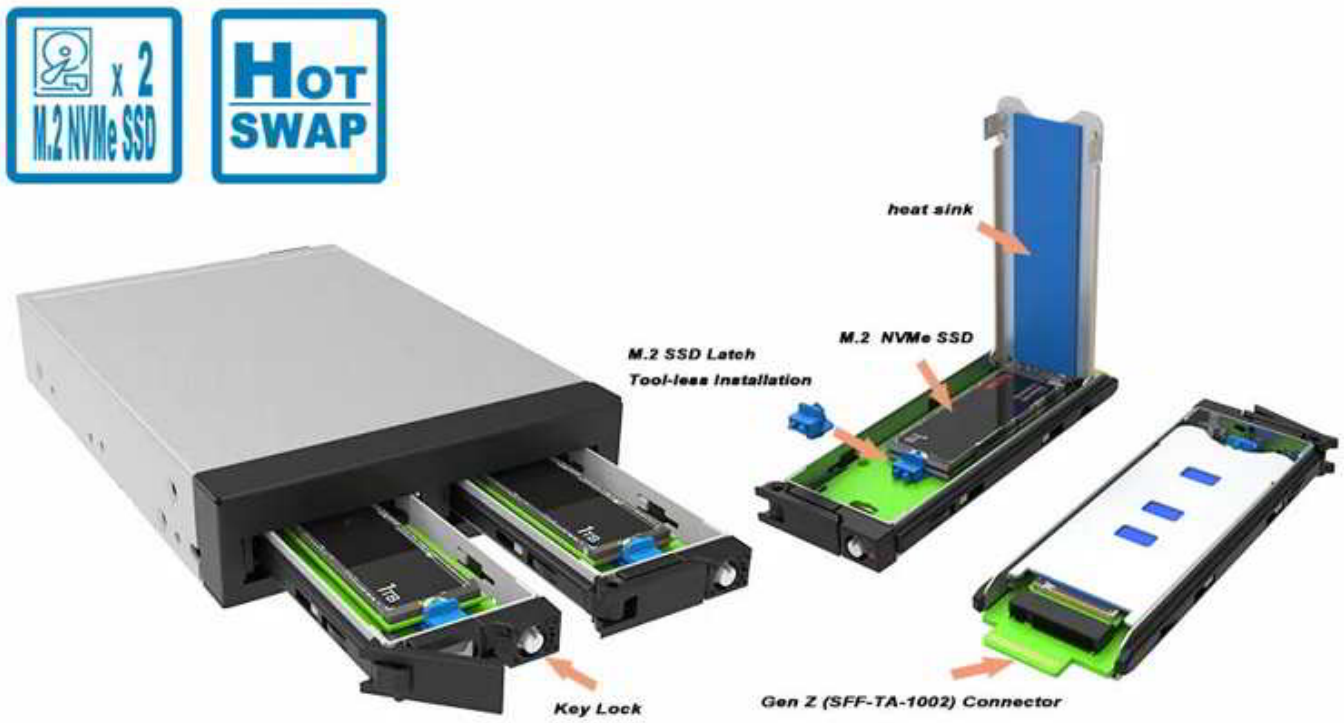
Raidon Technology Launches iUM2776P+ Dual M.2 NVMe SSD Enclosure in 3.5-Inch Form Factor

With PCIe Gen3 x4 via MCIO (SFF-TA-1016), 2cm low-noise fan + metal enclosure,
LED indicators for power and drive status, JBOD (each SSD recognized as an independent drive),
compatible with Windows, Linux and modern OSs

Raidon Technology, Inc. announced the iUM2776P+, a professional-grade 3.5-inch storage module engineered to house 2xM.2 NVMe SSDs, delivering high performance and enterprise-class reliability.

