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**Test Report Number:** TR-PR066470

**Report Type:** Full Compliance Immunity

**Reference Standard:** VVSG 1.0 2005  
EN 61000-6-2: 2005

**Date of Report:** 12 October 2017

**Product Name:** ClearCast/ClearAccess Voting Machine

**Model Number:** ClearCast, ClearAccess

**Manufacturer:** Pro V&V

**Representative:** Stephen Han

**Approved By:** A handwritten signature in black ink, appearing to read "Stephen Han".

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**Prepared for:**

Pro V&V  
700 Boulevard South, Suite 102  
Phone: (256) 713-1111  
Fax: (256) 713-1112  
Email: stephen.han@provandv.com

**Customer Representative:**

Stephen Han  
Project Engineer

**Tested at:**

NTS Longmont  
1736 Vista View Drive  
Longmont, Colorado 80504

**Tested by:**

Kevin Johnson – EMI Test Engineer  
Mike Tidquist – EMI Test Technician  
Steve Cristanelli – EMI Test Technician  
Casey Lockhart – EMI Test Technician

**Report Prepared by:**

Kellie Barnes  
Technical Writer

**Report Approved by:**

Pat Schroepfer  
AE/Program Manager

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## 1.0 TEST SUMMARY

### 1.1 Product Description

Product Name	Model #	Serial #	Manufacturer
ClearCast, ClearAccess	ClearCast, ClearAccess	*See test log & data sheets	Clear Ballot Group (Pro V&V -client)

These products are: a Precinct Tabulator and a ballot marking device designed for use in commercial and office environments. The products were continually exercised during testing, as documented in the “configuration” field of the test data sheets.

### 1.2 Test Standards Used

The standard applied to this product was VVSG 1.0 2005, which is the immunity standard for Voluntary Voting System Guidelines. The normative references of this standard define the test methods used for the immunity testing. This information is summarized in Tables 1-1. (See page 6 of this report.)

### 1.3 Immunity Test Results

The UUTs **complied** with all the generic immunity requirements defined by VVSG 1.0 2005. Test results are summarized in Table 1-2. (See page 7 of this report.)

### 1.4 Modifications Required for Compliance

Radiated Immunity: added Wurth 74271622S) on the printer USB cable at the printer side

ESD: added Copper tape around display on printer, grounded to metal frame on bottom of UUT.

**Table 1-1**

Requirements	Specification	Test Method	VVSG Reference	Performance Criteria
VVSG 1.0 2005 Voluntary Voting System Guidelines	Electrostatic Discharge	IEC 61000-4-2, (2008-12) Ed.2.0	V1, 4.1.2.8 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(B) Self-Recovering
	Radiated RF Immunity	IEC 61000-4-3:, (1996)	V1, 4.1.2.10 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(A) No Degradation
	Electrical Fast Transient/Burst	IEC 61000-4-4, (2004-07) Ed. 2.0,	V1, 4.1.2.6 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(B) Self-Recovering
	Surge Immunity	IEC 61000-4-5, (1995-02)	V1, 4.1.2.7 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(B) Self-Recovering
	Conducted RF Immunity	IEC 61000-4-6,(1996-04)	V1, 4.1.2.11 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(A) No Degradation
	Power Frequency H-field Immunity	IEC 61000-4-8, (1993-06)	V1,4.1.2.12 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(A) No Degradation
	Voltage Dips, Interrupts	IEC 61000-4-11, (1994-06)	V1, 4.1.2.5 V1, 4.1.7.1 V1, 2.1.4 (b) V2, 4.8	(B) Self-Recovering

**Table 1-2**

Specification	Test Method	Test Conditions	Result
Electrostatic Discharge	IEC 61000-4-2	<p>Vote scanning and counting equipment for paper-based systems, and all DRE equipment, shall be able to withstand <math>\pm 15</math> kV air discharge and <math>\pm 8</math> kV contact discharge without damage or loss of data.</p> <p>The test levels stated in IEC 61000-4-2, Edition 2.0, contact discharge, are the test method and shall be applied at the specified test level only, 8 kV. Air discharge shall be used where contact discharge cannot be applied and all test levels shall be used (2, 4, 8, 15 kV). (RFI 2010-01).</p>	Compliant
Radiated RF Immunity	IEC 61000-4-3	A field of 10 V/m modulated by a 1 kHz 80% AM modulation over the frequency range of 80 MHz to 1000 MHz, without disruption of normal operation or loss of data.	Compliant
EFT/Burst	IEC 61000-4-4	<p><math>\pm 2</math>kV AC &amp; DC external power lines.</p> <p><math>\pm 1</math>kV on Input / Output lines (signal, data, control lines) longer than 3 meters(signal, data, control lines) longer than 3 meters</p> <p>Repetition Rate for all transient pulses will be 100 kHz</p>	Compliant
Surge Immunity	IEC 61000-4-5	<p><math>\pm 2</math> kV AC line to line <math>\pm 2</math> kV AC line to earth + or - 0.5 kV DC line to line &gt;10m + or - 0.5 kV DC line to earth &gt;10m <math>\pm 1</math> kV I/O sig/control &gt;30m</p>	Compliant
Conducted RF Immunity	IEC 61000-4-6	10V rms over the frequency range 150 KHz to 80 MHz with an 80% amplitude modulation with a 1 KHz sine wave AC & DC power 10V sig/control >3 m over the frequency range 150 KHz to 80 MHz with an 80% amplitude modulation with a 1 KHz sine wave	Compliant
Power Frequency H-field Immunity	IEC 61000-4-8	AC magnetic 30 A/m at 60 Hz	Compliant
Voltage Dips and Interrupts	IEC 61000-4-11	<p>Voltage dip of 30% of nominal @ 10 ms;</p> <p>Voltage dip of 60% of nominal @ 100 ms &amp; 1 sec</p> <p>Voltage dip of &gt;95% interrupt @ 5 sec</p> <p>Surges of <math>\pm 15\%</math> line variations of nominal line voltage</p> <p>Electric power increases of 7.5% and reductions of 12.5% of nominal specified power for a period of up to four hours at each level.</p>	Compliant

## 2.0 SCOPE

### 2.1 Purpose

This report documents the test efforts performed on the ClearCast and ClearAccess to verify compliance to VVSG 1.0 2005. This was a formal qualification test and was conducted on the days of 24 July – 27 September 2017.

### 2.2 Test Parameters

During testing, the UUTs were configured in a normal operating mode.

### 2.3 Definition of Performance Criterion for the UUTs

The performance criteria for laboratory and measurement equipment are defined as follows:

- Level A:*** The UUTs shall continue to operate as intended (i.e., within specified limits) during and after the test.
- Level B:*** The UUTs shall continue to operate as intended *after* the test.
- Level C:*** Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by operation of the controls.

## 3.0 TEST ENVIRONMENT

### 3.1 Immunity Test Site

The immunity testing was performed at NTS Longmont's test facility in Longmont, Colorado. The radiated field immunity testing was performed in a ferrite lined, shielded enclosure. The enclosure is 10' high x 12' wide x 20' long in size and meets the field uniformity requirements of IEC 61000-4-3. The size of the chamber allows 2-meter separation between the antenna and the UUTs.

From 80 MHz to 1 GHz, field uniformity deviation for NTS's completely anechoic lined chamber (CALC) is a maximum of 7.4 dB for three frequencies for vertical polarization (1.1% of all test frequencies) and 7.3 dB for two frequencies for horizontal polarization (0.8% of all test frequencies). This is allowed by IEC 61000-4-3, as follows:

**"In the frequency range up to 1 GHz, a tolerance greater than +6 dB, up to +10 dB, but not less than -0 dB is allowed for a maximum of 3% of the test frequencies, provided that the actual tolerance is stated in the test report."** (Ref. IEC 61000-4-3, Ed. 3.2 (2010), Section 6.2)

All other immunity testing was performed on a ground plane measuring 3 meters by 4.5 meters (13.5 square meters). The ground plane was connected to facility ground via the safety ground of the AC wire and extended beyond the UUTs by greater than 0.5 meters, as required by the test standards.

### 3.2 Measurement Uncertainty

The measurement uncertainty for NTS Longmont's emissions test facility complies with the requirements defined in CISPR 16. The complete calculations of NTS's measurement uncertainty is contained in an NTS memo, which is available upon request. However, a summary of NTS's measurement uncertainty is given in Table 3-1.

**Table 3-1**

Test	Measurement Uncertainty	Reference
Electrostatic Discharge	Contact Voltage: 1.9% Risetime: 60 ps Peak Current: 2.8% 30 ns Current: 3.8% 60 ns Current: 9% Indicated Voltage: 1.9%	Accredited Calibration Data Sheet
Radiated RF Immunity	V-pole: 1.2 dB H-pole: 0.7 dB	Worksheets located at <b>H:\Calibration\Measurement Uncertainty</b>
Electrical Fast Transient	Voltage: 0.01 kV Risetime: 0.45 nsec Pulse Width: 1.08 nsec	
Surge Immunity	O.C. Voltage: 0.01 kV Risetime: 0.1 usec Pulse Width: 1.76 usec S. C. Current: 0.91 A Risetime: 0.08 usec Pulse Width: 0.15 usec	
Conducted RF Immunity	0.24 dB	
Power Frequency H-field Immunity	0.87 dB	
Voltage Dips & Interruptions	Voltage: 10.38 Volts Duration: 0.23 msec	

## 4.0 IEC 61000-4-2, Electrostatic Discharge

### 4.1 Summary of Test Results

Electrostatic discharge (ESD) testing was performed in accordance with the test methods specified by VVSG 1.0 2005/IEC 61000-4-2. Contact discharge was performed at  $\pm 8$  kV at applicable (conductive) test points. Air discharge was performed for non-conductive surfaces of the product at levels of  $\pm 2$  kV,  $\pm 4$  kV,  $\pm 8$  kV and  $\pm 15$  kV. Indirect discharge testing to the horizontal coupling plane (HCP) and vertical coupling plane (VCP) was also performed at  $\pm 8$  kV.

Note: In the event that no discharge occurs when ESD testing is performed on a product, the data sheet will state “no [contact or air] discharge points found”.

The UUTs exhibited no malfunctions and operate within specified tolerances and therefore, complies with the requirements of this test.

### 4.2 Test Setup

The UUTs were set up per IEC 61000-4-2 and tested to the levels specified by VVSG 1.0 2005.

### 4.3 Special Configurations

N/A

### 4.4 Performance Criteria: Level B

The UUTs shall continue to operate as intended *after* the test.

### 4.5 Deviations from Test Procedures

N/A

### 4.6 Test Data

See APPENDIX A for details.

### 4.7 Temperature and Humidity

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-2 test data sheet.

## **5.0 IEC 61000-4-3, Radiated RF Immunity**

### **5.1 Summary of Test Results**

Radiated RF immunity testing was performed on the UUTs in accordance with VVSG 1.0 2005/IEC 61000-4-3. The UUT was placed on a non-conductive table 80cm above the completely anechoic-lined chamber (CALC). The UUT was at a distance of 2 meters from the radiating antenna, which was 1.5 meters above the floor of the chamber. Testing was performed in both horizontal and vertical antenna polarizations over the frequency range. A field of 10 V/m modulated by a 1 kHz 80% AM modulation over the frequency range of 80 MHz to 1000 MHz, without disruption of normal operation or loss of data.

The UUT was rotated on the table so that all four sides were illuminated in the field. Performance of the unit was monitored remotely (via Ethernet) with a support PC.

During all testing, the UUT exhibited no malfunctions and operate within specified tolerances and therefore, complies with the requirements of this test.

### **5.2 Test Setup**

The UUTs were set up per IEC 61000-4-3 and tested to the levels specified by VVSG 1.0 2005.

### **5.3 Special Configurations**

N/A

### **5.4 Performance Criteria: Level A**

The UUT shall continue to operate as intended (i.e., within specified limits) during and after the test.

### **5.5 Deviations from Test Procedures**

N/A

### **5.6 Test Data**

See APPENDIX B for details.

### **5.7 Temperature and Humidity**

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-3 test data sheet.

## **6.0 IEC 61000-4-4, Electrical Fast Transient/Burst**

### **6.1 Summary of Test Results**

Electrical fast transient/burst testing was performed on the UUT in accordance with IEC 61000-4-4. The AC power was tested as follows:  $\pm 2\text{kV}$  AC external power lines,  $\pm 1\text{kV}$  on Input / Output lines (signal, data, control lines) longer than 3 meters (signal, data, control lines) longer than 3 meters. Repetition Rate for all transient pulses will be 100 kHz.

### **6.2 Test Setup**

The UUTs were set up per IEC 61000-4-4 and tested to the levels specified by VVSG 1.0 2005.

### **6.3 Special Configurations**

N/A

### **6.4 Performance Criteria: Level B**

The UUTs shall continue to operate as intended *after* the test.

### **6.5 Deviations from Test Procedures**

N/A

### **6.6 Test Data**

See APPENDIX C for details.

### **6.7 Temperature and Humidity**

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-4 test data sheet.

## 7.0 IEC 61000-4-5, Surge Immunity

### 7.1 Summary of Test Results

Surge immunity testing was performed on the UUT in accordance with IEC 61000-4-5. The AC power of the UUT was tested via direct injection at levels of  $\pm 2$  kV AC line to line  $\pm 2$  kV AC line to earth + or - 0.5 kV DC line to line >10m + or - 0.5 kV DC line to earth >10m  $\pm 1$  kV I/O sig/control >30m. Surges were injected at 0 degrees, 90 degrees, 180 degrees and 270 degrees of the input ac waveform at a rate of one pulse per 30, 45 or 60 seconds. Five pulses were injected for each test configuration.

The UUT exhibited no malfunctions or degradations in performance and therefore, passed all requirements of the test.

### 7.2 Test Setup

The UUTs were set up per IEC 61000-4-5 and tested to the levels specified by VVSG 1.0 2005.

### 7.3 Special Configurations

N/A

### 7.4 Performance Criteria: Level B

The UUTs shall continue to operate as intended *after* the test.

### 7.5 Deviations from Test Procedures

N/A

### 7.6 Test Data

See APPENDIX D for details.

### 7.7 Temperature and Humidity

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-5 test data sheet.

## **8.0 IEC 61000-4-6, Conducted RF Immunity**

### **8.1 Summary of Test Results**

Conducted RF immunity testing was performed on the UUT in accordance with IEC 61000-4-6. The UUT was subjected to injected RF signals on its input AC power cable. Injection on the AC leads was performed via a coupling/decoupling network (CDN). All I/O cabling greater than 3 meters in length was tested via EM clamp. The test was performed such that 10V rms over the frequency range 150 KHz to 80 MHz with an 80% amplitude modulation with a 1 KHz sine wave AC & DC power. 10V sig/control >3 m over the frequency range 150 KHz to 80 MHz with an 80% amplitude modulation with a 1 KHz sine wave.

At no time did the UUT exhibit any malfunctions or degradations in performance; thus, the UUT passed all portions of this test.

### **8.2 Test Setup**

The UUTs were set up per IEC 61000-4-6 and tested to the levels specified by VVSG 1.0 2005.

### **8.3 Special Configurations**

N/A

### **8.4 Performance Criteria: Level A**

The UUTs shall continue to operate as intended (i.e., within specified limits) during and after the test.

### **8.5 Deviations from Test Procedures**

N/A

### **8.6 Test Data**

See APPENDIX E for details.

### **8.7 Temperature and Humidity**

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-6 test data sheet.

## **9.0 IEC 61000-4-8, Power Frequency H-field Immunity**

### **9.1 Summary of Test Results**

Power frequency H-field immunity testing was performed on the UUT in accordance with the test methods specified by IEC 61000-4-8. The UUT was exposed to a 30 A/m field at both 50 and 60 Hz. All three axes (x, y, and z) were immersed in the field for a period of 60 seconds for each configuration. A 1.5 meter by 2.0 meter coil was used for this test and the immersion method was used.

These magnetic fields had no effect on the UUT, which passed the requirements of this test.

### **9.2 Test Setup**

The UUTs were set up per IEC 61000-4-11 and tested to the levels specified by VVSG 1.0 2005.

### **9.3 Special Configurations**

N/A

### **9.4 Performance Criteria**

The UUT shall continue to operate as intended (i.e., within specified limits) during and after the test.

### **9.5 Deviations from Test Procedures**

N/A

### **9.6 Test Data**

See APPENDIX F for data sheets and test setup pictures.

### **9.7 Temperature and Humidity**

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-8 test data sheet.

## **10.0 IEC 61000-4-11, Voltage Dips and Interrupts**

### **10.1 Summary of Test Results**

Voltage dip and interrupt testing was performed on the UUT, in accordance with IEC 61000-4-11. The UUT was subjected to the following voltage fluctuations on its AC power input:

Voltage dip of 30% of nominal @10 ms;  
Voltage dip of 60% of nominal @100 ms & 1 sec  
Voltage dip of >95% interrupt @5 sec  
Surges of  $\pm 15\%$  line variations of nominal line voltage

Electric power increases of 7.5% and reductions of 12.5% of nominal specified power for a period of up to four hours at each level.

These variations in AC line voltage had no effect on the UUT, which passed the requirements of this test.

### **10.2 Test Setup**

The UUTs were set up per IEC 61000-4-11 and tested to the levels specified by VVSG 1.0 2005.

### **10.3 Special Configurations**

N/A

### **10.4 Performance Criteria: Level B/C**

Level B: The UUT shall continue to operate as intended *after* the test.

Level C: Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by operation of the controls.

### **10.5 Deviations from Test Procedures**

N/A

### **10.6 Test Data**

See APPENDIX G for details.

### **10.7 Temperature and Humidity**

Temperature, relative humidity and barometric pressure are located in the header table for the IEC 61000-4-11 test data sheet.

## **APPENDIX A**

### **Electrostatic Discharge Test Data**



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
Temperature:	24.4°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity +	Polarity -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points								
VCP	8	x	x	10	1	Front Side	A	Pass
VCP	8	x	x	10	1	Left Side	A	Pass
VCP	8	x	x	10	1	Right Side	A	Pass
VCP	8	x	x	10	1	Back Side	A	Pass
HCP	8	x	x	10	1	Edge of HCP at Front of UUT	A	Pass
Figure A2	8	x	x	10	1		A	Pass
Figure A3	8	x	x	10	1		A	Pass
Figure A4	8	x	x	10	1		A	Pass
Figure A5	8	x	x	10	1		A	Pass
Air Discharge Points - BLUE Arrows.								
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	---	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	---	No discharge points found.	---	---
Figure A5	---	---	---	---	---	No discharge points found.	---	---



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
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Figure A1. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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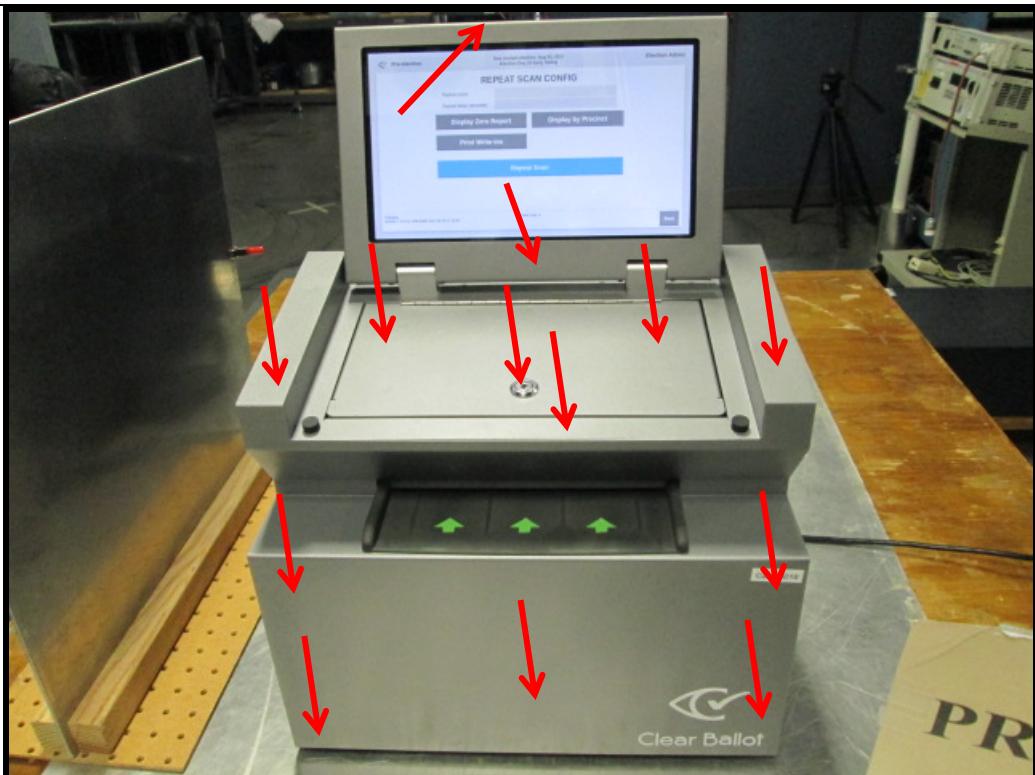


Figure A2. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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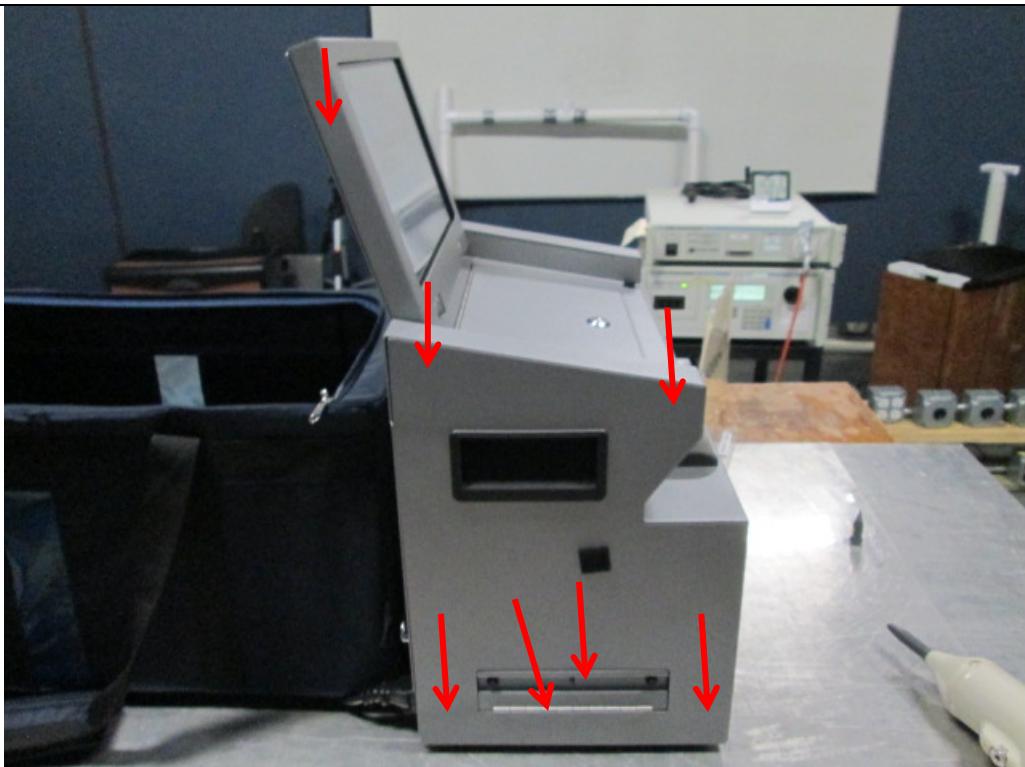


Figure A3. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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Figure A4. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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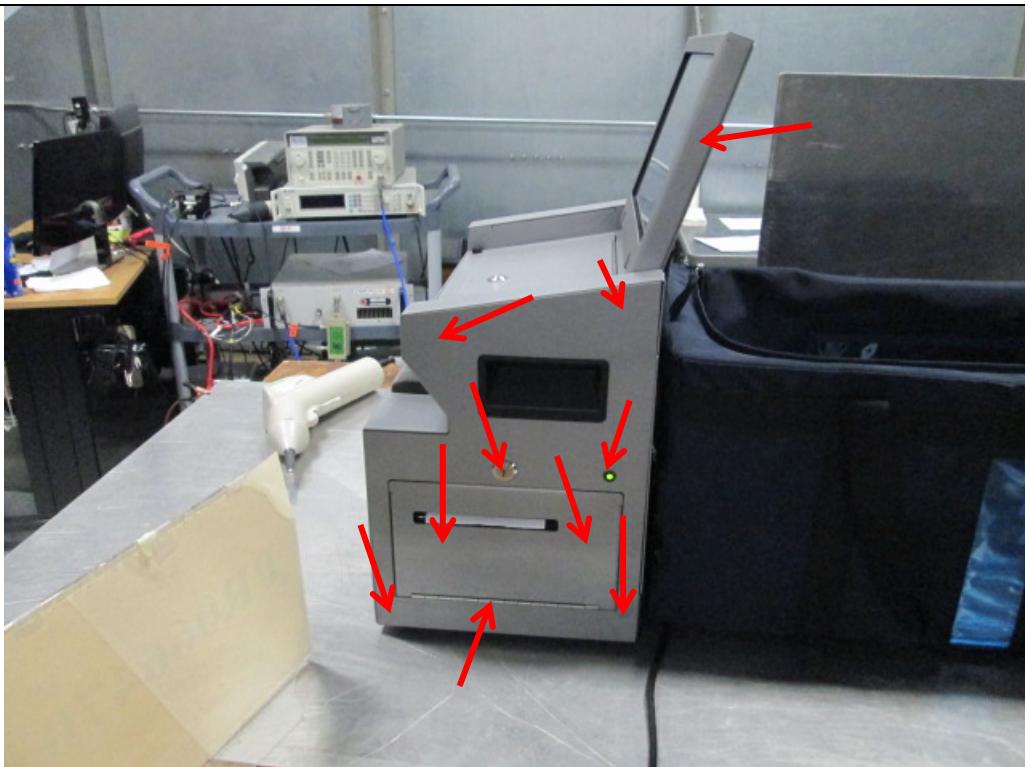


Figure A5. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	23.4°C	Humidity:	54%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity +	Polarity -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points								
VCP	8	x	x	10	1	Front Side	A	Pass
VCP	8	x	x	10	1	Left Side	A	Pass
VCP	8	x	x	10	1	Right Side	A	Pass
VCP	8	x	x	10	1	Back Side	A	Pass
HCP	8	x	x	10	1	Edge of HCP at Front of UUT	A	Pass
Contact Discharge Points - RED Arrows.								
Figure A2	8	x	x	10	1		A	Pass
Figure A3	8	x	x	10	1		A	Pass
Figure A4	8	x	x	10	1		A	Pass
Figure A5	---	---	---	---	---	No discharge points found.	---	---
Figure A6	---	---	---	---	---	No discharge points found.	---	---
Figure A7	8	x	x	10	1		A	Pass
Figure A8	8	x	x	10	1		A	Pass
Figure A9	---	---	---	---	---	No discharge points found.	---	---
Figure A10	---	---	---	---	---	No discharge points found.	---	---
Figure A11	---	---	---	---	---	No discharge points found.	---	---
Figure A12	8	x	x	10	1		A	Pass
Figure A13	8	x	x	10	1		A	Pass
Figure A14	8	x	x	10	1		A	Pass
Air Discharge Points - BLUE Arrows.								
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	---	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	---	No discharge points found.	---	---
Figure A5	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A6	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A7	---	---	---	---	---	No discharge points found.	---	---
Figure A8	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A9	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A10	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A11	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A12	---	---	---	---	---	No discharge points found.	---	---

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	23.4°C	Humidity:	54%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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FR0100

Test Location	Voltage Level (kV)	Polarity +   -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Figure A13	2, 4, 8, 15	x   x	10	1		A	Pass
Figure A14	---	---   ---	---	---	No discharge points found.	---	---



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
PR066470-4-2.doc			FR0100

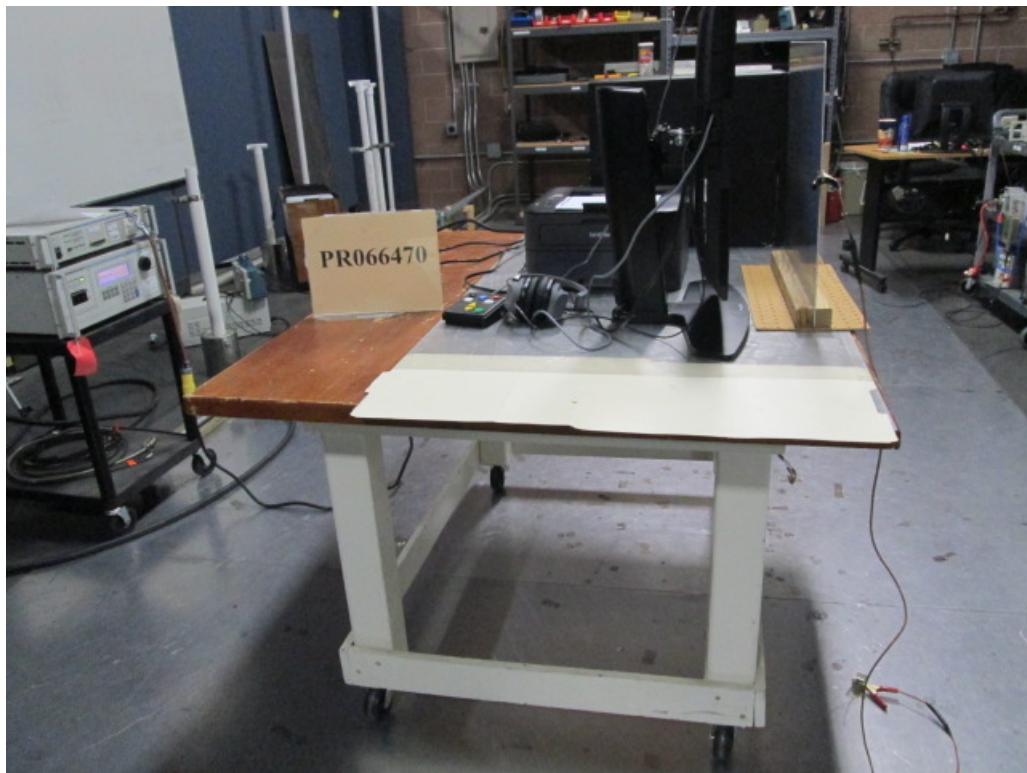


Figure A6. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			

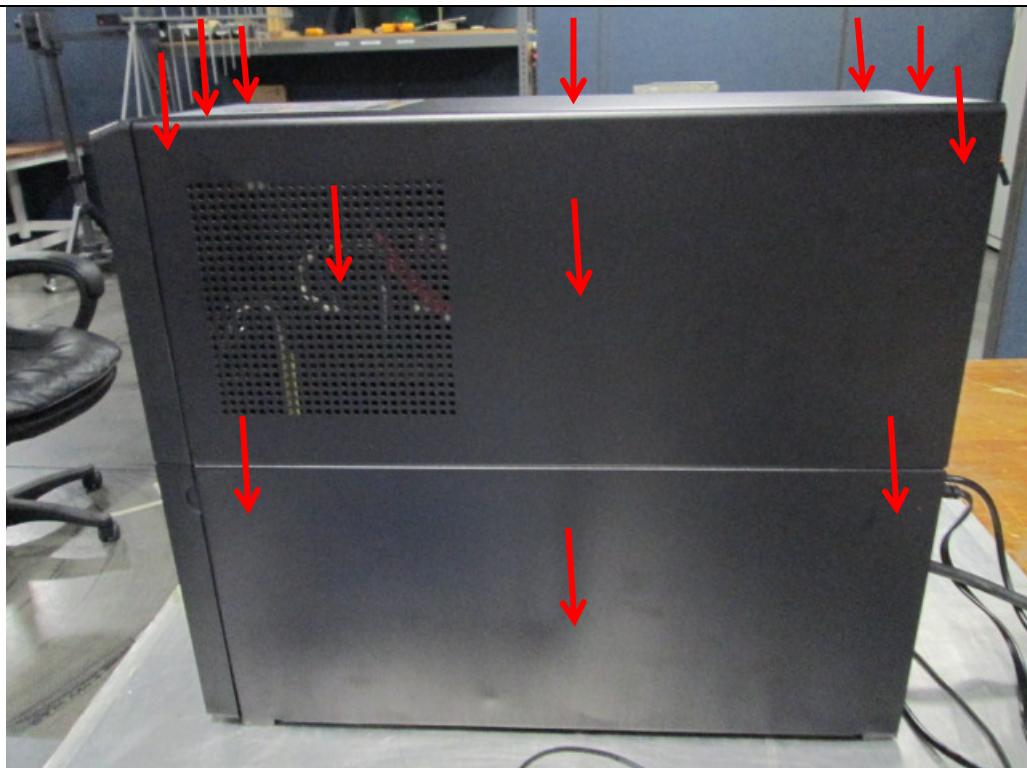


Figure A7. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG PR066470-4-2.doc	Date:	August 23, 2017 FR0100



Figure A8. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			

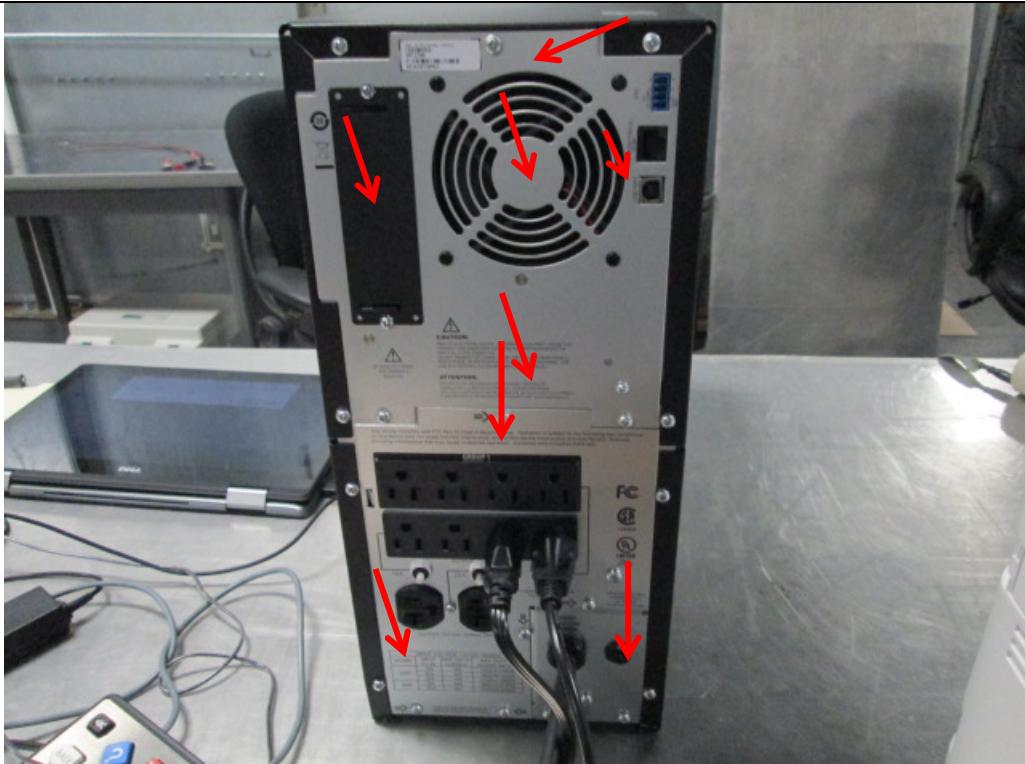


Figure A9. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A10. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A11. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A12. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A13. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A14. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A15. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			



Figure A16. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			

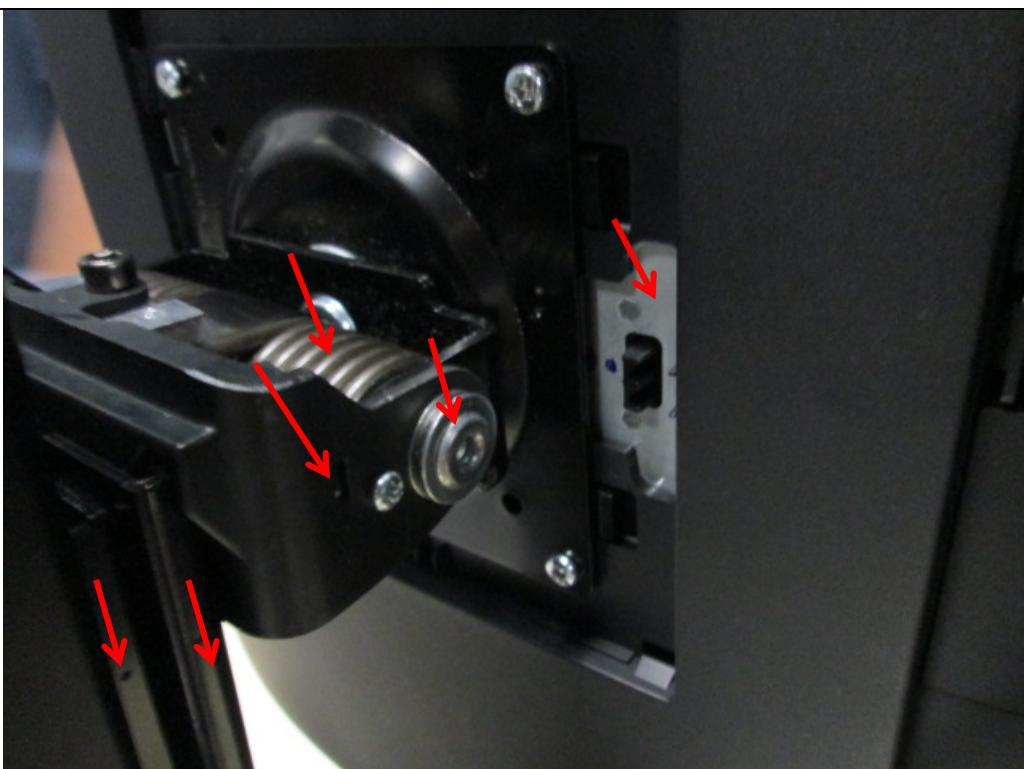


Figure A17. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100
PR066470-4-2.doc			

