Intel® Server Board S7200AP / *APL*
Intel® Compute Module HNS7200AP / APL
Intel® Server Chassis H2000XXLR2 Family

Product Family Configuration Guide & Spares/Accessories List

A *Reference document* used to assist with ordering parts and accessories available to configure an Intel server system based on the Intel® Server S7200AP product family.

Revision 1.0
June 2016

Intel® Server Boards and Systems

<This page is intentionally left blank.>

Document Revision History

Date Published	Revision	Revision Change Description
June 2016	1.0	1st Production Release

Disclaimer

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Learn more at Intel.com, or from the OEM or retailer.

You may not use or facilitate the use of this document in connection with any infringement or other legal analysis concerning Intel products described herein. You agree to grant Intel a non-exclusive, royalty-free license to any patent claim thereafter drafted which includes subject matter disclosed herein.

No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document.

The products described may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Intel disclaims all express and implied warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement, as well as any warranty arising from course of performance, course of dealing, or usage in trade.

Intel, the Intel logo, Xeon, and Xeon Phi are trademarks of Intel Corporation in the U.S. and/or other countries.

*Other names and brands may be claimed as the property of others.

Copyright © 2016 Intel Corporation. All Rights Reserved.

Table of Contents

List of Tables

1. Intel Server Family Overview

This document is provided to assist Intel customers with identifying the right Intel server system and available accessories, enabling them to create a unique server platform that meet their unique server requirements.

The Intel® S7200AP product family consists of the following:

Intel® Server S7200AP Product Family

Intel® Server Board S7200AP / APL

Intel® Compute Module HNS7200AP / APL

Intel® Server Chassis H2000XXLR2 Family

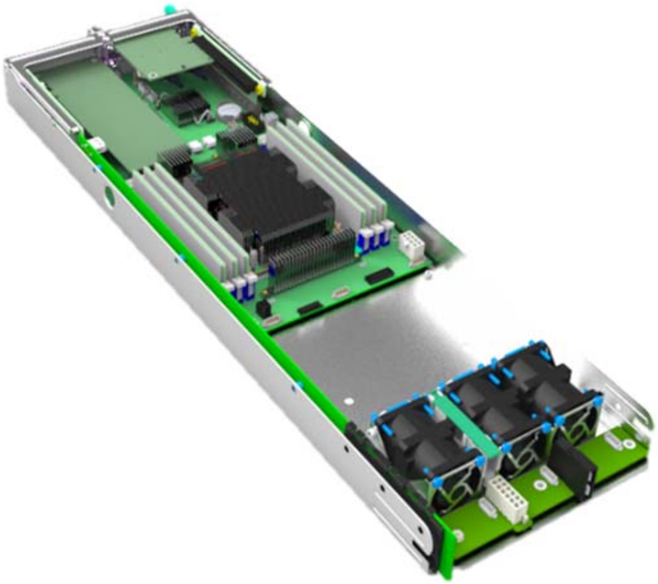
Server Building Blocks:

- **Intel® Server Board S7200AP / APL –** Half width Server Board only (Building block option and spare FRU)
- **Intel® Compute Module HNS7200AP / APL –** Compute module integrated with an Intel® Server Board S7200AP
- **Intel® Server Chassis H2000XXLR2 product family –** 2U four compute module capable rack mount server chassis

The Intel® S7200AP product family supports the following processors and memory:

- Intel® Xeon Phi™ processor (KNL-D-68 Core) bootable with a maximum TDP of 215W
- Intel® Xeon Phi™ processor (KNL-F-68 Core) with integrated Intel® Omni-Path fabric interface with a maximum TDP of 230W
  - **Note: Previous generation Intel® Xeon® processors are not supported.**
- DDR4 (RDIMM & LRDIMM)

