

# **Electromagnetic Compatibility Test Report**

*Prepared in accordance with*

**FCC Part 15 , RSS-210**

On

## **Biometric Smart Card Reader DSVII+ Turbo/Model#: 2011-00001**

Prepared for:

**Datastrip Products, Inc.**



**1 Waterview Drive**

**Shelton, CT 06484**

Prepared by:

**TUV Rheinland of North America, Inc.**

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

|   |  |   |  |  |  |
|---|--|---|--|--|--|
| <b>Auftraggeber:</b><br><i>Client:</i>  |  | Datastrip Products, Inc.<br>1 Waterview Drive<br>Shelton, CT 06484                  |  | Martin Doyle<br>(203)922-9222 / (203) 922-9334<br>mdoyle@datastrip.net |  |
| <b>Bezeichnung:</b><br><i>Identification:</i>   | Biometric Smart Card Reader  |   | <b>Serien-Nr.:</b><br><i>Serial No.</i>  | DSVII SCBK073600583  |  |
| <b>Gegenstand der Prüfung:</b><br><i>Test item:</i>   | DSVII+ Turbo/Model#: 2011-00001  |   | <b>Prüfdatum:</b><br><i>Date tested:</i>   | June 5th -12th 2008  |  |
| <b>Prüfört:</b><br><i>Testing location:</i>   | TUV Rheinland of North America<br>12 Commerce Road<br>Newtown, CT 06470-1607<br>U.S.A.   |   |  |  |  |
| <b>Prüfgrundlage:</b><br><i>Test specification:</i>   | Emissions: FCC Part 15.225<br>FCC Part 15.207,<br>FCC Part 15.205, Part 15.209 and Part 15.215 b),<br>FCC part 15.215 c), RSS-210  |   |  |  |  |
| <b>Prüfergebnis:</b><br><i>Test Result</i>  | <b>Der vorstehend beschriebene Prüfgegenstand wurde geprüft und entspricht oben genannter Prüfgrundlage. The above product was found to be Compliant to the above test standard(s)</b> |   |  |  |  |
| <b>geprüft / tested by:</b> Dieter Baldamus   |  |   | <b>kontrolliert / reviewed by:</b> Bruce Fagley  |  |  |
| <u>10 July 2008</u><br><b>Datum</b> <b>Name</b> <b>Unterschrift</b><br><i>Date</i> <i>Name</i> <i>Signature</i>   |  |   | <u>10 July 2008</u><br><b>Datum</b> <b>Name</b> <b>Unterschrift</b><br><i>Date</i> <i>Name</i> <i>Signature</i>                |  |  |
| <b>Sonstiges :</b><br><i>Other Aspects:</i>   | <b>None</b>  |   |  |  |  |
| Abkürzungen: OK, Pass, Compliant, Complies = entspricht Prüfgrundlage<br>Fail, Not Compliant, Does not Comply = entspricht nicht Prüfgrundlage<br>N/A = nicht anwendbar |  |   | Abbreviations: OK, Pass, Compliant, Complies = passed<br>Fail, Not Compliant, Does Not Comply = failed<br>N/A = not applicable |  |  |
|    |  |  |  | Industry Canada  |  |
| US5112  |  | 200111-0  |  | 3466D-1  |  |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## TABLE OF CONTENTS

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>GENERAL INFORMATION .....</b>                                  | <b>5</b>  |
| 1.1      | SCOPE .....   | 5         |
| 1.2      | PURPOSE .....   | 5         |
| 1.3      | SUMMARY OF TEST RESULTS .....                                     | 6         |
| <b>2</b> | <b>LABORATORY INFORMATION .....</b>                               | <b>7</b>  |
| 2.1      | ACCREDITATIONS & ENDORSEMENTS .....                               | 7         |
| 2.2      | MEASUREMENT UNCERTAINTY .....                                     | 7         |
| 2.3      | CALIBRATION TRACEABILITY .....                                    | 7         |
| 2.4      | MEASUREMENT EQUIPMENT USED .....                                  | 8         |
| <b>3</b> | <b>PRODUCT INFORMATION .....</b>                                  | <b>9</b>  |
| 3.1      | PRODUCT DESCRIPTION .....   | 9         |
| 3.2      | EQUIPMENT MODIFICATIONS .....                                     | 9         |
| 3.3      | TEST PLAN .....   | 9         |
| <b>4</b> | <b>MEASUREMENTS .....</b>   | <b>12</b> |
| 4.1      | RADIATED FIELD STRENGTH EMISSIONS SECTION 15.225 A) B) C) .....   | 12        |
| 4.1      | RADIATED FIELD STRENGTH EMISSIONS SECTION 15.225 D) .....         | 15        |
| 4.2      | CONDUCTED EMISSIONS .....   | 22        |
| 4.3      | FREQUENCY TOLERANCE OVER TEMPERATURE AND VOLTAGE VARIATIONS ..... | 27        |
| 4.4      | BAND EDGE MEASUREMENT .....                                       | 32        |
|          | <b>APPENDIX A .....</b>   | <b>41</b> |
| <b>5</b> | <b>TEST PLAN .....</b>  | <b>41</b> |
| 5.1      | GENERAL INFORMATION .....   | 41        |
| 5.2      | MODEL(S) NAME .....   | 41        |
| 5.3      | TYPE OF PRODUCT .....   | 41        |
| 5.4      | EQUIPMENT UNDER TEST (EUT) DESCRIPTION .....                      | 42        |
| 5.5      | MODIFICATIONS .....   | 42        |
| 5.6      | PRODUCT ENVIRONMENT .....   | 42        |
| 5.7      | COUNTRIES .....   | 42        |
| 5.8      | APPLICABLE DOCUMENTS .....  | 43        |
| 5.9      | GENERAL PRODUCT INFORMATION .....                                 | 44        |
| 5.10     | EUT ELECTRICAL POWERED INFORMATION .....                          | 44        |
| 5.11     | EUT MODES OF OPERATION .....                                      | 44        |
| 5.12     | EUT CLOCK/OSCILLATOR FREQUENCIES .....                            | 45        |
| 5.13     | ELECTRICAL SUPPORT EQUIPMENT .....                                | 45        |
| 5.14     | NON - ELECTRICAL SUPPORT EQUIPMENT .....                          | 45        |
| 5.15     | EUT EQUIPMENT/CABLING INFORMATION .....                           | 45        |
| 5.16     | EUT TEST PROGRAM .....  | 46        |
| 5.17     | MONITORING OF EUT DURING TESTING .....                            | 46        |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

|      |                               |    |
|------|-------------------------------|----|
| 5.18 | EUT CONFIGURATION.....        | 46 |
| 5.19 | CONSTRUCTIONAL DATA FORM..... | 47 |

## 1 General Information

### 1.1 Scope

This report is intended to document the status of conformance with the requirements of the FCC Part 15 , RSS-210 based on the results of testing performed on June 5th -12th 2008 on the Biometric Smart Card Reader, Model No. DSVII+ Turbo/Model#: 2011-00001, manufactured by Datastrip Products, Inc.. This report only applies to the specific samples tested under the stated test conditions. It is the responsibility of the manufacturer to assure that additional production units of this model are manufactured with identical or EMI equivalent electrical and mechanical components. This report is further intended to document changes and modifications to the EUT throughout its life cycle. All documentation will be included as a supplement.

### 1.2 Purpose

Testing was performed to evaluate the EMC performance of the EUT (Equipment Under Test) in accordance with the applicable requirements, procedures, and criteria defined in the application of regulations and application of standards listed in this report.

