



GPU Accelerator Capabilities *

Release 2021 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

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 eigensolvers 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 Cards have been tested by Ansys, Inc.

Application	Manufacturer	Product Series	Card / GPU	Tested Platform	Tested Operating System Version	
EMIT	NVIDIA	Quadro	GP100	Windows x64	Windows 10	
			GV100	Windows x64	Windows 10	
			P4000	Windows x64	Windows 10	
			RTX 6000	Windows x64	Windows 10	
		RTX	RTX A6000	Windows x64	Windows Server 2019	
			Tesla	K80	Windows x64	Windows Server 2019
				P40	Windows x64	Windows Server 2019
				P100	Windows x64	Windows Server 2016
V100	Windows x64	Windows Server 2019				

Application	Manufacturer	Product Series	Card / GPU	Tested Platform	Tested Operating System Version
EMIT Classic	NVIDIA	Ampere	A100	Linux x64	Red Hat 7.8
			Quadro	GP100	Windows x64
		GV100		Linux x64	Red Hat 8.2
			M4000	Linux x64	CentOS 7.7
		P4000	Windows x64	Windows 10	
		RTX 6000	Windows x64	Windows 10	
		RTX	RTX A6000	Windows x64	Windows Server 2019
		Tesla	K80	Windows x64	Windows Server 2019
				Linux x64	Red Hat 7.7
		P40	Windows x64	Windows Server 2019	
			Linux x64	CedntOS 8.1	
		P100	Windows x64	Windows Server 2016	
			Linux x64	CentOS 7.8	
		V100	Windows x64	Windows Server 2019	
Linux x64	CentOS 7.7				
Fluent	NVIDIA	Quadro	GV100	Linux x64	Red Hat 7.8
			P4000	Windows x64	Windows 10
			RTX 4000	Windows x64	Windows 10
		Linux x64		SLES 12 SP2	
		RTX 6000	Windows x64	Windows 10	
			Linux x64	SLES 12 SP5	
		RTX 8000	Windows x64	Windows 10	
		Tesla	A100	Linux x64	CentOS 7.9
			P100	Linux x64	CentOS 7.7
V100	Linux x64		SLES 12 SP5		

Application	Manufacturer	Product Series	Card / GPU	Tested Platform	Tested Operating System Version	
HFSS (Frequency-domain solver, Time-domain solver)	NVIDIA	Ampere	A100	Linux x64	Red Hat 7.8	
			Quadro	GV100	Windows x64	Windows 10
		Tesla	K80	Linux x64	Red Hat 8.2	
				Windows x64	Windows Server 2019	
			P40	Linux x64	Red Hat 7.7	
				Windows x64	Windows Server 2019	
			P100	Linux x64	CentOS 8.1	
				Windows x64	Windows Server 2016	
			V100	Linux x64	CentOS 7.8	
				Windows x64	Windows Server 2019	
	Linux x64	CentOS 7.7				
	Linux x64	CentOS 7.7				
HFSS SBR+ solver	NVIDIA	Ampere	A100	Linux x64	Red Hat 7.8	
			Quadro	GP100	Windows x64	Windows 10
		Tesla	M4000	GV100	Windows x64	Windows 10
				Linux x64	Red Hat 8.2	
			P4000	Linux x64	CentOS 7.7	
				Windows x64	Windows 10	
			RTX 6000	Windows x64	Windows 10	
				Linux x64	CentOS 7.7	
			RTX 8000	Linux x64	CentOS 7.7	
				Windows x64	Windows Server 2019	
		P40	K80	Windows x64	Windows Server 2019	
				Linux x64	Red Hat 7.7	
			P40	Windows x64	Windows Server 2019	
				Linux x64	CentOS 8.1	
			P100	Windows x64	Windows Server 2016	
				Linux x64	CentOS 7.8	
			V100	Windows x64	Windows Server 2019	
				Linux x64	CentOS 7.7	

Application	Manufacturer	Product Series	Card / GPU	Teted Platform	Tested Operating System version
Icepak	NVIDIA	Ampere	A100	Linux x64	Red Hat 7.8
		Quadro	GV100	Linux x64	Red Hat 8.2
			K4000	Windows x64	Windows 10
		M4000	Windows x64	Windows 10	
			Linux x64	CentOS 7.6	
		RTX 6000	Linux x64	SLES 15 SP1	
		RTX	RTX A6000	Windows x64	Windows Server 2019
		Tesla	K80	Windows x64	Windows Server 2019
			P40	Windows x64	Windows Server 2019
			P100	Windows x64	Windows Server 2016
			V100	Windows x64	Windows Server 2019
		Linux x64	CentOS 7.7		
Maxwell	NVIDIA	Ampere	A100	Linux x64	Red Hat 7.8
		Quadro	GV100	Windows x64	Windows 10
			Linux x64	Red Hat 8.2	
		Tesla	K80	Windows x64	Windows Server 2019
			Linux x64	Red Hat 7.7	
		P40	Windows x64	Windows Server 2019	
			Linux x64	CentOS 8.1	
		P100	Windows x64	Windows Server 2016	
			Linux x64	CentOS 7.8	
		V100	Windows x64	Windows Server 2019	
			Linux x64	CentOS 7.7	
		Mechanical APDL	NVIDIA	Ampere	A100
Linux x64	Red Hat 7.8				
Quadro	RTX 8000			Windows x64	Windwos Server 2019
RTX	RTX A6000			Windows x64	Windows Server 2019
Tesla	P100			Windows x64	Windows 10
				Linux x64	CentOS 7.9
V100	Windows x64			Windows Server 2016	

Application	Manufacturer	Product Series	Card / GPU	Tested Platform	Tested Operating System version
Polyflow	NVIDIA	Quadro	GV100	Windows x64	Windows 10
				Linux x64	CentOS 7.9
			M4000	Linux x64	SLES 12 SP5
			P4000	Linux x64	Red Hat 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.