ASUS

IN SEARCH OF INCREDIBLE

ASUS Servers with AMD EPYC™ Platforms

PRODUCT PORTFOLIO

AMD
EPYC

ABOUT ASUS

In Search of Incredible

ASUS is a multinational company known for the world's best motherboards, PCs, monitors, graphics cards, routers and servers, and is ranked by Laptop Mag as the best laptop brand in 2020. Along with an expanding range of superior gaming, content-creation and AIoT solutions, ASUS leads the industry through cutting-edge design and innovations made to create the most ubiquitous, intelligent, heartfelt and joyful smart life for everyone. With a global workforce that includes more than 5,000 R&D professionals, ASUS is driven to become the world's most admired innovative leading technology enterprise. Inspired by the In Search of Incredible brand spirit, ASUS won more than 11 awards every day in 2020 and ranks as one of Forbes' World's Best Regarded Companies and Fortune's World's Most Admired Companies.

Over 14,500	5,000$^+$	200$^+$	57,156	72,477
Employees worldwide	World-class R&D team	Countries	Awards won since 2001	Green Certifications won in 2019 alone

Top 100 Global Innovator 2021 — Clarivate
ASUS has been selected to Clarivate Top 100 Global Innovator.

Interbrand
We have been ranked as Taiwan's most valuable brand for 7 years.

Forbes 2019 GLOBAL BEST REGARDED COMPANIES 2000
Forbes has named ASUS among the Top Regarded Companies annual survey.

2018 THOMSON REUTERS TOP 100 GLOBAL TECH LEADER
ASUS has been named as a Top 100 Global Technology Leader by Thomson Reuters.

Why ASUS Servers

Simply – we're a trusted, world-class brand with an enviable reputation for performance, quality and reliability. In slightly more detail, we have over a quarter of a century's experience of building high-quality servers. The core values of ASUS servers are to deliver exceptional performance, green computing and easy management to ensure the perfect mix of solutions for customer success.

- Achieved over 900+ world-record benchmarks with SPEC CPU, and still growing
- World's most power-efficient servers on SPEC Power
- No.1 2P server on SPECjbb-Composite and SPECjbb-MultiJVM performance
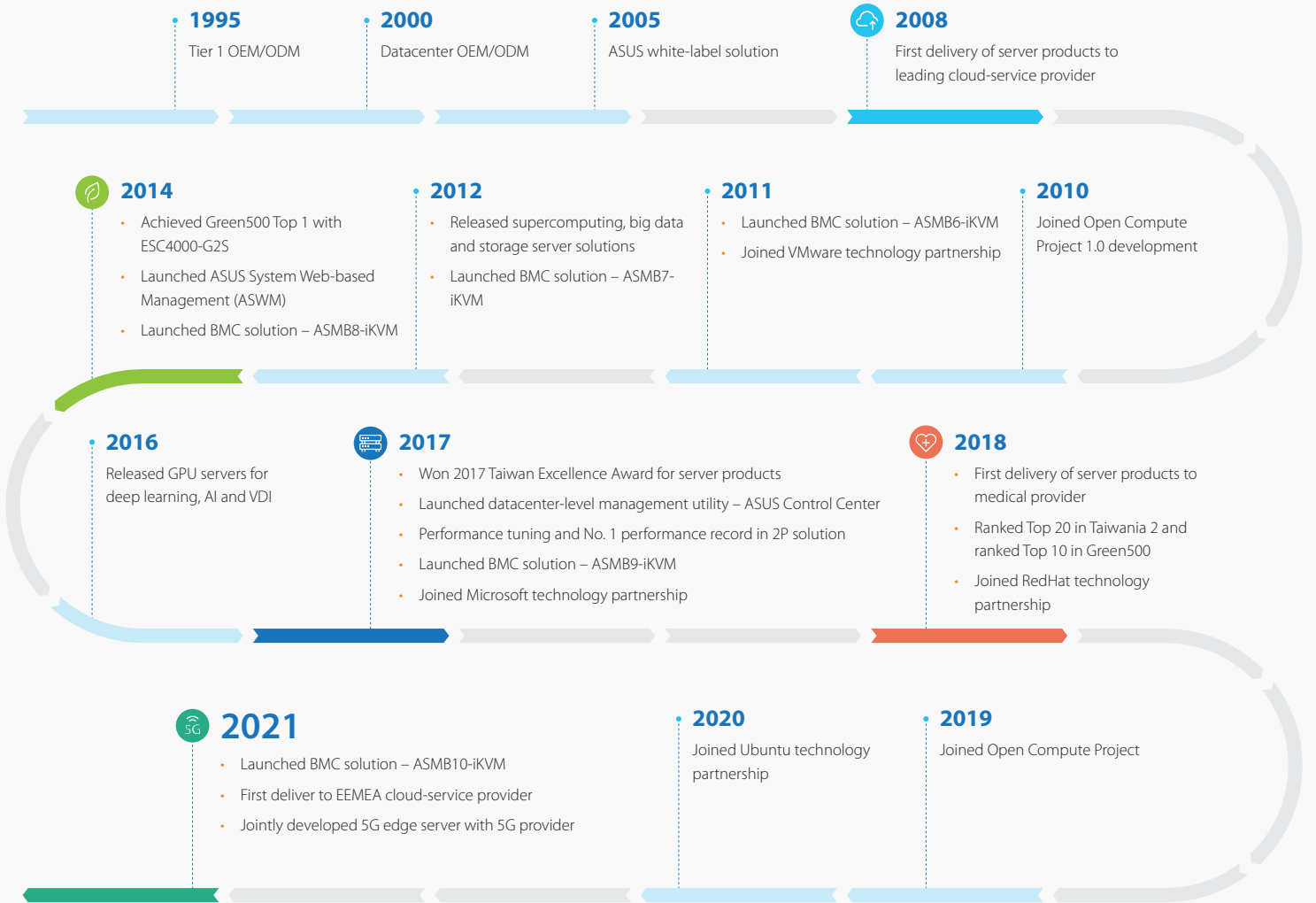- Ranked Top 20 on the TOP500 list of the world's most powerful supercomputers and Top 10 on the Green500 list in 2018 by supporting TAIWANIA 2
- Ranked No.1 on the Green500 list of energy-efficient supercomputers in 2014

Our Milestones

1995
Tier 1 OEM/ODM

2000
Datacenter OEM/ODM

2005
ASUS white-label solution

2008
First delivery of server products to leading cloud-service provider

2014
- Achieved Green500 Top 1 with ESC4000-G2S
- Launched ASUS System Web-based Management (ASWM)
- Launched BMC solution – ASMB8-iKVM

2012
- Released supercomputing, big data and storage server solutions
- Launched BMC solution – ASMB7-iKVM

2011
- Launched BMC solution – ASMB6-iKVM
- Joined VMware technology partnership

2010
Joined Open Compute Project 1.0 development

2016
Released GPU servers for deep learning, AI and VDI

2017
- Won 2017 Taiwan Excellence Award for server products
- Launched datacenter-level management utility – ASUS Control Center
- Performance tuning and No. 1 performance record in 2P solution
- Launched BMC solution – ASMB9-iKVM
- Joined Microsoft technology partnership

2018
- First delivery of server products to medical provider
- Ranked Top 20 in Taiwania 2 and ranked Top 10 in Green500
- Joined RedHat technology partnership

2021
- Launched BMC solution – ASMB10-iKVM
- First deliver to EEMEA cloud-service provider
- Jointly developed 5G edge server with 5G provider

2020
Joined Ubuntu technology partnership

2019
Joined Open Compute Project

Partnered with

ami

CANONICAL

citrix

inwinstack

Microsoft

milestone

NVIDIA

Red Hat

SUSE

vmware

Meet the industry's highest environmental certifications

In 2020 alone, ASUS earned 69,965 green certification from some of the most prestigious international organizations around the world.