**1.3 Summary of Test Results**

|   |  |  |                                 |                 |                      |
|---|--|--|---------------------------------|-----------------|----------------------|
| <b>Applicant</b>                                | Datastrip Products, Inc.<br>1 Waterview Drive<br>Shelton, CT 06484                                       | <b>Tel</b>   | (203)922-9222                   | <b>Contact</b>  | Martin Doyle         |
|   |  | <b>Fax</b>   | (203) 922-9334                  | <b>e-mail</b>   | mdoyle@datastrip.net |
| <b>Description</b>                              | Biometric Smart Card Reader  | <b>Model Number</b>                                | DSVII+ Turbo/Model#: 2011-00001 |                 |                      |
| <b>Serial Number</b>                            | DSVII SCBK073600583  | <b>Test Voltage/Freq.</b>                          | 120V/60Hz                       |                 |                      |
| <b>Test Date Completed:</b>                     | June 5th -12th 2008  | <b>Test Engineer</b>                               | Dieter Baldamus                 |                 |                      |
| <b>Standards</b>                                | <b>Description</b>   | <b>Severity Level or Limit</b>                     |                                 | <b>Criteria</b> | <b>Test Result</b>   |
| FCC Part 15 Subpart C Standard                  | Radio Frequency Devices – Subpart C: Intentional radiators   | See called out basic standards below               |                                 | See Below       | Complies             |
| RSS-210 Standard                                | Low-power Licence-exempt Radiocommunication Devices Category I Equipment                                 | See called out basic standards below               |                                 | See Below       | Complies             |
| FCC Part 15.225                                 | Operation within the band 13.110-14.010 MHz.   | See called out basic standards below               |                                 | See Below       | Complies             |
| FCC Part 15.225 a)                              | Field Strength Emissions within 13.553-13.567MHz   | 15,848 microvolts/meter at 30m                     |                                 | Below Limit     | Complies             |
| FCC Part 15.225 b)                              | Field Strength Emissions between 13.410 - 15.553MHz and 13.567 - 13.710 MHz                              | 334 microvolts/meter at 30m                        |                                 | Below Limit     | Complies             |
| FCC Part 15.225 c)                              | Field Strength Emissions between 13.110-13.410 MHz and 13.710 - 14.010 MHz                               | 106 microvolts/meter at 30m                        |                                 | Below Limit     | Complies             |
| FCC Part 15.225 d)                              | Field Strength Outside the 13.110-14.010MHz  | Shall not exceed limits of FCC Part 15.209         |                                 | Below Limit     | Complies             |
| FCC Part 15.225 e)                              | Frequency tolerance over -20 - +50 C at normal power supply and for 85% and 115% of rated supply voltage | 0.01% of operating frequency                       |                                 | Within Limit    | Complies             |
| FCC Part 15.225 f)                              | Frequency Powered tags   | NA. Tags are not powered                           |                                 | NA              | Complies             |
| FCC Part 15.207                                 | Conducted Emissions  | Below limit of section 15.207 a)                   |                                 | Below Limit     | Complies             |
| FCC Part 15.205, Part 15.209 and Part 15.215 b) | Radiated Emissions   | Below limit of section 15.205, 15.209 a), 15.215b) |                                 | Below Limit     | Complies             |
| FCC part 15.215 c), RSS-210                     | 20dB Bandwidth   | 20dB Contained within the Frequency Band           |                                 | Within Limit    | Complies             |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 2 Laboratory Information

### 2.1 Accreditations & Endorsements

#### 2.1.1 US Federal Communications Commission

TUV Rheinland of North America located at 12 Commerce Road, Newtown CT is accredited by the commission for performing testing services for the general public on a fee basis. This laboratory test facilities have been fully described in reports submitted to and accepted by the FCC (Registration No US5112). The laboratory scope of accreditation includes: Title 47 CFR Part 15, and 18. The accreditation is updated every 3 years.

#### 2.1.2 NIST / NVLAP

Program, which is administered under the auspices of the National Institute of Standards and Technology. The laboratory has been assessed and accredited in accordance with ISO Standard 17025:2005 (Lab code: 200111-0). The scope of laboratory accreditation includes emission and immunity testing. The accreditation is updated annually.

#### 2.1.3 Industry Canada

Registration No.: 3466D-1. The OATS has been accepted by Industry Canada to perform testing to 3 and to 10m, based on the test procedures described in ANSI C63.4-2003.

### 2.2 Measurement Uncertainty

|   |
|---|
| The estimated combined standard uncertainty for radiated emissions measurements is $\pm 1.6$ dB.  |
| The estimated combined standard uncertainty for conducted emissions measurements is $\pm 1.2$ dB. |

### 2.3 Calibration Traceability

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Measurement method complies with ANSI/NCSL Z540-1-1994 and ISO Standard 17025:2005. Equipment calibration records are kept on file at the test facility.

**2.4 Measurement Equipment Used**

| Equipment              | Manufacturer           | Model #                 | Serial/Inst #             | Last Cal<br>dd/mm/yy | Next Cal<br>dd/mm/yy | Test          |
|------------------------|------------------------|-------------------------|---------------------------|----------------------|----------------------|---------------|
| Power Supply           | California Instruments | 5001iX                  | HK53766                   | 08/04/07             | 08/04/08             | All           |
| Antenna Horn           | Emco                   | 3115                    | 9402-4227                 | 03/17/08             | 03/17/10             | RE, RI        |
| Antenna, Log. Periodic | Emco                   | 3146                    | 9309-3691                 | 06/26/06             | 06/26/08             | RE, RI        |
| Antenna, Bicon         | Emco                   | 3108                    | 2234                      | 06/26/06             | 06/26/08             | RE, RI        |
| Receiver               | Hewlett Packard        | HP 8546A,<br>85460A     | 3330A00125,<br>3325A00134 | 03/14/08             | 03/14/09             | CE, DP,<br>CE |
| Antenna, Bilog         | Schaffner              | CBL6112D                | 22238                     | 04/04/06             | 04/04/08             | RE            |
| LISN                   | Schwarzbeck            | NSLK 8126A (4<br>x 25A) | 8126277                   | 03/13/06             | 03/13/08             | CE            |
| LISN                   | Schwarzbeck            | NSLK 8126A (4<br>x 25A) | 8126278                   | 08/26/06             | 08/26/08             | CE            |
| Spectrum Analyzer      | Hewlett Packard        | HP 8593E                | 3649A00194                | 06/26/07             | 06/26/08             | RE,           |
| Antenna                | Sunol Sciences         | JB3                     | A022707                   | 03/08/07             | 03/08/09             | RE,RI         |

Note: CE = Conducted Emissions, CI= Conducted Immunity, DP=Disturbance Power, EFT=Electrical Fast Transients, ESD = Electrostatic Discharge, FLI=Flicker, HAR=Harmonics, MF=Magnetic Field Immunity, RE=Radiated Emissions, RI=Radiated Immunity, SI=Surge Immunity, VDSI=Voltage Dips and Short Interruptions



### 3 Product Information

#### 3.1 Product Description

See Section 6.4.

#### 3.2 Equipment Modifications

No modifications were needed to bring product into compliance.

#### 3.3 Test Plan

The EUT product information, test configuration, mode of operation, test types, test procedures, test levels, pass/failure criteria, in this report were carried out per the product test plan located in appendix A of this report



Figure 1 – External Photo of EUT

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Figure 2 – Photo of EUT Power Supply

## 4 Measurements

### 4.1 Radiated Field Strength Emissions Section 15.225 a) b) c)

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

#### 4.1.1 Over View of Test

|                 |   |      |      |                    |         |                      |             |  |
|-----------------|---|------|------|--------------------|---------|----------------------|-------------|--|
| Results         | Complies (as tested per this report)                                    |      |      |                    |         | Date                 | 05/13//2008 |  |
| Standard        | FCC Part 15.225 a) b) c)  |      |      |                    |         |                      |             |  |
| Product Model   | DSVII+ Turbo/Model#: 2011-00001   |      |      |                    | Serial# | DSVIISCBK073600583   |             |  |
| Configuration   | See test plan for details   |      |      |                    |         |                      |             |  |
| Test Set-up     | Tested on 10m O.A.T.S. placed on turn-table, see test plans for details |      |      |                    |         |                      |             |  |
| EUT Powered By  | 120V/60Hz   | Temp | 22°C | Humidity           | 45%     | Pressure             | 1001mbar    |  |
| Frequency Range | 13.110-14.010MHz  |      |      |                    |         |                      |             |  |
| Perf. Criteria  | Below Limit   |      |      | Perf. Verification |         | Readings Under Limit |             |  |
| Mod. to EUT     | None  |      |      | Test Performed By  |         | Dieter Baldamus      |             |  |

#### 4.1.2 Test Procedure

Radiated field strength emissions tests were performed using the procedures of ANSI C63.4 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration. Testing was performed at a distance of 10 meters on the OATS and the reading levels were adjusted to 30m. The frequency range from 13.110 to 14.010MHz was investigated for radiated field strength emissions.