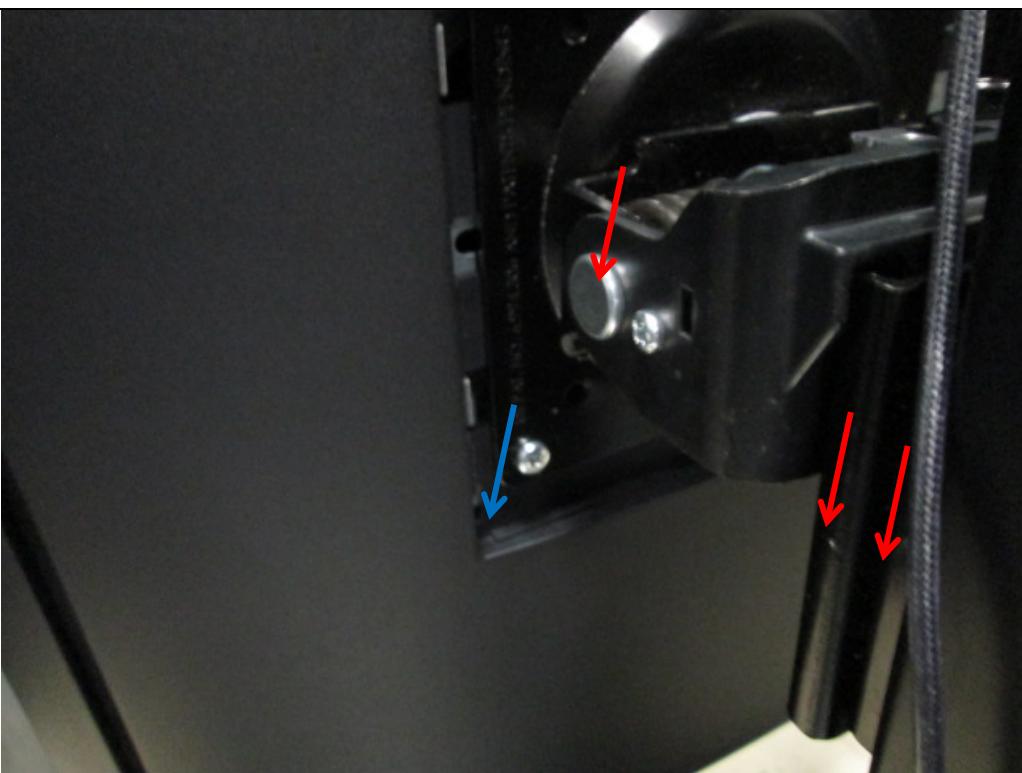


Figure A18. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG PR066470-4-2.doc	Date:	August 23, 2017 FR0100



Figure A19. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963 Config #2
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 12, 2017 FR0100		

**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
Temperature:	22.7°C	Humidity:	65%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity +   -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points							
VCP	8	x   x	10	1	Front Side	A	Pass
VCP	8	x   x	10	1	Left Side	A	Pass
VCP	8	x   x	10	1	Right Side	A	Pass
VCP	8	x   x	10	1	Back Side	A	Pass
HCP	8	x   x	10	1	Edge of HCP at Front of UUT	A	Pass
Contact Discharge Points - RED Arrows.							
Figure A2	8	x   x	10	1		A	Pass
Figure A3	8	x   x	10	1		A	Pass
Figure A4	8	x   x	10	1		A	Pass
Figure A5	---	---	---	---	No discharge points found.	---	---
Figure A6	---	---	---	---	No discharge points found.	---	---
Figure A7	---	---	---	---	No discharge points found.	---	---
Figure A8	8	x   x	10	1		A	Pass
Figure A9	---	---	---	---	No discharge points found.	---	---
Figure A10	---	---	---	---	No discharge points found.	---	---
Figure A11	---	---	---	---	No discharge points found.	---	---
Figure A12	8	x   x	10	1		A	Pass
Figure A13	8	x   x	10	1		A	Pass
Figure A14	8	x   x	10	1		A	Pass
Air Discharge Points - BLUE Arrows.							
Figure A2	---	---	---	---	No discharge points found.	---	---
Figure A3	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	No discharge points found.	---	---
Figure A5	2, 4, 8, 15	x   x	10	1	At -15kV Display on printer went out, still printing. Note: new printer AK76030928A0, +15kV took display out with field, no discharge, printer still printing.	C	Fail
Figure A6	2, 4, 8, 15	x   x	10	1		A	Pass
Figure A7	---	---	---	---	No discharge points found.	---	---
Figure A8	2, 4, 8, 15	x   x	10	1		A	Pass
Figure A9	2, 4, 8, 15	x   x	10	1		A	Pass



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
Temperature:	22.7°C	Humidity:	65%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity		Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Figure A10	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A11	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A12	---	---	---	---	---	No discharge points found.	---	---
Figure A13	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A14	---	---	---	---	---	No discharge points found.	---	---

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
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Figure A20. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

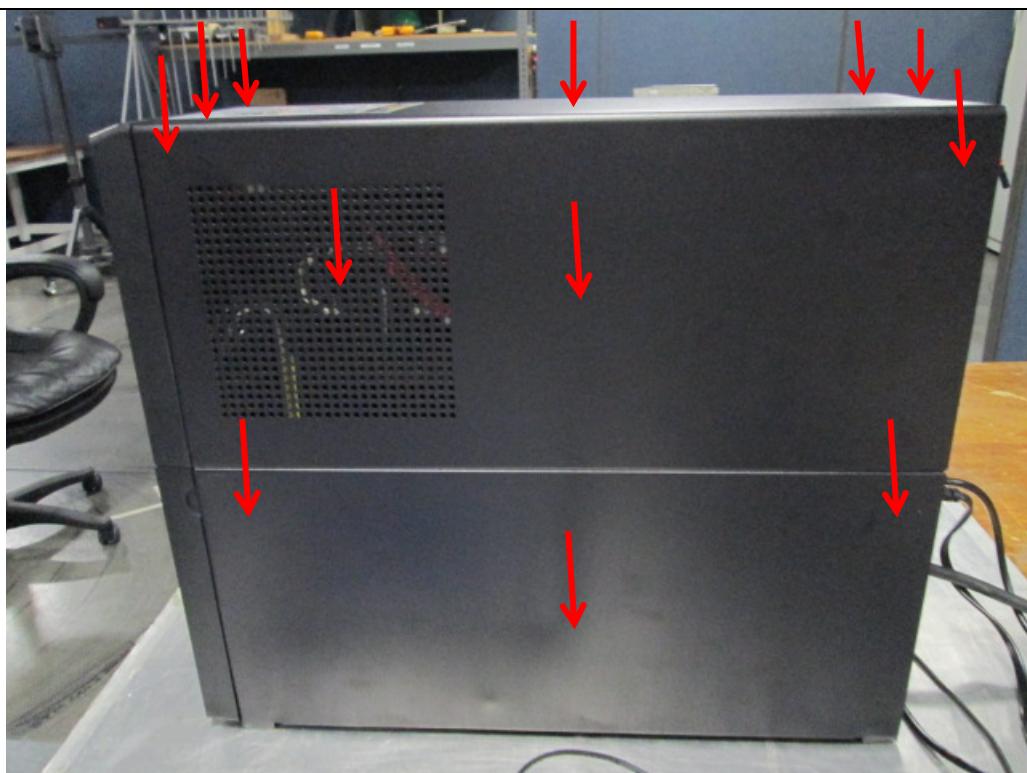


Figure A21. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

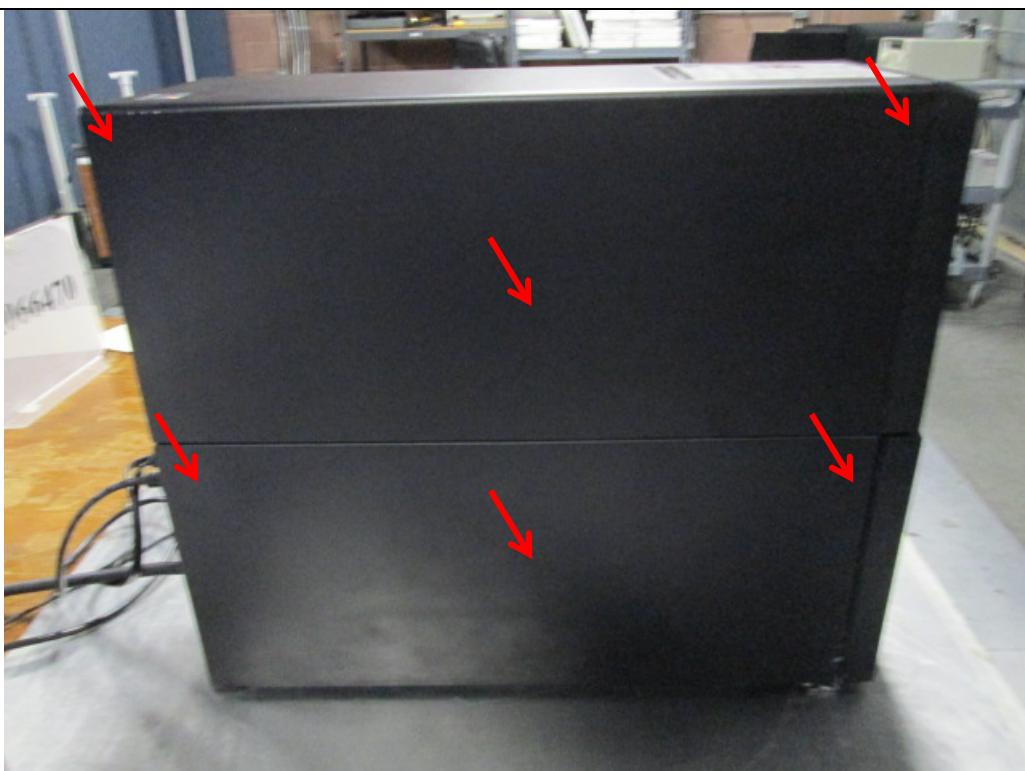


Figure A22. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

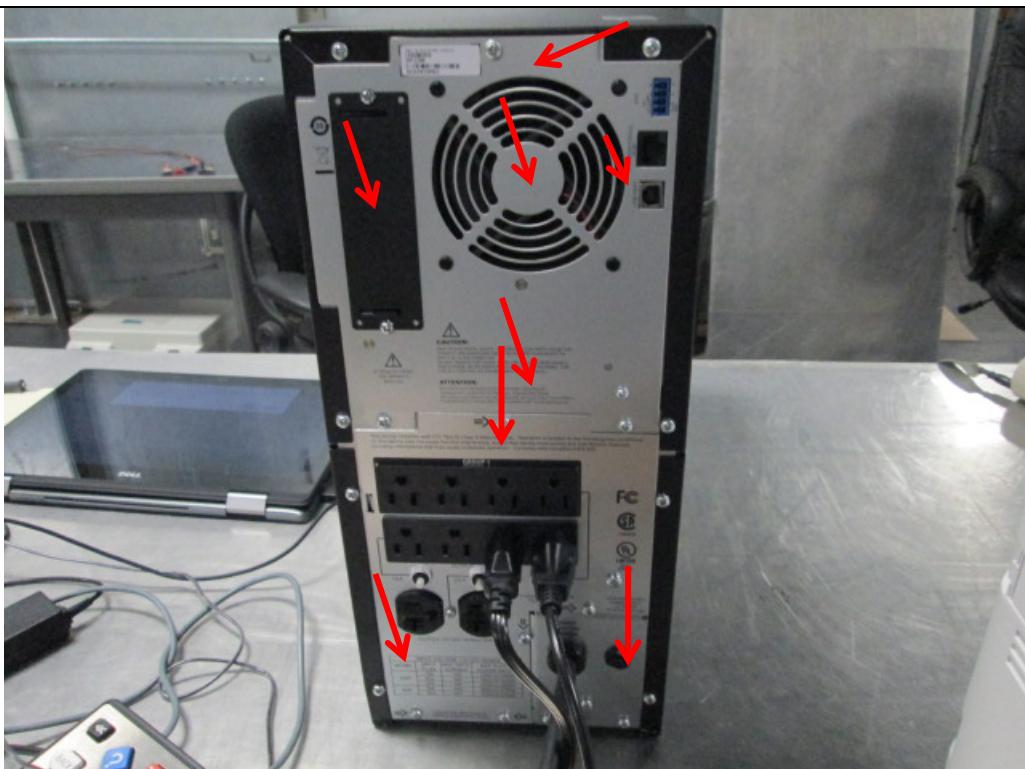


Figure A23. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A24. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

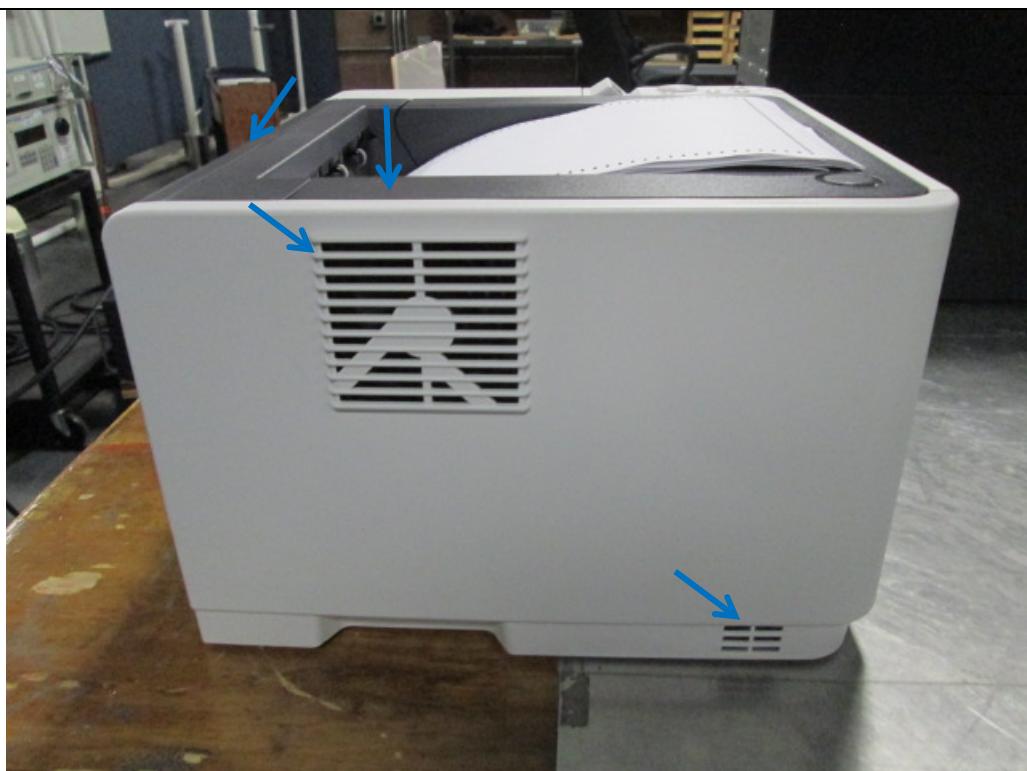


Figure A25. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A26. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

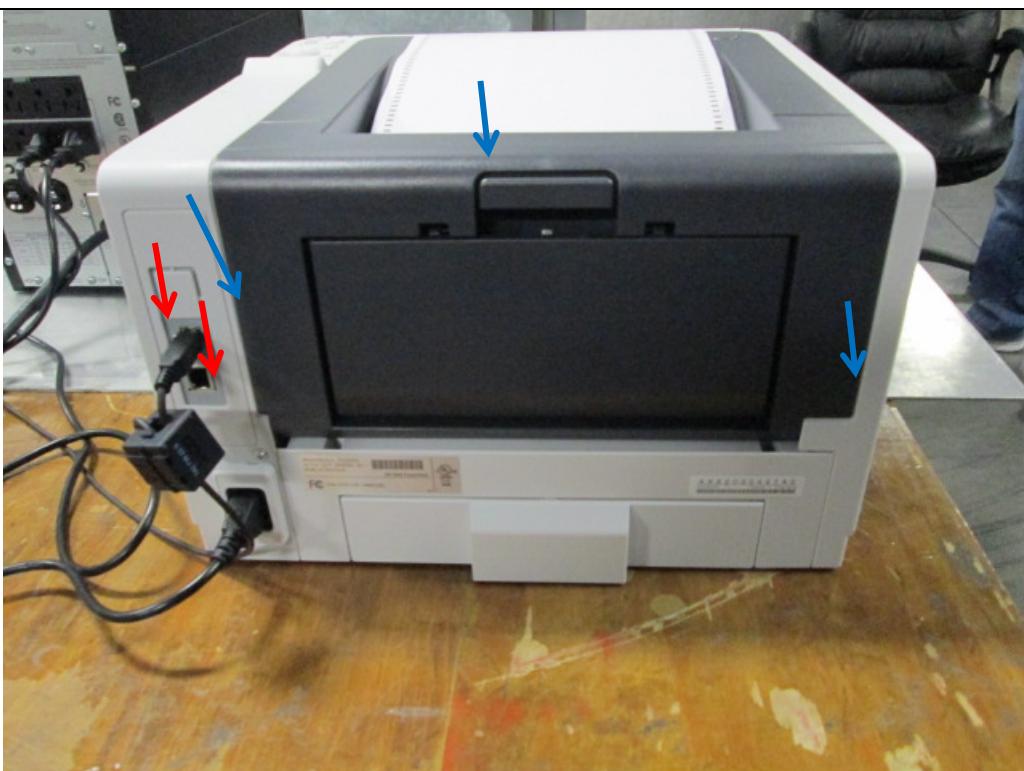


Figure A27: Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A28. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A29. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A30. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

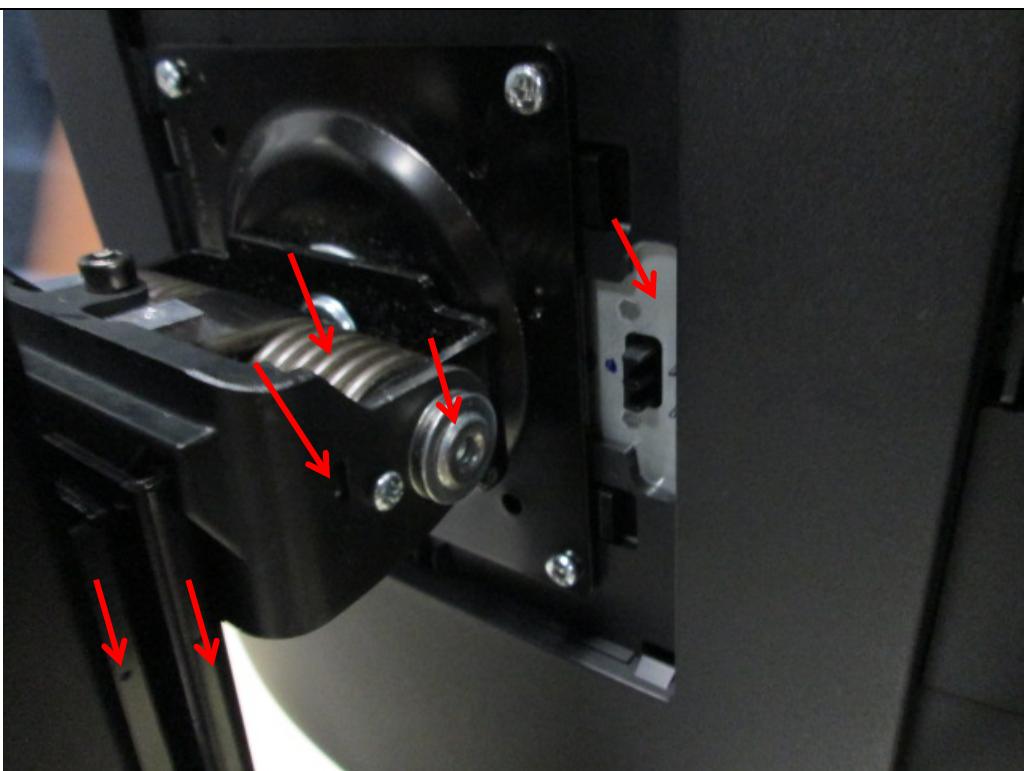


Figure A31. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

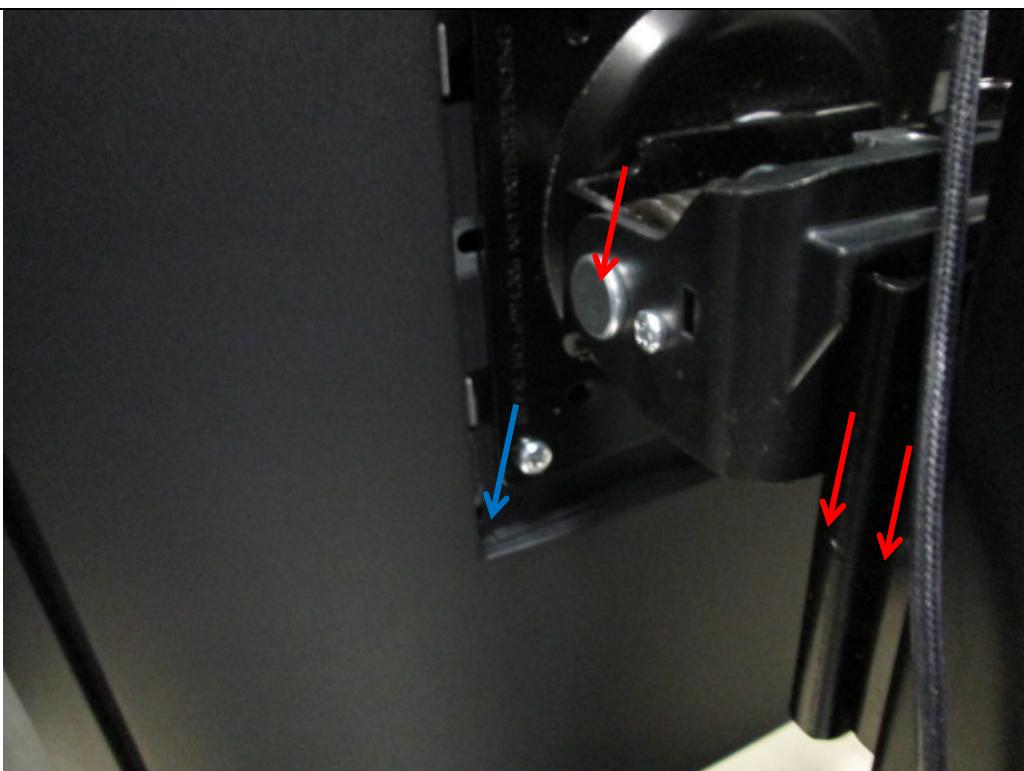


Figure A32. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	Date:	HGCMGK2 AK62030437A0 AS1638230963 AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100



Figure A33: Electrostatic Discharge Test Setup

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	
			HGCMGK2
			AK62030437A0
			AS1638230963
			AK76030928A0
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
PR066470-4-2.doc			FR0100

**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7IT1YD2 AS1638230963 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017
Temperature:	24.4°C	Humidity:	62%
Input Voltage:	120Vac/60Hz	Pressure:	843 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity +	Polarity -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points								
VCP	8	x	x	10	1	Front Side	A	Pass
VCP	8	x	x	10	1	Left Side	A	Pass
VCP	8	x	x	10	1	Right Side	A	Pass
VCP	8	x	x	10	1	Back Side	A	Pass
HCP	8	x	x	10	1	Edge of HCP at Front of UUT	A	Pass
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	8	x	x	10	1		A	Pass
Figure A4	8	x	x	10	1		A	Pass
Figure A5	8	x	x	10	1		A	Pass
Figure A6	---	---	---	---	---	No discharge points found.	---	---
Figure A7	---	---	---	---	---	No discharge points found.	---	---
Figure A8	8	x	x	10	1		A	Pass
Figure A9	---	---	---	---	---	No discharge points found.	---	---
Figure A10	---	---	---	---	---	No discharge points found.	---	---
Air Discharge Points - <b>BLUE</b> Arrows.								
Figure A2	2,4,8, 15	x	x	10	1		A	Pass
Figure A3	---	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	---	No discharge points found.	---	---
Figure A5	---	---	---	---	---	No discharge points found.	---	---
Figure A6	2,4,8, 15	x	x	10	1		A	Pass
Figure A7	2,4,8, 15	x	x	10	1		A	Pass
Figure A8	2,4,8, 15	x	x	10	1		A	Pass
Figure A9	---	---	---	---	---	No discharge points found.	---	---
Figure A10	---	---	---	---	---	No discharge points found.	---	---



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017		
	FR0100		

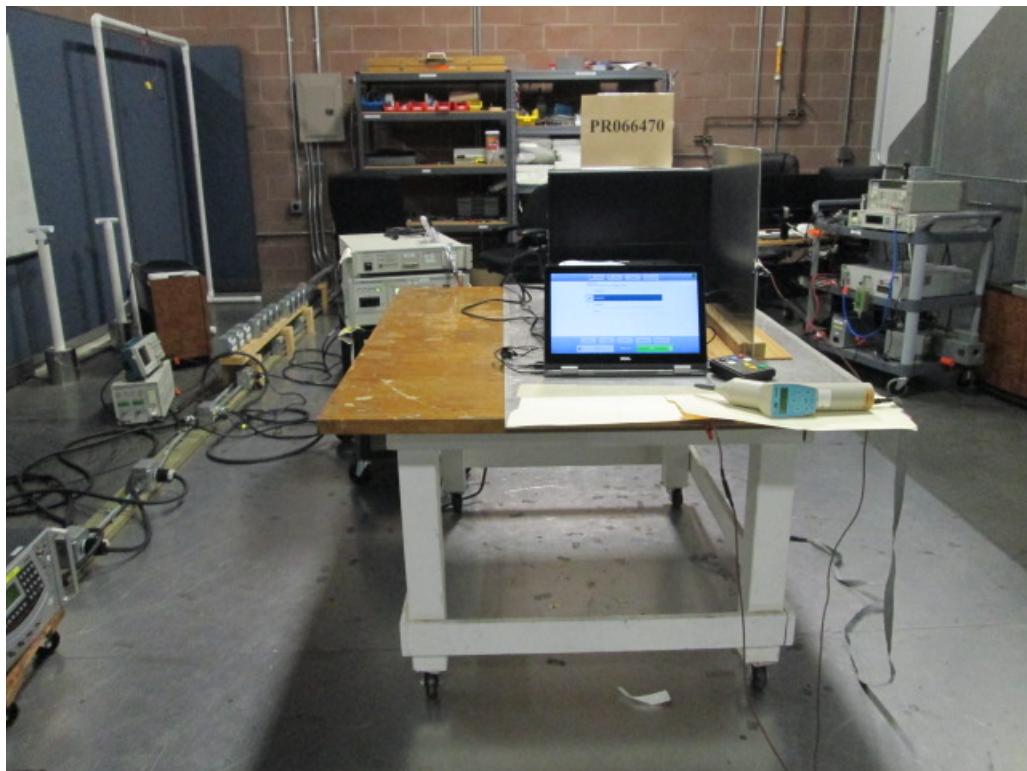


Figure A34. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017		
			FR0100

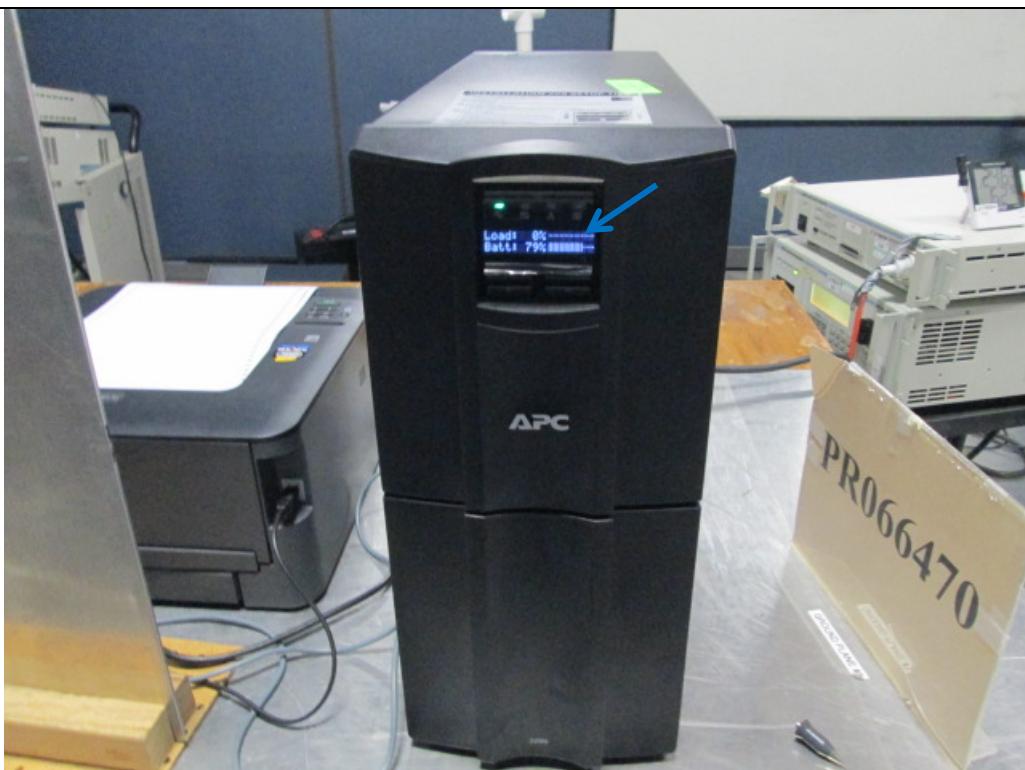


Figure A35 Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc			
	Date: August 15, 2017		
	FR0100		

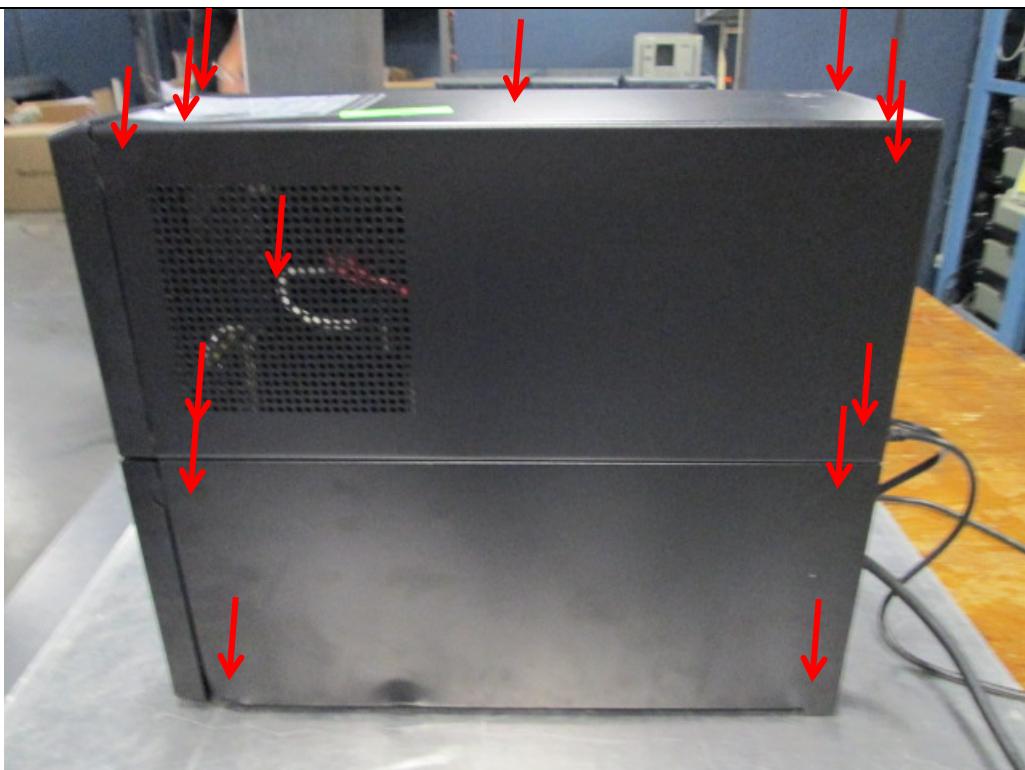


Figure A36. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc			
	Date: August 15, 2017		
	FR0100		

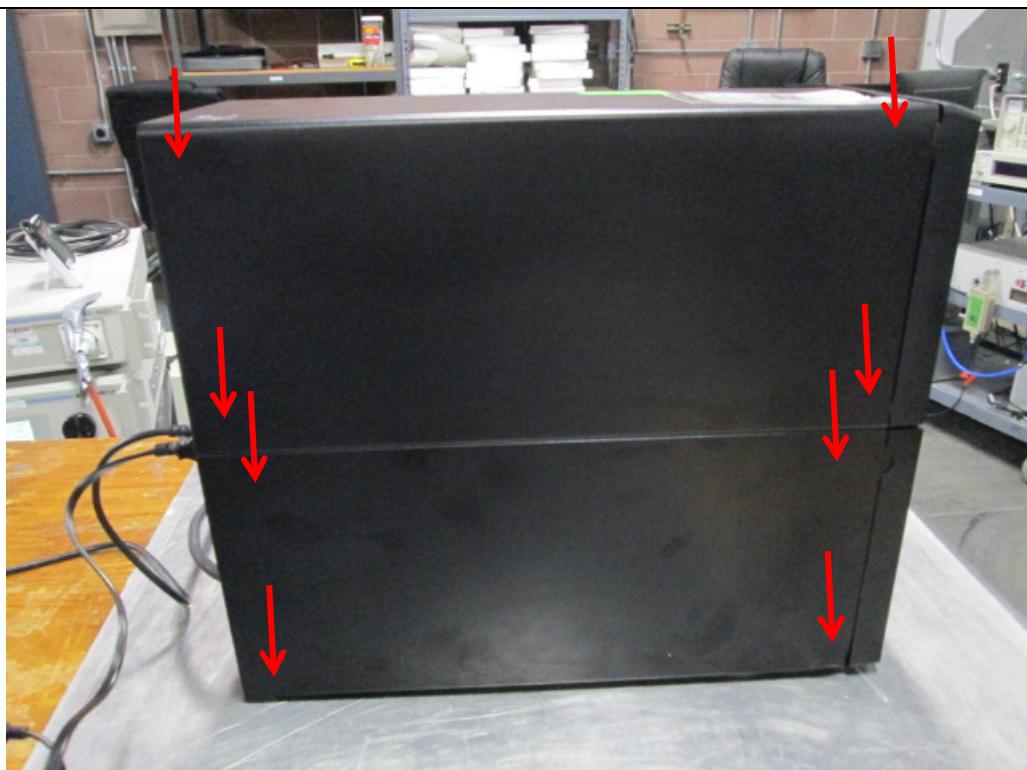


Figure A37. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc			
	Date: August 15, 2017		
	FR0100		



Figure A38. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017

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Figure A39. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017		
FR0100			



Figure A40. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017

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Figure A41. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017		
	FR0100		

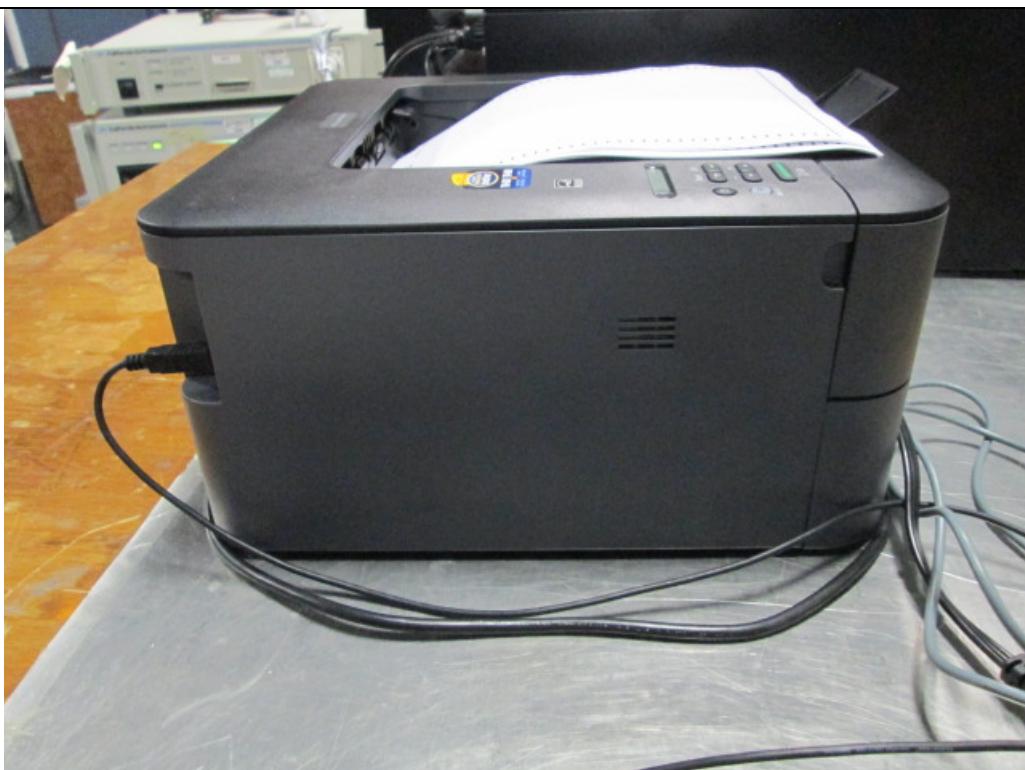


Figure A42. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017 FR0100		



Figure A43. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1638230963 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-2.doc	Date: August 15, 2017		
FR0100			

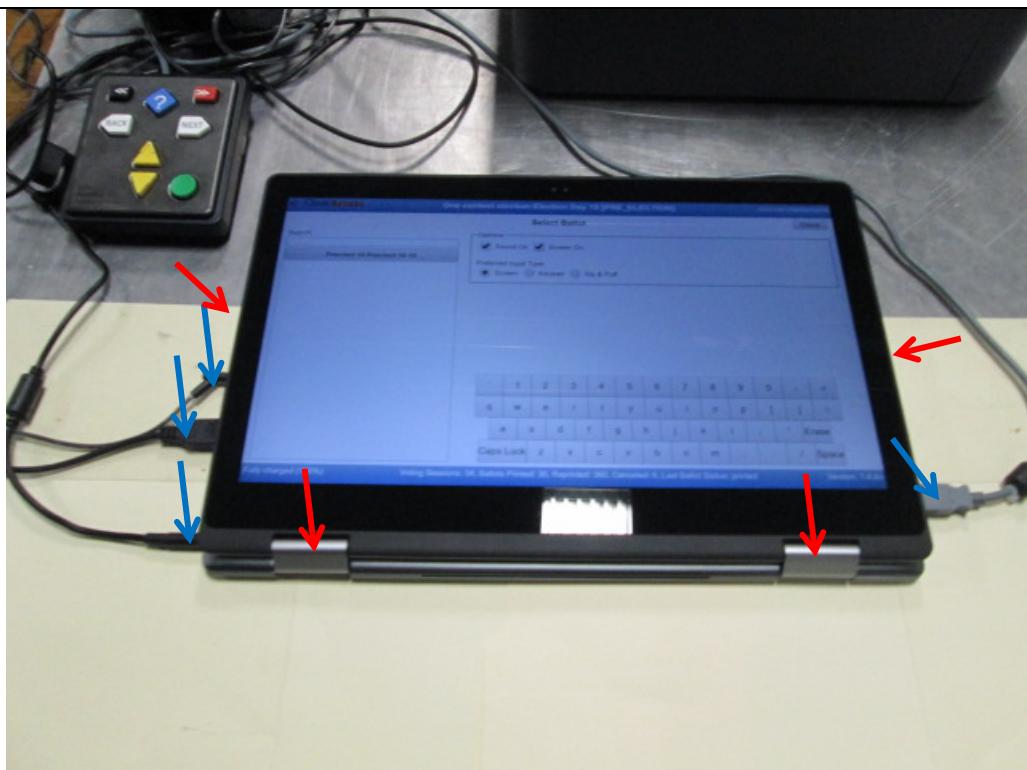


Figure A44. Electrostatic Discharge Test Setup.



