

Industrial IoT SKY Series Server & Storage Solution

Committed Provider with Flexible,
High-performance, Long-lifespan
Products

- ✓ Storage
- ✓ Server Board
- ✓ Workstation
- ✓ Rackmount Server
- ✓ Tower Server
- ✓ GPU server



ADVANTECH

Enabling an Intelligent Planet



IoT Solutions
Alliance
Premier

www.advantech.com



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Advantech SKY Series Industrial Server and Storage Solution

With Innovative technologies for the IoT, Advantech has transformed embedded systems into intelligent systems with smart, secure, energy efficient features, with remote manageability, virtualization services, as well as professional system Configure-To-Order Services (CTOS) and Design-To Order Services (DTOS). Advantech SKY series industrial server and storage products include Industrial Server System, GPU Servers, IStorage (Industrial storage), from components to systems, providing flexible assembly and longevity. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries, such as equipment building, transportation, surveillance, broadcasting, intelligent video, and industrial cloud.

Alliance Partners:

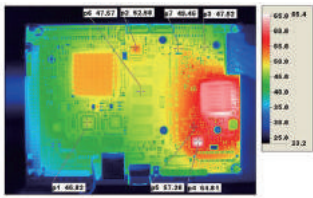


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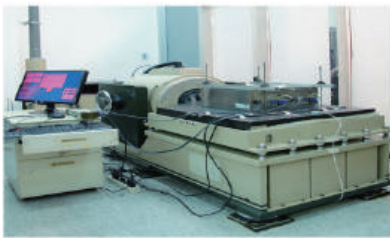


Designed for Industrial Environments



High Temperature Tolerance up to 60°C

The temperature standard of commercial servers is 25~35° C. Advantech's temperature standard of their server-board with dual CPU is 50° C, and 60° C for a single CPU, while the whole system overall reaches 40° C. For every single degree decrease in air temperature, 6% power can be saved. So customers do not need to worry about system down times caused by overheating in critical environments.



Vibration Test up to 1G

You cannot ignore the impact of vibration while a server is running in a critical industrial environment. When your system suffers lengthy access times or encounters minor problems every now and then, then it's time to check out the anti-vibration capability of your server. Any equipment with moving or robotic parts requires special attention to its anti-vibration capability. So all Advantech industrial servers must pass the 1G vibration specification - the industry leading standard. This ensures reliability and long product life.

Dust Prevention for Industrial Environments

Onsite dust accumulated after long-term use could shorten your system's life or even lead to failure. To cope with this, Advantech industrial servers feature a filter in the front panel that blocks external dust while maintaining air inflow. Easy filter installation and replacement ensures smooth continuous operation through regular maintenance.



Coping with Unstable AC Power Supply

The electrical current in industrial environments can drop temporarily as a result of unstable power supply. Therefore, it's important that in-plant applications can tolerate temporary power fluctuations. When power is turned off then on again quickly, the original power may not be released completely which leads to an inconsistent power sequence. This is caused by the way residual power is stored in the circuits. Advantech systems have successfully solved this problem with a special circuit design that takes care of power failures of between 1ns and 10s.

Advantech Industrial SKY Series Server vs. Commercial Server

Item	Advantech	Commercial	The Advantech Benefit
Environment Temperature	0~40°C (-20C ~ 55C) Note: for SKY-8000 series	10~35°C	<ul style="list-style-type: none"> Wider ambient temperature validation for reliability under harsh environments Reduced system shut downs caused by high ambient temperatures
Vibration	1G	0.25~0.5G	Strict vibration tests make Advantech IPC more durable, especially in higher shock environments like factory automation.
Technical support	High	Medium to Low	Professional AE helps customers resolve technical problems and shortens development schedules.
Longevity	5~7 years	2~3 years	<ul style="list-style-type: none"> Eliminate yearly system upgrade Low Total Cost of Ownership, including system certification cost and customer RMA service material preparation
Revision Control	Yes	No	<ul style="list-style-type: none"> Reduce product validation during product life cycle Avoid compatibility issues resulting from engineering changes

System Design to Order Service

Build Your Dream System in 30 Days

With an increasingly diverse market and multiple vertical applications, the needs of customized systems for specific applications are in high demand. Advantech is the dream system provider, supplying quality assurance and integrated services to worldwide customers. With customization, integration, validation, and certification, we are committed to providing a one-stop solution to customers who require a trusted partner to maximize their applications.



System Engineering Expert Group

System design should always start from the customer's perspective. To build up a system that precisely matches a customer's application, the Advantech professional engineering team always puts the customer first, from system working environment, ergonomics, to maintenance. The professional engineering team and rich experience from over 100 successful cases make Advantech the dream system builder for your business.



Worldwide Orders, Local Services

Our global presence provides reliable, localized customer support service, with customizable after-sales services, including extended warranty, advance replacement, and upgrade. We provide an optimized, within-budget, maintenance and support plan around the world to keep your investment at peak performance.

- 24/7 hotline AE
- Global RMA System



Certified Quality Assurance Systems

At Advantech, quality is our main priority. A complete line of safety, EMC, and reliability test equipment, such as hi-pot, ESD, vibration, drop test, temperature, humidity and HALT chambers ensure our product meet the strictest standard. Also Advantech the strictest standards. Also Advantech has an applied environmental program that focuses on reducing, reusing and recycling of materials throughout the manufacturing process. All our products are 100% RoHS compliant and Environmental Management Systems such as QC080000 are applied to meet worldwide environmental requirements.

3-5-7 Service Guarantee



- 1st Level** Dedicated professional AE for first-time trouble shooting
- 2nd Level** Strict revision control, key parts fixed, EC announcements
- 3rd Level** Flexible customization (BIOS logo, IO offering, BIOS boot priority, bezel tailor-made for customer's ID)



Longer product warranty policies benefit specific industrial fields like medical, military, and MA (Manufacturing Automation) applications. Advantech Server-grade IPC offers this option to meet the issue of longevity support.



Advantech Server-grade IPC is committed to sustaining longer product availability. All the components are selected carefully to ensure long-life support.

Industrial Server

Full Range of Intel® Xeon® Server Boards and Systems

The Advantech industrial server is designed to give equipment developers high performance, efficient and redundant solutions for industrial environments and critical applications. This product line provides customers with a total solution and value-added services rather than just a regular server product.

The portfolio features multi-core processors based on Intel® Xeon® technology, ECC DDR4 Memory and Hot-Swap drive bays, and Intelligent Platform Management Interface (IPMI), which are essential for performance-demanding applications. Automatic Optical Inspection (AOI), Vision Inspection, Video Transcoding, Supervisory Control and Data Acquisition (SCADA) are ideal applications for Advantech industrial server solution. Advantech's industrial servers, designed with cutting edge technology, deliver outstandingly high industrial performance in rack-and-tower optimized enclosures.

High Performance yet Quiet



Massive image data processing in certain verticals like medical and design houses requires high performance and efficiency. However, the processing server is usually not placed in a far-away data center, but right next to users, where high noise levels can be a problem that affects productivity. Advantech industrial servers are specially designed to deal with this issue. For user-friendly operation, the fan speed is carefully balanced to provide the best thermal solution with the least possible sonic output. With an Advantech industrial server, your performance never needs to be compromised.

1U Rackmount System



ASMB-585



HPC-7140

2U Rackmount System



ASMB-785



HPC-7282

3U Rackmount/Tower System



ASMB-813



HPC-7320

4U Rackmount/Tower System



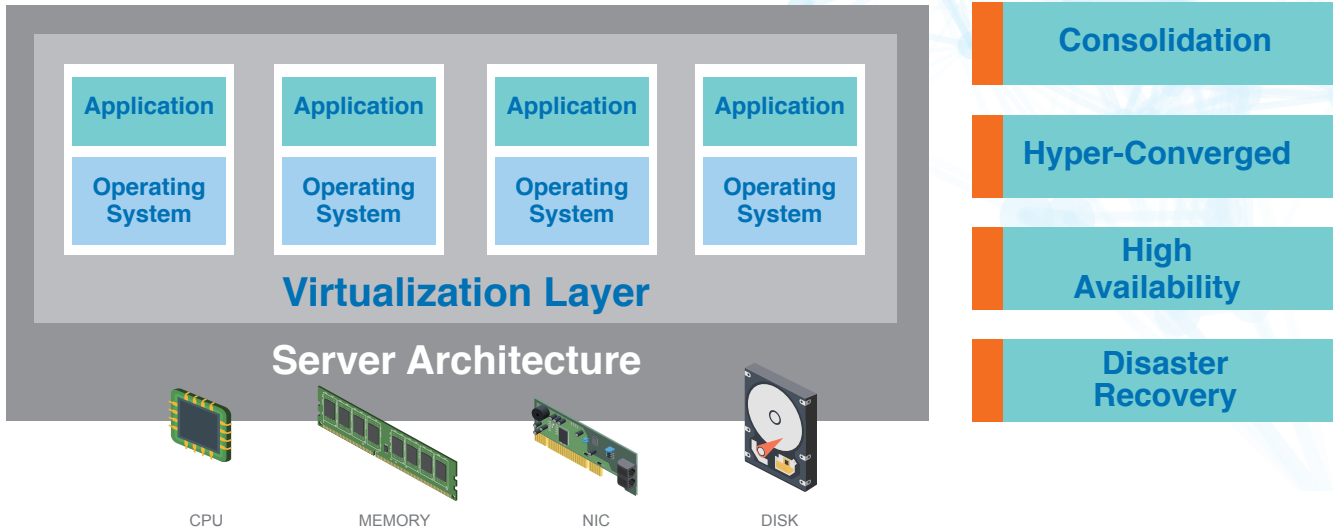
ASMB-923



HPC-7400

Optimized Virtualization Improves Efficiency and Reliability

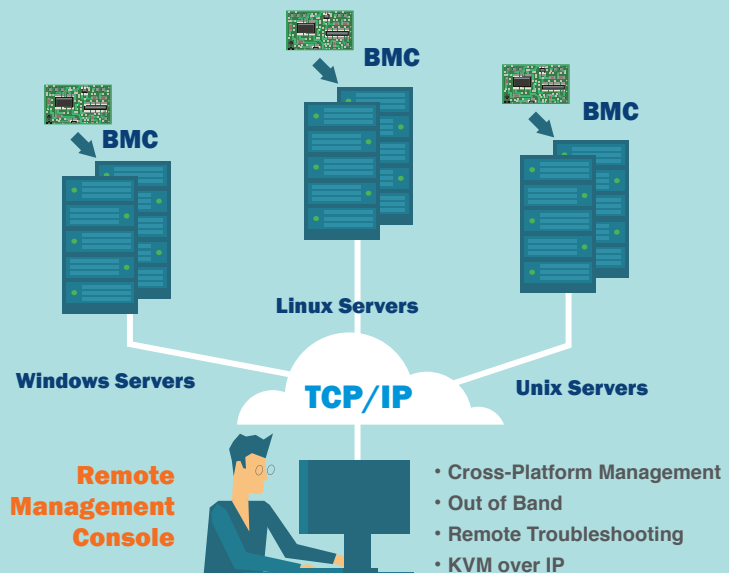
Virtualization software vendors like VMware, Citrix, Microsoft and Pivot3 have created software that lets one powerful server do the job of multiple computers by sharing resources across multiple environments. Virtualization helps companies save money through optimum consolidation and reallocation of IT resources, based on utilization and capacity.



 ASMB-585 Intel® Xeon® E3-1200 v5/v6	 ASMB-785 Intel® Xeon® E3-1200 v5/v6	 ASMB-813 Intel® Xeon® E3-1200 v3/v4	 ASMB-815 Intel® Xeon® Scalable	 ASMB-823 Intel® Xeon® E3-1200 v3/v4
 ASMB-825 Intel® Xeon® Scalable	 ASMB-913 Intel® Xeon® E3-1200 v3/v4	 ASMB-923 Intel® Xeon® E3-1200 v3/v4	 ASMB-925 Intel® Xeon® Scalable	 ASMB-975 Intel® Xeon® Scalable

IPMI for Mission-critical Systems

Advantech IPMI solution is an Out-of-Band Management solution that provides centralized management of devices deployed in a network and offers to monitor and manage remote BMC devices as a pluggable component for Advantech ASMB server boards to monitor and report the health and performance of BMC devices. Advantech IPMI solution helps save customer costs, and improves reliability of system management.



SKY-4000 Series

High-density Solution from JBOD, Storage Server to Disk Array

Advantech Industrial Storages (IStorage) are high-performance and cost-effective storage solutions that fulfill the requirements of industrial environments and mission-critical industrial applications. Advantech storage server solutions have comprehensive fault-tolerant capability with H/W RAID and online expansion capability via JBOD to ensure the highest possible data availability.

The external disk array is designed to provide systems with the ability to consolidate and share data at an affordable price, while leveraging advanced software capabilities usually found in more expensive mid-range & high-end systems.

IStorage solutions bring you a seamless integration with Advantech IServer products. With a wide range of product portfolios and completed validation tests, they can be immediately introduced into various industrial applications and upgrade your systems to become a working part of the industrial cloud.

IStorage Value Proposition

S

Seamless Integration

- *One-stop Shopping Solution, from MB/Chassis/ Server/Storage*
- *Wide Storage Portfolio, Including JBOD/ Storage Server/ Disk Array*

A

Availability

- *Full Compatibility with Advantech Product Lines*
- *Leverage WW Tier1 Partners' Storage Technology*

F

Flexibility

- *Global CTOS*
- *Local RMA*
- *Low MOQ*

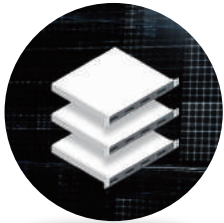
E

Expertise

- *Know-how & Experience in Industrial Cloud Deployment*
- *Longevity & Version Control*

The World's First 1U, 16 NVMe SSDs, Dual Intel® Xeon® E5 Storage Server

ASR-3100



1U Rackmount

Offers high scalability



2 CPUs

Dual Intel® Xeon® E5 V3/V4 processors



16 NVMe SSDs

Interchangeable with SAS and SATA



6 Million IOPS

30% performance increase



1100W

1+1 redundant power supply with 80 PLUS Platinum certification

Built-in Innovation



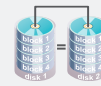
Easy Tier



Flash Copy



Remote Mirror



H/W RAID



Remote Management

Industrial Storage

External Disk Array



ASR-53001

Industrial Storage Server

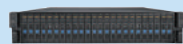


ASR-3100



SKY-4311

Disk Expansion Enclosure



SKY-4120B

Storage Chassis



HPC-8212



HPC-8224



HPC-8316



HPC-8424

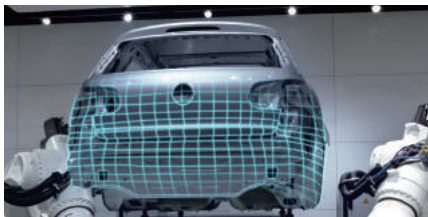
SKY-6000 Series

Unlocking Visual Computing Power

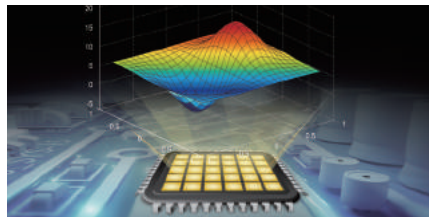
Advantech's industrial 1U to 4U GPU server solutions feature the latest in multi-core computing technology. By offloading dense and complicated application code to the CPU, the GPU's massively parallel architecture can be leveraged to perform multiple tasks simultaneously. These servers deliver high-performance computing and are ideal for performance-intensive applications that involve visualization, parallelization/acceleration, and virtualization computing. Advantech comprehensive industrial GPU server series solutions accelerate visual computing in applications such as automated optical inspection (AOI), surveillance, video transcoding, cloud gaming, and medical imaging.

Application-Ready, Visual Processing Solution

The acquisition, processing, analysis, and rendering of visual information are data-intensive tasks. Advantech's industrial GPU server solution is designed to immediately deliver adequate processing power for even the most time-consuming applications. The high performance of this server makes it ideal for the automated optical inspection (AOI), surveillance, video transcoding, cloud gaming, and medical imaging markets.



Visualization computing



Parallelization/Acceleration computing



Virtualization computing

- 3D rendering - Autodesk Suites, SOLIDWORKS
- 4K displays - Adobe Creative Suite
- DATA analytics/mining - MATLAB
- Single and Double precision workloads - Video transcoding
- VDI - Citrix/Microsoft/VMware
- Cloud Gaming – Streaming video and music

Unique Friendly Design



Front & Internal USB Increases Usability



Exclusive Anti-vibration Mechanism



Cable-less Design Increases Thermal Efficiency



GTX Side Power Connector Supports Varieties of GPU Cards

Comprehensive GPU Server Solution



<p>1U Rackmount System</p>  <p>AGS-913</p>	<p>2U Rackmount System</p>  <p>AGS-923</p>	<p>3U Rackmount/Tower System</p>  <p>HPC-7320</p>  <p>ASMB-813</p>	<p>4U Rackmount/Tower System</p>  <p>SKY-6400</p>  <p>ASMB-975</p>
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Wide Range of GPU Cards Supported

Whether you are looking for assistance in completing an integration project, require in-depth expertise in building a system, or want to find a total GPU server solution with extended longevity, Advantech and partners will provide you the best GPU server solution in your specific region and market segment.



Advantech, in alliance with global first-tier GPU providers, provides the best support and service for industrial applications.



Trusted GPU Server Solution



Leading-edge Technology



Design and Development Expertise



Long Lifecycle Support

* Note: Please refer page 43 for detailed GPU card compatible chart.

SKY-8000 Series

High-performance, carrier grade rugged server design with optimized I/O

Advantech SKY-8 series rugged server is a highly configurable carrier-grade server designed to balance the best in x86 server-class processing performance with maximum I/O and offload density in a 20" depth chassis. The system is a cost effective, highly available platform optimized to meet next-generation networking equipment needs. It is specifically designed for high density PCIe card payloads where maximum port count is needed or the integration of industry leading offload and acceleration technology is essential. The PCIe I/O is balanced between CPU sockets for optimum throughput. The power and cooling options along with the streamlined mechanical design make it ideal for Digital Signal Processing (DSP) payloads for video encoding/decoding, transcoding and transrating applications.

SKY-8 series rugged servers and their variants cater to higher power and cooling requirements, when NEBS certification is not mandatory. The SKY-8 series combines cutting-edge performance with the ruggedness, reliability, and long system lifecycles required by networking equipment providers. The SKY-8 series is designed for NEBS Level 3 carrier grade environments and where limited rack space is available. Interoperability testing is performed with a wide selection of third-party PCIe card vendors.

Platform Differentiation: Design

Base Design	Optimized for five 9's availability & Carrier Grade use cases
Motherboard	Optimized in-house design
PCI Express	Balanced between sockets and all slots gen.3
Thermal design	No shading between CPU sockets, memories and IO cards
Thermal Spec	NEBS performance at max. configuration
Power Supply	1400W PSU No configuration limitations even at 55°C



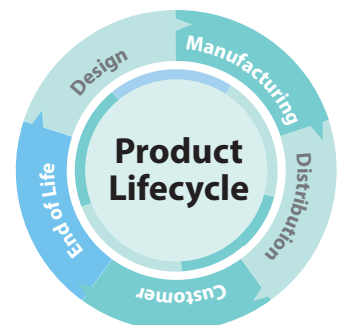
Platform Differentiation: Reliability

Thermal design	Optimized design yields lower component stress / better MTBF
Redundant BIOS	Yes
Redundant firmware	Yes
Remote update	BIOS and firmware
Failsafe upgrade	Yes
Serviceability	All FRU-able components are front/rear swappable



Platform Differentiation: Life cycle management

Design IP	Full Ownership
Manufacturing	Self owned factories
Life cycle & warranty	5 + 2 years life cycle. Extended warranty up to 3 years
Design freeze	Full BOM freeze including (customized) BIOS and FW
Product Change Notice	Advance notice for all proposed changes
BIOS/Firmware/Software	Clear release policy with advance notice; Tailored SLA available



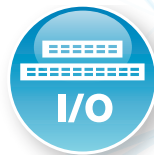
High Performance Server Platform Enables IoT Industrial Cloud



Optimized CPU Selection



Thermal Simulation



Interoperable & Optimized IO



Safety/Reliability Test



Longevity Support



Mechanical Design



System Integration



Certification

Optimized IO Servers

- Integrated computing, IO, offloading
- Higher performance ingredients
- High TDP CPUs & PCIe
- No air filter and higher RPM fans
- 20" compact system design
- AC PSU only

Non-NEBS

Carrier Grade Servers

- Integrated computing, IO, offloading
- NEBS ready: +55°C, Air filter, Acoustic noise reduction
- 20" compact system design
- AC & DC options
- Telco Alarm Support
- CPU and PCIe card limitations apply

Common platform design features

- Carrier Grade BIOS and FW
- Serviceability
- Balanced PCIe IO, gen.3 capable
- Reliability and Availability
- Advanced Thermal Design
- Industrial life cycle & change management

Enjoy 99.999% Uptime

Simplify the Process of Making Applications Always Available



In today's business world, downtime of critical infrastructure applications such as industrial automation, has wide ranging economic, security and legal consequences. For these applications, recovering from a failure, no matter how fast it may be, is simply not an option. This is where an always-on solution that proactively prevents application downtime and data loss is required. The collaboration of Advantech and Stratus simplifies the process of making applications available not just some of the time, but all of the time.

