# Guidant Inc.

# Zoom Latitude Programming System Model 3120

Test Report

**August 6, 2004**

**Report No. GDMN0006.1 Revision 01**

Report Prepared By:

NORTHWEST EMC

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

NORTHWEST EMC

22975 NW Evergreen Parkway
Suite 400
Hillsboro, Oregon 97124

# Certificate of Test

**Issue Date: August 6, 2004**

**Guidant Inc.**

## Zoom Latitude Programming System, Model 3120

| | Emissions | | |
|---|---|---|---|
| **Specification** | **Test Method** | **Pass** | **Fail** |
| FCC 15.249:2003 | ANSI C63.4:2001 Fundamental Field Strength | ☒ | ☐ |
| FCC 15.249:2003 | ANSI C63.4:2001 Radiated Spurious Emissions | ☒ | ☐ |
| FCC 15.207:2003 | ANSI C63.4:2001 Conducted Emissions | ☒ | ☐ |

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

**Approved By:**

*Don Facteau, IS Manager*

***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 |
|---|---|---|---|
| 01 | Add “Report Rev. 01” to Cover Page | 8/25/04 | Cover Page |
| 01 | Added Model Number to Equipment Description on Conducted Emissions Test Description Page | 8/25/04 | To be updated in final report revision. |
| 01 | Added Model Number to Equipment Description on Radiated Emissions Test Description Page | 8/25/04 | To be updated in final report revision. |
| 01 | Replaced Conducted Emissions Test Data | 8/25/04 | To be updated in final report revision. |
| 01 | Updated Modifications Page to Reflect Conducted Emissions Test Data | 8/25/04 | To be updated in final report revision. |
| 01 | Changed Date on Product Description Page | 8/25/04 | To be updated in final report revision. |
| 01 | Added Model Number to Equipment Description on FE Test Description Page | 8/25/04 | To be updated in final report revision. |
| 01 | Added Model Number to Equipment Description on Conducted Emissions Test Description Page | 8/25/04 | To be updated in final report revision. |
| 01 | Added Model Number to Equipment Description on SR Test Description Page | 8/25/04 | To be updated in final report revision. |

**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 recognized under the United States Department of Commerce, National Institute of Standards and Technology, 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 89/336/EEC, ANSI C63.4, MIL-STD 461E, DO-160D and SAE J1113. 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. Accreditation has been granted to Northwest EMC, Inc. under Certificate Numbers: 200629-0, 200630-0, and 200676-0.

**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 212, Issue 1 (Provisional) 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.

**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

**TÜV Product Service:** Included in TUV Product Service Group's Listing of Recognized Laboratories. It qualifies in connection with the TUV Certification after Recognition of Agent's Testing Program for the product categories and/or standards shown in TUV's current Listing of CARAT Laboratories available from TUV. A certificate was issued to represent that this laboratory continues to meet TUV's CARAT Program requirements. Certificate No. USA0401C

# Accreditations and Authorizations



**TÜV Rheinland:** Authorized to carryout EMC tests by order and under supervision of TÜV Rheinland. This authorization is based on "Conditions for EMC-Subcontractors" of November 1992.

**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).

**Technology International:** Assessed in accordance with ISO Guide 25 defining the general international requirements for the competence of calibration and testing laboratories and with ITI assessment criteria LACO196. Based upon that assessment Interference Technology International, Ltd., has granted approval for specifications implementing the EU Directive on EMC (89/336/EEC and amendments). The scope of the approval was provided on a Schedule of Assessment supplied with the certificate and is available upon request.

**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 Nos. - Evergreen: C-1071 and R-1025, Trails End: C-1877 and R-1760, Sultan: R-871, C-1784 and R-1761)*

**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. 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

## SCOPE

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

Northwest EMC

# Explanation of Northwest EMC Performance Criteria

Revision 03/24/03

## How important is it to understand performance criteria?

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

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

## Performance Criteria 1:

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

## Performance Criteria 2:

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

## Performance Criteria 3:

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

## Performance Criteria 4:

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

Each of the standards and specifications has unique performance criteria. In order to make an accurate assessment, one must compare the test results provided with the specific performance criteria. **To ensure that a responsible party is compliant with the specifications, one must read and understand those specifications. Provided below is a sample performance criteria, taken from EN 50082-1.**

## EN 50082-1 Performance Criteria

**Performance Criteria A:** *The apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.*

**Performance Criteria B:** *The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.*

**Performance Criteria C:** *Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of controls.*

## How should a device perform in order for a declaration of conformity to be made?

As already stated, it is the responsible party that must interpret and understand the results in such a way that a declaration of conformity is made. Having said that, we are often asked to render our opinion as to how a device should perform. Our recommendation simply follows the standards, as can be referenced below. Most of the standards and specifications offer the same performance criterion shown below as their requirements.

| Test | Performance Criteria typically specified by the Standard | Equivalent Northwest EMC Performance Criteria |
|---|---|---|
| ESD | Performance Criteria B | Performance Criteria 1 or 2 |
| Radiated RF | Performance Criteria A | Performance Criteria 1 |
| EFT/Burst | Performance Criteria B | Performance Criteria 1 or 2 |
| Surge | Performance Criteria B | Performance Criteria 1 or 2 |
| Conducted RF | Performance Criteria A | Performance Criteria 1 |
| Magnetic Field | Performance Criteria A | Performance Criteria 1 |
| Voltage Dips and Variations | Performance Criteria B & C | Performance Criteria 1, 2, or 3 |

## What is measurement uncertainty?

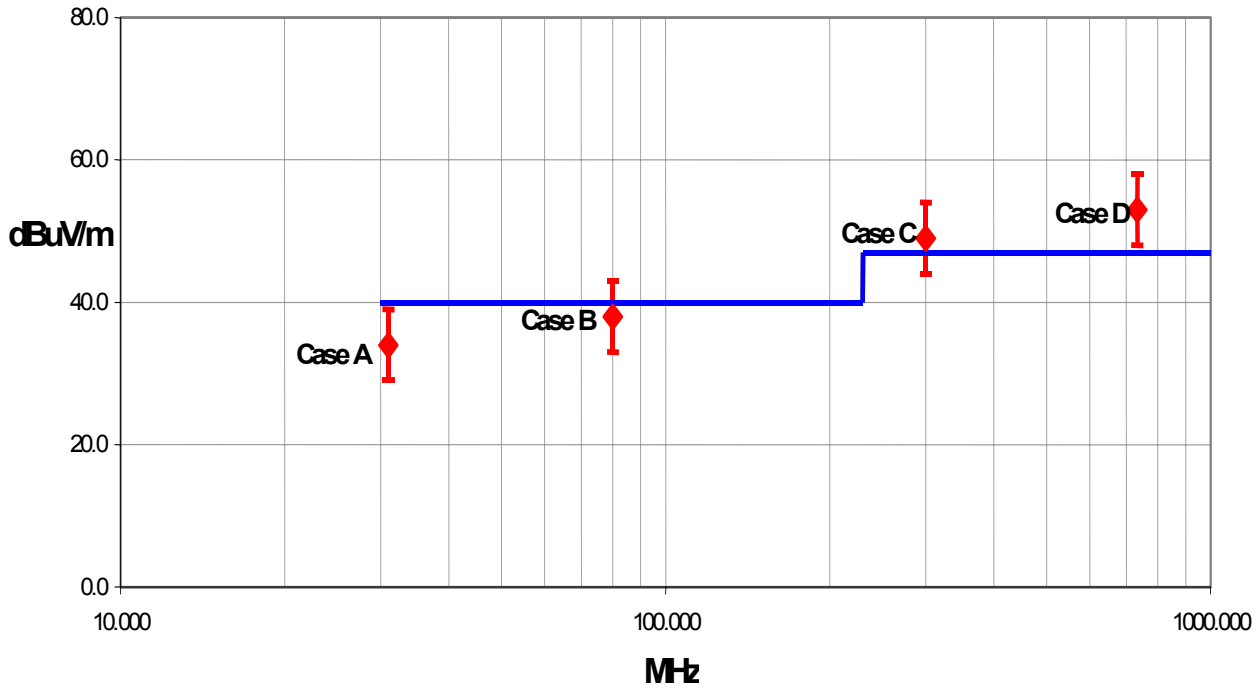
When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. The following statement of measurement uncertainty is used to reflect the accuracy of the measured result as compared with its "true" value. In the case of transient tests (ESD, EFT, Surge, Voltage Dips and Interruptions), the test equipment has been demonstrated by calibration to provide at least a 95% confidence that it complies with the test specification requirements.

The following documents were the basis for determining the uncertainty levels of our measurements:

- "ISO Guide to the Expression of Uncertainty in Measurements", October 1993
- "NIS81: The Treatment of Uncertainty in EMC Measurements", May 1994
- "IEC CISPR 16-3 A1 f1 Ed.1: Radio-interference measurements and statistical techniques", December 2000

## How might measurement uncertainty be applied to test results?

If the diamond marks the measured value for the test and the vertical bars bracket the range of + and – measurement uncertainty, then test results can be interpreted from the diagram below.




| Test Result Scenarios: |
|---|
| **Case A:** Product complies. |
| **Case B:** Product conditionally complies. It is not possible to say with 95% confidence that the product complies. |
| **Case C:** Product conditionally does not comply. It is not possible to say with 95% confidence that the product does not comply. |
| **Case D:** Product does not comply. |

| Radiated Emissions ≤ 1 GHz | | Value (dB) | | | | | |
|---|---|---|---|---|---|---|---|
| | Probability Distribution | Biconical Antenna | | Log Periodic Antenna | | Dipole Antenna | |
| Test Distance | | 3m | 10m | 3m | 10m | 3m | 10m |
| Combined standard uncertainty $u_c(y)$ | normal | + 1.86<br>- 1.88 | + 1.82<br>- 1.87 | + 2.23<br>- 1.41 | + 1.29<br>- 1.26 | + 1.31<br>- 1.27 | + 1.25<br>- 1.25 |
| Expanded uncertainty ***U*** (level of confidence ≈ 95%) | normal (k=2) | + 3.72<br>- 3.77 | + 3.64<br>- 3.73 | + 4.46<br>-2.81 | + 2.59<br>- 2.52 | + 2.61<br>- 2.55 | + 2.49<br>- 2.49 |

| Radiated Emissions > 1 GHz | Value (dB) | | |
|---|---|---|---|
| | Probability Distribution | Without High Pass Filter | With High Pass Filter |
| Combined standard uncertainty $u_c(y)$ | normal | + 1.29<br>- 1.25 | + 1.38<br>- 1.35 |
| Expanded uncertainty ***U*** (level of confidence ≈ 95%) | normal (k=2) | + 2.57<br>- 2.51 | + 2.76<br>- -2.70 |

| Conducted Emissions | | |
|---|---|---|
| | Probability Distribution | Value (+/- dB) |
| Combined standard uncertainty ***uc(y)*** | normal | 1.48 |
| Expanded uncertainty ***U*** (level of confidence ≈ 95 %) | normal (k = 2) | 2.97 |

| Radiated Immunity | | |
|---|---|---|
| | Probability Distribution | Value (+/- dB) |
| Combined standard uncertainty ***uc(y)*** | normal | 1.05 |
| Expanded uncertainty ***U*** (level of confidence ≈ 95 %) | normal (k = 2) | 2.11 |

| Conducted Immunity | | |
|---|---|---|
| | Probability Distribution | Value (+/- dB) |
| Combined standard uncertainty ***uc(y)*** | normal | 1.05 |
| Expanded uncertainty ***U*** (level of confidence ≈ 95 %) | normal (k = 2) | 2.10 |

**Legend**

$u_c(y)$ = square root of the sum of squares of the individual standard uncertainties

***U*** = combined standard uncertainty multiplied by the coverage factor: **k**. This defines an interval about the measured result that will encompass the true value with a confidence level of approximately 95%. If a higher level of confidence is required, then k=3 (CL of 99.7%) can be used. Please note that with a coverage factor of one, uc(y) yields a confidence level of only 68%.

**California**

**Orange County Facility**

41 Tesla Ave.
Irvine, CA 92618
(888) 364-2378
FAX (503) 844-3826

**Oregon**

**Evergreen Facility**

22975 NW Evergreen Pkwy.,
Suite 400
Hillsboro, OR 97124
(503) 844-4066
FAX (503) 844-3826

**Oregon**

**Trails End Facility**

30475 NE Trails End Lane
Newberg, OR 97132
(503) 844-4066
FAX (503) 537-0735

**Washington**

**Sultan Facility**

14128 339th Ave. SE
Sultan, WA 98294
(888) 364-2378
FAX (360) 793-2536

| Party Requesting the Test | |
|---|---|
| **Company Name:** | Guidant Inc. |
| **Address:** | 4100 Hamline Avenue North |
| **City, State, Zip:** | Saint Paul, MN 55112-5798 |
| **Test Requested By:** | Yogi Shah |
| **Model:** | Zoom Latitude Programming System Model 3120 |
| **First Date of Test:** | 7-01-04 |
| **Last Date of Test:** | 8-24-04 |
| **Receipt Date of Samples:** | 7-01-04 |
| **Equipment Design Stage:** | Production |
| **Equipment Condition:** | No visual damage. |

## Information Provided by the Party Requesting the Test

| | |
|---|---|
| **Clocks/Oscillators:** | 40MHz, 33.3MHz, 100MHz, 66.6MHz, 4.1MHz, 41.667MHz, 6MHz, 32.768kHz, 14.318MHz, 16.67MHz, 24MHz, 25MHz, 48MHz, 16MHz, 10MHz, 210.38MHz, 833.52MHz, 13MHz |
| **I/O Ports:** | Parallel, USB, VGA, PCMCIA, ECG, Analog Output, Patient Simulator, Telemetry Wand |

| Functional Description of the EUT (Equipment Under Test): |
|---|
| The ZOOM® LATITUDE™ Programming System, which includes the Model 3120 Programmer/Recorder/Monitor (PRM), is a portable cardiac rhythm management system designed to be used with certain models of Guidant implantable pulse generators. It is a composite system operating under 15.209 using the telemetry wand and 15.249 with the single provided antenna. The Model 3120 PRM is designed to be used only with the Model 6577 Sterilizable Telemetry Wand. The Model 3120 is provided with only one available antenna, it is a RP-SMA to meet the unique antenna requirements of 47 CFR 15.203. |

| Client Justification for EUT Selection: |
|---|
| The product is a representative production sample. |

| Client Justification for Test Selection: |
|---|
| Tests required to meet the FCC requirements for approval. |

| Equipment modifications | | | | | |
|---|---|---|---|---|---|
| Item | Test | Date | Modification | Note | Disposition of EUT |
| 1 | Radiated Spurious Emissions | 07/01/2004 | No EMI suppression devices were added or modified during this test. | Same configuration as in previous test. | EUT remained at Northwest EMC. |
| 2 | Radiated Fundamental Emissions | 07/02/2004 | No EMI suppression devices were added or modified during this test. | Same configuration as in previous test. | EUT remained at Northwest EMC. |
| 3 | Conducted Emissions | 07/15/2004 | No EMI suppression devices were added or modified during this test. | Same configuration as delivered. | EUT remained at Northwest EMC. |
| 4 | Conducted Emissions | 08/24/2004 | Modifications made by Guidant to improve conducted emissions | Modified from previous configuration. | EUT remained at Northwest EMC. |

## Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. All of the EUT parameters listed below were investigated. This includes, but may not be limited to, CPU speeds, video resolution settings, operational modes, and input voltages.

| Operating Modes Investigated: |
|---|
| 902-928 Radio Operating Low Channel |
| 902-928 Radio Operating Mid Channel |
| 902-928 Radio Operating High Channel |

| Operating Modes Investigated: |
|---|
| Typical |

| Data Rates Investigated: |
|---|
| Maximum |

| Output Power Setting(s) Investigated: |
|---|
| Maximum |

| Power Input Settings Investigated: |
|---|
| 120 VAC, 60 Hz |
| **Worst Case Input Power Setting used for Final Test:** |
| 120 VAC, 60 Hz (designated by client or system limitations) |

| Frequency Range Investigated | | | |
|---|---|---|---|
| **Start Frequency** | 30 MHz | **Stop Frequency** | 10 GHz |

| Software\Firmware Applied During Test | | | |
|---|---|---|---|
| **Operating system** | QNX/Red Hat Linux | **Version** | Unknown |
| **Exercise software** | 2845 Application | **Version** | 4.3 |
| **Description** | | | |
| The system was tested using standard operating production software to exercise the functions of the device during the testing. | | | |

| EUT and Peripherals in Test Setup Boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| Zoom Latitude Programming System | Guidant | NGP 3120 | 050336 |
| USB Keyboard | Logitech | Y-BF37 | None |
| USB Flash Hard Drive | PenDriveUSA | Pen Drive Plus 2.0 | None |

| Cables | | | | | |
|---|---|---|---|---|---|
| **Cable Type** | **Shield** | **Length (m)** | **Ferrite** | **Connection 1** | **Connection 2** |
| AC Power | Yes | 1.8 | No | NGP | AC Mains |
| Parallel | Yes | 1.6 | No | NGP | Unterminated |
| Video | No | 8.0 | Yes | NGP | Unterminated |
| Patient cables | Yes | 3.0 | No | NGP | Unterminated |
| USB | No | 1.8 | No | NGP | keyboard |
| **PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.** | | | | | |

| Measurement Equipment | | | | | |
|---|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Identifier** | **Last Cal** | **Interval** |
| Quasi-Peak Adapter | Hewlett-Packard | 85650A | AQD | 02/10/2004 | 13 mo |
| Spectrum Analyzer | Hewlett-Packard | 8568B | AAI | 02/10/2004 | 13 mo |
| Pre-Amplifier | Miteq | AM-1551 | AOX | 05/07/2004 | 13 mo |
| Antenna, Biconilog | EMCO | 3142 | AXK | 05/21/2003 | 24 mo |
| Spectrum Analyzer | Hewlett Packard | 8593E | AAP | 03/22/2004 | 13 mo |
| Receiver | Schaffner | SCR 3101 | ARC | 04/28/2003 | 24 mo |
| Pre-Amplifier | Miteq | AMF-4D | APP | 06/07/2004 | 13 mo |
| Antenna, Horn | EMCO | 3115 | AHE | 10/13/2003 | 24 mo |

## Test Description

**Requirement:** Per 47 CFR 15.249, the field strength of any emissions outside the band of 902 – 928 MHz shall comply with the limits as defined in 47 CFR 15.209.

