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TEST REPORT

NATIONAL CERTIFICATION TEST REPORT FOR CERTIFICATION TESTING OF THE MICROVOTE GENERAL CORPORATION ELECTION MANAGEMENT SYSTEM, VERSION 4.0B (MODIFIED)

for

MicroVote General Corporation
6366 Guilford Avenue
Indianapolis, IN 46220

(wo)

STATE OF ALABAMA
COUNTY OF MADISON }

Robert D. Hardy, Department Manager, being duly sworn, deposes and says: The information contained in this report is the result of complete and carefully conducted testing and is to the best of his knowledge true and correct in all respects.

Robert Hardy

SUBSCRIBED and sworn to before me this 21 day of June 20 10

Sandra A. Daniel
Notary Public in and for the State of Alabama at Large

My Commission expires June 5, 2011

Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.

PREPARED BY: Jack Cobb 6-21-10
Jack Cobb, Senior Project Engineer Date

APPROVED BY: Frank Padilla 6-21-10
Frank Padilla, Voting Systems Supervisor Date

WYLE Q. A.: Rhonda Moore for 6/21/10
Raul Terceno, Q. A. Manager Date

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REVISION C

REPORT NO. 56849-01

DATE June 21, 2010

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REV	DATE	PAGE OR PARAGRAPH AFFECTED	DESCRIPTION OF CHANGES
A	5/3/10	Entire Document	Updated software version from 4.0.21.0 to 4.0.26.0
A	5/3/10	Table 2-2	Changed "NA" to "Not Available"
A	5/3/10	Table 2-3	Removed reference to "WoP's"
A	5/3/10	Section 4.2, Notice of Anomaly No. 1	Updated revision level from A to B and added additional information in the descriptive summary paragraph
A	5/3/10	Appendix A.1, page A-3	Updated revision level from A to B and added additional information
A	5/3/10	Appendix A.4, pages A-83 through A-90	Added Issue No.'s 89, 93, 99, 104, 107, and 109
A	5/3/10	Entire Document	Updated EMS version from 4.0 to 4.0B
A	5/3/10	Section 2.1	Changed "compromises" to "compromised"
A	5/3/10	Section 3.1.1	Added additional clarification
A	5/3/10	Section 3.1.2	Deleted second paragraph
A	5/3/10	Section 4.4	Changed "discrepancies" to "deficiencies", restructured paragraph, and added detail
B	5/10/10	Section 4.2 "Note"	Restructured paragraph to clarify intent.

REVISION C

REPORT NO. 56849-01

DATE June 21, 2010

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REV	DATE	PAGE OR PARAGRAPH AFFECTED	DESCRIPTION OF CHANGES
C	6/18/10	Entire Document	Corrected page numbers
C	6/18/10	Entire Document	Changed revision format
C	6/18/10	Section 4.1.2.3	Changed “Rev. A” to “Rev. B”
C	6/18/10	Section 4.2	Changed “3000” to “5000”
C	6/18/10	Section 4.3	Reworded paragraph to correctly reflect the deficiencies that were resolved or remain outstanding issues

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APPENDICES

1.0 INTRODUCTION

1.1 Scope

This report presents the results for the regression testing of the modifications made to the MicroVote General Corporation Election Management System (EMS), identified as version 4.0B (Modified), consisting of Infinity Panel firmware version 4.00B and EMS version 4.0.26.0 . The MicroVote EMS v. 4.0 has previously been fully tested to EAC 2005 VVSG. As a result of this testing, the MicroVote EMS v. 4.0 was granted certification under EAC Certification No. MVTEMS4. Since that time, MicroVote General Corporation has developed performance enhancements, repaired defects, and added a feature to the system, resulting in the need for regression testing.

This report is valid only for the system identified in Section 2.0 of this report. Any changes, revisions, or corrections made to the system after this evaluation shall be submitted to the EAC to determine if the changes, revisions, or corrections merit a new system application for testing, or should be submitted for testing as a modified system. The scope of testing required will be determined based upon the degree of modification.

The full system details for the previous test campaign, including system, performance, security, telecommunication, usability, system verification, and TDP deliverables can be reviewed in the EAC test report "MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 VSTL Certification Test Report Version 5" (listed on www.eac.gov).

1.2 Test Report Overview

This test report consists of five main sections (including appendices):

- 1.0 Introduction – Provides: the architecture of the National Certification Test Report (hereafter referred to as Test Report); a brief overview of the testing scope of the Test Report; a list of documentation, customer information, and references applicable to the voting system hardware, software, and this test report.
- 2.0 System Identification and Overview – Provides information about the system tested that includes the system under test, test support hardware, and specific documentation provided by the vendor used to support testing.
- 3.0 Certification Test Background – Contains information about the certification test process and the system tested.
- 4.0 Test Findings and Recommendation – Provides a summary of the results of the testing process.

Appendices– Information supporting reviews and testing of the voting system are included as appendices to this report. This includes: Notices of Anomaly, the Hardware Test data, Election Definitions, Test Case Procedure Specification for the Functional Configuration Audit, and the Deficiency Report.

1.3 Customer

MicroVote General Corporation
6366 Guilford Avenue
Indianapolis, IN 46220

1.0 INTRODUCTION (CONTINUED)

1.4 References

The documents listed below were utilized to perform certification testing.

- MicroVote General Corporation Purchase Order No. 2394
- Wyle Laboratories' Quotation No. 545/048942-C1/DB
- Wyle Laboratories Certification Test Plan No. T56849-01, dated September 22, 2009
- Election Assistance Commission 2005 Voluntary Voting System Guidelines, Volume I, Version 1.0, "Voting System Performance Guidelines", and Volume II, Version 1.0, "National Certification Testing Guidelines", dated December 2005
- Election Assistance Commission Testing and Certification Program Manual, Version 1.0, effective date January 1, 2007
- Election Assistance Commission Voting System Test Laboratory Program Manual, Version 1.0, effective date July 2008
- National Voluntary Laboratory Accreditation Program NIST Handbook 150, 2006 Edition, "NVLAP Procedures and General Requirements (NIST Handbook 150)", dated February 2006
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-22, 2008 Edition, "Voting System Testing (NIST Handbook 150-22)", dated May 2008
- United States 107th Congress Help America Vote Act (HAVA) of 2002 (Public Law 107-252), dated October 2002
- Wyle Laboratories' Test Guidelines Documents: EMI-001A, "Wyle Laboratories' Test Guidelines for Performing Electromagnetic Interference (EMI) Testing", and EMI-002A, "Test Procedure for Testing and Documentation of Radiated and Conducted Emissions Performed on Commercial Products"
- Wyle Laboratories' Quality Assurance Program Manual, Revision 4
- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- EAC Requests for Interpretation (listed on www.eac.gov)
- EAC Notices of Clarification (listed on www.eac.gov)
- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 VSTL Certification Test Report Version 5 (listed on www.eac.gov)
- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 Technical Data Package

1.0 INTRODUCTION (CONTINUED)

1.5 Terms and Abbreviations

Table 1-1 defines all terms and abbreviations applicable to this Test Report.

Table 1-1 Terms and Abbreviations

Term	Abbreviation	Definition
Americans with Disabilities Act of 1990	ADA	ADA is a wide-ranging civil rights law that prohibits, under certain circumstances, discrimination based on disability
Configuration Management	CM	---
Commercial Off the Shelf	COTS	---
Direct Record Electronic	DRE	---
United States Election Assistance Commission	EAC	Commission created per the Help America Vote Act of 2002, assigned the responsibility for setting voting system standards and providing for the voluntary testing and certification of voting systems.
Election Management System	EMS	Used to prepare ballots and programs for use in casting and counting votes, and to consolidate, report, and display election results.
Equipment Under Test	EUT	---
Functional Configuration Audit	FCA	Exhaustive verification of every system function and combination of functions cited in the manufacturer's documentation.
Help America Vote Act	HAVA	Act created by United States Congress in 2002.
MicroVote EMS	EMS	MicroVote Election Management System
National Institute of Standards and Technology	NIST	Government organization created to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhances economic security and improves our quality of life.
Printed Circuit Board	PCB	The circuit board used to mechanically support and electrically connect electronic components.
Physical Configuration Audit	PCA	Review by accredited test laboratory to compare voting system components submitted for certification testing to the manufacturer's technical documentation, and confirmation the documentation meets national certification requirements. A witnessed build of the executable system is performed to ensure the certified release is built from tested components.
Quality Assurance	QA	---
Specimen Under Test	SUT	---
Technical Data Package	TDP	Manufacturer documentation related to the voting system required to be submitted as a precondition of certification testing.
Uninterruptible Power Supply	UPS	---
Voter Verifiable Paper Audit Trail	VVPAT	---
Voluntary Voting System Guidelines	2005 VVSG	Published by the EAC, the third iteration of national level voting system standards.
Wyle Operating Procedure	WoP	Wyle Test Method or Test Procedure

2.0 EQUIPMENT UNDER TEST IDENTIFICATION

The materials required for certification testing of the MicroVote EMS v. 4.0B including software, hardware, test materials, and deliverable materials to enable the test campaign to occur were shipped directly to Wyle by the VSTL that performed the initial certification evaluation on the MicroVote EMS v. 4.0. Therefore, the equipment used during testing by Wyle was the same equipment used during the original certification campaign performed by the previous VSTL. This process kept the chain of custody intact.

2.1 Software

The software evaluated comprised the source code for 4.0.26.0. A

The Infinity version 4.00B Trusted Build Image, EMS Version 4.0.21.0 Trusted Build Image, Pre and Post build Images were received from the EAC.

The EMS software version 4.0 was used for compatibility testing and building test election file systems.

Table 2-1 presents the software the manufacturer submitted for testing.

Table 2-1 Software Submitted for Testing

Software Required For Testing	Software Version
MicroVote EMS	4.0.26.0
MicroVote EMS Autovote utility	4.0.26.1
Firmware for Infinity Panel	4.00B *(from EAC)*

2.2 Hardware

This equipment the manufacturer submitted for testing is listed in Table 2-2. Each test component is included in the list of the equipment required for testing of that component, including system hardware, general purpose data processing and communications equipment, and any required test instrumentation.

Table 2-2 Test Equipment

Equipment	Description	Serial Numbers
Infinity Voting Panels	Model VP-1 Rev. C firmware version 4.00B	10403, 10234,10238
COTS Laptops	EMS laptop Build Laptop	CN-06G834-48643-65R-3140 (Dell) CN-0N8719-48643-613-4736 (Dell)
COTS Printer	Printer for EMS Reports	CN-0P0137-48734-5B0-119T (Dell)
Voting Booths	Infinity Panel regular and accessible voting booths/storage cases	Not Available

A

2.0 EQUIPMENT UNDER TEST IDENTIFICATION (CONTINUED)

2.2 Hardware (continued)

Table 2-2 Test Equipment (continued)

Equipment	Description	Serial Numbers
Double Talk LT	COTS text-to-speech portable voice device	Not Available
Seiko Printer	Model DPU-414	3002424
GEMPlus	COTS Smart Card Reader	R0434113302427
Headphones	COTS headphones for audio ballots	Not Available
Smart Cards	Smart cards for Start, Vote, Vote N, Admin, and Tally functions	Not Available
ELPAC Power Systems	Power Supply	Infinity COTS Power Supply

A

2.3 Test Tools/Material

This subsection enumerates any and all test materials utilized to perform voter system testing. The scope of testing determined the quantity of a specific material required.

Table 2-3 Test Tools/Materials

Test Material	Quantity
Software tools (i.e. ExamDiff Pro for source code analysis)	as required
Election database (from MicroVote)	8
Paper for Reports	as required
Miscellaneous Office equipment and supplies	as required
Printer Thermal Paper Rolls	2

A

3.0 CERTIFICATION TEST BACKGROUND

Wyle Laboratories is an independent testing laboratory for systems and components under harsh environments, including dynamic and climatic extremes as well as the testing of electronic voting systems. Wyle holds the following accreditations:

- ISO-9001:2000
- Nationally Recognized Testing Laboratory (NRTL)
- OSHA Accredited
- NVLAP Accredited ISO 17025:2005
- EAC Accredited VSTL, NIST 150,150-22
- A2LA Accredited (Certification No.'s 845.01, 845.02, and 845.03)
- FCC Approved Contractor Test Site (Part 15, 18, 68)

3.0 CERTIFICATION TEST BACKGROUND (CONTINUED)

3.1 General Information about the Certification Test Process

3.1.1 Requirements

All testing performed as part of the test effort was performed at the Wyle Labs Huntsville, AL facility. Testing was limited to the MicroVote General Corporation Election Management System (EMS), identified as version 4.0B, which includes items listed in Section 2 of this report.

The strategy for evaluating the MicroVote EMS v. 4.0B was to review the change log, source changes, and the engineer changes submitted for the modified system. Wyle Laboratories determined that the software changes did not directly affect any of the requirements in the EAC 2005 VVSG. Wyle Laboratories has assessed that no additional functionality was added to the modified system that would add additional requirements that were not tested in the previous test campaign. These reviews also allowed Wyle Laboratories to assess that the enhancements and defect repairs did not materially change any of the requirements which the previous system met.

Regression testing of the software and re-testing of specific hardware modification was required to verify that all changes made did not negatively impact the modified system and that the status of all previously tested requirements that had been met had not been jeopardized. A

The test campaign included the following tests:

- Source code review in accordance with EAC 2005 VVSG
- Technical Data Package review to insure all modification is documented as applicable
- Functional testing of monitor per the EAC 2005 VVSG requirements
- End-to-end operational review (includes functionality testing for all system functions of a voting system)
- All functionality performed by new or modified subsystems/modules
- Functionality that is accomplished using any interfaces to new modules, or that shares inputs or outputs from new modules
- All functionality related to vote tabulation, election results reporting, and audit trail maintenance
- Hardware Tests that included: Electrostatic Disruption, Electromagnetic Radiation (FCC part 15) and Electromagnetic Susceptibility

The MicroVote EMS v. 4.0B was configured as follows for Functional Configuration Audit, System Integration Test and Logic and Accuracy Test:

EMS – A COTS laptop documented in Section 2 was loaded with Version 4.0.26.0 build of the EMS. The GemPlus card reader and COTS printer were attached as peripherals.

The Infinity Panel was configured as follows for Hardware Tests, Functional Configuration Audit, System Integration Test and Logic and Accuracy Test:

DRE - An Infinity Voting Panel configured with firmware version 4.00B, Double Talk LT, Headphones, and a voting booth.

3.0 CERTIFICATION TEST BACKGROUND (CONTINUED)

3.1 General Information about the Certification Test Process (continued)

3.1.2 Hardware Configuration and Design

MicroVote General Corporation submitted an Engineering Change Notice (ECN) for adding the Mark Products, LTBSHH356JC graphic LCD Module with Hitachi SP24V001-A, display of the Infinity Panel Model VP-1 Rev: C, as an alternative display. Wyle performed an engineering analysis of this submission and a visual inspection of the printed circuit boards (PCB), and determined the change to be a "Minor Modification" with some testing required due to the two displays having different electrical characteristics; therefore, different electronic signatures.

3.1.3 Software System Functions

The submitted changes for this test campaign are documented in Section 3.2.1. The modifications were tested using "Re-testing" and "Regression testing". Re-testing was used to verify the success of the corrective action. Regression testing was used to ensure the modification did not introduce any defects in unchanged areas. Partial regression testing was used to test the directly interacting elements at both the Component and Integration Levels of testing. Full regression testing was used to test indirectly interacting elements at the System and Acceptance Level of testing.

The strategy for evaluating the depth of regression testing was to review the source code modifications during the source code review. Minor enhancements to variables, input fields, and restrictions were tested by inputting both valid and invalid data to the documented modification. Enhancements and defect repairs that directly interacted with modified logic were tested by visually comparing Version 4.0.21.0 build to Version 4.0.26.0 build. Once the physical modification had been observed the interacting functions were fully regression tested to ensure the enhancement performs as expected and the defects have been corrected without introducing new problems. After all modifications were tested on a component level a full system level test was performed to insure all interacting components functioned as a system without issues.

3.2 Scope of Testing

The MicroVote EMS v. 4.0 was granted initial certification to the EAC 2005 VVSG under EAC Certification No. MVTEMS4. Since that time, MicroVote General Corporation has developed performance enhancements, repaired defects, and added features to the system, resulting in the need for re-test/regression testing. These items are listed below.

3.2.1 Enhancements

E-01 – (EMS) - A five minute timeout was removed and two stored procedures were improved to provide better performance when posting vote data.

E-02 – (EMS) - Offices were wrapped if there was no room for the entire office in a column or on a page. A modification was made to move the entire office to the top of the next column if the entire contest would not fit in the previous column.

3.0 CERTIFICATION TEST BACKGROUND (CONTINUED)

3.2 Scope of Testing (continued)

3.2.1 Enhancements (continued)

E-03 – (EMS) - A warning was added for the "Resorting of Candidate" function to prevent unintended results.

E-04 – (EMS) - Candidate name wrapping caused ballots to be longer then necessary. A calculation was updated to calculate the page width accounting for the fact that a two-column layout only needs space for a single gutter where the calculation previously allocated space for a gutter per column. In the EMS, the default border for the candidate box was removed and font size was modified to decrease the ballot size and provide a more accurate representation of the Infinity Panel display.

E-05 – (EMS) - "All" option on the Precinct summary report was modified to be more useable. Page breaks and numbering were added to enhance the readability of the report.

E-06 – (EMS) - A modification was made to add running mate to the "Report", "Tally", and "Phonetics" fields.

E-07 – (EMS) - Report and Tally Names did not allow the "/" or "&" characters. A modification was made to allow these characters.

E-08 – (EMS) - The arrow navigation keys required a double press to get to the next field. A modification was made to allow a single selection to navigate to the next field.

E-09 – (EMS) - Activation names did not allow the dash character. A modification was made to allow the dash character in the activation name.

E-10 – (EMS) - Text could not be added between the "Office Title" and "Candidate Names" in the ballot layout. A modification was made to allow additional text to be added between these fields.

E-11 – (EMS) - To allow the ballot designer to observe custom text formatting by the user, the auto left and right alignment was removed for this text except for the first line of text on absentee ballots.

3.2.2 Defects

D-01 – (EMS) - An office placed on a ballot without enough space for the entire contest was being split into two parts with a gap. This issue has been corrected.

D-02 – (EMS) - The “Sort By Name Within Party” function did not function properly. Non-Partisan candidate fields like “Write-in” and “No Candidate Filed” would appear at the top of the sorted list even after candidates were added. A modification was made to place non-party candidates (including “Write-in” and “No Candidate Filed”) at the end of the candidate list.

D-03 – (EMS) - The sorting preference of "None" placed the "No Candidate" after regular candidate names and before "Write-In" candidate name. A modification was made to preserve the order of entry for candidates.

D-04 – (EMS) - Ballot text ran across the center line on the Infinity panel. A modification was made to correct this issue.

3.0 CERTIFICATION TEST BACKGROUND (CONTINUED)

3.2 Scope of Testing (continued)

3.2.3 Feature

F- 01 – (EMS) - "Merge" database option was added to the existing options to backup, restore, delete, and copy a current database. This feature shall merge a "backed up" election database into the current database.

3.2.4 Hardware

H-01- (Infinity Voting Panel) - The use of Mark Products LTBSHH356JC graphic LCD Module is being replaced by the Hitachi SP24V001-A due to "end of life" for the LTBSHH356JC. The new display shall be an alternate display thus an Infinity panel can have either display.

4.0 TEST FINDINGS AND RECOMMENDATIONS

4.1 Summary Findings

The MicroVote EMS v. 4.0B was subjected to the tests as summarized in the following paragraphs.

4.1.1 Hardware Testing

The hardware tests performed for this test campaign included the following:

- Electromagnetic Radiation, FCC Class B (ANSI C63.4)
- Electrostatic Disruption, IEC 61000-4-2
- Electromagnetic Susceptibility IEC 61000-4-3

The procedures followed during the performance of the Hardware Testing are described in the following paragraphs. The results obtained during the performance of the Hardware Testing are presented in Appendix A.2 of this report.

4.1.1.1 Electromagnetic Radiation Test (FCC Part 15 Emissions)

Electromagnetic Radiation emissions measurements were performed in accordance with Section 4.8 of Volume II of the VVSG. This testing was performed to ensure that emissions emanating from the unit do not exceed the limits of 47 CFR Part 15, Subpart B, Class B Limits. The MicroVote EMS v. 4.0B was configured to run in an automated ballot count test mode, where continual ballot processing would occur during the testing. The MicroVote EMS v. 4.0B was subjected to the test requirements detailed in Table 4-1.

Table 4-1 Conducted and Radiated Emissions Requirements

Conducted Emissions			Radiated Emissions	
Frequency Range (MHz)	Limits (dBµV)		Frequency Range (MHz)	3 Meter Test Limit (dBµV)
	Quasi-peak	Average		
0.15 to 0.50	66 to 56	56 to 46	30 to 88	40.0
0.50 to 5.0	56	46	88 to 216	43.5
5.0 to 30.0	60	50	216 to 960	46.0
			960 to 1000	54.0

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.1 Hardware Testing (continued)

4.1.1.1 Electromagnetic Radiation Test (FCC Part 15 Emissions) (continued)

Testing was performed at the Wyle Laboratories' Open Air Test Site 2 (OATS-2) located on the Intergraph Complex in Huntsville, AL. The OATS-2 is fully described in reports provided to the Federal Communication Commission (FCC) (FCC Reference 98597). The site was tested and complies with the requirements of ANSI C63.4-2003.

To perform the Conducted Emissions portion of the test, the MicroVote EMS v. 4.0 was set up as depicted in Figure 4-1, with the exception of the EUT being mounted on its provided stand.

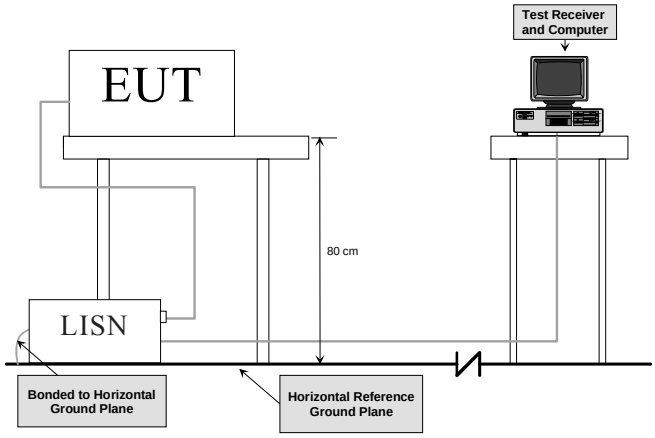

Figure 4-1 Conducted Emissions Test Setup

The MicroVote EMS v. 4.0B was then subjected to the following test procedure:

1. The MicroVote EMS v. 4.0B was mounted on its provided stand on the reference ground plane at the Open-Area Test Site.
2. The MicroVote EMS v. 4.0B AC/DC Power Adapter was connected to the power mains through a Line Impedance Stabilization Network (L.I.S.N.). Other support units were connected to the power mains through another L.I.S.N. The L.I.S.N.s provided 50 ohm/50 µH of coupling impedance for the measuring instrument.
3. The MicroVote EMS v. 4.0B was placed in an active state and monitored for functionality throughout testing.
4. Both Line and Neutral of the power mains connected to the MicroVote EMS v. 4.0B were checked for maximum conducted interference.
5. The frequency range from 150 kHz to 30 MHz was evaluated and recorded. Emissions levels below – 20 dB were not recorded.

To perform the Radiated Emissions portion of the test, the MicroVote EMS v. 4.0B was set up as depicted in Figure 4-2, with the exception of the EUT being mounted on its provided stand.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.1 Hardware Testing (continued)

4.1.1.1 Electromagnetic Radiation Test (FCC Part 15 Emissions) (continued)

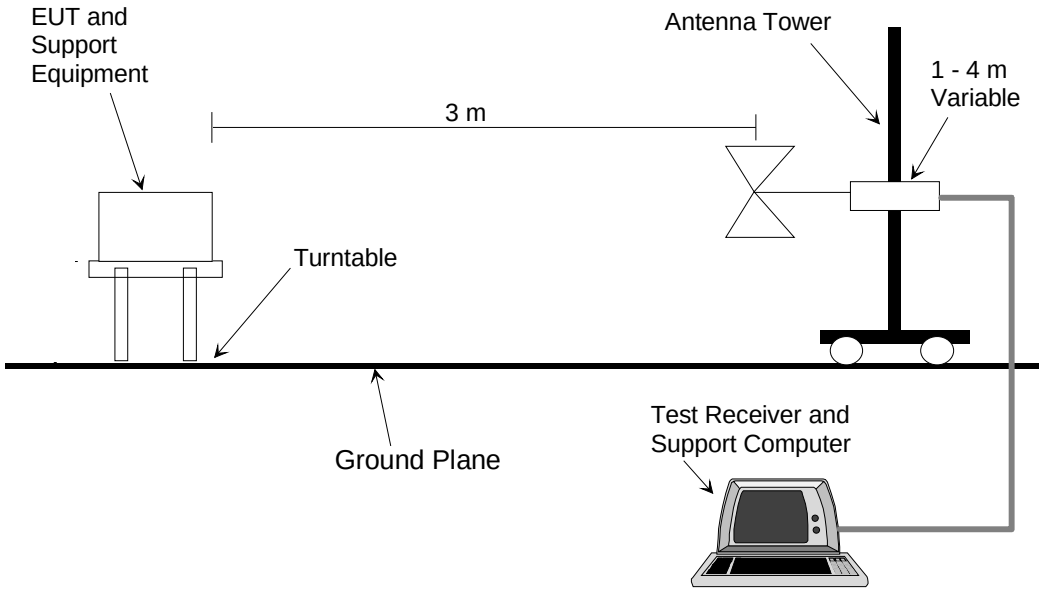

Figure 4-2 Radiated Emissions Test Setup

The MicroVote EMS v. 4.0B was then subjected to the following test procedure:

1. The MicroVote EMS v. 4.0B was placed on its provided stand on the reference ground plane at the Open-Area Test Site.
2. The MicroVote EMS v. 4.0B was placed 3 meters away from the interference-receiving antenna, which was mounted on a variable-height antenna tower. The interference-receiving antenna used was a broadband antenna.
3. For each suspected emissions point, the MicroVote EMS v. 4.0B was arranged in a worst case configuration. The table was rotated from 0 to 360 degrees and the antenna height was varied from one (1) to four (4) meters to identify the maximum reading.
4. All emissions points identified within 20 dB of the specified limit were tested individually using the quasi-peak method as specified and then reported in the tabular data.

The MicroVote EMS v. 4.0B was found to comply with the required emissions limits. Photographs of the test setup, the test data sheet, and the Instrumentation Equipment Sheet for the test are contained in Appendix A.2 of this report.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.1 Hardware Testing (continued)

4.1.1.2 Electrostatic Disruption Test

Electrostatic Disruption testing was performed in accordance with Section 4.8 of Volume II of the VVSG to ensure that should an electrostatic discharge event occur during equipment setup and/or ballot counting, that the MicroVote EMS v. 4.0B would continue to operate normally. A momentary interruption is allowed so long as normal operation is resumed without human intervention or loss of data.

The MicroVote EMS v. 4.0B was configured to run in an automated ballot count test mode, where continual ballot processing would occur during the testing without operator intervention. The MicroVote EMS v. 4.0B and the EMI measuring equipment were then setup per the following conditions:

1. Power lines and power line returns were configured as required by the system configuration.

2. The EUT was raised approximately 10 cm from the ground using isolated stand-offs.

The MicroVote EMS v. 4.0B was then subjected to the electrostatic discharge transients listed in Table 4-2. Discharges were performed at areas typical of those which might be touched during normal operation, including the touch screen, user buttons, and other likely points of contact. The direct application, air discharge method was selected when applying the Electrostatic Disruption test due to the EUT case being made of plastic. The IEC 61000-4-2, Edition 2.0, 2008-12 states: "In the case of testing equipment with insulating surfaces, the air discharge method with voltages up to 15kV may be used".

Table 4-2 Electrostatic Discharge Transients

	Requirements		
Characteristic	**Capacitance**	**Resistance**	**Value**
Pulse Wave Shape (RC Network)	150 pf	330 Ω	pf / Ω
Test Levels	**Discharge Types**		**Value**
	Air	**Indirect**	
	±15	±8	KV
Rise Time	≤1		nanosecond
Pulse Decay Time	≈30 at 50% height		nanosecond
Pulse Repetition	≥1		per second
Total Injected Pulse at each Test Point	10		per polarity (±)
Temperature	≥15 to ≤35		°C
Relative Humidity	≥30 to ≤60		%

There was no loss of normal operation or loss of data as a result of the applied discharges.

The MicroVote EMS v. 4.0B successfully completed the requirements of the Electrostatic Disruption Test. Photographs of the test setup, the test data sheet, and the Instrumentation Equipment Sheet for the test are contained in Appendix A.2 of this report.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.1 Hardware Testing (continued)

4.1.1.3 Electromagnetic Susceptibility Test

Electromagnetic Susceptibility testing was performed in accordance with Section 4.8 of Volume II of the VVSG. This testing was performed to ensure that the MicroVote EMS v. 4.0B would be able to withstand a moderate level of ambient electromagnetic fields without disruption of normal operation or loss of data.

The MicroVote EMS v. 4.0B was configured to run in an automated ballot count test mode, where continual ballot processing would occur during the testing without operator intervention. The MicroVote EMS v. 4.0B was then subjected to ambient electromagnetic fields at 10 V/m over a range of 80 MHz to 1000 MHz, as shown in Figure 4-3. Testing was conducted utilizing both horizontally and vertically polarized waves. The limits were measured with a maximum scan rate of 1% of the fundamental frequency and the dwell duration was three seconds.

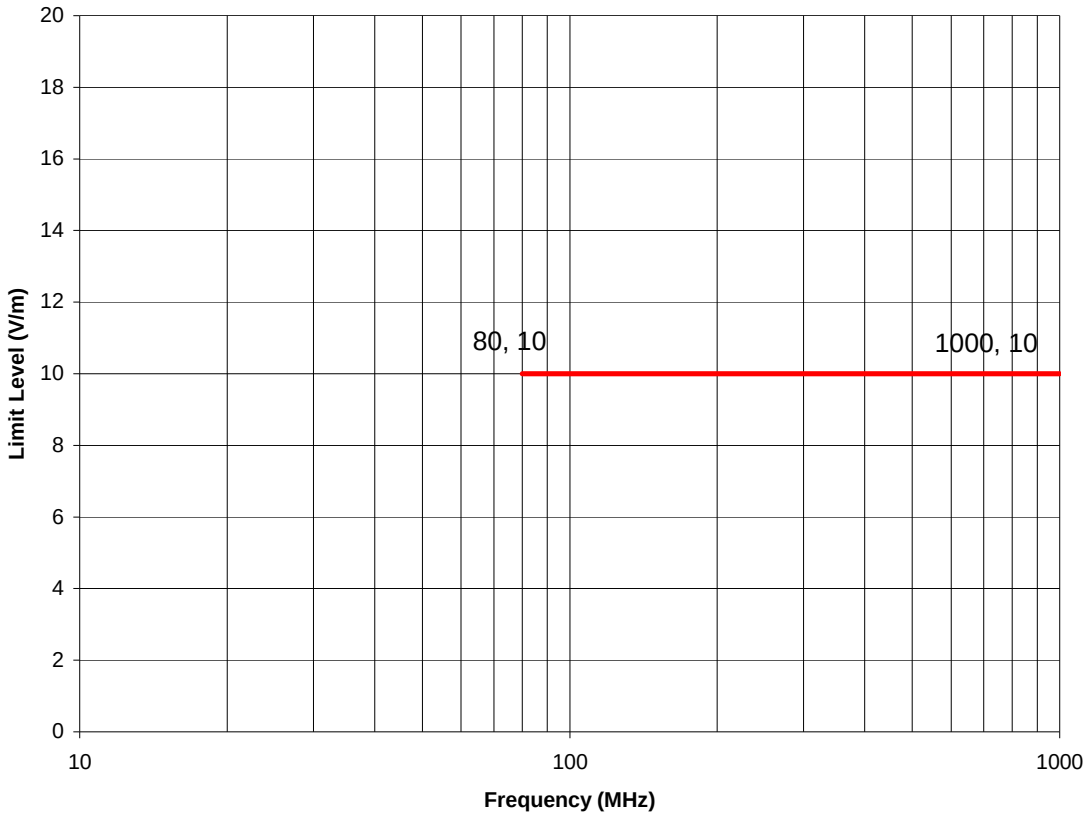

Figure 4-3 Radiated Susceptibility Limit

There was no loss of normal operation or loss of data as a result of the applied electromagnetic fields. The MicroVote EMS v. 4.0B successfully completed the requirements of the Electromagnetic Susceptibility Test. Photographs of the test setup, the test data sheet, and the Instrumentation Equipment Sheet for the test are contained in Appendix A.2 of this report.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.2 System Level Testing

System level tests were performed to evaluate the integrated operation of the voting system hardware and software. These test included: System Integration Test, Data Accuracy, as well as the Physical and Functional Configuration Audits.

4.1.2.1 System Integration Test

System Integration Testing was performed to test all system hardware, software, and peripherals. System Integration Testing focused on the complete system including all proprietary software, proprietary hardware, proprietary peripherals, COTS software, COTS hardware, and COTS peripherals configured as a precinct count system as described in the MicroVote submitted TDP for the modified EMS v. 4.0B System. To perform the System Integration Testing, Wyle developed specific procedures and test cases designed to test the system as a whole. These procedures demonstrated compliance of the modified EMS v. 4.0B to Sections 2, 3, 4, 5 and 6 of Volume I of the VVSG.

Summary Finding: During the performance of System Integration Testing, the EMS v4.0B produced an error when trying to read the tally cards and post votes. The error was generated from a database stored procedure when trying to convert a varchar to a big int. A new software release was built and the test was re-started and successfully completed. Notice of Anomaly No. 3, presented in Appendix A.1, documents successful resolution of this anomaly. The election definition exercised during the System Integration Testing is GEN-01 presented in Appendix A.3 of this report.

4.1.2.2 Data Accuracy

The modified EMS v. 4.0B was subjected to a Data Accuracy Test in accordance with the requirements of Section 4.7.1.1 of the Volume II of the VVSG.

Per the VVSG, data accuracy is defined in terms of ballot position error rate. This rate applies to the voting functions and supporting equipment that capture, record, store, consolidate, and report the selections (or absence thereof) made by the voter for each ballot position. To meet the requirements of this test, the voting system must be subjected to the casting of a large number of ballots to verify vote recording accuracy, i.e. at least 1,549,703 ballot positions correctly read and recorded.

During the Data Accuracy Test, the EMS (with autovote capabilities) was connected to the Infinity Panel and transmitted a defined set of "button selections" to the Infinity Panel via a serial connect. This simulation mimicked the "button selections" for candidate selection and screen navigation. The Infinity Panel cast a total of 10,231 ballots containing 152 ballot positions resulting in a total of 1,555,112 ballot positions correctly being cast and recorded to verify vote recording accuracy. Testing was performed by exercising an election definition developed specifically to test for logic and accuracy (Election Definition: L & A – 01, contained in Appendix A.3). The election definition parameters are summarized in Table 4-3.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.2.2 Data Accuracy (continued)

Table 4-3 Data Accuracy Election Definition

Ballot Positions	152 possible
Election Parameters	Closed Primary: No Open Primary: No Partisan offices: Yes Non-Partisan offices: Yes Write-in voting: Yes Primary presidential delegation nominations: No Ballot Rotation: No Straight Party voting: Yes Cross-party endorsement: No Split Precincts: No Vote for N of M: Yes Recall issues, with options: No Cumulative voting: No Ranked order voting: No Provisional or challenged ballots: No Early Voting: No
Precincts	1
Parties	8
Languages	English, Spanish
Voting Pattern	First ballot position in each race exclude straight party.
Total Ballots Cast	Total Ballots on Infinity Panel = 10231 Passing the 26,997 "go or no-go" milestone Resulting in 1,555,112 positions accurately

Summary Finding: The modified EMS v. 4.0B successfully met the requirements of the Data Accuracy Test by recording 1,555,112 ballot positions accurately, therefore exceeding the minimum requirement.

4.1.2.3 Physical Configuration Audit (PCA)

An abbreviated Physical Configuration Audit (PCA) of the modified EMS v. 4.0B was performed in accordance with Section 6.6 of Volume II of the VVSG. The PCA compares the voting system components submitted for certification with the vendor's technical documentation and confirms that the documentation submitted meets the requirements of the Guidelines. The purpose of the PCA is to: establish a configuration baseline (both hardware and software) of the system to be tested; verify that the reviewed source code conforms to the vendor's specification; and assess the adequacy of user acceptance test procedures and data.

The PCA performed on the modified EMS v. 4.0B was abbreviated. All equipment used as the initial baseline was received from the VSTL that performed the initial certification evaluation on the EMS v. 4.0B. This equipment was the equipment used during the original certification.

Summary Findings: During testing it was determined that Infinity Panel serial number 2213 did not have all ECO's from the EAC-certified system applied to be the current hardware for certification. The unit was removed from testing and a replacement unit was provided. Notice of Anomaly No 1, Rev. B, documenting this anomaly is presented in Appendix A.1. C

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.1 Summary Findings (continued)

4.1.2.4 Functional Configuration Audit

An abbreviated Functional Configuration Audit (FCA) was performed on the modified EMS v. 4.0B in accordance with Section 6.7 of Volume II of the VVSG. The purpose of the FCA was to verify the modification perform as documented in the MicroVote- supplied technical documentation and validate the modifications meet the requirements of the EAC 2005 VVSG.

To perform the FCA, the modified EMS v. 4.0B was subjected to a series of tests to regression test all modifications to the certified EMS 4.0B and retest areas around the modification to ensure those areas continue to function properly. The modifications included the performance enhancements, repaired defects, and added features previously described in Section 3.2 of this report.

Summary Findings: There were deficiencies and anomalies noted during this test. All deficiencies were documented during real-time test performance and were compiled into a report (presented in the Deficiency Report contained in Appendix A.4) for resolution tracking. With exception of ID's 106, 101, and 98, all deficiencies noted were corrected prior to the conclusion of the test campaign. Notice of Anomaly No. 2 documenting successful resolution of discrepancies noted during testing is presented in Appendix A.1.

The test cases performed and procedures followed during the FCA are documented in Wyle Test Case Specification T56849-01, which is included in Appendix A.5.

4.1.3 Source Code Review

The MicroVote modified EMS v. 4.0B source code was reviewed for conformance with the requirements set forth in Section 5.4 of the EAC 2005 VVSG coding standards and the vendor supplied coding standards. The review was conducted as part of the pre-testing activities and was performed per the guidelines described in the following paragraphs.

Wyle requested a copy of the certified EMS v. 4.0 source code from the EAC to use as a baseline to compare against the modified EMS v. 4.0B source code. As source code was received, an MD5 hash value was created for each source file. The source code team then conducted a visual scan of every line of modified source code. Each identified violation was recorded by making notes of the standard violation along with directory name, file name, and line number.

Summary Findings: Other than coding standards noted in the technical summary report, no other deficiencies or significant problems were found during the source code review.

4.2 Anomalies and Resolutions

A total of three Notices of Anomaly were issued throughout the test campaign upon occurrence of a verified failure, an unexpected test result, or any significant unsatisfactory condition. All anomalies encountered during certification testing were successfully resolved prior to test completion. The Notices of Anomaly generated during testing are presented in their entirety in Appendix A.1 and are summarized in the following paragraphs.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.2 Anomalies and Resolutions (continued)

Notice of Anomaly No. 1, Rev. B: Physical Configuration Audit (PCA)

During the PCA, it was discovered that one Infinity Voting Panel (2213) did not have the required Engineering Change Notices (ECN's) applied to it to qualify it as an EAC 2005 VVSG certified unit. The ECN's that were not present were ECN 1449 (addition of a snap on ferrite core) and ECN 1450 (application of a cover for a hole in the upper left corner of the Infinity Panel). It was also discovered that the motherboard did not have a trace soldered on it to support large compact flash sizes. This trace was added to the manufacturing process for units starting with serial number 5000. After this analysis, it was determined this unit could not be used in this certification effort. A

Note: Units that don't have the motherboard with a manufactured trace or a post-manufactured trace are not in the scope of this test campaign. Testing was only performed on units with the manufactured trace. B Any Infinity Panel with a serial number before 5000 should be verified to contain the manufactured trace for support of large compact flash storage. As stated in Section 7.8 of the MicroVote General Corporation Election Management System Voting System v 4.0 VSTL Certification Test Report contained in Appendix H, all manufacturer's ECN's have to be applied to the Infinity Panel to Qualify for EAC 2005 VVSG certification. C

Notice of Anomaly No. 2: Functional Configuration Audit (FCA)

During performance of the FCA, issues were noted related to system functionality. A report of all identified issues was sent to MicroVote for resolution. MicroVote then corrected all noted issues and the tests were repeated with no anomalies.

Notice of Anomaly No. 3: System Integration Testing

During the performance of System Integration Testing, The EMS v. 4.0B produced an error when trying to read the tally cards and post votes. The error was generated from a database stored procedure when trying to convert a varchar to a big int. A new software release was built and the test was re-started and successfully completed.

4.3 Deficiencies and Resolutions

During the test campaign, deficiencies were noted that were related to system functionality and usability. The deficiencies were discovered as part of the FCA, during hardware test performance, system integration testing, usability testing, volume and stress testing, or were noted during the general test campaign and not linked to a specific test or VVSG requirement. All deficiencies were documented during real-time test performance and were compiled into a report (presented in the Deficiency Report contained in Appendix A.4) for resolution tracking.

4.0 TEST FINDINGS AND RECOMMENDATIONS (CONTINUED)

4.3 Deficiencies and Resolutions (continued)

The following five deficiencies were noted during the test campaign that required an EAC Decision on acceptance:

- Merge functionality allowed double inputs from a single workstation (ID – 94)
- Audit logs taking excessive amounts of time to generate (ID – 97)
- Error Messages not written clearly (ID – 98)
- Precinct Report taking excessive amounts of time to generate (ID -101)
- All Database Objects were Restored along with the Data (ID- 106)

A

Deficiency ID's 98, 101, and 106 remain as outstanding deficiencies that were accepted by the EAC to be addressed in a later test campaign. Deficiency ID's 94 and 97 were remedied with a software submission prior to the completion of testing and were subsequently accepted by Wyle and the EAC prior to the conclusion of the test campaign. The EAC decision on these deficiencies is documented in the EAC letter presented in Appendix A.4 of this report.

C

4.4 Recommendation for Certification

Wyle performed regression testing on all modifications submitted to the MicroVote General Corporation Election Management System (EMS), identified as version 4.0B. Wyle only tested the modified EMS v. 4.0B, submitted by MicroVote General Corporation for the modification and interfacing modules with the modified modules. These modifications meet the requirements of the EAC 2005 VVSG and the manufacturer's technical documentation. As such, Wyle recommends the EAC grant the modified EMS v. 4.0B, EMS software version 4.0.26.0, certification to the EAC 2005 VVSG.

This report is valid only for the system identified in Section 2 of this report. Any changes, revisions, or corrections made to the system after this evaluation shall be submitted to the EAC to determine if the modified system requires a new application, or can be submitted as a modified system. The scope of testing required will be determined based upon the degree of modification.

Due to the varying requirements of individual jurisdictions, it is recommended by the EAC 2005 VVSG that local jurisdictions perform pre-election logic and accuracy tests on all systems prior to their use in an election within their jurisdiction.

APPENDIX A

ADDITIONAL FINDINGS

APPENDIX A.1
NOTICES OF ANOMALY

wyle laboratories

ORIGINAL

NOTICE OF ANOMALY

DATE: 03/11/10

NOTICE NO: 1, Rev. B P.O. NUMBER: 2394 CONTRACT NO: N/A

CUSTOMER: MicroVote General Corporation WYLE JOB NO: T56849

NOTIFICATION MADE TO: Bernie Hirsch NOTIFICATION DATE: 10/02/09

NOTIFICATION MADE BY: Jack Cobb VIA: e-mail

CATEGORY: [X] SPECIMEN [ ] PROCEDURE [ ] TEST EQUIPMENT DATE OF ANOMALY: 10/02/09

PART NAME: Infinity Voting Panel PART NO. ---

TEST: Physical Configuration Audit (PCA) I.D. NO. 2213

SPECIFICATION: EAC 2005 VVSG PARA. NO. Section 6.6

REQUIREMENTS:

A Physical Configuration Audit (PCA) of the equipment under test was performed as part of the pre-testing activities in accordance with Section 6.6 of Volume II of the VVSG. The PCA compares the voting system components submitted for certification with the vendor's technical documentation and confirms that the documentation submitted meets the requirements of the Guidelines. The purpose of the PCA is to: establish a configuration baseline (both hardware and software) of the system to be tested; verify that the reviewed source code conforms to the vendor's specification; and assess the adequacy of user acceptance test procedures and data.

