



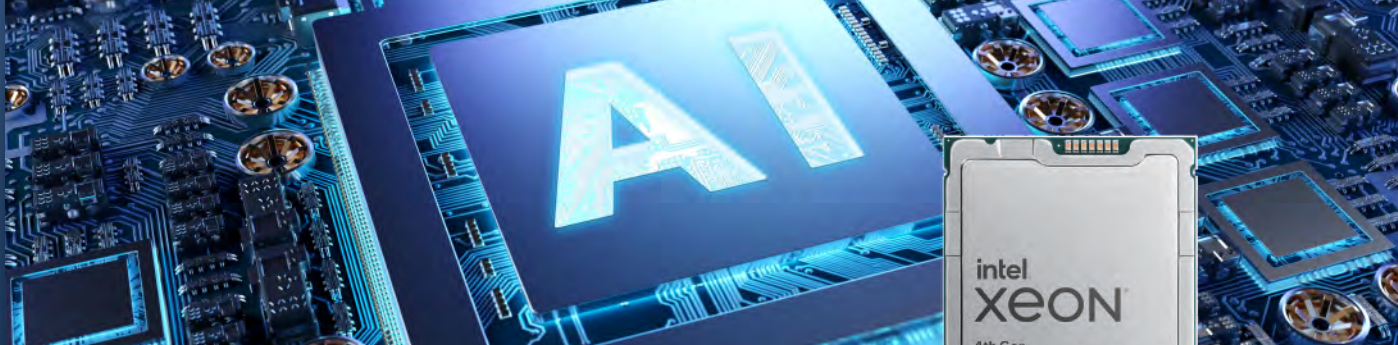
Thunder & Tempest Solutions

4th Gen Intel® Xeon® Scalable Processors

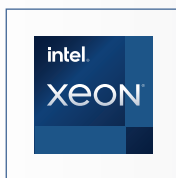


World Class Server Platforms





Leading performance with the most built-in accelerators



4th Gen Intel® Xeon® Scalable processors are designed to accelerate performance across the fastest-growing workloads that businesses depend on today. The processor is supported by a rich set of platform enhancements that drives the adoption of industry-changing technologies like DDR5 memory, advanced I/O with PCIe Gen 5 and Compute Express Link (CXL).

Built-in accelerators improve performance across AI, analytics, networking, storage, and HPC. By making the best use of CPU core resources, built-in accelerators can result in more efficient utilization and power efficiency advantages, helping businesses achieve their sustainability goals.

New Features of 4th Gen Intel® Xeon® Scalable processors

Intel® Advanced Matrix Extensions (Intel® AMX)

Significantly accelerate AI capabilities on the CPU with Intel Advanced Matrix Extensions (Intel AMX). Intel AMX is a built-in accelerator that improves the performance of deep learning training and inference on 4th Gen Intel® Xeon® Scalable processors, ideal for workloads like natural language processing, recommendation systems, and image recognition.

Intel® QuickAssist Technology (Intel® QAT)

Help reduce system resource consumption by providing accelerated cryptography, key protection, and data compression with Intel QuickAssist Technology (Intel QAT). By offloading encryption and decryption, this built-in accelerator helps free up processor cores and helps systems serve a larger number of clients.

Intel® Data Streaming Accelerator (Intel® DSA)

Drive high performance for storage, networking, and data-intensive workloads by improving streaming data movement and transformation

operations. Intel Data Streaming Accelerator (Intel® DSA) is designed to offload the most common data movement tasks that cause overhead in data center-scale deployments. Intel® DSA helps speed up data movement across the CPU, memory, and caches, as well as all attached memory, storage, and network devices.

Intel® Dynamic Load Balancer (Intel® DLB)

Improve the system performance related to handling network data on multi-core Intel® Xeon® Scalable processors. Intel® Dynamic Load Balancer (Intel® DLB) enables the efficient distribution of network processing across multiple CPU cores/threads and dynamically distributes network data across multiple CPU cores for processing as the system load varies. Intel® DLB also restores the order of networking data packets processed simultaneously on CPU cores.

Intel® In-Memory Analytics Accelerator (Intel® IAA)

Run database and analytics workloads faster, with potentially greater power efficiency. Intel In-Memory Analytics Accelerator (Intel® IAA) increases query throughput and decreases the memory footprint for in-memory database and big data analytics workloads. Intel® IAA is ideal for in-memory databases, open source databases and data stores like RocksDB, Redis, Cassandra, and MySQL.

Compute Express Link (CXL)

Reduce compute latency in the data center and lower TCO with Compute Express Link (CXL) 1.1 for next-generation workloads. CXL is an alternate protocol that runs across the standard PCIe physical layer and can support both standard PCIe devices as well as CXL devices on the same link. CXL provides a critical capability to create a unified, coherent memory space between CPUs and accelerators and will revolutionize how data center server architectures will be built for years to come.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary.

