ENVIRONMENTAL TEST REPORT

MIL-STD-810F

Method 500.4, Procedure 1 - Altitude
Method 503.4 Temperature Shock
Method 507.4 Humidity
Method 510.4, Procedure I - Blowing Dust
Method 514.5, Procedure I - Vibration
Method 516.5 Shock

Test Report No.	**EC807039 Rev A**	Date of issue:	24 March 2009
Manufacturer	Lind Electronics Design Company	Test Date(s)	07 to 18 January 2009 05-06 and 25-26 February 2009
Address	6414 Cambridge Street St. Louis Park MN 55426-4420 USA		
Testing Performed by	TÜV SÜD America Inc 1775 Old Hwy 8 NW, Suite 104 New Brighton MN 55112-1891 USA	Environ Laboratories 9725 Girard Avenue S Minneapolis MN 55431 USA	
	TÜV SÜD America Inc 345 E. 48th Street Holland MI 49423 USA		
Name of Equipment	AC-DC MIL Adapter	Model No(s)	ACMIL2835-ZZZZ
Serial No(s):	n/a		

Total pages including Appendices 47

Test Result ■Positive ☐Negative

TÜV SÜD America Inc performed testing on the equipment defined above according to MIL-STD-810F Department of Defense Test Method Standard For Environmental Engineering Considerations and Laboratory Tests, dated January 1, 2000, Method 500.4, Altitude, Method 503.4 Temperature Shock, Method, 507.4 Humidity, Method 510.4, Procedure I - Blowing Dust, and Method 514.5, Vibration, Method 516.5, Shock, as indicated in TÜV SÜD America Inc. Quotation CG561416244312, Dated 14 August 2008. The information presented in this report is, to the best of our knowledge, true and correct in all respects.

Date:	24 March 2009		
Location:	New Brighton MN USA	Stephen J Siech EMC/Environmental Technician	James E Mills Environmental Lead Engineer

Not Transferable

REVISION RECORD

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
A	47	24 March 2009	Initial Release

DIRECTORY

1.0 TEST SUMMARY

Environmental testing was performed on the Lind Electronics Design Company AC-DC MIL Adapter at the New Brighton Laboratory of TÜV SÜD America Inc located in New Brighton, Minnesota, TÜV SÜD America Inc located in Holland, Michigan and Environ Laboratories Inc located in Minneapolis, Minnesota. The test requirements and procedures were specified in MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008.

The information presented in this report is, to the best of our knowledge, true and correct in all respects.

2.0 EQUIPMENT UNDER TEST

The EUT consisted of one AC-DC MIL Adapter, Model ACMIL2835-ZZZZ, which was tested as indicated in the Test Results Table in Section 3.0.

3.0 TEST RESULTS

Except as noted below, testing was performed in accordance with the above referenced documents utilizing TÜV America's Environmental Lab test chambers, fixtures, and test equipment as indicated in Appendix B.

Test type	Procedure	Description	Result	Data Appendix
MIL-STD-810F, Method 500.4	I	Altitude Note 1	Pass	D
MIL-STD-810F, Method 503.4	n/a	Temperature Shock Note 1	Pass	D
MIL-STD-810F, Method 507.4	n/a	Humidity	Pass	C
MIL-STD-810F, Method 510.4	I	Blowing Dust Note 2	Pass	E
MIL-STD-810F, Method 514.5	I	Vibration Note 1	Pass	D
MIL-STD-810F, Method 516.5	n/a	Shock Note 1	Pass	D

Note 1 MIL-STD-810F Method 500.4 Altitude, Method 503.4 Temperature Shock, Method 514.5 Vibration, and Method 516.5 Shock testing was performed by TÜV SÜD America Inc located in Holland, Michigan. TÜV SÜD America Inc - Holland Report H-6859 is located in Appendix D.

Note 2 MIL-STD-810F Method 510.4 Blowing Dust testing was performed by Environ Laboratories Inc, at their Minneapolis, Minnesota Laboratory. Environ Laboratories Engineering Report 39885-1 is located in Appendix E.

3.1 MIL-STD-810F METHOD 500.4, PROCEDURE I - ALTITUDE

Altitude testing was performed by TÜV SÜD America Inc in Holland, Michigan, on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008. Refer to the TÜV SÜD America Inc - Holland Report H-6859, located in Appendix D, for testing details.

3.2 MIL-STD-810F METHOD 503.4 - TEMPERATURE SHOCK

Temperature Shock testing was performed by TÜV SÜD America Inc in Holland, Michigan, on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008. Refer to the TÜV SÜD America Inc - Holland Report H-6859, located in Appendix D, for testing details.

3.3 MIL-STD-810F METHOD 507.4 - HUMIDITY

Humidity testing was performed by TÜV SÜD America Inc in New Brighton, Minnesota, on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008, as indicated on the Status Logs in Appendix C. The EUT was set up in its normal operational orientation and configuration and exposed to a temperature cycle for five (5) 48-hour cycles with a constant 95% $\pm$ 4% humidity level.

3.4 MIL-STD-810F METHOD 510.4, PROCEDURE I - BLOWING DUST

Blowing Dust testing was performed by Environ Laboratories Inc in Minneapolis, Minnesota on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008. Refer to the Environ Laboratories Inc Engineering Report 39885-1, located in Appendix E, for testing details.

3.5 MIL-STD-810F METHOD 514.5, PROCEDURE I - VIBRATION

Vibration testing was performed by TÜV SÜD America Inc in Holland, Michigan, on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008. ,Refer to the TÜV SÜD America Inc - Holland Report H-6859, located in Appendix D, for testing details.

3.6 MIL-STD-810F METHOD 516.5 - SHOCK

Shock testing was performed by TÜV SÜD America Inc in Holland, Michigan, on the EUT indicated in Section 2.0, according to the requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008. Refer to the TÜV SÜD America Inc - Holland Report H-6859, located in Appendix D, for testing details.

4.0 MODIFICATIONS REQUIRED TO PASS:

There were no modifications made to the Equipment under Test at the time of test.

5.0 TEST SPECIFICATION DEVIATIONS: ADDITIONS TO OR EXCLUSIONS FROM:

There were no deviations, additions, or exclusions made to the test requirements of MIL-STD-810F and TÜV SÜD America Inc. Quotation CG561416244312, dated 14 August 2008.

6.0 STATEMENT OF MEASUREMENT UNCERTAINTY

The data and results referenced in this document are accurate. The reader is cautioned that there is some measurement variability due to the tolerances of the test equipment that can contribute to a nominal product measurement uncertainty. Furthermore, component differences and manufacturing process variability of production units similar to that tested may result in additional product uncertainty. If necessary, refer to the test lab for the actual measurement uncertainty for specific tests.

APPENDIX A

TEST SETUP PHOTOS

Photo Included in TÜV SÜD America Inc
Holland Report H-6859
Located in Appendix D

Photo Included in TÜV SÜD America Inc
Holland Report H-6859
Located in Appendix D

