

Mobile EMC Testing Delivering Compliance Solutions to Your Door

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 **TüVRheinland**[®]
Precisely Right.

In-Situ EMC Testing

For many products bound for the global marketplace, the challenge of electromagnetic compatibility (EMC) testing has become more daunting than ever. TÜVRheinland® has the technical capabilities, equipment and experience necessary to take its North American customers there.



TUV Rheinland of North America Provides Efficient EMC Testing for Heavy Industrial Machinery.

With 19 conveniently located, state-of-the-art EMC testing facilities in North America alone, TÜVRheinland® is uniquely qualified to help its clients get their products to market quickly.

When requirements include heavy industrial equipment, one of TÜVRheinland's dedicated mobile labs with specialized equipment can test at the customer's location – outdoors, indoors, or right on the factory floor. Typically, on-site testing takes no more than three days, from arrival to departure.

Capabilities Include*:

- Full on-site testing capability for heavy industrial equipment using EN 61000-6-2:2001, EN 61000-6-4:2001 and EN 55011:1998 standards. Testing to other standards is also available.

- Notified Body Statement of Opinion. TÜVRheinland® is a Notified Body for the EMC Directive and can issue a statement of opinion for compliance.
- 50hz 3-phase power provided up to 63amps per phase.
- Test capability up to and above 100amps per phase using customer supplied power.
- Test equipment is transported to the customer site using a TÜVRheinland® owned, temperature controlled, air ride box truck. Equipment transport is under our control, we do not rely on shippers or trucking firms.
- Equipment is maintained at room temperature during transport to insure calibration integrity and eliminate warm-up delay.
- All test equipment is housed in shock-mounted rolling equipment racks that are easily moved to the product's location. Equipment can also remain in the truck for testing at outside locations. Our set-up time is usually less than two hours.
- All AC power connections to the product and test equipment are made using IEC 309 style European 3-phase power connectors — increasing safety and efficiency.
- Immunity testing, where possible, is fully automated under computer control to increase efficiency.
- For emissions testing, full plotting and printing capability are included. Emissions data are presented in Microsoft Excel spreadsheet format — no time-consuming handwritten data or calculations. Test data is presented for review during testing.
- Report generation takes place during testing. In most cases, the draft report can be delivered at the successful conclusion of the testing. Digital photos of all test set-ups are included in the report. Our report format is among the best in the industry. A sample report can be provided upon request.
- Problem solving and preliminary testing capability included. A complete sample kit of line filters is available from 16amps to 600amps in 3-phase power. Ferrites, shielding material etc. are also available.
- Mobile lab designed as an independent, complete test facility to maximize efficiency and minimize customer down time. All mobile lab equipment is dedicated to mobile testing.

** Not all mobile units offer the same capabilities.*



EMC customers have the luxury to choose from 10-, 5-, and 3-meter labs throughout the country to handle small-to medium-sized products such as kitchen and other home appliances, computer equipment, lab equipment, wireless, wireline, radio communications equipment and more. When requirements include heavy industrial equipment, TÜVRheinland® sends its unique mobile EMC lab services for on-site testing of the equipment at your location. This is especially useful and cost effective for those systems that are built in place or not easily moved or shipped.

In-Situ EMC Summary

Overall Procedure:

Testing is accomplished at the manufacturer's facility following EMC Directive 2004/108/EC guidelines. (This new directive replaces EMC Directive 89/336/EEC as of July 20, 2007.)

This test method uses generic or product family EMC standards as a basis for the testing, but since the standards cannot be followed exactly, the manufacturer may want to engage the services of an EMC Notified Body or CAB (Conformity Assessment Body) to review the testing, a TF (technical file), and issue — at the manufacturer's request — a Notified Body or CAB Statement of Opinion. TÜVRheinland® is an EMC CAB, under the name of TUV Rheinland of North America (CAB number 1928).

Overall Project Flow:

- **Preliminary visit (optional)** to the equipment site to discuss test location, power requirements, test plan and perform an EMC design review of the product. Details of the tests to be performed are discussed with the manufacturer's engineers.
- **EMC Testing** – the testing is typically accomplished in three days or less, depending on the complexity of the system. TÜVRheinland® has a complete, integrated mobile EMC lab that can be set-up for testing in less than two

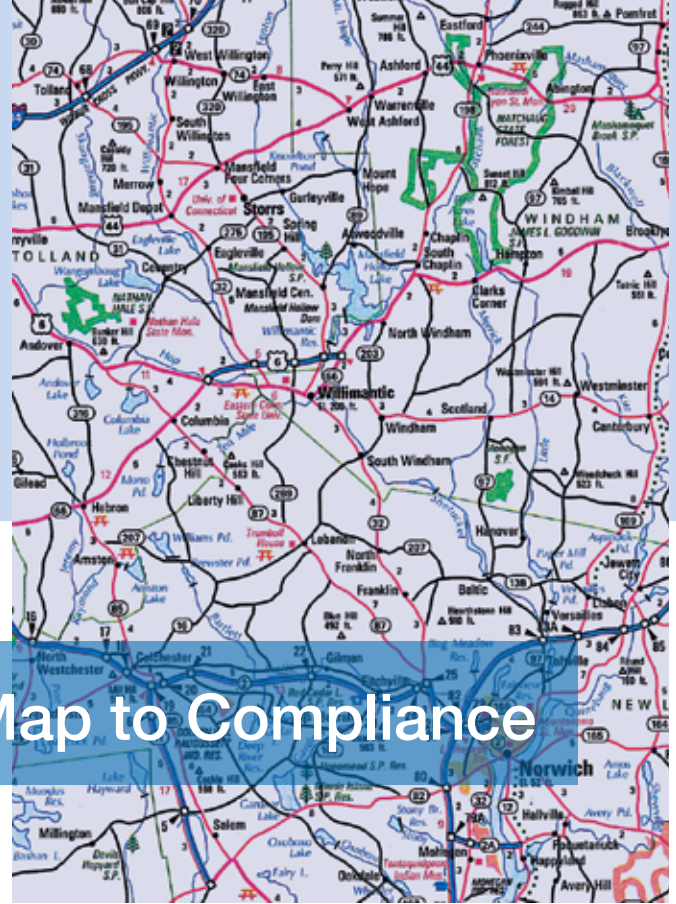
hours, minimizing product down time for the manufacturer. The draft test report will be issued on-site at the conclusion of the testing.

- **TF Review/ Notified Statement of Opinion** – the manufacturer must assemble a technical file for the product, with engineering documentation as well as EMC testing details. TÜVRheinland® will provide a complete list of items that need to be included and provide support during TF preparation. The TF is reviewed by TÜVRheinland® and a summary technical report is prepared.

After successful review of the TF and summary report, the notified body will issue a notified statement of opinion showing compliance with the EMC Directive. The notified body statement of opinion is used in conjunction with the manufacturer's DOC (declaration of conformity) to show compliance with the directive.

- **CE Mark** – when compliance with all applicable directives is achieved, the product can be CE marked and a declaration of conformity produced. The product can then be shipped to Europe.

Road Map to Compliance



With Over 300 Locations in 60 Countries

We can help get your products to market quicker



TÜVRheinland®

Precisely Right.

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TÜVRheinland® is the world leader in independent testing and assessment services. The \$1.2 billion corporation is comprised of an international network of 11,000 employees at over 300 locations in 60 countries and serves most industry sectors and markets worldwide. With North American headquarters in Newtown, Conn., TÜVRheinland® has additional offices throughout North America.

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