



# SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175

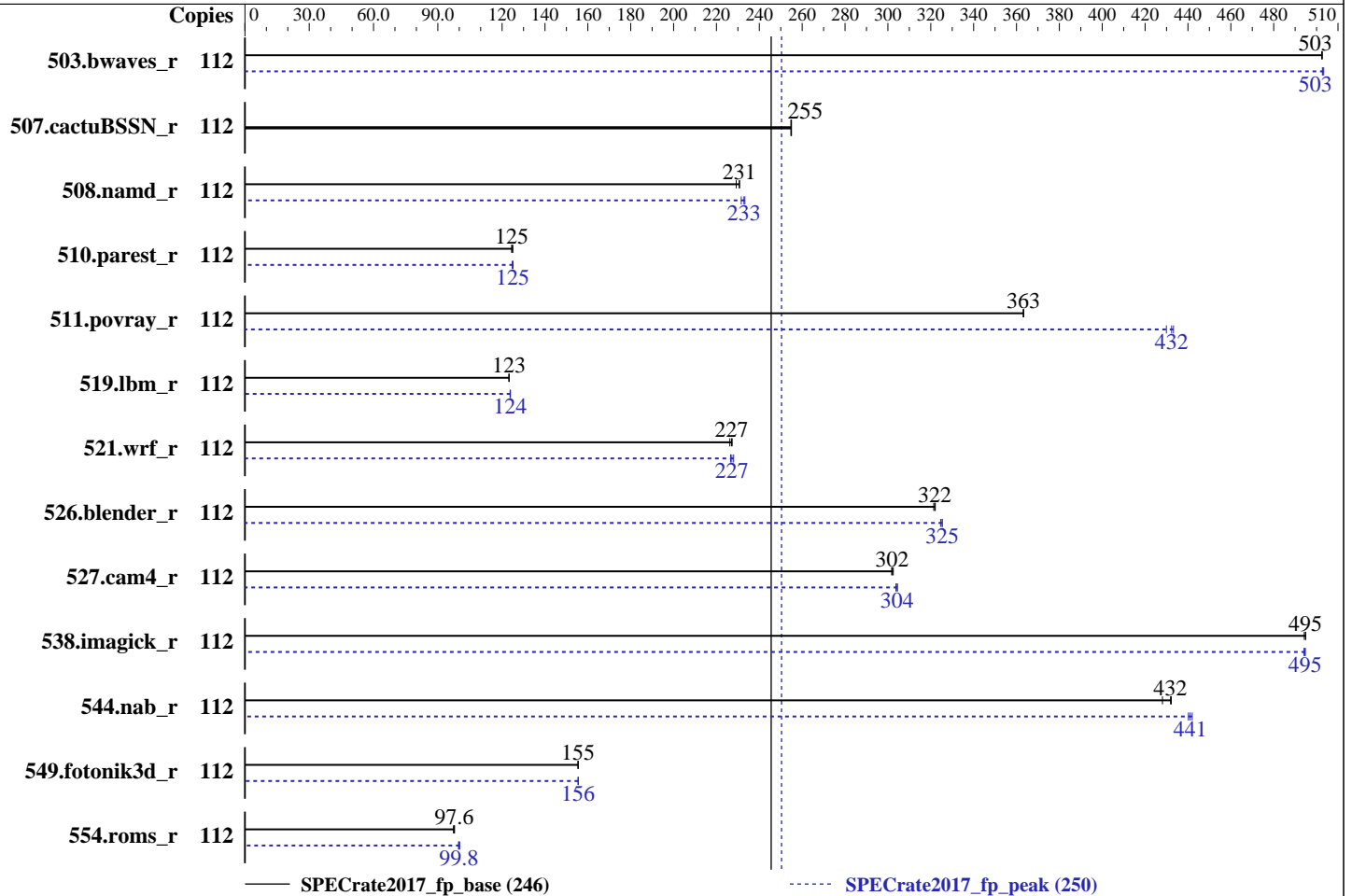
Test Sponsor: Huawei

Tested by: Huawei

Test Date: Nov-2016

Hardware Availability: Jul-2017

Software Availability: Feb-2018



### Hardware

CPU Name: Intel Xeon Platinum 8180  
 Max MHz.: 3800  
 Nominal: 2500  
 Enabled: 56 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 38.5 MB I+D on chip per chip  
 Other: None  
 Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)  
 Storage: 1 x 1200 GB SAS, 10000 RPM  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP2 (x86\_64) 4.4.114-92.64-default  
 Compiler: C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux;  
 Fortran: Version 18.0.0.128 of Intel Fortran Compiler for Linux  
 Parallel: No  
 Firmware: Version 0.62 Released Mar-2018  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175  
Test Sponsor: Huawei  
Tested by: Huawei

Test Date: Nov-2016  
Hardware Availability: Jul-2017  
Software Availability: Feb-2018

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	112	2234	503	<b><u>2235</u></b>	<b><u>503</u></b>	2236	502	112	2234	503	<b><u>2233</u></b>	<b><u>503</u></b>	2231	503
507.cactuBSSN_r	112	<b><u>556</u></b>	<b><u>255</u></b>	556	255	557	255	112	<b><u>556</u></b>	<b><u>255</u></b>	556	255	557	255
508.namd_r	112	461	231	464	229	<b><u>461</u></b>	<b><u>231</u></b>	112	459	232	456	233	<b><u>457</u></b>	<b><u>233</u></b>
510.parest_r	112	<b><u>2353</u></b>	<b><u>125</u></b>	2353	125	2344	125	112	2349	125	2341	125	<b><u>2345</u></b>	<b><u>125</u></b>