A

DESCRIPTION OF ANOMALY:

During the PCA, it was discovered that one Infinity Voting Panel (2213) did not have the required Engineering Change Notices (ECN's) applied to it to qualify it as an EAC 2005 VVSG certified unit. The ECN's that were not present were ECN 1449 (addition of a snap on ferrite core) and ECN 1450 (application of a cover for a hole in the upper left corner of the Infinity Panel). It was also discovered that the motherboard did not have a trace soldered on it to support large compact flash sizes. This trace was added to the manufacturing process for units starting with serial number 3000. After this analysis, it was determined this unit could not be used in this certification effort.

B

DISPOSITION • COMMENTS • RECOMMENDATIONS:

The unit was removed from all certification testing.

Note: This is a revision to NOA No. 1, Rev. A dated 02/11/10. This revision adds additional information to the description of the anomaly.

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 ☐ WYLE

CAR Required: ☐ YES ☒ NO CAR No.

VERIFICATION:

TEST WITNESS: ---

REPRESENTING: ---

QUALITY ASSURANCE: 3/11/10

PROJECT ENGINEER: Jack Cobb 3-11-10

PROJECT MANAGER: Jack M Cobb 3-11-10

INTERDEPARTMENTAL COORDINATION:

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ORIGINAL **NOTICE OF ANOMALY** DATE: 02/08/10

NOTICE NO: 2 P.O. NUMBER: 2394 CONTRACT NO: N/A
CUSTOMER: MicroVote General Corporation WYLE JOB NO: T56849
NOTIFICATION MADE TO: Bernie Hirsch NOTIFICATION DATE: on going
NOTIFICATION MADE BY: Jack Cobb VIA: e-mail

CATEGORY: [x] SPECIMEN [ ] PROCEDURE [ ] TEST EQUIPMENT DATE OF ANOMALY: 10/07/09 - 11/30/09
PART NAME: Election Management System (EMS) PART NO. v. 4.0
TEST: Functional Configuration Audit (FCA) I.D. NO. ---
SPECIFICATION: EAC 2005 VVSG PARA. NO. 6.7

REQUIREMENTS:

A Functional Configuration Audit (FCA) of the EMS v4.0 shall be performed in accordance with Section 6.7 of Volume II of the VVSG. The purpose of the FCA is to verify that the EMS v4.0 performs as documented in the MicroVote-supplied technical documentation during Regression and Re-Testing.

DESCRIPTION OF ANOMALY:

During performance of the FCA, issues were noted related to system functionality.

DISPOSITION • COMMENTS • RECOMMENDATIONS:

A report of all identified issues was sent to MicroVote for resolution. MicroVote then corrected all noted issues and the tests were repeated with no anomalies.

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 ☐ WYLE

CAR Required: ☐ YES ☒ NO CAR No.

VERIFICATION:
TEST WITNESS: ---
REPRESENTING: ---
QUALITY ASSURANCE: 2/9/10

PROJECT ENGINEER: Jack Cobb 2-8-10
PROJECT MANAGER: Paul M Labute 2-9-10
INTERDEPARTMENTAL COORDINATION:

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ORIGINAL **NOTICE OF ANOMALY** DATE: 02/08/10

NOTICE NO: 3 P.O. NUMBER: 2394 CONTRACT NO: N/A
CUSTOMER: MicroVote General Corporation WYLE JOB NO: T56849
NOTIFICATION MADE TO: Bernie Hirsch NOTIFICATION DATE: 01/06/10
NOTIFICATION MADE BY: Jack Cobb VIA: e-mail

CATEGORY: [x] SPECIMEN [ ] PROCEDURE [ ] TEST EQUIPMENT DATE OF ANOMALY: 01/06/10
PART NAME: Election Management System (EMS) PART NO. v. 4.0
TEST: System Integration Testing I.D. NO. ---
SPECIFICATION: EAC 2005 VVSG PARA. NO. 6.7

REQUIREMENTS:

System Integration Testing was performed to test all system hardware, software, and peripherals. System Integration Testing focused on the complete system including all proprietary software, proprietary hardware, proprietary peripherals, COTS software, COTS hardware, and COTS peripherals configured as a precinct count system as described in the MicroVote submitted TDP for the modified EMS 4.0 System.

DESCRIPTION OF ANOMALY:

During the performance of System Integration Testing, The EMS v4.0 produced an error when trying to read the tally cards and post votes. The error was generated from a database stored procedure when trying to convert a varchar to a big int.

DISPOSITION • COMMENTS • RECOMMENDATIONS:

A new software release was built and the test was re-started and successfully completed.

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 ☐ WYLE

CAR Required: ☐ YES ☒ NO CAR No.

VERIFICATION:
TEST WITNESS: ---
REPRESENTING: ---
QUALITY ASSURANCE: 2/9/10

PROJECT ENGINEER: Jack Cobb 2-9-10
PROJECT MANAGER: 2-9-10
INTERDEPARTMENTAL COORDINATION:

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APPENDIX A.2
HARDWARE TEST DATA

ELECTROMAGNETIC RADIATION (FCC PART 15 EMISSIONS)

wyle laboratories

Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	10:28:20 AM
Equipment:		Sequence:	1
Manufacturer:		Tested By:	J. Smith J Smith 8-4-09
Model:			
S/N:			

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
None			

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:
Vertical Ambient

Transducer Legend:
T1=Wyle #114415 3M Vert | T2=Cable Wyle# 110111

Measurement Data: Readings listed by frequency. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	30.532	15.0	+18.9	-0.4			+0.0	33.5	40.0			Verti	Peak	**-6.5**
2	36.854	18.7	+15.5	-0.5			+0.0	33.7	40.0			Verti	Peak	**-6.3**
3	39.981	22.9	+14.2	-0.5			+0.0	36.6	40.0			Verti	Peak	**-3.4**
4	45.970	22.7	+12.5	-0.6			+0.0	34.6	40.0			Verti	Peak	**-5.4**
5	47.433	22.2	+12.2	-0.6			+0.0	33.8	40.0			Verti	Peak	**-6.2**
6	48.032	21.5	+12.2	-0.6			+0.0	33.1	40.0			Verti	Peak	**-6.9**
7	49.962	24.0	+12.0	-0.6			+0.0	35.4	40.0			Verti	Peak	**-4.6**
8	51.958	21.6	+11.9	-0.6			+0.0	32.9	40.0			Verti	Peak	**-7.1**
9	53.888	23.8	+11.4	-0.6			+0.0	34.6	40.0			Verti	Peak	**-5.4**
10	66.331	22.2	+9.2	-0.7			+0.0	30.7	40.0			Verti	Peak	**-9.3**
11	71.920	23.6	+7.4	-0.7			+0.0	30.3	40.0			Verti	Peak	**-9.7**
12	73.184	23.5	+7.2	-0.8			+0.0	29.9	40.0			Verti	Peak	**-10.1**
13	74.249	21.7	+6.9	-0.8			+0.0	27.8	40.0			Verti	Peak	**-12.2**
14	75.979	24.1	+6.7	-0.8			+0.0	30.0	40.0			Verti	Peak	**-10.0**
15	78.175	20.0	+6.5	-0.7			+0.0	25.8	40.0			Verti	Peak	**-14.2**
16	79.972	19.9	+6.4	-0.6			+0.0	25.7	40.0			Verti	Peak	**-14.3**
17	87.956	57.9	+7.9	-0.8			+0.0	65.0	40.0			Verti	Peak	**+25.0**
18	88.489	49.0	+8.0	-0.8			+0.0	56.2	43.5			Verti	Peak	**+12.7**
19	89.354	76.0	+8.2	-0.8			+0.0	83.4	43.5			Verti	Peak	**+39.9**
20	90.152	66.0	+8.4	-0.8			+0.0	73.6	43.5			Verti	Peak	**+30.1**
21	90.884	68.4	+8.6	-0.8			+0.0	76.2	43.5			Verti	Peak	**+32.7**
22	91.683	65.1	+8.8	-0.8			+0.0	73.1	43.5			Verti	Peak	**+29.6**
23	92.082	31.4	+8.9	-0.8			+0.0	39.5	43.5			Verti	Peak	**-4.0**
24	92.548	45.8	+9.0	-0.7			+0.0	54.1	43.5			Verti	Peak	**+10.6**
25	93.346	55.5	+9.2	-0.7			+0.0	64.0	43.5			Verti	Peak	**+20.5**
26	94.145	62.9	+9.4	-0.7			+0.0	71.6	43.5			Verti	Peak	**+28.1**
27	95.076	53.7	+9.6	-0.7			+0.0	62.6	43.5			Verti	Peak	**+19.1**
28	96.141	35.9	+9.6	-0.7			+0.0	44.8	43.5			Verti	Peak	**+1.3**
29	96.740	73.6	+9.7	-0.7			+0.0	82.6	43.5			Verti	Peak	**+39.1**
30	97.581	44.3	+9.7	-0.8			+0.0	53.2	43.5			Verti	Peak	**+9.7**
31	99.022	80.4	+9.8	-0.8			+0.0	89.4	43.5			Verti	Peak	**+45.9**
32	100.223	70.0	+9.8	-0.8			+0.0	79.0	43.5			Verti	Peak	**+35.5**
33	102.025	82.1	+9.6	-0.8			+0.0	90.9	43.5			Verti	Peak	**+47.4**
34	103.466	46.8	+9.4	-0.8			+0.0	55.4	43.5			Verti	Peak	**+11.9**
35	104.186	67.5	+9.3	-0.8			+0.0	76.0	43.5			Verti	Peak	**+32.5**
36	105.628	38.8	+9.2	-0.9			+0.0	47.1	43.5			Verti	Peak	**+3.6**
37	105.988	52.0	+9.2	-0.9			+0.0	60.3	43.5			Verti	Peak	**+16.8**
38	106.468	44.5	+9.2	-0.9			+0.0	52.8	43.5			Verti	Peak	**+9.3**

Wyle Laboratories

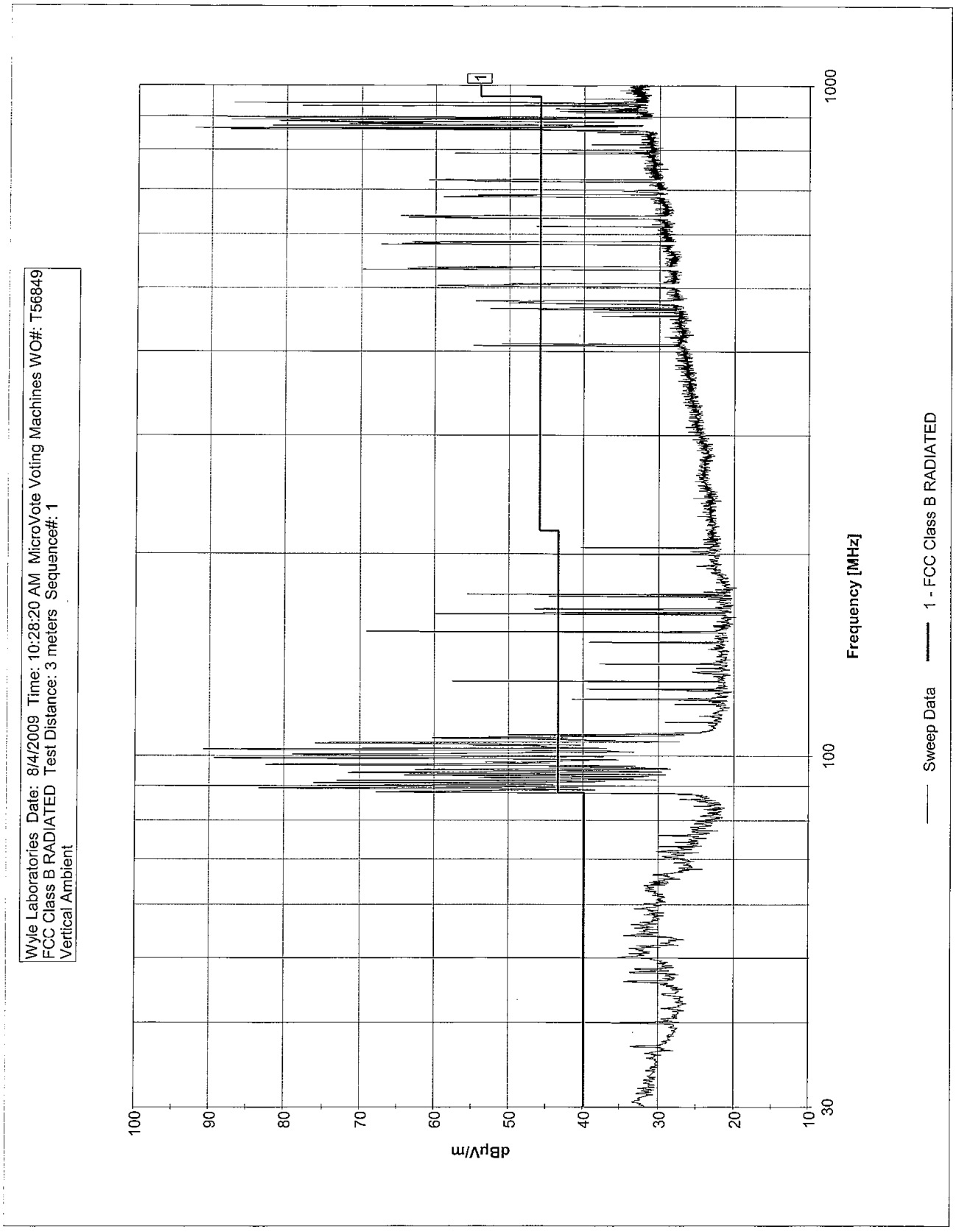
#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
39	107.189	41.9	+9.2	-0.9			+0.0	50.2	43.5			Verti	Peak	+6.7
40	107.669	26.0	+9.3	-0.9			+0.0	34.4	43.5			Verti	Peak	-9.1
41	112.113	21.0	+9.1	-0.9			+0.0	29.2	43.5			Verti	Peak	-14.3
42	119.319	20.0	+8.8	-0.9			+0.0	27.9	43.5			Verti	Peak	-15.6
43	121.241	33.9	+8.7	-0.9			+0.0	41.7	43.5			Verti	Peak	-1.8
44	124.844	18.7	+8.6	-0.9			+0.0	26.4	43.5			Verti	Peak	-17.1
45	125.564	32.0	+8.6	-0.9			+0.0	39.7	43.5			Verti	Peak	-3.8
46	128.807	50.0	+8.5	-0.9			+0.0	57.6	43.5			Verti	Peak	+14.1
47	133.131	18.1	+8.4	-0.9			+0.0	25.6	43.5			Verti	Peak	-17.9
48	134.932	17.8	+8.3	-1.0			+0.0	25.1	43.5			Verti	Peak	-18.4
49	136.854	30.5	+8.5	-1.0			+0.0	38.0	43.5			Verti	Peak	-5.5
50	147.182	31.1	+9.4	-1.1			+0.0	39.4	43.5			Verti	Peak	-4.1
51	152.587	61.4	+8.9	-1.1			+0.0	69.2	43.5			Verti	Peak	+25.7
52	162.555	52.1	+8.8	-1.0			+0.0	59.9	43.5			Verti	Peak	+16.4
53	163.276	37.8	+8.8	-1.0			+0.0	45.6	43.5			Verti	Peak	+2.1
54	165.197	39.0	+8.8	-1.1			+0.0	46.7	43.5			Verti	Peak	+3.2
55	172.523	37.1	+8.8	-1.1			+0.0	44.8	43.5			Verti	Peak	+1.3
56	173.724	48.0	+8.8	-1.1			+0.0	55.7	43.5			Verti	Peak	+12.2
57	199.306	39.4	+10.4	-1.2			+0.0	48.6	43.5			Verti	Peak	+5.1
58	203.869	31.2	+10.5	-1.2			+0.0	40.5	43.5			Verti	Peak	-3.0
59	302.832	14.6	+13.1	-1.5			+0.0	26.2	46.0			Verti	Peak	-19.8
60	307.996	14.9	+13.2	-1.5			+0.0	26.6	46.0			Verti	Peak	-19.4
61	332.256	14.5	+13.7	-1.5			+0.0	26.7	46.0			Verti	Peak	-19.3
62	335.139	14.5	+13.9	-1.5			+0.0	26.9	46.0			Verti	Peak	-19.1
63	338.743	14.1	+14.1	-1.5			+0.0	26.7	46.0			Verti	Peak	-19.3
64	342.109	14.1	+14.2	-1.5			+0.0	26.8	46.0			Verti	Peak	-19.2
65	345.475	14.3	+14.3	-1.5			+0.0	27.1	46.0			Verti	Peak	-18.9
66	349.081	14.2	+14.3	-1.5			+0.0	27.0	46.0			Verti	Peak	-19.0
67	354.490	14.3	+14.2	-1.5			+0.0	27.0	46.0			Verti	Peak	-19.0
68	356.172	14.3	+14.2	-1.5			+0.0	27.0	46.0			Verti	Peak	-19.0
69	360.740	14.8	+14.3	-1.5			+0.0	27.6	46.0			Verti	Peak	-18.4
70	368.072	14.4	+14.5	-1.6			+0.0	27.3	46.0			Verti	Peak	-18.7
71	406.897	39.7	+15.6	-1.6			+0.0	53.7	46.0			Verti	Peak	+7.7
72	407.378	41.0	+15.6	-1.6			+0.0	55.0	46.0			Verti	Peak	+9.0
73	409.541	37.0	+15.8	-1.6			+0.0	51.2	46.0			Verti	Peak	+5.2
74	419.758	15.7	+15.4	-1.7			+0.0	29.4	46.0			Verti	Peak	-16.6
75	427.451	14.7	+15.4	-1.7			+0.0	28.4	46.0			Verti	Peak	-17.6
76	433.221	14.6	+15.8	-1.7			+0.0	28.7	46.0			Verti	Peak	-17.3
77	439.952	14.1	+16.1	-1.8			+0.0	28.4	46.0			Verti	Peak	-17.6
78	446.443	14.7	+15.8	-1.8			+0.0	28.7	46.0			Verti	Peak	-17.3
79	451.010	24.0	+15.6	-1.8			+0.0	37.8	46.0			Verti	Peak	-8.2
80	452.212	19.9	+15.6	-1.8			+0.0	33.7	46.0			Verti	Peak	-12.3
81	457.501	24.9	+15.9	-1.8			+0.0	39.0	46.0			Verti	Peak	-7.0
82	460.863	32.1	+16.1	-1.8			+0.0	46.4	46.0			Verti	Peak	+0.4
83	461.344	24.6	+16.1	-1.8			+0.0	38.9	46.0			Verti	Peak	-7.1
84	462.785	38.3	+16.2	-1.8			+0.0	52.7	46.0			Verti	Peak	+6.7
85	464.586	27.6	+16.4	-1.8			+0.0	42.2	46.0			Verti	Peak	-3.8
86	471.672	35.5	+16.6	-1.8			+0.0	50.3	46.0			Verti	Peak	+4.3
87	475.155	40.0	+16.5	-1.8			+0.0	54.7	46.0			Verti	Peak	+8.7
88	500.256	41.0	+17.1	-1.9			+0.0	56.2	46.0			Verti	Peak	+10.2
89	501.577	44.6	+17.1	-1.9			+0.0	59.8	46.0			Verti	Peak	+13.8
90	505.661	35.1	+17.1	-1.9			+0.0	50.3	46.0			Verti	Peak	+4.3
91	530.281	54.6	+17.2	-1.9			+0.0	69.9	46.0			Verti	Peak	+23.9
92	532.323	48.5	+17.3	-1.9			+0.0	63.9	46.0			Verti	Peak	+17.9
93	534.605	47.0	+17.4	-1.9			+0.0	62.5	46.0			Verti	Peak	+16.5
94	578.321	51.7	+17.8	-2.1			+0.0	67.4	46.0			Verti	Peak	+21.4
95	579.882	49.0	+17.7	-2.1			+0.0	64.6	46.0			Verti	Peak	+18.6
96	583.485	47.6	+17.8	-2.1			+0.0	63.3	46.0			Verti	Peak	+17.3
97	585.167	19.5	+17.8	-2.1			+0.0	35.2	46.0			Verti	Peak	-10.8
98	615.192	30.5	+18.2	-2.1			+0.0	46.6	46.0			Verti	Peak	+0.6
99	632.126	42.3	+18.6	-2.1			+0.0	58.8	46.0			Verti	Peak	+12.8
100	634.048	47.3	+18.6	-2.1			+0.0	63.8	46.0			Verti	Peak	+17.8
101	637.410	48.4	+18.5	-2.1			+0.0	64.8	46.0			Verti	Peak	+18.8

Wyle Laboratories

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
102	680.046	42.4	+18.9	-2.3			+0.0	59.0	46.0			Verti	Peak	+13.0
103	681.247	40.1	+19.0	-2.3			+0.0	56.8	46.0			Verti	Peak	+10.8
104	683.048	37.7	+19.0	-2.3			+0.0	54.4	46.0			Verti	Peak	+8.4
105	684.970	37.6	+19.1	-2.3			+0.0	54.4	46.0			Verti	Peak	+8.4
106	692.536	18.3	+19.0	-2.2			+0.0	35.1	46.0			Verti	Peak	-10.9
107	697.340	16.1	+19.0	-2.2			+0.0	32.9	46.0			Verti	Peak	-13.1
108	716.316	37.7	+19.4	-2.3			+0.0	54.8	46.0			Verti	Peak	+8.8
109	717.877	38.8	+19.4	-2.3			+0.0	55.9	46.0			Verti	Peak	+9.9
110	719.799	43.8	+19.5	-2.3			+0.0	61.0	46.0			Verti	Peak	+15.0
111	721.480	41.5	+19.6	-2.3			+0.0	58.8	46.0			Verti	Peak	+12.8
112	738.294	14.4	+19.9	-2.3			+0.0	32.0	46.0			Verti	Peak	-14.0
113	746.821	14.4	+20.0	-2.3			+0.0	32.1	46.0			Verti	Peak	-13.9
114	751.025	14.5	+20.0	-2.3			+0.0	32.2	46.0			Verti	Peak	-13.8
115	764.116	14.5	+20.0	-2.4			+0.0	32.1	46.0			Verti	Peak	-13.9
116	771.562	14.3	+20.1	-2.4			+0.0	32.0	46.0			Verti	Peak	-14.0
117	781.170	14.6	+20.3	-2.4			+0.0	32.5	46.0			Verti	Peak	-13.5
118	788.977	39.8	+20.1	-2.4			+0.0	57.5	46.0			Verti	Peak	+11.5
119	792.580	15.7	+20.2	-2.4			+0.0	33.5	46.0			Verti	Peak	-12.5
120	793.540	24.6	+20.2	-2.4			+0.0	42.4	46.0			Verti	Peak	-3.6
121	794.501	14.3	+20.2	-2.4			+0.0	32.1	46.0			Verti	Peak	-13.9
122	796.183	14.3	+20.2	-2.4			+0.0	32.1	46.0			Verti	Peak	-13.9
123	799.305	14.1	+20.2	-2.4			+0.0	31.9	46.0			Verti	Peak	-14.1
124	804.349	14.2	+20.4	-2.4			+0.0	32.2	46.0			Verti	Peak	-13.8
125	813.477	21.0	+20.5	-2.4			+0.0	39.1	46.0			Verti	Peak	-6.9
126	843.262	17.2	+20.7	-2.5			+0.0	35.4	46.0			Verti	Peak	-10.6
127	848.666	20.4	+20.7	-2.6			+0.0	38.5	46.0			Verti	Peak	-7.5
128	854.311	39.7	+20.7	-2.6			+0.0	57.8	46.0			Verti	Peak	+11.8
129	854.791	26.2	+20.7	-2.6			+0.0	44.3	46.0			Verti	Peak	-1.7
130	855.872	48.8	+20.7	-2.6			+0.0	66.9	46.0			Verti	Peak	+20.9
131	856.833	47.4	+20.7	-2.6			+0.0	65.5	46.0			Verti	Peak	+19.5
132	857.193	69.6	+20.7	-2.6			+0.0	87.7	46.0			Verti	Peak	+41.7
133	858.394	54.6	+20.8	-2.6			+0.0	72.8	46.0			Verti	Peak	+26.8
134	859.355	53.7	+20.8	-2.6			+0.0	71.9	46.0			Verti	Peak	+25.9
135	859.956	70.4	+20.8	-2.6			+0.0	88.6	46.0			Verti	Peak	+42.6
136	860.196	70.7	+20.8	-2.6			+0.0	88.9	46.0			Verti	Peak	+42.9
137	860.556	74.2	+20.8	-2.6			+0.0	92.4	46.0			Verti	Peak	+46.4
138	861.277	53.7	+20.8	-2.6			+0.0	71.9	46.0			Verti	Peak	+25.9
139	861.877	51.5	+20.8	-2.6			+0.0	69.7	46.0			Verti	Peak	+23.7
140	862.238	64.4	+20.8	-2.6			+0.0	82.6	46.0			Verti	Peak	+36.6
141	863.318	37.5	+20.9	-2.6			+0.0	55.8	46.0			Verti	Peak	+9.8
142	863.919	41.2	+20.9	-2.6			+0.0	59.5	46.0			Verti	Peak	+13.5
143	865.120	28.9	+20.9	-2.6			+0.0	47.2	46.0			Verti	Peak	+1.2
144	866.921	23.5	+20.9	-2.6			+0.0	41.8	46.0			Verti	Peak	-4.2
145	867.402	23.3	+20.9	-2.6			+0.0	41.6	46.0			Verti	Peak	-4.4
146	868.122	63.9	+20.8	-2.6			+0.0	82.1	46.0			Verti	Peak	+36.1
147	868.603	41.3	+20.8	-2.6			+0.0	59.5	46.0			Verti	Peak	+13.5
148	871.966	53.5	+20.8	-2.6			+0.0	71.7	46.0			Verti	Peak	+25.7
149	874.248	53.6	+20.9	-2.6			+0.0	71.9	46.0			Verti	Peak	+25.9
150	875.929	52.3	+20.9	-2.6			+0.0	70.6	46.0			Verti	Peak	+24.6
151	878.211	57.3	+21.0	-2.6			+0.0	75.7	46.0			Verti	Peak	+29.7
152	880.012	53.5	+21.0	-2.6			+0.0	71.9	46.0			Verti	Peak	+25.9
153	880.733	62.3	+21.0	-2.6			+0.0	80.7	46.0			Verti	Peak	+34.7
154	882.294	62.8	+21.0	-2.6			+0.0	81.2	46.0			Verti	Peak	+35.2
155	883.976	59.9	+21.1	-2.6			+0.0	78.4	46.0			Verti	Peak	+32.4
156	885.057	52.7	+21.1	-2.6			+0.0	71.2	46.0			Verti	Peak	+25.2
157	885.897	69.1	+21.1	-2.6			+0.0	87.6	46.0			Verti	Peak	+41.6
158	886.498	52.3	+21.1	-2.6			+0.0	70.8	46.0			Verti	Peak	+24.8
159	886.978	52.5	+21.1	-2.6			+0.0	71.0	46.0			Verti	Peak	+25.0
160	888.419	61.2	+21.2	-2.6			+0.0	79.8	46.0			Verti	Peak	+33.8
161	891.422	38.9	+21.2	-2.6			+0.0	57.5	46.0			Verti	Peak	+11.5
162	892.863	69.5	+21.2	-2.6			+0.0	88.1	46.0			Verti	Peak	+42.1
163	893.343	46.6	+21.2	-2.6			+0.0	65.2	46.0			Verti	Peak	+19.2
164	907.515	21.1	+21.4	-2.6			+0.0	39.9	46.0			Verti	Peak	-6.1

Wyle Laboratories

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
165	907.876	22.6	+21.4	-2.6			+0.0	41.4	46.0			Verti	Peak	**-4.6**
166	910.157	17.1	+21.4	-2.6			+0.0	35.9	46.0			Verti	Peak	**-10.1**
167	912.079	24.6	+21.5	-2.6			+0.0	43.5	46.0			Verti	Peak	**-2.5**
168	912.439	23.0	+21.5	-2.6			+0.0	41.9	46.0			Verti	Peak	**-4.1**
169	913.040	22.9	+21.5	-2.6			+0.0	41.8	46.0			Verti	Peak	**-4.2**
170	916.042	21.5	+21.6	-2.6			+0.0	40.5	46.0			Verti	Peak	**-5.5**
171	919.405	21.5	+21.8	-2.6			+0.0	40.7	46.0			Verti	Peak	**-5.3**
172	919.886	24.8	+21.8	-2.6			+0.0	44.0	46.0			Verti	Peak	**-2.0**
173	921.207	19.2	+21.8	-2.6			+0.0	38.4	46.0			Verti	Peak	**-7.6**
174	928.533	19.9	+22.0	-2.6			+0.0	39.3	46.0			Verti	Peak	**-6.7**
175	929.133	58.7	+22.0	-2.6			+0.0	78.1	46.0			Verti	Peak	**+32.1**
176	931.535	28.9	+22.0	-2.6			+0.0	48.3	46.0			Verti	Peak	**+2.3**
177	934.778	17.9	+21.9	-2.6			+0.0	37.2	46.0			Verti	Peak	**-8.8**
178	935.859	27.3	+21.9	-2.6			+0.0	46.6	46.0			Verti	Peak	**+0.6**
179	936.700	19.1	+21.9	-2.6			+0.0	38.4	46.0			Verti	Peak	**-7.6**
180	937.693	15.0	+21.8	-2.5			+0.0	34.3	46.0			Verti	Peak	**-11.7**
181	937.944	17.3	+21.8	-2.5			+0.0	36.6	46.0			Verti	Peak	**-9.4**
182	938.319	21.8	+21.8	-2.5			+0.0	41.1	46.0			Verti	Peak	**-4.9**
183	938.820	67.9	+21.8	-2.5			+0.0	87.2	46.0			Verti	Peak	**+41.2**
184	939.321	41.5	+21.8	-2.5			+0.0	60.8	46.0			Verti	Peak	**+14.8**
185	939.634	21.2	+21.8	-2.5			+0.0	40.5	46.0			Verti	Peak	**-5.5**
186	940.197	60.1	+21.8	-2.5			+0.0	79.4	46.0			Verti	Peak	**+33.4**
187	940.573	16.1	+21.8	-2.5			+0.0	35.4	46.0			Verti	Peak	**-10.6**
188	941.262	17.7	+21.8	-2.5			+0.0	37.0	46.0			Verti	Peak	**-9.0**
189	943.265	14.2	+21.8	-2.5			+0.0	33.5	46.0			Verti	Peak	**-12.5**
190	945.018	15.7	+21.8	-2.5			+0.0	35.0	46.0			Verti	Peak	**-11.0**
191	947.398	14.4	+21.8	-2.5			+0.0	33.7	46.0			Verti	Peak	**-12.3**
192	951.405	15.9	+21.7	-2.5			+0.0	35.1	46.0			Verti	Peak	**-10.9**
193	952.469	21.2	+21.7	-2.5			+0.0	40.4	46.0			Verti	Peak	**-5.6**
194	972.630	15.1	+22.1	-2.6			+0.0	34.6	54.0			Verti	Peak	**-19.4**
195	978.390	14.6	+22.2	-2.6			+0.0	34.2	54.0			Verti	Peak	**-19.8**
196	978.828	15.8	+22.2	-2.6			+0.0	35.4	54.0			Verti	Peak	**-18.6**
197	978.953	14.8	+22.2	-2.6			+0.0	34.4	54.0			Verti	Peak	**-19.6**
198	983.711	14.7	+22.2	-2.6			+0.0	34.3	54.0			Verti	Peak	**-19.7**
199	991.788	14.6	+22.1	-2.6			+0.0	34.1	54.0			Verti	Peak	**-19.9**
200	993.604	14.7	+22.0	-2.6			+0.0	34.1	54.0			Verti	Peak	**-19.9**


Wyle Laboratories Date: 8/4/2009 Time: 10:28:20 AM MicroVote Voting Machines WO#: T56849
FCC Class B RADIATED Test Distance: 3 meters Sequence#: 1
Vertical Ambient
1
100
90
80
70
60
50
40
30
20
10
dBµV/m
30
100
1000
Frequency [MHz]
Sweep Data
1 - FCC Class B RADIATED

wyle laboratories

Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	13:20:44
Equipment:	Voting Device	Sequence:	2
Manufacturer:	MICROVOTE	Tested By:	J. Smith J Smith 8-4-09
Model:	INFINITY		
S/N:	10403		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Vertical Active

Transducer Legend:

T1=Wyle #114415 3M Vert	T2=Cable Wyle# 110111

Measurement Data: Readings listed by margin. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	125.564	35.5	+8.6	-0.9			+0.0	43.2	43.5			Verti	Peak	**-0.3**
2	120.278	34.2	+8.8	-0.9			+0.0	42.1	43.5			Verti	QP	**-1.4**
^	120.280	37.1	+8.8	-0.9			+0.0	45.0	43.5			Verti	Peak	**+1.5**
4	115.264	33.0	+8.9	-0.9			+0.0	41.0	43.5			Verti	QP	**-2.5**
^	115.236	35.2	+8.9	-0.9			+0.0	43.2	43.5			Verti	Peak	**-0.3**
6	35.104	20.4	+16.4	-0.5			+0.0	36.3	40.0			Verti	QP	**-3.7**
^	35.057	22.9	+16.5	-0.5			+0.0	38.9	40.0			Verti	Peak	**-1.1**
8	80.016	28.7	+6.4	-0.6			+0.0	34.5	40.0			Verti	QP	**-5.5**
^	80.038	31.6	+6.4	-0.6			+0.0	37.4	40.0			Verti	Peak	**-2.6**
10	48.029	22.5	+12.2	-0.6			+0.0	34.1	40.0			Verti	QP	**-5.9**
^	48.032	26.1	+12.2	-0.6			+0.0	37.7	40.0			Verti	Peak	**-2.3**
12	125.464	24.1	+8.6	-0.9			+0.0	31.7	43.5			Verti	QP	**-11.8**

wyle laboratories

Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	11:39:05 AM
Equipment:	Voting Device	Sequence:	2
Manufacturer:	MICROVOTE	Tested By:	J. Smith J Smith 8-4-09
Model:	INFINITY		
S/N:	10403		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Vertical Active

Transducer Legend:

T1=Wyle #114415 3M Vert | T2=Cable Wyle# 110111

Measurement Data: Readings listed by frequency. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	30.067	18.5	+19.1	-0.4			+0.0	37.2	40.0			Verti	Peak	**-2.8**
2	35.057	22.9	+16.5	-0.5			+0.0	38.9	40.0			Verti	Peak	**-1.1**
3	39.981	27.9	+14.2	-0.5			+0.0	41.6	40.0			Verti	Peak	**+1.6**
4	46.036	25.0	+12.5	-0.6			+0.0	36.9	40.0			Verti	Peak	**-3.1**
5	47.500	24.1	+12.2	-0.6			+0.0	35.7	40.0			Verti	Peak	**-4.3**
6	48.032	26.1	+12.2	-0.6			+0.0	37.7	40.0			Verti	Peak	**-2.3**
7	49.962	24.4	+12.0	-0.6			+0.0	35.8	40.0			Verti	Peak	**-4.2**
8	51.293	23.5	+12.0	-0.6			+0.0	34.9	40.0			Verti	Peak	**-5.1**
9	56.084	25.2	+11.0	-0.6			+0.0	35.6	40.0			Verti	Peak	**-4.4**
10	62.472	25.9	+10.9	-0.7			+0.0	36.1	40.0			Verti	Peak	**-3.9**
11	64.068	41.0	+10.4	-0.7			+0.0	50.7	40.0			Verti	Peak	**+10.7**
12	66.597	27.6	+9.1	-0.7			+0.0	36.0	40.0			Verti	Peak	**-4.0**
13	67.994	24.8	+8.3	-0.7			+0.0	32.4	40.0			Verti	Peak	**-7.6**
14	72.053	28.2	+7.4	-0.7			+0.0	34.9	40.0			Verti	Peak	**-5.1**
15	73.717	25.1	+7.1	-0.8			+0.0	31.4	40.0			Verti	Peak	**-8.6**
16	76.046	25.6	+6.7	-0.8			+0.0	31.5	40.0			Verti	Peak	**-8.5**
17	80.038	31.6	+6.4	-0.6			+0.0	37.4	40.0			Verti	Peak	**-2.6**
18	84.097	25.0	+7.0	-0.8			+0.0	31.2	40.0			Verti	Peak	**-8.8**
19	85.960	24.1	+7.4	-0.8			+0.0	30.7	40.0			Verti	Peak	**-9.3**
20	88.089	60.0	+7.9	-0.8			+0.0	67.1	43.5			Verti	Peak	**+23.6**
21	88.555	47.9	+8.0	-0.8			+0.0	55.1	43.5			Verti	Peak	**+11.6**
22	89.354	76.2	+8.2	-0.8			+0.0	83.6	43.5			Verti	Peak	**+40.1**
23	90.219	66.2	+8.5	-0.8			+0.0	73.9	43.5			Verti	Peak	**+30.4**
24	90.951	68.8	+8.6	-0.8			+0.0	76.6	43.5			Verti	Peak	**+33.1**
25	91.749	63.8	+8.8	-0.8			+0.0	71.8	43.5			Verti	Peak	**+28.3**
26	92.148	31.4	+8.9	-0.8			+0.0	39.5	43.5			Verti	Peak	**-4.0**
27	92.681	46.0	+9.1	-0.7			+0.0	54.4	43.5			Verti	Peak	**+10.9**
28	93.413	54.7	+9.2	-0.7			+0.0	63.2	43.5			Verti	Peak	**+19.7**
29	94.145	62.7	+9.4	-0.7			+0.0	71.4	43.5			Verti	Peak	**+27.9**
30	95.076	54.9	+9.6	-0.7			+0.0	63.8	43.5			Verti	Peak	**+20.3**
31	95.542	25.6	+9.6	-0.7			+0.0	34.5	43.5			Verti	Peak	**-9.0**
32	96.274	37.1	+9.7	-0.7			+0.0	46.1	43.5			Verti	Peak	**+2.6**
33	96.740	72.4	+9.7	-0.7			+0.0	81.4	43.5			Verti	Peak	**+37.9**
34	97.581	45.3	+9.7	-0.8			+0.0	54.2	43.5			Verti	Peak	**+10.7**
35	98.061	35.5	+9.7	-0.8			+0.0	44.4	43.5			Verti	Peak	**+0.9**
36	99.022	80.6	+9.8	-0.8			+0.0	89.6	43.5			Verti	Peak	**+46.1**
37	100.223	70.1	+9.8	-0.8			+0.0	79.1	43.5			Verti	Peak	**+35.6**
38	102.025	81.6	+9.6	-0.8			+0.0	90.4	43.5			Verti	Peak	**+46.9**

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
39	103.466	43.7	+9.4	-0.8			+0.0	52.3	43.5			Verti	Peak	+8.8
40	104.186	73.1	+9.3	-0.8			+0.0	81.6	43.5			Verti	Peak	+38.1
41	105.988	52.9	+9.2	-0.9			+0.0	61.2	43.5			Verti	Peak	+17.7
42	106.468	44.2	+9.2	-0.9			+0.0	52.5	43.5			Verti	Peak	+9.0
43	107.189	39.9	+9.2	-0.9			+0.0	48.2	43.5			Verti	Peak	+4.7
44	110.191	37.1	+9.3	-0.9			+0.0	45.5	43.5			Verti	Peak	+2.0
45	115.236	35.2	+8.9	-0.9			+0.0	43.2	43.5			Verti	Peak	-0.3
46	116.677	30.3	+8.9	-0.9			+0.0	38.3	43.5			Verti	Peak	-5.2
47	117.277	30.5	+8.9	-0.9			+0.0	38.5	43.5			Verti	Peak	-5.0
48	118.238	29.1	+8.8	-0.9			+0.0	37.0	43.5			Verti	Peak	-6.5
49	118.719	29.6	+8.8	-0.9			+0.0	37.5	43.5			Verti	Peak	-6.0
50	120.280	37.1	+8.8	-0.9			+0.0	45.0	43.5			Verti	Peak	+1.5
51	121.241	33.0	+8.7	-0.9			+0.0	40.8	43.5			Verti	Peak	-2.7
52	125.564	35.5	+8.6	-0.9			+0.0	43.2	43.5			Verti	Peak	-0.3
53	126.645	30.4	+8.6	-0.9			+0.0	38.1	43.5			Verti	Peak	-5.4
54	127.846	27.0	+8.5	-0.9			+0.0	34.6	43.5			Verti	Peak	-8.9
55	130.248	28.4	+8.5	-0.9			+0.0	36.0	43.5			Verti	Peak	-7.5
56	133.251	28.1	+8.4	-0.9			+0.0	35.6	43.5			Verti	Peak	-7.9
57	135.292	28.0	+8.3	-1.0			+0.0	35.3	43.5			Verti	Peak	-8.2
58	145.381	26.9	+9.5	-1.1			+0.0	35.3	43.5			Verti	Peak	-8.2
59	150.065	26.1	+9.2	-1.1			+0.0	34.2	43.5			Verti	Peak	-9.3
60	154.869	37.4	+8.6	-1.1			+0.0	44.9	43.5			Verti	Peak	+1.4
61	162.555	53.2	+8.8	-1.0			+0.0	61.0	43.5			Verti	Peak	+17.5
62	170.482	23.3	+8.7	-1.1			+0.0	30.9	43.5			Verti	Peak	-12.6
63	173.844	43.9	+8.9	-1.1			+0.0	51.7	43.5			Verti	Peak	+8.2
64	175.406	27.0	+8.9	-1.2			+0.0	34.7	43.5			Verti	Peak	-8.8
65	185.494	26.2	+9.8	-1.1			+0.0	34.9	43.5			Verti	Peak	-8.6
66	190.538	22.9	+10.2	-1.1			+0.0	32.0	43.5			Verti	Peak	-11.5
67	195.583	28.2	+10.4	-1.2			+0.0	37.4	43.5			Verti	Peak	-6.1
68	199.306	40.6	+10.4	-1.2			+0.0	49.8	43.5			Verti	Peak	+6.3
69	200.507	24.9	+10.4	-1.2			+0.0	34.1	43.5			Verti	Peak	-9.4
70	203.869	32.1	+10.5	-1.2			+0.0	41.4	43.5			Verti	Peak	-2.1
71	239.899	27.7	+11.2	-1.3			+0.0	37.6	46.0			Verti	Peak	-8.4
72	257.674	26.1	+12.2	-1.3			+0.0	37.0	46.0			Verti	Peak	-9.0
73	360.620	20.4	+14.3	-1.5			+0.0	33.2	46.0			Verti	Peak	-12.8
74	400.166	27.3	+15.1	-1.6			+0.0	40.8	46.0			Verti	Peak	-5.2
75	406.897	36.1	+15.6	-1.6			+0.0	50.1	46.0			Verti	Peak	+4.1
76	451.010	25.1	+15.6	-1.8			+0.0	38.9	46.0			Verti	Peak	-7.1
77	461.224	28.6	+16.1	-1.8			+0.0	42.9	46.0			Verti	Peak	-3.1
78	462.905	19.1	+16.2	-1.8			+0.0	33.5	46.0			Verti	Peak	-12.5
79	464.106	28.8	+16.3	-1.8			+0.0	43.3	46.0			Verti	Peak	-2.7
80	464.586	23.9	+16.4	-1.8			+0.0	38.5	46.0			Verti	Peak	-7.5
81	475.155	37.8	+16.5	-1.8			+0.0	52.5	46.0			Verti	Peak	+6.5
82	480.079	29.6	+16.2	-1.8			+0.0	44.0	46.0			Verti	Peak	-2.0
83	485.964	18.6	+16.4	-1.8			+0.0	33.2	46.0			Verti	Peak	-12.8
84	500.256	44.1	+17.1	-1.9			+0.0	59.3	46.0			Verti	Peak	+13.3
85	501.697	41.2	+17.1	-1.9			+0.0	56.4	46.0			Verti	Peak	+10.4
86	503.259	30.5	+17.1	-1.9			+0.0	45.7	46.0			Verti	Peak	-0.3
87	504.460	37.6	+17.1	-1.9			+0.0	52.8	46.0			Verti	Peak	+6.8
88	527.999	20.0	+17.0	-1.9			+0.0	35.1	46.0			Verti	Peak	-10.9
89	530.281	53.1	+17.2	-1.9			+0.0	68.4	46.0			Verti	Peak	+22.4
90	534.725	49.2	+17.4	-1.9			+0.0	64.7	46.0			Verti	Peak	+18.7
91	552.259	19.1	+17.0	-2.0			+0.0	34.1	46.0			Verti	Peak	-11.9
92	560.306	28.6	+17.3	-2.0			+0.0	43.9	46.0			Verti	Peak	-2.1
93	578.321	52.2	+17.8	-2.1			+0.0	67.9	46.0			Verti	Peak	+21.9
94	579.882	49.3	+17.7	-2.1			+0.0	64.9	46.0			Verti	Peak	+18.9
95	581.083	47.3	+17.7	-2.1			+0.0	62.9	46.0			Verti	Peak	+16.9
96	582.885	47.0	+17.8	-2.1			+0.0	62.7	46.0			Verti	Peak	+16.7
97	585.167	20.3	+17.8	-2.1			+0.0	36.0	46.0			Verti	Peak	-10.0
98	599.819	19.9	+18.2	-2.0			+0.0	36.1	46.0			Verti	Peak	-9.9
99	615.072	29.1	+18.2	-2.1			+0.0	45.2	46.0			Verti	Peak	-0.8
100	632.726	43.4	+18.6	-2.1			+0.0	59.9	46.0			Verti	Peak	+13.9
101	635.128	47.2	+18.6	-2.1			+0.0	63.7	46.0			Verti	Peak	+17.7