Always-on Solution delivers benefits you can see



Zero Downtime is Really Possible

Totally protecting your applications and systems requires just 30 minutes of your time.



Metro Wide Protection

Data replication across multiple sites assures protection if disaster strikes in one location.



One Console Management

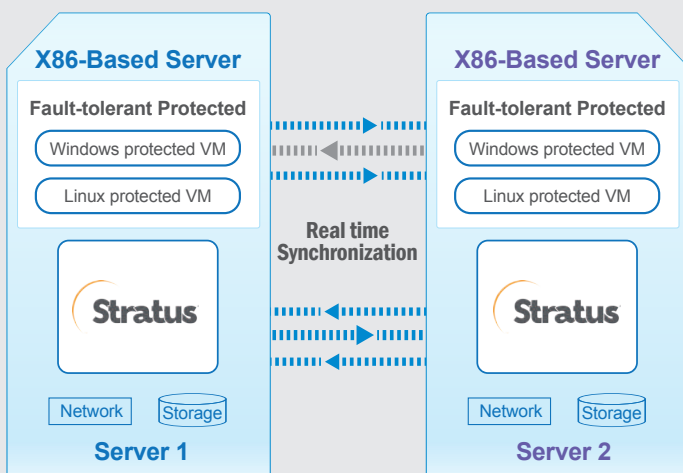
One console allows you set up and admin easily, configure networking and storage settings



Integrated Virtualization

Provides the highest level of availability for virtual environments

Prevents application downtime and maintains data integrity



Always-on based solution links two servers together via a virtualization platform that pairs protected virtual machines together to create a single operating environment. The entire application environment, including data in memory, is replicated to ensure applications are continuously available. If one physical machine gets failure, applications continue to run on another physical machine automatically without any interruption or data loss.

Industry



Industrial Automation



Robot



Inspection



Transportation



Signal Control



Gate Control



Retail



Ordering



Transaction

Product Offering



HPC7120S1703-T



Dedicate to lightweight applications

Signal/access control, PLC, HMI and IIoT gateway.

HPC7242MB1702-T



Innovative all-in-one workstation

Surveillance, CCTV, MES/SCADA and enterprise information portal.

HPC72821701-T



Working for mainstream applications

Database applications such as ERP, CRM or exchange/SharePoint server.

HPC8212SA1702-T



High performance oriented Architecture

Big data analysis, integrated business planning and business intelligence.

Minimum Order: 2 Pieces

Build Your New Industrial Cloud on Just Two Servers

Cost-effective high performance server solutions in large scale deployments as well as mid-size and smaller environments. Choose Advantech's solutions for practical hyper-converged storage that fulfills various application needs.

Hyper Converged Storage Next Generation Factory Servers



Welcome to the next generation of productivity with new server SANs and cloud-based storage solutions. Advantech delivers parallel I/O technology to unleash the potential of multi-core computing, these hyper-converged small footprint solutions enable factories to scale their applications in a modern infrastructure for advanced production.

Evolution of Storage

DIY Infrastructure



Interoperability issues caused by different manufacturers.

Converged Infrastructure



Similar to DIY infrastructure, the only difference is buying a pre-packaged rack.

Hyper-Converged Infrastructure

ADVANTECH

Enabling an Intelligent Planet



Tightly integrated Advantech solution combines computing, storage & network on just two servers.

✓ Scalability ✓ Flexibility ✓ Compatibility



75% reduction in storage costs



10x performance increase



100% reduction in storage-related downtime



90% decrease in time spent on routine storage tasks

Solution

Scenarios for Advantech Hyper-converged Infrastructure

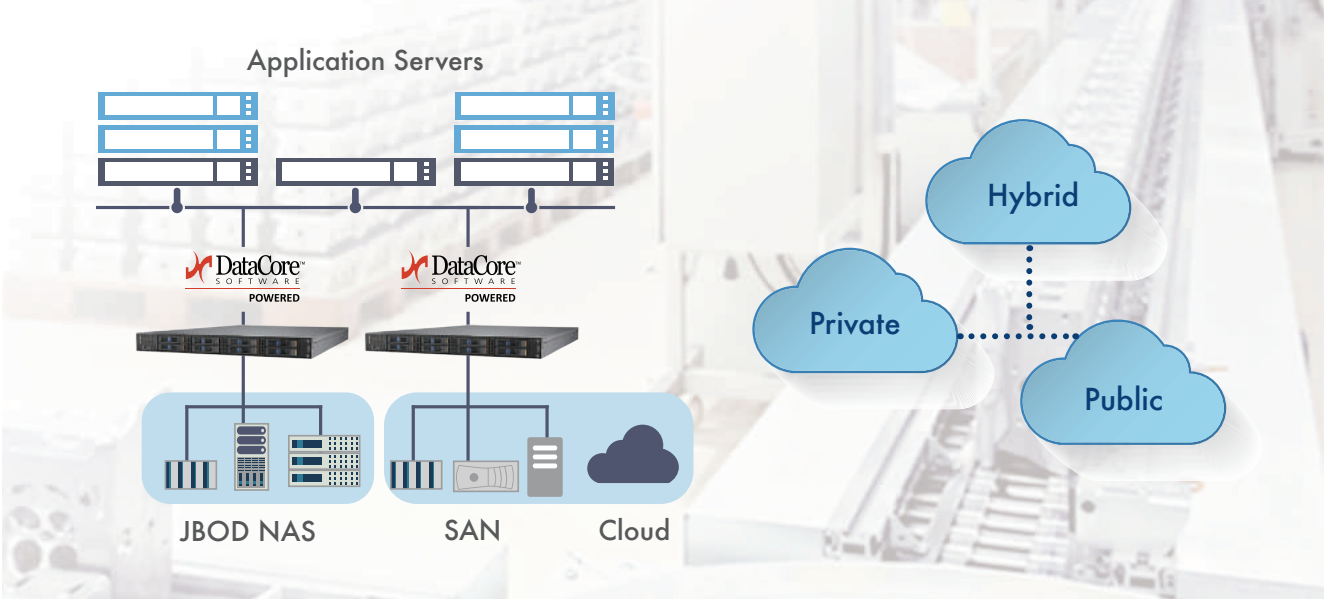


Factory Cloud Platform



SKY-431

- 1. Maximize the value of your data with all-flash array
- 2. Outstanding performance more than 1,200,000 IOPS

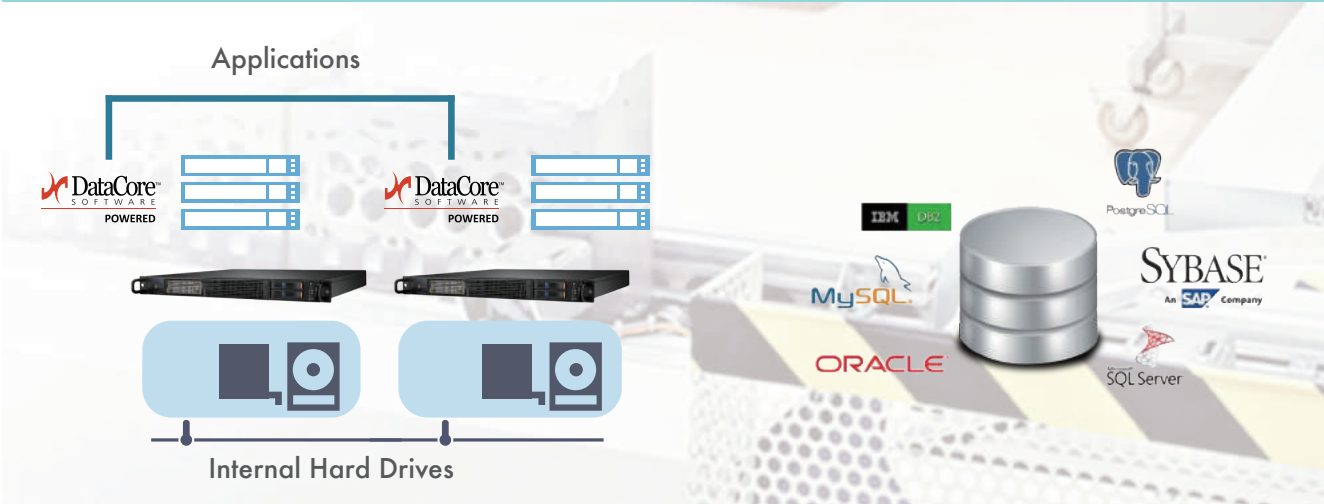


High Performance Analysis for SCADA Database



HPC-7120S

- 1. Scalable architecture and seamless integration of petabyte-level storage
- 2. Industry best availability & data protection (zero-touch)



Video Transcoding System



Project

GPU servers accelerate compute-intensive image processing within Video Processing and Transcoding, including scaling, deinterlacing, frame rate conversion, motion vector calculation, and other tasks that require computation and analysis to modify or create new video frames. Faster video preprocessing acceleration benefits the output quality of all video output formats, for both transcoding and automated content assembly.

System

Advantech's industrial GPU server AGS-923 was adopted for streaming transcoding, which requires accelerated video processing and H.264 transcoding with GPUs and multicore CPUs. AGS-923 is

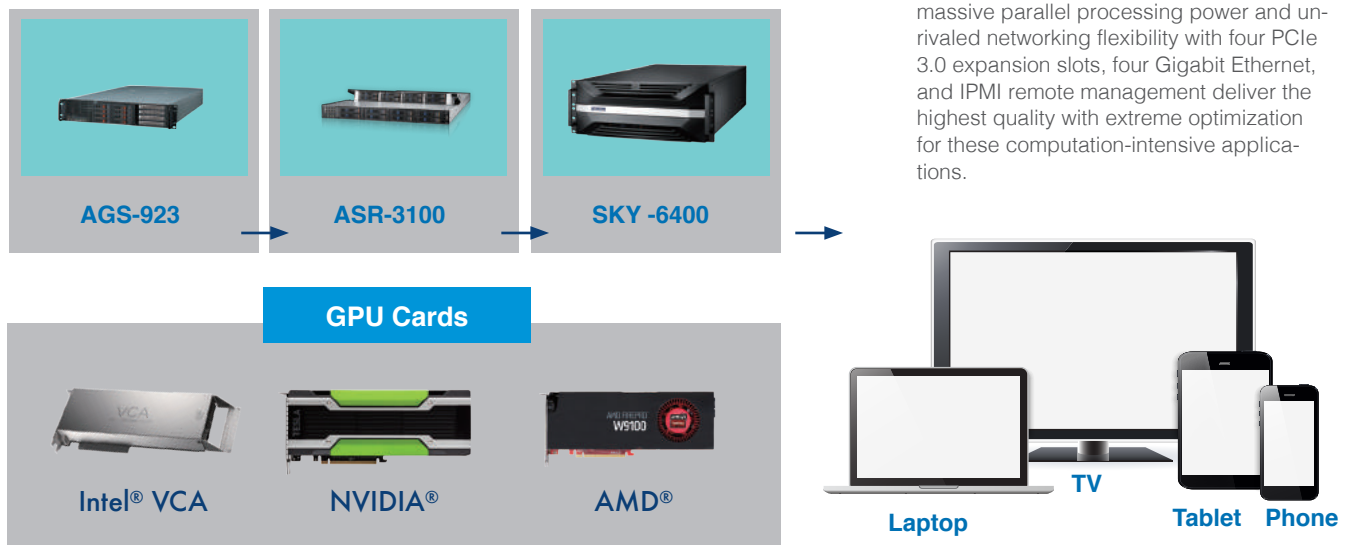
also suggested for cloud gaming, medical imaging, and data analysis, all of which benefit from GPU acceleration. ASR-3100, equipped with 16 NVMe SSD, supports a large amount of hot data processing without latency.

Requirements

- Deinterlacing
- Video Image Scaling
- Frame Rate Conversion
- Accelerated x264 Encoding

Conclusion

Advantech's GPU server system was ideal for this GPU acceleration system. Its massive parallel processing power and unrivaled networking flexibility with four PCIe 3.0 expansion slots, four Gigabit Ethernet, and IPMI remote management deliver the highest quality with extreme optimization for these computation-intensive applications.



ASR-3100

1U Rackmount Dual Intel® Xeon® E5-2600 V3/V4 Storage Server, with up to 16 2.5" NVMe SSDs and 2 PCIe Gen III x8 Slots



AGS-923

2U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU server, Supporting 4 x PCIe x16 double-depth card and 1 x PCIe x8 single-depth FH/HL card

NVIDIA® Quadro® Certified Medical Image System



Project

For modern healthcare, computed tomography (CT) is a big breakthrough that allows medical professionals to explore inside the human body without cutting it open. Thanks to advancements in computer technology, these medical images dramatically enhance diagnostic ability. One of our European customers supplies such medical imaging systems. These systems not only provide great image data transfer and storage, but also offer reduced chassis dimensions and reduced noise via smart fan control.

System

ASMB-925 is perfect as the imaging workstation in such an application, featuring Intel® Xeon® Scalable series processors, 12 DIMMs up to 384 GB capacity, and rich expansion I/O interfaces. ASMB-925 offers extreme performance in computing speed, memory capacity and

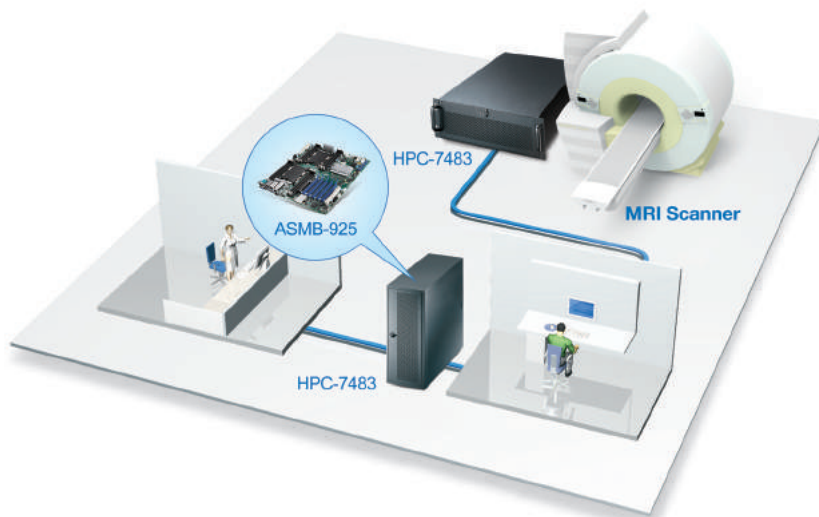
fast, reliable networking. To ensure the system operates reliably and smoothly, ASMB-925 has multiple built-in GbE & 10GbE LANs which support redundant networking. It also has 10 SATA ports supporting RAID 0, 1, 5, and 10, to offer high capacity, high performance, and high reliability for image data storage.

Requirements

- Massive data storage capacity with hot swappable storage bays
- Short depth chassis with smart fan control
- GigaLAN with networking redundancy for reliable image data transmission

Conclusion

For medical image systems, data storage and transfer ability are absolutely crucial. Advantech's industrial ASMB-925 server board provides great CPU performance, massive data storage, remote management, and smart fan control. It delivers extreme performance at a low cost, and is available with a 5-year extended warranty and 7-year product supply, provided by Advantech's localized logistics support.



Short-depth high performance server with user-friendly quietness delivers massive data processing, storage and transfer ability.



ASMB-925

Dual LGA3647 Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI



HPC-7483

4U Compact Rackmount / Tower Chassis for Proprietary/ EATX/ATX/MicroATX Motherboard

Automatic Optical Inspection (AOI) System



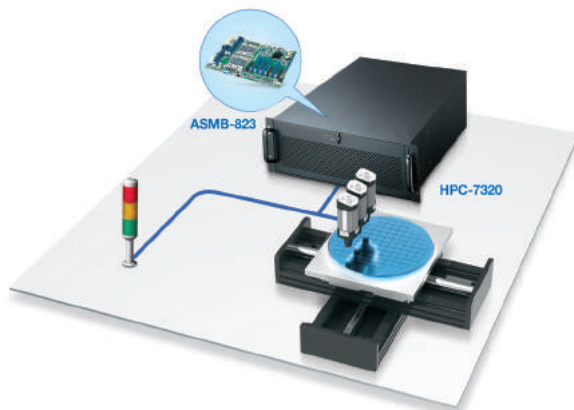
Project

For high-tech electronic products that comprise micro components, manual visual inspections are no longer acceptable for defect detection. Consider a post-sawing LED wafer with up to 100 grain-sized dies; relying on human inspectors to detect defects just wouldn't cut it. Consequently, automatic optical inspection (AOI) systems with robotic applications have been widely adopted for wafer inspection to increase assembly reliability, reduce personnel costs, improve quality, and enhance competitiveness.

System

Although the performance of a traditional CPU-based hardware computing AOI system exceeds that of a GPU cluster-based software solution, the development and maintenance costs are substantially higher. A CPU-based hardware solution requires multiple PCs to process high-resolution image data from a single camera, whereas a GPU cluster-based solution, such as Advantech's ASMB-823 with HPC-7320 solution is capable of processing the same amount of data using only one PC and one

GPU cluster. Advantech's ASMB-823 with HPC-7320 system supports up to two 225W TDP GPU cards, accelerating visual computing for complex applications and yielding a high throughput of high-resolution data. To ensure reliable parallel computing performance, the system is equipped with a 700W single or redundant power supply. The system also features two 8-cm and one 6-cm high-performance cooling fans to ensure thermal stability during AOI inspections.



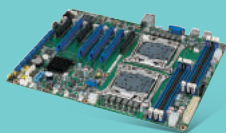
A GPU cluster-based solution is capable of processing high-resolution image data using only one PC and one GPU cluster instead of traditional multiple PCs AOI systems.

Requirements

- High throughput of high-resolution image data
- Multiple image inspections for detection accuracy
- Competitive, cost-effective performance
- Compact built-in system

Benefits

In the field of hi-tech manufacturing, speed and precision determine competitiveness. Because human inspectors cannot conduct precise and stringent assessments with quantifiable repeatability, machine vision and motion control systems are essential to ensure consistent quality and operational efficiency. Advantech's industrial GPU server solution is designed to maximize convenience, competitiveness, and market serviceability, and can be used to boost GPUs in a PC cluster system or integrated with hybrid system hardware. The benefits of this solution include a faster time-to-market, reduced development costs, high flexibility, and low maintenance costs, enhancing production efficiency for quality-focused manufacturers.



ASMB-823

Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 6 DDR4, 4 PCIe x16, 6 USB 3.0, 9 SATA3, Dual LAN, IPMI



HPC-8212SE

2U rackmount server Chassis for EATX/ATX/Micro ATX Serverboards with 12 Hot-Swappable Drive Bays

Factory Automation (SCADA) System



Project

A certain factory needed a SCADA (Supervisory Control And Data Acquisition) Server that would enhance system performance and at the same time reduce infrastructure costs. In order to have a fully integrated system, our customer asked for a SCADA server with remote management, virtualization, and storage capacity.

System

ASMB-785 was the perfect solution, with ATX form factor, it easily fitted into the shorter depth server chassis HPC-7282. For optional IPMI-1000, it can upgrade to IPMI remote management to ensure reliability and accessibility even

if the operating system crashes. At the same time, ASMB-785 is an industrial serverboard, featuring an Intel® Xeon® E3 v5/ 6thGeneration Core™ i series CPU, and built-in Intel® Gb LAN chips, which makes it an optimized solution that can operate in a virtualized system environment.

Requirements

- Massive data storage capacity with hot swappable storage bays
- Full support for virtualization S/W, e.g., VMware, etc.
- Out-of-band remote management, IPMI 2.0, supported

Benefits

For a SCADA server system, computing power, reliability, and management are major considerations. Advantech's ASMB-785 serverboard, and HPC-7282 industrial chassis made an ideal choice. They are also available with a 5-year extended warranty and 7-year product supply, provided by Advantech's localized logistics support.



Industrial-grade server design and IPMI remote management ensure reliability and accessibility for all kinds of factories.



