



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfra Co., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

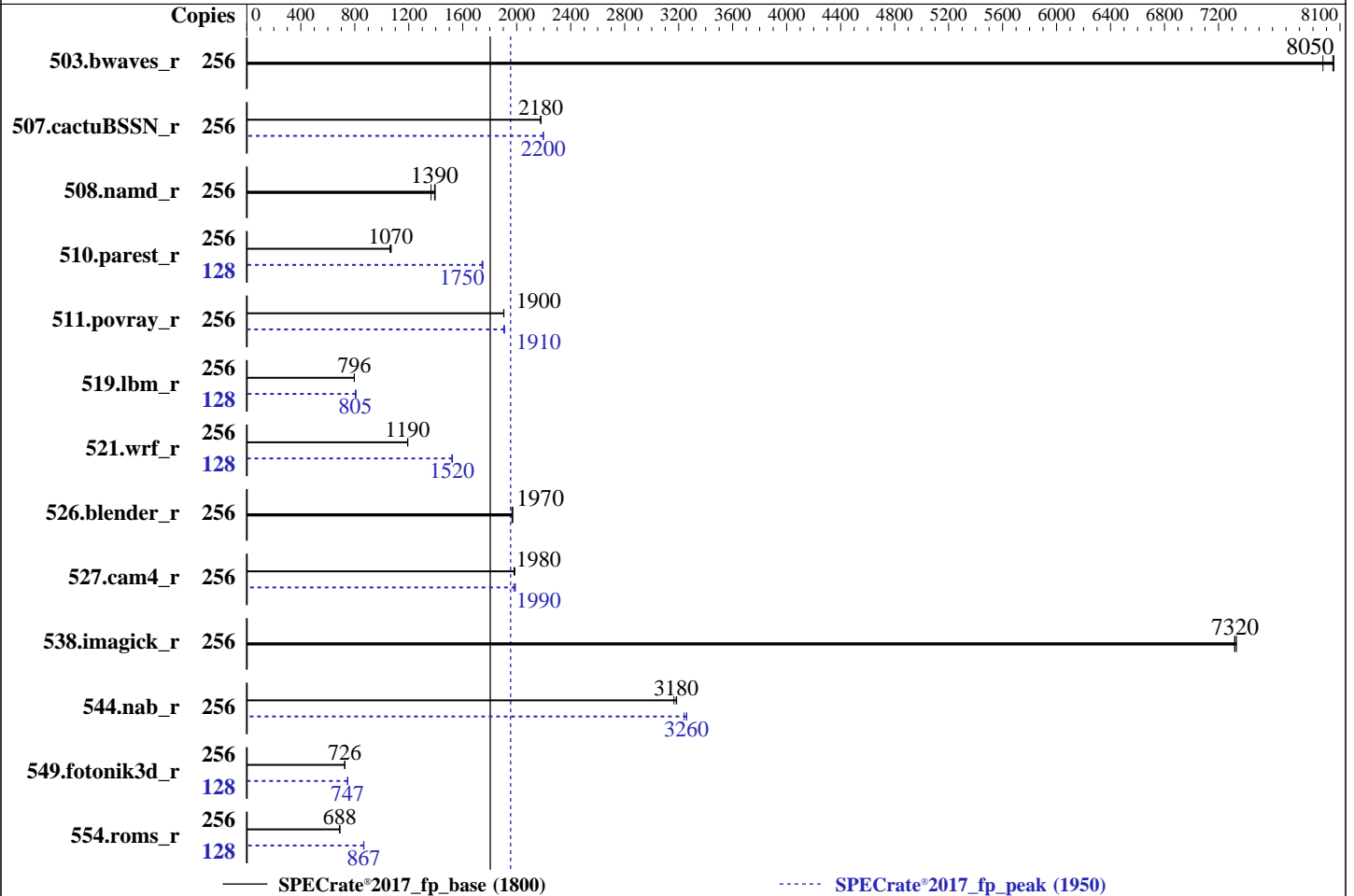
Test Date: Jun-2026

Test Sponsor: Maginfra Co., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfra Co., Ltd.

