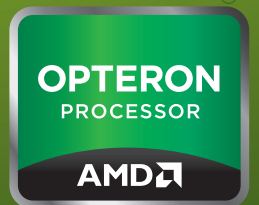# TYAN◯

AMD-Based Platforms

AMD Opteron™ 6300 & 4300 series processors
Family-Based Platforms

TYAN◯
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OPTERON
PROCESSOR
AMD◁

Specifications are subject to change without notice. Items pictured may only be representative.

HPC/GPU Platforms - AMD Based

Cloud Platforms

SMB Platforms

HPC GPU Centric

FT48-B8812
B8812F48W8HR

OPTERON PROCESSOR AMD · 32nm · 16 Core · HT3 HyperTransport 3.0 · DDR 3

80 PLUS GOLD

4U Rackmount Server Platform for HPC

Model Number	FT48-B8812
Enclosure Form Factor	4U (27.5" in depth)
Supported CPU	(4) AMD Opteron™ 6300 Series (Abu Dhabi)
Chipset	AMD SR5690 + SP5100
Chipset Interconnection	HyperTransport™ Link 3.0
Number of DIMM Slots	32/ (8+8+8+8)
Memory Type (max. capacity)	R-DDR3 1600/1333/1066 w/ ECC (512GB) U-DDR3 1600/1333/1066 w/ ECC (256GB)
Storage Controller	LSI SAS2008 (SAS 6Gb/s)
RAID Support	RAID 0, 1, 1E, 10 (LSI Integrated RAID)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots	(1) FH/FL PCI-E Gen.2 x16 slot (w/ x16 or x8 link) (1) FH/FL PCI-E Gen.2 x8 slot (w/ x0 or x8 link) (2) FH/FL PCI-E Gen.2 x8 slots

Standard Model	Number of HDD Bays	Storage Backplane	Power Supplies
B8812F48W8HR	(8) hot-swap 3.5"	(2) 4-port SAS/ SATA 6Gb/s	(2+1) 1,540W RPSU

HPC GPU Centric

GT26A-B8812
B8812G26AW4H

OPTERON PROCESSOR AMD · 32nm · 16 Core · HT3 HyperTransport 3.0 · DDR 3

80 PLUS PLATINUM

1U Rack-Optimized Server Platform for HPC

Model Number	GT262A-B8812
Enclosure Form Factor	1U (27.6" in depth)
Supported CPU	(4) AMD Opteron™ 6300 Series (Abu Dhabi)
Chipset	AMD SR5690 + SP5100
Number of DIMM Slots	32/ (8+8+8+8)
Memory Type (max. capacity)	R-DDR3 1600/1333/1066 w/ ECC (512GB) U-DDR3 1600/1333/1066 w/ ECC (256GB)
Storage Controller	LSI SAS2008 (SAS 6Gb/S)
RAID Support	RAID 0, 1, 1E, 10 (LSI Integrated RAID)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots	(1) HH/HL PCI-E Gen.2 x16 slot

Standard Model	Number of HDD Bay	Storage Backplane	Power Supplies
B8812G26AW4H	(4) hot-swap 2.5"	4-port SAS/ SATA 6Gb/s	(1) 1,200W PSU

HPC GPU Centric

Server Board / Workstation Board

OPTERON PROCESSOR AMD · 32nm · 16 Core · HT3 HyperTransport 3.0 · DDR 3

S8812
S8812WGM3NR

Processor	· Quad G34 sockets support AMD Opteron™ 6300 series processors (Abu Dhabi)
Chipset	· AMD SR5690 + SP5100
Memory	· (8+8+8+8) DDR-III DIMM slots · Support up to 512GB of R-DDR3 1600/1333/1066 w/ ECC memory · Support up to 256GB of U-DDR3 1600/1333/1066 w/ ECC memory
Expansion	· (1) PCI-E Gen.2 x16 slot (w/ x16 or x8 link) · (1) PCI-E Gen.2 x8 slot (w/ x0 or x8 link) · (2) PCI-E Gen.2 x8 slots
Storage	· (1) SATA 3Gb/s port · (8) SAS 6Gb/s ports by (2) Mini-SAS connectors (LSI SAS2008)
Network	· (3) GbE (via Intel® 82576EB and Intel® 82574L)
Video	· ASPEED AST2050 Integrated graphics
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· MEB (16.2" x 13", 411.48mm x 330mm)

