Northwest Logic’s GDDR6 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 GDDR6 SGRAM devices. The core also performs all initialization, refresh and power-down functions.

The core uses bank management techniques to monitor the status of each GDDR6 SGRAM bank (up to 16 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 GDDR6 SGRAM features, including: x16, x8 or x8 clamshell modes, error detection code (EDC), tracking of link error statistics, data bus inversion (DBI) and CA bus inversion (CABI).

Add-On Cores such as a Multi-Port Front-End, Reorder Core or In-line ECC Core can be optionally delivered with the core. The core is delivered fully integrated and verified with the target GDDR PHY. Northwest Logic supports a broad range of third party GDDR PHY. Contact Northwest Logic for more info.

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