NTS Labs, LLC Test Report for Temperature/Power Variation Testing of the HP Printer, ICX, and UPS - Cyberpower

Prepared For
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Revision History

Rev.	Description	Issue Date
0	Initial Release	10/21/2022

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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
- Pro V&V, Inc Purchase Order(s) 2022-016, dated 09/23/2022
- NTS Labs, LLC (NTS) Quote(s) OP0626276-0, dated 09/21/2022
- 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
1	1	HP Printer	4001dn	VNB0306793
2	1	HP Printer	M404dn	PHDBC16712
3	1	UPS - Cyberpower	PR1500LCD	PZCLX2000010
4	1	HP Printer	4001	VNB0306795
5	1	ICX	HID-21V-BTX-B1R	1909301896
6	1	UPS - Cyberpower	PR1500LCD	PZCLVV2000264
7	1	HP Printer	4001	VNB0306792
8	1	ICX	HID-21V-BTX-B1R	1904191202
9	1	UPS - Cyberpower	PR1500LCD	PZCLX2000031
10	1	HP Printer	404	PHDBB17931
11	1	ICX	HID-21V-BTX-B1R	1912130414
12	1	UPS - Cyberpower	PR1500LCD	PZCLVV2000258
13	1	HP Printer	404	VNG3B06764
14	1	ICX	HID-21V-BTX-B1R	1909270103
15	1	UPS - Cyberpower	PR1500LCD	PZCLVV2000351
16	1	HP Printer	404	VND3F17104
17	1	ICX	HID-21V-BTX-B1R	1911131555

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/ Power Variation	MIL-STD-810D	Longmont	10/17/2022 - 10/20/2022	4001dn, 404, PR1500LCD, HID-21V-BTX-B1R, 4001, M404dn	VNB0306793, VND3F17104, PZCLVV2000351, 1909270103, VNG3B06764, PZCLVV2000258, 1912130414, PHDBB17931, PZCLX2000031, 1904191202, VNB0306792, PZCLVV2000264, 1909301896, VNB0306795, PZCLX2000010, PHDBC16712, 1911131555	Pro V&V, Inc to determine results.

5.1 Temperature/Power Variation

5.1.1 Test Procedure

MIL-STD-810D

5.1.2 Test Result

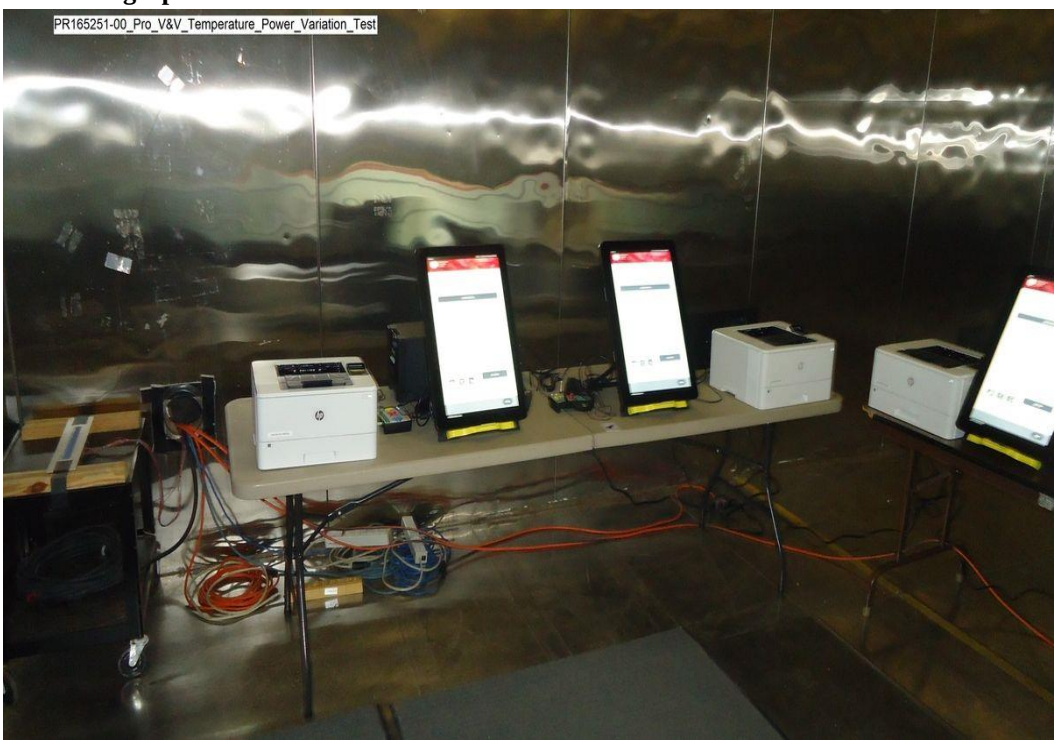
Pro V&V, Inc to determine results.