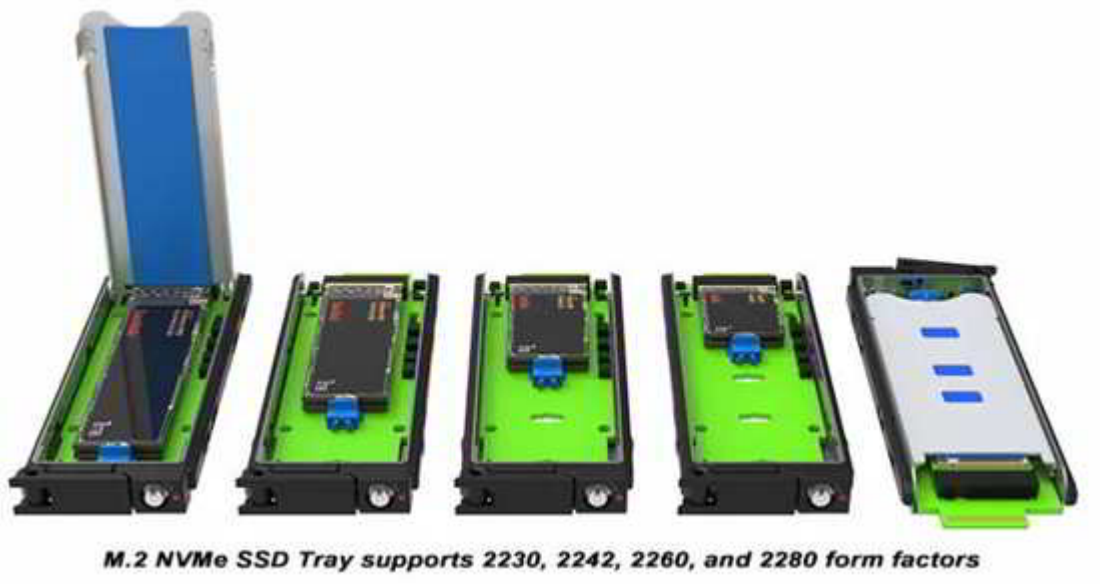
With an integrated PCIe Gen3 switch and an MCIO (SFF-TA-1016) host interface, it supports a PCIe Gen3 x4 upstream link (up to ~32Gb aggregate / ~3.94GB/s theoretical payload per direction) and allocates Gen3 x2 to each SSD (up to ~16Gb / ~1.97GB/s theoretical per drive). Built in a rugged, all-metal enclosure with tool-free serviceability, the iUM2776P+ is for high-density computing environments requiring scalable performance and continuous operation.

Key Features:



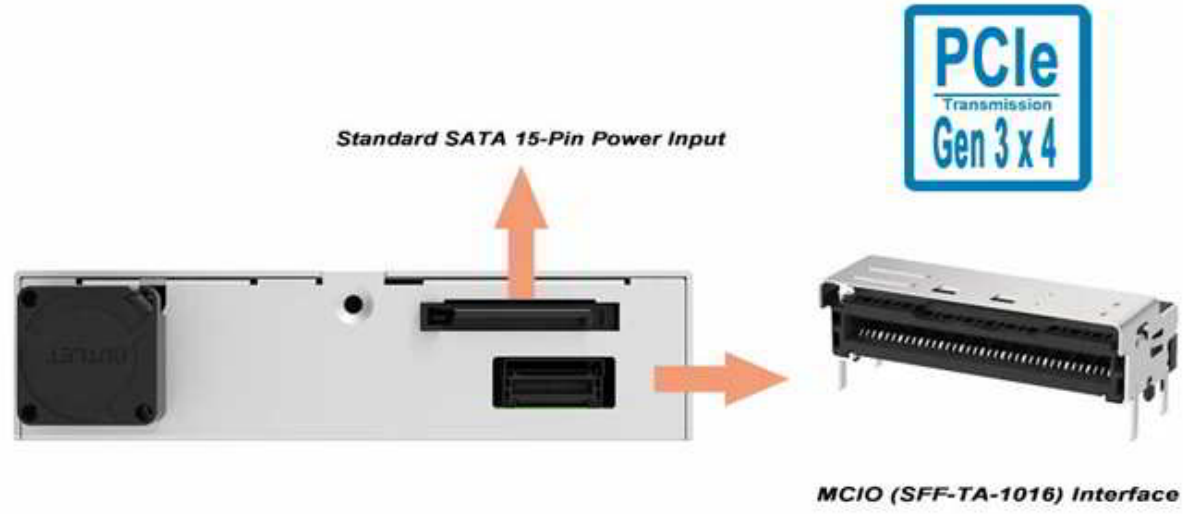
- **Tool-less Tray Design:** Effortless, screwless SSD installation and removal

