

APPENDIX B. DEFICIENCY REPORT



### **B.1** DEFICIENCY REPORT

Table B-1 describes the functional deficiency and resolution discovered during the EVS 5.2.2.0 test campaign.

**Table B-1. Functional Deficiency Report** 

NTS NOD ID	EAC VRT ID <sup>2</sup>	Test/Requirement	Deficiency Summary	Resolutions
NOD 1	NA VRT DOWN	Electromagnetic Emissions: (Conducted Emissions) Vol. I Sec. 4.1.2.9	The ExpressVote, exceeded the Conducted Emissions Test Limit between 100 kHz & 200 kHz.	*ES&S determined that the power supply was faulty and replaced it with a new power supply.
NOD 2	NA VRT DOWN	Electrical Fast Transient Vol. I Sec 4.1.2.6	The ExpressVote QR Scanner's operation was interrupted on Line 1 at 2,000 volts and did not recover.	*The EUT that passed Electromagnetic Emissions (Conducted Emissions) in NOD 1 failed EFT. ES&S determined that the QR Code Scanner was faulty and replaced it with a new QR Code Scanner.
NOD 3	NA VRT DOWN	Electrical Fast Transient Vol. I Sec. 4.1.2.6	The ExpressVote QR Scanner's operation was interrupted on Line 1 at 2,000 volts and did not recover.	*ES&S determined that this second EUT had a faulty power supply cord, so it replaced the power supply cord with the one from the EUT that passed EFT after NOD 2.
NOD 4	NA VRT DOWN	Electromagnetic Emissions: (Radiated Emissions) Vol. I Sec. 4.1.2.9	The DS450 exceeded the Radiated Emissions Test Limit.	*ES&S replaced the monitor, replaced the power supply, and added 2 ferrites: 1 ferrite was added to the fan cable and 1 ferrite was added to the lid switch cable.
NOD 5	NA VRT DOWN	Electrostatic Disruption Vol. I Sec. 4.1.2.8	The ExpressVote QR Scanner's operation was interrupted at -15kV, air and did not recover.	*The EUT from NOD 3 failed ESD. ES&S determined that the QR Code Scanner was faulty, so it was replaced with the QR Code Scanner from the EUT that passed after NOD 2. Also, ES&S added a ferrite to the power supply cord.
NOD 6	NA VRT DOWN	Electrical Fast Transient Vol. I Sec 4.1.2.6	The DS450 Log Printer operation was interrupted on Line 1 at 2,000 volts and did not recover.	*The EUT that was used to pass NOD 4, already equipped with 2 ferrites, failed EFT, so ES&S added a 3 <sup>rd</sup> ferrite to the EUT, on the Log Printer's USB Cable.
NOD 7	NA VRT DOWN	Functional Configuration Audit Vol. I Sec 9.7.2	The Electionware Help Icon does not display the icon function name as described in the TDP.	ES&S detailed this deviation in the TDP, Electionware Administrator Guide Ver. 1.4.

<sup>\*</sup>Note: All replacement parts were of the same manufacturer and model number as the removed part.

<sup>&</sup>lt;sup>2</sup> The EAC VRT ID numbers may not be sequential. The deficiency tracking system (VRT) that is utilized by the EAC creates unique ID numbers based on overall entries within the database and not within individual projects.



### **B.1 DEFICIENCY REPORT**

The final ExpressVote configuration includes the addition of a ferrite on the scanner USB cable.

The final DS450 configuration includes the addition of three ferrites: one ferrite on the fan cable, one ferrite on the lid switch cable and one ferrite on the Log Printer's USB Cable.