511.povray_r	112	720	363	720	363	<b><u>720</u></b>	<b><u>363</u></b>	112	604	433	<b><u>605</u></b>	<b><u>432</u></b>	608	430
519.lbm_r	112	958	123	958	123	<b><u>958</u></b>	<b><u>123</u></b>	112	<b><u>954</u></b>	<b><u>124</u></b>	954	124	953	124
521.wrf_r	112	1109	226	<b><u>1105</u></b>	<b><u>227</u></b>	1104	227	112	1107	227	<b><u>1104</u></b>	<b><u>227</u></b>	1100	228
526.blender_r	112	530	322	531	321	<b><u>530</u></b>	<b><u>322</u></b>	112	524	325	<b><u>524</u></b>	<b><u>325</u></b>	526	325
527.cam4_r	112	649	302	648	303	<b><u>649</u></b>	<b><u>302</u></b>	112	<b><u>644</u></b>	<b><u>304</u></b>	643	304	645	304
538.imagick_r	112	<b><u>563</u></b>	<b><u>495</u></b>	564	494	563	495	112	564	494	<b><u>563</u></b>	<b><u>495</u></b>	563	495
544.nab_r	112	<b><u>436</u></b>	<b><u>432</u></b>	440	428	436	432	112	428	440	<b><u>427</u></b>	<b><u>441</u></b>	426	442
549.fotonik3d_r	112	<b><u>2808</u></b>	<b><u>155</u></b>	2807	155	2808	155	112	<b><u>2807</u></b>	<b><u>156</u></b>	2807	155	2806	156
554.roms_r	112	1820	97.8	<b><u>1823</u></b>	<b><u>97.6</u></b>	1829	97.3	112	1776	100	1786	99.7	<b><u>1783</u></b>	<b><u>99.8</u></b>

SPECrate2017\_fp\_base = 246

SPECrate2017\_fp\_peak = 250

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## General Notes

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

LD\_LIBRARY\_PATH = "/spec2017/lib/ia32:/spec2017/lib/intel64:/spec2017/je5.0.1-32:/spec2017/je5.0.1-64"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.4

