A+ Server 2114S-WN24RT (Complete System Only)

Integrated Board

H12SSW-NTR

Views: | **Angled View** | **Top View** |
| **Front View** | **Rear View** |

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (for optimal performance 8 DIMMs is recommended). Minimum requirement is 1 CPU, 2 DIMMs, 1 NVMe.

▶ **Drivers & Utilities** ▶ **BIOS** ▶ **IPMI** ▶ **Tested Memory** ▶ **Tested M.2 List** ▶ **NVMe Options** ▶ **Tested AOC** ▶ **Manuals** ▶ **OS Certification Matrix** ▶ **Quick-References Guide** ▶ **Drive Options**

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

Key Applications

- **Virtualization**
- **Hyperconverged Storage**
- **Cloud Computing**
- **All Flash Storage**

Key Features

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

2. Up to 4TB Registered ECC DDR4 3200MHz SDRAM in 16 DIMMs

3. Expansion slots:
   Up to 2 PCI-E 4.0 x16 (FH/HL) slots:
      24-NVMe configuration (Standard) – 1 slot available
      20-NVMe configuration – 2 slots available
   M.2 Interface: 2 PCI-E 4.0 x2
   M.2 Form Factor: 2280, 22110
   M.2 Key: Onboard M-key

4. Integrated IPMI 2.0 + KVM with dedicated LAN
   • **Software Out of Band License key (SFT-OOB-LIC) included for OOB BIOS management**

5. 2x 10GBase-T LAN ports via Broadcom BCM57416

6. Up to 24 hot-swap 2.5" U.2 NVMe drive bays

7. 1200W Redundant Power Supplies
   Titanium Level (96%)
   (Full redundancy based on configuration and application load)

Specifications

Product SKUs

AS -2114S-WN24RT	▪ A+ Server 2114S-WN24RT

Motherboard

H12SSW-NTR

Processor/Chipset

CPU	▪ Single AMD EPYC™ 7003/7002 Series Processor (The latest AMD EPYC™ 7003 Series Processor with AMD 3D V-Cache™ Technology requires BIOS version 2.3 or newer) ▪ Socket SP3 ▪ Support CPU TDP up to 280W
Cores	▪ Up to 64 Cores
Chipset	▪ System on Chip (SoC)

System Memory

Memory Capacity	▪ 16 DIMM slots ▪ Supports up to 4TB Registered ECC DDR4 3200MHz SDRAM ▪ 8-channel memory bus
Memory Type	▪ DDR4 3200 MHz Registered ECC, 288-pin gold-plated DIMMs
DIMM Sizes	▪ 4GB, 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

IPMI	▪ Support for Intelligent Platform Management Interface v.2.0 ▪ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ▪ ASPEED AST2500 BMC
Network Controllers	▪ Broadcom BCM57416 Controller
VGA	▪ ASPEED AST2500 BMC

Expansion Slots

PCI Express	▪ 1 or 2* PCI-E 4.0 x16 (FH/HL) slots
M.2	▪ Interface: 2 PCI-E 4.0 x2 ▪ Form Factor: 2280, 22110 ▪ Key: Onboard M-key
Note	* 2 slots available using 20-NVMe configuration (24 NVMe is standard)

Input / Output

NVMe	▪ Up to 24 U.2 NVMe support
LAN	▪ 2x 10GBase-T LAN ports ▪ 1 RJ45 Dedicated IPMI LAN port
USB	▪ 5 USB 3.0 ports (4 rear + 1 Type A)
VGA	▪ 1 VGA port

Chassis

Form Factor	▪ 2U
Model	▪ **CSE-216BTS-R1K23WBP**

Dimensions

Height	▪ 3.5" (89mm)
Width	▪ 17.2" (437mm)
Depth	▪ 24.8" (630mm)
Weight	▪ Net Weight: 34 lbs (15.42 kg) ▪ Gross Weight: 59 lbs (26.76 kg)

Front Panel

Buttons	▪ Power On/Off button ▪ System Reset button
LEDs	▪ Power LED ▪ Hard drive activity LED ▪ 2x Network activity LEDs ▪ System Overheat LED / Fan fail LED / UID LED

Drive Bays

Hot-swap	▪ Up to 24 hot-swap 2.5" U.2 NVMe drive bays

System Cooling

Fans	▪ 3 heavy-duty PWM fans with optimal fan speed control
Air Shroud	▪ 1 Air Shroud

Power Supply (76mm Width)

1200W Redundant Power Supplies with PMBus

Total Output Power	▪ 1000W/1200W
Dimension (W x H x L)	▪ 76 x 40 x 336 mm
Input	▪ 100-127Vac / 15-12A / 50-60Hz ▪ 200-240Vac / 8.5-7A / 50-60Hz ▪ 200-240Vdc / 8.5-7A (for CCC only)
+12V	▪ Max: 83A / Min: 0A (100-127Vac) ▪ Max: 100A / Min: 0A (200-240Vac) ▪ Max: 100A / Min: 0A (200-240Vdc)
+5Vsb	▪ Max: 4A / Min: 0A
Output Type	▪ 19 Pairs Gold Finger Connector
Certification	**Titanium Level** [**Test Report**]

