ASSURED SYSTEMS

AIR6N0-C-MB NX   YUAN

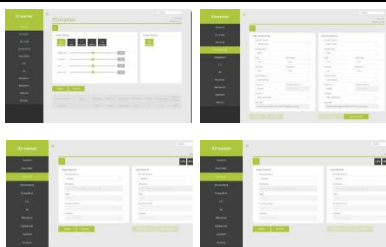## Business Card Size AI Edge Motherboard

Features

- Powered by NVIDIA® Jetson Orin™ NX Super up to 157 / 117 TOPS
- Business Card Size
- 2×M.2 Gen 4×2 M Key / Gen 4×1 E Key
- 1×USB3.2 Gen2
- 1×Mini DisplayPort

NVIDIA Partner

Specifications

System				
SOM	NVIDIA Jetson Orin™ NX 16GB Super	NVIDIA Jetson Orin™ NX 8GB Super	NVIDIA Jetson Orin™ Nano 8GB Super	NVIDIA Jetson Orin™ Nano 4GB Super
CPU	8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3	6-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 1.5MB L2 + 4MB L3	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		1024-core NVIDIA Ampere Architecture GPU with 32 Tensor Cores	512-core NVIDIA Ampere Architecture GPU with 16 Tensor Cores
AI Performance	157 TOPS	117 TOPS	67 TOPS	34 TOPS
System Memory	16GB 128-bit LPDDR5 102.4GB/s	8GB 128-bit LPDDR5 102.4GB/s	8GB 128-bit LPDDR5 102 GB/s	4GB 64-bit LPDDR5 51 GB/s

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 (Nano: Gen3×2) 1×M.2 2230 E Key PCIe Gen4×1 Slot (Nano: Gen3×1)
USB	1×USB3.2 Gen2 (Type-C)
MIPI	8 MIPI 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 (*)
	
	4 Pin Header
	  5V / 3A
	
	* Please select either Custom Connector UART or 6 Pin Wafer UART to use

Misc. Features	Firmware Upgradable

Development Environment	
JetPack	6.2 or Higher

Environment	
Power Supply	DC input : 12~36V
Power Consumption	TBA
Operating Temperature	0~60°C with Airflow
Storage Temperature	-20~80°C
Certification	CE, FCC

SDK / Software

Video Feature				
SOM	NVIDIA Jetson Orin™ NX 16GB Super	NVIDIA Jetson Orin™ NX 8GB Super	NVIDIA Jetson Orin™ Nano 8GB Super	NVIDIA Jetson Orin™ Nano 4GB Super
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		1080p30 supported by 1-2 CPU cores	
Video Decode	AV1 (Main Profile) 1×8K30 | 2×4K60 | 4×4K30 | 10×1080p60 | 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		AV1 (Main Profile) 1×4K60 | 2×4K30 | 5×1080p60 | 10×1080p30 H.265 (Main, Main10) 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 | 2×4K30 | 5×1080p60 | 10×1080p30	

SDK	

QCAP	Capture
	   High Performance Renderer
	   Image Snapshot
	   De-interlace, 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 (*)
	   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 (*)
	   *Separate License Required	

Mechanical

· Dimension: 90mm × 55mm
· Weight: 130g (With SOM and Fan)

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

US

sales@assured-systems.com

Sales: +1 347 719 4508
Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050
Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28
Business Registration Number: 07699660