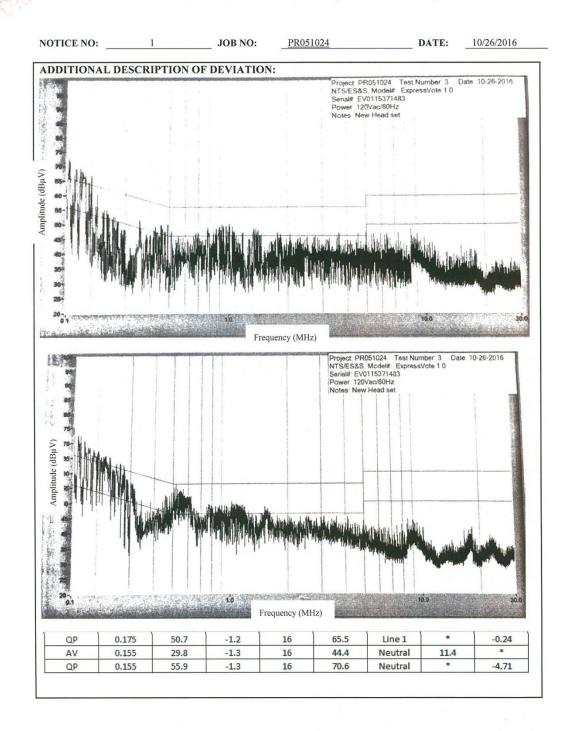
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NOTICE OF DEVIATION	<b>DATE:</b> 1/10/2017						
TICE NO: 1 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644						
JSTOMER: ES&S	NTS JOB NO: PR051024						
OTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 10/26/2016						
DTIFICATION MADE BY: Lisa Johnson	VIA: Verbal/Email						
	DATE OF						
TEGORY:	MENT DATE OF DEVIATION: 10/26/2016						
RT NAME: ExpressVote 1.0 with stand/booth configuration PART NO: EV0115371483							
ST: Electromagnetic Emissions (Conducted Emissions)	<b>I.D. NO:</b> HW 1.0						
<b>ECIFICATION:</b> 2005 VVSG Vol. I (FCC Part 15, Class B)	PARA. NO: § 4.1.2.9						
QUIREMENTS:							
Zonia.							
2.9 Electromagnetic Emissions:							
e scanning and counting equipment for paper-based system	s, and all DRE equipment, shall comply with						
es and Regulations of the Federal Communications Comm							
iated and conducted emissions.							
SCRIPTION OF DEVIATION:							
THE STATE OF THE S	100 LU- 4- 200 LU- 1						
EUT exceeded the Conducted Emissions Test Limit between	100 kHz to 200 kHz by as much as 8 dBμV.						
SPOSITION • COMMENTS • RECOMMENDATIONS:							
e customer was notified of the failure.							
FETY RELATED: ☐ YES	T 21: ☐ YES ☐ NO F N/A						
PONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR P	PART 21:  CUSTOMER  NTS HUNTSVILLE						
PAR REQUIRED: ☐ YES ☐ NO CPAR NUMBE	R:						
ERIFICATION:	M 111						
LIENT TEST WITNESS: Sue McKay PR	OJECT ENGINEER: (halla K Marke						
(IF APPLICABLE)	2016						
	EPT. MANAGER: Kyr of Clf oile						
(IF APPLICABLE)	ATE: 81/10/2017						
IS QUALITY REPRESENTATIVE: Oxog C. Mon DA	ILE: UT TU SOLI						
OR NTS QA USE Tracking Code: 3							
Employee Error 2 Test Equipment Problem 3. Customer Item Problem 4	Weather 5. Power Failure 6. Equipment Limitations						









