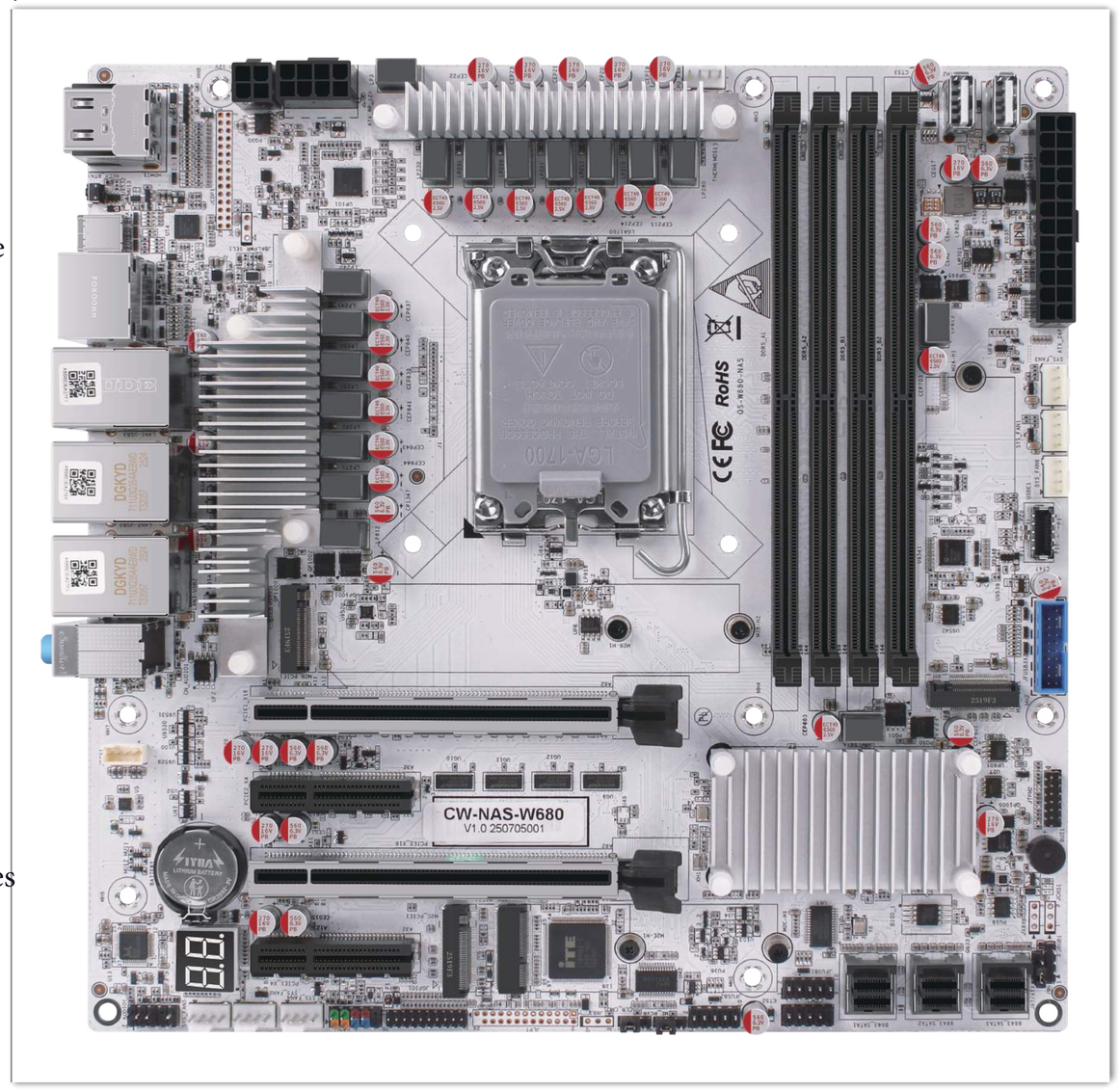
Motherboard core features：

NAS-W680-10G

- 244mm x 244mm standard M-ATX form factor ATX24+8+4Pin power supply
- Intel W680 chipset: Workstation/NAS server-grade, a stable choice for commercial platforms
- LGA1700 socket compatible with Intel 12th/13th/14th generation CPU processors
- 4 U-DIMM DDR5 slots support pure ECC server memory 5600MHz backward compatible
- 1 10G lan port Marvell AQC113CS chip 10G network speed
- Dual 2.5G network ports Intel i226-V/i226-LM supports vPro remote management function
- 3 SFF-8643, 2 native, and 1 ASM1164 to SATA, totaling 12 SATA
- 3 M.2 slots, 2 PCIe 4.0 x4 signals, 1 PCIe 3.0 x4 signal
- 2 PCI-Ex16 slots: Gen5 x16 signal when one is used, or Gen4 x8 signal when both are used
- 1 Type-C (USB3.2+DP) with theoretical speed of 10G and supports display
- Dual HDMI2.0 + dual DP1.4a + Type-C (DP signal) for a total of five display interfaces
- 2 USB3.2 (10G) + 2 USB3.2 (10G) + 2 USB2.0, a total of 6 USB ports
- Built-in 1 USB3.0 female socket + 1 Type-E female socket
- 1 ALC897 audio chip supports microphone input and audio output