Software Availability: Jun-2025



### Hardware

CPU Name: AMD EPYC 9575F  
 Max MHz: 5000  
 Nominal: 3300  
 Enabled: 128 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 256 MB I+D on chip per chip, 32 MB shared / 8 cores  
 Other: None  
 Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)  
 Storage: 1 x 4 TB NVME SSD  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP7 6.4.0-150700.51-default  
 Compiler: C/C++/Fortran: Version 5.0.0 of AOCC  
 Parallel: No  
 Firmware: Version 01.14.00 released Dec-2025  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfra Co., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Jun-2025

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	256	322	7970	319	8060	<u>319</u>	<u>8050</u>	256	322	7970	319	8060	<u>319</u>	<u>8050</u>
507.cactuBSSN_r	256	149	2180	149	2180	<u>149</u>	<u>2180</u>	256	147	2200	<u>148</u>	<u>2200</u>	148	2200
508.namd_r	256	174	1400	<u>175</u>	<u>1390</u>	178	1360	256	174	1400	<u>175</u>	<u>1390</u>	178	1360
510.parest_r	256	<u>627</u>	<u>1070</u>	626	1070	631	1060	128	191	1750	<u>192</u>	<u>1750</u>	192	1740
511.povray_r	256	314	1900	314	1910	<u>314</u>	<u>1900</u>	256	<u>313</u>	<u>1910</u>	313	1910	314	1900
519.lbm_r	256	339	796	<u>339</u>	<u>796</u>	339	797	128	<u>168</u>	<u>805</u>	167	809	168	804
521.wrf_r	256	481	1190	481	1190	<u>481</u>	<u>1190</u>	128	188	1520	189	1520	<u>189</u>	<u>1520</u>
526.blender_r	256	198	1960	<u>198</u>	<u>1970</u>	198	1970	256	198	1960	<u>198</u>	<u>1970</u>	198	1970
527.cam4_r	256	225	1990	226	1980	<u>226</u>	<u>1980</u>	256	226	1980	225	1990	<u>225</u>	<u>1990</u>
538.imagick_r	256	86.8	7330	87.0	7320	<u>86.9</u>	<u>7320</u>	256	86.8	7330	87.0	7320	<u>86.9</u>	<u>7320</u>
544.nab_r	256	136	3170	135	3180	<u>135</u>	<u>3180</u>	256	132	3260	<u>132</u>	<u>3260</u>	133	3240
549.fotonik3d_r	256	1375	726	1374	726	<u>1374</u>	<u>726</u>	128	<u>668</u>	<u>747</u>	667	747	668	747
554.roms_r	256	590	690	592	687	<u>591</u>	<u>688</u>	128	235	867	<u>235</u>	<u>867</u>	235	866

SPECrate®2017\_fp\_base = **1800**

SPECrate®2017\_fp\_peak = **1950**

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

### Compiler Notes

The AMD64 AOCC Compiler Suite is available at <http://developer.amd.com/amd-aocc/>

### Submit Notes

The config file option 'submit' was used.  
'numactl' was used to bind copies to the cores.  
See the configuration file for details.

### Operating System Notes

'ulimit -s unlimited' was used to set environment stack size limit  
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:  
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty\_ratio=8' run as root.  
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.  
To free node-local memory and avoid remote memory usage,  
'sysctl -w vm.zone\_reclaim\_mode=1' run as root.  
To clear filesystem caches, 'sync; sysctl -w vm.drop\_caches=3' run as root.  
To disable address space layout randomization (ASLR) to reduce run-to-run  
variability, 'sysctl -w kernel.randomize\_va\_space=0' run as root.

To enable Transparent Hugepages (THP) only on request for base runs,

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Operating System Notes (Continued)

'echo madvise > /sys/kernel/mm/transparent\_hugepage/enabled' run as root.  
To enable THP for all allocations for peak runs,  
'echo always > /sys/kernel/mm/transparent\_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent\_hugepage/defrag' run as root.

