



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

CPU2017 License: 9016

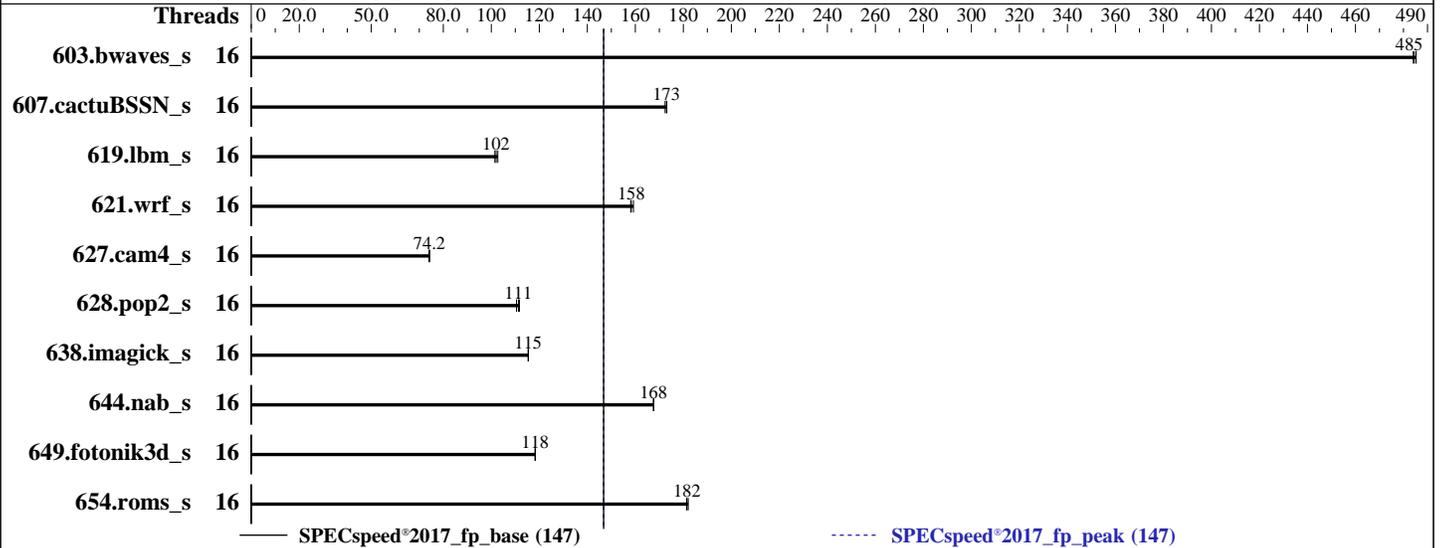
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024



### Hardware

CPU Name: AMD EPYC 9015  
 Max MHz: 4100  
 Nominal: 3600  
 Enabled: 8 cores, 1 chip, 2 threads/core  
 Orderable: 1 chip  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 64 MB I+D on chip per chip,  
 32 MB shared / 4 cores  
 Other: None  
 Memory: 384 GB (12 x 32 GB 2Rx4 PC5-6400B-R)  
 Storage: 1 x 3.2 TB PCIe NVMe SSD  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP6 (x86\_64)  
 Kernel 6.4.0-150600.21-default  
 Compiler: C/C++/Fortran: Version 5.0.0 of AOCC  
 Parallel: Yes  
 Firmware: Version 0302 released Jun-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 Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECSpeed®2017\_fp\_base = 147

SPECSpeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026  
**Hardware Availability:** Jun-2025  
**Software Availability:** Oct-2024

