

IoT SuperServer SYS-220HE-FTNR-NEBS (Complete System Only i)



Key Applications

- 5G Core and Edge
- AI Inference and Machine Learning
- Cloud Computing
- Telecom Micro Data Center
- Network Function Virtualization



Key Features

Dual Socket P+ (LGA-4189) 3rd Gen Intel® Xeon® Scalable Processors

32 DIMM Slots; Up to 8TB DRAM; Up to 8TB Intel® Optane™ Persistent Memory (up to 12TB with DRAM); 3200/2933/2666 ECC DDR4 LRDIMM; RDIMM; Intel® Optane™ Persistent Memory 200 series

3 PCI-E 4.0 x16 slots with GPU/Accelerator support (Default);

1 PCI-E 4.0 x16 expansion slots (Optional)

Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible)

Up to 6x 2.5" hot-swap drive bays with options to support NVMe/SATA drives

6 heavy duty hot-swap fans with optimal fan speed control Front I/O, tool-less design

2000W redundant AC power supplies

Specifications

Chassis

Form Factor

2U Rackmount

Model

CSE-HE211-R000NFP

Note

2U Front Bezel

Replaceable UL900-2004 certified air

filter

Standard sliding rail kit: Post to Post

19.1" ~ 26.4"

Dimensions and Weight

Height

3.5" (88.9mm)

Width

17.2" (436.88mm)

Depth

22.6" (574mm)

Package

9.7" (H) x 23.5" (W) x 36.9" (D)

Weight

Net Weight: 34.4 lbs (15.6 kg)

Gross Weight: 47.4 lbs (21.5 kg)

Available Color

Silver

Front Panel

Buttons

Power On/Off

LEDs

HDD

LAN1 activity

LAN2 activity

Power LED

Power status

System information

UID LED

Expansion Slots

Product SKUs

SuperServer **SYS-220HE-FTNR-NEBS** (Silver)

Motherboard

Super X12DHM-6

Processor

CPU

Dual Socket P+ (LGA-4189)

3rd Gen Intel® Xeon® Scalable processors

Support CPU TDP 270W

System Memory

Memory

Memory Capacity: 32 DIMM slots

Up to 8TB: 32x 256 GB DRAM

Up to 12TB: 16x 512 GB PMem and 16x 256 GB DRAM

Memory Type: 3200MHz ECC DDR4

RDIMM/LRDIMM

Intel® Optane™ persistent memory 200 series

Memory Voltage

1.2 V

Error Detection

ECC

On-Board Devices

Chipset

Intel® C621A

Network Connectivity

2x 1GbE BaseT with Intel® i350-AM2 (optional)

4x 1GbE SFP or 2x 10GbE BaseT with Intel® X550-AT2 (optional)

2x 10GbE SFP+ with Intel® X710-BM2 (optional)

4x 10GbE SFP+ with Intel® XL710-BM1 (optional)

4x 10GbE RJ45/SFP+ with Intel® X710-TM4 (optional)

2x 25GbE SFP28 with Broadcom® BCM57414 (optional)

4x 25GbE RJ45/SFP28 with Mellanox® CX-4 Lx EN Intel® X550-AT2 (optional)

2x 100GbE QSFP28 with Broadcom® BCM57508 (optional)

4x 1GbE BaseT with Intel® i350-AM4 (optional)

IPMI

Support for Intelligent Platform

Management Interface v.2.0

IPMI 2.0 with virtual media over LAN and

KVM-over-LAN support

System BIOS

BIOS Type

AMI 256MB SPI Flash

Management

Software

SSM

SUM

SPM

Redfish API

Intel® Node Manager

KVM with dedicated LAN

NMI

Watch Dog

SuperDoctor® 5

IPMI 2.0

Power Configurations

ACPI Power Management

Power-on mode for AC power recovery

PC Health Monitoring

CPU

Monitors for CPU Cores, Chipset Voltages,

Memory

FAN

Fans with tachometer monitoring

Pulse Width Modulated (PWM) fan connectors

Status monitor for speed control

Temperature

Monitoring for CPU and chassis

environment

Thermal Control for fan connectors

PCI-Express (PCI-E)

3 PCI-E 4.0 x16 DW FHFL or 6 x8 SW FHFL slot(s)

1 PCI-E 4.0 x16 SW FHHL or 2 x8 SW FHHL slot(s)

Note

If Slot 1 is configured as PCI-E x16, Slot 2 will be disabled; If Slot 3 is configured as PCI-E x16, Slot 4 will be disabled; If Slot 5 is configured as PCI-E x16, Slot 6 will be disabled; (Optional) If Slot 7 is configured as PCI-E x16, Slot 8 will be disabled.