HUNTSVILLE OPERATIONS

TOTAL STILLE OF ENATIONS	T T					
NOTICE OF DEVIATION	<b>DATE:</b> 1/10/2017					
NOTICE NO: 2 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644					
CUSTOMER: ES&S	NTS JOB NO: PR051024					
NOTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 10/31/2016					
NOTIFICATION MADE BY: Lisa Johnson	VIA: Verbal/Email					
CATEGORY:	DATE OF DEVIATION: 10/31/2016					
PART NAME: ExpressVote 1.0 with stand/booth configuration PART NO: EV0115371483						
TEST: Electrical Fast Transient (EFT)  I.D. NO: H.W. 1.0						
SPECIFICATION: _2005 VVSG Vol. 1	PARA. NO: 4.1.2.6					
REQUIREMENTS: 4.1.2.6 Electrical Fast Transient:  Vote scanning and counting equipment for paper-based systems, and all DRE equipment, shall be able to withstand, without disruption of normal operation or loss of data, electrical fast transients of: a. + 2 kV and - 2 kV on External Power lines (both AC and DC) b. + 1 kV and - 1 kV on Input/Output lines (signal, data, and control lines) longer than 3 meters c. Repetition Rate for all transient pulses will be 100 kHz						
DESCRIPTION OF DEVIATION:						
The QR Scanner's operation was interrupted on Line 1 at 2000 volts and did not recover.						
DISPOSITION • COMMENTS • RECOMMENDATIONS:						
The customer was notified of the failure.						
SAFETY RELATED: ☐ YES  NO POTENTIAL 10 CFR PART 21: ☐ YES ☐ NO  NA						
RESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR PART 21:   CUSTOMER   T   NTS HUNTSVILLE						
CPAR REQUIRED: ☐ YES ☐ NO CPAR NUMBER:						
VERIFICATION:  CLIENT TEST WITNESS: Sue McKay  GOV. QAR:  N/A  DEPT. MANAGER:  PROJECT ENGINEER:  Line   Li						
1. Employee Error   2. Test Equipment Problem   3. Customer Item Problem   4. Weath	her   5. Power Failure   6. Equipment Limitations   7. Other					





HUNTSVILLE OPERATIONS					
NOTICE OF DEVIATION	<b>DATE:</b> 1/10/2017				
NOTICE NO: 3 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644				
CUSTOMER: ES&S	NTS JOB NO: PR051024				
NOTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 11/2/2016				
NOTIFICATION MADE BY: Lisa Johnson	VIA: Verbal/Email				
CATEGORY:	DATE OF DEVIATION: 11/2/2016				
PART NAME: ExpressVote 1.0 Tabletop	PART NO: EV0115371779				
TEST: Electrical Fast Transient (EFT)	I.D. NO: _H.W. 1.0				
SPECIFICATION: 2005 VVSG Vol. 1	PARA. NO: 4.1.2.6				
-					
REQUIREMENTS: 4.1.2.6 Electrical Fast Transient:  Vote scanning and counting equipment for paper-based systems, and all DRE equipment, shall be able to withstand, without disruption of normal operation or loss of data, electrical fast transients of: a. + 2 kV and - 2 kV on External Power lines (both AC and DC)					
b. + 1 kV and - 1 kV on Input/Output lines (signal, data, and contro c. Repetition Rate for all transient pulses will be 100 kHz	ol lines) longer than 3 meters				
DESCRIPTION OF DEVIATION:					
DESCRIPTION OF DEVIATION.					
The QR Scanner's operation was interrupted on Line 1 at 2000 volts and did not recover.					
DISPOSITION • COMMENTS • RECOMMENDATIONS:					
The customer was notified of the failure.					
SAFETY RELATED: POTENTIAL 10 CFR PART	21:				
ESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR PAR	RT 21:				
CPAR REQUIRED: CPAR NUMBER	t:				
VERIFICATION:	00 0011				
CLIENT TEST WITNESS: Sue McKay PRO (IF APPLICABLE)	DJECT ENGINEER: (halle Moremen High)				
GOV. QAR: N/A DEI	PT. MANAGER: Ry JULY 01/10/2017				
	TE: 01/10/2017				
FOR NTS QA USE Tracking Code: 3					
1. Employee Error   2. Test Equipment Problem   3. Customer Item Problem   4. Wea	ther   5. Power Failure   6. Equipment Limitations   7. Other				