#### 4.1.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated field strength emission test.

#### 4.1.4 Final Test

All final radiated emissions measurements were below (in compliance) the limits.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.1.5 Final Tabulated Data

| Radiated Emissions Measurements  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
|--|---|---------------------|------------------------|-----------------------------|--|--|--------------------------|------------|----------|------------------|----------------------|
| Standard:  | 47 CFR FCC Part 15.225  |                     |                        |                             |  | PRESCAN or FINAL:                        | Final                    |            |          | Date:            | 5/13/2008            |
| Device Tested:   | Datastrip - DSVII+ Turbo  |                     |                        |                             |  | Distance:                                | 10m                      |            |          | File Name:       | 08040501 Fundamental |
| Mode:  | Normal Operation  |                     |                        |                             |  |  |                          |            |          |                  |                      |
| Mount:   | Table Top   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| Modifications:   | NA  |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  |   | Measured Level      |                        |                             |  |  |                          |            |          |                  |                      |
| Meas #   | Frequency Range (MHz)   | Measured Freq (MHz) | Measured Peak (dBµV/m) | Measured QuasiPeak (dBµV/m) | Antenna + Cable Correction Factor (dB) (Included in measured QP) | 30m Adjusted Measured QuasiPeak (dBµV/m) | QuasiPeak Limit (dBµV/m) | QuaiPeak J | Result   | Final QP(dBµV/m) | Comments             |
| RBW = 9kHz VBW=30kHz   |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| FCC Part 15.255 (a)  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| 1  | 13.553-13.567   | 13.5608             | 48.31                  | 46.80                       | 18.70  | 27.72                                    | 84.00                    | -56.28     | Complied | X Orientation    |                      |
| 2  | 13.553-13.567   | 13.5618             | 52.20                  | 51.84                       | 18.70  | 32.76                                    | 84.00                    | -51.24     | Complied | Y Orientation    | Maximum Emissions    |
| 3  | 13.553-13.567   | 13.5608             | 49.06                  | 48.54                       | 18.70  | 29.46                                    | 84.00                    | -54.54     | Complied | Z Orientation    |                      |
| FCC Part 15.255 (b)  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  | 13.410-13.553   | 13.5530             | 35.32                  | 33.06                       | 18.70  | 13.98                                    | 50.47                    | -36.50     | Complied | X Orientation    |                      |
|  | 13.567-13.710   | 13.5670             | 35.02                  | 33.04                       | 18.70  | 13.96                                    | 50.47                    | -36.52     | Complied | X Orientation    |                      |
|  | 13.410-13.553   | 13.5530             | 46.17                  | 45.49                       | 18.70  | 26.41                                    | 50.47                    | -24.07     | Complied | Y Orientation    | Maximum Emissions    |
|  | 13.567-13.710   | 13.5670             | 43.23                  | 42.32                       | 18.70  | 23.24                                    | 50.47                    | -27.24     | Complied | Y Orientation    | Maximum Emissions    |
|  | 13.410-13.553   | 13.5530             | 40.50                  | 39.05                       | 18.70  | 19.97                                    | 50.47                    | -30.51     | Complied | Z Orientation    |                      |
|  | 13.567-13.710   | 13.5670             | 40.38                  | 39.05                       | 18.70  | 19.97                                    | 50.47                    | -30.51     | Complied | Z Orientation    |                      |
| FCC Part 15.255 (c)  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  | 13.110-13.410   | 13.4100             | 26.54                  | 25.45                       | 18.70  | 6.37                                     | 40.51                    | -34.14     | Complied | X Orientation    |                      |
|  | 13.710-14.010   | 13.7100             | 26.44                  | 25.44                       | 18.70  | 6.36                                     | 40.51                    | -34.15     | Complied | X Orientation    |                      |
|  | 13.110-13.410   | 13.4100             | 28.46                  | 20.53                       | 18.70  | 1.45                                     | 40.51                    | -39.06     | Complied | Y Orientation    | Maximum Emissions    |
|  | 13.710-14.010   | 13.7100             | 28.54                  | 21.72                       | 18.70  | 2.64                                     | 40.51                    | -37.87     | Complied | Y Orientation    | Maximum Emissions    |
|  | 13.110-13.410   | 13.4100             | 25.56                  | 24.29                       | 18.70  | 5.21                                     | 40.51                    | -35.30     | Complied | Z Orientation    |                      |
|  | 13.710-14.010   | 13.7100             | 25.47                  | 24.50                       | 18.70  | 5.42                                     | 40.51                    | -35.09     | Complied | Z Orientation    |                      |
| Tested by:   | Dieter Baldamus   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  | Measured QP = QP Reading +Antenna Factor + Cable Loss.                      |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  | (factors are already included in the measured peak)                         |                     |                        |                             |  |  |                          |            |          |                  |                      |
|  | 30m Adjusted QP = Measured QP - 40*LOG(30/10), as per FCC Part 15.31 (f)(2) |                     |                        |                             |  |  |                          |            |          |                  |                      |
| Example:   |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| Freq:  |   |                     |                        |                             |  |  |                          |            |          |                  |                      |
| 13.5616MHz   |   | 32.76 = 51.84-19.08 |                        |                             |  |  |                          |            |          |                  |                      |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.1.6 Photos



Figure 3 - Radiated Field Strength Emissions Test Setup O.A.T.S.

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



#### 4.1 Radiated Field Strength Emissions Section 15.225 d)

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission in section 15.209

##### 4.1.1 View of Test

|                 |   |      |      |                    |         |                      |            |  |
|-----------------|---|------|------|--------------------|---------|----------------------|------------|--|
| Results         | Complies (as tested per this report)                                    |      |      |                    |         | Date                 | 06/04/2008 |  |
| Standard        | FCC Part 15.225 d)  |      |      |                    |         |                      |            |  |
| Product Model   | DSVII+ Turbo/Model#: 2011-00001   |      |      |                    | Serial# | DSVIISCBK073600583   |            |  |
| Configuration   | See test plan for details   |      |      |                    |         |                      |            |  |
| Test Set-up     | Tested on 10m O.A.T.S. placed on turn-table, see test plans for details |      |      |                    |         |                      |            |  |
| EUT Powered By  | 230 VAC 50Hz  | Temp | 22°C | Humidity           | 34%     | Pressure             | 1000mbar   |  |
| Frequency Range | 13.56MHz-1.0GHz @ 10m   |      |      |                    |         |                      |            |  |
| Perf. Criteria  | Below Limit o   |      |      | Perf. Verification |         | Readings Under Limit |            |  |
| Mod. To EUT     | None  |      |      | Test Performed By  |         | Dieter Baldamus      |            |  |

##### 4.1.2 Test Procedure

Radiated field strength emissions tests were performed using the procedures of ANSI C63.4 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration.

The frequency range from 9kHz to 30MHz was investigated with a loop antenna and then from 30MHz-1000MHz was investigated with Bilog antenna.

A preliminary emissions test was first performed at a distance of 3 meters in the semi-anechoic chamber in order to identify the specific frequencies for which these measurements will be made on the 10 m OATS.

All spurious emissions between this frequency ranges were investigated and compared to the limits stated in section 15.209. Restricted bands of operation were also investigated as stated in section 15.205. Additional provisions stated in section 15.215 b) were also considered during this test.

##### 4.1.3 Deviations

There were no deviations from the test methodology listed in the test plan for the radiated field strength emission test.

##### 4.1.4 Final Test

All final radiated field strength emissions measurements were below (in compliance) the limits. No radiated field strength emissions were found within the restricted bands stated in section 15.205.