## **Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	<u>Clear Ballot Group (manufacturer) Pro V&amp;V (client)</u>	Project Number:	PR066470
Customer Representative:	<u>Stephen Han</u>	Test Area:	<u>GP1</u>
Model:	<u>ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)</u>	S/N:	<u>7TT1YD2 U63879N4N628612 AS1638230963 Unit#4</u>
Standard Referenced:	<u>EAC 2005 VVSG</u>	Date:	<u>August 15, 2017</u>

## Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Progammable Power Supply	03/30/2017	03/30/2018



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	24.4°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Test Location	Voltage Level (kV)	Polarity +	Polarity -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points								
VCP	8	x	x	10	1	Front Side	A	Pass
VCP	8	x	x	10	1	Left Side	A	Pass
VCP	8	x	x	10	1	Right Side	A	Pass
VCP	8	x	x	10	1	Back Side	A	Pass
HCP	8	x	x	10	1	Edge of HCP at Front of UUT	A	Pass
Contact Discharge Points - RED Arrows.								
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	8	x	x	10	1		A	Pass
Figure A4	8	x	x	10	1		A	Pass
Figure A5	8	x	x	10	1		A	Pass
Figure A6	---	---	---	---	---	No discharge points found.	---	---
Figure A7	---	---	---	---	---	No discharge points found.	---	---
Figure A8	---	---	---	---	---	No discharge points found.	---	---
Figure A9	8	x	x	10	1		A	Pass
Figure A10	8	x	x	10	1		A	Pass
Figure A11	8	x	x	10	1		A	Pass
Air Discharge Points - BLUE Arrows.								
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	---	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	---	No discharge points found.	---	---
Figure A5	---	---	---	---	---	No discharge points found.	---	---
Figure A6	2, 4, 8, 15	x	x	10	1		B	Pass
Figure A7	2, 4, 8, 15	x	x	10	1		B	Pass
Figure A8	---	---	---	---	---	No discharge points found.	---	---
Figure A9	2, 4, 8, 15	x	x	10	1		B	Pass
Figure A10	2, 4, 8, 15	x	x	10	1		B	Pass
Figure A11	2, 4, 8, 15	x	x	10	1		B	Pass

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
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Figure A45. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure A46. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

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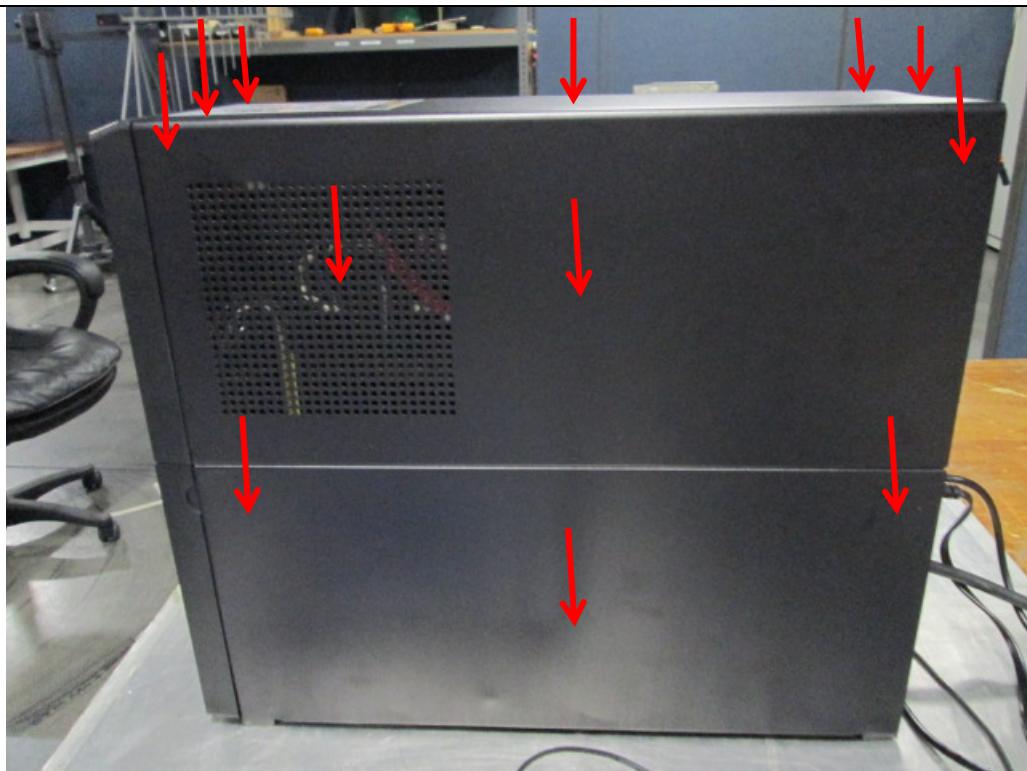


Figure A47. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

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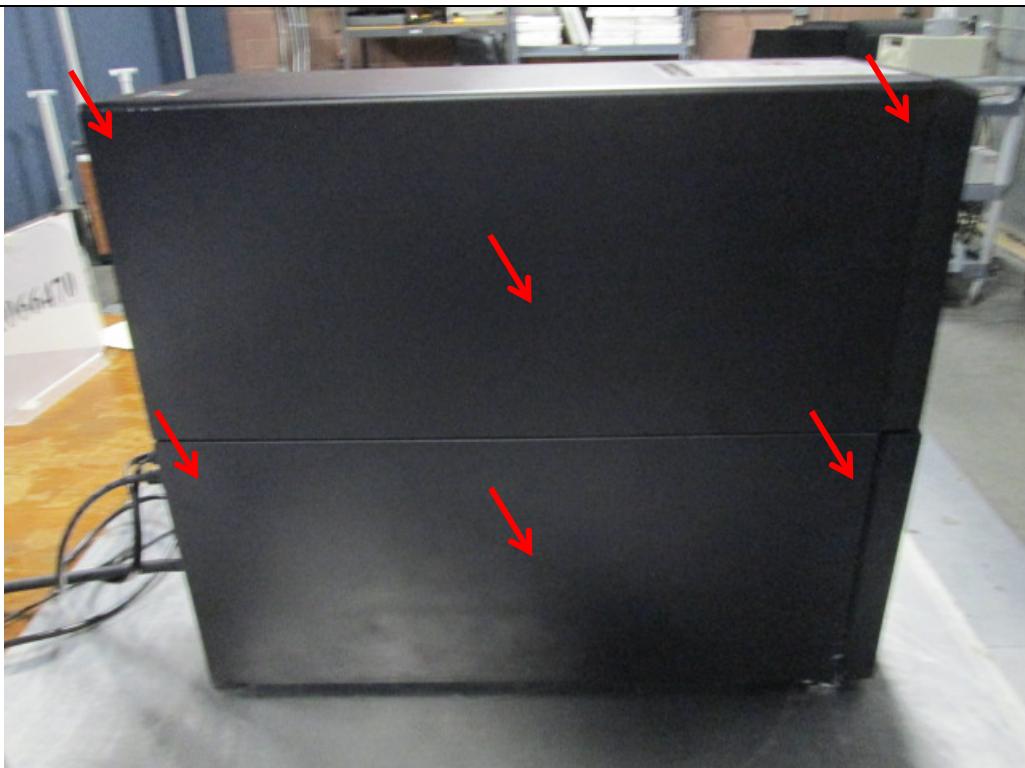


Figure A48. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

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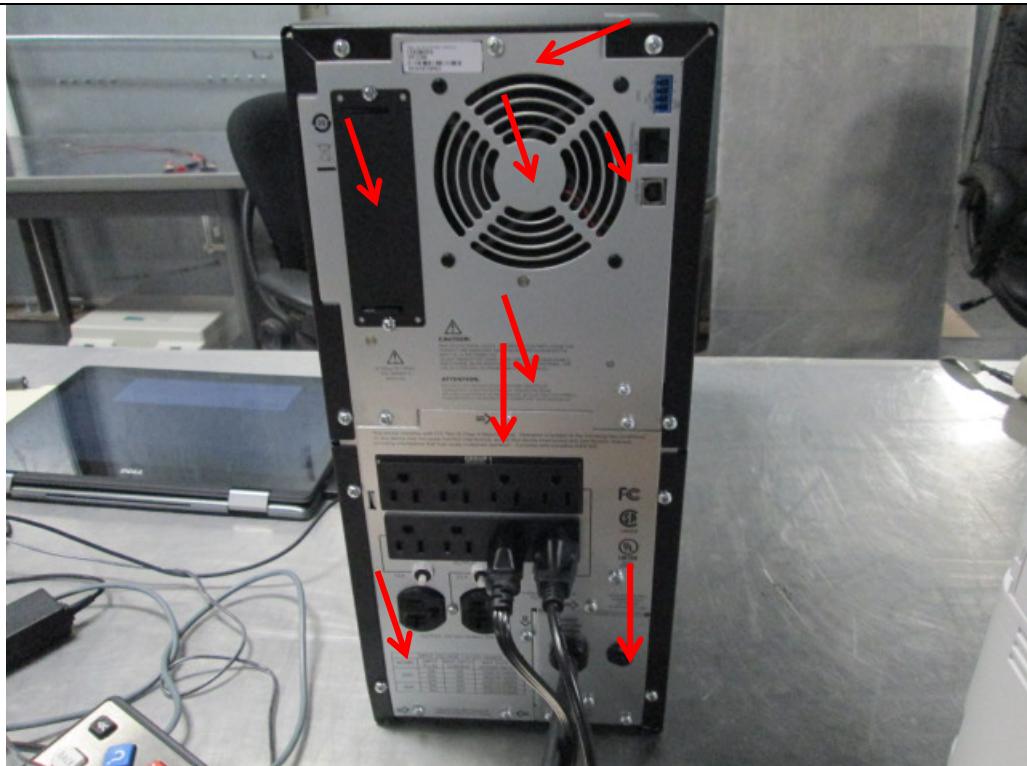


Figure A49. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure A50. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure A51. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure A52. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

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Figure A53. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
PR066470-4-2.doc			FR0100

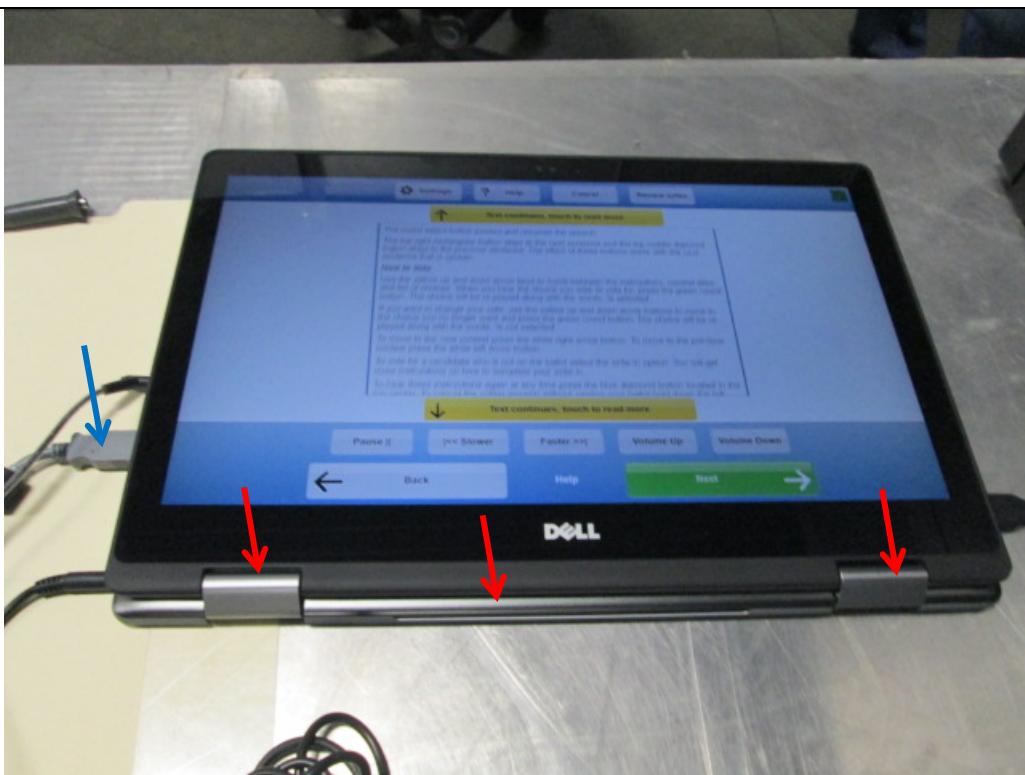


Figure A54. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

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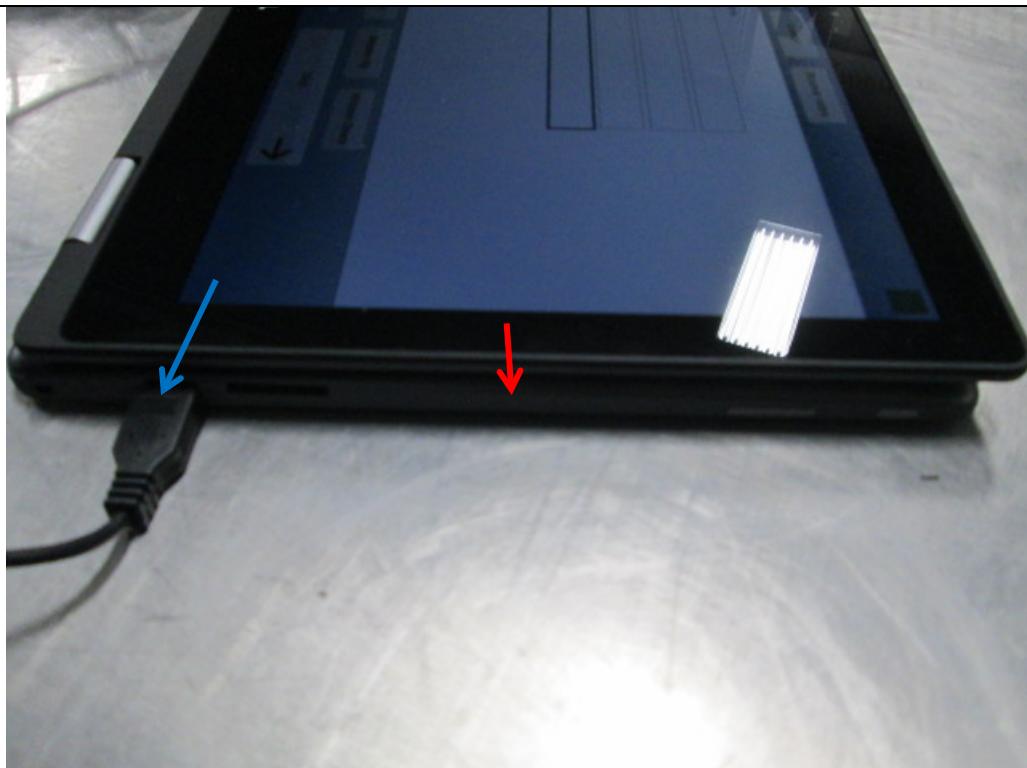


Figure A55. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure A56. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-2.doc

FR0100

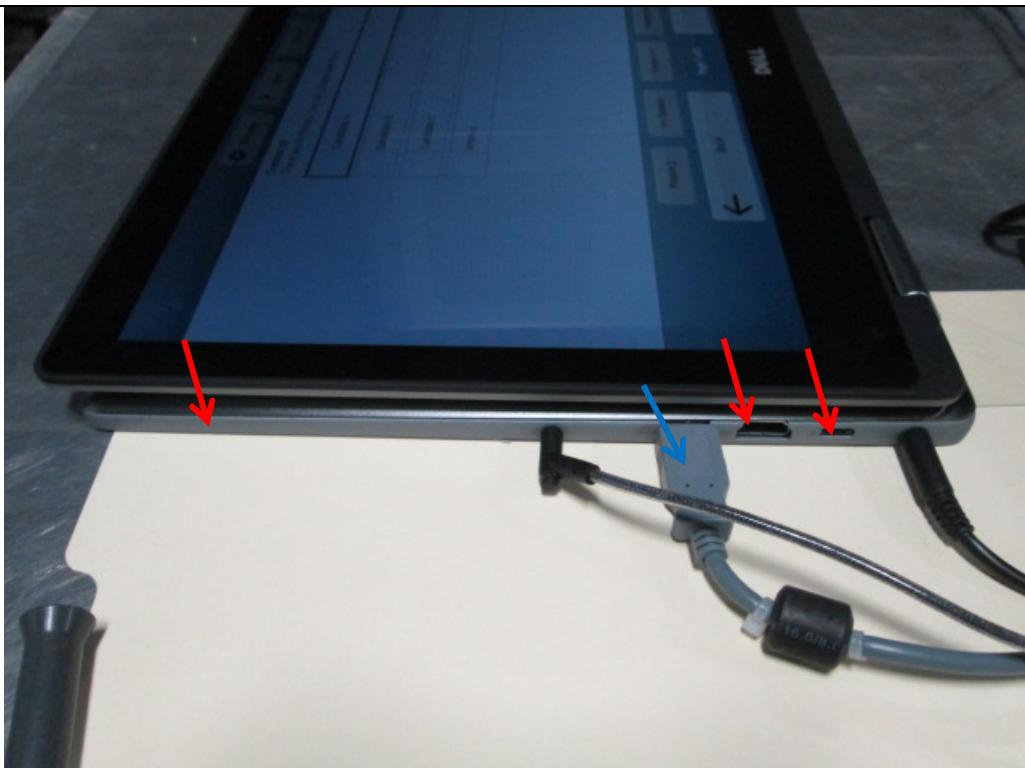


Figure A57. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
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**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	Date:	AS1625141816 Unit#6 August 17, 2017
Temperature:	25.4°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	840 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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FR0100

Test Location	Voltage Level (kV)	Polarity +	Polarity -	Number of Pulses	Pulses Per Second	Comments	Criteria Met	Pass / Fail
Indirect Discharge Points								
VCP	8	x	x	10	1	Front Side	A	Pass
VCP	8	x	x	10	1	Left Side	A	Pass
VCP	8	x	x	10	1	Right Side	A	Pass
VCP	8	x	x	10	1	Back Side	A	Pass
HCP	8	x	x	10	1	Edge of HCP at Front of UUT	A	Pass
Contact Discharge Points - RED Arrows.								
Figure A2	---	---	---	---	---	No discharge points found.	---	---
Figure A3	8	x	x	10	1		A	Pass
Figure A4	8	x	x	10	1		A	Pass
Figure A5	8	x	x	10	1		A	Pass
Figure A6	---	---	---	---	---	No discharge points found.	---	---
Figure A7	---	---	---	---	---	No discharge points found.	---	---
Figure A8	---	---	---	---	---	No discharge points found.	---	---
Figure A9	---	---	---	---	---	No discharge points found.	---	---
Figure A10	8	x	x	10	1		A	Pass
Figure A11	8	x	x	10	1		A	Pass
Figure A12	---	---	---	---	---	No discharge points found.	---	---
Figure A13	8	x	x	10	1		A	Pass
Air Discharge Points - BLUE Arrows.								
Figure A2	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A3	---	---	---	---	---	No discharge points found.	---	---
Figure A4	---	---	---	---	---	No discharge points found.	---	---
Figure A5	---	---	---	---	---	No discharge points found.	---	---
Figure A6	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A7	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A8	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A9	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A10	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A11	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A12	2, 4, 8, 15	x	x	10	1		A	Pass
Figure A13	2, 4, 8, 15	x	x	10	1		A	Pass



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100

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Figure A58. Electrostatic Discharge Test Setup.

**Electrostatic Discharge per IEC / EN 61000-4-2**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	Date:	AS1625141816 Unit#6 August 17, 2017 FR0100

PR066470-4-2.doc

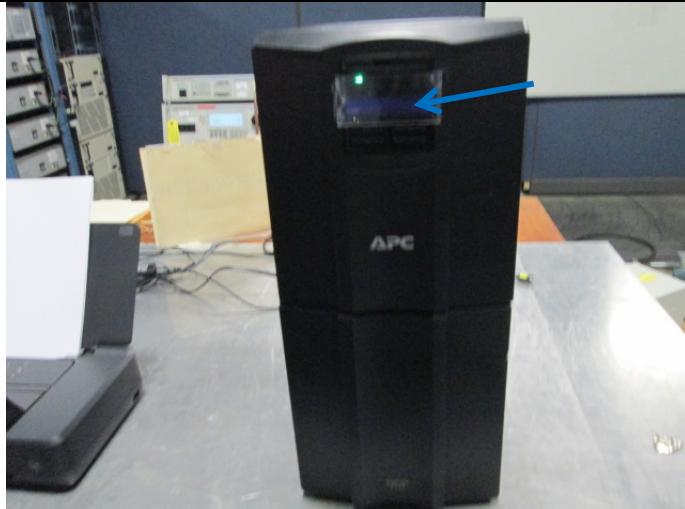


Figure A59. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100

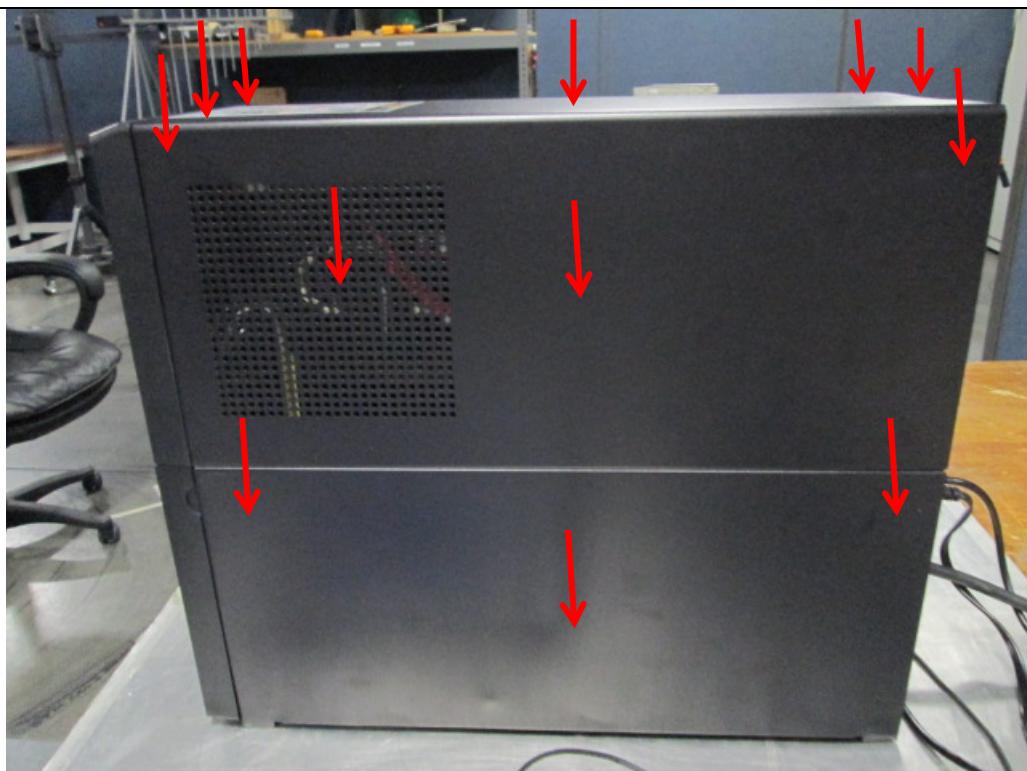


Figure A60. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100

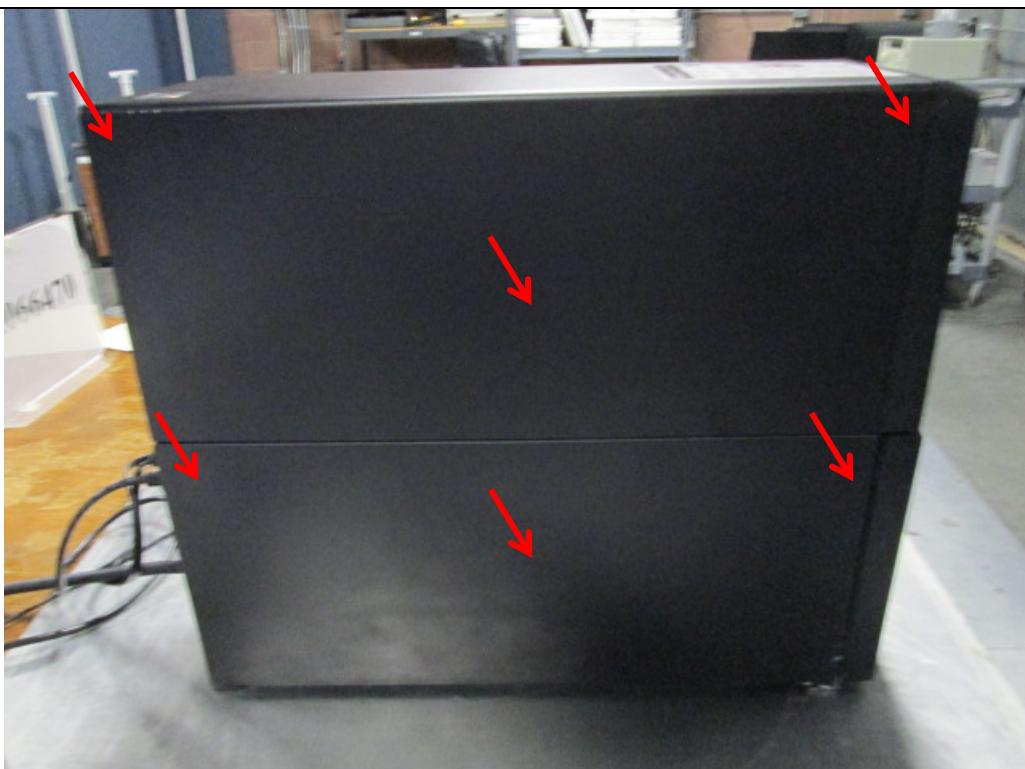


Figure A61. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc		FR0100	

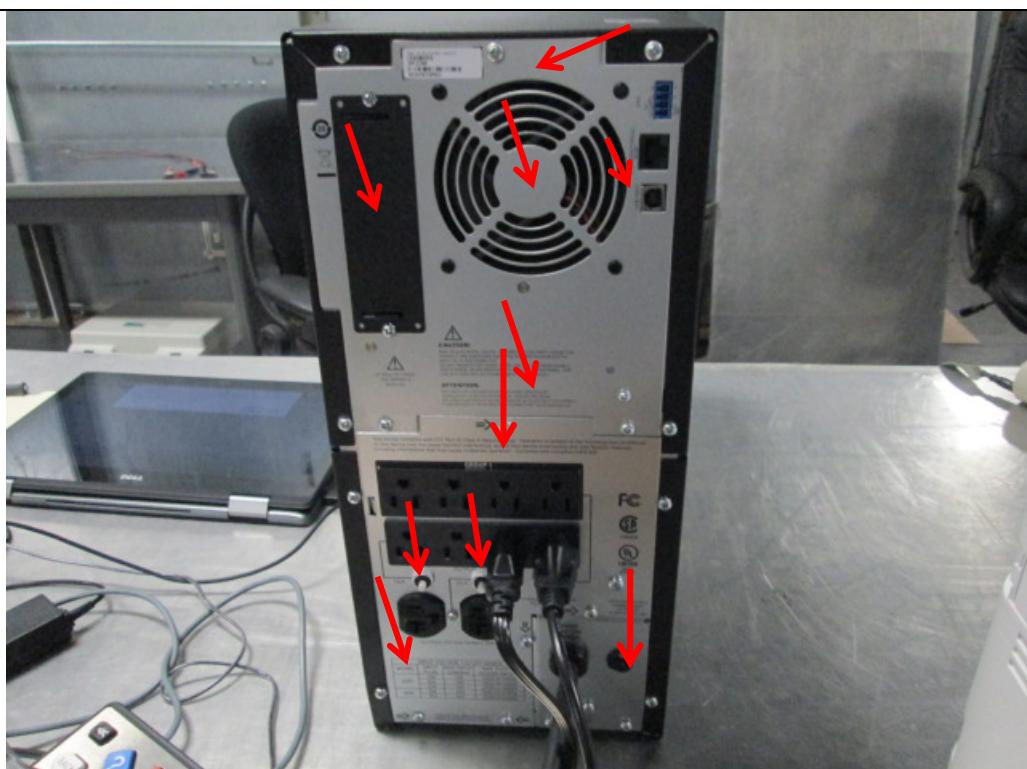


Figure A62. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc		FR0100	

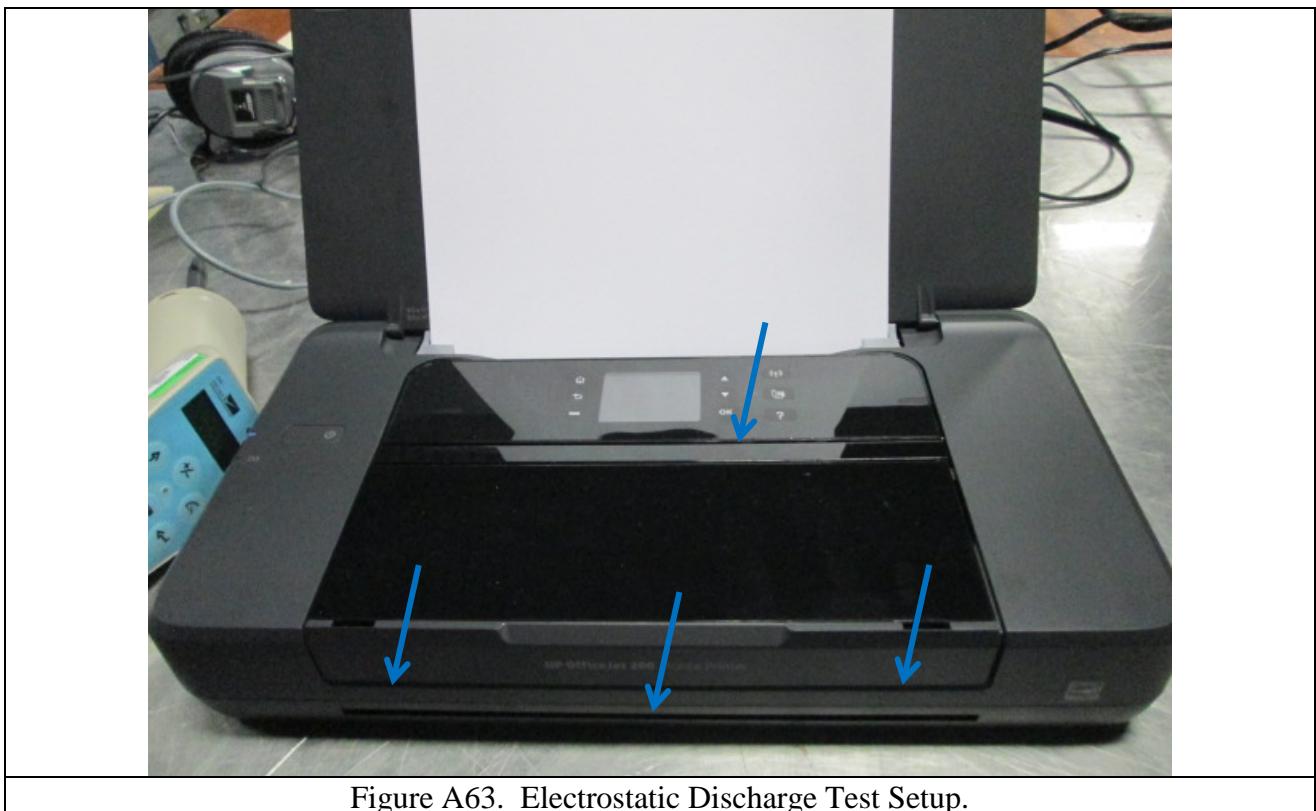


Figure A63. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc		FR0100	



Figure A64. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100



Figure A65. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100



Figure A66. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop) 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc		FR0100	

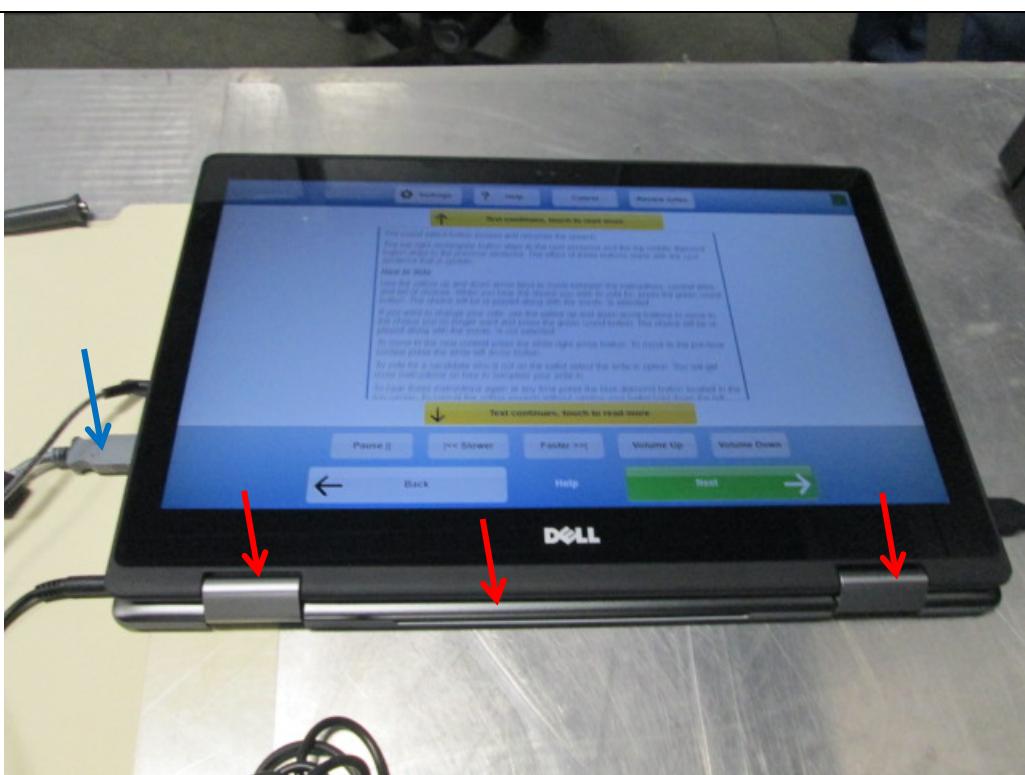


Figure A67. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100

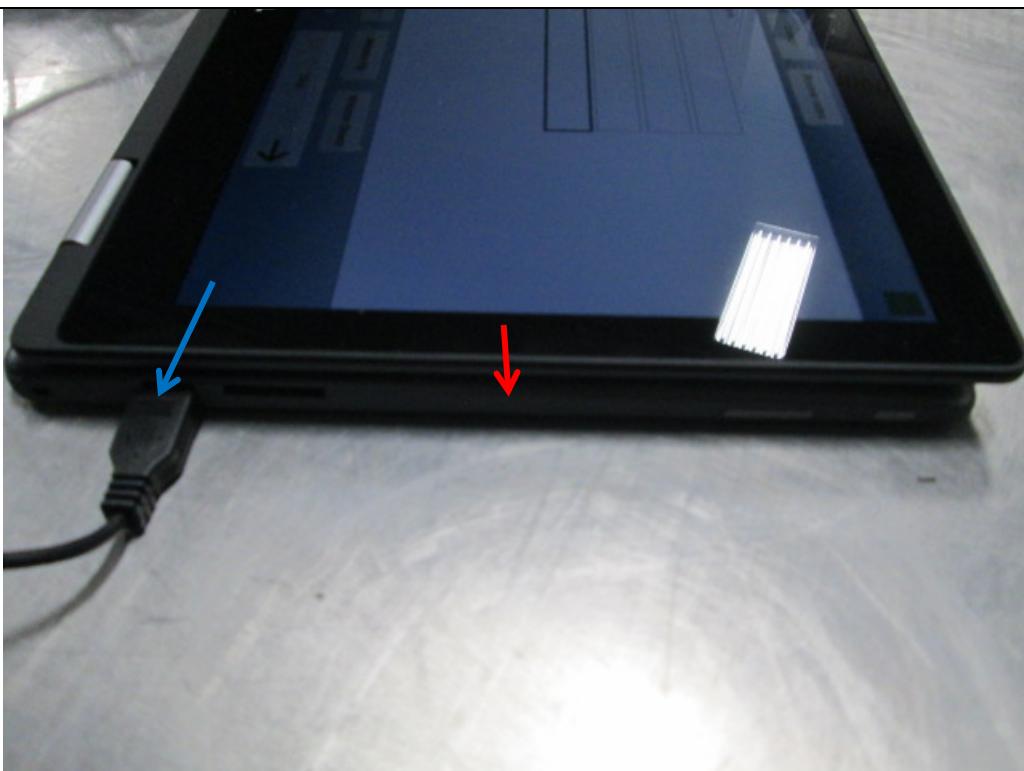


Figure A68. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100



Figure A69. Electrostatic Discharge Test Setup.



### Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-2.doc			FR0100

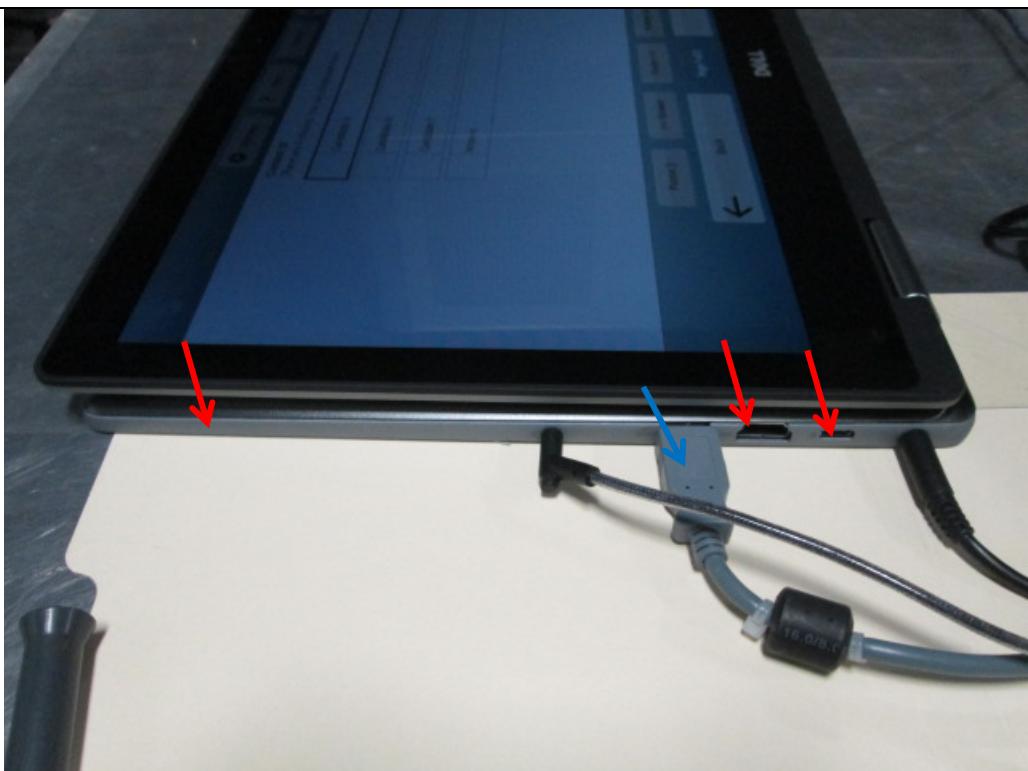


Figure A70. Electrostatic Discharge Test Setup.