Intel® Server Board S7200AP / APL

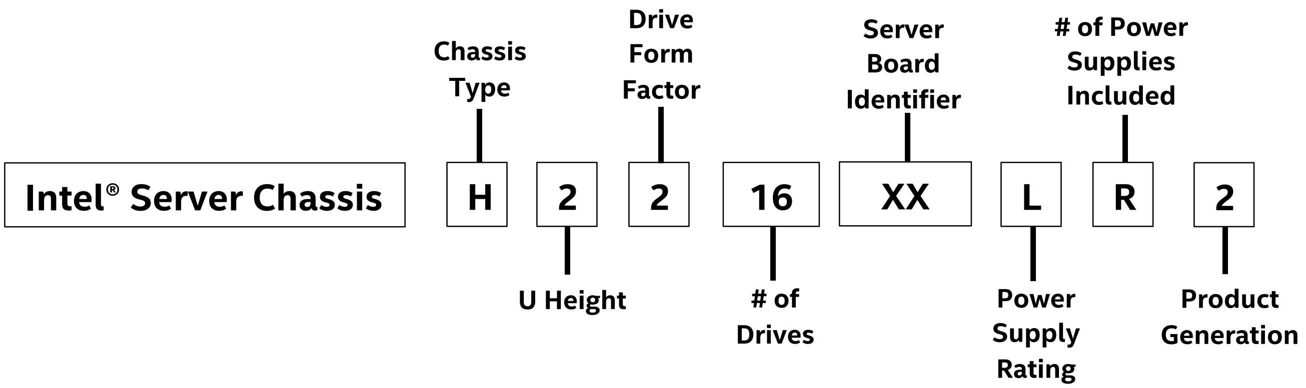


Intel® Compute Module HNS7200AP / APL

Intel® Server Chassis H2216XXLR2

Intel® Server Chassis H2312XXLR2

1.1 Intel® Server S7200AP Product Family Naming Convention



Chassis Type **H** = Half Width Node Multi-Module	**Server Board Identifier** **XX –** Various Compute Modules Supported
U Height **2** = 2U	**Power Supply Rating** **L** = 2130W Platinum
Drive Form Factor **2** = 2.5” **3** = 3.5”	**# of Power Supplies Included** **S** = 1 (Single, Non-redundant) **R** = 2 (Redundant)
# of Drives Supported (Specific to front drive bays) **12** **16**	**Product Generation** **2** = 2nd Generation Product

Table 1. Intel® Server S7200AP Product Family Feature Set

Feature	Description
Processor Support	Intel® Xeon™ Phi™ processor (KNL-D-68 Core) Bootable ▪ Single processor socket P (3647 pins) ▪ Thermal Design Power (TDP) up to 215W ▪ 36 lanes of Integrated PCI Express® 3.0 low-latency I/O Intel® Xeon™ Phi™ processor (KNL-F-68 core) with integrated Omni-Path fabric Interface ▪ Single processor socket P (3647 pins) ▪ Integrated 4x25 Gb/s Host Fabric Interface ▪ Thermal Design Power (TDP) up to 230W ▪ 4 lanes of Integrated PCI Express® 3.0 low-latency I/O
Memory Support	▪ Six DIMM slots in total across six memory channels ▪ Registered DDR4 (RDIMM), Load Reduced DDR4 (LRDIMM) ▪ Memory DDR4 data transfer rates of 2133/2400 MT/s ▪ 1 DIMM per channel ▪ Max memory 384GB
Chipset	Intel C610 “Wellsburg” Platform Controller Hub (PCH)
External I/O Connections	▪ Two USB 3.0 connectors ▪ Two RJ-45 10/100/1000 Mbit Network Interface Controller (NIC) ports
Internal I/O connectors/headers	▪ One USB 2.0 Header ▪ One TPM Header ▪ One Intel® Omni-Path I Fabric Signal Connector (Option) ▪ One mSATA Connector ▪ One Bridge Board Connector ▪ One 2x7 pin header for system fan module ▪ One Aux Front Panel Connector ▪ Three 8-pin fan headers for third-party chassis support ▪ One 4 pin CPU Fan or Water Pump header ▪ One PSU Control Header ▪ One RMII header for Intel® RMM4 Lite ▪ One internal RGB Video Header ▪ One Serial Port A Header
PCIe Support	PCIe* 3.0 (2.5, 5, 8 GT/s)
Power Connections	• Two sets of 2x3 pin connector • One 8 pin Power control connector • One 4 pin Power connector for Disk Drive power
System Fan Support	▪ Three 40x56mm double rotor fans ▪ One 4 pin CPU Fan or Water Pump header
Video	▪ Integrated 2D video graphics controller ▪ 128MB DDR3 memory

Feature	Description
Riser Support	▪ One PCIe Gen3 x16 standard riser connector o Supports a low-profile adapter in Riser slot 1 ▪ One PCIe Gen3 x20 HSEC-8 fine-pitch riser connector o Supports a x16 low-profile adapter in Riser slot 2 ▪ Supports a x4 low-profile adapter in Riser 2 when fabric is used
On-board storage controllers and options	▪ Integrated 9-port SATA o 4 ports to bridge board, o 1 port to mSATA o 4 ports to MiniSAS HD connector
Fabric	▪ Dual port Intel® Omni-Path Fabric via KNL-F Processor or ▪ Single Port Intel® Omni-Path Fabric via x16 Gen 3 PCIe Adapter
Network (LAN)	▪ Dual i210 Springvilles ▪ Dual 10/100/1000Gbe RJ45 connectors ▪ NC_SI sideband to BMC. Option to host share or dedicate a Network port to management traffic.
RAID Support	▪ Intel® Embedded Server RAID Technology 2 (ESRT2)
Server Management	▪ Onboard Emulex* Pilot III Controller ▪ Support for Intel® Remote Management Module 4 Lite solutions ▪ Support for Intel® System Management Software ▪ Support for Intel® Intelligent Power Node Manager (Need PMBus*-compliant power supply)

