TAURO TECHNOLOGIES

# TT312 AGX Thor Controller

## For Robotics and Ground Vehicle Applications

### Key Features

- Advanced AI Performance
- zQSFP+ 4x 25G Ethernet
- RJ-45 1G Ethernet
- 2x NVMe M.2 M-Key Slots
- 14-core ARM Poseidon-AE CPU
- 2560 CUDA Core NVIDIA GPU
- 128GB LPDDR5x Memory
- Hardware Security via SE050 TPM

### Applications

- Autonomous Transportation
- Robotics
- Agriculture
- Mining
- UAV

### Overview

The TT312 AGX Thor is an AI computing platform built around the powerful NVIDIA® Jetson AGX Thor™ module, which integrates a 14-core ARM Poseidon-AE 64-bit CPU, an NVIDIA Blackwell Architecture GPU with 2560 CUDA® cores and 96 4th Gen Tensor Cores, and 128GB LPDDR5x DRAM running at 4266 MHz with 273 GB/s bandwidth. Designed for commercial and industrial deployment.

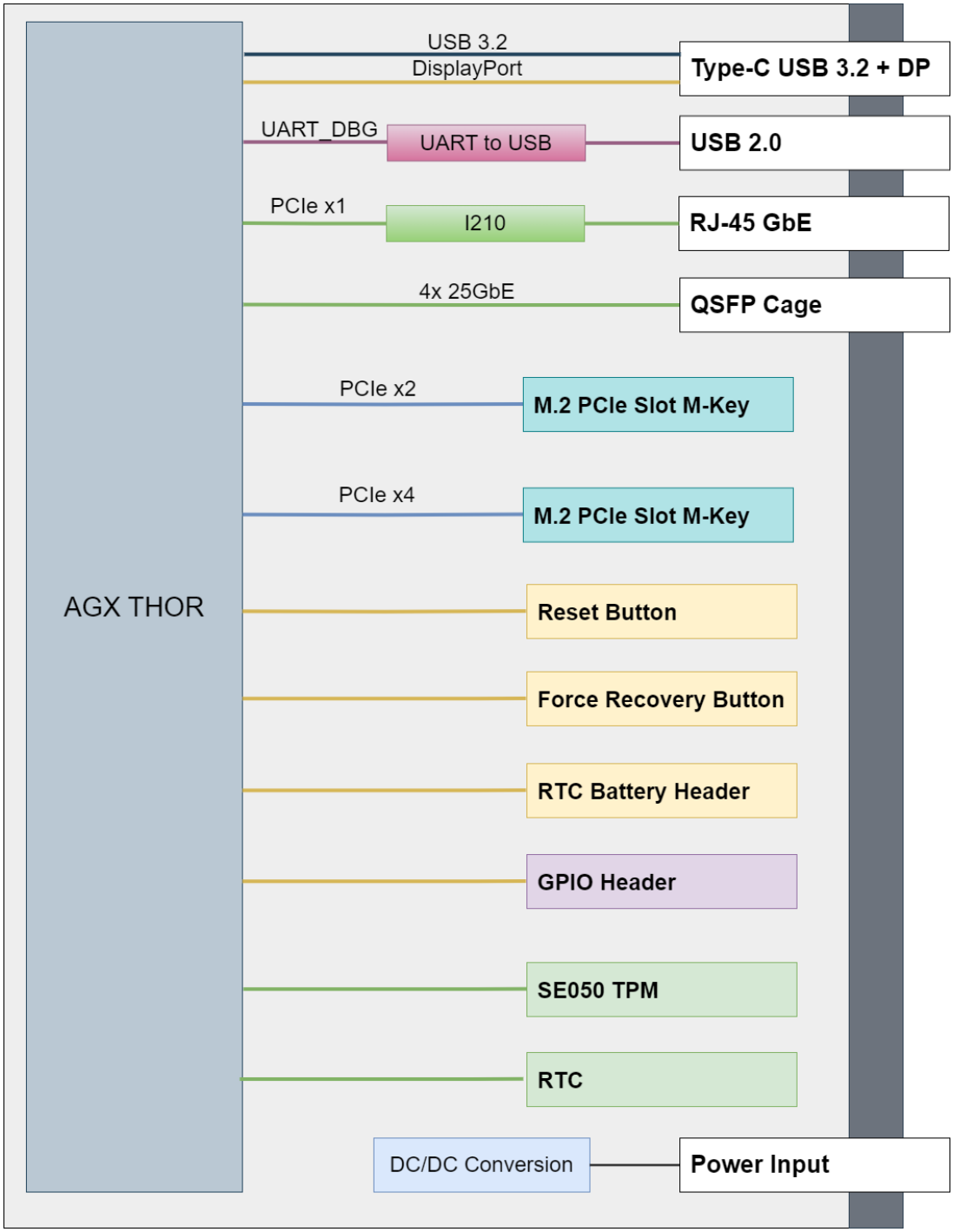
With up to 1050 FP8 TFLOPs/2100 FP4 TFLOPs of AI compute, the TT312 is ideal for high-performance edge inference and real-time video analytics. TT312 provides access to an impressive list of latest generation interfaces on the Jetson AGX Thor while adding additional interfaces of 4x 25GbE, 1x USB 2.0, 3x protected GPIO, 2x M.2 M-Key Slots (PCIe x2 and x4) and USB Type-C for KVM Interface.