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#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
102	637.410	43.6	+18.5	-2.1			+0.0	60.0	46.0			Verti	Peak	+14.0
103	680.046	45.5	+18.9	-2.3			+0.0	62.1	46.0			Verti	Peak	+16.1
104	681.847	39.1	+19.0	-2.3			+0.0	55.8	46.0			Verti	Peak	+9.8
105	685.090	31.5	+19.1	-2.3			+0.0	48.3	46.0			Verti	Peak	+2.3
106	696.019	17.7	+19.0	-2.2			+0.0	34.5	46.0			Verti	Peak	-11.5
107	716.676	40.2	+19.4	-2.3			+0.0	57.3	46.0			Verti	Peak	+11.3
108	719.559	38.1	+19.5	-2.3			+0.0	55.3	46.0			Verti	Peak	+9.3
109	720.520	36.1	+19.5	-2.3			+0.0	53.3	46.0			Verti	Peak	+7.3
110	721.120	36.0	+19.5	-2.3			+0.0	53.2	46.0			Verti	Peak	+7.2
111	721.360	38.5	+19.6	-2.3			+0.0	55.8	46.0			Verti	Peak	+9.8
112	743.459	16.3	+20.0	-2.3			+0.0	34.0	46.0			Verti	Peak	-12.0
113	759.672	15.9	+20.0	-2.3			+0.0	33.6	46.0			Verti	Peak	-12.4
114	779.008	15.4	+20.3	-2.4			+0.0	33.3	46.0			Verti	Peak	-12.7
115	788.977	37.2	+20.1	-2.4			+0.0	54.9	46.0			Verti	Peak	+8.9
116	792.580	17.7	+20.2	-2.4			+0.0	35.5	46.0			Verti	Peak	-10.5
117	793.540	24.1	+20.2	-2.4			+0.0	41.9	46.0			Verti	Peak	-4.1
118	797.504	19.2	+20.2	-2.4			+0.0	37.0	46.0			Verti	Peak	-9.0
119	799.065	21.6	+20.2	-2.4			+0.0	39.4	46.0			Verti	Peak	-6.6
120	799.906	21.7	+20.2	-2.4			+0.0	39.5	46.0			Verti	Peak	-6.5
121	802.428	15.3	+20.3	-2.4			+0.0	33.2	46.0			Verti	Peak	-12.8
122	815.879	15.3	+20.5	-2.4			+0.0	33.4	46.0			Verti	Peak	-12.6
123	835.695	48.9	+20.5	-2.5			+0.0	66.9	46.0			Verti	Peak	+20.9
124	836.056	19.7	+20.5	-2.5			+0.0	37.7	46.0			Verti	Peak	-8.3
125	841.100	63.0	+20.6	-2.5			+0.0	81.1	46.0			Verti	Peak	+35.1
126	847.705	21.3	+20.7	-2.6			+0.0	39.4	46.0			Verti	Peak	-6.6
127	848.066	58.1	+20.7	-2.6			+0.0	76.2	46.0			Verti	Peak	+30.2
128	854.071	64.8	+20.7	-2.6			+0.0	82.9	46.0			Verti	Peak	+36.9
129	854.911	38.1	+20.7	-2.6			+0.0	56.2	46.0			Verti	Peak	+10.2
130	855.872	46.6	+20.7	-2.6			+0.0	64.7	46.0			Verti	Peak	+18.7
131	856.833	48.8	+20.7	-2.6			+0.0	66.9	46.0			Verti	Peak	+20.9
132	857.193	69.8	+20.7	-2.6			+0.0	87.9	46.0			Verti	Peak	+41.9
133	857.914	52.8	+20.8	-2.6			+0.0	71.0	46.0			Verti	Peak	+25.0
134	858.274	54.0	+20.8	-2.6			+0.0	72.2	46.0			Verti	Peak	+26.2
135	859.355	55.0	+20.8	-2.6			+0.0	73.2	46.0			Verti	Peak	+27.2
136	860.196	67.2	+20.8	-2.6			+0.0	85.4	46.0			Verti	Peak	+39.4
137	860.556	71.7	+20.8	-2.6			+0.0	89.9	46.0			Verti	Peak	+43.9
138	861.277	55.1	+20.8	-2.6			+0.0	73.3	46.0			Verti	Peak	+27.3
139	862.117	64.1	+20.8	-2.6			+0.0	82.3	46.0			Verti	Peak	+36.3
140	863.318	40.2	+20.9	-2.6			+0.0	58.5	46.0			Verti	Peak	+12.5
141	863.919	43.0	+20.9	-2.6			+0.0	61.3	46.0			Verti	Peak	+15.3
142	865.120	27.9	+20.9	-2.6			+0.0	46.2	46.0			Verti	Peak	+0.2
143	866.081	23.3	+20.9	-2.6			+0.0	41.6	46.0			Verti	Peak	-4.4
144	866.921	25.2	+20.9	-2.6			+0.0	43.5	46.0			Verti	Peak	-2.5
145	867.402	25.0	+20.9	-2.6			+0.0	43.3	46.0			Verti	Peak	-2.7
146	868.122	63.0	+20.8	-2.6			+0.0	81.2	46.0			Verti	Peak	+35.2
147	868.603	28.8	+20.8	-2.6			+0.0	47.0	46.0			Verti	Peak	+1.0
148	869.564	30.5	+20.8	-2.6			+0.0	48.7	46.0			Verti	Peak	+2.7
149	870.284	28.6	+20.8	-2.6			+0.0	46.8	46.0			Verti	Peak	+0.8
150	871.966	57.7	+20.8	-2.6			+0.0	75.9	46.0			Verti	Peak	+29.9
151	874.248	59.1	+20.9	-2.6			+0.0	77.4	46.0			Verti	Peak	+31.4
152	875.809	56.4	+20.9	-2.6			+0.0	74.7	46.0			Verti	Peak	+28.7
153	878.211	61.4	+21.0	-2.6			+0.0	79.8	46.0			Verti	Peak	+33.8
154	880.012	56.3	+21.0	-2.6			+0.0	74.7	46.0			Verti	Peak	+28.7
155	880.733	63.7	+21.0	-2.6			+0.0	82.1	46.0			Verti	Peak	+36.1
156	882.174	60.8	+21.0	-2.6			+0.0	79.2	46.0			Verti	Peak	+33.2
157	883.856	62.4	+21.1	-2.6			+0.0	80.9	46.0			Verti	Peak	+34.9
158	885.177	55.4	+21.1	-2.6			+0.0	73.9	46.0			Verti	Peak	+27.9
159	885.897	68.2	+21.1	-2.6			+0.0	86.7	46.0			Verti	Peak	+40.7
160	886.378	49.3	+21.1	-2.6			+0.0	67.8	46.0			Verti	Peak	+21.8
161	887.098	51.1	+21.1	-2.6			+0.0	69.6	46.0			Verti	Peak	+23.6
162	888.539	62.9	+21.2	-2.6			+0.0	81.5	46.0			Verti	Peak	+35.5
163	889.140	42.4	+21.2	-2.6			+0.0	61.0	46.0			Verti	Peak	+15.0
164	891.422	40.4	+21.2	-2.6			+0.0	59.0	46.0			Verti	Peak	+13.0

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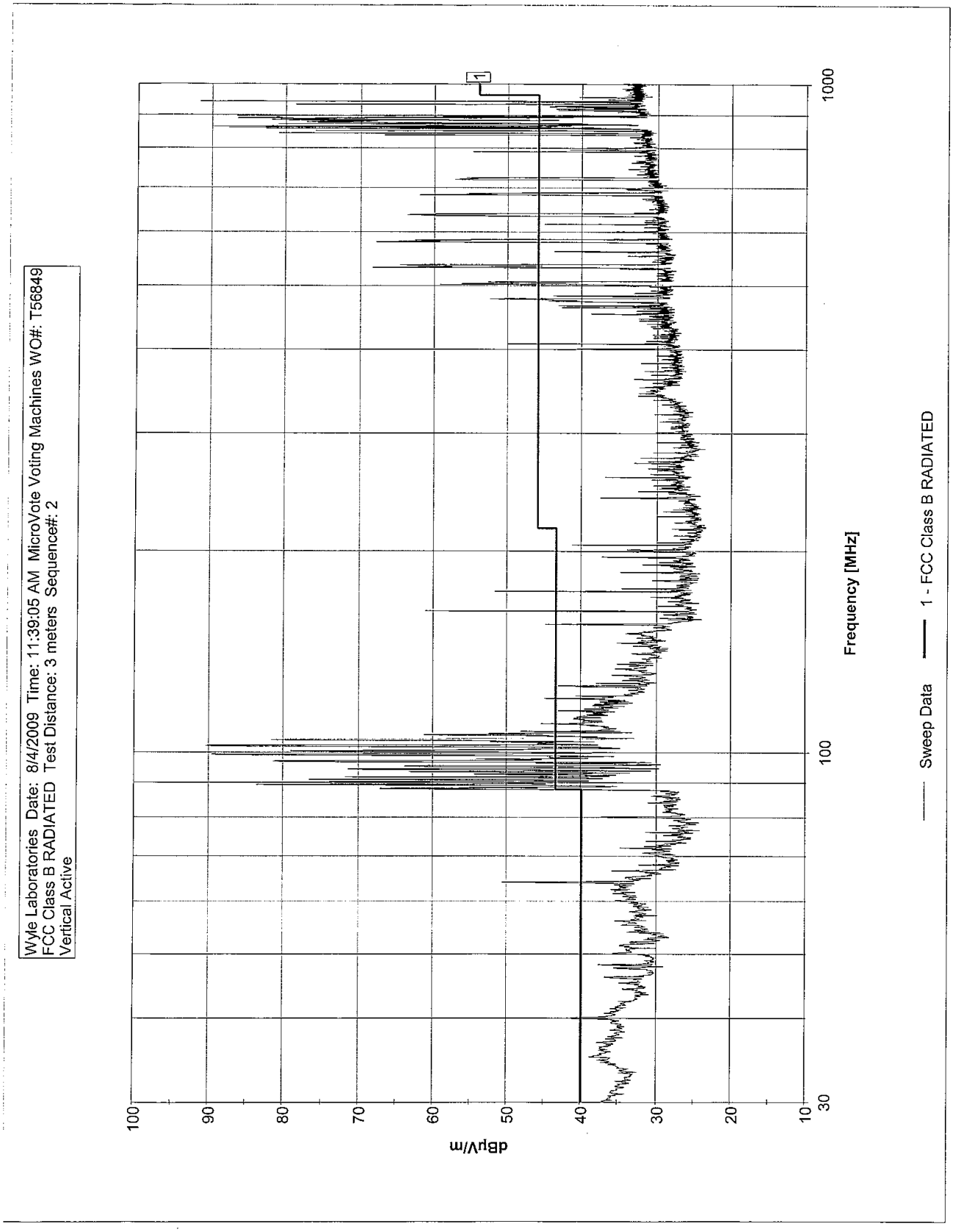
#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
165	892.863	68.2	+21.2	-2.6			+0.0	86.8	46.0			Verti	Peak	+40.8
166	893.464	47.0	+21.2	-2.6			+0.0	65.6	46.0			Verti	Peak	+19.6
167	909.797	24.7	+21.4	-2.6			+0.0	43.5	46.0			Verti	Peak	-2.5
168	910.278	23.3	+21.4	-2.6			+0.0	42.1	46.0			Verti	Peak	-3.9
169	914.361	24.7	+21.6	-2.6			+0.0	43.7	46.0			Verti	Peak	-2.3
170	915.682	19.7	+21.6	-2.6			+0.0	38.7	46.0			Verti	Peak	-7.3
171	916.523	18.2	+21.7	-2.6			+0.0	37.3	46.0			Verti	Peak	-8.7
172	917.123	17.2	+21.7	-2.6			+0.0	36.3	46.0			Verti	Peak	-9.7
173	917.604	19.6	+21.7	-2.6			+0.0	38.7	46.0			Verti	Peak	-7.3
174	918.925	22.6	+21.8	-2.6			+0.0	41.8	46.0			Verti	Peak	-4.2
175	919.886	20.6	+21.8	-2.6			+0.0	39.8	46.0			Verti	Peak	-6.2
176	921.207	25.4	+21.8	-2.6			+0.0	44.6	46.0			Verti	Peak	-1.4
177	922.288	23.4	+21.8	-2.6			+0.0	42.6	46.0			Verti	Peak	-3.4
178	924.089	24.1	+21.9	-2.6			+0.0	43.4	46.0			Verti	Peak	-2.6
179	924.569	24.7	+21.9	-2.6			+0.0	44.0	46.0			Verti	Peak	-2.0
180	929.133	59.4	+22.0	-2.6			+0.0	78.8	46.0			Verti	Peak	+32.8
181	930.935	31.1	+22.0	-2.6			+0.0	50.5	46.0			Verti	Peak	+4.5
182	935.859	30.4	+21.9	-2.6			+0.0	49.7	46.0			Verti	Peak	+3.7
183	936.579	21.4	+21.9	-2.6			+0.0	40.7	46.0			Verti	Peak	-5.3
184	937.505	16.7	+21.8	-2.5			+0.0	36.0	46.0			Verti	Peak	-10.0
185	937.944	22.6	+21.8	-2.5			+0.0	41.9	46.0			Verti	Peak	-4.1
186	938.319	26.5	+21.8	-2.5			+0.0	45.8	46.0			Verti	Peak	-0.2
187	938.820	72.4	+21.8	-2.5			+0.0	91.7	46.0			Verti	Peak	+45.7
188	939.321	38.4	+21.8	-2.5			+0.0	57.7	46.0			Verti	Peak	+11.7
189	939.634	22.4	+21.8	-2.5			+0.0	41.7	46.0			Verti	Peak	-4.3
190	940.260	32.3	+21.8	-2.5			+0.0	51.6	46.0			Verti	Peak	+5.6
191	940.448	20.5	+21.8	-2.5			+0.0	39.8	46.0			Verti	Peak	-6.2
192	944.893	17.5	+21.8	-2.5			+0.0	36.8	46.0			Verti	Peak	-9.2
193	945.958	15.0	+21.8	-2.5			+0.0	34.3	46.0			Verti	Peak	-11.7
194	946.396	15.0	+21.8	-2.5			+0.0	34.3	46.0			Verti	Peak	-11.7
195	947.648	15.0	+21.7	-2.5			+0.0	34.2	46.0			Verti	Peak	-11.8
196	951.405	16.4	+21.7	-2.5			+0.0	35.6	46.0			Verti	Peak	-10.4
197	952.469	21.4	+21.7	-2.5			+0.0	40.6	46.0			Verti	Peak	-5.4
198	953.721	14.5	+21.7	-2.5			+0.0	33.7	46.0			Verti	Peak	-12.3
199	956.226	15.4	+21.7	-2.5			+0.0	34.6	46.0			Verti	Peak	-11.4
200	956.727	15.0	+21.7	-2.5			+0.0	34.2	46.0			Verti	Peak	-11.8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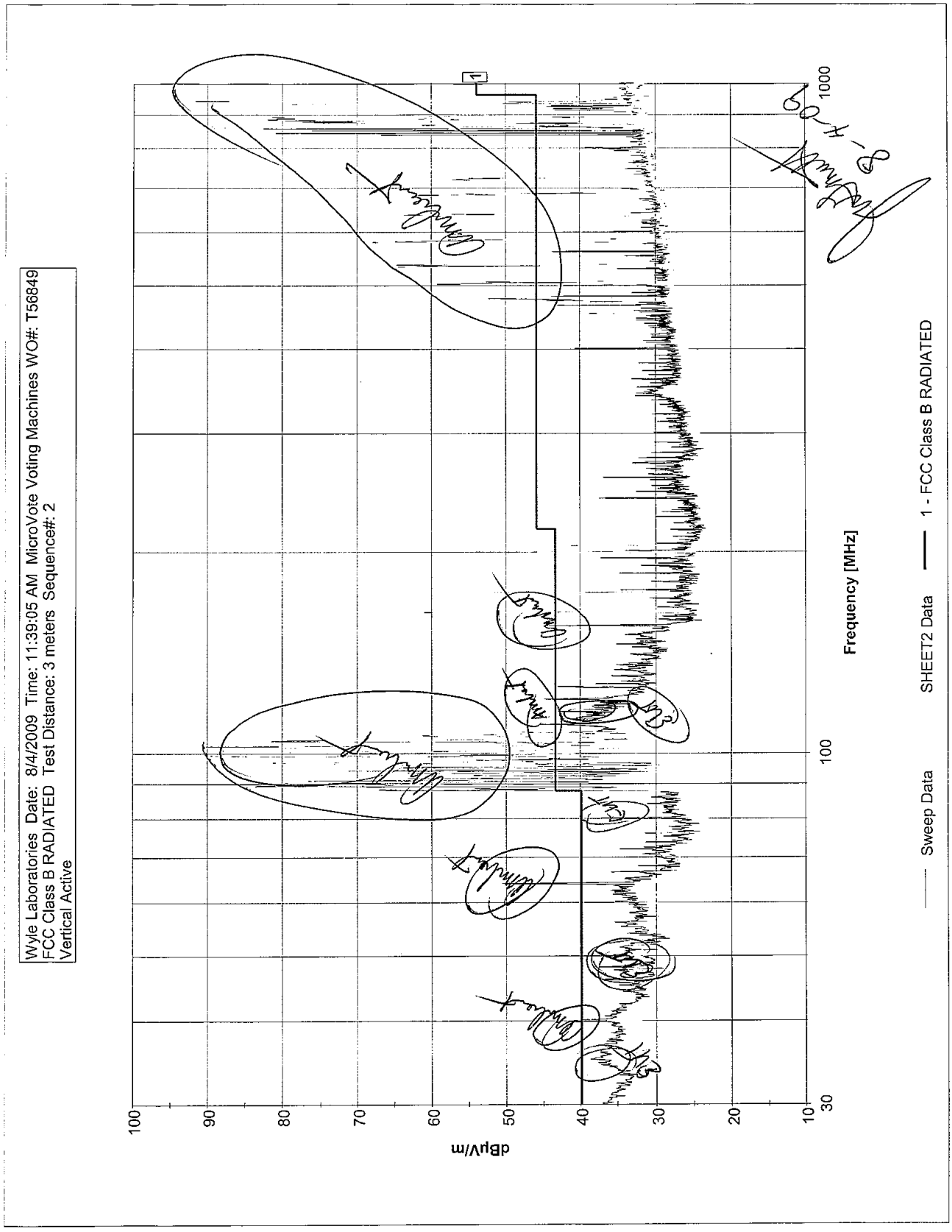
FCC Class B RADIATED Test Distance: 3 meters Sequence#: 2
Vertical Active
1
100
90
80
70
60
50
40
30
20
10
dBµV/m
30
100
1000
Frequency [MHz]
Sweep Data
1 - FCC Class B RADIATED


Wyle Laboratories Date: 8/4/2009 Time: 11:39:05 AM MicroVote Voting Machines WO#: T56849
FCC Class B RADIATED Test Distance: 3 meters Sequence#: 2
Vertical Active
dBµV/m
100
90
80
70
60
50
40
30
20
10
30
100
1000
Frequency [MHz]
Sweep Data
SHEET2 Data
1 - FCC Class B RADIATED

Wyle Laboratories

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Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	13:53:24
Equipment:	Voting Device	Sequence:	3
Manufacturer:	MICROVOTE	Tested By:	J. Smith JSmith 8-4-09
Model:	INFINITY		
S/N:	10403		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Horizontal Active

Transducer Legend:

T1=Wyle #114415 3M Horz	T2=Cable Wyle# 110111

Measurement Data: Readings listed by margin. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	200.541	32.0	+10.3	-1.2			+0.0	41.1	43.5			Horiz	QP	**-2.4**
^	200.627	39.1	+10.3	-1.2			+0.0	48.2	43.5			Horiz	Peak	**+4.7**
3	72.049	28.9	+8.5	-0.7			+0.0	36.7	40.0			Horiz	QP	**-3.3**
^	72.053	30.5	+8.5	-0.7			+0.0	38.3	40.0			Horiz	Peak	**-1.7**
5	80.046	27.3	+7.0	-0.6			+0.0	33.7	40.0			Horiz	QP	**-6.3**
^	80.105	30.3	+7.0	-0.6			+0.0	36.7	40.0			Horiz	Peak	**-3.3**
7	115.278	26.8	+9.5	-0.9			+0.0	35.4	43.5			Horiz	QP	**-8.1**
^	115.236	27.8	+9.5	-0.9			+0.0	36.4	43.5			Horiz	Peak	**-7.1**
9	125.302	25.1	+8.5	-0.9			+0.0	32.7	43.5			Horiz	QP	**-10.8**
^	125.204	28.1	+8.5	-0.9			+0.0	35.7	43.5			Horiz	Peak	**-7.8**
11	48.030	15.8	+14.0	-0.6			+0.0	29.1	40.0			Horiz	QP	**-10.9**
^	48.032	19.2	+14.0	-0.6			+0.0	32.6	40.0			Horiz	Peak	**-7.4**

Wyle Laboratories

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Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	1:24:48 PM
Equipment:	Voting Device	Sequence:	3
Manufacturer:	MICROVOTE	Tested By:	J. Smith 8-4-09
Model:	INFINITY		
S/N:	10403		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Horizontal Active

Transducer Legend:

T1=Wyle #114415 3M Horz	T2=Cable Wyle# 110111

Measurement Data: Readings listed by frequency. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	31.730	42.3	+19.8	-0.4			+0.0	61.7	40.0			Horiz	Peak	**+21.7**
2	39.981	17.5	+16.4	-0.5			+0.0	33.4	40.0			Horiz	Peak	**-6.6**
3	48.032	19.2	+14.0	-0.6			+0.0	32.6	40.0			Horiz	Peak	**-7.4**
4	56.017	21.2	+12.1	-0.6			+0.0	32.7	40.0			Horiz	Peak	**-7.3**
5	61.008	21.4	+11.0	-0.6			+0.0	31.8	40.0			Horiz	Peak	**-8.2**
6	64.068	35.1	+10.2	-0.7			+0.0	44.6	40.0			Horiz	Peak	**+4.6**
7	65.200	23.6	+9.9	-0.7			+0.0	32.8	40.0			Horiz	Peak	**-7.2**
8	68.061	24.6	+9.3	-0.7			+0.0	33.2	40.0			Horiz	Peak	**-6.8**
9	72.053	30.5	+8.5	-0.7			+0.0	38.3	40.0			Horiz	Peak	**-1.7**
10	75.247	26.5	+7.9	-0.8			+0.0	33.6	40.0			Horiz	Peak	**-6.4**
11	80.105	30.3	+7.0	-0.6			+0.0	36.7	40.0			Horiz	Peak	**-3.3**
12	88.156	46.2	+7.3	-0.8			+0.0	52.7	43.5			Horiz	Peak	**+9.2**
13	88.555	31.1	+7.3	-0.8			+0.0	37.6	43.5			Horiz	Peak	**-5.9**
14	89.354	62.0	+7.3	-0.8			+0.0	68.5	43.5			Horiz	Peak	**+25.0**
15	90.152	59.2	+7.4	-0.8			+0.0	65.8	43.5			Horiz	Peak	**+22.3**
16	90.485	47.5	+7.5	-0.8			+0.0	54.2	43.5			Horiz	Peak	**+10.7**
17	91.017	62.4	+7.6	-0.8			+0.0	69.2	43.5			Horiz	Peak	**+25.7**
18	91.749	55.1	+7.7	-0.8			+0.0	62.0	43.5			Horiz	Peak	**+18.5**
19	92.548	31.0	+7.9	-0.7			+0.0	38.2	43.5			Horiz	Peak	**-5.3**
20	94.211	41.1	+8.2	-0.7			+0.0	48.6	43.5			Horiz	Peak	**+5.1**
21	95.209	56.9	+8.3	-0.7			+0.0	64.5	43.5			Horiz	Peak	**+21.0**
22	96.008	31.8	+8.4	-0.7			+0.0	39.5	43.5			Horiz	Peak	**-4.0**
23	96.860	65.9	+8.6	-0.7			+0.0	73.8	43.5			Horiz	Peak	**+30.3**
24	97.581	33.0	+8.7	-0.8			+0.0	40.9	43.5			Horiz	Peak	**-2.6**
25	98.181	27.4	+8.7	-0.8			+0.0	35.3	43.5			Horiz	Peak	**-8.2**
26	99.142	50.3	+8.9	-0.8			+0.0	58.4	43.5			Horiz	Peak	**+14.9**
27	99.623	26.9	+8.9	-0.8			+0.0	35.0	43.5			Horiz	Peak	**-8.5**
28	100.223	52.9	+9.0	-0.8			+0.0	61.1	43.5			Horiz	Peak	**+17.6**
29	102.025	66.1	+9.1	-0.8			+0.0	74.4	43.5			Horiz	Peak	**+30.9**
30	103.466	58.4	+9.2	-0.8			+0.0	66.8	43.5			Horiz	Peak	**+23.3**
31	104.186	63.7	+9.3	-0.8			+0.0	72.2	43.5			Horiz	Peak	**+28.7**
32	105.147	30.8	+9.3	-0.9			+0.0	39.2	43.5			Horiz	Peak	**-4.3**
33	105.988	34.8	+9.3	-0.9			+0.0	43.2	43.5			Horiz	Peak	**-0.3**
34	106.468	38.1	+9.3	-0.9			+0.0	46.5	43.5			Horiz	Peak	**+3.0**
35	107.309	38.7	+9.3	-0.9			+0.0	47.1	43.5			Horiz	Peak	**+3.6**
36	107.910	27.4	+9.4	-0.9			+0.0	35.9	43.5			Horiz	Peak	**-7.6**
37	110.191	32.9	+9.4	-0.9			+0.0	41.4	43.5			Horiz	Peak	**-2.1**
38	111.993	30.5	+9.4	-0.9			+0.0	39.0	43.5			Horiz	Peak	**-4.5**

Wyle Laboratories

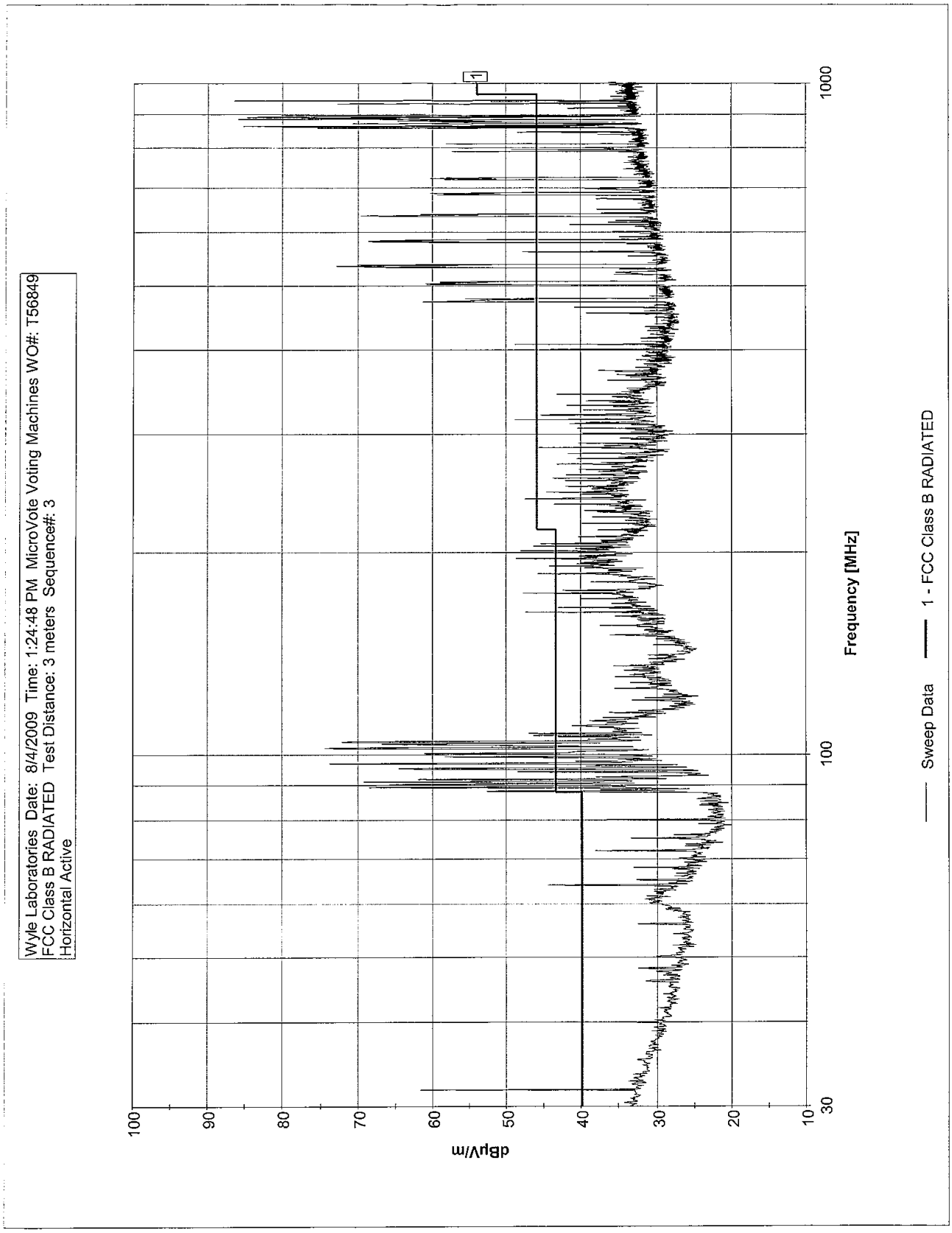
#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
39	115.236	27.8	+9.5	-0.9			+0.0	36.4	43.5			Horiz	Peak	-7.1
40	125.204	28.1	+8.5	-0.9			+0.0	35.7	43.5			Horiz	Peak	-7.8
41	130.248	28.5	+8.0	-0.9			+0.0	35.6	43.5			Horiz	Peak	-7.9
42	135.172	28.9	+7.9	-1.0			+0.0	35.8	43.5			Horiz	Peak	-7.7
43	150.305	28.1	+9.3	-1.1			+0.0	36.3	43.5			Horiz	Peak	-7.2
44	155.349	29.6	+9.0	-1.0			+0.0	37.6	43.5			Horiz	Peak	-5.9
45	160.393	27.8	+8.8	-1.0			+0.0	35.6	43.5			Horiz	Peak	-7.9
46	162.435	39.7	+8.8	-1.0			+0.0	47.5	43.5			Horiz	Peak	+4.0
47	165.437	35.5	+8.8	-1.1			+0.0	43.2	43.5			Horiz	Peak	-0.3
48	167.839	28.3	+8.9	-1.1			+0.0	36.1	43.5			Horiz	Peak	-7.4
49	170.482	32.2	+9.0	-1.1			+0.0	40.1	43.5			Horiz	Peak	-3.4
50	173.844	39.7	+9.2	-1.1			+0.0	47.8	43.5			Horiz	Peak	+4.3
51	175.526	34.6	+9.2	-1.2			+0.0	42.6	43.5			Horiz	Peak	-0.9
52	180.450	30.5	+9.5	-1.2			+0.0	38.8	43.5			Horiz	Peak	-4.7
53	185.494	36.8	+10.2	-1.1			+0.0	45.9	43.5			Horiz	Peak	+2.4
54	186.215	30.2	+10.3	-1.1			+0.0	39.4	43.5			Horiz	Peak	-4.1
55	190.538	35.0	+10.5	-1.1			+0.0	44.4	43.5			Horiz	Peak	+0.9
56	191.980	31.3	+10.5	-1.1			+0.0	40.7	43.5			Horiz	Peak	-2.8
57	192.940	30.4	+10.4	-1.1			+0.0	39.7	43.5			Horiz	Peak	-3.8
58	195.583	39.6	+10.4	-1.2			+0.0	48.8	43.5			Horiz	Peak	+5.3
59	197.504	30.5	+10.3	-1.2			+0.0	39.6	43.5			Horiz	Peak	-3.9
60	199.426	42.9	+10.3	-1.2			+0.0	52.0	43.5			Horiz	Peak	+8.5
61	200.627	39.1	+10.3	-1.2			+0.0	48.2	43.5			Horiz	Peak	+4.7
62	202.068	31.8	+10.3	-1.2			+0.0	40.9	43.5			Horiz	Peak	-2.6
63	202.548	31.1	+10.3	-1.2			+0.0	40.2	43.5			Horiz	Peak	-3.3
64	203.149	29.1	+10.3	-1.2			+0.0	38.2	43.5			Horiz	Peak	-5.3
65	203.869	37.4	+10.3	-1.2			+0.0	46.5	43.5			Horiz	Peak	+3.0
66	205.551	36.3	+10.3	-1.1			+0.0	45.5	43.5			Horiz	Peak	+2.0
67	206.992	28.2	+10.4	-1.1			+0.0	37.5	43.5			Horiz	Peak	-6.0
68	207.593	28.1	+10.4	-1.1			+0.0	37.4	43.5			Horiz	Peak	-6.1
69	208.193	28.2	+10.4	-1.1			+0.0	37.5	43.5			Horiz	Peak	-6.0
70	210.595	31.1	+10.5	-1.1			+0.0	40.5	43.5			Horiz	Peak	-3.0
71	215.519	28.4	+10.7	-1.2			+0.0	37.9	43.5			Horiz	Peak	-5.6
72	220.443	30.4	+10.8	-1.2			+0.0	40.0	46.0			Horiz	Peak	-6.0
73	225.367	29.1	+10.8	-1.3			+0.0	38.6	46.0			Horiz	Peak	-7.4
74	228.970	27.9	+11.0	-1.3			+0.0	37.6	46.0			Horiz	Peak	-8.4
75	229.451	28.3	+11.0	-1.3			+0.0	38.0	46.0			Horiz	Peak	-8.0
76	230.532	30.0	+11.0	-1.3			+0.0	39.7	46.0			Horiz	Peak	-6.3
77	235.456	34.0	+11.0	-1.3			+0.0	43.7	46.0			Horiz	Peak	-2.3
78	239.899	37.8	+11.1	-1.3			+0.0	47.6	46.0			Horiz	Peak	+1.6
79	243.743	30.2	+11.3	-1.3			+0.0	40.2	46.0			Horiz	Peak	-5.8
80	245.424	34.8	+11.4	-1.4			+0.0	44.8	46.0			Horiz	Peak	-1.2
81	250.468	31.8	+11.8	-1.4			+0.0	42.2	46.0			Horiz	Peak	-3.8
82	255.512	31.3	+12.3	-1.3			+0.0	42.3	46.0			Horiz	Peak	-3.7
83	257.674	32.8	+12.4	-1.3			+0.0	43.9	46.0			Horiz	Peak	-2.1
84	260.437	30.9	+12.5	-1.3			+0.0	42.1	46.0			Horiz	Peak	-3.9
85	263.679	26.6	+12.5	-1.3			+0.0	37.8	46.0			Horiz	Peak	-8.2
86	265.481	29.2	+12.5	-1.3			+0.0	40.4	46.0			Horiz	Peak	-5.6
87	269.804	27.5	+12.3	-1.3			+0.0	38.5	46.0			Horiz	Peak	-7.5
88	270.405	32.3	+12.3	-1.3			+0.0	43.3	46.0			Horiz	Peak	-2.7
89	275.449	29.9	+12.2	-1.4			+0.0	40.7	46.0			Horiz	Peak	-5.3
90	280.493	30.9	+12.4	-1.4			+0.0	41.9	46.0			Horiz	Peak	-4.1
91	286.258	34.5	+12.7	-1.4			+0.0	45.8	46.0			Horiz	Peak	-0.2
92	290.582	28.9	+13.0	-1.4			+0.0	40.5	46.0			Horiz	Peak	-5.5
93	300.550	28.0	+13.4	-1.5			+0.0	39.9	46.0			Horiz	Peak	-6.1
94	305.474	28.5	+13.6	-1.5			+0.0	40.6	46.0			Horiz	Peak	-5.4
95	310.518	29.5	+13.7	-1.5			+0.0	41.7	46.0			Horiz	Peak	-4.3
96	311.959	27.2	+13.8	-1.5			+0.0	39.5	46.0			Horiz	Peak	-6.5
97	314.842	36.6	+13.9	-1.5			+0.0	49.0	46.0			Horiz	Peak	+3.0
98	315.442	29.4	+13.9	-1.5			+0.0	41.8	46.0			Horiz	Peak	-4.2
99	319.886	33.2	+13.8	-1.5			+0.0	45.5	46.0			Horiz	Peak	-0.5
100	320.607	32.0	+13.8	-1.5			+0.0	44.3	46.0			Horiz	Peak	-1.7
101	325.531	27.5	+13.8	-1.5			+0.0	39.8	46.0			Horiz	Peak	-6.2

Wyle Laboratories

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
102	330.455	29.8	+13.8	-1.5			+0.0	42.1	46.0			Horiz	Peak	-3.9
103	335.499	26.9	+14.1	-1.5			+0.0	39.5	46.0			Horiz	Peak	-6.5
104	343.431	30.5	+14.4	-1.5			+0.0	43.4	46.0			Horiz	Peak	-2.6
105	372.159	24.2	+15.2	-1.6			+0.0	37.8	46.0			Horiz	Peak	-8.2
106	399.685	30.2	+15.6	-1.6			+0.0	44.2	46.0			Horiz	Peak	-1.8
107	406.777	34.9	+15.6	-1.6			+0.0	48.9	46.0			Horiz	Peak	+2.9
108	452.573	24.8	+16.4	-1.8			+0.0	39.4	46.0			Horiz	Peak	-6.6
109	461.584	26.3	+16.5	-1.8			+0.0	41.0	46.0			Horiz	Peak	-5.0
110	470.231	46.4	+16.7	-1.8			+0.0	61.3	46.0			Horiz	Peak	+15.3
111	475.516	40.7	+16.7	-1.8			+0.0	55.6	46.0			Horiz	Peak	+9.6
112	500.376	45.5	+17.2	-1.9			+0.0	60.8	46.0			Horiz	Peak	+14.8
113	502.298	45.7	+17.2	-1.9			+0.0	61.0	46.0			Horiz	Peak	+15.0
114	504.460	44.5	+17.1	-1.9			+0.0	59.7	46.0			Horiz	Peak	+13.7
115	505.060	43.8	+17.1	-1.9			+0.0	59.0	46.0			Horiz	Peak	+13.0
116	531.122	53.4	+17.7	-1.9			+0.0	69.2	46.0			Horiz	Peak	+23.2
117	533.164	57.0	+17.8	-1.9			+0.0	72.9	46.0			Horiz	Peak	+26.9
118	534.725	53.7	+17.8	-1.9			+0.0	69.6	46.0			Horiz	Peak	+23.6
119	535.686	54.3	+17.8	-1.9			+0.0	70.2	46.0			Horiz	Peak	+24.2
120	560.306	31.9	+18.0	-2.0			+0.0	47.9	46.0			Horiz	Peak	+1.9
121	579.162	51.8	+18.4	-2.1			+0.0	68.1	46.0			Horiz	Peak	+22.1
122	580.723	52.3	+18.4	-2.1			+0.0	68.6	46.0			Horiz	Peak	+22.6
123	582.525	50.8	+18.4	-2.1			+0.0	67.1	46.0			Horiz	Peak	+21.1
124	615.072	24.7	+19.0	-2.1			+0.0	41.6	46.0			Horiz	Peak	-4.4
125	633.447	52.3	+19.4	-2.1			+0.0	69.6	46.0			Horiz	Peak	+23.6
126	635.128	41.8	+19.4	-2.1			+0.0	59.1	46.0			Horiz	Peak	+13.1
127	636.329	44.4	+19.4	-2.1			+0.0	61.7	46.0			Horiz	Peak	+15.7
128	637.290	42.8	+19.4	-2.1			+0.0	60.1	46.0			Horiz	Peak	+14.1
129	639.452	20.2	+19.3	-2.1			+0.0	37.4	46.0			Horiz	Peak	-8.6
130	647.739	20.9	+19.2	-2.1			+0.0	38.0	46.0			Horiz	Peak	-8.0
131	671.639	20.9	+19.5	-2.3			+0.0	38.1	46.0			Horiz	Peak	-7.9
132	680.286	42.1	+19.6	-2.3			+0.0	59.4	46.0			Horiz	Peak	+13.4
133	681.607	41.0	+19.6	-2.3			+0.0	58.3	46.0			Horiz	Peak	+12.3
134	683.889	43.0	+19.6	-2.3			+0.0	60.3	46.0			Horiz	Peak	+14.3
135	685.210	37.6	+19.6	-2.3			+0.0	54.9	46.0			Horiz	Peak	+8.9
136	695.299	22.4	+19.4	-2.2			+0.0	39.6	46.0			Horiz	Peak	-6.4
137	697.340	20.3	+19.5	-2.2			+0.0	37.6	46.0			Horiz	Peak	-8.4
138	716.676	40.7	+20.0	-2.3			+0.0	58.4	46.0			Horiz	Peak	+12.4
139	719.198	42.5	+20.1	-2.3			+0.0	60.3	46.0			Horiz	Peak	+14.3
140	721.360	40.3	+20.2	-2.3			+0.0	58.2	46.0			Horiz	Peak	+12.2
141	788.977	38.6	+21.2	-2.4			+0.0	57.4	46.0			Horiz	Peak	+11.4
142	792.580	24.2	+21.3	-2.4			+0.0	43.1	46.0			Horiz	Peak	-2.9
143	793.540	30.5	+21.3	-2.4			+0.0	49.4	46.0			Horiz	Peak	+3.4
144	799.185	21.0	+21.0	-2.4			+0.0	39.6	46.0			Horiz	Peak	-6.4
145	809.874	39.6	+21.0	-2.4			+0.0	58.2	46.0			Horiz	Peak	+12.2
146	835.816	19.1	+21.2	-2.5			+0.0	37.8	46.0			Horiz	Peak	-8.2
147	842.301	29.7	+21.4	-2.5			+0.0	48.6	46.0			Horiz	Peak	+2.6
148	843.622	28.5	+21.4	-2.5			+0.0	47.4	46.0			Horiz	Peak	+1.4
149	853.951	56.5	+21.6	-2.6			+0.0	75.5	46.0			Horiz	Peak	+29.5
150	854.911	24.4	+21.6	-2.6			+0.0	43.4	46.0			Horiz	Peak	-2.6
151	855.872	37.7	+21.6	-2.6			+0.0	56.7	46.0			Horiz	Peak	+10.7
152	856.833	35.3	+21.6	-2.6			+0.0	54.3	46.0			Horiz	Peak	+8.3
153	857.193	61.2	+21.6	-2.6			+0.0	80.2	46.0			Horiz	Peak	+34.2
154	858.394	42.6	+21.7	-2.6			+0.0	61.7	46.0			Horiz	Peak	+15.7
155	859.355	43.1	+21.7	-2.6			+0.0	62.2	46.0			Horiz	Peak	+16.2
156	859.956	62.8	+21.7	-2.6			+0.0	81.9	46.0			Horiz	Peak	+35.9
157	860.196	66.3	+21.7	-2.6			+0.0	85.4	46.0			Horiz	Peak	+39.4
158	860.676	63.3	+21.7	-2.6			+0.0	82.4	46.0			Horiz	Peak	+36.4
159	861.277	41.2	+21.7	-2.6			+0.0	60.3	46.0			Horiz	Peak	+14.3
160	861.877	41.2	+21.7	-2.6			+0.0	60.3	46.0			Horiz	Peak	+14.3
161	862.117	42.3	+21.7	-2.6			+0.0	61.4	46.0			Horiz	Peak	+15.4
162	863.318	29.1	+21.7	-2.6			+0.0	48.2	46.0			Horiz	Peak	+2.2
163	863.919	37.6	+21.7	-2.6			+0.0	56.7	46.0			Horiz	Peak	+10.7
164	865.120	21.6	+21.7	-2.6			+0.0	40.7	46.0			Horiz	Peak	-5.3

