

Development of a TEST-OK Module

Full engineering service to develop custom test solutions

TEST-OK is built around the design and construction of functional testing of PCB assemblies, and has evolved into a full spectrum test development company. We provide turn-key solutions for both simple and complex test designs, keeping in sight our customer's goals for quality, performance, cost and schedule.

TEST-OK test solutions are implemented at renowned companies and multinationals in all of Europe. Our engineering team provides test solutions for PCB assemblies in different branches such as automotive, industrial, medical, security, robotics and home control.

The knowledge and experience of our engineers in these fields makes it possible to offer a full functional test solution within a short lead time. To guarantee a high initial performance with low costs, your test system is always based on the TEST-OK standards, with which your specific test solution is designed and executed. This guarantees future compatibility and support.

In addition, the number of so called TEST-OK modules can expand and cover your future demands for test solutions. This results in further savings on the cost of ownership.

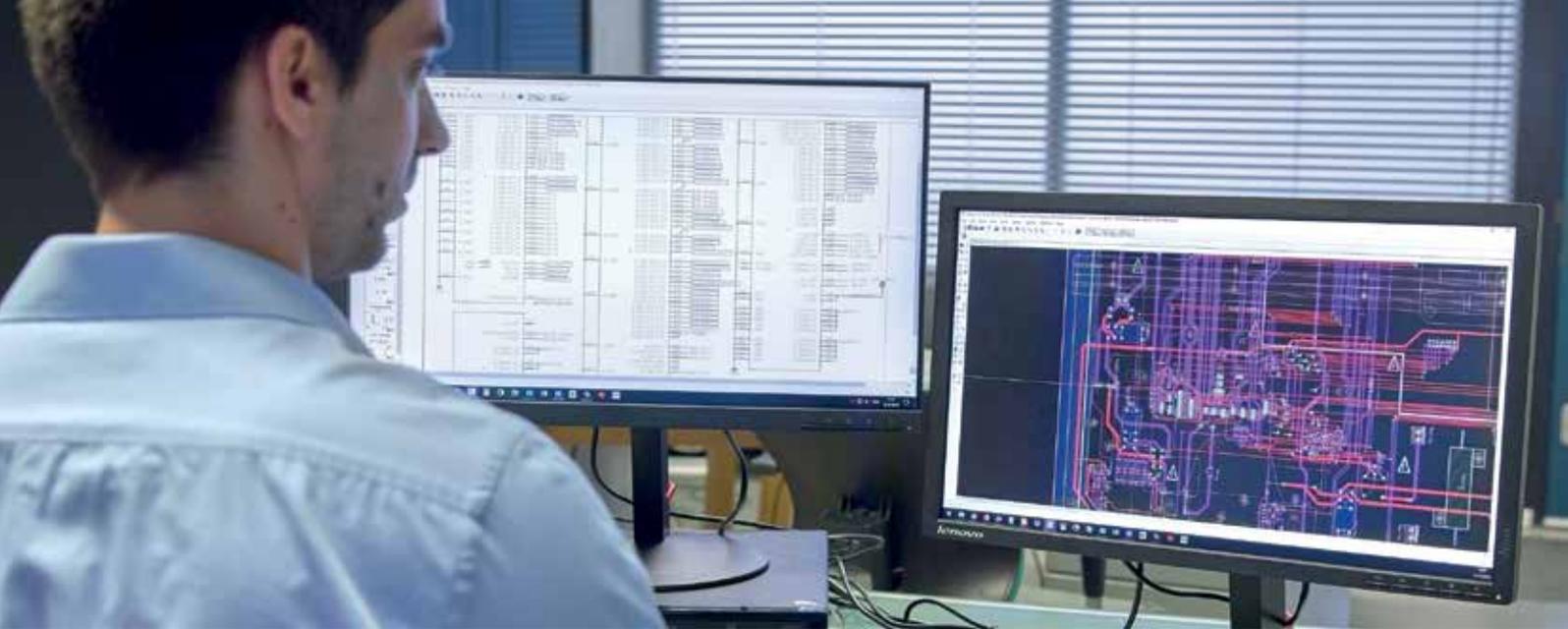
During the development of your tests, a team of electrical -, mechanical - and software engineers will work closely together to ensure that the provided test solution fully meets your requirements.