**Configuration**: The only antenna to be used with the EUT was tested. The EUT was transmitting at its high, mid and low channels. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization (per ANSI C63.4:1992).

| 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.*** | | | |

**Completed by:**

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | Work Order: | GDMN0006 |
| Serial Number: | 050336 | Date: | 07/01/04 |
| Customer: | Guidant Inc | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: 120V/60Hz | Job Site: OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode, Low Band 902.5

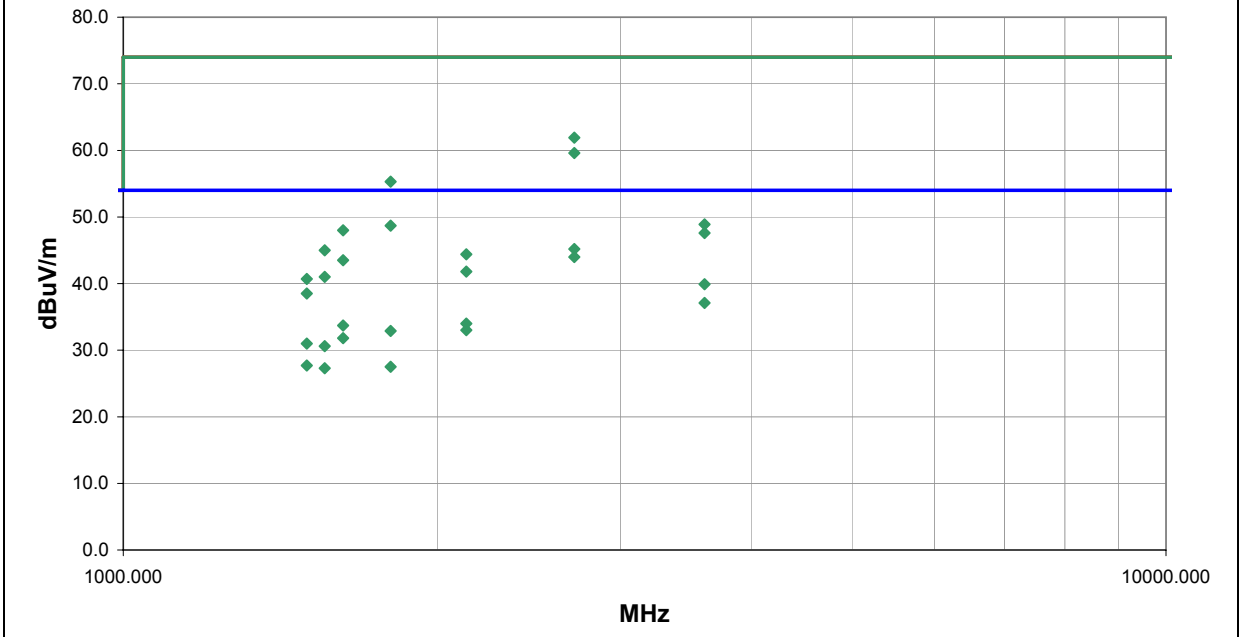
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 1 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2707.090 | 45.3 | -0.1 | 233.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 45.2 | 54.0 | -8.8 |
| 2707.090 | 44.1 | -0.1 | 295.0 | 2.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 44.0 | 54.0 | -10.0 |
| 2707.090 | 62.0 | -0.1 | 233.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 61.9 | 74.0 | -12.1 |
| 3609.500 | 36.9 | 3.0 | 36.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 39.9 | 54.0 | -14.1 |
| 2707.090 | 59.7 | -0.1 | 295.0 | 2.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 59.6 | 74.0 | -14.4 |
| 3609.500 | 34.1 | 3.0 | 327.0 | 3.0 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 37.1 | 54.0 | -16.9 |
| 1804.660 | 58.8 | -3.5 | 82.0 | 2.0 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 55.3 | 74.0 | -18.7 |
| 2133.260 | 35.9 | -1.9 | 181.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 34.0 | 54.0 | -20.0 |
| 1624.920 | 38.2 | -4.5 | 119.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 33.7 | 54.0 | -20.3 |
| 2133.260 | 34.9 | -1.9 | 105.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 33.0 | 54.0 | -21.0 |
| 1804.660 | 36.4 | -3.5 | 166.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 32.9 | 54.0 | -21.1 |
| 1624.920 | 36.3 | -4.5 | 164.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 31.8 | 54.0 | -22.2 |
| 1499.600 | 36.2 | -5.2 | 125.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 31.0 | 54.0 | -23.0 |
| 1560.160 | 35.5 | -4.9 | 172.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 30.6 | 54.0 | -23.4 |
| 3609.500 | 45.9 | 3.0 | 36.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 48.9 | 74.0 | -25.1 |
| 1804.660 | 52.2 | -3.5 | 166.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 48.7 | 74.0 | -25.3 |
| 1624.920 | 52.5 | -4.5 | 164.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 48.0 | 74.0 | -26.0 |
| 1499.600 | 32.9 | -5.2 | 156.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 27.7 | 54.0 | -26.3 |
| 3609.500 | 44.6 | 3.0 | 327.0 | 3.0 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 47.6 | 74.0 | -26.4 |
| 1804.660 | 31.0 | -3.5 | 82.0 | 2.0 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 27.5 | 54.0 | -26.5 |
| 1560.160 | 32.2 | -4.9 | 135.0 | 1.9 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 27.3 | 54.0 | -26.7 |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1560.160 | 49.9 | -4.9 | 172.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 45.0 | 74.0 | -29.0 |
| 2133.260 | 46.3 | -1.9 | 105.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 44.4 | 74.0 | -29.6 |
| 1624.920 | 48.0 | -4.5 | 119.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 43.5 | 74.0 | -30.5 |
| 2133.260 | 43.7 | -1.9 | 181.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 41.8 | 74.0 | -32.2 |
| 1560.160 | 45.9 | -4.9 | 135.0 | 1.9 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 41.0 | 74.0 | -33.0 |
| 1499.600 | 45.9 | -5.2 | 125.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 40.7 | 74.0 | -33.3 |
| 1499.600 | 43.7 | -5.2 | 156.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 38.5 | 74.0 | -35.5 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/01/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode Mid band 914

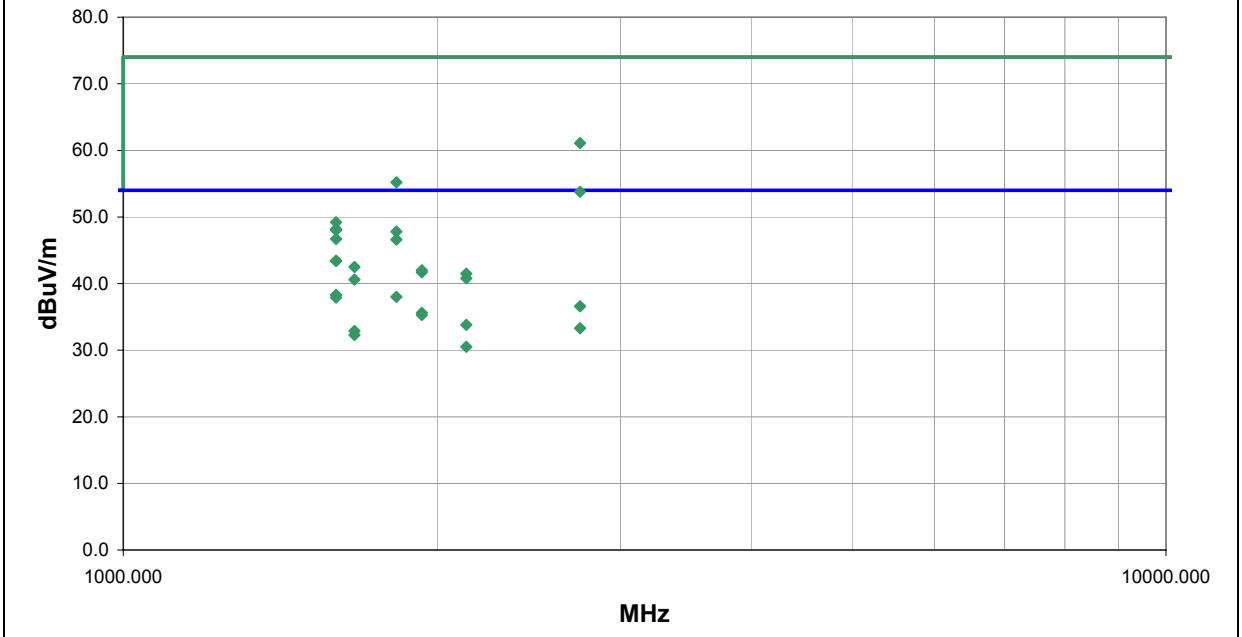
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 2 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1827.970 | 51.1 | -3.3 | 80.0 | 2.4 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 47.8 | 54.0 | -6.2 |
| 1599.750 | 48.0 | -4.6 | 175.0 | 1.3 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 43.4 | 54.0 | -10.6 |
| 1600.000 | 48.0 | -4.6 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 43.4 | 54.0 | -10.6 |
| 2742.070 | 61.0 | 0.1 | 93.0 | 1.5 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 61.1 | 74.0 | -12.9 |
| 1600.000 | 42.9 | -4.6 | 207.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 38.3 | 54.0 | -15.7 |
| 1827.970 | 41.3 | -3.3 | 166.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 38.0 | 54.0 | -16.0 |
| 1599.750 | 42.5 | -4.6 | 193.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 37.9 | 54.0 | -16.1 |
| 2742.070 | 36.5 | 0.1 | 210.0 | 3.8 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 36.6 | 54.0 | -17.4 |
| 1933.340 | 38.3 | -2.7 | 143.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 35.6 | 54.0 | -18.4 |
| 1933.340 | 38.0 | -2.7 | 184.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 35.3 | 54.0 | -18.7 |
| 1827.970 | 58.5 | -3.3 | 80.0 | 2.4 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 55.2 | 74.0 | -18.8 |
| 2133.300 | 35.7 | -1.9 | 176.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 33.8 | 54.0 | -20.2 |
| 2742.070 | 53.7 | 0.1 | 210.0 | 3.8 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 53.8 | 74.0 | -20.2 |
| 2742.070 | 33.2 | 0.1 | 93.0 | 1.5 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 33.3 | 54.0 | -20.7 |
| 1666.474 | 37.2 | -4.3 | 144.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 32.9 | 54.0 | -21.1 |
| 1666.474 | 36.6 | -4.3 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 32.3 | 54.0 | -21.7 |
| 2133.300 | 32.4 | -1.9 | 197.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 30.5 | 54.0 | -23.5 |
| 1599.750 | 53.8 | -4.6 | 175.0 | 1.3 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 49.2 | 74.0 | -24.8 |
| 1600.000 | 52.8 | -4.6 | 207.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 48.2 | 74.0 | -25.8 |
| 1600.000 | 52.6 | -4.6 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 48.0 | 74.0 | -26.0 |
| 1599.750 | 51.3 | -4.6 | 193.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 46.7 | 74.0 | -27.3 |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1827.970 | 49.9 | -3.3 | 166.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 46.6 | 74.0 | -27.4 |
| 1666.474 | 46.8 | -4.3 | 144.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 42.5 | 74.0 | -31.5 |
| 1933.340 | 44.7 | -2.7 | 143.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 42.0 | 74.0 | -32.0 |
| 1933.340 | 44.4 | -2.7 | 184.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 41.7 | 74.0 | -32.3 |
| 2133.300 | 43.4 | -1.9 | 176.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 41.5 | 74.0 | -32.5 |
| 2133.300 | 42.7 | -1.9 | 197.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 40.8 | 74.0 | -33.2 |
| 1666.474 | 44.9 | -4.3 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 40.6 | 74.0 | -33.4 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/01/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode High band 927.5

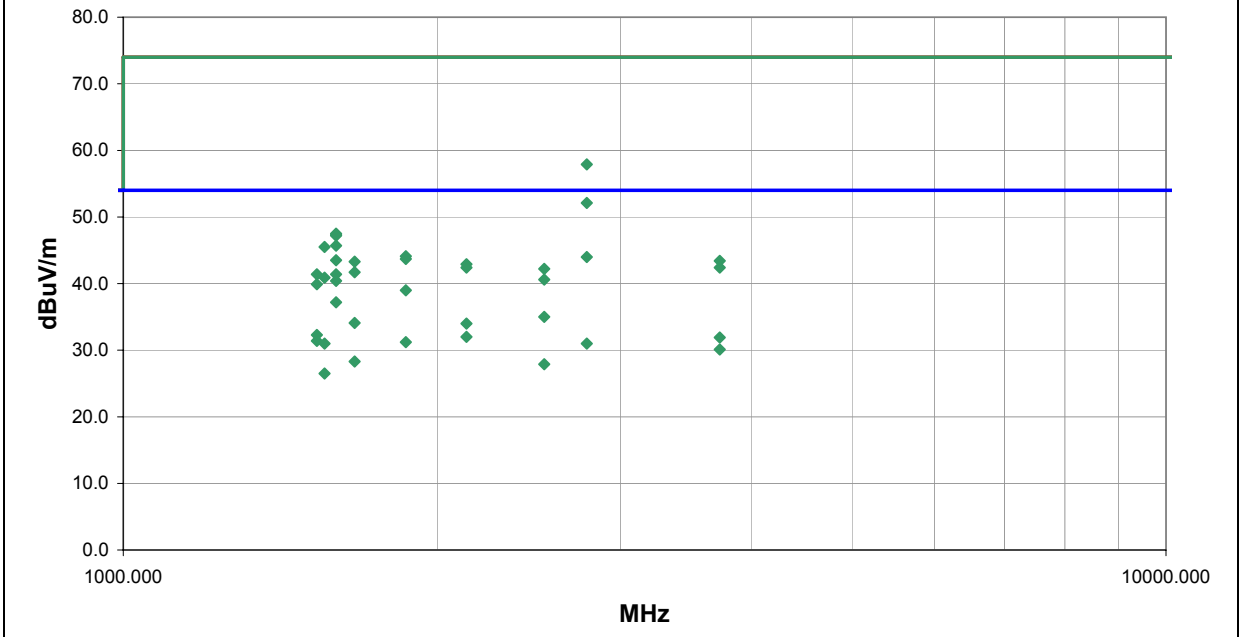
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 3 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2782.620 | 43.8 | 0.2 | 88.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 44.0 | 54.0 | -10.0 |
| 1599.800 | 48.1 | -4.6 | 179.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 43.5 | 54.0 | -10.5 |
| 1599.760 | 46.0 | -4.6 | 172.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 41.4 | 54.0 | -12.6 |
| 1599.760 | 45.0 | -4.6 | 134.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 40.4 | 54.0 | -13.6 |
| 1866.540 | 42.1 | -3.1 | 151.0 | 1.1 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 39.0 | 54.0 | -15.0 |
| 2782.620 | 57.7 | 0.2 | 88.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 57.9 | 74.0 | -16.1 |
| 1599.800 | 41.8 | -4.6 | 191.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 37.2 | 54.0 | -16.8 |
| 2533.110 | 35.9 | -0.9 | 200.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 35.0 | 54.0 | -19.0 |
| 1666.674 | 38.4 | -4.3 | 167.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 34.1 | 54.0 | -19.9 |
| 2133.420 | 35.9 | -1.9 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 34.0 | 54.0 | -20.0 |
| 1533.306 | 37.4 | -5.1 | 187.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 32.3 | 54.0 | -21.7 |
| 2782.620 | 51.9 | 0.2 | 122.0 | 2.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 52.1 | 74.0 | -21.9 |
| 2133.420 | 33.9 | -1.9 | 102.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 32.0 | 54.0 | -22.0 |
| 3733.340 | 28.6 | 3.3 | 196.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 31.9 | 54.0 | -22.1 |
| 1533.306 | 36.5 | -5.1 | 189.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 31.4 | 54.0 | -22.6 |
| 1866.540 | 34.3 | -3.1 | 136.0 | 1.7 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 31.2 | 54.0 | -22.8 |
| 1559.940 | 35.9 | -4.9 | 169.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 31.0 | 54.0 | -23.0 |
| 2782.620 | 30.8 | 0.2 | 122.0 | 2.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 31.0 | 54.0 | -23.0 |
| 3733.340 | 26.8 | 3.3 | 95.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 30.1 | 54.0 | -23.9 |
| 1666.674 | 32.6 | -4.3 | 109.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 28.3 | 54.0 | -25.7 |
| 2533.110 | 28.8 | -0.9 | 124.0 | 1.2 | 3.0 | 0.0 | V-Horn | AV | 0.0 | 27.9 | 54.0 | -26.1 |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1599.800 | 52.1 | -4.6 | 191.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 47.5 | 74.0 | -26.5 |
| 1599.800 | 51.9 | -4.6 | 179.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 47.3 | 74.0 | -26.7 |
| 1599.760 | 51.8 | -4.6 | 172.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 47.2 | 74.0 | -26.8 |
| 1559.940 | 31.4 | -4.9 | 229.0 | 1.3 | 3.0 | 0.0 | H-Horn | AV | 0.0 | 26.5 | 54.0 | -27.5 |
| 1599.760 | 50.3 | -4.6 | 134.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 45.7 | 74.0 | -28.3 |
| 1559.940 | 50.4 | -4.9 | 169.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 45.5 | 74.0 | -28.5 |
| 1866.540 | 47.2 | -3.1 | 151.0 | 1.1 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 44.1 | 74.0 | -29.9 |
| 1866.540 | 46.8 | -3.1 | 136.0 | 1.7 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 43.7 | 74.0 | -30.3 |
| 3733.340 | 40.1 | 3.3 | 196.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 43.4 | 74.0 | -30.6 |
| 1666.674 | 47.6 | -4.3 | 167.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 43.3 | 74.0 | -30.7 |
| 2133.420 | 44.8 | -1.9 | 180.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 42.9 | 74.0 | -31.1 |
| 2133.420 | 44.3 | -1.9 | 102.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 42.4 | 74.0 | -31.6 |
| 3733.340 | 39.1 | 3.3 | 95.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 42.4 | 74.0 | -31.6 |
| 2533.110 | 43.1 | -0.9 | 200.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 42.2 | 74.0 | -31.8 |
| 1666.674 | 46.0 | -4.3 | 109.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 41.7 | 74.0 | -32.3 |
| 1533.306 | 46.5 | -5.1 | 189.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 41.4 | 74.0 | -32.6 |
| 1559.940 | 45.8 | -4.9 | 229.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 40.9 | 74.0 | -33.1 |
| 2533.110 | 41.5 | -0.9 | 124.0 | 1.2 | 3.0 | 0.0 | V-Horn | PK | 0.0 | 40.6 | 74.0 | -33.4 |
| 1533.306 | 45.0 | -5.1 | 187.0 | 1.3 | 3.0 | 0.0 | H-Horn | PK | 0.0 | 39.9 | 74.0 | -34.1 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/01/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode Low band 902.5

**DEVIATIONS FROM TEST STANDARD**

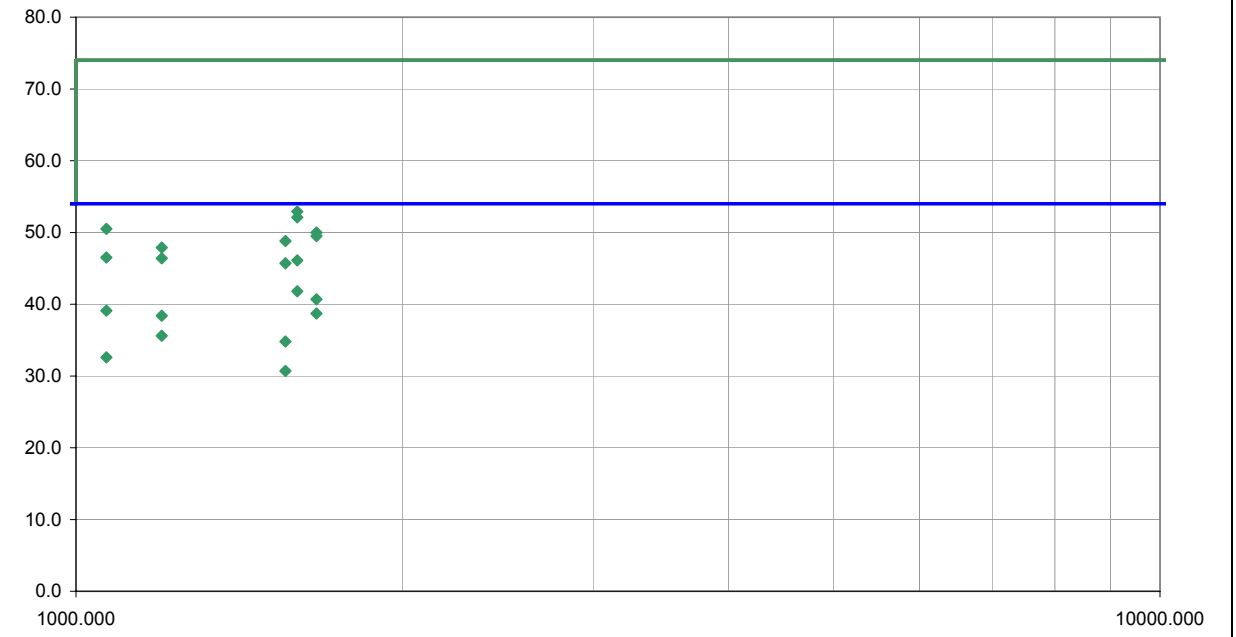
No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 6 |

