National Technical Systems Test Report for Environmental Testing of the 19CD0002SwitchBox

Prepared For
Amphenol Aerospace | 191 Delaware Ave | Sidney, NY 13838

Performed By
National Technical Systems | 36 Gilbert Street South | Tinton Falls, NJ 07701 | 732-936-0800 | www.nts.com

Brett Leslie	Mark Betts	Mark Betts
Technical Writer	ENV Project Engineer	Quality Management Representative

Revision History

Rev.	Description	Issue Date
0	Initial Release	07/02/2021
1	Added acceleration testing section; Section 5.8, page 40	7/21/2021

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List of Tables

1.0 Introduction

This document presents the test procedures used and the results obtained during the performance of an Environmental (ENV) test program. The test program was conducted to assess the ability of the specified Equipment Under Test (EUT) to successfully satisfy the requirements listed in Section 2.0.

2.0 References

The following references listed below form a part of this document to the extent specified herein.

- Test Specifications: Customer provided test specifications, *TP 19CD0002 Rev B*, dated 03/30/2020
- Test Specifications: MIL-STD-810G, *Department of Defense Test Method Standard, Environmental Engineering Considerations and Laboratory Tests,* dated 10/31/2008
- Test Specifications: RTCA DO-160D, *Environmental Conditions and Test Procedures for Airborne Equipment*, dated 7/29/1997
- Amphenol Aerospace Purchase Order(s) 310136, dated 04/22/2021
- National Technical Systems (NTS) Quote(s) OP0570257-0, dated 12/18/2020
- ISO/IEC 17025:2017(E) *General Requirements for the Competence of Testing and Calibration Laboratories*, dated 11/1/2017

3.0 Product Selection and Description

Amphenol Aerospace selected and provided the test sample(s) to be used as the Equipment Under Test. Details below:

Table 3.0-1: Product Identification - Equipment Under Test (EUT)

Item	Qty.	Name/Description	Part Number	Serial Number
1	1	19CD0002 SwitchBox	19CD0002-1	N/A

3.0.1 Received EUT Photographs

EUT Photo

3.1 Security Classification

Non-classified

4.0 General Test Requirements

4.1 Test Equipment

The instrumentation used in the performance of these tests is periodically calibrated and standardized within manufacturer's rated accuracies and are traceable to the National Institute of Standards and Technology. The calibration procedures and practices are in accordance with ISO 17025:2017. Certification of calibration is on file subject to inspection by authorized personnel.

5.0 Test Descriptions and Results

Table 5.0-1: Summary of Test Information & Results

Section	Test	Specification	Test Facility	Test Date	Part #	Serial #	Test Result
5.1	Temperature Altitude (Temp Storage)	Customer provided test specifications (19CD0002 Rev B) referencing MIL-STD 810G	Tinton Falls	03/23/2021 - 03/30/2021	19CD0002-1	N/A	Passed
5.2	Blowing Dust	Customer provided test specifications (19CD0002 Rev B) referencing MIL-STD 810G	Tinton Falls	04/01/2021	19CD0002-1	N/A	Passed
5.3	Salt Fog	Customer provided test specifications (19CD0002 Rev B) referencing MIL-STD 810G	Tinton Falls	05/10/2021 - 05/14/2021	19CD0002-1	N/A	Passed
5.4	Explosion	Customer provided test specifications (19CD0002 Rev B) referencing RTCA DO-160D	Tinton Falls	04/14/2021	19CD0002-1	N/A	Passed
5.5	Rain (Drip)	Customer provided test specifications referencing (19CD0002 Rev B) RTCA DO-160D	Tinton Falls	05/14/2021	19CD0002-1	N/A	Failed
5.6	Humidity	Customer provided test specifications referencing (19CD0002 Rev B) RTCA DO-160D	Tinton Falls	04/21/2021 - 04/23/2021	19CD0002-1	N/A	Passed
5.7	Humidity	Customer provided test specifications (19CD0002 Rev B) referencing MIL-STD 810G	Tinton Falls	04/26/2021 - 05/07/2021	19CD0002-1	N/A	Passed
5.8	Acceleration	Customer provided test specifications (19CD0002 Rev B) referencing MIL-STD 810G	Boxborough	05/27/2021- 05/28/2021	19CD0002-1	N/A	Passed

The decision rule for Test Results was based on the Test Specification used for testing.

5.1 Temperature Altitude (Temp Storage)

5.1.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.1, storage requirement "The SwitchBox shall be able to be stored at -65°C to 85°C". Referencing MIL-STD 810G Method 501.5, Procedure I (High Temperature Storage), constant temperature storage, two (2) hour soak after stabilization), and Method 502.5, Procedure I (Low Temperature Storage), two (2) hour soak after stabilization).

5.1.2 Test Result

Test Result: The EUT passed

5.1.3 Test Datasheets

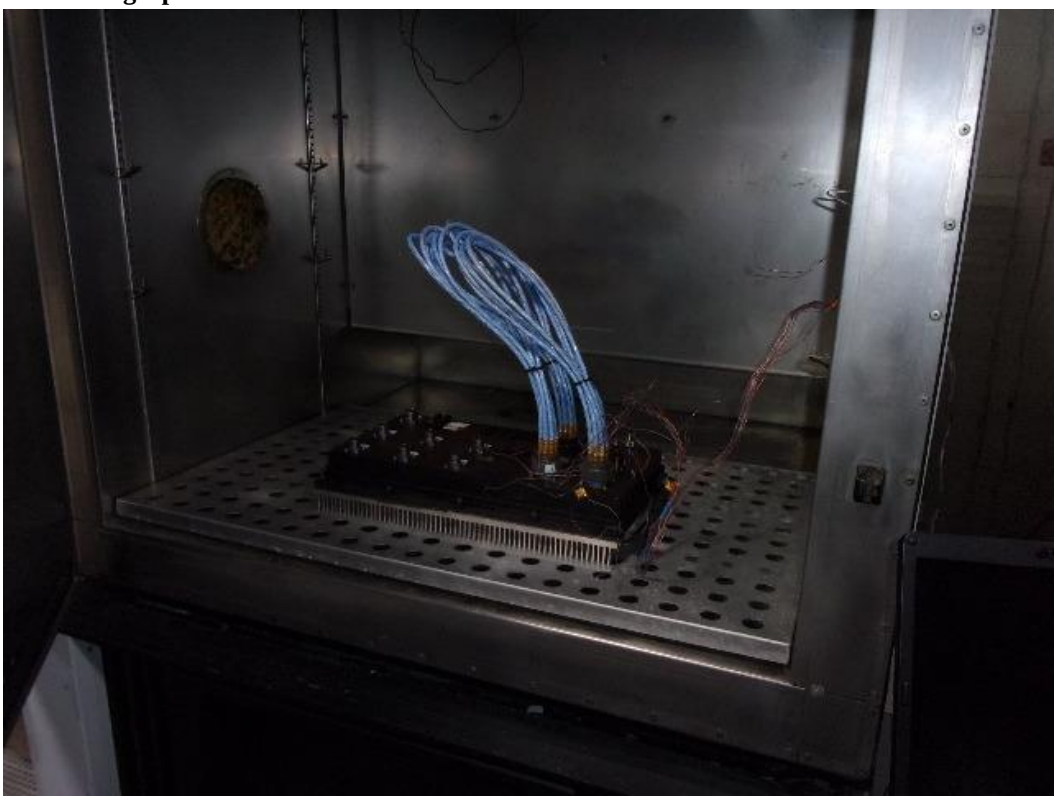
GENERAL LOG SHEET

Job Number:	PR131850		**Date:**	3/23/21-3/30/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	High/Low Temperature Storage		**Test Item:**	Switchbox	
Specification:	Customer provided test specs referencing MIL-STD 810G		**Model or P/N:**	19CD0002-1	
Para./Sect.:	3.14.1		**S/N(s):**	N/A	

