



United States Election Assistance Commission



Certificate of Conformance

MicroVote EMS 4.2

The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VMSG 1.0)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the *EAC Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: EMS

Model or Version: 4.2 Name

of VSTL: Pro V&V EAC

Certification Number: MVTEMS42

Date Issued: November 1, 2018

Executive Director

Scope of Certification Attached



Scope of Certification

Manufacturer: **MicroVote General Corporation** Product: **EMS 4.2 (Modification)**

VSTL: **Pro** Certification #: **MVTEMS42** Standard: **VVSG 2005**

Date: **11/1/2018**

This document describes the scope of the certification of the modified system identified above, which is the system certified under certificates MVTEMS4, MVTEMS40B (Modified) and MVTEMS41 (Modified), with changes modifying the system to MicroVote EMS 4.2 (Modified). Configuration changes, revision changes, additions or subtractions from the system defined in this document are not included in this certification.

Significance of EAC Certification

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

Representation of EAC Certification:

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

Language capability:

In addition to English, the voting system has the capability of presenting the ballot, ballot selections, review screens and instructions in Spanish and any third language supported by Windows 10.

Definition of Modification:

A modification is any change to a previously EAC-certified voting system's software, or firmware or hardware that is not determined to be a de minimis change. All modifications to a voting system require testing and review by the EAC in accordance to the requirements of Chapter 4 of the Voting System Testing & Certification Program Manual.

Certified System before Modification:

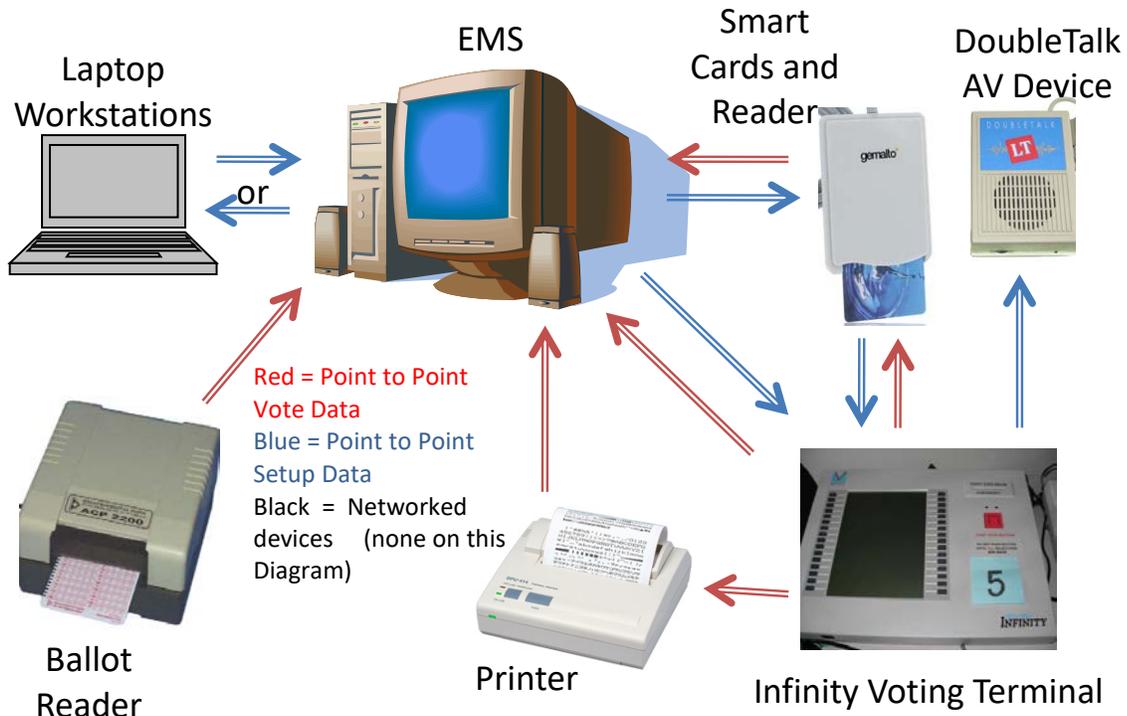
MicroVote General Corporation Election Management System Release 4.0
Certificate ID: MVTEMS40

MicroVote General Corporation Election Management System Release 4.0B (revision)
Certificate ID: MVTEMS40B

MicroVote General Corporation Election Management System Release 4.1 (revision)
Certificate ID: MVTEMS41

Components Included:

This section provides information describing the components and revision level of the primary components included in this Certification.



