

**PART NUMBER:**  
VCNVS31ODP-1GB-PB  
VCNVS31ODVI-1GB-PB

**NVIDIA® NVS™ 310 by PNY**  
Productivity Assurance at  
an Exceptional Value

**Boost your enterprise's productivity with the NVIDIA® NVS™ 310 by PNY dual-display professional graphics solution.**

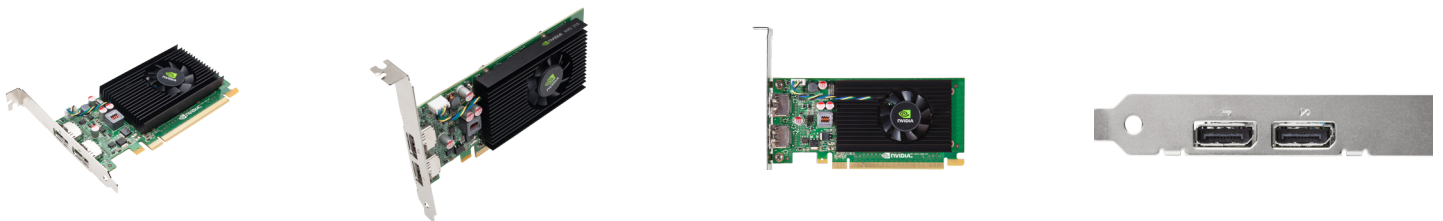


The NVS 310 by PNY graphics board provides a reliable hardware and software platform to enable fast, cost-effective display integration and deployment, in large commercial enterprises across various industries such as financial services, digital signage, education, insurance, government, hospitals and call centers.

Each board features DisplayPort 1.2, NVIDIA® Mosaic technology, and NVIDIA nView® desktop-management software, and can drive up to two 30-inch displays at 2560 x 1600 resolutions. This lets you maximize your productivity by better managing your desktop applications and optimizing your desktop real estate.

Take advantage of extensive enterprise-management tools to seamlessly deploy NVIDIA technology and business applications across your enterprise for maximum uptime. Using a standard WMI-based interface, you can also remotely query and control graphics and display settings for systems spread across your corporate environments.

Every NVS 310 by PNY is tested on leading business applications and designed with the ideal balance of performance and power to meet your most demanding business needs. Enjoy full compatibility with industry-leading business applications such as Microsoft Office, Adobe® Acrobat®, McAfee Virus Scan, Internet Explorer, Google Chrome, and many others.



**NVS 310 - PRODUCT SPECIFICATIONS**

CUDA PARALLEL PROCESSING CORES	<b>48</b>
FRAME BUFFER MEMORY	<b>1 GB DDR3</b>
MEMORY INTERFACE	<b>64-bit</b>
MEMORY BANDWIDTH	<b>14 GB/s</b>
DISPLAY CONNECTORS	<b>Display Port 1.2 (2)</b>
MAX POWER CONSUMPTION	<b>19.5 W</b>
GRAPHICS BUS	<b>PCI Express 2.0 x16</b>
FORM FACTOR	<b>69 mm (H) x 145 mm (L) Low Profile</b>
THERMAL SOLUTION	<b>High-quality, variable-speed fansink</b>
3D VISION / 3D VISION PRO	<b>Support via USB</b>