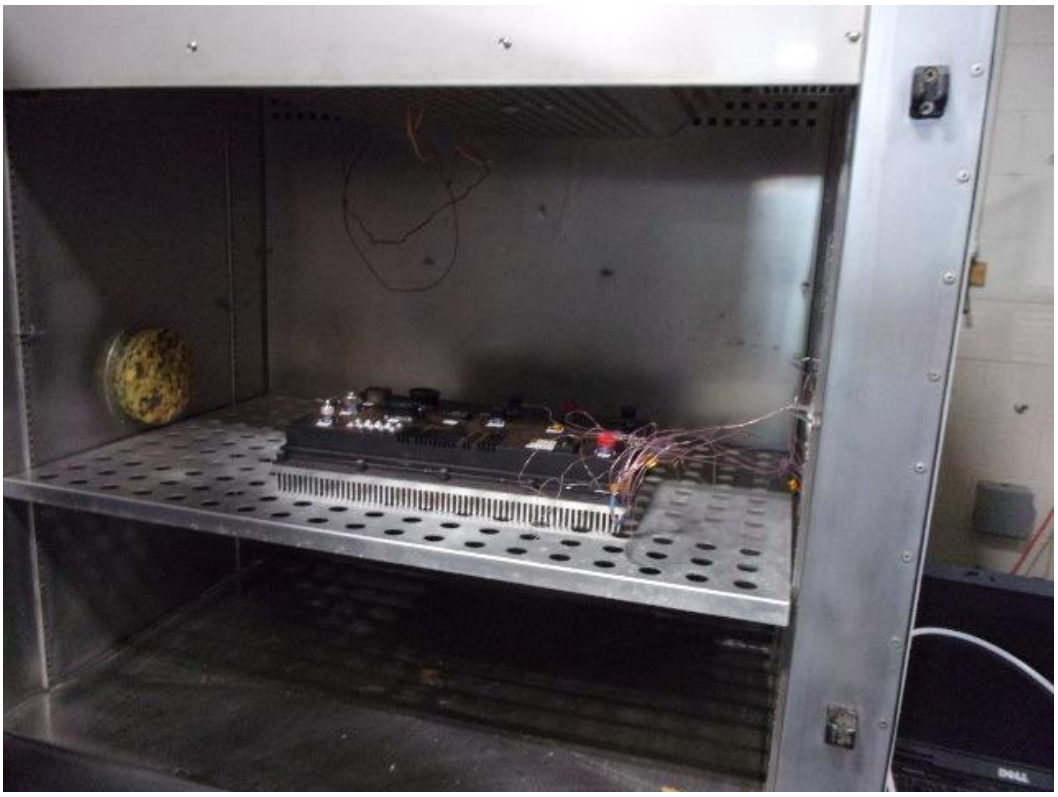
Date	Time	Log Entries	Init.
3/23	8:30	Started high temperature storage test	BP
3/30	15:40	Started low temperature storage test	BP
3/30	21:00	Completed Storage Temperature Testing- Passed	BP

Test Performed By: Brian Pasznik

5.1.4 Test Photographs

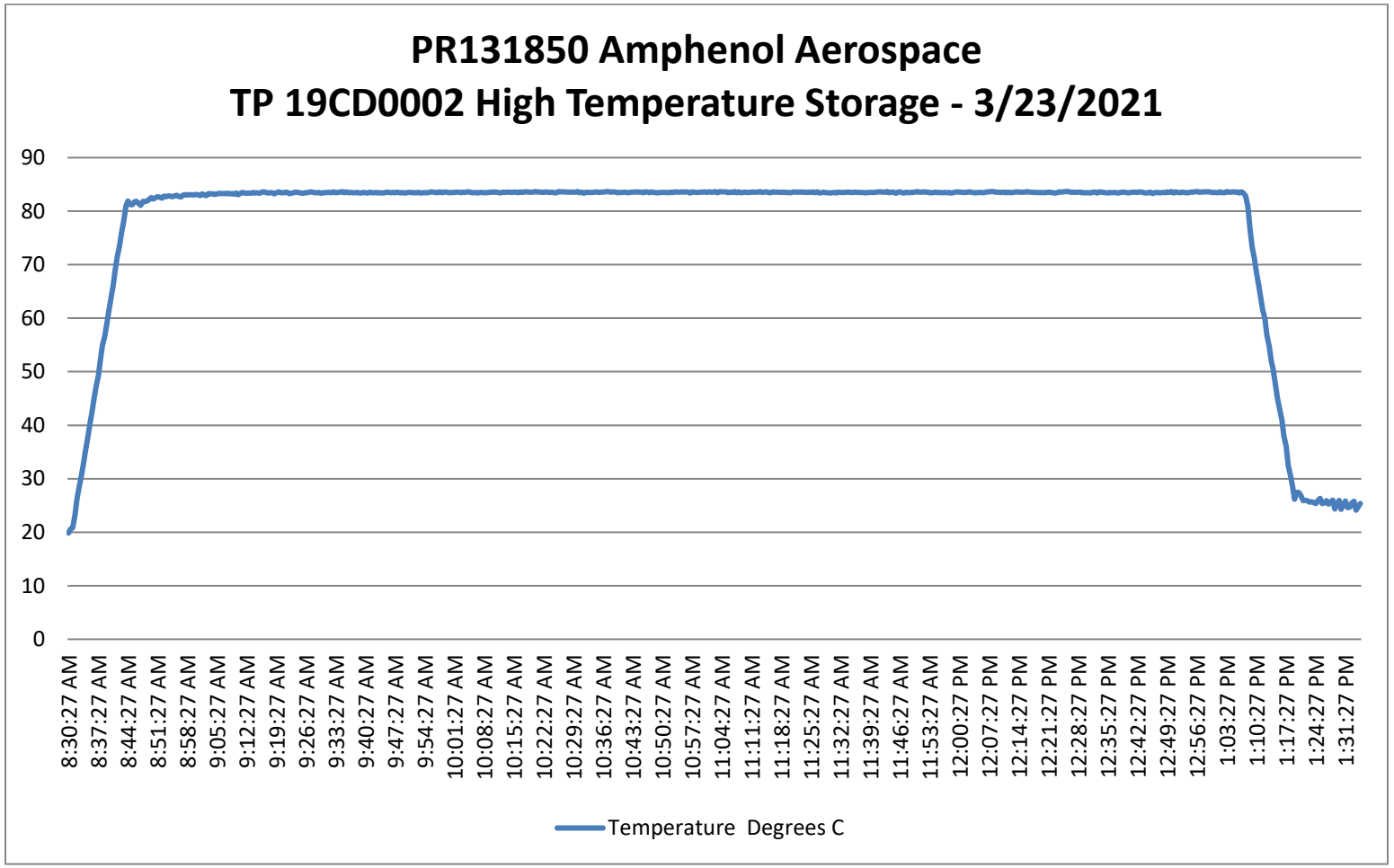


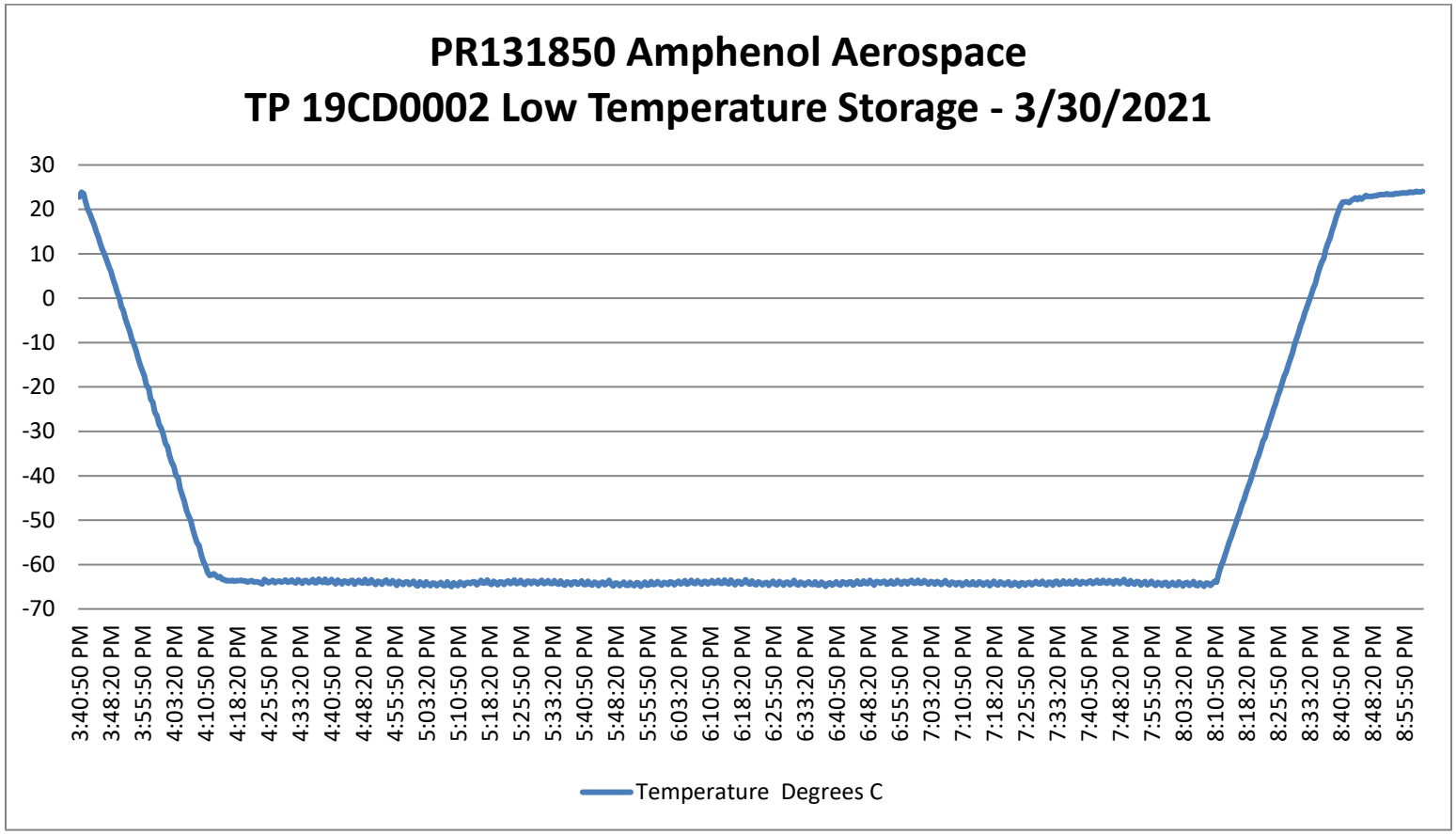
High Temperature Storage



Low Temperature Storage

5.1.5 Test Data




PR131850 Amphenol Aerospace
TP 19CD0002 Low Temperature Storage - 3/30/2021
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
3:40:50 PM
3:48:20 PM
3:55:50 PM
4:03:20 PM
4:10:50 PM
4:18:20 PM
4:25:50 PM
4:33:20 PM
4:40:50 PM
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8:33:20 PM
8:40:50 PM
8:48:20 PM
8:55:50 PM
Temperature Degrees C

