

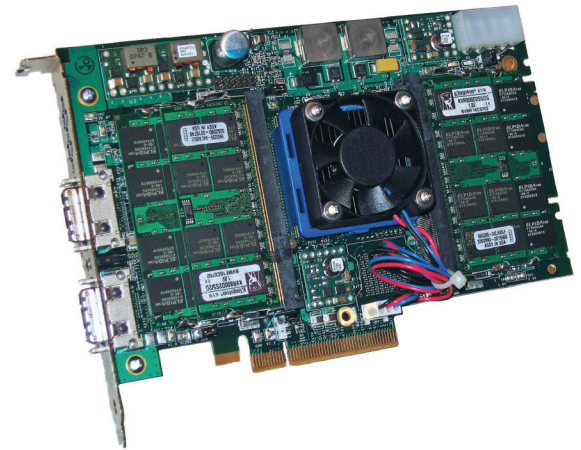
Unprecedented Computing Power in a Half-Length PCI Express Plug-In Card

The TILEncore cards deliver the industry’s highest performance processing for demanding applications in networking and digital multimedia. The board features Tiler’s powerful TILEPro64™ processor together with multiple network interfaces, speeding time-to-market for embedded appliances.

The 64-core TILEPro64 processor’s versatility and C/C++ programmability allows it to perform a variety of compute-intensive tasks such as:

- Network traffic flow-classification
- Deep Packet Inspection (DPI)
- Quality of Service (QoS) provisioning
- Video stream processing
- Video and audio encoding / transcoding

Multiple interface configurations offer optimum connectivity for network or compute-centric applications. The base configuration includes dual 10Gbps Ethernet CX4 ports, also supporting “Active Optical” mode. An alternate interface option includes dual 10G SFP+ optical and dual 1Gbps SFP ports, supporting either fiber or copper connections.



Target Applications

Advanced Networking:

The TILEncore card provides the Ethernet line interfaces as well as the entire data plane processing for intelligent network services such as:

- Unified Threat Management (UTM)
- Intrusion Prevention (IPS/IDS)
- Network security appliances
- Network monitoring and forensics
- L4-7 Deep Packet Inspection

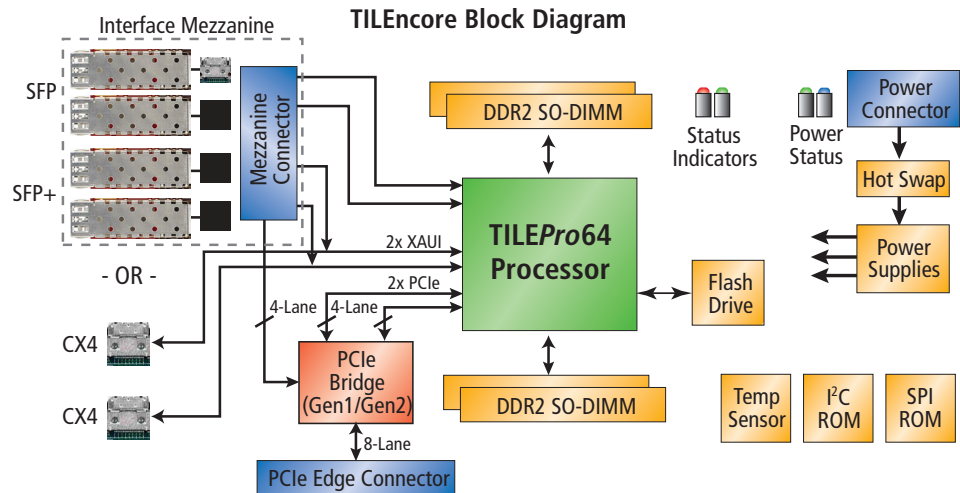
Digital Video:

The TILEncore card also excels at digital video processing, easily taking the place of multiple DSPs as well as the networking functions for:

- Broadcast “Head-End” media services
- Video-on-Demand (VoD) servers
- Video conferencing
- Video surveillance
- Audio and video media gateway

	Features	Enables
Massive Computing Power in a Small Form Factor	<ul style="list-style-type: none"> • TILEPro64 processor provides 64 general purpose processor cores for compute-intensive applications. 	<ul style="list-style-type: none"> • 15Gbps Snort® processing • 20+ Gbps nProbe • 16 x 16 SAD at 540 MBlocks/s • H.264 HD video encoding: 4 streams of 720p30
Powerful Software Approach	<ul style="list-style-type: none"> • C/C++ programming model • Supports Linux and SMP Linux • Standard tool chain based on Eclipse and GNU 	<ul style="list-style-type: none"> • Users to leverage existing code easily • Users to take advantage of huge body of Open Source applications • Familiar programming environment speeds development
Rich I/O Capabilities	<ul style="list-style-type: none"> • Eight-lane PCIe interface (Gen1 and Gen2 support) • Dual 10Gbps and dual 1Gbps Ethernet port options: <ul style="list-style-type: none"> • Dual 10G CX4 copper or Active Optical • Dual 10G SFP+ optical plus dual 1G SFP 	<ul style="list-style-type: none"> • >12Gbps bandwidth between TILEncore and host processor • 22Gbps of I/O or dual 10Gbps with redundancy • Single card combines processing and network connectivity
Memory Options	<ul style="list-style-type: none"> • Standard 4 GBytes of socketed SO-DIMM DDR2 memory • On-board 1 GByte Solid-State Flash Drive for standalone boot 	<ul style="list-style-type: none"> • Industry-standard upgradable memory modules • Flexible memory options for a variety of applications • Card can boot from host across PCIe or from Flash
PCIe Card Format	<ul style="list-style-type: none"> • Standard half-length PCIe card for x8 PCIe slots • Dual-slot board spacing 	<ul style="list-style-type: none"> • Plug-in solution for PCIe motherboard-based appliances • Instant hardware compatibility enables rapid time-to-market

