



SPEC CPU®2026 Floating Point Rate Result

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Maginfra Co., Ltd.

QR8218-D3 (AMD EPYC 9575F)

SPECrate®2026_fp_base = 778

SPECrate®2026_fp_peak = 804

CPU2026 License: 9087

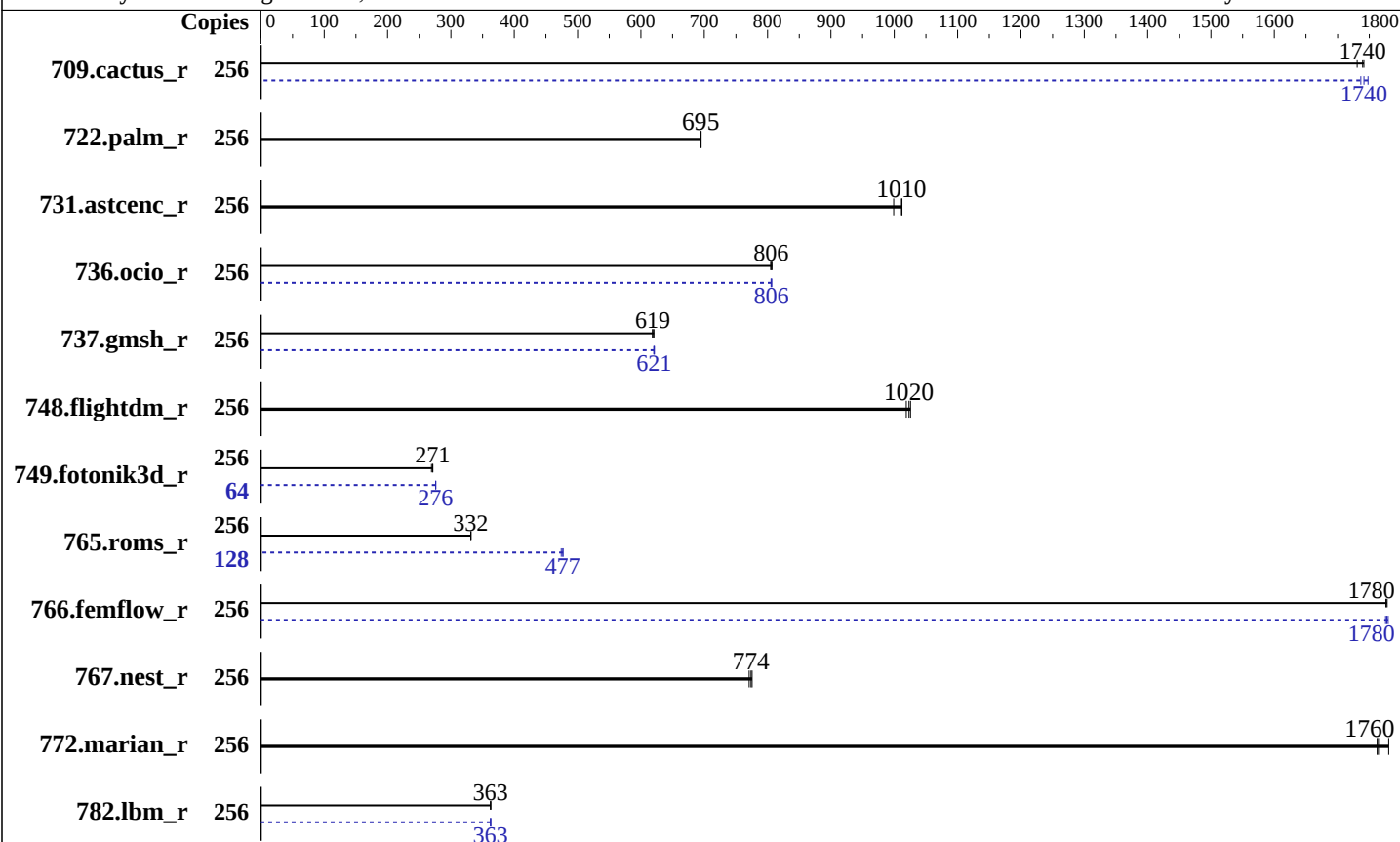
Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026



