Embedding Intelligence

FPGA IP CORE

iW SATA 3.0 Bridge Controller IP

iWave's SATA 3.0 Bridge Controller compliant with SATA 3.0 specification which provides bridging features between SATA Host (Processor/PC) and SATA Device. SATA 3.0 Bridge Controller is designed to ensure secure SSD/HDD in SATA compliant devices

Applications

- Used in NAS systems
- Applications which includes data compression or Customizable encryption or decryption for storage

Highlights

- Compliant to SATA 1.5Gb/s, 3Gb/s, and 6Gb/s specifications
- Independent Host & Device Speed Negotiation
- Supports disk hot swap feature
- Negligible performance degradation

Features

- Compliant to SATA 1.5Gb/s, 3Gb/s, and 6Gb/s specifications (SATA 3.0)
- Separate Host & Device Speed Negotiation
- Supports disk hot swapping feature
- Optional: Encryption Bridge Feature
- **Physical Layer**
  - OOB Control is responsible for controlling OOB Signaling, Speed Negotiation
  - Transceiver PHY performs the following functions:
    - Converts 32-bit parallel data to differential Tx data and received Rx serial data to 32-bit parallel data
    - Clock recovery from serial data
    - 8B/10B encoding and decoding
    - Line-rate change
    - Out-of-Band (OOB) signal generation and detection
    - Provide status to link layer
- **Link Layer**
  - Consists of Link layer FSM, CRC generator & Scrambler
  - Scrambles / De-Scrambles
  - CRC Calculations
  - Adds/removes the frame envelope and extracts the useful contents of the FIS and passes on for further processing
  - Handles flow control and transmission & reception errors
- **Bridge Layer**
  - Bridging b/w SATA Device Link layer & SATA Host Link layer
  - command extraction logic
  - FIS Extraction logic
  - Customizable encryption /decryption logic

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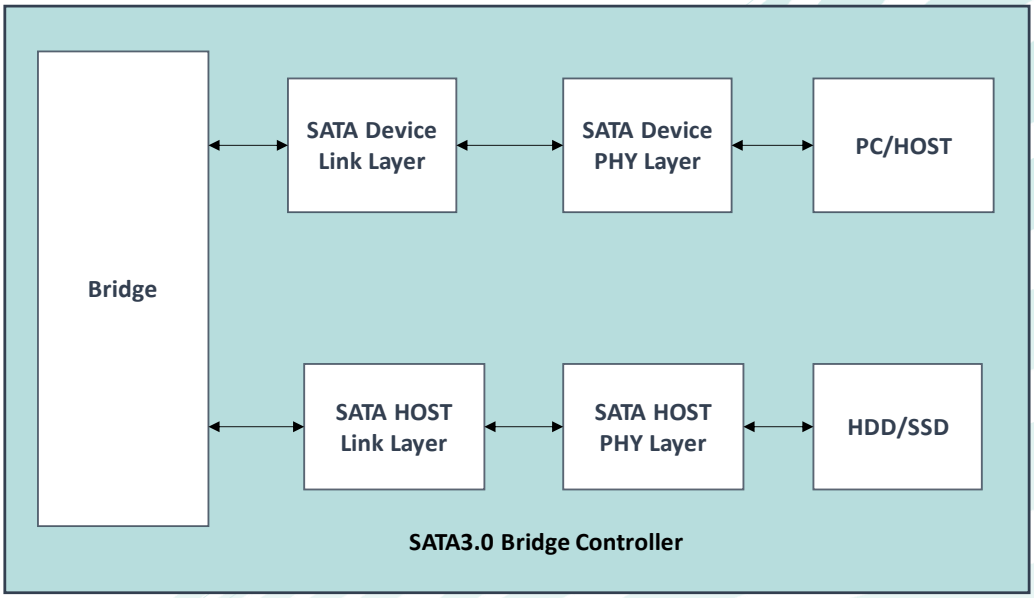
iW SATA 3.0 Bridge Controller block diagram



Deliverables

- Netlist
- IP example design
- IP datasheet
- Integration Manual
- Linux driver reference

Licensing Options

- Non-Transferable: Single Project/Product Netlist License – Single Site or Multi Site
- Non-Transferable: Multi Project/Product Netlist License – Single Site or Multi Site

Technical Support

iWave provides comprehensive support during your system integration & validation.

- The Client may open a new support incident by emailing to a technical support engineer
- iWave's response time shall be within 24 hours of the initial call, with the details of the action plan to resolve
- Support assistance shall be delivered by telephone, email and/or remote assistance via a web meeting
- iWave shall provide remote debugging support irrespective of the time zone/ region

iWave Systems, a leading FPGA design house enhances your design productivity by providing an extensive suite of proven, optimized and easy-to-use FPGA IP Cores along with reference designs to complement and quicken your applications development. Our extensive suite of IP Cores covers all key markets and applications. Along with the rich set of FPGA IP cores, iWave offers custom FPGA designs tailored to meet the client specifications which includes RTL Design, Integration of iWave's or 3rd Party IP Cores on our FPGA SOMs with Carrier Card/ Custom Hardware/ Off-the-Shelf Evaluation Kits to provide end-to-end solutions targeting Low-Power, High-Performance and Optimized Designs

iW SATA 3.0 Bridge Controller FPGA IP
The IP can be ordered online from the iWave Website http://www.iwavesystems.com/product/sata-3-0-bridge-controller/
Or from our Local Partners in your region http://www.iwavesystems.com/about-us/business-partner.html

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