

TILEmpower-Gx Development Platform

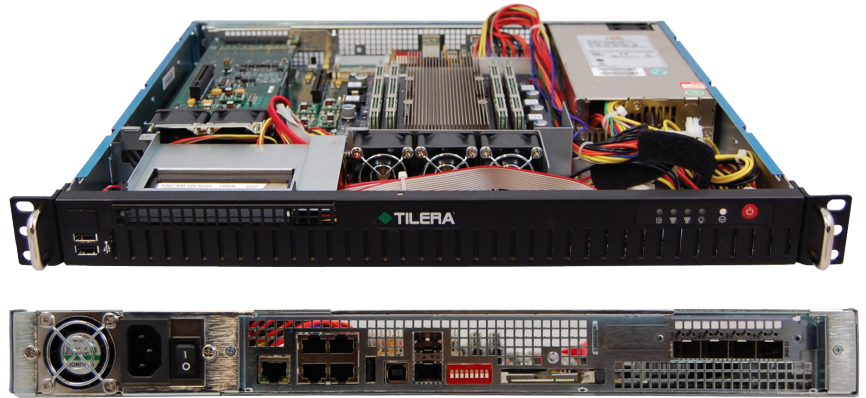
Powerful Computing Platform

The TILEmpower-Gx™ is a robust and feature-rich 1U rackmount platform that is ideally suited for developing and evaluating applications for the TILE-Gx™ family of manycore processors. The TILE-Gx's massive compute is complimented with a comprehensive set of I/O ports and peripherals to expose the full capabilities of this leading-edge processor family.

Flexible Configuration

The modular design of the TILEmpower-Gx platform allows a wide range of configurations and easy updates. The universal motherboard supports the entire family of TILE-Gx processors, as well as a variety of interface configurations.

The pluggable CPU module houses the processor together with its essential support components, including power regulators, DDR3 memory, boot ROMs, control and reset logic, and debug I/O ports. All of the packet I/O, PCIe I/O and GPIO ports are brought through connectors to the motherboard where they are distributed to the various peripherals and I/O ports.



High-speed I/O is incorporated through a plug-in I/O module, allowing either high-speed Ethernet interfaces (1G, 10G) or optional PCIe cards to be installed and connected to the TILE-Gx processor. The PCIe card expansion connector supports up to 8-lane PCIe Gen2 and can support add-in cards such as InfiniBand, FiberChannel or other specialty I/O offerings, as well as FPGA developer cards for experimenting with other tailored I/Os or co-processing functions.

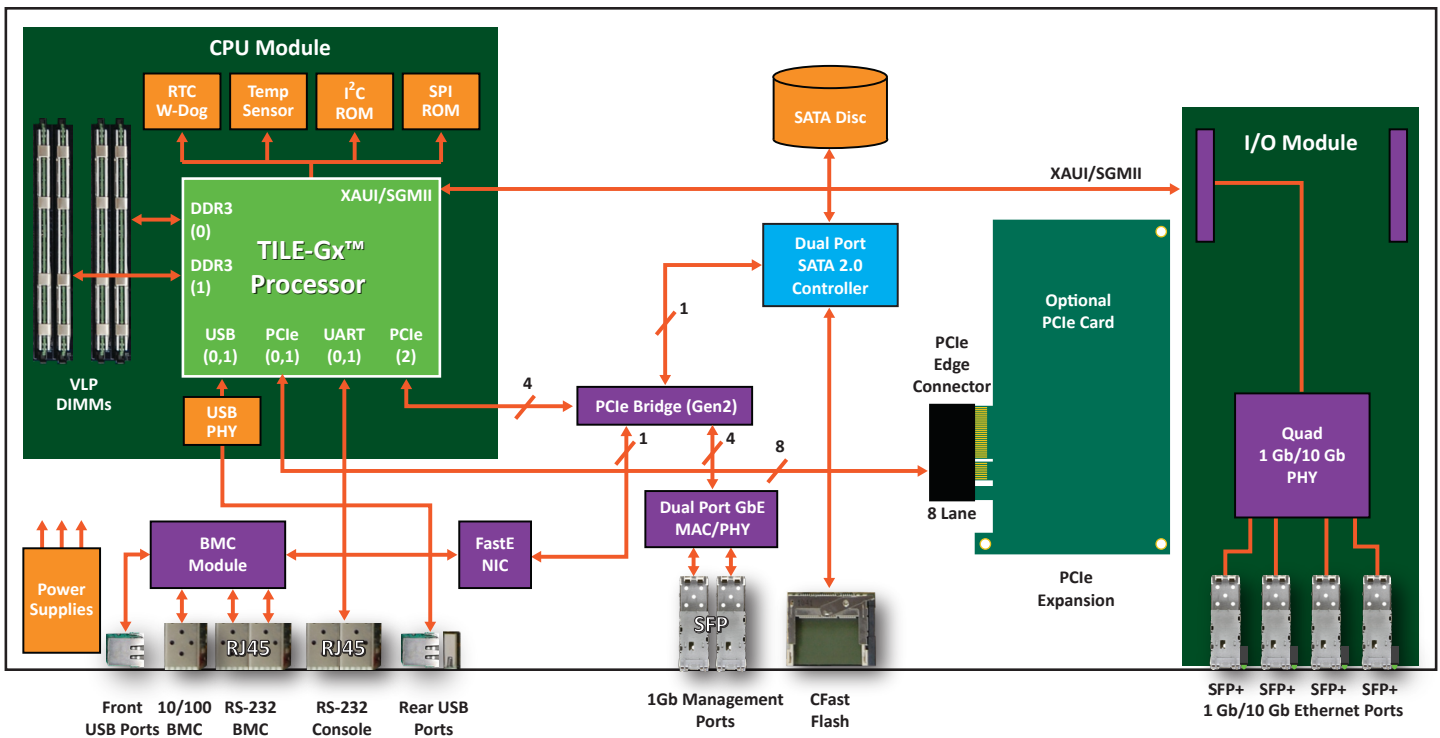
Integrated remote management allows flexibility in location and monitoring. An independent Baseboard Management