## Electrostatic Discharge per IEC / EN 61000-4-2

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1333	EMC Partner	ESD3000	395	ESD Test System, including ESD3000DN1-1540 30kV Ad	06/29/2017	06/29/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1569	California Instruments by Ametek	5001IX-208- CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018

## **APPENDIX B**

### **Radiated RF Immunity Test Data**



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017
Temperature:	23°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	838mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Kevin Johnson		

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Frequency (MHz)	Type	Modulation	%	Freq	Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Front Side</b>	A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Right Side</b>	A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Back Side</b>	A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Left Side</b>	A	Pass	
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass	



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017
PR066470-4-3.doc			FR0100

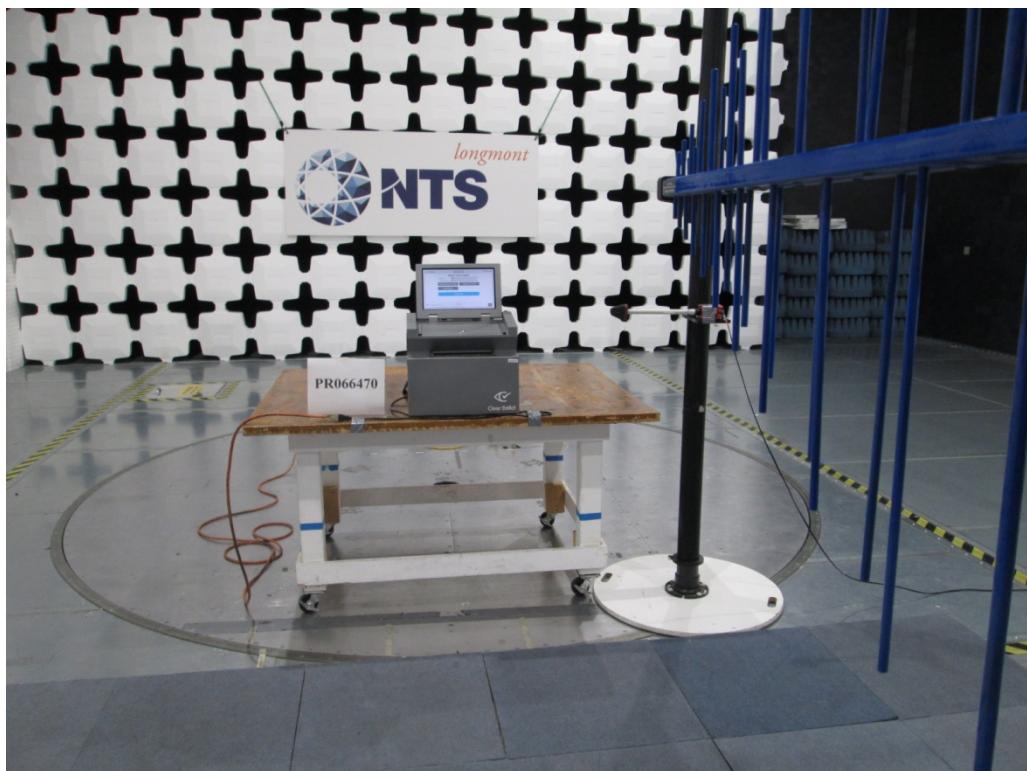


Figure B1. Radiated RF Immunity Test Setup – Front Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017

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FR0100

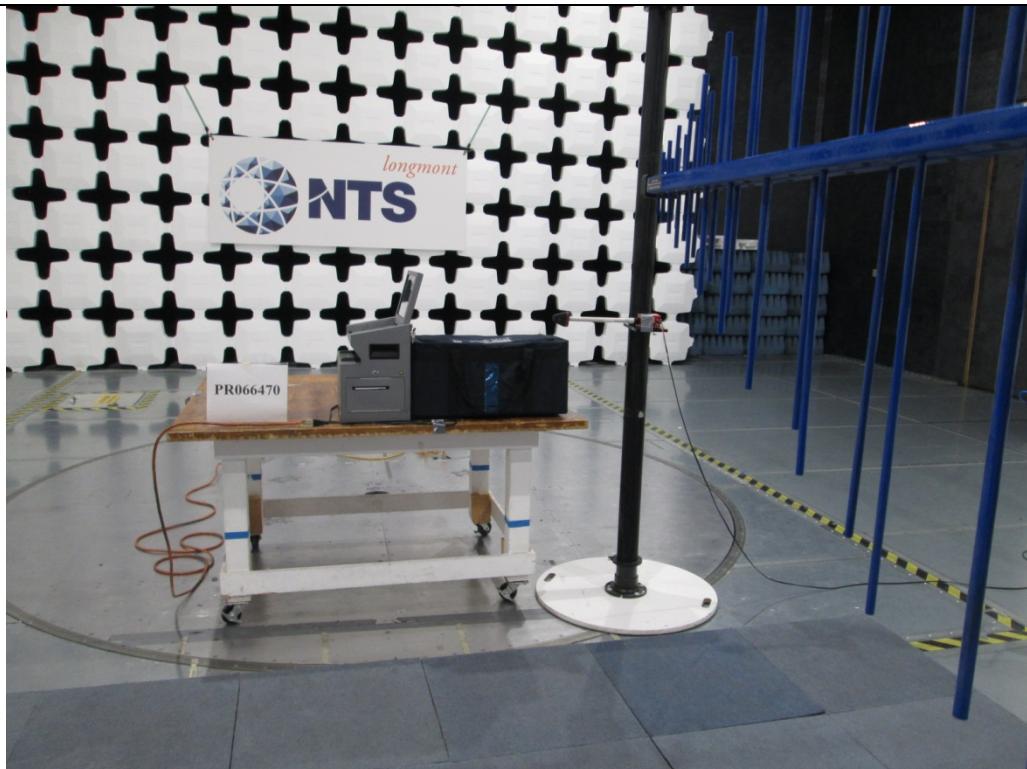


Figure B2. Radiated RF Immunity Test Setup – Right Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017

PR066470-4-3.doc

FR0100

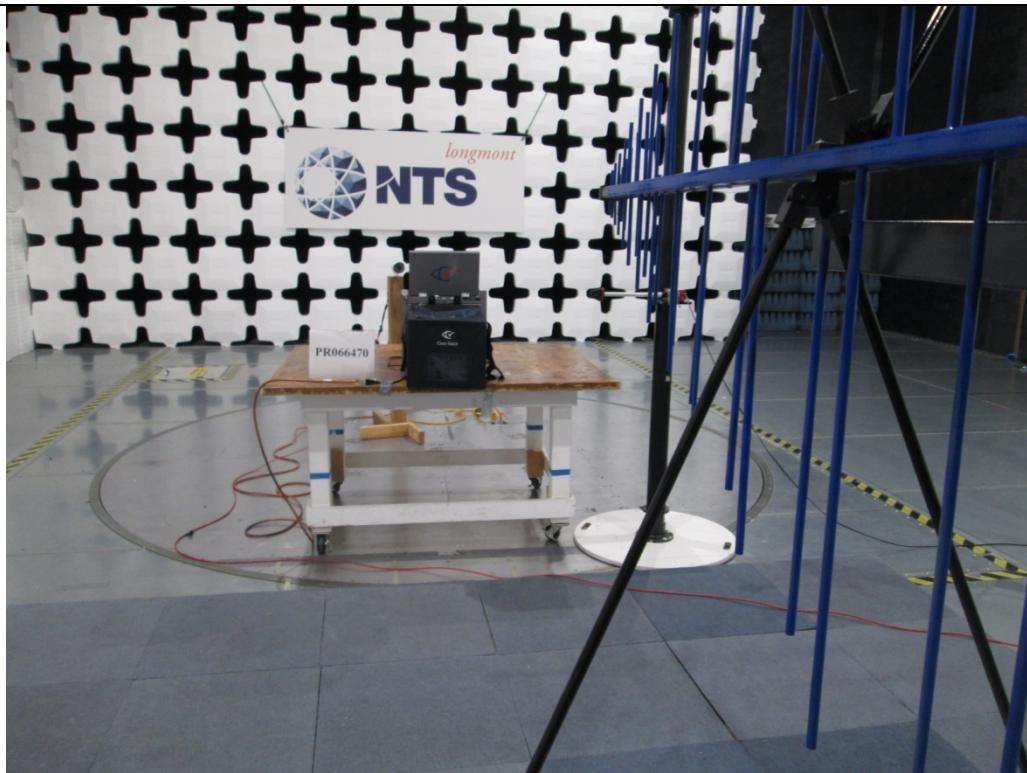


Figure B3. Radiated RF Immunity Test Setup – Back Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017

PR066470-4-3.doc

FR0100

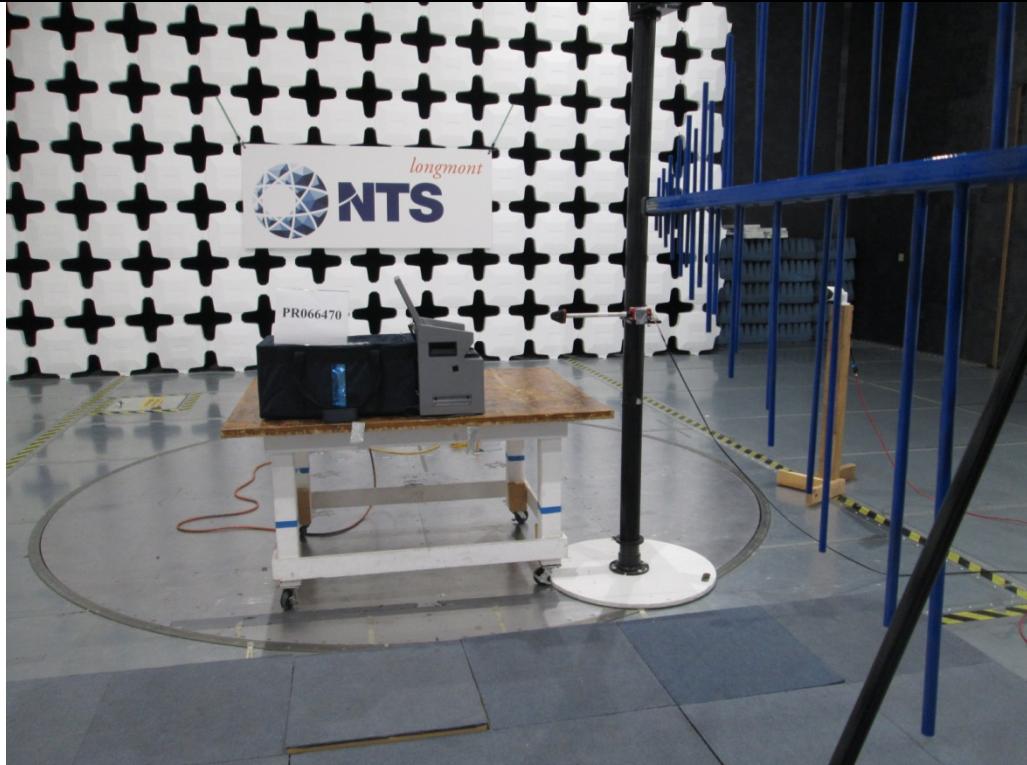


Figure B4. Radiated RF Immunity Test Setup – Left Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2July 25, 2017
Model:	Clear Cast	S/N:	CAST00018, Unit #1
Standard Referenced:	EAC 2005 VVSG	Date:	July 25, 2017

PR066470-4-3.doc FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1005	EMCO	3140	1012	Biconilog Antenna	NA	NA
1038	Fluke	85	66180455	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1055	Marconi	2024	112113/027	Signal Generator (10 kHz - 2.4 GHz)	05/09/2017	05/09/2018
1250	OPHIR	5127F	1034	RF Power Amplifier 20-1000MHz, 200 Watts	NA	NA
1297	Agilent	E4418B	MY40513063	EPM Series Power Meter	03/08/2017	03/08/2018
1298	Hewlett Packard	E4421A	US38484980	E Series CW Power Sensor	03/09/2017	03/09/2018
1396	CIR Enterprises	10m Chamber #2	002	10m Chamber with 4m turntable	09/28/2016	09/28/2017
1476	ETS Lindgren	HI-6053	00144805	10 MHz to 40 GHz Isotropic Electric Field Probe	02/24/2017	02/24/2018
1578	Werlatone	C3908-10	107952	1500 Watts, 50 dB Dual Directional Coupler (80MHz)	06/21/2017	06/21/2018
1587	EXTECH Instruments	445715	NA	Hygro-Thermometer	12/20/2016	12/20/2017



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
Temperature:	26°C	Humidity:	31%
Input Voltage:	120Vac/60Hz	Pressure:	840mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Kevin Johnson		

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Frequency (MHz)	Type	Modulation		Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Front Side	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Right Side	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Back Side	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Left Side	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
PR066470-4-3.doc			FR0100

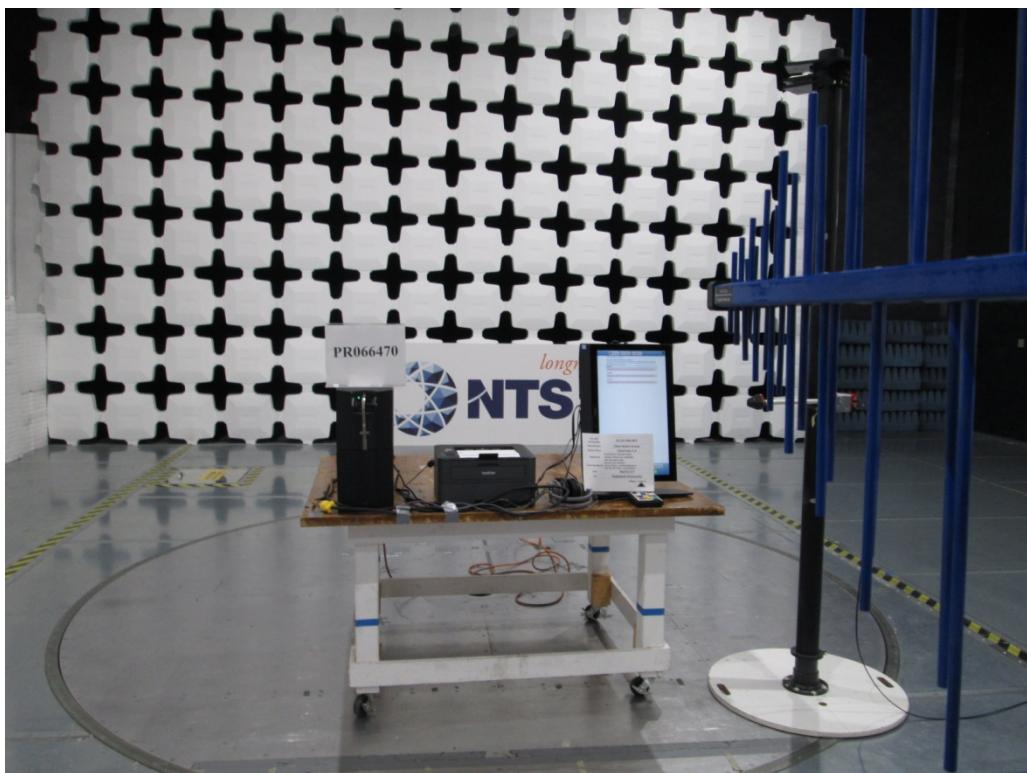


Figure B5. Radiated RF Immunity Test Setup – Front Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
PR066470-4-3.doc			FR0100

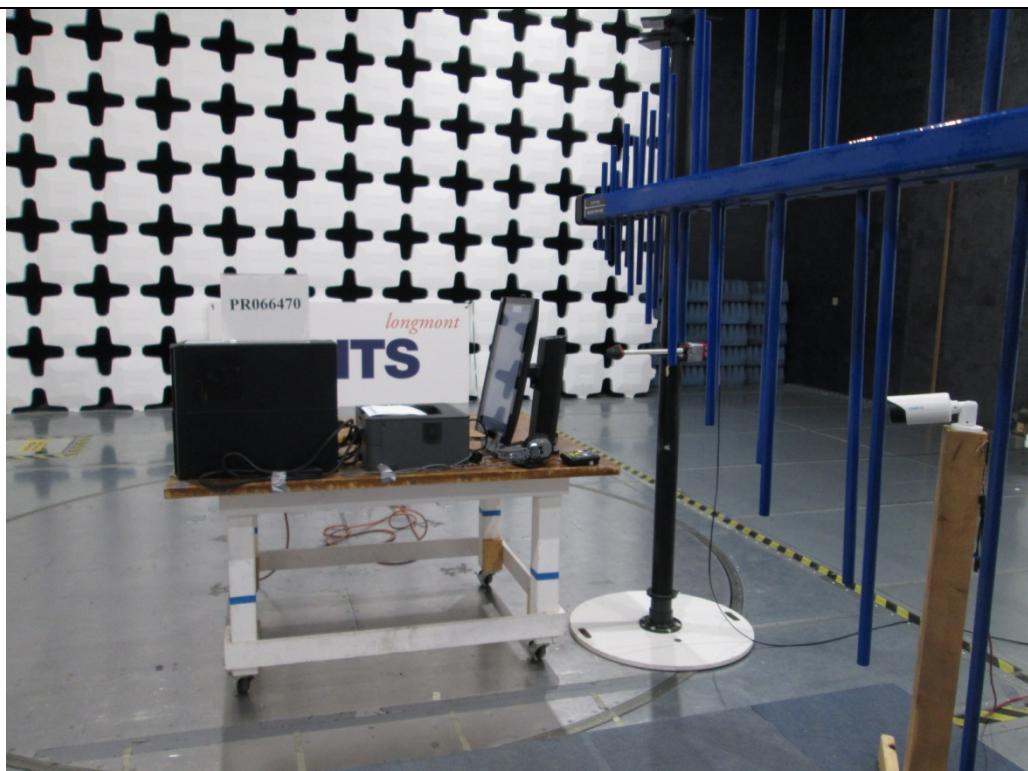


Figure B6. Radiated RF Immunity Test Setup – Right Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
PR066470-4-3.doc			FR0100

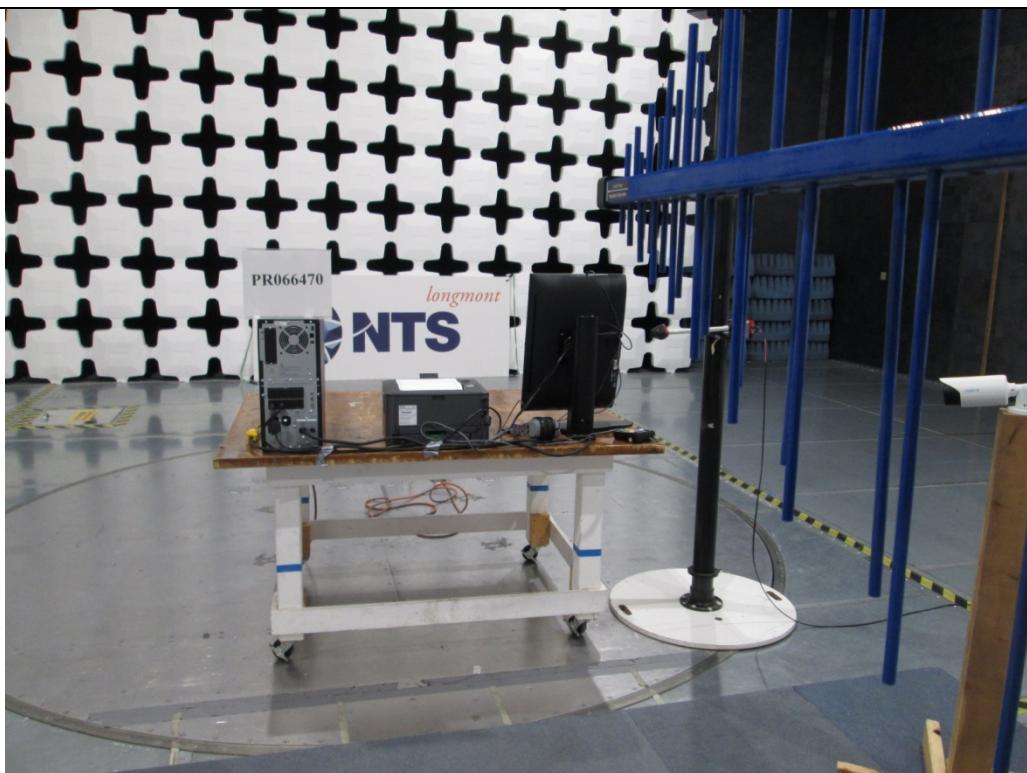


Figure B7. Radiated RF Immunity Test Setup – Back Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
PR066470-4-3.doc			FR0100

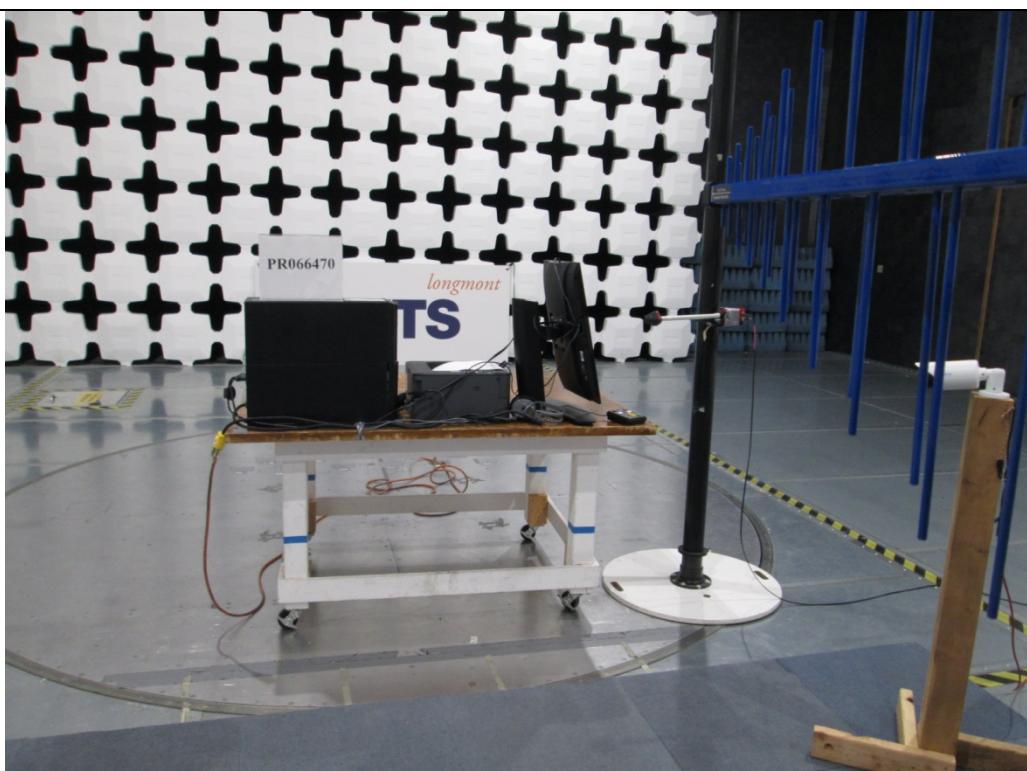


Figure B8. Radiated RF Immunity Test Setup – Left Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell AIO 5250 Brother Printer HL-2340DW APC UPS SMT-2200	S/N:	Unit#2 6PWZFK2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	September 1, 2017
PR066470-4-3.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1181	EMCI	RFS	V2.5.8	Initial Release 02 July 2004	NA	NA
1005	EMCO	3140	1012	Biconilog Antenna	NA	NA
1055	Marconi	2024	112113/027	Signal Generator (10 kHz - 2.4 GHz)	05/09/2017	05/09/2018
1250	OPHIR	5127F	1034	RF Power Amplifier 20-1000MHz, 200 Watts	NA	NA
1297	Agilent	E4418B	MY40513063	EPM Series Power Meter	03/08/2017	03/08/2018
1298	Hewlett Packard	E4421A	US38484980	E Series CW Power Sensor	03/09/2017	03/09/2018
1396	CIR Enterprises	10m Chamber #2	002	10m Chamber with 4m turntable	09/28/2016	09/28/2017
1476	ETS Lindgren	HI-6053	00144805	10 MHz to 40 GHz Isotropic Electric Field Probe	02/24/2017	02/24/2018
1578	Werlatone	C3908-10	107952	1500 Watts, 50 dB Dual Directional Coupler (80MHz)	06/21/2017	06/21/2018
1587	EXTECH Instruments	445715	NA	Hygro-Thermometer	12/20/2016	12/20/2017



## Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017
Temperature:	27.1°C	Humidity:	36%
Input Voltage:	120Vac/60Hz	Pressure:	846mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Steve Cristanelli		

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Frequency (MHz)	Type	Modulation	%	Freq	Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
80 - 220	AM	80	1kHz	Sine	1	10	V	3		<b>Front Side</b>	A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	V	3			A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	H	3			A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3			A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	V	3		<b>Right Side</b>	A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	V	3			A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	H	3			A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3			A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	V	3		<b>Back Side</b>	A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	V	3			A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	H	3			A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3	Monitor goes black between 571 - 607MHz, but recovers with no intervention. program and printer still working		A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3	System in ready state. Dwell on 560MHz RF 'on' Monitor is functional		A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3	System in ready state. Dwell on 560MHz RF 'on', mod 'on' Monitor goes black and stays black while rf & mod 'on'		A	Pass



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017
Temperature:	27.1°C	Humidity:	36%
Input Voltage:	120Vac/60Hz	Pressure:	846mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Steve Cristanelli		

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Frequency (MHz)	Type	%	Modulation	Freq	Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
As per client – The monitor going black is still a pass, since the program is still running and the printer is still printing.												
80 - 220	AM	80	1kHz	Sine	1	10	V	3	<b>Left Side</b>	A	Pass	
220 - 1000	AM	80	1kHz	Sine	1	10	V	3	Program stopped, Printer ran out of paper. Refill and start from beginning	A	Pass	
80 - 220	AM	80	1kHz	Sine	1	10	H	3		A	Pass	
220 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass	

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017

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Figure B9 Radiated RF Immunity Test Setup – Front Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017

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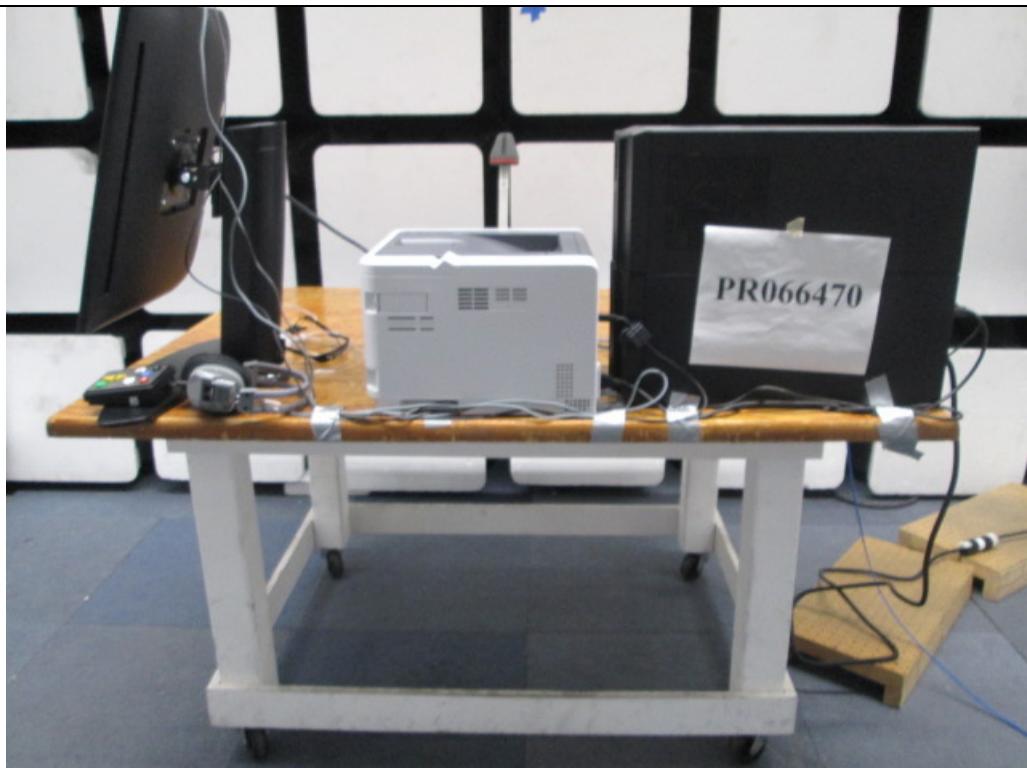


Figure B10. Radiated RF Immunity Test Setup – Right Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017

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Figure B11. Radiated RF Immunity Test Setup – Back Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017

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Figure B12. Radiated RF Immunity Test Setup – Left Side.



## Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell AIO 5250 Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #3 HCGMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Tuesday, August 01, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1018	Pacific Power	TMX-125	207	2.5 kVA, 50 Hz Power Source	NA	NA
1066	Eaton	96000	2113	Double Ridge Horn Antenna 200MHz-2GHz	06/20/2016	06/20/2018
1181	EMCI	RFS	V2.5.8	Initial Release 02 July 2004	NA	NA
1267	Werlatone	C6021-10	41833	Directional Coupler, 10 kHz to 1 GHz, 500W, 40dB	10/11/2016	10/11/2017
1285	ETS-Lindgren	HI-6053	00082800	Isotropic Field Probe 10 MHz-40 GHz	04/13/2017	04/13/2018
1455	Giga-tronics	GT-8888A	8888A03337	10 MHz to 8 GHz, +20 dBm, 25 Vdc Power Meter	04/08/2017	04/08/2018
1478	Ophir	5127F	1100	RF Amplifier, 200 Watt, 20 - 1000 MHz	NA	NA
1521	IFR	2023B	202301/889	Signal Generator (9 kHz - 2.05 GHz)	01/17/2017	01/17/2018
1553	EXTECH Instruments	445715	NA	Hygro-Thermometer	09/06/2016	09/06/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1722	ETS -Lindgren	3142B	1624	Antenna	01/11/2017	01/11/2018
1761	Braden Shielding Systems	RF Shield Room	N/A	GP0	03/17/2017	03/17/2018



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
Temperature:	23°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	838mb
Configuration of Unit:	Scanning ballots. Unit #4		
Test Engineer:	Kevin Johnson		

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Frequency (MHz)	Type	Modulation		Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Front Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Right Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Back Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Left Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
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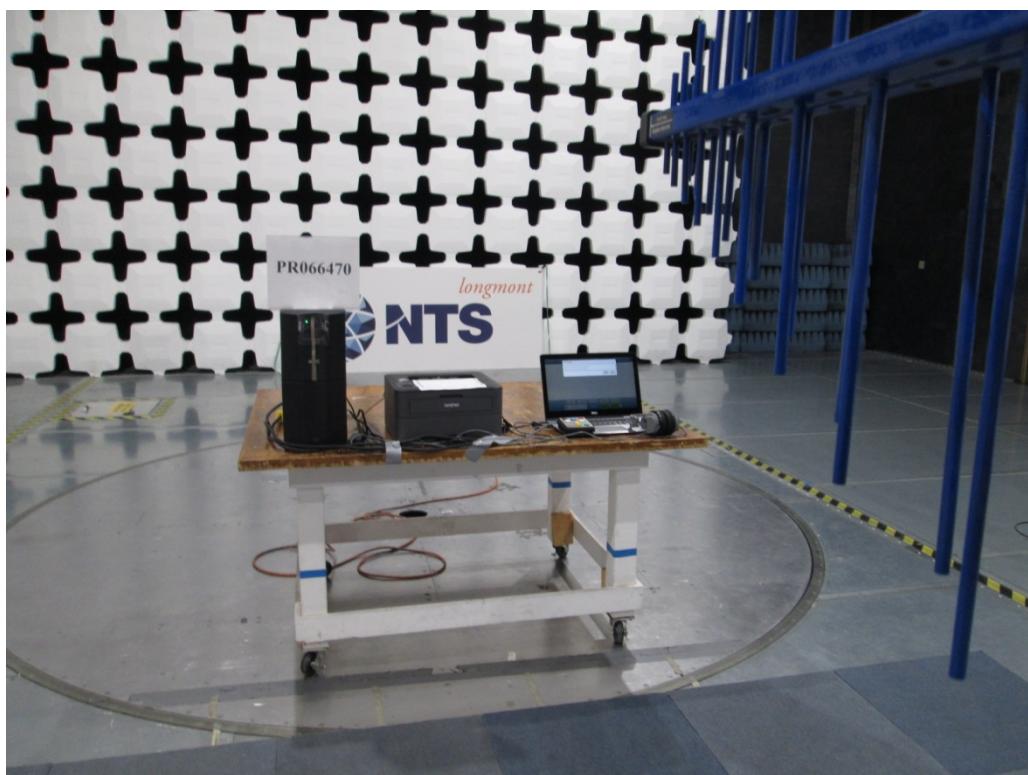


Figure B13. Radiated RF Immunity Test Setup – Front Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
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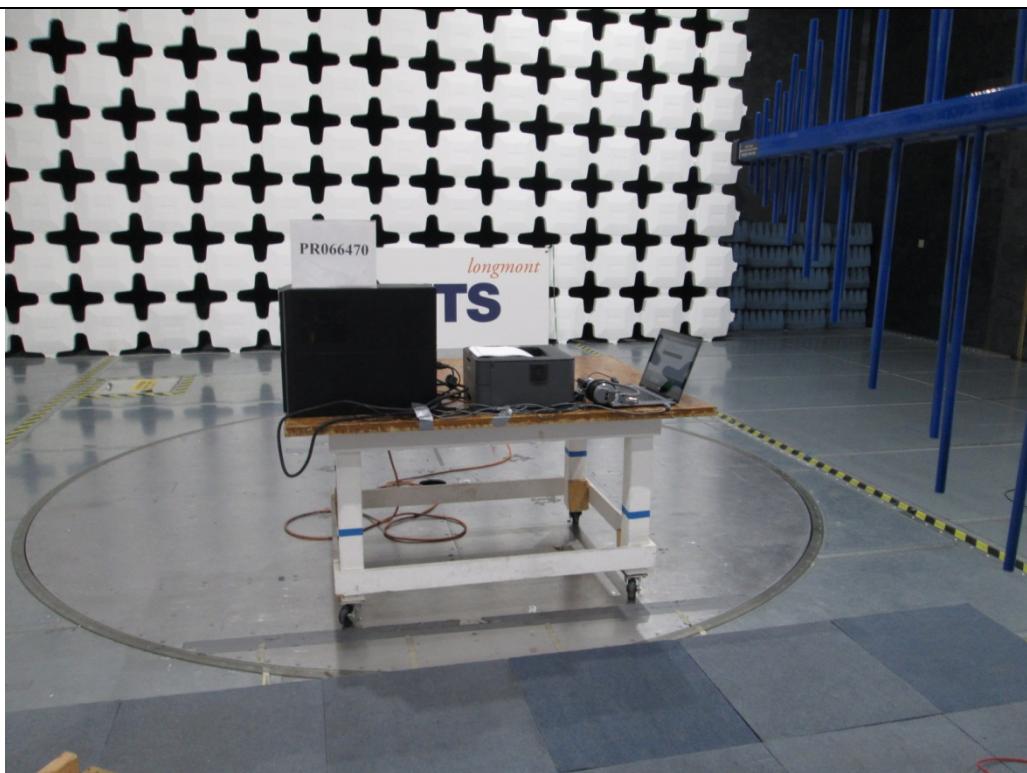


Figure B14. Radiated RF Immunity Test Setup – Right Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
PR066470-4-3.doc			FR0100

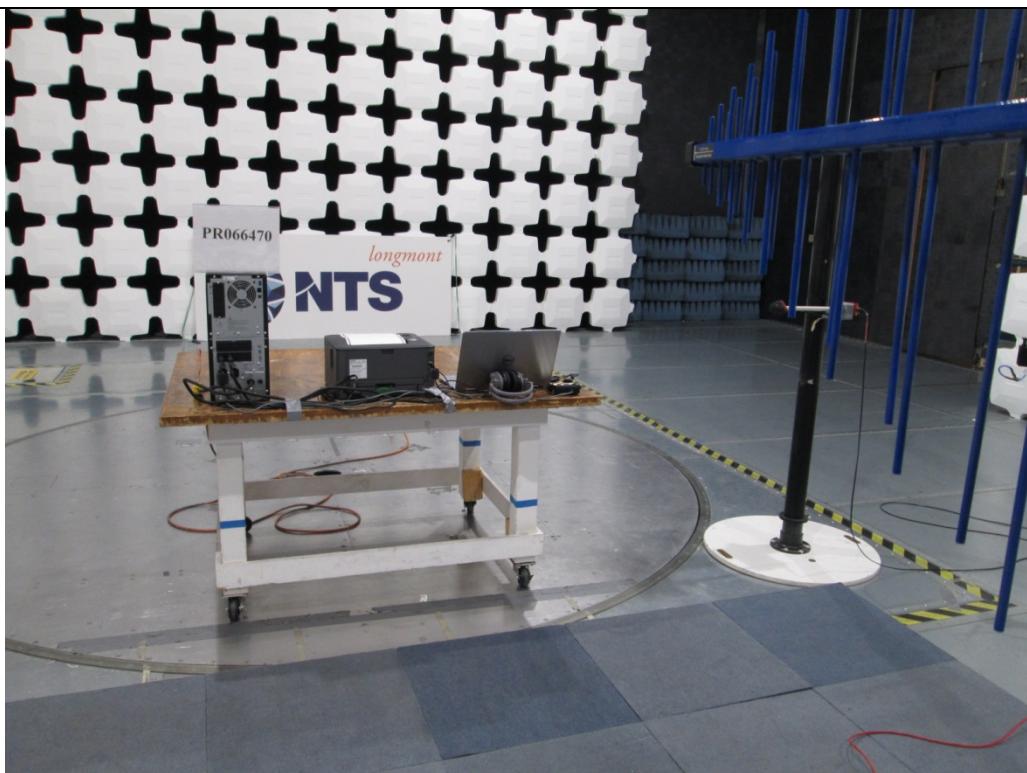


Figure B15. Radiated RF Immunity Test Setup – Back Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
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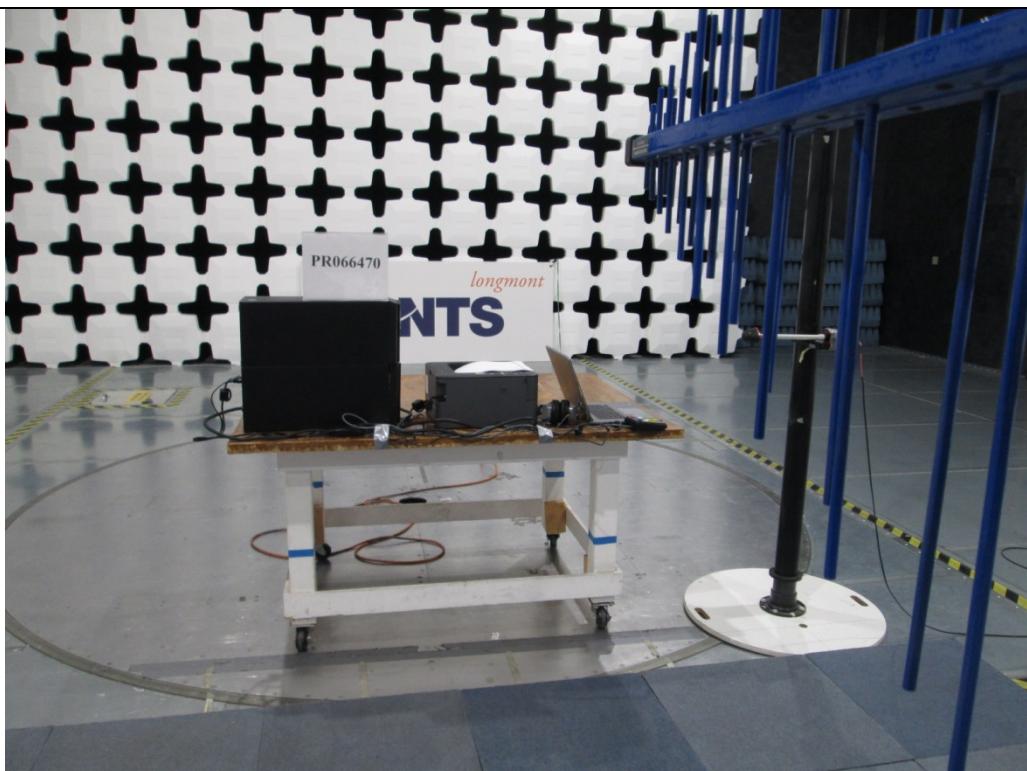


