VPP6N0-S-W NX

Compact Edge AI Platform

YUAN
Visualize Intelligent Planet

Features

- Powered by NVIDIA® Jetson Orin™ NX Super up to 157 TOPS
- 3×M.2 M Key, Gen 4×4 / Gen 4×2 / Gen 4×1
- Fanless Design
- 4×USB3.2 Gen2 Type-A, 1×USB3.2 Gen2 Type-C
- RS232 / RS485 / I2C

NVIDIA | Preferred Partner

Specifications

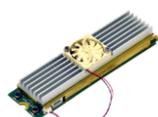| System		
CPU	NVIDIA Jetson Orin™ NX 8GB Super 6-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 1.5MB L2 + 4MB L3	NVIDIA Jetson Orin™ NX 16GB Super 8-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3
GPU	1024-Core NVIDIA Ampere Architecture GPU with 32 Tensor Cores	
AI Performance	NVIDIA Jetson Orin™ NX 8GB 117 TOPS	NVIDIA Jetson Orin™ NX 16GB 157 TOPS
System Memory	NVIDIA Jetson Orin™ NX 8GB 8GB LPDDR5	NVIDIA Jetson Orin™ NX 16GB 16GB LPDDR5
Interface		
Storage	Supports External NVMe	
Display Interface	2×HDMI2.0	
Ethernet	1×RJ45 for 10/100/1000Mbps Ethernet DHCP Client	
Expansion Slot	M.2 1×M.2 2280/3080 M Key PCIe Gen4×4 Slot 1×M.2 2280 M Key PCIe Gen4×2 Slot 1×M.2 2280 M Key PCIe Gen4×1 Slot	
USB	4×USB3.2 Gen2 (Type-A) 1×USB3.2 Gen1 (Pin Header) 1×USB3.2 Gen2 (Type-C, Device Mode Support)	
MIPI	8 MIPI CSI-2 Lanes (D-PHY 2.1, 2x4│ 4x2 MIPI Lanes, Support MIPI Camera, Capture Card)	
Audio	1×Line In (3.5mm or Pin Header) 1×Line Out (3.5mm or Pin Header)	
Perherial Communication	1×RS232 (Phoenix Connector) 1×RS485 (Phoenix Connector)	
Misc. Features	Firmware Upgradable AutoPower (Pin Header)	

Add-On Cards / SDK / Software

Video Feature

	Model	Interface	Max. Resolution	Capture / Preview
Capture Card (Optional)	SC750N1 M2 HDMI2.1	1×HDMI2.1	4096×2160p@60/50fps (4:4:4 / 10Bit)	4:2:2 10Bit P210 4:2:0 10Bit P010 4:4:4 8Bit YV24 4:4:4 8Bit RGB32 / 24 4:2:2 8Bit YUY2 4:2:0 8Bit YV12, NV12
	SC710N1 M2 HDMI2.0	1×HDMI2.0	4096×2160p@60/50fps	
	SC710N1 M2 12G-SDI	1×12G-SDI, 1×Quad-Link 3G-SDI	4096×2160p@60/50fps	
	SC400N4 M2 TVI / AHD	4×TVI / AHD	1920×1080p@30/25fps	
	SC400N4 M2 HDMI	4×HDMI	1920×1080p@60/50fps	
	SC400N4 M2 SDI	4×3G-SDI	1920×1080p@60/50fps	
	SC400N1 M2 HDV	1×DVI-I, 1×YPbPr, 1×VGA	1920×1080p@60/50fps	

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., Full NDI (*), NDI-HX (*), 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

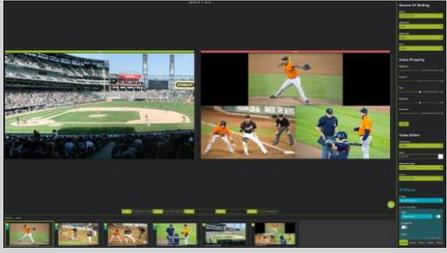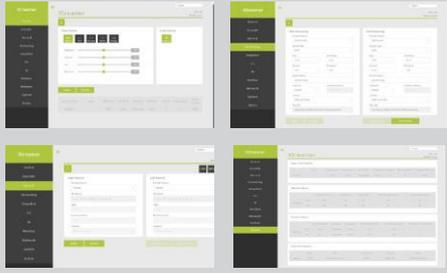| SC750N1 M2 HDMI2.1 | SC710N1 M2 HDMI2.0 | SC710N1 M2 12G-SDI | SC400N4 M2 TVI / AHD | SC400N4 M2 HDMI | SC400N4 M2 SDI | SC400N1 M2 HDV |

