 |
| 3.720 | 19.1 | 20.3 | 39.4 | 46.0 | -6.6 |
| 2.640 | 18.9 | 20.4 | 39.3 | 46.0 | -6.7 |
| 3.976 | 18.9 | 20.3 | 39.2 | 46.0 | -6.8 |
| 2.512 | 18.7 | 20.4 | 39.1 | 46.0 | -6.9 |
| 0.743 | 18.7 | 20.4 | 39.1 | 46.0 | -6.9 |
| 0.646 | 18.3 | 20.5 | 38.8 | 46.0 | -7.2 |
| 1.352 | 18.3 | 20.4 | 38.7 | 46.0 | -7.3 |
| 0.544 | 18.2 | 20.5 | 38.7 | 46.0 | -7.3 |
| 2.432 | 18.2 | 20.4 | 38.6 | 46.0 | -7.4 |
| 1.832 | 17.9 | 20.4 | 38.3 | 46.0 | -7.7 |
| 2.176 | 17.8 | 20.4 | 38.2 | 46.0 | -7.8 |
| 1.208 | 17.6 | 20.4 | 38.0 | 46.0 | -8.0 |
| 0.512 | 17.5 | 20.5 | 38.0 | 46.0 | -8.0 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

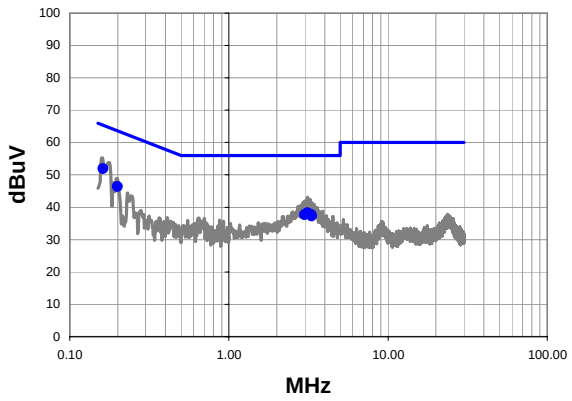
PSA-ESCI 2009.06.09
Version 2009.5.18

| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | | |
| **Configuration:** | 1 - Standalone Configuration | | | | |
| **Customer:** | Spectrum Technology, Inc. | | | | |
| **Attendees:** | Rod Munro | | | | |
| **EUT Power:** | 120VAC/60Hz | | | | |
| **Operating Mode:** | Cell Band | | | | |
| **Deviations:** | No deviations. | | | | |
| **Comments:** | WCDMA Rel 99 | | | | |

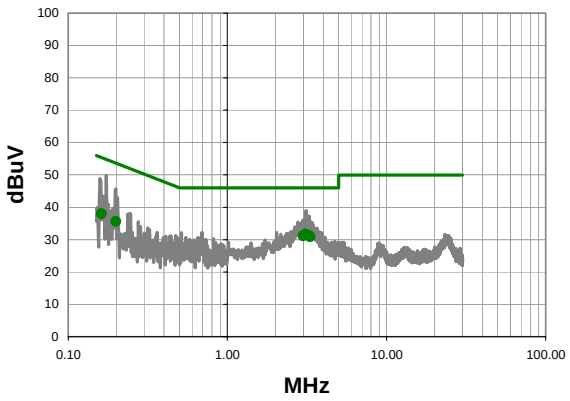
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.162 | 30.4 | 21.5 | 51.9 | 65.4 | -13.4 |
| 0.199 | 25.2 | 21.2 | 46.4 | 63.7 | -17.3 |
| 3.112 | 17.9 | 20.4 | 38.3 | 56.0 | -17.7 |
| 3.276 | 17.4 | 20.4 | 37.8 | 56.0 | -18.2 |
| 2.996 | 17.3 | 20.4 | 37.7 | 56.0 | -18.3 |
| 3.316 | 17.0 | 20.3 | 37.3 | 56.0 | -18.7 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.112 | 11.3 | 20.4 | 31.7 | 46.0 | -14.3 |
| 3.276 | 10.8 | 20.4 | 31.2 | 46.0 | -14.8 |
| 2.996 | 10.7 | 20.4 | 31.1 | 46.0 | -14.9 |
| 3.316 | 10.5 | 20.3 | 30.8 | 46.0 | -15.2 |
| 0.162 | 16.5 | 21.5 | 38.0 | 55.4 | -17.3 |
| 0.199 | 14.4 | 21.2 | 35.6 | 53.7 | -18.1 |

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# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

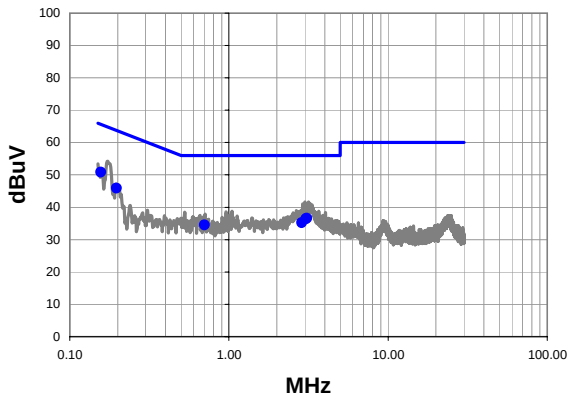
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | GPRS (GMSK) |