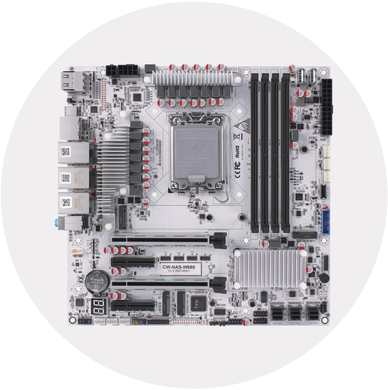


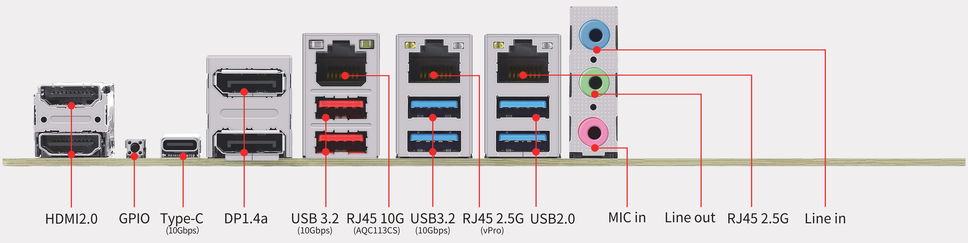
intel W680 | PCI-E x16 | PCI-E x4 | 2.5G Giga LAN | 10G Giga LAN | HDMI 2↑ | DP 2↑ | SFF-8643 12 bay | DDR5 ECC | Type-C 10G

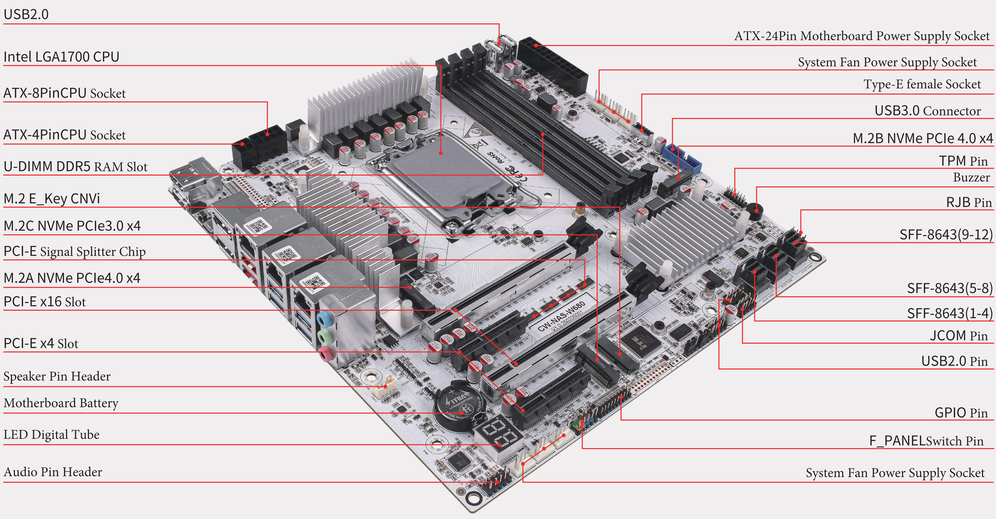
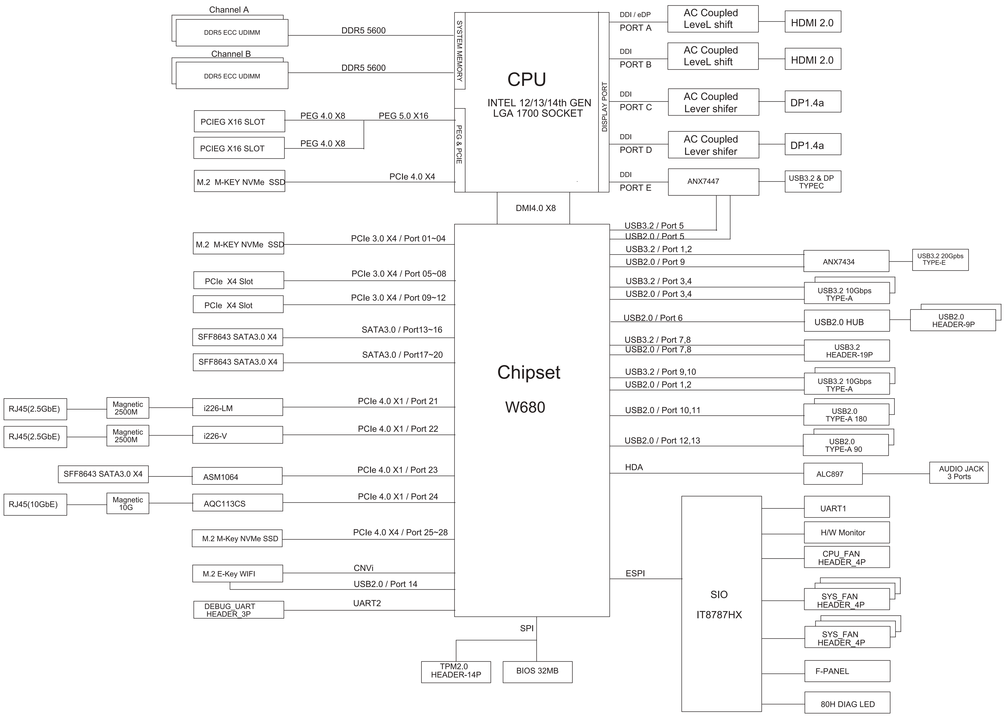
Specifications：

