



SPEChpc™ 2021 Tiny Result

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Supermicro

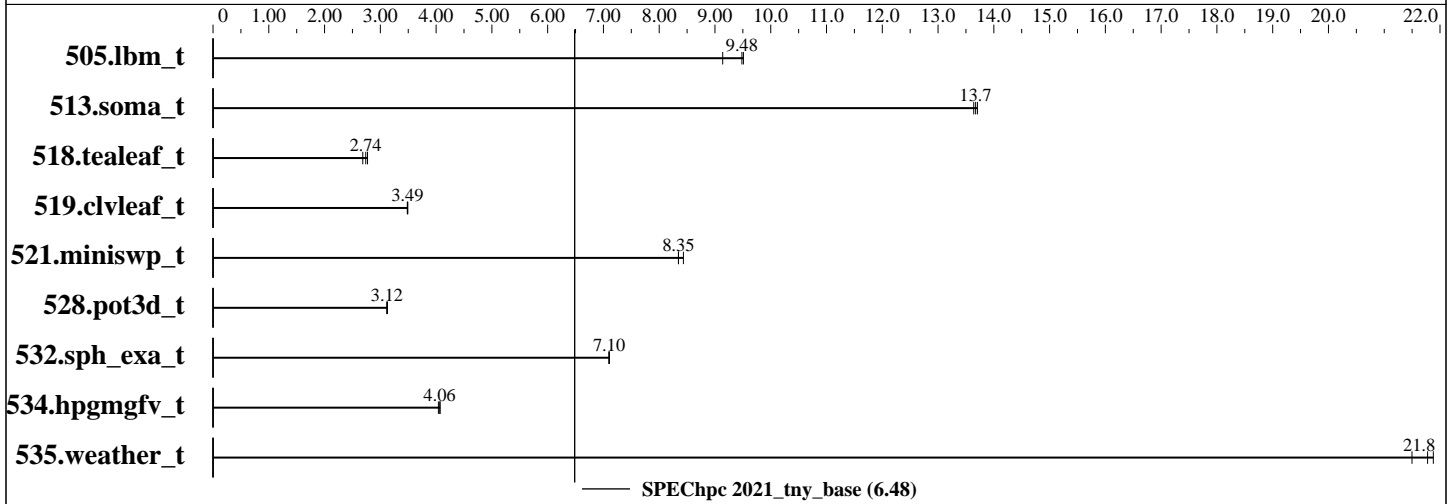
SPEChpc 2021_tny_base = 6.48

A+ Server 2115GT-HNTF (AMD EPYC 9654)

SPEChpc 2021_tny_peak = Not Run

hpc2021 License: 6569
Test Sponsor: Supermicro
Tested by: Supermicro

Test Date: Jan-2023
Hardware Availability: Nov-2022
Software Availability: Nov-2022



Results Table

Benchmark	Base										Peak								
	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Model	Ranks	Thrds/Rnk	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	
505.lbm_t	OMP	12	16	237	9.51	<u>237</u>	<u>9.48</u>	246	9.14										
513.soma_t	OMP	12	16	271	13.6	<u>271</u>	<u>13.7</u>	270	13.7										
518.tealeaf_t	OMP	12	16	596	2.77	<u>603</u>	<u>2.74</u>	614	2.69										
519.clvleaf_t	OMP	12	16	<u>473</u>	<u>3.49</u>	473	3.49	474	3.48										
521.miniswp_t	OMP	12	16	192	8.34	190	8.43	<u>192</u>	<u>8.35</u>										
528.pot3d_t	OMP	12	16	682	3.12	680	3.13	<u>681</u>	<u>3.12</u>										
532.sph_exa_t	OMP	12	16	275	7.10	<u>274</u>	<u>7.10</u>	274	7.11										
534.hpgmgfv_t	OMP	12	16	<u>289</u>	<u>4.06</u>	289	4.07	291	4.04										
535.weather_t	OMP	12	16	<u>148</u>	<u>21.8</u>	147	21.9	150	21.5										

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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: Homogenous
Compute Node: A+ Server 2115GT-HNTF
Compute Nodes Used: 1
Total Chips: 1
Total Cores: 96
Total Threads: 192
Total Memory: 1152 GB
Max. Peak Threads: --

Software Summary

Compiler: AMD Optimizing C/C++ and Fortran Compilers (AOCC)
Version 4.0.0 Build 389 for Linux
MPI Library: OpenMPI Version 4.1.1
Other MPI Info: None
Other Software: None
Base Parallel Model: OMP
Base Ranks Run: 12
Base Threads Run: 16
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: A+ Server 2115GT-HNTF

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: A+ Server 2115GT-HNTF
CPU Name: AMD EPYC 9654
CPU(s) orderable: 1 chip
Chips enabled: 1
Cores enabled: 96
Cores per chip: 96
Threads per core: 2
CPU Characteristics: Max. Boost Clock upto 3.7GHz
CPU MHz: 2400
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 384 MB I+D on chip per chip
32 MB shared / 8 cores
Other Cache: None
Memory: 1152 GB (12 x 96 GB 2Rx4 PC5-4800B-R)
Disk Subsystem: 1 x 960 GB SATA SSD
Other Hardware: None
Accel Count: --
Accel Model: --
Accel Vendor: --
Accel Type: --
Accel Connection: --
Accel ECC enabled: --
Accel Description: --
Adapter: None
Number of Adapters: 0
Slot Type: None
Data Rate: None
Ports Used: 0

Software

Accelerator Driver: --
Adapter: None
Adapter Driver: None
Adapter Firmware: None
Operating System: Ubuntu 22.04.1 LTS
Kernel 5.15.0-56-generic
Local File System: ext4
Shared File System: None
System State: Multi-user, run level 3
Other Software: None

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Node Description: A+ Server 2115GT-HNTF

Hardware (Continued)

Interconnect Type: None

Submit Notes

The config file option 'submit' was used.

General Notes

MPI startup command:
mpirun command was used to start MPI jobs.

Compiler Version Notes

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-4.0.0/bin

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-4.0.0/bin

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

AMD clang version 14.0.6 (CLANG: AOCC_4.0.0-Build#434 2022_10_28) (based on
LLVM Mirror.Version.14.0.6)
Target: x86_64-unknown-linux-gnu
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Base Compiler Invocation

C benchmarks:

mpicc

C++ benchmarks:

mpicxx

Fortran benchmarks:

mpif90

Base Portability Flags

519.clvleaf_t: -DSPEC_USE_MPIFH
528.pot3d_t: -DSPEC_USE_MPIFH
535.weather_t: -DSPEC_USE_MPIFH

Base Optimization Flags

C benchmarks:

-O3 -ffast-math -flto -march=znver4 -fopenmp

C++ benchmarks:

-O3 -ffast-math -flto -march=znver4 -fopenmp

Fortran benchmarks:

-O3 -ffast-math -flto -march=znver4 -fopenmp

Base Other Flags

C benchmarks (except as noted below):

-Ispecmpitime -I/include

521.miniswp_t: -Ispecmpitime/ -I/include

534.hpgmgfv_t: -Ispecmpitime -I/include

C++ benchmarks:

-Ispecmpitime -I/include

Fortran benchmarks (except as noted below):

-I/include -I/include/

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Base Other Flags (Continued)

```
519.cvlleaf_t: -Ispecmpitime -I/include -I/include/
```

The flags file that was used to format this result can be browsed at

http://www.spec.org/hpc2021/flags/amd2021_flags.2022-11-10.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/hpc2021/flags/amd2021_flags.2022-11-10.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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