**NVS 310 FEATURES AND BENEFITS**

<b>LOW-PROFILE AND FLEXIBLE FORM FACTOR</b>	Delivers simplified IT administration and deployment throughout the enterprise. NVS 310 fits into any existing installations without being disruptive, regardless of desktop system (standard tower PC, workstation, small form-factor system) or the display type (LCD, DLP, plasma).
<b>INTELLIGENT POWER MANAGEMENT</b>	Reduces overall system energy costs by intelligently adapting the total power utilization of the graphics subsystem based on the applications being run by the end user. This power-optimized design helps reduce Total Cost of Ownership (TCO) and increases reliability.
<b>NVIDIA ENTERPRISE - MANAGEMENT TOOLS<sup>1</sup></b>	Maximize system uptime by enabling seamless wide-scale deployment. Also, allow remote query and control of graphics and display settings for systems spread across your installations.
<b>DUAL DISPLAYPORT 1.2 DISPLAY CONNECTORS (WITH AUDIO)</b>	Provide compact and secure connectivity for ultra-high-resolution panels (up to 2560 x 1600). These connectors enable maximum range, resolution, refresh rate, and color depth to support the latest display technologies
<b>MULTI-DISPLAY EXPERIENCE WITH NVIDIA® MOSAIC TECHNOLOGY</b>	Offers the ideal solution for seamless taskbar spanning, as well as transparent scaling of any application across up to eight displays. Works over multiple displays or one ultra-high resolution display using a single or multiple NVS graphics cards. <i>Mosaic Technology is supported on Win 7 and Linux only.</i>
<b>NVIDIA NVIEW® DESKTOP SOFTWARE</b>	Delivers maximum flexibility for single large-display or multi-display options. This provides unprecedented end-user control of the desktop experience for increased productivity.

**NVS 310 TECHNICAL SPECIFICATIONS**

**SUPPORTED PLATFORMS**

- Microsoft Windows 7 (64-bit and 32-bit)
- Microsoft Windows Vista (64-bit and 32-bit)
- Microsoft Windows XP (64-bit and 32-bit)
- Linux-x86 and Linux-x86\_64
- AMD64, Intel EM64T
- Solaris
- PCI Express 2.0

**NVIDIA NVS 310 ARCHITECTURE**

- >> Integrated DisplayPort (version 1.2)
- >> PCI Express 2.0 support
- >> 12 pixels per-clock rendering engine
- >> NVIDIA® CUDA® technology capability
- >> Scalable geometry architecture
- >> Hardware tessellation engine
- >> NVIDIA GigaThread™ engine
- >> Shader Model 5.0 (OpenGL 4.1 and DirectX 11)
- >> 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)
- >> Blu-ray dual-stream hardware acceleration (supporting HD picture-in-picture playback)
- >> Compliance with professional OpenGL and DirectX applications

**ADVANCED DISPLAY FEATURES**

- >> **DisplayPort 1.2, HDMI 1.4, and HDCP support**
- >> Two digital displays at resolutions up to **2560 x 1600 @ 60 Hz**
  - > Optionally, for cable-management benefits, use DisplayPort 1.2
  - > Multi-Stream Technology (enables driving maximum of two displays up to 1920 x 1200 @ 60 Hz)

- >> Industry-standard cable adaptors to drive different display types
  - > DisplayPort to DVI-D (Single Link) to drive DVI displays up to 1920 x 1200 @ 60 Hz
  - > DisplayPort to DVI-D (Dual Link) to drive DVI displays up to 2560 x 1600 @ 60 Hz
  - > DisplayPort to HDMI cables to drive HD Displays up to 1920 x 1080 @ 60 Hz
  - > DisplayPort to VGA cables to drive analog (VGA) displays up to 1920 x 1200 @ 60 Hz
- >> Support for integrated audio via DisplayPort and HDMI
- >> Support for multiple-display modes including DualView, Span, and Clone modes

**DISPLAYPORT AND HDMI DIGITAL AUDIO**

- >> Support for the following audio modes:
  - >> Dolby Digital (AC3), DTS 5.1, Dual Channel and Multichannel (7.1) LPCM, Dolby Digital Plus<sup>2</sup>
  - >> DD+, and MPEG-2/MPEG-4 AAC2
  - >> Data rates of 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176 KHz, and 192 KHz
  - >> Word sizes of 16-bit, 20-bit, and 24-bit



**NVIDIA ENTERPRISE-MANAGEMENT TOOLS**

- >> Monitor, access, and configure graphics and display information of remote machines using industry-standard WMI interface<sup>3</sup>
- >> Scriptable using WMI Command Line interface for integration with system-level management tools<sup>3</sup>
- >> Scalable enterprise-class tools to remotely install and configure graphics drivers across your entire organization