The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.1.5 Final Graphs

## NOTES:

## Radiated Emissions Prescan

Vertical / Horizontal

 11:38:08 JUN 04, 2008 -  
 NFR: DATASTRIP MODEL: DSVII+ TURBO PRESCAN  
 MARKER  
 40.8 MHz  
 26.79 dB $\mu$ V/m  
 ACTV DET: PEAK  
 MEAS DET: PEAK QF AVG  
 MKR 40.8 MHz  
 26.79 dB $\mu$ V/m

LOG REF 70.0 dB $\mu$ V/m

PREAMP ON

 10  
 dB/  
 #ATN  
 0 dB

 VA VB  
 SC FC  
 ACORR

 START 30.0 MHz  
 IF BW 120 kHz  
 AVG BW 300 kHz  
 STOP 300.0 MHz  
 SWP 253 msec

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Report No.:

30861536.001 Datastrip - DSVII+  
Turbo

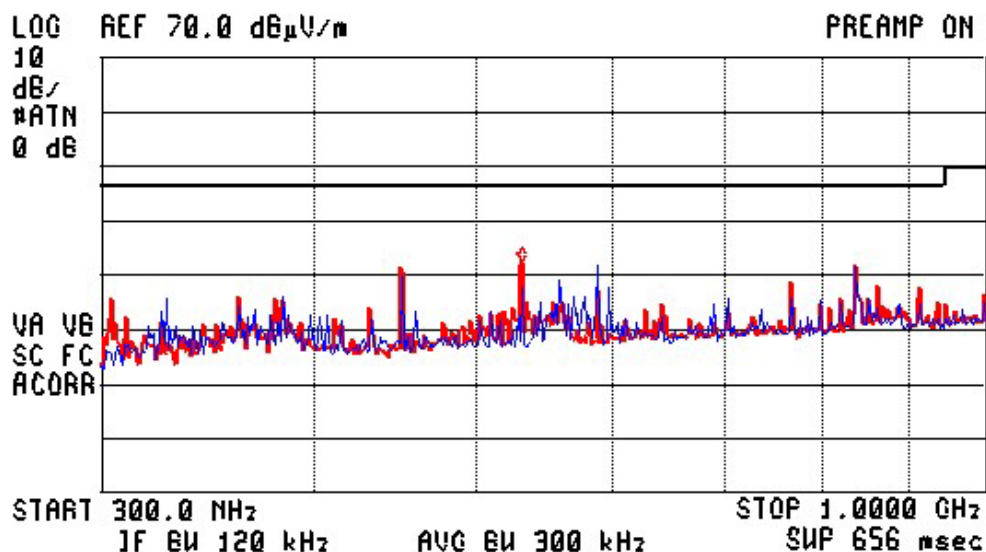
Page 17 of 47

## NOTES:

## Radiated Emissions Prescan

Vertical / Horizontal

11:39:07 JUN 04, 2008 -  
MFR: DATASTRIP MODEL: DSVII+ TURBO PRESCAN  
START 300.0 MHz  
ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKA 535.3 MHz  
32.25 dB $\mu$ V/m



The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.1.6 Final Tabulated Data &lt;30MHz

| Radiated Emissions Measurements  |  |                           |            |         |   |                   |                 |                      |             |          |
|--|--|---------------------------|------------|---------|---|-------------------|-----------------|----------------------|-------------|----------|
| Standard:  | 47 CFR FCC Part 15.225(d) and FCC Part 15.209                  |                           |            |         | PRESCAN or FINAL:   | Final             | Date:           | 5/13/2008            |             |          |
| Device Tested:   | Datastrip - DSVII+ Turbo                                       |                           |            |         | Distance:   | 10m               | File Name:      | 08040501 Fundamental |             |          |
| Mode:  | Normal Operation   |                           |            |         |   |                   |                 |                      |             |          |
| Mount:   | Table Top  |                           |            |         |   |                   |                 |                      |             |          |
| Modifications:   | NA   |                           |            |         |   |                   |                 |                      |             |          |
| Harmonics < 30MHz  |  |                           |            |         |   |                   |                 |                      |             |          |
| RBW = 9kHz VBW=30kHz   |  |                           |            |         |   |                   |                 |                      |             |          |
|  |  | Measured Peak<br>(dBµV/m) | Quasi-Peak | Average | Antenna + Cable<br>Correction<br>Factor (included<br>in<br>measurement) | QuaiPeak<br>Limit | Quasi<br>Peak D | Result               | Orientation | Comments |
| Meas #   | Freq (MHz)   |                           |            |         |   |                   |                 |                      |             |          |
| 1  | 27.1215  |                           |            |         |   |                   |                 |                      |             |          |
| 2  | 27.1235  |                           |            |         |   |                   |                 |                      |             |          |
| 3  | 27.1216  |                           |            |         |   |                   |                 |                      |             |          |
|  |  |                           |            |         |   |                   |                 |                      |             |          |
| Tested by:   | Dieter Baldamus  |                           |            |         |   |                   |                 |                      |             |          |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |  |                           |            |         |   |                   |                 |                      |             |          |
|  |  |                           |            |         |   |                   |                 |                      |             |          |
|  |  |                           |            |         |   |                   |                 |                      |             |          |
|  | Measured QP = QP Reading +Antenna Factor + Cable Loss Factors. |                           |            |         |   |                   |                 |                      |             |          |
|  | (factors are already included in the measured peak)            |                           |            |         |   |                   |                 |                      |             |          |

## 4.1.7 Prescan Tabulated Data &gt;30MHz

| Radiated Emissions Measurements  |                          |                |            |         |                   |              |   |         |              |                 |                         |         |
|--|--------------------------|----------------|------------|---------|-------------------|--------------|---|---------|--------------|-----------------|-------------------------|---------|
| Standard:  | 47 CFR 15.29             |                |            |         | PRESCAN or FINAL: |              |   | Prescan |              | Date:           | 6/4/2008                |         |
| Device Tested:   | Datastrip - DSVII+ Turbo |                |            |         | Distance:         |              |   | 3.0m    |              | File:           | 08060401 RE Prescan.xls |         |
|  |                          | Measured Level |            |         |                   |              |   |         |              |                 |                         |         |
| Meas #   | Freq (MHz)               | Peak           | Quasi-Peak | Average | Quasi-Peak Limit  | Quasi-Peak Δ | Antenna + Cable Correction Factor (included in measured levels) | Result  | Polarization | Angle (degrees) | Antenna Height (meters) | Comment |
| 1  | 40.6818                  | 28.96          | 25.08      | 19.60   | 40.00             | -14.92       | 13.39   | Prescan | Vertical     | 180             | 1.50                    |         |
| 2  | 67.7972                  | 19.53          | 17.41      | 16.45   | 40.00             | -22.59       | 6.35  | Prescan | Vertical     | 180             | 1.50                    |         |
| 3  | 104.3404                 | 30.42          | 26.31      | 23.68   | 43.50             | -17.19       | 10.89   | Prescan | Vertical     | 180             | 1.50                    |         |
| 4  | 149.1678                 | 27.07          | 25.50      | 24.92   | 43.50             | -18.00       | 10.82   | Prescan | Vertical     | 180             | 1.50                    |         |
| 5  | 162.7321                 | 25.76          | 23.52      | 22.80   | 43.50             | -19.98       | 10.08   | Prescan | Vertical     | 180             | 1.50                    |         |
| 6  | 176.2998                 | 25.16          | 22.27      | 21.14   | 43.50             | -21.23       | 9.54  | Prescan | Vertical     | 180             | 1.50                    |         |
| 7  | 449.9963                 | 25.87          | 23.14      | 21.31   | 46.00             | -22.86       | 16.55   | Prescan | Vertical     | 180             | 1.50                    |         |
| 8  | 533.3221                 | 29.85          | 27.61      | 21.94   | 46.00             | -18.39       | 18.13   | Prescan | Vertical     | 180             | 1.50                    |         |
| 9  | 599.9850                 | 33.53          | 31.15      | 26.39   | 46.00             | -14.85       | 18.20   | Prescan | Vertical     | 180             | 1.50                    |         |
| 10   | 733.3373                 | 27.96          | 25.16      | 19.73   | 46.00             | -20.84       | 19.11   | Prescan | Vertical     | 180             | 1.50                    |         |
| 11   | 866.6591                 | 33.97          | 31.46      | 29.96   | 46.00             | -14.54       | 20.43   | Prescan | Vertical     | 180             | 1.50                    |         |
|  |                          |                |            |         |                   |              |   |         |              |                 |                         |         |
| Tested by:   | Dieter Baldamus          |                |            |         |                   |              |   |         |              |                 |                         |         |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |                          |                |            |         |                   |              |   |         |              |                 |                         |         |
| REFCC15B.xls Revised 10MAR03   |                          |                |            |         |                   |              |   |         |              |                 |                         |         |

REFC15B.xls Revised 10MAR03

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**4.1.8 Final Tabulated Data>30MHz**

| Radiated Emissions Measurements |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|---------------------------------|--|--------------------------|--|--|--|-------------------|--|-------|--|-------|--|-----------------------|--|
| Standard:                       |  | 47 CFR 15.225 and 15.209 |  |  |  | PRESCAN or FINAL: |  | Final |  | Date: |  | 6/4/2008              |  |
| Device Tested:                  |  | Datastrip - DSVII+ Turbo |  |  |  | Distance:         |  | 3.0m  |  | File: |  | 08060402 RE Final.xls |  |
|                                 |  | Measured Level           |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |
|                                 |  |                          |  |  |  |                   |  |       |  |       |  |                       |  |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.1.9 Photos



Figure 4 – Prescan Radiated Field Strength Emissions Test Setup (Semi-Anechoic Chamber)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Figure 5 – Final Radiated Field Strength Emissions Test Setup (O.A.T.S.)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## 4.2 Conducted Emissions

This test measures the electromagnet levels of spurious signals generated by the EUT on the AC power line that may affect the performance of other near by electronic equipment.