## Environment Variables Notes

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

```
LD_LIBRARY_PATH =  
    "/home/CPU2017/amd_rate_aocc500_znver5_A_lib/lib:/home/CPU2017/amd_rate_aocc500_znver5_A_lib/lib32:"  
MALLOC_CONF = "retain:true"
```

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.  
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:  
NUMA nodes per socket = NPS4  
Determinism Slider = Power  
cTDP Control = Manual  
cTDP = 500  
Package Power Limit Control = Manual  
Package Power Limit = 500

Sysinfo program /home/CPU2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Tue Jun 16 16:12:37 2026

SUT (System Under Test) info as seen by some common utilities.

-----  
Table of contents  
-----

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
12. Services, from systemctl list-unit-files

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Sponsor: Maginfraco., Ltd.

Tested by: Maginfraco., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Jun-2025

### Platform Notes (Continued)

- 13. Linux kernel boot-time arguments, from /proc/cmdline
- 14. cpupower frequency-info
- 15. tuned-adm active
- 16. sysctl
- 17. /sys/kernel/mm/transparent\_hugepage
- 18. /sys/kernel/mm/transparent\_hugepage/khugepaged
- 19. OS release
- 20. Disk information
- 21. /sys/devices/virtual/dmi/id
- 22. dmidecode
- 23. BIOS

```
1. uname -a
Linux localhost 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
16:12:37 up 4:09, 3 users, load average: 148.71, 228.45, 243.59
USER      TTY      FROM          LOGIN@      IDLE        JCPU        PCPU WHAT
root      tty1     -              12:03       4:09m      1.02s      0.26s /bin/bash ./amd_rate_aocc500_znver5_A1.sh
root      tty2     -              13:27       2:06m      0.15s      0.15s -bash
root      tty3     -              13:37       2:34m      0.04s      0.04s -bash
```

```
3. Username
From environment variable $USER: root
```

```
4. ulimit -a
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size                (blocks, -f) unlimited
pending signals         (-i) 6190147
max locked memory       (kbytes, -l) 2097152
max memory size         (kbytes, -m) unlimited
open files              (-n) 1024
pipe size                (512 bytes, -p) 8
POSIX message queues    (bytes, -q) 819200
real-time priority      (-r) 0
stack size              (kbytes, -s) unlimited
cpu time                (seconds, -t) unlimited
max user processes      (-u) 6190147
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

```
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
login -- root
-bash
python3 ./run_amd_rate_aocc500_znver5_A1.py
/bin/bash ./amd_rate_aocc500_znver5_A1.sh
runcpu --config amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.087/templogs/preenv.fprate.087.0.log --lognum 087.0 --from_runcpu 2
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

### Platform Notes (Continued)

```
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2017
```

```
-----
6. /proc/cpuinfo
model name      : AMD EPYC 9575F 64-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 2
stepping       : 1
microcode      : 0xb00215a
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
TLB size      : 192 4K pages
cpu cores     : 64
siblings      : 128
2 physical ids (chips)
256 processors (hardware threads)
physical id 0: core ids 0-63
physical id 1: core ids 0-63
physical id 0: apicids 0-127
physical id 1: apicids 128-255
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

```
-----
7. lscpu
```

From lscpu from util-linux 2.40.4:

```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         52 bits physical, 57 bits virtual
Byte Order:            Little Endian
CPU(s):                256
On-line CPU(s) list:  0-255
Vendor ID:             AuthenticAMD
Model name:            AMD EPYC 9575F 64-Core Processor
CPU family:            26
Model:                 2
Thread(s) per core:   2
Core(s) per socket:   64
Socket(s):             2
Stepping:              1
Frequency boost:      enabled
CPU(s) scaling MHz:   101%
CPU max MHz:          3300.0000
CPU min MHz:          1500.0000
BogoMIPS:              6589.80
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb
rdtsmp lm constant_tsc rep_good amd_lbr_v2 nopl nonstop_tsc cpuid
extd_apicid aperfmperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmi1 avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

