



# SPEC® CINT2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X3 710)

SPECint®\_rate2006 = 39.1

SPECint\_rate\_base2006 = 37.9

CPU2006 license: 13

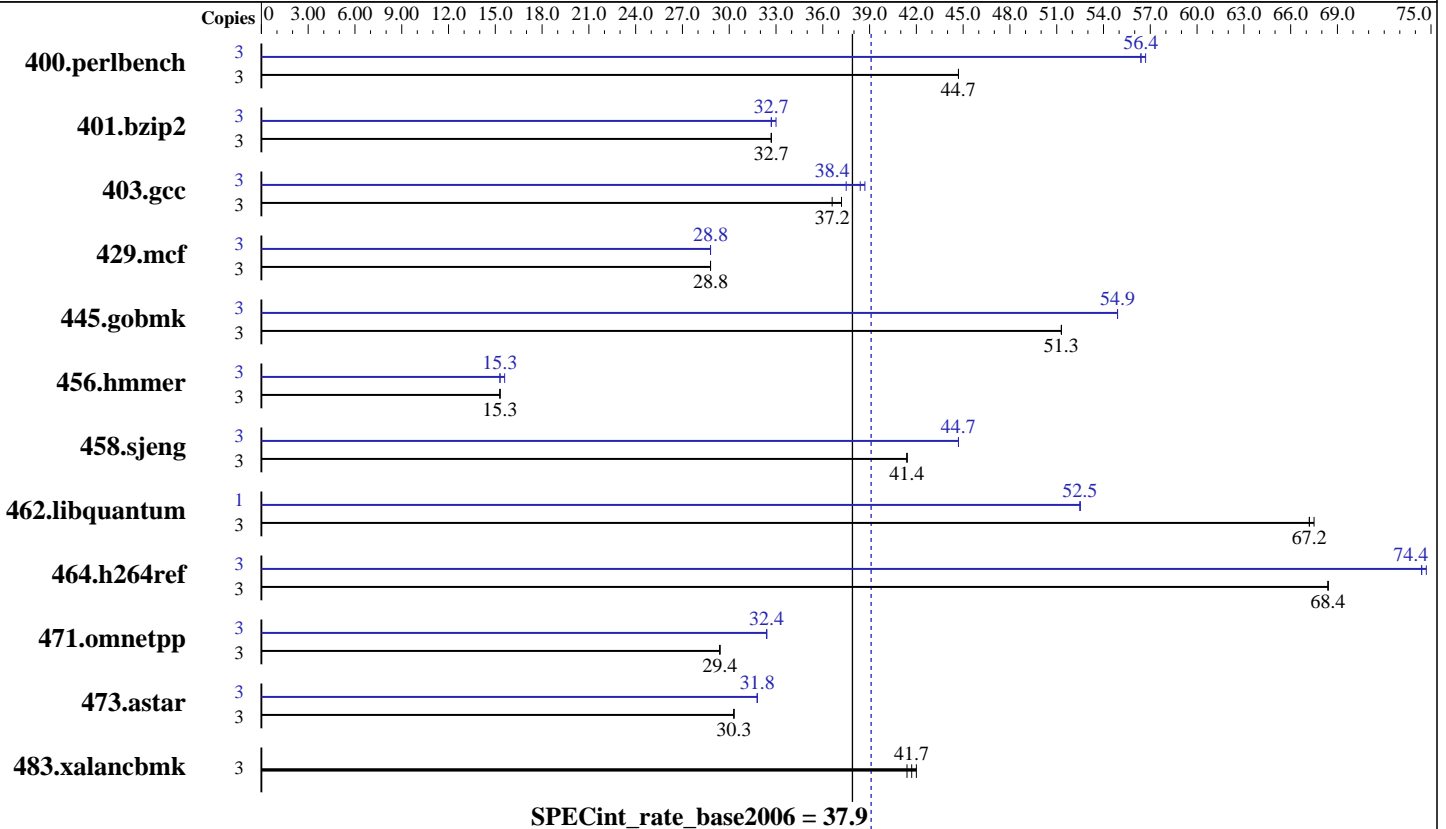
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: May-2009

Hardware Availability: Feb-2009

Software Availability: Nov-2008



## Hardware

CPU Name: AMD Phenom II X3 710  
 CPU Characteristics:  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 3 cores, 1 chip, 3 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 512 KB I+D on chip per core  
 L3 Cache: 6 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 4 GB (4x1GB DDR2-800 CL5)  
 Disk Subsystem: Seagate 320 GB SATA, 7200RPM  
 Other Hardware: None

## Software

Operating System: Windows Vista Ultimate w/ SP1 (64-bit)  
 Compiler: Intel C++ Compiler Professional 11.0 for IA32  
 Build 20080930 Package ID: w\_cproc\_p\_11.0.054  
 Microsoft Visual Studio 2008 (for libraries)  
 Auto Parallel: Yes  
 File System: NTFS  
 System State: Default  
 Base Pointers: 32-bit  
 Peak Pointers: 32-bit  
 Other Software: SmartHeap Library Version 8.1 from  
<http://www.microquill.com/>