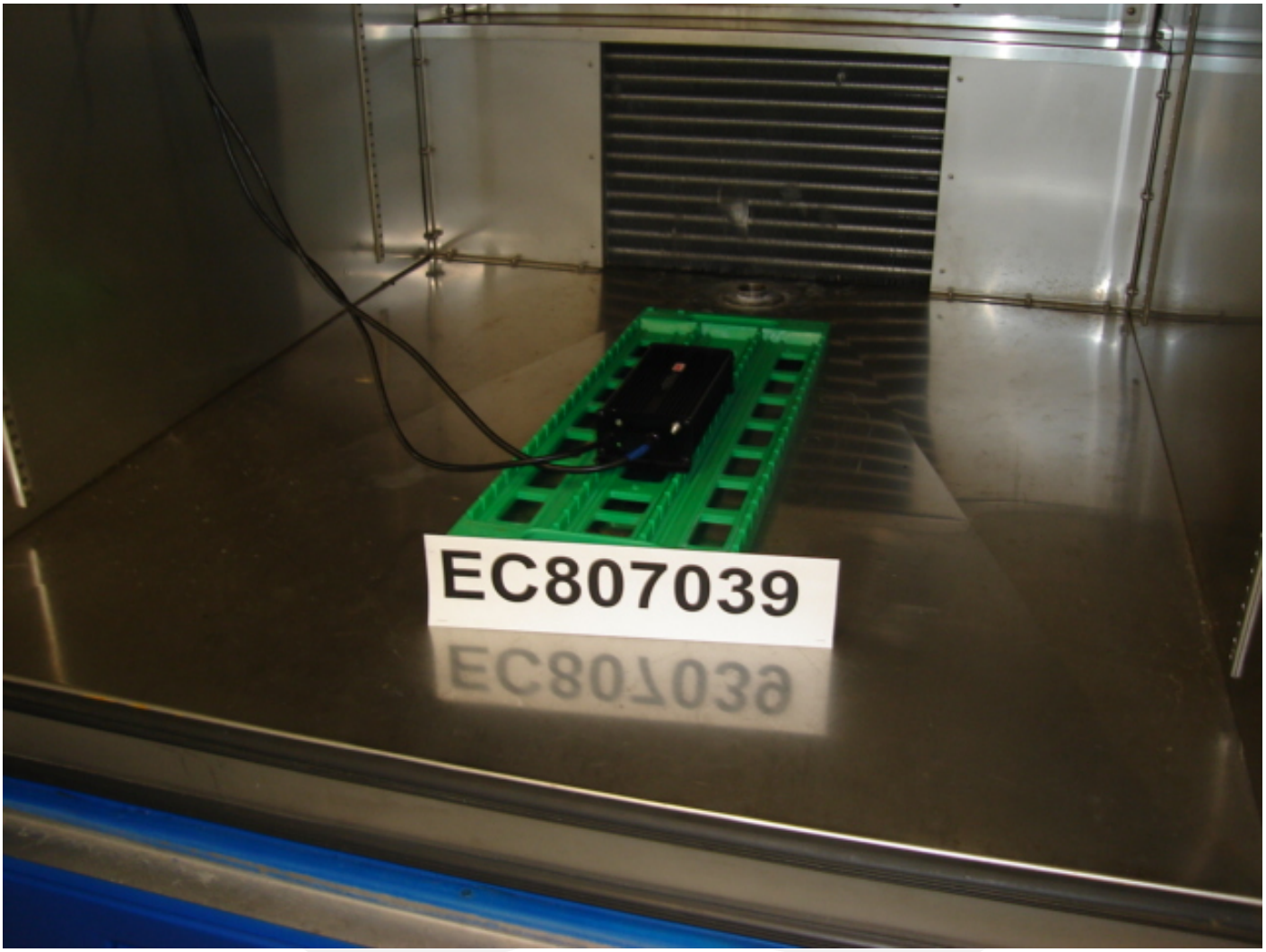

EC807039

Photo Included in Environ Laboratories Inc
Engineering Report 39885-1
Located in Appendix E

Photo Included in TÜV SÜD America Inc
Holland Report H-6859
Located in Appendix D

Photo Included in TÜV SÜD America Inc
Holland Report H-6859
Located in Appendix D

APPENDIX B

TEST EQUIPMENT LIST

TEST EQUIPMENT

Use of the calibrated equipment listed in this report ensures traceability to national and international standards.

Test #	Test Description / Performed by
1	MIL-STD-810F Method 500.4, Procedure I - Altitude / See Appendix D
2	MIL-STD-810F Method 503.4, Temperature Shock / See Appendix D
3	MIL-STD-810F Method 507.4 Humidity / SJS
4	MIL-STD-810F Method 510.4, Procedure I, Blowing Dust / See Appendix E
5	MIL-STD-810F Method 514.5, Procedure I - Vibration / See Appendix D
6	MIL-STD-810F Method 516.5 - Shock / See Appendix D

Test #	Mfr	Model	Serial	Description	Cal Code/ Due Date	Asset ID
3	ENV	SH27	09963482-S	27 CuFt Temp/Humidity Chamber	G 04-Aug-09	2238

CALIBRATION CODES

Cal Code G = Calibration performed by an accredited outside source.

