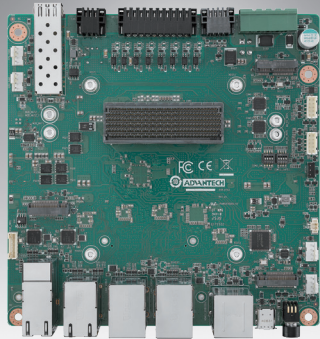


ASR-A702

AMR Control Board Powered by NVIDIA® Jetson Thor™

NEW



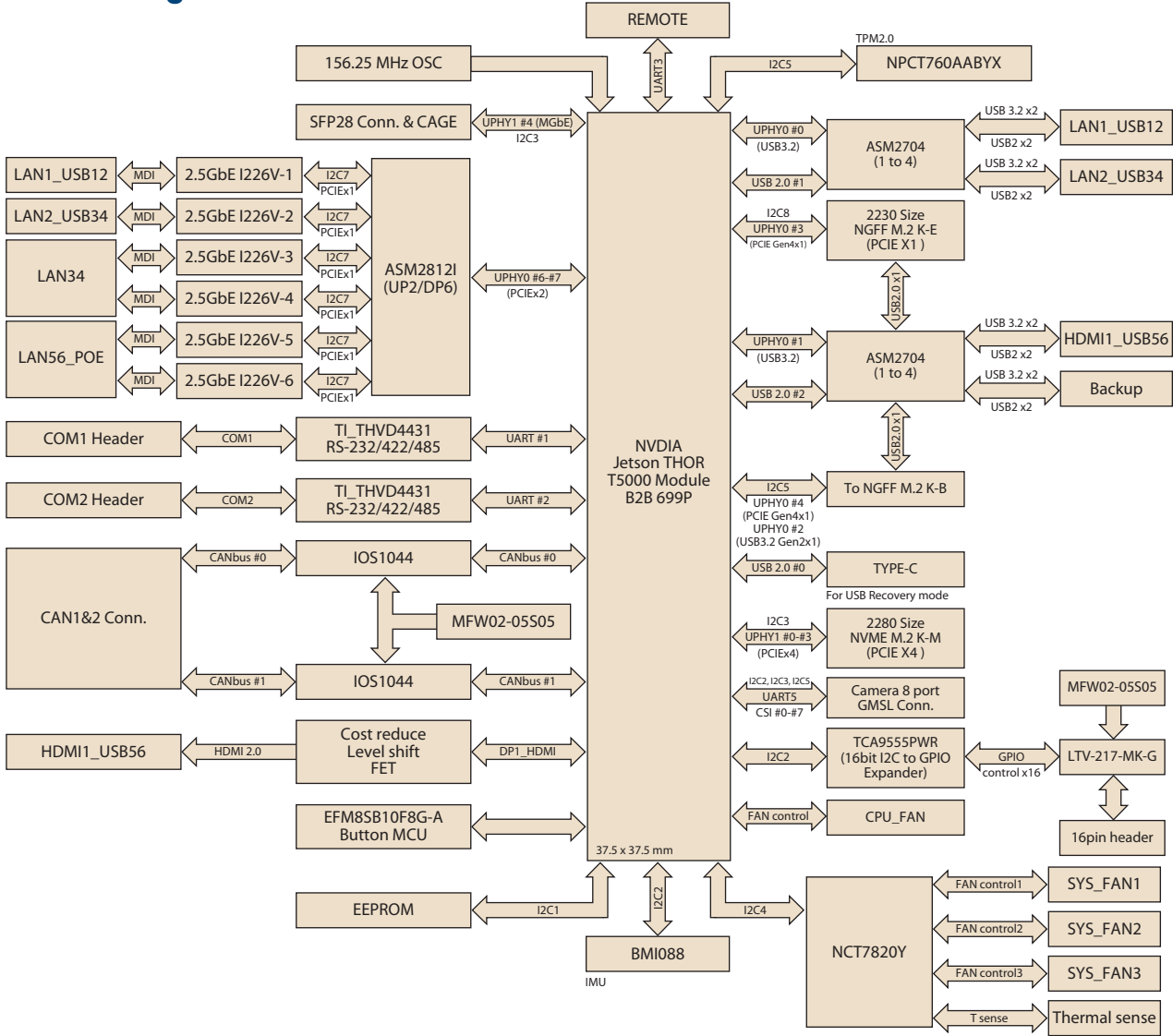
Features

- Powered by NVIDIA Jetson T5000™ and Jetson T4000™, delivering up to 2070 TFLOPS FP4 inference performance
- Dedicated I/Os for Robotics: 6x2.5 GbE, 6xUSB, 2xCOM, DIO, CANFD
- Supports SFP28 1x 10GbE
- Sensor connection for camera, LiDAR, IMU...etc.
- Supports NVIDIA JetPack™ 7.1
- IEC 61000-6-4 Heavy Industry Certificate

