OCUMKIT1

OCUM4221 + OCUD4241 M.2 OCuLink Expansion Kit

Introduction

The OCUM4221 is a compact host card designed for M.2 2280 (M Key) slots, supporting PCIe Gen4 x4 connectivity through an SFF-8612 OCuLink port. When paired with the OCUD4241 device board, this solution enables seamless external PCIe expansion, allowing users to connect high-performance peripherals such as external graphics cards (eGPU) or SAS/SATA storage RAID controllers—without the need to upgrade their existing PC or workstation. This is an ideal solution for embedded systems, mini PCs, or industrial platforms requiring enhanced performance and expansion flexibility.

Key Applications & Benefits

- **External GPU Support (eGPU)**
  - ✓ Connect high-performance graphics cards for demanding 3D applications, video editing, or immersive gaming.
  - ✓ Ideal for Mini PC, small form factor PCs, or systems that don't support internal GPU upgrades.
- **External SAS/SATA Storage Expansion**
  - ✓ Easily connect SAS or SATA RAID/HBA cards to add multiple hard drives or SSDs via external enclosures.
  - ✓ Perfect for video editing, large-scale backups, media archiving, or data center applications.
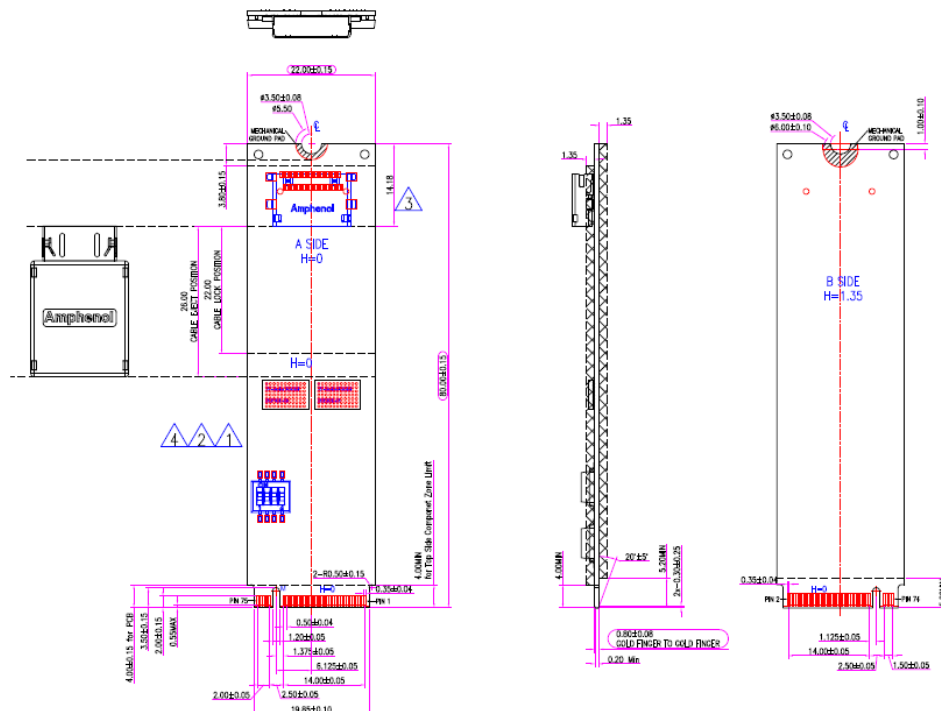- **Cost-Effective Performance Boost**
  - ✓ Avoid the cost of a full system upgrade—simply add GPU or storage expansion externally.
  - ✓ Flexible and modular approach to upgrading: expand only what you need, when you need it.
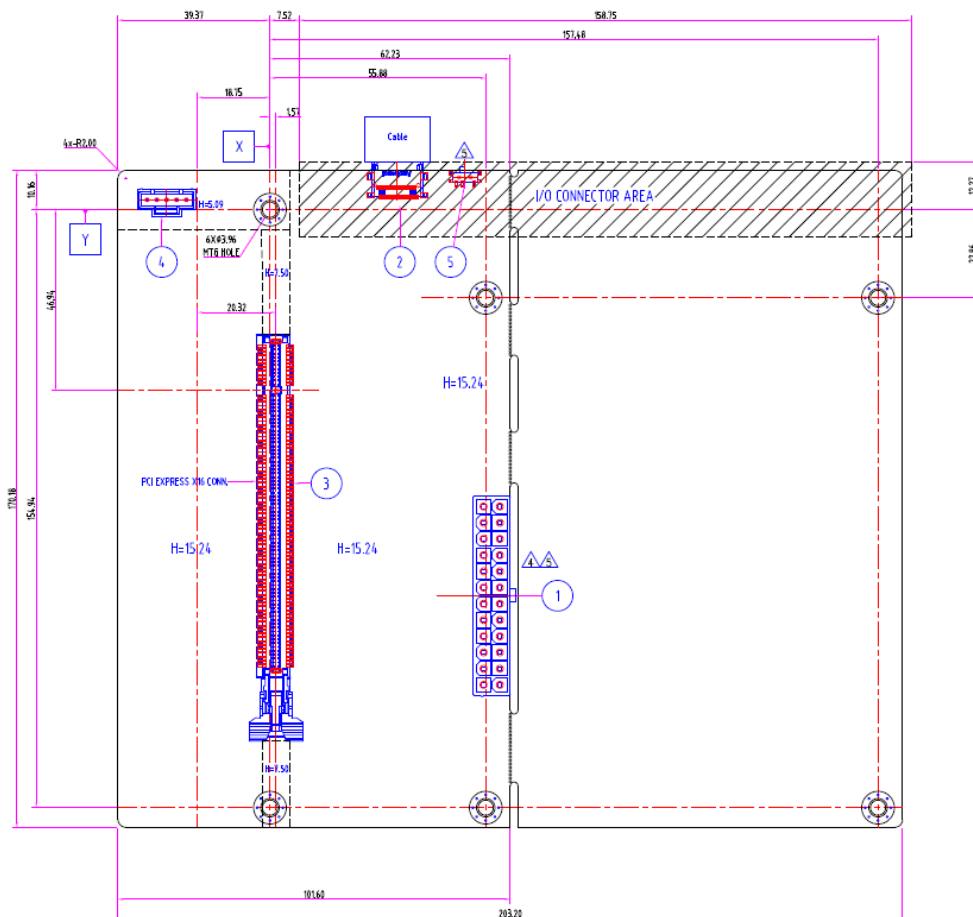
Specifications