5.1.6 Test Equipment List

Table 5.1-1: Temperature Altitude (Temp Storage) Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Cali-brated	Due
WC024140	Recorder (Data)	Agilent Technologies	34970A	08/31/2020	08/31/2021
WC058388	Chamber (Temperature/Humidity)	Thermotron	SE-600-5-5	NCR	NCR

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.2 Blowing Dust

5.2.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.6, referencing MIl-STD-810G, Method 510.5, Procedure I & Procedure II.

5.2.2 Test Result

Test Result: The EUT passed

5.2.3 Test Datasheets

GENERAL LOG SHEET

Job Number:	PR131850		**Date:** 4/1/21	**Page** 1 **of** 1	
Client:	Amphenol Aerospace				
Test:	Blowing Dust		**Test Item:**	SwitchBox	
Specification:	Customer provided test specs referencing MIL-STD 810G		**Model or P/N:**	19CD0002	
Para./Sect.:	3.14.6		**S/N(s):**	N/A	

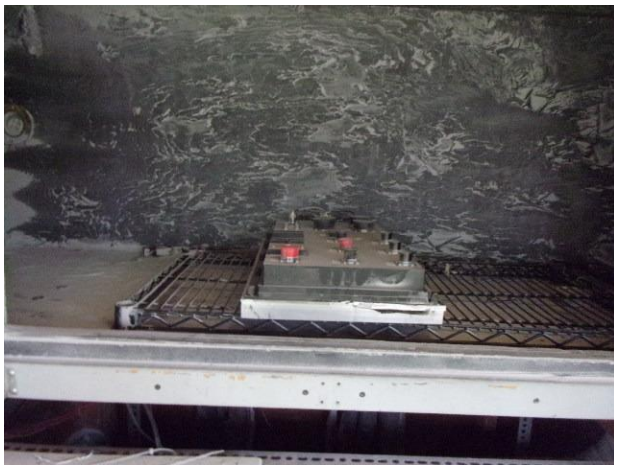
Date	Time	Log Entries	Init.
4/1	7:42	Placed EUT in the dust chamber	BP
4/1	8:09	Started blowing dust test at 23C	BP
4/1	9:13	Rotated EUT 90°	BP
4/1	10:26	Rotated EUT 90°	BP
4/1	11:40	Rotated EUT 90°	BP
4/1	12:53	Rotated EUT 90°	BP
4/1	14:17	Completed Testing - Pass	BP

Test Performed By: Brian Pasznik

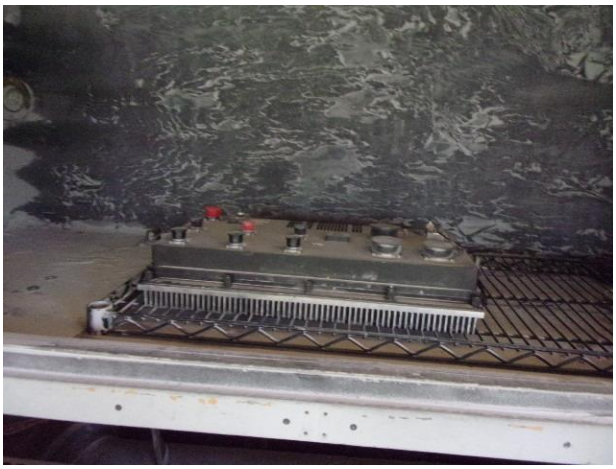
5.2.4 Test Photographs

Blowing Dust Face 1

Blowing Dust Face 2

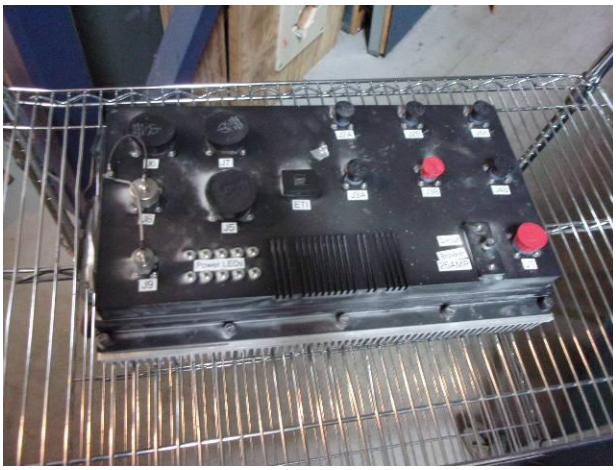


Blowing Dust Face 3



Blowing Dust Face 4

Blowing Dust Face 5

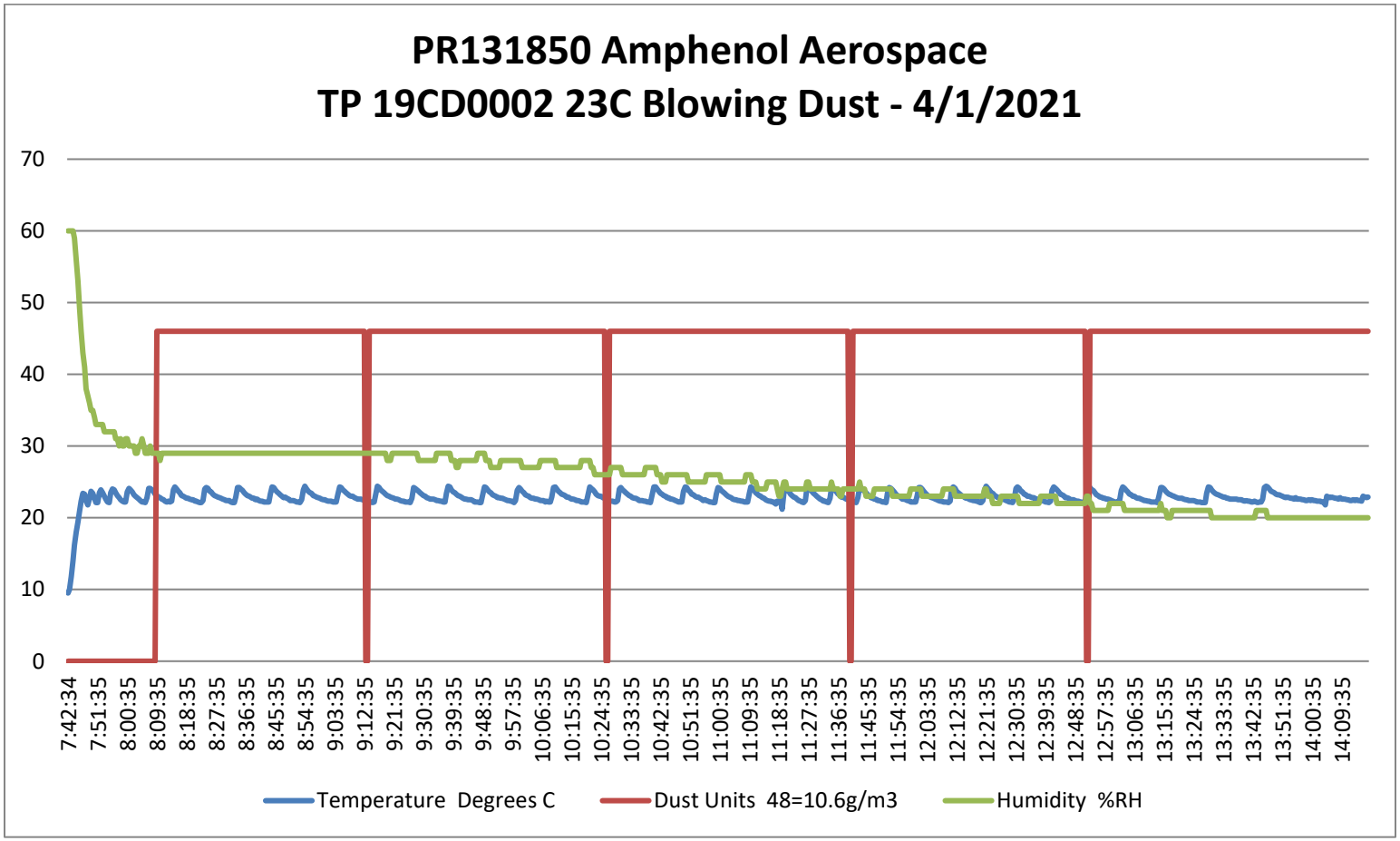


Post Test 1

Post Test 2

Post Test 3

5.2.5 Test Data



5.2.6 Test Equipment List

Table 5.2-1: Sand and Dust Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005410	Chamber (Dust, Blowing)	National Technical Systems	N/A	05/01/2019	08/21/2021
WC058488	Meter (Anemometer)	Fluke	922	03/25/2021	03/25/2022

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.3 Salt Fog

5.3.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.7, referencing MIL-STD-810G, Method 509.5.