- **Hot-Swap Functionality:** Hot-swap capable hardware; hot-swap behavior depends on host platform PCIe/NVMe hot-plug support



M.2 NVMe SSD Tray supports 2230, 2242, 2260, and 2280 form factors

- **Dual M.2 NVMe Support:** Compatible with 2230, 2242, 2260, and 2280 form factors
- **MCIO (SFF-TA-1016) Host Interface:** Future-proof MCIO (SFF-TA-1016) connector for seamless modern platform integration
- **Host/Backplane Requirement (Electrical):** PCIe Gen3 x4 via MCIO; not compatible with SATA/SAS-only bays for data



MCIO (SFF-TA-1016) Interface

- **Universal Power:** Uses a standard SATA 15-pin power input for easy deployment in any chassis
- **Advanced Thermal Management:** All-metal aluminum housing paired with **an integrated 2 cm low-noise cooling fan**

All-metal aluminum housing paired with an integrated 2 cm low-noise cooling fan

- **Bay Compatibility (Mechanical):** Fits standard 3.5-inch HDD Drive Bay

Comparison: Standard Drive vs. iUM2776P+

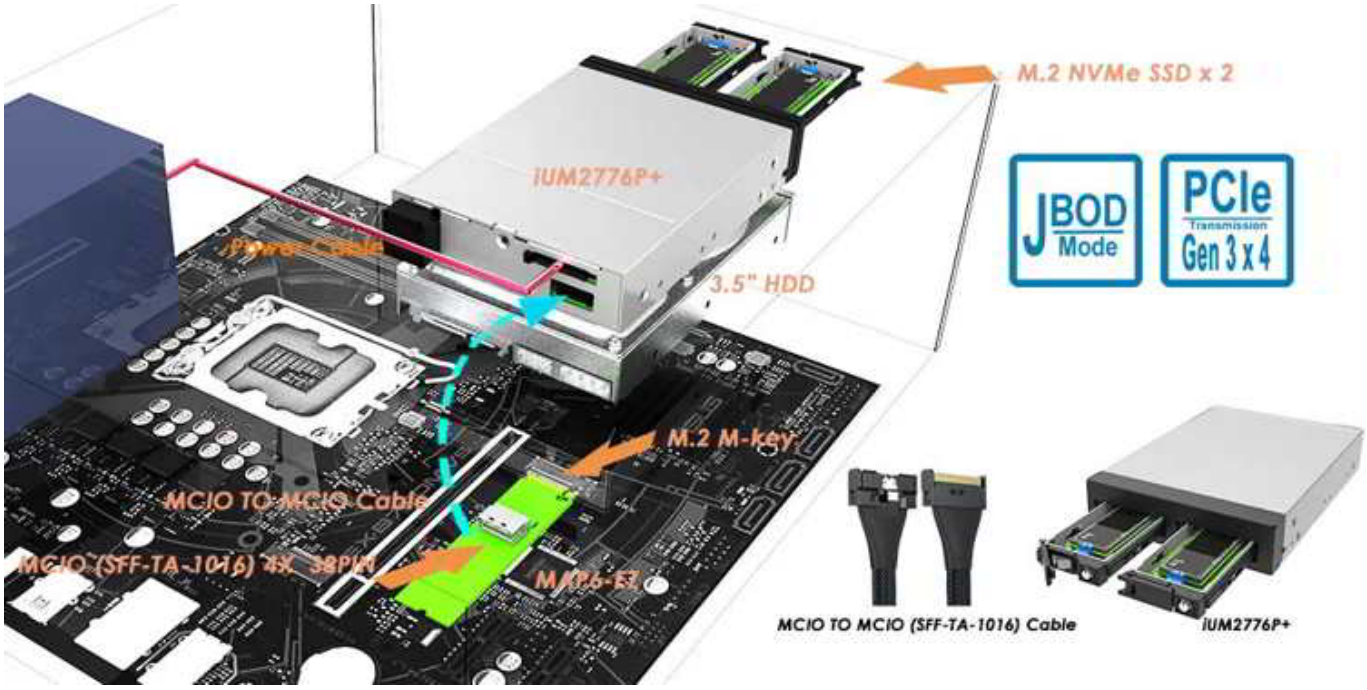
Feature	Standard 3.5″ HDD/SSD	iUM2776P+ Module
Drive Capacity	1 Drive	2xM.2 NVMe SSDs
Interface	SATA 6Gb	MCIO (SFF-TA-1016)
Max Speed	Up to 6Gb/s	PCIe Gen3 x4 link (aggregate)
Maintenance	Manual Screws	Tool-free / Hot-swap
Cooling	Passive	Passive Metal + Active 2cm Fan

