3D Graphics

- 2nd generation unified architecture
  - Up to 240 processor cores
  - Next generation geometry shading and stream out performance
  - Next generation dual issue
  - Next generation HW scheduler
  - NVIDIA GigaThread™ technology with increased number of threads
  - 2x registers
  - Full support for Microsoft DirectX 10.0 Shader Model 4.0 and OpenGL 2.1 APIs
  - Full 128-bit floating point precision through the entire rendering pipeline
- Lumenex™ Engine
  - 16x full screen antialiasing
  - Transparent multisampling and transparent supersampling
  - 16x angle independent anisotropic filtering
  - 128-bit floating point high dynamic-range (HDR) lighting with antialiasing
    - 32-bit per component floating point texture filtering and blending
  - Full speed frame buffer blending
  - Advanced lossless compression algorithms for color, texture, and z-data
  - Support for normal map compression
  - Z-cull
  - Early-Z

Video

- PureVideo HD® Technology
  - Dedicated on-chip video processor
  - High-definition H.264, VC-1, MPEG2, and WMV9 decode acceleration
  - Blu-ray dual-stream hardware acceleration (supporting HD picture-in-picture playback)
  - HDCP capable up to 2560×1600 resolution
  - Advanced spatial-temporal de-interlacing
  - Noise Reduction
  - Edge Enhancement
  - Bad Edit Correction
  - Inverse telecine (2:2 and 3:2 pull-down correction)
  - High-quality scaling
  - Video color correction
  - Microsoft Video Mixing Renderer (VMR) support
  - Dynamic Contrast and Tone Enhancements
NVIDIA Technology
- NVIDIA 2-/3-way SLI® Technology
- NVIDIA PhysX™ Technology
- NVIDIA CUDA™ Technology
  - IEEE 754R double precision support

Display
- Multi-display support
- Two dual-link DVI outputs for digital flat panel display resolutions up to 2560×1600
- Dual integrated 400 MHz RAMDACs for analog display resolutions up to 2048×1536 at 85 Hz
- Integrated HDTV encoder for analog TV-output (Component/Composite/S-Video) up to 1080i resolution
- 10-bit internal display processing
- DisplayPort output support with hardware support for 10-bit per component scanout
- Incorporates HDMI technology for combine video + audio output
- Underscan/overscan compensation and HW scaling

Interfaces
- Designed for PCI Express 2.0 x16 (PCI Express 2.0 devices are backwards-compatible with PCI Express 1.x devices)
- Up to 512-bit GDDR3 memory interface

Power and Thermal Technology
- Advanced power and thermal management for optimal acoustics, power, and performance based on usage
  - Dynamic clock and voltage scaling
  - Clock gating
- NVIDIA HybridPower™ Technology

Operating System Support
- Windows Vista 32/64-bit
- Windows XP / Windows XP 64
- Linux
- FreeBSD x86

Process Technology
- 1.4 billion transistors in 65nm process technology
1 - The number of processor cores may vary by model.

2 - Feature requires supported video software. Features may vary by product.

3 - Playback of HDCP-protected content requires other HDCP-compatible components.

4 - NVIDIA SLI certified versions of GeForce PCI Express GPUs only. A GeForce GPU must be paired with an identical GPU, regardless of graphics card manufacturer. SLI requires sufficient system cooling and a compatible power supply. Visit www.slizone.com for more information and a listing of SLI-Certified components.

5 - Certain GeForce GPUs ship with hardware support for NVIDIA PhysX technology. NVIDIA PhysX drivers are required to experience in-game GPU PhysX acceleration. Refer to www.nvidia.com/PhysX for more information.

6 - Requires external DisplayPort transmitter. 10-bit per component scanout requires future GeForce driver support.

7 - Memory interface width may vary by model.

8 - Requires NVIDIA HybridPower™- enabled motherboard.