### 4.2.1 Over View of Test

|               |                                      |  |  |  |         |                    |            |  |
|---------------|--------------------------------------|--|--|--|---------|--------------------|------------|--|
| Results       | Complies (as tested per this report) |  |  |  |         | Date               | 06/05/2008 |  |
| Standard      | FCC Part 15.207                      |  |  |  |         |                    |            |  |
| Product Model | DSVII+ Turbo/Model#: 2011-00001      |  |  |  | Serial# | DSVIISCBK073600583 |            |  |
| Configuration | See test plan for details            |  |  |  |         |                    |            |  |
| Test Set-up   | Tested in shielded room              |  |  |  |         |                    |            |  |

### 4.2.2 Test Procedure

Conducted emissions tests were performed using the procedures of ANSI C63.4 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration.

The frequency range from 150kHz to 30MHz was investigated for conducted emissions.

Conducted Emissions measurements were performed in the shielded room using procedures specified in the test plan and standard.

### 4.2.3 Deviations

There were no deviations from the test methodology listed in the test plan for the conducted emission test.

### 4.2.4 Final Test

All final conducted emissions measurements were below (in compliance) the limits.



## 4.2.5 Final Graphs

## NOTES:

## Conducted Emissions @ 120V/60Hz

Line / Neutral



MFR: DATASTRIP MODEL: DSVII+ TURBO [X] L [X] N

MARKER

13.71 MHz

49.31 dB $\mu$ V

ACTV DET: PEAK

MEAS DET: PEAK QP AVG

MKR 13.71 MHz

49.31 dB $\mu$ VLOG REF 80.0 dB $\mu$ V

10

dB/

ATTN

10 dB

VA VB

SC FC

ACDR

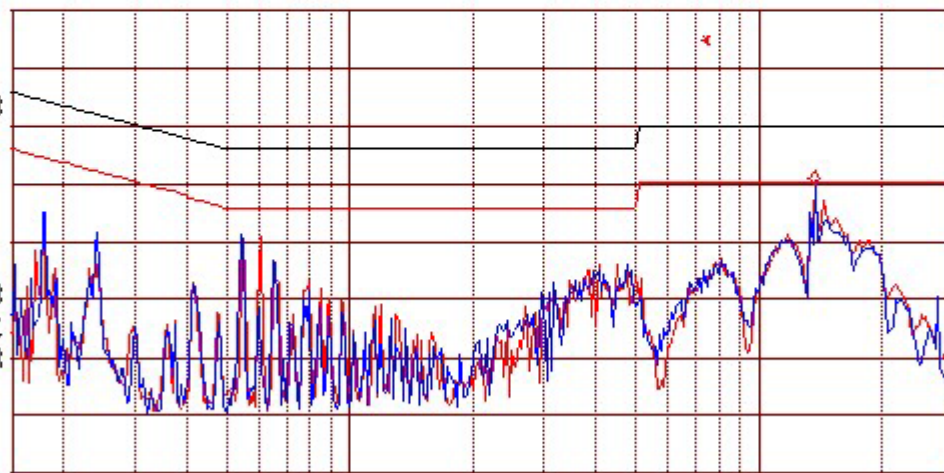
START 150 kHz

#1F BW 9.0 kHz

AVG BW 30 kHz

STOP 30.00 MHz

SWP 2.49 sec



The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**4.2.6 Final Tabulated Data at 120V/60Hz**

| Conducted Emissions Measurements   |         |                          |        |         |          |           |           |        |           |        |                          |                              |
|--|---------|--------------------------|--------|---------|----------|-----------|-----------|--------|-----------|--------|--------------------------|------------------------------|
| Standard:  |         | 47 CFR 15207             |        |         |          |           |           |        |           |        |                          |                              |
| Device Tested:   |         | Datastrip - DSVII+ Turbo |        |         |          |           |           |        |           |        |                          |                              |
|  |         |                          |        |         |          |           |           |        |           | Date:  | 6/5/2008                 |                              |
|  |         |                          |        |         |          |           |           |        |           | File:  | .xls 08060503 CE120V.xls |                              |
| Signal Num   | Freq    | Peak Amp                 | QP Amp | Avg Amp | QP Limit | Avg Limit | Conductor | QP     | QP Result | Avg    | Average Result           | Mode                         |
|  | MHz     | dBuV                     | dBuV   | dBuV    | dBuV     | dBuV      |           | dB     |           | dB     |                          |                              |
| 1  | 0.1797  | 48.89                    | 47.84  | 36.15   | 64.50    | 54.50     |           | -16.66 | Complied  | -18.35 | Complied                 |                              |
| 2  | 0.2394  | 42.57                    | 40.62  | 34.67   | 62.12    | 52.12     |           | -21.50 | Complied  | -17.45 | Complied                 |                              |
| 3  | 0.5445  | 42.04                    | 40.04  | 37.56   | 56.00    | 46.00     |           | -15.96 | Complied  | -8.44  | Complied                 |                              |
| 4  | 0.5826  | 41.00                    | 25.84  | 3.01    | 56.00    | 46.00     |           | -30.16 | Complied  | -42.99 | Complied                 |                              |
| 5  | 4.0265  | 39.25                    | 34.71  | 24.84   | 56.00    | 46.00     |           | -21.29 | Complied  | -21.16 | Complied                 |                              |
| 6  | 8.0885  | 38.19                    | 34.68  | 21.78   | 60.00    | 50.00     |           | -25.32 | Complied  | -28.22 | Complied                 |                              |
| 7  | 11.4712 | 41.17                    | 38.34  | 26.15   | 60.00    | 50.00     |           | -21.66 | Complied  | -23.85 | Complied                 |                              |
| 8  | 13.5612 | 49.30                    | 48.70  | 48.40   | 60.00    | 50.00     |           | -11.30 | Complied  | -1.60  | Complied                 | Maximum Emissions            |
| 9  | 18.3723 | 39.23                    | 36.19  | 26.39   | 60.00    | 50.00     |           | -23.81 | Complied  | -23.61 | Complied                 |                              |
| 10   | 0.1696  | 47.33                    | 46.47  | 34.87   | 64.98    | 54.98     |           | -18.51 | Complied  | -20.11 | Complied                 |                              |
| 11   | 0.2269  | 40.20                    | 38.15  | 33.49   | 62.56    | 52.56     |           | -24.41 | Complied  | -19.07 | Complied                 |                              |
| 12   | 4.0159  | 37.14                    | 34.13  | 25.21   | 56.00    | 46.00     |           | -21.87 | Complied  | -20.79 | Complied                 |                              |
| 13   | 8.2530  | 37.26                    | 34.86  | 24.99   | 60.00    | 50.00     |           | -25.14 | Complied  | -25.01 | Complied                 |                              |
| 14   | 11.9999 | 40.49                    | 36.75  | 26.26   | 60.00    | 50.00     |           | -23.25 | Complied  | -23.74 | Complied                 |                              |
| 15   | 13.5615 | 49.10                    | 49.10  | 48.70   | 60.00    | 50.00     |           | -10.90 | Complied  | -1.30  | Complied                 |                              |
| 16   | 19.1275 | 36.79                    | 32.57  | 24.24   | 60.00    | 50.00     |           | -27.43 | Complied  | -25.76 | Complied                 |                              |
|  |         |                          |        |         |          |           |           |        |           |        |                          |                              |
| Tested by:   |         | Dieter Baldamus          |        |         |          |           |           |        |           |        |                          |                              |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |         |                          |        |         |          |           |           |        |           |        |                          |                              |
|  |         |                          |        |         |          |           |           |        |           |        |                          | CE22_B.xls Revised 21OCT2006 |

CE22\_B.xls Revised 21OCT2005

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TUV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TUV Rheinland, NVLAP or any agency of the United States Government.



