



# SPEC ACCEL™ OCL Result

Copyright 2015-2021 Standard Performance Evaluation Corporation

## ATEC

(Test Sponsor: Telecommunications Technology Association)

SPECaccel\_ocl\_peak = Not Run

### NVIDIA Tesla V100-PCIE-16GB A208G2

SPECaccel\_ocl\_base = 10.7

ACCEL license: HPG068A

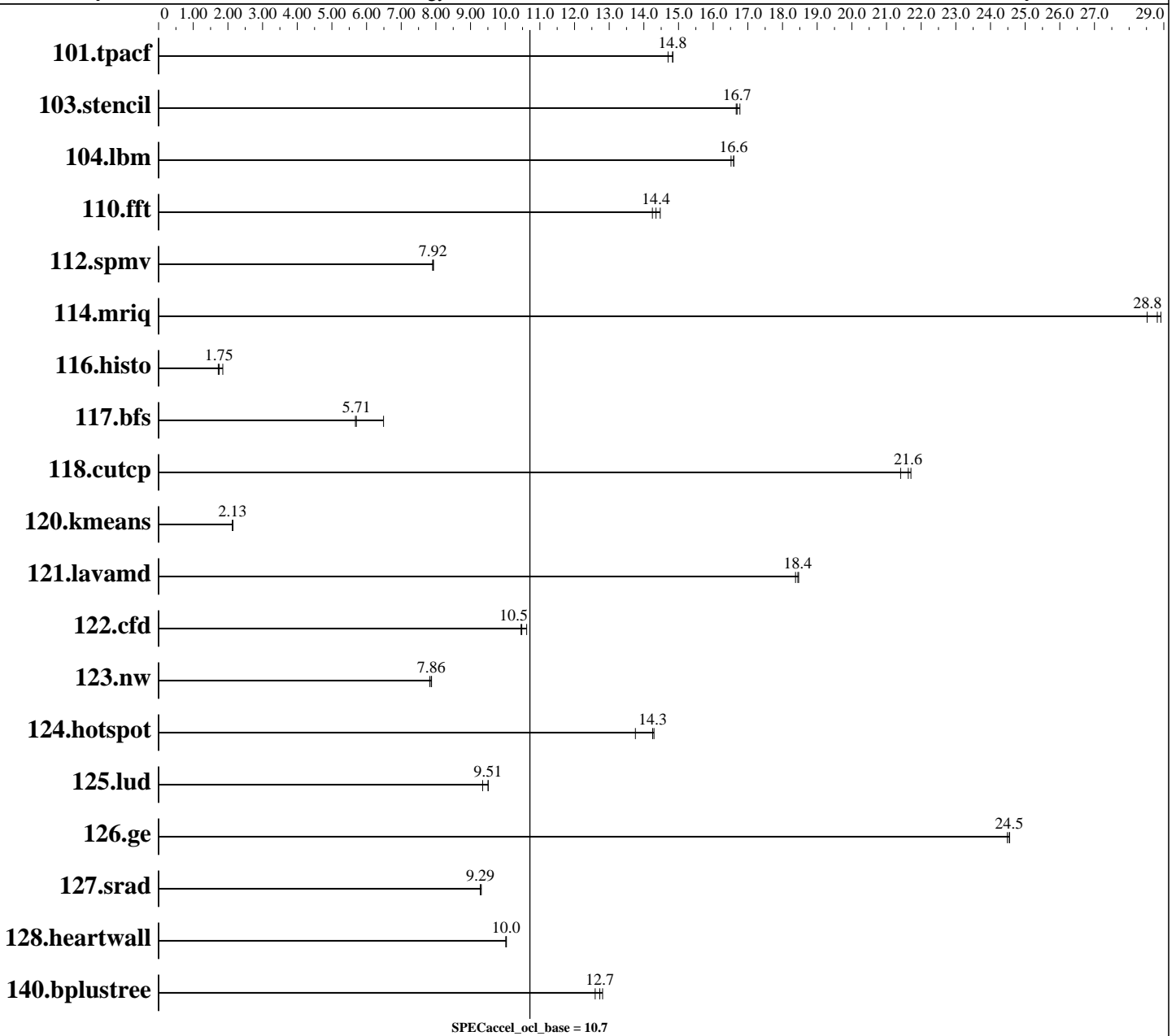
Test date: Sep-2021

Test sponsor: Telecommunications Technology Association

Hardware Availability: Oct 2017

Tested by: Telecommunications Technology Association

Software Availability: Oct 2017





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## Hardware

CPU Name: Intel Xeon Gold 6140  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2300  
 CPU MHz Maximum: 3700  
 FPU: --  
 CPU(s) enabled: 36 cores, 2 chips, 18 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: 1024 KB I+D on chip per core  
 L3 Cache: 24.75 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512GB (16 x 32 GB 2Rx4 PC4-2666V-R)  
 Disk Subsystem: 2x 300GB TOSHIBA AL14SEB030N SAS RAID1  
 Other Hardware: LSI MegaRAID SAS 9361-8i