Figure B16. Radiated RF Immunity Test Setup – Left Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2July 25, 2017
Model:	ClearAccess Dell Laptop 7000 Series Brother HL-L2340DW APC SMT-2200	S/N:	22S1YD2 U63879M4N628612 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 24, 2017
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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1005	EMCO	3140	1012	Biconilog Antenna	NA	NA
1055	Marconi	2024	112113/027	Signal Generator (10 kHz - 2.4 GHz)	05/09/2017	05/09/2018
1245	Fluke	87V	91600341	True RMS MultiMeter with Temp	06/23/2017	06/23/2018
1250	OPHIR	5127F	1034	RF Power Amplifier 20-1000MHz, 200 Watts	NA	NA
1297	Agilent	E4418B	MY40513063	EPM Series Power Meter	03/08/2017	03/08/2018
1298	Hewlett Packard	E4421A	US38484980	E Series CW Power Sensor	03/09/2017	03/09/2018
1396	CIR Enterprises	10m Chamber #2	002	10m Chamber with 4m turntable	09/28/2016	09/28/2017
1476	ETS Lindgren	HI-6053	00144805	10 MHz to 40 GHz Isotropic Electric Field Probe	02/24/2017	02/24/2018
1578	Werlatone	C3908-10	107952	1500 Watts, 50 dB Dual Directional Coupler (80MHz)	06/21/2017	06/21/2018
1587	EXTECH Instruments	445715	NA	Hygro-Thermometer	12/20/2016	12/20/2017



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0/10m2
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0/AK 76030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017
Temperature:	26.1°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	843mb
Configuration of Unit:	Scanning ballots. Config 5		
Test Engineer:	Steve Cristanelli/Kevin Johnson		

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Frequency (MHz)	Type	%	Modulation Freq	Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
Tested in 10m2											
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Front	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
Tested in 10m2											
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	Right	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
Tested in GP0											
80 - 220	AM	80	1kHz	Sine	1	10	V	3	Back	A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	V	3		A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	H	3		A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
Tested in GP0											
80 - 220	AM	80	1kHz	Sine	1	10	V	3	Left	A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	V	3		A	Pass
80 - 220	AM	80	1kHz	Sine	1	10	H	3		A	Pass
220 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437/A0AK 7/6030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017

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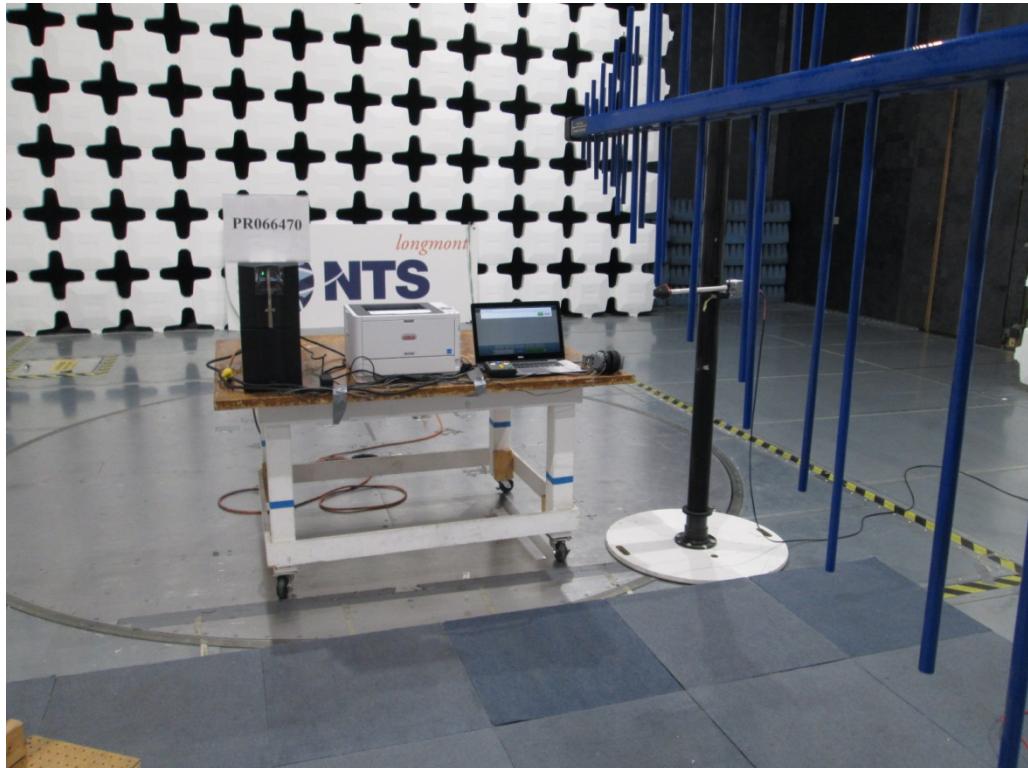


Figure B17. Radiated RF Immunity Test Setup – Front Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437/A0AK 7/6030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017

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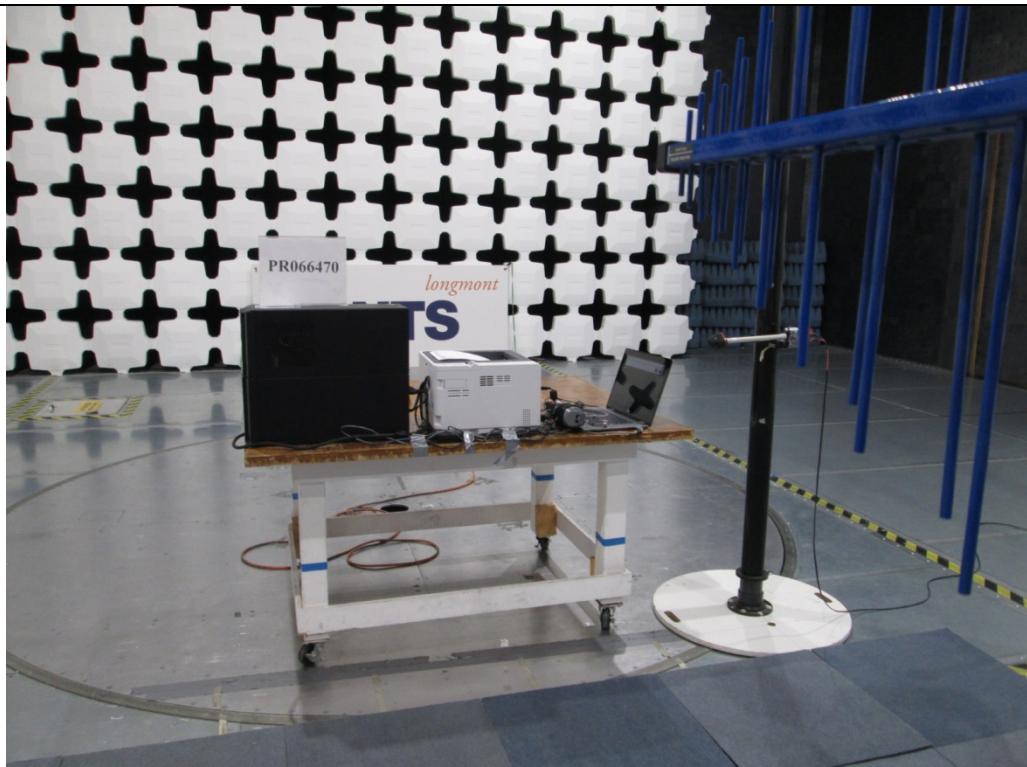


Figure B18. Radiated RF Immunity Test Setup – Right Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437/A0AK 7/6030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017

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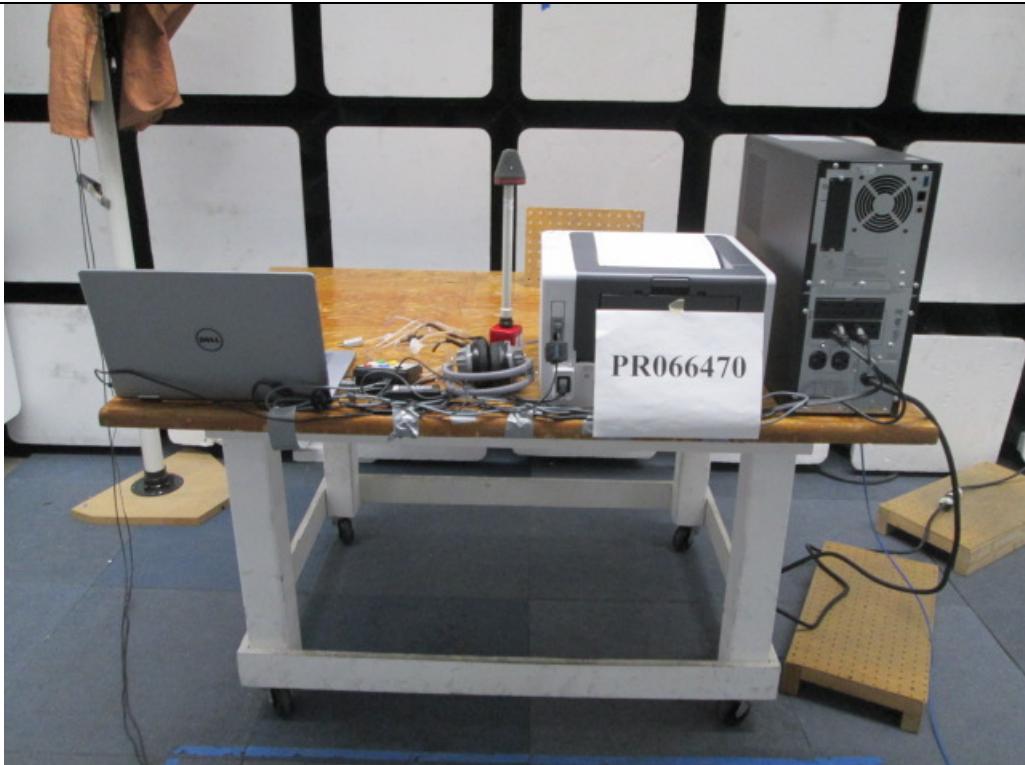


Figure B19. Radiated RF Immunity Test Setup – Back Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437/A0AK 7/6030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017

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Figure B20. Radiated RF Immunity Test Setup – Left Side.



## Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP0
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0/AK 76030928A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	Wednesday, August 02, 2017
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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1005	EMCO	3140	1012	Biconilog Antenna	NA	NA
1066	Eaton	96000	2113	Double Ridge Horn Antenna 200MHz-2GHz	06/20/2016	06/20/2018
1181	EMCI	RFS	V2.5.8	Initial Release 02 July 2004	NA	NA
1181	EMCI	RFS	V2.5.8	Initial Release 02 July 2004	NA	NA
1245	Fluke	87V	91600341	True RMS MultiMeter with Temp	06/23/2017	06/23/2018
1250	OPHIR	5127F	1034	RF Power Amplifier 20-1000MHz, 200 Watts	NA	NA
1267	Werlatone	C6021-10	41833	Directional Coupler, 10 kHz to 1 GHz, 500W, 40dB	10/11/2016	10/11/2017
1285	ETS-Lindgren	HI-6053	00082800	Isotropic Field Probe 10 MHz-40 GHz	04/13/2017	04/13/2018
1297	Agilent	E4418B	MY40513063	EPM Series Power Meter	03/08/2017	03/08/2018
1298	Hewlett Packard	E4421A	US38484980	E Series CW Power Sensor	03/09/2017	03/09/2018
1396	CIR Enterprises	10m Chamber #2	002	10m Chamber with 4m turntable	09/28/2016	09/28/2017
1455	Giga-tronics	GT-8888A	8888A03337	10 MHz to 8 GHz, +20 dBm, 25 Vdc Power Meter	04/08/2017	04/08/2018
1478	Ophir	5127F	1100	RF Amplifier, 200 Watt, 20 - 1000 MHz	NA	NA
1521	IFR	2023B	202301/889	Signal Generator (9 kHz - 2.05 GHz)	01/17/2017	01/17/2018
1553	EXTECH Instruments	445715	NA	Hygro-Thermometer	09/06/2016	09/06/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1565	ETS-Lindgren	HI-6053	00166681	Electric Field Probe, 10 MHz - 40 GHz	07/07/2017	07/07/2018
1578	Werlatone	C3908-10	107952	1500 Watts, 50 dB Dual Directional Coupler (80MHz)	06/21/2017	06/21/2018
1587	EXTECH Instruments	445715	NA	Hygro-Thermometer	12/20/2016	12/20/2017
1722	ETS -Lindgren	3142B	1624	Antenna	01/11/2017	01/11/2018
1761	Braden Shielding Systems	RF Shield Room	N/A	GP0	03/17/2017	03/17/2018



## Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
Temperature:	23°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	838mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Kevin Johnson		

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Frequency (MHz)	Type	Modulation		Form	Step Size (%)	Field (V/m)	Polarity (V or H)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Front Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Right Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Back Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	V	3	<b>Left Side</b>	A	Pass
80 - 1000	AM	80	1kHz	Sine	1	10	H	3		A	Pass

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
PR066470-4-3.doc			FR0100

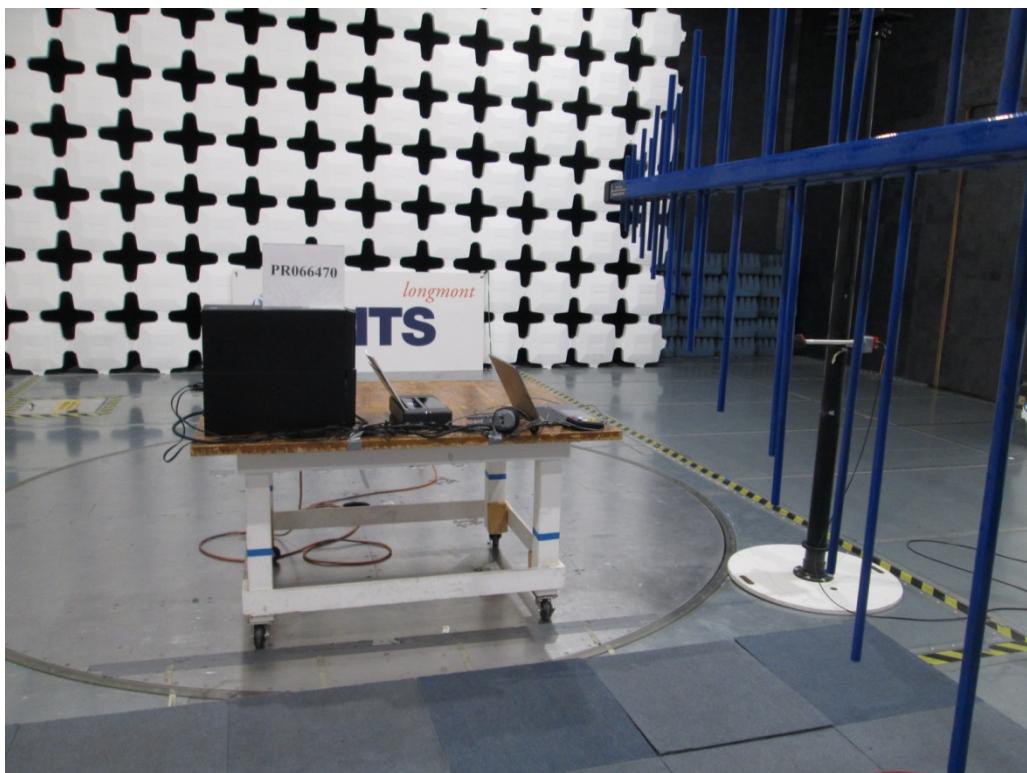


Figure B21. Radiated RF Immunity Test Setup – Front Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
PR066470-4-3.doc			FR0100

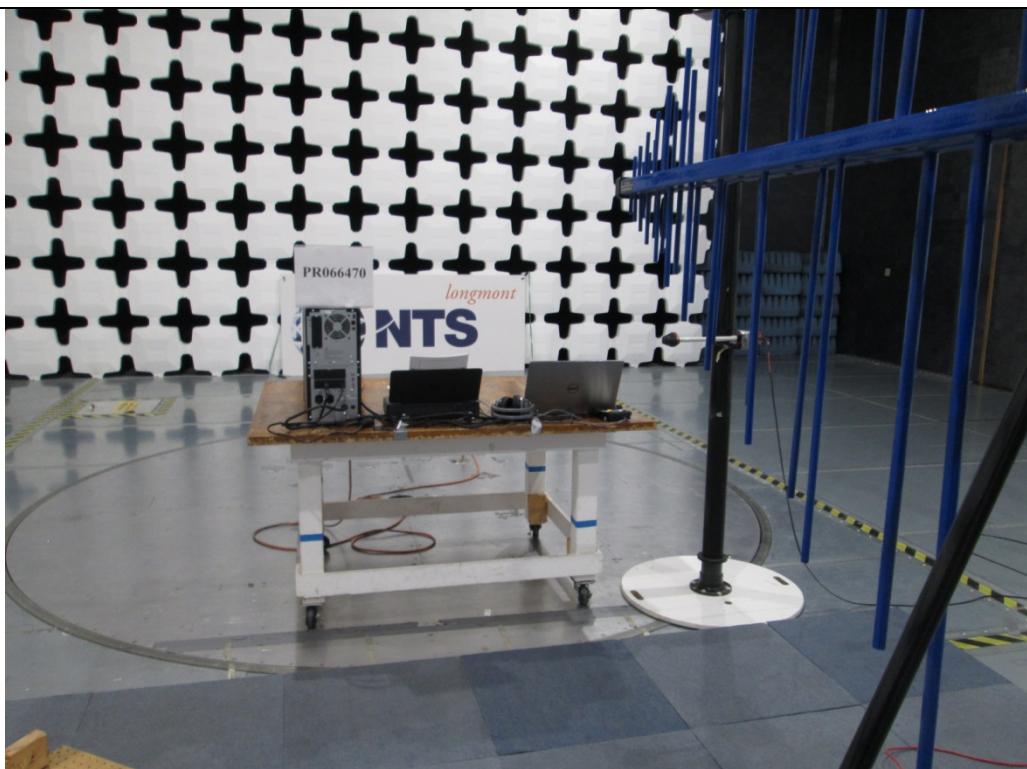


Figure B22. Radiated RF Immunity Test Setup – Right Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
PR066470-4-3.doc			FR0100

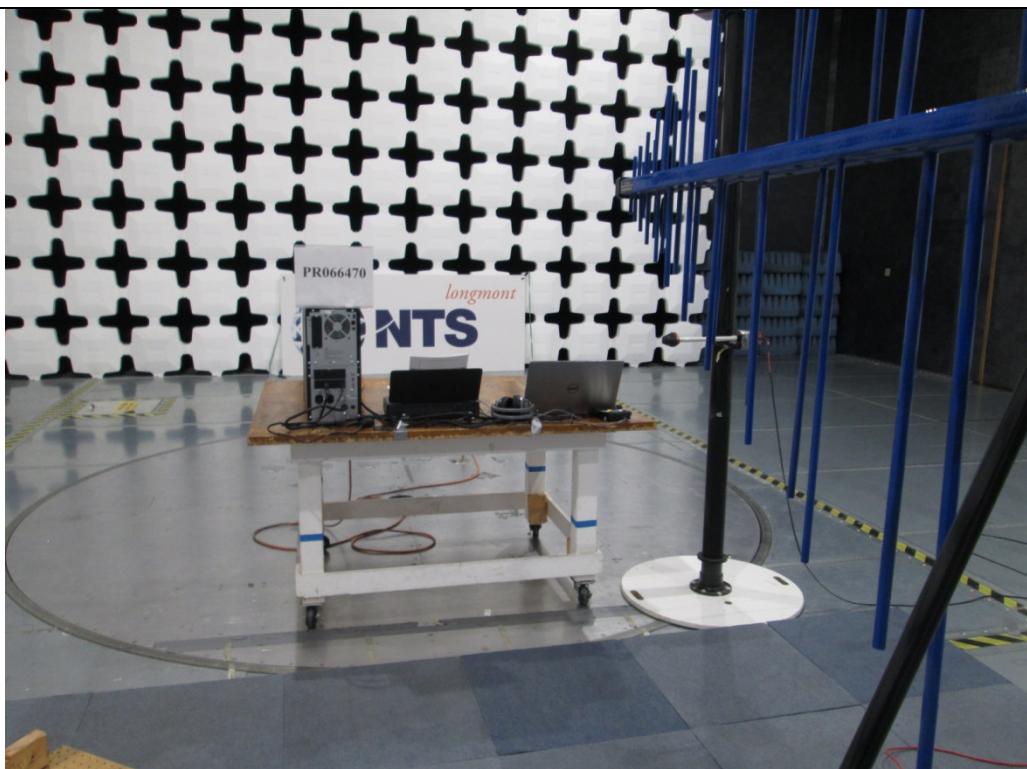


Figure B23. Radiated RF Immunity Test Setup – Back Side.

**Radiated RF Immunity per IEC / EN 61000-4-3**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
PR066470-4-3.doc			FR0100

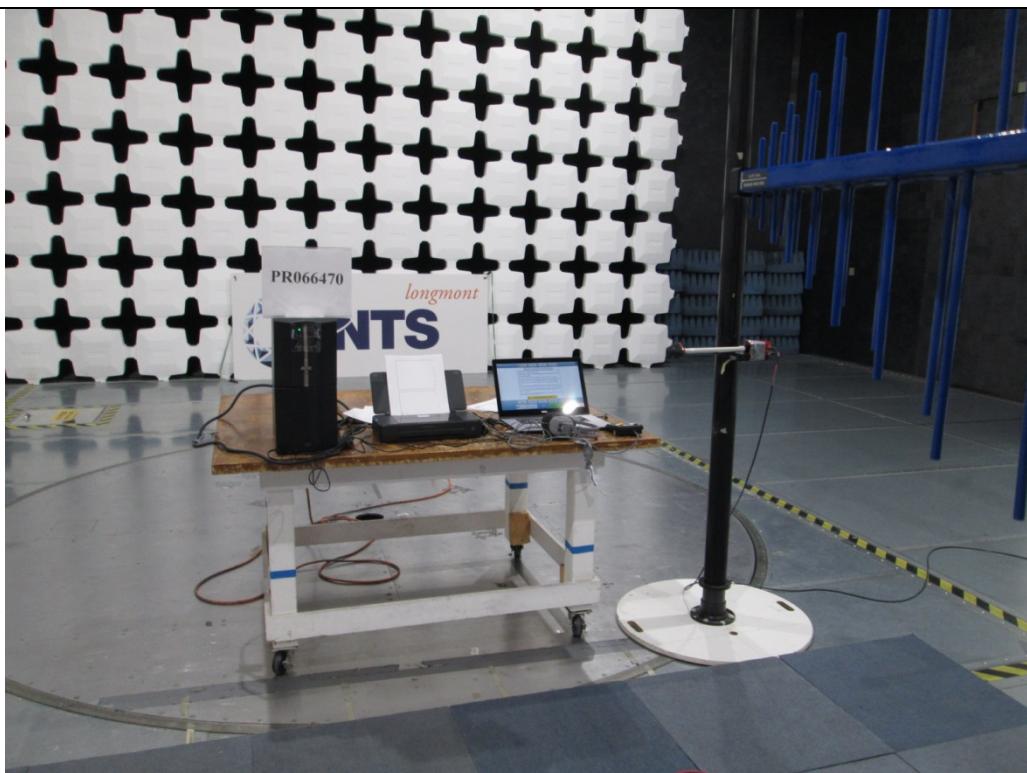


Figure B24. Radiated RF Immunity Test Setup – Left Side.



### Radiated RF Immunity per IEC / EN 61000-4-3

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	10m2July 25, 2017
Model:	ClearAccess Dell Laptop 7000 Series HP Model 200 APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 25, 2017
PR066470-4-3.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1005	EMCO	3140	1012	Biconilog Antenna	NA	NA
1055	Marconi	2024	112113/027	Signal Generator (10 kHz - 2.4 GHz)	05/09/2017	05/09/2018
1245	Fluke	87V	91600341	True RMS MultiMeter with Temp	06/23/2017	06/23/2018
1250	OPHIR	5127F	1034	RF Power Amplifier 20-1000MHz, 200 Watts	NA	NA
1297	Agilent	E4418B	MY40513063	EPM Series Power Meter	03/08/2017	03/08/2018
1298	Hewlett Packard	E4421A	US38484980	E Series CW Power Sensor	03/09/2017	03/09/2018
1396	CIR Enterprises	10m Chamber #2	002	10m Chamber with 4m turntable	09/28/2016	09/28/2017
1476	ETS Lindgren	HI-6053	00144805	10 MHz to 40 GHz Isotropic Electric Field Probe	02/24/2017	02/24/2018
1578	Werlatone	C3908-10	107952	1500 Watts, 50 dB Dual Directional Coupler (80MHz)	06/21/2017	06/21/2018
1587	EXTECH Instruments	445715	NA	Hygro-Thermometer	12/20/2016	12/20/2017

## **APPENDIX C**

### **Electrical Fast Transients/Burst Test Data**



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
Temperature:	26.0°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	843 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-4.doc

FR0100

Voltage (kV)	Polarity + -	Time (sec)	Injection Type	L					Rep Freq.	Comments	Criteria Met	Pass / Fail
				1	2	3	N	P				
2.0	x	60	CDN	x					5 kHz	AC	A	Pass
2.0		x	CDN	x					5 kHz		A	Pass
2.0	x	60	CDN		x				5 kHz		A	Pass
2.0		x	CDN		x				5 kHz		A	Pass
2.0	x	60	CDN				x	5 kHz			A	Pass
2.0		x	CDN				x	5 kHz			A	Pass
2.0	x	60	CDN	x	x			x	5 kHz		A	Pass
2.0		x	CDN	x	x			x	5 kHz		A	Pass



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
PR066470-4-4.doc			FR0100

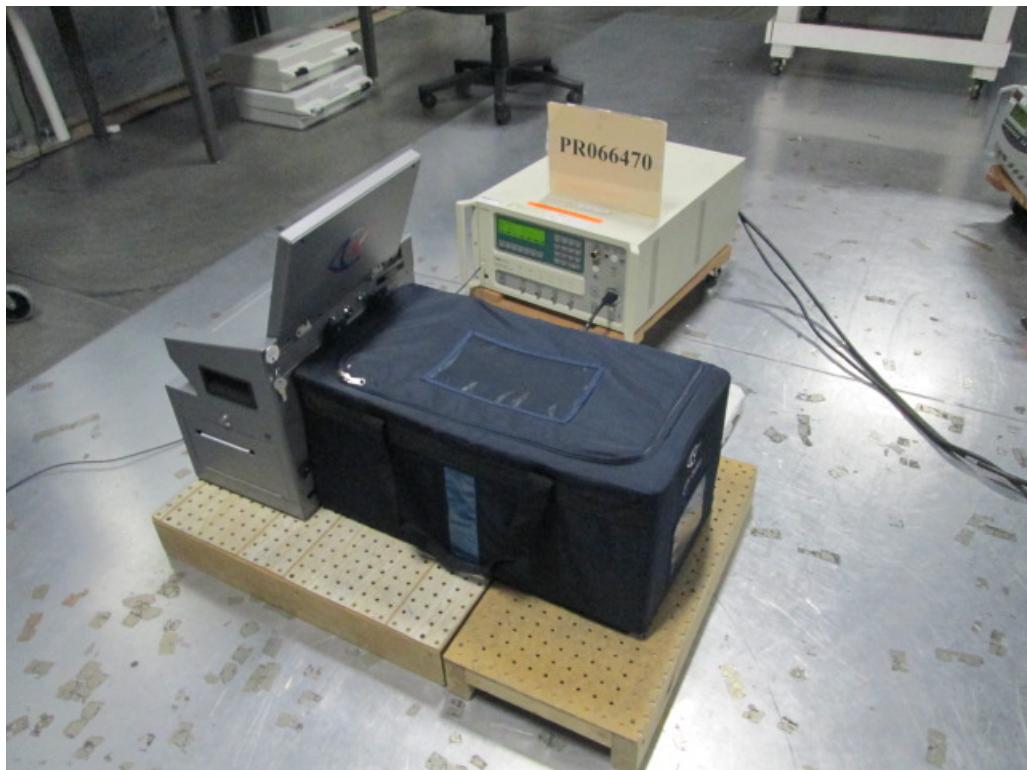


Figure C1. Electrical Fast Transient Test Setup.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017

PR066470-4-4.doc

FR0100

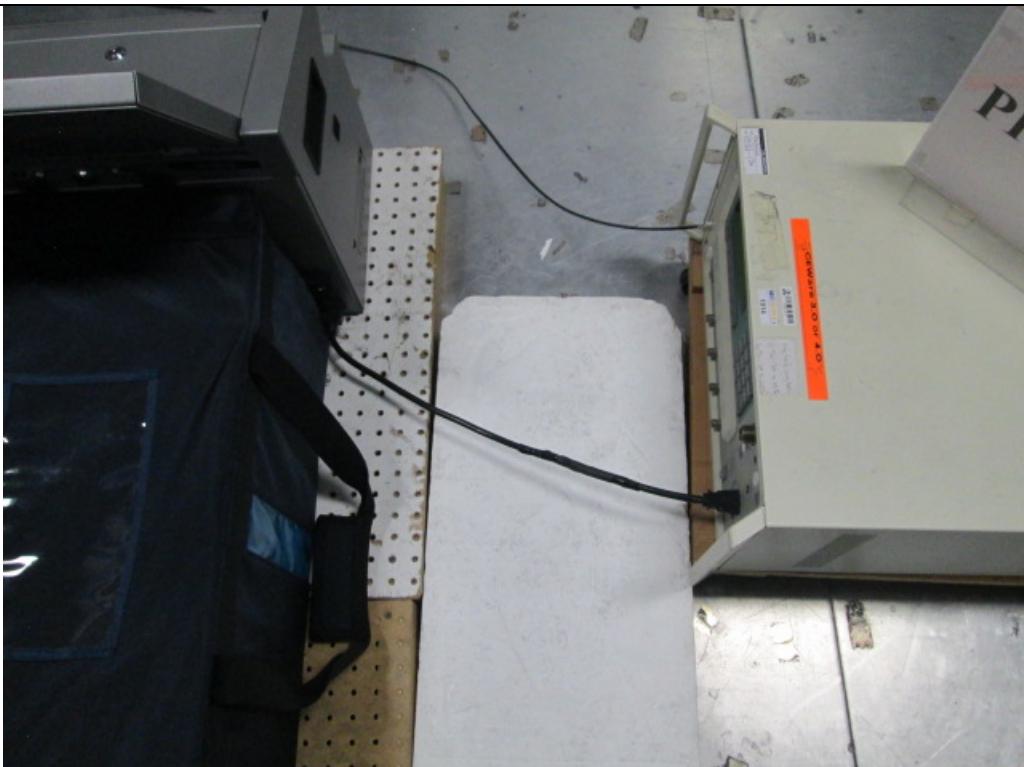


Figure C2. Electrical Fast Transient Test Setup – AC Mains.

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017 FR0100

**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017
Temperature:	24°C	Humidity:	40%
Input Voltage:	120Vac/60Hz	Pressure:	839 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Mike Tidquist		

PR066470-4-4.doc

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Voltage (kV)	Polarity + -	Time (sec)	Injection Type	L 1	L 2	L 3	N	P E	Rep Freq.	Comments	Criteria Met	Pass / Fail
2.0	x	60	CDN	x					5kHz	AC	A	Pass
2.0		x	CDN	x					5kHz		A	Pass
2.0	x	60	CDN		x				5kHz		A	Pass
2.0		x	CDN		x				5kHz		A	Pass
2.0	x	60	CDN					x	5kHz		A	Pass
2.0		x	CDN					x	5kHz		A	Pass
2.0	x	60	CDN	x	x			x	5kHz		A	Pass
2.0		x	CDN	x	x			x	5kHz		A	Pass

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

PR066470-4-4.doc

FR0100

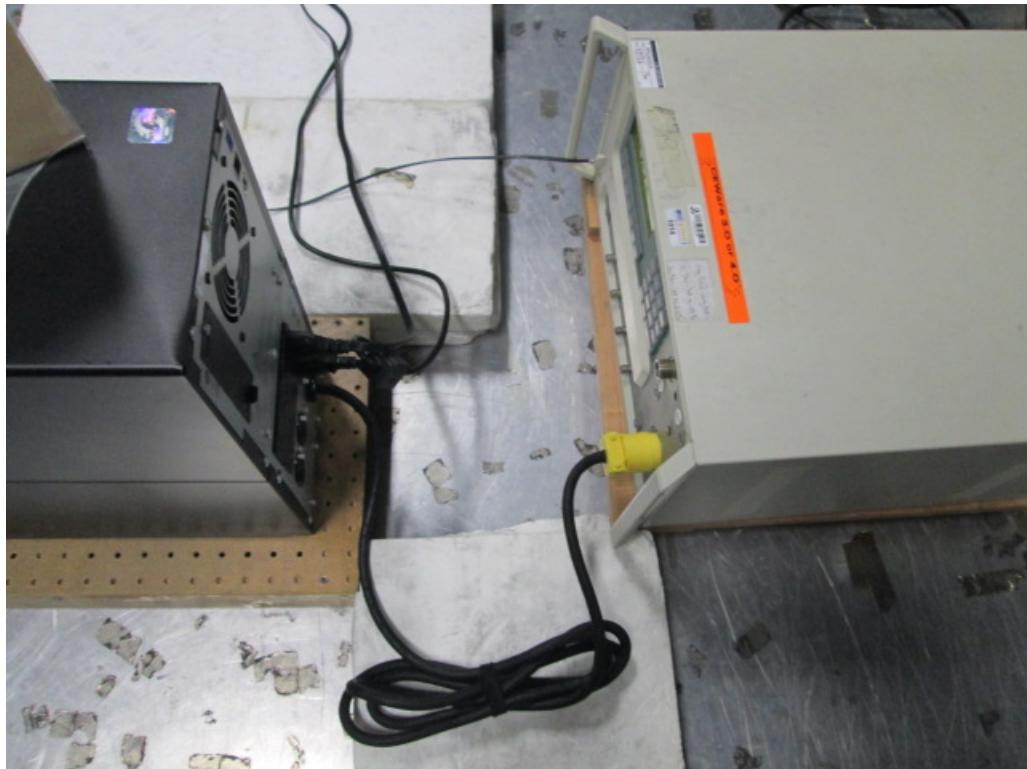


Figure C3. Electrical Fast Transient Test Setup



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017 FR0100

PR066470-4-4.doc



Figure C4. Electrical Fast Transient Test Setup – AC Mains.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	23.5°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-4.doc

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Voltage (kV)	Polarity +	Polarity -	Time (sec)	Injection Type	L 1	L 2	L 3	N	P E	Rep Freq.	Comments	Criteria Met	Pass / Fail
2.0	x		60	CDN	x					5 kHz	AC	A	Pass
2.0		x	60	CDN	x					5 kHz		A	Pass
2.0	x		60	CDN		x				5 kHz		A	Pass
2.0		x	60	CDN		x				5 kHz		A	Pass
2.0	x		60	CDN					x	5 kHz		A	Pass
2.0		x	60	CDN					x	5 kHz		A	Pass
2.0	x		60	CDN	x	x			x	5 kHz		A	Pass
2.0		x	60	CDN	x	x			x	5 kHz		A	Pass

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
PR066470-4-4.doc			FR0100



Figure C5. Electrical Fast Transient Test Setup.

