

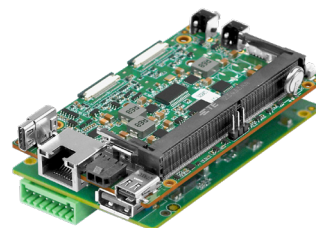
AIR6N0-C-MB NX IO

YUAN
Visualize Intelligent Planet

Card Size AI Edge with Multi AIoT Expansion

Features

- Powered by NVIDIA Jetson Orin™ NX up to 100 / 70 TOPS
- Business Card Size
- 3×M.2, 8×MIPI CSI-2 Lanes and RS232 / RS485 / GPIO
- 2×USB3.2 Gen2
- 1×Mini DisplayPort



Specifications

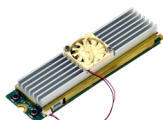
System				
CPU	NVIDIA Jetson Orin™ NX 8GB 6-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 1.5MB L2 + 4MB L3	NVIDIA Jetson Orin™ NX 16GB 8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3	NVIDIA Jetson Orin™ Nano 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	
GPU	1024-Core NVIDIA Ampere 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 1×Micro SD Card Slot			
Display Interface	1×Mini DP1.4			
Ethernet	1×RJ45 for 10/100/1000Mbps Ethernet DHCP Client			
Expansion Slot	Jetson Orin™ NX : 1×M.2 2280 M Key PCIe Gen4×4 Slot 1×M.2 2230 M Key PCIe Gen4×2 Slot 1×M.2 2230 E Key PCIe Gen4×1 Slot		Jetson Orin™ Nano: 1×M.2 2280 M Key PCIe Gen4×4 Slot 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) 1×USB3.2 Gen1 (Type-A)			
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(*)			
	8 Pin Phoenix Connector (CON1) 1×GPIO 2×I2C			
	8 Pin Phoenix Connector (CON6) 1×RS232(*) 1×RS485 1×GPIO			
Misc. Features	2 Pin Header (CON3) 1×GPIO			
	2 Pin Header (CON4) 1×GPIO			
* Please select either 1×UART or 1×RS232 to use				
Firmware Upgradable				

Add-On Cards / SDK / Software

Video Feature				
	Model	Interface	Max. Resolution	Capture / Preview
Capture Card (Optional)	SC710N1 M2 HDMI2.0	1×HDMI2.0	4096×2160p@60/50fps	4:2:2 10Bit P210
	SC710N1 M2 12G-SDI	1×12G-SDI	4096×2160p@60/50fps	4:2:0 10Bit P010
	SC400N4 M2 TVI / AHD	4×TVI / AHD	1920×1080p@30/25fps	4:4:4 8Bit YV24
	SC400N4 M2 HDMI	4×HDMI	1920×1080p@30/25fps	4:4:4 8Bit RGB32 / 24
	SC400N4 M2 SDI	4×3G-SDI	1920×1080p@30/25fps	4:2:2 8Bit YUY2
	SC400N1 M2 HDV	1×DVI-I, 1×YPbPr, 1×VGA	1920×1080p@30/25fps	4:2:0 8Bit YV12, NV12
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			
	H.264 (UHP) 1×4K60 2×4K30 5×1080p60 11×1080p30			
Video Decode	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	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		



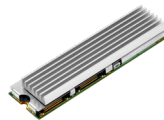
SC710N1 M2 HDMI2.0



SC710N1 M2 12G-SDI



SC400N4 M2 TVI / AHD



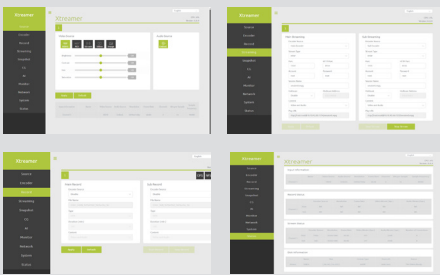
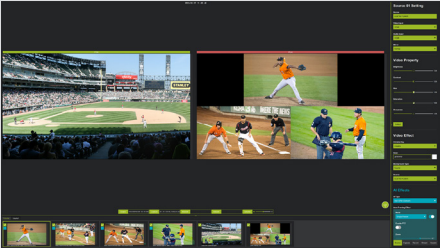
SC400N4 M2 HDMI



SC400N4 M2 SDI



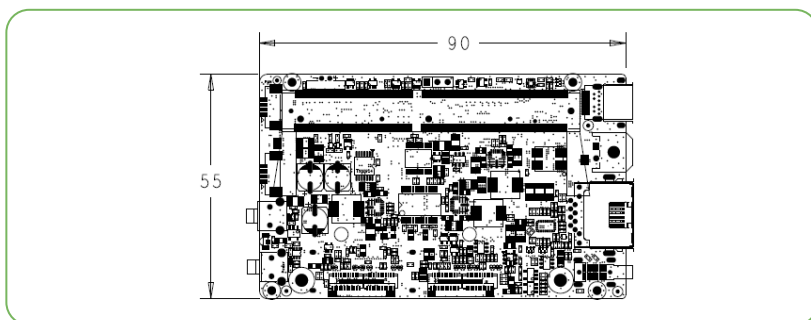
SC400N1 M2 HDV

Software (Optional)		
Xstreamer	<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 (*) *Separate License Required</p>	
SCP	<p>Capture Auto Signal Detection Deinterlace, OSD, Color Adjustment Image Snapshot Animation Transform Effect for PGM</p> <p>Record AV1, H.26X MP4, TS Multi-Stream Recording Schedule Recording</p> <p>Stream Multi-Streams Stream Server RTSP, RTMP, HLS, SRT, TS, WebRTC, Full NDI (*), NDI-HX (*), Dante AV-H (*) *: 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