Server Board / Workstation Board

OPTERON PROCESSOR AMD · 32nm · 16 Core · HT3 HyperTransport 3.0 · DDR 3
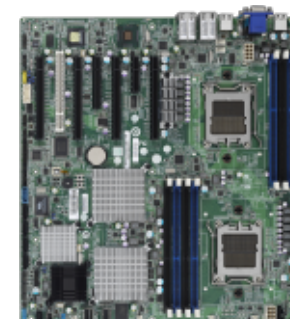
S8232
S8232AGM4NRF / S8232WAGM4NRF / S8232GM4NR / S8232WGM4NR

Processor	· Dual G34 sockets support AMD Opteron™ 6300 series processors (Abu Dhabi)
Chipset	· AMD SR5690 + SR5690 + SP5100
Memory	· (12+12) DDR-III DIMM slots · Support up to 384GB of R-DDR3 1333/1066/800 w/ ECC memory · Support up to 128GB of U-DDR3 1333/1066 w/ ECC memory
Expansion	· (4) PCI-E Gen.2 x16 slots · (2) PCI-E Gen.2 x 8 slots (w/ x4 link) · (1) PCI 32/33MHz slot
Storage	· (6) SATA 3Gb/s ports · (8) SAS 6Gb/s ports by (2) Mini-SAS connectors (LSI SAS2008)
Network	· (4) GbE (via 2x Intel® 82576EB)
Video	· ASPEED AST2050 Integrated graphics
Audio	· Realtek ALC262 audio CODEC (S8232AGM4NRF/S8232WAGM4NRF)
Firewire	· VIA VT6308P 1394a controller (S8232AGM4NRF/S8232WAGM4NRF)
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· MEB (16.2" x 13", 411.48mm x 330mm)

HPC GPU Centric

GN70-B8236-IL
B8236G70W8HR-HE-IL

OPTERON PROCESSOR AMD · 32nm · 16 Core · HT3 · DDR 3

80 PLUS GOLD

Model Number	GN70-B8236-IL
Enclosure Form Factor	2U (27.56" in depth)
Supported CPU	(2) AMD Opteron™ 6300 Series (Abu Dhabi)
Chipset	AMD SR5690 + SR5650 + SP5100
QuickPath Interconnect	HyperTransport™ Link 3.0
Number of DIMM Slots	16/ (8+8)
Memory Type (max. capacity)	R-DDR3 1600/ 1333/ 1066/ 800 w/ ECC (256GB) U-DDR3 1600/1333/1066 w/ ECC (128GB)
Storage Controller	RAID 0, 1, 1E, 10 (LSI Integrated RAID)
RAID Support	0, 1, 1E, 10 (LSI RAID stack)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots	(2) FH/FL PCI-E Gen.2 x16 slots (2) HH/HL PCI-E Gen.2 x8 slots

Standard Model	Number of HDD Bays	Storage Backplane	Power Supplies
B8236G70W8HR-HE-IL	(8) hot-swap 3.5"	8-port SAS/ SATA 6Gb/s	(1+1) 770W RPSU

Server Board / Workstation Board

OPTERON PROCESSOR AMD · 32nm · 8 Core · HT3 HyperTransport 3.0 · DDR 3

S8225
S8225AGM4NRF / S8225WAGM4NRF

Processor	· Dual C32 sockets support AMD Opteron™ 4300 series processors (Seoul)
Chipset	· AMD SR5690 + SR5690 + SP5100
Memory	· (4+4) DDR-III DIMM slots · Support up to 256GB of R-DDR3 1600/1333/1066 w/ ECC memory · Support up to 64GB of U-DDR3 1600/1333/1066 w/ ECC memory
Expansion	· (4) PCI-E Gen.2 x16 slots · (1) PCI-E Gen.2 x8 slot (x4 link) · (1) PCI-E Gen.2 x4 slot · (1) PCI 32/33MHz slot
Storage	· (6) SATA 3Gb/s ports · (8) SAS 6Gb/s ports by (2) Mini-SAS connectors (LSI SAS2008)
Network	· (4) GbE (via 2x Intel® 825876EB)
Video	· ASPEED AST2050 Integrated graphics
Audio	· Realtek ALC262 audio CODEC
Firewire	· VIA VT6308P 1394a controller
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· EATX (12" x 13", 305mm x 330mm)

