



## GPU Accelerator Capabilities \*

Release 2022 R1

\* 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 Quadro series workstation and server cards.

**Ansys EMIT** and **EMIT Classic** supports NVIDIA Data Center GPUs of the Ampere series and Tesla GPUs of the Volta, Pascal, Maxwell, and Kepler generations. NVIDIA Workstation GPUs of the RTX and Quadro families are supported by EMIT.

**Fluent** supports NVIDIA's CUDA-enabled Tesla and Quadro series workstation and server cards.

**HFSS** Frequency-domain and Time-domain solvers support NVIDIA Data Center GPUs of the Ampere series and Tesla GPUs of the Volta, Pascal, and Kepler generations. NVIDIA Workstation RTX and Quadro GPUs for all generations are not supported except for Quadro GV100.

**HFSS SBR+ solver** supports NVIDIA Data Center GPUs of the Ampere series and Tesla GPUs of the Volta, Pascal, Maxwell, and Kepler generations. NVIDIA Workstation GPUs of the RTX and Quadro families are supported by the HFSS SBR+ solver.

**ICEPAK** supports NVIDIA's CUDA-enabled Tesla and Quadro series workstation and server cards.

**Maxwell** solvers support NVIDIA Data Center GPUs of the Ampere series and Tesla GPUs of the Volta, Pascal, and Kepler generations. NVIDIA Workstation RTX and Quadro GPUs for all generations are not supported except for Quadro GV100.

**Mechanical APDL** supports NVIDIA's CUDA-enabled Tesla and Quadro series workstation 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 Tesla and Quadro series workstation and server cards.

## Cards Tested \*\*

The following NVIDIA Cards have been tested by Ansys, Inc.

Application	Card / GPU	Tested Platform	Tested Operating System Version	Notes
EMIT and EMIT Classic	A100	Windows x64	Windows Server 2019	
	A5000	Linux x64	Red Hat 7.8	
	A6000	Windows x64	Windows Server 2019	
	GP100	Windows x64	Windows 10	
	GV100	Linux x64	Red Hat 8.2	
	K40M	Windows x64	Windows Server 2016	
	K80	Windows x64	Windows Server 2019	
	M4000	Windows x64	Windows 10	
	P40	Windows x64	Windows Server 2019	
	P100	Windows x64	Windows Server 2016	
	P4000	Windows x64	Windows 10	
	RTX 6000	Windows x64	Windows Server 2016	
	RTX 8000	Linux x64	CentOS 7.7	
V100	Windows x64	Windows Server 2019		
AVXCELERATE	P5200	Windows x64	Windows 10	
	RTX 5000	Windows x64	Windows 10	
	RTX 6000	Windows x64	Windows 10	
		Linux x64	CentOS 7.9	
	RTX A5000	Windows x64	Windows 10	
Fluent	GV100	Linux x64	Red Hat 8.4	
	P4000	Windows x64	Windows 10	
		Linux x64	Red Hat 7.7	
			Red Hat 8.4	
	RTX 4000	Windows x64	Windows 10	
		Linux x64	Red Hat 8.4	
	RTX 6000	Windows x64	Windows 10	
		Linux x64	SLES 12 SP5	
	RTX 8000	Windows x64	Windows 10	
	RTX A4000	Linux x64	Red Hat 7.8	
RTX A6000	Linux x64	Red Hat 8.3		

Application	Card / GPU	Tested Platform	Tested Operating System Version	Notes
<b>HFSS</b> (Frequency-domain solver, Time-domain solver)	A100	Windows x64	Windows Server 2019	
		Linux x64	CentOS 8.3	
	GV100	Linux x64	CentOS 8.4	
	K80	Windows x64	Windows Server 2019	
		Linux x64	CentOS 7.7	
	P40	Windows x64	Windows Server 2016	
		Linux x64	CentOS 8.1	
	P100	Windows x64	Windows Server 2016	
		Linux x64	CentOS 7.9	
	RTX 6000	Windows x64	Windows Server 2019	
	RTX A6000	Windows x64	Windows Server 2019	
	V100	Windows x64	Windows Server 2019	
		Linux x64	CentOS 8.3	
	<b>HFSS SBR+ solver</b>	A100 <sup>1</sup>	Windows x64	Windows Server 2019
Linux x64			CentOS 8.3	
GV100		Linux x64	CentOS 8.4	
K80		Windows x64	Windows Server 2019	
		Linux x64	CentOS 7.7	
P40		Windows x64	Windows Server 2016	
		Linux x64	CentOS 8.1	
P100		Windows x64	Windows Server 2016	
		Linux x64	CentOS 7.9	
P4000		Linux x64	CentOS 8.1	
RTX 6000		Windows x64	Windows Server 2019	
RTX 8000		Linux x64	CentOS 7.7	
RTX A6000		Windows x64	Windows Server 2019	
V100		Windows x64	Windows Server 2019	
	Linux x64	CentOS 8.3		

Application	Card / GPU	Tested Platform	Tested Operating System version	Notes
<b>Icepak</b>	A100	Linux x64	Red Hat 7.8	
	GV100	Linux x64	Red Hat 8.2	
	K80	Windows x64	Windows Server 2019	
	K4000	Windows x64	Windows 10	
	M4000	Windows x64	Windows 10	
		Linux x64	CentOS 7.9	
	P40	Windows x64	Windows Server 2019	
	P100	Windows x64	Windows Server 2016	
	RTX 6000	Linux x64	SLES 15 SP1	
	RTX A6000	Windows x64	Windows Server 2019	
	V100	Windows x64	Windows Server 2019	
	Linux x64	CentOS 7.7		
<b>Maxwell</b>	A100	Windows x64	Windows Server 2019	
		Linux x64	CentOS 8.3	
	GV100	Linux x64	CentOS 8.4	
	K80	Windows x64	Windows Server 2019	
		Linux x64	CentOS 7.7	
	P40	Windows x64	Windows Server 2016	
		Linux x64	CentOS 8.1	
	P100	Windows x64	Windows Server 2016	
		Linux x64	CentOS 7.9	
	RTX A6000	Windows x64	Windows Server 2019	
	RTX 6000	Windows x64	Windows Server 2019	
V100	Windows x64	Windows Server 2019		
	Linux x64	CentOS 8.3		
<b>Mechanical APDL</b>	A30	Linux x64	Red Hat 7.8	
	A100	Windows x64	Windows Server 2019	
		Linux x64	Red Hat 7.8	
	A4000	Linux x64	Red Hat 7.8	
	A5000	Linux x64	Red Hat 7.8	
	A6000	Windows x64	Windows Server 2019	
	P100	Windows x64	Windows 10	
		Linux x64	CentOS 7.9	
V100	Windows x64	Windows Server 2016		

Application	Card / GPU	Tested Platform	Tested Operating System version	Notes
<b>Polyflow</b>	A100	Windows x64	Windows Server 2019	
	GV100	Windows x64	Windows 10	
		Linux x64	Red Hat 7.9	
	M4000	Linux x64	SLES 12 SP5	
	P4000	Linux x64	CentOS 8.1	
			Red Hat 8.3	
			SLES 15 SP2	
	P6000 (Dual)	Windows x64	Windows 10	
	RTX 3090	Linux x64	Red Hat 7.8	
	RTX 4000	Windows x64	Windows 10	
Linux x64		Red Hat 7.9		
		SLES 12 SP5		

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