5.1.3 Test Datasheets

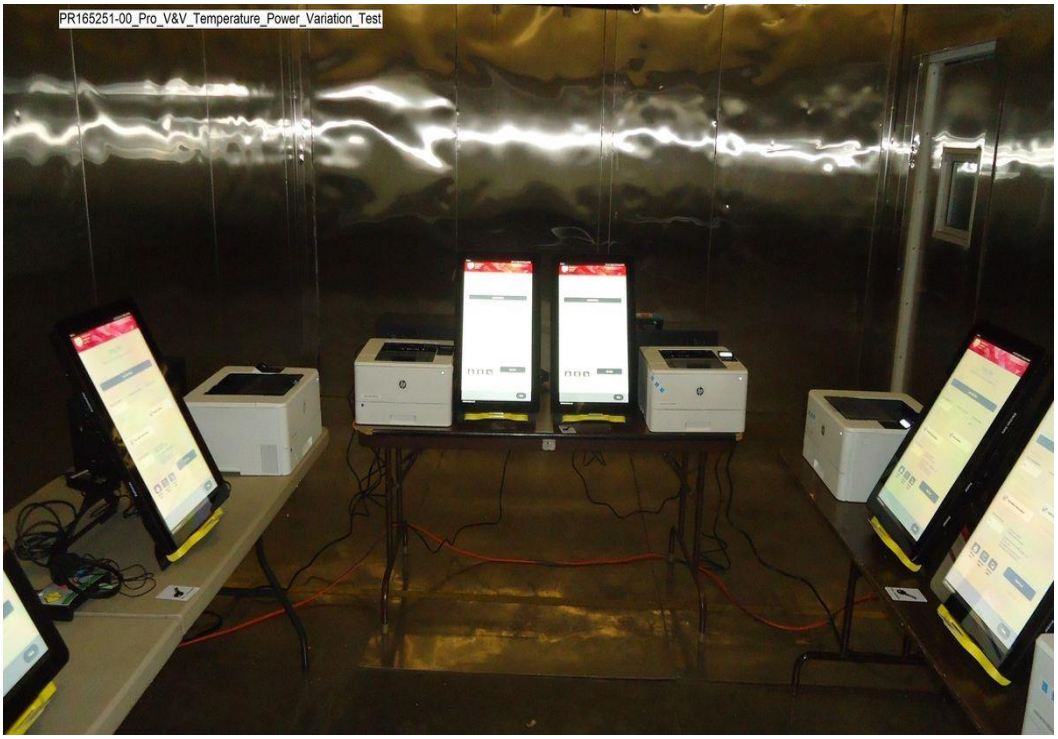
Test Log			
MJO No: PR165251-00	**Customer: Pro V&V**	**Test Specification: MIL-STD-810D**	**Temperature Power Variation Test**

