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Date: 31 OCTOBER 2017

Customer: Pro V&V 700 Blvd South Huntsville, AL 35802

Purchase Order Number: 2017-015

- A. <u>TEST:</u> Thermal/Power Variation
- B. <u>TEST ITEMS:</u>
 Clear Ballot Voting Systems

 See page 2 for Test Item Identification
- C. <u>TEST SPECIFICATIONS:</u> 1. National Certification Test Guidelines 2. ISO 17025:2005
- D. <u>RESULTS:</u>

This is to certify that the Clear Ballot Group was subjected to the Thermal/Power Variation Test according to the above specifications.

See Page 2 for Summary of Test Results. The UUT (unit under test) was returned to the Customer for post tests and final evaluation.

Test data, an equipment list, and photographs are attached.

ellie Barnes

Kellie Barnes, Preparer

Bob Polverari, Technical Reviewer

John Radman, Independent Reviewer

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REVISIONS

Reason for Revision	Date
Initial Release	10/31/2017
Corrections to test items and test description	11/08/2017
	Initial Release



TEST ITEM IDENTIFICATION

Quantity	Sample Description	Serial Number	
3	Clear Cast Voting Systems	CAST00011	
		CAST00014	
		CAST00015	

SUMMARY OF TEST RESULTS

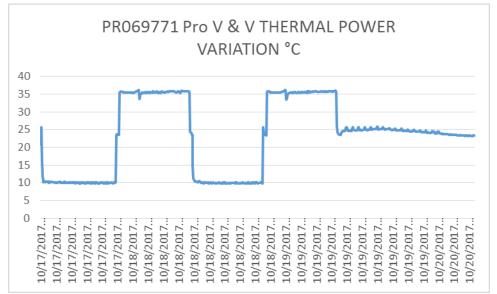
Upon completion of testing, the test samples were removed from the test fixture and subjected to a visual inspection. No anomalies were noted. The Test Samples were returned to the customer.

Temperature/Power Variation Testing

Testing was started on 17 October 2017 and completed on 19 October by exposing three (3) test samples, labeled samples CAST00011, CAST00014 and CAST00015 to temperature/power variation testing. The samples were subjected to testing in accordance with MIL-STD 810D.

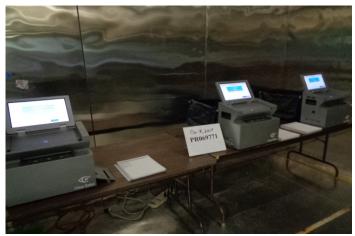
The test samples were placed in the chamber at 10°C and were exposed to voltage and temperature variances with a 4 hour dwell per sequence noting that the power varies every four (4) hours for two (2) 24 hour cycles. **Sequence:** start at 117 Vac with chamber at 10°C, then lowered to 105 Vac, raised to 129 Vac, lowered to 117 Vac and 23°C temperature, raise to 35°C, dwell four (4) hours, repeat sequence.





Power Variation Graph





Power Variation Test Setup



TEST	Thein	GENERAL LOG SHEET al Power Variation MJO_PRO697	7/
	MER	PROV +V PIN N/A SIN CASTODOL	
TEST ITE		as Ballot Gray Clear Cast Vature Suctions	14,13
SPECIFI		al Power Variation MJO PRO697 PROV +V PIN N/A SIN CASTOOOL car Ballot Group Clear Cast Voting Sujstems National Certification Test Guidelines PARA Vol 7	T
DATE	TIME	LOG ENTRIES	INITIAL
10/17		Sustems in themal Chamber prestinged	
1.		Systems IN theimal Chamber operational check performed by Pro V+V	
(
1/17	9:17	Ramped chamber to 10°C	
	i0 Am	Chamber at 10°C 117 vac start 4 he due	II RSP
	2 pm	Lower Vott to 105 VAC	RSF
	Gom	Raise Volt to 129 VAC	AVE
	9:30	Lower Volt to 117 VAC and 23°C	-214
01	/0 pm	Raise Chamber to 35°C	SNP
1/18	2am	Lower Volt to 105VAC	SIM
	6 am	Raise Volt to 129 VAC	Gm
	9:30am	Lower VoH to 117 vac and 23°C	KSP
	10 AM	Set chamber to 10°C	KS/
	2 pm	Raise Walt to 129 VAC	KST
	9:20	Lower Volt to 117 VAS and 23°C	River
	10:00h	Raise chamber to 35°C	Rive
1/19	2 am	LOWER VOIT to 105 VAC	HA
// 1	Gam	Raise Vott to 129 VAC	En.
	9.30	Lowed Volt to 117 vac and 23°C	250
	10 Am	At And continued op Est for 64 hrs total	RSP
	10 AM	Completed 48 hrs Power Variation / thermal	
			-
	I	TEST BY Polverari DATE 10/20/17	

CAM 21.10, Rev 0



Test Title:	Thermal/Powe	er Variation				
Customer:	Pro V & V		Date:	10/20/17		
Part Name:	Clear Ballot Vo	ting Systems	MJO No.:	PR069771		
Part No.:	na		P.O. No.:	2017-015		
Serial No.:	CAST00011,14	,15	NTS Eng.:	Polverari		
Test Spec:	National Certif Guidelines	ication Testing	Revision:	Vol II		
Test Spec.						
Equi	pment	Manufacture / Model	NTS I.D. #	Cal. Date	In- Service	Due Date
Chamber Controller		Watlow F4	1653	8/17/17		8/17/18
Data Asquisition		Agilent 34970A	MY44019171	2/27/17		2/27/18
mux card		Agilent 34901A	MY41033833	2/28/17		2/28/18
Volt Meter		HP 34401A	WC041460	12/19/16		12/19/17
	Test By:	Polverari		Date:	10/2	20/17
Page 1 of 1 Engr.: Polverari Govt. QAR:						

Test Report No. PR069771



END OF REPORT

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