ASUSTeK Computer Inc. (Test Sponsor: Intel Corporation)

ASUS Q170M-C motherboard (Intel Pentium G4500)

**SPECfp®2006** = 70.6

**SPECfp_base2006** = 69.6

**CPU2006 license:** 13

**Test date:** Mar-2016

**Hardware Availability:** Sep-2015

**Test sponsor:** Intel Corporation

**Software Availability:** Aug-2015

**Tested by:** Intel Corporation

**Operating System:** Microsoft Windows 7 Professional 6.1.7601 Service Pack 1 Build 7601

**Compiler:** C/C++: Version 16.0.0.110 of Intel C++ Studio XE for Windows;
Fortran: Version 16.0.0.110 of Intel Fortran Studio XE for Windows;

**Auto Parallel:** Yes

---

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<tr>
<th>Benchmark</th>
<th>Time (sec)</th>
<th>Notes</th>
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</table>

**SPECfp_base2006** = 69.6

**SPECfp2006** = 70.6

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**CPU Name:** Intel Pentium G4500

**CPU Characteristics:**
- **CPU MHz:** 3500
- **FPU:** Integrated
- **CPU(s) enabled:** 2 cores, 1 chip, 2 cores/chip
- **CPU(s) orderable:** 1 chip
- **Primary Cache:** 32 KB I + 32 KB D on chip per core
- **Secondary Cache:** 256 KB I+D on chip per core

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**Continued on next page**
SPEC CFP2006 Result

ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  
ASUS Q170M-C motherboard (Intel Pentium G4500)

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</table>

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

Compiler Invocation Notes

To compile these binaries, the Intel Compiler 16.0 was set up to generate 64-bit binaries with the command: "psxevars.bat intel64" (shortcut provided in the Intel(r) Parallel Studio XE 2016 program folder)

Platform Notes

Sysinfo program C:\SPEC16.0/Docs/sysinfo  
$Rev: 6775 $ $Date:: 2011-08-16 $ \\8787f7622badcf24e01c368b1db4377c  
running on CltF832E4885654 Tue Mar  8 02:35:28 2016

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: Continued on next page
## SPEC CFP2006 Result

**ASUSTeK Computer Inc.**  
(Test Sponsor: Intel Corporation)  
ASUS Q170M-C motherboard (Intel Pentium G4500)

**SPECfp2006 = 70.6**  
**SPECfp_base2006 = 69.6**

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<td>Tested by:</td>
<td>Intel Corporation</td>
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<tr>
<td>Test date:</td>
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<tr>
<td>Hardware Availability:</td>
<td>Sep-2015</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Aug-2015</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

Trying 'systeminfo'
- OS Name: Microsoft Windows 7 Professional
- OS Version: 6.1.7601 Service Pack 1 Build 7601
- System Manufacturer: System manufacturer
- System Model: System Product Name
- Processor(s): 1 Processor(s) Installed.
- BIOS Version: American Megatrends Inc. 0704, 1/12/2016
- Total Physical Memory: 8,070 MB

Trying 'wmic cpu get /value'
- DeviceID: CPU0
- L2CacheSize: 512
- L3CacheSize: 3072
- MaxClockSpeed: 3500
- Name: Intel(R) Pentium(R) CPU G4500 @ 3.50GHz
- NumberOfCores: 2
- NumberOfLogicalProcessors: 2

(End of data from sysinfo program)

### Component Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply

### General Notes

450.soplex (base): "getline_test" src.alt was used.
447.dealII (base): "max_prototype" src.alt was used.
447.dealII (base): "cxx11_make_pair" src.alt was used.
450.soplex (base): "getline_test" src.alt was used.
447.dealII (base): "max_prototype" src.alt was used.
447.dealII (base): "cxx11_make_pair" src.alt was used.

OMP_NUM_THREADS set to number of processors cores  
KMP_AFFINITY set to granularity=fine,scatter  
Binaries compiled on a system with 1x Intel Xeon E5-2699 v3 CPU  
+ 64GB memory using Windows 8.1 Enterprise 64-bit
ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  
ASUS Q170M-C motherboard (Intel Pentium G4500)  

SPEC CFP2006 Result  

SPECfp2006 = 70.6  
SPECfp_base2006 = 69.6

CPU2006 license: 13  
Test date: Mar-2016

Test sponsor: Intel Corporation  
Hardware Availability: Sep-2015

Tested by: Intel Corporation  
Software Availability: Aug-2015

---

**Base Compiler Invocation**

C benchmarks:
```
icl -Qvc12 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc12
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc12 -Qstd=c99 ifort
```

---

**Base Portability Flags**

410.bwaves: -DSPEC_CPU_P64

416.game5: -DSPEC_CPU_P64

433.milc: -DSPEC_CPU_P64

434.zeusmpi: -DSPEC_CPU_P64

435.gromacs: -DSPEC_CPU_P64

436.cactusADM: -DSPEC_CPU_P64 -names:lowercase /assume:underscore

437.leslie3d: -DSPEC_CPU_P64

444.namd: -DSPEC_CPU_P64 /TP

447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG

450.soplex: -DSPEC_CPU_P64 -DSPEC_GETLINE_TEST

453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -names:lowercase

459.GemsFDTD: -DSPEC_CPU_P64

465.tonto: -DSPEC_CPU_P64

470.lbm: -DSPEC_CPU_P64

481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL

482.sphinx3: -DSPEC_CPU_P64

---

**Base Optimization Flags**

C benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch /P1000000000
```

C++ benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features /P1000000000 shlW64M.lib
-link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias
-Qopt-prefetch /P1000000000
```

Continued on next page
SPEC CFP2006 Result

ASUSTeK Computer Inc.
(Test Sponsor: Intel Corporation)

ASUS Q170M-C motherboard (Intel Pentium G4500)

SPECfp2006 = 70.6
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CPU2006 license: 13
Test sponsor: Intel Corporation
Test date: Mar-2016
Tested by: Intel Corporation
Hardware Availability: Sep-2015
Software Availability: Aug-2015

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
- -QxSSE4.2 -Qipo -O3 -Qprec-div -Qparallel -Qansi-alias
- -Qopt-prefetch /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc12 -Qstd=c99

C++ benchmarks:
icl -Qvc12

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc12 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
433.milc: basepeak = yes
470.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:
444.namd: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
 -Qipo -O3 -Qprec-div -Oa /F1000000000 shlW64M.lib
 -link /FORCE:MULTIPLE
447.dealII: basepeak = yes
450.soplex: basepeak = yes

Continued on next page
ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)  
ASUS Q170M-C motherboard (Intel Pentium G4500)

| SPECfp2006 = | 70.6 |
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CPU2006 license: 13  
Test date: Mar-2016  
Test sponsor: Intel Corporation  
Hardware Availability: Sep-2015  
Tested by: Intel Corporation  
Software Availability: Aug-2015

Peak Optimization Flags (Continued)

453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll14 -Qansi-alias /F1000000000
shlw64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll14 -Qansi-alias -Qscalar-rep -F1000000000

434.zeugmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div -Qunroll14 -Qauto -Qinline-calloc /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-windows.html

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

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

Tested with SPEC CPU2006 v1.2.  
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