Date	Time	Log Entry	Tech
10/17/22	830	**No visible evidence of damage before testing.**	CS
10/17/22	0850	Set VAC to 117vlts & ramp to +10c	CS
10/17/22	1000	Start dwell at 117vlts & +10c for 4hrs	CS
10/17/22	1400	Lower VAC to 105vlts & dwell for 4hrs	CS
10/17/22	1800	Raise VAC to 129vlts & dwell for 4hrs	KM
10/17/22	2200	Lower VAC to 117vlts & Raise temperature to +35c & dwell for 4hrs	KM
10/18/22	0200	Lower VAC to 105vlts & dwell for 4hrs	KM
10/18/22	0600	Raise VAC to 129vlts & dwell for 4hrs	CS
10/18/22	1000	Lower VAC to 117vlts & Lower temperature to +10c & dwell for 4hrs	CS
10/18/22	1400	Lower VAC to 105vlts & dwell for 4hrs	CS
10/18/22	1800	Raise VAC to 129vlts & dwell for 4hrs	KM
10/18/22	2200	Lower VAC to 117vlts & Raise temperature to +35c & dwell for 4hrs	KM
10/19/22	0200	Lower VAC to 105vlts & dwell for 4hrs	KM
10/19/22	0600	Raise VAC to 129vlts & dwell for 4hrs	CS
10/19/22	1000	Lower VAC to 117vlts & ramp to +23c ambient	CS
10/19/22	1000	Temperature and power variation portion of test has completed	CS
10/19/22	1000	Test will continue to run at +23c ambient for another 37hrs	CS
10/20/22	2300	All Testing complete for a total of 85hrs	KM
		Note: All test pass or fail determinations decided by Pro V&V Inc.	

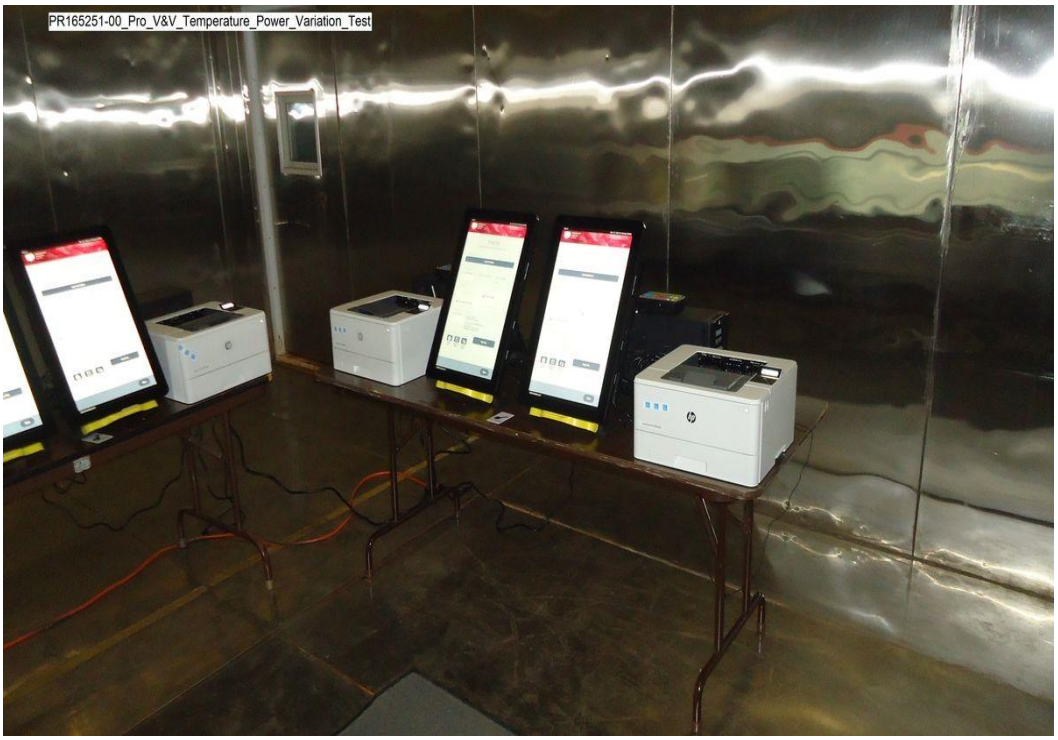
5.1.4 Test Photographs



Temperature/Power Variation Test (1)

