



## NVIDIA PROFESSIONAL GRAPHICS SOLUTIONS

Accelerate your creativity and expand your innovation with NVIDIA® Quadro®—the world's most powerful workstation graphics. Support for multiple 4K displays, large memory capacity, advanced photorealistic rendering, and flexible multi-GPU configurations lets you tackle the most challenging visual computing tasks effortlessly. Whether you're developing revolutionary products or telling spectacularly vivid visual stories, Quadro gives you the performance to do it brilliantly.



### NVIDIA® Quadro® 3D Workstation Professional Graphics Solutions

Designed and built specifically for artists, designers, and engineers, NVIDIA Quadro GPUs power more than 100 professional applications across a broad range of industries. Professionals trust them to enable their best work using applications such as Adobe® Creative Cloud, Avid Media Composer, Autodesk Suites, Dassault Systemes, CATIA and SOLIDWORKS, Siemens NX, PTC Creo, and many more.



### NVIDIA® Tesla® Co-Processors

NVIDIA Tesla GPU parallel processors are tailored to provide high-performance NVIDIA CUDA® acceleration for your workflow. Designed for professional systems and demanding professional applications, Tesla GPUs perform the complex calculations required for CAE/CFD calculations, seismic processing, ray-traced rendering, compositing, image processing, physics, and effects many times faster than a CPU.



### NVIDIA® Multi-GPU Technology

NVIDIA® Multi-GPU Technology leverages combinations of Quadro and Tesla GPUs to intelligently scale the performance of your application and dramatically speed up your workflow. This delivers significant business impact across industries such as Manufacturing, Media and Entertainment, and Energy Exploration.



### NVIDIA® NVS™ Commercial Graphics Solutions

NVIDIA NVS graphics boards are the standard for multi-display commercial graphics and are built for seamless enterprise deployment. They're the graphics solutions of choice for financial institutions, emergency call centers, digital signage systems, and other mission-critical environments.

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GPU SPECIFICATIONS			PERFORMANCE		DISPLAY TECHNOLOGY										OPTIONS			
NVIDIA® CUDA® Processing Cores <sup>1</sup>	GPU Memory	Memory Bandwidth	Floating-Point Performance: Single Precision (floatops, Peak)	Error Correcting Code (ECC) Memory	Dual-Link DVI <sup>2</sup>	DisplayPort 1.1 <sup>3</sup>	DisplayPort 1.2 <sup>3</sup>	HDMI Via Adaptors	Maximum Active Displays <sup>4</sup>	FSAA (Maximum)	NVIDIA® FXAA™ Antialiasing	NVIDIA® TXAA™ Antialiasing	NVIDIA® SLI®	NVIDIA Quadro® Mosaic Technology	GPUDirect™ for Video	Graphics Synchronization <sup>5</sup>	NVIDIA 3D Vision® /3D Vision Pro <sup>6</sup>	NVIDIA Multi-GPU Technology -Enabled <sup>7</sup>

## Quadro for Desktop Workstations

NEW	Quadro K5200	2,304	8 GB	192 GBps	3,074		2	2	4	64x	•	•	•	•	•	•	•	•
	Quadro K4200	1,344	4 GB	173 GBps	2,072		1	2	3	64x	•	•	•	•	•	•	•	•
	Quadro K2200	640	4 GB	80 GBps			1	2	3	64x	•	•	•	•	•	•	•	•
	Quadro K620	384	2 GB	29 GBps			1	1	2	64x	•	•	•	•	•	•	•	•
	Quadro K420	192	1 GB	29 GBps			1	1	2	64x	•	•	•	•	•	•	•	•
	Quadro K6000	2,880	12 GB	288 GBps	5,196	• <sup>8</sup>	2	2	4	64x	•	•	•	•	•	•	•	•
	Quadro K5000	1,536	4 GB	173 GBps	2,150	• <sup>9</sup>	2	2	4	64x	•	•	•	•	•	•	•	•
	Quadro K5000 for Mac	1,536	4 GB	173 GBps	2,150	• <sup>9</sup>	2	2 <sup>10</sup>	4	64x	•	•	•	•	•	•	•	•
	Quadro K4000	768	3 GB	134 GBps	1,246		1	2	3	64x	•	•	•	•	•	•	•	•
	Quadro K2000	384	2 GB	64 GBps			1	2	3	64x	•	•	•	•	•	•	•	•
Quadro K2000D	384	2 GB	64 GBps			2	1	3	64x	•	•	•	•	•	•	•	•	
Quadro K600	192	1 GB	29 GBps			1	1	2	64x	•	•	•	•	•	•	•	•	
Quadro 410	192	512 MB	14 GBps			1	1	2	32x	•	•	•	•	•	•	•	•	

## Tesla for Desktop Workstations (Co-Processors)

Tesla K40	2,880	12GB	288 GBps	5,040 <sup>11</sup>	•										•			•
Tesla K20	2,496	5 GB	208 GBps	3,520	•										•			•

## Quadro for Mobile and All-in-One Workstations

Quadro K5100M	1,536	8 GB	115 GBps	2,350	• <sup>9</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K4100M	1,152	4 GB	102 GBps	1,600		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K3100M	768	4 GB	102 GBps	1,050		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K2100M	576	2 GB	48 GBps	750		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K1100M	384	2 GB	45 GBps	550		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K610M	192	1 GB	21 GBps	375		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•
Quadro K510M	192	1 GB	19 GBps	325		• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	• <sup>12</sup>	64x	•	•	•	•	•	•	•	•

## NVS for Desktop Workstations

NVS 510	192	2 GB	29 GBps					4	4	4					•			
NVS 315	48	1 GB	14 GBps					2	2	2					•			
NVS 310	48	512 MB	14 GBps					2	2	2					•			

- CUDA parallel processing cores cannot be compared between GPU generations due to several important architectural differences that exist between streaming multiprocessor designs.
- Maximum display resolution: 330M Pixels/sec (ex 2560x1600 @ 60hz or 1920x1200@120Hz).
- Adaptors available for DVI-SL, DVI-DL, HDMI, and VGA. NVS 315 offers DP1.2 through the use of DMS-59 to DP1.2 cable.
- Quadro K4200, K4000, K2200, K2000, and K2000D are equipped with 3 on-board display connectors, while K620, K600 and K420 have

- 2 on-board display connectors with the option to connect a third and/or fourth display using DisplayPort 1.2's new multi-streaming capabilities. 4 Displays require a supported DisplayPort 1.2 Multi-Stream capable hub or displays.
- Quadro K-series GPUs are only compatible with NVIDIA Quadro Sync. Other GPUs listed are compatible only with Quadro G-Sync II.
- Requires 3D Vision-ready display. Visit [www.nvidia.com/3dvision](http://www.nvidia.com/3dvision).
- Quadro K-series GPUs are only compatible with Tesla K20 and K40. Other GPUs listed are compatible only with Tesla C2075.

- Ensures data integrity and reliability by eliminating soft errors on both GPU cache and on-board DRAM.
- Ensures data integrity and reliability by eliminating soft errors on DRAM only.
- On Mac OS X, DisplayPort 1.2 multi-streaming feature is currently not supported. Also available for All-in-One workstations.
- The Single Precision theoretical peak performance for Tesla K40 is calculated for the highest GPU Boost level of 875MHz. For more information on Tesla K40 and GPU Boost visit [www.nvidia.com/tesla](http://www.nvidia.com/tesla)

- Display support will vary by OEM; please see OEM Mobile Workstation platform specifications for details.

For more information on NVIDIA Workstation products, visit [www.nvidia.com/quadro](http://www.nvidia.com/quadro)