Transparent Huge Pages enabled by default  
Prior to runcpu invocation

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
```

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

**CPU2017 License:** 3175  
**Test Sponsor:** Huawei  
**Tested by:** Huawei

**Test Date:** Nov-2016  
**Hardware Availability:** Jul-2017  
**Software Availability:** Feb-2018

### General Notes (Continued)

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

### Platform Notes

BIOS configuration:  
Power Policy Set to Performance  
SNC Set to Enabled  
IMC Interleaving Set to 1-way Interleave  
XPT Prefetch Set to Enabled  
Sysinfo program /spec2017/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on linux-2gz1 Wed Nov 2 02:32:28 2016

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  
model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz  
2 "physical id"s (chips)  
112 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)  
cpu cores : 28  
siblings : 56  
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27  
28 29 30  
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27  
28 29 30

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 112  
On-line CPU(s) list: 0-111  
Thread(s) per core: 2  
Core(s) per socket: 28  
Socket(s): 2  
NUMA node(s): 4  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 85

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

**CPU2017 License:** 3175  
**Test Sponsor:** Huawei  
**Tested by:** Huawei

**Test Date:** Nov-2016  
**Hardware Availability:** Jul-2017  
**Software Availability:** Feb-2018

### Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
Stepping: 4
CPU MHz: 2500.012
BogoMIPS: 5000.02
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 39424K
NUMA node0 CPU(s): 0-3,7-9,14-17,21-23,56-59,63-65,70-73,77-79
NUMA node1 CPU(s): 4-6,10-13,18-20,24-27,60-62,66-69,74-76,80-83
NUMA node2 CPU(s): 28-31,35-37,42-45,49-51,84-87,91-93,98-101,105-107
NUMA node3 CPU(s): 32-34,38-41,46-48,52-55,88-90,94-97,102-104,108-111
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpperf eagerfpu pni pclmulqdq dtes64 ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtpr pdc m pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb invpcid_single pln pts dtherm
intel_pt rsb_ctxsw spec_ctrl retpoline kaiser tpr_shadow vnmi flexpriority ept vpid
fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx avx512f
avx512dq rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec
xgetbv1 cqm_llc cqm_occup_llc

```

```

/proc/cpuinfo cache data
cache size : 39424 KB

```

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 7 8 9 14 15 16 17 21 22 23 56 57 58 59 63 64 65 70 71 72 73 77 78
79
node 0 size: 94768 MB
node 0 free: 93310 MB
node 1 cpus: 4 5 6 10 11 12 13 18 19 20 24 25 26 27 60 61 62 66 67 68 69 74 75 76 80 81
82 83
node 1 size: 96760 MB
node 1 free: 95341 MB
node 2 cpus: 28 29 30 31 35 36 37 42 43 44 45 49 50 51 84 85 86 87 91 92 93 98 99 100
101 105 106 107
node 2 size: 96760 MB
node 2 free: 95453 MB
node 3 cpus: 32 33 34 38 39 40 41 46 47 48 52 53 54 55 88 89 90 94 95 96 97 102 103 104
108 109 110 111
node 3 size: 96622 MB
node 3 free: 95171 MB
node distances:

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

**CPU2017 License:** 3175  
**Test Sponsor:** Huawei  
**Tested by:** Huawei

**Test Date:** Nov-2016  
**Hardware Availability:** Jul-2017  
**Software Availability:** Feb-2018

### Platform Notes (Continued)

```

node    0    1    2    3
  0:   10   11   21   21
  1:   11   10   21   21
  2:   21   21   10   11
  3:   21   21   11   10

```

From /proc/meminfo

```

MemTotal:      394148932 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

From /etc/\*release\* /etc/\*version\*

```

SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 2
  # This file is deprecated and will be removed in a future service pack or release.
  # Please check /etc/os-release for details about this release.

```

os-release:

```

NAME="SLES"
VERSION="12-SP2"
VERSION_ID="12.2"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp2"

```

uname -a:

```

Linux linux-2gz1 4.4.114-92.64-default #1 SMP Thu Feb 1 19:18:19 UTC 2018 (c6ce5db)
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Oct 31 15:13

SPEC is set to: /spec2017

```

Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3        xfs   269G   23G  246G   9% /

```

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.

```

BIOS INSYDE Corp. 0.62 03/26/2018
Memory:
  24x Samsung M393A2K43BB1-CTD 16 GB 2 rank 2666

```

(End of data from sysinfo program)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175  
Test Sponsor: Huawei  
Tested by: Huawei

Test Date: Nov-2016  
Hardware Availability: Jul-2017  
Software Availability: Feb-2018

