

# Element Materials Technology Denver-Longmont A.K.A. NTS Labs, LLC Test Report for Environmental Testing of the ClearMark

### **Prepared For**

Pro V&V, Inc | 3701 Port Union Road | Fairfield, OH 45014

### Prepared By

Element Materials Technology Denver-Longmont | 1601 Dry Creek Drive, Suite 2000 | Longmont, CO 80503 | 303-776-7249 | www.element.com

Lori Hartman Preparer

Quality Management Representative



# **Revision History**

Rev.	Description	<b>Issue Date</b>	
0	Initial Release	11/22/2023	



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### 1.0 Introduction

This document presents the test procedures used and the results obtained during the performance of an Environmental test program at Element Materials Technology Denver-Longmont (hereafter referred to as "Element"). The test program was conducted to assess the ability of the specified Equipment Under Test (EUT) to successfully satisfy the requirements defined in the test specification.

### 2.0 References

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

- Test Specification: MIL-STD-810D, Method 502.2 and Method 501.2
- Pro V&V, Inc Purchase Order 2023-017 dated 11/06/2023.
- Element Quotation OP0649405 dated 10/31/2023.
- ISO/IEC 17025:2017(E) General Requirements for the Competence of Testing and Calibration Laboratories, dated 11/2017.

### 3.0 Product Selection and Description

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

Name/Description Part Number **Item** Qty. **Serial Number** ClearMark AIO UUT1 None 4610001151 2 1 Lexmark Printer MS521DN UUT1 None 4600203423P90 Cyberpower UPS PR1500RT2U UUT1 PWLLN200051 3 1 None 4610001754 4 ClearMark AIO UUT2 None 4620001833 5 1 ClearMark Printer UUT2 None ClearMark AIO UUT3 4610001750 6 1 None 4602203423MXM Lexmark Printer MS521DN UUT3 1 None

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

### 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 Description 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 Power	MIL-STD-810D, Method 502.2 and Method 501.2	Longmont	11/13/2023 - 11/17/2023	None	4610001151, 4600203423P90, PWLLN200051, 4610001754, 4620001833, 4610001750, 4602203423MXM	Customer Determination



# 5.1 Temperature Power

# **5.1.1** Test Procedure

MIL-STD-810D, Method 502.2 and Method 501.2

### 5.1.2 Test Result

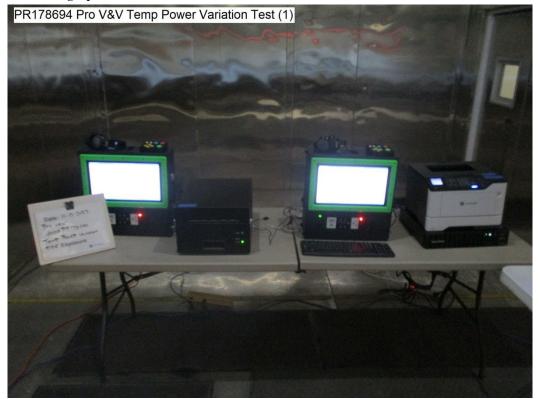
The EUT's results will be determined by Pro V & V, Inc.

### 5.1.3 Test Datasheets

		Tes	st Log		
MJO No	o: PR178694	Customer: Pro V&V	MIL-STD-810D	Temp/Pwr/Var Te	st
Date	Time		Log Entry		Tech
11/13/23	0800	No visible evidence of damage bef	ore testing.		CS
11/13/23	0850	Set VAC to 117vlts & ramp to +10c			CS
11/13/23	0900	Start dwell at 117vlts & +10c for 4hrs			CS
11/13/23	1300	Lower VAC to 105vlts & dwell for 4hrs	S		KM
11/13/23	1700	Raise VAC to 129vlts & dwell for 4hrs	3		KM
11/13/23	2100	Lower VAC to 117vlts & Raise tempe	rature to +35c & dwell for 4hrs	8	KM
11/14/23	0100	Lower VAC to 105vlts & dwell for 4hrs			CS
11/14/23	0500	Raise VAC to 129vlts & dwell for 4hrs	3		CS
11/14/23	0900	Lower VAC to 117vlts & Lower temper	erature to +10c & dwell for 4hrs		CS
11/14/23	1300	Lower VAC to 105vlts & dwell for 4hrs	S		CS
11/14/23	1700	Raise VAC to 129vlts & dwell for 4hrs			KM
11/14/23	2200	Lower VAC to 117vlts & Raise tempe			KM
11/15/23	0200	Lower VAC to 105vlts & dwell for 4hrs	S		CS
11/15/23	0600	Raise VAC to 129vlts & dwell for 4hrs	3		CS
11/15/23	1000	Lower VAC to 117vlts & ramp to +23d			CS
11/15/23	1000	Temperature and power variation por			CS
11/15/23	1000	Test will continue to run at +23c amb			KM
11/17/23	2400	All Testing complete for a total of 85h			KM
		Note: All test pass or fail determination	ns decided by Pro V&V Inc.		
					-
				-	
-					



# 5.1.4 Test Photographs



Temp Power Variation Test

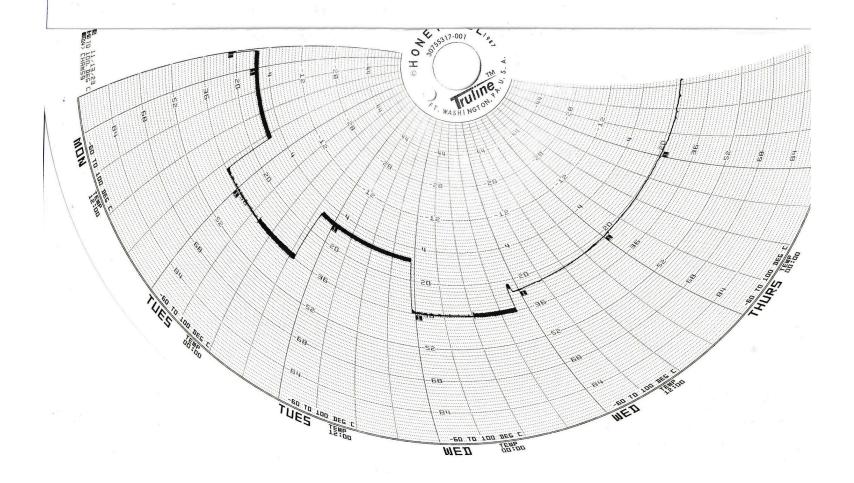


Temp Power Variation Test



### 5.1.5 Test Data

PR178694\_Pro V&V\_Temp\_Pwr\_Var\_test\_Chart\_Data





# 5.1.6 Test Equipment List

**Table 5.1-1: Temperature Power Test Equipment List** 

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC061559	Chamber (Temperature/Humidity)	StorageTek	Large Walk In	09/05/2023	09/05/2024
WC061560	Controller (Temperature)	Watlow	F4	09/05/2023	09/05/2024
WC061561	Recorder (Chart)	Honeywell	DR45AT	09/05/2023	09/05/2024

### **Calibration Abbreviations**

CAL: Calibration

NCR: No Calibration Required



**End of Test Report**