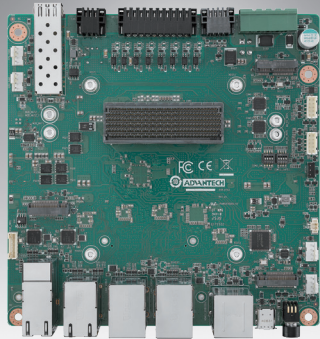


# ASR-A702

## AMR Control Board Powered by NVIDIA® Jetson Thor™

Preliminary



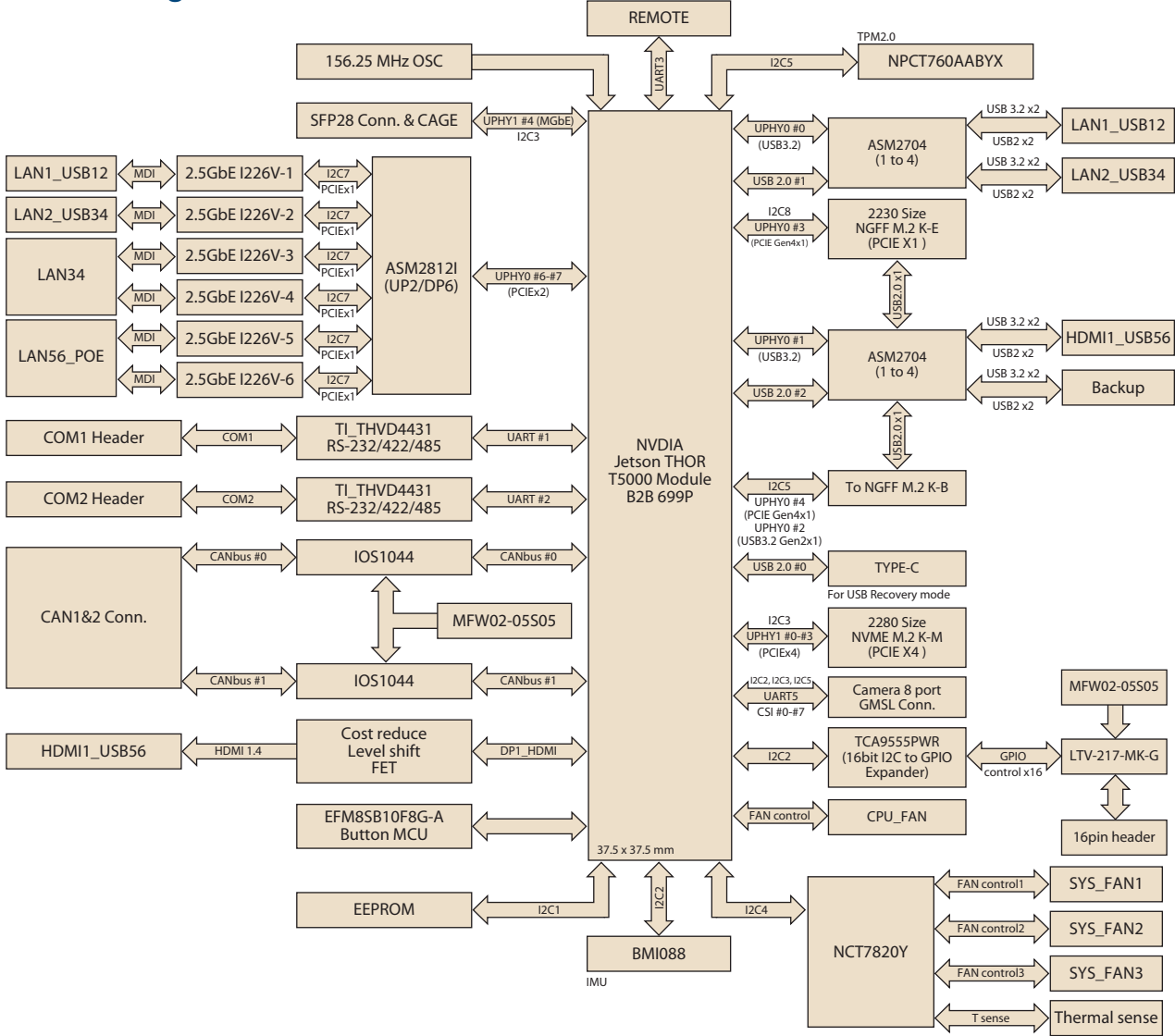
### Features

- Powered by NVIDIA Jetson T5000™ and Jetson T4000™, delivering up to 2070 TFLOPS FP4 inference performance
- Dedicated I/Os for Robotics: 6xGbE, 4xUSB, 2xCOM, DIO, CANFD
- Supports SFP28 1x 10GbE
- Sensor connection for camera, LiDAR, IMU...etc.
- Supports NVIDIA JetPack™ 7.0
- IEC 61000-6-4 Heavy Industry Certificate
- Supports Advantech Robotic Suite

### 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 @ 24Hz)	
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 2280/3042/3052 (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 7.0	
Software Support	ROS2	Ready by Advantech Robotic Suite	
Certifications	EMC/Safety	CE/FCC Class B, CB, UL, CCC and BSMI (No RED Certificate)	

**Block Diagram**



**Front I/O View**



**Rear I/O View**



## Ordering Information

Part No.	Description
968DD00531	NVIDIA Jetson Thor T5000

Part No.	Description	Memory	NVME	HDMI	2.5 GbE	10 GbE	USB	CANBus	COM	DIO	Power input	Made in
ASR-A702-X1A1U	Carrier Board for AGX Thor	128GB	SQF-C8BV2-512GDEDM	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

## 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