### Platform Notes (Continued)

```

xsaveerptr rdpru wbnoinvd amd_ppin cppc amd_ibpb_ret arat npt lbrv
svm_lock nrrip_save tsc_scale vmcb_clean flushbyasid decodeassists
pausefilter pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl
vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdprid bus_lock_detect
movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
flush_llid debug_swap hv_inuse_wr_allowed srso_user_kernel_no
amd_lbr_pmc_freeze

```

Virtualization:

AMD-V

L1d cache: 6 MiB (128 instances)  
L1i cache: 4 MiB (128 instances)  
L2 cache: 128 MiB (128 instances)  
L3 cache: 512 MiB (16 instances)

NUMA node(s): 8  
NUMA node0 CPU(s): 0-15,128-143  
NUMA node1 CPU(s): 16-31,144-159  
NUMA node2 CPU(s): 32-47,160-175  
NUMA node3 CPU(s): 48-63,176-191  
NUMA node4 CPU(s): 64-79,192-207  
NUMA node5 CPU(s): 80-95,208-223  
NUMA node6 CPU(s): 96-111,224-239  
NUMA node7 CPU(s): 112-127,240-255

Vulnerability Gather data sampling: Not affected  
Vulnerability Itlb multihit: Not affected  
Vulnerability L1tf: Not affected  
Vulnerability Mds: Not affected  
Vulnerability Meltdown: Not affected  
Vulnerability Mmio stale data: Not affected  
Vulnerability Reg file data sampling: Not affected  
Vulnerability Retbleed: Not affected  
Vulnerability Spec rstack overflow: Mitigation; IBPB on VMEXIT only  
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl  
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP always-on; RSB filling; PBRBSB-eIBRS Not affected; BHI Not affected  
Vulnerability Srbds: Not affected  
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	6M	12	Data	1	64	1	64
L1i	32K	4M	8	Instruction	1	64	1	64
L2	1M	128M	16	Unified	2	1024	1	64
L3	32M	512M	16	Unified	3	32768	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 8 nodes (0-7)
node 0 cpus: 0-15,128-143
node 0 size: 193049 MB
node 0 free: 191958 MB
node 1 cpus: 16-31,144-159
node 1 size: 193527 MB
node 1 free: 192502 MB
node 2 cpus: 32-47,160-175
node 2 size: 193527 MB
node 2 free: 192533 MB
node 3 cpus: 48-63,176-191
node 3 size: 193527 MB

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfra Co., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Jun-2025

### Platform Notes (Continued)

```

node 3 free: 192568 MB
node 4 cpus: 64-79,192-207
node 4 size: 193527 MB
node 4 free: 192540 MB
node 5 cpus: 80-95,208-223
node 5 size: 193527 MB
node 5 free: 192510 MB
node 6 cpus: 96-111,224-239
node 6 size: 193488 MB
node 6 free: 192470 MB
node 7 cpus: 112-127,240-255
node 7 size: 193389 MB
node 7 free: 192355 MB
node distances:
node  0  1  2  3  4  5  6  7
  0: 10 12 12 12 32 32 32 32
  1: 12 10 12 12 32 32 32 32
  2: 12 12 10 12 32 32 32 32
  3: 12 12 12 10 32 32 32 32
  4: 32 32 32 32 10 12 12 12
  5: 32 32 32 32 12 10 12 12
  6: 32 32 32 32 12 12 10 12
  7: 32 32 32 32 12 12 12 10

```

```

-----
9. /proc/meminfo
   MemTotal:      1584705448 kB

```

```

-----
10. who -r
    run-level 3 Jun 16 12:03

```

```

-----
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
    Default Target   Status
    multi-user       running

```

```

-----
12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections
nvmf-autoconnect postfix purge-kernels rollback rsyslog smartd systemd-pstore
enabled-runtime systemd-remount-fs
disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info
firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys
kexec-load lunmask man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd
serial-getty@ smartd_generate_opts snmpd snmptrapd sshd systemd-boot-check-no-failures
systemd-conftxt systemd-network-generator systemd-sysext systemd-time-wait-sync
systemd-timesyncd tuned udisks2 vncserver@ wicked wickedd-auto4 wickedd-dhcp4
wickedd-dhcp6 wickedd-nanny
indirect systemd-userdbd wickedd

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
root=UUID=b599d87c-474e-4c72-b781-36d0bcdcf18d
splash=silent
mitigations=auto

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

### Platform Notes (Continued)