#### 4.2.7 Photos



Figure 6 –Conducted Emissions Test Setup (front)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Figure 7 –Conducted Emissions Test Setup (back)

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

### 4.3 Frequency Tolerance over Temperature and Voltage Variations

The frequency tolerance of the carrier signal shall be maintained within +/- .01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

#### 4.3.1 Test Over View

|                |                                      |      |       |                    |         |                       |            |  |
|----------------|--------------------------------------|------|-------|--------------------|---------|-----------------------|------------|--|
| Results        | Complies (as tested per this report) |      |       |                    |         | Date                  | 06/11/2008 |  |
| Standard       | FCC Part 15.225 e)                   |      |       |                    |         |                       |            |  |
| Product Model  | DSVII+ Turbo/Model#: 2011-00001      |      |       |                    | Serial# | DSVIISCBK073600583    |            |  |
| Configuration  | See test plan for details            |      |       |                    |         |                       |            |  |
| Test Set-up    | Tested in shielded room              |      |       |                    |         |                       |            |  |
| EUT Powered By | 102VAC-138VAC                        | Temp | 22° C | Humidity           | 45%     | Pressure              | 1001mbar   |  |
| Perf. Criteria | 0.01% of operating frequency         |      |       | Perf. Verification |         | Readings within Limit |            |  |
| Mod to EUT     | None                                 |      |       | Test Performed By  |         | Dieter Baldamus       |            |  |

#### 4.3.2 Test Procedure

The EUT was placed in a temperature chamber for the temperature variation test. Reading were made as per ANSI C63.4

Voltage variations tests were performed connecting the AC/DC adapter to a variable power supply. The EUT has also a battery so the set-up included a new battery. Readings were made as per ANSI C63.4.

#### 4.3.3 Deviations

There were no deviations from the test methodology listed in the test plan for the frequency tolerance test.

#### 4.3.4 Final Test

The Frequency Tolerance Test was within the limits (in compliance) specified in the standard.

**4.3.5 Final Data**

| Frequency Stability Test - Temperature Variations  |                    |          |          |          |  |          |
|--|--------------------|----------|----------|----------|--|----------|
| Standard:  | FCC Part 15.225 e) |          |          | Date:    | 6/11/2008                                |          |
| Device Tested:   | DSVII+Turbo        |          |          | File:    | 08061101 FreqVar.xls                     |          |
| Customer:  | Datastrip          |          |          |          |  |          |
|  |                    |          |          |          |  |          |
| Temperature  | Start-up           | 2min     | 5min     | 10min    | Permitted Band Edge in MHz<br>(+/-0.01%) | Results  |
| -20°C  | 13.56061           | 13.56066 | 13.56067 | 13.56072 | 13.5586-13.5614MHz                       | Complied |
| 0° C   | 13.56079           | 13.56081 | 13.56082 | 13.56089 | 13.5586-13.5614MHz                       | Complied |
| 55° C  | 13.56087           | 13.56091 | 13.56092 | 13.56095 | 13.5586-13.5614MHz                       | Complied |
|  |                    |          |          |          |  |          |
| Tested by:   | Dieter Baldamus    |          |          |          |  |          |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |                    |          |          |          |  |          |

FCC TempoStab.xls Revised 24APR0

FCC TempStab.xls Revised 24APR08

| Frequency Stability Test - Voltage Variations  |                    |          |          |          |  |          |
|--|--------------------|----------|----------|----------|--|----------|
| Standard:  | FCC Part 15.225 e) |          |          | Date:    | 6/11/2008                                |          |
| Device Tested:   | DSVII+Turbo        |          |          | File:    | 08061101 FreqVar.xls                     |          |
| Customer:  | Datastrip          |          |          |          |  |          |
|  |                    |          |          |          |  |          |
| Temperature  | Start-up           | 2min     | 5min     | 10min    | Permitted Band Edge in MHz<br>(+/-0.01%) | Results  |
| 102 V(85%)   | 13.56087           | 13.56088 | 13.56088 | 13.56087 | 13.5586-13.5614MHz                       | Complied |
| 120V (100%)  | 13.56088           | 13.56088 | 13.56085 | 13.56086 | 13.5586-13.5614MHz                       | Complied |
| 138V (115%)  | 13.56090           | 13.56091 | 13.56090 | 13.56092 | 13.5586-13.5614MHz                       | Complied |
|  |                    |          |          |          |  |          |
| Tested by:   | Dieter Baldamus    |          |          |          |  |          |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |                    |          |          |          |  |          |

FCC TempoStab.xls Revised 24APR02

FCC TempStab.xls Revised 24APR08

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.3.6 Photos



Figure 8 —20°C Temperature Test Setup

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.





Figure 9 +50°C Temperature Test Setup

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



Figure 10 –Voltage Variation Test Setup

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.4 Band Edge Measurement

This test evaluates the potential for the EUT to cause voltage fluctuation and flicker impressed on the public AC low-voltage system.

##### 4.4.1 Test Over View

|                |  |      |       |                    |                    |                       |          |  |
|----------------|--|------|-------|--------------------|--------------------|-----------------------|----------|--|
| Results        | Complies (as tested per this report)                             |      |       |                    | Date               | 08/12/2008            |          |  |
| Standard       | FCC Part 215 c)/RSS-210  |      |       |                    |                    |                       |          |  |
| Product Model  | DSVII+ Turbo/Model#: 2011-00001                                  |      |       | Serial#            | DSVIISCBK073600583 |                       |          |  |
| Configuration  | See test plan for details  |      |       |                    |                    |                       |          |  |
| Test Set-up    | Tested in OATS   EUT placed on table   See test plan for details |      |       |                    |                    |                       |          |  |
| EUT Powered By | 120V/60Hz  | Temp | 22° C | Humidity           | 45%                | Pressure              | 1001mbar |  |
| Perf. Criteria | 6dB and 99% Band Edge  |      |       | Perf. Verification |                    | Readings within Limit |          |  |
| Mod to EUT     | None   |      |       | Test Performed By  |                    | Dieter Baldamus       |          |  |

##### 4.4.2 Test Procedure

Radiated field strength emissions tests were performed using the procedures of ANSI C63.4 including methods for signal maximizations and EUT configuration. The photos included with the report show the EUT in its maximized configuration. Testing was performed at a distance of 10 meters on the OATS Deviations. Reading were made at 6dB and 99% of the fundamental signal.

##### 4.4.3 Deviations

There were no deviations from the test methodology listed in the test plan for the band edge measurement test.

##### 4.4.4 Final Test

The Band Edge Measurements were within the limits specified in the standard.