69,965

Green Certifications

Green ASUS

Keeping Environment

We at ASUS are fully committed to creating a sustainable future. We believe in adopting an eco-friendly approach towards every aspect of our business. This is where the Green ASUS philosophy comes in - from our internal practices to our production processes - we remain focused on safeguarding our planet. ASUS is focused on safeguarding our planet with responsible products, and ASUS products succeed in combining a lower total cost of ownership (TCO) with the highest environmental standards.

Green Design

Good design extends beyond mere aesthetics, products should use modular components for simple repairs and prolonged life spans, and be easily recyclable at the end of their life cycle.

Green Manufacturing

Good product can't be made without greener manufacturing processes, that's why ASUS adheres to strict guidelines to ensure that hazardous substances like lead and halogens are eliminated during production.

Green Procurement

ASUS is not only committed to reducing its own environmental impact. By ensuring a greener supply chain, it is helping to packaging follow greener principles too.

Servers Care

ASUS guarantees quality, service and reliability. That's why we offer an exclusive one-day advanced replacement and return merchandise authorization service – known as 1-Day ARS. In addition to rapid replacement, all ASUS barebone servers, server motherboards carry a 3-year limited warranty in most territories – with satisfaction guaranteed.

1-Day ARS

ASUS 1-Day ARS allows for convenient return and replacement of defective products (barebone servers, server motherboards) via system integrators (SI) and value-added resellers (VAR) throughout the United States, Canada within one day.

3-Year Warranty

The ASUS 3-year limited warranty protects all ASUS server products that means barebone servers, server motherboards are all covered. During the 3-year warranty period ASUS will repair or replace defective components, allowing your business or organization to continue with minimal disruption.

Global Presence

ASUS has a very strong global presence. Our products are recognized throughout the world and are sold in 113 countries through more than 70 branch offices worldwide. ASUS also has more than 1,400 support center across the globe that are ready to assist our customers anytime, anywhere.

113	70	1,400
Countries	Branches Offices	Support Centers

Nordic countries
Russia
Canada
United Kingdom
United States
Europe
Korea
Japan
China
Saudi Arabia
India
Taiwan
Philippines
Brazil
Singapore
South Africa
Australia
New Zealand

NO.1 BENCHMARK
WORLD RECORDS

ASUS holds the most amount of records on the SPEC CPU® 2017 benchmark in single-socket (1P) and dual-socket (2P). These world records are set by servers running across AMD platforms, including the AMD EPYC™ 7003 processors and workloads ranging from general business infrastructure, software-defined deployment, data analytics, AI, and HPC (High Performance Computing).

900+
Benchmark World Records

* SPEC is a corporation formed to establish and endorse standardized benchmarks and tools to evaluate performance and energy efficiency of computer systems.

Performance Boost Technology

ASUS servers feature exclusive Performance Boost technology to achieve the best server performance and agility by tuning servers to match the requirements of workloads, letting you gain greater control of your server environment. This technology improves workload throughput by maximizing processor frequency and boost power, ideal for time-sensitive applications such as financial services or data center operations. In the BIOS you can choose from pre-configured server profiles optimized for specific workloads, maximizing overall performance and reducing server-configuration time.
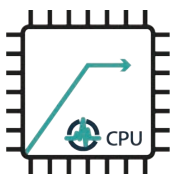
Core Optimizer
Maximizes the processor frequency in multi-core operations, avoiding frequency shifting for reduced latency.
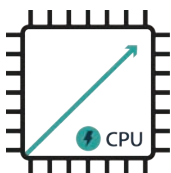
Engine Boost
Automatic power acceleration with an innovative voltage design to increase server overall performance.
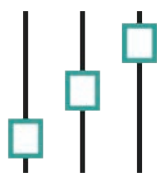
Workload Presets
Preconfigured BIOS server profiles based on workloads and benchmarks for improved performance and efficiency.

Power Balancer Technology

ASUS Power Balancer is an exclusive technology that enables ASUS servers to adjust overall loading automatically based on real-time monitoring in order to decrease overall power consumption for improved efficiency and cost/performance optimization.

Dynamic Monitoring

Monitor and feedback CPU loading to have more accurate management on the system.

Auto Frequency Adjustment

Adjust CPU frequency dynamically and automatically based on current utilization to reduce power consumption.

Enhanced Power Efficiency

Optimize performance per watt for a better power efficiency system.

Thermal Radar 2.0

Featuring two innovative intelligent detection technologies and multi-fan zone design, ASUS Thermal Radar 2.0 places different sensors on the CPU, GPU and in other areas to collect localized heating information to designate dedicated fan flow automatically to reduce consumption of overall fan capacity. Additionally, the multi-fan zone design enables multiple fan curves for different zones to reduce operating time and cost required for manual adjustments and effectively enhances system reliability and thermal efficiency.

More Sensors

Sensors are embedded on front panel, CPU, NVMe SSD, OCP card, PSU and memory. Up to 56 ambient sensors on selected models.
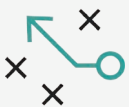
Intelligent Adjustment

Fans are grouped for dynamic fan curve adjustment in different fan zones to achieve more precise thermal monitoring.

Economic and Eco-friendly

More precise thermal information can reduce power consumption and lower down TCO.

4% power saving

130W (Disable)
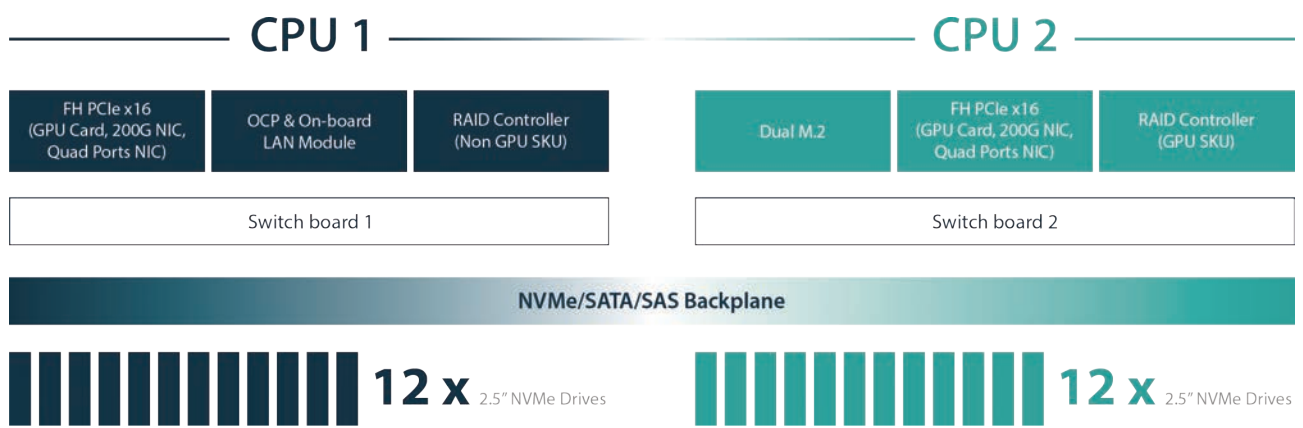
124.8W (Enable)

Disable   Enable
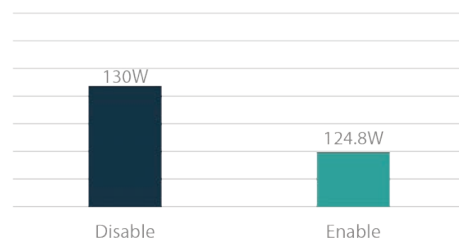
•In a condition when a server's CPU runs at an 80% workload

ASUS INNOVATIONS ON
SERVER DESIGN

CPU-balanced architecture

ASUS offers a CPU-balanced architecture* to enable secure and optimal CPU-performance efficiency. This architecture extends the full bandwidth to either dual- or single-CPU configurations, enabling more computing capability and much-improved overall power efficiency for compute-intensive workloads. This architecture allows customers to take full advantage of bandwidth capabilities of the dual-CPU architecture with a single CPU, while offering the flexibility to upgrade later with the addition of a second CPU.