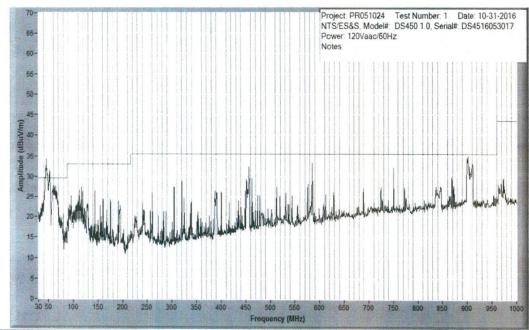


HUMTSVILLE OPERATIONS

HUNTSYLLE-OPERATIONS					
NOTICE OF DEVIATION	<b>DATE:</b> 1/10/2017				
NOTICE NO: 4 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644				
CUSTOMER: ES&S	NTS JOB NO: PR051024				
NOTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 10/31/2016				
NOTIFICATION MADE BY: Lisa Johnson	VIA: Verbal/Email				
	COS SO SECURIO SOSTORIA				
CATEGORY:	NT DATE OF DEVIATION: 10/31/2016				
PART NAME: DS450 Central Count Scanner	PART NO: DS4516053017				
TEST: Electromagnetic Emissions (Radiated Emissions) L.D. NO: H.W. 1.0					
SPECIFICATION: 2005 VVSG Vol. 1	PARA. NO: 4.1.2.9				
REQUIREMENTS: 4.1.2.9 Electromagnetic Emissions:  Vote scanning and counting equipment for paper-based systems, and all DRE equipment, shall comply with the Rules and Regulations of the Federal Communications Commission, Part 15; Class B requirements for both radiated and conducted emissions.					
DESCRIPTION OF DEVIATION:					
The EUT exceeded the Radiated Emissions test limit.					
The EOT exceeded the Radiated Emissions test limit.					
DISPOSITION • COMMENTS • RECOMMENDATIONS:					
The customer was notified of the failure.					
SAFETY RELATED: ☐ YES ☑ NO POTENTIAL 10 CFR PART 2	1:				
RESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR PART 21: CUSTOMER   NTS HUNTSVILLE					
CPAR REQUIRED: ☐ YES ☐ NO CPAR NUMBER:					
VERIFICATION:	00 00 11 1				
CLIENT TEST WITNESS: Sue McKay PROJ	JECT ENGINEER: July 1/10/17				
	T. MANAGER: Lyn Illy 01/10/2017				
NTS QUALITY REPRESENTATIVE: Siza C- Johnson DATE: 01/10/2017					
FOR NTS QA USE Tracking Code: 3					
1. Employee Error   2. Test Equipment Problem   3. Customer Item Problem   4. Weat	ther 5. Power Failure 6. Equipment Limitations 7. Other				



NOTICE NO: \_\_\_\_\_4 \_\_\_\_ JOB NO: \_\_\_PR051024 \_\_\_\_\_ DATE: \_\_\_\_\_10/31/2016



lHz)	(dBuV)	(dB/m)	Loss (dB)	(dBuV/m)	Azm(deg)/Pol/Hgt(m)	Class B QP (dB)	Margin: FCC Class B AV (dB)
.131	50.6	9.5	-29.9	30.2	340/V-Pole/1.00	-0.71	-
.708	50.9	7.3	-30.0	28.1	288/V-Pole/1.00	1.41	-
	131	131 50.6	131 50.6 9.5	131 50.6 9.5 -29.9	131 50.6 9.5 -29.9 30.2	131 50.6 9.5 -29.9 30.2 340/V-Pole/1.00	131 50.6 9.5 -29.9 30.2 340/V-Pole/1.00 -0.71