PC Health Monitoring

CPU	▪ Monitors CPU Core Voltages, +1.8V, +3.3V, +5V, +5V standby, 3.3V standby, VBAT ▪ CPU switching voltage regulator
FAN	▪ Up to 6-fan status tachometer monitoring ▪ Up to six 4-pin fan headers ▪ Status monitor for speed control ▪ Pulse Width Modulated (PWM) fan connectors

Others	1 COM port 2 SATA DOM power connectors - TPM 1.2 header, TPM 2.0 header		**Temperature**	- Monitoring for CPU and chassis environment - CPU Thermal Trip Support - Thermal control for 6x Fan connectors - I²C Temperature Sensing Logic

System BIOS

BIOS Type	AMI 256Mb SPI Flash EEPROM
BIOS Features	- Plug and Play (PnP) - DMI 2.3 - PCI 2.2 - ACPI 5.1 - USB Keyboard Support - SMBIOS 3.1.1

LED	CPU / System Overheat LED
Other Features	- Chassis Intrusion Detection - Chassis Intrusion Header

Operating Environment / Compliance

RoHS	RoHS Compliant
Environmental Spec.	- Operating Temperature: 10°C to 35°C (50°F to 95°F) - Non-operating Temperature: -40°C to 70°C (-40°F to 158°F) - Operating Relative Humidity: 8% to 90% (non-condensing) - Non-operating Relative Humidity: 5% to 95% (non-condensing)

Parts List

Parts List - (Items Included)

	Part Number	Qty	Description
Motherboard	MBD-H12SSW-NTR	1	Super H12SSW-NTR Motherboard
Chassis	CSE-216BTS-R1K23WBP	1	2U Chassis
Add-on Card / Module	AOC-SLG4-2E4T-P	2	2-Port Retimer, x8 PCIe Gen 4, Low Profile AOC, RoHS
Add-on Card / Module	AOC-SLG4-4E4T-P	1	4-Port Retimer, x16 PCIe Gen 4,RoHS
Backplane	BPN-NVME4-216N-S24	1	2U 24-slot all-hybrid direct-attached backplane, support 24x 2.5" NVME Gen4 / SAS / SATA storage devices.,RoHS
Cable 1	CBL-0234L	1	Y CABLE FOR 4-PIN HDD
Cable 2	CBL-PWEX-1108-10	2	MicroFit,2x4,PH3.0,F to MiniFit 2x2,P4.2,M and 2x BIG,1
Cable 3	CBL-PWEX-1109-10	1	MicroFit,2x4,PH3.0,F to 2x BIG,1x4,PH5.08,M,10CM,10A/pin
Cable 4	CBL-SAST-1049	4	SLIMLINE SAS (LE) to SLIMLINE SAS, INT, 30.2CM,85 OHM,R
Cable 5	CBL-SAST-1221D-85	2	Slimline x8 (LE) to Slimline x8 (STR),20CM,85 OHM,RoHS
Cable 6	CBL-SAST-1222-85	2	Slimline X8 (LE) to Slimline X8 (STR), 22CM, 85 OHM,RoHS
Cable 7	CBL-SAST-1267-85	4	Slimline x8 (STR) to Slimline x8 (STR),INT,67CM,85 OHM,
Chassis Part(s)	MCP-240-00146-0N	1	2U WIO Half Length riser card bkt for SC825, 826, 213, 216,RoHS/REACH
Drive Tray(s)	MCP-220-00167-0B	24	Gen 3 2.5-inch Tool-less NVMe drive tray (clip design),RoHS
Riser Card	RSC-W2-66G4	1	2U LHS WIO Riser card with two PCI-E 4.0 x16 slots,HF,RoHS
Riser Card	RSC-W2R-88G4	1	2U RHS WIO Riser card with two PCI-E 4.0 x8 slots,HF,RoHS
Heatsink / Retention	SNK-P0063P	1	2U Passive CPU Heat Sink for AMD Socket SP3 Processors
*Power Supply	PWS-1K23A-1R	2	AC-DC 1200W, Titanium Level, Redundancy, 1U, PMBUS 1.2, +12V/+5Vsb, 360x76x40 mm,HF,RoHS/REACH
*Power Distributor	PDB-PT216-2824	1	PDB with 23pairs input connectors for SC216B
Software	SFT-OOB-LIC · eStore	1	OOB Management Package (per node license)

Notes:
1. Parts with * are inside the chassis
2. Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

Optional Parts List

	Part Number	Qty	Description
Parts	MCP-220-82616-0N	1	12G 2.5x2 Drive Kit w/ Status LED(216B/826B/417B/846X/847B)
Cable Management Arm	MCP-290-00073-0N	-	Supermicro Cable Management Arm for 2U, 3U and 4U chassis
	MCP-120-82503-0N		Cable arm adapter for SC825,213,829H,847B (MCP-290-00073-0N required),HF,RoHS/REACH,PBF
TPM	AOM-TPM-9655V	-	Vertical TPM with Infineon 9655 TCG 1.2
	AOM-TPM-9665V	-	AOM-TPM-9665V using SLB9665 Chipset supporing TPM2.0,RoHS/REACH
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)