**Nvidia GTX 660 GPU Specifications**

Note: The below specifications represent this GPU as incorporated into NVIDIA's reference graphics card design. Clock specifications apply while gaming with medium to full GPU utilization. Graphics card specifications may vary by Add-in-card manufacturer. Please refer to the Add-in-card manufacturers' website for actual shipping specifications.

GPU Engine Specs

Base Clock (MHz) 980

Boost Clock (MHz) 1,097

Texture Fill Rate (billion/sec) 78.4

GPU: GK106

Release Date: 2012-09-13

Interface: PCI-E 3.0 x16

CUDA Cores (Shader processors) 960

Core / Base Clock: 980 MHz

Memory Bandwidth: 144.192 GB/sec

FLOPS: 1,881.6 GFLOPS

Commercial generation name Kepler

Detail

Streaming Multiprocessors (SM) 5

Warp Size 32

Pixel Fill Rate: 23,520 MPixels/sec

Texture Fill Rate: 78,400 MTexels/sec (78.4 Billion

Texels/sec)

Texture Alignment 512B

Total Constant memory 64KB

Shader memory per block 48KB (= local memory)

Max Thread Block dimensions (x,y,z) 1024 \* 1024 \* 64

max Threads per block 1024

Registers per Block 65,536

CUDA Cores per SM 192

Memory Specs

Memory Clock: 3004 MHz (6.0 Gbps, or 6008 DDR)

Memory capacity 2048 MB

Memory Technology GDDR5

Memory Interface Width 192-bit

Memory Bandwidth (GB/sec) 144.2

Display Support

Multi Monitor 4 displays

Maximum Digital Resolution3 4096x2160

Maximum VGA Resolution 2048x1536

YesHDCP

YesHDMI4

One Dual Link DVI-I, One Dual Link DVI-D, One HDMI, One DisplayPortStandard Display Connectors

InternalAudio Input for HDMI

Standard Graphics Card Dimensions:

Length 9.5 inches

Height 4.376 inches

Dual-slot width

Thermal, Power and Design Specs

Maximum GPU Tempurature (in C) 97C

Maximum Graphics Card Power (W) 140W

Minimum System Power Requirement (W) 450W

Supplementary Power Connectors One 6-pin

Max Power Draw 140 W

Noise Level Moderate

Framebuffer 2048,3072 MB

Memory Type GDDR5

Memory Bus width 192 bit

DirectX Compliance 11.0

OpenGL Compliance 3.2

PS (Pixel Shader) / VS (Vertex Shader) Versions 5.0 / 5.0

(each of the two has different hardware requirements and taking both into

account we can determine the overall DirectX version)

Manufacturing transistor dimenions 28 nm

Pipeline Layout SMX

Texture Units 80

Raster Operators 24

Transistor count 2.5 Billion

Feature Support

GPU Boost, PhysX, TXAA, NVIDIA G-SYNC-readyImportant Technologies

Supported Technologies 3D Vision, CUDA, Adaptive VSync,

FXAA, 3D Vision Surround,

SLIOther

Compute Capability 3.0

OpenGL 4.5

Microsoft DirectX 11

Vulkan 1.0

PCI Express 3.0 Bus Support 1 Yes

3D

3D Vision Ready: Yes

Yes 3D Blu-Ray

Yes3D Gaming

Yes3D Photos

1 - GeForce GTX 660 supports PCI Express 3.0. The Intel X79/SNB-E PCI Express 2.0 platform is only currently supported up to 5GT/s (PCIE 2.0) bus speeds even though some motherboard manufacturers have enabled higher 8GT/s speeds.

2 - NVIDIA 3D Vision Surround require two or more graphics cards in NVIDIA SLI configuration, 3D Vision glasses and three matching 3D Vision-Ready displays. See 3D Surround for more information.

3 - 3840x2160 at 30Hz or 4096x2160 at 24Hz supported over HDMI. 4096x2160 (including 3840x2160) at 60Hz supported over Displayport. Support for 4k tiled MST displays requires 326.19 driver or later.

4 - Support for HDMI including GPU accelerated Blu-ray 3D support (Blu-ray 3D playback requires the purchase of a compatible software player from CyberLink, ArcSoft, Corel, or Sonic), x.v.Color, HDMI Deep Color, and 7.1 digital surround sound will be added in a Release 260 driver. Upgrade your GPU to full 3D capability with NVIDIA 3DTV Play software, enabling 3D gaming, picture viewing and 3D web video streaming. See www.nvidia.com/3dtv for more details.

5 - Not applicable to OEM sku - contact OEM for more information.