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## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	3	657	44.7	654	44.7	<b>655</b>	<b>44.7</b>	3	<b>520</b>	<b>56.4</b>	520	56.4	518	56.7		
401.bzip2	3	882	32.7	887	32.7	<b>886</b>	<b>32.7</b>	3	<b>882</b>	<b>32.7</b>	887	32.7	880	33.0		
403.gcc	3	648	37.2	<b>652</b>	<b>37.2</b>	660	36.6	3	626	38.7	644	37.5	<b>629</b>	<b>38.4</b>		
429.mcf	3	947	28.8	<b>948</b>	<b>28.8</b>	949	28.8	3	<b>947</b>	<b>28.8</b>	946	28.8	947	28.8		
445.gobmk	3	<b>614</b>	<b>51.3</b>	614	51.3	614	51.3	3	<b>574</b>	<b>54.9</b>	574	54.9	574	54.9		
456.hammer	3	1818	15.3	1812	15.3	<b>1816</b>	<b>15.3</b>	3	1816	15.3	<b>1813</b>	<b>15.3</b>	1809	15.6		
458.sjeng	3	<b>877</b>	<b>41.4</b>	877	41.4	877	41.4	3	<b>811</b>	<b>44.7</b>	811	44.7	811	44.7		
462.libquantum	3	923	67.5	924	67.2	<b>923</b>	<b>67.2</b>	1	395	52.5	<b>395</b>	<b>52.5</b>	395	52.5		
464.h264ref	3	970	68.4	969	68.4	<b>969</b>	<b>68.4</b>	3	891	74.4	891	74.7	<b>891</b>	<b>74.4</b>		
471.omnetpp	3	<b>639</b>	<b>29.4</b>	639	29.4	639	29.4	3	580	32.4	<b>581</b>	<b>32.4</b>	581	32.4		
473.astar	3	<b>698</b>	<b>30.3</b>	698	30.3	698	30.3	3	665	31.8	<b>665</b>	<b>31.8</b>	665	31.8		
483.xalancbmk	3	499	41.4	494	42.0	<b>497</b>	<b>41.7</b>	3	499	41.4	494	42.0	<b>497</b>	<b>41.7</b>		

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

## Submit Notes

The config file option 'submit' was used.

## General Notes

Tested systems can be used with Shin-G ATX case, Antec NeoPower 480W power supply  
Binaries were built on Windows Vista Ultimate (32-bit)  
OMP\_NUM\_THREADS set to number of logical processors as seen by the OS  
KMP\_AFFINITY set to physical,0  
submit disabled for 462.libquantum peak

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qc99  
C++ benchmarks:  
icl -Qvc9

## Base Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
464.h264ref: -DSPEC\_CPU\_NO\_INTTYPES -DWIN32

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## Base Portability Flags (Continued)

483.xalanbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Base Optimization Flags

C benchmarks:

/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

C++ benchmarks:

/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features  
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks:

icl -Qvc9 -Qc99

C++ benchmarks:

icl -Qvc9

## Peak Portability Flags

403.gcc: -DSPEC\_CPU\_WIN32  
464.h264ref: -DSPEC\_CPU\_NO\_INTTYPES -DWIN32  
483.xalanbmk: -Qoption,cpp,--no\_wchar\_t\_keyword

## Peak Optimization Flags

C benchmarks:

400.perlbench: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
-Qipo -O3 -Qprec-div- -Qansi-alias -Qopt-prefetch  
/F512000000 shlw32m.lib -link /FORCE:MULTIPLE

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## Peak Optimization Flags (Continued)

401.bzip2: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qansi-alias  
 /F512000000

403.gcc: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F512000000

429.mcf: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch  
 /F512000000

445.gobmk: /arch:SSE2 -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
 -O2 -Qprec-div- -Qansi-alias /F512000000

456.hmmer: /arch:SSE2 -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
 -O3 -Qprec-div- -Qunroll2 -Qansi-alias /F512000000

458.sjeng: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
 -Qipo -O3 -Qprec-div- -Qunroll4 /F512000000

462.libquantum: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch  
 -Qparallel -Qpar-runtime-control -Qvec-guard-write  
 /F512000000

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
 -Qipo -O3 -Qprec-div- -Qansi-alias  
 -Qopt-ra-region-strategy=block /F512000000 shlw32m.lib  
 -link /FORCE:MULTIPLE

473.astar: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2)  
 -Qipo -O3 -Qprec-div- -Qansi-alias  
 -Qopt-ra-region-strategy=routine /F512000000 shlw32m.lib  
 -link /FORCE:MULTIPLE

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 01:28:38 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 23 June 2009.