AMD Open 3.0 Platform
Lowering Infrastructure Costs, Not Standards

Inspired by the Open Compute Project's mission of "Hacking Conventional Computing Infrastructure," AMD collaborated with some of the world's largest and most demanding financial services IT groups to devise AMD Open 3.0, the first and only Open Compute platform that can be deployed in a standard rack infrastructure. With AMD Open 3.0, AMD and its partners have created a motherboard design that delivers on the breakthrough objectives of the Open Compute Project. For IT managers who run large data centers, AMD Open 3.0 offers the ability to lower infrastructure costs dramatically without compromising on standards, reaching previously unheard of levels of flexibility, efficiency, energy consumption, and operating costs.

AMD Open 3.0: A Single, Adaptable Platform

AMD Open 3.0 is a single platform that can be adapted easily for cloud computing, storage and high-performance computing (HPC). Defined and reviewed by major financial services firms, the AMD Open Compute Project 3.0 ("OCP 3.0") specification is a radical rethinking of motherboard design. AMD Open 3.0 realizes the Open Compute Project's goal of overturning the rules that have governed data center economics for a generation. It opens new thresholds of flexibility and efficiency while driving costs ever lower. AMD Open 3.0 comes in a flexible form factor, efficient processing, enabling organizations to achieve a lower total cost of ownership (TCO). Low TCO is achieved through a combination of reduced power consumption, lower acquisition cost and streamlined maintenance and operating requirements.

Making it Happen

The AMD Open 3.0 specification is defined as a "feature-correct" motherboard designed to be efficient, inexpensive and easy to service. Every design choice contained in the final product is the result of rigorous analysis of the true infrastructure needs of a major enterprise.

AMD Open 3.0	AMD Open 3.0 Advantage
Designed for Financial Service Companies with designed in compatibility for Facebook's infrastructure	• More flexibility • Proven for use in financial services – extensible to comparable large workloads in other verticals
ODM: TYAN	TYAN
Supports AMD Opteron™ 6300 series, with TDP as low as 85W	Reduced power use
16" x 16.5" motherboard	First and currently the only Open Compute motherboard to meet OpenRack standard
• 24 DIMMS 2U+ • 8 DIMMs - 1U – HPC mode	More memory per core
Client choice of NIC	Greater choice and cost flexibility for using NIC of choice
• 6 SATA, 2 USB, 2 Serial • HPC = 2 LP PCI-e slots • General Purpose= 1 PCI-E and 1 LP PCI-E • Storage= 4 full height, short PCI-E • 1 GbE BCM5725, and 10GbE via add-on mezzanine card	Flexibility to support different usage scenarios, e.g. PCI express allowing for different controllers to be plugged in depending on whether it is for cloud or storage workload
Open hardware management	Ability to manage servers Out of Band (OOB) – powering up servers remotely, rebooting, re-imaging the OS from remote sources, monitoring temperate, fan speeds, etc
Adheres to standard 19" rack size. (But, available in 1, 1.5, 3 and 4U versions)	Variety of form factors but also able to fit into a standard rack enclosure
Standard validation (Adheres to Openrack and other OpenCompute standard form factors.)	Lower cost to acquire and deploy
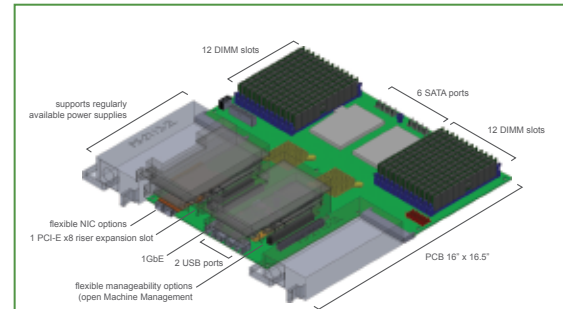
AMD Open 3.0 is designed with a minimum of legacy components. It supports two AMD Opteron™ 6300 Series processors with up to 32 physical cores. 24 DIMM slots supporting high memory capacity requirements for virtualization.
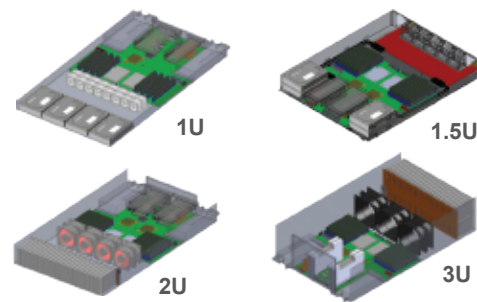
1U **1.5U** **2U** **3U**

Following the OpenRack specification, AMD Open 3.0 offers versions that are 1U, 1 ½ U, 2U, and 3U in size. Compared to the industry standard 1U/2U/4U, these OpenRack options make it possible to fit servers into racks in ways that truly fit the required workloads.

