



SPEC ACCEL™ OCL Result

Copyright 2015-2022 Standard Performance Evaluation Corporation

Wizbrain Inc.

(Test Sponsor: Telecommunications Technology Association)

NVIDIA Tesla T4-PCIE-16GB

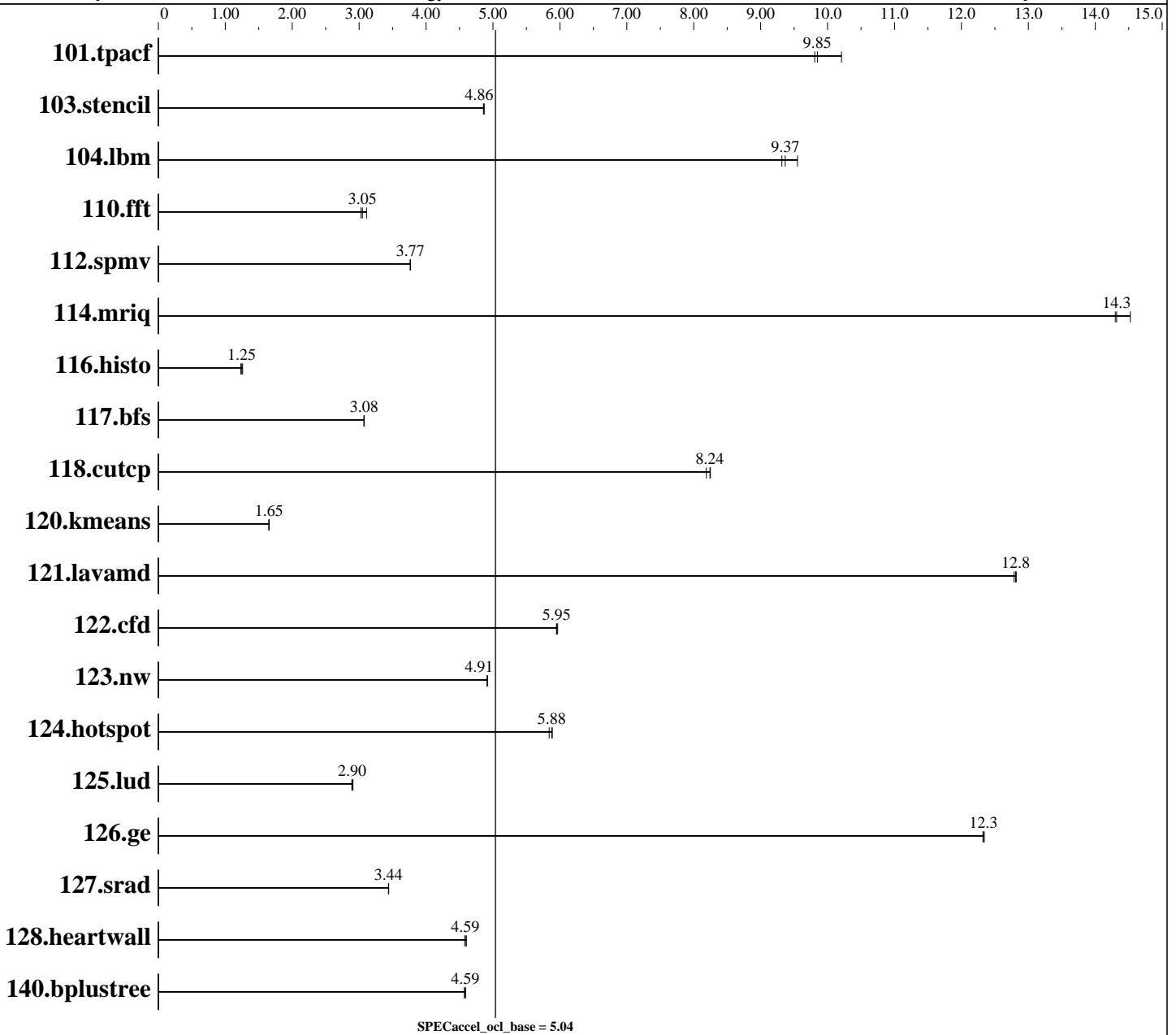
AirHub AHE-2.0K

SPECaccel_ocl_peak = Not Run

SPECaccel_ocl_base = 5.04

ACCEL license: 068
Test sponsor: Telecommunications Technology Association
Tested by: Telecommunications Technology Association

Test date: Nov-2022
Hardware Availability: Sep-2018
Software Availability: Oct-2021





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Hardware

CPU Name: Intel Xeon Silver 4216
CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz: 2100
CPU MHz Maximum: 3200
FPU: Integrated
CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 1 MB I+D on chip per core
L3 Cache: 22 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (8 x 8 GB 1Rx8 PC4-3200AA-R)
Disk Subsystem: 1 x 480 GB SAMSUNG MZ7WD480
Other Hardware: --

