

## Server ASAP MW9864-R1



**Complete System Only:** To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 4 CPUs, 4 DIMMs and 1 HDD recommended). Please contact your Supermicro sales rep for special 2 CPUs with 2 DIMMs requirements with fees.

### Key Features

**48 DDR4 DIMM Slots, up to 6TB**  
**Up to 11 PCI-E 3.0 slots**  
**4 Hot-Swap NVMe Bays support**  
**via optional NVMe AOC**  
**Flexible Connectivity Options**

1. Quad Socket P (LGA 3647) support  
2nd Gen Intel® Xeon® Scalable  
processors (Cascade Lake/Skylake)<sup>†</sup>
2. 48 DIMMs; up to 12TB 3DS ECC  
DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM,  
Supports Intel® Optane™ DCPMM<sup>††</sup>
3. 5 PCI-E 3.0 x8 slots,  
6 PCI-E 3.0 x16 slots
4. 4 GbE LAN ports via AOC-2UR66-i4G  
1 dedicated IPMI LAN port
5. 24 Hot-swap 2.5" SAS3/SATA3 drive bays  
supported via optional Add-on RAID  
controller card; 4 Hybrid ports with  
NVMe support via extra AOC
6. Optional up to 2 Active Cooling GPUs
7. 4x 8cm heavy duty fans
8. 1600W Redundant Power Supplies  
Titanium Level (96%)

## Chassis

Form Factor	<ul style="list-style-type: none"> <li>2U Rackmount</li> </ul>
Model	<ul style="list-style-type: none"> <li>CSE-218UTS-R1K62P</li> </ul>

## Motherboard

### Super X11QPH+

## Processor/Cache

CPU	<ul style="list-style-type: none"> <li>Quad Socket P (LGA 3647)</li> <li>2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors<sup>†</sup>, 3 UPI up to 10.4GT/s</li> <li>Support CPU TDP 70-165W with IVR, 205W supported with optional kit</li> </ul>
Cores	<ul style="list-style-type: none"> <li>Up to 28 Cores</li> </ul>
Note	<ul style="list-style-type: none"> <li><sup>†</sup> BIOS version 3.0 or above is required to support 2nd Gen Intel® Xeon® Scalable processors</li> </ul>

## System Memory

Memory Capacity	<ul style="list-style-type: none"> <li>48 DIMM slots</li> <li>Up to 12TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM</li> <li>Supports Intel® Optane™ DCPMM<sup>††</sup></li> </ul>
Memory Type	<ul style="list-style-type: none"> <li>2933<sup>†</sup>/2666MHz ECC DDR4 RDIMM/LRDIMM</li> </ul>
Note	<ul style="list-style-type: none"> <li><sup>†</sup> 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro</li> <li><sup>††</sup> Cascade Lake only. Contact your Supermicro sales rep for more info.</li> </ul>

## Dimensions and Weight

Width	<ul style="list-style-type: none"> <li>17.2" (437mm)</li> </ul>
Height	<ul style="list-style-type: none"> <li>3.5" (89mm)</li> </ul>
Depth	<ul style="list-style-type: none"> <li>30.7" (780mm)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>Net Weight: 43 lbs (19.4 kg)</li> <li>Gross Weight: 69 lbs (31.2 kg)</li> </ul>
Available Colors	<ul style="list-style-type: none"> <li>Black</li> </ul>

## Front Panel

Buttons	<ul style="list-style-type: none"> <li>Power On/Off button</li> <li>System Reset button</li> </ul>
LEDs	<ul style="list-style-type: none"> <li>Power status LED</li> <li>HDD activity LED</li> <li>Network activity LEDs</li> <li>System information (overheat/UID) LED</li> </ul>

## Expansion Slots

PCI-Express	<ul style="list-style-type: none"> <li>5 PCI-E 3.0 x8 slots</li> <li>6 PCI-E 3.0 x16 slots</li> </ul>
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## On-Board Devices

<b>Chipset</b>	<ul style="list-style-type: none"> <li>Intel® C621 chipset</li> </ul>
<b>SATA</b>	<ul style="list-style-type: none"> <li>SATA3 via Intel C621; RAID 0, 1, 5, 10</li> </ul>
<b>Network Connectivity</b>	<ul style="list-style-type: none"> <li>4 Gigabit Ethernet ports via AOC-2UR66-i4G; <a href="#">Other options</a></li> </ul>
<b>IPMI</b>	<ul style="list-style-type: none"> <li>Support for Intelligent Platform Management Interface v.2.0</li> <li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li> </ul>
<b>Graphics</b>	<ul style="list-style-type: none"> <li>ASPEED AST2500 BMC</li> </ul>

