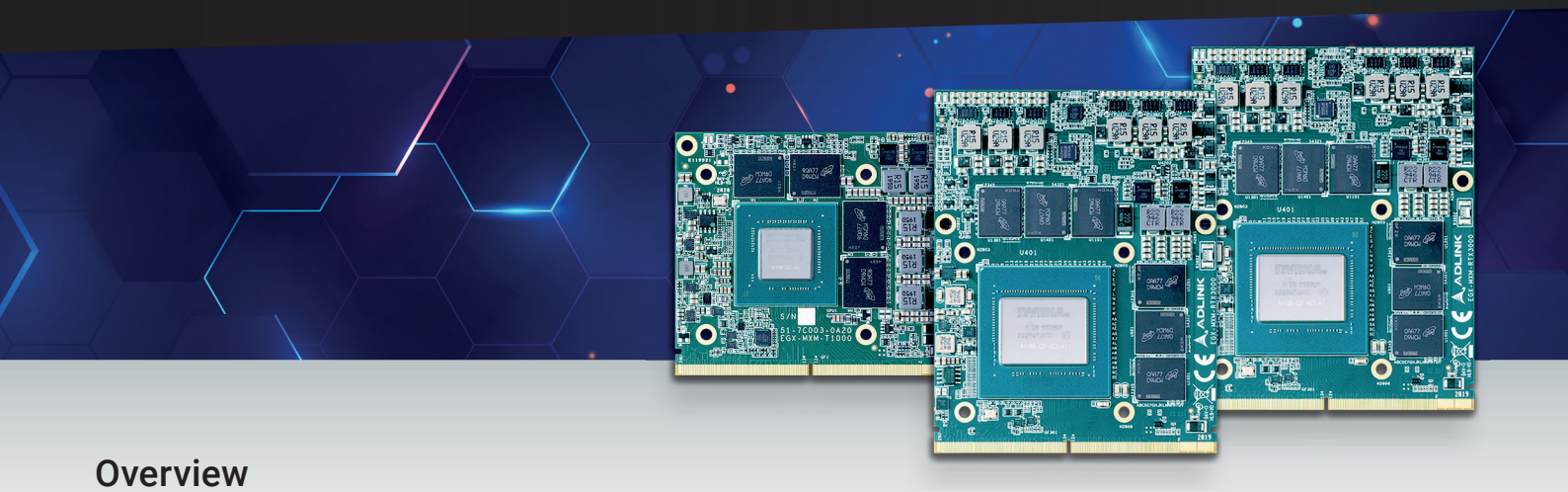
NVIDIA TURING ARCHITECTURE

# Embedded MXM Modules



## Overview

### NVIDIA TURING ARCHITECTURE: PERFORMANCE OPTIMIZATIONS IN AN EMBEDDED MXM FORM FACTOR

CE RoHS compliant

Embedded MXM modules based on the NVIDIA Turing architecture deliver powerful graphics acceleration for a wide range of professional applications including scientific and medical visualization, digital content creation (DCC), artificial intelligence (AI), and machine learning (ML). These modules are designed to meet the demands of embedded systems requiring high computational throughput, real-time ray tracing, and advanced rendering features.

### THE PNY ADVANTAGE

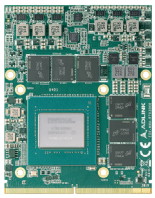
PNY offers a diverse range of NVIDIA® embedded GPU solutions that excel in both performance and power efficiency, while adhering to the highest quality and reliability standards. The latest lineup features products based on the NVIDIA Ampere, Turing, and Pascal architectures.

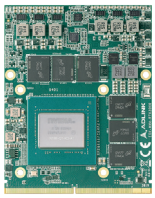
Regardless of the industry, application, or deployment environment, PNY ensures comprehensive support for their NVIDIA professional GPU MXM's. This support includes access to design kits, development software, and various tools to assist you in selecting the most suitable NVIDIA professional GPU solution that aligns perfectly with your specific requirements.

