

## Edge AI Box NeoEdge NG4500 Series

Powered by NVIDIA®  
Jetson Orin™ Platform



### Introduction

CamThink NG4500 series is a high-performance edge AI box capable of powerful edge computation with the integration of NVIDIA® Jetson Orin™ NX/Nano core modules while being compatible with the NVIDIA® Super Developer Kit, achieving up to 1.7x performance boost. Featuring a fanless chassis design and an extensive range of I/Os, the NG4500 is an ideal solution for diverse AIoT deployments. With NVIDIA® JetPack 6.0+ and 12-36V DC-in support, it streamlines the adoption of mainstream VLMs, LLMs, and deep learning AI models.



**Powerful AI at the Edge:** Powered by NVIDIA® Jetson Orin™ Platform, delivering up to 157 TOPS computation power.



**Simplified Integration:** Offering hardware development toolkits for the implementation of mainstream LLMs, VLMs, MLLMs AI models, etc.



**Ultra-compact and Industrial-grade Hardware Design:** Durable and scalable for rapid PoC implementation, fanless design with wide operating temperature range from -25°C to 60°C.



**Diverse AI-powered Scenarios:** Ideal for Smart Manufacturing, Robotic Systems, Healthcare, Smart Cities, etc.

### Compatible with Mainstream AI frameworks

#### AI Models:



Open AI



DeepSeek



Gemini



Ollama



Meta/Llama



Azure(SpeechT5)



Qwen-VL

#### AI Frameworks:



Mistral AI



TensorFlow



PyTorch



Open CV



Specifications

| Model Name                 | NG4510                                                                                 | NG4511                | NG4520                                                  | NG4521               |
|----------------------------|----------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------|----------------------|
| System Core                |                                                                                        |                       |                                                         |                      |
| Module                     | Jetson Orin™ Nano 4GB                                                                  | Jetson Orin™ Nano 8GB | Jetson Orin™ NX 8GB                                     | Jetson Orin™ NX 16GB |
| Computation                | 20TOPS                                                                                 | 40TOPS                | 70TOPS                                                  | 100TOPS              |
| Computation (Super Mode)   | 34TOPS                                                                                 | 67TOPS                | 117TOPS                                                 | 157TOPS              |
| GPU                        | 512 NVIDIA® CUDA® cores   16 Tensor cores                                              |                       | 1024 NVIDIA® CUDA® cores   32 Tensor cores              |                      |
| CPU                        | 6-core Arm® Cortex® A78AE (64-bit) HMP 2x Clusters                                     |                       | 8-core Arm® Cortex® A78AE v8.2 (64-bit) HMP 2x Clusters |                      |
| Memory                     | 4G                                                                                     | 8G                    | 8G                                                      | 16G                  |
| DRAM Bandwidth             | 64-bit LPDDR5 DRAM 34 GB/s   51 GB/s                                                   |                       | 128-bit LPDDR5 DRAM 3200 MHz 102 GB/s                   |                      |
| Network connection         |                                                                                        |                       |                                                         |                      |
| Wired                      | Ethernet 2 x RJ45 (1000Mbps Ethernet)                                                  |                       |                                                         |                      |
| Wireless                   | Optional Wi-Fi Halow/4G/5G                                                             |                       |                                                         |                      |
| Bluetooth                  | Bluetooth 5.0                                                                          |                       |                                                         |                      |
| Interfaces                 |                                                                                        |                       |                                                         |                      |
| USB                        | 4 x USB3.1, 1 x Type-C 4x Type-A(USB3.1), 1x Type-C(USB3.2)                            |                       |                                                         |                      |
| I/O Connector              | 4 x DI, 4 x DO, 4 x GND_DI, 4 x GND_DO, 1 x CAN, 1 x RS232, 1 x RS485, 1 x DC 5V Power |                       |                                                         |                      |
| HDMI                       | x 1                                                                                    |                       |                                                         |                      |
| Audio                      | 1 x Audio Jack (Mic Input + Audio L/R output)                                          |                       |                                                         |                      |
| SIM                        | 1 x Nano SIM Slot                                                                      |                       |                                                         |                      |
| Storage                    | 1 x M.2 Key M PCIe4_Gen3 SSD (NVMe 2280 SSD 256G included)                             |                       |                                                         |                      |
| Operating System           | Linux (Supports JetPack 6.2 Super Developer Kit)                                       |                       |                                                         |                      |
| Indicator                  | 1 x Power LED, 1 x Wi-Fi LED<br>1 x 4G LED, 1 x Ethernet LED                           |                       |                                                         |                      |
| Power Supply               |                                                                                        |                       |                                                         |                      |
| Power                      | DC input 12V-36V, Peak Power 120W                                                      |                       |                                                         |                      |
| Operation                  |                                                                                        |                       |                                                         |                      |
| Temperature                | -25° C to 60° C                                                                        |                       |                                                         |                      |
| Storage                    | -40° C to 85° C                                                                        |                       |                                                         |                      |
| Dimension and Installation |                                                                                        |                       |                                                         |                      |
| Dimension & Weight         | 160 x 125 x 75 mm, metal housing, 1.9 KG                                               |                       |                                                         |                      |
| Installation               | Desk, Wall mounting, DIN frame                                                         |                       |                                                         |                      |
| Certifications             | CE/FCC/RoHs                                                                            |                       |                                                         |                      |