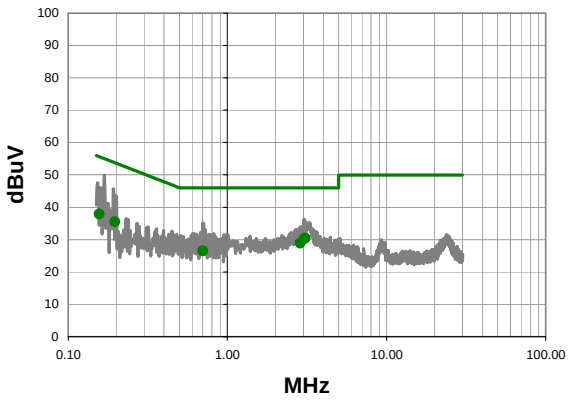
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.157 | 29.3 | 21.6 | 50.9 | 65.6 | -14.7 |
| 0.197 | 24.7 | 21.2 | 45.9 | 63.7 | -17.8 |
| 3.084 | 16.2 | 20.4 | 36.6 | 56.0 | -19.4 |
| 3.044 | 16.0 | 20.4 | 36.4 | 56.0 | -19.6 |
| 2.868 | 14.8 | 20.4 | 35.2 | 56.0 | -20.8 |
| 0.701 | 14.1 | 20.4 | 34.5 | 56.0 | -21.5 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.084 | 10.0 | 20.4 | 30.4 | 46.0 | -15.6 |
| 3.044 | 9.8 | 20.4 | 30.2 | 46.0 | -15.8 |
| 2.868 | 8.5 | 20.4 | 28.9 | 46.0 | -17.1 |
| 0.157 | 16.3 | 21.6 | 37.9 | 55.6 | -17.7 |
| 0.197 | 14.3 | 21.2 | 35.5 | 53.7 | -18.2 |
| 0.701 | 6.1 | 20.4 | 26.5 | 46.0 | -19.5 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

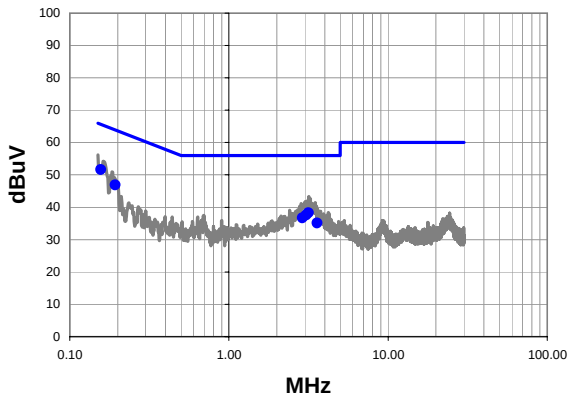
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | GPRS (GMSK) |

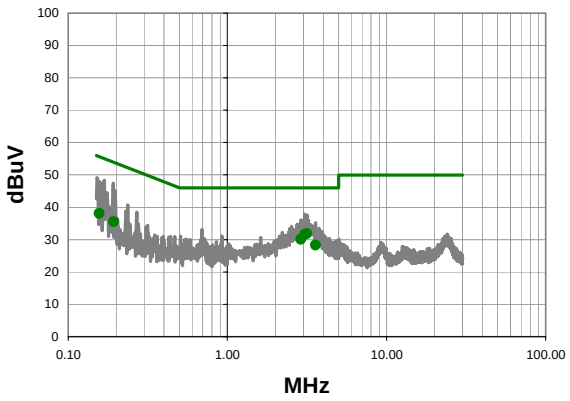
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.157 | 30.0 | 21.6 | 51.6 | 65.6 | -14.0 |
| 0.193 | 25.7 | 21.2 | 46.9 | 63.9 | -17.0 |
| 3.168 | 17.9 | 20.4 | 38.3 | 56.0 | -17.7 |
| 3.060 | 17.2 | 20.4 | 37.6 | 56.0 | -18.4 |
| 2.896 | 16.3 | 20.4 | 36.7 | 56.0 | -19.3 |
| 3.584 | 14.8 | 20.3 | 35.1 | 56.0 | -20.9 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.168 | 11.4 | 20.4 | 31.8 | 46.0 | -14.2 |
| 3.060 | 11.1 | 20.4 | 31.5 | 46.0 | -14.5 |
| 2.896 | 9.7 | 20.4 | 30.1 | 46.0 | -15.9 |
| 0.157 | 16.5 | 21.6 | 38.1 | 55.6 | -17.5 |
| 3.584 | 8.0 | 20.3 | 28.3 | 46.0 | -17.7 |
| 0.193 | 14.3 | 21.2 | 35.5 | 53.9 | -18.4 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

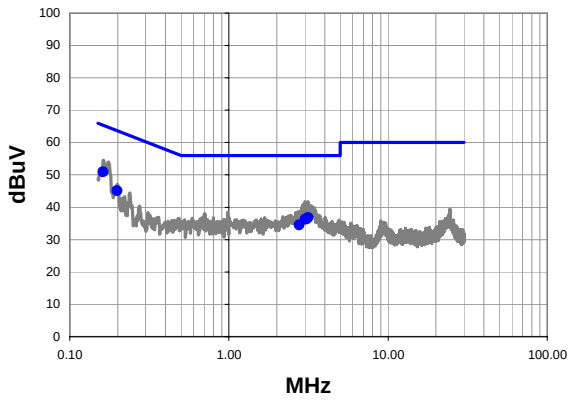
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | GPRS (GMSK) |