Drive Bays / Storage

Hot-swap

6x 2.5" hot-swap NVMe/SATA drive bays

(6x 2.5" NVMe hybrid)

M.2

2 M.2 NVMe OR 2 M.2 SATA3

M-Key, 2280/22110

System Cooling

Fans

6 Counter-rotating, Hot-swappable

60x60x56mm Fan(s)

Power Supply

2000W 100-240VAC/50-60Hz

power supply

Dimension

(W x H x L)

73.5 x 40 x 203 mm

AC Input

1000W: 100-127Vac / 50-60Hz

1800W: 200-220Vac / 50-60Hz

1980W: 220-230Vac / 50-60Hz

2000W: 220-240Vac / 50-60Hz

2000W: 230-240Vac / 50-60Hz

+12V

Max: 83A (100Vac-127Vac)

Max: 150A (200Vac-220Vac)

Max: 165A (220Vac-230Vac)

Max: 166A (220Vac-240Vac)

Max: 166A (230Vac-240Vac)

12V SB

Max: 3.5A / Min: 0A

Certification

[Test Report]

Operating Environment

Environmental Spec.

Operating Temperature:

5°C ~ 35°C (41°F ~ 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)

Note

Operating Relative Humidity: 5% to

85% with excursion of

Operating Temperature: Continuous:

5°C ~ 40°C (41°F ~ 104°F), Short term:

-5°C ~ 55°C (23°F ~ 131°F)

Parts List

Standard Parts (Parts Included)

Motherboard / Chassis

Part Number	MBD-X12DHM-6	CSE-HE211-R000NFP
Qty	1	1
Description	Super X12DHM-6 Motherboard	2U Chassis

Add-on Card / Module

Part Number	AOM-AIOM-2X8-P	AOM-HE211-AIOM-P	AOM-HS119-IO-P
Qty	1	1	1









Description	2nd AIOM board (cable solution) for Hyper-E 2U system,RoHS	AIOM connection for Hyper-E 2U system,RoHS	Hyper IO Board,RoHS		
Backplane					
Part Number	BPN-NVME4-HE211N-S6				
Qty	1				
Description	1U 6-Slot BPN Supports 6 x SAS3/SATA3/NVMe4 Storage Device,HF,RoHS				
Cable					
Part Number	CBL-GNZ4-1221LP-85	CBL-OTHR-1117	CBL-PWEX-1136-40	CBL-PWEX-1142-40	CBL-SAST-1218LP-85
	CBL-SAST-1222LP-85	CBL-SAST-1223LP-85	CBL-SAST-1226LP-85	CBL-SAST-1229LP-85	CBL-SAST-1230LP-85
	CBL-SAST-1232LP-85	CBL-SAST-1243LP-85	CBL-SAST-1249LP-85	CBL-CDAT-1290F	CBL-PWCD-0160-IS
	CBL-PWEX-1104-8				
Qty	1	1	2	1	1
	1	1	1	3	1
	1	1	1	1	2
	1				
Description	Genz4C (STR) to 2x SlimlineLP x8 (STR),21/23CM,85 OHM,R	[NR] 2x15,PH1.0 to 2x15,PH1.0,28AWG,30CM,1A/pin,RoHS	MicroHi,(2X2 to 2X4) 3.0,40CM,10A/pin,16AWG,RoHS	MicroHi,(2x4 to 2x4),PH3.0,40CM,8A/pin,18AWG,RoHS	SlimlineLP X8 (STR) to SlimlineLP x8 (STR),INT,19CM,85
	SlimlineLP X8 (STR) to SlimlineLP x8 (STR),27CM,85 OHM,	SlimlineLP X8 (STR) to SlimlineLP x8 (STR),INT,12CM,85	SlimlineLP X8 (STR) to SlimlineLP x8 (STR),25CM,85 OHM,	SlimlineLP X8 (STR) to SlimlineLP x8 (STR),INT,28CM,85	SlimlineLP X8 (STR) to SlimlineLP x8 (RA),INT,29CM,85 O
	SlimlineLP X8 (STR) to SlimlineLP x8 (RA),INT,32CM,85 O	SlimlineLP x8 (STR to STR),INT,30CM,85 OHM,RoHS	SlimlineLP x8 (STR) tp 2x SlimlineLP x4 (STR),49/61CM,8	[NR] FRONT CNTL,20 TO 20 PIN,P0.5,FLAT,90CM,STD,RoHS	PWCD,US,NEMA5-15P TO IEC60320 C13,6FT,16AWG,RoHS/REACH
	[NR] 2x4,PH3.0,M to 2x3,PH2.0,F,3A/pin,22AWG,8CM				
Fan					
Part Number	FAN-0215L4				
Qty	6				
Description	60x60x56 mm, 17K-17K RPM, Counter-rotating Cooling Fan for 2U Hyper-E (CSE-HE211) Series Servers				
Front Bezel					
Part Number	MCP-210-21101-0B				
Qty	1				
Description	2U Black Front Bezel with NEBs Filter for HE211 Front Chassi				
Power Supply					
Part Number	PWS-2K08F-1R				
Qty	2				
Description	1U 2000W 100-240VAC/50-60Hz, reverse airflow				
Riser Card					
Part Number	RSC-H2-6888G4	RSC-H2-68G4			
Qty	1	2			
Description	2U LHS Hyper riser card with one PCI-E 4.0 x16 and three PCI	2U LHS Hyper riser card with one PCI-E 4.0 x16 and one PCI-E			
Software					
Part Number	SFT-OOB-LIC				
Qty	1				
Description	License key for enabling OOB BIOS management				
Heatsink / Retention					
Part Number	SNK-P0078PR				
Qty	2				
Description	2U Proprietary Passive CPU Heat Sink for X12 Generation Hype-E Series Servers				
*Front Panel					
Part Number	FPB-FP826-T				
Qty	1				
Description	Chassis front control board for SC826				
*Drive Tray(s)					
Part Number	MCP-220-00178-0B				
Qty	6				
Description	2.5 thin profile drive tray, Orange tab (for hotswap NVMe drive), for SC119UH				

