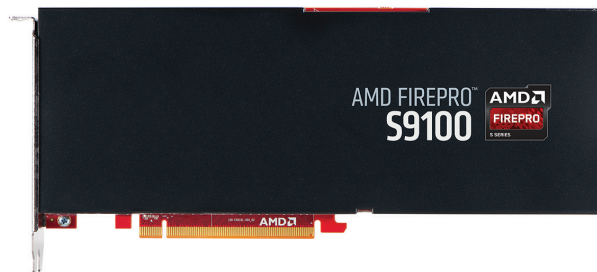# AMD FirePro™ S9100 Server GPU

Purpose built for high-performance computing

Key features:

- Passively cooled solution for server environments
- AMD Graphics Core Next architecture
- 2,560 stream processors (40 compute units)
- 4.22 TFLOPS peak single-precision floating point
- 2.11 TFLOPS peak double-precision floating point
- Half-rate double precision
- Error Correcting code memory support (external only)
- 12GB ultra-fast GDDR5 memory
- 512-bit memory interface
- Up to 320 GB/s memory bandwidth
- 225W maximum power consumption
- Support for SMBus temperature reporting at boot up
- AMD PowerTune technology[1]
- AMD STREAM technology[2]
- OpenCL™, DirectX® and OpenGL support
- PCIe® x16 bus interface, PCIe 3.0 compliant
- Full height / full length dual-slot form factor
- Headless display support
- Microsoft Windows Server® 2012 R2 and Windows Server® 2008 R2 SP1 support
- Microsoft® Windows® 7, Windows 8.1 and 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

Compute-intensive workloads are no challenge for AMD FirePro™ S9100 server GPUs. With support for OpenCL™, 12GB GDDR5 memory and ECC memory support, up to 2.11 TFLOPS of peak double-precision floating-point performance and up to 9.4 GFLOPS per-watt peak double precision performance, it's clear the AMD FirePro S9100 is a high-performance computing powerhouse.

Class-leading GPU compute performance[3]

The AMD FirePro S9100 is purpose-built to tackle compute-intensive workloads and complex calculations, delivering up to 4.22 TFLOPS of peak single-precision floating point and up to 2.11 TFLOPS of peak double-precision – up to 61% more than the competition.[3]

Class-leading performance-per-watt[4]

A dual-PCIe® slot form factor consuming 225W at maximum power, the AMD FirePro S9100 delivers up to 18.8 GFLOPS per-watt of single-precision floating-point performance, and up to 9.4 GFLOPS per-watt TDP of double-precision performance – up to 68% more than the competition.[4] With AMD FirePro™ S9100 server cards, supercomputers and computing clusters can achieve massive compute performance and processor density within an eco-conscious power budget.

Class-leading memory configuration[5]

The AMD FirePro™ S9100 features 12GB of ultra-fast GDDR5 memory – double the competition.[5] It also features a 512-bit memory interface for up to 320 GB/s of memory bandwidth, helping to improve overall workload speed and system responsiveness.

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.
4.22 TFLOPS of Peak Single-precision Compute 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.
2.11 TFLOPS of Peak Double-precision Compute 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.
Half-rate Double Precision	Unlike competing server cards that are not optimized for double precision, AMD FirePro™ S9100 server GPUs offer high double-precision performance, 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 more than 10 AMD FirePro™ S9100 server GPUs in a single system and leverage the combined processing power to tackle the most compute-intensive workloads.
12GB GDDR5 Memory	Helps to accelerate memory-intensive applications and process larger and more computationally complex workloads with ease.
AMD PowerTune Technology[1]	An intelligent system that performs real-time analysis of applications that utilize a GPU. In the event that an application is not making the most of the power available to the GPU, AMD PowerTune can improve that application's performance by raising the GPU's clock speed by up to 30% - automatically.
AMD STREAM Technology[2]	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 accelerate many applications beyond just graphics.
Ready to Support OpenCL™ 2.0[6]	The AMD FirePro S9100™ server GPU is expected to support 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.

CERTIFIED FOR Windows 7 · Windows 8 · Windows Server 2008 R2 · Windows Server 2012 · Linux · OpenGL · OpenCL · Microsoft DIRECTX

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

AMD◢