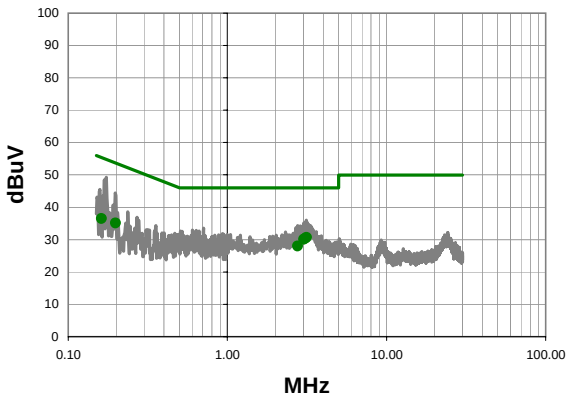
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.162 | 29.4 | 21.5 | 50.9 | 65.4 | -14.4 |
| 0.198 | 23.9 | 21.2 | 45.1 | 63.7 | -18.6 |
| 3.148 | 16.4 | 20.4 | 36.8 | 56.0 | -19.2 |
| 3.084 | 16.0 | 20.4 | 36.4 | 56.0 | -19.6 |
| 3.024 | 15.9 | 20.4 | 36.3 | 56.0 | -19.7 |
| 2.764 | 14.1 | 20.4 | 34.5 | 56.0 | -21.5 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.148 | 10.2 | 20.4 | 30.6 | 46.0 | -15.4 |
| 3.084 | 9.9 | 20.4 | 30.3 | 46.0 | -15.7 |
| 3.024 | 9.6 | 20.4 | 30.0 | 46.0 | -16.0 |
| 2.764 | 7.6 | 20.4 | 28.0 | 46.0 | -18.0 |
| 0.198 | 13.9 | 21.2 | 35.1 | 53.7 | -18.6 |
| 0.162 | 15.0 | 21.5 | 36.5 | 55.4 | -18.8 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

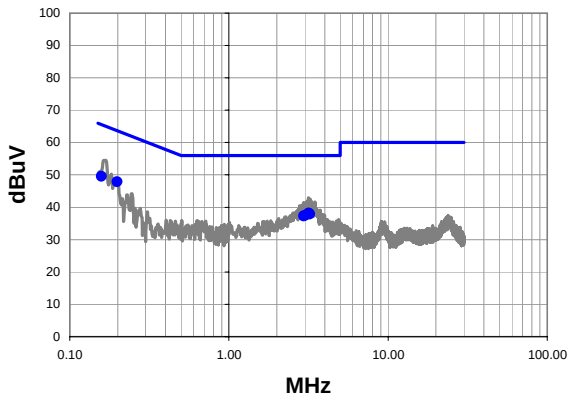
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | GPRS (GMSK) |

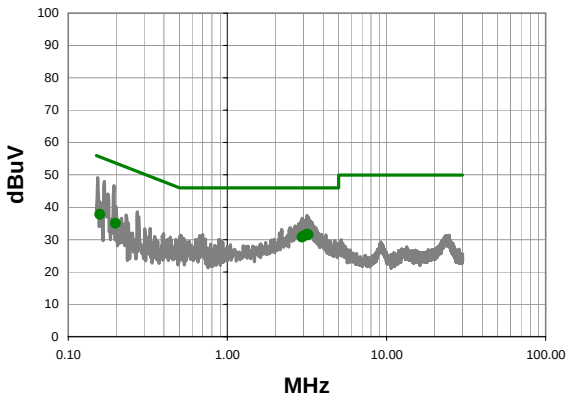
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.198 | 26.7 | 21.2 | 47.9 | 63.7 | -15.8 |
| 0.158 | 28.0 | 21.6 | 49.6 | 65.6 | -16.0 |
| 3.172 | 17.8 | 20.4 | 38.2 | 56.0 | -17.8 |
| 3.220 | 17.5 | 20.4 | 37.9 | 56.0 | -18.1 |
| 3.020 | 17.1 | 20.4 | 37.5 | 56.0 | -18.5 |
| 2.956 | 16.9 | 20.4 | 37.3 | 56.0 | -18.7 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.172 | 11.2 | 20.4 | 31.6 | 46.0 | -14.4 |
| 3.220 | 11.1 | 20.4 | 31.5 | 46.0 | -14.5 |
| 3.020 | 10.6 | 20.4 | 31.0 | 46.0 | -15.0 |
| 2.956 | 10.3 | 20.4 | 30.7 | 46.0 | -15.3 |
| 0.158 | 16.2 | 21.6 | 37.8 | 55.6 | -17.8 |
| 0.198 | 13.8 | 21.2 | 35.0 | 53.7 | -18.7 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

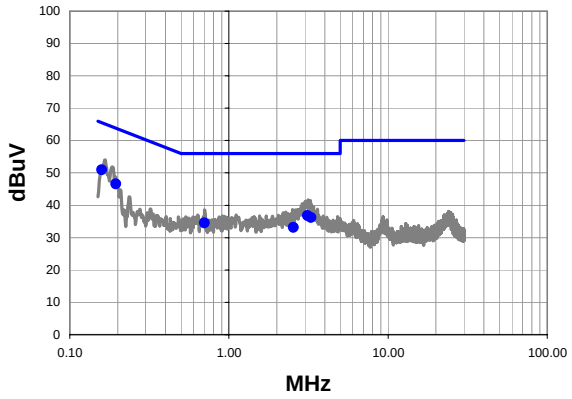
PSA-ESCI 2009.06.09
Version 2009.5.18

| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | | |
| **Configuration:** | 1 - Standalone Configuration | | | | |
| **Customer:** | Spectrum Technology, Inc. | | | | |
| **Attendees:** | Rod Munro | | | | |
| **EUT Power:** | 120VAC/60Hz | | | | |
| **Operating Mode:** | PCS Band | | | | |
| **Deviations:** | No deviations. | | | | |
| **Comments:** | EGPRS (EDGE) | | | | |

