



### PE210G2P316

#### Dual Port 10 Gigabit Ethernet PCI Express Packet Processor Server Adapter

##### Product Description

Silicom's 10 Gigabit Ethernet PCI Express NetLogic Packet Processor Server adaptor is targeted for network applications, such as multiservice Intrusion detection and prevention (IDS / IPS), unified threat management (UTM), Deep packet inspection, VPN/Firewall/IDS systems, and any other offload packet processing PCI Express adapter.

Silicom's 10 Gigabit Ethernet PCI Express NetLogic Packet Processor server adapter is a complete PCI Express server adapter solution based on a high performance NetLogic XLP Multi-Core EC4400 cores.

The Silicom XLP300 series integrates up to 16 nxCPU™ processing units, each up to 2.0 GHz, with quad-issue, multi-threaded instructions pipelines and superior memory subsystem architecture. Each of nxCPUs appears to the software as completely separate processing element.

The Silicom's 10 Gigabit Ethernet PCI Express NetLogic Packet Processor is based on EC4400 is core is MIPS64 release-II ISA-compliant and contains an IEEE754 and MIPS-compliant floating point unit per core. The NetLogic XLP processor incorporates several networking acceleration engines that offload processing tasks from the EC4400: An REGEX engine, a robust Autonomous Network Acceleration Engine, Packet ordering engine Security acceleration engine, compression / decompression engine, DMA and storage acceleration engines.

Silicom's 10 Gigabit Ethernet PCI Express NetLogic Packet Processor server adapter is programmed using SuperSOC™ solution built for a C/C++ environment; it eliminates the need for microcoding or proprietary scripting to enable rapid application development and leverages widely available, well understood development tools. Silicom's 10 Gigabit Ethernet PCI Express NetLogic Packet Processor server adapter offers simple integration into any PCI Express X8 to Gigabit Network.

##### Key Features

###### Adapter Features:

- Programmable Intelligent Dual Port 10GBE PCI Express Gen2.0 NIC
- Front End Packet Processing Offload
- C-programmable, flexible
- Cost and power efficient
- Acceleration engines
- 10 Gbps (XLP 316) bandwidth Autonomous Layer 7 DPI (RegEX) Engine module
- Network Acceleration Engine

- Packet Ordering Engine
- Bandwidth Autonomous up to 10Gbps ( XLP 316) Security Acceleration Engine
- Storage Acceleration
- Load Balancing

#### **Programmable Adapter:**

- A true programmable solution built for a C/C++ environment
- The NetLogic processor eliminates the need for micro coding or proprietary scripting, enabling rapid application development and leveraging widely-available well-understood development tools
- Software investment protection due to compatibility among NetLogic processors
- The combination of multi-issue, multi-threaded architecture with security accelerators and NetLogic's regular expression matching with zero memory footprint, offers the best of both worlds – in terms of price, power, and performance

#### **Chips-set and Software:**

- Based on NetLogic XLP316
- NetLogic software included
- XLP Software will be forward compatible with NetLogic XLR /XLS series: Customers with XLR or XLS can port their application to the XLP

#### **XLP316 Processor Features:**

- 16 NXCPUs @1.6 Ghz, 40nM
- Four processor cores, each 4-way multithreaded
- MIPS64 Release-II ISA-compliant and contains an IEEE754 and MIPS-compliant floating point unit per core
- Layer – 7 DPI ( Regex) Engine module
- Security: DES/3DES, AES, ARC4, Kasumi, SHA, MD5, RSA, ECC
- Compression: GZIP, DEFLATE, ZLIB
- Acceleration Engines:
- A Network Acceleration Engine®
- A Packet Ordering Engine (POE) supports packet ordering for up to 64K flows
- Security Acceleration Engine® module
- Compression/decompression engine
- DMA and Storage Acceleration

#### **Dual SFP+ 10 Gigabit Ethernet Port:**

- 10 Gigabit Ethernet Adapter with SFP cage support:
- Compliant with the SFP+ MSA SFF-8431 specification

- Fiber 10 Gigabit Ethernet 10GBASE-SR:
- 10BASE-SR with 10Gigabit 850nm Small form Factor Pluggable (SFP+)
- Fiber 10 Gigabit Ethernet 10GBASE-LR:
- 10BASE-LR with 10Gigabit 1310nm Small form Factor Pluggable (SFP+)

**Host Interface:**

- PCI Express x8 lane
- Support PCI Express Base Specification Revision 2.0
- LEDs indicator for link/Activity

**Software:**

This will allow users to develop application on top of Linux. NetLogic also provides an NETOS environment, which allows C program to run directly on the processor without a full-fledge OS. NETOS provides optimized driver for the networking controller in XLP that is optimized for high performance packet processing applications

