

National Technical Systems Test Report for Environmental Testing of the Central Count Scanners

Prepared For

Pro V&V, Inc. | 6705 Odyssey Drive, Suite C | Huntsville, AL 35806

Performed By

National Technical Systems | 1601 Dry Creek Drive, Suite 2000 | Longmont, CO 80503 | 303-776-7249 | www.nts.com

Karen Norton

Preparer

Program Manager



Revision History

Rev.	Description	Issue Date	
0	Initial Release	05/03/2022	



Table of Contents

	4
2.0 References	4
Product Selection and Description	
5.0 Test Descriptions and Results	5
5.1.1 Test Procedure 5.1.2 Test Result 5.1.3 Test Datasheets 5.1.4 Test Photographs 5.1.5 Test Data	6 6 7 8
List of Tables	
Table 3.0-1: Product Identification - Equipment Under Test (EUT)	5



1.0 Introduction

This document presents the test procedures used and the results obtained during the performance of an Environmental/Dynamics 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 Specification: MIL-STD-810D (see Table 5.0-1 for Paragraph reference)
- Pro V&V, Inc. Purchase Order(s) 2021-014, dated 09/08/2021
- National Technical Systems (NTS) Quote(s) OP0594524, dated 09/07/2021
- 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

Pro V&V, Inc. selected and provided the test sample(s) to be used as the Equipment Under Test.

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

		* *	` /	
Item	Qty.	Name/Description	Part Number	Serial Number
		DS450	N/A	DS4521063686
1	3			DS4521063684
				DS4521063683
2		DS950	N/A	DS9521060541
	3			DS9521060542
				DS9521060543

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 1		emperature/Power Variation MIL-STD- 810D/4.1.2.13/Method 502.2, 501.2	Longmont	02/21/2022 - 02/24/2022	N/A	DS4521063686	No damage or anomalies noted.
						DS4521063684	
	Temperature/Power Variation					DS4521063683	
						DS9521060541	
						DS9521060542	
						DS9521060543	

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



5.1 Temperature/Power Variation

5.1.1 Test Procedure

MIL-STD-810D/4.1.2.13/Method 502.2, 501.2.

5.1.2 Test Result

No visible evidence of damage or anomalies were noted as a result of the test.

5.1.3 Test Datasheets

Test Log						
MJO: PR145943		Customer: Pro V&V	Temp/Pwr/Variat	Pwr/Variation Test		
Date	Time		Method 502.2, 501.2 Log Entry		Tech	
0/04/0000						
2/21/2022	830	No visible evidence of damage be	fore testing.		NP	
2/21/22	0900	Set VAC to 117vlts & ramp to +10c			NP	
2/21/22	0900 1300	Start dwell at 117vlts & +10c for 4hr			NP	
2/21/22	1705	Lower VAC to 105vlts & dwell for 4h Raise VAC to 129vlts & dwell for 4h			NP NP	
2/21/22	2105	Lower VAC to 129vits & dwell for 4ft			NP	
2/22/22	0115	Lower VAC to 1177/lls & Haise temp			NP	
2/22/22	0515	Raise VAC to 129vlts & dwell for 4h	PANSON		NP	
2/22/22	0915	Lower VAC to 117vlts & Lower temp			NP	
2/22/22	1315	Lower VAC to 105vlts & dwell for 4h			NP	
2/22/22	1715	Raise VAC to 129vlts & dwell for 4h			NP	
2/22/22	2115	Lower VAC to 117vlts & Raise temp		<u> </u>	NP	
2/23/22	0115	Lower VAC to 105vlts & dwell for 4h			NP	
2/23/22	0515	Raise VAC to 129vlts & dwell for 4h			NP	
2/23/22	0915	Lower VAC to 117vlts & ramp to +23			NP	
2/23/22	0915	Temperature and power variation po			NP	
2/23/22	0915	Test will continue to run at +23c ambient for another 16hrs				
2/24/22	0100	All Testing complete for a total of 64			NP NP	
		Note: All test pass or fail determinati				
		·	,			
		-				
		-				



5.1.4 Test Photographs





5.1.5 Test Data





5.1.6 Test Equipment List

Table 5.1-1: Temperature/Power Variation Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC061603	Chamber (Temperature/Humidity)	Thermotron	WS-1372-CH-(5) 25-25	09/29/2021	09/29/2022
WC061604	Controller (Temperature)	Thermotron	8800	09/29/2021	09/29/2022

Calibration Abbreviations

CAL: Calibration

NCR: No Calibration Required



End of Test Report