Specifications

| | NVIDIA Jetson Thor Module | NVIDIA Jetson T5000 | NVIDIA Jetson T4000 |
|------------------|---------------------------|--|--|
| Processor System | CPU | 14-core Arm® Neoverse®-V3AE 64-bit CPU | 12-core Arm® Neoverse®-V3AE 64-bit CPU |
| | GPU | 2560-core NVIDIA Blackwell architecture GPU with 96 fifth-gen Tensor Cores | 1536-core NVIDIA Blackwell architecture GPU with 64 fifth-gen Tensor Cores |
| | AI Performance Reference | 2070 TFLOPS (FP4—Sparse) | 1200 TFLOPS (FP4—Sparse) |
| | TDP | 40-130W | 40-70 W |
| | Memory | 128GB LPDDR5X, 273 GB/s | 64 GB 256-bit LPDDR5X, 273 GB/s |
| Ethernet | Interface | RJ-45 | |
| | Controller | Intel® i226 | |
| | Speed | 6 x 2.5GbE | |
| SFP28 | Speed | 1 x 10GbE | |
| Display | HDMI | 1 x HDMI 2.0 (Max. resolution 3840 x 2160 @ 60Hz) | |
| IO Ports | USB | 6 x USB 3.2 Type A | |
| | OTG USB | 1 x Type C USB (for system recovery only) | |
| | CANBus | 2 x isolated CANFD | - |
| | DI/DO | 16bit isolated DIO | |
| | COM | 2 x RS232/422/485 | |
| | Remote switch | LED/WDT/PWS/GND/RESET/Debug | |
| Expansion | M.2 E key | 1 x 2230 | |
| | M.2 B key | 1 x 3042/3052 (PCIex1, USB, SIM) | |
| | GMSL | 8 x FAKRA (Optional) | |
| | IMU | BOSCH BMI088 6-axis (Optional) | |
| Others | TPM | TPM2.0 | |
| | Time Sync | Supports GPS PPS signal (optional) | |
| Storage | M.2 M key | 1 x M.2 2280 | |
| Power | Power Supply voltage | 20-28V | |
| | Power Type | ATX/AT mode, ATX default | |
| Environment | Operational Temperature | -10 ~ 55°C with 0.7 m/s air flow | |
| | Operating Humidity | 95% @ 40 °C (non-condensing) | |
| | Vibration | 3.5 Grms @ 5 - 500 Hz, random, 1 hr/axis | |
| Mechanical | Dimensions (W x D x H) | 170 x 170 mm | |
| | Weight | 305g | |
| Operating System | | Ubuntu 24.04 LTS with NVIDIA JetPack 7.1 | |
| Software Support | ROS2 | Ready by Advantech Robotic Suite | |
| Certifications | EMC/Safety | CE/FCC Class B | |

Block Diagram



Front I/O View



Rear I/O View



Ordering Information

| Part No. | Description |
|------------|--------------------------|
| 968DD00531 | NVIDIA Jetson Thor T5000 |

| Part No. | Description | Module | Memory | NVME | HDMI | 2.5 GbE | 10 GbE | USB | CANBus | COM | DIO | Power input | Made in |
|----------------|----------------------------|----------|----------|----------|------|---------|--------|--|--------|-----|-------|-------------|---------|
| ASR-A702-X1A1U | built in AGX Thor | T5000 | 128GB | 512GB | 1 | 6 | 1 | 6 x Type A 1 x Type C (for system recovery only) | 2 | 2 | 16bit | 20~28V | Taiwan |
| ASR-A702-X0A1U | Carrier Board for AGX Thor | Optional | Optional | Optional | 1 | 6 | 1 | 6 x Type A 1 x Type C (for system recovery only) | 2 | 2 | 16bit | 20~28V | Taiwan |

Packing List

| Part Number | Description |
|--------------------|--------------------------|
| 968DD00531 | NVIDIA Jetson Thor T5000 |
| 1970006342T001 | Cooler |
| 1970006335T001 | Heatsink |
| SQF-C8BV2-512GDEDM | NVME SSD |
| - | BSP |
| 1931000590 | Screw |
| 1920001677-01 | Washer |
| 1652008233-01 | CANBUS terminal plug |
| 1652008720-01 | DIO terminal plug |
| 1652008721-01 | LED&remote terminal plug |

Optional Item for Default SKU

| Part Number | Description |
|-------------------|---------------------------------------|
| AFE-RM04-8PA1 | 8ports GMSL board |
| MIOE-PSE-DPA1 | PoE Module, A1 dual 15.4W w/ Heatsink |
| 96PSA-A330W24P4-3 | AC to DC Adapter, DC 24V 330W |
| 1700035844-01 | COM cable, 9P(M)/2x5P-2.0 25cm |
| 1751000759-01 | FAKRA Cable 1M, Z Type |
| 1702002600 | Power cable 3-pin 183cm, USA type |
| 1702002605 | Power cable 3-pin 183cm, EU type |
| 1702031801 | Power cable 3-pin 183cm, UK type |
| 1700000237 | Power cable, 3-Pin 183cm, PSE type |
| 1700036551-01 | Cable for SFP28 |

Compatible Sensors List

For comprehensive hardware integration details, please [visit the Sensor Selector](#)