



SPEChpc™ 2021 Tiny Result

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Lenovo Global Technology
ThinkSystem SC777 V4(Arm Neoverse V2, Nvidia GB200)

SPEChpc 2021_tny_base = 69.1

SPEChpc 2021_tny_peak = 69.1

hpc2021 License: 28

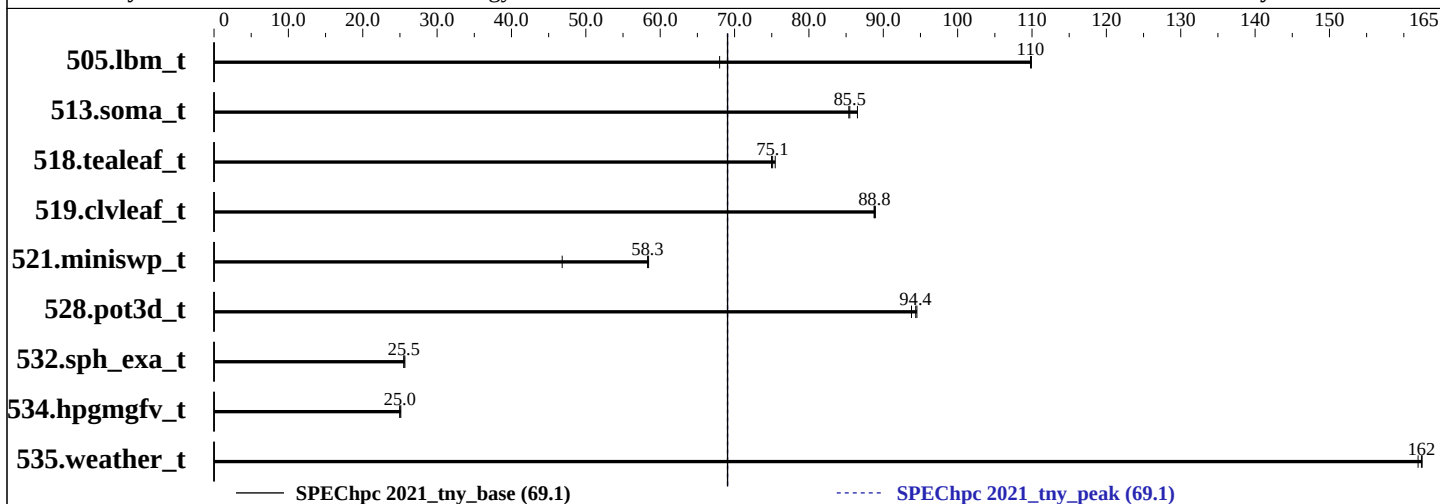
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2026

Hardware Availability: Oct-2026

Software Availability: Oct-2026



Results Table

Benchmark	Base								Peak							
	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio
505.lbm_t	ACC	4	2	33.1	68.0	20.5	110	20.5	110	ACC	4	2	33.1	68.0	20.5	110
513.soma_t	ACC	4	2	43.3	85.4	43.3	85.5	42.8	86.5	ACC	4	2	43.3	85.4	43.3	85.5
518.tealeaf_t	ACC	4	2	21.9	75.5	22.0	75.0	22.0	75.1	ACC	4	2	21.9	75.5	22.0	75.0
519.clvleaf_t	ACC	4	2	18.6	88.8	18.6	88.9	18.6	88.8	ACC	4	2	18.6	88.8	18.6	88.9
521.miniswp_t	ACC	4	2	34.2	46.8	27.4	58.3	27.4	58.4	ACC	4	2	34.2	46.8	27.4	58.3
528.pot3d_t	ACC	4	2	22.7	93.8	22.5	94.4	22.5	94.5	ACC	4	2	22.7	93.8	22.5	94.4
532.sph_exa_t	ACC	4	2	76.4	25.5	76.4	25.5	76.0	25.7	ACC	4	2	76.4	25.5	76.4	25.5
534.hpgmgfv_t	ACC	4	2	47.0	25.0	46.8	25.1	47.0	25.0	ACC	4	2	47.0	25.0	46.8	25.1
535.weather_t	ACC	4	2	19.9	162	19.9	162	19.9	162	ACC	4	2	19.9	162	19.9	162

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.