Installation, support & training

Based on a support contract TEST-OK can keep your test solution up and running on request. The TEST-OK team can install your system on site or on an alternative location, for example your EMS subcontractor.



TEST-OK



Schematics of a connector board for a TEST-OK Module

Complexity of testing made easy by TEST-OK

Standard parts of a TEST-OK system are a TEST-OK mechanical test bench, the Test Controller Card (TCC) and the testing software application TEST-TRACK.

For every UUT (Unit Under Test), single, group or panel, a TEST-OK Module is needed. These TEST-OK modules fits in the TEST-OK system, and forms the UUT specific part of the system. TEST-OK modules are coded and identified by the TEST-TRACK software.

A typical TEST-OK module consist of a Bottom Module and a Positioning Module on which the UUT is placed. For double sided connecting of the UUT an additional Top Module can be installed.

All modules are based on an aluminum frame including standard FR4 PCB material at the dimensions of 420 x 420 mm. A minimum build-up consist of three different PCB's of the same size.

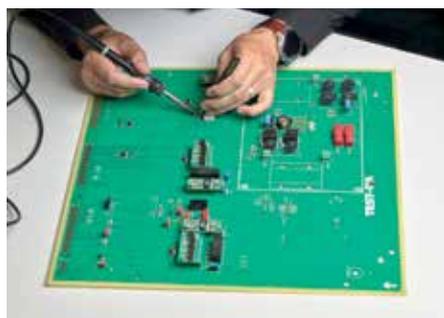
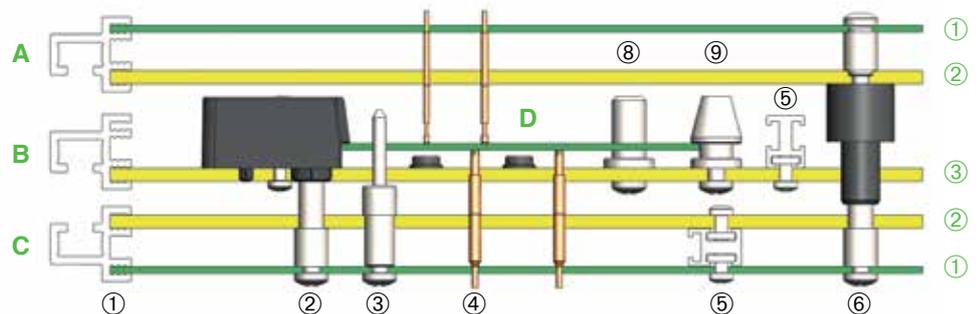
For centering and fixating the UUT a wide range of specific components are developed. For all TEST-OK parts aswell as for a considerable range of test probes digital templates are available for Cadsoft Eagle and Altium Designer.

- A Top Module
- B Positioning Module
- C Bottom Module
- D UUT (Unit Under Test)

- ① Connector Board
- ② Spacer Board
- ③ Positioning Board

- ① Module Frame
- ② FAST-LOCK fastener
- ③ Centre Pin
- ④ Test receptacle with test probe
- ⑤ Reinforcement Beam
- ⑥ Positioning Slider
- ⑦ Test receptacle with test probe
- ⑧ Peripheral Positioning Pin
- ⑨ Peripheral Hook Pin

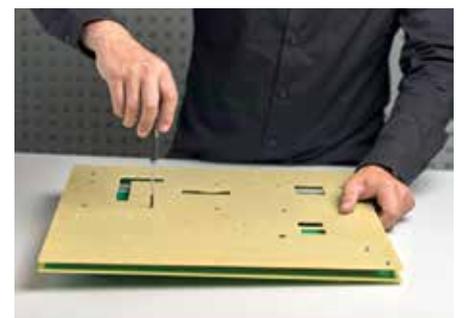
Cross section of a typical TEST-OK Module Set with test probes, tools and fasteners.



Soldering components and test probe receptacles on the connector board



Mounting of reinforcement beams between connector and spacer board



Assembling of connector and spacer board to ensure a rigid construction



Verification of aTCC-controller card in the TEST-OK System

In detail

A Bottom Module consist of a single aluminum frame including two PCB's - the Connector Board and Spacer Board. This module provides the test probes towards the UUT, and the communication between the TEST-OK system and the UUT.

