PXSC23

Security Protocol Processor PCI-X Server Adapter / CN1230 Cavium® Based

Product Description

The Silicom protocol processor adapter is a complete PCI-X adapter solution that incorporates specialized features for IPSec, IKE, SSL and TLS protocol processing. The Silicom protocol processor PCI-X adapter is based on Cavium CN1230.

The Silicom protocol processor PCI-X adapter provides bulk cryptographic acceleration for 3DES, DES, AES and ARCFOUR symmetric encryption algorithms, for the SHA-1 and MD5 hash algorithm, and for the HMAC-SHA-1 and HMAC-MD5 keyed authentication algorithms. It provides public key acceleration for the RSA, DSA, and Diffie-Helman asymmetric algorithms, as well as basic Modular Math functions.

The Silicom protocol processor PCI-X adapter provides a True Random Number Generator and can use it to generate on-chip random values for Diffie-Helman key generation and DSA signatures.

The Silicom protocol processor PCI-X adapter provides combined encryption and HMAC authentication for single authentication for single-pass Ipsec processing. It also provides SSL MAC and TLS HMAC functions needed for SSL and TLS record layer processing.

The Silicom Protocol Processor PCI-X adapter is the ideal solution for high-end and mid-end virtual private networking (VPN), firewall appliances and SSL-based appliances.

Key Features

PXSC23 (CN1230 based):

- Single Chip solutions that accelerates all cryptographic operations and the SSL, IPsec / IKE protocols

- Up to 48000 Diffie-Hellman Public Key generation (groups 1,2,5 and 180-bit exponent)

- Up to 28000 RSA operations/second

- Up to 20000 SSL TPS

- Up to 7000 IKE Main Mode / sec

- Up to 2.0Gbps of IPsec traffic throughout

- Multi Algorithm support

- RSA and Diffie-Helman (Groups 1,2,5)

- DES/3DES, AES, ARCFOUR

- MD5, SHA-1, HMAC-MD5, HMAC-SHA-1

- Optional local 64bit DRAM for IPsec or SSL Context

- Supports unlimited SSL context or IPsec SAs with host memory

- 200Mbps Random Number Generator

Host Interface:

- PCI-X v1.0 32/64-bit, 66/100/133MHz

- PCI 2.2 32/64 bit 33/66MHz 3.3V

Technical Specifications

System Throughout	
System Throughout values are shown below. System values represent measured, memory-to-memory, in-system throughout on an optional platform using large buffer sizes and maximum pipelining	
Function	**Value**
IPSec traffic throughout	2000 Mbps
SSL TPS	20,000 per second
IKE main mode	7,000 per second
Diffie-Helman (groups 1,2,5 and 180-bit exponent)	48,000 Generate
RSA Private Key	28,000 per second
Random Number Generator	200 Mbps
Bulk Data Encryption + Hashing	2000 Mbps
Operating Systems Support	
Operating system support:	Windows Linux FreeBSD
General Technical Specifications	
Interface Standard:	PCI-X v1.0 32/64-bit, 66/100/133MHz PCI 2.2 32/64 bit 33/66MHz 3.3V

Board Size:	Short PCI Add in card: 167.64mm x 106.68mm (6.6"X 4.2")
PCI Card Type:	+3.3V 64 bit Card
PCI Voltage:	+3.3V (Min 3.135V, Max, 3.465V)) +5V (Min 4.75V, Max, 5.25V)
PCI Connector:	+3.3V 64 bit
Controller:	Cavium CN1230
Holder:	Metal Bracket
Operating Temperature:	0°C – 50°C (32°F – 122°F)
Storage:	-20°C–65°C (-4°F–149°F)
EMC Certifications:	FCC Part 15, Subpart B Class B Conducted Emissions Radiated Emissions CE EN 55022: 1998 Class B Amendments A1: 2000; A2: 2003 Conducted Emissions Radiated Emissions CE EN 55024: 1998 Amendments A1: 2000; A2: 2003 Immunity for ITE Amendment A1: 2001 CE EN 61000-3-2 2000, Class A Harmonic Current Emissions CE EN 61000 3-3 1995, Amendment A1: 2001 Voltage Fluctuations and Flicker CE IEC 6100-4-2: 1995 ESD Air Discharge 8kV. Contact Discharge 4kV CE IEC 6100-4-3:1995 Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHzz CE IEC 6100-4-4:1995 EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leadss CE IEC 6100-4-5:1995 Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV CE IEC 6100-4-6:1996 Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M.By 1kHz CE IEC 6100-4-11:1994 Voltage Dips and Short Interruptions V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per

Order Information

P/N	Description	Notes
PXSC23-RoHS	Security Protocol Processor PCI-X Server Adapter / CN1230	Based on Cavium CN1230

Note: Model P/N -LP /-RoHS

-RoHS: RoHS Compliant / Lead free adapter.

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