

# VPP6N0-S AGX 5G

Highly Integrated AI Server, Provide 275 TOPS and Expandability

YUAN  
Visualize Intelligent Planet

## Features

- Powered by NVIDIA® Jetson AGX Orin™ up to 275 TOPS
- 5G & 4K60 with Low Streaming Latency
- 2×PCIe Gen3×4
- 3×M.2 M Key / 1×M.2 E Key
- 2×USB3.2 Gen2
- CAN Bus / UART / I2C / SPI



## Specifications

System		
CPU	NVIDIA Jetson AGX Orin™ 32GB 8-core Arm® Cortex®-A78AE v8.2 64-Bit CPU 2MB L2 + 4MB L3	NVIDIA Jetson AGX Orin™ 64GB 12-Core Arm® Cortex®-A78AE v8.2 64-Bit CPU 3MB L2 + 6MB L3
GPU	NVIDIA Jetson AGX Orin™ 32GB 1792-Core NVIDIA Ampere Architecture GPU with 56 Tensor Cores	NVIDIA Jetson AGX Orin™ 64GB 2048-Core NVIDIA Ampere Architecture GPU with 64 Tensor Cores
AI Performance	NVIDIA Jetson AGX Orin™ 32GB 200 TOPS	NVIDIA Jetson AGX Orin™ 64GB 275 TOPS
System Memory	NVIDIA Jetson AGX Orin™ 32GB 32GB LPDDR5	NVIDIA Jetson AGX Orin™ 64GB 64GB LPDDR5
Interface		
Storage	64GB eMMC 5.1 ( On NVIDIA Jetson AGX Orin™ Module)	
Display Interface	2×HDMI2.0 1×DP <b>*Select 2 Video Output Port at Same Time</b>	
Ethernet	2×RJ45 for 10/100/1000Mbps Ethernet DHCP Client	
Expansion Slot	PCIe 1×PCIe Gen3×4 Slot(*) 1×PCIe Gen3×4 Slot(**)	
	M.2 1×M.2 2230 E Key PCIe Gen4*1/USB2.0/SDIO Slot 1×M.2 2280 M Key PCIe Gen4×4 Slot 1×M.2 2280 M Key PCIe Gen4×4 Slot(*) 1×M.2 3080 M Key PCIe Gen4×4 Slot(**)	
	* Please select either 1×PCIe Gen3×4 Slot or 1×M.2 2280 M Key PCIe Gen4×4 Slot to use ** Please select either 1×PCIe Gen3×4 Slot or 1×M.2 3080 M Key PCIe Gen4×4 Slot to use	
USB	2×USB3.2 Gen2 ( Type-A ) 2×USB3.2 Gen1 ( Pin Header ) 2×USB2.0 ( Type-A )	
MIPI	16×MIPI CSI-2 Lanes ( D-PHY 2.1, 4×4   3×4+2×2   2×4+4×2   1×4+5×2   6×2 MIPI Lanes, Support MIPI Camera, Capture Card )	
Audio	1×3.5mm Line In 1×3.5mm Line Out	
Perherial Communication	1×UART ( Pin Header ) 3×GPIO ( Pin Header ) 2×CAN Bus ( Pin Header ) 2×I2C ( Pin Header ) 1×I2S ( Pin Header ) 1×SPI ( Pin Header ) 3×PWM ( Pin Header )	
Misc. Features	Firmware Upgradable AutoPower ( Pin Header )	

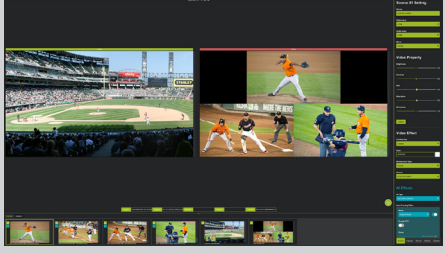
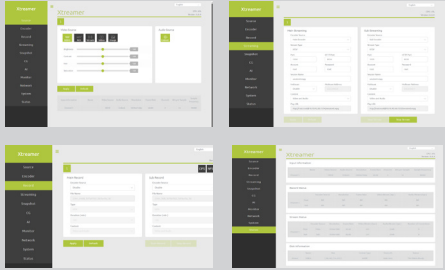
## 5G Feature

5G Mobility Network ( Supports 5G / 4G / 3G SIM Module)	
5G	Sub-6 / SA / Non-SA
4G	LTE Cat20 / LTE FDD / LTE TDD
3G	HSPA+