ASMB-785

LGA 1151 Intel® Xeon® E3 v5/ v6 & 6th/7th Generation Core™ ATX Server Board with DDR4, 4 PCIe, 3 PCI, 6 USB 3.0, 6 COM, 6 SATA3, Quad/Dual LANs



HPC-8212SA

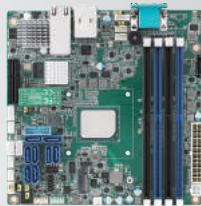
2U rackmount server Chassis for ATX/Micro ATX Serverboards with 12 Hot-Swappable Drive Bays



ASMB-260

Intel® Atom™ C3000 Mini-ITX Server Board with 4 DDR4 DIMM, 1 PCIe x4 Slot (Gen 3.0), 8 SATA III, IPMI

Dimensions (WxH) 170 x 170 mm



Features

- Mini-ITX Server Board with Intel® Atom™ C3000 processor
- Four DDR4 2400MHz ECC/Non-ECC UDIMM up to 64GB or Four DDR4 2400MHz RDIMM up to 128GB
- One PCIe x4, Eight SATA III, One M.2, four USB 3.0, and two 10GbE/one GbE LAN
- 0 ~ 60 °C ambient operation temperature range

Ordering Information

Part Number	CPU	Memory	10GbE Lan	GbE Lan	SATA	VGA	IPMI
ASMB-260T2-22A1	C3758	4 xDDR4 RDIMM/UDIMM	2	1	8	AST 2500	Yes
ASMB-260I-22A1	C3758	4 xDDR4 RDIMM/UDIMM	-	1	8	AST 2500	Yes
ASMB-260I-21A1	C3558	4 xDDR4 RDIMM/UDIMM	-	1	2	AST 2500	Yes

Packing List

Part Number	Description	Quantity
2061260I00	Driver CD	x 1
2001026000	Startup manual	x 1
1960052312T020	IO shield	x 1
1700003194	SATA Data Cables	x 2
1930007120-01	Screw for M.2 device	x 2
1700024372-01	SATA Power cable	x 2



ASMB-260T2-22A1



ASMB-260I-22A1
ASMB-260I-21A1

ASMB-585

LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ Micro ATX Server Board with 4 DDR4, 1 PCIe x16, 3 PCIe x4, Quad LANs, USB 3.0

Dimensions (WxH) 244 x 244 mm



Features

- Supports LGA 1151 Intel® Xeon® E3-1200 v5/v6 & 6th/7th Generation Core™ i7/i5/i3 processors
- DDR4 ECC/Non-ECC 2400/2133/1866/1600MHz DIMM up to 64GB
- One PCIe x16 slot (Gen3 x16 link) and three PCIe x4 slots (two Gen3 x4 link, one Gen3 x1 link)
- 0 ~ 60° C ambient operating temperature range

Ordering Information

Part Number	Chipset	Memory	LAN	VGA	DVI
ASMB-585G2-00A1E	C236	4 x DDR4 ECC UDIMM	2	1	2
ASMB-585G4-00A1E	C236	4 x DDR4 ECC UDIMM	4	1	2

Packing List

Part Number	Description	Quantity
2061058502	Driver CD	x 1
2001058510	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
19Z0000996T010	I/O shield	x 1



ASMB-585G2-00A1E

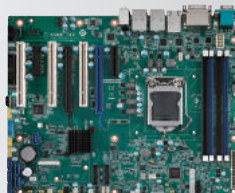


ASMB-585G4-00A1E

ASMB-785

LGA 1151 Intel® Xeon® E3 v5/v6 & 6th/7th Generation Core™ ATX Server Board with 4 DDR4, 4 PCIe, 3 PCI, 6 USB 3.0, 6 COM, 6 SATA3, Quad/Dual LANs, IPMI

Dimensions (WxH) 304.8 x 244 mm



Features

- Supports LGA 1151 Intel® Xeon® E3-1200 v5/v6 & 6th/7th Generation Core™ i7/i5/i3 processors
- DDR4 2400/2133/1866/1600/1333 MHz ECC/Non-ECC UDIMM up to 64 GB
- One Gen 3.0 PCIe x16 link (or two PCIe x16 slots with x8 link), two PCIe x4, and three PCI slots
- 0 ~ 60° C ambient operating temperature range

Ordering Information

Part Number	Chipset	Memory	LAN	USB 3.0	VGA	DVI	SATAIII	IPMI
ASMB-785G2-00A1E	C236	4 x DDR4 ECC UDIMM	2	6	1	2	6	Optional
ASMB-785G4-00A1E	C236	4 x DDR4 ECC UDIMM	4	6	1	2	6	Optional

Packing List

Part Number	Description	Quantity
2061S78502	Driver CD	x 1
2006S78510	Startup manual	x 1
1700003194	SATA data cables	x 1
1700019381	SATA data cable (right angle)	x 1
1700022749-11	SATA power cables	x 2
19Z0000996T010	I/O shield	x 1



ASMB-785G2-00A1E

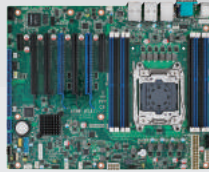


ASMB-785G4-00A1E

ASMB-813

LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 8 DDR4 DIMM, 5 PCIe x16 Slot, 6 USB 3.0, IPMI

Dimensions (WxH) 304.8 x 244 mm



Features

- ATX Server Board with Intel® Xeon® E5-2600 v3/v4 processor
- Eight DDR4 2400 MHz RDIMM up to 256 GB and support DDR4 NVDIMM
- Seven PCIe expansion slots: five PCIe x8 (or two x16 and one x8), one PCIe x4 and one PCIe x1
- 0 ~ 60° C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-813-00A1E	C612	8 x DDR4 RDIMM	2	-	AST 1400
ASMB-813I-00A1E	C612	8 x DDR4 RDIMM	2	Yes	AST 2400



ASMB-813-00A1E



ASMB-813I-00A1E

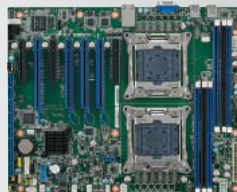
Packing List

Part Number	Description	Quantity
2061813I01	Driver CD	x 1
2001813I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
1960048321T020	I/O shield	x 1

ASMB-823

Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 ATX Server Board with 6 DDR4, 4 PCIe x16, 6 USB 3.0, 9 SATA3, Dual LAN, IPMI

Dimensions (WxH) 304.8 x 244 mm



Features

- ATX Server Board with Dual Intel® Xeon® E5-2600 v3/v4 processor
- DDR4 2400 MHz RDIMM up to 192 GB
- Four PCIe x16 slots (Gen3), two PCIe x8 (Gen3) and one PCIe x4 (Gen2) slots
- Nine SATA3 ports and six USB 3.0 ports
- 0 ~ 40° C ambient operating temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-823-00A1E	C612	6 x DDR4 RDIMM	2	-	AST 1400
ASMB-823I-00A1E	C612	6 x DDR4 RDIMM	2	Yes	AST 2400

Packing List

Part Number	Description	Quantity
2066823I01	Driver CD	x 1
2006823I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
19Z0000777T000	I/O shield	x 1



ASMB-823-00A1E
ASMB-823I-00A1E

ASMB-815

LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 5 PCIe x8 or 2 PCIe x16 and 1 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI

Dimensions (WxH) 304.8 x 244 mm



Features

- ATX Server Board with Intel® Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- 5 PCIe x8 or two PCIe x16 and 1 PCIe x8
- Intel® X557-AT2 dual 10GbE ports
- 8 SATA3 and one M.2 connectors (SATA / PCIe compatible)
- 0 ~ 60 °C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-815-00A1E	C621	DDR4 RDIMM	2/	-	AST 2510
ASMB-815I-00A1E	C621	DDR4 RDIMM	2/	Yes	AST 2500
ASMB-815T2-00A1E	C622	DDR4 RDIMM	2/2	Yes	AST 2500

Packing List

Part Number	Description	Quantity
2066815I00	Driver CD	x 1
2006815I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1930007120-01	Screw for M.2 device	x 2
1960076488T000	I/O shield	x 1



ASMB-815T2-00A1E



ASMB-815I-00A1E



ASMB-815-00A1E

ASMB-825

Dual LGA 3647-P0 Intel® Xeon® Scalable ATX Server Board with 6 DDR4, 4 PCIe x16 and 2 PCIe x8, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI

Dimensions (WxH) 304.8 x 244 mm



Features

- ATX Server Board with Dual Intel® Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 192 GB (6 DIMMs)
- Four PCIe x16 slots and two PCIe x8
- Intel® X557-AT2 dual 10GbE ports
- Eight SATA3 and one M.2 connectors (SATA / PCIe compatible)
- 0 ~ 40 °C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-825-00A1E	C621	DDR4 RDIMM	2/-	-	AST 2510
ASMB-825I-00A1E	C621	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-825T2-00A1E	C622	DDR4 RDIMM	2/2	Yes	AST 2500

Packing List

Part Number	Description	Quantity
2066825I00	Driver CD	x 1
2006825I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1930007120-01	Screw for M.2 device	x 2
1960076489T000	I/O shield	x 1



ASMB-825T2-00A1E

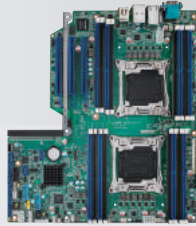


ASMB-825-00A1E
ASMB-825I-00A1E

ASMB-913

Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with 16 DDR4, 3 PCIe x16, 6 USB 3.0, PME support, IPMI

Dimensions (WxH) 304.8 x 330.2 mm



Features

- EATX Server Board with Dual Intel® Xeon® E5-2600 v3/v4 processor
- 16 x DDR4 2400 MHz RDIMM up to 512 GB
- Three PCIe x16 slot(Gen3.0) and PME expansion slot
- PME expansion cards supporting list is in page 49
- 0 ~ 40° C ambient operating temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-913-00A1E	C612	16 x DDR4 RDIMM	2	-	AST 1400
ASMB-913I-00A1E	C612	16 x DDR4 RDIMM	4	Yes	AST 2400

Packing List

Part Number	Description	Quantity
2061913I01	Driver CD	x 1
2001913I10	Startup manual	x 1
1700003194	SATA data cables	x 2
1703150102	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
19Z0000995T000	I/O shield	x 1



ASMB-913-00A1E

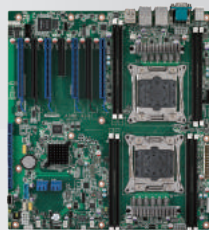


ASMB-913I-00A1E

ASMB-923

Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 EATX Server Board with DDR4, 4 PCIe x16+ 2 PCIe x8, 4 USB 3.0, IPMI

Dimensions (WxH) 304.8 x 330.2 mm



Features

- EATX Server Board with Dual Intel® Xeon® E5-2600 v3/v4 processor, 8 DIMMs 256 GB memory capacity
- DDR4 2400 MHz RDIMM up to 256 GB
- Four PCIe x16 slots, two PCIe x8 slots and one PCIe x4
- 0 ~ 40° C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-923-00A1E	C612	DDR4 RDIMM	2	-	AST 1400
ASMB-923I-00A1E	C612	DDR4 RDIMM	2	Yes	AST 2400

Packing List

Part Number	Description	Quantity
2066923I01	Driver CD	x 1
2006923I11	Startup manual	x 1
1700003194	SATA data cables	x 2
1703150102	SATA power cables	x 2
1700019748	CPU power cable(8P)	x 2
1960052312T010	I/O shield	x 1



ASMB-923-00A1E



ASMB-923I-00A1E

ASMB-925

Dual LGA3647-P0 Intel® Xeon® Scalable EATX Server Board with 12 DDR4, 5 PCIe x16 + 1 PCIe x8 + 1 PCI, 8 SATA3, 6 USB3.0, Dual 10GbE, IPMI

Dimensions (WxHxD) 304.8 x 330.2 mm



Features

- EATX Server Board with Dual Intel® Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- Five PCIe x16 (Gen3), one PCIe x8 (Gen3), and one PCI slots
- Intel® X557-AT2 dual 10GbE ports
- Eight SATA3 and six USB3.0 ports
- 0 ~ 40 °C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-925-00A1	C621	DDR4 RDIMM	2/	-	AST 2510
ASMB-925I-00A1	C621	DDR4 RDIMM	2/	Yes	AST 2500
ASMB-925T2-00A1	C622	DDR4 RDIMM	2/2	Yes	AST 2500

Packing List

Part Number	Description	Quantity
2061092500	Driver CD	x 1
2001092500	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1960076488T000	I/O shield	x 1



ASMB-925T2-00A1

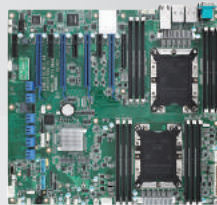


ASMB-925-00A1/
ASMB-925I-00A1

ASMB-975

Dual LGA 3647-P0 Intel® Xeon® Scalable Server Board with 12 DDR4, 4 PCIe x16 + 1 PCIe x8+4 PCIe x4, 14 SATA3, 8 USB3.0, Dual 10GbE, IPMI

Dimensions (WxH) 358.1 x 330.2 mm



Features

- Proprietary Server Board with Dual Intel® Xeon® Scalable processors
- DDR4 2666 MHz RDIMM up to 384 GB (12 DIMMs)
- 14 SATA3 connectors (including 2 SATA M.2)
- Four PCIe x16 slots for double-deck cards
- Intel® X557-AT2 dual 10GbE ports
- 0 ~ 40 °C ambient operation temperature range

Ordering Information

Part Number	Chipset	Memory	GbE LAN	IPMI	VGA Chip
ASMB-975-00A1	C621	DDR4 RDIMM	2/-	-	AST 2510
ASMB-975I-00A1	C621	DDR4 RDIMM	2/-	Yes	AST 2500
ASMB-975T2-00A1	C622	DDR4 RDIMM	2/2	Yes	AST 2500

Packing List

Part Number	Description	Quantity
2066975100	Driver CD	x 1
2001097500	Startup manual	x 1
1700003194	SATA data cables	x 2
1700022749-11	SATA power cables	x 2
1700019748	CPU power cable	x 2
1960076488T000	I/O shield	x 1



ASMB-975-00A1
ASMB-975I-00A1



ASMB-975T2-00A1

HPC-7120

1U Short Depth Server Chassis for EATX/ATX/MicroATX Server Board

Dimensions (WxHxD) 438 x 43 x 478 mm



Features

- 1U short depth server chassis supports EATX/ATX/MicroATX motherboard
- Two hot swap 2.5" SATA/SSD drive bays
- Anti-vibration FAN design
- Two front USB3.0 ports

Ordering Information

Part Number	Max. MB Support	Hot-swap HDD	I/O	Power Supply
HPC-7120-00XE	EATX	2x 2.5"	1x FH	Optional

Packing List

Part Number	Items	Quantity
9661310000E	Hot-Swap 2.5" HDD tray	2
1700024529-01	Front USB 3.0 cable	1
1990027281T000	Air duct for ASMB-9XX series	1
1990027567T000	Air duct for ASMB-8XX series	1
1750006764-01	4cm System FAN	3



HPC-7120S

1U Short-Depth Server Chassis for Micro ATX/ATX Server Board

Dimensions (WxHxD) 438 x 43 x 381 mm



Features

- 1U short-depth server chassis that supports micro ATX/ATX motherboards
- Two hot-swappable or two internal 2.5" SATA/SSD drive bays
- Anti-vibration fan
- Two front-accessible USB 3.0 ports
- Compatible with a front-accessible I/O design

Ordering Information

Part Number	Description
HPC-7120S-35ZXE	HPC-7120S 1U chassis w/ 350W SPS
HPC-7120S-70ZXE	HPC-7120S 1U chassis w/ 700W SPS

Packing List

Part Number	Items	Quantity
9661310000E	Hot-swappable 2.5" HDD tray (HPC-7120S-35ZXE only)	2
1700024530-01	Front USB 3.0 cable	1
1750006764-01	System fan (4 cm)	3



HPC-7140

1U Rackmount Server Chassis for MicroATX/ATX Server Board

Dimensions (WxHxD) 437 x 43 x 504 mm



Features

- 1U rackmount server chassis supports MicroATX/ATX motherboard
- Four hot swap 3.5" SAS/SATA/SSD drive bays
- Support 1U single and redundant power supply
- Easy swap and anti-vibration FAN design
- Two front USB and one front COM ports

Ordering Information

Part Number	Description
HPC-7140-00A1E	HPC-7140 1U 4 bays server chassis (w/o SPS)
HPC-7140-R4A1E	HPC-7140 1U 4 bays server chassis (w/400W RPS)

Note: Standard HPC-7140-R4A1E does not support PMBUS function. This function only support by project-based.



Packing List

Items	Quantity
Hot-Swap 3.5" HDD tray with SATA cable (Pre-install)	4

HPC-7242

2U Rackmount Chassis for ATX Server Board with 4 Hot-Swap SAS/SATA HDD Trays and RPS

Dimensions (WxHxD) 426 x 88 x 525 mm



Features

- Supports ATX motherboard with dual processors
- Four shock-resistant hot-swap disk trays supporting 3.5" or 2.5" SAS/SATA drives for RAID 5/10 application, one slim ODD, and two 2.5" internal drives
- Dual front USB 3.0 ports
- Supports 80plus single or redundant power supply up to 700W
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and audible alarm notification for system fault detection
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

Ordering Information

Part Number	Description
HPC-7242MB-00XE	Without PSU, with ATX switch



Packing List

Part Number	Items	Quantity
1750003580	8cm Front System	1
1750006419	6cm HDD FAN	2



HPC-7282

2U Rackmount Chassis for Micro/ATX Server Board

Dimensions (WxHxD) 437 x 88.9 x 533.4 mm



Features

- 2U rackmount chassis supports MicroATX/ATX motherboard
- Eight hot swap SAS/SATA drive bays
- Swappable fan module design facilitates maintenance
- Supports 7 x Low-Profile/Half-Length I/O Expansion Slots

Ordering Information

Part Number	Description
HPC-7282-00A1E	HPC-7282 2U 8 bays server chassis (w/o PSU)

Packing List

Description	Quantity
Hot-swap 3.5" HDD Trays with SATA cable (Pre-installed)	8



HPC-7442

4U Rackmount Chassis for EATX/ATX/ MicroATX Server Board

Dimensions (WxHxD) 482 x 177 x 600 mm



Features

- Support EATX/ATX/MicroATX motherboard
- Shock-resistant disk drive bay provides four hot-swap 3.5" or 2.5" SAS/SATA disk trays, one slim optical disk drive, and one 3.5" internal drive
- With optional storage upgrade kit installed, system equipped up to eight hot-swap HDD trays for higher storage capacity requirement
- Supports 80plus single and redundant power supply
- Front-accessible system fan without opening top cover for easy maintenance
- LED indicators and alarm notification for system fault detection
- Built-in Intelligent System Module enabling whole system fan control and remote manageability

Ordering Information

Part Number	Description
HPC-7442MB-00XE	Without PSU, with ATX switch

Packing List

Part Number	Description	Quantity
9662132020E	Black mobile HDD tray	4
1990021256T000	Door filter	1
1750000386	12cm Front System FAN	1
1750006808-01	8cm HDD FAN	1



HPC-2040

Mini 4 Bay Server Tower

Dimensions (WxHxD) 210 x 230 x 275 mm



Features

- Four Hot-Swap 3.5"/2.5" drive bays. (SAS 6Gb/s supported)
- Two internal 2.5" HDD, one slim ODD for option
- Dual front USB 3.0 ports
- Support 250W Flex ATX Power
- Supports Mini ITX motherboard

Ordering Information

Part Number	Description
HPC-2040-25ZXE	HPC-2040 Mini Tower Chassis w/ 250W SPS



Packing List

Part Number	Description
PS8-250FATX-XE	250W Flex ATX Power Supply



HPC-5000

Small Tower Chassis for microATX / Mini-ITX Motherboard

Dimensions (WxHxD) 192 x 376.7 x 338.5mm



Features

- Supports microATX / Mini-ITX motherboard
- Supports up to internal two 3.5" or one 3.5" + one 2.5" HDD
- Two USB 2.0 and two USB 3.0 ports in the front side
- Supports up to four FH/FL (10.5") expansion slots

Ordering Information

Part Number	Description
HPC-5000-30ZXE	HPC-5000 small tower chassis with 300W single ATX PSU
HPC-5000-50ZXE	HPC-5000 small tower chassis with 500W single ATX PSU



Packing List

Part Number	Description	Quantity	Part Number	Description	Quantity
1990022007S000	Chassis feet (pre-installed)	4	1750008561-01	12cm system fan (pre-installed)	1
1960078418N002	Key lock bracket (pre-installed)	1	2130017820N000	System air filter (pre-installed)	1
1960077474N000	3.5" HDD cage (pre-installed)	2	PS8-300ATX-ZBE	300W single power supply (Only pre-installed in HPC-5000-30ZXE)	1
1960078421N000	2.5" HDD cage	1	96PS-A500WPS2G	500W single power supply (Only pre-installed in HPC-5000-50ZXE)	1
1700007351	SATA HDD cable (40cm)	2			
1750008561-01	12cm System FAN	1			

HPC-7000

Server Tower Chassis for EATX/ATX/ MicroATX Motherboard

Dimensions (WxHxD) 267.1 x 458 x 500mm



Features

- Supports EATX/ATX/MicroATX motherboard with dual processors
- Three internal 3.5" HDD bays and one slim ODD drive bay
- Dual front USB 3.0 ports
- System fan easy maintenance design

