



SPEChpc™ 2021 Tiny Result

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Supermicro

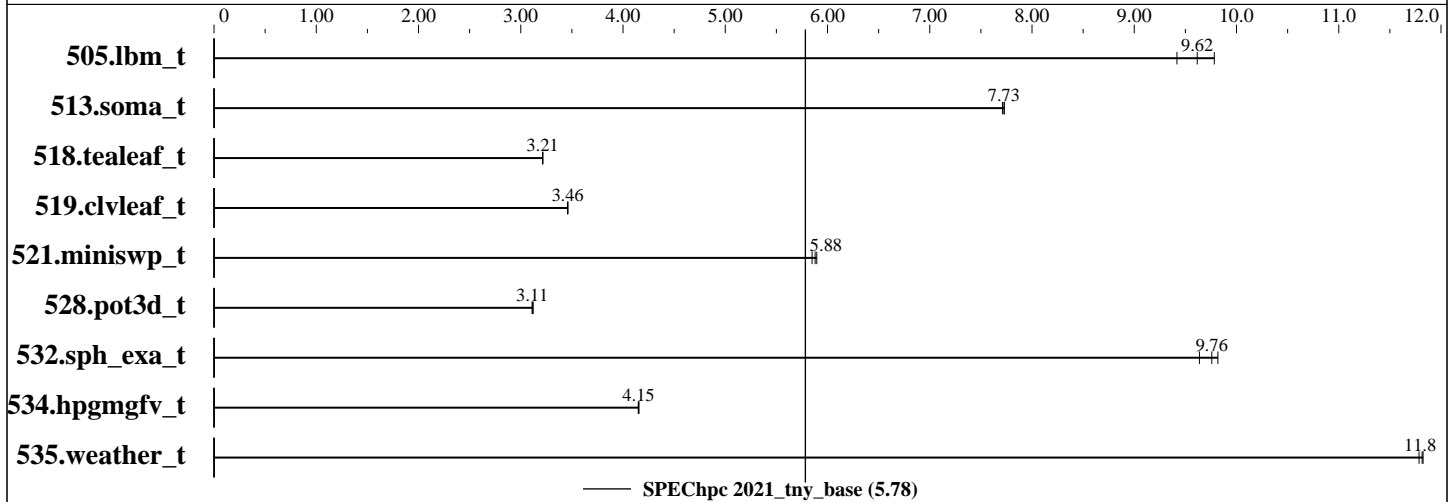
SPEChpc 2021_tny_base = 5.78

A+ Server 1015CS-TNR (AMD EPYC 9754)

SPEChpc 2021_tny_peak = Not Run

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

Test Date: May-2023
Hardware Availability: Jun-2023
Software Availability: Feb-2023



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	MPI	256	1	230	9.78	239	9.42	234	9.62									
513.soma_t	MPI	256	1	480	7.71	479	7.73	479	7.73									
518.tealeaf_t	MPI	256	1	513	3.22	514	3.21	513	3.21									
519.clvleaf_t	MPI	256	1	477	3.46	477	3.46	477	3.46									
521.miniswp_t	MPI	256	1	274	5.85	271	5.90	272	5.88									
528.pot3d_t	MPI	256	1	683	3.11	681	3.12	683	3.11									
532.sph_exa_t	MPI	256	1	202	9.64	200	9.76	199	9.82									
534.hpgmgfv_t	MPI	256	1	283	4.15	283	4.16	283	4.15									
535.weather_t	MPI	256	1	274	11.8	273	11.8	273	11.8									

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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 1015CS-TNR
Compute Nodes Used: 1
Total Chips: 1
Total Cores: 128
Total Threads: 256
Total Memory: 768 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 4.1.4
Other MPI Info: None
Other Software: None
Base Parallel Model: MPI
Base Ranks Run: 256
Base Threads Run: 1
Peak Parallel Models: Not Run
Minimum Peak Ranks: --
Maximum Peak Ranks: --
Max. Peak Threads: --
Min. Peak Threads: --

Node Description: A+ Server 1015CS-TNR

Hardware

Number of nodes: 1
Uses of the node: compute
Vendor: Supermicro
Model: A+ Server 1015CS-TNR
CPU Name: AMD EPYC 9754
CPU(s) orderable: 1 chip
Chips enabled: 1
Cores enabled: 128
Cores per chip: 128
Threads per core: 2
CPU Characteristics: Max. Boost Clock upto 3.1GHz
CPU MHz: 2250
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 256 MB I+D on chip per chip
16 MB shared / 8 cores
Other Cache: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-4800B-R)
Disk Subsystem: 1 x 480 GB Micron M.2 NVMe SSD
Other Hardware: None
Accel Count: 0
Accel Model: None
Accel Vendor: None
Accel Type: None
Accel Connection: None
Accel ECC enabled: None
Accel Description: None
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 22.04.2 LTS
Kernel 5.15.0-71-generic
Local File System: ext4
Shared File System: None
System State: Multi-user, run level 5
Other Software: None

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Node Description: A+ Server 1015CS-TNR

Hardware (Continued)

Interconnect Type: None

Submit Notes

The config file option 'submit' was used.

```
mpirun --bind-to core:overload-allowed --oversubscribe --mca topo basic -np $ranks $command
```

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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InstalledDir: /opt/AMD/aocc-compiler-4.0.0/bin  
=====
```

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Compiler Version Notes (Continued)

Base Compiler Invocation

C benchmarks:
mpicc

C++ benchmarks:
mpicxx

Fortran benchmarks:
mpif90

Base Portability Flags

519.cvleaf_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

C++ benchmarks:
-O3 -ffast-math -flto -march=znver4

Fortran benchmarks:
-O3 -ffast-math -flto -march=znver4

Base Other Flags

C benchmarks (except as noted below):
-Ispecmpitime -I/include

521.miniswp_t: -Ispecmpitime/ -I/include

534.hpgmgfv_t: -Ispecmpitime -I/include

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Base Other Flags (Continued)

C++ benchmarks:

-Ispecmpitime -I/include

Fortran benchmarks (except as noted below):

-I/include -I/include/

519.clvleaf_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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