■ OCUM4221

Bus	PCIe Gen4x4
Interface	SFF 8612 4i 42pin
Controller	PHISON PS7101
Redriver settings	By BIOS or MCU(OCUD4241)
Form Factor	M.2 M key 2280
ESD Protection	±8KV Air / ±4KV Contact
Green Product	RoHS, WEEE
Regulatory Approvals	CE / FCC / VCCI / BSMI
Operation Temperature	0 to 50°C (32 to 122°F)
Operation Humidity	< 85% non-condensing
Storage Temperature	-20 to 85°C (-4 to 185°F)
PCB Dimensions	22 x 80 mm

■ OCUD4241

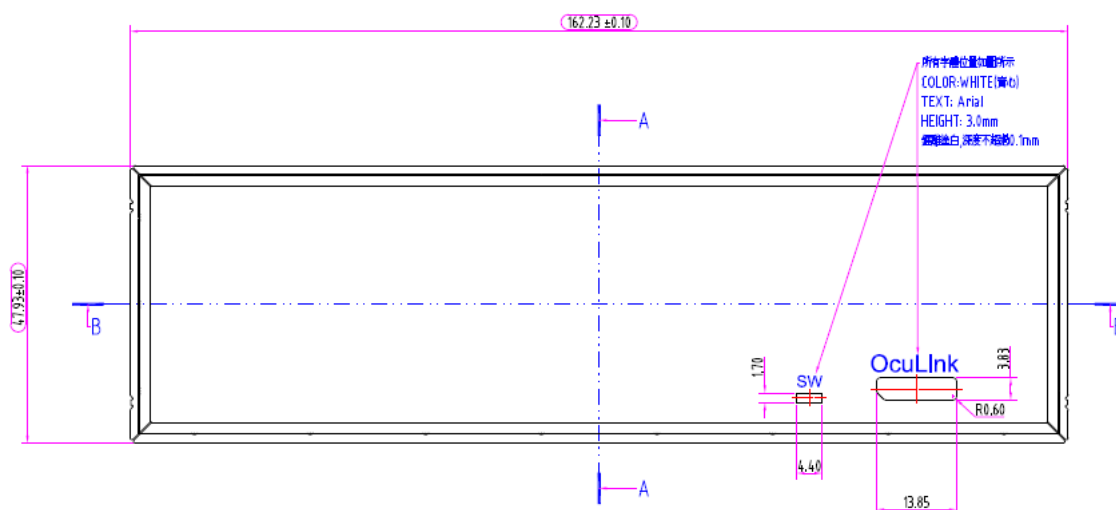|	
Bus	PCIe Gen4x4
Interface	SFF 8612 4i 42pin
PCIe Slot	PCIe x16 (4 lanes)
MCU settings	By I2C set PCIe driving strength
Form Factor	Mini-ITX PC case supported
ESD Protection	±8KV Air / ±4KV Contact
Green Product	RoHS, WEEE
Regulatory Approvals	CE / FCC / VCCI / BSMI
Operation Temperature	0 to 50°C (32 to 122°F)
Operation Humidity	< 85% non-condensing
Storage Temperature	-20 to 85°C (-4 to 185°F)
PCB Dimensions	203.2 x 107.2 mm
I/O Shield	Support standard ATX case

![SUNIX logo]

■ Cable

(100cm external cable)

(30cm internal cable)

■ I/O Shield (optional)

Ideal For

- Creative professionals needing both high GPU performance and large-capacity storage.
- IT & enterprise users looking to extend SAS/SATA RAID or JBOD systems externally.
- Gamers and power users wanting better performance on compact or older systems.
- Mini PC or laptop users requiring PCIe expansion without internal space for upgrades

Package

- OCUM4221, OCuLink M.2 2280 Gen4x4 to SFF-8612 (1pcs)
- OCUD4241, OCuLink Device board SFF-8612 Gen4x4 to PCIe x16 (1pcs)
- SFF 8611 male to male 100cm external cable (1pcs)
- SFF 8611 to SFF 8612 30cm internal cable (1pcs)
- Quick Installation Guide
- I/O Shield (Optional)