Ordering Information

Part Number	Description
HPC-7000-50ZXE	HPC-7000 Tower chassis w/ 500W SPS
HPC-7000-85ZXE	HPC-7000 Tower chassis w/ 850W SPS

Packing List

Part Number	Description	Quantity
1750008562-01	12cm system fan	2

Note:

1. HPC-7000 does not support AIMB series motherboard



HPC-7320

3U Short-depth Rackmount/Tower Chassis for EATX/ATX/MicroATX Motherboard

Dimensions (WxHxD) 426 x 132 x 480 mm



Features

- Supports EATX/ATX/MicroATX motherboard with dual processors
- Two Hot-Swap 3.5"/2.5" drive bays, one slim ODD drive bay and two internal 3.5" HDD bays
- Dual front USB 3.0 ports
- Supports Flex ATX Power, 2U 80Plus Single or Redundant Power Supply
- Front-accessible system fan without opening top cover for easy maintenance

Ordering Information

Part Number	Max. MB Support	Hot-swap HDD	I/O	Power Supply
HPC-7320MB-00XE	EATX	2x 3.5"	7x FH	Optional

Packing List

Part Number	Description	Quantity
1960002043T001 & 1960004574T001	Wall mount bracket	1
1960061378T001	FATX power rear bracket	1
1960069262N001	1U power rear bracket	1
1990025044T000	Door filter	1
1750008101-01	8cm system fan	2



HPC-7483

4U Rackmount / Tower Chassis for EATX/ATX/MicroATX Motherboard

Dimensions (WxHxD) 435 x 177 x 673 mm



Features

- Supports Proprietary/EATX/ATX/Micro-ATX motherboard
- Shock-resistant disk drive bay provides eight hot-swap 3.5" or 2.5" SAS/SATA disk trays, three 5.25" drive bays, and two 2.5" internal drive space
- With optional storage upgrade kit installed, system equipped up to eleven hot-swap HDD trays for higher storage capacity requirement

Ordering Information

Part Number	Description
HPC-7483-12RXE	With redundant 1+1 1200W power supply, with ATX switch
HPC-7483-20RXE	With redundant 1+1 2000W power supply, with ATX switch



Packing List

Part number	Description	Quantity
1750008306-01	12cm system fan (Pre-installed)	3
9661831600E	3.5" HDD Trays (Pre-installed)	8
1700025828-01	PDB CN1 connector to MB 4pin or 8pin 12V connector of PCIe slot	1



HPC-8212

2U Storage Chassis for EATX/ATX/Micro ATX Serverboard with 12 Hot-swap Drive Bays

Dimensions (WxHxD) 438 x 884 x 620 mm



Features

- 2U rackmount chassis supports EATX/ATX/Micro ATX motherboard
- 12-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Default 7x slots (low profile) rear panel, 3x slots (full height) optional
- Supports 80+ redundant power supply

Ordering Information

Part Number	Chassis Depth	Front HDD BP	Rear HDD	Default PSU
HPC-8212SE-R8A1E	620mm	SAS 12Gb/s BP	-	800W RPSU
HPC-8212SE-R6A1E	620mm	SAS 12Gb/s BP	Hot-swapping 2-bay SAS/SATA	650W
HPC-8212SA-R5A1E	540mm	SAS 12Gb/s BP	-	550W



Packing List

Item	Quantity
Slide Rail Kit	1

HPC-8224

2U Storage Chassis for EATX/ATX/Micro ATX Serverboard with 24 Hot-swap Drive Bays

Dimensions (WxHxD) 438 x 884 x 620 mm



Features

- 2U rackmount chassis supports EATX/ATX/Micro ATX motherboard
- 24-bay hot-swappable 2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Default 7x slots (low profile) rear panel, 3x slots (full height) optional
- Supports 80+ redundant power supply

Ordering Information

Part Number	Chassis Depth	Front HDD BP	Rear HDD	Default PSU
HPC-8224SE-R8A1E	620mm	SAS 12Gb/s BP	-	800W RPSU
HPC-8224SA-R5A1E	540mm	SAS 12Gb/s BP	-	550W RPSU



Packing List

Item	Quantity
Slide Rail Kit	1

HPC-8316

3U Storage Chassis for EATX/ATX/Micro ATX Serverboards with 16 Hot-Swappable Drive Bays

Dimensions (WxHxD) 435 x 132 x 620 mm



Features

- 3U rackmount chassis supports EATX/ATX/Micro ATX serverboards
- Features 16 hot-swappable drive bays for 3.5/2.5" SAS 12 Gb/s or SATA 6 Gb/s drives
- Two rear 2.5" SATA drive bays with an optional hot-swappable bay for SAS SKUs
- Two front-accessible USB 3.0 ports

Ordering Information

Part Number	Chassis Depth	Front HDD BP	Rear HDD	Default PSU
HPC-8316SE-R8A1E	620 mm	SAS 12 Gb/s BP	Hot-swapping 2-bay SAS/SATA	800W RPSU
HPC-8316SA-R5A1E	540 mm	SAS 12 Gb/s BP	Hot-swapping 2-bay SAS/SATA	550W RPSU
HPC-8316TE-00A1E	620 mm	SATA 6 Gb/s BP	Internal 2-bay SATA	-
HPC-8316TA-00A1E	540 mm	SATA 6 Gb/s BP	Internal 2-bay SATA	-



HPC-8316SE-R8A1E, HPC-8316SA-R5A1E



HPC-8316TE-00A1E, HPC-8316TA-00A1E

Packing List

Item	Quantity
Slide Rail Kit	1

HPC-8424

4U Storage Chassis for EATX/ATX/Micro ATX Serverboard with 24 Hot-swap Drive Bays

Dimensions (WxHxD) 438 x 176 x 620/540 mm



Features

- 4U rackmount chassis supports EATX/ATX/Micro ATX motherboard
- 24-bay hot-swappable 3.5"/2.5" SAS 12Gb/s drives or SATA 6Gb/s drives
- 4 x NVMe drives supported via an optional riser card
- Two rear 2.5" hot-swappable HDD drive bays
- Supports 80+ redundant power supply

Ordering Information

Part Number	Chassis Depth	Front HDD BP	Rear HDD	Default PSU
HPC-8424SE-R8A1E	620mm	SAS 12Gb/s BP	Hot-swapping 2-bay SAS/SATA	800W RPSU
HPC-8424SA-R5A1E	540mm	SAS 12Gb/s BP	Hot-swapping 2-bay SAS/SATA	550W RPSU



Packing List

Item	Quantity
Slide Rail Kit	1



SKY-6400

4U Rackmount Intel Xeon® Scalable GPU server, Supporting 4* PCIe16 double-deck cards, 1* PCIe8 single-deck FH/HL card, and 1* PCIe4 card

Dimensions (WxHxD)

635 x 177 x 673 mm



Features

- 7 years longevity support- Revision control
- 0 ~ 35° C operating temperature
- Reliable resume from AC power loss-function
- Supports Intel® Xeon® Scalable series CPU
- Support DDR4 REG 2666/2400/2133/1866 MHz DIMM, up to 384GB
- Remote Management: IPMI function support
- Expansion: Supporting 4* PCIe16, double-deck cards, 1* PCIe8 single-deck FH/HL card, and 1* PCIe x4 card

Ordering Information

Part Number	Description
SKY-6400-R20A1	4U GPU server 1+1 2000 PSU

Spare Parts

Part Number	Description
98R1748300E	Rear window 8cm fan kit for high-watt expansion card solution



AGS-913

1U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU server, Supporting 3* PCIe16 double-deck cards and 1* PCIe x8 single-deck FH/HL card

Dimensions (WxHxD) 430 x 44 x 770 mm



Features

- Processor: Dual Intel® Xeon® E5-2600 v3/v4 series, up to 20 cores / 40 threads
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function-support
- Expansion: Supporting 3* PCIe x16 double-deck card + 1* PCIe x8 single-deck FH/HL card

Ordering Information

Part Number	HDD	VGA Chip	RJ45	IPMI	Power supply
AGS-913I-R11A1E	4	AST 2400	4	YES	1+1 1100W RPS

System Contents

Items	Advantech P/N	Quantity
CPU0 heatsink	1960065593N001	1
CPU1 heatsink	1960065591N001	1
Slide rail kit	9680015703	1
Power cable for expansion card (Pre-assembled in the system)	1700023022-01	6
Driver CD	2061S91300	1
Startup manual	2001S91310	1



AGS-923

2U Rackmount Intel® Xeon® E5-2600 v3/v4 GPU server, Supporting 4* PCIe16 double-deck cards and 1* PCIe x8 single-deck FH/HL card

Dimensions (WxHxD) 430 x 88 x 770 mm



Features

- Processor: Dual Intel® Xeon® E5-2600 v3/v4 series
- Memory: DDR4 1600/1866/2133 MHz ECC-REG type up to 256GB
- Remote Management: IPMI function support
- Expansion: Supporting 4 * PCIe x16 double-depth card + 1* PCIe x8 single-depth FH/HL card
- PSU: max. 1800W 1+1 redundant powersupply with 80 PLUS Platinum level certification

Ordering Information

Part Number	HDD tray	VGA Chip	RJ45	IPMI	Power Supply
AGS-923I-R18A1E	8	AST 2400	4	YES	1+1 1800W RPS

System Contents

Items	Advantech P/N	Quantity
Startup manual	2001S92310	1
Driver CD	2061S92300	1
Rail kit (pair)	9680015703	1
CPU cooler	1960063011N001	2
Power module (Installed in the system)	1757004662-01	2
Power cable for GPU/VGA card (Installed in the system)	1700023022-01	8



ASR-3100

1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server, with up to 16 2.5" NVMe SSDs and 2 PCIe Gen III x8 Slots

Dimensions (WxHxD) 430 x 44 x 806 mm



Features

- Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 processors
- 16 DDR4-2133 RDIMMs for a maximum of 512 GB
- Supports up to 16 hot-swappable 2.5" NVMe/SAS (12 GB)/SATA (6 GB) drives
- Supports 2 PCIe x8 cards

Ordering Information

Part Number	2.5" Front HDD Bay	Second Row 2.5" HDD Bay	PCIe Slots	Chassis Depth	1 GbE	IPMI	Power Supply
ASR-3100PP-R11A1E	X8 NVMe	X8 NVMe/SATA (SAS optional)	2	806 mm	2	Yes	1+1 1100W RPS
ASR-3100PT-R11A1E	X8 NVMe	X8 SATA (SAS optional)	2	806 mm	2	Yes	1+1 1100W RPS
ASR-3100SS-R11A1E	X8 SAS/SATA	X8 SAS/SATA (x2 NVMe optional)	1*	806 mm	2	Yes	1+1 1100W RPS

Note:

1. One slot has been occupied by SAS12G RAID card
2. For quality assurance purpose, the product is required to be sold as a complete system with CPU, memory, drives fully integrated and tested.

System Contents

Items	Description	Quantity	Items	Description	Quantity
CPU heatsink	Heatsink for E5-2600 Series	2	Driver CD	ASR-3100 CD with drivers and user manual	1
Rail kit	1U slide rail kit	1	Startup manual	ASR-3100 startup manual	1
CMA	Cable Management Arm	1			

ASR-5300I

3U 16-Bay IP-SAN Storage Solution with Enhanced Reliability for Surveillance

Dimensions (WxHxD) 430 x 44 x 806 mm



Features

- Single controller configuration
- 3U 16-bay (LFF) short-depth form factor
- 4 x iSCSI 1Gb/s host interfaces
- 2 GB cache (default), up to 16 GB
- Up to 160 x 3.5"/2.5" SATA/SAS drives
- Optional BBU/Supercap+Flash module for cache backup
- Supports thin provisioning, snapshot, and volume copy/mirror data service functions

Ordering Information

Part Number	Description
ASR-5300I-16A1E	3U 16-bay single controller iSCSI disk array

System Contents

Description	Quantity
Mount kit	1

SKY-4120B

2U 24-bay Reliable Disk Expansion Enclosure to Fit Industrial Applications

Dimensions (WxHxD) 502 x 88.4 x 448 mm



Features

- Support 24x hot-swap 2.5" SAS (12Gb or 6Gb/s) drives
- SES enclosure management and smart fan control
- Three 12Gb/s SAS wide-ports per controller, two for input & one for output
- Storage daisy chain support, up to 72 drives
- High efficiency (80+) redundant power supply

Ordering Information

Part Number	Description
SKY-4120B-R5A1E	2U 24-Bay Dual Controller JBOD Enclosure

System Contents

Description	Quantity
22" Slide Rail Kit	1



SKY-4311

1U Rackmount Dual Intel® Xeon® E5-2600 v3/v4 Storage Server, with up to 8 2.5" NVMe SSDs and 2 PCIe Gen III x8 Slots

Dimensions (WxHxD) 430 x 44 x 626 mm



Features

- Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 processors
- 16 DDR4-2133 RDIMMs for a maximum of 512 GB
- Supports up to 8 hot-swappable 2.5" NVMe/SATA (6 GB) drives
- Supports 2 PCIe x8 cards

Ordering Information

Part Number	2.5" Front HDD Bay	PCIe Slots	Chassis Depth	1 GbE	IPMI	Power Supply
SKY-4311P-R11A1E	X8 NVMe/SATA	2	626 mm	2	Yes	1+1 1100W RPS

System Contents

Part Number	Description	Quantity
CPU heatsink	Heatsink for E5-2600 series	2
Rail kit	1U slide rail kit	1
Driver CD	ASR-3100 CD with drivers and user manual	1
Startup manual	ASR-3100 startup manual	1



SKY-8101

Compact 1U High Performance Server based on Intel® Xeon® Processor Scalable Family

Dimensions (WxHxD)

438.00 x 506.20 x 44.20 mm



Features

- 1U 20" deep rackmount server
- Single Intel® Xeon® Platinum, Gold, Silver or Bronze Processor
- 6x DIMM sockets support up to 384 GB DDR4 1600/1866/2133/2400/2666 MHz SDRAM (ECC/RDIMM/LRDIMM)
- Rich Add-In Card Support: Up to two FH/FL PCIe x8 Gen3 slots (optional: one FH/FL PCIe x16 Gen3 slot), one LP PCIe x8 Gen3 slot, one PCIe x4 Gen3 slot for Advantech Personalization Card
- Up to 4x 2.5" hot-swappable HDD/SSD drives
- 1x M.2 2280 SATA SSD
- IPMI 2.0-compliant management with reliability and security enhancements
- Optimized platform design for Industrial and Carrier Grade Robustness

Ordering Information

Part Number	Description
SKY-8101SAS-0000E	20" 1U server w GSMB-8101, single Intel® Xeon® Processor, Intel® C622 chipset, AC 700W PSU, 4 x 2.5" SSD/HDD, 2 x FH/FL slots, 1 x LP slot, 1 x Advantech PersCard slot
SKY-8101SAS-0001E	20" 1U server w GSMB-8101, single Intel® Xeon® Processor, Intel® C622 chipset, DC 600W PSU, 4 x 2.5" SSD/HDD, 2 x FH/FL slots, 1 x LP slot, 1 x Advantech PersCard slot



Optional Accessories

Part Number	Description
1702002600-02	Power Cord 3P UL/CSA(USA) 125V 10A 1.83M 180D
1702002605-02	Power Cord 3P European 10A/16A 250V 1.83M 90D
1702031801	Power Code 3P (UK) 5A-Fuse 183cm
1700000237-01	Power Cord 3P PSE 12A 125V 1.83M Japan

SKY-8101L

Compact 1U High Capacity Storage Server based on Intel® Xeon® Processor Scalable Family

Dimensions (WxHxD)

438.40 x 674.95 x 44.20 mm (without ear handle)
438.40 x 696.15 x 44.20 mm (with ear handle)



Features

- 1U 27.5" deep rackmount server
- Single Intel® Xeon® Platinum, Gold, Silver or Bronze Processor
- 6x DIMM sockets support up to 384GB DDR4 1600/1866/2133/2400/2666 MHz SDRAM (ECC/RDIMM/LRDIMM)
- Rich Add-In Card Support: Up to two FH/FL PCIe x8 Gen3 slots (optional: one FH/FL PCIe x16 Gen3 slot), one or two LP PCIe x8 Gen3 slot, one PCIe x4 Gen3 slot for Advantech Personalization Card
- Up to 8x 2.5" hot-swappable HDD/SSD drives and optional 2x 2.5" NVMe SSD drives
- 1x M.2 2280 SATA SSD
- IPMI 2.0-compliant management with reliability and security enhancements

Ordering Information

Part Number	Description
SKY-8101LAS-0010E (SKY-8101L1)	27.5" 1U server w GSMB-8101, single Intel® Xeon® Processor, Intel® C622 chipset, AC 850W PSU, 8 x 2.5" SSD/HDD slot, 2x 2.5" NVMe SSD slot, 2 x FH/FL slots, 1 x LP slot, 1 x Advantech PersCard slot
SKY-8101LAS-0020E (SKY-8101L2)	27.5" 1U server w GSMB-8101, single Intel® Xeon® Processor, Intel® C622 chipset, AC 850W PSU, 8 x 2.5" SSD/HDD slot, 2 x FH/FL slots, 2 x LP slot, 1 x Advantech PersCard slot



Optional Accessories

Part Number	Description
1702002600-02	Power Cord 3P UL/CSA(USA) 125V 10A 1.83M 180D
1702002605-02	Power Cord 3P European 10A/16A 250V 1.83M 90D
1702031801	Power Code 3P (UK) 5A-Fuse 183cm
1700000237-01	Power Cord 3P PSE 12A 125V 1.83M Japan

SKY-8100

1U Carrier Grade Server based on Intel® Pentium® Processor D and Intel® Xeon® Processor D series

Dimensions (WxHxD)

430.00 x 493.50 x 43.60 mm



Features

- 1U network server, < 20" deep
- Supports Intel® Pentium® Processor D1508, Intel® Xeon® Processor D-1527, D-1528, and D-1548
- 4x DIMM sockets support up to 128 GB DDR4 1600/1866/2133/2400 MHz SDRAM(ECC/UDIMM)
- Supports PCIe Gen3
- 2 FH/FL PCIe x8 Gen3 slots
- 2x 2.5" hot-swappable HDDs or on board SFF SSDs
- Carrier Grade BIOS Features
- LOM (Light Out Management) module for BMC support (AST2400)

Ordering Information

Part Number	Description
SKY-8100AS-0000E	1U HPS w GSMB-3010 Intel® Xeon® Processor D-1548 8C/STD AC/PCIEx8
SKY-8100BS-0000E	1U HPS w GSMB-3010 Intel® Pentium® Processor D1508 2C/STD AC/PCIEx8
SKY-8100CS-0000E	1U HPS w GSMB-3010 Intel® Xeon® Processor D-1527 4C/STD AC/PCIEx8
SKY-8100DS-0000E	1U HPS w GSMB-3010 Intel® Xeon® Processor D-1528 6C/STD AC/PCIEx8

Optional Accessories

Part Number	Description
1702002600-02	Power Cord 3P UL/CSA(USA) 125V 10A 1.83M 180D
1702002605-02	Power Cord 3P European 10A/16A 250V 1.83M 90D
1702031801	Power Code 3P (UK) 5A-Fuse 183cm
1700000237-01	Power Cord 3P PSE 12A 125V 1.83M Japan



SKY-8200

2U Carrier Grade Server based on Dual Intel® Xeon® Processor E5-2600 v3 v4 Series

Dimensions (WxHxD)

430 x 493.5 x 43.6 mm



Features

- Dual Intel® Xeon® Processor E5-2600 v3 v4 Series
- 16x DIMM sockets support up to 1024 GB DDR4 1600/1866/2133/2400 MHz SDRAM (ECC/REG/RDIMM)
- 4 FH/FL PCIe x8 Gen3 slots, 2 FH/HL PCIe Gen3 x8 slots, 1 low profile PCIe x8 Gen3 slot
- 4x 2.5" hot-swappable SAS/SATA HDD/SSD drives
- Telco Alarm Module support & IPMI 2.0-compliant remote management
- Carrier Grade and Optimized I/O versions
- Best-in-class compute for applications requiring high density offload and I/O in a carrier grade design
- Shortened development time with integrated services including rich portfolio of qualified PCIe adapters plus customization & branding options

Ordering Information

Part Number	Description
SKY-8200AN-0000E	2U HPS w NAMB-6010 E5-2600v3v4/8925/TPM/B/B/AC/x8
SKY-8200AN-0001E	2U HPS w NAMB-6010 E5-2600v3v4/8925/TPM/B/B/DC/x8
SKY-8200BN-0000E	2U HPS w NAMB-6010 E5-2600v3v4/8900/TPM/B/B/AC/x8
SKY-8200BN-0001E	2U HPS w NAMB-6010 E5-2600v3v4/8900/TPM/B/B/DC/x8