## Add-On Cards / SDK / Software

Video Feature					
	PCIe Model	Interface	Max. Resolution	Capture / Preview	
Capture Card ( Optional )	SC710N4T HDMI2.0	4xHDMI2.0	4096x2160p@60/50fps	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	
	SC710N4T 12G-SDI	4x12G-SDI	4096x2160p@60/50fps		
	SC420N16 TVI	16xTVI / AHD	1920x1080p@30/25fps		
	SC420N8 GMSL2	8xGMSL2	1920x1080p@60/45/30fps		
	SC410N4 HDMI	4xHDMI	4096x2160p@30/25fps		
	SC410N4 6G-SDI	4x6G-SDI	4096x2160p@30/25fps		
	M.2 Model	Interface	Max. Resolution		
	SC710N1 M2 HDMI2.0	1xHDMI2.0	4096x2160p@60/50fps		
	SC710N1 M2 12G-SDI	1x12G-SDI	4096x2160p@60/50fps		
	SC400N1 M2 HDV	1xDVI-I, 1xYPbPr, 1xVGA	1920x1080p@60/50fps		
Video Encode	NVIDIA Jetson AGX Orin™ 32GB		NVIDIA Jetson AGX Orin™ 64GB		
	AV1 ( UHP ) · 1x4K60   3x4K30   6x1080p60   12x1080p30 H.265 ( UHP ) · 1x4K60   3x4K30   6x1080p60   12x1080p30 H.264 ( UHP ) · 1x4K60   2x4K30   5x1080p60   11x1080p30		AV1 ( UHP ) · 2x4K60   4x4K30   8x1080p60   16x1080p30 H.265 ( UHP ) · 2x4K60   4x4K30   8x1080p60   16x1080p30 H.264 ( UHP ) · 1x4K60   3x4K30   7x1080p60   14x1080p30		
Video Decode	NVIDIA Jetson AGX Orin™ 32GB		NVIDIA Jetson AGX Orin™ 64GB		
	AV1 ( Main Profile ) · 1x8K30   2x4K60   4x4K30   7x1080p60   15x1080p30 H.265 ( Main, Main10 ) · 1x8K30   2x4K60   4x4K30   9x1080p60   18x1080p30 H.264 ( Baseline, Main, High ) · 1x4K60   2x4K30   5x1080p60   11x1080p30 VP9 ( Profile 0, Profile 2 ) · 1x4K60   3x4K30   7x1080p60   15x1080p30		AV1 ( Main Profile ) · 1x8K30   3x4K60   6x4K30   9x1080p60   18x1080p30 H.265 ( Main, Main10 ) · 1x8K30   3x4K60   7x4K30   11x1080p60   22x1080p30 H.264 ( Baseline, Main, High ) · 1x4K60   3x4K30   6x1080p60   13x1080p30 VP9 ( Profile 0, Profile 2 ) · 1x8K30   3x4K60   6x4K30   9x1080p60   18x1080p30		
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 <b>*Separate License Required</b>				
QDEEP	AI SDK Integrated Multiple Algorithms and Deep-Learning Models in Various Fields of Applications Access Control Objects Detection Objects Segment Optical Character Recognition License Plate Recognition Customizable Video AI Functions Upon Request				