**Other**

(eval 10db atten. 1-2Ghz)

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1600.021 | 40.7 | -4.6 | 218.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 46.1 | 54.0 | -7.9 |
| 1600.021 | 36.4 | -4.6 | 200.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 41.8 | 54.0 | -12.2 |
| 1666.624 | 35.0 | -4.3 | 113.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 40.7 | 54.0 | -13.3 |
| 1066.535 | 36.1 | -7.0 | 189.0 | 2.4 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 39.1 | 54.0 | -14.9 |
| 1666.624 | 33.0 | -4.3 | 187.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 38.7 | 54.0 | -15.3 |
| 1199.829 | 34.9 | -6.5 | 125.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 38.4 | 54.0 | -15.6 |
| 1199.829 | 32.1 | -6.5 | 231.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 35.6 | 54.0 | -18.4 |
| 1560.330 | 29.7 | -4.9 | 166.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 34.8 | 54.0 | -19.2 |
| 1600.021 | 47.5 | -4.6 | 218.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 52.9 | 74.0 | -21.1 |
| 1066.535 | 29.6 | -7.0 | 98.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 32.6 | 54.0 | -21.4 |
| 1600.021 | 46.7 | -4.6 | 200.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 52.1 | 74.0 | -21.9 |
| 1560.330 | 25.6 | -4.9 | 228.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 30.7 | 54.0 | -23.3 |
| 1066.535 | 47.5 | -7.0 | 189.0 | 2.4 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 50.5 | 74.0 | -23.5 |
| 1666.624 | 44.3 | -4.3 | 113.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 50.0 | 74.0 | -24.0 |
| 1666.624 | 43.8 | -4.3 | 187.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 49.5 | 74.0 | -24.5 |
| 1560.330 | 43.7 | -4.9 | 166.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 48.8 | 74.0 | -25.2 |
| 1199.829 | 44.4 | -6.5 | 231.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 47.9 | 74.0 | -26.1 |
| 1066.535 | 43.5 | -7.0 | 98.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.5 | 74.0 | -27.5 |
| 1199.829 | 42.9 | -6.5 | 125.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.4 | 74.0 | -27.6 |
| 1560.330 | 40.6 | -4.9 | 228.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 45.7 | 74.0 | -28.3 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/01/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode Mid band 914

**DEVIATIONS FROM TEST STANDARD**

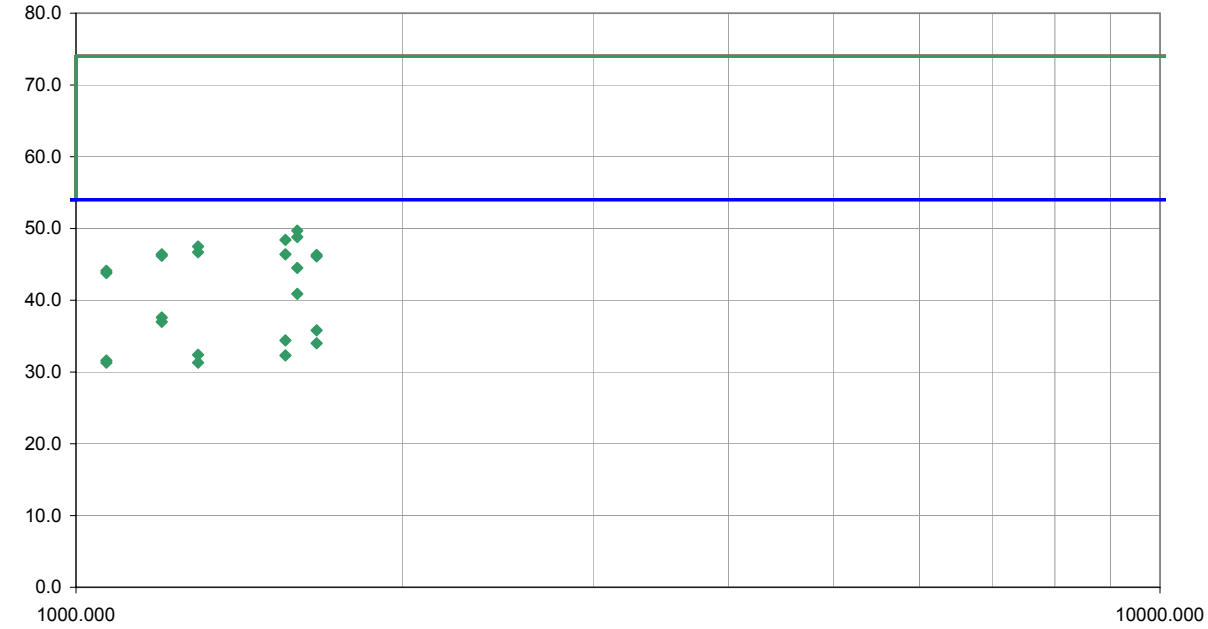
No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 5 |

**Other**

(eval 10db atten. 1-2Ghz)

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1599.971 | 39.1 | -4.6 | 174.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 44.5 | 54.0 | -9.5 |
| 1599.971 | 35.5 | -4.6 | 133.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 40.9 | 54.0 | -13.1 |
| 1199.942 | 34.1 | -6.5 | 219.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 37.6 | 54.0 | -16.4 |
| 1199.942 | 33.5 | -6.5 | 213.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 37.0 | 54.0 | -17.0 |
| 1667.000 | 30.1 | -4.3 | 129.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 35.8 | 54.0 | -18.2 |
| 1560.120 | 29.3 | -4.9 | 173.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 34.4 | 54.0 | -19.6 |
| 1667.000 | 28.3 | -4.3 | 159.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 34.0 | 54.0 | -20.0 |
| 1295.962 | 28.3 | -5.9 | 317.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 32.4 | 54.0 | -21.6 |
| 1560.120 | 27.2 | -4.9 | 224.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 32.3 | 54.0 | -21.7 |
| 1066.635 | 28.6 | -7.0 | 180.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 31.6 | 54.0 | -22.4 |
| 1066.635 | 28.3 | -7.0 | 120.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 31.3 | 54.0 | -22.7 |
| 1295.962 | 27.2 | -5.9 | 132.0 | 2.5 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 31.3 | 54.0 | -22.7 |
| 1599.971 | 44.3 | -4.6 | 174.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 49.7 | 74.0 | -24.3 |
| 1599.971 | 43.4 | -4.6 | 133.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 48.8 | 74.0 | -25.2 |
| 1560.120 | 43.3 | -4.9 | 173.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 48.4 | 74.0 | -25.6 |
| 1295.962 | 43.4 | -5.9 | 317.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 47.5 | 74.0 | -26.5 |
| 1295.962 | 42.6 | -5.9 | 132.0 | 2.5 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.7 | 74.0 | -27.3 |
| 1199.942 | 42.9 | -6.5 | 219.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.4 | 74.0 | -27.6 |
| 1560.120 | 41.3 | -4.9 | 224.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.4 | 74.0 | -27.6 |
| 1667.000 | 40.6 | -4.3 | 129.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.3 | 74.0 | -27.7 |
| 1199.942 | 42.7 | -6.5 | 213.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 46.2 | 74.0 | -27.8 |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1667.000 | 40.4 | -4.3 | 159.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 46.1 | 74.0 | -27.9 |
| 1066.635 | 41.1 | -7.0 | 180.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 44.1 | 74.0 | -29.9 |
| 1066.635 | 40.8 | -7.0 | 120.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 43.8 | 74.0 | -30.2 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/01/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode High band 927.5

**DEVIATIONS FROM TEST STANDARD**

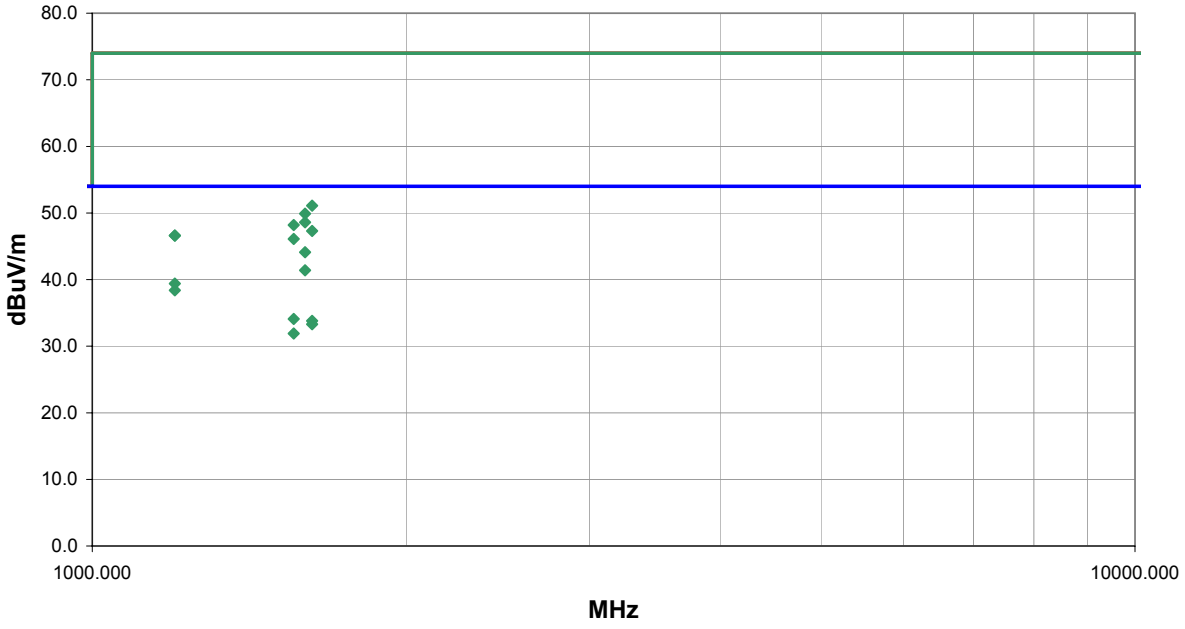
No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 4 |

**Other**

(eval 10db atten. 1-2Ghz)

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1600.021 | 38.7 | -4.6 | 176.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 44.1 | 54.0 | -9.9 |
| 1600.021 | 36.0 | -4.6 | 138.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 41.4 | 54.0 | -12.6 |
| 1199.917 | 35.9 | -6.5 | 147.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 39.4 | 54.0 | -14.6 |
| 1199.917 | 34.9 | -6.5 | 215.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 38.4 | 54.0 | -15.6 |
| 1560.017 | 29.0 | -4.9 | 175.0 | 1.2 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 34.1 | 54.0 | -19.9 |
| 1625.000 | 28.2 | -4.4 | 253.0 | 1.7 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 33.8 | 54.0 | -20.2 |
| 1625.000 | 27.7 | -4.4 | 152.0 | 1.8 | 3.0 | 10.0 | V-Horn | AV | 0.0 | 33.3 | 54.0 | -20.7 |
| 1560.017 | 26.8 | -4.9 | 146.0 | 1.3 | 3.0 | 10.0 | H-Horn | AV | 0.0 | 31.9 | 54.0 | -22.1 |
| 1625.000 | 45.5 | -4.4 | 152.0 | 1.8 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 51.1 | 74.0 | -22.9 |
| 1600.021 | 44.5 | -4.6 | 176.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 49.9 | 74.0 | -24.1 |
| 1600.021 | 43.2 | -4.6 | 138.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 48.6 | 74.0 | -25.4 |
| 1560.017 | 43.1 | -4.9 | 175.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 48.2 | 74.0 | -25.8 |
| 1625.000 | 41.7 | -4.4 | 253.0 | 1.7 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 47.3 | 74.0 | -26.7 |
| 1199.917 | 43.1 | -6.5 | 147.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.6 | 74.0 | -27.4 |
| 1199.917 | 43.1 | -6.5 | 215.0 | 1.2 | 3.0 | 10.0 | V-Horn | PK | 0.0 | 46.6 | 74.0 | -27.4 |
| 1560.017 | 41.0 | -4.9 | 146.0 | 1.3 | 3.0 | 10.0 | H-Horn | PK | 0.0 | 46.1 | 74.0 | -27.9 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode Low band 902.5 MHz

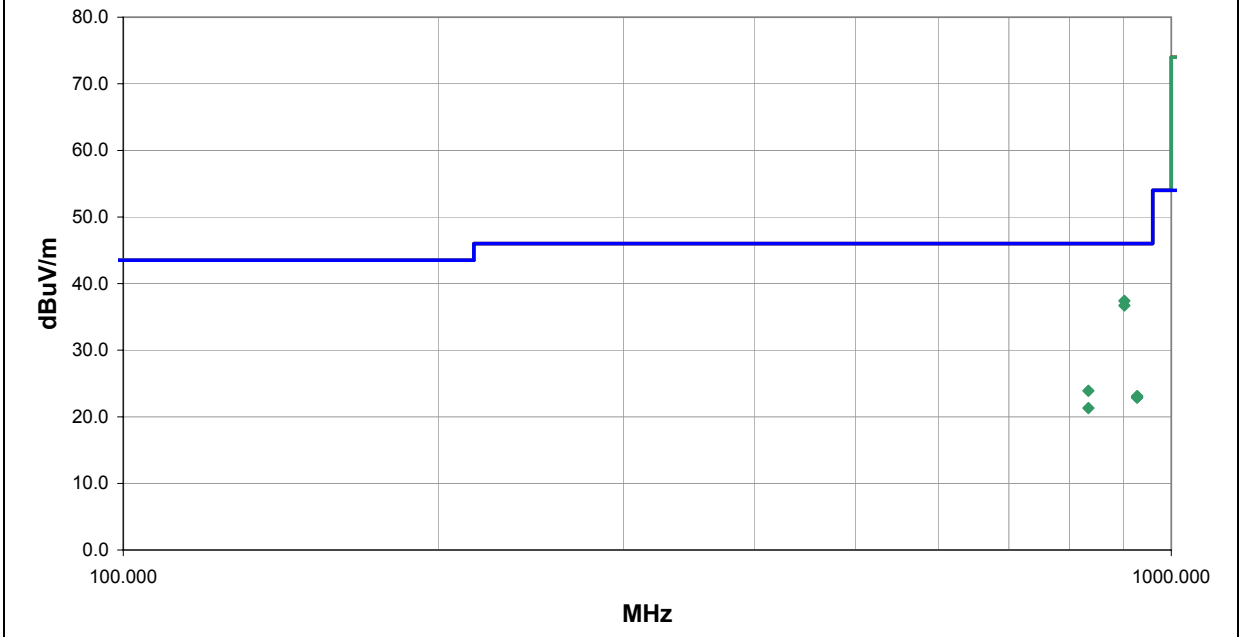
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 7 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 902.000 | 6.0 | 31.4 | 175.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 37.4 | 46.0 | -8.6 |
| 902.000 | 5.3 | 31.4 | 168.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 36.7 | 46.0 | -9.3 |
| 833.520 | -6.5 | 30.4 | 281.0 | 3.6 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 23.9 | 46.0 | -22.1 |
| 928.000 | -8.4 | 31.5 | 57.0 | 2.5 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 23.1 | 46.0 | -22.9 |
| 927.500 | -8.5 | 31.5 | 360.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 23.0 | 46.0 | -23.0 |
| 927.500 | -8.6 | 31.5 | 237.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 22.9 | 46.0 | -23.1 |
| 928.000 | -8.6 | 31.5 | 331.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 22.9 | 46.0 | -23.1 |
| 833.520 | -9.1 | 30.4 | 59.0 | 3.3 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 21.3 | 46.0 | -24.7 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode Mid band 914 MHz

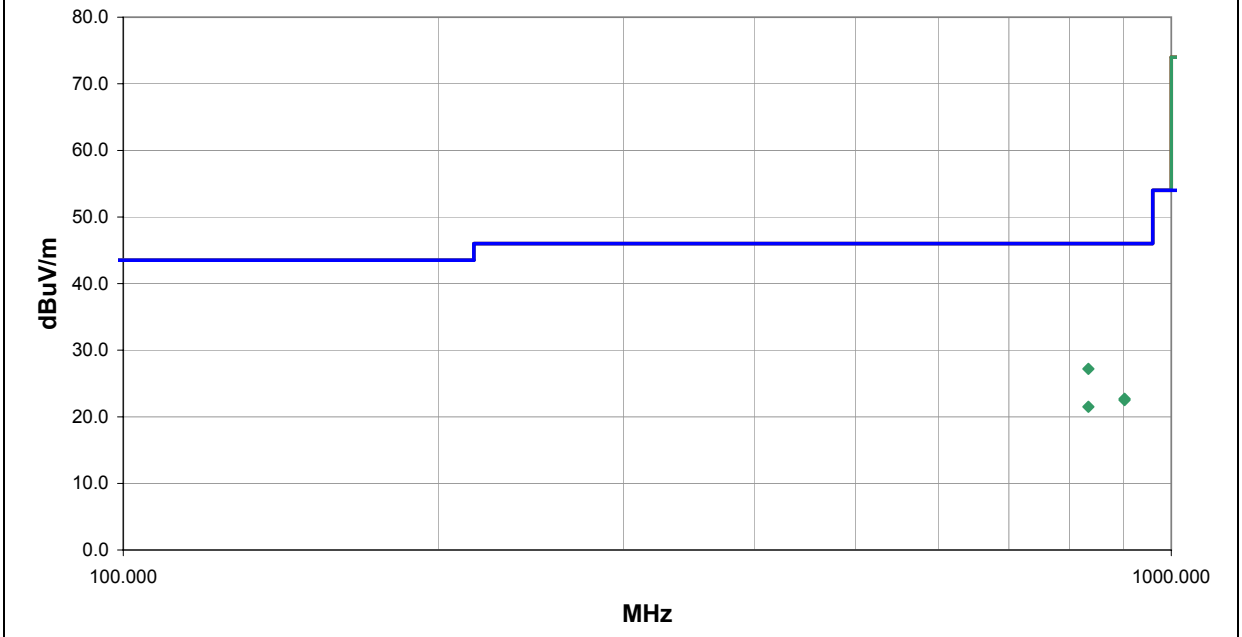
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 7 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 833.520 | -3.2 | 30.4 | 278.0 | 1.9 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 27.2 | 46.0 | -18.8 |
| 902.417 | -8.7 | 31.4 | 60.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 22.7 | 46.0 | -23.3 |
| 902.417 | -8.9 | 31.4 | 2.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 22.5 | 46.0 | -23.5 |
| 833.520 | -8.9 | 30.4 | 71.0 | 3.8 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 21.5 | 46.0 | -24.5 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120V/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249 | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Set up with three PG's

**EUT OPERATING MODES**

Standard Operating Mode High band 927.5 MHz

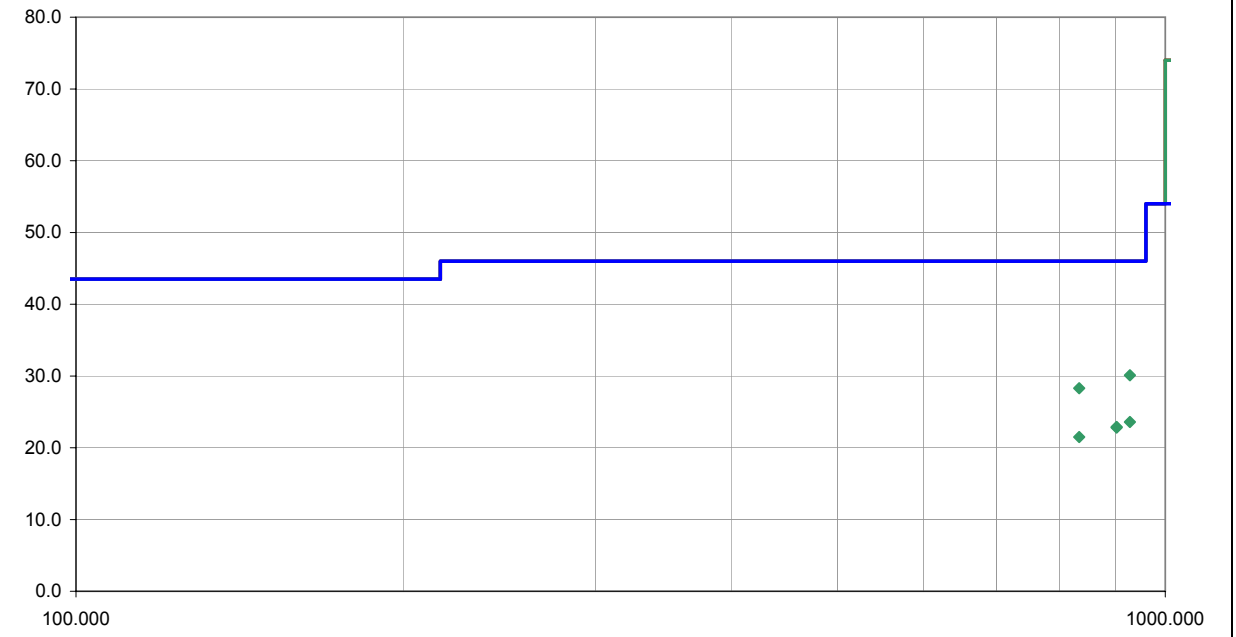
**DEVIATIONS FROM TEST STANDARD**

No deviations.

