

APPENDIX E
ELECTROMAGNETIC RADIATION ANALYSIS SCANS

The Unisyn OVO was subjected to an Electromagnetic Radiation Analysis. The following paragraphs describe how the Electromagnetic Radiation Analysis was performed as well as the results of the analysis. The addition of two alternative RAM modules, one of which has a higher frequency necessitated the performance of an Electromagnetic Radiation Analysis.

1. The Electromagnetic Radiation Analysis was performed by Wyle in a semi-anechoic chamber. The antennas used for testing were placed at a distance of one meter from the OVO unit being analyzed. Wyle utilized Biconical and Large Horn Antennas on both vertical and horizontal planes to perform the analysis. The OVO unit was configured to run in auto feed mode, where continual ballot processing would occur during the analysis.
2. For the first scan, OVO Unit UNI000029 was loaded with an election used during the original EAC Certification effort. The Super Talent T533UA512B 512MB RAM Module was installed in the unit. A "Pre-Operational Status Check" was performed, after which the unit was placed in the chamber and set to auto feed mode. Electromagnetic Radiation scans were performed while the unit was actively scanning ballots. This scan was performed to baseline the units' electronic signature.
3. For the second scan, the Dataram DTM63323D 1GB RAM Module was installed in the OVO Unit UNI000029. The Dataram RAM Module has a higher frequency than the other RAM modules being analyzed. The OVO Unit UNI000029 was loaded with an election used during the original EAC Certification effort and set to auto-feed mode. Electromagnetic Radiation scans were performed while the unit was actively scanning ballots.
4. For the third scan, the Innodisk M2UK-1GPCQCH4-D 1GB RAM Module was installed in the OVO Unit UNI000029. The OVO Unit UNI000029 was loaded with an election used during the original EAC Certification effort and set to auto-feed mode. Electromagnetic Radiation scans were performed while the unit was actively scanning ballots.

At the conclusion of the Electromagnetic Radiation scans, the unit was subjected to a "Post-Operational Status Check."

Summary Findings: The three scans provided Wyle with enough data to make the assessment that the hardware update was not significant and to suggest that the change be considered minor. The scans revealed that although there were some differences in the emissions profiles of the three RAM modules; however, all three emissions profiles fall within the acceptable limits. Wyle believes that this change maintains and does not alter the reliability, functionality, capability and operability of the system. The Electromagnetic Radiation analysis demonstrated that the replacement hardware has the same functionality and is electronically and mechanically interchangeable with the old hardware. The results of the Electromagnetic Radiation Analysis scans are presented on the Page Nos. E-3 and E-4.