## Software ( Optional )

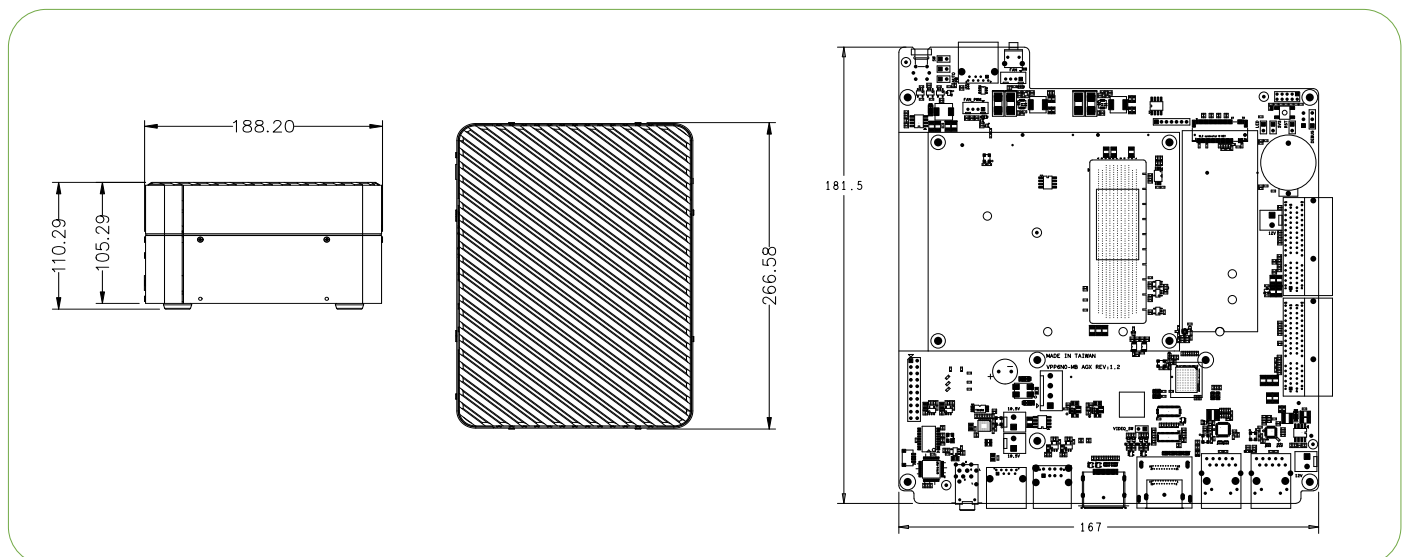
Stream Catcher Pro	<p>Capture</p> <ul style="list-style-type: none"> <li>Auto Signal Detection</li> <li>Deinterlace, OSD, Color Adjustment</li> <li>Image Snapshot</li> <li>Animation Transform Effect for PGM</li> </ul> <p>Record</p> <ul style="list-style-type: none"> <li>AV1, H.26X</li> <li>MP4, TS</li> <li>Multi-Stream Recording</li> <li>Schedule Recording</li> </ul> <p>Stream</p> <ul style="list-style-type: none"> <li>Multi-Streams Stream Server</li> <li>RTSP, RTMP, HLS, SRT, TS, WebRTC., Full NDI (*), NDI-HX (*), Dante AV-H (*)</li> <li><b>*Separate License Required</b></li> </ul>	
Xtreamer	<p>Web Based User Interface</p> <p>Encode / Decode</p> <ul style="list-style-type: none"> <li>AV1, H.26X</li> </ul> <p>Color Format Adjust</p> <ul style="list-style-type: none"> <li>444 / 422 / 420, 10Bit / 8Bit Select</li> </ul> <p>Record</p> <ul style="list-style-type: none"> <li>MP4, TS</li> </ul> <p>Stream / Network</p> <ul style="list-style-type: none"> <li>RTSP, RTMP, HLS, SRT, TS, WebRTC., Full NDI (*), NDI-HX (*), Dante AV-H (*)</li> <li><b>*Separate License Required</b></li> </ul>	

## Environment

Development Environment	
OS	Ubuntu: 20.04
Kernel	5.10.104-tegra or Higher
BSP	Linux for Tegra(L4T) R35.1 or Higher
SDK	JetPack 5.0.2 or Higher
Environment	
Power Supply	DC input : 19V
Power Consumption	TBA
Operating Temperature	Standard Version: 0~60 ° C with Airflow
Storage Temperature	-20~80 ° C

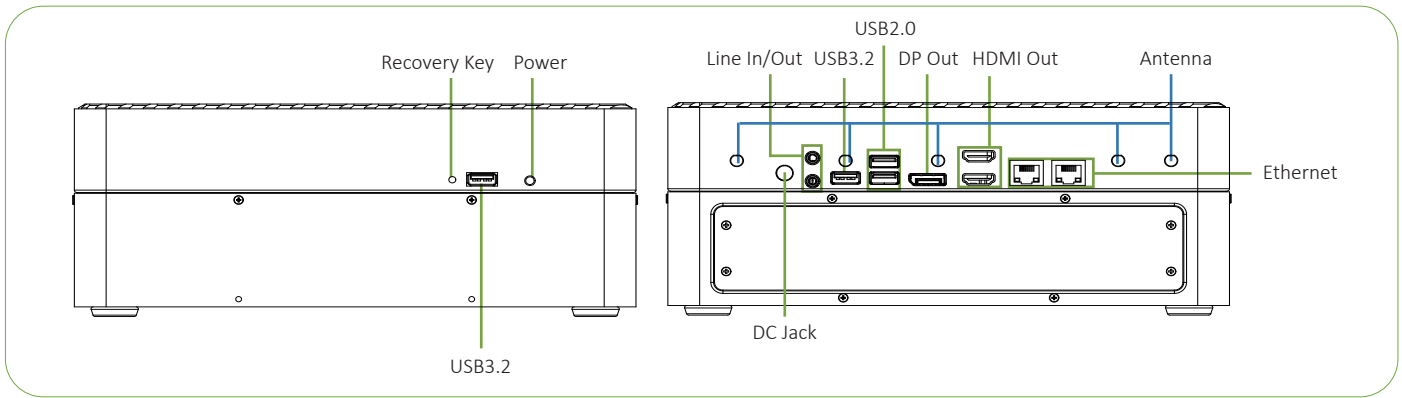
## Mechanical

- Dimension of case: 266.58mm×188.20mm×105.29mm
- Dimension of main Board: 181.5mm×167mm
- Weight: TBA

