

|                                          |                                                                 |
|------------------------------------------|-----------------------------------------------------------------|
| Name                                     | AMD Ryzen™ 5 9600X                                              |
| Family                                   | Ryzen                                                           |
| Series                                   | Ryzen 9000 Series                                               |
| Form Factor                              | Desktops, Boxed Processor                                       |
| Market Segment                           | Enthusiast Desktop                                              |
| AMD PRO Technologies                     | No                                                              |
| Regional Availability                    | Global                                                          |
| Former Codename                          | Granite Ridge AM5                                               |
| Processor Architecture                   | Zen 5                                                           |
| # of CPU Cores                           | 6                                                               |
| Multithreading (SMT)                     | Yes                                                             |
| # of Threads                             | 12                                                              |
| Max. Boost Clock                         | Up to 5.4 GHz                                                   |
| Base Clock                               | 3.9 GHz                                                         |
| L1 Cache                                 | 480 KB                                                          |
| L2 Cache                                 | 6 MB                                                            |
| L3 Cache                                 | 32 MB                                                           |
| Default TDP                              | 65W                                                             |
| Processor Technology for CPU Cores       | TSMC 4nm FinFET                                                 |
| Processor Technology for I/O Die         | TSMC 6nm FinFET                                                 |
| Package Die Count                        | 2                                                               |
| Unlocked for Overclocking                | Yes                                                             |
| AMD EXPO™ Memory Overclocking Technology | Yes                                                             |
| Precision Boost Overdrive                | Yes                                                             |
| Curve Optimizer Voltage Offsets          | Yes                                                             |
| AMD Ryzen™ Master Support                | Yes                                                             |
| CPU Socket                               | AM5                                                             |
| Supporting Chipsets                      | A620 , X670E , X670 , B650E , B650 , X870E , X870 , B840 , B850 |
| CPU Boost Technology                     | Precision Boost 2                                               |
| Instruction Set                          | x86-64                                                          |

|                                    |                                                                                                                          |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Supported Extensions               | AES , AMD-V , AVX , AVX2 , AVX512 , FMA3 , MMX-plus , SHA , SSE , SSE2 , SSE3 , SSE4.1 , SSE4.2 , SSE4A , SSSE3 , x86-64 |
| Thermal Solution (PIB)             | Not Included                                                                                                             |
| Recommended Cooler                 | Premium air cooler recommended for optimal performance                                                                   |
| Max. Operating Temperature (Tjmax) | 95°C                                                                                                                     |
| Launch Date                        | 08/08/2024                                                                                                               |
| *OS Support                        | Windows 11 - 64-Bit Edition , Windows 10 - 64-Bit Edition , RHEL x86 64-Bit , Ubuntu x86 64-Bit                          |

Connectivity

|                                               |                                                                                                                                                      |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Native USB 3.2 Gen 2 (10Gbps)                 | 4                                                                                                                                                    |
| Native USB 2.0 (480Mbps)                      | 1                                                                                                                                                    |
| PCI Express® Version                          | PCIe® 5.0                                                                                                                                            |
| Native PCIe® Lanes (Total/Usable)             | 28 , 24                                                                                                                                              |
| Additional Usable PCIe Lanes from Motherboard | <div>X870E 8x Gen4</div> <div>X870 4x Gen4</div> <div>X670E 12x Gen4</div> <div>X670 12x Gen4</div> <div>B650E 8x Gen4</div> <div>B650 8x Gen4</div> |
| NVMe Support                                  | Boot , RAID0 , RAID1 , RAID5 , RAID10                                                                                                                |
| System Memory Type                            | DDR5                                                                                                                                                 |
| Memory Channels                               | 2                                                                                                                                                    |
| Max. Memory                                   | 192 GB                                                                                                                                               |
| System Memory Subtype                         | UDIMM                                                                                                                                                |
| Max Memory Speed                              | <div>2x1R DDR5-5600</div> <div>2x2R DDR5-5600</div> <div>4x1R DDR5-3600</div> <div>4x2R DDR5-3600</div>                                              |
| ECC Support                                   | Yes (Requires mobo support)                                                                                                                          |

Graphics Capabilities

|                     |                      |
|---------------------|----------------------|
| Graphics Model      | AMD Radeon™ Graphics |
| Graphics Core Count | 2                    |

|                                         |          |
|-----------------------------------------|----------|
| Graphics Frequency                      | 2200 MHz |
| USB Type-C® DisplayPort™ Alternate Mode | Yes      |

Product IDs

|                  |                  |
|------------------|------------------|
| Product ID Boxed | 100-100001405WOF |
| Product ID Tray  | 100-000001405    |

Key Features

|                        |                                                |
|------------------------|------------------------------------------------|
| Supported Technologies | AMD EXPO™ Technology , AMD Ryzen™ Technologies |
|------------------------|------------------------------------------------|