System Component	Software or Firmware Revision	Hardware Revision	COTS Information	Dependency Notes
EMS Software MicroVote 4.2	EMS Software V4.2.11.0	N/A	--	MicroVote EMS 4.1
EMS Server Dell Desktop	COTS SQL Server Express 2016	COTS Model DHM, Dell Optiplex GX520, 3010, or 3020	Windows 10 Professional	MicroVote EMS 4.1
Laptop(s) Dell	COTS SQL Server Express 2016	COTS Model Dell Latitude PP17L E5440, E5530, E5570, or 5580	Windows 10 Professional	MicroVote EMS 4.1
Infinity Model VP 1 Voting	Firmware V4.20-005	Rev C or Rev D.05	--	Rev C – All Rev D.05

System Component	Software or Firmware Revision	Hardware Revision	COTS Information	Dependency Notes
Panel				EMS4.1
Scanner Dual Sided Chatsworth ACP 2200	N/A	COTS Model 605000-190	--	All Certified Systems
Printer Seiko	N/A	COTS Model DPU-414 or DPU-3445	--	All Certified Systems
Doubletalk Model LT3	BIOS0212	V1.0 LT RC8650	--	All Certified Systems
Smartcard Reader	COTS	COTS	PC/SC compatible USB contact reader/writer	MicroVote EMS 4.1
Smart Cards	N/A	16K or 115K	--	16K – All 115K-EMS 4.1
Voting Booth	N/A	Model 2000	--	All Certified Systems

System Limitations

This table depicts the limits of the system has currently been exercised and the vendor calculated design limits.

Characteristic	Limiting Component	Evaluated	EMS	Infinity	ACP 2200
Maximum Ballot Positions	Ballot Design Form	150	600	600	402
Maximum Precincts in Election	Precinct Number	559	9,999	9,999	9,999
Maximum Contests in Election	Contests in Ballot Style * Ballot Styles/Election	100	300,000	2,999,700	2,009,799
Maximum Candidates/Counters in Election	Precinct Counters * Total Precincts	300	5,989,401	5,989,401	4,019,598
Maximum Candidates/Counters in Precinct	Ballot Design Form	125	599	599	402
Maximum Candidates/Counters in Activation	Ballot Design Form	125	599	599	402

Characteristic	Limiting Component	Evaluated	EMS	Infinity	ACP 2200
Maximum Ballot Styles in Election	Ballot Style Number	270	1000	9999	1000
Maximum Contests in a Ballot Style	Ballot Design Form	50	300	300	201
Maximum Candidates in a Contest	Ballot Design Form	68	599	599	401
Maximum Count for any Precinct Element	Transact-SQL Bigint	600	Note 1	65,000	Note 1
Maximum Ballot Styles in a Precinct	Precinct Style Assignment Form	1	1	1	1
Maximum Activations per Ballot Style	Build Activations Form	15	99	30	99
Maximum Activations per Election	Act/Ballot Style * Ballot Style/Elec	1300	99,000	299,970	299,970
Maximum Number of Parties	Party Code Combinations	8	50,653	598	400
Maximum Vote For in Contest	Office Vote Limit	56	99	64	99

Note 1: 9,223,372,036,854,770,000

Functionality

This section outlines the features that the system does not provide:

VVPAT	No
Wide Area Network Functionality (No use of modems even if included in COTS devices)	No
Used as a precinct counting device?	No
Local Area Network Functionality (No use if TCP/IP, No use of IRad, No use of Wireless even though those interfaces are present on defined equipment)	No
Primary: Open Defined in VVSG 2.1.7.2	No
Names of candidates rotation: Defined in VVSG 2.1.7.2	No
Recall: Defined in VVSG 2.1.7.2	No
Ranked Voting: Defined in VVSG 2.1.7.2 (Voters rank candidates in a contest in order of choice (1,2,3,etc.) A write in vote can be ranked)	No
Ranked Vote Tabulation: Defined in VVSG 2.1.7.2	No
Voting method exclusive to multi-member boards. (Each voter may cast as many votes as there are seats to be filled and may cast two or more of those votes for a single candidate)	No
Encryption of data (Per Federal Standards -FIPS 140-2)	No

Engineering Change Orders (ECOs) Included in the Certified Product:

The system must be configured with all the changes listed in the original certification MVTEMS40, revised certifications MVTEMS40B and MVTEMS41. This table does not include any de minimis changes that may be applied to the system

<i>DATE</i>	<i>ECO Identification</i>	<i>Manufacturer</i>	<i>Description</i>
1/16/2017	# 1604	Carson Manufacturing Co. Inc.	Correct presentation of wrong ballot if vote card removed prematurely
1/16/2017	# 1605	Carson Manufacturing Co. Inc.	Correct undervote calculation error during tally – straight party
3/10/2017	# 1609	Carson Manufacturing Co. Inc.	Added precinct name to write-in entries on consolidated tally report
3/10/2017	#1611	Carson Manufacturing Co. Inc.	Correct consolidated file rebuild if ballot data recovered

List of Changes to Certified System:

This section outlines the features that have been changed from the originally certified system:

<i>Enhancement</i>	<i>System</i>	<i>Description</i>
E-01	EMS and Infinity Panel	Added support for a third language within an election (in addition to English and Spanish). The optional third language, including pictographic, must be included within the Windows environment.
E-02	EMS	Modified entry method for ballot style precinct assignment to allow multiple precinct selection (shift-click and control-click).
E-03	EMS	Improved office-candidate report sorting and ballot sequence number display.
E-04	EMS	Improved ballot designer functionality when removing last item on a ballot page.
E-05	Infinity Panel	Added the precinct name to the consolidated tally tape when more than one precinct was programmed to an Infinity panel.
E-06	Infinity Panel	Improved “No Vote” location appearance and added build number in version display.
E-07	EMS	Modified All Precincts report to display precinct straight party totals for each precinct rather than county totals to match individual precinct report format.

E-08	EMS	Enhancement to prevent candidate wrapping when assigning party to candidate record in referendum office.
E-09	EMS	Improved automatic display of Vote Limit Text when vote for > 35.
E-10	EMS	Enhanced warning notifications during OMR card reading.
E-11	EMS	Added more info to precinct lookup window during OMR card reading.
E-12	EMS	Added equipment programmed/reported to Election Summary report.
Defect	System	Description
D-01	EMS	Corrected overwriting of election backup file in database utilities.
D-02	Infinity Panel	Corrected an issue related to an unanticipated ballot layout configuration.
D-03	Infinity Panel	Corrected an issue related to bypassing presentation of the correct ballot when vote card was inserted in a specific manner.
D-04	Infinity Panel	Corrected a condition which could cause multiple copies of the consolidated tally tape to print.
Replacement	System	Description
R-01	EMS	Replaced Windows 7 Pro operating system with Windows 10 Pro. (Removed dependence on AVG Free because Windows Defender built-in).
R-02	EMS	Replaced Advanced Installer 11.1 with Advanced Installer 14.8.
R-03	EMS	Replaced SQL Server Express 2012 SP1 with SQL Server Express 2016.
R-04	EMS	Replaced .Net Framework 3.5 SP1 target with .Net Framework 4.6.1.
R-05	EMS	Replaced Visual Studio Pro 2013 with Visual Studio Pro 2017.
Addition	System	Description
A-01	EMS	Added Dell Latitude E5570, 5580 laptops as alternate component.