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.

NEBS Qualified Parts List

Add on Cards					
Part Number	GPU-NVTA100-40-PS	AOC-E810-XXVDA4	<u>AOC-A25G-b2SM</u>	AOC-STGF-I2S	AOC-A100G-B2CM
	AOC-STG-I4T	AOC-STG-I4S	<u>AOC-S3908L-H8IR-16DD</u>		
Qty	1	1	1	1	1
	1	1	1		
Description	NVIDIA A100 40GB CoWoS HBM2 PCIe 4.0-- Passive Cool	Intel E810-XXVDA4 PCIe 4-port 25GbE SFP28 Gen4x16, RoHS	AIOM 2-port 25GbE SFP28, Broadcom BCM57414 with 0.5U bracket,RoHS	Std LP 2-port 10G SFP+, Intel X710	AIOM Dual Port 100GbE QSFP28, based on Broadcom BCM57508 with 0.5U Bracket,RoHS
	PCI-E Low Profile form factor, Quad 10GBase-T Ports (RJ45),	Standard LP 4-port 10G SFP+	Boardcom 3908L SAS controller		

CPU					
Part Number	P4X-ICX6338T-SRKXF				
Qty	2				
Description	ICX 6338T 2P 24C/48T 2.1G 36M 11.2GT 165W 4189 M1				
Memory					
Part Number	MEM-DR432L-HL03-ER32 	MEM-DR464L-HL02-ER32 	MEM-DR432L-CL05-ER32 	MEM-DR464L-CL03-ER32 	MEM-DR432L-SL02-ER32 
	MEM-DR416L-CL06-ER32 	MEM-DR464L-SL01-ER32 	MEM-DR416L-SL02-ER32 		
Qty	4	4	4	4	4
	4	4	4		
Description	Hynix 32GB DDR4-3200 ECC RDIMM	Hynix 64GB DDR4-3200 ECC RDIMM	Micron 32GB DDR4-3200 ECC RDIMM	Micron 64GB DDR4-3200 ECC RDIMM	Samsung 32GB DDR4-3200 ECC RDIMM
	Micron 16GB DDR4-3200 ECC RDIMM	Samsung 64GB DDR4-3200 ECC RDIMM	Samsung 16GB DDR4-3200 ECC RDIMM		
Storage					
Part Number	HDS-SUN1-MZQLB960HAJR07 HDS-I2T0-SSDSC2KG480G8	HDS-SMN1-MZ1LB960HAJQ07 HDS-X2A-XS800ME70045	HDS-IMT0-SSDCKKB960G8 HDS-IUN0-SSDPE2KE032T8	HDS-M2T-MTFDDAK960TDS1AW	HDS-S2T1-MZ7LH960HAJR05
Qty	1	1	1	1	1
	1	1	1		
Description	Samsung PM983 960GB NVMe PCIe3x4 V4 TLC 2.5" 7mm (1.3 DWPD)	Samsung PM983 960GB NVMe PCIe3x4 V4 M.2 22x110mm (1.3 DWPD)	Intel D3 S4510 960GB M.2 SATA 6Gb/s 3D TLC 22x80mm 1DWPD	Micron 5300 PRO 960GB, SATA, 2.5", 3D TLC, 1.5DWPD	Samsung PM883 960GB SATA 6Gb/s V4 TLC 2.5" 7mm (1.3 DWPD)
	Intel D3-S4610 480GB SATA 6Gb/s 3D TLC 2.5" 7mm 3DWPD Rev.2	Seagate 2.5" LangeBP 800GB SAS 12Gb/s,15mm,10DWPD SSD,HF	Std LP 2-port 10G SFP+, Intel X710		
TPM security module					
Part Number	AOM-TPM-9670V-S-P				
Qty	1				
Description	SPI capable vertical TPM 2.0 provisioned for server,RoHS				