Specification	
Motherboard Features	- 8-layer white PCB - Fully protected (supports all USB, audio, and network interfaces) - PCI-E x16 signals can be automatically split into two Gen4 x8 signals and one Gen4 x8 signal.
CPU	- Supports Intel 12th/13th/14th generation LGA1700 desktop CPUs - Note: vPro functionality requires an i5-1X500 processor or higher. F series processors are not supported and require integrated graphics. - Note: 125W TDP processors are supported by default; K series processors are not recommended. - Note: 13500T processors with a TDP rating are recommended for low power consumption and long-term use.
RAM	- Supports four standard desktop UDIMM-based DDR5 memory modules with pure ECC server memory error correction technology - Four U-DIMM DDR5 quad-channel memory slots - Default DDR5 support: 5600MHz (Note: 12th-generation processors only support 4800MHz) - Maximum capacity per module: 32GB; maximum capacity of four modules: 128GB
SSD	- 2 * M.2 NVMe PCIe4.0 x4 signals / 1 * M.2 NVMe PCIe3.0 x4, a total of 3 M.2s - 3 * SFF-8643 sockets. SFF-8643-1 and 2 sockets are native signals. SFF-8643-3 is an ASM1164 expansion signal.
LAN	- 1 * MARVELL AQC113CS 10G RJ45 port - 1 * Intel i226-V 2.5G RJ45 port - 1 * Intel i226-LM 2.5G RJ45 port (supports vPro) for remote management
Display	- The CPU determines the integrated graphics - 2 HDMI2.0 ports support 4K 4096 x 2160 @ 60Hz - 2 DP 1.4 ports support 8K 7680 x 4320 @ 60Hz - 1 Type-C port supports 8K 7680 x 4320 @ 60Hz
Expansion	- Two PCIe 3.0 x4 slots support x4 network cards and expansion cards. - Two PCI-E x16 slots support array cards, graphics cards, and network cards. - A single slot supports PCIe 5.0 x16 signal, but when fully populated, it converts to PCIe 4.0 x8 signal.
Powered by	- ATX24Pin (motherboard power supply) / ATX8Pin+ATX4Pin (CPU enhanced power supply)
Structure	- ITX form factor: 9.6-in * 9.6-in, 244mm * 244mm - Solid-state capacitor design
Operating System	- Supports Microsoft® Windows 10/11 64-bit - Compatible with Linux - Supports EFI mode only
Size	244mm（W）X 244mm（L）

Specification	
Onboard interfaces	- 2 * Vertical USB 2.0 Slots - 1 * ATX-8Pin CPU Power Supply Socket - 1 * ATX-4Pin CPU Power Supply Socket (CPU Enhanced Power Supply) - 1 * LGA1700 CPU Socket - 4 * UDIMM DDR5 Memory Slots - 4 * PCI-E Signal Splitter Chips - 2 * M.2 NVMe PCIe 4.0 x4 Slots - 2 * PCI-E x16 Slots - 2 * PCI-E x4 Slots - 1 * Speaker Pin Header - 1 * Motherboard Battery - 1 * LED Display - 1 * Audio Pin Header - 6 * System Fan Power Supply Sockets - 1 * CPU Fan Power Supply Socket - 1 * ATX-24Pin Motherboard Power Supply Socket - 1 * Type-E Female Socket - 1 * USB 3.0 Female Socket - 1 * M.2 NVMe PCIe 3.0 x4 Slots - 1 * TPM pin header - 1 * Buzzer - 1 * RGB pin header - 3 * SFF-8643 - 1 * JCOM pin header - 1 * USB 2.0 pin header - 1 * M.2 E-Key CNVi WiFi - 1 * GPIO pin header - 1 * F_PANEL power on/off pin header
IO interfaces	- 2 * HDMI 2.0 ports - 1 * GPIO button - 1 * Type-C (USB 3.2 Gen2 10Gbps theoretical speed) - 2 * DP 1.4a ports - 1 * 10G RJ45 Ethernet port - 2 * 2.5G RJ45 Ethernet ports - 2 * USB 3.2 red (Gen2 10Gbps theoretical speed) - 2 * USB 3.2 blue (Gen2 10Gbps theoretical speed) - 2 * USB 2.0 blue ports - 1 * blue (Line in audio input) / 1 * green (Line out audio output) / 1 * red (MIC in microphone)







PCIE resource block diagram