



## NVIDIA GEFORCE® GTX 680M Module for HP Z1 Workstation

**GC-69V03453-CG**

### GeForce GTX 680M Upgrade Module for HP Z1 Workstation

Designed from the ground up for the HP Z1 Workstation platform, the NVIDIA® GeForce® GTX 680M is the advanced GPU upgrade option available for the Z1 platform. It features the new NVIDIA Kepler architecture, built for speed and efficiency, delivering the best 3D performance HP Z1 Workstation has to offer.

Get maximum visual experience with NVIDIA Adaptive Vertical Sync and turn on lightning-fast antialiasing in a huge variety of games and applications, automatically, with NVIDIA FXAA and TXAA technologies. Feel the difference with NVIDIA PhysX® technology, bringing your Z1 to life with dynamic, interactive virtual environments.

#### PRODUCT SPECIFICATIONS

<b>Form Factor</b>	MXM v3.0 Type B (3.23" × 4.13")
<b>Graphics Controller</b>	N13E-GTX-A2
<b>CUDA Cores</b>	1344
<b>Processor Clock</b>	720 MHz
<b>Texture Fill Rate</b>	80.6 Billion/Sec
<b>Memory</b>	4GB GDDR5
<b>Memory Interface Width</b>	256-bit
<b>Memory Bandwidth</b>	115.2 GB/sec
<b>Connectors</b>	One MXM v3.0 Connector (285-pin)
<b>Maximum Resolution</b>	Z1 Internal Display: 2560x1440, External Display via DP connector; 2560x1600
<b>Shading Architecture</b>	Shader Model 5.0 support
<b>Supported Graphics APIs</b>	DirectX 11 with Shader Model 5.0, OpenGL 4.1
<b>Available Graphics Drivers</b>	Windows 7 32-bit & 64-bit
<b>Power Consumption</b>	100W
<b>Board Dimensions</b>	4.37" × 11" × 1.96"
<b>Board Weight</b>	1.55 lbs
<b>Warranty</b>	One Year Warranty
<b>UPC Code</b>	751492554884
<b>PNY Part Number</b>	GC-69V03453-CG

**4 GB  
GDDR5**

**PhysX™  
by NVIDIA**

**TXAA  
Anti-Aliasing**

**Adaptive V-Sync**

**PNY  
One Year  
Warranty**

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