



# SPEC ACCEL™ OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Uniwise Technologies

(Test Sponsor: Telecommunications Technology Association)

## NVIDIA Tesla P100-PCIE-12GB RB228H

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 5.15

ACCEL license: HPG068A

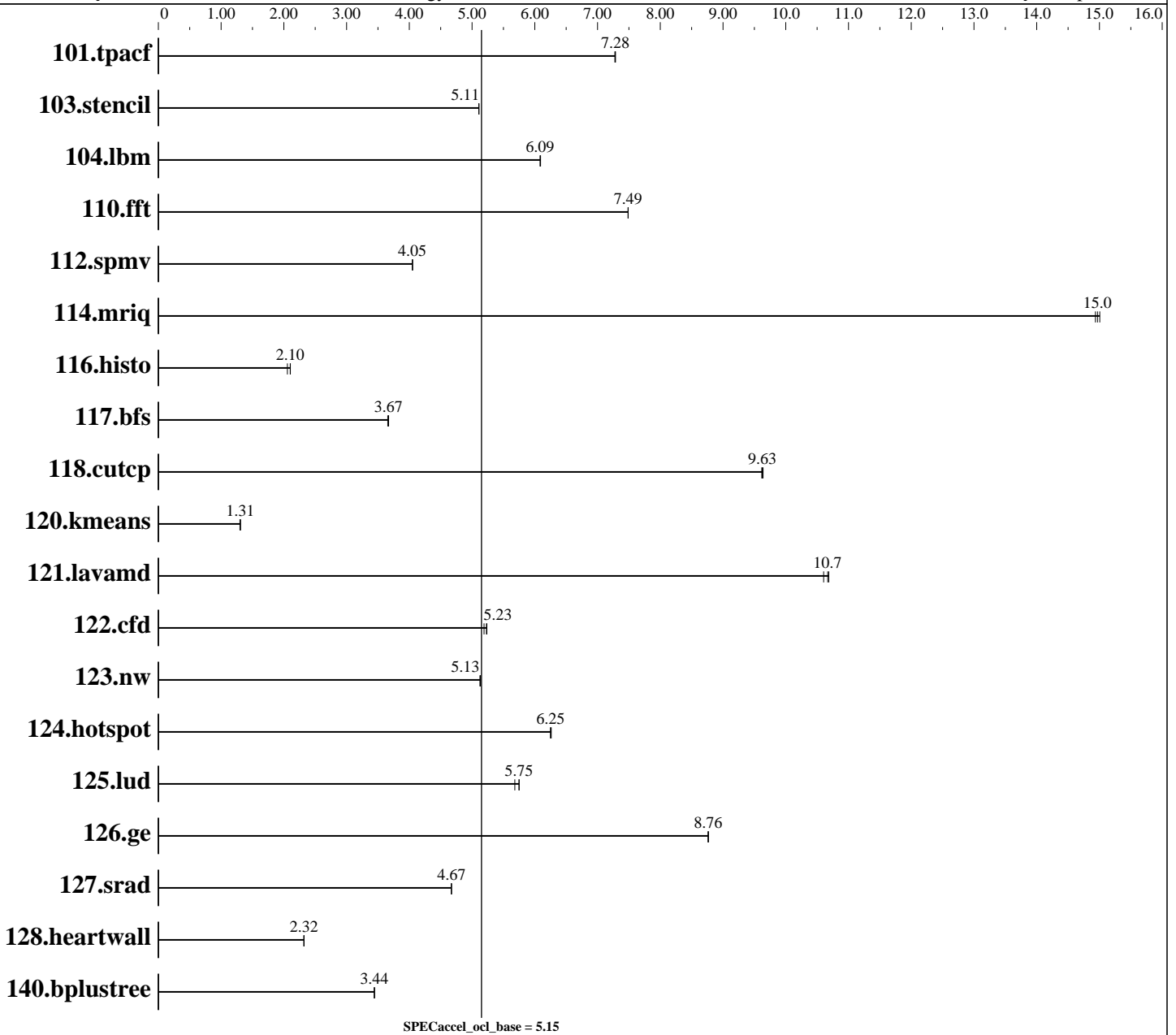
Test sponsor: Telecommunications Technology Association