## 4.4.5 Final Graphs

## NOTES:

**Emission Bandwidth  
6dB Measurement  
X-Orientation**

 X ORIENTATION 6dB  
 MFR: DATASTRIP MODEL DSVII+ TURBO  
 MARKER  $\Delta$  ACTV DET: PEAK  
 9.42 kHz MEAS DET: PEAK QP AVG  
 .18 dB MKR  $\Delta$  9.42 kHz  
 .18 dB

LOG REF 92.0 dB $\mu$ V/m

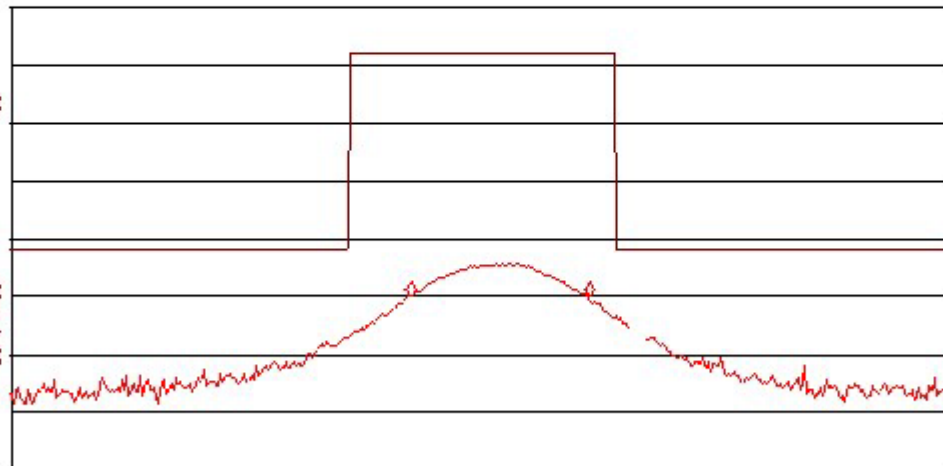
10  
 dB/  
 #ATTN  
 10 dB

WA SB  
 SC FC  
 ACORR

CENTER 13.56000 MHz  
 #1F BW 9.0 kHz

AVG BW 30 kHz

SPAN 50.00 kHz  
 SWP 700 msec



The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

Report No.:

30861536.001 Datastrip - DSVII+  
Turbo

Page 34 of 47

## NOTES:

**Emission Bandwidth**  
**99%dB Measurement**  
**X-Orientation/Horizontal Mount**



X ORIENTATION 99%

MFR: DATASTRIP MODEL DSVII+ TURBO

MARKER  $\Delta$ 

37.86 kHz

.63 dB

ACTV DET: PEAK

MEAS DET: PEAK QP AVG

MKR  $\Delta$  37.86 kHz

.63 dB

LDG REF 92.0 dB $\mu$ V/m

10

dB/

#ATTN

10 dB

WA SB

SC FC

ACDRR

CENTER 13.56000 MHz

#1F BW 9.0 kHz

AVG BW 30 kHz

SPAN 50.00 kHz

SWP 700 msec

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

Report No.:

30861536.001 Datastrip - DSVII+  
Turbo

Page 35 of 47

## NOTES:

**Emission Bandwidth  
6dB Measurement  
Y-Orientation**

 Y ORIENTATION 6dB  
 MFR: DATASTRIP MODEL DSVII+ TURBO  
 MARKER  $\Delta$  ACTV DET: PEAK  
 9.40 kHz MEAS DET: PEAK QP AVG  
 - .20 dB MKR  $\Delta$  9.40 kHz  
 - .20 dB

LOG REF 92.0 dB $\mu$ V/m
 10  
 dB/  
 #ATTN  
 10 dB

 WA SB  
 SC FC  
 ACORR

 CENTER 13.56000 MHz  
 #IF BW 9.0 kHz

AUG BW 30 kHz

 SPAN 50.00 kHz  
 SWP 700 msec

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

Report No.:

30861536.001 Datastrip - DSVII+  
Turbo

Page 36 of 47

## NOTES:

**Emission Bandwidth**  
**99% Measurement**  
**Y-Orientation**

 Y ORIENTATION 99%  
 MFR: DATASTRIP MODEL DSVII+ TURBO  
 MARKER  $\Delta$  25.57 kHz  
 -.12 dB  
 ACTV DET: PEAK  
 MEAS DET: PEAK QP AVG  
 MKR  $\Delta$  25.57 kHz  
 -.12 dB

LOG REF 92.0 dB $\mu$ V/m
 10  
 dB/  
 #ATTN  
 10 dB

 WA SB  
 SC FC  
 ACORR

 CENTER 13.56000 MHz  
 #1F BW 9.0 kHz

AUG BW 30 kHz

 SPAN 50.00 kHz  
 SWP 700 msec

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

## NOTES:

**Emission Bandwidth  
6dB Measurement  
Z-Orientation**

 Z ORIENTATION 6dB  
MFR: DATASTRIP MODEL DSVII+ TURBO  
MARKER  $\Delta$  ACTV DET: PEAK  
9.53 kHz MEAS DET: PEAK QP AVG  
- .51 dB MKR  $\Delta$  9.53 kHz  
- .51 dB

LOG REF 92.0 dB $\mu$ V/m10  
dB/  
#ATTN  
10 dBWA SB  
SC FC  
ACDRRCENTER 13.56172 MHz  
#1F BW 9.0 kHz

AVG BW 30 kHz

SPAN 50.00 kHz  
SWP 700 msec

## NOTES:

**Emission Bandwidth  
99% Measurement  
Z-Orientation**

 Z ORIENTATION 99%  
MFR: DATASTRIP MODEL DSVII+ TURBO  
MARKER  $\Delta$  ACTV DET: PEAK  
28.17 kHz MEAS DET: PEAK QP AVG  
- .53 dB MKR  $\Delta$  28.17 kHz  
- .53 dB

LOG REF 92.0 dB $\mu$ V/m10  
dB/  
#ATTN  
10 dBWA SB  
SC FC  
ACDRRCENTER 13.56172 MHz  
#1F BW 9.0 kHz

AVG BW 30 kHz

SPAN 50.00 kHz  
SWP 700 msec

**4.4.6 Final Tabulated Data**

| Radiated Emissions Measurements  |                                   |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
|--|-----------------------------------|---------------------------|--------------------|---------------------|------------------------------|----------------------|----------------------|------------------------------|------------|----------------------|---------|
| Standard:  | 47 CFR FCC Part 15.215 c)/RSS-210 |                           |                    |                     |                              | PRESCAN or FINAL:    |                      | Final                        | Date:      | 5/13/2008            |         |
| Device Tested:   | Datastrip - DSVII+ Turbo          |                           |                    |                     |                              | Distance:            |                      | 10m                          | File Name: | 08061301Bandedge.xls |         |
| Mode:  | Normal Operation                  |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| Mount:   | Table Top                         |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| Modifications:   | NA                                |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| Measured Level   |                                   |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| Meas #   | TX Band                           | Peak Measurement (dBuV/m) | -6dB Low End (MHz) | -6dB High End (MHz) | 6dB Measured Bandwidth (kHz) | -20dB High End (MHz) | +20dB High End (MHz) | 99% Measured Bandwidth (kHz) | Result     | Orientation (X,Y,Z)  | Comment |
| RBW = 9kHz VBW=30kHz   |                                   |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| 1  | 13.5608                           | 48.31                     | 13.5561            | 13.5655             | 9.4200                       | 13.5491              | 13.5729              | 23.8000                      | Complied   | X Orientation        |         |
| 2  | 13.5618                           | 52.20                     | 13.5563            | 13.5655             | 9.2600                       | 13.5423              | 13.5799              | 37.6000                      | Complied   | Y Orientation        |         |
| 3  | 13.5608                           | 49.06                     | 13.5559            | 13.5655             | 9.5300                       | 13.5470              | 13.5752              | 28.1700                      | Complied   | Z Orientation        |         |
| Tested by: Dieter Baldamus   |                                   |                           |                    |                     |                              |                      |                      |                              |            |                      |         |
| TUV Rheinland of North America, Inc. 12 Commerce Road Newtown, CT 06470 Tel:(203) 426-0888 Fax: (203) 426-4009 |                                   |                           |                    |                     |                              |                      |                      |                              |            |                      |         |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

#### 4.4.7 Photos



Figure 11 –Band Edge Measurement

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.



## Appendix A

### 5 Test Plan

This test report is intended to follow this test plan outlined here in unless other wise stated in this here report. The following test plan will give details on product information, standards to be used, test set ups and refer to TUV test procedures. The test procedures will give the steps to be taken when performing the stated test. The product information below came via client, product manual, product itself and or the internet.

#### 5.1 General Information

|                       |                          |
|-----------------------|--------------------------|
| <b>Client</b>         | Datastrip Products, Inc. |
| <b>Address</b>        | 1 Waterview Drive        |
| <b>Address</b>        | Shelton, CT 06484        |
| <b>Contact Person</b> | Martin Doyle             |
| <b>Telephone</b>      | (203)922-9222            |
| <b>Fax</b>            | (203) 922-9334           |
| <b>e-mail</b>         | mdoyle@datastrip.net     |

#### 5.2 Model(s) Name

DSVII+ Turbo/Model#: 2011-00001

#### 5.3 Type of Product

Biometric Smart Card Reader

## 5.4 Equipment Under Test (EUT) Description

The DSVII-SC® is a portable, handheld computer specifically designed for security, law enforcement, border control and positive I.D. verification applications. It features the ability to interface with both contact and Contactless Smart Cards. An integrated fingerprint sensor enables biometric verification of identity.

