



SPEC CPU®2026 Floating Point Rate Result

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Maginfra Co., Ltd.

SPECrate®2026_fp_base = 473

QR8218-D3 (AMD EPYC 9275F)

SPECrate®2026_fp_peak = 474

CPU2026 License: 9087

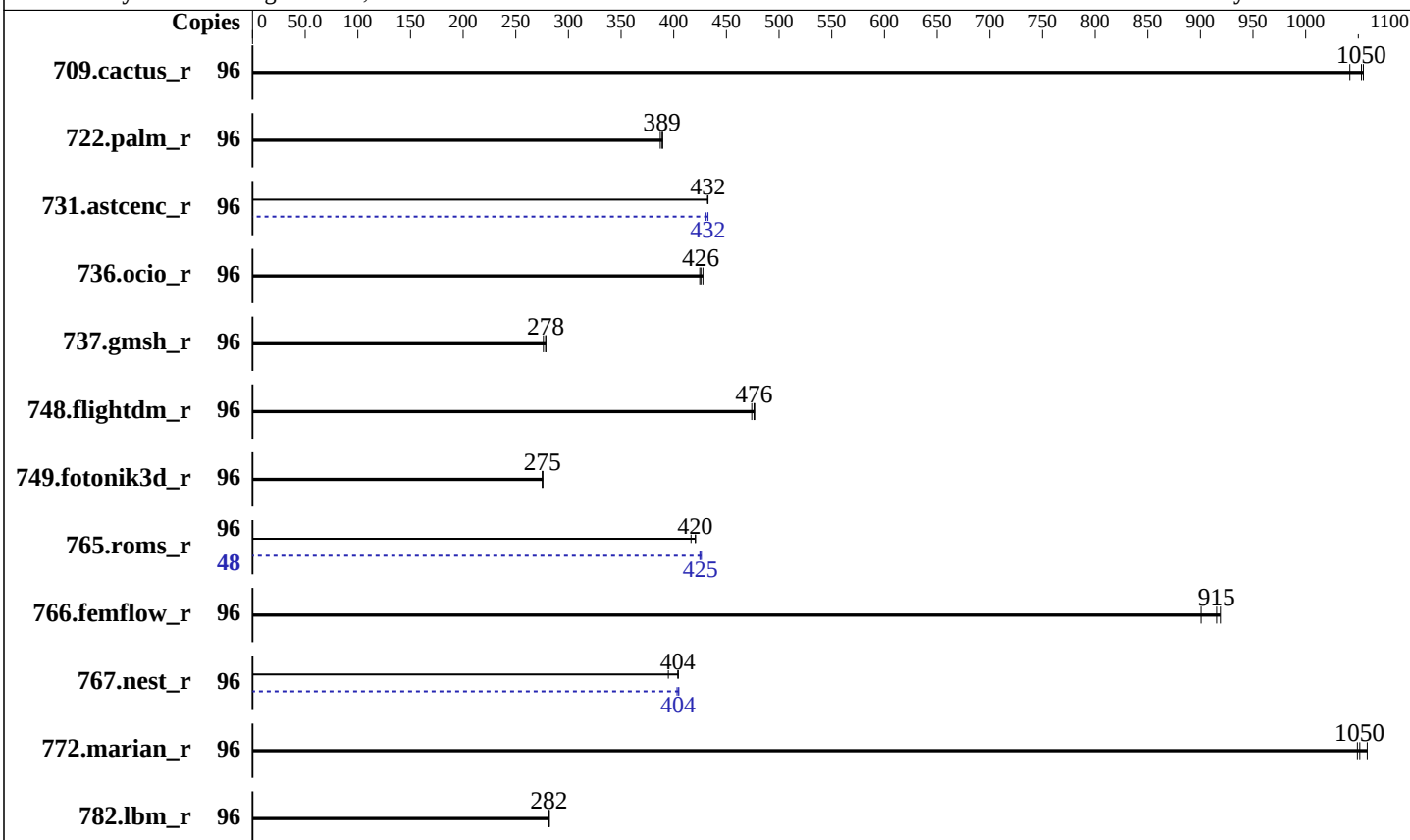
Test Date: Jul-2026

Test Sponsor: Maginfra Co., Ltd.

Hardware Availability: Dec-2025

Tested by: Maginfra Co., Ltd.

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9275F
Max MHz: 4800
Nominal: 4100
Enabled: 48 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 / 3 cores
Other: None
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 4 TB NVME SSD
Cooling: Air
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP7 6.4.0-150700.51-default
Compiler: C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category: Vendor
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.