Table 2. Intel® Compute Module HNS7200AP Feature Set

Feature[1]	Description
Server Board	Intel® Server Board S7200AP product family Intel® Xeon™ Phi™ processor (KNL-D-68 Core) Bootable ▪ Intel® Xeon™ Phi™ processor (KNL-D-68 Core) Bootable ▪ Intel® Xeon™ Phi™ processor (KNL-F-68 core) with integrated Omni-Path fabric Interface
Processor Support	Maximum supported Thermal Design Power (TDP) of up to 230W
Heatsink	▪ One 80x107mm 1U Heatsink
Fan	Three 40x56mm dual rotor system fans
Riser Support	One PCIe Gen3 x16 standard riser connector o Supports a low-profile adapter in Riser slot 1 One PCIe Gen3 x20 HSEC-8 fine-pitch riser connector o Supports a x16 low-profile adapter in Riser slot 2 Supports a x4 low-profile adapter in Riser 2 when fabric is used
Compute Module Board	▪ Bridge boards: o 6G SATA Bridge Board (Default) ▪ One compute module power docking board
Air Duct	One transparent air duct
Form Factor	1U
Module Dimensions	L=592.8mm, W=177.5mm, H=40.8

1. *The table only lists features that are unique to the compute module or different from the server board*

1.2 Product Family Summary Chart

The following tables provides an overview of available Intel product codes for the Intel® S7200AP product family. Each line item identifies key features supported in the shipping Intel SKU. Additional order code information and full product descriptions for each option are provided in later sections.

Table 3. Intel Server Board Product Summary

Intel Product Code	Development Status	Packaged quantity	# of CPU sockets	# of DIMM Slots	# of Riser Slots	Onboard RJ45 LAN ports	# of SATA ports (6 Gb)	SATA SW RAID Support	Liquid Cooling Support
Server Board only									
BBS7200APL	Production	10 pack	1	6	2	2 (1 GbE)	10	Yes	Yes
BBS7200AP	Production	10 pack	1	6	2	2 (1 GbE)	10	Yes	No

Table 4. Intel Compute Module Product Summary

Intel Product Code	Development Status	Form Factor	Intel Server Board	Liquid Cooling Support
Compute Module				
HNS7200APL	Production	1U Module	S7200APL	Yes
HNS7200AP	Production	1U Module	S7200AP	No

Table 5. Server Chassis Product Family Summary

Intel Product Code	Development Status	Chassis Form Factor	Drive Form Factor	# of Drives	# of Power Supply Modules	Power Supply Rating	Rack Mount Rails Included
Chassis Only (KDK)							
H2312XXLR2	Production	2U	3.5"	12	2	2130W	Yes
H2216XXLR2	Production	2U	2.5"	16	2	2130W	Yes

- KDK = Knock Down Kit - Intel nomenclature defining a chassis only product

Additional Product Information

For additional information about this family of products or any of their supported accessories, refer to the following resources available at:
http://www.intel.com/content/www/us/en/support/server-products/server-boards/single-socket-server-boards/intel-server-board-s7200ap-family.html

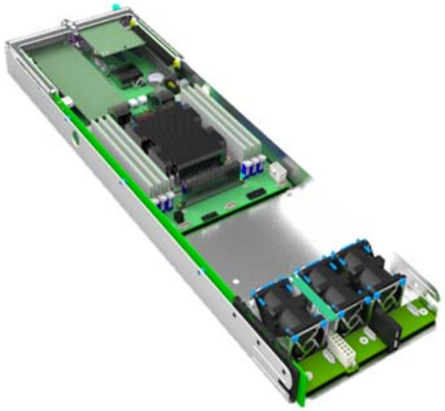
Table 6. Product Family Reference Collaterals

For this information or software	Use this Document or Software
For in-depth technical information about this product family	*Intel® Server Board S7200AP Technical Product Specification* *Intel® Remote Management Module 4 (Intel® RMM4) and Integrated BMC User Guide* *Intel® Remote Management Module 4 Technical Product Specification* *Intel® Server System BIOS Setup Utility Guide* *Intel® Server Platform Firmware Specification Update* *Product Safety and Regulatory Compliance*
For system integration instructions and service guidance	*Intel® Server Board S7200AP Product Family and Intel® Compute Module HNS7200AP Service Guide*
For server configuration guidance and compatibility	Intel® Server Configurator tool
For system power budget guidance	*Intel® Server Board S7200AP Product Family and Intel® Compute Module HNS7200AP Power Budget Tool*
For system firmware updates	System Update Package (SUP) – uEFI only One-boot Flash Update Utility (OFU)
For a complete list of supported processors, memory, add-in cards, and peripherals:	See Intel web site listed above

2. Server Building Block Configuration

Server building blocks within this Intel product family are offered to give Intel customers the option to design a custom chassis to support the stand alone Intel server board, or to configure one of the chassis only options with one to four server compute modules. Each building block component and optional accessory is purchased seperately.

