

**PART NUMBER:**  
VCQK420-2GB-PB

**NVIDIA Quadro K420 by PNY**  
SOLID GRAPHICS PERFORMANCE

Accelerate your creativity 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.



The NVIDIA Quadro K420 delivers power-efficient 3D application performance and capability. 2 GB of DDR3 GPU memory with fast bandwidth enables you to create complex 3D models, and a flexible single-slot and low-profile form factor makes it compatible with even the most space and power-constrained chassis. Plus, there’s the DisplayPort 1.2 support for ultra-high resolutions like 3840x2160 @ 60 Hz with 30-bit color and the all-new display engine that drives up to four displays natively.

NVIDIA Quadro is the world’s most advanced visual computing platform for workstations. Much more than a powerful graphics accelerator for sophisticated applications used by professionals, NVIDIA Quadro enables you to create and collaborate in exciting new ways. This makes it the #1 solution for designing, visualizing, and simulating your ideas.

NVIDIA Quadro by PNY GPUs are designed, built, and tested by NVIDIA specifically for professional workstations powering more than 150 professional applications across a broad range of industries, including manufacturing, media and entertainment, sciences, and energy.

**QUADRO K420 - PRODUCT SPECIFICATIONS**

GPU MEMORY	2 GB GDDR3
MEMORY INTERFACE	128-bit
MEMORY BANDWIDTH	29 GB/s
CUDA CORES	192
SYSTEM INTERFACE	PCI Express 2.0 x16
MAX POWER CONSUMPTION	41 W
THERMAL SOLUTION	Ultra-quiet active fansink
FORM FACTOR	68.91 mm (H) x 160.02 mm (L) Single Slot, Low Profile
DISPLAY CONNECTORS	1 x DVH DL, 1 x DP1.2
MAX SIMULTANEOUS DISPLAYS	2 direct, 4 DP 1.2 Multi-Stream
MAX DP 1.2 RESOLUTION	3840 x 2160 @ 60 Hz
MAX DVH DL RESOLUTION	2560 x1600 @ 60 Hz 1920 x1200 @ 120 Hz
MAX DVH SL RESOLUTION	1920 x1200 @ 60 Hz
MAX VGA RESOLUTION	2048 x 1536 at 85 Hz
GRAPHICS APIS	Shader Model 5.0, OpenGL 4.5 <sup>1</sup> , DirectX 11.2 <sup>2</sup>
COMPUTE APIS	CUDA, DirectCompute, OpenCL
PACKAGE CONTENT	- 1 x DP to DVI (SL) adapter P/N: GSP-DPDISL - 1 x DVI to VGA adapter P/N: GSP-DVIVGA - 1 x ATX bracket
PART NUMBER	VCQK420-2GB-PB
EAN NUMBER	3536403345174

<sup>1</sup> Product is based on a published Khronos Specification, and is expected to pass the Khronos Conformance Testing Process when available.

Current conformance status can be found at [www.khronos.org/conformance](http://www.khronos.org/conformance)

<sup>2</sup> GPU supports DX 11.2 API, Hardware Feature Level DX 11.0

## Quadro K420 - TECHNICAL SPECIFICATIONS AND FEATURES

<b>QUAD-DISPLAY SUPPORT</b>	A new display engine drives up to four displays with DisplayPort 1.2 support for ultra-high resolutions like 3840x2160 @ 60 Hz with 30-bit color.
<b>POWERFUL GRAPHICS IN A FLEXIBLE FORM FACTOR</b>	NVIDIA GPU architecture delivers advanced, power-efficient 3D application performance. A flexible single-slot, low-profile form factor with no need for external power connectors makes this card compatible with even the most space and power constrained chassis.
<b>2 GB DDR3 GPU MEMORY WITH FAST DATA TRANSFER</b>	Large GPU memory with fast bandwidth enables the creation of large, complex 3D models.