The Connector Board can provide UUT specific, additional electronics. It is therefore a traditional 1,6 mm FR4 based PCB.

The Spacer Board is used to stiffen the module and guide the receptacles; it has no electronic function. To guarantee stability it is made of 3,0 mm. FR4 material.

The Positioning Module, which is the second module needed, also consist of an aluminum frame with only one PCB; the Positioning Board, made of 3,0 mm FR4 material.

The optional Top Module has the same build-up as the Bottom Module.

TEST-OK systems are known for its accuracy

Starting point for the design of the TEST-OK Modules is the design data from the UUT. One can work with the same CAD package as the UUT or the data must be imported (for example as Gerber file). In any case, all methods will lead to a very precise positioning of test probes towards the test pads on the UUT. Finally all PCB boards are generated from the same CAD file, and are produced on the same high precision machines which are used for the UUT itself.

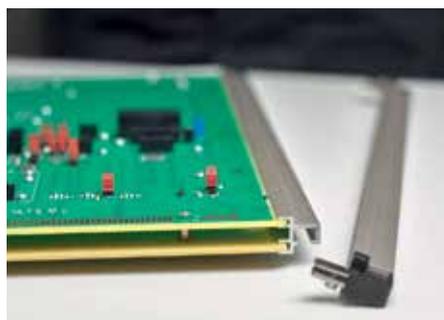
Depending on the format of the UUT, contact pads starting from 0,7 mm with 1,20 mm pitch can be contacted. TEST-OK also provides test probes and receptacles.

Short lead times without hassle!

As TEST-OK boards are conventional PCB's they can be ordered online at any preferred PCB supplier.

TEST-OK offers an online ordering service in cooperation with Eurocircuits.com

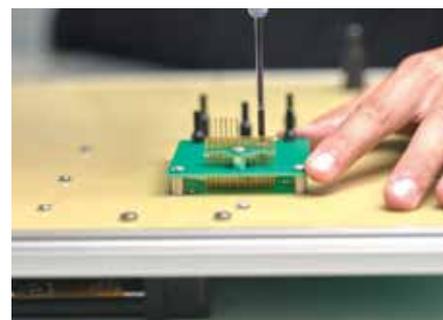
These PCBs can be ordered with a fixed pricing, starting from 3 to 7 days lead time. PCBs can be ordered in 2-layer or 4-layer, in all classifications.



Sliding the mounted boards in frames to complete the Bottom Module



A finished Bottom Module



Additional electronica mounted, for example of guided test probes



Programming the test scripts with TEST-TRACK

TEST-OK test electronics

The integrated TEST-OK Test Controller Card provides all necessary digital and analogue I/O, power supplies and the most common communication interfaces towards the UUT, such as CAN, UART, USB, Ethernet, SPI and I2C. The TEST-OK system is connected over LAN, which provides not only a robust connection and isolation, but makes it possible to connect to the test system from any place on your local area network.

TEST-TRACK, the powerful script solution

TEST-TRACK offers the best of both: flexibility and standardization of your tests. In addition to the production interface it offers a comprehensive scripting language for test development.

After inserting a TEST-OK Module TEST-TRACK reads the correct configuration from the database. In case more UUTs are attached to this module, the operator can choose the desired UUT.

When the board is detected and the serial number of the UUT is entered, the test starts. During testing all test results and test session data (such as serial number, test results - passed, failed, in progress -, operator, date, time, etc.) are stored in the database and can be traced back later. Labels and reports can be printed.

TEST-TRACK offers extensive technical and administrative features for electronic development (such as read out of real time data from the UUT, setting break points in scripts) and production environments.



TEST-OK storage system - safe and dust-free storage of TEST-OK Modules



Due to the concept of the TEST-OK Modules, it is possible to test different types of UUTs with high components on both sides

TEST-OK B.V.

P.O. Box 23204
NL-3001 KE Rotterdam, The Netherlands
T +31(0)10 4142612,
F +31(0)10 2131131
www.test-ok.nl, info@test-ok.nl

TEST-OK Germany

Showroom & Support
Am Technologiezentrum 5
86159 Augsburg, Germany
T +49 821 65085178
www.test-ok.com

TEST-OK