



GPU Accelerator Capabilities *

Release 2022 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 Quadro 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 NVIDIA Cards have been tested by Ansys, Inc.

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System Version	Notes
AVxcelerate	Nvidia	GV100	Linux x64	CentOS 7.7	
				Ubuntu 20.04 LTS	
		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 LTS	
		RTX 8000	Linux x64	CentOS 7.8	
		RTX A5000	Windows x64	Windows 10	

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	
		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 A4500	Linux x64	Red Hat 8.2	
		RTX 6000	Windows x64	Windows Servers 2016 & 2019	
		RTX 8000	Linux x64	CentOS 7.7	
	V100	Windows x64	Windows Server 2019		
Fluent	Nvidia	A100	Linux x64	CentOS 7.9	
		GV100	Linux x64	Red Hat 8.5	
		P4000	Windows x64	Windows 10	
			Linux x64	SLES 12 SP4	
			Linux x64	Red Hat 8.5	
		RTX 4000	Windows x64	Windows 10	
			Linux x64	Ubuntu 20.04 LTS	
		RTX 6000	Windows x64	Windows 11	
			Linux x64	SLES 12 SP5	
		RTX 8000	Windows x64	Windows 10	
RTX A4000	Linux x64	Red Hat 7.8			
RTX A6000	Linux x64	SLES 12 SP3			
HFSS (Frequency-domain solver, Time-domain solver)	Nvidia	A100	Windows x64	Windows Server 2019	
			Linux x64	CentOS 8.3	
			Linux x64	SLES 15 SP2	
		GV100	Linux x64	CentOS 8.4	
		P40	Windows x64	Windows Server 2016	
		P100	Windows x64	Windows Server 2016	
			Linux x64	CentOS 7.9	
		RTX A6000	Windows x64	Windows Server 2019	
V100	Windows x64	Windows Server 2019			
	Linux x64	CentOS 8.3			

Application	Manufacturer	Card / GPU	Testewd Platform	Tested Operting System version	Notes	
HFSS SBR+ solver	Nvidia	A100 ¹	Windows x64	Windows Server 2019	1 Incompatible with surface roughness solver.	
			Linux x64	CentOS 8.3		
				SLES 15 SP2		
		GV100	Linux x64	CentOS 8.4		
		P40	Windows x64	Windows Server 2016		
		P100	Windows x64	Windows Server 2016		
			Linux x64	CentOS 7.9		
		RTX 6000	Windows x64	Windows Server 2019		
			Linux x64	CentOS 7.7		
		RTX A6000	Windows x64	Windows Server 2019		
		V100	Windows x64	Windows Server 2019		
			Linux x64	CentOS 8.3		
Icepak	Nvidia	A100	Linux x64	Red Hat 7.9		
		GV100	Linux x64	Red Hat 8.2		
		K80	Linux x64	CentOS 7.7		
		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		
			Linux x64	CentOS 7.9		
		RTX 6000	Linux x64	SLES 15 SP1		
		V100	Windows x64	Windows Server 2019		
			Linux x64	CentOS 7.7		

Application	Manufacturer	Card / GPU	Tested Platform	Tested Operating System version	Notes	
Maxwell	Nvidia	A100	Windows x64	Windows Server 2019		
			Linux x64	CentOS 8.3		
				SLES SP2		
			GV100	Linux x64	CentOS 8.4	
			P40	Windows x64	Windows Server 2016	
			P100	Windows x64	Windows Server 2016	
		Linux x64		CentOS 7.9		
			RTX A6000	Windows x64	Windows Server 2019	
			V100	Windows x64	Windows Server 2019	
	Linux x64	CentOS 8.3				
Mechanical APDL	AMD	Instinct MI100	Linux x64	CentOS 7.9		
			Linux x64	Red Hat 8.5		
	Nvidia	A100	Windows x64	Windows Server 2019		
			Linux x64	CentOS 7.6		
				Red Hat 7.9		
			A6000	Windows x64	Windows Server 2019	
			P100	Windows x64	Windows 10	
		Linux x64		CentOS 7.6 and 7.9		
			V100	Windows x64	Windows Server 2016	
	Linux x64	CentOS 7.6				
Polyflow	Nvidia	A100 (Dual)	Windows x64	Windows Server 2019		
		P4000	Windows x64	Windows 11		
		P6000 (Dual)	Windows x64	Windows 10		
		RTX 3090	Linux x64	Red Hat 8.5		
		RTX 4000	Windows x64	Windows 10		
		V100	Windows x64	Windows 11		

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