Wyle Laboratories

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
165	866.921	23.4	+21.7	-2.6			+0.0	42.5	46.0			Horiz	Peak	-3.5
166	868.122	51.6	+21.8	-2.6			+0.0	70.8	46.0			Horiz	Peak	+24.8
167	872.086	39.6	+21.8	-2.6			+0.0	58.8	46.0			Horiz	Peak	+12.8
168	872.686	37.4	+21.9	-2.6			+0.0	56.7	46.0			Horiz	Peak	+10.7
169	873.647	41.2	+21.9	-2.6			+0.0	60.5	46.0			Horiz	Peak	+14.5
170	874.488	38.8	+21.9	-2.6			+0.0	58.1	46.0			Horiz	Peak	+12.1
171	875.088	39.9	+21.9	-2.6			+0.0	59.2	46.0			Horiz	Peak	+13.2
172	876.049	45.5	+21.9	-2.6			+0.0	64.8	46.0			Horiz	Peak	+18.8
173	876.890	41.1	+21.9	-2.6			+0.0	60.4	46.0			Horiz	Peak	+14.4
174	878.211	42.4	+22.0	-2.6			+0.0	61.8	46.0			Horiz	Peak	+15.8
175	879.892	43.9	+22.0	-2.6			+0.0	63.3	46.0			Horiz	Peak	+17.3
176	880.613	66.7	+22.0	-2.6			+0.0	86.1	46.0			Horiz	Peak	+40.1
177	881.934	55.7	+22.0	-2.6			+0.0	75.1	46.0			Horiz	Peak	+29.1
178	883.976	58.3	+21.9	-2.6			+0.0	77.6	46.0			Horiz	Peak	+31.6
179	885.897	65.6	+21.9	-2.6			+0.0	84.9	46.0			Horiz	Peak	+38.9
180	886.498	41.2	+21.9	-2.6			+0.0	60.5	46.0			Horiz	Peak	+14.5
181	887.098	39.0	+21.9	-2.6			+0.0	58.3	46.0			Horiz	Peak	+12.3
182	888.539	64.1	+22.0	-2.6			+0.0	83.5	46.0			Horiz	Peak	+37.5
183	889.500	34.7	+22.0	-2.6			+0.0	54.1	46.0			Horiz	Peak	+8.1
184	891.422	32.9	+22.0	-2.6			+0.0	52.3	46.0			Horiz	Peak	+6.3
185	892.983	60.8	+22.1	-2.6			+0.0	80.3	46.0			Horiz	Peak	+34.3
186	893.343	44.3	+22.1	-2.6			+0.0	63.8	46.0			Horiz	Peak	+17.8
187	914.241	22.2	+22.3	-2.6			+0.0	41.9	46.0			Horiz	Peak	-4.1
188	914.841	19.8	+22.3	-2.6			+0.0	39.5	46.0			Horiz	Peak	-6.5
189	915.202	20.8	+22.3	-2.6			+0.0	40.5	46.0			Horiz	Peak	-5.5
190	916.042	21.4	+22.3	-2.6			+0.0	41.1	46.0			Horiz	Peak	-4.9
191	929.133	52.8	+22.6	-2.6			+0.0	72.8	46.0			Horiz	Peak	+26.8
192	931.535	26.9	+22.6	-2.6			+0.0	46.9	46.0			Horiz	Peak	+0.9
193	935.859	32.1	+22.7	-2.6			+0.0	52.2	46.0			Horiz	Peak	+6.2
194	936.700	18.5	+22.7	-2.6			+0.0	38.6	46.0			Horiz	Peak	-7.4
195	937.944	17.2	+22.8	-2.5			+0.0	37.5	46.0			Horiz	Peak	-8.5
196	938.382	21.9	+22.8	-2.5			+0.0	42.2	46.0			Horiz	Peak	-3.8
197	938.883	66.3	+22.8	-2.5			+0.0	86.6	46.0			Horiz	Peak	+40.6
198	939.321	42.6	+22.8	-2.5			+0.0	62.9	46.0			Horiz	Peak	+16.9
199	940.197	58.0	+22.8	-2.5			+0.0	78.3	46.0			Horiz	Peak	+32.3
200	941.199	17.3	+22.8	-2.5			+0.0	37.6	46.0			Horiz	Peak	-8.4


Wyle Laboratories Date: 8/4/2009 Time: 1:24:48 PM MicroVote Voting Machines WO#: T56849
FCC Class B RADIATED Test Distance: 3 meters Sequence#: 3
Horizontal Active
dBµV/m
100
90
80
70
60
50
40
30
20
10
30
100
1000
Frequency [MHz]
Sweep Data
1 - FCC Class B RADIATED

Wyle Laboratories

wyle laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B RADIATED

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Radiated Scan	Time:	3:16:16 PM
Equipment:	Voting Device	Sequence:	4
Manufacturer:	MICROVOTE	Tested By:	J. Smith JSmith 8-4-09
Model:	INFINITY		
S/N:	10403		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Horizontal Ambient

Transducer Legend:

T1=Wyle #114415 3M Horz	T2=Cable Wyle# 110111

Measurement Data: Readings listed by frequency. Test Distance: 3 meters

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
1	35.589	19.4	+18.1	-0.5			+0.0	37.0	40.0			Horiz	Peak	**-3.0**
2	36.122	20.8	+17.9	-0.5			+0.0	38.2	40.0			Horiz	Peak	**-1.8**
3	39.848	17.5	+16.4	-0.5			+0.0	33.4	40.0			Horiz	Peak	**-6.6**
4	40.380	18.5	+16.2	-0.5			+0.0	34.2	40.0			Horiz	Peak	**-5.8**
5	41.112	19.8	+15.8	-0.5			+0.0	35.1	40.0			Horiz	Peak	**-4.9**
6	41.844	20.6	+15.7	-0.5			+0.0	35.8	40.0			Horiz	Peak	**-4.2**
7	43.641	19.3	+15.1	-0.6			+0.0	33.8	40.0			Horiz	Peak	**-6.2**
8	45.038	22.9	+14.6	-0.6			+0.0	36.9	40.0			Horiz	Peak	**-3.1**
9	45.903	17.5	+14.6	-0.6			+0.0	31.5	40.0			Horiz	Peak	**-8.5**
10	75.913	17.0	+7.7	-0.8			+0.0	23.9	40.0			Horiz	Peak	**-16.1**
11	78.441	20.6	+7.3	-0.7			+0.0	27.2	40.0			Horiz	Peak	**-12.8**
12	78.707	18.5	+7.2	-0.7			+0.0	25.0	40.0			Horiz	Peak	**-15.0**
13	81.835	17.1	+7.0	-0.7			+0.0	23.4	40.0			Horiz	Peak	**-16.6**
14	82.367	19.2	+7.0	-0.7			+0.0	25.5	40.0			Horiz	Peak	**-14.5**
15	82.700	20.2	+7.0	-0.7			+0.0	26.5	40.0			Horiz	Peak	**-13.5**
16	83.165	18.7	+7.0	-0.7			+0.0	25.0	40.0			Horiz	Peak	**-15.0**
17	87.956	43.5	+7.2	-0.8			+0.0	49.9	40.0			Horiz	Peak	**+9.9**
18	88.489	30.6	+7.3	-0.8			+0.0	37.1	43.5			Horiz	Peak	**-6.4**
19	89.287	61.2	+7.3	-0.8			+0.0	67.7	43.5			Horiz	Peak	**+24.2**
20	90.086	58.4	+7.4	-0.8			+0.0	65.0	43.5			Horiz	Peak	**+21.5**
21	90.951	62.9	+7.6	-0.8			+0.0	69.7	43.5			Horiz	Peak	**+26.2**
22	91.283	27.8	+7.6	-0.8			+0.0	34.6	43.5			Horiz	Peak	**-8.9**
23	91.683	52.0	+7.7	-0.8			+0.0	58.9	43.5			Horiz	Peak	**+15.4**
24	92.348	31.5	+7.8	-0.8			+0.0	38.5	43.5			Horiz	Peak	**-5.0**
25	93.280	56.3	+8.0	-0.7			+0.0	63.6	43.5			Horiz	Peak	**+20.1**
26	94.078	40.2	+8.1	-0.7			+0.0	47.6	43.5			Horiz	Peak	**+4.1**
27	95.076	56.8	+8.3	-0.7			+0.0	64.4	43.5			Horiz	Peak	**+20.9**
28	95.941	33.6	+8.4	-0.7			+0.0	41.3	43.5			Horiz	Peak	**-2.2**
29	96.860	65.9	+8.6	-0.7			+0.0	73.8	43.5			Horiz	Peak	**+30.3**
30	97.581	31.0	+8.7	-0.8			+0.0	38.9	43.5			Horiz	Peak	**-4.6**
31	98.181	25.2	+8.7	-0.8			+0.0	33.1	43.5			Horiz	Peak	**-10.4**
32	99.022	53.7	+8.9	-0.8			+0.0	61.8	43.5			Horiz	Peak	**+18.3**
33	100.223	53.4	+9.0	-0.8			+0.0	61.6	43.5			Horiz	Peak	**+18.1**
34	102.025	65.9	+9.1	-0.8			+0.0	74.2	43.5			Horiz	Peak	**+30.7**
35	103.466	58.0	+9.2	-0.8			+0.0	66.4	43.5			Horiz	Peak	**+22.9**
36	104.186	64.2	+9.3	-0.8			+0.0	72.7	43.5			Horiz	Peak	**+29.2**
37	105.628	24.6	+9.3	-0.9			+0.0	33.0	43.5			Horiz	Peak	**-10.5**
38	106.468	37.5	+9.3	-0.9			+0.0	45.9	43.5			Horiz	Peak	**+2.4**

Wyle Laboratories

#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
39	107.189	37.0	+9.3	-0.9			+0.0	45.4	43.5			Horiz	Peak	+1.9
40	121.241	21.5	+9.0	-0.9			+0.0	29.6	43.5			Horiz	Peak	-13.9
41	127.966	17.8	+8.2	-0.9			+0.0	25.1	43.5			Horiz	Peak	-18.4
42	137.214	17.0	+8.1	-1.0			+0.0	24.1	43.5			Horiz	Peak	-19.4
43	139.256	17.2	+8.2	-1.0			+0.0	24.4	43.5			Horiz	Peak	-19.1
44	140.937	18.6	+8.5	-1.0			+0.0	26.1	43.5			Horiz	Peak	-17.4
45	162.435	40.4	+8.8	-1.0			+0.0	48.2	43.5			Horiz	Peak	+4.7
46	163.276	24.4	+8.8	-1.0			+0.0	32.2	43.5			Horiz	Peak	-11.3
47	167.599	19.2	+8.9	-1.1			+0.0	27.0	43.5			Horiz	Peak	-16.5
48	173.844	38.9	+9.2	-1.1			+0.0	47.0	43.5			Horiz	Peak	+3.5
49	186.935	16.1	+10.3	-1.1			+0.0	25.3	43.5			Horiz	Peak	-18.2
50	199.426	41.6	+10.3	-1.2			+0.0	50.7	43.5			Horiz	Peak	+7.2
51	203.869	37.9	+10.3	-1.2			+0.0	47.0	43.5			Horiz	Peak	+3.5
52	209.754	15.0	+10.5	-1.1			+0.0	24.4	43.5			Horiz	Peak	-19.1
53	218.281	15.9	+10.8	-1.2			+0.0	25.5	46.0			Horiz	Peak	-20.5
54	225.608	15.1	+10.8	-1.3			+0.0	24.6	46.0			Horiz	Peak	-21.4
55	226.568	14.5	+10.9	-1.3			+0.0	24.1	46.0			Horiz	Peak	-21.9
56	228.130	18.9	+10.9	-1.3			+0.0	28.5	46.0			Horiz	Peak	-17.5
57	229.451	17.0	+11.0	-1.3			+0.0	26.7	46.0			Horiz	Peak	-19.3
58	230.051	15.9	+11.0	-1.3			+0.0	25.6	46.0			Horiz	Peak	-20.4
59	238.819	19.8	+11.1	-1.3			+0.0	29.6	46.0			Horiz	Peak	-16.4
60	243.863	14.5	+11.3	-1.3			+0.0	24.5	46.0			Horiz	Peak	-21.5
61	249.507	14.2	+11.8	-1.4			+0.0	24.6	46.0			Horiz	Peak	-21.4
62	304.753	14.7	+13.6	-1.5			+0.0	26.8	46.0			Horiz	Peak	-19.2
63	306.915	15.0	+13.6	-1.5			+0.0	27.1	46.0			Horiz	Peak	-18.9
64	312.800	14.9	+13.8	-1.5			+0.0	27.2	46.0			Horiz	Peak	-18.8
65	324.570	15.2	+13.8	-1.5			+0.0	27.5	46.0			Horiz	Peak	-18.5
66	336.820	14.7	+14.2	-1.5			+0.0	27.4	46.0			Horiz	Peak	-18.6
67	339.825	15.2	+14.3	-1.5			+0.0	28.0	46.0			Horiz	Peak	-18.0
68	350.283	17.2	+14.4	-1.5			+0.0	30.1	46.0			Horiz	Peak	-15.9
69	353.889	16.8	+14.5	-1.5			+0.0	29.8	46.0			Horiz	Peak	-16.2
70	364.947	14.6	+15.1	-1.6			+0.0	28.1	46.0			Horiz	Peak	-17.9
71	367.471	14.9	+15.1	-1.6			+0.0	28.4	46.0			Horiz	Peak	-17.6
72	406.777	38.5	+15.6	-1.6			+0.0	52.5	46.0			Horiz	Peak	+6.5
73	419.878	14.6	+16.5	-1.7			+0.0	29.4	46.0			Horiz	Peak	-16.6
74	431.177	15.0	+16.2	-1.7			+0.0	29.5	46.0			Horiz	Peak	-16.5
75	450.049	15.6	+16.3	-1.8			+0.0	30.1	46.0			Horiz	Peak	-15.9
76	451.010	18.8	+16.3	-1.8			+0.0	33.3	46.0			Horiz	Peak	-12.7
77	452.573	26.6	+16.4	-1.8			+0.0	41.2	46.0			Horiz	Peak	-4.8
78	460.263	17.4	+16.5	-1.8			+0.0	32.1	46.0			Horiz	Peak	-13.9
79	462.184	27.5	+16.5	-1.8			+0.0	42.2	46.0			Horiz	Peak	-3.8
80	464.586	20.4	+16.6	-1.8			+0.0	35.2	46.0			Horiz	Peak	-10.8
81	470.231	47.0	+16.7	-1.8			+0.0	61.9	46.0			Horiz	Peak	+15.9
82	475.516	41.2	+16.7	-1.8			+0.0	56.1	46.0			Horiz	Peak	+10.1
83	500.256	46.5	+17.2	-1.9			+0.0	61.8	46.0			Horiz	Peak	+15.8
84	502.538	46.4	+17.1	-1.9			+0.0	61.6	46.0			Horiz	Peak	+15.6
85	505.060	45.9	+17.1	-1.9			+0.0	61.1	46.0			Horiz	Peak	+15.1
86	518.271	21.1	+17.4	-1.9			+0.0	36.6	46.0			Horiz	Peak	-9.4
87	522.835	20.4	+17.6	-1.9			+0.0	36.1	46.0			Horiz	Peak	-9.9
88	526.798	16.7	+17.6	-1.9			+0.0	32.4	46.0			Horiz	Peak	-13.6
89	528.480	18.0	+17.7	-1.9			+0.0	33.8	46.0			Horiz	Peak	-12.2
90	531.002	54.5	+17.7	-1.9			+0.0	70.3	46.0			Horiz	Peak	+24.3
91	533.043	57.1	+17.8	-1.9			+0.0	73.0	46.0			Horiz	Peak	+27.0
92	535.686	55.4	+17.8	-1.9			+0.0	71.3	46.0			Horiz	Peak	+25.3
93	554.301	17.5	+18.1	-2.0			+0.0	33.6	46.0			Horiz	Peak	-12.4
94	554.782	18.2	+18.1	-2.0			+0.0	34.3	46.0			Horiz	Peak	-11.7
95	555.742	16.9	+18.1	-2.0			+0.0	33.0	46.0			Horiz	Peak	-13.0
96	556.463	16.6	+18.1	-2.0			+0.0	32.7	46.0			Horiz	Peak	-13.3
97	557.063	15.8	+18.1	-2.0			+0.0	31.9	46.0			Horiz	Peak	-14.1
98	579.042	52.2	+18.4	-2.1			+0.0	68.5	46.0			Horiz	Peak	+22.5
99	581.083	51.6	+18.4	-2.1			+0.0	67.9	46.0			Horiz	Peak	+21.9
100	582.525	53.6	+18.4	-2.1			+0.0	69.9	46.0			Horiz	Peak	+23.9
101	585.167	18.9	+18.4	-2.1			+0.0	35.2	46.0			Horiz	Peak	-10.8

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#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
102	589.611	19.3	+18.5	-2.0			+0.0	35.8	46.0			Horiz	Peak	**-10.2**
103	619.636	20.4	+19.0	-2.1			+0.0	37.3	46.0			Horiz	Peak	**-8.7**
104	632.126	47.5	+19.3	-2.1			+0.0	64.7	46.0			Horiz	Peak	**+18.7**
105	633.327	50.3	+19.4	-2.1			+0.0	67.6	46.0			Horiz	Peak	**+21.6**
106	635.128	40.3	+19.4	-2.1			+0.0	57.6	46.0			Horiz	Peak	**+11.6**
107	636.810	45.9	+19.4	-2.1			+0.0	63.2	46.0			Horiz	Peak	**+17.2**
108	681.007	42.9	+19.6	-2.3			+0.0	60.2	46.0			Horiz	Peak	**+14.2**
109	683.529	42.3	+19.6	-2.3			+0.0	59.6	46.0			Horiz	Peak	**+13.6**
110	693.617	20.0	+19.4	-2.2			+0.0	37.2	46.0			Horiz	Peak	**-8.8**
111	697.220	18.7	+19.5	-2.2			+0.0	36.0	46.0			Horiz	Peak	**-10.0**
112	703.225	15.3	+19.7	-2.2			+0.0	32.8	46.0			Horiz	Peak	**-13.2**
113	716.316	39.6	+20.0	-2.3			+0.0	57.3	46.0			Horiz	Peak	**+11.3**
114	717.277	35.2	+20.0	-2.3			+0.0	52.9	46.0			Horiz	Peak	**+6.9**
115	719.078	37.8	+20.1	-2.3			+0.0	55.6	46.0			Horiz	Peak	**+9.6**
116	719.799	39.6	+20.1	-2.3			+0.0	57.4	46.0			Horiz	Peak	**+11.4**
117	720.399	39.5	+20.1	-2.3			+0.0	57.3	46.0			Horiz	Peak	**+11.3**
118	721.360	36.6	+20.2	-2.3			+0.0	54.5	46.0			Horiz	Peak	**+8.5**
119	730.248	14.5	+20.2	-2.3			+0.0	32.4	46.0			Horiz	Peak	**-13.6**
120	745.260	15.8	+20.6	-2.3			+0.0	34.1	46.0			Horiz	Peak	**-11.9**
121	788.977	37.9	+21.2	-2.4			+0.0	56.7	46.0			Horiz	Peak	**+10.7**
122	792.580	18.9	+21.3	-2.4			+0.0	37.8	46.0			Horiz	Peak	**-8.2**
123	793.540	30.9	+21.3	-2.4			+0.0	49.8	46.0			Horiz	Peak	**+3.8**
124	795.942	14.5	+21.2	-2.4			+0.0	33.3	46.0			Horiz	Peak	**-12.7**
125	803.749	14.8	+21.0	-2.4			+0.0	33.4	46.0			Horiz	Peak	**-12.6**
126	809.033	15.8	+21.0	-2.4			+0.0	34.4	46.0			Horiz	Peak	**-11.6**
127	810.354	15.1	+21.0	-2.4			+0.0	33.7	46.0			Horiz	Peak	**-12.3**
128	835.936	23.2	+21.2	-2.5			+0.0	41.9	46.0			Horiz	Peak	**-4.1**
129	840.860	27.9	+21.3	-2.5			+0.0	46.7	46.0			Horiz	Peak	**+0.7**
130	841.220	18.4	+21.3	-2.5			+0.0	37.2	46.0			Horiz	Peak	**-8.8**
131	854.071	43.6	+21.6	-2.6			+0.0	62.6	46.0			Horiz	Peak	**+16.6**
132	854.791	24.6	+21.6	-2.6			+0.0	43.6	46.0			Horiz	Peak	**-2.4**
133	855.512	36.0	+21.6	-2.6			+0.0	55.0	46.0			Horiz	Peak	**+9.0**
134	855.872	35.8	+21.6	-2.6			+0.0	54.8	46.0			Horiz	Peak	**+8.8**
135	856.833	38.9	+21.6	-2.6			+0.0	57.9	46.0			Horiz	Peak	**+11.9**
136	857.193	53.3	+21.6	-2.6			+0.0	72.3	46.0			Horiz	Peak	**+26.3**
137	857.914	32.9	+21.7	-2.6			+0.0	52.0	46.0			Horiz	Peak	**+6.0**
138	858.394	43.6	+21.7	-2.6			+0.0	62.7	46.0			Horiz	Peak	**+16.7**
139	859.355	43.4	+21.7	-2.6			+0.0	62.5	46.0			Horiz	Peak	**+16.5**
140	859.836	57.3	+21.7	-2.6			+0.0	76.4	46.0			Horiz	Peak	**+30.4**
141	860.196	63.4	+21.7	-2.6			+0.0	82.5	46.0			Horiz	Peak	**+36.5**
142	861.277	46.4	+21.7	-2.6			+0.0	65.5	46.0			Horiz	Peak	**+19.5**
143	862.238	55.1	+21.7	-2.6			+0.0	74.2	46.0			Horiz	Peak	**+28.2**
144	863.318	25.1	+21.7	-2.6			+0.0	44.2	46.0			Horiz	Peak	**-1.8**
145	863.919	37.6	+21.7	-2.6			+0.0	56.7	46.0			Horiz	Peak	**+10.7**
146	864.880	25.3	+21.7	-2.6			+0.0	44.4	46.0			Horiz	Peak	**-1.6**
147	865.600	19.4	+21.7	-2.6			+0.0	38.5	46.0			Horiz	Peak	**-7.5**
148	868.122	50.9	+21.8	-2.6			+0.0	70.1	46.0			Horiz	Peak	**+24.1**
149	868.603	32.6	+21.8	-2.6			+0.0	51.8	46.0			Horiz	Peak	**+5.8**
150	869.564	18.3	+21.8	-2.6			+0.0	37.5	46.0			Horiz	Peak	**-8.5**
151	869.804	18.1	+21.8	-2.6			+0.0	37.3	46.0			Horiz	Peak	**-8.7**
152	872.086	45.3	+21.8	-2.6			+0.0	64.5	46.0			Horiz	Peak	**+18.5**
153	872.686	44.6	+21.9	-2.6			+0.0	63.9	46.0			Horiz	Peak	**+17.9**
154	873.647	41.9	+21.9	-2.6			+0.0	61.2	46.0			Horiz	Peak	**+15.2**
155	874.248	40.9	+21.9	-2.6			+0.0	60.2	46.0			Horiz	Peak	**+14.2**
156	875.088	46.7	+21.9	-2.6			+0.0	66.0	46.0			Horiz	Peak	**+20.0**
157	876.049	48.1	+21.9	-2.6			+0.0	67.4	46.0			Horiz	Peak	**+21.4**
158	877.370	44.0	+21.9	-2.6			+0.0	63.3	46.0			Horiz	Peak	**+17.3**
159	878.211	44.4	+22.0	-2.6			+0.0	63.8	46.0			Horiz	Peak	**+17.8**
160	880.613	68.1	+22.0	-2.6			+0.0	87.5	46.0			Horiz	Peak	**+41.5**
161	881.574	60.2	+22.0	-2.6			+0.0	79.6	46.0			Horiz	Peak	**+33.6**
162	883.856	60.7	+21.9	-2.6			+0.0	80.0	46.0			Horiz	Peak	**+34.0**
163	885.897	69.0	+21.9	-2.6			+0.0	88.3	46.0			Horiz	Peak	**+42.3**
164	886.498	42.1	+21.9	-2.6			+0.0	61.4	46.0			Horiz	Peak	**+15.4**

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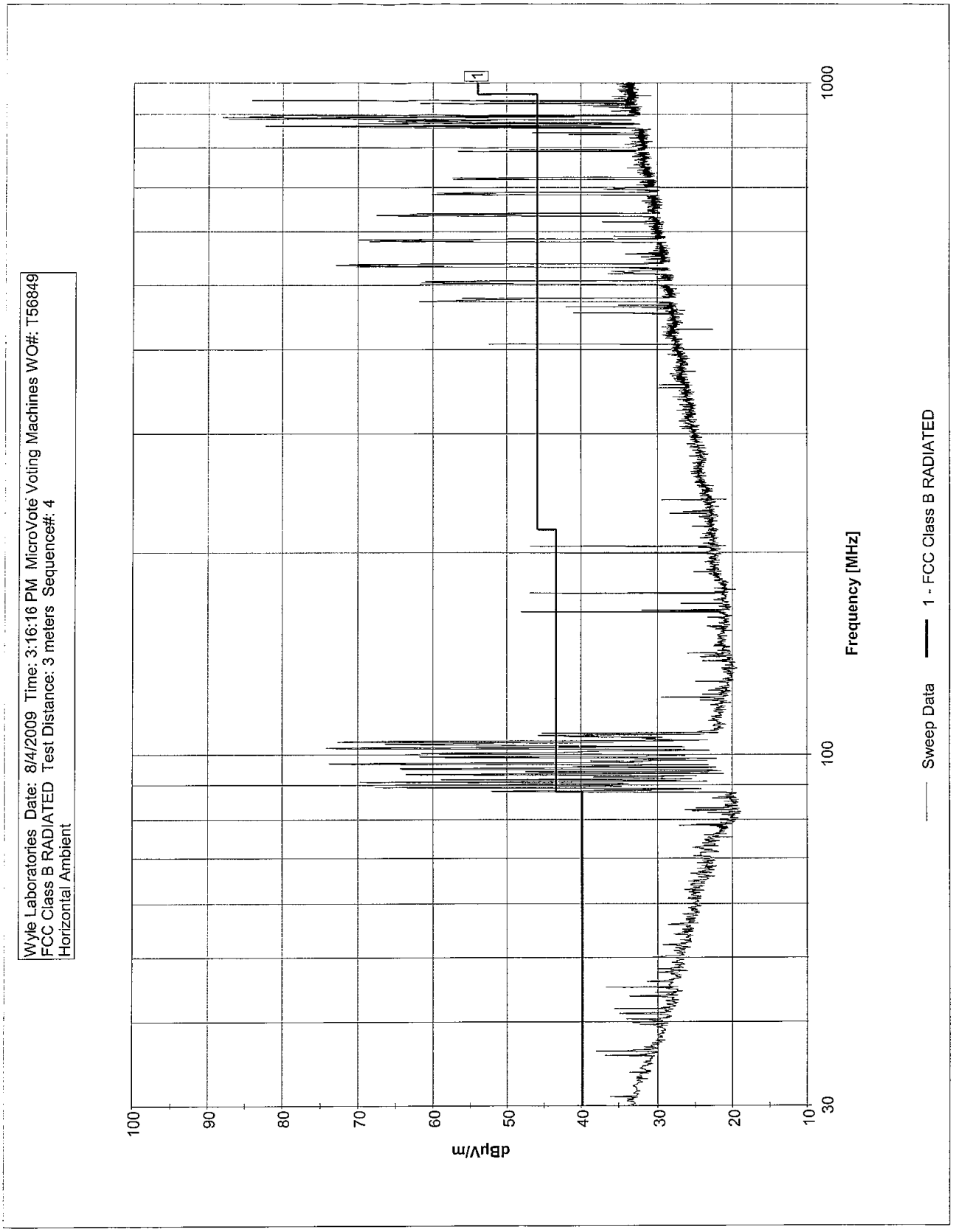
#	Freq MHz	Rdng dBµV	T1	T2			Dist	Corr dBµV/m	Spec dBµV/m			Polar	Type	Margin
165	887.098	40.4	+21.9	-2.6			+0.0	59.7	46.0			Horiz	Peak	**+13.7**
166	888.419	65.3	+22.0	-2.6			+0.0	84.7	46.0			Horiz	Peak	**+38.7**
167	889.140	38.4	+22.0	-2.6			+0.0	57.8	46.0			Horiz	Peak	**+11.8**
168	889.500	35.7	+22.0	-2.6			+0.0	55.1	46.0			Horiz	Peak	**+9.1**
169	891.542	37.6	+22.0	-2.6			+0.0	57.0	46.0			Horiz	Peak	**+11.0**
170	892.022	40.1	+22.0	-2.6			+0.0	59.5	46.0			Horiz	Peak	**+13.5**
171	892.863	62.3	+22.1	-2.6			+0.0	81.8	46.0			Horiz	Peak	**+35.8**
172	893.464	47.0	+22.1	-2.6			+0.0	66.5	46.0			Horiz	Peak	**+20.5**
173	905.594	16.6	+22.2	-2.6			+0.0	36.2	46.0			Horiz	Peak	**-9.8**
174	916.643	16.8	+22.3	-2.6			+0.0	36.5	46.0			Horiz	Peak	**-9.5**
175	919.045	18.8	+22.4	-2.6			+0.0	38.6	46.0			Horiz	Peak	**-7.4**
176	922.888	20.6	+22.5	-2.6			+0.0	40.5	46.0			Horiz	Peak	**-5.5**
177	924.089	17.7	+22.5	-2.6			+0.0	37.6	46.0			Horiz	Peak	**-8.4**
178	924.569	17.3	+22.5	-2.6			+0.0	37.2	46.0			Horiz	Peak	**-8.8**
179	926.971	17.2	+22.5	-2.6			+0.0	37.1	46.0			Horiz	Peak	**-8.9**
180	929.133	41.8	+22.6	-2.6			+0.0	61.8	46.0			Horiz	Peak	**+15.8**
181	931.535	26.8	+22.6	-2.6			+0.0	46.8	46.0			Horiz	Peak	**+0.8**
182	935.859	32.4	+22.7	-2.6			+0.0	52.5	46.0			Horiz	Peak	**+6.5**
183	936.700	17.8	+22.7	-2.6			+0.0	37.9	46.0			Horiz	Peak	**-8.1**
184	938.006	16.5	+22.8	-2.5			+0.0	36.8	46.0			Horiz	Peak	**-9.2**
185	938.382	24.0	+22.8	-2.5			+0.0	44.3	46.0			Horiz	Peak	**-1.7**
186	938.883	64.1	+22.8	-2.5			+0.0	84.4	46.0			Horiz	Peak	**+38.4**
187	939.321	40.4	+22.8	-2.5			+0.0	60.7	46.0			Horiz	Peak	**+14.7**
188	941.199	17.3	+22.8	-2.5			+0.0	37.6	46.0			Horiz	Peak	**-8.4**
189	944.705	15.6	+22.7	-2.5			+0.0	35.8	46.0			Horiz	Peak	**-10.2**
190	945.206	15.2	+22.7	-2.5			+0.0	35.4	46.0			Horiz	Peak	**-10.6**
191	947.398	15.1	+22.7	-2.5			+0.0	35.3	46.0			Horiz	Peak	**-10.7**
192	951.342	14.9	+22.6	-2.5			+0.0	35.0	46.0			Horiz	Peak	**-11.0**
193	952.594	16.1	+22.5	-2.5			+0.0	36.1	46.0			Horiz	Peak	**-9.9**
194	959.794	14.5	+22.6	-2.5			+0.0	34.6	46.0			Horiz	Peak	**-11.4**
195	992.727	15.2	+22.9	-2.6			+0.0	35.5	54.0			Horiz	Peak	**-18.5**
196	996.296	14.8	+22.8	-2.6			+0.0	35.0	54.0			Horiz	Peak	**-19.0**


Wyle Laboratories Date: 8/4/2009 Time: 3:16:16 PM MicroVote Voting Machines WO#: T56849
FCC Class B RADIATED Test Distance: 3 meters Sequence#: 4
Horizontal Ambient
dBµV/m
100
90
80
70
60
50
40
30
20
10
30
100
1000
Frequency [MHz]
Sweep Data
1 - FCC Class B RADIATED

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Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	10:08:11 AM
Equipment:		Sequence:	1
Manufacturer:		Tested By:	J. Smith JSmith 8-4-09
Model:			
S/N:			
Voltage:	120V 60Hz		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
None			

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:
Line Ambient

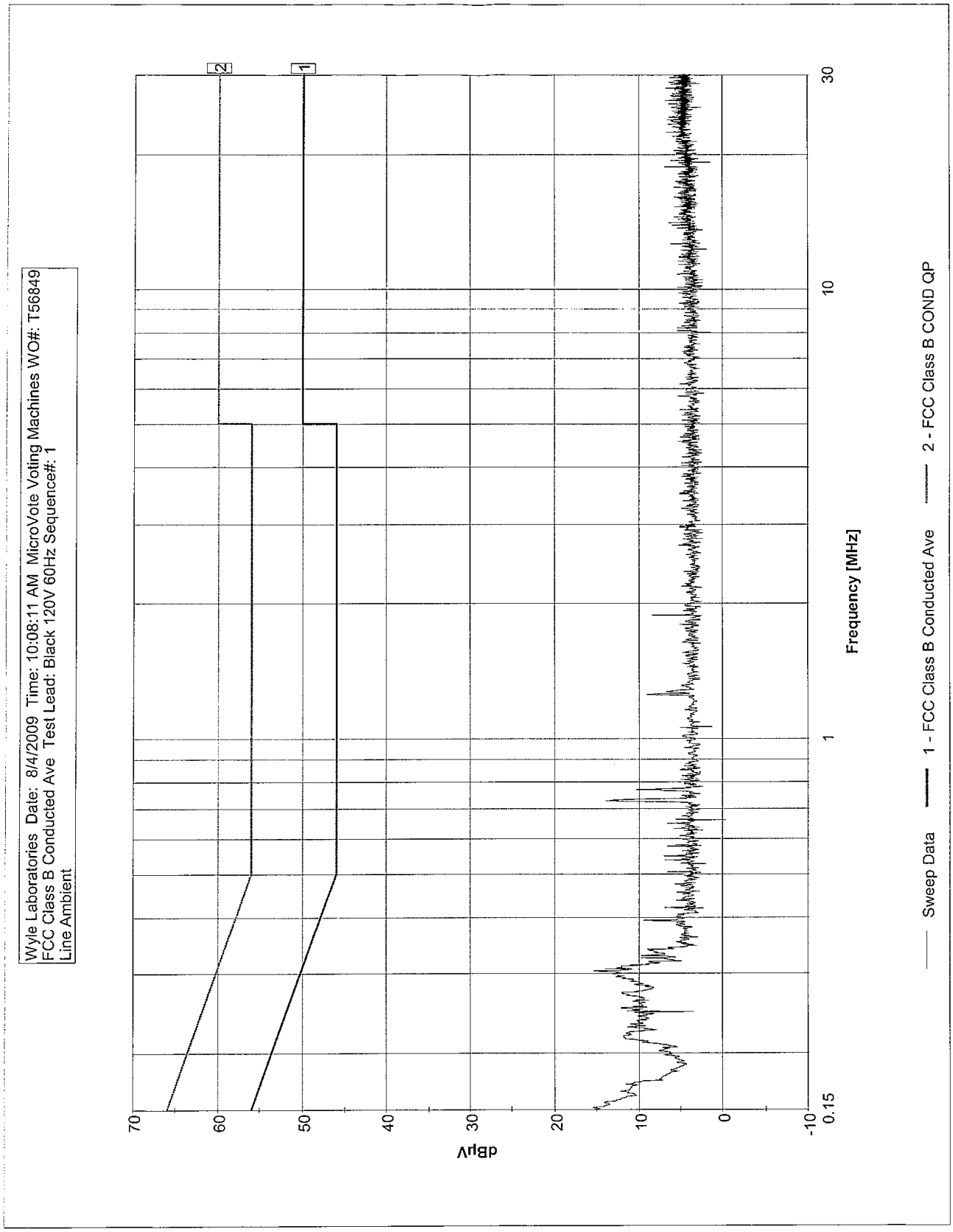
Transducer Legend:
T1=LISN Wyle #110238 L

Measurement Data: Readings listed by frequency. Test Lead: Black

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	151.454k	14.0	+1.5					15.5	55.9			Black	Peak	**-40.4**
2	216.902k	11.0	+0.9					11.9	52.9			Black	Peak	**-41.0**
3	227.810k	10.5	+0.9					11.4	52.5			Black	Peak	**-41.1**
4	303.439k	14.8	+0.6					15.4	50.1			Black	Peak	**-34.7**
5	324.528k	9.3	+0.5					9.8	49.6			Black	Peak	**-39.8**
6	328.164k	9.3	+0.5					9.8	49.5			Black	Peak	**-39.7**
7	393.612k	9.2	+0.3					9.5	48.0			Black	Peak	**-38.5**
8	503.419k	6.5	+0.2					6.7	46.0			Black	Peak	**-39.3**
9	535.416k	6.8	+0.2					7.0	46.0			Black	Peak	**-39.0**
10	546.324k	6.9	+0.2					7.1	46.0			Black	Peak	**-38.9**
11	725.942k	13.9	+0.1					14.0	46.0			Black	Peak	**-32.0**
12	768.847k	10.3	+0.1					10.4	46.0			Black	Peak	**-35.6**
13	877.000k	4.5	+0.1					4.6	46.0			Black	Peak	**-41.4**
14	953.554k	4.6	+0.1					4.7	46.0			Black	Peak	**-41.3**
15	1.056M	5.1	+0.1					5.2	46.0			Black	Peak	**-40.8**
16	1.247M	9.0	+0.1					9.1	46.0			Black	Peak	**-36.9**
17	1.264M	6.7	+0.1					6.8	46.0			Black	Peak	**-39.2**
18	1.787M	5.1	+0.1					5.2	46.0			Black	Peak	**-40.8**
19	1.872M	8.4	+0.1					8.5	46.0			Black	Peak	**-37.5**
20	4.560M	5.3	+0.1					5.4	46.0			Black	Peak	**-40.6**
21	5.219M	4.8	+0.1					4.9	50.0			Black	Peak	**-45.1**
22	5.363M	5.1	+0.1					5.2	50.0			Black	Peak	**-44.8**
23	5.751M	5.3	+0.1					5.4	50.0			Black	Peak	**-44.6**
24	6.120M	5.1	+0.1					5.2	50.0			Black	Peak	**-44.8**
25	7.237M	4.7	+0.2					4.9	50.0			Black	Peak	**-45.1**
26	7.399M	4.5	+0.2					4.7	50.0			Black	Peak	**-45.3**
27	8.048M	5.3	+0.2					5.5	50.0			Black	Peak	**-44.5**
28	8.498M	4.4	+0.2					4.6	50.0			Black	Peak	**-45.4**
29	8.688M	4.5	+0.2					4.7	50.0			Black	Peak	**-45.3**
30	8.814M	4.4	+0.2					4.6	50.0			Black	Peak	**-45.4**
31	9.192M	4.6	+0.2					4.8	50.0			Black	Peak	**-45.2**
32	9.246M	5.1	+0.2					5.3	50.0			Black	Peak	**-44.7**
33	9.751M	5.2	+0.2					5.4	50.0			Black	Peak	**-44.6**
34	9.823M	4.7	+0.2					4.9	50.0			Black	Peak	**-45.1**
35	10.075M	5.3	+0.2					5.5	50.0			Black	Peak	**-44.5**
36	10.778M	5.2	+0.3					5.5	50.0			Black	Peak	**-44.5**
37	10.814M	4.8	+0.3					5.1	50.0			Black	Peak	**-44.9**

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
38	10.841M	4.8	+0.3					5.1	50.0			Black	Peak	-44.9
39	11.327M	5.1	+0.3					5.4	50.0			Black	Peak	-44.6
40	11.525M	5.1	+0.3					5.4	50.0			Black	Peak	-44.6
41	11.634M	4.5	+0.3					4.8	50.0			Black	Peak	-45.2
42	11.751M	5.0	+0.3					5.3	50.0			Black	Peak	-44.7
43	11.913M	4.7	+0.3					5.0	50.0			Black	Peak	-45.0
44	12.192M	4.8	+0.3					5.1	50.0			Black	Peak	-44.9
45	12.597M	6.0	+0.3					6.3	50.0			Black	Peak	-43.7
46	13.643M	5.0	+0.5					5.5	50.0			Black	Peak	-44.5
47	13.850M	5.6	+0.5					6.1	50.0			Black	Peak	-43.9
48	13.913M	4.7	+0.5					5.2	50.0			Black	Peak	-44.8
49	14.030M	6.0	+0.5					6.5	50.0			Black	Peak	-43.5
50	14.291M	4.8	+0.6					5.4	50.0			Black	Peak	-44.6
51	14.453M	5.3	+0.6					5.9	50.0			Black	Peak	-44.1
52	14.652M	4.7	+0.6					5.3	50.0			Black	Peak	-44.7
53	14.985M	4.5	+0.6					5.1	50.0			Black	Peak	-44.9
54	15.219M	5.2	+0.6					5.8	50.0			Black	Peak	-44.2
55	15.282M	4.4	+0.6					5.0	50.0			Black	Peak	-45.0
56	15.345M	4.6	+0.6					5.2	50.0			Black	Peak	-44.8
57	15.417M	4.4	+0.6					5.0	50.0			Black	Peak	-45.0
58	15.534M	4.4	+0.6					5.0	50.0			Black	Peak	-45.0
59	15.570M	4.4	+0.6					5.0	50.0			Black	Peak	-45.0
60	15.688M	4.5	+0.6					5.1	50.0			Black	Peak	-44.9
61	15.841M	4.6	+0.6					5.2	50.0			Black	Peak	-44.8
62	15.922M	4.9	+0.6					5.5	50.0			Black	Peak	-44.5
63	16.003M	5.3	+0.6					5.9	50.0			Black	Peak	-44.1
64	16.805M	5.3	+0.6					5.9	50.0			Black	Peak	-44.1
65	17.102M	4.7	+0.6					5.3	50.0			Black	Peak	-44.7
66	17.219M	4.9	+0.6					5.5	50.0			Black	Peak	-44.5
67	17.327M	5.1	+0.6					5.7	50.0			Black	Peak	-44.3
68	18.030M	4.8	+0.6					5.4	50.0			Black	Peak	-44.6
69	18.688M	6.4	+0.6					7.0	50.0			Black	Peak	-43.0
70	19.057M	4.7	+0.6					5.3	50.0			Black	Peak	-44.7
71	19.264M	5.6	+0.7					6.3	50.0			Black	Peak	-43.7
72	19.940M	4.9	+0.7					5.6	50.0			Black	Peak	-44.4
73	20.030M	4.9	+0.7					5.6	50.0			Black	Peak	-44.4
74	20.273M	5.1	+0.8					5.9	50.0			Black	Peak	-44.1
75	21.291M	4.8	+0.9					5.7	50.0			Black	Peak	-44.3
76	21.444M	4.6	+1.0					5.6	50.0			Black	Peak	-44.4
77	21.823M	5.1	+1.0					6.1	50.0			Black	Peak	-43.9
78	22.300M	5.7	+1.1					6.8	50.0			Black	Peak	-43.2
79	23.222M	5.4	+1.2					6.6	50.0			Black	Peak	-43.4
80	23.613M	5.1	+1.2					6.3	50.0			Black	Peak	-43.7
81	23.736M	5.5	+1.2					6.7	50.0			Black	Peak	-43.3
82	26.176M	5.7	+1.2					6.9	50.0			Black	Peak	-43.1
83	26.217M	4.9	+1.2					6.1	50.0			Black	Peak	-43.9
84	26.231M	5.2	+1.2					6.4	50.0			Black	Peak	-43.6
85	26.245M	5.2	+1.2					6.4	50.0			Black	Peak	-43.6
86	26.258M	5.1	+1.2					6.3	50.0			Black	Peak	-43.7
87	26.306M	4.5	+1.2					5.7	50.0			Black	Peak	-44.3
88	26.478M	4.8	+1.2					6.0	50.0			Black	Peak	-44.0
89	26.772M	4.9	+1.2					6.1	50.0			Black	Peak	-43.9
90	26.875M	5.1	+1.2					6.3	50.0			Black	Peak	-43.7
91	27.889M	5.7	+1.2					6.9	50.0			Black	Peak	-43.1
92	28.650M	4.7	+1.1					5.8	50.0			Black	Peak	-44.2
93	28.773M	5.4	+1.1					6.5	50.0			Black	Peak	-43.5
94	28.993M	4.8	+1.1					5.9	50.0			Black	Peak	-44.1
95	29.116M	4.6	+1.1					5.7	50.0			Black	Peak	-44.3
96	29.438M	5.3	+1.1					6.4	50.0			Black	Peak	-43.6
97	29.698M	4.8	+1.1					5.9	50.0			Black	Peak	-44.1