```
quiet
security=apparmor
```

```
-----
14. cpupower frequency-info
analyzing CPU 222:
  current policy: frequency should be within 1.50 GHz and 3.30 GHz.
                   The governor "performance" may decide which speed to use
                   within this range.
  boost state support:
    Supported: yes
    Active: yes
```

```
-----
15. tuned-adm active
It seems that tuned daemon is not running, preset profile is not activated.
Preset profile: throughput-performance
```

```
-----
16. sysctl
kernel.numa_balancing          1
kernel.randomize_va_space      0
vm.compaction_proactiveness    20
vm.dirty_background_bytes      0
vm.dirty_background_ratio      10
vm.dirty_bytes                 0
vm.dirty_expire_centisecs      3000
vm.dirty_ratio                 8
vm.dirty_writeback_centisecs   500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold           500
vm.min_unmapped_ratio          1
vm.nr_hugepages                 0
vm.nr_hugepages_mempolicy      0
vm.nr_overcommit_hugepages     0
vm.swappiness                   1
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           1
```

```
-----
17. /sys/kernel/mm/transparent_hugepage
defrag      [always] defer+madvise madvise never
enabled     [always] madvise never
hpage_pmd_size  2097152
shmem_enabled  always within_size advise [never] deny force
```

```
-----
18. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs  60000
defrag                  1
max_ptes_none          511
max_ptes_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs   10000
```

```
-----
19. OS release
From /etc/*-release /etc/*-version
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## Maginfraco., Ltd.

## QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_base = 1800

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Sponsor: Maginfraco., Ltd.

Tested by: Maginfraco., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Jun-2025

### Platform Notes (Continued)

os-release SUSE Linux Enterprise Server 15 SP7

#### 20. Disk information

SPEC is set to: /home/CPU2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	xfs	929G	39G	890G	5%	/

#### 21. /sys/devices/virtual/dmi/id

Vendor: Maginfraco.  
 Product: QR8218-D3  
 Product Family: Not specified  
 Serial: 00000000

#### 22. dmidecode

Additional information from dmidecode 3.6 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.

##### Memory:

12x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400  
 11x Samsung M321R8GA0PB2-CCPPC 64 GB 2 rank 6400  
 1x Samsung M321R8GA0PB2-CCPWC 64 GB 2 rank 6400

#### 23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.  
 BIOS Version: 01.14.00  
 BIOS Date: 12/25/2025

### Compiler Version Notes

C | 519.lbm\_r(base, peak) 538.imagick\_r(base, peak) 544.nab\_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1316 2024\_09\_09)  
 Target: x86\_64-unknown-linux-gnu  
 Thread model: posix  
 InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

C++ | 508.namd\_r(base, peak) 510.parest\_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1316 2024\_09\_09)  
 Target: x86\_64-unknown-linux-gnu  
 Thread model: posix  
 InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

C++, C | 511.povray\_r(base, peak) 526.blender\_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1316 2024\_09\_09)  
 Target: x86\_64-unknown-linux-gnu

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Compiler Version Notes (Continued)

```
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

```
=====  
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
```

```
=====  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

```
=====  
Fortran | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)
```

```
=====  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

```
=====  
Fortran, C | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
```

```
=====  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin  
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)  
Target: x86_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

## Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Base Compiler Invocation (Continued)

Fortran benchmarks:

flang

Benchmarks using both Fortran and C:

flang clang

Benchmarks using both C and C++:

clang++ clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

## 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\_CASE\_FLAG -Mbyteswapio -DSPEC\_LP64  
526.blender\_r: -funsigned-char -DSPEC\_LP64  
527.cam4\_r: -DSPEC\_CASE\_FLAG -DSPEC\_LP64  
538.imagick\_r: -DSPEC\_LP64  
544.nab\_r: -DSPEC\_LP64  
549.fotonik3d\_r: -DSPEC\_LP64  
554.roms\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather -O3  
-march=znver5 -fveclib=AMDLIBM -ffast-math -fno-PIE -no-pie -flto  
-fstruct-layout=7 -mllvm -unroll-threshold=50  
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc  
-lflang -ldl