MANUFACTURER CODES

ENV Envirotronics

APPENDIX C

TEST DATA SHEETS

TÜV SÜD America Inc - Holland Report H-6859

MIL-STD-810F Method 507.4
Humidity

DAILY TEST STATUS LOG

Test Report #: EC807 039 Test Chamber: 2238

EUT Model #: ACMIL 2835-2222

EUT Serial #: N/A

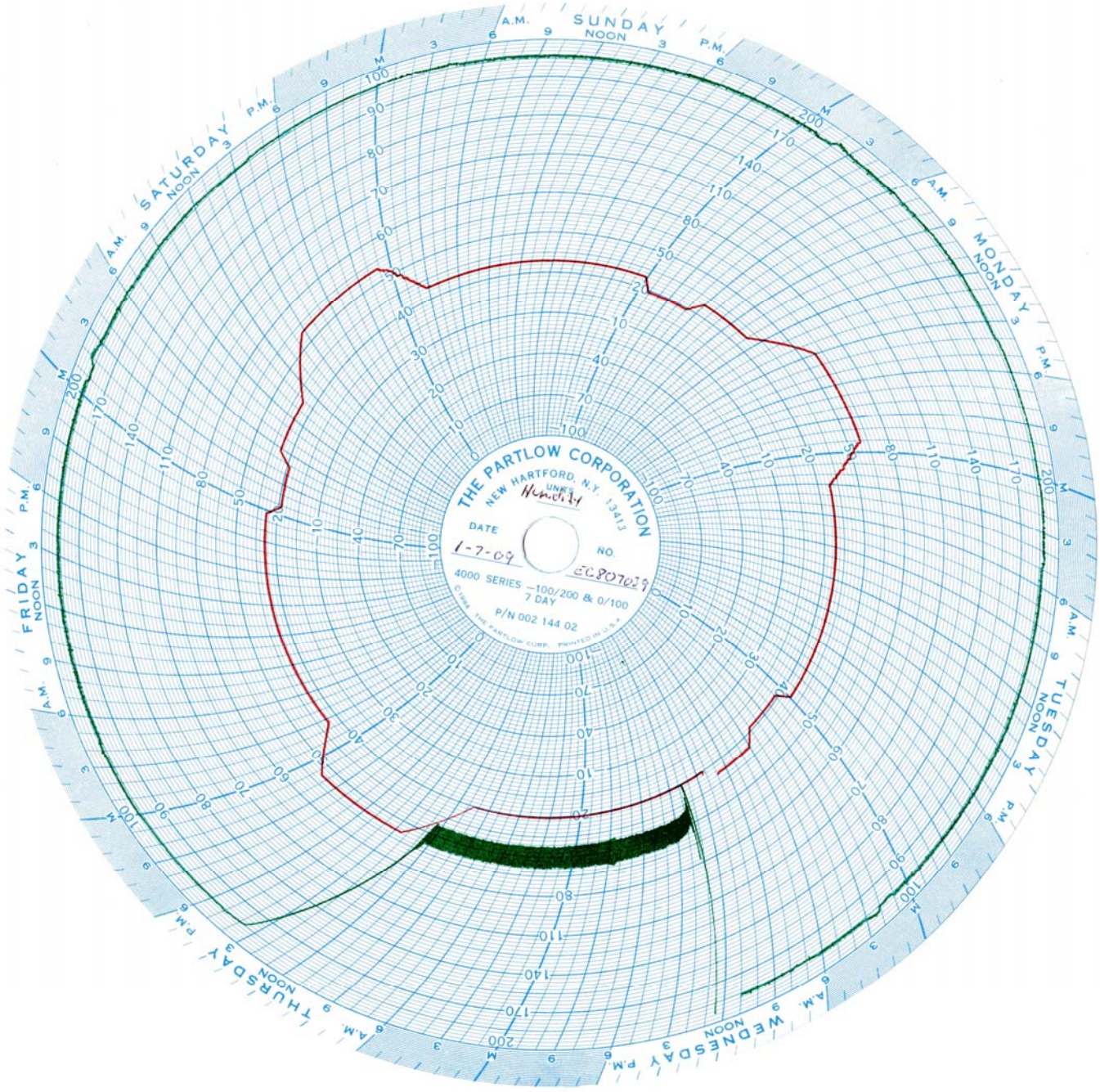
Test Method: MIL-STD-810F Humidity

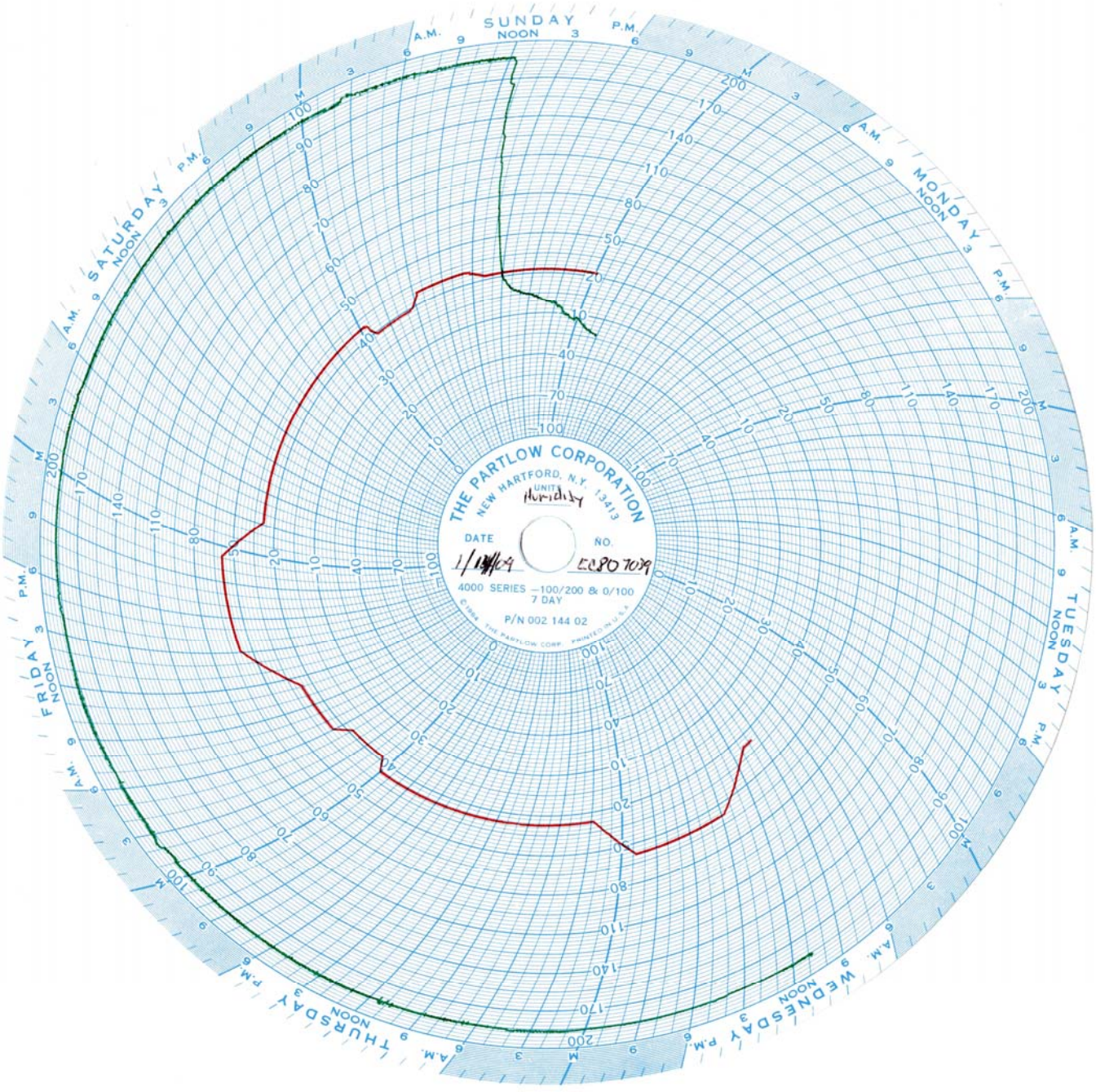
Customer: LIND ELECTRONICS

EUT Description: AC-DC MIL Adapter Page: 1 of 1

Notes:

DATE	TIME	TECH	STATUS
1/7/09	1200	SS	Started Pre voltage 26.85 VDC
1/18/09	1500	SS	Test completed Post voltage 26.85 VDC
			Readings were Taken on a daily basises
			SEE ATTACHMENT


SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
A.M.
P.M.
NOON
THE PARTLOW CORPORATION
NEW HARTFORD, N.Y. 13413
DATE
1-7-09
NO
EC807039
4000 SERIES — 100/200 & 0/100
7 DAY
P/N 002 144 02


SUNDAY
MONDAY
TUESDAY
WEDNESDAY
THURSDAY
FRIDAY
SATURDAY
A.M.
P.M.
NOON
THE PARTLOW CORPORATION
NEW HARTFORD, N.Y. 13413
UNITS
Humidity
DATE
NO.
EC80709
4000 SERIES —100/200 & 0/100
7 DAY
P/N 002 144 02

APPENDIX D

TEST DATA SHEETS

TÜV SÜD America Inc - Holland Report H-6859

MIL-STD-810F Method 500.4
Altitude

MIL-STD-810F Method 503.4
Temperature Shock

MIL-STD-810F Method 514.5
Vibration

MIL-STD-810F Method 516.5
Shock

TÜV America Inc.
345 East 48th Street
Holland, MI 49423

Phone: (616) 546 -3902
Fax: (616) 546 -3903
E-mail: info@tuvam.com
www.TUVamerica.com

TESTING CERT. NO. 265.01

America

AC/DC Adapter

TEST REPORT

PREPARED FOR:

Mr. James Mills

TUV SUD America, Inc.
1775 Old Highway 8 NW, Suite 104
New Brighton, MN 55112
651.604.3490
651.638.0285

February 13, 2009
TUV Job Number: H-6859
PO Number: EC807039

TABLE OF CONTENTS

America

ACCREDITED
CERTIFICATE # 0265-04

AC/DC Adapter Testing

Mr. James Mills
TUV SUD America Inc.
1775 Old Highway 8 NW
New Brighton, MN 55112

PURCHASE ORDER: EC807039 **TUV JOB# H-6859**

PRODUCTS TESTED:

One (1) AC/DC Adapter was received in good condition for testing.

DATES TESTED:

Thermal Shock testing was performed from 2/5/09 to 2/6/09.

TEST PROCEDURE:

Thermal Shock Test
MIL-STD-810F, Section 503.4

- The sample was subjected 10 cycles of the following profile:
  - 0.5 hours at 85°C
  - 0.5 hours at -40°C
- Voltage was measured and recorded at load panel pre, during and post test.

DATA AND OBSERVATIONS:

Voltage measured 26.90VDC pre-test, and 26.85VDC at hot soak, cold soak and post-test conditions. No obvious physical deformation observed upon completion of testing. Refer to Appendix A for test photographs and Appendix B for thermal data charts.

ACCEPTANCE LEVEL:

No acceptance level was supplied by the customer.

TEST RESULTS:

TUV SÜD America shall make no pass / fail conclusions regarding this test. Any and all such determinations shall be made solely by the customer.

345 East 48th Street♦Holland, MI 49423♦Phone: 616-546-3902♦Fax: 616-546-3903

TEST EQUIPMENT:

Table 1: Test Equipment

Equipment Identification Number	Description	Model No.	Serial No.	Calibration Due Date
ZE 160	Limit Control	Limit 94	2933	8/13/2009
ZE 783	Control Ramping	Series F4	1205	8/13/2009
ZE 331	Chart Recorder	DR450T	924488335 5001	8/13/2009
ZE 698	Limit Control	Limit 94	10061	8/13/2009
ZE 251	Thermal Shock Insert	TSM32	251	8/13/2009
ZE 258	Chamber Temperature	F-32-CHV-705-705	7136	8/13/2009
ZE 724	DMM / Process Meter	787	7697044	10/7/2009

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PRODUCTS TESTED:

One (1) AC/DC Adapter was received in good condition for testing.

DATES TESTED:

The samples were received on 2/2/09. Altitude testing was performed on 2/9/09.

TEST PROCEDURE:

Altitude Test
MIL-STD-810F

- The sample was subjected to 15,000 feet at ambient temperature with a transition rate of 7.6m/sec (1496 ft/min).
  - Actual transition rate 5.4m/sec (1071ft/min).
- Altitude to be stabilized at 15,000 feet.
- Pressure to be returned to ambient with a rate of 7.6 m/sec (1496 ft.min)
- Voltage was measured and recorded at load panel pre-test, at 15,000 feet and post test.

DATA AND OBSERVATIONS:

The sample functioned at a 15,000 feet. Voltage measured 26.85VDC at pre-test, altitude and post-test conditions. Refer to Appendix A for test photographs and Appendix B for altitude chart.

ACCEPTANCE LEVEL:

No acceptance level was supplied by the customer.

TEST RESULTS:

TUV SÜD America shall make no pass / fail conclusions regarding this test. Any and all such determinations shall be made solely by the customer.

TEST EQUIPMENT:

Table 1: Test Equipment

Equipment Identification Number	Description	Model No.	Serial No.	Calibration Due Date
ZE 954	Chamber Temp/Altitude	EVT34-1JA	404767	8/15/2009
ZE 955	Control Ramping	600A	1043411	8/15/2009
ZE 956	Altitude Transducer	PX41TO-015AI	063299	12/18/2009
ZE 957	Chart Recorder	DR45AT	0111Y1501 55000002	8/15/2009
ZE 958	Limit Control	HCP-T	UHT	8/15/2009
ZE 959	Data Logger	DX106-1-2	12A342214	8/15/2009
ZE 724	DMM / Process Meter	787	7697044	10/7/2009

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PRODUCTS TESTED:

One (1) AC/DC Adapter was received in good condition for testing.

DATES TESTED:

The sample was received on 2/2/09. Functional Shock testing was performed from 2/9/09 to 2/10/09.

TEST PROCEDURE:

Functional Shock Test
MIL-STD-810F, Section 516.5

~ Three shocks in each axis (18 total) both positive and negative
~ Terminal Peak (saw tooth)
~ 40g's pk, 11 ms
~ Operate unit throughout test
~ Voltage was measured and recorded prior to and after each axis of testing.

DATA AND OBSERVATIONS:

Voltage measured 26.85VDC at pre-test and post-test conditions of each axis. No obvious physical deformation observed upon completion of testing. Refer to Appendix A for test photographs and Appendix C for functional shock plots.