Benefits:

- **Maximize Storage Density:** Pack the power of 2 high-speed NVMe SSDs into a single standard 3.5-inch bay. This allows you to double your drive count without upgrading to a larger chassis or server rack
- **Zero-Downtime Maintenance:** In platforms that support PCIe/NVMe hot-plug, drives can be serviced without shutting down; otherwise, a rescan/reboot may be required per system design
- **Future-Proof Connectivity:** By utilizing the MCIO (SFF-TA-1016) interface, you are aligning your hardware with the latest enterprise cabling standards, ensuring compatibility with next-generation motherboards and high-speed backplanes
- **Sustained Peak Performance:** NVMe SSDs are notorious for ‘thermal throttling’ (slowing down when they get too hot). The combination of a precision-machined aluminum heat sink and an active 2cm cooling fan ensures your drives stay cool even during 24/7 heavy workloads
- **Simplified Integration:** Despite its advanced internals, it uses a standard SATA 15-pin power connector. This

'plug-and-play' approach means you can upgrade existing legacy systems to modern NVMe speeds without needing specialized power adapters

- **Enhanced Reliability:** The durable all-metal housing protects sensitive M.2 modules from physical damage and electromagnetic interference, making it suitable for harsh industrial or edge computing environments



Applications:

- **Edge Computing and IoT:** Provides high-speed data caching and storage in compact, rugged environments where space is limited but performance is non-negotiable
- **Enterprise Data Centers:** Ideal for high-density server deployments requiring hot-swappable NVMe storage for rapid maintenance and upgrades
- **Professional Workstations:** Enhances video editing, 3D rendering, and CAD workflows by providing fast scratch disk space or redundant storage within a standard 3.5-inch bay
- **Industrial and Embedded Systems:** Rugged construction and effective thermal management make it suitable for industrial control, automation, and IoT platforms
- **AI and Machine Learning:** Supports the high-speed data throughput required for training models and processing large datasets

<u>System Integration Guidelines:</u>

- **System Power and Detection**

  The iUM2776P+ connects directly to the motherboard via the PCIe interface. Since most motherboards do not natively support PCIe hot-swapping, the module must be powered on during system startup to be properly detected

  If the iUM2776P+ is not powered on during system startup, the operating system may fail to recognize the module

