



# SPEC® ACCEL\_OCL Result

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**SuperMicro**

(Test Sponsor: KIT Institute for Data Processing and Electronics)

## Intel Xeon Phi 5110P 7047GR-TRF

SPECaccel\_ocl\_peak = Not Run

SPECaccel\_ocl\_base = 0.439

ACCEL license: HPG-052A

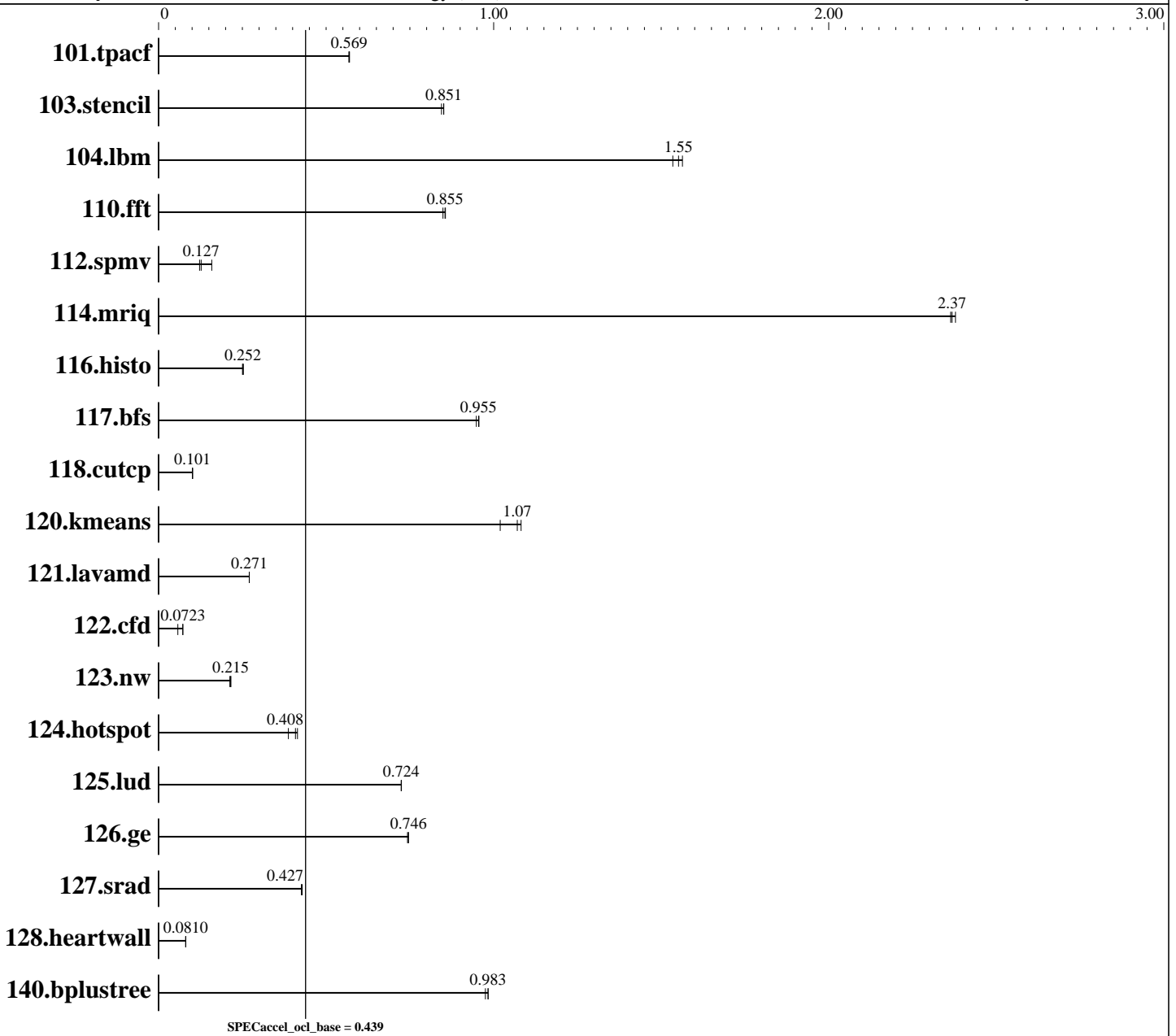
Test sponsor: KIT Institute for Data Processing and Electronics

Tested by: Karlsruhe Institute of Technology (KIT)

Test date: Jun-2014

Hardware Availability: Jun-2013

Software Availability: Feb-2014





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### Hardware

CPU Name: Intel Xeon E5-2640  
 CPU Characteristics:  
 CPU MHz: 2500  
 CPU MHz Maximum: 3000  
 FPU: --  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 2  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx8 PC3-12800R-9, ECC, running at 1333 MHz)  
 Disk Subsystem: 19 TB  
 GlusterFS network storage  
 2 mirroring nodes with 16 disks hardware RAID6 each  
 Other Hardware: --