CPU 1 — CPU 2

FH PCIe x16 (GPU Card, 200G NIC, Quad Ports NIC)	OCP & On-board LAN Module	RAID Controller (Non GPU SKU)

Switch board 1

Dual M.2	FH PCIe x16 (GPU Card, 200G NIC, Quad Ports NIC)	RAID Controller (GPU SKU)

Switch board 2

NVMe/SATA/SAS Backplane

12 x 2.5" NVMe Drives   **12 x** 2.5" NVMe Drives

* This is an architecture for RS720A-E11-RS24U. The architecture varies by model. Please contact your local representative for more information.

Modular design

ASUS servers offer a flexible, modular design to enable easy scale-up of configurations to meet increasing data-center workloads.

Switchable Design

The system-switchable design enables PCI Express® (PCIe®) lanes to be direction to M.2, PCIe 4.0 slots or NVMe drives as required, maximizing performance and capabilities.

CPU

PCIe Q Switch

Scenario A
PCIe M.2 for OS is needed

Dual M.2 + PCIe x8 Link

Scenario B
Require PCIe x16 expansion

PCIe x16 Link
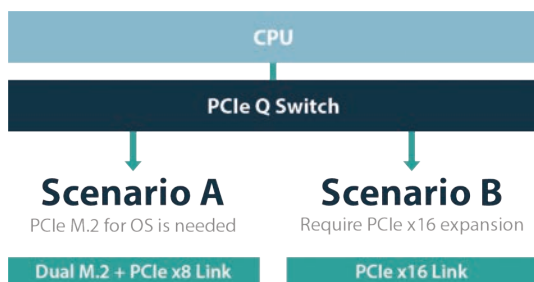
Customizable Ports

1. The onboard LAN module design allows the default rear-panel LAN port to be replaced with either up to four 1 Gb or two 10 Gb LAN ports, enabling large-scale networking bandwidth for enterprise or data centers.
2. One PCIe slot in rear panel is replaceable with an OCP 3.0 module for extended network bandwidth.

*This is a design for RS720A-E11-RS24U. The architecture varies by model. Please contact your local representative for more information.

Water-cooling solutions for data centers

ASUS collaborates with the leading vendor to deliver optimized liquid-cooling solutions for data-center and advanced enterprise use cases, including AI, HPC, cloud or GPU rendering – along with many other heavy-load scenarios. This provides tangible real-world benefits of increased performance and quieter operation in a reliable, proven package to improve whole-server performance.

Maximized Server Performance

Our water-cooling solutions lower overall power consumption and increase overall system performance, keeping servers running at higher performance levels compared to traditional air-cooled solutions – especially when workloads are heavy and more complicated.

Decreased Power Consumption

With huge data-center demand for cloud services, our liquid-cooled server solutions strikes the right balance between cost and efficiency, for optimal green credentials.

Minimized Noise

With liquid cooling efficiently dissipating heat the need for fan cooling is reduced, this lowering overall noise for quieter, calmer data-center environments.

Tried-and-tested Compatibility

ASUS servers are designed for the best compatibility with liquid-cooling solutions, pass strict tests to ensure the quality and reliability the design.

CDU installed in top of rack

ASUS rack server

Manifold installed inside rail of rack

Water hookups can be on the top or bottom of the rack
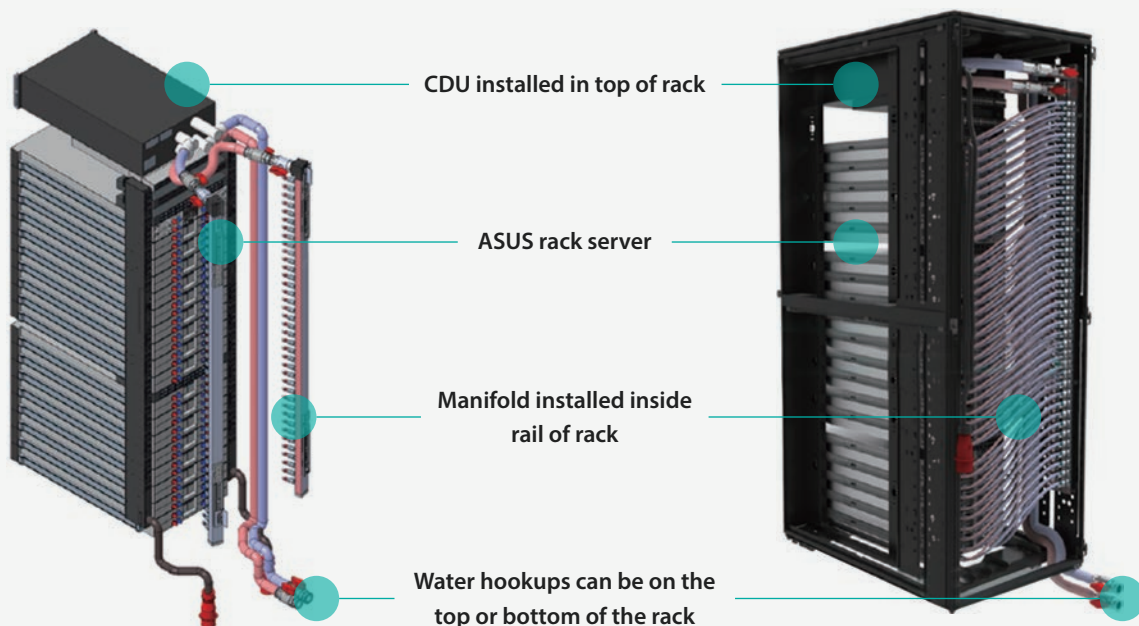
ASUS INNOVATIONS ON
SERVER SOFTWARE

ASUS Control Center

ASUS Control Center (ACC) for Enterprise is an excellent centralized management tool for servers and client devices. It is tailored for efficient IT management, including both hardware- and software-inventory management, and the remote dispatch of both software and firmware updates. It also allows for simple remote device configurations and health checks, plus rapid deployment of latest security policies and patches. In short, ACC Enterprise is a one-stop portal for IT management, and has been embraced by industries and businesses globally to minimize administration and maximize uptime.

Design for Enterprise

| BIOS Flash Update | Software Inventory | Hardware Inventory | Real-time System Monitor | Software Dispatch Task | Power and Security Control |

| Medical | Enterprise | Manufacturing | Education |
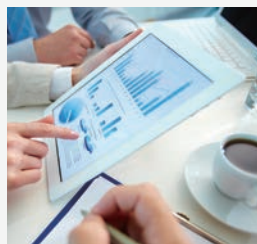
- • BMC IPMI/Redfish Integration
- • Hardware Utilization Record

- • Integrated Hotfix Report
- • NVIDIA Graphic Cards Monitoring

Modern
Graphical dashboard based on responsive HTML5, enabling fast, simple and intuitive navigation from almost any modern device.

Remote
Remote-management capabilities enhance work flexibility, reducing resources for minimized total cost of ownership (TCO).

Centralization
Single console-style interfaces allows IT managers to manage and configure devices collectively, from a central location.