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	16	<b>122</b>	<b>485</b>	122	484	122	485	16	<b>122</b>	<b>485</b>	122	484	122	485
607.cactuBSSN_s	16	96.3	173	<b>96.4</b>	<b>173</b>	96.7	172	16	96.3	173	<b>96.4</b>	<b>173</b>	96.7	172
619.lbm_s	16	51.0	103	51.6	101	<b>51.3</b>	<b>102</b>	16	51.0	103	51.6	101	<b>51.3</b>	<b>102</b>
621.wrf_s	16	83.7	158	83.1	159	<b>83.5</b>	<b>158</b>	16	83.7	158	83.1	159	<b>83.5</b>	<b>158</b>
627.cam4_s	16	120	74.1	119	74.3	<b>119</b>	<b>74.2</b>	16	120	74.1	119	74.3	<b>119</b>	<b>74.2</b>
628.pop2_s	16	<b>107</b>	<b>111</b>	107	111	106	112	16	<b>107</b>	<b>111</b>	107	111	106	112
638.imagick_s	16	<b>125</b>	<b>115</b>	125	115	125	115	16	<b>125</b>	<b>115</b>	125	115	125	115
644.nab_s	16	<b>104</b>	<b>168</b>	104	168	104	168	16	<b>104</b>	<b>168</b>	104	168	104	168
649.fotonik3d_s	16	<b>77.0</b>	<b>118</b>	77.0	118	77.1	118	16	<b>77.0</b>	<b>118</b>	77.0	118	77.1	118
654.roms_s	16	<b>86.7</b>	<b>182</b>	86.8	181	86.5	182	16	<b>86.7</b>	<b>182</b>	86.8	181	86.5	182

SPECSpeed®2017\_fp\_base = **147**

SPECSpeed®2017\_fp\_peak = **147**

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
OS set to performance mode via cpupower frequency-set -g performance
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) for all allocations,
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.
```



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026

**Hardware Availability:** Jun-2025

**Software Availability:** Oct-2024

## Environment Variables Notes

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

```
GOMP_CPU_AFFINITY = "0-15"
LD_LIBRARY_PATH =
    "/aocc500A1/amd_speed_aocc500_znver5_A_lib/lib:/aocc500A1/amd_speed_aocc500_znver5_A_lib/lib32:"
LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "16"
```

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9D64 CPU + 500GiB Memory using Ubuntu 22.04

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:

```
SR-IOV Support = Disabled
SVM Mode = Disabled
L1 Stride Prefetcher = Disabled
APBDIS = 1
Determinism Control = Manual
DRAM Scrub time = Disabled
Engine Boost = Aggressive
TDP Control = Manual
TDP = 155
PPT Control = Manual
PPT = 155
BMC Configuration:
Fan mode = Full speed mode
```

```
Sysinfo program /aocc500A1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Mon Jan 19 09:20:56 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026

**Hardware Availability:** Jun-2025

**Software Availability:** Oct-2024

### Platform Notes (Continued)

```

9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
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 -a
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
x86_64 x86_64 x86_64 GNU/Linux

```

```

-----
2. w
09:20:56 up 2 min, 1 user, load average: 1.15, 0.58, 0.23
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1     -             09:20   15.00s 0.78s 0.03s /bin/bash ./amd_speed_aocc500_znver5_A1.sh

```

```

-----
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) 1544281
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) 1544281
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
/bin/bash ./speed.sh
python3 ./run_amd_speed_aocc500_znver5_A1.py
/bin/bash ./amd_speed_aocc500_znver5_A1.sh
runcpu --config amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 fpspeed

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024

### Platform Notes (Continued)

```
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode speed --tune base:peak --size test:train:refspeed fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.755/tempslogs/preenv.fpspeed.755.0.log --lognum 755.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /aocc500A1
```

#### 6. /proc/cpuinfo

```
model name      : AMD EPYC 9015 8-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 2
stepping       : 1
microcode      : 0xb002147
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size      : 192 4K pages
cpu cores     : 8
siblings      : 16
1 physical ids (chips)
16 processors (hardware threads)
physical id 0: core ids 0-3,8-11
physical id 0: apicids 0-7,16-23
```

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 2.39.3:

