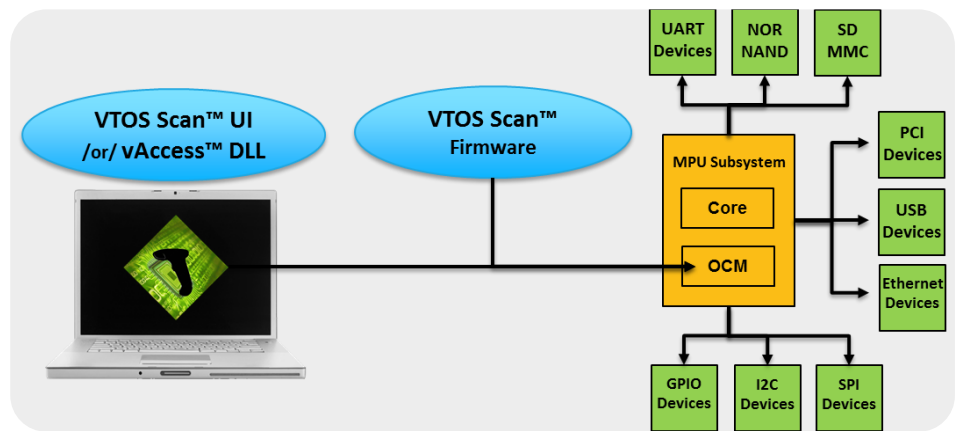


# VTOS Scan™

## Everything you need to identify faulty interconnects on your printed circuit board

VTOS Scan provides a robust solution for interrogating and finding faults with printed circuit boards that will not boot.

VTOS Scan is a low-cost software product that provides everything you need to identify interconnect faults and component placement problems on your printed circuit board. VTOS Scan is also a powerful standalone debug tool - quickly finding problems that prevent other embedded software from running.



VTOS Scan is a standalone verification tool that also integrates with Koizio's vAccess™ for automated production test. In standalone mode, VTOS Scan is loaded into on-chip memory and provides a dedicated user interface. When integrated with vAccess, you can use NI's TestStand, a custom test executive, or third-party user interfaces.

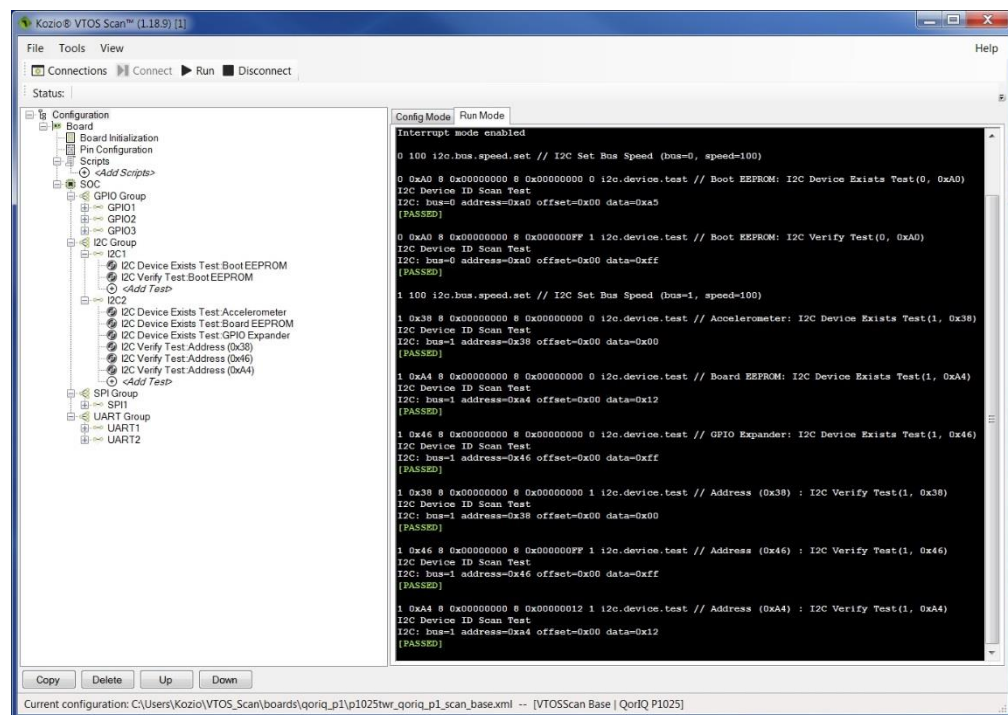
Koizio's VTOS Scan provides a fast and comprehensive software solution for scanning golden boards and auto-generating tests. VTOS Scan is a bare-metal application that executes from a CPU's on-chip memory and requires no other software, operating system, or boot loader – making VTOS Scan an excellent solution for new boards with no software, or boards that will not boot.