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	96	79.1	1040	<u>78.2</u>	<u>1050</u>	78.1	1050	96	79.1	1040	<u>78.2</u>	<u>1050</u>	78.1	1050
722.palm_r	96	<u>326</u>	<u>389</u>	327	387	325	389	96	<u>326</u>	<u>389</u>	327	387	325	389
731.astcenc_r	96	186	433	187	432	<u>187</u>	<u>432</u>	96	187	431	186	433	<u>187</u>	<u>432</u>
736.ocio_r	96	196	428	<u>197</u>	<u>426</u>	198	425	96	196	428	<u>197</u>	<u>426</u>	198	425
737.gmsh_r	96	160	276	158	279	<u>158</u>	<u>278</u>	96	160	276	158	279	<u>158</u>	<u>278</u>
748.flightdm_r	96	<u>144</u>	<u>476</u>	145	474	144	477	96	<u>144</u>	<u>476</u>	145	474	144	477
749.fotonik3d_r	96	403	275	<u>403</u>	<u>275</u>	403	276	96	403	275	<u>403</u>	<u>275</u>	403	276
765.roms_r	96	359	421	<u>360</u>	<u>420</u>	363	416	48	177	426	<u>178</u>	<u>425</u>	178	425
766.femflow_r	96	156	901	153	919	<u>154</u>	<u>915</u>	96	156	901	153	919	<u>154</u>	<u>915</u>
767.nest_r	96	<u>189</u>	<u>404</u>	193	395	188	404	96	<u>188</u>	<u>404</u>	189	403	188	405
772.marian_r	96	144	1050	<u>144</u>	<u>1050</u>	143	1060	96	144	1050	<u>144</u>	<u>1050</u>	143	1060
782.lbm_r	96	195	282	195	281	<u>195</u>	<u>282</u>	96	195	282	195	281	<u>195</u>	<u>282</u>

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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.

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Operating System Notes (Continued)

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) for all allocations, '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/CPU2026/amd_rate_aocc510_znver5_B_lib/lib:/home/CPU2026/amd_rate_  
    aocc510_znver5_B_lib/lib32:"  
MALLOC_CONF = "retain:true"
```

General Notes

Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB Memory using Ubuntu 24.04

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/CPU2026/bin/sysinfo

Rev: 779ab21020787073335a329f3a45e2cd

running on localhost Sat Aug 1 01:35:14 2026

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

Table of contents

-
1. uname -srvm
 2. w
 3. Username
 4. ulimit -a
 5. sysinfo process ancestry
 6. /proc/cpuinfo

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Platform Notes (Continued)

```
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
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 -srv
Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64
```

```
-----
2. w
01:35:14 up 5:15, 2 users, load average: 48.28, 82.37, 89.40
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU WHAT
root      tty1      -              20:20       4:07m  4.56s   3.32s python3 ./run_amd_rate_aocc510_znver5_B1.py
root      tty2      -              20:24       5:10m  0.00s   0.00s more
```

```
-----
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) 6190541
max locked memory       (kbytes, -l) 2048
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
```

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Platform Notes (Continued)

stack size	(kbytes, -s) unlimited
cpu time	(seconds, -t) unlimited
max user processes	(-u) 6190541
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_aocc510_znver5_B1.py
runcpu --config amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.035/templogs/preenv.fprate.035.0.log --lognum 035.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9275F 24-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 srs0
TLB size        : 192 4K pages
cpu cores       : 24
siblings        : 48
2 physical ids (chips)
96 processors (hardware threads)
physical id 0:   core ids 0-2,8-10,16-18,24-26,32-34,40-42,48-50,56-58
physical id 1:   core ids 0-2,8-10,16-18,24-26,32-34,40-42,48-50,56-58
physical id 0:   apicids 0-5,16-21,32-37,48-53,64-69,80-85,96-101,112-117
physical id 1:   apicids 128-133,144-149,160-165,176-181,192-197,208-213,224-229,240-245
```

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

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Platform Notes (Continued)

Byte Order: Little Endian
CPU(s): 96
On-line CPU(s) list: 0-95
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9275F 24-Core Processor
CPU family: 26
Model: 2
Thread(s) per core: 2
Core(s) per socket: 24
Socket(s): 2
Stepping: 1
Frequency boost: enabled
CPU(s) scaling MHz: 102%
CPU max MHz: 4100.0000
CPU min MHz: 1500.0000
BogoMIPS: 8187.19

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
rdtscp 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 bpeext
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
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
vnm1 avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
flush_l1d debug_swap hv_inuse_wr_allowed srso_user_kernel_no
amd_lbr_pmc_freeze

Virtualization: AMD-V
L1d cache: 2.3 MiB (48 instances)
L1i cache: 1.5 MiB (48 instances)
L2 cache: 48 MiB (48 instances)
L3 cache: 512 MiB (16 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-5, 48-53
NUMA node1 CPU(s): 6-11, 54-59
NUMA node2 CPU(s): 12-17, 60-65
NUMA node3 CPU(s): 18-23, 66-71

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Platform Notes (Continued)

NUMA node4 CPU(s): 24-29,72-77
NUMA node5 CPU(s): 30-35,78-83
NUMA node6 CPU(s): 36-41,84-89
NUMA node7 CPU(s): 42-47,90-95
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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP always-on; RSB filling; PBRSE-IBRS 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	2.3M	12	Data	1	64	1	64
L1i	32K	1.5M	8	Instruction	1	64	1	64
L2	1M	48M	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: 0-5,48-53
node 0 size: 193055 MB
node 0 free: 192435 MB
node 1 cpus: 6-11,54-59
node 1 size: 193494 MB
node 1 free: 192877 MB
node 2 cpus: 12-17,60-65
node 2 size: 193532 MB
node 2 free: 192915 MB
node 3 cpus: 18-23,66-71
node 3 size: 193532 MB
node 3 free: 192912 MB
node 4 cpus: 24-29,72-77
node 4 size: 193532 MB
node 4 free: 192899 MB
node 5 cpus: 30-35,78-83