TYAN Brand Lines

Tyan is pleased to announce a new line of server barebones and motherboards designed to suit the needs of the channel and our system integration partners.

Thunder and Tempest products spanning five product segments:

- SX – Storage**
- HX – HPC**
- CX – Cloud**
- EX – Embedded**

Tyan continually develops a roadmap full of innovative new products. Check our website at www.tyan.com to stay up to date with our latest product offerings.

Thunder



The Tyan **Thunder** series is a line of server barebones based on Intel's latest technology including the Intel® Xeon® Scalable Processors. These barebones are designed to offer best-in-class server technology to our customers. Tyan Thunder server barebones are built to inventory and are warehoused locally in the USA.

Tempest



Tyan's **Tempest** line of motherboards are designed to pack the latest Intel's world-class server technology into off-the-shelf commodity chassis, providing an outstanding server building block for the widest possible range of applications. Like Tyan's Thunder server barebones, these motherboards are warehoused in the USA and are readily available in the channel.

Thunder HX FT65T-B5652



Pedestal/4U1S server platform designed for desktide HPC/GPGPU applications supporting up to 4 double-wide GPU cards

Model Number	FT65T-B5652
Enclosure Form Factor	Pedestal / 4U (25.59" in depth)
Supported CPU	(1) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	8
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x550-AT2) (-2T SKU only) + (1) 1000Base-T (Intel® i210-AT) + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 slots + (1) PCIe 3.0 x2 NVMe M.2 slot
Power Supply	(1) 2,000W (@220V _{AC}) ATX PSU

Standard Model	# Storage Bay	# FAN	Networking
B5652F65TV6E2H-2T-N	(6) 3.5" hot-swap SATA + (2) 2.5" hot-swap U.2	(3) hot-swap 12038 + (2) cold-swap 8038	(2) 10GBase-T + (1) 1000Base-T (1) 1000Base-T (IPMI)
B5652F65TV6E2H-G	(6) 3.5" hot-swap SATA + (2) 2.5" hot-swap U.2	(3) hot-swap 12038	(1) 1000Base-T + (1) 1000Base-T (IPMI)



Server Board

Tempest HX S5652



Single-socket HPC server board for multiple GPU cards deployment

Processor	• (1) 4 th Gen. Intel® Xeon® Scalable Processor
Memory	• (8) DDR5 DIMM slots
Expansion	• (4) PCIe 5.0 x16 slots • (1) PCIe 5.0 x8 slot (w/ x4 link) • (1) PCIe 5.0 M.2 connector for U.2 • (1) NVMe M.2 slot
Storage	• (6) SATA 6Gb/s
Network	• (2) 10GBase-T ports (Intel® x550-AT2) (-2T SKU only) • (1) 1000Base-T port (Intel® i210-AT) • (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
Video	• ASPEED AST2600 Integrated Graphics
Management	• ASPEED AST2600 iBMC w/ iKVM
Form Factor	• CEB 12" x 10.5"

Standard Model	SATA	NVMe	10GbE	GbE	BMC
S5652AGM3NRE-2T	6	(1) M.2 + (1) M.2	2	1	Yes
S5652AGMRE	6	(1) M.2 + (1) M.2	-	1	Yes

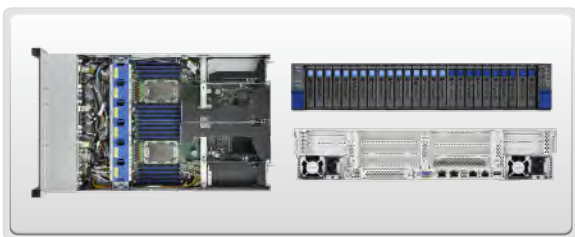
Transport HX TS75A-B7132



2U2S server platform with maximum memory capacity for in-memory computing and virtualization



Model Number	TS75A-B7132
Enclosure Form Factor	2U (29.53" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	32 / 16+16
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) or (2) 1000Base-T (2x Intel® i210-AT) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 slots (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1+1) 2,000W (@220V _{AC}) CRPS



Standard Model	# Storage Bay	# PCIe Slots	Networking
B7132T75AV10E16HR-2T	(10) 2.5" hot-swap SATA + (16) 2.5" hot-swap U.2	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7132T75AV10E16HR	(10) 2.5" hot-swap SATA + (16) 2.5" hot-swap U.2	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 1000Base-T + (1) 1000Base-T (IPMI)

Transport HX TS75-B7132



2U2S server platform with maximum memory capacity for in-memory computing and virtualization



Model Number	TS75-B7132
Enclosure Form Factor	2U (29.53" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	32 / 16+16
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) or (2) 1000Base-T (2x Intel® i210-AT) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 slots (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1+1) 1,600W (@220V _{AC}) CRPS