## Accelerator

Accel Model Name: Tesla V100-PCIE-16GB  
 Accel Vendor: NVIDIA  
 Accel Name: NVIDIA Tesla V100-PCIE-16GB  
 Type of Accel: GPU  
 Accel Connection: PCIe 3.0 16x  
 Does Accel Use ECC: Yes  
 Accel Description: NVIDIA Tesla V100-PCIE-16GB  
 Accel Driver: NVIDIA Driver Version 460.73.01

## Software

Operating System: CentOS Linux release 7.6.1810 (Core)  
 Compiler: GCC version 4.8.5 20150623  
 File System: xfs  
 System State: Multi-user, run level 3  
 Other Software: NVIDIA CUDA 11.4



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	<u>7.22</u>	<u>14.8</u>	7.21	14.8	7.28	14.7						
103.stencil	7.45	16.8	<u>7.49</u>	<u>16.7</u>	7.50	16.7						
104.lbm	<u>6.75</u>	<u>16.6</u>	6.78	16.5	6.75	16.6						
110.fft	<u>7.73</u>	<u>14.4</u>	7.67	14.5	7.79	14.2						
112.spmv	<u>18.6</u>	<u>7.92</u>	18.5	7.93	18.6	7.91						
114.mriq	<u>3.78</u>	<u>28.8</u>	3.82	28.5	3.77	28.9						
116.histo	<u>65.3</u>	<u>1.75</u>	61.5	1.85	66.2	1.72						
117.bfs	20.6	5.68	<u>20.5</u>	<u>5.71</u>	18.0	6.49						
118.cutcp	4.62	21.4	4.56	21.7	<u>4.58</u>	<u>21.6</u>						
120.kmeans	<u>46.9</u>	<u>2.13</u>	47.0	2.13	46.6	2.15						
121.lavamd	5.90	18.5	<u>5.91</u>	<u>18.4</u>	5.93	18.4						
122.cfd	12.0	10.5	11.9	10.6	<u>12.0</u>	<u>10.5</u>						
123.nw	14.6	7.88	14.7	7.82	<u>14.6</u>	<u>7.86</u>						
124.hotspot	7.98	14.3	8.29	13.8	<u>8.00</u>	<u>14.3</u>						
125.lud	12.7	9.35	12.5	9.51	<u>12.5</u>	<u>9.51</u>						
126.ge	<u>6.32</u>	<u>24.5</u>	6.31	24.5	6.33	24.5						
127.srad	<u>12.3</u>	<u>9.29</u>	12.2	9.31	12.3	9.28						
128.heartwall	10.6	10.0	10.6	10.0	<u>10.6</u>	<u>10.0</u>						
140.bplustree	<u>8.48</u>	<u>12.7</u>	8.57	12.6	8.43	12.8						

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

## Platform Notes

```

Sysinfo program /home/tta301/accel-1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on a208g2 Tue Sep 28 14:41:03 2021

```

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) Gold 6140 CPU @ 2.30GHz
 2 "physical id"s (chips)
36 "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 : 18
siblings : 18
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 25344 KB
```

```
From /proc/meminfo
MemTotal:          527818016 kB
HugePages_Total:    0
Hugepagesize:      2048 kB
```

```
From /etc/*release* /etc/*version*
centos-release: CentOS Linux release 7.6.1810 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.6 (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 7.6.1810 (Core)
system-release: CentOS Linux release 7.6.1810 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

```
uname -a:
Linux a208g2 3.10.0-957.el7.x86_64 #1 SMP Thu Nov 8 23:39:32 UTC 2018 x86_64
x86_64 x86_64 GNU/Linux
```

```
run-level 3 Sep 28 10:54
```

```
SPEC is set to: /home/tta301/accel-1.3
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/centos-home xfs   224G  26G  199G  12% /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 V100-PCIE-16GB, v 460.73.01

C++ benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 11.2.162

OpenCL Device #0: Tesla V100-PCIE-16GB, v 460.73.01

## 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.20211028.html](https://www.spec.org/accel/flags/gcc_flags.20211028.html)

You can also download the XML flags source by saving the following link:  
[https://www.spec.org/accel/flags/gcc\\_flags.20211028.xml](https://www.spec.org/accel/flags/gcc_flags.20211028.xml)

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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