GPU Accelerator Capabilities *

Release 2023 R2

***** Used in support of the CPU to process certain calculations and key solver computations for faster performance during a solution.
- Acceleration can be used for both shared-memory parallel processing (shared-memory Ansys) and distributed-memory parallel processing (Distributed Ansys).
- Acceleration is available for both Windows and Linux.

Support by Application

AVxcelerate supports NVIDIA's CUDA-enabled series workstation and server cards.

Ansys EMIT and **EMIT Classic** support NVIDIA CUDA-enabled workstation, data center and server cards.

Fluent supports NVIDIA's CUDA-enabled workstation, data center and server cards.

HFSS Frequency-domain and Time-domain solvers support NVIDIA CUDA-enabled workstation, data center, and server cards.

HFSS SBR+ solver supports NVIDIA CUDA-enabled workstation, data center, and server cards.

ICEPAK supports NVIDIA's CUDA-enabled workstation, data center, and server cards.

Maxwell solvers support NVIDIA CUDA-enabled workstation, data center, and server cards.

Mechanical APDL supports the AMD Instinct MI Series Accelerators and NVIDIA's CUDA-enabled workstation, data center, and server cards. When using the sparse solver or eigen solvers based on the sparse solver with NVIDIA cards additional considerations apply (please consult the ANSYS installation guide for details).

Polyflow supports NVIDIA's CUDA-enabled workstation, data center, and server cards.

Cards Tested **

The following cards have been tested by ANSYS, Inc.

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System Version	Notes
AVxcelerate	Nvidia	GV100	Linux x64	Ubuntu 20.04	
		P5200	Windows x64	Windows 10	
		RTX 5000	Windows x64	Windows 10	
		RTX 6000	Windows x64	Windows 10	
				Windows 11	
			Linux x64	CentOS 7.9	
				Ubuntu 20.04	
		RTX 8000	Linux x64	CentOS 7.8	
		RTX A5000	Windows x64	Windows 10	
			Linux x64	Ubuntu 20.04	
		RTX A5500	Windows x64	Windows 11	
		RTX A6000	Linux x64	Ubuntu 20.04	

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System Version	Notes
EMIT and **EMIT Classic**	Nvidia	A100	Windows x64	Windows Server 2019	
		A6000	Windows x64	Windows Server 2019	
		GP100	Windows x64	Windows 10	
		P40	Windows x64	Windows Server 2019	
		P100	Windows x64	Windows Server 2022	
		P4000	Windows x64	Windows 10	
		RTX 6000	Windows x64	Windows Servers 2019	
		V100	Windows x64	Windows Server 2019	
Fluent	Nvidia	A100	Linux x64	CentOS 7.9	
		P4000	Linux x64	SLES 15 SP4	
		RTX 4000	Windows x64	Windows 11	
		RTX 6000	Windows x64	Windows 11	
			Linux x64	SLES 12 SP5	
HFSS (Frequency-domain solver, Time-domain solver)	Nvidia	A100	Windows x64	Windows Server 2019	
				Windows Server 2022	
			Linux x64	Ubuntu 20.04	
		GV100	Linux x64	Ubuntu 20.04	
		P40	Windows x64	Windows Server 2022	
		P100	Windows x64	Windows Server 2022	
			Linux x64	CentOS 7.9	
		RTX A6000	Windows x64	Windows Server 2019	
		RTX 6000	Windows x64	Windows Server 2019	
			Linux x64	Red Hat 8.5	
		V100	Windows x64	Windows Server 2019	
			Linux x64	Ubuntu 20.04	

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System version	Notes
HFSS SBR+ solver	Nvidia	A100	Windows x64	Windows Server 2019	
				Windows Server 2022	
			Linux x64	Ubuntu 20.04	
		GV100	Linux x64	Ubuntu 20.04	
		P40	Windows x64	Windows Server 2022	
		P100	Windows x64	Windows Server 2022	
			Linux x64	CentOS 7.9	
		RTX 6000	Windows x64	Windows Server 2019	
			Linux x64	Red Hat 8.5	
		RTX A6000	Windows x64	Windows Server 2019	
		V100	Windows x64	Windows Server 2019	
			Linux x64	Ubuntu 20.04	
Icepak	Nvidia	8000P-8Q	Windows x64	Windows 10	
		A2000	Windows x64	Windows 10	
		GV100	Linux x64	Ubuntu 20.04	
		K40m	Windows x64	Windows Server 2019	
		M4000	Windows x64	Windows 10	
			Linux x64	CentOS 7.9	
		P40	Windows x64	Windows Server 2022	
		P100	Linux x64	CentOS 7.9	
		RTX 6000	Linux x64	Red Hat 8.5	
		V100	Windows x64	Windows Server 2019	
			Linux x64	Ubuntu 20.04	
Maxwell	Nvidia	A100	Windows x64	Windows Server 2019	
				Windows Server 2022	
			Linux x64	Ubuntu 20.04	
		GV100	Linux x64	Ubuntu 20.04	
		P40	Windows x64	Windows Server 2022	
		P100	Windows x64	Windows Server 2022	
			Linux x64	CentOS 7.9	
		RTX 6000	Windows x64	Windows Server 2019	
			Linux x64	Red Hat 8.5	
		RTX A6000	Windows x64	Windows Server 2019	
		V100	Windows x64	Windows Server 2019	
			Linux x64	Ubuntu 20.04	

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System version	Notes
Mechanical APDL	AMD	MI100	Linux x64	Red Hat 8.6	
		MI210	Linux x64	Red Hat 8.7	
	Nvidia	A100	Windows x64	Windows Server 2019	
			Linux x64	CentOS 7.9	
				Red Hat 7.9	
		H100	Windows x64	Windows Server 2022	
			Linux x64	CentOS 7.9	
		P100	Windows x64	Windows 10	
			Linux x64	CentOS 7.9	
		V100	Linux x64	CentOS 7.9	
Polyflow	Nvidia	A100 (dual)	Windows x64	Windows Server 2022	
		GV100	Windows x64	Windows 11	
		P4000	Linux x64	Ubuntu Server 20.04	
		P6000 (dual)	Windows x64	Windows 10	
		RTX 4000	Windows x64	Windows 10	
				Windows 11	
			Linux x64	Red Hat 7.9	
				Red Hat 8.6	
				SLES 12.5	
				SLES 15.4	
				Ubuntu Server 22.04	
		RTX A4000	Windows x64	Windows 11	
			Linux x64	SLES 15.4	

** The performance benefit of using a GPU Accelerator will depend on the card selected and the overall system configuration.