

Unprecedented Computing Power in a PCI Express Plug-In Card

The TILExpress™ family of PCIe cards delivers the industry’s highest performance processing for demanding applications in networking and digital multimedia. The board features Tiler’s powerful TILE64™ processor together with a rich set of network interfaces, speeding time-to-market for embedded appliances.

The 64-core TILE64 processor’s versatility allows it to perform a variety of computing-intensive tasks such as:

- Network Flow Classification
- Deep Packet Inspection (DPI)
- Quality of Service (QoS) Provisioning
- Video and Audio Encoding / Transcoding
- Video Analytics



An advanced networking front-end incorporates a powerful L2-L3 intelligent Ethernet switch to provide 6 or 12 ports of gigabit Ethernet I/O as well as a 10 gigabit Ethernet CX4 port. An optional mezzanine expansion board connector further increases flexibility by supporting specialized co-processors, or additional I/O ports.

Target Applications

Advanced Networking: The TILExpress-64 card provides multiple Ethernet interfaces as well as the processing power to handle intelligent network services such as:

- Unified Threat Management (UTM)
- In-line Network Security Appliances
- L4-7 Deep Packet Inspection
- Network Monitoring and Forensics

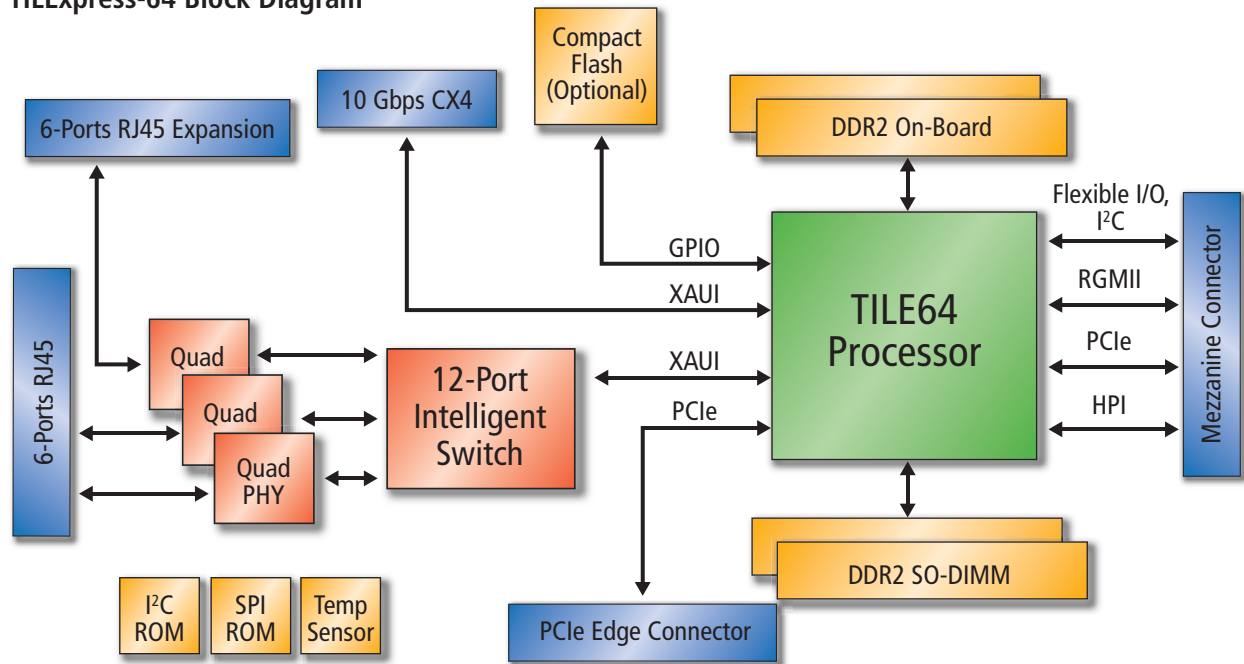
Digital Video: The TILExpress-64 card also excels at digital video processing, easily taking the place of multiple DSPs as well as the networking components for:

- Video Conferencing
- Video-on-Demand (VoD) Servers
- Video Surveillance
- Broadcast Multimedia “Head-End” Services

	Features	Enables
Massively Scalable Performance	<ul style="list-style-type: none"> • TILE64 processor provides 64 general-purpose processor cores for computing-intensive applications. 	<ul style="list-style-type: none"> • 10Gbps Snort® processing • 20+ Gbps iptables (firewall) • 20+ Gbps nProbe • Multi-channel H.264 720p HD encoding
Powerful Software Approach	<ul style="list-style-type: none"> • ANSI standard C / C++ programming model • Full support for Linux and SMP Linux • Standard tool chain based on Eclipse and GNU 	<ul style="list-style-type: none"> • Easily leverages existing code • Take advantage of huge body of Open Source applications • A familiar programming environment that speeds development
Rich I/O Capabilities	<ul style="list-style-type: none"> • Six or twelve Gigabit Ethernet ports (copper RJ-45) • One 10 Gbps CX4 Interface 	<ul style="list-style-type: none"> • High-density I/O provides impressive connectivity • Single card combines processing and network connectivity
Memory Options	<ul style="list-style-type: none"> • 512 MBytes of on-board DDR2 memory • Two SO-DIMM memory slots with 2 GBytes installed • Compact Flash socket 	<ul style="list-style-type: none"> • Flexible memory options for a variety of applications • Booting from host across PCIe or from Flash
PCIe Card Format	<ul style="list-style-type: none"> • Standard PCIe card for x4 PCIe slots • Gigabit Ethernet ports available on rear panel 	<ul style="list-style-type: none"> • Plug-in solution for PCIe motherboard-based appliances • Instant hardware compatibility enables rapid time-to-market

TILExpress-64™ Card – Product Brief

TILExpress-64 Block Diagram



Specifications

General <ul style="list-style-type: none"> System interface: x4 PCIe connector (v1.1) Form factor: Full-height, full-length PCI Express RoHS-5 compliant per EU 2002/95/EC 	Technical Features <ul style="list-style-type: none"> Supports INTx and MSI interrupts across PCI On-board temperature sensor JTAG test connector Mezzanine expansion connector
Network Interfaces <ul style="list-style-type: none"> Six or twelve-ports copper Gigabit Ethernet (RJ45) Ports support 10/100/1000 Mbps operation One 10Gbps Ethernet port (Standard 25-pin CX4 connector) 	Power <ul style="list-style-type: none"> Typical power dissipation: 40W @ 700 MHz Cooling: Supplied with standard fan heatsink Standard 4-pin Molex "ATX" connector for 12V power input
Memory <ul style="list-style-type: none"> Two banks of 256 MBytes DDR2 SDRAM on-board Two SO-DIMM sockets for additional SDRAM Optional Compact Flash socket for non-volatile storage 	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
Indicators <ul style="list-style-type: none"> Four on-board power supply status indicators Dual LEDs on each RJ45 jack for link and activity information 	Physical Specifications <ul style="list-style-type: none"> Board Height: 11.12 cm (4.376 in) Board Length: 31.2 cm (12.283 in) Bracket Height: 12cm (4.725 in)

Ordering Information

Part Number	Processor	Memory Installed	I/O Interfaces	Processor Frequency	Operating Temperature
TLB-26400-7-PCIe-XP12G-2.5-GC	TILE64	2.5 GBytes	12 GbE Ports, 1 CX4 10GbE Port	700 MHz	0-55° C Commercial
TLB-26400-7-PCIe-XP6G-2.5-GC	TILE64	2.5 GBytes	6 GbE Ports, 1 CX4 10GbE Port	700 MHz	0-55° C Commercial
TLB-26400-9-PCIe-XP6G-2.5-GC	TILE64	2.5 GBytes	6 GbE Ports, 1 CX4 10GbE Port	866 MHz	0-55° C Commercial

Contact Tiler sales for other card configurations.

For more information on Tiler products, visit www.tiler.com.

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