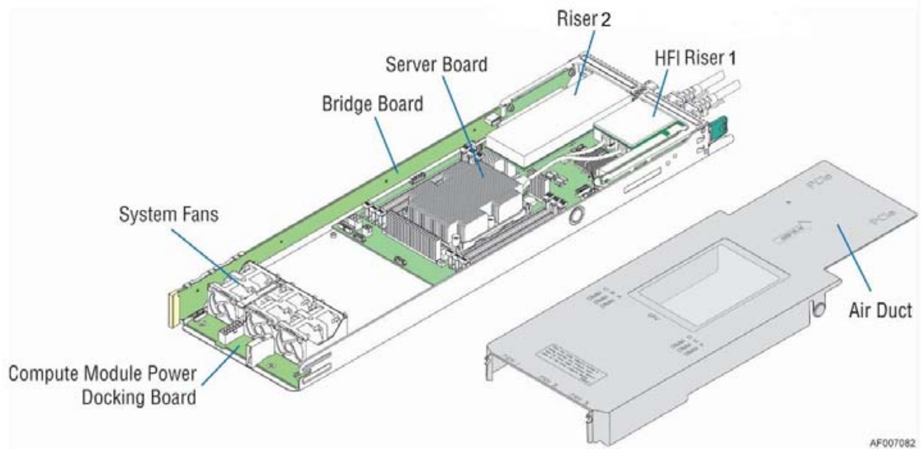
Intel® Server Board S7200AP / APL



Intel® Compute Module HNS7200AP / APL

2U – Intel® Server Chassis H2000XXLR2 Family

See chapter 0 for available Intel accessories that can be added as options to the configured server.



2.1 Intel® Server Board S7200AP Product Family SKUs

Intel Product Code (iPC)	Order Information	Product Description	Product Type
iPC – **BBS7200APL** 	MM# - **950090** UPC - 735858322874 EAN - 5032037090124 MOQ - 10 Packaged Gross Weight **TBD** Un-packaged Net Weight **TBD**	**Intel® Server Board S7200AP** • Board Dimensions: **6.8" W x 14.2" L** (172.72mm W x 360.68mm L) • 1 Processor Slot – Intel Xeon® Phi™ series only • 6 DIMM Slots supporting DDR4 memory • 2 PCIe* 3.0 capable add-in / riser card slots • 2 RJ45 1GbE Networking Ports • Liquid Cooling Support **Box includes:** one server board	**Server Board only** • Building block option • Spare FRU
iPC – **BBS7200AP** 	MM# - **942367** UPC - 735858322881 EAN - 5032037090131 MOQ - 10 Packaged Gross Weight **TBD** Un-packaged Net Weight **TBD**	**Intel® Server Board S7200AP** • Board Dimensions: **6.8" W x 14.2" L** (172.72mm W x 360.68mm L) • 1 Processor Slot – Intel Xeon® Phi™ series only • 6 DIMM Slots supporting DDR4 memory • 2 PCIe* 3.0 capable add-in / riser card slots • 2 RJ45 1GbE Networking Ports • **Box includes:** one server board	**Server Board only** • Building block option • Spare FRU

2.2 Intel® Compute Module Product Family SKUs

The product tables found in this section provide order code information and detailed descriptions for each available Intel Conpute Module option. The lower sections of each table identify:

- The ship along components of the specified chassis product code – (product BOM)
- **Required Items –** Hardware required to be installed to the base system to achieve basic functionality using the default system feature set
- **Optional Accessories –** Some of the available accessories which can be installed to enhance the basic feature set of the server board / chassis. Additional accessories can be found in Chapter 0

NOTES:

- Each **required item** and **optional accessory** is sold seperately from the specified Intel server building block
- Items identifed as **iPC** (Intel Product Code), are an orderable building block option, accessory or spare FRU
- In an effort to provide the complete product bill of materials, the ship along components list in each product table will include items identified by description and by **iPN** (Intel Part Number). The iPN information is provided for reference only. These components are **not** orderable as a spare or accessory.

Intel Product Code (iPC):	**Order Code Information:**	
HNS7200AP 	MM# - **942355** UPC - 735858322898 EAN - 5032037090148 MOQ - 1	Product Type: **Produciton Compute Module** Module dimensions: **L=592.8mm, W=177.5mm, H=40.8** Packaged Gross Weight: **TBD** Un-packaged Net Weight: **TBD** Packaging Dimensions: **TBD**

Product Definition and Configuration Requirements

	Required Items – Sold Separately:	**Optional Intel Accessories – Sold Separately:**
Intel product code **HNS7200AP** is a fully assembled compute module that includes the following components: (1) – Intel Server Board S7200AP – **iPC BBS7200AP** (3) – System fans – **iPC FXX4056DRFAN2** (1) – Slot 1 Riser Card – **iPC FHW1UAP16RISER2** (1) – Slot 2 Riser Card – **iPC FHW1U20APRISER** (1) – I/O Bridge Board – **iPC FHWAPBGB** (1) – Power Docking Board – **iPC FH2000NPB** (1) – 130mm 2x7 Fan Assembly Cable – iPN H62040-00x (1) – 140mm 2x3 Internal Power Cable – iPN H62040-00x (1) – Air Duct – iPN H72964-00x (1) – Plastic Cover – iPN H35490-00X (1) – Processor Heat Sink – **iPC AXXAPHS**	• 1 Intel® Xeon® Phi™ Processor Series • ECC DDR4 memory (RDIMM or LRDIMM)	• AXX2PFABKIT – Intel® Omnipath 2-port upgrade kit • AXXRMM4LITE – Remote KVM Upgrade Module • AXXRMM4 – Remote KVM Upgrade module + Dedicated Management Port • AXXTPME5 – TPM 2.0 Module for server systems See Chapter 3 for all available accessory options.