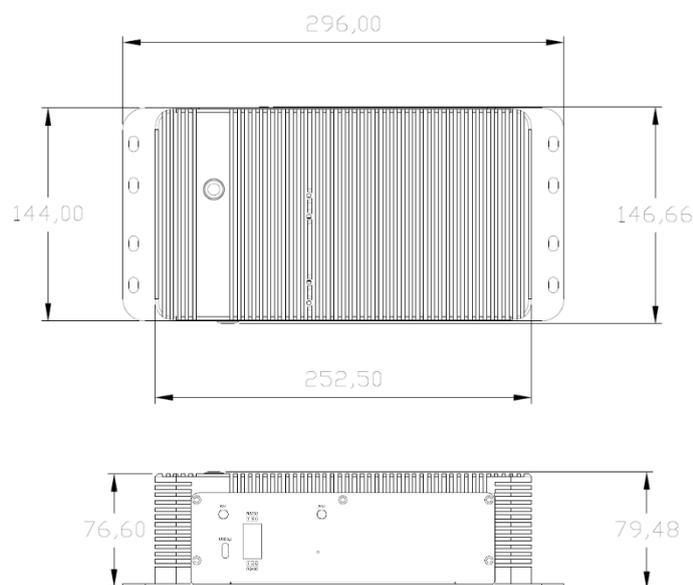| Software (Optional)		
Stream Catcher Pro	**Capture** Auto Signal Detection Deinterlace, OSD, Color Adjustment Image Snapshot Animation Transform Effect for PGM	
	Record AV1, H.26X MP4, TS Multi-Stream Recording Schedule Recording	
	Stream Multi-Streams Stream Server RTSP, RTMP, HLS, SRT, TS, WebRTC.,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

Environment

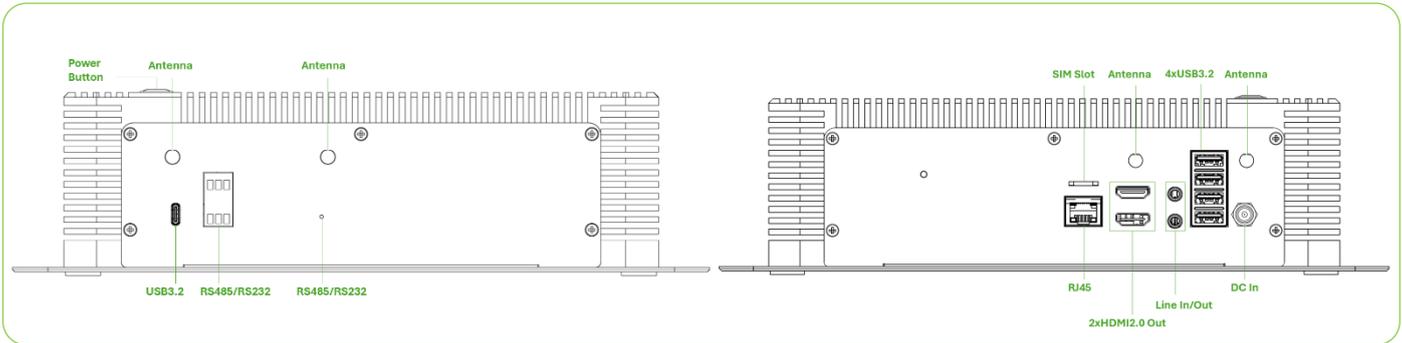| Development Environment	
JetPack	6.2 or Higher
Environment	
Power Supply	DC input : 12~36V
Power Consumption	TBA
Operating Temperature	Standard Version: 0~60 ° C with Airflow
Storage Temperature	-20~80 ° C