ASUS ASMB10-iKVM
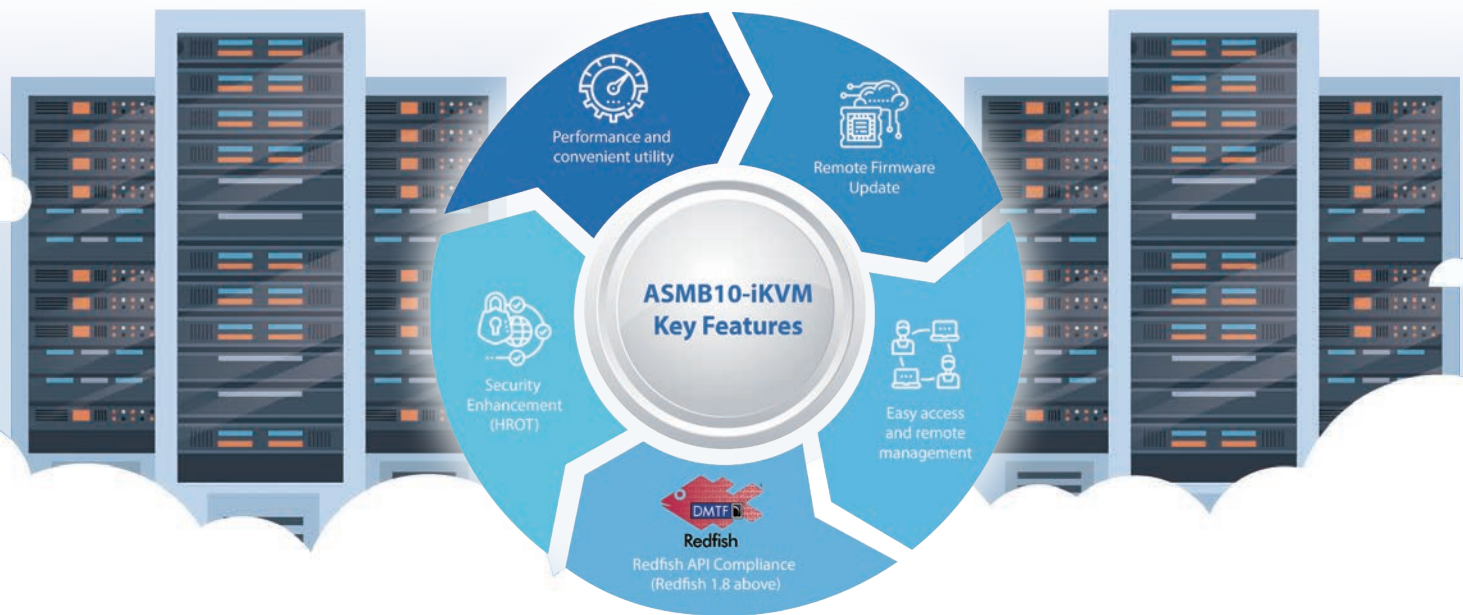
What ASMB10-iKVM offers

- System Inventory Management
- FRU Information
- Sensor Management
- Log Management

- Intrusion Detection
- System Settings
- Remote Access
- Power Control

- Firmware Maintenance
- Prediction
- Remote Update (BMC, BIOS, NICs, NVMe)
- Remote BIOS configuration

The latest ASUS server management solution – ASMB10-iKVM is built upon the ASPEED 2600 chipset running on the latest AMI MegaRAC SP-X. The module provides various interfaces to enable out-of-band server management through WebGUI, Intelligent Platform Management Interface (IPMI) and Redfish® API.

ASUS ASMB10-iKVM is an Intelligent Platform Management Interface (IPMI) 2.0-compliant module that allows you to monitor, control and manage a remote server from a local or central server attached to your network. ASMB10-iKVM also supports Redfish protocol for fast, efficient device management.

ASUS servers integrate PFR FPGA as the platform Root-of-Trust solution for firmware resiliency to prevent hackers from gaining access to infrastructure. ASUS PFR solution provides authentication check in firmware to ensure firmware free of malicious attack and offer recovery, protection to systems with ease of mind.

AMD EPYC™ 7003 Server Solutions
Workload Powerhouse

Optimize and support any workload with ASUS servers powered by the latest AMD EPYC™ 7003 processors, from GPU-density, multi-node high density to servers designed for AI, HPC, virtualization and data analytics. With a refreshed design for dual- or single-socket processors and a CPU-balanced architecture, you'll benefit from increased core, thread and memory densities that deliver double-digit performance improvements-not to mention improved connectivity. Put simply, the latest ASUS EPYC™ 7003-powered servers elevate performance to satisfy that the demands of modern enterprise and data centers.
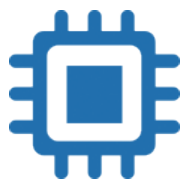
3rd Gen AMD EPYC CPU	Customer-center Design	ASUS Performance Boost Technology	ASMB10-iKVM with ASPEED 2600

GPU and FPGA Support

ASUS servers powered by latest AMD EPYC™ 7003 processors feature a powerful GPU architecture that supports up to eight dual-slot active or passive GPUs, including NVIDIA® and AMD Instinct™ with optimized internal thermal layout. They are also Xilinx Alveo-qualified servers by reuqest to provide optimized acceleration for workloads across cloud and on-premises data centers, and for hybrid cloud environments in financial computing, machine learning, computational storage, and data search and analytics.

RS720A-E11-RS24U

RS720A-E11-RS24U features up to 24 NVMe drives to provide All-NVMe solution with high IOPS and low latency

AMD EPYC™ 7003 2U dual-socket server that supports up to 32 DIMM, four dual-slot GPUs, 24 NVMe, nine PCIe 4.0 slots, OCP 3.0, M.2 and ASUS ASMB10-iKVM.

Form Factor	CPU Number	PCIe Gen4x16 Link
2U	**2**	**5**

Memory Number	NVMe	Graphic Card
32	**24**	**4** Dual-Slot

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	24
Additional OS Drive	2 X M.2
Networking	Optional 4 x 1GbE RJ45 or 2 x 10GbE RJ45 Optional 1 x OCP 3.0 socket

RS700A-E11-RS12U

High-performance AMD 1U server with great scalability and expandability for dense compute environment

AMD EPYC™ 7003 1U dual-socket server that supports up to 32 DIMM, one dual-slot GPU, 12 NVMe, 3 PCIe 4.0 slots, OCP 3.0, M.2 and ASMB10-iKVM.

Form Factor	CPU Number	PCIe Gen4x16 Link
1U	**2**	**3**

Memory Number	NVMe	Graphic Card
32	**12**	**1** Dual-Slot

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	12
Additional OS Drive	2 x M.2
Networking	Optional 4 x 1GbE RJ45 or 2 x 10GbE RJ45 Optional 1 x OCP 3.0 socket

AMD EPYC™ 7003 Server Solutions
Workload Powerhouse

RS520A-E11-RS12U

**Integrated PFR FPGA as the platform Root-of-Trust solution for firmware resiliency**

AMD EPYC™ 7003 2U single-socket server that supports up to 16 DIMM, 2 dual-slot GPUs, 12 NVMe, 5 PCIe 4.0 slots, OCP 3.0, M.2 and ASUS ASMB10-iKVM.

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	12
Additional OS Drive	2 x M.2
Networking	2 x 1GbE RJ45 on board 1 x OCP 3.0 socket

Form Factor	CPU Number	PCIe Gen4x16 Link
2U	**1**	**2**

Memory Number	NVMe	Graphic Card
16	**12**	**2** Dual-Slot

RS500A-E11-RS12U

Optimized balance design on performance, efficiency, and manageability for general purpose design

AMD EPYC™ 7003 1U single-socket server that supports up to 16 DIMM, 16 NVMe, 3 PCIe 4.0 slots, OCP 3.0, M.2 and ASUS ASMB10-iKVM.

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	16
Additional OS Drive	2 x M.2
Networking	2 x 1GbE RJ45 on board 1 x OCP 3.0 socket

Form Factor	CPU Number	PCIe Gen4x16 Link
1U	**1**	**2**

Memory Number	NVMe
16	**16**

ESC8000A-E11

GPU-optimized AMD 4U GPU server with high scalability and performance on GPU computing

ESC8000A-E11 features multiple GPUs support up to 8 GPUs for deep learning or AI training and inferencing.

CPU	AMD EPYC™ 7003 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	8
Additional OS Drive	2 X M.2 (optional)
Networking	Optional 1 x OCP 3.0 socket

Form Factor
4U

CPU Number
2

PCIe Gen4x16 Link
8

Memory Number
32

NVMe
2

Graphic Card
8 Dual-Slot

ESC N4A-E11

ASUS HGX A100 4-GPU solution delivers nearly 80 teraFLOPS of FP64 for the most demanding HPC workloads

AMD EPYC™ 7003 3U single-socket server that supports up to 16 DIMM, HGX A100 4-GPU baseboard, 4 NVMe, 3 PCIe 4.0 slots, M.2 and ASUS ASMB10-iKVM.