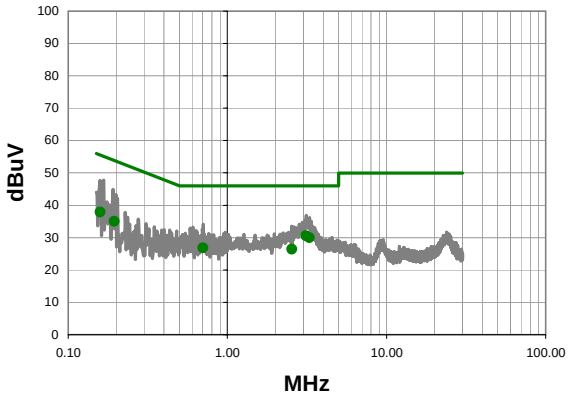
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.159 | 29.4 | 21.6 | 51.0 | 65.5 | -14.5 |
| 0.195 | 25.4 | 21.2 | 46.6 | 63.8 | -17.2 |
| 3.120 | 16.4 | 20.4 | 36.8 | 56.0 | -19.2 |
| 3.276 | 15.8 | 20.4 | 36.2 | 56.0 | -19.8 |
| 0.702 | 14.1 | 20.4 | 34.5 | 56.0 | -21.5 |
| 2.540 | 12.7 | 20.4 | 33.1 | 56.0 | -22.9 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.120 | 10.1 | 20.4 | 30.5 | 46.0 | -15.5 |
| 3.276 | 9.6 | 20.4 | 30.0 | 46.0 | -16.0 |
| 0.159 | 16.3 | 21.6 | 37.9 | 55.5 | -17.6 |
| 0.195 | 13.8 | 21.2 | 35.0 | 53.8 | -18.8 |
| 0.702 | 6.4 | 20.4 | 26.8 | 46.0 | -19.2 |
| 2.540 | 6.0 | 20.4 | 26.4 | 46.0 | -19.6 |

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## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

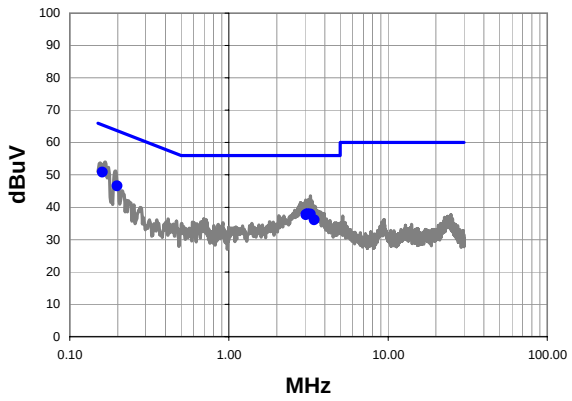
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | EGPRS (EDGE) |

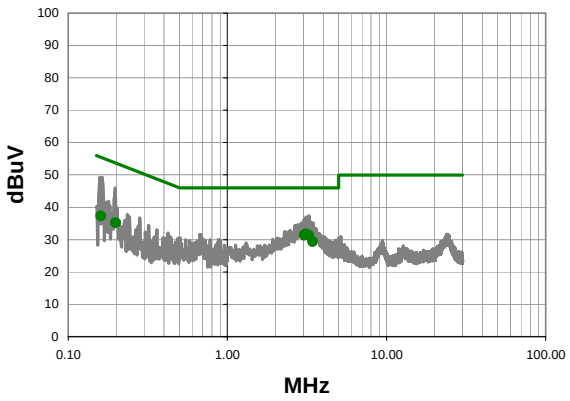
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.160 | 29.3 | 21.6 | 50.9 | 65.5 | -14.6 |
| 0.198 | 25.4 | 21.2 | 46.6 | 63.7 | -17.1 |
| 3.116 | 17.6 | 20.4 | 38.0 | 56.0 | -18.0 |
| 3.248 | 17.5 | 20.4 | 37.9 | 56.0 | -18.1 |
| 3.052 | 17.3 | 20.4 | 37.7 | 56.0 | -18.3 |
| 3.436 | 15.8 | 20.3 | 36.1 | 56.0 | -19.9 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.116 | 11.3 | 20.4 | 31.7 | 46.0 | -14.3 |
| 3.248 | 11.0 | 20.4 | 31.4 | 46.0 | -14.6 |
| 3.052 | 10.9 | 20.4 | 31.3 | 46.0 | -14.7 |
| 3.436 | 9.1 | 20.3 | 29.4 | 46.0 | -16.6 |
| 0.160 | 15.7 | 21.6 | 37.3 | 55.5 | -18.2 |
| 0.198 | 14.0 | 21.2 | 35.2 | 53.7 | -18.5 |

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## AC POWERLINE CONDUCTED EMISSIONS