ACCEPTANCE LEVEL:

No acceptance level was supplied by the customer.

TEST RESULTS:

TUV SÜD America shall make no pass / fail conclusions regarding this test. Any and all such determinations shall be made solely by the customer.

TEST EQUIPMENT:

Table 1: Test Equipment

Equipment Identification Number	Description	Model No.	Serial No.	Calibration Due Date
ZE 802	Shaker Vertical/Horizontal	850-440 LPT	SP8014-001	N/A
ZE 945	High Temp Control Accelerometer	320C33/ACS-23	8695	4/18/2009
ZE 738	Vibration VIEW I/O BOX	I/O BOX	0398ED	7/10/2009
ZE 724	DMM / Process Meter	787	7697044	10/7/2009

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PRODUCTS TESTED:

One (1) AC/DC Adapter was received in good condition for testing.

DATES TESTED:

The sample was received on 2/2/09. Vibration testing was performed on 2/10/09.

TEST PROCEDURE:

Vibration Test
MIL-STD-810F, Section 514.5

~ Random Vibration 200 – 2000Hz
~ The sample was ran 1 hour in each perpendicular axis, operating throughout test.
~ Voltage was measured and recorded prior to and after each axis of testing.

DATA AND OBSERVATIONS:

Voltage measured 26.85VDC at pre-test and post-test conditions of each axis. No obvious physical deformation observed upon completion of testing. Refer to Appendix A for test photographs and Appendix C for vibration plots.

ACCEPTANCE LEVEL:

No acceptance level was supplied by the customer.

TEST RESULTS:

TUV SÜD America shall make no pass / fail conclusions regarding this test. Any and all such determinations shall be made solely by the customer.

TEST EQUIPMENT:

Table 1: Test Equipment

Equipment Identification Number	Description	Model No.	Serial No.	Calibration Due Date
ZE 802	Shaker Vertical/Horizontal	850-440 LPT	SP8014-001	N/A
ZE 945	High Temp Control Accelerometer	320C33/ACS-23	8695	4/18/2009
ZE 738	Vibration VIEW I/O BOX	I/O BOX	0398ED	7/10/2009
ZE 724	DMM / Process Meter	787	7697044	10/7/2009

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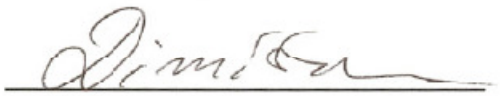
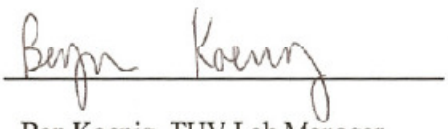
APPROVAL SIGNATURE:



Dimitre Dimitrov, TUV Technician



Ben Koenig, TUV Lab Manager

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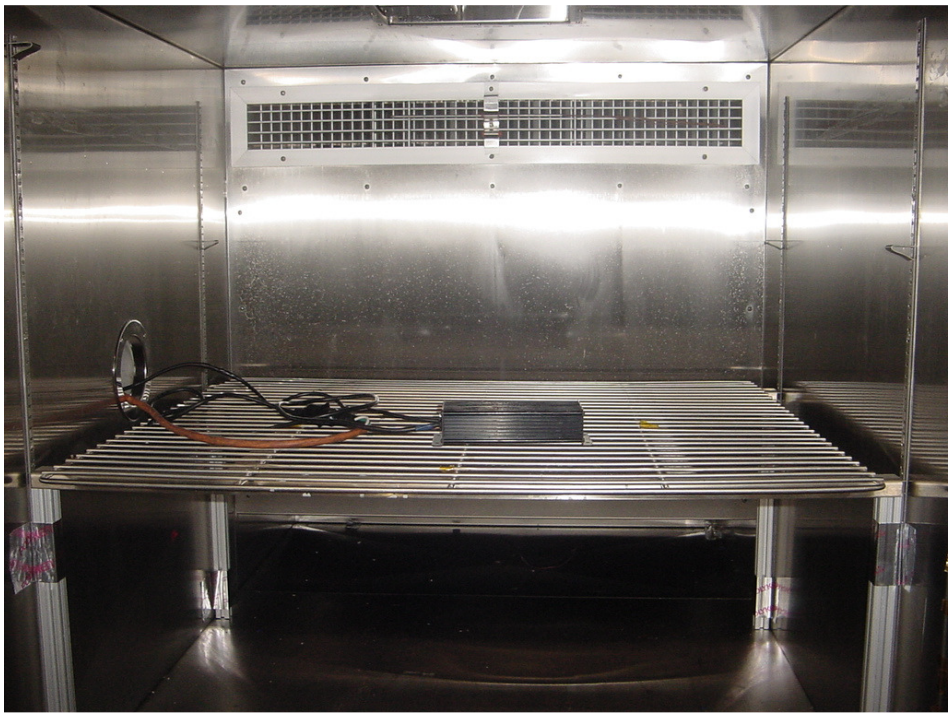

Figure 1: Altitude Test Setup

Figure 2: Thermal Shock Test Setup

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APPENDIX A (CONT): TEST PHOTOGRAPH(S)

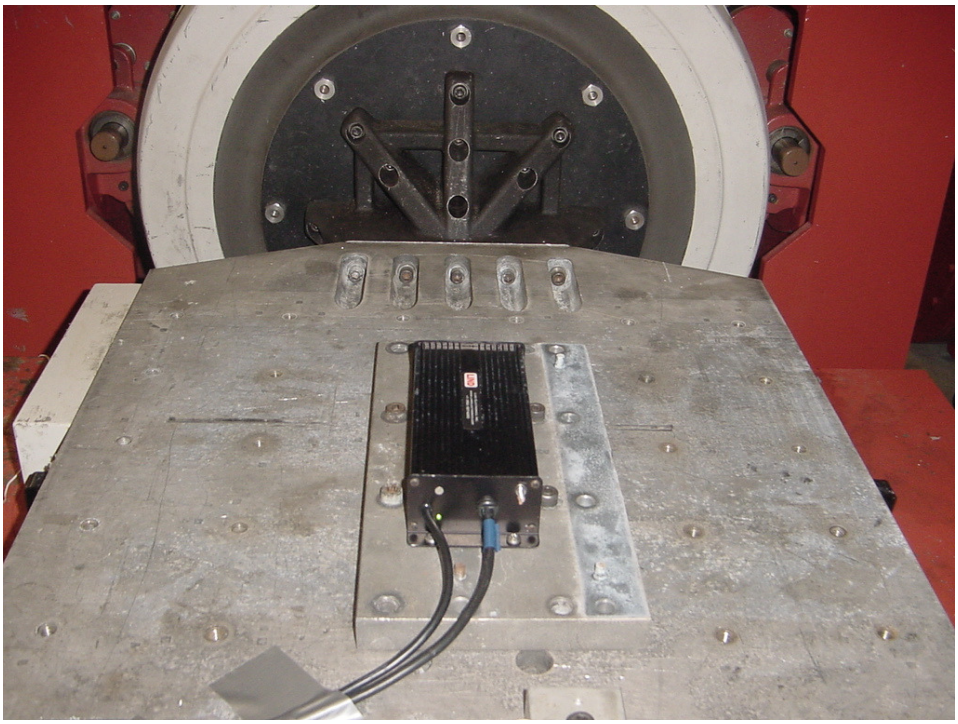

Figure 3: Longitudinal Functional Shock and Vibration Test Setup

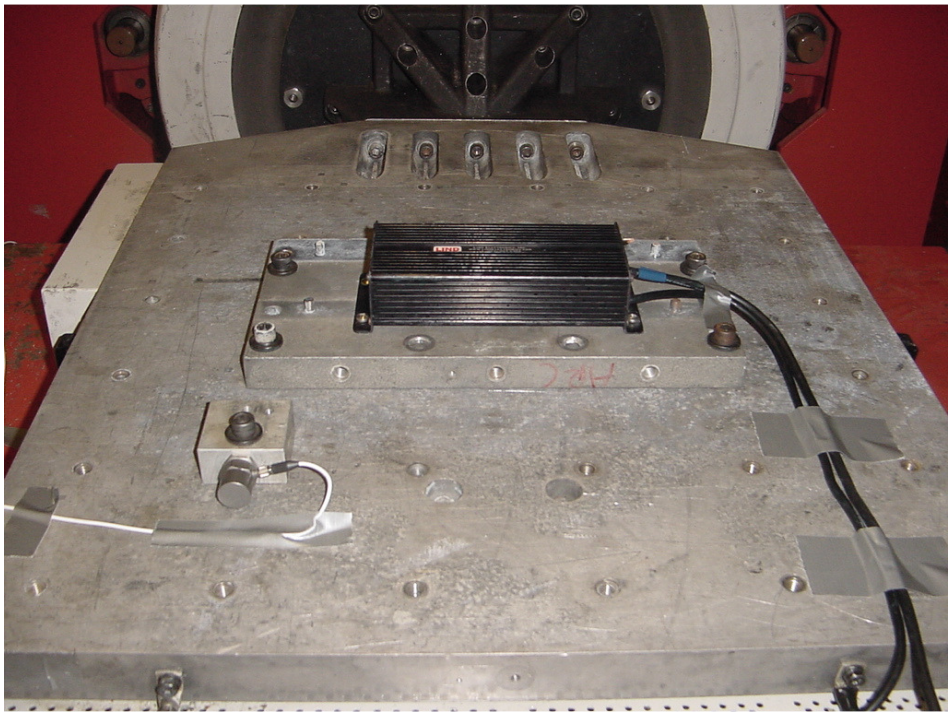

Figure 4: Transverse Functional Shock and Vibration Test Setup

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APPENDIX A (CONT): TEST PHOTOGRAPH(S)