- **Hot-Swap Functionality**

  The system can boot normally even if no SSD is installed in the iUM2776P+

  M.2 NVMe can be inserted/removed while running. Recognition behavior depends on platform hot-plug support; a rescan or reboot may be required per system design

Frequently Asked Questions (FAQ)

Q1: *Does the iUM2776P+ support PCIe Gen4 or Gen5 SSDs?*
A: The iUM2776P+ is designed with a PCIe Gen3 x4 switch. PCIe Gen4 or Gen5 NVMe SSDs can be installed, but will operate at PCIe Gen3 speeds to ensure compatibility and stability

Q2: *Does the iUM2776P+ support RAID?*
A: Yes. The module features a PCIe switch that allows the host to see 2 individual NVMe SSDs. RAID functionality (such as RAID-0 or RAID-1) can be implemented via the OS (Software RAID) or a compatible BIOS/UEFI setting on your motherboard

Q3: *What M.2 SSD sizes does the iUM2776P+ support?*
A: The iUM2776P+ supports M.2 NVMe SSDs in 2230, 2242, 2260, and 2280 form factors

Q4: *Does it require a special driver?*
A: No. As a hardware-level PCIe switch, it is transparent to the OS. If your system supports NVMe and has an MCIO (SFF-TA-1016) port, the iUM2776P+ will work out of the box

Q5: *Will this fit in a standard 3.5-inch HDD bay?*
A: Yes – **mechanically** it matches a 3.5-inch drive footprint. **Electrically**, it requires **PCIe lanes via MCIO (SFF-TA-1016)** and will not work if the bay/backplane only provides **SATA/SAS** connectivity

Q6: *What type of host connection is required for the iUM2776P+?*
A: The iUM2776P+ uses an MCIO (SFF-TA-1016) connector and requires a compatible PCIe host interface or adapter cable that supports PCIe Gen3 x4 signaling

Q7: *What power connection does the iUM2776P+ require?*
A: The iUM2776P+ uses a standard SATA 15-pin power connector, making integration into existing systems easy

Q8: *Can the 2cm cooling fan be disabled?*
A: The built in 2cm cooling fan is designed to operate automatically to ensure thermal stability. Disabling the fan is not recommended, as it may impact SSD reliability and performance

Q9: *What are the typical use cases for the iUM2776P+?*
A: The iUM2776P+ is designed to work with HOST BUS controller and is ideal for workstations, edge computing systems, data centers, industrial platforms, and media production environments that require compact, high-speed, and easily serviceable storage

Q10: *Will it work in a SATA/SAS backplane?*
A: No; it needs PCIe lanes via MCIO (SFF-TA-1016) or adapter

Performance test result for reference. The test result will vary depend on the test environment.

A. M.2 NVMe SSD Tray & Tray Handle x 2
B. Tray Key Lock & Push Open Button
C. HDD/SSD Access LED

D. 15-pin Power Connector
E. MCIO (SFF-TA-1016) Interface
F. 2cm low-noise fan

Specification	Description
Model No.	iUM2776P+
Drive Support	2 x M.2 NVMe SSDs (2230 / 2242 / 2260 / 2280)
Host Interface	PCIe Gen3 x4 via MCIO (SFF-TA-1016)
Power Connector	1 x SATA 15-Pin
Max Bandwidth	PCIe Gen3x4, up to 3.94 GB/s
Bay Compatibility	Standard 3.5-inch drive footprint
Drive Mode	JBOD (each SSD recognized as an independent drive)
Installation	Tool-free SSD tray design, plug and play
Cooling System	2cm low-noise fan + metal enclosure
Security	Lockable M.2 Tray to prevent accidental removal
LED Indicators	LED indicators for power and drive status
Dimensions	101.6(W) × 25.6(H) × 146(L) mm
Compatibility	Compatible with Windows, Linux and modern OSs
Packing Content	iUM2776P+ Device × 1 Accessory Kit x 1 Quick Installation Guide x1