Standard Model	# Storage Bay	# PCIe Slots	Networking
B7132T75E8HR-2T	(8) 3.5" hot-swap SATA (up to 8x U.2)	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7132T75E8HR	(8) 3.5" hot-swap SATA (up to 8x U.2)	(4) PCIe 5.0 x16 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 1000Base-T + (1) 1000Base-T (IPMI)

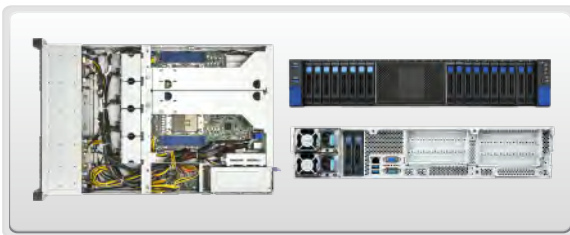
Thunder SX TS70A-B7136



2U2S server platform for high IOPs
cloud storage applications



Model Number	TS70A-B7136
Enclosure Form Factor	2U (27.56" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	16 / 8+8
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 slots (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1) 1,200W (@220V _{AC}) CRPS



Standard Model	# Storage Bay	# PCIe Slots	Networking
B7136T70AV12E8HR-2T	(12) 2.5" hot-swap SATA + (8) 2.5" hot-swap U.2	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7136T70AV12E8HR	(12) 2.5" hot-swap SATA + (8) 2.5" hot-swap U.2	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(1) 1000Base-T (IPMI)

Thunder SX TS70-B7136



2U2S server platform for cost-effective
cloud storage applications



Model Number	TS70-B7136
Enclosure Form Factor	2U (27.56" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	16 / 8+8
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 slots (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1) 1,200W (@220V _{AC}) CRPS

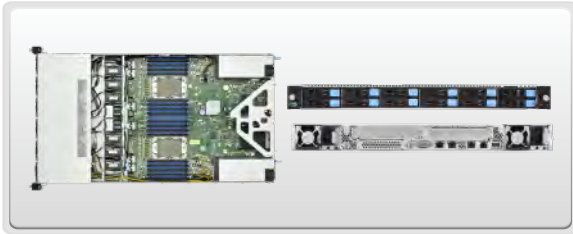


Standard Model	# Storage Bay	# PCIe Slots	Networking
B7136T70V10E4HR-2T	(12) 3.5" hot-swap SATA (up to 4x U.2) + (2) 2.5" hot-swap SATA (@ rear)	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7136T70V10E4HR	(12) 3.5" hot-swap SATA (up to 4x U.2) + (2) 2.5" hot-swap SATA (@ rear)	(2) PCIe 5.0 x16 + (2) PCIe 5.0 x8 + (1) PCIe 5.0 x4 + (1) OCP v3.0 mezz. + (2) M.2	(1) 1000Base-T (IPMI)

Thunder CX GC79A-B7132



1U2S server platform with maximum memory capacity for high-performance in-memory



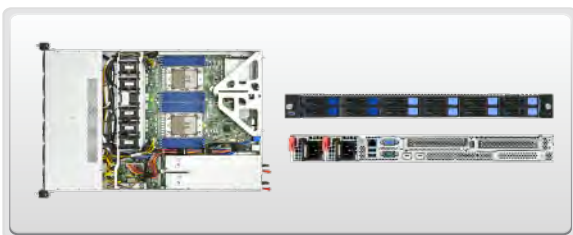
Model Number	GC79A-B7132
Enclosure Form Factor	1U (31.1" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	32 / 16+16
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) or (2) 1000Base-T (2x Intel® i210-AT) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(2) PCIe 5.0 x16 (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1+1) 1,200W (@220V _{AC}) CRPS

Standard Model	# Storage Bay	# PCIe Slots	Networking
B7132G79AE12HR-2T	(12) 2.5" hot-swap U.2 (up to 4x SATA)	(2) PCIe 5.0 x16 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7132G79AE12HR	(12) 2.5" hot-swap U.2 (up to 4x SATA)	(2) PCIe 5.0 x16 + (1) OCP v3.0 mezz. + (2) M.2	(2) 1000Base-T + (1) 1000Base-T (IPMI)

Thunder CX GC68A-B7136



1U2S server platform for mainstream cloud applications



Model Number	GC68A-B7136
Enclosure Form Factor	1U (26.77" in depth)
Supported CPU	(2) 4 th Gen. Intel® Xeon® Scalable Processor
Chipset	Intel® C741 PCH
Number of DIMM Slot	16 / 8+8
Memory Type (max. capacity)	Follow the latest 4 th Gen. Intel® Xeon® Scalable Processor Memory POR* *: Actual memory speed depends on populated CPU models
Storage Controller	Intel® C741 PCH
RAID Support	RAID 0, 1, 10, 5 (Intel® VROC 8.0)
Networking	(2) 10GBase-T (Intel® x710-AT2) ports + (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
PCI Expansion Slots	(2) PCIe 5.0 x16 slots (via risers) + (1) OCP v3.0 LAN mezzanine slot + (2) PCIe 4.0 x4 NVMe M.2 slots
Power Supply	(1+1) 850W RPSU