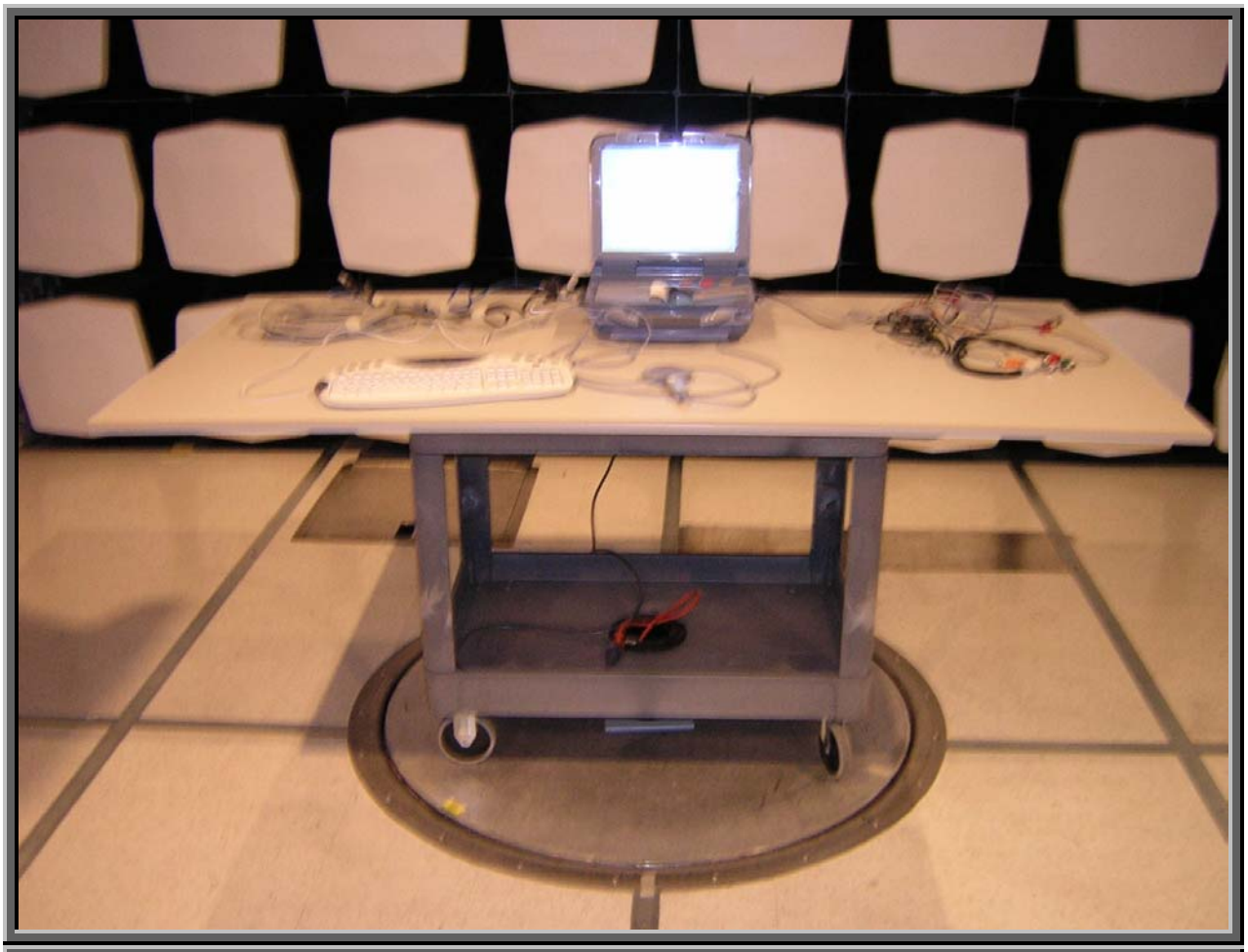
| RESULTS | Run # |
|---|---|
| Pass | 9 |

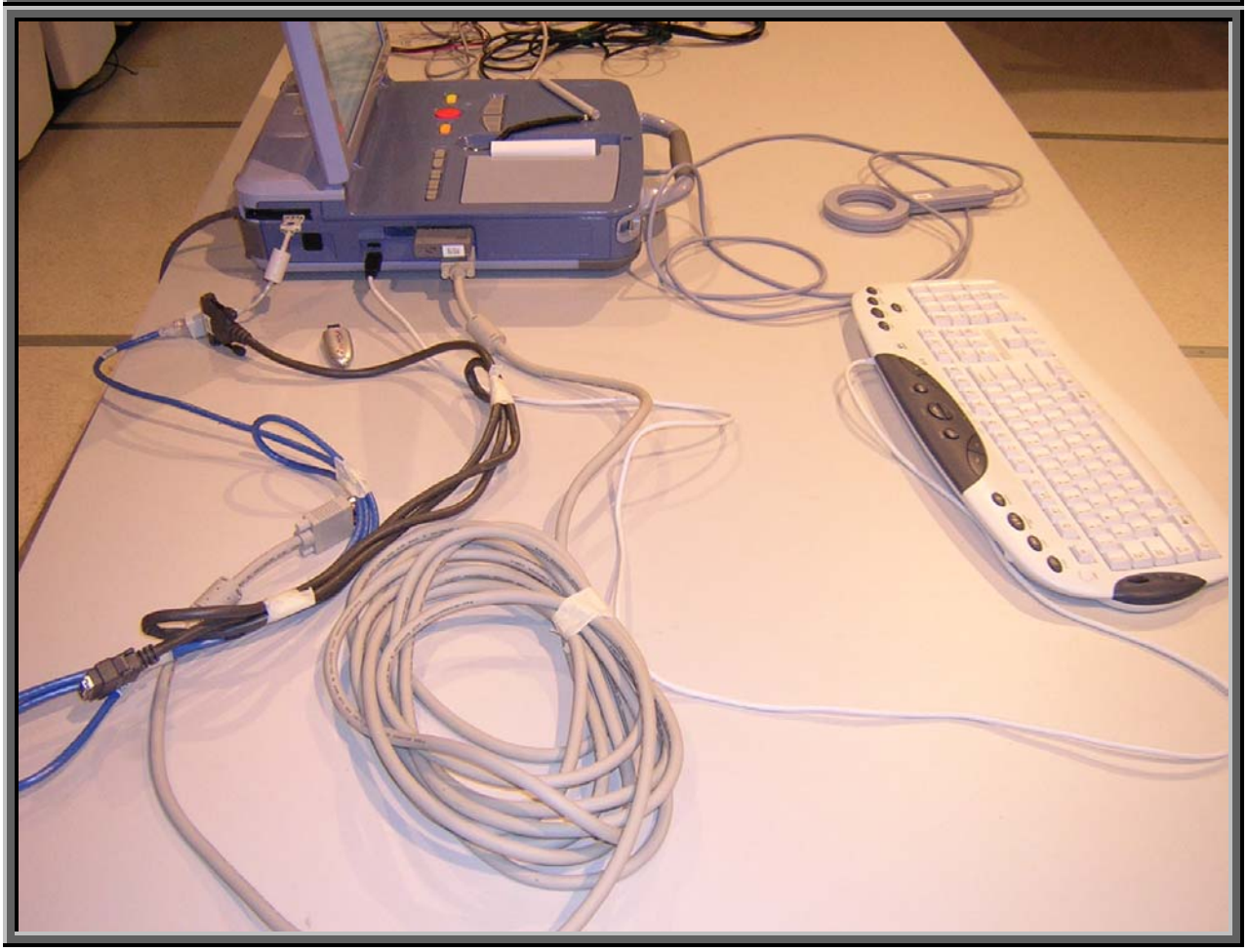
**Other**

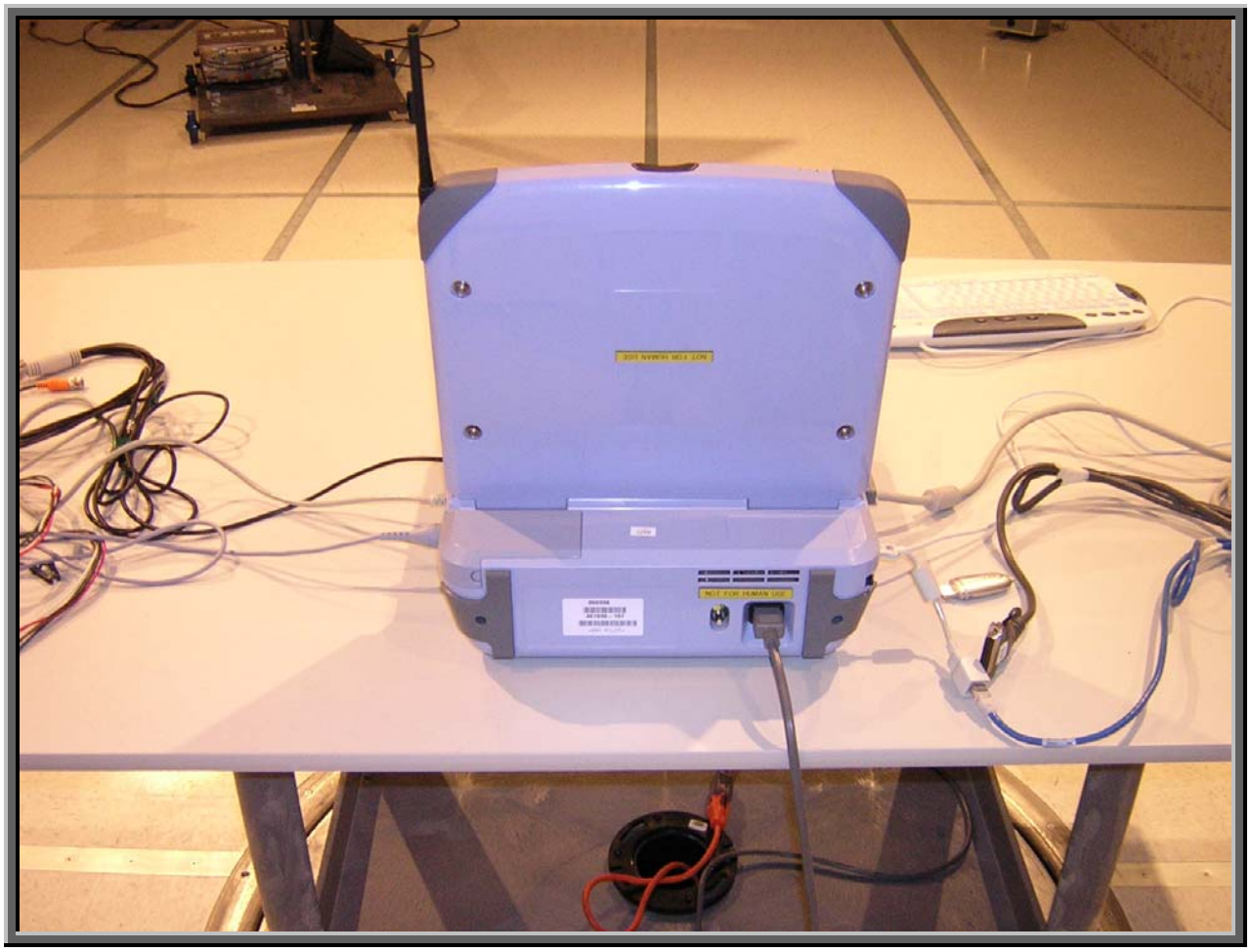
Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 928.000 | -1.4 | 31.5 | 55.0 | 2.3 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 30.1 | 46.0 | -15.9 |
| 833.520 | -2.1 | 30.4 | 68.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 28.3 | 46.0 | -17.7 |
| 928.000 | -7.9 | 31.5 | 104.0 | 3.7 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 23.6 | 46.0 | -22.4 |
| 902.417 | -8.5 | 31.4 | 30.0 | 3.7 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 22.9 | 46.0 | -23.1 |
| 902.417 | -8.6 | 31.4 | 357.0 | 1.7 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 22.8 | 46.0 | -23.2 |
| 833.520 | -8.9 | 30.4 | 67.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 21.5 | 46.0 | -24.5 |







## Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. All of the EUT parameters listed below were investigated. This includes, but may not be limited to, CPU speeds, video resolution settings, operational modes, and input voltages.

| Operating Modes Investigated: |
|---|
| 902-928 Radio Operating Low Channel |
| 902-928 Radio Operating Mid Channel |
| 902-928 Radio Operating High Channel |

| Operating Modes Investigated: |
|---|
| Typical |

| Data Rates Investigated: |
|---|
| Maximum |

| Output Power Setting(s) Investigated: |
|---|
| Maximum |

| Power Input Settings Investigated: |
|---|
| 120 VAC, 60 Hz |
| **Worst Case Input Power Setting used for Final Test:** |
| 120 VAC, 60 Hz (designated by client or system limitations) |

| Frequency Range Investigated | | | |
|---|---|---|---|
| **Start Frequency** | 902 MHz | **Stop Frequency** | 928 MHz |

| Software\Firmware Applied During Test | | | |
|---|---|---|---|
| **Operating system** | QNX/Red Hat Linux | **Version** | Unknown |
| **Exercise software** | 2845 Application | **Version** | 4.3 |
| **Description** | | | |
| The system was tested using standard operating production software to exercise the functions of the device during the testing. | | | |

| EUT and Peripherals in Test Setup Boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| Zoom Latitude Programming System | Guidant | NGP 3120 | 050336 |
| USB Keyboard | Logitech | Y-BF37 | None |
| USB Flash Hard Drive | PenDriveUSA | Pen Drive Plus 2.0 | None |

| Cables | | | | | |
|---|---|---|---|---|---|
| **Cable Type** | **Shield** | **Length (m)** | **Ferrite** | **Connection 1** | **Connection 2** |
| AC Power | Yes | 1.8 | No | NGP | AC Mains |
| Parallel | Yes | 1.6 | No | NGP | Unterminated |
| Video | No | 8.0 | Yes | NGP | Unterminated |
| Patient cables | Yes | 3.0 | No | NGP | Unterminated |
| USB | No | 1.8 | No | NGP | keyboard |
| **PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.** | | | | | |

| Measurement Equipment | | | | | |
|---|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Identifier** | **Last Cal** | **Interval** |
| Quasi-Peak Adapter | Hewlett-Packard | 85650A | AQD | 02/10/2004 | 13 mo |
| Spectrum Analyzer | Hewlett-Packard | 8568B | AAI | 02/10/2004 | 13 mo |
| Pre-Amplifier | Miteq | AM-1551 | AOX | 05/07/2004 | 13 mo |
| Antenna, Biconilog | EMCO | 3142 | AXK | 05/21/2003 | 24 mo |
| Spectrum Analyzer | Hewlett Packard | 8593E | AAP | 03/22/2004 | 13 mo |
| Receiver | Schaffner | SCR 3101 | ARC | 04/28/2003 | 24 mo |
| Pre-Amplifier | Miteq | AMF-4D | APP | 06/07/2004 | 13 mo |
| Antenna, Horn | EMCO | 3115 | AHE | 10/13/2003 | 24 mo |

## Test Description

**Requirement:** Per 47 CFR 15.249, The field strength of emissions from intentional radiators operated within the specified frequency bands shall comply with the with the limits as defined in 47 CFR 15.249(a). The Field strength limits are specified at a distance of 3 meters.

**Configuration**: The only antenna to be used with the EUT was tested. The EUT was transmitting at its high, mid and low channels. While scanning, emissions from the EUT were maximized by rotating the EUT, adjusting the measurement antenna height and polarization (per ANSI C63.4:1992).

| 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.*** | | | |

**Completed by:**

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | NGP 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249(a) | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Standard Operating Mode

**EUT OPERATING MODES**

Standard Operating Mode Low band 902.5 MHz

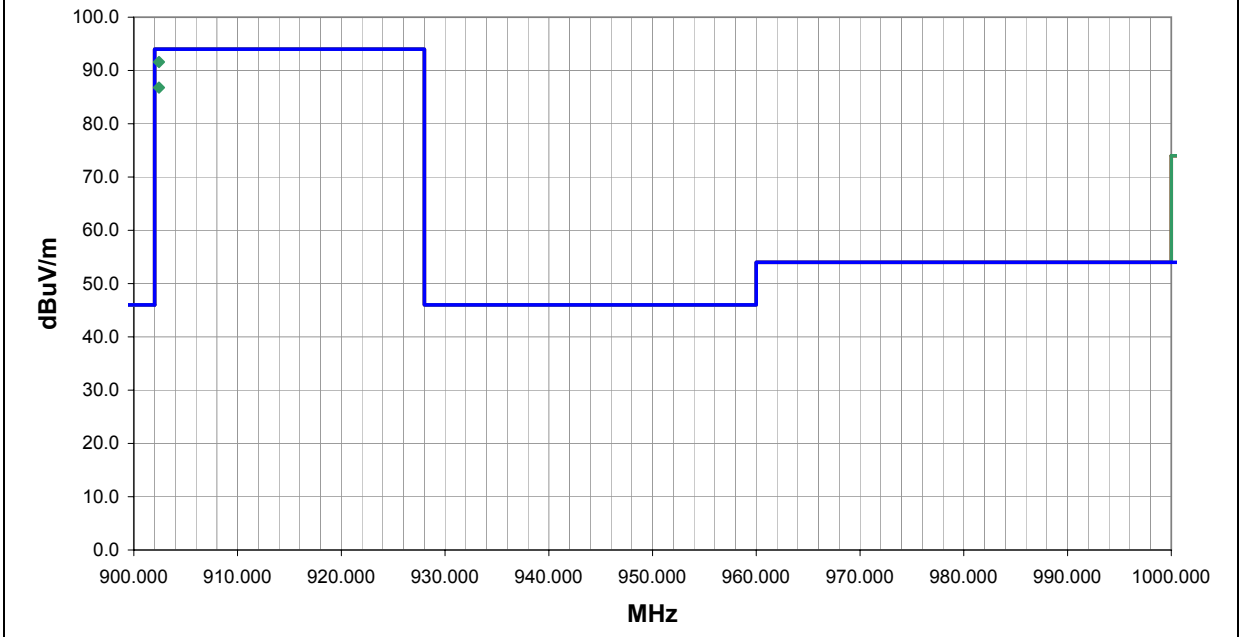
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 7 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 902.417 | 60.2 | 31.4 | 201.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 91.6 | 94.0 | -2.4 |
| 902.417 | 55.4 | 31.4 | 171.0 | 1.1 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 86.8 | 94.0 | -7.2 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | NGP 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249(a) | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Standard Operating Mode