AMD Open 3.0 Highlights

· 16" x 16.5" motherboard. Universal motherboard, in terms of size, able to fit in both a legacy 19" data center rack and an OCP data center rack
· Component population options depending on target usage
· Open Machine Management with cost effective options depending on requirements
· Supports traditional rack and Open Rack infrastructures
· Support for the full portfolio of AMD Opteron™ 6000 Series processors with AMD's highest memory capacity and bandwidth operation
· Open Standard Baseboard Management Controller (BMC) in sync with Open Compute Open Hardware Management initiative
· Fit across a wide variety of non-proprietary 1U, 1.5U, 2U, 3U and 4U mechanical stamped sheet metal enclosures supporting both 2.5" and 3.5" disc drives
· Minimum semiconductor and on-board silicon to reduce both purchasing and operating costLearn

CLOUD

TA70-B8237
B8237T70V24HR

2U Rackmount Server Follows AMD Open 3.0 Modular Server Spec

Model Number	TA70-B8237
Enclosure Form Factor	2U (27.56" in depth)
Supported CPU	(2) AMD Opteron 6300 Series (Abu Dhabi)
Chipset	AMD SR5670 + SP5100
Number of DIMM Slot	24/ (12+12)
Memory Type (max. capacity)	R-DDR3 1600/1333/1066 w/ ECC (768GB)
Storage Controller	Provided by discrete SAS HBA/RAID adpater
RAID Support	Provided by discrete SAS HBA/RAID adpater
Networking	(Opt.) (2) 10GbE SFP+ (OCP mezzanine card) (1) GbE (via Broadcom® BCM5725) (shared IPMI NIC)
PCI Expansion Slots	(2) FH/FL PCI-E Gen.2 x16 slots (w/ x8 link) *(1) Mezzanine slot (w/ x8 link) for OCP-compliant network I/O adapters

| Standard Model	Number of HDD Bay	Storage Backplane	Power Supply
B8237T70V24HR	(24) hot-swap 2.5" + (2) internal 2.5"	24-port SAS/ SATA 6Gb/s	(1+1) 750W RPSU

CLOUD
Server Board
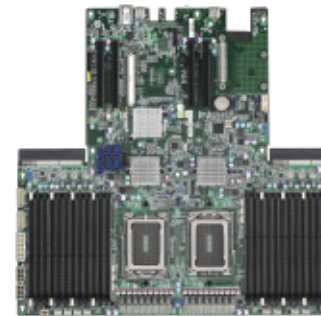
S8237
S8237PN (BTO)

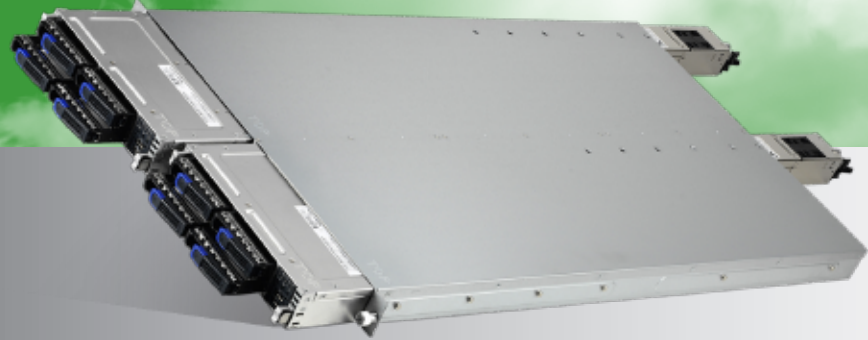| Processor	· Dual G34 sockets support AMD Opteron™ 6300 series processors (Abu Dhabi)
Chipset	· AMD SR5670 + SP5100
Memory	· (12+12) DDR-III DIMM slots · Support up to 768GB of R-DDR3 1600/1333/1066 w/ ECC memory
Expansion	· (1) PCI-E (Gen.2) x8 slot · (2) PCI-E (Gen.2) x16 slots (w/ x8 link)
Storage	· (6) SATA 3Gb/s ports
Network	· (1) GbE (via Broadcom BCM5725)
Management	· Broadcom BCM5725 w/ IPMI-Lite F/W stack
Form Factor	· Proprietary (406.40mm x 424.18mm)