Wyle Laboratories Date: 8/4/2009 Time: 10:08:11 AM MicroVote Voting Machines WO#: T56849
FCC Class B Conducted Ave Test Lead: Black 120V 60Hz Sequence#: 1
Line Ambient
2
1
70
60
50
40
30
20
10
0
-10
dBµV
0.15
1
10
30
Frequency [MHz]
Sweep Data
1 - FCC Class B Conducted Ave
2 - FCC Class B COND QP

wyle laboratories

Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	10:12:56 AM
Equipment:		Sequence:	2
Manufacturer:		Tested By:	J. Smith JSmith 8-4-09
Model:			
S/N:			
Voltage:	120V 60Hz		

Equipment Under Test (= EUT):*

Function	Manufacturer	Model#	S/N
None			

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:
Neutral Ambient

Transducer Legend:
T1=LISN Wyle #110238 N

Measurement Data: Readings listed by frequency. Test Lead: White

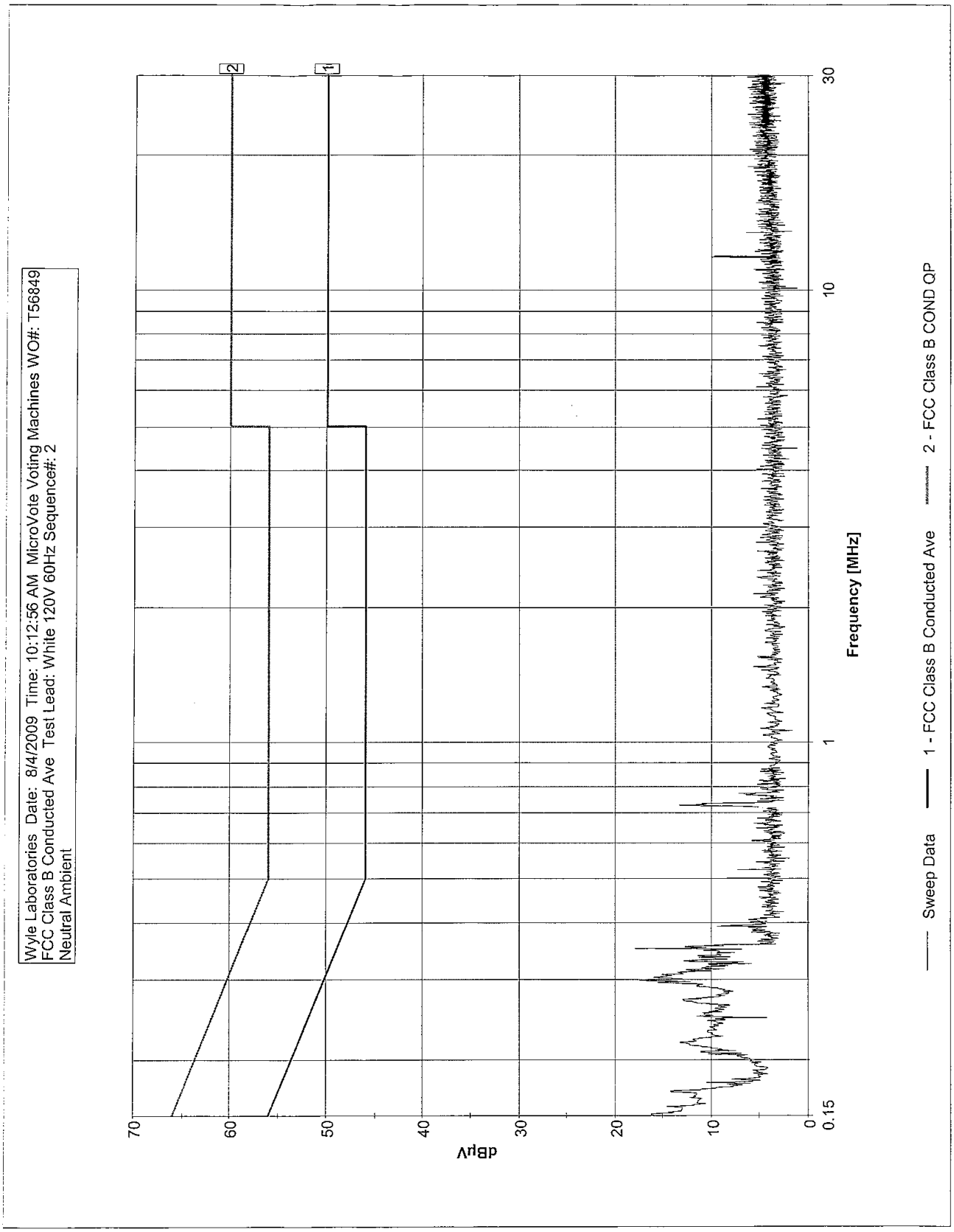
#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	151.454k	14.8	+1.5					16.3	55.9			White	Peak	-39.6
2	170.362k	13.1	+1.2					14.3	54.9			White	Peak	-40.6
3	205.267k	9.4	+1.0					10.4	53.4			White	Peak	-43.0
4	217.630k	12.4	+0.9					13.3	52.9			White	Peak	-39.6
5	269.988k	12.3	+0.7					13.0	51.1			White	Peak	-38.1
6	294.713k	15.0	+0.6					15.6	50.4			White	Peak	-34.8
7	297.622k	16.9	+0.6					17.5	50.3			White	Peak	-32.8
8	324.528k	9.9	+0.5					10.4	49.6			White	Peak	-39.2
9	328.164k	12.4	+0.5					12.9	49.5			White	Peak	-36.6
10	336.890k	11.0	+0.5					11.5	49.3			White	Peak	-37.8
11	346.344k	10.5	+0.4					10.9	49.0			White	Peak	-38.1
12	349.980k	17.6	+0.4					18.0	49.0			White	Peak	-31.0
13	392.885k	9.2	+0.3					9.5	48.0			White	Peak	-38.5
14	501.965k	8.3	+0.2					8.5	46.0			White	Peak	-37.5
15	523.781k	7.2	+0.2					7.4	46.0			White	Peak	-38.6
16	726.670k	13.3	+0.1					13.4	46.0			White	Peak	-32.6
17	771.029k	7.2	+0.1					7.3	46.0			White	Peak	-38.7
18	1.034M	4.7	+0.1					4.8	46.0			White	Peak	-41.2
19	1.468M	5.7	+0.1					5.8	46.0			White	Peak	-40.2
20	1.945M	4.8	+0.1					4.9	46.0			White	Peak	-41.1
21	2.136M	5.7	+0.1					5.8	46.0			White	Peak	-40.2
22	2.323M	5.3	+0.1					5.4	46.0			White	Peak	-40.6
23	2.400M	5.3	+0.1					5.4	46.0			White	Peak	-40.6
24	2.646M	5.3	+0.1					5.4	46.0			White	Peak	-40.6
25	2.770M	5.4	+0.1					5.5	46.0			White	Peak	-40.5
26	4.016M	5.4	+0.1					5.5	46.0			White	Peak	-40.5
27	4.080M	5.0	+0.1					5.1	46.0			White	Peak	-40.9
28	4.313M	4.7	+0.1					4.8	46.0			White	Peak	-41.2
29	4.462M	4.9	+0.1					5.0	46.0			White	Peak	-41.0
30	4.909M	4.9	+0.1					5.0	46.0			White	Peak	-41.0
31	5.183M	5.3	+0.1					5.4	50.0			White	Peak	-44.6
32	6.093M	5.4	+0.1					5.5	50.0			White	Peak	-44.5
33	8.444M	5.3	+0.2					5.5	50.0			White	Peak	-44.5
34	10.120M	4.8	+0.2					5.0	50.0			White	Peak	-45.0
35	10.336M	4.7	+0.2					4.9	50.0			White	Peak	-45.1
36	10.408M	5.1	+0.2					5.3	50.0			White	Peak	-44.7
37	11.084M	5.4	+0.2					5.6	50.0			White	Peak	-44.4

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
38	11.147M	5.6	+0.2					5.8	50.0			White	Peak	-44.2
39	11.408M	4.5	+0.2					4.7	50.0			White	Peak	-45.3
40	11.561M	4.6	+0.2					4.8	50.0			White	Peak	-45.2
41	11.606M	4.8	+0.2					5.0	50.0			White	Peak	-45.0
42	11.832M	8.0	+0.3					8.3	50.0			White	Peak	-41.7
43	11.868M	9.9	+0.3					10.2	50.0			White	Peak	-39.8
44	11.913M	9.6	+0.3					9.9	50.0			White	Peak	-40.1
45	12.201M	5.4	+0.3					5.7	50.0			White	Peak	-44.3
46	12.291M	5.0	+0.3					5.3	50.0			White	Peak	-44.7
47	12.318M	5.1	+0.3					5.4	50.0			White	Peak	-44.6
48	13.453M	6.2	+0.4					6.6	50.0			White	Peak	-43.4
49	14.012M	5.0	+0.4					5.4	50.0			White	Peak	-44.6
50	14.264M	5.1	+0.4					5.5	50.0			White	Peak	-44.5
51	14.318M	4.8	+0.4					5.2	50.0			White	Peak	-44.8
52	14.579M	4.7	+0.4					5.1	50.0			White	Peak	-44.9
53	14.733M	4.9	+0.4					5.3	50.0			White	Peak	-44.7
54	14.805M	5.2	+0.4					5.6	50.0			White	Peak	-44.4
55	14.958M	4.8	+0.4					5.2	50.0			White	Peak	-44.8
56	15.147M	4.9	+0.4					5.3	50.0			White	Peak	-44.7
57	15.643M	5.1	+0.4					5.5	50.0			White	Peak	-44.5
58	17.507M	4.8	+0.6					5.4	50.0			White	Peak	-44.6
59	17.958M	4.9	+0.6					5.5	50.0			White	Peak	-44.5
60	18.003M	4.8	+0.6					5.4	50.0			White	Peak	-44.6
61	18.318M	5.0	+0.7					5.7	50.0			White	Peak	-44.3
62	18.345M	4.4	+0.7					5.1	50.0			White	Peak	-44.9
63	18.633M	5.1	+0.7					5.8	50.0			White	Peak	-44.2
64	18.805M	5.7	+0.7					6.4	50.0			White	Peak	-43.6
65	18.886M	4.5	+0.7					5.2	50.0			White	Peak	-44.8
66	18.985M	4.7	+0.7					5.4	50.0			White	Peak	-44.6
67	19.282M	4.5	+0.8					5.3	50.0			White	Peak	-44.7
68	19.516M	4.9	+0.8					5.7	50.0			White	Peak	-44.3
69	19.787M	4.6	+0.8					5.4	50.0			White	Peak	-44.6
70	19.922M	4.6	+0.8					5.4	50.0			White	Peak	-44.6
71	20.075M	4.8	+0.8					5.6	50.0			White	Peak	-44.4
72	20.300M	5.1	+0.8					5.9	50.0			White	Peak	-44.1
73	20.489M	5.4	+0.8					6.2	50.0			White	Peak	-43.8
74	20.633M	4.7	+0.8					5.5	50.0			White	Peak	-44.5
75	20.769M	4.8	+0.7					5.5	50.0			White	Peak	-44.5
76	20.904M	4.9	+0.7					5.6	50.0			White	Peak	-44.4
77	20.940M	4.7	+0.7					5.4	50.0			White	Peak	-44.6
78	21.165M	4.9	+0.7					5.6	50.0			White	Peak	-44.4
79	21.318M	5.0	+0.7					5.7	50.0			White	Peak	-44.3
80	21.624M	4.7	+0.7					5.4	50.0			White	Peak	-44.6
81	21.823M	4.6	+0.7					5.3	50.0			White	Peak	-44.7
82	21.931M	5.2	+0.7					5.9	50.0			White	Peak	-44.1
83	22.913M	5.2	+0.8					6.0	50.0			White	Peak	-44.0
84	23.174M	4.9	+0.8					5.7	50.0			White	Peak	-44.3
85	23.257M	5.4	+0.8					6.2	50.0			White	Peak	-43.8
86	23.435M	5.5	+0.8					6.3	50.0			White	Peak	-43.7
87	23.551M	4.6	+0.8					5.4	50.0			White	Peak	-44.6
88	23.606M	4.6	+0.8					5.4	50.0			White	Peak	-44.6
89	23.750M	4.5	+0.8					5.3	50.0			White	Peak	-44.7
90	23.942M	5.1	+0.8					5.9	50.0			White	Peak	-44.1
91	24.127M	5.2	+0.8					6.0	50.0			White	Peak	-44.0
92	24.175M	4.4	+0.8					5.2	50.0			White	Peak	-44.8
93	24.257M	4.5	+0.8					5.3	50.0			White	Peak	-44.7
94	24.463M	5.5	+0.9					6.4	50.0			White	Peak	-43.6
95	25.347M	4.7	+0.9					5.6	50.0			White	Peak	-44.4
96	25.395M	5.0	+0.9					5.9	50.0			White	Peak	-44.1
97	25.922M	5.3	+0.9					6.2	50.0			White	Peak	-43.8
98	26.114M	4.7	+0.9					5.6	50.0			White	Peak	-44.4
99	26.210M	5.0	+0.9					5.9	50.0			White	Peak	-44.1
100	26.402M	4.7	+0.9					5.6	50.0			White	Peak	-44.4

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
101	26.587M	4.7	+0.9					5.6	50.0			White	Peak	**-44.4**
102	26.635M	5.4	+0.9					6.3	50.0			White	Peak	**-43.7**
103	27.149M	5.2	+0.9					6.1	50.0			White	Peak	**-43.9**
104	27.437M	5.0	+0.9					5.9	50.0			White	Peak	**-44.1**
105	27.574M	4.9	+0.9					5.8	50.0			White	Peak	**-44.2**
106	27.622M	4.5	+0.9					5.4	50.0			White	Peak	**-44.6**
107	27.780M	4.8	+0.9					5.7	50.0			White	Peak	**-44.3**
108	27.807M	5.3	+0.9					6.2	50.0			White	Peak	**-43.8**
109	28.061M	5.5	+0.9					6.4	50.0			White	Peak	**-43.6**
110	28.177M	5.2	+0.9					6.1	50.0			White	Peak	**-43.9**
111	28.458M	5.0	+1.0					6.0	50.0			White	Peak	**-44.0**
112	28.595M	4.9	+1.0					5.9	50.0			White	Peak	**-44.1**
113	29.657M	5.5	+1.0					6.5	50.0			White	Peak	**-43.5**
114	29.794M	4.6	+1.1					5.7	50.0			White	Peak	**-44.3**


Wyle Laboratories Date: 8/4/2009 Time: 10:12:56 AM MicroVote Voting Machines WO#: T56849
FCC Class B Conducted Ave Test Lead: White 120V 60Hz Sequence#: 2
Neutral Ambient
dBµV
70
60
50
40
30
20
10
0
0.15
1
10
30
Frequency [MHz]
Sweep Data
1 - FCC Class B Conducted Ave
2 - FCC Class B COND QP

Wyle Laboratories

wyle laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	14:06:41
Equipment:	Voting Device	Sequence:	3
Manufacturer:	MICROVOTE	Tested By:	J. Smith J Smith 8-4-09
Model:	INFINITY		
S/N:	10403		
Voltage:	120V 60Hz		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Line Active

Transducer Legend:

T1=LISN Wyle #110238 L

Measurement Data: Readings listed by margin. Test Lead: Black

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	159.950k	42.1	+1.4					43.5	55.5			Black	QP	**-12.0**
^	159.454k	44.3	+1.4					45.7	55.5			Black	Peak	**-9.8**
3	239.230k	39.1	+0.8					39.9	52.1			Black	QP	**-12.2**
^	238.718k	41.5	+0.8					42.3	52.1			Black	Peak	**-9.8**
5	19.981M	35.4	+0.7					36.1	50.0			Black	QP	**-13.9**
^	19.985M	38.7	+0.7					39.4	50.0			Black	Peak	**-10.6**

Wyle Laboratories

wyle laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	1:57:38 PM
Equipment:	Voting Device	Sequence:	3
Manufacturer:	MICROVOTE	Tested By:	J. Smith J Smith 8-4-09
Model:	INFINITY		
S/N:	10403		
Voltage:	120V 60Hz		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Line Active

Transducer Legend:

T1=LISN Wyle #110238 L

Measurement Data: Readings listed by frequency. Test Lead: Black

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	159.454k	44.3	+1.4					45.7	55.5			Black	Peak	-9.8
2	176.179k	31.7	+1.2					32.9	54.7			Black	Peak	-21.8
3	179.815k	32.6	+1.1					33.7	54.5			Black	Peak	-20.8
4	184.906k	31.7	+1.1					32.8	54.3			Black	Peak	-21.5
5	190.723k	30.7	+1.0					31.7	54.0			Black	Peak	-22.3
6	194.359k	27.8	+1.0					28.8	53.8			Black	Peak	-25.0
7	212.539k	28.4	+0.9					29.3	53.1			Black	Peak	-23.8
8	238.718k	41.5	+0.8					42.3	52.1			Black	Peak	-9.8
9	247.445k	28.1	+0.8					28.9	51.8			Black	Peak	-22.9
10	289.622k	34.5	+0.6					35.1	50.5			Black	Peak	-15.4
11	313.620k	35.0	+0.5					35.5	49.9			Black	Peak	-14.4
12	337.618k	25.6	+0.5					26.1	49.3			Black	Peak	-23.2
13	394.339k	34.7	+0.3					35.0	48.0			Black	Peak	-13.0
14	477.967k	27.6	+0.3					27.9	46.4			Black	Peak	-18.5
15	505.601k	26.9	+0.2					27.1	46.0			Black	Peak	-18.9
16	528.871k	28.3	+0.2					28.5	46.0			Black	Peak	-17.5
17	554.323k	29.4	+0.2					29.6	46.0			Black	Peak	-16.4
18	578.321k	32.7	+0.2					32.9	46.0			Black	Peak	-13.1
19	632.861k	31.2	+0.2					31.4	46.0			Black	Peak	-14.6
20	651.041k	26.8	+0.2					27.0	46.0			Black	Peak	-19.0
21	682.310k	26.1	+0.2					26.3	46.0			Black	Peak	-19.7
22	714.307k	29.8	+0.1					29.9	46.0			Black	Peak	-16.1
23	728.851k	33.5	+0.1					33.6	46.0			Black	Peak	-12.4
24	760.848k	24.4	+0.1					24.5	46.0			Black	Peak	-21.5
25	768.847k	30.9	+0.1					31.0	46.0			Black	Peak	-15.0
26	792.845k	29.3	+0.1					29.4	46.0			Black	Peak	-16.6
27	820.478k	31.2	+0.1					31.3	46.0			Black	Peak	-14.7
28	864.110k	32.1	+0.1					32.2	46.0			Black	Peak	-13.8
29	873.564k	34.9	+0.1					35.0	46.0			Black	Peak	-11.0
30	877.000k	29.3	+0.1					29.4	46.0			Black	Peak	-16.6
31	923.783k	31.7	+0.1					31.8	46.0			Black	Peak	-14.2
32	1.009M	29.7	+0.1					29.8	46.0			Black	Peak	-16.2
33	1.030M	30.2	+0.1					30.3	46.0			Black	Peak	-15.7
34	1.213M	35.0	+0.1					35.1	46.0			Black	Peak	-10.9
35	1.268M	34.5	+0.1					34.6	46.0			Black	Peak	-11.4
36	1.404M	31.5	+0.1					31.6	46.0			Black	Peak	-14.4
37	1.451M	31.0	+0.1					31.1	46.0			Black	Peak	-14.9

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
38	1.502M	29.4	+0.1					29.5	46.0			Black	Peak	-16.5
39	1.545M	32.5	+0.1					32.6	46.0			Black	Peak	-13.4
40	1.621M	27.5	+0.1					27.6	46.0			Black	Peak	-18.4
41	1.655M	24.4	+0.1					24.5	46.0			Black	Peak	-21.5
42	1.694M	28.4	+0.1					28.5	46.0			Black	Peak	-17.5
43	1.728M	24.4	+0.1					24.5	46.0			Black	Peak	-21.5
44	1.787M	27.6	+0.1					27.7	46.0			Black	Peak	-18.3
45	1.842M	26.1	+0.1					26.2	46.0			Black	Peak	-19.8
46	1.864M	26.8	+0.1					26.9	46.0			Black	Peak	-19.1
47	1.945M	25.4	+0.1					25.5	46.0			Black	Peak	-20.5
48	1.979M	22.9	+0.1					23.0	46.0			Black	Peak	-23.0
49	2.030M	27.9	+0.1					28.0	46.0			Black	Peak	-18.0
50	2.085M	23.3	+0.1					23.4	46.0			Black	Peak	-22.6
51	2.106M	27.2	+0.1					27.3	46.0			Black	Peak	-18.7
52	2.136M	25.9	+0.1					26.0	46.0			Black	Peak	-20.0
53	2.191M	25.4	+0.1					25.5	46.0			Black	Peak	-20.5
54	2.212M	22.1	+0.1					22.2	46.0			Black	Peak	-23.8
55	2.272M	28.0	+0.1					28.1	46.0			Black	Peak	-17.9
56	2.353M	27.1	+0.1					27.2	46.0			Black	Peak	-18.8
57	2.438M	26.0	+0.1					26.1	46.0			Black	Peak	-19.9
58	2.519M	25.1	+0.1					25.2	46.0			Black	Peak	-20.8
59	2.599M	26.9	+0.1					27.0	46.0			Black	Peak	-19.0
60	2.633M	26.1	+0.1					26.2	46.0			Black	Peak	-19.8
61	2.680M	25.8	+0.1					25.9	46.0			Black	Peak	-20.1
62	2.761M	26.6	+0.1					26.7	46.0			Black	Peak	-19.3
63	2.846M	29.6	+0.1					29.7	46.0			Black	Peak	-16.3
64	2.923M	30.7	+0.1					30.8	46.0			Black	Peak	-15.2
65	2.944M	22.3	+0.1					22.4	46.0			Black	Peak	-23.6
66	3.008M	31.3	+0.1					31.4	46.0			Black	Peak	-14.6
67	3.089M	32.4	+0.1					32.5	46.0			Black	Peak	-13.5
68	3.135M	23.0	+0.1					23.1	46.0			Black	Peak	-22.9
69	3.169M	31.6	+0.1					31.7	46.0			Black	Peak	-14.3
70	3.220M	21.4	+0.1					21.5	46.0			Black	Peak	-24.5
71	3.246M	32.4	+0.1					32.5	46.0			Black	Peak	-13.5
72	3.327M	33.6	+0.1					33.7	46.0			Black	Peak	-12.3
73	3.378M	21.6	+0.1					21.7	46.0			Black	Peak	-24.3
74	3.408M	32.0	+0.1					32.1	46.0			Black	Peak	-13.9
75	3.454M	22.0	+0.1					22.1	46.0			Black	Peak	-23.9
76	3.493M	29.6	+0.1					29.7	46.0			Black	Peak	-16.3
77	3.535M	21.7	+0.1					21.8	46.0			Black	Peak	-24.2
78	3.569M	30.7	+0.1					30.8	46.0			Black	Peak	-15.2
79	3.616M	22.4	+0.1					22.5	46.0			Black	Peak	-23.5
80	3.654M	28.0	+0.1					28.1	46.0			Black	Peak	-17.9
81	3.731M	26.6	+0.1					26.7	46.0			Black	Peak	-19.3
82	3.773M	22.2	+0.1					22.3	46.0			Black	Peak	-23.7
83	3.803M	25.8	+0.1					25.9	46.0			Black	Peak	-20.1
84	3.816M	26.1	+0.1					26.2	46.0			Black	Peak	-19.8
85	3.854M	22.5	+0.1					22.6	46.0			Black	Peak	-23.4
86	3.880M	24.6	+0.1					24.7	46.0			Black	Peak	-21.3
87	3.931M	22.5	+0.1					22.6	46.0			Black	Peak	-23.4
88	3.956M	21.8	+0.1					21.9	46.0			Black	Peak	-24.1
89	3.982M	25.3	+0.1					25.4	46.0			Black	Peak	-20.6
90	4.007M	22.5	+0.1					22.6	46.0			Black	Peak	-23.4
91	4.037M	25.0	+0.1					25.1	46.0			Black	Peak	-20.9
92	4.062M	23.7	+0.1					23.8	46.0			Black	Peak	-22.2
93	4.092M	23.0	+0.1					23.1	46.0			Black	Peak	-22.9
94	4.114M	24.8	+0.1					24.9	46.0			Black	Peak	-21.1
95	4.143M	24.3	+0.1					24.4	46.0			Black	Peak	-21.6
96	4.169M	23.6	+0.1					23.7	46.0			Black	Peak	-22.3
97	4.194M	25.1	+0.1					25.2	46.0			Black	Peak	-20.8
98	4.220M	25.3	+0.1					25.4	46.0			Black	Peak	-20.6
99	4.250M	23.1	+0.1					23.2	46.0			Black	Peak	-22.8
100	4.271M	23.8	+0.1					23.9	46.0			Black	Peak	-22.1

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
101	4.305M	25.0	+0.1					25.1	46.0			Black	Peak	-20.9
102	4.330M	23.5	+0.1					23.6	46.0			Black	Peak	-22.4
103	4.381M	26.5	+0.1					26.6	46.0			Black	Peak	-19.4
104	4.407M	23.1	+0.1					23.2	46.0			Black	Peak	-22.8
105	4.437M	23.1	+0.1					23.2	46.0			Black	Peak	-22.8
106	4.462M	26.4	+0.1					26.5	46.0			Black	Peak	-19.5
107	4.488M	23.4	+0.1					23.5	46.0			Black	Peak	-22.5
108	4.513M	25.0	+0.1					25.1	46.0			Black	Peak	-20.9
109	4.547M	25.6	+0.1					25.7	46.0			Black	Peak	-20.3
110	4.590M	24.5	+0.1					24.6	46.0			Black	Peak	-21.4
111	4.628M	26.9	+0.1					27.0	46.0			Black	Peak	-19.0
112	4.671M	24.0	+0.1					24.1	46.0			Black	Peak	-21.9
113	4.713M	27.1	+0.1					27.2	46.0			Black	Peak	-18.8
114	4.751M	23.5	+0.1					23.6	46.0			Black	Peak	-22.4
115	4.790M	26.2	+0.1					26.3	46.0			Black	Peak	-19.7
116	4.871M	26.7	+0.1					26.8	46.0			Black	Peak	-19.2
117	4.883M	23.8	+0.1					23.9	46.0			Black	Peak	-22.1
118	4.905M	24.2	+0.1					24.3	46.0			Black	Peak	-21.7
119	4.951M	26.9	+0.1					27.0	46.0			Black	Peak	-19.0
120	5.036M	25.5	+0.1					25.6	50.0			Black	Peak	-24.4
121	5.117M	25.8	+0.1					25.9	50.0			Black	Peak	-24.1
122	5.210M	25.4	+0.1					25.5	50.0			Black	Peak	-24.5
123	5.291M	24.9	+0.1					25.0	50.0			Black	Peak	-25.0
124	5.363M	26.1	+0.1					26.2	50.0			Black	Peak	-23.8
125	5.444M	26.2	+0.1					26.3	50.0			Black	Peak	-23.7
126	5.606M	25.9	+0.1					26.0	50.0			Black	Peak	-24.0
127	5.688M	27.6	+0.1					27.7	50.0			Black	Peak	-22.3
128	5.769M	26.1	+0.1					26.2	50.0			Black	Peak	-23.8
129	5.850M	27.9	+0.1					28.0	50.0			Black	Peak	-22.0
130	5.940M	28.7	+0.1					28.8	50.0			Black	Peak	-21.2
131	6.021M	27.3	+0.1					27.4	50.0			Black	Peak	-22.6
132	6.102M	26.8	+0.1					26.9	50.0			Black	Peak	-23.1
133	6.183M	26.3	+0.1					26.4	50.0			Black	Peak	-23.6
134	6.507M	25.3	+0.2					25.5	50.0			Black	Peak	-24.5
135	6.670M	24.7	+0.2					24.9	50.0			Black	Peak	-25.1
136	9.570M	30.5	+0.2					30.7	50.0			Black	Peak	-19.3
137	14.318M	24.9	+0.6					25.5	50.0			Black	Peak	-24.5
138	15.030M	25.5	+0.6					26.1	50.0			Black	Peak	-23.9
139	16.841M	26.2	+0.6					26.8	50.0			Black	Peak	-23.2
140	17.003M	24.3	+0.6					24.9	50.0			Black	Peak	-25.1
141	17.084M	24.6	+0.6					25.2	50.0			Black	Peak	-24.8
142	17.165M	25.4	+0.6					26.0	50.0			Black	Peak	-24.0
143	17.372M	25.3	+0.6					25.9	50.0			Black	Peak	-24.1
144	17.814M	27.5	+0.6					28.1	50.0			Black	Peak	-21.9
145	17.850M	28.0	+0.6					28.6	50.0			Black	Peak	-21.4
146	17.895M	27.6	+0.6					28.2	50.0			Black	Peak	-21.8
147	18.003M	28.7	+0.6					29.3	50.0			Black	Peak	-20.7
148	18.084M	27.8	+0.6					28.4	50.0			Black	Peak	-21.6
149	18.210M	28.5	+0.6					29.1	50.0			Black	Peak	-20.9
150	18.724M	30.8	+0.6					31.4	50.0			Black	Peak	-18.6
151	18.805M	30.5	+0.6					31.1	50.0			Black	Peak	-18.9
152	19.120M	34.3	+0.7					35.0	50.0			Black	Peak	-15.0
153	19.462M	36.9	+0.7					37.6	50.0			Black	Peak	-12.4
154	19.507M	37.1	+0.7					37.8	50.0			Black	Peak	-12.2
155	19.588M	38.2	+0.7					38.9	50.0			Black	Peak	-11.1
156	19.985M	38.7	+0.7					39.4	50.0			Black	Peak	-10.6
157	20.336M	35.7	+0.8					36.5	50.0			Black	Peak	-13.5
158	20.408M	35.3	+0.8					36.1	50.0			Black	Peak	-13.9
159	20.859M	31.6	+0.9					32.5	50.0			Black	Peak	-17.5
160	21.021M	30.8	+0.9					31.7	50.0			Black	Peak	-18.3
161	21.183M	29.0	+0.9					29.9	50.0			Black	Peak	-20.1
162	21.255M	28.3	+0.9					29.2	50.0			Black	Peak	-20.8
163	21.489M	27.2	+1.0					28.2	50.0			Black	Peak	-21.8

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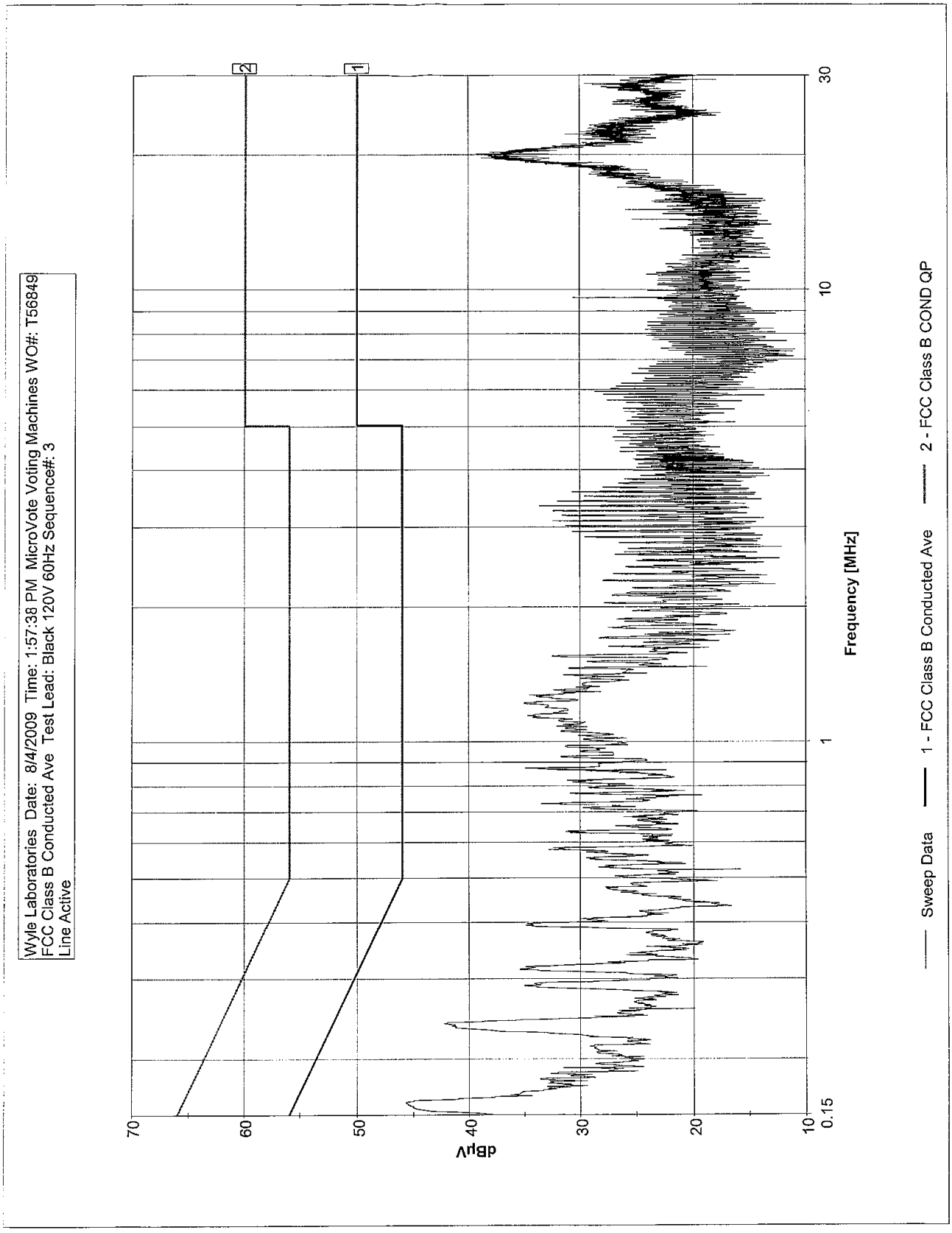
#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
164	21.579M	29.2	+1.0					30.2	50.0			Black	Peak	**-19.8**
165	21.976M	28.7	+1.1					29.8	50.0			Black	Peak	**-20.2**
166	22.138M	30.3	+1.1					31.4	50.0			Black	Peak	**-18.6**
167	22.210M	28.5	+1.1					29.6	50.0			Black	Peak	**-20.4**
168	22.291M	27.9	+1.1					29.0	50.0			Black	Peak	**-21.0**
169	22.381M	29.1	+1.1					30.2	50.0			Black	Peak	**-19.8**
170	22.534M	28.4	+1.1					29.5	50.0			Black	Peak	**-20.5**
171	22.624M	27.9	+1.1					29.0	50.0			Black	Peak	**-21.0**
172	22.787M	28.3	+1.1					29.4	50.0			Black	Peak	**-20.6**
173	22.877M	27.4	+1.1					28.5	50.0			Black	Peak	**-21.5**
174	23.030M	27.6	+1.2					28.8	50.0			Black	Peak	**-21.2**
175	23.111M	27.0	+1.2					28.2	50.0			Black	Peak	**-21.8**
176	23.174M	28.0	+1.2					29.2	50.0			Black	Peak	**-20.8**
177	23.325M	27.2	+1.2					28.4	50.0			Black	Peak	**-21.6**
178	23.421M	26.9	+1.2					28.1	50.0			Black	Peak	**-21.9**
179	23.503M	26.3	+1.2					27.5	50.0			Black	Peak	**-22.5**
180	23.558M	25.4	+1.2					26.6	50.0			Black	Peak	**-23.4**
181	23.579M	25.5	+1.2					26.7	50.0			Black	Peak	**-23.3**
182	23.736M	26.3	+1.2					27.5	50.0			Black	Peak	**-22.5**
183	23.812M	25.8	+1.2					27.0	50.0			Black	Peak	**-23.0**
184	24.010M	25.5	+1.2					26.7	50.0			Black	Peak	**-23.3**
185	24.065M	24.1	+1.2					25.3	50.0			Black	Peak	**-24.7**
186	24.237M	24.0	+1.2					25.2	50.0			Black	Peak	**-24.8**
187	25.045M	24.4	+1.2					25.6	50.0			Black	Peak	**-24.4**
188	25.422M	23.9	+1.2					25.1	50.0			Black	Peak	**-24.9**
189	25.546M	24.4	+1.2					25.6	50.0			Black	Peak	**-24.4**
190	25.785M	26.0	+1.2					27.2	50.0			Black	Peak	**-22.8**
191	27.581M	24.5	+1.2					25.7	50.0			Black	Peak	**-24.3**
192	27.992M	26.5	+1.2					27.7	50.0			Black	Peak	**-22.3**
193	28.074M	26.6	+1.2					27.8	50.0			Black	Peak	**-22.2**
194	28.150M	27.1	+1.1					28.2	50.0			Black	Peak	**-21.8**
195	28.294M	25.9	+1.1					27.0	50.0			Black	Peak	**-23.0**
196	28.472M	27.9	+1.1					29.0	50.0			Black	Peak	**-21.0**
197	28.561M	26.6	+1.1					27.7	50.0			Black	Peak	**-22.3**
198	28.636M	28.6	+1.1					29.7	50.0			Black	Peak	**-20.3**
199	29.137M	25.4	+1.1					26.5	50.0			Black	Peak	**-23.5**
200	29.459M	24.6	+1.1					25.7	50.0			Black	Peak	**-24.3**


Wyle Laboratories Date: 8/4/2009 Time: 1:57:38 PM MicroVote Voting Machines WO#: T56849
FCC Class B Conducted Ave Test Lead: Black 120V 60Hz Sequence#: 3
Line Active
2
1
70
60
50
40
30
20
10
dBµV
0.15
1
10
30
Frequency [MHz]
Sweep Data
1 - FCC Class B Conducted Ave
2 - FCC Class B COND QP

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Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	2:19:27 PM
Equipment:	Voting Device	Sequence:	4
Manufacturer:	MICROVOTE	Tested By:	J. Smith J Smith 8-4-09
Model:	INFINITY		
S/N:	10403		
Voltage:	120V 60Hz		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Neutral Active

Transducer Legend:

T1=LISN Wyle #110238 N

Measurement Data: Readings listed by margin. Test Lead: White

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	289.940k	48.8	+0.6					49.4	50.5			White	QP	**-1.1**
^	289.622k	51.1	+0.6					51.7	50.5			White	Peak	**+1.2**
3	770.280k	41.5	+0.1					41.6	46.0			White	QP	**-4.4**
^	768.120k	44.5	+0.1					44.6	46.0			White	Peak	**-1.4**
5	16.255M	19.1	+0.4					19.5	50.0			White	QP	**-30.5**
6	16.255M	18.2	+0.4					18.6	50.0			White	QP	**-31.4**
^	16.246M	56.5	+0.4					56.9	50.0			White	Peak	**+6.9**
^	16.264M	48.2	+0.4					48.6	50.0			White	Peak	**-1.4**

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Wyle Laboratories

Customer: MicroVote Voting Machines
Specification: FCC Class B Conducted Ave

Work Order #:	T56849	Date:	Tue Aug-04-2009
Test Type:	Conducted Emissions	Time:	2:19:27 PM
Equipment:	Voting Device	Sequence:	4
Manufacturer:	MICROVOTE	Tested By:	J. Smith 8-4-09
Model:	INFINITY		
S/N:	10403		
Voltage:	120V 60Hz		

Equipment Under Test (* = EUT):

Function	Manufacturer	Model#	S/N
*Voting Device	MICROVOTE	INFINITY	10403

Support Devices:

Function	Manufacturer	Model#	S/N
None			

Test Conditions / Notes:

Neutral Active

Transducer Legend:

T1=LISN Wyle #110238 N

Measurement Data: Readings listed by frequency. Test Lead: White

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
1	159.454k	50.7	+1.4					52.1	55.5			White	Peak	-3.4
2	209.630k	42.6	+1.0					43.6	53.2			White	Peak	-9.6
3	239.446k	49.7	+0.8					50.5	52.1			White	Peak	-1.6
4	270.715k	43.1	+0.7					43.8	51.1			White	Peak	-7.3
5	289.622k	51.1	+0.6					51.7	50.5			White	Peak	+1.2
6	318.710k	45.2	+0.5					45.7	49.7			White	Peak	-4.0
7	339.799k	42.0	+0.5					42.5	49.2			White	Peak	-6.7
8	376.886k	39.8	+0.4					40.2	48.3			White	Peak	-8.1
9	403.793k	44.3	+0.3					44.6	47.8			White	Peak	-3.2
10	477.240k	39.9	+0.3					40.2	46.4			White	Peak	-6.2
11	505.601k	38.1	+0.2					38.3	46.0			White	Peak	-7.7
12	579.048k	41.8	+0.2					42.0	46.0			White	Peak	-4.0
13	632.134k	39.4	+0.2					39.6	46.0			White	Peak	-6.4
14	651.041k	35.9	+0.2					36.1	46.0			White	Peak	-9.9
15	667.039k	34.5	+0.2					34.7	46.0			White	Peak	-11.3
16	727.397k	44.3	+0.1					44.4	46.0			White	Peak	-1.6
17	768.120k	44.5	+0.1					44.6	46.0			White	Peak	-1.4
18	813.934k	39.0	+0.1					39.1	46.0			White	Peak	-6.9
19	832.114k	32.1	+0.1					32.2	46.0			White	Peak	-13.8
20	839.386k	33.0	+0.1					33.1	46.0			White	Peak	-12.9
21	842.294k	32.8	+0.1					32.9	46.0			White	Peak	-13.1
22	873.564k	38.7	+0.1					38.8	46.0			White	Peak	-7.2
23	885.506k	37.1	+0.1					37.2	46.0			White	Peak	-8.8
24	974.819k	37.1	+0.1					37.2	46.0			White	Peak	-8.8
25	1.026M	33.8	+0.1					33.9	46.0			White	Peak	-12.1
26	1.051M	36.8	+0.1					36.9	46.0			White	Peak	-9.1
27	1.081M	36.2	+0.1					36.3	46.0			White	Peak	-9.7
28	1.136M	37.7	+0.1					37.8	46.0			White	Peak	-8.2
29	1.217M	37.8	+0.1					37.9	46.0			White	Peak	-8.1
30	1.298M	34.7	+0.1					34.8	46.0			White	Peak	-11.2
31	1.400M	32.4	+0.1					32.5	46.0			White	Peak	-13.5
32	1.438M	28.7	+0.1					28.8	46.0			White	Peak	-17.2
33	1.460M	32.3	+0.1					32.4	46.0			White	Peak	-13.6
34	1.481M	28.2	+0.1					28.3	46.0			White	Peak	-17.7
35	1.506M	33.2	+0.1					33.3	46.0			White	Peak	-12.7
36	1.540M	34.5	+0.1					34.6	46.0			White	Peak	-11.4
37	1.583M	28.1	+0.1					28.2	46.0			White	Peak	-17.8