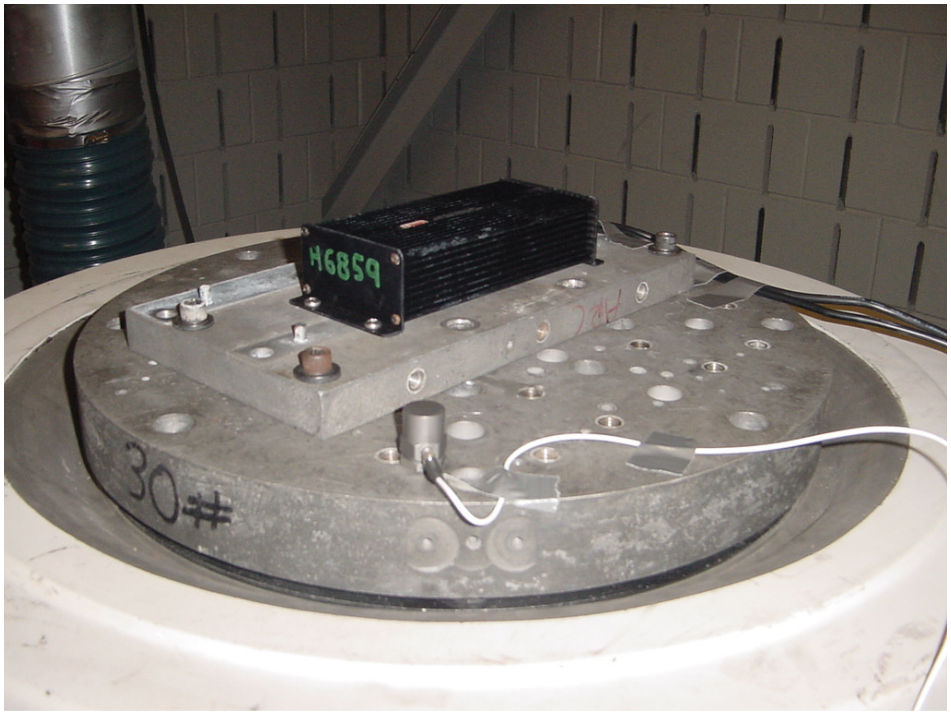

Figure 5: Vertical Functional Shock and Vibration Test Setup

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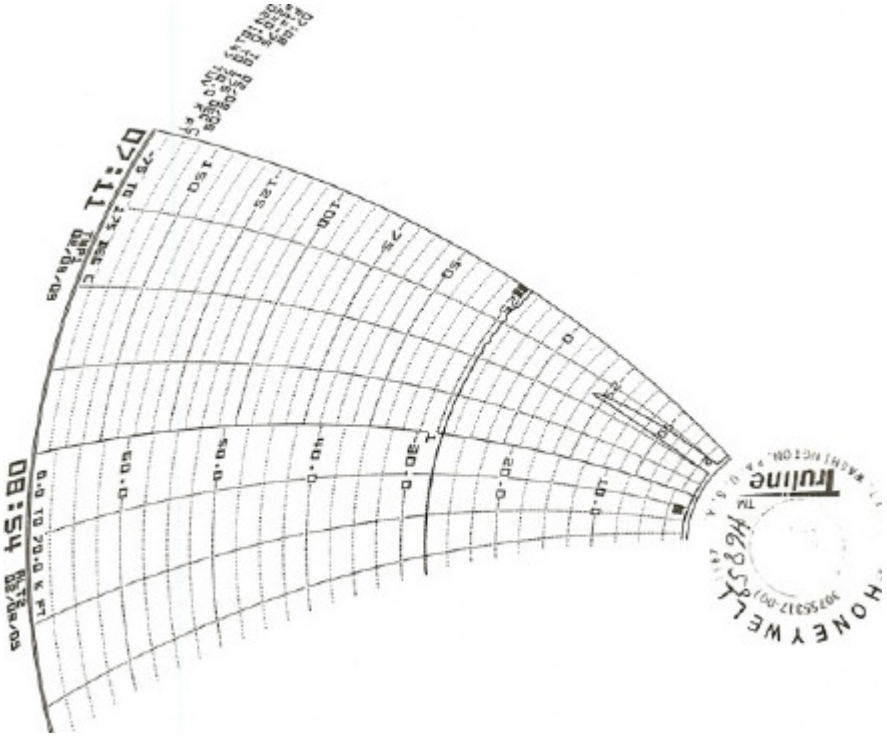
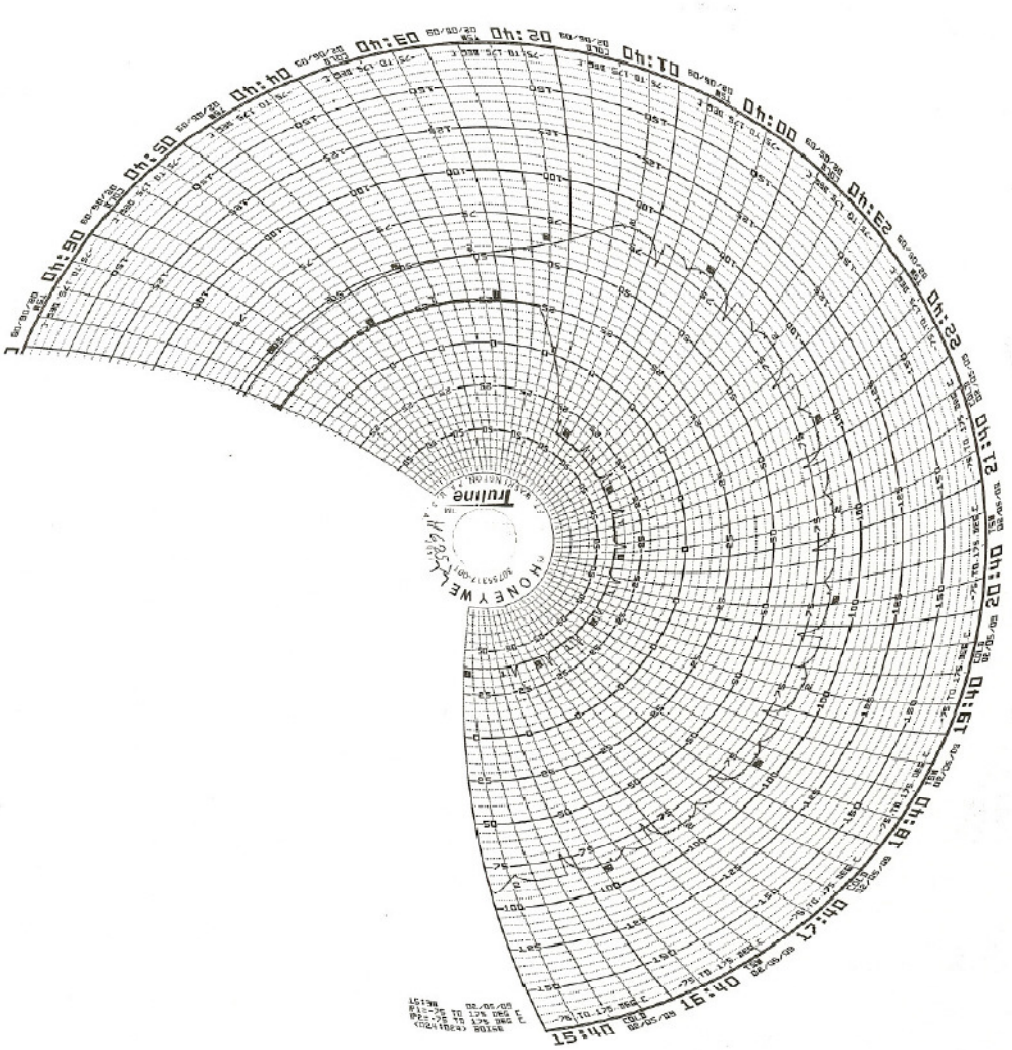
APPENDIX B: ALTITUDE TEMPERATURE CHART(S)