**Technical Specifications**

<b>SFP+ 10 Gigabit Ethernet Technical Specifications (10GBase-SR/10GBase-LR):</b>	
<b>SFP+ (Small Form Factor Pluggable) supports:</b>	SFI interfaces supports 10GBase-R PCS and 10 Gigabit PMA in order to connect with SFP+ to 10GBase-SR / 10GBase-LR
<b>IEEE Standard / Network topology: with 10GBase-SR SFP+</b>	Fiber 10Gigabit Ethernet, 10GBASE-SR (850nm LAN PHY)
<b>IEEE Standard / Network topology: with 10GBase-LR SFP+</b>	Fiber 10Gigabit Ethernet, 10GBASE-LR (1310nm LAN PHY)
<b>Operating Systems Support</b>	
<b>Operating system support:</b>	Linux NETOS
<b>General Technical Specifications</b>	
<b>Interface Standard:</b>	PCI-Express Base Specification Revision 2.0
<b>Board Size:</b>	Standard height short add-in card 167.64mm X 106.68mm (6.60"X 4.2")

<b>PCI Express Card Type:</b>	X8 Lane
<b>PCI Express Voltage:</b>	+3.3V +-9%, +12V +- 8%
<b>PCI Connector:</b>	Gold Finger: x8
<b>Processor:</b>	XLP316 / 16 nxCPU 1.6GHz / , 40nM
<b>Memory:</b>	Up to 8 Giga Byte, DDR3 1600MHz
<b>Holder:</b>	Metal Bracket
<b>Operating Humidity:</b>	0%–90%, non-condensing
<b>Operating Temperature:</b>	0°C – 50°C (32°F – 122°F)
<b>Storage:</b>	-20°C–65°C (-4°F–149°F)
<b>EMC Certifications:</b>	<p>FCC Part 15, Subpart B Class A</p> <p>Conducted Emissions</p> <p>Radiated Emissions</p> <p>CE EN 55022: 1998 Class A Amendments A1: 2000; A2: 2003</p> <p>Conducted Emissions</p> <p>Radiated Emissions</p> <p>CE EN 55024: 1998 Amendements A1: 2000; A2: 2003</p> <p>Immunity for ITE Amendment A1: 2001</p> <p>CE EN 61000-3-2 2000, Class A</p> <p>Harmonic Current Emissions</p> <p>CE EN 61000 3-3 1995, Amendement A1: 2001</p> <p>Voltage Fluctuations and Flicker</p> <p>CE IEC 6100-4-2: 1995</p> <p>ESD Air Discharge 8kV. Contact Discharge 4kV.</p> <p>CE IEC 6100-4-3:1995</p> <p>Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHz</p> <p>CE IEC 6100-4-4:1995</p> <p>EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leads</p> <p>CE IEC 6100-4-5:1995</p> <p>Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV</p> <p>CE IEC 6100-4-6:1996</p> <p>Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz</p>

	CE IEC 6100-4-11:1994 Voltage Dips and Short Interruptions V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per
<b>Safety:</b>	UL
<b>LEDs</b>	
<b>PE210G2RP316: SFP+ LEDs/ Connectors Specifications:</b>	
<b>SFP+ LEDs:</b>	LED per port Link /ACT : Turns on link , blinks on activity (green)
<b>SFP+ LEDs location:</b>	LED is located on the PCB, visible via holes in the metal bracket holder
<b>SFP+ Connector:</b>	(2) SFP+ cage
<b>PE210G2RP316: RJ45+ Magnetics + LEDs/ Connectors Specifications:</b>	
<b>LEDs location:</b>	LEDs are located in RJ45 connector
<b>Connectors:</b>	Shielded RJ-45

## Order Information

P/N	Description	Notes
<b>PE210G2RP31612-SR</b>	Dual Port (SR)10 Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@1.2Ghz, 2-8 Giga Byte DDR3, on board support for Fiber SR, RoSH compliant, 10G DPI ReGEX engine
<b>PE210G2RP31612-LR</b>	Dual Port (LR) 10Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@1.2Ghz, 2-8 Giga Byte DDR3, on board support for Fiber LR, RoSH compliant, 10G DPI ReGEX
<b>PE210G2RP31612-XR</b>	Dual Port SFP+ 10Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@1.2Ghz, 2-8 Giga Byte DDR3, Support Silicom SFP+ approved transceiver. RoHS compliant, 10G DPI ReGEX

<b>PE210G2RP316xx-SR</b>	Dual Port (SR)10 Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@xxGhz, 2-8 Giga Byte DDR3, on board support for Fiber SR, RoSH compliant, 10G DPI ReGEX engine
<b>PE210G2RP316xx-LR</b>	Dual Port (LR) 10Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@xxGhz, 2-8 Giga Byte DDR3, on board support for Fiber LR, RoSH compliant, 10G DPI ReGEX
<b>PE210G2RP316xx-XR</b>	Dual Port SFP+ 10Gigabit Ethernet PCI Express Packet Processor Server Adapter	X8, Gen 2, based on NetLogic XLP316@xxGhz, 2-8 Giga Byte DDR3, Support Silicom SFP+ approved transceiver. RoHS compliant, 10G DPI ReGEX

**PE210G2RP316- Legend:**

**PE2:** PCI Express Gen2

**10G:** 10 Gigabit Ethernet

**2:** Number of ports

**R:** RMI/NetLogic

**P316:** XLP316

**Xx:** Frequency operation. 16- 1.6Ghz, 14 – 1.4Ghz 12 -1.2Ghz

**-SR -LR -XR:**

**-SR:** 10GBase-SR 850nM optical T/R

**-LR:** 10GBase-LR 13100nM optical T/R

**-XR:** Without T/R

**1V2**