Accessories

Part Number	Description
1700020095	Military Power Cord UL 3P 15A 125V 1.83M 14AWG
1702002605-02	Power Cord 3P European 10A/16A 250V 1.83M 90D
1700000237-01	Power Cord 3P PSE 12A 125V 1.83M Japan



SKY-9340

High Performance Blade Server with Integrated Data Plane Fabric

Dimensions (WxHxD)

450 x 3U x 914.4mm



Features

- Converged system with the highest CPU, I/O, Storage density per RU in the market
- Up to 4 hot pluggable CPU blades with dual Intel® Xeon®6100/8100 series processors
- More than 800Gbps of I/O bandwidth
- Integrated data plane fabric for internal nodes transaction to lower data latency
- Flexible I/O configurations with up to 8x PCIe card
- Storage expansion with up to 24x 2.5"/12x 3.5" SAS/SATA/NVMe front hot swappable drives
- Hot swappable and redundant AC or DC PSU options
- Front-to-Rear Push-Pull Cooling Mode. Two rear pluggable, hot swappable fan modules with fan speed control
- Integrated system management

Ordering Information

Model Series	Configuration
SKY-9340-SM1	3U, 4x processor blades slot with 4x 1800W AC PSUs, 2+2 power redundancy, 4x fan modules, supporting 4x PCIe slot and 12x 2.5" SAS/SATA/NVMe storage devices, w/o processor blades and peripherals
SKY-9340-SP1	3U, 4x processor blades slot with 4x 1800W AC PSUs, 2+2 power redundancy, 4x fan modules, supporting 8x PCIe slot, w/o processor blades and peripherals
SKY-9340-SS1	3U, 4x processor blades slot with 4x 1800W AC PSUs, 2+2 power redundancy, 4x fan modules, supporting 24x 2.5" SAS/SATA/NVMe storage devices, w/o processor blades and peripherals
PCIE-2220NP-00A1E	Dual 10G fiber (SFP+) i82599 PCIe x8 LP/FH
PCIE-2230NP-00A1E	Quad 10G fiber (SFP+) XL710-BM1 PCIe x8 LP/FH
PCIE-2320NP-00A1E	Dual Port Fiber 40G Ethernet PCI Express Server Adapter with Intel® XL710-BM2
96FD25-S128-PLG1	LITEON SSD 128GB 2.5" SATA3 MLC 7mm
96FD25-S240-INB2	Intel SSD DC S3520 240GB, 2.5" SATA3, MLC
MIC-8310-SP1	Processor blade with dual 18C/36T, 2.3GHz, 140W (6140) CPUs
MIC-8310-SP2	Processor blade with dual 16C/32T, 3.2GHz, 130W (6134) CPUs

FWA-6170

2U Rackmount Network Appliance with Intel® Xeon® Processor Scalable Series, up to 8 NMC slots

Dimensions (WxHxD)

430 x 88 x 684.5 mm



Features

- 2 x Intel® Xeon® Platinum 8100, Gold 6100 & 5100, Silver 4100 and Bronze 3100 processors up to 165W TDP
- 24 x DDR4 2133/2400/2666 ECC registered memory up to 768GB
- C626 PCH, 40Gb/s QAT support
- 8 x NMC (Network Mezzanine Card) slots for a wide range of GbE, 10GbE, 40GbE and 100GbE NMCs with or without Advanced LAN bypass. Optional support 4 x HDD kit (for 2.5" HDD) on the top NMC slots
- 2 x internal PCIe x8 slots support for low-profile add-on cards
- 2 x 2.5" removable external SATA HDDs/SSDs
- IPMI 2.0 compliant Remote Management

Ordering Information

Part Number	CPU	DDR4	PCH	QAT	PCIe slot	NMC slot	USB 3.0	RJ45 LAN port	10G SFP+ port	Console port	LCM	PSU
FWA-6170Q-00A1R	2 sockets for Intel®Xeon® Processor Scalable Family	24	C626	Yes	2	8	2	2	2	1	1	1200W AC PSU
FWA-6170-00A1R	2 sockets for Intel®Xeon® Processor Scalable Family	24	C622	No	2	8	2	2	2	1	1	1200W AC PSU

Accessories

Part Number	Description
1702002600	Power cord 3P 180cm, USA
1702002605	Power cord 3P 180cm, Europe
1702031801	Power cord 3P 180cm, JP
1700000237	Power Cord 3P PSE 12A 125V 1.83M Japan
1700009652	Power cord 3P 180cm, China
9680015345	Slide rail



FWA-6520

2U Rackmount Network Appliance with Intel® Xeon® Processor E5-2600 v3/v4 series, up to 4 NMC slots

Dimensions (WxHxD)

430 x 88x 558 mm



Features

- 2 x Intel® Xeon® E5-2600 v3/v4 processors up to 145W TDP
- DDR4 1866/2133 ECC registered memory up to 512GB
- PCIe gen. 3 support
- Up to 8 x NMC (Network Mezzanine Card) slots for a wide range of GbE, 10GbE and 40GbE NMCs with or without advanced LAN bypass
- 2 x PCIe x16 slots support FH/HL add-on cards
- 2 x 2.5" removable external SATA HDDs/SSDs
- IPMI 2.0 compliant Remote Management
- Advanced Platform Reliability and Serviceability

Ordering Information

Part Number	CPU	DDR4	PCIe slot	NMC slot	USB 3.0	RJ45 LAN Port	USB 3.0	Console port	LCM	PSU
FWA-6520-01E	Dual Intel® Xeon® E5-2600 v3 / v4 processors support, up to 145W TDP	16	2	4	2	2	2	1	1	1200W AC PSU
FWA-6520-03E	Dual Intel® Xeon® E5-2600 v3 / v4 processors support, up to 145W TDP	16	N/A	8	2	2	2	1	1	1200W AC PSU

Accessories

Part Number	Description
1702002600	Power cord 3P 180cm, USA
1702002605	Power cord 3P 180cm, Europe
1702031801	Power cord 3P 180cm, JP
1700000237	Power Cord 3P PSE 12A 125V 1.83M Japan
1700009652	Power cord 3P 180cm, China
9680015345	Slide rail



FWA-6520L

Intel® Xeon® E5-2600/E5-1600 v3/v4 Processor-based 2U Network Application Platform

Dimensions (WxHxD)

430 x 550 x 88 mm



Features

- 1 x Intel® Xeon® E5-2600/E5-1600 v3/v4 processors up to 145W TDP
- 8 x RDIMM DDR4 2133/2400 ECC REG memory up to 256GB
- 4 x NMC (Network Mezzanine Card) slots by PCIe gen. 3 support
- 1GbE/10GbE/40GbE NMCs with or without advanced LAN bypass
- 1 x PCIe x8 slots support FH/HL add-on cards
- 1 x CF slot
- 1 x mSATA Slot
- 4 x 3.5" HDD tray (or 4 x 3.5" HDD internal bay, SKU option)
- IPMI 2.0 compliant Remote Management

Ordering Information

Part Number	CPU	DIMM Qty	PCH	NMC slot	HDD tray	RJ45 LAN Port	Console port	USB port	PSU
FWA-6520L-00E	Intel® Xeon® processors E5-2600/E5-1600 v3/v4	8	Intel C612	4	NA(4 x 3.5" HDD bracket internal)	2	1	2	1200W AC PSU
FWA-6520L-01E	Intel® Xeon® processors E5-2600/E5-1600 v3/v4	8	Intel C612	4	4 x 3.5" HDD tray	2	1	2	1200W AC PSU

Accessories

Part Number	Description
1702002600	Power cord 3P 180cm, USA
1702002605	Power cord 3P 180cm, Europe
1702031801	Power cord 3P 180cm, UK
1700000237	Power cord 3P 180cm, JP
1700009652	Power cord 3P 180cm, China
9680015345	Slide rail



FWA-5020

1U Rackmount Network Appliance with Intel® Xeon® Processor E5-2600 v4 series, up to 4 NMC slots

Dimensions (WxHxD)

438 x 44x 625 mm



Features

- Single or dual Intel® Xeon® E5-2600 v4 processor(s) up to 145W TDP
- DDR4 2400 MHz ECC registered memory up to 512 GB (CPU SKU)
- 4 x GbE with LAN bypass, 2 x GbE for Mgmt (SKU dependent)
- 2 x 10GbE SFP+ NICs (SKU dependent)
- Up to 4 x NMC (Network Mezzanine Card) slots for a wide range of GbE, 10GbE and 40GbE NMCs with or without advanced LAN bypass
- 2 x 2.5" SATA HDDs/SSDs
- IPMI 2.0 compliant Remote Management
- Advanced Platform Reliability and Serviceability
- 2 x internal CLC PCIe card (Dual DH8955) supported (SKU dependent)

Ordering Information

Part Number	CPU	DDR4	PCIe slot	Con-sole port	RJ45 LAN Port	Fixed I/O Port	NMC Slot	LCM	PSU
FWA-5020L-00A1R	Single Intel® Xeon® E5-2600 v3 / v4	8	N/A	1	2	NA	2	1	Red. 650W AC PSU
FWA-5020U-00A1R	Single Intel® Xeon® E5-2600 v3 / v4	8	N/A	1	2	4*1G RJ-45 w/Advanced LBP 2*10G SFP+	2	1	Red. 650W AC PSU
FWA-5020U-D0A1R	Dual Intel® Xeon® E5-2600 v3 / v4	16	2*Proprietary Crypto x16 PCIe	1	2	NA	4	NA	Red. 650W AC PSU

Accessories

Part Number	Description	Part Number	Description
9680016905	Tool-Less Server slide, 26", for 438 Chass	1700000237	Power cord 3P 180 cm, JP
1700020691-01	1700020691-01	1700009652	Power cord 3P 180 cm, China
1702002600	Power cord 3P 180 cm, USA	1700025855-01	Power cord 3P 180 cm, India-01
1702002605	Power cord 3P 180 cm, Europe	1700025112-01	Power cord 3P 180 cm, Brazil
1702031801	Power cord 3P 180 cm, UK	1700022938-01	Power cord 3P 300 cm, Korea

FWA-3270

1U Rackmount Network Appliance with Intel® Xeon® Processor E3 series and 6th gen. Intel® Core™ i7/ i5/ i3 Processor, up to 4 NMC slots

Dimensions (WxHxD)

430 x 44 x 500 mm



Features

- Intel® Xeon® E3-1275 /E3-1225/E3-1268L V5 (FWA-3270A only) and
- 6th generation Intel® Core™ i7-6700/i7-6700TE/i5-6500/i5-6500TE/i3-6100/i3-6100TE, Intel® Pentium® Processor G4400/G4400TE, Intel® Celeron® G3900/G3900TE
- Support max 4 x 2133Mhz DDR4 ECC/UDIMMs, 32GB per channel, up to 64GB
- 2 GbE management ports
- 8x GbE LAN by Intel® I210-AT with 3 segment LAN bypass
- Max 2 Network Mezzanine Card bays for PCIe gen.3 based port expansion with 1 x PCIe x8 full-height / half-length add-on card
- 2 x 2.5" SATA HDDs/SSDs and 1x mSATA Socket or 1 x M.2 SSD sockets
- IPMI2.0 compliant Remote Management (optional)

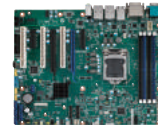
Ordering Information

Part Number	PCH	DDR4 slot	1Gb LAN Port	Con-sole	USB 3.0	2.5 HDD	3.5 HDD	PCIe Expansion	NMC	Power
FWA-3270A-00A1E	C236	4	8	1	2	2	1	1 x PCIe x8 (conflict with 3.5" HDD)	2	AC 300W redundant
FWA-3270B-00A1E	H110	2	6	1	2	2	1	NA	1	AC 250W single

Accessories

Part Number	Description	Part Number	Description
1702002600	Power cord 3P 180cm, USA	1700009652	Power cord 3P 180cm, China
1702002605	Power cord 3P 180cm, Europe	1700024019-01	HDMI Cable 20 cm (FWA-3270A)
1702031801	Power cord 3P 180cm, UK	1700024962-01	Power cord 3P 180 cm, India-01
1700000237	Power cord 3P 180cm, JP	9680009153	1U 26" slide rail (pair)

Server Boards



Model Name		ASMB-260	ASMB-585	ASMB-785
Form Factor		Mini-ITX	Micro ATX	ATX
Processor System	CPU	Intel® Atom® C3000 Series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series
	Socket	-	1 x socket 1151	1 x socket 1151
	Max. Speed	2.2 GHz	3.6 GHz	3.6 GHz
	Front Side Bus	-	-	-
	L3 Cache	2 MB (based on CPU sku)	8 MB	8MB
	Chipset	-	Intel C236	Intel C236
	BIOS	AMI 128 Mbit, SPI	AMI 128Mbit, SPI	AMI 128Mbit, SPI
Expansion Slot	PCI	-	-	3
	PCIe x16	-	1 (Gen3 x16 link)	1 (switchable to two x8)
	PCIe x8	-	-	2 (switchable to one x16)
	PCIe x4	1 (1 Gen3 x 4 link)	3 (2 Gen3 x4 link, 1 Gen3 x1 link)	2
	PCIe x1	-	-	-
Memory	Technology	DDR4 Reg/unbuffered 2400/2133/1866/1600 Mhz DIMM	DDR4 ECC/non-ECC Unbuffer 1600/1866/2133/2400 MHz	DDR4 ECC/Non-ECC Unbuffer 1600/1866/2133/2400 MHz
	Max. Capacity	128 GB for RDIMM/ 64GB for UDIMM	64 GB ECC/Non-ECC UDIMM	64 GB ECC/Non-ECC UDIMM
	Socket	4x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM
Graphics	Controller	AST2500	Intel GT2-HD Graphics	Intel GT2-HD Graphics
	VRAM	DDR3 64MB	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed
	LCD	-	-	-
	TV-Out	-	-	-
	HDMI	-	-	-
	DVI	-	2	2
Dual Display	Yes	Yes	Yes	
Ethernet	Interface	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet
	Controller	2 x Intel I210AT + 1 x Intel X557-AT2	1 x Intel I219LM, 3 x Intel I210AT (G4 SKU only)	1 x Intel I219LM + 3 x Intel I210AT (G4 SKU only)
	Connector	RJ-45 x 3 (1 sharing IPMI function)	RJ-45 x 2 (G2 SKU) / RJ-45 x4 (G4 SKU)	RJ-45 x 2 (G2 SKU) / RJ-45 x4 (G4 SKU)
TPM		Optional	Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600 MB/s	600 MB/s
	Channel	Up to 9	7	6
SAS	Max. Data Transfer Rate	-	-	-
	Channel	-	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / 2 / - / -	1 / 2 / - / -
	Ethernet	3	2 for G2 SKU and 4 for G4 SKU	2 for G2 SKU and 4 for G4 SKU
	USB	2 (USB 3.0)	4 (USB 3.0)	4 (USB 3.0)
	Audio	-	Mic-in, Line-out	Mic-in, Line-out
	Parallel	-	-	-
	Serial	1 (RS-232)	1 (RS-232)	1 (RS-232)
	PS/2	-	-	-
Internal Connector	DVI	-	-	-
	USB	2 (2 USB3.0)	9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)	9 (2 USB 3.0; 6 USB 2.0; 1 USB 2.0 Type A)
	Audio	-	1	1
	Serial	1	3	3
	Parallel	-	-	1
	SATA	8	7	6
	SAS	-	-	-
	Compact Flash	-	-	-
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO	8 bit GPIO
	Output	System reset	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable 1~255 sec	Programmable 1~255 sec

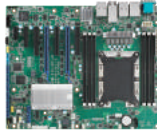
Server Boards



Model Name		ASMB-813	ASMB-823
Form Factor		ATX	ATX
Processor System	CPU	Intel® Xeon® E5-1600 v3/v4 and 2600 v3/v4 Series Core i7 Series	Intel® Xeon® E5-2600 v3/v4 Series
	Socket	1 x socket 2011-R3	2 x socket 2011-R3
	Max. Speed	2.5 GHz	2.5 GHz
	Front Side Bus	QPI 9.6GT/s	QPI 9.6GT/s
	L3 Cache	30 MB	30 MB
	Chipset	Intel C612	Intel C612
	BIOS	AMI 128 Mbit, SPI	AMI 128 Mbit, SPI
Expansion Slot	PCI	-	-
	PCIe x16	2/0	4
	PCIe x8	1/5	2
	PCIe x4	1	1 (x8 slot with x4 link)
	PCIe x1	1	-
Memory	Technology	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM
	Max. Capacity	256 GB REG DIMM	192 GB REG DIMM
	Socket	8 x 288-pin DIMM	6 x 288-pin DIMM
Graphics	Controller	AST1400/AST2400	AST1400/AST2400
	VRAM	DDR3 64MB	DDR3 64MB
	LCD	-	-
	TV-Out	-	-
	HDMI	-	-
	DVI	-	-
	Dual Display	-	-
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet
	Controller	2 x Intel I210AT 1 x Realtek 8201EL (ASMB-813I SKU)	2 x Intel I210AT
	Connector	RJ-45 x 3 (1 for IPMI function)	RJ-45 x 3 (1 sharing IPMI function)
TPM		Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600MB/s for SATA3
	Channel	8 for SATA3	9 for SATA3
SAS	Max. Data Transfer Rate	-	-
	Channel	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -
	Ethernet	2	2
	USB	4 (USB 3.0), 2 (USB 2.0)	4 (USB 3.0)
	Audio	-	-
	Parallel	-	-
	Serial	1 (RS-232)	-
	PS/2	2	-
Internal Connector	DVI	-	-
	USB	5 (2 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)	5 (2 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)
	Audio	1	1
	Serial	1	1
	Parallel	-	-
	SATA	8	9
	SAS	-	-
	Compact Flash	-	-
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO
	Output	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec

Server Boards

NEW



NEW



Model Name		ASMB-815	ASMB-825
Form Factor		ATX	ATX
Processor System	CPU	Intel® Xeon® Scalable Series	Intel® Xeon® Scalable Series
	Socket	1 x socket 3647-P0	2 x socket 3647-P0
	Max. Speed	3.6 GHz	3.6 GHz
	Front Side Bus	Up to UPI 10.4 GT/s	Up to UPI 10.4 GT/s
	L3 Cache	38.5 MB	38.5 MB
	Chipset	Intel C621/C622	Intel C621/C622
	BIOS	AMI 256 Mbit, SPI	AMI 256 Mbit, SPI
Expansion Slot	PCI	-	-
	PCIe x16	2/0	4
	PCIe x8	1/5	2
	PCIe x4	1	-
	PCIe x1	1	-
Memory	Technology	DDR4 REG 2666/2400/2133 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM
	Max. Capacity	192 GB REG DIMM	192 GB REG DIMM
	Socket	6 x 288-pin DIMM	6 x 288-pin DIMM
Graphics	Controller	AST2510/AST2500	AST2510/AST2500
	VRAM	DDR3 64MB	DDR3 64MB
	LCD	-	-
	TV-Out	-	-
	HDMI	-	-
	DVI	-	-
	Dual Display	-	-
Ethernet	Interface	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet
	Controller	2 x Intel I210AT + 1 x Intel X557-AT2 1 x Realtek 8201EL (ASMB-815/815T2 SKUs)	2 x Intel I210AT + 1 x Intel X557-AT2 (ASMB-825/825T2 SKUs)
	Connector	RJ-45 x 5 (1 for IPMI function)	RJ-45 x 4 (1 sharing IPMI function)
TPM		Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600MB/s for SATA3
	Channel	9 for SATA3	9 for SATA3
SAS	Max. Data Transfer Rate	-	-
	Channel	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -
	Ethernet	4 (T2 SKU)	4 (T2 SKU)
	USB	4 (USB 3.0), 2 (USB 2.0)	2 (USB 3.0)
	Audio	-	-
	Parallel	-	-
	Serial	1 (RS-232)	1 (RS-232)
	PS/2	-	-
Internal Connector	DVI	-	-
	USB	5 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)	5 (4 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)
	Audio	1	1
	Serial	1	1
	Parallel	-	-
	SATA	8	8
	SAS	-	-
Compact Flash	-	-	
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO
	Output	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec

Server Boards



Model Name		ASMB-913	ASMB-923
Form Factor		EATX	EATX
Processor System	CPU	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® E5-2600 v3/v4 Series
	Socket	2 x socket 2011-R3	2 x socket 2011-R3
	Max. Speed	2.5 GHz	2.5 GHz
	Front Side Bus	QPI 9.6GT/s	QPI 9.6GT/s
	L3 Cache	30 MB	30 MB
	Chipset	Intel C612	Intel C612
BIOS		AMI 128 Mbit, SPI	AMI 128 Mbit, SPI
Expansion Slot	PCI	-	-
	PCIe x16	4 (1 for PME)	4
	PCIe x8	-	2
	PCIe x4	-	1
	PCIe x1	-	-
Memory	Technology	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM
	Max. Capacity	512 GB REG DIMM	256 GB REG DIMM
	Socket	16 x 288-pin DIMM	8 x 288-pin DIMM
Graphics	Controller	AST1400/AST2400	AST1400/AST2400
	VRAM	DDR3 64MB	DDR3 64MB
	LCD	-	-
	TV-Out	-	-
	HDMI	-	-
	DVI	-	-
Dual Display		-	-
Ethernet	Interface	10/100/1000 Mbps Gigabit Ethernet	10/100/1000 Mbps Gigabit Ethernet
	Controller	4 x Intel I210AT (ASMB-913I SKU)	2 x Intel I210AT 1 x Realtek 8201EL (ASMB-923I SKU)
	Connector	RJ-45 x 4 (1 sharing IPMI function)	RJ-45 x 3 (1 for IPMI function)
TPM		Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600MB/s for SATA3
	Channel	8 for SATA3	10 for SATA3
SAS	Max. Data Transfer Rate	-	-
	Channel	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -
	Ethernet	4	2
	USB	2 (USB 3.0)	2 (USB 3.0), 2 (USB 2.0)
	Audio	-	-
	Parallel	-	-
	Serial	1 (RS-232)	1 (RS-232)
Internal Connector	PS/2	-	2
	DVI	-	-
	USB	7 (4 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)	7 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)
	Audio	1	1
	Serial	1	1
	Parallel	-	-
	SATA	8	10
SAS	-	-	
Compact Flash		-	-
GPIO		8 bit GPIO	8 bit GPIO
Watchdog Timer	Output	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec

Server Boards

NEW

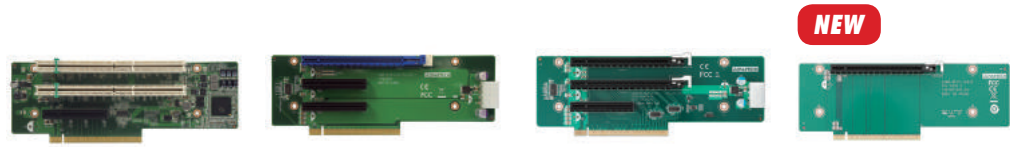


NEW



Model Name		ASMB-925	ASMB-975
Form Factor		EATX	Proprietary
Processor System	CPU	Intel® Xeon® Scalable Series	Intel® Xeon® Scalable Series
	Socket	2 x socket 3647-P0	2 x socket 3647-P0
	Max. Speed	3.6 GHz	3.6 GHz
	Front Side Bus	Up to UPI 10.4 GT/s	Up to UPI 10.4 GT/s
	L3 Cache	38.5 MB	38.5 MB
	Chipset	Intel C620	Intel C620
	BIOS	AMI 256 Mbit, SPI	AMI 256 Mbit, SPI
Expansion Slot	PCI	1	-
	PCIe x16	5	4
	PCIe x8	1	1
	PCIe x4	-	4
	PCIe x1	-	0
Memory	Technology	DDR4 REG 2666/2400/2133 MHz DIMM	DDR4 REG 2666/2400/2133 MHz DIMM
	Max. Capacity	384 GB REG DIMM	384 GB REG DIMM
	Socket	12 x 288-pin DIMM	12 x 288-pin DIMM
Graphics	Controller	AST2510/AST2500	AST2510/AST2500
	VRAM	DDR3 64MB	DDR3 64MB
	LCD	-	-
	TV-Out	-	-
	HDMI	-	-
	DVI	-	-
Ethernet	Interface	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet	10/100/1000 Mbps Gigabit & 10GBase-T Ethernet
	Controller	2 x Intel I210AT + 1 x Intel X557-AT2 (ASMB-925I/925T2 SKUs)	2 x Intel I210AT + 1 x Intel X557-AT2 (ASMB-975I/975T2 SKUs)
	Connector	RJ-45 x 4 (1 sharing IPMI function)	RJ-45 x 4 (1 sharing IPMI function)
TPM		Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s for SATA3	600MB/s for SATA3
	Channel	8 for SATA3	14 for SATA3
SAS	Max. Data Transfer Rate	-	-
	Channel	-	-
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -
	Ethernet	4 (T2 SKU)	4 (T2 SKU)
	USB	4 (USB 3.0)	4 (USB 3.0)
	Audio	-	-
	Parallel	-	-
	Serial	1 (RS-232)	1 (RS-232)
	PS/2	-	-
Internal Connector	DVI	-	-
	USB	7 (2 USB3.0, 4 USB2.0, 1 USB 2.0 Type-A)	11 (8 USB3.0, 2 USB2.0, 1 USB 2.0 Type-A)
	Audio	1	1
	Serial	1	1
	Parallel	-	-
	SATA	8	12
	SAS	-	-
	Compact Flash	-	-
Watchdog Timer	GPIO	8 bit GPIO	8 bit GPIO
	Output	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec	Programmable, 1 ~ 255 sec

Riser Cards



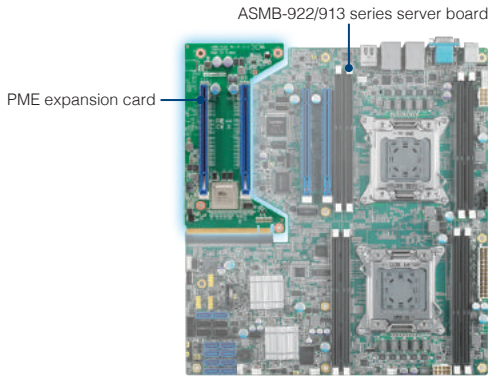
Model Name		ASMB-RF3X8-21A1E	ASMB-RF348-21A1E	ASMB-RF388-21A1E	ASMB-RF1F-10A1E
Interface		PCIe x 16 for slot 6	PCIe x16 for slot 6	PCIe x16 for slot 6	PCIe x16 for slot 6
Expansion Slots	Spec.	2 * PCI-X 64bit 133/100MHz + 1 * PCIe x8	1 * PCIe x8 +2 * PCIe x4	1 * PCIe x8 +2 * PCIe x4	1 * PCI x16
	Top Slot	3.3V PCI-X 64bit 133/100MHz	PCIe x16 (x8 link)	PCIe x16 (x8 link)	PCIe x16(x16 link)
	Middle Slot	3.3V PCI-X 64bit 133/100MHz	PCIe x8 (x4 link)	PCIe x8 (x8 or x4 link)	-
	Bottom Slot	PCIe x8 slot (x8 link)	PCIe x8 (x4 link)	PCIe x8 (x4 or no link)	-
Chassis	2U	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/ HPC-8212/HPC-8224	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/ HPC-8212/HPC-8224	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/ HPC-8212/HPC-8224	HPC-7280/ ACP-2010MB/2320MB/ HPC-7242MB/HPC-8212/ HPC-8224
Mother-board	ASMB-584	X	*△ (Note3)	*△ (Note3)	*(Note4)
	ASMB-585	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-781	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-782	X	*△ (Note2)	*△ (Note2)	*(Note4)
	ASMB-784	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-785	YES	*△ (Note1)	*△ (Note1)	YES
	ASMB-813	YES	YES	YES	YES
	ASMB-815	YES	YES	YES	YES
	ASMB-822	YES	YES	YES	YES
	ASMB-823	YES	YES	YES	YES
	ASMB-825	YES	YES	YES	YES
	ASMB-913	YES	YES	YES	YES
	ASMB-922	YES	YES	YES	YES
	ASMB-923	X	* (Note3)	* (Note3)	*(Note4)
ASMB-925	YES	YES	YES	YES	

Yes: Fully compatible
 △: Conditionally compatible

- *△ Note 1: PCIe x16 slot of ASMB-781/784/785/585 motherboard can split as x8 x8 mode. When an ASMB-RF348-21A1E riser card is installed, it supports one PCIe x4 (bottom slot), and one PCIe x8 (top slot). The middle PCIe x4 slot on the riser card doesn't work.
- *△ Note 2: PCIe x16 slot of ASMB-782 motherboard is x8 link only. When installing an ASMB-RF348-21A1E riser card, it only supports one PCI-E x4 slot (bottom).
- *△ Note 3: PCIe x16 slot of ASMB-584/923 motherboard is x8 link and can split as x4 x4 mode. When installing an ASMB-RF348-21A1E riser card, it supports two PCIe x4 (bottom and middle slots) and the top PCIe x8 slot doesn't work.
- *△ Note 4: PCIe x16 slot of ASMB-584/923 motherboard is x8 link. When installing an ASMB-RF1F-10A1E riser card, it supports PCIe x8 only.

PME Expansion Cards

Various Selections Supporting PCI, PCI-X, PCIe x1/x4/x8/x16



Features

- Auto-configured by BIOS
- ASMB-922/913 series plus PME forms a standard EATX motherboard compatible with EATX chassis
- Multiple options for all demands

Introduction

Advantech's PME (Powerful Modular Expansion) design allows versatile expansion module options for the ASMB-922/913 series motherboards. PME expansion cards are an economical, effective solution for a range of applications, providing function expansion for a range of PCIe modules. In addition to meeting standard industrial specifications, Advantech's PME modules fit just about anywhere. They are easy to assemble, and provide a simple upgrade path.

Specifications

Model Name		ASMB-FF3PX	ASMB-FF20F	ASMB-FF208	ASMB-FF3P8	ASMB-FF404*
Expansion Slots	Total PCI/PCI-X/PCIe slots	3	2	2	3	4
	Slot location E1	-	-	-	-	PCIe x8 (Gen3 x4 link)
	Slot location 1	PCI 33/66 MHz	PCIe x16 (Gen3 x16 link)	PCIe x16 (Gen1 x8 link)	PCI 33/66 MHz	PCIe x8 (Gen3 x4 link)
	Slot location 2	PCI-X 100 MHz	-	-	PCIe x8 (Gen3 x4 link)	PCIe x8 (Gen3 x4 link)
	Slot location 3	PCI-X 100 MHz	PCIe x16 (Gen3 x16 link)	PCIe x16 (Gen1 x8 link)	PCIe x8 (Gen3 x8 link)	PCIe x8 (Gen3 x4 link)
Fit Motherboard		ASMB-922/913 series				
Environment	Temperature	Operating			Non-operating	
		System: 0 ~ 40 °C Board: 0 ~ 60 °C			-40 ~ 85 °C	
	Humidity	0% ~ 90%			5% ~ 95% (Non condensing)	
Physical Characteristics	Dimensions	101 x 193 mm	101 x 193 mm	101 x 193 mm	101 x 193 mm	111 x 193 mm

Front View



ASMB-FF3PX-12A1E



ASMB-FF20F-02A1E



ASMB-FF208-02A1E



ASMB-FF3P8-12A1E



ASMB-FF404-04A1E

Ordering Information

Part Number	Description
ASMB-FF3PX-12A1E	PME card with 2 PCI-X and 1 PCI slots
ASMB-FF20F-02A1E	PME card with 2 PCIe x16 slots (x16 link)
ASMB-FF3P8-12A1E	PME card with 1 PCIe x8 slot (x8 link) and 1 PCIe x8 slot (x4 link) and 1 PCI slot
ASMB-FF208-02A1E	PME card with 2 PCIe x16 slots (x8 link)
ASMB-FF404-04A1E	PME card with 4 PCIe x8 slots (x4 link)

Notes:

1. To enable PME function for ASMB-922 & 913 series, a processor must be installed in socket CPU0.
2. Only HPC-7400/7483 chassis can support ASMB-922/913 series + ASMB-FF404

Server Chassis



Height (1U = 1.75")		1U		
Model Name		HPC-7120	HPC-7120S	HPC-7140
Form Factor Support		MicroATX, ATX, EATX	Micro ATX/ATX	Micro ATX, ATX
No. of slots / No. of full-height cards		1/1	1/0	1/1
Drive Bay	Slim ODD Bay	-	-	1 (ODD should be purchased separately)
	5.25" (front-accessible)	-	-	-
	3.5" (hot-swappable)	-	-	4
	3.5" (internal)	-	-	-
	2.5" (hot-swappable)	2	2 x SATA III (HPC-7120S-35ZXE only)	Optional
	2.5" (internal)	-	2 x SATA III	-
Cooling	Chassis Fan	4 (4cm / 28.6CFM)	3 (4 cm/23.1 CFM)	4 (4cm / 24CFM)
	Air Filter	-	-	-
Front I/O Interface	USB 3.0	2	2	-
	USB 2.0	-	-	2
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 35 °C (32 ~ 95 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Operating Humidity	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 40 °C non-condensing
	Non-operating Humidity	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
Physical Characteristics	Dimensions (W x H x D)	438 x 43 x 478 mm (17.24" x 1.7" x 18.82")	438 x 43 x 381 mm (17.24 x 1.7 x 15")	437 x 43.5 x 503 mm (17.2" x 1.7" x 19.85")

Server Chassis



Height (1U = 1.75")		2U		4U / Tower
Model Name		HPC-7242	HPC-7282	HPC-7442
Form Factor Support		Micro ATX, ATX	Micro ATX, ATX	Micro ATX, ATX, EATX
No. of slots / No. of full-height cards		3/3	7/0	7/7
Drive Bay	Slim ODD Bay	1 (ODD should be purchased separately)	1 (ODD should be purchased separately)	1 (ODD should be purchased separately)
	5.25" (front-accessible)	-	-	-
	3.5" (hot-swappable)	4 (3.5" / 2.5")	8	4 can upgrade to 8 (3.5" / 2.5")
	3.5" (internal)	-	2 (3.5"/2.5")	1
	2.5" (hot-swappable)	4 (3.5" / 2.5")	Optional	4 can upgrade to 8 (3.5" / 2.5")
	2.5" (internal)	2	-	-
Cooling	Chassis Fan	1 (8 cm/47CFM) + 2 (6 cm/28CFM)	3 (8cm / 52.6 CFM)	1 (12 cm /114 CFM) + 1 (8 cm/55 CFM)
	Air Filter	Yes	-	Yes
Front I/O Interface	USB 3.0	2	-	2
	USB 2.0	-	2	-
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Operating Humidity	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 35 °C non-condensing
	Non-operating Humidity	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
Physical Characteristics	Dimensions (W x H x D)	426 x 88 x 525 mm (16.7" x 3.46" x 20.67")	437 x 88.9 x 533.4 mm (17.2" x 3.5" x 21")	426 x 177 x 600 mm (16.7" x 7.0" x 23.6")

Server Chassis



Model Name		HPC-2040		HPC-5000		HPC-7000	
Drive Bay		External	Internal	External	Internal	External	Internal
	Slim Optical Drive	Optional	-	1	-	1	-
	3.5" / 2.5"	-	2 x 2.5" (one for option)	-	2 x 3.5" or 1 x 3.5" + 1 x 2.5"	3 x 3.5"	-
	Hot Swap	4 (3.5" or 2.5")		-	-	-	-
Cooling	Fan	1 (12cm)		1 x 12cm system fan in the rear side 1 x 8cm system fan in the bottom side (optional)		2 (12cm/150CFM)	
	Air Filter	-		Replaceable air filter (in the bottom side)		-	
Front I/O Interface	USB 3.0	2		2		2	
	USB 2.0	-		2		-	
Miscellaneous	LED Indicators			Power		Power	
	Rear Panel			-		Two USB reserved ports	
Environment		Operating	Non-Operating	Operating	Non-Operating	Operating	Non-Operating
	Temperature	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 70° C (-40 ~ 156° F)	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 70° C (-40 ~ 156° F)	0 ~ 40 °C (32 ~ 104 °F)	-40 ~ 60 °C (-40 ~ 140 °F)
	Humidity	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 60° C, non-condensing	10 ~ 95% @ 40° C, non-condensing	10 ~ 95% @ 60° C, non-condensing
	Vibration (5 ~ 500 Hz)	1 Grms	2 G	1 Grms	2 G	1 Grms	2 G
	Shock	10 G (with 11 ms duration, half sine wave)		10 G (with 11 ms duration, half sine wave)		10 G (with 11 ms duration, half sine wave)	
Physical Characteristics	Dimensions (W x H x D)	210 x 230 x 275 mm (8.3" x 9.1" x 10.8")		192 x 376.7 x 338.5 (7.56" x 14.83" x 13.33), with chassis feet and key lock bracket		267.1 x 458 x 500mm (10.52" x 18.03" x 19.69")	

Server Chassis



Height (1U = 1.75")		3U / Tower	4U / Tower
Model Name		HPC-7320	HPC-7483
Form Factor Support		Micro ATX, ATX, EATX	Micro ATX, ATX, EATX
No. of slots / No. of full-height cards		7/6	10/10
Drive Bay	Slim ODD Bay	1 (ODD should be purchased separately)	-
	5.25" (front-accessible)	-	3
	3.5" (hot-swappable)	2 (3.5" / 2.5")	8 (3.5" or 2.5")
	3.5" (internal)	2	0
	2.5" (hot-swappable)	2 (3.5" / 2.5")	0
	2.5" (internal)	-	2
Cooling	Chassis Fan	2 (8cm/57CFM) + 1 (6cm/27.72CFM)	3 (12 cm/140 CFM)
	Air Filter	Yes	-
Front I/O Interface	USB 3.0	2	2
	USB 2.0	-	-
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Operating Humidity	10 ~ 95% @ 40 °C non-condensing	10 ~ 95% @ 40 °C non-condensing
	Non-operating Humidity	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
Physical Characteristics	Dimensions (W x H x D)	426.4 x 132.2 x 480 mm (16.79" x 5.2" x 18.9")	435 x 177 x 673 mm (17.12" x 7.0" x 26.49")

Storage Chassis



Height (1U = 1.75")		2U		3U	4U
Model Name		HPC-8212	HPC-8224	HPC-8316	HPC-8424
Form Factor Support		Micro ATX, ATX, EATX	Micro ATX, ATX, EATX	Micro ATX, ATX, EATX	Micro ATX, ATX, EATX
No. of slots / No. of full-height cards		6/2 (optional)	6/2 (optional)	6/6	6/6
Drive Bay	Slim ODD Bay	-	-	-	-
	5.25" (front-accessible)	-	-	-	-
	3.5" (hot-swappable)	12	-	16	24
	3.5" (internal)	-	-	-	-
	2.5" (hot-swappable)	2 (R6 version)	24	2 (SE/SA version)	2 (SE/SA version)
	2.5" (internal)	-	-	2 (TE/TA version)	-
Cooling	Chassis Fan	4	4	4	4
	Air Filter	-	-	-	-
Front I/O Interface	USB 3.0	-	-	2	-
	USB 2.0	2	2	-	2
Environment	Operating Temperature	0 ~ 35 °C (32 ~ 95 °F)	0 ~ 35 °C (32 ~ 95 °F)	0 ~ 35 °C (32 ~ 95 °F)	0 ~ 35 °C (32 ~ 95 °F)
	Non-Operating Temperature	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)	-40 ~ 70 °C (-40 ~ 158 °F)
	Operating Humidity	10 ~ 95% @ 35 °C non-condensing	10 ~ 95% @ 35 °C non-condensing	10 ~ 95% @ 35 °C non-condensing	10 ~ 95% @ 35 °C non-condensing
	Non-operating Humidity	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing	10 ~ 95% @ 60 °C non-condensing
Physical Characteristics	Dimensions (W x H x D)	438 x 88.4 x 620 mm (17.24" x 3.5" x 24.4") / 438 x 88.4 x 540 mm (17.24" x 3.5" x 21.3")	438 x 88.4 x 620 mm (17.24" x 3.5" x 24.4") / 438 x 88.4 x 540 mm (17.24" x 3.5" x 21.3")	435 x 132 x 620 mm (17.13" x 5.2" x 24.41") / 435 x 132 x 540 mm (17.13" x 5.2" x 21.26")	438 x 176 x 620 mm (17.24" x 6.9" x 24.4") / 438 x 176 x 540 mm (17.24" x 6.9" x 21.3")

GPU Servers



Model Name		SKY-6400		AGS-913		AGS-923	
Processor Support		Dual Intel® Skylake-SP dual processors		Dual Intel® Xeon® E5-2600 v3/v4		Dual Intel® Xeon® E5-2600 v3/v4	
Expansion Slots		4 x PCIe x16 double-depth + 1 PCIe x 8 FH/FL card + 1 PCIe x4 card		3 x PCIe x16 double-depth card + 1 x PCIe x8 FH/HL card		4 x PCIe x16 double-depth card + 1 x PCIe x8 FH/HLcard	
Drive Bay	Slim ODD Bay	-		-		-	
	2.5" Internal	2		-		-	
	2.5" Hot Swap	-		4		8	
	3.5" Hot Swap	8		-		-	
Cooling	Chassis Fan	3 x 12038		7 x 40x56 + 2 x 40x28 high speed fan		4 x 80x38 + 1 x 80x20 + 1 x 80x38 (optional) high speed fan	
	Air Filter	-		-		-	
Chassis Intrusion Alarm		Yes		Yes		Yes	
Front USB		2(USB 3.0)		2		2	
Miscellaneous	LED Indicators	Power switch and system reset button		Power status, HDD activity, LAN status, location, error message		Power status, HDD activity, LAN status, location, error message	
	Rear Panel	Location, error message		Location, error message		Location, error message	
Environment	Temperature	Operating	Non-Operating	Operating		Non-Operating	
		0 ~ 35° C (32 ~ 95° F) *0 ~ 30° C (32 ~ 96° F) for nVidia tesla P100	-20 ~ 60° C (-4 ~ 140° F)	0 ~ 40° C (32~104° F)		-20 ~ 60° C (-4 ~ 140° F)	
	Humidity	10 ~ 85% @ 35° C	10 ~ 95% @ 40° C	10 ~ 85% @ 40° C		10 ~ 95% @ 40° C	
	Vibration (5~500 Hz)	0.5 Grms		0.5 Grms		2G	
	Shock	10 G (with 11ms duration, half since wave)		10 G (with 11ms duration, half since wave)		10 G (with 11ms duration, half since wave)	
Physical Characteristics	Dimensions (W x H x D)	435 x 177 x 700.5 mm (17.12" x 7.0" x 27.58")		430 x 44 x 770 mm (16.9" x 1.7" x 30.3")		430 x 88 x 770 mm (16.9" x 3.4" x 30.3")	

Note : 1. The operation temperature passed by NVIDIA qualification utility(NVQual).



