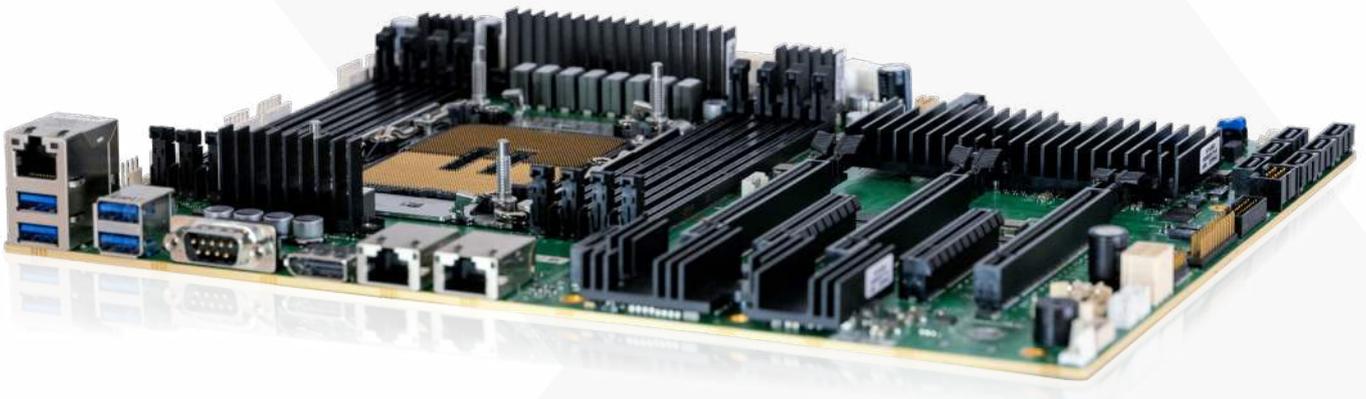# K9051-C741 ATX
Industrial Server Class
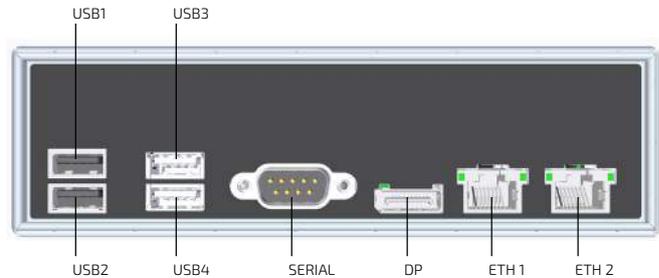

Intel® 4th/5th Generation Xeon® Scalable Processor(SP) with Intel® C741 chipset

- ❭ Up to 64 cores with maximum TDP 350W
- ❭ DDR5 memory up to 5600 MHz RDIMM, up to 768 GByte
- ❭ 5x PCIe Gen 5 expansion slots
- ❭ Dual LAN Intel® X710 10 GbE including teaming

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The Power of IoT

The server-class K9051 ATX is paired with the Intel® C741 chipset and supports Intel® 4th/5th Gen Intel® Xeon® scalable processors with up to 64 cores. With memory density up to 768 GByte and 5 PCIe Gen 5 expansion slots, today's most demanding applications 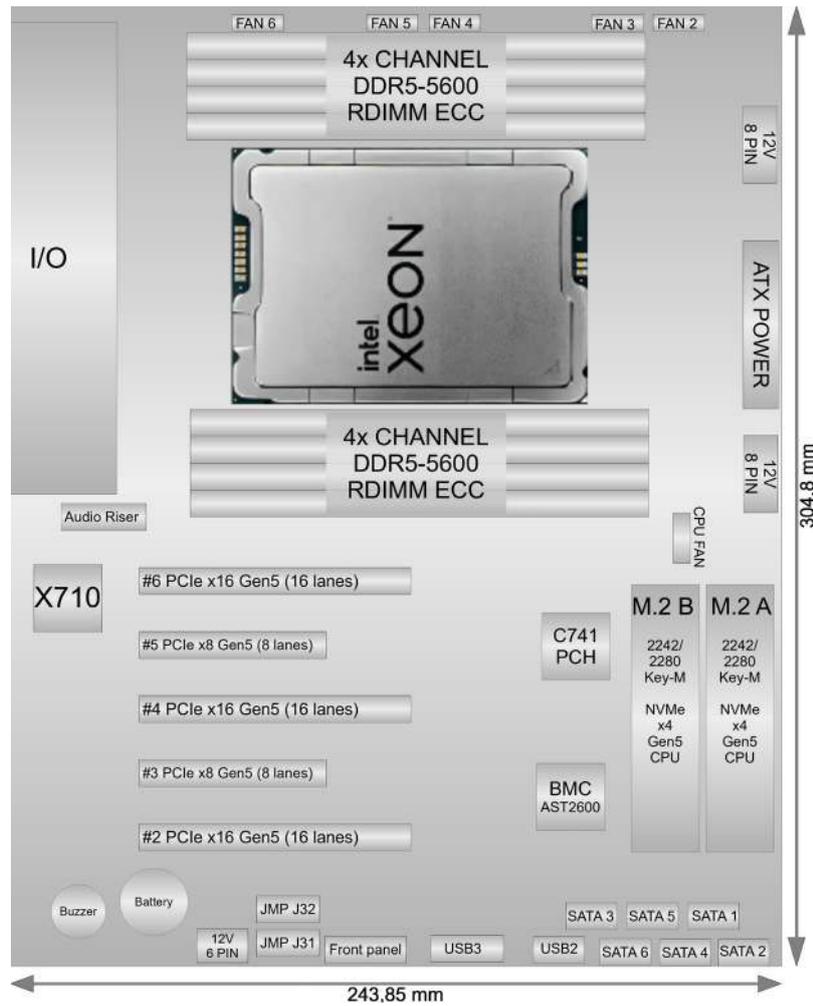including AI, imaging, sequencing and industrial processing are possible. Supports board management and monitoring via ASPEED A2600 using OpenBMC. The K9051 is designed for continuous 24/7 operation for 10 years in demanding environments.