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
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	256	<u>126</u>	<u>1740</u>	126	1740	127	1730	256	126	1750	<u>126</u>	<u>1740</u>	126	1740
722.palm_r	256	486	695	487	694	<u>486</u>	<u>695</u>	256	486	695	487	694	<u>486</u>	<u>695</u>
731.astcenc_r	256	215	999	212	1010	<u>213</u>	<u>1010</u>	256	215	999	212	1010	<u>213</u>	<u>1010</u>
736.ocio_r	256	<u>278</u>	<u>806</u>	278	807	278	805	256	<u>278</u>	<u>806</u>	278	805	278	807
737.gmsh_r	256	189	621	190	618	<u>190</u>	<u>619</u>	256	189	620	<u>189</u>	<u>621</u>	189	621
748.flightdm_r	256	180	1020	<u>179</u>	<u>1020</u>	179	1030	256	180	1020	<u>179</u>	<u>1020</u>	179	1030
749.fotonik3d_r	256	1090	271	1099	269	<u>1091</u>	<u>271</u>	64	268	276	268	276	<u>268</u>	<u>276</u>
765.roms_r	256	1217	331	1215	332	<u>1216</u>	<u>332</u>	128	<u>423</u>	<u>477</u>	423	477	425	474
766.femflow_r	256	211	1780	211	1780	<u>211</u>	<u>1780</u>	256	<u>211</u>	<u>1780</u>	211	1780	211	1780
767.nest_r	256	262	776	<u>262</u>	<u>774</u>	263	771	256	262	776	<u>262</u>	<u>774</u>	263	771
772.marian_r	256	227	1780	<u>229</u>	<u>1760</u>	229	1760	256	227	1780	<u>229</u>	<u>1760</u>	229	1760
782.lbm_r	256	405	363	404	363	<u>404</u>	<u>363</u>	256	<u>404</u>	<u>363</u>	404	363	405	363

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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 Jul 11 00:06:44 2026

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

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1. uname -srv
 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 -srvn
```

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

```
2. w
```

```
00:06:44 up 5:14, 2 users, load average: 117.61, 215.61, 236.60
USER      TTY      FROM          LOGIN@      IDLE        JCPU   PCPU WHAT
root     tty1      -              18:55       5:11m 11.17s 10.31s python3 ./run_amd_rate_aocc510_znver5_B1.py
root     tty2      -              23:49       15:48   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) 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)	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_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/CPU2026.012/templogs/preenv.fprate.012.0.log --lognum 012.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2026
```

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 srs0
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

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Platform Notes (Continued)

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: 102%
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
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: 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

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Platform Notes (Continued)

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; 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	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: 191906 MB
node 1 cpus: 16-31,144-159
node 1 size: 193527 MB
node 1 free: 192435 MB
node 2 cpus: 32-47,160-175
node 2 size: 193527 MB
node 2 free: 192431 MB
node 3 cpus: 48-63,176-191
node 3 size: 193527 MB
node 3 free: 192372 MB
node 4 cpus: 64-79,192-207
node 4 size: 193527 MB
node 4 free: 192393 MB
node 5 cpus: 80-95,208-223

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Platform Notes (Continued)

```
node 5 size: 193527 MB
node 5 free: 192426 MB
node 6 cpus: 96-111,224-239
node 6 size: 193527 MB
node 6 free: 192449 MB
node 7 cpus: 112-127,240-255
node 7 size: 193350 MB
node 7 free: 192262 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:      1584705476 kB
-----
```

```
-----
10. who -r
    run-level 3 Jul 10 18:52
-----
```

```
-----
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-boot-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 204:
  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
```

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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   73G  856G   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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Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026

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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SPECrate®2026_fp_base = 778

QR8218-D3 (AMD EPYC 9575F)

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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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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:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math -Ofast
-march=znver5 -fveclib=AMDLIBM -flto -fstruct-layout=7
-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3 -zopt
-lamdlibm -lamdalloc

C++ benchmarks:

731.astcenc_r: basepeak = yes

736.ocio_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

748.flightdm_r: basepeak = yes

766.femflow_r: Same as 736.ocio_r

767.nest_r: basepeak = yes

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

749.fotonik3d_r: -m64 -Mstandard
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

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Peak Optimization Flags (Continued)

749.fotonik3d_r (continued):

-Wl, -mllvm -Wl, -reduce-array-computations=3 -ffast-math
-Ofast -march=znver5 -fveclib=AMDLIBM -flto -Mrecursive
-mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm
-lamdalloc -lflang

765.roms_r: Same as 749.fotonik3d_r

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=200000 -lamdlibm -lamdalloc -lflang

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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