



AUTOMATIC CONTROLLED IMPEDANCE PCB TEST SYSTEM

Measurement for coupons, PCB's and production panels with excellent R&R



Repeatable, accurate, traceable measurements · Precision airline verification · Datalogging and reporting option · Fast production throughput · Optional real-time SPC

RITS
880



Automatic testing of controlled impedance PCB coupons and of controlled impedance coupons, PCB 's and production panels

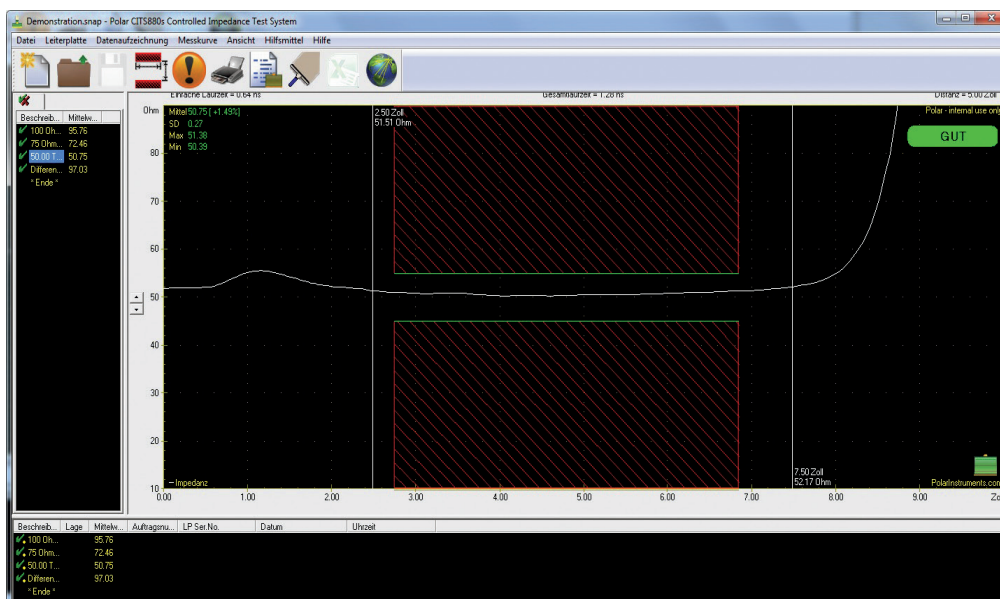
In response to the increasing volume of PCBs with controlled impedance, Polar Instruments has developed a turnkey system for automated impedance testing of PCBs and coupons in a production environment.

RITS 880 automates the industry standard CITS 880s (Controlled Impedance Test System) to give fast, repeatable volume testing of coupons and PCBs. CITS 880s employs proven technology and is currently used worldwide for manual testing of controlled impedances. Even if you have not had much experience of electrical or RF testing before, you will find **RITS 880** easy to use. The system is controlled via

easy to use Windows software. Test set-up is straight forward, results data is automatically logged in accessible formats, and there is the option of a built-in report generator. High speed technologies, faster processors, accelerated graphics and faster communications require more system bandwidth. The evolving demands of multi-media applications and three-dimensional graphics, mean that high bandwidth printed circuit

interconnect is now essential to sustain system performance. The challenge for the PCB industry is to develop reliable, repeatable processes for cost-effective volume manufacture of this next-generation interconnect technology.

RITS 880 flying probe technology provides unparalleled levels of measurement repeatability. New test programmes can be generated within minutes from existing CAD data or via manual teach-in.



- Automatic logging of test results
- Datalogging and SPC reporting option
- Single ended and differential measurements

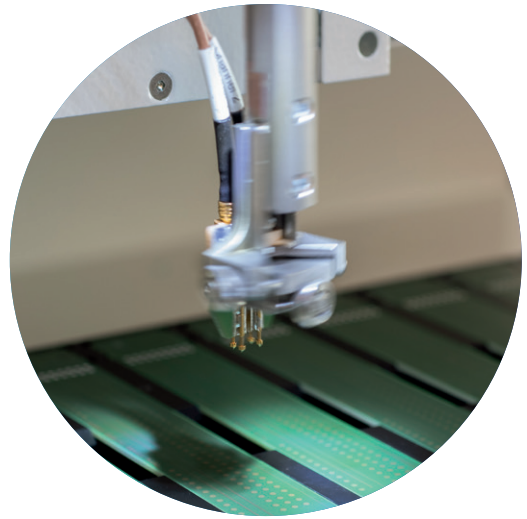
Accurate, traceable measurement RITS 880 uses proven time domain reflectometry (TDR) techniques to measure the reflection of fast rise-time pulses. High precision reference airlines - traceable to NPL and NIST standards - ensure repeatable measurement accuracy to allow the trace impedances to be controlled.

In addition, the system verifies itself in preset intervals against built-in reference impedance lines. **RITS 880** is calibrated using traceable airlines. The system is able to make both single ended and differential measurements, in addition the **RITS 880** can check for differential imbalance and also report odd and even mode impedance.