CLOUD
Server Board
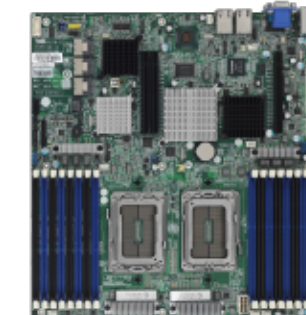
S8236-IL
S8236GM3NR-IL / S8236WGM3NR-IL / S8236WGM3NR-HE-IL

Processor	· Dual G34 sockets support AMD Opteron™ 6300 series processors (Abu Dhabi)
Chipset	· AMD SR5690 + SP5100 · AMD SR5690 + SR5650 + SP5100 (-HE SKU)
Memory	· (8+8) DDR-III DIMM slots · Support up to 512GB of R-DDR3 1600/1333/1066 w/ ECC memory · Support up to 128GB of U-DDR3 1600/1333/1066 w/ ECC memory
Expansion	· (2) PCI-E Gen.2 x16 slots · (3) PCI-E Gen.2 x16 slots (-HE SKU)
Storage	· (2) SATA 3Gb/s ports · (4) SATA 3Gb/s ports by (1) Mini-SAS connector · (8) SAS 6Gb/s ports by (2) Mini-SAS connectors (LSI SAS2008)
Network	· (3) GbE (via Intel® 82576EB and Intel® 82574L)
Video	· ASPEED AST2050 Integrated graphics
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· EATX (12" x 13", 305mm x 330mm)

HPC/GPU Platforms - AMD Based

Cloud Platforms

SMB Platforms

Higher Density Could Platforms
TYAN Yellow River Series

The TYAN Yellow River Series is an ultra high density twin server platform that featured with scalable, modular, space effective, manageable, efficient, flexibility and fast through put.

GT24-B8236-IL

B8236G24V4H-IL / B8236G24W4H-IL
B8236G24W4HR-IL (BTO)

1U Rack-Optimized Server Platform

Model Number	GT24-B8236-IL
Enclosure Form Factor	1U (25.4" in depth)
Supported CPU	(2) AMD Opteron™ 6300 Series (Abu Dhabi)
Chipset	AMD SR5690 + SP5100
Chipset Interconnection	HyperTransport™ Link 3.0
Number of DIMM Slot	16/ (8+8)
Memory Type (max. capacity)	R-DDR3 1600/1333/1066 w/ ECC (512GB) U-DDR3 1600/1333/1066 w/ ECC (128GB)
Storage Controller	LSI SAS2008 (SAS 6Gb/s) AMD SP5100 (SATA 3Gb/s)
RAID Support	RAID 0, 1, 1E, 10 (LSI Integrated RAID)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots	(2) FH/HL PCI-E Gen.2 x16 slots

Standard Model	Number of HDD Bay	Storage Backplane	Power Supply
B8236G24V4H-IL	(4) Hot-Swap 3.5"	4-port SAS/ SATA 6Gb/s	(1) 500W PSU
B8236G24W4H-IL	(4) Hot-Swap 3.5"	4-port SAS/ SATA 6Gb/s	(1) 500W PSU
B8236G24W4HR-IL (BTO)	(4) Hot-Swap 3.5"	4-port SAS/ SATA 6Gb/s	1+1) 450W RPSU

GT24-B8226

B8226G24V4H / B8226G24W4H

1U Rack-Optimized Server Platform

Model Number	GT24-B8226
Enclosure Form Factor	1U (25.4" in depth)
Supported CPU	(2) AMD Opteron™ 4300 Series (Seoul)
Chipset	AMD SR5690 + SP5100
Chipset Interconnection	HyperTransport™ Link 3.0
Number of DIMM Slot	12/ (6+6)
Memory Type (max. capacity)	R-DDR3 1600/1333/1066 w/ ECC (192GB) U-DDR3 1600/1333/1066 w/ ECC (96GB)
Storage Controller	LSI SAS2008 (SAS 6Gb/s) AMD SP5100 (SATA 3Gb/s)
RAID Support	RAID 0, 1, 1E, 10 (LSI Integrated RAID)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots	(2) FH/HL PCI-E Gen.2 x16 slots

