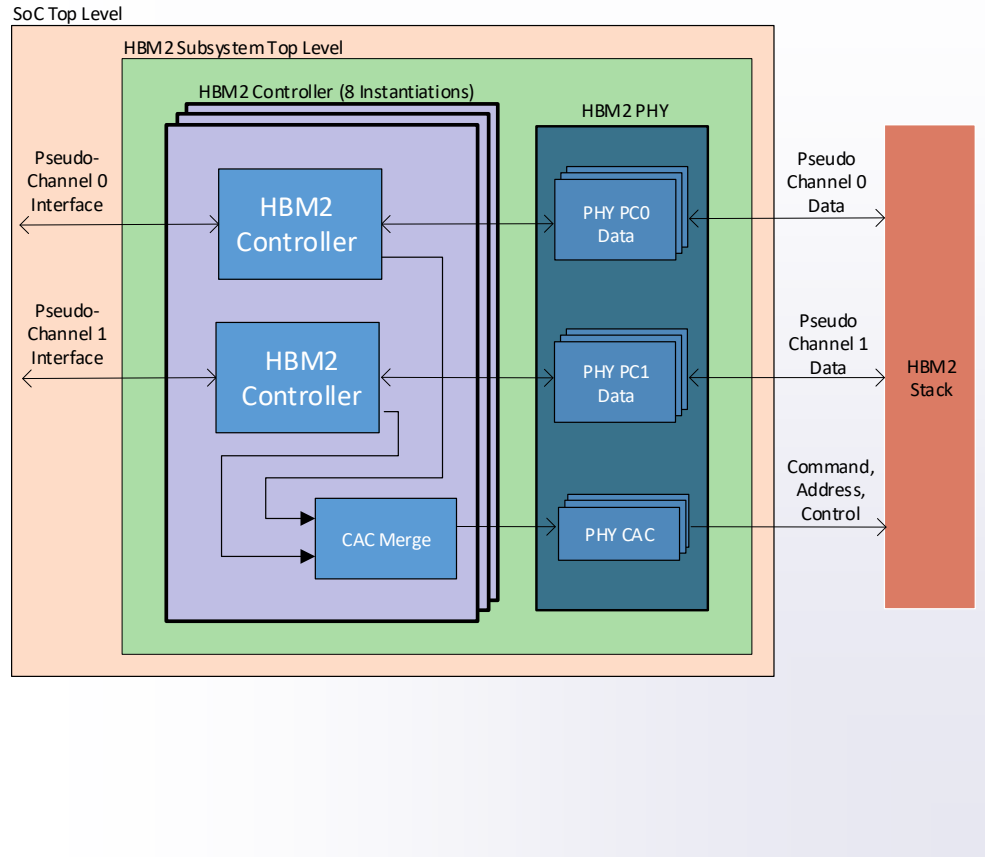


Product Highlights

- Supports HBM2 and HBM2E devices
- Supports all standard HBM2 channel densities (4, 6, 8, 12, 16, 24Gb)
- Supports up to 3.2 Gbit/s/pin HBM2 operation
- Can handle two pseudo-channels with one controller or independently with two controllers
- Queue based interface optimizes performance and throughput
- Maximizes memory bandwidth and minimize latency via Look-Ahead command processing
- Achieves high clock rates with minimal routing constraints
- Full run-time configurable timing parameters and memory settings
- DFI Compatible (with extensions added for HBM2)
- Full set of Add-On Cores available
- Supports AXI, OCP or Native Interface to user logic
- Delivered fully integrated and verified with 3rd party ASIC PHY
- Customization and Integration services available

Block Diagram Dual-Controller Configuration



Product Overview

Northwest Logic's High Bandwidth Memory (HBM2) Controller Core is designed for use in applications requiring high memory throughput, high clock rates and full programmability.

The core accepts commands using a simple local interface and translates them to the command sequences required by HBM2 devices. The core also performs all initialization, refresh and power-down functions.

The core uses bank management modules to monitor the status of each HBM2 bank (up to 128 banks managed concurrently). Banks are only opened or closed when necessary, minimizing access delays.

The core queues up multiple commands in the command queue. This enables optimal bandwidth utilization for both short transfers to highly random address locations as well as longer transfers to contiguous address space. The command queue is also used to opportunistically perform look-ahead activates, precharges and auto-precharges, further improving overall throughput.

The core supports all HBM2 features, including: data bus inversion (DBI), DQ parity, command / address parity modes, and single-bank refresh.

Add-On Cores such as a Multi-Port Front-End and Reorder Core

can be optionally delivered with the core. The core is delivered fully integrated and verified with the target HBM2 PHY. Northwest Logic supports a broad range of third party PHYs. Contact Northwest Logic for more information.

Northwest Logic also provides IP Core customization services. Contact Northwest Logic for a quote.

Product Deliverables:

- Core (Netlist or Source Code)
- Testbench (Source Code)
- Complete Documentation
- Expert Technical Support & Maintenance Updates