**EUT OPERATING MODES**

Standard Operating Mode Mid band 914 MHz

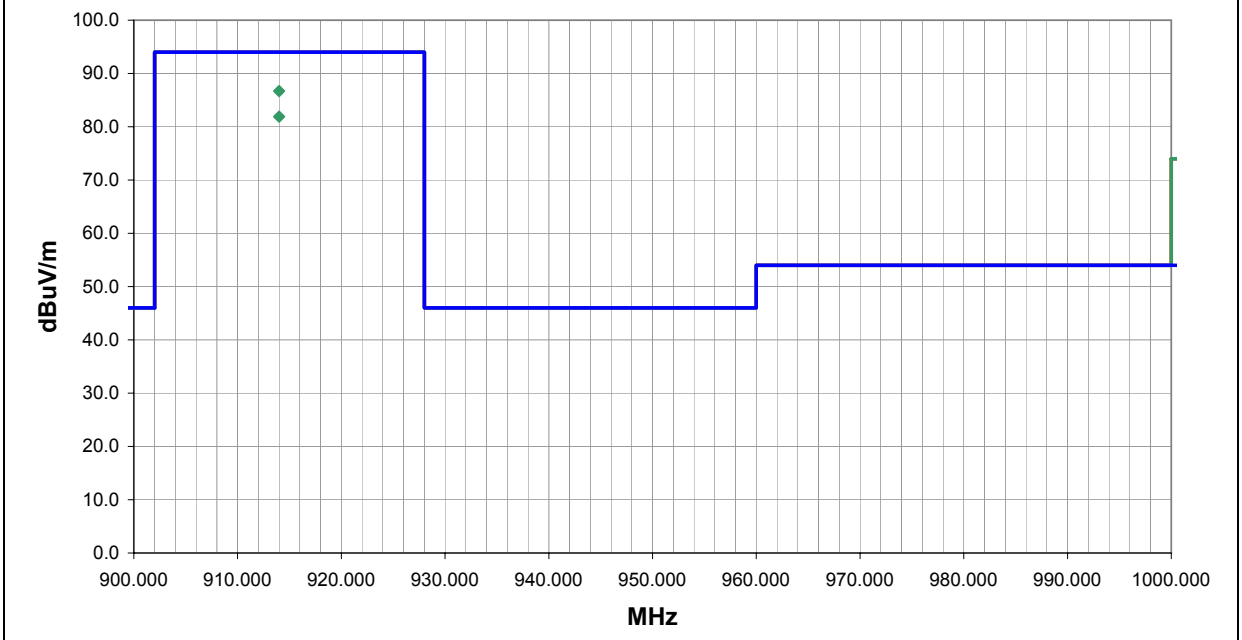
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Run # |
|---|---|
| Pass | 7 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 914.000 | 55.2 | 31.5 | 177.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 86.7 | 94.0 | -7.3 |
| 914.000 | 50.4 | 31.5 | 171.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 81.9 | 94.0 | -12.1 |

NORTHWEST EMC

# RADIATED EMISSIONS DATA SHEET

REV df4.13 05/06/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System Model 3120 | | | Work Order: | GDMN0006 |
| Serial Number: | 050336 | | | Date: | 07/02/04 |
| Customer: | Guidant Inc | | | Temperature: | 73 |
| Attendees: | Holli Pheil, Yogi Shah | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.01 |
| Tested by: | Jeremiah Darden | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.249(a) | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Standard Operating Mode

**EUT OPERATING MODES**

Standard Operating Mode High band 927.5 MHz

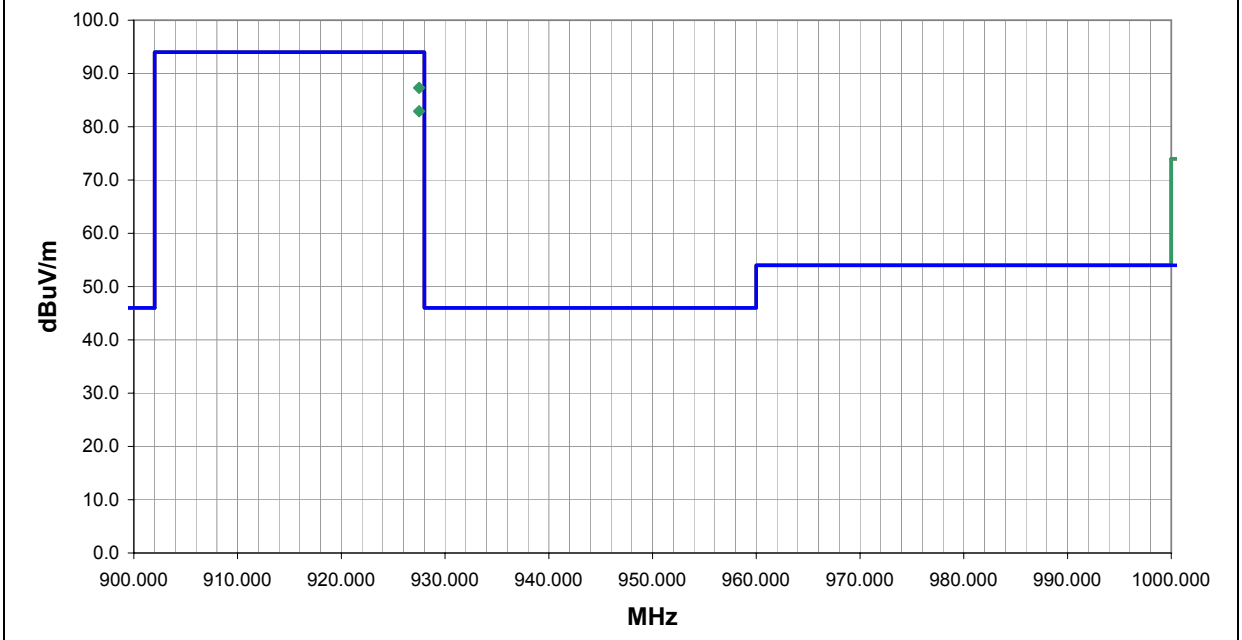
**DEVIATIONS FROM TEST STANDARD**

No deviations.

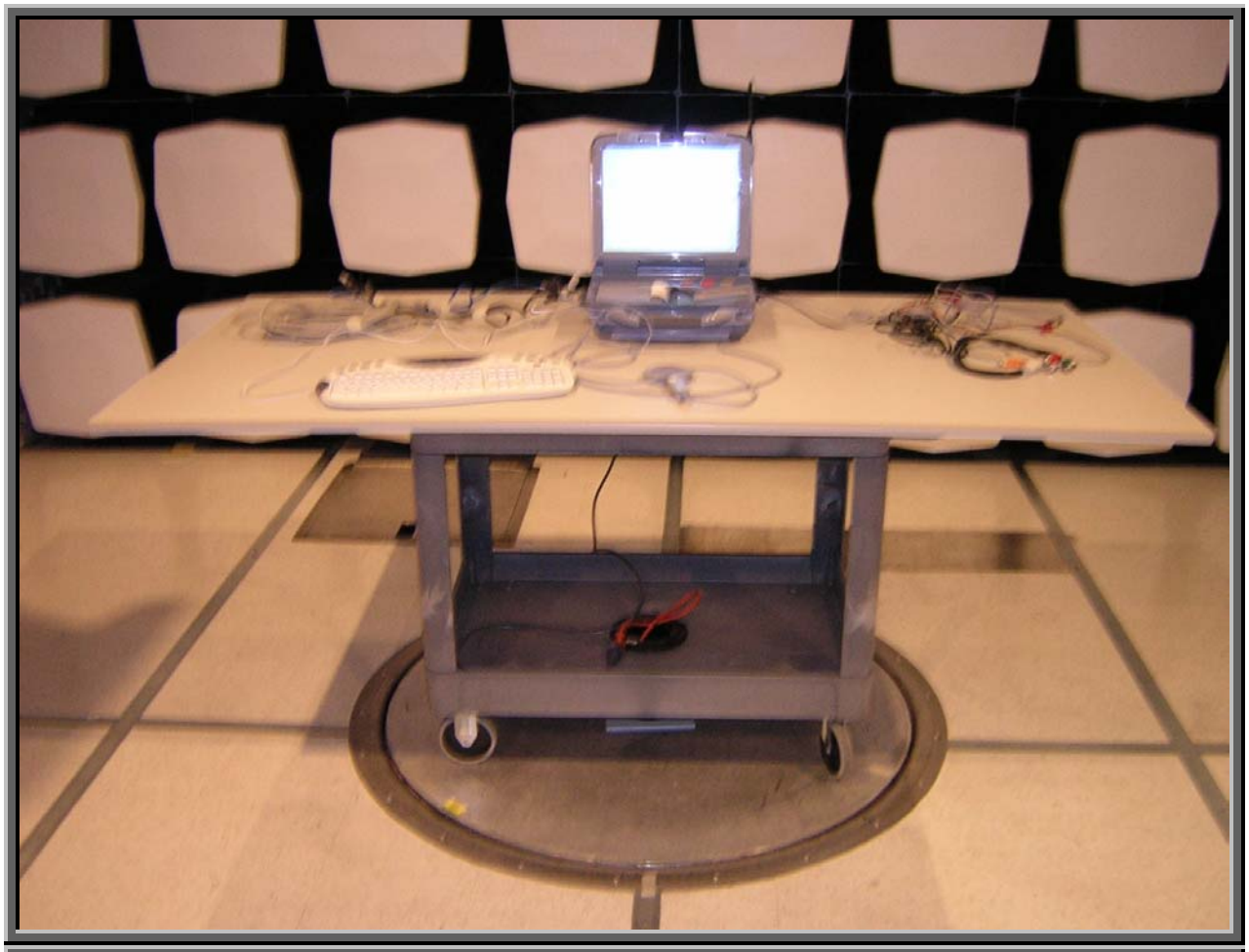
| RESULTS | Run # |
|---|---|
| Pass | 9 |

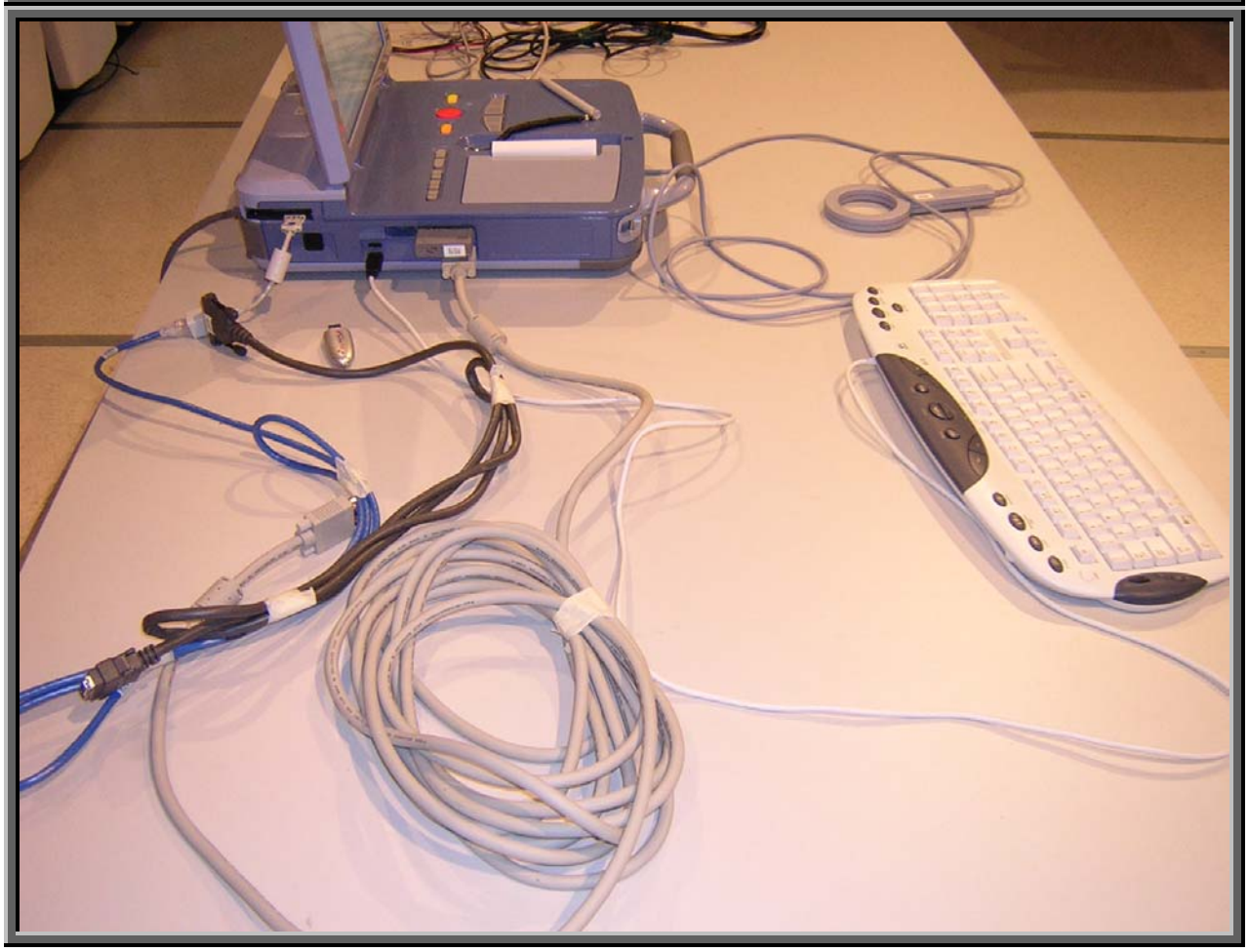
Other

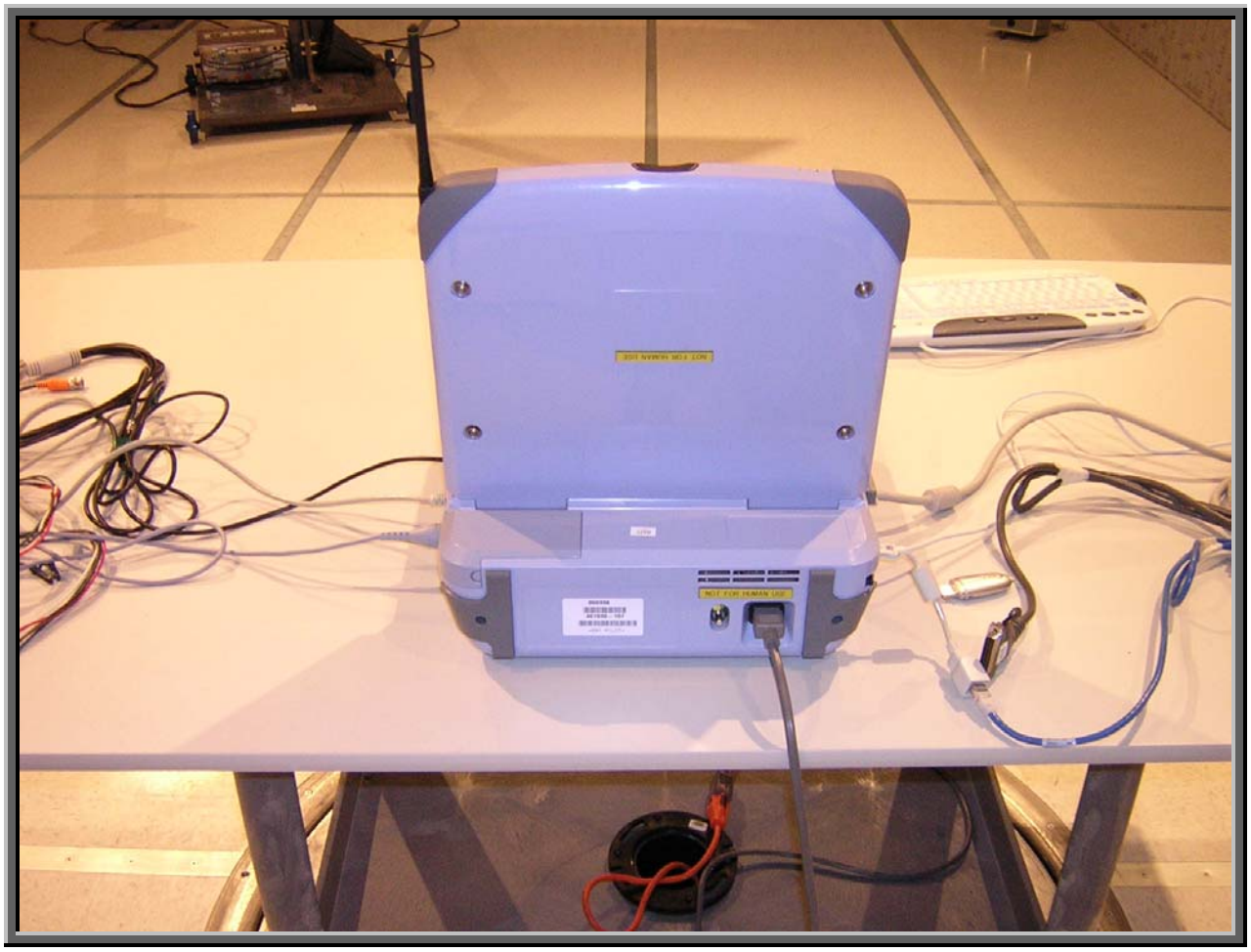
Tested By:




| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Azimuth (degrees) | Height (meters) | Distance (meters) | External Attenuation (dB) | Polarity | Detector | Distance Adjustment (dB) | Adjusted dBuV/m | Spec. Limit dBuV/m | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 927.500 | 55.8 | 31.5 | 125.0 | 1.2 | 3.0 | 0.0 | V-Bilog | QP | 0.0 | 87.3 | 94.0 | -6.7 |
| 927.500 | 51.4 | 31.5 | 172.0 | 1.0 | 3.0 | 0.0 | H-Bilog | QP | 0.0 | 82.9 | 94.0 | -11.1 |







## Justification

The individuals and/or the organization requesting the test provided the modes, configurations and settings available to evaluate. All of the EUT parameters listed below were investigated. This includes, but may not be limited to, CPU speeds, video resolution settings, operational modes, and input voltages.

| Operating Modes Investigated: |
|---|
| 902-928 Radio Operating Low Channel |
| 902-928 Radio Operating Mid Channel |
| 902-928 Radio Operating High Channel |

| Power Input Settings Investigated: |
|---|
| 120 VAC, 60 Hz |

| Software\Firmware Applied During Test | | | |
|---|---|---|---|
| **Operating system** | QNX/Red Hat Linux | **Version** | Unknown |
| **Exercise software** | 2845 Application | **Version** | 4.3 |
| **Description** | | | |
| The system was tested using standard operating production software to exercise the functions of the device during the testing. | | | |

| EUT and Peripherals in Test Setup Boundary | | | |
|---|---|---|---|
| **Description** | **Manufacturer** | **Model/Part Number** | **Serial Number** |
| USB Keyboard | Logitech | Y-BF37 | None |
| USB Flash Hard Drive | PenDriveUSA | Pen Drive Plus 2.0 | None |
| Zoom Latitude | Guidant | 3120 | 050342 |
| PCMCIA Card | 3Com | 10/100 Lan | 6UK18F1DCE |
| Telemetry Wand | Guidant | 6577 | None |

| Cables | | | | | |
|---|---|---|---|---|---|
| **Cable Type** | **Shield** | **Length (m)** | **Ferrite** | **Connection 1** | **Connection 2** |
| AC Power | Yes | 1.8 | No | Zoom Latitude | AC Mains |
| Parallel | Yes | 1.6 | No | Zoom Latitude | Unterminated |
| Video | No | 8.0 | Yes | Zoom Latitude | Unterminated |
| USB | No | 1.8 | No | Zoom Latitude | Keyboard |
| ECG | Yes | 4.0 | No | Zoom Latitude | Unterminated |
| Slave Stimulator | Yes | 3.0 | No | Zoom Latitude | Unterminated |
| Telemetry | Yes | 3.0 | No | Zoom Latitude | Telemetry Wand |
| Analog Output | No | 2.0 | No | Zoom Latitude | Unterminated |
| Telecom | No | 1.8 | No | PCMCIA Card | Unterminated |
| **PA = Cable is permanently attached to the device. Shielding and/or presence of ferrite may be unknown.** | | | | | |

| Measurement Equipment | | | | | |
|---|---|---|---|---|---|
| **Description** | **Manufacturer** | **Model** | **Identifier** | **Last Cal** | **Interval** |
| LISN | Solar | 9252-50-24-BNC | LIA | 12/16/2003 | 13 mo |
| LISN | Solar | 9252-50-R-24-BNC | LIQ | 12/17/2003 | 13 mo |
| Spectrum Analyzer | Hewlett Packard | 8593E | AAP | 03/22/2004 | 13 mo |
| Receiver | Schaffner | SCR 3101 | ARC | 04/28/2003 | 24 mo |

