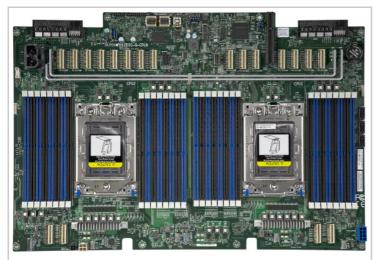# H12DSG-Q-CPU6 (For A+ Server Only)

Key Features

1. Dual AMD EPYC™ 7003/7002 Series Processors
   (The latest AMD EPYC™ 7003 Series Processor with AMD 3D V-Cache™ Technology requires BIOS version 2.3 or newer)

2. 8TB Registered ECC DDR4 3200MHz SDRAM in 32 DIMMs

3. 19 PCI-E 4.0 x8 SlimSAS, 1 PCI-E 4.0/SATA3 x4 hybrid SlimSAS

4. 4 SATA3 and 4 NVMe via SlimSAS

5. Integrated IPMI 2.0 + KVM with dedicated LAN

6. ASPEED AST2600 BMC with IPMI/RedFish support

7. 2 USB 3.0 ports via I/O board

Links & Resources

- Tested Memory List
- Tested HDD List
- Tested AOC List
- Motherboard Manual
- Update Your BIOS
- IPMI Firmware
- Download the Latest Drivers and Utilities
- Download Driver CD

Note: Image above may show a varied configuration of optional parts. Please refer to parts list for standard parts included.

Specifications

Product SKUs

MBD-H12DSG-Q-CPU6	• H12DSG-Q-CPU6 (for server SKUs only)

Physical Stats

Form Factor	• Proprietary
Dimensions	• 17.32" x 11.8" (44cm x 30cm)

Processor/Chipset

CPU	• Dual AMD EPYC™ 7003/7002 Series Processors (The latest AMD EPYC™ 7003 Series Processor with AMD 3D V-Cache™ Technology requires BIOS version 2.3 or newer) • Socket SP3
Cores	• Up to 64 Cores
Chipset	• System on Chip

System Memory

Memory Capacity	• 32 DIMM slots • Supports up to 8TB Registered ECC DDR4 3200MHz SDRAM • 8-channel memory bus • For Dual CPUs: Recommended that memory be populated equally in adjacent memory banks
Memory Type	• DDR4 3200 MHz Registered ECC, 288-pin gold-plated DIMMs
DIMM Sizes	• 8GB, 16GB, 32GB, 64GB, 128GB, 256GB
Memory Voltage	• 1.2V
Error Detection	• Corrects single-bit errors • Detects double-bit errors (using ECC memory)

On-Board Devices

SATA	• 4 SATA3 (6 Gbps) ports via SlimSAS
IPMI	• Support for Intelligent Platform Management Interface v. 2.0 • IPMI 2.0 with virtual media over LAN and KVM-over-LAN support • ASPEED AST2600 BMC
Network Controllers	• N/A
Graphics	• ASPEED AST2600 BMC

Input / Output

SATA	• 4 SATA3 (6 Gbps) ports via SlimSAS
LAN	• 1 RJ45 dedicated IPMI port via I/O board (AOM-PIO-i2XT)
USB	• 2 USB 3.0 ports via I/O Board (AOM-PIO-i2XT)
VGA	• 1 VGA port via I/O board (AOM-PIO-i2XT)

Chassis (Optimized for H12DSG-Q-CPU6)

2U	• SC228GTS-R2K21P

Server(s) (with H12DSG-Q-CPU6)

Models(s)	• AS -2124GQ-NART • AS -2124GQ-NART+ • AS -2124GQ-NART-LCC

System BIOS

BIOS Type	• AMI 256Mb SPI Flash EEPROM
BIOS Features	• Plug and Play (PnP) • DMI 2.3 • PCI 2.2 • ACPI 6.2 • USB Keyboard Support • SMBIOS 3.1.1

Management

Software	• Super ● Doctor 5 • Watch Dog • NMI • SUM • IPMI 2.0, KVM with dedicated LAN
Power Configurations	• ACPI Power Management • Power-on mode control for AC power loss recovery

PC Health Monitoring

CPU	• Monitors CPU Core Voltages, +3.3V, +3.3V, +5V, +5V standby, +12V • CPU switching voltage regulator • VBAT
FAN	• Controlled via Fan Board (AOM-228G-FAN) • Up to 4 fan status tachometer monitoring • Status monitor for speed control • Pulse Width Modulated (PWM) fan connectors
Temperature	• Monitoring for CPU and chassis environment • CPU Thermal Trip Support • Thermal control for 4x Fan modules via FAN Board (AOM-228G-FAN) • I²C Temperature Sensing Logic
Other Features	• Chassis Intrusion Detection • Chassis Intrusion Header

Operating Environment / Compliance

Environmental Specifications	• Operating Temperature: 10°C to 35°C (50°F to 95°F) • Non-operating Temperature: -40°C to 60°C (-40°F to 140°F) • Operating Relative Humidity: 8% to 90% (non-condensing) • Non-operating Relative Humidity: 5% to 95% (non-condensing)

| **Others** | 1 COM port via I/O Board (AOM-PIO-i2XT) 4 internal NVMe (PCI-E 4.0 x4) ports via 2 SlimSAS (PCIE 4.0 x8) TPM 2.0 header |

Expansion Slots

| **PCI-Express** | 19 PCI-E 4.0 x8 SlimSAS 1 PCI-E 4.0 x4/SATA3 x4 hybrid SlimSAS |

Parts List

Retail Pack List

	Part Number	Qty	Description
H12DSG-Q-CPU6	MBD-H12DSG-Q-CPU6 - O	1	H12DSG-Q-CPU6 Motherboard

Optional Parts List

	Part Number	Qty	Description
TPM security module	AOM-TPM-9655V	-	TPM 1.2 module with Infineon 9655, RoHS/REACH,PBF;
	AOM-TPM-9665V	-	TPM 2.0 module with Infineon 9665, RoHS/REACH,PBF;