SPEC® CPU2017 Floating Point Rate Result

sipeed
(Test Sponsor: PLCT)

Licheepi 4a

SPECrate2017_fp_base = 0.00

SPECrate2017_fp_peak = 0.00

CPU2017 License: 0
Test Sponsor: PLCT
Tested by: PLCT

Test Date: Nov-2023
Hardware Availability: May-2023
Software Availability: Nov-2023

Copies
503.bwaves_r
507.cactuBSSN_r
508.namd_r
510.parest_r
511.povray_r
519.lbm_r
521.wrf_r
526.blender_r
527.cam4_r
538.imagick_r
544.nab_r
549.fotonik3d_r
554.roms_r

Hardware

CPU Name:	TH1520
Max MHz.:	2000MHz
Nominal:	2000MHz
Enabled:	4 cores, 1 chip
Orderable:	--
Cache L1:	64 KB I + 64 Kb D on chip per core
L2:	1MB L2 Cache for all core
L3:	None
Other:	None
Memory:	15.370 GB fixme: If using DDR4, the format is: 'N GB (N x N GB nRxn PC4-nnnnX-X)'
Storage:	115 GB add more disk info here
Other:	None

Software

OS:	Debian GNU/Linux 12 (bookworm) 5.10.113+
Compiler:	Debian clang version 17.0.0 (+rc4-1~exp5revyos1)
Parallel:	No
Firmware:	Nov-2022
File System:	ext4
System State:	Run level 5 (add definition here)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None

Errors

Complete set of valid runs for peak rate unavailable (521.wrf_r missing)
Complete set of valid runs for peak rate unavailable (519.lbm_r missing)
Complete set of valid runs for peak rate unavailable (507.cactuBSSN_r missing)
Complete set of valid runs for peak rate unavailable (544.nab_r missing)
Complete set of valid runs for peak rate unavailable (554.roms_r missing)
Complete set of valid runs for peak rate unavailable (511.povray_r missing)
Complete set of valid runs for peak rate unavailable (549.fotonik3d_r missing)
Complete set of valid runs for peak rate unavailable (538.imagick_r missing)
Complete set of valid runs for peak rate unavailable (508.namd_r missing)
Complete set of valid runs for peak rate unavailable (510.parest_r missing)
Complete set of valid runs for peak rate unavailable (526.blender_r missing)
Complete set of valid runs for peak rate unavailable (503.bwaves_r missing)
Complete set of valid runs for peak rate unavailable (527.cam4_r missing)
There is no set of valid runs with the same number of copies for base
'reportable' flag not set during run
521.wrf_r (base) did not have enough runs!
519.lbm_r (base) did not have enough runs!
507.cactuBSSN_r (base) did not have enough runs!
544.nab_r (base) did not have enough runs!
554.roms_r (base) did not have enough runs!
511.povray_r (base) did not have enough runs!
549.fotonik3d_r (base) did not have enough runs!
538.imagick_r (base) did not have enough runs!
508.namd_r (base) did not have enough runs!
510.parest_r (base) did not have enough runs!
526.blender_r (base) did not have enough runs!
503.bwaves_r (base) did not have enough runs!
527.cam4_r (base) did not have enough runs!
521.wrf_r (base) had invalid runs!
521.wrf_r (peak) did not have enough runs!
519.lbm_r (peak) did not have enough runs!
507.cactuBSSN_r (peak) did not have enough runs!
544.nab_r (peak) did not have enough runs!
554.roms_r (peak) did not have enough runs!
511.povray_r (peak) did not have enough runs!
549.fotonik3d_r (peak) did not have enough runs!
538.imagick_r (peak) did not have enough runs!
508.namd_r (peak) did not have enough runs!
510.parest_r (peak) did not have enough runs!
526.blender_r (peak) did not have enough runs!

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Test Date: Nov-2023
Hardware Availability: May-2023
Software Availability: Nov-2023

Errors (Continued)

503.bwaves_r (peak) did not have enough runs!
527.cam4_r (peak) did not have enough runs!
521.wrf_r (peak) had invalid runs!
Input set must be 'refrate' for a valid run (set to 'test' for this run)
Run of 521.wrf_r (base) was not valid; status is RE
Run of 521.wrf_r (peak) was not valid; status is RE
Unknown flags were used! See
https://www.spec.org/cpu2017/Docs/runcpu.html#flagsurl
for information about how to get rid of this error.

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r														
507.cactuBSSN_r														
508.namd_r														
510.parest_r														
511.povray_r														
519.lbm_r														
521.wrf_r	4	0.660	0.00					4	0.667	0.00				
526.blender_r														
527.cam4_r														
538.imagick_r														
544.nab_r														
549.fotonik3d_r														
554.roms_r	4	54.5	0.00					4	54.2	0.00				

SPECrate2017_fp_base = 0.00
SPECrate2017_fp_peak = 0.00

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

General Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/usr/lib64/:/usr/lib/:/lib64"
```

Platform Notes

```
Sysinfo program /home/sipeed/spec2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
```

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Platform Notes (Continued)

```
running on lpi4a Thu Nov 30 03:16:56 2023

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
   https://www.spec.org/cpu2017/Docs/config.html#sysinfo

From /proc/cpuinfo
*
* Did not identify cpu model.  If you would
* like to write your own sysinfo program, see
* www.spec.org/cpu2017/config.html#sysinfo
*
*
* 0 "physical id" tags found.  Perhaps this is an older system,
* or a virtualized system.  Not attempting to guess how to
* count chips/cores for this system.
*
      4 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The following
   excerpts from /proc/cpuinfo might not be reliable.  Use with caution.)