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
PR066470-4-4.doc			FR0100



Figure C6. Electrical Fast Transient Test Setup – AC Mains.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
PR066470-4-4.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7IT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
Temperature:	24.7°C	Humidity:	33%
Input Voltage:	120Vac/60Hz	Pressure:	835 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-4.doc

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Voltage (kV)	Polarity + -	Time (sec)	Injection Type	L 1	L 2	L 3	N	P E	Rep Freq.	Comments	Criteria Met	Pass / Fail
2.0	x	60	CDN	x					5 kHz	AC	A	Pass
2.0		x	CDN	x					5 kHz		A	Pass
2.0	x	60	CDN		x				5 kHz		A	Pass
2.0		x	CDN		x				5 kHz		A	Pass
2.0	x	60	CDN					x	5 kHz		A	Pass
2.0		x	CDN					x	5 kHz		A	Pass
2.0	x	60	CDN	x	x			x	5 kHz		A	Pass
2.0		x	CDN	x	x			x	5 kHz		A	Pass



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017

PR066470-4-4.doc

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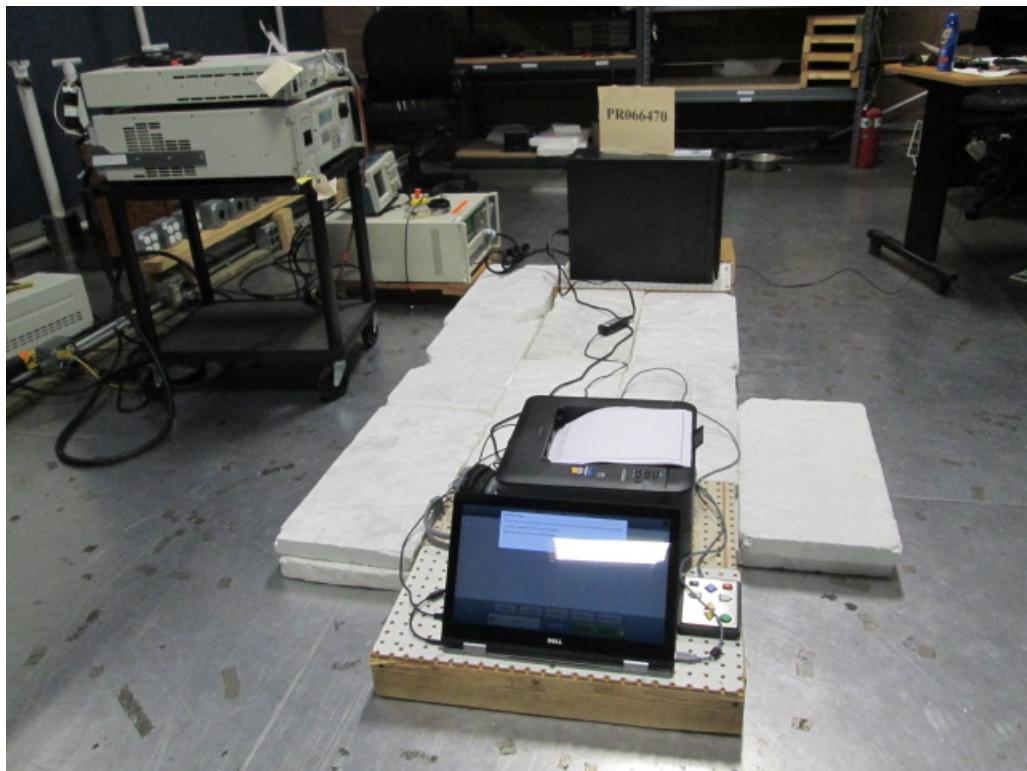


Figure C7. Electrical Fast Transient Test Setup.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-4.doc	Date: August 14, 2017		
	FR0100		



Figure C8. Electrical Fast Transient Test Setup – AC Mains.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017

PR066470-4-4.doc FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	24.8°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	843 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-4.doc

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Voltage (kV)	Polarity + -	Time (sec)	Injection Type	L 1	L 2	L 3	N	P E	Rep Freq.	Comments	Criteria Met	Pass / Fail
2.0	x	60	CDN	x					5.0 kHz	AC	A	Pass
2.0		x	60	CDN	x				5.0 kHz		A	Pass
2.0	x		60	CDN		x			5.0 kHz		A	Pass
2.0		x	60	CDN		x			5.0 kHz		A	Pass
2.0	x		60	CDN				x	5.0 kHz		A	Pass
2.0		x	60	CDN				x	5.0 kHz		A	Pass
2.0	x		60	CDN	x	x		x	5.0 kHz		A	Pass
2.0		x	60	CDN	x	x		x	5.0 kHz		A	Pass



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-4.doc

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Figure C9. Electrical Fast Transient Test Setup.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

PR066470-4-4.doc

FR0100

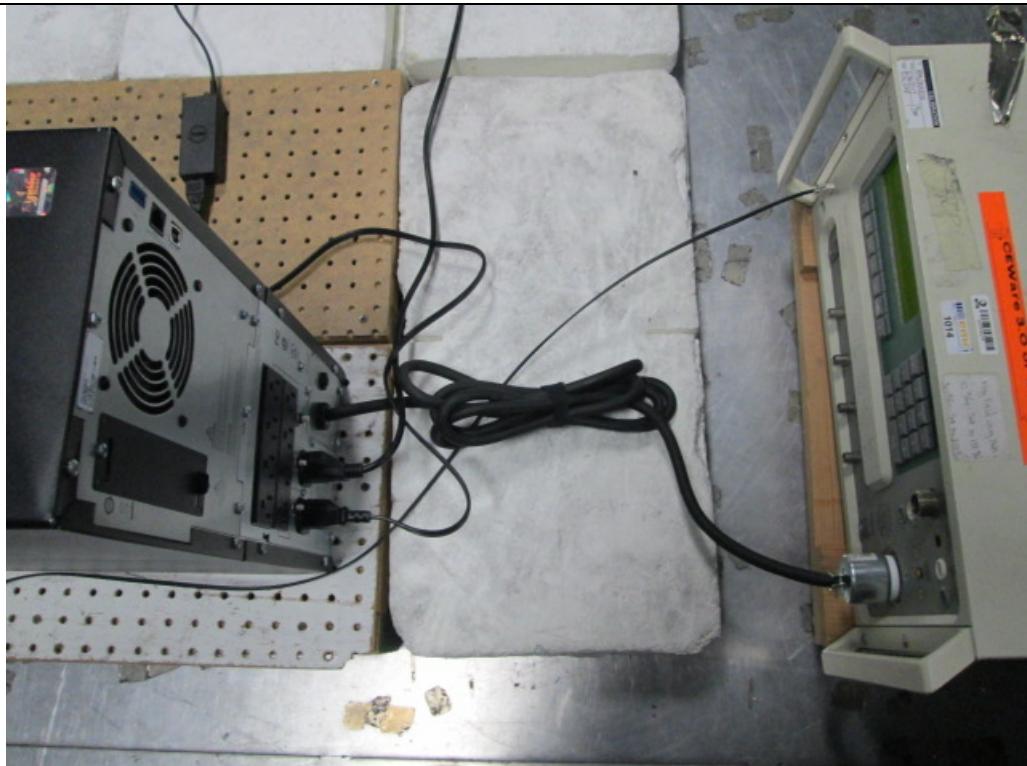


Figure C10. Electrical Fast Transient Test Setup – AC Mains.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



### Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess	S/N:	22S1YD2
	Dell 7000 series laptop		TH74P48110
	HP Mobil 200		AS1625141816 Unit#6
	APC UPS SMT-2200		
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
Temperature:	22.8°C	Humidity:	44%
Input Voltage:	120Vac/60Hz	Pressure:	839 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	Time (sec)	Injection Type	L 1	L 2	L 3	N	P E	Rep Freq.	Comments	Criteria Met	Pass / Fail
2.0	x		60	CDN	x						AC	A	Pass
2.0		x	60	CDN	x							A	Pass
2.0	x		60	CDN		x						A	Pass
2.0		x	60	CDN		x						A	Pass
2.0	x		60	CDN					x			A	Pass
2.0		x	60	CDN					x			A	Pass
2.0	x		60	CDN	x	x			x			A	Pass
2.0		x	60	CDN	x	x			x			A	Pass

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
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Figure C11. Electrical Fast Transient Test Setup.

**Electrical Fast Transient/Burst per IEC / EN 61000-4-4**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
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Figure C12. Electrical Fast Transient Test Setup – AC Mains.



## Electrical Fast Transient/Burst per IEC / EN 61000-4-4

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1548	California Instruments/A metek	1251P	1423A06347	AC Power supply	NA	NA
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018

## **APPENDIX D**

### **Surge Immunity Test Data**



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x			x		0	5	30	Differential Mode	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5	x		x			x		0	5	30	Common Mode Line	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5	x				x	x		0	5	30	Common Mode Neutral	A	Pass
0.5		x			x	x		0	5	30		A	Pass
0.5	x				x	x		90	5	30		A	Pass
0.5		x			x	x		90	5	30		A	Pass
0.5	x				x	x		180	5	30		A	Pass
0.5		x			x	x		180	5	30		A	Pass
0.5	x				x	x		270	5	30		A	Pass
0.5		x			x	x		270	5	30		A	Pass
1.0	x		x			x		0	5	45	Differential Mode	A	Pass
1.0		x	x			x		0	5	45		A	Pass
1.0	x		x			x		90	5	45		A	Pass
1.0		x	x			x		90	5	45		A	Pass
1.0	x		x			x		180	5	45		A	Pass
1.0		x	x			x		180	5	45		A	Pass
1.0	x		x			x		270	5	45		A	Pass
1.0		x	x			x		270	5	45		A	Pass
1.0	x		x			x		0	5	45	Common Mode Line	A	Pass
1.0		x	x			x		0	5	45		A	Pass
1.0	x		x			x		90	5	45		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L1	L2	L3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
1.0		x	x				x	90	5	45		A	Pass
1.0	x		x				x	180	5	45		A	Pass
1.0		x	x				x	180	5	45		A	Pass
1.0	x		x				x	270	5	45		A	Pass
1.0		x	x				x	270	5	45		A	Pass
1.0	x				x	x		0	5	45	Common Mode Neutral	A	Pass
1.0		x			x	x		0	5	45		A	Pass
1.0	x				x	x		90	5	45		A	Pass
1.0		x			x	x		90	5	45		A	Pass
1.0	x				x	x		180	5	45		A	Pass
1.0		x			x	x		180	5	45		A	Pass
1.0	x				x	x		180	5	45		A	Pass
1.0		x			x	x		270	5	45		A	Pass
1.0	x				x	x		270	5	45		A	Pass
2.0	x		x		x			0	5	60	Differential Mode	A	Pass
2.0		x	x		x			0	5	60		A	Pass
2.0	x		x		x			90	5	60		A	Pass
2.0		x	x		x			90	5	60		A	Pass
2.0	x		x		x			180	5	60		A	Pass
2.0		x	x		x			180	5	60		A	Pass
2.0	x		x		x			270	5	60		A	Pass
2.0		x	x		x			270	5	60		A	Pass
2.0	x		x		x			0	5	60	Common Mode Line	A	Pass
2.0		x	x		x			0	5	60		A	Pass
2.0	x		x		x			90	5	60		A	Pass
2.0		x	x		x			90	5	60		A	Pass
2.0	x		x		x			180	5	60		A	Pass
2.0		x	x		x			180	5	60		A	Pass
2.0	x		x		x			270	5	60		A	Pass
2.0		x	x		x			270	5	60		A	Pass
2.0	x				x	x		0	5	60	Common Mode Neutral	A	Pass
2.0		x			x	x		0	5	60		A	Pass
2.0	x				x	x		90	5	60		A	Pass
2.0		x			x	x		90	5	60		A	Pass
2.0	x				x	x		180	5	60		A	Pass
2.0		x			x	x		180	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L1	L2	L3	N	P	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
2.0	x					x	x	270	5	60		A	Pass
2.0			x			x	x	270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017

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Figure D1. Surge Immunity Test Setup.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017

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Figure D2. Surge Immunity Test Setup – AC Mains.

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	CAST00018 Unit#1	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 9, 2017

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**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	21.3°C	Humidity:	58%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x		x			0	5	30	Differential Mode	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5	x		x			x		0	5	30	Common Mode Line	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5	x				x	x		0	5	30	Common Mode Neutral	A	Pass
0.5		x			x	x		0	5	30		A	Pass
0.5	x				x	x		90	5	30		A	Pass
0.5		x			x	x		90	5	30		A	Pass
0.5	x				x	x		180	5	30		A	Pass
0.5		x			x	x		180	5	30		A	Pass
0.5	x				x	x		270	5	30		A	Pass
0.5		x			x	x		270	5	30		A	Pass
1.0	x		x		x			0	5	60	Differential Mode	A	Pass
1.0		x	x		x			0	5	60		A	Pass
1.0	x		x		x			90	5	60		A	Pass
1.0		x	x		x			90	5	60		A	Pass
1.0	x		x		x			180	5	60		A	Pass
1.0		x	x		x			180	5	60		A	Pass
1.0	x		x		x			270	5	60		A	Pass



## **Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	21.3°C	Humidity:	58%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
	+	-											
1.0	x	x			x			270	5	60		A	Pass
1.0	x		x			x		0	5	45	Common Mode Line	A	Pass
1.0		x	x			x		0	5	45		A	Pass
1.0	x		x			x		90	5	45		A	Pass
1.0		x	x			x		90	5	45		A	Pass
1.0	x		x			x		180	5	45		A	Pass
1.0		x	x			x		180	5	45		A	Pass
1.0	x		x			x		270	5	45		A	Pass
1.0		x	x			x		270	5	45		A	Pass
1.0	x				x	x		0	5	45	Common Mode Neutral	A	Pass
1.0		x			x	x		0	5	45		A	Pass
1.0	x				x	x		90	5	45		A	Pass
1.0		x			x	x		90	5	45		A	Pass
1.0	x				x	x		180	5	45		A	Pass
1.0		x			x	x		180	5	45		A	Pass
1.0	x				x	x		270	5	45		A	Pass
1.0		x			x	x		270	5	45		A	Pass
2.0	x		x			x		0	5	60	Differential Mode	A	Pass
2.0		x	x			x		0	5	60		A	Pass
2.0	x		x			x		90	5	60		A	Pass
2.0		x	x			x		90	5	60		A	Pass
2.0	x		x			x		180	5	60		A	Pass
2.0		x	x			x		180	5	60		A	Pass
2.0	x		x			x		270	5	60		A	Pass
2.0		x	x			x		270	5	60		A	Pass
2.0	x		x			x		0	5	60	Common Mode Line	A	Pass
2.0		x	x			x		0	5	60		A	Pass
2.0	x		x			x		90	5	60		A	Pass
2.0		x	x			x		90	5	60		A	Pass
2.0	x		x			x		180	5	60		A	Pass
2.0		x	x			x		180	5	60		A	Pass
2.0	x		x			x		270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	21.3°C	Humidity:	58%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail	
2.0			x	x			x	270	5	60		A	Pass	
2.0							x	x	0	5	60	Common Mode Neutral	A	Pass
2.0			x				x	x	0	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017

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Figure D3. Surge Immunity Test Setup.



### Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100

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Figure D4. Surge Immunity Test Setup – AC Mains.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1026	California Instruments	5001iX	55638	AC Power Source, 5kVA	04/03/2017	04/03/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
Temperature:	25.5°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	834 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x		x			0	5	30	Differential Mode	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5	x		x			x		0	5	30	Common Mode Line	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5	x				x	x		0	5	30	Common Mode Neutral	A	Pass
0.5		x			x	x		0	5	30		A	Pass
0.5	x				x	x		90	5	30		A	Pass
0.5		x			x	x		90	5	30		A	Pass
0.5	x				x	x		180	5	30		A	Pass
0.5		x			x	x		180	5	30		A	Pass
0.5	x				x	x		270	5	30		A	Pass
0.5		x			x	x		270	5	30		A	Pass
1.0	x		x		x			0	5	45	Differential Mode	A	Pass
1.0		x	x		x			0	5	45		A	Pass
1.0	x		x		x			90	5	45		A	Pass
1.0		x	x		x			90	5	45		A	Pass
1.0	x		x		x			180	5	45		A	Pass
1.0		x	x		x			180	5	45		A	Pass
1.0	x		x		x			270	5	45		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
Temperature:	25.5°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	834 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		0	5	45	Common Mode Line	A	Pass
1.0			x	x		x		0	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x	x	0	5	45	Common Mode Neutral	A	Pass
1.0			x	x		x	x	0	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
2.0			x	x		x		0	5	60	Differential Mode	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		0	5	60	Common Mode Line	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
Temperature:	25.5°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	834 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
2.0			x	x			x	270	5	60		A	Pass
2.0							x x	0	5	60	Common Mode Neutral	A	Pass
2.0			x				x x	0	5	60		A	Pass
2.0				x			x x	90	5	60		A	Pass
2.0				x			x x	90	5	60		A	Pass
2.0			x				x x	180	5	60		A	Pass
2.0				x			x x	180	5	60		A	Pass
2.0			x				x x	270	5	60		A	Pass
2.0				x			x x	270	5	60		A	Pass

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
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Figure D5. Surge Immunity Test Setup.

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
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Figure D6. Surge Immunity Test Setup – AC Mains.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 12, 2017
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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7IT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x		x			0	5	30	Differential Mode	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5	x		x			x		0	5	30	Common Mode Line	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5	x				x	x		0	5	30	Common Mode Neutral	A	Pass
0.5		x			x	x		0	5	30		A	Pass
0.5	x				x	x		90	5	30		A	Pass
0.5		x			x	x		90	5	30		A	Pass
0.5	x				x	x		180	5	30		A	Pass
0.5		x			x	x		180	5	30		A	Pass
0.5	x				x	x		270	5	30		A	Pass
0.5		x			x	x		270	5	30		A	Pass
1.0	x		x		x			0	5	45	Differential Mode	A	Pass
1.0		x	x		x			0	5	45		A	Pass
1.0	x		x		x			90	5	45		A	Pass
1.0		x	x		x			90	5	45		A	Pass
1.0	x		x		x			180	5	45		A	Pass
1.0		x	x		x			180	5	45		A	Pass
1.0	x		x		x			270	5	45		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		0	5	45	Common Mode Line	A	Pass
1.0			x	x		x		0	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x	x	0	5	45	Common Mode Neutral	A	Pass
1.0			x	x		x	x	0	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
2.0			x	x		x		0	5	60	Differential Mode	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		0	5	60	Common Mode Line	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
Temperature:	24.3°C	Humidity:	45%
Input Voltage:	120Vac/60Hz	Pressure:	842 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail	
2.0			x	x			x	270	5	60		A	Pass	
2.0							x	x	0	5	60	Common Mode Neutral	A	Pass
2.0			x				x	x	0	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass



### Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017

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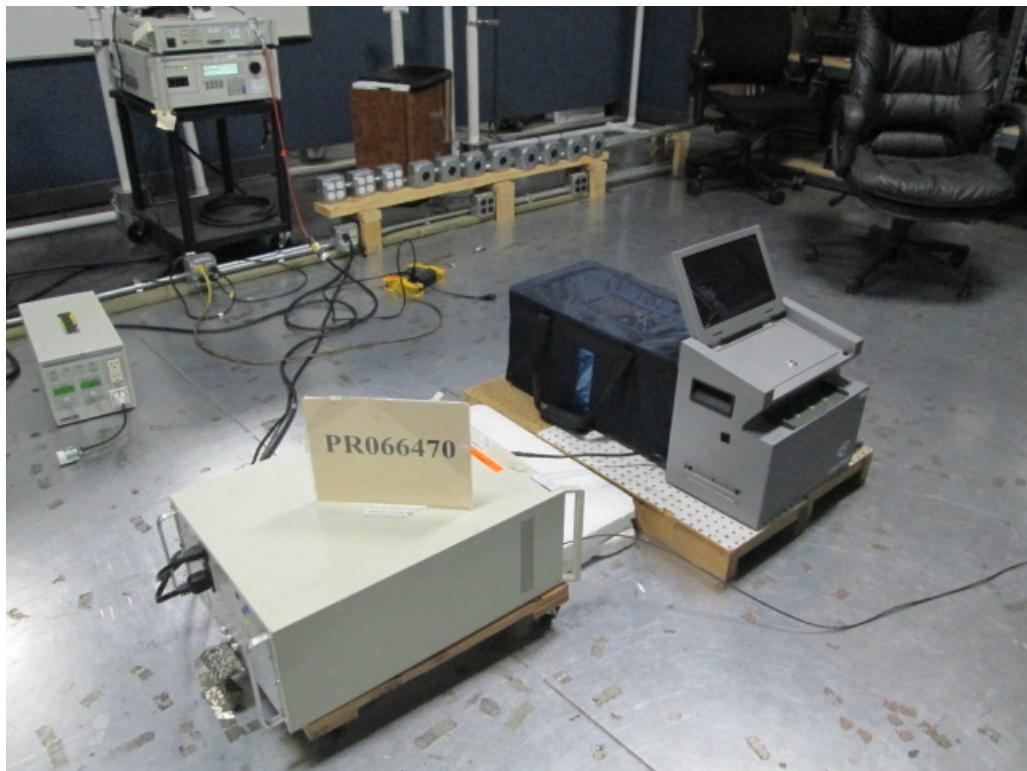


Figure D7. Surge Immunity Test Setup.



### Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-5.doc	Date: August 14, 2017 FR0100		

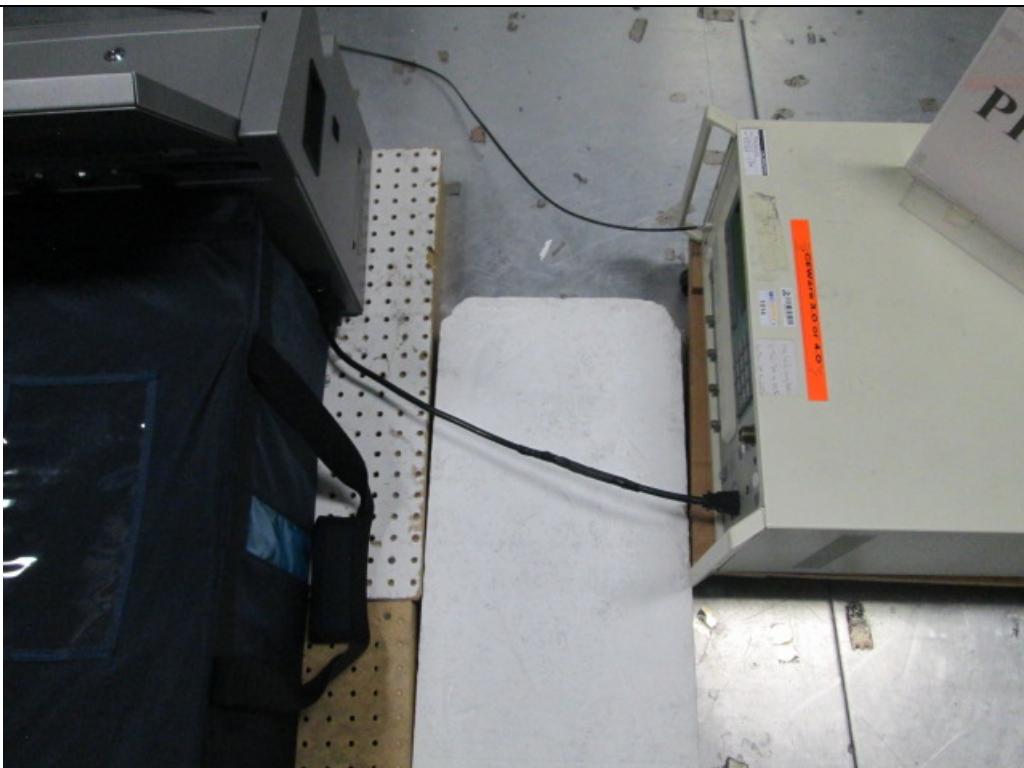


Figure D8. Surge Immunity Test Setup – AC Mains.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	23.8°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x		x			0	5	30	Differential Mode	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5													
0.5	x		x			x		0	5	30	Common Mode Line	A	Pass
0.5		x	x			x		0	5	30		A	Pass
0.5	x		x			x		90	5	30		A	Pass
0.5		x	x			x		90	5	30		A	Pass
0.5	x		x			x		180	5	30		A	Pass
0.5		x	x			x		180	5	30		A	Pass
0.5	x		x			x		270	5	30		A	Pass
0.5		x	x			x		270	5	30		A	Pass
0.5													
0.5	x				x	x		0	5	30	Common Mode Neutral	A	Pass
0.5		x			x	x		0	5	30		A	Pass
0.5	x				x	x		90	5	30		A	Pass
0.5		x			x	x		90	5	30		A	Pass
0.5	x				x	x		180	5	30		A	Pass
0.5		x			x	x		180	5	30		A	Pass
0.5	x				x	x		270	5	30		A	Pass
0.5		x			x	x		270	5	30		A	Pass
1.0	x		x		x			0	5	45	Differential Mode	A	Pass
1.0		x	x		x			0	5	45		A	Pass
1.0	x		x		x			90	5	45		A	Pass
1.0		x	x		x			90	5	45		A	Pass
1.0	x		x		x			180	5	45		A	Pass
1.0		x	x		x			180	5	45		A	Pass
1.0	x		x		x			270	5	45		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	23.8°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		0	5	45	Common Mode Line	A	Pass
1.0			x	x		x		0	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		90	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		180	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x		270	5	45		A	Pass
1.0			x	x		x	x	0	5	45	Common Mode Neutral	A	Pass
1.0			x	x		x	x	0	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	90	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	180	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
1.0			x	x		x	x	270	5	45		A	Pass
2.0			x	x		x		0	5	60	Differential Mode	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass
2.0			x	x		x		0	5	60	Common Mode Line	A	Pass
2.0			x	x		x		0	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		90	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		180	5	60		A	Pass
2.0			x	x		x		270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	23.8°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail	
2.0			x	x			x	270	5	60		A	Pass	
2.0							x	x	0	5	60	Common Mode Neutral	A	Pass
2.0			x				x	x	0	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	90	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	180	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass
2.0			x				x	x	270	5	60		A	Pass

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
PR066470-4-5.doc			FR0100

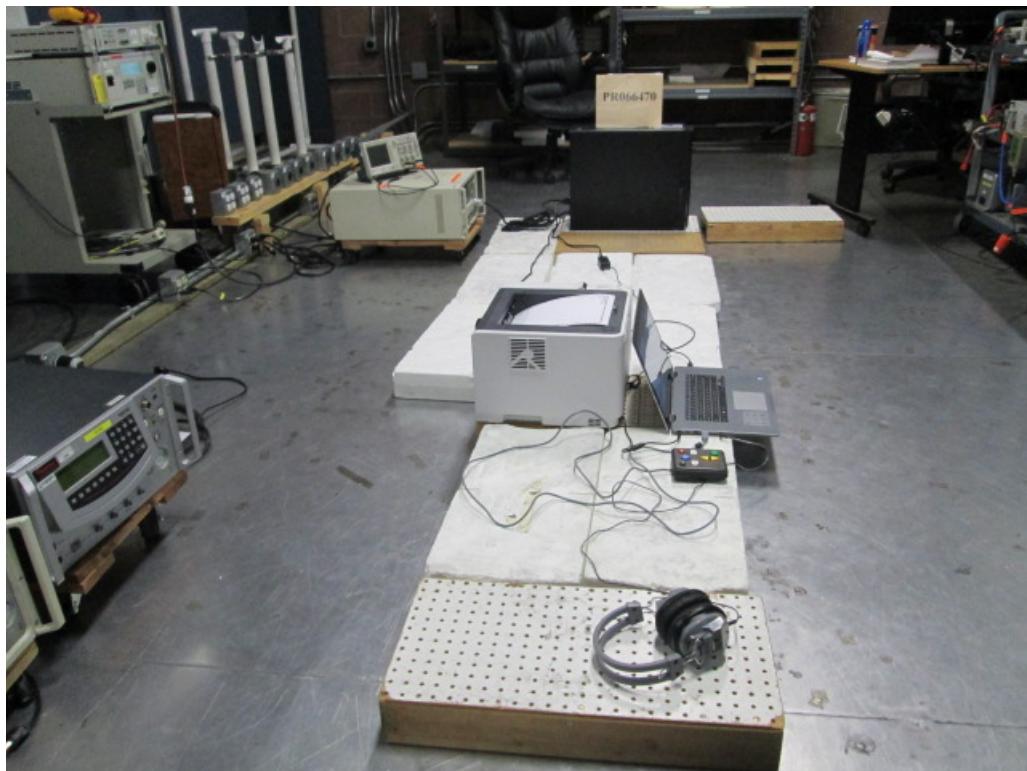


Figure D9. Surge Immunity Test Setup.



### Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure D10. Surge Immunity Test Setup – AC Mains.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Progammable Power Supply	03/30/2017	03/30/2018



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	Date:	AS1625141816 Unit#6 August 17, 2017
Temperature:	23.3°C	Humidity:	44%
Input Voltage:	120Vac/60Hz	Pressure:	840 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity		L 1	L 2	L 3	N	P E	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
0.5	x		x		x			0	5	30	Differential Mode	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5	x		x		x			0	5	30	Common Mode Line	A	Pass
0.5		x	x		x			0	5	30		A	Pass
0.5	x		x		x			90	5	30		A	Pass
0.5		x	x		x			90	5	30		A	Pass
0.5	x		x		x			180	5	30		A	Pass
0.5		x	x		x			180	5	30		A	Pass
0.5	x		x		x			270	5	30		A	Pass
0.5		x	x		x			270	5	30		A	Pass
0.5	x			x	x			0	5	30	Common Mode Neutral	A	Pass
0.5		x		x	x			0	5	30		A	Pass
0.5	x			x	x			90	5	30		A	Pass
0.5		x		x	x			90	5	30		A	Pass
0.5	x			x	x			180	5	30		A	Pass
0.5		x		x	x			180	5	30		A	Pass
0.5	x			x	x			270	5	30		A	Pass
0.5		x		x	x			270	5	30		A	Pass
1.0	x		x		x			0	5	45	Differential Mode	A	Pass
1.0		x	x		x			0	5	45		A	Pass
1.0	x		x		x			90	5	45		A	Pass
1.0		x	x		x			90	5	45		A	Pass
1.0	x		x		x			180	5	45		A	Pass
1.0		x	x		x			180	5	45		A	Pass
1.0	x		x		x			270	5	45		A	Pass
1.0		x	x		x			270	5	45		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2
			TH74P48110
Standard Referenced:	EAC 2005 VVSG		AS1625141816 Unit#6
Temperature:	23.3°C	Humidity:	44%
Input Voltage:	120Vac/60Hz	Date:	August 17, 2017
Configuration of Unit:	Scanning ballots	Pressure:	840 mb
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L1	L2	L3	N	P	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
1.0	x		x			x		0	5	45	Common Mode Line	A	Pass
1.0		x	x			x		0	5	45		A	Pass
1.0	x		x			x		90	5	45		A	Pass
1.0		x	x			x		90	5	45		A	Pass
1.0	x		x			x		180	5	45		A	Pass
1.0		x	x			x		180	5	45		A	Pass
1.0	x		x			x		270	5	45		A	Pass
1.0		x	x			x		270	5	45		A	Pass
1.0	x		x			x	x	0	5	45	Common Mode Neutral	A	Pass
1.0		x				x	x	0	5	45		A	Pass
1.0	x					x	x	90	5	45		A	Pass
1.0		x				x	x	90	5	45		A	Pass
1.0	x					x	x	180	5	45		A	Pass
1.0		x				x	x	180	5	45		A	Pass
1.0	x					x	x	270	5	45		A	Pass
1.0		x				x	x	270	5	45		A	Pass
2.0	x		x			x		0	5	60	Differential Mode	A	Pass
2.0		x	x			x		0	5	60		A	Pass
2.0	x		x			x		90	5	60		A	Pass
2.0		x	x			x		90	5	60		A	Pass
2.0	x		x			x		180	5	60		A	Pass
2.0		x	x			x		180	5	60		A	Pass
2.0	x		x			x		270	5	60		A	Pass
2.0		x	x			x		270	5	60		A	Pass
2.0	x		x			x		0	5	60	Common Mode Line	A	Pass
2.0		x	x			x		0	5	60		A	Pass
2.0	x		x			x		90	5	60		A	Pass
2.0		x	x			x		90	5	60		A	Pass
2.0	x		x			x		180	5	60		A	Pass
2.0		x	x			x		180	5	60		A	Pass
2.0	x		x			x		270	5	60		A	Pass
2.0		x	x			x		270	5	60		A	Pass



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	Date:	AS1625141816 Unit#6 August 17, 2017
Temperature:	23.3°C	Humidity:	44%
Input Voltage:	120Vac/60Hz	Pressure:	840 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Voltage (kV)	Polarity +	Polarity -	L1	L2	L3	N	P	Phase (deg)	Number of Pulses	Delay (sec)	Comments	Criteria Met	Pass / Fail
2.0	x					x	x	0	5	60	Common Mode Neutral	A	Pass
2.0		x				x	x	0	5	60		A	Pass
2.0	x					x	x	90	5	60		A	Pass
2.0		x				x	x	90	5	60		A	Pass
2.0	x					x	x	180	5	60		A	Pass
2.0		x				x	x	180	5	60		A	Pass
2.0	x					x	x	270	5	60		A	Pass
2.0		x				x	x	270	5	60		A	Pass

**Surge Immunity per IEC / EN 61000-4-5**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100

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Figure D11. Surge Immunity Test Setup.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
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Figure D12. Surge Immunity Test Setup – AC Mains.



## Surge Immunity per IEC / EN 61000-4-5

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100
PR066470-4-5.doc			

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1548	California Instruments/A metek	1251P	1423A06347	AC Power supply	NA	NA
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018

## **APPENDIX E**

### **Conducted RF Immunity Test Data**

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
Temperature:	24.5°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	846 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Frequency (MHz)	Modulation Type	%	Freq	Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
0.150 – 80.0	AM	80	1 kHz	10	3	AC using M3 CDN	A	Pass



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
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Figure E1. Conducted RF Immunity Test Setup.



### Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017

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Figure E2. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1482	EMCI	EMCI-CDN-M3-16	EMCI016	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017
Temperature:	22°C	Humidity:	47%
Input Voltage:	120Vac/60Hz	Pressure:	839 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Mike Tidquist		
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Frequency (MHz)	Modulation			Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
	Type	%	Freq					
0.150 – 80.0	AM	80	1 kHz	10	3	AC using M3 CDN	A	Pass



### Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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Figure E3. Conducted RF Immunity Test Setup



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017 FR0100

PR066470-4-6.doc

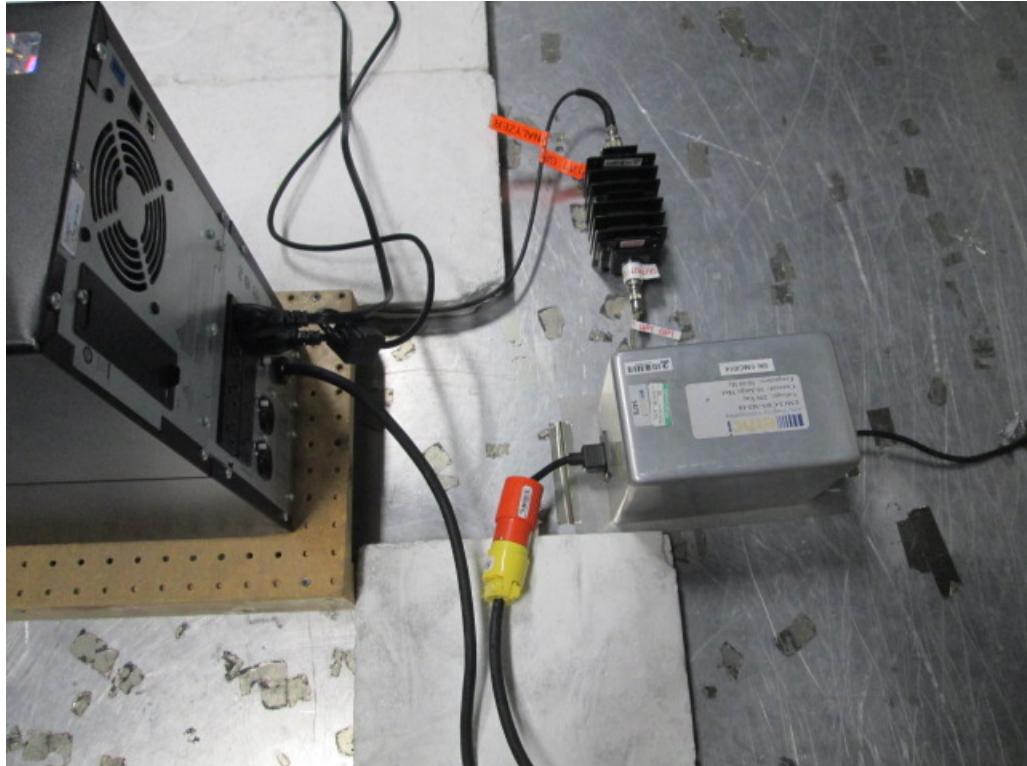


Figure E4. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1479	EMCI	EMCI-CDN_M3-16	EMCI014	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1539	Extech Instruments	445715	Z316007	Hygro-Thermometer	05/09/2017	05/09/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470				
Customer Representative:	Stephen Han	Test Area:	GP1				
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963				
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017				
Temperature:	22.4°C	Humidity:	62%				
Input Voltage:	120Vac/60Hz	Pressure:	844 mb				
Configuration of Unit:	Printing ballots						
Test Engineer:	Casey Lockhart						
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Frequency (MHz)	Modulation		Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
0.150 – 80.0	Type	%	Freq		AC using M3 CDN	A	Pass

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
PR066470-4-6.doc			FR0100



Figure E5. Conducted RF Immunity Test Setup.



### Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
PR066470-4-6.doc			FR0100



Figure E6. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
PR066470-4-6.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1482	EMCI	EMCI-CDN-M3-16	EMCI016	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)			Project Number:			PR066470	
Customer Representative:	Stephen Han			Test Area:			GP1	
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)			S/N:			7TT1YD2	
				U63879M4N628612			AS1602232215	
Standard Referenced:	EAC 2005 VVSG			Date:			August 14, 2017	
Temperature:	23.1°C			Humidity:			42%	
Input Voltage:	120Vac/60Hz			Pressure:			835 mb	
Configuration of Unit:	Printing ballots							
Test Engineer:	Casey Lockhart							
PR066470-4-6.doc FR0100								
Frequency (MHz)	Type	%	Freq	Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
0.150 – 80.0	AM	80	1 kHz	10	3	AC using M3 CDN	A	Pass

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879M4N628612 AS1602232215
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017 FR0100

PR066470-4-6.doc



Figure E7. Conducted RF Immunity Test Setup.

