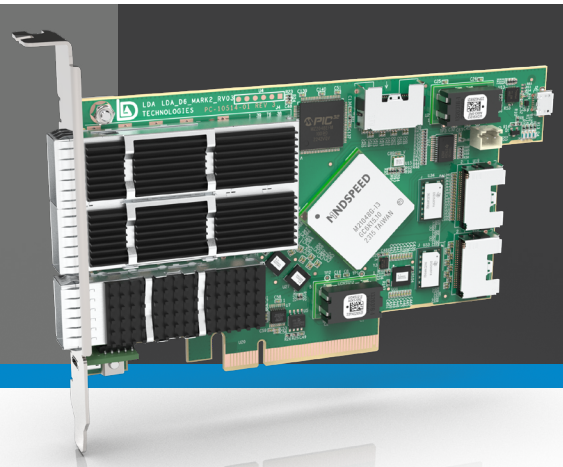
D6 MARK II

LAYER 1 SERVER ADD-ON



Part of the Layer 1 product suite by LDA Technologies

The D6 Mark II is a PCIe card that provides Layer 1 switching with sub-nanosecond roundtrip latency. The card has one QSFP and two QSFPDD ports at the front, and three AcceleRate® Slim Sockets at the back: providing a total of 44 10G lanes with full mesh interconnect.

The D6 Mark II seamlessly integrates with the LDA Unity platform or your existing infrastructure, improving performance and productivity. With its AcceleRate sockets, the D6 Mark II can easily interconnect FPGA boards and other network hardware in the same server, as well as other devices in the rack, expanding your capabilities with a Layer 1 fabric. Additionally, you can connect multiple D6 Mark II cards together to form a larger Layer 1 fabric.

Highlights

- Down to 0.73 ns Roundtrip Latency.
- 2x QSFP DD and 1x QSFP ports.
- 3x AcceleRate Slim Socket connectors.
- Full mesh Layer 1 replication for 44 12.5 Gbps lanes.
- Optional signal regeneration (CDR) on most ports.

Specifications

MANAGEMENT	• Management controller with onboard CLI and API.
	• Management ports*:
	  • Micro USB in the front
	  • Micro USB in the back
	• PCIE SMBUS
	• Onboard QSFP, QSFPDD Diagnostics software

MECHANICAL	• 152 mm / 6” length • 86 mm / 3.38” height • Single slot

*All management ports are accessible in parallel.

Port Latency Analysis

Per-port per-lane per-direction latencies** are shown in the table below. To get the latency of a particular route, take the RX latency of the source port (incoming lane) and the TX latency of the destination port (outgoing lane) and add them together.

Port	Lane	RX Latency (ns)	TX Latency (ns)
QSFP	1	0.5315	0.5345
	2	0.5480	0.5510
	3	0.5965	0.5995
	4	0.5965	0.5995
QSFP DD (Mid)	5	0.3705	0.3735
	6	0.3545	0.3575
	7	0.3545	0.3575
	8	0.3540	0.3570
	9	0.3700	0.3730
	10	0.3705	0.3735
	11	0.3705	0.3735
	12	0.3220	0.3250
QSFP DD (Top)	13	0.4190	0.4220
	14	0.4835	0.4865
	15	0.4995	0.5025
	16	0.4835	0.4865
	17	0.4350	0.4380
	18	0.4025	0.4055
	19	0.4835	0.4865
	20	0.4670	0.4700

**All measurements were performed with 31 ps accuracy using LDA’s Time-Of-Flight Latency Measurement solution.