

Standardizing Electrical Safety Testing Across Global Aerospace Manufacturing

How the Vitrek V7X and QT Insite Software Simplified Hipot and Insulation Resistance Testing for a Leading Business Jet Manufacturer



INTRODUCTION

Modern aerospace manufacturing demands more than accurate electrical safety testing. As production programs expand across multiple facilities worldwide, manufacturers must ensure every product is tested using identical procedures while maintaining complete traceability and documentation.

For one of the world's leading business jet manufacturers, introducing a newly developed electronic device into global production required a standardized electrical safety testing solution. The device required dielectric withstand (hipot) and insulation resistance (IR) testing before deployment at manufacturing sites around the world. Because production personnel had limited experience with high-voltage electrical safety testing, the company needed a solution that was easy to implement, simple to operate, and capable of producing consistent results regardless of location.

By combining the Vitrek V7X Hipot Tester with QT Insite software, the manufacturer established a standardized testing platform that met its demanding quality requirements while simplifying deployment across global operations.

THE CHALLENGE

The customer had developed a new electronic assembly for use throughout its worldwide manufacturing organization. Before the product could be deployed, every unit required production hipot and insulation resistance testing to verify electrical integrity.

The engineering team identified several critical objectives:

- Standardize test procedures across all manufacturing sites
- Minimize operator training requirements
- Eliminate manually configured test setups
- Automatically record test results for complete traceability
- Generate electronic reports for quality documentation
- Provide a scalable platform for future production programs

Rather than relying on operator experience, the customer wanted a repeatable, software-driven solution that would deliver identical testing regardless of facility or operator.

THE SOLUTION

The Vitrek V7X paired with QT Insite software provided an integrated electrical safety testing platform designed for repeatable production environments.

Using QT Insite, engineers created standardized hipot and insulation resistance test sequences that could be distributed across manufacturing facilities worldwide.

Once deployed, operators simply selected the appropriate test program and initiated the automated sequence, eliminating setup variability and reducing training requirements.

Throughout each test, QT Insite automatically recorded test parameters, measured values, pass/fail results, timestamps, and operator information, creating complete electronic records without manual data entry.

WHY CHOOSE V7X & QT INSITE

The combined solution addressed the customer's production objectives by delivering:

Simple Operation - Easy-to-use interface minimizes training and setup errors.

Global Standardization - Deploy identical test programs across every facility.

Automated Data Logging - Capture complete electronic test records automatically.

Comprehensive Reporting - Generate instant reports for traceability and audits.

Production Scalability - Expand validated test programs to new production lines with ease.

CONCLUSION

For aerospace manufacturers, electrical safety testing must provide more than accurate measurements—it must deliver repeatable results, standardized procedures, and complete documentation across every production location. The Vitrek V7X Hipot Tester combined with QT Insite software provides a simple, scalable solution for hipot and insulation resistance testing, helping manufacturers standardize testing, improve quality, and streamline global production.

Learn more about Vitrek electrical safety testing products by visiting Vitrek.com