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Platform Notes (Continued)

```
node 5 size: 193532 MB
node 5 free: 192920 MB
node 6 cpus: 36-41,84-89
node 6 size: 193532 MB
node 6 free: 192948 MB
node 7 cpus: 42-47,90-95
node 7 size: 193449 MB
node 7 free: 192839 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:      1584806368 kB
```

```
-----
10. who -r
    run-level 3 Jul 31 20:20
```

```
-----
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 nsd nvme-fc-connections
                                     nvme-fc-autoconnect postfix purge-kernel 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
                                     firewallld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdev 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-confext systemd-network-generator systemd-sysext systemd-time-wait-sync
                                     systemd-timesyncd tuned udisks2 vncserver@ wicked wickedd-auto4 wickedd-dhcp4
                                     wickedd-dhcp6 wickedd-nanny
```

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Platform Notes (Continued)

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-b781-36d0bcedf18d

splash=silent

mitigations=auto

quiet

security=apparmor

14. cpupower frequency-info

analyzing CPU 61:

current policy: frequency should be within 1.50 GHz and 4.10 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

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Platform Notes (Continued)

```
-----
17. /sys/kernel/mm/transparent_hugepage
   defrag          [always] defer 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
   os-release SUSE Linux Enterprise Server 15 SP7
-----
```

```
-----
20. Disk information
   SPEC is set to: /home/CPU2026
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/nvme0n1p2  xfs   929G   70G  860G   8% /
-----
```

```
-----
21. /sys/devices/virtual/dmi/id
   Vendor:          Maginfra
   Product:          QR8218-D3
   Product Family:   Not specified
   Serial:           000000000
-----
```

```
-----
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
-----
```

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Platform Notes (Continued)

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 | 782.lbm_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

C++ | 731.astcenc_r(base, peak) 736.ocio_r(base, peak)

| 748.flightdm_r(base, peak) 766.femflow_r(base, peak)

| 767.nest_r(base, peak) 772.marian_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

C++, C | 709.cactus_r(base, peak) 737.gmsh_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

Fortran | 722.palm_r(base, peak) 749.fotonik3d_r(base, peak) 765.roms_r(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)

Target: x86_64-unknown-linux-gnu

Thread model: posix

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SPEC CPU®2026 Floating Point Rate Result

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Maginfra Co., Ltd.

SPECrate®2026_fp_base = 473

QR8218-D3 (AMD EPYC 9275F)

SPECrate®2026_fp_peak = 474

CPU2026 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026

Compiler Version Notes (Continued)

InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both C and C++:

clang++ clang

Base Portability Flags

736.ocio_r: -fno-finite-math-only

737.gmsh_r: -fno-fast-math

748.flightdm_r: -fno-reciprocal-math

767.nest_r: -fno-finite-math-only

Base Optimization Flags

C benchmarks:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

-Wl,-mllvm -Wl,-reduce-array-computations=3

-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather

-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -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

C++ benchmarks:

-m64 -std=c++17 -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

-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -flto

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Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=2000000  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc  
-lflang
```

Fortran benchmarks:

```
-m64 -Mstandard -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 -ffast-math -O3  
-march=znver5 -fveclib=AMDLIBM -flto -Mrecursive -funroll-loops  
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3  
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc  
-lflang
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -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  
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -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=2000000 -lamdlibm -lamdalloc -lflang
```

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both C and C++:

clang++ clang



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Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026

Peak Portability Flags

736.ocio_r: -fno-finite-math-only
737.gmsh_r: -fno-fast-math
748.flightdm_r: -fno-reciprocal-math
767.nest_r: -fno-finite-math-only

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

731.astcenc_r: -m64 -std=c++17
-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 -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -lflang

736.ocio_r: basepeak = yes

748.flightdm_r: basepeak = yes

766.femflow_r: basepeak = yes

767.nest_r: Same as 731.astcenc_r

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

749.fotonik3d_r: basepeak = yes

765.roms_r: -m64 -Mstandard
-Wl, -mllvm -Wl, -align-all-nofallthru-blocks=6
-Wl, -mllvm -Wl, -reduce-array-computations=3 -ffast-math
-Ofast -march=znver5 -fveclib=AMDLIBM -flto -Mrecursive

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Peak Optimization Flags (Continued)

765.roms_r (continued):

-mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm
-lamdalloc -lflang

Benchmarks using both C and C++:

709.cactus_r: basepeak = yes

737.gmsh_r: basepeak = yes

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.html>

<http://www.spec.org/cpu2026/results/flags/Maginfra-Platform-Settings-amd-V1.1.html>

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.xml>

<http://www.spec.org/cpu2026/results/flags/Maginfra-Platform-Settings-amd-V1.1.xml>

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