PART NUMBER:
VCQM5000-PB

NVIDIA Quadro M5000 by PNY
REAL INTERACTIVE EXPRESSION

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.

Take on your most challenging digital prototyping, visual effects, and geophysical or architectural visualization workloads with the graphics horsepower, realism, and interactivity that only NVIDIA® Quadro® can deliver. It's powered by the latest NVIDIA technologies, features large ultra-fast memory, and supports four displays natively with resolutions of true 4K. Enjoy exceptional accuracy and photorealism in your creative workflow by using NVIDIA Iray® technology* to reach new levels of interactive, physically based rendering.

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 M5000 - PRODUCT SPECIFICATIONS

GPU MEMORY	8 GB GDDR5 ECC
MEMORY INTERFACE	256-bit
MEMORY BANDWIDTH	211 GB/s
GPU PROCESSING CORES	2048
SYSTEM INTERFACE	PCI Express 3.0 x16
MAX POWER CONSUMPTION	150 W
THERMAL SOLUTION	Ultra-quiet Active Fansink
FORM FACTOR	112.2 mm (H) x 266.7 mm (L) Dual Slot, Full Height
DISPLAY CONNECTORS	1 x DVI-I DL, 3D Stereo Support[1] 4 x DP1.2 (1 x DP with Audio)
MAX SIMULTANEOUS DISPLAYS	4 direct, 4 DP 1.2 Multi-Stream
MAX DP 1.2 RESOLUTION	4096 x 2160 @ 60 Hz
MAX DVI-I DL RESOLUTION	2560 x1600 @ 60 Hz 1920 x1200 @ 120 Hz
MAX DVI-I SL RESOLUTION	1920 x1200 @ 60 Hz
MAX VGA RESOLUTION	2048 x 1536 at 85 Hz
GRAPHICS APIS	Shader Model 5.0, OpenGL 4.5, DirectX 12[2]
COMPUTE APIS	CUDA, DirectCompute, OpenCL
PACKAGE CONTENT	- 3 x DP to DVI (SL) adapter P/N: QSP-DPDVISL - DVI to VGA adapter P/N: QSP-DVIVGA - Stereo Connector P/N: QSP-STEREOQ4000-PB
PART NUMBER	VCQM5000-PB
EAN NUMBER	3536403345099

[1] Via supplied adapter/connector/bracket
[2] GPU supports DX 11.2 API, Hardware Feature Level DX 11.0

NVIDIA. | PNY®

Quadro M5000 - FEATURES AND TECHNICAL SPECIFICATIONS

DESIGNED FOR EXTREME PERFORMANCE AND POWER EFFICIENCY	Advanced NVIDIA Maxwell™ GPU architecture delivers incredible performance within just 150W to let you unleash your creativity and conquer extreme workloads with ease.
BEYOND 4K	A new display engine drives up to four 4K resolution displays natively (4096x2160 @ 60 Hz with 30-bit color). Pair up two or more outputs to drive displays greater than 4K, and take advantage of NVIDIA Quadro Sync (optional) support to frame-lock multiple displays together.
8 GB ULTRA-FAST MEMORY WITH ECC	Take advantage of the large GPU memory with fast bandwidth to create and render large, complex models and compute massive data-sets, and get ECC support for added reliability.

QUADRO M5000 - FEATURES

- DisplayPort 1.2
- DisplayPort with Audio
- DVI-D Dual-Link Connector
- VGA Support
- Professional 3D Support
- NVIDIA 3D Vision™ Pro
- Quadro Sync Compatibility

- NVIDIA GPUDirect™ Support
- NVIDIA nView® Desktop Management Software Compatibility
- Stereo Connector
- HDCP Support
- NVIDIA Mosaic Mode
- Energy Star Enabling

QUADRO M5000 - TECHNICAL SPECIFICATIONS

SUPPORTED PLATFORMS
- Microsoft Windows 10 (64-bit and 32-bit)
- Microsoft Windows 8 & 8.1 (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
- NVIDIA® GigaThread™ engine with dual copy engines
- Shader Model 5.0 (OpenGL 4.5 and DirectX 12)
- Up to 16K x16K texture and render processing
- Transparent multisampling and super sampling
- 16x angle independent anisotropic filtering
- 128-bit floating point performance
- 32-bit per-component floating point texture filtering and blending
- 64x full scene antialiasing (FSAA)/128x FSAA in SLI Mode
- 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)
- Quadro Boost (Automatically adjusts GPU engine throughput to maximize application performance.)

PARALLEL COMPUTING CAPABILITIES
- SMM Architecture (Maxwell streaming multi-processor design that delivers greater processing and efficiency)
- Dynamic Parallelism (GPU dynamically spawns new threads without going back to the CPU)
- API support includes: CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Java, Python, and Fortran
- Error correction codes (ECC) on graphics memory
- 96 KB of RAM (dedicated shared memory per SM)

ADVANCED DISPLAY FEATURES
- Support for any combination of four connected displays
- Dual DisplayPort 1.2 (supporting resolutions such as 4096x2160 @60 Hz)
- Dual-link DVI-I/DVI-D outputs (up to 2560 x1600 @ 60 Hz and 1920x1200 @ 120 Hz)
- Internal 400 MHz DAC DVI-I output (analog display up to 2048x1536 @ 85 Hz)
- 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 on supported panels, applications and connection)
- NVIDIA 3D Vision™ technology, 3D DLP, interleaved, and other 3D stereo format support
- Full OpenGL quad buffered stereo support
- Underscan/overscan compensation and hardware scaling
- NVIDIA® nView® multi-display technology
- Support for large-scale, ultra-high resolution visualization using the Quadro SVS platformwhich includes NVIDIA Mosaic, NVIDIA Sync and NVIDIA Warp/Blend technologies

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+), andMPEG-2/MPEG-4 AAC

PACKAGE CONTENT:

- 3 x DP to DVI (SL) adapter   P/N: **QSP-DPDVISL**
- 1 x DVI to VGA adapter   P/N: **QSP-DVIVGA**
- 1 x Stereo Connector   P/N: **QSP-STEREOQ4000-PB**
- Drivers + Installation Guide

⊗ NVIDIA. | PNY

PNY Technologies Europe

sales@pny.eu | T: +33 (0)5 56 13 75 75