CPU	AMD EPYC™ 7003 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	4
Additional OS Drive	1 x M.2
Networking	2 x 10GbE RJ45 on board Optional 1 x OCP 3.0 socket

Form Factor
3U

CPU Number
1

PCIe Gen4x16 Link
3

Memory Number
16

NVMe
2

Graphic Card
NVIDIA HGX A100
(4-GPU Baseboard)

AMD EPYC™ 7003 Server Solutions
Workload Powerhouse

ESC4000A-E10

GPU-optimized design allows four dual-slot or eight single-slot GPUs, including NVIDIA® A100 and Quadro® series

AMD EPYC™ 7003 & 7002 2U single-socket GPU server supports up to 8 single-slot GPUs, 8 DIMM, PCIe 4.0, M.2, NVMe, OCP 3.0, dual LAN.

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	8
Additional OS Drive	1 x M.2
Networking	2 x 1GbE RJ45 on board Optional 1 x OCP 3.0 socket

Form Factor
2U

CPU Number
1

PCIe Gen4x16 Link
10

Memory Number
8

NVMe
4

Graphic Card
4 Dual-Slot or
8 Single-Slot

ESC4000A-E11

GPU-optimized design allows four dual-slot or eight single-slot GPUs, including NVIDIA® A100 and Quadro® series

AMD EPYC™ 7003 & 7002 2U single-socket GPU server supports up to 8 single-slot GPUs, 8 DIMM, PCIe 4.0, M.2, NVMe, OCP 3.0, dual LAN and ASUS ASMB10-iKVM.

CPU	AMD EPYC™ 7003 & 7002 series processors (LGA 4094)
Chipset	System on Chip (SoC)
Memory Type	DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS
Drive Bays	8
Additional OS Drive	1 x M.2
Networking	2 x 1GbE RJ45 on board Optional 1 x OCP 3.0 socket

Form Factor
2U

CPU Number
1

PCIe Gen4x16 Link
10

Memory Number
8

NVMe
4

Graphic Card
4 Dual-Slot or
8 Single-Slot

Rack Servers

	RS720A-E11-RS24U 2U, 4TB DDR4, 16 NVMe + 8 NVMe/SATA/SAS	RS720A-E11-RS12E 2U, 4TB DDR4, 8 NVMe/SATA/SAS + 4 SATA/SAS	RS720A-E11-RS12 2U, 4TB DDR4, 4 NVMe + 4 NVMe/SATA/SAS + 4 SATA/SAS
Motherboard	KMPP-D32	KMPP-D32	KMPP-D32
Processor	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB
VGA	Aspeed AST2600 64MB	Aspeed AST2600 64MB	Aspeed AST2600 64MB
Graphic	N/A	N/A	N/A
Expansion Slots	Up to 9 slots 6 x PCIe x16 slots (Gen4 x8 link) or 3 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x8 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL	Up to 9 slots 6 x PCIe x16 slots (Gen4 x8 link) or 3 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x8 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL	Up to 9 slots 6 x PCIe x16 slots (Gen4 x8 link) or 3 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x8 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL
Storage Controller	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i
Storage Bays	24 x 2.5" Front Hot-Swap Storage Bays (Up to 16x NVMe + 8x NVMe/SATA/SAS)* Optional 2 x 2.5" Rear Hot-swap Storage Bays (Up to 2x NVMe/SATA) *PIKE/RAID card is required to support SAS hard drives	12x 3.5" or 2.5" Front Hot-Swap Storage Bays (Up to 8x NVMe/SATA/SAS + 4x SATA/SAS)* Optional 2 x 2.5" Rear Hot-swap Storage Bays (Up to 2x NVMe) *PIKE/RAID card is required to support SATA/SAS hard drives	12x 3.5" or 2.5" Front Hot-Swap Storage Bays (Up to 4x NVMe + 4x NVMe/SATA/SAS + 4x SATA/SAS)* Optional 2 x 2.5" Rear Hot-swap Storage Bays (Up to 2x NVMe) *PIKE/RAID card is required to support SAS hard drives
Networking	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter
Optical Drive	N/A	N/A	N/A
Front I/O Ports	2x USB3.2 Gen 1 ports	2x USB3.2 Gen 1 ports	2x USB3.2 Gen 1 ports
Rear I/O Ports	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)
Security Solution	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM
Dimension	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"
Net Weight kg (CPU, DRAM & HDD not included)	21.64 kg	18.195 kg	18.195 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	27.85 kg	23.235 kg	23.235 kg
Power Supply (Following different configuration by region)	1+1 Redundant 1600W 80 PLUS Platinum Power Supply 1+1 Redundant 2400W 80 PLUS Titanium Power Supply	1+1 Redundant 1600W 80 PLUS Platinum Power Supply 1+1 Redundant 2400W 80 PLUS Titanium Power Supply	1+1 Redundant 1600W 80 PLUS Platinum Power Supply 1+1 Redundant 2400W 80 PLUS Titanium Power Supply

Rack Servers

	2U, 4TB DDR4, 8 NVMe/SATA/SAS + 16 SATA/SAS **RS720A-E11-RS24E**	1U, 4TB DDR4, 12 NVMe/SATA/SAS **RS700A-E11-RS12U**	1U, 4TB DDR4, 4 NVMe/SATA/SAS **RS700A-E11-RS4U**
Motherboard	KMPP-D32	KMPP-D32	KMPP-D32
Processor	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB
VGA	Aspeed AST2600 64MB	Aspeed AST2600 64MB	Aspeed AST2600 64MB
Graphic	N/A	N/A	N/A
Expansion Slots	Up to 9 slots 6 x PCIe x16 slots (Gen4 x8 link) or 3 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x8 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL	Up to 3 slots, 1 proprietary slot 1 x PCIe x16 slot (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL 1 x PCIe x8 slot (Gen3 x8 Link), proprietary	Up to 3 slots, 1 proprietary slot 1 x PCIe x16 slot (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 1 x PCIe x16 slot (Gen4 x16 or x8 link), LP, HL 1 x PCIe x8 slot (Gen3 x8 Link), proprietary
Storage Controller	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card Broadcom MegaRAID 9560-16i
Storage Bays	24 x 2.5" Front Hot-Swap Storage Bays (Up to 8x NVMe/SATA/SAS + 16x SATA/SAS)* *PIKE/RAID cards is required to support SATA/SAS hard drives	12 x 2.5" Front Hot-Swap Storage Bays (Up to 12x NVMe/SATA/SAS)* *PIKE/RAID card is required to support SAS hard drives	4 x 3.5" or 2.5" Front Hot-Swap Storage Bays (Up to 4x NVMe/SATA/SAS)* *PIKE/RAID card is required to support SAS hard drives
Networking	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	Optional 4 x 1GbE LAN ports (Intel® I350-AM2) or 2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter
Optical Drive	N/A	N/A	1 x Slim-type Optical Drive Bay (optional)
Front I/O Ports	2x USB 3.2 Gen 1 ports	N/A	2 x USB 3.2 Gen1 ports 1 x VGA port
Rear I/O Ports	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 Management port 2 or 4 x RJ-45 ports (optional)
Security Solution	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM
Dimension	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"	842.5mm x 449mm x 43.85mm (1U) 33.17" x 17.68" x 1.73"	842.5mm x 449mm x 43.85mm (1U) 33.17" x 17.68" x 1.73"
Net Weight kg (CPU, DRAM & HDD not included)	21.64 kg	18.85 kg	18.85 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	27.85 kg	23.89 kg	23.89 kg
Power Supply (Following different configuration by region)	1+1 Redundant 1600W 80 PLUS Platinum Power Supply 1+1 Redundant 2400W 80 PLUS Titanium Power Supply	1+1 Redundant 1200W/1600W 80 PLUS Platinum Power Supply 1+1 Redundant 1600W 80 PLUS Titanium Power Supply	1+1 Redundant 1200W/1600W 80 PLUS Platinum Power Supply 1+1 Redundant 1600W 80 PLUS Titanium Power Supply