Wyle Laboratories

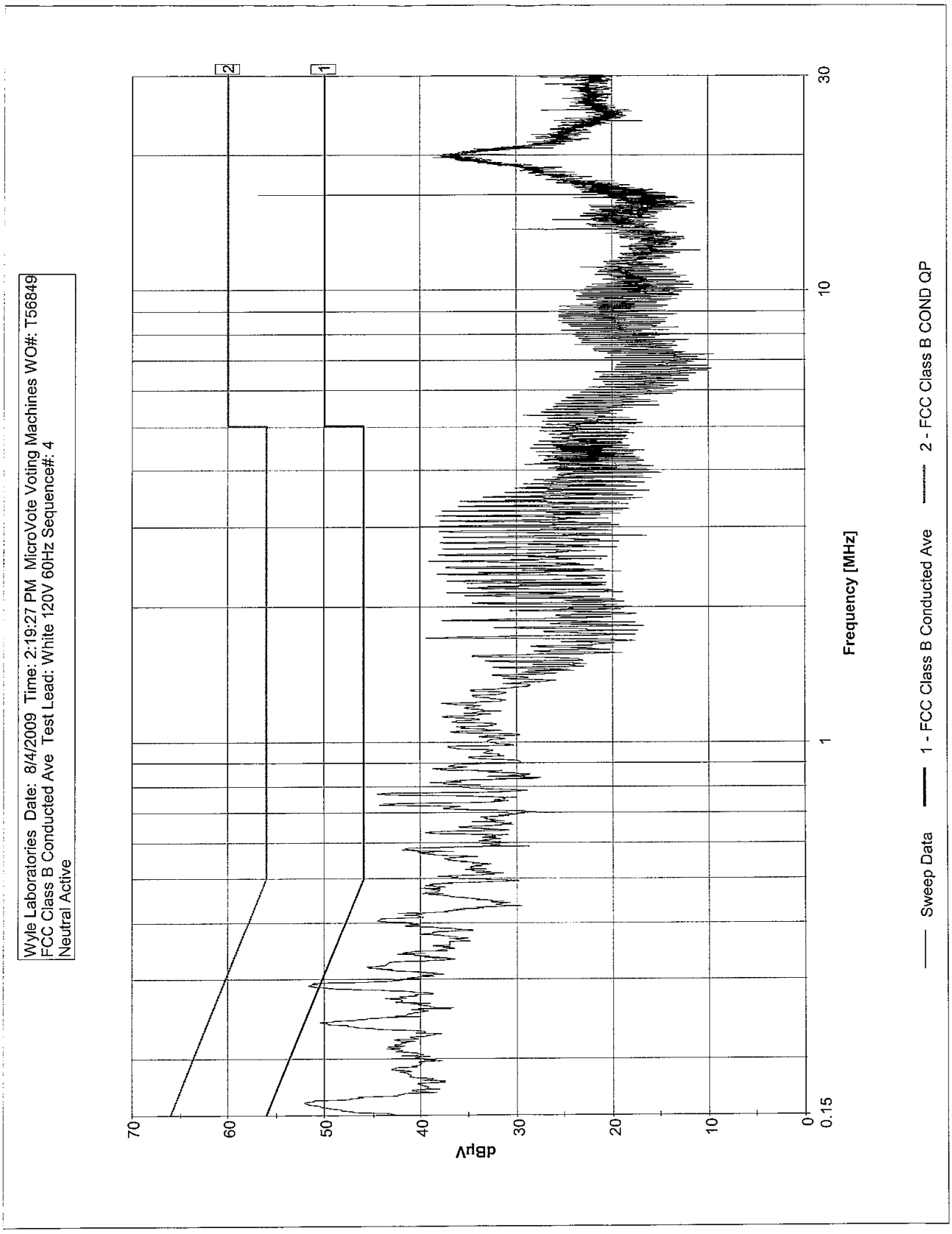
#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
38	1.621M	28.4	+0.1					28.5	46.0			White	Peak	-17.5
39	1.660M	25.3	+0.1					25.4	46.0			White	Peak	-20.6
40	1.694M	39.4	+0.1					39.5	46.0			White	Peak	-6.5
41	1.749M	27.1	+0.1					27.2	46.0			White	Peak	-18.8
42	1.783M	32.2	+0.1					32.3	46.0			White	Peak	-13.7
43	1.821M	26.4	+0.1					26.5	46.0			White	Peak	-19.5
44	1.851M	37.7	+0.1					37.8	46.0			White	Peak	-8.2
45	1.898M	25.8	+0.1					25.9	46.0			White	Peak	-20.1
46	1.945M	30.6	+0.1					30.7	46.0			White	Peak	-15.3
47	1.966M	25.4	+0.1					25.5	46.0			White	Peak	-20.5
48	1.974M	24.6	+0.1					24.7	46.0			White	Peak	-21.3
49	1.991M	36.2	+0.1					36.3	46.0			White	Peak	-9.7
50	2.008M	24.1	+0.1					24.2	46.0			White	Peak	-21.8
51	2.030M	34.5	+0.1					34.6	46.0			White	Peak	-11.4
52	2.059M	24.9	+0.1					25.0	46.0			White	Peak	-21.0
53	2.081M	30.0	+0.1					30.1	46.0			White	Peak	-15.9
54	2.110M	35.3	+0.1					35.4	46.0			White	Peak	-10.6
55	2.140M	37.2	+0.1					37.3	46.0			White	Peak	-8.7
56	2.191M	35.0	+0.1					35.1	46.0			White	Peak	-10.9
57	2.208M	32.9	+0.1					33.0	46.0			White	Peak	-13.0
58	2.229M	29.6	+0.1					29.7	46.0			White	Peak	-16.3
59	2.246M	35.1	+0.1					35.2	46.0			White	Peak	-10.8
60	2.272M	37.2	+0.1					37.3	46.0			White	Peak	-8.7
61	2.327M	24.7	+0.1					24.8	46.0			White	Peak	-21.2
62	2.353M	38.2	+0.1					38.3	46.0			White	Peak	-7.7
63	2.374M	33.9	+0.1					34.0	46.0			White	Peak	-12.0
64	2.395M	29.3	+0.1					29.4	46.0			White	Peak	-16.6
65	2.434M	37.3	+0.1					37.4	46.0			White	Peak	-8.6
66	2.455M	29.5	+0.1					29.6	46.0			White	Peak	-16.4
67	2.514M	39.1	+0.1					39.2	46.0			White	Peak	-6.8
68	2.570M	28.7	+0.1					28.8	46.0			White	Peak	-17.2
69	2.599M	38.1	+0.1					38.2	46.0			White	Peak	-7.8
70	2.680M	37.7	+0.1					37.8	46.0			White	Peak	-8.2
71	2.714M	25.8	+0.1					25.9	46.0			White	Peak	-20.1
72	2.761M	37.9	+0.1					38.0	46.0			White	Peak	-8.0
73	2.842M	37.6	+0.1					37.7	46.0			White	Peak	-8.3
74	2.876M	25.1	+0.1					25.2	46.0			White	Peak	-20.8
75	2.923M	38.0	+0.1					38.1	46.0			White	Peak	-7.9
76	3.004M	40.0	+0.1					40.1	46.0			White	Peak	-5.9
77	3.021M	32.4	+0.1					32.5	46.0			White	Peak	-13.5
78	3.033M	26.2	+0.1					26.3	46.0			White	Peak	-19.7
79	3.059M	27.5	+0.1					27.6	46.0			White	Peak	-18.4
80	3.084M	37.9	+0.1					38.0	46.0			White	Peak	-8.0
81	3.165M	38.4	+0.1					38.5	46.0			White	Peak	-7.5
82	3.195M	26.1	+0.1					26.2	46.0			White	Peak	-19.8
83	3.220M	26.8	+0.1					26.9	46.0			White	Peak	-19.1
84	3.246M	37.7	+0.1					37.8	46.0			White	Peak	-8.2
85	3.271M	25.5	+0.1					25.6	46.0			White	Peak	-20.4
86	3.327M	36.0	+0.1					36.1	46.0			White	Peak	-9.9
87	3.378M	26.7	+0.1					26.8	46.0			White	Peak	-19.2
88	3.408M	35.8	+0.1					35.9	46.0			White	Peak	-10.1
89	3.429M	31.1	+0.1					31.2	46.0			White	Peak	-14.8
90	3.459M	27.1	+0.1					27.2	46.0			White	Peak	-18.8
91	3.484M	33.4	+0.1					33.5	46.0			White	Peak	-12.5
92	3.539M	27.2	+0.1					27.3	46.0			White	Peak	-18.7
93	3.565M	31.1	+0.1					31.2	46.0			White	Peak	-14.8
94	3.616M	26.7	+0.1					26.8	46.0			White	Peak	-19.2
95	3.641M	30.1	+0.1					30.2	46.0			White	Peak	-15.8
96	3.697M	27.0	+0.1					27.1	46.0			White	Peak	-18.9
97	3.722M	29.2	+0.1					29.3	46.0			White	Peak	-16.7
98	3.773M	27.1	+0.1					27.2	46.0			White	Peak	-18.8
99	3.803M	28.1	+0.1					28.2	46.0			White	Peak	-17.8
100	3.854M	26.2	+0.1					26.3	46.0			White	Peak	-19.7

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
101	3.897M	25.6	+0.1					25.7	46.0			White	Peak	-20.3
102	3.935M	25.3	+0.1					25.4	46.0			White	Peak	-20.6
103	3.982M	25.8	+0.1					25.9	46.0			White	Peak	-20.1
104	4.007M	25.7	+0.1					25.8	46.0			White	Peak	-20.2
105	4.037M	26.6	+0.1					26.7	46.0			White	Peak	-19.3
106	4.058M	26.0	+0.1					26.1	46.0			White	Peak	-19.9
107	4.088M	25.4	+0.1					25.5	46.0			White	Peak	-20.5
108	4.118M	29.0	+0.1					29.1	46.0			White	Peak	-16.9
109	4.139M	27.4	+0.1					27.5	46.0			White	Peak	-18.5
110	4.173M	25.5	+0.1					25.6	46.0			White	Peak	-20.4
111	4.194M	27.1	+0.1					27.2	46.0			White	Peak	-18.8
112	4.220M	27.0	+0.1					27.1	46.0			White	Peak	-18.9
113	4.250M	26.0	+0.1					26.1	46.0			White	Peak	-19.9
114	4.271M	26.7	+0.1					26.8	46.0			White	Peak	-19.2
115	4.301M	27.6	+0.1					27.7	46.0			White	Peak	-18.3
116	4.326M	25.3	+0.1					25.4	46.0			White	Peak	-20.6
117	4.352M	26.2	+0.1					26.3	46.0			White	Peak	-19.7
118	4.381M	27.9	+0.1					28.0	46.0			White	Peak	-18.0
119	4.407M	25.5	+0.1					25.6	46.0			White	Peak	-20.4
120	4.462M	28.5	+0.1					28.6	46.0			White	Peak	-17.4
121	4.488M	25.8	+0.1					25.9	46.0			White	Peak	-20.1
122	4.513M	26.1	+0.1					26.2	46.0			White	Peak	-19.8
123	4.543M	28.1	+0.1					28.2	46.0			White	Peak	-17.8
124	4.569M	24.7	+0.1					24.8	46.0			White	Peak	-21.2
125	4.594M	26.3	+0.1					26.4	46.0			White	Peak	-19.6
126	4.624M	27.6	+0.1					27.7	46.0			White	Peak	-18.3
127	4.645M	25.0	+0.1					25.1	46.0			White	Peak	-20.9
128	4.671M	25.1	+0.1					25.2	46.0			White	Peak	-20.8
129	4.709M	26.2	+0.1					26.3	46.0			White	Peak	-19.7
130	4.747M	24.6	+0.1					24.7	46.0			White	Peak	-21.3
131	4.790M	26.5	+0.1					26.6	46.0			White	Peak	-19.4
132	4.828M	25.2	+0.1					25.3	46.0			White	Peak	-20.7
133	4.871M	27.5	+0.1					27.6	46.0			White	Peak	-18.4
134	4.905M	24.4	+0.1					24.5	46.0			White	Peak	-21.5
135	4.951M	27.3	+0.1					27.4	46.0			White	Peak	-18.6
136	4.990M	24.3	+0.1					24.4	46.0			White	Peak	-21.6
137	5.113M	27.2	+0.1					27.3	50.0			White	Peak	-22.7
138	5.201M	26.7	+0.1					26.8	50.0			White	Peak	-23.2
139	5.273M	29.2	+0.1					29.3	50.0			White	Peak	-20.7
140	5.354M	27.3	+0.1					27.4	50.0			White	Peak	-22.6
141	5.435M	26.8	+0.1					26.9	50.0			White	Peak	-23.1
142	5.507M	26.1	+0.1					26.2	50.0			White	Peak	-23.8
143	5.597M	25.9	+0.1					26.0	50.0			White	Peak	-24.0
144	5.679M	25.2	+0.1					25.3	50.0			White	Peak	-24.7
145	5.769M	24.7	+0.1					24.8	50.0			White	Peak	-25.2
146	8.120M	25.1	+0.2					25.3	50.0			White	Peak	-24.7
147	8.372M	24.3	+0.2					24.5	50.0			White	Peak	-25.5
148	8.444M	25.0	+0.2					25.2	50.0			White	Peak	-24.8
149	8.534M	25.4	+0.2					25.6	50.0			White	Peak	-24.4
150	8.615M	24.9	+0.2					25.1	50.0			White	Peak	-24.9
151	8.697M	25.4	+0.2					25.6	50.0			White	Peak	-24.4
152	8.769M	25.4	+0.2					25.6	50.0			White	Peak	-24.4
153	8.859M	25.1	+0.2					25.3	50.0			White	Peak	-24.7
154	8.931M	25.4	+0.2					25.6	50.0			White	Peak	-24.4
155	9.021M	25.3	+0.2					25.5	50.0			White	Peak	-24.5
156	9.183M	25.3	+0.2					25.5	50.0			White	Peak	-24.5
157	13.624M	30.0	+0.4					30.4	50.0			White	Peak	-19.6
158	14.300M	25.8	+0.4					26.2	50.0			White	Peak	-23.8
159	16.246M	56.5	+0.4					56.9	50.0			White	Peak	+6.9
160	16.264M	48.2	+0.4					48.6	50.0			White	Peak	-1.4
161	17.228M	25.3	+0.5					25.8	50.0			White	Peak	-24.2
162	17.309M	25.3	+0.5					25.8	50.0			White	Peak	-24.2
163	17.543M	26.3	+0.6					26.9	50.0			White	Peak	-23.1

Wyle Laboratories

#	Freq	Rdng dBµV	T1					Corr dBµV	Spec dBµV			Polar	Type	Margin
164	17.949M	27.4	+0.6					28.0	50.0			White	Peak	-22.0
165	18.165M	28.1	+0.6					28.7	50.0			White	Peak	-21.3
166	18.237M	27.9	+0.6					28.5	50.0			White	Peak	-21.5
167	18.661M	29.0	+0.7					29.7	50.0			White	Peak	-20.3
168	18.877M	31.2	+0.7					31.9	50.0			White	Peak	-18.1
169	19.030M	32.3	+0.7					33.0	50.0			White	Peak	-17.0
170	19.300M	35.1	+0.7					35.8	50.0			White	Peak	-14.2
171	19.354M	35.4	+0.7					36.1	50.0			White	Peak	-13.9
172	19.453M	35.9	+0.7					36.6	50.0			White	Peak	-13.4
173	19.661M	37.9	+0.8					38.7	50.0			White	Peak	-11.3
174	19.985M	36.9	+0.8					37.7	50.0			White	Peak	-12.3
175	20.489M	33.3	+0.8					34.1	50.0			White	Peak	-15.9
176	20.561M	33.6	+0.8					34.4	50.0			White	Peak	-15.6
177	20.643M	31.4	+0.8					32.2	50.0			White	Peak	-17.8
178	20.697M	31.1	+0.8					31.9	50.0			White	Peak	-18.1
179	20.805M	30.9	+0.7					31.6	50.0			White	Peak	-18.4
180	20.967M	28.6	+0.7					29.3	50.0			White	Peak	-20.7
181	21.048M	27.6	+0.7					28.3	50.0			White	Peak	-21.7
182	21.183M	27.6	+0.7					28.3	50.0			White	Peak	-21.7
183	21.282M	28.2	+0.7					28.9	50.0			White	Peak	-21.1
184	21.715M	27.2	+0.7					27.9	50.0			White	Peak	-22.1
185	21.868M	27.3	+0.7					28.0	50.0			White	Peak	-22.0
186	22.120M	27.7	+0.7					28.4	50.0			White	Peak	-21.6
187	22.192M	26.0	+0.7					26.7	50.0			White	Peak	-23.3
188	22.354M	25.4	+0.7					26.1	50.0			White	Peak	-23.9
189	22.615M	25.5	+0.7					26.2	50.0			White	Peak	-23.8
190	22.679M	25.8	+0.7					26.5	50.0			White	Peak	-23.5
191	23.161M	24.5	+0.8					25.3	50.0			White	Peak	-24.7
192	23.736M	25.2	+0.8					26.0	50.0			White	Peak	-24.0
193	24.004M	24.1	+0.8					24.9	50.0			White	Peak	-25.1
194	25.066M	26.5	+0.9					27.4	50.0			White	Peak	-22.6
195	25.107M	23.8	+0.9					24.7	50.0			White	Peak	-25.3
196	26.580M	24.3	+0.9					25.2	50.0			White	Peak	-24.8
197	28.506M	24.1	+1.0					25.1	50.0			White	Peak	-24.9
198	28.643M	26.0	+1.0					27.0	50.0			White	Peak	-23.0
199	29.479M	24.4	+1.0					25.4	50.0			White	Peak	-24.6
200	29.685M	26.5	+1.0					27.5	50.0			White	Peak	-22.5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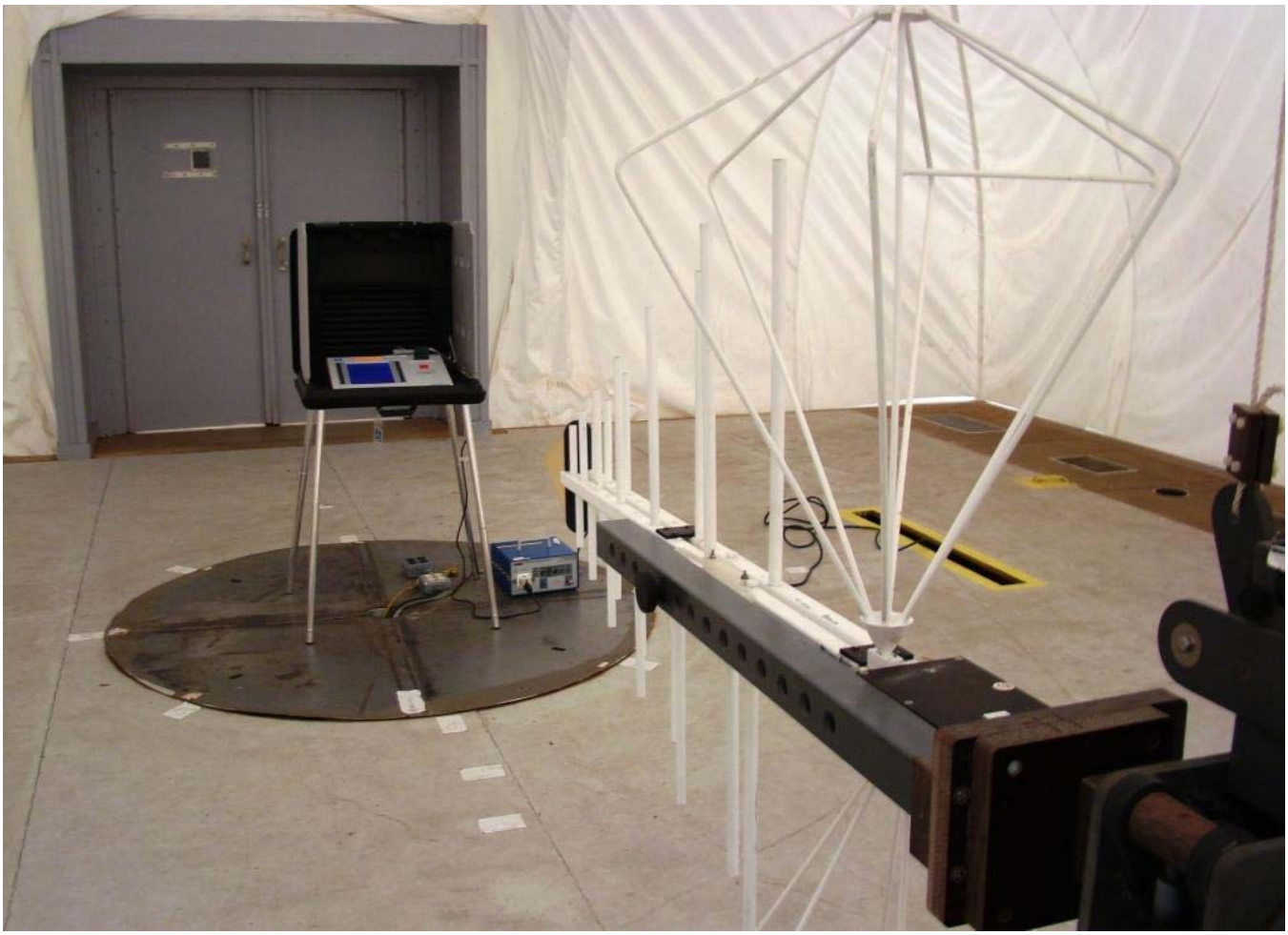
FCC Class B Conducted Ave Test Lead: White 120V 60Hz Sequence#: 4
Neutral Active
2
1
dBµV
70
60
50
40
30
20
10
0
0.15
1
10
30
Frequency [MHz]
Sweep Data
1 - FCC Class B Conducted Ave
2 - FCC Class B COND QP



Photograph 1: Electromagnetic Radiation Test Setup

Photograph 2: Electromagnetic Radiation Test Setup

wyle laboratories

INSTRUMENTATION EQUIPMENT SHEET

DATE: 8/4/2009 JOB NUMBER: T56849 TYPE OF TEST VVSG PARA 4.8.B (FCC)

TECHNICIAN: J SMITH CUSTOMER: MICROVOTE TEST AREA: OATS 2

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	ANTENNA	EMCO	EM-6917A-1	124116	114415	30MHZ - 3GHZ	SEE DATA	1/9/2008	1/9/2010
2	LISN	FISHER CC	FCC-LISN-50/250-16-	04001	110238	9kHz to 30MHz	±0.7dB±5%	5/21/2009	5/21/2010
3	PRESELECTOR	HP	85685A	2648A00447	113853	20HZ-2GHZ	±2dB	2/25/2009	2/25/2010
4	Q-PEAK ADAPTER	HP	85650A	2811A01189	112109	BY PASS MODI	.3db	2/25/2009	2/25/2010
5	RF CABLE	STORM	90-195-610	01-04-001	110111	.001-40 GHz	±3 dB	3/21/2007	3/21/2010
6	SPEC ANAL	HP	8566B	3014A06704	117093	100HZ-22GHZ	CERT	2/16/2009	2/16/2010

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: J Smith 8-4-09 CHECKED & RECEIVED BY: E. Todd 8/4/09

Q.A.: 8/5/09

WH-1029A,REV,APR'99

ELECTROSTATIC DISRUPTION

wyle laboratories

DATA SHEET

Job No.: T56849
Start Date: 8/6/09

Customer: MicroVote
EUT: Infinity Panel
Model No.: ---
Serial No.: 10403
Temperature: 74 °F
Measurement Point: See Test Points Below
Interference Signal: See Applied Level Below
Frequency Range: N/A
Humidity: 42%

Test Title ESD per 2005 VVSG

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
Vertical Coupling Plane	X		± 2	Indirect Contact	80	All four sides of EUT (No anomalies noted)
Vertical Coupling Plane	X		± 4	Indirect Contact	80	All four sides of EUT (No anomalies noted)
Vertical Coupling Plane	X		± 8	Indirect Contact	80	All four sides of EUT (No anomalies noted)
Test Point 1	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	Bottom Left Selection Button (No anomalies noted)
Test Point 2	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	Bottom Right Corner of Screen (No anomalies noted)
Test Point 3	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	4th Selection Button From Bottom Right (No anomalies noted)
Test Point 4	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	3rd Selection Button From Top Left (No anomalies noted)
Test Point 5	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	Top Left Corner of Screen (No anomalies noted)
Test Point 6	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	1st Selection Button on Right Side (No anomalies noted)
Test Point 7	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	Cast Vote Button (No anomalies noted)
Test Point 8	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	LCD Indicators (No anomalies noted)

Notice of Anomaly: N/A

Witness: N/A

Tested By: W. Bush Technician Date: 8/6/09

Approved: Wendy Wiens Project Engineer Date: 8/6/09

WH-1432, Rev. Dec. 2004

wyle laboratories

DATA SHEET

Job No.: T56849
Start Date: 8/6/09

Customer: MicroVote
EUT: Infinity Panel
Model No.: ---
Serial No.: 10403
Temperature: 74 °F
Measurement Point: See Test Points Below
Interference Signal: See Applied Level Below
Frequency Range: N/A
Humidity: 42%

Test Title ESD per 2005 VVSG

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
Test Point 9	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	Card Slot (No anomalies noted)
Test Point 10	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	ON/OFF Switch (No anomalies noted)
Test Point 11	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	AC Power Plug (No anomalies noted)
Test Point 12	X		± 2, ± 4, ± 8, ± 15	Air Discharge	80	RJ45 Connection (No anomalies noted)

Notice of Anomaly: N/A

Witness: N/A

Tested By: W. Bush Technician Date: 8/6/09

Approved: Wendy Owens Project Engineer Date: 8/6/09

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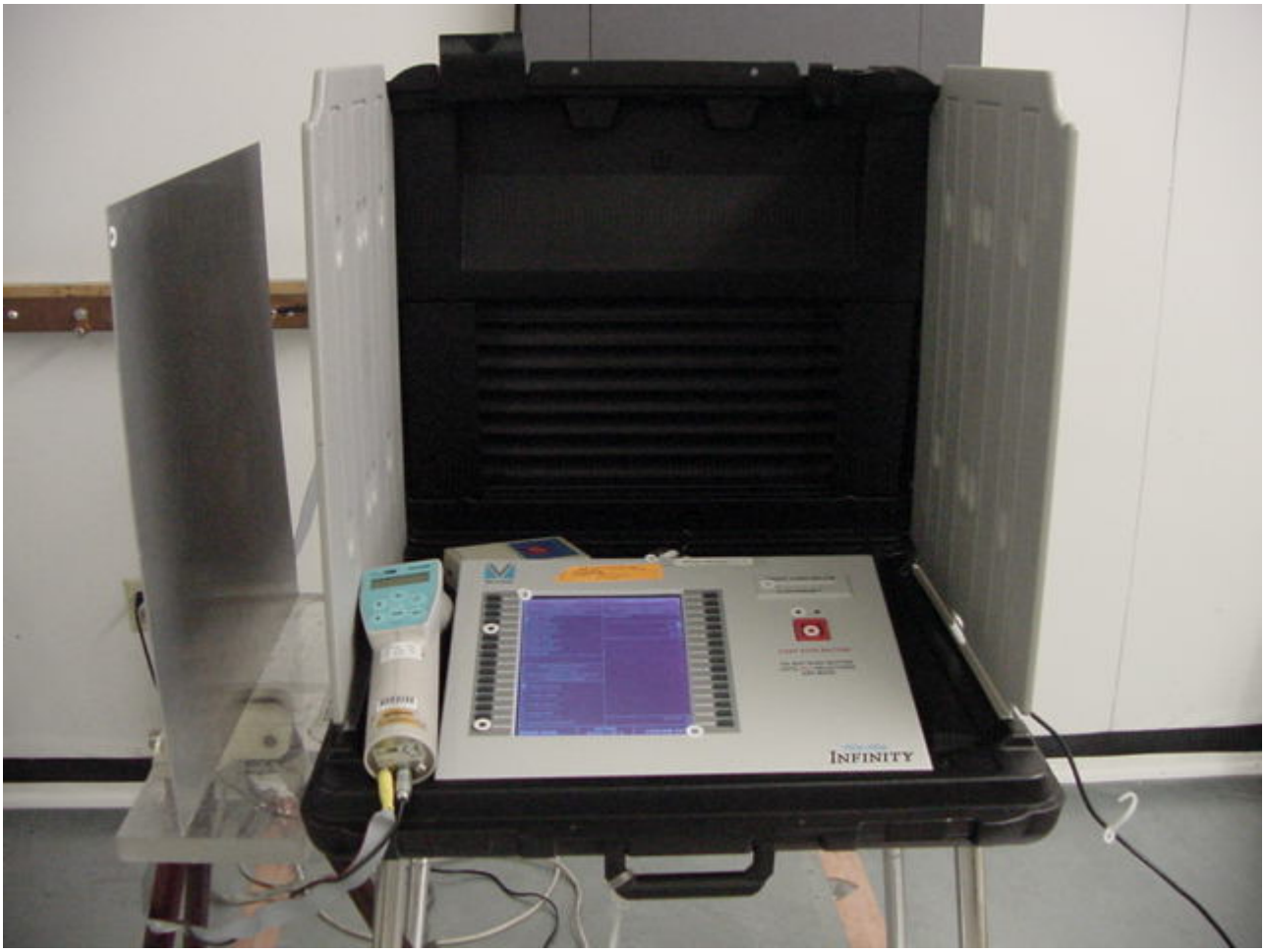
WH-1432, Rev. Dec. 2004



Photograph 3: Electrostatic Disruption Test Setup

wyle laboratories

INSTRUMENTATION EQUIPMENT SHEET

DATE: 8/6/2009 JOB NUMBER: T56849 TYPE OF TEST ESD

TECHNICIAN: J SMITH CUSTOMER: MICROVOTE TEST AREA: EMI LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	CHART RECORDER	OMEGA	CT485B	60507010	04492	-200 +200°F	±3%	12/15/2008	12/15/2009
2	ESD GUN	PARTNER	ESD3000	059	04446	16.5 KV	±10%	3/31/2009	3/31/2010
3	ESD TARGET	HAEFELY TRENCI	2520311	152461	110794	15KV	±5%	10/25/2007	10/25/2009
4	OSCILLOSCOPE	TEKTRONIX	TDS684C	B020598	116832	1GHz BW	<50ps@5GS/s	9/4/2008	9/4/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: 8/6/09 CHECKED & RECEIVED BY: W. Buck 8/6/09

Q.A.: Brenda Mann 8/6/09

WH-1029A,REV,APR'99

ELECTROMAGNETIC SUSCEPTIBILITY

wyle laboratories

DATA SHEET

Job No.: T56849
Start Date: 8/10/09

Customer:	MicroVote	**Temperature:**	Laboratory Ambient	**Humidity:**	Laboratory Ambient
EUT:	Infinity Panel	**Measurement Point:**	EUT @ All four Sides		
Model No.:	----	**Interference Signal:**	1 KHz @ 80 % AM		
Serial No.:	10403	**Frequency Range:**	80 MHz to 1 GHz		

Test Title Electromagnetic Susceptibility

Test Frequency	Meets Limit		Susceptibility Threshold Level	Maximum Signal Applied	Comments
( ) kHz (x)MHz ( ) GHz	Yes	No	( ) A ( ) V ( ) kV (x) V/m ( ) Vrms ( ) dBµA ( ) dBµV ( ) dBµV/m ( ) dBpT		
80	X		>10	10	Front of EUT (Vertical and Horizontal)
↓	↓		↓	↓	Left Side of EUT (Vertical and Horizontal)
↓	↓		↓	↓	Right Side of EUT (Vertical and Horizontal)
1,000	X		>10	10	Back of EUT (Vertical and Horizontal)

Notice of Anomaly: ---

Witness: ---

Tested By: W. Bush (Technician) **Date:** 8/10/09

Approved: Wendy Ames (Project Engineer) **Date:** 8/10/09

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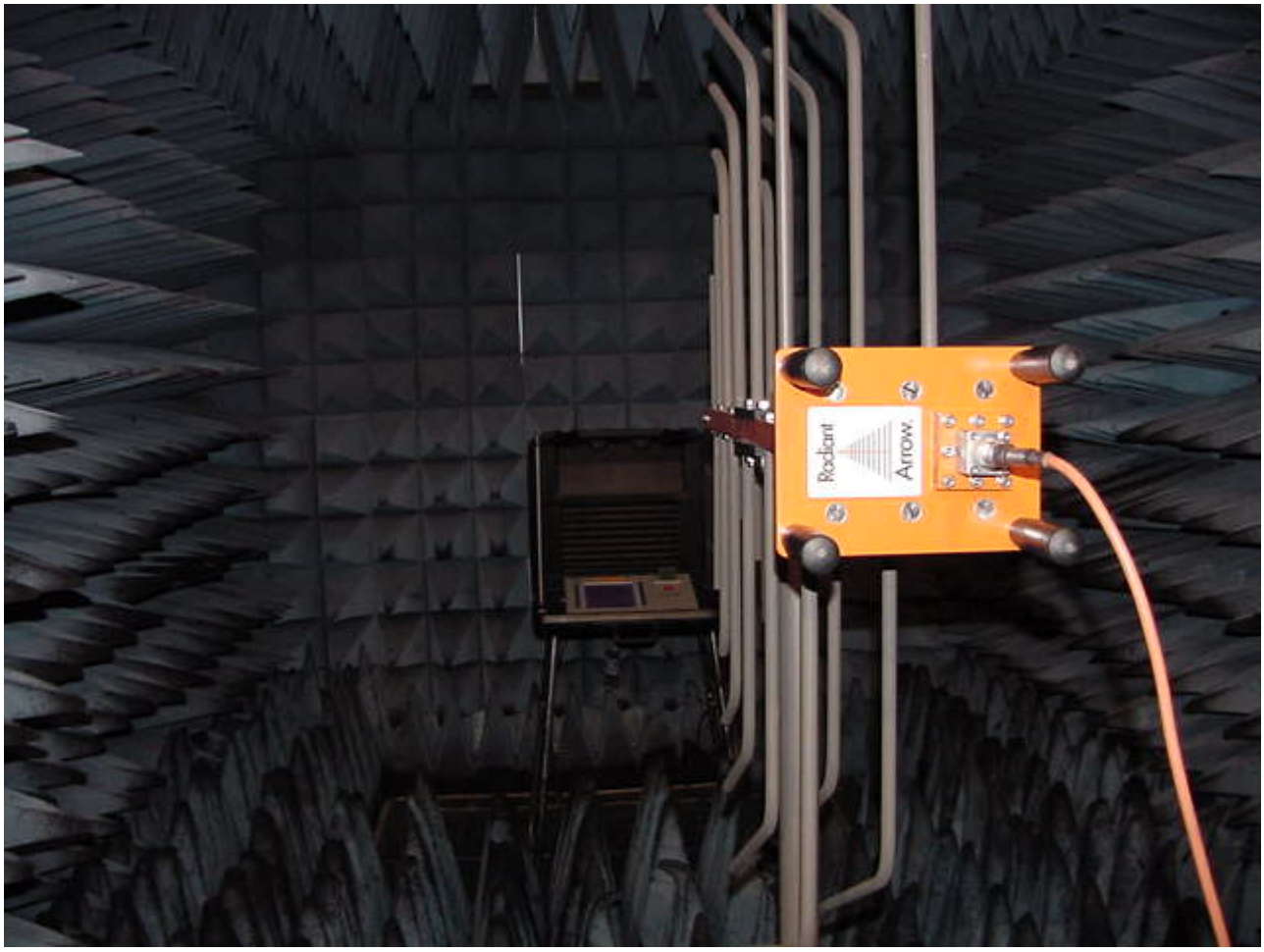
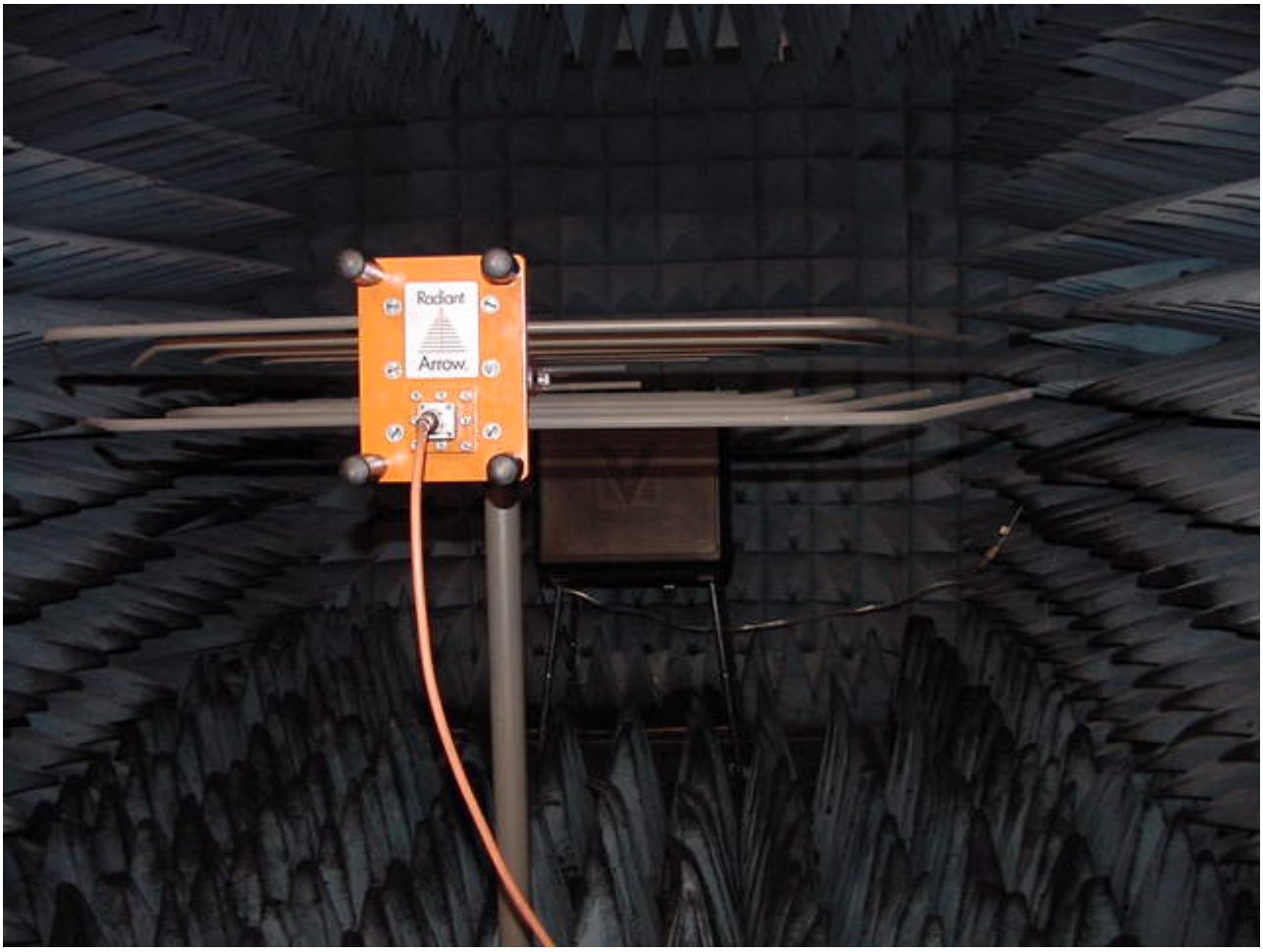
WH-1432, Rev. Dec. 2004



Photograph 4: Electromagnetic Susceptibility Test Setup, Vertical Polarization



Photograph 5: Electromagnetic Susceptibility Test Setup, Horizontal Polarization

wyle laboratories

INSTRUMENTATION EQUIPMENT SHEET

DATE: 8/10/2009 JOB NUMBER: T56849 TYPE OF TEST ELECTRO. SUSCEPT.

TECHNICIAN: W. BUSH CUSTOMER: MICROVOTE TEST AREA: EMI LAB

No.	Description	Manufacturer	Model	Serial #	WYLE #	RANGE	ACCURACY	Cal Date	Cal Due
1	AMPLIFIER	AMP RESEARCH	500W/000A	25361	03141	80MHz to 1GHz	NCR	7/8/2008	7/8/2020
2	ANTENNA	AR	AT6080	0330329	02247	80-6000MHz	MFG	12/10/2008	12/10/2010
3	DIR COUPLER	AMP RESEARCH	DC6080	21207	113788	80-1000MHZ	.5db	3/20/2009	3/20/2010
4	SIG GEN	MARCONI	2023	112224/092	L12224	9kHz-1.2GHz	±0.8dB	5/11/2009	5/11/2010
5	SPEC ANAL	ROHDE SCHWARZ	FSP30	100882	117804	MULTI	MFG	4/20/2009	4/20/2010
6	TAPE MEASURER	LUFKIN	HV1048CME	NSN	02243	26'/8m	MFG	11/21/2008	11/21/2009

This is to certify that the above instruments were calibrated using state-of-the-art techniques with standards whose calibration is traceable to the National Institute of Standards and Technology.

INSTRUMENTATION: W. Bush 8/10/09 CHECKED & RECEIVED BY: Dawn Lee 08/10/09

Q.A.: Brenda Mora 8/10/09

WH-1029A,REV,APR'99

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APPENDIX A.3
ELECTION DEFINITIONS

ELECTION DEFINITION: GEN-01

General Election: GEN-01
A basic election held in 4 precincts one of which is a split precinct. This election contains 19 contests compiled into 4 ballot styles. 5 of the contests are in all 4 ballot styles. The other 15 contests are split between at least 2 of the precincts with a maximum of 4 different contest spread across the 4 precincts. The voting variations supported by this election are as follows:

- Closed Primary: No
- Open Primary: No
- Partisan offices: Yes
- Non-Partisan offices: Yes
- Write-in voting: Yes
- Primary presidential delegation nominations: No
- Ballot Rotation: No
- Straight Party voting: Yes
- Cross-party endorsement: No
- Split Precincts: Yes
- Vote for N of M: Yes
- Recall issues, with options: No
- Cumulative voting: No
- Ranked order voting: No
- Provisional or challenged ballots: Yes
- Early Voting: No

This election was designed to functionally test the handling of multiple ballot styles, support for at least two languages, support for common voting variations, and audio support for at least two languages. Test Pattern 8 was chosen for audio input in an alternative language because it is a basic voting pattern using an ADA device. Test pattern 9 was chosen for audio input to demonstrate support for write-in voting using an ADA device. Test Pattern 3 was chosen for Spanish language input because it is a basic vote pattern using Spanish. Test Pattern 10 was chosen for Spanish language input because it exercises write-in using Spanish.

Configuration

EMS computer is used to create ballots with the following characteristics:
General Election named: GEN-01 General Election

Precinct Based Testing
1 machine used for each precinct
4 precincts: Precinct 1, Precinct 2a, Precinct 2b, Precinct 3
3 parties: Democrat, Libertarian, Republican
Languages: English, Spanish
Contest Totals: 19
Contests as listed:

Precinct 1 (4,5,6)	Precinct 2a	Precinct 2b	Precinct 3 (7,8,9)
Straight Party			
Libertarian			

ELECTION DEFINITION: GEN-01

Republican
Democrat

Vote for one

President and Vice President of the United States

Harry Brown Jim Doyle	LIB
George Bush Dick Cheney	REP
Al Gore Joe Liberman	DEM
Write-In	

Vote for 1

United States Senator

Ed Johnson	LIB
John Rusco	REP
Katie Bernstein	DEM
Write-In	

Vote for 1

Representative in Congress
District 1

Jim Gibbons	LIB
Daniel Laws	REP
Mary Cahill	DEM
Write-In	

Vote for 1

Representative in Congress
District 2

Habib Smith	LIB
Bonnie Wyatt	REP
Jim Hinkle	DEM
Write-In	

Vote for 1

Representative in Congress
District 1

Jim Gibbons	LIB
Daniel Laws	REP
Mary Cahill	DEM
Write-In	

Vote for 1

State Assembly
District 1

Marcia Jones	DEM
Write-In	

Vote for 1

State Assembly
District 2

Pat Thomas	DEM
Write-In	

Vote for 1

State Assembly
District 3

Yevette Downs	DEM
Write-In	

Vote for 1

Proposal 1
District 1

Should Taxes be raised for road improvement?

Yes
No

Vote for 1

Proposal 1
District 2a

Should the city fund the new stadium?

Yes
No

Vote for 1

Proposal 1
District 2b

Should the sales tax be increased to 9%?

Yes
No

Vote for 1

Proposal 1
District 2a

Should the city fund the new stadium?