## Input / Output

<b>SATA</b>	<ul style="list-style-type: none"> <li>12 SATA3 (6Gbps) ports</li> </ul>
<b>SAS</b>	<ul style="list-style-type: none"> <li>24 SAS3 ports support via optional Add-on Cards</li> </ul>
<b>NVMe</b>	<ul style="list-style-type: none"> <li>4 Hybrid ports with NVMe support via AOC</li> </ul>
<b>LAN</b>	<ul style="list-style-type: none"> <li>4 RJ45 GbE LAN ports</li> <li>1 RJ45 Dedicated IPMI LAN port</li> </ul>
<b>USB</b>	<ul style="list-style-type: none"> <li>2 USB 3.0 ports (rear)</li> </ul>
<b>Video</b>	<ul style="list-style-type: none"> <li>1 VGA Connector</li> </ul>
<b>Serial Port / Header</b>	<ul style="list-style-type: none"> <li>1 COM port (rear)</li> </ul>
<b>DOM</b>	<ul style="list-style-type: none"> <li>2 SuperDOM (Disk on Module) ports</li> </ul>

## System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"> <li>128Mb SPI Flash EEPROM with AMI BIOS</li> </ul>
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## Drive Bays

<b>Hot-swap</b>	<ul style="list-style-type: none"> <li>24 Hot-swap 2.5" SAS3/SATA3 drive bays</li> <li>Optional 24 SAS3 ports via AOC</li> <li>Optional 20 SAS3 ports via AOC + 4 NVMe ports via AOC</li> </ul>
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## System Cooling

<b>Fans</b>	<ul style="list-style-type: none"> <li>4x 8cm heavy duty PWM fans</li> </ul>
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## Power Supply

1600W Redundant Power Supplies with PMBus

<b>Total Output Power</b>	<ul style="list-style-type: none"> <li>1600W*1000W</li> </ul>
<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"> <li>73.5 x 40 x 203 mm</li> </ul>
<b>Input</b>	<ul style="list-style-type: none"> <li>*100-127Vac / 13 - 9A / 50-60Hz</li> <li>200-240Vac / 10 - 8A / 50-60Hz</li> </ul>
<b>+12V</b>	<ul style="list-style-type: none"> <li>Max: 83.3A / Min: 0A (100-127Vac)</li> <li>Max: 133A / Min: 0A (200-240Vac)</li> </ul>
<b>12Vsb</b>	<ul style="list-style-type: none"> <li>Max: 2.1A / Min: 0A</li> </ul>
<b>Output Type</b>	<ul style="list-style-type: none"> <li>25 Pairs Gold Finger Connector</li> </ul>
<b>Certification</b>	 <ul style="list-style-type: none"> <li>Titanium Level</li> </ul>

\* Supported with certain configuration and operating temperature limitations.

### Management

<b>Software</b>	<ul style="list-style-type: none"> <li>▪ <a href="#">SuperDoctor® 5</a></li> <li>▪ Watch Dog</li> <li>▪ NMI</li> <li>▪ <a href="#">SUM</a></li> <li>▪ IPMI 2.0</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>▪ ACPI Power Management</li> <li>▪ Power-on mode for AC power recovery</li> </ul>

### PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>▪ Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>▪ 4+1 Phase-switching voltage regulator</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>▪ Fans with tachometer monitoring</li> <li>▪ Status monitor for speed control</li> <li>▪ Pulse Width Modulated (PWM) fan connectors</li> </ul>
<b>Temperature</b>	<ul style="list-style-type: none"> <li>▪ Monitoring for CPU and chassis environment</li> <li>▪ Thermal Control for fan connectors</li> </ul>

### Operating Environment

<b>RoHS</b>	<ul style="list-style-type: none"> <li>▪ RoHS Compliant</li> </ul>
<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>▪ Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)</li> <li>▪ Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)</li> <li>▪ Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>▪ Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>

## Parts List ^

Parts List - (Items Included)			
	Part Number	Qty	Description
Motherboard / Chassis	MBD-X11QPH+	1	Super X11QPH+ Motherboard
	CSE-218UTS-R1K62P	1	2U Chassis
Add-on Card / Module	AOC-2UR66-I4G	1	2U Ultra Riser with 4 GbE ports and 2 PCI-E x16 3.0, Intel i350
Backplane	BPN-SAS3-216A-N4	1	24-port 2U SAS3 12Gbps hybrid backplane, support up to 20x 2.5-inch SAS3/SATA3 HDD/SSD and 4x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-PWEX-0673	3	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG,RoHS/REACH
Cable 2	CBL-SAST-0701	3	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,85CM,SB,30AWG,Ro
Riser Card	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
Riser Card	RSC-R2UW-4E8	1	2U LHS WIO Riser card with four PCI-E x8 slots
Riser Card	RSC-S2-66	2	2U Passive Standard Riser Card with two PCI-E 3.0 x16 Slots,
Heatsink / Retention	SNK-P0067PS	2	1U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
Heatsink / Retention	SNK-P0067PSMB	2	1U Passive High Performance Front CPU Heat Sink w/ an 18-mm Wide Middle Air Channel for X11 Purley Platform Equipped w/ a Narrow Retention Mechanism/Bolster
Power Supply	PWS-1K62A-1R	2	AC-DC 1600W, Titanium Level, Redundancy, 1U, DC Output: +12V and +12Vs, 203 x 73.5 x 40 mm, AC Input: 90 - 264 VAC/47-63Hz, PMBus 1.2 with DSP controller,HF,RoHS/REACH
FAN 1	FAN-0166L4	4	80x80x38 mm, 13.5K RPM, Optional Middle Cooling Fan for 2U Ultra Series Servers (Hot-swappable Version of FAN-0162L4)