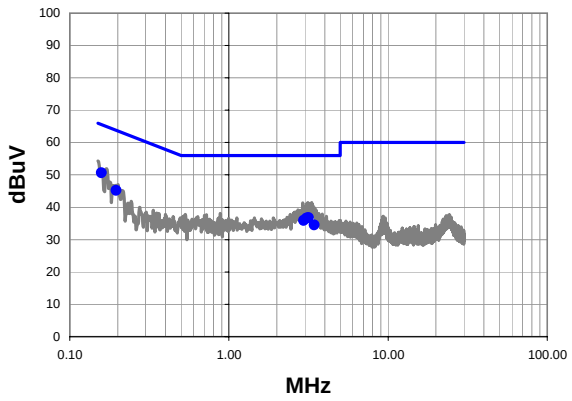
PSA-ESCI 2009.06.09
Version 2009.5.18

| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 | | | | |
| **Configuration:** | 1 - Standalone Configuration | | | | |
| **Customer:** | Spectrum Technology, Inc. | | | | |
| **Attendees:** | Rod Munro | | | | |
| **EUT Power:** | 120VAC/60Hz | | | | |
| **Operating Mode:** | Cell Band | | | | |
| **Deviations:** | No deviations. | | | | |
| **Comments:** | EGPRS (EDGE) | | | | |

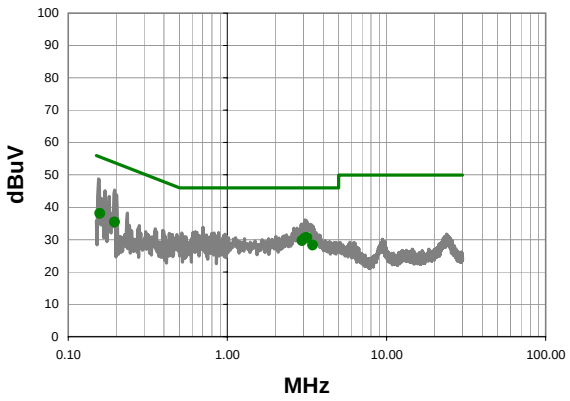
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.158 | 29.1 | 21.6 | 50.7 | 65.6 | -14.9 |
| 0.196 | 24.0 | 21.2 | 45.2 | 63.8 | -18.6 |
| 3.156 | 16.4 | 20.4 | 36.8 | 56.0 | -19.2 |
| 3.076 | 16.2 | 20.4 | 36.6 | 56.0 | -19.4 |
| 2.948 | 15.5 | 20.4 | 35.9 | 56.0 | -20.1 |
| 3.436 | 14.2 | 20.3 | 34.5 | 56.0 | -21.5 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.156 | 10.2 | 20.4 | 30.6 | 46.0 | -15.4 |
| 3.076 | 10.0 | 20.4 | 30.4 | 46.0 | -15.6 |
| 2.948 | 9.3 | 20.4 | 29.7 | 46.0 | -16.3 |
| 0.158 | 16.5 | 21.6 | 38.1 | 55.6 | -17.5 |
| 3.436 | 8.0 | 20.3 | 28.3 | 46.0 | -17.7 |
| 0.196 | 14.2 | 21.2 | 35.4 | 53.8 | -18.4 |

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## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
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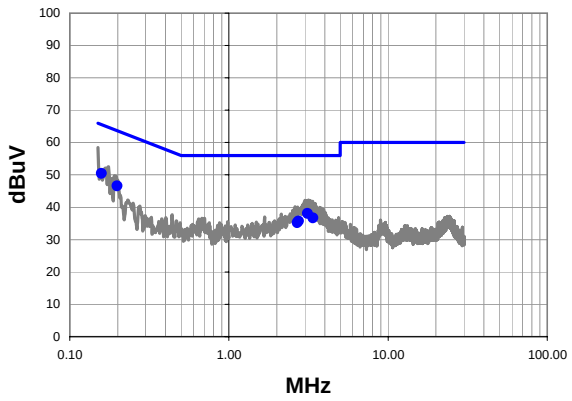
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | EGPRS (EDGE) |

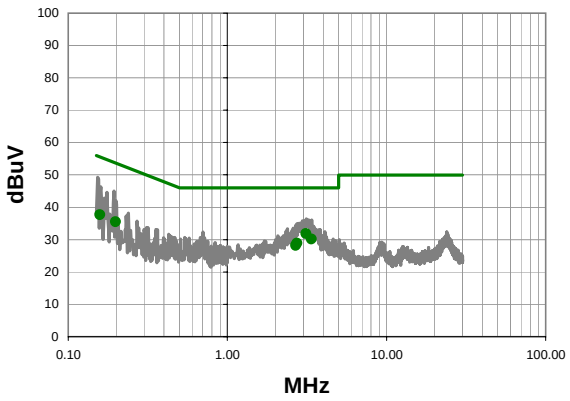
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.158 | 28.9 | 21.6 | 50.5 | 65.6 | -15.1 |
| 0.198 | 25.4 | 21.2 | 46.6 | 63.7 | -17.1 |
| 3.120 | 17.7 | 20.4 | 38.1 | 56.0 | -17.9 |
| 3.380 | 16.4 | 20.3 | 36.7 | 56.0 | -19.3 |
| 2.744 | 15.3 | 20.4 | 35.7 | 56.0 | -20.3 |
| 2.684 | 14.8 | 20.4 | 35.2 | 56.0 | -20.8 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.120 | 11.4 | 20.4 | 31.8 | 46.0 | -14.2 |
| 3.380 | 9.8 | 20.3 | 30.1 | 46.0 | -15.9 |
| 2.744 | 8.5 | 20.4 | 28.9 | 46.0 | -17.1 |
| 2.684 | 7.8 | 20.4 | 28.2 | 46.0 | -17.8 |
| 0.158 | 16.1 | 21.6 | 37.7 | 55.6 | -17.9 |
| 0.198 | 14.3 | 21.2 | 35.5 | 53.7 | -18.2 |