APPENDIX B (CONT): THERMAL SHOCK TEMPERATURE CHART(S)



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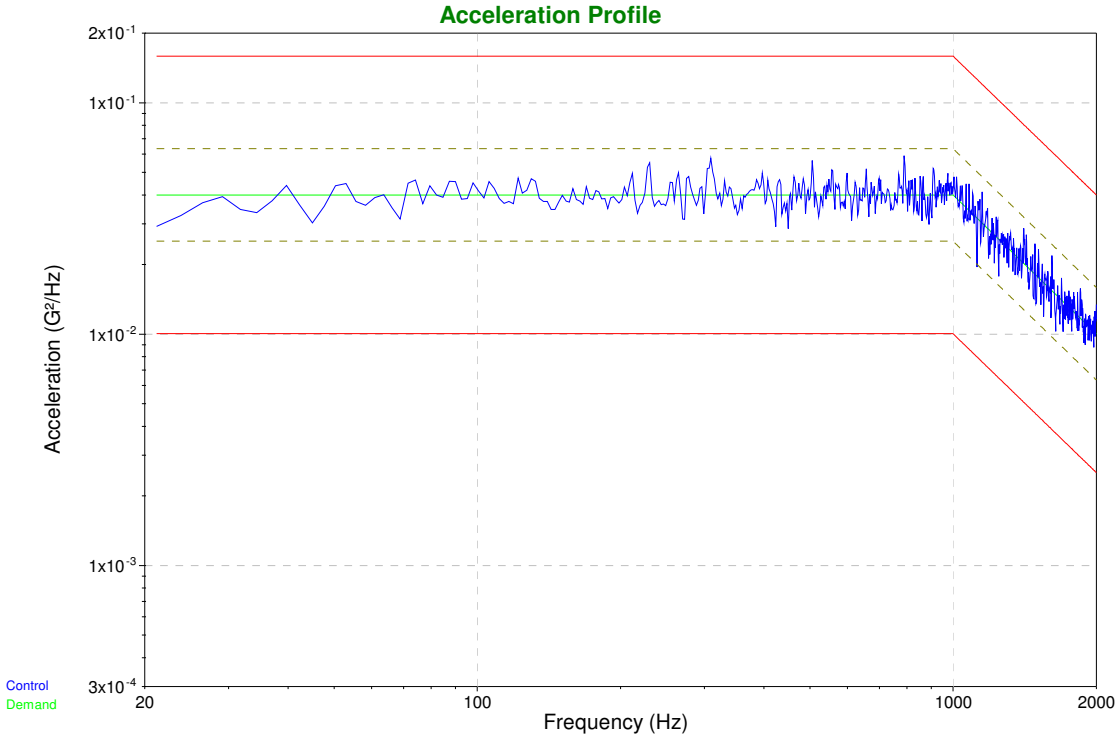
APPENDIX C:

REPRESENTATIVE VIBRATION PLOT

Data: R:\EST_HLM_Shared\Testing Services\Reports & Test Data\TUV NB\H6859 Random Vibration\2009Feb10-1604-0001.vrd
Test: R:\EST_HLM_Shared\Testing Services\Vibration Profiles\TUV\MILSTD810F Random.vrp
Data stored on Feb 10, 2009 17:04:18
- -

End of Test



Breakpoint table

Frequency	G²/Hz	dB/Octave
20 Hz	0.04	0
1000 Hz	0.04	-6
2000 Hz	0.01005	

Test level schedule:

	Duration	Level
1)	1:00:00	100 %

** Test started Feb 10, 2009 16:04:06, running for 1:00:12
** Current level: 1, running at 100 % for 1:00:00 of 1:00:00

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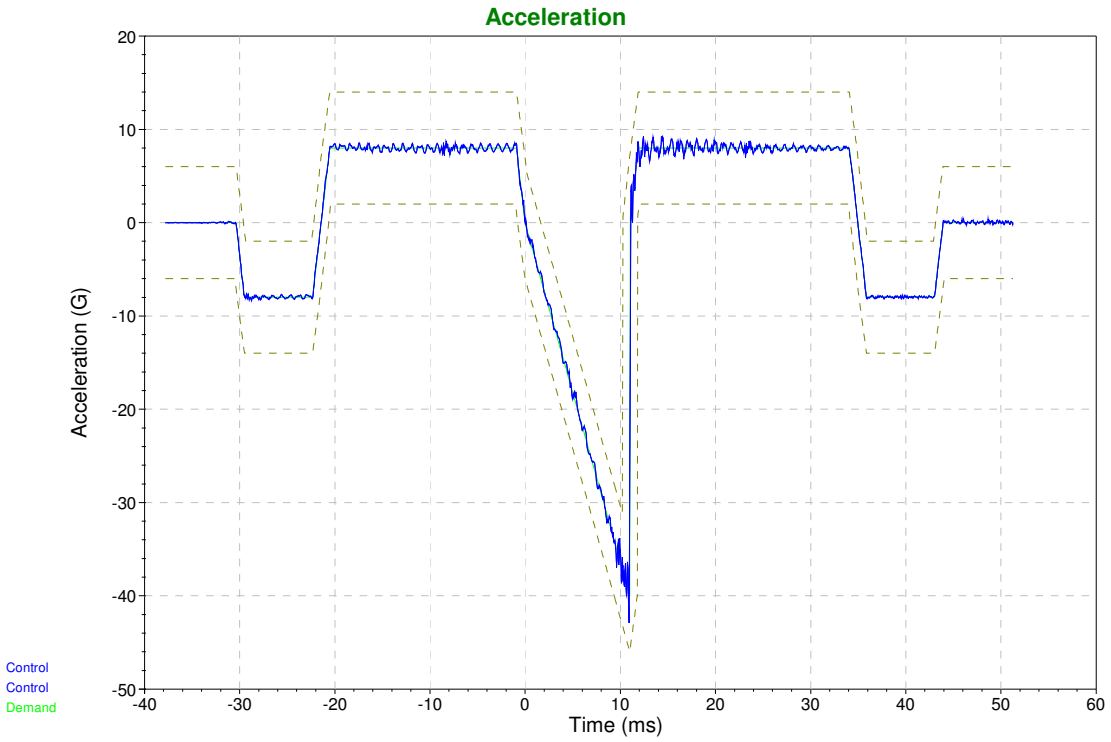
APPENDIX C: (CONT)

REPRESENTATIVE NEGATIVE SHOCK

Data: R:\EST_HLM_Shared\Testing Services\Reports & Test Data\TUV NB\H6859 Functional Shock\2009Feb09-1938-0002.vkd
Test: R:\EST_HLM_Shared\Testing Services\Vibration Profiles\TUV\MILSTD810F 40G, 11MS.vkp
Data stored on Feb 09, 2009 19:38:42
- -

End of Test



Test level schedule:

	Pulses	Level	
1)	3	100 %	
2)	3	* 100 %	(Memorized drive)

** Test started Feb 09, 2009 19:38:33
** Current level: 2, running at 100 % for 3 of 3 pulses

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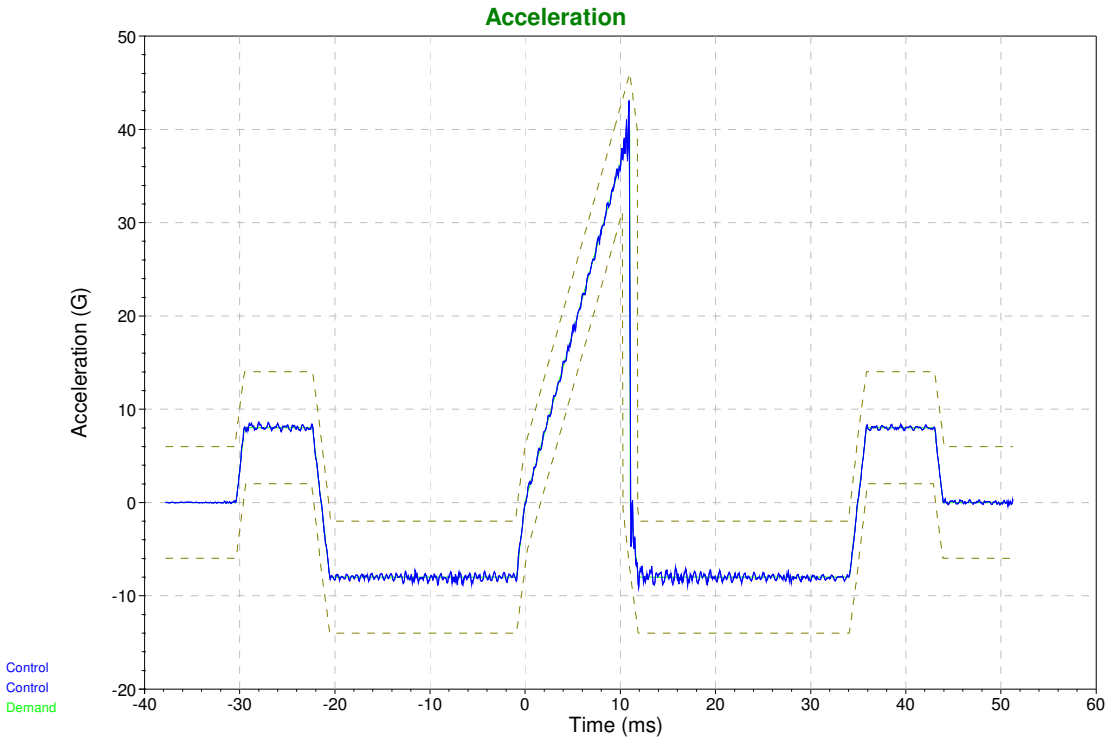
APPENDIX C: (CONT)

