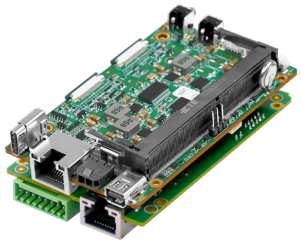
AIR6N0-C-MB NX OOB MK2

Card Size AI Edge with Multi AIoT Expansion

YUAN
Visualize Intelligent Planet

Features

- Powered by NVIDIATM Jetson Orin™ NX up to 100 / 70 TOPS
- OOB Connection via Wifi / 4G / RJ45
- Business Card Size
- 2×M.2, 8×MIPI CSI-2 Lanes and RS232 / RS485 / GPIO
- 1×USB3.2 Gen2
- 1×Mini DisplayPort



Specifications

System		
CPU	NVIDIA Jetson Orin™ NX 8GB 6-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 1.5MB L2 + 4MB L3	NVIDIA Jetson Orin™ NX 16GB 8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3
GPU	1024-Core NVIDIA Ampere Architecture GPU with 32 Tensor Cores	
AU Performance	NVIDIA Jetson Orin™ NX 8GB 70 TOPS	NVIDIA Jetson Orin™ NX 16GB 100 TOPS
System Memory	NVIDIA Jetson Orin™ NX 8GB 8GB LPDDR5	NVIDIA Jetson Orin™ NX 16GB 16GB LPDDR5
Interface		
Storage	Supports External NVMe	
Display Interface	1×Mini DP1.4	
Ethernet	1×RJ45 for 10/100/1000Mbps Ethernet DHCP Client	
Expansion Slot	1×M.2 2230 M Key PCIe Gen4×2 Slot 1×M.2 2230 E Key PCIe Gen4×1 Slot	
USB	1×USB3.2 Gen2 (Type-C)	
MIPI	2×4MIPI CSI-2 Lanes (D-PHY 2.1, Support MIPI Camera, Capture Card)	
Peripheral Communication	10 Pin Header 1×USB2.0 4×GPIO 1×I2C 6 Pin Wafer 1×UART(*) 2×5 Pin Header 3×GPIO 1×I2C 8 Pin Phoenix Connector (CON6) 1×GPIO 1×UART(*) 1×I2C * Please select either 6 Pin Wafer UART or 8 Pin Phoenix Connector UART to use	
Misc. Features	Firmware Upgradable	

OOB Specifications

Out-Of-Band Management Functions	
Allxon swiftDR for Power Cycling	Edge Device Force Shutdown Edge Device Power Switch ON/OFF Edge Device Power ON/OFF Detection Edge Device Reset
Extension I/O	1×I2C 1×UART 1×GPIO
Out-Of-Band Management Network Interface	
Ethernet	1-port 10/100 Mbps RJ45 Port
Wireless	Support 4G LTE Module with SIM Card Slot & Wi-Fi USB Dongle

Remote Management Enrollment

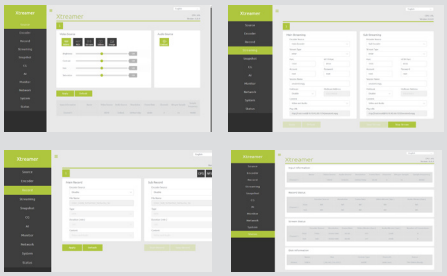
VPP6N0-S NX OOB MK.2 supports Allxon's remote edge AI device management solutions to assist users in overcoming the challenges encountered during the AI/IoT projects. To get started with Allxon's various solutions, follow the instructions with the web page below to activate different Allxon services according to your needs.

OOB Management Introduction

Getting Start with Remote Management

SDK/Software

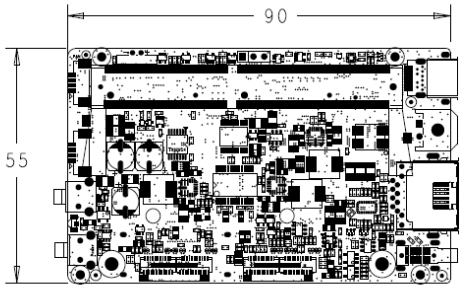
Video Feature	
Video Encode	AV1 (UHP) 1×4K60 | 3×4K30 | 6×1080p60 | 12×1080p30 H.265 (UHP) 1×4K60 | 3×4K30 | 6×1080p60 | 12×1080p30 H.264 (UHP) 1×4K60 | 2×4K30 | 5×1080p60 | 11×1080p30
Video Decode	AV1 (Main Profile) 1×8K30 | 2×4K60 | 4×4K30 | 9×1080p60 | 20×1080p30 H.265 (Main, Main10) 1×8K30 | 2×4K60 | 4×4K30 | 9×1080p60 | 18×1080p30 H.264 (Baseline, Main, High) 1×4K60 | 2×4K30 | 5×1080p60 | 11×1080p30 VP9 (Profile 0, Profile 2) 1×4K60 | 3×4K30 | 7×1080p60 | 15×1080p30
SDK	
QCAP	Capture High Performance Renderer Image Snapshot Deinterlace, Alpha Blending Engine Auto Signal Detection 2D/3D Video, Audio and VANC Streams Capture Record Encrypt / Sync / Clone / Recording Time-Shifting / Rewind / Pre-Event / Recording Multi-Streams (3D) Recording Animation Transition Effect Video Cropping, Scaling and Alpha Blending Engine Stream 2D/3D Universal Stream Client 2D/3D Multi-Streams Stream Server RTSP, RTMP, HLS, SRT, TS, WebRTC. NDI-HX (*), Full NDI (*), Dante AV-H (*) Animation Transition Effect Video Cropping, Scaling and Alpha Blending Engine *Separate License Required
QDEEP	AI SDK Integrated Multiple Algorithms and Deep-Learning Models in Various Fields of Applications Face Recognition Objects Detection Objects Segment Optical Character Recognition License Plate Recognition Customizable Video AI Functions Upon Request
Software (Optional)	
Xtreamer	Web Based User Interface Encode / Decode AV1, H.26X Color Format Adjust 444 / 422 / 420, 10Bit / 8Bit Select Record MP4, TS Stream / Network RTSP, RTMP, HLS, SRT, TS, WebRTC. NDI-HX (*), Full NDI (*) Dante AV-H (*) *Separate License Required