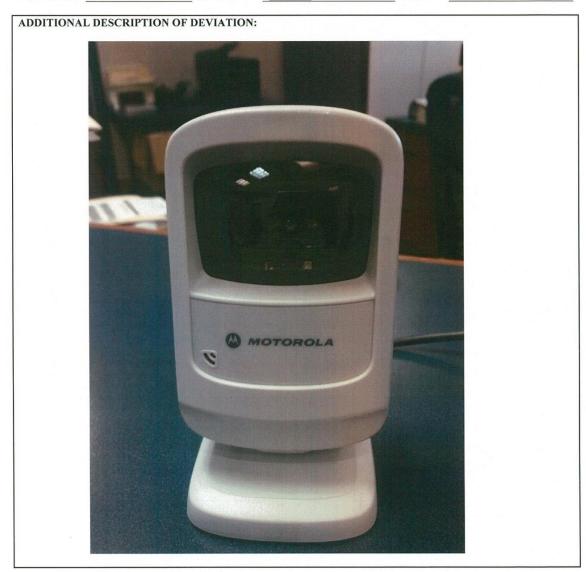
1. Employee Error

**JUNTSVILLE OPERATIONS** NOTICE OF DEVIATION DATE: 1/10/2017 P.O. NUMBER: ES&S-MSA-TA072 CONTRACT NO: CON044644 NOTICE NO: CUSTOMER: ES&S NTS JOB NO: PR051024 NOTIFICATION MADE TO: **NOTIFICATION DATE:** 11/4/2016 Sue McKay Verbal/Email NOTIFICATION MADE BY: Lisa Johnson DATE OF CATEGORY: ▼ SPECIMEN □ PROCEDURE □ TEST EQUIPMENT **DEVIATION:** 10/26/2016 PART NAME: ExpressVote 1.0 Tabletop PART NO: EV0115371779 I.D. NO: HW 1.0 TEST: Electrostatic Disruption (ESD) PARA. NO: § 4.1.2.9 SPECIFICATION: 2005 VVSG Vol. I (FCC Part 15, Class B) REQUIREMENTS: 4.1.2.8 Electrostatic Disruption Vote scanning and counting equipment for paper-based systems, and all DRE equipment, shall be able to withstand ±15 kV air discharge and ±8 kV contact discharge without damage or loss of data. The equipment may reset or have momentary interruption so long as normal operation is resumed without human intervention or loss of data. Loss of data means votes that have been completed and confirmed to the voter. DESCRIPTION OF DEVIATION: The QR Scanner's operation was interrupted at -15kV, air and did not recover. **DISPOSITION • COMMENTS • RECOMMENDATIONS:** The customer was notified of the failure. Run #1 failed 11/4/2016 and Run #2 11/7/2016. SAFETY RELATED: ☐ YES ☐ NO POTENTIAL 10 CFR PART 21: T NO ₩ N/A ☐ YES RESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR PART 21: CUSTOMER NTS HUNTSVILLE CPAR REQUIRED: YES NO NO CPAR NUMBER: VERIFICATION: PROJECT ENGINEER: CLIENT TEST WITNESS: Sue McKay (IF APPLICABLE) DEPT. MANAGER: GOV. QAR: N/A (IF APPLICABLE DATE: 01/10/2017 NTS QUALITY REPRESENTATIVE: O FOR NTS QA USE Tracking Code:

2. Test Equipment Problem | 3. Customer Item Problem | 4. Weather | 5. Power Failure | 6. Equipment Limitations | 7. Other



NOTICE NO: \_\_\_\_\_ 5 \_\_\_ JOB NO: \_\_\_\_\_ PR051024 \_\_\_\_\_ DATE: \_\_\_\_ 11/7/2016





NOTICE NO:	5	JOB NO:	PR051024	DATE:	11/7/2016	
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### ADDITIONAL DESCRIPTION OF DEVIATION:



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NOTICE OF DEVIATION	DATE: 1/10/2017				
NOTICE NO: 6 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644				
CUSTOMER: ES&S	NTS JOB NO: PR051024				
NOTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 11/8/2016				
NOTIFICATION MADE BY: Lisa Johnson	VIA: Verbal/Email				
CATEGORY:	MENT DATE OF DEVIATION: 11/8/2016				
PART NAME: DS450	PART NO: DS4516053017				
FEST: Electrical Fast Transient (EFT)  I.D. NO: H.W. 1.0					
SPECIFICATION: 2005 VVSG Vol. 1	PARA. NO: 4.1.2.6				
ote scanning and counting equipment for paper-based systems, ithout disruption of normal operation or loss of data, electrical fa + 2 kV and - 2 kV on External Power lines (both AC and DC) + 1 kV and - 1 kV on Input/Output lines (signal, data, and contr Repetition Rate for all transient pulses will be 100 kHz  ESCRIPTION OF DEVIATION:  he Log Printer's operation was interrupted on Line 1 at 2000 vol  ISPOSITION • COMMENTS • RECOMMENDATIONS:  he customer was notified of the failure.	ast transients of: rol lines) longer than 3 meters				
AFETY RELATED: ☐ YES ☑ NO POTENTIAL 10 CFR PART	Γ21: □ YES □ NO ▼ N/A				
ESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR P	PART 21:  CUSTOMER  NTS HUNTSVILLE				
CPAR REQUIRED: ☐ YES	R:				
VERIFICATION:	000011				
CLIENT TEST WITNESS: Sue McKay PR (IF APPLICABLE)	ROJECT ENGINEER: huly Mosterny				
	EPT. MANAGER: Yun 2 ( 01/10/2				
NTS QUALITY REPRESENTATIVE: Lim Q. July DA	ATE: 01/10/2017				
FOR NTS QA USE Tracking Code: 3					
1. Employee Error   2. Test Equipment Problem   3. Customer Item Problem   4.	. Weather   5. Power Failure   6. Equipment Limitations   7.				





NOTICE OF DEVIATION	<b>DATE:</b> 2/9/2017				
NOTICE NO: 7 P.O. NUMBER: ES&S-MSA-TA072	CONTRACT NO: CON044644				
CUSTOMER: ES&S	NTS JOB NO: PR051024				
NOTIFICATION MADE TO: Sue McKay	NOTIFICATION DATE: 1/9/2017				
NOTIFICATION MADE BY: Lisa Towers	VIA: Email				
	DATE OF				
CATEGORY:	UIPMENT DATE OF DEVIATION: 1/9/2017				
PART NAME: Electionware PART NO: N/A					
TEST: FCA	I.D. NO: _Version 4.7.1.1				
SPECIFICATION: 2005 VVSG Vol. II Sec 6.7 FCA	PARA. NO: 1-4				
6.7 Functional Configuration Audit The Functional Configuration Audit encompasses an examination of vendor tests, and the conduct of additional tests, to verify that the system hardware and software perform all the functions described in the vendor's documentation submitted for the TDP.  DESCRIPTION OF DEVIATION: When mousing over the Help icon in Paper Ballot in Electionware, the icon function name does not display as described in the TDP, Electionware Administrator Guide.					
DISPOSITION • COMMENTS • RECOMMENDATIONS:  The customer was notified of the failure. Per the EAC in phone call on 1/10/17, ES&S addressed the issue by describing the deviation in a TDP update to the Electionware Administrator Guide Ver. 1.4, but did not include the updated TDP in a new trusted build. ES&S is to address the issue per the EAC in Electionware in a future project.					
SAFETY RELATED: ☐ YES ☑ NO POTENTIAL 10 CFR PART 21: ☐ YES ☐ NO ☑ N/A					
RESPONSIBILITY TO ANALYZE ANOMALIES AND COMPLY WITH 10 CFR PART 21:     CUSTOMER     INTS HUNTSVILLE					
CPAR REQUIRED: ☐ YES ☐ NO CPAR NUMBER:					
VERIFICATION:  CLIENT TEST WITNESS:  N/A  (IF APPLICABLE)  NTS QUALITY REPRESENTATIVE:  FOR NTS QA USE  Tracking Code:  3	PROJECT ENGINEER: Line 1 over 2/9/17  DEPT. MANAGER: Line 1 62/09/2017  DATE: 0 3/09/2017				
1. Employee Error 2. Test Equipment Problem 3. Customer Item Problem	4. Weather 5. Power Failure 6. Equipment Limitations 7. Other				