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879M4N628612 AS1602232215
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
PR066470-4-6.doc			FR0100

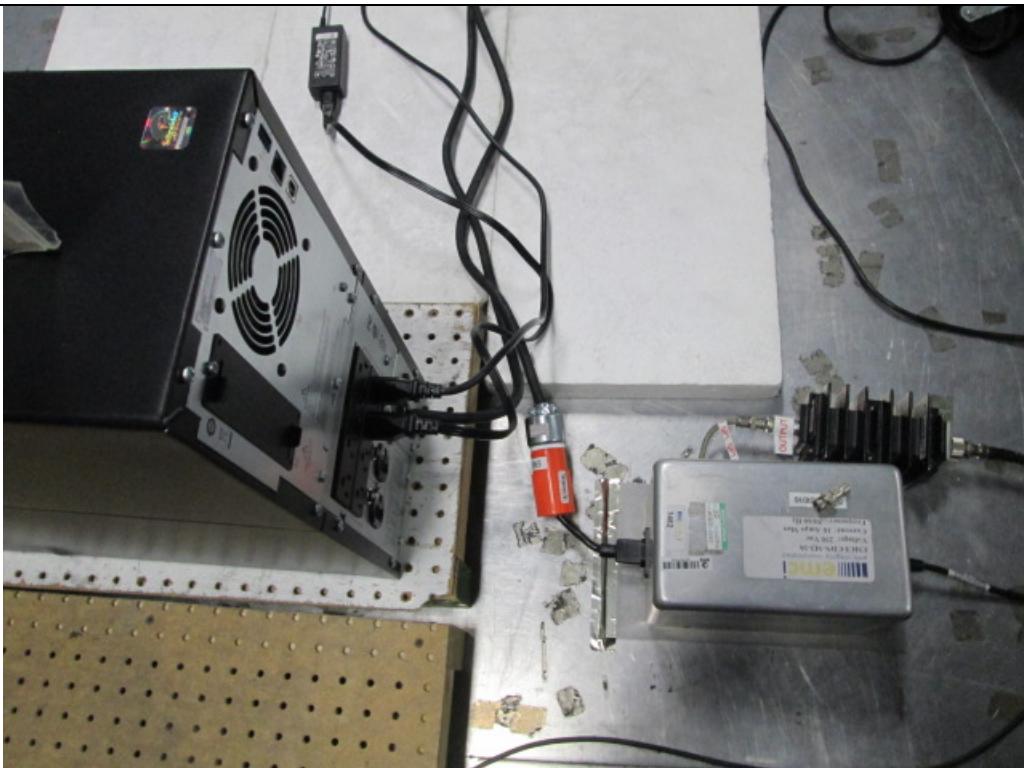


Figure E8. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879M4N628612 AS1602232215
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
PR066470-4-6.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1482	EMCI	EMCI-CDN-M3-16	EMCI016	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)			Project Number:	PR066470			
Customer Representative:	Stephen Han			Test Area:	GP1			
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200			S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963			
Standard Referenced:	EAC 2005 VVSG			Date:	August 3, 2017			
Temperature:	24.5°C			Pressure:	846 mb			
Input Voltage:	120Vac/60Hz							
Configuration of Unit:	Printing ballots							
Test Engineer:	Casey Lockhart							
PR066470-4-6.doc					FR0100			
Frequency (MHz)	Type	%	Freq	Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
0.150 – 80.0	AM	80	1 kHz	10	3	AC using M3 CDN	A	Pass



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017

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Figure E9. Conducted RF Immunity Test Setup.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017

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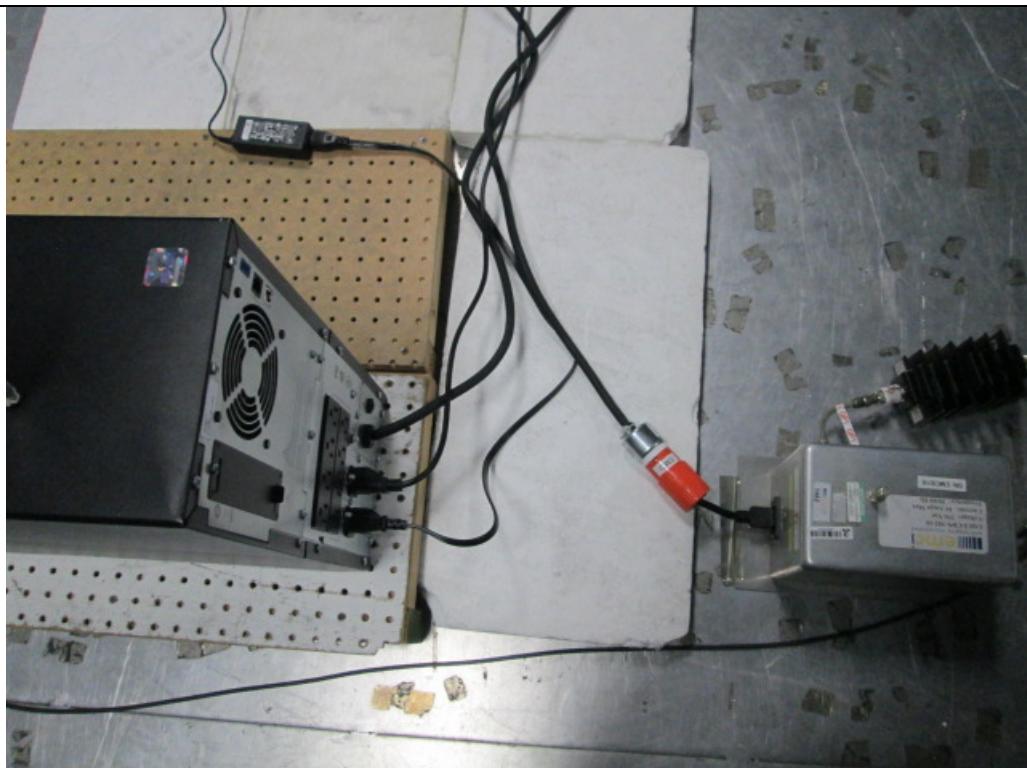


Figure E10. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1482	EMCI	EMCI-CDN-M3-16	EMCI016	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470				
Customer Representative:	Stephen Han	Test Area:	GP1				
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6				
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017				
Temperature:	24.5°C	Humidity:	43%				
Input Voltage:	120Vac/60Hz	Pressure:	839 mb				
Configuration of Unit:	Printing ballots						
Test Engineer:	Casey Lockhart						
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Frequency (MHz)	Modulation		Level (Vrms)	Dwell (sec)	Comments	Criteria Met	Pass / Fail
0.150 – 80.0	Type	%	Freq		AC using M3 CDN	A	Pass

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
PR066470-4-6.doc			FR0100



Figure E11. Conducted RF Immunity Test Setup.

**Conducted RF Immunity per IEC / EN 61000-4-6**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017 FR0100
PR066470-4-6.doc			

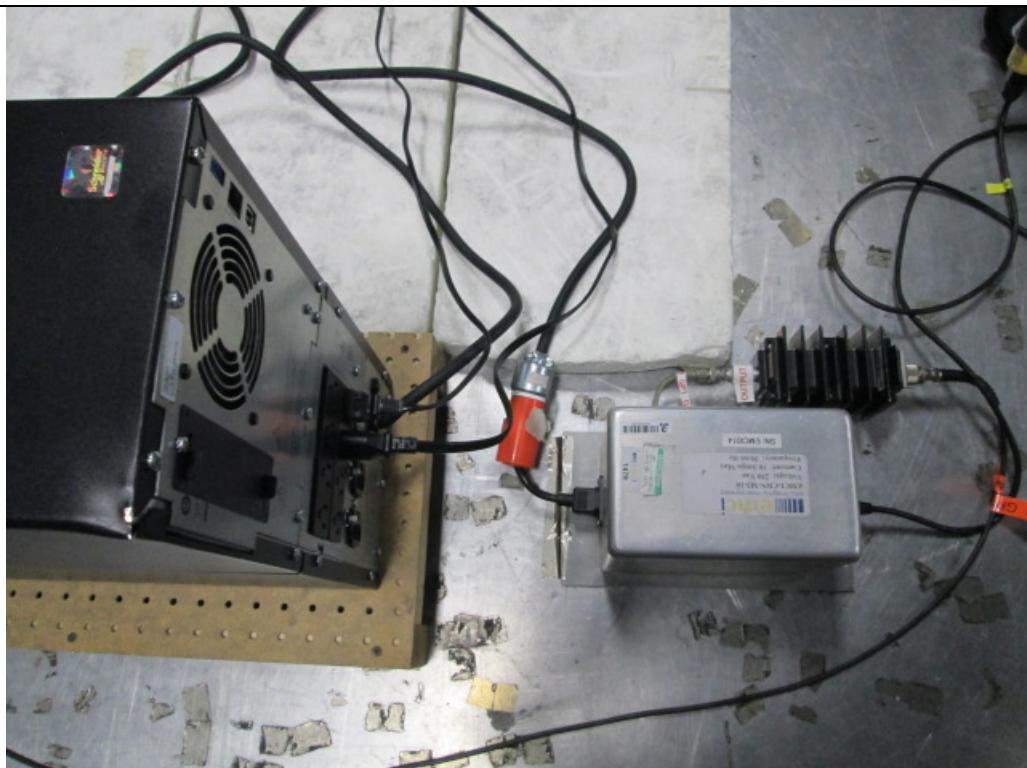


Figure E12. Conducted RF Immunity Test Setup – AC Mains.



## Conducted RF Immunity per IEC / EN 61000-4-6

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 16, 2017
			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1261	Hewlett Packard	8648C	3619U00779	Signal Generator, 100kHz to 3.2GHz	09/08/2016	09/08/2017
1379	IFI	M100	O1200-0111	100W Power Amplifier, 0.01 MHz to 220 MHz	NA	NA
1482	EMCI	EMCI-CDN-M3-16	EMCI016	M3 CDN, 16A, 250 VAC	10/31/2016	10/31/2017
1499	Rigol Technologies, Inc.	DSA815	DSA8B150300 053	9 kHz to 1.5 GHz Spectrum Analyzer	03/08/2017	03/08/2018
1532	Werlatone	C9475-13	102545	100 Watt Dual Directional Coupler, 10 kHz to 250 M	10/11/2016	10/11/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1548	California Instruments/A metek	1251P	1423A06347	AC Power supply	NA	NA
1594	EMCI	CI	V2.5.0	Conducted Immunity Software	NA	NA

## **APPENDIX F**

### **Power Frequency H-field Immunity Test Data**



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017
Temperature:	24.8°C	Humidity:	42%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x	30	X	60		A	Pass
	x	30	X	60	A	Pass
x	30	Y	60		A	Pass
	x	30	Y	60	A	Pass
x	30	Z	60		A	Pass
	x	30	Z	60	A	Pass



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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Figure F1. Power Frequency H-field Immunity Test Setup X axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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Figure F2. Power Frequency H-field Immunity Test Setup Y axis.



### Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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Figure F3. Power Frequency H-field Immunity Test Setup Z axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1
Standard Referenced:	EAC 2005 VVSG	Date:	August 10, 2017

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**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1484	Pearson Electronics	110A	88593	Current Monitor, 1 Hz to 20 MHz	10/31/2016	10/31/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
Temperature:	23.2°C	Humidity:	54%
Input Voltage:	120Vac/60Hz	Pressure:	841 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Casey Lockhart		

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Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x		30	X	60		A Pass
	x	30	X	60		A Pass
x		30	Y	60		A Pass
	x	30	Y	60		A Pass
x		30	Z	60		A Pass
	x	30	Z	60		A Pass

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017

PR066470-4-8.doc

FR0100

**Figure F4. Power Frequency H-field Immunity Test Setup X axis.**



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100



Figure F5. Power Frequency H-field Immunity Test Setup Y axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017 FR0100

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Figure F6. Power Frequency H-field Immunity Test Setup Z axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 23, 2017
PR066470-4-8.doc			FR0100

**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1026	California Instruments	5001iX	55638	AC Power Source, 5kVA	04/03/2017	04/03/2018
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1536	Extech Instruments	445715	Z315811	Hygro-Thermometer	04/17/2017	04/17/2018
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
Temperature:	24.5°C	Humidity:	61%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-8.doc

FR0100

Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x		30	X	60		A Pass
	x	30	X	60		A Pass
x		30	Y	60		A Pass
	x	30	Y	60		A Pass
x		30	Z	60		A Pass
	x	30	Z	60		A Pass

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG PR066470-4-8.doc	Date:	August 11, 2017 FR0100



Figure F7. Power Frequency H-field Immunity Test Setup X axis.



### Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
PR066470-4-8.doc			FR0100



Figure F8. Power Frequency H-field Immunity Test Setup Y axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
PR066470-4-8.doc			FR0100



Figure F9. Power Frequency H-field Immunity Test Setup Z axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
PR066470-4-8.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1484	Pearson Electronics	110A	88593	Current Monitor, 1 Hz to 20 MHz	10/31/2016	10/31/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7IT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017
Temperature:	24.8°C	Humidity:	61%
Input Voltage:	120Vac/60Hz	Pressure:	834 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x		30	X	60	A	Pass
	x	30	X	60	A	Pass
x		30	Y	60	A	Pass
	x	30	Y	60	A	Pass
x		30	Z	60	A	Pass
	x	30	Z	60	A	Pass

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017

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Figure F10. Power Frequency H-field Immunity Test Setup X axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017

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Figure F11. Power Frequency H-field Immunity Test Setup Y axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-8.doc	Date: August 15, 2017		
FR0100			



Figure F12. Power Frequency H-field Immunity Test Setup Z axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 15, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1484	Pearson Electronics	110A	88593	Current Monitor, 1 Hz to 20 MHz	10/31/2016	10/31/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Progammable Power Supply	03/30/2017	03/30/2018



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
Temperature:	24.5°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x		30	X	60		A Pass
	x	30	X	60		A Pass
x		30	Y	60		A Pass
	x	30	Y	60		A Pass
x		30	Z	60		A Pass
	x	30	Z	60		A Pass

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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Figure F13. Power Frequency H-field Immunity Test Setup X axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017
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Figure F14. Power Frequency H-field Immunity Test Setup Y axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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**Figure F15. Power Frequency H-field Immunity Test Setup Z axis.**



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 7, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1484	Pearson Electronics	110A	88593	Current Monitor, 1 Hz to 20 MHz	10/31/2016	10/31/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Progammable Power Supply	03/30/2017	03/30/2018



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	Date:	AS1625141816 Unit#6 August 17, 2017
Temperature:	24.9°C	Humidity:	41%
Input Voltage:	120Vac/60Hz	Pressure:	840 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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Frequency (Hz) 50	Field Strength (A/m) 60	EUT Axis Location	Dwell Time (sec)	Comments	Criteria Met	Pass / Fail
x	30	X	60		A	Pass
	x	X	60		A	Pass
x	30	Y	60		A	Pass
	x	Y	60		A	Pass
x	30	Z	60		A	Pass
	x	Z	60		A	Pass

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100

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Figure F16. Power Frequency H-field Immunity Test Setup X axis.

**Power Frequency H-field Immunity per IEC / EN 61000-4-8**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	Date: August 17, 2017
PR066470-4-8.doc			FR0100



Figure F17. Power Frequency H-field Immunity Test Setup Y axis.



### Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	August 17, 2017
PR066470-4-8.doc		Date:	FR0100



Figure F18. Power Frequency H-field Immunity Test Setup Z axis.



## Power Frequency H-field Immunity per IEC / EN 61000-4-8

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	22S1YD2 TH74P48110 AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 17, 2017 FR0100

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1484	Pearson Electronics	110A	88593	Current Monitor, 1 Hz to 20 MHz	10/31/2016	10/31/2017
1505	EMCI	EMCI-4-8-2m-1.5m	0002	HField Loop, 2m x 1.5m	09/07/2016	09/07/2017
1548	California Instruments/A metek	1251P	1423A06347	AC Power supply	NA	NA
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Progammable Power Supply	03/30/2017	03/30/2018

## **APPENDIX G**

### **Voltage Dip and Interrupts Test Data**



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1 Cast00015
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
Temperature:	25.7°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	843 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

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% Nominal	No. of Cycles	Phase Angle (deg)				Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
		0	90	180	270					
0%	0.6	x				10	3		A	Pass
0%	0.6		x			10	3		A	Pass
0%	0.6			x		10	3		A	Pass
0%	0.6				x	10	3		A	Pass
40%	6	x				10	3		A	Pass
40%	6		x			10	3		A	Pass
40%	6			x		10	3		A	Pass
40%	6				x	10	3		A	Pass
70%	60	x				10	3		A	Pass
70%	60		x			10	3		A	Pass
70%	60			x		10	3		A	Pass
70%	60				x	10	3		A	Pass
0%	300	x				10	3		A	Pass
0%	300			x		10	3		A	Pass

### Line Voltage Variation tests

129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.	A	Pass
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.	A	Pass
Surges of -15% line variations of nominal voltage (102V) 1 Hrs.	A	Pass
Surges of +15% line variations of nominal voltage (138V) 1 Hrs.	A	Pass



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1 Cast00015
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017

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Figure G1. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1 Cast00015
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017
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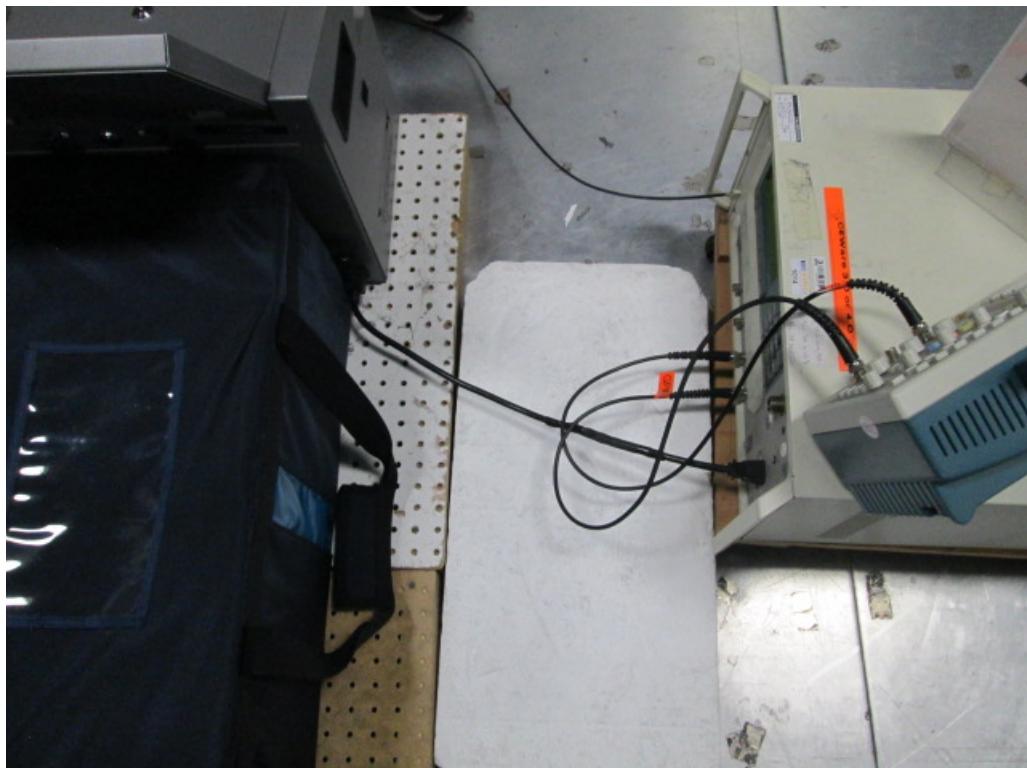


Figure G2. Voltage Dips and Interruptions Test Setup AC Mains.

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	Clear Cast	S/N:	CAST00018 Unit#1 Cast00015
Standard Referenced:	EAC 2005 VVSG	Date:	August 8, 2017

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**Test Equipment List**

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017
Temperature:	23°C	Humidity:	51%
Input Voltage:	120Vac/60Hz	Pressure:	839 mb
Configuration of Unit:	Printing Ballots		
Test Engineer:	Mike Tidquist		

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% Nominal	No. of Cycles	Phase Angle (deg)				Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
		0	90	180	270					
40%	6	x				10	3		A	Pass
40%	6		x			10	3		A	Pass
40%	6			x		10	3		A	Pass
40%	6				x	10	3		A	Pass
40%	60	x				10	3		A	Pass
40%	60		x			10	3		A	Pass
40%	60			x		10	3		A	Pass
40%	60				x	10	3		A	Pass
70%	0.6	x				10	3		A	Pass
70%	0.6		x			10	3		A	Pass
70%	0.6			x		10	3		A	Pass
70%	0.6				x	10	3		A	Pass
0%	300	x				10	3		A	Pass
0%	300			x		10	3		A	Pass
Line Voltage Variation tests										
129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.								A	Pass	
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.								A	Pass	
+ 15% 138Vac Surges of +15% line variations of nominal voltage 1 Hrs.								A	Pass	
- 15% 102Vac Surges of -15% line variations of nominal voltage 1 Hrs.								A	Pass	

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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Figure G3. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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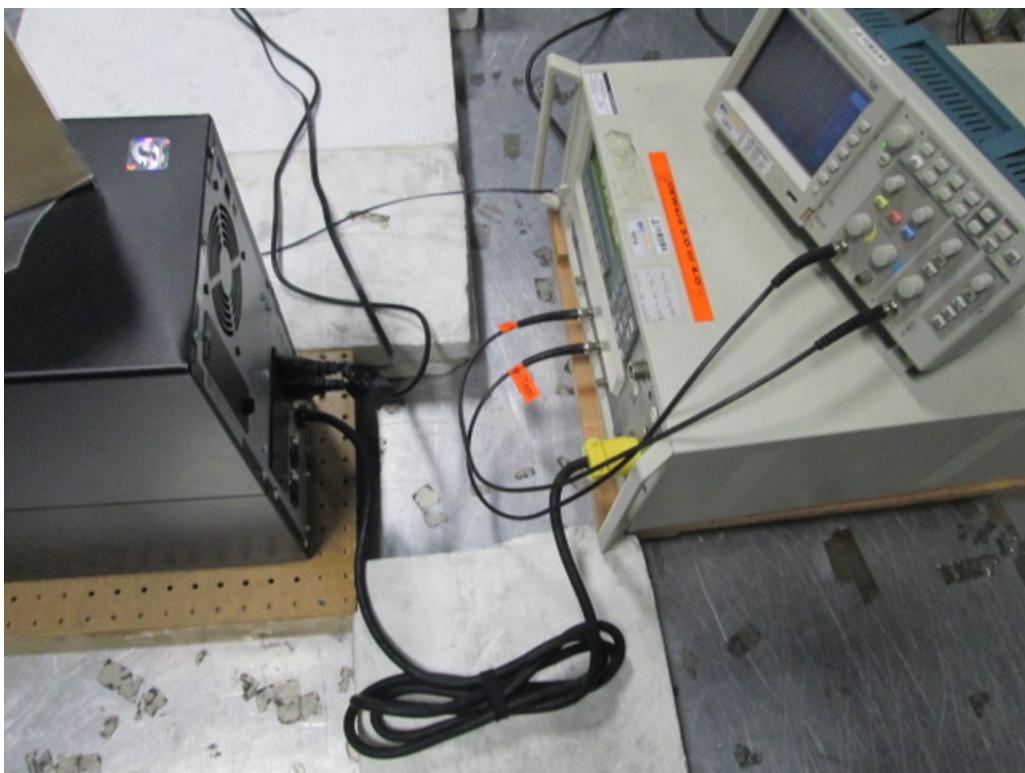


Figure G4. Voltage Dips and Interruptions Test Setup AC Mains.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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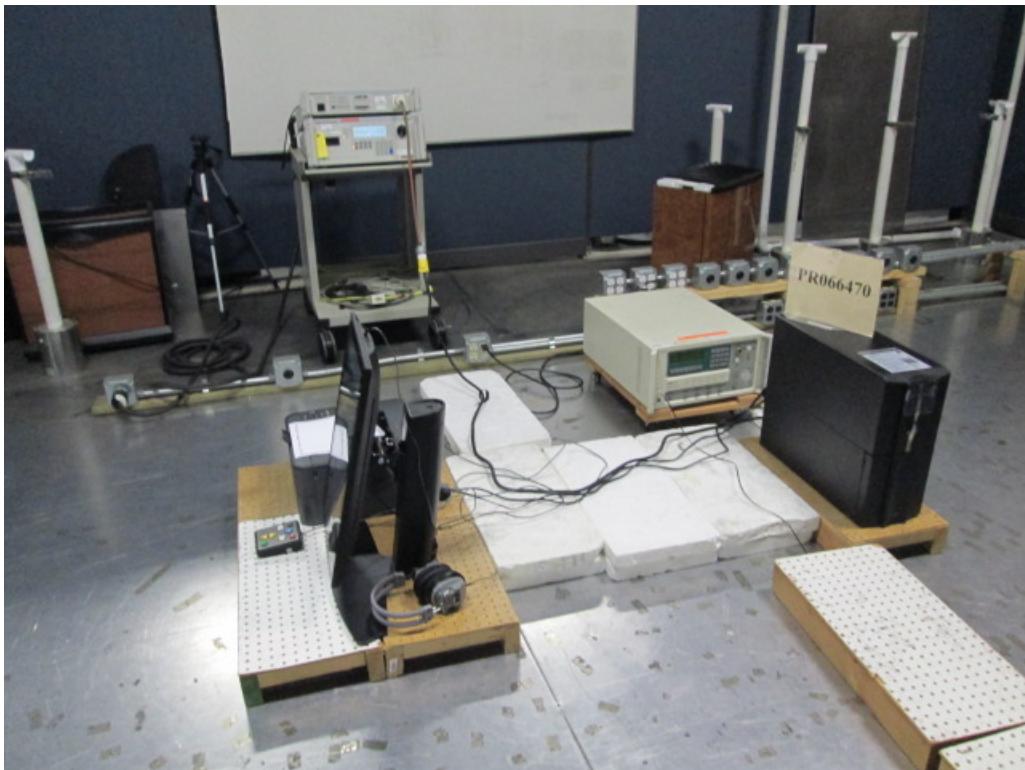


Figure G5. Voltage Variations Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP #1
Model:	ClearAccess: Dell AIO:5250 Brother:HL-L2340DW APC:SMT-2200	S/N:	HGCMGK2 U63879A7N420249 AS1638230963
Standard Referenced:	EAC 2005 VVSG	Date:	August 21, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AK76030928A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
Temperature:	23.7°C	Humidity:	49%
Input Voltage:	120Vac/60Hz	Pressure:	844 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

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% Nominal	No. of Cycles	0	90	180	270	Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
0%	0.6	x				10	3		A	Pass
0%	0.6		x			10	3		A	Pass
0%	0.6			x		10	3		A	Pass
0%	0.6				x	10	3		A	Pass
40%	6	x				10	3		A	Pass
40%	6		x			10	3		A	Pass
40%	6			x		10	3		A	Pass
40%	6				x	10	3		A	Pass
70%	60	x				10	3		A	Pass
70%	60		x			10	3		A	Pass
70%	60			x		10	3		A	Pass
70%	60				x	10	3		A	Pass
0%	300	x				10	3		A	Pass
0%	300			x		10	3		A	Pass
Line Voltage Variation tests										
129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.									A	Pass
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.									A	Pass
Surges of +15% line variations of nominal voltage (138V) 1 Hrs.									A	Pass
Surges of -15% line variations of nominal voltage (102V) 1 Hrs.									A	Pass

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AK76030928A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
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Figure G6. Voltage Dips and Interruptions Test Setup.

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AK76030928A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017 FR0100
PR066470-4-11.doc			



Figure G7. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell AIO:5250 Oki: B432 APC:SMT-2200	S/N:	HGCMGK2 AK62030437A0 AK76030928A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 11, 2017
PR066470-4-11.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7IT1YD2 U63879N4N628612 AS1602232215 / AS1625141816 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
Temperature:	26.3°C	Humidity:	33%
Input Voltage:	120Vac/60Hz	Pressure:	835 mb
Configuration of Unit:	Printing ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-11.doc

FR0100

% Nominal	No. of Cycles	0	90	180	270	Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
0%	0.6	x				10	3		A	Pass
0%	0.6		x			10	3		A	Pass
0%	0.6			x		10	3		A	Pass
0%	0.6				x	10	3		A	Pass
40%	6	x				10	3		A	Pass
40%	6		x			10	3		A	Pass
40%	6			x		10	3		A	Pass
40%	6				x	10	3		A	Pass
70%	60	x				10	3		A	Pass
70%	60		x			10	3		A	Pass
70%	60			x		10	3		A	Pass
70%	60				x	10	3		A	Pass
0%	300	x				10	3		A	Pass
0%	300			x		10	3		A	Pass

### Line Voltage Variation tests

129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.	A	Pass
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.	A	Pass
Surges of +15% line variations of nominal voltage (138V) 1 Hrs.	A	Pass
Surges of -15% line variations of nominal voltage (102V) 1 Hrs.	A	Pass



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 / AS1625141816 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-11.doc	Date: August 14, 2017 FR0100		



Figure G8. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 / AS1625141816 Unit#4
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-11.doc	Date: August 14, 2017		
	FR0100		



Figure G9. Voltage Dips and Interruptions Test Setup AC Mains.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess (Dell Laptop 7000 Series, Brother HL-L2340DW, APC SMT-2200)	S/N:	7TT1YD2 U63879N4N628612 AS1602232215 / AS1625141816 Unit#4
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017

PR066470-4-11.doc

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018
1569	California Instruments by Ametek	5001IX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017
Temperature:	24.8°C	Humidity:	43%
Input Voltage:	120Vac/60Hz	Pressure:	843 mb
Configuration of Unit:	Scanning ballots		
Test Engineer:	Casey Lockhart		

PR066470-4-11.doc

FR0100

% Nominal	No. of Cycles	0	90	180	270	Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
0%	0.6	x				10	3		A	Pass
0%	0.6		x			10	3		A	Pass
0%	0.6			x		10	3		A	Pass
0%	0.6				x	10	3		A	Pass
40%	6	x				10	3		A	Pass
40%	6		x			10	3		A	Pass
40%	6			x		10	3		A	Pass
40%	6				x	10	3		A	Pass
70%	60	x				10	3		A	Pass
70%	60		x			10	3		A	Pass
70%	60			x		10	3		A	Pass
70%	60				x	10	3		A	Pass
0%	300	x				10	3		A	Pass
0%	300			x		10	3		A	Pass

### Line Voltage Variation tests

129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.	A	Pass
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.	A	Pass
Surges of -15% line variations of nominal voltage (102V) 1 Hrs.	A	Pass
Surges of +15% line variations of nominal voltage (138V) 1 Hrs.	A	Pass



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG		
PR066470-4-11.doc	Date: August 3, 2017 FR0100		



Figure G10. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017
PR066470-4-11.doc			FR0100

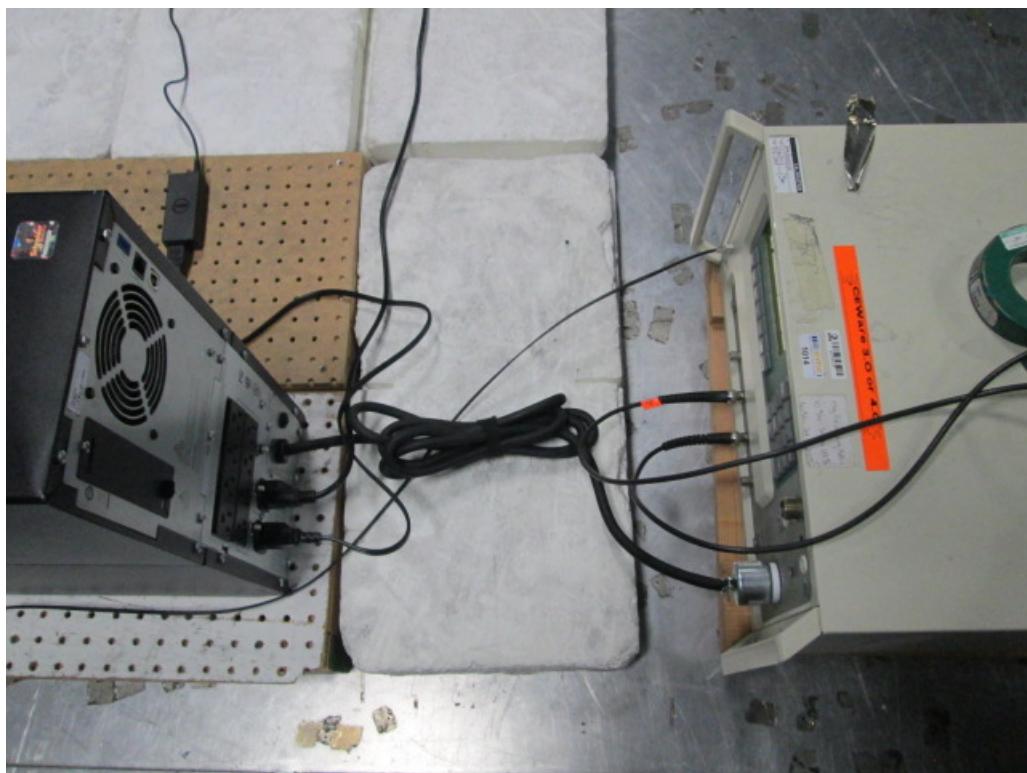


Figure G11. Voltage Dips and Interruptions Test Setup.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell Inspiron 15 7000 series laptop Okidata B432 N22500A APC UPS SMT-2200	S/N:	Unit #5 22S1YD2 AK62030437A0 AS1638230963/ AS1625141816
Standard Referenced:	EAC 2005 VVSG	Date:	August 3, 2017

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### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1039	Fluke	83-3	69811227	Multimeter/Frequency Meter	08/09/2016	08/09/2017
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1569	California Instruments by Ametek	500IIX-208-CTS, Series II	1514A02227	5kV Programmable Power Supply	03/30/2017	03/30/2018



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2/ 7TT1YD2  TH74P48110/ TH74P4810X
Standard Referenced:	EAC 2005 VVSG		AS1625141816 Unit#6
Temperature:	21.7°C	Humidity:	50%
Input Voltage:	120Vac/60Hz	Date:	August 14, 2017
Configuration of Unit:	Printing ballots	Pressure:	839 mb
Test Engineer:	Casey Lockhart		

PR066470-4-11.doc

FR0100

% Nominal	No. of Cycles	0	Phase Angle (deg)				Time between dropouts (sec)	Number of tests	Comments	Criteria Met	Pass / Fail
			90	180	270						
0%	0.6	x					10	3		A	Pass
0%	0.6		x				10	3		A	Pass
0%	0.6			x			10	3		A	Pass
0%	0.6				x		10	3		A	Pass
40%	6	x					10	3		A	Pass
40%	6		x				10	3		A	Pass
40%	6			x			10	3		A	Pass
40%	6				x		10	3		A	Pass
70%	60	x					10	3		A	Pass
70%	60		x				10	3		A	Pass
70%	60			x			10	3		A	Pass
70%	60				x		10	3		A	Pass
0%	300	x					10	3		A	Pass
0%	300		x				10	3		A	Pass
Line Voltage Variation tests											
129Vac Line Voltage Variations (+7.5% of nominal 120V) 2hrs.										A	Pass
105Vac Line Voltage Variations (-12.5% of nominal 120V) 2 Hrs.										A	Pass
Surges of +15% line variations of nominal voltage (138V) 1 Hrs.										A	Pass
Surges of -15% line variations of nominal voltage (102V) 1 Hrs.										A	Pass

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2/ 7TT1YD2  TH74P48110/ TH74P4810X
Standard Referenced:	EAC 2005 VVSG PR066470-4-11.doc		AS1625141816 Unit#6 Date: August 14, 2017 FR0100



Figure G12. Voltage Dips and Interruptions Test Setup.

**Voltage Dips and Interrupts per IEC / EN 61000-4-11**

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2/ 7TT1YD2  TH74P48110/ TH74P4810X
Standard Referenced:	EAC 2005 VVSG	AS1625141816 Unit#6	
PR066470-4-11.doc		Date:	August 14, 2017
			FR0100

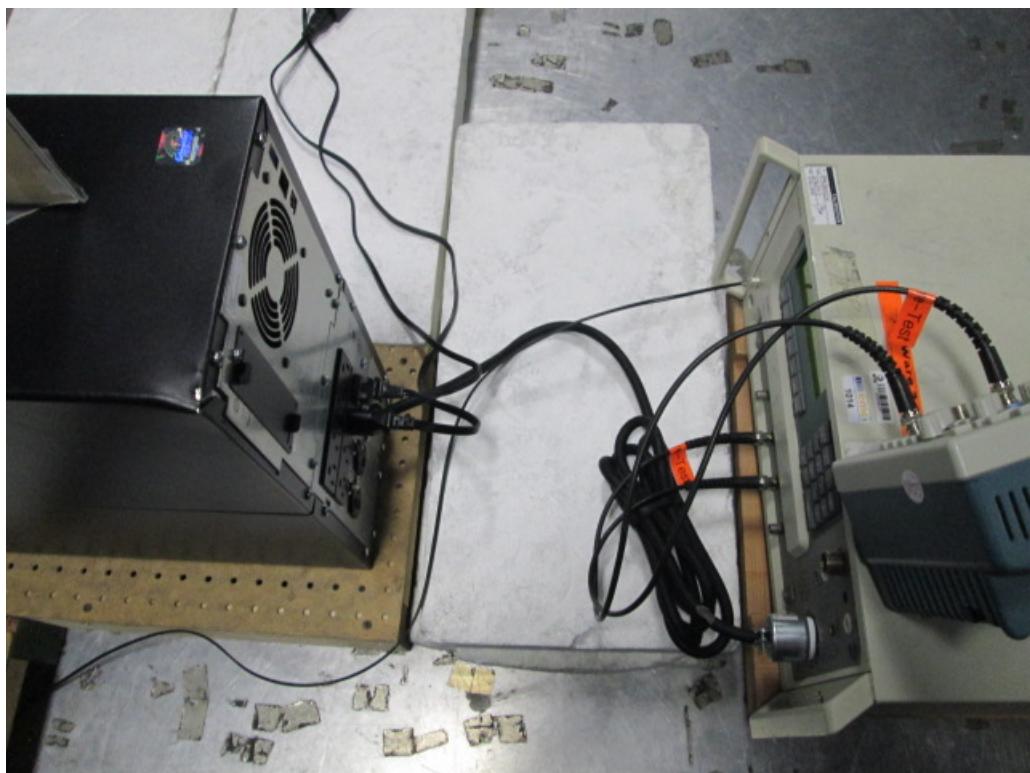


Figure G13. Voltage Dips and Interruptions Test Setup AC Mains.