Contactless Smart Cards conforming to ISO 14443A are read by means of a 13.56 MHz data transceiver. The transceiver antenna is integral to the device and is not end-user accessible. Contactless Smart Cards derive the power required to operate their internal circuitry and transmit responses from the received 13.56 MHz data carrier.

The data transceiver system utilizes the same printed circuit antenna for transmission and reception. The antenna is composed of two counter-wound printed coils with one end of each made common. The transceiver integrated circuit drives the antenna, a closed-loop magnetically coupled circuit, differentially. The received signal is coupled into the receive section of the transceiver IC by means of a resistive divider network.

Data from or to the transceiver IC is passed to a Smart Card Controller IC, which in turn connects to the general system via an internal USB bus. Operating DC power for the entire Smart card subsystem is received from the internal USB bus.

## 5.5 Modifications

No modifications were needed to bring product into compliance.

## 5.6 Product Environment

|                                     |                         |                          |                        |
|-------------------------------------|-------------------------|--------------------------|------------------------|
| <input type="checkbox"/>            | <b>Residential</b>      | <input type="checkbox"/> | <b>Hospital</b>        |
| <input checked="" type="checkbox"/> | <b>Light Industrial</b> | <input type="checkbox"/> | <b>Small Clinic</b>    |
| <input type="checkbox"/>            | <b>Industrial</b>       | <input type="checkbox"/> | <b>Doctor's office</b> |
| <input type="checkbox"/>            | <b>Other</b>            |                          |                        |

\*Check all that apply

## 5.7 Countries

|                                     |               |
|-------------------------------------|---------------|
| <input checked="" type="checkbox"/> | <b>USA</b>    |
| <input type="checkbox"/>            | <b>Taiwan</b> |
| <input type="checkbox"/>            | <b>Japan</b>  |
| <input type="checkbox"/>            | <b>Europe</b> |

\*Check all that apply

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**5.8 Applicable Documents**

| Standards                                       | Description  |
|---|--|
| <b>Error! Reference source not found.</b>       | Radio Frequency Devices – Subpart C: Intentional radiators   |
| FCC Part 15.225                                 | Operation within the band 13.110-14.010 MHz.   |
| FCC Part 15.225 a)                              | Field Strength Emissions within 13.553-13.567MHz   |
| FCC Part 15.225 b)                              | Field Strength Emissions between 13.410 - 15.553MHz and 13.567 -13.710 MHz                               |
| FCC Part 15.225 c)                              | Field Strength Emissions between 13.110-13.410 MHz and 13.710 -14.010 MHz                                |
| FCC Part 15.225 d)                              | Field Strength Outside the 13.110-14.010MHz  |
| FCC Part 15.225 e)                              | Frequency tolerance over -20 - +50 C at normal power supply and for 85% and 115% of rated supply voltage |
| FCC Part 15.225 f)                              | Frequency Powered tags   |
| FCC Part 15.207                                 | Conducted Emissions  |
| FCC Part 15.205, Part 15.209 and Part 15.215 b) | Radiated Emissions   |
| FCC part 15.215 c)                              | 20dB Bandwith  |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

**5.9 General Product Information**

|        |      |        |      |                  |      |    |      |
|--------|------|--------|------|------------------|------|----|------|
| Size   |      | H      | 7.3" | W                | 7.3" | L  | 2.0" |
| Weight |      | 2.1lbs |      | Fork-Lift Needed |      | No |      |
| Notes  | None |        |      |                  |      |    |      |

**5.10 EUT Electrical Powered Information****5.10.1 Electrical Power Type**

|                          |    |                                     |    |                          |           |                          |        |
|--------------------------|----|-------------------------------------|----|--------------------------|-----------|--------------------------|--------|
| <input type="checkbox"/> | AC | <input checked="" type="checkbox"/> | DC | <input type="checkbox"/> | Batteries | <input type="checkbox"/> | Host - |
|--------------------------|----|-------------------------------------|----|--------------------------|-----------|--------------------------|--------|

**5.10.2 Electrical Power Information**

| Name          | Type | Voltage |     | Frequency | Current | Notes |
|---------------|------|---------|-----|-----------|---------|-------|
|               |      | min     | max |           |         |       |
| AC/Dc Adapter | DC   | 12      | 19  | NA        | 2.0     | NA    |
| <b>Notes</b>  | None |         |     |           |         |       |

**5.11 EUT Modes of Operation**

To set the EUT up for testing, the file dslogo\_film.wmv should be copied to a Compact Flash storage card. From the desktop, double tap the touchscreen icon "My Computer". Double tap the "Storage Card 2" icon. Double tap the file dslogo\_film.wmv Windows media Player 9 will start and the spinning Datastrip logo will be displayed. Pull down the Playback menu and select Repeat. The animation should run indefinitely.

**5.12 EUT Clock/Oscillator Frequencies**

|                                     |                      |  |
|-------------------------------------|----------------------|--|
| <input checked="" type="checkbox"/> | Less than 108MHz     | FCC – scan up to 1GHz                              |
| <input type="checkbox"/>            | Less than 500MHz     | FCC – scan up to 2GHz                              |
| <input type="checkbox"/>            | Less than 1000MHz    | FCC – scan up to 5GHz                              |
| <input type="checkbox"/>            | Greater than 1000MHz | FCC – scan up to 5 <sup>th</sup> Harmonic or 40GHz |

**5.13 Electrical Support Equipment**

| Type | Manufacture | Model | Connected To |
|------|-------------|-------|--------------|
| None |             |       |              |
|      |             |       |              |
|      |             |       |              |

**5.14 Non - Electrical Support Equipment**

| Item | Notes |
|------|-------|
| None |       |
|      |       |
|      |       |

**5.15 EUT Equipment/Cabling Information**

| EUT Port     | Connected To  | Location | Cable Type |          |      |
|--------------|---------------|----------|------------|----------|------|
|              |               |          | Length     | Shielded | Bead |
| DC Input     | AC/DC Adapter | Bottom   | 1.5m       | No       | No   |
| USB port (2) | None          | Top      | 1.5m       | No       | No   |
| USB Port 1.0 | None          | Top      | 1.5m       | No       | No   |
| LAN          | None          | Top      | 1.5m       | No       | No   |

The test results contained in this report refer exclusively to the product(s) presented for testing. No liability may be assumed for models or products not referred to herein. This test report may not be published or duplicated in part without permission of the testing body. This test report by itself does not constitute authorization for the use of any TÜV Rheinland test mark. This report must not be used by the applicant to claim product endorsement by TÜV Rheinland, NVLAP or any agency of the United States Government.

### 5.16 EUT Test Program

Typical operating condition for the EUT would be power on, operating system loaded and desktop visible on the display. For RF Immunity testing, a moving video animation (such as dslogo\_film.wmv ) can be displayed on the screen. Continued motion of the animation indicates that the system is functioning normally. The animation should run continually for an indefinite period of time.

### 5.17 Monitoring of EUT during Testing

Visual observation of the EUT's display.

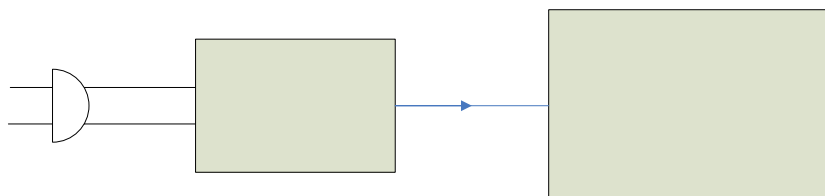
### 5.18 EUT Configuration

#### 5.18.1 Description

The EUT is a handheld portable device. It can be operated while being held in the hand or lying flat on a desk or table top. The AC Adapter may or may not be used in either operating mode.

| Configuration   | Description   |
|-----------------|---|
| Configuration 1 | Continuous Reading of ID Card                         |
|                 |   |
|                 |   |
| <b>Notes</b>    | All configurations are the same except as noted above |

#### 5.18.2 Block Diagram





[illegible]

Rev 1.0