Standard Model	# Storage Bay	# PCIe Slots	Networking
B7136G68AV4E8HR-2T	(8) 2.5" hot-swap U.2 + (4) 2.5" hot-swap SATA	(2) PCIe 5.0 x16 + (1) OCP v3.0 mezz. + (2) M.2	(2) 10GBase-T + (1) 1000Base-T (IPMI)
B7136G68AV4E8HR	(8) 2.5" hot-swap U.2 + (4) 2.5" hot-swap SATA	(2) PCIe 5.0 x16 + (1) OCP v3.0 mezz. + (2) M.2	(1) 1000Base-T (IPMI)

Tempest HX S7130



Dual-socket mainstream server board in EEB form factor

Processor	• (2) 4 th Gen. Intel® Xeon® Scalable Processor
Memory	• (8+8) DDR5 DIMM slots
Expansion	• (2) PCIe 5.0 x16 slots • (3) PCIe 5.0 x8 slots
Storage	• (10) SATA 6Gb/s
Network	• (2) 10GBase-T ports (Intel® x710-AT2) (-2T SKU) • (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
Video	• ASPEED AST2600 Integrated Graphics
Management	• ASPEED AST2600 iBMC w/ iKVM
Form Factor	• EEB 12" x 13"

Standard Model	SATA	NVMe	10GbE	BMC
S7130GM2NRE-2T	10	(1) M.2	2	Yes
S7130GMRE	10	(1) M.2	-	Yes

Tempest CX S7136



Dual-socket rack-optimized server board for 1U/2U deployment

Processor	• (2) 4 th Gen. Intel® Xeon® Scalable Processor
Memory	• (8+8) DDR5 DIMM slots
Expansion	• (1) PCIe 5.0 x28 riser slot • (1) PCIe 5.0 x24 riser slot • (1) OCP v3.0 mezz. slot • (8) PCIe 5.0 MCIO x4 connectors for U.2 • (2) NVMe M.2
Storage	• (14) SATA 6Gb/s
Network	• (2) 10GBase-T ports (Intel® x710-AT2) (-2T SKU) • (1) 1000Base-T port dedicate for IPMI (Realtek® RTL8211FD-CG)
Video	• ASPEED AST2600 Integrated Graphics
Management	• ASPEED AST2600 iBMC w/ iKVM
Form Factor	• 12.15" x 14.18"

Standard Model	SATA	NVMe	10GbE	BMC
S7136GM2NRE-2T	14	(8) MCIO x4 + (2) M.2	2	Yes
S7136GMRE	14	(8) MCIO x4 + (2) M.2	-	Yes

Tempest EX S5565



Embedded workstation motherboard in micro ATX form factor

Processor	• (1) Intel® 12 th Gen. Core™ i3/i5/i7/i9 Processor
Memory	• (4) DDR4 DIMM slots
Expansion	• (1) PCIe 3.0 x16 slot • (2) PCIe 3.0 x8 slots (w/ x4 link) • (1) PCIe 3.0 x4 NVMe M.2 slot • (1) PCIe 3.0 x2 NVMe M.2 slot
Storage	• (6) SATA 6Gb/s
Network	• (1) 2500Base-T port (Intel® i225-LM) • (1) 1000Base-T port (Intel® i219-V)
Video	• (3) Display port
Management	• AMT Support
Form Factor	• Micro ATX 9.6" x 9.6"

Standard Model	SATA	NVMe	2.5GbE	GbE	Audio
S5565AG2NR	6	(2) M.2	1	1	7.1 Channel HD

Tempest EX S5567



Embedded motherboard in thin mini-ITX form factor

Processor	• (1) Intel® 12 th Gen. Core™ i3/i5/i7/i9 Processor
Memory	• (2) DDR4 SO-DIMM slots
Expansion	• (1) PCIe 3.0 x16 slot • (1) PCIe 3.0 x4 NVMe M.2 slot
Storage	• (3) SATA 6Gb/s
Network	• (1) 2500Base-T port (Intel® i225-LM) • (1) 1000Base-T port (Intel® i219-V)
Video	• (2) Display port
Form Factor	• Thin Mini-ITX 6.69" x 6.69"

Standard Model	SATA	NVMe	2.5GbE	GbE	Audio
S5567G2NR	3	(1) M.2	1	1	-



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