- ❯ Intel® 4th/5th Generation Xeon® scalable processor
- ❯ Intel® C741 Chipset
- ❯ 8x DDR5 5600 MT/s RDIMM Independent Channels
- ❯ 3x PCIe Gen5 x16 slots and 2 x PCIe Gen5 x8 slots
- ❯ 2x 10GBASE-T RJ45 Ethernet ports
- ❯ 6x SATA 6G incl. RAID support
- ❯ 4x Type A connectors USB 3.2 Gen1 (5Gbps)
- ❯ DisplayPort connector via AST2600 video output
- ❯ Discrete Infineon TPM version 2.0

Technical Information

SYSTEM	PROCESSOR	Intel® 4th/5th Gen Xeon® SP up to 64 cores
		Socket LGA4677
	CHIPSET	Up to 350W TDP
	MEMORY	Intel® C741
		8x RDIMM Sockets DDR5-5600, max. 768 GBytes,
		8x Independent Channels registered, ECC
VIDEO	GRAPHICS	1 DisplayPort 1.1a/1920x1200 32bpp@60Hz
		ASPEED AS2600
AUDIO – OPTIONAL ADD-IN CARD	AUDIO CODEC	Tempo Semiconductor 92HD68D
	AUDIO INTERFACE	8-Channel (HD), line-in, line-out, mic in, 3.5mm jack, 9- pin header
NETWORK CONNECTION	ETHERNET 1/2	Intel® X710 with dual 100/1000/10000 MBit/s
		PXE Support & Teaming
PERIPHERAL	USB	4x USB 3.1 Gen 1 (rear I/O, Type-A)
		2x USB 3.1 Gen 1 (by header)
	SERIAL PORT	1x RS232 (rear I/O, DB9 connector)
STORAGE & EXPANSION	SATA	6x SATA III Interface (up to 6GBit/s), NCQ, AHCI, Intel VROC SATA RAID 0/1/5/10
	M.2 PCIe/NVMe	2x M.2 2280/2242 (Key-M, PCIe/NVMe Gen5 x4 SSD modules),
		Intel VMD NVMe RAID 0/1 (license required)
	PCIe SLOTS	3x 16 lanes Gen5
		2x 8 lanes Gen5 ("closed slot")
POWER	CONNECTOR	ATX (Multirail) 24- pin, 2x 8-pin, 1x 6-pin sockets
FIRMWARE	BIOS	AMI Aptio 5.x (UEFI) BIOS
		Modified and adapted by Kontron; Recovery BIOS, SM-BIOS (DMI), BIOS and CPU Microcode Update, Quick Boot, Logo Boot, Quiet Boot, Plug & Play, Automatic DRAM and PCIe Configuration, BIOS Support for S.M.A.R.T., Advanced Power Management, Wake on time from S5. HW No legacy OS support, no MBR support (UEFI only)
	WATCHDOG	Onboard via BMC
	REAL TIME CLOCK	Integrated
	TPM	TPM V2.0, Discrete, Infineon SLM 9670AQ2.0
SYSTEM CONTROL	FP HEADER	1x Header for Reset button, HDD LED & External Speaker, Power button, Power LED
	FAN	6x 4-pin header, controlled via BMC
	SECURITY	Secure Boot, Recovery BIOS, BIOS Password, Boot Sequence Control, Write Protection for Flash BIOS, Trusted Platform Module (TPM)
SOFTWARE	OS SUPPORT	Linux x86_64
		Windows Server 2022
MECHANICAL ENVIRONMENTAL CERTIFICATION	DIMENSIONS (LxW)	ATX: 9.6"x12" (244x305 mm)
	OPERATING TEMPERATURE	0 °C - 60 °C
	EMC & SAFETY	FCC Part 15 Class A, ICES-003 Class A, cCSAus
		IEC62368-1, CE/UKCA (Planned)

Connector/Socket Diagram

FAN 6 **FAN 5** **FAN 4** **FAN 3** **FAN 2**

4x CHANNEL DDR5-5600 RDIMM ECC

I/O

intel XEON

12V 8 PIN

ATX POWER

12V 8 PIN

4x CHANNEL DDR5-5600 RDIMM ECC

CPU FAN

Audio Riser

X710

#6 PCIe x16 Gen5 (16 lanes)

#5 PCIe x8 Gen5 (8 lanes)

#4 PCIe x16 Gen5 (16 lanes)

#3 PCIe x8 Gen5 (8 lanes)

#2 PCIe x16 Gen5 (16 lanes)

C741 PCH

BMC AST2600

M.2 B — 2242/2280 Key-M — NVMe x4 Gen5 CPU

M.2 A — 2242/2280 Key-M — NVMe x4 Gen5 CPU

Buzzer Battery

JMP J32

12V 6 PIN JMP J31 Front panel USB3

USB2

SATA 3 SATA 5 SATA 1

SATA 6 SATA 4 SATA 2

304,8 mm

243,85 mm

Ordering Information

MODEL	PART NO.	DESCRIPTION
K9051-C741 ATX	1070-9666	Intel® 4th/5th Generation Xeon SP with Intel® C741 Chipset
ACCESSORIES	1073-8944	Audio Feature Riser Board

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