Intel Product Code (iPC): **HNS7200APL** 	**Order Code Information:** MM# - **950091** UPC - 735858322904 EAN - 5032037090155 MOQ - 1	Product Type: **Production Compute Module** Module dimensions: **L=592.8mm, W=177.5mm, H=40.8** Packaged Gross Weight: **TBD** Un-packaged Net Weight: **TBD** Packaging Dimensions: **TBD**

Product Definition and Configuration Requirements

	Required Items – Sold Separately:	**Optional Intel Accessories – Sold Separately:**
Intel product code **HNS7200AP** is a fully assembled compute module that includes the following components: (1) – Intel Server Board S7200AP – **iPC BBS7200APL** (3) – System fans – **iPC FXX4056DRFAN2** (1) – Slot 1 Riser Card – **iPC FHW1UAP16RISER2** (1) – Slot 2 Riser Card – **iPC FHW1U20APRISER** (1) – I/O Bridge Board – **iPC FHWAPBGB** (1) – Power Docking Board – **iPC FH2000NPB** (1) – 130mm 2x7 Fan Assembly Cable – iPN H62040-00x (1) – 140mm 2x3 Internal Power Cable – iPN H62040-00x (1) – Air Duct – iPN H72964-00x (1) – Plastic Cover – iPN H35490-00X (1) – Processor Heat Sink – **iPC AXXAPHS**	• 1 Intel® Xeon® Phi™ Processor Series • ECC DDR4 memory (RDIMM or LRDIMM)	• AXX2PFABKIT – Intel® Omnipath 2-port upgrade kit • AXXRMM4LITE – Remote KVM Upgrade Module • AXXRMM4 – Remote KVM Upgrade module + Dedicated Management Port • AXXTPME5 – TPM 2.0 Module for server systems See Chapter 3 for all available accessory options.

2.3 Intel® Server Chassis H2000XXLR2 Product Family SKUs

The product tables found in this section provide order code information and detailed descriptions for each available 2U Intel server chassis building block option. The lower sections of each table identify:

- The ship along components of the specified chassis product code – (product BOM)
- **Required Items –** Hardware required to be installed to the base system to achieve basic functionality using the default system feature set
- **Optional Accessories –** Some of the available accessories which can be installed to enhance the basic feature set of the server board / chassis. Additional accessories can be found in Chapter 0

NOTES:

- Each **required item** and **optional accessory** is sold seperately from the specified Intel server building block
- Items identifed as **iPC** (Intel Product Code), are an orderable building block option, accessory or spare FRU
- In an effort to provide the complete product bill of materials, the ship along components list in each product table will include items identified by description and by **iPN** (Intel Part Number). The iPN information is provided for reference only. These components are **not** orderable as a spare or accessory.

Intel Product Code (iPC):	**Order Code Information:**	
H2312XXLR2  **2U – 12 x 3.5" front mount hot swap drives**	MM# - **942352** UPC - 00735858316729 EAN - 5032037086981 MOQ - **1**	Product Type: **Chassis only** Chassis Form Factor: **2U rack mount with support for upto 4 Compute Modules** Chassis dimensions: **L=771mm, W=438mm, H=86.9mm** Packaged Gross Weight: **28.32 Kgs, 62.434 Lbs.** Un-packaged Net Weight: **19.97 Kgs, 44.026 Lbs.** Outer Box Dimensions: **L=984mm, W=578mm, H=266mm**

Product Definition and Configuration Requirements

	Required Items – Sold Separately:	**Optional Intel Accessories – Sold Separately:**
Intel product code **H2312XXLR2** includes the following components: (1) 12 x 3.5" Hot swap backplane – iPC **FHW12X35HS12G** (12) 3.5" hot swap drive trays – iPC **FXX35HSCAR** (1) Front Panel / Rack Handle Assembly – iPC **FH2000FPANEL2** (2) 2130W Power supply modules – iPC **FXX2130PCRPS** (1) Power Distribution board assembly – iPC **FXXCRPSPDB2** (1) Rack Mount Rail Kit – iPC **AXXELVRAIL** (1) Attention Doc insert – iPN H46721-00x	• Upto 4 of the following o Intel® Compute Module HNS7200AP or o Intel® Compute Module HNS7200APL • AC Power Cords	• iPC **A2UBEZEL** – Lockable front system bezel • Storage Drives See Chapter 3 for all available accessory options.