From lscpu:
     Architecture:            riscv64
     Byte Order:              Little Endian
     CPU(s):                  4
     On-line CPU(s) list:     0-3

/proc/cpuinfo cache data
   cpu-cacheline : 64Bytes
   cpu-dcache : 64KB
   cpu-icache : 64KB
   cpu-l2cache : 1MB

From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
physical chip.

From /proc/meminfo
   MemTotal:       16116952 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Debian GNU/Linux 12 (bookworm)

From /etc/*release* /etc/*version*
   debian_version: 12.0
   os-release:
```

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Platform Notes (Continued)

```
      PRETTY_NAME="Debian GNU/Linux 12 (bookworm)"
      NAME="Debian GNU/Linux"
      VERSION_ID="12"
      VERSION="12 (bookworm)"
      VERSION_CODENAME=bookworm
      ID=debian
      HOME_URL="https://www.debian.org/"
      SUPPORT_URL="https://www.debian.org/support"
   revyos-release:
      BUILD_ID=20231009_134626
      BUILD_DATE=20231009
      COMMIT_ID=f9867c522485046f1965a3101bd4545520803623
      RUNNER_ID=6457521686

 uname -a:
    Linux lpi4a 5.10.113+ #4 SMP PREEMPT Fri Oct 20 06:59:14 UTC 2023 riscv64 GNU/Linux

 run-level 5 Nov 28 13:15

 SPEC is set to: /home/sipeed/spec2017
    Filesystem     Type  Size  Used Avail Use% Mounted on
    /dev/root      ext4  115G   13G   97G  12% /

 Additional information from dmidecode follows.  WARNING: Use caution when you interpret
 this section. The 'dmidecode' program reads system data which is "intended to allow
 hardware to be accurately determined", but the intent may not be met, as there are
 frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
 FC  554.roms_r(base, peak)
------------------------------------------------------------------------------
Debian flang-new version 17.0.0 (+rc4-1~exp5revyos1)
Target: riscv64-unknown-linux-gnu
Thread model: posix
InstalledDir: /usr/lib/llvm-17/bin
------------------------------------------------------------------------------

==============================================================================
 CC  521.wrf_r(base, peak)
------------------------------------------------------------------------------
Debian flang-new version 17.0.0 (+rc4-1~exp5revyos1)
Target: riscv64-unknown-linux-gnu
```

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Compiler Version Notes (Continued)

```
Thread model: posix
InstalledDir: /usr/lib/llvm-17/bin
Debian clang version 17.0.0 (+rc4-1~exp5revyos1)
Target: riscv64-unknown-linux-gnu
Thread model: posix
InstalledDir: /usr/bin
------------------------------------------------------------------------------
```

Base Unknown Flags

521.wrf_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d87518)
"/usr/bin/clang-17 -Wno-implicit-intARRAY(0x2ac4db3cb8)
"/usr/bin/flang-new-17ARRAY(0x2ac4dc1ab8)
"-g -O3ARRAY(0x2ac4dc5b20)
"-fno-strict-aliasingARRAY(0x2ac4efb0a8)

554.roms_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d809f8)
"/usr/bin/flang-new-17ARRAY(0x2ac4d1f148)
"-g -O3ARRAY(0x2ac4efb060)

Peak Unknown Flags

521.wrf_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d87518)
"/usr/bin/clang-17 -Wno-implicit-intARRAY(0x2ac4db3cb8)
"/usr/bin/flang-new-17ARRAY(0x2ac4dc1ab8)
"-g -O3ARRAY(0x2ac4dc5b20)
"-fno-strict-aliasingARRAY(0x2ac4efb0a8)

554.roms_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d809f8)
"/usr/bin/flang-new-17ARRAY(0x2ac4d1f148)
"-g -O3ARRAY(0x2ac4efb060)

521.wrf_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d90e40)
"/usr/bin/clang-17 -Wno-implicit-intARRAY(0x2ac4efad78)
"/usr/bin/flang-new-17ARRAY(0x2ac4f2fd90)
"-g -OfastARRAY(0x2ac4f39980)

554.roms_r: "/usr/bin/flang-new-17ARRAY(0x2ac4d90ee8)
"/usr/bin/flang-new-17ARRAY(0x2ac4d9fd38)
"-g -OfastARRAY(0x2ac4f37570)

Runtime Environment

Fortran benchmarks:

554.roms_r: `No flags used`

Benchmarks using both Fortran and C:

521.wrf_r: `No flags used`

Compiler Invocation

Fortran benchmarks:

554.roms_r: `No flags used`

Benchmarks using both Fortran and C:

521.wrf_r: `No flags used`

Portability Flags

521.wrf_r: `-DSPEC_CASE_FLAG -DSPEC_LP64`
554.roms_r: `-DSPEC_LP64`

Optimization Flags

Fortran benchmarks:

554.roms_r: `No flags used`

Benchmarks using both Fortran and C:

521.wrf_r: `No flags used`

Runtime Environment

Fortran benchmarks:

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Runtime Environment (Continued)

554.roms_r: `No flags used`

Benchmarks using both Fortran and C:

521.wrf_r: `No flags used`

Other Flags

Fortran benchmarks:

554.roms_r: `No flags used`

Benchmarks using both Fortran and C:

521.wrf_r: `No flags used`

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