Accelerator

Accel Model Name: Tesla T4-PCIE-16GB
Accel Vendor: NVIDIA
Accel Name: NVIDIA Tesla T4-PCIE-16GB
Type of Accel: GPU
Accel Connection: PCIe 3.0 16x
Does Accel Use ECC: Yes
Accel Description: NVIDIA Tesla T4-PCIE-16GB
Accel Driver: NVIDIA Driver Version 460.106.00

Software

Operating System: CentOS Linux release 7.9.2009 (Core)
 3.10.0-1160.76.1.el7.x86_64
Compiler: GCC 8.3.1 20190311
File System: xfs
System State: Multi-user, run level 3
Other Software: NVIDIA CUDA 11.2



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	10.5	10.2	<u>10.9</u>	<u>9.85</u>	10.9	9.81						
103.stencil	25.7	4.86	25.7	4.87	<u>25.7</u>	<u>4.86</u>						
104.lbm	11.7	9.55	<u>12.0</u>	<u>9.37</u>	12.0	9.32						
110.fft	35.7	3.11	<u>36.4</u>	<u>3.05</u>	36.7	3.03						
112.spmv	39.0	3.77	39.0	3.77	<u>39.0</u>	<u>3.77</u>						
114.mriq	7.50	14.5	<u>7.61</u>	<u>14.3</u>	7.62	14.3						
116.histo	90.5	1.26	<u>91.4</u>	<u>1.25</u>	92.6	1.23						
117.bfs	38.0	3.08	<u>38.0</u>	<u>3.08</u>	38.1	3.07						
118.cutcp	12.0	8.25	<u>12.0</u>	<u>8.24</u>	12.1	8.19						
120.kmeans	60.4	1.66	<u>60.5</u>	<u>1.65</u>	60.6	1.65						
121.lavamd	8.50	12.8	<u>8.51</u>	<u>12.8</u>	8.52	12.8						
122.cfd	21.1	5.97	21.2	5.95	<u>21.2</u>	<u>5.95</u>						
123.nw	23.4	4.92	23.4	4.91	<u>23.4</u>	<u>4.91</u>						
124.hotspot	<u>19.4</u>	<u>5.88</u>	19.5	5.84	19.4	5.89						
125.lud	<u>41.1</u>	<u>2.90</u>	41.2	2.89	40.9	2.91						
126.ge	<u>12.6</u>	<u>12.3</u>	12.6	12.3	12.6	12.3						
127.srad	33.2	3.44	33.1	3.44	<u>33.1</u>	<u>3.44</u>						
128.heartwall	23.0	4.60	<u>23.1</u>	<u>4.59</u>	23.2	4.58						
140.bplustree	<u>23.5</u>	<u>4.59</u>	23.5	4.59	23.6	4.57						

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

Platform Notes

```

Sysinfo program /home/tta0903/accel-1.4/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on tyan Mon Nov 14 04:26:15 2022

```

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: <http://www.spec.org/accel/Docs/config.html#sysinfo>

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Silver 4216 CPU @ 2.10GHz
 2 "physical id"s (chips)
 64 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)

```

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Platform Notes (Continued)

```
cpu cores : 16
siblings  : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB
```

```
From /proc/meminfo
MemTotal:      65589600 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
From /etc/*release* /etc/*version*
centos-release: CentOS Linux release 7.9.2009 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.9 (Source)
os-release:
  NAME="CentOS Linux"
  VERSION="7 (Core)"
  ID="centos"
  ID_LIKE="rhel fedora"
  VERSION_ID="7"
  PRETTY_NAME="CentOS Linux 7 (Core)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:centos:centos:7"
redhat-release: CentOS Linux release 7.9.2009 (Core)
system-release: CentOS Linux release 7.9.2009 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

```
uname -a:
Linux tyan 3.10.0-1160.76.1.el7.x86_64 #1 SMP Wed Aug 10 16:21:17 UTC 2022
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Nov 11 02:36
```

```
SPEC is set to: /home/tta0903/accel-1.4
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/centos-home xfs   291G  63G  228G  22% /home
```

Additional information from dmidecode:

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.

(End of data from sysinfo program)



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General Notes

=====

Spectre and Meltdown

Yes: 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.

Base Runtime Environment

C benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 11.2.162

OpenCL Device #0: Tesla T4, v 460.106.00

C++ benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 11.2.162

OpenCL Device #0: Tesla T4, v 460.106.00

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Base Portability Flags

116.histo: -DSPEC_LOCAL_MEMORY_HEADROOM=2

Base Optimization Flags

C benchmarks:

-O2 -I/usr/local/cuda/include -L/usr/local/cuda/lib64 -lOpenCL

C++ benchmarks:

-O2 -I/usr/local/cuda/include -L/usr/local/cuda/lib64 -lOpenCL



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The flags file that was used to format this result can be browsed at

https://www.spec.org/accel/flags/gcc_flags.20221205.html

You can also download the XML flags source by saving the following link:

https://www.spec.org/accel/flags/gcc_flags.20221205.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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