5.3.2 Test Result

Test Result: The EUT passed

5.3.3 Test Datasheets

GENERAL LOG SHEET

Job Number:	PR131850		**Date:**	5/10/21-5/14/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	Salt Fog		**Test Item:**	Switchbox	
Specification:	Customer provided test specs referencing MIL-STD 810G		**Model or P/N:**	19CD0002-1	
Para./Sect.:	Section 3.14.7		**S/N(s):**	N/A	

Date	Time	Log Entries	Init.
5/10	7:26	Placed the EUT in the salt fog temperature chamber for pre heating	BP
5/10	10:19	Started the salt fog testing	BP
5/11	10:21	Removed EUT from the chamber for 24 hour drying period	BP
5/12	10:22	Started cycle 2 of the salt fog test	BP
5/13	10:25	Removed EUT from the chamber for 24 hour drying period	BP
5/14	10:30	Performed post functional check – Pass. The fuse switch was observed to be stuck during the post test.	BP
5/14	10:35	Completed Testing - Passed	BP

Test Performed By: Brian Pasznik

GENERAL LOG SHEET

Job Number: PR131850			**Date:**	5/10/2021-5/14/2021	**Pg** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	Salt Fog		Test Item:	Switchbox	
Specification: Customer provided test specifications (TP 19CD0002 Rev B), referencing MIL-STD-810G			Model or P/N:	19CD002-1	
Para./Sect.: Section 3.14.7			S/N(s):	N/A	

Items to be Verified Before Starting Test

Water	**Salt Solution**		
Type of Water: Deionized	**Type of Salt**		
Water resistivity (0.15 MΩ/cm to 5MΩ/cm: 241kΩ	**Salt Solution** 5 parts ± 1 by mass in 95 parts water (4 to 6% salt solution)	**pH @ 25°C: 6.97**	**Specific Gravity @ 25°C** (1.0255 to 1.0400)
	0.053 x Mass of Water = Mass of NaCl required	**pH @ 35°C: 6.89**	**1.03**

Log Entries

Readings Below to be Monitored Daily

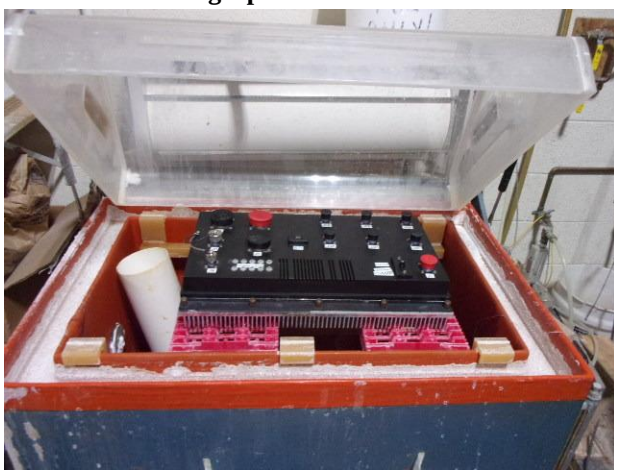
Date	**Time**	**Chamber Temp** 35 ± 2°C (95 ± 3°F)	**Fallout Rate** 1.0 to 3.0 mL/hour	**Salt Concentration of Fallout** 5 ± 1 mass % or	**Specific Gravity of Fallout** (1.0255 to 1.0400 @ 35°C)	**pH Of Collection** 6.5 to 7.2 @ 35°C	**Days in Test**	**Tech Init**
5/10/21	10:19	95	2.3	5	1.03	6.89	1	BP
5/11/21	10:21	24 Hour Drying Period						
5/12/21	10:22	95	2.3	5	1.03	6.89	1	BP
5/13/21	10:25	24 Hour Drying Period						

Test Performed By: Brian Pasznik

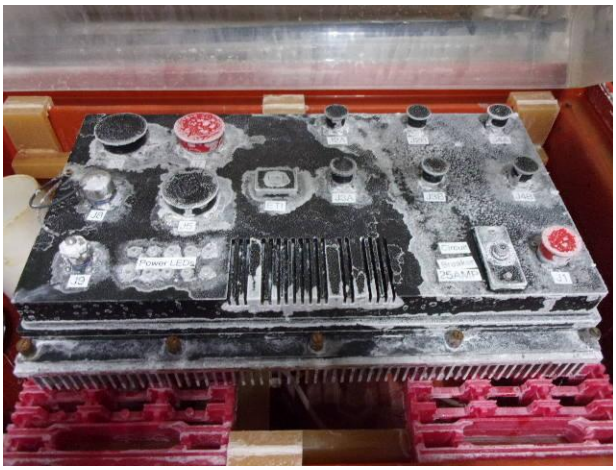
Table 509.6-II. Temperature versus density data. [2]

Temperature °C (°F)	Density g/cm³		
	4-percent Salt Concentration	5-percent Salt Concentration	6-percent Salt Concentration
20 (68)	1.025758	1.032360	1.038867
21 (69.8)	1.025480	1.032067	1.038560
22 (71.6)	1.025193	1.031766	1.038245
23 (73.4)	1.024899	1.031458	1.037924
24 (75.2)	1.024596	1.031142	1.037596
25 (77)	1.024286	1.030819	1.037261
26 (78.8)	1.023969	1.030489	1.036919
27 (80.6)	1.023643	1.030152	1.036570
28 (82.4)	1.023311	1.029808	1.036215
29 (84.2)	1.022971	1.029457	1.035853
30 (86)	1.022624	1.029099	1.035485
31 (87.8)	1.022270	1.028735	1.035110
32 (89.6)	1.021910	1.028364	1.034729
33 (91.4)	1.021542	1.027986	1.034343
34 (93.2)	1.021168	1.027602	1.033950
35 (95)	1.020787	1.027212	1.033551
36 (96.8)	1.020399	1.026816	1.033146
37 (98.6)	1.020006	1.026413	1.032735
38 (100.4)	1.019605	1.026005	1.032319
39 (102.2)	1.019199	1.025590	1.031897
40 (104)	1.018786	1.025170	1.031469

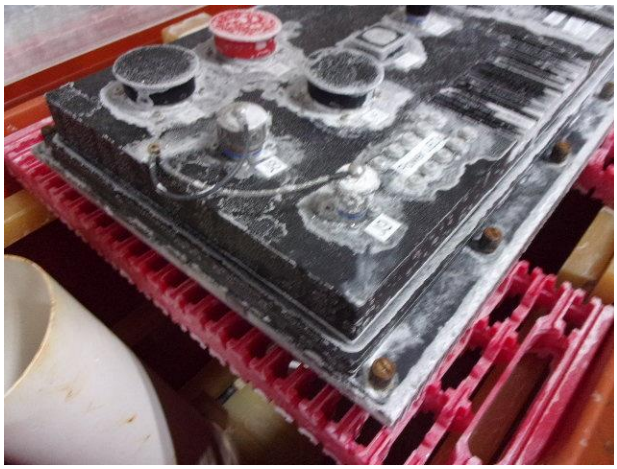
5.3.4 Test Photographs



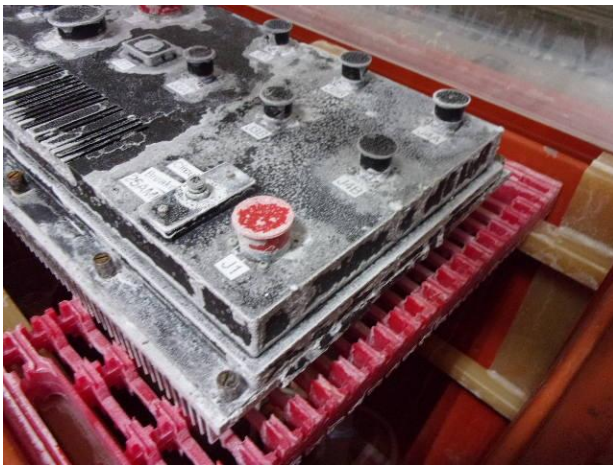
Salt Fog Setup



Post Salt Fog



Post Salt Fog 2



Post Salt Fog 4

Post Cleaning

5.3.5 Test Equipment List

Table 5.3-1: Salt Fog Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005388	Chamber (Salt Fog/Spray)	Singleton	N/A	10/12/2020	10/12/2021
WC024107	Cylinder (Graduated)	N/A	142.236.05	NCR	NCR
WC024110	Meter (Conductivity/PH/Salinity)	Hanna Company	HI-3512	01/11/2021	01/11/2022

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.4 Explosion

5.4.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.9, The SwitchBox shall be explosion proof as per RTCA DO-160D Category E. The SwitchBox shall not produce spark energy of more than 0.25 millijoules (mJ) in any circumstance. Explosive Atmosphere test per RTCA DO-160D, Category A (heat rise, surface temperature test) will be performed in conjunction with Category E to verify the Switchbox will not ignite an explosive atmosphere.