Mechanical

- Dimension of case: 144mm×76.6mm×252.5mm
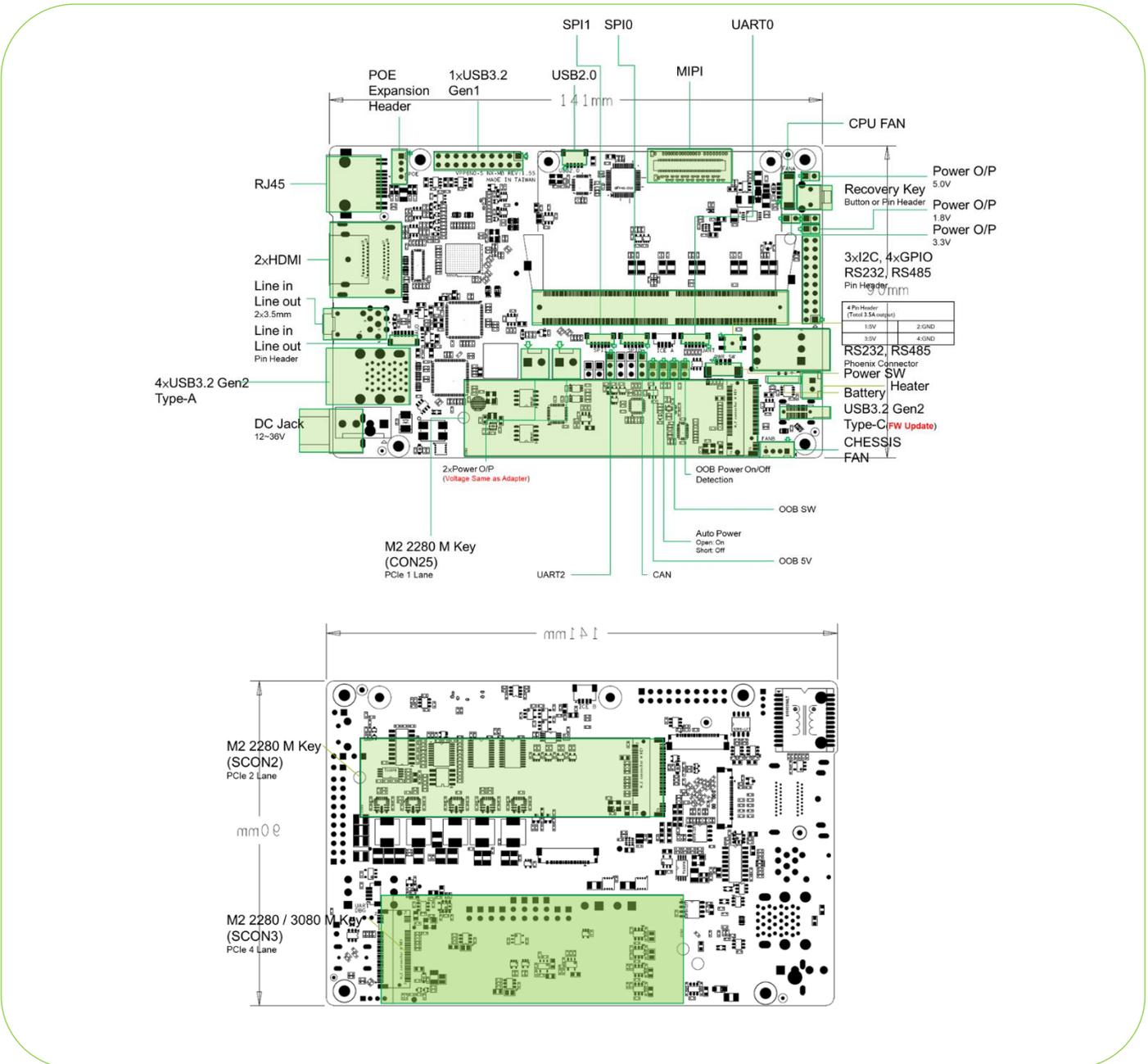- Dimension of main Board: 140mm×90mm
- Weight: TBA

I/O Layout

• Case

Power Button
Antenna
Antenna

SIM Slot Antenna 4xUSB3.2 Antenna

USB3.2 RS485/RS232 RS485/RS232

RJ45
Line In/Out
DC In
2xHDMI2.0 Out

• Carrier Board

SPI1 SPI0 UART0

POE Expansion Header
1×USB3.2 Gen1
USB2.0
MIPI
141mm
CPU FAN

RJ45
Power O/P 5.0V
Recovery Key
Button or Pin Header
Power O/P 1.8V
Power O/P 3.3V

2×HDMI

Line in
Line out
2×3.5mm

Line in
Line out
Pin Header

3×I2C, 4×GPIO
RS232, RS485
Pin Header
90mm

4 Pin Header (Total 3.5A output)	
1:5V	2:GND
3:5V	4:GND

4×USB3.2 Gen2 Type-A

RS232, RS485
Phoenix Connector
Power SW
Battery Heater
USB3.2 Gen2
Type-C (FW Update)
CHESSIS FAN

DC Jack 12~36V

2×Power O/P
(Voltage Same as Adapter)

OOB Power On/Off Detection

OOB SW

M2 2280 M Key (CON25)
PCIe 1 Lane

Auto Power
Open: On
Short: Off

OOB 5V

UART2 CAN

141mm

M2 2280 M Key (SCON2)
PCIe 2 Lane

90mm

M2 2280 / 3080 M Key (SCON3)
PCIe 4 Lane