# AMD FireStream™

### AMD FireStream<sup>™</sup> 9350

**GPU Compute Accelerator** 





#### AMD FireStream 9350

- → Heterogeneous computing that leverages AMD GPUs and x86 CPUs
- → High performance per watt at 2.9 GFLOPS / Watt
- → Industry's most dense server GPU card <sup>1</sup>
- ightarrow Low profile and passively cooled
- → Massively parallel, programmable GPU architecture
- → Open standard OpenCL™ and DirectCompute²
- → 2.0 TFLOPS, Single-Precision Peak
- ightarrow 400 GFLOPS, Double-Precision Peak
- → 2GB GDDR5 memory
- → Industry's only Single-Slot PCIe<sup>®</sup> Accelerator
- → PCI Express<sup>®</sup> 2.1 Compliant
- → AMD Accelerated Parallel Processing (APP) Technology SDK with OpenCL³
- → 3-year planned availability; 3-year limited warrantu

### High Density Server GPU Acceleration

The AMD FireStream™ 9350 GPU compute accelerator card offers industry-leading performance-per-watt in a highly dense, single-slot form factor. This low-profile GPU card is designed for scalable high performance computing (HPC) systems that require density and power efficiency. The AMD FireStream 9350 is ideal for a wide range of HPC applications across several industries including Finance, Energy (Oil and Gas), Geosciences, Life Sciences, Manufacturing (CAE, CFD, etc.), Defense, and more.

Utilizing the multi-billion-transistor ASICs developed for AMD Radeon™ graphics cards, AMD's FireStream 9350 cards provide maximum performance-per-slot and are designed to meet demanding performance and reliability requirements of HPC systems that can scale to thousands of nodes. AMD FireStream 9350 cards include a single DisplayPort output.

AMD FireStream 9350 cards can be used in scalable servers, blades, PCIe<sup>®</sup> chassis, and are available from many leading server OEMs and HPC solution providers.

Priced competitively, AMD FireStream GPUs offer unparalleled performance and value for high performance computing.

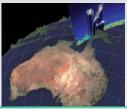


Note: For workstation and server installations that require active cooling, AMD FirePro™ Professional Graphics boards are software-compatible and offer comparable features. Please visit www.amd.com/firepro for more information.



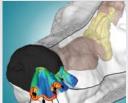
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Features	Benefits
40 nm Fabrication Process, 2.1 Billion Devices	Unprecedented DPFP on a single chip
Up to 18 SIMD Execution Units	2.0 TFLOPS Single Precision
Double Precision Floating Point	Supports high-precision calculations required in many scientific and engineering applications. Critical feature for most HPC applications that is supported in hardware on all AMD FireStream products
Industry Standard OpenCL <sup>™</sup> Software	Industry standard API - Open, multi-platform development platform for enabling broad adoption of heterogeneous computing
PCIe <sup>®</sup> 2.1 Host Interface	8 GB/s Host-GPU bandwidth
150W TDP, 1-slot	Maximum DPFP performance per slot
AMD Technology	Leading performance at low cost

For more information on AMD FireStream<sup>™</sup> GPU products, please visit www.amd.com/FireStream

For more information on software tools and compilers for AMD FireStream and AMD FirePro™ products, please visit the OpenCL™ Zone on AMD's' Developer Central at www.amd.com/developer

For more information on AMD based HPC solutions, please visit www.amd.com/hpc  $\,$ 

Product Specifications		
GPU		
Stream Cores	1440	
SIMD Processors	18	
Core Clock Frequency	700 MHz	
Memory Interface	256-bit	
Peak FLOPS		
Double Precision Floating Point	400 GFLOPS	
Single Precision Floating Point	2.0 TFLOPS	
Memory		
Size / Type	2GB GDDR5	
Memory Bandwidth	128 GB / S	
Memory Clock Frequency	1.0 GHz	
Display Output		
Display Ports	1 x DP 1.1	
Max Resolution	2560x1600 @ 60Hz	
Thermal/Power/Form Factor		
Thermal Solution	Passive heat-sink	
TDP	150W	
Aux. Power Connector	6-pin (2x3)	
System Interface	PCIe 2.1, Single Slot	
Dimensions	4.376" x 9.5"; Single slot	











<sup>&</sup>lt;sup>1</sup> As of 6/6/2011 the AMD FireStream<sup>™</sup> 9350 GPU compute accelerator has the highest Single-Precision Peak Floating Point performance (2.0 TFLOPs) and the most stream processors (1440) of any GPU compute accelerator for servers in a single PCle<sup>®</sup> 2.x slot. The Nvidia Tesla M2090 has Single Precision Peak performance of 1.331 TFLOPs and 512 CUDA<sup>™</sup> (stream) cores in a dual PCle<sup>®</sup> 2.x slot. (Note: Tesla M2090 data at http://www.nvidia.com/docs/l0/105880/DS\_Tesla-M2090\_LR.pdf)

#### Images courtesy of CEI



OpenCL 1.1 Certification expected.

 $<sup>^{\</sup>rm 3}$  Download AMD APP SDK with OpenCL at http://developer.amd.com/gpu/AMDAPPSDK