### Quadro K420 - FEATURES

- DisplayPort 1.2
- DisplayPort with Audio
- DVI-I Dual-Link Connector
- VGA Support
- Professional 3D Support
- NVIDIA GPUDirect™ Support
- NVIDIA nView® Desktop Management Software Compatibility
- HDCP Support
- NVIDIA Mosaic Mode
- Energy Star Enabling

### QUADRO K420 - TECHNICAL SPECIFICATIONS

#### SUPPORTED PLATFORMS

- Microsoft Windows 10 (64-bit and 32-bit)
- Microsoft Windows 8.1 (64-bit and 32-bit)
- Microsoft Windows 8 (64-bit and 32-bit)
- Microsoft Windows 7 (64-bit and 32-bit)
- Linux® - Full OpenGL implementation, complete with NVIDIA and ARB extensions (64-bit and 32-bit)

#### 3D GRAPHICS ARCHITECTURE

- Scalable geometry architecture
- Hardware tessellation engine
- FXAA/TXAA dedicated anti-aliasing engine
- Bindless Textures
- Shader Model 5.0 (OpenGL 4.53 and DirectX 11.2<sup>3</sup>)
- Up to 16K x16K texture and render processing
- Transparent multisampling and super sampling
- 16x angle independent anisotropic filtering
- 32-bit per-component floating point texture filtering and blending
- Up to 64x full scene antialiasing (FSAA)
- Decode acceleration for MPEG-2, MPEG-4 Part 2 Advanced Simple Profile, H.264, MVC, VC1, DivX (version 3.11 and later), and Flash (10.1 and later)
- Dedicated H.264 Encoder
- Blu-ray dual-stream hardware acceleration (supporting HD picture-in-picture playback)

#### PARALLEL COMPUTING CAPABILITIES

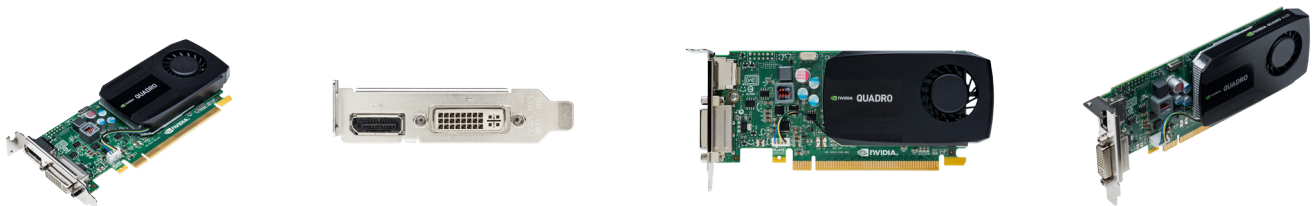
- SMX Architecture (streaming multi-processor design that delivers greater processing and efficiency)
- Support for all the latest CUDA 6 features, including Unified Memory, Dynamic Parallelism and Dedicated Shared Memory
- Programming support for CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Python, and Fortran

#### ADVANCED DISPLAY FEATURES

- Simultaneously run two directly connected displays, each with the full capabilities of the display
- Support up to four displays when using DisplayPort 1.2 Multi-Stream
- DisplayPort 1.2 outputs including Multi-Stream and HBR2 support<sup>3</sup> (capable of supporting resolutions such as 3840x2160 @60Hz)
- Dual-link DVI-I (Supports 330MPixels/sec which enables resolutions like 2560x1600 @ 60Hz and 1920x1200 @ 120Hz)
- Internal 400 MHz DAC DVI-I output (analog display up to 2048x1536 @ 85Hz)
- DisplayPort to VGA, DisplayPort to DVI (single-link and dual-link) and DisplayPort to HDMI cables (resolution support based on dongle specifications)
- HDCP support over DisplayPort, DVI and HDMI connectors
- 12-bit internal display pipeline (hardware support for 12-bit scanout on supported panels, applications and connection)
- Stereoscopic 3D display support including NVIDIA® 3D Vision™ technology, 3D DLP, Interleaved, and passive stereo
- OpenGL and Direct3D quad buffered stereo support
- Underscan/overscan compensation and hardware scaling
- Support for NVIDIA® Quadro® Mosaic, NVIDIA® nView® multi-display technology

#### DISPLAY PORT AND HDMI DIGITAL AUDIO

- Support for the following audio modes: Dolby Digital (AC3), DTS 5.1, Multichannel (7.1) LPCM, Dolby Digital Plus (DD+), and MPEG-2/MPEG-4 AAC
- Data rates of 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176 KHz, and 192 KHz
- Word sizes of 16 bits, 20 bits, and 24 bits



<b>PACKAGE CONTENT:</b>			
- 1 x DP to DVI (SL) adapter	P/N: GSP-DPDISL		
- DVI to VGA adapter	P/N: GSP-DVIVGA		
- 1 x ATX bracket			
- Drivers + Installation Guide			