Intel Product Code (iPC):	**Order Code Information:**	
H2216XXLR2  **2U – 16 x 2.5" front mount hot swap drives**	MM# - **942353** UPC - 0073585831673 EAN - 5032037086998 MOQ - **1**	Product Type: **Chassis only** Chassis Form Factor: **2U rack mount with support for upto 4 Compute Modules** Chassis dimensions: **L=733mm, W=438mm, H=86.9mm** Packaged Gross Weight: **29.12 Kgs, 64.198 Lbs.** Un-packaged Net Weight: **19.54 Kgs, 43.078 Lbs.** Outer Box Dimensions: **L=984mm, W=578mm, H=266mm**

Product Definition and Configuration Requirements

Intel product code **H2312XXKR2** includes the following components:	**Required Items – Sold Separately:**	**Optional Intel Accessories – Sold Separately:**
(1) 16 x 2.5" Hot swap backplane – iPC **FHW16X25HS12G** (12) 2.5" hot swap drive trays – iPC **FXX25HSCAR2** (1) Front Panel / Rack Handle Assembly – iPC **FH2000FPANEL2** (2) 2130W Power supply modules – iPC **FXX2130PCRPS** (1) Power Distribution board assembly – iPC **FXXCRPSPDB2** (1) Rack Mount Rail Kit – iPC **AXXELVRAIL** (1) Attention Doc insert – iPN H46721-00x	• Upto 4 of the following o Intel® Compute Module HNS7200AP or o Intel® Compute Module HNS7200APL • AC Power Cords	• iPC **A2UBEZEL** – Lockable front system bezel • Storage Drives See Chapter 5 for all available accessory options.

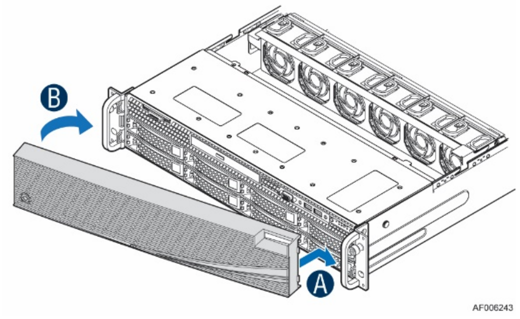
3. Accessory Options

The following sections identify available accessory kits supported by the Intel® S7200AP product family.

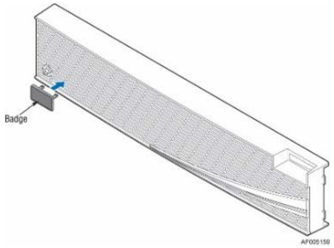
3.1 2U System Locking Front Bezel Accessory Kit

The optional front bezel is made of Black molded plastic and uses a snap-on design. When installed, its design allows for maximum airflow to maintain system cooling requirements. The front bezel includes a keyed locking mechanism which can be used to prevent unauthorized access to installed storage devices and front I/O ports.

Intel Product Code	Order Information	Product Description	Product Type
iPC – A2UBEZEL 	MM# – 918086 UPC – 735858241137 EAN – 5032037035880 MOQ – 1	**2U Front Bezel Accesory Kit** Kit Includes: (1) 2U locking bezel (1) Front Panel Window Insert (1 Set) Bezel branding inserts – two ID badges, one wave (1 Set) Keys	• 2U Accessory Kit



The face of the bezel assembly includes snap-in identification badge options and a wave feature option to allow for customization.

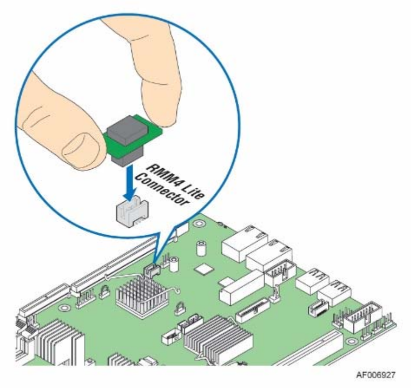


3.2 Remote Management KVM Support Option

The integrated baseboard management controller has support for advanced management features which are enabled when an optional Intel® Remote Management Module 4 Lite (RMM4 Lite) is installed. The Intel RMM4 add-on offers convenient, remote KVM access and control through LAN and internet. It captures, digitizes, and compresses video and transmits it with keyboard and mouse signals to and from a remote computer. Remote access and control software runs in the integrated baseboard management controller, utilizing expanded capabilities enabled by the Intel RMM4 hardware.

Key Features of the RMM4 add-on are:

- KVM redirection from the server board NICs used for management traffic; up to two KVM sessions
- Media Redirection – The media redirection feature is intended to allow system administrators or users to mount a remote IDE or USB CDROM, floppy drive, or a USB flash disk as a remote device to the server. Once mounted, the remote device appears just like a local device to the server allowing system administrators or users to install software (including operating systems), copy files, update BIOS, or boot the server from this device.