## 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 50 Ω measuring port is terminated by a 50 Ω EMI meter or a 50 Ω resistive load. All 50 Ω measuring ports of the LISN are terminated by 50Ω.

| 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.*** | | | |

**Completed by:**

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | | | Work Order: | GDMN0018 |
| Serial Number: | 050342 | | | Date: | 08/25/04 |
| Customer: | Guidant Imc. | | | Temperature: | 75 |
| Attendees: | none | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Low Band - Xmit Mode

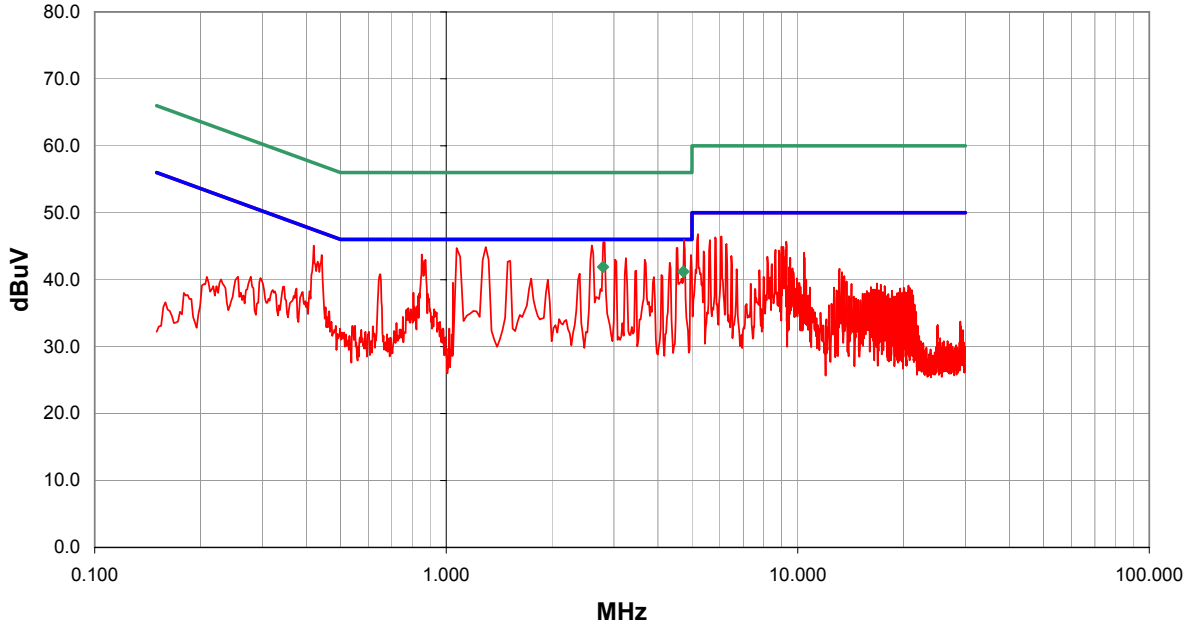
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 19 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.792 | 21.4 | | | 0.0 | 0.5 | 20.0 | | AV | | 41.9 | 46.0 | -4.1 |
| 4.725 | 20.5 | | | 0.0 | 0.7 | 20.0 | | AV | | 41.2 | 46.0 | -4.8 |
| 4.747 | 25.3 | | | 0.0 | 0.7 | 20.0 | | | | 46.0 | 46.0 | 0.0 |
| 2.796 | 25.1 | | | 0.0 | 0.5 | 20.0 | | | | 45.6 | 46.0 | -0.4 |
| 2.596 | 24.6 | | | 0.0 | 0.5 | 20.0 | | | | 45.1 | 46.0 | -0.9 |
| 1.295 | 24.5 | | | 0.0 | 0.4 | 20.0 | | | | 44.9 | 46.0 | -1.1 |
| 4.547 | 24.1 | | | 0.0 | 0.7 | 20.0 | | | | 44.8 | 46.0 | -1.2 |
| 1.070 | 24.4 | | | 0.0 | 0.3 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 4.972 | 23.0 | | | 0.0 | 0.7 | 20.0 | | | | 43.7 | 46.0 | -2.3 |
| 3.246 | 22.7 | | | 0.0 | 0.5 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 3.021 | 22.5 | | | 0.0 | 0.5 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 3.671 | 22.4 | | | 0.0 | 0.6 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 5.197 | 26.1 | | | 0.0 | 0.7 | 20.0 | | | | 46.8 | 50.0 | -3.2 |
| 1.520 | 22.4 | | | 0.0 | 0.4 | 20.0 | | | | 42.8 | 46.0 | -3.2 |
| 4.322 | 21.9 | | | 0.0 | 0.6 | 20.0 | | | | 42.5 | 46.0 | -3.5 |
| 6.073 | 25.7 | | | 0.0 | 0.7 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 5.822 | 25.6 | | | 0.0 | 0.7 | 20.0 | | | | 46.3 | 50.0 | -3.7 |
| 5.622 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 9.274 | 24.8 | | | 0.0 | 0.9 | 20.0 | | | | 45.7 | 50.0 | -4.3 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | | | Work Order: | GDMN0018 |
| Serial Number: | 050342 | | | Date: | 08/25/04 |
| Customer: | Guidant Imc. | | | Temperature: | 75 |
| Attendees: | none | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Low Band - Xmit Mode

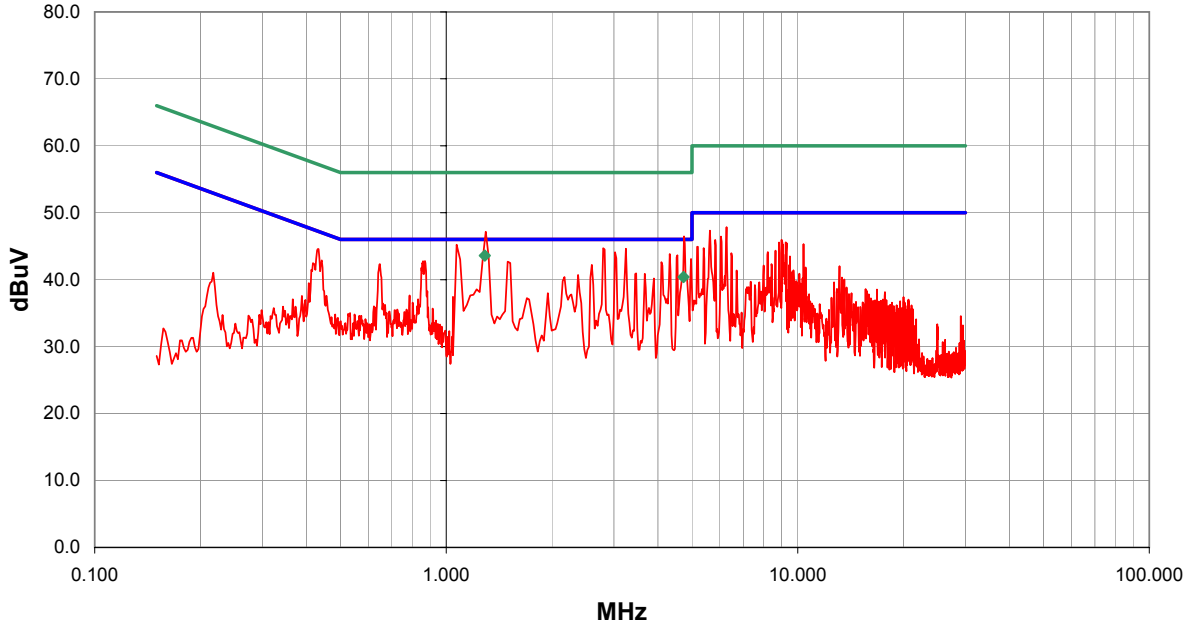
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 28 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.287 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.731 | 19.7 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.4 | 46.0 | -5.6 |
| 1.070 | 24.9 | | | 0.0 | 0.3 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 2.796 | 24.2 | | | 0.0 | 0.5 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 3.246 | 24.1 | | | 0.0 | 0.5 | 20.0 | | | | 44.6 | 46.0 | -1.4 |
| 3.021 | 23.6 | | | 0.0 | 0.5 | 20.0 | | | | 44.1 | 46.0 | -1.9 |
| 6.273 | 27.1 | | | 0.0 | 0.8 | 20.0 | | | | 47.9 | 50.0 | -2.1 |
| 4.322 | 23.2 | | | 0.0 | 0.6 | 20.0 | | | | 43.8 | 46.0 | -2.2 |
| 4.547 | 23.0 | | | 0.0 | 0.7 | 20.0 | | | | 43.7 | 46.0 | -2.3 |
| 5.622 | 26.6 | | | 0.0 | 0.7 | 20.0 | | | | 47.3 | 50.0 | -2.7 |
| 4.972 | 22.4 | | | 0.0 | 0.7 | 20.0 | | | | 43.1 | 46.0 | -2.9 |
| 1.495 | 22.3 | | | 0.0 | 0.4 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 4.097 | 22.0 | | | 0.0 | 0.6 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 6.048 | 25.7 | | | 0.0 | 0.7 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 0.647 | 22.1 | | | 0.0 | 0.2 | 20.0 | | | | 42.3 | 46.0 | -3.7 |
| 2.596 | 21.7 | | | 0.0 | 0.5 | 20.0 | | | | 42.2 | 46.0 | -3.8 |
| 9.000 | 25.1 | | | 0.0 | 0.9 | 20.0 | | | | 46.0 | 50.0 | -4.0 |
| 5.822 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 9.030 | 24.8 | | | 0.0 | 0.9 | 20.0 | | | | 45.7 | 50.0 | -4.3 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Low Band - Receive Mode

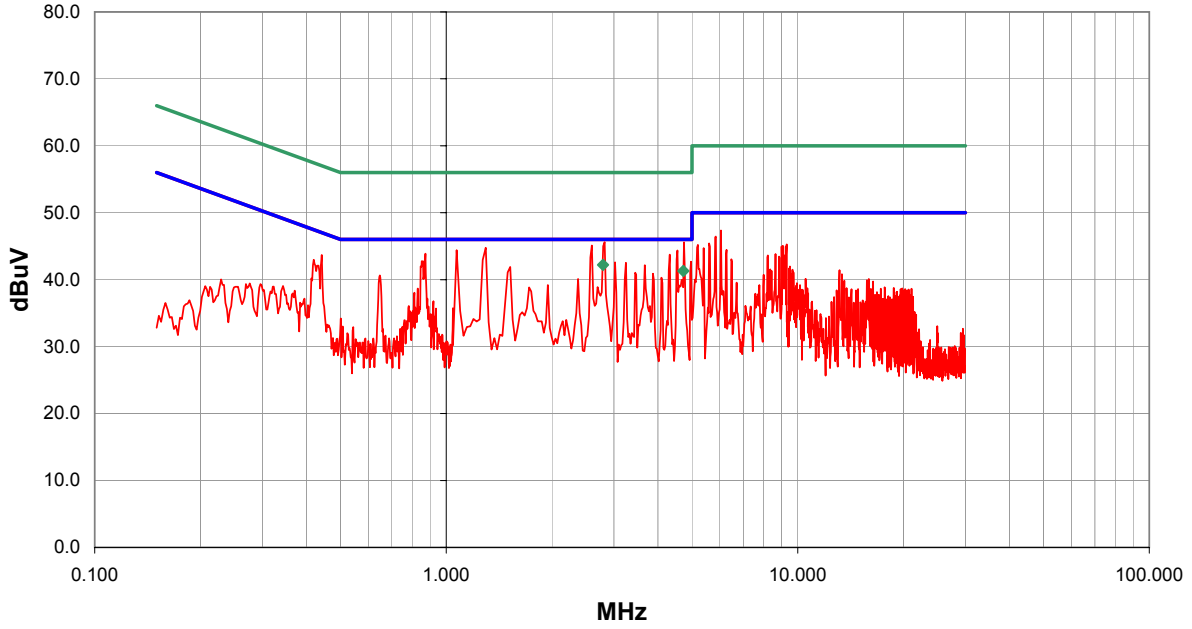
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 18 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.794 | 21.7 | | | 0.0 | 0.5 | 20.0 | | AV | | 42.2 | 46.0 | -3.8 |
| 4.727 | 20.6 | | | 0.0 | 0.7 | 20.0 | | AV | | 41.3 | 46.0 | -4.7 |
| 2.821 | 25.1 | | | 0.0 | 0.5 | 20.0 | | | | 45.6 | 46.0 | -0.4 |
| 4.747 | 24.9 | | | 0.0 | 0.7 | 20.0 | | | | 45.6 | 46.0 | -0.4 |
| 2.596 | 24.6 | | | 0.0 | 0.5 | 20.0 | | | | 45.1 | 46.0 | -0.9 |
| 1.295 | 24.4 | | | 0.0 | 0.4 | 20.0 | | | | 44.8 | 46.0 | -1.2 |
| 1.070 | 24.1 | | | 0.0 | 0.3 | 20.0 | | | | 44.4 | 46.0 | -1.6 |
| 4.547 | 23.7 | | | 0.0 | 0.7 | 20.0 | | | | 44.4 | 46.0 | -1.6 |
| 4.322 | 23.1 | | | 0.0 | 0.6 | 20.0 | | | | 43.7 | 46.0 | -2.3 |
| 6.048 | 26.6 | | | 0.0 | 0.7 | 20.0 | | | | 47.3 | 50.0 | -2.7 |
| 4.972 | 22.0 | | | 0.0 | 0.7 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 3.021 | 22.1 | | | 0.0 | 0.5 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 3.246 | 22.0 | | | 0.0 | 0.5 | 20.0 | | | | 42.5 | 46.0 | -3.5 |
| 5.847 | 25.7 | | | 0.0 | 0.7 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 3.671 | 21.6 | | | 0.0 | 0.6 | 20.0 | | | | 42.2 | 46.0 | -3.8 |
| 1.520 | 21.5 | | | 0.0 | 0.4 | 20.0 | | | | 41.9 | 46.0 | -4.1 |
| 5.597 | 24.7 | | | 0.0 | 0.7 | 20.0 | | | | 45.4 | 50.0 | -4.6 |
| 9.299 | 24.4 | | | 0.0 | 0.9 | 20.0 | | | | 45.3 | 50.0 | -4.7 |
| 5.197 | 24.5 | | | 0.0 | 0.7 | 20.0 | | | | 45.2 | 50.0 | -4.8 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | | | Work Order: | GDMN0018 |
| Serial Number: | 050342 | | | Date: | 08/25/04 |
| Customer: | Guidant Imc. | | | Temperature: | 75 |
| Attendees: | none | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Low Band - Receive Mode

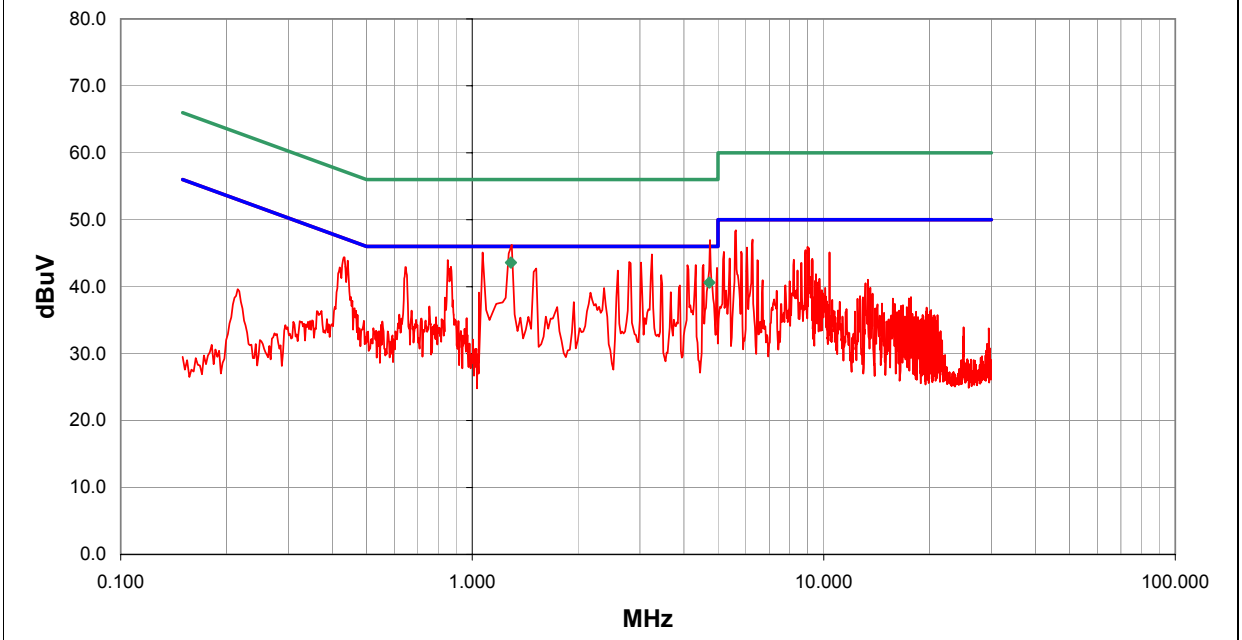
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 29 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.289 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.727 | 19.9 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.6 | 46.0 | -5.4 |
| 1.070 | 24.8 | | | 0.0 | 0.3 | 20.0 | | | | 45.1 | 46.0 | -0.9 |
| 3.246 | 24.3 | | | 0.0 | 0.5 | 20.0 | | | | 44.8 | 46.0 | -1.2 |
| 5.622 | 27.7 | | | 0.0 | 0.7 | 20.0 | | | | 48.4 | 50.0 | -1.6 |
| 2.796 | 23.2 | | | 0.0 | 0.5 | 20.0 | | | | 43.7 | 46.0 | -2.3 |
| 3.021 | 23.1 | | | 0.0 | 0.5 | 20.0 | | | | 43.6 | 46.0 | -2.4 |
| 4.547 | 22.6 | | | 0.0 | 0.7 | 20.0 | | | | 43.3 | 46.0 | -2.7 |
| 4.322 | 22.6 | | | 0.0 | 0.6 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 4.097 | 22.6 | | | 0.0 | 0.6 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 6.273 | 26.3 | | | 0.0 | 0.8 | 20.0 | | | | 47.1 | 50.0 | -2.9 |
| 0.647 | 22.7 | | | 0.0 | 0.2 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 4.972 | 22.1 | | | 0.0 | 0.7 | 20.0 | | | | 42.8 | 46.0 | -3.2 |
| 1.520 | 22.3 | | | 0.0 | 0.4 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 2.596 | 21.9 | | | 0.0 | 0.5 | 20.0 | | | | 42.4 | 46.0 | -3.6 |
| 9.000 | 25.1 | | | 0.0 | 0.9 | 20.0 | | | | 46.0 | 50.0 | -4.0 |
| 6.048 | 25.1 | | | 0.0 | 0.7 | 20.0 | | | | 45.8 | 50.0 | -4.2 |
| 9.074 | 24.9 | | | 0.0 | 0.9 | 20.0 | | | | 45.8 | 50.0 | -4.2 |
| 3.446 | 21.2 | | | 0.0 | 0.5 | 20.0 | | | | 41.7 | 46.0 | -4.3 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Mid Band - Xmit Mode