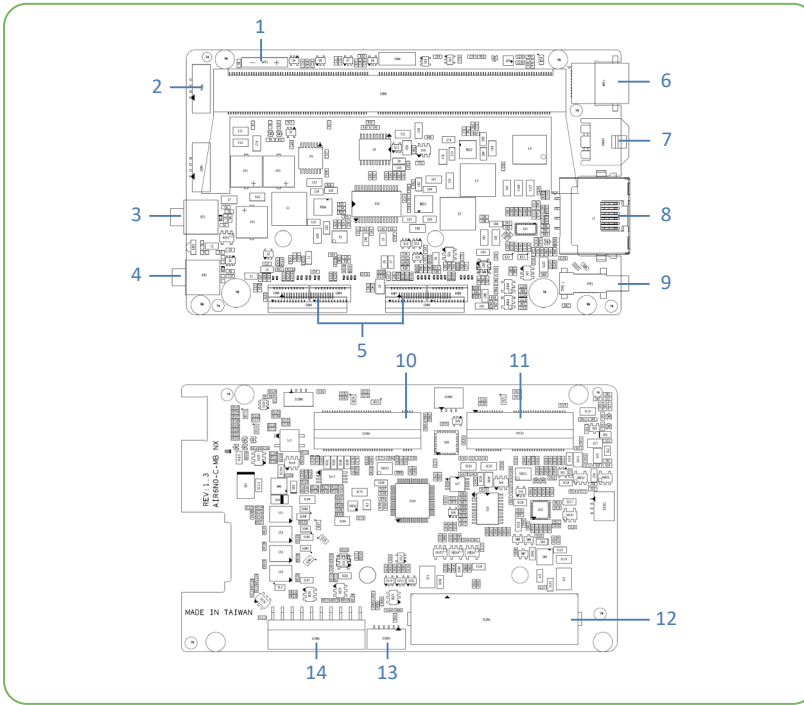
Mechanical



- Dimension of main Board: 90mm×55mm
- Weight: 165g (Including SOM, Fan and Daughter Board)

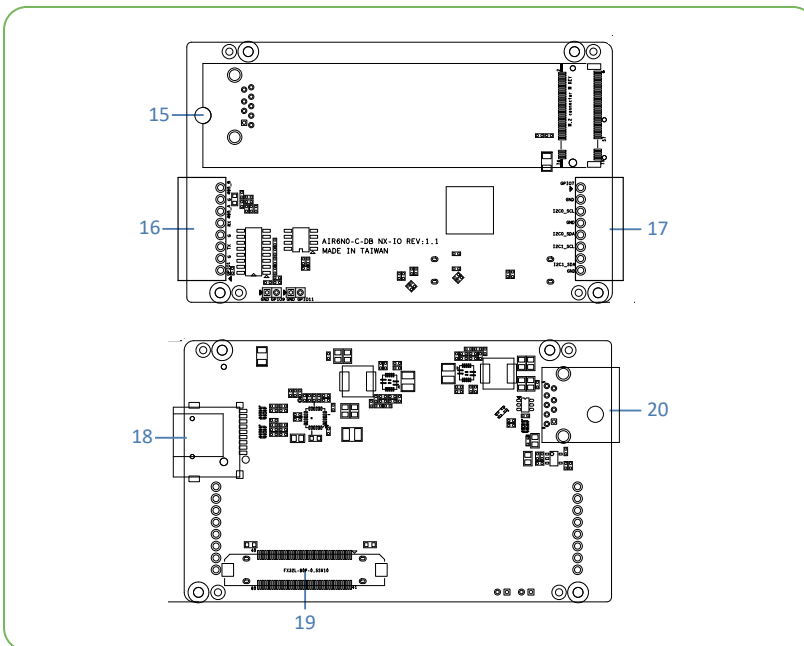
IO Layout

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 Gen4x2)
11. M.2 2230 E Key (PCIe Gen4x1)
12. 80 Pin Header (Connect with Daughter Board)
13. 6 Pin Wafer
14. 10 Pin Header

Daughter Board



15. M.2 2280 M Key (PCIe Gen4x4)
16. 8 Pin Phoenix Connector (CON6)
17. 8 Pin Phoenix Connector (CON1)
18. Micro SD Card Slot
19. 80 Pin Header (Connect with Carrier Board)
20. USB3.2 Gen1 Type-A

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