

BEYOND TAP CONTROLLER

IEEE 1149.1-2001 Compatible JTAG Test Access Port (TAP) Controller

OVERVIEW

TAP Controllers provide access to internal test and diagnostic structures via standardized serial interface. Beyond TAP Controller is designed according to IEEE 1149.1-2001 standard and is very useful for applications which require fine control over TAP insertion or use test and diagnostic features in functional modes of operation. Full RTL delivery and parameterized design allow easy integration and pre-synthesis verification of TAP and corresponding functional mode test and diagnostic features. TAP Controller has been implemented in various designs, integrated into functional RTL and re-used by EDA tools that inserted MBIST, LBIST and Boundary Scan logic automatically.

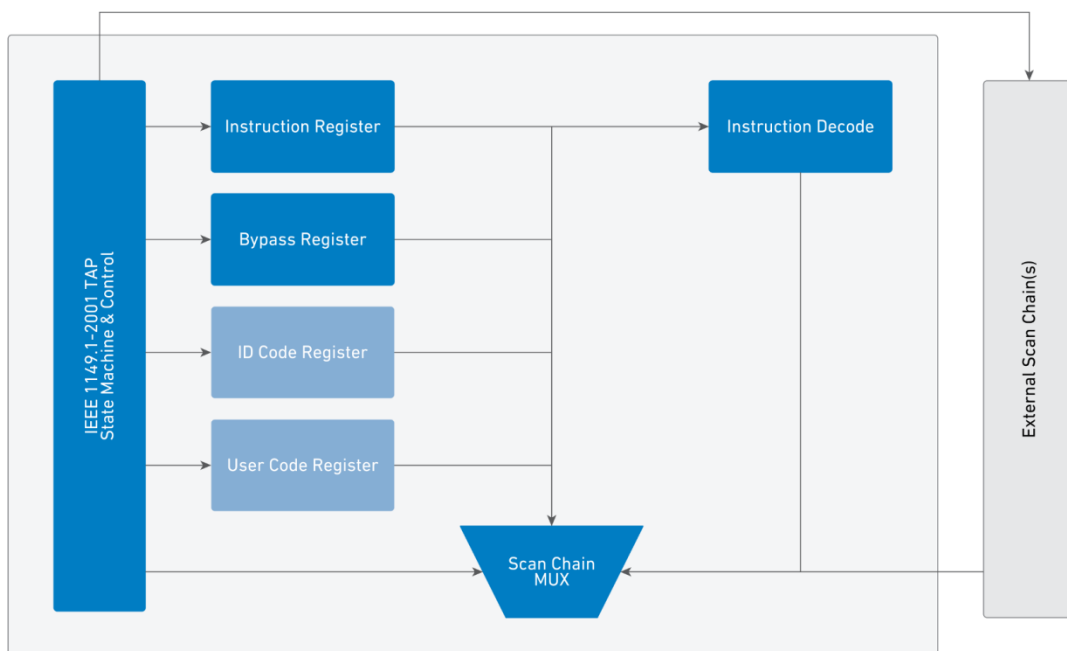
KEY BENEFITS

- Full RTL delivery
- Fully parameterized design
- Industry standard compliance
- Easy integration with RTL
- Easy to use with automatic test insertion EDA tools

APPLICATIONS

- Applications with functional mode test and diagnostic features implemented
- Applications that require fine control over TAP logic insertion for any reason

BLOCK DIAGRAM



FEATURES

TAP Interface

- IEEE 1149.1-2001 compliant state machine
- Parameterized Instruction Register length
- Parameterized Instruction Set
- Mandatory BYPASS instruction implemented transparently to the user/integrator
- Optional IDCODE instruction implemented transparently to the user/integrator and selected at compile time
- Optional USERCODE instruction implemented transparently to the user/integrator and selected at compile time

Internal Interface

- Instruction decoder output vector
- TAP state information signals
- Single serial data output
- Vector of serial data inputs, one per instruction, internally multiplexed depending on instruction register value

RELATED PRODUCTS

- [Beyond General Purpose Debug Interface Controller](#) is designed to provide access to internal processor debug and/or WISHBONE bus resources using industry standard IEEE 1149.1-2001 Test Access Port protocol. Paired with any standard TAP controller, the debug interface will enable access to internal resources using off the shelf hardware and software, such as JTAG key and gdb to name the most commonly used combination.



Beyond Semiconductor is addressing challenges of systemic complexity in today's electronic devices, empowering its customers to create new experiences for end users.

Initially known for its processor expertise, Beyond quickly gained acceptance among top semiconductor companies and evolved into global company leveraging processing, software and system-wide view competence to provide its customers with effectively designed IP and ASICs.

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