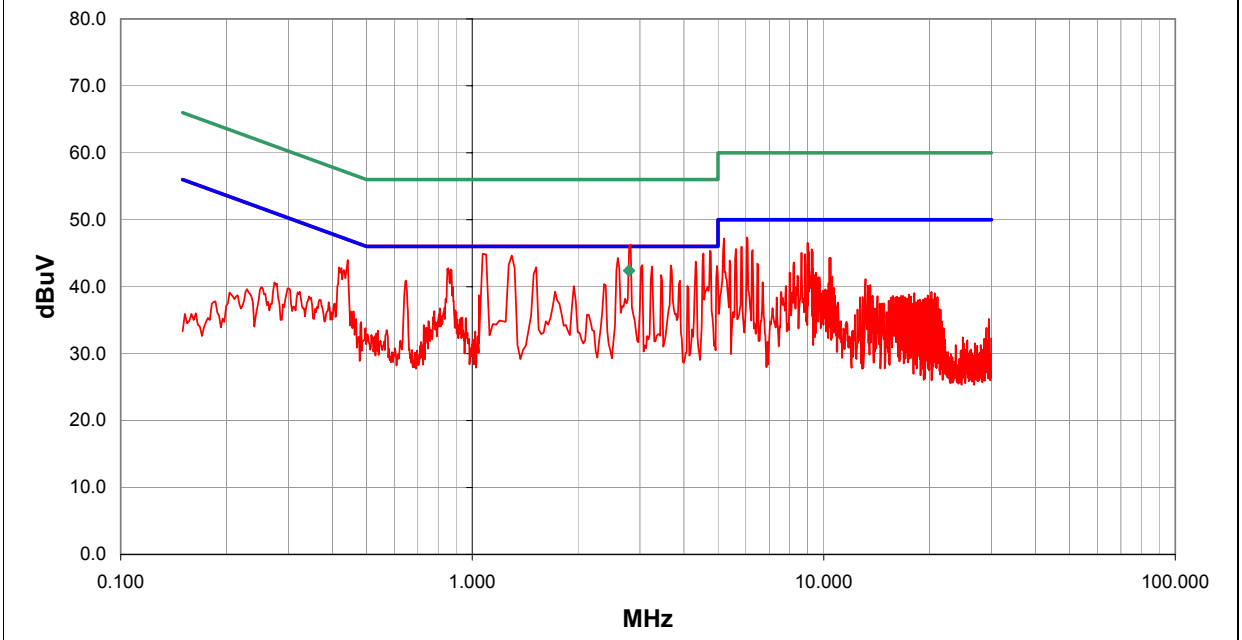
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 20 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2.793 | 21.9 | | | 0.0 | 0.5 | 20.0 | | AV | | 42.4 | 46.0 | -3.6 |
| 4.747 | 24.7 | | | 0.0 | 0.7 | 20.0 | | | | 45.4 | 46.0 | -0.6 |
| 4.547 | 24.3 | | | 0.0 | 0.7 | 20.0 | | | | 45.0 | 46.0 | -1.0 |
| 1.070 | 24.6 | | | 0.0 | 0.3 | 20.0 | | | | 44.9 | 46.0 | -1.1 |
| 1.295 | 24.3 | | | 0.0 | 0.4 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 2.596 | 23.8 | | | 0.0 | 0.5 | 20.0 | | | | 44.3 | 46.0 | -1.7 |
| 4.322 | 23.1 | | | 0.0 | 0.6 | 20.0 | | | | 43.7 | 46.0 | -2.3 |
| 6.048 | 26.6 | | | 0.0 | 0.7 | 20.0 | | | | 47.3 | 50.0 | -2.7 |
| 5.197 | 26.5 | | | 0.0 | 0.7 | 20.0 | | | | 47.2 | 50.0 | -2.8 |
| 3.046 | 22.7 | | | 0.0 | 0.5 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 3.671 | 22.6 | | | 0.0 | 0.6 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 4.972 | 22.4 | | | 0.0 | 0.7 | 20.0 | | | | 43.1 | 46.0 | -2.9 |
| 3.246 | 22.5 | | | 0.0 | 0.5 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 1.520 | 22.5 | | | 0.0 | 0.4 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 9.000 | 25.7 | | | 0.0 | 0.9 | 20.0 | | | | 46.6 | 50.0 | -3.4 |
| 9.030 | 25.1 | | | 0.0 | 0.9 | 20.0 | | | | 46.0 | 50.0 | -4.0 |
| 5.847 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 3.446 | 21.2 | | | 0.0 | 0.5 | 20.0 | | | | 41.7 | 46.0 | -4.3 |
| 5.622 | 24.9 | | | 0.0 | 0.7 | 20.0 | | | | 45.6 | 50.0 | -4.4 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | | | Work Order: | GDMN0018 |
| Serial Number: | 050342 | | | Date: | 08/25/04 |
| Customer: | Guidant Imc. | | | Temperature: | 75 |
| Attendees: | none | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Mid Band - Xmit Mode

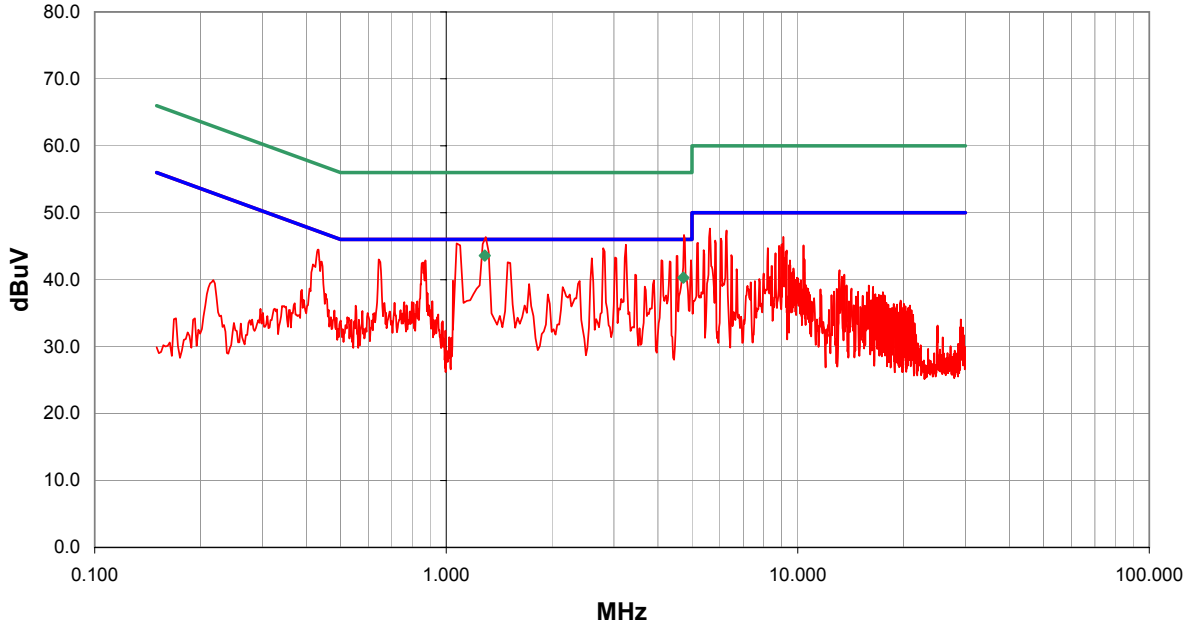
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 27 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.288 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.727 | 19.6 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.3 | 46.0 | -5.7 |
| 1.070 | 25.1 | | | 0.0 | 0.3 | 20.0 | | | | 45.4 | 46.0 | -0.6 |
| 3.246 | 24.7 | | | 0.0 | 0.5 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 2.796 | 24.2 | | | 0.0 | 0.5 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 5.622 | 26.9 | | | 0.0 | 0.7 | 20.0 | | | | 47.6 | 50.0 | -2.4 |
| 4.547 | 22.9 | | | 0.0 | 0.7 | 20.0 | | | | 43.6 | 46.0 | -2.4 |
| 6.273 | 26.6 | | | 0.0 | 0.8 | 20.0 | | | | 47.4 | 50.0 | -2.6 |
| 3.021 | 22.8 | | | 0.0 | 0.5 | 20.0 | | | | 43.3 | 46.0 | -2.7 |
| 2.596 | 22.7 | | | 0.0 | 0.5 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 0.643 | 22.8 | | | 0.0 | 0.2 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 4.097 | 22.3 | | | 0.0 | 0.6 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 4.972 | 22.2 | | | 0.0 | 0.7 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 4.322 | 22.1 | | | 0.0 | 0.6 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 1.495 | 22.2 | | | 0.0 | 0.4 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 9.099 | 25.5 | | | 0.0 | 0.9 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 6.048 | 25.4 | | | 0.0 | 0.7 | 20.0 | | | | 46.1 | 50.0 | -3.9 |
| 5.822 | 25.1 | | | 0.0 | 0.7 | 20.0 | | | | 45.8 | 50.0 | -4.2 |
| 5.197 | 24.8 | | | 0.0 | 0.7 | 20.0 | | | | 45.5 | 50.0 | -4.5 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | | | |
|---|---|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | | | Work Order: | GDMN0018 |
| Serial Number: | 050342 | | | Date: | 08/25/04 |
| Customer: | Guidant Imc. | | | Temperature: | 75 |
| Attendees: | none | | | Humidity: | 45% |
| Cust. Ref. No.: | | | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng | Power: | 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Mid Band - Receive Mode

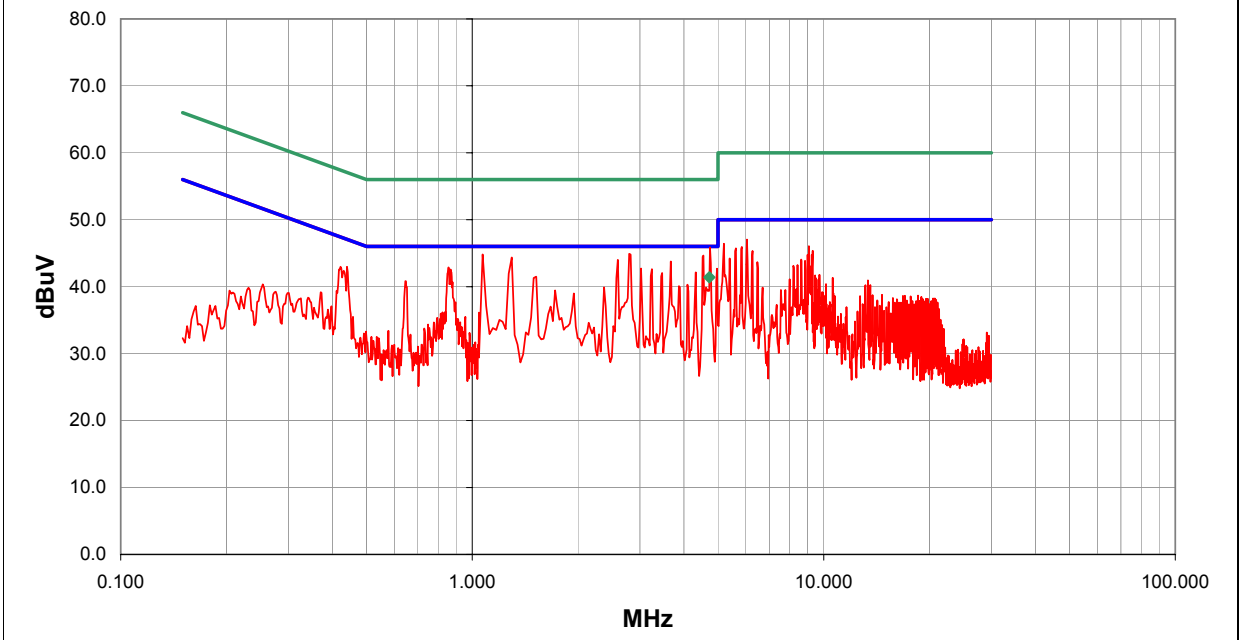
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 21 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4.727 | 20.7 | | | 0.0 | 0.7 | 20.0 | | AV | | 41.4 | 46.0 | -4.6 |
| 4.747 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 46.0 | -0.1 |
| 2.796 | 24.4 | | | 0.0 | 0.5 | 20.0 | | | | 44.9 | 46.0 | -1.1 |
| 1.070 | 24.5 | | | 0.0 | 0.3 | 20.0 | | | | 44.8 | 46.0 | -1.2 |
| 4.547 | 24.0 | | | 0.0 | 0.7 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 1.295 | 24.0 | | | 0.0 | 0.4 | 20.0 | | | | 44.4 | 46.0 | -1.6 |
| 2.596 | 23.5 | | | 0.0 | 0.5 | 20.0 | | | | 44.0 | 46.0 | -2.0 |
| 3.671 | 23.2 | | | 0.0 | 0.6 | 20.0 | | | | 43.8 | 46.0 | -2.2 |
| 6.048 | 26.3 | | | 0.0 | 0.7 | 20.0 | | | | 47.0 | 50.0 | -3.0 |
| 3.021 | 22.2 | | | 0.0 | 0.5 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 4.972 | 22.0 | | | 0.0 | 0.7 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 3.246 | 22.1 | | | 0.0 | 0.5 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 5.197 | 25.7 | | | 0.0 | 0.7 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 4.322 | 21.5 | | | 0.0 | 0.6 | 20.0 | | | | 42.1 | 46.0 | -3.9 |
| 9.074 | 25.2 | | | 0.0 | 0.9 | 20.0 | | | | 46.1 | 50.0 | -3.9 |
| 3.471 | 21.5 | | | 0.0 | 0.5 | 20.0 | | | | 42.0 | 46.0 | -4.0 |
| 5.847 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 5.622 | 25.0 | | | 0.0 | 0.7 | 20.0 | | | | 45.7 | 50.0 | -4.3 |
| 1.520 | 21.1 | | | 0.0 | 0.4 | 20.0 | | | | 41.5 | 46.0 | -4.5 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - Mid Band - Receive Mode

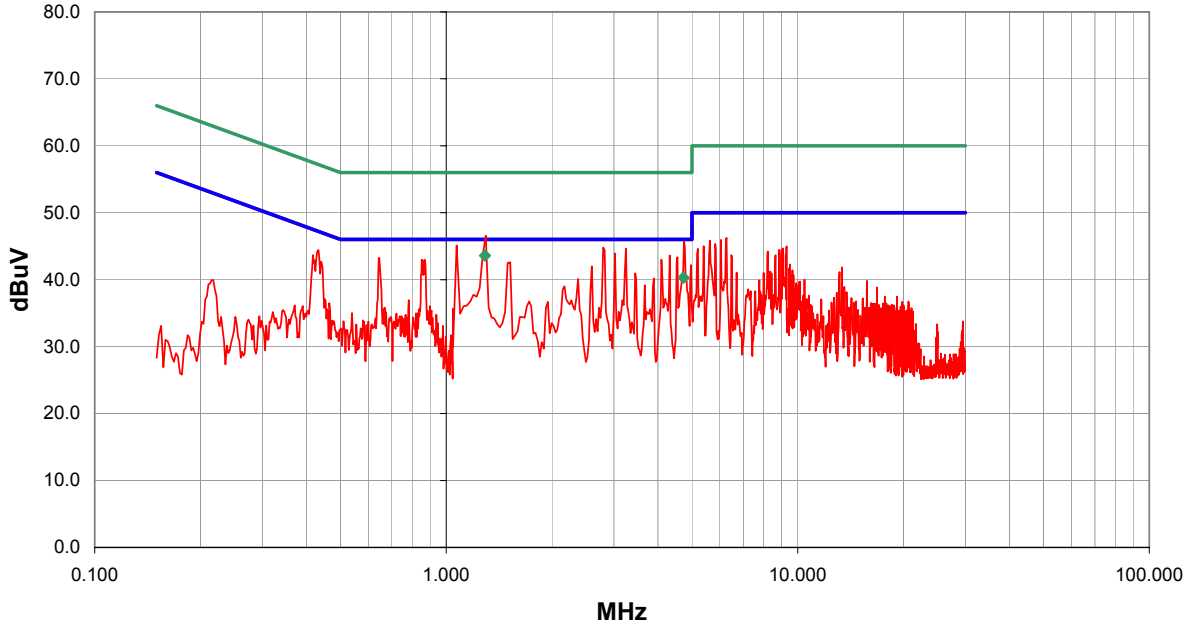
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 26 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.289 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.730 | 19.6 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.3 | 46.0 | -5.7 |
| 4.747 | 25.0 | | | 0.0 | 0.7 | 20.0 | | | | 45.7 | 46.0 | -0.3 |
| 1.070 | 24.8 | | | 0.0 | 0.3 | 20.0 | | | | 45.1 | 46.0 | -0.9 |
| 2.796 | 24.3 | | | 0.0 | 0.5 | 20.0 | | | | 44.8 | 46.0 | -1.2 |
| 3.246 | 24.1 | | | 0.0 | 0.5 | 20.0 | | | | 44.6 | 46.0 | -1.4 |
| 3.021 | 23.4 | | | 0.0 | 0.5 | 20.0 | | | | 43.9 | 46.0 | -2.1 |
| 4.322 | 23.0 | | | 0.0 | 0.6 | 20.0 | | | | 43.6 | 46.0 | -2.4 |
| 4.547 | 22.7 | | | 0.0 | 0.7 | 20.0 | | | | 43.4 | 46.0 | -2.6 |
| 0.645 | 23.0 | | | 0.0 | 0.2 | 20.0 | | | | 43.2 | 46.0 | -2.8 |
| 4.097 | 22.4 | | | 0.0 | 0.6 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 1.520 | 22.2 | | | 0.0 | 0.4 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 6.273 | 25.5 | | | 0.0 | 0.8 | 20.0 | | | | 46.3 | 50.0 | -3.7 |
| 4.972 | 21.5 | | | 0.0 | 0.7 | 20.0 | | | | 42.2 | 46.0 | -3.8 |
| 2.596 | 21.5 | | | 0.0 | 0.5 | 20.0 | | | | 42.0 | 46.0 | -4.0 |
| 6.048 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 5.622 | 25.1 | | | 0.0 | 0.7 | 20.0 | | | | 45.8 | 50.0 | -4.2 |
| 5.822 | 24.6 | | | 0.0 | 0.7 | 20.0 | | | | 45.3 | 50.0 | -4.7 |
| 5.397 | 24.3 | | | 0.0 | 0.7 | 20.0 | | | | 45.0 | 50.0 | -5.0 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - High Band - Xmit Mode