5.4.2 Test Result

Test Result: The EUT passed

5.4.3 Test Datasheets

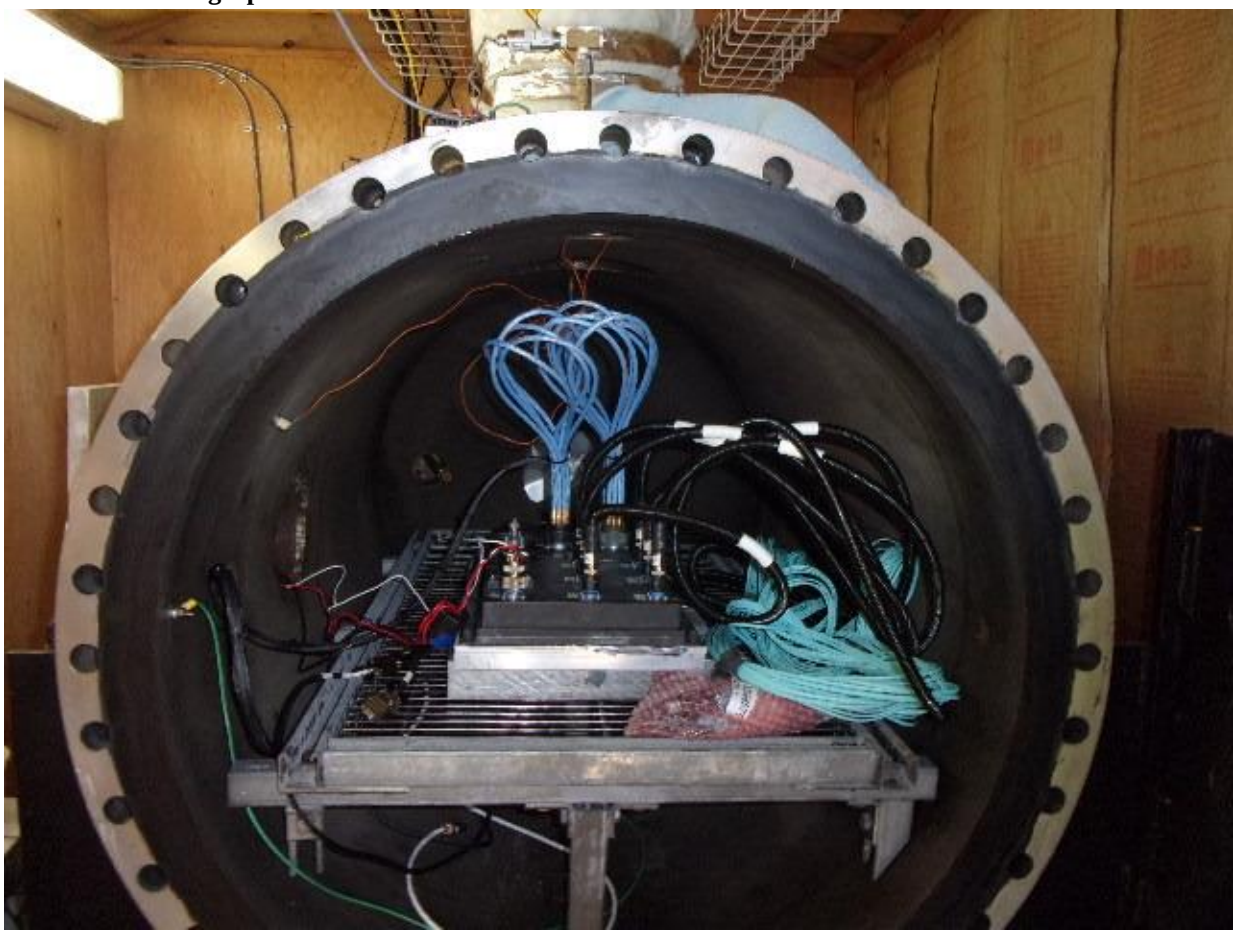
GENERAL LOG SHEET

Job Number:	PR131850		**Date:** 4/14/21	**Page** 1 **of** 1	
Client:	Amphenol Aerospace				
Test:	Explosive Atmosphere		**Test Item:**	SwitchBox	
Specification:	RTCA/DO-160D		**Model or P/N:**	19CD0002	
Para./Sect.:	Category E		**S/N(s):**	N/A	

Date	Time	Log Entries	Init.
4/14	11:16	Placed EUT in the chamber and performed a pre test functional check	BP
4/14	11:22	Sealed the chamber and started heating to 60C	BP
4/14	12:52	Started ramp to 6600ft	BP
4/14	12:59	Started introducing 208ml of hexane into the chamber	BP
4/14	13:05	Verified explosiveness of the fuel mixture	BP
4/14	13:07	Powered on/off EUT a total of 3 times and performed a functional check	BP
4/14	13:20	Started ramp to ambient conditions	BP
4/14	15:02	Performed a post test functional check - Pass	BP
4/14	15:05	Completed Testing	BP

Test Performed By: Brian Pasznik

5.4.4 Test Photographs

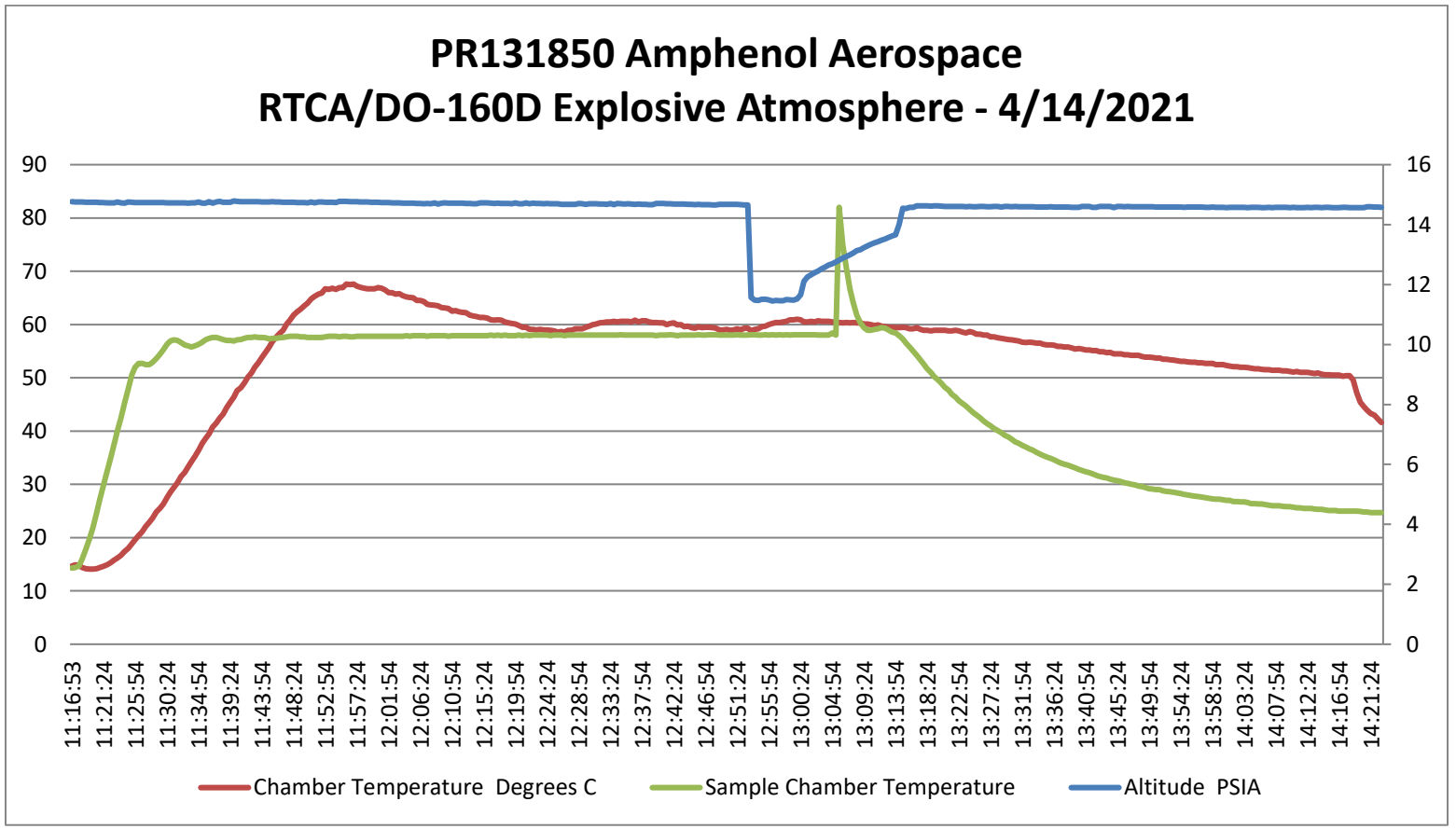


Explosive Atmosphere

5.4.5 Test Data

DATE /TIME	TEST ALT	Chamber Temp (C)	Specimen Temp (C)	Wall Temp (C)	Specimen Operating	COMMENTS (Insure Fuel Quantity is added here)	INIT
4/14/2021	0ft	60C	60C	60C	Yes	Added 208mL of Hexane	BP

Print Name:	Brian Pasznik	Signature / Initials:	BP
Print Name:	Mark Betts	Signature / Initials:	MB



5.4.6 Test Equipment List

Table 5.4-1: Explosion Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005609	Chamber (Explosive Atmosphere)	National Technical Systems	NTS	10/13/2020	10/13/2021

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.5 Rain (Drip)

5.5.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.10, The SwitchBox shall be capable at operating at full performance after exposure to water condensations as per RTCA DO-160D Category W.

