PRO V&V	**ENGINEER CHANGE ORDER (ECO)/ENGINEERING CHANGE NOTICE (ECN) ANALYSIS FORM**
Manufacturer:	MicroVote
System:	MicroVote EMS (Infinity and VVPAT components)
ECO Number:	136
ECO Description:	Modification to update Infinity Rev E to Rev E1 and VVPAT Rev A to Rev A1 for end-of-life components for all systems

Overview:
The current Infinity (Rev E) display and smart card reader and VVPAT (Rev A) internal serial connector and capacitor on the port switching PCB are end-of-life with suppliers. MicroVote has submitted a modification to replace components with equivalent parts. Per MicroVote, the modification is compatible with all system hardware and software. MicroVote executed a test case to confirm no form, fit, or function change.

Products Affected:
Infinity - Rev E (current) to Rev E1 (modification)
VVPAT - Rev A (current) to Rev A1 (modification)

Supporting Documentation:
ECN 136 - Infinity Rev E1 and VVPAT Rev A1 *(MicroVote ECO)*
DO1.0TDP-A-EMS44_Rev E1-Executed *(MicroVote Test Case and Results)*
Carson-ECN1625-VVPAT-Scan2022-10-20_110924 *(Carson ECO)*
PCN_MV-A10 to MV-A20_20230104_1 *(Aaeon Product Change Notice)*
L101Q00001_KD101N42-40NA-A048 old and New-L101Q00004_CH101ZPHMWN-002 P00 *(Manufacturer Specifications for Display)*
Card Reader-GEMALTO-POS Sm Conn TechSpec and QZ3120M32AC Specification *(Manufacturer Specifications for Smart Card Reader)*
Infinity E1 EMI_Class B *(Manufacturer Test Results)*
TR-PR167213-00-REV0 Environmental Report *(NTS Environmental Test Report)*
TR-PR167213-2-REV0 Immunity Report and TR-PR167213-1-REV0 Emissions Report *(Electrical Test Reports)*
ECN 136 - De minimis justification *(MicroVote ECN supplemental document)*

Engineering Recommendation:
This evaluation was completed under the Change Order program and not as a system modification. Technical Documentation Review, Electrical Hardware Testing, and Environmental Hardware Testing (Operating and Non-operating) conducted at a third-party laboratory under Pro V&V oversight was completed for recommendation. Pro V&V reviewed MicroVote-submitted test case and results to verify successful functional regression testing. No changes were made to system firmware/software or documentation.

Based on successful testing results, Pro V&V determines the submitted modifications do not negatively impact the functionality, performance, accessibility, usability, safety, or security of the components or system or alter the overall configuration of the certified systems. The system tested was verified to be accurate during operational testing and prior to and immediately following non-operational testing with the actual results matching the expected results. No issues were encountered during testing.

Pro V&V recommends the modification be considered a minor change with no additional testing required.

All test artifacts (hardware test reports) were submitted to the EAC for review along with this ECO Analysis.

Engineering Analysis: Minor – No Additional Testing Required	
Reviewer: Wendy Owens Printed Name Wendy Owens Signature 03/24/2023 Date	**Approver:** Michael L. Walker Printed Name Michael L. Walker Signature 03/24/2023 Date