Tested by: Telecommunications Technology Association

Test date: Oct-2019

Hardware Availability: Apr 2016

Software Availability: Apr 2016





# SPEC ACCEL OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

## Uniwide Technologies

(Test Sponsor: Telecommunications Technology Association)

## NVIDIA Tesla P100-PCIE-12GB RB228H

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 5.15

**ACCEL license:** HPG068A  
**Test sponsor:** Telecommunications Technology Association  
**Tested by:** Telecommunications Technology Association

**Test date:** Oct-2019  
**Hardware Availability:** Apr 2016  
**Software Availability:** Apr 2016

### Hardware

**CPU Name:** Intel Xeon E5-2699 v4  
**CPU Characteristics:** Hyper-threading off.  
**CPU MHz:** 2200  
**CPU MHz Maximum:** 3600  
**FPU:** --  
**CPU(s) enabled:** 44 cores, 2 chips, 22 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:** 256 KB I+D on chip per core  
**L3 Cache:** 55 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 512GB (16 x 32 GB 2Rx4 PC4-2400T-R)  
**Disk Subsystem:** 2 300GB SEAGATE ST300MM0048 SAS RAID0  
**Other Hardware:** --

### Accelerator

**Accel Model Name:** Tesla P100-PCIE-12GB  
**Accel Vendor:** NVIDIA Corporation  
**Accel Name:** NVIDIA Tesla P100-PCIE-12GB  
**Type of Accel:** GPU  
**Accel Connection:** PCIe 3.0 16x  
**Does Accel Use ECC:** Yes  
**Accel Description:** NVIDIA Tesla P100-PCIE-12GB, 3584 CUDA cores, 1189 MHz, 12GB HBM2 RAM  
**Accel Driver:** NVIDIA Driver Version 418.87.01

### Software

**Operating System:** CentOS Linux release 7.6.1810 (Core)  
3.10.0-957.el7.x86\_64  
**Compiler:** GCC version 4.8.5 20150623  
**File System:** xfs  
**System State:** Multi-user, run level 3  
**Other Software:** NVIDIA CUDA 10.1



# SPEC ACCEL OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Uniwide Technologies

(Test Sponsor: Telecommunications Technology Association)

## NVIDIA Tesla P100-PCIE-12GB RB228H

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 5.15

ACCEL license: HPG068A

Test sponsor: Telecommunications Technology Association

Tested by: Telecommunications Technology Association

Test date: Oct-2019

Hardware Availability: Apr 2016

Software Availability: Apr 2016

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	<b>14.7</b>	<b>7.28</b>	14.7	7.29	14.7	7.28						
103.stencil	<b>24.5</b>	<b>5.11</b>	24.5	5.11	24.5	5.11						
104.lbm	18.4	6.09	<b>18.4</b>	<b>6.09</b>	18.4	6.09						
110.fft	<b>14.8</b>	<b>7.49</b>	14.8	7.49	14.8	7.49						
112.spmv	36.3	4.05	<b>36.3</b>	<b>4.05</b>	36.3	4.05						
114.mriq	<b>7.28</b>	<b>15.0</b>	7.30	14.9	7.26	15.0						
116.histo	55.4	2.06	<b>54.2</b>	<b>2.10</b>	54.2	2.10						
117.bfs	<b>31.9</b>	<b>3.67</b>	32.0	3.66	31.9	3.67						
118.cutcp	10.3	9.62	10.3	9.64	<b>10.3</b>	<b>9.63</b>						
120.kmeans	76.9	1.30	<b>76.6</b>	<b>1.31</b>	76.4	1.31						
121.lavamd	<b>10.2</b>	<b>10.7</b>	10.3	10.6	10.2	10.7						
122.cfd	24.1	5.24	24.3	5.19	<b>24.1</b>	<b>5.23</b>						
123.nw	22.4	5.13	22.4	5.13	<b>22.4</b>	<b>5.13</b>						
124.hotspot	18.2	6.26	18.2	6.25	<b>18.2</b>	<b>6.25</b>						
125.lud	<b>20.7</b>	<b>5.75</b>	20.7	5.75	20.9	5.68						
126.ge	17.7	8.76	17.7	8.77	<b>17.7</b>	<b>8.76</b>						
127.srad	24.4	4.67	24.4	4.67	<b>24.4</b>	<b>4.67</b>						
128.heartwall	<b>45.7</b>	<b>2.32</b>	45.7	2.32	45.7	2.32						
140.bplustree	31.4	3.44	<b>31.4</b>	<b>3.44</b>	31.4	3.44						