Yes
No

Vote for 1

County Commissioner
District 1

Arlyn Beal	REP
Write-In	

Vote for 1

County Commissioner
District 2

Jack Howard	DEM
Write-In	

Vote for 1

County Commissioner
District 3

Jay Scott	LIB
Write-In	

Vote for 1

County Assessor

Dave Backus	LIB

ELECTION DEFINITION: GEN-01

Myron Ensign	LIB
Ralph Savage	REP
Ernie Banks	REP
Angus McFarland	DEM
Mick Manson	DEM
Write-In	
Write-In	

Vote for 2

Supreme Court Justice Seat A		Supreme Court Justice Seat B		Supreme Court Justice Seat C	
Robert Rose	LIB	Laura Denise	LIB	Millie Farmer	LIB
Gary Becker	DEM	Barbara Young	DEM	Ray Jones	DEM
Write-In		Write-In		Write-In	
Vote for 1		Vote for 1		Vote for 1	

Dog Catcher

Bill Bates
Nancy Ingram
Roland Gustiv
Write-In

Vote for 1

Applicable Voting Devices :
OP Scanner, DRE, Central Count, EBM, and ADA device

Test Deck Pattern:
Ballots voted or pre-marked with the following pattern. Ballots 8 and 9 will be cast utilizing the ADA audio capability with 8 being voted in an alternate language as well. Ballots 3 and 10 will be cast utilizing the Spanish language option. The following is the test pattern to be voted for the given precinct:

Precinct 1		B-1	B-2	[redacted]	B-4	B-5	B-6	B-7	[redacted]	[redacted]	[redacted]
Straight Party											
Libertarian		X									
Republican			X								
Democrat				X							
President of the United States											
Harry Brown	LIB				X				X		
George Bush	REP					X				X	
Al Gore	DEM						X				
Write-In								X			X
United States Senator											
Ed Johnson	LIB				X				X		
John Rusco	REP					X				X	
Katie Bernstein	DEM						X				
Write-In								X			X
Representative in Congress District 1											
Jim Gibbons	LIB				X				X		
Daniel Laws	REP					X				X	

Mary Cahill	DEM						X				
Write-In								X			X
State Assembly District 1											
Marcia Jones	DEM				X		X		X		
Write-In						X		X			X
Proposal 1 District 1											
Yes			X		X		X		X		X
No		X		X		X		X		X	
County Commissioner District 1											
Arlyn Beal	REP				X		X		X		
Write-In						X		X		X	X
County Assessor											
Dave Backus	LIB				X				X		
Myron Ensign	LIB				X					X	
Ralph Savage	REP					X					
Ernie Banks	REP					X					
Angus McFarland	DEM						X				
Mick Manson	DEM						X				
Write-In								X	X	X	X
Write-In								X			X
Supreme Court Justice Seat A											
Robert Rose	LIB				X			X			
Gary Becker	DEM					X			X		
Write-In							X			X	X
City of Priceville Dog Catcher (Non-Partisan)											
Bill Bates		X			X				X		
Nancy Ingram			X			X				X	
Roland Gustiv				X			X				
Write-In								X			X

Precinct 2a		**B-1**	**B-2**	[redacted]	**B-4**	**B-5**	**B-6**	**B-7**	[redacted]	[redacted]	[redacted]
Straight Party											
Libertarian		X									
Republican			X								
Democrat				X							
President of the United States											
Harry Brown	LIB				X				X		
George Bush	REP					X				X	
Al Gore	DEM						X				
Write-In								X			X
United States Senator											
Ed Johnson	LIB				X				X		
John Rusco	REP					X				X	
Katie Bernstein	DEM						X				
Write-In								X			X
Representative in Congress District 2											

Habib Smith	LIB				X				X		
Bonnie Wyatt	REP					X				X	
Jim Hinkle	DEM						X				
Write-In								X			X
State Assembly District 2											
Pat Thomas	DEM				X		X		X		
Write-In						X		X			X
Proposal 1 District 2a											
Yes			X		X		X		X		X
No		X		X		X		X		X	
County Commissioner District 2											
Jack Howard	DEM				X		X		X		
Write-In						X		X		X	X
County Assessor											
Dave Backus	LIB				X				X		
Myron Ensign	LIB				X					X	
Ralph Savage	REP					X					
Ernie Banks	REP					X					
Angus McFarland	DEM						X				
Mick Manson	DEM						X				
Write-In								X	X	X	X
Write-In								X			X
Supreme Court Justice Seat B											
Laura Denise	LIB				X			X			
Barbara Young	DEM					X			X		
Write-In							X			X	X
City of Priceville Dog Catcher (Non-Partisan)											
Bill Bates		X			X				X		
Nancy Ingram			X			X				X	
Roland Gustiv				X			X				
Write-In								X			X

Precinct 2b		**B-1**	**B-2**	[redacted]	**B-4**	**B-5**	**B-6**	**B-7**	[redacted]	[redacted]	[redacted]
Straight Party											
Libertarian		X									
Republican			X								
Democrat				X							
President of the United States											
Harry Brown	LIB				X				X		
George Bush	REP					X				X	
Al Gore	DEM						X				
Write-In								X			X
United States Senator											
Ed Johnson	LIB				X				X		
John Rusco	REP					X				X	
Katie Bernstein	DEM						X				

Write-In								X			X
Representative in Congress District 2											
Habib Smith	LIB				X				X		
Bonnie Wyatt	REP					X				X	
Jim Hinkle	DEM						X				
Write-In								X			X
State Assembly District 2											
Pat Thomas	DEM				X		X		X		
Write-In						X		X			X
Proposal 1 District 2a											
Yes			X		X		X		X		X
No		X		X		X		X		X	
County Commissioner District 2											
Jack Howard	DEM				X		X		X		
Write-In						X		X		X	X
County Assessor											
Dave Backus	LIB				X				X		
Myron Ensign	LIB				X					X	
Ralph Savage	REP					X					
Ernie Banks	REP					X					
Angus McFarland	DEM						X				
Mick Manson	DEM						X				
Write-In								X	X	X	X
Write-In								X			X
Supreme Court Justice Seat B											
Laura Denise	LIB				X			X			
Barbara Young	DEM					X			X		
Write-In							X			X	X
City of Priceville Dog Catcher (Non-Partisan)											
Bill Bates		X			X				X		
Nancy Ingram			X			X				X	
Roland Gustiv				X			X				
Write-In								X			X

Precinct 3		**B-1**	**B-2**	[redacted]	**B-4**	**B-5**	**B-6**	**B-7**	[redacted]	[redacted]	[redacted]
Straight Party											
Libertarian		X									
Republican			X								
Democrat				X							
President of the United States											
Harry Brown	LIB				X				X		
George Bush	REP					X				X	
Al Gore	DEM						X				
Write-In								X			X
United States Senator											

Ed Johnson	LIB				X				X		
John Rusco	REP					X				X	
Katie Bernstein	DEM						X				
Write-In								X			X
Representative in Congress District 1											
Jim Gibbons	LIB				X				X		
Daniel Laws	REP					X				X	
Mary Cahill	DEM						X				
Write-In								X			X
State Assembly District 3											
Yevette Downs	DEM				X		X		X		
Write-In						X		X			X
Proposal 1 District 2b											
Yes			X		X		X		X		X
No		X		X		X		X		X	
County Commissioner District 3											
Jay Scott	LIB				X		X		X		
Write-In						X		X		X	X
County Assessor											
Dave Backus	LIB				X				X		
Myron Ensign	LIB				X					X	
Ralph Savage	REP					X					
Ernie Banks	REP					X					
Angus McFarland	DEM						X				
Mick Manson	DEM						X				
Write-In								X	X	X	X
Write-In								X			X
Supreme Court Justice Seat C											
Millie Farmer	LIB				X			X			
Ray Jones	DEM					X			X		
Write-In							X			X	X
City of Priceville Dog Catcher (Non-Partisan)											
Bill Bates		X			X				X		
Nancy Ingram			X			X				X	
Roland Gustiv				X			X				
Write-In								X			X

Test Results:

Precinct 1:
Straight Party

Libertarian	1
Republican	1
Democrat	1

President

Harry Brown LIB	3
George Bush REP	3
Al Gore DEM	2
Write-In	2

US Senator	
Ed Johnson LIB	3
John Rusco REP	3
Katie Berstein DEM	2
Write-In	2
Rep in Congress District 1	
Jim Gibbons LIB	3
Daniel Laws REP	3
Mary Cahill DEM	2
Write-In	2
State Assembly District 1	
Marcia Jones DEM	4
Write-In	3
Proposal 1 District 1	
Yes	5
No	5
County Commissioner District 1	
Arlyn Beal REP	4
Write-In	4
County Assessor	
Dave Backus LIB	3
Myron Ensign LIB	3
Ralph Savage REP	2
Ernie Banks REP	2
Angus McFarland DEM	2
Mick Manson DEM	2
Write-In	4
Write-In	2
Supreme Court Justice Seat A	
Robert Rose LIB	3
Gary Becker DEM	3
Write-In	3
City of Priceville Dog Catcher	
Bill Bates	3
Nancy Ingram	3
Roland Gustiv	2
Write-In	2
Precinct 2a:	
Straight Party	
Libertarian	1
Republican	1
Democrat	1
President	
Harry Brown LIB	3
George Bush REP	3
Al Gore DEM	2
Write-In	2
US Senator	
Ed Johnson LIB	3
John Rusco REP	3
Katie Berstein DEM	2
Write-In	2
Rep in Congress District 2	
Habib Smith LIB	3

Bonnie Wyatt REP	3
Jim Hinkle DEM	2
Write-In	2
State Assembly District 2	
Pat Thomas DEM	4
Write-In	3
Proposal 1 District 2	
Yes	5
No	5
County Commissioner District 2	
Jack Howard DEM	4
Write-In	4
County Assessor	
Dave Backus LIB	3
Myron Ensign LIB	3
Ralph Savage REP	2
Ernie Banks REP	2
Angus McFarland DEM	2
Mick Manson DEM	2
Write-In	4
Write-In	2
Supreme Court Justice Seat B	
Laura Denise LIB	3
Barbara Young DEM	3
Write-In	3
City of Priceville Dog Catcher	
Bill Bates	3
Nancy Ingram	3
Roland Gustiv	2
Write-In	2
Precinct 2b:	
Straight Party	
Libertarian	1
Republican	1
Democrat	1
President	
Harry Brown LIB	3
George Bush REP	3
Al Gore DEM	2
Write-In	2
US Senator	
Ed Johnson LIB	3
John Rusco REP	3
Katie Berstein DEM	2
Write-In	2
Rep in Congress District 2	
Habib Smith LIB	3
Bonnie Wyatt REP	3
Jim Hinkle DEM	2
Write-In	2
State Assembly District 2	
Pat Thomas DEM	4
Write-In	3
Proposal 1 District 2a	

Yes	5
No	5
County Commissioner District 2	
Jack Howard DEM	4
Write-In	4
County Assessor	
Dave Backus LIB	3
Myron Ensign LIB	3
Ralph Savage REP	2
Ernie Banks REP	2
Angus McFarland DEM	2
Mick Manson DEM	2
Write-In	4
Write-In	2
Supreme Court Justice Seat B	
Laura Denise LIB	3
Barbara Young DEM	3
Write-In	3
City of Priceville Dog Catcher	
Bill Bates	3
Nancy Ingram	3
Roland Gustiv	2
Write-In	2
Precinct 3:	
Straight Party	
Libertarian	1
Republican	1
Democrat	1
President	
Harry Brown LIB	3
George Bush REP	3
Al Gore DEM	2
Write-In	2
US Senator	
Ed Johnson LIB	3
John Rusco REP	3
Katie Berstein DEM	2
Write-In	2
Rep in Congress District 1	
Jim Gibbons LIB	3
Daniel Laws REP	3
Mary Cahill DEM	2
Write-In	2
State Assembly District 3	
Yevette Downs DEM	4
Write-In	3
Proposal 1 District 2b	
Yes	5
No	5
County Commissioner District 3	
Jay Scott LIB	4
Write-In	4
County Assessor	
Dave Backus LIB	3

Myron Ensign LIB	3
Ralph Savage REP	2
Ernie Banks REP	2
Angus McFarland DEM	2
Mick Manson DEM	2
Write-In	4
Write-In	2
Supreme Court Justice Seat C	
Millie Farmer LIB	3
Ray Jones DEM	3
Write-In	3
City of Priceville Dog Catcher	
Bill Bates	3
Nancy Ingram	3
Roland Gustiv	2
Write-In	2
Cumlative Totals:	
Straight Party	
Libertarian	4
Republican	4
Democrat	4
President	
Harry Brown LIB	12
George Bush REP	12
Al Gore DEM	8
Write-In	8
US Senator	
Ed Johnson LIB	12
John Rusco REP	12
Katie Berstein DEM	8
Write-In	8
Rep in Congress District 1	
Jim Gibbons LIB	6
Daniel Laws REP	6
Mary Cahill DEM	4
Write-In	4
Rep in Congress District 2	
Habib Smith LIB	6
Bonnie Wyatt REP	6
Jim Hinkle DEM	4
Write-In	4
State Assembly District 1	
Marcia Jones DEM	4
Write-In	3
State Assembly District 2	
Pat Thomas DEM	8
Write-In	6
State Assembly District 3	
Yevette Downs DEM	4
Write-In	3
Proposal 1 District 1	
Yes	5
No	5
Proposal 1 District 2	

Yes	5
No	5
Proposal 1 District 2a	
Yes	5
No	5
Proposal 1 District 2b	
Yes	5
No	5
County Commissioner District 1	
Arlyn Beal REP	4
Write-In	4
County Commissioner District 2	
Jack Howard DEM	8
Write-In	8
County Commissioner District 3	
Jay Scott LIB	4
Write-In	4
County Assessor	
Dave Backus LIB	12
Myron Ensign LIB	12
Ralph Savage REP	8
Ernie Banks REP	8
Angus McFarland DEM	8
Mick Manson DEM	8
Write-In	16
Write-In	8
Supreme Court Justice Seat A	
Robert Rose LIB	3
Gary Becker DEM	3
Write-In	3
Supreme Court Justice Seat B	
Laura Denise LIB	6
Barbara Young DEM	6
Write-In	6
Supreme Court Justice Seat C	
Millie Farmer LIB	3
Ray Jones DEM	3
Write-In	3
City of Priceville Dog Catcher	
Bill Bates	12
Nancy Ingram	12
Roland Gustiv	8
Write-In	8

Criteria For Evaluation of Test Results:
The results of this test will be accepted if the stated election definition can be input into the EMS, the election transferred to the voting machine, voted according to the test vote pattern, and the results reported and audited to match the expected results. During the execution of this election all errors need to be logged and analyzed by Wyle qualified personal to determine if the error is an actual error or another issue.

ELECTION DEFINITION: L&A-01

Logic and Accuracy
This test must exercise all possible voting positions for this ballot. There are 144 possible positions per ballot. The EMS 4.0.26.1 Autovote program will be used to with a test script to provide the vote simulation.

- Closed Primary: No
- Open Primary: No
- Partisan offices: Yes
- Non-Partisan offices: Yes
- Write-in voting: Yes
- Primary presidential delegation nominations: No
- Ballot Rotation: No
- Straight Party voting: Yes
- Cross-party endorsement: No
- Split Precincts: No
- Vote for N of M: Yes
- Recall issues, with options: No
- Cumulative voting: No
- Ranked order voting: No
- Provisional or challenged ballots: No
- Early Voting: No

Equipment: 2 Infinity Panels

Configuration

EMS computer is used to create ballots with the following characteristics:
L & A Election named: L & A -01 Logic and Accuracy

Precinct Based Testing
2 machines used for voting in one precinct
1 precincts: Montgomery
8 parties: American, Communist, Democrat, Family Values, Green, Libertarian, Prohibition, Republican

Languages: English, Spanish,
Contests as listed:

Lincoln Hills General Election
Straight Party
American
Communist
Democrat
Family Values
Green
Libertarian
Prohibition
Republican
Vote for 1

ELECTION DEFINITION: L&A-01

President of the United States

Barbara Barrett Hicks	Amer
Edris Thomas	Comm
Gail Keefe	Dem
Harry Levin	Fam
Imran Rashid	Green
Kay Raab	Lib
Patricia Smallmon	Pro
Sam Patel	Rep
Write-In	

Vote for 1

United States Senator

Barry Josey	Amer
Edwin Best	Comm
Gail Ross	Dem
Harry Rider	Fam
Jack Hall	Green
Laurie St Laurent	Lib
R. J. Abbott	Pro
Tetty Rogiers	Rep
Write-In	

Vote for 1

Representative in Congress
District 1

Ben Baker	Amer
Edwin Lewis	Comm
Gale Smith	Dem
Harry Sosses	Fam
James A. Clark	Green
Leo Cross	Lib
Ralph Mills	Pro
Theodore Judd	Rep
Write-In	

Vote for 1

State Assembly
District 1

Betty Williams	Amer
Elizabeth Mack	Comm
Gary Klemann	Dem
Heidi Hatzinger	Fam
James Ayers	Green
Leon Lewis	Lib
Raymond Carrubba	Pro
Theodore Kopp	Rep
Write-In	

Vote for 1

State Supreme Court Justice
Seat A

Bruce Willis	Amer
Ernst Lynch	Comm
Herbert Schweppenhauser	Dem
James Roland	Fam
Linda Hall	Green
Philip Thorrp	Lib
Charles Brinson, Sr	Pro
Eugene Kessler	Rep
Write-In	

Vote for 1

Associate Judge of Court of Appeals

ELECTION DEFINITION: L&A-01

District 1

Ala Dee Smith	Amer
Calvin Marino	Comm
Eugene Ruff	Dem
Gloria Rossi	Fam
Kerry Jones	Green
Philip Thorrp	Lib
Ralph Mills	Pro
Thomas Reiss	Rep
Write-in	

Vote for 1

County Commissioner
District 1

Brent Gilley	Amer
Elizabeth Piazza	Comm
Gene Tillman	Dem
Heidi Pidgeon	Fam
James Collins	Green
Lewis Tese	Lib
Richard A.Silver	Pro
Tony Grzanich	Rep
Write-In	

Vote for 1

County Comptroller Seat A

Brian Edwards	Amer
Eric Sheehy	Comm
Helena Slack	Dem
James Hauer	Fam
Lewis Touhay	Green
Nyda E Hamblin	Lib
Theodore Poole	Pro
Charles Place	Rep
Write-In	

Vote for 1

County Assessor

Brian Getz	Amer
Ernest Snyder	Comm
Herbert Devine	Dem
James Lowery	Fam
Linda Gapp	Green
Philip Rebis	Lib
Write-In	
Write-In	

Vote for 2

Councilman District 2
(Non-Partisan)

Arthur Salamack
Elizabeth Piazza
Franklin Margo
Louis Korte, Jr
Mary L. Daniel
Nora Kling
Peter Valle
Robert Marsh
Scholmo Archibald
Write-In

Vote for 1

Councilman District 5
(Non-Partisan)

Arnold Krill
Chistopher R. Richardson

ELECTION DEFINITION: L&A-01

Delores DeVan
Ernest Snyder
George A. Fisk
Helena Slack
Joann O'Brien
Morton Maher
Phillip Mallia
Write-In

Vote for 1

Alderman District 8
(Non-Partisan)

Arnold Parham
Clinton Testo
Donald Brant
Eugene Kessler
Gloria Montoro
Herbert Schweppenhauser
James Pierson
Kay Raab
Paul Hodkins
Write-In

Vote for 1

Alderman District 11
(Non-Partisan)

Arthur Kumar
Cecil Carey
David Heroux
Frank Pearson
Gloria Dillion
Howard Hwang
Louise F. Murray
Marjorie Hall
Robert Carter
Write-In

Vote for 1

State University Trustees
(Non-Partisan)

Angela Pogoda
Charles Jasen
Derek Carlson
Eugene Ruff
Glenna P Cook-Lincoln
Write-In
Write-In
Write-In
Write-In
Write-In

Vote for 5

Delegates to 3rd Judical Convention
(Non-Partisan)

Anne Neet
Barry Josey
Colby Lincoln
Davina Ayers-Grant
Edris Thomas
Floyd W. Schisler
Gloria Castle
Homer H. Palmer
Jay Waitkus
Write-In

Vote for 1

Constitutional Amendment

ELECTION DEFINITION: L&A-01

Proposed Amendment to Section 9 of Article 1 (Bail)
Explanation of Propsoed Amendment

The proposed amendment deals with the category of persons who may be denied bail under the State Constitution. The present constitutional provision permits denial of bail only for persons charged with offenses punisheable by death or life of imprisonment, and only where the proof is evident or the presumption is great that the person charged committed the crime. If the people of the State adopt this proposed amendment, judges would also be empowered to deny bail to persons charged with felonies that carry a mandatory sentence of life imprisonment upon conviction where: (1) the proof is evident or the presumption great that the person committed the crime; and (2) the count, after a hearing, finds that the defendant poses a real and present threat to the safety of any person. The proposed amendment also requires the State to reimburse any unit of local government for additional costs incurred as a result of denial of bail under this provision. The denial of bail means the defendant would not be released from custody prior to trial.

For the proposed amendment to Section 9 Article 1 of the State Constitution which will permit a court to deny bail:

(a) To person charged with felony offeneses if conviction would carry a mandatory sentence of imprisonment;
(b) When the proof is evident and the presumption great; and
(c) If the court, after a hearing finds that the defendant poses a real and present threat to the safty of any person.
Further, the amendment would require the State to reimburse a unit of local government for costs incurred as a result of this provision.

Yes
No

Vote for 1

Referendum A
Bond Issue

To promote and assure the preservation and improvement of essential rail passenger and freight services to the inhabitants of the state, shall section two of chapter one hundred eighteen of the laws of nineteen hundred seventy-four, authorizing the creation of a state debt in the amount of two hundred fifty million dollars for capital facilities be approved?

For
Against

Vote for 1

Voting Devices Used:

Infinity Panel with Double Talk for ADA device

ELECTION DEFINITION: L&A-01
Test Deck Pattern:
Test Results:
Criteria For Evaluation of Test Results:

APPENDIX A.4
DEFICIENCY REPORT

A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
154	EMS	Receive an SQL error converting varchar to bigint when posting vote or reading tally cards.	New software build to correct this error.	N/A
124	EMS	The tester had completed reporting of all precincts. Precinct 3 appeared with status "Reported" on the reports. He then merged in the election containing the same precinct and it totaled posted the reports again, even though the status for that precinct was "Reported". He printed "Tally card detail report" and those numbers had been doubled also--they should reflect what was on the tally card.	Added additional logging to track the manual input.	N/A
123	EMS	The tester had entered ballot text between the heading and the first candidate of one contest (Representative in Congress District 2). It appeared correctly on the ballot as text information above the candidates. But in the precinct summary report, it appears as if it was a candidate with the name of the ballot text object and zero votes.	Duplicate merge feature disabled this problem.	N/A
122	EMS	The tester entered three manual votes using the "manual" screen in EMS. He selected "infinity" and used a serial number that was in the drop down list. It posted the votes. On the election summary and the precinct summary it listed the votes as if they had come from the Infinity panel. It should have shown them as entered manually. He printed the "Tally card detail report" and it showed a public count of 10 but then showed 13 votes had been entered in the presidential contest, immediately below the infinity panel serial number for the precinct.	With new audit log feature this can be traced.	N/A
121	EMS	On the Precinct Summary Report at the end of the election it showed precinct 1 as "incomplete" and precincts 2 and 3 as "reported". He had completed all three precincts and do not know why one was still incomplete. It also appeared this way on the Election Summary Report.	The precinct was not completely reported.	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
120	EMS	In the precinct summary report the "straight party votes" totals that appear in each precinct contain the totals for ALL the precincts. Example, he entered one straight party vote for each party in precinct one, but the counts shown on the report is four, which is the total number he entered when you take all four precincts into account. There is not count of straight party votes by precinct.	This is not maintained by precinct you most use the tally tapes.	N/A
119	EMS	The tester prepared a ballot text for "Mary Cahill" using "centered, bold, and underlined" formatting. On the preview of the infinity ballot all formatting was preserved. On the preview of the absentee ballot, the candidate name was underlined and the party name was centered, but the candidate name was not centered.	Software release.	N/A
118	EMS	The tester had exited EMS normally and powered down the laptop the previous day. Today he powered up, logged into the system as mvuser, and got an "invalid user" message on his first attempt to log into EMS, which probably was a valid message. But then he logged in again (correct password) and got a system error: "clsUser UpdateLastLogon System.data.SqlClient.SqlException:Invalid object name 'tblPassword'. At system.data.SqlClient.SqlCommand.ExecuteNonQuery() at EMS.clsUser.UpdateLastLogon()" Then it gave him an "abnormal shutdown previously occurred..." message, which was not true, the shutdown was normal with no error messages. It then appeared to log him on correctly. He logged off and logged on again to see what would happen, --it logged on with no problem.	After a discussion with MicroVote, this is a function of the logging. If the system is unable to log a "successful logged" upon login this message is displayed to tell the user the log out was unsuccessful.	N/A
117	EMS	The tester was entering a new candidate for an office. He clicked on the drop down box to get the list of offices. His was the last in the list and when he clicked on it, he missed and accidently clicked below the list where there happened to be a candidate name from the office that had been previously selected. He got a system message "General Do_Save_Par System.FormatException:Input string was not in correct format." A second message indicated that the error had been logged to the database.	Unable to reproduce the error.	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
116	EMS	The tester created a new election and saved it but did not open it. He entered his administrative preferences. He then opened the new election and it had none of his preferences. He decided that it errored in creating the election BEFORE he had entered his preferences. So he deleted the election and created a NEW election with the same name. When he tried to save the new election (i.e. the same as what I deleted) it gave him the error message: "csElect.AddDatabaseSystem.data.SQLClient.sqlException: Cannot create file 'C:emsdataelection_GEN1.mdf because it already exists"	Unable to reproduce. Possible has to do with the database not being tied to the EMS.	N/A
112	Infinity Panel	After ES hardware test, the technician bumped the Infinity Panel knocking it over. It froze up and would not allow the votes to be extracted. The machine also would not reboot. On power up, only the back light and the two red LEDs light up and no bios is running.	A representative from MicroVote came to repair this unit and install the screen on the other two units that are for functional testing. MicroVote Representative tried to repair unit and corrupted two others. Remove unit for troubleshoot. Fix for corrupt units 1. Open the panel and remove the flash drive and place in a generic flash reader attached to a computer 2. Delete STATUS.STS 3. Place the flash drive back into the panel and boot. The file STATUS.BAK should be copied to STATUS.STS 4. Power down the panel and remove the flash drive 5. Copy SECRECDS.DAT to PRIRECDS.DAT 6. Place the flash drive back into the panel and boot 7. The panel should power up in state "UNKNOWN" 8. Power down the panel and remove the flash drive 9. The "GETVOTES" utility should be able to retrieve the votes from the panel	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
111	EMS	D-03 set sorting preference to NONE in election TNMONPP08 and created a new office and added candidates. Candidate names still return to top. No difference between versions.	TNMONPP08 was a 4.0.21 DB supplied by MicroVote. Changed DB and retested. OK	N/A
110	EMS	D-02 changes the "sort by name within party" preferences to put the write-in choice at the bottom of the sorted list. Using TNMONPP80 and put the write-in at the bottom of the list on both versions of the EMS when a new office was created. No difference.	TNMONPP08 was a 4.0.21 DB supplied by MicroVote. Changed DB and retested. OK	N/A
109	EMS	Under the Election Setup, Office Entry Screen. The tester got an exception error "Exception from HResult: 0x8004503A" when the tester clicked on the speaker icon next to the phonics field. Functioned properly in old system.	Test setup issue. Reinstalled and functions as designed.	N/A
108	EMS	The Tester attempted to test the enhancement that changed the operation of the down arrow key so that a single press caused it to move to the next filed. In both the old and new versions, it moved with a single press -- no difference.	Left the "one Vote" option blank and then entered totals and found that old system did not advance on first press and new system did.	N/A
107	EMS	The enhancement "E-06" is to "add running mate to the "Report", "Tally" and "Phonetics" fields. The only place it was found was under Election Data Tab, the Office Entry and Candidate Filing screen. There were no changes to either of those screens and the Candidate Filing screen had running mate information	Misunderstood the change documentation. When the tester added a running mate and clicked on "set default", the new version added the running mate to the fields, the old version did not.	N/A
106	EMS	The tester had tested the sort features with TNMONPP08 and it functioned the same as the old version. The tester then loaded INLAKP08 and created a new election. Tested with this election, the sorts worked correctly. This indicates that the tester changed the stored procedures when an old election is restored. If this works the way, then a user might install a new version (i.e. 4.0.23.1) and then restore an election created on a previous version (i.e. 4.0.21). The user would think he was working with the same code as it appeared when certified, but would be working with the 4.0.21 DB backend and 4.0.23 front end.	*See Attached Letter.	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
105	EMS	In order to test sorting of candidate names, the tester created an election with one office and three candidates. After verifying that the sort worked as specified, the tester attempted to generate an "Offices/Candidate report". It printed a header on the first page, with "Bad RTF" appearing where the tester would expect to see the office/candidate information and then "END OF REPORT". the tester did a backup of the database at this point, naming it 2009_ELECTION_WYLEG01	Unable to reproduce.	N/A
104	EMS	When testing the Merge Function the tester noticed a difference in the vote counts that appeared in the "public count" field of the "Advanced Voting" screen and the Election Summary Report. In this case, the advanced voting screen showed a total vote count of 7600 votes and the Election Summary Report. In this case, the advanced voting screen showed a total vote count of 24, machine vote count of 52 for a total of 7700. I expected the counts to match, but could not reconcile the two "reports". I also saw the discrepancy later in the same test in a different database file with different counts. (steps 10050, 10065-10068)	Misunderstanding of Advanced Voting Screen. Votes could be from other tabulators, absentee, early voting, provisional.	N/A
103	EMS	In testing version 4.0.23 moves an office so that it avoids crossing pages. But in doing that it does not format the ballot quiet correctly. Some headers may start part way down the next column or be moved out of order. This is noted for the vendor's information and is not considered an "issue" because it is obvious on the screen where the user is building the ballot and it is easy for the user to manually move the office to the cell on the screen where it should go.	*Noted for information only.*	N/A
102	EMS	The EMS allows duplicate voter IDs when it tabulates. The voter IDs should be unique for each ballot and the system should have protections to ensure no ballot is counted twice. Users manual section 6.5.2	Tested multiple duplicate IDS and the system did handle them.	N/A
101	EMS	The tester used election INLAKP08 to test the "Precinct Summary Report" changes. The report ran for nearly two hours and was not halfway through the precincts. It was slowing more as it got further into the pages (I stopped about page 750). It needs to run more efficiently and should complete in a fraction of the time it is using.	*See attached letter.	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
99	EMS	The tester created an office and edited the ballot in the "create and edit ballot" screen, adding the office to the ballot. On the preview from this screen, it appeared in the ballot. However, the tester did not remove the "exclude" (apparent default) choice from the activation for both the democrat and republican ballots. As a result, the office was not included on the ballot when I viewed it on the Infinity. The system should give me a warning that I have an office that does not appear on any ballots.	Deemed a preference to a requirement.	N/A
98	EMS	While editing the ballot tester removed an office, reinserted to reposition it, but then removed it again and reinserted it. Tester got an "out-of-bounds" exception. Tester could not recreate the error. However, the error message was not clear to a user and did not indicate what action I should take. The error should have been trapped, the information saved and a understandable, user oriented message displayed that gave the user directions on what to do at this point. The audit log had events logged before and after this error, including an event indicating an abnormal shutdown had occurred but the error itself was not logged.	*See attached letter.	VVSG VI sect 2.1.5.1b (ii), 2.1.4i
97	EMS	Votes were posted for election INLAKP08 (1940) and then generated a summary log. As the page count increased, it continued to take more time for each page. By the time it got to page 284, it was taking over a minute per page and the screen became very slow to respond to a mouse click. For example it took over a minute to scroll a page. While generating the log, the warning message "Windows - Virtual Memory Minimum Too Low" Warning appeared indicating WINDOWS was increasing the size of the paging file. The generation process continued until page 413, where the process was terminated. By then over 3.5 hours had been spent trying to generate the log. (there are 561 precincts in this election)	software release that created an XML file.	VVSG - 2.1.5.1a(iv)& 2.1.5.1a (vii)
96	EMS	The "Reset" button that appears when you request an audit log is not described in the user manual	MicroVote thinks it is should be understood. At first glance it looks like you are resetting the audit logs not the form.	N/A
95	EMS	Votes were manually entered and they were totaled in the election, but the tester could not find an audit trail that showed clearly that manual votes had been entered. This allowed for entering the votes with no reference to the documents/votes ballots that was the source of the votes. In this case, they were entered as an Infinity Panel and it posted them as if they came from the machine – the tester could not decode the log sufficiently to see if it showed the votes by tabulator.	Inspected logs more in more detail there are logged just hard to find.	VVSG VI Sect 5.4.4a, b

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

Wyle ID	Application /Category	Issue	Resolution	Standard
94	EMS	The tester merged the same election precinct multiple times into the election and could view the duplicate voter ID's (the Advanced menu item) for a machine. The votes were then successfully posted and the election summary viewed. All votes were counted -- the turnout in the election was shown as 151%, which was probably correct. You must have protections to sure that votes are counted only once and that no operator can possibly feed the same votes in more than once.	Software release that did not allow the same workstation ID to merge multiple times.	VVSG VI 2.1.2c, 2.1.4f
93	EMS	We had rebuilt EMS 4.0.23.1 including installing and executing all the SQL stored procedures as specified in the build and installation manual. After we started EMS and ran for a short time, the application log gave an error message: "I/O error on backup or restore restart-checkpoint file C:\program files\ms sqlserver\mssql\backup\tempelec.ckp". The target directory does not exist on the system. This error seems to repeat itself frequently in the log.	Test setup issue. Reinstalled and functions as designed.	N/A
92	EMS	Two precincts were removed from INLAK08 election to get it down to 559 precincts. The tester then attempted a download to Infiinty Panel. It terminated with an out of bounds exception : MSMeasurements.ballot.splitcell (String p_sRTF, INT32 p_iCellCount).	Received new Source Code. Added a check for Array Bounds before using it.	VVSG VI Sect 5.2.2a for the array out of bound VVSG VI Sect 2.1.3a, 2.1.5.1bi, 2.1.5.1bii for the error message
90	EMS	In election "INLAKP08" there are votes present. The tester could delete a ballot style (for example 13). That should not be allowed. When the tester then did a "precinct summary report" the precinct(s) (for example 001) did not appear in the list of precincts that could be selected. However, when the tester selected "ALL" the information for that precinct did appear. The system should not allow the tester to delete a ballot style after voting has begun.	Software version to correct the altering of a ballot style once programming starts.	VVSG VI Sect 2.1.1b - possibly a violation
89	EMS	When the audit log was running the "Cancel" button was visible but did not function.	Misunderstanding of the functionality. The cancel button cancelled out of the form.	N/A
88	EMS	The addition of the "Merge" function offset the TOC after page 50	Updated Document	N/A

Wyle Report No. T56849-01 Appendix A.4
Deficiency Report

U. S. ELECTION ASSISTANCE COMMISSION
VOTING SYSTEM TESTING AND CERTIFICATION PROGRAM
1225 New York Avenue, NW, Suite 1100
Washington, DC. 20005

EAC MicroVote Discrepancy Decision

Summary: All Database Objects Restored with Data
ID: 106
Decision: *Accept* – The EAC would like to see MicroVote remedy this issue on the next modification of this system.

Summary: Precinct Report takes Excessive Time
ID: 101
Decision: *Accept* – The EAC encourages MicroVote to continue to explore ways to make logs more understandable and usable for election officials.

Summary: Error Message not Helpful, not logged
ID: 98
Decision: *Accept*

Summary: Excessive Time to generate Logs
ID: 97
Standard: VVSG 2.1.5.1.iv

2.1.5.1 Operational Requirements

iv. The audit record shall be active whenever the system is in an operating mode. This record shall be available at all times, though it need not be continually visible.

Decision: *Reject*– The EAC is willing to work with MicroVote on possible solutions if interested. We support the lab's finding and decision. The standard is not met.

Summary: Merge election allows double count
ID: 94
Standard: VVSG 2.1.4.f

2.1.4 Integrity

f. Protect against any attempt at improper data entry or retrieval

Decision: *Reject* –We support the lab's finding and decision. The standard is not met.

APPENDIX A.5
FUNCTIONAL CONFIGURATION AUDIT TCPS

Test Case Procedure Specification 56849-01

wyle

7800 Highway 20 West
Huntsville, Alabama 35806
Phone (256) 837-4411
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Job No. T56849
Test Case Procedure Specification T56849-01
September 29, 2009

FUNCTIONAL CONFIGURATION AUDIT TEST CASE PROCEDURE SPECIFICATION FOR MICROVOTE GENERAL CORPORATION ELECTION MANAGEMENT SYSTEM (EMS), V 4.0B (MODIFIED)

Prepared by:

Jack Cobb 4-28-10

Jack Cobb, Senior Project Engineer

NVLAP LAB CODE 200771-0

U.S. Election Assistance Commission
VSTL
EAC Lab Code 0704

Test Case Procedure Specification 56849-01

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1.0 INTRODUCTION

The purpose of this Test Case Procedure Specification is to document the functionality of the MicroVote EMS System v.4.0B. As part of the Functional Configuration Audit, Wyle must verify that the EMS performs as documented in the MicroVote supplied Technical Data Package. MicroVote EMS v. 4.0B has been previously fully tested to EAC 2005 VVSG. As a result of this testing, the MicroVote EMS v. 4.0B was granted certification under EAC Certification No. MVTEMS4. Since that time, MicroVote General Corporation has developed performance enhancements, repaired defects, and added features to the system, resulting in the need for regression testing.

1.1 Scope

The scope of this procedure will focus on all activities performed verifying and testing enhancements, defects, features, and hardware. Based on the MicroVote EMS v.4.0B certification the listed areas will be performed using re-test and regression testing for verification and functionality.

1.2 References

The documents listed below were used in the development of the Test Plan and are utilized to perform certification testing.

- Election Assistance Commission 2005 Voluntary Voting System Guidelines, Volume I, Version 1.0, "Voting System Performance Guidelines", and Volume II, Version 1.0, "National Certification Testing Guidelines", dated December 2005
- Election Assistance Commission Testing and Certification Program Manual, Version 1.0, effective date January 1, 2007
- Election Assistance Commission Voting System Test laboratory Program Manual, Version 1.0, effective date July 2008
- National Voluntary Laboratory Accreditation Program NIST Handbook 150, 2006 Edition, "NVLAP Procedures and General Requirements (NIST Handbook 150)", dated February 2006
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-22, 2008 Edition, "Voting System Testing (NIST Handbook 150-22)", dated May 2008
- United States 107th Congress Help America Vote Act (HAVA) of 2002 (Public Law 107-252), dated October 2002
- Wyle Laboratories' Test Guidelines Documents: EMI-001A, "Wyle Laboratories' Test Guidelines for Performing Electromagnetic Interference (EMI) Testing", and EMI-002A, "Test Procedure for Testing and Documentation of Radiated and Conducted Emissions Performed on Commercial Products"
- Wyle Laboratories' Quality Assurance Program Manual, Revision 4

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1.2 References (continued)

- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- EAC Requests for Interpretation (listed on www.eac.gov)
- EAC Notices of Clarification (listed on www.eac.gov)
- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 VSTL Certification Test Report Version 5 (listed on www.eac.gov)
- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 Technical Data Package

1.3 Terms and Abbreviations

The terms and abbreviations relevant to the test campaign are described in Table 1-1, below.

Table 1-1 Terms and Abbreviations

Term	Abbreviation	Definition
Configuration Management	CM	
Commercial of the Shelf	COTS	
Direct Record Electronic	DRE	
United States Election Assistance Commission	EAC	Commission created per the Help America Vote Act of 2002, assigned the responsibility for setting voting system standards and providing for the voluntary testing and certification of voting systems
Election Management System	EMS	
Functional Configuration Audit	FCA	Exhaustive verification of every system function and combination of functions cited in the manufacturer's documentation
MicroVote EMS	EMS	MicroVote Election Management System
Physical Configuration Audit	PCA	Review by accredited test lab to compare voting system components submitted for certification testing to the manufacturer's technical documentation and confirmation the documentation meets national certification requirements. A trusted build is performed to ensure this is built from tested components
Technical Data Package	TDP	Manufacturer Documentation related to the voting system required to be submitted as a precondition of certification testing
Voluntary Voting System Guidelines	VVSG	Published by the EAC, the third iteration of national level voting system standards
Wyle Operating Procedure	WoP	Wyle test method or test procedure

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2.0 DETAILS

2.1 Inputs, Outputs, and Special Requirements

Inputs to this procedure are databases provided by MicroVote to accelerate the process of verifying the enhancements, defect repair and features. Data provided will be used for re-test and regression testing only. The data received from the functionality testing of the enhancements, repaired defects, features, and hardware will only be used for the results of regression testing. The databases provided by MicroVote are as follows:

- **ELECTION_INLAKP08_Control.zip**
- **ELECTION_INLAKP08_Merged.zip**
- **ELECTION_INLAKP08_Station1_CAL4.zip**
- **ELECTION_INLAKP08_Station2_CAL6.zip**
- **ELECTION_INLAKP08_with1940votes.zip**
- **ELECTION_INWARG08 (wrap when not needed).zip**
- **ELECTION_TNMONPP8 (text running over center line).zip**

The regression testing will cover the following areas of enhancements, defects, features, and hardware to ensure proper functionality.

Enhancements:

E-01 – A five minute timeout was removed and two stored procedures were improved to provide better performance when posting vote data

E-02 - Offices were wrapped if there was no room for the entire office in a column or on a page. A modification was made to move the entire office to the top of the next column if the entire contest would not fit in the previous column.

E-03 – A warning was added for the "Resorting of Candidate" function to prevent unintended results.

E-04 – Candidate name wrapping caused ballots to be longer than necessary. A calculation was updated to calculate the page width accounting for the fact that a two-column layout only needs space for a single gutter where the calculation previously allocated space for a gutter per column. In the EMS, the default border for the candidate box was removed and font size was modified to decrease the ballot size and provide a more accurate representation of the Infinity Panel display.

E-05 – "All" option on the Precinct summary report was modified to be more useable. Page breaks and numbering were added to enhance the readability of the report.

E-06 – A modification was made to add running mate to the "Report", "Tally", and "Phonetics" fields.

E-07 – Report and Tally names did not allow the "/" or "&" characters. A modification was made to allow these characters.

E-08 – The arrow navigation keys required a double press to get to the next field. A modification was made to allow a single selection to navigate to the next field.

E-09 – Activation names did not allow the dash character. A modification was made to allow the dash character in the activation name.

E-10 – Text could not be added between the "Office Title" and "Candidate Names" in the ballot layout. A modification was made to allow additional text to be added between these fields.

E-11 – To allow the ballot designer to observe custom text formatting by the user, the auto left and right alignment was removed for this text except for the first line of text on absentee ballots.

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2.0 DETAILS (CONTINUED)

2.1 Inputs, Outputs, and Special Requirements (continued)

Defects:

D-01 – An office placed on a ballot without enough space for the entire contest was being split into two parts with a gap. This issue has been corrected.

D-02 – The "Sort By Name Within Party" function did not function properly. Non-partisan candidate fields like "Write-in" and "No Candidate Filed" would appear at the top of the sorted list even after candidates were added. A modification was made to place non-party candidates (including "Write-in" and "No Candidate Filed") at the end of the candidate list.

D-03 – The sorting preference of "None" place the "No Candidate" after regular candidate names and before "Write-in" candidate name. A modification was made to preserve the order of entry for candidates.

D-04 – Ballot text ran across the center line on the Infinity panel. A modification was made to correct this issue.

Features:

F-01 – "Merge" database option was added to the existing options to backup, restore, delete, and copy a current database. This feature shall merge a "backed up" election database into the current database.

Hardware:

H-01 – The use of Mark Products, LTBSHH256JC graphic LCD Module with Hitachi SP24V001 – A due to "end of life" for the LTBSGG356JC. The new display shall be an alternate display thus an Infinity panel can have either display.

2.2 Functional Re-Testing/Regression Testing

Source code review shall be performed to verify the depth of regression testing. Re-testing and regression testing shall be used to verify proper corrective action. Partial and full regression testing shall be used to test the directly interacting elements at both the Component and Integration levels and indirectly interacting elements at the System and Acceptance levels of testing. Testing shall verify no additional defects introduced to the unchanged areas. The submitted changes for testing are listed in section 2.1. A visual comparison of version 4.0.22 to version 4.0.26 shall be performed to test enhancements and defect repairs directly interacting with modified logic. Upon completion of physical modification a full regression test shall be performed to ensure enhancements perform as expected and defects have been repaired without further issues. After all modifications have been completed a full system test shall be completed to ensure system functions without issue. The requirements and test cases used for this testing are listed in Appendix A.