REPRESENTATIVE POSITIVE SHOCK

Data: R:\EST_HLM_Shared\Testing Services\Reports & Test Data\TUV NB\H6859 Functional Shock\2009Feb09-1938-0001.vkd
Test: R:\EST_HLM_Shared\Testing Services\Vibration Profiles\TUV\MILSTD810F 40G, 11MS.vkp
Data stored on Feb 09, 2009 19:38:39
- -

End of Test



Test level schedule:

	Pulses	Level	
1)	3	100 %	
2)	3	* 100 %	(Memorized drive)

** Test started Feb 09, 2009 19:38:33
** Current level: 1, running at 100 % for 3 of 3 pulses

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APPENDIX E

TEST DATA SHEETS

Environ Laboratories Inc Engineering Report 39885-1

MIL-STD-810F Method 510.4, Procedure I
Blowing Dust

Engineering Report 39885-1

Blowing Dust Test

for

TÜV SÜD America, Inc.
1775 Old Highway 8 NW, Suite 104
New Brighton, MN 55112-1891

Prepared By:	Amy L. Jimenez, Technical Writer
Approved By:	David M. Gillen, Vice President
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Revision History

Revision	Total Number of Pages	Date	Description
--	9	March 9, 2009	Original

Prepared for:	Test Dates	
TÜV SÜD America, Inc. 1775 Old Highway 8 NW, Suite 104 New Brighton, MN 55112-1891	**Start:**	2/25/2009
	Completion:	2/26/2009
	Environ Test Number:	**39885-1**
Attention: Mr. Steve Siech	**Purchase Order Number:**	**24424**
	Purchase Date:	2/17/2009

Blowing Dust Test

1.0 Abstract

1.1 Object

Subject one AC/DC MIL Adapter to a Blowing Dust Test in accordance with *MIL-STD-810F*, Method 510.4, Procedure I, as requested in TÜV SÜD America, Inc. purchase order 24424, dated February 17, 2009.

1.2 Conclusions

The test unit operated properly before and after the test. Post-test inspection revealed no visible evidence of damage or degradation to the test unit.

2.0 Unit(s) Tested

Table 1: Units Tested

Manufacturer	TÜV SÜD America, Inc.
Device	One (1) AC/DC MIL Adapter
Model/Part Number	ACMIL2835-ZZZZ
Serial Number	N/A

The results of this test apply only to the units identified in this Engineering Report by device identifier and model / part number, or serial number.

3.0 Test Requested

Subject the test unit to a Blowing Dust Test in accordance with *MIL-STD-810F*, Method 510.4, Procedure I.

Use a particle size distribution of 100% by weight less than 157 µm, with a median diameter (50% by weight) of 20 ±5 µm.

Step 1 With the test item in the chamber, adjust the test section temperature to standard ambient conditions and the air velocity to 8.9 m/s. Adjust the test section relative humidity to less than 30% and maintain it throughout the test.

Step 2 Adjust the dust feed control for a dust concentration of 10.6 ±7 g/m^3.

Step 3 Unless otherwise specified, maintain the conditions of Steps 1 and 2 for at least 6 hours. If required, periodically reorient the test item to expose other vulnerable faces to the dust stream.

Step 4 Stop the dust feed. Reduce the test section air velocity to approximately 1.5 m/s and adjust the temperature to the required high operational temperature, or as otherwise determined from the test plan.

Step 5 Maintain the Step 4 conditions for 1 hour following test temperature stabilization.

Step 6 Adjust the air velocity to 8.9 m/s and restart the dust feed to maintain the dust concentration as in Step 2.

Step 7 Continue the exposure for at least 6 hours or as otherwise specified. If required, operate the test item in accordance with the test plan.

Step 8 Allow the test item to return to standard ambient conditions, and the dust to settle.

Step 9 Remove accumulated dust from the test item by brushing, wiping, or shaking, taking care to avoid introduction of additional dust or disturbing any which may have already entered the test item. Do not remove dust by either air blast or vacuum cleaning unless these methods are likely to be used in service.

Step 10 Perform an operational check in accordance with the approved test plan, and document the results for comparison with pretest data.

Step 11 Inspect the test item for dust penetration, giving special attention to bearings, grease seals, lubricants, filters, ventilation points, etc. Document the results.

4.0 Instrumentation, Procedure, and Results

4.1 Instrumentation

All instrumentation is calibrated regularly by instruments directly traceable to the National Institute of Standards and Technology, and in accordance with *MIL-I-45208A, ANSI/NCSL Z540.3-2006,* and *ISO/IEC 17025: 2005.*

Table 2: Instrumentation List

Equipment Number	Description	Manufacturer	Model Number	Last Calibration	Due Calibration	Range
200-076	Temperature Controller Recorder	Honeywell	AR52A CD0051	12/4/2008	6/4/2009	0º to +200ºF
200-109	Temperature Controller	Watlow	965	4/21/2008	4/21/2009	-328º to +662ºF
200-110	Temperature Controller	Watlow	965	4/21/2008	4/21/2009	0 to 5 VDC
210-062	Digital Multimeter	Fluke	87 III	8/4/2008	8/4/2009	0 to 40 VDC
400-029	Stopwatch	Radio Shack	63-5014	12/12/2008	12/12/2009	0 to 10 Hours
501-066	Hygro-Thermometer	Extech	EA20	12/12/2008	12/12/2009	-4º to +140ºF (-20º to +60ºC); 10 to 95% RH
504-018	Dust Chamber	Environ	D-5	7/3/2007	7/3/2009	Dust: 0 to 20 g/m³; Air Velocity: 0 to 2200 fpm

4.2 Procedure

The dust used in the test was 140-mesh silica flour from the U.S. Silica Company, 701 Boyce Memorial Drive, Ottawa, Illinois 61350.

A pretest operation test was conducted. The test unit was placed in the dust chamber. The temperature was adjusted to 23°C (73.4°F) with a relative humidity of 21%. The chamber air velocity was increased to 8.9 m/s (1750 ft/min) and the dust feeder was adjusted to provide a dust concentration of 10 g/m³ (0.3 g/ft³). These conditions were maintained for 6 hours.

The dust feeder was turned off and the air velocity was reduced to 2 m/s. The chamber temperature was increased to 60°C (140°F) with a relative humidity of 10%. These conditions were held overnight to allow the test unit to stabilize.

The chamber air velocity was increased to 8.9 m/s (1750 ft/min) and the dust feeder was adjusted to provide a dust concentration of 10 g/m³ (0.3 g/ft³). These conditions were maintained for 6 hours.

