



## HARSHPRO™ IP43 SERVER

Developed and manufactured in Singapore, the HarshPro IP43 Server is a powerful rugged server built for performance with an Intel® Xeon®<sup>1</sup> processor, multiple memory configurations, and high-capacity, high speed NVMe SSDs, enabling distributed cloud functionality and application containerization in a small footprint wherever you need it.

The server is housed in a compact mATX compliant enclosure designed for industrial environments that provides protection against dust and liquid while keeping overall equipment costs low. The HarshPro IP43 Server is equipped with a Trusted Platform Module to protect the security, integrity, and authenticity of the server. For edge AI/ML applications, the server can accommodate high power GPUs ranging up to 2.7 PCIe slot width sized cards.

HarshPro IP43 Server is designed to work standalone or clustered in remote locations. The server supports functionality commonly used in data centers including automated provisioning and remote management. The server offers four high speed M.2 slots and a single x16 PCIe slot for system expansion. The baseboard management controller (BMC) supports popular remote management technologies like IPMI, PXE, Redfish®, and KVM over IP which allows it to be fully administered remotely down to the BIOS level.



HarshPro IP43 Server

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<sup>1</sup> Intel and Xeon are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries



## HARSHPRO IP43 SERVER SPECIFICATIONS<sup>2</sup>

### System Chipset

CPU:	Intel® Xeon® D - 1541	Intel® Xeon® D - 1539 <sup>3</sup>
Base Frequency:	2.1 GHz	1.6 GHz
Max Turbo Frequency:	2.7 GHz	2.2 GHz
L3 Cache:	6 MB	12 MB
Cores:	8	8
Threads:	16	16
BIOS:	AMI® APTIO-V® UEFI version 2.4 UEFI Platform Initialization version 1.3	
Motherboard:	Micro ATX (mATX)	

### Memory

Technology:	Dual channel 2133 MHz ECC 288 pin DDR4
Slots:	2 x DIMM Slots RDIMM (up to 32 GB per slot) UDIMM (up to 16 GB per slot)
Maximum Capacity:	64 GB (RDIMM)
ECC Support:	Yes

### Baseboard Management Controller (BMC)

Chipset:	ASPEED AST2500
Firmware:	AMI® MegaRAC® SP-X
Protocols:	Redfish® 1.5, KVM over IP, IPMI 2.0

<sup>2</sup> Specifications listed here may be subject to change

<sup>3</sup> CPU configuration option



### Trusted Platform Module (TPM) 2.0

TPM Module:	Infineon
Chipset:	OPTIGA™ TPM SLM 9670

### Input/Output Interfaces

Ethernet Network Controllers:	1 GbE Intel®i210IT
Interfaces:	2 x 1000 Base-T Ethernet (BMC access through one port) 2 x USB2 4 x USB3.2 Gen 1

### Display card

Display card:	ASUS NVIDIA GT 710 (sample) <sup>4</sup>
Output:	4 x HDMI
Max No. of GPU Cards Supported:	1
GPU Card Form Factor:	Full height Full length Max slot width 2

### Storage

Technology:	M.2 NVMe
Maximum Capacity:	Up to 8 TB (4 x 2 TB SSD)

### Expansion Slots

M.2:	4 x M.2 M Key (2 x 22110 max, 2 x 2280 max)
PCIe	1 x PCIe x16 physical (4 lanes)

### LED and Switch

Button / LED:	Combined LED status & pushbutton
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<sup>4</sup> High power GPU card options are available.



### Power

Input Voltage:	12 V to 24 VDC or 90-264 VAC
Estimated Power Consumption:	140 W

### Electrical Protection

Reverse polarity:	Yes
Over current:	Yes
Over voltage:	Yes

### Environment

Motherboard Ambient Operating Temperature:	-20°C to 55°C <sup>5</sup>
Server Ambient Operating Temperature:	-20°C to 55°C
Humidity:	10-90% RH (operating and non-operating)
IP rating:	43
Cooling:	Forced convection

### Mechanical

Dimensions:	Without front cover: 345mm (L) x 263mm (W) x 180mm (H) With front cover: 405mm (L) x 263mm (W) x 180mm (H)
Weight:	TBC
Installation:	Horizontal or Vertical

<b>OS Support:</b>	CentOS v7.4 Red Hat® Enterprise Linux® (RHEL) v7.4/7.5/7.6 Red Hat® Enterprise Linux® (RHEL) Atomic v7.4 Ubuntu v18.04 Windows Server 2012 R2 Windows Server 2016 Windows 10 Pro
<b>Certifications<sup>6</sup>:</b>	EMC, FCC, CE, WEEE, UL, RoHS3, REACH

<sup>5</sup> Operating temperature band can increase with use of wideband operating temperature PSU & Fans

<sup>6</sup> Equipment pending certifications