

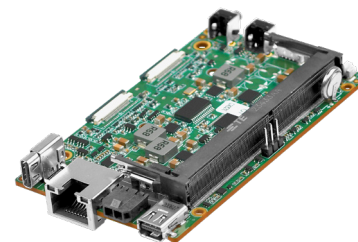
AIR6N0-C-MB NX

YUAN
Visualize Intelligent Planet

Business Card Size AI Edge Motherboard

Features

- Powered by NVIDIA Jetson Orin™ NX up to 100 / 70 TOPS
- Business Card Size
- 2×M.2, Gen 4×2 M Key / Gen 4×1 E Key
- 1×USB3.2 Gen2
- 1×Mini DisplayPort



Specifications

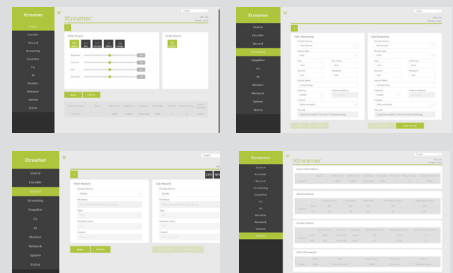
System				
CPU	NVIDIA Jetson Orin™ NX 8GB 6-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 1.5MB L2 + 4MB L3	NVIDIA Jetson Orin™ NX 16GB 8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3	NVIDIA Jetson Orin™ Nano 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	
GPU	1024-Core NVIDIA Ampere Architecture GPU with 32 Tensor Cores		NVIDIA Jetson Orin™ Nano 4GB 512-core NVIDIA Ampere Architecture GPU with 16 Tensor Cores	NVIDIA Jetson Orin™ Nano 8GB 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	NVIDIA Jetson Orin™ Nano 4GB 20 TOPS	NVIDIA Jetson Orin™ Nano 8GB 40 TOPS
System Memory	NVIDIA Jetson Orin™ NX 8GB 8GB LPDDR5	NVIDIA Jetson Orin™ NX 16GB 16GB LPDDR5	NVIDIA Jetson Orin™ Nano 4GB 4GB LPDDR5	NVIDIA Jetson Orin™ Nano 8GB 8GB LPDDR5
Interface				
Storage	Supports External NVMe			
Display Interface	1×Mini DP1.4			
Ethernet	1×RJ45 for 10/100/1000Mbps Ethernet DHCP Client			
Expansion Slot	Jetson Orin™ NX : 1×M.2 2230 M Key PCIe Gen4×2 Slot 1×M.2 2230 E Key PCIe Gen4×1 Slot		For Jetson Orin™ Nano : 1×M.2 2230 M Key PCIe Gen3×2 Slot 1×M.2 2230 E Key PCIe Gen3×1 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	Custom Connector 2×USB3.2 Gen2 1×PCIe Gen4×4 4×GPIO 2×UART(UART0(*), UART1) 3×I2C 1×CAN Bus			
	10 Pin Header 1×USB2.0 4×GPIO 1×I2C 6 Pin Wafer 1×UART(*) * Please select either Custom Connector UART or 6 Pin Wafer UART to use			
Misc. Features	Firmware Upgradable 1×Custom Connector (For Additional Add-On Board)			

SDK/Software

Video Feature		
Video Encode	NVIDIA Jetson Orin™ NX : AV1 (UHP) 1×4K60 3×4K30 6×1080p60 12×1080p30	NVIDIA Jetson Orin™ Nano : 1080p30 supported by 1-2 CPU cores
	H.265 (UHP) 1×4K60 3×4K30 6×1080p60 12×1080p30	
Video Decode	H.264 (UHP) 1×4K60 2×4K30 5×1080p60 11×1080p30	
	NVIDIA Jetson Orin™ NX 8GB : AV1 (Main Profile) 1×8K30 2×4K60 4×4K30 9×1080p60 20×1080p30	NVIDIA Jetson Orin™ Nano : AV1 (Main Profile) 1×4K60 2×4K30 5×1080p60 10×1080p30
	H.265 (Main, Main10) 1×8K30 2×4K60 4×4K30 9×1080p60 18×1080p30	H.265 (Main, Main10) 1×4K60 2×4K30 5×1080p60 11×1080p30
	H.264 (Baseline, Main, High) 1×4K60 2×4K30 5×1080p60 11×1080p30	H.264 (Baseline, Main, High) 1×4K30 3×1080p60 7×1080p30
	VP9 (Profile 0, Profile 2) 1×4K60 3×4K30 7×1080p60 15×1080p30	VP9 (Profile 0, Profile 2) 1×4K60 2×4K30 5×1080p60 11×1080p30

