

# meta brain® server

# NF5280G7

## Full-scenario Adaptable Rack Server



### Overview

Supports 4<sup>th</sup>/5<sup>th</sup> Gen Intel Xeon Scalable processors in delivering excellent computing, storage and scalability; provides front and rear I/O maintenance to overcome the O&M bottlenecks of the traditional data centers; integrates various advanced technologies from the industry to introduce the efficient liquid-cooling, EVAC, etc.; and upholding open innovation, extreme improvement, low power consumption, and intelligence & efficiency, flexibly meets the needs of diverse scenarios

### Description

| Product Model      | Maintenance | Cooling             |
|--------------------|-------------|---------------------|
| NF5280-M7-A0-R0-00 | Rear I/O    | Air cooling         |
| NF5280-M7-A0-F0-00 | Front I/O   | Air cooling         |
| NF5280-M7-C0-R0-00 | Rear I/O    | Cold-plated cooling |

### Product Features

#### Excellent Performance and Efficient Computing

- Equipped with the 4<sup>th</sup>/5<sup>th</sup> Gen Intel Xeon Scalable processors, supports up to 64 cores and 128 threads per CPU with up to 350W TDP and a max Turbo frequency of 4.2 GHz through 4 UPI links at 20 GT/s.
- Supports up to 32 DDR5 ECC DIMMs (5,600 MT/s, RDIMMs) in delivering high speeds and superior availability.

## Break-thru Design and Full-scenario Adaptability

- Offers ultimate computing, storage and network performance, and delivers flexible combination through modular design to support 45 × 2.5-inch drive or 20 × 3.5-inch drive and the optional rear M.2/E1.S SSD for diverse storage demands, and to support PCIe 5.0/4.0 for different scalability requirements, with up to 20 PCIe expansions.
- Supports up to 2 to 3 optional hot-swappable OCP 3.0 modules, and provides 1Gb, 10Gb, 25Gb, 40Gb, 100Gb, 200Gb, and 400Gb network interfaces.
- With Compute Express Link (CXL), an open-source and standard cache-coherent interconnect protocol, and E3.S storage medium, provides caching media apart from traditional DIMMs to meet the core needs of large-capacity cache services.

## Flexible Architecture and Security & Intelligence

- The front I/O design enables O&M engineer to operate in the cold aisle, which simplifies O&M procedures, prolongs the service lifecycle of thermo-sensitive components such as optical modules and smart NICs, and improves data stability.
- The redundancy design of core components, such as the BIOS and BMC, ensures that the system can start by switching to the standby chip, and supports the online upgrade of the BMC without suspending services, thus guaranteeing service continuity.
- Adhering to the intelligent O&M, the cloud-based O&M and the online diagnosis can greatly simplify the difficulty in data center O&M and lower the O&M cost.

## High Efficiency, Carbon Emission Reduction, and Low Power Consumption

- Supports efficient heat dissipation schemes such as cold-plated cooling and EVAC, and provides the data centers with the comprehensive liquid-cooling solutions.
- By working with KAYTUS's unique intelligent zone-oriented control technology, delivers energy-saving fan speed regulation and accurate air supply according to recent regional workload changes.
- With the focus on environmental protection, key server components meet the lead-free requirements (RoHS), and all packaging materials are recyclable.

