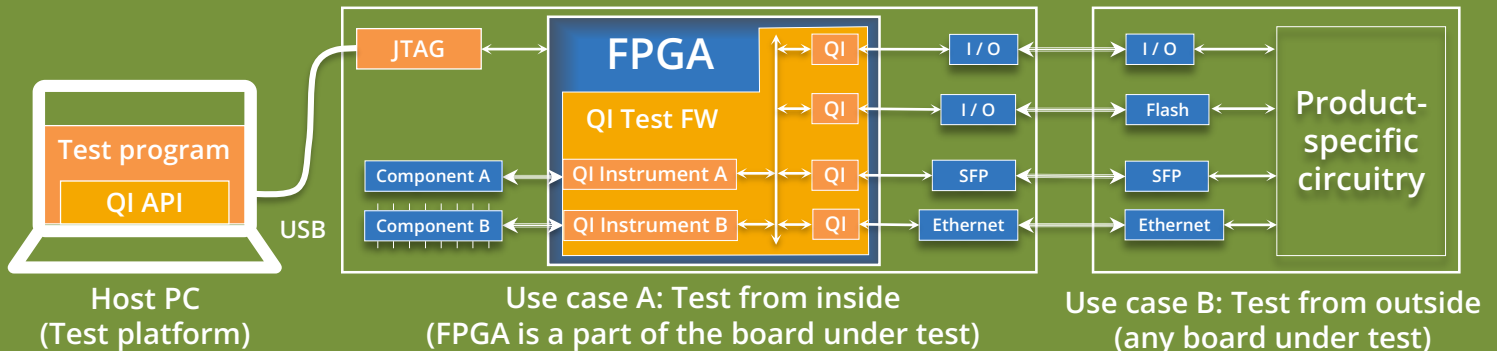


Quick Instruments (QI) is a test & measurement framework that loads itself into on-board FPGA for test, validation or programming purposes. The role of instruments is to verify PCBA hardware infrastructure: on-board interconnections and communication with peripheral components. In this way, every PCBA board can be checked for defects and stability issues. All instruments are pre-compiled for a target board and are being executed from test platform using predefined templates.

Convert any FPGA-based board into a PCBA functional (self-) tester



Application examples

- Fast in-system programming and verification
- Oscillators wrong frequency detection
- Full-speed test of DDR memories
- Bit-error rate test of gigabit-speed links
- At-speed & stress test of ethernet interfaces

Technology benefits

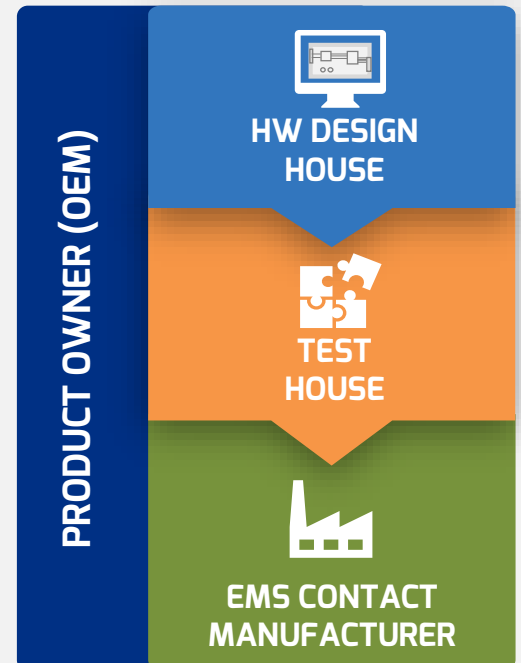
- Faster test development
 - Large ready-to-use instrument library
 - No need for customer's FPGA firmware
- Better quality
 - Testing in functional & stress modes
- Better performance
 - At-speed test execution
 - Optimized for short test duration

Supported FPGAs

AMD Xilinx / Intel FPGA / Microchip / Lattice / Efinix

Where to use?

Quick Instruments can be reused from the board design all the way to test development, down to EMS companies.