**GPU COMPUTING SUPPORT**

- >> NVIDIA CUDA
- >> DirectCompute
- >> OpenACC

**NVS 310 PACKAGE CONTENT:**

<p><b>NVS 310 DP</b></p> <ul style="list-style-type: none"> <li>- Low-Profile Bracket</li> <li>- Drivers</li> <li>- Installation Guide</li> </ul> 	<p><b>NVS 310 DVI</b></p> <ul style="list-style-type: none"> <li>- 2 x DP to DVI (SL) adaptor</li> <li>- P/N: GSP-DPDISL</li> <li>- Low-Profile Bracket</li> <li>- Drivers</li> <li>- Installation Guide</li> </ul> 
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<sup>\*</sup> 88% improvement based on SPEC Viewperf 11 score on Quadro 410 of 17.8 (Xeon 3.3GHz w5590, 24GB RAM, Win7-64, 295.10 driver) compared to Quadro 380LP score of 37.7 (Xeon 3.3GHz w5590, 6GB RAM, Win7-64, 260.79).

<sup>\*\*</sup> 30% improvement based on SPEC Viewperf 11 score on Quadro 410 of 17.8 (Xeon 3.3GHz w5590, 24GB RAM, Win7-64, 295.10 driver) compared to Quadro 400 score of 13.7 (Xeon 3.3GHz w5590, 24GB RAM, Win7-64, 295.10).

SPEC® and the benchmark name SPECViewperf® are registered trademarks of the Standard Performance Evaluation Corporation. Competitive benchmark results stated above reflect results published on www.spec.org as of 12/8/2010. For the latest SPECViewperf® benchmark results, visit www.spec.org/gwpp.

**PNY PROFESSIONAL RANGE OF PRODUCTS - NVS BOARDS**



	NVS 300	NVS 310	NVS 315 <i>New !</i>	NVS 510 <i>New !</i>
<b>GRAPHICS INTERFACE</b>	PCI Express 2.0 x16 PCI Express 2.0 x1	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16
<b>MEMORY</b>	512 MB DDR3	1 GB DDR3	1 GB DDR3	2GB DDR3
<b>MEMORY INTERFACE</b>	64-bit	64-bit	64-bit	128-bit
<b>MEMORY BANDWIDTH</b>	12.6 GB/s	14 GB/s	14 GB/s	28.5 GB/s
<b>CUDA PARALLEL PROCESSING CORES</b>	16	48	48	192
<b>DISPLAY CONNECTORS</b>	DMS59	DP (2)	DMS-59 (1)	mini DisplayPort (4)
<b>MAX. DISPLAYS PER BOARD</b>	2	2	2	4
<b>MAX DISPLAYS IN DP 1.2 STREAM CLONING MODE</b>	N/A	8	8	16
<b>MAX DIGITAL DISPLAY SUPPORT</b>	2560 x1600 (DisplayPort) 1920x1200 (DVI-I)	2560 x 1600 (DisplayPort or DisplayPort to DL-DVI Cable Adaptor)	2560x1600 (DisplayPort)	3840x2160 (DisplayPort)
<b>MAXIMUM POWER CONSUMPTION</b>	17.5 W	19.5 W	19.5W	35 W
<b>THERMAL SOLUTION</b>	Passive	Active	Active	Active
<b>FORM FACTOR</b>	Low-Profile	Low-Profile	Low-Profile	Low-Profile
<b>PART NUMBERS</b>	NVS 300 PCX1 DP : VCNVS300X1DP-PB  NVS 300 PCX16 DP : VCNVS300X16DP-PB	NVS 310 DP: VCNVS310DP-1GB-PB  NVS 310 DVI 1 GB: VCNVS310DVI-1GB-PB	NVS 315 DP: VCNVS315DP-PB  NVS 315 DVI: VCNVS315DVI-PB	NVS 510 DP ONLY: VCNVS510DP-PB  NVS 510 DP and DVI: VCNVS510DVI-PB
<b>EAN</b>	NVS 300 PCX1 DP : 3536403338961  NVS 300 PCX16 DP : 3536403338947	NVS 310 DP: 3536403345198  NVS 310 DVI 1 GB: 3536403345204	NVS 315 DP: 3536403342708  NVS 315 DVI: 3536403342746	NVS 510 DP ONLY: 3536403341909  NVS 510 DP and DVI: 3536403341916