### Accelerator

Accel Model Name: Xeon Phi 5110P  
 Accel Vendor: Intel  
 Accel Name: Intel Xeon Phi 5110P  
 Type of Accel: APU  
 Accel Connection: PCIe 2.0 16x  
 Does Accel Use ECC: Yes  
 Accel Description: Intel Xeon Phi 5110P APU, 1053 MHz  
 5.6 GiB GDDR5 RAM  
 Accel Driver: Intel OpenCL 3.1.1.11385

### Software

Operating System: openSUSE 12.2 (x86\_64)  
 Kernel 3.4.47-2.38-desktop  
 Compiler: Version 4.7.1 of GCC  
 File System: fuse.glusterfs  
 System State: Run level 3 (multi-user)  
 Other Software: MPSS:  
 intel-mic-kmod-2.1.6720-19.3.4.47.2.suse.x86\_64



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
101.tpacf	188	0.568	188	0.570	<u>188</u>	<u>0.569</u>						
103.stencil	<u>147</u>	<u>0.851</u>	148	0.844	147	0.851						
104.lbm	<u>72.2</u>	<u>1.55</u>	71.6	1.56	73.0	1.53						
110.fft	<u>130</u>	<u>0.855</u>	131	0.849	130	0.856						
112.spmv	1202	0.122	<u>1157</u>	<u>0.127</u>	926	0.159						
114.mriq	46.1	2.36	<u>46.0</u>	<u>2.37</u>	45.8	2.38						
116.histo	455	0.250	451	0.253	<u>453</u>	<u>0.252</u>						
117.bfs	122	0.956	123	0.948	<u>123</u>	<u>0.955</u>						
118.cutcp	<u>978</u>	<u>0.101</u>	978	0.101	979	0.101						
120.kmeans	98.1	1.02	92.4	1.08	<u>93.4</u>	<u>1.07</u>						
121.lavamd	<u>403</u>	<u>0.271</u>	402	0.271	403	0.271						
122.cfd	<u>1744</u>	<u>0.0723</u>	2192	0.0575	1739	0.0725						
123.nw	<u>534</u>	<u>0.215</u>	533	0.216	541	0.213						
124.hotspot	<u>279</u>	<u>0.408</u>	294	0.387	275	0.415						
125.lud	164	0.724	<u>164</u>	<u>0.724</u>	164	0.725						
126.ge	209	0.743	208	0.746	<u>208</u>	<u>0.746</u>						
127.srad	267	0.426	<u>267</u>	<u>0.427</u>	266	0.429						
128.heartwall	1310	0.0809	<u>1308</u>	<u>0.0810</u>	1306	0.0812						
140.bplustree	110	0.984	111	0.975	<u>110</u>	<u>0.983</u>						

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

## Platform Notes

Sysinfo program

```
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server2/ACCELv1/install/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on ipepdvcompute2 Thu Jun 5 02:00:21 2014
```

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 E5-2640 0 @ 2.50GHz
 2 "physical id"s (chips)
 24 "processors"
```

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with

Continued on next page



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## Platform Notes (Continued)

```
caution.)
  cpu cores : 6
  siblings  : 12
  physical 0: cores 0 1 2 3 4 5
  physical 1: cores 0 1 2 3 4 5
  cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      264648676 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsb_release -d
openSUSE 12.2 (x86_64)
```

```
From /etc/*release* /etc/*version*
SuSE-release:
  openSUSE 12.2 (x86_64)
  VERSION = 12.2
  CODENAME = Mantis
os-release:
  NAME=openSUSE
  VERSION="12.2 (Mantis)"
  VERSION_ID="12.2"
  PRETTY_NAME="openSUSE 12.2 (Mantis) (x86_64)"
  ID=openSUSE
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:openSUSE:openSUSE:12.2"
```

```
uname -a:
Linux ipepdvcompute2 3.4.47-2.38-desktop #1 SMP PREEMPT Fri May 31 20:17:40
UTC 2013 (3961086) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Apr 14 19:59

```
SPEC is set to:
/pdv/home/student/users/609bc1b89b8a955fb5270ebe25f0c37d/server2/ACCELV1/install
Filesystem      Type      Size  Used Avail Use% Mounted on
192.168.11.1:storage fuse.glusterfs 19T   16T  3.0T  84% /pdv
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)



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## Base Runtime Environment

C benchmarks:

OpenCL Platform: Intel(R) OpenCL, OpenCL 1.2 LINUX

OpenCL Device #1: Intel(R) Many Integrated Core Acceleration Card, v 1.2

C++ benchmarks:

OpenCL Platform: Intel(R) OpenCL, OpenCL 1.2 LINUX

OpenCL Device #1: Intel(R) Many Integrated Core Acceleration Card, v 1.2

## Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

## Base Optimization Flags

C benchmarks:

-O2 -lOpenCL

C++ benchmarks:

-O2 -lOpenCL

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

[http://www.spec.org/accel/flags/gcc\\_flags.20150303.00.html](http://www.spec.org/accel/flags/gcc_flags.20150303.00.html)

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

[http://www.spec.org/accel/flags/gcc\\_flags.20150303.00.xml](http://www.spec.org/accel/flags/gcc_flags.20150303.00.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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