## Standard Accessories

| SKU                    | Item                       | Quan. | Description                                        |
|------------------------|----------------------------|-------|----------------------------------------------------|
| 101304001              | Power Adapter              | 1     | 20V@5A, 120W                                       |
| 101612001<br>101612002 | Industrial Terminal Blocks | 2     | 16-pin male terminal,<br>8-pin male terminal       |
| 101114001<br>101114002 | Mounting Brackets          | 2     | Wall mounting bracket<br>Din-rail mounting bracket |

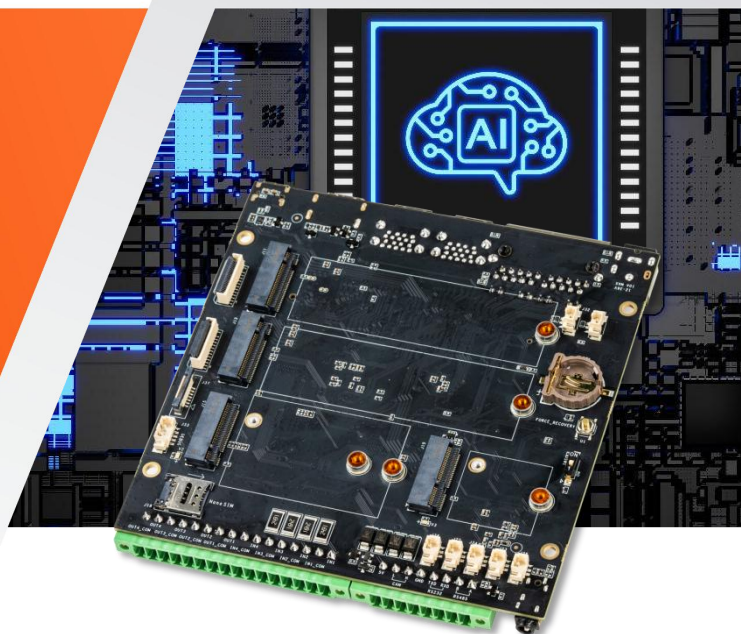
## Optional Accessories

| SKU                                              | Item                       | Quan. | Description                                                                                                                                 |
|--------------------------------------------------|----------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 100711001<br>100711002<br>100711003              | SSD (Selective)            | 1     | SSD PCIe Gen3.0x4, 256GB<br>SSD PCIe Gen3.0x4, 512GB<br>SSD PCIe Gen3.0x4, 1T                                                               |
| 100608001                                        | Wi-Fi Module               | 1     | 6221M-PUC dual-band Wi-Fi and Bluetooth 5.0 module                                                                                          |
| 100606001                                        | 4G Module + Antenna        | 1     | Quectel EM05 EM05-G 4G M.2 module, compatible with Europe, USA, China, Japan, Australia, and other major regions                            |
| 100605001                                        | 5G Module + Antenna        | 1     | Quectel RM520N-GL 5G M.2 module, compatible with major global regions                                                                       |
| 100910001                                        | Cooling Fan                | 1     | Cooling fan kit, compatible with NG45XX carrier board                                                                                       |
| 100409001                                        | Sony Camera Module         | 1     | SONY IMX219 3280*2464 1/4' 1.12um                                                                                                           |
| 100409002                                        | Raspberry Pi Camera Module | 1     | SC0870 Raspberry Pi M12 High Quality Camera                                                                                                 |
| 101813001<br>101813002<br>101813003<br>101813004 | Power Cable (Selective)    | 1     | Standard 3-core power cable 1.5m, default European standard<br>250V,10A, China<br>250V,10A, EU<br>125V,10A, Americas<br>250V,10A, Australia |