5.5.2 Test Result

Test Result: The EUT failed. A test deviation occurred. For details, refer to Notice of Deviation (NOD) 5.5.4

5.5.3 Test Datasheets

DATA SHEET

Job Number:	PR131850	**Date:** 5/14/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace	**P. O. No.:**	
Test:	Rain (Drip)	**Test Item:**	Switchbox
Specification:	Customer provided test specifications referencing RTCA/DO-160D	**Model or P/N:**	19CD0002-1
Para./Sect.:	Section 3.14.10	**S/N(s):**	N/A

Remarks: The test was performed with the drip pan at a minimum height of 1 meter above the EUT. The EUT did not pass the post functional testing.

Interval (mins)	Unit Temp. (°C)	Water Temp. (°C)	Drip Rate (L/m²/hr)	Result Pass/Fail	Operational/Non-Operational
15	27	14	140	Fail	Non-Operational

Test Performed By:	Brian Pasznik
Project Manager:	Mark Betts

GENERAL LOG SHEET

Job Number:	PR131850		**Date:**	5/14/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	Rain (Drip)		**Test Item:**	Switchbox	
Specification:	Customer provided test specifications referencing RTCA DO-160D		**Model or P/N:**	19CD0002-1	
Para./Sect.:	Section 3.14.10		**S/N(s):**	N/A	

Date	Time	Log Entries	Init.
5/14	10:37	Placed the EUT in the temperature chamber for pre heating	BP
5/14	11:03	Started the drip test	BP
5/14	11:19	Completed Drip Testing	BP
5/14	11:30	Dried off test unit and performed a post functional test	BP
5/14	11:35	Completed Testing - Failed	BP

Test Performed By: Brian Pasznik

5.5.4 Test Notice of Deviation (NOD)

NOTICE OF DEVIATION

Client:	Amphenol Aerospace	**Job #:**	PR131850	**NOD #:**	1
P. O. #:		**Date of Deviation:**	**5/14/21**	**CPAR #:**	
Notification Made To: *(Client Contact)*	**Jared Sibrave**	**Notification Made By:**	Brian Pasznik		
If notification was not made, provide justification:					
Date:	5/14/21	**Via:**	Email		
Test:	Drip Test	**Test Item:**	Switchbox		
Specification:	TP19CD002 & RTCA/DO-160G	**Model or P/N:**	19CD002		
Revision/Date:	N/A	**Serial Number:**	N/A		

REQUIREMENTS: *(Reference paragraph or section of specification)*

Perform drip testing as per TP19CD002 and RTCA/DO-160G

DESCRIPTION OF DEVIATION

The switchbox did not pass the post functional testing.

DISPOSITIONS/COMMENTS/RECOMMENDATIONS:

The switchbox was sent back to the customer for evaluation.

		Mark Betts	5/14/21
Client Test Witness (if applicable)	Date	NTS Quality Representative	Date
	5/14/21		
Mark Betts			
NTS Project Manager	Date	Government QAR (if applicable)	Date

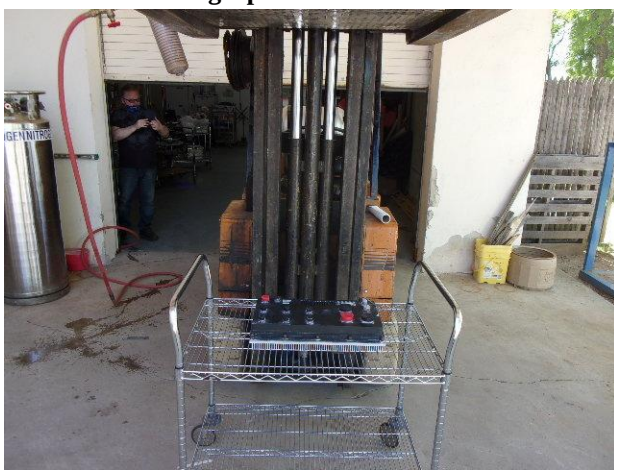
NOTE: IT IS THE CLIENT'S RESPONSIBILITY TO ANALYZE AND DISPOSITION DEVIATIONS ON CLIENT TEST PROGRAMS.

FOR NTS QA USE: ***Tracking Code:***

1. Employee Error	*2. Test Equipment Problem*	*3. Customer Item Problem*	*4. Weather*	*5. Power Failure*	*6. Equipment Limitations*	*7. Other*

COR 16.0, REV. 5

5.5.5 Test Photographs



Drip Setup

Drip Test

Drip Test 2

Drip Test 3

Post Drip 1

Post Drip 2

5.5.6 Test Equipment List

Table 5.5-1: Waterproofness/Rain Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005513	System (Wind/Rain)	Unknown	N/A	NCR	NCR

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.6 Humidity

5.6.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.11, referencing RTCA DO-160D, Category A.

5.6.2 Test Result

Test Result: The EUT passed.

5.6.3 Test Datasheets

GENERAL LOG SHEET

Job Number:	PR131850		**Date:**	4/21/21-4/23/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	Humidity		**Test Item:**	Switchbox	
Specification:	Customer provided test specs referencing RTCA DO-160D		**Model or P/N:**	19CD0002-1	
Para./Sect.:	Section 3.14.11		**S/N(s):**	N/A	

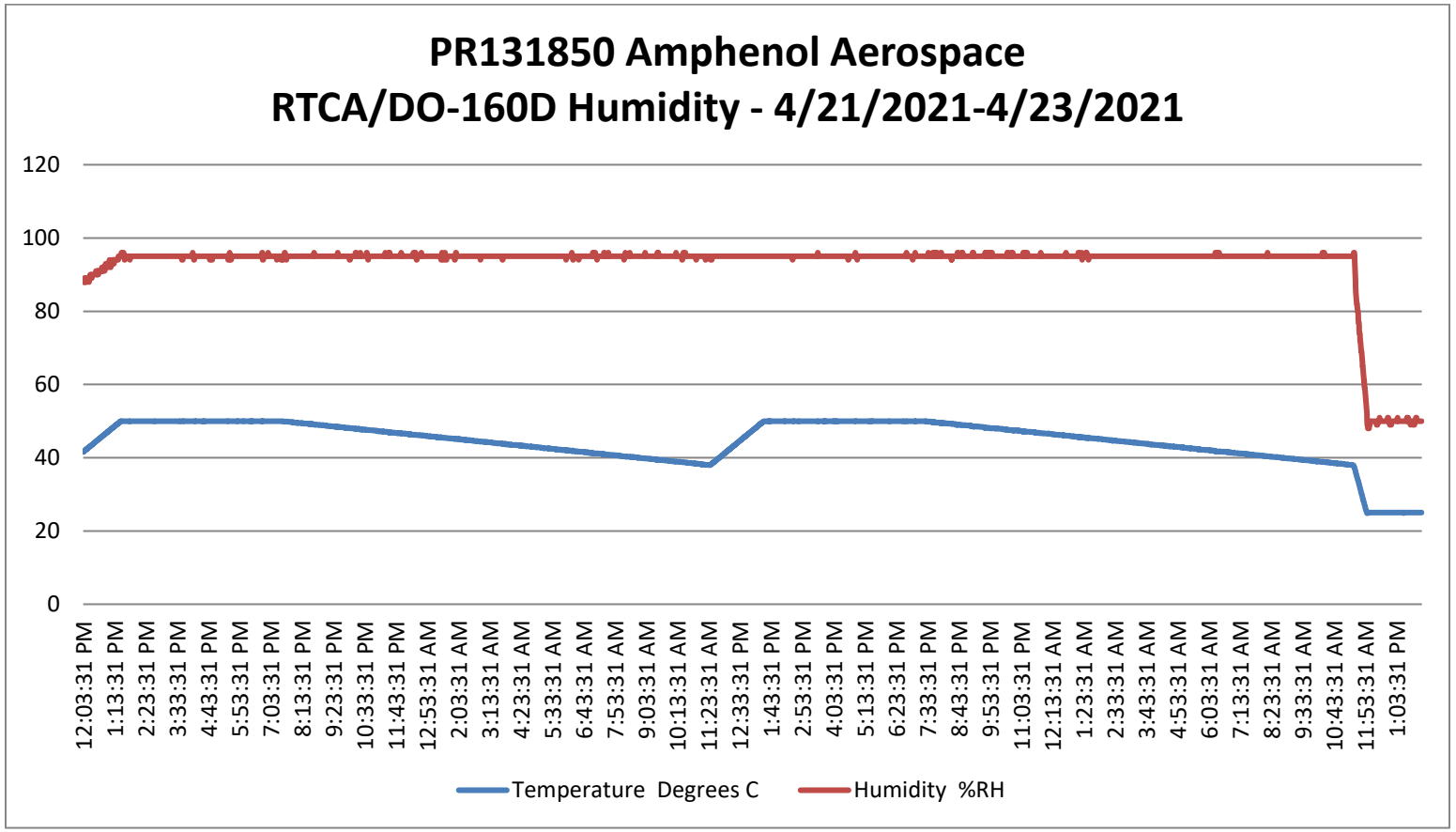
Date	Time	Log Entries	Init.
4/21	10:38	Started humidity testing	BP
4/23	12:00	Completed Testing - Pass	BP