Environment

Development Environment	
OS	Ubuntu: 20.04
Kernel	5.10.104-tegra or Higher
BSP	Linux for Tegra(L4T) R35.3.1 or Higher
SDK	JetPack 5.1.1 or Higher
Environment	
Power Supply	DC input : 9~24V
Power Consumption	TBA
Operating Temperature	Standard Version: 0~60 ° C with Airflow
Storage Temperature	-20~80 ° C

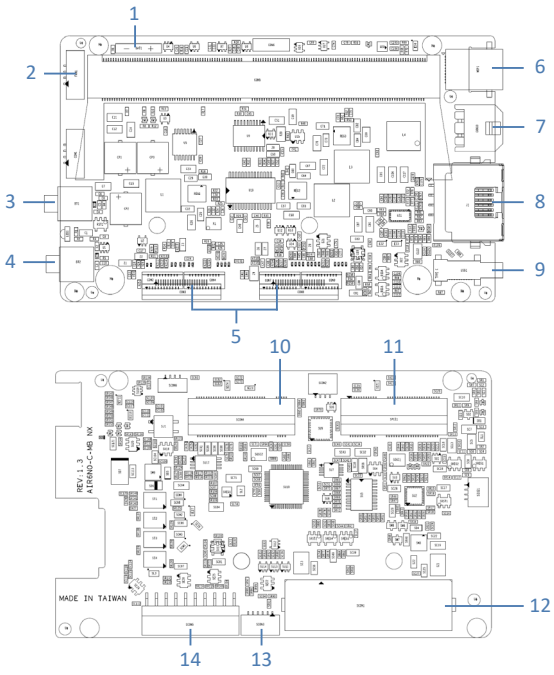
Mechanical



- Dimension of main Board: 90mm×55mm
- Weight: 169g (Including SOM, Fan and Daughter Board)

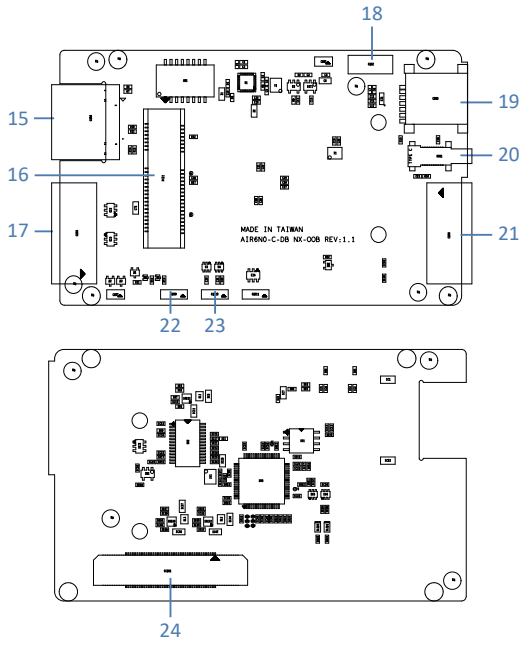
IO Layout

- Carrier Board



1. Battery
2. FAN
3. Recovery
4. Power
5. MIPI
6. Mini DisplayPort1.4
7. DC Pin Header (19V)
8. RJ45
9. USB3.2 Gen 2 Type-C
10. M.2 2230 M Key (PCIe Gen4×2)
11. M.2 2230 E Key (PCIe Gen4×1)
12. 80 Pin Header (Connect with Daughter Board)
13. 6 Pin Wafer
14. 10 Pin Header

- Daughter Board



15. RJ45 (For OOB)
16. Mini Card Slot (For OOB, Support 4G Module)
17. 8 Pin Phoenix Connector (For OOB)
18. 2×5 Pin Header (For System)
19. SIM Card Slot (For OOB)
20. USB2.0 Type-C (For OOB, Support USB Wi-Fi Module)
21. 8 Pin Phoenix Connector (For System)
22. UART 2 (For OOB)
23. UART 1 (For OOB)
24. 80 Pin Header (Connect with Carrier Board)