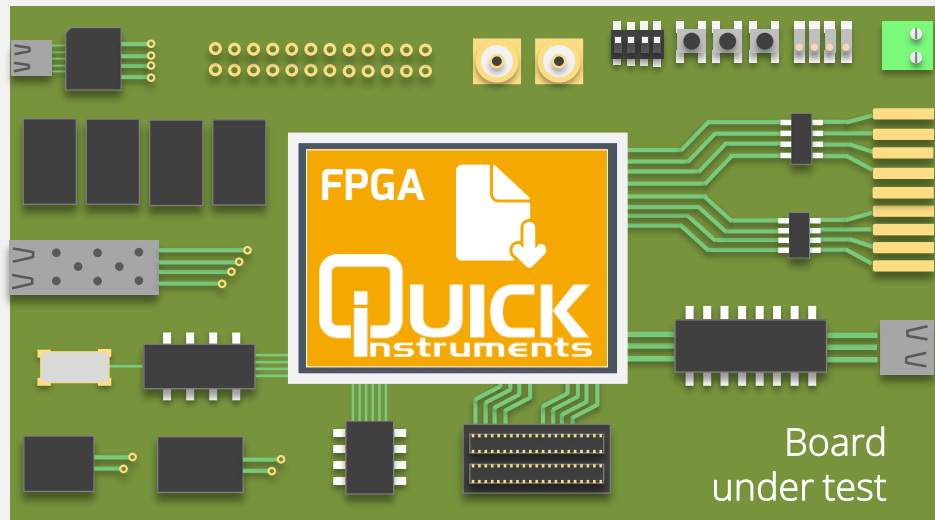


Test framework for FPGA board quality control



Quick Instruments verifies the correctness of the PCBA assembly and FPGA communication with peripheral components at operational speed

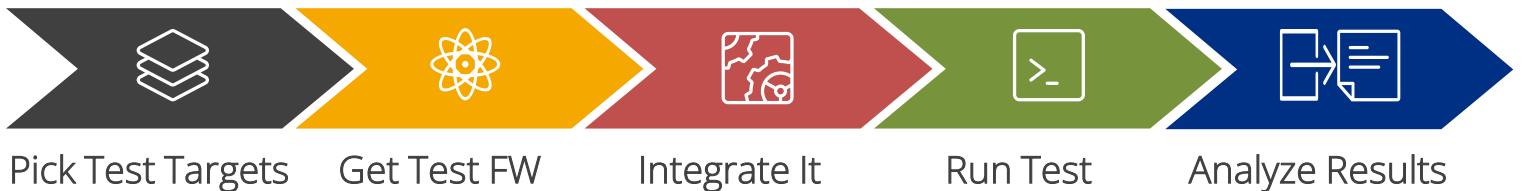
Component	Instrument
Oscillator	Frequency Counter
DDR memory	Memory Tester
SPI Flash	Flash Programmer
I2C devices	I2C Tester
SERDES links	Bit Error Rate Tester
Ethernet PHY	Ethernet Tester



The earlier you detect and diagnose the defects, the lower the cost of rework!

Application workflow

Quick instruments follow the general concept of T&M instrumentation



🔗 **Software product:** Compiled FPGA bitstream + API/script access to instruments

🔗 **HW:** The JTAG bus is used for communication (e.g. USB-to-JTAG cable)

About Testonica

Testonica has a deep and almost unbearable passion towards three things: FPGAs, testing, and innovation. Testonica invented and brought to market Embedded Virtual Instrumentation technology, a library of IEEE1687 reference benchmarks, and a pioneering IC health monitoring technology.

Today, thanks to over 15 years of industrial experience with hundreds of JTAG-based solutions delivered worldwide, we possess a huge in-house library of test & measurement instrumentation IPs forming a solid basis for a fully automated test system. Our everyday deep focus on FPGAs invites customers to order tailored FPGA-based designs of any kind. IJTAG-related IC DFT test access and network design is also our prime competence.