

# RS520QA-E13-RS8U

## High-end AMD Turin Platform Single Socket 2U4N Server

**2U4N****1****12/20**

ASUS RS520QA-E13-RS8U is the ideal multi-node server powered by AMD® Turin processors, with each node supports up to 20 DIMMs, one PCIe® 5.0 slots and one OCP 3.0 slot, which is the best choice for EDA application or high performance computing.

### FEATURES

- Powered by a single AMD EPYC™ 9005 Turin processor with 12 DIMMs supporting up to 6400MHz (1DPC), built for high scalability, dense computing, and diverse workloads.
- Optional CXL-enabled design supports eight additional DIMMs per node at 5600/4400MHz (2DPC), delivering high capacity and cost-efficient scalability.
- Front-access layout allows IT staff to service the server without entering hot aisles, enhancing convenience and uptime.
- Effort-less ergonomic handle and toolless bracket design for easy maintenance.
- Support up to 500W TDP CPUs with exceptional thermal performance using air-cooling, improving power efficiency

### TARGET MARKET

- High Performance Computing
- Electronic Design Automation
- Data Analysis
- Edge Computing

### AMD Turin Processors

RS520QA-E13-RS8U is built with the AMD next Gen Turin processor, with per node 12 DDR5 RDIMM up to 6400MT/s (1DPC), designed for the demand of high scalability, high-density computing, and a wide range of existing and emerging workloads.

### CXL Memory Expansion

Total 8 additional DIMMs expandability per node by optional CXL memory module to achieve higher memory capacity while the on-board 12x DIMMs still remain 1DPC up to 6400MHz speed for extraordinary performance. Besides, the CXL memory expansion achieves huge cost saving by minimizing reliance on high-cost 128GB or 256GB memory modules.

### PCIe 5.0 Ready

PCI Express® (PCIe®) 5.0 delivers 32GT/s bandwidth, which is double the speed of PCIe 4.0, offering lower power consumption, better lane scalability and backwards compatibility.

### Enhanced Security

PFR FPGA as the platform Root-of-Trust solution for firmware resiliency Trusted Platform Module 2.0 (TPM 2.0) to secure hardware through integrated cryptographic keys and offer regular firmware update for vulnerabilities.

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## SPECIFICATION

|                                                                             |                                                       |                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Processor Support</b>                                                    |                                                       | Per node:<br>1 x Socket SP5 (LGA 6096P)<br>AMD EPYC™ Turin series processors (Up to 400W/500W* TDP)<br>*500W TDP requires an operating temperature of 25°C                                                                                                |
| <b>Core Logic</b>                                                           |                                                       | (INTEGRATED I/O – NO CHIPSET)                                                                                                                                                                                                                             |
| <b>Memory</b>                                                               |                                                       | Per node:<br>Total 12+8 DIMM slots<br>On-board: 12 x DIMM slots 1DPC (DDR5 up to 6400)<br>CXL module: 8 x DIMM slots 2DPC (DDR5 4400/5600*)<br>* CXL modules support 5600 MT/s in 1DPC mode<br>** CXL support is optional and dependent on configuration. |
| <b>Expansion Slots</b>                                                      | <b>Total PCI/PCI-X/PCI-E/PIKE Slots<br/>Slot Type</b> | Total 2 expansion slots per node<br>Per Node:<br>1 x PCIe Gen5 x16 link (HH, HL)<br>1 x OCP 3.0 *(SFF)                                                                                                                                                    |
| <b>Storage Bays</b>                                                         | <b>I = internal<br/>A or S will be hot-swappable</b>  | Per node:<br>2 x 2.5" hot-swap drive bays (NVMe/SATA/SAS*)<br>* SAS support requires an optional HBA/RAID card<br>2 x M.2 connectors (Gen5 x4 link, 2280)                                                                                                 |
| <b>Networking</b>                                                           | <b>LAN</b>                                            | Per Node:<br>1 x Management Port                                                                                                                                                                                                                          |
| <b>Graphic</b>                                                              | <b>VGA</b>                                            | Aspeed AST2600 64MB                                                                                                                                                                                                                                       |
| <b>Front I/O Ports</b>                                                      |                                                       | Per Node:<br>2 x USB 3.2 Gen1 ports<br>1 x VGA port<br>1 x RJ-45 Management LAN port                                                                                                                                                                      |
| <b>Rear I/O Ports</b>                                                       |                                                       | Per Node:<br>1x UART Debug port                                                                                                                                                                                                                           |
| <b>Switch/LED</b>                                                           |                                                       | Per Node:<br>Front:<br>1 x Power switch w/ LED<br>1 x Message LED<br>1 x Location switch w/ LED<br>1 x BMC heartbeat LED<br>1 x LAN LED<br>2 x HDD Access LED                                                                                             |
| <b>OS Support</b>                                                           |                                                       | Please find the latest OS support from <a href="http://www.asus.com/">http://www.asus.com/</a>                                                                                                                                                            |
| <b>Management Solution</b>                                                  | <b>Software</b>                                       | ASUS Control Center (Classic)                                                                                                                                                                                                                             |
|                                                                             | <b>Out of Band Remote Management</b>                  | On-Board ASM12-iKVM for KVM-over-IP                                                                                                                                                                                                                       |
| <b>Dimension</b>                                                            |                                                       | 900(L) x 446(W) x 87.2(H) mm<br>35.43(L) x 17.56(W) x 3.43(H) inch                                                                                                                                                                                        |
| <b>Net Weight KG (CPU, DRAM &amp; HDD not included)</b>                     |                                                       | Without CXL Modules: 23.7KG, With CXL Modules:27KG                                                                                                                                                                                                        |
| <b>Gross Weight KG (CPU, DRAM &amp; HDD not included, Packing included)</b> |                                                       | Without CXL Modules: 36KG, With CXL Modules:39.3KG                                                                                                                                                                                                        |
| <b>Power Supply (following different configuration by region)</b>           |                                                       | 2 + Spare/ 1 + 1* 3200W 80 PLUS Titanium Power Supply<br>Rating: 220-240 Vac, 16A, 50/60Hz<br>* 1 + 1 Redundant 3200W support with particular configuration                                                                                               |
| <b>Environment</b>                                                          |                                                       | Operation temperature: 10°C ~ 35°C<br>Non operation temperature: -40°C ~ 60°C<br>Non operation humidity: 20% ~ 90% (Non condensing)                                                                                                                       |