



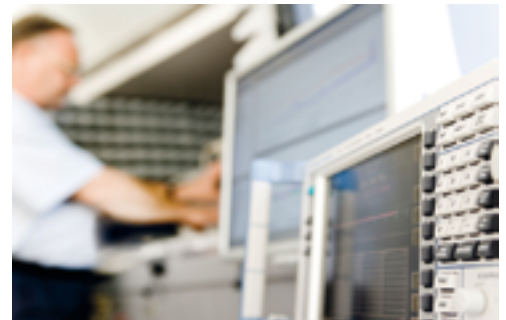
Type testing

Testing services of electronic assemblies and devices

Before a product enters the market, it must be proven that it complies with defined guidelines and regulations. In addition to tests on our own products, we also offer this service for external companies. The tests are carried out both for finished products and during development for electronic assemblies and devices.

With the qualification test without defects through the TÜV

Does my product I want to launch on the market, comply with defined guidelines and regulations? Our type test laboratory answers this question during the development process and for the finished device. The advantages of type testing during development are obvious: optimization requirements are identified at an early stage and expensive changes to the finished product are avoided. We are happy to share our experience as a developer and producer and offer this service to outside companies.



Test program - our laboratory is well equipped

EMC tests according to standards

- EMI - conducted interference emission
- Radio interference voltage, radio interference current, harmonic currents,
- voltage fluctuations and flicker
- EMI - radiated emissions
- Radio interference field strength and investigation with near field probes
- EMS - conducted immunity to
- Conducted induced RF current, fast transients - burst, surge voltages - surge, voltage dips and voltage interruptions
- EMS - immunity to radiated RF electromagnetic field, magnetic fields with energy engineering frequencies and pulsed magnetic fields
- EMS - immunity to ESD



Device safety according to the Low Voltage Directive

- electrical safety tests from protective conductor resistance to voltage testing
- Safety evaluations of devices
- Mains and power supply analysis

Environmental simulation for extreme situations

- Climatic tests
 - in the temperature range between -40°C and $+180^{\circ}\text{C}$
 - in the range of relative humidity from 10% to 98% at $+10^{\circ}\text{C}$ to $+90^{\circ}\text{C}$
 - Thermal compensation 400 W at $+25^{\circ}\text{C}$ to $+90^{\circ}\text{C}$ and relative humidity $\leq 90\%$.
 - Temperature gradient: up to 5 K/min
 - Test chamber dimensions: W x D x H = max. 675 x 650 x 745 mm (test specimen approx. 1/3 of this)
- In cooperation with external partners:
Testing of mechanical strength within the scope of complete type tests

Supplementary tests

- thermographic tests
- optical tests
- functional and endurance tests

What you can expect from us

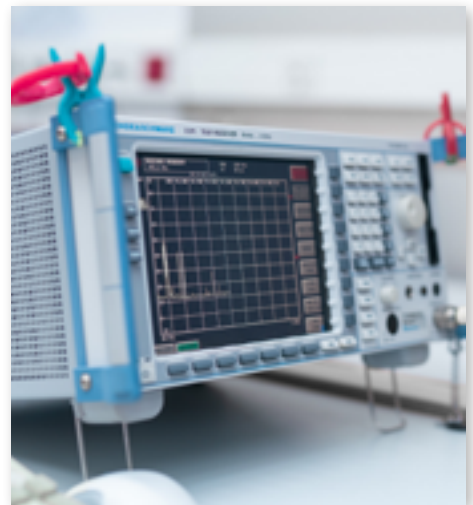
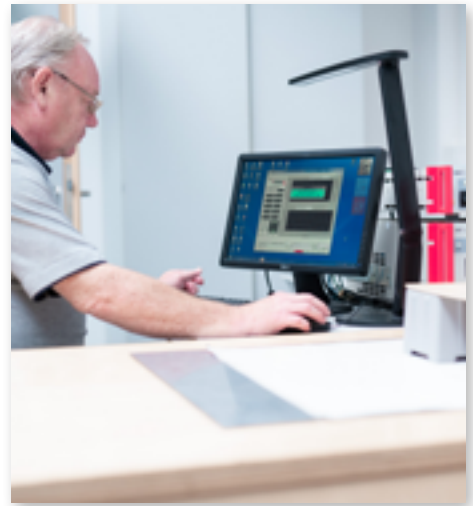
At the beginning there is expert advice on the definition of test severity and sequence. At the end, you will have test reports with information on test conditions and procedures in your hand.

You will find

- a modern equipped test laboratory
- cross-industry experience
- standard safety
- automated test procedures

Your advantages at a glance

- Planning reliability and acceleration of your further development process
- Proof of the reliability of your product and prevention of early failures
- Avoidance of cost- and time-intensive reviews
- Basis for your CE declaration of conformity
- Our many years of experience in a wide range of industries
- Testing from industrial electronics to traffic applications



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