C++ benchmarks:

-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang -ldl
```

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang -ldl
```

Benchmarks using both Fortran and C:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fno-PIE -no-pie -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl
```

Benchmarks using both C and C++:

```
-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -lamdlibm -lamdalloc -lflang
-ldl
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++ (continued):

```
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl
```

## Base Other Flags

C benchmarks:

```
-Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```

Benchmarks using both Fortran and C:

```
-Wno-unused-command-line-argument
```

Benchmarks using both C and C++:

```
-Wno-unused-command-line-argument
```

Benchmarks using Fortran, C, and C++:

```
-Wno-unused-command-line-argument
```

## Peak Compiler Invocation

C benchmarks:

```
clang
```

C++ benchmarks:

```
clang++
```

Fortran benchmarks:

```
flang
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

flang clang

Benchmarks using both C and C++:

clang++ clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
519.lbm_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-freemap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

538.imagick\_r: basepeak = yes

```
544.nab_r: -m64 -flto -Wl,-mllvm -Wl,-ldist-scalar-expand
-fenable-aggressive-gather -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -freemap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

C++ benchmarks:

508.namd\_r: basepeak = yes

```
510.parest_r: -m64 -std=c++14 -flto -Wl,-mllvm -Wl,-suppress-fmas
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Peak Optimization Flags (Continued)

510.parest\_r (continued):

```
-march=znver5 -fveclib=AMDLIBM -ffast-math
-mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

Fortran benchmarks:

503.bwaves\_r: basepeak = yes

```
549.fotonik3d_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-Mrecursive -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -fvector-transform
-fscalar-transform -lamdlibm -lamdalloc -ldl -lflang
```

```
554.roms_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-Mrecursive -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm
-lamdalloc -ldl -lflang
```

Benchmarks using both Fortran and C:

```
521.wrf_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-freemap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -Mrecursive
-funroll-loops -mllvm -lsr-in-nested-loop
-fepilog-vectorization-of-inductions -lamdlibm -lamdalloc
-ldl -lflang
```

```
527.cam4_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -freemap-arrays
-mllvm -reduce-array-computations=3 -zopt -Mrecursive
-funroll-loops -mllvm -lsr-in-nested-loop
-fepilog-vectorization-of-inductions -lamdlibm -lamdalloc
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Date: Jun-2026

Test Sponsor: Maginfraco., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfraco., Ltd.

Software Availability: Jun-2025

## Peak Optimization Flags (Continued)

527.cam4\_r (continued):

-ldl -lflang

Benchmarks using both C and C++:

511.povray\_r: -m64 -std=c++14

-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false  
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5  
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000  
-fremap-arrays -mllvm -reduce-array-computations=3 -zopt  
-mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000 -lamdlibm  
-lamdalloc -ldl

526.blender\_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast -march=znver5  
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3 -zopt  
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000  
-faggressive-loop-transform -fvector-transform -fscalar-transform  
-Mrecursive -fepilog-vectorization-of-inductions -lamdlibm -lamdalloc  
-ldl -lflang

## Peak Other Flags

C benchmarks:

-Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2017\_fp\_base = 1800

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2017\_fp\_peak = 1950

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Jun-2025

## Peak Other Flags (Continued)

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-Wno-unused-command-line-argument

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

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.html>

<http://www.spec.org/cpu2017/flags/Maginfra-Platform-Settings-amd-V1.0.html>

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

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.xml>

<http://www.spec.org/cpu2017/flags/Maginfra-Platform-Settings-amd-V1.0.xml>

SPEC CPU and SPECrate are registered trademarks 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 CPU®2017 v1.1.9 on 2026-06-16 16:12:37-0400.

Report generated on 2026-06-30 17:09:47 by CPU2017 PDF formatter v6716.

Originally published on 2026-06-30.