SK901-A4500

3U VPX GPGPU card with NVIDIA A4500 GPU

Key Feature

- 3U VPX Form Factor, 1.5" Pitch (Conduction Cooled), PCIe Gen 3 (x4 or 2x x4 support)
- Embedded GPGPU – NVIDIA Ampere™ Architecture RTX A4500 GPU
- 16 GB GDDR6, 5,888 CUDA Cores. 184 Tensor Cores. 46 RT Cores.
- SOSA-aligned Solution-
  Available with SOSA™ - aligned slot profiles and VITA standard.
- High-Speed Data Transfer-
  Configurable PCIe Gen4 Switch and built-in Codec engines.
- Extreme Temperature Support -20°C to 70°C

Instructions

The 7STARLAKE SK901-A4500 is a ruggedized OpenVPX 3U form factor embedded GPGPU card leveraging the cutting-edge NVIDIA Ampere architecture and the NVIDIA RTX™ platform. This 3U VPX card is designed with the NVIDIA Ampere A4500 GPU featuring 16 GB of GDDR6 graphics memory equipped with Error Correction Code (ECC), 46 RT Cores, 184 Tensor Cores, and 5,888 CUDA® cores. Distinguished by its single-slot design, the SK901-A4500 is a high performance GPGPU solution tailored for AI-accelerated tasks including raw video and sensor processing, encoding, decoding, and display.

3U VPX GPGPU Solution with Multi-Sensor Processing Capabilities

The SK901-A4500 offers high-performance embedded computing (HPEC) capabilities to C5ISR mission processing applications such as low-latency GPGPU processing, real-time ray tracing, deep learning (DL), and AI inferencing. This versatile solution features support for PCI Express Gen 4 for increased data transfer speeds, and supports NVIDIA GPU Direct Remote Direct Memory Access (RDMA) for streamlined data transfer operations. The SK901-A4500 supports one Display Port internal & three Display ports active output.

Hybrid conduction cold plate assisted by Liquid cooling sets

Hybrid conduction cold plate ensure liquid cooling set is across conduction cooled payload modules, minimizing hot-spots and dissipating heat homogeneously

Specifications

Interface

3U VPX Form Factor

1.5" Pitch (Hybrid Conduction Cooled by liquid cooled)

PCIe Gen3 (x4 or 2x x4 support)

Graphics Processoe

NVIDIA RTX A4500 GPU (Ampere Architecture)

DirectX 12, OpenGL 4.5, And Vulkan 1.2

Graphics Memory

16GB GDDR6 with ECC

256-bit memory interface

512GB/s Memory Bandwidth

GPU Capabilities

5,888 CUDA Cores, 184 Tensor Cores, 46RT Cores

Up to 17.66 TFLOPS SFP32 Single floating Point Performance

Support CUDA, CUDA-X, OpenCL™ and Shader Model 5.1

MIL-STD-810

Vibration 3g rms

Shock 40g

Humidity 95% without Condensation

Power 3.3V, 5V, and 12V (80-115W)

