



AMD FirePro™ S9170 Server GPU

The Best GPU for Compute Just Got Better

Key Features:

- Passively cooled solution for server environments
- AMD Graphics Core Next architecture
- 2,816 stream processors (44 compute units)
- 5.24 TFLOPS peak single-precision floating point
- 2.62 TFLOPS peak double-precision floating point
- Full throughput double-precision
- Error-correcting code memory support (external only)
- 32GB ultrafast GDDR5 memory
- 512-bit memory interface
- Up to 320GB/s memory bandwidth
- 275W maximum power consumption
- Support for SMBus temperature reporting at boot-up
- AMD PowerTune technology³
- AMD STREAM technology⁴
- OpenCL™, OpenGL support
- PCIe® x16 bus interface, PCIe 3.0 compliant
- Full-height/full-length dual-slot form factor
- Headless display support
- Linux OS support (64- and 32-bit)
- FCC, CE, C-Tick, BSMI, KCC, UL, VCCI, RoHS, and WEEE compliance
- Designed, built, and tested by AMD
- Planned minimum three-year life cycle
- Limited three-year warranty



Accelerate your most complex workloads in scientific computing, data analytics, or seismic processing, and witness the power of the world's first 32GB server GPU, the AMD FirePro™ S9170. With industry-leading 32GB of GDDR5 memory and up to 2.62 TFLOPS of peak double-precision performance, the choice is clear.

Unparalleled GPU Compute Performance

The AMD FirePro™ S9170 features full throughput double-precision, enabling the card to achieve up to 2.62 TFLOPS of peak double-precision compute, making the AMD FirePro S9170 the fastest single-GPU server card available today. The AMD FirePro S9170 delivers up to 40% more performance in DGEMM heavy applications than the Tesla K80 dual-GPU card¹.

Industry-leading Memory Configuration

The AMD FirePro S9170 is the industry's first server GPU with 32GB ultra-fast GDDR5 onboard memory – 2.7x the memory of the competition.² It also features a 512-bit memory interface for up to 320GB/s of memory bandwidth, helping to improve overall workload speed and system responsiveness.

Future Ready

AMD is a firm believer and supporter of open standards such as OpenCL™, OpenGL, OpenMP™, and OpenACC™ and supports these standards on the new AMD FirePro S9170. We believe most people in the HPC community want open standards as the de facto way of running their projects and simulations, and AMD is committed to supporting this goal, working extensively with partners within the community to drive open standards forward.

Features	Benefits
AMD Graphics Core Next (GCN) Architecture	The first GPU architecture designed with compute workloads in mind. Engineered for high utilization, high throughput, and multitasking.
5.24 TFLOPS of Peak Single-Precision Floating Point Performance	Helps speed up time required to complete single-precision operations used within Video Effects and Rendering, Signal Processing, Transcoding, and Digital Rendering applications where high performance takes precedence over accuracy.
2.62 TFLOPS of Peak Double-Precision Floating Point Performance	Helps speed up time required to complete double-precision operations used within Computational Fluid Dynamics, Structural Mechanics, Reservoir Simulation, and Aerodynamics applications, where numerical precision is mission critical.
Full Throughput Double-Precision	AMD FirePro S9170 server GPUs feature full throughput double-precision. Unlike competing server cards that are not optimized for double-precision, AMD FirePro S9170 cards offer the most double-precision performance ¹ , completing compute-intensive tasks faster than ever before.
Error Correcting Code (ECC) Memory Support	Helps ensure the accuracy of computations by correcting any single or double bit error as a result of naturally occurring background radiation. External support only.
Multi-GPU Support	Combine multiple AMD FirePro S9170 server GPUs in a single system and leverage the combined processing power to tackle the most compute-intensive workloads.
32GB GDDR5 Memory	Equipped with 32GB of GDDR5 memory, the FirePro S9170 can accelerate memory-intensive applications and process larger and more computationally complex workflows with ease.
AMD PowerTune Technology ³	AMD PowerTune Technology is an intelligent power management system that monitors both GPU activity and power draw. AMD PowerTune optimizes the GPU to deliver low power draw when GPU workloads do not demand full activity, and delivers the optimal clock speed to ensure the highest possible performance within the GPU's power budget for high intensity workloads.
AMD STREAM Technology ⁴	Powers the ecosystem that enables AMD FirePro™ S-Series server cards to be used for compute-intensive workflows leveraging the massively parallel processing power of AMD GPUs, and accelerates many applications beyond just graphics.
OpenCL™ 2.0 Support	The AMD FirePro S9170 server GPU supports OpenCL™ 2.0, allowing developers to take advantage of new features that give GPUs more freedom to do the work they are designed to do.
Hardware compatible with other AMD FirePro™ products	The AMD FirePro™ S9170 board dimensions are identical to the AMD FirePro™ S9150 and AMD FirePro™ S9100. This allows for support of custom brackets and retention mechanisms designed for those other boards to be used on the new AMD FirePro S9170.



For more information, please visit www.amd.com/firepro

1. AMD FirePro™ S9170 graphics delivers up to 2.62 TFLOPS peak double-precision floating point performance. Nvidia's highest performing single-GPU server card in the market as of May 2015 is the Tesla K40, with up to 1.43 TFLOPS peak double-precision performance. Nvidia's highest performing dual-GPU server card in the market as of May 2015 is the Tesla K80, with up to 1.87 TFLOPS of peak double-precision performance. Visit <http://www.nvidia.com/object/tesla-servers.html> for Nvidia product specs. FP-131
2. AMD FirePro™ S9170 graphics is equipped with 32 GB GDDR5 memory, while Nvidia's K40 offers 12GB GDDR5, and Nvidia's dual GPU K80 offers 24GB GDDR5 (12GB per GPU). Visit <http://www.nvidia.com/object/tesla-servers.html> for Nvidia product specs. FP-135
3. AMD PowerTune and AMD ZeroCore Power are technologies offered by certain AMD FirePro™ products, which are designed to intelligently manage GPU power consumption in response to certain GPU load conditions. Not all products feature all technologies - check with your component or system manufacturer for specific model capabilities.
4. AMD STREAM technology is a set of features offered with select AMD FirePro graphics cards for the acceleration of compute-intensive workflows. Not all products have all features, and full enablement of some capabilities may require complementary software. Check with your system manufacturer for specific capabilities and supported technologies.