## Optional Parts List

	Part Number	Qty	Description
2.5" NVMe Drive Trays	MCP-220-00167-0B	1 ~ 4	Tool-less black hot-swap 2.5" NVMe drive tray (Orange tab, w/ key lock, clip design)
	MCP-220-00127-0B		Black hot-swap 2.5" NVMe drive tray (Orange tab, w/ key lock)
Add-on Card	AOC-VROCPREMOD	-	Intel VROC Premium, RAID 0, 1, 5, 10
	AOC-VROCSTNMOD	-	Intel VROC HW key (RSTe) standard upgrade module
Frequency optimized and 205 watt CPU option kit	MCP-240-21904-0N-OEM	1	RSC bkt set (left, Mid/Right) for SC829/219U (LP), Tool-less
	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
2000w power supply kit	MCP-250-21802-0N	-	Power adapter bracket for 2K03P in SC218U, HF, RoHS/REACH
	PWS-2K03P-1R	-	1U 2000W Redundant Power Supply Platinum 73.5mm width
Active Cooling GPU	GPU-NVK40C	-	NVIDIA Tesla K40 PCI-E 12GB GDDR5 Active Cooling
	GPU-NVQM6000	-	NVIDIA PNY Quadro M6000 12GB GDDR5 PCIe 3.0
	GPU-NVQM6000-24	-	NVIDIA PNY Quadro M6000 24GB GDDR5 PCIe3.0-ActiveCooling
	GPU-NVQGV100	-	NVIDIA PNY Quadro GV100 32GB HBM2 PCIe 3.0- Active Cool
GPU power cable	CBL-PWEX-1042	1/GPU	GPU, 2x4F/CPU to 2x4F/CPU, P4.2, 50CM, 16AWG, 10A/pin, -40~105C
	CBL-PWEX-1040	1/GPU	GPU, 2x4M/CPU to two (2x3F+2x1F)/PCIe, P4.2, 5CM, 16/20AWG, 10.5A/pin(16AWG), 8A/pin (20AWG), -25~85C, RoHS
CacheVault(s)	BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05	-	CacheVault for Broadcom 3108; Supercap mounting bracket for PCI-E location
	BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	-	CacheVault for Broadcom 3108; Supercap mounting bracket for 2.5" HDD location
Network Card(s)	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	AOC-SGP-i2	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel i350AM2
	AOC-SGP-i4	-	Standard LP, 4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	AOC-STGN-i2S	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel 82599ES
	AOC-STGN-i1S	-	Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel 82599EN
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540

<b>Global Services &amp; Support</b>	<a href="#">OS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
	<a href="#">OSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
<b>Software</b>	<a href="#">SFT-OOB-LIC</a>	1	OOB Management Package (per node license)
<b>Software</b>	<a href="#">SFT-DCMS-Single</a>	1	DataCenter Management Package (per node license)

Storage Options List			
Cases	AOC	Cable	Connection
<b>For 8 SAS3 HDD</b>	AOC-S3008L-L8i x1 or AOC-S3108L-H8iR x1 or AOC-S3108L-H8iR-16DD x1	CBL-SAST-0532 x2	PCI-E slot 8
<b>For 16 SAS3 HDD</b>	AOC-S3008L-L8i x2 or AOC-S3108L-H8iR x2 or AOC-S3108L-H8iR-16DD x2	CBL-SAST-0532 x2 CBL-SAST-0593 x2	PCI-E slot 8 PCI-E slot 9
<b>For 24 SAS3 HDD</b>	AOC-S3008L-L8i x3 or AOC-S3108L-H8iR x3 or AOC-S3108L-H8iR-16DD x3	CBL-SAST-0532 x2 CBL-SAST-0593 x2 CBL-SAST-0568 x2	PCI-E slot 8 PCI-E slot 9 PCI-E slot 11
<b>For 24 SAS3 HDD including 4 NVMe</b>	AOC-S3008L-L8i x3 + AOC-SLG3-4E4T x1 or AOC-S3108L-H8iR x3 + AOC-SLG3-4E4T x1 or AOC-S3108L-H8iR-16DD x 3 + AOC-SLG3-4E4T x1	CBL-SAST-0532 x2 CBL-SAST-0593 x2 CBL-SAST-0568 x2 CBL-SAST-0926 x4 (NVMe cable)	PCI-E slot 8 PCI-E slot 9 PCI-E slot 11 PCI-E Slot 10 (AOC-SLG3-4E4T)
<b>TPM security module (optional, not included)</b>	AOM-TPM-9670V AOM-TPM-9671V	1	TPM module (Vertical) TPM 2.0 TPM module (Vertical) TPM 1.2.