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	2U, 4TB DDR4, 12 SATA/SAS support via HBA/RAID Card **RS720A-E9-RS12V2**	1U, 4TB DDR4, 8 NVMe/SATA/SAS + 4 SATA **RS700A-E9-RS12V2**	1U, 4TB DDR4, 4 SATA/SAS **RS700A-E9-RS4V2**
Motherboard	KNPP-D32-R	KNPP-D32-R	KNPP-D32-R
Processor	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7002 & 7001 Series processors (Up to 225W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7002 & 7001 Series processors (Up to 225W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7002 & 7001 Series processors (Up to 225W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB
VGA	Aspeed AST2500 64MB	Aspeed AST2500 64MB	Aspeed AST2500 64MB
Graphic	N/A	N/A	N/A
Expansion Slots	Up to 8 slots, 1 OCP 2.0 socket 6 x PCIe x16 slots (Gen3 x8 link) or 3 PCIe x16 slots (Gen3 x16 link), FH, HL 1 x PCIe x16 slot (Gen3 x8 link), FH, HL 1 x PCIe x16 slot (Gen3 x16 link), LP 1 x OCP 2.0 Mezz. socket	Up to 3 slots, 1 OCP 2.0 socket 1 x PCIe x16 slot (Gen3 x16 link), FH, HL 1 x PCIe x16 slot (Gen3 x8 link), LP 1 x PCIe x8 slot (Gen3 x8 link), LP 1 x OCP2.0 Mezz. socket	Up to 3 slots, 1 OCP 2.0 socket 1 x PCIe x16 slot (Gen3 x16 link), FH, HL 1 x PCIe x16 slot (Gen3 x8 link), LP 1 x PCIe x8 slot (Gen3 x8 link), LP 1 x OCP2.0 Mezz. socket
Storage Controller	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card	Optional kits: ASUS PIKE II 3008 8-port SAS 12Gb/s HBA card ASUS PIKE II 3108 8-port SAS HW 12Gb/s RAID card
Storage Bays	12 x 3.5" Hot-Swap Storage Bays (Up to 12x SATA/SAS support via HBA/RAID Card) Optional 2 x 2.5" Rear Hot-swap Storage Bays (Up to 2x SATA)	12 x 2.5" Front Hot-Swap Bays (Up to 8x NVMe/SATA/SAS + 4x SATA)* *PIKE/RAID card is required to support SAS hard drives	4 x 3.5" or 2.5" Front Hot-Swap Storage Bays (Up to 4 x SATA/SAS)* *PIKE/RAID card is required to support SAS hard drives
Networking	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management Port Optional OCP 2.0 socket: Up to 100GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management Port Optional OCP 2.0 socket: Up to 100GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management Port Optional OCP 2.0 socket: Up to 100GbE/ InfiniBand Adapter
Optical Drive	N/A	N/A	N/A
Front I/O Ports	2 x USB 2.0 ports	N/A	2 x USB 3.2 Gen1 port port 1 x VGA port
Rear I/O Ports	2 x USB 3.2 Gen1 ports 1 x VGA port 2 x RJ-45 ports 1 x RJ-45 Management port	2 x USB 3.2 Gen1 ports 1 x VGA port 2 x RJ-45 ports 1 x RJ-45 Management port	2 x USB 3.2 Gen1 ports 1 x VGA port 2 x RJ-45 ports 1 x RJ-45 Management port
Security Solution	Optional TPM Module	Optional TPM Module	Optional TPM Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM
Dimension	750mm x 444mm x 88mm (2U) 29.52" x 17.48" x 3.46"	686mm x 444mm x 44mm (1U) 27" x 17.48" x 1.73"	686mm x 444mm x 44mm (1U) 27" x 17.48" x 1.73"
Net Weight kg (CPU, DRAM & HDD not included)	16.85 kg	12.15 kg	11.85 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	22 kg	15.75 kg	16.05 kg
Power Supply (Following different configuration by region)	1+1 Redundant 800W/1200W 80 PLUS Platinum Power Supply	1+1 Redundant 800W 80 PLUS Platinum Power Supply	1+1 Redundant 800W 80 PLUS Platinum Power Supply

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	2U, 512GB DDR4, 12 NVMe **RS620SA-E10-RS12**	2U, 4TB DDR4, 24 NVMe **RS520A-E11-RS24U**	2U, 4TB DDR4, 12 NVMe/SATA/SAS **RS520A-E11-RS12U**
Motherboard	KRPH-U8	KMPA-U16	KMPA-U16
Processor	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)	2 x Socket SP3 (LGA 4094) AMD EPYC™ 7003 & 7002 Series processors (Up to 280W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	Per Node: 8 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 512GB	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB
VGA	Aspeed AST2500 64MB	Aspeed AST2600 64MB	Aspeed AST2600 64MB
Graphic	N/A	N/A	Up to 2 dual-slot GPU
Expansion Slots	Per Node: Up to 1 slot, 1 OCP 3.0 socket 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x OCP 3.0 NIC socket	Up to 1 slot, 1 OCP 3.0 socket 1 x PCIe x16 slot (Gen4 x8 link), LP (This slot can't support GPU)	Up to 5 slots, 1 OCP 3.0 socket 4 x PCIe x16 slots (Gen4 x8 link), FH, FL or 2 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x8 link), LP
Storage Controller	Per Node: Support RAID 0, 1 Onboard Broadcom SAS3008 12G Controller	CPU Integrated	CPU Integrated
Storage Bays	12 x 2.5" Front Hot-swap Storage Bays (Up to 12x NVMe/SATA/SAS) 2 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link)	24 x 2.5" Front Hot-swap Storage Bays (Up to 24x NVMe or 16x NVMe + 8x SATA/SAS or 12x NVMe + 12x SATA/SAS)* 2 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link*1 or Gen4 x2 link*2) *PIKE/RAID card is required to support SAS hard drives	12 x 3.5" Front Hot-swap Storage Bays (Up to 12x NVMe/SATA/SAS)* 2 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link*1 or Gen4 x2 link*2) *PIKE/RAID card is required to support SAS hard drives
Networking	1 x 1 GbE LAN port (Intel® I210-AT) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1 GbE LAN ports (Intel® I350-AM2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1 GbE LAN ports (Intel® I350-AM2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter
Optical Drive	N/A	N/A	N/A
Front I/O Ports	N/A	2 x USB 3.2 Gen1 ports	2 x USB 3.2 Gen1 ports
Rear I/O Ports	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x RJ-45 port 1 x RJ-45 Management port	2 x USB 3.2 Gen1 ports 1 x VGA port 2 x RJ-45 ports 1 x RJ-45 Management port	2 x USB 3.2 Gen1 ports 1 x VGA port 2 x RJ-45 ports 1 x RJ-45 Management port
Security Solution	Optional TPM Module	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM
Dimension	846.2mm x 444mm x 88mm (2U) 33.31" x 17.48" x 3.46"	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"	840mm x 449mm x 88.1mm (2U) 33.07" x 17.68" x 3.47"
Net Weight kg (CPU, DRAM & HDD not included)	36.99 kg	25.57 kg	29.03 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	46.68 kg	35.16 kg	38.62 kg
Power Supply (Following different configuration by region)	1+1 Redundant 2600W/3000W 80 PLUS Platinum Power Supply	1+1 Redundant 800W/1200W 80 PLUS Platinum Power Supply 1+1 Redundant 850W 80 PLUS Titanium Power Supply	1+1 Redundant 800W/1200W 80 PLUS Platinum Power Supply 1+1 Redundant 850W 80 PLUS Titanium Power Supply