Display Outputs

1x Display port internal

3x Display ports active Outputs

Software & Platform Support

Windows or Linux on X86

Physical & Environment

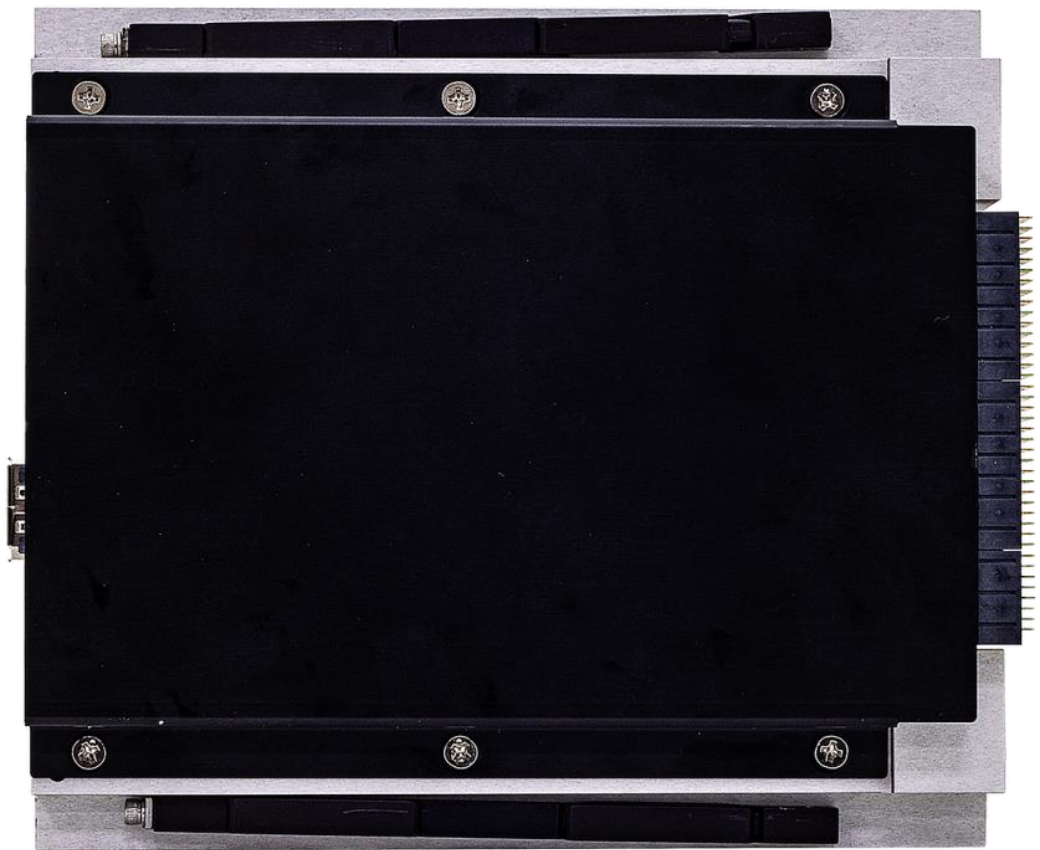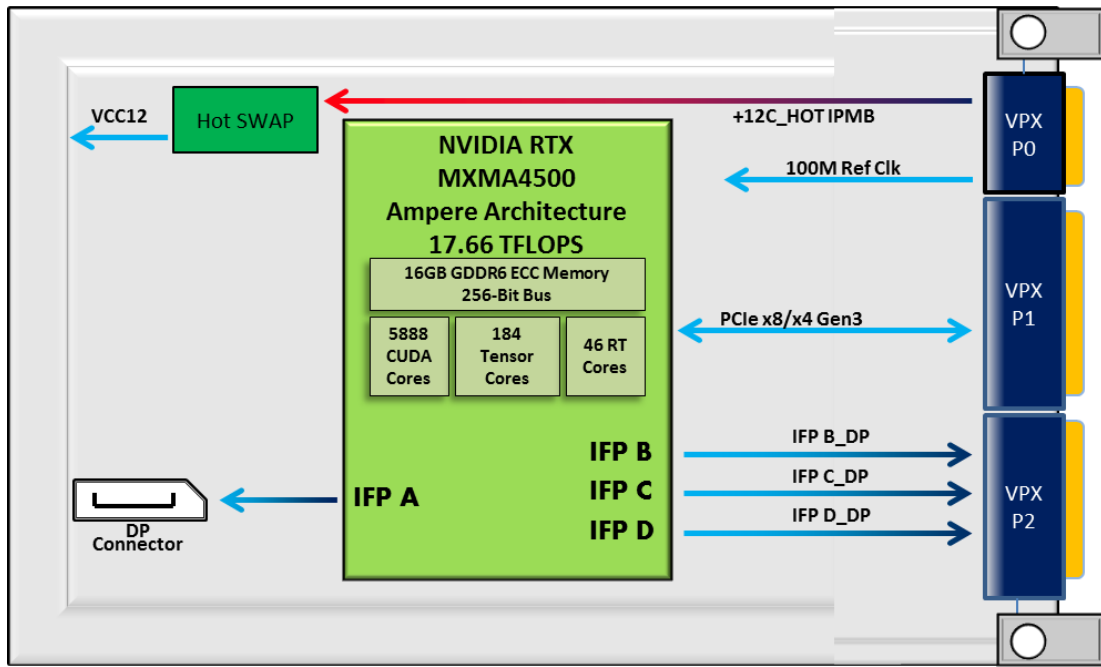|	
Dimension	170mm x 146.5mm x 36.6 mm
Operating Temp	-20°C to 70°C
Storage Temp	-40°C to 85°C
Relative Humidity	10% to 90%, non-condensing

*All specifications and photos are subject to change without notice.

Appearance

Block Diagram

VCC12	Hot SWAP
	NVIDIA RTX MXMA4500 Ampere Architecture 17.66 TFLOPS
	16GB GDDR6 ECC Memory 256-Bit Bus
	5888 CUDA Cores / 184 Tensor Cores / 46 RT Cores

+12C_HOT IPMB

100M Ref Clk

PCIe x8/x4 Gen3

IFP B — IFP B_DP

IFP C — IFP C_DP

IFP D — IFP D_DP

IFP A

DP Connector

VPX P0

VPX P1

VPX P2

Dimension

170

146.5

184

36.6