## Voltage Dips and Interrupts per IEC / EN 61000-4-11

Manufacturer:	Clear Ballot Group (manufacturer) Pro V&V (client)	Project Number:	PR066470
Customer Representative:	Stephen Han	Test Area:	GP1
Model:	ClearAccess Dell 7000 series laptop HP Mobil 200 APC UPS SMT-2200	S/N:	22S1YD2/ 7TT1YD2  TH74P48110/ TH74P4810X  AS1625141816 Unit#6
Standard Referenced:	EAC 2005 VVSG	Date:	August 14, 2017
PR066470-4-11.doc			FR0100

### Test Equipment List

ID Number	Manufacturer	Model #	Serial #	Description	Cal Date	Cal Due
1014	KeyTek	EMC Pro	0203270	Advanced EMC Immunity Tester	05/16/2017	05/16/2018
1184	KeyTek	CEWare	4.0	KeyTek EMCPro Control Software for EFT, Surge, H-F	NA	NA
1371	Tektronix	TDS2002B	C103483	Oscilloscope, 60 MHz, 2-channel	12/28/2016	12/28/2017
1548	California Instruments/A metek	1251P	1423A06347	AC Power supply	NA	NA
1563	FLUKE	87-5	29030260	Industrial Digital Multimeter, True RMS, 1000V, 10	03/08/2017	03/08/2018

## **APPENDIX H**

### **EMI Test Log**



## EMI\ENV Test Log

Manufacturer:	Pro V&V	Project Number:	PR066470
Model:	Various	S/N:	Various
Customer Representative:	Michael Walker		
Standard Referenced:	FCC Part 15, Class B EAC 2005 VVSG		

FR0105

### 10m Emissions

Test	Test Code	Date	Event	OT	Time (hrs)	Result	Initials
RE	13412	August 1, 2017 0800-1200	Test #1: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 1: Clear Cast EUT Fails @ 500MHz per client stopping test and moving to another EUT		4.0	Fail	MT
RE		1200-1630	Test #2: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 4: ClearAccess Will rerun test when another keypad arrives		4.0	---	MT

**Client needed Keypad to continue Radiated Immunity testing, RE testing is on hold until 8-2 when another keypad is delivered**

RE		August 2, 2017 1030-1200	Test #3: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 4: ClearAccess		1.5	Pass	MT
		1200-1230	Lunch		---	---	MT

### Waiting for client to return from lunch

RE	1356	1330-1500	Test #4: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 4: ClearAccess EUT Stopped printing will rerun scan		1.5	---	MT
		1500-1600	Test #5: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 4: ClearAccess		1.0	Pass	MT

**10m Emissions**

<b>Test</b>	<b>Test Code</b>	<b>Date</b>	<b>Event</b>	<b>OT</b>	<b>Time (hrs)</b>	<b>Result</b>	<b>Initials</b>
CE	2346	October 12, 2017 0800-0900	Test #6: Conducted Emissions, 150 kHz - 30 MHz (4.1.2.9) 120 VAC / 60 Hz EUT 4: ClearAccess		1.0	Pass	MT
RE		0930-1030	Test #7: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 1: Clear Cast		1.0	Pass	MT
RE		1030-1200	Test #8: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 1: Clear Cast		1.5	---	MT
		1200-1230	Lunch		---	---	MT
RE		1230-1300	Continue: Test #8: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 1: Clear Cast		0.5	Pass	MT
CE		1300-1400	Test #9: Conducted Emissions, 150 kHz - 30 MHz (4.1.2.9) 120 VAC / 60 Hz EUT 1: ClearCast		1.0	Pass	MT
RE		August 16, 2017 0800-1000	Test #10: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 3: ClearAccess		2.0	Pass	MT
RE		1000-1100	Test #11: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 3: ClearAccess EUT Failed @ 5.952GHz waiting on client with further instructions		1.0	Fail	MT
Ferrite added to Printer USB Cable (Wurth 742-716-33S)							

**10m Emissions**

Test	Test Code	Date	Event	OT	Time (hrs)	Result	Initials
							
RE	---	August 22, 2017 0900-1100	Test #12: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 3: ClearAccess		2.0	Pass	MT
RE	---	1100-1200	Test #13: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 3: ClearAccess		1.0	Pass	MT
---		1200-1230	Lunch		---	---	MT
CE	---	1230-1300	Test #14: Conducted Emissions, 150 kHz - 30 MHz (4.1.2.9) 120 VAC / 60 Hz EUT 3: ClearAccess		0.5	Pass	MT
RE	---	1330-1430	Test #15: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 5: ClearAccess		1.0	Pass	MT
RE	---	1430-1630	Test #16: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 5: ClearAccess		2.0	Pass	MT
RE	---	September 1, 2017 0800-1000	Test #17: Radiated Emissions, 30 MHz - 1 GHz, 8 Rads, 4 Heights, 3 sec. dwell, ref. level = 80 dBuV, 10 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 2: ClearAccess		2.0	Pass	MT

## 10m Emissions

Test	Test Code	Date	Event	OT	Time (hrs)	Result	Initials
RE		1000-1100	Test #18: Radiated Emissions, 1 GHz - 18 GHz, 16 Rads, 3 Heights, 3 sec. dwell, ref. level = 107 dBuV, 3 meter distance (4.1.2.9) 120 VAC / 60 Hz EUT 2: ClearAccess		1.0	Pass	MT
CE		1100-1200	Test #19: Conducted Emissions, 150 kHz - 30 MHz (4.1.2.9) 120 VAC / 60 Hz EUT 2: ClearAccess		1.0	Pass	MT
CE		September 26, 2017 0900-1000	Test #20: Conducted Emissions, 150 kHz - 30 MHz (4.1.2.9) 120 VAC / 60 Hz EUT 5: ClearAccess		1.0	Pass	MT

Regular hours:	31.5
Overtime/Prem hours:	
Total hours:	31.5

## Ground Planes / CALC

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-3	6003	July 24, 2017 0800-1100	Initial Product Set-up & Configuration Product Set-up & Configuration		3.0	Complete	KJ
4-3	6005	1100-1630	Initial Product Set-up & Configuration Product Set-up & Configuration UUT Troubleshooting		5.0	Complete	KJ
4-3	43936	July 25, 2017 0800-1630	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz UUT=Clear Cast NOTE: client left from 1130 until 1500. Unable to run from 1200 to 1500 because client not available to restart unit. Client is at the environmental lab Finished front, right and back sides both polarities.		8.0	Complete	KJ
4-3		July 26, 2017 0800-0930	Continuing RF Immunity on Clear Cast Clear Cast complete		1.5	Pass	KJ
4-3		0930-1330	Setup for next UUT		3.5	Complete	KJ

**Ground Planes / CALC**

<b>Test</b>	<b>Test Code</b>	<b>Date</b>	<b>Event</b>	<b>O T</b>	<b>Time (hrs)</b>	<b>Result</b>	<b>Initials</b>
4-3		1330-1630	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz UUT=Dell AIO Unit stopped printing ballots front side, V-pole. Client re-recorded the process and we will re-test. Unit stopped printing ballots front side, V-pole at around 374MHz. Will try to run the UUT without the field on to see if the unit can run when no field is present to help determine if the field is affecting the unit or if it is failing all on its own Unit ran 7 ballots without the field on, then the field was applied and the unit failed at 154MHz, front side vertical pole. Character appeared in the search filed on the touch screen providing proof that the screen is receiving phantom touches form the field that is being applied Trying ferrites on the headphone, USB, power and EZ access cables. Also changed the timing of the "script" to be much faster. Unit ran with no problems.		3.0	Complete	KJ
4-3	43936	July 27, 2017 0800-1630	Slowed "script" down but kept the ferrites on, no sip and puff. Unit ran with no problems. Trying slow "Script" without ferrites no sip and puff. Unit ran with no problems Trying slow "Script" without ferrites and sip and puff. Unit ran with no problems Re-running the same test again. Unit ran with no problems Re-running the same test again. Unit ran with no problems Re-running the same test again. Unit ran with no problems Re-running the same test again. Unit ran with no problems Re-running the same test again. Unit ran with no problems After checking the tests after the above runs it was noticed that the printer had powered off Re-running the above test. Unit ran with no problems Re-running the above test. Printer has an error 06—"Unable to print, please turn power off and on again" Re-running the above test with a ferrite (Wurth 74271622S) on the printer USB cable at the printer side. Unit ran with no problems Re-running the above test with a ferrite (Wurth 74271622S) on the printer USB cable at the printer side Running H-pole front side. No problems found Finished the front side.		8.0	Complete	KJ
4-3	43936	Tuesday, August 01, 2017 0800 - 1200	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Continue – start right side of Unit #2 ClearAccess w/Brother printer Unit #2 failed for printer errors and monitor issues		4	Fail	SC
---	---	1200 - 1230	Lunch		---	---	SC

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-3	43936	1230 - 1630	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Start Unit #3 ClearAccess w/Okidata printer		4	---	SC
---	---	Wednesday, August 02, 2017 0800 - 1200	Continue with Unit #3 Monitor goes Black at 560-607MHz, back side. Program and printer still working. As per client this is acceptable performance.		4	Pass	SC
---	---	1200 - 1230	Lunch		---	---	SC
---	43936	1230 - 1630	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Start Unit #5 ClearAccess (Laptop), w/Okidata printer Finished 2 sides of unit #6		4	---	SC
			Continue testing with Front & right sides				
4-6	46212	August 3, 2017 0800 - 0930	Equipment setup. NOTE: No PDS, client is filling it out as we test.		1.5	---	CL
---	---	0930 - 1030	Conducted RF Immunity Unit#5 (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz		1.0	Pass	CL
4-4	4416	1030 - 1100	Electrical Fast Transient / Burst Unit#5 (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz		.5	Pass	CL
4-11	4196	1100 - 1130	Voltage Dips and Interruptions Unit#5 (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles 0% nom, 300 cycles 120 VAC / 60 Hz		.5	Pass	CL
---	41924	1130 - 1330	Voltage Dips and Interruptions Unit#5 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power <b>increases of 7.5%</b> and reductions of 12.5% of nominal specified power. (See Protocol) 129 VAC / 60 Hz		2.0	Pass	CL
---	---	1330 - 1530	Voltage Dips and Interruptions Unit#5 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) 105 VAC / 60 Hz		2.0	Pass	CL
---	4196	1530 - 1630	Voltage Dips and Interruptions Unit#5 (Surge of +/- 15%) (4.1.2.5) Surge of +/- 15% line variation of nominal line voltage 138 VAC / 60 Hz		1.0	Pass	CL
---	---	August 4, 2017	Client did not test today, was out of town.			---	CL

**Ground Planes / CALC**

<b>Test</b>	<b>Test Code</b>	<b>Date</b>	<b>Event</b>	<b>O T</b>	<b>Time (hrs)</b>	<b>Result</b>	<b>Initials</b>
4-5	45936	August 7, 2017 0800 - 0900	Client late.		1.0	---	CL
---	---	0900 - 1400	Surge Immunity Unit#5 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.0	Pass	CL
---	---	1400 - 1430	Lunch		---	---	CL
4-8	4836	1430 - 1530	Power Frequency H-Field Immunity Unit#5 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		1.0	Pass	CL
4-2	42524	1530 - 1630	Electrostatic Discharge Unit#5 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air 120 VAC / 60 Hz Note: Pre-test performed. Cables are .936 and .939 m ohms.		1.0	---	CL
---	---	August 8, 2017 0800 - 1200	Electrostatic Discharge Unit#5 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air 120 VAC / 60 Hz NOTE: Display on printer went blank, but self-recovered during +/- 15kV air.		4.0	Pass	CL
4-6	46212	1300 - 1400	Conducted RF Immunity Unit#1 (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz		1.0	Pass	CL
4-4	4416	1400 - 1430	Electrical Fast Transient / Burst (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz		.5	Pass	CL
4-11	4196	1430 - 1500	Voltage Dips and Interruptions Unit#1 (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles 0% nom, 300 cycles 120 VAC / 60 Hz		.5	Pass	CL
---	---	1500 - 1600	Voltage Dips and Interruptions Unit#1 (Surge of +/- 15%) (4.1.2.5) Surge of +/- 15% line variation of nominal line voltage 138 VAC / 60 Hz. Pre-test performed. Cables are .936 and .939 m ohms.		1.0	Pass	CL
---	41924	August 9, 2017 0800 - 0830	Client late.		.5	---	CL
---	---	0830 - 1030	Voltage Dips and Interruptions Unit#1 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power <b>increases of 7.5%</b> and reductions of 12.5% of nominal specified power. (See Protocol) 129 VAC / 60 Hz		2.5	Pass	CL
---	---	1030 - 1130	Technical issue after test was completed.		1.0	---	CL

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-5	45936	1130 - 1630	Surge Immunity Unit#1 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.0	Pass	CL
4-11	41924	August 10, 2017 0800 - 1000	Voltage Dips and Interruptions Unit#1 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) 105 VAC / 60 Hz		2.0	Pass	CL
4-8	4836	1030 - 1130	Power Frequency H-Field Immunity Unit#1 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		1.0	Pass	CL
---	---	1130 - 1230	Lunch		---	---	CL
4-2	42524	1230 - 1430	Electrostatic Discharge Unit#1 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air 120 VAC / 60 Hz		2.0	Pass	CL
4-6	46212	1430 - 1530	Conducted RF Immunity Unit #3 (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz		1.0	Pass	CL
4-4	4416	August 11, 2017 0800 - 0830	Electrical Fast Transient / Burst Unit#3 (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz		.5	Pass	CL
4-11	4196	0830 - 0930	Voltage Dips and Interruptions Unit#3 (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles 0% nom, 300 cycles 120 VAC / 60 Hz		1.0	Pass	CL
---	---	1000 - 1200	Voltage Dips and Interruptions Unit#3 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power <b>increases of 7.5%</b> and reductions of 12.5% of nominal specified power. (See Protocol) 129 VAC / 60 Hz		2.0	Pass	CL
---	---	1200 - 1400	Voltage Dips and Interruptions Unit#3 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) 105 VAC / 60 Hz		2.0	Pass	CL
---	---	1400 - 1500	Voltage Dips and Interruptions Unit#3 (Surge of +/- 15%) (4.1.2.5) Surge of +/- 15% line variation of nominal line voltage 138 VAC / 60 Hz		1.0	Pass	CL

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-8	4836	1500 - 1600	Power Frequency H-Field Immunity Unit#3 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		1.0	Pass	CL
4-5	45936	August 12, 2017 0700 - 1230	Surge Immunity Unit#3 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.5	Pass	CL
4-2	42524	1230 - 1500	Electrostatic Discharge Unit#3 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air 120 VAC / 60 Hz Note: +/- 15kV took display out on printer. Still printing, but display did not come back. Replaced printer w/(AK62030440A0) and repeated condition. Display went out, but printer kept printing.		2.5	Fail	CL
							
---	---	August 14, 2017 0800 - 0900	Equipment setup		1.0	---	CL
4-6	46212	0900 - 1000	Conducted RF Immunity Unit#4 (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz		1.0	Pass	CL
4-4	4416	1000 - 1030	Electrical Fast Transient / Burst Unit#4 (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz		.5	Pass	CL
4-11	4196	1030 - 1100	Voltage Dips and Interruptions Unit#4 (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles, 0% nom, 300 cycles 120 VAC / 60 Hz		.5	Pass	CL

**Ground Planes / CALC**

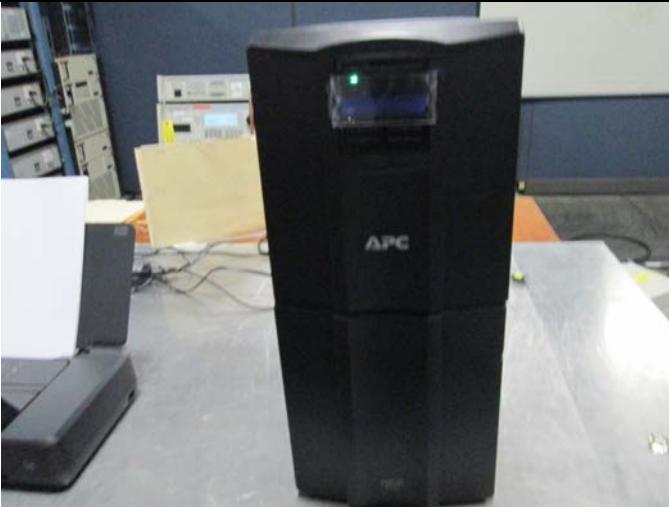
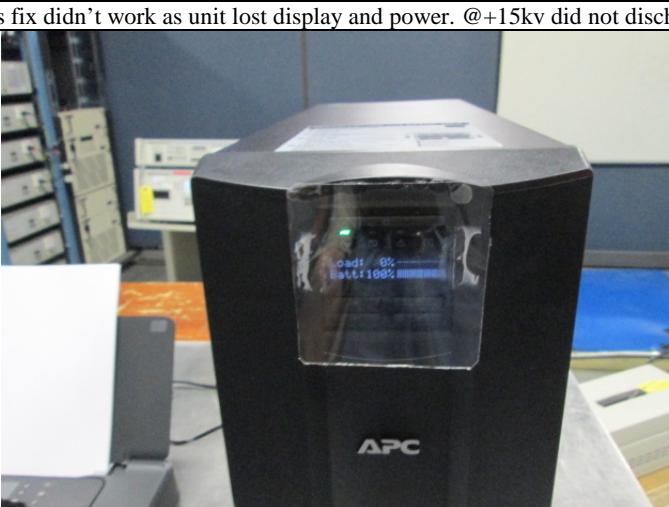
Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
---	41924	1100 - 1300	Voltage Dips and Interruptions Unit#4 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power <b>increases of 7.5%</b> and reductions of 12.5% of nominal specified power. (See Protocol) 129 VAC / 60 Hz		2.0	Pass	CL
---	---	1300 - 1500	Voltage Dips and Interruptions Unit#4 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) 105 VAC / 60 Hz		2.0	Pass	CL
---	---	1500 - 1600	Voltage Dips and Interruptions Unit#4 (Surge of +/- 15%) (4.1.2.5) Surge of +/- 15% line variation of nominal line voltage 138 VAC / 60 Hz		1.0	Pass	CL
4-5	45936	August 15, 2017 0800 - 1300	Surge Immunity Unit#4 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.0	Pass	CL
---	---	1300 - 1330	Lunch		---	---	CL
4-8	4836	1330 - 1400	Power Frequency H-Field Immunity Unit#4 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		.5	Pass	CL
4-2	42524	1400 - 1630	Electrostatic Discharge Unit#4 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air 120 VAC / 60 Hz Note: +15kV at display on UPS caused UPS to shut down, red led on display, beeps and shuts down. No discharge on gun, just the field took it out. Replaced UPS with AS1638230963 and re-test. @ +8kV, no discharge on gun, just the field took it out. Client applied plastic to front of display. Re-tested and no discharges or any failures with plastic in place. Tested up to 15kV on re-test.		2.5	---	CL



**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
---	---	August 16, 2017 0800 - 0900	Electrostatic Discharge Unit#4 (4.1.2.8) +/- 8kV Contact, +/-2, 4, 8, 15kV Air		1.0	Pass	CL
4-6	46212	0900 - 1000	Conducted RF Immunity Unit #6 (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz		1.0	Pass	CL
4-4	4416	1000 - 1030	Electrical Fast Transient / Burst Unit #6 (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz		.5	Pass	CL
4-11	4196	1030 - 1100	Voltage Dips and Interruptions Unit#6 (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles, 0% nom, 300 cycles 120 VAC / 60 Hz		.5	Pass	CL
---	---	1100 - 1300	Voltage Dips and Interruptions Unit#6 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power <b>increases of 7.5%</b> and reductions of 12.5% of nominal specified power. (See Protocol) 129 VAC / 60 Hz		2.0	Pass	CL
---	---	1330 - 1530	Voltage Dips and Interruptions Unit#6 (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) 105 VAC / 60 Hz		2.0	Pass	CL
---	---	1530 - 1630	Voltage Dips and Interruptions Unit#6 (Surge of +/- 15%) (4.1.2.5) Surge of +/- 15% line variation of nominal line voltage 138 VAC / 60 Hz		1.0	Pass	CL
4-5	45936	August 17, 2017 0800 - 1300	Surge Immunity Unit#6 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.0	Pass	CL
4-8	4836	1300 - 1330	Power Frequency H-Field Immunity Unit#6 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		.5	Pass	CL
4-2	42524	1130 -	Electrostatic Discharge Unit#6 (4.1.2.8) +/- 8kV Contact, +/-2, 4, 8, 15kV Air 120Vac/60Hz		---	---	CL

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
							
			This fix didn't work as unit lost display and power. Discharge into push button caused failure. @ +15kV.				
							
			This fix didn't work as unit lost display and power. @+15kv did not discharge.				
							

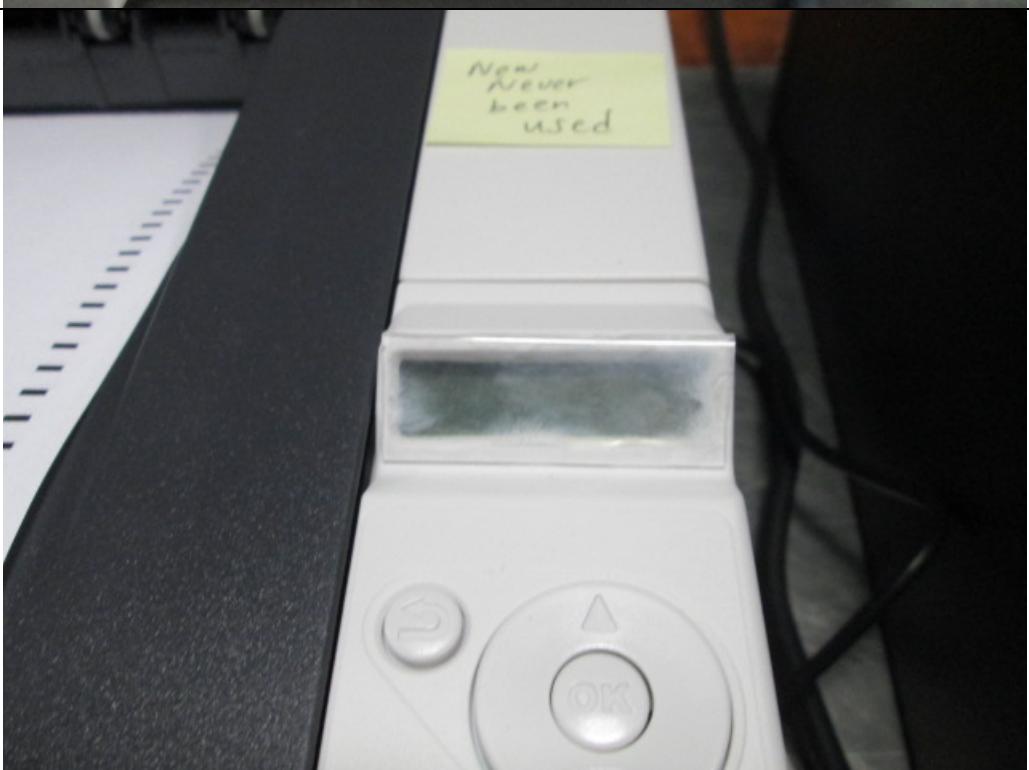
**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
This fix didn't work as we lost the display and power @ +15kV, no discharge.							
							
This fix worked. Went back and tested +/- 8kV contact on this area.							
---	---	1630	ESD completed and passed with 3 <sup>rd</sup> fix.		3.5	Pass	CL
4-6	---	August 21, 2017 0800-1000	Conducted RF Immunity (4.1.2.11) 10Vrms, 0.15 - 80 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Config #2		2.0	Pass	MT
4-4	---	1000-1030	Electrical Fast Transient / Burst (4.1.2.6) Mains: +/- 2kV, I/O: +/- 1kV 120 VAC / 60 Hz Config #2		0.5	Pass	MT
4-11	---	1030-1100	Voltage Dips and Interruptions (4.1.2.12) 70% nom, 0.6 cycles / 40% nom, 6 cycles & 60 cycles, 0% nom, 300 cycles 120 VAC / 60 Hz Config #2		0.5	Pass	MT
4-11	---	1100-1200	Voltage Dips and Interruptions (Inc./Red. of Nom. Voltage) (4.1.2.5) <b>Electric power increases of 7.5% and reductions of 12.5% of nominal specified power. (See Protocol)</b> 129 VAC / 60 Hz Config #2		1.0	---	MT
---		1200-1230	Lunch		---	---	MT
4-11	---	1200-1300	Continue: Voltage Dips and Interruptions (Inc./Red. of Nom. Voltage) (4.1.2.5) <b>Electric power increases of 7.5% and reductions of 12.5% of nominal specified power. (See Protocol)</b> +7.5% 129 VAC / 60 Hz Config #2		2.0	Pass	MT

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-11	---	1300-1500	Voltage Dips and Interruptions (Inc./Red. of Nom. Voltage) (4.1.2.5) Electric power increases of 7.5% and <b>reductions of 12.5%</b> of nominal specified power. (See Protocol) -12.5% 105 VAC / 60 Hz Config #2		2.0	Pass	MT
4-11	---	1500-1600	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage +15% 138 VAC / 60 Hz Config #2		1.0	Pass	MT
---	---	August 22, 2017	Client was short on equipment (UPS) and couldn't test today.		8.0	---	CL
4-5	45936	August 23, 2017 0800 – 1330	Surge Immunity Config#2 (4.1.2.7) Mains: +/- 2kV CM, +/- 2kV DM, (0, 90, 180, 270) 120 VAC / 60 Hz		5.5	Pass	CL
4-11	---	1330 - 1430	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage -15% 102 VAC / 60 Hz Config #2		1.0	Pass	CL
4-8	---	1430 - 1500	Power Frequency H-Field Immunity Config#2 (4.1.2.12) 30A/m, 50 / 60 Hz, 3 axes 120 VAC / 60 Hz		.5	Pass	CL
4-2	---	1500 - 1630	Electrostatic Discharge Unit#2 (4.1.2.8) +/- 8kV Contact, +/-2, 4, 8, 15kV Air 120Vac/60Hz		2.5	Pass	CL
---	---	1630 - 1730	Electrostatic Discharge Unit#3 (4.1.2.8) +/- 8kV Contact, +/-2, 4, 8, 15kV Air 120Vac/60Hz NOTE: Re-test with new Oki printer as shown in the photo below. S/N AK76030928A0		1.0	---	CL

## Ground Planes / CALC

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
							
---	---	---			---	Fail	CL

**Ground Planes / CALC**

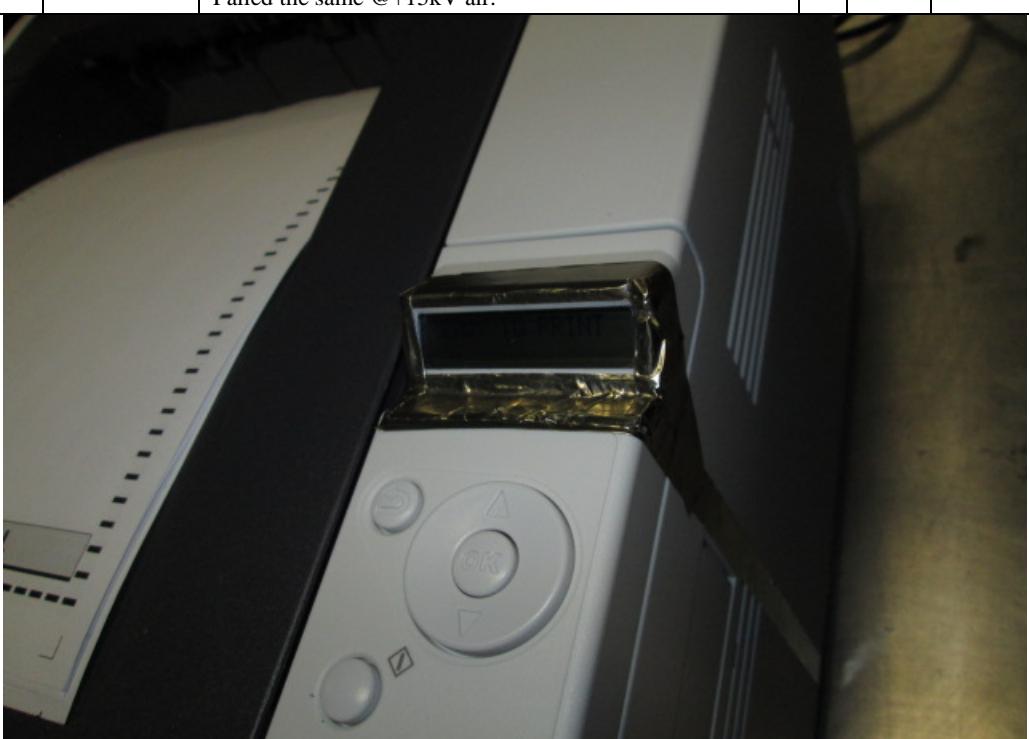
<b>Test</b>	<b>Test Code</b>	<b>Date</b>	<b>Event</b>	<b>O T</b>	<b>Time (hrs)</b>	<b>Result</b>	<b>Initials</b>
4-3	6003	August 24, 2017 0800-1100	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Config#2  Printer error. Had to power cycle printer. Printer stops printing. Printer power button would not work. Failure on rights side H-pole, 200-300MHz range		3.0	Fail	KJ
4-3		1100-1400	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Config#5  Starting Front side. Back and left side were tested in GP0.		3.0	Pass	KJ
4-3		1400-1630	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Config#4  New laptop SN: 22S1YD2 New UPS SN: AS1638230963		2.5	Complete	KJ
4-3		August 25, 2017 0800-1100	Continuing RF Immunity Config#4		3.0	Pass	KJ
4-3		1100-1630	Continuing RF Immunity Config#6		5.0	Pass	KJ
4-11	---	0930 - 1030	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage -15% 102 VAC / 60 Hz Config #3 With new UPS (AS1625141816) and new printer (AK76030928A0)		1.0	Pass	CL
---	---	1030 - 1130	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage -15% 102 VAC / 60 Hz Config #4 With New UPS "AS1625141816"		1.0	Pass	CL
---	---	1330 - 1430	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage -15% 102 VAC / 60 Hz Config #5 With new UPS "AS1625141816"		1.0	Pass	CL
---	---	1500 - 1600	Voltage Dips and Interruptions (Surge of +/- 15%) (4.1.2.5) <b>Surge of +/- 15%</b> line variation of nominal line voltage -15% 102 VAC / 60 Hz Config #6(New Laptop/printer) & #1 (Both running at the same time.)		1.0	Pass	CL

**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
4-3	---	September 1, 2017 0800-1300	Radiated RF Immunity (4.1.2.10) 10V/m, 80 - 1000 MHz, 1% Step, 80% AM, 1kHz sine, 3s dwell 120 VAC / 60 Hz Config#2		5.0	Pass	KJ
4-2	---	September 27, 2017 0800 - 1400	Electrostatic Discharge Unit#3 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air New Printer: S/N AK5B007647A0, fails at +/-15kV at display on printer. Takes out display and did not recover.		4.0	---	CL
---	---	1130 -	Electrostatic Discharge Unit#3 (4.1.2.8) +/- 8kV Contact, +/- 2, 4, 8, 15kV Air New Printer AK76030928A0 and potential fix		---	---	CL



**Ground Planes / CALC**

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
							
---	---	---	Failed the same @+15kV air.		---	---	CL
							
---	---	---	2 <sup>nd</sup> fix, tape around display: Tried +8kV contact and -8kV contact on metal tape around display screen. Discharges cause display to go out, but UUT recovers when UUT prints.		4.0	Pass	CL

## **APPENDIX I**

### **Laboratory Accreditations**

American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NATIONAL TECHNICAL SYSTEMS (NTS) - LONGMONT  
1736 Vista View Drive  
Longmont, CO 80504-5242  
Mr. Eric Loucks Phone: 303 776 7249

## ELECTRICAL

Valid To: February 28, 2018

Certificate Number: 0214.43

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following Electromagnetic Compatibility/Interference (EMC/EMI), Lightning, Transient, Surge, and Product Safety tests:

**Test Technology:****Test Method(s)<sup>1,2</sup>:****Emissions**

Radiated and Conducted

CFR 47 FCC, Parts 15B (using ANSI C63.4:2003, 2009, and 2014),  
15C (using ANSI C63.10:2013), and 18 (using MP-5);  
CISPR 32, Ed. 1 (2012-01); EN 55032:2012/AC:2013;  
AS/NZS CISPR 22 (2002); AS/NZS 3548 (1997);  
AS/NZS CISPR 14-1 (2003); IEC/CISPR 14-1, Ed. 4 (2003);  
IEC 61000-3-12, Ed. 2.0 (2011); EN 61000-3-12 (2011);  
IEC 61000-6-1, Ed. 2 (2005-03); IEC 61000-6-2, Ed. 2.0 (2005-01);  
IEC 61000-6-3 (1996); EN 61000-6-3 (2001) + A1 (2004);  
EN 61000-6-4 (2007); KN 32:2015 (Annex 11); KN 22; KN 11

Harmonics

IEC 61000-3-2, Ed. 2.2 (2004-11);  
IEC 61000-3-2, Ed. 3.0 (2005) + A1 (2008) + A2 (2009);  
IEC 61000-3-2, Ed. 4.0 (2014-05)

Flicker

IEC 61000-3-3, Ed. 1.1 (2002-03); EN 61000-3-3 + A1 (2001);  
IEC 61000-3-3, Ed. 1.1 (2003) + A2 (2005);  
IEC 61000-3-3, Ed. 3.0 (2013-05)

**Immunity**

Electrostatic Discharge (ESD)

IEC 61000-4-2 (2001); EN 61000-4-2 (2001) + A2 (2001);  
EN 61000-4-2 + A1 (1998) + A2 (2001);  
IEC 61000-4-2, Ed. 2.0 (2008-12); EN 61000-4-2 (2009-05);  
KN 61000-4-2; KN 61000-4-2 (2008-5); KN 61000-4-2 (Annex 1-1)

Radiated

IEC/EN 61000-4-3, Ed. 2.1 (2002) + A1 (2002); EN 61000-4-3;  
IEC 61000-4-3 (1995) + A1 (1998) + A2 (2000);  
EN 61000-4-3 (2002) + A1 (2002);  
IEC 61000-4-3, Ed. 3.0 (2006-02) + A1 (2007) + A2 (2010);  
EN 61000-4-3 (2006) + A1 (2008) + A2 (2010);  
KN 61000-4-3; KN 61000-4-3 (2008-5); KN 61000-4-3 (Annex 1-2)

(A2LA Cert. No. 0214.43) 10/28/2016

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**Test Technology:****Test Method(s)<sup>1,2</sup>:*****Immunity (cont'd)***

Electrical Fast Transient/Burst

IEC 61000-4-4, Ed. 2.0 (2004-07); EN 61000-4-4 (2004);  
EN 61000-4-4:2012; IEC 61000-4-4 (2012-04);  
KN 61000-4-4; KN 61000-4-4 (2008-5);  
KN 61000-4-4 (Annex 1-3)

Surge

IEC 61000-4-5, Ed. 2.0 (2005-11); EN 61000-4-5;  
IEC 61000-4-5, Ed. 3.0 (May 2014); BS EN 61000-4-5 (2006);  
EN 61000-4-5: 2014; KN 61000-4-5; KN 61000-4-5 (2008-5);  
KN 61000-4-5 (Annex 1-4)

Conducted

IEC 61000-4-6, Ed. 2.1 (2004); EN 61000-4-6;  
EN 61000-4-6 (1996) + A1 (2001);  
IEC 61000-4-6, Ed. 2.2 (2006-05); IEC 61000-4-6, Ed. 3.0 (2008);  
IEC 61000-4-6, Ed. 4.0 (2013); EN 61000-4-6 (2009);  
EN 61000-4-6 (2014); KN 61000-4-6; KN 61000-4-6 (2008-5);  
KN 61000-4-6 (Annex 1-5)

Power Frequency Magnetic Field

IEC 61000-4-8 (2001) + A1 (2000);  
EN 61000-4-8 (2001) + A1 (2000);  
EN 61000-4-8 (1993) + A1 (2001); IEC 61000-4-8 (2009);  
EN 61000-4-8:2010; KN 61000-4-8; KN 61000-4-8 (2008-5);  
KN 61000-4-8 (Annex 1-6)Voltage Dips, Short  
Interruptions, and Voltage  
VariationsIEC 61000-4-11, Ed. 2 (2004-03); EN 61000-4-11;  
EN 61000-4-11 (1994) + A1 (2001); EN 61000-4-11 (2004);  
KN 61000-4-11; KN 61000-4-11 (2008-5);  
KN 61000-4-11 (Annex 1-7)***Product Safety***Medical Electrical  
EquipmentIEC 60601-1-2, Ed. 3.0 (2007); KN 60601-1-2 (2008-5);  
IEC 60601-1-2, Ed. 4, (2014-02); EN 60601-1-2 (2007);  
EN 60601-1-2 (2015)***Generic/Product Family Standards  
and Industry Standards***

Generic Standards

EN 61326-1: 2013; KN 35: 2015

Information Technology  
EquipmentIEC/CISPR 22 (1997); EN 55022 (1998) + A1 (2000);  
IEC/CISPR 22 (1993); EN 55022 (1994);  
IEC/CISPR 22 (1993); EN 55022 (1994) + A1 (1995) + A2 (1997);  
CNS 13438 (1997);  
IEC/CISPR 22, Ed. 4 (2003-04); EN 55022 (1998);  
IEC/CISPR 22, Ed. 5 (2005); EN 55022 (1998);  
IEC/CISPR 22, Ed. 5 (2005) + A1 (2005);  
EN 55022 (1998) + A1 (2000) + A2 (2003);  
CNS 13438 (2006) (up to 6GHz);  
IEC/CISPR 22, Edition 5.2 (2006-03); EN 55022 (2006);  
EN 55022 (2006) + A1 (2007); EN 55022:2010;

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<u>Test Technology:</u>	<u>Test Method(s)<sup>1,2:</sup></u>
<i>Generic/Product Family Standards and Industry Standards (cont'd)</i>	
Information Technology Equipment (cont'd)	IEC/CISPR 22 (2008-09); AS/NZS CISPR 22 (2009); TCVN 7189:2009 (CISPR 22:2006); VCCI V-3 (2009.04, 2011.04, 2013.04, 2014.04, 2015.04) (up to 6 GHz); CISPR 24 Ed 2.0 (2010-08); EN 55024 (2010); KN 24
Industrial, Scientific, and Medical (ISM) Equipment	AS/NZS CISPR 11 (2002); IEC/CISPR 11, Ed. 4.1 (2004-06); AS/NZS CISPR 11 (2004); IEC/CISPR 11, Ed. 4.1 (2004-06) + A1 (2004); EN 55011 (1998) + A1 (1999) + A2 (2002); IEC/CISPR 11 (2003); EN 55011 (1998) + A2(2002); EN 55011 (2009) + A1 (2010); IEC/CISPR 11 Ed. 5 (2009-05); CISPR 11 Ed. 5.1 (2010)
Measure	IEC 61326-1 Ed. 2.0 (2012)
Military/Defense	MIL-STD-461F Method CE101 (30 Hz to 10 kHz); MIL-STD-461F Method CE102 (10 kHz to 10 MHz); MIL-STD-461F Method CE106 (10 kHz to 40 GHz); MIL-STD-461F Method CS101 (30 Hz to 150 kHz); MIL-STD-461F Method CS106; MIL-STD-461F Method CS114 (10 kHz to 200 MHz); MIL-STD-461F Method CS116 (10 kHz to 100 MHz); MIL-STD-461F Method RE101 (30 Hz to 100 kHz); MIL-STD-461F Method RE102 (10 kHz to 18 GHz); MIL-STD-461F Method RE103 (10 kHz to 40 GHz); MIL-STD-461F Method RS101 (30 Hz to 100 kHz); MIL-STD-461F Method RS103 (2 MHz to 40 GHz)

<sup>1</sup> When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - *General Requirements- Accreditation of ISO-IEC 17025 Laboratories*. If a specifier/regulator imposes a different transition period, this will supersede the A2LA one-year implementation period.

<sup>2</sup> The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities.

On the following types of products:

Telecommunication Equipment, Network Equipment, Industrial and Commercial Equipment, Electronic (Digital) Equipment, Medical, Aerospace, Military, Information Technology Equipment, Multimedia Equipment, Scientific Equipment



## Accredited Laboratory

A2LA has accredited

### NATIONAL TECHNICAL SYSTEMS (NTS) - LONGMONT

Longmont, CO

for technical competence in the field of

#### Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005  
*General requirements for the competence of testing and calibration laboratories.* This accreditation demonstrates  
technical competence for a defined scope and the operation of a laboratory quality management system  
(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 28<sup>th</sup> day of October 2016.

A handwritten signature in blue ink, appearing to read "Jim R. Bent".

Senior Director of Quality and Communications  
For the Accreditation Council  
Certificate Number 0214.43  
Valid to February 28, 2018

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*



**End of Report**