



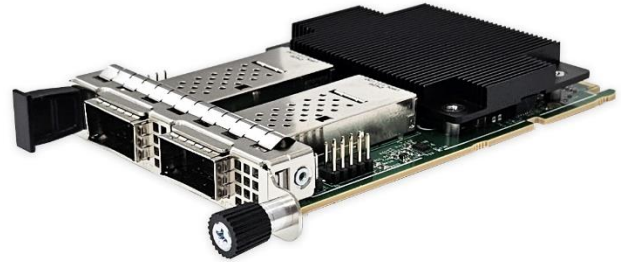
O3CG2i81 100G OCP NIC 3.0 Card Intel® E810-CAM2 Based

Dual port 100 Gigabit Ethernet OCP NIC 3.0 Card Intel® E810-CAM2 Based

Product Description

Silicom's O3CG2i81 100 Gigabit Ethernet OCP NIC 3.0 is designed for Servers and high-end appliances. The Silicom 100 Gigabit Ethernet OCP NIC 3.0 offers simple integration into PCI Express x16 to 100Gigabit Networks. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.

The O3CG2i81 100 Gigabit Ethernet OCP NIC 3.0 is based on Intel® E810-CAM2 Ethernet controller with fully integrated 100 Gigabit Ethernet Media Access Control (MAC), and SFI Interface. In addition to managing MAC and PHY Ethernet layer functions, the controller manages PCI Express packet traffic across its transaction, link, and physical/logical layers. Using hardware acceleration, the controller offloads tasks from the host, such as TCP/UDP/IP checksum calculations and TCP segmentation. Silicom's O3CG2i81 100 Gigabit Ethernet OCP NIC 3.0 is the ideal solution for implementing multiple network segments, mission-critical high-power networking applications and environments within high performance servers.



Key Features

Network Interface:

- SERDES capable of 100G NRZ
- Supports up to 2 ports.
- 200Gb/s total BW, 2x100G (QS/QL)
- 2xQSFP28
- Auto-negotiation with auto-detect.
- IEEE1588

LAN and Virtualization Features:

- 100Gbps throughput (each of Tx and Rx)
- Parse up to 504B from the packet header.
- 768 switch ports (VSIs)
- Programmable forwarding rules
- Virtualization
 - Host virtualization via VMQ and SR-IOV
 - 256 SR-IOV Virtual Functions
 - Stateless offloads for tunneled packets (network virtualization support)
 - Malicious VF protection
- RDMA
 - iWARP and RoCE v2
 - 256K Queue Pairs (QPs)
 - Send Queue Push Mode
- QoS
 - WFQ Transmit scheduler with 9 programmable layers.
 - Pipeline sharing and starvation avoidance.
 - Up to 32 Congestion Domains in the Tx and Rx paths
 - QoS via 802.1p PCP or Differentiated services DSCP value.
 - Rx Packet buffer supports at least 3 no-drop flow control events, shared among ports.



Host Interface:

- PCIe x16 lanes from/to host via gold fingers of edge card.
- Support PCI Express Base Specification Revision 4.0, 16GT/s, 8GT/s, 5GT/s or 2.5GT/s

Technical Specifications

General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 4.0 (16 GTs)
Board Size:	Type SFF: 76 mm x 115 mm (3" x 4.52")
Card Type:	Open Compute Project NIC 3.0
On Board Connector Voltage:	+12V +8%,-12%
Connector:	Open Compute Project NIC 3.0 168-pin Primary Connector x16 lane
Controllers:	Intel E810-CAM2 (2x100G)
Supported speeds:	100Gb/s, 25Gb/s, 10Gb/s
SRIOV capable	yes
Network ports:	2xQSFP28
Holder:	Metal bracket
Operating Temperature / Air Flow requirements: Standard Temperature	0°C -45°C (32°F - 113°F) / Min - 300 LFM 0°C -30°C / 300 LFM 30°C - 45°C /500 LFM
E-temp Operating Temperature / Air flow requirements (requires T-Temp Optical TR)	0°C - 65°C (32°F - 113°F) / 700 LFM
Storage:	-40°C - 65°C (-40°F-149°F)
Regulation:	The card shall meet CE, FCC Class B, and ROHS requirements.
LEDs:	Each Port has 2 LEDs to indicate link status and speed. Link: Physical link Speed: <ul style="list-style-type: none"> Green stay on – physical link on with 100Gb Speed (Max speed) Yellow stay on – physical link on with 50Gb/25Gb/10Gb (Not max Speed) Off – physical link off. Link /ACT: Logic Link/Activity <ul style="list-style-type: none"> Green blinking – logic link up, activity. Off – logic link off.
LED's location:	LEDs are located on the PCB, visible via holes in the metal bracket.
-QX4: QSFP28 100GBASE-CR4 Ethernet Adapters Technical Specifications (No Transceivers)	
QSFP56 (Quad Small Form-factor Pluggable) supports:	Fiber 200Gigabit Ethernet, 200GBASE-CR4 (Copper Direct Attach), 200GBASE-SR4, 200GBASE-FR4, 200GBASE-LR4 212.5Gb/s
QSFP28 (Quad Small Form-factor Pluggable) supports:	Fiber 100Gigabit Ethernet, 100GBASE-CR4 (Copper Direct Attach), 100GBASE-SR4, 100GBASE-FR4, 100GBASE-LR4 103.125Gb/s
-ZS4: Fiber QSFP28 100GBASE-SR4 Ethernet Technical Specifications	
IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 100GBase-SR4 (840-860nm)
Data Transfer Rate:	103.125GBd (4 X 25.78125GBd)
Cables and Operating distance: Up to:	Maximum link length of 100m on OM4 Multimode Fiber (MMF)
Optical Output Power:	Minimum: -8.4 dB *As defined by the specification of IEEE 802.3bm
Optical Receive Sensitivity (SRS):	Maximum: -5.2 dBm *As defined by the specification of IEEE 802.3bm

-ZL4: Fiber QSFP28 100GBASE-LR4 Ethernet Technical Specifications	
IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 100GBase-LR4 (1310nm)
Data Transfer Rate:	103.125GBd (4 X 25.78125GBd)
Cables and Operating distance: Up to:	Maximum link length of 10km on Single Mode Fiber (SMF)
Optical Output Power:	Minimum: -8.4 dB *As defined by the specification of IEEE 802.3bm
Stressed Receiver Sensitivity (SRS):	Maximum: -5.2 dBm *As defined by the specification of IEEE 802.3bm
Operating Systems Support:	
Operating system support:	Windows Linux FreeBSD VMware

Order Information

P/N	Description	Notes
O3CG2I81-QX4	Dual Port SFP28 100 Gigabit Ethernet OCP NIC 3.0 Server Adapter	X16 Gen4, SFF, based on Intel E810-CAM2 Ethernet Controller, Support Silicom QSFP28 approved transceiver. RoHS compliant (no transceivers)
O3CG2I81-ZS4	Dual Port Fiber (SR4) 100 Gigabit Ethernet OCP NIC 3.0 Server Adapter	X16 Gen4, SFF, based on Intel E810-CAM2 Ethernet Controller, Support 100G-SR4 fiber, Support Silicom QSFP28 approved transceiver, RoHS compliant.
O3CG2I81-ZL4	Dual Port Fiber (LR4) 100 Gigabit Ethernet OCP NIC 3.0 Server Adapter	X16 Gen4, SFF, based on Intel E810-CAM2 Ethernet Controller, Support 100G-LR4 fiber, Support Silicom QSFP28 approved transceiver, RoHS compliant.