

### 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 TILEPro36™ processor together with a rich set of network interfaces, speeding time-to-market for embedded appliances.

The 36-core TILEPro36 processor’s versatility allows it to perform a variety of compute-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 ports of gigabit Ethernet I/O. An optional mezzanine expansion board connector further increases flexibility by supporting specialized co-processors or additional I/O ports.

### Target Applications

**Advanced Networking:** The TILExpressPro-36 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

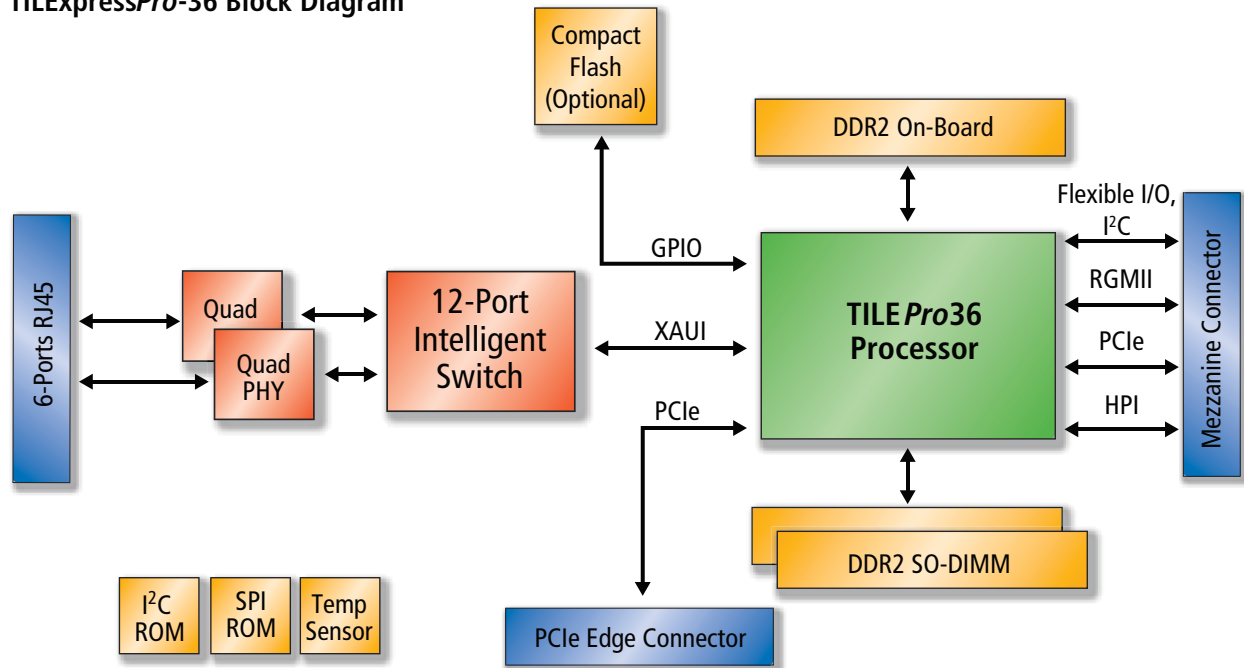
**Digital Video:** The TILExpressPro-36 card also excels at digital video processing, easily taking the place of multiple DSPs as well as the networking components for:

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

	Features	Enables
<b>Massively Scalable Performance</b>	<ul style="list-style-type: none"> <li>• TILEPro 36 processor provides 36 general-purpose processor cores for computing-intensive applications.</li> </ul>	<ul style="list-style-type: none"> <li>• 5Gbps Snort® processing</li> <li>• 6+ Gbps iptables (firewall)</li> <li>• 6+ Gbps nProbe</li> <li>• Multi-channel H.264 HD 720p video encoding</li> </ul>
<b>Powerful Software Approach</b>	<ul style="list-style-type: none"> <li>• ANSI standard C / C++ programming model</li> <li>• Full support for Linux and SMP Linux</li> <li>• Standard tool chain, based on Eclipse and GNU</li> </ul>	<ul style="list-style-type: none"> <li>• Easily leverages existing code</li> <li>• Take advantage of vast body of Open Source applications</li> <li>• A familiar programming environment that speeds development</li> </ul>
<b>Rich I/O Capabilities</b>	<ul style="list-style-type: none"> <li>• Six Gigabit Ethernet ports (copper RJ-45)</li> </ul>	<ul style="list-style-type: none"> <li>• High-density I/O provides impressive connectivity</li> <li>• Single card combines processing and network connectivity</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 256 MBytes of on-board DDR2 memory</li> <li>• Two SO-DIMM memory slots with 2 GBytes installed</li> <li>• Optional Compact Flash socket</li> </ul>	<ul style="list-style-type: none"> <li>• Flexible memory options for a variety of applications</li> <li>• Booting from host across PCIe or from Flash</li> </ul>
<b>PCIe Card Format</b>	<ul style="list-style-type: none"> <li>• Standard PCIe card for x4 PCIe slots</li> <li>• Gigabit Ethernet ports available on rear panel</li> </ul>	<ul style="list-style-type: none"> <li>• Plug-in solution for PCIe motherboard-based appliances</li> <li>• Instant hardware compatibility enables rapid time to market</li> </ul>

# TILExpress-36™ Card – Product Brief

TILExpressPro-36 Block Diagram



## Specifications

<p><b>General</b></p> <ul style="list-style-type: none"> <li>System interface: x4 PCIe connector (v1.1)</li> <li>Form factor: Full-height, full-length PCI Express</li> <li>RoHS-5 compliant</li> </ul>	<p><b>Technical Features</b></p> <ul style="list-style-type: none"> <li>Supports INTx and MSI interrupts across PCI</li> <li>On-board temperature sensor</li> <li>JTAG test connector</li> <li>Mezzanine expansion connector</li> </ul>
<p><b>Network Interfaces</b></p> <ul style="list-style-type: none"> <li>Six ports copper Gigabit Ethernet (RJ45)</li> <li>Ports support 10/100/1000 Mbps operation</li> </ul>	<p><b>Power</b></p> <ul style="list-style-type: none"> <li>Typical power dissipation: 35W @ 500 MHz</li> <li>Cooling: Supplied with standard fan heatsink</li> <li>Standard 4-pin Molex "ATX" connector for 12V power input</li> </ul>
<p><b>Memory</b></p> <ul style="list-style-type: none"> <li>One bank of 256 MBytes DDR2 SDRAM on-board</li> <li>Two SO-DIMM sockets for additional SDRAM</li> <li>Optional Compact Flash socket for non-volatile storage</li> </ul>	<p><b>Environmental</b></p> <ul style="list-style-type: none"> <li>Operating temperature: 0° to 55° C</li> <li>Storage temperature: -40° to 70° C</li> <li>Humidity: 10% to 90% RH non-condensing</li> </ul>
<p><b>Indicators</b></p> <ul style="list-style-type: none"> <li>Four on-board power supply status indicators</li> <li>Dual LEDs on each RJ45 jack for link and activity information</li> </ul>	<p><b>Physical Specifications</b></p> <ul style="list-style-type: none"> <li>Board Height: 11.12 cm (4.376 in)</li> <li>Board Length: 31.2 cm (12.283 in)</li> <li>Bracket Height: 12cm (4.725 in)</li> </ul>

## Ordering Information

Part Number	Processor	Memory Installed	I/O Interfaces	Processor Frequency	Operating Temperature
TLB-33600-5-PCIe-XP6G-2.25-GC	TILEPro36	2.25 GBytes	6 GbE Ports	500 MHz	0 - 55° C Commercial

Contact Tiler sales for other card configurations.

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