SKY-8101L

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

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 (optional: 4x 3.5" hot-swappable HDD drives)
- 1x M.2 2280 SATA SSD
- IPMI 2.0-compliant management with reliability and security enhancements

Introduction

The Advantech SKY-8101L is a highly configurable high performance server designed to balance the best in x86 server-class processing with maximum storage, I/O and offload density in a 1U 27.5" depth chassis. The system is a cost effective, robust platform optimized for superior reliability in business critical applications such as communications, edge and industrial high performance computing. It is specifically designed for high density PCIe card payloads where maximum I/O connectivity is needed or the integration of industry leading offload and acceleration technology is essential. The power and cooling options along with the streamlined mechanical design make it ideal for demanding applications requiring acceleration technologies such as GPU, DSP and FPGA cards.

Architected around the new Intel® Xeon® Processor Scalable Family, the single-socket SKY-8101L combines an unprecedented choice of performance levels from 6 to 28-cores with the ruggedness, reliability, and long system lifecycles required by the industry. With integrated security and compression offload based on Intel® QuickAssist technology and two onboard 10GbE ports with SR-IOV and RDMA support, the system offers best-in-class integration in a compact form factor.

Specifically designed for applications requiring higher capacity, front loading, hot-swappable storage with RAID support, the SKY-8101L accommodates up to ten 2.5" removable drive bays at the front of the system, eight of which support SATA/SAS connectivity and a further two optional 2.5” NVMe drives, each connected to a PCIe Gen3 x4 Intel OCuLink bus. The two NVMe drive bays can also be configured physically into one PCIe slot, accommodating one commercial-off-the-shelf PCIe Gen3 low profile card. With support for Intel® VROC hybrid NVMe and SATA RAID, the server is ideal for video caching and edge transcoding, data acquisition, storage and processing as well as accelerated edge processing and analytics. Another option of four 3.5" removable drive bays at the front of the system is also available. The SKY-8101L meets a variety of acquisition, preprocessing and forwarding performance needs and can operate in environments with limited space, higher ambient temperature and lower low noise level constraints.

The SKY-8101L is designed to withstand extended environmental conditions in terms of shock, vibration and operating temperature. Redundant power supplies, the ability to withstand single fan failures, redundant firmware images with failsafe upgrades and hot swappable FRUs all make the SKY-8101L the platform of choice for applications requiring zero downtime. Interoperability testing is performed with a wide selection of Advantech and third-party PCIe card vendors in order to accelerate integration and shorten time to deployment.