Intel Product Code	Order Information	Product Description	Product Type
iPC – AXXRMM4LITE 	MM# – **911660** UPC – 00735858219297 EAN – 5032037014946 MOQ – 1	**Intel® Remote Management Module 4 Lite** Kit Includes: (1) RMM4 Lite module	• Accessory Kit

3.3 Intel® Trusted Platform Module (TPM) Security Option

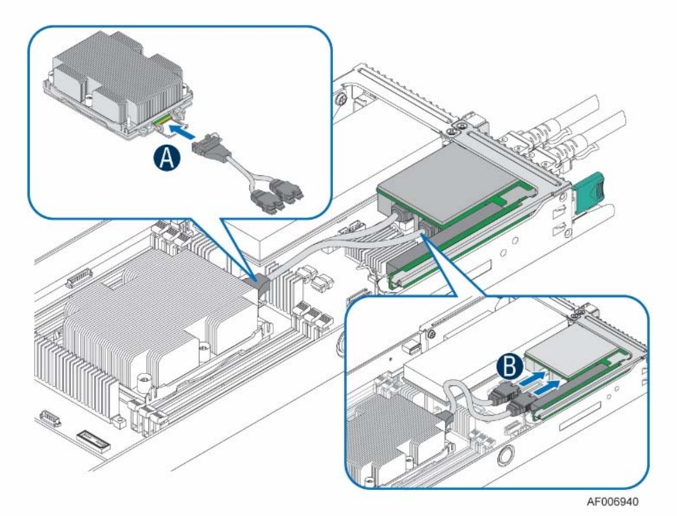
The Intel®Trusted Platform Module (TPM) is a hardware-based security device that addresses the growing concern on boot process integrity and offers better data protection. TPM protects the system start-up process by ensuring it is tamper-free before releasing system control to the operating system. A TPM device provides secured storage to store data, such as security keys and passwords. In addition, a TPM device has encryption and hash functions. The Intel® TPM module implements TPM as per TPM PC Client specifications revision 2.0 by the Trusted Computing Group (TCG).

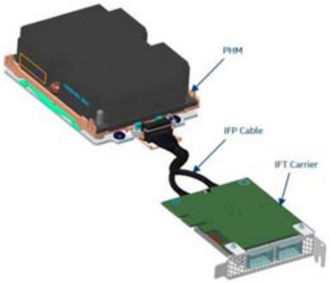
Intel Product Code	Order Information	Product Description	Product Type
iPC – AXXTPME6 	MM# – **947921** UPC – 00735858314534 EAN – 5032037086059 MOQ – 1	**Intel® Trusted Platform Module (TPM) 2.0** Kit Includes: (1) TPM Module for server systems	• Accessory Kit

3.4 Intel® Omni-path Host Fabric Interface Support Option

The Intel® Server Board S7200AP supports the bootable Intel® Xeon Phi™ processor (KNL-F) with integrated Intel® Omni-Path Host Fabric Interface (HFI). These processors have two 25 GB/s fabric I/O ports with up to 50 GB/s bi-directional peak total bandwidth.

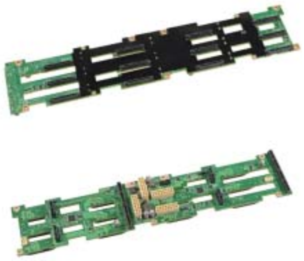
Intel's Fabric Through (IFT) Carrier kit allows external access to the Intel® Omni-Path Host Fabric Interface (HFI) socket of the processor. The external connection access is accomplished through use of two QSFP+28 style connections.

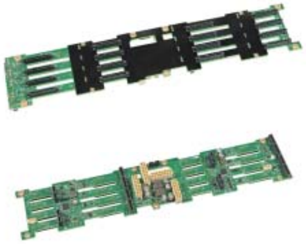
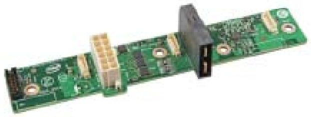


Intel Product Code	Order Information	Product Description	Product Type
iPC – AXX2PFABKIT  Figure 9: KNL-F Fabric Interconnect	MM# – **945579** UPC – 735858322911 EAN – 5032037090162 MOQ – 1	**Intel® Fabric Through (IFT) Carrier Kit** Kit Includes: (1) KNL Fabric Carrier – iPN H53248-00x (1) 2 Port IFP card (1) 2 Port IFP cable (1) Sideband cable	• Accessory Kit

4. Spare and Replacement Parts (FRUs)

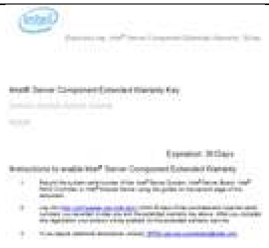
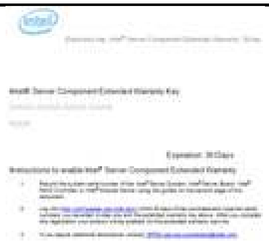
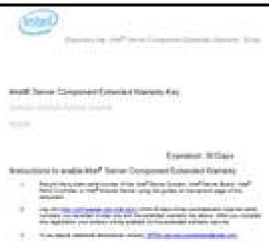
System integrators and distributors may choose to hold additional stock of individual system components. Intel makes available the following Spare and Replacement Parts (FRUs) compatible with the specified Intel server family.