TILEncore Card – Product Brief



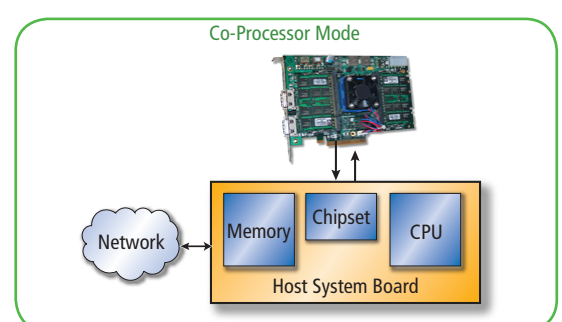
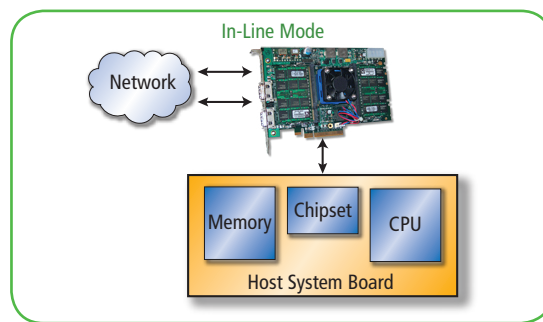
Specifications

General	<ul style="list-style-type: none"> Form factor: Full-height, half-length, two-slot PCI Express RoHS-6 compliant per EU 2002/95/EC All components NEBS compliant
PCIe Interface	<ul style="list-style-type: none"> Eight-lane PCIe 2.0, Gen2 compliant Fall-back to 4, 2, or 1 lane. Fall-back to Gen1 mode Hot plug compliant
Network Interfaces	<ul style="list-style-type: none"> Multiple interface configurations: <ul style="list-style-type: none"> Two 10Gbps Gigabit Ethernet (25-pin CX4) Two 10Gbps SFP+ and two 1Gbps SFP (Mezzanine) Can be used in co-processor mode with interfaces disabled
Memory	<ul style="list-style-type: none"> Four SO-DIMM sockets for DDR2 SDRAM PC2-6400 (DDR2-800), 1GB to 16GB total capacity 1 GByte on-board Flash drive
Indicators	<ul style="list-style-type: none"> Four on-board power supply status indicators LEDs on rear plate for link status

Technical Features	<ul style="list-style-type: none"> Supports INTx and MSI interrupts across PCI On-board dual temperature sensor JTAG test connector Mezzanine expansion connector
Power	<ul style="list-style-type: none"> Standard 4-pin "ATX" connector for power Single 12V supply from ATX connector Typical power dissipation: 50W @ 700 MHz Cooling options: <ul style="list-style-type: none"> Active cooling fan (Standard) Passive heatsink¹ Required airflow: 1.1 m/s (200 lfm) @55°C
Environmental	<ul style="list-style-type: none"> Operating Temperature: 0° to 55°C Storage Temperature: -40° to 70°C Humidity: 10% to 90% RH non-condensing
Physical Specifications	<ul style="list-style-type: none"> Board Height: 11.1 cm (4.38 in) Board Length: 16.8 cm (6.6 in) Bracket Height: 12cm (4.72 in)

¹Passive heatsink for 700MHz version only.

Example System Configurations



Ordering Information

Part Number	Processor	Memory Installed	I/O Interfaces	Processor Frequency	Operating Temperature
TLB-36400-7-PCIe-2X10-4-GC	TILEPro64	4 GBytes	Two 10G CX4	700 MHz	Commercial
TLB-36400-9-PCIe-2X10-8-GC	TILEPro64	8 GBytes	Two 10G CX4	866 MHz	Commercial
TLB-36400-7-PCIe-2S10-2S1-4-GC	TILEPro64	4 GBytes	Two 10G SFP+ and two 1G SFP	700 MHz	Commercial
TLB-36400-9-PCIe-2S10-2S1-8-GC	TILEPro64	8 GBytes	Two 10G SFP+ and two 1G SFP	866 MHz	Commercial
TLB-36400-9-PCIe-2S10-2S1-16-GC	TILEPro64	16 GBytes	Two 10G SFP+ and two 1G SFP	866 MHz	Commercial

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