Test Performed By: Brian Pasznik

5.6.4 Test Photographs

RTCA/DO-160D Humidity

5.6.5 Test Data



5.6.6 Test Equipment List

Table 5.6-1: Humidity Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005349	Chamber (Temperature/Humidity)	Espec	ESL28-6CA	10/12/2020	10/12/2021

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.7 Humidity

5.7.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.11, referencing MIL-STD-810G, Method 507.5, Procedure II.

5.7.2 Test Result

Test Result: The EUT passed

5.7.3 Test Datasheets

GENERAL LOG SHEET

Job Number:	PR131850		**Date:**	4/26/21-5/7/21	**Page** 1 **of** 1
Client:	Amphenol Aerospace				
Test:	Humidity		**Test Item:**	Switchbox	
Specification:	Customer provided test specs referencing MIL-STD 810G		**Model or P/N:**	19CD0002-1	
Para./Sect.:	Section 3.14.11		**S/N(s):**	N/A	

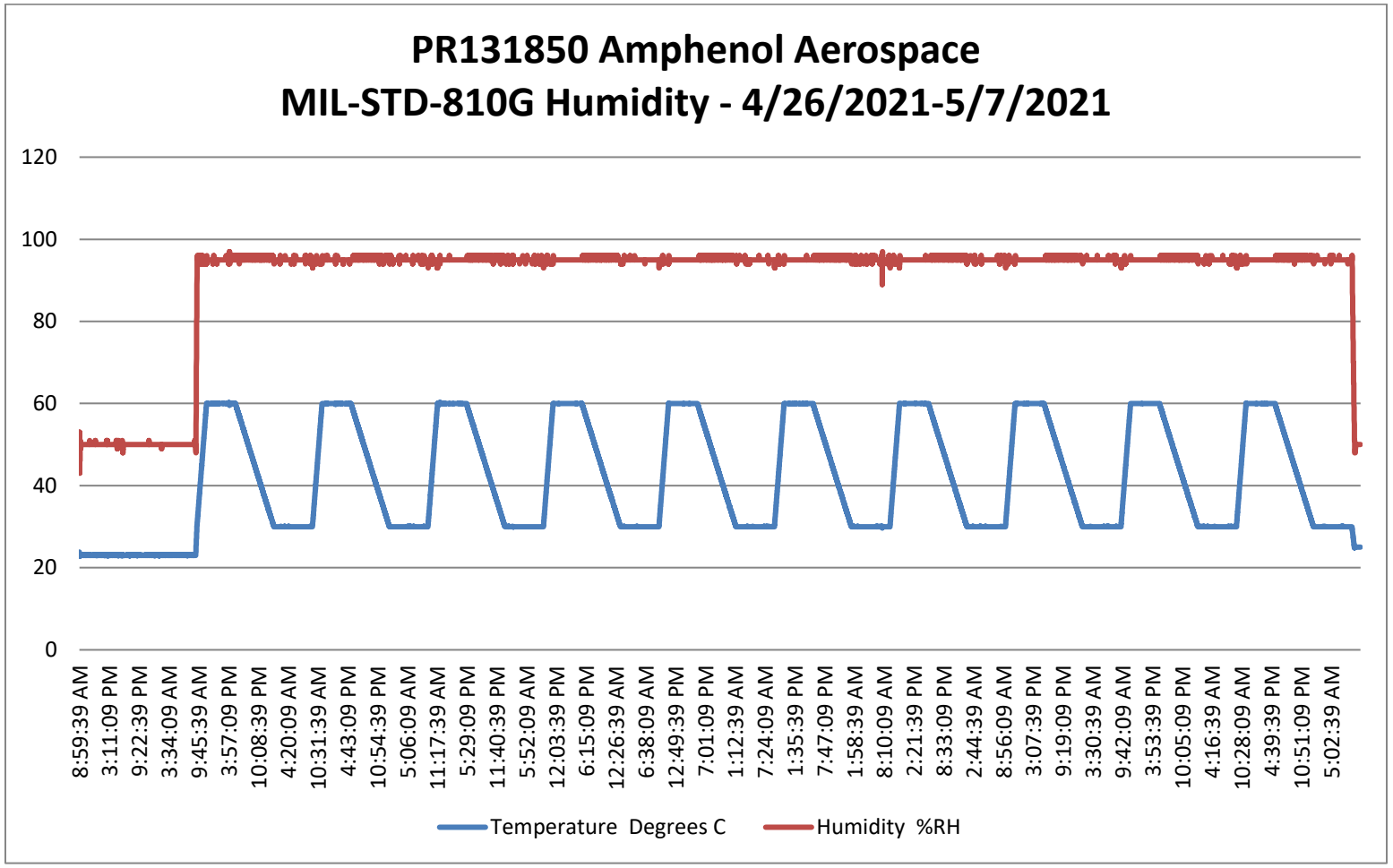
Date	Time	Log Entries	Init.
4/26	9:11	Started humidity testing	BP
5/7	11:10	Completed Testing	BP
5/7	11:15	Performed a functional post test - Passed	BP

Test Performed By: Brian Pasznik

5.7.4 Test Photographs

MIL-STD 810G Humidity

5.7.5 Test Data



5.7.6 Test Equipment List

Table 5.7-1: Humidity Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC005349	Chamber (Temperature/Humidity)	Espec	ESL28-6CA	10/12/2020	10/12/2021

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

5.8 Acceleration

5.8.1 Test Procedure

The EUT was tested in accordance with customer provided test specifications (TP 19CD0002 Rev B) Paragraph 3.14.3, referencing MIL-STD-810G Method 513.6 Procedure II and III.

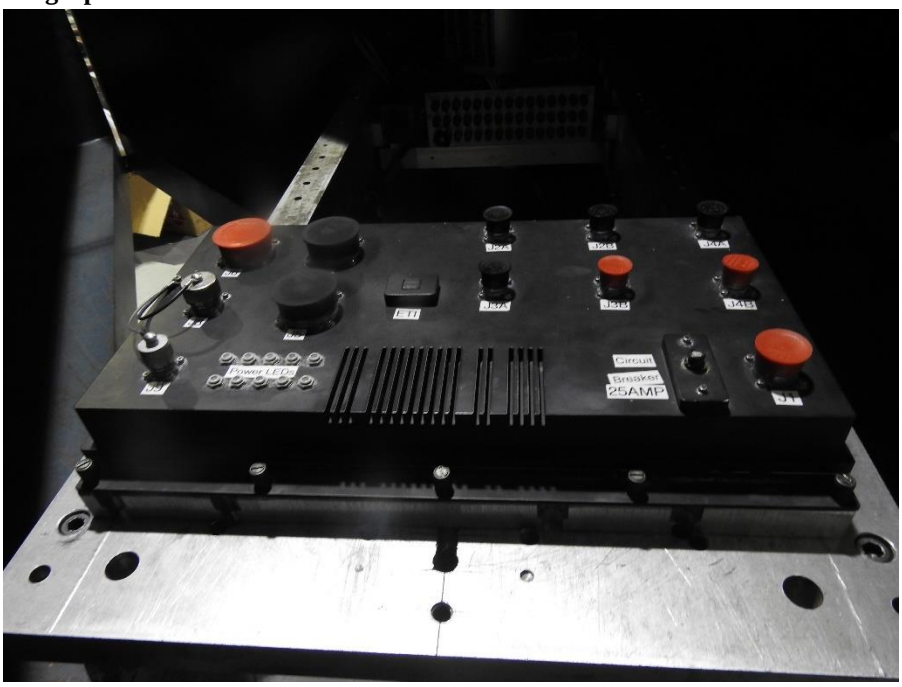
5.8.2 Test Result

Test Result: The EUT passed.