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

## Platform Notes

```

Sysinfo program /usr/accel-1.3/Docs/sysinfo
$Rev: 6965 $ $Date:: 2015-04-21 #$ c05a7f14b1b1765e3fe1df68447e8a35
running on uniwide-rb228h Thu Oct 31 02:18:43 2019

```

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) CPU E5-2699 v4 @ 2.20GHz
 2 "physical id"s (chips)
 44 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)

```

Continued on next page



# SPEC ACCEL OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

**Uniwide Technologies**

(Test Sponsor: Telecommunications Technology Association)

**NVIDIA Tesla P100-PCIE-12GB  
RB228H**

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 5.15

**ACCEL license:** HPG068A

**Test sponsor:** Telecommunications Technology Association

**Tested by:** Telecommunications Technology Association

**Test date:** Oct-2019

**Hardware Availability:** Apr 2016

**Software Availability:** Apr 2016

## Platform Notes (Continued)

```

cpu cores : 22
siblings  : 22
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
28
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27
28
cache size : 56320 KB

From /proc/meminfo
MemTotal:      528093948 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 uniwide-rb228h 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 Oct 28 08:33

SPEC is set to: /usr/accel-1.3
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/centos-root xfs   50G   32G   19G   63% /
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.

BIOS American Megatrends Inc. 3404 09/22/2017
Memory:
16x Hynix Semiconductor HMA84GR7AFR4N-UH 32 GB 2 rank 2400 MT/s, configured
at 2133 MT/s

```

Continued on next page



# SPEC ACCEL OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

Uniwise Technologies

(Test Sponsor: Telecommunications Technology Association)

NVIDIA Tesla P100-PCIE-12GB  
RB228H

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 5.15

ACCEL license: HPG068A

Test sponsor: Telecommunications Technology Association

Tested by: Telecommunications Technology Association

Test date: Oct-2019

Hardware Availability: Apr 2016

Software Availability: Apr 2016

## Platform Notes (Continued)

(End of data from sysinfo program)

## General Notes

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 10.1.236  
OpenCL Device #0: Tesla P100-PCIE-12GB, v 418.87.01

C++ benchmarks:

OpenCL Platform: NVIDIA CUDA, OpenCL 1.2 CUDA 10.1.236  
OpenCL Device #0: Tesla P100-PCIE-12GB, v 418.87.01

## 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

Continued on next page



# SPEC ACCEL OCL Result

Copyright 2015-2019 Standard Performance Evaluation Corporation

**Uniwise Technologies**

(Test Sponsor: Telecommunications Technology Association)

**NVIDIA Tesla P100-PCIE-12GB  
RB228H**

**SPECaccel\_ocl\_peak = Not Run**

**SPECaccel\_ocl\_base = 5.15**

**ACCEL license:** HPG068A

**Test sponsor:** Telecommunications Technology Association

**Tested by:** Telecommunications Technology Association

**Test date:** Oct-2019

**Hardware Availability:** Apr 2016

**Software Availability:** Apr 2016

## Base Optimization Flags (Continued)

C++ benchmarks:

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

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

[https://www.spec.org/accel/flags/gcc\\_flags.20190605.html](https://www.spec.org/accel/flags/gcc_flags.20190605.html)

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

[https://www.spec.org/accel/flags/gcc\\_flags.20190605.xml](https://www.spec.org/accel/flags/gcc_flags.20190605.xml)

SPEC ACCEL is a trademark 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 [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC ACCEL v1.3.  
Report generated on Thu Nov 21 11:23:40 2019 by SPEC ACCEL PS/PDF formatter v1290.  
Originally published on 20 November 2019.