

Focus on: Layout

You can incorporate system provider TQ into various stages of your project – according to your needs and wishes. Apart from electronics development, the PCB layout is a good introduction to our electronics services.

Your benefits

- **High PCB quality:**
Your PCB is produced affordably and with high quality through intensive contact with various PCB manufacturers assessed by TQ and by applying defined rules of design.
- **High component quality:**
The co-operation and feedback from TQ's own component production plant enable us to always keep our assembly guidelines up to date, and place your components on your PCB in a manner suitable for production, as per the electrical requirements.
- **Best possible module testability:**
Test processes are discussed with the TQ department for test equipment development early on, thereby favorably achieving an optimum test depth.
- **Rapid production start-up:**
Redesigns are avoided through internal reviews in the various design phases, saving you time and money.

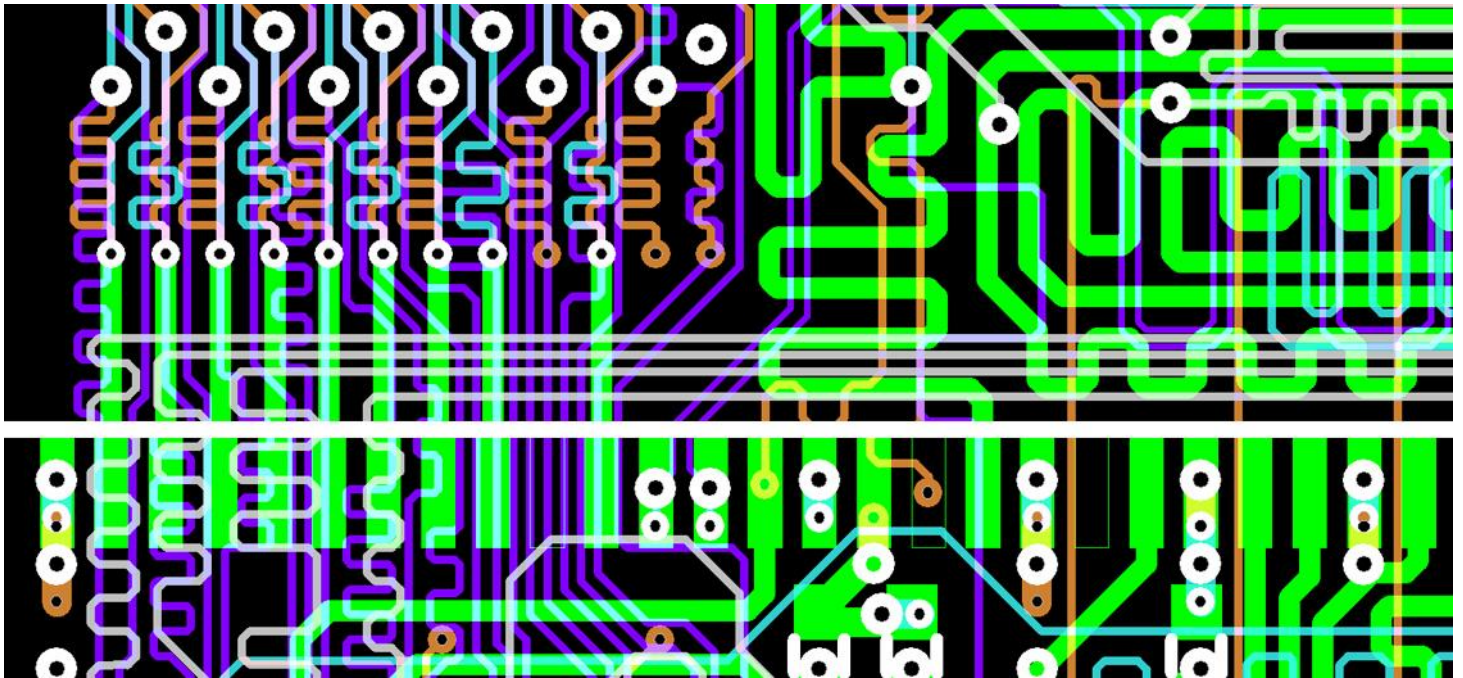
Our overall inspection of your design throughout the entire process chain ensures you benefit from affordable product costs.

Our know-how

- HDI/Microvia design (BGA, μ BGA)
- Flex / Starrflex design
- EMC-compatible design
- Impedance-controlled high speed design (e.g. DDR2, DDR3, PCI Express, RapidIO, LVDS, SATA, USB 2.0, USB 3.0)
- Analog design
- High-current design (500 A) / High-voltage design (800 V)
- Cooling of PCBs (aluminum core)
- DFM / DFT (Design for Manufacturing / Design for Testability: Layout optimized for production appropriate for testing)
- Creation of a 3D model of the module; also as a 3D print
- Internal design reviews

Layout systems

- Mentor PADS
- Mentor Expedition
- Altium Designer
- CadSoft EAGLE
- Mentor Integra Station



Layout process

TQ assists you throughout every phase of the layout process:

- **Take charge of the circuit diagram as per your specifications**
 - You'll receive a circuit diagram in your CAD system for product perfective maintenance.
- **Import network list**
 - The network list can be imported directly if a circuit diagram exists (saves time).
- **Placement / Routing**
 - The design is created taking into account your specifications, and all requirements for manufacturing and testing the module. The layout staff member is your direct contact and shows you possibilities for optimization.
- **Internal review of placement and routing**
 - An internal review ensures all requirements have been met.
- **Customer approval of placement and routing**
 - A customer approval ensures your requirements have been correctly implemented.
- **Compilation of production data**
 - Gerber data, data for manufacturing and test equipment
- **Internal review of production data**
 - The review of the production data ensures your Gerber data has been generated correctly. Your module's component mounting diagram is checked for reference legibility and clear polarity.

Layout data

We provide our customers with the following data:

- CAD data for the circuit diagram and layout
- Circuit diagram as a PDF
- Component mounting plan as a PDF
- Location plots as a PDF
- Placement data
- Gerber data (Extended Gerber with drilling data, PCB specifications and usage diagram)
- Data for generating test equipment

Contact

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