

TILEmpower-Gx Development Platform

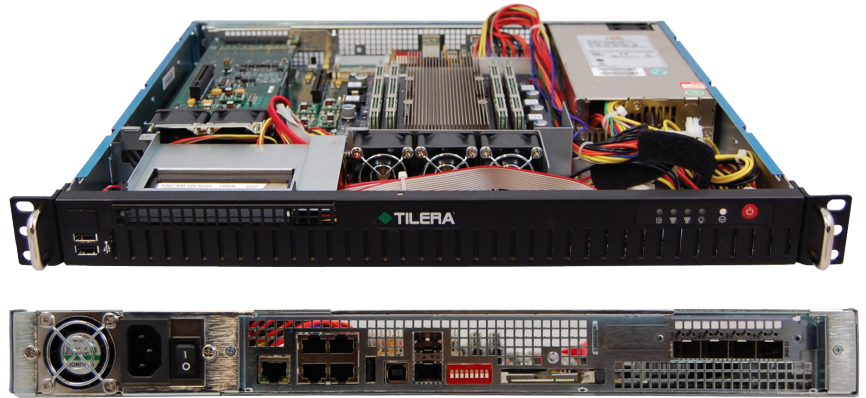
Powerful Computing Platform

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.

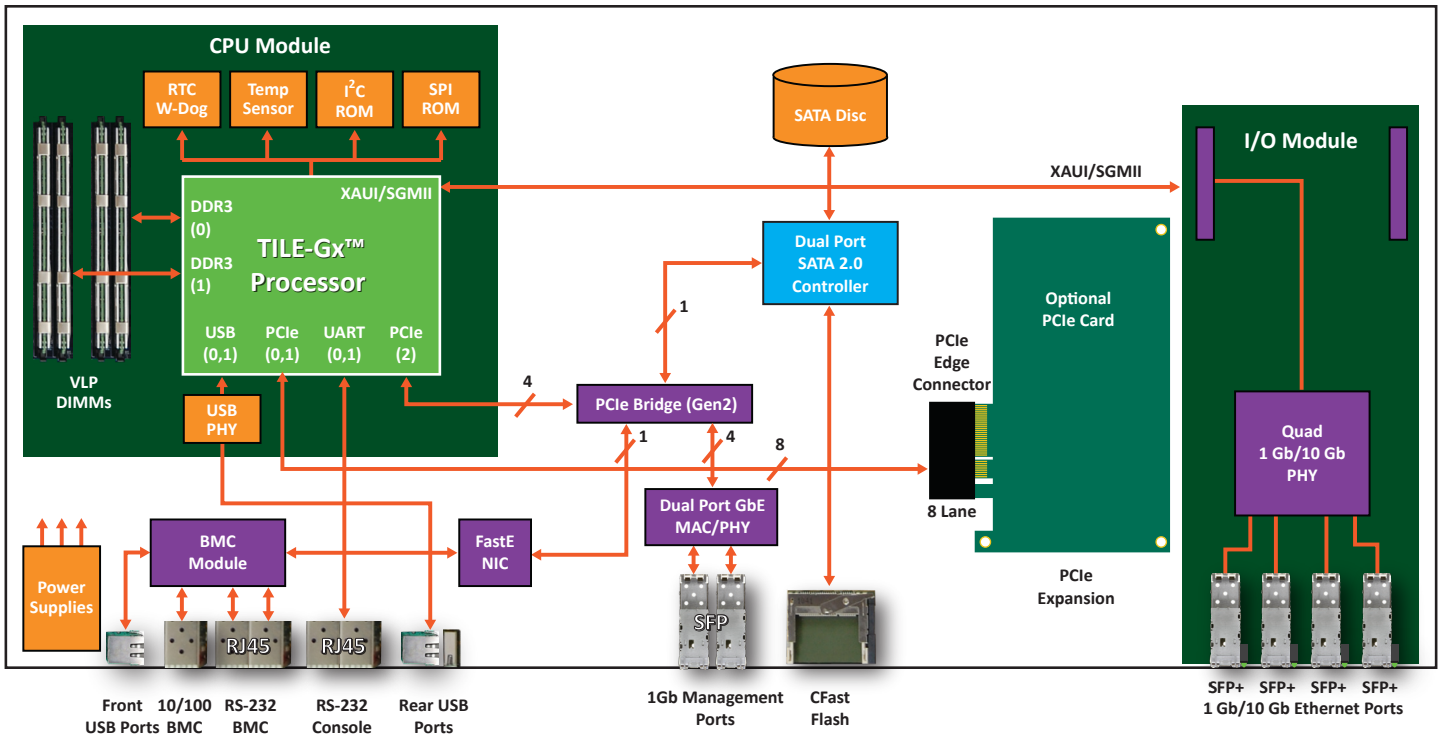
Controller (BMC) allows remote reset or re-boot allowing the server to be located in a lab or server room. The BMC allows remote monitoring of power supply voltages and currents, processor die temperature, fan status, and more.

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

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	¹ 1.2 GHz TILE-Gx8036 processor	
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)		

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