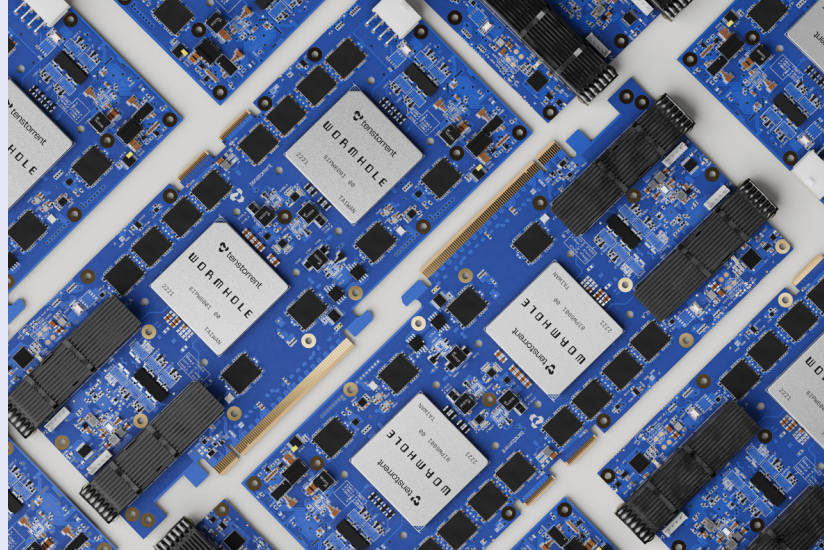




Wormhole™ Tensix Processor

Scalable • Customizable • Economical



Wormhole™ is Tenstorrent's first generation Tensix Processor, designed to network from a single card (n150 and n300) into workstations (TT-QuietBox) and rack-mounted servers (TT-LoudBox). Wormhole™ is built with Tensix Cores, each of which includes a compute unit, Network-on-Chip, local cache, and "baby RISC-V" cores, resulting in uniquely efficient data movement through the chip. Development is supported by Tenstorrent's open source TT-Metalium™ (low-level) and TT-Buda™ (high-level) SDKs. The result is a suite of solutions that offer superior memory capacity and performance for cost compared to their AI and HPC market peers.

Designed to be Flexible

- **Powerful:** Wormhole™ n150 performs at up to 262 TFLOPs (FP8) with 160W total board power. Wormhole™ n300 performs at up to 466 TFLOPs (FP8) with 300W total board power.
- **Scalable:** Designed to network into an Ethernet-based, multichip mesh for workstations and rack-mounted servers.
- **Open Source:** Two open source SDKs (TT-Buda™ and TT-Metalium™) allow for either high-level or low-level development.
- **Customizable:** Capable of operating at reduced fidelity for increased speed, and vice versa.
- **Flexible:** Broad data precision format support: FP8, FP16, BF16 FP32 (Output Only), BFP2, BFP4, BFP8, INT8, INT32 (Output Only), UINT8, TF32, VTF19, and VFP32.
- **Multi-User Friendly:** In Tenstorrent's Wormhole™-powered systems, cards and ASICs can be individually targeted, providing parallel tasking for multiple users.

High Performance that Scales

Wormhole™ multi-chip solutions allow developers to bring up and test frontiers of model inference performance, and are flexible for use as single-user/single-model or multiple-user/multiple-model systems. The TT-LoudBox 4U/Desktop Workstation features four air-cooled n300s Tensix Processors functioning in an eight-chip mesh and is designed to fit in a 4U rackmount or a desktop form factor. TT-QuietBox enjoys the benefits of TT-LoudBox's mesh architecture but brings the noise down by employing liquid cooling for the CPU and n300 Tensix Processors, offering all of the performance of TT-LoudBox in a whisper-quiet desktop workstation.



Wormhole™ Tensix Processors

Card	n150s	n300s
Part Number	TC-02001	TC-02003
ASIC	Wormhole™	2x Wormhole™
Tensix Cores	72	128 (64 per ASIC)
AI Clock	1 GHz	1 GHz
SRAM	108MB	192MB (96MB per ASIC)
Memory	12GB GDDR6	24GB GDDR6
Memory Speed	12 GT/sec	12 GT/sec
Memory Bandwidth	288 GB/sec	576 GB/sec
TFLOPs (FP8)	262	466
TFLOPs (FP16)	74	131
TFLOPs (BFP8)	148	262
Interface	PCIe 4.0 x 16	PCIe 4.0 x 16
Internal Interconnect	-	400GbE
Total Board Power	160W	300W
Cooling	Passive*	Passive*
Form Factor	Dual Slot, FHFL	Dual Slot, FHFL

*Active Cooling Kit (TX-01001) included.

Wormhole™ Powered Systems

Card	TT-LoudBox	TT-QuietBox
Part Number	TW-02002	TW-04001
CPU(s)	2x Intel® Xeon® Silver 4309Y (16C/32T total)	AMD EPYC™ 8124P (16C/32T)
Memory	512GB (16x32GB) DDR4-3200	512GB (8x64GB) DDR5-4800
Storage	4TB NVMe	4TB NVMe
Tenstorrent Processor(s)	4x Wormhole™ n300	4x Wormhole™ n300
Tenstorrent Memory Pool	96GB	96GB
TFLOPs (FP8)	1864	1864
TFLOPs (FP16)	524	524
TFLOPs (BFP8)	1048	1048
I/O	2x RJ45 10GBase-T, 5x USB 3.1 Gen 1 Type-A, 1x USB 3.1 Gen 1 Type-C, 1x COM, 1x VGA, 1x Dedicated IPMI	2x RJ45 10GBase-T, 2x RJ45 1GBase-T, 4x USB 3.2 Gen 1 Type-A, 1x VGA (incl. HDMI adapter), 1x Dedicated IPMI
Power Supply	1+1 2200W*	1650W
Form Factor	4U Rackmount/Tower	Liquid-Cooled Tower
Region	Global	USA Only

*208V or higher input voltage required for operation.

For additional specifications, hardware and software compatibility, and volume pricing, contact Tenstorrent at sales@tenstorrent.com