	RS500A-E11-RS12U	**RS500A-E11-RS4U**	**RS500A-E10-RS12U**
	1U, 16 NVMe, 3 PCIe slots	1U, 4 NVMe, 3 PCIe slots	1U, 12 NVMe, 2 PCIe slots
Motherboard	KMPA-U16	KMPA-U16	KRPA-U16
Processor	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB
VGA	Aspeed AST2600 64MB	Aspeed AST2600 64MB	Aspeed AST2500 64MB
Graphic	N/A	N/A	N/A
Expansion Slots	Up to 3 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x PCIe x16 slot (Gen4 x16 link), LP, HL 1 x PCIe x16 slot (Gen4 x8 link), LP, HL	Up to 3 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x PCIe x16 slot (Gen4 x16 link), LP, HL 1 x PCIe x16 slot (Gen4 x8 link), LP, HL	Up to 2 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x PCIe x8 slot (Gen4 x8 link), FH, HL
Storage Controller	CPU inegrated	CPU inegrated	CPU inegrated
Storage Bays	12 x 2.5" Front Hot-swap Storage Bays (Up to 12x NVMe/SATA/SAS)* Optional 4 x 2.5" Middle Storage Bays (Up to 4x NVMe/SATA) 2 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link*1 or Gen4 x2 link*2) *PIKE/RAID card is required to support SAS hard drives	4 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS)* 2 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link*1 or Gen4 x2 link*2) *PIKE/RAID card is required to support SAS hard drives	12 x 2.5" Front Hot-swap Storage Bays (Up to 12x NVMe/SATA/SAS)* 1 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives
Networking	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP2.0 socket: Up to 50GbE Adapter
Optical Drive	N/A	N/A	N/A
Front I/O Ports	N/A	2 x USB 3.2 Gen1 ports 1 x VGA port	N/A
Rear I/O Ports	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port 1 x COM port
Security Solution	Optional TPM Module Optional PFR Module	Optional TPM Module Optional PFR Module	Optional TPM Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM
Dimension	842mm x 449mm x 44mm (1U) 33.15" x 17.68" x 1.73"	842mm x 449mm x 44mm (1U) 33.15" x 17.68" x 1.73"	615mm x 444mm x 44mm (1U) 24.21" x 17.48" x 1.73"
Net Weight kg (CPU, DRAM & HDD not included)	17 kg	16 kg	11 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	22 kg	21 kg	17 kg
Power Supply (Following different configuration by region)	1+1 Redundant 800W 80 PLUS Platinum Power Supply 1+1 Redundant 850W 80 PLUS Titanium Power Supply	1+1 Redundant 800W 80 PLUS Platinum Power Supply 1+1 Redundant 850W 80 PLUS Titanium Power Supply	1+1 Redundant 650W 80 PLUS Platinum Power Supply

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	1U, 2 PCIe slots , Redundant PSU **RS500A-E10-RS4**	**1U, 2 PCIe slots, Single PSU** **RS500A-E10-PS4**	**4U, 8GPU, Direct link from CPU** **ESC8000A-E11**
Motherboard	KRPA-U16	KRPA-U16	KMPG-D32
Processor	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors (Up to 240W)	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors (Up to 240W)	2 x Socket SP3 (LGA-4094) Supports AMD EPYC™ 7003 series processors (up to 280W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB	32 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB
VGA	Aspeed AST2500 64MB	Aspeed AST2500 64MB	Aspeed AST2600 64MB
Graphic	N/A	N/A	Up to 8 dual-slot GPU cards
Expansion Slots	Up to 2 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x PCIe x8 slot (Gen4 x8 link), FH, HL	Up to 2 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, HL 1 x PCIe x8 slot (Gen4 x8 link), FH, HL	Up to 11 slots 8 x PCIe x16 slots (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x16 link), FH, HL or OCP3.0 NIC socket 1 x PCIe x8 slot (Gen4 x8 link), LP, HL (optional) 1 x PCIe x16 slot (Gen4 x8 link), LP, HL (optional)
Storage Controller	CPU inegrated	CPU inegrated	CPU inegrated
Storage Bays	4 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS)* 1 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives	4 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS)* 1 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives	8 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS + 4x SATA/SAS)* *PIKE/RAID card is required to support SATA/SAS hard drives
Networking	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP 2.0 socket: Up to 50GbE Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP 2.0 socket: Up to 50GbE Adapter	1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter
Optical Drive	1 x Slim-type Optical Drive Bay (optional)	1 x Slim-type Optical Drive Bay (optional)	N/A
Front I/O Ports	2 x USB 3.2 Gen1 ports 1 x VGA port	2 x USB 3.2 Gen1 ports 1 x VGA port	2 x USB 3.2 Gen1 ports 1 x VGA port 1 x COM port
Rear I/O Ports	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port 1 x COM port	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port 1 x COM port	1 x RJ-45 Management port
Security Solution	Optional TPM Module	Optional TPM Module	Optional TPM Module Optional PFR Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM
Dimension	615mm x 444mm x 44mm (1U) 24.21" x 17.48" x 1.73"	615mm x 444mm x 44mm (1U) 24.21" x 17.48" x 1.73"	798mm x 439mm x 175.6mm (4U) 31.4" 17.22" x 6.92"
Net Weight kg (CPU, DRAM & HDD not included)	11 kg	11 kg	39 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	17 kg	17 kg	49 kg
Power Supply (Following different configuration by region)	1+1 Redundant 650W 80 PLUS Platinum Power Supply	Single 650W 80 PLUS Platinum Power Supply	2+2 Redundant 2200W/3000W 80 PLUS Titanium Power Supply

	3U, 4 SXM GPU, 4 3.5" Storage **ESC N4A-E11**	**2U, 4GPU, 8 3.5" Storage** **ESC4000A-E10**	**2U, 4GPU, 8 3.5" Storage** **ESC4000A-E11**
Motherboard	KMPN-U16	KRPG-U8	KMPG-U8
Processor	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 series processors (Up to 280W)	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors (Up to 280W)	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors (Up to 280W)
Chipset	System on Chip (SoC)	System on Chip (SoC)	System on Chip (SoC)
Memory	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 4096GB	8 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB	8 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB
VGA	Aspeed AST2600 64MB	Aspeed AST2500 64MB	Aspeed AST2600 64MB
Graphic	NVIDIA HGX A100 4-GPU Baseboard	4 dual-slot or 8 single-slot GPU Cards	4 dual-slot or 8 single-slot GPU Cards
Expansion Slots	Up to 3 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, FL or OCP 3.0 NIC socket 2 x PCIe x16 slots (Gen4 x16 link), LP, FL	Up to 11 slots, 1 OCP 3.0 socket 8 x PCIe x16 slots (Gen4 x8 link) or 4 x PCIe x16 slots (Gen4 x16 link), FH, FL 2 x PCIe x16 slots (Gen4 x16 link), LP, HL 1 x PCIe x8 slot (Gen4 x8 link), LP, HL 1 x OCP 3.0 NIC socket (optional)	Up to 11 slots, 1 OCP 3.0 socket 8 x PCIe x16 slots (Gen4 x8 link) or 4 x PCIe x16 slots (Gen4 x16 link), FH, FL 2 x PCIe x16 slots (Gen4 x16 link), LP, HL 1 x PCIe x8 slot (Gen4 x8 link), LP, HL 1 x OCP 3.0 NIC socket (optional)
Storage Controller	CPU Integrated	CPU Integrated	CPU Integrated
Storage Bays	4 x 3.5" Front Hot-swap Storage Bays (Up to 2x NVMe/SATA/SAS + 2 x SATA/SAS)* 1 x M.2 (Up to 22110, PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives	8 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS + 4 x SATA/SAS)* 1 x M.2 (Up to 22110, PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives	8 x 3.5" Front Hot-swap Storage Bays (Up to 4x NVMe/SATA/SAS + 4 x SATA/SAS)* 1 x M.2 (Up to 22110, PCIe Gen4 x4 link) *PIKE/RAID card is required to support SAS hard drives
Networking	2 x 10GbE LAN ports (Intel® X710-AT2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port Optional OCP 3.0 socket: Up to 200GbE/ InfiniBand Adapter
Optical Drive	N/A	N/A	N/A
Front I/O Ports	1 x USB 3.2 Gen1 port	4 x USB 3.2 Gen1 ports	4 x USB 3.2 Gen1 ports
Rear I/O Ports	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port 1 x COM port	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port	2 x USB 3.2 Gen1 ports 2 x RJ-45 ports 1 x RJ-45 Management port 1 x VGA port
Security Solution	Optional TPM Module Optional PFR Module	Optional TPM Module	Optional TPM Module Optional PFR Module
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM	Optional ASUS Control Center Enterprise On-Board ASMB10-iKVM
Dimension	823mm x 439.5mm x 130.6mm (3U)	800mm x 440mm x 88mm (2U) 31.50" x 17.22" x 3.46"	800mm x 440mm x 88mm (2U) 31.50" x 17.22" x 3.46"
Net Weight kg (CPU, DRAM & HDD not included)	38 kg	34 kg	34 kg
Gross Weight kg (CPU, DRAM & HDD not included, Packing included)	43 kg	44 kg	44 kg
Power Supply (Following different configuration by region)	1+1 Redundant 3000W 80 PLUS Titanium Power Supply	1+1 Redundant 1600W/2200W 80 PLUS Platinum Power Supply	1+1 Redundant 1600W/2200W 80 PLUS Platinum Power Supply