Controller (BMC) allows remote reset or re-boot allowing the server to be located in a lab or server room. The BMC allows remote monitoring of power supply voltages and currents, processor die temperature, fan status, and more.

Use-Case Examples

- Platform for TILE-Gx software development
- Evaluation system to execute performance benchmarks
- “White Box” server system for rapid hardware deployment

TILEmpower-Gx Block Diagram



TILEmpower-Gx Development Platform

Specifications

General	19" rack chassis, 1U height RoHS-6 compliant per EU 2002/95/EC	Other Features	Battery-backed Real-Time Clock (RTC) 256 Kb I ² C ROM 16 MB SPI ROM IPMI measurement of regulated system voltages and current draw
Processor Support	Pluggable processor module Supports any member of TILE-Gx family	Power	Integrated AC power supply: 120/240 VAC, 50/60 Hz Power dissipation, typ ¹ : 120 W Cooling: Redundant internal fans with front to rear airflow. Tachometer feedback for fan fail detection.
Memory Support	4 DIMM sockets on processor module with total capacities from 8 Gb to 64 Gb DDR3 VLP DIMMs Supports UDIMM, LRDIMM or RDIMM with ECC	Environmental	Operating temperature: 0 to 40°C Storage temperature: -40° to 70°C Humidity: 10% to 90% RH, non-condensing
High-Speed I/O	Pluggable I/O module: – Quad 10G/1G with SFP+/SFP interfaces – Other optional I/O modules* Dual 1 Gbps SFP Ethernet ports (driven from TILE-Gx processor via PCIe to dual-channel NIC device)	Physical Specifications	Box height: 1.7" (4.3 cm) Box length: 15" (38.1 cm) Box width: 16.5" (42 cm) Weight: 14.9 lbs (6.75 kg)
Misc I/O	(2) RS-232 UART ports to TILE-Gx processor (rear panel) (1) USB 2.0 port, type A host (rear panel) (1) USB 2.0 port, type B endpoint (rear panel)	Included Accessories	Sliding rack mount rail kit PCIe riser adapter for internal PCIe card
Expansion Card	Internal 8-lane Gen 2 PCIe slot Accepts full-height, short length card using included right-angle riser (replacing high-speed I/O Module)	Customer Provided Accessories	SFP and SFP+ cartridges for Ethernet I/O Interface cables CFast Flash storage card (optional)
Mass Storage	Internal SATA disc drive: SSD or rotating, 160 GB SSD standard CFast Flash Card socket on rear-panel		
System Management	Integrated Baseboard Management Controller (BMC) with IPMI (1) 10/100 Ethernet management port (2) Front-panel USB 2.0 ports, type A (2) Rear-panel RS-232 management ports (RJ45)		

¹1.2 GHz TILE-Gx8036 processor

Ordering Information

Part Number	Processor	Memory Installed	I/O Interfaces	Processor Frequency	Drives Installed
TLB4-03680-12-RM1US-4S10-16-160GHD-GC	TILE-Gx8036	16 GBytes	Four 1G/10G SFP/SFP+ ports	1.2 GHz	160 GB SSD
TLB4-03680-12-RM1US-4S10-8-160GHD-GC	TILE-Gx8036	8 GBytes	Four 1G/10G SFP/SFP+ ports	1.2 GHz	160 GB SSD

*Contact Tiler for availability of other high-speed I/O modules