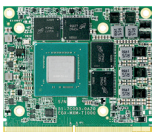
### WARRANTY & SUPPORT

- 2-year warranty
- Pre- and post-sales technical support
- Dedicated Field Application Engineers Professional Solutions
- Direct technical support professionnal solutions hot line

## Key Features







| | Quadro RTX 5000 MXM Type B | Quadro RTX 3000 MXM Type B | Quadro T1000 MXM Type A |
|---|---|---|---|
| **PNY Part Number** | **QRTX5000-KIT** | **QRTX3000-KIT** | **QT1000-KIT** |
| **GPU Memory** | 16GB GDDR6 | 6GB GDDR6 | 4GB GDDR6 |
| **Max Power Consumption** | 80W | 80W | 50W |
| **Connection Type** | Type-B | Type-B | Type-A |
| **Interface** | PCIe 3.0 x8 / x16 | PCIe 3.0 x8 / x16 | PCIe 3.0 x8 / x16 |
| **Cuda Cores** | 3 072 | 1 920 | 896 |
| **GPU Memory Bandwidth** | 448 GBps | 336 GBps | 192 GBps |
| **Peak Graphics Performance** | 9.5 TFLOPS | 5.3 TFLOPS | 3.0 TFLOPS |

NVIDIA TURING ARCHITECTURE

# Embedded MXM Modules

## Specifications

| Model name | Quadro RTX 5000 MXM Type B | Quadro RTX 3000 MXM Type B | Quadro T1000 MXM Type A |
|---|---|---|---|
| **PERFORMANCE & MEMORY** | | | |
| **GPU Model** | NVIDIA Quadro RTX 5000 | NVIDIA Quadro RTX 3000 | NVIDIA Quadro T1000 |
| **GPU Architecture** | Turing with 3 072 CUDA cores and 384 Tensor cores | Turing with 1 920 CUDA cores 30 RT cores and 240 Tensor cores | Turing with 896 CUDA cores |
| **GPU/Boost Clock** | 1 035 MHz, 1 365 MHz | 945 MHz, 1 380 MHz | Not specified in document |
| **Graphics Memory** | 16GB 256-bit GDDR6. 448GB/s memory bandwidth | 6GB 192-bit GDDR6. 336GB/s memory bandwidth. | 4GB 128-bit GDDR6. 128GB/s memory bandwidth |
| **Graphics Performance** | Max. 9.5 TFLOPS peak FP32 | 5.3 TFLOPS peak FP32 | 2.6 TFLOPS peak FP32 |
| **DISPLAY & SOFTWARE** | | | |
| **Display Output** | 5 x DisplayPort 1.4. Max simultaneous 4 output. Max resolution of each port 8K UHD@60Hz | 5 x DisplayPort 1.4. Max simultaneous 4 output. Max resolution of each port 8K UHD@60Hz | 4 x DisplayPort 1.4a. Max resolution of each port 8K UHD@60Hz |
| **Display Features** | Support HDR, HDCP 1.2/1.4 (eDP, LVDS, VGA, USB-C display output are Not supported) | | |
| **Supported API** | DirectX 12.1, Shader Model 5.1, OpenGL 4.6, OpenCL 1.2, Vulkan 1.1 | | |
| **Supported OS** | Windows 10 64-bit, Linux 64-bit | | |
| **ENVIRONMENT & RELIABILITY** | | | |
| **Form Factor** | MXM 3.1 Type B. 82mm(W) x 110mm(L) | MXM 3.1 Type B. 82mm(W) x 105mm(L) | MXM 3.1 Type A. 82mm(W) x 70mm(L) |
| **Weight** | 60.7 grams | 55.7g | 38.6g |
| **Power Consumption** | 110W Total Graphics Power (TGP) | 80W Total Graphics Power (TGP) | 50W Total Graphics Power (TGP) |
| **Cooling System** | Not included. Custom design available on request | Not included | Not included |
| **Ambient - Operating*** | Temperature -10°C ~ +55°C with air flow. Humidity 10% ~ 90%, non-condensing | | |
| **Ambient - Storage** | Temperature -25°C ~ 80°C. Humidity 10 ~ 90%, non-condensing | | |
| **Conformal Coating** | None. Available on request | None. Available on request | Not specified |
| **Packing** | Non-brand bulk pack | | |
| **Compliance** | RoHS 2 | | |
| **MTBF** | Approximately 68 260 hours at 25°C | Approximately 74 423 hours at 25°C | Approximately 89 594 hours at 25°C |

Want to learn more about **PNY Embedded GPUs**?

Visit **https://www.pny.com/en-eu/professional/hardware/NVIDIA-embedded-gpus**

FOR MORE INFORMATION:

Contact your **PNY representative** or email **PNYPRO@PNY.EU**

PNY Technologies Europe, ZAC du Phare, 9 rue Joseph Cugnot, 33708 Mérignac cedex, France I Tel +33 (0)5 40 240 240 I WWW.PNY.EU

* Ambient operating temperature range stated above is based on PC Partner's reference cooler. In customer's system the operating temperature range depends on thermal mechanical design