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Server Board

KRPA-U16

Processor	1 x Socket SP3 (LGA-4094) AMD EPYC™ 7003 & 7002 series processors (Up to 280W)
Chipset	System on Chip (SoC)
Memory	16 x DIMM slots DDR4 up to 3200 RDIMM/LR-DIMM/LR-DIMM 3DS Max. 2048GB
VGA	Aspeed AST2500 64MB
Expansion Slots	Up to 5 slots 1 x PCIe x16 slot (Gen4 x16 link), FH, FL 1 x PCIe x16 slot (Gen4 x16/x8 link), FH, FL 1 x PCIe x8 slot (Gen4 x0/x8 link), FH, FL 1 x PCIe x8 slot (Gen4 x8 link), FH, FL 1 x PCIe x24 slot (Gen4 x16 + x8 link), FH, HL
Storage	16 x SATA 6Gb/s ports (4 by Mini-SAS HD) 1 x M.2 (Up to 22110, SATA or PCIe Gen4 x4 link)
Networking	2 x 1GbE LAN ports (Intel® I350-AM2) 1 x Management port 1 x OCP 2.0 socket: Up to 50GbE Adapter
Audio	N/A
Other Onboard I/O Devices	2 x USB 3.2 Gen1 ports 2 x RJ-45 port 1 x RJ-45 Management port 1 x VGA port 1 x COM port (optional)
Management Solution	Optional ASUS Control Center Enterprise On-Board ASMB9-iKVM
Form Factor	EEB, 12" x 13"

Accessory PIKE II

	PIKE II 3108-8i/240PD/2G	**PIKE II 3108-8i/240PD**	**PIKE II 3108-8i/16PD/2G**
Controller	Broadcom (LSI) SAS3108	Broadcom (LSI) SAS3108	Broadcom (LSI) SAS3108
Interface	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 3.0 x8
Ports	8 internal ports (by 2 Mini-SAS HD SFF-8643)	8 internal ports (by 2 Mini-SAS HD SFF-8643)	8 internal ports (by 2 Mini-SAS HD SFF-8643)
Supported Device	SAS/SATA Devices	SAS/SATA Devices	SAS/SATA Devices
Data Transfer Rate	Max SAS 12Gb/s Max SATA 6Gb/s	Max SAS 12Gb/s Max SATA 6Gb/s	Max SAS 12Gb/s Max SATA 6Gb/s
RAID Level Supported	0, 1, 10, 5, 6, 50, 60 (Max. Physical Devices for RAID: 240)	0, 1, 10, 5, 6, 50, 60 (Max. Physical Devices for RAID: 240)	0, 1, 10, 5, 6, 50, 60 (Max. Physical Devices for RAID: 16)
JBOD Mode	Yes	Yes	Yes
Embeded Memory	2GB DDR3	1GB DDR3	2GB DDR3
Cache Protection	CacheVault Module (Optional)	CacheVault Module (Optional)	CacheVault Module (Optional)
Board Form Factor	Low prole MD2 card	Low prole MD2 card	Low prole MD2 card
Dimension	6.6" x 2.71"	6.6" x 2.71"	6.6" x 2.71"

	PIKE II 3108-8i/16PD	**PIKE II 3008-8i**
Controller	Broadcom (LSI) SAS3108	Broadcom (LSI) SAS3008
Interface	PCIe 3.0 x8	PCIe 3.0 x8
Ports	8 internal ports (by 2 Mini-SAS HD SFF-8643)	8 internal ports (by 2 Mini-SAS HD SFF-8643)
Supported Device	SAS/SATA Devices	SAS/SATA Devices
Data Transfer Rate	Max SAS 12Gb/s Max SATA 6Gb/s	Max SAS 12Gb/s Max SATA 6Gb/s
RAID Level Supported	0, 1, 10, 5, 6, 50, 60 (Max. Physical Devices for RAID: 16)	0, 1, 10, 1E
JBOD Mode	Yes	Yes
Embeded Memory	1GB DDR3	N/A
Cache Protection	CacheVault Module (Optional)	N/A
Board Form Factor	Low prole MD2 card	Low prole MD2 card
Dimension	6.6" x 2.71"	5.81" x 2.71"

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Accessory PIKE II   24

Accessory LAN
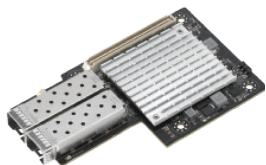
	MCC-25G/41202-2S	**MCB-10G-2S**	**MCI-10G/82599-2S**
Controller	Cavium QL41202	BCM 57840S	Intel® 82599
Data Transfer Rate	25Gbps Ethernet	10Gbps Ethernet	10Gbps Ethernet
Connection Port	SFP28, Dual Port	SFP+, Dual Port	SFP+, Dual Port
Host Interface	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 2.0 x8
Board Form Factor	OCP Mezzanine Card	OCP Mezzanine Card	OCP Mezzanine Card
Dimension	2.68" x 4.33"	2.68" x 4.33"	2.68" x 4.33"
Feature	RDMA SR-IOV iSCSI Boot PXE	SR-IOV FCoE Boot iSCSI Boot PXE	SR-IOV FCoE Boot iSCSI Boot PXE
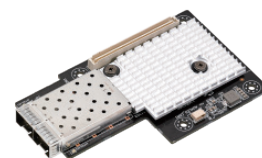
	MCI-10G/X550-2T	**MCI-1G/350-4T**	**MCI-1G/350-2T**
Controller	Intel® X550-AT2	Intel® I350-AM4	Intel® I350-AM2
Data Transfer Rate	10Gbps Ethernet	1Gbps Ethernet	1Gbps Ethernet
Connection Port	RJ45, Dual Port	RJ45, Dual Port	RJ45, Dual Port
Host Interface	PCIe 3.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Board Form Factor	OCP Mezzanine Card	OCP Mezzanine Card	OCP Mezzanine Card
Dimension	2.68" x 4.33"	2.68" x 4.33"	2.68" x 4.33"
Feature	SR-IOV FCoE Boot iSCSI Boot PXE	SR-IOV PXE	SR-IOV PXE
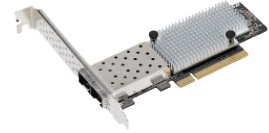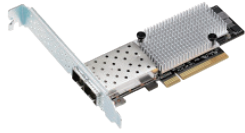
	PEB-10G/57840-2S	**PEB-10G/57840-2T**	**MCI-10G/82599-2S**
Controller	BCM 57840S	BCM 57840S BCM 84833 (PHY)	Intel® 82599
Data Transfer Rate	10Gbps Ethernet	10Gbps Ethernet	10Gbps Ethernet
Connection Port	SFP+, Dual Port	RJ45, Dual Port	SFP+, Dual Port
Host Interface	PCIe 3.0 x8	PCIe 3.0 x8	PCIe 2.0 x8
Board Form Factor	Low Prole Card	Low Prole Card	Low Prole Card
Dimension	4.72" x 1.77"	4.72" x 1.77"	4.72" x 1.77"
Feature	SR-IOV FCoE Boot iSCSI Boot PXE	SR-IOV FCoE Boot iSCSI Boot PXE	SR-IOV FCoE Boot iSCSI Boot PXE

For details, please visit our website.
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