Specifications

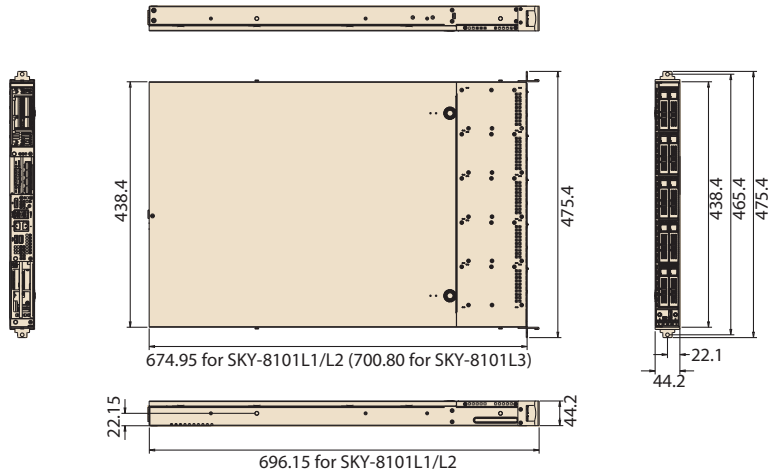
Processor System	CPU	Single CPU from the New Intel® Xeon® Processor Scalable Family up to 28 cores, 165W	
	Chipset	Intel® C622 chipset (optional variants with C626 and C627)	
Memory	Technology	Up to 6x 2666MHz DDR4 ECC Standard ECC RDIMM/LRDIMM	
	Capacity	Max capacity per channel: 64GB Max total capacity per system: 384GB	
	Socket	6x 288-pin DIMM	
PCIe	Expansion slots	Total 2x rear PCIe x8 (FH/FL) or 1x rear PCIe x16 (FH/FL), 1x rear PCIe x8 (LP/HL), 1x rear PCIe x4 expansion slot for Advantech Personalization Card, optional 1x front PCIe x8 (LP/HL) slot for SKY-8101L2 only	
IO	Front IO	SKY-8101L1/L2: 1x PWR button, 1x ID button, 1x USB3.0/2.0, 1x micro-USB console, 5x LEDs SKY-8101L3: 1x PWR button, 1x ID button, 2x USB3.0/2.0, 1x D-Sub console, 5x LEDs	
	Rear IO	2x GbE LAN RJ45, 1x Display port, 2x USB3.0/2.0, 2x 10GE SFP+	
Ethernet	Management Interface	10/100/1000 Mbps	
	10GbE Ethernet Interface	1Gbps / 10Gbps	
	Controller	GbE LAN1: Intel i210-AT, GbE LAN2: Intel i210-AT 10GbE SFP+ LAN1/2: Integrated into PCH, with SR-IOV and RDMA support	
	Connector	2x RJ-45, 2x SFP+	
Storage		SKY-8101L1/L2: 8x 2.5", front hot-swappable, SAS/SATA HDD/SSD trays (SAS drives supported via HBA/RAID adapter on PCIe slots), additional 2x 2.5" front hot-swappable NVMe SSD trays on SKY-8101L1 model only SKY-8101L3: 4x 3.5", front hot-swappable, SAS/SATA HDD trays (SAS drives supported via HBA/RAID adapter on PCIe slots), 1 x M.2 2280 SATA SSD	
Power Supply	Input	Two 850W (1+1) redundant AC PSU (AC) 100 ~ 240V_{AC}, 50 ~ 60Hz, 12 ~ 6A, per PSU	
	Output Current Rating	850W, Max: +12V/70A, +5Vsb/3A, per PSU	
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)

All product specifications are subject to change without notice.

Last updated: 13-Apr-2018

Dimensions

Unit: mm [inch]



Specifications Cont.

Cooling	Chassis Fan	Six 40 x 56 mm replaceable fans
	Thermal Control	Two separate thermal zones for motherboard and Full Length (FL) PCIe cards
	Reliability	Resilient to single fan failure
	Air Filter	NA
System Management	IPMI	Aspeed AST2500 BMC Advanced Lights Out Management compliant to IPMI2.0 with security & availability enhancements iKVM SupportAdvantech Web GUI style node manager Configurable shared or dedicated NIC support
Physical	Dimension (W x D x H)	SKY-8101L1/L2: 438.40 x 674.95 x 44.20 mm (17.26" x 26.57" x 1.74") without ear handle; SKY-8101L3: 438.40 x 700.80 x 44.20 mm (17.26" x 27.59" x 1.74") without ear handle;
	Weight (N.W)	16kg

Front View

SKY-8101L1

SKY-8101L2

SKY-8101L3

Rear View

Ordering Information

Part Number	Description
SKY-8101LAS-0010E (SKY-8101L1)	27.5" 1U server w GSMB-8101, single Skylake-SP socket, redundant AC 850W PSU, 10x 2.5" bay (8x SAS/SATA + 2x NVMe), 2x FH/FL rear slots, 1x LP rear slot, 1x Advantech personalization card slot
SKY-8101LAS-0020E (SKY-8101L2)	27.5" 1U server w GSMB-8101, single Skylake-SP socket, redundant AC 850W PSU, 8x 2.5" SAS/SATA bay, 1x LP PCIe front slot, 2x FH/FL rear slots, 1x LP rear slot, 1x Advantech personalization card slot
SKY-8101LAS-0030E (SKY-8101L3)	27.5" 1U server w GSMB-8101, single Skylake-SP socket, redundant AC 850W PSU, 4x 3.5" SAS/SATA bay, 2x FH/FL rear slots, 1x LP rear slot, 1x Advantech personalization card 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

Advantech Personalization Card Options

Part Number	Description
PCIE-1220PS-00A1E	Dual 10GbE X710 w. 2x SFP+
PCIE-1221PS-00A1E	Dual 10GBASE-T w. X550
PCIE-1130PS-00A1E	Quad GbE i350 w. 4x RJ45
PCIE-1131PS-00A1E	Quad GbE i350 w. 4x SFP