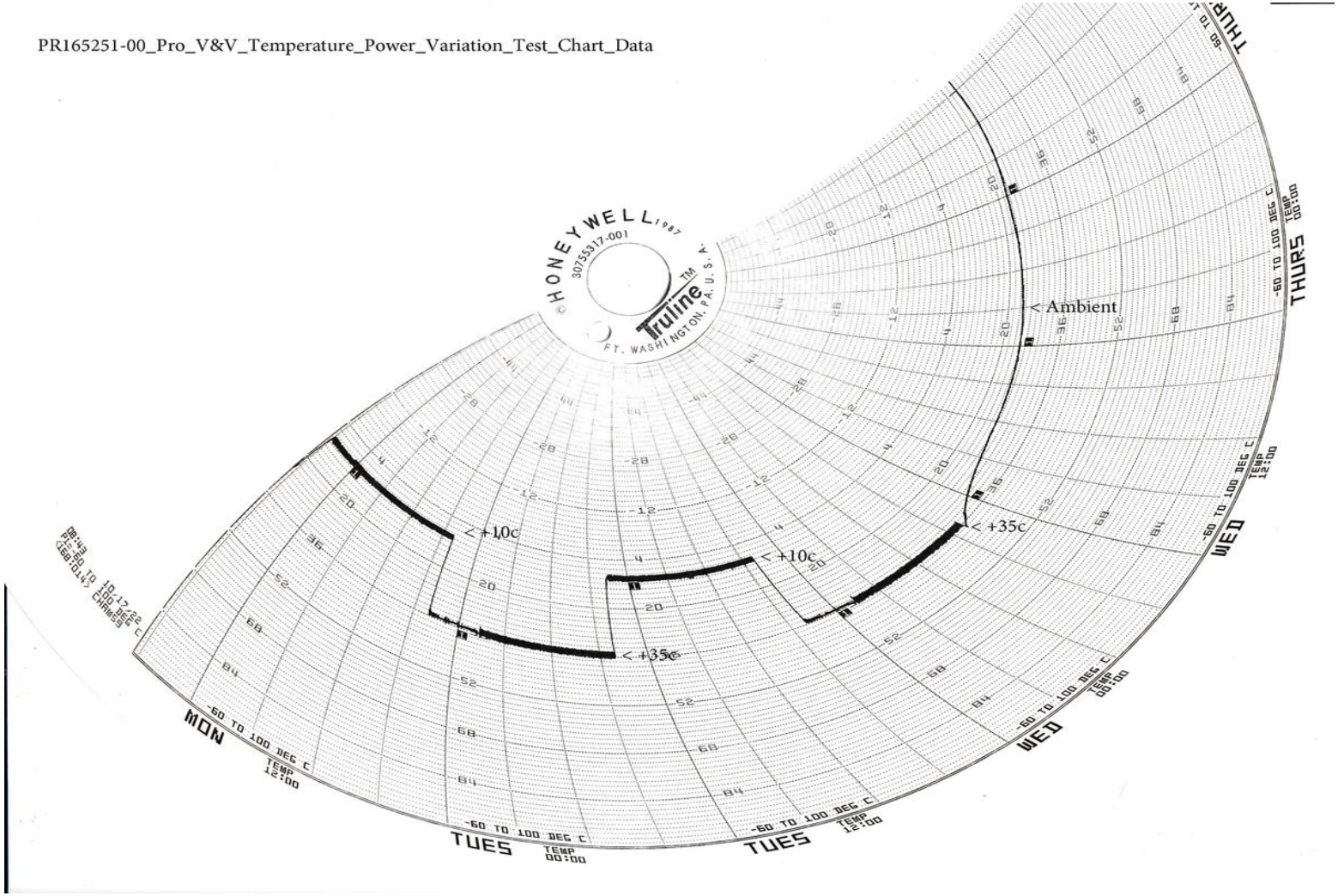


Temperature/Power Variation Test (2)



Temperature/Power Variation Test (3)

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
WC061559	Chamber (Temperature/Humidity)	StorageTek	Large Walk In	09/02/2022	09/02/2023
WC061560	Controller (Temperature)	Watlow	F4	09/02/2022	09/02/2023
WC061561	Recorder (Chart)	Honeywell	DR45AT	09/02/2022	09/02/2023

Calibration Abbreviations
CAL: Calibration
NCR: No Calibration Required

End of Test Report