Intel Product Code	Order Information	Product Description	Product Type
iPC – FXX4056DRFAN2 	MM# – **935566** UPC – 735858288439 EAN – 5032037067751 MOQ – 1	40x56mm Dual Rotor Fan spare	• Spare FRU
iPC – FXX2130PCRPS 	MM# – **948196** UPC – 00735858311939 EAN - 5032037084062 MOQ – 1	2130W AC Common Redundant Power Supply 80Plus Platinum-Efficiency	• Spare FRU
iPC – FHW12X35HS12G 	MM# – 935567 UPC – 735858288446 EAN – 5032037067768 MOQ – 1	12Gb SAS spare 12 x 3.5" backplane for H2000XXLR2 Chassis family	• Spare FRU

Intel Product Code	Order Information	Product Description	Product Type
iPC – FHW16X25HS12G 	MM# – 935573 UPC – 735858288453 EAN – 5032037067775 MOQ – 1	12GB SAS spare 16 x 2.5" backplane for H2000XXLR2 Chassis family	• Spare FRU
iPC – FH2000NPB 	MM# – 920832 UPC – 00735858246743 EAN – 5032037041201 MOQ – 1	Spare Node Power Board for H2000XXKR2 Chassis family	• Spare FRU
iPC – FXXCRPSPDB2 	MM# – 935576 UPC – 735858288460 EAN – 5032037067782 MOQ – 1	Spare Power Distribution Board Module including 2 boards, cables, a bus pair and supporting bracket, etc. for Common Redundant Power Supply 1600W of H2000XXKR2 chassis	• Spare FRU
iPC – FH2000FPANEL2 	MM# – 935578 UPC – 735858288415 EAN – 5032037067737 MOQ – 1	Spare front control panel kit(2 mini-front panel boards and rack handle assembly) for H2000KR2 Chassis family	• Spare FRU
iPC – FXX25HSCAR2 	MM# – 937542 UPC – 735858289405 EAN – 5032037068383 MOQ – 8	Spare 2.5" hot swap drive carriers	• Spare FRU

Intel Product Code	Order Information	Product Description	Product Type
iPC – FXX35HSCAR 	MM# – 936192 UPC – 00735858289412 EAN – 5032037068390 MOQ – 8	Spare 3.5" hot swap drive carriers	• Spare FRU
iPC – AXXELVRAIL 	MM# – 920970 UPC – 00735858244367 EAN – 5032037038980 MOQ – 1	Value Rail Kit, half extension, extended inner slide member	• Spare FRU
iPC – FPWRCABLENA 	MM# – 879287 UPC – 735858181129 EAN – 5032037015738 MOQ – 1	North American Power Cord Spare	• Spare FRU

5. Extended Warranty

Image	Order Information	Description
	iPC – **SVCEWHWSY** MM# – 923113 MOQ – 1	Extended Warranty for complete system (1x Intel® Server Chassis H2000G + 4x Intel® Compute Module HNS7200AP), Single.
	iPC - **SVCEWHWB** MM# – 914905 MOQ – 1	Extended Warranty for single node (1x Intel® Compute Module HNS7200AP), Single
	iPC - **SVCEWDPBD** MM# – 911294 MOQ – 1	Extended warranty for the mainboard only (for use with 3rd party chassis; applies to board only SKUBBS7200AP)

Glossary of Terms

A list of Acronyms and Terms used throughout this document

Acronym or Term	Definition	Acronym or Term	Definition
BIK	**B**aseboard **I**n **K**nock-Down-Kit – Integrated System	QSFP	Quad Small Form factor Pluggable
CRPS	Common Redundant Power Supply	RAID	Redundant Array of Independent Drives
EAN	International Article Number (Barcode)	Required Option	Hardware that must be added to the shipping configuration for the system to operate
EMI	Electromagnetic Interference	RMFBU	RAID Maintenance Free Backup Unit
ESRT2	Intel® Embedded Server RAID Technology 2	RMM4 Lite	Intel® Remote Management Module 4 Lite Activation key
FDR Infiniband	Fourteen Data Rate Infiniband	ROC	RAID on Chip
FRU	Field Replaceable Unit	RSTe	Intel® Rapid Stroage Technology
GPGPU	General Purpose computing on Graphics Processing Unit	SAS	Serial Attached SCSI
iPC	Intel Product Code	SATA	Serial ATA
iPN	Intel Product Number	SFP	Small Form factor Pluggable
LCP	Intel® Local Control Panel		
JBOD	Just a bunch of drives		
KDK	Knock-Down-Kit – (Chassis only product)	SKU	Stock Keeping Unit
KVM	Keyboard / Video / Mouse	SSD	Solid State Drive
MM#	Master Material order number	UPC	Universal Product Code (Barcode)
MOQ	Mimimum Order Quantity		
NVMe	NVM Express – based on Non-Volatile Memory Host Controller Interface Specification (NVMHCI)		
Optional Accessory	Hardware that can be added to the system to enhance the default feature set of the shipping configuration		
PCBA	Printed Cricuit Board Assembly		