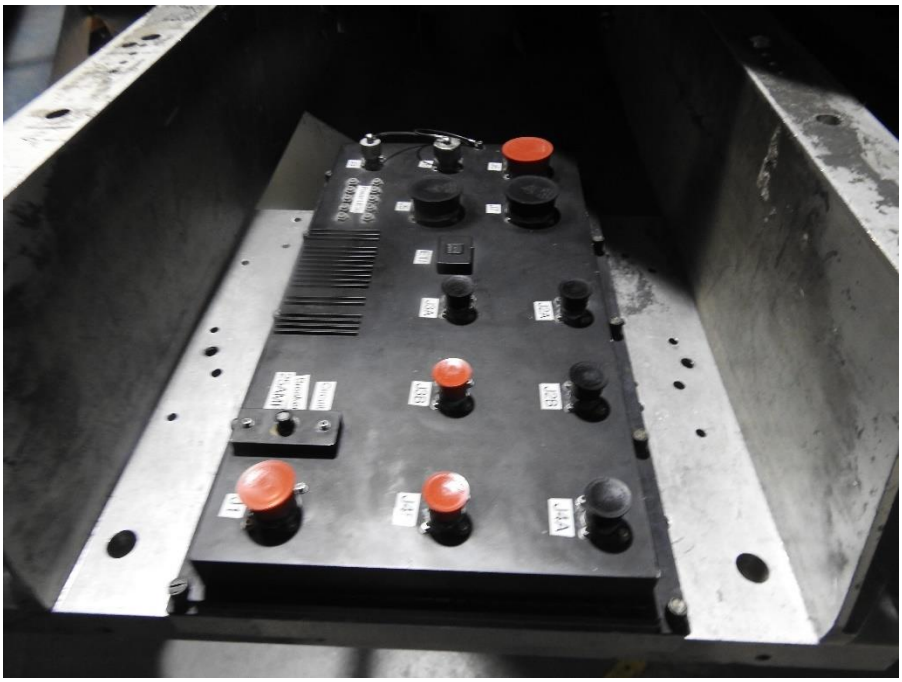
5.8.3 Test Datasheets

ENGINEERING NOTES		
Date	Time	Description
5/27/21	8:00	Setup EUT into Acceleration Chamber.
		No equipment for operational testing. Ran as Non-OP.
	14:23	Test#01, +Y-Axis at 6Gs.
	14:25	Test#02, +Y-Axis at 9Gs.
		Rotated.
	14::42	Test#03, -Y-Axis at 6Gs.
	14:44	Test#04, -Y-Axis at 9Gs.
		Rotated.
	15:11	Test#05, +Z-Axis at 6Gs.
	15:13	Test#06, +Z-Axis at 9Gs.
5/28/21	6:45	Rotated.
	7:10	Test#07, -Z-Axis at 6Gs.
	7:15	Test#08, -Z-Axis at 9Gs.
		Rotated.
	8:00	Test#09, +X-Axis at 6Gs.
	8:04	Test#10, +X-Axis at 9Gs.
		Rotated.
	8:12	Test#11, -X-Axis at 6Gs.
	8:15	Test#12, -X-Axis at 9Gs.
		Testing Completed.

5.8.4 Test Photographs

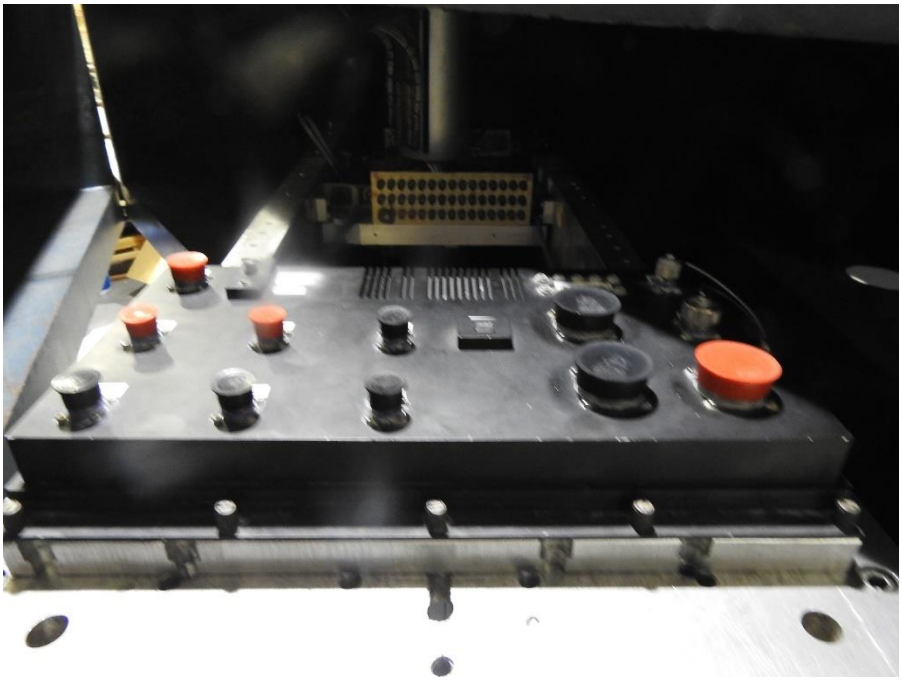


+X Axis

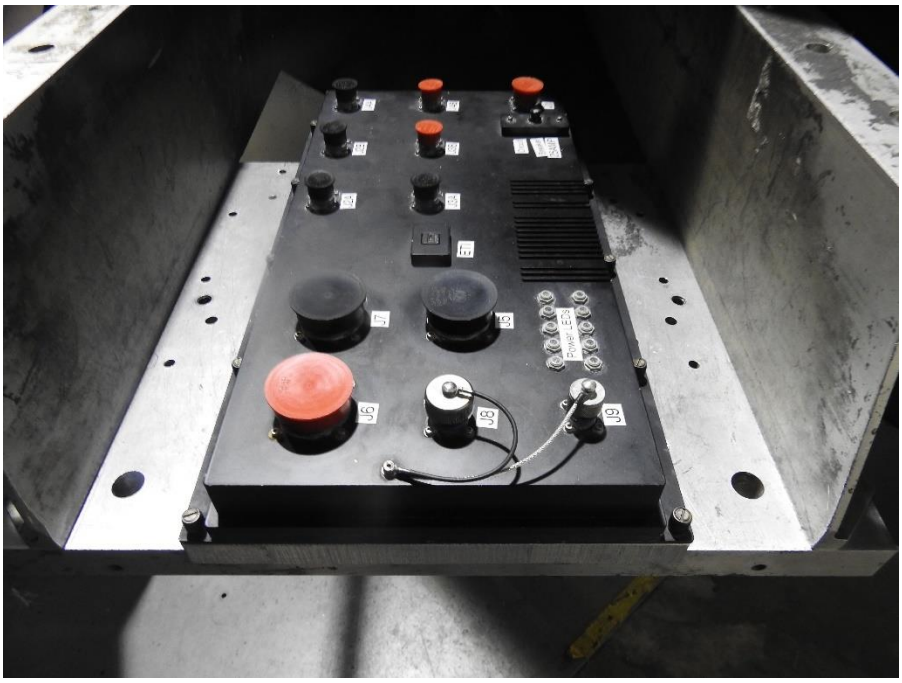


+Y Axis

+Z Axis



-X Axis



-Y Axis

-Z Axis

5.8.5 Test Data

TEST PROFILE

Customer Name:	Amphenol Aerospace	Unit(s) Under Test:	SwitchBox
Test Name:	Acceleration	Quantity:	1
Specification:	19CD0002 Rev B	P/N(s):	19CD0002
Spec. Date:		S/N(s):	N/A
Para. / Method:	3.14.3	PR#:	PR131850

$$RPM = \sqrt{(35000 * G's) / radius}$$

Direction	G Level	Radius (in)	RPM
X(+) Axis	9	46.5	82.31
X(-) Axis	9	35	94.87
Y(+) Axis	9	40	88.74
Y(-) Axis	9	40	88.74
Z(+) Axis	9	40	88.74
Z(-) Axis	9	40	88.74
X(+) Axis	6	46.5	67.20
X(-) Axis	6	35	77.46
Y(+) Axis	6	40	72.46
Y(-) Axis	6	40	72.46
Z(+) Axis	6	40	72.46
Z(-) Axis	6	40	72.46
Duration:	3 seconds		

TEST SETUP AND RESULTS

Test Started:	5/27/2021	Test Completed:	5/28/2021

Unit Under Test Information	Y	N	N/A	Comments
Unit(s) ready for test:	X			
Operating during test:		X		
Powered during testing:		X		
Passes post-test functionals:			X	
Physical damage noted:			X	
Does unit(s) pass requirements:			X	

COMMENTS:
The EUT went thru 6 and 9 Gs of testing. EUT showed no wear or damage.

5.8.6 Test Equipment List

Table 5.8-1: Acceleration Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC003219	Centrifuge	Goerz Optical	479	4/9/2021	4/9/2022
WC001608	Measurement Tools (Tape Measure)	Stanley	25	05/24/2016	NCR
WC068976	Wrench (Torque)	CDI Torque Products	1002MRMH	02/17/2021	02/17/2022

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

End of Test Report