SDK	
QCAP	<p>Capture</p> <ul style="list-style-type: none"> High Performance Renderer Image Snapshot Deinterlace, Alpha Blending Engine Auto Signal Detection 2D/3D Video, Audio and VANC Streams Capture <p>Record</p> <ul style="list-style-type: none"> Encrypt / Sync / Clone / Recording Time-Shifting / Rewind / Pre-Event / Recording Multi-Streams (3D) Recording Animation Transition Effect Video Cropping, Scaling and Alpha Blending Engine <p>Stream</p> <ul style="list-style-type: none"> 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	<p>AI SDK Integrated Multiple Algorithms and Deep-Learning Models in Various Fields of Applications</p> <ul style="list-style-type: none"> Face Recognition Objects Detection Objects Segment Optical Character Recognition License Plate Recognition Customizable Video AI Functions Upon Request

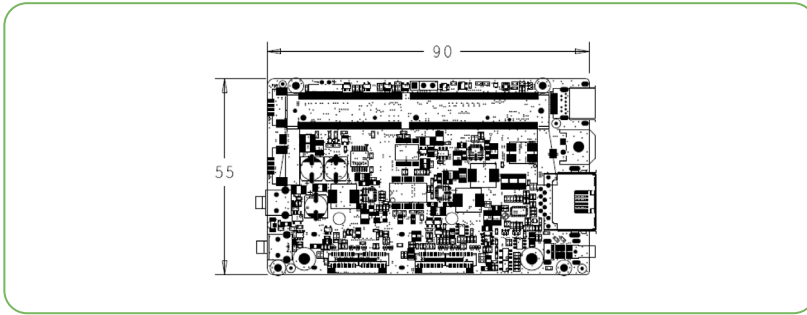
Software (Optional)	
Xtremer	<p>Web Based User Interface</p> <p>Encode / Decode AV1, H.26X</p> <p>Color Format Adjust 444 / 422 / 420, 10Bit / 8Bit Select</p> <p>Record MP4, TS</p> <p>Stream / Network RTSP, RTMP, HLS, SRT, TS, WebRTC. NDI-HX (*), Full NDI (*), Dante AV-H (*)</p> <p>*Separate License Required</p>



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

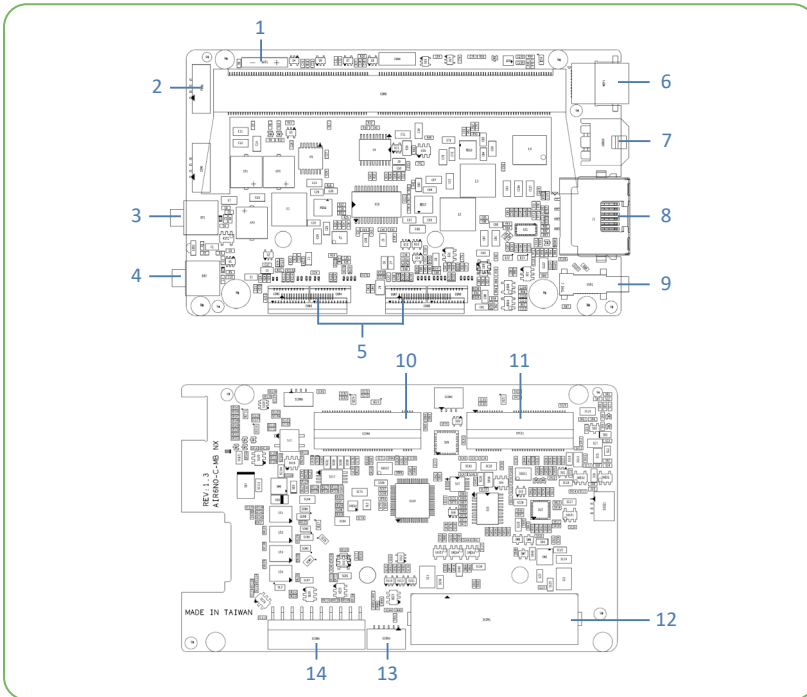
Mechanical



- Dimension of Carrier : 90mm×55mm
- Weight: 50g (Including SOM and Fan)

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. Custom Connector
13. 6 Pin Wafer
14. 10 Pin Header

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