Model Name		HPC-7400-S813		HPC-7400-S923		HPC-7483-S923	
Processor Support		Single Intel® Xeon® E5-2600 v3/v4		Intel® Xeon® E5-2500 v4/v3 processor			
Expansion Slots		2 x PCIe x16 double-depth card + 1 x PCIe x8 + PCIe x4 + 1 x PCIe x1		3 x PCIe x 16 double-depth cards		4 x PCIe x 16 double-depth cards	
Drive Bay	Slim ODD Bay	-		-		-	
	2.5" Internal	-		2 rear-accessible (3.5"/2.5")		2	
	2.5" Hot Swap	-		-		-	
	3.5" (internal)	-		2 rear-accessible (3.5"/2.5")		8	
	5.25" (front accessible)	-		2		3	
Cooling	Chassis Fan	3 x 80x38 + optional 2 (6cm) rear fans		(8 cm/1.41.9 CFM) + optional 2 (6 cm) rear fans		3 (12 cm / 226.5 CFM)+ optional 2 (8 cm) rear fans	
	Air Filter	Yes		Yes		No	
Chassis Intrusion Alarm		Yes		Yes		Yes	
Front USB		2		2		2	
Miscellaneous	LED Indicators	Power switch and system reset button		Power switch , system reset button,HDD, LAN1,LAN2		System: Power, HDD, LAN1, LAN2, System information HDD Tray: HDD Power and Activity LED	
	Rear Panel	-		-		Two 9-pin D-Sub and two PS2 and two USB	
Environment	Temperature	Operating	Non-Operating	Operating		Non-Operating	
		0 ~ 40° C (32~104° F)	-20 ~ 60° C (-4 ~ 140° F)	0 ~ 35° C (32 ~ 95° F)		-20 ~ 60° C (-4 ~ 140° F)	
	Humidity	10 ~ 85% @ 40° C	10 ~ 95% @ 40° C	10 ~ 85% @ 35° C		10 ~ 95% @ 40° C	
	Vibration (5~500 Hz)	2 Grms		1 Grms		2 G	
Physical Characteristics	Shock			10G			
	Dimensions (W x H x D)	482 x 177 x 448 mm (18.9" x 6.9" x 17.6")		482x 177 x 448 mm (18.9" x 6.9" x 17.6")		435 x 177 x 658 mm (17.1" x 6.9" x 25.9")	

Compatible GPU/Xeon Phi

Advantech Product Model			1U	2U	3U chassis HPC-7320/ 4U chassis HPC-7483 & HPC-7400					4U		
			AGS-913	AGS-923	ASMB-813	ASMB-822	ASMB-913	ASMB-922	ASMB-923	HPC-7400-S813	HPC-7400-S923	HPC-7483-S923
NVIDIA	Tesla	P100	*	*	V	V	V	V	V	V	V	*
		P40	V	V	V	V	V	V	V	V	V	*
		M60	*	*	V	V	V	V	V	*	V	V
		M40	*	*	V	V	V	V	V	V	*	*
		K80	V	*	V	V	V	V	V	*	*	V
		K40	V	V	V	V	V	V	V	V	V	V
AMD	Workstation	W9000	V	V	V	V	V	V	V	V	V	V
		W9100	V	V	V	V	V	V	V	V	V	V
	Server	S9000	V	V	V	V	V	V	V	V	V	V
		S9150	V	V	V	V	V	V	V	V	V	V
Intel	Coprocessor	Xeon Phi 5110P	V	V	V	V	V	V	V	V	V	

Note:

1. v means they have already passed compatibility tests (GPU card and driver install).
2. * means qualified tesla server by Nvidia
3. Some GPU cards need to enable "Above 4G Decoding" in BIOS setup menu when installing multiple GPU cards

GPU P/N

Cat.	Part Number	Description
NVS series GPU cards	SKY-NVS-310-1E	NVS 310 1GB PCI-E x16 DP*2 FS
	SKY-NVS-315E	NVS 315 1GB PCI-E x16 DMS59 FS
	SKY-NVS-510E	NVS 510 2GB PCI-E x16 MDP*4 FS
	SKY-NVS-810E	NVS 810 4GB PCI-E x16 MDP*8 FS
Quadro series GPU cards	SKY-QUAD-GP100	Quadro GP100 16GB PCI-Ex16 DVI-D*1 DP*4 FS
	SKY-QUAD-K1200E	Quadro K1200 4GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-K1200LPE	Quadro K1200 4GB PCI-Ex16 MDP*4 FS/LP B
	SKY-QUAD-K420-2E	Quadro K420 2GB PCI-Ex16 DVI-I*1 DP*1 FS
	SKY-QUAD-K4200E	Quadro K4200 4GB PCI-Ex16 DVI*1 DP*2 FS
	SKY-QUAD-K5200E	Quadro K5200 8GB PCI-Ex16 DVI*2 DP*2 FS
	SKY-QUAD-K6000E	Quadro K6000 12GB PCI-Ex16 DVI*2 DP*2 FS
	SKY-QUAD-K620E	Quadro K620 2GB PCI-Ex16 DVI-I*1 DP*1 FS
	SKY-QUAD-M2000E	Quadro M2000 4GB PCI-Ex16 DP*4 FS
	SKY-QUAD-M4000E	Quadro M4000 8GB PCI-Ex16 DP*4 FS
	SKY-QUAD-M5000E	Quadro M5000 8GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-M6000-2E	Quadro M6000 24GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-M6000E	Quadro M6000 12GB PCI-Ex16 DVI*1 DP*4 FS
	SKY-QUAD-P400	Quadro P400 2GB PCI-Ex16 MDP*2 FS
	SKY-QUAD-P600	Quadro P600 2GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-P1000	Quadro P1000 4GB PCI-Ex16 MDP*4 FS
	SKY-QUAD-P2000	Quadro P2000 5GB PCI-Ex16 DP*4 FS
	SKY-QUAD-P4000	Quadro P4000 8GB PCI-Ex16 DP*4 FS
	SKY-QUAD-P5000E	Quadro P5000 12GB PCI-Ex16 DVI-D*1 DP*4 FS
SKY-QUAD-P6000E	Quadro P6000 24GB PCI-Ex16 DVI-D*1 DP*4 FS	
SKY-QUAD-SYNC-KE	Quadro Sync for Kepler w/4*ribbon cable	
Tesla series GPU cards	SKY-TESL-K40-AE	Tesla K40 12GB PCI-E x16 FS
	SKY-TESL-K40-PE	Tesla K40 12GB PCI-E x16 HS
	SKY-TESL-K80E	Tesla K80 24GB PCI-E x16 HS
	SKY-TESL-M10-PE	Tesla M10 32GB PCI-E x16 HS
	SKY-TESL-M40-2E	Tesla M40 24GB PCI-E x16 HS
	SKY-TESL-M40E	Tesla M40 12GB PCI-E x16 HS
	SKY-TESL-M4E	Tesla M4 4GB PCI-E x16 HS/Low profile
	SKY-TESL-M6-MXM-PE	Tesla M6 8GB MXM3.1 type B HS
	SKY-TESL-M60-PLRE	Tesla M60 16GB PCI-E x16 HS L to R
	SKY-TESL-M60-PRLE	Tesla M60 16GB PCI-E x16 HS R to L
	SKY-TESL-P100-16P	Tesla P100-PCI-E-16GB x16 HS
	SKY-TESL-P100-PE	Tesla P100 12GB PCI-E x16 HS
	SKY-TESL-P4-PE	Tesla P4 8GB PCI-E x16 HS
	SKY-TESL-P40-PE	Tesla P40 24GB PCI-E x16 HS

Industrial Storages



Product Categories		Disk Expansion Enclosure	Storage Server	
Model Name		SKY-4120B	ASR-3100	SKY-4311
System	Form Factor	2U 24-Bay	1U 16-Bay	1U 8-Bay
	Number of Drives	24 x 2.5" Bays	16-Bay (2.5")	8-Bay (2.5")
	Drive Type	SAS (12Gb or 6Gb/s)	NVMe/SATA/SAS	NVMe/SATA
	CPU Type	-	Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 series	1Dual LGA 2011-R3 Intel® Xeon® E5-2600 v3/v4 series
	Chipset	-	Intel C612 Chipset	Intel C612 chipset
	Memory Type	-	16 x DDR4-2133 ECC RDIMM, maximum to 512GB	16 DDR4-2133 ECC RDIMMs, maximum 512 GB
	Storage Expansion	3 x 12Gb/s SAS wide-ports per controller, two for input & one for output	Two PCIe x8 slots (Gen3), one is HHHL card and the other one is FHHL card	Two PCIe x8 slots (Gen3), one is HHHL card and the other one is FHHL card
	Configuration	Dual Controller	-	-
Expansion Slot	PCIe x16 slot with x8 link	-	-	-
	PCIe x 8 slot	-	2 (one is HHHL card and the other one is FHHL card)	2 (one is HHHL card and the other one is FHHL card)
	PCIe x4 slot	-	-	-
Ethernet	Gigabit Ethernet	-	2	2
I/O	Back Panel I/O Port	-	1 VGA Port 1 COM RS-232 Port 4 USB 3.0 Ports 2 LAN RJ45 Port	1 VGA Port 1 COM RS-232 Port 4 USB 3.0 Ports 2 LAN RJ45 Port
Power Supply	Power Output Wattage	550W Redundant Power	1100W Redundant Power	1100W Redundant Power
	Input Range	AC 100-240V	AC 100-240V	AC 100 ~ 240 V
Mechanical	Dimensions	502 x 448 x 88.4 (mm, without handle ears)	806 x 430 x 44 (mm)	626 x 430 x 44 (mm)
	Weight	23 kg	15 kg	14 Kg
Environmental	Operating Temperature	0° C ~ 40° C (32° F ~ 104° F)	0° C ~ 40° C (32° F ~ 104° F)	0° C ~ 40° C (32° F ~ 104° F)
	Non-Operating Temperature	-20° C ~ 60° C (-4° F ~ 140° F)	-20° C ~ 60° C (-4° F ~ 140° F)	-20° C ~ 60° C (-4° F ~ 140° F)
	Operating Humidity	10% ~ 85% @ 40° C, non-condensing	10% ~ 85% @ 40° C, non-condensing	10% ~ 85% @ 40° C, non-condensing
	Non-operating Humidity	10% ~ 95% @ 40° C, non-condensing	10% ~ 95% @ 40° C, non-condensing	10% ~ 95% @ 40° C, non-condensing
	Operating Vibration (5~500 Hz)	0.25Grms	0.25Grms	0.25 Grms

Industrial Storages



Product Categories	External Disk Array	
Model Name	ASR-5300I	
System	Form Factor	3U 16-Bay (LFF)
	Configuration	Single Controller
	Number of Drives	16-Bay (3.5")
	Drive Type	6 Gb/s SAS, 6 Gb/s SATA
	Cache Memory	Default 2 GB, up to 16 GB
	JBOD Expansion	Yes, miniSAS
	Max Drives	160 x 3.5" drives
	Default Host	4 x 1Gb/s iSCSI RJ45 Port
	Optional Host	-
	RAID Level	0, 1, 3, 5, 6, 10, 30, 50, 60
	LUN Number	2048 LUNs
	Notification	Email, Fax, LAN broadcast, SNMP traps, SMS, Skype
Data Service		Thin provisioning
	Advanced Functions	Snapshot (64 images per source volume, max 128 per system) Volume copy/ mirror (16 source volume x 4 replication pairs, max 64 per system)
	Optional Features	-
Power Supply	Output Wattage	460W Redundant Power (80 Plus)
	Input Range	AC 100-240 V
Mechanical	Dimensions	500 x 448 x 130 (mm)
	Weights	21.66kg / 47.75lbs (without hard drives)
Environment	Operating Temperature	0 to 40° C (32 ~ 104° F) without BBU or Super-Cap
	Non-Operating Temperature	-40 to 60° C (-40° F ~ 140° F)
	Operating Humidity	5 to 95% non-condensing
	Non-operating Humidity	5 to 95% non-condensing

High Performance Servers



Model		SKY-8200	SKY-8100
Form Factor		2U - Rack Mount	1U - Rack Mount
Processor System	Processor	Dual Intel® Xeon® Processor E5-2600 v3 v4 Series	Single Intel® Xeon® Processor D 15xx Series
	Core Number	Up to 14C	Up to 16C
	Frequency	2.3GHz	2.5GHz
	Chipset	Intel® DH8900 Intel® DH8925	Intel® Xeon® Processor D SoC
Memory	Technology	16x DDR4 DIMMs, ECC/REG/RDIMM/LRDIMM, up to 2400 MHz	4x DDR4 DIMMs, ECC/REG/RDIMM/LRDIMM, up to 2400MHz
	Max. Capacity	1024 GB/ 64 GB per DIMM	128 GB/ 32 GB per DIMM
	Socket	16x 288-pin RDIMM/LRDIMM	4x 288-pin RDIMM/LRDIMM
	ECC Support	ECC/REG	ECC/REG
Networking	Controller	Intel® i210-AT	Intel® i210-AT
	1GbE	2x 10/100/1000Mbps Mgmt ports	2x 10/100/1000Mbps Mgmt ports
	10GE	-	-
Expansion	PCIe x16	2x FH/FL PCIe gen.3 x16 slots (x16 riser card only)	1x FH/FL PCIe gen.3 x16 slots (x16 riser card only)
	PCIe x8	4x FH/FL PCIe gen.3 x8 slots 2x FH/HL PCIe gen.3 x8 slots 1x LP PCIe gen.3 x8 slot	2x FH/FL PCIe gen.3 x8 slot
	PCIe x4	-	-
	M.2 PCIe/SSD	-	1x M.2 2242 slot 1x M.2 2280 slot
	mSATA	2x mSATA slot	-
	Storage	2.5" HDD/SSD	4x 2.5" hot-swappable SAS/SATA HDD/SSD drives
	3.5" HDD	-	-
	mSATA SSD	2x mSATA	-
	CompactFlash/ CFast	-	-
I/O	Console port	2	2
	USB2.0/USB3.0	2x USB3.0/USB2.0 Type A port at front 2x USB3.0/USB2.0 Type A port at rear	2x USB3.0/USB2.0 Type A port at front 2x USB3.0/USB2.0 Type A port at rear
	LED Indicator	ID, Critical, Major, Minor, Power, status	ID, Critical, Major, Minor, Power, status
	Reset button	Power button ID button	Power button ID button
	Others	1x VGA port, 1x external mini SAS port 1x Telco Alarm port	1x VGA port(internal), 2x external mini SAS port 1x Telco Alarm port
Power	Power Type	Redundant AC 1400W Redundant DC 1400W	Redundant AC 650W Redundant DC 650W
	Watts	1400W	650W
	Input	AC 100-240VAC, 12-10A, 50-60Hz DC -36--72VDC, 40-25A	AC 90-264VAC, 9-4A, 47-63Hz DC -38 - -75VDC, 18-10A
	Power Adaptor	AC or DC, redundant	AC or DC, redundant
Environment	Operating Temperature (air flow 0.7 m/ sec)	-5°C (23°F) to 55°C (131°F)	-5°C (23°F) to 55°C (131°F)
	Non-operating Temperature	-40°C (-40°F) to 70°C (158°F)	-40°C (-40°F) to 70°C (158°F)
Cooling		6* 80 x 38mm fan	4* 40 x 56mm fan
Mechanical	Construction	Iron	Iron
	Mounting	Rack-mounting	Rack-mounting
	Dimensions (W x H x D)	430 x 500.1 x 88.1 mm (16.93" x 19.69" x 3.47")	430 x 493.5 x 43.6 mm (16.93" x 19.43" x 1.72")
	Weight	22 Kg	15 Kg
OS Support		Linux (CentOS, Red Hat, Ubuntu)	Linux (CentOS, Red Hat, Ubuntu)
IPMI		Aspeed AST2400 iBMC + AMI MegaRAC firmware Supports IPMI 2.0, Supports iKVM Dedicated NIC via NC-SI on management LAN ports	Aspeed AST2400 iBMC + AMI MegaRAC firmware Supports IPMI 2.0, Supports iKVM Dedicated NIC via NC-SI on management LAN ports
Certification		CB, UL, FCC, CE, CCC, RoHS, REACH, NEBS Level 3	CB, UL, FCC, CE, CCC, RoHS, REACH

High Performance Servers



Model		SKY-8101 (20")	SKY-8101L1(10bay/27.5") SKY-8101L2(8bay/27.5")
Form Factor		1U- Rack Mount	
Processor System	Processor	Single Intel® Xeon® Scalable Skylake-SP processor	
	Core Number	Up to 28C	
	Frequency	2.1GHz	
	Chipset	Intel® C622 chipset (optional variants with C626 and C627)	
Memory	Technology	6x DDR4 DIMMs, ECC/REG/RDIMM/LRDIMM, up to 2666MHz	
	Max. Capacity	384 GB/ 64 GB per DIMM	
	Socket	6x 288-pin RDIMM/LRDIMM	
	ECC Support	ECC/REG	
Networking	Controller	GbE LAN1: Intel® i210-AT 10GbE SFP+ LAN1/2: Integrated into PCH, with SR-IOV and RDMA support	
	1GbE	2x 10/100/1000 Mbps Mgmt ports	
	10GE	2x 1Gbps/10Gbps SFP+ ports	
Expansion	PCIe x16	1x FH/FL PCIe gen.3 x 16 slot (x16 riser card only)	
	PCIe x8	2x FH/FL PCIe gen.3 x8 slots 1x LP/HL PCIe gen.3 x8 slot	2 x FH/FL PCIe gen.3 x8 slots 1 x LP/HL PCIe gen.3 x8 slot (Optional) 1 x LP/HL PCIe gen.3 x8 slot (for SKY-8101L1 model only)
	PCIe x4	1x PCIe gen.3 x4 expansion slot for Advantech Personalization card	
	M.2 PCIe/SSD	1x M.2 2280 slot (SATA/PCIe)	
	mSATA	-	-
	Storage	2.5" HDD/SSD	4x 2.5" hot-swappable, SAS/SATA HDD/SSD drives
	3.5" HDD	-	-
	mSATA SSD	-	-
I/O	Console port	1x microUSB console	
	USB2.0/USB3.0	1x USB3.0/2.0 Type A port at front 2x USB3.0/2.0 Type A port at rear	
	LED Indicator	Power, ID, 3x SW definable LEDs	
	Reset button	Power button ID button	
	Others	2x GbE RJ45, 2x 10GbE SFP+, 1x Display port	
	Power	Power Type	Redundant AC 700W Redundant DC 600W
Watts		(AC)700W/(DC)600W	850W
Input		(AC)90-264Vac, 9-4A, 47-63Hz (DC)-38- -75Vdc, 18-10A	100-240Vac, 12-6A, 50-60Hz
Power Adaptor		AC or DC, redundant	
Environment	Operating Temperature	-5°C (23°F) to 55°C (131°F)	0°C (32°F) to 40°C (104°F)
	Non-operating Temperature	-40°C (-40°F) to 70°C (158°F)	
Cooling		5* 40 x 65mm fan	6* 40 x 56mm fan
Mechanical	Construction	Iron	Iron
	Mounting	Rack-mounting	
	Dimensions (W x H x D)	438.00 x 506.20 x 44.20 mm (17.24" x 19.93" x 1.74")	438.40 x 696.15 x 44.20mm (17.26" x 27.41" x 1.74") with ear handle
	Weight	15kg	16kg
OS Support		Linux (CentOS, Red Hat, Ubuntu), Windows Server	
IPMI		*Aspeed AST2500 BMC	*Aspeed AST2500 BMC
		Advanced Lights Out Management compliant to IPMI2.0 with security and availability enhancements	Advanced Lights Out Management compliant to IPMI2.0 with security and availability enhancements
		*iKVM support Configurable shared or dedicated NIC support	*iKVM support Advantech Web GUI style node manager Configurable shared or dedicated NIC support
Certification		CB, UL, FCC, CE, RoHS, REACH	

