



### fbC4XGg3 Capture Card

#### Quad Port 4 x 1/10 Gigabit Capture Card

#### Product Description

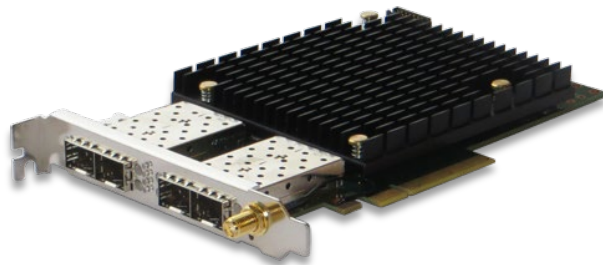
The Silicom fbC4XGg3 is a 4 x 1/10GE capture card that performs at full line rate with zero packet loss on all four interfaces while providing the full suite of features offered via the fbCAPTURE API.

With its PCIe Gen3 support, it is without bottlenecks, and it is ideal for interfacing to multiple 1GE or 10GE links. This can be as individual links or in a load-sharing or redundancy configuration, directly from network taps, via SPAN ports or similar devices. Supporting both 1GE and 10GE adds flexibility in deployments and simplifies configuration of devices.

It is a high-performance OEM hardware platform with 4 SPF/SFP+ ports, allowing for optimal flexibility in connectivity. The card allows utilization of the transmission capabilities of these in conjunction with fbCAPTURE features.

#### Key Features

- 4 x 1/10 Gbit/s Ethernet, IEEE 802.3
- 8-lane PCIe Gen3
- Precision timestamping
- Microsecond latency
- fbCAPTURE API
- Hardware filtering and traffic distribution



#### Technical Specifications

Network Interface	
IEEE standard	IEEE 802.3 1/10GE
Interfaces	<ul style="list-style-type: none"> <li>▪ Physical interface: 4 x SFP/SFP+ ports</li> <li>▪ Supported SFP/SFP+ modules:                             <ul style="list-style-type: none"> <li>▪ RJ45 copper</li> <li>▪ Multimode SX/SR (850 nm)</li> <li>▪ Multimode LRM (850 nm)</li> <li>▪ Singlemode LX/LR (1310 nm)</li> <li>▪ Singlemode ER (1310 nm)</li> <li>▪ Singlemode ZR (1310 nm)</li> <li>▪ Direct Attached Copper (Twinax)</li> </ul> </li> <li>▪ Data rate: 4 x 1/10 Gbit/s.</li> <li>▪ Ethernet PHY directly embedded in FPGA for full packet control</li> </ul>
Host Interface	
PCI bus	<ul style="list-style-type: none"> <li>▪ 8 lanes PCIe Gen3</li> <li>▪ 1-8 lane PCIe Gen1/Gen2/Gen3</li> <li>▪ PCIe compliant</li> </ul>
Host interface	<ul style="list-style-type: none"> <li>▪ 64 logical channels that can be connected to DMA or egressed to physical output ports</li> </ul>
On-Board Memory	
On Board Memory	<ul style="list-style-type: none"> <li>▪ 8 GB (2 x 4 GB 64-bit DDR3)</li> </ul>

Performance		
<b>Capture rate</b>	<ul style="list-style-type: none"> <li>▪ Capture rate (card internal): Full line rate</li> <li>▪ Capture rate (bursts): Full line rate</li> <li>▪ Capture rate (sustained): Full line rate</li> <li>▪ Transmission rate (inline host DMA): Full line rate</li> <li>▪ Transmission rate (inline bypass): Full line rate</li> <li>▪ Transmission rate (daisy chain): Full line rate</li> </ul>	
General Technical Specifications		
<b>Latency</b>	<ul style="list-style-type: none"> <li>▪ Less than 3 <math>\mu</math>s to host memory</li> <li>▪ Less than 3 <math>\mu</math>s from host memory to Tx</li> <li>▪ Non-blocking receive and transmit, allowing user applications to operate independently</li> </ul>	
<b>Time Stamping and Sync</b>	<ul style="list-style-type: none"> <li>▪ Resolution = 3.2 ns</li> <li>▪ Accuracy down to 20 ns</li> <li>▪ Optional external synchronization via PPS</li> <li>▪ Custom time sync SW interface, optional</li> <li>▪ Master/slave time sync between multiple cards</li> </ul>	
<b>Configuration</b>	<ul style="list-style-type: none"> <li>▪ Dual boot images with automatic fallback to fail-safe image</li> <li>▪ Full configuration and firmware upgrades via supplied tools or fbCAPTURE API</li> </ul>	
<b>Environment</b>	<ul style="list-style-type: none"> <li>▪ Physical dimensions: Half length, standard height</li> <li>▪ PCIe: 111 x 169 mm</li> <li>▪ Weight: 268 g</li> <li>▪ Operational power consumption: Less than 39W</li> <li>▪ Operating temperature: 0 – 55°C, 30 – 130°F</li> <li>▪ Operating humidity: 20 – 80%</li> <li>▪ Hardware compliance: RoHS, CE</li> <li>▪ Passive cooling (No on-board fan required)</li> <li>▪ Active cooling, optional</li> </ul>	
<b>Additional Board Support</b>	<ul style="list-style-type: none"> <li>▪ fbCAPTURE API</li> <li>▪ On-board temperature sensor</li> <li>▪ On-board multi-color status, Link and Activity LED for ports</li> </ul>	
<b>Ordering Information</b>	fbC4XGg3	10GE Capture FW

v3.3

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