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# EMC

## AC POWERLINE CONDUCTED EMISSIONS

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Version 2009.5.18

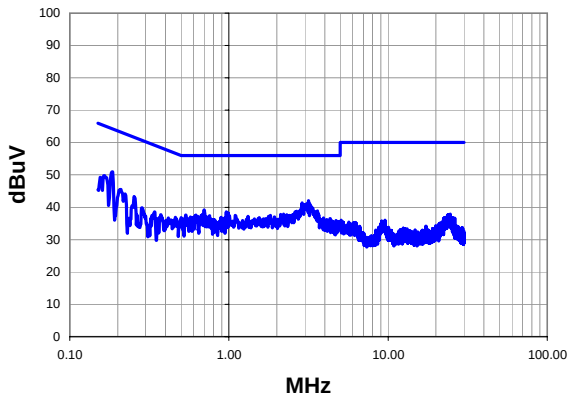
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | CDMA 1x RC3 (SO55) |

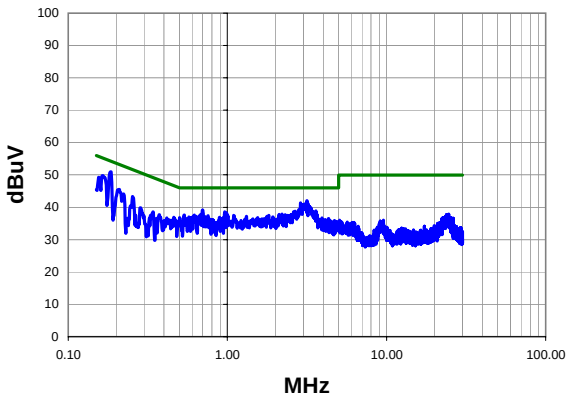
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **Run #** | 13 | **Line:** | High Line | **Ext. Attenuation:** | 20 | **Results** | Pass |
|---|---|---|---|---|---|---|---|

**Peak Data - vs - Quasi Peak Limit**




**Peak Data - vs - Average Limit**




Peak Data - vs - Quasi Peak Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 0.184 | 29.7 | 21.3 | 51.0 | 64.3 | -13.3 |
| 3.168 | 21.6 | 20.4 | 42.0 | 56.0 | -14.0 |
| 2.880 | 20.9 | 20.4 | 41.3 | 56.0 | -14.7 |
| 3.216 | 20.6 | 20.4 | 41.0 | 56.0 | -15.0 |
| 0.164 | 28.3 | 21.5 | 49.8 | 65.3 | -15.5 |
| 0.155 | 27.6 | 21.6 | 49.2 | 65.7 | -16.5 |
| 0.699 | 18.8 | 20.4 | 39.2 | 56.0 | -16.8 |
| 3.592 | 18.5 | 20.3 | 38.8 | 56.0 | -17.2 |
| 0.964 | 18.2 | 20.4 | 38.6 | 56.0 | -17.4 |
| 0.990 | 17.8 | 20.4 | 38.2 | 56.0 | -17.8 |
| 0.208 | 24.4 | 21.1 | 45.5 | 63.3 | -17.8 |
| 2.208 | 17.5 | 20.4 | 37.9 | 56.0 | -18.1 |
| 0.679 | 17.3 | 20.5 | 37.8 | 56.0 | -18.2 |
| 0.254 | 22.5 | 20.9 | 43.4 | 61.6 | -18.3 |
| 2.312 | 17.3 | 20.4 | 37.7 | 56.0 | -18.3 |
| 0.534 | 17.1 | 20.5 | 37.6 | 56.0 | -18.4 |
| 0.619 | 17.1 | 20.5 | 37.6 | 56.0 | -18.4 |
| 1.824 | 17.1 | 20.4 | 37.5 | 56.0 | -18.5 |
| 1.096 | 17.1 | 20.4 | 37.5 | 56.0 | -18.5 |
| 1.008 | 17.0 | 20.4 | 37.4 | 56.0 | -18.6 |

Peak Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 0.184 | 29.7 | 21.3 | 51.0 | 54.3 | -3.3 |
| 3.168 | 21.6 | 20.4 | 42.0 | 46.0 | -4.0 |
| 2.880 | 20.9 | 20.4 | 41.3 | 46.0 | -4.7 |
| 3.216 | 20.6 | 20.4 | 41.0 | 46.0 | -5.0 |
| 0.164 | 28.3 | 21.5 | 49.8 | 55.3 | -5.5 |
| 0.155 | 27.6 | 21.6 | 49.2 | 55.7 | -6.5 |
| 0.699 | 18.8 | 20.4 | 39.2 | 46.0 | -6.8 |
| 3.592 | 18.5 | 20.3 | 38.8 | 46.0 | -7.2 |
| 0.964 | 18.2 | 20.4 | 38.6 | 46.0 | -7.4 |
| 0.990 | 17.8 | 20.4 | 38.2 | 46.0 | -7.8 |
| 0.208 | 24.4 | 21.1 | 45.5 | 53.3 | -7.8 |
| 2.208 | 17.5 | 20.4 | 37.9 | 46.0 | -8.1 |
| 0.679 | 17.3 | 20.5 | 37.8 | 46.0 | -8.2 |
| 0.254 | 22.5 | 20.9 | 43.4 | 51.6 | -8.3 |
| 2.312 | 17.3 | 20.4 | 37.7 | 46.0 | -8.3 |
| 0.534 | 17.1 | 20.5 | 37.6 | 46.0 | -8.4 |
| 0.619 | 17.1 | 20.5 | 37.6 | 46.0 | -8.4 |
| 1.824 | 17.1 | 20.4 | 37.5 | 46.0 | -8.5 |
| 1.096 | 17.1 | 20.4 | 37.5 | 46.0 | -8.5 |
| 1.008 | 17.0 | 20.4 | 37.4 | 46.0 | -8.6 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