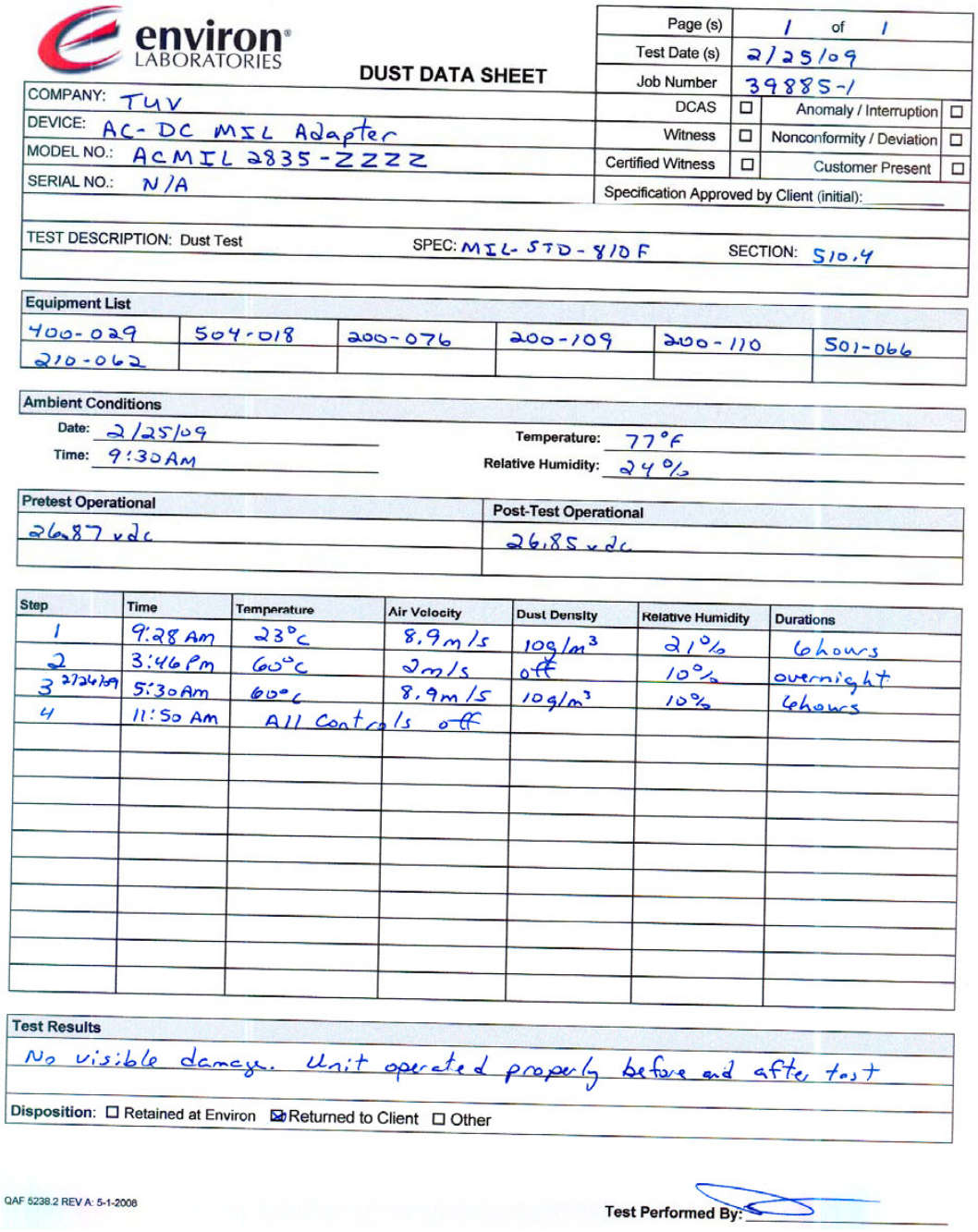
The chamber was returned to ambient conditions and the test unit stabilized. Accumulated dust was removed by brushing with a soft bristle brush.

A post-exposure operational test was conducted.

4.3 Results

The test unit operated properly before and after the test. Post-test inspection revealed no visible evidence of damage or degradation to the test unit. The test unit was returned to TÜV SÜD America, Inc.

Figure 1, herein, is the test data sheet. Figure 2 is the chamber temperature chart. Photograph 1 depicts the test setup.



environ LABORATORIES

DUST DATA SHEET

Page (s)	1 of 1		
Test Date (s)	2/25/09		
Job Number	39885-1		
DCAS	☐	Anomaly / Interruption	☐
Witness	☐	Nonconformity / Deviation	☐
Certified Witness	☐	Customer Present	☐
Specification Approved by Client (initial):			

COMPANY: TUV
DEVICE: AC-DC MIL Adapter
MODEL NO.: ACMIL 2835-ZZZZ
SERIAL NO.: N/A

TEST DESCRIPTION: Dust Test SPEC: MIL-STD-810F SECTION: 510.4

Equipment List

400-029	504-018	200-076	200-109	200-110	501-066
210-062					

Ambient Conditions

Date: 2/25/09
Time: 9:30 AM
Temperature: 77°F
Relative Humidity: 24%

Pretest Operational	Post-Test Operational
26.87 v dc	26.85 v dc

Step	Time	Temperature	Air Velocity	Dust Density	Relative Humidity	Durations
1	9:28 AM	23°C	8.9 m/s	10g/m³	21%	6 hours
2	3:46 PM	60°C	2 m/s	off	10%	overnight
3 2/26/09	5:30 AM	60°C	8.9 m/s	10g/m³	10%	6 hours
4	11:50 AM	All Controls off				

Test Results

No visible damage. Unit operated properly before and after test

Disposition: ☐ Retained at Environ ☒ Returned to Client ☐ Other

QAF 5238.2 REV A: 5-1-2006

Test Performed By:

Figure 1: Blowing Dust Test Data Sheet

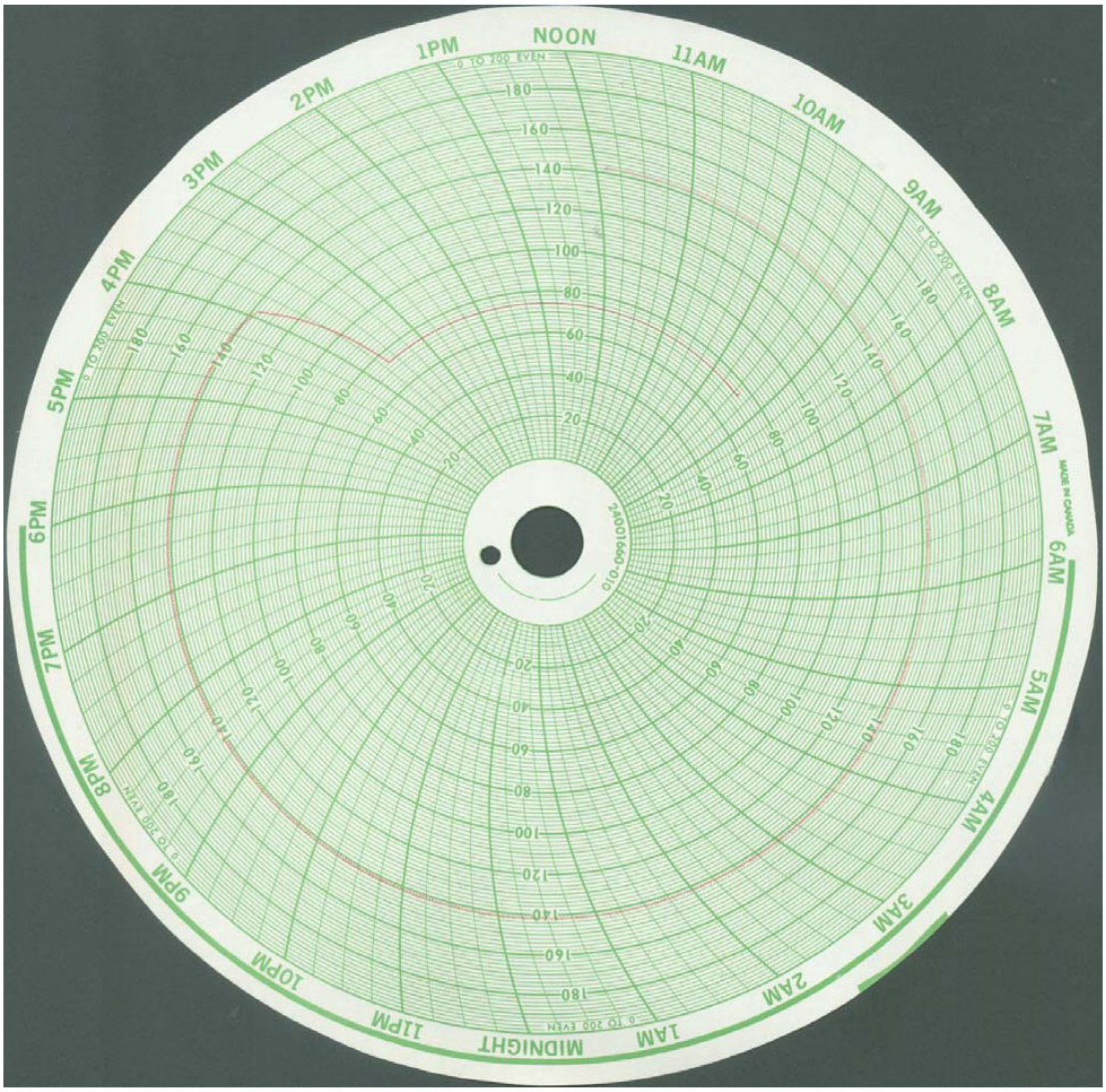


Figure 2: Chamber temperature (°F) chart

Photograph 1: Test setup

APPENDIX F

TEST DATA SHEETS

MIL-STD-810F Method 507.4
Humidity Voltage Readings

Lind Electronics

Project # EC807039 Start Date 1/7/09

Voltage readings Starting voltage ambiant 26.85 VDC

1/08/09 @ 1000	26.84
1/09/09 @ 1200	26.82
1/10/09 @ 0800	26.83
1/11/09 @ 1200	26.84
1/12/09 @ 0800	26.84
1/13/09 @ 1200	26.81
1/14/09 @ 0800	26.82
1/15/09 @ 1200	26.81
1/16/09 @ 0800	26.83
1/17/09 @ 1200	26.84
1/18/09 @ 0800	26.84

Ending voltage ambiant 26.85