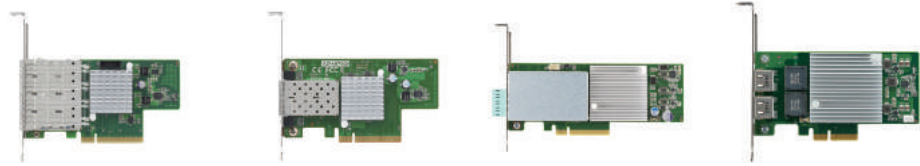
Multi-Node Servers



Model		SKY-9340		
Processor System	CPU Blade ^{NOTE1}	Up to 4 CPU blades, Dual Intel® Xeon® 6100/8100 series processors on each CPU blade Up to 16x DDR4 32GB Regular RDIMMs 1x PCIe3.0x16 slot		
	System Management Process(SMP) Unit	1x Intel Denverton C3338 SoC (Optional) Up to 2x DDR4 32GB VLP RDIMMs (Optional)		
External I/O Ports & Interface	PCIe Cards ^{NOTE1}	Flexible I/O with up to 8 PCIe Cards		
	LAN	8x 10G SFP+ 2x RJ45 management plane 4x 40G/100G fabric link for CPU blades connectivity (integrated data plane fabric) and I/O expansion		
	Serial Console	1 X RJ45 Management console to ShMC		
	USB	2 XUSB 3.0 connect to SMP(C3000) (optional)		
Storage	SATA	Up to 2x M.2 2242/2280 SSD on each CPU board Up to 2x M.2 SSD supporting software RAID1 for SMP and PXE boot images Up to 24x system storage (2.5" SATA/SAS/NVMe storage device)		
Cooling	Technology	Two Rear pluggable, hot-swappable system fan module. Each CPU blade has 4 fan module		
Power	AC Input	Up to four redundant power supply units with separate AC inlets. AC 200~240V, 50~60Hz, with 2+2 and N+1 power redundancy options (max output 3600W) AC 100~127V, 50~60Hz, with N+1 power redundancy (max output 3000W)		
	DC Input	Up to four redundant power supply units with separate DC inlets. DC -40V~-72V, 56A, with 2+2 and N+1 power redundancy options (max output 3600W)		
	PSU cooling	Self-cooled		
	Output DC voltage	+12V		
	Output Current rating	Maximum 148A@ +12V per PSU Maximum 2A@ +12VSB per PSU		
	Power Consumption	2900W (with configuration: 4x CPU blades with dual 130W processors, 16x 2400MHz 32GB DDR4 VLP RDIMM, and 2x M.2 SSD each blade, 100G data plane fabric, 4x PCIe cards, and 12x 2.5" SSDs)		
Shelf management	Management Plane Switch	4 x 1G link for four CPU blade management connectivity 2 x 1G link for ShMC management connectivity 2 x 1G link for SMP management connectivity 2 x 1000 Base-T to front panel for external connectivity		
	IPMI	2 x 1G link for ShMC management connectivity		
	Interfaces	2 x 1G link for SMP management connectivity		
	Sensors	2 x 1000 Base-T to front panel for external connectivity		
Accessibility	Front	Data plane, PCIe Cards, 2.5" SSDs or HDDs		
	Rear	CPU blades, Fan modules, AC or DC PSUs		
Physical Characteristics	Dimensions (HxWxD)	450 x 3U x 914.4mm (WxHxD)		
	Weight	60kg (system weight with mixed sku configuration, including 4x CPU blades, 4x PCIe cards, and 12x 2.5" SSDs)		
Environment		Operating	Non-operating	
	Temperature	0 ~ 40° C (32 ~ 104° F)	- 40 ~ 70° C (-40 ~ 158° F)	
	Humidity	50%@25°C to 95%@40°C (non condensing)	95% @ 60° C (non-condensing)	
Compliance	Management	IPMI, HPM.1 firmware upgrade, HPM.2 extended message size		
	Safety & EMC	CB, UL, FCC, CE, RoHS, REACH		

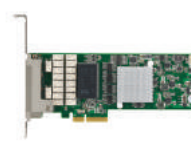
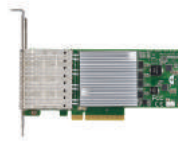
NOTE 1: Please contact your local Advantech sales representative for more information of CPU blades, Storage Devices and PCIe Cards.

PCI Express NIC Cards



Model Name		PCIE-2130	PCIE-2220	PCIE-2221BP	PCIE-2221NP
Chipset		Intel® I350	Intel® 82599ES	Intel® X710-BM2	Intel® X550-AT2
Description		Quad Port Fiber Gigabit w/ Intel® I350	Dual Port Fiber 10GbE w/ Intel® 82599ES	Dual Port Fiber 10GbE w/ Intel® X710-BM2	Dual Port Copper 10G w/ Intel® X550-AT2
Network Interfaces	Ports	4 x SFP cages	2 x SFP+ cages	2x SFP+ cages	2x SFP cages
	Media	GbE	10GbE	10GbE	10GbE
Form type		Standard L/P PCIe card	Standard L/P PCIe card	Standard L/P PCIe card	Standard L/P PCIe card
PCIe		PCIe gen.2 x4	PCIe gen.2 x8	PCIe gen.3 x8	PCIe gen.3 x4
HeatSink		Passive	Passive	Passive	Passive
Power	Voltage	+12V ± 15%	+12V ± 15%	+12V ± 15%	+12V ± 15%
	consumption	5W	8.5W	10W	12.5W
Environment	Operating Temperature (air flow 0.7 m/sec)	0 ~ 45° C (32 ~ 113° F)	0 ~ 45° C (32 ~ 113° F)	0 ~ 45° C (32 ~ 113° F)	0 ~ 45° C (32 ~ 113° F)
	Storage Temperature	-40 ~ 65° C (-40 ~ 149° F)	-40 ~ 65° C (-40 ~ 149° F)	-40 ~ 65° C (-40 ~ 149° F)	-40 ~ 65° C (-40 ~ 149° F)
	Storage Humidity	0 ~ 90%, non-condensing	0 ~ 90%, non-condensing	0 ~ 90%, non-condensing	0 ~ 90%, non-condensing
Mechanical	Dimensions	167 x 68.9 mm	167 x 68.9 mm	167 x 68.9 mm	167 x 68.9 mm
	Net Weight	0.08kg	0.07kg	0.2kg	0.115kg
Part Number		PCIE-2130NP-00A1E	PCIE-2220NP-00A1E	PCIE-2221BP-00A1E	PCIE-2221NP-00A1E (2 ports) PCIE-2221NP-01A1E (1 port)

PCI Express NIC Cards



Model Name		PCIE-2230	PCIE-2131	PCIE-2320
Chipset		Intel® XL710-BM1	Intel® I350	Intel® XL710-BM2
Description		Quad Port Fiber 10GbE w/ Intel® XL710-BM1	Quad Port Copper Bypass Gigabit w/ Intel® I350	Dual Port Fiber 40GbE w/ Intel® XL710-BM2
Network Interfaces	Ports	4 x SFP+ cages	4 x RJ45 copper cages	2 x QSFP+ cage
	Media	10GbE	1GbE	40GbE
Form type		Standard L/P PCIe card	Standard L/P PCIe card	Standard L/P PCIe card
PCIe		PCIe gen.3 x8	PCIe gen.2 x4	PCIe gen.3 x8
HeatSink		Passive	Passive	Passive
Power	Voltage	+12V ± 15%	+12V ± 15%	+12V ± 15%
	consumption	9W	5W	9W
Environment	Operating Temperature (air flow 0.7 m/sec)	0 ~ 45° C (32 ~ 113° F)	0 ~ 45° C (32 ~ 113° F)	0 ~ 45° C (32 ~ 113° F)
	Storage Temperature	-40 ~ 65° C (-40 ~ 149° F)	-40 ~ 65° C (-40 ~ 149° F)	-40 ~ 65° C (-40 ~ 149° F)
	Storage Humidity	0 ~ 90%, non-condensing	0 ~ 90%, non-condensing	0 ~ 90%, non-condensing
Mechanical	Dimensions	167 x 68.9 mm	167 x 68.9 mm	167 x 68.9 mm
	Net Weight	0.125kg	0.125kg	0.135kg
Part Number		PCIE-2230NP-00A1E	PCIE-2131BP-00A1E (4 ports w/ bypass) PCIE-2131NP-00A1E (2 ports w/o bypass) PCIE-2131NP-01A1E (4 ports w/o bypass)	PCIE-2320NP-00A1E (2 ports) PCIE-2320NP-01A1E (1 port)

FWA Selections

System P/N		FWA-6170Q-00A1R	FWA-6170-00A1R	FWA-6520	FWA-6520L
Form Factor		2U - Rack Mount	2U - Rack Mount	2U - Rack Mount	2U Rack Mount
Processor System	Processor	2 x Intel® Xeon® Platinum 8100, Gold 6100 & 5100, Silver 4100 and Bronze 3100 processors		2 x Intel® Xeon® E5-2600 v3 / v4 Socket R3	1 Intel Xeon E5-2600/E5-1600 v3/v4
	Core Number	8C/10C/12C/14C/16C/18C/20C/22C/24C/26C/28C		8C/10C/12C/14C/16C/18C/20C/22C	4C/6C/8C/10C/12C/14C/16C/18C/20C/22C
	Frequency	2.0GHz/2.1GHz/2.2GHz/2.3GHz/2.4GHz/2.6GHz/3.0GHz/3.2GHz/3.4GHz		2.0GHz/2.1GHz/2.2GHz/2.3GHz/2.4GHz/2.6GHz	1.6~3.7GHz
	L2 Cache	30MB ~ 75 MB		30MB ~ 55 MB	10MB~55B
	Chipset	C626 (with 40Gb/s QAT)	C622 (without QAT)	C612	Intel C612
	BIOS	AMI Efi 64Mbit VT-x		AMI Efi 64Mbit VT-x	AMI EFI 128 Mbit
Virtualization					
Memory	Technology	DDR4, 2133/2400/2666MHz		DDR4, 2133/2400MHz	DDR4 2133/2400MHz
	Max. Capacity	768GB (CPU0x12,CPU1x12)		256GB (CPU0x8,CPU1x8)	256GB (8 x 32GB)
	Socket	24 x 288-pin RDIMM		16 x 288-pin RDIMM	24 x 288pin RDIMM
	ECC Support	Yes		Yes	Yes
Networking	Controller	1 x Intel i210-AT		1 x Intel® I210	2 x Intel i210-AT
	1GbE	2 x 10/100/1000 Mbps RJ45 via Intel i210-AT chip		2 x 10/100/1000 Mbps RJ45 via Intel® I210 chip	2 x 10/100/1000 Mbps RJ45
	10GE	2 x 10G SFP+ via Intel C622/C626			
	LAN bypass	LBP support by NMC		LBP support by NMC	LAN Bypass supported by NMC
Expansion	NMC Slot				4 x NMC Slots
	PCIe x 8	2 x low-profile Gen3 x8 slot			1 x low profile PCIe x 8 Gen3 slot
	PCIe x 16			2 x FH/HL	
Storage	NMC	8 NMCs		4/6/8 NMCs	
	2.5" HDD/SSD	Max. 2 2.5" HDD/SSD		Max. 2 x 2.5" HDD/SSD	
	3.5" HDD	2			4 x 3.5" HDD bay (HDD tray SKU option)
	m.2 SSD	2 x M.2 2280			
	CF slot				1 x CF slot
	mSATA slot			2 x mSATA	1 x mSATA slot (Half Size or Full Size)
I/O	Console port	1		1	
	USB	USB3.0 X 2		USB3.0 X 2	USB2.0 X 2
	LED Indicator	1 x PWR_LED, 1 x Alert_LED, 1 x Locate_LED			
	Others	1 x power button		1 x power button	
	Serial				1 x Console ports (RJ45 connector)
	Power LED				1 (Green on indicates power on)
	HDD LED				1 (Amber blink indicates HDD Read/Write)
	Pin Header				GPIO , Reset, COM and VGA
	TPM	TPM 1.2			
LCD Module					
Power	Power Type	16 x 2 graphic display,5 buttons AC, redundant DC, redundant (optional)		AC, redundant DC, redundant (optional)	
	Watts	1200W		820W	
	Input	100V ~ 240V		100V ~ 240V	
	Connector	CRPS		AC 3pin plug	
Environment	Operating Temperature (air flow 0.7 m/sec)	0 ~ 40 °C (32 ~ 104 °F)		0 ~ 40 °C (32 ~ 104 °F)	0 ~ 40 °C (32 ~ 104 °F)
	Non-operating Temperature	-20 ~ 80° C (-4 ~ 167° F) and 40° C @ 95% RH Non-Condensing		-20 ~ 80° C (-4 ~ 167° F) and 40° C @ 95% RH Non-Condensing humidity	-40 ~ 60 °C (-40 ~ 140 °F) and 40 °C @ 95% RH Non-Condensing
	Vibration Resistance	with SSD: 0.3 Grms, IEC 60068-2-64, 5-500Hz, 1hr/axis		with SSD: 0.3 Grms, IEC 60068-2-64, 5-500Hz, 1hr/axis	
	Shock Protection	with SSD: 10G, IEC-60068-2-27, half sine, 11ms duration		with SSD: 10G, IEC-60068-2-27, half sine, 11ms duration	
Cooling					
Mechanical	Construction	6x system FAN with smart FAN Steel		3x system FAN with smart FAN Iron	Iron
	Mounting	2U Rackmount		2U Rackmount	
	Dimensions (W x H x D)	430 x 88 x 684.5 mm (16.9 x 3.4 x 26.9)		430 x 88x 558 mm (16.9" x 3.4" x 22")	
	Weight	20 KG		20 KG	
	OS Support				
Advantech S/W Packages	Linux (CentOS, Red Hat, Ubuntu)		Linux (CentOS, Red Hat, Ubuntu)	Linux (CentOS, Red Hat, Ubuntu)	Linux (CentOS, Red Hat, Ubuntu, etc.)
	QuickStart Linux Image (CentOS based reference BSP) including • afu • ipmitool • LCD4Linux • Advanced LBP Utility • Intel® DPK • Intel® QAT • DUI (Offline Diagnostics) • Individual packages: • Advanced LBP Library • DUI (Offline Diagnostics)		QuickStart Linux Image (CentOS based reference BSP) including • ipmitool • LCD4Linux • Advanced LBP Utility Individual packages: • Advanced LBP Library		
IPMI	Carrier Grade BMC, IPMI v2.0 compliant, with web interface, iKVM on request (Advantech IPMI Core)		IPMI v2.0 compliant BMC with web interface (AMI MegaRAC SP-X)		Carrier Grade BMC, IPMI v2.0 compliant, with web interface, iKVM on request
Certification		CE/FCC/CB/UL/CCC		CE/FCC/CB/UL/CCC	CCC

FWA Selections

System P/N		FWA-5020L-00A1R	FWA-5020U-00A1R	FWA-5020U-D0A1R	FWA-3270A	FWA-3270B	
Form Factor		1U-Rack Mount					
Processor System	Processor	1 x Intel® Xeon® E5-2600 v3 / v4 Socket		2 x Intel® Xeon® E5-2600 v3 / v4 Socket	Socket LGA 1151 (E3-1200v5; 6th Core-I; Pentium; Celeron®)	Socket LGA 1151 (6th Core-I, Pentium, Celeron®)	
	Core Number	8C/10C/12C/14C/16C/18C/20C/22C					
	Frequency	2.0GHz/2.1GHz/2.2GHz/2.3GHz/2.4GHz/2.6GHz			2.4GHz~3.6GHz	2.4GHz~3.4GHz	
	L2 Cache	30MB ~ 55 MB					
	Chipset	C612			C236	H110	
	BIOS	AMI EFI 64Mbit					
Virtualization		VT-x					
Memory	Technology	DDR4, 2133/2400MHz(CPU SKU)			Dual Channel DDR4 with 2133/2400 MHz	Dual Channel DDR4 with 2133/2400 MHz	
	Max. Capacity	256GB(CPU0 x8 DIMM)		512GB(CPU0 x8 DIMM, CPU1 x8 DIMM)	4 x DIMM Slots Expandable to 64GB	2 x DIMM Slots Expandable to 32GB	
	Socket	16 x 288-pin RDIMM			4 x 288-pin UDIMM	2 x 288-pin UDIMM	
	ECC Support	Yes			Yes (E3 CPU only)	NA	
Networking	Controller	1 x Intel® I210			8 x Intel® i210-AT	6 x Intel® i210-AT	
	1GbE	2 x 1GbE RJ45 for management via Intel® i210-AT		2 x 1GbE RJ45 for management via Intel® i210-AT	8 x 10/100/1000 Mbps RJ45	6 x 10/100/1000 Mbps RJ45	
	10GE	NA	2x 10GbE SFP+ via Intel® X710	NA			
	LAN bypass	NA	2 segment Advanced LAN Bypass	NA	Advanced Legacy	3 x pair of LAN Bypass (default) 2 x pair of LAN Bypass (option by jumper)	2 x pair of LAN Bypass (default) 2 x pair of LAN Bypass (option by jumper)
	Expansion	NMC Slot	2 NMCs		4 NMCs	2 x NMC	
Storage	PCIe x 4	2 x FH/HL gen3 x4 slot (option)					
	PCIe x 8	1 x FH/HL gen3 x8 slot (default)					
	PCIe x 16	NA	Up to 2* Proprietary x16 crypto PCIe				
Display	NMC				2 x NMC	1 x NMC	
	2.5" HDD/SSD	Max. 2 x 2.5" HDD/SSD					
	3.5" HDD	2 x 2.5" SATA HDD/SSD bay 1 x 3.5" SATA HDD bay					
	m.2 SSD	1 x m.2 SSD (2242/2260/2280)					
I/O	mSATA slot	2 x mSATA		NA	1 x Half-Size mSATA SSD		
	Console port	1			1 x RJ45		
TPM	USB 3.0	2			4 (2 in front+2 with pin header)		
	LED Indicator	1 x Power led, 1 x HDD led					
	Reset button	Pin Header					
	Others	RS232, 2 x USB option					
LCD Module	TPM	On board TPM 1.2 Chip support			16x2 graphic display,5 buttons		
	LCD	16x2 graphic display,5 buttons					
Power	Power Type	AC, redundant/ DC, redundant (optional)			AC, redundant and non-redundant DC, redundant DC (optional)		
	Watts	650W			300W		
	Input	(AC) 100 ~ 240 V @ 50 ~ 60 Hz, full range, (DC) -40 ~ - 72V, 12 ~ 24A			100 V ~ 240 V		
Environment	Connector	AC 3pin plug					
	Operating Temperature (air flow 0.7 m/sec)	0 ~ 40 °C (32 ~ 104 °F)			0 ~ 40 °C (32 ~ 104 °F)		
	Non-operating Temperature	-20 ~ 80° C (-4 ~ 167° F) and 40° C @ 95% RH Non-Condensing humidity			-40 ~ 60° C (-40~140F)		
	Humidity	95% @ 40° C (non-condensing)					
	Vibration Resistance	with SATA HDD: 0.5 Grms, IEC 60068-2-64, 5-500Hz, 1hr/axis			with SATA HDD: 0.5 Grms, IEC 60068-2-64, 5-500Hz, 1hr/axis		
Cooling	Shock Protection	with SATA HDD: 10G, IEC-60068-2-27, half sine, 11ms duration			with SATA HDD: 10G, 11ms, IEC-60068-2-27, X, Y, X-X,-Y-Z axis, 3times per axis		
	Construction	Iron			Iron		
Mechanical	Mounting	Rack mount kits(ear)/ Slide rail(Optional)			1U Rackmount		
	Dimensions (W x H x D)	438 x 44x 625 mm (17.24" x 1.732" x 24.61")			430 x 44 x 500 mm (16.9" x 1.7" x 19.6")		430 x 44 x 375 mm (16.9" x 1.7" x 14.7")
	Weight	15Kg			10 kg		6kg
	OS Support	Linux (CentOS, Red Hat, Ubuntu)			Linux (CentOS, Red Hat, Ubuntu, etc.), Windows*10		
Advantech S/W Packages		QuickStart Linux Image (CentOS based reference BSP) including: IPMI Tool/LCD4Linux/Advanced LBP Utility Individual packages: Advanced LBP Library			QSI (Linux based Advantech Bring-Up Image, LANbypass, FRU)		
IPMI		IPMI v2.0 compliant BMC with web interface (AMI MegaRAC SP-X)			Opiton		NA
Certification		CE/FCC/CB/UL/CCC (FWA-5020U-D0A1R without CCC)			CE/FCC/CB/UL/CCC		

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