Standard Model	Number of HDD Bay	Storage Backplane	Power Supply
B8226G24V4H-IL	(4) Hot-Swap 3.5"	4-port SAS/ SATA 6Gb/s	(1) 500W PSU
B8226G24W4H-IL	(4) Hot-Swap 3.5"	4-port SAS/ SATA 6Gb/s	(1) 500W PSU

YR190-B8228-X2

B8228Y190X2-045V4H

Model Number	YR190-B8228-X2
Enclosure Form Factor	1U (28.74" in depth) / 2 Nodes
Supported CPU (per node)	(2) AMD Opteron™ 4300 Series (Seoul)
Chipset (per node)	AMD SR5650 + SP5100
Chipset Interconnection (per node)	HyperTransport™ Link 3.0
Number of DIMM Slot (per node)	12/ (6+6)
Memory Type (max. capacity) (per node)	R-DDR3 1600/1333/1066 w/ ECC (192GB) U-DDR3 1600/1333/1066 w/ ECC (96GB)
Storage Controller (per node)	AMD SP5100 (SATA 3Gb/s)
Networking	(3) GbE (shared IPMI NIC)
PCI Expansion Slots (per node)	(1) HH/HL PCI-E Gen.2 x16

Standard Model	Number of HDD Bay	Storage Backplane	Power Supply
B8228Y190X2-045V4H	(4) Hot-swap 2.5" (per node)	4-port SAS/ SATA 6Gb/s (per node)	(1) 450W PSU (per node)

S8228

S8228GM3NR

Server Board

Processor	· Dual C32 sockets support AMD Opteron™ 4300 series processors (Seoul)
Chipset	· AMD SR5650 + SP5100
Memory	· (6+6) DIMM slots · Support up to 192GB R-DDR3 1600/1333/1066 w/ ECC · Support up to 96GB U-DDR3 1600/1333/1066 w/ ECC
Expansion	· (1) PCI-E Gen.2 x16 slot
Storage	· (4) SATA 3Gb/s ports
Network	· (3) GbE (via Intel® 82576EB and Intel® 82574L)
Video	· ASPEED Aspeed AST2050 Integrated Graphics
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· Proprietary 6.3" x 16.4" (160.02 x 416.56mm)

GT14-B8005-LE

B8005G14V2-LE

1U Rackmount Server Platform for SMB

Model Number	GT14-B8005-LE
Enclosure Form Factor	1U (15.5" in depth)
Supported CPU	(1) AMD Athlon II™ 610e
Chipset	AMD SR5650 + SP5100
Chipset Interconnection	HyperTransport™ Link 3.0
Number of DIMM Slot	4
Memory Type (max. capacity)	U-DDR3 1333/1066 w/ ECC (16GB)
Storage Controller	AMD SP5100 (SATA 3Gb/s)
Networking	(2) GbE (shared IPMI NIC)
PCI Expansion Slots	(1) FH/HL PCI-E Gen.2 x16 slot

Standard Model	Number of HDD Bay	Storage Backplane	Power Supply
B8005G14V2-LE	(2) Internal 2.5"	N/A	(1) 250W PSU

S8010

S8010WG M2NR / S8010GM2NR

Processor	· Single C32 socket support AMD Opteron™ 4300 series processors (Seoul)
Chipset	· AMD SR5670 + SP5100
Memory	· (6) DDR-III DIMM slots · Support up to 32GB of R-DDR3 1600/1333/1066 w/ ECC memory · Support up to 16GB of U-DDR3 1600/1333/1066 w/ ECC memory
Expansion	· (1) PCI-E Gen.2 x16 slot (x8 link) · (2) PCI-E Gen.2 x8 slots (x8 link) · (1) PCI 32/33MHz slot
Storage	· (6) SATA 3Gb/s ports · (8) SAS 6Gb/s ports by (2) Mini-SAS connectors (LSI SAS2008)
Network	· (2) GbE (via Intel® Intel® 82574L) · (1) IPMI FE (via Broadcom BCM5221)
Video	· ASPEED AST2050 Integrated graphics
Management	· ASPEED AST2050 (IPMI v2.0 compliant w/ iKVM)
Form Factor	· ATX (12" x 9.6", 305mm x 244mm)