The platform integrates the NXP SE050 Secure Element, providing hardware root of trust, secure credential storage, and cryptographic acceleration. With EAL 6+ certification, it ensures strong protection for security-critical AI and IoT applications.
The system supports wide-range 18V–36V DC input and two built-in system control buttons for reset and force recovery.

### Key Advantages

- Powered by NVIDIA Jetson AGX Thor
- NVIDIA Blackwell GPU with 2560 CUDA® cores and 96 4th Gen Tensor Cores
- 14-core Arm® Poseidon-AE CPU with 4MB shared L3 Cache
- 4K Graphics & High-Speed Communication
- 2x M.2 PCIe Expansion Slots (PCIe x2 and x4) for Storage
- Built-in Buttons for System Maintenance and Recovery
- SE050 Secure Element for Secure AI & IoT Operations

## Block Diagram

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## Specifications

| | |
|---|---|
| SOM | NVIDIA® Jetson AGX Thor up to 1050 FP8 TOPS/2100 FP4 TOPS |
| SYSTEM MEMORY | 128GB LPDDR5x 4266MHz 256-bit, 273GB/s |
| DISPLAY INTERFACE | USB Type-C Display Port |
| ETHERNET | 4x 25GbE LAN zQSFP+ Interface |
| | RJ-45 GbE Port |
| I/O | USB 2.0 |
| | USB 3.2 Type-C + DP |
| | 3x Protected General Purpose I/O |
| EXPANSION | M.2 PCIe Slot M-Key PCIe x2 |
| | M.2 PCIe Slot M-Key PCIe x4 |
| ADDITIONAL FEATURES | SE050 TPM |
| | I2C-Integrated RTC |
| INDICATOR | Power LED |
| BUTTON | Reset |
| | Force Recovery |
| OS SUPPORT | Ubuntu 20.04 |
| POWER | 18V to 36V DC input |
| | Maximum 190W total power budget |
| DIMENSION | 82 mm (W) x 112 mm (D) x 20 mm (H) |

## Environmental

| | |
|---|---|
| OPERATING TEMPERATURE | -20°C to 60°C |
| STORAGE TEMPERATURE | -40°C to 85°C |
| HUMIDITY | 10% to 90%, non-condensing |
| VIBRATION | Operating, MIL-STD-810H, Method 514.8, Category 4 |
| SHOCK | Operating, MIL-STD-810H, Method 516.8, Procedure I |
| EMC | Designed to meet FCC, CE and UL certifications, where applicable |

## Ordering Options

| Part Number | Description |
|---|---|
| TT312-100-000-000 | TT312 Carrier Board Only |
| TT312-200-000-000 | TT312 with NVIDIA Jetson AGX Thor 128GB |
| TT312-300-000-000 | TT312 with NVIDIA Jetson AGX Thor 64GB |

The system can be customized for specific customer requirements, contact Tauro Technologies sales for details.

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