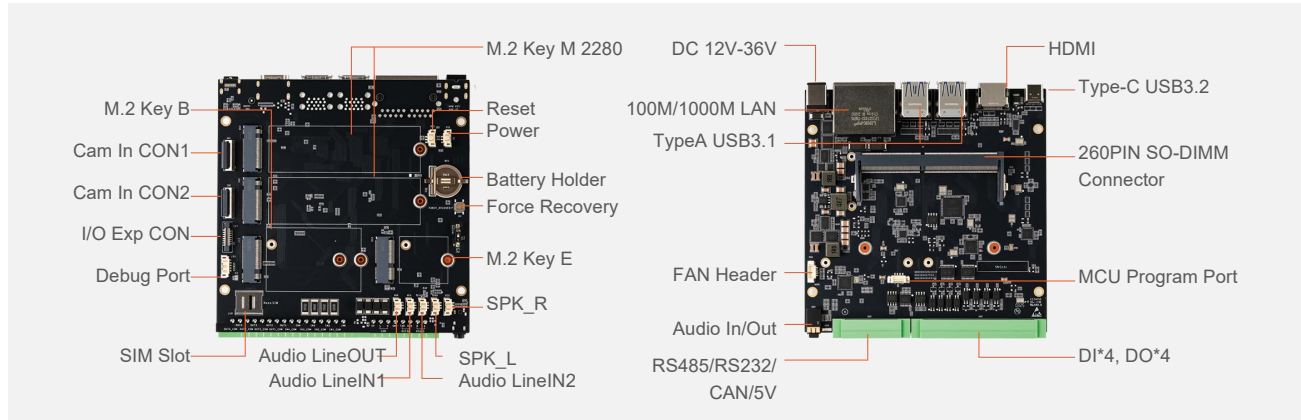


## Edge AI Box Carrier Board

NeoEdge NG4500-CB01



CamThink NG4500-CB01 is an extendable carrier board designed for the edge AI box NG4500 that requires differentiated computation power. The carrier board is compatible with NVIDIA® Jetson Orin™ Nano/NX platforms, and supports NVIDIA® Super Developer Kit, providing powerful edge AI computing capabilities. It is equipped with rich interfaces to simplify AI development and prototyping, suitable for application scenarios such as machine vision, industrial automation, robotics, and AIoT.



### Key Features

-  Open-frame carrier board exposing all the available I/Os, and a range of accessories for fast development.
-  Rich interfaces for various applications: Ethernet port, USB 3.1, Type-C, RS232/RS485, CAN, HDMI, audio, video, etc.
-  Industrial-grade design: wide voltage input (12-36V) and wide operating temperature ranges from -25°C to 60°C, utilizes passive cooling techniques for fanless design.



# Specifications

| Model Name            | NG4500-CB01                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| I/Os                  |                                                                                                                         |
| Ethernet              | 2 x RJ45 (1000Mbps)                                                                                                     |
| USB                   | 4 x Type-A (USB3.1), 1 x Type-C (USB3.2)                                                                                |
| Multi-functional port | 4 x DI, 4 x DO, 4 x GND_DI, 4 x GND_DO, 1 x CAN, 1 x RS232, 1 x RS485, 1 x DC 5V Power (GND and RS232 shared Interface) |
| HDMI                  | 1 x HDMI                                                                                                                |
| Audio                 | 1 x Audio Jack (Mic Input +AudioL/R output)                                                                             |
| Button                | 1 x Power Button, 1 x Reset Button                                                                                      |
| Extensions            |                                                                                                                         |
| SIM Card Slot         | 1 x Nano SIM Slot                                                                                                       |
| RTC                   | 1* CR2032 RTC Battery                                                                                                   |
| Fan                   | 1 x Fan Connector (5V PWM)                                                                                              |
| Communication         |                                                                                                                         |
| M.2 Key B             | M.2 Key B 2242/2252 support 4G/5G/Wi-Fi Halow (Module Optional)                                                         |
| M.2 Key E             | M.2 Key E 2230 support Wi-Fi/Bluetooth                                                                                  |
| Storage               |                                                                                                                         |
| SSD 1                 | 1 x M.2 Key M PCIe*4_Gen3 SSD , 1 x M.2 Key M PCIe*1_Gen3 SSD                                                           |
| SSD 2                 | 1 x M.2 Key M PCIe*4_Gen4 SSD , 1 x M.2 Key M PCIe*1_Gen4 SSD                                                           |
| LED Indicator         | 1 x Power LED, 1 x Wi-Fi LED, 1 x 4G LED                                                                                |
| Power Supply          | DC input 12V-36V                                                                                                        |
| Mechanical            |                                                                                                                         |
| Dimension             | 125 x 125 x 23mm                                                                                                        |
| SMA Antenna Connector | 6                                                                                                                       |
| Operating Temperature | -25° C to 70° C                                                                                                         |

## Developer Supports and Services



Open frame carrier board and software guide



Tutorials for the LLMs integration on NG4500



Community support for AI developers