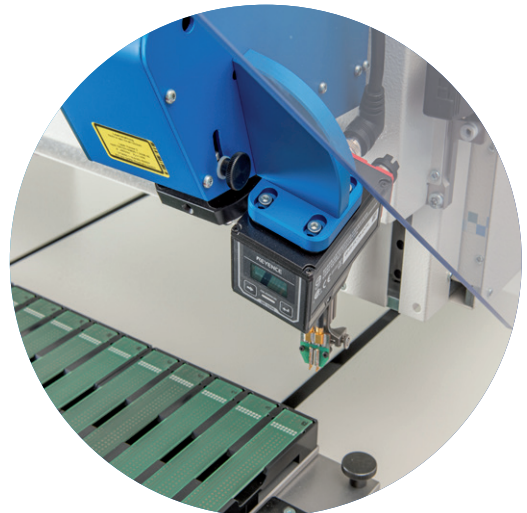
Flying probe technology

Latest generation motion control systems using precision loop-back servo motors ensure outstanding motion dynamics and maximum accuracy for fine pitch probing points.

Due to its large test bed, the RITS880 can alternatively load a large number of impedance test coupons, PCB's and production panels up to a size of 29" x 24"



The RITS 880 tests single ended and differential traces using a newly developed rotational probe head.



Log board serial numbers automatically with the On-Board high performance QR Code/Bar Code reader



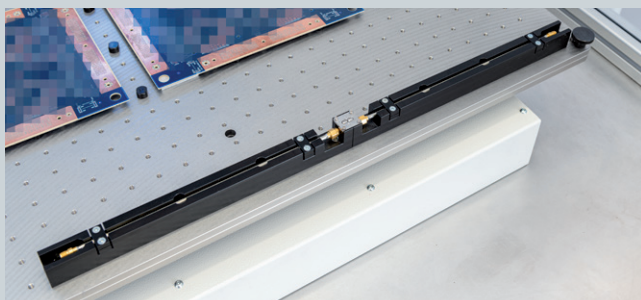
For full automation, the RITS880 may be combined with an automatic loader/unloader station. Please consult Polar Instruments GmbH for available options.

All calibration lines used by Polar are traceable to NIST or NPL standards. The majority of the worlds top 100 PCB fabricators choose Polar for impedance test.

Datalogging and statistical process control

RITS 880 verifies impedance characteristics at each test point, logging results data and identifying each board as pass or fail. In addition, with the powerful datalog report generator (DRG) option, you can record results in useful statistical formats, and generate reports automatically. Minimum, maximum and average impedance measurements are logged, along with standard deviations for each batch and statistical process control values Cp and Cpk. All data is saved in pipe-delimited ASCII format, for world-wide compatibility with popular analysis and reporting packages. You can produce customer conformance reports, including pass only data, as well as reports showing all test results for internal records or analysis. Use the Polar CGen Coupon Generator for generating impedance test coupons. If you have already invested in Polar CITS 880 the **RITS 880** can be purchased as an upgrade to your existing Polar system, please check with your local Polar representative for compatibility and upgrade options for your system. This is a very economic way for you to extend your impedance test capability and increase the value of your existing investment. **RITS 880** can be supplied in two configurations,

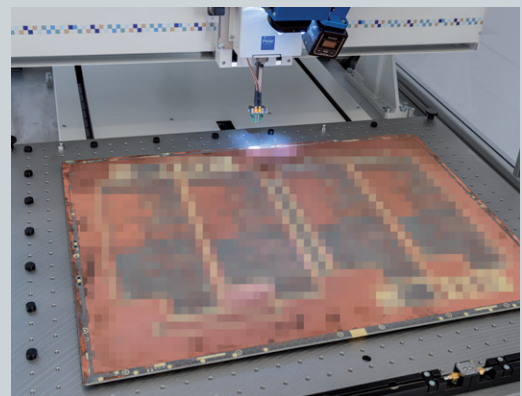
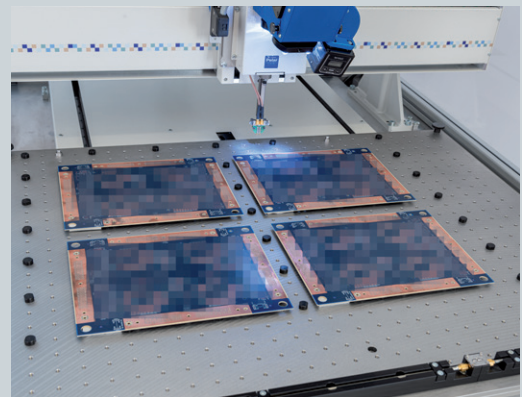
- Stand alone to add to your existing CITS880s
- Complete with CITS 880s - for applications with a mix of single ended and differential test.



The RITS880 verifies itself against on-board impedance verification lines.



SPC data web interface
for Industry 4.0 compliance"





Specification

Measurement System

Range	20-150 Ohm Single Ended, 40-200 Ohm differential
Accuracy	1% at 50 Ohm
Calibration	Precision calibration using traceable airlines
Horizontal resolution	0.2mm (0.008")
Vertical resolution	0.03 Ohm

Flying Probe Specification

Probing area (max.)	780 x 650 mm
PCB size (max.)	736mm x 609mm (29" x 24")
Testing speed	2.2 seconds per test
Position accuracy	±0.04mm over 300mm
Minimum pad size	0.3 mm
Repeatability	±0.008 mm (typical)
Resolution	0.016 mm
Probe-pressure	adjustable, typically 650g using a 4-Pin probe
Dimensions	1600 x 1100 x 2200 mm (D x W x H)
Weight	450 kg (ca.)
Standard Accessories	Polar CITS880s Controlled Impedance Test System, Coaxial Cables, Microstrip-Probes, Control-PC with pre-installed Software, Monitor, Mouse, Keyboard
Optional Accessories	Polar DRG Datalog Report Generator, Polar CGen Coupon Generator, Polar Si8000m or Si9000e Field Solver, Speedstack Stackup Generator
Approvals	complies with EU-regulations and is CE marked



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