# SPEC® CPU2017 Floating Point Speed Result



sipeed
(Test Sponsor: PLCT)

# Licheepi 4a

SPECspeed2017_fp_base = 0.00

SPECspeed2017_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

| Threads | |
|---|---|
| **603.bwaves_s** | |
| **607.cactuBSSN_s** | |
| **619.lbm_s** | |
| **621.wrf_s** | |
| **627.cam4_s** | |
| **628.pop2_s** | |
| **638.imagick_s** | |
| **644.nab_s** | |
| **649.fotonik3d_s** | |
| **654.roms_s** | |

## 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: Yes
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

'reportable' flag not set during run
654.roms_s (base) did not have enough runs!
619.lbm_s (base) did not have enough runs!
638.imagick_s (base) did not have enough runs!
627.cam4_s (base) did not have enough runs!

**(Continued on next page)**

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## Errors (Continued)

607.cactuBSSN_s (base) did not have enough runs!
621.wrf_s (base) did not have enough runs!
628.pop2_s (base) did not have enough runs!
644.nab_s (base) did not have enough runs!
603.bwaves_s (base) did not have enough runs!
649.fotonik3d_s (base) did not have enough runs!
654.roms_s (base) had invalid runs!
621.wrf_s (base) had invalid runs!
628.pop2_s (base) had invalid runs!
654.roms_s (peak) did not have enough runs!
619.lbm_s (peak) did not have enough runs!
638.imagick_s (peak) did not have enough runs!
627.cam4_s (peak) did not have enough runs!
607.cactuBSSN_s (peak) did not have enough runs!
621.wrf_s (peak) did not have enough runs!
628.pop2_s (peak) did not have enough runs!
644.nab_s (peak) did not have enough runs!
603.bwaves_s (peak) did not have enough runs!
649.fotonik3d_s (peak) did not have enough runs!
621.wrf_s (peak) had invalid runs!
Input set must be 'refspeed' for a valid run (set to 'test' for this run)
Run of 621.wrf_s (base) was not valid; status is CE
Run of 621.wrf_s (peak) was not valid; status is CE
Run of 628.pop2_s (base) was not valid; status is CE
Run of 654.roms_s (base) was not valid; status is CE
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 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 603.bwaves_s | | | | | | | | | | | | | | |
| 607.cactuBSSN_s | | | | | | | | | | | | | | |
| 619.lbm_s | | | | | | | | | | | | | | |
| 621.wrf_s | 1 | 0.00 | 0.00 | | | | | 1 | 0.00 | 0.00 | | | | |
| 627.cam4_s | | | | | | | | | | | | | | |
| 628.pop2_s | 1 | 0.00 | 0.00 | | | | | | | | | | | |

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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SPECspeed2017_fp_base = 0.00

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## Results Table (Continued)

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 638.imagick_s | | | | | | | | | | | | | | |
| 644.nab_s | | | | | | | | | | | | | | |
| 649.fotonik3d_s | 4 | 41.1 | 0.00 | | | | | 4 | 39.9 | 0.00 | | | | |
| 654.roms_s | 1 | 0.00 | 0.00 | | | | | 4 | 21.9 | 0.00 | | | | |

**SPECspeed2017_fp_base = 0.00**

**SPECspeed2017_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"
OMP_STACKSIZE = "120M"
```

## Platform Notes

```
 Sysinfo program /home/sipeed/spec2017/bin/sysinfo
 Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
 running on lpi4a Wed Nov 29 15:37:40 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
```

**(Continued on next page)**

## Platform Notes (Continued)

```
      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:
       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   12G   98G  11% /

 Additional information from dmidecode follows.  WARNING: Use caution when you interpret
 this section. The 'dmidecode' program reads system data which is "intended to allow
```

**(Continued on next page)**

## Platform Notes (Continued)

```
 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  649.fotonik3d_s(base, peak) 654.roms_s(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
------------------------------------------------------------------------------
```

## Base Unknown Flags

649.fotonik3d_s: "/usr/bin/flang-new-17ARRAY(0x2ac15225d0)
"/usr/bin/flang-new-17ARRAY(0x2ac150fd38)
"-g -O3ARRAY(0x2ac1522000)

## Peak Unknown Flags

649.fotonik3d_s: "/usr/bin/flang-new-17ARRAY(0x2ac15225d0)
"/usr/bin/flang-new-17ARRAY(0x2ac150fd38)
"-g -O3ARRAY(0x2ac1522000)

649.fotonik3d_s: "/usr/bin/flang-new-17ARRAY(0x2ac152a6a8)
"/usr/bin/flang-new-17ARRAY(0x2ac16987f8)
"-g -OfastARRAY(0x2ac1533c00)

654.roms_s: "/usr/bin/flang-new-17ARRAY(0x2ac151d9b8)
"/usr/bin/flang-new-17ARRAY(0x2ac16b39f8)
"-g -OfastARRAY(0x2ac1695f08)
"-fopenmpARRAY(0x2ac1696b68)

## Base Runtime Environment

Fortran benchmarks:

**(Continued on next page)**

## Base Runtime Environment (Continued)

649.fotonik3d_s: `No flags used`

## Base Compiler Invocation

Fortran benchmarks:

649.fotonik3d_s: `No flags used`

## Base Portability Flags

649.fotonik3d_s: `-DSPEC_LP64`

## Base Optimization Flags

Fortran benchmarks:

649.fotonik3d_s: `-DSPEC_OPENMP -DUSE_OPENMP`

## Base Other Flags

Fortran benchmarks:

649.fotonik3d_s: `No flags used`

## Peak Portability Flags

649.fotonik3d_s: `-DSPEC_LP64`
654.roms_s: `-DSPEC_LP64`

## Peak Optimization Flags

Fortran benchmarks:

**(Continued on next page)**

## Peak Optimization Flags (Continued)

649.fotonik3d_s: `-DSPEC_OPENMP -DUSE_OPENMP`

654.roms_s: `No flags used`





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