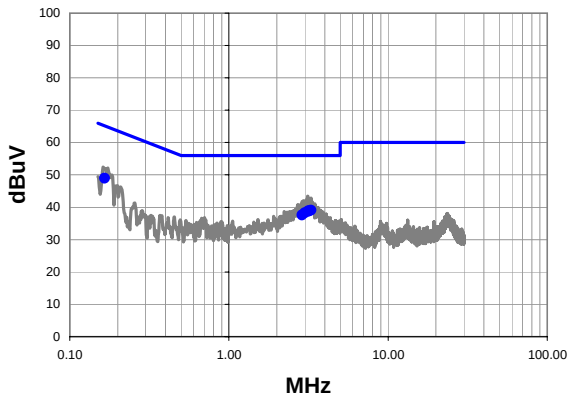
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | Cell Band |
| **Deviations:** | No deviations. |
| **Comments:** | CDMA 1x RC3 (SO55) |

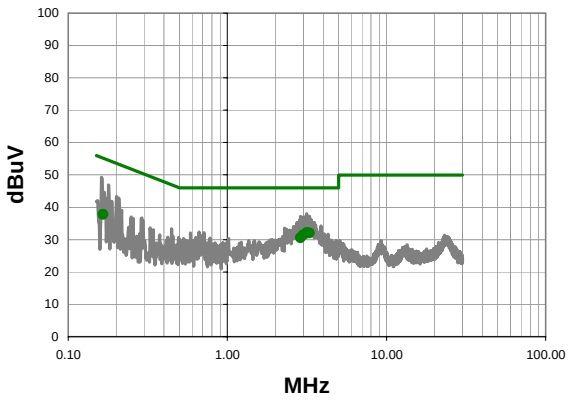
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.166 | 27.5 | 21.4 | 48.9 | 65.2 | -16.2 |
| 3.288 | 18.7 | 20.3 | 39.0 | 56.0 | -17.0 |
| 3.160 | 18.5 | 20.4 | 38.9 | 56.0 | -17.1 |
| 3.176 | 18.4 | 20.4 | 38.8 | 56.0 | -17.2 |
| 3.008 | 17.9 | 20.4 | 38.3 | 56.0 | -17.7 |
| 2.880 | 17.2 | 20.4 | 37.6 | 56.0 | -18.4 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.160 | 11.7 | 20.4 | 32.1 | 46.0 | -13.9 |
| 3.288 | 11.7 | 20.3 | 32.0 | 46.0 | -14.0 |
| 3.176 | 11.6 | 20.4 | 32.0 | 46.0 | -14.0 |
| 3.008 | 11.0 | 20.4 | 31.4 | 46.0 | -14.6 |
| 2.880 | 10.1 | 20.4 | 30.5 | 46.0 | -15.5 |
| 0.166 | 16.3 | 21.4 | 37.7 | 55.2 | -17.4 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

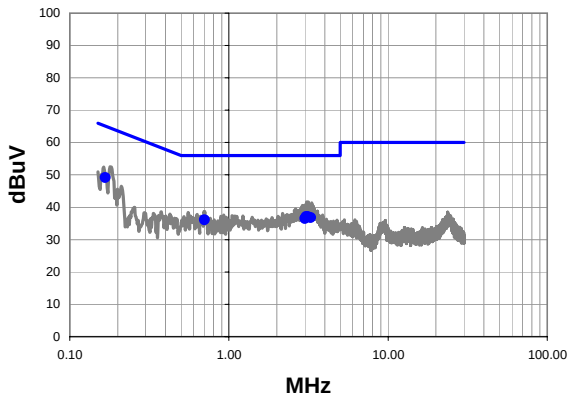
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | CDMA 1x RC3 (SO55) |

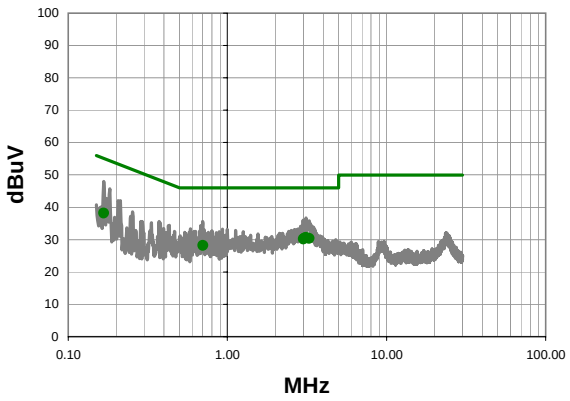
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.167 | 27.7 | 21.4 | 49.1 | 65.1 | -16.0 |
| 3.132 | 16.7 | 20.4 | 37.1 | 56.0 | -18.9 |
| 3.064 | 16.7 | 20.4 | 37.1 | 56.0 | -18.9 |
| 3.260 | 16.4 | 20.4 | 36.8 | 56.0 | -19.2 |
| 3.000 | 16.1 | 20.4 | 36.5 | 56.0 | -19.5 |
| 0.703 | 15.7 | 20.4 | 36.1 | 56.0 | -19.9 |