```
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):                16
On-line CPU(s) list:  0-15
Vendor ID:             AuthenticAMD
BIOS Vendor ID:       Advanced Micro Devices, Inc.
Model name:            AMD EPYC 9015 8-Core Processor
BIOS Model name:      AMD EPYC 9015 8-Core Processor
BIOS CPU family:      107
CPU family:            26
Model:                 2
Thread(s) per core:   2
Core(s) per socket:   8
Socket(s):             1
Stepping:              1
Frequency boost:      enabled
CPU(s) scaling MHz:   94%
CPU max MHz:           4113.2808
CPU min MHz:           1500.0000
BogoMIPS:              7189.18
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 aperfmpperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
cmp_legacy 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
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024

### Platform Notes (Continued)

```

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 arat npt lbrv svm_lock
nrip_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 rdpid bus_lock_detect
movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
flush_llid debug_swap

```

```

L1d cache: 384 KiB (8 instances)
L1i cache: 256 KiB (8 instances)
L2 cache: 8 MiB (8 instances)
L3 cache: 64 MiB (2 instances)

```

```

NUMA node(s): 1
NUMA node0 CPU(s): 0-15
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: Not affected
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-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	384K	12	Data	1	64	1	64
L1i	32K	256K	8	Instruction	1	64	1	64
L2	1M	8M	16	Unified	2	1024	1	64
L3	32M	64M	16	Unified	3	32768	1	64

8. numactl --hardware

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

```

available: 1 nodes (0)
node 0 cpus: 0-15
node 0 size: 386096 MB
node 0 free: 385397 MB
node distances:
node 0
0: 10

```

9. /proc/meminfo

MemTotal: 395362852 kB

10. who -r

run-level 3 Jan 19 09:19

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECSpeed®2017\_fp\_base = 147

SPECSpeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026  
**Hardware Availability:** Jun-2025  
**Software Availability:** Oct-2024

### Platform Notes (Continued)

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

```
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 getty@ irqbalance issue-generator
kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections nvmmf-autoconnect postfix
purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4
wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny

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 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 svnserve systemd-boot-check-no-failures
systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync
systemd-timesyncd tuned udisks2

indirect systemd-userdbd wickedd
```

13. Linux kernel boot-time arguments, from /proc/cmdline

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=8bcfdda5-8f30-49cc-9aa9-2e306fa29252
splash=silent
mitigations=auto
quiet
security=apparmor
video=1024x768
```

14. cpupower frequency-info

```
analyzing CPU 7:
current policy: frequency should be within 1.50 GHz and 3.60 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 0
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
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026

**Hardware Availability:** Jun-2025

**Software Availability:** Oct-2024

### Platform Notes (Continued)

```

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
os-release SUSE Linux Enterprise Server 15 SP6

```

```

-----
20. Disk information
SPEC is set to: /aocc500A1
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p4 xfs 2.8T 100G 2.7T 4% /

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:          ASUSTeK COMPUTER INC.
Product:         RS520QA-E13-RS8U
Product Family: Server
Serial:          /psn/

```

```

-----
22. dmidecode
Additional information from dmidecode 3.4 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 M321R4GA3PB2-CCPKC 32 GB 2 rank 6400