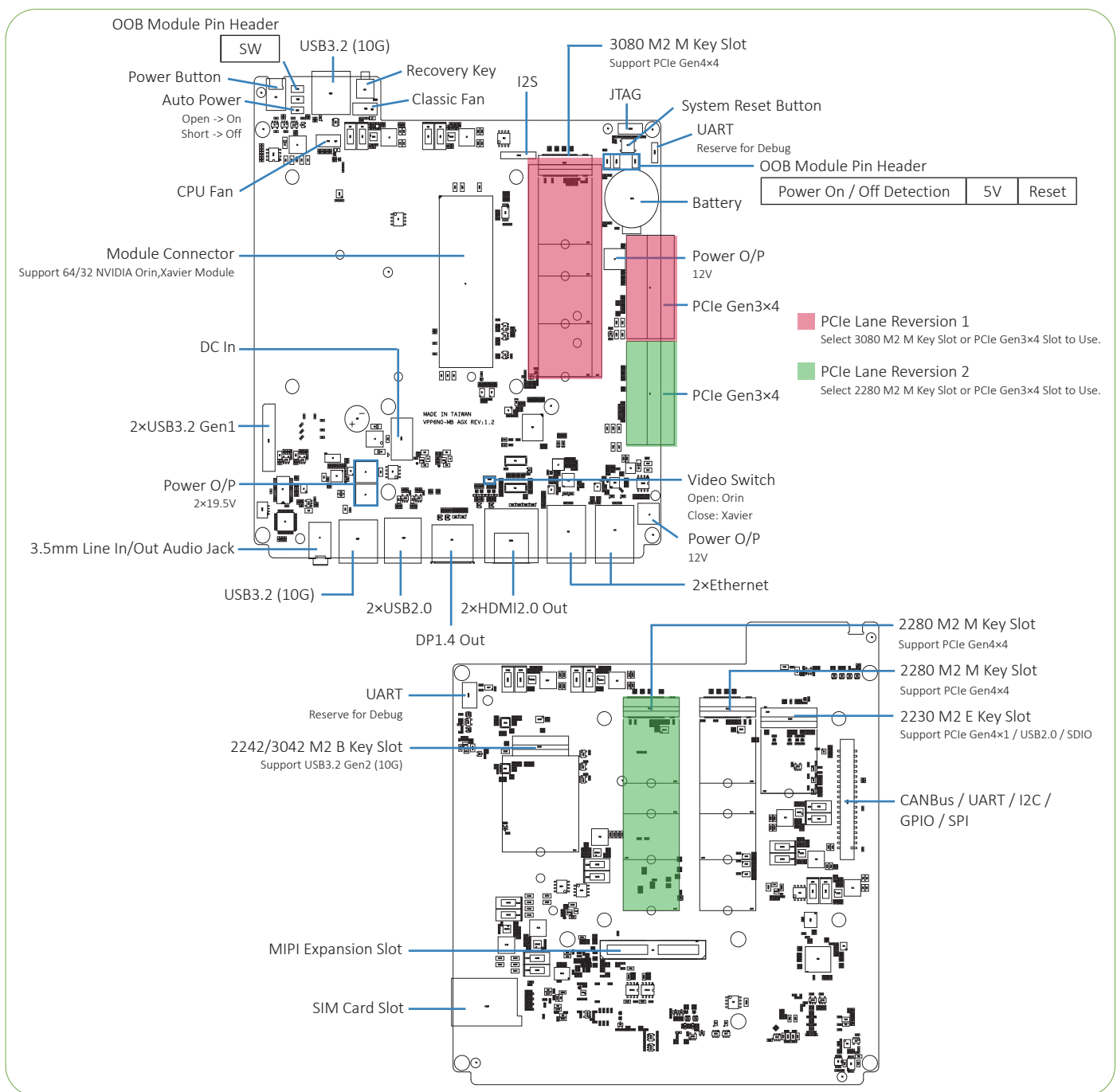


# I/O Layout

## • Case



## • Carrier Board



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