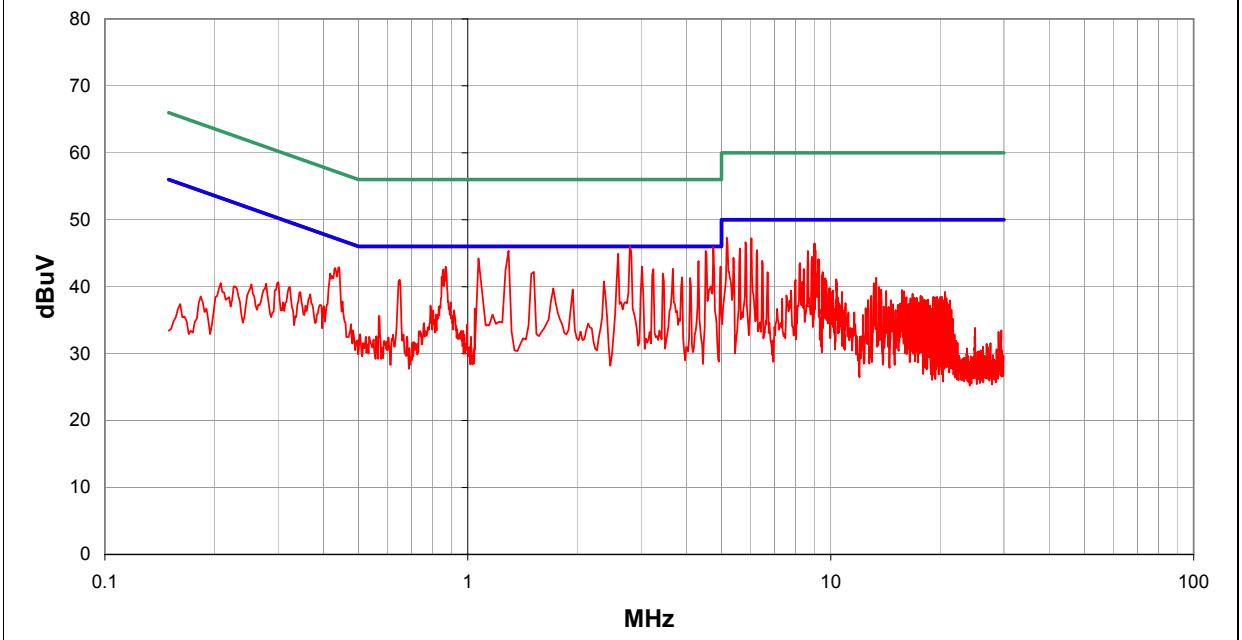
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 23 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.431 | 32.6 | | | 0.0 | 0.2 | 20.0 | | | | 52.8 | 47.2 | 5.6 |
| 0.866 | 30.6 | | | 0.0 | 0.3 | 20.0 | | | | 50.9 | 46.0 | 4.9 |
| 2.796 | 25.5 | | | 0.0 | 0.5 | 20.0 | | | | 46.0 | 46.0 | 0.0 |
| 4.747 | 25.2 | | | 0.0 | 0.7 | 20.0 | | | | 45.9 | 46.0 | -0.1 |
| 1.295 | 25.0 | | | 0.0 | 0.4 | 20.0 | | | | 45.4 | 46.0 | -0.6 |
| 4.522 | 24.7 | | | 0.0 | 0.7 | 20.0 | | | | 45.4 | 46.0 | -0.6 |
| 2.596 | 24.4 | | | 0.0 | 0.5 | 20.0 | | | | 44.9 | 46.0 | -1.1 |
| 1.070 | 23.9 | | | 0.0 | 0.3 | 20.0 | | | | 44.2 | 46.0 | -1.8 |
| 4.322 | 23.2 | | | 0.0 | 0.6 | 20.0 | | | | 43.8 | 46.0 | -2.2 |
| 5.172 | 26.6 | | | 0.0 | 0.7 | 20.0 | | | | 47.3 | 50.0 | -2.7 |
| 6.048 | 26.5 | | | 0.0 | 0.7 | 20.0 | | | | 47.2 | 50.0 | -2.8 |
| 3.021 | 22.5 | | | 0.0 | 0.5 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 4.972 | 22.3 | | | 0.0 | 0.7 | 20.0 | | | | 43.0 | 46.0 | -3.0 |
| 3.671 | 22.1 | | | 0.0 | 0.6 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 5.822 | 25.9 | | | 0.0 | 0.7 | 20.0 | | | | 46.6 | 50.0 | -3.4 |
| 3.246 | 22.1 | | | 0.0 | 0.5 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 9.030 | 25.6 | | | 0.0 | 0.9 | 20.0 | | | | 46.5 | 50.0 | -3.5 |
| 9.000 | 25.5 | | | 0.0 | 0.9 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 1.520 | 21.8 | | | 0.0 | 0.4 | 20.0 | | | | 42.2 | 46.0 | -3.8 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - High Band - Xmit Mode

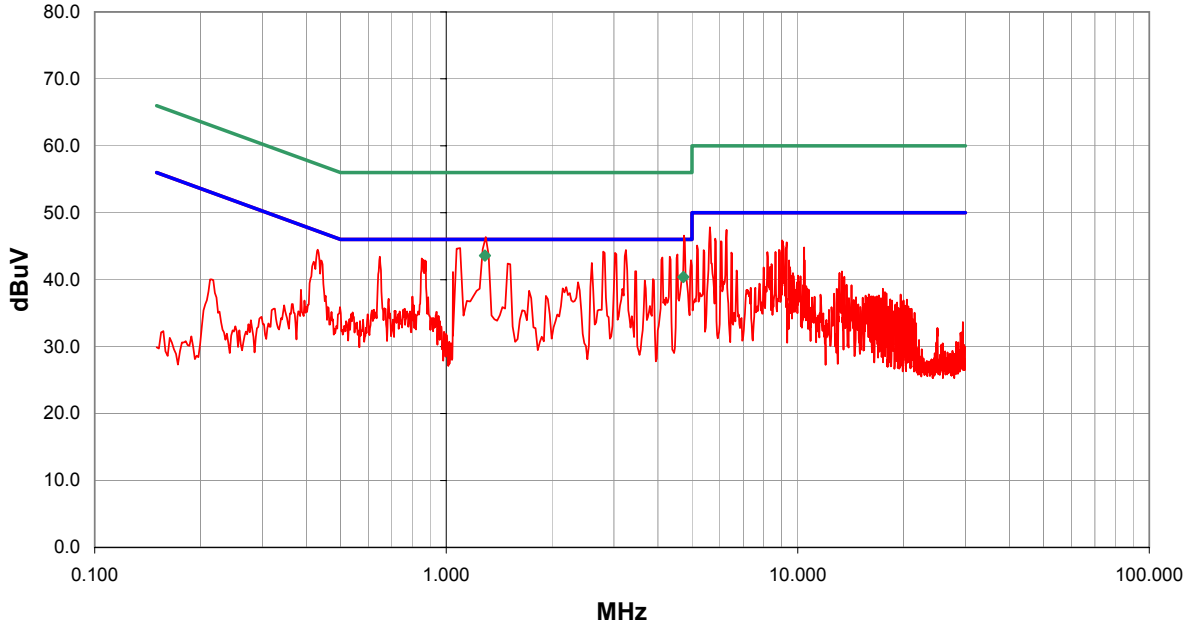
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 24 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.289 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.729 | 19.7 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.4 | 46.0 | -5.6 |
| 1.095 | 24.4 | | | 0.0 | 0.3 | 20.0 | | | | 44.7 | 46.0 | -1.3 |
| 3.246 | 23.9 | | | 0.0 | 0.5 | 20.0 | | | | 44.4 | 46.0 | -1.6 |
| 2.796 | 23.7 | | | 0.0 | 0.5 | 20.0 | | | | 44.2 | 46.0 | -1.8 |
| 3.021 | 23.5 | | | 0.0 | 0.5 | 20.0 | | | | 44.0 | 46.0 | -2.0 |
| 5.622 | 27.1 | | | 0.0 | 0.7 | 20.0 | | | | 47.8 | 50.0 | -2.2 |
| 4.547 | 23.1 | | | 0.0 | 0.7 | 20.0 | | | | 43.8 | 46.0 | -2.2 |
| 6.273 | 26.7 | | | 0.0 | 0.8 | 20.0 | | | | 47.5 | 50.0 | -2.5 |
| 4.322 | 22.8 | | | 0.0 | 0.6 | 20.0 | | | | 43.4 | 46.0 | -2.6 |
| 0.647 | 23.2 | | | 0.0 | 0.2 | 20.0 | | | | 43.4 | 46.0 | -2.6 |
| 4.122 | 22.7 | | | 0.0 | 0.6 | 20.0 | | | | 43.3 | 46.0 | -2.7 |
| 4.972 | 22.2 | | | 0.0 | 0.7 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 2.596 | 22.0 | | | 0.0 | 0.5 | 20.0 | | | | 42.5 | 46.0 | -3.5 |
| 1.495 | 22.0 | | | 0.0 | 0.4 | 20.0 | | | | 42.4 | 46.0 | -3.6 |
| 5.822 | 25.4 | | | 0.0 | 0.7 | 20.0 | | | | 46.1 | 50.0 | -3.9 |
| 9.030 | 25.0 | | | 0.0 | 0.9 | 20.0 | | | | 45.9 | 50.0 | -4.1 |
| 6.048 | 25.0 | | | 0.0 | 0.7 | 20.0 | | | | 45.7 | 50.0 | -4.3 |
| 9.299 | 24.7 | | | 0.0 | 0.9 | 20.0 | | | | 45.6 | 50.0 | -4.4 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - High Band - Receive Mode

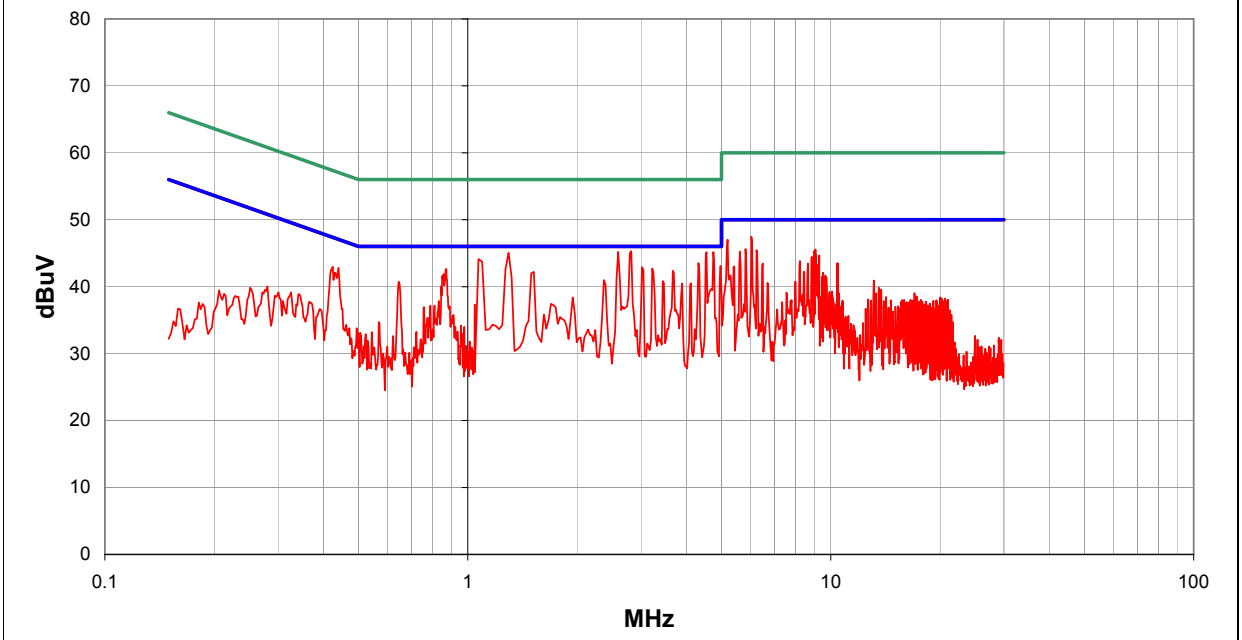
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L1 | 22 |

Other

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.431 | 31.9 | | | 0.0 | 0.2 | 20.0 | | | | 52.1 | 47.2 | 4.9 |
| 0.866 | 30.5 | | | 0.0 | 0.3 | 20.0 | | | | 50.8 | 46.0 | 4.8 |
| 2.821 | 24.8 | | | 0.0 | 0.5 | 20.0 | | | | 45.3 | 46.0 | -0.7 |
| 2.596 | 24.7 | | | 0.0 | 0.5 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 4.747 | 24.5 | | | 0.0 | 0.7 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 4.547 | 24.5 | | | 0.0 | 0.7 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 1.295 | 24.7 | | | 0.0 | 0.4 | 20.0 | | | | 45.1 | 46.0 | -0.9 |
| 1.070 | 23.8 | | | 0.0 | 0.3 | 20.0 | | | | 44.1 | 46.0 | -1.9 |
| 4.322 | 22.9 | | | 0.0 | 0.6 | 20.0 | | | | 43.5 | 46.0 | -2.5 |
| 6.048 | 26.7 | | | 0.0 | 0.7 | 20.0 | | | | 47.4 | 50.0 | -2.6 |
| 4.972 | 22.4 | | | 0.0 | 0.7 | 20.0 | | | | 43.1 | 46.0 | -2.9 |
| 5.197 | 26.3 | | | 0.0 | 0.7 | 20.0 | | | | 47.0 | 50.0 | -3.0 |
| 3.021 | 22.4 | | | 0.0 | 0.5 | 20.0 | | | | 42.9 | 46.0 | -3.1 |
| 3.221 | 22.2 | | | 0.0 | 0.5 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 3.671 | 21.8 | | | 0.0 | 0.6 | 20.0 | | | | 42.4 | 46.0 | -3.6 |
| 1.520 | 21.8 | | | 0.0 | 0.4 | 20.0 | | | | 42.2 | 46.0 | -3.8 |
| 5.822 | 24.9 | | | 0.0 | 0.7 | 20.0 | | | | 45.6 | 50.0 | -4.4 |
| 9.074 | 24.7 | | | 0.0 | 0.9 | 20.0 | | | | 45.6 | 50.0 | -4.4 |
| 6.248 | 24.7 | | | 0.0 | 0.7 | 20.0 | | | | 45.4 | 50.0 | -4.6 |

NORTHWEST EMC

# CONDUCTED EMISSIONS DATA SHEET

REV df4.2 08/10/2004

| | | | |
|---|---|---|---|
| EUT: | Zoom Latitude Programming System, Model 3120 | Work Order: | GDMN0018 |
| Serial Number: | 050342 | Date: | 08/25/04 |
| Customer: | Guidant Imc. | Temperature: | 75 |
| Attendees: | none | Humidity: | 45% |
| Cust. Ref. No.: | | Barometric Pressure | 30.05 |
| Tested by: | Jonathan Peng Power: 120VAC/60Hz | Job Site: | OC10 |

**TEST SPECIFICATIONS**

| | | | |
|---|---|---|---|
| Specification: | FCC 15.107 Class B | Year: | 2003 |
| Method: | ANSI C63.4 | Year: | 2001 |

**SAMPLE CALCULATIONS**

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

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

**COMMENTS**

Typical Operation, Conducted Emissions modifications installed - Digital emissions excluded

**EUT OPERATING MODES**

US Radio - High Band - Receive Mode

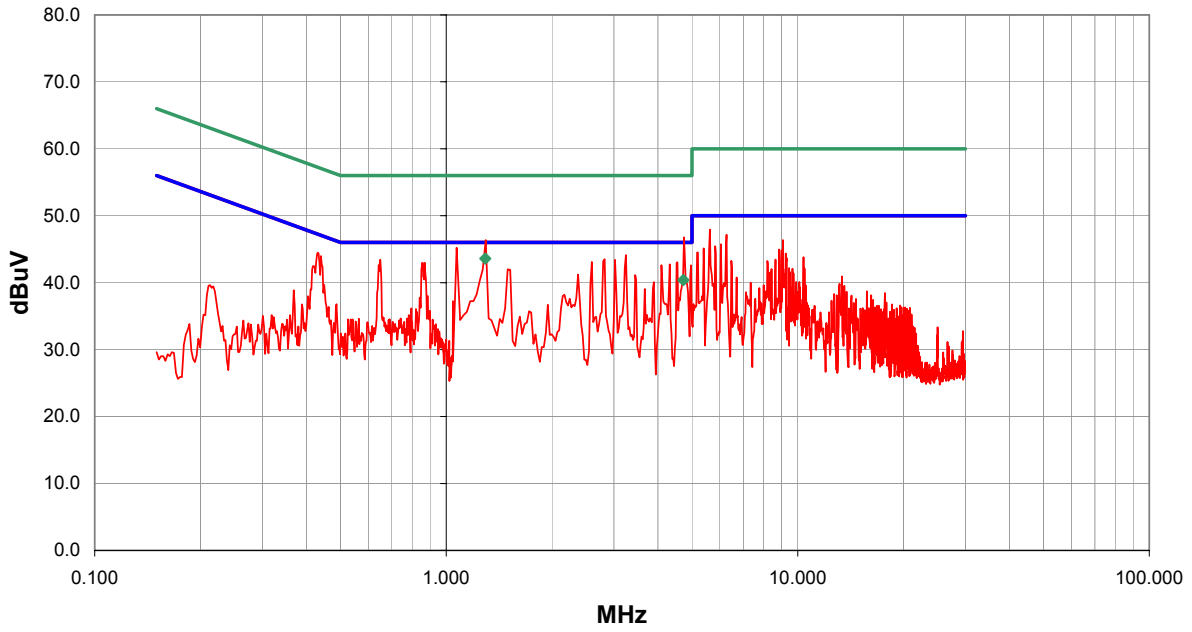
**DEVIATIONS FROM TEST STANDARD**

No deviations.

| RESULTS | Line | Run # |
|---|---|---|
| Pass | L2 | 25 |

**Other**

Tested By:




| Freq (MHz) | Amplitude (dBuV) | | | Transducer (dB) | Cable (dB) | External Attenuation (dB) | | Detector (blank equal peaks [PK] from scan) | | Adjusted dBuV | Spec. Limit dBuV | Compared to Spec. (dB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.292 | 23.2 | | | 0.0 | 0.4 | 20.0 | | AV | | 43.6 | 46.0 | -2.4 |
| 4.728 | 19.7 | | | 0.0 | 0.7 | 20.0 | | AV | | 40.4 | 46.0 | -5.6 |
| 1.070 | 24.9 | | | 0.0 | 0.3 | 20.0 | | | | 45.2 | 46.0 | -0.8 |
| 3.246 | 23.6 | | | 0.0 | 0.5 | 20.0 | | | | 44.1 | 46.0 | -1.9 |
| 5.622 | 27.2 | | | 0.0 | 0.7 | 20.0 | | | | 47.9 | 50.0 | -2.1 |
| 2.821 | 23.0 | | | 0.0 | 0.5 | 20.0 | | | | 43.5 | 46.0 | -2.5 |
| 0.649 | 23.2 | | | 0.0 | 0.2 | 20.0 | | | | 43.4 | 46.0 | -2.6 |
| 3.021 | 22.9 | | | 0.0 | 0.5 | 20.0 | | | | 43.4 | 46.0 | -2.6 |
| 6.273 | 26.4 | | | 0.0 | 0.8 | 20.0 | | | | 47.2 | 50.0 | -2.8 |
| 2.596 | 22.6 | | | 0.0 | 0.5 | 20.0 | | | | 43.1 | 46.0 | -2.9 |
| 4.547 | 22.4 | | | 0.0 | 0.7 | 20.0 | | | | 43.1 | 46.0 | -2.9 |
| 4.322 | 22.1 | | | 0.0 | 0.6 | 20.0 | | | | 42.7 | 46.0 | -3.3 |
| 4.097 | 22.0 | | | 0.0 | 0.6 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 4.972 | 21.9 | | | 0.0 | 0.7 | 20.0 | | | | 42.6 | 46.0 | -3.4 |
| 9.074 | 25.5 | | | 0.0 | 0.9 | 20.0 | | | | 46.4 | 50.0 | -3.6 |
| 1.495 | 21.6 | | | 0.0 | 0.4 | 20.0 | | | | 42.0 | 46.0 | -4.0 |
| 6.048 | 25.0 | | | 0.0 | 0.7 | 20.0 | | | | 45.7 | 50.0 | -4.3 |
| 5.822 | 24.7 | | | 0.0 | 0.7 | 20.0 | | | | 45.4 | 50.0 | -4.6 |
| 2.371 | 20.7 | | | 0.0 | 0.5 | 20.0 | | | | 41.2 | 46.0 | -4.8 |