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      American Megatrends Inc.
BIOS Version:     0302
BIOS Date:        06/26/2025
BIOS Revision:    3.2

```



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024

## Compiler Version Notes

-----  
C | 619.lbm\_s(base, peak) 638.imagick\_s(base, peak) 644.nab\_s(base, peak)  
-----

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
-----

-----  
C++, C, Fortran | 607.cactuBSSN\_s(base, peak)  
-----

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
-----

-----  
Fortran | 603.bwaves\_s(base, peak) 649.fotonik3d\_s(base, peak) 654.roms\_s(base, peak)  
-----

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
-----

-----  
Fortran, C | 621.wrf\_s(base, peak) 627.cam4\_s(base, peak) 628.pop2\_s(base, peak)  
-----

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1377 2024\_09\_24)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin  
-----

## Base Compiler Invocation

C benchmarks:

clang

Fortran benchmarks:

flang

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024

## Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

flang clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

## Base Portability Flags

603.bwaves\_s: -DSPEC\_LP64  
607.cactuBSSN\_s: -DSPEC\_LP64  
619.lbm\_s: -DSPEC\_LP64  
621.wrf\_s: -DSPEC\_CASE\_FLAG -Mbyteswapio -DSPEC\_LP64  
627.cam4\_s: -DSPEC\_CASE\_FLAG -DSPEC\_LP64  
628.pop2\_s: -DSPEC\_CASE\_FLAG -Mbyteswapio -DSPEC\_LP64  
638.imagick\_s: -DSPEC\_LP64  
644.nab\_s: -DSPEC\_LP64  
649.fotonik3d\_s: -DSPEC\_LP64  
654.roms\_s: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5  
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC\_OPENMP -flto  
-fremap-arrays -fstrip-mining -fstruct-layout=7  
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3  
-mllvm -unroll-threshold=50 -zopt -mrecip=none -fopenmp=libomp -lomp  
-lamdlibm -lamdalloc -lflang

Fortran benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-enable-X86-prefetching -DSPEC\_OPENMP -O3 -march=znver5  
-fveclib=AMDLIBM -ffast-math -fopenmp -flto -funroll-loops  
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3  
-Mrecursive -zopt -fopenmp=libomp -lomp -lamdlibm -lamdalloc  
-lflang

Benchmarks using both Fortran and C:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECSpeed®2017\_fp\_base = 147

SPECSpeed®2017\_fp\_peak = 147

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2026

Hardware Availability: Jun-2025

Software Availability: Oct-2024

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-Wl,-mllvm -Wl,-enable-X86-prefetching -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP -flto
-freemap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -funroll-loops
-mllvm -lsr-in-nested-loop -Mrecursive -mrecip=none -fopenmp=libomp
-lomp -lamdlibm -lamdalloc -lflang
```

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 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP -flto
-freemap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt
-mllvm -loop-unswitch-threshold=200000 -mllvm -unroll-threshold=100
-funroll-loops -mllvm -lsr-in-nested-loop -Mrecursive -mrecip=none
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

## Base Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

```
-Wno-return-type -Wno-unused-command-line-argument
```

Benchmarks using Fortran, C, and C++:

```
-Wno-return-type -Wno-unused-command-line-argument
```

## Peak Compiler Invocation

C benchmarks:

```
clang
```

Fortran benchmarks:

```
flang
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

SPECspeed®2017\_fp\_base = 147

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016

**Test Date:** Jan-2026

**Test Sponsor:** ASUSTeK Computer Inc.

**Hardware Availability:** Jun-2025

**Tested by:** ASUSTeK Computer Inc.

**Software Availability:** Oct-2024

## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

flang clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

619.lbm\_s: basepeak = yes

638.imagick\_s: basepeak = yes

644.nab\_s: basepeak = yes

Fortran benchmarks:

603.bwaves\_s: basepeak = yes

649.fotonik3d\_s: basepeak = yes

654.roms\_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf\_s: basepeak = yes

627.cam4\_s: basepeak = yes

628.pop2\_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN\_s: basepeak = yes



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS520QA-E13-RS8U  
(3.60 GHz, AMD EPYC 9015)

SPECspeed®2017\_fp\_base = 147

SPECspeed®2017\_fp\_peak = 147

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2026

**Hardware Availability:** Jun-2025

**Software Availability:** Oct-2024

## Peak Other Flags

C benchmarks:

-Wno-return-type -Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-return-type -Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-Wno-return-type -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/ASUSTekPlatform-Settings-AMD-K15-V1.2.html>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.00.html>

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-AMD-K15-V1.2.xml>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.00.xml>

SPEC CPU and SPECspeed 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 2026-01-18 20:20:56-0500.

Report generated on 2026-02-10 19:32:07 by CPU2017 PDF formatter v6716.

Originally published on 2026-02-10.