Average Data - vs - Average Limit

| **Freq (MHz)** | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.132 | 10.2 | 20.4 | 30.6 | 46.0 | -15.4 |
| 3.064 | 10.0 | 20.4 | 30.4 | 46.0 | -15.6 |
| 3.260 | 10.0 | 20.4 | 30.4 | 46.0 | -15.6 |
| 3.000 | 9.7 | 20.4 | 30.1 | 46.0 | -15.9 |
| 0.167 | 16.8 | 21.4 | 38.2 | 55.1 | -16.9 |
| 0.703 | 7.8 | 20.4 | 28.2 | 46.0 | -17.8 |

NORTHWEST

# EMC

## AC POWERLINE CONDUCTED EMISSIONS

PSA-ESCI 2009.06.09
Version 2009.5.18

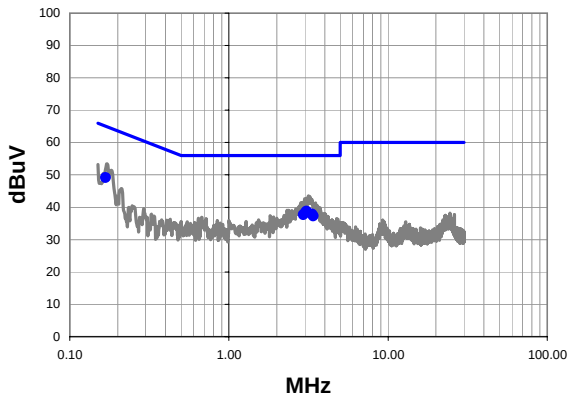
| | | | | | |
|---|---|---|---|---|---|
| **Work Order:** | SPTE0111 | **Date:** | 08/07/09 | | |
| **Project:** | None | **Temperature:** | 23.9 °C | | |
| **Job Site:** | EV07 | **Humidity:** | 45.6 | | |
| **Serial Number:** | None | **Barometric Pres.:** | 1019.3mb | **Tested by:** | Dan Haas |

| | |
|---|---|
| **EUT:** | GD Itronix, Model: GD8000 PC w/GOBI2, FCC ID: KBCIX-GOBI2, Model: IX-GOBI2 |
| **Configuration:** | 1 - Standalone Configuration |
| **Customer:** | Spectrum Technology, Inc. |
| **Attendees:** | Rod Munro |
| **EUT Power:** | 120VAC/60Hz |
| **Operating Mode:** | PCS Band |
| **Deviations:** | No deviations. |
| **Comments:** | CDMA 1x RC3 (SO55) |

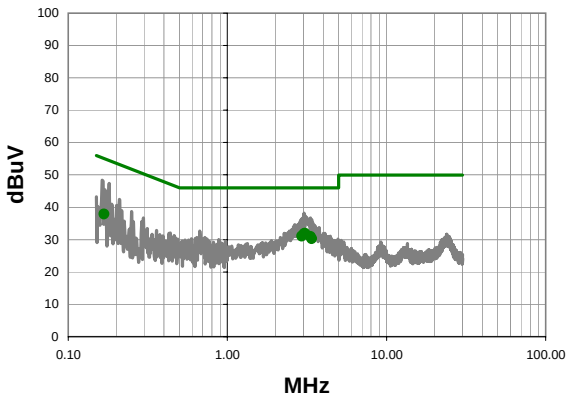
| **Test Specifications** | **Class B** | **Test Method** |
|---|---|---|
| FCC 15.107:2009 | | ANSI C63.4:2003 |

| **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) |
|---|---|---|---|---|---|
| 0.168 | 27.8 | 21.4 | 49.2 | 65.1 | -15.9 |
| 3.072 | 18.4 | 20.4 | 38.8 | 56.0 | -17.2 |
| 3.032 | 18.0 | 20.4 | 38.4 | 56.0 | -17.6 |
| 3.332 | 17.6 | 20.3 | 37.9 | 56.0 | -18.1 |
| 2.940 | 17.3 | 20.4 | 37.7 | 56.0 | -18.3 |
| 3.388 | 17.0 | 20.3 | 37.3 | 56.0 | -18.7 |

Average Data - vs - Average Limit

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Adjusted (dBuV) | Spec. Limit (dBuV) | Compared to Spec. (dB) |
|---|---|---|---|---|---|
| 3.072 | 11.5 | 20.4 | 31.9 | 46.0 | -14.1 |
| 3.032 | 11.3 | 20.4 | 31.7 | 46.0 | -14.3 |
| 2.940 | 10.6 | 20.4 | 31.0 | 46.0 | -15.0 |
| 3.332 | 10.6 | 20.3 | 30.9 | 46.0 | -15.1 |
| 3.388 | 9.9 | 20.3 | 30.2 | 46.0 | -15.8 |
| 0.168 | 16.5 | 21.4 | 37.9 | 55.1 | -17.2 |