## Software-driven Bus Scans

VTOS Scan provides a rich and comprehensive set of commands and tests that are accessible through an interpreter. New commands are created and executed without code recompiles, loading new software, or restarting the device under test. All commands and tests run at full processor speed.

Device Exists and Device Verify of:

- GPIO, I2C, SPI, UART
- Ethernet PHY and Packet Testing
- PCI/PCI Express
- USB 2.0, 3.0 Enumeration
- CAN
- Flash Memory
- SD/MMC
- Local Bus



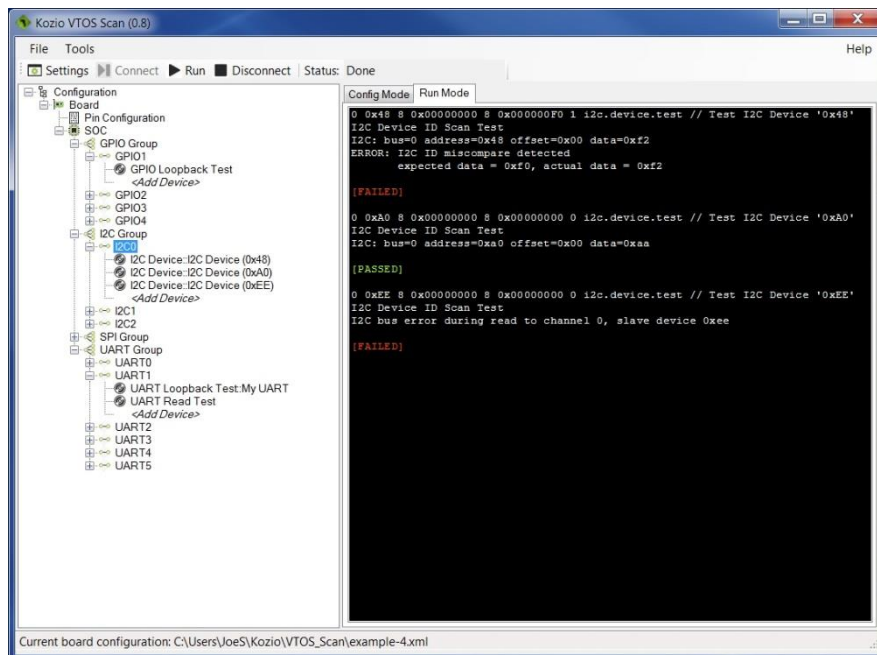
VTOS Scan is a small executable that runs directly from on-chip memory (OCM). The VTOS Scan object file is loaded into OCM using JTAG. Communications to VTOS Scan is over a JTAG or UART interface. Because VTOS Scan runs from OCM, processor faults and device faults are handled without a system restart.

## VTOS Scan™ Provides

- Firmware that is ready to run on your custom circuit board, requiring a working JTAG interface.
- Friendly, task-focused user interface that walks you through test configuration for a board design.
- Automatic scanning and test generation for supported bus interfaces.
- Identification of faulty components using your custom PCB reference designators.
- Testing of GPIO, I2C, SPI, UART, CAN, PCI/PCIe, Ethernet, Flash Memory, SD/MMC, and USB.
- Extensible, scriptable hardware test engine.
- Easy to read output for humans or parsers.
- Fast code execution and scan results.

## VTOS Scan™ Process Flow

- VTOS Scan is ready for use via a software downloads page. A license is required for full product activation.
- Using JTAG, load VTOS Scan into on-chip memory.
- Using VTOS Scan, scan a working board to auto-generate tests, and manually add tests for buses that don't support auto generation.
- Export test configuration data for use with automated test setups.
- For each device under test, load VTOS Scan using JTAG and automatically execute tests to detect and report faults.



## General Features/Benefits

- No firmware development required
- Load onto any circuit board using a supported SoC
- Fast and simple to use

## Production Test Benefits

- Extremely fast testing and scanning
- Quickly scans and verifies the operational capabilities of a printed circuit board
- Run on bare boards, partial assemblies, or fully assembled units

## Additional Product Information

VTOS Scan requires a supported processor in working condition, a UART or JTAG communication channel, and at least 32 KiB of on-chip memory (requirement varies by SoC).

For additional information:

- Email [sales@koizio.com](mailto:sales@koizio.com), or call +1 303-776-1356 x1

## No-boot Board Debugging

- Runs from on-chip memory, insulating debug from faulty devices
- Instant recovery from processor and device faults
- Run multiple scans and tests without reboots

## Reporting

- Consistent reporting for manufacturing and post-processing
- Scan results include: bus type, bus index, devices found, and a detailed description of each component discovered
- Component reports include a user-configurable ID field that can be mated to PCB reference designators