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ATTACHMENT A
REGRESSION TEST CASES

Test Case Procedure Specification 56849-01

Test Case: Retraction Performance for large number of votes	
Test Objective:	**Test Configuration:**
Measure performance for extracting votes from database containing large number of vote records in single precinct. The posting of identical votes in identical elections will be timed for both systems. The objective is to verify that the new system posts the votes correctly where the old system failed.	This test will use Election INLAKP08 (filename as received from MicroVote is Election_INLAKP08_with1940Votes.dmp). The identical test steps will be executed on each laptop to post votes
Devices Utilized:	Laptop with Version 4.0.21 (old version); Laptop with Version 4.0.23 (version containing mods) EMS:

Step	Procedure
0	Save date and time -- see Wyle Test Script (WOP) and test deck.
10000	Load version 4.0.21 on laptop and load version 4.0.23 on the second laptop. Record software version and hardware serial numbers
10010	Restore Database INLAKP08 provided by microvote (file name is INLAKP09_with1940Votes.dmp) on both EMS versions.
10020	Open the INLAKP08 election on both machines. Select the "Election Summary Report" under the tabulation tab.
10030	Select the "Advanced Voting" menu item on both machines.
10040	Using a standard clock or watch, note the time and press the "post" key on both EMS systems.
10050	On version 4.0.23 click on the election summary report.
10060	End of test. On the version 4.0.23, save the log file to pdf, the election summary report to pdf. Record time and date and summary status of this test.

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Test Case: Comparison Test Verifying Office Wrap Fix	
Test Objective:	**Test Configuration:**
This test compares the operation of the new release to that of the old release to verify that the text does not overwrite the center line of the infinity (D-04), and that offices are placed on a new page or column if there is not enough room on the current page or column (E-02), and that the office is not split so that it creates a gap between the two parts(D-01).	Laptop with EMS version 4.0.21 is used to view the problem that is to be corrected. A Laptop with EMS version 4.0.23 is the version being tested to verify the problem is fixed. An infinity voting machine is connected to each laptop for verification that the fix works on the infinity panel.
Devices Utilized:	Laptop with Version 4.0.21 (old version); Laptop with Version 4.0.23 (version containing mods) EMS: 2 infinity voting machines (Hardware Release C,Firmware version 4.0)

Step	Procedure
0	Record version number of target system being validated and the version number of the source system that it is compared to. Record hardware model and serial numbers
10000	Record time and date of test start.
10010	Load election that failed in source (old) version of system (TPMONPP8) into both EMS laptops.
10015	On both systems, create a new vote-for-1 office named "National Hero" and select the box to create the office for each party. Allow a write-in
10017	Add one candidates to each new office -(John Glenn and Virgil Grissom.)
10020	Download the election from EMS Version 2.0.21 to the infinity and view the democrat and republican ballots.
10030	Download the election from the New version of EMS to the infinity and view the democrat and republican ballots.
10040	Remove the presidential election from the first page of ballot type 7 and re-insert it midway down the second column of that page. Do this on both versions.
10050	Insert the "national Hero" Office at the next to bottom line of the 1st column of the first page on both systems.
10060	Remove both the presidential election and the National Hero Election from both systems.
10070	On both systems: insert the National hero election about 1/2 way down on the first column of the ballot, then insert the presidential election at the top to that column.
10080	Download the new version to the infinity and verify that it displays as viewed in the EMS.
10090	Repeat steps 10040 thru 10070 using the "absentee" view of the ballot.
10100	Dump the log, record time and date and summarize test results.
10110	End of Test.

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Test Case: Precinct summary report test	
Test Objective:	**Test Configuration:**
Verify the "Precinct Summary Report" prints with page breaks and summary information as specified by the change (E-06) by viewing the report as created by the system before and the system after the change is applied.	This test will use Election INLAKP08 (filename as received from MicroVote is INLAKP08_CONTROL). The identical test steps will be executed on each laptop to display and print the Precinct Summary Report. The outputs are compared to verify that the new system corrects the problems that were occurring on the old system.
Devices Utilized:	Laptop with Version 4.0.21 (old version); Laptop with Version 4.0.23 (version containing mods) EMS:

Step	Procedure
0	Record time and date of test start. Record version number of target system being validated and the version number of the source system that it is compared to. Record hardware model and serial numbers
20000	Reboot both laptop computers and start EMS on both.
20010	Restore election INLAKP08 (file name INLAKP08_CONTROLdmp.
20030	On both laptops. Under the "Vote Tabulation" tab, select the Precinct summary report and choose the "All" option to print all precincts.
20040	Compare the two reports by visually scrolling through the report -- sample pages at start, middle and end of report.
20050	Print the new report to verify that it prints correctly (to PDF file).
20060	print audit log to PDF file
20070	End of Test. Record time and date. Save precinct summary report and audit log.

Test Case Procedure Specification 56849-01

Test Case: Merge Databases Test	
Test Objective:	**Test Configuration:**
Verify that merge combines voting results for election. Verify that you get an error if you try to merge into a different database.	This test will use Election INLAKP08 (filename as received from MicroVote is INLAKP08_CONTROL) to verify counting to merged tallys. It will use Election TNMONPP8 to determine characteristics when merging databases that do not have identical definitions.
Devices Utilized:	Laptop with Version 4.0.21 (old version); Laptop with Version 4.0.23 (version containing mods) EMS:

Step	Procedure
0	Record date and time -- see Wyle Test Script (WOP) and test deck.
10000	Record hardware serial numbers
10010	Boot laptop and start EMS, Record EMS version number.
10020	Restore database INLAKP08_Station1_CAL4.dmp. Then select and open this election. View the "precinct summary report" and print a sampling of the precincts to .pdf files.
10035	Print the "election summary" report to a PDF file.
10040	In the "utilities" menus, select merge and then select the same database as was previously restored.
10050	Print the current "election summary report" to a PDF file.
10060	Copy both .pdf files to a thumb drive and using "Active File Compare" program, do a side-by-side scan of the files on a separate computer.
10065	Restore election INLAKP08_Station2_CAL6. Select and open that election and print "election summary report to pdf file.
10068	Merge election INLAKP08_Station1_CAL4. And print the "election Summary Report" to a .pdf file.
10070	Load election "TNMONPP" and backup that election.
10080	Add a precinct, 2 new contests with two or more candidates in each. To election. Do a backup of that election using a different file name that in previous backup.
10090	Merge in the previously backed up election (original TNMONPP8) with the modified election that is now open.
10100	Restore the original "TNMONPP" election and open that election.
10110	Merge in the new version of the election that was backed up earlier with the two extra elections.
10120	Restore the TNMONPP election database that has additional precinct and contest and then copy it with a different election name. (TNBIGCPY)
10130	Open the original TNMONPP election and then attempt to merge the copied election that has a different name.
10140	Delete the copied election from the database.
10150	Print audit log to pdf file
10160	End of Test, Note Results, record date and time., save .pdf files to depository.

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Test Objective:	**Test Configuration:**
Test Case: Sorting Enhancements	
Test Objective:	**Test Configuration:**
Verify that a warning message is displayed when a candidate name is moved in the list if that office is already in use on a ballot style (E-03) , (This test will also be used to verify sort by Name within party and sort when "none" and "no candidate" are specified.(Changes D-02 and D-03)	EMS 4.0.21 is installed on one laptop and the version containing the enhancements is installed on the other. The same election database is opened on both and the same data is sorted on both.
Devices Utilized:	EMS laptops (2) for executing sorts and viewing sorted output

Step	Procedure
0	Save date and time -- see Wyle Test Script (WOP) and test deck.
10000	Record software version and hardware serial numbers
20000	Start EMS version 2.0.21 and ems Version 2.0.23 on the laptops. Load database "TNMONPP8" on both computers.
20010	On version 2.0.21, view the "Candidate Filing" screen and select the "(R) Delegates at Large Race", Then drag the first candidate so the cursor is over the third candidate and release the key.
20020	On version 2.0.23, view the "Candidate Filing" screen and select the "® Delegates at Large Race", Then drag the 2nd name in the list until the cursor is over the third candidate and release the key.
20030	In response to the warning message, select "yes"
20040	Repeat the above steps to drag the 5th candidate name (Beth G. Cox) to the name in the 8th position and release the mouse key. When the warning message is displayed, select "no".
20050	(In Version 4.0.23) Under the Ballot Setup tab, select "Create and Edit Ballots" and then select ballot style 7.
20060	(in version 4.0.23) Select "create and edit ballots" and view ballot style 7. Locate election (R) Delegates at Large and and verify the candidates are ordered correctly.
20070	Add logic here to sort by Name within party (D-02) and the sorting of "none" and "No candidate" (D-03) when their characteristics or determined.

Test Case Procedure Specification 56849-01

Test Case	Ballot Editing Enhancements
Verify the that running mate is added correctly (E-06), that the "/" and "&" characters are allowed in Report and Tally name fields (E-07), that dashes are allowed in Activation Names (E-08), and that the "no candidate" selection can be used to insert text between the title and the 1st candidate (E10), that text formatting is preserved on candidate names (E-11). The same test steps are performed on both and the outputs compared.	EMS 4.0.21 is installed on one laptop and the version containing the enhancements (4.0.23) is installed on the other. One Infinity voting panel is attached to the EMS Laptop containing version 4.0.23 that is being validated.
Devices Utilized:	EMS laptops (2) for executing edits and viewing them on the ballot preview and on the infinity

Step	Procedure
1000	Save date and time -- see Wyle Test Script (WOP) and test deck.
2000	Record software version and hardware serial numbers
3000	Reboot both laptops, bring up version 4.0.21 on the QA-1 laptop and version 4.0.23 on QA-Build laptop.
4000	restore the "TPMONPP8" database to both laptops.
4050	ON both versions: Under the administration tab, enter ballot text with the name "nameJohnSmith" as follows "John Smith" with bold, italics and centered specified.
5000	On the 4.0.21 version of the EMS, view the Office Entry screen, attempt to edit an office by typing the "/" and "$" characters into the "Report Name" and "Tally Name" fields.
6000	On the 4.0.21 version of the EMS, view the "Candidate Filing" screen and attempt to edit a candidate by typing the "/" or "$" into the "report name" or "Tally Name" fields.
7000	In version 4.0.23, Under the "Election Setup" tab, in the "Office Entry" screen, in one entry place "&" in the middle of the name in the "Report Name" and "Tally Name" fields. In another office, place the "/" character in the middle of both fields.
8000	In version 4.0.23, In two other offices, place the "&" and the "/" special characters as the first character of the field contents.
9000	In version 4.0.23, In two other offices, place "&/" at the end of the fields of one office, and "/&" at the end of the fields of another office.
9010	In version 4.0.23 AND Version 4.0.21, View the Office Entry screen, select "NEW" and create a new office with the Name "Governor and LT. Governor" Do not select the "Add new office for each party" box.
9020	In version 4.0.23 AND Version 4.0.21, view the Candidate Filing screen and select the office that was just created. Select "new" to add a candidate.
9030	In version 4.0.21, Add a new candidate by the name "Al Smith" and select the "running mate" box, then enter the name George Brown for the running mate and click on "build defaults" button.
9040	In version 4.0.23, Add the new candidate with a running mate as before, click on the "build default" button.
9050	In version 4.0.23, save the candidate entry just created.

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Test Case: Verify Candidate Name Wrap	
Test Objective:	**Test Configuration:**
To verify that the candidate name that wraps unnecessarily on version 4.0.21 does not wrap on version 4.0.23.(E-04).	EMS 4.0.21 is installed on one laptop and the version containing the enhancements (4.0.23) is installed on the other. One Infinity voting panel is attached to the EMS Laptop containing version 4.0.23 that is being validated.
Devices Utilized:	EMS laptops (2) for executing edits and viewing them connected to two Infinity voting panels.

Step	Procedure
0	Record version number of target version being validated and the version number of the source system that it is compared to.
10000	Record time and date of test start. Record hardware model and serial numbers
20000	Restore election database INLAKP08 (filename Election_INLAKP08_Station1_CAL4.dmp) in both Laptops and open that database.
20010	On Both Laptops under the Ballot Setup tab, select "Create and Edit Ballots" and view absentee ballot style 13. 2nd page, county recorder contest.
20020	Click on preview to view the absentee ballots on both machines.
20030	Print the ballot to .pdf on both machines.
20040	End of Test: On both computers.save the .pdf files, dump the day's log to a .pdf file and save all the pdf's. Record date, time and summary status of the test.

Test Case Procedure Specification 56849-01

Test Case: Manual Vote Enhancement	
Test Objective:	**Test Configuration:**
To verify that the Manual Input of votes has been enhanced so that on the new system the user only has to press the arrow key once to move to the next location after entering a vote count (E-08).	EMS 4.0.21 is installed on one laptop and the version containing the enhancements (4.0.23) is installed on the other.
Devices Utilized:	EMS laptops (2) for executing edits and viewing them

Step	Procedure
0	Record version number of target system being validated and the version number of the source system that it is compared to. Record hardware model and serial numbers. Record time and date of test start.
10000	Start version 4.0.21 on one laptop and version 4.0.23 of the EMS on the other laptop. Restore election INLAKP08 (filename Election_INLAKP08_CONTROL.dmp) and open that election.
20000	On both systems: Select the "tabulation" tab and then "Manual Vote Entry" Select precinct 001, serial number 2101, enter 10 in the count field and then click on "new"
20010	On Both systems: type "5" in the vote field for barak obama and them press the down arrow.
20020	On the old system, press down arrow again and then on both systems enter "5" for Hillary and press the down arrow once.
20030	Print audit log to the .pdf file record time and date of test.

APPENDIX B

"AS-RUN" TEST PLAN

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Job No. T56849
Certification Test Plan No. T56849-01
February 09. 2010

"AS RUN" CERTIFICATION TEST PLAN

EAC Application Number MVT0901

Prepared for:

Manufacturer Name	MicroVote General Corporation
Manufacturer System	Election Management System (EMS) v4.0B
EAC Application No.	MVT0901
Manufacturer Address	MicroVote General Corporation 6366 Guilford Ave. Indianapolis, In 46220

Jack Cobb 4-28-10
Jack Cobb, Test Plan Preparer

TABLE OF CONTENTS

1.0 INTRODUCTION

The purpose of this Test Plan is to document the procedures required to validate the modifications made to the MicroVote General Corporation Election Management System (EMS), identified as version 4.0B. The MicroVote EMS v. 4.0 has been previously fully tested to EAC 2005 VVSG. As a result of this testing, the MicroVote EMS v. 4.0 was granted certification under EAC Certification No. MVTEMS4. Since that time, MicroVote General Corporation has developed performance enhancements, repaired defects, and added features to the system, resulting in the need for regression testing.

The full system details for the previous test campaign, including system, performance, security, telecommunication, usability, system verification, and TDP deliverables can be reviewed in the EAC test report "MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 VSTL Certification Test Report Version 5" (listed on www.eac.gov).

1.1 References

The list below includes all documents cited in the Test Plan and used in the development of the Test Plan. The documents listed were utilized to perform certification testing.

- Election Assistance Commission 2005 Voluntary Voting System Guidelines, Volume I, Version 1.0, "Voting System Performance Guidelines", and Volume II, Version 1.0, "National Certification Testing Guidelines", dated December 2005
- Election Assistance Commission Testing and Certification Program Manual, Version 1.0, effective date January 1, 2007
- Election Assistance Commission Voting System Test laboratory Program Manual, Version 1.0, effective date July 2008
- National Voluntary Laboratory Accreditation Program NIST Handbook 150, 2006 Edition, "NVLAP Procedures and General Requirements (NIST Handbook 150)", dated February 2006
- National Voluntary Laboratory Accreditation Program NIST Handbook 150-22, 2008 Edition, "Voting System Testing (NIST Handbook 150-22)", dated May 2008
- United States 107th Congress Help America Vote Act (HAVA) of 2002 (Public Law 107-252), dated October 2002
- Wyle Laboratories' Test Guidelines Documents: EMI-001A, "Wyle Laboratories' Test Guidelines for Performing Electromagnetic Interference (EMI) Testing", and EMI-002A, "Test Procedure for Testing and Documentation of Radiated and Conducted Emissions Performed on Commercial Products"
- Wyle Laboratories' Quality Assurance Program Manual, Revision 3
- ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment, General Requirements"
- ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment"
- EAC Requests for Interpretation (listed on www.eac.gov)
- EAC Notices of Clarification (listed on www.eac.gov)
- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0 VSTL Certification Test Report Version 5 (listed on www.eac.gov)

1.1 References (continued)

- MicroVote General Corporation Election Management System (EMS) Voting System v.4.0B Technical Data Package

1.2 Terms and Abbreviations

Table 1-1 defines all terms and abbreviations applicable to the development of this Test Plan.

Table 1-1 Terms and Abbreviations

Term	Abbreviation	Definition
Americans with Disabilities Act of 1990	ADA	ADA is a wide-ranging civil rights law that prohibits, under certain circumstances, discrimination based on disability
Configuration Management	CM	---
Commercial Off the Shelf	COTS	---
Direct Record Electronic	DRE	---
United States Election Assistance Commission	EAC	Commission created per the Help America Vote Act of 2002, assigned the responsibility for setting voting system standards and providing for the voluntary testing and certification of voting systems.
Election Management System	EMS	
Equipment Under Test	EUT	---
Functional Configuration Audit	FCA	Exhaustive verification of every system function and combination of functions cited in the manufacturer's documentation.
Help America Vote Act	HAVA	Act created by United States Congress in 2002.
MicroVote EMS	EMS	MicroVote Election Management System
National Institute of Standards and Technology	NIST	Government organization created to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhances economic security and improves our quality of life.
Printed Circuit Board	PCB	The circuit board used to mechanically support and electrically connect electronic components.
Physical Configuration Audit	PCA	Review by accredited test laboratory to compare voting system components submitted for certification testing to the manufacturer's technical documentation, and confirmation the documentation meets national certification requirements. A witnessed build of the executable system is performed to ensure the certified release is built from tested components.
Quality Assurance	QA	---
Specimen Under Test	SUT	---
Technical Data Package	TDP	Manufacturer documentation related to the voting system required to be submitted as a precondition of certification testing.
Uninterruptible Power Supply	UPS	---
Voter Verifiable Paper Audit Trail	VVPAT	---
Voluntary Voting System Guidelines	2005 VVSG	Published by the EAC, the third iteration of national level voting system standards.
Wyle Operating Procedure	WoP	Wyle Test Method or Test Procedure

1.3 Scope of Testing

The MicroVote EMS v. 4.0 was granted certification under EAC Certification No. MVTEMS4. Since that time, MicroVote General Corporation has developed performance enhancements, repaired defects, and added features to the system, resulting in the need for re-test/regression testing. These items are listed below.

1.3.1 Enhancements

E-01 –A five minute timeout was removed and two stored procedures were improved to provide better performance when posting vote data.

E-02 – Offices were wrapped if there was no room for the entire office in a column or on a page. A modification was made to move the entire office to the top of the next column if the entire contest would not fit in the previous column.

E-03 – A warning was added for the "Resorting of Candidate" function to prevent unintended results.

E-04 – Candidate name wrapping caused ballots to be longer then necessary. A calculation was updated to calculate the page width accounting for the fact that a two-column layout only needs space for a single gutter where the calculation previously allocated space for a gutter per column. In the EMS, the default border for the candidate box was removed and font size was modified to decrease the ballot size and provide a more accurate representation of the Infinity Panel display.

E-05 – "All" option on the Precinct summary report was modified to be more useable. Page breaks and numbering were added to enhance the readability of the report.

E-06 – A modification was made to add running mate to the "Report", "Tally", and "Phonetics" fields.

E-07 – Report and Tally Names did not allow the "/" or "&" characters. A modification was made to allow these characters.

E-08 – The arrow navigation keys required a double press to get to the next field. A modification was made to allow a single selection to navigate to the next field.

E-09 – Activation names did not allow the dash character. A modification was made to allow the dash character in the activation name.

E-10 – Text could not be added between the "Office Title" and "Candidate Names" in the ballot layout. A modification was made to allow additional text to be added between these fields.

E-11 – To allow the ballot designer to observe custom text formatting by the user, the auto left and right alignment was removed for this text except for the first line of text on absentee ballots.

1.3.2 Defects

D-01 – An office placed on a ballot without enough space for the entire contest was being split into two parts with a gap. This issue has been corrected.

D-02 – The "Sort By Name Within Party" function did not function properly. Non-Partisan candidate fields like "Write-in" and "No Candidate Filed" would appear at the top of the sorted list even after candidates were added. A modification was made to place non-party candidates (including "Write-in" and "No Candidate Filed") at the end of the candidate list.

1.3 Scope of Testing (continued)

1.3.2 Defects (continued)

D-03 – The sorting preference of "None" placed the "No Candidate" after regular candidate names and before "Write-In" candidate name. A modification was made to preserve the order of entry for candidates.

D-04 – Ballot text ran across the center line on the Infinity panel. A modification was made to correct this issue.

1.3.3 Feature

F- 01 – "Merge" database option was added to the existing options to backup, restore, delete, and copy a current database. This feature shall merge a "backed up" election database into the current database.

1.3.4 Hardware

H-01 – The use of Mark Products LTBSHH356JC graphic LCD Module was replaced with the Hitachi SP24V001-A due to "end of life" for the LTBSHH356JC. The new display shall be an alternate display thus an Infinity panel can have either display.

2.0 MATERIALS REQUIRED FOR TESTING

The materials required for certification testing of the MicroVote EMS v. 4.0B include software, hardware, test materials, and deliverable materials to enable the test campaign to occur were shipped directly to Wyle by iBeta. The equipment used during this test is the same equipment used during the original certification campaign performed by iBeta. This process keeps the chain of custody intact.

2.1 Software

The software being evaluated comprises the source code for 4.0.26.0.

The Infinity version 4.00B Trusted Build Image, EMS Version 4.0.21.0 Trusted Build Image, Pre and Post build Images received from the EAC.

The EMS software version 4.0.26.0 shall be used for compatibility testing and building test election file systems.

Table 2-1 presents the software the manufacturer has submitted for testing.

Table 2-1 Software Submitted for Testing

Software Required For Testing	Software Version
MicroVote EMS	4.0.26.0
MicroVote EMS Autovote utility	4.0.26.1
Firmware for Infinity Panel	4.00B *(from EAC)*

2.2 Equipment

This subsection categorizes the equipment the manufacturer submitted for testing listed in Table 2-2. Each test element is included in the list of the equipment required for testing of that element, including system hardware, general purpose data processing and communications equipment, and any required test instrumentation.

Table 2-2 Test Equipment

Equipment	Description	Serial Numbers
Infinity Voting Panels	Model VP-1 Rev. C firmware version 4.00B	10403, 10234,10238
COTS Laptops	EMS laptop Build Laptop	CN-06G834-48643-65R-3140 (Dell) CN-0N8719-48643-613-4736 (Dell)
COTS Printer	Printer for EMS Reports	CN-0P0137-48734-5B0-119T (Dell)
Voting Booths	Infinity Panel regular and accessible voting booths/storage cases	NA
Double Talk LT	COTS text-to-speech portable voice device	NA
Seiko Printer	Model DPU-414	3002424
GEMPlus	COTS Smart Card Reader	R0434113302427
Headphones	COTS headphones for audio ballots	NA
Smart Cards	Smart cards for Start, Vote, Vote N, Admin, and Tally functions	NA
ELPAC Power Systems	Power Supply	Infinity COTS Power Supply

2.3 Test Tools/Material

This subsection enumerates any and all test materials needed to perform voter system testing. The scope of testing determines the quantity of a specific material required.

Test Material	Quantity
Software tools (i.e. ExamDiff Pro for source code analysis)	as required
Election database (from MicroVote)	3
WoP's	15
Paper for Reports	as required
Miscellaneous Office equipment and supplies	as required
Printer Thermal Paper Rolls	2

2.4 Deliverable Materials

At test conclusion, Wyle Laboratories shall deliver a final report to MicroVote General Corporation and the EAC that includes the following:

- A description of the functional testing and test results.
- The electrical hardware test configurations and results.
- TDP review report
- A source code review report.
- An anomaly list listing any anomalies on Wyle form WH1066, Notice of Anomaly.

All supplied equipment and software furnished to Wyle Laboratories for this program shall be returned to the customer at the conclusion of testing unless otherwise agreed in writing.

2.5 Proprietary Data

All proprietary data that is marked shall be distributed only to those persons that the manufacturer identifies as needing the information to conduct system testing. The manufacturer is required to mark all proprietary documents as such. All organizations and individuals receiving proprietary documents shall ensure those documents are not available to non-authorized persons.

3.0 TEST SPECIFICATIONS

3.1 Requirements

The strategy for evaluating the MicroVote EMS v4.0B was to review the change log, source changes, and the engineer changes submitted for the modified system. Wyle Laboratories has determined that the software changes do not directly affect any of the requirements in the 2005 VVSG. Wyle Laboratories has assessed that no additional functionality was added to the modified system that would add additional requirements that were not tested in the previous test campaign. These reviews also allowed Wyle Laboratories to assess that the enhancements and defect repairs did not materially change any of the requirements which the previous system met. Regression testing of the software and re-testing of specific hardware modification is required.

This test campaign includes the following tests:

- Source code review in accordance with 2005 EAC VVSG.
- Technical Data Package review to insure all modification is documented as applicable.
- End-to-end operational review (includes functionality testing for all system functions of a voting system).
- All functionality performed by new or modified subsystems/modules.
- Functionality that is accomplished using any interfaces to new modules, or that shares inputs or outputs from new modules.
- All functionality related to vote tabulation, election results reporting, and audit trail maintenance.
- The EMS functions from a personal computer (PC) provided by the vendor.
- Electrical testing that includes Electrostatic Disruption, Electromagnetic Radiation (FCC part 15) and Electromagnetic Susceptibility.

3.1 Requirements (continued)

Wyle Laboratories personnel shall maintain a test log of the procedure(s) employed. This log identifies the system and equipment by model and serial number.

In the event that the project engineer deems it necessary to deviate from requirements pertaining to the test environment, the equipment arrangement and method of operation, the specified test procedure, or the provision of test instrumentation and facilities, the deviation shall be recorded in the test log. (A discussion of the reasons for the deviation and the effect of the deviation on the validity of the test procedure shall also be provided and approved.)

The designated Wyle Operating Procedures (WoP's) for this program are listed below together with the identification and a brief description of the hardware and software to be tested and any special considerations that affect the test design and procedure.

The specific Wyle WoP's to be used during testing include the following:

- WoP 2 Receipt Inspection
- WoP 3 Technical Data Package Review
- WoP 4 Test Plan Preparation– MicroVote EMS v. 4.0B *(This document)*
- WoP 5a Source Code Compliance Review
- WoP 5b Source Code Functional Review
- WoP 7 Trusted Build
- WoP 9 Electromagnetic Radiation (FCC Part 15)
- WoP 10 Electrostatic Disruption
- WoP 11 Electromagnetic Susceptibility
- WoP 25 Physical Configuration Audit
- WoP 26 Functional Requirements
- WoP 30 System Integration Test
- WoP 30a Logic and Accuracy Test
- WoP 30a GEN-01
- WoP 34 Test Report

The MicroVote EMS v. 4.0B shall be configured as follows for Functional Configuration Audit, System Integration Test and Logic and Accuracy Test:

EMS – A COTS laptop documented in Section 2 shall be loaded with Version 4.0.26.0 build of the EMS. The GemPlus card reader and COTS printer shall be attached as peripherals.

The Infinity Panel shall be configured as follows for Hardware Tests, Functional Configuration Audit, System Integration Test and Logic and Accuracy Test:

DRE - An Infinity Voting Panel configured with firmware version 4.00B, Double Talk LT, Headphones, and a voting booth.

3.2 Hardware Configuration and Design

MicroVote General Corporation submitted an Engineering Change Notice (ECN) for adding the Mark Products, LTBSHH356JC graphic LCD Module with Hitachi SP24V001-A, display of the Infinity Panel Model VP-1 Rev: C, as an alternative display. Wyle performed an engineering analysis of this submission and a visual inspection of the printed circuit boards (PCB), and determined the change to be a

3.2 Hardware Configuration and Design (continued)

"Minor Modification" with some testing required due to the two displays having different electrical characteristics; therefore, different electronic signatures.

Wyle Laboratories has conducted a review of the system performance characteristics in accordance with Volume II, Appendix A, Section 4.3.1 of the 2005 VVSG to determine the following: Overall system capabilities, pre-voting functions, voting functions, and post-voting functions. The minimum tests to be performed for this test campaign are as follows:

- Electromagnetic Radiation, FCC Class B (ANSI C63.4)
- Electrostatic Disruption, IEC 61000-4-2
- Electromagnetic Susceptibility IEC 61000-4-3
- Functional testing of monitor per 2005 VVSG requirements

Wyle Laboratories views these tests as the minimum hardware tests that need to be performed. Based on the data collected in these tests further testing maybe required. Wyle Laboratories shall analyze the data collected to determine if further testing is required. If further test is required this test plan shall be updated as needed.

The intended use of the hardware is for voting systems that use election data created on version 4.0B of the EMS.

3.3 Software System Functions

The submitted changes for this test campaign are documented in Section 1.3. The modifications shall be tested using "Re-testing" and "Regression testing". Re-testing shall be used to verify the success of the corrective action. Regression testing shall be used to insure the modification did not introduce any defects in unchanged areas. Wyle Laboratories plans to use both partial and full regression testing. Partial regression testing shall be used to test the directly interacting elements at both the Component and Integration Levels of testing. Full regression testing shall be used to test indirectly interacting elements at the System and Acceptance Level of testing.

The strategy for evaluating the depth of regression testing shall be to review the source code modifications during the source code review. Minor enhancements to variables, input fields, and restrictions shall be tested by inputting both valid and invalid data to the documented modification. Enhancements and defect repairs that directly interacted with modified logic shall be tested by visually comparing Version 4.0.21.0 build to Version 4.0.26.0 build. Once the physical modification has been observed the interacting functions shall be fully regression tested to insure the enhancement performs as expected and the defects have been corrected without introducing new problems. After all modifications have been tested on a component level a full system level test shall be performed to insure all interacting components function as a system without issues.

4.0 TEST DATA

4.1 Data Recording

All equipment utilized for test data recording shall be identified in the test data package. For hardware environmental and operational testing, the equipment shall be listed on the Instrumentation Equipment Sheet for each test. The output test data shall be recorded in an appropriate manner as to allow for data analysis. For source code and TDP reviews, results shall be compiled in output reports and submitted to MicroVote General Corporation for resolution. Additionally, all test results, including functional test

4.1 Data Recording (continued)

data, shall be recorded on the relevant WoP's and Test Cases. Results shall also be recorded real-time in engineering log books.

4.2 Test Data Acceptance Criteria

Wyle Laboratories shall evaluate all test results against the MicroVote General Corporation provided technical documentation for the MicroVote EMS v4.0B and the requirements set forth in the 2005 VVSG. The MicroVote EMS v4.0B shall be evaluated for its performance against the 2005 VVSG. The acceptable range for system performance and the expected results for each test case shall be derived from the MicroVote EMS v4.0B documentation. Per the 2005 VVSG, these parameters shall encompass the test tolerances, the minimum number of combinations or alternatives of input and output conditions that can be exercised to constitute an acceptable test of the parameters involved, and the maximum number of interrupts, halts or other system breaks that may occur due to non-test conditions (excluding events from which recovery occurs automatically or where a relevant status message is displayed).

5.0 TEST PROCEDURE AND CONDITIONS

This section describes Wyle Laboratories proposed test procedures and the conditions under which those tests shall be conducted.

The following subsections describe test procedures and a statement of the criteria by which readiness and successful completion shall be indicated and measured.

5.1 Test Facilities

All testing shall be conducted at the Wyle Huntsville, AL facility unless otherwise annotated. Hardware operating testing shall be conducted at the appropriate test site with the required support equipment. All instrumentation, measuring, and test equipment used in the performance of this test campaign shall be listed on the Instrumentation equipment Sheet for each test and shall be calibrated in accordance with Wyle Laboratories' Quality Assurance Program, which complies with the requirements of ANSI/NCSL Z540-1 and ISO 10012-1. Standards used in performing all calibrations are traceable to the National Institute of Standards and Technology (NIST) by report number and date. When no national standards exist, the standards are traceable to international standards or the basis for calibration is otherwise documented.

Unless otherwise specified herein, all remaining tests, including system level functional testing, shall be performed at standard ambient conditions:

- Temperature: 25°C ± 10°C (77°F ± 18°F)
- Relative Humidity: 20 to 90%
- Atmospheric Pressure: Local Site Pressure

Unless otherwise specified herein, the following tolerances shall be used:

- Time ± 5%
- Temperature ± 3.6°F (2°C)
- Vibration Amplitude ± 10%
- Vibration Frequency ± 2%
- Random Vibration Acceleration
  20 to 500 Hertz ± 1.5 dB
  500 to 2000 Hertz ± 3.0 dB
- Random Overall grms ± 1.5 dB

5.1 Test Facilities (continued)

- Acoustic Overall Sound Pressure Level +4/-2 dB

Deviations to the tolerances on Page No. 2 of 11 shall be submitted by the test responsible agency with sufficient engineering information to substantiate the deviation request, but only when best effort technique and system limitations indicate the need for a deviation.

5.2 Test Set-Up

All voting machine equipment (hardware and software), shall be received and documented utilizing Wyle Receiving Ticket (WL-218, Nov'85) and proper QA procedures. When voting system hardware is received, Wyle Laboratories Shipping and Receiving personnel shall notify Wyle Laboratories QA personnel. With Wyle Laboratories QA personnel present, each test article shall be unpacked and inspected for obvious signs of degradation and/or damage that may have occurred during transit. Noticeable degradation and/or damage, if present, shall be recorded, photographs shall be taken, and the MicroVote General Corporation representative shall be notified.

Wyle Laboratories QA personnel shall record the serial numbers and part numbers. Comparison shall be made between those numbers recorded and those listed on the shipper's manifest. Any discrepancies noted shall be brought to the attention of the MicroVote General Corporation representative for resolution.

TDP items, including all manuals, and all source code modules received shall be inventoried and maintained by the Wyle Laboratories Project Engineer assigned to testing.

For hardware test setup, the system shall be configured as it would be for normal field use. This includes connecting all supporting equipment and peripherals. Wyle personnel shall properly configure and initialize the system, and verify that it is ready to be tested, by following the procedures detailed in the MicroVote EMS v4.0B technical documentation. Wyle shall develop an operational status test to be performed prior to and immediately following each hardware test. Wyle shall develop the system performance levels to be measured during operational tests.

5.3 Test Sequence

There is no specific sequencing enforced for the execution of the required tests.

The components of the MicroVote EMS v4.0B shall only undergo the hardware tests described in the Table 5-1. Table 5-1 includes a list of tests and a brief description of each hardware test and a planned sequence along with the location of each test:

Table 5-1 MicroVote EMS v4.0B Hardware Test Sequence

Test	Procedure/Description	Location	Specimen
Electromagnetic Radiation	FCC Part 15 Class B for both radiated and conducted emissions	EMI Lab	Serial Number 10403
Electrostatic Disruption	IEC 61000-4-2 (1995-01) 15kV air discharge and 8kV contact discharge	EMI Lab	Serial Number 10403
Electromagnetic Susceptibility	IEC 61000-4-3 electromagnetic field of 10V/m modulated by a 1kHZ, 80% AM modulation at 80MHz to 1000MHz frequency	EMI Lab	Serial Number 10403

5.3 Test Sequence (continued)

Table 5-2 MicroVote EMS v4.0B Software and System Testing Sequence

Test	Description	Procedure	Test Level	Specimen	Election Data
Technical Data Package (TDP) Review *(Pre-testing Activity)*	Documentation review for compliance, correctness, and completeness	WHVS07.1 WOP 3	Document	TDP package	
Compliance Source Code Review *(Pre-testing Activity)*	Source code review for compliance	WHVS07.2 WOP 5a	Component	EMS Source Code package	
Compliance Build	Use the build documents and source code to construct the application	WHVS07.3 WOP 25	Component & System	EMS Source Code package	
Physical Configuration Audit	Audit hardware and software models and versions	WHVS07.3 WOP 25	Component & System		
Functional Configuration Audit	Functional testing to the system documentation and 2005 VVSG requirements	WHVS07.4 WOP 26 WOP30a	Component & Integration		Gen-01 DB – INLAKP08, INWARG08, TNMONPP08
Logic and Accuracy	Test of accuracy to ~1.6 million ballot positions	WHVS07.9 WOP 30	System		L & A Election
System Integration Test	Test of all system hardware, software and peripherals.	WOP 30	System		Gen-01
Trusted Build	Creation and installation of the final system software	WHVS07.6 WOP 7 WOP 7a	Component	EMS Source Code package	

5.4 Test Operation Procedures

Wyle Laboratories shall provide the step-by-step procedures for each test case to be conducted. Each step is assigned a test step number and this number, along with critical test data and test procedures information, shall be tabulated onto a Test Control Record for control and the recording of test results.

Any test failures shall be recorded on WH1066, Notice of Anomaly form. These Anomalies shall be reported to the manufacturer and the EAC.

APPENDIX A

FUNCTIONALITY REQUIREMENTS MATRIX

Item	Description	Test	Comments
E-01	Timeout for posting large number of votes after serial vote extraction. A five minute timeout was removed and two stored procedures were improved to provide better performance for posting large number of votes in precincts with large numbers of advanced votes requiring possible retraction.	FCA, System Integration	Wyle shall use an election database provided by MicroVote containing a large amount of election data.
E-02	Offices were wrapped if there was no room for the entire office in a column or on a page. A modification was made to move the entire office to the top of the next column if the entire contest would not fit in the previous column.	FCA, System Integration	
E-03	A warning was added for the "Resorting of Candidate" function to prevent unintended results	FCA	
E-04	Candidate name wrapping caused ballots to be longer then necessary. A calculation was updated to calculate the page width accounting for the fact that a two column layout only needs space for a single gutter where the calculation previously allocated space for a gutter per column. The default border for the candidate box was removed and font size was modified to decrease the ballot size.	FCA, System Integration	
E-05	"All" option on the Precinct summary report was modified to be more useable. Page breaks and numbering were added to enhance the readability of the report.	System Integration	
E-06	A modification was made to add running mate to the "Report", "Tally", and "Phonetics" fields.	System Integration	
E-07	Report and Tally Names did not allow the "/" or "&" characters. A modification was made to allow these characters.	FCA	
E-08	The arrow navigation keys required a double press to get to the next field. A modification was made to allow a single selection to navigate to the next field.	FCA	
E-09	Activation names did not allow the dash character. A modification was made to allow the dash character in the activation name.	FCA	
E-10	Text could not be added between the "Office Title" and "Candidate Names" in the ballot layout. A modification was made to allow additional text to be added between these fields.	FCA	
E-11	To allow the ballot designer to observe custom text formatting by the user the auto left and right alignment was removed for this text except for the first line of text on absentee ballots.	FCA, System Integration	

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D-01	An office placed on a ballot that without enough space was being split into two parts with a gap. This issue has been corrected.	FCA, System Integration	
D-02	The "Sort By Name Within Party" function did not function properly. A modification was made to place non-party candidates (including write-ins and no candidate filed) at the end of the candidate list.	FCA	
D-03	The sorting preference of "None" placed the "No Candidate" after regular candidate names and before "Write-In" candidate name. A modification was made to preserve the order of entry for candidates.	FCA, System Integration	
D-04	Ballot text ran across the center line on the Infinity panel. A modification was made to correct this issue.	FCA, System Integration	
F-01	"Merge" database option was added to the existing options to backup, restore, delete, and copy a current database. This feature shall merge a "backed up" election database into the current database.	FCA, System Integration	

APPENDIX B

TEST PROCEDURE DESCRIPTION

Test Procedure	Test Procedure Description
WoP 2 Receipt Inspection	Documenting the receiving inspection of equipment.
WoP 3 Technical Data Package Review	Track all enhancements, new features, and hardware changes through the technical data package.
WoP 4 Test Plan Preparation – MicroVote EMS v. 4.0 (*This Document*)	Approval of this document shall fulfill the requirements of this procedure.
WoP 5a Source Code Compliance Review	Compare the source code to the vendor's software design documentation to ascertain how completely the software conforms to the vendor's specifications. Source code inspection shall also assess the extent to which the code adheres to the requirements in the 2005 VVSG, Volume I, Section 5.
WoP 5b Source Code Functional Review	Review every source code module for compliance with stated coding standard. The tools used are a file comparison program or text editor. As required, compare each modified file to its previous version to confirm that the actual changes in the file are as identified in the change log and in compliance with stated functionality.
WoP 7 Trusted Build	To ensure that the system version tested is the correct version, Wyle Laboratories personnel shall witness the build of the executable version of the system immediately prior to or as part of, the physical configuration audit. (Additionally, should components of the system be modified or replaced during the testing process, Wyle Laboratories shall require MicroVote General Corporation to conduct a new "build" of the system to ensure that the certified executable release of the system is built from tested components).
WoP 9 Electromagnetic Radiation (FCC Part 15)	Verifies that radiated and conducted emissions from the voting system hardware do not exceed the allowable limits of CFR Part 15, Class B. The test for electromagnetic radiation shall be conducted in compliance with the FCC Part 15 Class B requirements by testing per ANSI C63.4 (Volume II, Section 4.8.b)
WoP 10 Electrostatic Disruption	Demonstrates the voting system's hardware to withstand electrostatic discharges during normal operation. This test is equivalent to the procedure of IEC 61000-4-2. The test for electrostatic disruption shall be conducted in compliance with the test specified in IEC 61000-4-2 (Volume II, 4.8.c)
WoP 11 Electromagnetic Susceptibility	Demonstrates the voting system's hardware to withstand radiated electromagnetic fields during normal operation. This test is equivalent to the procedure of IEC 61000-4-3. The test for electromagnetic susceptibility shall be conducted in compliance with the test specified in IEC 61000-4-3 (Volume II, 4.8.d)
WoP 25 Physical Configuration Audit	Establish a configuration baseline of software and hardware to be tested; confirm whether manufacturer's documentation is sufficient for the user to install, validate, operate, and maintain the voting system. Verify software conforms to the manufacturer's specifications; inspect all records of manufacturer's release control system; if changes have been made to the baseline

Test Procedure	Test Procedure Description
	version, verify manufacturer's engineering and test data are for the software version submitted for certification. Review drawings, specifications, technical data, and test data associated with system hardware, if non-COTS, to establish system hardware baseline associated with software baseline. Review manufacturer's documents of user acceptance test procedures and data against system's functional specifications; resolve any discrepancy or inadequacy in manufacturer's plan or data prior to beginning system integration functional and performance tests. Subsequent changes to baseline software configuration made during testing, as well as system hardware changes that may produce a change in software operation are subject to re-examination.
WoP 26 Functional Requirements	The functional configuration audit encompasses an examination of manufacturer's tests, and the conduct of additional tests, to verify that the system hardware and software perform all the functions described in the manufacturer's documentation submitted for the TDP. In addition to functioning according to the manufacturer's documentation tests shall be conducted to insure all applicable 2005 VVSG requirements are met.
WoP 30 System Integration Test	System Level certification test address the integrated operation of both hardware and software, along with any telecommunication capabilities. Compatibility of the voting system software components or subsystems with one another, and with other components of the voting system environment, shall be determined through functional tests integrating the voting system software with the remainder of the system.
WoP 30a Test case - GEN-01	This test exercises options that can be specified when building the ballots for a general Election. These options shall be used to generate inputs for Direct Recording Electronic (DRE) Devices. All relevant values of each option must be exercised. Additional test cases may be generated as necessary. This test should follow the procedures exactly as described in the Election Management System (EMS) Operators manual.
WoP 30a Test case - LA-01	Use ballot that provides the maximum number of votable positions. Use multiple races with multiple candidates. Simulation may be used to generate sufficient voted ballots to exercise at least 1,549,703 positions.
WoP 34 Test Report	National Certification Test Report

APPENDIX C

WITNESSED BUILD PROCEDURE

MicroVote Witness Build Procedure

MicroVote's build instructions for the election management system from were followed to build the installation disk. The following steps were completed.

1. The build machine's hard drive was scrubbed using Active Kill Disk.
2. Microsoft Windows XP professional service pack 2 was installed from CD.
   User Name: Administrator Password: vote123
3. A pre-build copy was made of the hard drive.
4. Video and network drivers were downloaded from Dell and installed.
5. Framework 1.1 was installed from CD.
6. Visual Studio .NET 2003 prerequisites and professional were installed from CD.
7. All recommended security updates and service packs were downloaded and installed from Microsoft.
8. ComponentOne Studio Enterprise 2005 was installed from CD.
9. Franson Serial Tools SDK V2.01G was installed from CD.
10. The source files for MicroVote's EMS 4-0-26 were copied to the build machine.
11. A source-build copy was made of the hard drive.
12. A Build.Rebuild of EMS was completed using Visual Studio.
13. A Build.Rebuild of EMSInstall was completed using Visual Studio.
14. A Build.Rebuild of EMSCustomerInstall was completed using Visual Studio.
15. A post-build copy was made of the hard drive.
16. MD5's were generated for all files on the hard drive.
17. The EMS 4-0-26 installation disk was created.