## Product Specifications

| Item                   | Description   |  |
|------------------------|---|--|
| Form Factor            | 2U rack server  |  |
| Processor              | Up to one or two 4 <sup>th</sup> /5 <sup>th</sup> Gen Intel® Xeon® Scalable processors<br>Up to 64 cores, with a max Turbo frequency of 4.2 GHz<br>4 UPI links per CPU and up to 20 GT/s per link<br>Up to 350W TDP   |  |
| Chipset                | Intel Emmitsburg  |  |
| Memory                 | Up to 32 DDR5 DIMMs (5,600 MT/s)<br>16 DIMMs per CPU and 32 DIMMs for 2 CPUs<br>RDIMMs supported  |  |
| Storage                | General   | Front I/O  |
|                        | Front: 12 × 3.5-inch SAS/SATA/NVMe drives<br>24 × 2.5-inch SAS/SATA/NVMe drives<br>25 × 2.5-inch SAS/SATA drives (up to 4 × NVMe)<br>24 × E3.S SSDs   | Front: 9 × 3.5-inch SAS/SATA drives (up to 2 × NVMe)<br>8/16 × 2.5-inch SAS/SATA/NVMe drives   |
|                        | Rear: 4 × 3.5-inch SAS/SATA drives and 4 × 2.5-inch SAS/SATA/NVMe drives<br>4 × 3.5-inch SAS/SATA drives and 2 × SATA M.2/E1.S SSDs<br>10 × 2.5-inch SAS/SATA/NVMe drives   | Rear:-   |
| Storage Controller     | Internal Storage: Up to 3 × TF cards (1 for BMC, and 2 for PCH)<br>Up to 2 × SATA M.2 SSDs or 2 × PCIe x4 M.2 SSDs<br>Up to 4 × 3.5-inch SAS/SATA drives or up to 10 × 2.5-inch SAS/SATA drives   | Internal Storage: Up to 3 × TF cards (1 for BMC, and 2 for PCH)<br>Up to 2 × SATA M.2 SSDs or 2 × PCIe x4 M.2 SSDs   |
| Storage Controller     | RAID/SAS controller<br>Onboard PCH that supports 14 SATA connectors<br>Intel onboard NVMe controller and optional Intel NVMe RAID Key   |  |
| Network                | 2 × optional hot-swappable OCP 3.0  | 3 × optional hot-swappable OCP 3.0   |
| I/O Expansion Slot     | Up to 16 PCIe expansion slots, including 1 RAID Mezz slot and 2 hot-swappable OCP 3.0 slots<br>Supports up to 13 GPU expansion slots: 8 PCIe x16 full-height, full-length single-width GPUs or 4 PCIe x16 full-height, full-length double-width GPUs<br>Liquid cooling supports up to 9 PCIe expansion slots, including 2 hot-swappable OCP 3.0 | Up to 20 PCIe expansion slots, including 1 RAID Mezz slot and 3 hot-swappable OCP 3.0 slots (1 for the front, 2 for the rear)<br>Supports up to 16 GPU expansion slots: 8 PCIe x16 full-height, full-length single-width GPUs or 4 PCIe x16 full-height, full-length double-width GPUs |
| Port                   | Front: 1 × USB 2.0 port, 1 × USB 3.0 port, 1 × DB15 VGA port,<br>1 × USB type-C port  | Front: 1 × USB 2.0 port, 1 × USB 3.0 port, 1 × RJ45 port, 1 × DB15 VGA port  |
|                        | Rear: 2 × USB 3.0 ports, 1 × DB15 VGA port, 1 × Micro USB system serial port, 1 × RJ45 port   | Rear: 2 × USB 3.0 ports, 1 × DB15 VGA port, 1 × Micro USB system serial port, 1 × RJ45 port  |
|                        | Internal: 1 × USB 3.0 port  | Internal: 1 × USB 3.0 port   |
| Fan                    | 6 hot-swappable N+1 redundant dual-rotor fans   |  |
| Power Supply           | Supports 800W/1,300W/1,600W/2,000W/2,700W CRPS standard PSUs with 1+1 redundancy  |  |
| System Management      | Integrated with 1 independent 1,000 Mbps network port, dedicated to IPMI remote management  |  |
| Security               | Two-factor authentication, TPM 2.0, security panel, intrusion alert, BMC/BIOS chip-level redundancy, power capping, etc.  |  |
| Operating System       | Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, etc.  |  |
| Dimensions (H × W × D) | With mounting ears: 482.4mm × 87mm × 828.4mm<br>Without mounting ears: 435mm × 87mm × 800mm   |  |
| Weight                 | Full configuration: ≤33 kg (For details, please refer to the White Paper)   |  |
| Operating Temperature  | 5°C to 50°C (For details, please refer to the White Paper)  |  |