## Compiler Version Notes

=====  
CC 519.lbm\_r(base) 538.imagick\_r(base, peak) 544.nab\_r(base)  
-----

icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 519.lbm\_r(peak) 544.nab\_r(peak)  
-----

icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CXXC 508.namd\_r(base) 510.parest\_r(base)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CXXC 508.namd\_r(peak) 510.parest\_r(peak)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 511.povray\_r(base) 526.blender\_r(base)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 511.povray\_r(peak) 526.blender\_r(peak)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

**CPU2017 License:** 3175  
**Test Sponsor:** Huawei  
**Tested by:** Huawei

**Test Date:** Nov-2016  
**Hardware Availability:** Jul-2017  
**Software Availability:** Feb-2018

### Compiler Version Notes (Continued)

FC 507.cactuBSSN\_r(base)

-----  
icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
FC 507.cactuBSSN\_r(peak)

-----  
icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
FC 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak) 554.roms\_r(base)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
FC 554.roms\_r(peak)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 521.wrf\_r(base) 527.cam4\_r(base)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 521.wrf\_r(peak) 527.cam4\_r(peak)

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: Nov-2016

Hardware Availability: Jul-2017

Software Availability: Feb-2018

## Compiler Version Notes (Continued)

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64

507.cactuBSSN\_r: -DSPEC\_LP64

508.namd\_r: -DSPEC\_LP64

510.parest\_r: -DSPEC\_LP64

511.povray\_r: -DSPEC\_LP64

519.lbm\_r: -DSPEC\_LP64

521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian

526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char

527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG

538.imagick\_r: -DSPEC\_LP64

544.nab\_r: -DSPEC\_LP64

549.fotonik3d\_r: -DSPEC\_LP64

554.roms\_r: -DSPEC\_LP64





# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: Nov-2016

Hardware Availability: Jul-2017

Software Availability: Feb-2018

## Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte

Benchmarks using both C and C++:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

Benchmarks using Fortran, C, and C++:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte

## Base Other Flags

C benchmarks:

-m64 -std=c11

C++ benchmarks:

-m64

Fortran benchmarks:

-m64

Benchmarks using both Fortran and C:

-m64 -std=c11

Benchmarks using both C and C++:

-m64 -std=c11

Benchmarks using Fortran, C, and C++:

-m64 -std=c11



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175  
Test Sponsor: Huawei  
Tested by: Huawei

Test Date: Nov-2016  
Hardware Availability: Jul-2017  
Software Availability: Feb-2018

## Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

519.lbm\_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

538.imagick\_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3

544.nab\_r: Same as 519.lbm\_r

C++ benchmarks:

-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

Fortran benchmarks:

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

CPU2017 License: 3175

Test Sponsor: Huawei

Tested by: Huawei

Test Date: Nov-2016

Hardware Availability: Jul-2017

Software Availability: Feb-2018

## Peak Optimization Flags (Continued)

```
503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3
-nostandard-realloc-lhs -align array32byte
```

549.fotonik3d\_r: Same as 503.bwaves\_r

```
554.roms_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs
-align array32byte
```

Benchmarks using both Fortran and C:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C and C++:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3
```

Benchmarks using Fortran, C, and C++:

```
507.cactuBSSN_r: basepeak = yes
```

## Peak Other Flags

C benchmarks:

```
-m64 -std=c11
```

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

```
-m64 -std=c11
```

Benchmarks using both C and C++:

```
-m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c11
```



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Huawei

SPECrate2017\_fp\_base = 246

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECrate2017\_fp\_peak = 250

**CPU2017 License:** 3175

**Test Sponsor:** Huawei

**Tested by:** Huawei

**Test Date:** Nov-2016

**Hardware Availability:** Jul-2017

**Software Availability:** Feb-2018

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Huawei-Platform-Settings-SKL-V1.9-revC.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Huawei-Platform-Settings-SKL-V1.9-revC.xml>

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU2017 v1.0.2 on 2016-11-02 02:32:28-0400.

Report generated on 2018-10-31 17:55:06 by CPU2017 PDF formatter v6067.

Originally published on 2018-06-12.