



The Silicom fbC4G card performs at line rate with zero packet loss. It allows for pure data capture as well as inline applications. It is a high performance OEM hardware platform intended for 4 x 1 Gbit network connectivity with quad port SFP interfaces.

The 1 GE is still the most widespread interface in networks today, and the fbC4G offers direct and unhindered visibility interface into the traffic carried in these networks. Utilizing the power of FPGAs, the traffic can easily be controlled and processed to provide the insight required for a wide range of applications.

NETWORK INTERFACE

- IEEE standard: IEEE 802.3 1 Gbit/s Ethernet
- Physical interface: 4 x SFP ports
- Supported SFP modules:
 - » Multimode SX (850 nm)
 - » Singlemode LX (1310 nm)
 - » Multimode ZX (1310 nm)
 - » Gigabit RJ45 Copper transceiver
- Data rate: 4 x 1 Gbit/s.
- Ethernet PHY directly embedded in FPGA

HOST INTERFACE

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

ON-BOARD MEMORY

- 4 GB (1 x 4GB 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 4 μ s to host memory
- Less than 4 μ s 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
- Customization for PTP IEEE 1588-2008 RJ45
- 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, standard height
- PCIe: 111 x 169 mm
- Weight: 261 g
- 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
- 4 Multi-color status LEDs
- Link and Activity LEDs for each port
- SMA connector for external PPS time synchronization pulse

ORDERING INFORMATION

fbC4G	1GE Capture FW
fbC4G-0	1GE Capture FW, no PPS bracket, dust plugs

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