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Hardware Summary

Type of System: Homogeneous Cluster
Compute Node: ThinkSystem SC777 V4
Compute Nodes Used: 1
Total Chips: 2
Total Cores: 144
Total Threads: 144
Total Memory: 960 GB
Total Accelerators: 4
Max. Peak Threads: 2

Software Summary

Compiler: NVIDIA HPC SDK 25.11
MPI Library: Open MPI 4.1.9a1
Other MPI Info: None
Other Software: --
Base Parallel Model: ACC
Base Ranks Run: 4
Base Threads Run: 2
Peak Parallel Models: ACC
Minimum Peak Ranks: 4
Maximum Peak Ranks: 4
Max. Peak Threads: 2
Min. Peak Threads: 2

Node Description: ThinkSystem SC777 V4

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Lenovo Global Technology
Model: ThinkSystem SC777 V4
CPU Name: NVIDIA Grace Neoverse V2 CPU
CPU(s) orderable: 2 chips
Chips enabled: 2
Cores enabled: 144
Cores per chip: 72
Threads per core: 1
CPU Characteristics: Grace CPU @3.3GHz
CPU MHz: 3300
Primary Cache: 64 KB I + 64 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 117 MB I+D on chip per chip
Other Cache: None
Memory: 960 GB (2x 480 GB LPDDR5X)
Disk Subsystem: 1x ThinkSystem 2.5" 5300 480GB SSD
Other Hardware: None
Accel Count: 4
Accel Model: NVIDIA GB200
Accel Vendor: NVIDIA Corporation
Accel Type: GPU
Accel Connection: NVLink-C2C
Accel ECC enabled: Yes
Accel Description: NVIDIA Grace Blackwell GB200
Adapter: N/A
Number of Adapters: 1
Slot Type: N/A
Data Rate: N/A
Ports Used: 0
Interconnect Type: N/A

Software

Accelerator Driver: 610.43.02
Adapter: N/A
Adapter Driver: N/A
Adapter Firmware: N/A
Operating System: Ubuntu 24.04.4 LTS,
Kernel 6.17.0-1018-nvidia-64k
Local File System: xfs
Shared File System: XFS
System State: Multi-user, run level 3
Other Software: None



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Submit Notes

The config file option 'submit' was used.

General Notes

Environment variables set by runhpc before the start of the run:

UCX_MEMTYPE_CACHE = "n"
UCX_NET_DEVICES = "all"
UCX_TLS = "self,sm,cuda_copy,tcp"

Compiler Version Notes

=====
CC 505.lbm_t(base) 513.soma_t(base) 518.tealeaf_t(base) 521.miniswp_t(base)
534.hpgmgfv_t(base)
=====

nvc 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
NVIDIA Compilers and Tools
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=====

=====
CXXC 532.sph_exa_t(base)
=====

nvc++ 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
NVIDIA Compilers and Tools
Copyright (c) 2025, NVIDIA CORPORATION & AFFILIATES. All rights reserved.
=====

=====
FC 519.clvleaf_t(base) 528.pot3d_t(base) 535.weather_t(base)
=====

nvfortran 25.11-0 linuxarm64 target on aarch64 Linux -tp neoverse-v2
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Base Compiler Invocation

C benchmarks:
mpicc

C++ benchmarks:
mpicxx

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Base Compiler Invocation (Continued)

Fortran benchmarks:

mpif90

Base Portability Flags

505.lbm_t: -DSPEC_OPENACC_NO_SELF

532.sph_exa_t: -c++17

Base Optimization Flags

C benchmarks:

-O4 -DSPEC_ACCEL_AWARE_MPI -acc=gpu -gpu=ccnative -Mfprelaxed
-Mnouniform -tp=host

C++ benchmarks:

-O4 -DSPEC_ACCEL_AWARE_MPI -acc=gpu -gpu=ccnative -Mfprelaxed
-Mnouniform -tp=host

Fortran benchmarks:

-DSPEC_ACCEL_AWARE_MPI -O4 -acc=gpu -gpu=ccnative -Mfprelaxed
-Mnouniform -tp=host

Base Other Flags

C benchmarks (except as noted below):

-Ispecmpitime -w

521.miniswp_t: -Ispecmpitime/ -w

534.hpgmgfv_t: -Ispecmpitime -w

C++ benchmarks:

-Ispecmpitime -w

Fortran benchmarks (except as noted below):

-w

519.clvleaf_t: -Ispecmpitime -w



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Peak Optimization Flags

C benchmarks:

505.lbm_t: basepeak = yes
513.soma_t: basepeak = yes
518.tealeaf_t: basepeak = yes
521.miniswp_t: basepeak = yes
534.hpgmgfv_t: basepeak = yes

C++ benchmarks:

532.sph_exa_t: basepeak = yes

Fortran benchmarks:

519.clvleaf_t: basepeak = yes
528.pot3d_t: basepeak = yes
535.weather_t: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/hpc2021/flags/nv2021_flags_v1.0.3.2026-09-16.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/hpc2021/flags/nv2021_flags_v1.0.3.2026-09-16.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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