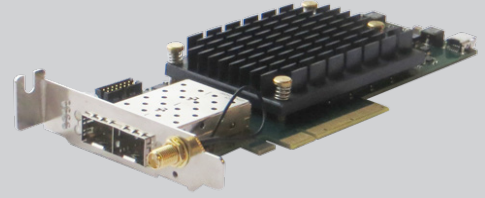# fbC2XGhh supporting the fbCapture framework

The Fiberblaze fbC2XGhh card is a 2x10GE capture solution that performs at full line rate with zero packet loss, on both interfaces.

The card is based on the successful four port, full-height fbC4XGG3 card. Similar to the full-height version, the 2x10GE card uses PCIe Gen3, ensuring that no bottlenecks will affect the packet capture to host memory capability.

It is a high performance OEM hardware platform with dual SFP+ ports, and with a form factor of half-height and half-length, it provides a high level of flexibility for integrating into almost any host platform.

NETWORK INTERFACE
- IEEE standard: IEEE 802.3 10 Gbit/s Ethernet
- Physical interface: 2 x SFP+ ports
- Supported SFP+ modules:
  - Multimode SR (850 nm)
  - Multimode LRM (850 nm)
  - Singlemode LR (1310 nm)
  - Singlemode ER (1310 nm)
  - Singlemode ZR (1310 nm)
  - Direct Attached Copper (Twinax)
- Data rate: 2 x 10 Gbit/s
- Ethernet PHY directly embedded in FPGA for full packet control

HOST INTERFACE
- Physical bus connector: 8-lane PCIe
- PCIe bus type: 1-8 lane PCIe Gen1/Gen2/Gen3
- PCIe compliant
- 64 logical channels that can be connected to DMA or egressed to physical output ports

ON BOARD MEMORY
- 8 GB (1x8GB 64 bit DDR3)

PERFORMANCE
- Capture rate (card internal): Full line rate
- Capture rate (bursts): Full line rate
- Capture rate (sustained): Full line rate
- Transmission rate (inline host DMA): Full line rate
- Transmission rate (inline bypass): Full line rate
- Transmission rate (daisy chain): Full line rate

LATENCY
- Less than 3 µs to host memory
- Less than 3 µs from host memory to Tx
- Non-blocking sending, allowing user applications to operate independently

TIME STAMPING AND SYNC
- Resolution = 3.2 ns
- Accuracy down to 20 ns
- Optional external synchronization via PPS
- Master/slave time sync between multiple cards

CONFIGURATION
- Dual boot images with automatic fallback to fail-safe image
- Full firmware upgrades via supplied tools or fbCAPTURE API

ENVIRONMENT
- Physical dimensions: Half length, half height
- PCIe: 111 x 169 mm
- Weight: 238g
- Operational power consumption: Less than 39W
- Operating temperature: 0 – 55°C, 30 – 130°F
- Operating humidity: 20 – 80%
- Hardware compliance: RoHS, CE
- Passive cooling (No on-board fan required)

ADDITIONAL BOARD SUPPORT
- fbCAPTURE API
- On-board temperature sensor
- Multi-color status LEDs
- Link and Activity LEDs for each port

Dedication to Performance